CITY OF HAYWARD

Hayward City Hall
777 B Street
Hayward, CA 94541
www.Hayward-CA.gov

CITY OF
HAYWARD
HEART OF THE BAY

Agenda

Tuesday, February 15, 2022

7:00 PM

Virtual: Zoom Platform

City Council

CITY COUNCIL MEETING

COVID-19 Notice: Consistent with Assembly Bill 361/Government Code section 54953(e), the City Council meeting includes teleconference participation by all members.

How to observe the Meeting:

1. *Comcast TV Channel 15*
2. *Live stream https://hayward.legistar.com/Calendar.aspx*
3. *YouTube Live stream: https://www.youtube.com/user/cityofhayward*

How to submit written Public Comment:

1. Use eComment on the City's Meeting & Agenda Center webpage at: https://hayward.legistar.com/Calendar.aspx. eComments are directly sent to the iLegislate application used by City Council and City staff. Comments received before 3:00 p.m. the day of the meeting will be exported into a report, distributed to the City Council and staff, and published on the City's Meeting & Agenda Center under Documents Received After Published Agenda.

2. Send an email to List-Mayor-Council@hayward-ca.gov by 3:00 p.m. the day of the meeting. Please identify the Agenda Item Number in the subject line of your email. Emails will be compiled into one file, distributed to the City Council and staff, and published on the City's Meeting & Agenda Center under Documents Received After Published Agenda. Documents received after 3:00 p.m. through the adjournment of the meeting will be included as part of the meeting record and published the following day.

How to provide live Public Comment during the City Council Meeting:

Click link below to join the meeting:
https://hayward.zoom.us/j/84119129052?pwd=T3M1TUhTZ1c3ZjUwMGFPU2gzRkpZQT09

Meeting ID: 841 1912 9052
Passcode: CC2/15@7pm

or

Dial: +1 669 900 6833 or +1 253 215 8782 or 833 548 0276 (Toll Free)

Meeting ID: 841 1912 9052
Password: 3478017968

A Guide to attend virtual meetings is provided at this link: https://bit.ly/3jmaUxa

CALL TO ORDER: Mayor Halliday

Pledge of Allegiance: Council Member Zermeño

ROLL CALL

CLOSED SESSION ANNOUNCEMENT

PRESENTATION

Human Trafficking Awareness Month

PUBLIC COMMENTS

The Public Comment section provides an opportunity to address the City Council on items not listed on the agenda or Information Items. The Council welcomes your comments and requests that speakers present their remarks in a respectful manner, within established time limits, and focus on issues which directly affect the City or are within the jurisdiction of the City. As the Council is prohibited by State law from discussing items not listed on the agenda, your item will be taken under consideration and may be referred to staff.

CITY MANAGER'S COMMENTS

An oral report from the City Manager on upcoming activities, events, or other items of general interest to Council and the Public.

ACTION ITEMS

The Council will permit comment as each item is called for the Consent Calendar, Public Hearings, and Legislative Business. In the case of the Consent Calendar, a specific item will need to be pulled by a Council Member in order for the Council to discuss the item or to permit public comment on the item. Please notify the City Clerk any time before the Consent Calendar is voted on by Council if you wish to speak on a Consent Item.

CONSENT

1. MIN 22-020 Approve the City Council Minutes of the City Council Meeting on January 25, 2022

Attachments: Attachment I Draft Minutes of 1/25/2022

2. CONS 22-079 Adopt a Resolution Approving Addendum No. 1, Awarding a Contract to Ranger Pipelines, Inc., for the Water Line Improvements Project, Project No. 07093, in an Amount Not-to-Exceed $12,488,057, and Appropriating Additional Funds in an Amount of $3,734,000

Attachments: Attachment I Staff Report
Attachment II Resolution
Attachment III Location Map

3. CONS 22-101 Adopt a Resolution Allowing the City Council and Appointed Commissions/Task Forces and Council Committees to Hold Continued Teleconferenced Public Meetings Pursuant to AB 361

Attachments: Attachment I Staff Report
Attachment II Resolution
Attachment III Exhibit A to Resolution

WORK SESSION

Work Session items are non-action items. Although the Council may discuss or direct staff to follow up on these items, no formal action will be taken. Any formal action will be placed on the agenda at a subsequent meeting in the action sections of the agenda.

4. WS 22-005 Public Safety Projects Update: Receive and Discuss Public Safety Policy Innovation Workshop Projects Update (Report from City Manager McAdoo)

Attachments: Attachment I Staff Report
Attachment II Project Update Summary

PUBLIC HEARING

5. PH 22-007 Pt. Eden Way U-Haul Facility: Appeal of Planning Commission Denial to Develop a New Approximately 116,844 Square Foot Industrial Building for U-Haul at 4150 Point Eden Way (Assessor Parcel Number 461-0085-020-02) Requiring Approval of Site Plan Review and Historic Resources Demolition Permit Application No. 201901039 Including Certification of an Environmental Impact Report, Adoption of a Statement of Overriding Considerations, and Approval of a Mitigation, Monitoring and Reporting Program. Jerry Owen on Behalf of U-Haul; Amerco Real Estate Co. (Applicant/Property Owner) (Report from Assistant City Manager/Development Services Director Ott)

Attachments:
Attachment I Staff Report
Attachment II Future Gateway Signage Site Plan
Attachment III Land Development and Sea Level Rise
Attachment IV Staff Report December 14, 2021
Attachment V Resolution
Attachment VI Project Plans
Attachment VII 4150 Point Eden Way Draft EIR
Attachment VIII 4150 Point Eden Way Final EIR
Attachment IX 4150 Point Eden Way MMRP
Attachment X July 8 2021 Planning Commission Minutes
Attachment XI CEQA Correspondence from Lozeau Drury

LEGISLATIVE BUSINESS

6. LB 22-005 Adopt a Resolution Approving an Amendment to the City of Hayward Salary Plan for Fiscal Year 2022 (Report from Human Resources Director Sangy)

Attachments:
Attachment I Staff Report
Attachment II Resolution
Attachment III FY 2022 Salary Plan

COUNCIL REPORTS AND ANNOUNCEMENTS

Council Members can provide oral reports on attendance at intergovernmental agency meetings, conferences, seminars, or other Council events to comply with AB 1234 requirements (reimbursable expenses for official activities).

COUNCIL REFERRALS

Council Members may bring forward a Council Referral Memorandum (Memo) on any topic to be considered by the entire Council. The intent of this Council Referrals section of the agenda is to provide an orderly means through which an individual Council Member can raise an issue for discussion and possible direction by the Council to the appropriate Council Appointed Officers for action by the applicable City staff.

ADJOURNMENT

NEXT MEETING, February 22, 2022, 7:00 PM

PUBLIC COMMENT RULES

Any members of the public desiring to address the Council shall limit their remarks to three (3) minutes unless less or further time has been granted by the Presiding Officer or in accordance with the section under Public Hearings. The Presiding Officer has the discretion to shorten or lengthen the maximum time members may speak. Speakers will be asked for their name before speaking and are expected to honor the allotted time. Speaker Cards are available from the City Clerk at the meeting.

PLEASE TAKE NOTICE

That if you file a lawsuit challenging any final decision on any public hearing or legislative business item listed in this agenda, the issues in the lawsuit may be limited to the issues that were raised at the City's public hearing or presented in writing to the City Clerk at or before the public hearing.

PLEASE TAKE FURTHER NOTICE

That the City Council adopted Resolution No. 87-181 C.S., which imposes the 90-day deadline set forth in Code of Civil Procedure section 1094.6 for filing of any lawsuit challenging final action on an agenda item which is subject to Code of Civil Procedure section 1094.5.

****Materials related to an item on the agenda submitted to the Council after distribution of the agenda packet are available for public inspection in the City Clerk's Office, City Hall, 777 B Street, 4th Floor, Hayward, during normal business hours. An online version of this agenda and staff reports are available on the City's website. Written comments submitted to the Council in connection with agenda items will be posted on the City's website. All Council Meetings are broadcast simultaneously on the City website, Cable Channel 15 - KHRT, and YouTube. ****

Assistance will be provided to those requiring accommodations for disabilities in compliance with the Americans with Disabilities Act of 1990. Interested persons must request the accommodation at least 48 hours in advance of the meeting by contacting the City Clerk at (510) 583-4400 or cityclerk@hayward-ca.gov.

Assistance will be provided to those requiring language assistance. To ensure that interpreters are available at the meeting, interested persons must request the accommodation at least 48 hours in advance of the meeting by contacting the City Clerk at (510) 583-4400.

File #: MIN 22-020

DATE: February 15, 2022

TO: Mayor and City Council

FROM: City Clerk

SUBJECT

Approve the City Council Minutes of the City Council Meeting on January 25, 2022

RECOMMENDATION

That the Council approves the City Council meeting minutes of January 25, 2022.

SUMMARY

The City Council held a meeting on January 25, 2022.

ATTACHMENTS

Attachment I Draft Minutes of 1/25/2022

HAYWARD CITY COUNCIL MEETING
777 B Street, Hayward, CA 94541
Virtual Platform – Zoom
https://hayward.zoom.us/j/87529584500?pwd=c2tQek9seGRvZXJYaXUyR2FjaDVKUT09
Tuesday, January 25, 2022, 7:00 p.m.

The meeting of the Hayward City Council was called to order by Mayor Halliday at 7:03 p.m. The City Council held a virtual meeting with teleconference participation by members of the City Council, staff and public.

Pledge of Allegiance: Council Member Lamnin

Present: COUNCIL MEMBERS Andrews, Lamnin, Márquez, Salinas, Wahab, Zermeño
MAYOR Halliday
Absent: None

CLOSED SESSION ANNOUNCEMENTS

The City Council convened in closed session on December 20, 2021, at 4:30 p.m., with all members present, regarding one conference with labor negotiators pursuant to Government Code section 54957.6 regarding all labor groups. City Attorney Lawson reported there was no reportable action and adjourned the closed session at 6:45 p.m.

The City Council convened in closed session on January 18, 2022, at 5:30 p.m., with all members present, regarding five items: (1) conference with legal counsel pursuant to Government Code section 54956.9 regarding Justin Nishioka v. City of Hayward, Alameda County Superior Court, Case No. RG 20078266; (2) conference with legal counsel pursuant to Government Code section 54956.9 regarding Sharma, et al. v. City of Hayward, Alameda County Superior Court, Case No. HG20064943; (3) conference with legal counsel pursuant to Government Code section 54956.9 regarding one anticipated litigation case; (4) conference with property negotiators pursuant to Government Code section 54956.8 regarding Cargil Salt, 7220 Central Avenue, Newark, CA 94560, APN: 537-751-7-1; and (5) conference with property negotiators pursuant to Government Code 54956.8 regarding Caltrans Parcel Group 5 Maitland Drive, Bunker Hill Court, Bunker Hill Boulevard and Central Boulevard, APNs: 445-0250-041-01, 445-0260-084-03, 445-0260-018-04, 445-0270-054-02, 445-0250-060-00, 445-0250-059-01, 445-0260-109-04, 445-0260-018-03, 445-0260-109-03, 445-0260-002-00. City Attorney Lawson reported that he recused himself from participating on Item 1 and indicated there was no reportable action related to Items 1, 2 and 3. It was noted the Council adjourned the closed session at 6:50 p.m. and reconvened after the regular meeting agenda at 8:05 p.m. Regarding Items 4 and 5, the Council took no reportable action. The closed session adjourned at 9:10 p.m.

The City Council convened in closed session on January 25, 2022, at 5:30 p.m., with all members present, regarding six items: 1) public employment pursuant to Government Code section 54957 regarding performance evaluation for City Manager, City Attorney, and City Clerk; 2) conference with legal counsel pursuant to Government Code section 54956.9 regarding Woods v. City of Hayward, et al., U.S.D.C.N.D.CA, No. 3:19-cv-01350-JCS; 3)

conference with legal counsel pursuant to Government Code section 54956.9(d)(4) regarding one anticipated litigation case; 4) conference with property negotiators pursuant to Government Code section 54956.8 regarding: Caltrans Parcel Group 4 (APNs: 078C-648-01-01, 078C-0800-029, 078C-0800-030, 078C-0800-031, 078C-0800-032, 078C-0800-033, 078C-0800-034, 078C-0800-035, 078C-0800-036, 078C-0800-037, 078C-0800-038, 078C-0800-039, 078C-0800-040, 078C-0800-041, 078C-0800-042, 078C-0800-043), Caltrans Parcel Group 5 (Maitland Drive, Bunker Hill Court, Bunker Hill Boulevard and Central Boulevard, APNs: 445-0250-041-01, 445-0260-084-03, 445-0260-018-04, 445-0270-054-02, 445-0250-060-00, 445-0250-059-01, 445-0260-109-04, 445-0260-018-03, 445-0260-109-03, 445-0260-002-000), Caltrans Parcel Group 8 (Grove Way; APNs: 415-0180-070-00, 415-0180-068-01, 415-0180-076-00, 415-0180-084-01, 415-0180-073-00, 415-0180-074-00, 415-0180-075-00, 415-0180-072-00, 415-0180-071-00, 415-0180-069-01, 415-0190-064-00, 415-0180-083-01, 415-0180-080-00, 415-0180-082-01, 415-0180-081-01), Caltrans Parcel Group 9 (Apple and Oak Streets, APNs: 415-0160-001-00, 415-0160-002-00, 415-0160-003-00, 415-0160-004-00, 415-0160-005-00, 415-0160-006-00, 415-0160-007-00, 415-0160-008-00, 415-0160-009-00, 415-0160-010-00, 415-0170-002-00, 415-0170-003-00, 415-0170-004-00, 415-0170-005-00, 415-0170-006-00, 415-0170-007-00, 415-0170-008-00, 415-0170-009-00, 415-0170-010-00, 415-0170-011-00, 415-0170-012-00); (5) conference with property negotiators pursuant to Government Code section 54956.8 regarding Caltrans Parcel Group 3 (Adjacent to Tennyson Road, East 16th Street and Calhoun Street; APNs: 078C-0626-003-16, 078C-0626-003-09, 078C-0626-001-07); and (6) conference with property negotiators pursuant to Government Code section 54956.8 regarding Caltrans Parcel Group 6 (Carlos Bee Boulevard and Overlook Avenue, APN 455-0180-001-00). Mayor Halliday reported on Item 1 indicating the City Manager, City Attorney and City Clerk recused themselves from participation and there was no reportable action. Regarding Item 2, City Attorney Lawson reported that Council was advised a settlement was tentatively reached in the amount of $90,000. As to Item 3, there was no reportable action. Regarding Items 4, 5, and 6, City Attorney Lawson reported they were discussed in a single session after a legal analysis showed that no single member of the Council had a conflict distinguishable from the public and took no reportable action. The closed session adjourned at 6:51 p.m.

PUBLIC COMMENTS

There were none.

CITY MANAGER'S COMMENTS

City Manager McAdoo made two announcements: 1) the Hayward Library and Alameda County Health Care Services Agency partnered to provide medical and dental care on the second Tuesday of every month through the Alameda County Health Care for the Homeless program; and 2) the City is updating the Housing Element of the General Plan and the Climate Action Plan and community members can participate and provide input by visiting the website haywardhousingandclimateupdate.com.

HAYWARD CITY COUNCIL MEETING
777 B Street, Hayward, CA 94541
Virtual Platform – Zoom
https://hayward.zoom.us/j/87529584500?pwd=c2tQek9seGRvZXJYaXUyR2FjaDVKUT09
Tuesday, January 25, 2022, 7:00 p.m.

CONSENT

Council Member Lamnin made a disclosure about Consent Item No. 8, indicating that when the housing subdivision was originally approved, she had a conflict of interest due to property ownership, but no longer had any conflict since she moved, and was able to vote on the item.

1. Adopt a Resolution Authorizing the City Manager to Negotiate and Execute Professional Services Agreements with Willdan Engineering, SNG & Associates, and 4Leaf, Inc., in an Amount Not-to-Exceed $150,000 Annually Per Firm for Three Years for On-Call Construction Inspection Services **CONS 22-008**

   Staff report submitted by Public Works Ameri, dated January 25, 2022, was filed.

It was moved by Council Member Wahab, seconded by Council Member Márquez, and carried by the following roll call vote, to adopt the resolution.

AYES:	COUNCIL MEMBERS Andrews, Lamnin, Márquez, Salinas, Wahab, Zermeño MAYOR Halliday
NOES:	None
ABSENT:	None
ABSTAIN:	None

Resolution 22-021, "Resolution Authorizing the City Manager to Negotiate and Execute Professional Services Agreements with Willdan Engineering, SNG & Associates, and 4leaf, Inc., in an Amount Not-to-Exceed $150,000 Annually Per Firm for Three Years for on call Construction Inspection Services"

2. Adopt a Resolution Approving Plans and Specifications and Calling for Bids for the FY22 New Sidewalks Project, Project No. 05305 **CONS 22-019**

   Staff report submitted by Director of Public Works Ameri, dated January 25, 2022, was filed.

It was moved by Council Member Wahab, seconded by Council Member Márquez, and carried by the following roll call vote, to adopt the resolution.

AYES: COUNCIL MEMBERS Andrews, Lamnin, Márquez, Salinas, Wahab, Zermeño
MAYOR Halliday
NOES: None
ABSENT: None
ABSTAIN: None

Resolution 22-022, "Resolution Approving Plans and Specifications, and Calling for Bids for the FY22 New Sidewalks Project, Project No. 05305"

3. Adopt a Resolution Authorizing the City Manager to Amend the FY2022 Operating Budget for the Development Services Department Building Division for Outside Plan Check, Building Inspection, and Permit Technician Services **CONS 22-041**

Staff report submitted by Assistant City Manager/Development Services Director Ott, dated January 25, 2022, was filed.

It was moved by Council Member Wahab, seconded by Council Member Márquez, and carried by the following roll call vote, to adopt the resolution.

AYES: COUNCIL MEMBERS Andrews, Lamnin, Márquez, Salinas, Wahab, Zermeño
MAYOR Halliday
NOES: None
ABSENT: None
ABSTAIN: None

Resolution 22-023, "Adoption of a Resolution Appropriating an Additional $470,000 for Consulting Services for Plan Check, Building Inspection, and Permit Technician Services for Fiscal Year 2022"

4. Adopt a Resolution Appointing the City's Representative to the Boards of Directors of the Bay Area Water Supply and Conservation Agency and the San Francisco Bay Area Regional Water System Financing Authority **CONS 22-042**

Staff report submitted by Director of Public Works Ameri, dated January 25, 2022, was filed.

It was moved by Council Member Wahab, seconded by Council Member Márquez, and carried by the following roll call vote, to adopt the resolution.

AYES:	COUNCIL MEMBERS Andrews, Lamnin, Márquez, Salinas, Wahab, Zermeño MAYOR Halliday
NOES:	None
ABSENT:	None
ABSTAIN:	None

Resolution 22-024, "Resolution Appointing the City's Representative to the Boards of Directors of the Bay Area Water Supply and Conservation Agency and the San Francisco Bay Area Regional Water System Financing Authority"

5. Adopt a Resolution Authorizing the City Manager to Negotiate and Execute an Agreement with Mintier Harnish in an Amount Not to Exceed $235,000 for the Development and Adoption of Objective Standards for Residential Development and Zoning Consistency Updates for the City of Hayward and Related Environmental Analysis **CONS 22-055**

   Staff report submitted by Assistant City Manager/Development Services Director Ott, dated January 25, 2022, was filed.

It was moved by Council Member Wahab, seconded by Council Member Márquez, and carried by the following roll call vote, to adopt the resolution.

AYES:	COUNCIL MEMBERS Andrews, Lamnin, Márquez, Salinas, Wahab, Zermeño MAYOR Halliday
NOES:	None
ABSENT:	None
ABSTAIN:	None

Resolution 22-025, "Resolution Authorizing the City Manager to Negotiate and Execute an Agreement with Mintier Harnish for the Development and Adoption of Objective Standards for Residential Development and Zoning Consistency Updates for the City of Hayward and Related Environmental Analysis for an Amount Not-to-Exceed $235,000"

6. Adopt a Resolution Accepting $1 Million in State of California General Fund Grant Funds for the Construction of the South Hayward Youth and Family Center (Stack Center) CONS **22-061**

Staff report submitted by Assistant City Manager/Development Services Director Ott, dated January 25, 2022, was filed.

It was moved by Council Member Wahab, seconded by Council Member Márquez, and carried by the following roll call vote, to adopt the resolution.

AYES:	COUNCIL MEMBERS Andrews, Lamnin, Márquez, Salinas, Wahab, Zermeño MAYOR Halliday
NOES:	None
ABSENT:	None
ABSTAIN:	None

Resolution 22-026, "Resolution of the City Council of the City of Hayward Approving the Acceptance and Appropriation of General Fund Grant Funds for the South Hayward Youth and Family Center"

7. Adopt a Resolution Authorizing the City Manager to Accept and Appropriate $20,000 in Grant Funding from the National Endowment for the Arts for Heritage Plaza Art Pieces **CONS 22-062**

Staff report submitted by Assistant City Manager/Development Services Director Ott, dated January 25, 2022, was filed.

It was moved by Council Member Wahab, seconded by Council Member Márquez, and carried by the following roll call vote, to adopt the resolution.

AYES:	COUNCIL MEMBERS Andrews, Lamnin, Márquez, Salinas, Wahab, Zermeño MAYOR Halliday
NOES:	None
ABSENT:	None
ABSTAIN:	None

Resolution 22-027, "Resolution Authorizing the City Manager to Accept and Appropriate up to $20,000 in Grant Funding from the National Endowment for the Arts for Heritage Plaza Art Pieces"

8. Adopt a Resolution Authorizing the Public Works Director to Complete Construction of Subdivision Improvements in Tract 8058 of the Golden Oaks 2 Subdivision; Making Findings to Procure the Work in the Open Market; and Authorizing Expenditure of City Funds in an Amount Not to Exceed $630,000 **CONS 22-075**

Staff report submitted by Director of Public Works Ameri, dated January 25, 2022, was filed.

It was moved by Council Member Wahab, seconded by Council Member Márquez, and carried by the following roll call vote, to adopt the resolution.

AYES:	COUNCIL MEMBERS Andrews, Lamnin, Márquez, Salinas, Wahab, Zermeño MAYOR Halliday
NOES:	None
ABSENT:	None
ABSTAIN:	None

Resolution 22-028, "Resolution Authorizing the Public Works Director to Complete Construction of Subdivision Improvements in Tract 8058 of the Golden Oaks 2 Subdivision; Making Findings to Procure the Work in the Open Market; and Authorizing Expenditure of Funds in an Amount Not-to-Exceed $630,000"

LEGISLATIVE BUSINESS

9. Unmanned Aerial Systems Program: Adopt a Resolution and Policy Statement Regarding the Use of Surveillance Technologies and an Operational Policy for the Hayward Police Department's Unmanned Aerial Systems Program **LB 22-003**

Staff report submitted by City Manager McAdoo and Chief of Police Chaplin, dated January 25, 2022, was filed.

City Manager McAdoo indicated the Council had received a comment by e-mail with request for it to be read into the record, but since that was not the practice in Hayward, the comment was posted to the City website (Meeting and Agenda Center) with other comments received for the item.

City Manager McAdoo provided an overview of the Unmanned Aerial Systems (UAS) Program and Citywide Policy Statement for use of surveillance technology. Deputy Police Chief Matthews provided an overview of the Hayward Police Department UAS Program Operations Manual. Police Chief Chaplin spoke about the proposed policy and use of drones for law enforcement purposes and urged Council's approval of the resolution.

Discussion ensued among members of the City Council and City staff regarding: reporting structure on use of the proposed surveillance technology and frequency of reports submitted to Council; use of technology for mass gatherings as a matter of security concern; examples of use of drone; communications with Hayward Concerned Citizens and Hayward Community Coalition (HayCoCoa); review of the report of UAS usage by the Community

Advisory Panel (CAP); a definition of "a security concern" as related to protests; the role of the Program Coordinator; updates on the use of drones included in reports to Council; consequences of misuse of drones could be grounds for license revocation by the Federal Aviation Authority (FAA), and cease of program by Council; prohibited list of uses was vetted with local groups and agencies; there was one complaint on the use of drone by Hayward Police Department (HPD) and other complaints on private drone use; City departments, including HPD, would create their own administrative/operational policies and have the City Manager approval, as long as they remained consistent with Council's overarching policy statement regarding the use of surveillance technologies; and there was a suggestion to amend Policy 610.6 (L) "Use of UAS" to clarify language by removing "tend to" from that section; quarterly reports on drone usage; information on community meetings about the topic; Policy 610.9 (Retention of UAS Data) and data security protocol similar to body-worn camera video from Hayward Police; length of terms for CAP members, formation of the CAP, composition of the CAP and its role; and deployment of GPS trackers, StarChase, placed on vehicles that are in pursuit.

Mayor Halliday opened public comments at 7:56 p.m.

Mr. Mike Katz-Lacabe urged the City Council to require regular reporting on the use of surveillance technology and City Council approval of any changes to the operational policy.

Mr. Jessie Gunn, Hayward resident, teacher, and Hayward Community Coalition member, did not support the proposed policy, noted he favored drone use for good purposes but not used for surveillance of security concern deemed by the Police Department.

Ms. Cynthia Nunes, cousin of Agustin Gonzalez and Hayward Community Coalition member, noted the UAS Program would cost more than included in the Fiscal Impact and the technology would be misused by the Police Department.

Ms. Sameena Usman, Senior Government Relations Coordinator for the Council on American Islamic Relations and Secure Justice Board member, suggested there should be no retention of any data, unless as part of an active investigation and not shared with federal agencies to target undocumented individuals, suggested to include an impact report on communities of color, and if a policy is approved, it should be used for legitimate security concerns.

Mr. Alexis Villalobos, Hayward resident, Hayward Community Coalition member, expressed the need for an accountability process to hold the Police accountable through an external group such as the Community Advisory Panel (CAP).

Ms. Vanessa Magaña, Hayward resident and Hayward Community Coalition chair, noted Policy 610 (UAS Operations) was too vague, failed to protect Hayward residents' right to privacy and needed changes; indicated the plan for public notification of UAS use in section 610.4 (e) needed to be defined, added that more than 600 community members signed a petition against use of police drones; recommended any UAS Program Coordinator position be appointed by the CAP; and added the purchase of drones was a frivolous expense.

Ms. Susan Gelke, Hayward Concerned Citizens member, appreciated the thoroughness in the process, noted drones are modern tools used in many communities for safety reasons, and urged the Council to vote in favor of the use of drones by HPD.

TJ, Hayward Concerned Citizens member, noted her group had been a strong supporter of HPD having its own UAS program along with a strong policy for its use, appreciated allowing differing perspectives on developing the policy, noted transparency and accountability concerns were addressed, and added the Police Department needed to be provided with necessary resources to keep the community safe, and urged approval of the proposed policy.

Mr. George Syrup, Hayward resident, Community Services Commissioner and Hayward Community Coalition member, noted the Coalition was not engaged in conversations; noted Policy 610 (UAS Operations) was not ready for implementation; suggested the CAP should be included in the formal reporting structure and its role strengthen; indicated HayCoCoa demand opposing the militarization of Police force; noted the purchase of drones was a frivolous expense; and noted that if Policy 610 is approved it needs to be amended to include community oversight.

Ms. Ro Aguilar, Hayward resident, supported concerns around privacy, abuse and accountability, noted that implementation of new technology warrants more reporting and transparency, supported a community group receiving reports on a regular basis on the use of drones, and noted the technology allows to identify property owners allowing use of illegal activity.

Ms. Suzanne Luther, Hayward Concerned Citizens member, was in favor of drone use by the Police Department.

Mr. Tom Ferreira, Hayward Concerned Citizens member, was in favor of allowing drone use by the Police Department because the department is currently borrowing one from other agencies, and favored giving the Police Department tools to keep Hayward residents safe.

Ms. Tracy Rosenberg, privacy advocate, noted the need for retention of data, indicated reporting requirements/schedule needed to be stated in the policy and changes presented to an accountable body, noted the job of a legislative body was to set up systems for accountability, and asked the Council to send the policy back to the Police Department for further changes.

Ms. Elbakri expressed concern about retention and sharing of data, noted the policy needs more information and an enforcement component, was concerned about misuse of the technology, and asked Council to request an impact report on the technology.

Ms. Lupe Angulo noted that documents provided on the policy and agenda report were not provided in Spanish, when Hayward was a 40% Latino community, noted data retention information was not provided, and mentioned that marginalized communities would be targeted with the use of drones.

Ms. Claire Dugan was unable to connect via Zoom.

Mayor Halliday closed public comments at 8:38 p.m.

Members of the City Council appreciated input by community members on the topic.

Council Member Zermeño noted the use of UAS was a matter of safety, added there were checks and balances in the policy and the Council could cease the program if there was any misuse of technology, favored quarterly reporting on drone use, added the proposed technology would be used to control illegal fireworks and people doing car donuts in the streets, was reviewed by the City Attorney and community groups, and mentioned the Police Department needed the technology and the policy could be modified.

Council Member Zermeño made a motion to approve the staff recommendation. Mayor Halliday seconded the motion.

Council Member Andrews requested inclusion of actual costs of the UAS Program in the quarterly reporting; requested to consider demographic data on an impact report as a part of the reporting to Council; asked to review if CAP can be involved in appointing a Program Coordinator and have the CAP be a part of the quarterly review process; noted she did not approve the technology initially but she had offered to help review the policy; and while she still had concerns about the technology, she acknowledged Police had incorporated comments from the Council Infrastructure Committee and community members.

Council Member Lamnin noted that because she saw community input reflected in the operations manual, she was willing to support the policy moving forward as proposed; favored the quarterly reporting and having local control on drone usage; concurred with CAP being able to review the quarterly report and policy; suggested that the Program Coordinator, upon appointment, meet with the CAP to hear community concerns; and recommended to have, within three months, Policy 610 (UAS Operations) updated to include transition to gender neutral language, reference to the City-wide policy statement, retention of UAS data clarified, and information on the collaboration among departments on drone use.

Council Member Salinas commented the item was heard by the Council Infrastructure Committee (CIC); noted that once the length of term of CAP members is resolved, he was optimistic about their role in reviewing policy; concurred with having the CAP participate in the quarterly review reporting and policy updates; was confident with the UAS retention of data as recommended in the policy; asked to include in quarterly reports, GPS (geographical) data on UAS deployment; and noted he was satisfied with the policy as drafted after three years and being vetted through community groups, the CIC, and City departments.

Council Member Márquez indicating she had reviewed the item as a member of the Council Infrastructure Committee noting the thoughtful approach in drafting the policy; added the proposed tool will provide safety; added she will be looking at quarterly updates having parameters of why the technology was deployed; noted the Council was seeking better relationships between the community and the City by creating the CAP; and added that any misuse of the technology will be addressed accordingly.

Council Member Lamnin concurred with Council Member Salinas's recommendation that quarterly reports should include geographic data on UAS deployment; and offered friendly amendments to the motion as follows: the CAP would review the Police Department's quarterly reports and policy amendments; the CAP would meet the Program Coordinator upon appointed; and within three months, the Council would review Policy 610 (UAS Operations) updates to include transition to gender neutral language, reference to the city-wide policy statement, clarification on retention of UAS data, and information on the collaboration among departments that use drones.

Council Member Wahab noted there were no UAS use cases or pilot program; indicated her major concern was the balancing of civil liberties and privacy rights; noted there was no city-wide privacy policy in place; added there has not been use cases for fireworks or other nuisance; noted residents' privacy rights, including those of marginalized community members, needed to be considered when creating a policy; and had significant reservations on data retention, selling of data and third-party vendors storing data.

Mayor Halliday noted the length of time the policy and topic had been discussed, indicated the City should be using its own drones and not borrowing from neighboring agencies, added lives could be saved with the technology and it must not be misused, and mentioned the proposed policy would protect privacy.

The friendly amendments made by Council Member Lamnin were accepted by Council Member Zermeño and Mayor Halliday.

It was moved by Council Member Zermeño, seconded by Mayor Halliday, and carried by the following roll call vote, to adopt the resolution with the following amendments: (1) the Community Advisory Panel (CAP) will review the Police Department's quarterly reports and policy amendments, including geographic data on UAS deployment; (2) upon appointment, the Program Coordinator will meet with the CAP to hear concerns; and, (3) within three months, the City Council will review updates to Policy 610, including the city-wide policy statement, transition to gender neutral language, retention of UAS data, and information on collaboration among departments that use UASs.

AYES: COUNCIL MEMBERS Andrews, Lamnin, Márquez, Salinas, Zermeño
MAYOR Halliday
NOES: COUNCIL MEMBER Wahab
ABSENT: None
ABSTAIN: None

Resolution 22-029, "Resolution of the City Council of the City of Hayward Adopting a Statement of Values and Commitments to the Community Regarding Unmanned Aerial Surveillance Systems (UASS), Which Balance Use of Such Technologies with Competing Interests of Constitutional Rights of Privacy; Authorizing the City Manager to Issue Administrative Regulations Consistent Herewith, Including but Not Limited to Purchasing, Data Retention, Storage, and Access Policies, that Apply Broadly Across City Operations; and, Adopting by Reference and Incorporating Herein the Associated Staff Report Dated January 25, 2022"

Mayor Halliday called for a recess at 9:47 p.m., and reconvened the meeting at 10:00 p.m.

10. Homekey 2.0 Application: Adopt a Resolution Approving the City of Hayward's Homekey Projects and Authorizing the City Manager and Assigned Staff to Submit Applications to the State of California Department of Housing Community Development for Homekey Funds for Housing for Persons Experiencing Homelessness **LB 22-002**

    Staff report submitted by Assistant City Manager Ott/Director of Development Services, dated January 25, 2022, was filed.

Assistant City Manager Ott introduced the item and Management Analyst Lobedan along with Management Analyst Cole-Bloom provided a synopsis of the staff report seeking adoption of a resolution approving Homekey projects and the City Manager's authorization to submit applications.

Discussion ensued among members of the City Council, City staff, Mr. Jake Metcalf with Firm Foundation Community Housing, and Mr. Jonathan Russell with Bay Area Community Services (BACS) regarding: how vacant properties would be transferred to BACS and units would be deed restricted; Homekey Round 3 funding; case management for tiny homes village and safety ambassadors; explore prioritizing placement of individuals sleeping at Weekes Park; BACS proposal to purchase and remodel up to five homes in Hayward; continue to look for additional funding to house beyond 30 unhoused individuals; design of the Tiny Home Village to fit within the community and integrating experiences; partnership with Hayward Area Recreation and Park District and programming at Weekes Park; and scattered site locations for affordable housing and service model geared to integrating unhoused individuals into neighborhoods.

Mayor Halliday opened public comments at 10:35 p.m.

Ms. Ro Aguilar, Hayward resident, stated the hotel/motel model was the best cost-effective long-term housing strategy, and urged the City to continue to complete the hotel conversion project with re-entry services through funds from other sources and/or Homekey Round 3 funds.

Mr. George Syrup**,** Hayward resident, appreciated the City's efforts to address the housing crisis and encouraged more discussion around community land trusts.

Mayor Halliday closed public comments at 10:41 PM.

Council Member Salinas thanked his colleagues, Council Members Lamnin and Wahab, who serve on the Homelessness-Housing Task Force (HHTF) and City staff for figuring out substantive solutions to the housing crisis and for their quick approach. Council Member Salinas made a motion to approve staff's recommendation,

Council Member Lamnin, also HHFT Chair, seconded the motion.

Mayor Halliday thanked the three HHTF members, Council Members Lamnin, Salinas and Wahab, for their efforts on the item.

Council Member Lamnin appreciated staff's efforts and dedication to moving the needle on the issue in creative ways and brining more resources to the City; and indicated that community land trusts and cost effectiveness were already part of the plan.

Council Member Wahab complimented the housing staff team for providing answers, finding sources of funding, agreed with trying to secure Homekey Round 3 funding, and getting first dibs when parcels come up from the Alameda County Assessor's Office.

Mayor Halliday expressed support for the motion and noted the scattered site homes would be helpful for individual development.

It was moved by Council Member Salinas, seconded by Council Member Lamnin, and carried by the following roll call vote, to adopt the two resolutions.

AYES:	COUNCIL MEMBERS Andrews, Lamnin, Márquez, Salinas, Wahab, Zermeño MAYOR Halliday
NOES:	None
ABSENT:	None
ABSTAIN:	None

Resolution 22-030, "Resolution of the City Council of the City of Hayward Authorizing Joint Application to and Participation in the Homekey Program for the Project Reclamation Regional Scattered Site Program in a Total Not-to-Exceed Amount of $28,500,000"

Resolution 22-031, "Resolution of the City Council of the City of Hayward Authorizing Joint Application to and Participation in the Homekey Program for Construction and Operations of a Tiny Home Village in a Total Not-to-Exceed $6,000,000"

INFORMATIONAL ITEM

11. Informational Item Regarding Marin Municipal Water District's Proposal to Transmit Purchased Water Through the City's Transmission Mains and the Regional Water System Intertie as a Drought Relief Measure **RPT 22-006**

    Staff report submitted by Director of Public Works Ameri, dated January 25, 2022, was filed.

The information item was presented as general information for Council and the public.

COUNCIL REPORTS AND ANNOUNCEMENTS

There were none.

COUNCIL REFERRALS

There were none.

ADJOURNMENT

Mayor Halliday adjourned the City Council meeting at 10:58 p.m., in memory of Marilyn Baker-Madsen, Jerald Allen Mosher, Paul McCreary, and Richard Hardwick.

Ms. Marilyn Baker-Madsen served as Hayward Library Director from 1985 to 2004, implemented the Celebrating Cultures in Harmony Festival and Hayward Literacy Program, was largely responsible for the campaign to raise funds to upgrade Weekes Library, and served on the Eden Youth and Family Center Board and the Hayward Literacy Plus Council, and was active on the Hayward Volunteer Dinner Committee and Martin Luther King Jr. Celebration Committee.

Mr. Gerald Allen Mosher served as the City's Human Resources Manager, graduated from Hayward High School, and was married to City employee, Marylin Mosher.

Mr. Paul McCreary served as Hayward Area Recreation and Park District General Manager from 2016 to 2020, helped pass major Ballot Measure F1 for funding to upgrade local parks and for the Mia's Dream Come True Park, and became board trustee of the California Foundation for Parks and Recreation.

Mr. Richard Hardwick volunteered on the St. Rose Hospital Foundation Board and served as its president, supported South Hayward Parish, Alameda County Food Bank, and many other organizations, and collected coins off the street and last year collected more than $400 which he donated to St. Rose Hospital's Patient Assistance Fund.

Mayor Halliday asked staff to work with the families to plant trees in memory of the four individuals.

APPROVED

_____
Barbara Halliday
Mayor, City of Hayward

ATTEST:

_____
Miriam Lens
City Clerk, City of Hayward

File #: CONS 22-079

DATE: February 15, 2022

TO: Mayor and City Council

FROM: Director of Public Works

SUBJECT

Adopt a Resolution Approving Addendum No. 1, Awarding a Contract to Ranger Pipelines, Inc., for the Water Line Improvements Project, Project No. 07093, in an Amount Not-to-Exceed $12,488,057, and Appropriating Additional Funds in an Amount of $3,734,000

RECOMMENDATION

That Council adopts a resolution (Attachment II):

1. Approving Addendum No. 1, providing minor revisions to the project specifications;
2. Awarding the construction contract to Ranger Pipelines, Inc., (Ranger) in an amount not-to-exceed $12,488,057; and
3. Appropriating additional funds in the amount of $3,734,000.

SUMMARY

The Utilities Division of the Department of Public Works & Utilities replaces the City's water mains to improve supply reliability and fire flow through annual water line replacement projects**.** This project will improve water supply reliability by replacing approximately 26,600 linear feet of existing cast iron, ductile iron (DIP), and asbestos cement (ACP) pipes ranging from 4 to 12-inch with new 6, 8, or 12-inch polyvinyl chloride (PVC), ductile iron (DIP), or earthquake resistant ductile iron (ERDIP) pipes at fourteen locations throughout the City (Attachment III). Approximately 26,000 linear feet will be replaced by traditional open-cut method, and another approximately 600 linear feet will be replaced by trenchless technology used to cross under obstructions that prohibit open-cut installation.

On January 18, 2022, five (5) bids were received. The low bid was $11,352,779 which is $114,779, or 1%, above the Engineer's estimate of $11,238,000. Staff is requesting Council's approval of Addendum No. 1, which provided minor revisions to clarify the specifications, and awarding the contract to the lowest bidder, Ranger, in the amount not-to-exceed $12,488,057, including a contingency for Administrative Change Orders.

ATTACHMENTS

Attachment I Staff Report
Attachment II Resolution
Attachment III Location Map

DATE: February 15, 2022

TO: Mayor and City Council

FROM: Director of Public Works

SUBJECT Adopt a Resolution Approving Addendum No. 1, Awarding a Contract to Ranger Pipelines, Inc., for the Water Line Improvements Project, Project No. 07093, in an Amount Not-to-Exceed $12,488,057, and Appropriating Additional Funds in an Amount of $3,734,000

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BACKGROUND

The City's current Capital Improvement Program (CIP) includes funding to replace the City's water mains to improve supply reliability and fire flow through annual water line

replacement projects. The City has approximately 375 miles of water distribution pipeline, of which approximately 67% consists of asbestos cement pipe and a majority of the existing pipelines are 6 inches in diameter. Staff selected the water line locations for a variety of reasons including being undersized, having exceeded service life, frequency of breaks, and/or upgrades needed for supply reliability and fire flow improvements.

As shown in Attachment III, the water main improvements include replacing approximately 26,600 linear feet of existing 4, 6, 8, and 12-inch cast iron, ductile iron, and asbestos cement pipes at fourteen locations throughout the City. These segments have been selected based on performance and maintenance data over the past several years. Recommended projects from the 2014 Water System Master Plan, including upsizing undersized water mains and installing new water lines, were also incorporated to address capacity deficiencies within the existing water distribution system, satisfy future capacity requirements, and provide sufficient fire flow.

Approximately 26,000 linear feet of water main will be replaced by traditional open-cut method constructed in segments to minimize the impact to customers and traffic. The work generally involves excavating a trench two to three feet in width and four to six feet deep, parallel to the water main to be replaced, typically eight feet or more away from the existing water main. After a segment of new water main has been installed and tested, service connections are expeditiously transferred from the old water main to the new one such that water service is typically restored within two hours. After all services have been transferred to the new water main, the remaining portions of the old water main are abandoned in place.

The remaining 600 linear feet will be replaced by trenchless pipe replacement techniques including bore and jack, and micro tunneling where open-cut installation is impossible. The bore and jack method generally utilizes a boring head that is driven into the ground together with a protective steel casing using jacking equipment. The boring head cuts through and extracts the soil and the steel casing allows installation of new water mains crossing under obstructions such as railroad tracks, storm culverts, and flood channels. The micro tunneling method is a newer technology similar to bore and jack and is used to install larger diameter or longer pipe runs.

DISCUSSION

On December 7, 2021[1], Council approved the plans and specifications for the project and called for bids to be received on January 11, 2022. Addendum No. 1 postponed the bid opening to January 18, 2022, due to requests from contractors.

On January 18, 2022, the City received five (5) bids for the project, ranging from $11,352,779 to $14,832,023. Ranger Pipelines, Inc., submitted the low bid in the amount of $11,352,779, which is approximately 1% above the Engineer's estimate of $11,238,000.

[1] https://hayward.legistar.com/LegislationDetail.aspx?ID=5347829&GUID=B1C01790-44AD-4D1E-A005-CD3DADA51E29&Options=ID|Text|&Search=07093

The average of the five (5) bids received was $13,079,234, which is approximately 15% above the Engineer's estimate. An additional $1,135,278 (or 10% of the contract amount) is included as a contingency for administrative change orders in the event additional funds are needed for unforeseen conditions and changes during construction.

ECONOMIC IMPACT

The community will enjoy the benefits of the project, including the continued operability and serviceability of the water distribution system. Furthermore, a robust and reliable water infrastructure can help foster economic development and viability in the City.

Replacing the water mains and appurtenances are part of an effort to, pursuant to Council direction, modernize and upgrade existing infrastructure. The project will reduce operations and maintenance costs associated with servicing the undersized and aging water mains. In addition, staff time attending to issues related to high frequency maintenance and system breaks will be reduced.

FISCAL IMPACT

The estimated costs for the Water Line Improvements Project are as follows:

Construction Contract	$11,352,779
Administrative Construction Contingency	$1,135,278
Professional Engineering Services – Consultant	$733,933
Inspection & Testing & Permitting (Estimated)	$650,000
Construction Administration – City Staff (Estimated)	$400,000
Total	$14,271,990

Appropriation of Additional Funds

The adopted FY22 CIP includes $10,538,000 for the Water Line Improvements Project in the Water System Capital Improvement Fund. As shown above, the current total estimated cost to construct the project exceeds this amount. The original estimate was based on a preliminary conceptual design. These costs are typically developed when project definition is at the planning stage. Expected accuracy for a planning stage estimate typically ranges from 50% below or above the actual cost. Furthermore, the accuracy of the previous estimates is now becoming increasingly unattainable due to the recent COVID-19 pandemic related global supply chain disruptions. Staff requests that Council appropriate additional funds in the amount of $3,734,000 from the Water System Improvement Fund (604) to fully fund the project in FY22. Adequate fund balance is available to cover the necessary appropriation.

STRATEGIC ROADMAP

This agenda item supports the Strategic Roadmap, which includes Improve Infrastructure as one of the strategic priorities. Specifically, this item relates to the implementation of the following project:

Project 13b: Replace 4-6 miles of water pipelines annually.

SUSTAINABILITY FEATURES

The repair and replacement of deteriorating water lines would reduce potable water and energy losses.

PUBLIC CONTACT

Prior to and during construction, notices will be provided to affected residents, property, and business owners to inform them of the nature and purpose of the work, potential impacts, work schedule, and City contact for additional information. In addition, staff will separately contact any large employers and schools that may be affected by the project and coordinate work to minimize impact.

NEXT STEPS

The following schedule has been developed for this project:

Award Construction Contract	February 15, 2022
Notice to Proceed	March, 2022
Construction Completion	March, 2023

Prepared by: Sammy Lo, Acting Senior Civil Engineer

Reviewed by: Tay Nguyen, Senior Utilities Engineer

Recommended by: Alex Ameri, Director of Public Works

Approved by:

_____

Kelly McAdoo, City Manager

HAYWARD CITY COUNCIL

RESOLUTION NO. 22-

Introduced by Council Member_____

RESOLUTION APPROVING ADDENDUM NO. 1, AWARDING A CONTRACT TO RANGER PIPELINES, INC., FOR THE WATER LINE IMPROVEMENTS PROJECT, PROJECT NO. 07093, IN AN AMOUNT NOT-TO-EXCEED $12,488,057, AND APPROPRIATING ADDITIONAL FUNDS IN AN AMOUNT OF $3,734,000

WHEREAS, by Resolution No. 21-236, on December 7, 2021, the City Council approved the plans and specifications for the Water Line Improvements Project, Project No. 07093, and called for bids to be received by January 11, 2022; and

WHEREAS, Addendum No. 1 was issued to make minor revisions to the specifications and postpone bid opening date to January 18, 2022 ; and

WHEREAS, on January 18, 2022, five (5) bids were received ranging from $11,352,779 to $14,832,023. The low bid, submitted by Ranger Pipelines, Inc., is approximately 1% above the engineer's estimate of $11,238,000.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Hayward that Addendum No. 1 is hereby approved and adopted as part of the plans and specifications for the project.

BE IT FURTHER RESOLVED that Ranger Pipelines, Inc., of San Francisco, CA, is hereby awarded the contract for the Water Line Improvements Project, Project No. 07093, in accordance with the plans and specifications adopted therefore and on file in the office of the City Clerk of the City of Hayward, at and for the price named and stated in the final proposal of the hereinabove specified bidder, and all other bids are hereby rejected.

BE IT FURTHER RESOLVED that the City Manager is hereby authorized and directed to execute an agreement with Ranger Pipelines, Inc., on behalf of the City of Hayward, in an amount not to exceed $12,488,057, including a contingency for administrative change orders, in a form to be approved by the City Attorney.

BE IT FURTHER RESOLVED by the City Council of the City of Hayward that Resolution 21-101, as amended, the Budget Resolution for Capital Improvement Projects for Fiscal Year 2022, is hereby amended by approving an appropriation of $3,734,000 for a total project amount of $14,271,990 from the Water System Improvement Fund (604) to the Water Line Improvements Project, Project No. 07093.

IN COUNCIL, HAYWARD, CALIFORNIA _____, 2022

ADOPTED BY THE FOLLOWING VOTE:

AYES: COUNCIL MEMBERS:
MAYOR:

NOES: COUNCIL MEMBERS:

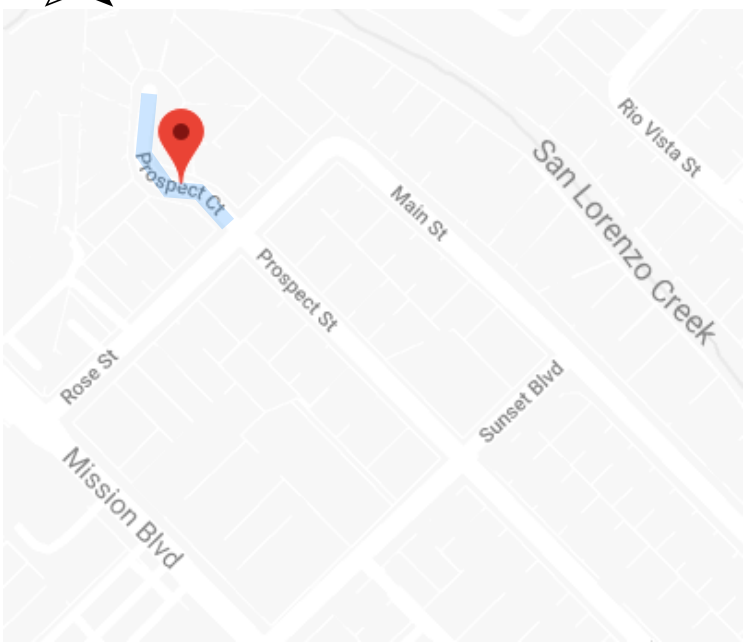
ABSTAIN: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

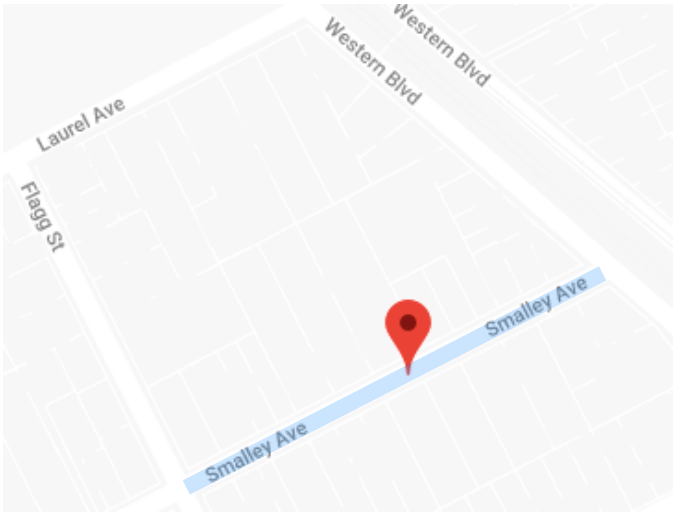
ATTEST: _____
City Clerk of the City of Hayward

APPROVED AS TO FORM:

_____
City Attorney of the City of Hayward



PROSPECT CT



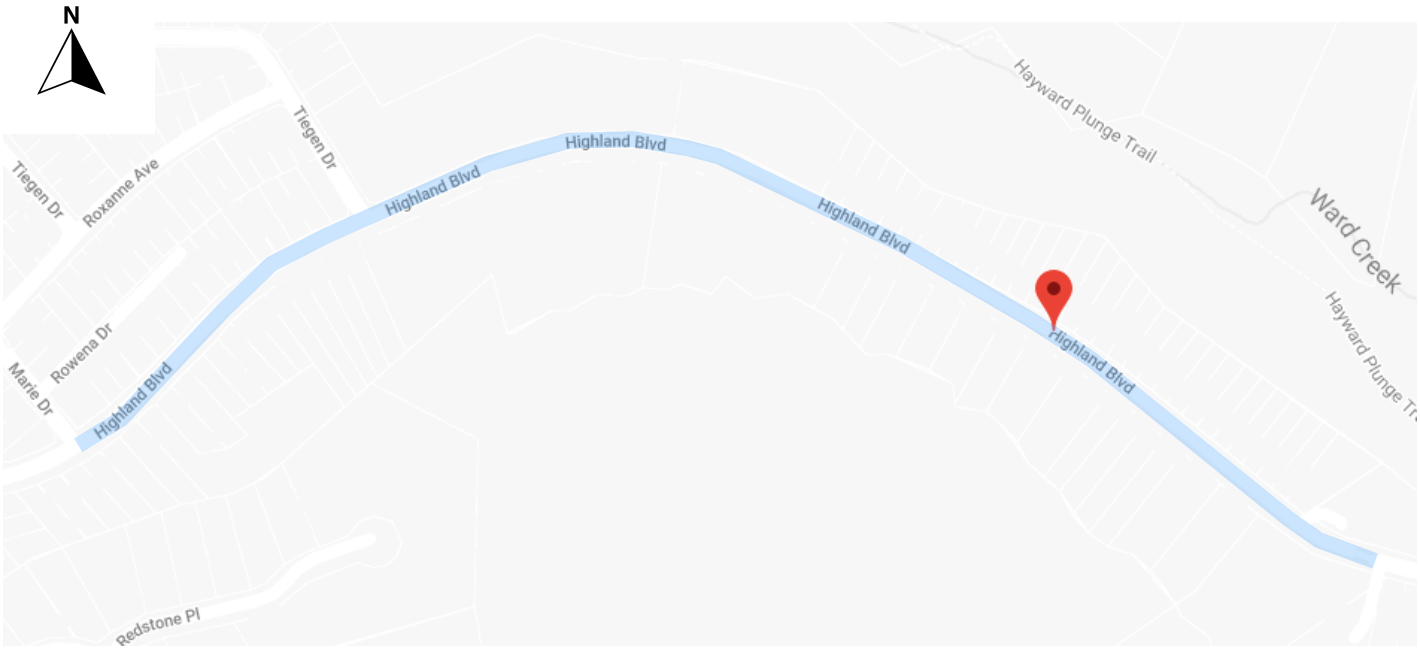
SMALLEY AVE

MEMORIAL WAY

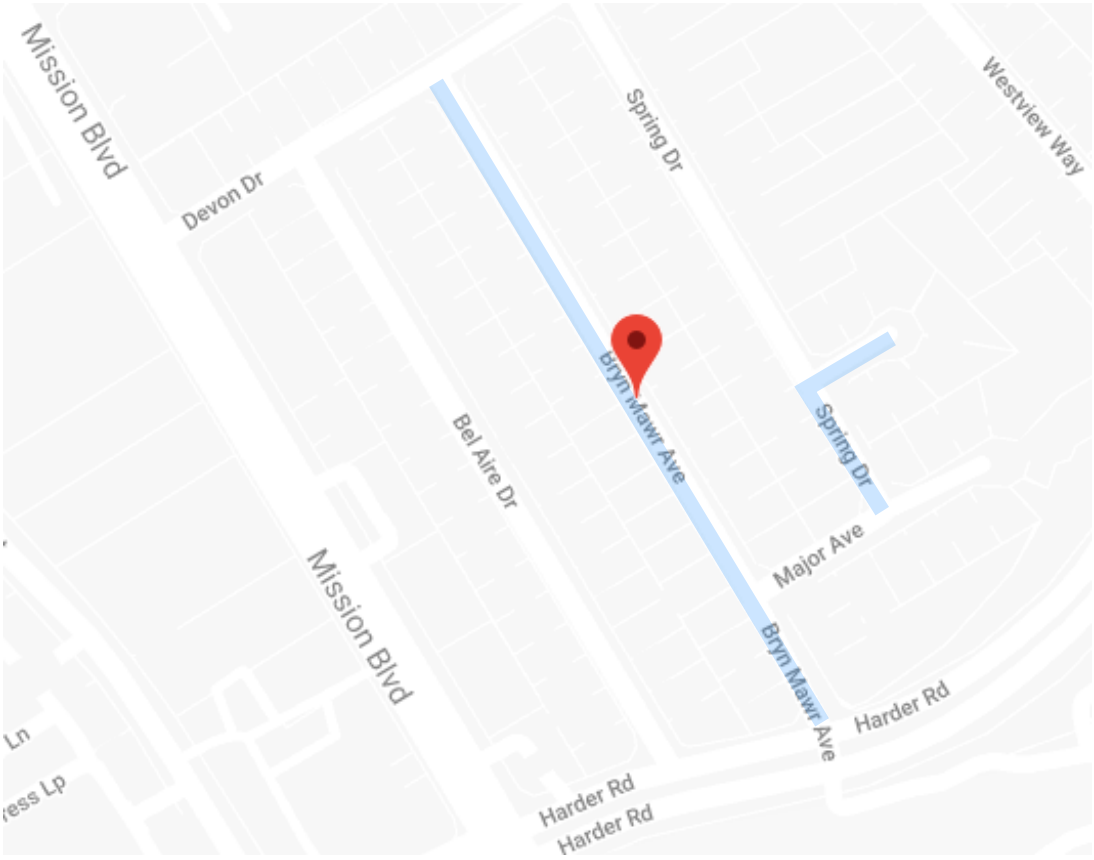
SUTRO ST, MEEK AVE

WATERLINE IMPROVEMENT PROJECT, PROJECT NO. 07093

LOCATION MAP PAGE 1 OF 6



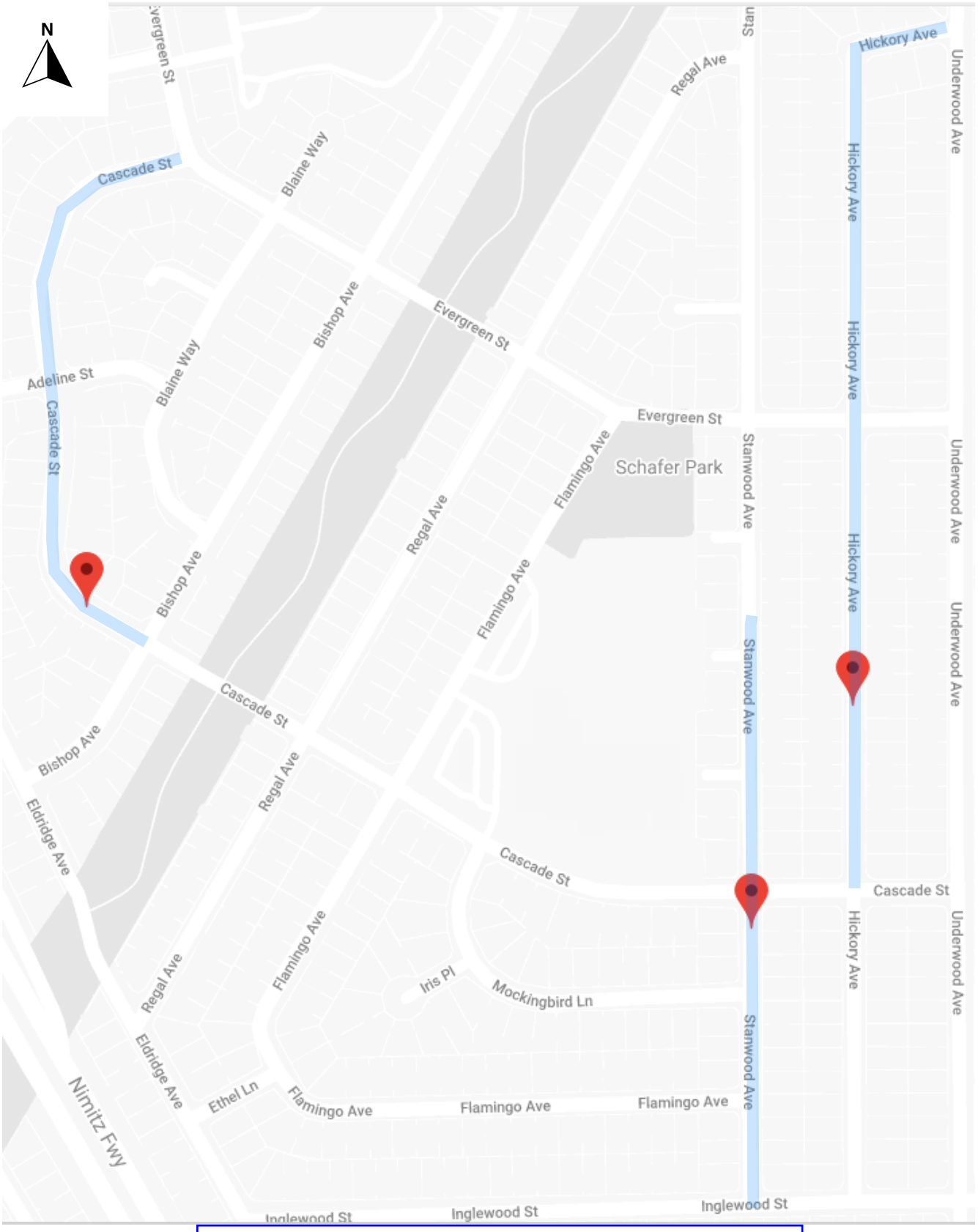
HIGHLAND BLVD



BRYN MAWR AVE, SPRING DR, SPRING CT

WATERLINE IMPROVEMENT PROJECT, PROJECT NO. 07093

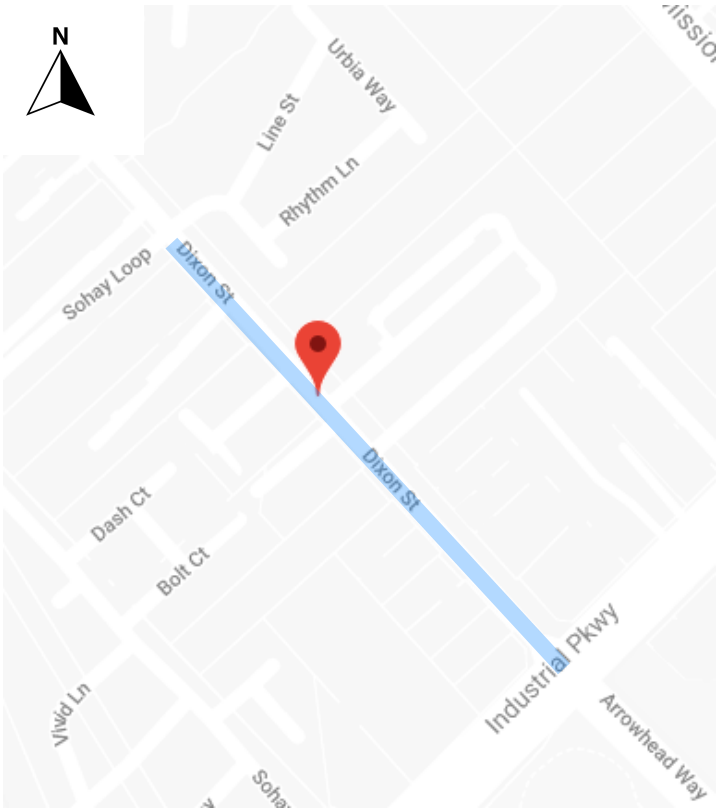
LOCATION MAP PAGE 2 OF 6



CASCADE ST, STANWOOD AVE, HICKORY AVE

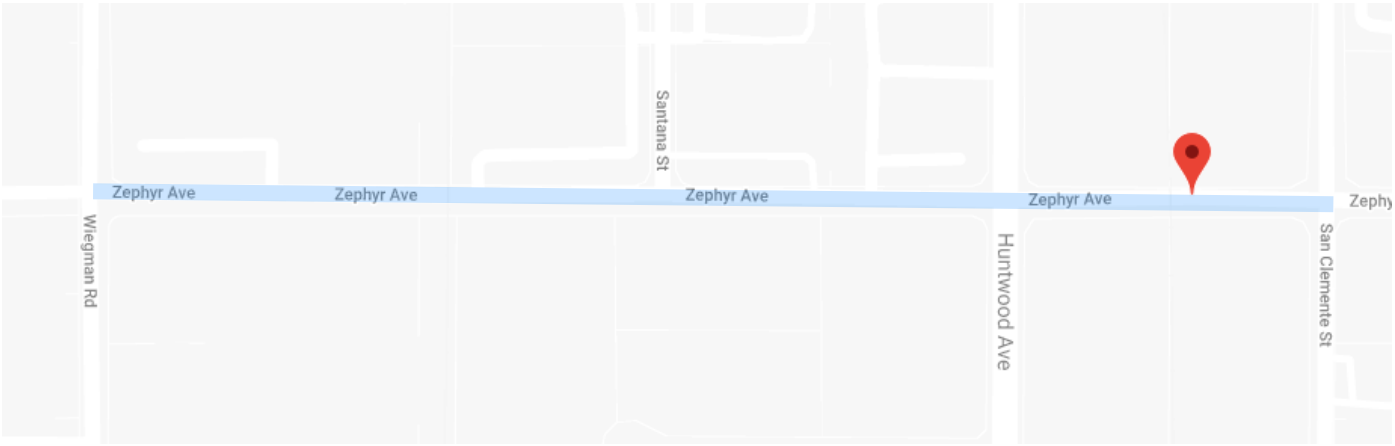
WATERLINE IMPROVEMENT PROJECT, PROJECT NO. 07093

LOCATION MAP PAGE 3 OF 6



DIXON ST

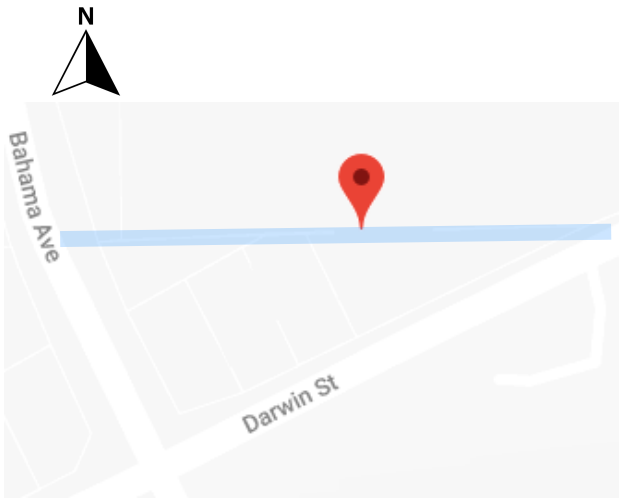
COLLEGE HEIGHTS PARK



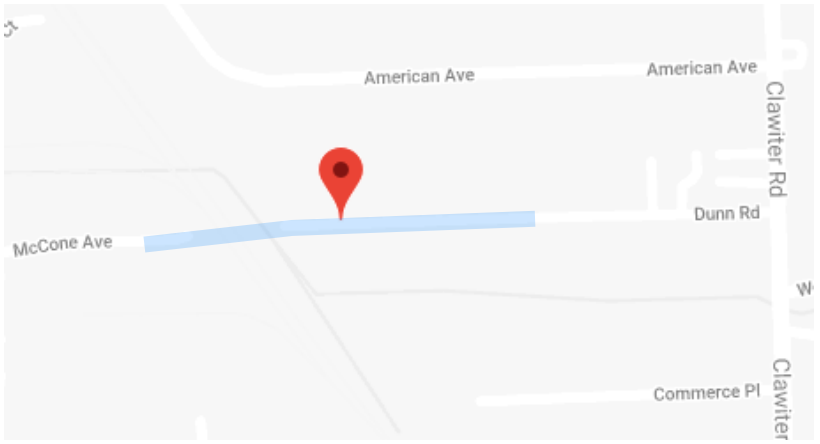
ZEPHYR AVE

WATERLINE IMPROVEMENT PROJECT, PROJECT NO. 07093

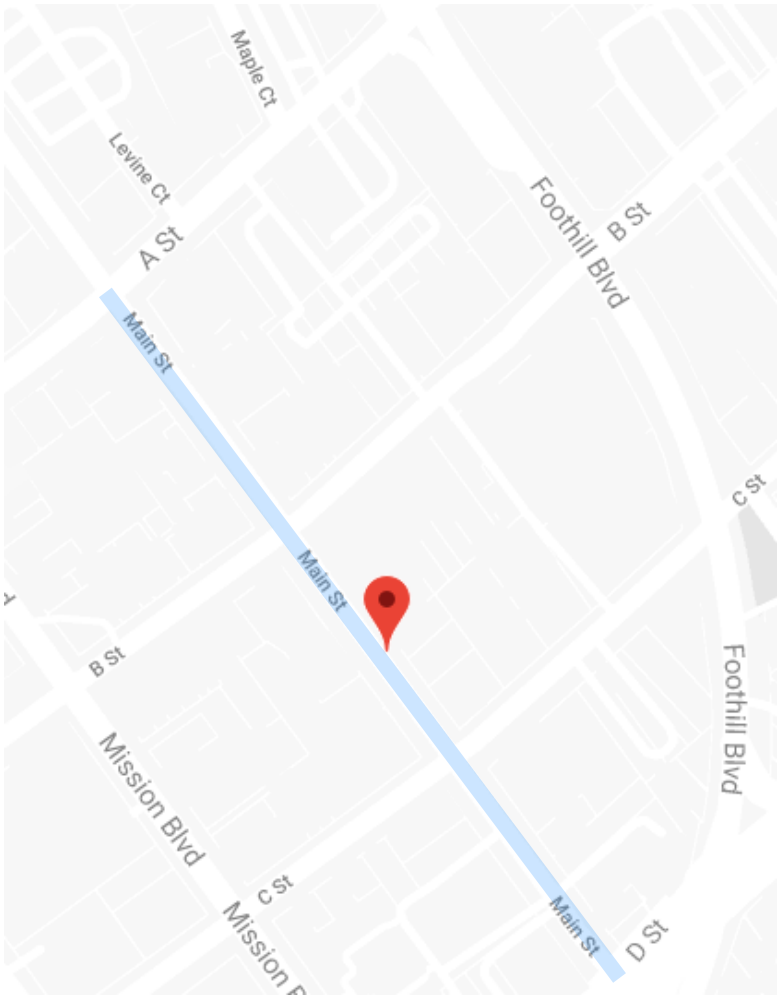
LOCATION MAP PAGE 4 OF 6



DARWIN ST



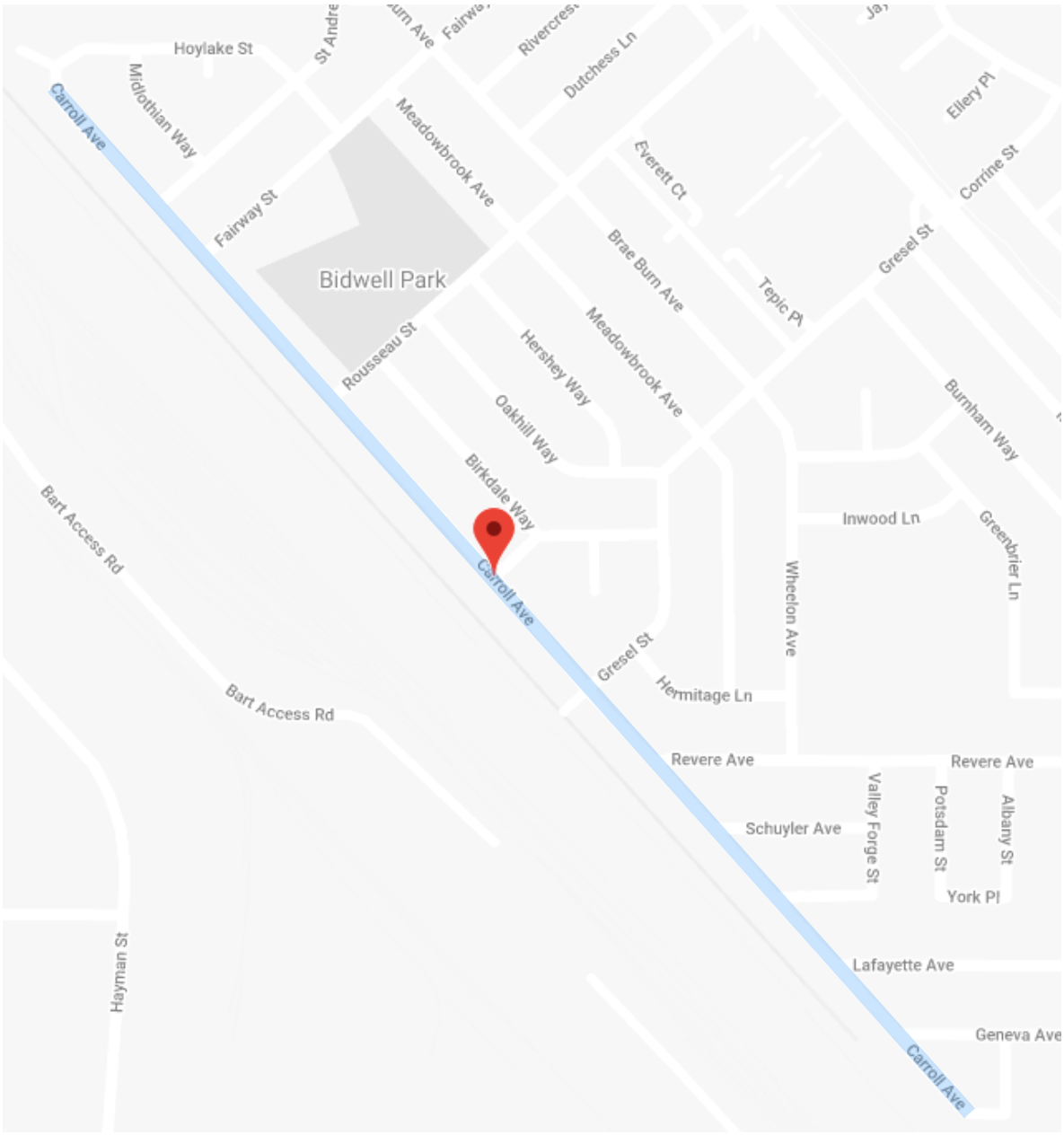
McCONE AVE, DUNN RD



MAIN ST

WATERLINE IMPROVEMENT PROJECT, PROJECT NO. 07093

LOCATION MAP PAGE 5 OF 6



CARROLL AVE

WATERLINE IMPROVEMENT PROJECT, PROJECT NO. 07093

LOCATION MAP PAGE 6 OF 6

File #: CONS 22-101

DATE: February 15, 2022

TO: Mayor and City Council

FROM: City Clerk

SUBJECT

Adopt a Resolution Allowing the City Council and Appointed Commissions/Task Forces and Council Committees to Hold Continued Teleconferenced Public Meetings Pursuant to AB 361

RECOMMENDATION

That the Council adopts a resolution (Attachment II) pursuant to AB 361 making specific findings to allow the Council and appointed commissions/task forces and Council committees (Exhibit A to Attachment II) to continue holding teleconferenced public meetings during the COVID 19 state of emergency.

SUMMARY

On September 16, 2021, the Governor signed AB 361 that amended provisions of the Brown Act to allow local governments to conduct virtual meetings during a state of emergency proclaimed by the Governor, subject to complying with specific requirements, including providing public access and participation via call-in or internet-based platforms. While AB 361 does not require legislative bodies to take any specific actions to hold an initial teleconferenced meeting during a state of emergency, a legislative body must act in order to continue holding subsequent teleconferenced meetings while the state of emergency remains in effect. Specifically, no later than 30 days after the initial AB 361 teleconferenced meeting, and every 30 days thereafter, a legislative body must make findings that the body has reconsidered the circumstances of the state of emergency and that either of the following conditions exist: the state of emergency continues to directly impact the ability of the members to meet safely in person; or, state or local officials continue to impose or recommend measures to promote social distancing.

ATTACHMENTS

Attachment I	Staff Report
Attachment II	Resolution
Attachment III	Exhibit to Resolution

DATE: February 15, 2022

TO: Mayor and City Council

FROM: City Manager
City Clerk

SUBJECT: Adopt a Resolution Allowing the City Council and Appointed Commissions/Task Forces and Council Committees to Hold Continued Teleconferenced Public Meetings Pursuant to AB 361

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That the Council adopts a resolution (Attachment II) pursuant to AB 361 making specific findings to allow the Council and appointed commissions/task forces and Council committees (Exhibit A to Attachment II) to continue holding teleconferenced public meetings during the COVID 19 state of emergency.

SUMMARY

On September 16, 2021, the Governor signed AB 361 that amended provisions of the Brown Act to allow local governments to conduct virtual meetings during a state of emergency proclaimed by the Governor, subject to complying with specific requirements, including providing public access and participation via call-in or internet-based platforms. While AB 361 does not require legislative bodies to take any specific actions to hold an initial teleconferenced meeting during a state of emergency, a legislative body must act in order to continue holding subsequent teleconferenced meetings while the state of emergency remains in effect. Specifically, no later than 30 days after the initial AB 361 teleconferenced meeting, and every 30 days thereafter, a legislative body must make findings that the body has reconsidered the circumstances of the state of emergency and that either of the following conditions exist: the state of emergency continues to directly impact the ability of the members to meet safely in person; or, state or local officials continue to impose or recommend measures to promote social distancing.

BACKGROUND

In general, the Brown Act allows legislative bodies to use teleconferencing during a public meeting as long as certain requirements are met, such as:

- Identification of any remote location from which a member of the legislative body is participating via teleconference;
- Posting of agendas at all remote locations from which members of the legislative body are participating;
- Public accessibility to the remote location and the technological means for allowing the public to participate in the meeting from the location; and
- A quorum of the members must be participating from a location within the jurisdiction of the legislative body.

In response to the COVID 19 state of emergency, the Governor temporarily suspended the rules described above when he issued Executive Order N-29-20 on March 17, 2020 and authorized local legislative bodies to hold virtual public meetings subject to specific public accessibility and noticing requirements.

With the expiration of Executive Order N-29-20, AB 361 amends the Brown Act to allow virtual public meetings during a state of emergency proclaimed by the Governor. A local agency may hold a teleconferenced meeting during a state of emergency without complying with the normal teleconferencing requirements described above if it meets requirements related to providing notice of the meeting, public access and participation via call-in or internet-based service options, real-time public comments, and conduct of the meeting in a manner that protects statutory and constitutional rights of any parties and the public appearing before the legislative body.

AB 361 does not require legislative bodies to take any specific action prior to holding an initial teleconferenced meeting during a state of emergency. However, to hold a subsequent teleconferenced meeting a legislative body must act no later than 30 days after the initial teleconferenced meeting, and every 30 days thereafter, by making findings that the body has reconsidered the circumstances of the state of emergency and that either of the following conditions exist:

- The state of emergency continues to directly impact the ability of the members to meet safely in person; or
- State or local officials continue to impose or recommend measures to promote social distancing.

DISCUSSION

Current orders of the Alameda County Health Official satisfy both conditions necessary for the AB 361 findings described above:

- Order No. 20-05g, originally issued April 3, 2020 and most recently amended on January 10, 2022, imposes a mandate that all individuals diagnosed or likely to have COVID 19 must isolate themselves and follow requirements further specified in the Order.

- Order No. 20-06n, originally issued April 3, 2020 and most recently amended on January 10, 2022, imposes a quarantine requirement on individuals who have had close contact to a person infected with COVID 19 unless specific criteria described in the order are met.
- In response to circulation of the Delta variant of COVID 19, Order No. 21-06 (effective on December 8, 2021) requires all individuals within the County of Alameda to wear face coverings when indoors in workplaces and public settings, with limited exemptions, and recommends that businesses make face coverings available to individuals entering the business.

Additionally, the California Department of Public Health has mandated that everyone in California wear a mask in indoor public spaces and workplaces through February 15, 2022.

Alameda County Health Order No. 21- 04 (effective November 1, 2021), which allows a stable group of fully vaccinated individuals to remove masks in certain indoor situations, is not applicable to the City's public meetings because they do not necessarily involve a stable group of vaccinated individuals.

Currently, the Council is holding hybrid Council meetings that allow for virtual participation via the Zoom platform as well as in-person participation. This format also allows for real-time public comments, in compliance with AB 361. All in-person participants are required to document they are fully vaccinated against COVID-19 before entering the Council chamber. In compliance with Alameda County public health orders, everyone inside the Council chamber is required to wear a mask or other face-covering. All City commissions, task forces, and Council committees continue meeting entirely virtually over the Zoom platform.

Based on the above, staff recommends that the Council adopts the attached resolution making the necessary findings to allow the Council and the appointed boards and commissions identified in Exhibit A to the resolution to continue holding teleconferenced meetings pursuant to AB 361.

FISCAL IMPACT

There is no fiscal impact associated with this action.

STRATEGIC ROADMAP

This agenda item is a routine operational item and does not relate to any of the projects outlined in the Council's Strategic Roadmap.

NEXT STEPS

Adoption of the resolution will allow the Council and specified appointed boards and commissions to hold a subsequent teleconferenced meeting pursuant to the provisions of AB 361. Additional resolutions must be adopted every thirty days during the existence of the state of emergency in order to continue holding teleconferenced meetings.

Prepared and Recommended by: Kelly McAdoo, City Manager
Miriam Lens, City Clerk

Approved by:

_____
Kelly McAdoo, City Manager

HAYWARD CITY COUNCIL

RESOLUTION NO. 22-___

Introduced by Council Member _____

RESOLUTION MAKING THE REQUIRED FINDINGS PURSUANT TO AB 361 TO CONTINUE TO HOLD TELECONFERENCED PUBLIC MEETINGS DURING THE COVID 19 STATE OF EMERGENCY

WHEREAS, the Brown Act (Government Code section 54950 et seq.) allows for public meetings of a legislative body to occur via teleconferencing subject to certain requirements, particularly that the legislative body notice each teleconference location of each member that will be participating in the public meeting, that each teleconference location be accessible to the public, that members of the public be allowed to address the legislative body at each teleconference location, that the legislative body post an agenda at each teleconference location, and that at least a quorum of the legislative body participate from locations within the boundaries of the local agency's jurisdiction; and

WHEREAS, in response to the COVID 19 state of emergency, the Governor temporarily suspended the rules described above when he issued Executive Order N-29-20 on March 17, 2020 and authorized local legislative bodies to hold virtual public meetings subject to specific public accessibility and noticing requirements; and

WHEREAS, the Governor signed AB 361 prior to the expiration of Order N-29-20; and

WHEREAS, AB 361 amends the Brown Act to the legislative body of a local agency to hold a teleconferenced meeting during a state of emergency without complying with the normal teleconferencing requirements described above if it meets requirements related to providing notice of the meeting, public access and participation via call-in or internet-based service options, real-time public comments, and conduct of the meeting in a manner that protects statutory and constitutional rights of any parties and the public appearing before the legislative body; and

WHEREAS, AB 361 does not require legislative bodies to take any specific action prior to holding an initial teleconferenced meeting during a state of emergency, however, to hold a subsequent teleconferenced meeting a legislative body must act no later than 30 days after the initial teleconferenced meeting, and every 30 days thereafter, by making findings specified in the statute justifying the continued use of teleconferenced public meetings; and

WHEREAS, it shall be the policy of the City that the appointed boards and commissions of the City will hold teleconferenced public meetings in compliance with the provisions of AB 361 during the COVID 19 state of emergency; and

WHEREAS, the COVID 19 state of emergency declared by the Governor remains active; and

WHEREAS, public meetings involve many people in shared indoors spaces for hours, when the number of people present does not always allow for a minimum six foot distance between persons, and close contacts raise the risk of the spread of COVID-19; and

WHEREAS, the California Department of Public Health has mandated that everyone in California wear a mask in indoor public spaces and workplaces through February 15, 2022; and

WHEREAS, the Alameda County Health Officer has issued Order No. 20-05g (originally issued April 3, 2020 and most recently amended on January 10, 2022) imposing a mandate that all individuals diagnosed or likely to have COVID 19 must isolate themselves and follow requirements further specified in the Order; and

WHEREAS, the Alameda County Health Officer has issued Order No. 20-06n (originally issued April 3, 2020 and most recently amended on January 10, 2022) imposing a quarantine requirement on individuals who have had close contact to a person infected with COVID 19 unless specific criteria described in the order are met; and

WHEREAS, the Alameda County Health Officer has issued Order No. 21-06 (effective on December 8, 2021) which requires all individuals within the County of Alameda to wear face coverings when indoors in workplaces and public settings, with limited exemptions, and recommends that businesses make face coverings available to individuals entering the business; and

WHEREAS, Alameda County Health Order No. 21- 04 (effective November 1, 2021), which allows a stable group of fully vaccinated individuals to remove masks in certain indoor situations, is not applicable to the City's public meetings because they do not necessarily involve a stable group of vaccinated individuals.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Hayward makes the following findings pursuant to AB 361 to continue holding teleconferenced public meetings during the COVID 19 state of emergency:

- The City Council has reconsidered the circumstances of the state of emergency.
- The COVID 19 state of emergency declared by the Governor remains active and continues to directly impact the ability of Councilmembers to meet safely in-person.
- State and local officials continue to recommend or impose measures to promote social distancing.
- The Alameda County Health Officer has issued orders imposing measures to promote social distancing via isolation and quarantine of individuals infected or likely infected with COVID 19 and individuals with close contact to persons infected with COVID 19.

- The Alameda County Health Officer has issued orders imposing a mask mandate on all individuals in Alameda County, regardless of vaccination status, in all indoor public settings venues, gatherings, and workplaces.
- The California Department of Public Health has mandated that everyone in California wear a mask in indoor public spaces and workplaces through February 15, 2022.

BE IT FURTHER RESOLVED that in the interest of public health and safety, based on the findings contained herein, the City Council of the City of Hayward and the appointed boards and commissions identified in Exhibit A of this Resolution shall continue to hold teleconferenced public meetings pursuant to AB 361.

IN COUNCIL, HAYWARD, CALIFORNIA _____, 2022

ADOPTED BY THE FOLLOWING VOTE:

AYES: COUNCIL MEMBERS:
MAYOR:

NOES: COUNCIL MEMBERS:

ABSTAIN: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

ATTEST: _____
City Clerk of the City of Hayward

APPROVED AS TO FORM:

_____
City Attorney of the City of Hayward

EXHIBIT A

- Community Services Commission
- Keep Hayward Clean and Green Task Force
- Library Commission
- Personnel Commission
- Planning Commission
- Council Airport Committee
- Council Budget and Finance Committee
- Council Economic Development Committee
- Council Infrastructure Committee
- Council Homelessness-Housing Task Force
- Council Sustainability Committee
- Hayward Youth Commission
- Hayward Police Department Community Advisory Panel

File #: WS 22-005

DATE: February 15, 2022

TO: Mayor and City Council

FROM: City Manager

SUBJECT

Public Safety Projects Update: Review and Discuss Public Safety Policy Innovation Workshop Projects Update

RECOMMENDATION

That the Council receives and comments on this Public Safety Policy Innovation Workshop implementation report**.**

SUMMARY

On May 18, 2021, Council received the recommendations of the Public Safety Policy Innovation Workshop, authorized a budget allocation to support the projects, and directed staff to begin implementing nine of the pilot projects in FY 2022. Council also directed staff to return with progress updates at six-month intervals. This report provides an update on the nine projects, including the creation of the Hayward Evaluation and Response Teams (H.E.A.R.T.) program and the launch of the Hayward People's Budget neighborhood participatory budgeting initiative (Attachment II).

ATTACHMENTS

Attachment I Staff Report
Attachment II Project Update Summary

DATE: February 15, 2022

TO: Mayor and City Council

FROM: City Manager

SUBJECT: Public Safety Projects Update: Review and Discuss Public Safety Policy Innovation Workshop Projects Update

RECOMMENDATION

That the Council receives and comments on this Public Safety Policy Innovation Workshop implementation report.

SUMMARY

On May 18, 2021, Council received the recommendations of the Public Safety Policy Innovation Workshop, authorized a budget allocation to support the projects**,** and directed staff to begin implementing nine of the pilot projects in FY 2022. Council also directed staff to return with progress updates at six-month intervals. This report provides an update on the nine projects, including the creation of the Hayward Evaluation and Response Teams (H.E.A.R.T.) program and the launch of the Hayward People's Budget neighborhood participatory budgeting initiative (Attachment II).

BACKGROUND

Following the May 25, 2020 murder of George Floyd by an on-duty officer of the Minneapolis Police Department and subsequent national protests and conversations about race, police brutality, and public safety, a group of Hayward community members brought forth concerns about Hayward's policing services, policies, and programs in light of three Hayward officer-involved shootings that occurred around the same time period. Directed by Council, the City began a year-long effort to elicit and address community concerns about public safety comprised of the following projects.

Community Conversations & Public Safety Survey[1] (August – October 2020)
Over 1,700 community members shared their opinions on and concerns about public safety in Hayward. Participants in the community conversations indicated that their main safety

[1] https://hayward.legistar.com/LegislationDetail.aspx?ID=4677304&GUID=52E170E7-7C7A-4B62-AEA8-32BB683AC71D

concerns in Hayward were racism and homelessness. The conversations brought forth themes of Hayward's diversity and complexity, a desire for all community members to feel safe, and a connection between neighborhood cohesion and feelings of safety. Many community members have positive views of the police, and among those who do not, their perspectives were informed by concerns about over-policing, specific negative experiences, and trust, systemic racism, and intergenerational trauma. The results of the Public Safety Survey indicated a general satisfaction and feeling of safety interacting with Hayward police, but a significant minority of respondents reported negative or ambivalent responses to general safety-related questions. Close to 60% of survey respondents indicated a feeling that the relationship between Hayward Police and Hayward residents is positive. A majority of survey respondents support reducing the police budget and redistributing it towards other community services while 60% supported establishing a participatory committee for dictating how that funding is reallocated.

Public Safety Policy Innovation Workshop[2] (February – April 2021)
Teams of community members and City staff, including participants from the Hayward Police Department and Hayward Fire Department, participated in a 10-week workshop to review the community's feedback, interview key stakeholders, refine their understanding of the problems, and develop and prioritize possible solutions.

Council Adoption of Public Safety Policy Innovation Workshop Recommendations[3] (May 2021)
The participants in the Public Safety Policy Innovation Workshop recommended a list of 25 projects for Council to consider implementing to address four concerns identified in the Community Conversations and Public Safety Survey data:

1. There is a lack of trust between the community and government, including City Hall and Hayward Police Department (HPD), stemming from a lack of communication and relationship building and an inadequate recognition of the long-term negative impacts of systemic racism.

2. Systemic health inequities for the Black, Indigenous, and people of color (BIPOC) community, inadequate cultural responsiveness, and a lack of resources have led to limited and/or uncoordinated response options for mental health crises.

3. There are inadequate shelter and outreach resources to meet the needs of people experiencing homelessness. In addition, the current outreach model and resource options are not meeting everyone's needs, and some people decline services. These challenges are especially burdensome for people that have experienced systemic inequities and other long-term traumas, particularly BIPOC communities.

[2] **https://hayward.legistar.com/LegislationDetail.aspx?ID=4730803&GUID=B7016A74-469D-4B54-A400-B830088097E7**
[3] **https://hayward.legistar.com/LegislationDetail.aspx?ID=4955272&GUID=F899B470-2D3E-4373-9CE0-EF2552EB821D**

4. There are limited public resources and a possible misalignment between resource allocation and community safety needs, including inadequate transparency and focus on the long-term negative impacts of systemic racism.

Council authorized funding for and directed staff to begin implementing nine of the pilot projects recommended by workshop participants, while providing progress updates to Council at six-month intervals (Attachment II).

DISCUSSION

This report provides an update on the nine projects that Council directed staff to implement immediately following the Public Safety Policy Innovation Workshop. The remaining 14 recommended projects, some of which required additional research, community engagement, and/or development, have longer implementation timelines and are not yet scheduled to launch.

The pilot projects included in this staff report are still in the process of formalizing and improving data collection and reporting processes, with the intent to provide a more in-depth analysis of project outcomes in the next report out to Council and to sustainably support continuous improvement and program evaluation goals. Additionally, each of the projects has been impacted by general constraints and challenges related to the COVID-19 pandemic, including reduced capacity and limited staffing.

Project 1 - Communications Center Needs Assessment and Strategic Plan (Dispatch Needs Assessment)

Federal Engineering, the project consultant, was selected via a competitive Request for Proposals process administered by an interdepartmental staff team. The selected proposal outlined a phased approach to the communications center needs assessment: Phase 1, currently underway, consists of an operations assessment; Phase 2 will identify improvements to existing communications operations, focusing on effectively supporting the Public Safety Workshop pilot programs; and Phase 3 will include the development of a long-term strategic plan for the communications center. Work on the project began in November 2021 and is anticipated to complete by June 2022.

Projects 2, 3, and 4 - Hayward Evaluation and Response Teams (H.E.A.R.T.)

The recommendations from projects two, three, and four, have been combined into the newly established Hayward Evaluation and Response Teams (H.E.A.R.T.) service model. The goals of the H.E.A.R.T. program model, drawn from the Public Safety Policy Innovation Workshop, are:

- Build an integrated continuum of options that allows for the right team or resource to respond to calls for service
- Improve access to medical, mental health, and other support services
- Reduce the need for police officers to intervene in calls for service involving people experiencing mental illness, substance abuse, and homelessness.

The H.E.A.R.T. program model incorporates a Mobile Evaluation Team (MET) consisting of a specially trained Hayward police officer and an Alameda County Behavioral Health clinician to respond to crisis calls for service where there may be a threat to self or others, a Mobile Integrated Health Unit (MIHU) that pairs a community paramedic with specialized training in mental health issues and nutrition and a behavioral health clinician to respond to calls for service related to mental illness, substance abuse, and homelessness where the scene is secure, and a Behavioral Health Coordinator to link community wraparound care resources to City response teams and support pilot program implementation through data collection and community engagement activities. The program model is further described in a September 2021 staff report here.[4]

Project 2 – Mobile Integrated Health Unit (Mobile Mental Health Response Team)

This project launched on a part-time basis on January 22. Staff has identified a community paramedic, purchased vehicles and necessary supplies, and identified Tiburcio Vasquez Health Center (TVHC) as a community partner. TVHC is in the process of recruiting a licensed clinician to staff the MIHU pilot. However, because launching the MIHU is a high priority for the City, the Behavioral Health Coordinator (described below) will transfer 50% of their time (or approximately 20 hours per week) to begin responding to calls for service as a clinician with the MIHU.

Project 3 – Mobile Evaluation Team (District Command Behavioral Health Clinician)

Since the pilot project's launch in June 2021, the MET has responded to 257 calls for service. From September 1, 2021 through December 1, 2021, MET responded to 174 calls for service. Calls for service have originated from the Hayward Police Department, outpatient mental health providers, family members or loved ones, schools, community members, Adult Protective Services, and individuals experiencing crisis. Two calls resulted in criminal justice involvement (in the form of an arrest or citation), while the remainder of the calls resulted in referrals to appropriate social services resources (including crisis centers, the Navigation Center, and Child Protective Services), involuntary psychiatric holds in situations where the individual in crisis was a danger to themself and/or others, and de-escalation resulting in individuals following up with their current mental health care providers.

Staff is working to formalize this partnership with Alameda County, which will allow a greater degree of data sharing and reporting for program evaluation purposes. Staff is also working to expand the capacity of the MET by adding staff hours.

Project 4 – Behavioral Health Coordinator

The pilot Behavioral Health Coordinator position was filled on August 13, 2021. The Behavioral Health Coordinator has participated in the City Hall to You neighborhood meetings to meet community members and answer questions about the public safety initiatives and

[4] **https://hayward.legistar.com/LegislationDetail.aspx?ID=5149133&GUID=1DA13B00-BBFB-41BE-B070-D1C09F1A0CB2**

H.E.A.R.T. program; participated in Alameda County Crisis Intervention Training sessions and relevant task forces to learn about resources for care beyond the crisis setting; and engaged community groups and community-based organizations to build relationships and a better understanding of the network of behavioral health care available in Hayward.

In addition to the project activities described above, staff issued a Request for Information seeking input from agencies working directly with community members with lived experience related to mental health crises, substance abuse, and homelessness, with the goal of identifying potential improvements in the H.E.A.R.T. program model. Staff has also applied for a Behavioral Health Justice Intervention Services Project Crisis Care Mobile Unit grant to leverage additional resources for the H.E.A.R.T. program.

Project 5 – Expand Shelter Options & Outreach

Council approved the Let's House Hayward! Strategic Plan to Reduce Homelessness on July 12, 2021. Updates for this project will be provided in the context of that plan.

Project 6 – Community Services Officers Respond to Property Crimes

This pilot began its "soft" part-time launch in November 2021. Under the program, Community Services Officers (CSOs) are dispatched to calls for service related to non-violent property crimes received by the communications center or via the online police report system. to take police reports and collect evidence. Due to staffing constraints, the pilot operates on a part-time basis, though staff plan to expand the program. In the first month of the program, CSOs responded to 30 calls for service, two-thirds of which originated from the non-emergency police line. Nearly 50% of calls were for vehicle theft or break-in.

Staff plans to expand program hours, promote the program to the community, and increase data collection to include qualitative feedback from community members.

Project 8 - The Hayward People's Budget (Neighborhood Participatory Budgeting)

Outreach for the Hayward People's Budget began at the City Hall to You community meetings in September and October 2021. Project staff divided the City into six sectors based on Census tract data, each containing several neighborhoods, and recruited neighborhood delegates from each sector to receive training in conducting community outreach and drafting proposals. Delegate outreach, community brainstorming, and proposal development will continue through February. The community will vote on project proposals in March. Projects will be completed by December 2022. More information about the People's Budget can be found on the project website at https://www.hayward-ca.gov/peoplesbudget.

Hayward Police Department Curriculum Working Group (Project 9) and Community Feedback and Complaint Liaison (Project 17)

Both projects have been scheduled for the second half of FY 22 due to staffing limitations and are on track to launch.

STRATEGIC ROADMAP

This agenda item supports the Strategic Priority of Support Quality of Life. Specifically, this item is an update on Project 16: Implement Solutions to Increase Community Safety and all associated subprojects.

FISCAL IMPACT

Council authorized funding for the first wave of Public Safety Policy Innovation Workshop projects in the FY 22 budget. There are no additional budget requests related to the projects at this time, and no fiscal impact associated with this report.

PUBLIC CONTACT

In September 2021, staff launched a Public Safety Policy Innovation Workshop Project Dashboard (www.hayward-ca.gov/HaywardSafeDashboard) so community members can visit to view the status of the pilot projects. Staff plans to expand the dashboard to include links to project webpages, project data and reports as these resources become available. Additionally, staff has continued to center community engagement in project implementation, including meeting with interested community members to provide updates, presenting the proposed H.E.A.R.T. program model to workshop participants, and sharing information about the H.E.A.R.T. and Hayward People's Budget projects via the City Hall to You meetings held in September and October 2021.

NEXT STEPS

Staff will continue to implement the priority projects, returning to Council at six-month intervals with project updates. At Council meetings in June 2022, staff will provide further analysis and recommendations for the midterm and long-term Public Safety Workshop projects. Additionally, Council will receive project updates through the Strategic Roadmap implementation and update process, and throughout the course of the FY 23 budgeting cycle.

Prepared by: Laurel James, Management

Recommended by: Toney Chaplin, Chief of Police
Garrett Contreras, Fire Chief
Jennifer Ott, Assistant City Manager

Approved by:

Kelly McAdoo, City Manager

Attachment II
Implementation Plan for Projects Recommended for Immediate Implementation

January 2022 Updates on Public Safety Policy Innovation Workshop Projects Recommended for Immediate Implementation

#	Project	Status	Next Steps
1	**Dispatch Needs Assessment and Capacity Improvement**	The project consultant, Federal Engineering, was selected via a competitive bidding process and has begun Phase I of a multi-part Communications Center needs assessment.	Complete project Phases II & III. Implement strategic plan and consultant recommendations.
2	**Hayward Evaluation and Response Teams (H.E.A.R.T.)** **Mobile Mental Health Response Team**	Staff has purchased equipment and vehicles, selected a community paramedic, identified a partner organization, and began piloting the program on a part-time basis in January, while recruiting for a full-time clinician.	Hire a full-time clinician, launch full program pilot, collect data.
3	**District Command Behavioral Health Clinician**	Behavioral health clinicians have been deployed with District Command staff since June 2021.	Continue program and collect data.
4	**Behavioral/Mental Health Coordinator**	The Behavioral Health Coordinator position was filled in August 2021.	Continue program and collect data.
5	**Expand Shelter Options & Outreach**	Council approved the Let's House Hayward! Strategic Plan to Reduce Homelessness on July 12, 2021. Updates for this project will be provided in the context of that plan.	The next quarterly update on the Let's House Hayward! Strategic Plan to Reduce Homelessness is scheduled for March.
6	**Community Services Officers Respond to Property Crimes**	This project had a soft launch in early November 2021 and is currently operational on a part-time basis.	Continue program, launch full pilot, collect data.

8	**Neighborhood Participatory Budgeting**	The People's Budget project began outreach in September 2021 as part of the City Hall to You community meetings. Delegates have been selected and the program is accepting neighborhood project nominations at https://www.hayward-ca.gov/peoplesbudget.	Community voting to select projects will take place in March and projects are scheduled for completion by December 2022.
9	**HPD Training Curriculum Working Group**	This project is scheduled to launch in Q3/Q4 of FY 2022.	Convene working group, identify scope and regulatory limitations, work with community to understand interest level, desired format, and recruitment strategy.
17	**Community Feedback and Complaint Liaison**	This project is scheduled to launch in Q3/Q4 of FY 2022.	Convene working group, identify key features and integrations with existing systems and processes, research comparable programs in other jurisdictions, develop a scope of services in preparation for issuing an RFP.

File #: PH 22-007

DATE: February 15, 2022

TO: Mayor and City Council

FROM: Assistant City Manager/Development Services Director

SUBJECT

Pt. Eden Way U-Haul Facility: Appeal of Planning Commission Denial to Develop a New Approximately 116,844 Square Foot Industrial Building for U-Haul at 4150 Point Eden Way (Assessor Parcel Number 461-0085-020-02) Requiring Approval of Site Plan Review and Historic Resources Demolition Permit Application No. 201901039 Including Certification of an Environmental Impact Report, Adoption of a Statement of Overriding Considerations, and Approval of a Mitigation, Monitoring and Reporting Program. Jerry Owen on Behalf of U-Haul; Amerco Real Estate Co. (Applicant/Property Owner)

RECOMMENDATION

That the Council adopts a resolution (Attachment V) overturning the Planning Commission denial and approving Site Plan Review and Historic Resources Demolition Permit Application No. 201901039, subject to the Findings and Conditions of Approval outlined in the attached resolution; and reviews and certifies the Draft and Final Environmental Impact Report (Attachments VII and VIII, respectively), and adopts the Mitigation Monitoring and Reporting Program (Attachment IX), and findings related to the Statement of Overriding Considerations (Attachment V), prepared pursuant to the California Environmental Quality Act.

SUMMARY

The Council is being asked to overturn a Planning Commission denial of a proposed project that would result in the construction of a new industrial building to house U-Haul regional corporate offices and a warehouse on an underutilized site located at the western edge along State Route 92. If approved, the proposed industrial building would be approximately 116,844 square feet in size and reach approximately 50 feet in height to finished roof and would require demolition of dilapidated historic structures previously affiliated with the Oliver Brothers Salt Company. Off-site improvements include relocation of the Bay Trail from the current alignment along the eastern property line between two industrially zoned properties to run along the project site's western property line to take advantage of the natural setting and views to the Bay and establishment of an approximately 32-acre preserve on the western portion of the project site.

On December 14, 2021, the Council held a public hearing on the proposed project and continued the item

to a future meeting to allow the applicant to 1) continue to negotiate with and come to an agreement with labor groups; 2) explore options for installing future gateway signage on the site; 3) provide a more detailed plan about use of historic materials on the site; and 4) provide additional detail on potential environmental impacts related to sea level rise, bird strikes, use of permeable materials, and the addition of trees along the realigned Bay Trail. Additional detail on each of these topics is provided in this staff report.

This staff report is intended to be a supplement to the Staff Report provided on December 14, 2021, which contains detailed Background, Site Conditions, Project Description, Code Compliance and Environmental Analysis related to the project (Attachment IV).

ATTACHMENTS

Attachment I	Staff Report
Attachment II	Future Gateway Signage Site Plan
Attachment III	Land Development & Sea Level Rise - A Primer
Attachment IV	Staff Report - December 14, 2021
Attachment V	Resolution
Attachment VI	Project Plans
Attachment VII	4150 Pt Eden Way Draft EIR. Appendices are available on the City's website at <https://www.hayward-ca.gov/your-government/special-projects/under-
Attachment VIII	4150 Pt Eden Way Final EIR
Attachment IX	4150 Pt Eden Way Mitigation Monitoring and Reporting Program
Attachment X	July 8, 2021 Planning Commission Meeting Minutes
Attachment XI	CEQA Correspondence from Lozeau Drury

DATE: February 15, 2022

TO: Mayor and City Council

FROM: Assistant City Manager/Development Services Director

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SUMMARY

The Council is being asked to overturn a Planning Commission denial of a proposed project that would result in the construction of a new industrial building to house U-Haul regional corporate offices and a warehouse on an underutilized site located at the western edge along State Route 92. If approved, the proposed industrial building would be approximately 116,844 square feet in size and reach approximately 50 feet in height to finished roof and would require demolition of dilapidated historic structures previously affiliated with the Oliver Brothers Salt Company. Off-site improvements include relocation of the Bay Trail from the current alignment along the eastern property line between two industrially zoned properties to run along the project site's western property line to take advantage of the natural setting and views to the Bay and establishment of an approximately 32-acre preserve on the western portion of the project site.

On December 14, 2021[1], the Council held a public hearing on the proposed project and continued the item to a future meeting to allow the applicant to 1) continue to negotiate with and come to an agreement with labor groups; 2) explore options for installing future gateway signage on the site; 3) provide a more detailed plan about use of historic materials on the site; and 4) provide additional detail on potential environmental impacts related to sea level rise, bird strikes, use of permeable materials, and the addition of trees along the realigned Bay Trail. Additional detail on each of these topics is provided in this staff report.

This staff report is intended to be a supplement to the Staff Report provided on December 14, 2021, which contains detailed Background, Site Conditions, Project Description, Code Compliance and Environmental Analysis related to the project (Attachment IV).

SUPPLEMENTAL INFORMATION

On December 14, 2021, the Council held a public hearing on the proposed project and continued the item to a future meeting to allow the applicant to: 1) continue to negotiate with and come to an agreement with labor groups; 2) explore options for installing future gateway signage on the site; 3) provide a more detailed plan about use of historic materials on the site; and 4) provide additional detail on potential environmental impacts related to sea level rise, bird strikes, use of permeable materials, and the addition of trees along the realigned Bay Trail. Additional detail on each of these topics is provided below:

Labor Negotiation. The applicant will enter in an agreement with Swinerton, a general contractor recognized for their union agreements with local organizations.

Gateway Signage. The Council directed the applicant to explore opportunities for adding gateway signage at the site. Recognizing that designing and procuring gateway signage would most appropriately be led by the City, the applicant agreed to provide space on the site and to provide a contribution based on a percentage of the cost of the building permit toward the sign. Attachment II shows two approximately 100 sq. ft. locations for the gateway signage; and, proposed Condition No. 7 (Attachment V), modeled on the condition of approval related to public art at the Gillig site, would require that the applicant contribute one third of one percent (0.33%) of the building permit construction costs for acquisition and installation of gateway signage in the development project prior to issuance of a Certificate of Occupancy for the building.

Historic Materials Reuse. The applicant will reuse salvaged lumber from the salt processing plant to construct interpretive sign features that would be placed along the Bay Trail. Further, salt processing equipment, such as the remains of an Archimedes screw (pictured below), will be retained and displayed at the site and/or at the Historical Society as a remnant of salt mining history in the area.

[1] December 14, 2021 City Council Meeting. https://hayward.legistar.com/LegislationDetail.aspx?ID=5357653&GUID=B1B003A8-13D7-498B-B787-56C6FEC61187&Options=&Search=

Sea Level Rise. The attached Land Development & Sea Level Rise – A Primer (Attachment III), was prepared by City staff and provides additional information related to the Shoreline Adaptation Master Plan, Flood Protection Ordinance, definitions and terminology, and impacts related to new industrial development along the shoreline and the U-Haul project in particular. The Primer concludes that the U-Haul project meets the current City requirements for flood protection. Furthermore, it can be inferred that the U-Haul warehouse has 100-year (1% chance of exceedance) protection for approximately three foot of sea level rise and that the parking areas will begin to flood during king tide events with about two feet of sea level rise. The loading dock is at most risk, flooding annually with about one foot of sea level rise and daily with about two feet of sea level rise.

Bird Strikes. To address the concern related to bird strikes, the building design will incorporate bird-safe features that the U.S. Fish and Wildlife Service consider best practices for reducing the risk of bird strikes against buildings. Strategies include breaking up large sections of glass with elements such as dark, vertical sunshades that would protrude outward on western facing windows, installation of white panels between windows to divide glass segments, and use of sculptural cutouts which will be mounted on the north façade adjacent to the glass entry way.

Permeable Pavers. Permeable pavers are a porous pavement that allows water to infiltrate into the underlying soil. They may provide stormwater benefits when they are used in the appropriate environment. Kier & Wright, a civil engineering firm, reviewed the geotechnical

report prepared for the site and determined that the underlying soils, which consist mainly of undocumented fill and clay with high groundwater, can be highly expansive and are not recommended for infiltration. Thus, permeable pavers are not an appropriate treatment solution for the project site. Rather, the project site includes bio-retention areas to achieve compliance with stormwater requirements.

Additional Landscaping between Bay Trail and State Route 92. In examining if there is adequate space to add trees between the Bay Trail and State Route 92, the applicant found that the area is not within their property boundaries and is under Caltrans jurisdiction. The only way to add trees would be to reduce the Bay Trail width, which is not being proposed at this time.

FISCAL IMPACT

In December 2021, staff included in the previous staff report a potential impact on property valuation of the proposed project as $13 million. Redevelopment of the site would result in increased property taxes, fees for permitting and inspections, and would result in park in lieu fees totaling about $93,475 (based on the 2021 Fee Schedule). Once operational, the development would result in minimal sales taxes related to the rental of U-Haul storage pods.

NEXT STEPS

The Council may vote to overturn the Planning Commission denial, approve the project, and adopt the attached resolution with CEQA Findings and related Statement of Overriding Conditions. Following the approval, the applicant would submit improvement and grading plans and a building permit application for the proposed development.

Alternatively, if the Council does not believe that the benefits of the proposed project outweigh the environmental impacts related to the proposed project, the Council may vote to deny the project because it cannot make the requisite findings to adopt the CEQA Findings and the related Statement of Overriding Considerations.

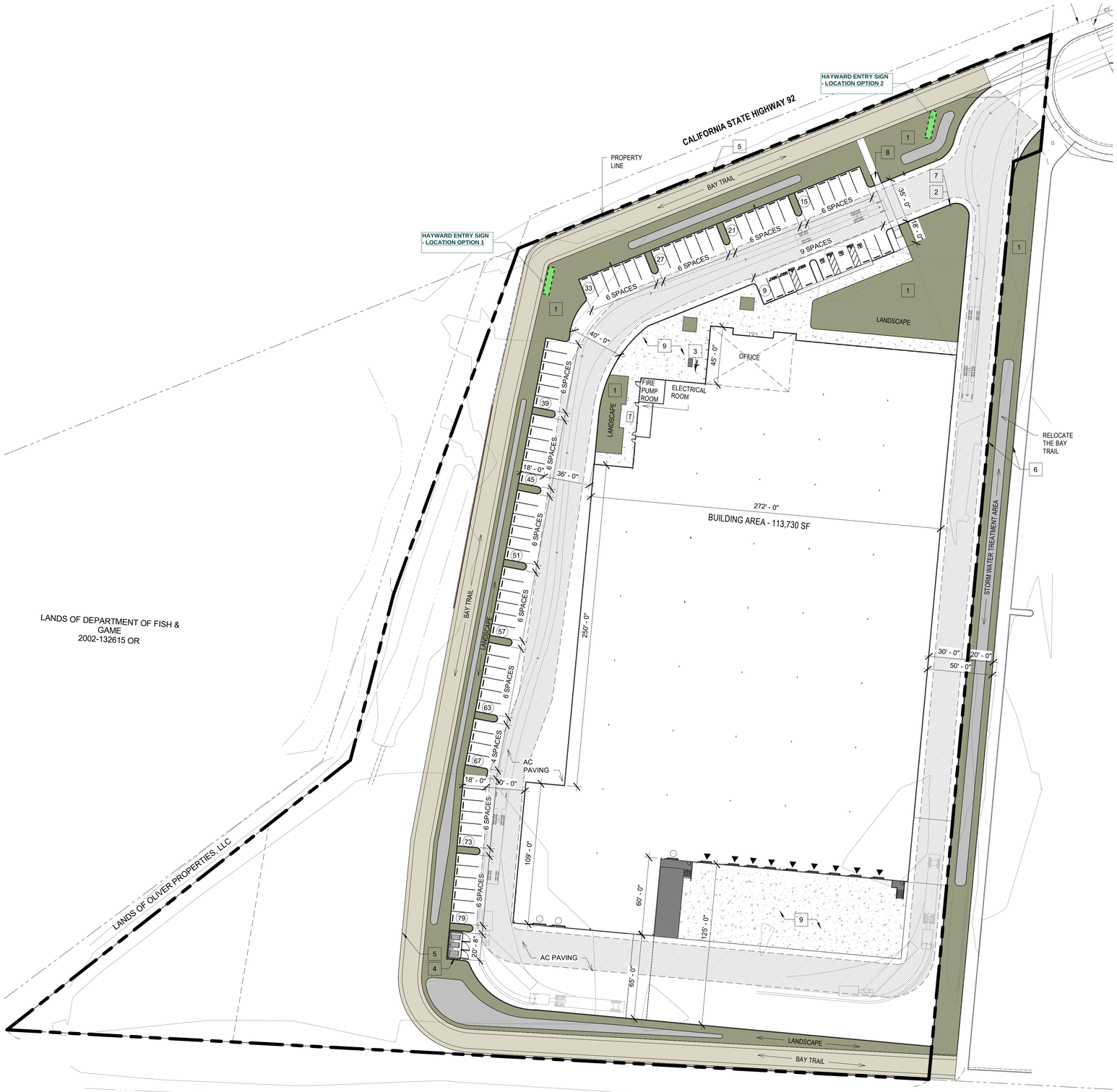
Prepared by: Leigha Schmidt, Acting Principal Planner

Recommended by: Jennifer Ott, Assistant City Manager/Development Services Director

Approved by:

Kelly McAdoo, City Manager

ATTACHMENT II



1 SITE PLAN
1" = 40'-0"

PROJECT DATA

ZONING:		IP- INDUSTRIAL PARK
APN:		461-0085-020-02
NORTH SITE AREA GROSS:		6.83 AC 297,762 SF
DETENTION:	@3.4%	8,743 SF
SLOPE:		0 SF
EASEMENTS:		
LANDSCAPE:	@16%	45,840 SF
NET:		5.58 AC 243,179 SF
BUILDING FOOTPRINT:		113,730 SF
NORTH BUILDING USE:		
WAREHOUSE		110,231 SF
OFFICE		2,785 SF
COVERAGE:		
GROSS:		38%
NET:		47%
PARKING REQUIRED:		
WAREHOUSE	1/2000 SF	55 STALLS
OFFICE	1/250 SF	11 STALLS
TOTAL		67 STALLS
PARKING PROVIDED:		
AUTO:		79 STALL
REQ. ACCESSIBLE		2 STALLS
REQ. EV		2 STALLS
BUILDING TRUCK DOCKS:		
9X9 DOCK - HIGH OH DOORS		9
12X10 GRADE LEVEL OH DOORS		3

KEY NOTES

1	IRRIGATED AREA, SEE LANDSCAPE L1.01
2	ACCESSIBLE ENTRY SIGNAGE
3	BIKE RACK, SEE DETAIL 8/A-602
4	TRASH ENCLOSURE PER CITY STANDARDS, SEE DETAIL 3/A-602
5	NEW FENCE
6	EXISTING FENCE TO REMAIN
7	FIRE LANE ENTRY SIGNAGE
8	ACCESSIBLE CURB RAMP WITH TRUNCATED DOMES
9	CONCRETE PAVING

GENERAL NOTES

SITE LEGEND

- TRANSFORMER WITH CONCRETE PAD
- PARKING STALL COUNT TOTAL
- DOCK HIGH TRUCK DOOR
- 26' FIRE LANE
- GRADE LEVEL TRUCK DOOR
- PROPERTY LINE
- LANDSCAPE

PLAN NORTH

DSA:
ATI ARCHITECTS + ENGINEERS
AN AC MARTIN COMPANY
4750 Willow Road #250 Pleasanton, CA 94588 - T 925.648.8800
3009 Douglas Blvd #290 Roseville, CA 95661 - T 916.772.1800
3050 Pullman Street Costa Mesa, CA 92626 - T 714.338.1600
CONSULTANT:

PROFESSIONAL STAMP:

AGENCY APPROVAL:

ITEM:	REVISION/ISSUE:	DATE:
A	PLANNING SUBMITTAL	01/27/20

KEY PLAN:

Owner

U-HAUL COMPANY OF SAN FRANCISCO

4150 POINT EDEN WAY

SITE PLAN

DRAWN BY: RS | CHECKED BY: RFT
DATE: 01/17/2020 | **PROJECT NO: U2301**
SHEET NO:

A-100

12/7/2020 1:46:36 PM
BIM 360://U-Haul Hayward/U-Haul Hayward_mbathO3EL2.rvt

LAND DEVELOPMENT IN AREAS SUBJECT TO SEA LEVEL RISE

Planning Division • (510) 583-4216 • planning.division@hayward-ca.gov

HAYWARD AREA SHORELINE ADAPTATION MASTER PLAN

In 2021, the City of Hayward and the Hayward Area Shoreline Planning Agency (HASPA) has completed the development of a Shoreline Adaptation Master Plan to address anticipated sea level rise through the end of this century. The primary focus of the Shoreline Adaptation Master Plan is to mitigate the impacts of sea level rise through the construction of a perimeter levee intended to protect the shoreline and existing low-lying development from future inundation. A new levee would also protect any new development within these flood plain areas from coastal flooding. Any low-lying development, whether existing or new, would remain at risk of flooding from groundwater emergence and stormwater runoff after the construction of a perimeter levee.

The Shoreline Adaptation Master Plan aimed at reducing risk to critical assets from daily tidal inundation and future 100-year flood events in a up to 4' of sea level rise scenario. Based on a medium-risk aversion, it is estimated that the state will see approximately 4' of sea level rise in 50-60 years (California Coastal Commission recommendations, 2018). Due to complexities associated with estimating sea level rise and the evolving science, this estimate is subject to change. For planning purposes, the Shoreline Adaptation Master Plan used a target elevation of 14.3" (NAVD 88) to evaluate and assess adaptation strategies.

The Shoreline Adaptation Master Plan recommends that the City increase flood protection standards for new construction and renovations but does not identify or require a specific amount of sea level rise or minimum design elevations within the Master Plan. For more information about the Hayward Shoreline Adaptation Master Plan, please visit https://www.hayward-ca.gov/shoreline-master-plan

SEA LEVEL RISE MAPS

As part of the Shoreline Adaptation Master Plan, the City of Hayward and the Hayward Area Shoreline Planning Agency conducted a thorough analysis of future sea level rise scenarios based on guidance from the state and previous studies. Sea level rise scenarios of 2, 4, and 7 feet were used to prepare maps showing inundation from sea level rise, the 100-year flood event and groundwater emergence. These maps can be found here: Sea Level Rise Mapping Report Story Map.

FLOOD PROTECTION AND SEA LEVEL RISE

The City of Hayward participates in the National Flood Insurance Program (NFIP) administered by the Federal Emergency Management Agency (FEMA) and has adopted a Flood Plain Management Ordinance. The intent of the ordinance is to protect development from existing flood hazards including coastal flooding and the threshold of protection is set at the 100-year event (1% chance of exceedance in any year). The primary purpose of the NFIP is to provide insurance protection for improved structures and does so by ensuring that structures are either located outside of the flood plain or elevated and protected where they may be located within a flood plain. As an example, the finish floor elevation of an industrial building near the shoreline may be elevated above and protected from the 100-year flood event while the surrounding grades including parking areas may be inundated during this same event.

Critically, FEMA flood plain maps do not account for sea level rise at this time. As sea levels rise in the coming century, the frequency of coastal flooding will increase as well. It is not known if, when, or how FEMA will incorporate sea level rise into the NFIP. Currently, the City has no ordinances or other

regulatory requirements for new development projects to account for future sea level rise; however, there are steps that applicants can take to mitigate these impacts on a project by project basis, as detailed below.

ELEVATIONS AND DATUMS

Tide charts are for sailors and fisherman, typically based on elevations relative to the average daily low tide within a 30-year epoch and not tied directly to any fixed elevations on land. For example, the current high tide is about 7 feet. After 3 feet of sea level rise, the high tide will still be 7 feet. Historically, elevation datums were also local, with cities often having varying datums or reference zero elevations; the zero elevation in San Francisco was different than the zero elevation in Hayward. The advent of Global Positioning Systems (GPS) in the 1980s lead to the establishment of the North American Vertical Datum, 1988 (NAVD88) which provides a consistent datum or zero elevation across the entire country. NAVD 88 is the datum used by most project surveyors when preparing a topographic site survey and by FEMA when preparing all flood maps. Therefore, when trying to understand tidal impacts to the shoreline, all elevations should be converted to the North American Vertical Datum 1988 (NAVD88).

CURRENT TIDAL EVENTS (ALL ELEVATIONS PER NAVD88)

The National Oceanic and Atmospheric Administration (NOAA) maintains several tide stations within San Francisco Bay including along the Hayward shoreline, however the closest tide station with an elevation tie to the NAVD88 datum is at San Leandro Marina. Using information from this tide station:

- Mean Higher High Water (average daily high tide) ~ 7.0 feet
- King Tide (annual highest tide or 1-year event) ~ 8.5 feet
- 100-Year Flood (tidal event and storm surge) ~ 10.3 feet (11 feet per FEMA maps)

A key takeaway is that the 100-year (1% change of exceedance) event is about 2 feet above the annual king tide event – an elevation difference that should remain consistent even with future sea level rise.

CONSIDERATIONS FOR NEW INDUSTRIAL PROJECTS NEAR THE SHORELINE

Much of the current development occurring near the Hayward shoreline is industrial with a tilt up concrete structure(s) surrounded by parking and/or truck loading docks. Due to the nature of loading docks, the surrounding parking areas and other site amenities are often a couple feet below the finish floor elevation of the structure.

Since the City's flood plain ordinance and FEMA already require that finish floor elevations be raised above the 100-year flood (1% chance of exceedance) elevation, much of the new development, including both structure and contents within those structures, are generally protected. Parking lots, loading docks, and other sitework are typically less expensive and usually able to withstand an occasional period of inundation. Therefore, protecting parking and site improvements by elevating above the annual king tide event may be deemed prudent and may result in potentially significant cost savings for a new development.

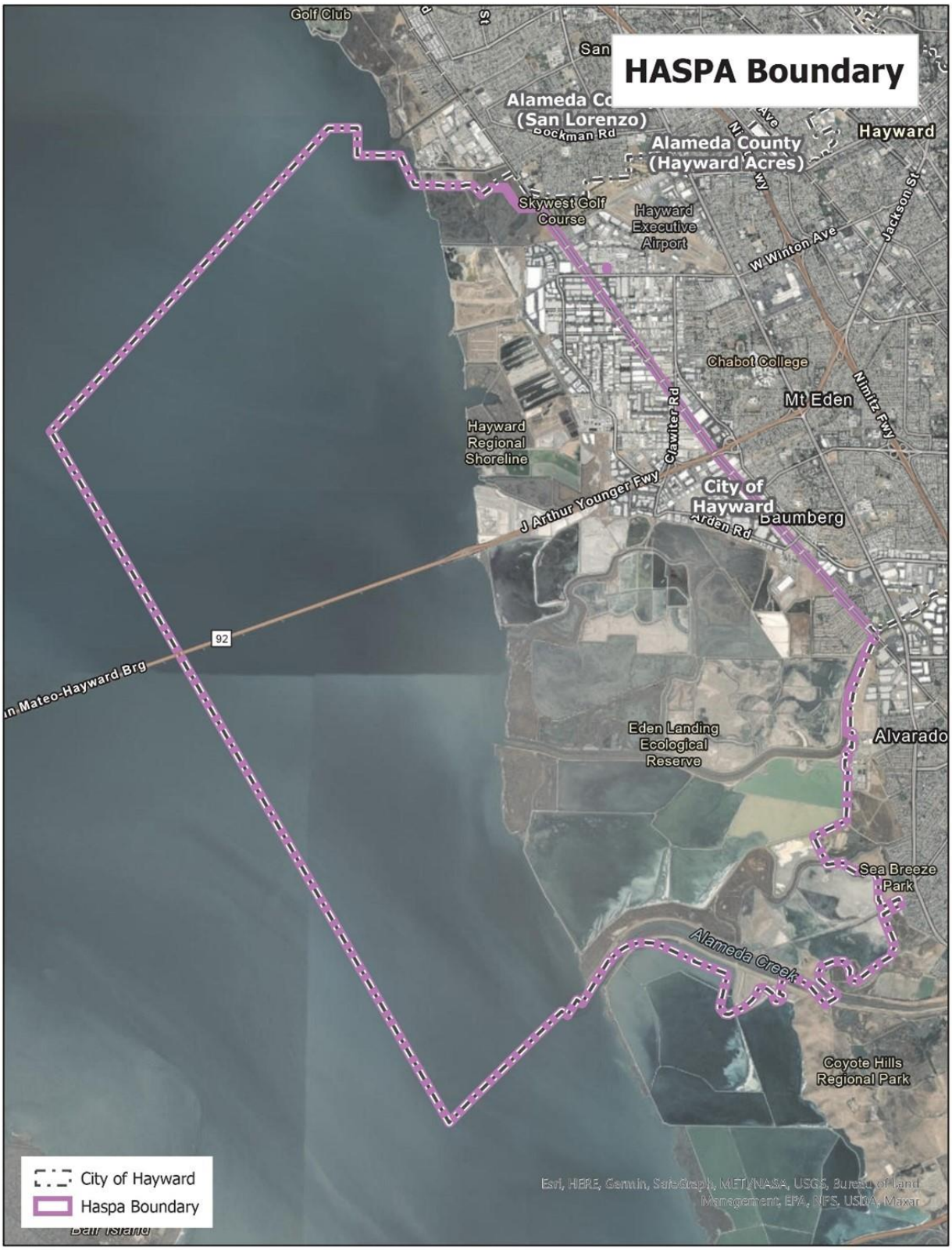
Buildings and site improvements constructed above the 100-year and king tide elevations, respectively, can be assumed to have some protection against sea level rise.

PROJECT SPECIFIC INFORMATION

The following information was taken from the site topography and grading plans for the U-Haul project with all elevations converted to the NAVD88 datum:

Finish Floor Elevation	13.2 feet
Parking areas, typical	10.7 feet
Loading dock	9.2 feet

As proposed, the U-Haul project meets the current City requirements for flood protection. Furthermore, it can be inferred that the U-Haul warehouse has 100-year (1% chance of exceedance) protection for approximately 3 foot of sea level rise and that the parking areas will begin to flood during king tide events with about 2 feet of sea level rise. The loading dock is at most risk, flooding annually with about 1 foot of sea level rise and daily with about 2 feet of sea level rise.


HASPA Boundary
Golf Club
Alameda Co
(San Lorenzo)
Bockman Rd
Alameda County
(Hayward Acres)
Hayward
Skywest Golf
Course
Hayward
Executive
Airport
W Winton Ave
Jackson St
Chabot College
Mt Eden
Nimitz Fwy
Clawiter Rd
Hayward
Regional
Shoreline
J Arthur Younger Fwy
City of
Hayward
Baumberg
92
Eden Landing
Ecological
Reserve
Alvarado
Sea Breeze
Park
Alameda Creek
Coyote Hills
Regional Park
City of Hayward
Haspa Boundary
Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, Bureau of Land
Management, EPA, NPS, USDA, Maxar

ATTACHMENT IV

DATE: December 14, 2021

TO: Mayor and City Council

FROM: Assistant City Manager/Development Services Director

SUBJECT: Appeal of Planning Commission Denial to Develop a New Approximately 116,844 Square Foot Industrial Building for U-Haul at 4150 Point Eden Way (Assessor Parcel Number 461-0085-020-02) Requiring Approval of Site Plan Review and Historic Resources Demolition Permit Application No. 201901039 Including Certification of an Environmental Impact Report, Adoption of a Statement of Overriding Considerations, and Approval of a Mitigation, Monitoring and Reporting Program. Jerry Owen on Behalf of U-Haul; Amerco Real Estate Co. (Applicant/Property Owner)

RECOMMENDATION

That the Council overturns the Planning Commission denial and approves Site Plan Review and Historic Resources Demolition Permit Application No. 201901039, subject to the Findings and Conditions of Approval outlined in the attached Resolution (Attachment II); and reviews and certifies the Draft and Final Environmental Impact Report (Attachments IV and V, respectively), and adopts the Mitigation Monitoring and Reporting Program (Attachment VI), and findings related to the Statement of Overriding Considerations (Attachment II), prepared pursuant to the California Environmental Quality Act (CEQA).

SUMMARY

The Council is being asked to overturn a Planning Commission denial of a proposed project that would result in the construction of a new industrial building to house U-Haul regional corporate offices and a warehouse on an underutilized site located at the western edge along State Route 92. If approved, the proposed industrial building would be approximately 116,844 square feet in size and reach approximately 50 feet in height to finished roof. The project would require demolition of dilapidated historic structures previously affiliated with the Oliver Brothers Salt Company. Off-site improvements include relocation of the Bay Trail from the current alignment along the eastern property line between two industrially zoned properties to run along the project site's western property line to take advantage of the natural setting and views to the Bay as well as establishment of an approximately 32-acre preserve on the western portion of the project site.

The Planning Commission denied the project on the grounds that the proposed project does not align with Council goals related to growing the high-tech, advanced manufacturing sector in the City's Industrial Districts; that the proposed regional warehouse use would not generate enough quality jobs or sales taxes to off-set the environmental and other impacts related to the project; and, that the site, which is projected to be inundated due to sea level rise, is not appropriate for the development. The applicant's appeal did not provide substantive changes to the proposed development. Rather, it stated that the warehousing and corporate regional offices are a permitted use that would provide between 35-75 jobs when fully operational and that the U-Haul pod storage would generate sales tax revenues among other reasons detailed further in this staff report.

In addition to overturning the Planning Commission denial, the City Council is being asked to review and certify an Environmental Impact Report (EIR) that was prepared for the project. The DEIR concluded that all impacts could be mitigated to a level of less than significant as detailed in the Mitigation Monitoring and Reporting Program (MMRP), except for Cultural Resources, which could not be mitigated because the project requires demolition of a designated historic resource. A mitigation measure requiring archival documentation of the extant structures and installation of interpretive signage was incorporated into the MMRP and as a condition of approval for the project, but the impact will remain significant and unavoidable. Therefore, the Council must also adopt a Statement of Overriding Considerations to approve the proposed project.

BACKGROUND

In September 2016, a development permit application was submitted to construct a large-scale industrial shell building on the subject site. During the review period, staff identified major areas of concern including poor building design, impacts to wetlands and biological and cultural resources, and conflicts with Bay Trail access through the site. The applicant withdrew the development permit application.

In July 2017, the property was sold via online auction and purchased by Amerco Real Estate Company based in Phoenix, Arizona. On February 25, 2019, U-Haul submitted Site Plan Review Application 201901039 for two concrete tilt-up buildings to house the U-Haul Corporate Maintenance Facility and a speculative warehouse. In the first application status letter, staff expressed significant concerns related to the proposed building and site design, impacts to wetlands and biological resources, and conflicts with Bay Trail access, similar to comments provided in May 2017.

Council Economic Development Committee. In May 2017, the Council Economic Development Committee (CEDC) considered a preliminary concept design by CenterPoint Properties, which proposed a 98,000 square foot speculative industrial building to house biotechnology uses. The CEDC was supportive of the proposed project; however, the developer did not move forward due to environmental issues and infeasibility of the project.

On April 1, 2019, the CEDC[1] considered the initial U-Haul application, which included two separate concrete tilt-up buildings with stucco exterior, minimal glazing, and a corporate maintenance yard for U-Haul. The CEDC was not supportive of the building as designed and recommended significant upgrades to the site and building design to eliminate the maintenance yard, and to increase the building design complexity along the Route 92 frontage. The CEDC did not support the proposed U-Haul use or the corporate maintenance yard but did say that the use could be acceptable if the site and building are very well designed. Overall, the CEDC expressed a desire to see a state-of-the-art gateway building on the site regardless of use. There was discussion of feasibility of retaining and building around the Oliver Brothers Salt Works historic structure, but all of the members of the CEDC did not express a desire to retain the structure. Following this feedback, the applicant eliminated the maintenance yard and significantly redesigned the site and building as described further in this staff report.

Hayward Area Shoreline Planning Agency. In April 2019, the proposed development was presented to the Hayward Area Shoreline Planning Agency (HASPA), which is comprised of members from the Hayward City Council, the East Bay Regional Park District and the Hayward Area Recreation and Park District. Members of HASPA recommended that the building be redesigned to have a high-tech, high-quality aesthetic; that the building incorporate art features reflecting the natural setting and historic salt production on the site; that the Bay Trail be relocated to the western edge of the property; that the height of the building be minimized; and, that the foundation of the building be raised to accommodate future sea level rise.

Chamber of Commerce – Government Relations Committee. On March 5, 2021, City staff presented the updated proposed development at the Chamber of Commerce Government Relations Committee (GRC). Committee members expressed a desire to see more intense office or biotechnology uses similar to development and uses on the west side of the San Mateo Bridge in Foster City; however, the group understood that the site was environmentally sensitive, which constrained future redevelopment.

Planning Commission. On July 8, 2021, the Planning Commission[2] held a duly noticed public hearing on the proposed project and voted 5:1:0 to deny the project on several grounds. Commissioners felt that the proposed project did not align with Council goals related to growing the high-tech, advanced manufacturing sector in the City's Industrial Districts; that the proposed regional warehouse use would not generate enough quality jobs or sales taxes to off-set the environmental impacts related to the project; that the site was not appropriate for the proposed development due to future sea level rise and destruction of habitat; that the trucks from the proposed development would further deteriorate surrounding roadways; and, that as a result, they could not support a Statement of Overriding Considerations. The Planning Commission meeting minutes are included as Attachment VII to this report.

[1] April 1, 2019 CEDC Meeting Agenda. https://hayward.legistar.com/MeetingDetail.aspx?ID=684793&GUID=78F33279-7339-4D4E-8975-26ACC6BC8562&Options=info|&Search=

[2] July 8, 2021 Planning Commission Agenda. https://hayward.legistar.com/MeetingDetail.aspx?ID=874187&GUID=82C6DF7A-F6DD-4AF1-B07E-225456980F8D&Options=info|&Search=

Appeal. On July 14, 2021, the applicant filed an appeal of this denial on the grounds that the proposed building would be located above the flood plain and not be impacted by sea level rise; that the use would not solely be a warehouse in that the building would also house the regional corporate offices for U-Haul and would employ 35-50 individuals to start and up to 75 once fully operational; that bird strikes would not be an issue due to the use of non-reflective glass; that the storage pods housed in the warehouse are utilized by Hayward residents and the use would generate tax revenue for the City. The applicant also offered to set aside land for gateway signage, which was suggested at the Commission meeting.

DISCUSSION

Existing Conditions. The proposed project site is comprised of six separate parcels with an eastern component (APNs 461-0085-019-00, 461-0085-020-01, and 461-0085-020-02) and a western component (APN 461-0061-001-00, 461-0090-001-00, and 461-0090-002-00). The eastern component at 4150 Point Eden Way is the location of the proposed development project while the western component has no public road access. The Figure below is taken from the Draft Environmental Impact Report prepared for the project and shows the western and eastern components outlined in yellow.

Figure 2-3 Project Site Boundary

The 32-acre western component of the project site is generally flat and covered in grasses, shrubs and salt ponds that were used as evaporation ponds for salt production. The

approximately 6.8-acre eastern component of the project site is generally flat. The site has a 12,350 square foot wooden structure that was previously used as a processing plant for salt production for the Oliver Brothers Salt Company, which operated in the first half of the 20th century. The structure is dilapidated, vandalized, and has been used by squatters over the past several decades.

The site is bordered by State Route 92 on the north, the Bay Trail and industrial development on the eastern property line, and publicly owned and maintained bay lands to the west and south of the project site.

Proposed Project. The proposed project would involve construction of a new industrial building on the eastern component of the project site and preservation of an open space/wetland preserve on the western component.

Eastern Component: The proposed industrial building would be located on the approximately 6.8-acre eastern component. The building would be approximately 116,844 square feet in size and would include approximately 114,059 square feet of warehouse space and a 2,785-square-foot office. The office space would be provided at the north end of the building, facing State Route 92, and would house regional corporate offices for U-Haul. The warehouse portion of the building would house U-Haul storage pods, materials, and trucks. When operational, approximately 35-75 employees would be on-site. The building would reach approximately 50 feet in height to finished roof.

The proposed architecture would feature varying rooflines and a projecting, glass encased office area at the front of the building visible along State Route 92. The building would have a mix of architectural materials and colors and vertical and horizontal scoring to break up the building massing. The northern (facing State Route 92) and western (facing the Bay) building elevations would also feature artistic elements including bird sculptures and green accent metal panels reflecting surrounding wildlife and grasses.

Access to the site would be provided at the terminus of Point Eden Way. A total of 79 parking stalls would be located along the northern and western property lines and would be buffered by approximately 20-foot-wide landscaped setback along the northern and eastern property lines and 10-foot-wide landscaped setbacks along the western and southern property lines. Approximately 16% of the site would be landscaped and an 830 square foot employee amenity area with meandering pathways, a shaded dining area, portable seating areas, and landscaping features would be located at the front of the building.

The San Francisco Bay Trail is currently located on the eastern edge of the eastern component of the project site. The proposed project includes a land swap to allow East Bay Regional Park District (EBRPD) to relocate the Bay Trail from the current location along the eastern property line (between two industrial properties) to meander along the northern property line and then to turn south to run along the western property line until meeting its current location on Point Eden Way. The realignment would provide views to the Bay, and the trail would be designed to EBRPD standards.

Western Component: The 32-acre western component of the project site, which is primarily composed of abandoned salt evaporation ponds, would be preserved in perpetuity via recordation of a deed restriction or other appropriate legal mechanism, ensuring that the salt ponds are permanently preserved as open space in perpetuity. No conservation easement or conservator endowment would be provided, and no management plan or improvement plan is proposed.

Policy Context and Code Compliance

Hayward 2040 General Plan. The project site is in an area designated as Industrial Technology and Innovation Corridor (IC) in the *Hayward 2040 General Plan*[3]. The Corridor is expected to grow as an economic and employment center and evolve to achieve a healthy balance of traditional manufacturing, warehousing, and logistics as well as newer information- and technology-based uses. The proposed use would fall into a more traditional warehousing and storage use with minimal office space which is permitted; however, that use is not prioritized.

The proposed development would meet *Hayward 2040 General Plan* goals and policies related to expanding the economic and employment base in Hayward (Land Use Goal 6); enhancing the visual character of the site with the removal of a dilapidated structure currently located at the gateway entrance to the City (Land Use Policy-6.6); and in employing building and site design strategies and employee amenities to create an attractive development (Land Use Policy-6.7 and 6.8).

Zoning Ordinance. The proposed development is located in the IP (Industrial Park) sub-district[4]. The proposed warehouse and office use is permitted in the IP District, provided buildings and site development are designed with an office appearance from right-of-way. Further, the proposed development meets the IP District standards for new development as shown in Table 1:

Table 1. Proposed Development Consistency with IP District Standards

	Required	Proposed	Consistent
Minimum Lot Size	1.5 acres	6.83 acres	Yes
Minimum Lot Frontage & Average Lot Width	250 feet	429-440 feet	Yes
Maximum Floor Area Ratio	0.8	0.39	Yes
Maximum Height	75 feet	50 feet	Yes
Minimum Yards			
Front	20 feet	20 feet to parking	Yes

[3] Hayward 2040 General Plan: https://www.hayward2040generalplan.com/

[4] Hayward Municipal Code Section 10-1.1600, Industrial Districts. https://library.municode.com/ca/hayward/codes/municipal_code?nodeId=HAYWARD_MUNICIPAL_CODE_CH10PLZOSU_ART1ZOOR_S10-1.1600INDI

West Side (abutting Open Space)	10 feet	10 feet to parking	Yes
East Side (abutting industrial development)	10 feet	50 feet to face of building	Yes
Rear (abutting Open Space)	10 feet	72 feet to the face of building	Yes
Minimum Landscaping	15%	16%	Yes
Parking	59 parking spaces	79 parking spaces	Yes
Minimum Employee Amenity Area	300 sq. ft.	830 sq. ft.	Yes

Historic Resources Ordinance. The extant structure located on the project site was used in salt production and processing that occurred on the site in the first half of the 20th century. The site and structure are listed on the California Register of Historic Resources (CRHC) and deemed eligible for listing on the National Register of Historic Resources (NRHR). Pursuant to HMC Section 10-11.070, all projects that require modification or removal of a designated historic resource shall obtain a Historical Resource Demolition Permit following certification of the environmental analysis. Please see the Staff Analysis and Environmental Review sections of the staff report below, Section 4.2 of the Draft EIR[5] and related Cultural Resources Assessment Report (Appendix B to the Draft EIR)[6], for additional information and analysis related to this topic.

Hayward Shoreline Adaptation Master Plan & Flood Plain Management Ordinance. On February 16, 2021, the City Council adopted Resolution No. 21-024 approving the Hayward Regional Shoreline Adaptation Master Plan[7]. The Master Plan provides background and existing conditions along the Hayward shoreline; assesses sea level rise and flood risk impacts; and provides adaptation strategies and design strategies for the Hayward shoreline.

According to a Sea Level Rise Mapping Report prepared for the Master Plan, portions of the parking lot would experience periodic inundation during king tides and storm surges with two feet of sea level rise within approximately 30 years. However, the proposed building is designed to be protected for over two feet of sea level rise at Mean Higher High Water and would be raised above the 100-year flood plain and therefore meets the City's Flood Plain Management Ordinance. The applicant is aware of the risks associated with sea level rise and is exploring options for adaptation across the site in the future.

[5] Draft EIR for the U-Haul Development Project at 4150 Pt Eden Way. **https://hayward-ca.gov/sites/default/files/4150%20Point%20Eden%20Way%20Industrial%20Project%20Draft%20EIR.pdf**

[6] Draft EIR Appendix B, Cultural Resources Assessment Report. **https://hayward-ca.gov/sites/default/files/EIR%20Appendix%20B.pdf**

[7] Hayward Regional Shoreline Adaptation Master Plan. **https://www.hayward-ca.gov/sites/default/files/210510_Hayward%20Shoreline%20Adapatation%20Master%20Plan_Document_Pages.pdf**

Environmental Analysis

State Public Resources Code (PRC) Section 21080(d) requires that a lead agency prepare an environmental impact report (EIR) for any project that is expected to have a significant effect on the environment. An EIR is an informational document; it is intended to inform decision makers and the public generally of the significant environmental impacts of a project, identify possible ways to minimize significant impacts, and describe reasonable alternatives to the project.

On November 10, 2020, the City released a Notice of Preparation (NOP) with an accompanying Initial Study (IS). The IS prepared for the project found less than significant impacts or no impact in the areas of aesthetics, agriculture and forestry resources, air quality, energy, geology and soils, greenhouse gas emissions, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, tribal cultural resources, utilities and service systems, and wildfire. The IS also found that the proposed project could potentially affect the environment in the areas of biological resources, cultural resources, hazards and hazardous materials, transportation, and tribal cultural resources. The NOP and related attachments were circulated to the public, local, state, and federal agencies, and other interested parties to solicit comments on the project. Following release of the NOP, a public scoping meeting was held on December 10, 2020 (held on Zoom), to receive additional public comments. Concerns raised in response to the NOP were considered during preparation of the Draft EIR.

The Notice of Availability (NOA)[8] and the Draft EIR[9] was published, noticed, and circulated for a 45-day public review period starting on April 9, 2021, and ending on May 24, 2021. Written comments were accepted throughout the comment period. Those comments and responses to those comments are included in the Final EIR[10] prepared for the project. The City Council must consider and certify the Final EIR and related documents for the project before acting on the necessary entitlements for the project.

The Draft EIR includes:

- Project description,
- Evaluation of required environmental topic areas including the setting, environmental impact analysis at both the project and cumulative levels,
- Other CEQA required discussions including growth inducement, irreversible environmental effects and significant and unavoidable impacts, and
- Alternatives to the project that address or incorporate characteristics to lessen or eliminate potential impacts that meet most of the project objectives.

[8] Notice of Availability: **https://hayward-ca.gov/sites/default/files/NOA%204150%20Point%20Eden%20Way%20DEIR.pdf**

[9] Draft EIR: **https://hayward-ca.gov/sites/default/files/4150%20Point%20Eden%20Way%20Industrial%20Project%20Draft%20EIR.pdf** Appendices to the Draft EIR: **https://hayward-ca.gov/content/projects-under-environmental-review-0**

[10] Final EIR: **https://hayward-ca.gov/sites/default/files/4150%20Point%20Eden%20Way%20FEIR%20RTC.pdf**

The Final EIR includes:

- A list of commenters,
- Comment letters and responses to each of the comments received, and
- Revisions to the Draft EIR necessary in light of the comments received and responses provided.

The Draft EIR identified one or more mitigation measures in the topic areas of Biological Resources, Hazards and Hazardous Materials, Tribal Cultural Resources, and Transportation to reduce the impact's effects to a level of less than significant. However, in the topic area of Cultural Resources (Section 4.2), the Draft EIR identified significant and unavoidable impacts related to removal of an extant structure on the site that was used in salt processing and production for the Oliver Brothers Salt Company. As noted in the Historic Resources Section above, the structure is listed on the CRHR and deemed eligible for listing on the NRHR. Proposed Mitigation Measures CUL-1a and CUL-1b would require archival documentation of the structures that will be kept at the Hayward Historic Society and City of Hayward, and installation of an interpretive display at the site to commemorate the history of the Oliver Brothers Salt Company, which would minimize project impacts; however, those mitigations are not capable of reducing the significance of demolition of the structures to a level of less than significant. Thus, this impact was deemed significant and unavoidable and requires adoption of a Statement of Overriding Consideration for the project.

Required CEQA Findings and Statement of Overriding Considerations: To certify an EIR for a project, the Council must find that mitigation measures have been required or incorporated into the project in order to substantially lessen the potentially significant environmental effects identified in the EIR. For those impacts that cannot be fully mitigated to a level of less than significant, the decision makers shall adopt a Statement of Overriding Considerations finding that the economic, legal, social, technological, or other benefits of the project outweigh the project's significant and unavoidable environmental effects (CEQA Guidelines sections 15091 and 15093). The proposed Resolution (Attachment II) sets forth the requisite CEQA findings and a statement of overriding considerations related to significant and unavoidable impacts related to the proposed project.

On July 8, 2021, prior to the start of the Planning Commission meeting, the City received late correspondence from Lozeau Drury on behalf of Shawn Smallwood, PhD, (Attachment VIII), detailing concerns with the DEIR and FEIR's conclusions related to impacts to biological species due to loss of habitat; bird strikes related to construction of the building; and potential noise impacts from vehicle circulation related to the proposed use. The comment letter was provided to the Commission ahead of the meeting, reviewed by the CEQA consultant and consultant team who found that all potential impacts were mitigated by proposed mitigation measures included in the analysis already provided, and those conclusions were presented to the Planning Commission verbally in the public hearing.

Concurrent with the certification of an EIR, the deciding body must also adopt a Mitigation and Monitoring and Reporting Program (MMRP) (Attachment VI) that identifies timing and responsibility for mitigation implementation.

Staff Analysis

The Council is being asked to consider an appeal of the Planning Commission denial of an application for Site Plan Review, Historical Demolition Permit, and related environmental analysis.

As detailed above, and in the attached Planning Commission minutes, the Commissioners who voted to deny the project generally felt that the economic benefits of the project did not outweigh the environmental costs related to loss of habitat, threat of sea level rise, and that the proposed use would result in deterioration of surrounding roadways. The applicant's appeal would not result in a substantial change to the proposed development or the proposed use. Rather, the appeal contains what the applicant feels is clarifying information related to the Commission's rationale for denial. Specifically, that the building would be protected against sea level rise, the building would be designed to discourage bird strikes, and the proposed use would be a corporate office as well as a warehouse and would offer jobs and result in sales tax benefits to the City. The applicant also offered to set aside land for gateway signage along Route 92; however, there is no specific gateway sign design and the area needed for such signage is unknown at this time.

Despite the Commission's reservations about the use and threat of sea level rise, staff believes that the Council can make the findings to approve the Site Plan Review and Historic Resources Demolition Permit as detailed in Attachment II to this report. Specifically, the proposed development is compatible with on-site and surrounding structures in that it would result in the development of a well-designed, glass fronted building with variety of building planes, textures, and sculptural elements that would enhance a key site located at the gateway entrance to the City along Route 92. The project would include robust site landscaping, employee amenities, and other related site improvements as well as a realignment of the Bay Trail to run along the western edge of the site between the proposed development and the Bay rather than between two industrially zoned sites. Overall, the proposed development is consistent with the applicable General Plan land use designation, the IP District standards and regulations and industrial design guidelines.

The development also takes into consideration the physical and environmental constraints on the site in that the proposed development would occur on a small portion of the site to preserve environmentally sensitive wetlands and open space. To avoid the ecologically sensitive areas of the site, the applicant must demolish an extant structure that is a designated historic resource. It is important to note that while the structure is a designated resource due to its affiliation with the historic salt processing and production that occurred on the site, it is currently dilapidated, defaced with graffiti, and structurally unsound. Since 2015, over 20 complaints have been submitted to the City related to graffiti, trash, overgrown weeds, encampments, and general community appearance problems at the site. Staff recommends that the Council adopt the statement of overriding considerations related to demolition of the structure indicating: that the proposed development would result in redevelopment of an

underutilized, dilapidated site at the gateway to the City; that it would result in employment opportunities and signal increased investment in the City; and, that it would result in preservation of wetlands adjacent to the San Francisco Bay.

Proposed conditions of approval would require the applicant to enter into a land swap with the East Bay Regional Park District to allow realignment of the Bay Trial and design of the trail to EBRPD standards; that site lighting be contained on the site to prevent spillover onto bay lands; and, that the 32-acre western component of the project site be preserved and maintained in perpetuity via recordation of a deed restriction. Further, all mitigation measures, including documentation and installation of an interpretive display commemorating the site's importance to historic salt production will be included as conditions of approval of the proposed project. Thus, as conditioned, staff believes that the Council can make the findings to approve the proposed project.

STRATEGIC ROADMAP

In January 2020, the Council adopted six Strategic Priorities as part of its three-year Strategic Roadmap. Elements of this agenda item supports the Strategic Priorities to Grow the Economy and Improve Infrastructure. This item is not specifically related to a project identified in the Strategic Roadmap; however, staff is bringing this item forward because it is a development application that necessitates processing to meet State requirements.

ECONOMIC IMPACT

The proposed development would generally have a positive economic benefit in that it would result in development of a currently underutilized site at a major gateway to the City.

According to the applicant, the proposed building would house the U-Haul corporate headquarters for the region. There will be 35-50 individuals employed at this location once it is operational and will grow to about 75 employees. The addition of these employees would result in cascading economic benefits for nearby retailers and restaurants who would enjoy increased business from the proposed development. Further, the proposed development includes realignment and construction of improvements along the Bay Trail which benefits the users of the trail and the region.

FISCAL IMPACT

The estimated valuation of the proposed project is $13 million. Redevelopment of the site would result in increased property taxes, fees for permitting and inspections, and would result in park in lieu fees totaling about $93,475 (based on 2021 Fee Schedule). Once operational, the development would result in minimal sales taxes related to the rental of U-Haul storage pods.

SUSTAINABILITY FEATURES

The proposed development will follow the City's recently adopted Reach Code for new commercial buildings [11]. The project will make provisions to meet the California Public Utilities Commission (CPUC) California Long-Term Energy Efficiency for commercial construction to be zero net energy and will not include natural gas. A total of two electric vehicle (EV) charging stations and four bicycle parking spaces will be provided on site.

PUBLIC CONTACT

On February 28, 2019, an initial Notice of Application Receipt for the project application was sent to 82 addresses including property owners, tenants, and businesses within a 300-foot radius of the project site. Staff has not received any public comments, concerns or questions related to the proposed development except as descried below in regard to the environmental review process.

As described in the Environmental Analysis section above, on November 10, 2020, the City released a Notice of Preparation (NOP) with an accompanying Initial Study (IS). The Notice of Availability (NOA) and the Draft EIR was published, noticed and circulated for a 45-day public review period starting on April 9, 2021, and ending on May 24, 2021. The City received five comment letters in response to the EIR. The letters were from State, Regional and Local Agencies as well as the Citizens Committee to Complete the Refuge and Lozeau Drury LLP. Those comment letters and responses to the comments were published in the Final EIR which was posted to the City's website and provided to the commenters on June 25, 2021.

On June 25, 2021, a Notice of the Planning Commission Public Hearing for the Planning Commission meeting was sent to property owners, residents, and businesses within 300-feet of the project site as well as published in The Daily Review newspaper.

On October 22, 2021, a Notice of the City Council Public Hearing related to the appeal was sent to commenters, property owners, residents, and businesses within 300-feet of the project site, people that requested such notice and was published in The Daily Review newspaper.

Prepared by: Leigha Schmidt, Acting Principal Planner

Recommended by: Jennifer Ott, Assistant City Manager/Development Services Director

Approved by:

Kelly McAdoo, City Manager

[11] City of Hayward Reach Code Initiative: **https://www.hayward-ca.gov/reach-code**

HAYWARD CITY COUNCIL

RESOLUTION NO. 21-___

Introduced by Council Member _____

RESOLUTION OVERTURNING THE PLANNING COMMISSION DENIAL, APPROVING SITE PLAN REVIEW AND HISTORIC DEMOLITION PERMIT APPLICATION NO. 201901039, CERTIFYING THE ENVIRONMENTAL IMPACT REPORT, ADOPTING A STATEMENT OF OVERRRIDING CONSIDERATION, AND APPROVING A MITIGATION MONITORING AND REPORTING PROGRAM FOR A NEW 116,844 SQURE FOOT INDUSTRIAL BUILDING AND RELATED SITE IMPROVEMNTS FOR U-HAUL AT 4150 POINT EDEN WAY; JERRY OWEN ON BEHALF OF U-HAUL/AMERCO REAL ESTATE CO. (APPLICANT/OWNERS)

WHEREAS, on February 25, 2019, Levi Coulter on behalf of U-Haul submitted Application No. 20190039 requesting approval of Site Plan Review for two concrete tilt-up buildings to house the U-Haul Corporate Maintenance Facility and a speculative warehouse at 4150 Point Eden Way (Assessor Parcel Number 461-0085-020-02); and

WHEREAS, on April 1, 2019, the Council Economic Development Committee (CEDC) considered the initial U-Haul application and was not supportive of the building as designed and recommended significant upgrades to the site and building design to eliminate the maintenance yard; to increase the building design complexity along the Route 92 frontage by breaking up the building massing and incorporating a variety of building materials; and were generally not supportive of the proposed use as a warehouse and corporate facility for U-Haul. Overall, the CEDC expressed a desire to see a state-of-the-art gateway building on the site regardless of use; and

WHEREAS, on January 28, 2020, in response to the CEDC comments, the applicant resubmitted a significantly redesigned building and site to propose one approximately 116,000 square foot industrial building with a well-designed, glass fronted building with variety of building planes, textures and sculptural elements, a redesign site plan with employee amenity areas and a proposed realignment of the Bay Tail; and

WHEREAS, finding the application near complete, on November 10, 2020, the City released a Notice of Preparation (NOP) with an accompanying Initial Study (IS), which found less than significant impacts or no impact the areas of aesthetics, agriculture and forestry resources, air quality, energy, geology and soils, greenhouse gas emissions, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, tribal cultural resources, utilities and service systems, and wildfire. The IS also found that the proposed project could potentially affect the environment in the areas of biological resources, cultural resources, hazards and hazardous materials,

transportation and tribal cultural resources. The City held a scoping meeting on December 10, 2020 (held on Zoom), to receive additional public comments; and

WHEREAS, on April 9, 2021, a Notice of Availability (NOA) and Draft Environmental Impact Report (DEIR) were published, noticed and circulated for a 45-day public review period starting on April 9, 2021, and ending on May 24, 2021.

WHEREAS, the City received five comment letters. Those comments and responses to those comments are included in the Final EIR (FEIR) prepared for the project. A copy of the FEIR was provided to the commenters, posted to the website and noticed with the Planning Commission public hearing for the project; and

WHEREAS, on July 8, 2021, prior to the start of the duly noticed Planning Commission meeting, the City received late correspondence from Lozeau Drury on behalf of Shawn Smallwood, PhD, detailing concerns with the DEIR and FEIR's conclusions related to impacts to biological species due to loss of habitat; bird strikes related to construction of the building; and potential noise impacts from vehicle circulation related to the proposed use. The comment letter was provided to the Commission ahead of the meeting, reviewed by the CEQA consultant and consultant team who found that all potential impacts were mitigated by proposed mitigation measures included in the analysis already provided, and those conclusions were presented to the Planning Commission verbally in the public hearing; and

WHEREAS, on July 8, 2021, the Planning Commission held a duly noticed public hearing on the proposed project and voted 5:1:0 to deny the project on several grounds. Commissioners felt that the proposed project did not align with Council goals related to growing the high-tech, advanced manufacturing sector in the City's Industrial Districts; generation or desirable uses in the Industrial Districts; that the proposed regional warehouse use would not generate enough quality jobs or sales taxes to off-set the environmental impacts related to the project; that the site was not appropriate for the proposed development due to future sea level rise and destruction of habitat; that the trucks from the proposed development would further deteriorate surrounding roadways; and

WHEREAS, on July 14, 2021, the applicant filed an appeal of this denial on the grounds that the proposed building would not be impacted by sea level rise in that the build area would be located above the flood plain; that the use would not solely be a warehouse in that the building would also house the regional corporate offices for U-Haul and would employ 35-50 individuals to start and up to 75 once fully operational; that bird strikes would not be an issue due to the use of non-reflective glass; that the storage pods housed in the warehouse are utilized by Hayward residents and the use would generate tax revenue for the City; and

WHEREAS, on October 22, 2021, a Notice of the City Council Public Hearing related to the appeal was sent to commenters, property owners, residents, and businesses within 300-feet of the project site, people that requested such notice and was published in The Daily Review newspaper.

NOW, THEREFORE, BE IT RESOLVED that the City Council hereby adopts the following findings:

SITE PLAN REVIEW.

Pursuant to Hayward Municipal Code (HMC) Section 10-1.3025, the approving authority may approve or conditionally approve an application for Site Plan Review when all of the following findings are made:

1. The development is compatible with on-site and surrounding structures and uses and is an attractive addition to the City.

The proposed development would include demolition of an extant structure associated with the historic Oliver Salt Brothers manufacturing and processing plant that was located on the site in order to develop a new, approximately 116,844 square foot industrial building to house the U-Haul regional corporate offices and U-Haul pods, trucks and related materials. The proposed development would include site landscaping, an employee amenity area, and related site improvements. The proposed development would also require realignment of the Bay Trail to run along the western edge of the site between the proposed development and the Bay. The proposed development would require removal of a designated historic structure; however, the structure is dilapidated, defaced with graffiti, and has been the cause of numerous community appearance complaints over the past several years. Redevelopment of the site with a well-designed, glass fronted building with variety of building planes, textures and sculptural elements would signal increased investment in the industrial area and in the City at a gateway entrance to Hayward along Route 92.

The proposed project, which is surrounded by other industrial developments and baylands, is compatible with those surrounding land uses in that it proposes realignment of the Bay Trail, installation of substantial landscaping and employee amenities along the project frontage, and inclusion of artistic building elements reflecting the surrounding wildlife and grasses. The proposed development would remain compatible with the adjacent bay lands during operations with a condition of approval to ensure that building and site lighting is minimized and contained to the site.

2. The development takes into consideration physical and environmental constraints.

The proposed development takes into consideration physical and environmental constraints in that the development pad is located on a small portion of the site thus minimizing potential impacts on adjacent wetlands and ecologically sensitive areas. Further, the proposed development includes realignment of the

Bay Trail to maximize visual and physical connection between trail users and the Bay and surrounding natural landscapes.

The Draft and Final EIR prepared for the proposed development found that the project would result in *less than significant* impacts or impacts that could be mitigated to a *less than significant* level in all impact areas except for Cultural Resources. Specifically, the proposed project would result in significant and unavoidable impacts related to removal of a structure listed on the California Register for Historic Resources and deemed eligible for listing on the National Register of Historic Resources. Proposed Mitigation Measures CUL-1a and CUL-1b would require archival documentation of the structures that will be kept at the Hayward Historic Society and City of Hayward, and installation of an interpretive display at the site to commemorate the history of the Oliver Brothers Salt Company on the site would minimize project impacts but are not capable of reducing the significance of demolition of the structures to a level of less than significant. Thus, this impact was deemed significant and unavoidable and requires adoption of a Statement of Overriding Consideration for the project.

See the related CEQA Findings below for a thorough description of impacts, mitigation measures, findings and a statement of overriding considerations related to removal of the identified Cultural Resources.

3. The development complies with the intent of City development policies and regulations.

The project site is in an area designated as Industrial Technology and Innovation Corridor (IC) in the *Hayward 2040 General Plan.* The Corridor is expected to grow as an economic and employment center and evolve to achieve a healthy balance of traditional manufacturing, warehousing and logistics as well as newer information- and technology-based uses. Allowable uses include professional offices, corporate campuses, research and development, warehousing and logistics, manufacturing, and biotechnology. The proposed development would meet the following *Hayward 2040 General Plan* goals and policies in that it would expand the economic and employment base in Hayward (Land Use Goal 6); enhance the visual character of the site with the removal of a dilapidated structure at the gateway entrance to the City (Land Use Policy-6.6); and, employ building and site design strategies and employee amenities to create a more attractive development (Land Use Policy-6.7 and 6.8).

Further, the proposed project is consistent with the intent and purpose of the IP (Industrial Park) District, where regional offices and warehouses are permitted uses; and is consistent with all applicable IP District regulations including setbacks,

FAR, parking, minimum landscaping and employee amenities as detailed in the accompanying staff report.

4. The development will be operated in a manner determined to be acceptable and compatible with surrounding development.

The proposed development will operate in a manner that is consistent with surrounding industrial development in that it will house U-Haul corporate offices and provide storage of U-Haul pods, trucks and related equipment. Conditions of approval requiring that building and site lighting be minimized and contained to the site and requiring the 32-acre western component of the project site be preserved and maintained in perpetuity via recordation of a deed restriction will ensure compatibility with the adjacent bay lands and natural setting.

HISTORICAL RESOURCE DEMOLITION PERMIT.

Pursuant to HMC Section 10-11.070, no person shall demolish, remove or relocate a historic resource without first obtaining an historic resources demolition permit by the City Council. The City Council has reviewed the application proposal and the related environmental analysis and hereby issues the historical demolition permit subject to the related Site Plan Review and CEQA findings contained herein.

CALIFORNIA ENVIRONMENTAL QUALITY ACT FINDINGS.

I. Introduction

The City of Hayward (City) prepared a Final Environmental Impact Report (EIR) for the proposed 4150 Point Eden Way Industrial Development Project (project).

The Final EIR, which is comprised of the Draft EIR; Responses to Public Comments; and appendices and supporting technical studies and reports, addresses the potential environmental effects associated with the development of the project site, including the construction of a new industrial building, preservation of an open space/wetland preserve, and land swap and realignment of a segment of the San Francisco Bay Trail.

The Findings and Statement of Overriding Considerations (Findings) set forth below are presented for adoption by the City Council, as the City' s findings under the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.) and the CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 et seq.) relating to the project. The Findings provide the written analysis and conclusions of this City Council regarding the project's environmental impacts, mitigation measures, alternatives to the project, and the overriding considerations, which in this Council's view, justify approval of the proposed project, despite significant and unavoidable environmental effects.

II. General Findings and Overview

A. Relationship to the City of Hayward General Plan

The project site consists of western and eastern components. The western component of the project site is designated *Baylands* in the Hayward General Plan, and most of the eastern component of the project site is designated *Industrial Technology and Innovation Corridor* in the Hayward General Plan. The westernmost corner of the eastern component of the project site is designated *Baylands* in the Hayward General Plan. The General Plan notes that within the *Industrial Technology and Innovation Corridor* land use designation, typical building types include warehouses, office buildings, research and development facilities, manufacturing plants, business parks, and corporate campus buildings. The General Plan notes that the *Baylands* land use designation generally applies to the open space resources located along the Hayward shoreline, and activities are expected to include continued restoration of saltwater and freshwater marshes and upland habitat. The proposed warehouse with office space is consistent with the described building types for the *Industrial Technology and Innovation Corridor* land use designation for the eastern component of the project site. The proposed wetland preserve on the western component on the project site is consistent with the activities specified for the *Baylands* land use designation.

The western component of the project site is zoned Floodplain District, while the eastern component is zoned Industrial Park District. The purpose of the Floodplain District is to protect persons and property from the hazards of development in areas subject to tidal or flood water inundation. The purpose of the Industrial Park District is to provide areas for high technology, research and development, and industrial activities in an industrial park or campus-like atmosphere. Warehousing and distribution uses are allowed, provided buildings and site development are designed with an office appearance from right-of-way. The proposed warehouse building on the eastern component of the project site would have an office that faces the rights-of-way of all adjacent or nearly adjacent roadways, including Point Eden Way and State Route 92. The wetland preserve on the western component of the project site would effectively protect or prevent development from flood inundation because establishment of the preserve would preclude development. Therefore, the proposed project would be consistent with the Industrial Park and Floodplain District zoning districts applicable to the project site.

B. Procedural Background

The City started the environmental review process following submittal of the development application on February 25, 2019. The City prepared an Initial Study to evaluate potential impacts of the proposed project. Following preparation of the Initial Study, the City determined the potential for the proposed project to result in potentially significant impacts. The City prepared a

Notice of Preparation (NOP) on November 10, 2020, stating that an EIR for the project would be prepared, and provided notice for a Scoping Meeting on December 10, 2020 (held on Zoom). This NOP, along with the accompanying Initial Study was circulated to the public, local, state, and federal agencies, and other interested parties to solicit comments on the project. Concerns raised in response to the NOP and at the Scoping Meeting were considered during preparation of the Draft Environmental Impact Report (Draft EIR). On April 9, 2021, the Notice of Availability (NOA) for the Draft EIR and the Draft EIR was published for public review and comment and filed with the California Office of Planning and Research under State Clearinghouse No. 2020110180. The review period for the Draft EIR ended on May 24, 2021.

The City prepared written responses to the comments received during the comment period and included these responses in a separate volume entitled 4150 Point Eden Way Industrial Development Project Final Environmental Impact Report. The Final EIR includes a list of those who commented on the Draft EIR, copies of written comments (coded for reference), written responses to comments regarding the environmental review, and errata with minor text changes made to the Draft EIR as a result of comments. The Final EIR was made available for public review on June 25, 2021.

The City finds, accordingly, that the Final EIR was published, circulated and reviewed in accordance with the requirements of CEQA, the State CEQA Guidelines, and constitutes an accurate, objective, and complete Final EIR.

C. Consideration of the Environmental Impact Report

In adopting these Findings, the City Council finds that the Final EIR was presented to the decision-making body of the lead agency, which reviewed and considered the information in the Final EIR prior to approving the proposed project. By these Findings, the Council ratifies, adopts, and incorporates the analysis, explanations, findings, responses to comments, and conclusions of the Final EIR. The City Council finds that the Final EIR was completed in compliance with the California Environmental Quality Act. The Final EIR represents the independent judgment and analysis of the City.

D. Severability

If any term, provision, or portion of these Findings or the application of these Findings to a particular situation is held by a court to be invalid, void, or unenforceable, the remaining provisions of these Findings, or their application to other actions related to the proposed project, shall continue in full force and effect unless amended or modified by the City.

E. Summary of Environmental Findings

The City Council has determined that based on all of the evidence presented, including but not limited to the EIR, written and oral testimony given at

meetings and hearings, and submission of comments from the public, organizations, and regulatory agencies, and the responses prepared to the public comments, the following environmental impacts associated with the project are:

1. **Potentially Significant Impacts that Cannot be Avoided or Reduced to a Less Than Significant Level**

   Indirect and Direct. As discussed in the Final EIR in Section 4.2, *Cultural Resources*, significant project-related impacts were found related to the demolition of existing features on the project site that contribute to the significance of historical resource.

   Cumulative. As discussion in the Final EIR in Section 4.2, *Cultural Resources*, significant cumulative impacts were found related to the demolition of existing features on the project site that contribute to the significance of historical resource.

2. **Potentially Significant Impacts that can be Avoided or Reduced to a Less Than Significant Level Through Implementation of Mitigation Measures**

   Indirect and Direct. As discussed in the Initial Study, project-related impacts in the areas of geology and soils and tribal cultural resources could be mitigated to level of less than significant with mitigation. As discussed in the Final EIR in Section 4.1, *Biological Resources*, Section 4.2, *Cultural Resources*, Section 4.3, *Hazards and Hazardous Materials*, and Section 4.4, *Transportation*, project-related impacts in the areas of biological resources, cultural resources, hazards and hazardous materials, and transportation could be mitigated to level of less than significant with mitigation.

   Cumulative. To the extent impacts in the foregoing environmental topical areas have the capability of cumulating, the Initial Study and Final EIR Section 4.1 through Section 4.4, incorporated herein by this reference, demonstrate that either the Project would not make a considerable contribution to an impact or would not, in combination with other existing and reasonably foreseeable projects, combine to have significant cumulative impacts.

3. **Less Than Significant and No Impacts That Do Not Require Mitigation**

   Indirect and Direct. As discussed in the Initial Study and in the Final EIR in Section 1, *Introduction*, project-related impacts that do not require mitigation were found in the areas of Aesthetics; Agricultural and Forest Resources; Air Quality; Biological Resources; Cultural Resources; Energy, Geology and Soils; Greenhouse Gas Emissions; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use and Planning; Mineral Resources; Noise; Population and Housing; Public Services; Recreation; Transportation, Utilities and Service Systems; and, Wildfire.

Cumulative. As discussed in the Initial Study and Final EIR Sections 4.1 through 4.4 (incorporated herein by this reference), cumulative impacts in the areas of Aesthetics; Agricultural and Forest Resources; Biological Resources; Energy; Geology and Soils; Greenhouse Gas Emissions; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use and Planning; Mineral Resources; Noise; Population and Housing; Public Services; Recreation; Transportation; Utilities and Service Systems; and, Wildfire were found less than significant.

III. Findings and Recommendations Regarding Significant and Unavoidable and Cumulatively Considerable Impacts

A. Cultural Resources

1. Demolition of the Oliver Brothers Salt Company processing plant and filling of portions of the associated salt evaporation ponds on the eastern component of the project site would adversely impact features that contribute to the significance of a historical resource. Impacts would be significant and unavoidable. (EIR Impact CUL-1)

a) **Potential Impact.** Construction of the proposed project would require demolition of the Oliver Brothers Salt Company processing plant and filling of portions of the associated salt evaporation ponds on the eastern component of the project site. The Oliver Brothers Salt Company has been determined eligible for listing in the NRHP and is listed in the CRHR; therefore, the property qualifies as a historical resource as defined by CEQA. Due to proposed demolition and construction activities that would impact contributing features within the eastern component, the proposed project would cause the material impairment of the resource, meaning it would alter in an adverse manner those physical characteristics that convey its historical significance and that justify its inclusion in the NRHP and CRHR. Filling the salt ponds and demolishing the building on the eastern component of the site would also alter the historic landscape, as would constructing a new industrial building.

b) **Mitigation Measures.** Project mitigation measures CUL-1a and CUL-1b, as set forth in Final EIR Section 4.2, *Cultural Resources*, are hereby adopted and will be implemented as provided by the Mitigation Monitoring and Reporting Program. After implementation of mitigation measures CUL-1a and CUL-1b, the impact will still be considered significant and unavoidable.

c) **Findings.** Based on the Final EIR and the entire record before this City Council, the Council finds that:

(1) **Mitigation is Feasible.** Mitigation measures CUL-1a and CUL-1b are determined to be the only feasible measures the City can impose to reduce the proposed development's impacts to historic resources. Mitigation measures CUL-1a and CUL-1b require archival documentation of the Oliver Salt Brothers Salt Company plant

structure prior to demolition and construction of an interpretative display to commemorate the history of the Oliver Salt Brothers Salt Company plant structure. Other measures were considered but rejected because they were deemed infeasible on ineffective, including retaining the Oliver Salt Brothers Salt Company plant structure while also permitting the proposed development on the site. However, given the size of the project site, required design and size of the proposed development, and location of the Oliver Salt Brothers Salt Company plant structure within the site, avoidance of the structure while also constructing the proposed development is infeasible. Accordingly, avoidance of the existing Oliver Salt Brothers Salt Company plant structure is infeasible.

(2) **Remaining Impacts.** Development of the eastern component of the project site would permanently remove the Oliver Salt Brothers Salt Company plant and fill associated salt evaporation ponds. Because avoidance of the Oliver Salt Brothers Salt Company plant structure is not feasible, there are no mitigation measures that would meet the objectives of the project while retaining the historic resources. While mitigation measures CUL-1a and CUL-1b are feasible and would be implemented, impacts would remain significant and unavoidable because demolition of the Oliver Salt Brothers Salt Company plant structure is unavoidable.

(3) **Overriding Considerations.** The environmental, economic, social, and other benefits of the project override remaining significant adverse impacts of the project resulting in the demolition or loss of a historic resource, as more fully stated in the Statement of Overriding Considerations in Section VIII, below.

2. Cumulative impacts on loss of historic resources in the City of Hayward.

a) **Potential Impact.** Construction of the proposed project would require demolition of the Oliver Brothers Salt Company processing plant and filling of portions of the associated salt evaporation ponds on the eastern component of the project site. The Oliver Brothers Salt Company has been determined eligible for listing in the NRHP and is listed in the CRHR; the property, therefore, qualifies as a historical resource as defined by CEQA. The proposed project would not impact other historic resources that may occur elsewhere, off-site, within Hayward. However, because the proposed project would result in direct significant impacts to historic resources on the project site, there would be fewer historic resources remaining in the City of Hayward.

b) **Mitigation Measures.** Project mitigation measures CUL-1a and CUL-1b, as set forth in Final EIR Section 4.2, *Cultural Resources*, are hereby adopted and will be implemented as provided by the Mitigation Monitoring and Reporting Program. After implementation of mitigation

measures CUL-1a and CUL-1b, the impact will still be considered significant and unavoidable.

c) **Findings.** Based on the Final EIR and the entire record before this City Council, the Council finds that:

(1) **Mitigation is Feasible.** Mitigation measures CUL-1a and CUL-1b are determined to be the only feasible measures the City can impose to reduce the proposed development's impacts to historic resources. Other measures were considered but rejected because they were deemed infeasible on ineffective, as set forth in Finding III.A.1(c)(1) above, incorporated herein by this reference.

(2) **Remaining Impacts.** Development of the eastern component of the project site would permanently remove the Oliver Salt Brothers Salt Company plant and fill associated salt evaporation ponds. Because avoidance of the Oliver Salt Brothers Salt Company plant structure is not feasible, there are no mitigation measures that would meet the objectives of the project while retaining the historic resources. While mitigation measures CUL-1a and CUL-1b are feasible and would be implemented, impacts would remain significant and unavoidable because demolition of the Oliver Salt Brothers Salt Company plant structure is unavoidable.

(3) **Overriding Considerations.** The environmental, economic, social, and other benefits of the project override remaining significant adverse impacts of the project resulting in the demolition or loss of a historic resource, as more fully stated in the Statement of Overriding Considerations in Section VIII, below.

IV. Findings and Recommendations Regarding Significant Impacts Which Are Avoided or Mitigated to a Less Than Significant Level

A. Biological Resources

1. The proposed project would have a substantial adverse effect on species identified as a candidate, sensitive, or special status, such as salt marsh harvest mouse, burrowing owl and other birds, and bats. Impacts would be less than significant with mitigation incorporated. (EIR Impact BIO-1)

a) **Potential Impact.** The proposed project would remove habitat suitable for special-status wildlife species and could directly impact these species if present within the suitable habitat during construction. Additionally, removal of vegetation cover during construction could impact nesting migratory bird species or their nests. Light and noise generated from both project construction and operation could indirectly affect wildlife species in adjacent areas. See Final EIR pages 4.1-15 through 4.1-19, incorporated herein by this reference.

b) **Mitigation Measures.** Project mitigation measures BIO-1a through BIO-1h are hereby adopted and will be implemented as provided by the Mitigation Monitoring and Reporting Program.

c) **Findings.** Based on the Final EIR and the entire record before this City Council, the Council finds that:
   (1) **Effects of Mitigation.** The impacts related to special-status species and nesting migratory birds, including their habitats, will be mitigated to a less than significant level by requiring surveys to conducted by a qualified biologist prior to construction, installing fencing to exclude wildlife from active construction areas, implementing wildlife training for construction personnel, and excluding public access from surrounding habitat.
   (2) **Remaining Impacts.** Remaining impacts related to special-status species, nesting migratory birds, and their habitat would not be significant.

2. The proposed project would require impacts to seasonal wetlands and salt marsh on the eastern component of the project site, which are considered sensitive natural communities. Impacts would be less than significant with mitigation. (EIR Impact BIO-2)

a) **Potential Impact.** Project construction activities on the eastern component of the project site would result in the fill of 0.28 acre of seasonal wetlands and 0.69 acre of salt marsh and associated unvegetated waters in the remnant salt ponds on the eastern component project site. See Final EIR page 4.1-22, incorporated herein by this reference.

b) **Mitigation Measures.** Project mitigation measures BIO-1h and BIO-3 are hereby adopted and will be implemented as provided by the Mitigation Monitoring and Reporting Program.

c) **Findings.** Based on the Final EIR and the entire record before this City Council, this Council finds that:
   (1) **Effects of Mitigation.** The impacts related to sensitive natural communities will be mitigated to a less than significant level by requiring fencing to exclude public access from surrounding habitat and providing wetland mitigation credits.
   (2) **Remaining Impacts.** Remaining impacts related to sensitive natural communities would not be significant.

3. The proposed project would require the permanent fill of approximately 0.28 acre of seasonal wetlands and 0.69 acre of salt marsh and associated unvegetated waters in remnant salt ponds on the eastern component of the project site. Impacts would be less than significant with mitigation. (EIR Impact BIO-3)

a) **Potential Impact.** Project construction activities on the eastern component of the project site would result in the fill of 0.28 acre of seasonal wetlands and 0.69 acre of salt marsh and associated unvegetated waters in the remnant salt ponds on the eastern component project site. See Final EIR page 4.1-23, incorporated herein by this reference.

b) **Mitigation Measures.** Project mitigation measure BIO-3 is hereby adopted and will be implemented as provided by the Mitigation Monitoring and Reporting Program.

c) **Findings.** Based on the Final EIR and the entire record before this City Council, the Council finds that:

(1) **Effects of Mitigation.** The impacts related to wetlands will be mitigated to a less than significant level by requiring wetland mitigation credits.

(2) **Remaining Impacts.** Remaining impacts related to wetlands would not be significant.

B. Cultural Resources

1. Construction of the proposed project would involve ground-disturbing activities that have the potential to unearth or adversely impact previously unidentified archaeological resources within the eastern component of the project site. Impacts would be less than significant with mitigation incorporated. (EIR Impact CUL-2)

a) **Potential Impact.** Construction of the proposed project, including the proposed industrial building, surface parking, utilities and landscaping, and relocated segment of the San Francisco Bay Trail, would involve excavation and ground disturbance on the site's eastern component. Ground-disturbing activities would have the potential to unearth previously unidentified archaeological resources. See Final EIR pages 4.2-10 through 4.2-11, incorporated herein by this reference.

b) **Mitigation Measures.** Project mitigation measure CUL-2 is hereby adopted and will be implemented as provided by the Mitigation Monitoring and Reporting Program.

c) **Findings.** Based on the Final EIR and the entire record before this City Council, the Council finds that:

(1) **Effects of Mitigation.** The impacts related to archaeological resources will be mitigated to a less than significant level by requiring construction activities to halt near archaeological finds until further evaluated and protected, as applicable, by a qualified archaeologist.

(2) **Remaining Impacts.** Remaining impacts related to archaeological resources would not be significant.

C. Geology and Soils

1. Project construction would be susceptible to failure resulting from soil liquefaction and soil instability. Impacts would be less than significant with mitigation incorporated. (Initial Study Impact)

a) **Potential Impact.** The project site is within a liquefaction zone that could result in foundation damage to the proposed industrial building during a seismic-related ground failure. Additionally, graded slopes could be susceptible to collapse during seismic events if improperly constructed or compacted. Soils on site could become unstable from the overlying weight of the proposed industrial building and surface parking lot. Collapse or failure

of soils could result in substantial risk of loss, injury, or death. See Initial Study page 49, incorporated herein by this reference.

b) **Mitigation Measures.** Project mitigation measure GEO-1 is hereby adopted and will be implemented as provided by the Mitigation Monitoring and Reporting Program.

c) **Findings.** Based on the Final EIR and the entire record before this City Council, the Council finds that:

(1) **Effects of Mitigation.** The impacts related to soil liquefaction and instability will be mitigated to a less than significant level by requiring incorporation of measures from a Geotechnical Engineering Report into the project design and construction.

(2) **Remaining Impacts.** Remaining impacts related to soil liquefaction and instability would not be significant.

D. Hazards and Hazardous Materials

1. The project has the potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment due to potential hazardous materials that may be present in the existing on-site structures. This impact would be potentially significant but mitigable. (EIR Impact HAZ-1)

a) **Potential Impact.** Demolition of the Oliver Brothers Salt Company plant would have the potential to release lead and asbestos containing materials, potentially exposing construction workers. See Final EIR pages 4.3-10 through 4.3-11, incorporated herein by this reference.

b) **Mitigation Measures.** Project mitigation measure HAZ-1 is hereby adopted and will be implemented as provided by the Mitigation Monitoring and Reporting Program.

c) **Findings.** Based on the Final EIR and the entire record before this City Council, this Council finds that:

(1) **Effects of Mitigation.** The impacts related to lead and asbestos containing materials will be mitigated to a less than significant level by requiring materials inspections and possible sampling to determine if lead or asbestos are present, and if so, safe removal, remediation, and disposal in accordance with all federal, state, and local regulations.

(2) **Remaining Impacts.** Remaining impacts related to lead and asbestos exposure would not be significant.

2. The project would involve development on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5, and due to the potential to encounter residual soil and groundwater contamination on the eastern component of the project site, impacts would be potentially significant but mitigable. (EIR Impact HAZ-2)

a) **Potential Impact.** Project construction activities involving excavation to approximately 5 feet below ground surface, such as construction of the proposed building foundation or buried utility connections, could disturb

soils or groundwater from previous contamination incidents and expose construction workers. Project construction would generate dust. If soils from the contamination areas on-site are stockpiled on site and become airborne dust, either from wind erosion or construction equipment, off-site receptors could be exposed, as well as project construction workers. The proposed building foundation could create a potential pathway for migration of contaminated groundwater plume to aquifers at depths of up to 20 feet below ground surface. During operation of the proposed project, building occupants could be exposed to hazardous vapors from underlying contamination. Likewise, stormwater runoff collected in on-site bioretention areas could cause mobilization of contamination through leaching. See Final EIR pages 4.3-11 through 4.3-16, incorporated herein by this reference.

b) **Mitigation Measures.** Project mitigation measures HAZ-2a and HAZ-2b and HAZ-2c are hereby adopted and will be implemented as provided by the Mitigation Monitoring and Reporting Program.

c) **Findings.** Based on the Final EIR and the entire record before this City Council, this Council finds that:

(1) **Effects of Mitigation.** The impacts related to soil and groundwater contamination will be mitigated to a less than significant level by requiring implementation of the previously approved Risk Management Plan for the project site, consulting with the City on the location and/or design of on-site bioretention areas, and designing the foundation in such as way that it is demonstrated the proposed building would not create a preferential pathway for contamination.

(2) **Remaining Impacts.** Remaining impacts related to soil and groundwater contamination would not be significant.

E. Transportation

1. The proposed project would generate 18.23 vehicle miles traveled (VMT) per employee, which exceeds the VMT threshold of the existing regional average of 18.15 by 0.5 percent. Impacts would be potentially significant, but mitigable. (EIR Impact TR-1)

a) **Potential Impact.** The proposed project would generate 18.23 VMT per employee, which would exceed the existing regional average VMT per employee, which is 18.15. See Final EIR page 4.4-5 through 4.4-7, incorporated herein by this reference.

b) **Mitigation Measures.** Project mitigation measure TR-1 is hereby adopted and will be implemented as provided by the Mitigation Monitoring and Reporting Program.

c) **Findings.** Based on the Final EIR and the entire record before this City Council, this Council finds that:

(1) **Effects of Mitigation.** The impacts related to VMT will be mitigated to a less than significant level by requiring implementation of either a voluntary employer commute program or employer carpool program.

(2) **Remaining Impacts.** Remaining impacts related to VMT would not be significant.

F. Tribal Cultural Resources

1. Construction of the proposed project would require excavation and grading, which could damage or destroy tribal cultural resources, if present. (Initial Study Impact)

a) **Potential Impact.** Subsurface excavation and grading required for the project would have the potential to uncover and either damage or destroy unknown or unidentified tribal cultural resources, if present. See Initial Study page 104, incorporated herein by this reference.

b) **Mitigation Measures.** Project mitigation measure TCR-1 is hereby adopted and will be implemented as provided by the Mitigation Monitoring and Reporting Program.

c) **Findings.** Based on the Final EIR and the entire record before this City Council, the Council finds that:

(1) **Effects of Mitigation.** The impacts related to tribal cultural resources will be mitigated to a less than significant level by requiring construction work to halt around discovery of a potential tribal cultural resource, and development of a mitigation plan is the resource is determined to be a tribal cultural resource.

(2) **Remaining Impacts.** Remaining impacts related to tribal cultural resources would not be significant.

V. Other Impacts and Considerations

A. Growth-Inducing Impacts of the Proposed Project. CEQA Guidelines Section 15126.2(d) requires that an environmental impact report evaluate the growth-inducing impacts of a proposed action.

a) **Findings.** Based on the Final EIR and the entire record before this City Council, the project would generate further employment growth. However, employment growth would consist of approximately 20 to 25 long-term employees, which would not generate substantial growth in Hayward.

b) **Explanation.** As identified on Final EIR page 5-1, incorporated herein by this reference, the proposed project would generate short-term construction jobs, that given their short-term duration, would be filled by the local Bay Area workforce. Operation of the project would generate 20 to 25 new long-term jobs, which would not be considered substantial unplanned growth in Hayward.

B. Significant Irreversible Environmental Changes Involved if the Project is Implemented. CEQA Sections 21100(b)(2) and 21100.1(a) require that EIRs prepared for the adoption of a project include a discussion of significant irreversible environmental changes of project implementation.

a) **Findings.** Based on the Final EIR and the entire record before the City Council, the project would result in consumption of renewable, nonrenewable, and limited resources including, but are not limited to, oil, gasoline, lumber, sand and gravel, asphalt, water, steel, and similar materials.

However, the proposed building would be constructed pursuant to CalGreen and the City's Reach Code, both of which require energy efficiency.

b) **Explanation.** As identified on Final EIR pages 5-2 and 5-3, incorporated herein by this reference, the proposed project would result in consumption of renewable, nonrenewable, and limited resources including, but are not limited to, oil, gasoline, lumber, sand and gravel, asphalt, water, steel, and similar materials. Additional vehicle trips associated with the proposed project would incrementally increase local traffic and regional air pollutant and GHG emissions. The project would be required to comply with standards set forth in California Building Code (CBC) Title 24, which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources during operation. CALGreen (as codified in CCR Title 24, Part 11) requires implementation of energy-efficient light fixtures and building materials into the design of new construction projects. Furthermore, the 2019 Building Energy Efficiency Standards (CBC Title 24, Part 6) requires newly constructed buildings to meet energy performance standards set by the CEC. The City also has a Reach Code that requires efficiency beyond CalGreen, which would be applicable to the proposed project.

c) **Issues Raised on Appeal.** There are no appeals to certification of the Final EIR.

VI. Project Alternatives

A. Background – Legal Requirements

CEQA requires that environmental impact reports assess feasible alternatives or mitigation measures that may substantially lessen the significant effects of a project prior to approval Public Resources Code Section 21002). Apart from the "no project" alternative, the specific alternatives or types of alternatives that must be assessed are not specified. CEQA establishes no categorical legal imperative as to the scope of alternatives to be analyzed in an EIR. Each case must be evaluated on its own facts, which in turn must be reviewed in light of the statutory purpose" (*Citizens of Goleta Valley v. Board of Supervisors*, 52 Cal.3d. 553, 556 1990]). The legislative purpose of CEQA is to protect public health and welfare and the environment from significant impacts associated with all types of development by ensuring that agencies regulate activities so that major consideration is given to preventing environmental damage while providing a decent home and satisfying living environment for every Californian Public Resources Code Section 21000).

In short, the objective of CEQA is to avoid or mitigate environmental damage associated with development. This objective has been largely accomplished in the project through the inclusion of project modifications and mitigation measures that reduce the potentially significant impacts to an acceptable level. The courts have held that a public agency "may approve a developer's choice of a project once its significant adverse environment effects have been reduced to an acceptable level—that is, all avoidable significant damage to the environment has been eliminated and

that which remains is otherwise acceptable" (*Laurel Hills Homeowners Assoc. v. City*, 83 Cal.App.3d 515, 521 [1978]).

B. Identification of Project Alternatives

The CEQA Guidelines state that the "range of potential alternatives to the project shall include those that could feasibly accomplish most of the basic purposes of the project and could avoid or substantially lessen one of more of the significant effects" of the project (CEQA Guidelines Section 15126.6(c)). Thus, consideration of the project objectives is important to determining which alternatives should be assessed in the EIR. The Final EIR identified the following objectives for the proposed project:

- Develop an industrial building to house U-Haul corporate headquarters and warehouse.
- Locate the building at the western edge of Hayward in proximity to a regional highway and other industrial, warehousing and logistics uses to avoid land use conflicts.
- Create new employment and economic growth opportunities by redeveloping a vacant and underutilized property.
- Establish a wetland preserve adjacent to the San Francisco Bay.
- Remove a dilapidated and unsafe structure from a currently underutilized property at the gateway to the City.

VII. Alternatives Analysis in Final EIR

A. Alternatives Considered but Rejected. Alternatives considered but rejected from further consideration include three separate off-site alternatives.

a) **Findings.** Three separate off-site alternatives were considered but rejected from further consideration. The three alternative sites include an approximately one-acre property at 4327 Breakwater Avenue; an approximately 3.9-acre property at 3590 Enterprise Avenue; and an approximately 34.6-acre property on Arden Road. The alternative sites on Breakwater Avenue and Enterprise Avenue were rejected from further consideration because the properties were substantially less than the approximately 6.8 acres necessary to accommodate the proposed project. The alternative site on Arden Road was eliminated because it contains large areas of freshwater ponds which reduce the contiguous area of developable land to less than the approximately 6.8 acres required to accommodate the proposed project.

b) **Explanation.** While each of the three off-site alternatives would eliminate significant impacts to the historic resource of the Oliver Brother Salt Company processing plant, none of the three alternative sites have enough developable land to accommodate the proposed project. Because the three alternative sites are not large enough to accommodate the proposed project,

each alternative would fail to meet the project objective of developing an industrial building to house U-Haul corporate headquarters and warehouse. Additionally, the three alternative sites would also fail to meet project objectives to create new employment and economic growth, establish a wetland preserve adjacent to the San Francisco Bay, and removal of a dilapidated and unsafe structure from a currently underutilized property at the gateway to the City.

B. Alternatives Analyzed in the Final EIR. The CEQA Guidelines state that the "range of potential alternatives to the project shall include those that could feasibly accomplish most of the basic purposes of the project and could avoid or substantially lessen one or more of the significant effects" of the project. The City evaluated the alternatives listed below.

1. **No Project Alternative.** The No Project Alternative assumes that the industrial building, surface parking, driveway, landscaping, and other project components associated with the proposed industrial building are not constructed. Additionally, the San Francisco Bay Trail would remain in its current location and would not be realigned. Likewise, a wetland preserve would not be established on the western component of the project site. The western component of the project site would not be preserved in perpetuity via recordation of a deed restriction or other appropriate legal mechanism; therefore, the salt ponds and other areas of the western component of the site could be utilized for flood plain and agricultural uses such as chemical extraction from bay water, crop and tree farming, dredging, farming or ranching and limited sales of materials grown on site. The project site would remain in its current unused state, and the existing structures associated with the former Oliver Brothers Salt Company operation would not be demolished.
   a) **Findings.** The No Project Alternative is rejected as a feasible alternative because it would not achieve the project objectives as listed on page 6-1 of the Final EIR.
   b) **Explanation.** The No Project Alternative would avoid the significant and unavoidable impacts of the project because no construction would occur on the project site and demolition of the Oliver Brothers Salt Company plant would not be required. Because no construction would occur on the project site, other significant but mitigable impacts of the project would be avoided under this alternative, such as impacts to special-status species, wetlands, and contaminated soils and groundwater. Additionally, because the proposed building would not be constructed under this alternative, significant but mitigable impacts associated with VMT would also be avoided. While the No Project Alternative would avoid the potentially significant impacts of the proposed project, it would meet none of the project objectives.

2) **Enterprise Avenue Alternate Site Alternative.** Under the Enterprise Avenue Alternate Site Alternative, the proposed industrial building would be constructed on an approximately 10.8-acre property located at 3636 Enterprise Avenue in Hayward. The property is identified as APN 439-0099-036-02, and is zoned as General Industrial (IG). The property is mostly vacant with the exception of several radio communication towers scattered across the property. A small structure is located at the base of one tower and is associated with the tower operations. Vegetation is present across nearly the entire property, and based on aerial photography, consists primarily of low grasses, weeds, and shrubs.

   The Enterprise Avenue Alternate Site Alternative assumes that the industrial building and associated surface parking lot would be approximately the same size and design as the proposed project, only located on the Enterprise Avenue property instead of the project site. However, because the Enterprise Avenue property is an upland area, this alternative would not include establishing a wetland preserve on-site or off-site. Likewise, this alternative assumes the existing structures and ponds associated with the former Oliver Brothers Salt Works operation on the project site would remain unchanged from current conditions, because this alternative would involve no activities or development at the project site. Finally, this alternative would not result in redevelopment of and reinvestment in a site that serves as a gateway to the City.

   The San Francisco Bay Trail is not adjacent the Enterprise Avenue property. Therefore, this alternative would not involve relocation of the trail or coordination with the East Bay Regional Parks District. However, this alternative would include relocating the existing radio communication towers and associated building that currently exist on the Enterprise Avenue property.

   a) **Findings.** The Enterprise Avenue Alternate Site Alternative is rejected as a feasible alternative because it would not achieve most of the project objectives, as listed on page 6-1 of the Final EIR. Additionally, the project applicant does not own the Enterprise Avenue site and has no control over development decisions or investments on the Enterprise Avenue property.
   b) **Explanation.** The Enterprise Avenue Alternate Site Alternative would avoid the significant and unavoidable impacts of the project because no construction would occur on the project site and demolition of the Oliver Brothers Salt Company plant would not be required. However, the Enterprise Avenue Alternate Site Alternative would not avoid some of the potentially significant but mitigable impacts of the proposed project. For example, the Enterprise Avenue Site contains open grassland and communication towers which could be used by migratory nesting birds, which would be impact by construction on the site. Similarly, construction on the Enterprise Avenue Site would require

excavation and there would be potential to impact buried but previously unknown cultural resources. Additionally, the Enterprise Avenue Alternate Site Alternative would result in increased VMT impacts compared to the proposed project.

While the Enterprise Avenue Alternate Site Alternative would avoid the potentially significant and unavoidable impacts of the proposed project, it would fail to meet most of the project objectives, such as establishing a wetland preserve or removing a dilapidated structure from the gateway to the City. Additionally, the project applicant does not own the Enterprise Avenue site and has no control over development decisions or investments on the Enterprise Avenue property.

3) **Reduced Project Alternative.** The Reduced Project Alternative assumes that, like the proposed project, the industrial building, surface parking, driveway, landscaping, and other project components associated with the proposed industrial building would be constructed on the eastern component of the project site. Additionally, the San Francisco Bay Trail would be realigned to encompass the eastern component of the site, like the proposed project. Likewise, a wetland preserve would be established on the western component of the project site, consistent with the proposed project. However, the industrial building and surface parking lot would be reduced in size by approximately 50 percent and shifted south within the eastern component of the project site in order to avoid demolition of the former Oliver Brothers Salt Company plant in the northeast part of the site. The existing building would be left in place.
   a) **Findings.** The Reduced Project Alternative is rejected as a feasible alternative because it would not achieve some of the project objectives, as listed on page 6-1 of the Final EIR. The Reduced Project Alternative would also result in more wetland impacts compared to the proposed project, including wetlands that are contributing elements to the historic landscape in the form of salt evaporation ponds. The Reduced Project Alternative would also be economically infeasible because the warehouse size would be reduced making its construction and operation less functional.
   b) **Explanation.** The Reduced Project Alternative would avoid the significant and unavoidable impacts of the project because no construction would occur on the project site and demolition of the Oliver Brothers Salt Company plant would not be required. However, the Reduced Project Alternative would not avoid some of the potentially significant but mitigable impacts of the proposed project. For example, the Reduced Project Alternative would require vegetation removal, which could impact special-status species migratory nesting birds. Because the Reduced Project Alternative would shift the building further south on the eastern component of the project site, more disturbance to wetlands would be required compared with the

proposed project. Finally, the dilapidated structures would remain in place at the gateway entrance to the City.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The environmentally superior alternative is discussed on pages 6-11 and 6-12 of the Final EIR. Under CEQA Guidelines Section 15126.6(e)(2), if the environmentally superior alternative is the No Project Alternative, another environmentally superior alternative must be identified. For the EIR analysis, the Enterprise Avenue Alternate Site Alternative is the environmentally superior alternative.

However, while the Enterprise Avenue Alternate Site Alternative would reduce impacts in the categories of biological resources, cultural resources, and hazards and hazardous materials, it would result in greater impacts regarding transportation. The Enterprise Avenue Alternate Site Alternative, however, would not meet all the objectives of the proposed project, such as establishing a wetland preserve or removing a dilapidated structure from the gateway to the City.

VIII. Statement of Overriding Considerations Related to the 4150 Point Eden Way Industrial Development Project Findings

The City is the lead agency under CEQA, responsible for the preparation, review and certification of the Final EIR for the 4150 Point Eden Way Industrial Development Project. As the lead agency, the City is also responsible for determining the potential environmental impacts of the proposed action and which of those impacts are significant. CEQA also requires the lead agency to balance the benefits of a proposed action against its significant unavoidable adverse environmental impacts in determining whether or not to approve the proposed action. In making this determination the lead agency is guided by the CEQA Guidelines Section 15093, which provides as follows:

a) "CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits, including region -wide or statewide environmental benefits, of a proposed project against its unavoidable environmental risks when determining whether to approve the project. If the specific economic, legal, social, technological, or other benefits, including region -wide or statewide environmental benefits, of a proposal project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable,"
b) "When the lead agency approves a project which will result in the occurrence of significant effects which are identified in the final EIR but are not avoided or substantially lessened, the agency shall state in writing the specific reasons to support its action based on the final EIR and/or other information in the record. The statement of overriding considerations shall be supported by substantial evidence in the record."
c) "If an agency makes a statement of overriding considerations, the statement should be included in the record of the project approval and should be mentioned in the notice of determination ...."

In addition, Public Resources Code Section 21081(b) requires that where a public agency finds that economic, legal, social, technical, or other reasons make the mitigation measures or alternatives identified in the EIR infeasible and thereby leave significant unavoidable adverse project effects, the public agency must also find that overriding economic, legal, social, technical or other benefits of the project outweigh the significant unavoidable adverse effects of the project.

The Final EIR identified a number of alternatives to the proposed development, and the administrative record of proceedings, including without limitation the Final EIR and these findings, determined the extent to which these alternatives meet the basic project objectives, while avoiding or substantially lessening any significant adverse impacts of the proposed project.

Analysis in the Final EIR for the 4150 Point Eden Way Industrial Development Project has concluded that the proposed development will result in historic resource impacts that cannot be mitigated to a less than significant level. These impacts are set forth in Findings IIIA, above, which is incorporated herein by this reference. All other potential significant adverse project impacts have been mitigated to a level less than significant based on mitigation measures identified in the Final EIR.

In accordance with CEQA Guidelines Section 15093 and other applicable law, the City has, in determining whether or not to approve the project, balanced the economic, social, technological, and other project benefits against its unavoidable environmental risks, and finds that each of the benefits of the project set forth below outweigh the significant adverse environmental effects that are not mitigated to less-than-significant levels. This statement of overriding considerations is based on the City's review of the Final EIR and other information in the administrative record.

Each of the benefits identified below provides a separate and independent basis for overriding the significant environmental effects of the project. The benefits of the project are as follows:

A. Implementation of Goals and Policies Set Forth in the City' s General Plan and Economic Development Strategic Plan

The project implements the construction and development of 4150 Point Eden Way, which will allow for new industrial warehouse and office activities, consistent with General Plan Goals and Policies as detailed in the staff report prepared for the project, as well as and the requirements of CEQA Guidelines Section 15126.6(e)(3)(A). Of particular relevance is that the proposed development would build out gateway and opportunity development sites in the Industrial area. The project site has been underutilized since the Oliver Brothers Salt Company vacated the site decades ago, and is a source of blight, trespassing and safety issues. It has been challenging to develop the site with the industrial uses envisioned in the General Plan and the Economic Development Strategic Plan (EDSP) due to economic downturn around 2008 and the fact that a

developer must work through sensitive biological issues and hazardous contamination from prior uses on-site. The proposed development would involve construction of a new, modern, and aesthetically pleasing warehouse with office space, consistent with the General Plan and EDSP.

B. Employment Opportunities and Economic Development

The proposed project would directly provide temporary construction jobs and approximately 35-75 permanent employment opportunities, according to the project applicant. Further, the proposed project would be consistent with the General Plan and would be within the employment and population projections in the 2040 General Plan EIR. The project would provide the regional headquarters office for a national company, furthering the economic development goals of the City. Finally, redevelopment of the site at a gateway entrance to the City would signal investment in the industrial sector and the City as a whole.

C. Preservation of Wetlands Adjacent to the San Francisco Bay

The proposed project would establish an approximately 32-acre preserve on the western component of the project site. The preserve would be preserved in perpetuity via recordation of a deed restriction or other appropriate legal mechanism, ensuring that the salt ponds are permanently preserved as open space in perpetuity. Because the area would be preserved in perpetuity, habitat for special-status species that occur within the preserve area, such salt harvest mouse and salt marsh wandering shrew, would also be preserved.

D. Conclusion

Based on the objectives identified for the project, review of the project, review of the EIR, and consideration of public and agency comments, the City Council has determined that the project should be approved and that any remaining unmitigated environmental impacts attributable to the project are outweighed by the specific social, environmental, land use, and other overriding considerations.

The City Council has determined that any environmental detriment caused by the proposed 4150 Point Eden Way Industrial Development Project has been minimized to the extent feasible through the mitigation measures identified herein and, where mitigation is not feasible, has been outweighed and counterbalanced by the significant social, environmental, and land use benefits to be generated to the City. Accordingly, the City hereby adopts this Statement of Overriding Considerations.

BE IT FURTHER RESOLVED that the City Council of the City of Hayward, based on the foregoing findings, hereby reverses the denial of the project, certifies the Environmental Impact Report, adopts a Statement of Overriding Consideration, approves a mitigation monitoring and reporting program, and approves the Site Plan Review and Historic

Resources Demolition Permit Application No. 201901039, subject to the attached conditions of approval (Exhibit I.a).

IN COUNCIL, HAYWARD, CALIFORNIA _____, 2022

ADOPTED BY THE FOLLOWING VOTE:

AYES: COUNCIL MEMBERS:
MAYOR:

NOES: COUNCIL MEMBERS:

ABSTAIN: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

ATTEST: _____
City Clerk of the City of Hayward

APPROVED AS TO FORM:

_____
City Attorney of the City of Hayward

SITE PLAN REVIEW AND HISTORIC DEMOLITION PERMIT APPLICATION NO. 201901039 – Site Plan Review and Historic Resources Permit to Allow Development of a New 116,844 Square Foot Industrial Building and Site Improvements for U-Haul at 4150 Point Eden Way (Assessor Parcel Number 461-0085-020-02). Jerry Owen on Behalf of U-Haul; Amerco Real Estate Co. (Applicant/Property Owner).

GENERAL

PLANNING

1. The developer shall assume the defense of and shall pay on behalf of and hold harmless the City, its officers, employees, volunteers and agents from and against any or all loss, liability, expense, claim costs, suits and damages of every kind, nature and description directly or indirectly arising from the performance and action of this permit.

2. Site Plan Review Application No. 201901039 is approved subject to the Architectural, Civil and Landscape plans received by the City on May 4, 2021 (plans dated April 24, 2020), and the revised Site Plan received by the City on May 12, 2021 (plans dated January 18, 2021), respectively, except as modified by the conditions listed below. Any proposal for alterations to the conditionally approved site plan or building design that does not require a variance to any zoning ordinance standard shall be subject to review and approval by the Development Services Director or her designee prior to implementation. Alterations requiring a variance shall be subject to review and approval by the Planning Commission, if applicable.

3. The proposed site plan and development is subject to a land swap and relocation of the Bay Trail requiring approval of the East Bay Regional Park District (EBRPD). The applicant shall provide evidence of the land swap approval prior to the issuance of grading permits for the proposed project. If the EBRPD does not approval the land swap and relocation of the Bay Trail, the applicant shall submit a revised Development Permit Application to the Planning Division for consistency review with applicable zoning regulations and the environmental analysis prepared for the project. The Planning Director may review and approve the alteration upon determination that the site plan and development is substantially the same. Alternatively, the Planning Director may refer the revised site plan to the Planning Commission for determination.

4. The Bay Trail shall be designed in accordance with EBRPD trail standards. The Bay Trail design shall be included on improvement and landscape plans and shall be reviewed and approved by the City of Hayward and the EBRPD prior to issuance of grading permits.

5. The realigned Bay Trail shall be constructed and operable prior to the issuance of a Certificate of Occupancy for the development project.

6. The applicant shall set aside area on the site to allow for construction of future gateway signage in accordance with the plans submitted to the City and included as an attachment to the staff report dated February 15, 2022.

7. The applicant shall provide one third of one percent (0.33%) of the construction costs of the relevant building permit construction cost to fund design, fabrication and/or installation of future gateway signage on the project site. The funds shall be provided to the City and held in an account for gateway signage prior to issuance of relevant building permits and/or certificates of occupancy.

8. The building colors and materials shown on the building permit plans shall match those shown on the architectural plans, color/material exhibit and renderings received by the City on May 4, 2021 (dated April 24, 2020), including sculptural pieces and art. Any revision to the approved colors and materials shall be reviewed and approved by the Planning Division prior to the issuance of a building permit.

9. The permittee, property owner or designated representative shall allow the City's staff to access the property for site inspection(s) to confirm all approved conditions have been completed and are being maintained in compliance with all adopted city, state and federal laws.

10. Lights inside and affixed to the building shall be turned off at night to eliminate light pollution impacts to the adjacent baylands. All lighting fixtures on the site and in the parking lot shall incorporate a shield to allow for downward illumination. No spillover lighting to adjacent properties is permitted and all exterior lighting on walls, patios or balconies shall be recessed/shielded to minimize visual impacts.

11. The proposed 32-acre preserve (western component) shall be preserved and maintained in perpetuity with a deed restriction or other appropriate legal mechanism. The mechanism for preservation and maintenance shall be recorded and provided to the Planning Division prior to the issuance of a Certificate of Occupancy for the development project.

12. All vents, gutters, downspouts, flashings, electrical conduits, etc. shall be painted to match the color of the adjacent material unless specifically designed as an architectural element.

13. All exterior and rooftop mechanical equipment shall be screened or located away from public view. Mechanical and rooftop equipment shall include, but is not limited to, electrical panels, pull boxes, air conditioning units, gas meters, and swimming pool equipment. All rooftop screening and mechanical equipment shall be shown on the project plans and be subject to final review and approval by City

staff prior to the issuance of an occupancy permit. All screening shall be compatible with respect to forms and materials used on the building.

14. All above-ground utility meters, mechanical equipment and water meters shall be enclosed within the buildings or shall be screened with shrubs or an architectural screen from all perspectives. All equipment shall be designed to be compatible with respect to location, form, design, exterior materials, and noise generation. The applicant shall identify all screens on the building permit and landscape plans prior to the issuance of improvement plans and building permits.

15. No signs are approved with this project. All signage, including the signage required in Condition No. 22 below and placed on-site or off-site shall be reviewed and approved by the Planning Division and a Sign Permit application shall be required, consistent with Hayward Municipal Code Sign Ordinance requirements.

16. Failure to comply with any of the conditions set forth in this approval, or as subsequently amended in writing by the City, may result in failure to obtain a building final and/or a Certificate of Occupancy until full compliance is reached. The City' s requirement for full compliance may require minor corrections and/or complete demolition of a non-compliant improvement regardless of costs incurred where the project does not comply with design requirements and approvals that the applicant agreed to when permits were filed to construct the project.

17. All outstanding fees owed to the City, including permit charges and staff time spent processing or associated with the development review of this application shall be paid in full prior to any consideration of a request for approval extensions or issuance of a building permit.

18. If determined to be necessary for the protection of the public peace, safety and general welfare, the City of Hayward may impose additional conditions or restrictions on this permit. Violations of any approved land use conditions or requirements will result in further enforcement action by the Code Enforcement Division. Enforcement includes, but is not limited to, fines, fees/penalties, special assessment, liens, or any other legal remedy required to achieve compliance including the City of Hayward instituting a revocation hearing before the Planning Commission.

19. A copy of these conditions of approval shall be scanned and included on a separate, full-sized sheet(s) in the building permit plan check set.

20. The Planning Director or designee may revoke this permit for failure to comply with, or complete all, conditions of approval or improvements indicated on the approved plans.

21. The owner shall maintain in good repair all building exteriors, walls, lighting, drainage facilities, landscaping, driveways, and parking areas. The premises shall be kept clean and weed-free.

22. The applicant shall be responsible for graffiti-free maintenance of the property and shall remove any graffiti within 48 hours of occurrence or City notification.

23. The applicant shall apply for and obtain all necessary permits from the City and/or outside agencies prior to any site work.

24. Within 60 days of following the issuance of a building permit and prior to construction, the applicant shall install one non-illuminated "Coming Soon" sign on the project site that includes a project rendering, a project summary, and developer contact information. The sign shall be constructed of wood or recyclable composite material, be placed in a location at least ten (10) feet back from the property line, and shall not impede pedestrian, bicycle, and vehicular visibility or circulation. The sign shall be maintained in accordance with Section 10-7-709 of the Hayward Municipal Code and may be up to thirty-two (32) square feet of sign area and shall not exceed ten (10) feet in height. Sign design, size and location shall be reviewed and approved by the Planning Division prior to placement.

25. Impact Fees. This development is subject to the requirements of the Property Developers – Obligations for Parks and Recreation set forth in HMC Chapter 10, Article 16. Per HMC Section 10-16.10, the applicant shall pay the impact fee rate that is in effect at the time of building permit issuance.

26. In accordance with Hayward Municipal Code (HMC) Section 10- 1. 3055, approval of this Site Plan Review is void 36 months after the effective date of approval unless:
    a. Prior to the expiration of the 36-month period, a building permit application has been submitted and accepted for processing by the Building Official or his/ her designee. If a building permit is issued for construction of improvements authorized by this approval, said approval shall be void two years after issuance of the building permit, or three years after approval of the application, whichever is later, unless the construction authorized by the building permit has been substantially completed or substantial sums have been expended in reliance on this approval; or
    b. A time extension of the approval has been granted by the Development Services Director or his/her designee, which requires that a request for an extension of this approval must be submitted in writing to the Planning Division at least 15 days prior to the expiration date of this approval.

MITIGATION MEASURES

27. **BIO-1a: SWHM and SMWS Habitat Fencing**. Prior to ground disturbing activities adjacent to potential SMHM and SMWS habitat, temporary exclusion barriers and/or fencing shall be installed to exclude individuals of these species from areas of active construction. The design of the exclusion barriers and fencing shall be approved by a qualified biologist and shall be installed in the presence of a qualified biological monitor. The fence will be made of a material that does not allow SMHM or SMWS to pass through, and the bottom shall be buried to a depth of a minimum of four inches so that these species cannot crawl under the fence. All support for the exclusion fencing shall be placed on the inside of the project footprint. Additionally, removal of marsh or associated ruderal vegetation shall be completed using only hand tools and in the presence of a biological monitor. The barriers and/or fencing shall remain in place for the duration of construction of the project.

28. **BIO-1b: Qualified Biological Monitor**. A qualified biological monitor shall be present during wildlife exclusion fence installation and removal, and during all vegetation clearing and initial ground disturbance which take place in marsh habitats of the former salt ponds and the vegetation adjacent to marsh habitats. The monitor will have demonstrated experience in biological construction monitoring and knowledge of the biology of the special-status species that may be found in the project site, including SMHM and SMWS. The monitor(s) shall have the authority to halt construction, if necessary, if noncompliance actions occur. If a federal or State listed species is observed at any time during construction, work shall not be initiated or shall be stopped immediately until the animal leaves the vicinity of the work area of its own volition. If the animal in question does not leave the work area, work shall not be reinitiated until the qualified biological monitor has contacted the appropriate agency to discuss on how to proceed with work activities. The biological monitor shall direct the contractor on how to proceed accordingly.

    The biological monitor(s) shall be the contact person for any employee or contractor. who might inadvertently kill or injure a special-status species or anyone who finds dead, injured, or entrapped special-status species. Following fence installation, vegetation removal in potential habitat areas, and initial ground disturbance in potential habitat areas, the biologist shall train an onsite monitor to continue to document compliance. The biologist shall conduct weekly site checks to provide guidance for fence maintenance, provide environmental sensitivity training, and document compliance with permit conditions.

29. **BIO-1c: Worker Environmental Awareness Program Training**. The biological monitor shall provide an endangered species training program to all personnel involved in project construction. At a minimum, the employee education program shall consist of a brief presentation by persons knowledgeable about the biology of sensitive species with potential to occur in the project footprint, and about their

legislative protection to explain concerns to contractors and their employees involved with implementation of the project. The program shall include a description of the species and their habitat needs, any reports of occurrences in the area; an explanation of the status of these species and their protection under State and federal legislation; and a list of measures being taken to reduce impacts to these species during construction.

30. **BIO-1d: Burrowing Owl Pre-Construction Surveys and Avoidance**. A qualified biologist shall conduct pre-construction clearance surveys prior to ground disturbance activities within suitable natural habitats and ruderal areas throughout the eastern component of the project site to confirm the presence/absence of active burrowing owl burrows. The surveys shall be consistent with the recommended survey methodology provided by CDFW (2012). Clearance surveys shall be conducted within 30 days prior to construction and ground disturbance activities. If no burrowing owls are observed, no further actions are required. If burrowing owls are detected during the pre-construction clearance surveys, the following measures shall apply:
    a. Avoidance buffers during the breeding and non-breeding season shall be implemented in accordance with the CDFW (2012) and Burrowing Owl Consortium (1993) minimization mitigation measures.
    b. If avoidance of burrowing owls is not feasible, then additional measures such a passive relocation during the nonbreeding season and construction buffers of 200 feet during the breeding season shall be implemented, in consultation with CDFW. In addition, a Burrowing Owl Exclusion Plan and Mitigation and Monitoring Plan shall be developed by a qualified biologist in accordance with the CDFW (2012) and Burrowing Owl Consortium (1993).

31. **BIO-1e: Nesting Bird Avoidance and Pre-Construction Surveys**. Project activities, such as vegetation removal, grading, or initial ground-disturbance, shall be conducted between September 1 and January 31 to the greatest extent feasible. If project activities must be conducted during the nesting season (February 1 to August 31), a pre-construction nesting bird survey shall be conducted by a qualified biologist no more than 14 days prior to vegetation removal or initial ground disturbance. Additional nesting surveys shall be conducted if project construction activities cease for more than 14 days during this period. The survey shall include the project site plus a 200-foot buffer around the eastern component of the project site if feasible, and a 500-foot buffer for California least tern, western snowy plover, and black skimmer, if feasible, to identify the location and status of any nests that could potentially be affected either directly or indirectly by project activities. A survey of the western component of the project site shall be optional and not required because no ground disturbance or construction activities are proposed in the western component of the project site. If active nests are identified during the nesting bird survey, an appropriate avoidance buffer shall be established within

which no work activity will be allowed which would impact these nests. The avoidance buffer would be established by the qualified biologist on a case-by-case basis based on the species and site conditions. In no cases shall the buffer be smaller than 50 feet for passerine bird species and 250 feet for raptor species. The buffer for California least tern, western snowy plover, and black skimmer shall be at least 600 feet or otherwise determined by CDFW and USFWS. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. Buffers shall be delineated by orange construction fencing that defines the buffer where it intersects the project site. If a California least tern, western snowy plover, or black skimmer nest is found within 500 feet of the project site, USFWS and CDFW will be immediately notified. USFWS and CDFW shall be consulted on appropriate avoidance and minimization methods, which would likely include work restrictions within 500 feet of the nest, biological monitoring for activity within the nest' line-of-sight, etc. The buffer area(s) shall be closed to all construction personnel and equipment until juveniles have fledged and the nest is inactive. The qualified biologist shall confirm that breeding/nesting is completed, and young have fledged the nest prior to removal of the buffer.

32. **BIO-1f: Special-Status Bat Avoidance and Pre-Construction Surveys**. To avoid impacts to roosting special-status bats, focused surveys to determine the presence/absence of roosting bats shall be conducted prior to the initiation of demolition of buildings and removal of mature trees large enough to contain crevices and hollows that could support bat roosting. If active maternity roosts are identified, a qualified biologist shall establish avoidance buffers applicable to the species, the roost location and exposure, and the proposed construction activity in the area. If active non-maternity day or night roosts are found on the project site, measures shall be implemented to passively relocate bats from the roosts prior to the onset of construction activities. Such measures may include removal of roosting site during the time of day the roost is unoccupied or the installation of one-way doors, allowing the bats to leave the roost but not to re-enter. These measures shall be presented in a Bat Passive Relocation Plan that shall be submitted to, and approved by, CDFW.

33. **BIO-1g: Trash Removal**. During construction of the project, all food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in solid, closed containers (trash cans) and removed at the end of each workday from the project site to eliminate an attraction to predators of special-status species.

34. **BIO-1h: Public Access Exclusion Fencing**. Access by all project construction personnel into the Eden Landing Ecological Reserve shall be prohibited. Upon completion of the development project a permanent fence shall be installed on the eastern component of the project site to prevent access from the San Francisco Bay

Trail relocated segment and the new industrial development into the adjacent salt ponds and associated marsh habitats to the west. In addition, signs shall be posted stating that public access into the salt ponds and associated marsh habitat is strictly prohibited owing to the sensitivity of the habitat and to ensure the continued use of this habitat by special-status species.

35. **BIO-3: Protected Wetlands Mitigation Credits**. To compensate for impacts to approximately 0.97 acre of waters of the U.S., the project applicant shall purchase wetland mitigation credits at a minimum of 1:1 mitigation ratio from an approved mitigation bank with a Service Area that covers the project site. The San Francisco Bay Wetland Mitigation Bank currently has "Tidal Wetland and Other Waters Creation" credits available for purchase. Either the U.S. Army Corps of Engineers or the CDFW may adjust the mitigation ratio and the applicant shall comply, but in no case shall the mitigation ratio be less than 1:1.

36. **CUL-1a: Building Recordation**. Archival documentation of as-built and as-found condition shall be prepared for the Oliver Brothers Salt Company prior to demolition. Prior to issuance of demolition permits, the City of Hayward shall ensure that documentation of the buildings and structures proposed for demolition is completed that follows the general guidelines of Historic American Building Survey (HABS)-level III documentation. The documentation shall include high resolution digital photographic recordation, a historic narrative report, and compilation of historic research. The documentation shall be completed by a qualified professional who meets the standards for history, architectural history, or architecture as set forth by the Secretary of the Interior's Professional Qualification Standards (36 CFR, Part 61). The original archival-quality documentation shall be offered as donated material to the Hayward Library and/or Hayward Area Historical Society to make it available for current and future generations. Archival copies of the documentation shall be submitted to the City of Hayward where it shall be available to local researchers.

37. **CUL-1b: Interpretive Display**. An interpretive display shall be developed and installed on site to commemorate the history of the Oliver Brothers Salt Company. The display may include historic photographs, drawings, and text to convey the history of the site and the significance of salt processing in Alameda County. The display shall be reviewed and approved by the City prior to installation at a site to be chosen by the City. The installation shall occur prior to issuance of a Certificate of Occupancy.

38. **CUL-2: Unanticipated Discovery of Archeological Resources**. In the event that archaeological resources are unexpectedly encountered during ground-disturbing activities, work in the immediate area shall be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archeology

(National Park Service 1983) shall be contacted immediately to evaluate the find. If the find is prehistoric, then a Native American representative should also be contacted to participate in the evaluation of the find. If necessary, as determined by the archaeologist in consultation with the City, the evaluation may require preparation of a treatment plan and archaeological testing for California Register of Historical Resources (CRHR) eligibility. If the discovery proves to be eligible for the CRHR and cannot be avoided by the modified project, additional work, such as data recovery excavation, may be warranted to mitigate impacts to archaeological resources.

39. **GEO-1: Geotechnical Considerations**. The project applicant shall implement all measures and recommendations set forth in the Geotechnical Engineering Services Report prepared by Professional Services Industries, Inc., an Intertek company, in January 2018 (included as Appendix D and on file with the City of Hayward) or other updated study reviewed and approved by the Hayward Public Works - Engineering Division. This measure shall be implemented for development on the eastern component of the project site. Recommendations include but are not limited to the following topic areas, or others as determined by an updated study:
    a. Engineered fill material required at this site shall not contain rocks greater than 3-inches in diameter or greater than 30 percent retained on the ¾-inch sieve and shall not contain more than 3 percent (by weight) of organic matter or other unsuitable material. The expansion index for the material shall not exceed 50.
    b. Engineered fill shall be compacted to at least 90 percent of the maximum dry density as determined by the modified Proctor (ASTM D1557). The moisture content of engineered fill shall be maintained at approximately 2 percent above or below the material's optimum moisture content as determined by the same index during compaction.
    c. Engineered fill shall be placed in maximum lifts of 8-inches of loose material. Each lift of engineered fill shall be tested by a PSI soils technician, working under the direction of a licensed geotechnical engineer, prior to placement of subsequent lifts.
    d. Properly compacted engineered fill shall extend horizontally outward beyond the exterior perimeter of the foundations a distance equal to the height of fill or 5 feet, whichever is greater, prior to substantial sloping.
    e. Permanent cut or fill slopes shall not exceed 2 Horizontal to 1 Vertical (2H:1V). Excavations extending below a 1H:1V plane extending down from any adjacent footings shall be shored for safety.
    f. Utilities trenches within the building, pavement, and sidewalk areas shall be backfilled with granular engineered fill such as sand, sand and gravel, fragmental rock, or recycled concrete of up to 2 inches maximum size with less than 5 percent passing the No. 200 sieve (washed analysis). Granular

backfill shall be placed in lifts and compacted to 95 percent of the maximum dry density as determined by ASTM D 1557. Compaction by jetting or flooding shall not be permitted.

g. To ensure precipitation is conveyed away from structural foundation, continuous roof gutters shall be installed on the proposed industrial building. The roof drains shall be connected to a tight-line pipe leading to storm drain facilities. Pavement surfaces and open space areas shall be sloped such that surface water runoff is collected and routed to suitable discharge points. Ground surfaces adjacent the building shall be sloped to facilitate positive drainage away from the building. Landscaped or planted areas shall not be placed within 10 feet of the footings of the proposed building.

40. **HAZ-1: Project Demolition Activities**. In conformance with State and local laws, a visual inspection/pre-demolition survey, and possible sampling, shall be conducted prior to the demolition of on-site building(s) to determine the presence of asbestos-containing materials (ACMs) and/or lead-based paint (LBP). Documentation of the survey shall be provided to the City prior to commencement of demolition activities. During demolition activities, all building materials containing lead-based paint shall be removed in accordance with Cal/OSHA Lead in Title 8, California Code of Regulations (CCR), Section 1532.1, including employee training, employee air monitoring, and dust control. Any debris or soil containing lead-based paint or coatings shall be disposed of at landfills that meet acceptance criteria for the type of lead being disposed. All potentially friable asbestos containing materials (ACMs) shall be removed in accordance with National Emission Standards for Air Pollution (NESHAP) guidelines prior to demolition or renovation activities that may disturb ACMs. All demolition activities shall be undertaken in accordance with Cal/OSHA standards contained in Title 8, CCR, Section 1529, to protect workers from asbestos exposure. A registered asbestos abatement contractor shall be retained to remove and dispose of ACMs identified in the asbestos survey performed for the site in accordance with the standards stated above in this mitigation measure. Materials containing more than one-percent asbestos are also subject to Bay Area Air Quality Management District (BAAQMD) regulations. Removal of materials containing more than one percent asbestos shall be completed in accordance with BAAQMD requirements and notifications. Based on Cal/OSHA rules and regulations, the following conditions shall be implemented to limit impacts to construction workers:

a. Prior to commencement of demolition activities, a building survey, including sampling and testing, shall be completed to identify and quantify building materials containing lead-based paint.

b. During demolition activities, all building materials containing lead-based paint shall be removed in accordance with Cal/OSHA Lead in Construction Standard, Title 8, CCR, Section 1532.1, including employee training, employee air monitoring and dust control.

c. Any debris or soil containing lead-based paint or coatings shall be disposed of at landfills that meet acceptance criteria for the type of waste being disposed.

41. **HAZ-2a: Implementation of the RMP**. The project shall implement the appropriate handling procedures and worker health and safety measures during excavating or dewatering activities, as well as the use of an engineered vapor barrier as described in the site-specific RMP developed for the project in 2014. The RMP is an appendix to the Phase I ESA. The Phase I ESA is included as Appendix D to this EIR. Measures included in the RMP to control potential hazardous contamination and exposure include, but are not limited to the following:

a. Construction contractors shall implement dust control mitigation measures during construction activities at the project site to minimize the generation of dust. Examples of dust control measures that shall be implemented include limiting construction vehicles speeds to 5 miles per hour when on-site; routinelyapplying water to exposed soils while performing excavation activities; and, covering soil stockpiles with plastic sheets at the end of each workday. Additional dust control measures shall be implemented by the selected contractor, as necessary, especially if windy conditions persist during site grading and excavation. These measures may include moisture, conditioning the soil, using dust suppressants, or covering the exposed soil and stockpiles with weighted plastic sheeting to prevent exposure of the soil.

b. To prevent or minimize construction equipment from tracking polluted spoils off the site onto roadways, construction equipment that contacts soils deeper than 5-feet below ground surface shall be decontaminated prior to leaving the site. Decontamination methods shall include brushing and/or vacuuming to remove loose dirt on vehicle exteriors and wheels. In the event that these dry decontamination methods are inadequate, methods such as steam cleaning, high pressure washing, and cleaning solutions shall be used, as necessary, to thoroughly remove accumulated dirt and other materials. Decontamination activities shall be performed in an on-site decontamination facility established by the contractor.

c. All project construction workers performing construction activities at depths below 5-feet below ground surface in the restricted areas shall adhere to decontamination procedures when exiting the area. Decontamination measures shall include: (a) vacuuming the surface of coveralls, head covers, and footwear to remove accumulated soil particles and changing into other clean clothes if practical; (b) vacuuming or washing small tools, hand tools, or personal equipment to remove accumulated soil particles; and, (c) placing work clothes and personal equipment in sealed plastic bags or other suitable containers for transportation or on-site storage.

d. In the event that disturbed soil appears to contain contaminants of potential concern (COPCs), such as odors, staining, and/or discoloration, work should halt in that area and an environmental professional (EP), such as a geologist, engineer, industrial hygienist, or environmental health specialist with expertise in these matters, shall be called to the site to oversee the work and determine safe construction and soil handling procedures. Additionally, if contaminated soil is encountered, the project applicant shall coordinate with the San Francisco Bay Regional Water Quality Control Board and the Alameda County Water District to determine adequate and proper remediation and handling actions.
e. The EP shall be present on-site during excavations greater than 5-feet below ground surface in the restricted areas to observe field conditions and measure hydrocarbon vapors using a hand held photoionization detector (PID). If PID readings are measured in a specific area showing concentrations in excess of construction worker screening levels published by the Regional Water Quality Control Board (RWQCB), construction activities in that area shall halt until appropriate risk mitigation measures are implemented. If necessary, HAZWOPER trained personnel shall be called to the site to complete the construction activities in that area.
f. Soil excavated from deeper than 5-feet below ground surface in the restricted area shall only be reused on-site as backfill after sampling and analysis soil proves the soil is acceptable to remain on site. Commercial ESLs or concentration limits established in the San Francisco Bay Regional Water Quality Control Board document titled *Characterization and Reuse of Petroleum Hydrocarbon Impacted Soil and Inert Waste* (2006), whichever is lowest shall be used as the threshold to determine if soils may remain on site or require off-site disposal. All appropriate regulatory sampling methods, holding times, and detection limits shall be followed.
g. A health and safety plan shall be developed and implemented for project construction that incorporates measures and procedures to minimize direct contact by construction workers with site groundwater, particularly in the restricted areas. The health and safety plan shall be approved by either the City or the RWQCB, or both as applicable, prior to excavation activities.
h. If groundwater is encountered within the former remediation area during construction of the project, as shown on Figure 4 of the RMP, an EP shall be called to the site to determine safe handling procedures. The groundwater shall be pumped into appropriate containers and samples shall be obtained for chemical analysis of the COPCs in accordance with a site sampling plan and the requirements of the waste disposal facility to which the material is sent. The project applicant shall coordinate with the Regional Water Quality Control Board and the Alameda County Water District if possible contaminated groundwater is encountered. If water sample analytical results

indicate the water is free of all detectable concentrations of COPCs, such water can be re-used at the site if deemed appropriate by Alameda County and the RWQCB. If water sample analytical results indicate the water contains concentrations of COPCs above appropriate RWQCB screening levels, such water shall not be re-used at the site. The contractor and the EP shall elect to: (a) treat the groundwater on-site to render it free of detectable concentrations of COPCs (e.g. by activated carbon filtration); or, (b) transport the groundwater to a local treatment or disposal facility for appropriate handling.

i. The proposed industrial building shall be constructed on top of a minimum of a 5-foot bioattenuation zone within the restricted areas. This bioattenuation zone shall consist of a minimum of 5-feet of soil above the anticipated shallowest groundwater elevation, and the soil shall not contain total petroleum hydrocarbons greater than 100 parts per million.

j. An engineered vapor barrier shall be employed to further protect against possible vapor intrusion of COPCs into the proposed industrial building. The vapor barrier shall be designed to meet the needs of building. Vapor barriers are generally constructed using membranes constructed with high-density polyethylene (HDPE) or other polyolefin-based resins. The vapor barrier shall be resistant to VOCs. The vapor barrier shall meet the American Society for Testing and Materials (ASTM) guideline for a vapor barrier and have a permeance rating of 0.1 perms or less. The thickness and strength of the vapor barrier shall be based on the needs for the building, but the architect and contractor shall use a material strong enough to easily withstand the building construction and other building considerations. The selected vapor barrier shall be approved by the RWQCB prior to installation.

42. **HAZ-2b: Bioretention Design Coordination**. The project applicant shall consult with the City on location and/or design of the onsite bioretention basins to ensure protection of the groundwater basin, which may include, but is not limited to, locating the basins outside of the restricted areas or use of a liner in the detention basin. The final design and location of the on-site bioretention basins shall demonstrate that groundwater would be protected from contamination.

43. **HAZ-2c: Displacement Pier Design and Construction**. The project applicant shall retain a geotechnical engineer to design the displacement piers for support of the building foundation. The displacement piers shall be designed in a way to prevent creating a preferential pathway between shallow groundwater at approximately 5 feet below ground surface and deeper groundwater. The displace pier design developed by the geotechnical engineer shall be incorporated into project plans prior to commencement of construction. This mitigation measure shall apply to all displacement piers within the restricted areas or the larger area where benzene

concentrations exceed ESLs, as shown in Figure 4.3-2 of the EIR. Additionally, airjetting shall not be used to create the holes for the displacement piers within the restricted areas to avoid bringing subsurface soils to the ground surface.

44. **TR-1: Travel Demand Management**. The project applicant shall implement at least one of the measures described below:
    a. Voluntary Employer Commute Program: The project applicant shall encourage alternative modes of transportation through a program that may include elements such as: a carpool or vanpool program, subsidized or discounted transit passes, bike amenities, commute trip-reduction marketing, and preferential parking permit program.
    b. Employer Carpool Program: The project applicant shall encourage carpooling by providing ride matching assistance to employees, providing priority parking for carshare vehicles, and providing incentives for carpooling. The applicant shall provide to the City documentation that at least one of the above measures is implemented. Documentation shall be provided annually.

45. **TCR-1: Unanticipated Discovery of Tribal Cultural Resources**. In the event that cultural resources of Native American origin are identified during construction, all earth disturbing work within the vicinity of the find must be temporarily suspended or redirected until an archaeologist has evaluated the nature and significance of the find and an appropriate Native American representative, based on the nature of the find, is consulted. If the City determines that the resource is a tribal cultural resource and thus significant under CEQA, a mitigation plan shall be prepared and implemented in accordance with state guidelines and in consultation with Native American groups. The plan shall include avoidance of the resource or, if avoidance of the resource is infeasible, the plan shall outline the appropriate treatment of the resource in coordination with the archeologist and the appropriate Native American tribal representative.

ENGINEERING

46. San Francisco Bay Trail: Applicant shall submit written documents confirming East Bay Regional Park District consent for relocation of the San Francisco Bay Trail to the west of the proposed development and the required property exchange. The written documents shall include the proposed trail improvement details.

47. Site Grading and Improvement Plans: Permits for the site grading and improvements and the trail improvements shall be secured before issuance of a building permit. Such permits will require plans and design documents prepared by the state licensed and qualified professions and approved by the City Engineer. Portions of the project site is within the Federal Emergency Management Agency (FEMA) designated Flood Zone AE and hence subject to the following conditions:

a. The lowest floor elevation of the proposed buildings shall be elevated to at least one foot above the base flood elevation (BFE).
b. Building support utility systems within the flood zone such as 1-IVAC, electrical, plumbing, air conditioning equipment, including ductwork, and other service facilities must be elevated above the BFE or protected from flood damage.
c. An Elevation Certificate (FEMA Form 086-0-33) for the proposed structures within the flood zone, based on construction drawings, is required prior to issuance of a building permit. Consequently, an Elevation Certificate based on finished construction is required for the built structure prior to issuance of any certificates of occupancy.

48. Stormwater Pollution Prevention: Stormwater Treatment Basins shall be located on property owned by the Applicant. The applicant must acquire the Bay Trail property if a stormwater treatment basin is located thereon. Stormwater pollution prevention measures shall comply with the Alameda County Clean Water Program (ACCWP) C.3 Technical Guidance Manual.

49. Drainage plans should include all proposed underground pipes, building drains, area drains and inlets. All building sites shall be graded to slope away from the building foundations per California Building Code, Chapter 18, Section 1804.3 Site Grading or as required by the Soils Engineer. On-site collector storm drains shall be sized to minimize potential for blockages. Storm drains shall be designed to prevent standing water.

50. The on-site storm conveyance and treatment systems shall be owned and maintained by the property owner.

51. The project's Stormwater Control Plan and updated Stormwater Requirements Checklist shall be submitted and shall show, at a minimum, drainage management areas, location and details of all treatment control measures and site design measures, and numeric sizing calculations in conformance with Alameda County Clean Water Program C3 design guidelines.

52. This project involves a land disturbance of one or more acres, the developer is required to submit a Notice of Intent to the State Water Resources Control Board and to prepare a Storm Water Pollution Prevention Plan (SWPPP) for controlling storm water discharges associated with construction activity. Copies of these documents must be submitted to the City Engineer prior to issuance of a grading permit. The SWPPP shall utilize the California Storm Water Best Management Practices Handbook for Construction Activities, the ABAG Manual of Standards for Erosion & Sediment Control Measures, the City's Grading and Erosion Control ordinances and other generally accepted engineering practices for erosion control.

53. Construction Stormwater Management: Developer shall be responsible for the preventing the discharge of pollutants and sediments into the street and/or the public storm drain system from the project site during construction in accordance with the Hayward Municipal Code. Projects proposed for construction between October 1st and April 30th, must have an erosion and sedimentation control program approved, and implemented to the maximum extent possible, prior to the start of any land disturbing activity. Trash and debris must be adequately contained at all times. Such measures shall be maintained during the project's construction period. Violations or other noncompliance with stormwater management measures may result in the project being shut down, including any building permit activity, until full compliance with stormwater management requirements is achieved.

54. Construction Damage: The Developer shall remove and replace curb, gutter, sidewalks, driveways, signs, pavement, pavement markings, etc. damaged during construction of the proposed project prior to issuance of the Final Construction Report by the City Engineer. Damaged pavement surfaces shall be repaired or resurfaced as required by the City Engineer. Unused driveways or unused portions thereof shall be removed and replaced with curb, gutter and sidewalk per City standards.

55. Effective measures for adjacent property protection, storm water pollution prevention, noise and dust control must be in-place before starting any construction activity.

56. Stormwater pollution prevention measures shall be maintained and kept effective until disturbed ground is protected with ground cover.

57. Damaged street curb, gutter, sidewalk and driveway fronting the property shall be replaced with the City standard improvements. Driveway shall comply with ADA standards.

58. All utility services to the property shall be installed underground.

59. Multiple trenches less than 20-feet apart in a street pavement shall be repaired with a single patch.

TRANSPORTATION

60. Applicant shall implement a Transportation Demand Management (TDM) Program as a mitigation measure for Transportation-related significant impacts as identified in the Project's Traffic Impact Analysis (Kittelson, Feb 2021). Applicant shall select

and implement one of the following programs to satisfy the mitigation requirement:

a. 1A, Voluntary Employer Commuter Program
b. 1B, Mandatory Employer Commute Program
c. 1C, Employer Carpool Program
d. 1D, Employer Transit Pass Subsidy
e. 1E, Employer Vanpool Program
f. 1F, Employer Telework Program

61. Applicant shall submit to the City of Hayward Planning Division a TDM Statement of Intent stating which TDM Program Applicant intends to implement for this Project. Statement of Intent shall be reviewed and approved by the Transportation Division prior to issuance of Building Permits.

62. Applicant shall submit the following items as part of Improvement Plans to Public Works-Transportation for review prior to issuance of Building Permits:

a. An on-site and off-site (fronting City right-of-way) Signing and Striping Plan in accordance with Caltrans' latest Standard Plans (refer to Caltrans Standard Plans Sheet A90A for more information on marking complaint disabled stalls).
b. A Photometric Plan, refer to Hayward's Standard Plans Sheet SD-120 for roadway lighting criteria, link: https://www.hayward-ca.gov/documents/hayward-standard-detail
c. Turning Analysis using the largest vehicle expected on-site (typically a delivery vehicle) using AutoTurn software. Turning Analysis shall not depict vehicles backing into public streets/right-of-way.

63. Upon review of Improvement Plan(s) and required item(s) listed above by Public Works-Transportation, Applicant shall modify Improvement Plan(s) to address any deficiency(ies) or item(s) identified by Public Works-Transportation staff, to the satisfaction of Public Works-Transportation staff or the City Engineer, prior to issuance of Building Permit(s).

SOLID WASTE

64. The owner or property manager shall be responsible for litter-free maintenance of the property and shall remove any litter on or within 50 feet of the property daily to ensure that the property and its street frontage remain clear of any abandoned debris or trash per Municipal Code Section 11-5.22.

LANDSCAPING

65. Prior to issuance of building permits, detailed landscape and irrigation improvement plans prepared by a licensed landscape architect on an accurately

surveyed base plan shall be submitted to, reviewed and approved by the City's Landscape Architect. The plans shall comply with the City's Bay-Friendly Water Efficient Landscape Ordinance (California Building Code Title 23) and all relevant Municipal Codes. Once approved, a digital file of the approved and the project landscape architect signed improvement plans shall be submitted to the City for the City's approval signatures. Copies of the signed improvement plans shall be submitted as a part of the building permit submittal.

66. The landscape plans shall be prepared on an accurately surveyed topographic plan that matches the architectural, site or civil plan. Base information shall include all existing trees shown on the survey plan, and designation of existing trees whether to be preserved or removed as well as all known existing and proposed above and underground utilities.

67. If any existing trees meet the definition of "Protected Tree" in accordance with the City's Tree Preservation Ordinance, an arborist report by a certified arborist shall be submitted for approval.

68. Notes shall be provided on the planting plan that all proposed plant material has been evaluated by an environmental biologist or arborist to be suitable for planting near Bayland with potential high groundwater table and salinity. Height of proposed trees also shall be evaluated for proving nesting and harboring birds that may endanger wildlife in the Bayland.

69. Pursuant to HMC Section 10-12.07 (2)(C): Plant spacing shall not be closer the minimum spread provided in the reference books in the ordinance to allow mature plant growth without subjecting plants to routine cutbacks and shearing. Reference plant books in the landscape ordinance and additional reference books of "Landscape Plants for California Gardens" by Robert Perry and "California Native Plants for the Garden" by Carol Bornstein, David Fross and Bart O'Brien shall be used, and the list of reference book shall be provided in the plant legend.

70. All above ground utilities shall be screened with a minimum five-gallon evergreen shrub to provide continuous screening.

71. All plants in bioretention basin shall conform to the plant list in the latest C.3 Stormwater Technical Guidance Appendix B.

72. Tree shall be located a minimum of five-feet from lateral service lines and driveways, a minimum of 15 feet from a light pole, and a minimum of 30 feet from the face of a traffic signal, or as otherwise specified by the City.

73. A note shall be provided that all final tree locations shall be field verified by the project landscape architect prior to planting.

74. In accordance with City Street Tree Detail SD-122, trees at minimum 15-gallon and 24-inch-box size or equal shall be planted in conjunction with the proposed development. Tre sizes shall be indicated on the landscape plans and reviewed and approved by the City's Landscape Architect. A separate tree planting detail for larger size trees shall be provided.

75. Root barriers shall be installed linearly against the paving edge in all instances where a tree is planted within seven feet of pavement or buildings, and as recommended by the manufacturer.

76. Minimum three inches deep organic recycled chipped wood mulch in dark brown color shall be provided in all planting areas including biotreatment area. The size of the mulch shall not exceed one and on-half-inch in diameter.

77. Commercial and industrial development with equal or greater than 1,000 square feet of irrigated landscape area shall require a dedicated irrigation water meter. The meter shall be clearly located and sized in the irrigation plan.

78. Pursuant to HMC Section 10-12.07 (b), an irrigation Hydrozone map shall be provided prior to issuance ofpermits.

79. The City requires the backflow prevention device to be located after water meter. Backflow prevention device shall conform to the City Standard Detail SD-202 and the detail shall be incorporated into irrigation detail plan.

80. Pursuant to HMC Section 10-12 Appendix B Water Efficient Landscape Worksheet for water budget calculation for Maximum Applied Water Allowance and Estimated Total Water Allowance shall be provided on the plan. The water budget calculation shall use Eto of 44.2 for City of Hayward, and the calculation shall provide the calculation methodology used. For commercial and industrial developments, ET adjustment factor of 0.45 shall be used.

81. Bio-treatment area, when wider than ten feet, shall be irrigated with matched precipitation rotator type, or as efficient overhead spray irrigation system that allows "cycle and soaking" program function. When the treatment area width is less than ten feet, efficient irrigation system that meets the current ordinance requirements shall be provided. The irrigation for bio-retention area shall be provided on a separate valve.

82. A tree removal permit shall be obtained prior to the removal of any tree in conjunction with grading and/or demolition permits.

83. Prior to the issuance of Certificate of Occupancy, all landscape and irrigation shall be completed in accordance to the approved plan and accepted by the City Landscape Architect. Before requesting an inspection from the City Landscape Architect, the project landscape architect shall inspect and accept landscape improvements and shall complete Appendix C. Certificate of Completion in the City's Bay-Friendly Water Efficient Landscape Ordinance. The completed Certificate of Completion Part 1 through Part 7 or applicable parts shall be e-mailed/turn in prior to requesting an inspection from the City Landscape Architect.

84. Landscape Maintenance:
    a. Landscaping shall be maintained in a healthy, weed-free condition at all times and shall maintain irrigation system to function as designed to reduce runoff, promote surface filtration, and minimize the use of fertilizers and pesticides, which contribute pollution to the Bay.
    b. The owner's representative shall inspect the landscaping on a monthly basis and any dead or dying plants (plants that exhibit over 30% dieback) shall be replaced within ten days of the inspection.
    c. Three inches deep mulch should be maintained in all planting areas. Mulch shall be organic recycled chipped wood in the shades of Dark Brown Color and the size shall not exceed 1-1/2-inch diameter. The depth shall be maintained at three inches deep.
    d. All nursery stakes shall be removed during tree installation and staking poles shall be removed when the tree is established or when the trunk diameter of the tree is equal or larger to the diameter of the staking pole.
    e. All trees planted as a part of the development as shown on the approved landscape plans shall be "Protected" and shall be subjected to Tree Preservation Ordinance. Tree removal and pruning shall require a tree pruning or removal permit prior to removal by City Landscape Architect.
    f. Any damaged or removed trees without a permit shall be replaced in accordance with Tree Preservation Ordinance or as determined by City Landscape Architect within the timeframe established by the City and pursuant to the Municipal Code.
    g. Irrigation system shall be tested periodically to maintain uniform distribution of irrigation water; irrigation controller shall be programed seasonally; irrigation system should be shut-off during winter season; and the whole irrigation system should be flushed and cleaned when the system gets turn on in the spring.

FIRE PREVENTION

85. The new building shall comply with all requirements of the 2019 California Building, California Fire Code(s) and local Ordinances respectfully.

86. Any portion of the building or facility shall be within 400 feet of a fire hydrant. Fire hydrants shall be placed at least 50 feet from the building to be protected. Where it is not feasible to place them at that distance, they may be in closer proximity in approved locations. A separate fire permit is required for hydrant installation.

87. Blue reflective pavement markers shall be installed at fire hydrant locations. If fire hydrants are located to be subjected to vehicle impacts as determined by the Hayward Fire Department, crash posts shall be installed around the fire hydrant(s).

88. When buildings exceed 30 feet in height, fire apparatus access roads shall have an unobstructed width of not less than 26 feet an unobstructed vertical clearance of not less than 13 feet-six inches. Fire apparatus access roads shall be designed and maintained to support the imposed load of fire apparatus 75,000 lbs. and shall be surfaced to provide all-weather driving capability.

89. Portable fire extinguishers shall be installed throughout the storage area at every 75 feet of travel or in areas required by the Fire Department. Portable fire extinguishers shall have a minimum rating of 2A:10BC, of which the maximum protection area is 3,000 square feet. Signage shall be provided for each portable fire extinguisher and shall be acceptable to the Fire Department.

90. The new building is not currently approved for high piled storage. A building permit is required for the installation of storage (pallet) racks greater than six feet in height. A Fire Department Annual Operational Permit is required for any combustible storage (floor and/or rack) which exceeds 12 feet in height (Class I-IV type commodities), AND/OR any high hazard storage which includes commodities such as hazardous materials, flammable liquids, plastics, foam and rubber products, or any other classified commodity as dictated by the California Fire Code and NFPA 13 Standards, which exceeds 6 feet in height. (Deferred submittal, if applicable)

91. At least one interior audible alarm device shall be installed within each tenant space within the building and shall be placed in a location to be heard throughout the constantly attended areas in accordance with NFPA 72. The device shall activate upon any fire sprinkler system water flow activity. (If applicable)

92. Minimum building address shall be 12-inches high with one and one-half inch stroke. When building is located greater than 50 feet from street frontage, address shall be minimum 16-inches high with one and one-half inch stroke. If applicable, tenant space numbers shall be six inches high with 0.75” stroke on a contrasting background to be visible from the street.

93. An Automatic Fire Sprinkler System is required and shall be installed in accordance with NFPA 13 and all local Ordinances. Be advised that per HFD Ordinance 10-14: When an automatic sprinkler system is required in a building of undetermined used, it shall be designed and installed to have a sprinkler density of 0.33/3750 with a maximum coverage of 100 square feet per head. (Deferred Submittal)

94. Maximum 80 PSI water pressure should be used when water data indicates a higher static pressure. Residual pressure should be adjusted accordingly.

95. A Fire Alarm System shall be installed in accordance with the California Fire Code (CFC) and all NFPA 72 Standards. Fire alarm system will be determined based on the occupancy and demand of the proposed building. Sprinkler system monitoring is required when there are 20 sprinklers or more than in accordance with the 2019 California Fire Code.

96. Underground fire service line serving the NFPA 13 sprinkler system and new fire hydrants shall be installed in accordance with NFPA 24 and the Hayward Public Work Department SD-204. Water meter shall be minimum or four-inch for a (NFPA 13) commercial grade system.

97. Per the 2019 California Fire Code (CFC) table BB105.1, a minimum fire flow of 7,250 for 4 hours is required for this site. A reduction of 50% is allowed if the building is protected with an automatic fire sprinkler system in accordance with NFPA 13.

HAZARDOUS MATERIALS DIVISION

98. **Environmental and Health Based Site Clearance** – A "Phase I Environmental Site Assessment Update, 4150 Point Eden Way, Hayward, California" prepared by Cornerstone Earth Group, dated March 10, 2017, was submitted to the Hayward Fire Department. Based on the review of information in that document, historic Hayward Fire Department records and records found in the State Water Resources Control Board's Geotracker website, residual contamination exists on the project site from the former Oliver Salt operations, including from two underground storage tanks that held diesel and gasoline and were removed in 1998.

    The San Francisco Bay Regional Water Quality Control Board (RWQCB) has been and continues to be the oversight agency for this contamination case. Extensive remedial activities have occurred since 1998. A deed restriction was singed on December 19, 2014, which addresses actions/mitigations required, which includes property development and the involvement of the RWQCB. The deed restriction also references a Risk Management Plan (RMP) approved by the RWQCB associated the residual contamination on the site. The applicant shall continue to work with the RWQCB on this case and associated clearance.

Proof shall be provided to the Hazardous Division that the site meets development investigation and cleanup standards for this industrial property, along with any stipulations of any clearances such as a deed restriction, the need for any groundwater/soil management plan and other mitigations such as vapor barriers/soil vapor mitigations. A clearance document shall be submitted to the Hayward Fire Department's Hazardous Material Office, Planning Division and Public Works Division prior to issuance of any grading or building permits. Allowance may be granted if acceptable to the RWQCB and the Hazardous Materials Office of the Hayward Fire Department.

An initial coordination meeting prior to the start of grading activities on site shall be conducted with the developer, the developers' environmental consultant, RWQCB, the Hayward Fire Department Hazardous Materials Office and other City Agencies to ensure consistency/coordination between agencies and the developer.

99. **Electronic Submittal of Environmental Documentation** – Environmental Documentation associated with the evaluation, investigation and/or clearance of this site shall be provided in an electronic format to the City of Hayward Fire Department and Planning Division prior to the issuance of the Building or Grading Permit

100. **Proposed Uses of Hazardous Materials** – The project proposed office and material storage. There will be no storage/use of hazardous materials associated in the material storage rental used by the general public or with any other area associated with the expansion of the project. A final letter shall be submitted with the building permit that confirms this.

101. **Grading and Demolition** – A condition of approval, prior to grading: If structures and their contents are present, then they shall be removed or demolished under permit in an environmentally sensitive manner. Proper evaluation, analysis and disposal of materials shall be done by appropriate professional(s) to ensure hazards posed to development construction workers, the environment, future uses, and other persons are mitigated.

102. **Wells, Septic Tank Systems or Subsurface Structures** – Any wells, septic tank systems and others subsurface structures shall be removed properly in order not to pose a threat to the development construction workers, future residents, or the environment. These structures shall be documented and removed under permit from appropriate regulatory agency when required.

103. **Hazardous Materials/Waste and their Vessels discovered during Grading/Construction** – If hazardous materials/waste or their containers are

discovered during grading/construction the Hayward Fire Department shall be immediately notified at (510) 583-4910.

104. **Underground Storage Tanks, Oil Water Separators, Hydraulics Lifts** – If found on the property, the underground vessels/structures shall be removed under a plan filed with Hayward Fire Department and appropriate samples shall be taken under the direction of a qualified consultant to ensure that contamination has not occurred to the soil or groundwater. A follow up report shall be required to be submitted that documents the activities and any conclusions. Below are specific requirements on each:
    a. Underground storage tank and associate piping (plan, sampling and Hayward Fire Department permit and follow up report is required)
    b. Oil Water Separators (plan, sampling required and follow up report is required)
    c. Hydraulic Lifts (plan, sampling and follow up report is required).

105. **Hazardous Materials/Waste During Construction** - During grading and construction hazardous materials and hazardous waste shall be properly stored, managed, and disposed.

UTILITIES

Water Services:

106. All connections to existing water mains shall be performed by City Water Distribution personnel at the Applicant/Developer's expense.

107. Any modifications to existing water services such as but not limited to upsizing, downsizing, relocating, and abandoning shall be performed by City Water Distribution personnel at the Applicant/Developer's expense.

108. Only City of Hayward Water Distribution personnel shall perform operation of valves on the City of Hayward Water System.

109. This parcel does not have existing water services. The Applicant/Developer is responsible for applicable water connection and facilities fees, at the rates in effect at the time of application for water service, prior to water connection. Payment shall be made at issuance of building permit.

110. If applicable, each commercial tenant space shall be served by separate water meters.

111. The development requires a separate irrigation water service for the property's landscaping. The Applicant or Developer shall install an above ground Reduced

Pressure Backflow Prevention Assembly (RPBA) on each irrigation water meter, per City of Hayward Standard Detail 202 (SD-202). Backflow preventions assemblies shall be at least the size of the water meter or the water supply line on the property side of the meter, whichever is larger.

112. A separate fire permit is required for the fire sprinkler system installation. The fire service size will be determined by the Fire Department's requirements. All fire services must have an above-ground double check valve assembly (DCVA), per City Standard Detail 204 (SD-204) and 201 (SD-201). New fire services must be installed by the City's Water Distribution personnel at the Applicant's or Developer's expense.

113. Water meters and services are to be located a minimum of two feet from top of driveway flare as per City Standard Detail 213 (SD-213) through 218 (SD-218). Water meters shall not be located in the driveway.

Sewer Services:

114. The property has an existing industrial sewer connection with a "grandfathered" sewer capacity of 1,015 gallons per day of domestic strength discharge. Additional sewer capacity to accommodate additional wastewater discharge over the "grandfathered" sewer capacity may need to be purchased. Payment shall be made at issuance of building permit.

115. All sewer mains and appurtenances shall be constructed in accordance with the City's "Specifications for the Construction of Sewer Mains and Appurtenances," latest revision at the time of permit approval. Available on the City's website: https://www.hayward-ca.gov/your-government/departments/engineering-division

116. Sewer cleanouts shall be installed on each sewer lateral at the connection with the building drain, at any change in alignment, and at uniform intervals not to exceed 100 feet. Manholes shall be installed in the sewer main at any change in direction or grade, at intervals not to exceed 400 feet, and at the upstream end of the pipeline. Where sanitary sewer lines and/or laterals are the same size as the sanitary sewer line, the connection must be made with a manhole.

117. Industrial waste monitoring structures shall be installed on sewer connections per City Standard Detail SD-309.

DUE PRIOR TO THE ISSUANCE OF CERTIFICATE OF OCCUPANCY

118. Construction of Improvements: All public and private improvements, including punch list items, must be complete prior to the issuance of a certificate of occupancy.

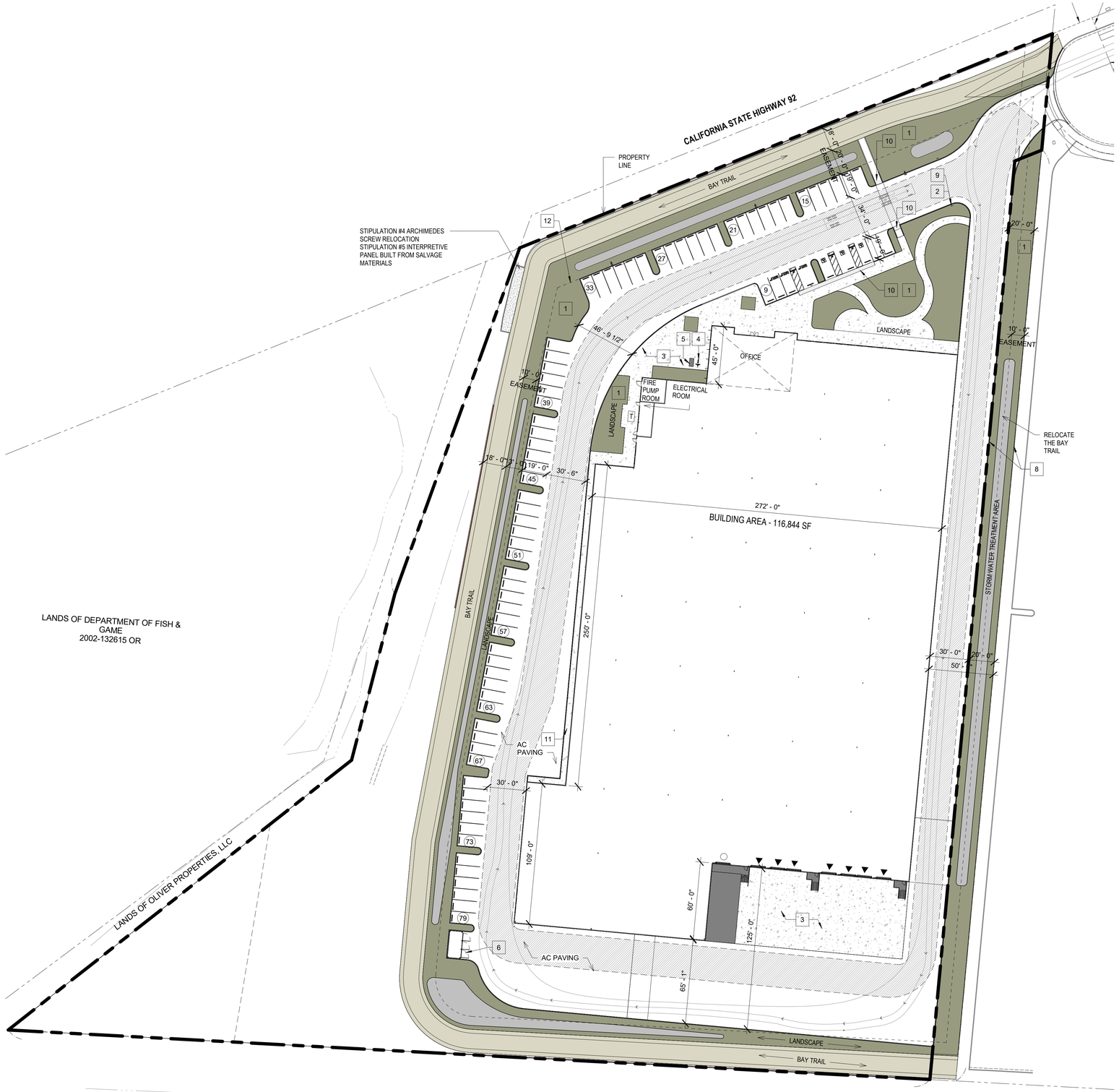
119. "As-Built" Records: Provide "as-built" record plans in electronic formats to the City Engineer. Electronic plans shall be in "AutoCad" and pdf formats acceptable to the City Engineer.

120. Stormwater Treatment Measures Maintenance: The property owner(s) shall enter into an "Stormwater Treatment Measures Maintenance Agreement" with the city. The executed Agreement shall be recorded with the Alameda County Recorder's Office.

121. An Elevation Certificate (FEMA Form 086-0-33) based on finished construction is required for the built structure prior to issuance of any certificates of occupancy.

122. SWPPP Final Report: The project QSP shall prepare and file a Final SWPPP Report with the City and Water Board.

123. Final Engineer's Report: Prior to the issuance of any Certificate of Occupancy, The Engineer of Record shall submit a confirming letter that all grading, drainage, and engineering components of the project have been performed in conformance with the approved plans and specifications.



1 SITE PLAN
1" = 40'-0"

PROJECT DATA

ZONING:		IP- INDUSTRIAL PARK
APN:		461-0085-020-02
NORTH SITE AREA		
GROSS:		6.83 AC
		297,762 SF
DETENTION:	@3.4%	8,743 SF
SLOPE:		0 SF
EASEMENTS:		
LANDSCAPE:	@16%	45,840 SF
NET:		5.58 AC
		243,179 SF
BUILDING FOOTPRINT:		116,844 SF
NORTH BUILDING USE:		
WAREHOUSE		114,059 SF
OFFICE		2,785 SF
COVERAGE:		
GROSS:		38%
NET:		47%
PARKING REQUIRED:		
WAREHOUSE	1/2000 SF	58 STALLS
OFFICE	1/250 SF	11 STALLS
TOTAL		69 STALLS
PARKING PROVIDED:		
AUTO:		79 STALLS
REQ. ACCESSIBLE		2 STALLS
REQ. EV		2 STALLS
BIKE STALL		2 STALLS
BIKE LOCKER		2 SPACES
BUILDING TRUCK DOCKS:		
10X10 DOCK - HIGH OH DOORS		7
12X10 GRADE LEVEL OH DOORS		1

KEY NOTES

1	IRRIGATED AREA, SEE LANDSCAPE L1.01
2	ACCESSIBLE ENTRY SIGNAGE
3	CONCRETE PAVEMENT
4	BIKE RACK, SEE DETAIL 8/A-602
5	BIKE LOCKERS
6	TRASH ENCLOSURE PER CITY STANDARDS, SEE DETAIL 3/A-602
7	N/A
8	EXISTING FENCE TO BE REMOVED
9	FIRE LANE ENTRY SIGNAGE
10	ACCESSIBLE CURB RAMP WITH TRUNCATED DOMES
11	SIDE WALK
12	EASEMENT AS PER CITY REQUIREMENTS

GENERAL NOTES

SITE LEGEND

- T — TRANSFORMER WITH CONCRETE PAD
- X — PARKING STALL COUNT TOTAL
- DOCK HIGH TRUCK DOOR
- 26' FIRE LANE
- GRADE LEVEL TRUCK DOOR
- PROPERTY LINE
- LANDSCAPE
- EASEMENT

PLAN NORTH

Attachment VI

DSA:
ATI ARCHITECTS + ENGINEERS
AN AC MARTIN COMPANY
4750 Willow Road #250 Pleasanton, CA 94588 - T 925.648.8800
3009 Douglas Blvd #290 Roseville, CA 95661 - T 916.772.1800
3050 Pullman Street Costa Mesa, CA 92626 - T 714.338.1600
CONSULTANT:

PROFESSIONAL STAMP:

AGENCY APPROVAL:

ITEM:	REVISION/ISSUE:	DATE:
A	PLANNING SUBMITTAL	01/27/20
B	PLANNING RESUBMITTAL	04/24/20

KEY PLAN:

Owner

U-HAUL COMPANY OF EAST BAY

4150 POINT EDEN WAY

SITE PLAN

DRAWN BY: RS | CHECKED BY: RFT
DATE: 01/18/2021 | **PROJECT NO: U2301**
SHEET NO:

A-100

3/12/2021 11:41:04 AM BIM 360://U-Haul Hayward/U-Haul Hayward_rstahlQ3EL2.rvt

1 ENLARGED SITE PLAN
1" = 20'-0"

KEY NOTES

1. LANDSCAPE IRRIGATED AREA, SEE L1.01
2. ACCESSIBLE ENTRY SIGNAGE
3. CONCRETE PAVEMENT
4. BIKE RACK , SEE DETAIL 8/A602
5. BIKE LOCKER
6. TRANSFORMER
7. FENCE
8. PEDESTRIAN ACCESS TO BAY TRAIL
9. EMPLOYEE AMENITY AREA, SEE L1.01

SITE LEGEND

- T — TRANSFORMER WITH CONCRETE PAD
- X — PARKING STALL COUNT TOTAL
- DOCK HIGH TRUCK DOOR
- 26' FIRE LANE
- GRADE LEVEL TRUCK DOOR
- PROPERTY LINE
- ACCESSIBLE PATH OF TRAVVEL 1:20 MAX. SLOPE, 2% MAX CROSS SLOPE
- LANDSCAPE

Attachment IV

DSA:
ATI ARCHITECTS + ENGINEERS
AN AC MARTIN COMPANY
4750 Willow Road #250 Pleasanton, CA 94588 - T 925.648.8800
3009 Douglas Blvd #290 Roseville, CA 95661 - T 916.772.1800
3050 Pullman Street Costa Mesa, CA 92626 - T 714.338.1600
CONSULTANT:

PROFESSIONAL STAMP:

AGENCY APPROVAL:

ITEM:	REVISION/ISSUE:	DATE:
A	PLANNING SUBMITTAL	01/27/20
B	PLANNING RESUBMITTAL	04/24/20

KEY PLAN:

Owner

U-HAUL COMPANY OF SAN FRANCISCO

4150 POINT EDEN WAY

ENLARGED SITE PLAN

DRAWN BY: Author | CHECKED BY: Checker
DATE: 03/30/2020 | **PROJECT NO: U2301**
SHEET NO:

A-101

4/24/2020 5:39:37 PM BIM 360://U-Haul Hayward/U-Haul Hayward_rshah@2EL2.rvt

1 EXISING CONDITION SITE PLAN
1" = 40'-0"

BIM 360://U-Haul Hayward/U-Haul Hayward_rstahlQSEL2.rvt
4/24/2020 5:39:37 PM

Attachment IV

DSA:

ATI ARCHITECTS + ENGINEERS
AN AC MARTIN COMPANY
4750 Willow Road #250 Pleasanton, CA 94588 - T 925.648.8800
3009 Douglas Blvd #290 Roseville, CA 95661 - T 916.772.1800
3050 Pullman Street Costa Mesa, CA 92626 - T 714.338.1600

CONSULTANT:

PROFESSIONAL STAMP:

AGENCY APPROVAL:

ITEM:	REVISION/ISSUE:	DATE:
A	PLANNING SUBMITTAL	01/27/20
B	PLANNING RESUBMITTAL	04/24/20

KEY PLAN:

Owner

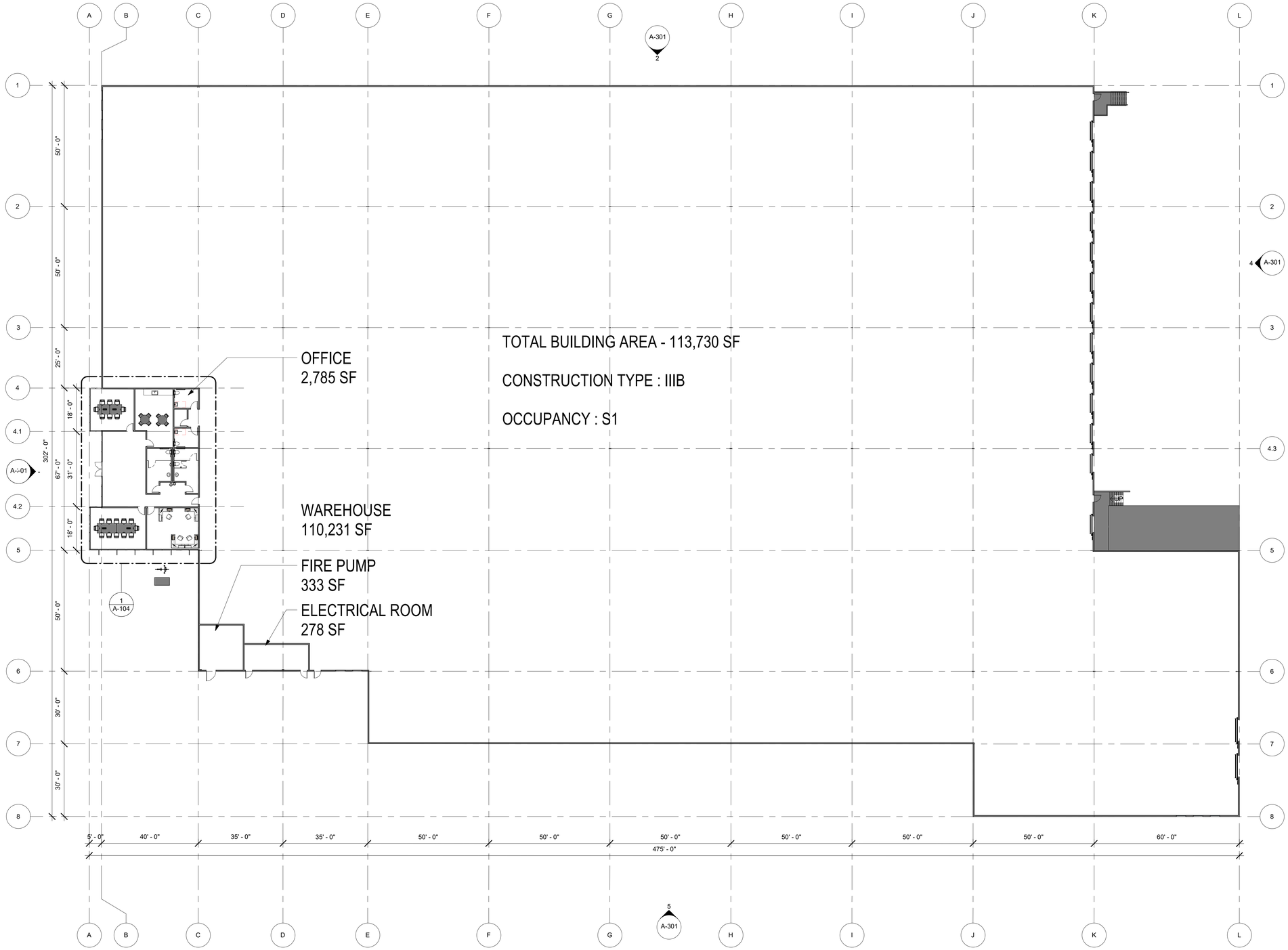
U-HAUL COMPANY OF SAN FRANCISCO

4150 POINT EDEN WAY

EXISTING CONDITION SITE PLAN

DRAWN BY: Author | CHECKED BY: Checker
DATE: 03/30/2020 | **PROJECT NO: U2301**
SHEET NO:

A-102



1 BUILDING FLOOR PLAN
1" = 20'-0"

ARCHITECTS + ENGINEERS
AN AC MARTIN COMPANY
4750 Willow Road #250 Pleasanton, CA 94588 - T 925.648.8800
3009 Douglas Blvd #290 Roseville, CA 95661 - T 916.772.1800
3050 Pullman Street Costa Mesa, CA 92626 - T 714.338.1600

CONSULTANT:

PROFESSIONAL STAMP:

AGENCY APPROVAL:

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A	PLANNING SUBMITTAL	01/27/20
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KEY PLAN:

Owner

U-HAUL COMPANY OF SAN FRANCISCO

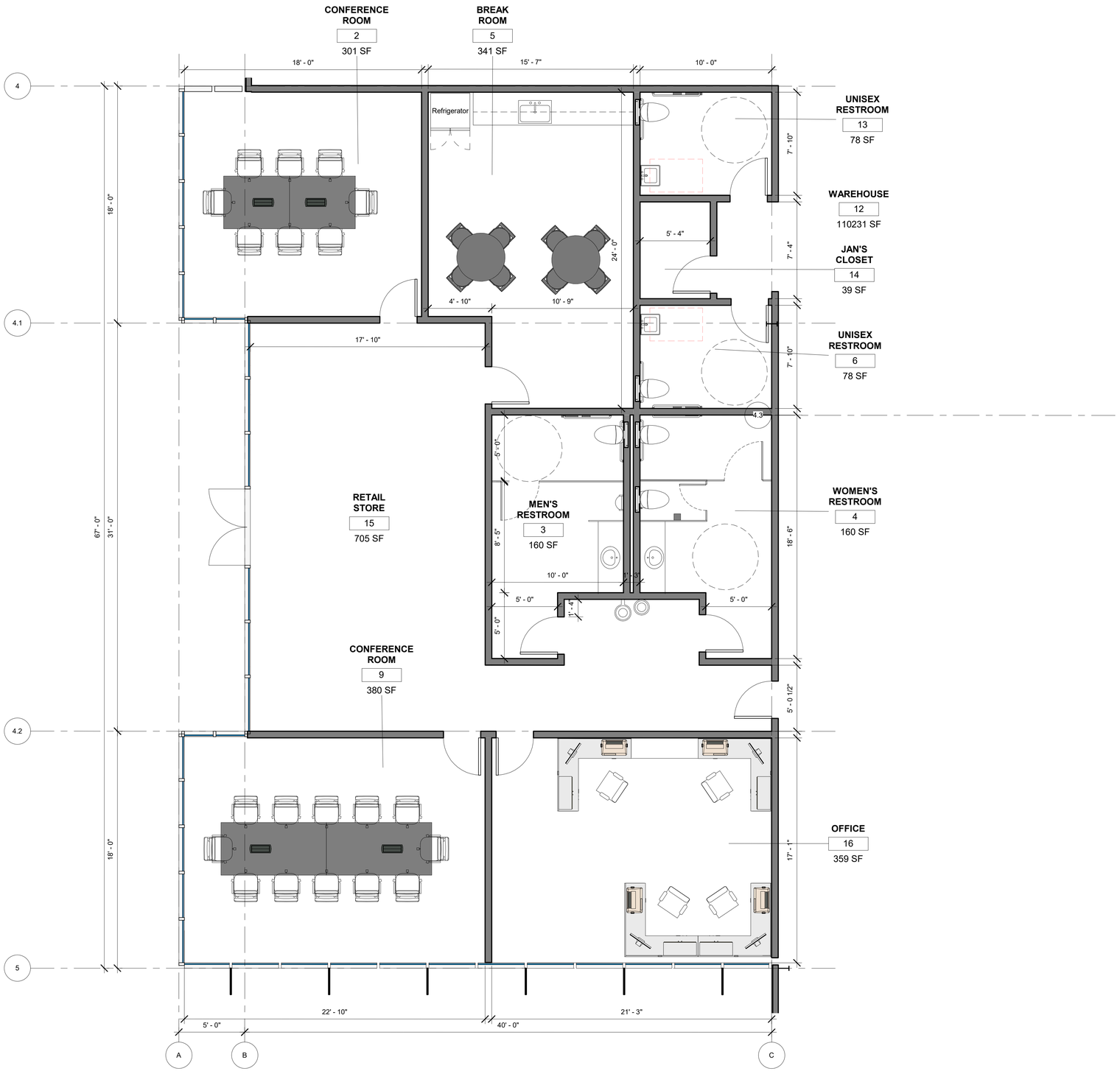
4150 POINT EDEN WAY

BUILDING EXITING PLAN

DRAWN BY: Author | CHECKED BY: Checker
DATE: 03/30/2020 | **PROJECT NO: U2301**
SHEET NO:

A-103

BIM 360://U-Haul Hayward/U-Haul Hayward_rdhalKQEL2.rvt
4/24/2020 5:39:41 PM



1 OFFICE LAYOUT
1/4" = 1'-0"

4/24/2020 5:39:44 PM BIM 360://U-Haul Hayward/U-Haul Hayward_rshah@SEL2.rvt

Attachment IV

DSA:

ATI ARCHITECTS + ENGINEERS
AN AC MARTIN COMPANY
4750 Willow Road #250 Pleasanton, CA 94588 - T 925.648.8800
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CONSULTANT:

PROFESSIONAL STAMP:

AGENCY APPROVAL:

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A	PLANNING SUBMITTAL	01/27/20

KEY PLAN:

Owner

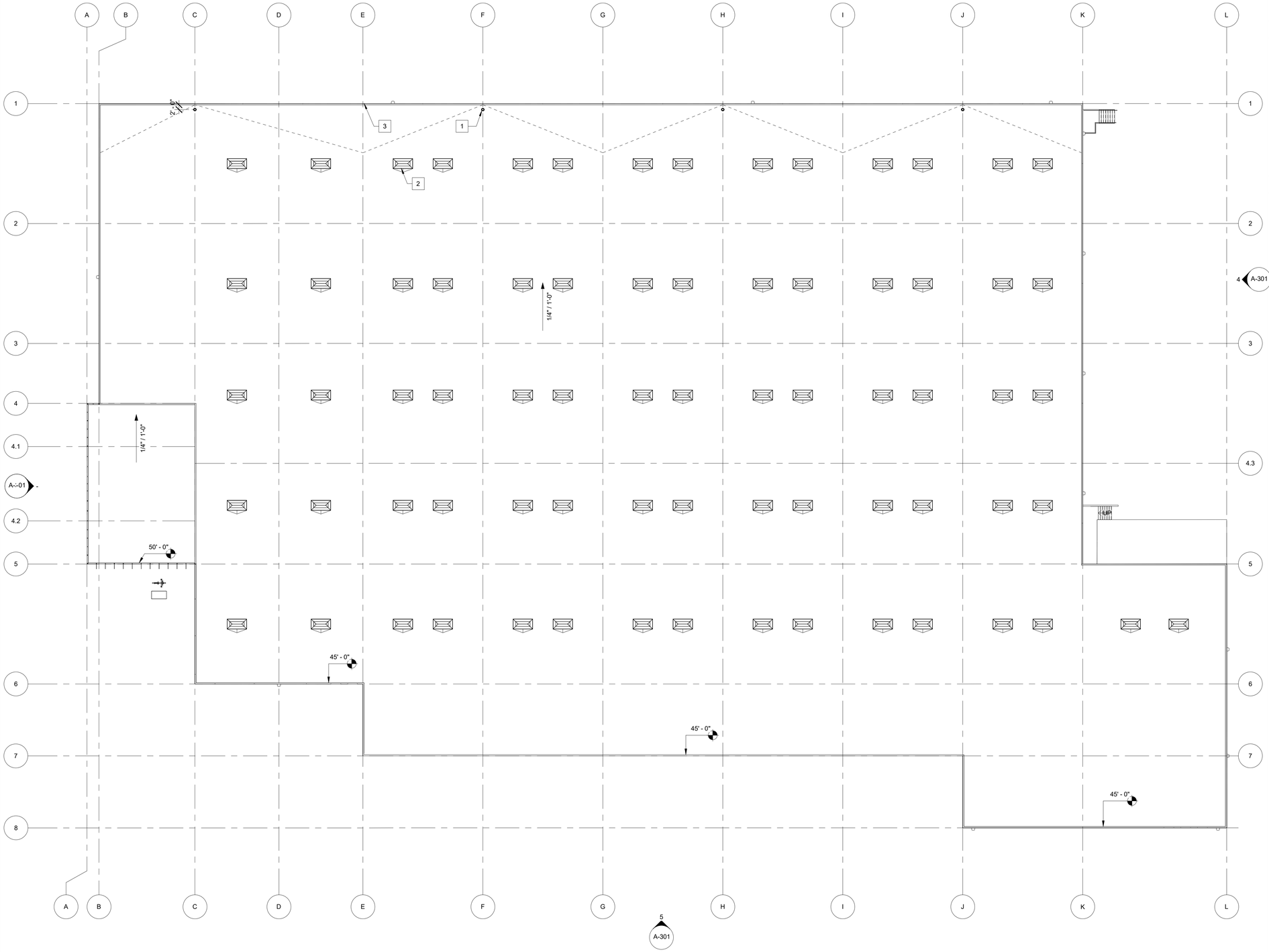
U-HAUL COMPANY OF SAN FRANCISCO

4150 POINT EDEN WAY

OFFICE LAYOUT

DRAWN BY: RS | CHECKED BY: RFT
DATE: 03/30/2020 | **PROJECT NO: U2301**
SHEET NO:

A-104



1 ROOF PLAN
1" = 20'-0"

KEY NOTES

1	ROOF STORM DRAIN
2	SKYLIGHT
3	WALL MOUNT SCONCES

SKYLIGHT

SKYLIGHT

SKYLIGHT SIZE: 48" X 96" - 32 SQFT

BUILDING AREA SQFT X 2% / SKYLIGHT SIZE = 113730 X 0.02 / 32

DESIRED : 71 SKYLIGHTS
PROVIDED: 72 SKYLIGHTS

LEGEND

SKYLIGHT

ROOF DRAIN

Attachment IV

DSA:

ARCHITECTS + ENGINEERS
AN AC MARTIN COMPANY

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3009 Douglas Blvd #290 Roseville, CA 95661 - T 916.772.1800
3050 Pullman Street Costa Mesa, CA 92626 - T 714.338.1600

CONSULTANT:

PROFESSIONAL STAMP:

AGENCY APPROVAL:

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A	PLANNING SUBMITTAL	01/27/20
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KEY PLAN:

Owner

U-HAUL COMPANY OF SAN FRANCISCO

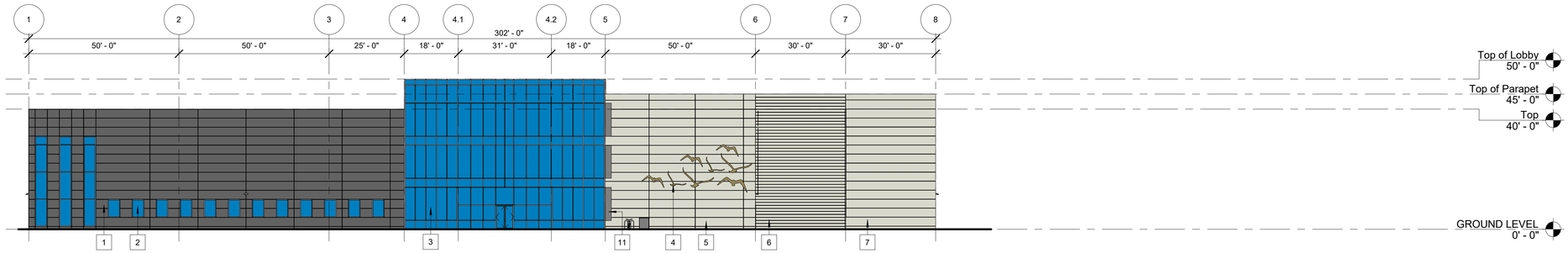
4150 POINT EDEN WAY

ROOF PLAN

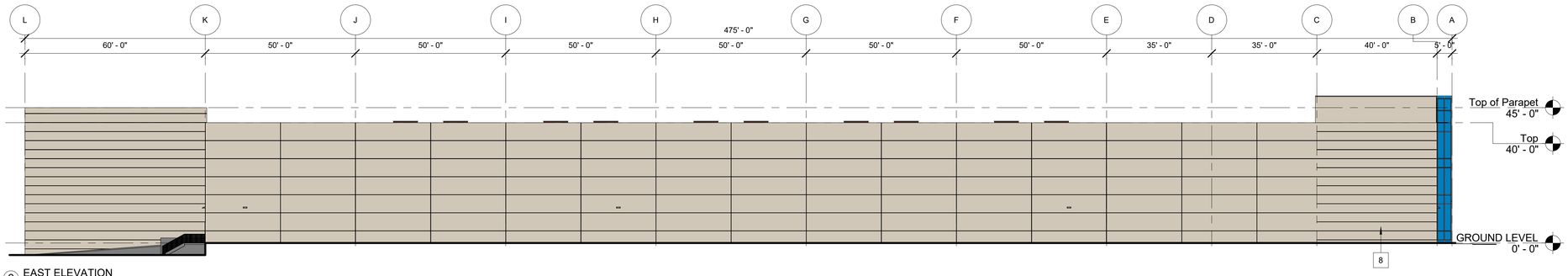
DRAWN BY: Author | CHECKED BY: Checker
DATE: 03/30/2020 | **PROJECT NO: U2301**
SHEET NO:

A-105

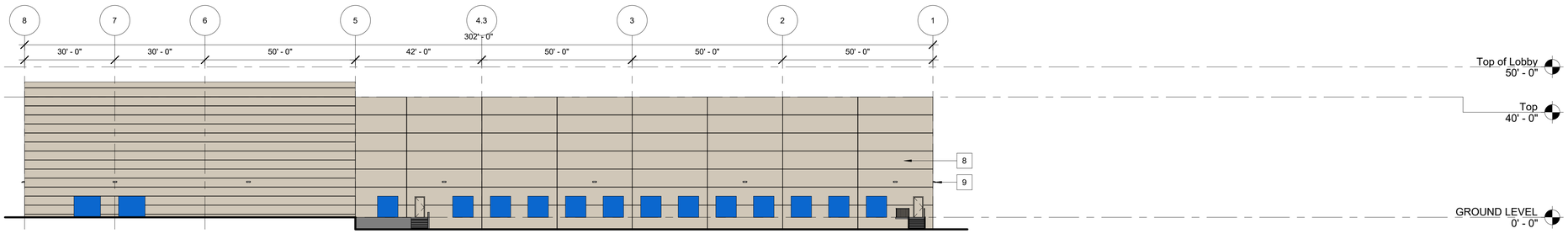
BIM 360://U-Haul Hayward/U-Haul Hayward_rshah/QSEL2.rvt
4/24/2020 5:39:46 PM



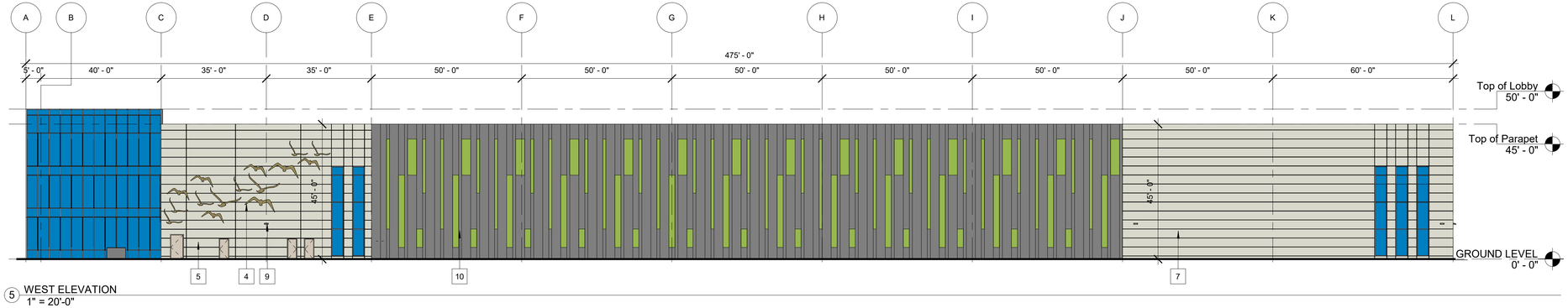
1 NORTH ELEVATION
1" = 20'-0"



2 EAST ELEVATION
1" = 20'-0"



4 SOUTH ELEVATION
1" = 20'-0"



5 WEST ELEVATION
1" = 20'-0"

KEY NOTES

1	3'X 16' METAL PANEL - CENTRIA 154 DARK BRONZE - METAL WRAP FDWS
2	WINDOW GLAZING
3	STOREFRONT SYSTEM
4	SCULPTURE - BIRD CUTOUTS FROM PERFORATED METAL
5	3' WIDE METAL PANEL - CENTRIA 786 BEACH - METAL WRAP FDWS
6	1' WIDE METAL PANEL - CENTRIA 786 BEACH - METAL WRAP FDWS
7	3' WIDE METAL PANEL
8	TILT UP CONCRETE WALL- PAINTED
9	WALL MOUNT SCONCE, SEE P1 PHOTOMETRIC DRAWINGS
10	ACCENT METAL PANEL WALL- CENTRIA FDWS
11	VERTICAL SOLAR SHADES

GENERAL NOTES

Attachment IV

DSA:

ATI ARCHITECTS + ENGINEERS
AN AC MARTIN COMPANY

4750 Willow Road #250 Pleasanton, CA 94588 - T 925.648.8800
3009 Douglas Blvd #290 Roseville, CA 95661 - T 916.772.1800
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CONSULTANT:

PROFESSIONAL STAMP:

AGENCY APPROVAL:

ITEM:	REVISION/ISSUE:	DATE:
A	PLANNING SUBMITTAL	01/27/20
B	PLANNING RESUBMITTAL	04/24/20

KEY PLAN:

Owner

U-HAUL COMPANY OF SAN FRANCISCO

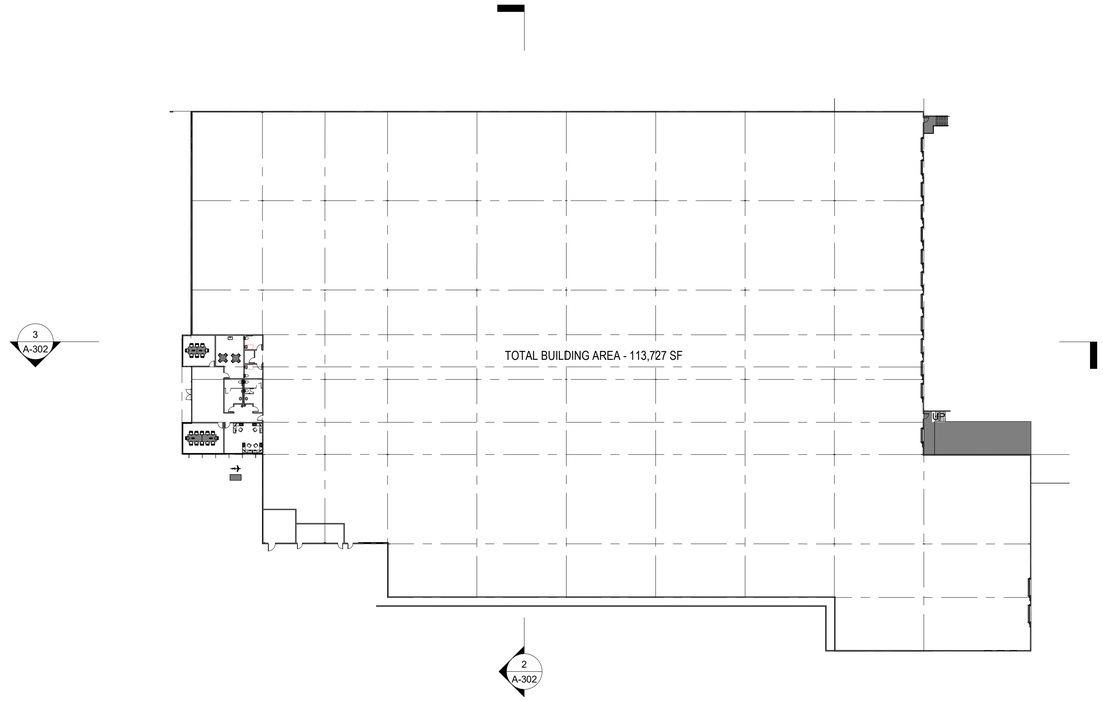
4150 POINT EDEN WAY

EXTERIOR ELEVATIONS

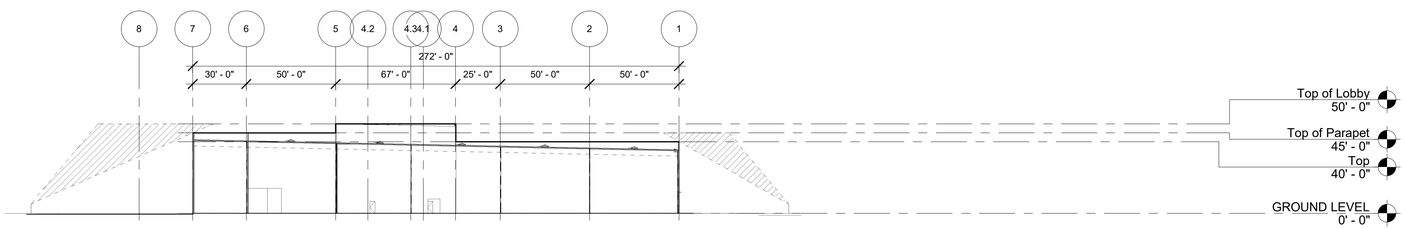
DRAWN BY: RS | CHECKED BY: RFT
DATE: 03/30/2020 | **PROJECT NO: U2301**
SHEET NO:

A-301

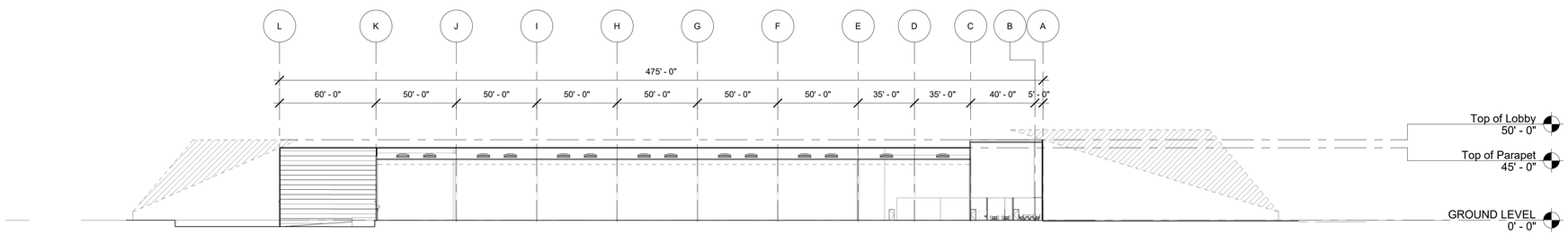
BIM 360://U-Haul Hayward/U-Haul Hayward_rsbah@2EL2.rvt
4/24/2020 5:39:50 PM



1 KEY PLAN
1" = 40'-0"



2 SECTION 1
1" = 40'-0"



3 SECTION 2
1" = 40'-0"

KEY NOTES

DSA:

ATI ARCHITECTS + ENGINEERS
AN AC MARTIN COMPANY

4750 Willow Road #250 Pleasanton, CA 94588 - T 925.648.8800
3009 Douglas Blvd #290 Roseville, CA 95661 - T 916.772.1800
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CONSULTANT:

PROFESSIONAL STAMP:

AGENCY APPROVAL:

ITEM:	REVISION/ISSUE:	DATE:
A	PLANNING SUBMITTAL	01/27/20
B	PLANNING RESUBMITTAL	04/24/20

KEY PLAN:

Owner

U-HAUL COMPANY OF SAN FRANCISCO

4150 POINT EDEN WAY

SITE SECTIONS

DRAWN BY: Author | CHECKED BY: Checker
DATE: 03/30/2020 | **PROJECT NO: U2301**

SHEET NO:

A-302

BIM 360://U-Haul Hayward/U-Haul Hayward_rshah/QSEL2.rvt
4/24/2020 5:41:21 PM

FRONT VIEW

NORTH-WEST VIEW

WEST VIEW

Attachment IV

DSA:

ARCHITECTS + ENGINEERS
AN AC MARTIN COMPANY

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3009 Douglas Blvd #290 Roseville, CA 95661 - T 916.772.1800
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CONSULTANT:

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AGENCY APPROVAL:

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A	PLANNING SUBMITTAL	01/27/20
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KEY PLAN:

Owner

U-HAUL COMPANY OF SAN FRANCISCO

4150 POINT EDEN WAY

RENDERED EXTERIOR VIEWS

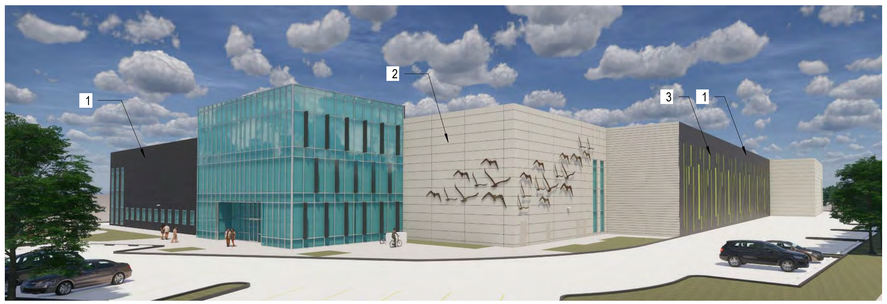
DRAWN BY: RS | CHECKED BY: RFT

DATE: 03/30/2020 | **PROJECT NO: U2301**

SHEET NO:

A-501

4/24/2020 5:41:22 PM BIM 360://U-Haul Hayward/U-Haul Hayward_rshah@3EL2.rvt



1

CENTRIA METAL PANEL
154 DARK BRONZE

2

STOREFRONT SYSTEM

1

CENTRIA METAL PANEL
154 DARK BRONZE

ATI ARCHITECTS & ENGINEERS
AN HC BOSTON COMPANY

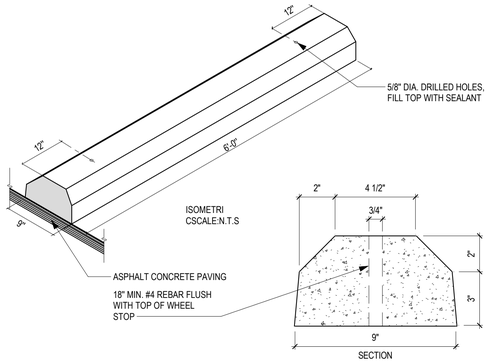
MATERIAL BOARD

Project number	U2301
Date	03/30/2020
Drawn by	RS
Checked by	RFT

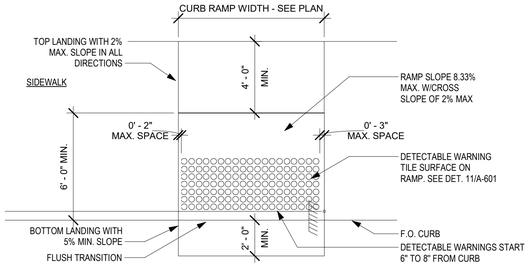
A-502

Scale 1 1/2" = 1'-0"

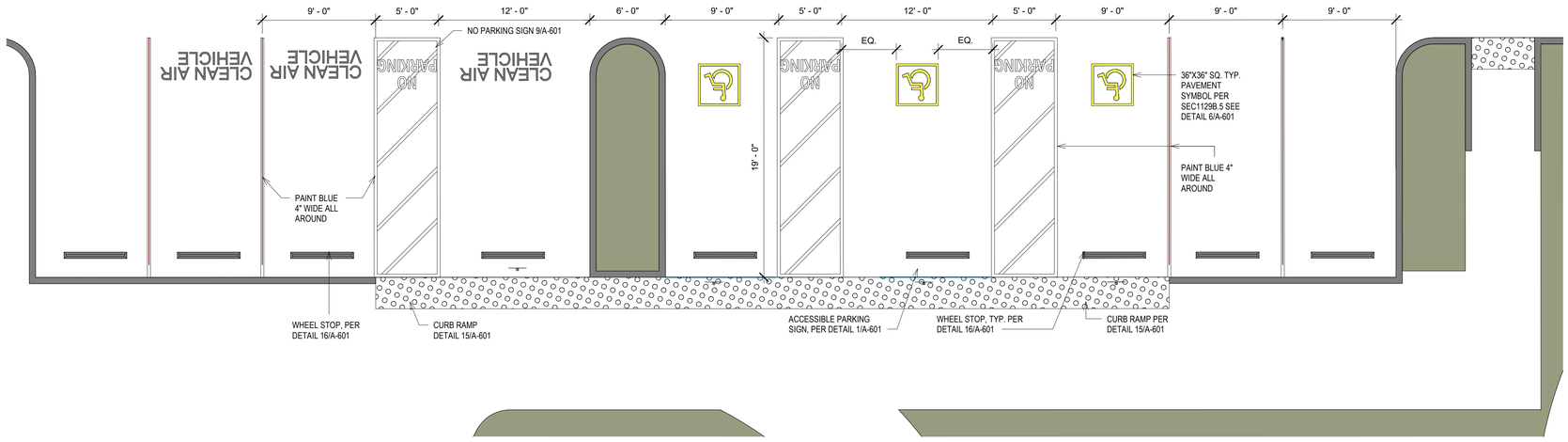
4/24/2020 5:41:23 PM



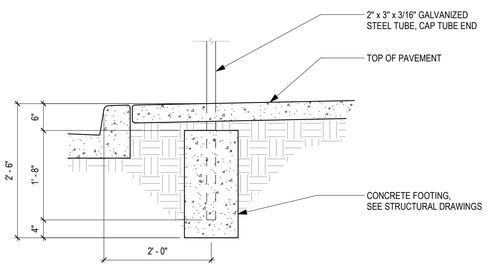
16 PRECAST CONCRETE WHEELSTOP
3" = 1'-0"



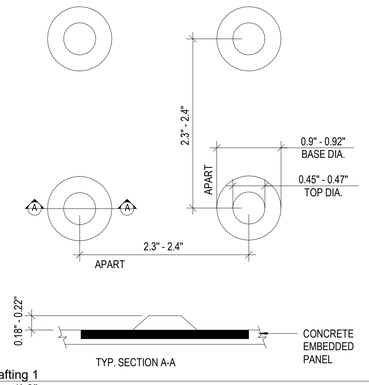
15 CURB-RAMP
1/4" = 1'-0"



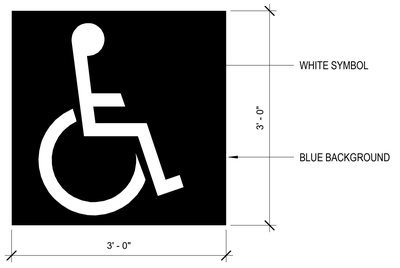
11 ENLARGED SITE PLAN ACCESSIBLE PARKING STALLS
3/16" = 1'-0"



14 TYPICAL SIGN FOUNDATION
3/4" = 1'-0"

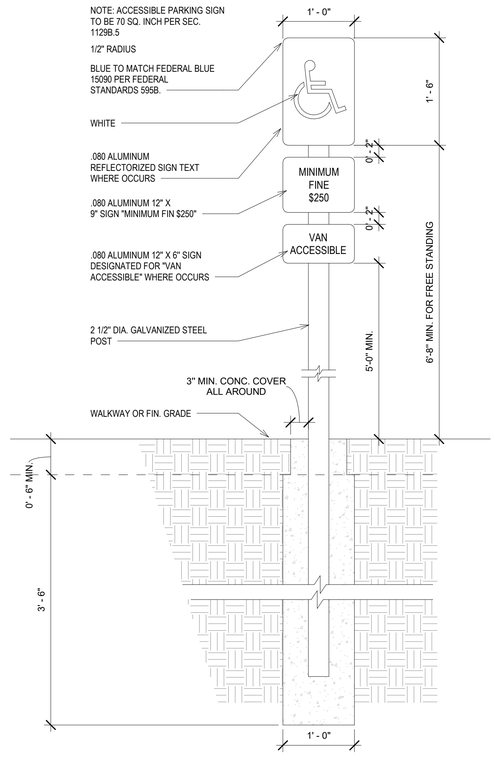


10 Drafting 1
3" = 1'-0"



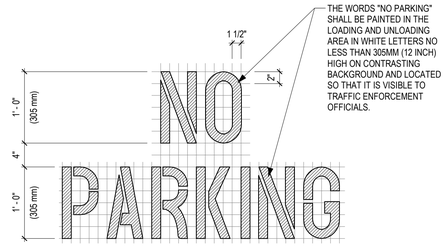
EMBLEM MUST BE LOCATED SO THAT IS VISIBLE BY A TRAFFIC ENFORCEMENT OFFICER WHEN A VEHICLE IS PROPERLY PARKED IN THE SPACE (CENTERED AT THE ENTRANCE TO THE STALL)

6 ACCESSIBLE SIGN
1" = 1'-0"

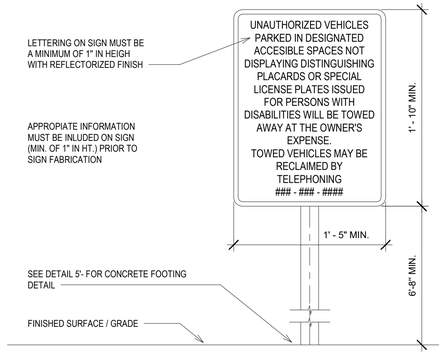


1 ACCESSIBLE PARKING SIGN
1" = 1'-0"

13 "CLEAN AIR VEHICLE" MARKING
3/4" = 1'-0"



9 "NO PARKING" PAVEMENT MARKING
1" = 1'-0"



5 TOW-PRKG
1 1/2" = 1'-0"

4/24/2020 5:41:24 PM
BIM 360://U-Haul Hayward/U-Haul Hayward_rstahlQ3EL2.rvt

Attachment IV

DSA:

ATI ARCHITECTS + ENGINEERS
AN AC MARTIN COMPANY
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CONSULTANT:

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KEY PLAN:

Owner

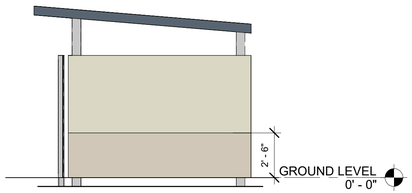
U-HAUL COMPANY OF SAN FRANCISCO

4150 POINT EDEN WAY

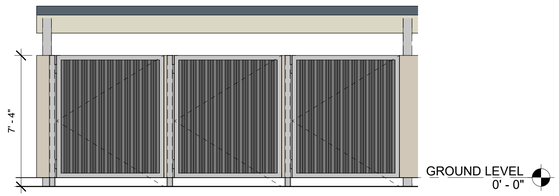
SITE ELEMENTS

DRAWN BY: Author | CHECKED BY: Checker
DATE: 03/30/2020 | **PROJECT NO: U2301**
SHEET NO:

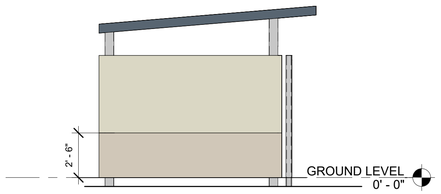
A-601



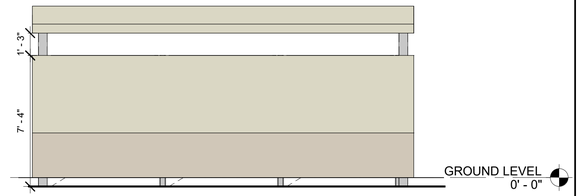
16 NORTH - TRASH ENCLOSURE
1/4" = 1'-0"



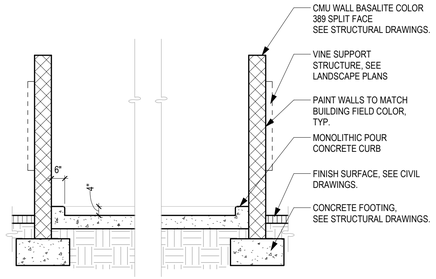
12 EAST ELEVATION - TRASH ENCLOSURE
1/4" = 1'-0"



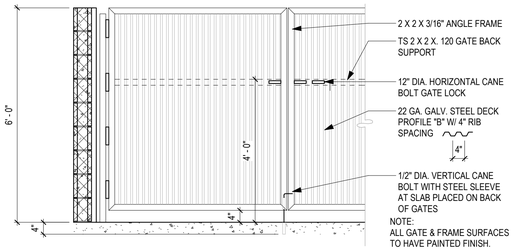
8 SOUTH ELEVATION - TRASH ENCLOSURE
1/4" = 1'-0"



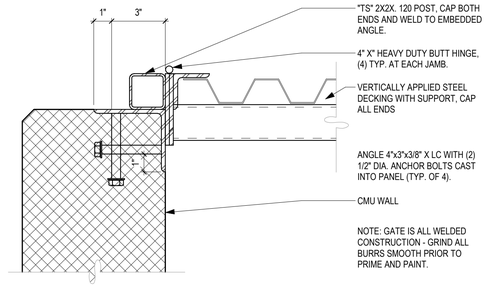
4 WEST ELEVATION -TRASH ENCLOSURE
1/4" = 1'-0"



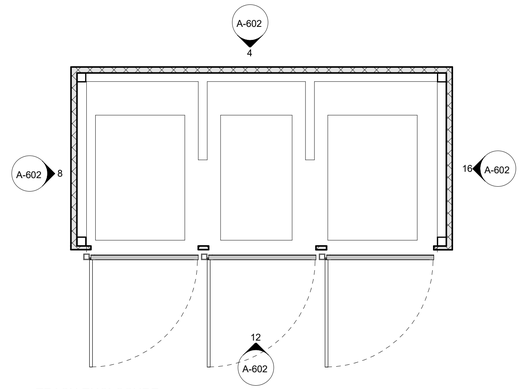
15 TRASH ENCLOSURE SECTION
3/8" = 1'-0"



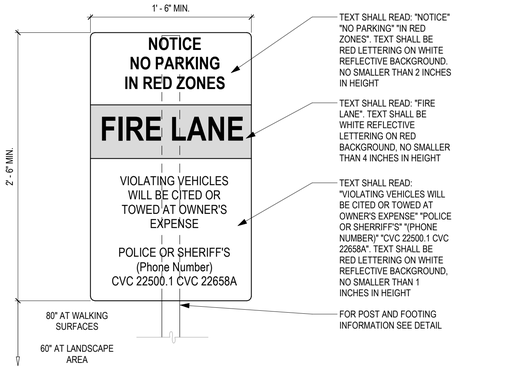
11 TRASH ENCLOSURE GATE
1/2" = 1'-0"



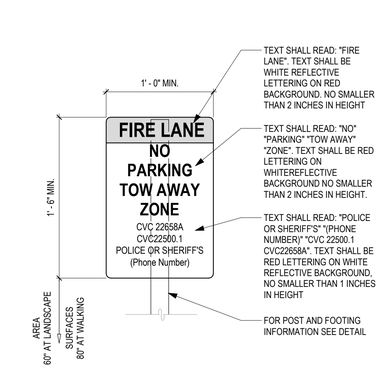
7 TRASH GATE JAMB AT CMU
3" = 1'-0"



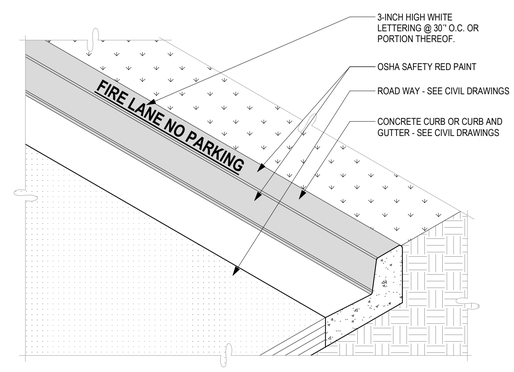
3 TRASH ENCLOSURE
1/4" = 1'-0"



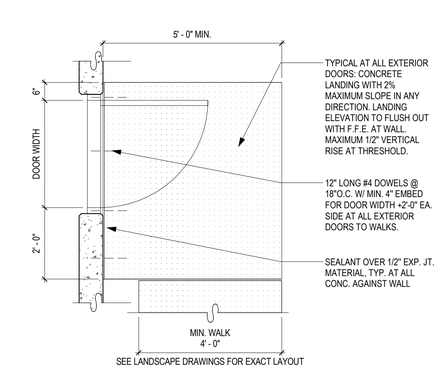
14 FIRELANE ENTRY SIGNAGE
1 1/2" = 1'-0"



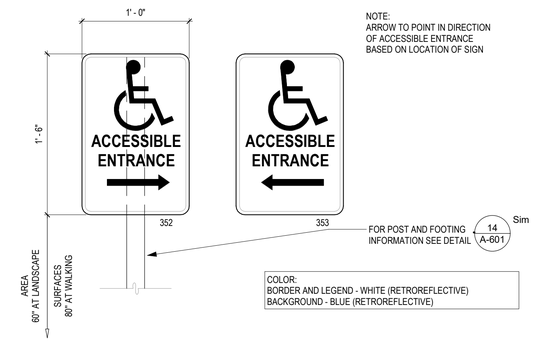
10 FIRELANE SIGNAGE
1 1/2" = 1'-0"



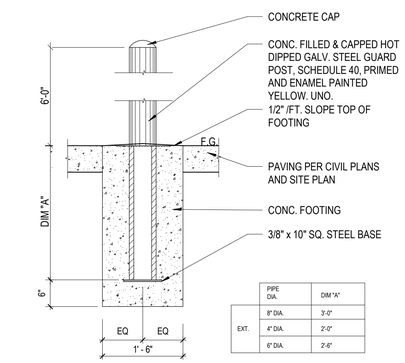
6 FIRE LANE CURB
3/4" = 1'-0"



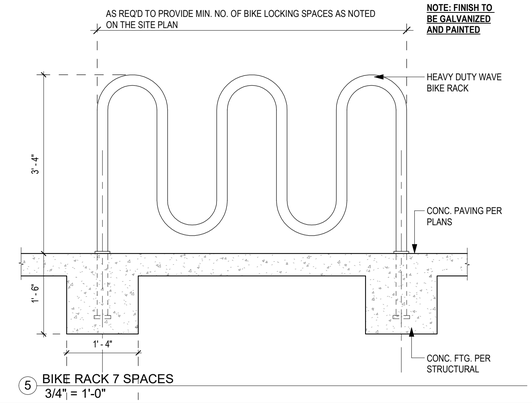
2 CONCRETE LANDING
1/2" = 1'-0"



13 ACCESSIBLE DIRECTION SIGN
1 1/2" = 1'-0"



9 EXTERIOR BOLLARD
3/4" = 1'-0"



5 BIKE RACK 7 SPACES
3/4" = 1'-0"

ATI ARCHITECTS + ENGINEERS
AN AC MARTIN COMPANY
4750 Willow Road #250 Pleasanton, CA 94588 - T 925.648.8800
3009 Douglas Blvd #290 Roseville, CA 95661 - T 916.772.1800
3050 Pullman Street Costa Mesa, CA 92626 - T 714.338.1600

Attachment IV

DSA:

CONSULTANT:

PROFESSIONAL STAMP:

AGENCY APPROVAL:

ITEM:	REVISION/ISSUE:	DATE:
A	PLANNING SUBMITTAL	01/27/20
B	PLANNING RESUBMITTAL	04/24/20

KEY PLAN:

Owner

U-HAUL COMPANY OF SAN FRANCISCO

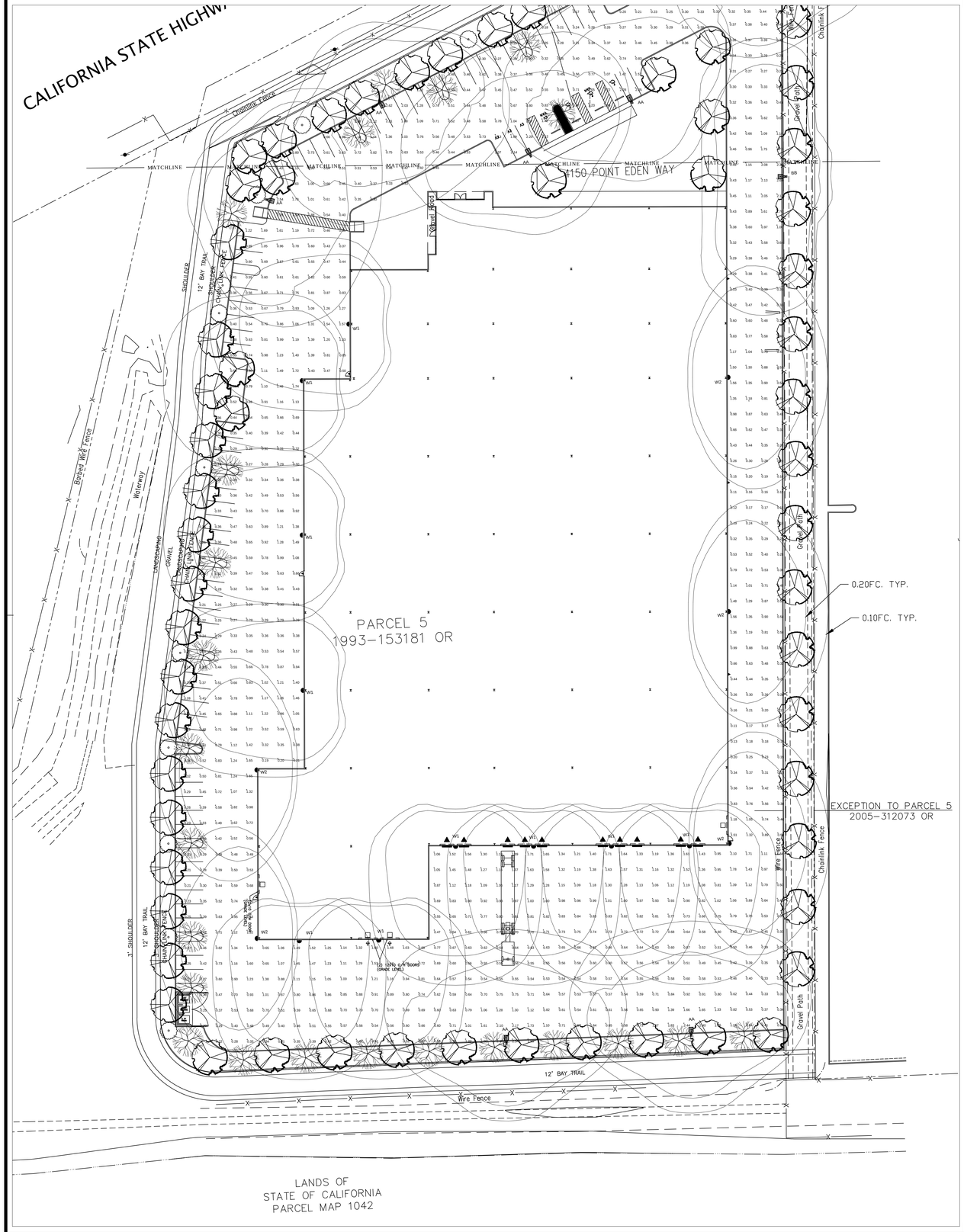
4150 POINT EDEN WAY

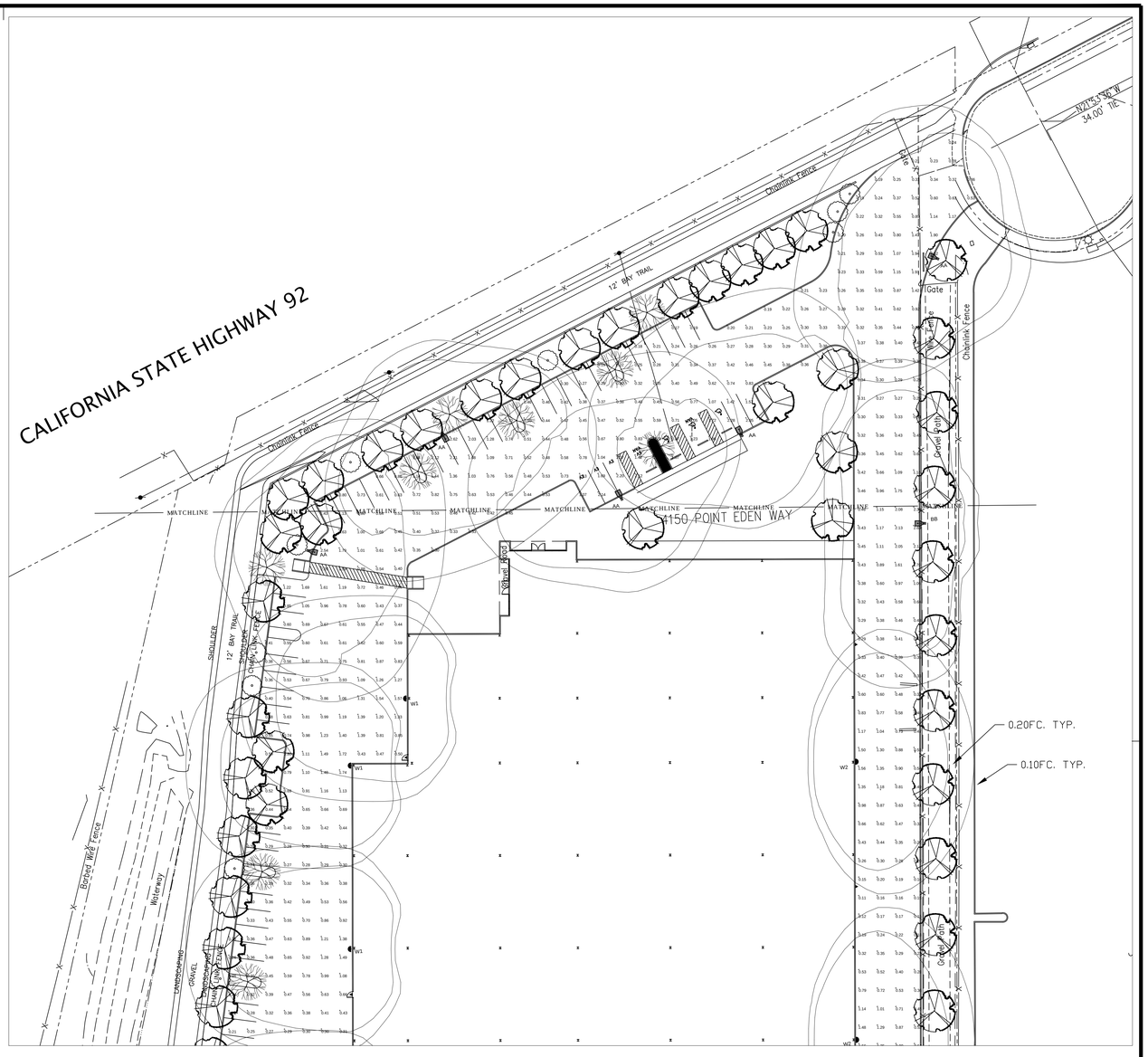
TRASH ENCLOSURE & OTHER DETAILS

DRAWN BY: Author | CHECKED BY: Checker
DATE: 03/30/2020 | **PROJECT NO: U2301**
SHEET NO:

A-602

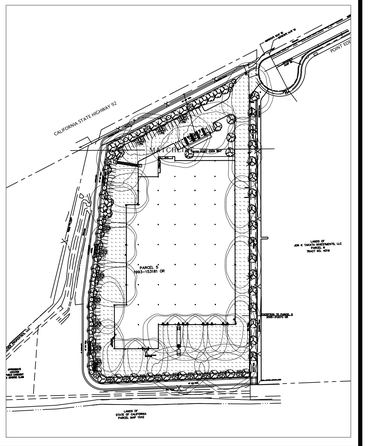
4/24/2020 5:41:27 PM BIM 360://U-Haul Hayward/U-Haul Hayward_rshah@2012.rvt





Luminaire Schedule - LED											
Project: U-HAUL - HAYWARD											
Symbol	Qty	Label	Arrangement	Lum. Watts	Lum. Lumens	LLF	LLD	LDD	UDF	Description	Filename
	7	AA	SINGLE	52.7703	8059	0.900	0.900	1.000	1.000	AR13-48N-MV-NW-4-XX-080	AR13-48N-MV-NW-4-XX-080.ies
	1	BB	SINGLE	52.8223	7941	0.900	0.900	1.000	1.000	AR13-48N-MV-NW-3-XX-080	AR13-48N-MV-NW-3-XX-080.ies
	10	W1	SINGLE	58.7	5738	0.900	0.900	1.000	1.000	ES1-24H-MV-NW-FT-XX-700	IES ES1-24H-MV-NW-FT-XX-700 05
	5	W2	SINGLE	58.6	5771	0.900	0.900	1.000	1.000	ES1-24H-MV-NW-W-XX-700	IES ES1-24H-MV-NW-W-XX-700 040

Calculation Summary									
Project: U-HAUL - HAYWARD									
Description	CalcType	Units	Grid Z	Avg	Max	Min	Avg/Min	Max/Min	
AUTO PARKING AND PAVED DRIVES	Illuminance	Fc	0	0.68	2.62	0.17	4.00	15.41	
EAST TRUCK DRIVE	Illuminance	Fc	0	0.60	2.69	0.11	5.45	24.45	
TRUCK LOAD - UNLOAD AREA	Illuminance	Fc	0	0.84	2.54	0.20	4.20	12.70	



ALL VALUES SHOWN ARE MAINTAINED HORIZONTAL FOOTCANDLES AT GRADE

PHOTOMETRIC DATA USED AS INPUT FOR THESE CALCULATIONS IS BASED ON ESTABLISHED IES PROCEDURES AND PUBLISHED LAMP, RATINGS, FIELD PERFORMANCE WILL DEPEND ON ACTUAL LAMP, BALLAST, ELECTRICAL, AND SITE CHARACTERISTICS.

Calculations have been performed according to IES standards and good practice. Some differences between measured values and calculated results may occur due to tolerances in calculation methods, testing procedures, component performance, measurement techniques and field conditions such as voltage and temperature variations. Input data used to generate the attached calculations such as room dimensions, reflectances, furniture and architectural elements significantly affect the lighting calculations. If the real environment conditions do not match the input data, differences will occur between measured values and calculated values.

Associated Lighting Representatives, Inc.

ASSOCIATED LIGHTING REPRESENTATIVES, INC
7777 PARDEE LANE
P.O. BOX 2265
OAKLAND, CA 94621
PHONE: (510) 638-0158 - FAX (510) 638-2908

REPORT FOR: ATI ARCHITECTS + ENGINEERS
BY: APPLICATIONS ENGINEERING; RAMON ZAPATA
SALES REPRESENTATIVE: ALR; TIM HALEY

AGI32 VERSION 19.11
AGI (C) 2019 LIGHTING ANALYSTS, INC.
10268 W. CENTENNIAL ROAD, SUITE 202
LITTLETON, CO 80127

PROJECT DESCRIPTION

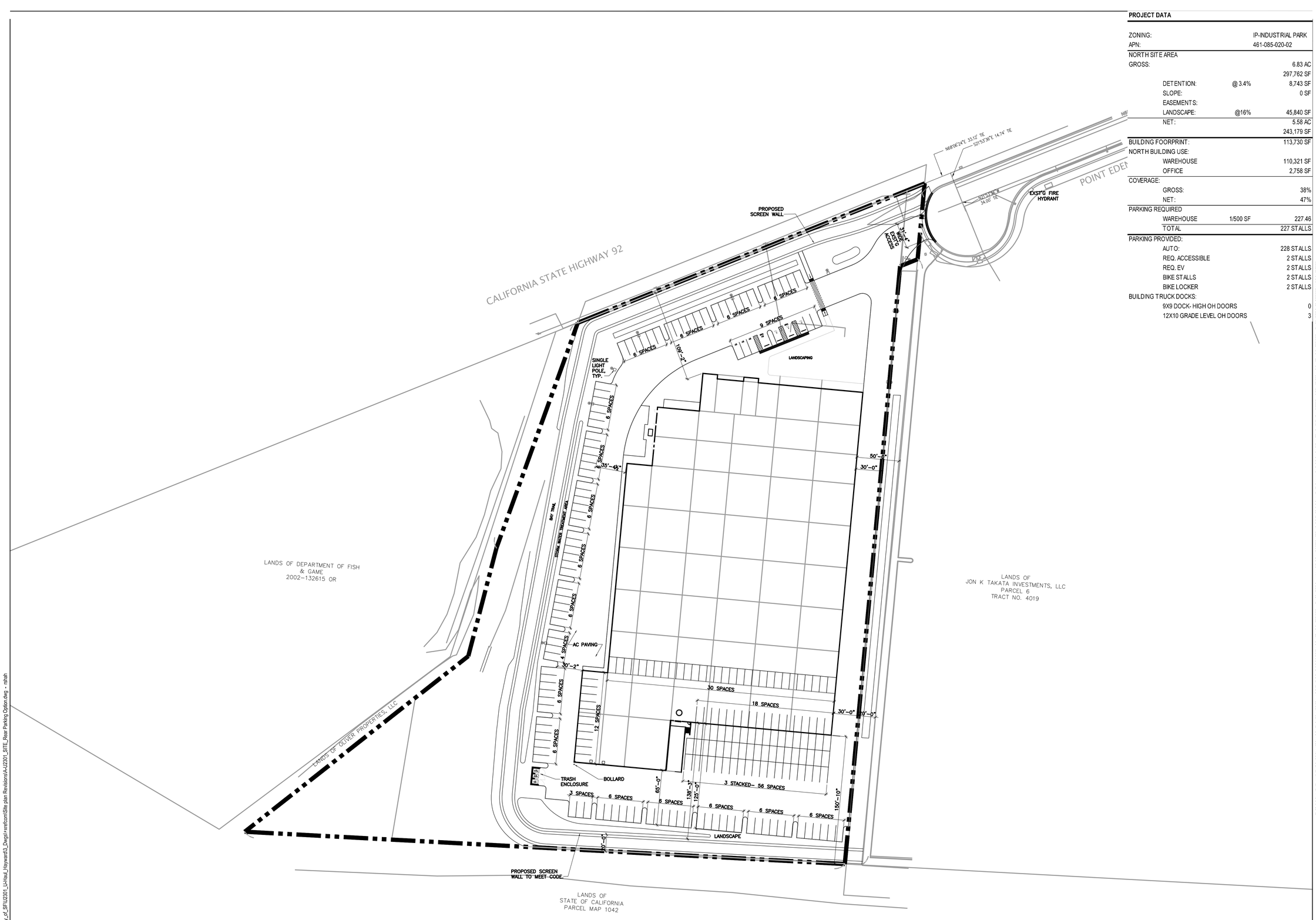
U-HAUL

CITY OF HAYWARD

DRAWING NO. / INPUT FILE
17579HAL.DWG / 17579HAL.A32

SCALE	SHEET	DATE	REV
1" = 30'	1 OF 1	01.03.2019	X

Attachment IV



PROJECT DATA

ZONING:		IP-INDUSTRIAL PARK
APN:		461-085-020-02
NORTH SITE AREA		
GROSS:		6.83 AC
		297,762 SF
DETENTION:	@ 3.4%	8,743 SF
SLOPE:		0 SF
EASEMENTS:		
LANDSCAPE:	@16%	45,840 SF
NET:		5.58 AC
		243,179 SF
BUILDING FOORPRINT:		113,730 SF
NORTH BUILDING USE:		
WAREHOUSE		110,321 SF
OFFICE		2,758 SF
COVERAGE:		
GROSS:		38%
NET:		47%
PARKING REQUIRED		
WAREHOUSE	1/500 SF	227.46
TOTAL		227 STALLS
PARKING PROVIDED:		
AUTO:		228 STALLS
REQ. ACCESSIBLE		2 STALLS
REQ. EV		2 STALLS
BIKE STALLS		2 STALLS
BIKE LOCKER		2 STALLS
BUILDING TRUCK DOCKS:		
9X9 DOCK- HIGH OH DOORS		0
12X10 GRADE LEVEL OH DOORS		3

ATI ARCHITECTS + ENGINEERS
AN AC MARTIN COMPANY
4750 Willow Road #250 Pleasanton, CA 94588 - T 925.648.8800
3009 Douglas Blvd #290 Roseville, CA 95661 - T 916.772.1800
444 S Flower St #1200, Los Angeles, CA 90071 - T 714.338.1600

CONSULTANT:

PROFESSIONAL STAMP:

APPROVALS:

ITEM:	REVISION / ISSUE:	DATE:
A	PLANNING SUBMITTAL	04/24/2020

KEY PLAN:

U-HAUL COMPANY OF SAN FRANCISCO

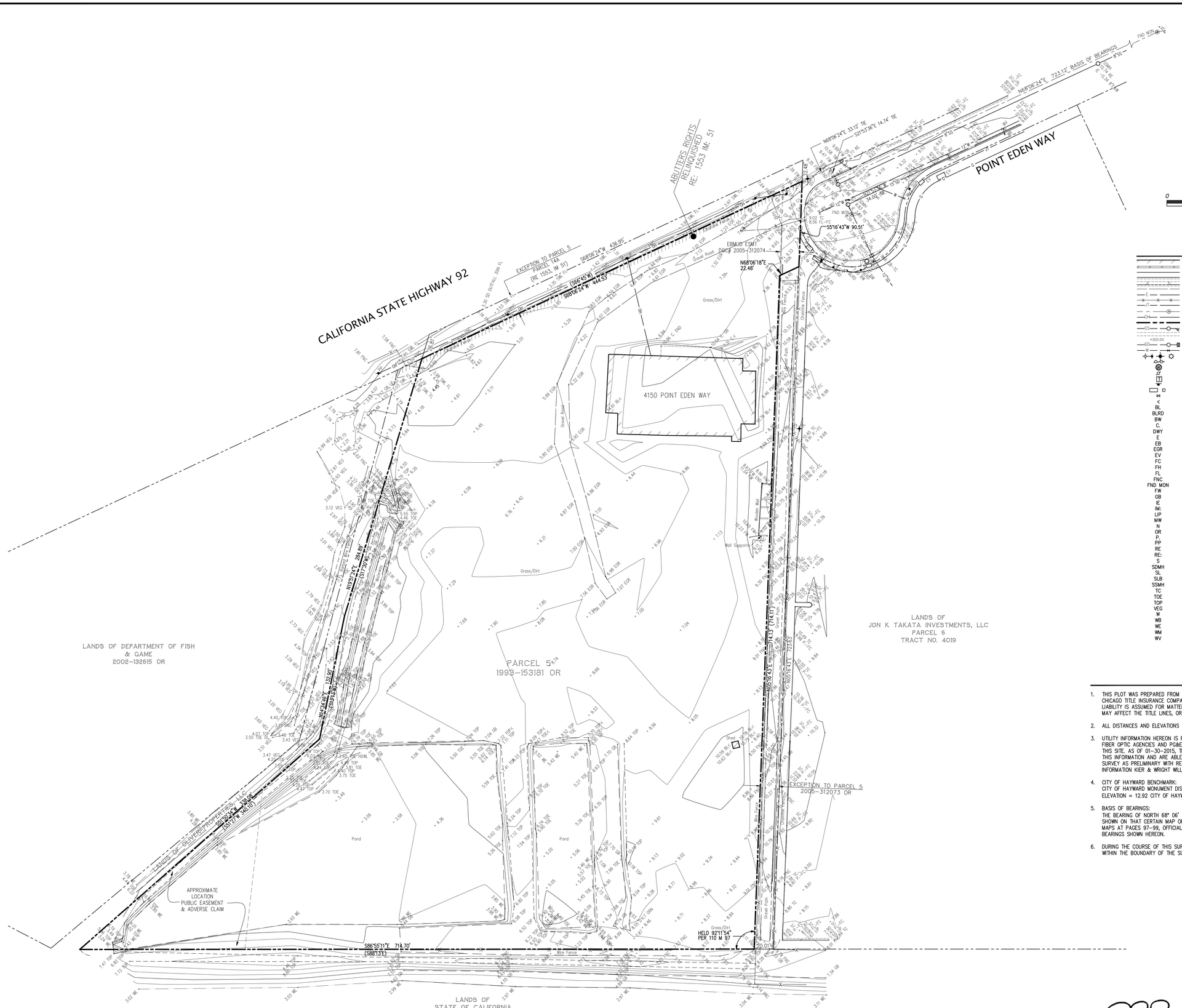
HAYWARD, CA
VOL./INC. (OPTIONAL)

BLDG. NAME (OPTIONAL)

PARKING ADAPTATION PLAN

DRAWN BY: RS | CHECKED BY: RFT
DATE: 04/24/2020 | PROJECT NO: U2301
SHEET NO:

04/24/2020 - 04:50:09 PM
P:\U\U2300_U-Haul_Company_of_SF\U2301_U-Haul_Hayward\3_Dwgs\+revtcom\Site plan Revisions\A-U2301_SITE_Rear Parking Option.dwg - - rshah



LEGEND

	BUILDING LINE
	CONCRETE/BLOCK/RETAINING WALL
	CONCRETE CURB
	CONCRETE CURB & GUTTER
	DRIVEWAY
	EDGE OF PAVEMENT
E	ELECTRIC LINE
X	FENCE LINE
JT	JOINT TRENCH
	MONUMENT/MONUMENT LINE
OH	OVERHEAD POWER LINE
	PROPERTY LINE
SS	SANITARY SEWER–MANHOLE & CLEANOUT
	SIDEWALK
x.xx.00	SPOT ELEVATION
SD	STORM DRAIN–MANHOLE & CATCH BASIN
W	WATER LINE & VALVE
	ELECTROLIER
	FIRE HYDRANT
	MONITORING WELL
	POWER POLE/JOINT POLE
	TRANSFORMER
	TRAFFIC SIGN
	UTILITY BOX
	WATER VALVE
<	ANGLE POINT
BL	BUILDING LINE
BLRD	BOLLARD
BW	BACK OF WALK
C	CONCRETE
DWY	DRIVEWAY
E	EAST
EB	ELECTRIC BOX
EGR	EDGE OF GRAVEL ROAD
EV	ELECTRICAL VAULT
FC	FACE OF CURB
FH	FIRE HYDRANT
FL	FLOWLINE
FNC	FENCE
FND MON	FOUND MONUMENT
FW	FACE OF WALL
GB	GRADE BREAK
IE	INVERT ELEVATION
IM:	IMAGE
LIP	LIP OF GUTTER
MW	MONITORING WELL
N	NORTH
OR	OFFICIAL RECORDS
P	PAVEMENT
PP	POWER POLE
RE	RIM ELEVATION
RE:	REEL
S	SOUTH
SDMH	STORM DRAIN MANHOLE
SL	STREET LIGHT
SLB	STREET LIGHT BOX
SSMH	SANITARY SEWER MANHOLE
TC	TOP OF CURB
TOE	GRADE BREAK LINE TOE
TOP	GRADE BREAK LINE TOP
VEG	EDGE OF VEGETATION
W	WEST
WB	WATER BOX
WE	WATER EDGE
WM	WATER METER
WV	WATER VALVE

NOTES

1. THIS PLOT WAS PREPARED FROM INFORMATION FURNISHED IN A PRELIMINARY TITLE REPORT, PREPARED BY CHICAGO TITLE INSURANCE COMPANY, DATED OCTOBER 24, 2014, NUMBER FWAC–TO14002350–KD. NO LIABILITY IS ASSUMED FOR MATTERS OF RECORD NOT STATED IN SAID PRELIMINARY TITLE REPORT THAT MAY AFFECT THE TITLE LINES, OR EXCEPTIONS, OR EASEMENTS OF THE PROPERTY.
2. ALL DISTANCES AND ELEVATIONS SHOWN HEREON ARE IN FEET AND DECIMALS THEREOF.
3. UTILITY INFORMATION HEREON IS PROGRESS AT THIS TIME. A REQUEST WAS MADE TO THE RESPECTIVE FIBER OPTIC AGENCIES AND PG&E FOR INFORMATION REGARDING THE LOCATION OF THEIR FACILITIES ON THIS SITE. AS OF 01–30–2015, THEY HAD NOT RESPONDED WITH THIS INFORMATION. UNTIL WE RECEIVE THIS INFORMATION AND ARE ABLE TO DELINEATE THESE FACILITIES, ALL PARTIES SHOULD CONSIDER THIS SURVEY AS PRELIMINARY WITH REGARDS TO THE LOCATION OF UTILITY FACILITIES. UPON RECEIPT OF THIS INFORMATION KIER & WRIGHT WILL UPDATE THIS SURVEY AND REISSUE IT.
4. CITY OF HAYWARD BENCHMARK:
   CITY OF HAYWARD MONUMENT DISK AT EDEN LANDING ROAD AND POINT EDEN WAY.
   ELEVATION = 12.92 CITY OF HAYWARD DATUM (NGVD 1929)
5. BASIS OF BEARINGS:
   THE BEARING OF NORTH 68° 06' 24" EAST TAKEN ON THE MONUMENT LINE OF POINT EDEN WAY AS SHOWN ON THAT CERTAIN MAP OF TRACT 4019, FILED FOR RECORD ON JUNE 28, 1979, IN BOOK 110 OF MAPS AT PAGES 97–99, OFFICIAL RECORDS OF ALAMEDA COUNTY WAS TAKEN AS THE BASIS FOR ALL BEARINGS SHOWN HEREON.
6. DURING THE COURSE OF THIS SURVEY, THERE WAS NO OBSERVED EVIDENCE OF WETLANDS MARKERS WITHIN THE BOUNDARY OF THE SUBJECT PROPERTY.

06/22/2016
PREPARED BY OR UNDER THE SUPERVISION OF RODNEY A. STEWART II P.L.S. 9225
LICENSE EXPIRES: 9–30–17
DATE

LICENSED LAND SURVEYOR RODNEY A. STEWART II No. 9225 9/30/17 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER JOHN JOSEPH WIRTH No. 74365 CIVIL STATE OF CALIFORNIA

NO.	BY	REVISION

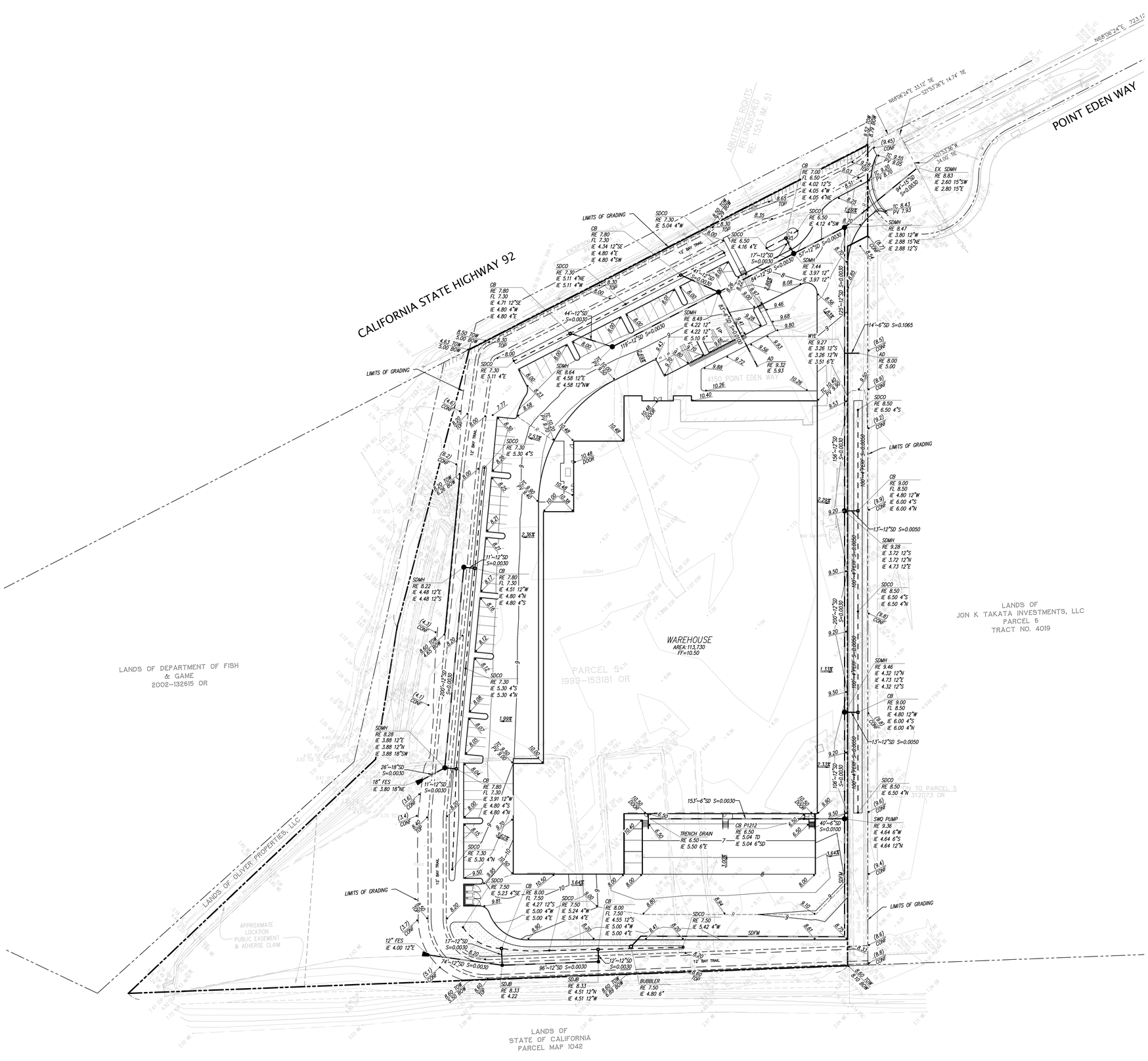
KIER+WRIGHT
2850 Collier Canyon Road
Livermore, CA 94551
Phone: (925) 245-8788
www.kierwright.com

TOPOGRAPHIC SURVEY
OF
4150 POINTE EDEN WAY
FOR
U-HAUL, INC.

HAYWARD, CALIFORNIA

DATE	APRIL, 2020
SCALE	1" = 40'
DESIGNER	KS/SS
DRAWN BY	TB/JTQ
JOB NO.	A19640
SHEET	C1.0
OF	8 SHEETS

Z:\2019\A19640\DWG\CIVIL\A19640-C05.dwg 4-14-20 11:05:10 AM jjuliantong



NORTH

0 20 40 80 120

Scale 1" = 40'

LEGEND

PROPOSED	EXISTING	
		ASPHALT BERM
		BLOCK/RETAINING WALL
		BUILDING LINE
		FLUSH CONCRETE CURB
		CONCRETE CURB
		CONCRETE CURB CUT
		CONCRETE CURB & GUTTER
100	100	CONTOUR LINE
		DRIVEWAY
		EDGE OF PAVEMENT
		FENCE LINE
		LOT LINE
PERF. PIPE		MONUMENT/MONUMENT LINE
		PERFORATED STORM DRAIN PIPE
		PROPERTY LINE
RWL	RWL	RAINWATER LEADER
		SIDEWALK
SD	SD	STORM DRAIN-MANHOLE & CATCH BASIN
		THRU CURB DRAIN
100.00	100.00	SPOT ELEVATION
		TRAFFIC SIGN
		TREE
		UTILITY BOX
AD	AD	AREA DRAIN
BW	BW	BACK OF WALK
BLDG	BLDG	BUILDING
BL	BL	BUILDING LINE
CB	CB	CATCH BASIN
COTG	COTG	CLEANOUT TO GRADE
C	C	CONCRETE
DR	DR	DOOR
DS	DS	DOWN SPOUT
DIP	DIP	DUCTILE IRON PIPE
ESMT	ESMT	EASEMENT
EW	EW	EDGE OF WALK
FB	FB	FACE OF BERM
FC	FC	FACE OF CURB
FW	FW	FACE OF WALL
FF	FF	FINISHED FLOOR
FL	FL	FLOW LINE
GB	GB	GRADE BREAK
HP	HP	HIGH POINT
IE	IE	INVERT ELEVATION
LP	LP	LOW POINT
LT	LT	LIGHT
OF	OF	OVERFLOW
PV	P	PAVEMENT
RWL	RWL	RAINWATER LEADER
R	R	RIDGE
RE	RE	RIM ELEVATION
RD	RD	ROOF DRAIN
SDJB	SDJB	STORM DRAIN JUNCTION BOX
SDMH	SDMH	STORM DRAIN MANHOLE
SWL	SWL	SWALE
TB	TB	TOP OF BERM
TC	TC	TOP OF CURB
TW	TW	TOP OF WALL
T	T	TRANSFORMER
TE	TE	TRASH ENCLOSURE
		BIO-FILTRATION SWALE

REVISION | NO. | BY

REVISION | NO. | BY

REGISTERED PROFESSIONAL ENGINEER JOHN WILLIAM MAHONEY CIVIL STATE OF CALIFORNIA

KIER+WRIGHT

2850 Collier Canyon Road
Livermore, CA 94551
Phone: (925) 245-8788
www.kierwright.com

PRELIMINARY GRADING AND DRAINAGE PLAN

OF

4150 POINTE EDEN WAY

FOR

U-HAUL, INC.

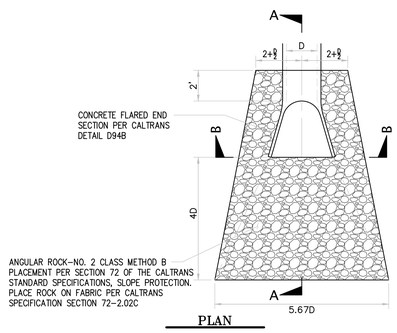
HAYWARD, CALIFORNIA

DATE	APRIL, 2020
SCALE	1" = 40'
DESIGNER	KS/SS
DRAWN BY	TB/JTQ
JOB NO.	A19640
SHEET	C2.0
OF	8 SHEETS

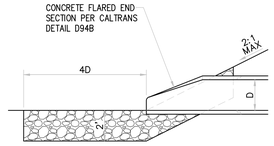
Catchbasin Insert, Full Capture Device

KS-1 **Flo Gard Plus catchbasin filter Inserts, combination inlet style, stainless steel only (C3)**
Drop in Basket

Company Contact: KriStar Enterprises, Inc., Santa Rosa, CA Sales contact: Sue Lillo, 800-579-8819 slillo@kristar.com http://www.kristar.com	
Storage capacity: 1.8, 2.7 or 4.1 cubic feet depending on size of inlet	**Replacement Parts:** Available
Vendor's maintenance estimate: "Depends on the amount of runoff, pollutant loading and interference from debris"	**Warranty:** 5 years
Material: 304 stainless steel	**Delivery Time:** Typically 1 week for standard products; 3 weeks for customized products
Pricing: See over.	
Installed: FloGard inserts are in use in County of Sonoma, Alameda County Transit, Santa Clara Valley Transit Authority, Riverside County-TLMA	



PLAN



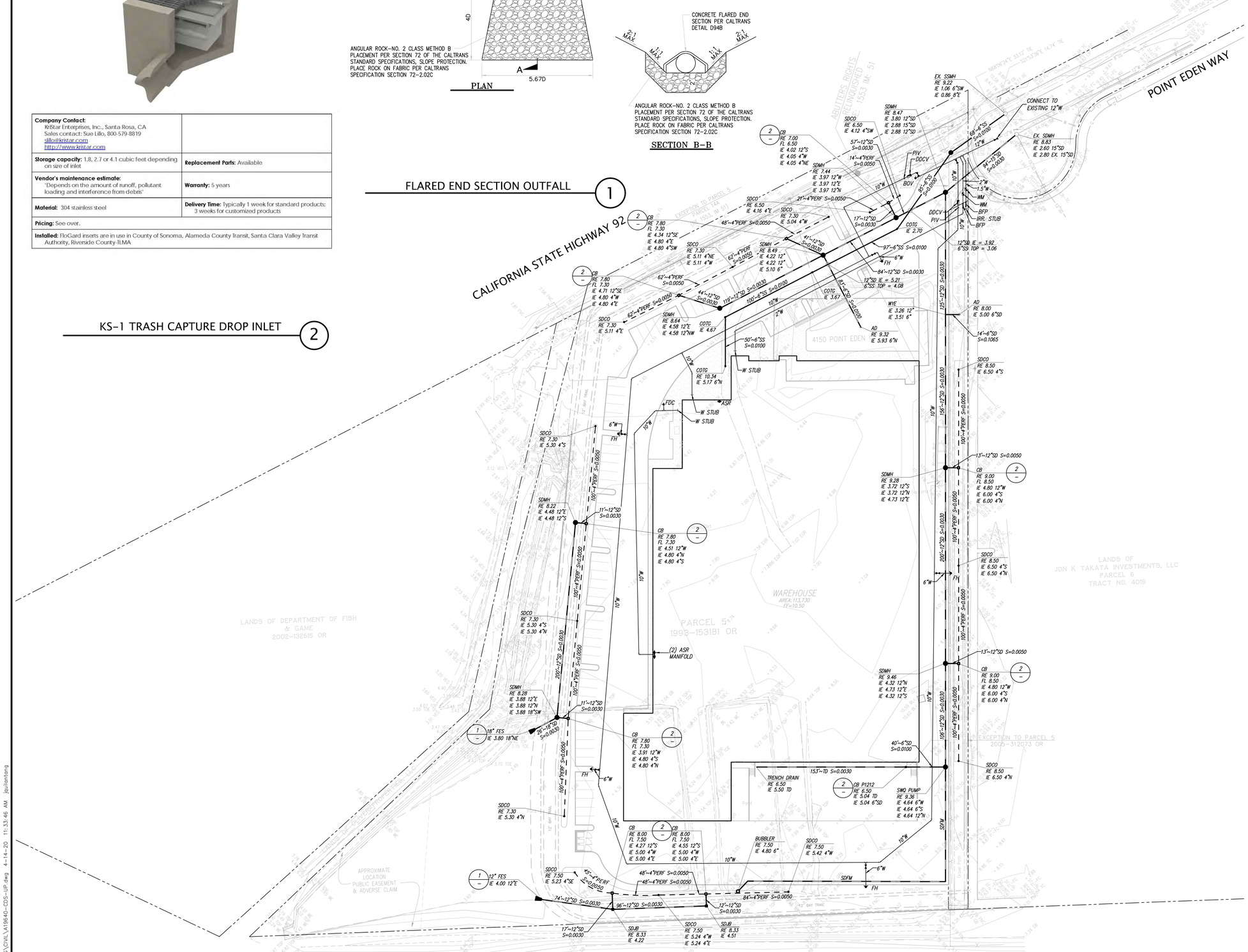
SECTION A-A

ANGULAR ROCK-NO. 2 CLASS METHOD B PLACEMENT PER SECTION 72 OF THE CALTRANS STANDARD SPECIFICATIONS, SLOPE PROTECTION. PLACE ROCK ON FABRIC PER CALTRANS SPECIFICATION SECTION 72-2.02C

SECTION B-B

FLARED END SECTION OUTFALL 1

KS-1 TRASH CAPTURE DROP INLET 2



LEGEND

PROPOSED	EXISTING	
		ASPHALT BERM
		BUILDING LINE
		CENTER LINE
		CONCRETE CURB
		CONCRETE CURB & GUTTER
300	300	CONTOUR LINE
D	D	DRIVEWAY
E	E	EDGE OF PAVEMENT
E	E	ELECTRIC LINE
X X X	X X X	FENCE LINE
FS	FS	FIRE SERVICE & VALVE
FO	FO	FIBER OPTICS LINE
G	G	GAS LINE-VALVE & METER
		GUARD RAIL
		LOT LINE
OH	OH	MONUMENT/MONUMENT LINE
OHT	OHT	OVERHEAD POWER LINE
PDMI PDPE		JOINT TRENCH LINE
SS	SS	PERFORATED STORM DRAIN PIPE
		PROPERTY LINE
100.00	100.00	SANITARY SEWER-MANHOLE & CLEANOUT
SD	SD	SIDEWALK
T	T	SPOT ELEVATION
W	W	STORM DRAIN-MANHOLE & CATCH BASIN
		THRU CURB DRAIN
		TELEPHONE LINE
		WATER LINE & VALVE
		BACKFLOW PREVENTION DEVICE
		ELECTROLIER
		FIRE HYDANT
		POST INDICATOR VALVE
		POWER POLE/JOINT POLE
T	T	TRANSFORMER
		TRAFFIC SIGN
		UTILITY BOX
AD	AD	AREA DRAIN
ARV	ARV	AIR RELEASE VALVE
AVP	AVP	AIR VALVE POST
ASR	ASR	AUTOMATIC SPRINKLER RISER
BFPD	BFPD	BACKFLOW PREVENTION DEVICE
BOV	BOV	BLOWOFF VALVE
CATVB	CATVB	CABLE TELEVISION BOX
CTB	CTB	CALTRANS BOX
CB	CB	CATCH BASIN
COTG	COTG	CLEANOUT TO GRADE
DS	DS	DOWN SPOUT
EB	EB	ELECTRIC BOX
ETS	ETS	ELECTROLYSIS TEST STATION
FF	FF	FINISHED FLOOR
FH	FH	FIRE HYDRANT
FL	FL	FLOW LINE
FOM	FOM	FIBER OPTICS MARKER
GLM	GLM	GAS LINE MARKER
GM	GM	GAS METER
GV	GV	GAS VALVE
GA	GA	GUY ANCHOR
IE	IE	INVERT ELEVATION
IB	IB	IRRIGATION BOX
JP	JP	JOINT POWER POLE
LT	LT	LIGHT
PBMH	PBMH	PAC BELL MANHOLE
POC	POC	POINT OF CONNECTION
PIV	PIV	POST INDICATOR VALVE
PP	PP	POWER POLE
RWL	RWL	RAIN WATER LEADER
RVP	RVP	RELEASE VALVE POST
RE	RE	RIM ELEVATION
SSCO	SSCO	SANITARY SEWER CLEANOUT
SSMH	SSMH	SANITARY SEWER MANHOLE
SMH	SMH	SPRINT MANHOLE
SM	SM	SPRINT MARKER
SDMH	SDMH	STORM DRAIN MANHOLE
SDJB	SDJB	STORM DRAIN JUNCTION BOX
SL	SL	STREET LIGHT
SLB	SLB	STREET LIGHT BOX
TB	TB	TELEPHONE BOX
TMH	TMH	TELEPHONE MANHOLE
TSB	TSB	TRAFFIC SIGNAL BOX
TSP	TSP	TRAFFIC SIGNAL POLE
WB	WB	WATER BOX
WM	WM	WATER METER
WV	WV	WATER VALVE

NORTH

0 20 40 80 120

Scale 1" = 40'

NO.	BY	REVISION

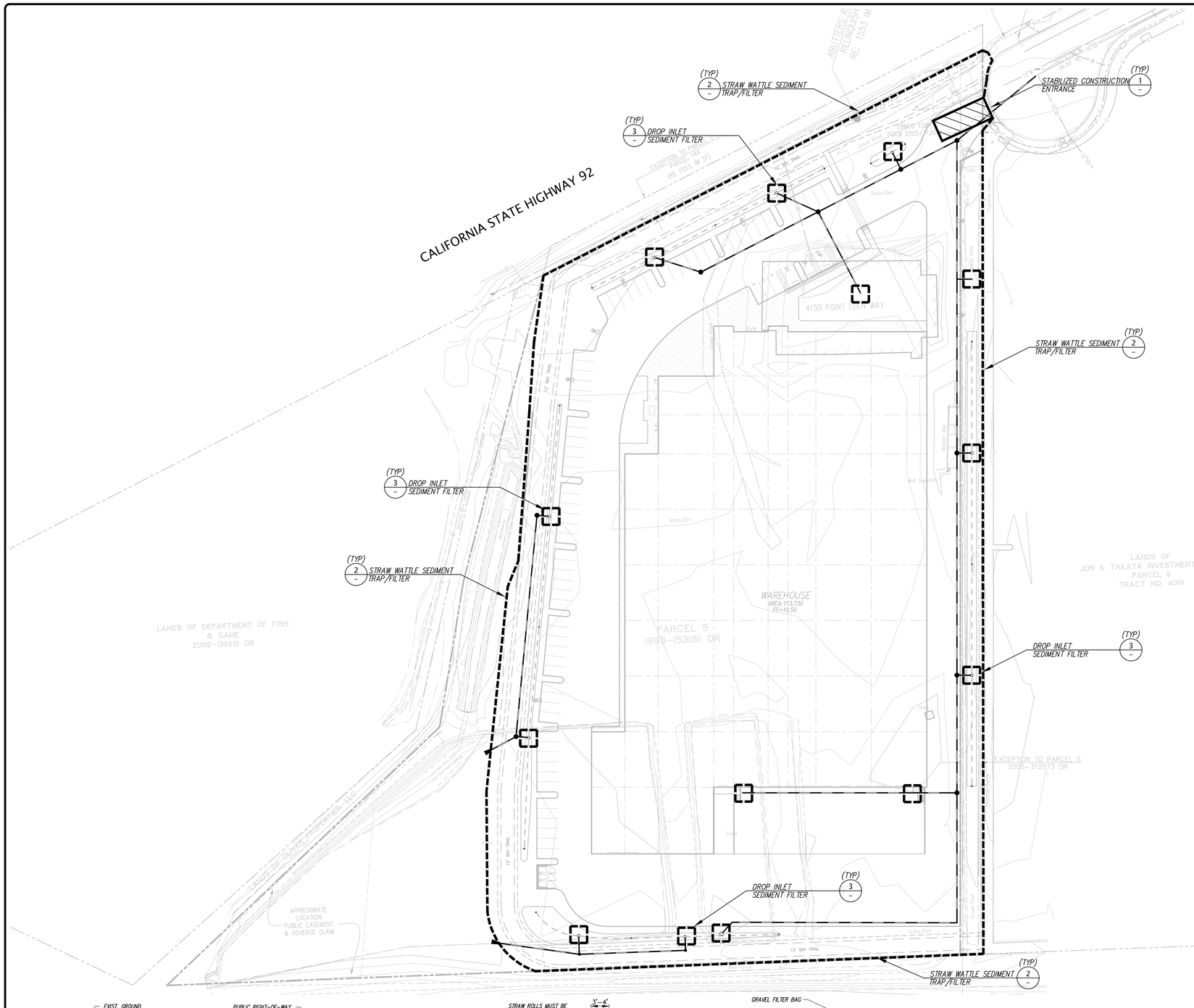
REGISTERED PROFESSIONAL ENGINEER JOHN JOSEPH WRIGHT No. 92365 CIVIL STATE OF CALIFORNIA

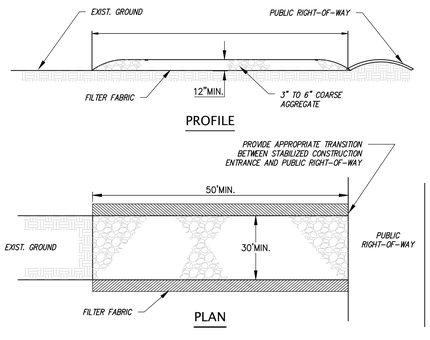
KIER+WRIGHT
2850 Collier Canyon Road
Livermore, CA 94551
Phone: (925) 245-8788
www.kierwright.com

PRELIMINARY UTILITY PLAN
OF
4150 POINTE EDEN WAY
FOR
U-HAUL, INC.

HAYWARD, CALIFORNIA

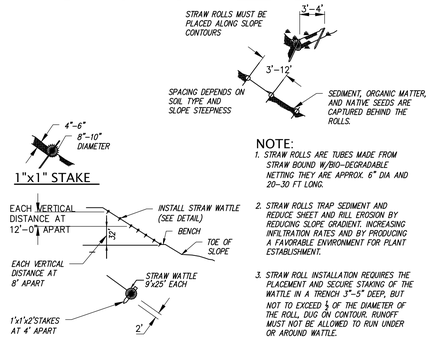
DATE	APRIL, 2020
SCALE	1" = 40'
DESIGNER	KS/SS
DRAWN BY	TB/JTQ
JOB NO.	A19640
SHEET	C3.0
OF	8 SHEETS





STABILIZED CONSTRUCTION ENTRANCE 1

NOT TO SCALE

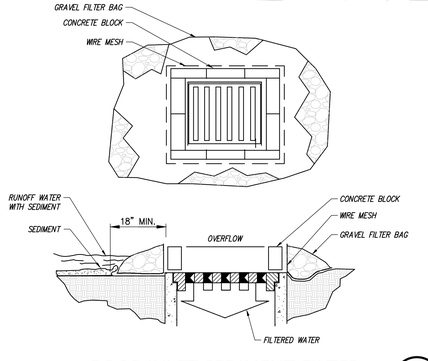


NOTE:

1. STRAW ROLLS ARE TUBES MADE FROM STRAW BOUND W/BIO-DEGRADABLE NETTING THEY ARE APPROX. 6" DIA AND 20-30 FT LONG.
2. STRAW ROLLS TRAP SEDIMENT AND REDUCE SHEET AND RILL EROSION BY REDUCING SLOPE GRADIENT, INCREASING INFILTRATION RATES AND BY PRODUCING A FAVORABLE ENVIRONMENT FOR PLANT ESTABLISHMENT.
3. STRAW ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE WATTLE IN A TRENCH 3"-5" DEEP, BUT NOT TO EXCEED ½ OF THE DIAMETER OF THE ROLL, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND WATTLE.

STRAW WATTLE 2

NOT TO SCALE



DROP INLET SEDIMENT FILTER 3

NOT TO SCALE

NO.	REVISION	BY

REGISTERED PROFESSIONAL ENGINEER JOHN JOSEPH WRIGHT No. 92365 CIVIL STATE OF CALIFORNIA PRELIMINARY

KIER+WRIGHT
2850 Collier Canyon Road
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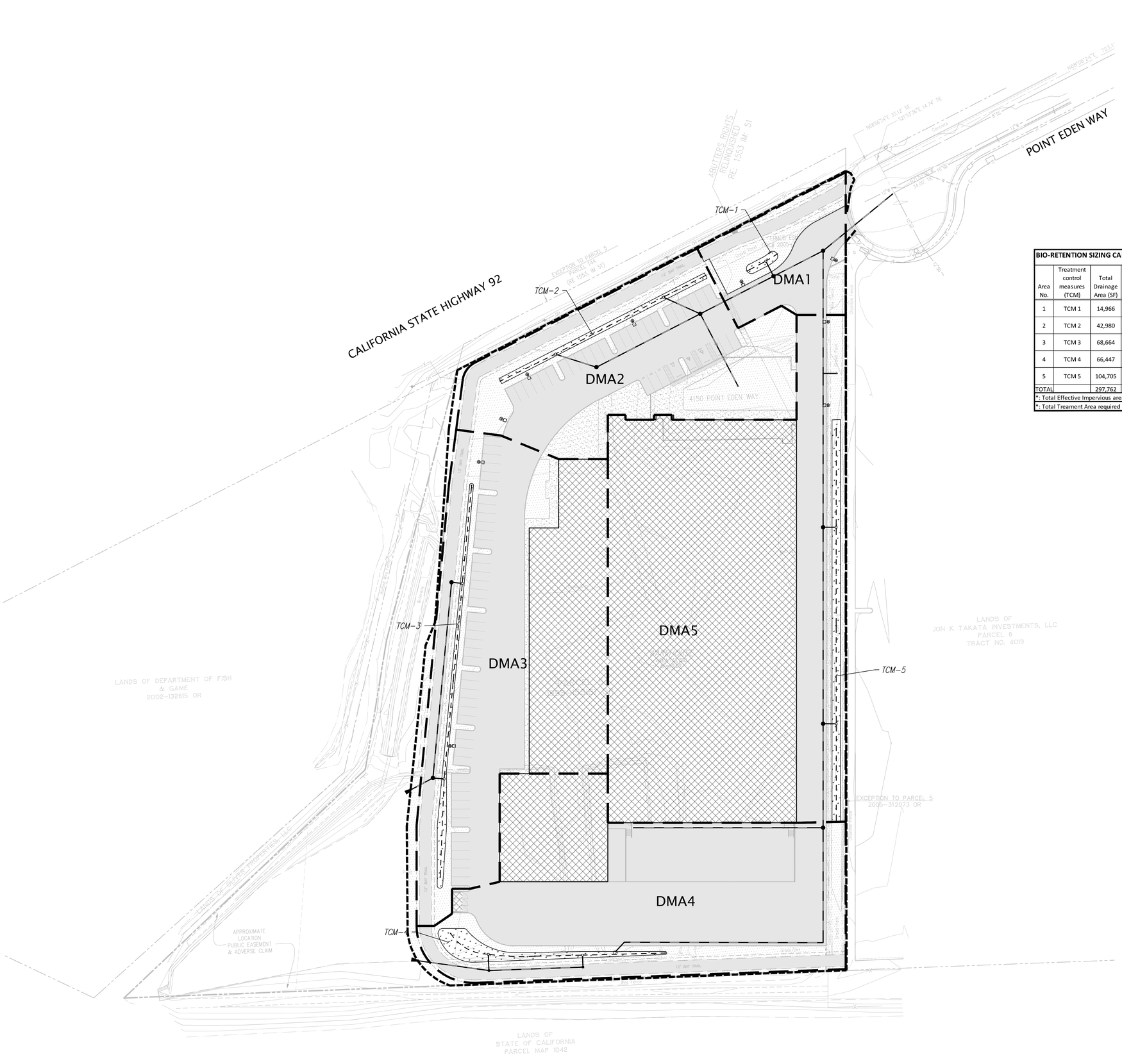
EROSION CONTROL PLAN
OF
4150 POINTE EDEN WAY
FOR
U-HAUL, INC.

HAYWARD, CALIFORNIA

DATE	APRIL, 2020
SCALE	1" = 40'
DESIGNER	KS/SS
DRAWN BY	TB/JTQ
JOB NO.	A19640

SHEET C4.0
OF 8 SHEETS



NORTH

0 X X X X

Scale 1" = X'

LEGEND

- TRIBUTARY AREA LIMITS
- LANDSCAPE AREA
- IMPERVIOUS ROOFTOP DRAINING TO BIO-SWALE
- IMPERVIOUS PAVEMENT DRAINING TO BIO-SWALE
- BIO-RETENTION TREATMENT AREA
- CONCRETE AREA

BIO-RETENTION SIZING CALCULATIONS

Area No.	Treatment control measures (TCM)	Total Drainage Area (SF)	Pervious Area (SF)	Impervious Area (SF)	Effective Pervious Area (SF)	Effective Impervious Area (SF)	Treatment Area Required (SF)	Treatment Provided (SF)	Depth of Ponding (Inches)	Treatment Type	Sizing Method
1	TCM 1	14,966	4454	10,512	0	10,957	329	354	6	Bio-Retention Planter	Combination Flow and Volume Method
2	TCM 2	42,980	15007	27,973	0	29,474	884	863	6	Bio-Retention Planter	Combination Flow and Volume Method
3	TCM 3	68,664	10278	58,386	0	59,414	1782	1,819	6	Bio-Retention Planter	Combination Flow and Volume Method
4	TCM 4	66,447	9523	56,924	0	57,876	1736	2,195	6	Bio-Retention Planter	Combination Flow and Volume Method
5	TCM 5	104,705	6578	98,127	0	98,785	2964	3,480	6	Bio-Retention Planter	Combination Flow and Volume Method
TOTAL		297,762	45,840	251,922	0	256,506	7,695	8,711			

*: Total Effective Impervious area is equal to Impverious Area + 0.10 * Pervious Area.

*: Total Treament Area required is equal to Effective Impverious Area * 0.03

PROGRESS SET

REVISION | BY | NO.

REGISTERED PROFESSIONAL ENGINEER JOHN JOSEPH WRIGHT No. 82365 CIVIL STATE OF CALIFORNIA

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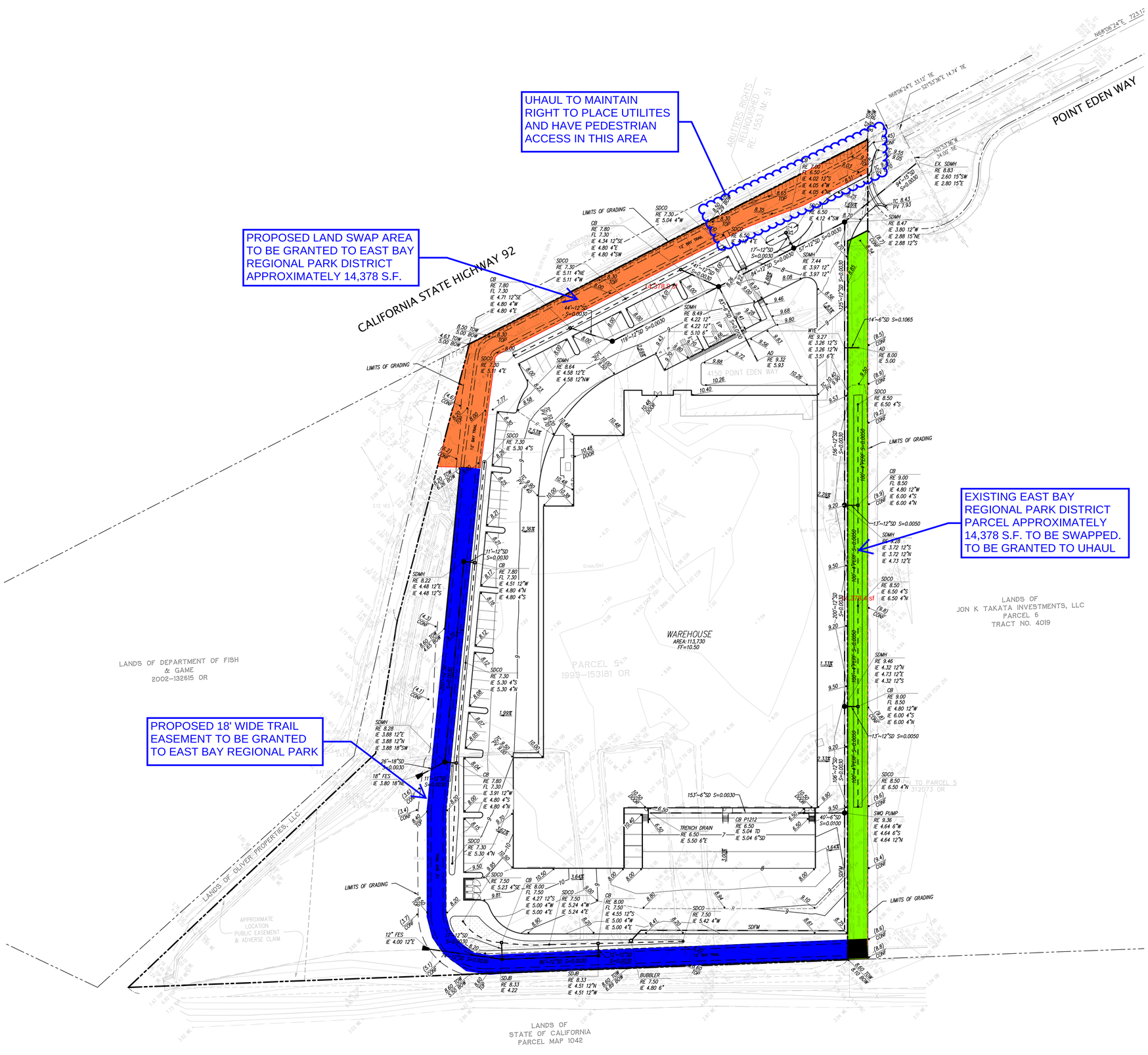
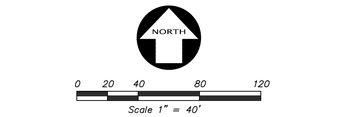
PRELIMINARY STORM WATER QUALITY CONTROL PLAN
OF
4150 POINTE EDEN WAY
FOR
U-HAUL, INC.
HAYWARD, CALIFORNIA

DATE	APRIL, 2020
SCALE	1" = 40'
DESIGNER	KS/SS
DRAWN BY	TB/JTQ
JOB NO.	A19640
SHEET	C5.0
OF	8 SHEETS

PROPOSED LAND SWAP EXHIBIT





LEGEND

PROPOSED	EXISTING	
		ASPHALT BERM
		BLOCK/RETAINING WALL
		BUILDING LINE
		FLUSH CONCRETE CURB
		CONCRETE CURB
		CONCRETE CURB CUT
		CONCRETE CURB & GUTTER
		CONTOUR LINE
		DRIVEWAY
		EDGE OF PAVEMENT
		FENCE LINE
		LOT LINE
		MONUMENT/MONUMENT LINE
		PERFORATED STORM DRAIN PIPE
		PROPERTY LINE
		RAINWATER LEADER
		SIDEWALK
		STORM DRAIN-MANHOLE & CATCH BASIN
		THRU CURB DRAIN
		SPOT ELEVATION
		TRAFFIC SIGN
		TREE
		UTILITY BOX
AD	AD	AREA DRAIN
BW	BW	BACK OF WALK
BLDG	BLDG	BUILDING
BL	BL	BUILDING LINE
CB	CB	CATCH BASIN
COTG	COTG	CLEANOUT TO GRADE
C	C	CONCRETE
DR	DR	DOOR
DS	DS	DOWN SPOUT
DIP	DIP	DUCTILE IRON PIPE
ESMT	ESMT	EASEMENT
EW	EW	EDGE OF WALK
FB	FB	FACE OF BERM
FC	FC	FACE OF CURB
FW	FW	FACE OF WALL
FF	FF	FINISHED FLOOR
FL	FL	FLOW LINE
GB	GB	GRADE BREAK
HP	HP	HIGH POINT
IE	IE	INVERT ELEVATION
LP	LP	LOW POINT
LT	LT	LIGHT
OF	OF	OVERFLOW
PV	P	PAVEMENT
RWL	RWL	RAINWATER LEADER
R	R	RIDGE
RE	RE	RIM ELEVATION
RD	RD	ROOF DRAIN
SDJB	SDJB	STORM DRAIN JUNCTION BOX
SDMH	SDMH	STORM DRAIN MANHOLE
SWL	SWL	SWALE
TB	TB	TOP OF BERM
TC	TC	TOP OF CURB
TW	TW	TOP OF WALL
T	T	TRANSFORMER
TE	TE	TRASH ENCLOSURE
		BIO-FILTRATION SWALE

REVISION | NO. | BY

REVISION | NO. | BY

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PRELIMINARY GRADING AND DRAINAGE PLAN
OF
4150 POINTE EDEN WAY
FOR
U-HAUL, INC.
HAYWARD, CALIFORNIA

DATE	APRIL, 2020
SCALE	1" = 40'
DESIGNER	KS/SS
DRAWN BY	TB/JTQ
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SHEET	C2.0
OF	8 SHEETS

4150 Point Eden Way Industrial Development Project

Draft Environmental Impact Report

prepared by
City of Hayward
777 B Street
Hayward, California 94541
Contact: Leigha Schmidt, Senior Planner

prepared with the assistance of
Rincon Consultants, Inc.
449 15th Street, Suite 303
Oakland, California 94612

April 2021

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
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Appendices

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Executive Summary

This document is an Environmental Impact Report (EIR) analyzing the environmental effects of the proposed 4150 Point Eden Way Industrial Development Project (proposed project). This section summarizes the characteristics of the proposed project, alternatives to the proposed project, and the environmental impacts and mitigation measures associated with the proposed project.

Project Synopsis

Project Applicant

U-HAUL, 815 Marketing Company
8000 San Leandro Street
Oakland, California 94621

Lead Agency Contact Person

Leigha Schmidt, Senior Planner
City of Hayward
777 B Street
Hayward, CA 94541
510-583-4113

Project Description

This EIR has been prepared to examine the potential environmental effects of the 4150 Point Eden Way Industrial Development Project. The following is a summary of the full project description, which can be found in Section 2.0, *Project Description*.

The project site consists of six parcels in the City of Hayward identified as Assessor Parcel Numbers (APN) 461-0084-019-00, APN 461-0085-020-01, APN 461-0085-020-02, APN 461-0061-001-00, APN 461-0090-001-00, and APN 461-0090-002-00. A separate parcel, not included in the project site, separates APN 461-0085-019-00, 461-0085-020-01, and 461-0085-020-02 from APN 461-0061-001-00, 461-0090-001-00, and 461-0090-002-00. Therefore, the project site has an eastern component (APN 461-0085-019-00, 461-0085-020-01, and 461-0085-020-02) and a western component (APN 461-0061-001-00, 461-0090-001-00, and 461-0090-002-00), which are non-contiguous but nearly adjacent.

The eastern component is located at 4150 Point Eden Way, while the western component has no public road access. Point Eden Way roughly parallels the south side of State Route 92 in the eastern portion of Hayward. The regional location of the site is shown in Figure 2-1, the vicinity of the site is shown in Figure 2-2, and the project site boundaries are depicted in Figure 2-3.

Project Characteristics

The proposed project would involve construction of a new industrial building on the eastern component of the project site and preservation of an open space/wetland preserve on the western component. The project would commence with demolition and removal of existing structures on the eastern component of the project site associated with the former Oliver Brothers Salt Works

operations. After demolition and removal of existing structures and materials, construction of the new industrial building would begin. The proposed industrial building would be approximately 50 feet in height to finished roof. The proposed building would provide approximately 114,059 square feet of warehouse space and a 2,785-square-foot of office, for a total size of approximately 116,844 square feet. The office space would be provided at the north end of the building, facing State Route 92. During operation of the project, approximately 20 to 25 employees would be present. A conceptual site plan for the eastern component is shown in Figure 2-7, and a conceptual landscape plan is shown in Figure 2-8.

The San Francisco Bay Trail is located on the eastern edge of the eastern component of the project site, within APN 461-0085-020-01. The proposed project includes a land swap for East Bay Regional Park District to relocate the Bay Trail from the current location along the eastern property line to meander along the northern property line and then to turn south to run along the western property line of APN 461-0085-020-02, until meeting its current location on Point Eden Way, as shown in Figure 2-9. The swap would transfer ownership of APN 461-0085-020-01 to the project applicant and grant an easement to the East Bay Regional Park District for the trail to cross APN 461-0085-020-02.

The proposed project also includes establishing an approximately 32-acre preserve on the western component of the project site, within APN 461-0061-001-00, 461-0090-001-00, and 461-0090-002-00. These parcels are currently characterized by salt evaporation ponds from the former salt production operation on the project site that would remain in place. This 32-acre area (Preserve) contains six old salt ponds totaling 26 acres. The 32-acre Preserve would be preserved in perpetuity via recordation of a deed restriction or other appropriate legal mechanism, ensuring that the salt ponds are permanently preserved as open space in perpetuity. No conservation easement or conservator endowment would be provided. Because the 32-acre area would be preserved in perpetuity with a deed restriction or other appropriate legal mechanism, without management activities, no management plan or improvement plan is proposed.

Parking and Site Access

Ingress and egress to the industrial building would be from a new driveway on Point Eden Way. Approximately 79 parking spaces would be provided, including two spaces dedicated for electric vehicles and two accessible spaces compliant with the Americans with Disabilities Act (ADA). Two bike lockers and two bike stalls would also be provided on-site near the industrial building. Landscaping would be installed on all sides of the new building but would be concentrated on the north side of the building facing State Route 92 and along the western property line parallel to the realigned Bay Trail. Landscaping would include trees, low shrubs, grasses, and perennials. No physical changes are proposed for the western component.

Utilities

The proposed industrial building would require utility and drainage improvements including new sanitary sewer, storm drain, and domestic water lines. These new utilities would connect to existing utilities within the right-of-way of Point Eden Way. Bioretention areas (see Figure 2-8) would be constructed on-site to collect and treat stormwater runoff prior to discharge into the City's storm drain system.

Construction and Grading

Estimated construction duration of the proposed project would be 12 to 18 months, tentatively beginning in 2021. Maximum construction depth would generally be approximately seven feet below ground surface; however, displacement piers would be used in the foundation and require drilling to depths of approximately 20 feet below ground surface. Construction would begin with demolition of existing structures on the project site. Construction would involve standard and typical equipment, such as excavators, graders, backhoes, dump trucks, and power tools. Construction would also involve site preparation, consisting primarily of grading the site to achieve desired drainage and suitable building area. Grading would require permanent placement of fill material on-site, including within jurisdictional waters of the United States (i.e., wetlands). The proposed project would generate approximately 18,200 cubic yards of fill and 6,000 cubic yards of cut material, resulting in approximately 12,200 cubic yards of material for import. Construction would not require the removal of trees.

Project Objectives

The objectives for the proposed project are to:

- Develop an industrial building to house U-Haul corporate headquarters and warehouse.
- Locate the building at the western edge of Hayward in proximity to a regional highway and other industrial, warehousing and logistics uses to avoid land use conflicts.
- Create new employment and economic growth opportunities by redeveloping a vacant and underutilized property.
- Establish a wetland preserve adjacent to the San Francisco Bay.
- Remove a dilapidated and unsafe structure from a currently underutilized property at the gateway to the City.

Alternatives

As required by Section 15126.6 of the *CEQA Guidelines*, this EIR examines a range of reasonable alternatives to the proposed project that would attain most of the basic project objectives (stated in Section 2.0, *Project Description*, of this EIR) but would avoid or substantially lessen the significant adverse impacts.

Included in this analysis are three alternatives, including the CEQA-required “no project” alternative, that involve changes to the project that would reduce the project-related potentially significant environmental impacts as identified in this EIR. Alternatives have been developed to provide a reasonable range of options to consider that would help decision makers and the public understand the general implications of revising or eliminating certain components of the proposed project.

The following alternatives are evaluated in this EIR:

- Alternative 1: No Project
- Alternative 2: Enterprise Avenue Alternate Site
- Alternative 3: Reduced Project

Detailed descriptions of the alternatives are included in the impact analysis for each alternative. The potential environmental impacts of each alternative are analyzed in Sections 6.2 through 6.4.

Alternative 1 (No Project) The No Project Alternative assumes that the industrial building, surface parking, driveway, landscaping, and other project components associated with the proposed industrial building are not constructed. Additionally, the San Francisco Bay Trail would remain in its current location and would not be realigned. Likewise, a wetland preserve would not be established on the western component of the project site. The western component of the project site would not be preserved in perpetuity via recordation of a deed restriction or other appropriate legal mechanism; therefore, the salt ponds and other areas of the western component of the site could be utilized for flood plain and agricultural uses such as chemical extraction from baywater, crop and tree farming, dredging, farming or ranching and limited sales of materials grown on site. The project site would remain in its current unused state, and the existing structures associated with the former Oliver Brothers Salt Works operation would not be demolished.

The No Project Alternative would not fulfill any of the project objectives.

Alternative 2 (Enterprise Avenue Alternate Site) Under the Enterprise Avenue Alternate Site Alternative, the proposed industrial building would be constructed on an approximately 10.8-acre property located at 3636 Enterprise Avenue in Hayward. The property is identified as APN 439-0099-036-02, and is zoned as General Industrial (IG). The property is mostly vacant with the exception of several radio communication towers scattered across the property. A small structure is located at the base of one tower and is associated with the tower operations. Vegetation is present across nearly the entire property, and based on aerial photography, consists primarily of low grasses, weeds, and shrubs.

Alternative 2 assumes that the industrial building and associated surface parking lot would be approximately the same size and design as the proposed project, only located on the Enterprise Avenue property instead of the project site. However, because the Enterprise Avenue property is an upland area, Alternative 2 would not include establishing a wetland preserve on-site or off-site. Likewise, this alternative assumes the existing structures and ponds associated with the former Oliver Brothers Salt Works operation on the project site would remain unchanged from current conditions, because Alternative 2 would involve no activities or development at the project site.

The San Francisco Bay Trail is not adjacent the Enterprise Avenue property. Therefore, Alternative 2 would not involve relocation of the trail or coordination with the East Bay Regional Parks District. However, Alternative 2 would include relocating the existing radio communication towers and associated building that currently exist on the Enterprise Avenue property.

The Enterprise Avenue Alternate Site Alternative would fulfill some project objectives but not all objectives. For example, this alternative would develop an industrial building to house U-Haul corporate headquarters and a substantial warehouse at the western edge of Hayward in proximity to regional roadways. Alternative 2 would also be near other industrial and warehousing land uses and would create new employment opportunities by developing a property that is currently vacant. However, Alternative 2 would not fulfill project objectives to establish a wetland preserve adjacent to the San Francisco Bay or to remove the dilapidated Oliver Brothers Salt Works structures from the State Route 92 gateway to the City.

Alternative 3 (Reduced Project Alternative) The Reduced Project Alternative assumes that, like the proposed project, the industrial building, surface parking, driveway, landscaping, and other project components associated with the proposed industrial building would be constructed on the eastern component of the project site. Additionally, the San Francisco Bay Trail would be realigned to encompass the eastern component of the site, like the proposed project. Likewise, a wetland preserve would be established on the western component of the project site, consistent with the

proposed project. However, the industrial building and surface parking lot would be reduced in size by approximately 50 percent and shifted south within the eastern component of the project site in order to avoid demolition of the former Oliver Brothers Salt Works building in the northeast part of the site. The existing building would be left in place.

The Reduced Project Alternative would fulfill most but not all project objectives. For example, this alternative would involve development of an industrial building to house U-Haul corporate headquarters and a warehouse at the western edge of Hayward in proximity to regional roadways. Alternative 3 would also be near other industrial and warehousing land uses and would create new employment opportunities by developing a property that is currently unused. Additionally, Alternative 3 would also fulfill the project objective to establish a wetland preserve adjacent to the San Francisco Bay. However, Alternative 3 would not fulfill the project objective to remove the dilapidated Oliver Brothers Salt Works structures from the State Route 92 gateway to the City. In addition, this alternative would reduce the space available for the proposed project elements compared to the propose project, which would result in smaller office and warehouse spaces by approximately 50 percent.

Refer to Section 6.0, *Alternatives*, for the complete alternatives analysis.

Areas of Known Controversy

The EIR scoping process did not identify any areas of known controversy for the proposed project. Responses to the Notice of Preparation of a Draft EIR and input received at the scoping meeting on the EIR held by the City are summarized in Section 1, *Introduction*. Comments pertained to a range of issues, but most notably biological resources, climate change and sea-level rise, hazardous materials and groundwater contamination, and tribal cultural resources.

Issues to be Resolved

The proposed project would require site plan review and grading and building permits. In addition, construction of the project would involve fill of wetlands, which would require approval from the United States Army Corps of Engineers and the San Francisco Bay Regional Water Quality Control Board. The project would involve demolition of a historic resource, which would require the United States Army Corps of Engineers to approve a Historic Properties Treatment Plan. The East Bay Regional Park District must also consider approval of the proposed land exchange included in the project for relocation of the San Francisco Bay Trail. Issues to be resolved also include the choice among alternatives and whether or how to mitigate potentially significant effects of the project.

Issues Not Studied in Detail in the EIR

Table 5 in Section 1.4 summarizes issues from the environmental checklist that were addressed in the Initial Study (Appendix B). As indicated in the Initial Study, there is no substantial evidence that significant impacts would occur to the following issue areas: Aesthetics, Agricultural Resources, Air Quality, Energy, Geology/Soils, Greenhouse Gas Emissions, Hydrology, Land Use and Planning, Mineral Resources, Noise, Population/Housing, Public Services, Recreation, and Utilities. Impacts to Biological Resources, Cultural Resources, Hazards and Hazardous Materials, and Transportation were found to be potentially significant and are addressed in this EIR.

Summary of Impacts and Mitigation Measures

Table ES-1 includes a brief description of the environmental issues relative to the proposed project, the identified environmental impacts, proposed mitigation measures, and residual impacts. Impacts are categorized by significance. Significant and unavoidable adverse impacts require a statement of overriding considerations to be issued per Section 15093 of the State CEQA Guidelines if the project is approved. Significant but mitigable impacts are adverse impacts that can be feasibly mitigated to less than significant levels and which require findings to be made under Section 15091 of the State CEQA Guidelines. Less than significant impacts would not exceed significance thresholds and therefore would not require mitigation.

The Initial Study found that the proposed project would have significant but mitigable impacts on geology and soils and tribal cultural resources. The Initial Study addresses these issues and provides mitigation measures, which are summarized in Table ES-1 below. These issues, as well as those issues found to have less than significant impacts in the Initial Study, are not analyzed further in this EIR. Discussion of these impacts may be found in the Initial Study (Appendix A). Issues that were found to have potentially significant impacts in the Initial Study and therefore required additional analysis in the EIR include biological resources, cultural resources (historical resources), hazards and hazardous materials, and transportation. Table ES-1 summarizes the impacts related to these issues as well as applicable mitigation measures to reduce impacts, as identified in this EIR.

Impacts are categorized as follows:

- **Significant and Unavoidable.** An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the CEQA Guidelines.
- **Less than Significant with Mitigation Incorporated.** An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under §15091 of the CEQA Guidelines.
- **Less than Significant.** An impact that may be adverse but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **No Impact:** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure (s)	Residual Impact
Biological Resources		
Impact BIO-1. The proposed project would have a substantial adverse effect on species identified as a candidate, sensitive, or special status, such as salt marsh harvest mouse, burrowing owl and other birds, and bats. Impacts would be less than significant with mitigation incorporated.	**BIO-1a SMHM and SMWS Habitat Fencing.** Prior to ground disturbing activities adjacent to potential SMHM and SMWS habitat, temporary exclusion barriers and/or fencing shall be installed to exclude individuals of these species from areas of active construction. The design of the exclusion barriers and fencing shall be approved by a qualified biologist and shall be installed in the presence of a qualified biological monitor. The fence will be made of a material that does not allow SMHM or SMWS to pass through, and the bottom shall be buried to a depth of a	Less than significant.

Impact	Mitigation Measure (s)	Residual Impact
	minimum of four inches so that these species cannot crawl under the fence. All support for the exclusion fencing shall be placed on the inside of the project footprint. Additionally, removal of marsh or associated ruderal vegetation shall be completed using only hand tools and in the presence of a biological monitor. The barriers and/or fencing shall remain in place for the duration of construction of the project. **BIO-1b Qualified Biological Monitor.** A qualified biological monitor shall be present during wildlife exclusion fence installation and removal, and during all vegetation clearing and initial ground disturbance which take place in marsh habitats of the former salt ponds and the vegetation adjacent to marsh habitats. The monitor will have demonstrated experience in biological construction monitoring and knowledge of the biology of the special-status species that may be found in the project site, including SMHM and SMWS. The monitor(s) shall have the authority to halt construction, if necessary, if noncompliance actions occur. If a federal or State listed species is observed at any time during construction, work shall not be initiated or shall be stopped immediately until the animal leaves the vicinity of the work area of its own volition. If the animal in question does not leave the work area, work shall not be reinitiated until the qualified biological monitor has contacted the appropriate agency to discuss on how to proceed with work activities. The biological monitor shall direct the contractor on how to proceed accordingly. The biological monitor(s) shall be the contact person for any employee or contractor who might inadvertently kill or injure a special-status species or anyone who finds a dead, injured, or entrapped special-status species. Following fence installation, vegetation removal in potential habitat areas, and initial ground disturbance in potential habitat areas, the biologist shall train an onsite monitor to continue to document compliance. The biologist shall conduct weekly site checks to provide guidance for fence maintenance, provide environmental sensitivity training, and document compliance with permit conditions. **BIO-1c Worker Environmental Awareness Program Training.** The biological monitor shall provide an endangered species training program to all personnel involved in project construction. At a minimum, the employee education program shall consist of a brief presentation by persons knowledgeable about the biology of sensitive species with potential to occur in the project footprint, and about their legislative protection to explain concerns to contractors and their employees involved with implementation of the project. The program shall include a description of the species and their habitat needs, any reports of occurrences in the area; an explanation of the status of these species and their protection under State and federal legislation; and a list of	

Impact	Mitigation Measure (s)	Residual Impact
	measures being taken to reduce impacts to these species during construction. **BIO-1d Burrowing Owl Pre-Construction Surveys and Avoidance.** A qualified biologist shall conduct pre-construction clearance surveys prior to ground disturbance activities within suitable natural habitats and ruderal areas throughout the eastern component of the project site to confirm the presence/absence of active burrowing owl burrows. The surveys shall be consistent with the recommended survey methodology provided by CDFW (2012). Clearance surveys shall be conducted within 30 days prior to construction and ground disturbance activities. If no burrowing owls are observed, no further actions are required. If burrowing owls are detected during the pre-construction clearance surveys, the following measures shall apply: ▪ Avoidance buffers during the breeding and non-breeding season shall be implemented in accordance with the CDFW (2012) and Burrowing Owl Consortium (1993) minimization mitigation measures. ▪ If avoidance of burrowing owls is not feasible, then additional measures such as passive relocation during the nonbreeding season and construction buffers of 200 feet during the breeding season shall be implemented, in consultation with CDFW. In addition, a Burrowing Owl Exclusion Plan and Mitigation and Monitoring Plan shall be developed by a qualified biologist in accordance with the CDFW (2012) and Burrowing Owl Consortium (1993). **BIO-1e Nesting Bird Avoidance and Pre-Construction Surveys.** Project activities, such as vegetation removal, grading, or initial ground-disturbance, shall be conducted between September 1 and January 31 to the greatest extent feasible. If project activities must be conducted during the nesting season (February 1 to August 31), a pre-construction nesting bird survey shall be conducted by a qualified biologist no more than 14 days prior to vegetation removal or initial ground disturbance. Additional nesting surveys shall be conducted if project construction activities cease for more than 14 days during this period. The survey shall include the project site plus a 200-foot buffer around the eastern component of the project site if feasible, and a 500-foot buffer, if feasible, for California least tern, western snowy plover, and black skimmer, to identify the location and status of any nests that could potentially be affected either directly or indirectly by project activities. A survey of the western component of the project site shall be optional and not required because no ground disturbance or construction activities are proposed in the western component of the project site. If active nests are identified during the nesting bird survey, an appropriate avoidance buffer shall be established within which no work activity will be allowed	

Impact	Mitigation Measure (s)	Residual Impact
	which would impact these nests. The avoidance buffer would be established by the qualified biologist on a case-by-case basis based on the species and site conditions. In no cases shall the buffer be smaller than 50 feet for passerine bird species, 250 feet for raptor species, or 600 feet for California least tern, western snowy plover, and black skimmer. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. Buffers shall be delineated by orange construction fencing that defines the buffer where it intersects the project site. If a California least tern, western snowy plover, or black skimmer nest is found within 500 feet of the project site, USFWS and CDFW will be immediately notified. USFWS and CDFW shall be consulted on appropriate avoidance and minimization methods, which would likely include work restrictions within 500 feet of the nest, biological monitoring for activity within the nest' line-of-sight, etc. The buffer area(s) shall be closed to all construction personnel and equipment until juveniles have fledged and the nest is inactive. The qualified biologist shall confirm that breeding/nesting is completed, and young have fledged the nest prior to removal of the buffer. **BIO-1f Special-Status Bat Avoidance and Pre-Construction Surveys.** To avoid impacts to roosting special-status bats, focused surveys to determine the presence/absence of roosting bats shall be conducted prior to the initiation of demolition of buildings and removal of mature trees large enough to contain crevices and hollows that could support bat roosting. If active maternity roosts are identified, a qualified biologist shall establish avoidance buffers applicable to the species, the roost location and exposure, and the proposed construction activity in the area. If active non-maternity day or night roosts are found on the project site, measures shall be implemented to passively relocate bats from the roosts prior to the onset of construction activities. Such measures may include removal of roosting site during the time of day the roost is unoccupied or the installation of one-way doors, allowing the bats to leave the roost but not to re-enter. These measures shall be presented in a Bat Passive Relocation Plan that shall be submitted to, and approved by, CDFW. **BIO-1g Trash Removal.** During construction of the project, all food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in solid, closed containers (trash cans) and removed at the end of each workday from the project site to eliminate an attraction to predators of special-status species. **BIO-1h Public Access Exclusion Fencing.** Access by all project construction personnel into the Eden Landing Ecological Reserve shall be prohibited. Upon completion of the development project a permanent fence shall be installed on the eastern component of the project site to prevent access from the San Francisco Bay Trail relocated segment and the new industrial development into the	

Impact	Mitigation Measure (s)	Residual Impact
	adjacent salt ponds and associated marsh habitats to the west. In addition, signs shall be posted stating that public access into the salt ponds and associated marsh habitat is strictly prohibited owing to the sensitivity of the habitat and to ensure the continued use of this habitat by special-status species.	
Impact BIO-2. The proposed project would require impacts to seasonal wetlands and salt marsh on the eastern component of the project site, which are considered sensitive natural communities. Impacts would be less than significant with mitigation.	Implementation of Mitigation Measure BIO-1h, as described above under Impact BIO-1. Implementation of Mitigation Measure BIO-3, as described below under Impact BIO-3.	Less than significant.
Impact BIO-3. The proposed project would require the permanent fill of approximately 0.28 acre of seasonal wetlands and 0.69 acre of salt marsh and associated unvegetated waters in remnant salt ponds on the eastern component of the project site. Impacts would be less than significant with mitigation.	**BIO-3 Protected Wetlands Mitigation Credits.** To compensate for impacts to approximately 0.97 acre of waters of the U.S., the project applicant shall purchase wetland mitigation credits at a minimum of 1:1 mitigation ratio from an approved mitigation bank with a Service Area that covers the project site. The San Francisco Bay Wetland Mitigation Bank currently has "Tidal Wetland and Other Waters Creation" credits available for purchase. Either the U.S. Army Corps of Engineers or the CDFW may adjust the mitigation ratio and the applicant shall comply, but in no case shall the mitigation ratio be less than 1:1.	Less than significant.
Cultural Resources		
Impact CUL-1. Demolition of the Oliver Brothers Salt Company processing plant and filling of portions of the associated salt evaporation ponds on the eastern component of the project site would adversely impact features that contribute to the significance of a historical resource. Impacts would be significant and unavoidable.	**CUL-1a Building Recordation.** Archival documentation of as-built and as-found condition shall be prepared for the Oliver Brothers Salt Company prior to demolition. Prior to issuance of demolition permits, the City of Hayward shall ensure that documentation of the buildings and structures proposed for demolition is completed that follows the general guidelines of Historic American Building Survey (HABS)-level III documentation. The documentation shall include high resolution digital photographic recordation, a historic narrative report, and compilation of historic research. The documentation shall be completed by a qualified professional who meets the standards for history, architectural history, or architecture as set forth by the Secretary of the Interior's Professional Qualification Standards (36 CFR, Part 61). The original archival-quality documentation shall be offered as donated material to the Hayward Library and/or Hayward Area Historical Society to make it available for current and future generations. Archival copies of the documentation shall be submitted to the City of Hayward where it shall be available to local researchers. **CUL-1b Interpretive Display.** An interpretive display shall be developed and installed on site to commemorate the history of the Oliver Brothers Salt Company. The display may include historic photographs, drawings, and text to convey the history of the site and the significance of salt processing in Alameda County. The display shall be reviewed and approved by the City prior to installation at	Significant and unavoidable.

Impact	Mitigation Measure (s)	Residual Impact
	a site to be chosen by the City. The installation shall occur prior to issuance of a Certificate of Occupancy.	
Impact CUL-2. Construction of the proposed project would involve ground-disturbing activities that have the potential to unearth or adversely impact previously unidentified archaeological resources within the eastern component of the project site. Impacts would be less than significant with mitigation incorporated.	**CUL-2 Unanticipated Discovery of Archaeological Resources.** In the event that archaeological resources are unexpectedly encountered during ground-disturbing activities, work in the immediate area shall be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archeology (National Park Service 1983) shall be contacted immediately to evaluate the find. If the find is prehistoric, then a Native American representative should also be contacted to participate in the evaluation of the find. If necessary, as determined by the archaeologist in consultation with the City, the evaluation may require preparation of a treatment plan and archaeological testing for California Register of Historical Resources (CRHR) eligibility. If the discovery proves to be eligible for the CRHR and cannot be avoided by the modified project, additional work, such as data recovery excavation, may be warranted to mitigate impacts to archaeological resources.	Less than significant.
Impact CR-3. The discovery of human remains is always a possibility during ground-disturbing activities. Ground disturbance required for construction of the proposed project could disturb or damage known or unknown human remains within the eastern component of the project site. This impact would be less than significant due to mandatory adherence to existing regulations.	No mitigation measures are indicated.	Less than significant.
Geology and Soils		
Geology and Soils: Unstable Soils and Geology. The project site is within a liquefaction zone that could result in foundation damage to the proposed industrial building during a seismic-related ground failure. Additionally, graded slopes could be susceptible to collapse during seismic events if improperly constructed or compacted. Soils on site could become unstable from the overlying weight of the proposed industrial building and surface parking lot. Collapse or failure of soils could result in substantial risk of loss, injury, or death. This impact would be potentially significant but mitigable.	**GEO-1 Geotechnical Considerations.** The project applicant shall implement all measures and recommendations set forth in the Geotechnical Engineering Services Report prepared by Professional Services Industries, Inc., an Intertek company, in January 2018 (included as Appendix D and on file with the City of Hayward). This measure shall be implemented for development on the eastern component of the project site. Recommendations include but are not limited to the following topic areas: ▪ Engineered fill material required at this site shall not contain rocks greater than 3-inches in diameter or greater than 30 percent retained on the ¾-inch sieve, and shall not contain more than 3 percent (by weight) of organic matter or other unsuitable material. The expansion index for the material shall not exceed 50. ▪ Engineered fill shall be compacted to at least 90 percent of the maximum dry density as determined by the modified Proctor (ASTM D1557). The moisture content of engineered fill shall be maintained at approximately 2 percent	Less than significant.

Impact	Mitigation Measure (s)	Residual Impact
	above or below the material's optimum moisture content as determined by the same index during compaction. ▪ Engineered fill shall be placed in maximum lifts of 8-inches of loose material. Each lift of engineered fill shall be tested by a PSI soils technician, working under the direction of a licensed geotechnical engineer, prior to placement of subsequent lifts. ▪ Properly compacted engineered fill shall extend horizontally outward beyond the exterior perimeter of the foundations a distance equal to the height of fill or 5 feet, whichever is greater, prior to substantial sloping. ▪ Permanent cut or fill slopes shall not exceed 2 Horizontal to 1 Vertical (2H:1V). Excavations extending below a 1H:1V plane extending down from any adjacent footings shall be shored for safety. ▪ Utilities trenches within the building, pavement, and sidewalk areas shall be backfilled with granular engineered fill such as sand, sand and gravel, fragmental rock, or recycled concrete of up to 2 inches maximum size with less than 5 percent passing the No. 200 sieve (washed analysis). Granular backfill shall be placed in lifts and compacted to 95 percent of the maximum dry density as determined by ASTM D 1557. Compaction by jetting or flooding shall not be permitted. ▪ To ensure precipitation is conveyed away from structural foundation, continuous roof gutters shall be installed on the proposed industrial building. The roof drains shall be connected to a tight-line pipe leading to storm drain facilities. Pavement surfaces and open space areas shall be sloped such that surface water runoff is collected and routed to suitable discharge points. Ground surfaces adjacent the building shall be sloped to facilitate positive drainage away from the building. Landscaped or planted areas shall not be placed within 10 feet of the footings of the proposed building.	
Hazards and Hazardous Materials		
Impact HAZ-1. The project has the potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment due to potential hazardous materials that may be present in the existing on-site	**HAZ-1 Project Demolition Activities.** In conformance with State and local laws, a visual inspection/pre-demolition survey, and possible sampling, shall be conducted prior to the demolition of on-site building(s) to determine the presence of asbestos-containing materials (ACMs) and/or lead-based paint (LBP). Documentation of the survey shall be provided to the City prior to commencement of demolition activities. During demolition activities, all building materials containing lead-based paint shall be removed in accordance with Cal/OSHA Lead in Title 8, California Code	Less than significant.

Impact	Mitigation Measure (s)	Residual Impact
structures. This impact would be potentially significant but mitigable.	of Regulations (CCR), Section 1532.1, including employee training, employee air monitoring, and dust control. Any debris or soil containing lead-based paint or coatings shall be disposed of at landfills that meet acceptance criteria for the type of lead being disposed. All potentially friable asbestos containing materials (ACMs) shall be removed in accordance with National Emission Standards for Air Pollution (NESHAP) guidelines prior to demolition or renovation activities that may disturb ACMs. All demolition activities shall be undertaken in accordance with Cal/OSHA standards contained in Title 8, CCR, Section 1529, to protect workers from asbestos exposure. A registered asbestos abatement contractor shall be retained to remove and dispose of ACMs identified in the asbestos survey performed for the site in accordance with the standards stated above in this mitigation measure. Materials containing more than one-percent asbestos are also subject to Bay Area Air Quality Management District (BAAQMD) regulations. Removal of materials containing more than one-percent asbestos shall be completed in accordance with BAAQMD requirements and notifications. Based on Cal/OSHA rules and regulations, the following conditions shall be implemented to limit impacts to construction workers: ▪ Prior to commencement of demolition activities, a building survey, including sampling and testing, shall be completed to identify and quantify building materials containing lead-based paint. ▪ During demolition activities, all building materials containing lead-based paint shall be removed in accordance with Cal/OSHA Lead in Construction Standard, Title 8, CCR, Section 1532.1, including employee training, employee air monitoring and dust control. ▪ Any debris or soil containing lead-based paint or coatings shall be disposed of at landfills that meet acceptance criteria for the type of waste being disposed.	
Impact HAZ-2. The project would involve development on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5, and due to the potential to encounter residual soil and groundwater contamination on the eastern component of the project site, impacts would be potentially significant but mitigable.	**HAZ-2a Implementation of the RMP.** The project shall implement the appropriate handling procedures and worker health and safety measures during excavating or dewatering activities, as well as the use of an engineered vapor barrier as described in the site-specific RMP developed for the project in 2014. The RMP is an appendix to the Phase I ESA. The Phase I ESA is included as Appendix E to the Initial Study, which is provided as Appendix A to this EIR. Measures included in the RMP to control potential hazardous contamination and exposure include, but are not limited to the following: ▪ Construction contractors shall implement dust control mitigation measures during construction activities at the project site to minimize the	Less than significant.

Impact	Mitigation Measure (s)	Residual Impact
	generation of dust. Examples of dust control measures that shall be implemented include limiting construction vehicles speeds to 5 miles per hour when on-site; routinely applying water to exposed soils while performing excavation activities; and, covering soil stockpiles with plastic sheets at the end of each workday. Additional dust control measures shall be implemented by the selected contractor, as necessary, especially if windy conditions persist during site grading and excavation. These measures may include moisture, conditioning the soil, using dust suppressants, or covering the exposed soil and stockpiles with weighted plastic sheeting to prevent exposure of the soil. ▪ To prevent or minimize construction equipment from tracking polluted spoils off the site onto roadways, construction equipment that contacts soils deeper than 5-feet below ground surface shall be decontaminated prior to leaving the site. Decontamination methods shall include brushing and/or vacuuming to remove loose dirt on vehicle exteriors and wheels. In the event that these dry decontamination methods are inadequate, methods such as steam cleaning, high pressure washing, and cleaning solutions shall be used, as necessary, to thoroughly remove accumulated dirt and other materials. Decontamination activities shall be performed in an on-site decontamination facility established by the contractor. ▪ All project construction workers performing construction activities at depths below 5-feet below ground surface in the restricted areas shall adhere to decontamination procedures when exiting the area. Decontamination measures shall include: (a) vacuuming the surface of coveralls, head covers, and footwear to remove accumulated soil particles and changing into other clean clothes if practical; (b) vacuuming or washing small tools, hand tools, or personal equipment to remove accumulated soil particles; and, (c) placing work clothes and personal equipment in sealed plastic bags or other suitable containers for transportation or on-site storage. ▪ In the event that disturbed soil appears to contain contaminants of potential concern (COPCs), such as odors, staining, and/or discoloration, work should halt in that area and an environmental professional (EP), such as a geologist, engineer, industrial hygienist, or environmental health specialist with expertise in these matters, shall be called to the site to oversee the work and determine safe construction and soil handling procedures.	

Impact	Mitigation Measure (s)	Residual Impact
	▪ The EP shall be present on-site during excavations greater than 5-feet below ground surface in the restricted areas to observe field conditions and measure hydrocarbon vapors using a hand held photoionization detector (PID). If PID readings are measured in a specific area showing concentrations in excess of construction worker screening levels published by the Regional Water Quality Control Board (RWQCB), construction activities in that area shall halt until appropriate risk mitigation measures are implemented. If necessary, HAZWOPER trained personnel shall be called to the site to complete the construction activities in that area. ▪ Soil excavated from deeper than 5-feet below ground surface in the restricted area shall only be reused on-site as backfill after sampling and analysis soil proves the soil is acceptable to remain on site. Commercial ESLs shall be used as the threshold to determine if soils may remain on site or require off-site disposal. All appropriate regulatory sampling methods, holding times, and detection limits shall be followed. ▪ A health and safety plan shall be developed and implemented for project construction that incorporates measures and procedures to minimize direct contact by construction workers with site groundwater, particularly in the restricted areas. The health and safety plan shall be approved by either the City or the RWQCB, or both as applicable, prior to excavation activities. ▪ If groundwater is encountered within the former remediation area during construction of the project, as shown on Figure 4 of the RMP, an EP shall be called to the site to determine safe handling procedures. The groundwater shall be pumped into appropriate containers and samples shall be obtained for chemical analysis of the COPCs in accordance with a site sampling plan and the requirements of the waste disposal facility to which the material is sent. If water sample analytical results indicate the water is free of all detectable concentrations of COPCs, such water can be re-used at the site if deemed appropriate by Alameda County and the RWQCB. If water sample analytical results indicate the water contains concentrations of COPCs above appropriate RWQCB screening levels, such water shall not be re-used at the site. The contractor and the EP shall elect to: (a) treat the groundwater on-site to render it free of detectable concentrations of COPCs (e.g. by activated carbon filtration); or, (b) transport the	

Impact	Mitigation Measure (s)	Residual Impact
	groundwater to a local treatment or disposal facility for appropriate handling. ▪ The proposed industrial building shall be constructed on top of a minimum of a 5-foot bioattenuation zone within the restricted areas. This bioattenuation zone shall consist of a minimum of 5-feet of soil above the anticipated shallowest groundwater elevation, and the soil shall not contain total petroleum hydrocarbons greater than 100 parts per million. ▪ An engineered vapor barrier shall be employed to further protect against possible vapor intrusion of COPCs into the proposed industrial building. The vapor barrier shall be designed to meet the needs of building. Vapor barriers are generally constructed using membranes constructed with high-density polyethylene (HDPE) or other polyolefin-based resins. The vapor barrier shall be resistant to VOCs. The vapor barrier shall meet the American Society for Testing and Materials (ASTM) guideline for a vapor barrier and have a permeance rating of 0.1 perms or less. The thickness and strength of the vapor barrier shall be based on the needs for the building, but the architect and contractor shall use a material strong enough to easily withstand the building construction and other building considerations. The selected vapor barrier shall be approved by the RWQCB prior to installation. **HAZ-2b Bioretention Design Coordination.** The project applicant shall consult with the City on location and/or design of the on-site bioretention basins to ensure protection of the groundwater basin, which may include, but is not limited to, locating the basins outside of the restricted areas or use of a liner in the detention basin. The final design and location of the on-site bioretention basins shall demonstrate that groundwater would be protected from contamination. **HAZ-2c Displacement Pier Design and Construction.** The project applicant shall retain a geotechnical engineer to design the displacement piers for support of the building foundation. The displacement piers shall be designed in a way to prevent creating a preferential pathway between shallow groundwater at approximately 5 feet below ground surface and deeper groundwater. The displace pier design developed by the geotechnical engineer shall be incorporated into project plans prior to commencement of construction. This mitigation measure shall apply to all displacement piers within the restricted areas or the larger area where benzene concentrations exceed ESLs, as shown in Figure 4.3-2 of the EIR. Additionally, air-jetting shall not be used to create the holes for the displacement piers within the restricted areas to avoid bringing subsurface soils to the ground surface.	

Impact	Mitigation Measure (s)	Residual Impact
Transportation and Traffic		
Impact TR-1. The proposed project would generate 18.23 VMT per employee, which exceeds the VMT threshold of the existing regional average of 18.15 by 0.5 percent. Impacts would be potentially significant, but mitigable.	**TR-1 Travel Demand Management.** The project applicant shall implement at least one of the measures described below: **Voluntary Employer Commute Program:** The project applicant shall encourage alternative modes of transportation through a program that may include elements such as: a carpool or vanpool program, subsidized or discounted transit passes, bike amenities, commute trip-reduction marketing, and preferential parking permit program. **Employer Carpool Program:** The project applicant shall encourage carpooling by providing ride matching assistance to employees, providing priority parking for carshare vehicles, and providing incentives for carpooling. The applicant shall provide to the City documentation that at least one of the above measures is implemented. Documentation shall be provided annually.	Less than significant.
Tribal Cultural Resources		
Tribal Cultural Resources: Damage or Destruction of Resources. While no tribal cultural resources are known to occur on the project site, given its proximity to the shoreline of the San Francisco Bay, there could be unknown resources, particularly subsurface resources. Construction of the proposed project would require excavation and grading, which could damage or destroy tribal cultural resources, if present. Impacts would be potentially significant but mitigable.	**TCR-1 Unanticipated Discovery of Tribal Cultural Resources.** In the event that cultural resources of Native American origin are identified during construction, all earth disturbing work within the vicinity of the find must be temporarily suspended or redirected until an archaeologist has evaluated the nature and significance of the find and an appropriate Native American representative, based on the nature of the find, is consulted. If the City determines that the resource is a tribal cultural resource and thus significant under CEQA, a mitigation plan shall be prepared and implemented in accordance with state guidelines and in consultation with Native American groups. The plan shall include avoidance of the resource or, if avoidance of the resource is infeasible, the plan shall outline the appropriate treatment of the resource in coordination with the archeologist and the appropriate Native American tribal representative.	Less than significant.

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1 Introduction

This document is a Draft Environmental Impact Report (EIR) for the proposed 4150 Point Eden Way Industrial Development Project (hereafter referred to as the "proposed project" or "project") located at 4150 Point Eden Way, Hayward, California.

This section discusses (1) the project and EIR background; (2) the legal basis for preparing an EIR; (3) the scope and content of the EIR; (4) issue areas found not to be significant by the Initial Study; (5) the lead, responsible, and trustee agencies; and (6) the environmental review process required under the California Environmental Quality Act (CEQA). The proposed project is described in detail in Section 2.0, *Project Description*. The aforementioned Initial Study is included as Appendix A to this EIR.

1.1 Environmental Impact Report Background

The City of Hayward distributed a Notice of Preparation (NOP) of the EIR and the Initial Study for a 30-day agency and public review period starting on November 10, 2020 and ending on December 10, 2020. In addition, the City held a public EIR Scoping Meeting on November 19, 2020. The meeting, held from 4:00 PM to 5:30 PM, was aimed at providing information about the proposed project to members of public agencies, interested stakeholders and residents/community members. The meeting was held virtually through a web-based video conference. The City received letters from three agencies in response to the NOP during the public review period, as well as various verbal comments during the EIR Scoping Meeting. The NOP is provided as Appendix A of this EIR, along with the Initial Study that was prepared for the project and the NOP responses received. Table 1-1 on the following page summarizes the content of the letters and verbal comments and where the issues raised are addressed in the EIR.

1.2 Purpose and Legal Authority

The proposed project requires the discretionary approval of the City of Hayward; therefore, the project is subject to the environmental review requirements of CEQA. In accordance with Section 15121 of the *CEQA Guidelines* (California Code of Regulations, Title 14), the purpose of this EIR is to serve as an informational document that:

> "...will inform public agency decision makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project."

This EIR has been prepared as a project EIR pursuant to Section 15161 of the *CEQA Guidelines*. A Project EIR is appropriate for a specific development project. As stated in the *CEQA Guidelines*:

> "This type of EIR should focus primarily on the changes in the environment that would result from the development project. The EIR shall examine all phases of the project, including planning, construction, and operation."

This EIR is intended to serve as an informational document for the public and City of Hayward decision makers. The process will include public hearings before the City to consider certification of a Final EIR and approval of the proposed project.

Table 1-1 NOP Comments and EIR Response

Commenter	Comment/Request	How and Where It Was Addressed
Agency Comments		
Alameda County Water District (ACWD)	Offers additional information regarding ACWD for incorporation into the DEIR.	Comment is addressed in Section 4.3, *Hazards and Hazardous Materials*.
	Requests that the EIR analyze the potential for groundwater quality impacts as a result of hazardous materials involvement on-site.	Groundwater quality is discussed in the Initial Study, included as Appendix A to this EIR. Groundwater quality as it related to hazardous materials contamination is addressed in Section 4.3, *Hazards and Hazardous Materials*.
	Requests records be uploaded to the State Water Resources Control Board GeoTracker database.	This comment does not pertain to the EIR, and therefore is not discussed further. However, this comment is noted.
	Requests that the EIR address concerns regarding the proposed bioretention areas to ensure leaching and plume migration do not occur, and that the project proponents coordinate with the Regional Water Quality Control Board (RWQCB) and ACWD on this issue prior to construction and City approval.	Comment is addressed in Section 4.3, *Hazards and Hazardous Materials*.
	Requests that the EIR evaluate potential groundwater impacts due to installation of displacement piers (and any resulting vapor intrusion impacts) and the potential for hydraulic interaction of the shallow water-bearing zone, piers, and future seal level rise, and that project proponents coordinate with the Regional Water Quality Control Board (RWQCB) and ACWD regarding the design and construction of the piers.	Comment is addressed in Section 4.3, *Hazards and Hazardous Materials*.
Citizens Committee to Complete the Refuge (CCCR)	Suggests that the project location should be evaluated for sea level rise resilience (and 100 year storm events with 2 feet of freeboard) consistent with the most current guidance from the State, and that the EIR should provide existing ground level elevations for the site in NAVD 88.	This comment does not pertain to a specific CEQA impact or threshold. Therefore, it is not addressed further in this EIR. However, potential for inundation of the project site from sea level rise is discussed in the hydrology and water quality section of the Initial Study (see Appendix A).
	States that the EIR should evaluate the effect of raising the ground level elevation to determine if impacts would arise due to displacement of flood flows, and hydraulic analyses, if available, should be incorporated into the EIR.	Potential flooding impacts are addressed in the hydrology and water quality section of the Initial Study (see Appendix A).
	States that the EIR must consider whether the project site is habitat for the salt marsh harvest mouse (SMHM) under flood conditions.	Impacts to special-status species, including salt marsh harvest mouse, are discussed in Section 4.1, *Biological Resources*.

Commenter	Comment/Request	How and Where It Was Addressed
	Recommends the EIR disclose biological impacts due to light pollution.	Potential impacts to biological resources, including lighting impacts, are discussed in Section 4.1, *Biological Resources*.
	Asks for clarification regarding who will manage the 32 acres set aside for restoration, and if there are toxic materials known to be on the site, as well as who will manage the land if CDFW will not.	The project applicant would retain ownership of the 32-acre preserve area, referred to in this EIR as the western component of the project site. No restoration activities or maintenance activities are proposed in the western component of the project site.
	Asks what the 11 special status plant species mentioned in the Initial Study are and if June and January are the times when the species would be present and identifiable.	The 11 special-status plant species mentioned in the Initial Study are described in the Biological Resources Technical Report, which is included as Appendix A to the Initial Study. The Initial Study is Appendix A to this EIR. Briefly, the 11 species include: alkali milkvetch; Congdon's tarplant; Salt-marsh birds-beak; Diablo helianthella; Santa Cruz tarplant; Contra Costa goldfields; pincushion navarretia; hairless popcornflower; chaparral ragwort; most beautiful jewelflower; and, California seablite.
	States that the EIR should identify, analyze, and propose mitigation for the adverse impacts of long-term predator/nuisance species that may be attracted to the project site, and, if SMHM is adjacent to the site, how nuisance species would be controlled without impacts to the SMHM.	Impacts to special-status species, including salt marsh harvest mouse, are discussed in Section 4.1, *Biological Resources*.
	Asks if the Caltrans pond identified in the Initial Study has mitigation attached to it as part of a permit mitigation requirement and, if so, what the requirements are, and if the proposed trail relocation would impact the mitigation requirements.	The Caltrans pond is located between the eastern and western components of the project site and is not part of the proposed project. No activities are proposed within the parcel containing the Caltrans pond. Therefore, permit conditions and mitigation measures attached to the Caltrans pond, if any, are not discussed in this EIR.
	Asks for clarification on fencing mentioned in Mitigation Measure BIO-8 and provides input and opinion on the conflict between recreation and conservation.	Mitigation Measure BIO-8 has been renumbered as Mitigation Measure BIO-1h in this EIR, and can be found in Section 4.1, *Biological Resources*. As described in Mitigation Measure BIO-1h, the fence is specifically intended to prevent people using the San Francisco Bay Trail from leaving the trail and accessing sensitive marsh habitat to the west. Property to the west of the trail is private property and not available for recreation.
East Bay Regional Park District (EBRPD)	Provides a reminder that the proposed land swap is subject to approval by the EBRPD Board of Directors and that proposed improvements must comply with regulations set by the San Francisco Bay Conservation and Development Commission (BCDC), as well as be resilient to the sea level rise projections in the	Approvals required for the proposed project, including EBRPD approval, are described in Section 2, *Project Description*. Potential for inundation of the project site from sea level rise is discussed in the hydrology and water quality section of the Initial Study (see Appendix A).

Commenter	Comment/Request	How and Where It Was Addressed
	Hayward Area Shoreline Planning Agency Shoreline Adaptation Master Plan.	
	Expresses an opinion that the Initial Study lacks details relating to the management and funding sources of the preserve, and requests information on these topics.	The project applicant would retain ownership of the 32-acre preserve area, referred to in this EIR as the western component of the project site. No restoration activities, maintenance activities, or management activities are proposed in the western component of the project site. A description of the proposed preserve area is provided in Section 2, *Project Description*.
Native American Heritage Commission	Assembly Bill (AB) 52 consultation, and if applicable Senate Bill 18 consultation, with California Native American tribes that are traditionally or culturally affiliated with the geographic area of the proposed project should be conducted as early as possible.	Senate Bill 18 requires either cities or counties to notify the appropriate California Native American tribe(s) prior to the adoption of a general plan or specific plan or an amendment to these plans. The proposed project does not include adoption of a general plan or specific plan nor an amendment to these plans. Therefore, consultation pursuant to Senate Bill 18 is not required for the proposed project. As described in Section 12 on page 14 of the Initial Study (see Appendix A), the City of Hayward sent a notification letter to the Ione Band of Miwok Indians of the project and invited them to participate in consultation pursuant to AB 52. The City of Hayward prepared and mailed letters on November 9, 2020.
	Provides a summary of AB 52 and Senate Bill 18 requirements and protocol in context with CEQA.	This comment does not pertain to a specific CEQA impact or threshold. However, the City has notified the applicable California Native American tribe of the project pursuant to AB 52.
	Provides examples and recommendations for mitigation measures to avoid or minimize significant adverse impacts to tribal cultural resources.	Impacts to tribal cultural resources are analyzed in Section 18, Tribal Cultural Resources, of the Initial Study. Mitigation measures to reduce impacts to tribal cultural resources to less than significant are indicated. See Appendix A to this EIR for the Initial Study.

1.3 Scope and Content

This EIR addresses impacts identified in the Initial Study to be potentially significant. Potentially significant impacts were identified in the following issue areas and are therefore studied in the EIR:

- Biological Resources
- Cultural Resources
- Hazards and Hazardous Materials
- Transportation

In preparing the EIR, use was made of pertinent City policies and guidelines, certified EIRs and adopted CEQA documents, and other background documents. A full reference list is contained in Section 7.0, *References*.

The alternatives section of the EIR (Section 6.0) was prepared in accordance with Section 15126.6 of the *CEQA Guidelines* and focuses on alternatives that are capable of eliminating or reducing significant adverse effects associated with the project while feasibly attaining most of the basic project objectives. In addition, the alternatives section identifies the "environmentally superior" alternative among the alternatives assessed. The alternatives evaluated include the CEQA-required "No Project" alternative and an alternate project site alternative.

The level of detail contained throughout this EIR is consistent with the requirements of CEQA and applicable court decisions. Section 15151 of the *CEQA Guidelines* provides the standard of adequacy on which this document is based. The *Guidelines* state:

> *"*An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good faith effort at full disclosure."

1.4 Issues Not Studied in Detail in the EIR

Table 1-2 summarizes issues from the environmental checklist that were addressed in the Initial Study (Appendix A). As indicated in the Initial Study, there is no substantial evidence that significant impacts would occur in any of these issue areas.

Table 1-2 Issues Not Studied in the EIR

Issue Area	Initial Study Findings
Aesthetics	Because the project would be adjacent to similar development, would involve preservation of approximately 32 acres of land near the shoreline, and would include landscaping with native species, impacts on scenic vistas would be less than significant. Because the project site in not within a state scenic highway, the proposed project would have no impacts to state scenic highways. Because the proposed project would be consistent with applicable zoning regulations governing scenic quality, including building design, height and massing, as well as landscaping and trail design, impacts would be less than significant. Section 10-1.1607 prohibits uses that generate substantial, direct glare visible beyond the boundaries of the site where the use is located. Mandatory compliance with Section 10-1.1607 of the Hayward Municipal Code would prevent the proposed project from creating substantial glare from affecting views. Additionally, the proposed project would utilize window glazing to minimize the glare from glass surfaces on the façade of the industrial building. For these reasons, impacts would be less than significant.
Agricultural and Forestry Resources	The project site does not contain agricultural or forestry uses. There would be no impacts on agricultural or forestry resources.
Air Quality	The project would not result in exceedances of BAAQMD thresholds for criteria air pollutants and thus would not conflict with the 2017 Clean Air Plan's goal to attain air quality standards. Furthermore, as shown inTable4, the proposed project would include applicable control measures from the 2017 Clean Air Plan and would not disrupt or hinder implementation of such control measures. Therefore, the proposed project would result in a less than significant impact related to consistency with the 2017 Plan.
	Construction emissions would not exceed BAAQMD thresholds, and the project would be below BAAQMD screening thresholds for operational emissions. Therefore, project operation

Issue Area	Initial Study Findings
	would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard. Impacts would be less than significant.
	The nearest sensitive receptors to the project site are schools and residences. The nearest school to the project site is California Crosspoint Academy, which is approximately 1.1 miles northeast of the site. The nearest public school to the project site is located approximately 1.5 miles northeast of the site. The nearest residences to the project site are approximately 1.2 miles to the east. Given the distance of the sensitive receptors from the project site, the proposed project would not expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant.
	The proposed project would require the use of diesel equipment during construction. Additionally, some vehicles used for warehouse operations at the proposed industrial building would also operate with diesel fuel. Diesel exhaust is odorous. However, a substantial number of people, especially those sensitive to odors, do not occur in proximity to the project site. People using the San Francisco Bay Trail, around the perimeter of the project site, would be briefly exposed to odors of diesel exhaust from project equipment. However, given that warehousing would require minimal truck trips, and project construction would be temporary, impacts would be less than significant.
Energy	Project operation would increase energy use on the site compared to existing conditions. However, energy use would be in conformance with the latest version of CALGreen and the Building Energy Efficiency Standards. Additionally, the electricity and natural gas use would not result in a significant increase for PG&E. Moreover, the project would not result in wasteful use of vehicle fuel. The proposed preserve on the western component of the project site would not require energy. Therefore, the project would not result in wasteful or unnecessary energy consumption, and impacts would be less than significant.
	The proposed project would be consistent with policies from the City's Climate Action Plan. Those policies specifically pertaining to energy efficiency include NR-4.1 through NR-4.11 and NR-4.13 though NR-4.15 relating to energy performance in new construction and energy efficient design in new development. Therefore, the proposed project would not interfere with the energy-related measures of the Climate Action Plan. The proposed project would not conflict with or obstruct the state or local plan for renewable energy or energy efficiency. Impacts would be less than significant.
Geology and Soils	The nearest earthquake fault zone to the project site is the Hayward Fault zone. The Hayward Fault zone is approximately 3.8 miles to the east of the project site. Given the distance between the project site and nearest known earthquake fault, the proposed project would cause no impacts related to fault ruptures. The City would ensure that the project would be designed and constructed consistent with the current California Building Code (CBC), thereby ensuring that appropriate investigations and design measures have been employed to effectively minimize or avoid potential hazards associated with redevelopment and/or new building construction. Proper engineering, including compliance with the CBC, would minimize the risk to life and property associated with potential seismic activity in the area.
	The project site is within a liquefaction zone that could result in foundation damage to the proposed industrial building during a seismic-related ground failure. Additionally, graded slopes could be susceptible to collapse during seismic events if improperly constructed or compacted. Soils on site could become unstable from the overlying weight of the proposed industrial building and surface parking lot. Collapse or failure of soils could result in substantial risk of loss, injury, or death. Mitigation Measure GEO-1 is required to reduce impacts, and with implementation of this mitigation measure, impacts would be less than significant. Mitigation measures from the Initial Study are listed in the Executive Summary of this EIR and will be included in the Mitigation Monitoring and Reporting Program.
	Landslide potential on the project site very low because there are no substantial slopes on or nearby. Project grading would create slopes only several feet high, and slopes would be no steeper than 1 foot of vertical per 2 feet of horizontal, consistent with the Hayward Municipal

Issue Area	Initial Study Findings
	Code. Therefore, there would be no potential for substantial adverse effects from landslides. Impacts would be less than significant.
	Construction of the proposed project would disturb the ground surface and loosen soils, which would increase the potential for erosion. As the proposed project would disturb over one acre of land, the applicant would be required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ) to comply with CWA NPDES requirements. Compliance with these requirements would include preparation of a Stormwater Pollution Prevention Plan (SWPPP), which would specify best management practices to prevent or reduce erosion. Following construction, the eastern component of the project site would either be landscaped or covered with impervious surfaces, such as the industrial building and asphalt parking. The wetland preserve on the western component of the project site would involve no ground disturbance. Accordingly, there would be no potential for substantial erosion or loss of topsoil. Impacts would be less than significant.
	Soils on the project site have low expansion potential. Therefore, the project would not be located on an expansive soil. There would be no substantial direct or indirect risks to life or property as a result of expansive soils. Impacts would be less than significant.
	The proposed project would include connections to the City's existing wastewater treatment system. Septic tanks or alternative wastewater disposal systems would not be used. Therefore, there would be no impact sin this regard.
	The project site is underlain by middle-aged Holocene geologic units. Late-to middle-aged Holocene geologic deposits have low potential to yield unique paleontological resources. Therefore, excavation and grading required for project construction would have low potential to destroy unique paleontological resources. Impacts would be less than significant.
Greenhouse Gas Emissions	The project would generate approximately 447.6MT of CO2e per year, which would not exceed the bright-line threshold of 660 MT of CO2e per year. Therefore, the proposed project would have a less than significant impact related to greenhouse gas (GHG) emissions. Overall, the proposed project would be consistent with Plan Bay Area 2040. Impacts related to GHG emissions would be less than significant.
Hydrology and Water Quality	Compliance with construction-related water quality and erosion control requirements, construction of the proposed project would not violate water quality standards. Impacts resulting from project construction would be less than significant.
	Given required compliance to the provisions of NPDES Section C.3, the SWPPP, and the stormwater control plan, the proposed project would not result in adverse effects on water quality and or in the violation of water quality standards or waste discharge requirements during construction or operation. Therefore, the proposed project would have a less than significant impact on water quality. With implementation of the measures contained in these plans, excessive stormwater runoff, substantial erosion or siltation on-or off-site would not occur and the potential for the project to violate water quality standards and substantially degrade water quality would be reduced.
	Compliance with conditions or permit requirements established by the City as well as water discharge requirements outlined by the RWQCB would ensure that wastewater discharges coming from the project site and treated by the Hayward Water Pollution Control (WPCF) system would not exceed applicable RWQCB wastewater treatment requirements. Mandatory compliance with the permit requirements would prevent stormwater runoff and effluent discharges from violating water quality standards or substantially degrading water quality. Thus, the proposed project would not conflict with or obstruct implementation of a water quality control plan. The proposed on-site bioretention areas would allow for precipitation and runoff from impervious project surfaces to infiltrate the ground surface. Therefore, although the proposed project would increase the amount of impervious area on the project site, runoff from the impervious areas would still contribute to groundwater recharge. Additionally, the proposed project does not include use of groundwater supplies. Although there is no adopted sustainable groundwater management plan for the groundwater basin underlying the project

Issue Area	Initial Study Findings
	site, because the proposed project would allow for infiltration and not use groundwater, it would not conflict with such a plan. Impacts would be less than significant.
	The proposed project would not alter the course of a stream or river. Jurisdictional wetlands occur on-site, but there are no streams or rivers (i.e., flowing waterways) on the project site. The addition of the proposed industrial building and associated surface parking and driveway area would increase the amount of impervious surface area on-site. However, the proposed project would include on-site bioretention areas to capture and treat runoff prior to discharge into the existing storm-drain system. The bioretention areas would slow the velocity of runoff and allow for infiltration, reducing the amount of runoff that is discharged to the storm-drain system. Therefore, because runoff would be conveyed to bioretention areas, substantial erosion on-or off-site would be avoided, as would flooding. Additionally, the proposed project includes landscaping, which would restore ground cover following construction. The establishment of groundcover would reduce erosion potential of on-site soils. The proposed preserve would not add or increase impervious surface on the project site. The wetland preserve would not alter drainage patterns as no changes to current conditions within the proposed preserve area are proposed. Therefore, the proposed preserve would not exceed the capacity of stormwater drainage systems. Impacts would be less than significant.
	A portion of the project site is mapped by the Federal Emergency Management Agency as 100-year floodplain. The proposed preserve area, new San Francisco Bay Trail alignment, and a portion of the proposed industrial building and surface parking would be within the mapped floodplain. The industrial building and surface parking area would increase the amount of impervious surface area within the floodplain. Increases in impervious area can contribute to accelerated stormwater runoff flow and larger volumes of flow. However, during a flood event, flood flows would infiltrate surrounding pervious areas, which are abundant due to marshlands to the south and east of the site. Additionally, the proposed preserve area would remain pervious and available for flood flow storage. Impacts would be less than significant.
	Inundation of the relocated trail segment would not occur from reasonably foreseeable sea level rise. Inundation of the proposed preserve area could occur, consistent with existing conditions, but no pollutants would be released from inundation of the preserve area because no pollutants or hazardous materials would be stored or used in the preserve area. No restoration activities or maintenance activities are proposed in the western component of the project site. More severe sea level rise in the future, include four feet of sea level rise could inundate the surface parking lot, industrial building, and relocated segment of the San Francisco Bay Trail; however, pollutants and hazardous materials would not be stored in the building or on-site. Therefore, inundation of the project would not release pollutants into the environment. Impacts would be less than significant.
Land Use and Planning	The project does not include linear features or road or trail closures that would limit movement or access within the surrounding neighborhood. The project would not divide an established community. There would be no impact.
	The proposed project would be potentially consistent with most General Plan policies. The proposed project would be potentially inconsistent with Policy NR-6.10 and Policy NR-6.12. Policy 6.10 *encourages* rainwater catchment for reuse indoors and for landscaping. Policy NR-6.12 *encourages* dual plumbing systems in new buildings. However, as described in Section 19, *Utilities and Service Systems*, adequate water supplies would be available for the project and other foreseeable future growth in Hayward. The absence of rainwater catchment and a dual plumbing system in the proposed industrial building would not result in significant physical environmental impacts. Inundation of the proposed preserve area could occur, consistent with existing conditions. Although the preserve area could continue to be inundated, inundation would not result in significant environmental impacts, as described in Section 10, *Hydrology and Water Quality*. Impacts would be less than significant.
Mineral Resources	The project site is not a known mineral resource area of regional importance, and the nearest such area is approximately 4.4 miles from the project site. No impact would occur.

Issue Area	Initial Study Findings
Noise	The proposed project could generate temporary noise increases during construction and long-term increases associated with project operation; however, both construction-related and operational noise would be less than significant.
	Construction of the proposed project would intermittently generate vibration on and adjacent to the project site. There are no sensitive receptors in proximity to the project site, such as residences where people may sleep and notice vibration. Operation of the proposed project would not involve uses that generate vibration. Therefore, because construction vibrations would not exceed Caltrans criteria at the nearest neighboring structures and operation would generate no vibration, impacts would be less than significant.
	The nearest airport to the project site is the Hayward Executive Airport, located approximately 2.5 miles north of the project site. The proposed project would not expose people within the project site to excessive noise levels associated with aircraft or airport operations. No impact would occur.
Population and Housing	The proposed project would involve the development of an industrial building, which would generate new business and jobs on the project site; however, the project is not of a type that would generate substantial indirect population growth and would not remove barriers to growth in the area. This impact would be less than significant.
	There are no housing units on the project site or people residing on the project site in temporary housing. Therefore, the project would not displace existing housing units or people. No impact would occur.
Public Services	The proposed industrial building would be next to existing similar development to the east and would not substantially increase the geographic response area for the Hayward Fire Department. Therefore, the existing Hayward Fire Department-Fire Station 4 would be adequate for serving the project site, and the construction of new or altered fire protection facilities would not be required. The proposed wetland preserve on the western portion of the site would not result in additional demand for fire protection services as current conditions within this area would remain unchanged by the project. Impacts would be less than significant.
	The proposed project does not include new residential development that would increase the population of Hayward. Therefore, the service population of the Hayward Police Department would not increase as a result of the proposed project. New police officers or civilian support staff would not be required as a result of the proposed project. The project site is adjacent to existing office and light industrial development that would require similar response times from the Hayward Police Department on Winton Avenue. The construction of new or altered police facilities would not be required to provide police protection services to the project. Impacts would be less than significant.
	The proposed project does not include new residential development that would directly increase the population of Hayward. The proposed project would not result in substantial indirect increases in population through employment. Because the proposed project would not substantially induce population growth, there would be no result substantial increase in school enrollment. The construction of new or altered school facilities would not be required. There would be no impact.
	There are no parks on the project site. The proposed project would not physically alter existing parks. Because the project would not induce substantial population growth and would be subject to applicable park impact fees, it would not result in increased use of parks or demand for parks. Impacts would be less than significant.
	The proposed project does not include new residential development that would directly increase the population of Hayward. There would be no result substantial increase demand for public facilities, such as libraries and court services. The construction of new or altered public facilities would not be required. The proposed project would have no impact in this regard.

Issue Area	Initial Study Findings
Recreation	Because the project would not induce substantial population growth, it would also not result in a substantial increase in use of existing recreation facilities in the area. Additionally, the project would be subject to the City's park impact fees. Impacts would be less than significant.
	The project includes a land swap to relocate the San Francisco Bay Trail, and impacts of that relocation are analyzed throughout the Initial Study and this EIR. This impact would be less than significant.
Tribal Cultural Resources	While no tribal cultural resources are known to occur on the project site, given its proximity to the shoreline of the San Francisco Bay, there could be unknown resources, particularly subsurface resources. Construction of the proposed project would require excavation and grading, which could damage or destroy tribal cultural resources, if present. However, impacts from the unanticipated discovery of tribal cultural resources during project construction would be less than significant with Mitigation Measure TCR-1. Mitigation measures from the Initial Study are listed in the Executive Summary of this EIR and will be included in the Mitigation Monitoring and Reporting Program.
Utilities and Service Systems	The proposed project would not require the relocation of water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunication facilities. These utilities exist within the right-of-way of Point Eden Way. The proposed project would require construction of new connections to the utilities within Point Eden Way. Additionally, new bioretention areas would be constructed on-site for stormwater treatment on the eastern component of the project site. The potential environmental impacts associated with the construction of utility connections and on-site bioretention areas evaluated throughout this document as a component of the proposed project. Impacts would be less than significant.
	As determined in the City's UWMP, there is adequate water supply available to serve anticipated growth in Hayward, as envisioned by the City's General Plan. The proposed industrial building would be located on the portion of the project site designated Industrial Technology and Innovation Center (IC). Therefore, the industrial building would be consistent with the General Plan. The relocation of the San Francisco Bay Trail and establishment of the preserve on other areas of the project site would not generate demand for water supply. Therefore, there would be sufficient potable water supply to accommodate the anticipated demand increases resulting from the proposed project. Impacts would be less than significant.
	Because the proposed project is consistent with the General Plan, and the Hayward Water Pollution Control Facility (WPCF) has capacity for growth consistent with the General Plan, there would be adequate capacity at the existing WPCF for the proposed project. Impacts would be less than significant.
	Hayward Municipal Code Chapter 5, Article 10 requires that for construction and demolition projects that generate significant debris, 100 percent of all asphalt and concrete and 50 percent of remaining materials must be recycled. Construction activities associated with the proposed project would be required to comply with this requirement. Further, the proposed project would be required to comply with regulations related to solid waste, as mandated by law. For these reasons, impacts would be less than significant.
Wildfire	The project site is not within or near state responsibility areas or lands classified as very high fire hazard severity zones. The nearest state responsibility area or land classified as very high fire hazard severity zone is at Garin Regional Park. Garin Regional Park is approximately 4.5 miles east-northeast of the project site. Numerous firebreaks, such as freeways and urban development without wildland fuels exist between Garin Regional Park and the project site. The project site is bound by State Route 92 to the north and mostly inundated tidal marshland to the south. Therefore, the risk of wildfire on the project site is low. There would be no impacts in this regard.

1.5 Lead, Responsible, and Trustee Agencies

The *CEQA Guidelines* define lead, responsible and trustee agencies. The City of Hayward is the lead agency for the project because it holds principal responsibility for approving the project.

A responsible agency refers to a public agency other than the lead agency that has discretionary approval over the project. Responsible agencies include the United States Army Corps of Engineers (USACE), the San Francisco Bay Regional Water Quality Control District (RWQCD), and the East Bay Regional Parks District. The East Bay Regional Parks District submitted comments on the Initial Study, which is provided in Appendix A. The EIR will also be submitted to these agencies for review and comment.

A trustee agency refers to a state agency having jurisdiction by law over natural resources affected by a project. There are no trustee agencies for the proposed project.

1.6 Environmental Review Process

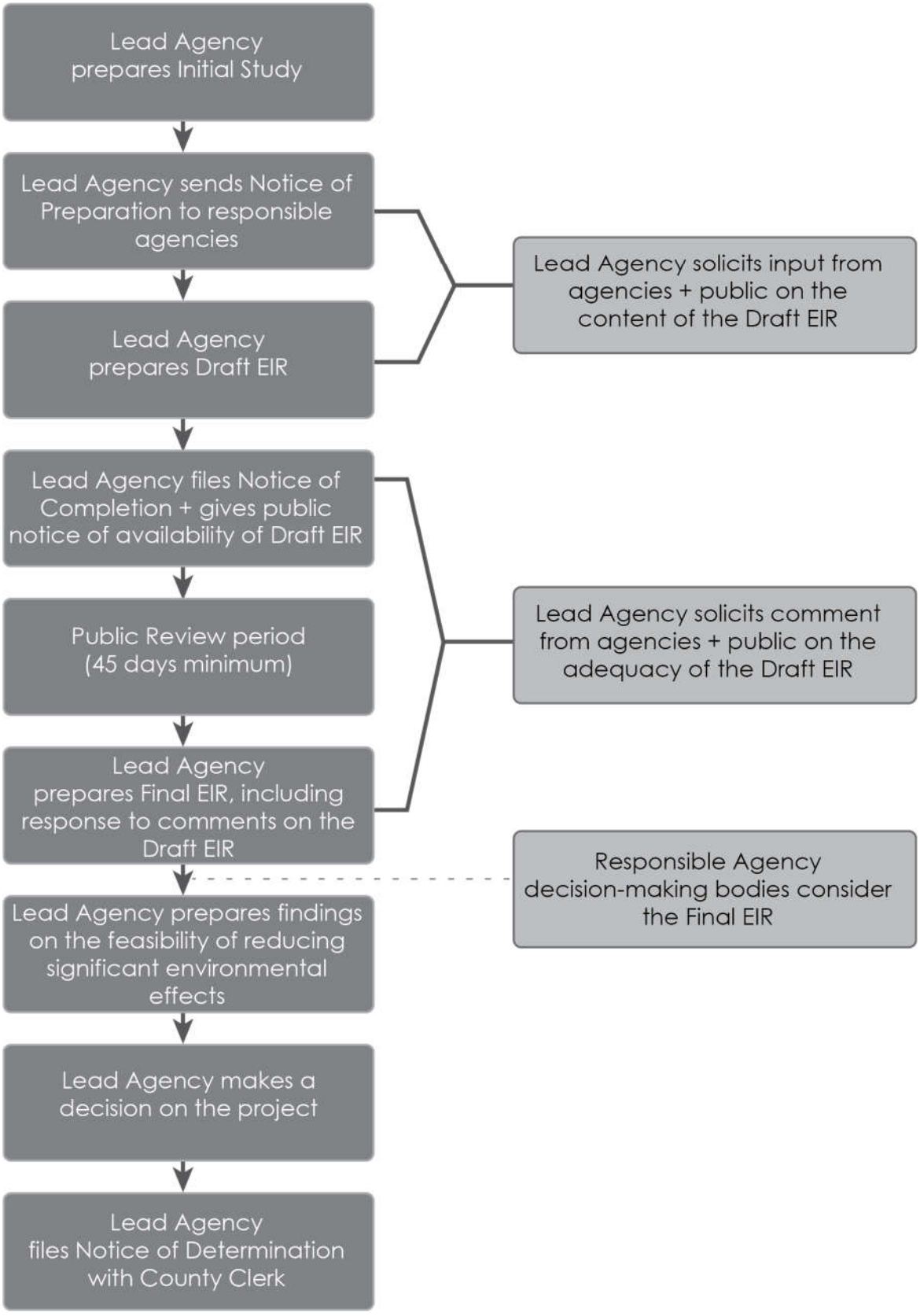
The environmental impact review process, as required under CEQA, is summarized below and illustrated in Figure 1-1. The steps are presented in sequential order.

1. **Notice of Preparation (NOP) and Initial Study**. After deciding that an EIR is required, the lead agency (City of Hayward) must file a NOP soliciting input on the EIR scope to the State Clearinghouse, other concerned agencies, and parties previously requesting notice in writing (*CEQA Guidelines* Section 15082; Public Resources Code Section 21092.2). The NOP must be posted in the County Clerk's office for 30 days. The NOP may be accompanied by an Initial Study that identifies the issue areas for which the project could create significant environmental impacts.
2. **Draft EIR Prepared.** The Draft EIR must contain: a) table of contents or index; b) summary; c) project description; d) environmental setting; e) discussion of significant impacts (direct, indirect, cumulative, growth-inducing and unavoidable impacts); f) a discussion of alternatives; g) mitigation measures; and h) discussion of irreversible changes.
3. **Notice of Completion (NOC).** The lead agency must file a NOC with the State Clearinghouse when it completes a Draft EIR and prepare a Public Notice of Availability of a Draft EIR. The lead agency must place the NOC in the County Clerk's office for 30 days (Public Resources Code Section 21092) and send a copy of the NOC to anyone requesting it (*CEQA Guidelines* Section 15087). Additionally, public notice of Draft EIR availability must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off the project site; and c) direct mailing to owners and occupants of contiguous properties. The lead agency must solicit input from other agencies and the public and respond in writing to all comments received (Public Resources Code Sections 21104 and 21253). The minimum public review period for a Draft EIR is 30 days. When a Draft EIR is sent to the State Clearinghouse for review, the public review period must be 45 days unless the State Clearinghouse approves a shorter period (Public Resources Code 21091).
4. **Final EIR.** A Final EIR must include: a) the Draft EIR; b) copies of comments received during public review; c) list of persons and entities commenting; and d) responses to comments.
5. **Certification of Final EIR.** Prior to making a decision on a proposed project, the lead agency must certify that: a) the Final EIR has been completed in compliance with CEQA; b) the Final EIR was presented to the decision-making body of the lead agency; and c) the decision making body

reviewed and considered the information in the Final EIR prior to approving a project (*CEQA Guidelines* Section 15090).

6. **Lead Agency Project Decision.** The lead agency may a) disapprove the project because of its significant environmental effects; b) require changes to the project to reduce or avoid significant environmental effects; or c) approve the project despite its significant environmental effects, if the proper findings and statement of overriding considerations are adopted (*CEQA Guidelines* Sections 15042 and 15043).
7. **Findings/Statement of Overriding Considerations**. For each significant impact of the project identified in the EIR, the lead agency must find, based on substantial evidence, that either: a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should be adopted; or c) specific economic, social, or other considerations make the mitigation measures or project alternatives infeasible (*CEQA Guidelines* Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that sets forth the specific social, economic, or other reasons supporting the agency's decision.
8. **Mitigation Monitoring Reporting Program.** When the lead agency makes findings on significant effects identified in the EIR, it must adopt a reporting or monitoring program for mitigation measures that were adopted or made conditions of project approval to mitigate significant effects.
9. **Notice of Determination (NOD).** The lead agency must file a NOD after deciding to approve a project for which an EIR is prepared (*CEQA Guidelines* Section 15094). A local agency must file the NOD with the County Clerk. The NOD must be posted for 30 days and sent to anyone previously requesting notice. Posting of the NOD starts a 30-day statute of limitations on CEQA legal challenges (Public Resources Code Section 21167[c]).

Figure 1-1 Environmental Review Process



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2 Project Description

This section describes the proposed project, including the project applicant, the project site and surrounding land uses, major project characteristics, project objectives, and discretionary actions needed for approval.

2.1 Project Applicant

U-HAUL, 815 Marketing Company
8000 San Leandro Street
Oakland, California 94621

2.2 Lead Agency Contact Person

Leigha Schmidt, Senior Planner
City of Hayward
777 B Street
Hayward, CA 94541
510-583-4113

2.3 Project Location

The project site consists of six parcels in the City of Hayward identified as Assessor Parcel Numbers (APN) 461-0084-019-00, APN 461-0085-020-01, APN 461-0085-020-02, APN 461-0061-001-00, APN 461-0090-001-00, and APN 461-0090-002-00. A separate parcel, not included in the project site, separates APN 461-0085-019-00, 461-0085-020-01, and 461-0085-020-02 from APN 461-0061-001-00, 461-0090-001-00, and 461-0090-002-00. Therefore, the project site has an eastern component (APN 461-0085-019-00, 461-0085-020-01, and 461-0085-020-02) and a western component (APN 461-0061-001-00, 461-0090-001-00, and 461-0090-002-00), which are non-contiguous but nearly adjacent. The eastern component is located at 4150 Point Eden Way, while the western component has no public road access. Point Eden Way roughly parallels the south side of State Route 92 in the eastern portion of Hayward. The regional location of the site is shown in Figure 2-1, the vicinity of the site is shown in Figure 2-2, and the project site boundaries are depicted in Figure 2-3.

Figure 2-1 Regional Location

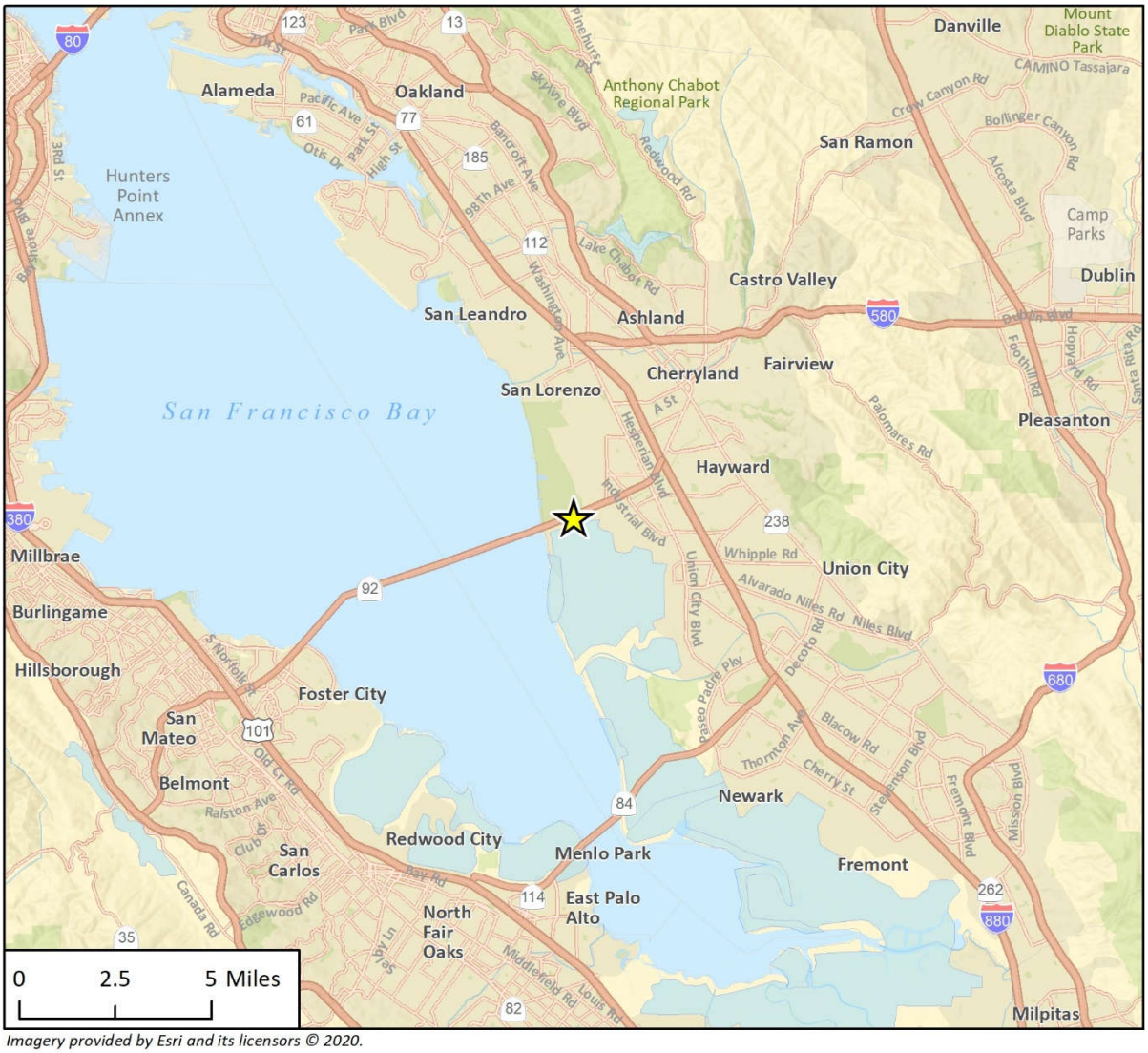


Figure 2-2 Project Vicinity Map

Figure 2-3 Project Site Boundary

2.4 Existing Site Characteristics

2.4.1 Existing Site Conditions

The eastern component of the project site is approximately six to eight feet in elevation above mean sea level (msl). Numerous small depressions occur throughout the eastern component of the project site as a result of remediation grading. There are two historic finishing salt ponds along the southwestern boundary of the eastern component of project site. These ponds were originally constructed as part of a salt processing plant, known as the Oliver Brothers Salt Works. Currently these salt ponds only receive water from precipitation and surface runoff from the former working surfaces of the salt plant operation area. They are not subject to tidal influence. Additionally, the eastern component of the project site contains the primary structure associated with the former Oliver Brothers Salt Works operation, as well as other components of the salt operation that have largely deteriorated over time.

There are six former salt ponds in the western component of the project site. The former use of these salt ponds as evaporation ponds for salt production is evident by the remaining salt crusts in the impounded areas. Old water control structures that used to convey water into these ponds are in poor and dilapidated condition and do not function now. Currently, each pond supports varying depths of standing water, and/or is dry over the course of the year.

Four land cover types occur within the eastern component of the project site including: developed; ruderal habitats dominated by upland vegetation; wetlands; and historic salt ponds. Remedial action measures associated with removal of contaminated soil that have been taking place for years have altered the plant communities in the eastern component of the project site. Vegetation communities and land cover types were not delineated or classified in detail for the western component of the project site because no project activities are proposed within the western component other than preservation of existing conditions. Therefore, it was unnecessary to map or delineate vegetation communities in that portion of the project site. However, some of the same plant species and communities that occur in the eastern component also occur in the western component of the project site.

2.4.2 Current Land Use Designation and Zoning

As shown in Figure 2-3, the project site consists of a western and eastern component. The western component of the project site has a General Plan land use designation of Baylands and is zoned Floodplain District, while the eastern component has a General Plan land use designation of Industrial Technology and Innovation Corridor, with the westernmost corner has a General Plan land use designation of Baylands. The eastern component is zoned Industrial Park. Because the 32-acre area would be preserved in perpetuity with a deed restriction or other appropriate legal mechanism, without management activities, no management plan or improvement plan is proposed.

Figure 2-4 shows the site's land use designations, and Figure 2-5 shows the zoning districts of the site.

2.4.3 Surrounding Land Uses

The project site is located directly south of State Route 92 and north of the CDFW Eden Landing Ecological Reserve, as shown in Figure 2-6. North of State Route 92 is open space, and east of the eastern component are office and light industrial uses.

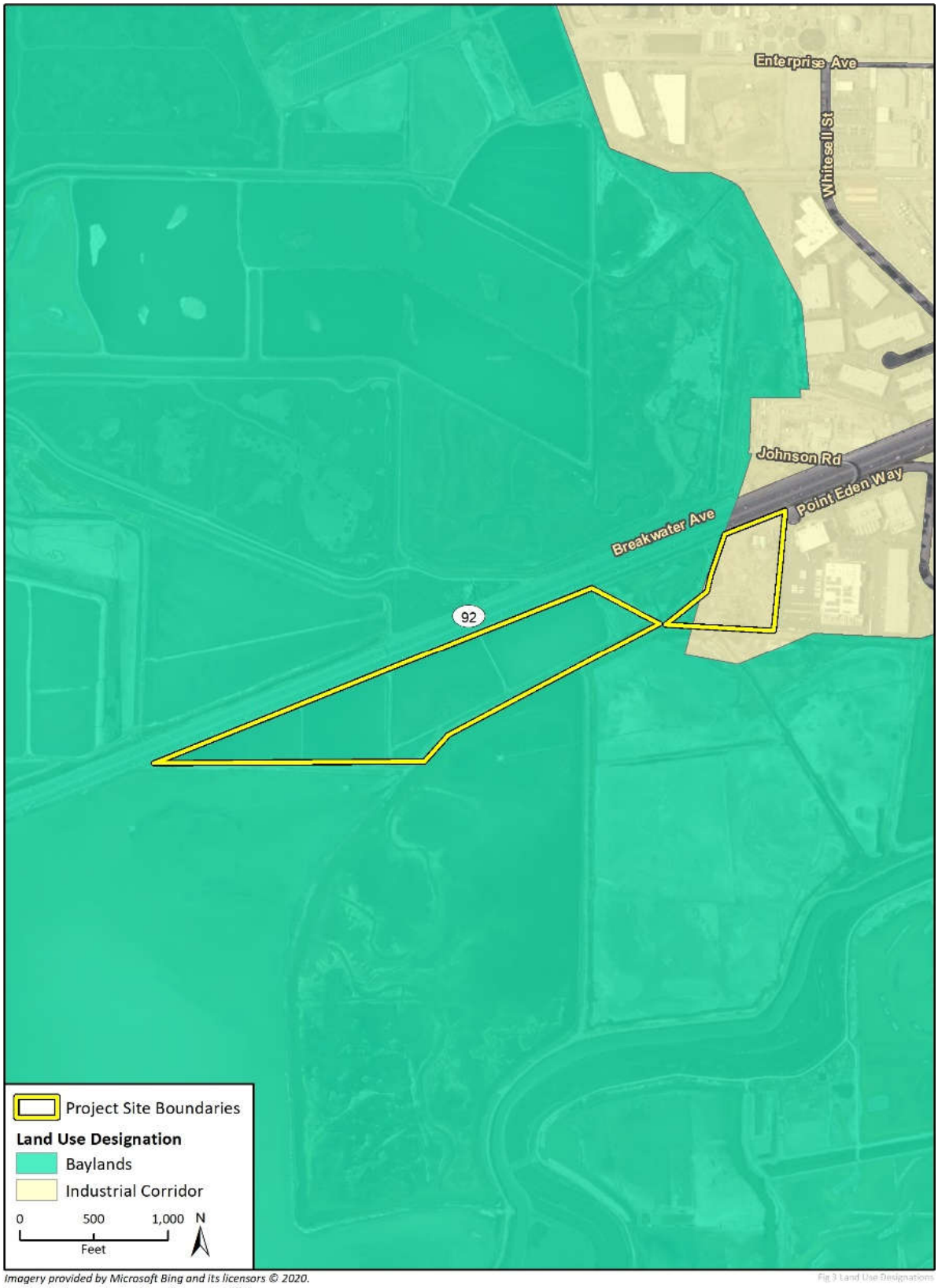
2.5 Project Characteristics

The proposed project would involve construction of a new industrial building on the eastern component of the project site and preservation of an open space/wetland preserve on the western component. The project would commence with demolition and removal of existing structures on the eastern component of the project site associated with the former Oliver Brothers Salt Works operations. After demolition and removal of existing structures and materials, construction of the new industrial building would begin. The proposed industrial building would be approximately 50 feet in height to finished roof. The proposed building would provide approximately 114,059 square feet of warehouse space and a 2,785-square-foot of office, for a total size of approximately 116,844 square feet. The office space would be provided at the north end of the building, facing State Route 92. During operation of the project, approximately 20 to 25 employees would be present. A conceptual site plan for the eastern component is shown in Figure 2-7, and a conceptual landscape plan is shown in Figure 2-8.

The San Francisco Bay Trail is located on the eastern edge of the eastern component of the project site, within APN 461-0085-020-01. The proposed project includes a land swap for East Bay Regional Park District to relocate the Bay Trail from the current location along the eastern property line to meander along the northern property line and then to turn south to run along the western property line of APN 461-0085-020-02, until meeting its current location on Point Eden Way, as shown in Figure 2-9. The swap would transfer ownership of APN 461-0085-020-01 to the project applicant and grant an easement to the East Bay Regional Park District for the trail to cross APN 461-0085-020-02.

The proposed project also includes establishing an approximately 32-acre preserve on the western component of the project site, within APN 461-0061-001-00, 461-0090-001-00, and 461-0090-002-00. These parcels are currently characterized by salt evaporation ponds from the former salt production operation on the project site that would remain in place. This 32-acre area (Preserve) contains six old salt ponds totaling 26 acres. The 32-acre Preserve would be preserved in perpetuity via recordation of a deed restriction or other appropriate legal mechanism, ensuring that the salt ponds are permanently preserved as open space in perpetuity. No conservation easement or conservator endowment would be provided. Because the 32-acre area would be preserved in perpetuity with a deed restriction or other appropriate legal mechanism, without management activities, no management plan or improvement plan is proposed.

Figure 2-4 Land Use Designations



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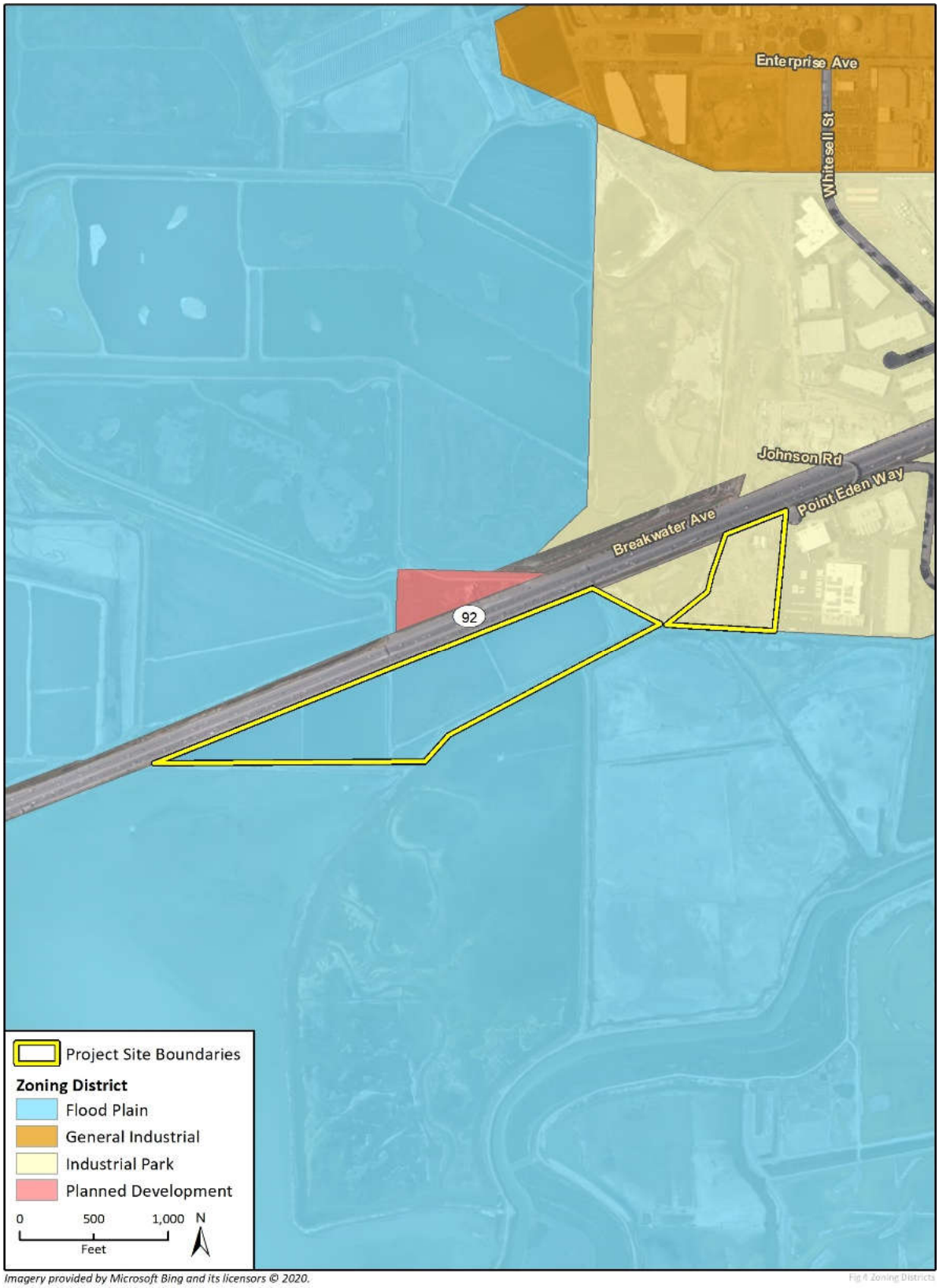
Land use data provided by City of Hayward, 2018.

Fig 3 Land Use Designations

Figure 2-5 Zoning Districts



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Zoning data provided by City of Hayward, 2020.

Figure 2-6 Surrounding Land Use

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Fig 5 Surrounding Land Use

Figure 2-7 Conceptual Site Plan: Eastern Component

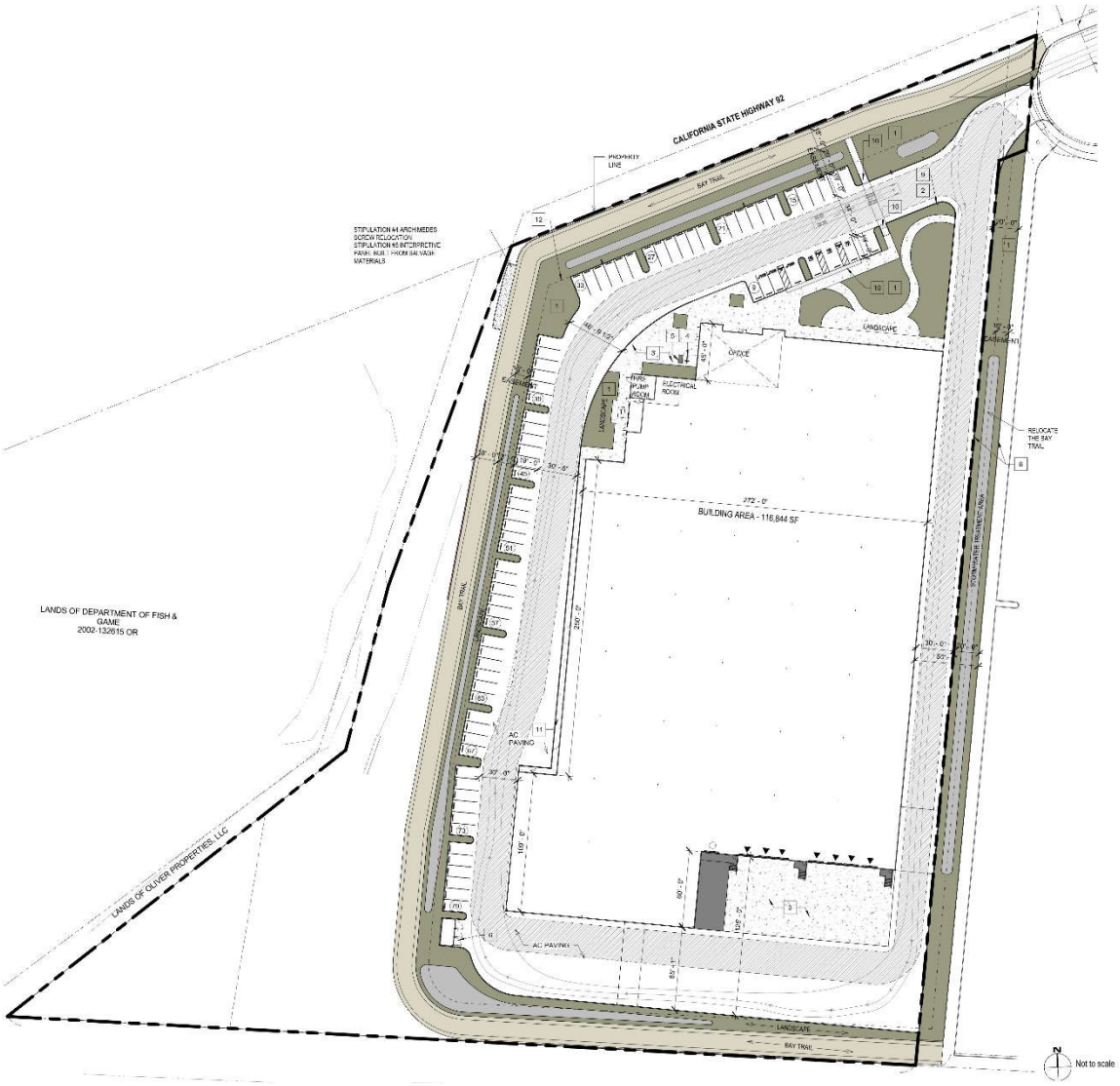


Figure 2-8 Conceptual Landscape Plan

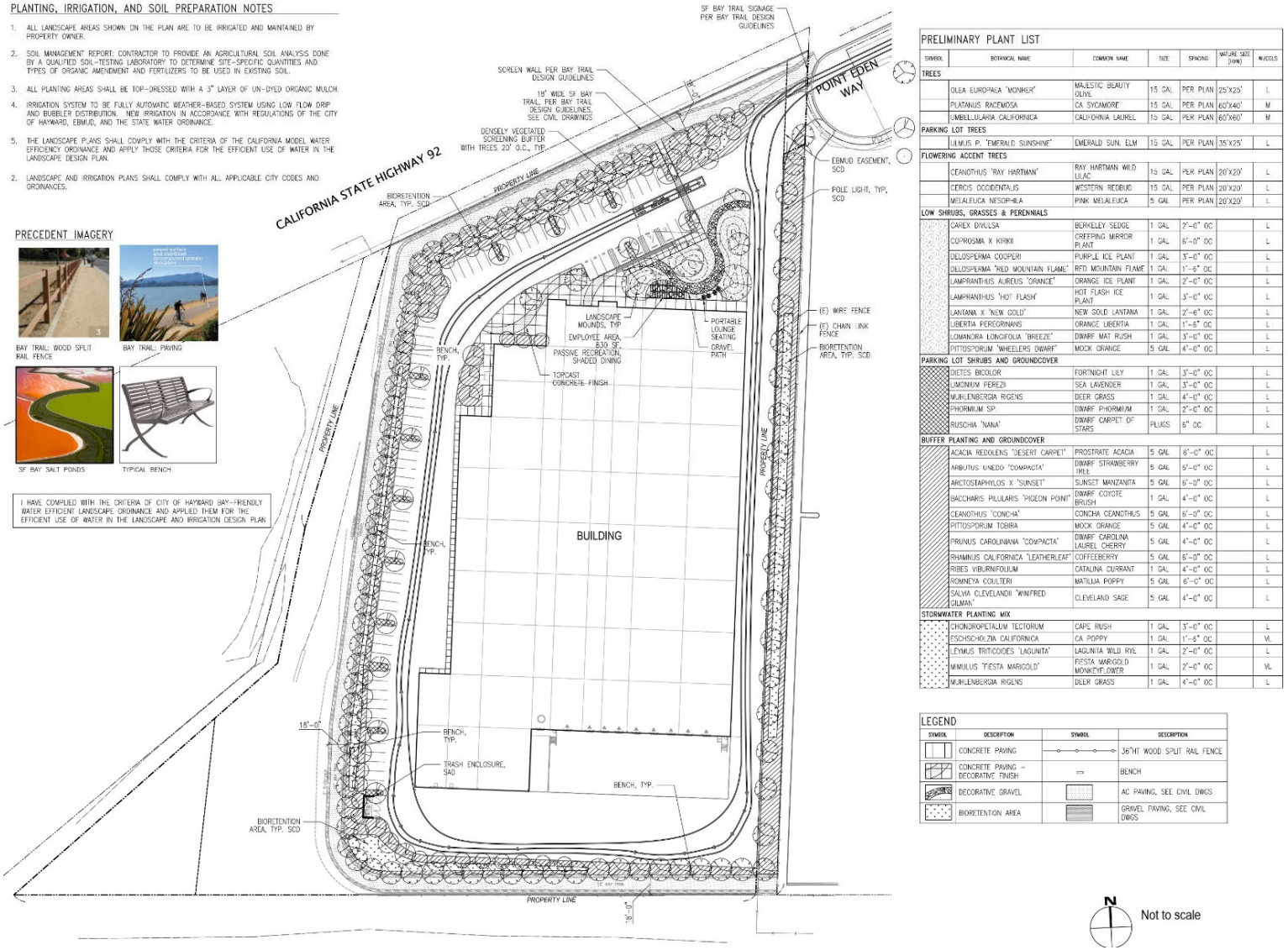
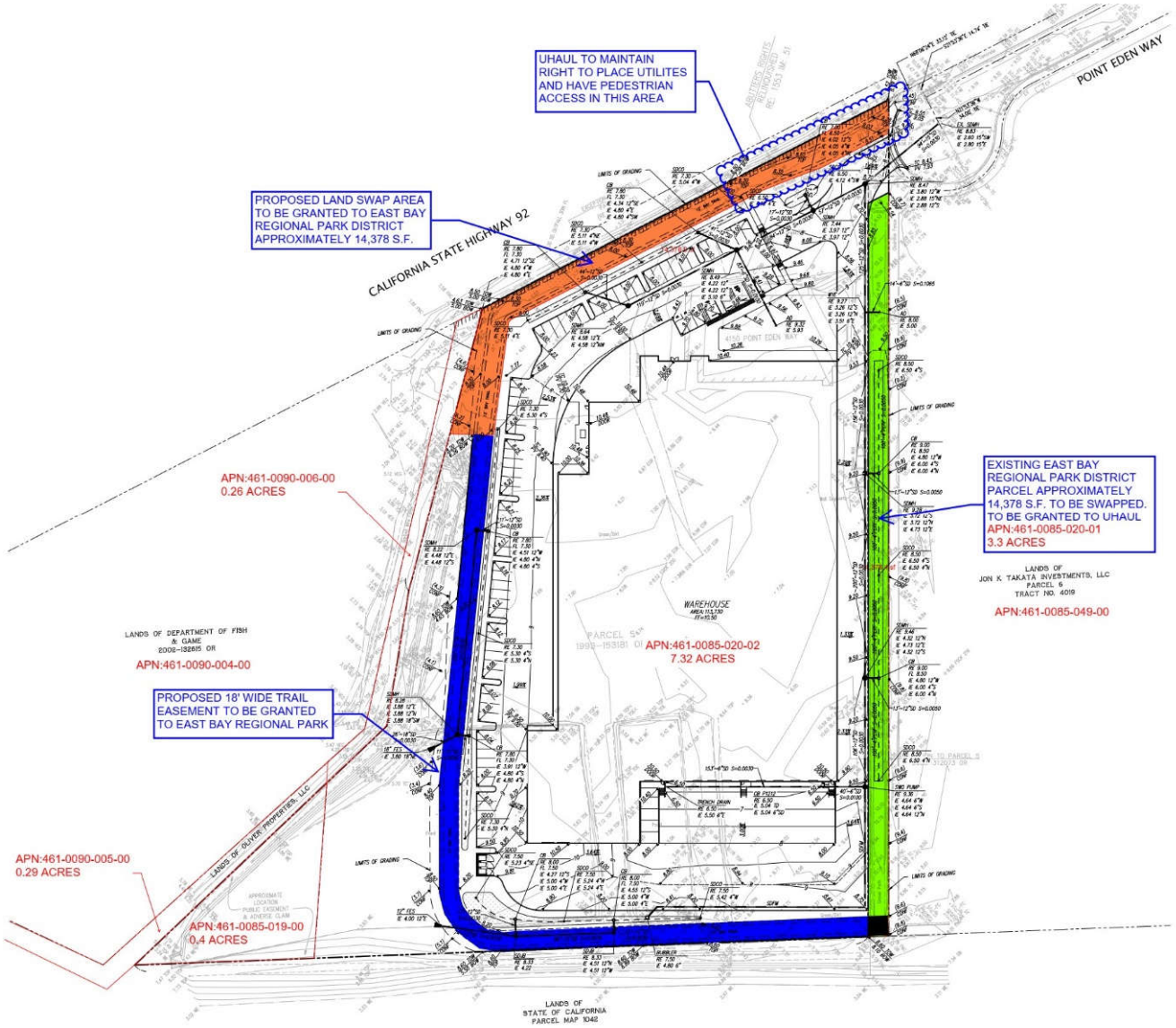


Figure 2-9 Conceptual San Francisco Bay Trail Land Swap Plan



2.5.1 Parking and Site Access

Ingress and egress to the industrial building would be from a new driveway on Point Eden Way. Approximately 79 parking spaces would be provided, including two spaces dedicated for electric vehicles and two accessible spaces compliant with the Americans with Disabilities Act (ADA). Two bike lockers and two bike stalls would also be provided on-site near the industrial building. Landscaping would be installed on all sides of the new building but would be concentrated on the north side of the building facing State Route 92. Landscaping would include trees, low shrubs, grasses, and perennials. No physical changes are proposed for the western component.

2.5.2 Utilities

The proposed industrial building would require utility and drainage improvements including new sanitary sewer, storm drain, and domestic water lines. These new utilities would connect to existing utilities within the right-of-way of Point Eden Way. Bioretention areas (see Figure 2-8) would be constructed on-site to collect and treat stormwater runoff prior to discharge into the City's storm drain system.

2.5.3 Construction and Grading

Estimated construction duration of the proposed project would be 12 to 18 months, tentatively beginning in 2021. Maximum construction depth would generally be approximately 7 feet below ground surface; however, displacement piers would be used in the foundation and require drilling to depths of approximately 20 feet below ground surface. Construction would begin with demolition of existing structures on the project site. Construction would involve standard and typical equipment, such as excavators, graders, backhoes, dump trucks, and power tools. Construction would also involve site preparation, consisting primarily of grading the site to achieve desired drainage and suitable building area. Grading would require permanent placement of fill material on-site, including within jurisdictional waters of the United States (i.e., wetlands). The proposed project would generate approximately 18,200 cubic yards of fill and 6,000 cubic yards of cut material, resulting in approximately 12,200 cubic yards of material for import. Construction would not require the removal of trees.

2.6 Project Objectives

The objectives for the proposed project are to:

- Develop an industrial building to house U-Haul corporate headquarters and warehouse.
- Locate the building at the western edge of Hayward in proximity to a regional highway and other industrial, warehousing and logistics uses to avoid land use conflicts.
- Create new employment and economic growth opportunities by redeveloping a vacant and underutilized property.
- Establish a wetland preserve adjacent to the San Francisco Bay.
- Remove a dilapidated and unsafe structure from a currently underutilized property at the gateway to the City.

2.7 Required Approvals

The following approvals and permits from the City of Hayward would be required for the proposed project:

- Site Plan Review
- Grading and Building Permits

The City of Hayward is the lead agency with responsibility for approving the proposed project. Construction of the project would also involve fill of wetlands, which would require approval from the United States Army Corps of Engineers and the San Francisco Bay Regional Water Quality Control Board. Consultation with the United States Fish and Wildlife Service will be required since the proposed project may affect endangered species protected pursuant to the federal Endangered Species Act. The proposed project will also require consultation with the State Historic Preservation Office.

The East Bay Regional Park District must also consider approval of the proposed land exchange included in the project for relocation of the San Francisco Bay Trail.

The San Francisco Bay Conservation and Development Commission (BCDC) has regulatory responsibility over development in San Francisco Bay and along the Bay's nine-county shoreline, including shoreline in Alameda County. It is necessary to obtain a BCDC permit prior to undertaking work in the San Francisco Bay or within 100 feet of the shoreline. The project site is approximately 2,000 feet from the shoreline of the San Francisco Bay. Thus, BCDC permits would not be required.

3 Environmental Setting

This section provides a general overview of the environmental setting for the proposed project. More detailed descriptions of the environmental setting for each environmental issue area evaluated in this EIR can be found in Section 4, *Environmental Impact Analysis*.

3.1 Regional Setting

The project site is in the far eastern portion of the City of Hayward, which is in southwest Alameda County in the San Francisco Bay Area. Hayward is bound by the San Francisco Bay to the west and the East Bay Hills to the east. The shoreline of the San Francisco Bay is approximately 2,000 feet to the west of the project site. Because of the proximity to the Bay, the region around the project site is largely characterized by marshlands and tidal zones. The Mediterranean climate of the region and the coastal influence produce moderate temperatures year-round, with rainfall concentrated in the winter months.

3.2 Project Site Setting

As described in Section 2, *Project Description*, the project site has an eastern component (APN 461-0085-019-00, 461-0085-020-01, and 461-0085-020-02) and a western component (APN 461-0061-001-00, 461-0090-001-00, and 461-0090-002-00), which are non-contiguous but nearly adjacent. The eastern component is located at 4150 Point Eden Way, while the western component has no public road access. Figure 2-1 and 2-2 in Section 2, *Project Description*, shows the regional location of the project site and the near vicinity.

As shown in Figure 2-6 in Section 2, *Project Description,* the project site is located directly south of State Route 92, and north of the CDFW Eden Landing Ecological Reserve. North of State Route 92 is open space, and east of the eastern component are office and light industrial uses.

The western component of the project site has a General Plan land use designation of Baylands and is zoned Floodplain District and is characterized primarily by dormant salt ponds associated with the former Oliver Brothers Salt Works operations. Topography on the western component of the project site is generally flat, with some small mounds and embankments several feet in height. The eastern component has a General Plan land use designation of Industrial, with the westernmost corner is designated as Baylands. The eastern component is zoned Industrial Park District. The eastern component of the project site contains the primary structure associated with the former Oliver Brothers Salt Works operation, as well as other components of the salt operation that have largely deteriorated over time. Vegetation in the eastern component of the project site is mostly comprised of either invasive or ruderal species. The eastern component of the project site has numerous topographic low areas that remain as a result of contaminated soil removal and replacement measures conducted at this site.

3.3 Cumulative Development

In addition to the specific impacts of individual projects, CEQA requires EIRs to consider potential cumulative impacts of the proposed project. CEQA defines “cumulative impacts” as two or more

individual impacts that, when considered together, are substantial or will compound other environmental impacts. Cumulative impacts are the combined changes in the environment that result from the incremental impact of development of the proposed project and other nearby projects. For example, noise impacts of two nearby projects may be less than significant when analyzed separately but could have a significant impact when analyzed together because their combined noise levels could be substantial. Cumulative impact analysis allows the EIR to provide a reasonable forecast of future environmental conditions and can more accurately gauge the effects of a series of projects.

CEQA requires cumulative impact analysis in EIRs to consider either a list of planned and pending projects that may contribute to cumulative effects or a forecast of future development potential. As described above in Section 3.1, Regional Setting, the project site is in proximity to the San Francisco Bay in the eastern portion of Hayward. Currently planned and pending projects in the western portion of Hayward, generally between the Bay and Interstate 880, are listed in Table 3-1. These projects are considered in the cumulative analyses in Section 4, *Environmental Impact Analysis*.

Table 3-1 Cumulative Projects List

Project Status	Project Location	Land Use
Approved	24765 Hesperian Boulevard	13-Unit Residential Subdivision
Under Review	1000 La Playa Drive	46-Unit Residential Project
Under Construction	1401 W. Winton Avenue	66,278 Square-Foot Public Facilities/Fire Department
Approved	3760 Depot Road	3,362 Square-Foot Recycling Center
Approved	23986 Foley Street	9,000 Square-Foot Industrial/Warehouse
Approved	2595 Depot Road	126-Unit Residential Project
Approved	25080 Monte Vista Drive	2-Unit Residential with Accessory Dwelling Units
Approved	27501 Loyola Avenue	2-Unit Residential Project
Under Review	25800 Clawiter Road	616,000 Square-Foot Industrial Campus
Under Review	25450 Clawiter Road	387,271 Square-Foot Industrial Campus
Under Review	24763 Mohr Drive	5-Unit Residential Project
Under Review	24493 Clawiter Road	157,000 Square-Foot Industrial Building

Note: Cumulative projects are based on applications the City has either received or processed at the time of preparation of this EIR.

4 Environmental Impact Analysis

This section discusses the possible environmental effects of the 4150 Point Eden Way Industrial Project for the specific issue areas that were identified through the scoping process as having the potential to experience significant effects. A "significant effect" as defined by the *CEQA Guidelines* §15382:

> means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

The assessment of each issue area begins with a discussion of the environmental setting related to the issue, which is followed by the impact analysis. In the impact analysis, the first subsection identifies the methodologies used and the "significance thresholds," which are those criteria adopted by the City and other agencies, universally recognized, or developed specifically for this analysis to determine whether potential effects are significant. The next subsection describes each impact of the proposed project, mitigation measures for significant impacts, and the level of significance after mitigation. Each effect under consideration for an issue area is separately listed in bold text with the discussion of the effect and its significance. Each bolded impact statement also contains a statement of the significance determination for the environmental impact as follows:

- **Significant and Unavoidable**. An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the CEQA Guidelines.
- **Less than Significant with Mitigation Incorporated**. An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under §15091 of the CEQA Guidelines.
- **Less than Significant**. An impact that may be adverse but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **No Impact.** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Following each environmental impact discussion is a list of mitigation measures (if required) and the residual effects or level of significance remaining after implementation of the measure(s). In cases where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed and evaluated as a secondary impact. The impact analysis concludes with a discussion of cumulative effects, which evaluates the impacts associated with the proposed project in conjunction with other planned and pending developments in the area listed in Section 3.0, *Environmental Setting*.

The Executive Summary of this EIR summarizes all impacts and mitigation measures that apply to the proposed project.

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4.1 Biological Resources

This section analyses the proposed project's impacts related to biological resources. Information contained in this section comes primarily from a Biological Resources Technical Report prepared for the proposed project by WRA, Inc. (WRA 2020). The Biological Resources Technical Report is provided as Appendix A to the Initial Study, which is included as Appendix A to this EIR.

4.1.1 Setting

a. Regional Setting

The project site is located in the City of Hayward, in Alameda County, California. The city is bordered by the San Francisco Bay to the west, the City of San Leandro to the north, the East Bay Hills to the east, and the California Department of Fish and Wildlife (CDFW) Eden Landing Ecological Reserve to the south. Due to the city's proximity to the San Francisco Bay, Hayward supports multiple vegetation types and habitats for numerous plant and animal species. Suitable habitat for special status species in the region includes the foothill areas in the eastern portion of the City, salt marsh adjacent to the Bay Shoreline, and riparian areas that run throughout the City.

b. Project Site Setting

Topography and Hydrology

The eastern component of the project site is approximately six to eight feet in elevation above mean sea level (msl). Numerous small depressions occur throughout the eastern component of the project site as a result of remediation grading. These undulations and slight topographic depressions, especially in the parking lot areas, are a byproduct of when dirt piles were created and removed from the site and from all construction related to remediation of the soils. As such, there is depressional topography that now collects precipitation that does not readily drain owing to the underlying compacted soils. Rather, water evaporated from these minor depressions, as indicated by the alkaline/salt crusts and colonization by salt tolerant, wetland plants.

There are two historic finishing salt ponds along the southwestern boundary of the eastern component of project site. These ponds were originally constructed as part of a salt processing plant, known as the Oliver Brothers Salt Works. These salt ponds are several feet higher in elevation than the adjacent salt ponds to the south associated with the Eden Landing Ecological Reserve. Both of the salt ponds on the eastern component of the project site are hydrologically isolated from adjacent salt ponds to the south by elevation and by levees/berms that were constructed at the turn of the last century. Historically, these higher elevation salt ponds were infrequently flooded with Bay water, and hypersaline brines and salt were concentrated in the ponds via evaporation for salt production. The water control structures are in a dilapidated condition, and no longer appear to be operational. Currently these salt ponds only receive water from precipitation and surface runoff from the former working surfaces of the salt plant operation area. They are not subject to tidal influence.

There are six former salt ponds in the western component of the project site. The former use of these salt ponds as evaporation ponds for salt production is evident by the remaining salt crusts in the impounded areas. Old water control structures that used to convey water into these ponds are

in poor and dilapidated condition and do not function now. Currently, each pond supports varying depths of standing water, and/or is dry over the course of the year.

The local watershed is Ward Creek-Frontal San Francisco Bay Estuaries (HUC 12: 180500040804) and the regional watershed is San Francisco Bay (HUC 8: 18050004). The project site is located in the lower portion of the Ward Creek watershed but does not contribute flow to Ward Creek. There are no blue-line streams within the project site (USGS 2015). The project site does not include mapped resources in the National Wetlands Inventory (NWI; U.S. Fish and Wildlife [USFWS] 2018a), and California Aquatic Resources Inventory (CARI; SFEI 2018), however the salt ponds adjacent to the south of the project site are included as mapped resources. While the project site is relatively flat, water appears to drain in the southwest direction towards the drainage ditches and salt ponds on-site, and towards the adjacent salt ponds and San Francisco Bay further to the west and south.

Vegetation Communities and Land Cover Types

Four land cover types occur within the eastern component of the project site including: developed; ruderal habitats dominated by upland vegetation; wetlands; and historic salt ponds. Remedial action measures associated with removal of contaminated soil that have been taking place for years have altered the plant communities in the eastern component of the project site. The vegetation communities and land cover types within the eastern component of the project site are shown in Table 4.1-1 and Figure 4.1-1. A brief description of each vegetation community and land cover type follows Figure 4.1-1.

Vegetation communities and land cover types were not delineated or classified in detail for the western component of the project site because no project activities are proposed within the western component other than preservation of existing conditions. Therefore, it was unnecessary to map or delineate vegetation communities in the western component of the project site. However, some of the same plant species and communities that occur in the eastern component also occur in the western component of the project site. These are noted in the brief vegetation community and land cover type descriptions that follow Figure 4.1-1.

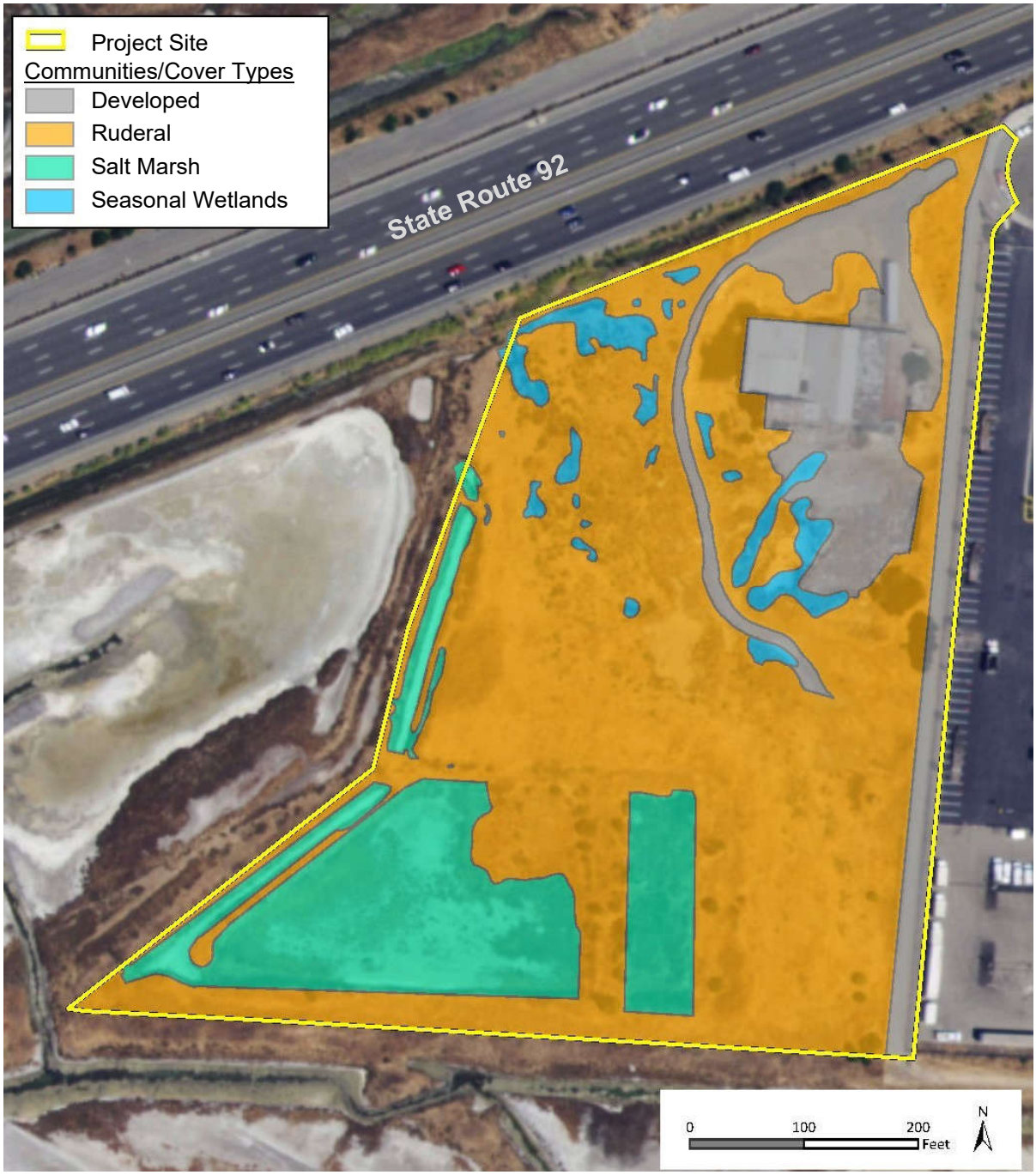
Table 4.1-1 Land Cover Types on the Eastern Component of the Project Site

Vegetation Community/Land Cover Type	Sensitive Status	Rarity Ranking	Acres within the Project Site (Eastern Component)
Developed	Non-sensitive	None	1.45
Ruderal Uplands	Non-sensitive	None	5.17
Seasonal Wetland	Sensitive	S3G4; USACE-; RWQCB-Jurisdictional	0.28
Former Salt Pond/Salt Marsh	Sensitive	S3G4; USACE-; RWQCB-Jurisdictional	1.41

Source: WRA 2020; Appendix A of the Initial Study

Note: Table does not include western component of the project site.

Figure 4.1-1 Vegetation Community and Land Cover Types: Eastern Component of Project Site



Source: WRA 2020; see Appendix A of the Initial Study

DEVELOPED AREA (NO VEGETATION ALLIANCE). CDFW RANK: NONE

A portion of the eastern component of the project site is characterized by the abandoned and dilapidated Oliver Brothers Salt Works plant, including one remnant building and two smaller structures located in the northeast corner of the project site. A portion of the San Francisco Bay Trail occurs at the eastern edge of the eastern component of the project site.

RUDERAL UPLANDS (NO VEGETATION ALLIANCE). CDFW RANK: NONE

Ruderal (weedy) communities are assemblages of plants that thrive in areas that have been disturbed by human activity. Dominant upland plant species on the eastern component of the project site include non-native species such as soft chess (*Bromus hordeaceus*), ripgut grass (*Bromus diandrus*), slender wild oat (*Avena barbata*), broad-leaf filaree (*Erodium botrys*), white-stem filaree (*Erodium moschatum*), wall barley (*Hordeum murinum leporinum*), bitter lettuce (*Lactuca virosa*), dove's foot geranium (*Geranium molle*), cut-leaf geranium (*Geranium dissectum*), California burclover (*Medicago polymorpha*), stinkwort (*Dittrichia graveolens*), short-podded mustard (*Hirschfeldia incana*), Italian thistle (*Carduus pycnocephalus pycnocephalus*), bristly ox-tongue (*Helminthotheca echioides*), common vetch (*Vicia sativa*), white sweet clover (*Melilotus albus*), and bindweed (*Convolvulus arvensis*). These are just a few of the non-native weedy species found on the project site. The uplands also support a few scattered native species, including common spikeweed (*Centromadia\ pungens pungens*) and coyote brush (*Baccharis pilularus* ssp. *consanguinea*). These same species characterize much of the upland areas of the western component of the project site.

SEASONAL WETLANDS. (*SALICORNIA/SARCOCORNIA PACIFICA* AND *SALICORNIA DEPRESSA* HERBACEOUS ALLIANCE). CDFW RANK: S3G4, SENSITIVE

Seasonal wetlands include areas which hold water for part of the year, typically during the rainy season (between October and March), which are dominated by hydrophytic vegetative cover, such as hyssop loosestrife (*Lythrum hyssopifolia*), cut-leaf plantain (*Plantago coronopus*), and Mediterranean barley (*Hordeum marinum ssp. gussoneanum*), rabbit's-foot grass (*Polypogon monspeliensis*), birdfoot trefoil (*Lotus corniculatus*), and plants that withstand higher salinities including perennial pickleweed (*Salicornia pacifica*), annual pickleweed (*Salicornia depressa*), tumbleweed (*Salsola tragus*), slender-leaved iceplant (*Mesembryanthemum nodiflorum*), and brass-buttons (*Cotula coronopifolia*).

SALT PONDS/SALT MARSH (*SARCOCORNIA PACIFICA* AND *SALICORNIA DEPRESSA* HERBACEOUS ALLIANCE). CDFW RANK: S3G4, SENSITIVE

There are two man-made, salt ponds and associated ditches at the southwestern edge of the eastern component of the project site that are associated with the former salt production that operated on the project site for over 50 years, as is evident from historical aerial photographs available on Google Earth. These features were abandoned when the salt production ceased operations in 1981. The salt ponds and associated ditches on the site are dominated by perennial pickleweed, Mediterranean barely, cut-leaf plantain, fathen (*Atriplex prostrata*), alkali heath (*Frankenia salina*), and tall flatsedge (*Cyperus eragrostis*). These areas are not tidally influenced and occur in drainage ditches and diked basins within the eastern component of the project site that are seasonally ponded or saturated.

The six man-made salt ponds within the western component of the project site support a fringe of perennial pickleweed around the outer perimeter of the ponds. Other species observed around the

edges of the salt ponds included annual pickleweed, slender-leaved iceplant, brass-buttons, alkali heath, Mediterranean barley, saltgrass (*Distichlis spicata*), and fleshy jaumea (*Jaumea carnosa*).

Special-Status Species

WRA biologists reviewed relevant databases and literature for baseline information on biological resources occurring and potentially occurring at the project site and in the immediate surrounding area. Database searches (i.e., CNDDB, CNPS) focused on the Redwood Point, Hunters Point, San Leandro, Hayward, Newark, Mountain View, Palo Alto, Woodside, and San Mateo USGS 7.5-minute quadrangles for special-status plants and wildlife. A complete bibliography including citations for each literature and database source listed above is provide in the Biological Resources Technical Report (see Appendix A of the Initial Study, which is provided as Appendix A to this EIR).

On June 19, 2020, WRA biologists completed a field review of the project site to document: (1) land cover types (e.g., terrestrial communities, aquatic resources); (2) existing conditions and to determine if such provide suitable habitat for any special-status plant or wildlife species; (3) if and what type of aquatic natural communities (e.g., wetlands) are present; and, (4) if special-status species are present. The presence of suitable habitat for special-status species was evaluated during the site visit based on physical and biological conditions of the site, as well as the professional expertise of the investigating biologists. The potential for each special-status species to occur on the project site was then determined according to the following criteria:

- **No Potential**. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
- **Unlikely**. No suitable habitat is present on the site, but suitable habitat may be located adjacent to the site. The species is unlikely to be found on the site but may be found in nearby habitat.
- **Low Potential**. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on the site is unsuitable or of very poor quality. The species has a low probability of being found on the site.
- **Moderate Potential**. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High Potential**. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

Based upon their review of literature and database resources, WRA determined that 11 special-status plant species have been documented in the vicinity of the project site. Most of the plant species documented from the vicinity were determined unlikely to occur on the project site for one or more of the following reasons:

- Suitable hydrologic conditions, such as rivers, are absent;
- Suitable soil types are absent;
- Topographic conditions, such as north-facing slopes, are absent;
- Unique pH conditions, such as acidic bogs, are absent;
- Project site is isolated from historic range of plant species; and
- Past activity on-site has degraded suitable habitat.

No special-status plants were found during the site surveys conducted by WRA in 2020, or during previous surveys conducted by Monk & Associates in 2015 and 2016. Accordingly, it was determined that special-status plant species are not expected to occur on the project site (see Appendix A of the Initial Study).

Twenty-six special-status wildlife species were documented within the vicinity of the project site. Some were excluded from occurring on the project site due to a lack of suitable habitat features, such as perennial streams and ponds; tidal marshland; serpentine soil; sandy beaches; and caves. The absence of such habitat features eliminates components critical to the survival or movement of most special-status species found in the vicinity. Although some species have no potential to occur, WRA determined that 13 special-status species have potential to occur either on the project site, and/or adjacent or near adjacent to the project site. The 13 species with potential to occur in or near the project site are presented in Table 4.1-2.

Table 4.1-2 Special-Status Wildlife Species Potentially Present

Species	Status	Habitat Preferences	Potential to Occur
Western snowy plover (*Charadrius alexandrines nivosus*)	FT CDFW SSC USFWS BCC	Breed primarily above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries. Nests typically occur in flat, open areas with sandy or saline substrates where vegetation and driftwood are usually sparse or absent.	**Unlikely**. The project site is unlikely to be used by western snowy plovers because it is not open enough for western snowy plovers to nest. However, the species may nest in the restored salt ponds within the CDFW's Eden Landing Ecological Reserve near the project site.
California least tern (*Sterna antillarum brownii*)	FE/SE FP	Typically nest in loose colonies on flat sand-shell beaches, mud or gravel flats, and man-made habitats including airports, landfills, and dredge-fill sites, relatively free of plant growth.	**Unlikely**. The project site is not open enough for the least terns to nest. However, the species may nest in the restored salt ponds within the CDFW's Eden Landing Ecological Reserve near the project site.
California Ridgway's rail (*Rallus obsoletus obsoletus*)	FE/SE FP	Occurs only within salt and brackish marshes. Typically inhabits salt marshes dominated by pickleweed and cordgrass.	**Unlikely**. The project site does not support tidal sloughs or dense tidal marsh habitat typically associated with the species foraging and nesting habitat. Potential habitat for California Ridgway's rail is present within 700 feet of the project site, across State Route 92 in tidal marsh habitats at Hayward

			Landing and Johnson Landing.
California black rail (*Laterallus jamaicensis coturniculus*)	ST FP USFWS BCC	Occurs in California coastal salt and brackish marshes from Bodega Bay to Morro Bay, with additional populations known from freshwater marshes near or in the northern Sierra Nevada foothills.	**Unlikely**. The project site does not support tidal marsh habitat typically associated with California black rail habitat. However, species are known to occur in tidal habitat north and south of the project site.
Black skimmer (*Rynchops niger*)	CDFW SSC USFWS BCC	Nests colonially on undisturbed earthen islands or levees, often with terns	**Unlikely**. Species is not known to nest on the berms or levees associated with former salt ponds on the project site. However, the species may nest nearby.
Alameda song sparrow (*Melospiza melodia pusillula*)	CDFW SSC USFWS BCC	Prefers tidally influenced marsh, and taller shrubs such as gumplant are required for breeding.	**Low potential**. The project site does not support tidal marsh habitat typically associated with Alameda song sparrow habitat; however, the species may nest near the project site.
Burrowing owl (*Athene cunicularia*)	CDFW SSC	Typical habitat is annual or perennial grassland, although human-modified areas such as agricultural lands and airports are also used. Species is dependent on burrowing mammals to provide the burrows that are characteristically used for shelter and nesting.	**Low potential**. The project site does not contain a large number of suitable burrows or burrow surrogates for this species. However, burrowing owls may use the levees around the project site for wintering and nesting habitat.
San Francisco (saltmarsh) common yellowthroat (*Geothlypis trichas sinuosa*)	CDFW SSC	Found in freshwater marshes, coastal swales, riparian thickets, brackish marshes, and saltwater marshes. Requires thick, continuous cover such as tall grasses, tule patches, or riparian vegetation down to the water surface for foraging and prefers willows for nesting.	**Unlikely**. The project site does not contain suitable nesting habitat. However, the salt marshes near the project site may support suitable nesting habitat.
White-tailed kite (*Elanus leucurus*)	FP	Resides in open to semi-open habitats throughout the lower elevations of California, including grasslands, savannahs, woodlands, agricultural areas and wetlands. Nests are constructed mostly of	**Low potential**. The shrubs in the eastern portion of the eastern component of the project site may provide marginal nesting habitat for this species. The project site and surrounding salt marshes,

		twigs and placed in trees, often at habitat edges.	however, offer suitable foraging habitat.
Salt marsh harvest mouse (*Reithrodontomys raviventris*)	FE/SE FP	Found only in and adjacent to suitable salt- and brackish-marsh habitat in the greater San Francisco Bay, San Pablo Bay, and Suisun Bay areas. Habitat associated with the species is pickleweed-dominated marsh, though more recent studies have shown that the species is supported equally in pickleweed-dominated and mixed-vegetation (including native and non-native salt- and brackish-marsh species).	**High potential**. Salt marsh harvest mouse is known to occur in abundance near the project site. Marginal pickleweed habitat is present at the former salt ponds within the project site.
Salt-marsh wandering shrew (*Sorex vagrans halicoetes*)	CDFW SSC	Inhabits salt marsh that is inundated daily by tides	**Unlikely**. The project site does not support tidal marsh habitat typically associated with salt marsh wandering shrew.
Pallid bat (*Antrozous pallidus*)	CDFW SSC WBWG High Priority	Typically occurs in association with open, rocky areas. Roosts must offer protection from high temperatures and are typically in rock crevices, mines, caves, or tree hollows; manmade structures are also used, including buildings and bridges.	**Moderate potential**. The Oliver Brothers Salt Works building on-site may provide marginal roosting habitat, hibernacula, or maternity sites.
Western mastiff bat (*Eumops perotis californicus*)	CDFW SSC WBWG High Priority	Roosts are primarily located high on cliffs under exfoliating rock slabs but have also been found in similar crevices in large boulders and buildings.	**Moderate potential**. The Oliver Brothers Salt Works building on-site may provide marginal roosting habitat, hibernacula, or maternity sites.

Source: WRA 2020; see Appendix A of the Initial Study

Wetlands and Other Waters of the U.S.

On January 7, 2015 Monk and Associates biologists conducted a wetland delineation of the eastern component of the project site, using criteria prescribed in the USACE 1987 Wetland Delineation Manual and the USACE Regional Supplement for the Arid West Region (USACE 1987; 2008). A draft wetland delineation map was submitted to the USACE along with a Request for a Jurisdictional Determination on March 27, 2015. The USACE conducted the site verification on November 10, 2015 and issued the Preliminary Jurisdictional Determination letter and map on January 27, 2016. The confirmed Preliminary Jurisdictional Determination Map of the eastern component of the

project site is included in the Biological Resources Technical Report, which is provided as Appendix A to the Initial Study. The Initial Study is Appendix A to this EIR.

According to the confirmed Preliminary Jurisdictional Determination map a total of 1.69 acres of potentially jurisdictional wetlands are located within the eastern component of the project site. This includes 1.41 acres of salt marsh and 0.28 acres of seasonal wetlands considered to be federally protected wetlands as defined by CWA Section 404.

Monk and Associates conducted a wetland delineation of the western component of the project site on October 12, 2016. Monk and Associates delineated 19 wetlands within the western component of the site, with a total land area of approximately 0.95 acre, combined. Wetlands consist generally of fringe or narrow strips along the edges of the former salt ponds. The former salt ponds within the western component were delineated as "Other Waters" and total approximately 26.14 acres. Additionally, another approximately 3.2 acres of "Other Waters" were delineated in the form of barren mudflats and approximately 0.57 acre of "Other Waters" was delineated in the form of a ditch. The USACE has not issued a Preliminary Jurisdictional Determination letter or map for the delineation of the western component of the project site. However, the delineation map of the western component of the project site is included in the Biological Resources Technical Report, provided as Appendix A to the Initial Study.

Wildlife Movement Corridors

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. The key to a functioning corridor or linkage is that it connects two larger habitat blocks, also referred to as core habitat areas. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network. The California Essential Habitat Connectivity Project commissioned by the California Department of Transportation (Caltrans) and CDFW; identifies "Natural Landscape Blocks" which support native biodiversity and the "Essential Connectivity Areas" which link them (Spencer et al. 2010).

Wildlife movement corridors can be both large and small in scale. The South Bay Salt Pond Restoration Project was developed by the CDFW and USFWS, in partnership with the California Coastal Commission and the U.S. Army Corps of Engineers (USACE), among others. That restoration effort will restore and enhance wetlands in South San Francisco Bay, while providing flood management and wildlife-oriented public access and recreation (EDAW et al. 2007). One of the goals of the South Bay Salt Pond Restoration Project is to restore a habitat mosaic to represent the historic pre-salt-pond landscape. Since the decommissioning of the salt ponds that were previously used for salt production in the South Bay, thousands of acres of salt ponds have been preserved and restored to provide habitat for listed species. Most of these ponds are currently publicly owned and managed for the benefit of fish and wildlife (EDAW et al. 2007).

One of the large salt pond complexes of the South Bay Salt Pond Restoration Project includes CDFW's Eden Landing Ecological Reserve. As described above, wildlife corridors must provide a link between two areas of suitable habitats. While the eastern and western components of the project site are located adjacent to Eden Landing, they are otherwise bordered by State Route 92 and developed areas in the City of Hayward. The location of the project site adjacent to these substantial barriers to terrestrial passage, as well as the sparse nature of vegetation present within the project

site, limit its potential value as a wildlife corridor. The eastern and western components of the project site provide marginal wildlife corridor value as a stepping-stone area for migratory birds, based primarily on their proximity to Eden Landing. However, this value is only marginal given the small size of the site in relation to the size of Eden Landing, and the factors related to edge disturbance from adjacent developed areas.

4.1.2 Regulatory Setting

The following sections explain the regulatory context of the biological assessment, including applicable laws and regulations that were applied to the field investigations and analysis of potential project impacts.

a. Federal and State Regulations

Vegetation and Aquatic Communities

CEQA provides protections for particular vegetation types defined as sensitive by CDFW, and aquatic communities protected by laws and regulations administered by the USACE, State Water Resources Control Board (SWRCB), and RWQCB. The laws and regulations that provide protection for these resources are summarized below.

Sensitive Natural Communities

Sensitive natural communities include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the CDFW. CDFW ranks sensitive communities as "threatened" or "very threatened" (CDFG 2010, CDFW 2018) and keeps records of their occurrences in its California Natural Diversity Database (CNDDB; CDFW 2018). CNDDB vegetation alliances are ranked 1 through 5 based on NatureServe's (2018) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Impacts to sensitive natural communities identified in local or regional plans, policies, or regulations or those identified by the CDFW or USFWS must be considered and evaluated under CEQA (CCR Title 14, Div. 6, Chap. 3, Appendix G).

Waters of the United States, Including Wetlands

The USACE regulates “Waters of the United States” under Section 404 of the Clean Water Act (CWA). Waters of the United States are defined in the Code of Federal Regulations (CFR) as including the territorial seas, and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, such as tributaries, lakes and ponds, impoundments of waters of the U.S., and wetlands (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands as defined in the USACE Wetlands Delineation Manual (Environmental Laboratory 1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Unvegetated waters including lakes, rivers, and streams may also be subject to Section 404 jurisdiction and are characterized by an ordinary high water mark (OHWM) identified based on field indicators such as the lack of vegetation, sorting of sediments, and other indicators of flowing or standing water. The placement of fill material into Waters of the United States generally requires a permit from the USACE under Section 404 of the CWA.

The USACE also regulates construction in navigable waterways of the U.S. through Section 10 of the Rivers and Harbors Act (RHA) of 1899 (33 USC 403). Section 10 of the RHA requires Corps approval

and a permit for excavation or fill, or alteration or modification of the course, location, condition, or capacity of, any port, roadstead, haven, harbor, canal, lake, harbor or refuge, or enclosure within the limits of any breakwater, or of the channel of any navigable water of the United States. Section 10 requirements apply only to navigable waters themselves, and are not applicable to tributaries, adjacent wetlands, and similar aquatic features not capable of supporting interstate commerce.

Waters of the State, Including Wetlands

The term "Waters of the State" is defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The SWRCB and nine RWQCBs protect waters within this broad regulatory scope through many different regulatory programs. Waters of the State in the context of a CEQA Biological Resources evaluation include wetlands and other surface waters protected by the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. The SWRCB and RWQCB issue permits for the discharge of fill material into surface waters through the State Water Quality Certification Program, which fulfills requirements of Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require a Clean Water Act permit are also required to obtain a Water Quality Certification. If a project does not require a federal permit, but does involve discharge of dredge or fill material into surface waters of the State, the SWRCB and RWQCB may issue a permit in the form of Waste Discharge Requirements.

California Fish and Game Code, Sections 1600-1616

Streams and lakes, as habitat for fish and wildlife species, are regulated by CDFW under Sections 1600-1616 of California Fish and Game Code (CFGC). Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement. The term "stream", which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life [including] watercourses having a surface or subsurface flow that supports or has supported riparian vegetation" (14 CCR 1.72). The term "stream" can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife (CDFG 1994). Riparian vegetation has been defined as "vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself" (CDFG 1994). Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFW.

San Francisco Bay and Shoreline

Enacted in1965, the McAteer-Petris Act (California Government Code Section 66600 et seq.) established the San Francisco Bay Conservation and Development Commission (BCDC) as a state agency charged with preparing a plan for the long-term use of the Bay. BCDC has several areas of jurisdiction, including: San Francisco Bay (including sloughs and marshlands lying between mean high tide and five feet above mean sea level) and a shoreline band consisting of all territory located between the shoreline of the Bay and a line 100 feet landward of and parallel with the shoreline (California Government Code 66610). Any person or governmental agency wishing to place fill, to extract materials, or to make any substantial change in use of any water, land or structure within BCDC jurisdiction must secure a permit from BCDC.

Special-Status Species

Endangered and Threatened Plants, Fish and Wildlife

Specific species of plants, fish, and wildlife species may be designated as threatened or endangered by the federal Endangered Species Act (ESA), or the California Endangered Species Act (CESA). Specific protections and permitting mechanisms for these species differ under each of these acts, and a species' designation under one law does not automatically provide protection under the other.

The ESA (16 USC 1531 et seq.) is implemented by the USFWS (USFWS) and the National Marine Fisheries Service (NMFS). The USFWS and NMFS maintain lists of "endangered" and "threatened" plant and animal species (referred to as "listed species"). "Proposed" or "candidate" species are those that are being considered for listing and are not protected until they are formally listed as threatened or endangered. Under the ESA, authorization must be obtained from the USFWS or NMFS prior to take of any listed species. Take under the ESA is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Take under the ESA includes direct injury or mortality to individuals, disruptions in normal behavioral patterns resulting from factors such as noise and visual disturbance and impacts to habitat for listed species. Actions that may result in "take" of an ESA-listed species may obtain a permit under ESA Section 10, or via the interagency consultation described in ESA Section 7. Federally listed plant species are only protected when take occurs on federal land.

The ESA also provides for designation of critical habitat, which are specific geographic areas containing physical or biological features "essential to the conservation of the species". Protections afforded to designated critical habitat apply only to actions that are funded, permitted, or carried out by federal agencies. Critical habitat designations do not affect activities by private landowners if there is no other federal agency involvement.

The CESA (California Fish and Game Code 2050 et seq.) prohibits a "take" of any plant and animal species that the California Fish and Game Commission determines to be an endangered or threatened species in California. CESA regulations include take protection for threatened and endangered plants on private lands, as well as extending this protection to "candidate species" which are proposed for listing as threatened or endangered under CESA. The definition of a "take" under CESA ("hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") only applies to direct impact to individuals, and does not extend to habitat impacts or harassment. CDFW may issue an Incidental Take Permit under CESA to authorize take if it is incidental to otherwise lawful activity and if specific criteria are met. Take of these species is also authorized if the geographic area is covered by a Natural Community Conservation Plan (NCCP), as long as the NCCP covers that activity.

Fully Protected Species and Designated Rare Plant Species

This category includes specific plant and wildlife species that are designated in the CFGC as protected even if not listed under CESA or the ESA. Fully Protected Species includes specific lists of birds, mammals, reptiles, amphibians, and fish designated in CFGC. Fully protected species may not be taken or possessed at any time. No licenses or permits may be issued for take of fully protected species, except for necessary scientific research and conservation purposes. The definition of "take" is the same under the CFGC and the CESA. By law, CDFW may not issue an Incidental Take Permit for Fully Protected Species. Under the California Native Plant Protection Act (NPPA), CDFW has listed 64 "rare" or "endangered" plant species, and prevents "take", with few exceptions, of these species.

CDFW may authorize take of species protected by the NPPA through the Incidental Take Permit process, or under a NCCP.

Special Protections for Nesting Birds and Bats

The federal Bald and Golden Eagle Protection Act provides relatively broad protections to both of North America's eagle species (bald [*Haliaeetus leucocephalus*] and golden eagle [*Aquila chrysaetos*)] that in some regards are similar to those provided by the ESA. In addition to regulations for special-status species, most native birds in the United States, including non-status species, have baseline legal protections under the Migratory Bird Treaty Act (MBTA) of 1918 and CFGC, i.e., sections 3503, 3503.5 and 3513. Under these laws/codes, the intentional harm or collection of adult birds as well as the intentional collection or destruction of active nests, eggs, and young is illegal. For bat species, the Western Bat Working Group (WBWG) designates conservation status for species of bats, and those with a high or medium-high priority are typically given special consideration under CEQA.

Species of Special Concern, Movement Corridors, and Other Special Status Species Under CEQA

To address additional species protections afforded under CEQA, CDFW has developed a list of special species as "a general term that refers to all of the taxa the CNDDB is interested in tracking, regardless of their legal or protection status." This list includes lists developed by other organizations, including for example, the Audubon Watch List Species, the Bureau of Land Management (BLM) Sensitive Species, and USFWS Birds of Special Concern. Plant species on the California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (Inventory) with California Rare Plant Ranks (Rank) of 1, 2, and 3 are also considered special-status plant species and must be considered under CEQA. Rank 4 species are typically only afforded protection under CEQA when such species are particularly unique to the locale (e.g., range limit, low abundance/low frequency, limited habitat) or are otherwise considered locally rare. Additionally, any species listed as sensitive within local plans, policies and ordinances are likewise considered sensitive. Movement and migratory corridors for native wildlife (including aquatic corridors) as well as wildlife nursery sites are given special consideration under CEQA.

b. Local Regulations

Hayward 2040 General Plan

On July 1, 2014, the Hayward City Council approved the Hayward 2040 General Plan and certified the Final General Plan Environmental Impact Report. The Natural Resources Element (Part 3 of the Hayward 2040 General Plan) establishes goals and policies to protect and enhance the natural resources within the Hayward Planning Area. The goals and policies address a variety of topics, including biological resources. The biological resources goals and policies that are relevant to the proposed project are presented below.

> **Goal NR-1**: Protect, enhance, and restore sensitive biological resources, native habitat, and vegetation communities that support wildlife species so they can be sustained and remain viable.
>
> > **Policy NR-1.1: Native Wildlife Habitat Protection**. The City shall limit or avoid new development that encroaches into important native wildlife habitats; limits the range of

listed or protected species; or creates barriers that cut off access to food, water, or shelter of listed or protected species.

Policy NR-1.2: Sensitive Habitat Protection. The City shall protect sensitive biological resources, including State and Federally designated sensitive, rare, threatened, and endangered plant, fish, and wildlife species and their habitats from urban development and incompatible land uses.

Policy NR-1.3: Sensitive Species Identification, Mapping, and Avoidance. The City shall require qualified biologists to identify, map, and make recommendations for avoiding all sensitive biological resources on the project site, including State and Federally sensitive, rare, threatened, and endangered plant, fish, and wildlife species and their habitats using methods and protocols in accordance with the U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and California Native Plant Society for all development applications proposed within sensitive biological resource areas.

Policy NR-1.4 Shoreline Protection and Enhancement. The City shall coordinate with the Hayward Area Shoreline Planning Agency, Bay Conservation and Development Commission, and California Coastal Commission to conserve, protect, and enhance natural and cultural resources along the San Francisco Bay shoreline by balancing uses that support multiple community needs, such as recreation, tourism, cultural resource preservation, and natural resource protection.

Policy NR-1.5 Large-Scale Natural Area Access. The City shall support efforts to improve access to publicly owned large-scale natural areas located within the Planning Area, including the shoreline, creeks, regional parks, riparian corridors, and hillside open space areas, by allowing them to be open for controlled access to improve public enjoyment and education, while also limiting access to extremely sensitive natural habitat and minimizing human-related environmental impacts.

Policy NR-1.6 Migratory Bird Habitat Protection. The City shall support the efforts of the Hayward Area Shoreline Planning Agency and other agencies to preserve and protect tidal flats and salt ponds with low salinity for migratory waterfowl that depend on these areas.

Policy NR-1.9 Native Plant Species Protection and Promotion. The City shall protect and promote native plant species in natural areas as well as in public landscaping.

4.1.3 Impacts Analysis

a. Methodology and Significance Thresholds

This section describes the potential environmental impacts of the proposed project relevant to biological resources. The impact analysis is based on the Biological Resources Technical Report prepared by WRA which included a background review of pertinent literature and resource databases (e.g. CNDDB and CNPS online inventory), desktop vegetation mapping and a reconnaissance-level biological survey (WRA 2020; see Appendix A of the Initial Study). The results of the reconnaissance survey and literature/background review were used to determine the potential for biological resources to occur in the biological study area and evaluate potential project impacts and mitigation measures.

According to the adopted Appendix G of the State *CEQA Guidelines*, impacts related to biological resources from the proposed project would be significant if the project would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, regulations, or by CDFW or USFW or as defined under *CEQA Guidelines* Section 15380;
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies regulations, or by the CDFW or USFWS;
3. Have a substantial adverse effect on a state or Federally protected wetlands (including but not limited to, marsh vernal pool, coastal, etc.) through direct removal, filling, or hydrological interruption, or other means;
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

These topics were utilized in completing the analysis of potential project impacts for CEQA purposes. For the purposes of this analysis, a "substantial adverse effect" is generally interpreted to mean that a potential impact could directly or indirectly affect the resiliency or presence of a local biological community or species population. Potential impacts to natural processes that support biological communities and special-status species populations that can produce similar effects are also considered potentially significant. Impacts to individuals of a species or small areas of existing biological communities may be considered less than significant if those impacts are speculative, beneficial, *deminimis*, and/or would not affect the resiliency of a local population.

Impacts associated with CEQA checklist items 4 through 6 were determined to be less than significant or no impact in the Initial Study prepared for the proposed project and included with this EIR as Appendix A. Therefore, no further analysis is warranted, and these topics will not be discussed further in this section.

b. Impact Analysis

Threshold 1:	Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Impact BIO-1 THE PROPOSED PROJECT WOULD HAVE A SUBSTANTIAL ADVERSE EFFECT ON SPECIES IDENTIFIED AS A CANDIDATE, SENSITIVE, OR SPECIAL STATUS, SUCH AS SALT MARSH HARVEST MOUSE, BURROWING OWL AND OTHER BIRDS, AND BATS. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

Plant Species

As described above in Section 4.1.1, *Setting*, special-status plant species do not occur within the eastern and western components of the project site. Ground disturbance required for construction

of the proposed project would be limited to the eastern and component of the project site and roadway areas of Point Eden Way. Therefore, the proposed project would have no impacts on special-status plant species.

Wildlife Species

Given the project site's relative proximity to sensitive habitats on the San Francisco Bay, many species documented nearby are obligates to marine or tidal marsh habitats which are not present on or in the immediate vicinity of the project site. Thirteen special status wildlife species have some potential to occur either on the project site and/or adjacent or near adjacent to the project site; however, many of these species are considered unlikely to occur on the project site (see Table 4.1-2). No special status wildlife species were observed on the project site at the time of the field surveys. The salt marsh harvest mouse (SMHM), a federally and state endangered species, is considered to have a high potential for occurrence on the project site due to the number of records of SMHM in the vicinity and presence of marginal pickleweed habitat at former salt ponds on-site, including on both the eastern and western components of the site. Nesting special status bird species and/or nesting migratory birds protected under CFGC may occur throughout the project site and its vicinity. Additionally, two special status bat species have a moderate potential to occur within the existing building on the eastern component of the project site.

The proposed project would not involve construction or operation activities within the western component of the project site. No maintenance or management activities would be conducted within the western component of the project site. Therefore, establishment of the preserve area within the western component of the project site would have no impacts on special-status wildlife species.

Potential impacts to special-status wildlife species from project activities and facilities on the eastern component of the project site are described below.

Salt Marsh Harvest Mouse and Salt Marsh Wandering Shrew

The closest known CNDDB record of SMHM is located just north of the project site in the EBRPD Salt Marsh Harvest Mouse Preserve in the Hayward Marsh Regional Shoreline, located north of Highway 92 (CNDDB Occurrence No. 54) (the project site is south of Highway 92). SMHM are also known from pickleweed habitats south of the project site along the Mt. Eden Creek channel within the CDFW's Eden Landing Ecological Reserve (CNDDB Occurrences No. 85 and 86). They are also known further to the south of CDFW Eden Landing Ecological Reserve in the tidal salt marshes (CNDDB Occurrence Numbers 77, 87, 89 and 90). The closest CNDDB record for salt marsh wandering shrew (SMWS) dates from 1951 in the tidal marsh habitat near Johnson Landing, northwest of the project site (CNDDB Occurrence No. 14).

Project construction activities on the eastern component of the project site could result in direct mortality and/or harassment of the federal and State endangered SMHM and CDFW special-status SMWS. Additionally, the project would potentially result in impacts to marginal pickleweed habitat for these species. No construction activities would occur within the western component of the project site, where most of the former salt ponds and pickleweed habitat occurs. However, construction of the proposed building and parking lot would occur partially within pickleweed habitat at a former salt pond in the eastern component of the project site. Further, disturbance of the upland area immediately adjacent to the salt pond in the eastern component would disturb habitat that could become increasingly important to SMHM and SMWS as escape refugia during flooding and inundation. These impacts to SMHM and SMWS are regarded as potentially significant.

Therefore, Mitigation Measures BIO- 1a through BIO-1c listed below would be required to reduce potential impacts to SMHM and SMWS to a less-than-significant level.

In addition to protections under FESA, SMHM is also a State Fully Protected species under the CFGC. Fully Protected species are listed in CFGC Sections 3511, 4700, 5050, and 5515, which state that CDFW is unable to authorize incidental take of such species when activities are proposed in areas inhabited by those species. Therefore, mitigation measures would be required to avoid take of these species to comply with federal, State and local regulations.

Burrowing Owl

The closest CNDDB record for burrowing owl is located southeast of the project site (CNDDB Occurrence No. 946). This species was observed in 2006, wintering in a ground squirrel burrow in sparse non-native grassland along Marina Drive in Hayward. The project site contains very few suitable burrows or burrow surrogates for this species; however, burrowing owls may use the levees the project site for wintering and nesting habitat. Project activities, including vegetation removal and ground disturbance during construction could affect burrowing owl by causing auditory, vibratory, and/or visual disturbance of a sufficient level to cause abandonment of the site or active nests. Impacts would be potentially significant. Therefore, Mitigation Measure BIO-1d would be required to reduce potential impacts to burrowing owl to a less-than-significant level.

California Least Tern, Western Snowy Plover, and Black Skimmer

The closest CNDDB record for California least tern is located northwest of the project site on a sandy island within the EBRPD Hayward Regional Shoreline (CNDDB Occurrence No. 82). There is another record southwest of the project site in the salt ponds of CDFW Eden Landing Ecological Reserve (CNDDB Occurrence No. 70).

The closest CNDDB record for western snowy plover is located south of the project site in the restored salt ponds within the CDFW's Eden Landing Ecological Reserve (CNDDB Occurrence No. 136). Nesting has been recorded in numerous ponds, and the associated marsh habitats. There is an additional record for western snowy plover located northwest of the project site on a man-made island within the restored tidal salt marsh within the EBRPD Hayward Regional Shoreline (CNDDB Occurrence No. 122). This record location is on the other side of Highway 92 from the project site.

The closest CNDDB record for black skimmer is located northwest of the project site (CNDDB Occurrence No. 3). This species was observed in 1994 nesting on an upland island in a brackish marsh, east of Johnson Landing. This record location is on the other side of Highway 92 from the project site. This species is not known to nest on the berms or levees associated with the on-site salt ponds or within the CDFW's Eden Landing Ecological Reserve, but it may nest near the project site.

California least tern, western snowy plover, and black skimmer are not expected to forage or nest on the project site. Mr. John Krause, CDFW's manager of the Eden Landing Ecological Reserve, states that the project site is unlikely to be used by these bird species. Hence, the proposed project would not result in direct impacts to California least tern, western snowy plover and black skimmer; however, these species could nest in restored salt ponds or along levees within the Eden Landing Ecological Reserve that is located next to the project site (WRA 2020; see Appendix A of the Initial Study).

Noise and visual impacts associated with construction of the project could result in nest abandonment, loss of young, reduced health and vigor of eggs and/or nestlings (resulting in reduced survival rates). These potential effects could result in potentially significant impacts to California

least terns, western snowy plover, and black skimmer. Therefore, Mitigation Measure BIO-1e would be required to reduce potential impacts to California least terns, western snowy plover, and black skimmer to a less than-significant level.

Other Special-Status and Common Nesting Birds

The project site does not support tidal marsh habitat typically associated with Alameda song sparrow or San Francisco common yellowthroat nesting habitat; however, these species may nest near the project site. In addition, white-tailed kite may nest on or near the project site. Common songbirds (passerine birds) could also nest on the project site. All of these birds are protected under the Migratory Bird Treaty Act (50 CFR 10.13) and their eggs and young are protected under CFGC Sections 3503, 3503.5. Potential impacts to these nesting bird species from the project include disturbance to nesting birds and possibly death of adults and/or young. Impacts to these nesting bird species would be considered a potentially significant impact. Therefore, Mitigation Measure BIO-1e would be required to reduce potential impacts to nesting bird species to a less-than-significant level.

Pallid Bat and Western Mastiff Bat

The existing Oliver Brothers Salt Works building may provide marginal roosting habitat, hibernacula, or maternity sites for special-status bat species on the eastern component of the project site. The closest CNDDB record for pallid bat is located two miles east of the project site (CNDDB Occurrence No. 130). Potential impacts to bat species could result from building demolition associated with the proposed project. Accordingly, impacts to pallid bat and western mastiff bat are regarded as potentially significant. Therefore, Mitigation Measure BIO-1f would be required to reduce potential impacts to special-status bat species to a less-than-significant level.

Other Impacts

Construction of the project would require the use of heavy machinery, such as dozers and backhoes within the eastern component of the project site. Heavy machinery would generate noise that could disturb the life patterns of any of the aforementioned special-status species that occur either within or adjacent to the eastern component of the project site. However, mitigation measures BIO-1a through BIO-1h, below, would ensure that these species and their habitat are properly protected during construction of the project. Impacts would be less than significant with implementation of these mitigation measures.

Construction of the project would generate small quantities of solid waste. For example, construction workers could pack meals to the site, which would include food packaging that would be discarded as waste. Discarded food waste could attract nuisance species or predator species, such as Norway rats, that could either harm or displace special-status species. This would be a potentially significant impact, but mitigable. Implementation of Mitigation Measure BIO-1g would be required to reduce impacts to less than significant. Mitigation Measure BIO-1g requires removal of food wrappers and waste at the end of each construction workday. During operation common wastes, such as food and beverage wrappers, would be placed in standard trash dumpsters that would be within an enclosed area. Common solid waste generated during operation would be minimal and consistent with waste quantities and types already generated nearby, such as at existing offices to the east of the project site. Operational impacts would be less than significant.

The proposed building and associated parking area would include exterior lighting. Light pollution can affect bird nesting behavior, flight patterns of bats during night, and other similar wildlife

impacts. However, proposed exterior lighting and parking lot lighting must comply with Hayward Municipal Code Section 10-1.1606. Specifically, exterior lighting and parking lot lighting must be designed by a qualified lighting designer and erected and maintained so that light is confined to the property and will not cast direct light or glare upon adjacent properties or public rights-of-way. Mandatory compliance with Section 10-1.1606 would ensure that the proposed project does not create substantial new sources of light that adversely affect wildlife in the areas near the project site, including the Caltrans Pond between the eastern and western components of the project site. Impacts on special-status species from project lighting would be less than significant with mandatory compliance with Hayward Municipal Code Section 10-1.1606.

Relocation of the San Francisco Bay Trail to the western edge of the eastern component of the project site would put trail users in closer proximity to the Caltrans Pond and other salt marsh habitat to the west of the Caltrans Pond, including the western component of the project site. Although use of the trail would not permit trail users to trespass onto adjacent property, some users may choose to leave the trail surface and enter the areas of salt marsh habitat to the west. If people enter the salt marsh habitat, habitat destruction for special-status species could result, which would be a potentially significant impact. Therefore, Mitigation Measure BIO-1h would be required to reduce this potential impact to a less-than-significant level.

Mitigation Measures

BIO-1a SMHM and SMWS Habitat Fencing

Prior to ground disturbing activities adjacent to potential SMHM and SMWS habitat, temporary exclusion barriers and/or fencing shall be installed to exclude individuals of these species from areas of active construction. The design of the exclusion barriers and fencing shall be approved by a qualified biologist and shall be installed in the presence of a qualified biological monitor. The fence will be made of a material that does not allow SMHM or SMWS to pass through, and the bottom shall be buried to a depth of a minimum of four inches so that these species cannot crawl under the fence. All support for the exclusion fencing shall be placed on the inside of the project footprint. Additionally, removal of marsh or associated ruderal vegetation shall be completed using only hand tools and in the presence of a biological monitor. The barriers and/or fencing shall remain in place for the duration of construction of the project.

BIO-1b Qualified Biological Monitor

A qualified biological monitor shall be present during wildlife exclusion fence installation and removal, and during all vegetation clearing and initial ground disturbance which take place in marsh habitats of the former salt ponds and the vegetation adjacent to marsh habitats. The monitor will have demonstrated experience in biological construction monitoring and knowledge of the biology of the special-status species that may be found in the project site, including SMHM and SMWS. The monitor(s) shall have the authority to halt construction, if necessary, if noncompliance actions occur. If a federal or State listed species is observed at any time during construction, work shall not be initiated or shall be stopped immediately until the animal leaves the vicinity of the work area of its own volition. If the animal in question does not leave the work area, work shall not be reinitiated until the qualified biological monitor has contacted the appropriate agency to discuss on how to proceed with work activities. The biological monitor shall direct the contractor on how to proceed accordingly.

The biological monitor(s) shall be the contact person for any employee or contractor who might inadvertently kill or injure a special-status species or anyone who finds a dead, injured, or entrapped special-status species. Following fence installation, vegetation removal in potential habitat areas, and initial ground disturbance in potential habitat areas, the biologist shall train an onsite monitor to continue to document compliance. The biologist shall conduct weekly site checks to provide guidance for fence maintenance, provide environmental sensitivity training, and document compliance with permit conditions.

BIO-1c Worker Environmental Awareness Program Training

The biological monitor shall provide an endangered species training program to all personnel involved in project construction. At a minimum, the employee education program shall consist of a brief presentation by persons knowledgeable about the biology of sensitive species with potential to occur in the project footprint, and about their legislative protection to explain concerns to contractors and their employees involved with implementation of the project. The program shall include a description of the species and their habitat needs, any reports of occurrences in the area; an explanation of the status of these species and their protection under State and federal legislation; and a list of measures being taken to reduce impacts to these species during construction.

BIO-1d Burrowing Owl Pre-Construction Surveys and Avoidance

A qualified biologist shall conduct pre-construction clearance surveys prior to ground disturbance activities within suitable natural habitats and ruderal areas throughout the eastern component of the project site to confirm the presence/absence of active burrowing owl burrows. The surveys shall be consistent with the recommended survey methodology provided by CDFW (2012). Clearance surveys shall be conducted within 30 days prior to construction and ground disturbance activities. If no burrowing owls are observed, no further actions are required. If burrowing owls are detected during the pre-construction clearance surveys, the following measures shall apply:

- Avoidance buffers during the breeding and non-breeding season shall be implemented in accordance with the CDFW (2012) and Burrowing Owl Consortium (1993) minimization mitigation measures.
- If avoidance of burrowing owls is not feasible, then additional measures such as passive relocation during the nonbreeding season and construction buffers of 200 feet during the breeding season shall be implemented, in consultation with CDFW. In addition, a Burrowing Owl Exclusion Plan and Mitigation and Monitoring Plan shall be developed by a qualified biologist in accordance with the CDFW (2012) and Burrowing Owl Consortium (1993).

BIO-1e Nesting Bird Avoidance and Pre-Construction Surveys

Project activities, such as vegetation removal, grading, or initial ground-disturbance, shall be conducted between September 1 and January 31 to the greatest extent feasible. If project activities must be conducted during the nesting season (February 1 to August 31), a pre-construction nesting bird survey shall be conducted by a qualified biologist no more than 14 days prior to vegetation removal or initial ground disturbance. Additional nesting surveys shall be conducted if project construction activities cease for more than 14 days during this period. The survey shall include the project site plus a 200-foot buffer around the eastern component of the project site if feasible, and a 500-foot buffer, if feasible, for California least tern, western snowy plover, and black skimmer, to identify the location and status of any nests that could potentially be affected either directly or

indirectly by project activities. A survey of the western component of the project site shall be optional and not required because no ground disturbance or construction activities are proposed in the western component of the project site.

If active nests are identified during the nesting bird survey, an appropriate avoidance buffer shall be established within which no work activity will be allowed which would impact these nests. The avoidance buffer would be established by the qualified biologist on a case-by-case basis based on the species and site conditions. In no cases shall the buffer be smaller than 50 feet for passerine bird species, 250 feet for raptor species, or 600 feet for California least tern, western snowy plover, and black skimmer. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. Buffers shall be delineated by orange construction fencing that defines the buffer where it intersects the project site.

If a California least tern, western snowy plover, or black skimmer nest is found within 500 feet of the project site, USFWS and CDFW will be immediately notified. USFWS and CDFW shall be consulted on appropriate avoidance and minimization methods, which would likely include work restrictions within 500 feet of the nest, biological monitoring for activity within the nest' line-of-sight, etc. The buffer area(s) shall be closed to all construction personnel and equipment until juveniles have fledged and the nest is inactive. The qualified biologist shall confirm that breeding/nesting is completed, and young have fledged the nest prior to removal of the buffer.

BIO-1f Special-Status Bat Avoidance and Pre-Construction Surveys

To avoid impacts to roosting special-status bats, focused surveys to determine the presence/absence of roosting bats shall be conducted prior to the initiation of demolition of buildings and removal of mature trees large enough to contain crevices and hollows that could support bat roosting. If active maternity roosts are identified, a qualified biologist shall establish avoidance buffers applicable to the species, the roost location and exposure, and the proposed construction activity in the area. If active non-maternity day or night roosts are found on the project site, measures shall be implemented to passively relocate bats from the roosts prior to the onset of construction activities. Such measures may include removal of roosting site during the time of day the roost is unoccupied or the installation of one-way doors, allowing the bats to leave the roost but not to re-enter. These measures shall be presented in a Bat Passive Relocation Plan that shall be submitted to, and approved by, CDFW.

BIO-1g Trash Removal

During construction of the project, all food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in solid, closed containers (trash cans) and removed at the end of each workday from the project site to eliminate an attraction to predators of special-status species.

BIO-1h Public Access Exclusion Fencing

Access by all project construction personnel into the Eden Landing Ecological Reserve shall be prohibited. Upon completion of the development project a permanent fence shall be installed on the eastern component of the project site to prevent access from the San Francisco Bay Trail relocated segment and the new industrial development into the adjacent salt ponds and associated marsh habitats to the west. In addition, signs shall be posted stating that public access into the salt ponds and associated marsh habitat is strictly prohibited owing to the sensitivity of the habitat and to ensure the continued use of this habitat by special-status species.

Significance After Mitigation

Implementation of these mitigation measures would reduce potential impacts to special-status species and their habitats to a level that is less than significant.

Threshold 2:	Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Impact BIO-2 THE PROPOSED PROJECT WOULD REQUIRE IMPACTS TO SEASONAL WETLANDS AND SALT MARSH ON THE EASTERN COMPONENT OF THE PROJECT SITE, WHICH ARE CONSIDERED SENSITIVE NATURAL COMMUNITIES. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.

There are no streams or open freshwater areas on the project site that support adjacent riparian habitat. Riparian habitat does not occur on the project site. Therefore, the proposed project would have no impact on riparian habitat.

As described above under *Vegetation Communities and Land Cover Types*, sensitive natural communities within the project site include seasonal wetlands scattered throughout the project site and northern coastal salt marsh and associated unvegetated waters in the remnant salt ponds on the project site. The proposed project would not involve construction or operation activities within the western component of the project site. No maintenance or management activities would be conducted within the western component of the project site. Therefore, establishment of the preserve area within the western component of the project site would have no impacts on sensitive natural communities.

Project construction activities on the eastern component of the project site would result in the fill of 0.28 acre of seasonal wetlands and 0.69 acre of salt marsh and associated unvegetated waters in the remnant salt ponds on the eastern component project site. These impacts to sensitive natural communities under the jurisdiction of CDFW would be potentially significant. Implementation of Mitigation Measure BIO-3 would require compensatory mitigation for loss of wetlands and would reduce the potential impacts to sensitive natural communities to a less-than-significant level. Implementation of Mitigation Measure BIO-1h, above, would prevent people from accessing and damaging off-site marsh habitat. This impact would be less than significant with implementation of mitigation.

Mitigation Measures

Implementation of Mitigation Measure BIO-1h, as described above under Impact BIO-1.

Implementation of Mitigation Measure BIO-3, as described below under Impact BIO-3.

Significance After Mitigation

Implementation of Mitigation Measures BIO-1h and BIO-3 would reduce potential impacts to sensitive natural communities to a less-than-significant level.

Threshold 3:	Would the project have a substantial adverse effect on state or federally protected wetlands (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Impact BIO-3 THE PROPOSED PROJECT WOULD REQUIRE THE PERMANENT FILL OF APPROXIMATELY 0.28 ACRE OF SEASONAL WETLANDS AND 0.69 ACRE OF SALT MARSH AND ASSOCIATED UNVEGETATED WATERS IN REMNANT SALT PONDS ON THE EASTERN COMPONENT OF THE PROJECT SITE. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.

The proposed project would not involve construction or operation activities within the western component of the project site. The proposed project would have no impacts on wetlands or other waters within the western component of the project site.

According to the confirmed Preliminary Jurisdictional Determination map a total of 1.69 acres of potentially jurisdictional wetlands are located within the eastern component of the project site. This includes 1.41 acres of salt marsh and 0.28 acres of seasonal wetlands considered to be federally protected wetlands as defined by CWA Section 404. Of these total on-site wetlands, construction of the proposed project would require the permanent fill of approximately 0.28 acre of seasonal wetlands and 0.69 acre of salt marsh and associated unvegetated waters in remnant salt ponds on the eastern component of the project site. Fill would be permanent because a portion of the proposed parking lot and relocated San Francisco Bay Trail segment would be constructed on top of the fill material. Although the proposed project would include preservation of all wetlands and other waters on the western component of the project site, the fill of approximately 0.28 acre of seasonal wetlands and 0.69 acre of salt marsh on the eastern component would be a potentially significant adverse impact. Implementation of Mitigation Measure BIO-3 would be required to reduce potential impacts to protected wetlands to a less-than-significant level.

Mitigation Measure

BIO-3 Protected Wetlands Mitigation Credits

To compensate for impacts to approximately 0.97 acre of waters of the U.S., the project applicant shall purchase wetland mitigation credits at a minimum of 1:1 mitigation ratio from an approved mitigation bank with a Service Area that covers the project site. The San Francisco Bay Wetland Mitigation Bank currently has "Tidal Wetland and Other Waters Creation" credits available for purchase. Either the U.S. Army Corps of Engineers or the CDFW may adjust the mitigation ratio and the applicant shall comply, but in no case shall the mitigation ratio be less than 1:1.

Significance After Mitigation

Implementation of Mitigation Measure BIO-3 would reduce potential impacts to federally protected wetlands to a less-than-significant level.

4.1.4 Cumulative Impacts

The cumulative setting for biological resources includes proposed development and construction within Hayward that is west of Interstate 880. This cumulative extent is appropriate because it encompasses the mosaic of representative habitat types (and associated biological resources) affected by the proposed project, including a variety of wetlands habitats and industrial uses along the shoreline. Areas to the east of Interstate 880 are urban until the foothills of the East Bay Hills, which provide habitat unlike that in areas west of Interstate 880, including the project site and San Francisco Bay shoreline.

The project site is located just north of the CDFW Eden Landing Ecological Reserve and west of existing office/light industrial uses. Implementation of the proposed project would be consistent

with both of these surrounding uses, as part of the project would construct a new industrial building and the other part would involve preservation of an open space/wetland preserve on the western side of the project site. Project activities would occur entirely on the project site, and the interaction between the affected environment and project activities and facilities would be limited to this area.

Cumulative projects within the assessment area are listed in Table 3-1, in Section 3, Environmental Setting. The projects listed in Table 3-1 are not along the shoreline of the San Francisco Bay. There are no salt ponds at cumulative project sites because they are not along the shoreline of the Bay and were not used for salt production, unlike the project site. Therefore, cumulative projects in Table 3-1 would not impact special-status species found in salt marsh habitat, such as salt marsh harvest mouse or salt marsh wandering shrew. However, cumulative project sites may support other special-status species that could also be impacted by the project, such as migratory nesting birds or special-status bat species. For example, the residential subdivision project proposed at 24765 Hesperian Boulevard is on a property with trees and vegetation cover, which could be used by nesting birds. Cumulative projects may also contain wetlands and riparian habitat. Specifically, construction of the cumulative projects could result in:

- Trampling, and degradation of sensitive habitats
- Disruption of habitat values associated with edge habitat
- Degradation of wetlands, creeks, drainages, riparian habitat, water quality, associated habitat values and functions, and ecosystems services; including channelization of storm runoff that may increase stream flow, erosion, and sedimentation
- Disruption of wildlife utilization of biological resources for foraging; hydration; cover, shelter, aestivation/hybernacula; nesting and breeding; movement, dispersal, and migration, sensitive and native nesting birds, and special-status bats.
- Loss of sensitive natural communities including seasonal wetlands
- Introduction of litter (including human foods), urine and fecal matter, illegal off-leash dogs (causing harassment and mortality of wildlife)

Taken cumulatively, these impacts would result in degradation of the suite of habitat types and associated biological resources that occur within the cumulative setting in the Hayward Regional Shoreline area and could result in overall diminished regional ecological functions and values. However, impacts to biological resources would be considered and mitigated on a project-by-project basis. Permanent losses of sensitive habitats, including sensitive natural communities and listed species, associated with cumulative development would be mitigated to a less than significant level. As such, the project's contribution to cumulative impacts would be significant but mitigable, and after mitigation would not be cumulatively considerable.

Mitigation measures for biological resources identified in this EIR would reduce project-level impacts to a less than significant level. Mitigation Measure BIO-3 would require the project applicant to compensate for impacts to 0.97 acre of waters of the U.S. by purchasing wetland mitigation credits at a 1:1 ratio from an approved mitigation bank within a service area covering the project site. This would mitigate permanent loss of waters of the U.S., and also support preservation of essential habitat for the SMHM to promote the recovery of the species in the region. Implementation of these mitigation measures outlined in this section and above in Impact BIO-1 would reduce project-level impacts to a less than significant level and would ensure that the project's contribution to cumulative biological resources impacts would not be cumulatively considerable.

4.2 Cultural Resources

This section assesses the potential for the proposed project to result in impacts to cultural resources, including historic resources and prehistoric or archaeological resources.

4.2.1 Setting

a. Regional Setting

Prehistory

The project site is in the San Francisco Bay Area archaeological region (Milliken et al. 2007, Moratto 1984). Following Milliken et al. (2007), the prehistoric cultural chronology for the Bay Area can be generally divided into five periods: The Early Holocene (8,000-3,500 BCE), Early (3,500-500 BCE), Lower Middle (500 BCE to CE 430), the Upper Middle (CE 430-1050), and the Late Period (CE1050-contact). The five general prehistoric periods are summarized below.

Early Holocene (8,000-3,500 BCE)

Archaeological evidence from the early Holocene is limited, as many sites dating to this period are likely buried under Holocene alluvial deposits (Moratto 1984; Ragir 1972). The available data suggest that the Early Holocene in the San Francisco Bay Area is characterized by a mobile forager pattern and the presence of millingslabs, handstones, and a variety of leaf-shaped projectile points.

Early Period (3,500-600 BCE)

The Early Period saw the introduction of new ground stone technologies (i.e., mortar and pestle), an increase in regional trade, and the first cut shell beads. By 1,500 BCE, mortars and pestles had almost completely replaced millingslabs and handstones. The advent of the mortar and pestle indicates a greater reliance on processing nuts such as acorns. The earliest cut bead horizon is also associated with this period. (Milliken et al. 2007).

Lower Middle Period (500 BCE-CE 430)

Rectangular shell beads, common during the Early Period, disappear completely and are replaced by split-beveled and saucer Olivella beads during the Lower Middle Period. Mortars and pestles continued to be the dominant grinding tool (Milliken et al. 2007). Evidence for the Lower Middle Period in the Bay Area comes from sites such as the Emeryville shell mound (CA-ALA-309) and Ellis Landing (CA-CCO-295) (Moratto 1984).

Upper Middle Period (CE 430-1050)

Around CE 430, Olivella saucer bead trade networks that had been established during earlier periods collapsed and over half of known sites occupied during the Lower Middle Period were abandoned. New types of material culture appear at sites, including elaborate, decorative blades, fishtail charmstones, new Haliotis ornament forms, and mica ornaments. Sea otter bones became more abundant, suggesting changes in faunal exploitation patterns from earlier periods (Milliken et al. 2007).

Late Period (CE 1050-Contact)

The Late Period saw an increase in social complexity, indicated by differences in burials, and an increased level of sedentism relative to preceding periods. Small, finely worked projectile points associated with bow and arrow technology appear around CE 1250 (Milliken et al. 2007). This period saw an increase in the intensity of resource exploitation that correlates with an increase in population (Moratto 1984).

Ethnographic Overview

The project site is an area traditionally occupied by the Ohlone (or Costanoan) people. The pre-contact Ohlone were semi-sedentary, with a settlement system characterized by base camps and seasonal reserve camps composed of tule reed houses with thatched roofs made of matted grass (Schick 1994; Skowronek 1998). Just outside a base camp, there was sometimes a large sweat house built into the ground near stream banks used for spiritual ceremonies and possibly hygiene (Schick 1994, Jones 2015).

Ohlone cemeteries were set away from villages and visited during the annual Mourning Anniversary (Leventhal and DiGiuseppe 2009). Some Ohlone graves have been found with ritually buried animals, such as wolf, squirrel, deer, mountain lion, gray fox, elk, badger, grizzly bear, blue goose, and bat ray. Similar to human burials, ceremonial offerings were added to ritually buried animal graves like shell beads, ornaments, and exotic goods (Kroeber 1925; Field and Leventhal 2003; Jones 2010).

Ohlone subsistence was based on hunting, gathering, and fishing (Kroeber 1925:467, Skowronek 1998). Smaller game was hunted and snared on a regular basis (Schick 1944:17). Like the rest of California, the acorn was an important staple and was prepared by leaching acorn meal both in openwork baskets and in holes dug into the sand (Kroeber 1925:467). Fishing was done with nets and gorge hooks out of tule reed canoes (Schick 1994:16-17). Mussels were a particularly important food resource (Kroeber 1925:467), along with sea mammals (Kroeber 1925:467).

Seven Franciscan missions were built within Ohlone territory in the late 1700s, and all members of the Ohlone group were eventually brought into the mission system (Kroeber 1925:462, Skowronek 1998). After the establishment of the missions, Ohlone population dwindled from roughly 10,000 people in 1770 to 1,300 in 1814 (Skowronek 1998).

History

The Post-European contact history of California is generally divided into three periods: the Spanish Period (1769–1822), the Mexican Period (1822–1848), and the American Period (1848–present). Each of these periods is briefly described below.

Spanish Period (1769 – 1821)

Spanish exploration of California began when Juan Rodriguez Cabrillo led the first European expedition into the region in 1542, but it took more than 200 years to establish a settlement (Bean 1968; Rolle 2003). In the autumn of 1769, an expedition led by Gaspar de Portolá entered San Francisco Bay. Portola sent a detachment led by Jose Francisco de Ortega in search of a land route to Point Reyes. By November, the party reached a stream that was most likely Alameda Creek, whose course passes approximately 2.5 miles southeast of the project site. On March 31, 1776, an expedition led by Juan Bautista de Anza established a campsite at Arroyo de la Harina, near what is now Hayward City Hall (Circa 2009).

During this period, the influx of European settlers brought the local Native American population in contact with European diseases which they had no immunity against, resulting in a catastrophic reduction in native populations throughout the state (McCawley 1996).

Mexican Period (1821 – 1848)

The Mexican Period commenced when news of the success of the Mexican War of Independence (1810 – 1821) against the Spanish crown reached California in 1822. This period saw the privatization of mission lands in California with the passage of the Secularization Act of 1833. During this era, a class of wealthy landowners known as rancheros worked large ranches based on cattle hide and tallow production. In the early 1840s, the area now comprising Hayward was granted as two ranchos making up separate divisions of Rancho San Lorenzo. In 1841, Mexican Governor Juan Alvarado granted Guillermo Castro a 600-acre tract. Two years later, Governor Juan B. Alvarado granted Castro an additional six leagues of "former mission grazing lands" in 1843. Castro eventually constructed an adobe residence near the present location of Mission Boulevard and C Street in downtown Hayward. In 1842 and 1844, neighboring lands located south of San Lorenzo Creek were issued to Francisco Soto (Circa 2009; Kyle 2003).

American Period (1848 – Present)

The Mexican Period officially ended in early January 1848 with the signing of the Treaty of Guadalupe Hidalgo, formally concluding the Mexican-American War. Under the treaty, the United States agreed to pay Mexico $15 million for conquered territory, including California, Nevada, Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming. The discovery of gold in Northern California in 1848 led to the California Gold Rush (Workman 1935; Guinn 1976). The Gold Rush significantly transformed Northern California and contributed to an exponential increase in the territory's population overall. During this time, San Francisco became California's first true city, growing from a population of 812 to 25,000 in only a few years. California was admitted as a state in 1850, and by 1853, its population exceeded 300,000.

Hayward (ca. 1850 – Present)

American-era settlement in what is now Hayward began in the latter half of the 19th century with the establishment of a handful of small communities, including Hayward (originally named Haywards), Russell City, and Mt. Eden. The nearby San Francisco Bay shoreline was home to important shipping points for produce farmed in the Amador and Livermore valleys. The arrival of the rail service in Hayward in 1865 eventually undercut local shipping ventures but made Hayward a local overland transportation hub. Along the shoreline, industry was shaped by several solar salt producers, who established plants with large evaporating ponds amid the bay's tidal marshes. John Johnson built the first of these near Mt. Eden in 1853. Salt plants soon proliferated, and by the 1890s several operations run by families or small corporations existed in the area. Among these outfits was that of Swedish immigrant Andrew August Oliver, who established the Acme Salt Company near Mt. Eden in 1872. His sons would later run the Oliver Brothers Salt Company, which developed the current project site as a salt works (Watt et al. n.d.; Anonymous 2020).

As was the case in many California communities, the state's population boom was felt locally, as Hayward's population increased from 6,700 in 1940 to 72,000 in 1960. Demand for housing helped to inflate local real estate prices, convincing many farmers to sell their holdings to residential and commercial developers. As Hayward expanded, it annexed several outlying communities to the

south and west, including Russell City, Mt. Eden, and the area comprising the project site (Circa 2009; 2010).

b. Project Site Setting

Records Search

Rincon Consultants requested a search of the California Historical Resources Information System (CHRIS) at the Northwestern Information Center (NWIC), located at Sonoma State University. NWIC staff conducted the search and Rincon Consultants received the results on August 24, 2020. The CHRIS search included a review of the NRHP, CRHR, the California Points of Historical Interest list, the California Historical Landmarks list, the Archaeological Determinations of Eligibility list, the Built Environment Resource Directory, and the California State Historic Resources Inventory list. The records search results identified 45 previously conducted cultural resources studies within a 0.5-mile radius of the project site, of which seven studies included a portion of the project site: S-001743, S-009768, S-02300, S-023200a, S-023200b, S-023200c, and S-023200d. Eight previously recorded cultural resources were also identified through the records search. These include five historic archaeological sites, three historic buildings or structures, and one historic landscape. Two of these resources are present within the project site; one is included in the western component (a historical-period archaeological site), one is included in the eastern component (the Oliver Brothers Salt Company), and one is adjacent. The historical-period archaeological site recorded within the project site was completely collected at the time of its recording and is therefore no longer present.

Historical Aerial Imagery Review

Rincon Consultants conducted a review of historical aerial photographs and topographic maps to identify potential cultural resources concerns within the project site. The research individuated that salt fields began development in 1942, with three buildings and evaporators emerging by 1958. Grading within the eastern component of the project site is identified from 1987 to the present day.

Pedestrian Field Survey

Rincon Consultants conducted a pedestrian field survey of the project site on September 22, 2020. All areas of exposed ground surface were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock), ecofacts (marine shell and bone), soil discoloration that might indicate the presence of a cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., standing exterior walls, postholes, foundations) or historic debris (e.g., metal, glass, ceramics). Ground disturbances such as burrows and drainages were also visually inspected. Transects were generally spaced 10 to 20 meters throughout the survey based on surface visibility. All buildings, structures, and landscaped features within the project site were visually inspected, documenting their style, method of construction, and physical condition.

Results of the survey indicated that the project site has been heavily disturbed. Disturbance was evident throughout the project site in the form of soil spoils piles, nonlocal gravel, concrete and construction debris, and levee construction. Ground visibility was limited by the presence of standing water in the water storage ponds in the western portion of the project site and by vegetation in the eastern portion of the project site. No archaeological resources were identified within the project site during the field survey.

Soil Remediation

To obtain further understanding of the sensitivity of the project site, Rincon Consultants reviewed the soil remediation studies conducted by Aqua Science Engineers, Inc. (2013). In 1998 two underground storage tanks containing diesel-fuel and hydrocarbons were removed from the project site and from 1998 to 2012 soil remediation efforts included multiple soil samples taken of the contaminated areas, and groundwater assessments to determine the extent of the site contamination (Aqua Science Engineers 2013). Additionally, "hot spots" were identified within the project site, which were excavated, bioremediated onsite, then backfilled. Other soil remediation efforts included overexcavation, in-situ soil treatment, and groundwater monitoring. Other remediation efforts included the destruction of 12 monitoring wells, the deepest well approximately 360 feet below ground surface (Aqua Science Engineers 2013). Soil remediation efforts covered approximately 16 percent of the western component of the project site, and approximately 81 percent of the eastern component of the site.

4.2.2 Regulatory Setting

Cultural resources, including built environment and archaeological resources, may be designated as historic by national, state, or local authorities. For a resource to qualify for listing in the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), or as a locally significant resource, it must meet one or more identified criteria of significance. The resource must also retain sufficient historic integrity, defined in National Register Bulletin 15 as the "ability of a property to convey its significance" (National Park Service 1990). An explanation of these designations follows.

a. Federal Regulations

National Register of Historic Places

The National Register of Historic Places (NRHP) was established by the National Historic Preservation Act (NHPA) of 1966 as "an authoritative guide to be used by Federal, State, and local governments, private groups and citizens to identify the Nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment" (CFR 36 CFR 60.2). The NRHP recognizes properties that are significant at the national, state, and local levels. To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property is eligible for the NRHP if it is significant under one or more of the following criteria:

Criterion A: It is associated with events that have made a significant contribution to the broad patterns of our history; or

Criterion B: It is associated with the lives of persons who are significant in our past; or

Criterion C: It embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; and/or

Criterion D: It has yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting these criteria, a property must retain historic integrity, which is defined in National Register Bulletin 15 as the "ability of a property to convey its significance" (National Park Service 1990). In order to assess integrity, the National Park Service recognizes seven aspects or qualities that, considered together, define historic integrity. To retain integrity, a property must possess several, if not all, of these seven qualities, which are defined in the following manner in National Register Bulletin 15:

- **Location.** The place where the historic property was constructed or the place where the historic event occurred;
- **Design.** The combination of elements that create the form, plan, space, structure, and style of a property;
- **Setting.** The physical environment of a historic property;
- **Materials.** The physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
- **Workmanship.** The physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;
- **Feeling.** A property's expression of the aesthetic or historic sense of a particular period of time; and/or
- **Association.** The direct link between an important historic event or person and a historic property.

b. State Regulations

California Environmental Quality Act

Under CEQA, a "project that may cause a substantial adverse change in the significance of an historic resource is a project that may have a significant effect on the environment" (California Public Resources Code [PRC] Section 21084.1). Answering this question is a two-part process: first, the determination must be made as to whether the proposed project involves historic resources; second, if historic resources are present, the proposed project must be analyzed for a potential "substantial adverse change in the significance" of the resource.

California Register of Historical Resources

The CRHR helps government agencies identify, evaluate, and protect California's historical resources, and indicates which properties are to be protected from substantial adverse change (PRC Section 5024.1(a)). The CRHR is administered through the State Office of Historic Preservation, a part of the California State Parks system.

A historic resource is evaluated under four CRHR criteria to determine its historical significance. A resource must be significant at the local, state, or national level in accordance with one or more of the following criteria set forth in the State CEQA Guidelines at Section 15064.5(a)(3):

1. It is associated with events that have made a significant contribution to the broad pattern of California's history and cultural heritage.
2. It is associated with the lives of persons important in our past.
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

4. It has yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one or more of the above criteria, the CRHR requires that sufficient time must have passed to allow a "scholarly perspective on the events or individuals associated with the resource." Fifty years is used as a general estimate of the time needed to understand the historical importance of a resource according to State Historic Preservation Office publications. CRHR also requires a resource to possess integrity, defined as "the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association." Archaeological resources can sometimes qualify as "historical resources" [CEQA Guidelines, Section 15064.5(c)(1)].

According to CEQA, all buildings constructed over 50 years ago that possess architectural or historical significance may be considered potential historic resources. Most resources must meet the 50-year threshold for historic significance, but resources less than 50 years in age may be eligible for listing on the CRHR if it can be demonstrated that sufficient time has passed to understand their historical importance.

If a project can be demonstrated to cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a], [b], and [c]).

PRC Section 21083.2(g) defines a unique archaeological resource as an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information
2) Has a special and particular quality such as being the oldest of its type or the best available example of its type
3) Is directly associated with a scientifically recognized important prehistoric or historic event or person

Two other programs are administered by the state: California Historical Landmarks and California "Points of Historical Interest." California Historical Landmarks are buildings, sites, features, or events statewide significance and that have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other historical value. California Points of Historical Interest are buildings, sites, features, or events of local (city or county) significance and that have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other historical value.

Impacts to significant cultural resources are considered a significant effect on the environment if they affect the characteristics of any resource that qualify it for the NRHP or adversely alter the significance of a resource listed in or eligible for listing in the CRHR. These impacts could result from physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired (CEQA Guidelines, Section 15064.5 [b][1], 2000). Material impairment is defined as demolition or alteration in an adverse manner [of] those characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR (CEQA Guidelines, Section 15064.5[b][2][A]).

Codes Governing Human Remains

The CEQA Guidelines Section 15064.5 also assign special importance to human remains and specifies procedures to be used when Native American remains are discovered. The disposition of human remains is governed by Health and Safety Code Section 7050.5 and PRC Sections 5097.94 and 5097.98; it falls under the jurisdiction of the Native American Heritage Association (NAHC). If human remains are discovered, the county coroner must be notified within 48 hours and there should be no further disturbance to the site where the remains were found. If the remains are determined by the coroner to be Native American, the coroner is responsible to contact the NAHC within 24 hours. The NAHC, pursuant to PRC Section 5097.98, will immediately notify those persons it believes to be most likely descended from the deceased Native Americans so they can inspect the burial site and make recommendations for treatment or disposal.

c. Local Regulations

City of Hayward

The City of Hayward adopted a Historic Preservation Ordinance in 1989, and comprehensively updated that the Ordinance in 2010. The purpose of this Ordinance is to promote the public health, safety and general welfare of the inhabitants of the City by providing for the identification, protection, enhancement, perpetuation and use of historical resources, including buildings, structures, signs, objects, features, sites, historic and prehistoric archaeological sites, places, districts, designed landscapes, cultural landscapes and areas within the City that reflect special elements of the City's architectural, artistic, cultural, engineering, aesthetic, historical, political, social and other heritage (Article 11, Section 10-11.010). The City or any property owner may request the designation of an historical resource or a potentially significant historical resource or the designation of an historic district by submitting an application for such designation to the Planning Division. The Planning Commission is authorized to approve in whole or in part, or disapprove in whole or in part, the application for designation of the resource as an historical resource on the local register (Article 11, Section 10-11.090). The Ordinance specifies that a property may be determined historically significant if it possesses one of the following:

1) An association with events that have made a significant contribution to the broad patterns of national, state and/or local history and cultural heritage
2) An association with the lives of persons significant in national, state and/or local past
3) The embodiment of the distinctive characteristics of a type, period, region, or method of construction, or that represent the work of a master or important creative individual, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
4) Details that have yielded, or may be likely to yield, information important in prehistory or history

4.2.3 Impact Analysis

a. Methodology and Significance Thresholds

This section describes the potential environmental impacts of the proposed project relevant to cultural resources. The analysis evaluates the potential for proposed activities to result in impacts to cultural resources, based on records of resources within the project site, observations of the

pedestrian survey completed by Rincon Consultants in September 2020, and the history and sensitivity of the project vicinity. Complete documentation of the records search and pedestrian survey, including potential impacts to resources, is provided in the Cultural Resources Assessment Report, prepared by Rincon Consultants, Inc. in February 2021. The Cultural Resources Assessment Report is provided as Appendix B to this EIR.

According to Appendix G of the State *CEQA Guidelines*, impacts related to cultural resources from the proposed project would be significant if the project would:

1. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5;
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5; or
3. Disturb any human remains, including those interred outside of formal cemeteries.

b. Impact Analysis

Threshold 1:	Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

Impact CUL-1 DEMOLITION OF THE OLIVER BROTHERS SALT COMPANY PROCESSING PLANT AND FILLING OF PORTIONS OF THE ASSOCIATED SALT EVAPORATION PONDS ON THE EASTERN COMPONENT OF THE PROJECT SITE WOULD ADVERSELY IMPACT FEATURES THAT CONTRIBUTE TO THE SIGNIFICANCE OF A HISTORICAL RESOURCE. IMPACTS WOULD BE SIGNIFICANT AND UNAVOIDABLE.

The proposed project would not involve construction or operation activities within the western component of the project site. The proposed wetland preserve within the western component of the project site would involve no maintenance or operational activities. Therefore, the proposed wetland preserve would have no impacts on historic resources within the western component of the project site.

The field survey and background research identified one built-environment historical resource in the eastern component of the project site: the Oliver Brothers Salt Company. The resource has been determined eligible for listing in the NRHP and is listed in the CRHR; the property, therefore, qualifies as a historical resource as defined by CEQA. The project site, including the eastern and western component of the site, are also part of a historic landscape affiliated with the former salt production operations. Although the proposed project would not result in the demolition or alteration of the salt evaporation ponds and levees located on the western component of the project site, it would result in the demolition of the processing plant and filling of portions of existing salt evaporation ponds located on the eastern component of the project site. The eastern component of the site is essential in the larger property's ability to convey its significance, as it contains the only remaining buildings on the project site and is the location of the primary salt processing activities. Due to proposed demolition and construction activities that would impact contributing features within the eastern component, the proposed project would cause the material impairment of the resource, meaning it would alter in an adverse manner those physical characteristics that convey its historical significance and that justify its inclusion in the NRHP and CRHR. Filling the salt ponds and demolishing the building on the eastern component of the site would also alter the historic landscape, as would constructing a new industrial building. The project would therefore result in a substantial adverse change to the significance of a historical resource and result in a significant impact pursuant to CEQA.

Although not capable of reducing impacts to below the level of significance, two mitigation measures are required which would minimize project impacts relating to the demolition of the Oliver Brother Salt Company property to the maximum extent feasible: CUL-1a and CUL-1b.

Mitigation Measures

CUL-1a Building Recordation

Archival documentation of as-built and as-found condition shall be prepared for the Oliver Brothers Salt Company prior to demolition. Prior to issuance of demolition permits, the City of Hayward shall ensure that documentation of the buildings and structures proposed for demolition is completed that follows the general guidelines of Historic American Building Survey (HABS)-level III documentation. The documentation shall include high resolution digital photographic recordation, a historic narrative report, and compilation of historic research. The documentation shall be completed by a qualified professional who meets the standards for history, architectural history, or architecture as set forth by the Secretary of the Interior's Professional Qualification Standards (36 CFR, Part 61). The original archival-quality documentation shall be offered as donated material to the Hayward Library and/or Hayward Area Historical Society to make it available for current and future generations. Archival copies of the documentation shall be submitted to the City of Hayward where it shall be available to local researchers.

CUL-1b Interpretive Display

An interpretive display shall be developed and installed on site to commemorate the history of the Oliver Brothers Salt Company. The display may include historic photographs, drawings, and text to convey the history of the site and the significance of salt processing in Alameda County. The display shall be reviewed and approved by the City prior to installation at a site to be chosen by the City. The installation shall occur prior to issuance of a Certificate of Occupancy.

Significance After Mitigation

Although not capable of reducing impacts to below the level of significance, mitigation measures CUL-1a and CUL-1b would minimize project impacts relating to the demolition of the Oliver Brother Salt Company property. Impacts would remain significant and unavoidable.

Threshold 2:	Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Impact CUL-2 CONSTRUCTION OF THE PROPOSED PROJECT WOULD INVOLVE GROUND-DISTURBING ACTIVITIES THAT HAVE THE POTENTIAL TO UNEARTH OR ADVERSELY IMPACT PREVIOUSLY UNIDENTIFIED ARCHAEOLOGICAL RESOURCES WITHIN THE EASTERN COMPONENT OF THE PROJECT SITE. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

The proposed project would not involve construction or excavation activities within the western component of the project site. The proposed project would have no impacts on potential subsurface archaeological resources within the western component of the project site.

Construction of the proposed project, including the proposed industrial building, surface parking, utilities and landscaping, and relocated segment of the San Francisco Bay Trail, would involve excavation and ground disturbance on the site's eastern component. For example, the proposed industrial building would require subsurface utility connections that requiring trenching below

existing ground surface. Although the project site has been heavily disturbed due to salt works operations and soil remediation efforts from 1998 to 2012, ground-disturbing activities would have the potential to unearth previously unidentified archaeological resources. Project impacts to unanticipated discoveries would be significant but mitigable.

Mitigation Measures

CUL-2 Unanticipated Discovery of Archaeological Resources

In the event that archaeological resources are unexpectedly encountered during ground-disturbing activities, work in the immediate area shall be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archeology (National Park Service 1983) shall be contacted immediately to evaluate the find. If the find is prehistoric, then a Native American representative should also be contacted to participate in the evaluation of the find. If necessary, as determined by the archaeologist in consultation with the City, the evaluation may require preparation of a treatment plan and archaeological testing for California Register of Historical Resources (CRHR) eligibility. If the discovery proves to be eligible for the CRHR and cannot be avoided by the modified project, additional work, such as data recovery excavation, may be warranted to mitigate impacts to archaeological resources.

Threshold 3:	Would the project disturb any human remains, including those interred outside of formal cemeteries?

Impact CUL-3 THE DISCOVERY OF HUMAN REMAINS IS ALWAYS A POSSIBILITY DURING GROUND-DISTURBING ACTIVITIES. GROUND DISTURBANCE REQUIRED FOR CONSTRUCTION OF THE PROPOSED PROJECT COULD DISTURB OR DAMAGE KNOWN OR UNKNOWN HUMAN REMAINS WITHIN THE EASTERN COMPONENT OF THE PROJECT SITE. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT DUE TO MANDATORY ADHERENCE TO EXISTING REGULATIONS.

The discovery of human remains is always a possibility during ground disturbing activities extending at least several feet into the ground surface. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a most likely descendant (MLD). The MLD has 48 hours to make recommendations for the disposition of the remains. The MLD has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the MLD does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from subsequent disturbance.

The proposed project would not involve construction or excavation activities within the western component of the project site. The proposed project would have no impacts on potential human remains, if present, within the western component of the project site.

Construction within the eastern component of the project site would require ground disturbance to several feet or more below ground surface, such as grading for relocation of the San Francisco Bay Trail, utility connections for the industrial building, or drilling for the displacement pier supports for the building foundation. These project activities would have potential to encounter and disturb unknown or previously undiscovered human remains, since this is usually a possibility regardless of

project or location. However, mandatory adhere to existing regulations to protect human remains, such as Public Resources Code Section 5097.98 would prevent significant impacts. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are indicated.

Significance After Mitigation

Impacts would be less than significant without mitigation.

4.2.4 Cumulative Impacts

The cumulative impacts assessment area for cultural resources consists of the project site, including both the western and eastern components of the project site. The project site was determined to be appropriate because implementation of the proposed project would result in no structural demolition or ground disturbance or associated potential to impact buried cultural resources beyond the boundaries of the project site. Likewise, historic resources on the project site occur solely on the project site and not within the sites of other cumulative projects, list in Table 3-1 in Section 3, *Environmental Setting*.

There are no other ongoing or reasonably foreseeable future projects within the project site other than the proposed project. Potential impacts to cultural resources associated with implementation of the proposed project are described above. Implementation of the proposed project would result in significant and unavoidable impacts to historic resources associated with demolition of the former Oliver Brothers Salt Company structure and alterations to salt evaporation ponds within the eastern component of the project site. The proposed project would have no impacts to historic resources located elsewhere in the City because project activities would be limited to the project site. However, because the proposed project would result in direct significant impacts to historic resources on the project site, there would be fewer historic resources remaining in the City, and the cumulative impact would be significant and unavoidable. Within implementation of mitigation measures CUL-1a and CUL-1b, impacts would be reduced, but would remain significant and unavoidable.

The reasonably foreseeable future projects listed in Table 3-1 of Section 3, *Environmental Setting*, would require ground disturbance and excavation during construction. Ground disturbance and excavation activities would have the potential to encounter previously unidentified or unknown subsurface cultural resources. Construction of the proposed project would also require excavation and result in the same potential to encounter or damage subsurface resources. However, implementation of Mitigation Measure CUL-2 would be required and would reduce impacts to less than significant. Other projects would undergo environmental review with the City as lead agency, and mitigation would be required to reduce or avoid significant impacts, similar to the proposed project. Therefore, there would be no significant cumulative impacts to archaeological resources and human remains.

4.3 Hazards and Hazardous Materials

This section evaluates the potential impacts relating to hazards and hazardous materials associated with the proposed project.

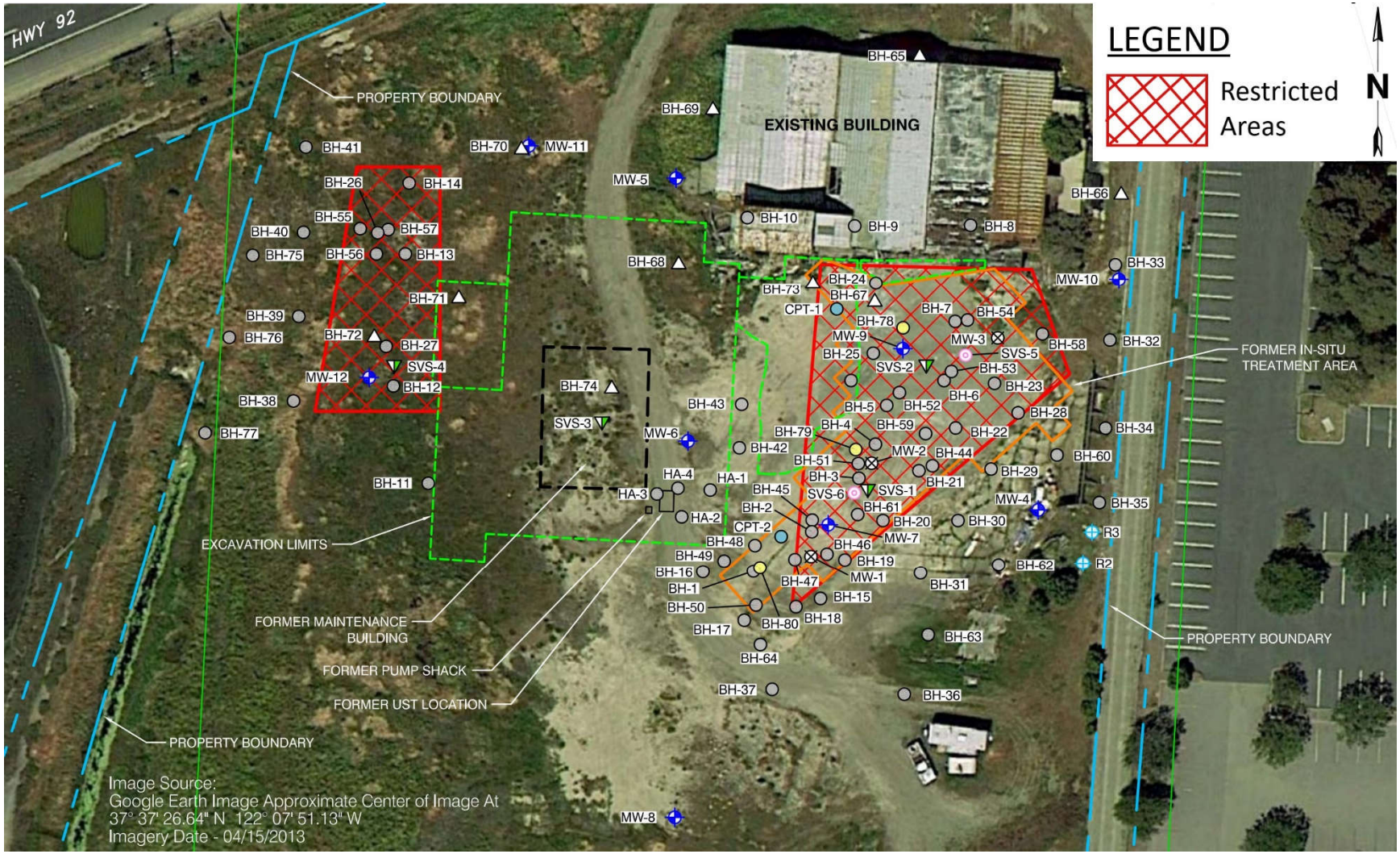
4.3.1 Setting

a. Project Site

A Phase I Environmental Site Assessment (ESA) was prepared for the project site by Cornerstone Earth Group in March 2017. The Phase I ESA is included as Appendix E to the Initial Study, and the Initial Study is included as Appendix A to this EIR. The Phase I ESA focuses on the eastern component of the project site. According the Phase I ESA, a salt production and processing facility, known as Oliver Brothers Salt Works, operated on the east component of the project site until approximately 1981. The salt facility consisted of a processing plant and a shop, both of which were on the eastern component of the project site. The shop has since been demolished. A salt pile or heap was located south of the plant on the eastern component of the site, as were salt rinsing ponds. The salt pile is no longer present, but the former salt ponds remain. Former salt ponds are also located on the western component of the project site. Railroad tracks were used to transport salt between ponds and the processing plant. Much of the track system no longer remains, but some evidence, such as old railroad ties and spikes, can still be found on-site. A gasoline-powered locomotive was reportedly used to move railroad cars along the tracks, and an underground storage tank and associated pump were reportedly located next to the railroad track south of the shop, on the eastern component of the site. According to the Phase I ESA, the gasoline tank had capacity for approximately 100 gallons. Additionally, a 500-gallon underground storage tank with diesel fuel was also on-site and associated with the former salt production operations. Both underground storage tanks were removed in 1998. Petroleum-related contamination was detected in underlying soil and groundwater after the tanks were removed. Subsequent remedial activities were conducted through 2008. Soil sampling conducted in 2013 indicated there were additional areas outside of the remediated areas where elevated concentrations of contaminants of potential concern remain. In addition, elevated concentrations of contaminants of potential concern were also detected in samples collected from temporary soil vapor probes in 2012, and in groundwater monitoring well samples collected in 2013. The contaminants of potential concern consisted primarily of benzene, TPHo, and 1,2-DCA. Additionally, the groundwater sampling in 2013 revealed residual concentrations of TPH-G and BTEX that exceed ESL and/or MCL thresholds.

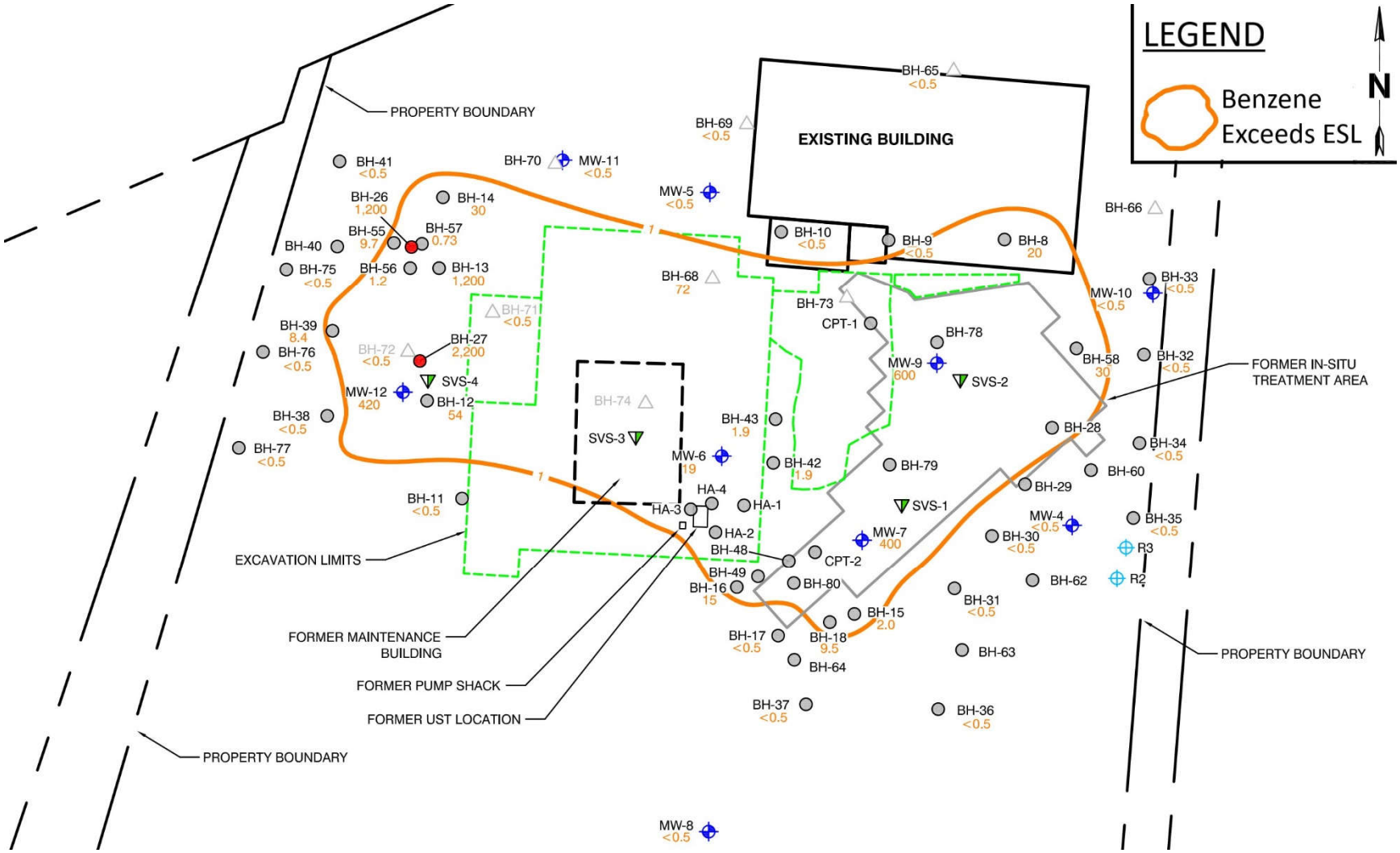
The potential for residual petroleum contamination is the only Recognized Environmental Condition identified in the Phase I ESA. Additionally, a Risk Management Plan (RMP) prepared for the project site in 2014 identifies residual petroleum hydrocarbons as a concern within soil and groundwater. According to the RMP, the project site is acceptable for redevelopment without restrictions except for two areas on the eastern component of the site where residual petroleum hydrocarbons remain within soil and groundwater. These two areas are referred to as the restricted areas and are shown on Figure 4.3-1. Benzene concentrations in groundwater beneath the restricted areas and in an area slightly beyond the restricted areas exceed the commercial non-drinking water Environmental Screening Level (ESL) of 27 parts per billion (ppb) set by the RWQCB, which was established based on potential vapor intrusion to indoor air situations. The extent of benzene contamination exceeding ESL in groundwater is shown on Figure 4.3-2.

Figure 4.3-1 Restricted Areas



Source: ASE 2014

Figure 4.3-2 Extent of Benzene Exceeding ESLs in Shallow Groundwater



Source: ASE 2014

The RMP, which is provided as an Appendix to the Phase I ESA, provides general protocols for managing soil and groundwater at the site; recommendations for soil vapor mitigations for future structures; and restricted areas where detectable concentrations of contaminants of potential concern may be present. On December 23, 2014, a deed restriction was recorded with Alameda County. The deed restriction identified that the project site was contaminated by petroleum products, and requires the following:

- Property must be used consistent with the 2014 RMP
- Inhabited structures built on-site must be compliant with the RMP
- Excavation on-site must be compliant with the RMP
- Future uses on-site must preserve integrity of cap, vapor barrier, or installed ventilation systems
- No water wells may be installed on-site unless approved by the State Water Resources Control Board
- The State Water Resources Control Board must be notified if the integrity of cap, vapor barrier, or installed ventilation systems is compromised

The State Water Resources Control Board granted case closure for the project site on February 18, 2015. However, the State Water Resources Control Board noted that the case does not meet all criteria of the low-threat closure policy, but no further action was still appropriate because:

- The contamination plume is defined and on-site
- The exposure pathways have been defined and assessed
- Pollutant sources have been reportedly removed or remediated
- Groundwater contamination plumes appear to be decreasing
- Risk management measures appear appropriate

The State Water Resources Control Board noted that "there may be residual petroleum-contaminated soil and groundwater at the site that could pose an unacceptable risk as a result of future construction/development activities" and "proper management may include sampling risk assessment, additional cleanup work, mitigation measures, or some combination of these tasks."

b. Asbestos and Lead-Based Paint

The Phase I ESA also indicates that existing on-site structures associated with the former Oliver Brothers Salt Works operation may contain asbestos due to their age. These structures may also contain lead-based paint. Both asbestos and lead are harmful to human health.

c. Off-site Sources of Contamination

According to the Phase I ESA, there are 11 sites within approximately 0.25 mile of the project site (see Appendix E of the Initial Study). None of these sites are listed as active contamination cases, and some are noted to generate hazardous waste but have no known contamination associated with them. One of the 11 sites, located at 4125 Breakwater Avenue, approximately 0.1 mile to the north of the eastern component of the project site, and known as "Big Al's Waste Hauling," is noted to have potential contamination requiring evaluation.

4.3.2 Regulatory Setting

a. Federal Regulations

Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA)

These acts established a program administered by the USEPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the "cradle to grave" system of regulating hazardous wastes. Among other things, the use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by the Hazardous and Solid Waste Act.

Comprehensive Environmental Response, Compensation and Liability Act, amended by the Superfund Amendments and Reauthorization Act (1986)

This law was enacted in 1980 and provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Among other things, Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) established requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enabled revision of the National Contingency Plan, which provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The National Contingency Plan also established the National Priorities List.

Federal Insecticide, Fungicide, and Rodenticide Act

This Act (7 U.S. Code [USC] 136 et seq.) provides Federal control of pesticide distribution, sale, and use. The USEPA was given authority under the Act to study the consequences of pesticide usage, and to require users (farmers, utility companies, and others) to register when purchasing pesticides. Later amendments to the law required users to take exams for certification as applicators of pesticides. All pesticides used in the United States must be registered (licensed) by the USEPA. Registration assures that pesticides will be properly labeled and that, if used in accordance with specifications, they will not cause unreasonable harm to the environment.

Lead-Based Paint Regulations

Regulations for Lead-Based Paint (LBP) are contained in the Lead-Based Paint Elimination Final Rule, 24 CFR 33, governed by the U.S. Housing and Urban Development (HUD), which requires sellers and lessors to disclose known LBP and LBP hazards to perspective purchasers and lessees. Additionally, all LBP abatement activities must be in compliance with California Occupational Safety and Health Administration (Cal/OSHA) and Federal OSHA and with the State of California Department of Health Services requirements. Only LBP-trained and -certified abatement personnel are allowed to perform abatement activities. All LBP removed from structures must be hauled and disposed of by a transportation company licensed to transport this type of material at a landfill or receiving facility licensed to accept the waste.

Regulations to manage and control exposure to lead-based paint are also described in CFR Title 29, Section 1926.62 and California Code of Regulations Title 8 Section 1532.1. These regulations cover the demolition, removal, cleanup, transportation, storage, and disposal of lead-containing material. The regulations outline the permissible exposure limit, protective measures, monitoring, and compliance to ensure the safety of construction workers exposed to lead-based materials. Cal/OSHA's Lead in Construction Standard requires project proponents to develop and implement a lead compliance plan when lead-based paint would be disturbed during construction. The plan must describe activities that could emit lead, methods for complying with the standard, safe work practices, and a plan to protect workers from exposure to lead during construction activities. Cal/OSHA requires 24-hour notification if more than 100 sf of lead-based paint would be disturbed.

U.S. Environmental Protection Agency

The USEPA is the agency primarily responsible for enforcement and implementation of Federal laws and regulations pertaining to hazardous materials. Applicable Federal regulations pertaining to hazardous materials are contained in the CFR Titles 29, 40, and 49. Hazardous materials, as defined in the CFR, are listed in 49 CFR 172.101. The management of hazardous materials is governed by the following laws:

1. Resource Conservation and Recovery Act of 1976) (42 USC 6901 et seq.); Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (also called the Superfund Act) (42 USC 9601 et seq.)
2. Federal Insecticide, Fungicide, and Rodenticide Act (7 USC 136 et. Seq.)
3. Superfund Amendments and Reauthorization Act of 1986 (Public Law 99 499)

These laws and associated regulations include specific requirements for facilities that generate, use, store, treat, and/or dispose of hazardous materials. USEPA provides oversight and supervision for Federal Superfund investigation/remediation projects, evaluates remediation technologies, and develops hazardous materials disposal restrictions and treatment standards.

Asbestos Regulations

Asbestos is a naturally occurring fibrous material that was extensively used as a fireproofing and insulating agent in building construction materials before such uses were banned by the USEPA in the 1970s. Asbestos-containing materials (ACMs) were commonly used for insulation of heating ducts as well as ceiling and floor tiles. Undisturbed ACMs contained within building materials present no significant health risk because there is no exposure pathway. However, once these tiny fibers are disturbed, they can become airborne and become a respiratory hazard. The fibers are very small and cannot be seen with the naked eye. Once they are inhaled, they can become lodged into the lungs, and may cause cancer, lung disease or other pulmonary complications.

The USEPA regulations under Title 40 CFR Part 61 regulate the removal and handling of ACMs. The statute is implemented by the Monterey Bay Air Resources District (MBARD). The federal Occupational Safety and Health Administration also has a survey requirement under Title 29 CFR that is implemented by Cal/OSHA under Title 8 California Code Regulations. These regulations require facilities to take all necessary precautions to protect employees and the public from exposure to asbestos.

b. State Regulations

Department of Toxic Substances Control

As a department of the California EPA, the Department of Toxic Substances Control (DTSC) is the primary agency in California that regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of RCRA and the California Health and Safety Code.

DTSC also administers the California Hazardous Waste Control Law (HWCL) to regulate hazardous wastes. While the HWCL is generally more stringent than RCRA, until the USEPA approves the California program, both state and federal laws apply in California. The HWCL lists 791 chemicals and approximately 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

Government Code Section 65962.5 requires the DTSC, the State Department of Health Services, the SWRCB, and CalRecycle to compile and annually update lists of hazardous waste sites and land designated as hazardous waste sites throughout the state. The Secretary for Environmental Protection consolidates the information submitted by these agencies and distributes it to each city and county where sites on the lists are located. Before the lead agency accepts an application for any development project as complete, the applicant must consult these lists to determine if the site at issue is included.

If any soil is excavated from a site containing hazardous materials, it would be considered a hazardous waste if it exceeded specific criteria in Title 22 of the California Code of Regulations. Remediation of hazardous wastes found at a site may be required if excavation of these materials is performed, or if certain other soil disturbing activities would occur. Even if soil or groundwater at a contaminated site does not have the characteristics required to be defined as hazardous waste, remediation of the site may be required by regulatory agencies subject to jurisdictional authority. Cleanup requirements are determined on a case-by-case basis by the agency taking jurisdiction.

Hazardous Waste Control Act

The hazardous waste management program enforced by DTSC was created by the Hazardous Waste Control Act (California Health and Safety Code Section 25100 et seq.), which is implemented by regulations described in CCR Title 26. The State program is similar to, but more stringent than, the Federal program under RCRA. The regulations list materials that may be hazardous, and establish criteria for their identification, packaging, and disposal. Environmental health standards for management of hazardous waste are contained in California Code of Regulations (CCR) Title 22, Division 4.5. As required by California Government Code Section 65962.5, DTSC maintains a Hazardous Waste and Substances Site List for the State called the Cortese List.

California Department of Pesticide Regulation, Department of Food and Agriculture, and the Department of Public Health

The California Department of Pesticide Regulations (DPR), a division of California Environmental Protection Agency, in coordination with the California Department of Food and Agriculture, a division of Measurement Standards and the California Department of Public Health have the primary responsibility to regulate pesticide use, vector control, food, and drinking water safety. CCR

Title 3 requires the coordinated response between the County Agricultural Commissioner and the Sonoma County Department of Health Services to address the use of pesticides used in vector control for animal and human health on a local level. DPR registers pesticides; the County tracks pesticide use. Title 22 is used also to regulate both small and large California Department of Public Health water systems.

California Fire Building Code

The 2016 Fire and Building Code (2016) establishes the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare for the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations. The provisions of this code apply to the construction, alteration, movement enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure or any appurtenances connected or attached to such building structures throughout the State of California.

c. Local Regulations

Alameda County Local Hazard Mitigation Plan

The Alameda County Local Hazard Mitigation Plan assesses hazards, risks, and capabilities for hazard mitigation, and then provides a blueprint for a mitigation strategy. The hazard and risk assessment focuses on dam failure inundation, drought, earthquake, flood, landslide, liquefaction, tsunami, and wildfire. The Alameda County 2016 Local Hazard Mitigation Plan was adopted by the County Board of Supervisors in January 2016, and was approved by FEMA in October 2016.

Alameda County Department of Environmental Health

The mission of the Alameda County Department of Environmental Health (ACDEH) is to protect the health, safety and well-being of the public through the promotion of environmental quality. The department's Hazardous Materials Division contains the Clean Water Program, Waste Tire Program, and the Certified Unified Program Agency (CUPA).

Alameda County Water Department (ACWD)

The Alameda County Water District (ACWD) manages the Niles Cone Groundwater Basin, which underlies the project site, through comprehensive programs that protect and improve water supplies for groundwater users. The project site is also located within ACWD's jurisdictional boundary. ACWD is identified within the Sustainable Groundwater Management Act (SGMA) as the exclusive local agency within its statutory boundaries to comply with SGMA with its boundaries. ACWD is also the Groundwater Sustainability Agency for the Niles Cone Groundwater Basin and has an approved Alternative to a Groundwater Sustainability Plan.

City of Hayward General Plan

The Hazards Element of the City of Hayward General Plan defines hazardous materials and provides the following information:

> *Hazardous materials are toxic, ignitable, corrosive, or reactive substances that can cause harm to people. Hazardous materials are used by households and businesses within urban*

areas. The improper use and disposal of hazardous materials can contaminate soil and groundwater resources and compromise the health and quality of life of residents. Accidents involving the transportation of hazardous materials can also cause explosions or spills that endanger the lives and property of nearby residents and businesses.

The Hazards Element of the City of Hayward General Plan includes the following goals and policies that aim to reduce potential damage from hazardous materials:

Goal HAZ-6: Protect people and environmental resources from contaminated hazardous material sites and minimize risks associated with the use, storage, transport, and disposal of hazardous materials.

HAZ-6.2: The City shall require site investigations to determine the presence of hazardous materials and/or waste contamination before discretionary project approvals are issued by the City. The City shall require appropriate measures to be taken to protect the health and safety of site users and the greater Hayward community.

HAZ-6.7: The City shall coordinate with State, Federal, and local agencies to develop and promote best practices related to the use, storage, transportation, and disposal of hazardous materials.

Goal HAZ-6 and its supporting policies are designed to establish strategies to minimize exposure to hazardous materials through the documentation, monitoring, clean-up, and re-use of hazardous material sites; and the implementation of best practices for the routine use, storage, transport, and disposal of hazardous materials.

4.3.3 Impact Analysis

a. Methodology and Thresholds of Significance

According to *CEQA Guidelines* Appendix G, impacts related to hazards and hazardous materials are considered significant if implementation of the proposed project would:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
2. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area;
6. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
7. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

CEQA checklist items 1, 3, and 5 through 7 were found to be less than significant in the Initial Study (Appendix A). Therefore, no further analysis is warranted, and these topics will not be discussed further in this section.

Threshold 2:	Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Impact HAZ-1 THE PROJECT HAS THE POTENTIAL TO CREATE A SIGNIFICANT HAZARD TO THE PUBLIC OR THE ENVIRONMENT THROUGH REASONABLY FORESEEABLE UPSET AND ACCIDENT CONDITIONS INVOLVING THE RELEASE OF HAZARDOUS MATERIALS INTO THE ENVIRONMENT DUE TO POTENTIAL HAZARDOUS MATERIALS THAT MAY BE PRESENT IN THE EXISTING ON-SITE STRUCTURES. THIS IMPACT WOULD BE POTENTIALLY SIGNIFICANT BUT MITIGABLE.

The proposed project would preserve the western component of the project site as it currently exists. No construction activities or ground disturbance would occur within the western component of the project site. Additionally, no operational activities would occur within the western component of the project site. There are no on-site structures or known contamination on the western component of the project site. Because the project would not involve activities or occupancy on the western component, the proposed preserve would have no potential to create a significant hazard to the public or environment.

Due to the age of the former Oliver Brothers Salt Works structures on the eastern component of the project site, they could contain LBP and/or ACM (see Phase I ESA included as Appendix E to the Initial Study). Project construction would include demolition of the existing structures. During demolition, LBP and/or ACM, if present could become mobilized as dust or directly handled by construction workers. Exposure to lead can cause adverse health effects, including disturbance of the gastrointestinal system, anemia, kidney disease, and neuromuscular and neurological dysfunction (in severe cases). Lead-based paint and other lead-containing materials associated with the proposed project would be required to be handled in compliance with Cal/OSHA regulations regarding lead-based paints and materials. The California Code of Regulations, Section 1532.1, requires testing, monitoring, containment, and disposal of lead-based paints and materials, such that exposure levels do not exceed Cal/OSHA standards. Compliance with applicable Cal/OSHA regulations would ensure impacts related to LBP would be less than significant.

Friable ACMs are regulated as a hazardous air pollutant under the Clean Air Act, and the Bay Area Air Quality Management District (BAAQMD) regulates ACM in Regulation 11, Rule 2, which governs the proper handling and disposal of ACM for demolition activities. As a worker safety hazard, they are also regulated under the authority of Cal/OSHA. In structures slated for demolition, any ACMs would be abated in accordance with state and federal regulations prior to the start of demolition or renovation activities and in compliance with all applicable existing rules and regulations. However, in order to ensure the presence of asbestos is known, Mitigation Measure HAZ-1, which requires a demolition plan and asbestos testing, would be required. Adherence to these regulatory requirements if asbestos is detected would ensure that asbestos removal would not result in the release of hazardous materials to the environment that could impair human health. Therefore, the impact related to ACMs would be less than significant with mitigation implemented.

Mitigation Measures

HAZ-1 Project Demolition Activities

In conformance with State and local laws, a visual inspection/pre-demolition survey, and possible sampling, shall be conducted prior to the demolition of on-site building(s) to determine the presence of asbestos-containing materials (ACMs) and/or lead-based paint (LBP). Documentation of the survey shall be provided to the City prior to commencement of demolition activities.

During demolition activities, all building materials containing lead-based paint shall be removed in accordance with Cal/OSHA Lead in Title 8, California Code of Regulations (CCR), Section 1532.1, including employee training, employee air monitoring, and dust control. Any debris or soil containing lead-based paint or coatings shall be disposed of at landfills that meet acceptance criteria for the type of lead being disposed.

All potentially friable asbestos containing materials (ACMs) shall be removed in accordance with National Emission Standards for Air Pollution (NESHAP) guidelines prior to demolition or renovation activities that may disturb ACMs. All demolition activities shall be undertaken in accordance with Cal/OSHA standards contained in Title 8, CCR, Section 1529, to protect workers from asbestos exposure.

A registered asbestos abatement contractor shall be retained to remove and dispose of ACMs identified in the asbestos survey performed for the site in accordance with the standards stated above in this mitigation measure. Materials containing more than one-percent asbestos are also subject to Bay Area Air Quality Management District (BAAQMD) regulations. Removal of materials containing more than one-percent asbestos shall be completed in accordance with BAAQMD requirements and notifications.

Based on Cal/OSHA rules and regulations, the following conditions shall be implemented to limit impacts to construction workers:

- Prior to commencement of demolition activities, a building survey, including sampling and testing, shall be completed to identify and quantify building materials containing lead-based paint.
- During demolition activities, all building materials containing lead-based paint shall be removed in accordance with Cal/OSHA Lead in Construction Standard, Title 8, CCR, Section 1532.1, including employee training, employee air monitoring and dust control.
- Any debris or soil containing lead-based paint or coatings shall be disposed of at landfills that meet acceptance criteria for the type of waste being disposed.

Significance After Mitigation

Mitigation Measure HAZ-1 would reduce impacts by requiring testing to indicate whether lead-based paint or asbestos is present in the structures slated for demolition. If lead or asbestos is detected, these materials would be abated in accordance with state, federal, and local regulations to ensure they would not be released to the environment or impair human health.

Threshold 4:	Would the project be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Impact HAZ-2 THE PROJECT WOULD INVOLVE DEVELOPMENT ON A SITE THAT IS INCLUDED ON A LIST OF HAZARDOUS MATERIAL SITES COMPILED PURSUANT TO GOVERNMENT CODE SECTION 65962.5, AND DUE TO THE POTENTIAL TO ENCOUNTER RESIDUAL SOIL AND GROUNDWATER CONTAMINATION ON THE EASTERN COMPONENT OF THE PROJECT SITE, IMPACTS WOULD BE POTENTIALLY SIGNIFICANT BUT MITIGABLE.

Project Construction

The western component of the project site is not located on a site listed on Government Code Section 65962.5. Additionally, the proposed project would not involve ground disturbance or operational activities on the western component of the site. Therefore, there would be no potential for a significant hazard to the public as a result of the proposed preserve on the western component of the project site.

The eastern component of the project site is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 as a result of leaking underground storage tanks that were once present on the eastern component of the project site, as described in Section 4.3.1 above. Remediation after removal of the tanks has resulted in less on-site contamination hazard, and the State Water Resources Control Board granted case closure for the project site on February 27, 2015. In the closure letter, SWRCB notes that there may be residual contamination, and that therefore contractors performing subsurface activities should be prepared to encounter soil and groundwater contaminated with petroleum hydrocarbons, and that if encountered, it must be properly managed. To address this, a Risk Management Plan (RMP) was prepared.

The RMP identifies two areas within the eastern component of the project site where residual contamination levels are of concern. These areas are referred to as the restricted areas and are shown on Figure 3 of the RMP. Soil within the restricted areas could contain detectable concentrations of TPH-G, TPH-D, and BTEX. These compounds are referred to as chemicals of potential concern (COPCs). In addition, COPCs are present at moderate concentrations in groundwater in a slightly larger area surrounding the restricted areas. According to the RMP, elevated concentrations of the COPCs in soil could be encountered during construction activities at depths of 5-feet below ground surface or deeper, within the restricted areas on the eastern component of the project site.

Therefore, project construction activities involving excavation to approximately 5 feet below ground surface, such as construction of the proposed building foundation or buried utility connections, could disturb contaminated soils or groundwater and expose construction workers. Because contaminated soils generally exist on-site at depths greater than 5 feet below ground surface, other shallow ground disturbance during project construction, such as relocating the segment of the San Francisco Bay Trail, would have less potential to disturb contaminated soils and expose construction workers to contamination. Nonetheless, the potential for construction workers to be exposed to contaminated soil or groundwater during project construction would be a potentially significant but mitigable impact. Mitigation Measure HAZ-2a would reduce this impact to a less than significant level.

Likewise, project construction would generate dust. If soils from the contamination areas are stockpiled on site and become airborne dust, either from wind erosion or construction equipment, off-site receptors could be exposed, as well as project construction workers. Reuse of contaminated soils as fill material on site could also expose workers to contamination, as well as future employees of the industrial building or people using the San Francisco Bay Trail. Impacts would be potentially significant but mitigable. Mitigation Measure HAZ-2a would reduce this impact to a less than significant level.

The proposed industrial building would be constructed atop the restricted areas on the eastern component of the project site. The building would be constructed using pursuant to recommendations of the Geotechnical Engineering Services Report prepared by Professional Services Industries, Inc., an Intertek company, in January 2018 for the project. Mitigation Measure GEO-1 in the Initial Study (see Appendix A) requires that recommendations of the geotechnical report be incorporated into the project design and construction. The geotechnical report includes the use of displacement piers to support the foundation of the proposed industrial building. Displacement piers use a hollow mandrill that is filled with crushed rock that is vibrated into the ground to a preselected depth and is then raised and lowered, while vibrating, to densify the gravel and the surrounding soils. This produces a column of compacted gravels and increases the density of the surrounding soils. The column of gravel created from displacement piers would create a potential pathway for migration of contaminated groundwater plume to aquifers at depths of up to 20 feet below ground surface, as that is the recommended depth of the piers for the project. Due to the site's proximity to the bay, the displacement piers may also create a preferential pathway for groundwater associated with sea level rise, as the piers would displace lower permeable materials (e.g., clays and silts). Migration of the groundwater contamination plume into aquifers would be potentially significant but mitigable. Mitigation Measure HAZ-2c would reduce this impact to a less than significant level.

Project Operation

The proposed industrial building would be constructed atop the restricted areas on the eastern component of the project site. During project operation, vapors from contaminated soil and groundwater could potentially infiltrate the proposed industrial building, including spaces within the building where employees would be routinely present. The accumulation of vapors in the breathing zone inside the building could present a potential hazard to human health. Therefore, the potential for soil vapor intrusion during operation would be a potentially significant but mitigable impact. Mitigation Measure HAZ-2a would reduce this impact to a less than significant level.

Some stormwater runoff from impervious surfaces of the project would be directed to bioretention areas. The bioretention areas would slow runoff and aid infiltration in order to reduce the amount of runoff discharge to the storm drain system. However, if improperly designed, the bioretention areas could result in contaminants leaching from soil into groundwater or result in migration of the existing contamination plume within groundwater. At least one of the proposed bioretention swales would be located partially within the restricted areas. Migration or leaching of contamination would be a potentially significant environmental impact, but mitigable. Mitigation Measure HAZ-2b would reduce this impact to a less than significant level.

Mitigation Measures

HAZ-2a Implementation of the RMP

The project shall implement the appropriate handling procedures and worker health and safety measures during excavating or dewatering activities, as well as the use of an engineered vapor barrier as described in the site-specific RMP developed for the project in 2014. The RMP is an appendix to the Phase I ESA. The Phase I ESA is included as Appendix E to the Initial Study, which is provided as Appendix A to this EIR. Measures included in the RMP to control potential hazardous contamination and exposure include, but are not limited to the following:

- Construction contractors shall implement dust control mitigation measures during construction activities at the project site to minimize the generation of dust. Examples of dust control measures that shall be implemented include limiting construction vehicles speeds to 5 miles per hour when on-site; routinely applying water to exposed soils while performing excavation activities; and, covering soil stockpiles with plastic sheets at the end of each workday. Additional dust control measures shall be implemented by the selected contractor, as necessary, especially if windy conditions persist during site grading and excavation. These measures may include moisture, conditioning the soil, using dust suppressants, or covering the exposed soil and stockpiles with weighted plastic sheeting to prevent exposure of the soil.
- To prevent or minimize construction equipment from tracking polluted spoils off the site onto roadways, construction equipment that contacts soils deeper than 5-feet below ground surface shall be decontaminated prior to leaving the site. Decontamination methods shall include brushing and/or vacuuming to remove loose dirt on vehicle exteriors and wheels. In the event that these dry decontamination methods are inadequate, methods such as steam cleaning, high pressure washing, and cleaning solutions shall be used, as necessary, to thoroughly remove accumulated dirt and other materials. Decontamination activities shall be performed in an on-site decontamination facility established by the contractor.
- All project construction workers performing construction activities at depths below 5-feet below ground surface in the restricted areas shall adhere to decontamination procedures when exiting the area. Decontamination measures shall include: (a) vacuuming the surface of coveralls, head covers, and footwear to remove accumulated soil particles and changing into other clean clothes if practical; (b) vacuuming or washing small tools, hand tools, or personal equipment to remove accumulated soil particles; and, (c) placing work clothes and personal equipment in sealed plastic bags or other suitable containers for transportation or on-site storage.
- In the event that disturbed soil appears to contain contaminants of potential concern (COPCs), such as odors, staining, and/or discoloration, work should halt in that area and an environmental professional (EP), such as a geologist, engineer, industrial hygienist, or environmental health specialist with expertise in these matters, shall be called to the site to oversee the work and determine safe construction and soil handling procedures.
- The EP shall be present on-site during excavations greater than 5-feet below ground surface in the restricted areas to observe field conditions and measure hydrocarbon vapors using a hand held photoionization detector (PID). If PID readings are measured in a specific area showing concentrations in excess of construction worker screening levels published by the Regional Water Quality Control Board (RWQCB), construction activities in that area shall halt until appropriate risk mitigation measures are implemented. If necessary, HAZWOPER trained personnel shall be called to the site to complete the construction activities in that area.
- Soil excavated from deeper than 5-feet below ground surface in the restricted area shall only be reused on-site as backfill after sampling and analysis soil proves the soil is acceptable to remain on site. Commercial ESLs shall be used as the threshold to determine if soils may remain on site or require off-site disposal. All appropriate regulatory sampling methods, holding times, and detection limits shall be followed.
- A health and safety plan shall be developed and implemented for project construction that incorporates measures and procedures to minimize direct contact by construction workers with site groundwater, particularly in the restricted areas. The health and safety plan shall

be approved by either the City or the RWQCB, or both as applicable, prior to excavation activities.

- If groundwater is encountered within the former remediation area during construction of the project, as shown on Figure 4 of the RMP, an EP shall be called to the site to determine safe handling procedures. The groundwater shall be pumped into appropriate containers and samples shall be obtained for chemical analysis of the COPCs in accordance with a site sampling plan and the requirements of the waste disposal facility to which the material is sent. If water sample analytical results indicate the water is free of all detectable concentrations of COPCs, such water can be re-used at the site if deemed appropriate by Alameda County and the RWQCB. If water sample analytical results indicate the water contains concentrations of COPCs above appropriate RWQCB screening levels, such water shall not be re-used at the site. The contractor and the EP shall elect to: (a) treat the groundwater on-site to render it free of detectable concentrations of COPCs (e.g. by activated carbon filtration); or, (b) transport the groundwater to a local treatment or disposal facility for appropriate handling.
- The proposed industrial building shall be constructed on top of a minimum of a 5-foot bioattenuation zone within the restricted areas. This bioattenuation zone shall consist of a minimum of 5-feet of soil above the anticipated shallowest groundwater elevation, and the soil shall not contain total petroleum hydrocarbons greater than 100 parts per million.
- An engineered vapor barrier shall be employed to further protect against possible vapor intrusion of COPCs into the proposed industrial building. The vapor barrier shall be designed to meet the needs of building. Vapor barriers are generally constructed using membranes constructed with high-density polyethylene (HDPE) or other polyolefin-based resins. The vapor barrier shall be resistant to VOCs. The vapor barrier shall meet the American Society for Testing and Materials (ASTM) guideline for a vapor barrier and have a permeance rating of 0.1 perms or less. The thickness and strength of the vapor barrier shall be based on the needs for the building, but the architect and contractor shall use a material strong enough to easily withstand the building construction and other building considerations. The selected vapor barrier shall be approved by the RWQCB prior to installation.

HAZ-2b Bioretention Design Coordination

The project applicant shall consult with the City on location and/or design of the on-site bioretention basins to ensure protection of the groundwater basin, which may include, but is not limited to, locating the basins outside of the restricted areas or use of a liner in the detention basin. The final design and location of the on-site bioretention basins shall demonstrate that groundwater would be protected from contamination.

HAZ-2c Displacement Pier Design and Construction

The project applicant shall retain a geotechnical engineer to design the displacement piers for support of the building foundation. The displacement piers shall be designed in a way to prevent creating a preferential pathway between shallow groundwater at approximately 5 feet below ground surface and deeper groundwater. The displace pier design developed by the geotechnical engineer shall be incorporated into project plans prior to commencement of construction. This mitigation measure shall apply to all displacement piers within the restricted areas or the larger area where benzene concentrations exceed ESLs, as shown in Figure 4.3-2 of the EIR. Additionally, air-jetting shall not be used to create the holes for the displacement piers within the restricted areas to avoid bringing subsurface soils to the ground surface.

Significance After Mitigation

With incorporation of Mitigation Measure HAZ-2a, the provisions of the RMP would reduce potential hazardous materials impacts associated with the past on-site contamination to a less than significant level. Mitigation Measures HAZ-2b and HAZ-2c would require coordination with local agencies to ensure that groundwater quality is protected and reduce the environmental impact associated with the existing contamination that may be affected by the bioretention basin and that the displacement piers be designed and constructed to result in a less than significant impact.

4.3.4 Cumulative Impacts

A project's environmental impacts are "cumulatively considerable" if the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (*CEQA Guidelines* Section 15065[a][3]). The geographic scope for cumulative hazardous materials impacts is limited to projects within Hayward that are west of Interstate 880. This geographic scope is appropriate for hazardous materials because risks associated with hazards and hazardous materials occur largely in a site-specific and localized context as adverse impacts from a hazardous materials release or spill diminish in magnitude with distance. Cumulative development in the vicinity of the project site is identified in Table 3-1. Continued urban development has the potential to increase exposure to hazards. However, overall, hazards and hazardous materials impacts associated with individual developments are site specific in nature and must be addressed on a case-by-case basis. The magnitude of hazards for individual projects would depend upon the location, type, and size of development and the specific hazards associated with individual sites. Since hazards and hazardous materials are required to be examined as part of the permit application and environmental review process, it is anticipated that potential impacts associated with individual projects will be adequately addressed and mitigated prior to permit approval. Compliance with regulatory requirements would avoid potential hazard impacts associated with cumulative development. With adherence to existing policies and other local, regional, state, and federal regulations, no significant cumulative human or environmental health impacts are anticipated.

4.4 Transportation

This section analyzes impacts related to transportation. The analysis is based largely on the Transportation Analysis Memorandum prepared by Kittelson & Associates and dated January 27, 2021. The Transportation Analysis Memorandum, contained in its entirety in Appendix C to this EIR, provides information relative to existing, existing plus project, future, and future plus project conditions based on project traffic volumes and an analysis of vehicle miles traveled (VMT).

4.4.1 Setting

a. Roadway Network

The project site is accessed by vehicle from Point Eden Way, primarily via Eden Landing Road and State Route 92. Point Eden Road and Eden Landing road are two-lane undivided roadways with a functional classification of local roadways in the City's General Plan Circulation Element. State Route 92 (SR 92) is a six-lane freeway under the jurisdiction of the California Department of Transportation (Caltrans). SR 92 is one of the primary routes used for access between East Bay and the Peninsula in the San Francisco Bay.

Key intersections to access the site are the signalized intersection at Clawiter Road at SR-92 eastbound ramps, and the stop-controlled intersections at Clawiter Road at SR-92 westbound ramps, and at Eden Landing Road at Point Eden Way.

b. Transit, Bicycle, and Pedestrian Facilities

The Alameda-Contra Costa Transit District provides transit/bus service in the City of Hayward. The nearest AC Transit bus route to the project site is transit route 86. Route 86 begins at the Hayward Bart station and travels west on Winton Avenue, south on Cabot Boulevard, and east on Depot Road. It then travels south on Industrial Boulevard and east on Tennyson Road before terminating at the South Hayward BART station. The nearest bus stop along route 86 is on Industrial Boulevard at Depot Road, approximately 1 mile from the project site.

There are no pedestrian sidewalk connections to the project site on Point Eden Way. Additionally, Point Eden Way contains no formal bicycle lanes. However, the San Francisco Bay Trail is located along the eastern edge of the project site. The San Francisco Bay Trail is open to both pedestrian and bicycle travel and provides access through much of the Bay Area.

c. Vehicle Miles Traveled

Vehicle miles traveled (VMT) is a measure used extensively in transportation planning for a variety of purposes. It measures the amount of travel for all vehicles in a geographic region over a given period of time, such as a 24-hour period or a one-year period. It is calculated as the sum of the number of miles traveled by each vehicle.

The City has calculated and mapped the existing or baseline VMT for each Transportation Analysis Zone (TAZ) or census block within the incorporated limits of Hayward. According to the City's GIS portal, the project site is in a TAZ with an existing VMT of 18.23 per capita or employee. The regional average VMT per employee is 18.15.

4.4.2 Regulatory Setting

a. State Regulations

State Senate Bill 743

On September 27, 2013, California Governor Jerry Brown signed Senate Bill (SB) 743 into law and started a process that changes transportation impact analysis as part of CEQA compliance. SB 743 requires the Governor's Office of Planning and Research (OPR) to identify new metrics for identifying and mitigating transportation impacts within CEQA. In January 2018, OPR transmitted its proposed CEQA Guidelines implementing SB 743 to the California Natural Resources Agency for adoption, and in January 2019 the Natural Resources Agency finalized updates to the CEQA Guidelines, which incorporated SB 743 modifications. As of July 1, 2020, localities are required to rely on vehicle miles traveled (VMT), instead of traffic delay, as the primary metric for evaluating transportation impacts in CEQA documents. Under SB 743, automobile delay, as described solely by level of service or traffic congestion, shall not be considered a significant environmental impact except for certain types of transportation projects (Public Resource Code, § 21099 (b)(2)).

State CEQA Guidelines Section 15064.3

Originating from SB 743, Section 15064.3 of the State CEQA Guidelines establishes vehicle miles traveled (VMT) as the most appropriate measure of transportation impacts, shifting away from the level of service analysis that evaluated a project's impacts on traffic conditions on nearby roadways and intersections. The primary components of new section 15064.3 include:

- Identifies VMT (amount and distance of automobile traffic attributable to a project) as the most appropriate measure of transportation impacts;
- Declares that a project's effect on automobile delay shall not constitute a significant environmental impact except for projects increasing roadway capacity;
- Creates a rebuttable presumption of no significant transportation impacts for (a) land use projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor, (b) land use projects that reduce VMT below existing conditions, and (c) transportation projects that reduce or have no impact on VMT;
- Allows a lead agency to qualitatively evaluate VMT if existing models are not available; and
- Gives lead agencies discretion to select a methodology to evaluate a project's VMT but requires lead agencies to document that methodology in the environmental document prepared for the project.

In December 2018, OPR issued a *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR 2018). The technical advisory contains technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures. The technical advisory suggests a significance threshold for VMT that is based on state mandated GHG emission reduction targets. The technical advisory recommends a quantitative per capita or per employee VMT that is 15 percent below that of existing development as a possible threshold of significance that would comply with the state's long-term climate goals.

b. Regional and Local Regulations

Metropolitan Transportation Commission

The Metropolitan Transportation Commission (MTC) is designated by the State as the regional transportation planning agency for the nine-county San Francisco Bay Area. MTC is responsible for updating the Regional Transportation Plan (RTP), which plans the future transit, highway, roadway, railroad, bicycle and pedestrian facilities. MTC portions out federal funding to local agencies for transportation projects and determines their compliance with the Regional Transportation Plan.

Regional Transportation Plan and Sustainable Communities Strategy

MTC recently updated its RTP which was adopted by ABAG and MTC in July 2017. This new plan, 2040 Plan Bay Area, specifies how future transportation spending will occur through 2040. The new plan incorporates a California mandated Sustainable Communities Strategy. It also focuses on reducing greenhouse gas emissions as it relates to transportation, per the requirements set out in the California Sustainable Communities and Climate Protection Act of 2008. Part of this effort includes the goal to increase non-auto mode share. Other main transportation goals of the plan include reducing vehicle operating and maintenance costs due to pavement conditions and reduce per-rider transit delay due to aged infrastructure.

Alameda County Transportation Commission

The Alameda County Transportation Commission (ACTC) coordinates transportation planning efforts throughout Alameda County and programs local, regional, State and federal funding for project implementation. It prepares the CMP, a program mandated by California law to describe the strategies to address congestion problems on the CMP network, which includes state highways and principal arterials. The CMP requires analysis of Metropolitan Transportation System (MTS) roadway and transit system and uses level-of-service standards as a means to measure congestion and has established level-of-service standards to determine how local governments meet the standards of the CMP.

City of Hayward VMT Thresholds of Significance

CEQA Guidelines Section 15064.3(b) indicates that land use projects would have a significant impact if the project resulted in VMT exceeding an applicable threshold of significance. In June 2020, the City of Hayward adopted the following thresholds of significance for VMT analysis according the guidance from OPR:

- Residential: 15 percent below existing average VMT per capita for the City
- Employment – Office: 15 percent below existing regional average VMT per employee
- Employment – Industrial: Below existing regional average VMT per employee
- Retail: Net increase in total regional VMT

In addition, the City of Hayward has developed screening criteria to provide project applicants with a conservative indication of whether a project could result in potentially significant VMT impacts. If the screening criteria are met by a project, the applicant would not need to perform a detailed VMT assessment for their project. The thresholds and screening criteria that apply to the proposed project are discussed further in Section 4.4.3, *Impact Analysis*.

4.4.3 Impact Analysis

a. Methodology and Significance Thresholds

Methodology

The analysis presented herein is derived primarily from a Transportation Analysis prepared by Kittelson & Associates for the proposed project, included as Appendix C to this EIR. The Analysis, dated January 2021, assesses the VMT impact of the project.

Before undertaking the VMT analysis, the project underwent a screening assessment to determine if the impact can be screened out as having a less than significant impact according to criteria adopted by the City of Hayward, discussed further under *Significance Thresholds* below. The proposed preserve area on the western component of the project site would generate no vehicle trips or associated VMT because no activities are proposed within this portion of the project site. Similarly, the relocated segment of the San Francisco Bay Trail would generate no VMT because the trail realignment would change the number of people who drive to use the trail. Therefore, the project's potential VMT impacts were analyzed as two major components:

- **Office:** the approximately 2,785 square-foot office portion of the proposed industrial building would house U-Haul's regional corporate offices. The screening criteria and thresholds of significance for employment-office projects was applied to this project component.
- **Industrial:** the approximately 114,059 square foot warehouse portion of the proposed building would be used to house U-Haul storage pods, materials, and trucks. The screening criteria and thresholds of significance for employment-industrial projects were applied to this project component.

The screening criteria and thresholds of significance adopted by the City for employment-office projects and employment-industrial projects are discussed further under *Significance Thresholds* below.

Significance Thresholds

According to the adopted Appendix G of the State *CEQA Guidelines*, impacts related to transportation and circulation from the proposed project would be significant if the project would:

1. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities;
2. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b);
3. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
4. Result in inadequate emergency access.

Impacts associated with CEQA checklist items 1, 3, and 4 were determined to be less than significant or no impact in the Initial Study prepared for the proposed project and included with this EIR as Appendix A. Therefore, no further analysis is warranted, and these topics will not be discussed further in this section.

Section 15064.3 of State CEQA Guidelines, referenced in significance threshold 3 above, pertains to VMT. The City of Hayward adopted VMT thresholds for specific land use types. The adopted VMT

thresholds for each land use are presented in Table 4.4-1, and Table 4.4-2 shows the City's screening criteria for projects to be considered to have a less than significant VMT impact.

Table 4.4-1 City of Hayward VMT Thresholds of Significance

Land Use	VMT Threshold	Precedent
Residential	15% below existing average VMT per capita for City of Hayward	Governor's Office of Planning and Research (OPR)
Employment - Office	15 % below existing regional average employee per employee	OPR
Employment – Industrial	Below existing regional average VMT per employee	City of San José
Retail	Net increase in total regional VMT	OPR

Source: Appendix C

Table 4.4-2 City of Hayward Screening Criteria for Development Projects

Screen Type	Screening Criteria
Small Infill Projects	▪ Single-family detached housing of 15 units or less ▪ Single-family attached or multi-family housing of 25 units or less ▪ Office of 10,000 square feet of gross floor area or less
Local Serving Retail	▪ 50,000 square feet of total gross floor area or less
Local Serving Public Facilities	▪ Local public serving facility (determined with staff input, depending on the land use)
Residential and Employment-Office Land Use Projects or Components	▪ **Location**: within a half mile of a major transit stop1 or in an area with low (below the threshold) VMT per capita/employee and in an area with planned growth ▪ **Density/FAR:** -Minimum gross floor area ratio (FAR) of 0.75 as applicable for employment project - Minimum of 35 units per acre as applicable for residential projects - If located in an area where zoning calls for lower than 0.75 FAR or fewer than 35 units per acre, the maximum FAR or units per acre density allowed must be used ▪ **Parking**: No more than the minimum number of parking spaces required; in cases where no minimum is required and a maximum is identified, no more than the maximum number of parking spaces ▪ Does not replace affordable residential units (including naturally occurring affordable residential units) with a smaller number of moderate- or high-income residential units ▪ **Consistent** with local plans for development priorities
Restricted Affordable Residential Projects or Components	▪ **Affordability:** 100% deed-restricted affordable housing (exception for the manager's unit(s)); affordability must extend for a minimum of 55 years for rental homes or 45 years for for-sale homes. Affordability for this purpose is restricted to households making 80% or less of the area's median income. ▪ **Location:** within an area with below average VMT per capita **Parking:** no more than the minimum number of parking spaces required; in cases where no minimum is required and a maximum is identified, no more than the maximum number of parking spaces

Source: Appendix C

Threshold 2: Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Impact TR-1 THE PROPOSED PROJECT WOULD GENERATE 18.23 VMT PER EMPLOYEE, WHICH EXCEEDS THE VMT THRESHOLD OF THE EXISTING REGIONAL AVERAGE OF 18.15 BY 0.5 PERCENT. IMPACTS WOULD BE POTENTIALLY SIGNIFICANT, BUT MITIGABLE.

Pursuant to the City of Hayward's guidelines, projects should undergo a screening assessment by land use type. The proposed project is comprised of a trail realignment, establishment of a preserve, an office use, and an industrial use.

Realignment of the San Francisco Bay Trail and Preserve Establishment

These project components would not generate trips and would have no effect on VMT. Realignment of the trail segment would not generate new trail users. Preservation of the western component of the project site would not generate vehicle trips or associated VMT because no development or maintenance activities are proposed within the preserve area.

Office Use Component

The City's VMT screening criteria for employment-office land uses provide an opportunity to screen out small projects such as offices of 10,000 square feet of gross floor area or less. The proposed building would contain approximately 2,785 square feet of office space. Therefore, the proposed office use on the project site would be below the screening criteria for employment-office land uses. Projects that do not exceed the screening criteria have less than significant VMT impacts and require no additional analysis or mitigation.

Industrial Use Component

Pursuant to the City's screening criteria presented in Table 4.4-2, above, employment projects located in areas with low baseline VMT and/or within a half mile of a major transit stop or corridor and include features that support low VMT can be assumed to have less than significant impacts and additional analysis is unnecessary. As described above in Section 4.1, *Setting*, the nearest transit stop to the project site is approximately 1 mile away. Therefore, the project site is not within a half mile of a major transit stop. The City's VMT mapping also indicates that the project site is not within a low baseline VMT area. Therefore, the warehouse portion of the proposed project does not meet VMT screening criteria.

According to the City's GIS portal, the project site is in a TAZ with an existing VMT of 18.23 per capita or employee. Therefore, the Transportation Analysis determined that the proposed project, including both the industrial warehouse space and the office space would also generate 18.23 VMT per capita, consistent with the baseline VMT of the TAZ (see Appendix C). As presented in Table 4.4-2, above, employment-industrial land uses result in significant impacts if VMT would exceed the existing regional average VMT per employee, which is 18.15. Because the project would generate VMT of 18.23 per employee, it would exceed the regional average of 18.15 by approximately 0.5 percent. Impacts would be potentially significant. Therefore, Mitigation Measure TR-1 would be required to reduce this potential impact to a less-than-significant level.

Mitigation Measures

TR-1 Travel Demand Management

The project applicant shall implement at least one of the measures described below:

- **Voluntary Employer Commute Program:** The project applicant shall encourage alternative modes of transportation through a program that may include elements such as: a carpool or vanpool program, subsidized or discounted transit passes, bike amenities, commute trip-reduction marketing, and preferential parking permit program.
- **Employer Carpool Program:** The project applicant shall encourage carpooling by providing ride matching assistance to employees, providing priority parking for carshare vehicles, and providing incentives for carpooling.

The applicant shall provide to the City documentation that at least one of the above measures is implemented. Documentation shall be provided annually.

Significance After Mitigation

Impacts would be less than significant with implementation of Mitigation Measure TR-1. As described above, project VMT would exceed the threshold of significance by approximately 0.5 percent. As demonstrated below, each of the measures in Mitigation Measure TR-1 would reduce project VMT by at least 0.5 percent.

The Transportation Analysis prepared for the project recommends an additional mitigation to reduce VMT consisting of an employer transit pass subsidy. The measure would require the project applicant to partially subsize transit passes for project employees. This measure is not included as mitigation in this EIR because the project site is approximately 1 mile from the nearest transit stop. Given the distance between the project site and transit stop, and that Point Eden Way contains no sidewalks, it is unlikely a transit pass subsidy would effectively reduce impacts to less than significant.

Voluntary Employer Commute Program

As described in Appendix C, assuming that 100 percent of employees would be eligible to participate in the program, a VMT reduction of 6 percent would occur. This would exceed the 0.5 percent reduction required to reduce the impact to a less than significant level.

Employer Carpool Program

As described in Appendix C, assuming that 100 percent of employees would be eligible to participate in the program, a VMT reduction of 8 percent would occur. This would exceed the 0.5 percent reduction required to reduce the impact to a less than significant level.

4.4.4 Cumulative Impacts

The cumulative impacts assessment area for transportation is the City of Hayward. This area is appropriate because some VMT is evaluated using citywide thresholds, making the City the appropriate geographic extent for the cumulative impacts assessment.

Some cumulative growth in the City would increase residency in the City, and thus the number of vehicles that operate in the City. Increased vehicle use could result in increased VMT in the City, depending on the origin and destination of trips. Because reasonably foreseeable future projects would increase VMT, cumulative impacts could be potentially significant. As described under Impact TR-1, the proposed project would have a less than significant VMT impact with implementation of

Mitigation Measure TR-1. With implementation of the indicated mitigation, VMT of the proposed project would be below the existing regional VMT, and the proposed project would not have a cumulatively considerable contribution to cumulative VMT impacts.

5 Other CEQA Required Discussions

This section discusses growth-inducing impacts and irreversible environmental impacts that would be caused by the proposed project.

5.1 Growth Inducement

Section 15126(d) of the CEQA Guidelines requires a discussion of a proposed project's potential to foster economic or population growth, including ways in which a project could remove an obstacle to growth. Growth does not necessarily create significant physical changes to the environment. However, depending upon the type, magnitude, and location of growth, it can result in significant adverse environmental effects. The proposed project's growth inducing potential is therefore considered significant if project-induced growth could result in significant physical effects in one or more environmental issue areas.

5.1.1 Population Growth

As discussed in Section XIII, *Population and Housing*, of the Initial Study (Appendix A), the proposed project would not directly induce substantial population growth because it is not a large technology campus or medical facility or similar type of development that would create jobs that attract people to relocate to the region from other areas of the state or country. The project would result in approximately 20-25 on-site employees. It is likely that most of these would be drawn from the existing workforce in the Bay Area.

5.1.2 Economic Growth

The proposed project would generate employment opportunities during construction. Because construction workers would be expected to be drawn from the existing regional work force, construction of the project would not be growth-inducing from a temporary employment standpoint. However, the proposed project would also add 20-25 long-term employment opportunities associated with operation of the proposed industrial building. The proposed project would not induce substantial economic expansion to the extent that direct physical environmental effects would result. Moreover, the environmental effects associated with future development in or around the City of Hayward would be addressed as part of the CEQA environmental review for such development projects.

5.1.3 Removal of Obstacles to Growth

The project site is located adjacent to urbanized areas of the City of Hayward. As discussed in Section XVII, *Utilities and Service Systems*, of the Initial Study (Appendix A), there are existing water, wastewater treatment, stormwater drainage, electric power, natural gas, and telecommunication facilities in the right-of-way of Point Eden Way that are available to serve the project. The project would not require the extension of, or add substantial capacity to, roads or other infrastructure that would facilitate or accommodate development beyond the project site. The project would also include relocation of the San Francisco Bay Trail but would not extend the trail to new areas of the Bay. Because the project does not involve or require the extension of new infrastructure through or to undeveloped areas, or increase infrastructure capacity in such a way as to facilitate or

accommodate growth beyond the project site, project implementation would not remove an obstacle to growth.

5.2 Irreversible Environmental Effects

The CEQA Guidelines require that EIRs contain a discussion of significant irreversible environmental changes. This section addresses non-renewable resources, the commitment of future generations to the proposed uses, and irreversible impacts associated with the proposed project.

Construction and operation of the project would involve an irreversible commitment of construction materials and non-renewable energy resources. The project would involve the use of building materials and energy, some of which are non-renewable resources, to construct the overall building floor area. Likewise, relocation of the San Francisco Bay Trail would require energy consumption. Consumption of these resources would occur with any development in the region and are not unique to the proposed project.

The proposed project would also irreversibly increase local demand for non-renewable energy resources such as petroleum products and natural gas. However, increasingly efficient building design would offset this demand to some degree by reducing energy demands of the project. The project would be required to comply with standards set forth in California Building Code (CBC) Title 24, which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources during operation**.** CALGreen (as codified in CCR Title 24, Part 11) requires implementation of energy-efficient light fixtures and building materials into the design of new construction projects. Furthermore, the 2019 Building Energy Efficiency Standards (CBC Title 24, Part 6) requires newly constructed buildings to meet energy performance standards set by the CEC. These standards are specifically crafted for new buildings to achieve energy efficient performance. The standards are updated every three years, and each iteration increases energy efficiency standards. For example, according to the CEC, nonresidential buildings will use about 30 percent less energy due mainly to lighting upgrades (CEC 2018c). The City also has a Reach Code that requires efficiency beyond CalGreen, which would be applicable to the proposed project. Furthermore, the project would continue to reduce its use of nonrenewable energy resources as the percentage of electricity generated by renewable resources provided by PG&E continues to increase to comply with state requirements through Senate Bill 100, which requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

Additional vehicle trips associated with the proposed project would incrementally increase local traffic and regional air pollutant and GHG emissions. However, as discussed in Section 3, *Air Quality*, and Section 7, *Greenhouse Gas Emissions*, of the Initial Study (Appendix A), development and operation of the project would not generate air quality or GHG emissions that would result in a significant impact. Additionally, Section 4.4, *Transportation*, of this EIR concludes that impacts associated with the proposed project would be less than significant with mitigation based on adopted City thresholds.

The project would also require a commitment of law enforcement, fire protection, water supply, wastewater treatment, and solid waste disposal services. However, as discussed in Section 15, *Public Services*, and Section 19, *Utilities and Service Systems*, of the Initial Study, impacts to these service systems would not be significant.

CEQA requires decision makers to balance the benefits of a proposed project against its unavoidable environmental risks in determining whether to approve a project. The analysis contained in this EIR concludes that the proposed project would result in impacts that are less than significant or less than significant with mitigation, except for potential impacts to historic resources. As described in Section 4.2, *Cultural Resources*, and below in 5.3, *Significant and Unavoidable Impacts*, implementation of the project would result in potentially significant unavoidable impacts to historic resources due to proposed demolition of the Oliver Brothers Salt Works structures.

5.3 Significant and Unavoidable Impacts

The proposed project includes demolition of the Oliver Brothers Salt Works structures. As described in Section 4.2, *Cultural Resources*, demolition of the structures and development of the project site would result in potentially significant impacts to historic resources. Implementation of mitigation measures CUL-1a and CUL-1b, as described in Section 4.2, would be required. However, impacts would remain significant and unavoidable with implementation of mitigation measures.

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6 Alternatives

As required by Section 15126.6 of the *CEQA Guidelines*, this EIR examines a range of reasonable alternatives to the proposed project that would attain most of the basic project objectives (stated in Section 2.0, *Project Description*, of this EIR) but would avoid or substantially lessen the significant adverse impacts.

As discussed in Section 2.0, *Project Description*, the objectives for the proposed project, are as follows:

- Develop an industrial building to house U-Haul corporate headquarters and a warehouse.
- Locate the building at the western edge of Hayward in proximity to a regional highway and other industrial, warehousing and logistics uses to avoid land use conflicts.
- Create new employment and economic growth opportunities by redeveloping a vacant and underutilized property.
- Establish a wetland preserve adjacent to the San Francisco Bay.
- Remove a dilapidated and unsafe structure from a currently underutilized property at the gateway to the City.

Included in this analysis are three alternatives, including the CEQA-required "no project" alternative, that involve changes to the project that would reduce the project-related potentially significant environmental impacts as identified in this EIR. Alternatives have been developed to provide a reasonable range of options to consider that would help decision makers and the public understand the general implications of revising or eliminating certain components of the proposed project.

The following alternatives are evaluated in this EIR:

- Alternative 1: No Project
- Alternative 2: Enterprise Avenue Alternate Site
- Alternative 3: Reduced Project

Detailed descriptions of the alternatives are included in the impact analysis for each alternative. The potential environmental impacts of each alternative are analyzed in Sections 6.2 through 6.4.

6.1 Potentially Significant Impacts

According to Section 15126.6(b) of the State CEQA Guidelines, the discussion of EIR alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening significant effects of the project. The City prepared an Initial Study and this EIR to analyze the project for potentially significant impacts related to each of the environmental issues or resource areas contained in Appendix G of the State CEQA Guidelines (see Appendix A to this EIR). The results of the Initial Study and EIR analyses determined that the proposed project would have potentially significant and unavoidable impacts to historic resources (see Section 4.2, *Cultural Resources*).

Additionally, mitigation measures are identified in this EIR for the following topics that would reduce the respective potentially significant impacts of the project to less than significant levels:

- Biological Resources, specifically effects on special-status wildlife species and their habitat and natural communities (mitigated to less-than-significant impact level by Mitigation Measures BIO-1a through 1h)
- Biological Resources, specifically effects on jurisdictional wetlands (mitigated to less-than-significant impact level by Mitigation Measure BIO-3)
- Cultural Resources, specifically effects related to previously unidentified subsurface resources (mitigated to less-than-significant impact level by Mitigation Measures CUL-1 through CUL-3
- Hazards and Hazardous Materials, specifically effects related to exposure of project construction personnel to lead paint and/or asbestos containing materials during demolition of existing structures hazardous (mitigated to less-than-significant impact level by Mitigation Measure HAZ-1)
- Hazards and Hazardous Materials, specifically effects related to exposure of persons or groundwater to hazardous contamination (petroleum hydrocarbons, soil vapor, etc.) during construction and operation (mitigated to less-than-significant impact level by Mitigation Measures HAZ-2a through 2c)
- Transportation, specifically effects related to vehicle miles traveled (VMT), as the project VMT per employee would exceed the regional average by 0.5 percent (mitigated to less-than-significant level by Mitigation Measures TR-1)

6.2 Alternative 1: No Project Alternative

6.2.1 Description

The No Project Alternative assumes that the industrial building, surface parking, driveway, landscaping, and other project components associated with the proposed industrial building are not constructed. Additionally, the San Francisco Bay Trail would remain in its current location and would not be realigned. Likewise, a wetland preserve would not be established on the western component of the project site. The western component of the project site would not be preserved in perpetuity via recordation of a deed restriction or other appropriate legal mechanism; therefore, the salt ponds and other areas of the western component of the site could be utilized for flood plain and agricultural uses such as chemical extraction from baywater, crop and tree farming, dredging, farming or ranching and limited sales of materials grown on site. The project site would remain in its current unused state, and the existing structures associated with the former Oliver Brothers Salt Works operation would not be demolished.

The No Project Alternative would not fulfill any of the project objectives.

6.2.2 Impact Analysis

a. Biological Resources

Under the No Project Alternative, the new medical office building would not be constructed and operated on the project site, nor would the various utility, landscape, and street improvements occur. There would be no change to listed species or habitat, including that of the salt marsh harvest mouse or burrowing owl, and the San Francisco Bay Trail would not be relocated. No riparian or wetland habitat would be affected. As no construction would occur on the site, no potential impacts to nesting birds would occur. There would be no biological resources impacted or enhanced under this alternative compared with existing conditions. However, effects unrelated to the project, such

as the potential for sea level rise to impact habitat for salt marsh harvest mouse, would occur regardless of the potential implementation of this alternative or the proposed project.

The proposed project's impacts related to biological resources would be less than significant with mitigation (see Section 4.1, *Biological Resources*). Because the No Project Alternative would have no impact, biological resources impacts would be reduced compared to the proposed project and no mitigation measures would be required.

b. Cultural Resources

The No Project Alternative would not involve construction or ground disturbance on the project site. Therefore, there would be no potential for encountering or damaging potential buried cultural resources. Because this alternative would preclude development of the project site, the former Oliver Brother Salt Works building on the eastern component of the project site would not be demolished. The structure would remain in place but would be subject to continued natural deterioration, weathering and squatting by homeless individuals. The No Project Alternative would have no impact on cultural resources.

As described in Section 4.2, *Cultural Resources*, the proposed project would have significant and unavoidable impacts to historic resources resulting from demolition of the Oliver Brother Salt Works building, and mitigation measures would be required. Because the No Project Alternative would avoid this significant impact, as well as potential impacts to subsurface resources, impacts would be reduced compared to the proposed project and no mitigation would be required.

c. Hazards and Hazardous Materials

Under the No Project Alternative, there would be no demolition of the existing on-site structures and no new construction, and no impacts related to potential exposure to lead or asbestos-containing materials. Additionally, the proposed building would not be constructed, including displacement piers for the building foundation or on-site bioretention areas for stormwater management. Therefore, the No Project Alternative would have no potential to create new preferential pathways for shallow contaminated groundwater to reach deeper groundwater. Additionally, because the proposed building would not be constructed, it also would not be occupied and there would be no potential for vapor intrusion risk. The No Project Alternative would have no impacts related to hazards and hazardous materials.

As described in Section 4.3, *Hazards and Hazardous Materials*, the proposed project would have potentially significant but mitigable impacts related to hazards materials and hazardous contamination. Because the No Project Alternative would have no impact, impacts of this alternative would be reduced compared to the proposed project and no mitigation would be required.

d. Transportation

The No Project Alternative would result in no new development or changes to the project site. Currently, the project site is unused and does not generate VMT. Therefore, the No Project Alternative would generate no new VMT, as the site would continue to be unused. Additionally, the No Project Alternative would have no conflicts with plans or programs pertaining to circulation, including bicycle, pedestrian, and transit circulation. The San Francisco Bay Trail would remain in its current alignment and available for bicycle and pedestrian travel. The No Project Alternative would have no impacts on transportation.

As described in Section 4.4, *Transportation*, the proposed project would generate new VMT that exceeds the regional average VMT per employee. Impacts would be potentially significant but mitigable. Because the No Project Alternative would have no transportation impacts, impacts of this alternative would be reduced compared to the proposed project and no mitigation would be required.

6.3 Alternative 2: Enterprise Avenue Alternate Site

6.3.1 Description

Under the Enterprise Avenue Alternate Site Alternative, the proposed industrial building would be constructed on an approximately 10.8-acre property located at 3636 Enterprise Avenue in Hayward. The property is identified as APN 439-0099-036-02, and is zoned as General Industrial (IG). The property is mostly vacant with the exception of several radio communication towers scattered across the property. A small structure is located at the base of one tower and is associated with the tower operations. Vegetation is present across nearly the entire property, and based on aerial photography, consists primarily of low grasses, weeds, and shrubs.

Alternative 2 assumes that the industrial building and associated surface parking lot would be approximately the same size and design as the proposed project, only located on the Enterprise Avenue property instead of the project site. However, because the Enterprise Avenue property is an upland area, Alternative 2 would not include establishing a wetland preserve on-site or off-site. Likewise, this alternative assumes the existing structures and ponds associated with the former Oliver Brothers Salt Works operation on the project site would remain unchanged from current conditions, because Alternative 2 would involve no activities or development at the project site.

The San Francisco Bay Trail is not adjacent the Enterprise Avenue property. Therefore, Alternative 2 would not involve relocation of the trail or coordination with the East Bay Regional Parks District. However, Alternative 2 would include relocating the existing radio communication towers and associated building that currently exist on the Enterprise Avenue property.

The Enterprise Avenue Alternate Site Alternative would fulfill some project objectives but not all objectives. For example, this alternative would develop an industrial building to house U-Haul corporate headquarters and a substantial warehouse at the western edge of Hayward in proximity to regional roadways. Alternative 2 would also be near other industrial and warehousing land uses and would create new employment opportunities by developing a property that is currently vacant. However, Alternative 2 would not fulfill project objectives to establish a wetland preserve adjacent to the San Francisco Bay or to remove the dilapidated Oliver Brothers Salt Works structures from the State Route 92 gateway to the City.

6.3.2 Impact Analysis

a. Biological Resources

The Enterprise Avenue site is not in proximity to salt marsh habitat. Therefore, implementation of the Enterprise Avenue Alternate Site Alternative would have no potential to impact species associated with salt marsh habitat, such as salt marsh harvest mouse or salt marsh wandering shrew. Additionally, the existing structure on the Enterprise Avenue site is a small shed-like structure associated with current operations of the on-site radio communication towers. Because

the towers are currently operated and maintained, it is assumed that bats do not actively roost in the structure, and this alternative would have no impact to special-status bats.

The Enterprise Avenue site consists primarily of open grass. The radio communication towers may provide perching spots for foraging raptor species, given that the towers are in open grassland. Additionally, the towers or the grass habitat may be used for nesting migratory bird species, and the grassland habitat specifically could be suitable for burrowing owl. Construction of the Enterprise Avenue Site Alternative would require removal of the radio communication towers and grass habitat. The site would be converted into the proposed industrial building and associated surface parking and landscaping. Therefore, the Enterprise Avenue Alternate Site Alternative would have potentially significant but mitigable impacts to special-status species. Implementation of Mitigation Measures BIO-1b through BIO-1e and BIO-1g would be required for this alternative.

According to the U.S. Fish and Wildlife Service, there are no wetland areas on the Enterprise Avenue site (U.S. Fish and Wildlife Service 2020). Therefore, construction of an industrial building on the site would have no impacts on wetlands. Because the site is upland grass, construction of this alternative would also have no impacts on sensitive natural communities.

Overall, the Enterprise Avenue Alternate Site Alternative would have potentially significant but mitigable impacts on special-status species, but fewer special-status species would be impacted compared to the proposed project. Additionally, while the proposed project would have potentially significant but mitigable impacts to wetlands and sensitive natural communities, the Enterprise Avenue Alternate Site Alternative would have no impact. Accordingly, impacts of the Enterprise Avenue Alternate Site Alternative would be less than significant with mitigation and reduced compared to the proposed project.

b. Cultural Resources

Construction of the Enterprise Avenue Alternate Site Alternative would require demolition or removal of the on-site radio communication towers and associated shed-like structure. Based on a review of aerial photography, the towers and associated structure were constructed sometime after 1982 but before 1987 (Historic Aerials 2021). Based on the apparent age of these structures (approximately 39 years to 34 years), the Enterprise Avenue site contains no known historic structures or potentially historic structures. Therefore, construction of the Enterprise Avenue Alternate Site Alternative would have unknown but expected less than significant effect on historic resources because historic structures are not known to be present.

Construction of the Enterprise Avenue Alternate Site Alternative would require ground disturbance and excavation for the building foundation, utility connections, and other subsurface project components. There is always potential for previously unknown or unidentified subsurface cultural resources to be uncovered during ground disturbance and excavation. If construction of the Enterprise Avenue Alternate Site Alternative were to encounter resources and result in damage or destruction of the resource or resources, impacts would be potentially significant but mitigable. Implementation of the Mitigation Measure CUL-2 in Section 4.2, *Cultural Resources*, would be required for this alternative. Implementation of mitigation would reduce impacts to less than significant.

Overall, the Enterprise Avenue Alternate Site Alternative would likely avoid or reduce the project's potentially significant and unavoidable impact to historic resources. Impacts to buried or subsurface resources would be reduced to less than significant with implementation of mitigation measures. Because the Enterprise Avenue Alternate Site Alternative would completely avoid significant and

unavoidable impacts to historic resources, impacts would be reduced compared to the proposed project.

c. Hazards and Hazardous Materials

Construction of the Enterprise Avenue Alternate Site Alternative would require demolition or removal of the existing on-site radio communication towers and associated shed-like structure. Based on a review of aerial photography, the towers and associated structure were constructed sometime after 1982 but before 1987 (Historic Aerials 2021). Because the towers and shed-like structure were constructed in the 1980s, lead-based paint and asbestos would not have been used in their construction. Therefore, demolition of removal of the towers and structure would not expose construction workers or others to potential hazards. The Enterprise Avenue Alternate Site Alternative would have no impact related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

According to the State Water Resources Control Board (SWRCB) and California Department of Toxic Substances Control (DTSC), the project site is not on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 (SWRCB 2021; DTSC 2021). Therefore, construction of the Enterprise Avenue Alternate Site Alternative would have negligible potential to create a significant hazard to the public or the environment. The Enterprise Avenue Alternate Site Alternative would have less than significant impacts. The Enterprise Avenue Alternate Site Alternative would have a reduced hazards and hazardous materials compared to the proposed project.

d. Transportation

According to the City's GIS portal, the average VMT per employee within the traffic analysis zone (TAZ) containing the Enterprise Avenue Site is 20.64 (City of Hayward 2020). As described in Section 4.4, *Transportation*, the regional average VMT per capita or employee for industrial projects is 18.15. Therefore, the Enterprise Avenue Alternate Site Alternative would require a VMT reduction of approximately 14 percent to achieve a less than significant impact. This is higher than the proposed project site's VMT per employee of 18.23, which requires a 0.5 percent reduction. Therefore, the VMT impact of the Enterprise Avenue Alternate Site Alternative would be potentially significant. Compared with the proposed project, impacts of this alternative would be greater and additional mitigation would be required compared to the proposed project.

6.4 Alternative 3: Reduced Project Alternative

6.4.1 Description

The Reduced Project Alternative assumes that, like the proposed project, the industrial building, surface parking, driveway, landscaping, and other project components associated with the proposed industrial building would be constructed on the eastern component of the project site. Additionally, the San Francisco Bay Trail would be realigned to encompass the eastern component of the site, like the proposed project. Likewise, a wetland preserve would be established on the western component of the project site, consistent with the proposed project. However, the industrial building and surface parking lot would be reduced in size by approximately 50 percent and shifted south within the eastern component of the project site in order to avoid demolition of the former

Oliver Brothers Salt Works building in the northeast part of the site. The existing building would be left in place.

The Reduced Project Alternative would fulfill most but not all project objectives. For example, this alternative would involve development of an industrial building to house U-Haul corporate headquarters and a warehouse at the western edge of Hayward in proximity to regional roadways. Alternative 3 would also be near other industrial and warehousing land uses and would create new employment opportunities by developing a property that is currently unused. Additionally, Alternative 3 would also fulfill the project objective to establish a wetland preserve adjacent to the San Francisco Bay. However, Alternative 3 would not fulfill the project objective to remove the dilapidated Oliver Brothers Salt Works structures from the State Route 92 gateway to the City. In addition, this alternative would reduce the space available for the proposed project elements compared to the propose project, which would result in smaller office and warehouse spaces by approximately 50 percent.

6.4.2 Impact Analysis

a. Biological Resources

The Reduced Project Alternative would be constructed on the eastern component of the project site. Therefore, construction of this alternative would impact the same biological resources as the proposed project, including special-status species, wetlands, and sensitive natural communities. However, the Reduced Project Alternative would require the industrial building and surface parking to be located farther south within the eastern component of the project site, result in additional wetland impacts compared to the proposed project. Additional wetland impacts would occur because the southern portion of the eastern component of the project site consists of wetlands. Establishment of the preserve in the western component of the project site would have no impact to biological resources because no construction, maintenance, or management activities would be conducted within the western component of the project site under this alternative, same as for the proposed project.

Overall, the Reduced Project Alternative would have significant but mitigable impacts to biological resources. Implementation of all mitigation measures in Section 4.1, *Biological Resources*, would be required. These mitigation measures include BIO-1a through BIO-1h and BIO-3. Compared to the proposed project, the Reduced Project Alternative would result in slightly greater impacts because this alternative would impact more wetland areas.

b. Cultural Resources

Because no construction, maintenance, or management activities would occur within the preserve area on the western component of the project site, establishment of a wetland preserve under this alternative would result in no impacts to cultural resources, as with the proposed project.

Under the Reduced Project Alternative, the salt plant structure from the former Oliver Brothers Salt Works on the eastern component of the project site would be retained. Demolition of the structure would not be required because the project would be designed to avoid the structure. While the structure would be retained, construction of the Reduced Project Alternative would require placement of fill within former salt ponds at the south end of the eastern component of the project site. Therefore, the Reduced Project Alternative would result in impacts to components of the historic Oliver Brothers Salt Works site. Additionally, the proposed industrial building would be of modern design and construction and could conflict with the historic landscape designation of the

existing structure on the project site. While retention of the salt plant structure, as well as preservation of all former salt ponds in the western component of the project site, would help to retain the historic integrity of the Oliver Brothers Salt Works site, required filling of salt ponds on the eastern component of the site could have potentially significant impacts on historic resources.

The Reduced Project Alternative would involve construction and ground disturbance in the eastern component of the project site. Although the proposed industrial building and surface parking lot would be reduced in size, the excavation required for utility connections and foundation supports would have the potential to uncover and disturb previously unknown or unidentified archaeological resources or human remains within the eastern component of the project site. Grading required for relocation of the San Francisco Bay Trail would also have the potential to uncover and disturb or damage subsurface archaeological resources. Disturbance or damage to archaeological resources would be a potentially significant but mitigable impact. Implementation of the Mitigation Measure CUL-2 in Section 4.2, *Cultural Resources*, would be required for this alternative. Implementation of mitigation measures would reduce impacts to archaeological resources to less than significant. Compliance with existing regulations, such as Public Resources Code Section 5097.98, would prevent significant impacts related to discovery of human remains.

Overall, the Reduced Project Alternative would have potentially significant impacts to historic resources and significant but mitigable impacts to archaeological resources. Compared to the proposed project, the Reduced Project Alternative would result in reduced impacts because this alternative would avoid demolition of the Oliver Brothers Salt Works salt plant structure, which is a prominent component of the historic site and historic landscape.

c. Hazards and Hazardous Materials

Because no construction, maintenance, or management activities would occur within the preserve area on the western component of the project site, establishment of a wetland preserve under this alternative would result in no impacts related to hazards and hazardous materials.

The Reduced Project Alternative would not require demolition of the former Oliver Brothers Salt Works salt plant structure, which could contain lead paint or asbestos containing materials. Because demolition would be avoided, there would be no potential for construction workers to be exposed to these hazards accidently during construction. Impacts would be less than significant.

The Reduced Project Alternative would be constructed on the eastern component of the project site. Therefore, construction of this alternative would require construction within the restricted areas, where soil and groundwater contamination exist (see Section 4.3, *Hazards and Hazardous Materials*). During construction, workers could be exposed to hazardous contamination, especially during excavation activities reaching depths of five feet or more below ground surface. Likewise, construction would generate dust. If soils from the contamination areas are stockpiled on site and become airborne dust, either from wind erosion or construction equipment, off-site receptors could be exposed, as well as project construction workers. Impacts would be potentially significant but mitigable. Implementation of Mitigation Measure HAZ-2a in Section 4.3, *Hazards and Hazardous Materials*, would be required, and impacts would be reduced to less than significant.

Given the extent and location of the restricted areas within the eastern component of the project site, the proposed industrial building would at least partially overlie the areas under this alternative, despite the building be positioned closer to the south end of the site. Displacement piers required for the building foundation could create a preferential pathway for shallow groundwater contamination to reach deeper groundwater. Likewise, bioretention areas for this alternative could

result in leaching of runoff through multiple underlying aquifers, creating a pathway for contamination. Impacts would be potentially significant but mitigable. Mitigation Measures HAZ-2b and HAZ-2c would reduce this impact to a less than significant level.

Additionally, because the building would be atop the restricted areas, there would be potential for vapor intrusion, exposing office and warehouse workers to hazardous vapors. Impacts would be potentially significant. Mitigation Measure HAZ-2a would reduce this impact to a less than significant level.

Overall, the Reduced Project Alternative would have significant but mitigable impacts related to hazards and hazardous materials. Implementation of all Mitigation Measures HAZ-2a, HAZ-2b, and HAZ-2c in Section 4.3, *Hazards and Hazardous Materials*, would be required. Compared to the proposed project, the Reduced Project Alternative would result in slightly reduced impacts because this alternative would avoid potential impacts related to the accidental release of lead or asbestos.

d. Transportation

Realignment of the San Francisco Bay Trail would not generate new VMT compared to existing conditions because realignment would not increase vehicle trips from new trail users. Likewise, because no maintenance or management activities would occur within the preserve area on the western component of the project site, establishment of a wetland preserve under this alternative would generate no VMT.

The proposed industrial building would be reduced in size if the Reduced Project Alternative were implemented. Despite being reduced in size compared to the proposed project, the Reduced Project Alternative would generate the same VMT per employee as the proposed project. The VMT would be the same because it is based on the average VMT per employee for the traffic analysis zone (TAZ) where the project site is located. Therefore, like the proposed project, the Reduced Project Alternative would generate 18.23 VMT per employee. As described in Section 4.4, *Transportation*, the regional average VMT per capita or employee for industrial projects is 18.15. Therefore, the Reduced Project Alternative would generate VMT exceeding the regional average VMT, and impacts would be potentially significant but mitigable. Implementation of Mitigation Measure TR-1 in Section 4.4, Transportation, would be required and would reduce impacts to less than significant levels. Impacts of the Reduced Project Alternative would be similar to the proposed project.

6.5 Alternatives Considered but Rejected

Section 15126.6 of the State *CEQA Guidelines* states that:

> "An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible.
>
> The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason."

Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (1) failure to meet most of the basic project objectives, (2) infeasibility, or (3) inability to avoid significant environmental impacts. Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative.

The California Supreme Court, in Citizens of Goleta Valley v. Board of Supervisors (1990), indicated that a discussion of alternative sites is needed if the project "may be feasibly accomplished in a successful manner considering the economic, environmental, social, and technological factors involved" at another site. Several criteria form the basis of whether alternative sites need to be considered in detail. These criteria take the form of the following questions:

1. Could the size and other characteristics of another site physically accommodate the project?
2. Is another site reasonably available for acquisition?
3. Is the timing of carrying out development on an alternative site reasonable for the applicant?
4. Is the project economically feasible on another site?
5. What are the land use designation(s) of alternative sites?
6. Does the lead agency have jurisdiction over alternative sites? and
7. Are there any social, technological, or other factors which may make the consideration of alternative sites infeasible?

Site characteristics that could support a project that meets the project objectives include: appropriate size to accommodate an economically viable industrial building that also can house U-Haul corporate headquarters; proximity to a regional highway in Hayward; and proximity to other industrial, warehousing, and logistics land uses to avoid land use conflicts. In order to accommodate the needed industrial and office uses, the industrial building must be located on a property or contiguous properties measuring approximately 6.8 acres or larger. Additionally, the property must be zoned Industrial Park or for industrial uses.

The following alternative sites were initially considered. However, for reasons discussed below, they were dismissed from further consideration.

6.5.1 4327 Breakwater Avenue Site Alternative

Under this alternative, the proposed building would have been constructed on a property at 4327 Breakwater Avenue identified as APN 439-0099-017-04. The property is adjacent to the north side of State Route 92, opposite of the project site. The property is currently vacant, but there is a freeway billboard on the property, adjacent to State Route 92. The property is in proximity to a regional highway, given that is adjacent to State Route 92. The property is zoned as Industrial Park, which would allow for an industrial warehouse. However, the property measures approximately 1 acre in size, and adjoining properties are either developed or consist of marshland that cannot be developed. Because the property measures only approximately 1 acre, which is less than the 6.8 acres needed for the industrial warehouse, the 4327 Breakwater Avenue Site Alternative was dismissed from further consideration.

6.5.2 3590 Enterprise Avenue Site Alternative

Under this alternative, the proposed building would have been constructed on a property at 3590 Enterprise Avenue identified as APN 439-0099-003-07. The property is located at the southwest corner of the intersection of Enterprise Avenue and Whitesell Street in eastern Hayward. The property is currently vacant and has been scraped or cleared of vegetation. The property is in proximity to State Route 92. The property is zoned as General Industrial, which would allow for an industrial warehouse. However, the property measures approximately 3.9 acres in size, which is less than the 6.8 acres needed for the industrial warehouse. Therefore, the 3590 Enterprise Avenue Site Alternative was dismissed from further consideration.

6.5.3 Arden Road Site Alternative

Under this alternative, the proposed building would have been constructed on a property accessible from an existing driveway on Arden Road identified as APN 461-0040-004-04. The property is adjacent to an existing warehouse to the west and an asphalt parking surface to the north. Railroad tracks are located immediately east of the property. Wetlands and the Eden Ecological Reserve area located south of the property. Industrial Boulevard is to the east, less than a mile, and provides access to State Route 92 to the north.

The property is currently vacant but does appear disturbed in some areas, and there is a dirt road in the southern portion. The property measures approximately 34.6 acres in size, which is beyond sufficient for the 6.8 acres needed for the industrial warehouse. However, according to the U.S. Fish and Wildlife Service, much of the property is freshwater ponds that are either permanently or seasonally inundated (U.S. Fish and Wildlife Service 2020). Therefore, the developable area of the property is less than 34 acres. The configuration of the mapped ponds on the property do not provide large contiguous developable areas of at least 6.8 acres. Additionally, the property is zoned as Open Space District, which does not allow for development of an industrial building. Because the property contains ponds that reduce developable area to less than needed for the industrial building, and the property is zoned as Open Space District, the Arden Road Site Alternative was dismissed from further consideration.

6.6 Environmentally Superior Alternative

Table 6-1 indicates whether each alternative's environmental impact is greater than, less than, or similar to that of the proposed project for each of the issue areas studied in this section of the EIR. Based on the alternatives analysis provided above, Alternative 1 would be the environmentally superior alternative, though it is the No Project Alternative, and therefore would not meet the objectives of the proposed project. The environmentally superior development alternative would be Alternative 2, as it would reduce impacts in the categories of biological resources, cultural resources, and hazards and hazardous materials, but it would result in greater impacts regarding transportation. Alternative 2, however, would not meet all the objectives of the proposed project, such as establishing a wetland preserve or removing a dilapidated structure from the gateway to the City. Neither of the alternatives analyzed above would create significant or unavoidable impacts, but the proposed project would have a significant and unavoidable impact to historic resources.

Table 6-1 Impact Comparison of Alternatives

Issue	Proposed Project Impact Classification[1]	Alternative 1: No Project Alternative	Alternative 2: Enterprise Avenue Alternate Site Alternative	Alternative 3: Reduced Project Alternative
Biological Resources	Less than Significant with Mitigation	+	+	-
Cultural Resources	Significant and Unavoidable	+	+	+
Hazards and Hazardous Materials	Less than Significant with Mitigation	+	+	+
Transportation	Less than Significant with Mitigation	+	-	=

[1] Most severe level of impact determination for proposed project is presented in this table.

+ Superior to the proposed project (reduced level of impact)

- Inferior to the proposed project (increased level of impact)

= Similar level of impact to the proposed project

7 References

7.1 Bibliography

Biological Resources

California Department of Fish and Game. 1994. A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607. Environmental Service Division, California Department of Fish and Game, Sacramento, CA.

California Department of Fish and Game. 2010. List of Vegetation Alliances and Associations. Vegetation Classification and Mapping Program, California Department of Fish and Game, Sacramento, CA. September 2010.

California Department of Fish and Wildlife. 2020. California Natural Diversity Database, Wildlife and Habitat Data Analysis Branch. Sacramento, CA. Accessed: June 2020

U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). U.S. Army Corps of Engineers, Engineer Research and Development Center, Vicksburg, MS. September 28, 2008.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Department of the Army, Waterways Experiment Station, Vicksburg, Mississippi 39180-0631.

San Francisco Estuary Institute. 2020. California Aquatic Resource Inventory. Available at: http://www.sfei.org/cari#sthash.Mzz93W9i.dpbs. Accessed: June 2020

U.S. Fish and Wildlife Service. 2020. National Wetlands Inventory. Available at: http://www.fws.gov/wetlands/index.html. Accessed: June 2020

U.S. Geological Survey. 2020. Redwood Point, California 7.5-minute quadrangle topographic map.

Cultural Resources

Anonymous. 2020. “Four Generations of Salt Production.” The Oliver Salt Company. https://oliversalt.wordpress.com/2013/03/18/four-generations-of-salt/. Accessed September 9, 2020.

Aqua Science Engineers, Inc. 2013. Recommendation for Case Closure as a Low-Thread Underground Storage Tank Case and Updated Site Conceptual Model ASE Job No. 3831 at Former Oliver Salt Facility, 4150 Point Eden Way, Hayward, California.

Bean, Walton. 1968. California: An Interpretive History. New York, New York: McGraw-Hill Book Company.

Circa: Historic Property Development. 2009. Historic Context Statement for the City of Hayward, Administrative Draft Report. August. Prepared for the City of Hayward.

____. 2010 City of Hayward Historical Resources Survey and Inventory Report, Final. July. Prepared for the City of Hayward.

D’Oro, Stella. 2009. Native California Prehistory and Climate in the San Francisco Bay Area. Master’s Thesis, San Jose State University.

Dumke, Glenn S. 1994. The Boom of the Eighties in Southern California. San Marino, California: Huntington Library Publications.

Engelhardt, Zephyrin. 1927. San Fernando Rey: The Mission of the Valley. Chicago, Illinois: Franciscan Herald Press.

Guinn, James M. 1976. Gold! Gold! Gold! from San Francisquito! in Los Angeles Biography of a City. John Caughey and LaRee Caughey, eds. Pp. 107-108. Berkeley, California: University of California, Berkeley Press.

Hylkema, Mark G. 2002. Tidal Marsh, Oak Woodlands, and Cultural Florescence in the Southern San Francisco Bay Region. In Catalysts to Complexity: Late Holocene Societies of the California Coast, edited by Jon M. Erlandson and Terry L. Jones, pp.233–262. Perspectives in California Archaeology, Vol. 6. Cotsen Institute of Archaeology.

Kyle, Douglas E. 2002. Historic Spots in California. 5th ed. Stanford University Press, Stanford, California.

Lightfoot, Kent G., and Edward M. Luby. 2002. Late Holocene in the San Francisco Bay Area: Temporal Trends in the Use and Abandonment of Shell Mounds in the East Bay. In Catalysts to Complexity: Late Holocene Societies of the California Coast, edited by Jon M. Erlandson and Terry L. Jones, pp.263-281. Perspectives in California Archaeology, Vol. 6. Cotsen Institute of Archaeology, University of California, Los Angeles.

McCawley, William. 1996. The First Angelinos: The Gabrielino Indians of Los Angeles. Malki Museum/Ballena Press Cooperative Publication, Banning or Novato, California.

Milliken, R. T., R.T. Fitzgerald, M. G. Hylkema, R. Groza, T. Origer, D. G. Bieling, A. Leventhal, R. S. Wiberg, A. Gottsfield, D. Gillette, V. Bellifemine, E. Strother, R. Cartier, and D. A. Fredrickson. 2007. Punctuated Cultural Change in the San Francisco Bay Area. In California Prehistory: Colonization, Culture, and Complexity. Edited by Terry L. Jones and Kathryn A. Klar. AltaMira Press.

Moratto, Michael J. 1984. California Archaeology. Orlando, Florida: Academic Press, Inc.

National Park Service. 1983. Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines. Electronic document, online at http://www.nps.gov/history/local-law-Arch_Standards.htm, accessed December 6, 2011.

Nevin, David. 1978. The Mexican War. Time Life Books.

Poole, Jean Bruce. 2002. El Pueblo-The Historic Heart of Los Angeles. Los Angeles: The Getty Conservation Institute and the J Paul Getty Museum.

Ragir, Sonia. 1972. The Early Horizon in Central California Prehistory. Contributions of the University of California Archaeological Research Facility, No. 15. Berkeley.

Rolle, Andrew. 2003. California: A History. Arlington Heights, Illinois: Harlan Davidson, Inc.

Shumway, Burgess McK. 2007. California Ranchos: Patented Private Land Grants Listed by County. Michael Burgess and Mary Wickizer Burgess, eds. Rockville, Maryland: Borgo Publishing Press.

Watt Laura, Marie Galvin, David Blau, Charlane Gross, Aki Omi, and Donna Plunkett, and Lou Ann Speulda-Drews. n.d. Historic American Landscapes Survey Alviso Salt Works HALS No. CA-92.

http://lcweb2.loc.gov/master/pnp/habshaer/ca/ca4000/ca4062/data/ca4062data.pdf. Accessed September 9, 2020.

Workman, Boyle. 1935. The City that Grew. Los Angeles, California: The Southland Publishing Company.

Alternatives

Department of Toxic Substances Control (DTSC). 2021. EnviroStor [map database]. Retrieved on February 9, 2021, from https://www.envirostor.dtsc.ca.gov/public/

Hayward, City of. 2020. Vehicle Miles Traveled 2020 database. https://maps.hayward-ca.gov/portal/apps/webappviewer/index.html?id=b5a75035f77e4d80972424580c636354 (accessed January 2021).

Historic Aerials. 2021. Historic Aerials by NETRONLINE [map database of aerial photography]. Retrieved on January 6, 2021, from https://www.historicaerials.com/viewer

State Water Resources Control Board (SWRCB). 2021. GeoTracker [map database]. Retrieved on February 9, 2021, from https://geotracker.waterboards.ca.gov/

U.S. Fish and Wildlife Service. 2020. National Wetlands Inventory: Surface Waters and Wetlands [map database]. Retrieved on January 22, 2021, from https://www.fws.gov/wetlands/data/mapper.html

7.2 List of Preparers

This EIR was prepared by the City of Hayward, with the assistance of Rincon Consultants, Inc. Consultant staff involved in the preparation of the EIR are listed below.

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ATTACHMENT VIII

4150 Point Eden Way Industrial Development Project

Final Environmental Impact Report Response to Comments Document SCH# 2020110180

prepared by

City of Hayward
777 B Street
Hayward, California 94541
Contact: Leigha Schmidt, Senior Planner

prepared with the assistance of

Rincon Consultants, Inc.
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June 2021

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
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4150 Point Eden Way Industrial Development Project

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June 2021

This report prepared on 50% recycled paper with 50% post-consumer content.

1 Introduction

1.1 Purpose of the Response to Comments Document

This Response to Comments (RTC) document provides responses to public and agency written comments received by the City of Hayward on the Draft Environmental Impact Report (EIR) for the proposed 4150 Point Eden Way Industrial Development Project (project). The Draft EIR identifies the likely environmental consequences associated with development of the proposed project and recommends mitigation measures to reduce potentially significant impacts. In addition to providing responses to public and agency comments received on the Draft EIR, this RTC document also makes revisions to the Draft EIR, as necessary, in response to those comments or to make clarifications to information presented in the Draft EIR. This document, together with the Draft EIR, constitutes the Final EIR for the proposed project.

1.2 Environmental Review Process

Pursuant to the California Environmental Quality Act (CEQA), lead agencies are required to consult with public agencies having jurisdiction over a proposed project and to provide the general public with an opportunity to comment on the Draft EIR.

On November 10, 2020, the City of Hayward circulated a Notice of Preparation (NOP) and Initial Study for a 30-day period to identify environmental issue areas potentially affected if the proposed project were to be implemented. The NOP was mailed or otherwise provided to public agencies, the State Clearinghouse, organizations, and individuals considered likely to be interested in the proposed project and its potential impacts. Comments received by the City of Hayward on the NOP and Initial Study are provided in Appendix A of the Draft EIR and are summarized in Table 1-1 of the Draft EIR. These comments were taken into account during the preparation of the Draft EIR.

The Draft EIR was made available for public review on April 9, 2021, and was distributed to local and State agencies. Copies of the Notice of Availability of the Draft EIR were mailed to a list of interested parties, groups and public agencies, as well as property owners and occupants of neighboring and nearby properties. The Draft EIR and an announcement of its availability were posted electronically on the City's website, and a paper copy was available for public review at City Hall. The Notice of Availability of the Draft EIR was also posted at the office of the Alameda County Clerk, and the Draft EIR was available for public review at the Hayward Public Library.

The 45-day CEQA public comment period began on April 9 and ended on May 24, 2021. The City of Hayward received five comment letters on the Draft EIR. Copies of written comments on the Draft EIR received during the comment period, as well as responses to those comments, are included in Section 3 of this document.

1.3 Document Organization

This RTC document consists of the following sections:

- *Section 1: Introduction.* This section discusses the purpose and organization of this RTC Document and the Final EIR, and summarizes the environmental review process for the project.
- *Section 2: List of Commenters.* This section contains a list of the agencies and private groups and organizations that submitted written comments during the public review period on the Draft EIR. No comments were received from individuals.
- *Section 3: Comments and Responses.* This section contains reproductions of all comment letters received on the Draft EIR. A written response for each CEQA-related comment received during the public review period is provided. Each response is keyed to the corresponding comment.
- *Section 4: Draft EIR Revisions.* Revisions to the Draft EIR that are necessary in light of the comments received and responses provided, or necessary to amplify or clarify material in the Draft EIR, are contained in this section. Underlined text represents language that has been added to the Draft EIR; text with strikeout has been deleted from the Draft EIR.

2 List of Commenters

This section presents a list of comment letters received during the public review period and describes the organization of the letters and comments that are provided in Section 3, *Comments and Responses*, of this document.

2.1 Organization of Comment Letters and Responses

The five letters are presented in the following order: State agencies (1), regional and local public agencies (2), and private groups and organizations (2). No federal agencies and no individuals provided written comments. Each comment letter has been numbered sequentially and each separate issue raised by the commenter has been assigned a number. The responses to each comment identify first the number of the comment letter, and then the number assigned to each issue. For example, Response 1.1 indicates that the response is for the first issue raised in comment Letter 1.

2.2 Comments Received

The following letters were submitted to the City during the public review period:

Letter Number and Commenter	Agency/ Group/ Organization	Page Number
State Agencies		
1. Mark Leong, District Branch Chief	California Department of Transportation	5
Regional and Local Agencies		
2. Laura J. Hidas, Manager of Water Resources	Alameda County Water District	10
3. Chantal Alatorre, Senior Planner	East Bay Regional Park District	14
Private Groups and Organizations		
4. Carin High, Committee Co-Chair	Citizens Committee to Complete the Refuge	16
5. Paige Fennie	Lozeau Drury LLP	80

3 Comments and Responses

Written responses to each comment letter received on the Draft EIR are provided in this section. All letters received during the public review period on the Draft EIR are provided in their entirety.

Please note that text within individual letters that has not been numbered does not specifically raise environmental issues nor relate directly to the adequacy of the information or analysis within the Draft EIR, and therefore no comment is enumerated or response required, pursuant to *State CEQA Guidelines* Sections 15088 and 15132.

Revisions to the Draft EIR necessary in light of the comments received and responses provided, or necessary to amplify or clarify material in the Draft EIR, are included in the responses. Underlined text represents language that has been added to the Draft EIR; text with ~~strikeout~~ has been deleted from the Draft EIR. All revisions are then compiled in the order in which they would appear in the Draft EIR (by page number) in Section 4, *Draft EIR Text Revisions*, of this document. Page numbers cited in this section correspond to the page numbers of the Draft EIR. When mitigation measure language has been changed, it has been changed in both the text on the stated Draft EIR page and the summary table (Table 1) in the Executive Summary of the Draft EIR.

DEPARTMENT OF TRANSPORTATION
DISTRICT 4
OFFICE OF TRANSIT AND COMMUNITY PLANNING
P.O. BOX 23660, MS-10D
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www.dot.ca.gov

LETTER 1

Making Conservation a California Way of Life.

May 24, 2021

SCH #: 2020110180
GTS #: 04-ALA-2019-00581
GTS ID: 14875
Co/Rt/Pm: AL/92/4.012

Leigha Schmidt, Senior Planner
City of Hayward
777 B Street
Hayward, CA 94541

Re: 4150 Point Eden Way + Draft Environmental Impact Report (DEIR)

Dear Leigha Schmidt:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the 4150 Point Eden Way project. We are committed to ensuring that impacts to the State's multimodal transportation system and to our natural environment are identified and mitigated to support a safe, sustainable, integrated and efficient transportation system. The following comments are based on our review of the May 2021 DEIR.

Project Understanding

The proposed project is located at 4150 Point Eden Way in Hayward, adjacent to State Route (SR)-92. The site is divided into the eastern component and western component. The proposed project consists of a new industrial building on the eastern component of the project site and establishing a wetland preserve on the western component. The building would be used to house U-Haul storage pods, materials and trucks and their regional corporate offices. The San Francisco Bay Trail is located on the eastern edge of the eastern component of the project site. The proposed project includes a land swap for East Bay Regional Park District to relocate the Bay Trail from the current location along the eastern property line to meander along the southern property line and then to turn north to run along the western property line. The proposed project also includes establishing a preserve on the western component of the project site, which are currently characterized by salt evaporation ponds from the former salt production operation on the project site that would remain in place.

1.1

Lead Agency
As the Lead Agency, the City of Hayward is responsible for all project mitigation, including any needed improvements to SR-92. The project's fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should be fully discussed for all proposed mitigation measures. 1.2

Construction-Related Impacts
Potential impacts to the State Right-of-Way (ROW) from project-related temporary access points should be analyzed. Mitigation for significant impacts due to construction and noise should be identified. Project work that requires movement of oversized or excessive load vehicles on state roadways requires a transportation permit that is issued by Caltrans. To apply, visit: https://dot.ca.gov/programs/traffic-operations/transportation-permits. 1.3

Prior to construction, coordination may be required with Caltrans to develop a Transportation Management Plan (TMP) to reduce construction traffic impacts to SR-92. 1.4

Encroachment Permit
Please be advised that any permanent work or temporary traffic control that encroaches onto the ROW requires a Caltrans-issued encroachment permit. As part of the encroachment permit submittal process, you may be asked by the Office of Encroachment Permits to submit a completed encroachment permit application package, digital set of plans clearly delineating the State ROW, digital copy of signed, dated and stamped (include stamp expiration date) traffic control plans, this comment letter, your response to the comment letter, and where applicable, the following items: new or amended Maintenance Agreement (MA), approved Design Standard Decision Document (DSDD), approved encroachment exception request, and/or airspace lease agreement. Your application package may be emailed to D4Permits@dot.ca.gov. 1.5

To download the permit application and to obtain more information on all required documentation, visit https://dot.ca.gov/programs/traffic-operations/ep/applications.

Equitable Access
If any Caltrans facilities are impacted by the project, those facilities must meet American Disabilities Act (ADA) Standards after project completion. As well, the project must maintain bicycle and pedestrian access during construction. These access considerations support Caltrans' equity mission to provide a safe, sustainable, and equitable transportation network for all users. 1.6

Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, please contact Laurel Sears at laurel.sears@dot.ca.gov. Additionally, for future notifications and requests for review of new projects, please contact LDIGR-D4@dot.ca.gov.

Sincerely,

Mark Leong

MARK LEONG
District Branch Chief
Local Development - Intergovernmental Review

c: State Clearinghouse

Letter 1

COMMENTER: Mark Leong, District Branch Chief, California Department of Transportation

DATE: May 24, 2021

Response 1.1

The commenter states their understanding of the proposed project in the form of a summary.

The commenter's understanding of the proposed project is an accurate summary of the project as proposed and evaluated in the Draft EIR. This comment is noted and does not require revisions to the Draft EIR.

Response 1.2

The commenter states that as the lead agency, the City of Hayward is responsible for project mitigation, including improvements to State Route 92, and that mitigation measures should be described in full, including project fair-share contributions, scheduling, implementation, and monitoring.

CEQA requires lead agencies to mitigate or avoid potentially significant environmental impacts to the extent feasible. Pursuant to CEQA Guidelines Section 15064.3(a), except for certain roadway capacity projects, a project's effects on automobile delay shall not constitute a significant environmental effect. Accordingly, the Draft EIR does not include mitigation requiring improvements to State Route 92 because there would be no CEQA-related significant impacts to State Route 92. Table ES-1 in the Executive Summary of the Draft EIR lists the required project mitigation measures. As shown in Table ES-1, there are no mitigation measures pertaining to State Route 92. There are also no project mitigation measures containing fair-share contribution requirements.

CEQA Guidelines Section 15097 requires the City, in its role as lead agency, to adopt a Mitigation Monitoring and/or Reporting Program (MMRP). Accordingly, the City must adopt a MMRP for the project, if the Final EIR is certified and the project approved. The MMRP will list each requirement mitigation measure contained in either the Draft EIR or the Initial Study, as well as the timing for implementation, monitoring requirements, and reporting requirements, as applicable. The MMRP will also identify the agency, organization or otherwise, responsible for carrying out the identified mitigation measures.

This comment is noted and does not require revisions to the Draft EIR.

Response 1.3

The commenter states an opinion that potential impacts of temporary access points from State right-of-way should be analyzed, and mitigation for significant impacts due to construction and noise should be identified. The commenter also states that use of state roadways by oversized or excessive load vehicles for project construction requires a permit.

The proposed project does not include temporary access to the project site from State right-of-way, such as the right-of-way for State Route 92. Construction access, as well as access during project operation, would be from Point Eden Way, which is not a State roadway. While temporary access points from State Route 92 would not be required for construction, construction equipment would

be hauled or delivered to the project site on the surrounding roadway network, including State Route 92. The project applicant would be responsible for obtaining all regulatory permits and approvals, including permits from Caltrans for the use of oversized or excessive load vehicles on State roadways.

Both the Initial Study and the Draft EIR evaluate the potential impacts of the entire proposed project, including project construction and project operation. The analysis in the Initial Study and Draft EIR identified both less-than-significant and significant-but-mitigable impacts related to project construction. For example, noise impacts of project construction are analyzed on pages 83 through 90 of the Initial Study, which is included as Appendix A to the Draft EIR. As described therein, there would be no significant noise impacts resulting from project construction. Because noise impacts would be less than significant, no mitigation is required.

Therefore, as construction impacts are analyzed and mitigated to the extent feasible and applicant in the Draft EIR, no additional revisions to the Draft EIR are necessary in response to this comment.

Response 1.4

The commenter states that coordination with Caltrans to develop a Transportation Management Plan may be required to reduce construction traffic impacts to State Route 92.

This comment does not pertain to the Draft EIR or CEQA. Therefore, no additional revisions to the Draft EIR are necessary in response to this comment. However, for informative purposes, as stated in Response 1.3 above, the project applicant would be responsible for obtaining all regulatory permits and approvals, including permits and approvals from Caltrans.

Response 1.5

The commenter states that project traffic control measures within State roadway right-of-way require a Caltrans-issued encroachment permit.

This comment does not pertain to the Draft EIR or CEQA. Therefore, no additional revisions to the Draft EIR are necessary in response to this comment. However, for informative purposes, as stated in Response 1.3 above, the project applicant would be responsible for obtaining all regulatory permits and approvals, including permits and approvals from Caltrans.

Response 1.6

The commenter states that Caltrans facilities impacted by the project must meet American with Disabilities Act (ADA) standards after project completion, and bicycle and pedestrian access must be maintained during construction.

The proposed project does not include modifications or changes to Caltrans facilities. The project is in proximity to State Route 92 and a land parcel known as Caltrans Pond. However, as described in Section 2, *Project Description*, of the EIR, no work or project activities are proposed within the State Route 92 right-of-way or on the Caltrans Pond property. Therefore, no pedestrian or bicycle access on Caltrans facilities would be affected by the proposed project. This comment is noted and does not require revisions to the Draft EIR.

Letter 2

43885 SOUTH GRIMMER BOULEVARD • FREMONT, CALIFORNIA 94538
(510) 668-4200 • FAX (510) 770-1793 • www.acwd.org

May 20, 2021

VIA ELECTRONIC MAIL
Leigha Schmidt (leigha.schmidt@hayward-ca.gov)
City of Hayward, Planning Division
777 B Street
Hayward, CA 94541

Dear Ms. Schmidt:

Subject: Notice of Availability of a Draft Environmental Impact Report for the 4150 Point Eden Way Industrial Development Project, Hayward

The Alameda County Water District (ACWD) wishes to thank you for the opportunity to comment on the Notice of Availability of a Draft Environmental Impact Report (EIR) for the 4150 Point Eden Way Industrial Development Project (Project).

ACWD has reviewed the Draft EIR and offers the following comments for your consideration:

1. Hazards and Hazardous Materials:
   a. Pages 4.3-14 and 4.3-15 of the Draft EIR state, "In the event that disturbed soil appears to contain contaminants of potential concern (COPCs), such as odors, staining, and/or discoloration, work should halt in that area and an environmental professional (EP), such as a geologist, engineer, industrial hygienist, or environmental health specialist with expertise in these matters, shall be called to the site to oversee the work and determine safe construction and soil handling procedures," and "If groundwater is encountered within the former remediation area during construction of the project, as shown on Figure 4 of the RMP, an EP shall be called to the site to determine safe handling procedures." ACWD requests that the EIR also include a provision that Project proponents report and coordinate with the San Francisco Bay Regional Water Quality Control Board (Regional Board) and ACWD as soon as possible if soil and/or groundwater contamination is encountered. 2.1

   b. Page 4.3-14 of the Draft EIR states, "Soil excavated from deeper than 5-feet below ground surface in the restricted area shall only be reused on-site as backfill after sampling and analysis soil proves the soil is acceptable to remain on site. Commercial ESLs shall be used as the threshold to determine if soils may remain on site or require off-site disposal." ACWD recommends that the Regional Board's *Characterization and Reuse of Petroleum* 2.2

Hydrocarbon Impacted Soil and Inert Waste (October 2006)[1] technical reference document be applied to all reuse of onsite impacted soil. A soil sampling plan describing the sampling method, sampling frequency, analytical methods, and soil placement, for any potentially impacted soil proposed for reuse, should be submitted to the Regional Board for review and approval. 2.2

2. Hydrology and Water Quality: Page 4.3-16 of the Draft EIR states, "Mitigation Measures HAZ-2b and HAZ-2c would require coordination with local agencies to ensure that groundwater quality is protected and reduce the environmental impact associated with the existing contamination that may be affected by the bioretention basin and that the displacement piers be designed and constructed to result in a less than significant impact." ACWD appreciates the inclusion of these mitigation measures to ensure groundwater protection as outlined in our December 9, 2020, letter. 2.3

3. ACWD Contacts: The following ACWD contacts are provided so that the City of Hayward can coordinate with ACWD as needed during the CEQA process: 2.4

   - Michelle Myers, Groundwater Resources Manager at (510) 668-4454, or by email at michelle.myers@acwd.com, for coordination regarding ACWD's groundwater resources.

   - Kit Soo, Well Ordinance Program Coordinator, at (510) 668-4455, or by email at kit.soo@acwd.com for coordination regarding groundwater wells and drilling permits.

Thank you for the opportunity to comment on the Draft Environmental Impact Report for the 4150 Point Eden Way Industrial Development Project.

Sincerely,

Laura J. Hidas

Laura J. Hidas
Manager of Water Resources

al/mh
By Email
cc: Ed Stevenson, ACWD

[1] Regional Board, 2006. Technical Reference Document, Characterization and Reuse of Petroleum Hydrocarbon Impacted Soil and Inert Waste. Available online: https://www.waterboards.ca.gov/rwqcb2/water_issues/programs/groundwater/reuse_guidance-oct06.pdf. October.

Letter 2

COMMENTER: Laura J. Hidas, Manager of Water Resources, Alameda County Water District

DATE: May 20, 2021

Response 2.1

The commenter quotes some of the text from Mitigation Measure HAZ-2a on pages 4.3-13 and 4.3-14 of the Draft EIR and asks that the mitigation measure be revised to require coordination with the San Francisco Regional Water Quality Control Board and the Alameda County Water District.

In response to this comment, pages 4.3-14 and 4.3-15 of the Draft EIR are revised as follows.

> …In the event that disturbed soil appears to contain contaminants of potential concern (COPCs), such as odors, staining, and/or discoloration, work should halt in that area and an environmental professional (EP), such as a geologist, engineer, industrial hygienist, or environmental health specialist with expertise in these matters, shall be called to the site to oversee the work and determine safe construction and soil handling procedures. Additionally, if contaminated soil is encountered, the project applicant shall coordinate with the San Francisco Bay Regional Water Quality Control Board and the Alameda County Water District to determine adequate and proper remediation and handling actions.
>
> …If groundwater is encountered within the former remediation area during construction of the project, as shown on Figure 4 of the RMP, an EP shall be called to the site to determine safe handling procedures. The groundwater shall be pumped into appropriate containers and samples shall be obtained for chemical analysis of the COPCs in accordance with a site sampling plan and the requirements of the waste disposal facility to which the material is sent. The project applicant shall coordinate with the Regional Water Quality Control Board and the Alameda County Water District if possible contaminated groundwater is encountered. If water sample analytical results indicate the water is free of all detectable concentrations of COPCs, such water can be re-used at the site if deemed appropriate by Alameda County and the RWQCB. If water sample analytical results indicate the water contains concentrations of COPCs above appropriate RWQCB screening levels, such water shall not be re-used at the site. The contractor and the EP shall elect to: (a) treat the groundwater on-site to render it free of detectable concentrations of COPCs (e.g. by activated carbon filtration); or, (b) transport the groundwater to a local treatment or disposal facility for appropriate handling…

No additional revisions to the Draft EIR are necessary in response to this comment.

Response 2.2

The commenter recommends applying the San Francisco Bay Regional Water Quality Control Board document titled *Characterization and Reuse of Petroleum Hydrocarbon Impacted Soil and Inert Waste* for the reuse of soil excavated on-site. Additionally, the commenter states that a soil management plan should be prepared and submitted to the Regional Water Quality Control Board.

In response to this comment, Mitigation Measure HAZ-2a on page 4.3-14 of the Draft EIR is revised as follows.

> Soil excavated from deeper than 5-feet below ground surface in the restricted area shall only be reused on-site as backfill after sampling and analysis soil proves the soil is acceptable to remain on site. Commercial ESLs or concentration limits established in the San Francisco Bay Regional Water Quality Control Board document titled *Characterization and Reuse of Petroleum Hydrocarbon Impacted Soil and Inert Waste* (2006), whichever is lowest, shall be used as the threshold to determine if soils may remain on site or require off-site disposal. All appropriate regulatory sampling methods, holding times, and detection limits shall be followed.

No additional revisions to the Draft EIR are necessary in response to this comment.

Response 2.3

The commenter states their appreciation of the Draft EIR including Mitigation Measure HAZ-2a and HAZ-2b.

This comment is noted and does not require revisions to the Draft EIR.

Response 2.4

The commenter provides contact information for the Alameda County Water District.

This comment is noted and does not require revisions to the Draft EIR.

East Bay Regional Park District

2950 PERALTA OAKS COURT • OAKLAND • CALIFORNIA • 94605-0381 • T: 1-888-EBPARKS • F: 510-569-4319 • TRS RELAY: 711 • EBPARKS.ORG

Letter 3

May 24, 2021

Leigha Schmidt, Senior Planner
City of Hayward, Planning
777 B Street
Hayward, CA 94541

RE: Comments on U-Haul Development - 4150 Point Eden Way

Dear Ms. Leigha Schmidt,

East Bay Regional Park District (Park District) appreciates the opportunity to comment on the U-Haul Development project at 4150 Point Eden Way. In addition to the letters previously submitted on February 11, 2020 and December 14, 2020, the Park District would like to submit the following comments:

- Alternative Site #2: 3636 Enterprise Avenue is in close proximity to the Park District's ongoing restoration efforts at Hayward Marsh. If this site is selected, the Park District would like the opportunity to provide input on design elements. 3.1

- Figure 2.4 land use designations shows the new parkland owned by the Park District as Baylands which is correct. Figure 2.5 Zoning Districts shows that same area zoned as industrial park; this appears to be inconsistent and outdated. 3.2

Thank you for considering these comments and concerns. The Park District continues to look forward to being involved in the design review and final approval of land transfer to relocate the SF Bay Trail. Please reach out to Chantal Alatorre, Senior Planner at calatorre@ebparks.org to discuss. 3.3

Best Regards,

Chantal Alatorre

Chantal Alatorre
Senior Planner

Cc: Brian Holt, Chief of Planning & GIS
Sean Dougan, Trails Development Program Manager

Letter 3

COMMENTER: Chantal Alatorre, Senior Planner, East Bay Regional Park District

DATE: May 24, 2021

Response 3.1

The commenter states that the alternate site analyzed in the Draft EIR as Alternative 2 is in proximity to the East Bay Regional Park District's (EBRPD) marsh restoration efforts and would like for the City to coordinate with the EBRPD if Alternative 2 is selected.

This comment does not question the analysis or conclusions of the Draft EIR. Therefore, no revisions to the Draft EIR are necessary in response to this comment. However, for informative purposes, the alternate site analyzed as Alternative 2 is a property located at 3636 Enterprise Avenue, as described on Page 6-4 of the Draft EIR. The commenter does not specify the exact location of the EBRPD's marsh restoration efforts. However, based on aerial photography, there appears to be marshland within approximately 200 feet of the alternate site boundary, as well as potentially on the alternate site. Given this proximity, the City will coordinate with the EBRPD should Alternative 2 be selected and proceed.

Response 3.2

The commenter states that parkland acquired by the EBRPD is shown as Industrial Park zoning district on Figure 2-5 of the Draft EIR, and that Industrial Park zoning is outdated information.

Figure 2-5 of Page 2-8 of the Draft EIR shows the current zoning districts for the project site and the surrounding area, generally 500 to 2,000 feet away, depending on direction. The parkland recently acquired by the EBRPD is north of the project site and is shown as Industrial Park zoning district on Figure 2-5, as the commenter correctly states. However, the zoning districts shown on Figure 2-5 are current and are not outdated according to the City's GIS webmap (http://webmap.hayward-ca.gov/). The current and correct zoning districts are shown on Figure 2-5. Therefore, no revisions to the Draft EIR are necessary in response to this comment.

While revisions to the Draft EIR are not necessary in response to this comment, it should be noted that the General Plan land use designation for the EBRPD parkland property is Baylands, as shown on Figure 2-4 on Page 2-7 of the Draft EIR.

Response 3.3

The commenter states that the EBRPD looks forward to being involved in the project and land transfer to relocate the San Francisco Bay Trail.

The City will continue to coordinate with the EBRPD. As described on page 2-14 of the Draft EIR, the EBRPD will be responsible for approving the proposed land exchange to relocate the San Francisco Bay Trail.

Letter 4

Citizens Committee to Complete the Refuge

P.O. Box 23957, San Jose, CA 95153 Tel: 650-493-5540 Email: cccrrefuge@gmail.com wwsw.bayrefuge.org

Leigha Schmidt, Senior Planner
City of Hayward, Planning
777 B Street
Hayward, CA 94541
leigha.schmidt@hayward-ca.gov

24 May 2021

Re: Draft Environmental Impact Report (DEIR) for the 4150 Point Eden Way Industrial Development Project, State Clearinghouse No. 2020110180, U Haul Project

Dear Ms. Schmidt,

These comments are submitted on behalf of the Citizens Committee to Complete the Refuge (CCCR). We would like to thank the City of Hayward for the opportunity to provide comments on the Draft Environmental Impact Report (DEIR) for the 4150 Point Eden Way Industrial Development Project. The proposed project would entail the construction of approximately 114,059 square feet of warehouse space, a 2,785-square-foot office space to house U-Haul storage pods and U-Haul regional corporate offices and a parking lot. 4.1

Based on our review of the DEIR we have several substantive concerns pertinent to the California Environmental Quality Act (CEQA).

Project Objectives:

The DEIR lists the following as the Project Objectives for the proposed project:

- Develop an industrial building to house U-Haul corporate headquarters and warehouse.
- Locate the building at the western edge of Hayward in proximity to a regional highway and other industrial, warehousing and logistics uses to avoid land use conflicts.
- Create new employment and economic growth opportunities by redeveloping a vacant and underutilized property.
- Establish a wetland preserve adjacent to the San Francisco Bay.
- Remove a dilapidated and unsafe structure from a currently underutilized property at the gateway to the City.

4.2

"Develop an industrial building to house U-Haul corporate headquarters and warehouse" is the primary project purpose. The inclusion of some of the other project objectives seems superfluous to the project purpose and instead so narrowly confine consideration of alternatives as to render it impossible for any other alternative location, regardless of whether they would be the "environmentally superior alternative," capable of meeting the project objectives:

- "Establish a wetland preserve adjacent to the San Francisco Bay" and

- "Remove a dilapidated and unsafe structure from a currently underutilized property at the gateway to the City." 4.2

These two project objectives are overly specific to the 4150 Point Eden Way location and their inclusion is in violation of CEQA for the reason stated above.

Flawed Alternatives Analysis:

Alternative 2, would "reduce impacts in the categories of biological resources, cultural resources, and hazards and hazardous materials, but it would result in greater impacts regarding transportation." Alternative 2 was identified in the DEIR as the "environmentally superior development alternative"; however, it was rejected because the location would not provide the ability to "establish a wetland preserve" or remove the old Oliver Brothers Plant building. As stated above, the inclusion of these two objectives too narrowly constrains review of project alternatives and permits the rejection of a practicable, feasible and environmentally superior alternative. 4.3

Biological Resources:

Salt marsh harvest mouse (SMHM) and salt marsh wandering shrew (SMWS) potential impacts not adequately described or mitigated:

The DEIR identifies potential adverse impacts to the federally and state-listed endangered salt marsh harvest mouse (SMHM) and the salt marsh wandering shrew (SMWS) resulting from both direct mortality and/or harassment. Proposed biological mitigation measures BIO-1a, BIO-1b, and BIO-1c provide protections for the SMHM and SMWS from construction related impacts. The DEIR does not provide any discussion of post construction mitigation measures to prevent mortality and/or harassment of these species other than the construction of public access exclusion fencing (MM BIO-1h). For example, the problem of trash resulting in the potential attraction of nuisance species that could adversely impact the SMHM and SMWS, deals only with the period of project construction (MM BIO-1g). There is no mention of how nuisance species, in an area immediately adjacent to the Eden Landing Ecological Reserve will be dealt with. 4.4

The DEIR also mentions the following impact of the project on special status species:

> "...disturbance of the upland area immediately adjacent to the salt pond in the eastern component <u>would disturb habitat that could become increasingly important to SMHM and SMWS as escape refugia during flooding and inundation. These impacts to SMHM and SMWS are regarded as potentially significant</u>."

The proposed project will directly result in permanent loss of existing potential habitat <u>and</u> escape refugia for the SMHM and the SMWS. No further discussion is provided regarding how the impacts of the project on the loss of SMHM and SMWS escape refugia will be mitigated even though the impacts "are regarded as potentially significant."

The DEIR does propose Mitigation Measure BIO-3: 4.5

> *Protected Wetlands Mitigation Credits*
> To compensate for impacts to approximately 0.97 acre of waters of the U.S., the project applicant shall purchase wetland mitigation credits at a minimum of 1:1 mitigation ratio from an approved mitigation bank with a Service Area that covers the project site. The San Francisco Bay Wetland Mitigation Bank currently has "Tidal Wetland and Other Waters Creation" credits available for purchase. Either the U.S. Army Corps of Engineers or the CDFW may adjust the mitigation ratio and the applicant shall comply, but in no case shall the mitigation ratio be less than 1:1.

While addressing the need to mitigate for the direct fill impacts proposed by the project to seasonal wetlands and salt marsh habitat, the proposed Mitigation Measure does not disclose whether suitable salt marsh habitat exists within the San Francisco Bay Wetland Mitigation Bank. The DEIR does not disclose how the adverse impacts to existing SMHM and

SMWS habitat will be mitigated or the loss of escape refugia for the species during flooding and inundation, which has been described as a "potentially significant" impact.

Emily Warfield[1], in discussing the need to incorporate an analysis of sea-level-rise into environmental impact reports states the following:

> "This Comment argues that, regardless of the ambiguity in the law and inconsistency in its application, analysis of sea-level rise is in fact required in an environmental impact report in order to properly forecast the significant effects of a project on the environment. When dynamic coastlines continue to rise and cause "coastal squeeze," development can significantly interfere with tideland ecosystems, wetlands, and coastal processes like beach migration, affecting mineral resources, biological resources, and resources that implicate the public trust doctrine. While the effects of sea-level rise may be analyzed in an EIR under resource categories listed in Appendix G of the CEQA Guidelines, an independent analysis of sea-level rise should be included in an EIR to determine at what point the project could threaten or deplete coastal resources."

4.5

The Hayward Shoreline Master Plan provides a glimpse of enlightened planning for low-lying areas near the Bay. We know that there will be consequences for these areas as sea level rises. Mapping even exists to depict what areas are likely to be inundated by varying degrees of sea level rise [see attached images from the Adapting to Rising Tides Bay Shoreline Flood Explorer Map [https://explorer.adaptingtorisingtides.org/home] and from the Hayward Shoreline Master Plan]. We know that the SMHM and SMWS potentially exist within the project boundaries and that during periods of inundation, both species require escape refugia. With this available knowledge in mind, the DEIR should discuss and avoid or mitigate the adverse impacts of the project on SMHM and SMWS.

Adverse impacts of night lighting (light pollution) and biological resources – proposed mitigation measures not adequately described, may be inadequate:

In our scoping comments we stated:

> The Preliminary Site Plan Sheet 1 shows the road behind the new buildings would be about 40 feet from the CDFW's Eden Landing Ecological Reserve (the "Caltrans Pond").
>
> The Initial Study states that light from the project would have a less than significant impact and that:
>
> "Specifically, exterior lighting and parking lot lighting must be designed by a qualified lighting designer and erected and maintained so that light is confined to the property and will not cast direct light or glare upon adjacent properties or public rights-of-way. Mandatory compliance with Section 10-1.1606 would ensure that the proposed project does not create substantial new sources of light that adversely affect daytime or nighttime
> views in the area."
>
> This issue must also be analyzed in the DEIR from a biological perspective and address whether night-lighting and noise would have any impacts on the biological resources of the Eden Landing Ecological Reserve (ELER).
>
> Light pollution is documented to have serious adverse impacts for a wide range of wildlife ranging from invertebrates to mammals. It disrupts migratory patterns, foraging capabilities, predation, nesting, breeding, etc. Longcore and Rich[2] report the findings of Buchanan (1998 "Low-illumination prey

4.6

[1] Warfield, Emily. 2019. "*Incorporating Analysis of Sea-Level Rise Into Environmental Impact Reports."* UCLA Journal of Environmental Law and Policy. https://escholarship.org/uc/item/44h558wz

[2] Longcore, Travis and Catherine Rich. 2004. "*Ecological Light Pollution*" Frontiers in Ecology and the Environment. Vol. 2(4): 191-198

detection by squirrel treefrogs," J Herpetology 32: 270-74) in which three different species of amphibians forage at different illumination intensities. As an example, the squirrel treefrog (*Hyla* squirrela) forages only between 10^{-5} lux and 10^{-3} lux under natural conditions, while the western toad (*Bufo boreas*) only forages at illuminations between 10^{-1} and 10^{-5} lux.

Evidence suggests light pollution affects the choice of nesting sites in the black-tailed godwit, with choice locations being the farther away from roadway lighting (De Molenaar et al 2000, in Longcore and Rich). Buchanan found frogs he was studying stopped their mating calls when the lights of a nearby stadium were turned on."

The Biological Resources section includes a one-paragraph description of the problems posed by light pollution, and states that "...Mandatory compliance with Section 10-1.1606 of the Hayward Municipal Code will ensure the project does not create substantial new sources of light that adversely affect wildlife in the areas near the project site..." and determines that "Impacts on special-status species from project lighting would be less than significant with mandatory compliance with the code section. Hayward Municipal Code Section 10-1.1606 states: 4.6

> "Lighting, Exterior. Exterior lighting and parking lot lighting shall be provided in accordance with the Security Standards Ordinance (No. 90-26 C.S.) and be designed by a qualified lighting designer and erected and maintained so that light is confined to the property and will not cast direct light or glare upon adjacent properties or public rights-of-way. Such lighting shall also be designed such that it is in keeping with the design of the development."

Nothing in this code section indicates that any actual monitoring or assessment of the light installation will occur to ensure light pollution does not escape into the adjacent special-status species habitat. In addition, Schulte-Romer, et al[3] note that differences of opinion exist between lighting professionals and light pollution experts on whether or not night lighting installations have adverse impacts to wildlife. The DEIR should provide additional discussion of how the City of Hayward/applicant will ensure that light pollution (both from exterior and interior light sources) associated with the proposed project is adequately confined to the footprint of the proposed project, and corrective measures that must be undertaken if light pollution is not confined to the project footprint. The DEIR should also indicate the type of lighting that is proposed.

Western Facing Windows and Potential Bird Strike:

The proposed project is immediately adjacent to Eden Landing Ecological Reserve and would include western facing windows, but fails identify this as a potential threat to avian species or describe mitigation measures that will be incorporated to avoid bird collisions. This deficiency of the DEIR must be rectified. The threat posed by windows to birds and potential mitigation measures are described on many wildlife websites, such as this website by the U.S. Fish and Wildlife Service: https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds/collisions/buildings-and-glass.php 4.7

Mitigation Measure (MM) BIO-1d:

MM BIO-1d should be amended to ensure that Burrowing Owl (BUOW) survey techniques are coordinated with California Department of Fish and Wildlife (CDFW) staff. Should the presence of BUOW be detected, appropriate next steps must be coordinated with CDFW staff (including buffer distances, etc.) 4.8

[3] Schulte-Römer N, Meier J, Dannemann E, Söding M. Lighting Professionals versus Light Pollution Experts? Investigating Views on an Emerging Environmental Concern. *Sustainability*. 2019; 11(6):1696. https://doi.org/10.3390/su11061696

MM BIO-1e:

In addition to notifying USFWS and CDFW should California Least Tern, Western Snowy Plover, or Black Skimmer be detected within 500 feet of the project site, the mitigation measure should be amended to state that the agencies will determine the appropriate buffer distances from nest locations. 4.9

MM BIO-1g:

As was stated earlier, **MM BIO-1g** pertains only to managing trash during construction. In our scoping comments we described the need for a long-term predator and nuisance species control plan. Given the proximity of the proposed project to the significant ecological resources of the Eden Landing Ecological Reserve, the DEIR should identify, analyze and propose mitigation for the adverse impacts of predator/nuisance species that may be attracted to the proposed U-Haul storage facility. The plan should indicate how nuisance species such as Norway or roof rats could be controlled without adverse impacts to the SMHM or SMWS. 4.10

Western Component Preserve:

The DEIR mentions preservation of an approximately 32-acre open space/wetland preserve on the western component. We support the conservation of potential migration pathways for tidal wetlands and also conservation of areas that could provide sea level rise resilience in the future. However, the DEIR also states:

> "The 32-acre Preserve would be preserved in perpetuity via recordation of a deed restriction or other appropriate legal mechanism, ensuring that the salt ponds are permanently preserved as open space in perpetuity. No conservation easement or conservator endowment would be provided. Because the 32-acre area would be preserved in perpetuity with a deed restriction or other appropriate legal mechanism, without management activities, no management plan or improvement plan is proposed."

4.11

Who will hold the fee title to these 32-acres – the land-owner? Who has the responsibility of maintaining the levees? Maintenance of the existing levees is of particular concern to ensure resources of the adjacent Eden Landing Ecological Reserve and the Bay are protected. The DEIR describes these former salt ponds as areas where "hypersaline brines and salt were concentrated in the ponds via evaporation for salt production." Presumably waters within these salt ponds would not be suitable for release into the Bay due to their high salinities. What if nuisance species become established within these ponds, such as the California Gull, which is known to predate eggs and young of the California Least Tern and the Western Snowy Plover and other nesting waterbirds? For these reasons, the DEIR should describe how these issues will be dealt with, and who will be the responsible party moving forward. We highly recommend that the City of Hayward require a management plan and maintenance endowment.

Hazards and hazardous materials:

The DEIR mentions two benzene restricted areas and states that the "benzene concentrations in groundwater beneath the restricted areas and in an area slightly beyond the restricted areas exceed the commercial non-drinking water Environmental Screening Level (ESL) of 27 parts per billion (ppb) set by the RWQCB, which was established based on potential vapor intrusion to indoor air situations."

The Project Description section states: 4.12

> "The geotechnical report includes the use of displacement piers to support the foundation of the proposed industrial building. Displacement piers use a hollow mandrill that is filled with crushed rock that is vibrated into the ground to a preselected depth and is then raised and lowered, while vibrating, to densify the gravel and the surrounding soils. This produces a column of compacted gravels and increases the density of the surrounding soils. The column of gravel created from displacement piers would create a potential pathway for migration of contaminated groundwater plume to aquifers at depths of up to 20 feet below ground surface, as that is the recommended depth of the piers for the project. Due to the site's proximity to the bay, the

displacement piers may also create a preferential pathway for groundwater associated with sea level rise, as the piers would displace lower permeable materials (e.g., clays and silts). Migration of the groundwater contamination plume into aquifers would be potentially significant but mitigable. Mitigation Measure HAZ-2c would reduce this impact to a less than significant level.

Mitigation Measure HAZ-2c:

> "**HAZ-2c Displacement Pier Design and Construction.** The project applicant shall retain a geotechnical engineer to design the displacement piers for support of the building foundation. The displacement piers shall be designed in a way to prevent creating a preferential pathway between shallow groundwater at approximately 5 feet below ground surface and deeper groundwater. The displace pier design developed by the geotechnical engineer shall be incorporated into project plans prior to commencement of construction. This mitigation measure shall apply to all displacement piers within the restricted areas or the larger area where benzene concentrations exceed ESLs, as shown in Figure 4.3-2 of the EIR.
> Additionally, air-jetting shall not be used to create the holes for the displacement piers within the restricted areas to avoid bringing subsurface soils to the ground surface."

4.12

The DEIR states that the Niles Cone Groundwater Basin underlies the project site, but does not indicate how far below or the (depth) thickness of restrictive layers that may protect the groundwater basin from proposed geotechnical mitigation activities on the site.

The DEIR fails to adequately describe how migration of benzene contaminated groundwater will be monitored and how introduction of benzene contamination to the Niles Cone Groundwater Basin and other underlying layers of groundwater will be prevented. How does one "prevent creating a preferential pathway?" Would the geotechnical mitigation measure of vibration and compaction result in migration of the contaminated groundwater plume?

Has the San Francisco Bay Regional Water Quality Control Board (RWQCB) been consulted regarding the proposed geotechnical mitigation measure? Close coordination of the proposed use of displacement pier design and construction should occur with the RWQCB and Alameda Water Control District (AWCD). Additional mitigation measures to prevent migration of the benzene contaminations seem necessary.

4.13

Materials Not Evident in the DEIR:

It isn't possible to determine whether the proposed elevations of the relocated Bay Trail have been provided. It is also unclear the level of anticipated sea level rise that has been incorporated into the project design. This information should be clearly stated in the DEIR. The DEIR notes that the elevation of the building pad will be increased at minimum by 5'? [DEIR, page ES-12] We requested and have been provided a topographic map of existing conditions, but have not been able to discern what the proposed final elevation of the developed site would be. The DEIR should provide a plan view that clearly indicates the existing site conditions, the proposed site conditions and elevation and the proposed elevation of the relocated Bay Trail.

4.14

Conclusion:

Based upon our review of the DEIR, we find the Project Objectives and Alternatives Analysis are flawed and the Biological Mitigation Measures do not adequately address the impacts of the project on special status species and sensitive habitats. While we support conservation of lands located close to the edges of the Bay that currently provide some habitat values and could provide tidal wetland migration space and sea level rise resilience, the lack of any management plan for the 32-acre Western Component raises concerns about potential adverse impacts to the adjacent Eden Landing Ecological Reserve and the resources of the Bay.

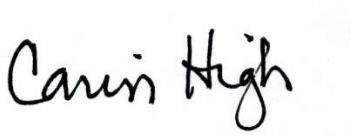
4.15

Based upon the information provided, we urge the selection of Alternative 2. It appears to be the environmentally superior alternative and avoids the future liability of placing new development in harm's way. Placing new infrastructure and development in areas that will be subject to inundation from sea level rise is folly. 4.16

We must admit we were particularly surprised and extremely disappointed by the proposed project. The City of Hayward has set a good example of planning for future sea level rise resilience to the north of the San Mateo Bridge through the Hayward Shoreline Master Plan. Sadly, this current project proposal continues planning errors of the past, by failing to consider the implications of creating development on fill pads in future sea level rise inundation zones on neighboring communities. As sea levels continue to rise, removing accommodation space by filling the edges of the Bay will only force the rising Bay elsewhere. And projects planned in areas of predicted future sea level rise inundation only puts more people and development in harm's way. 4.17

Thank you for the opportunity to provide comments. We request that we be kept informed of future opportunities to comment on this project. 4.18

Respectfully submitted,



Carin High
CCCR Co-Chair

Incorporating Analysis of Sea-Level Rise Into Environmental Impact Reports

Emily Warfield

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J.D. Candidate, UCLA School of Law, May 2020. All views expressed herein are those of the author.

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Introduction

The California Environmental Quality Act[1] is a powerful tool both for understanding and for mitigating the risk of environmental degradation because it mandates full public disclosure of the significant effects that a future development will have on the environment.[2] However, confusing judicial treatment on the issue of sea-level rise analysis in EIRs has resulted in inconsistency in analysis. The judiciary has suggested in dicta that analysis of sea-level rise

1. Cal. Pub. Res. Code §§ 21001–21189.
2. Cal. Pub. Res. Code § 21002.1.

is "reverse-CEQA," and not required. This muddled dicta is in conflict with CEQAs policy of complete and good faith disclosure in EIRs. Perhaps due to the conflict between CEQAs principle of full disclosure of environmental effects, and the well accepted prohibition on "reverse-CEQA" analysis, some EIRs for projects in coastal areas include analysis of sea-level rise in environmental impact reports, and some do not.[3]

This Comment argues that, regardless of the ambiguity in the law and inconsistency in its application, analysis of sea-level rise is in fact required in an environmental impact report in order to properly forecast the significant effects of a project on the environment. When dynamic coastlines continue to rise and cause "coastal squeeze," development can significantly interfere with tideland ecosystems, wetlands, and coastal processes like beach migration, affecting mineral resources, biological resources, and resources that implicate the public trust doctrine. While the effects of sea-level rise may be analyzed in an EIR under resource categories listed in Appendix G of the CEQA Guidelines, an independent analysis of sea-level rise should be included in an EIR to determine at what point the project could threaten or deplete coastal resources.

Part I of this Comment will provide an overview of how sea-level rise affects coastal resources, and the role that CEQA can play in mitigating these affects. Part II will detail what an EIR currently requires with regard to sea-level rise analysis and forecasting. Part III will then argue that the paradigm created by the judiciary and inconsistently adhered to by practitioners fails to account for the science behind coastal dynamics, and that a lead agency should always consider sea-level rise over time in an EIR to sufficiently protect coastal environmental resources.

I. Sea-Level Rise: Projections, Effects, and Damage Control Tools

Our coastline is dynamic, in that it changes seasonally. However, anthropogenic climate change has seen the coastline move more consistently inland. Where development interferes with this natural process, sea-level rise can

3. Often, where a local government has commissioned the EIR, there is analysis of sea-level rise. However, where the local government is the lead agency in approving a project that will developed by private entity, the EIR lacks sea-level rise analysis. *Compare* Monterey Bay Sanctuary Scenic Trail Network Master Plan Final Environmental Impact Report, Santa Cruz County Regional Transportation Commission (November 7, 2013), 111, available at https://sccrtc.org/wp-content/uploads/2013/05/MBSST-Network-Master-Plan-FEIR.pdf [https://perma.cc/SUJ9-CT58], *with* Final Environmental Impact Report, South of Tioga (May 9, 2018) https://www.sandcity.org/wp-content/uploads/2018/05/South-of-Tioga-Project_FEIR.pdf [https://perma.cc/M22M-AU3J].

threaten expensive coastal infrastructure[4] and deplete coastal environmental resources, thereby endangering coastal ecosystems.[5]

Where rising seas meet development instead of cliffside, sandy beach, or marshy wetland, flooding can destroy valuable property and cause "coastal squeeze."[6] "Coastal squeeze" occurs where coastal development impedes the natural inland migration of beaches, depleting habitat for one of the most biodiverse marine ecosystems on the planet, and harming a crucial cultural resource.[7] Many coastal communities in California are already experiencing these impacts,[8] and the best available science suggests that damages will worsen as sea-level rise accelerates.[9] Further, the dense development on the

4. *See generally* Cal. Coastal Comm'n, Sea Level Rise Policy Guidance: Interpretive Guidelines for Addressing Sea Level Rise in Local Coastal Programs and Coastal Development Permits 26 (2018), https://documents.coastal.ca.gov/ reports/2018/9/w6g/w6g-9-2018-exhibits.pdf [https://perma.cc/9NRF-FRRN] [hereinafter CCC SLR Guidelines] (for a discussion of the infrastructure affected by rising seas in California).

5. CCC SLR Guidelines, *supra* note 4, at 27, n.4 (clarifying that the threat to coastal resources means a threat to beaches, wetlands, agricultural lands, coastal habitats, recreational opportunities, and more); Cal. Ocean Prot. Council, Sea-Level Rise Guidance: 2018 Update 7–8 (2018), http://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A_OPC_SLR_Guidance-rd3.pdf [https://perma.cc/MG3F-3S2K] [hereinafter OPR Guidance] (describing those threats of sea-level rise that are specific to California).

6. Griggs, *infra* note 9, at 45.

7. *Id.* at 45. *See also* Ctr. for Ocean Sols., The Public Trust Doctrine: A Guiding Principle for Governing California's Coast Under Climate Change 3 (2017), https://oceansolutions.stanford.edu/news-stories/public-trust-doctrine-guiding-principle-governing-californias-coast-under-climate [https://perma.cc/43X5-F86Z] ("If not proactively managed, coastal development may impede natural landward migration of these important coastal features and impair the public's ability to enjoy the social and economic benefits provided by the coast.").

8. *See e.g.*, Mary Callahan, *Caltrans Prepares to Shift Highway 1 at Gleason Beach*, Press Democrat (Apr. 16, 2014), https://www.pressdemocrat.com/news/1860880-181/caltrans-prepares-to-shift-highway [https://perma.cc/KQ86-AJ3V]; Peter Flimrite, *Pacific Ocean Devours Pacifica Cliffs in Aerial Photos Over Decades*, SF Gate (Feb. 3, 2016, 4:00 AM), https://www.sfgate.com/bayarea/article/Pacific-Ocean-devours-Pacifica-cliffs-in-aerial-6802840.php [https://perma.cc/S5UT-WJ77]; Oliver Milman, *Sinking Santa Cruz: Climate Change Threatens Famed California Beach Town*, Guardian (Oct. 11, 2018, 1:00 PM), https://www.theguardian.com/us-news/2018/oct/11/santa-cruz-sinking-climate-change-beaches-surfing [https://perma.cc/H8UL-JBRV]; *The Grand Bayway*, Resilient by Design Bay Area Challenge, http://www.resilientbayarea.org/grand-bayway (describing the plan to modify the low lying Highway 37, which will soon be inundated as a result of sea-level rise).

9. The rate of sea-level rise will accelerate over the next century even under the most conservative emissions scenarios. California specific reports estimate 6 to 11 feet of rise by 2100. *See* Griggs et al., California's Coast and Ocean Summary Report, California's Fourth Climate Change Assessment 17 (2018), http://www.climateassessment.ca.gov/state/docs/20180827-oceancoastsummary.pdf [https://perma.cc/86Y7-CQXF]; Gary Griggs et al., *Rising Seas in California: An Update on Sea-Level Rise in California* 24 (2017), http://www.opc.ca.gov/webmaster/ftp/pdf/docs/rising-seas-in-california-an-update-on-sea-level-rise-science.pdf [https://perma.cc/WD5T-LD2J]; *See generally* John A. Church et al., *Sea Level Change 2013: The Physical Science Basis*, in 1137 Climate Change 2013: *The Physical*

California coast suggests even more so that the damage will be devastating: 68 percent of the state population lives within its nineteen coastal counties, and these coastal areas account for 80 percent of the state GDP.[10]

However, local governments have the requisite tools to mitigate the economic, cultural, and environmental consequences of sea-level rise, but need adequate information to evaluate risk and make planning decisions that alleviate the burden rising sea-levels place on coastal communities and ecosystems.[11]

Since land use decisions in California are made on a local level, local governments in California bear the responsibility of making land use decisions that mitigate these harms. Thereby, they have the power to adopt and implement adaptation strategies in order to save valuable coastal infrastructure and ecosystems.[12] Whereas local governments may implement any of several strategies to mitigate the effects of sea-level rise, these local governments need to be adequately informed in order to implement them. Adaption strategies include: (1) *retreat* from the shoreline; (2) *adapt* infrastructure to be resilient to sea-level rise; and (3) *protect* shoreline infrastructure from sea-level rise.[13] Local governments have a repertoire of regulatory tools with which to implement one or more of these adopted strategies.[14] However, to effectively implement any one of these strategies, it is crucial for local government officials and their constituents to be properly informed of the way that sea-level rise will affect development on the coastline—enter the California Environmental Quality Act.

Science Basis (T.F. Stocker et al., eds., 2013), http://www.climatechange2013.org/images/report/WG1AR5_Chapter13_FINAL.pdf [https://perma.cc/NY7F-2URH] [hereinafter IPCC Report] (providing a global assessment of sea-level rise projections).

10. Gary Griggs et al., California's Coast and Ocean Summary Report, California's Fourth Climate Change Assessment 12 (2018), http://www.climateassessment.ca.gov/state/docs/20180827-oceancoastsummary.pdf [https://perma.cc/ZC6B-VT5L] (noting that much of California's coast was developed at a time where there was little El Niño flooding or storm activity).

11. OPR Guidance, *supra* note 5, at 23–27.

12. *See* IPCC Report, *supra* note 9.

13. Jesse Reiblich et al., *Enabling and Limiting Conditions of Coastal Adaptation: Local Governments, Land Uses, and Legal Challenges*, 22 Ocean & Coastal L.J. 156, 162–63 (2017) ("Proactive planning and preparation for these likely effects should be a top priority for coastal communities on the frontlines of climate change. Linking the best available scientific information on climate hazards to adaptation policy is the vital next step in successful coastal adaptation . . . . this information may be necessary for determining the appropriate adaptation approaches for an area."). *See also* Megan M. Herzog & Sean B. Hecht, *Combatting Sea Level Rise in Southern California: How Local Governments Can Seize Adaptation Opportunities While Minimizing Legal Risk*, 19 Hastings W. N.W. J. Envtl. L. & Pol'y 463, 543 (2013) ("local governments already exercise a robust suite of police powers and other regulatory powers that can be harnessed to achieve successful adaptation outcomes . . . . Preparing for sea level rise will require local governments to make difficult decisions about the future of their coastal communities.").

14. *See generally* Herzog & Hecht, *supra* note 13.

Without adequate information about the risks of sea-level rise to coastal development (and vice versa), local governments often approve development in high-risk areas.[15] Accordingly, the OPR Guidelines for Sea-Level Rise Adaptation set forth a five-step decision-making process to help local governments plan appropriate development in coastal areas.[16] Knowledge and disclosure of risks is a crucial part of the five-step process, and where a private development requires discretionary approval, local government can use the CEQA process to be adequately informed of the risks that the development may create with respect to sea-level rise.

A. *CEQA Can Help Local Governments Evaluate the Risks of Sea-Level Rise*

The California Environmental Quality Act (CEQA)[17] is a regulatory tool that mandates the disclosure of environmental risks when a state or local agency approves a discretionary project. Therefore, one of the myriad tools local government can harness to employ sea-level rise adaptation strategies in a proactive planning context is the Environmental Impact Report (EIR). Through the EIR, CEQA "may provide an opportunity for local governments to evaluate, on a project-by-project basis or at the planning stage, the relationship between future sea-level rise and planned development near the coastline."[18] Because CEQA requires public agencies to disclose any significant environmental impacts of a proposed development and mitigate any effects they deem above a certain threshold of significance, it is a powerful public disclosure tool.[19] As will be discussed in Part II, analysis of sea-level rise is not explicitly required by CEQA or its guidelines, so there is not currently uniform disclosure of the effects of sea-level rise on a project over time. Nonetheless, CEQA does require agencies to forecast environmental risks to the best of their ability.[20] Sea-level rise may, over time, affect traditional resource categories that are governed by CEQA.

II. The Current Case Law and OPR Guidelines

Case law indicates that lead agencies need not analyze sea-level rise in EIRs unless a proposed development would exacerbate the effects of sea-level

15. Kevin Stark & Mary Catherine O'Connor, *Mapping the Shoreline Building Boom as Seas Rise.* S.F. Pub. Press (Apr. 21, 2017, 5:36 PM), https://sfpublicpress.org/news/searise/2017-04/mapping-the-shoreline-building-boom-as-seas-rise [https://perma.cc/W44Y-UA66] (implying that a surge in coastal development is a result of the loosening of CEQA requirements, but it is unclear whether the projects described in the article are all subject to CEQA or whether an evolution of sea-level rise flooding would have changed the decision of the lead agencies in those cases).

16. OPR Guidance, *supra* note 5, at 23.

17. Cal. Pub. Res. Code § 21000–21189 (West 2016).

18. Herzog & Hecht, *supra* note 13, at 485.

19. Cal. Pub. Res. Code § 21002.1(a) (setting forth the purpose of the EIR).

20. Cal. Code Regs. tit. 14, § 15144 (2019).

rise. Due to the lack of direction in the California Public Resources Code and the California Code of Regulations, decisions about whether or not an analysis of sea-level rise is required in an EIR have been made on a case-by-case basis in CEQA litigation. Executive Order S-13-08 and B-30-15 both direct state agencies to consider sea-level rise in planning and financing decisions, but there is no indication that local agencies are required to consider sea-level rise in planning decision.[21]

The California Court of Appeal held in *Ballona Wetlands* that sea-level rise analysis was not required because that would be reverse-CEQA. The California Supreme Court confirmed this holding in a different case that did not involve sea-level rise and added an exception to the general rule for cases where the project might exacerbate the existing environmental conditions. However, the Court did not clarify whether sea-level rise fell within this exception. According to recently approved environmental impact reports (EIRs), practitioners and lead agencies still interpret *CBIA v. BAAQMD* to mean that sea-level rise analysis is not required for coastal projects. In other words, sea-level rise does not fit into the exacerbation exception. However, this approach is inconsistent with the idea that a project affected by sea-level rise will always interrupt the littoral cycle. It is also inconsistent with the idea that blocking the sea-level rise with a development project will always affect environmental resources. For these reasons, the holding in *Sierra Club v. City of Oxnard* presents a better approach to the sea-level rise analysis.]

This Part presents an analysis of the judicial decisions on this question. The ambiguities presented herein underscore both the complexity of CEQA and judicial misunderstanding of coastal processes. Further ambiguity arises from application of the law to the incredible variety of coastal environments in California—built, armored, and undeveloped.

A. *Sea-Level Rise in the Public Resources Code and the OPR Guidelines*

Given that the California Public Resources Code (CPR) includes only broad language about the requirements of an EIR, it is not surprising that sea-level rise is not specifically mentioned in the CEQA statute. Rather, the CPR requires an EIR to analyze significant impacts on the "environment," which is defined as "physical conditions that exist within the area of the proposed project including land, air, water, minerals, flora, fauna, noise, or objects of historic or aesthetic significance."[22] This definition is devoid of the words "sea-level rise" and "mean high tide." However, if placing a development in the way of sea-level rise would cause coastal squeeze and thus affect the inward migration of beach over time, an EIR analyzing potential effects on environmental resources would be appropriate. The EIR would consider issues

21. *See* Cal. Exec. Order No. B-30-15 (Apr. 29, 2015) (requiring state agencies to factor climate change into all planning and investment decisions).

22. CAL. PUB. RES. CODE § 21060.5 (2016).

explicitly contemplated by CEQA's Appendix G such as sand ("minerals") and wave energy ("water").[23] Again, analysis of sea-level rise may be necessary to adequately forecast the effects that sea-level rise may have on those listed environmental resource categories that are more traditionally considered in an EIR.

Often, agencies rely on Appendix G in the OPR Guidelines when completing an EIR. The CPR mandates that the Office of Planning and Resources promulgate guidelines detailing how to comply with CEQA.[24] Appendix G is the result; it is a nonexhaustive checklist of environmental resources in the OPR Guidelines that an agency should consider in determining whether a project will have significant impacts on the environment. The Appendix generally reflects the categories listed in the CEQA definition of "environment," and fails to include "sea-level rise."[25] While this void is not dispositive, California courts have provided little additional guidance regarding analysis of sea-level rise in an EIR.

B. *Ballona Wetlands and CBIA vs. BAAQMD*

In *Ballona Wetlands Land Trust v. City of Los Angeles* (*Ballona Wetlands*), the California Court of Appeal held that CEQA does not require the lead agency to analyze or disclose the effects of sea-level rise on the proposed development.[26] CEQA requires analysis and disclosure of a project's effects on the environment, and that to require the opposite—an analysis of the environment's effects on the project—would be contrary to the language and purpose of CEQA.[27] In *Cal. Bldg. Indus. Ass'n v. Bay Area Air Quality Mgmt. Dist.* (*CBIA*), the California Supreme Court upheld the underlying rationale for the holding in *Ballona Wetlands* by condemning reverse-CEQA. However, the Court carved out an exception to this general rule where a development may exacerbate an environmental hazard.[28] The misunderstandings and ambiguity in these decisions reflect either a confusion about the nature of coastal dynamics, a confusion about the imminence of sea-level rise and its effects, or both. The forecasting and disclosure principles in CEQA suggest that is it not useful to put analysis of sea-level rise into the reverse-CEQA paradigm at all.

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23. *See* Cal.'s Fourth Climate Change Assessment, California's Coast and Ocean Summary Report, *supra* note 9, at 45 (describing coastal squeeze and its effects on the environment). *See generally* Kiki Patsch & Gary Griggs, Inst. of Marine Sci. at U.C., Santa Cruz, Littoral Cells, Sand Budgets, And Beaches: Understanding California's Shoreline (2006), http://s3-us-west-2.amazonaws.com/ucldc-nuxeo-ref-media/a956aa7a-bef7-423a-9b96-9708b00072d1 [https://perma.cc/PE4E-9VZP] (describing the way that coastal development can interfere with the littoral cycle and deplete beaches).

24. Cal. Pub. Res. Code § 21083 (2016).

25. Cal. Code Regs. tit. 14, App. G (2019).

26. Ballona Wetlands Land Tr. v. City of L.A., 201 Cal. App. 4th 455 (2011).

27. *Id.*

28. Cal. Bldg. Indus. Ass'n v. Bay Area Air Quality Mgmt. Dist, 62 Cal. 4th 369 (2015).

In *Ballona Wetlands*, the lead agency certified a revised EIR for a mixed-use real estate development two miles from the ocean.[29] The project was subject to CEQA because it required the City of Los Angeles to amend both its general and specific plan, approve a vesting tentative map, and adopt an ordinance authorizing a development agreement.[30] The revised EIR discussed sea-level rise caused by global climate change only to the extent that it was required to in order to respond to public comments, and included no analysis of projected rise as related to the development.[31]

The court held that analysis of sea-level rise beyond the statutory requirements for comment response would be reverse-CEQA: "Identifying the effects on the project and its users of locating the project in a particular environmental setting is neither consistent with CEQA's legislative purpose nor required by the CEQA statutes . . . . *we hold that an EIR need not identify or analyze [the effects on the project caused by the environment].*"[32] While Appendix G of the Guidelines requires lead agencies to analyze the exacerbation of environmental hazards, the court held that this guideline was invalid to the extent that it required an analysis of the environment's effect on a project.[33]

The court's holding in *Ballona Wetlands* reflects judicial misunderstanding of both coastal dynamics and the rapidly increasing rate of sea-level rise. This misunderstanding led the court to hold that analysis of sea-level rise is reverse-CEQA, which kept the court from reaching the issue of whether the lead agency met its duty to reasonably forecast future environmental impacts. While this holding is widely-followed,[34] its application to sea-level rise is unique to this opinion and not consistent with the science of coastal dynamics. This application ignores the effects that a coastal development could have on environmental resources in the future as a result of sea-level rise. Whereas sea-level rise analysis is not explicitly required by CEQA or the OPR Guidelines, a developments interference with sea-level rise does in fact effect resources that are explicitly protected by CEQA.

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29. *Ballona Wetlands*, 201 Cal. App. 4th at 462–63.

30. *Id.*

31. The city responded by refuting a comment which presented a projection of sea-level rise (the projection enumerated in "The Impacts of Sea-Level Rise on the California Coast" by the California Climate Change Center) because it was a worst-case scenario projection. The comment response also noted that the development was two miles from the coastline, unlikely to be affected by wave action, and that the land between the development and the coast was elevated. *Id.* at 472 ("[The Draft EIR] briefly noted that global warming could result in a rise in sea-level and the inundation of coastal areas. They stated that the ccc paper failed to account for the fact that the project site was two miles from the ocean and unlikely to be affected by wave action, failed to account for elevated land between the project site and the coastline that would act as a barrier, and failed to account for the topography of the project site and building elevations.").

32. *Id.* at 474.

33. *Id.;* Cal. Code Regs. tit. 14, App. G (2019).

34. *See e.g.*, *Pres. Poway v. City of Poway*, 245 Cal. App. 4th 560, 582 (2016).

In *CBIA*, the California Supreme Court upheld the rule against reverse-CEQA, while also potentially opening the door to sea-level rise analysis requirements in certain instances. There, the air quality management district promulgated new thresholds of significance for certain air pollutants. The new thresholds would be standards against which lead agencies would compare the pollutants emitted by their projects for the purposes of CEQA analysis. The plaintiff petitioned for mandamus and argued that that the air district's new thresholds were arbitrary and capricious because they required lead agencies to analyze the way that a project would affect future users. The court held that, "it is the project's impact on the environment—and not the environment's impact on the project—that compels an evaluation of how future residents or users could be affected by exacerbated conditions . . . In light of CEQA's text and structure, we conclude that *CEQA generally does not require an analysis of how existing environmental conditions will impact a project's future users or residents*."[35] The court thereby held that reverse-CEQA analysis is not required.

Yet, because the facts in *CBIA* did not involve sea-level rise, the court did not speak directly to whether sea-level rise fell within the reverse-CEQA paradigm or into the court's new exception. Whereas the court in *Ballona Wetlands* invalidated Appendix G of the Guidelines to the extent that it violated the no reverse-CEQA rule, the court in *CBIA* qualified this wipeout with an exception for developments that could exacerbate an already existing environmental hazard.[36] The court cited *Ballona Wetlands* when holding that reverse-CEQA is not required in an EIR. However, regarding the exacerbation exception, the court noted that "the holding from *Ballona Wetlands* is not explicitly overruled," but that it merely "considered factors that the court in *Ballona Wetlands* did not." On one hand, the court cited *Ballona Wetlands* to come to its main conclusion, and on the other, it did not have the opportunity to decide whether sea-level rise should be analyzed or even fit into the paradigm.

1. Sea-Level Rise Analysis is Not Reverse-CEQA

Both *Ballona Wetlands* and *CBIA* condemn the use of reverse-CEQA under the rationale that the purpose of CEQA is to forecast foreseeable significant impacts of a project on the environment, not the other way around.[37] Unfortunately, both cases make the issue of sea-level rise analysis in EIRs more complicated than it needs to be, muddling the issue in a way that contradicts CEQAs explicit purpose of disclosure of environmental risks. Part III argues that CEQA's purpose—protection of California's environmental resources—is better realized when an EIR is used to analyze sea-level rise over time, and presents ways to analyze sea-level rise in and EIR.

35. *Id.* (emphasis added).
36. *Cal. Bldg. Indus. Ass'n*, 62 Cal. 4th 369, 386 (2015).
37. *Id.*; *Ballona Wetlands*, 201 Cal. App. 4th at 474.

Moving forward, there are two ways to incorporate sea-level rise analysis into EIRs under the current law in order to adequately fulfill CEQAs purpose as a public disclosure statute.

First, using the exception created by the California Supreme Court in *CBIA*, an EIR could analyze sea-level rise on the basis that it is an existing environmental hazard and a development could exacerbate its effects. Although the Court in *CBIA* stopped short of an explicit statement that sea-level rise is an environmental hazard that may fall into the exception, it is clear that such an exemption is warranted where a development contributes to coastal squeeze. Using this exception may lead to an entire section of an EIR which looks at whether and to what degree sea-level rise effects may be exacerbated by a development over its lifetime.

Second, avoiding the concept of reverse-CEQA altogether, an EIR could analyze the effect that a development could have on coastal resources listed in Appendix G as the sea rises over the lifetime of the project. While this solution ignores the precedent set by *Ballona Wetlands*, this approach more adequately accounts for the way that the built environment affects coastal resources via the phenomenon of coastal squeeze. In these instances, the effects of sea-level rise do not necessarily fall within the typical reverse-CEQA paradigm because a project in the way of sea-level rise, by impeding the dynamic coastline's inland migration, will necessarily affect environmental resources. This approach would look at the resources listed in Appendix G and forecast how each one would be impacted by coastal squeeze.

Of course, this analysis would differ dependent on the coastal environment adjacent to or abutting the cited development. A development on land that is upland of undeveloped tidelands may impede migration of shoreline and cause coastal squeeze in the future. These developments may require an analysis of sea-level rise in their EIRs if the project is discretionary in order to evaluate the consequences of sea-level rise to cultural resources and coastal ecosystems.

Where a development is proposed on a coastline that is already developed, there may only be infrastructural consequences. In those areas, the coastal ecosystem and beaches have already been depleted. Thus, in such circumstances, CEQA's requirement that a lead agency consider sea-level rise to protect resources may not apply to developed coastlines. Much of California's recent boom in development has been concentrated in the San Francisco Peninsula. In this area, the environmental resources that an EIR would usually evaluate have already been depleted, so sea-level rise analysis in an EIR would be irrelevant.

III. Incorporating Analysis of Sea-Level Rise Into EIRs

CEQA provides long-term protection for environmental resources by mandating that public agencies approving projects disclose the significant environmental risks associated with those projects.[38] Further, agencies must either

38. Cal. Pub. Res. Code §§ 21100, 21151 (mandating that lead agencies draft and

mitigate risks that they determine are above a threshold of significance or explain why the impact is necessary to the public good.[39] The purpose of the EIR process is to "[i]nform governmental decision makers and the public about the potential, significant environmental effects of proposed activities."[40] The OPR Guidelines acknowledge that this requires some degree of forecasting to determine future environmental risks and notes that "an agency must use its best efforts to find out and disclose all that it reasonably can" regarding future risks.[41]

After determining that a project is subject to CEQA, the lead agency on a project must determine whether the project will have any significant effect on the environment.[42] If it determines that there is a significant effect, the lead agency must prepare a full EIR wherein all significant effects on the environment are analyzed and disclosed.[43] The purpose of an EIR "is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided."[44] This ensures that an EIR provides "decision makers with information they can use in deciding whether to approve a proposed project."[45] "An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences."[46] According to these principles of interpretation, the EIR should be drafted to include as much information as possible about present and reasonably foreseeable future environmental effects.

Despite these announced principles regarding the EIR process in general, neither the text of CEQA nor the Office of Planning and Resources Guidelines for interpreting CEQA mandate analysis of sea-level rise in an EIR. This is not dispositive. The Legislature has made clear that an EIR is "an

certify EIRs for discretionary state and private projects and setting forth what the EIR must include); CAL. CODE REGS. tit. 14, § 15002(f) ("An Environmental Impact Report (EIR) is the public document used by the governmental agency . . . . to *disclose* possible ways to reduce or avoid the possible environmental damage") (emphasis added). *See also* CAL. PUB. RES. CODE § 21065(a) (defining "project" as "an activity directly undertaken by any public agency."); CAL. PUB. RES. CODE § 21068 (defining "significant effect on the environment" as a "substantial, or potentially substantial, adverse change in the environment.").

39. CAL. PUB. RES. CODE § 21100.

40. CAL. CODE REGS. tit. 14, § 15002(a) (2019).

41. *Id.* at § 15144.

42. *See id*. at APPENDIX A (providing a flowchart of the CEQA process).

43. *Id.*

44. CAL. PUB. RES. CODE § 21002.1(a). The Code also sets forth the purpose of an EIR: "[t]he purpose . . . is to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment . . . ." *Id.* at § 21061.

45. Laurel Heights Improvement Ass'n. of S.F. v. Regents of the Univ. of Cal., Cal. 3d 376, 394 (1988).

46. CAL. CODE REGS. tit. 14, § 15151 (2019) (detailing the "Standards for Adequacy of an EIR").

informational document" and that "[t]he purpose of an environmental impact report is to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project."[47] In fact, CEQA should be interpreted to effect the broadest protections possible on the environment.[48]

A. *Analysis of Sea-level Rise Effects on Resources Listed in Appendix G of the OPR Guidelines*

The primary effect that sea-level rise can have on the environment is coastal squeeze. When infrastructure is placed in the way of sea-level rise, it affects coastal retreat by interrupting the littoral cycle and depleting coastal resources. Our shoreline is dynamic—tons of sand move down the coast every day, placing buildings in the way of the rising sea as the coastline changes. Newly placed infrastructure prevents sand from moving down the coast, the accretion of beach land, and the shoreline from moving inland as a result of sea-level rise.[49]

In an EIR, loss of beach may be evaluated under Appendix G as depletion of mineral resources or loss of habitat.[50] More controversially, an EIR could evaluate loss of beach as a depletion of public trust resources. In unpublished opinions, California Superior Courts have determined that an EIR must evaluate sea-level rise and its effects where wetland migration is impeded by a project or where groundwater supply is at risk of contamination.[51] Although the collateral effects on these environmental resources are generally analyzed under other categories in Appendix G, a lead agency should follow the lead of the California courts and separately analyze sea-level rise over time with respect to the project in order to adequately disclose to the public and local government if and when beach migration or cliff erosion would be impeded by development.

1. Mineral Resources

Where a project includes an analysis of sea-level rise, that project will inherently interfere with the littoral cycle and deplete the sand budget of a littoral cell.

47. CAL. PUB. RES. CODE § 21061 (West 2016). *See also* CAL. CODE REGS. tit. 14, § 15003 (b–e) (2019).

48. *See, e.g.*, Ctr. for Biological Diversity v. Cty. of San Bernardino, 247 Cal. App. 4th 326, 327 (2016) ("The foremost principle under CEQA is that the Legislature intended the act 'to be interpreted in such manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language.'") (quoting *Laurel Heights Improvement Ass'n*, 47 Cal. 3d at 394).

49. *See* generally, PATSCH & GRIGGS, *supra* note 23.

50. CAL. CODE REGS. tit. 14, App. G (2019).

51. *E.g.*, Sierra Club v. City of Oxnard, No. 56201100401161, 2012 WL 7659201 (Cal. Super. Oct. 15, 2012). This decision is not binding. However, the court's approach to sea-level rise and CEQA is more logical and persuasive than the court's approach in *Ballona Wetlands*.

Appendix G of the OPR Guidelines requires that a lead agency analyze the project's significant impacts on mineral resources.[52] An analysis of sea-level rise over time near a project should be conducted to determine whether, or approximately when, the project could interfere with the sand budget.[53]

Coastal squeeze is caused by developing too close to the shoreline, combined with movement inland of beach. This results in loss of beach through erosion and lack of sand supply:

> The coastline of California can be divided into a set of distinct, self-contained littoral cells or beach compartments. These compartments are geographically limited, and consist of a series of sand sources (such as rivers, streams, and eroding coastal bluffs) that provide sand to the shoreline, sand sinks (such as coastal dunes and submarine canyons) where sand is lost from the shoreline, and longshore transport or littoral drift that moves sand along the shoreline . . . Beach sand moves on and offshore seasonally in response to changing wave energy, and also moves alongshore, driven by waves that usually approach the beach at some angle. Most beach sand along the coast of California is transported from north to south as a result of the dominant waves approaching the shoreline from the northwest, although alongshore transport to the north occurs in some locations and at certain times of the year in response to waves from the south . . . It is the balance between the volumes of sand entering and leaving a littoral cell over the long-term that govern the long-term width of the beaches within the cell. Where sand supplies have been reduced through the construction of dams or debris basins in coastal watersheds, through armoring the sea cliffs, by mining sand or restricting littoral transport through large coastal engineering structures, the beaches may temporarily or permanently narrow.[54]

Essentially, where bluffs and beaches are armored by seawalls or the development itself, the sand budget of a littoral cell is depleted. A lead agency may be required to analyze this environmental effect through the traditional resource categories in Appendix G. However, when development begins, the project's interaction with sea-level rise may not be immediately apparent. Therefore, the lead agency should analyze whether the project will, at any point during its lifetime, interact with sea-level rise.

Although the lead agency in *Ballona Wetlands* was correct to notice that the project was two miles out from the coast, sea-level rise analysis could have

52. Cal. Code Regs. tit. 14, App. G, § XI (2016) ("Would the project: A) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?").

53. *See The Public Trust Doctrine: A Guiding Principle for Governing California's Coast Under Climate Change*, Ctr. for Ocean Sols. 2 (2017), https://oceansolutions.stanford.edu/news-stories/public-trust-doctrine-guiding-principle-governing-californias-coast-under-climate [https://perma.cc/QFW6-JP5H] ("California's policy makers, coastal managers, and communities increasingly recognize that the inevitable collision of sea-level rise with certain coastal development trends—what some have termed 'coastal squeeze'—threatens California's Coast").

54. Patsch & Griggs, *supra* note 23, at 7.

been used to determine and ensure that the project would never, within its lifetime, interfere with a sand source. The ever-increasing rate of sea-level rise necessitates this type of analysis to protect mineral resources even where projects may not initially appear to be a risk to coastal resources.

2. Biological Resources

Where coastal development combines with sea-level rise to result in "coastal squeeze," there will be a substantial reduction in habitat for wildlife species dependent upon the tidal biome. Appendix G requires assessment of impacts on wildlife and habitat that has already been designated as endangered or sensitive in a section labeled "Biological Resources."[55] The Appendix also includes a catchall category at the end labeled "Mandatory Findings of Significance" wherein the lead agency must determine whether "the project ha[s] the potential to . . . substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant of animal community . . . "[56] If the project, over its lifetime, results in coastal squeeze, there would be a significant impact on the resources identified in this subsection of the Appendix.

3. The Public Trust

California has an affirmative and continuing duty to exercise supervision over public trust resources.[57] The public trust doctrine itself is a common law principle that reaffirms "the duty of the state to protect the people's common heritage of streams, lakes, marshlands and tidelands, surrendering that right of protection only in rare cases."[58] When a development could contribute to coastal squeeze by inhibiting shoreline migration or interrupting the littoral cycle, the development could interfere with the public's right to use the land seaward of the mean high-tide line.[59] Although case law makes clear that the public trust doctrine obligates the state to protect tidelands independent of CEQA, it is unclear whether compliance with the public trust doctrine must be analyzed in an EIR, or otherwise accounted for in the CEQA review process. The purpose and structure of CEQA suggest that it is an ideal tool through which to obligate the government to consider the public trust doctrine in relation to a project. Accordingly, it would serve the needs of the people to streamline public trust review into CEQA review by adding consideration of the public trust to Appendix G of the guidelines.

55. *See* Cal. Code Regs. tit. 14, App. G, § IV (2010).

56. *Id*. at § XXI.

57. *See* Nat'l Audubon Soc'y v. Super. Ct., 33 Cal. 3d 419, 425 (1983) ("The core of the public trust doctrine is the state's authority as sovereign to exercise a continuous supervision and control over the navigable waters of the state and the lands underlying those waters").

58. *Id.* at 441.

59. Ctr. For Ocean Sols., *supra* note 7, at 3.

In *Marks v. Whitney*, the Supreme Court held that the public trust doctrine applies to tidelands—land seaward of the mean high tide.[60] Further, the Court held that the state could consider the importance of recreational uses and conservation, such that the trust need not only exist in the traditional context of fishing and navigation.[61] In fact, the very origins of the public trust doctrine in Roman law beg protection of the shores for the enjoyment of the people.[62] Where a development could interfere with the use of a tideland for recreation and conservation of marine ecosystems, it might also interfere with resources protected by the public trust. Thus, the State has an obligation to protect those uses.

Since courts have construed CEQA to require analysis of effects on the environment, it is uncertain whether a lead agency must consider the public trust when certifying an EIR. Usually, an action for the state to consider a public trust resource is brought via an independent cause of action where plaintiffs seek injunctive relief. An allegedly deficient EIR is challenged via a petition for writ of mandate.[63] Neither precedent nor the OPR Guidelines confirm that a plaintiff could file a writ of mandamus specifically alleging that an EIR is deficient for failing to consider the public trust, rather than separately alleging that the state has not considered the public trust. On one hand, the purposes and disclosure mechanisms of CEQA make it a great vehicle through which to confirm that a lead agency (as a conduit for the state) has sufficiently considered the public trust. On the other hand, the court in *CBIA* made clear that CEQA must analyze a project's effects on the environment, and it eschewed expansions of CEQA to protect entities that are not environmental resources.[64] The public trust doctrine, despite effectively protecting environmental resources, is meant to protect public *uses* of certain protected resources. CEQA, however, usually mandates disclosure of impacts on *physical* environmental resources. Although the public trust doctrine is often litigated to meet an environmentally conscious end,[65] the legal principle remains grounded in common law property rights as a way to prioritize uses of property to prevent nuisance and collective action problems.[66]

In *S.F. Baykeeper, Inc. v. State Lands Commission*, the First Appellate District held that an EIR regarding sand mining leases in the San Francisco Bay was

60. Marks v. Whitney, 6 Cal. 3d 251, 257 (1971); *see also Nat'l Audubon Soc'y*, 33 Cal. 3d at 425.

61. *Marks*, 6 Cal. 3d at 257.

62. Caesar Flavius Justinian, The Institutes of Justinian, 2.1.1 (J.B. Moyle trans., 5th ed. 1913) ("Thus, the following things are by natural law common to all—the air, running water, the sea, and consequently the seashore. No one therefore is forbidden access to the seashore . . . .").

63. Cal. Civ. Proc. Code § 1085 (West); *See also* CEQA: A Summary, Cal. Civ. Prac. Environmental Litigation Ch. 8 Summary).

64. *Cal. Bldg. Indus. Ass'n*, 62 Cal. 4th at 386.

65. *See e.g.*, *Marks*, 6 Cal. 3d at 257.

66. *See* Garrett Hardin, *The Tragedy of the Commons*, 162 Science 1243 (1968)

inadequate because it failed to consider the public trust doctrine.[67] Rather than arguing that analysis of a project's effects on public trust resources is not required in an EIR, the State Lands Commission argued that "CEQA review eliminates the obligation to consider whether a project violates the public trust."[68] The court was unclear as to whether this evaluation of public trust resources needed to occur *in the EIR*, but it did make clear that an evaluation of the public trust doctrine by the State was required and could not be displaced by CEQA review.[69]

The *S.F. Baykeeper* court relied on its prior decision in *Citizens for East Shore Parks v. State Lands Commission* to reach its conclusion.[70] There, the court held that consideration of the public trust doctrine through CEQA review was *sufficient* consideration of public trust needs, but not *necessary*.[71] Nonetheless, the holding acknowledges that CEQA accepts the public trust doctrine into its legal framework.

Although CEQA requires analysis of significant impacts on the environment in an EIR, the public trust doctrine as a concept of the common law is not necessarily equivalent to "the environment." However, compliance with the public trust doctrine necessarily implicates the protection of resources listed under the definition of "environment." Development on the coastline will result in the eventual depletion of a resource held in trust by the state for the people. This occurs in two different ways.[72] First, the proposed project could interfere with an up-current sand source.[73] Second, the proposed development, or armoring thereof, could interfere with the inward migration of beach ("impoundment").[74] Armoring of a bluff or beach to protect the development can affect the size of the beach through placement of the armoring ("placement loss").[75] Coastal structures can also interfere directly with beach access. Although some of these interferences would also affect mineral resources, they all implicate public trust resources.

Loss of beach necessarily has detrimental effects on other environmental resources, but the beach, which is seaward of the mean high tide, is protected

67. S.F. Baykeeper, Inc. v. State Lands Com., 242 Cal. App. 4th 202, 242–43 (2015).

68. *Id.* at 235.

69. *Id.*

70. *See* Citizens for E. Shore Parks v. State Lands Com., 202 Cal. App. 4th 549 (2011) ("Plaintiffs have cited no case, and we are aware of none, that suggests that where no change is being made to a public trust use and there has been compliance with CEQA, the public trust doctrine independently imposes an additional impact analysis requirement and requires the consideration of additional project alternatives and mitigation measures in connection with other public trust uses.").

71. *Id.*

72. Gary B. Griggs, *The Effects of Armoring Shorelines—The California Experience*, *in* PUGET SOUND SHORELINES AND THE IMPACTS OF ARMORING—PROCEEDINGS OF A STATE OF THE SCIENCE WORKSHOP, MAY 2009 77, 80 (Hugh Shipman et al. ed., 2009).

73. *Id.*

74. *Id.*

75. *Id.*

by the public trust doctrine. In this context, the public trust doctrine states that the state of California holds the navigable waters and the lands underlying those waters in trust for the people of the state.[76] Therefore, the state is obligated to protect these resources and to consider them in its decisionmaking. What remains undetermined, however, is whether a lead agency must consider the public trust in a CEQA determination.

While case law is inconclusive about the interaction between CEQA and the public trust doctrine, streamlining review of the public trust by combining it with CEQA review would serve both efficiency and the CEQA principle of full disclosure. Further, the relationship between the public trust uses and the availability of natural resources is too intertwined to argue that review of the public trust is not required as part of a CEQA determination.

4. The *Sierra Club v. City of Oxnard* Approach

Some lower courts have reasoned that sea-level rise analysis in an EIR is required only where it will affect more tangible environmental resources so that courts can avoid considering the public trust. For example, the Orange County Superior Court held that analysis of sea-level rise was required where the development might affect the inland migration of wetlands.[77] There, the lead agency (the City of Oxnard) certified a final EIR for a mixed-use development that would require an amendment to the City's general and specific plan.[78] That development was located 3.4 miles inland of a wetland area, where a wetland restoration plan would be completed in the future by the state coastal conservancy.[79] The City addressed sea-level rise in the FEIR only to the extent necessary to dismiss public comments, and declined to analyze the effects of sea-level rise fully.[80] Although the EIR noted that the sea-level would rise 1.6–6.6 feet in the next hundred years, the EIR did not map or analyze sea-level rise because it would not be possible to determine what the effect of the projects on the uncompleted wetlands preservation plan could be.[81]

The court relied on three main arguments for holding that sea-level rise analysis was required in this narrow situation.[82] First, the court argued that sea-level rise analysis in this instance was not reverse-CEQA because sea-level rise would have direct effects on environmental resources. Second, the court argued that sea-level rise should be analyzed so that an EIR may disclose to the public the effects on these resources (in this case, wetlands) over time. The court recognized that "the research [on sea-level rise] all points in the

76. Marks, 6 Cal. 3d 251 (1971).

77. Sierra Club v. City of Oxnard, No. 56201100401161, 2012 WL 7659201, 50–51 (Cal. Super. Oct. 15, 2012).

78. *Id*.

79. *Id.* at 13.

80. *Id.* at 14.

81. *Id*.

82. *Id.* at 47–50.

same direction, and that direction is the creation of a new paradigm in CEQA coastal land use analysis."[83] The court further held that an EIR needs to consider not only the project's immediate effect upon adjacent coastal wetlands but the projected long-term effect upon expected coastal wetlands migration over the projects life.[84] Deferring analysis of sea-level rise would be deferred mitigation, and that the public has a right to know about wetland migration with respect to the project.[85] Third, the court held both that the reverse-CEQA paradigm did not fit this situation, as it involved the significant effects of the project on the environment.[86] The court did, however, note that if the case were inserted into that paradigm at all, it would fit an exception to the general rule: "Beyond the ultimate loss of coastal wetlands, as the coastal wetland moves inland toward the [project], the previously studied effects of the [project] upon those wetlands will likely be exacerbated."[87]

The court's approach may also be applied where sea-level rise could cause a development to impact on environmental resources. In *Sierra Club v. Oxnard*, a wetland was at issue, but there are other environmental resources that would be similarly affected when a project is in the way of sea-level rise. For instance, where a project falls below mean high tide or comes into the path of a 100-year storm, there could be significant effects on the environmental resources listed in OPR's Appendix G. Analysis of sea-level rise in an EIR is a way for a lead agency to disclose to public officials and citizens exactly when the project will come into contact with the mean high tide line, and how likely that is to occur within the project's lifetime. The court in *Sierra Club v. Oxnard* applied this holding to assert that sea-level rise analysis should be conducted to determine the project's *expected* impact on *future* wetland migration. This same rationale could be applied to protect other resources in natural habitats on the coastline such as mineral resources, biological resources, and resources protected by the public trust doctrine.

Conclusion

In order to adequately forecast a development's environmental impacts, an EIR should evaluate whether the development will impede the inland migration of shoreline caused by sea-level rise. Where a development impedes shoreline migration, there will be onerous burdens on protected environmental resources. Local governments have regulatory tools aside from CEQA that they can use to affect positive coastal land use planning that considers accurate estimates of sea-level rise. More specifically, where an EIR is required for a discretionary project, CEQA becomes a unique tool for uniform disclosure of risk.

83. *Sierra Club*, 2012 WL 7659201, at 47.
84. *Id.*
85. *Id.* at 49–50.
86. *Id.*
87. *Id.*

Ecological light pollution

Travis Longcore and Catherine Rich

Ecologists have long studied the critical role of natural light in regulating species interactions, but, with limited exceptions, have not investigated the consequences of artificial night lighting. In the past century, the extent and intensity of artificial night lighting has increased such that it has substantial effects on the biology and ecology of species in the wild. We distinguish "astronomical light pollution", which obscures the view of the night sky, from "ecological light pollution", which alters natural light regimes in terrestrial and aquatic ecosystems. Some of the catastrophic consequences of light for certain taxonomic groups are well known, such as the deaths of migratory birds around tall lighted structures, and those of hatchling sea turtles disoriented by lights on their natal beaches. The more subtle influences of artificial night lighting on the behavior and community ecology of species are less well recognized, and constitute a new focus for research in ecology and a pressing conservation challenge.

Front Ecol Environ 2004; 2(4): 191–198

As diurnal creatures, humans have long sought methods to illuminate the night. In pre-industrial times, artificial light was generated by burning various materials, including wood, oil, and even dried fish. While these methods of lighting certainly influenced animal behavior and ecology locally, such effects were limited. The relatively recent invention and rapid proliferation of electric lights, however, have transformed the nighttime environment over substantial portions of the Earth's surface.

Ecologists have not entirely ignored the potential disruption of ecological systems by artificial night lighting. Several authors have written reviews of the potential effects on ecosystems or taxonomic groups, published in the "gray" literature (Health Council of the Netherlands 2000; Hill 1990), conference proceedings (Outen 2002; Schmiedel 2001), and journal articles (Frank 1988; Verheijen 1985; Salmon 2003). This review attempts to integrate the literature on the topic, and draws on a conference organized by the authors in 2002 titled *Ecological Consequences of Artificial Night Lighting*. We identify the roles that artificial night lighting plays in changing ecological interactions across taxa, as opposed to reviewing these effects by taxonomic group. We first discuss the scale and extent of ecological light pollution and its relationship to astronomical light pollution, as well as the measurement of light for ecological research. We then address the recorded and potential influences of artificial night lighting within the nested hierarchy of behavioral and population ecology, community ecology, and ecosystem ecology. While this hierarchy is somewhat artificial and certainly mutable, it illustrates the breadth of potential consequences of ecological light pollution. The important effects of light on the physiology of organisms (see Health Council of the Netherlands 2000) are not discussed here.

In a nutshell:

- Ecological light pollution includes chronic or periodically increased illumination, unexpected changes in illumination, and direct glare
- Animals can experience increased orientation or disorientation from additional illumination and are attracted to or repulsed by glare, which affects foraging, reproduction, communication, and other critical behaviors
- Artificial light disrupts interspecific interactions evolved in natural patterns of light and dark, with serious implications for community ecology

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Astronomical and ecological light pollution: scale and extent

The term "light pollution" has been in use for a number of years, but in most circumstances refers to the degradation of human views of the night sky. We want to clarify that this is "astronomical light pollution", where stars and other celestial bodies are washed out by light that is either directed or reflected upward. This is a broad-scale phenomenon, with hundreds of thousands of light sources cumulatively contributing to increased nighttime illumination of the sky; the light reflected back from the sky is called "sky glow" (Figure 1). We describe artificial light that alters the natural patterns of light and dark in ecosystems as "ecological light pollution". Verheijen (1985) proposed the term "photopollution" to mean "artificial light having adverse effects on wildlife". Because photopollution literally means "light pollution" and because light pollution is so widely understood today to describe the degradation of the view of the night sky and the human experience of the night, we believe that a more descriptive term is now necessary. Ecological light pollution includes direct glare, chronically increased illumina-

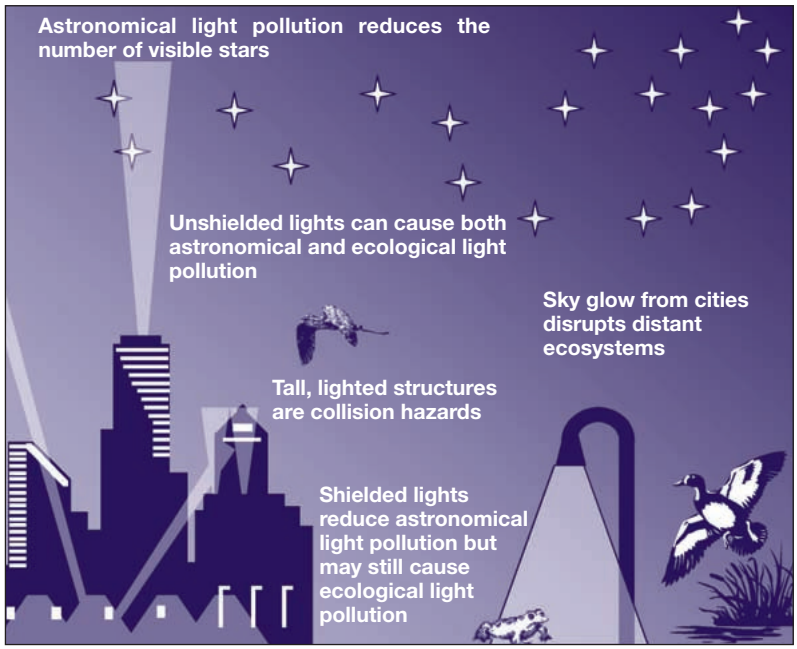

Figure 1. *Diagram of ecological and astronomical light pollution.*

tion, and temporary, unexpected fluctuations in lighting. Sources of ecological light pollution include sky glow, lighted buildings and towers, streetlights, fishing boats, security lights, lights on vehicles, flares on offshore oil platforms, and even lights on undersea research vessels, all of which can disrupt ecosystems to varying degrees. The phenomenon therefore involves potential effects across a range of spatial and temporal scales.

The extent of ecological light pollution is global (Elvidge *et al.* 1997; Figure 2). The first atlas of artificial night sky brightness illustrates that astronomical light pollution extends to every inhabited continent (Cinzano *et al.* 2001). Cinzano *et al.* (2001) calculate that only 40% of Americans live where it becomes sufficiently dark at night for the human eye to make a complete transition from cone to rod vision and that 18.7% of the terrestrial surface of the Earth is exposed to night sky brightness that is polluted by astronomical standards. Ecosystems may be affected by these levels of illumination and lights that do not contribute to sky glow may still have ecological consequences, ensuring that ecological light pollution afflicts an even greater proportion of the Earth. Lighted fishing fleets, offshore oil platforms, and cruise ships bring the disruption of artificial night lighting to the world's oceans.

The tropics may be especially sensitive to alterations in natural diel (ie over a 24-hour period) patterns of light and dark because of the year-round constancy of daily cycles (Gliwicz 1999). A shortened or brighter night is more likely to affect tropical species adapted to diel patterns with minimal seasonal variation than extratropical species adapted to substantial seasonal variation. Of course, temperate and polar zone species active only during a portion of the year would be excluded from this generalization. Species in temperate zones will also be susceptible to disruptions if they depend on seasonal day length cues to trigger critical behaviors.

Measurements and units

Measurement of ecological light pollution often involves determination of illumination at a given place. Illumination is the amount of light incident per unit area – not the only measurement relevant to ecological light pollution, but the most common. Light varies in intensity (the number of photons per unit area) and spectral content (expressed by wavelength). Ideally, ecologists should measure illumination in photons per square meter per second with associated measurements of the wavelengths of light present. More often, illumination is measured in lux (or footcandles, the non-SI unit), which expresses the brightness of light as perceived by the human eye. The lux measurement places more emphasis on wavelengths of light that the human eye detects best and less on those that humans perceive poorly. Because other organisms perceive light differently – including wavelengths not visible to humans – future research on ecological light pollution should identify these responses and measure light accordingly. For example, Gal *et al.* (1999) calculated the response curve of mysid shrimp to light and reported illumination in lux adjusted for the spectral sensitivity of the species.

Ecologists are faced with a practical difficulty when communicating information about light conditions. Lux is the standard used by nearly all lighting designers, lighting engineers, and environmental regulators; communication with them requires reporting in this unit. Yet the use of lux ignores biologically relevant information. High-pressure sodium lights, for instance, will attract moths because of the presence of ultraviolet wavelengths, while low-pressure sodium lights of the same intensity, but not producing ultraviolet light, will not (Rydell 1992). Nevertheless, we use lux here, both because of the need to communicate with applied professionals, and because of its current and past widespread usage. As this research field develops, however, measurements of radiation and spectrum relevant to the organisms in question should be used, even though lux will probably continue to be the preferred unit for communication with professionals in other disciplines.

Ecologists also measure aspects of the light environment other than absolute illumination levels. A sudden change in illumination is disruptive for some species (Buchanan 1993), so percent change in illumination, rate, or similar measures may be relevant. Ecologists may also measure luminance (ie brightness) of light sources that are visible to organisms.

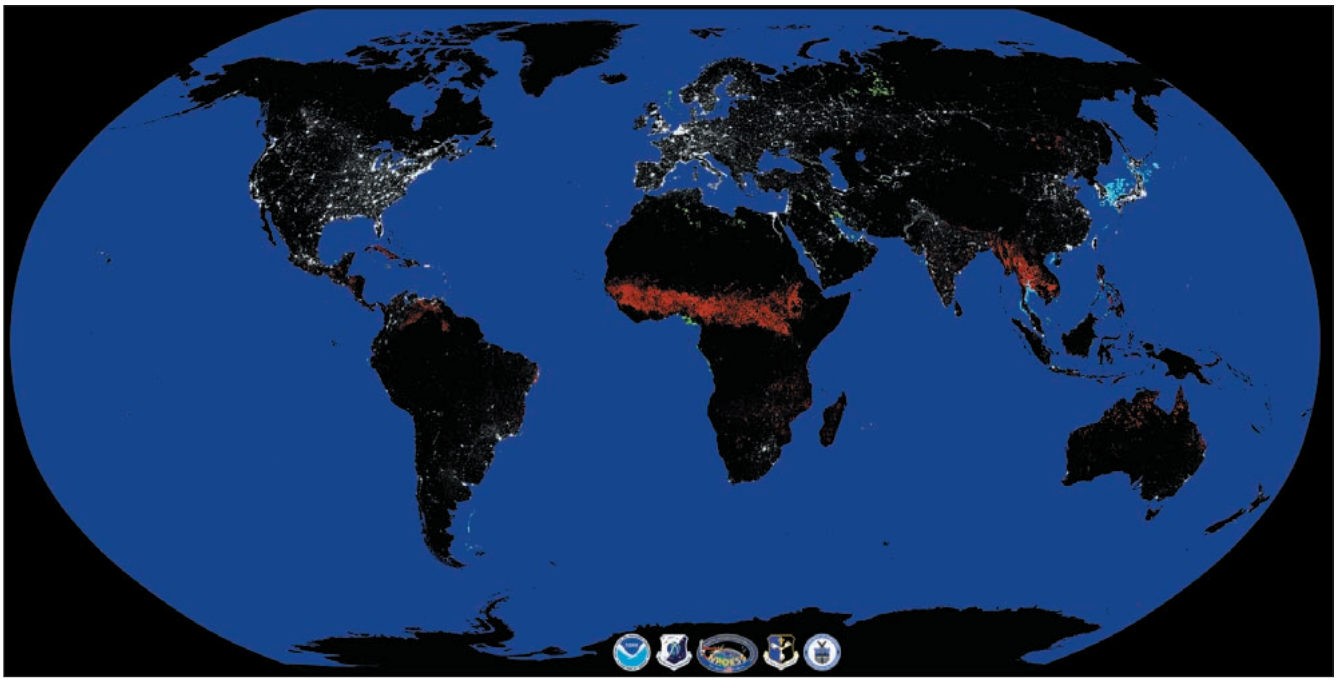

Figure 2. *Distribution of artificial lights visible from space. Produced using cloud-free portions of low-light imaging data acquired by the US Air Force Defense Meteorological Satellite Program Operational Linescan System. Four types of lights are identified: (1) human settlements – cities, towns, and villages (white), (2) fires – defined as ephemeral lights on land (red), (3) gas flares (green), and (4) heavily lit fishing boats (blue). See Elvidge* et al. *(2001) for details. Image, data processing, and descriptive text by the National Oceanic and Atmospheric Administration's National Geophysical Data Center.*

Behavioral and population ecology

Ecological light pollution has demonstrable effects on the behavioral and population ecology of organisms in natural settings. As a whole, these effects derive from changes in orientation, disorientation, or misorientation, and attraction or repulsion from the altered light environment, which in turn may affect foraging, reproduction, migration, and communication.

Orientation/disorientation and attraction/repulsion

Orientation and disorientation are responses to ambient illumination (ie the amount of light incident on objects in an environment). In contrast, attraction and repulsion occur in response to the light sources themselves and are therefore responses to luminance or the brightness of the source of light (Health Council of the Netherlands 2000).

Increased illumination may extend diurnal or crepuscular behaviors into the nighttime environment by improving an animal's ability to orient itself. Many usually diurnal birds (Hill 1990) and reptiles (Schwartz and Henderson 1991), for example, forage under artificial lights. This has been termed the "night light niche" for reptiles and seems beneficial for those species that can exploit it, but not for their prey (Schwartz and Henderson 1991).

In addition to foraging, orientation under artificial illumination may induce other behaviors, such as territorial singing in birds (Bergen and Abs 1997). For the northern mockingbird (*Mimus polyglottos*), males sing at night before mating, but once mated only sing at night in artificially lighted areas (Derrickson 1988) or during the full moon. The effect of these light-induced behaviors on fitness is unknown.

Constant artificial night lighting may also disorient organisms accustomed to navigating in a dark environment. The best-known example of this is the disorientation of hatchling sea turtles emerging from nests on sandy beaches. Under normal circumstances, hatchlings move away from low, dark silhouettes (historically, those of dune vegetation), allowing them to crawl quickly to the ocean. With beachfront lighting, the silhouettes that would have cued movement are no longer perceived, resulting in disorientation (Salmon *et al.* 1995). Lighting also affects the egg-laying behavior of female sea turtles. (For reviews of effects on sea turtles, see Salmon 2003 and Witherington 1997).

Changes in light level may disrupt orientation in nocturnal animals. The range of anatomical adaptations to allow night vision is broad (Park 1940), and rapid increases in light can blind animals. For frogs, a quick increase in illumination causes a reduction in visual capability from which the recovery time may be minutes to hours (Buchanan 1993). After becoming adjusted to a light, frogs may be attracted to it as well (Jaeger and Hailman 1973; Figure 3).

Birds can be disoriented and entrapped by lights at night (Ogden 1996). Once a bird is within a lighted zone at night, it may become "trapped" and will not leave the lighted area. Large numbers of nocturnally migrating birds are therefore affected when meteorological conditions bring them close to lights, for instance, during inclement weather or late at night when they tend to fly lower.

Figure 3. *Attraction of frogs to a candle set out on a small raft. Illustration by Charles Copeland of an experiment in northern Maine or Canada described by William J Long (1901). Twelve or fifteen bullfrogs* (Rana catesbeiana) *climbed on to the small raft before it flipped over.*

Within the sphere of lights, birds may collide with each other or a structure, become exhausted, or be taken by predators. Birds that are waylaid by buildings in urban areas at night often die in collisions with windows as they try to escape during the day. Artificial lighting has attracted birds to smokestacks, lighthouses (Squires and Hanson 1918), broadcast towers (Ogden 1996), boats (Dick and Donaldson 1978), greenhouses, oil platforms (Wiese *et al.* 2001), and other structures at night, resulting in direct mortality, and thus interfering with migration routes.

Many groups of insects, of which moths are one well-known example (Frank 1988), are attracted to lights. Other taxa showing the same attraction include lacewings, beetles, bugs, caddisflies, crane flies, midges, hoverflies, wasps, and bush crickets (Eisenbeis and Hassel 2000; Kolligs 2000; Figure 4). Attraction depends on the spectrum of light – insect collectors use ultraviolet light because of its attractive qualities – and the characteristics of other lights in the vicinity.

Nonflying arthropods vary in their reaction to lights. Some nocturnal spiders are negatively phototactic (ie repelled by light), whereas others will exploit light if available (Nakamura and Yamashita 1997). Some insects are always positively phototactic as an adaptive behavior and others always photonegative (Summers 1997). In arthropods, these responses may also be influenced by the frequent correlations between light, humidity, and temperature.

Natural resource managers can exploit the responses of animals to lights. Lights are sometimes used to attract fish to ladders, allowing them to bypass dams and power plants (Haymes *et al.* 1984). Similarly, lights can attract larval fish to coral reefs (Munday *et al.* 1998). In the terrestrial realm, dispersing mountain lions avoid lighted areas to such a degree that Beier (1995) suggests installing lights to deter them from entering habitats dead-ending in areas where humans live.

Reproduction

Reproductive behaviors may be altered by artificial night lighting. Female *Physalaemus pustulosus* frogs, for example, are less selective about mate choice when light levels are increased, presumably preferring to mate quickly and avoid the increased predation risk of mating activity (Rand *et al.* 1997). Night lighting may also inhibit amphibian movement to and from breeding areas by stimulating phototactic behavior. Bryant Buchanan (pers comm) reports that frogs in an experimental enclosure stopped mating activity during night football games, when lights from a nearby stadium increased sky glow. Mating choruses resumed only when the enclosure was covered to shield the frogs from the light.

In birds, some evidence suggests that artificial night lighting affects the choice of nest site. De Molenaar *et al.*

Courtesy of PJ DeVries

Figure 4. *Thousands of mayflies carpet the ground around a security light at Millecoquins Point in Naubinway on the Upper Peninsula of Michigan.*

(2000) investigated the effects of roadway lighting on black-tailed godwits (*Limosa l. limosa*) in wet grassland habitats. Breeding densities of godwits were recorded over 2 years, comparing lighted and unlighted conditions near a roadway and near light poles installed in a wet grassland away from the road influence. When all other habitat factors were taken into account, the density of nests was slightly but statistically lower up to 300 m away from the lighting at roadway and control sites. The researchers also noted that birds nesting earlier in the year chose sites farther away from the lighting, while those nesting later filled in sites closer to the lights.

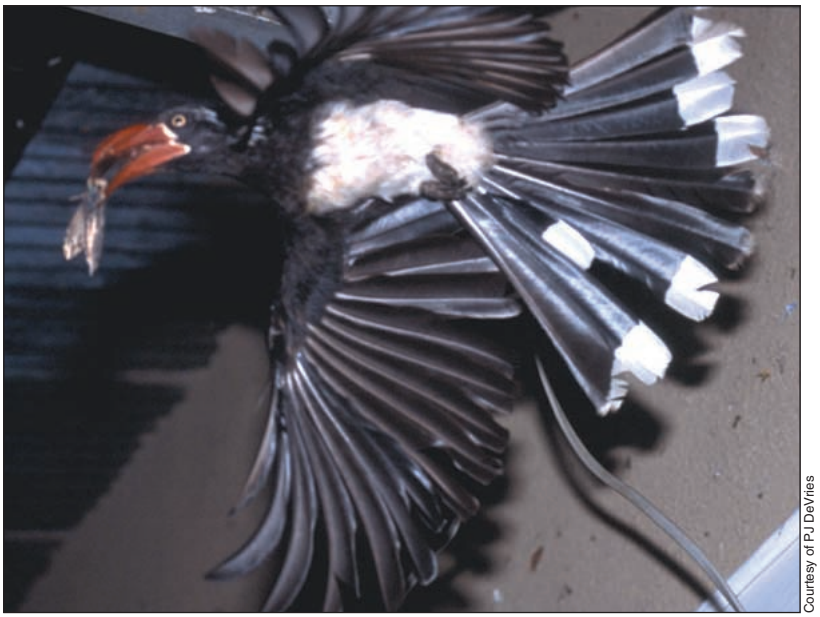

Figure 5. *Crowned hornbill (*Tockus alboterminatus*) hawking insects at a light at the Kibale Forest National Park, Uganda.*

Communication

Visual communication within and between species may be influenced by artificial night lighting. Some species use light to communicate, and are therefore especially susceptible to disruption. Female glow-worms attract males up to 45 m away with bioluminescent flashes; the presence of artificial lighting reduces the visibility of these communications. Similarly, the complex visual communication system of fireflies could be impaired by stray light (Lloyd 1994).

Artificial night lighting could also alter communication patterns as a secondary effect. Coyotes (*Canis latrans*) group howl and group yip-howl more during the new moon, when it is darkest. Communication is necessary either to reduce trespassing from other packs, or to assemble packs to hunt larger prey during dark conditions (Bender *et al.* 1996). Sky glow could increase ambient illumination to eliminate this pattern in affected areas.

Because of the central role of vision in orientation and behavior of most animals, it is not surprising that artificial lighting alters behavior. This causes an immediate conservation concern for some species, while for other species the influence may seem to be positive. Such "positive" effects, however, may have negative consequences within the context of community ecology.

■ Community ecology

The behaviors exhibited by individual animals in response to ambient illumination (orientation, disorientation) and to luminance (attraction, repulsion) influence community interactions, of which competition and predation are examples.

Competition

Artificial night lighting could disrupt the interactions of groups of species that show resource partitioning across illumination gradients. For example, in natural communities, some foraging times are partitioned among species that prefer different levels of lighting. The squirrel treefrog (*Hyla squirrela*) is able to orient and forage at lighting levels as low as 10^{-5} lux and under natural conditions typically will stop foraging at illuminations above 10^{-3} lux (Buchanan 1998). The western toad (*Bufo boreas*) forages only at illuminations between 10^{-1} and 10^{-5} lux, while the tailed frog (*Ascaphus truei*) forages only during the darkest part of the night at below 10^{-5} lux (Hailman 1984). While these three species are not necessarily sympatric (ie inhabiting the same area), and differ in other niche dimensions, they illustrate the division of the light gradient by foragers.

Many bat species are attracted to insects that congregate around light sources (Frank 1988). Although it may seem that this is a positive effect, the increased food concentration benefits only those species that exploit light sources and could therefore result in altered community structure. Faster-flying species of bats congregate around lights to feed on insects, but other, slower-flying species avoid lights (Blake *et al.* 1994; Rydell and Baagøe 1996).

Changes in competitive communities occur as diurnal species move into the "night light niche" (Schwartz and Henderson 1991). This concept, as originally described, applies to reptiles, but easily extends to other taxa, such as spiders (Frank pers comm) and birds (Hill 1990; Figure 5).

Predation

Although it may seem beneficial for diurnal species to be able to forage longer under artificial lights, any gains from increased activity time can be offset by increased predation risk (Gotthard 2000). The balance between gains from extended foraging time and risk of increased preda-

tion is a central topic for research on small mammals, reptiles, and birds (Kotler 1984; Lima 1998). Small rodents forage less at high illumination levels (Lima 1998), a tendency also exhibited by some lagomorphs (Gilbert and Boutin 1991), marsupials (Laferrier 1997), snakes (Klauber 1939), bats (Rydell 1992), fish (Gibson 1978), aquatic invertebrates (Moore *et al.* 2000), and other taxa.

Unexpected changes in light conditions may disrupt predator–prey relationships. Gliwicz (1986, 1999) describes high predation by fish on zooplankton during nights when the full moon rose hours after sunset. Zooplankton had migrated to the surface to forage under cover of darkness, only to be illuminated by the rising moon and subjected to intense predation. This "lunar light trap" (Gliwicz 1986) illustrates a natural occurrence, but unexpected illumination from human sources could disrupt predator–prey interactions in a similar manner, often to the benefit of the predator.

Available research shows that artificial night lighting disrupts predator–prey relationships, which is consistent with the documented importance of natural light regimes in mediating such interactions. In one example, harbor seals (*Phoca vitulina*) congregated under artificial lights to eat juvenile salmonids as they migrated downstream; turning the lights off reduced predation levels (Yurk and Trites 2000). Nighttime illumination at urban crow roosts was higher than at control sites, presumably because this helps the crows avoid predation from owls (Gorenzel and Salmon 1995). Desert rodents reduced foraging activity when exposed to the light of a single camp lantern (Kotler 1984). Frank (1988) reviews predation by bats, birds, skunks, toads, and spiders on moths attracted to artificial lights. Mercury vapor lights, in particular, disrupt the interaction between bats and tympanate moths by interfering with moth detection of ultrasonic chirps used by bats in echolocation, leaving moths unable to take their normal evasive action (Svensson and Rydell 1998).

From these examples, it follows that community structure will be altered where light affects interspecific interactions. A "perpetual full moon" from artificial lights will favor light-tolerant species and exclude others. If the darkest natural conditions never occur, those species that maximize foraging during the new moon could eventually be compromised, at risk of failing to meet monthly energy budgets. The resulting community structure would be simplified, and these changes could in turn affect ecosystem characteristics.

Ecosystem effects

The cumulative effects of behavioral changes induced by artificial night lighting on competition and predation have the potential to disrupt key ecosystem functions. The spillover effects from ecological light pollution on aquatic invertebrates illustrates this point. Many aquatic invertebrates, such as zooplankton, move up and down within the water column during a 24-hour period, in a behavior known as "diel vertical migration". Diel vertical migration presumably results from a need to avoid predation during lighted conditions, so many zooplankton forage near water surfaces only during dark conditions (Gliwicz 1986). Light dimmer than that of a half moon ($<10^{-1}$ lux) is sufficient to influence the vertical distribution of some aquatic invertebrates, and indeed patterns of diel vertical migration change with the lunar cycle (Dodson 1990).

Moore *et al.* (2000) documented the effect of artificial light on the diel migration of the zooplankton *Daphnia* in the wild. Artificial illumination decreased the magnitude of diel migrations, both in the range of vertical movement and the number of individuals migrating. The researchers hypothesize that this disruption of diel vertical migration may have substantial detrimental effects on ecosystem health. With fewer zooplankton migrating to the surface to graze, algae populations may increase. Such algal blooms would then have a series of adverse effects on water quality (Moore *et al.* 2000).

The reverberating effects of community changes caused by artificial night lighting could influence other ecosystem functions. Although the outcomes are not yet predictable, and redundancy will buffer changes, indications are that light-influenced ecosystems will suffer from important changes attributable to artificial light alone and in combination with other disturbances. Even remote areas may be exposed to increased illumination from sky glow, but the most noticeable effects will occur in those areas where lights are close to natural habitats. This may be in wilderness where summer getaways are built, along the expanding front of suburbanization, near the wetlands and estuaries that are often the last open spaces in cities, or on the open ocean, where cruise ships, squid boats, and oil derricks light the night.

Conclusions

Our understanding of the full range of ecological consequences of artificial night lighting is still limited, and the field holds many opportunities for basic and applied research. Studies of natural populations are necessary to investigate hypotheses generated in the laboratory, evidence of lunar cycles in wild populations, and natural history observations. If current trends continue, the influence of stray light on ecosystems will expand in geographic scope and intensity. Today, 20% of the area of the coterminous US lies within 125 m of a road (Riiters and Wickham 2003). Lights follow roads, and the proportion of ecosystems uninfluenced by altered light regimes is decreasing. We believe that many ecologists have neglected to consider artificial night lighting as a relevant environmental factor, while conservationists have certainly neglected to include the nighttime environment in reserve and corridor design.

Successful investigation of ecological light pollution will require collaboration with physical scientists and

engineers to improve equipment to measure light characteristics at ecologically relevant levels under diverse field conditions. Researchers should give special consideration to the tropics, where the constancy of day–night lighting patterns has probably resulted in narrow niche breadths relative to illumination. Aquatic ecosystems deserve increased attention as well, because despite the central importance of light to freshwater and marine ecology, consideration of artificial lighting has so far been limited. Research on the effects of artificial night lighting will enhance understanding of urban ecosystems – the two National Science Foundation (NSF) urban Long Term Ecological Research sites are ideal locations for such efforts.

Careful research focusing on artificial night lighting will probably reveal it to be a powerful force structuring local communities by disrupting competition and predator–prey interactions. Researchers will face the challenge of disentangling the confounding and cumulative effects of other facets of human disturbance with which artificial night lighting will often be correlated, such as roads, urban development, noise, exotic species, animal harvest, and resource extraction. To do so, measurements of light disturbance should be included routinely as part of environmental monitoring protocols, such as the NSF's National Ecological Observatory Network (NEON). Future research is likely to reveal artificial night lighting to be an important, independent, and cumulative factor in the disruption of natural ecosystems, and a major challenge for their preservation.

Ecologists have studied diel and lunar patterns in the behavior of organisms for the greater part of a century (see Park 1940 and references therein), and the deaths of birds from lights for nearly as long (Squires and Hanson 1918). Humans have now so altered the natural patterns of light and dark that these new conditions must be afforded a more central role in research on species and ecosystems beyond the instances that leave carcasses on the ground.

Acknowledgements

We thank PJ DeVries for his photographs, and B Tuttle and C Elvidge for the satellite image. Research was supported in part by the Conservation and Research Foundation. We are grateful for constructive comments and advice from W Briggs, BW Buchanan, KD Frank, JE Lloyd, JR Longcore, MV Moore, WA Montevecchi, G Perry, and M Salmon.

References

Beier P. 1995. Dispersal of juvenile cougars in fragmented habitat. *J Wildlife Manage* **59**: 228–37.

Bender DJ, Bayne EM, and Brigham RM. 1996. Lunar condition influences coyote (*Canis latrans*) howling. *Am Midl Nat* **136**: 413–17.

Bergen F and Abs M. 1997. Etho-ecological study of the singing activity of the blue tit (*Parus caeruleus*), great tit (*Parus major*) and chaffinch (*Fringilla coelebs*). *J Ornithol* **138**: 451–67.

Blake D, Hutson AM, Racey PA, *et al.* 1994. Use of lamplit roads by foraging bats in southern England. *J Zool* **234**: 453–62.

Buchanan BW. 1993. Effects of enhanced lighting on the behaviour of nocturnal frogs. *Anim Behav* **45**: 893–99.

Buchanan BW. 1998. Low-illumination prey detection by squirrel treefrogs. *J Herpetol* **32**: 270–74.

Cinzano P, Falchi F, and Elvidge CD. 2001. The first world atlas of the artificial night sky brightness. *Mon Not R Astron Soc* **328**: 689–707.

De Molenaar JG, Jonkers DA, and Sanders ME. 2000. Road illumination and nature. III. Local influence of road lights on a black-tailed godwit (*Limosa l. limosa*) population. Wageningen, The Netherlands: Alterra.

Derrickson KC. 1988. Variation in repertoire presentation in northern mockingbirds. *Condor* **90**: 592–606.

Dick MH and Donaldson W. 1978. Fishing vessel endangered by crested auklet landings. *Condor* **80**: 235–36.

Dodson S. 1990. Predicting diel vertical migration of zooplankton. *Limnol and Oceanogr* **35**: 1195–1200.

Eisenbeis G and Hassel F. 2000. Zur Anziehung nachtaktiver Insekten durch Straßenlaternen – eine Studie kommunaler Beleuchtungseinrichtungen in der Agrarlandschaft Reinhessens [Attraction of nocturnal insects to street lights – a study of municipal lighting systems in a rural area of Rheinhessen (Germany)]. *Natur und Landschaft* **75**: 145–56.

Elvidge C, Baugh KE, Kihn EA, and Davis ER. 1997. Mapping city lights with nighttime data from the DMSP Operational Linescan System. *Photogramm Eng Rem S* **63**: 727–34.

Elvidge CD, Imhoff ML, Baugh KE, *et al.* 2001. Nighttime lights of the world: 1994–95. ISPRS *J Photogramm Rem S* **56**: 81–99.

Frank KD. 1988. Impact of outdoor lighting on moths: an assessment. *J Lepidop Soc* **42**: 63–93.

Gal G, Loew ER, Rudstam LG, and Mohammadian AM. 1999. Light and diel vertical migration: spectral sensitivity and light avoidance by *Mysis relicta*. *Can J Fish Aquat Sci* **56**: 311–22.

Gibson RN. 1978. Lunar and tidal rhythms in fish. In: Thorpe JE (Ed). Rhythmic activity of fishes. London: Academic Press.

Gilbert BS and Boutin S. 1991. Effect of moonlight on winter activity of snowshoe hares. *Arctic Alpine Res* **23**: 61–65.

Gliwicz ZM. 1986. A lunar cycle in zooplankton. *Ecology* **67**: 883–97.

Gliwicz ZM. 1999. Predictability of seasonal and diel events in tropical and temperate lakes and reservoirs. In: Tundisi JG, Straskraba M (Eds). Theoretical reservoir ecology and its applications. São Carlos: International Institute of Ecology.

Gorenzel WP and Salmon TP. 1995. Characteristics of American Crow urban roosts in California. *J Wildlife Manage* **59**: 638–45.

Gotthard K. 2000. Increased risk of predation as a cost of high growth rate: an experimental test in a butterfly. *J Anim Ecol* **69**: 896–902.

Hailman JP. 1984. Bimodal nocturnal activity of the western toad (*Bufo boreas*) in relation to ambient illumination. *Copeia* **1984**: 283–90.

Haymes GT, Patrick PH, and Onisto LJ. 1984. Attraction of fish to mercury vapor light and its application in a generating station forebay. *Int Rev Hydrobiol* **69**: 867–76.

Health Council of the Netherlands. 2000. Impact of outdoor lighting on man and nature. The Hague: Health Council of the Netherlands. Publication No. 2000/25E.

Hill D. 1990. The impact of noise and artificial light on waterfowl behaviour: a review and synthesis of the available literature. Norfolk, United Kingdom: British Trust for Ornithology Report No. 61.

Jaeger RG and Hailman JP. 1973. Effects of intensity on the phototactic responses of adult anuran amphibians: a comparative survey. *Z Tierpsychol* **33**: 352–407.

Klauber LM. 1939. Rattlesnakes: their habits, life histories, and influence on mankind. Berkeley, CA: University of California Press.

Kolligs D. 2000. Ökologische Auswirkungen künstlicher Lichtquellen auf nachtaktive Insekten, insbesondere Schmetterlinge (Lepidoptera) [Ecological effects of artificial light sources on nocturnally active insects, in particular on moths (Lepidoptera)]. *Faunistisch-Ökologische Mitteilungen Suppl* **28**: 1–136.

Kotler BP. 1984. Risk of predation and the structure of desert rodent communities. *Ecology* **65**: 689–701.

Laferrier J. 1997. The influence of moonlight on activity of wooly opossums (*Caluromys philander*). *J Mammal* **78**: 251–55.

Lima SL. 1998. Stress and decision-making under the risk of predation: recent developments from behavioral, reproductive, and ecological perspectives. *Adv Stud Behav* **27**: 215–90.

Lloyd JE. 1994. Where are the lightningbugs? *Fireflyer Companion* **1**: 1, 2, 5, 10.

Long WJ. 1901. Wilderness ways. Boston, MA: Ginn and Company.

Moore MV, Pierce SM, Walsh HM, *et al.* 2000. Urban light pollution alters the diel vertical migration of *Daphnia*. *Verh Internat Verein Limnol* **27**: 779–82.

Munday PL, Jones GP, Ohman MC, and Kaly UL. 1998. Enhancement of recruitment to coral reefs using light-attractors. *B Mar Sci* **63**: 581–88.

Nakamura T and Yamashita S. 1997. Phototactic behavior of nocturnal and diurnal spiders: negative and positive phototaxes. *Zool Sci* **14**: 199–203.

Ogden LJE. 1996. Collision course: the hazards of lighted structures and windows to migrating birds. Toronto, Canada: World Wildlife Fund Canada and Fatal Light Awareness Program.

Outen AR. 2002. The ecological effects of road lighting. In: Sherwood B, Culter D, and Burton JA (Eds). Wildlife and roads: the ecological impact. London, UK: Imperial College Press.

Park O. 1940. Nocturnalism — the development of a problem. *Ecol Monogr* **10**: 485–536.

Rand AS, Bridarolli ME, Dries L, and Ryan MJ. 1997. Light levels influence female choice in Tungara frogs: predation risk assessment? *Copeia* **1997**: 447–50.

Riiters KH and Wickham JD. 2003. How far to the nearest road? *Front Ecol Environ* **1**: 125–29.

Rydell J. 1992. Exploitation of insects around streetlamps by bats in Sweden. *Funct Ecol* **6**: 744–50.

Rydell J and Baagøe HJ. 1996. Gatlampor ökar fladdermössens predation på fjärilar [Streetlamps increase bat predation on moths]. *Entomol Tidskr* **117**: 129–35.

Salmon M. 2003. Artificial night lighting and sea turtles. *Biologist* **50**: 163–68.

Salmon M, Tolbert MG, Painter DP, *et al.* 1995. Behavior of loggerhead sea turtles on an urban beach. II. Hatchling orientation. *J Herpetol* **29**: 568–76.

Schmiedel J. 2001. Auswirkungen künstlicher Beleuchtung auf die Tierwelt – ein Überblick [Effects of artificial lighting on the animal world – an overview]. *Schriftenreihe Landschaftspflege und Naturschutz* **67**: 19–51.

Schwartz A and Henderson RW. 1991. Amphibians and reptiles of the West Indies: descriptions, distributions, and natural history. Gainesville, FL: University of Florida Press.

Squires WA and Hanson HE. 1918. The destruction of birds at the lighthouses on the coast of California. *Condor* **20**: 6–10.

Summers CG. 1997. Phototactic behavior of *Bemisia argentifolii* (Homoptera: Aleyrodidae) crawlers. *Ann Entomol Soc Am* **90**: 372–79.

Svensson AM and Rydell J. 1998. Mercury vapour lamps interfere with the bat defence of tympanate moths (*Operophtera* spp; Geometridae). *Anim Behav* **55**: 223–26.

Verheijen FJ. 1985. Photopollution: artificial light optic spatial control systems fail to cope with. Incidents, causations, remedies. *Exp Biol* **44**: 1–18.

Wiese FK, Montevecchi WA, Davoren GK, *et al.* 2001. Seabirds at risk around offshore oil platforms in the North-west Atlantic. *Mar Pollut Bull* **42**: 1285–90.

Witherington BE. 1997. The problem of photopollution for sea turtles and other nocturnal animals. In: Clemmons JR and Buchholz R (Eds). Behavioral approaches to conservation in the wild. Cambridge, UK: Cambridge University Press.

Yurk H and Trites AW. 2000. Experimental attempts to reduce predation by harbor seals on out-migrating juvenile salmonids. *Trans Am Fish Soc* **129**: 1360–66.

sustainability

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Article

Lighting Professionals versus Light Pollution Experts? Investigating Views on an Emerging Environmental Concern

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Received: 25 February 2019; Accepted: 15 March 2019; Published: 21 March 2019

Abstract: Concerns about the potential negative effects of artificial light at night on humans, flora and fauna, were originally raised by astronomers and environmentalists. Yet, we observe a growing interest in what is called light pollution among the general public and in the lighting field. Although lighting professionals are often critical of calling light 'pollution', they increasingly acknowledge the problem and are beginning to act accordingly. Are those who illuminate joining forces with those who take a critical stance towards artificial light at night? We explore this question in more detail based on the results of a non-representative worldwide expert survey. In our analysis, we distinguish between "lighting professionals" with occupational backgrounds linked to lighting design and the lighting industry, and "light pollution experts" with mostly astronomy- and environment-related professional backgrounds, and explore their opposing and shared views vis-à-vis issues of light pollution. Our analysis reveals that despite seemingly conflicting interests, lighting professionals and light pollution experts largely agree on the problem definition and problem-solving approaches. However, we see diverging views regarding potential obstacles to light pollution mitigation and associated governance challenges.

Keywords: light pollution; sustainable lighting; light planning; expert survey; ALAN

1. Introduction

Light pollution broadly describes unwanted or excess artificial lighting at night, and the negative effects artificial illumination can have on humans and the living environment. While the concept is rather ill-defined, it has received increased public attention in recent years. The concerns are reflected in growing numbers of media reports, fuelled by public campaigns and findings based on scientific evidence from various disciplines. Biologists have highlighted the negative effects of artificial light at night on species as diverse as birds, bats, fish, insects, water organisms, mammals and plants [1–3]. Medical research suggests that light at the wrong time confuses the human circadian rhythm with negative effects on people's sleep, which may impact their health [4,5]. Astronomers highlight the reduced visibility of the night sky [6], and in the social sciences and humanities, natural darkness is being rediscovered and re-evaluated as a cultural asset and distinct social space [7,8]. These multifaceted issues reverberate in civic complaints about light nuisances in urban and natural environments, and in new policies for outdoor lighting such as the national light pollution laws in France and Slovenia [9,10]. Together with concerned individuals and advocacy groups, researchers who take a critical view of artificial light at night can be considered as an emerging community of

light pollution experts. They draw attention to the unwanted side effects of artificial illumination by producing, exchanging and publicizing information and knowledge via social media, mass media and scientific journals, and at events. They also actively propose new planning and policy approaches as they question established light practices and reasons for illuminating public spaces, buildings, signs or landscapes.

The new notion that light is also a pollutant problematizes artificial lighting, which is usually overwhelmingly positively connoted [11–13]. It is therefore not surprising that lighting professionals, who develop lighting technology, sell lighting products, and plan and design lighting schemes, have not been the loudest voices in debates about light pollution. Nevertheless, lighting designers, light planners and manufacturers, who are traditionally concerned with the improvement and dissemination of light sources and installations, have begun discussing scientific evidence for environmental and health concerns in conferences and professional journals, and are beginning to adjust their practices, products and professional education accordingly [14,15].

The recognition of the problem by those who illuminate and create lighting is highly relevant when it comes to tackling the issue of light pollution. However, this raises the question of how the views of actors in the lighting field compare to those of the researchers and activists that have adopted a critical stance toward lighting. How do the professional interests of lighting designers, planners and manufacturers align with the recommendations and claims of light pollution experts? Where do they agree or disagree? What are the practical and political implications of their respective perspectives?

In this paper, we explore and contrast the views of lighting professionals and light pollution experts with the goal of highlighting common ground and conflicting views. Our analysis is grounded in qualitative research and professional experience, and draws on the results of an online expert survey on light pollution. Conducted in 2018, it was completed by 205 participants. They include lighting designers, planners and lighting engineers or manufacturers, which we categorize as "lighting professionals" (n = 67), and respondents who work on light pollution issues and largely have astronomical and environmental backgrounds, which we identify as "light pollution experts" (n = 89). Our findings suggest that lighting professionals surprisingly often agree with light pollution experts, not only in their views regarding light pollution, but also when it comes to recommending solutions to the problem. Their views diverge more when it comes to identifying obstacles to light pollution mitigation. These results also have practical relevance, as they reveal which policy options for sustainable lighting can find support in both groups and where alternative or opposing views should be tested and further discussed.

2. Materials and Methods

This paper is part of a larger research project, and is informed by our previous professional and research experience in the fields of lighting and light pollution [16]. The idea for this study emerged from our observation that the lighting community and the emerging community of light pollution experts engage in arenas that are in many ways worlds apart, but at the same time, closely connected through their focus on artificial light. The outsets of the two groups seemingly contradict each other: while lighting professionals earn their living creating light, light pollution experts are concerned with reducing artificial light at night. At the same time, light pollution has clearly become a point of debate in the lighting world, and the light pollution community aims to include lighting professionals [17,18]. Based on these observations and our empirical and practical knowledge of lighting practices and debates around light pollution and its mitigation, we developed a set of theses in order to explore how the views and goals of lighting professionals and light pollution experts compare. These assumptions were then tested in our online expert survey.

2.1. Data Collection Based on an Online Expert Survey

The questionnaire was developed for "experts", i.e., respondents with practical or theoretical knowledge of and interest in artificial lighting and/or light pollution [19]. The survey design ensured

this expertise in three ways: First, respondents were asked to outline their "light-related activities". Second, some questions were highly specific and demanded an in-depth understanding of lighting issues, as pre-testers confirmed. Third, we consciously chose to use the term "light pollution", including in the survey's title. By using the term so explicitly, we specifically addressed respondents who are familiar with the issue. The survey was only distributed in English, which could possibly result in an under-representation of experts that are not part of the relevant English-language discourse.

The expert survey was launched in March, 2018, and was online for two months. The invitation was circulated internationally via e-mail, twitter and professional networks, creating a snowball effect (more information at [16]). Clearly, this sampling strategy could not produce a representative sample. However, in line with our exploratory approach, it allowed as many experts as possible who wished to share their opinions on light pollution to do so.

The questionnaire contained both quantitative and qualitative elements. Participants were asked to tick boxes to describe their personal background and to evaluate specific aspects around the issue of light pollution on Likert scales from one to five. In addition to single and multiple choice questions, open questions allowed the respondents to answer using their own words and to add aspects not included in our suggested answers for closed questions. Our questions covered three thematic areas: (1) The definition of and opinions on light pollution; (2) the governance challenge in terms of main obstacles, clashing interests and responsibilities; (3) possible solutions in the form of recommendations.

2.2. Group-Specific Data Analysis

The survey was completed by 205 participants. For the stakeholder-specific analysis, we identified and created the group categories "lighting professionals" and "light pollution experts" within our sample. While the concept of "lighting professionals" is quite straightforward and includes people who professionally plan, design, or produce artificial light and lighting technology, the notion of "light pollution experts" calls for an explanation. We conceptualize this group as a heterogeneous "issue public" [20] consisting mostly of astronomers, conservationists, natural and social scientists who problematize artificial light at night (ALAN) from their various viewpoints. In reality, the two groups can overlap. At an individual level, there are lighting professionals that engage heavily in raising awareness for light pollution and developing solutions for its mitigation, as well as persons with backgrounds in fields such as astrophysics or biology who have acquired detailed knowledge of lighting technology and lighting practices and e.g. advise municipalities on sustainable lighting. While we are aware of these overlaps, we nevertheless distinguish between lighting professionals and light pollution experts on the basis of their different foci and fields of activity. Table 1 outlines the answers to both closed and open questions, on the basis of which we categorized the respondents.

The categorization process left us with a sample of 156 respondents: 89 light pollution experts and 67 lighting professionals. The respondents were aged between 20 and 79, and about one third was female. Most of them (101; 65%) were based in Europe, 29 (19%) in Anglo America, 13 (8%) in Australia/New Zealand, 5 (3%) in Middle Eastern or African countries, 4 (3%) in Latin America and 3 (2%) in Asia (1 answer missing).

Based on this data, we performed our analysis in three steps using the software R. First, we studied relative frequencies and mean values to identify answers where the two groups' views converge or diverge. Second, where mean values and relative frequencies differed considerably, we performed regression analyses to test the impact of participants' occupations and whether divergences can be better explained by other independent variables. To be more precise, we tested in binomial logistic regression models for the impact of occupation (light pollution experts or lighting professionals), place of residence (Europe or Anglo America/Oceania and Anglo America or Europe/Oceania as well as urban or not), age (in years), first encounter with light pollution (number of years) and gender (male or female, the two "other" responses were considered as "missing", see Table S1 and Figure S1).

We found that occupational backgrounds were indeed the best predictor, while age, gender or place of residence were rarely significant. The dependent variable was the approval of the respective

item (4 and 5 on a scale of 1 to 5). Third, open statements helped us confirm shared opinions and understand differences. In line with our research interest and in light of our non-representative sample, we focused more on converging views than on differences, which we had expected to be dominant, as outlined in the following. Figures are produced with the Microsoft software Excel.

Table 1. Categorization of respondents based on "light-related" and "other" main occupations.

	Categories Based On Closed Questions Regarding The Respondents' Light-Related Main Occupation	Categories Based On Open Answers Regarding "Other" Than Light-Related Main Occupations.
Lighting professionals (N = 67; 25 females, 41 males, 1 other; aged between 26 and 79)	• Architectural and decorative lighting design (indoor/outdoor) • Functional light planning (streets, parking lots, etc.) • Development of urban lighting concepts/master plans • Light art/artistic work using light (no answer) • Marketing and/or the sale of lighting products • Lighting technology research and development	• Providing of lighting or information on lighting (via online platforms, electronics engineering services, as part of energy provision and consulting in developing countries).
Light pollution experts (N = 89; 23 females, 65 males, 1 other; aged between 20 and 75)	• Environmental protection related to lighting • Raising awareness for light pollution	• Astrosciences and -technology related occupations (e.g., professional or amateur astronomers, airglow researchers, educators in planetariums) • Environment-related occupations (including scientific work in biology, chronobiology or the environmental sciences, educational work in nature reserves and parks, journalism, etc.) • Other research related to the effects of lighting (university lecturers and researchers of various disciplines, including law, archaeology, history, sociology, physiology, etc.) • Raising awareness for light pollution (non-profit activists, voluntary dark-sky educational work, etc.) • Retired respondents with an interest in astronomy and light pollution mitigation.

3. A Conceptual Framework: Exploring Expert Perspectives on Light Pollution

In recent years, initial studies have explored the general populations' views on lighting and light pollution. For instance, Lyytimäki and Rinne [21] carried out an online survey to understand how people in Finland perceive and respond to light trespass and other light nuisances (n=2053). In Germany, Besecke and Hänsch [22] explored how residents of an inner-city street of Berlin and inhabitants of a nearby suburban community perceived light and darkness before and after street lighting refurbishments to LED lighting. Green et al. [23] used ethnographic data, household survey and documentary sources to explore responses to street lighting reductions in eight areas of England and Wales. This study complements this strand of research by providing results on *expert* perspectives on the topic. Expert perspectives are relevant as outdoor lighting has long been delegated to expert systems and is only just re-emerging as a public issue [24]. In contrast to studies of the general public, which are methodologically challenging as they demand asking people about their implicit practical knowledge about lighting [25], focusing on experts makes it possible to investigate the issue—including its technical aspects—in more depth and detail, given the respondents' higher level of previous engagement with specificities of the topic. Other than most laypersons, they pay attention

to light and darkness and also have a vocabulary to express their observations and feelings about lighting. Moreover, expert opinions are also particularly relevant as they shape realities of artificial light and natural darkness by planning, designing or contesting lighting.

Since we could not draw on existing expert surveys, we had to come up with our own conceptual framework for assessing the group-specific views. Social-scientific theory suggests that expert groups form "communities of practice" with specific understandings and shared views on their respective issues of concern [26]. Recent discourses in the two stakeholder groups allowed us to develop the three thematic areas covered in the survey based on explicit assumptions, as outlined below (Table 2). In line with our empirical observation, Challéat and colleagues [19] have described two camps vis-à-vis lighting in France: lighting professionals who promote a technical view on "light nuisance" and astronomers, conservationists and citizens who take an environmental stance against "light pollution".

3.1. Light Pollution Experts and the Negative Side-Effects of Artificial Light at Night (ALAN)

To conceptualize the views of the light pollution experts on a global scale, we can draw on the growing body of scientific literature on the effects of artificial light at night (ALAN), which is also the basis for social scientific and planning discourses on ALAN as well as for activists. This interdisciplinary and emerging field can be roughly divided into three areas: Research mainly by astronomers and astrophysicists on sky glow and light trespass as an impediment to the observation of the universe; biological research investigating the impact of ALAN on individual animal and plant species, and increasingly, on ecosystems; medical research exploring the chronobiological hormonal effects that are triggered by ALAN and are suspected to increase the risk of depression, cancer, cardio-vascular diseases and obesity.

Experts who work on these issues have significantly shaped the notion of light pollution. Astronomers, both professionals and amateurs, are a driving force behind initiatives for dark-sky protection. With the spread of electric lighting in the early 20th century, they were among the first to criticize and quantify the reduced visibility of celestial objects [27]. Today, they explore and develop new instruments and methods for assessing the illumination of the night sky [6,28–30]. They also warn that blue-rich LED light scatters more strongly in the atmosphere and will, in combination with rebound effects, increase not only sky glow but also glare [31,32].

Biologists and ecologists have been studying the effects of artificial light at night on birds, insects, aquatic organisms, reptiles, mammals and plants to understand and assess its impact on these different species as well as entire ecosystems. In recent years, they have substantiated their suspicion that light affects animal behavior (e.g., through distraction) and disturbs the circadian rhythm of living organisms more generally, both with negative consequences for the finely orchestrated processes of all life that have evolved over millennia under planetary rhythms of light and darkness [1]. All light spectra can be potentially harmful, as different species are sensitive to different types of light. Therefore, full-spectrum light sources and blue-rich light seem to be more problematic than light with a narrow spectrum and longer wavelengths, as these will probably affect more species [33,34]. Since circadian processes also govern the human body, exposure to ALAN, and particularly to blue-rich light, has also become a public health concern [5]. Medical studies suggest that ALAN is a stressor for people who work night shifts or are exposed to blue-rich light at night, such as that emitted by LED lighting [35].

Although scientific evidence on the biological impacts of ALAN is still patchy, many biologists and physicians have come to take a precautionary stance and promote the protection or restoration of natural darkness or reduced light levels. In that and in their reservations regarding blue-rich lighting, they share views and goals with astronomers, as well as with actors that engage critically with the illumination of the night from other viewpoints, such as culture or aesthetics [3,36]. In the latter respect, it is frequently highlighted that we are losing the experience of natural darkness and the visibility of the stars and planets, which has been a key to human civilization [37].

Light pollution experts also actively recommend, develop and test counter-measures. They develop models to assess the scope and effects of the problem, as well as the viability of solutions [3,27,32,38]. They criticize the fact that existing lighting technology, lighting standards and regulations are not sufficient and that they should be updated to acknowledge issues of light pollution [39]. Advocacy organizations such as the International Dark-Sky Association (IDA), but also researchers in the ALAN community, address the wide-spread ignorance of the issue and actively engage in raising awareness for light pollution (e.g., ida.org, cost-lonne.eu, stars4all.eu). Finally, light pollution experts are actively involved in shaping lighting technology (e.g., shielded luminaires, PC amber LEDs) and the governance of lighting via tools that range from technical recommendations (e.g., avoidance of light above the horizontal and blue-rich lighting) to education (e.g., in observatories) and mandatory legislation [40–42].

Table 2. Overview of our empirically grounded assumptions regarding group-specific views.

Assumptions	Light Pollution Experts	Lighting Professionals
Basic assumptions		
What are the group-specific interests?	• Reduce artificial light at night, stop loss of the night. • Acknowledge and tackle the problem in projects, guide-lines, rules and regulations.	• Sell lighting expertise in design and building projects. • Promote good, visually comfortable, aesthetically appealing light and darkness.
Problem perception		
What is light pollution?	• All artificial light at night is a form of pollution.	• It depends on the situation, whether light is pollution. • Given the many positive effects of lighting, the term 'pollution' is inappropriate.
Why is it a problem?	• ALAN can have negative effects on flora, fauna, humans and ecosystems. • Experience of natural darkness and the visibility of night-time skies are lost.	• Visual discomfort (e.g., due to glare) and light trespass. • Negative effects on people's sleep. • Unnecessary energy consumption and cost.
Governance challenge		
What are the obstacles?	• Lack of awareness and knowledge amongst decision-makers, lighting professionals and light users. • Worldwide increase in blue-rich white LED lighting which intensifies the problem.	• Lighting professionals have solutions, but they are not invited. • Adequate technology and best practices are available, but need to be disseminated.
Possible solutions		
Who is responsible?	• Actors in the lighting field, regulators and light users.	• Actors in the lighting field.
What should be done?	• Reduce artificial light at night, avoid blue-rich light. • Develop policies for mitigating light pollution, including hard regulations. • Develop better technology that reflects the state of knowledge regarding the negative effects of lighting.	• Encourage sustainable instead of cheap solutions. • Apply existing knowledge and recommendations. • Plan and design according to the state of the art in lighting. • Use smart technology and apply adaptive lighting.

Based on these discourses and developments, we assumed the following:

1. Regarding the definition of light pollution, we expect that light pollution experts contend that *all artificial light at night is pollution*, because even small amounts of ALAN are an alteration of natural darkness and may affect living beings and the possibility to observe the night sky. In terms of the problem's dimensions, we assume that they highlight potential non-visual effects of light on flora, fauna, humans and ecosystems, as well as the cultural loss of natural darkness and star-filled skies.
2. Regarding the governance challenge, we expect that light pollution experts call for more political commitment and highlight the need to raise awareness for light pollution, to provide more guidance and information to decision makers.
3. In terms of the problem's solutions, there seems to be a widely-shared consensus in the light pollution community that *systemic change* is necessary. We therefore assume that light pollution experts recommend more sustainable technology, better education and information, as well as better technical guidance, lighting standards and stricter regulations.

3.2. Lighting Professionals and the Art of Planning, Designing and Manufacturing Light

Lighting professionals' perspectives are less obvious, as they often do not refer to light pollution when they write about potential negative side-effects of lighting. As a lighting designer remarked in response to our survey invitation, "the term 'light pollution' is an evocative phrase for many lighting designers, including me. Our stance is that light is a pure and natural phenomenon, and the 'pollution' angle comes from the misuse of light, or light in the wrong place. We feel that the terms 'obtrusive light' and/or 'light trespass' are more fitting." In a commentary published in Nature, lighting designer Zielinska-Dabkowska outlines the potentially negative health effects of lighting without mentioning the term "light pollution" even once [43].

Looking at lighting practices and projects, energy and cost efficiency constitute long-standing benchmarks that can be linked to light reduction. Accordingly, the British Institution of Lighting Professionals (ILP) argues in its Guidance Notes for the Reduction of Obtrusive Light: "Do not 'over' light. This is a major cause of obtrusive light and is a waste of energy. There are published standards for most lighting tasks, adherence to which will help minimize upward reflected light." [44] (p. 1111).

This recommendation also reflects the basic stance that 'good' lighting means providing appropriate lighting for a given time, place and task. Light engineering and illuminating societies develop technical standards to provide orientation towards achieving this complex goal (ies.org, theilp.org.uk and licht.de). Lighting design associations and expert networks provide information, education and exchange platforms that enable their members to plan and design light in situation-specific ways and according to their clients' needs (e.g., iald.org, pld-c.com, luciassociation.org). Light manufacturers also subscribe to this goal which allows them to further develop and diversify their product lines, for instance with a focus on heath or enhanced work performance [45,46].

Knowing how to accomplish 'good' lighting is considered a characteristic and distinctive skill of lighting professionals, which qualifies them more than electricians, civil engineers, architects or private home owners to illuminate the world at night. However, in reality, such explicit lighting expertise is often ignored or only invited in the final stages of building or design projects. Therefore, light planners, specifiers and lighting designers often describe light pollution as a problem of missed opportunities: Short-sighted cost-benefit calculations, lack of expertise and time pressure lead to suboptimal solutions that cause nuisances and unwanted side effects.

Professional experience and knowhow appear to be particularly relevant in light of two major developments: For one, climate change policies affect lighting practices in the form of economic incentives, but also product bans like the out-phasing of the incandescent light bulb [25]. For another, light-emitting diodes (LEDs) constitute a disruptive technological innovation [47]. LED technology is widely seen as an energy efficient means to provide "the right light at the right place at the right

time", since LEDs are highly directional and can be digitally controlled and adapted in brightness and color temperature. They thus open new business opportunities, which also relate to issues of light pollution. For instance, light manufacturers work on optical systems that reduce glare, conduct their own research on the non-visual effects of blue-rich LED light and offer new products, including PC amber LEDs, to meet the demands of dark-sky friendly lighting schemes.

Finally, new conceptual approaches to lighting are relevant to light pollution debates. First, LED lighting is promoted with visions of adaptive "smart" lighting that responds to lighting needs, thereby reducing excess light [47,48]. The notion of "human-centric lighting" highlights the relationship between light and well-being, thereby widening the thus-far dominant focus on more functional aspects like visibility and safety [49]. In this concept, lighting professionals show a preference for adaptable white light sources with a continuous spectrum, which provide better color rendering than the widely-used sodium vapor street lamps, and are thus assumed to enhance visual comfort in outdoor spaces. Last but not least, lighting designers also highlight the value of darkness, but more for aesthetic than for environmental reasons, which are less prominently voiced in lighting projects [13] (pp. 182–187).

Based on these observations, we assumed the following:

1. Regarding the problem's definition, we expect lighting professionals to argue that *it depends on the situation* whether light is pollution, or even to *reject the notion that light can be pollution* altogether. In terms of the problem's dimensions, they will probably be more concerned with reducing energy consumption and improving humans' visual comfort (full light spectrum, no glare) and well-being than with protecting natural darkness and star-filled skies or reducing potential negative effects on flora and fauna.
2. With regard to the governance challenge, we expect that lighting professionals take responsibility and make the mitigation of light pollution their own task, as it calls for professional skills and constitutes a potential business case. It seems likely that they will argue that light pollution would not be a problem if lighting were properly planned and designed by experts.
3. Regarding the problem's solutions, we accordingly assume that lighting professionals blame procedural and project-related shortcomings like the lack of lighting expertise in building projects and call for an earlier and more consistent involvement of professionals. We further expect them to rely on the self-regulatory functions of their professional institutions and the state of the art in their professional domain (existing guidelines, best practices, innovative technological solutions and products) rather than calling for 'external' intervention via stricter rules and more regulation.

4. Findings: Where Experts (Dis)agree

Overall, our results show that light pollution experts generally express stronger opinions on the issue than lighting professionals. We further see that views are more consensual regarding understandings of the problem and possible solutions than they are regarding the question of why it is difficult to tackle light pollution, that is, the governance challenge. To better understand the contexts in which the survey respondents form their opinions, we asked them to specify how their professional or voluntary light-related work is affected by current trends (Figure S2 and Table S2). The results show that the two groups perform their activities under the impression of relatively similar dynamics, especially the introduction of LED lighting in outdoor spaces, irrespective of their geographical background.

4.1. What is Light Pollution?

To test our assumptions regarding problem perceptions, we asked the respondents to express their opinions about the notion of light pollution. Not surprisingly, light pollution experts were more critical of ALAN than lighting professionals (Figure 1): 47% of them consider *all outdoor lighting as pollution*, while 53% think that *it depends on the situation*. Conversely, given the frequently encountered

scepticism towards the term, we were surprised that 28% of the lighting professionals in our sample even subscribed to the absolute view that "all outdoor lighting after dark is a form of pollution." Of the respondents, 66% think it depends on the situation, and 3% of lighting professionals answered that "outdoor lighting is never pollution".

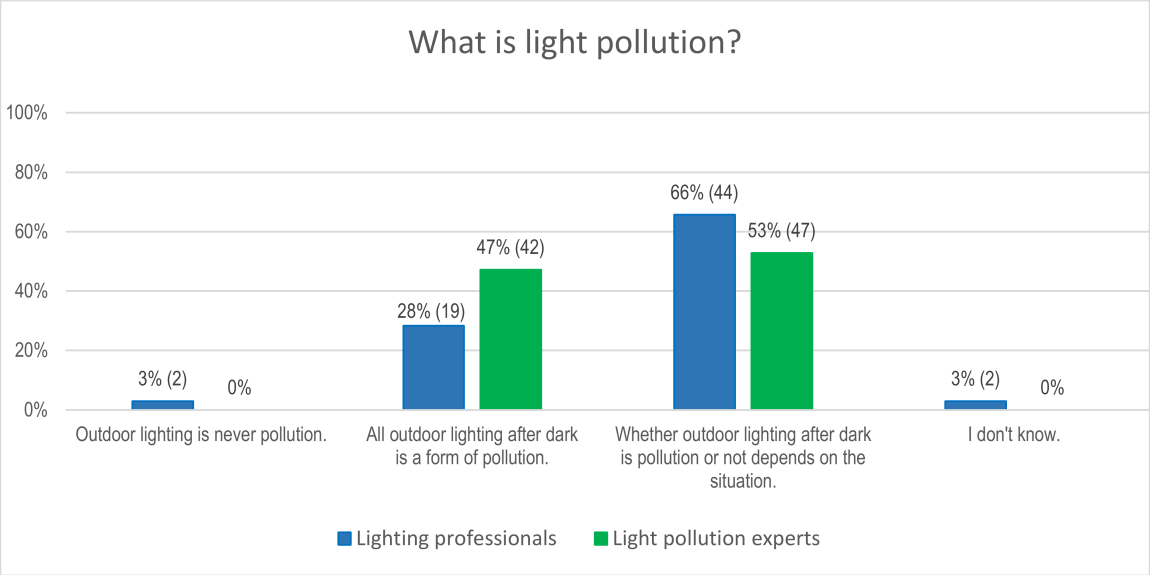

Figure 1. Problem definition: "What is your personal opinion regarding light pollution?" Answers in percentage per group and (absolute numbers).

In a follow-up question, we then asked those who had answered "it depends" to specify problematic situations (multiple choice). Figure 2 shows that light pollution experts find more situations problematic: 66% of them ticked nine out of eleven possible answers, while only 23% of the lighting professionals agreed with nine answer options. The majority of lighting professionals agree with light pollution experts, albeit to a lesser extent, that *light is pollution when it enters areas where it is unwanted* (light trespass), is *not used*, *obscures the visibility of the stars* and *produces glare*.

Discrepancies between the groups vary. They are smallest when light is not automatically considered pollution, such as *colorful lighting* or *moving and blinking lights*. Opinions differ most when it comes to the illumination of specific spaces like *natural areas* or *close to bodies of water* or *observatories* (inter-group differences of more than 45 percentage points) and lighting-technological aspects like *blue-rich lighting*, *color temperature and glare* (inter-group differences between 37 and 44 percentage points).

The discrepancy allows two interpretations: Firstly, the comparatively low recognition of problematic spaces among lighting professionals might be a sign of their unawareness or indifference with regard to effects of ALAN on water organisms, flora and fauna in general, or astronomical observations. However, as we will see below, answers to follow-up questions do not support this interpretation. Secondly, we might conclude that light pollution experts lean towards more definite essentialist understandings of the problem, whereas lighting professionals have more relativist views.

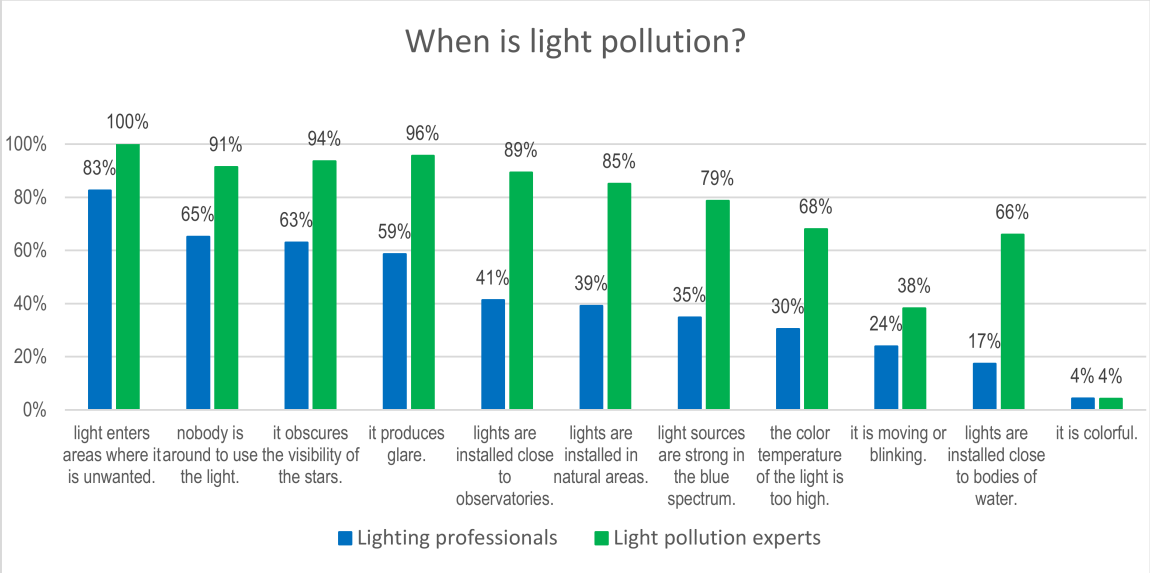

Figure 2. Problem dimensions: "In which situations do you consider lighting as pollution?" Percentage of positive answers by group (multiple choice, filter question following the definition "it depends", n = 91, sorted by lighting professionals' feedback).

4.2. Why is it a Problem?

The light pollution experts' more acute perception of the problem is also reflected in their evaluation of its different dimensions (Figure 3). When asked why light pollution should be reduced, 82% of the respondents in this group rated *all six* suggested arguments as "important" or "very important", in contrast to 58% of lighting professionals.

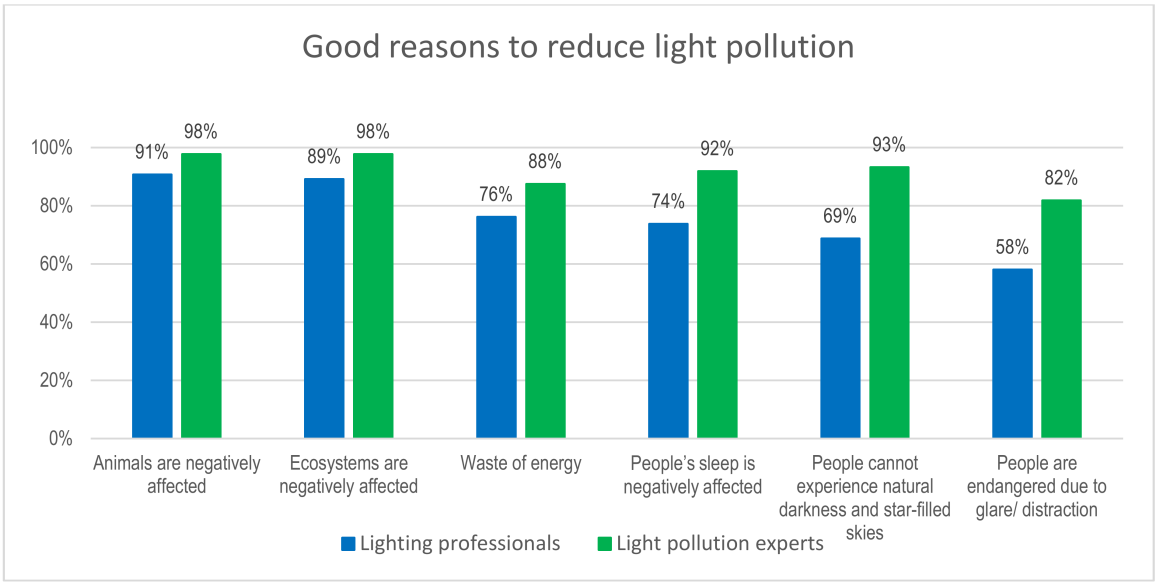

Figure 3. Problem dimension: "In your opinion, why should light pollution be reduced? Please indicate how important you find the following..." Percentage of respondents in each group who answered 4 or 5 on a scale from 1-*not at all important* to 5-*very important*. The option "I doubt this is an issue" (−1) was not chosen (sorted by lighting professionals' feedback). See Table S3 for more detail.

Over 90% of all respondents agreed that the *negative effects of lighting on animals and ecosystems* are important or very important reasons to tackle the problem. The least supported argument in both groups—*people are endangered due to glare/distraction*—was still considered important by 82% of the

light pollution experts and 58% of the lighting professionals. This last place on the list may reflect the expert debate on whether glare should be discussed as a form of light pollution. Interestingly, this valuation stands in contrast to the fairly high ratings for glare as a form of light pollution (Figure 3).

When exploring inter-group discrepancies, we see that the inter-group differences are greatest and that the impact of occupation is thereby also statistically significant in regressions with various explaining variables (see footnote 3) for the three last-ranking arguments that regard negative effects on *people's sleep* ($p < 0.05$), *people's incapacity to experience natural darkness and star-filled skies* ($p < 0.01$) and *dangers due to glare/distraction* ($p < 0.05$).

4.3. What is the Governance Challenge?

The governance challenge was operationalized in terms of potential obstacles to light pollution mitigation. Again, light pollution experts express stronger opinions in almost all points (Figure 4). The only possible obstacle that does not fit this pattern concerns the *definition of light pollution*. While 50% of the lighting professionals think that the lack of a clear-cut definition is an important impediment, this view is only shared by 32% of the light pollution experts, which corresponds with their more definite understanding of the problem as outlined above.

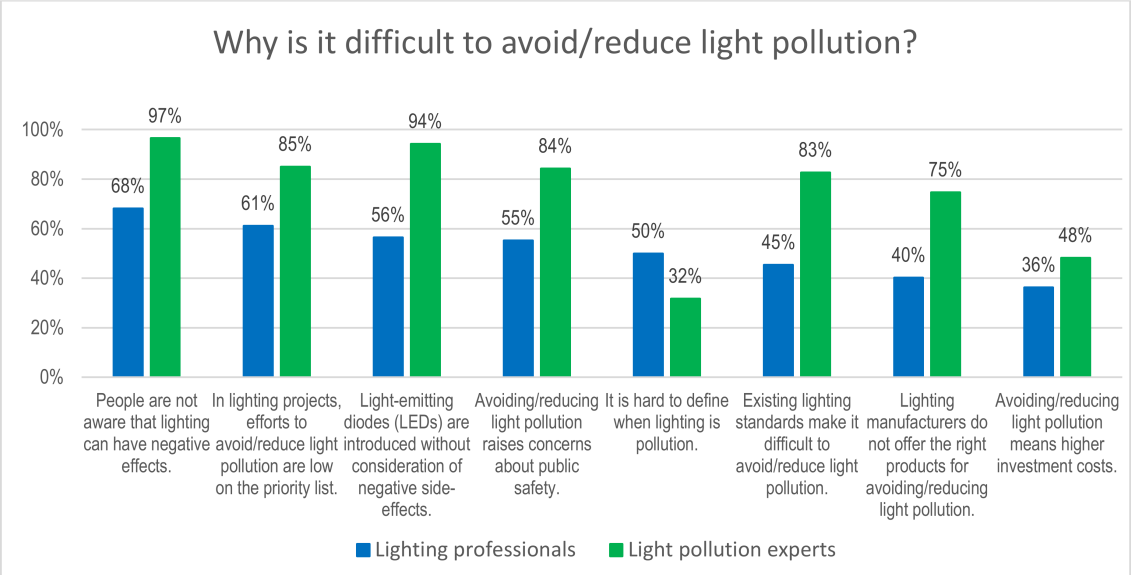

Figure 4. Obstacles to light pollution mitigation: "Based on your experience, how relevant are the following potential obstacles to avoiding/reducing light pollution?" Percentage of respondents in each group who answered 4 or 5 on a scale from 1-*not at all important* to 5-*very important* (sorted by lighting professionals' ranking). See Table S4 for more detail.

Focusing on the ranking of the listed items, the top three obstacles for the lighting professionals are first, the *general lack of awareness that lighting can have negative effects* (68%), second, *the low priority of the issue in lighting projects* (61%), and third, *the installation of LEDs without consideration of side-effects* (57%). These potential obstacles are also considered as *most important* by light pollution experts, but they rank the LED problem second (94%) and the low priority of light pollution in lighting projects third (85%). In both groups, the complex issue of *public safety concerns* ranks fourth, albeit very close to the third-most important item.

Looking more closely at the discrepancies between the groups, we find an interesting pattern. The inter-group differences are greatest and statistically significant ($p < 0.001$) in regressions asking for the impact of occupation and for the three items that concern lighting practices (introduction of LED lighting, lighting standards, lack of adequate lighting technology). Light pollution experts consider these potential obstacles as considerably greater than lighting professionals (34 percentage points and

more). Scepticism or even frustration regarding current lighting practices also dominate about half of the open statements to this question: "Mindless installation of harsh, eye-gouging LEDs has become an epidemic worldwide and it just keeps getting worse and worse," writes one light pollution expert. Another criticizes "manufacturers and National agencies ignoring/minimizing light pollution as side effect . . . "

Light pollution experts' negative or sceptical views on current lighting practices could be interpreted as a result of their vigilant observation of, but limited access to, the lighting field. It also supports our assumption that lighting professionals are less critical of their field as they think they could solve the problem if they were invited to give their expertise. Accordingly, one lighting professional proposes to "promote good lighting design" as a way of light pollution mitigation. Another complains that "specification and installation decisions are made by parties without appropriate training/expertise."

The gap between the groups is smaller regarding what can be summarized as *light user-related* obstacles (lack of awareness regarding the negative effects of lighting, low priority of the issue in lighting projects, and concerns about public safety), which are rated amongst the most important impediments to light pollution mitigation. While differences between the groups still range between 24–29 percentage points when considering only the high values (answers 4 and 5), they are even smaller when looking at *all* responses (entire scale from 1 to 5): the difference between the group-specific mean values is below 0.9 with relatively high average scores between 3.6 and 4.8 (see Table S4). The user-related obstacles' importance is also reflected in the open responses (n = 36 for both groups), where almost half of the statements address unawareness, ignorance or misconceptions among light users, including municipalities. "There is a general ignorance and apathy on the issue", remarks a light pollution expert and adds that "slowly but surely people are waking up." A lighting professional criticizes "the poor knowledge and the deficient light culture of politics and city administrations."

4.4. Who is Responsible for Tackling the Issue?

Since environmental issues like light pollution raise questions of accountability, we asked the survey participants to attribute responsibility to a list of stakeholders. Again, the responses show that light pollution experts attribute generally more responsibility to each listed group than lighting professionals, but the inter-group differences are smaller than the potential obstacles (Figure 5). In particular, there is broad agreement that lighting designers/planners, politicians and public administration are responsible, followed by lighting manufacturers. The inter-group comparison shows that the lighting professionals in our sample are, as expected, willing to take on responsibility, which is also assigned to them by light pollution experts. The lighting professionals' willingness to tackle the problem is underlined by the responses of the nine respondents who sell lighting products as their main occupation: They all find that lighting manufacturers are responsible. Furthermore, lighting professionals hold the actors in their field more responsible than politicians and public administrations, whereas light pollution experts see them as being roughly equally responsible.

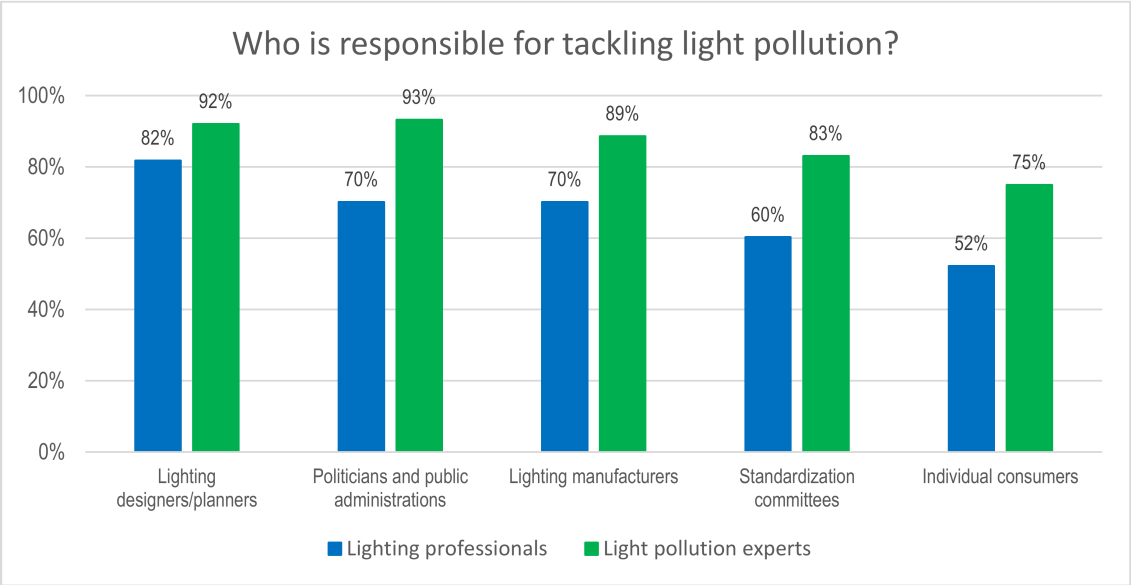

Figure 5. Responsibility: "In your opinion, to which degree are the following actor groups responsible for avoiding or reducing light pollution?" Percentages of respondents in both groups who answered 4 or 5 on a scale from 1-*not at all responsible* to 5-*very much responsible* (sorted by lighting professionals' feedback). See Table S5 for more detail.

The trust in professional expertise is also reflected in the responses regarding the responsibility of individual consumers. Only 52% of the lighting professionals in our sample consider them highly responsible (values 4 or 5), whereas 27% think that end users of light are *not* responsible (values 1 or 2). Light pollution experts, too, rank individual consumers least responsible, but hold them considerably more accountable: Only 7% find individual consumers have no responsibility, while 75% think they do. The discrepancy might result from lighting professionals' expert attitudes towards their clients as expressed in some open statements (e.g., "Clients in general ask for more"), whereas light pollution experts might identify themselves as individual consumers who take action against light pollution. This interpretation corresponds with a sense of self-responsibility that was expressed in several open survey statements (Question: "In your light-related activity, do you actively take precautions/action to avoid or reduce light pollution?"). Here, light pollution experts describe how they chose specific technology to reduce light pollution in their immediate surroundings or participate in public campaigns and education to raise awareness for the issue.

Finally, that most light pollution experts (75% and more) rank all items listed in the question highly likely reflects their interest in mobilizing against light pollution and addressing the issue broadly. This is also expressed in open statements regarding responsibilities: "We are all responsible", argues one light pollution expert. Others attribute responsibility to "civil society/local communities (people that live in areas which suffer from too less or too much light)" or to "people in general", as "they are the final users of the lighting systems and have to have a capital role in this issue . . . "

Despite differences in degree, we see that over 70% of the survey respondents in both groups can agree that the main responsibility for tackling light pollution lies with decision makers and institutional actors in the lighting field and in politics. That they hold individual consumers less responsible can be interpreted as a sign of their system understanding of the challenge and sense of realism. After all, most respondents also indicated that the general lack of awareness among light users is a major obstacle to light pollution mitigation, making them a difficult stakeholder group to start with.

4.5. What Should be Done?

Regarding possible light pollution mitigation measures, the views of lighting professionals and light pollution experts converge far more than in previous questions, with especially small inter-group differences for high-ranking potential measures. The *promotion of best practice lighting projects, e.g., in municipalities*, is unequivocally strongly recommended, i.e., by 95% of all respondents (Figure 6). Moreover, 89.6% of the lighting professionals and 84.5% of the light pollution experts recommend to *use lighting concepts and integrated light planning* to tackle the problem. The great for such strategic policy instruments is remarkable as they are still in a phase of development and not yet very well established in urban and regional light planning practice [50,51]. This might explain why light pollution experts find education measures and awareness-raising even more desirable (mean values between 3.6 and 4.7, see Table S6).

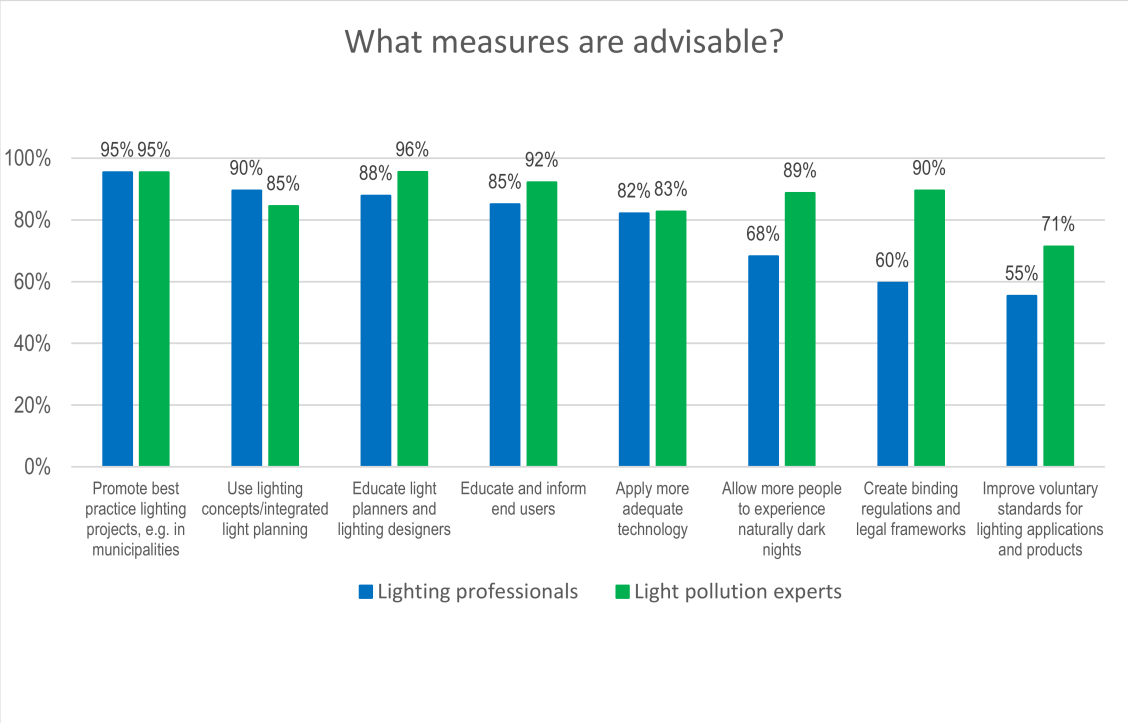

Figure 6. Recommendations: "To which extent would you recommend the following measures to avoid/reduce light pollution?" Percentage of respondents in each group who answered 4 or 5 on a scale from 1-*not at all* to 5-*very strongly* (sorted by lighting professionals' feedback). See Table S6 for more detail.

The impacts of occupational backgrounds (lighting professional or light pollution expert) were only statistically significant for the three least important possible recommendations: Light pollution experts more strongly recommend *allowing people to experience naturally dark nights* ($p < 0.01$). They are also significantly more in favor of *mandatory regulations and legal frameworks* ($p < 0.001$) and more strongly recommend *improving voluntary standards for lighting applications and products* ($p < 0.05$). The discrepancy, especially with regard to binding regulations, partly matches our assumption that lighting professionals would rather support the better use of existing expertise and technology. Yet, we also see that more than half of them recommend the creation of regulations and better standards for tackling light pollution. Meanwhile, the share of light pollution experts who recommend better regulatory frameworks is smaller than we expected. This slightly diminished enthusiasm might result from the experience that rules and regulations need to be understood, followed and enforced if they are to make a difference, which has proven problematic in the lighting field [16] (pp. 151–152).

Seen overall, it is relevant that the respondents show a high degree of agreement to *all* suggested measures (agreement above 50% in both groups for all items). One open statement (Question: Why do you find specific measures more advisable than others?) explains how the items complement each other: "We need a mix of (1) measures to avoid mistakes (education; binding regulations); (2) retrofitting programmes to fix past mistakes; and (3) more dark sky parks experience to spread the benefits of low light pollution." Another points out that outdoor lighting has historically been designed and installed with little regard for its potential negative impact: "Overcoming this will take a coordinated approach using awareness raising, education, rules and regulation cross the range of the industry including end users."

5. Discussion: Differences, but Common Grounds

The findings of our expert survey both confirm and challenge our group-specific expectations (Section 3). While it is important to keep in mind that the lighting professionals in our sample are likely particularly sensitive to and reflexive about light pollution issues due to a self-selection bias, the analysis of the survey results nonetheless point towards both shared and conflicting views.

5.1. Problem Perception: Absolute and Situated Definitions across Expert Groups

First of all, the results highlight that light pollution experts and lighting professionals can agree on relevant points. This is most evident in the unexpected result that most lighting professionals in our sample accept the concept of light as pollution (Figure 1). More than half of all respondents perceive light pollution as a situation-dependent phenomenon. The four top-ranking critical situations in both groups (Figure 2) describe light trespass, unused light, sky glow and glare. Focusing on disagreement, it seems that the most important difference is that light pollution experts define light pollution in more absolute terms, for instance when light shines in natural areas, irrespective of its specific purpose or use. This discrepancy seems important when it comes to possible counter-measures, as an essentialist understanding calls for zoning and thresholds in regulatory approaches, whereas a relativist understanding calls for deliberation and the negotiation of conflicting interests.

Regarding the potential dimensions of the problem (Figure 3), we found support for our assumptions that light pollution experts overwhelmingly consider the lost experience of natural darkness and the night sky as a relevant reason for reducing light pollution, whereas lighting professionals find other aspects such as energy savings more important. Interestingly, they rated aspects related to the human experience of light and darkness least important. This was unexpected in light of professional debates on visual comfort and human-centric lighting.

Given that ecology is rarely an issue in lighting projects, the almost unanimous perception of unwanted side effects on flora and fauna as being highly relevant was surprising. This can be understood as a sign that the lighting field is ready to take into account the increasing scientific evidence on effects of ALAN. Recent publications by lighting designers support this conclusion [52], calling for "biologically benign forms of energy-efficient lighting" and transdisciplinary efforts by physicists, engineers, medical experts, biologists, designers, planners, regulators and policymakers to "minimize the negative impacts of artificial lighting at night, indoors and out." [43] (p. 274).

We conclude that a shared concern for the unwanted environmental effects of ALAN could constitute common grounds for lighting professionals and light pollution experts. After all, tackling light pollution is also perfectly in line with energy-saving goals as a positive side effect and another selling argument for light pollution mitigation.

5.2. Governance Challenge: Raising Awareness is Key

Regarding challenges and opportunities for tackling light pollution, we see a broad consensus that there is a problematic and general unawareness of the problem (Figure 4): More than two-thirds of the respondents agree that light pollution mitigation is hampered by the fact that people are not aware that light can have negative effects. This result fully confirms our expectations regarding light

pollution experts. For lighting professionals, it indirectly supports our assumption that they consider themselves unsolicited experts, especially as they point toward the low priority of light pollution in lighting projects as the second most important obstacle. In other words, lighting professionals seem convinced that the problem could be managed if they were only asked more often to offer their expertise. Yet, this implies that clients are aware of the problem in the first place.

Moreover, both groups express their concern that the introduction of LED lighting endangers light pollution mitigation. As expected, these responses reflect the light pollution experts' concern that the worldwide increase in blue-rich LED lighting will intensify the problem, and lighting professionals' dissatisfaction with bad or badly installed LED technology. It is important to note, however, that light pollution experts significantly more often see LED lighting as an important impediment to light pollution mitigation. The same applies to the lighting industry and existing lighting standards, which light pollution experts consider much more problematic than lighting professionals.

Taken together, the group-specific responses to our question regarding potential obstacles differ more than those regarding the problem and possible solutions. We interpret this as a result of different practical experiences: While lighting professionals are perfectly familiar with, and therefore criticize, imperfect project realities, light pollution experts observe the lighting field from their concerned outsider perspectives as astronomers, environmentalists, researchers or citizens and criticize the entire system.

5.3. Possible Solutions: Who will Tackle the Problem of Light Pollution and How?

Finally, expert opinions on possible solutions have great practical relevance. Here, our assumptions regarding responsibility attribution were only partly confirmed. Both groups hold individual consumers least responsible and lighting designers and planners most responsible, followed by politicians and public administrations (Figure 5). As expected, the lighting professionals in our sample are overwhelmingly ready to take on the challenge. Meanwhile, light pollution experts unexpectedly attributed responsibility to practically anyone, including themselves ("all of us"). Thus, it seems that contrary to many environmental debates where scapegoating prevents action [53], the majority of the survey respondents appeared to be ready to take action. This is also reflected in their answers to another open question, where we asked whether they "actively take precautions/action to avoid or reduce light pollution": The numerous responses showed a broad range of activities, including the private use of adaptive lighting systems, the promotion of darkness in municipal lighting schemes and public dark-sky initiatives [16] (pp. 199–202).

The respondents' recommendations on how to tackle the problem are surprisingly consensual across the two groups (Figure 6). The promotion of best practice in lighting projects is highly recommend by 95% of the survey participants. They also broadly agree that integrated light planning is a promising measure. This common ground seems to be particularly relevant, as these instruments are not yet widely established, but municipalities seem increasingly open to rethinking their lighting schemes in response to the profound technological transition, climate change policies and an increasing public concern for light pollution [50]. Moreover, lighting professionals have begun to explicitly consider light pollution concerns when they develop lighting schemes and guidelines [54,55]. These planning-oriented recommendations send a clear message to policy makers, as they can inform best practice, make the philosophy of demonstration projects more tangible and offer guidance to decision makers and light planners.

In line with the widely-shared view that lacking awareness of light as pollution is a key obstacle to tackling the problem, education of both lighting experts and users is a highly consensual recommendation. In comparison, regulatory measures like binding law were less consensual. We thus conclude that the largest common grounds among the two groups exist regarding soft measures, such as setting good examples and raising awareness. From a policy perspective, such educational and best-practice measures constitute low-hanging fruit, as they are likely to raise attention and enthusiasm with less controversy and opposition than may be the case with hard regulation. The experts who

participated in our survey seem well-aware of this across the board. However, regarding the question of whether such soft measures will be enough, our survey indicates that opinions differ.

6. Conclusions

This exploratory study focuses on expert views on light pollution to explore common grounds for future debates and political strategies. Our findings show that lighting professionals who provide illumination and light pollution experts, who problematize artificial light at night, do not necessarily live and work in worlds apart. Instead, the lighting designers, planners and manufacturers that participated in our survey are ready to take into account the increasing scientific evidence on negative non-visual effects of artificial light at night on ecosystems in order to provide better lighting as part of their business. They accept the notion of light pollution, especially in situations where lighting does not live up to quality standards of light engineering, planning or design. Finally, they largely agree with astronomers, environmentalists, researchers and dark-sky activists that there is a need for raising awareness for the unwanted side-effects of lighting.

While light pollution is far from being a mainstream topic, these findings suggest that there is a rising awareness for the problem and its potential effects not only in science and society, but also in the lighting field. As an emerging environmental concern, the issue also raises questions that go beyond this study. For instance, the problem and solutions seem to be less controversial than the obstacles that prevent light pollution mitigation. To better understand the governance challenge, it therefore seems advisable to not only study the effects of ALAN, but also the societal and cultural contexts in which it is produced, used and changed [13,25,47]. Disagreement and controversies can thereby offer a salient starting point for understanding the values and fears, path dependencies and future visions associated with light and darkness [19,39,56].

Moreover, the governance challenge of light pollution shows interesting parallels with other environmental issues that are more established and may offer instructive insights, like noise or chemical pollution [57]. One lesson learnt is that patchy knowledge bases and scientific uncertainty constitute a challenge for risk communication [58]. With regard to our results, this raises the sensitive question of how to create public awareness for light pollution without either dramatizing or downplaying its potential effects. Research alone cannot meet this challenge. Instead, it highlights the need for science-policy interfaces as well as inter- and transdisciplinary exchange. A number of initiatives and organizations in both the lighting field and the emerging ALAN research community offer platforms to meet this demand [16] (pp. 224–246). However, although experts of both fields have started to exchange views and knowledge, a joint platform for opening and closing debates is still missing, which can cause uncertainty among light users [25].

The commonalities between two fields of expertise highlighted in this paper thus have practical relevance, as they can facilitate exchange between experts that share an interest in light pollution mitigation despite their diverse, and potentially opposing, professional backgrounds. Fostering this exchange seems pivotal since light pollution mitigation means a transformation of lighting practices and the positive connotation of lighting [13]. It is even more important as the strong support for situation-specific definitions of light pollution in our study suggests that the issue can hardly be solved only in principle, but calls for negotiation at the level of lighting projects and in public discourses. Seen from this perspective, the recommendation to raise awareness and education seems to be a 'no-brainer'. Instead, it raises the question about what should be taught to whom and how. In this respect, critical debates on light planning and lighting design that engage local residents and stakeholders from lighting and non-lighting backgrounds on-site in concrete projects seems a promising starting point. After all, there is no shortage of technological options or visionary concepts like "human centric" or "smart" lighting, but a lack of projects that realize these possibilities in sustainable ways. This is not surprising, as determining what "sustainable" lighting actually is, will very likely stir debate, opposition and controversies over means and goals. It is also quite possible that lighting professionals and light pollution experts who agree in principle will disagree when it comes to concrete decisions.

Therefore, public testing and reality checks of visionary ideas and concepts are essential. They bear potential for improvement, mutual understanding and, most importantly, bring the global discussion on light pollution into a local, practical context, and make it real in its consequences.

Supplementary Materials: The following are available online at http://www.mdpi.com/2071-1050/11/6/1696/s1, Table S1: Variables used in regressions, Figure S1: Regressional analyses, Table S2: Trends, Figure S2: Trends, Table S3: Problem dimension, Table S4: Obstacles, Table S5: Responsibilities, Table S6: Recommendations. An overview of variables is available at www.ufz.de/light-pollution.

Author Contributions: N.S.-R., J.M. and E.D. have conceived and conceptualized the study and questionnaire. N.S.-R. and M.S. prepared and carried out the survey and analyzed the survey data. N.S.-R. and J.M. wrote the first draft of the paper and all four authors contributed to writing, revising and editing the manuscript.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Longcore, T.; Rich, C. Ecological light pollution. *Front. Ecol. Environ.* **2004**, *2*, 191–198. [CrossRef]
2. Navara, K.J.; Nelson, R. The dark side of light at night: Physiological, epidemiological, and ecological consequences. *J. Pineal Res.* **2007**, *43*, 215–224. [CrossRef] [PubMed]
3. Gaston, K.J.; Visser, M.E.; Hölker, F. The biological impacts of artificial light at night: The research challenge. *Philos. Trans. R. Soc. Lond. B Biol. Sci.* **2015**, *370*, 1–6. [CrossRef] [PubMed]
4. Roenneberg, T.; Kantermann, T.; Juda, M.; Vetter, C.; Allebrandt, K.V. Light and the human circadian clock. *Handb. Exp. Pharmacol.* **2013**, *217*, 311–331.
5. American Medical Association (AMA). *Report of the Council on Science and Public Health on Human and Environmental Effects of Light Emitting Diode (LED) Community Lighting*; Presented by Luis J. Kraus, MD, Chair 2016, (CSAPH Report 2-A-16); American Medical Association (AMA): Chicago, IL, USA, 2016.
6. Falchi, F.; Cinzano, P.; Duriscoe, D.; Kyba, C.C.M.; Elvidge, C.D.; Baugh, K.; Portnov, B.A.; Rybnikova, N.A.; Furgoni, R. The new world atlas of artificial night sky brightness. *Sci. Adv.* **2016**, *2*, e1600377. [CrossRef] [PubMed]
7. Bille, M.; Sørensen, T.F. An Anthropology of Luminosity: The Agency of Light. *J. Mater. Cult.* **2007**, *12*, 263–284. [CrossRef]
8. Bach, S.; Degenring, F. *Dark Nights, Bright Lights: Night, Darkness, and Illumination in Literature*; Walter de Gruyter GmbH & Co. KG: Berlin, Germany, 2015; Volume 50.
9. Barentine, J. France Adopts National Light Pollution Policy among Most Progressive in the World. Available online: https://www.darksky.org/france-light-pollution-law-2018/ (accessed on 12 February 2019).
10. Chain, P. Slovenia Takes Dim View of Light Pollution. *BBC News* 8 September 2010. Available online: https://www.bbc.com/news/world-europe-11220636 (accessed on 15 March 2019).
11. Hirdina, K. Belichte. Beleuchten. Erhellen. In *Humboldt-Universität zu Berlin, Humboldt-Universität zu Berlin, Philosophische Fakultät III, Institut für Kultur- und Kunstwissenschaften*; Seminar für Ästhetik: Berlin, Germany, 1997; Volume 89.
12. Böhme, H. Das Licht als Medium der Kunst. Über Erfahrungsarmut und ästhetisches Gegenlicht in der technischen Zivilisation. In *Licht, Farbe, Raum. Künstlerisch-Wissenschaftliches Symposium*; Schwarz, M., Ed.; Humboldt University zu Berlin: Braunschweig, Germany, 1997; pp. 111–137.
13. Edensor, T. *From Light to Dark: Daylight, Illumination, and Gloom*; University of Minnesota Press: Minneapolis, MN, USA, 2017.
14. Philips Lighting Light Pollution—The Effects on Animals and Humans. Available online: http://www.lighting.philips.com/main/education/lighting-university/lighting-university-browser/webinar/lighting-pollution (accessed on 11 February 2019).
15. Lentz, L.C. August 2016 Product Briefs: Dark Sky-Friendly Light Fixtures. *Architectural Record* 2016. Available online: https://www.architecturalrecord.com/articles/11823-august-2016-product-briefs-dark-sky-friendly-light-fixtures?v=preview (accessed on 15 March 2019).
16. Schulte-Römer, N.; Dannemann, E.; Meier, J. *Light Pollution—A Global Discussion*; Helmholtz-Centre for Environmental Research GmbH—UFZ: Leipzig, Germany, 2018. Available online: http://www.ufz.de/index.php?en=20939&ufzPublicationIdentifier=21131 (accessed on 11 February 2019).

17. McGowan, S. Night Watch: Checking in with the dark sky movement. *Architectural Lighting* 8 March 2007. Available online: https://www.archlighting.com/industry/night-watch-checking-in-with-the-dark-sky-movement_o (accessed on 15 March 2019).
18. ALAN Official Website. Available online: http://www.artificiallightatnight.org/ (accessed on 11 February 2019).
19. Challéat, S.; Lapostolle, D.; Bénos, R. Consider the darkness. From an environmental and sociotechnical controversy to innovation in urban lighting. *J. Urban Res.* **2014**, *11*, 1–17.
20. Marres, N. The Issues Deserve More Credit: Pragmatist Contributions to the Study of Public Involvement in Controversy. *Soc. Stud. Sci.* **2007**, *37*, 759–780. [CrossRef]
21. Lyytimäki, J.; Rinne, J. Voices for the darkness: Online survey on public perceptions on light pollution as an environmental problem. *Integr. Environ. Sci.* **2013**, *10*, 127–139. [CrossRef]
22. Besecke, A.; Hänsch, R. Residents' perceptions of light and darkness. In *Urban Lighting, Light Pollution and Society*; Meier, J., Hasenöhrl, U., Krause, K., Pottharst, M., Eds.; Routledge: New York, NY, USA, 2015.
23. Green, J.; Perkins, C.; Steinbach, R.; Edwards, P. Reduced street lighting at night and health: A rapid appraisal of public views in England and Wales. *Health Place* **2015**, *34*, 171–180. [CrossRef] [PubMed]
24. Schulte-Römer, N.; Hänel, A. Dimming it Down: Lighting Conflicts and Regulation—Introduction. In *Urban Lighting, Light Pollution and Society*; Meier, J., Hasenöhrl, U., Krause, K., Pottharst, M., Eds.; Routledge: New York, NY, USA, 2015; pp. 100–104.
25. Bille, M. *Homely Atmospheres and Lighting Technologies in Denmark: Living with Light*; Bloomsbury Publishing: London, UK, 2019.
26. Wenger, E. *Communities of Practice: Learning, Meaning, and Identity*; Cambridge University Press: Cambridge, UK, 1999.
27. Hasenöhrl, U. Lighting conflicts from a historical perspective. In *Urban Lighting, Light Pollution and Society*; Meier, J., Hasenöhrl, U., Krause, K., Pottharst, M., Eds.; Routledge: New York, NY, USA, 2015; pp. 105–124.
28. Cinzano, P.; Falchi, F.; Elvidge, C.D. The first World Atlas of the artificial night sky brightness. *Monthly Not. R. Astron. Soc.* **2001**, *328*, 689–707. [CrossRef]
29. Hänel, A.; Posch, T.; Ribas, S.J.; Aubé, M.; Duriscoe, D.; Jechow, A.; Kollath, Z.; Lolkema, D.E.; Moore, C.; Schmidt, N.; et al. Measuring night sky brightness: Methods and challenges. *J. Quant. Spectrosc. Radiat. Transf.* **2018**, *205*, 278–290. [CrossRef]
30. Holzhauer, S.; Franke, S.; Kyba, C.; Manfrin, A.; Klenke, R.; Voigt, C.; Lewanzik, D.; Oehlert, M.; Monaghan, M.; Schneider, S. Out of the dark: Establishing a large-scale field experiment to assess the effects of artificial light at night on species and food webs. *Sustainability* **2015**, *7*, 15593–15616. [CrossRef]
31. Aubé, M. Physical behaviour of anthropogenic light propagation into the nocturnal environment. *Philos. Trans. R. Soc. B Biol. Sci.* **2015**, *370*, 20140117. [CrossRef] [PubMed]
32. Aubé, M.; Kocifaj, M. Using two light-pollution models to investigate artificial sky radiances at Canary Islands observatories. *Mon. Not. R. Astron. Soc.* **2012**, *422*, 819–830. [CrossRef]
33. Spoelstra, K.; van Grunsven, R.H.; Donners, M.; Gienapp, P.; Huigens, M.E.; Slaterus, R.; Berendse, F.; Visser, M.E.; Veenendaal, E. Experimental illumination of natural habitat—An experimental set-up to assess the direct and indirect ecological consequences of artificial light of different spectral composition. *Philos. Trans. R. Soc. B Biol. Sci.* **2015**, *370*, 20140129. [CrossRef] [PubMed]
34. Schroer, S.; Hölker, F. Impact of lighting on flora and fauna. *Handb. Adv. Light. Technol.* **2017**, 957–989. [CrossRef]
35. Stevens, R.G.; Zhu, Y. Electric light, particularly at night, disrupts human circadian rhythmicity: Is that a problem? *Philos. Trans. R. Soc. B Biol. Sci.* **2015**, *370*, 20140120. [CrossRef]
36. Meier, J. Designating Dark Sky Areas: Actors and interests. In *Urban Lighting, Light Pollution and Society*; Meier, J., Hasenöhrl, U., Krause, K., Pottharst, M., Eds.; Routledge: New York, NY, USA, 2015; pp. 177–196.
37. Bogard, P. *The end of Night: Searching for Natural Darkness in an Age of Artificial Light*; Hachette: London, UK, 2013.
38. Sánchez de Miguel, A. *Spatial, Temporal and Spectral Variation of Light Pollution and Its Sources: Methodology and Results*; Universidad Complutense de Madrid: Madrid, Spain, 2015.
39. Meier, J.; Hasenöhrl, U.; Krause, K.; Pottharst, M. *Urban Lighting, Light Pollution and Society*; Routledge: New York, NY, USA, 2015.

40. Morgan-Taylor, M. Regulating light pollution in Europe: Legal challenges and ways forward. In *Urban Lighting, Light Pollution and Society*; Meier, J., Hasenöhrl, U., Krause, K., Pottharst, M., Eds.; Routledge: New York, NY, USA, 2015; pp. 159–176.
41. AstroLab, Activity guide 2017–2018: AstroLab. Parc National du Mont-Mégantic Parc National du Mont-Mégantic. 2017. Available online: http://astrolab-parc-national-mont-megantic.org/files/ssparagraph/1491459118/form_groupe_2017_scolaire_english.pdf (accessed on 15 March 2019).
42. LoNNe What Can We Do Against Light Pollution. Available online: http://www.cost-lonne.eu/recommendations/ (accessed on 11 February 2019).
43. Zielinska-Dabkowska, K.M. Make lighting healthier. *Nature* **2018**, *553*, 274–276. [CrossRef]
44. Institution of Lighting Professionals (ILP). *Guidance Notes for the Reduction of Obtrusive Light*; Institution of Lighting Professionals: Rugby, UK, 2011. Available online: https://www.theilp.org.uk/documents/obtrusive-light/guidance-notes-light-pollution-2011.pdf (accessed on 15 March 2019).
45. Lighting Research Center. The Light and Health Alliance. Available online: https://www.lrc.rpi.edu/programs/lightHealth/alliance.asp (accessed on 12 February 2019).
46. Philips Lighting. Shining a Light on Health and Well-Being. Available online: http://www.lighting.philips.com/main/education/lighting-university/lighting-university-browser/webinar/light-and-health-implications-for-hospitality (accessed on 11 February 2019).
47. Schulte-Römer, N. *Innovating in Public. The Introduction of LED Lighting in Berlin and Lyon*; Technical University Berlin: Berlin, Germany, 2015.
48. Ocana-Miguel, A.; Andres-Diaz, J.; Hermoso-Orzáez, M.; Gago-Calderón, A. Analysis of the Viability of Street Light Programming Using Commutation Cycles in the Power Line. *Sustainability* **2018**, *10*, 4043. [CrossRef]
49. Boyce, P. *Exploring Human-Centric Lighting*; SAGE Publications Sage: London, UK, 2016.
50. Köhler, D. The lighting master plan as an instrument for municipalities? A Critical Assessment of possibilities and limitations. In *Urban Lighting, Light Pollution and Society*; Meier, J., Hasenöhrl, U., Krause, K., Pottharst, M., Eds.; Routledge: New York, NY, USA, 2015; pp. 141–158.
51. Challéat, S.; Lapostolle, D. *Getting Night Lighting Right. Taking Account of Nocturnal Urban Uses for Better-Lit Cities*; Métropolitiques.eu: La Plaine Saint-Denis, France, 2018.
52. Zielinska-Dabkowska, K.; Rhode, M.F. *New Perspectives on the Future of Healthy Light and Lighting in Daily Life*; callidus; Verlag wissenschaftlicher Publikationen: Wismar, Germany, 2017.
53. Bobertz, B.C. Legitimizing pollution through pollution control laws: Reflections on scapegoating theory. *Texas Law Rev.* **1994**, *73*, 711.
54. Scott, L.A. Roger Narboni. In *Lighting. Illumination in Architecture*; Revo Media Partners Ltd.: London, UK, 2015; Volume 47, pp. 72–79.
55. IDA; IES. *Model Lighting Ordinance (MLO) with User's Guide—Featuring Lighting Zones (LZ0-4) and BUG Rating System*; International Dark-Sky Association and Illuminating Engineering Society: New York, NY, USA, 2011; p. 44. Available online: https://www.ies.org/product/model-lighting-ordinance-mlo-with-users-guide (accessed on 15 March 2019).
56. Meier, J.M. Contentious Light: An Analytical Framework for Lighting Conflicts. *Int. J. Sustain. Light.* **2018**, *20*, 62–77. [CrossRef]
57. Krause, K. Regulating urban lighting: Prospects for institutional change. In *Urban Lighting, Light Pollution and Society*; Meier, J., Hasenöhrl, U., Krause, K., Pottharst, M., Eds.; Routledge: New York, NY, USA, 2015; pp. 125–140.
58. Lyytimäki, J.; Tapio, P.; Assmuth, T. Unawareness in environmental protection: The case of light pollution from traffic. *Land Use Policy* **2012**, *29*, 598–604. [CrossRef]

Letter 4

COMMENTER: Carin High, Co-Chair, Citizens Committee to Complete the Refuge

DATE: May 24, 2021

Response 4.1

The commenter states their understanding of the proposed project in the form of a summary.

The commenter's understanding of the proposed project is an accurate summary of one component of the project as proposed and evaluated in the Draft EIR. However, as described on Page 2-6 of the Draft EIR, the proposed also includes two other components. These two other components include a land exchange to relocate the San Francisco Bay Trail and establishing an approximately 32-acre wetland preserve. This comment is noted and does not require revisions to the Draft EIR.

Response 4.2

The commenter lists the project objectives while stating an opinion that one of the objectives is the purpose of the project and two of the objectives appear to be intended to prohibit the selection of alternatives to the project, which the commenter opines is a violation of CEQA.

The commenter correctly lists the project objectives. As described on Page 2-13 of the Draft EIR, the objectives of the proposed project are to:

- Develop an industrial building to house U-Haul corporate headquarters and warehouse.
- Locate the building at the western edge of Hayward in proximity to a regional highway and other industrial, warehousing and logistics uses to avoid land use conflicts.
- Create new employment and economic growth opportunities by redeveloping a vacant and underutilized property.
- Establish a wetland preserve adjacent to the San Francisco Bay.
- Remove a dilapidated and unsafe structure from a currently underutilized property at the gateway to the City.

The commenter's assertion that the primary objective of the project is to develop an industrial building to house U-Haul corporate headquarters and a warehouse is partially correct. The project also has the purpose of establishing a wetland preserve, as described in the objectives listed above and on Page 2-13 of the Draft EIR.

The commenter's opinion that the last two listed objectives are overly specific such that they confine consideration of alternatives and render it impossible for any other alternative location to be selected is incorrect. An alternative to a project does not need to meet every objective of that project. Pursuant to Section 15126.6 of the *State CEQA Guidelines*, "An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project…" Based on Section 15126.26 of the *State CEQA Guidelines*, an alternative to the proposed project need not meet all objectives listed below, but only most of them, such as the first three listed. Therefore, listing all objectives of the project, including specific objectives, does not violate CEQA or inhibit the City's alternatives analysis or selection.

Section 6 of the Draft EIR is the analysis of alternatives to the proposed project. Alternative 2, which is an alternate site alternative, is identified as the environmentally superior alternative on page 6-11 of the Draft EIR. As described on page 6-11 of the Draft EIR, Alternative 2 would fail to meet two of the five project objectives. Despite not meeting all five objectives, the City retains the ability to select and proceed with Alternative 2 instead of the proposed project.

Because the Draft EIR evaluates a reasonable range of alternatives to the project pursuant to CEQA Guidelines, including alternatives that meet most of the basic objectives of the project, additional alternatives analyses are unnecessary. No revisions to the Draft EIR are necessary in response to this comment.

Response 4.3

The commenter states that the Draft EIR identifies Alternative 2 as the environmentally superior alternative, but that Alternative 2 is rejected because it fails to meet two project objectives.

As discussed in Response 4.2, Alternative 2, which is an alternate site alternative, is identified as the environmentally superior alternative on Page 6-11 of the Draft EIR. As described on Page 6-11 of the Draft EIR, Alternative 2 would fail to meet two of the five project objectives. Despite not meeting all five objectives, the City retains the ability to select and proceed with Alternative 2 instead of the proposed project. Alternative 2 is not rejected from consideration. Additionally, Section 15126.6 of the *State CEQA Guidelines* only requires that an EIR identify the environmentally superior alternative. CEQA does not require the City to select or implement the environmentally superior alternative.

Because the Draft EIR evaluates a reasonable range of alternatives to the project and identifies an environmentally superior alternative, additional alternatives analyses are unnecessary. No revisions to the Draft EIR are necessary in response to this comment.

Response 4.4

The commenter states an opinion that project operation would generate trash that attracts species that would be a nuisance to salt marsh harvest mouse (SMHM) and salt marsh wandering shrew (SMWS), but that the Draft EIR provides no mitigation for impacts of nuisance species to SMHM or SMWS.

Typically, the types of trash or waste that attract nuisance species, such as feral cats or Norway rats, consists of food scraps and food packaging. Food waste is generally associated with either residential areas or commercial development with restaurants, where there are many people cooking and preparing meals, which in turn generates food waste. The proposed project consists of an industrial building to be used for an office and warehouse. Office and warehouse use would not generate substantial amounts of food waste or by-products. Workers on-site could bring meals to the building and discard food trash in small quantities. However, waste generated by workers would be disposed of in proper trash receptables, such as a dumpster, and the receptables would be stored inside the building. Because project dumpsters would be in an enclosed area, they would be largely inaccessible to feral cats or rats. Pets such as domestic cats would not be expected to reside within the industrial building. Therefore, operation of the proposed project would not significantly attract or support populations of nuisance species. Because the project would not attract nuisance species, there would be no significant impact of nuisance species on SMHM or SMWS and mitigation is not required. No revisions to the Draft EIR are necessary in response to this comment.

Response 4.5

The commenter states that no discussion is provided regarding how the impacts of the project on the loss of SMHM and SMWS escape refugia will be mitigated even though the impacts "are regarded as potentially significant." The comment letter also discusses sea level rise and the need for SMHM and SMWS escape refugia.

Page 4.1-23 of the Draft EIR includes Mitigation Measure BIO-3, which states:

> "To compensate for impacts to approximately 0.97 acre of waters of the U.S., the project applicant shall purchase wetland mitigation credits at a minimum of 1:1 mitigation ratio from an approved mitigation bank with a Service Area that covers the project site. The San Francisco Bay Wetland Mitigation Bank currently has "Tidal Wetland and Other Waters Creation" credits available for purchase. Either the U.S. Army Corps of Engineers or the CDFW may adjust the mitigation ratio and the applicant shall comply, but in no case shall the mitigation ratio be less than 1:1."

In addition to having "Tidal Wetland and Other Waters Creation" credits available, the San Francisco Bay Wetland Mitigation Bank restored 88 acres of historic baylands to full tidal influence, and enhanced and expanded essential habitat for SMHM and California Ridgway's rail to promote the recovery of these species. Accordingly, the proposed compensatory mitigation would adequately mitigate for project impacts to SMHM habitat and SMWS. In order to clarify that Mitigation Measure BIO-3 would mitigate impacts to SMHM habitat and SMWS, pages 4.1-16 and 4.1-17 of the Draft EIR are revised as follows.

> Project construction activities on the eastern component of the project site could result in direct mortality and/or harassment of the federal and State endangered SMHM and CDFW special-status SMWS. Additionally, the project would potentially result in impacts to marginal pickleweed habitat for these species. No construction activities would occur within the western component of the project site, where most of the former salt ponds and pickleweed habitat occurs. However, construction of the proposed building and parking lot would occur partially within pickleweed habitat at a former salt pond in the eastern component of the project site. Further, disturbance of the upland area immediately adjacent to the salt pond in the eastern component would disturb habitat that could become increasingly important to SMHM and SMWS as escape refugia during flooding and inundation. These impacts to SMHM and SMWS are regarded as potentially significant. Therefore, Mitigation Measures BIO- 1a through BIO-1c listed below would be required to reduce potential impacts to SMHM and SMWS to a less-than-significant level. <u>Additionally, implementation of Mitigation Measure BIO-3, described for Impact BIO-3 below, would be required to reduce potential impacts to SMHM and SMWS.</u>

The proposed project also includes establishing an approximately 32-acre wetland preserve on the western component of the project site. The 32-acre preserve area contains six old salt ponds totaling 26 acres. The 32-acre preserve would be preserved in perpetuity via recordation of a deed restriction, or other appropriate legal mechanism, ensuring that the salt ponds are permanently preserved as open space in perpetuity, as described on Page 2-6 of the Draft EIR. Preservation of this 32-acre preserve would provide additional mitigation for the loss of SMHM and SMWS escape refugia on the eastern component of the project site.

As described on Page 71 of the Initial Study, the *Hayward Regional Shoreline Adaptation Plan* indicates that portions of the project site would be inundated from future sea level rise, including the preserve area and portions of the eastern component of the project site. The proposed project

includes no physical work within or modifications to the 32-acre preserve area, including no changes to ground elevation. Therefore, the proposed project would have no impacts related to sea level rise on the preserve compared with existing conditions. Elevations on the eastern component would either remain at current conditions or would be raised in areas to ensure that the building would comply with the City's Flood Plain Management requirements (Hayward Municipal Code Chapter 9, Article 4). See also Response 4.14. Because the project would result in no changes to SMHM or SMWS escape refugia on the western component of the project site and would raise ground elevations on portions of the eastern component, there would be no significant impacts on SMHM or SMWS escape refugia. No additional revisions to the Draft EIR are necessary.

Response 4.6

The commenter states an opinion that indirect impacts to biological resources from project lighting and noise should be further evaluated in the Draft EIR and that mitigation may be warranted to reduce these impacts.

The potential impacts of project lighting on wildlife are evaluated on pages 4.1-18 and 4.1-19 of the Draft EIR. As described therein, the proposed building and associated parking area would include exterior lighting. Light pollution can affect bird nesting behavior, flight patterns of bats during night, and other similar wildlife impacts. However, proposed exterior lighting and parking lot lighting must comply with Hayward Municipal Code Section 10-1.1606. Specifically, exterior lighting and parking lot lighting must be designed by a qualified lighting designer and erected and maintained so that light is confined to the property and will not cast direct light or glare upon adjacent properties or public rights-of-way. Mandatory compliance with Section 10-1.1606 would ensure that the proposed project does not create substantial new sources of light that adversely affect wildlife in the areas near the project site, including the Caltrans Pond between the eastern and western components of the project site. As stated on Page 4.1-19 of the Draft EIR, impacts on special-status species from project lighting would be less than significant with mandatory compliance with Hayward Municipal Code Section 10-1.1606. Because compliance with the Hayward Municipal Code is mandatory and enforced, no additional mitigation is necessary to ensure that light impacts on biological resources are reduced.

Potential noise impacts of the project are evaluated on pages 86 through 89 of the Initial Study, which is included as Appendix A to the Draft EIR. As described therein, construction of the project would generate noise, but noise generated from project construction would be temporary. Additionally, only a select number of construction equipment would generate noise exceeding acceptable limits beyond the boundary of the project site. Impacts from construction noise would be less than significant and no mitigation is required.

As described on Page 88 of the Initial Study, the primary on-site noise sources associated with operation of the proposed project would include vehicle circulation noise (e.g., engine startups, alarms, parking) at the on-site parking lot and, heating, ventilation, and air conditioning (HVAC) equipment at the proposed industrial building. Vehicle trips generated by the project would be only a small fraction of the total trips that occur daily on State Route 92, adjacent to the project site. Therefore, project vehicle trips would not result in a noticeable increase in traffic noise over existing conditions adjacent to the site. Other vehicle noises, such as engine startups and alarms, currently occur in the area at existing development to the east of the project site, as well as car horns travelling on State Route 92. As described on Page 89 of the Initial Study, project HVAC noise would generate an estimated noise level of up to 60 dBA L_{eq} at 50 feet from the proposed building, without accounting for a shielding effect by rooflines and landscaping. According to the Center for Disease

Control and Prevention (CDC), 60 dB is the approximate volume of a normal conversation.[1] Noise levels of 60 dB would be below existing noise levels associated with the traffic volume on State Route 92, which includes large truck and motorcycle traffic, in additional to cars. Accordingly, noise impacts of the project would be less than significant.

Because the project would not generate new sources of light or noise that affect nearby wildlife habitats, such as habitat at the Caltrans Pond, no significant impacts would result from the project. Mitigation measures are not required. No revisions to the Draft EIR are necessary.

Response 4.7

The commenter states that the proposed project is immediately adjacent to Eden Landing Ecological Reserve and would include western facing windows and asserts that the Draft EIR fails identify this as a potential threat to avian species or describe mitigation measures that would be incorporated to avoid bird collisions.

The proposed industrial building was designed to avoid bird strikes, particularly the western-facing windows. As illustrated in the conceptual image of the proposed building below, the western-facing windows would have architectural features that break up the glass surface and protrude outward from the window surface.

These architectural features would break up and divide the western-facing windows, making it more apparent to birds that the windows are a surface rather than an open space suitable for flying. Because the building incorporates design features to avoid bird strikes, there would be no significant impacts associated with bird strikes and mortality or injury. Mitigation is not required. This comment requires no revisions to the Draft EIR.

[1] Center for Disease Control and Prevention (CDC). Loud Noises Can Cause Hearing Loss. Retrieved on June 7, 2021, from https://www.cdc.gov/nceh/hearing_loss/what_noises_cause_hearing_loss.html

Response 4.8

The commenter states an opinion that Measure BIO-1d in the Draft EIR should be revised to require that burrowing owl survey techniques be coordinated with California Department of Fish and Wildlife (CDFW) staff, and if owls are detected, require continued coordination with CDFW.

Mitigation Measure BIO-1d, on Page 4.1-20 of the Draft EIR, requires surveys for burrowing owl to be conducted prior to commencement of project construction and pursuant to guidance published by CDFW. Additionally, Mitigation Measure BIO-1d requires avoidance of burrowing owls with protective buffers established in accordance with guidance published by CDFW. Pursuant to Mitigation Measure BIO-1d, if avoidance of burrowing owls is not feasible, then additional measures such as passive relocation during the nonbreeding season and construction buffers of 200 feet during the breeding season shall be implemented, in consultation with CDFW. Because the Mitigation Measure requires burrowing owl surveys to be conducted using CDFW methodology and avoidance using buffers specified by CDFW or developed in consultation with CDFW, no revisions to the Draft EIR are necessary.

Response 4.9

The commenter states an opinion that Mitigation Measure BIO-1e in the Draft EIR should be revised to require coordination with CDFW and U.S. Fish and Wildlife Service (USFWS) in determining appropriate buffer distances from nests of California least tern, Western snowy plover, or black skimmer.

In response to this comment, Mitigation Measure BIO-1e on pages 4.1-20 and 4.1-21 is revised as follows:

> If active nests are identified during the nesting bird survey, an appropriate avoidance buffer shall be established within which no work activity will be allowed which would impact these nests. The avoidance buffer would be established by the qualified biologist on a case-by-case basis based on the species and site conditions. In no cases shall the buffer be smaller than 50 feet for passerine bird species, and 250 feet for raptor species~~,~~. The buffer ~~or 600 feet~~ for California least tern, western snowy plover, and black skimmer shall be at least 600 feet or otherwise determined by CDFW and USFWS. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. Buffers shall be delineated by orange construction fencing that defines the buffer where it intersects the project site.

No additional revisions to the Draft EIR are necessary in response to this comment.

Response 4.10

The commenter states an opinion that project operation would generate trash that attracts species that would be a nuisance to salt marsh harvest mouse (SMHM) and salt marsh wandering shrew (SMWS), but that the Draft EIR provides no mitigation for impacts of nuisance species to SMHM or SMWS.

This comment is similar to comment 4.4. Please see Response 4.4, above. As described therein, the proposed project would not attract nuisance or predator species. Because the project would not attract nuisance species, there would be no significant impact of nuisance species on SMHM or SMWS and mitigation is not required. No revisions to the Draft EIR are necessary in response to this comment.

Response 4.11

The commenter describes the proposed wetland preserve area and asks how nuisance wildlife would be handled in the preserve. The commenter also asks who would hold the fee title to the preserve area and maintain levees in the preserve area.

The proposed preserve area would not include management or maintenance activities. As described on Page 2-6 of the Draft EIR, because the preserve area would be preserved in perpetuity with a deed restriction or other appropriate legal mechanism, without management activities, no management plan or improvement plan is proposed. Existing or baseline conditions within the preserve area would not change as a result of the proposed project because the preserve area is currently not managed and is not developed. In other words, the proposed project would not alter or affect existing conditions within the preserve because establishing the proposed preserve is only a legal mechanism and not a physical action. If nuisance species, such as California gull, were to inhabit the preserve area, it would not be a result of the project, as there would be no change resulting from the project within the preserve area. Nuisance species can currently inhabit the preserve area. Because the proposed project would result in no physical changes or modifications to the preserve area, there are no impacts to mitigate in the Draft EIR regarding establishing the preserve. This is consistent with CEQA. Pursuant to *State CEQA Guidelines* Section 15126.2, "In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced." No maintenance or management of the preserve area was occurring at the time the notice of preparation was circulated or when environmental analysis for the Draft EIR began. However, it is important to note that per Hayward Municipal Code (HMC) Chapter 4, Article 1, Public Nuisances and specifically the Weed, Rubbish and Litter Abatement Ordinance, the property owner would be responsible for ongoing maintenance of the development site and the preserve site. No revisions to the Draft EIR are necessary in response to this comment.

The commenter's question about the person or group who will hold the fee title to the wetland preserve area does not appear to pertain to CEQA or the Draft EIR. Therefore, revisions to the Draft EIR are not required. However, for informative purposes, the landowner proposes to retain fee title to the wetland preserve area.

Response 4.12

The commenter states that the Draft EIR identifies potentially significant but mitigable impacts related to groundwater contamination and references the applicable mitigation measures. The commenter states an opinion that the Draft EIR does not describe the depth to the groundwater basin or how contamination of the groundwater would be prevented during geotechnical and building foundation construction.

As described on Page 4.3-12 of the Draft EIR, the State Water Resources Control Board has stated that there may be residual soil and groundwater contamination, which resulted in the preparation of a Risk Management Plan (RMP). As further described on Page 4.3-12 of the Draft EIR, according to the RMP, elevated concentrations of contamination in soil could be encountered during construction activities at depths of 5 feet below ground surface or deeper within the restricted areas on the eastern component of the project site. Therefore, the impacts analysis in the Draft EIR assumes that groundwater may be encountered at depths as shallow as 5 feet below ground

surface. Given that project construction would require excavations to at least 5 feet below ground surface, the Draft EIR assumes that groundwater would be encountered, regardless of the actual depth of groundwater on-site. This assumption provides for the most conservative impact analysis because it assumes that groundwater would be encountered. Accordingly, it is immaterial to the Draft EIR analysis to determine or state the precise depth to groundwater because it is assumed that groundwater would be encountered regardless of the depth.

As described on Page 4.3-13 of the Draft EIR, geotechnical requirements for the proposed building would require the use of displacement piers. The displacement piers use a hollow mandrill that is filled with crushed rock that is vibrated into the ground to a preselected depth and is then raised and lowered, while vibrating, to densify the gravel and the surrounding soils. This produces a column of compacted gravels and increases the density of the surrounding soils. The column of gravel created from displacement piers would create a potential pathway for migration of contaminated groundwater plume to aquifers at depths of up to 20 feet below ground surface, as that is the recommended depth of the piers for the project. Due to the site's proximity to the bay, the displacement piers may also create a preferential pathway for groundwater associated with sea level rise, as the piers would displace lower permeable materials (e.g., clays and silts). Migration of the groundwater contamination plume into aquifers would be potentially significant but mitigable. Accordingly, Mitigation Measure HAZ-2c, found on Page 4.3-15 of the Draft EIR, requires the displace pier foundation to be designed by a geotechnical engineer. The displacement piers must be designed in a way to prevent creating a preferential pathway between shallow groundwater at approximately 5 feet below ground surface and deeper groundwater. The design must then be incorporated into project plans and constructed in that manner.

Implementation of Mitigation Measure HAZ-2c would ensure that the displacement pier columns, while potentially penetrating an aquifer or groundwater basin, do not create preferential pathways for contamination migration. The Draft EIR also contains Mitigation Measures HAZ-2b, which requires stormwater bioretention areas to be located or designed to prevent contamination from leaching into aquifers. Because Mitigation Measures HAZ-2b and HAZ-2c would prevent the bioretention areas and foundation piers from creating a preferential pathway for contamination, no additional mitigation is required to reduce impacts associated with groundwater contamination and project design. No revisions to the Draft EIR are necessary in response to this comment.

Response 4.13

The commenter asks if the San Francisco Bay RWQCB and Alameda County Water District have been consulted regarding the geotechnical mitigation measure requiring the use of displacement pier foundations for the proposed building. The commenter states an opinion that additional mitigation may be needed to prevent the migration of groundwater contamination.

The commenter's description of geotechnical mitigation appears to refer to Mitigation Measure GEO-1 on pages 49 and 50 of the Initial Study, which is included as Appendix A to the Draft EIR. Mitigation Measure GEO-1 requires incorporation into the project all recommendations set forth in the Geotechnical Engineering Services Report prepared by Professional Services Industries, Inc., an Intertek company, in January 2018. The Geotechnical Engineering Services Report, included as Appendix D to the Draft EIR, includes recommendations for the use of a displacement pier foundation for the building, as discussed above in Response 4.12. Implementation of Mitigation Measure GEO-1, as well as Mitigation Measure HAZ-2c pertaining to the displacement piers, discussed above in Response 4.12, do not require approval or oversight from the San Francisco Bay RWQCB or Alameda County Water District. Accordingly, neither agency was consulted in the

development of mitigation measures provided in the Draft EIR. However, the Draft EIR was circulated to both agencies for review and comment. The Alameda County Water District requested that both they and the RWQCB be consulted if soil or groundwater contamination is encountered during project construction (see Response 2.1, above).

As described above in Response 4.12, mitigation measures HAZ-2b and HAZ-2c would prevent the bioretention areas and foundation piers from creating a preferential pathway for contamination; therefore, no additional mitigation is required to reduce impacts associated with groundwater contamination and project design. No revisions to the Draft EIR are necessary in response to this comment.

Response 4.14

The commenter states an opinion that elevations of the proposed relocated San Francisco Bay Trail are undetermined in the Draft EIR and that it is unclear if sea level rise has been incorporated into the project design.

The elevation of the proposed relocated segment of the San Francisco Bay Trail is provided on Page 72 of the Initial Study, which is provided as Appendix A to the Draft EIR. As described on Page 72 of the Initial Study, the surface of the relocated segment of the San Francisco Bay Trail would be approximately 8 feet in elevation, measured from mean sea level. Because the Initial Study specifies the elevation of the relocated trail and is an appendix to the Draft EIR, the Draft EIR does specify the elevation of the trail segment. Pages 71 and 72 of the Initial Study also specify elevations of the proposed industrial building and parking lot. Therefore, elevations of the major construction components of the project are disclosed in the Draft EIR. As described on Page 72 of the Initial Study, no change in elevation is proposed in the preserve area on the western component of the project site, and the area would be subject to sea inundation in the future, consistent with existing conditions.

Based upon the December 2015 California Supreme Court BIA vs BAAQMD decision, the issues of environmental conditions affecting a project is no longer required under CEQA. Therefore, an analysis of whether sea level rise would inundate and impact the project is not required in the Draft EIR. The Draft EIR, like any EIR, is intended to identify the potential significant impacts on the environment of the proposed project and provide mitigation measures or alternatives to reduce those significant impacts to the extent feasible. As described on Page 71 of the Initial Study, the *Hayward Regional Shoreline Adaptation Plan* indicates that portions of the project site would be inundated from future sea level rise, including the preserve area and portions of the eastern component of the project site, and contains general recommendations to develop standards for future development. The Draft EIR evaluates the project as it has been proposed by the project applicant. Regardless of whether the applicant has designed the project to withstand future sea level rise, the potential for environmental impacts to result from the project should it be inundated are evaluated in the Initial Study, included as Appendix A to the Draft EIR. As described on page 72 of the Initial Study, if portions of the site are inundated from future sea level rise, there would be no release of hazardous materials because the proposed use is for UHAUL storage pods and a UHAUL regional office. The storage pods are not used for hazardous materials and hazardous materials would not be stored in an office setting. Therefore, inundation would not release hazardous materials and there would be no significant environmental impacts. The potential for inundation would be greatest during flood events in the future. The proposed project must comply with Hayward Municipal Code Chapter 9, Article 4, pertaining to floodplain regulations. Additionally, should inundation from sea level rise become an issue to operating the building in the future, the

building or property own may develop and implement adaptive strategies to ensure the functionality of the site. Regardless of whether adaptive strategies are ever needed or developed in the future, inundation would have no significant physical impacts on the environment due to the proposed use of the building. No revisions to the Draft EIR are necessary in response to this comment.

Response 4.15

The commenter summarizes some of their earlier comments in the letter.

This comment is a summary of prior comments in the letter. Because this comment is a summary of earlier comments, responses have been previously been provided. Please refer to responses 4.1 through 4.14, above.

Response 4.16

The commenter states an opinion that Alternative 2 should be selected and is the environmentally superior alternative and avoids placing development in the way of sea level rise.

The commenter correctly identifies Alternative 2 as the environmentally superior alternative. As described on Page 6-11 of the Draft EIR, Alternative 2 is the environmentally superior alternative. The commenter's support for this alternative is noted but does not require edits to the Draft EIR or question the analysis in the Draft EIR.

As described above in Response 4.14, impacts of sea level rise to the project are not a CEQA issue or topic. Alternatives are developed in CEQA to reduce significant impacts of a project that is proposed. Since impacts of the environment on a project are not significant CEQA impacts, it is not warranted to select an alternative to avoid sea level rise impacts on the project. No revisions to the Draft EIR are necessary in response to this comment.

Response 4.17

The commenter expresses disappointment in the proposed project and states that its design would cause sea level rise elsewhere along the shoreline of the San Francisco Bay.

The commenter's opinion on the design of the project is noted. The commenter's disappointment with the design of the project does not question the Draft EIR analysis or impact determinations. Therefore, no revisions to the Draft EIR are necessary.

The comment about sea level rise elsewhere in the San Francisco Bay resulting from the project does not appear to directly relate to the Draft EIR. Therefore, no revisions to the Draft EIR are necessary. However, for informative purposes, as described on pages 71 of the Initial Study, which is included as Appendix A to the Draft EIR, portions of the project site including portions of the parking area would be inundated from future sea level rise. Even if components of the proposed project were inundated during future flood events, the project site represents a negligible area compared to the amount of low-lying land along the San Francisco Bay. Implementation of the project would not substantially contribute to increased or accelerated sea level rise elsewhere in the San Francisco Bay.

Response 4.18

The commenter requests to be informed of future opportunities to comment on the project. This comment is noted and does not require revisions to the Draft EIR.

Letter 5

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May 24, 2021

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Re: Comment on Draft Environmental Impact Report, 4150 Point Eden Way Industrial Development Project (SCH No. 2020110180)

Dear Ms. Schmidt:

This letter is submitted on behalf of the Laborers International Union of North America, Local Union No. 304 and its members living and/or working in or around Hayward ("LIUNA") regarding the Draft Environmental Impact Report ("DEIR") prepared for the 4150 Point Eden Way Industrial Development Project (SCH No. 2020110180) (the "Project"). After reviewing the DEIR, we conclude that the DEIR fails as an informational document and fails to impose all feasible mitigation measures to reduce the Project's impacts. LIUNA requests that the City of Hayward ("City") address these shortcomings in a revised draft environmental impact report ("RDEIR") and recirculate the RDEIR prior to considering approvals for the Project. 5.1

LIUNA's comments have been prepared with the assistance of wildlife biologist Shawn Smallwood, Ph.D., and environmental consulting firm Soil/Water/Air Protection Enterprise ("SWAPE"). Dr. Smallwood's comment and curriculum vitae are attached as Exhibit A hereto and are incorporated herein by reference and entirety. SWAPE's comment and curriculum vitae are attached as Exhibit B hereto and are incorporated herein by reference in their entirety. 5.2

I. PROJECT DESCRIPTION

The Project proposes to demolish and remove the existing historic salt production structure and materials and develop a 114,059 square foot warehouse with an additional 2,785 square foot office, and associated surface parking, landscaping, and utility and drainage improvements on a parcel located at 4150 Point Eden Way in the City. The Project also proposes to establish a 32-acre open space/wetland preserve on the western portion of the Project site and proposes a land swap for the East Bay Regional Park District to relocate the Bay Trail from the current location along the eastern property line of the eastern component of the Project site to 5.3

meander along the southern property line and then to turn north to run along the western property line of the eastern component of the Project site. 5.3

II. LEGAL BACKGROUND

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report ("EIR") (except in certain limited circumstances). *See, e.g.*, Pub. Res. Code § 21100. The EIR is the very heart of CEQA. *Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652. "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." *Communities for a Better Environment v. Calif. Resources Agency* (2002) 103 Cal. App. 4th 98, 109.

CEQA has two primary purposes. First, CEQA is designed to inform decision makers and the public about the potential, significant environmental effects of a project. 14 Cal. Code Regs. ("CEQA Guidelines") § 15002(a)(1). "Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR 'protects not only the environment but also informed self-government.'" *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 564. The EIR has been described as "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return." *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm'rs*. (2001) 91 Cal. App. 4th 1344, 1354 ("Berkeley Jets"); *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810. 5.4

Second, CEQA requires public agencies to avoid or reduce environmental damage when "feasible" by requiring "environmentally superior" alternatives and all feasible mitigation measures. CEQA Guidelines § 15002(a)(2) and (3); see also, *Berkeley Jets*, 91 Cal. App. 4th 1344, 1354; *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564. The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to "identify ways that environmental damage can be avoided or significantly reduced." CEQA Guidelines §15002(a)(2). If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has "eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns." Pub. Res. Code § 21081; CEQA Guidelines § 15092(b)(2)(A) & (B). The lead agency may deem a particular impact to be insignificant only if it produces rigorous analysis and concrete substantial evidence justifying the finding. *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 732.

The EIR is the very heart of CEQA "and the integrity of the process is dependent on the adequacy of the EIR." *Berkeley Jets*, 91 Cal. App. 4th 1109, 1355. CEQA requires that a lead agency analyze all potentially significant environmental impacts of its proposed actions in an EIR. Pub. Res. Code § 21100(b)(1); Guidelines § 15126(a); *Berkeley Jets*, 91 Cal.App.4th 1344, 1354. The EIR must not only identify the impacts, but must also provide "information about how

adverse the impacts will be." *Santiago County Water Dist. v. County of Orange* (1981) 118 Cal.App.3d 818, 831. The lead agency may deem a particular impact to be insignificant only if it produces rigorous analysis and concrete substantial evidence justifying the finding. *Kings County Farm Bureau*, 221 Cal.App.3d 692, 732. "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." *Communities for a Better Env't*, 103 Cal.App.4th 98, 109.

While the courts review an EIR using an "abuse of discretion" standard, "the reviewing court is not to 'uncritically rely on every study or analysis presented by a project proponent in support of its position. A 'clearly inadequate or unsupported study is entitled to no judicial deference.'" *Berkeley Jets*, 91 Cal. App. 4th at p. 1355 (emphasis added) (quoting *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal. 3d 376, 391 409, fn. 12). As the court stated in *Berkeley Jets*:

> A prejudicial abuse of discretion occurs "if the failure to include relevant information precludes informed decisionmaking and informed public participation, thereby thwarting the statutory goals of the EIR process." (*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 722; *Galante Vineyards v. Monterey Peninsula Water Management Dist*. (1997) 60 Cal. App. 4th 1109, 1117; *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal. App. 4th 931, 946.)

5.4

More recently, the California Supreme Court has emphasized that:

> When reviewing whether a discussion is sufficient to satisfy CEQA, a court must be satisfied that the EIR (1) includes sufficient detail to enable those who did not participate in its preparation to understand and to consider meaningfully the issues the proposed project raises [citation omitted], and (2) makes a reasonable effort to substantively connect a project's air quality impacts to likely health consequences.

Sierra Club v. Cty. of Fresno (2018) 6 Cal.5th 502, 510 (2018), citing *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 405. "Whether or not the alleged inadequacy is the complete omission of a required discussion or a patently inadequate one-paragraph discussion devoid of analysis, the reviewing court must decide whether the EIR serves its purpose as an informational document." *Sierra Club v. Cty. of Fresno*, 6 Cal.5th at 516. Although an agency has discretion to decide the manner of discussing potentially significant effects in an EIR, "a reviewing court must determine whether the discussion of a potentially significant effect is sufficient or insufficient, i.e., whether the EIR comports with its intended function of including 'detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project.'" 6 Cal.5th at 516, citing *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1197. "The determination whether a discussion is sufficient is not solely a matter of discerning whether there is substantial evidence to support the agency's factual conclusions." 6 Cal.5th at 516. Whether a discussion of a potential impact is sufficient "presents a mixed question of law and fact. As such, it is generally subject to

independent review. However, underlying factual determinations—including, for example, an agency's decision as to which methodologies to employ for analyzing an environmental effect—may warrant deference." *Sierra Club v. Cty. of Fresno*, 6 Cal.5th at 516. As the Court emphasized:

> [W]hether a description of an environmental impact is insufficient because it lacks analysis or omits the magnitude of the impact is not a substantial evidence question. A conclusory discussion of an environmental impact that an EIR deems significant can be determined by a court to be inadequate as an informational document without reference to substantial evidence.

Sierra Club v. Cty. of Fresno, 6 Cal.5th at 514.

CEQA requires that an environmental document include a description of the project's environmental setting or "baseline." CEQA Guidelines, § 15063(d)(2). The CEQA "baseline" is the set of environmental conditions against which to compare a project's anticipated impacts. *CBE v. SCAQMD*, 48 Cal.4th at 321. CEQA Guidelines section 15125(a) states, in pertinent part, that a lead agency's environmental review under CEQA:

> …must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time [environmental analysis] is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant.

See, *Save Our Peninsula Committee v. County of Monterey* (2001) 87 Cal.App.4th 99, 124-125 ("*Save Our Peninsula*").

5.4

III. DISCUSSION

A. The DEIR Fails to Adequately Address and Mitigate the Project's Impacts on Biological Resources.

Expert wildlife biologist Shawn Smallwood, Ph.D., reviewed the DEIR and found that it inadequately evaluated the Project's impacts on wildlife. *See* Exhibit A.

Dr. Smallwood performed a site visit at the Project site on May 11. Ex. A, p. 1. He detected 37 species of vertebrate wildlife, 7 of which are special-status species. *Id*. at 8. Dr. Smallwood noted that the site was heavily trafficked by wildlife and the site's vertical vegetation structure and occupancy by California ground squirrels expands its attraction to nesting birds, foraging raptors, and the many species that utilize ground squirrel burrows. *Id*. at 1. Dr. Smallwood observed white-tailed kite, red-tailed hawk, Forster's terns, Anna's hummingbirds, Double-crested cormorants, California gulls and Canada goose, and great egrets among other species. *Id*. at 1-2. A full list of the species observed by Dr. Smallwood can be found in Table 1 of his attached comment. *Id*. at 7.

5.5

Based on his site visit and review of the DEIR, Dr. Smallwood concluded that the following factors render the DEIR's discussion of wildlife impacts insufficient:

1. The DEIR provides an inadequate baseline and fails to adequately analyze and mitigate the Project's impacts on biological resources.

As Dr. Smallwood points out, the DEIR's conclusion based on the Initial Study that no special-status species occur on the Project site is refuted by WRA's and Dr. Smallwood's survey results. Ex. A, p. 10. One or more unidentified biologists working for WRA surveyed the Project site on June 19, 2020 and detected 3 special-status species, including American white pelican, which is a Priority Level 1 California Species of Special Concern. *Id*. Between WRA's and Dr. Smallwood's surveys, 8 special-status species were detected, and in Dr. Smallwood's experience 8 special-status species is rich for one 8-acre site surveyed only twice. *Id*. However, the Initial Study characterizes it as empty of special-status species – it is not. *Id*.

Dr. Smallwood notes that WRA consulted many sources of wildlife species occurrences, including eBird. However, WRA's list of potentially occurring special-status species is much shorter than Dr. Smallwood's. *Id*. at 11; *see also id*. at 12-14. Dr. Smallwood found evidence in databases and on-site survey outcomes that would support potential occurrence likelihoods of 79 special-status species, whereas WRA only considers 10 of them. *Id*. at 11. Of these 10 species WRA considers, WRA determined one to have high potential, two to have moderate potential, three to have low potential, and four as unlikely. *Id*. Dr. Smallwood detected two of the three species WRA assigned low potential. *Id*. The third species of low potential, burrowing owl, was reportedly seen immediately adjacent to the Project site in 2015 and 2016. *Id*. 5.5

WRA also erroneously concludes special-status species of birds are unlikely due to the lack of suitable nesting habitat on the Project site. *Id*. However, Dr. Smallwood notes that WRA mischaracterizes habitat in order to pigeon-hole bird species into unrealistic narrow portions of the environment, which are then said to not occur at the Project site. *Id*. Dr. Smallwood states that there is no neat distinction between nesting habitat and alleged other types of habitat since habitat is that portion of the environment used by the species and no bird can successfully nest without having found sufficient forage and cover throughout the year. *Id*. Nor can a bird successfully nest without having survived migration and dispersal by locating stop-over and staging opportunities. *Id*.

In failing to establish an adequate baseline of biological resources, the DEIR fails to adequately analyze and mitigate the Project's impacts to biological resources.

2. The DEIR fails to adequately analyze the Project's impacts on wildlife movement.

According to the DEIR, the Project site provides marginal wildlife corridor value due to the proximity to Eden Landing and substantial barriers to terrestrial passage, as well as the sparse nature of vegetation present within the Project site. DEIR, p. 4.1-9 – 4.1-10. However, Dr. Smallwood states there are two fundamental flaws in the DEIR's analysis of whether the Project 5.6

would interfere with wildlife movement in the region. Ex. A, p. 17. According to the DEIR and to WRA, "To account for potential impacts to wildlife movement/migratory corridors, biologists reviewed maps from the California Essential Connectivity Project" and "habitat connectivity data available through the CDFW Biogeographic Information and Observation System." DEIR, App. A, p. 12. However, Dr. Smallwood states that the first problem with this statement is that it implies the Project site must serve as a movement corridor as a prerequisite for determining that the Project would interfere with wildlife movement. Ex. A, p. 17. With this implication, the DEIR adopts a CEQA standard that does not exist. *Id*. The CEQA standard is whether a project would interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors. *Id*. "The primary phrase of the standard goes to wildlife movement regardless of whether the movement is channeled by a corridor." *Id*. Wildlife movement includes stopover habitat used by birds and bats, and staging habitat during dispersal, and migration or home range patrol. *Id*. Dr. Smallwood notes that many species of wildlife likely use the Project site for movement across the region and the Project would cut wildlife off from stopover and staging habitat, lengthening the distances wildlife must travel before finding alternate stopover habitat. *Id*. Therefore, the Project would interfere with wildlife movement in the region. The second problem with the DEIR's analysis of wildlife movement is that it misapplies the California Essential Habitat Connectivity Project. *See id*. A revised EIR must be prepared to address these flaws in the DEIR's analysis of the Project's impacts on wildlife movement. 5.6

3. <u>The DEIR fails to address the impacts on wildlife from additional traffic generated by the Project.</u>

The DEIR did not address the impacts on wildlife mortality from traffic generated by the Project. Ex. A, p. 18. According to the DEIR, the Project will generate an additional 1,192,862 vehicle miles traveled ("VMT") annually yet the DEIR provides no analysis of the impacts on wildlife that will be caused by an increase in traffic on the roadways servicing the Project. *Id*.

Vehicle collisions with special-status species is not a minor issue, but rather results in the death of millions of species each year. Dr. Smallwood explains: 5.7

> Across North America traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562 birds were estimated killed per 100 km of road per year (Bishop and Brogan 2013), and the US estimate of avian mortality on roads is 2,200 to 8,405 deaths per 100 km per year, or 89 million to 340 million total per year (Loss et al. 2014). Local impacts can be more intense than nationally.

Id. Dr. Smallwood estimated that the Project's additional traffic would cause 654 wildlife fatalities per year, and 32,681 wildlife fatalities over 50 years of operations. *Id*. at 20. An RDEIR is required to analyze and mitigate this potentially significant impact on wildlife.

B. The DEIR Inadequately Analyzed and Mitigated the Project's Hazards and Hazardous Materials. 5.8

Matt Hagemann, P.G., C.Hg., and Dr. Paul E. Rosenfeld, Ph.D., of the environmental consulting firm SWAPE reviewed the DEIR's analysis of the Project's impacts on hazards, hazardous materials, air quality, and greenhouse gases ("GHG"). SWAPE's comment letter and CVs are attached as Exhibit B.

According to the DEIR, Cornerstone Earth Group prepared a Phase I Environmental Site Assessment ("ESA") for the Project site in March 2017. DEIR, p. 4.3-1. The Phase I ESA recommended an update to the 2014 Risk Management Plan ("RMP") that was prepared to "control potential hazardous contamination and exposure." Ex. B, p. 1. Specifically, Cornerstone Earth Group stated:

> We recommend preparing an RMP [risk management plan] Addendum that presents the planned development earthwork/grading, soil and ground water management protocol and vapor intrusion mitigation measures. The purpose of the RMP Addendum will be to provide more specific details regarding the development, and will propose any changes to the RMP to accommodate the proposed development. The RMP Addendum should describe earthwork required for geotechnical soil improvements, such as over-excavation and re-compaction of fills or other ground improvements. The RMP Addendum should be submitted to the Water Board for their review and approval prior to construction.
>
> DEIR, App. A, App. E, p. 22.

5.8

However, SWAPE notes that this recommendation has not been incorporated into the DEIR. Ex. B, p. 2. SWAPE states that an updated RMP is necessary for inclusion in a revised DEIR, and the revised DEIR needs to demonstrate the engagement of the San Francisco Bay Regional Water Quality Control Board in the review of an updated RMP and mitigation that is necessary to ensure that the public and workers are not exposed to known contaminants at the site, including benzene and petroleum hydrocarbons. *Id*.

Additionally, SWAPE states that the selection of a vapor barrier as mitigation for contaminated vapors, as proposed in the DEIR, should not be pre-selected, but instead, the applicant should consider a range of alternatives. *Id*. The City should document its consideration of a wide range of alternatives to address contaminated vapors, including soil vapor extraction and groundwater containment or extraction and treatment in a revised DEIR. *Id*.

5.9

C. The DEIR Inadequately Analyzed and Mitigated the Project's Impacts on Air Quality.

1. <u>The DEIR underestimated the Project's emissions.</u>

SWAPE found that the DEIR underestimated the Project's emissions and therefore cannot be relied upon to determine the significance of the Project's air quality impacts. Ex. B, p. 2. The DEIR relies on emissions calculated from the California Emissions Estimator Model

5.10

Version CalEEMod.2016.3.2 ("CalEEMod"). *Id*. This model, which is used to generate a project's construction and operational emissions, relies on recommended default values for site-specific information related to a number of factors. *Id.* CEQA requires any changes to the default values to be justified by substantial evidence. *Id*.

SWAPE reviewed the Project's CalEEMod output files and found that the values input into the model were unsubstantiated or inconsistent with information provided in the DEIR. *Id*. As a result, the DEIR's air quality analysis cannot be relied upon to determine the Project's emissions.

Specifically, SWAPE found that the following values used in the DEIR's air quality analysis were either inconsistent with information provided in the DEIR or otherwise unjustified: 5.10

i. Use of an underestimated land use size. Ex. B, p. 3.
ii. Failure to consider cold storage. Ex. B, pp. 3-4.
iii. Unsubstantiated reductions to CH_4, CO_2, and N_2O intensity factors. Ex. B, pp. 4-5.
iv. Unsubstantiated reductions to architectural coating emission factors. Ex. B, pp. 5-6.
v. Failure to model material import. Ex. B, p. 6.
vi. Failure to substantiate demolition. Ex. B, pp. 6-7.
vii. Unsubstantiated change to architectural coating phase length. Ex. B, pp. 7-9.

As a result of these errors in the DEIR, the Project's construction and operational emissions are underestimated and cannot be relied upon to determine the significance of the Project's air quality impacts. A revised DEIR is necessary to address these errors.

2. <u>An updated analysis indicates that the Project may have a potentially significant air quality impact.</u>

In an effort to more accurately estimate the project's construction-related emissions, SWAPE prepared an updated CalEEMod model using Project-specific information in the DEIR. Ex. B, p. 9. SWAPE's updated analysis estimates that the Project's construction-related VOC emissions would be 63.6 pounds per day, exceeding the applicable daily maximum BAAQMD threshold of 54 pounds per day. *Id*. SWAPE's model demonstrates that the Project would result in a potentially significant air quality impact that was not previously identified or addressed in the DEIR. An updated EIR should be prepared to adequately assess and mitigate the potential air quality impacts that the Project may have on the surrounding environment. 5.11

D. The DEIR Fails to Adequately Analyze the Project's GHG Impacts.

The DEIR estimates that the Project would generate 447.6 metric tons of carbon dioxide equivalents per year ("MT CO_2e/year") and would therefore not exceed the bright-line threshold of 660 MT CO_2e/year resulting in a less than significant impact related to GHG emissions. 5.12

DEIR, p. 1-7. However, SWAPE notes that the DEIR's GHG analysis, and subsequent less-than-significant impact conclusion, is incorrect for two reasons. Ex. B, p. 10.

First, the DEIR's GHG analysis relies on a flawed air model, as discussed above. *Id*. Second, SWAPE's updated modeling demonstrates that the Project's mitigated emissions would include approximately 620 MT CO_2e/year of total construction emissions and approximately 1,301 MT CO_2e/year of net annual operational emissions. *Id*. When amortizing the Project's construction related GHG emissions over a period of 30 years and summing them with the Project's operational GHG emissions, SWAPE estimates net annual GHG emissions of 1,322 MT CO_2e/year, which greatly exceeds the BAAQMD threshold of 660 MT CO_2e/year. *Id*. at 10-11. An updated EIR is required and should provide additional information and analysis to conclude less than significant GHG impacts. 5.12

IV. CONCLUSION

For the foregoing reasons, LIUNA believes that the DEIR is wholly inadequate. LIUNA urges the City to prepare an RDEIR that conforms with CEQA, as described above. 5.13

Sincerely,

Paige Fennie
LOZEAU DRURY LLP

Exhibit A

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Leigha Schmidt, Senior Planner
City of Hayward
777 B Street
Hayward, CA 94541

19 May 2021

RE: 4150 Point Eden Way Industrial Development Project

Dear Ms. Schmidt,

I write to comment on the Draft Environmental Impact Report (DEIR) and biological resources report (WRA 2020) prepared for the 4150 Point Eden Way Industrial Development Project (City of Hayward 2021). It would convert 8.31 acres of open space bounded by East Bay Regional Park District's San Francisco Bay Trail and California Department of Fish and Wildlife's Eden Landing Ecological Reserve to 116,844 square feet of warehouse and office.

My qualifications for preparing expert comments are the following. I hold a Ph.D. degree in Ecology from University of California at Davis, where I subsequently worked for four years as a post-graduate researcher in the Department of Agronomy and Range Sciences. My research has been on animal density and distribution, habitat selection, interactions between wildlife and human infrastructure and activities, conservation of rare and endangered species, and on the ecology of invading species. I authored numerous papers on special-status species issues. I served as Chair of the Conservation Affairs Committee for The Wildlife Society – Western Section. I am a member of The Wildlife Society and the Raptor Research Foundation, and I've been a part-time lecturer at California State University, Sacramento. I was Associate Editor of wildlife biology's premier scientific journal, The Journal of Wildlife Management, as well as of Biological Conservation, and I was on the Editorial Board of Environmental Management. I have performed wildlife surveys in California for thirty-five years, including at many proposed project sites. My CV is attached.

SITE VISIT

I visited the proposed project site 06:40 to 09:34 hours on 11 May 2021. The site was covered by grassland, shrubs and an abandoned building (Photos 1 – 3). The site was bounded on two sides by natural areas, so it was heavily trafficked by wildlife. The site's vertical vegetation structure and its occupancy by California ground squirrels expand its attraction to nesting birds, foraging raptors, and the many species that utilize ground squirrel burrows (Photos 4 and 5).

I also observed white-tailed kite, red-tailed hawk and Forster's terns (Photos 6-8), Anna's hummingbirds (Photos 9 and 10), Double-crested cormorants, California gulls

and Canada goose (Photos 11 and 12), bushtits and house finches (Photos 13 and 14), California towhees and northern mockingbirds (Photos 15 and 16), great egrets and common ravens (Photos 17 and 18), red-winged blackbirds and Bryant's savannah sparrows (Photos 19 and 20), and other species (Table 1). I saw evidence of breeding by many of the species I detected, and I saw 7 special-status species on the site (Table 1). The site is rich in wildlife.

Photos 1-3. *Views to west-northwest (top), southwest (middle), and west (bottom) of the project site, 11 May 2021. Cliff swallows and other species nested in the structure at top, house finches and other species nested in coyote bush in the middle, and Canada geese and others nested on the ground at bottom.*

Photos 4 and 5. *European starling surveils from atop coyote bush (top), and California ground squirrel surveils from a fence post (bottom), 11 May 2021.*

Photos 6 – 8. *White-tailed kite hovers (left), a red-tailed hawk soars (middle), and Forster's tern carries fish (right) over the project site, 11 May 2021.*

Photos 9 and 10. *Male (left) and female (right) Anna's hummingbirds on the Project site, 11 May 2021.*

Photos 11 and 12. *A double-crested cormorant follows a California gull (right) and Canada geese arrive to the project site (below), 11 May 2021.*

Photos 13 and 14. *Bushtit (left), house finch (right) at the project site, 11 May 2021.*

Photos 15 and 16. *California towhee (left) and northern mockingbird (right) at the project site, 11 May 2021.*

Photos 17 and 18. *Great egret (left) and common raven with an order of fries (right) on the project site, 11 May 2021.*

Photos 19 and 20. *Red-winged blackbird (left) and Bryant's savannah sparrow (right) on the project site, 11 May 2021.*

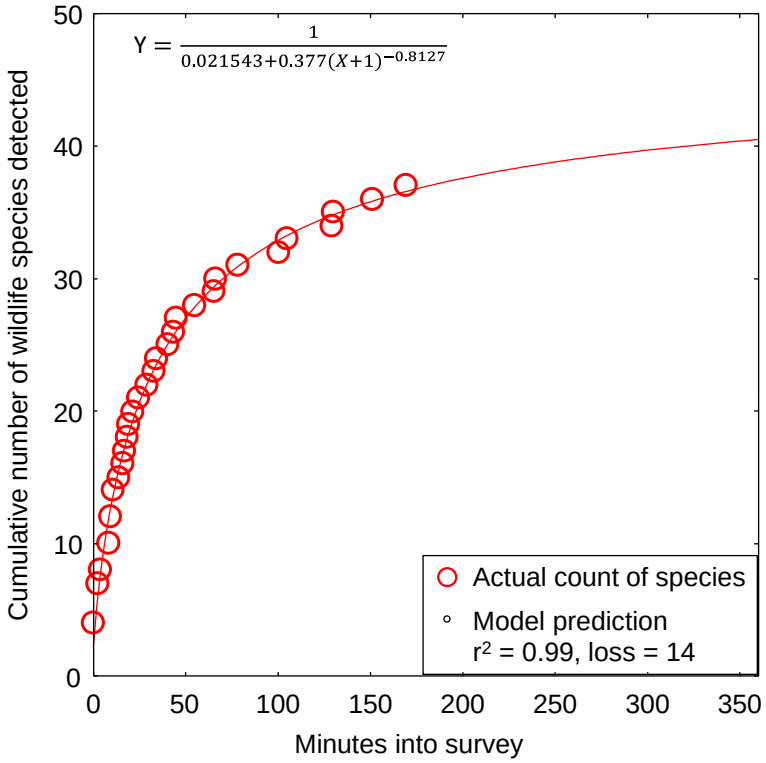
***Table 1**. Wildlife species I observed on site on 11 May 2021.*

Species	Scientific name	Status[1]	Note
House cat	*Felis catus*	Non-native	On trail
Raccoon	*Procyon lotor*		Tracks
California ground squirrel	*Otospermophilus beecheyi*		On site
Canada goose	*Branta canadensis*		Breeding on site
Mallard	*Anas platyrhynchos*		Nesting on site
Rock pigeon	*Columba livia*	Non-native	
Eurasian collared-dove	*Streptopelia decaocto*	Non-native	
Anna's hummingbird	*Calypte anna*		Nesting on site
Black-necked stilt	*Himantopus mexicanus*		Adjacent Reserve
American avocet	*Recurvirostra americanus*		Adjacent Reserve
Willit	*Tringa semipalmata*		Flock
Killdeer	*Charadrius vociferus*		
Mew gull	*Larus canus*		Flyover
California gull	*Larus californicus*	WL	Frequent flyover
Forster's tern	*Sterna forstreri*		Flyover to forage
Double-crested cormorant	*Phalacrocorax auritus*	WL	Foraged, perched
Great egret	*Ardea alba*		Frequent flyover
Snowy Egret	*Egretta thula*		Flyover
Turkey vulture	*Cathartes aura*	BOP	Foraging on site
White-tailed kite	*Elanus leucurus*	CFP, BOP	Foraging on site
Red-tailed hawk	*Buteo jamaicensis*	BOP	Foraging on site
Black phoebe	*Sayornis nigricans*		Nesting on site
American crow	*Corvus brachyrhynchos*		Foraging on site
Common raven	*Corvus corax*		Foraging on site
Barn swallow	*Hirundo rustica*		Foraging
Cliff swallow	*Petrochelidon pyrrhonota*		Nesting on site
Bushtit	*Psaltriparus minimus*		Nesting on site
Northern mockingbird	*Mimus polyglottos*		Nesting on site
European starling	*Sturnus vulgaris*	Non-native	Nesting on site
House finch	*Carpodacus mexicanus*		Many
Lesser goldfinch	*Carduelis psaltria*		
Bryant's savannah sparrow	*Passerculus sandwichensis alaudinus*	SSC3	Nesting on site
Lincoln's sparrow	*Melospiza lincolnii*		
Alameda song sparrow	*Melospiza melodia pusillula*	SSC2	Nesting on site
California towhee	*Pipilo crissalis*		Nesting on site
Red-winged blackbird	*Agelaius phoeniceus*		Nesting on site
Brown-headed cowbird	*Molothrus ater*		

[1] Listed as CFP = California Fully Protected (Fish and Game Code 3511), BOP = California Fish and Game Code 3503.5 (Birds of prey), SSC1, SSC2 and SSC3 = California Bird Species of Special Concern priorities 1, 2 and 3 (Shuford and Gardali 2008), and WL = Taxa to Watch List (Shuford and Gardali 2008).

During my 2+ hours at the 8.31-acre project site, I detected 37 species of wildlife. Of these species, 7 (19%) were special-status species. If I were to perform additional surveys, my list of detected species would lengthen. The results of a single survey qualify as an absurdly thin empirical foundation for characterizing the environmental setting of a proposed project, and therefore can only serve as a starting point. However, when diligently performed, and when outcomes are analyzed appropriately and fully reported, the number of species detected within a given reconnaissance survey effort can inform of the number of species that likely would have been detected with a larger survey effort during the same time of year. I had only 2+ hours available to perform a visual scan survey on 11 May 2021, so there were only so many species I was likely to detect. By recording when I detected each species, I was able to forecast the number of species that could have been detected with a longer effort using the same visual scan method. Figure 1 shows my cumulative count of species detected at the site with increasing time into my survey. Just as I have seen for many other survey efforts, a nonlinear regression model fit the data very well, explaining 99% of the variation in the data, and it showed progress towards the inevitable asymptote of the number of species detectable over a longer time period using the same survey method.

Figure 1. *Actual and predicted relationships between the number of vertebrate wildlife species detected and the elapsed survey time based on visual scan on 11 May 2021. Note that the relationship would differ if the survey was based on another method, another time of day, or during another season. Also note the cumulative number of vertebrate species across all methods, times of day, and seasons would increase substantially.*

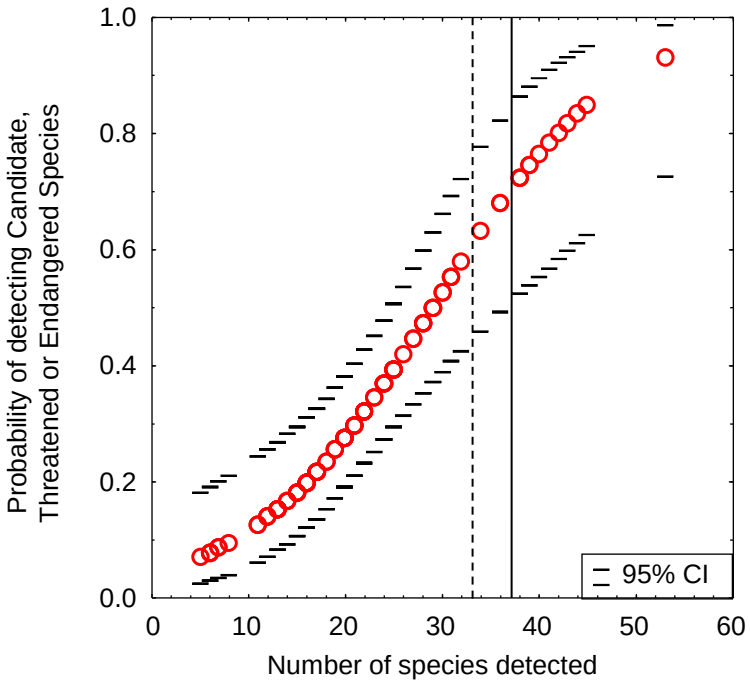


In this case, the model fit to the data indicate that by about 16 hours of surveying in the same manner that I did on 11 May 2021, I would have reached an asymptote of about 46 vertebrate wildlife species, or about 9 more species than I actually detected (Figure 1). I could have detected many more species with commitment of more hours of surveying at different times of day to detect diurnal, nocturnal and crepuscular species, or by surveying in different seasons and years to accommodate detection of migrants and

species with multi-annual cycles of abundance, or by surveying with various methods such as acoustic detectors or thermal-imaging for bats, owls, and nocturnally migratory birds, and live-trapping for small mammals. In fact, WRA's (2020) survey added 13 species to mine for a total 50 species of vertebrate wildlife. My reconnaissance-level survey, performed carefully and analyzed appropriately, informs me that the site is rich in wildlife but also that its environmental setting remains insufficiently characterized as foundation for analysis of impacts to special-status species. What my reconnaissance survey does not inform me, and what detection surveys could, is which of the potentially occurring special-status species actually occur at the site in addition to those I had the good fortune to detect.

The likelihood of detecting special-status species is typically lower than that of more common species. This difference can be explained by the fact that special-status species tend to be rarer than common species. Special-status species also tend to be more cryptic, fossorial, or active during nocturnal periods when reconnaissance surveys are not performed. Another useful relationship from careful recording of species detections and subsequent comparative analysis is the probability of detection of listed species as a function of an increasing number of vertebrate wildlife species detected (Figure 2). (Note that listed species number fewer than special-status species, which are inclusive of listed species.) As demonstrated in Figure 1, the number of species detected is a function of survey effort. Therefore, greater survey effort increases the likelihood that listed species will be detected. Based on the outcomes of 106 previous surveys that I performed at sites of proposed projects, WRA's (2020) survey effort carried a 61% chance of detecting a listed species, and mine carried a 71% chance of detecting a listed species. In fact, I detected 1 listed species of vertebrate wildlife, which beat the odds.

Figure 2. *Probability of detecting ≥1 Candidate, Threatened or Endangered Species of wildlife listed under California or federal Endangered Species Acts, based on survey outcomes that I logit-regressed on the number of wildlife species I detected as an expert witness during 106 site visits throughout California. The dashed vertial line represents the cumulative number of species WRA (2020) detected on 19 June 2020, and the solid vertical line represents the cumulative number of species I detected on 11 May 2021.*



I am confident that with greater survey effort, including surveys during other times of year and using additional methods, and including the appropriate detection survey protocols, multiple additional special-status species would be detected, including merlin, burrowing owl, multiple additional species of bats, and most of the species listed in Table 2. A larger survey effort is needed to inform the public and decision-makers about the potential project impacts to wildlife and how to mitigate them.

BIOLOGICAL IMPACTS ASSESSMENT

One or more unidentified biologists working for WRA surveyed the project site on one day, 19 June 2020, "to map vegetation, aquatic communities, unvegetated land cover types, document plant and wildlife species present, and evaluate habitat on site for the potential to support special status species." This survey effort introduced two shortfalls to the DEIR. First, whoever surveyed the site was assigned too much to do within a day. Biologists need to focus on one specific objective per survey effort, and not assigned to 5 simultaneous objectives. Second, WRA (2020) did not report how long the biologist(s) surveyed the site nor what time the survey started. The most basic information needed to assess the survey effort was unreported.

WRA (2020:9) reports that two biologists from Monk and Associates surveyed the site on 7 January 2015 and 32 acres of the "Preserve" [sic] on 1 July 2015 and 29 August 29 2016. However, WRA cites no report nor summarizes what the Monk and Associates' biologists specifically found. The Initial Study reports that Monk and Associates found no special-status species, but does not report whether Monk and Associates concluded that no special-status species occur on the site. Instead, the Initial Study (2020:33) implies that Monk and Associates made such a determination by reporting, "Accordingly, it was determined that special-status plant species do not occur on the project site (see Appendix A)," leaving it unclear whether Monk and Associates felt the same way as WRA.

City of Hayward's determination in the Initial Study that no special-status species occur on the site was refuted by WRA's survey results, and by mine (Tables 1 and 2). WRA actually detected 3 special-status species, including American white pelican, which is a Priority Level 1 California Species of Special Concern. I detected 7 special-status species during my 2+ hour visit. Between our surveys, we detected 8 special-status species of wildlife (Table 2). In my experience, 8 special-species is rich for one 8-acre site surveyed only twice. The Initial Study mischaracterizes it as empty of special-status species; it is not.

I am also concerned that WRA (2020) might misrepresent the Manager of Eden Landing Ecological Reserve with hearsay determinations. WRA represents the Manager as having determined that California least tern, western snowy plover, and black skimmer are unlikely to use the project site. After this representation, WRA (2020:30) writes "Hence, the proposed project will not result in direct impacts to California least tern, western snowy plover and black skimmer; however, these species could nest in

restored salt ponds or along levees within the Eden Landing Ecological Reserve that is located next to the project site." It is unclear whether the Manager actually said this, as my quotes apply only to the statement made by WRA, and WRA uses no quotes to represent any determination made by the Manager. WRA does not specifically summarize what the Manager feels about an industrial project being built in the middle of Eden Landing Ecological Reserve.

WRA (2020:10) reportedly consulted many sources of wildlife species occurrences, including eBird. However, WRA's (2020) list of potentially occurring special-status species is much shorter than mine (Table 2). I found evidence in data bases and on-site survey outcomes that would support potential occurrence likelihoods of 79 special-status species (Table 2). Of these 79 species, WRA (2020) considers only 10 (12%) of them. Of the 10 species WRA considers, WRA determines 1 to have high potential, 2 to have moderate potential, 3 to have low potential, and 4 as unlikely. I detected 2 (white-tailed kite and Alameda song sparrow) of the 3 species WRA assigned low potential. The third species assigned low potential – burrowing owl – was reportedly seen right next door at Hayward Regional Shoreline only 3 days after Monk and Associates' 7 January 2015 survey of the project site, and again the next year. The sightings might not have been exactly where depicted in Figure 3, but they were close enough for the owls to have flown to the project site within seconds, or minutes at the longest.

WRA (2020) determines occurrences to be unlikely for California least tern and western snowy plover, but again eBird records indicate otherwise (Figures 4 and 5). The sightings straddle the project site, which means these species likely fly back and forth across it. The airspace above the ground is just as important as conditions on the ground, because birds such as California least tern and western snowy plover use it as their medium of travel.

WRA (2020) erroneously concludes special-status species of birds are unlikely due to lack of suitable nesting habitat on the project site. These determinations of occurrence likelihood are in error because there is no neat distinction between nesting habitat and alleged other types of habitat. Habitat is habitat; it is that portion of the environment used by a species. No bird can successfully nest without having found sufficient forage and cover throughout the year. Nor can a bird successfully nest without having survived migration and dispersal by locating stop-over and staging opportunities. WRA mischaracterizes habitat in order to pigeon-hole bird species into unrealistically narrow portions of the environment, which are then said to not occur at the project site.

Similarly, WRA (2020:17) generally dismisses the likelihoods of occurrences of special-status species of wildlife based on the following false assertion: "Features not found within the Project site that are required to support special-status wildlife species include: • Perennial aquatic habitat (e.g. streams, rivers or ponds) • Tidal Marsh areas • Serpentine soils to support host plants • Sandy beaches or alkaline flats • Caves, mine shafts, or abandoned buildings. The absence of such habitat features eliminates components critical to the survival or movement of most special-status species found in the vicinity." Abandoned buildings occur on the site. More importantly, many special-

Table 2. *Occurrence likelihoods of special-status species at the project site, based on assessments by WRA (2020) and on records of sightings in eBird and iNaturalist, and on my own visit.*

Species	Scientific name	Status[1]	Occurrence likelihood	
			WRA 2020	eBird, iNaturalist, Smallwood
Aleutian cackling goose	*Branta hutchinsonii leucopareia*	WL		Adjacent
Redhead	*Aythya americana*	SSC2		Adjacent
American white pelican	*Pelecanus erythrorhynchos*	SSC1		On site
California brown pelican	*Pelecanus occidentalis californicus*	CFP		Adjacent
Double-crested cormorant	*Phalacrocorax auritus*	WL		On site
White-faced ibis	*Plegadis chihi*	WL		Adjacent
Greater sandhill crane	*Grus c. canadensis*	CT, CFP, SSC3		Nearby
Long-billed curlew	*Numenius americanus*	BCC, WL		Adjacent
Whimbrel	*Numenius phaeopus*	BCC		Adjacent
Marbled godwit	*Limosa fedua*	BCC		Adjacent
Snowy plover	*Charadrius alexandrinus*	FT, BCC, SSC	Unlikely	Adjacent
Mountain plover	*Charadrius montanus*	SSC2		In region
Black skimmer	*Rynchops niger*	SSC3	Unlikely	Adjacent
California least tern	*Sternula antillarum browni*	FE, CE	Unlikely	Adjacent
Elegant tern	*Thalasseus elegans*	BCC, WL		Adjacent
Caspian tern	*Hydroprogne caspia*	BCC		Adjacent
California gull	*Larus californicus*	WL		On site
Turkey vulture	*Cathartes aura*	BOP		On site
Osprey	*Pandion haliaetus*	WL, BOP		Adjacent
Bald eagle	*Haliaeetus leucocephalus*	BGEPA, BCC, CFP		Adjacent
Golden eagle	*Aquila chrysaetos*	BGEPA, BCC, CFP		Adjacent
Red-tailed hawk	*Buteo jamaicensis*	BOP		On site
Ferruginous hawk	*Buteo regalis*	BCC, WL, BOP		Nearby
Swainson's hawk	*Buteo swainsoni*	BCC, CT, BOP		Nearby
Red-shouldered hawk	*Buteo lineatus*	BOP		Adjacent
Sharp-shinned hawk	*Accipiter striatus*	WL, BOP		Adjacent
Cooper's hawk	*Accipiter cooperi*	WL, BOP		Adjacent
Northern harrier	*Circus cyaneus*	SSC3, BOP		Adjacent

Species	Scientific name	Status[1]	Occurrence likelihood	
			WRA 2020	eBird, iNaturalist, Smallwood
White-tailed kite	*Elanus leucurus*	CFP, BOP	Low	On site
American kestrel	*Falco sparverius*	BOP		Adjacent
Merlin	*Falco columbarius*	WL, BOP		Adjacent
Prairie falcon	*Falco mexicanus*	BCC, WL, BOP		Adjacent
Peregrine falcon	*Falco peregrinus*	BCC, CFP, BOP		Adjacent
Burrowing owl	*Athene cunicularia*	BCC, SSC2, BOP	Low	Adjacent
Great-horned owl	*Bubo virginianus*	BOP		Nearby
Short-eared owl	*Asio flammeus*	SSC3, BOP		Adjacent
Barn owl	*Tyto alba*	BOP		Adjacent
Western screech-owl	*Megascops kennicotti*	BOP		Nearby
Allen's hummingbird	*Selasphorus sasin*	BCC		Nearby
Rufous hummingbird	*Selasphorus rufus*	BCC		Nearby
Costa's hummingbird	*Calypte costae*	BCC		Nearby
Nuttall's woodpecker	*Picoides nuttallii*	BCC		Nearby
Lewis's woodpecker	*Melanerpes lewis*	BCC		Nearby
Vaux's swift	*Chaetura vauxi*	SSC2		Nearby
Willow flycatcher	*Epidomax trailii*	CE, BCC		Nearby
Olive-sided flycatcher	*Contopus cooperi*	BCC, SSC2		Nearby
Oak titmouse	*Baeolophus inornatus*	BCC		Nearby
Horned lark	*Eremophila alpestris*	WL		Adjacent
Purple martin	*Progne subis*	SSC2		Nearby
Bank swallow	*Riparia riparia*	CT		Nearby
Loggerhead shrike	*Lanius ludovicianus*	BCC, SSC2		Adjacent
Yellow-billed magpie	*Pica nuttalli*	BCC		Nearby
San Francisco Common yellowthroat	*Geothlypis trichas sinuosa*	SSC3	Unlikely	Adjacent
Yellow warbler	*Setophaga petechia*	BCC, SSC2		Nearby
Yellow-breasted chat	*Icteria virens*	SSC3		Nearby
Oregon vesper sparrow	*Pooecetes gramineus affinis*	SSC2		Nearby
Bryant's savannah sparrow	*Passerculus sandwichensis alaudinus*	SSC3		On site
Alameda song sparrow	*Melospiza melodia pusillula*	SSC2	Low	Adjacent

Species	Scientific name	Status[1]	Occurrence likelihood	
			WRA 2020	eBird, iNaturalist, Smallwood
Grasshopper sparrow	*Ammodramus savannarum*	SSC2		Nearby
Tricolored blackbird	*Agelaius tricolor*	CT, BCC		Adjacent
Yellow-headed blackbird	*X. xanthocephalus*	SSC3		Adjacent
Lawrence's goldfinch	*Spinus lawrencei*	BCC		Nearby
Pallid bat	*Antrozous pallidus*	SSC, WB:H	Moderate	In region
Townsend's big-eared bat	*Plecotus t. townsendii*	SSC, WB:H		In region
Western mastiff bat	*Eumops perotis*	SSC, WB H	Moderate	In range
Silver-haired bat	*Lasionycteris noctivagans*	WB:M		In region
Western red bat	*Lasiurus blossevillii*	SSC, WB:H		In region
Little brown bat	*Myotis lucifugus*	WB:M		In range
Canyon bat	*Parastrellus hesperus*	WB:M		In region
Small-footed myotis	*Myotis cililabrum*	WB M		In region
Miller's myotis	*Myotis evotis*	WB M		In region
Fringed myotis	*Myotis thysanodes*	WB H		In range
Long-legged myotis	*Myotis volans*	WB H		In range
Yuma myotis	*Myotis yumanensis*	WB LM		In region
Hoary bat	*Lasiurus cinereus*	WB LM		Nearby
American badger	*Taxidea taxus*	SSC		Very close
Salt-marsh harvest mouse	*Reithrodontomys raviventris*	FE, CE, CFP	High	Nearby
Western spadefoot	*Spea hmmondii*	SSC		In range
Western pond turtle	*Actinemys marmorata*	SSC		Nearby

[1] Listed as FT or FE = federally Threatened or Endangered, BGEPA = Bald and Golden Eagle Protection Act, BCC = US Fish and Wildlife Service's Bird Species of Conservation Concern, CT or CE = California Threatened or Endangered, CFP = California Fully Protected (CDFG Code 3511), BOP = California Fish and Game Code 3503.5 (Birds of prey), and SSC1, SSC2 and SSC3 = California Bird Species of Special Concern priorities 1, 2 and 3 (Shuford and Gardali 2008), WL = Taxa to Watch List (Shuford and Gardali 2008), WB = Western Bat Working Group with low, medium and high conservation priorities.

status species of wildlife in the area incorporate as habitat grassland and shrubs. Examples include Salt marsh harvest mouse, western pond turtle (where they lay eggs), American badger, pallid bat, yellow-headed blackbird, tricolored blackbird, grasshopper sparrow, Bryant's savannah sparrow, loggerhead shrike, horned lark, short-eared owl, burrowing owl, peregrine falcon, prairie falcon, merlin, American kestrel, white-tailed kite, northern harrier, Swainson's hawk, Cooper's hawk, and most of the others in Table 2. WRA's assertion is another attempt to pigeon-hole species into unrealistically narrow portions of the environment.

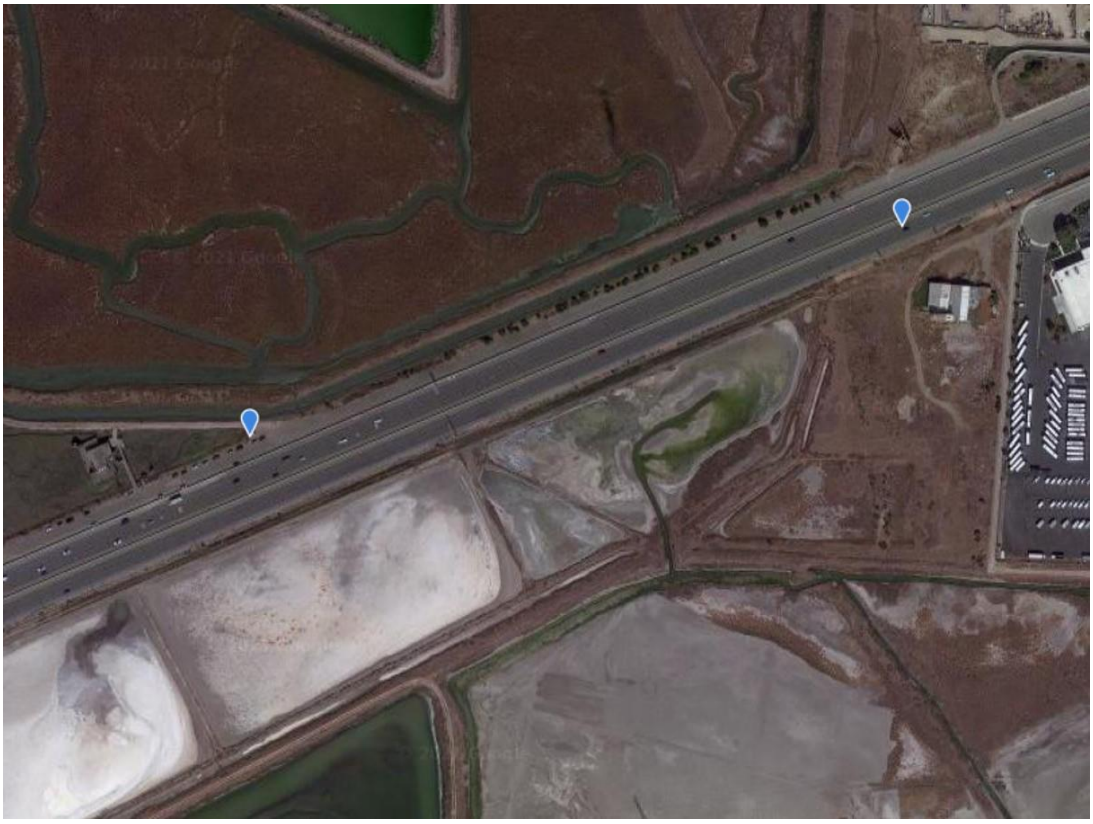
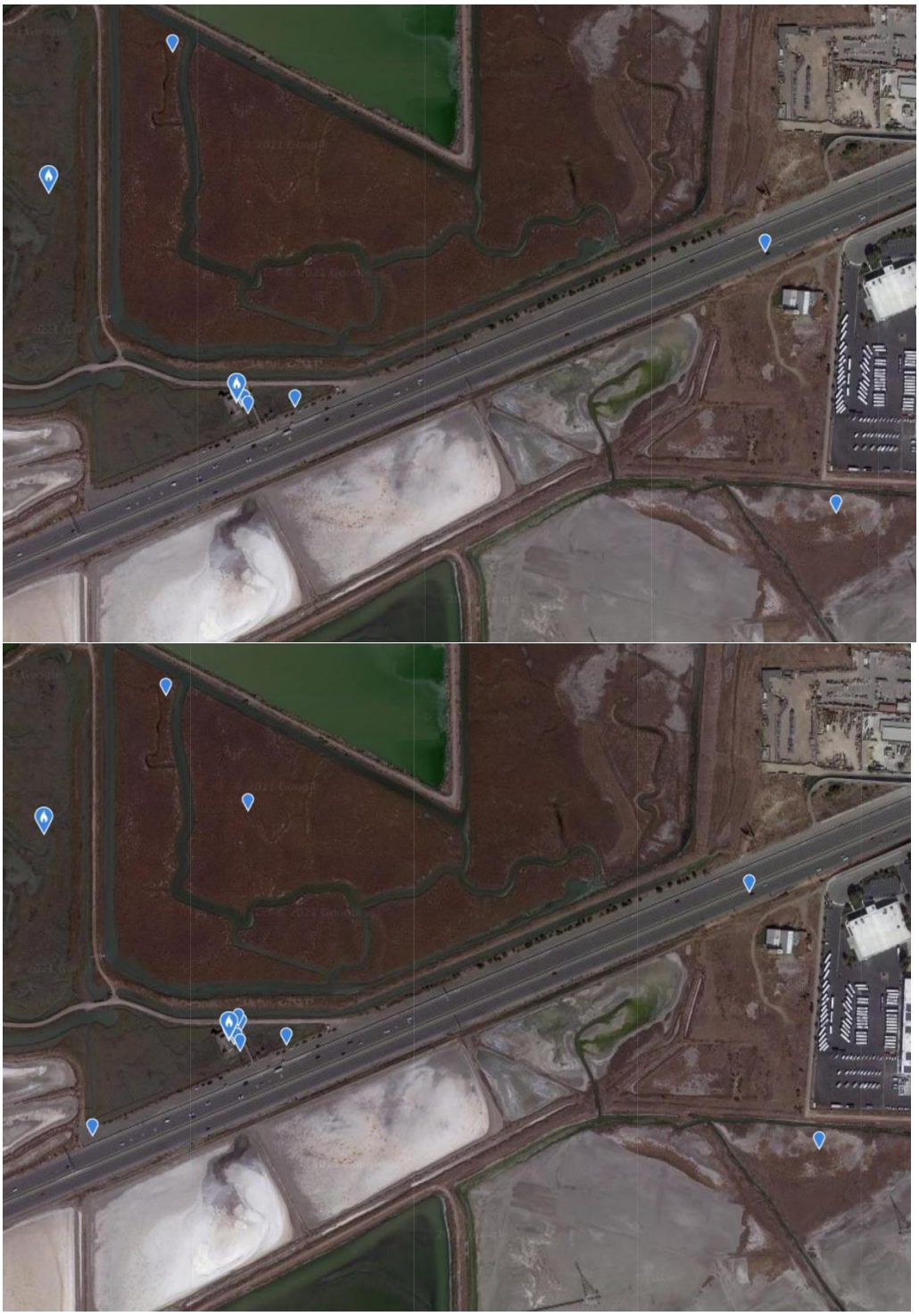


Figure 3. *Locations of burrowing owl sightings (blue teardrops) on 10 January 2015 and 20 December 2015 (Source: eBird). The project site is visible at center-right in the image.*



Figures 4 and 5. *eBird sightings of western snowy plover (top) and California least tern (below).*

WILDLIFE MOVEMENT

The DEIR's analysis of whether the project would interfere with wildlife movement in the region is flawed in two fundamental ways. According to the DEIR and to WRA (2020:12), "To account for potential impacts to wildlife movement/migratory corridors, biologists reviewed maps from the California Essential Connectivity Project" and … "habitat connectivity data available through the CDFW Biogeographic Information and Observation System." The first problem with this statement is that it implies the project site must serve as a movement corridor as a prerequisite for determining that the project would interfere with wildlife movement. However, with this implication, the DEIR adopts a CEQA standard of analysis that does not exist. The CEQA standard is whether a project will "Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors…" The primary phrase of the standard goes to wildlife movement regardless of whether the movement is channeled by a corridor. And anyhow, corridors are typically regarded in science as human-created landscape structures intended to reduce the effects of habitat fragmentation, and only infrequently as a channelization of wildlife movement caused by landscape structure (Smallwood 2015).

Wildlife movement in a region is often diffuse rather than channeled (Runge et al. 2014, Taylor et al. 2011) unless anthropogenic changes have forced channeling or targeting of "island" patches of habitat (Smallwood 2015). Wildlife movement must include stopover opportunities for birds and bats (Taylor et al. 2011), and staging habitat (Warnock 2010) during dispersal, migration or home range patrol. Many species of wildlife likely use the site of the proposed project for movement across the region. The project would cut wildlife off from stopover and staging opportunities, and would lengthen the distances that wildlife must travel before finding alternate stopover habitat. The project, therefore, would interfere with wildlife movement in the region. The DEIR needs to be revised to address this impact.

The second fundamental problem with the passage I quoted from the DEIR is that it misapplies the California Essential Habitat Connectivity Project. At https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18486 &inline, the California Essential Habitat Connectivity Project very specifically pointed out that it is not: "A California Department of Fish and Game or US Fish and Wildlife Service response to potential impacts to a habitat or species from a project subject to the California Environmental Quality Act (CEQA)," nor "Fine scale, with every important piece of habitat identified" nor ""Essential", meaning the only places of importance" nor "A solution by itself for how to provide necessary linkages for any given species of plant or animal… Linkage designs will vary depending on focal species chosen and the goal of providing connected habitat for a chosen species might be met several different ways" nor "The final word on connectivity for California." With analytical grid cells of 2,000 acres, the spatial grain of the California Essential Habitat Connectivity Project is much too coarse for the conclusion drawn from it in the DEIR.

TRAFFIC IMPACTS ON WILDLIFE

The DEIR predicts the project would generate an additional 1,192,862 vehicle miles traveled (VMT) annually. This VMT value should have served as a basis for predicting road mortality of wildlife that would be caused by traffic generated by the project. Vehicle collisions have accounted for the deaths of many thousands of reptile, amphibian, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level (Forman et al. 2003). Across North America traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562 birds were estimated killed per 100 km of road per year (Bishop and Brogan 2013), and the US estimate of avian mortality on roads is 2,200 to 8,405 deaths per 100 km per year, or 89 million to 340 million total per year (Loss et al. 2014). Local impacts can be more intense than nationally, as demonstrated by a study performed near the project site.

In a recent study of traffic-caused wildlife mortality, investigators found 1,275 carcasses of 49 species of mammals, birds, amphibians and reptiles over 15 months of searches along a 2.5 mile stretch of Vasco Road in Contra Costa County, California (Mendelsohn et al. 2009). Using carcass detection trials performed on land immediately adjacent to the traffic mortality study (Brown et al. 2016) to adjust the found fatalities for the proportion of fatalities not found due to scavenger removal and searcher error, the estimated traffic-caused fatalities was 12,187. This fatality estimate translates to a rate of 3,900 wild animals per mile per year that were killed by automobiles. In terms comparable to the national estimates, the estimates from the Mendelsohn et al. (2009) study would translate to 243,740 animals killed per 100 km of road per year, or 29 times that of Loss et al.'s (2014) upper bound estimate and 68 times the Canadian estimate. An analysis is needed of whether increased traffic generated by the project site would similarly result in local impacts on wildlife.

Increased use of existing roads would increase wildlife fatalities (see Figure 7 in Kobylarz 2001). It is possible that project-related traffic impacts would far exceed the impacts of land conversions to proposed project uses. Wildlife roadkill is not randomly distributed, and so it can be predicted. Causal factors include types of roadway, human population density, and temperature (Chen and Wu 2014), as well as time of day and adjacency and extent of vegetation cover (Chen and Wu 2014, Bartonička et al. 2018), and intersections with streams and riparian vegetation (Bartonička et al. 2018). For example, species of mammalian Carnivora are killed by vehicle traffic within 0.1 miles of stream crossings >40 times other than expected (K. S. Smallwood, 1989-2018 unpublished data). Reptiles are killed on roads where roadside fences end or where fences are damaged (Markle et al. 2017). There has even been a function developed to predict the number of golden eagles killed along the road, where the function includes traffic volume and density of road-killed animals available for eagles to scavenge upon (Lonsdorf et al. 2018). These factors also point the way toward mitigation measures, which should be formulated in a revised DEIR.

Predicting project-generated traffic impacts to wildlife

The DEIR predicts that the project would generate 1,192,862 vehicle miles traveled annually. This is a lot of mileage to be driven at great peril to wildlife that must cross roads to go about their business of foraging, patrolling home ranges, dispersing and migrating (Photos 21 and 22). Despite the obvious risk to wildlife, and despite the multiple papers and books written about this type of impact and how to mitigate them, the DEIR does not address impacts to wildlife caused by vehicles traveling to and from the project site.

Photo 21. *A Gambel's quail dashes across a road* on *3 April 2021. Such road crossings are usually successful, but too often prove fatal to the animal. Photo by Noriko Smallwood.*

Photo 22. *A mourning dove killed by vehicle traffic on a California road. Photo by Noriko Smallwood, 21 June 2020.*

For wildlife vulnerable to front-end collisions and crushing under tires, road mortality can be predicted from the study of Mendelsohn et al. (2009) as a basis, although it would be helpful to have the availability of more studies like that of Mendelsohn et al. (2009) at additional locations. My analysis of the Mendelsohn et al. (2009) data resulted in an estimated 3,900 animals killed per mile along a county road in Contra Costa County. Two percent of the estimated number of fatalities were birds, and the balance was composed of 34% mammals (many mice and pocket mice, but also ground

squirrels, desert cottontails, striped skunks, American badgers, raccoons, and others), 52.3% amphibians (large numbers of California tiger salamanders and California red-legged frogs, but also Sierran treefrogs, western toads, arboreal salamanders, slender salamanders and others), and 11.7% reptiles (many western fence lizards, but also skinks, alligator lizards, and snakes of various species).

During the Mendelsohn et al. (2009) study, 19,500 cars traveled Vasco Road daily, so the vehicle miles that contributed to my estimate of non-volant fatalities was 19,500 cars and trucks × 2.5 miles × 365 days/year × 1.25 years = 22,242,187.5 vehicle miles per 12,187 wildlife fatalities, or 1,825 vehicle miles per fatality. The project is predicted to generate 1,192,862 vehicle miles per year, which divided by the 1,825 miles per fatality, would predict 654 wildlife fatalities per year. **Operations over 50 years would accumulate 32,681 wildlife fatalities**. It remains unknown whether and to what degree vehicle tires contribute to carcass removals from the roadway, thereby contributing a negative bias to the fatality estimates I made from the Mendelsohn et al. (2009) fatality counts. The Project's toll on wildlife could be even higher than I predict. The DEIR does not address this impact in the least.

Based on my assumptions and simple calculations, the project-generated traffic would cause substantial, significant impacts to wildlife. There is at least a fair argument that can be made for the need to revise the DEIR to analyze this impact. Mitigation measures to improve wildlife safety along roads are available and are feasible, and they need exploration for their suitability with the proposed project.

CUMULATIVE IMPACTS

The DEIR presents a flawed analysis of cumulative impacts where it says, "… impacts to biological resources would be considered and mitigated on a project-by-project basis. Permanent losses of sensitive habitats, including sensitive natural communities and listed species, associated with cumulative development would be mitigated to a less than significant level. As such, the project's contribution to cumulative impacts would be significant but mitigable, and after mitigation would not be cumulatively considerable.." In effect, the DEIR implies that cumulative impacts are really just residual impacts of incomplete mitigation of project-level impacts. If that was CEQA's standard, then cumulative effects analysis would be merely an analysis of mitigation efficacy. And if that was the standard, then I must point out that none of the project-level impacts would be offset to any degree by the proposed preconstruction surveys to be performed for burrowing owls, nesting birds, and bats. But the DEIR's implied standard is not the standard of analysis of cumulative effects. CEQA defines cumulative impacts, and it outlines two general approaches for performing the analysis. The DEIR needs to be revised to perform an appropriate, serious analysis of cumulative impacts.

When it comes to wildlife, cumulative effects can often be interpreted as effects on the numerical capacity (Smallwood 2015), breeding success, genetic diversity, or other population performance metrics expressed at the regional scale. In the case of migrating birds, the project's cumulative effects could be measured as numerical reductions of breeding birds at far-off breeding sites as migrating adults and next-year's recruits lose access to stop-over habitat. In the cases of wildlife species that are susceptible to traffic

collisions, the project's contribution to ongoing and foreseeable traffic-caused mortality can be measured or predicted. Even crude predictions of cumulative impacts are imperative. A fair argument can be made for the need to revise the DEIR to adequately address the project's potential contributions to cumulative impacts on wildlife in the region.

MITIGATION MEASURES

Either the provisions of the SJMSCP must be fully implemented, or the project's impacts need to be mitigated independent of the SJMSCP. Either way, the EIR needs to be revised. Due to inadequate implementation, the SJMSCP is currently unsuitable as a mitigation strategy for this Project. Appropriate detection surveys need to be performed for each special-status species so that informed impacts analyses can contribute to an EIR, including the formulation of appropriate mitigation measures. Measures are also needed to mitigate road traffic impacts to wildlife.

BIO-1a SMHM and SMWS Habitat Fencing

I have served as the biological monitor at a construction site where salt marsh harvest mouse occurred. I am familiar with the fencing, its maintenance, and the other steps needed to minimize take. The proposed measure is incomplete. The key missing step is the live-trap and removal of salt marsh harvest mouse from the project site prior to construction. Given the size of the project, this step would require a massive undertaking. The trap and removal protocol would need to be followed after the fence is installed. Many traps managed by many biologists would need to cover the entirety of the project site., and all captured salt marsh harvest mice would need to be relocated outside the fenced area.

BIO-1b Qualified Biological Monitor

More than one biological monitor would be needed. The size of the Project would easily overwhelm a single monitor.

BIO-1d Burrowing Owl Pre-Construction Surveys and Avoidance

The DEIR falsely asserts, "The [clearance] surveys shall be consistent with the recommended survey methodology provided by CDFW (2012)." In fact, clearance surveys would not be consistent with CDFW (2012), which recommends detection surveys be completed prior to preconstruction take-avoidance surveys. The DEIR falsely characterizes clearance surveys, otherwise known as take-avoidance surveys, as detection surveys, but the two types of surveys are different and intended to meet different objectives.

The CDFW (2012) detection surveys were designed by species' experts to, at reasonable cost, provide the best chance for detecting burrowing owls by applying specific survey methods most likely to detect the species if it is indeed present. The objectives of the

CDFW (2012) detection-survey protocol are to (1) support negative findings of species when appropriate, (2) inform preconstruction surveys to improve their efficacy, (3) estimate project impacts, and (4) inform compensatory mitigation and other forms of mitigation.

Preconstruction surveys, or as the DEIR refers to them -- clearance surveys, are no substitute for detection surveys. They are intended to have been informed of burrowing owl whereabouts by the outcome of detection surveys. Negative findings of preconstruction surveys cannot be interpreted as evidence of absence, as falsely characterized in the DEIR.

BIO-1e Nesting Bird Avoidance and Pre-Construction Surveys

Pre-construction nesting bird surveys are incapable of detecting the majority of bird nests that would occur on the site. Birds are notoriously capable of hiding their nests and of behaving in manners to fool observers into thinking there are no nests or the nests are located elsewhere. Rushing to locate nests within 14 days of grading cannot achieve the level of detection of nests needed to avoid impacts. Detection surveys would be needed, and the detection survey results should then inform preconstruction surveys. See my comments under BIO-1d, which apply to nesting bird avoidance minus the specific survey guidelines of CDFW (2012).

BIO-1f Special-Status Bat Avoidance and Pre-Construction Surveys

This measure inappropriately defers formulation of the mitigation plan until some unreported date in the future, but most certainly at a date that precludes meaningful participation from me or other members of the public. The details of such a plan are important, and review of the details would best be made by experts on bat detection, which could include more biologists than the very few who work for CDFW.

The measure is vague over whether the avoidance surveys would be performed at appropriate times of year or within a few days of construction. See my comments above regarding the efficacy of preconstruction take-avoidance surveys. Surveys for bats should not be rushed by imminent habitat destruction by heavy machinery.

RECOMMENDED MITIGATION

Road Mortality

I recommend funding wildlife crossings at strategic locations along roads used by the project, especially where large trucks would be anticipated to cross sensitive areas likely traveled by special-status species. I also recommend funding research into wildlife mortality caused by car and truck traffic. Traffic-calming measures would also help.

Measures to Rectify Impacts

Compensatory mitigation ought also to include funding contributions to wildlife rehabilitation facilities to cover the costs of injured animals that would be delivered to these facilities for care. Most of the injuries likely would be caused by collisions with automobiles. Many of these animals would need treatment by wildlife rehabilitation facilities.

Thank you for your attention,

Shawn Smallwood

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Shawn Smallwood, Ph.D.

REFERENCES CITED

Bartonička, T., R. Andrášik, M. Dula, J. Sedoník, and M. Bíl. 2018. Identification of Local Factors Causing Clustering of Animal-Vehicle Collisions. Journal of Wildlife Management. Journal of Wildlife Management DOI: 10.1002/jwmg.21467

Bishop, C. A. and J. M. Brogan. 2013. Estimates of avian mortality attributed to vehicle collisions in Canada. Avian Conservation and Ecology 8:2. http://dx.doi.org/10.5751/ACE-00604-080202.

Brown, K., K. S. Smallwood, J. Szewczak, and B. Karas. 2016. Final 2012-2015 Report Avian and Bat Monitoring Project Vasco Winds, LLC. Prepared for NextEra Energy Resources, Livermore, California.

CDFW (California Department of Fish and Wildlife). 2012. Staff report on burrowing owl mitigation. Sacramento, California.

Chen, X. and S. Wu. 2014. Examining patterns of animal–vehicle collisions in Alabama, USA. Human-Wildlife Interactions 8:235-244.

City of Hayward. 2021. 4150 Point Eden Way Industrial Development Project Draft Environmental Impact Report. Prepared by Rincon Consultants, Inc. for City of Hayward, California.

Forman, T. T., D. Sperling, J. A. Bisonette, A. P. Clevenger, C. D. Cutshall, V. H. Dale, L. Fahrig, R. France, C. R. Goldman, K. Heanue, J. A. Jones, F. J. Swanson, T. Turrentine, and T. C. Winter. 2003. Road Ecology. Island Press, Covello, California.

Kobylarz, B. 2001. The effect of road type and traffic intensity on amphibian road mortality. Journal of Service Learning in Conservation Biology 1:10-15.

Lonsdorf, E. C. A. Sanders-Reed, C. Boal, and T. D. Allison. 2018. Modeling golden eagle-vehicle collisions to design mitigation strategies. Journal of Wildlife Management 82:1633-1644.

Loss, S. R., T. Will, and P. P. Marra. 2014. Estimation of Bird-Vehicle Collision Mortality on U.S. Roads. Journal of Wildlife Management 78:763-771.

Markle, C. E., S. D. Gillingwater, R. Levick, P. Chow-Fraser. 2017. The true cost of partial fencing: evaluating strategies to reduce reptile road mortality. Wildlife Society Bulletin 41:342-350.

Mendelsohn, M., W. Dexter, E. Olson, and S. Weber. 2009. Vasco Road wildlife movement study report. Report to Contra Costa County Public Works Department, Martinez, California.

Runge, C. A., T. G. Martin, H. P. Possingham, S. G. Willis, and R. A. Fuller. 2014. Conserving mobile species. Frontiers in Ecology and Environment 12(7): 395–402, doi:10.1890/130237.

Shuford, W. D., and T. Gardali, [eds.]. 2008. California bird species of special concern: a ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California.

Smallwood, K. S. 2015. Habitat fragmentation and corridors. Pages 84-101 in M. L. Morrison and H. A. Mathewson, Eds., Wildlife habitat conservation: concepts, challenges, and solutions. John Hopkins University Press, Baltimore, Maryland, USA.

Taylor, P. D., S. A. Mackenzie, B. G. Thurber, A. M. Calvert, A. M. Mills, L. P. McGuire, and C. G. Guglielmo. 2011. Landscape movements of migratory birds and bats reveal an expanded scale of stopover. PlosOne 6(11): e27054. doi:10.1371/journal.pone.0027054.

Warnock, N. 2010. Stopping vs. staging: the difference between a hop and a jump. Journal of Avian Biology 41:621-626.

WRA. 2020. Revised biological resources technical report Point Eden U-Haul Development Project, Hayward, Alameda County, California. Prepared for U-HAUL, 815 Marketing Company, Oakland, California.

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Curriculum Vitae

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Born May 3, 1963 in
Sacramento, California.
Married, father of two.

Ecologist

Expertise

- Finding solutions to controversial problems related to wildlife interactions with human industry, infrastructure, and activities;
- Wildlife monitoring and field study using GPS, thermal imaging, behavior surveys;
- Using systems analysis and experimental design principles to identify meaningful ecological patterns that inform management decisions.

Education

Ph.D. Ecology, University of California, Davis. September 1990.
M.S. Ecology, University of California, Davis. June 1987.
B.S. Anthropology, University of California, Davis. June 1985.
Corcoran High School, Corcoran, California. June 1981.

Experience

- 668 professional publications, including:
- 88 peer reviewed publications
- 24 in non-reviewed proceedings
- 554 reports, declarations, posters and book reviews
- 8 in mass media outlets
- 87 public presentations of research results

Editing for scientific journals: Guest Editor, *Wildlife Society Bulletin*, 2012-2013, of invited papers representing international views on the impacts of wind energy on wildlife and how to mitigate the impacts. Associate Editor, *Journal of Wildlife Management*, March 2004 to 30 June 2007. Editorial Board Member, *Environmental Management*, 10/1999 to 8/2004. Associate Editor, *Biological Conservation*, 9/1994 to 9/1995.

Member, Alameda County Scientific Review Committee (SRC), August 2006 to April 2011. The five-member committee investigated causes of bird and bat collisions in the Altamont Pass Wind Resource Area, and recommended mitigation and monitoring measures. The SRC reviewed the science underlying the Alameda County Avian Protection Program, and advised

the County on how to reduce wildlife fatalities.

Consulting Ecologist, 2004-2007, California Energy Commission (CEC). Provided consulting services as needed to the CEC on renewable energy impacts, monitoring and research, and produced several reports. Also collaborated with Lawrence-Livermore National Lab on research to understand and reduce wind turbine impacts on wildlife.

Consulting Ecologist, 1999-2013, U.S. Navy. Performed endangered species surveys, hazardous waste site monitoring, and habitat restoration for the endangered San Joaquin kangaroo rat, California tiger salamander, California red-legged frog, California clapper rail, western burrowing owl, salt marsh harvest mouse, and other species at Naval Air Station Lemoore; Naval Weapons Station, Seal Beach, Detachment Concord; Naval Security Group Activity, Skaggs Island; National Radio Transmitter Facility, Dixon; and, Naval Outlying Landing Field Imperial Beach.

Part-time Lecturer, 1998-2005, California State University, Sacramento. Instructed Mammalogy, Behavioral Ecology, and Ornithology Lab, Contemporary Environmental Issues, Natural Resources Conservation.

Senior Ecologist, 1999-2005, BioResource Consultants. Designed and implemented research and monitoring studies related to avian fatalities at wind turbines, avian electrocutions on electric distribution poles across California, and avian fatalities at transmission lines.

Chairman, Conservation Affairs Committee, The Wildlife Society--Western Section, 1999-2001. Prepared position statements and led efforts directed toward conservation issues, including travel to Washington, D.C. to lobby Congress for more wildlife conservation funding.

Systems Ecologist, 1995-2000, Institute for Sustainable Development. Headed ISD's program on integrated resources management. Developed indicators of ecological integrity for large areas, using remotely sensed data, local community involvement and GIS.

Associate, 1997-1998, Department of Agronomy and Range Science, University of California, Davis. Worked with Shu Geng and Mingua Zhang on several studies related to wildlife interactions with agriculture and patterns of fertilizer and pesticide residues in groundwater across a large landscape.

Lead Scientist, 1996-1999, National Endangered Species Network. Informed academic scientists and environmental activists about emerging issues regarding the Endangered Species Act and other environmental laws. Testified at public hearings on endangered species issues.

Ecologist, 1997-1998, Western Foundation of Vertebrate Zoology. Conducted field research to determine the impact of past mercury mining on the status of California red-legged frogs in Santa Clara County, California.

Senior Systems Ecologist, 1994-1995, EIP Associates, Sacramento, California. Provided consulting services in environmental planning, and quantitative assessment of land units for their conservation and restoration opportunities basedon ecological resource requirements of 29 special-status species. Developed ecological indicators for prioritizing areas within Yolo County

to receive mitigation funds for habitat easements and restoration.

Post-Graduate Researcher, 1990-1994, Department of Agronomy and Range Science*, U.C. Davis*. Under Dr. Shu Geng's mentorship, studied landscape and management effects on temporal and spatial patterns of abundance among pocket gophers and species of Falconiformes and Carnivora in the Sacramento Valley. Managed and analyzed a data base of energy use in California agriculture. Assisted with landscape (GIS) study of groundwater contamination across Tulare County, California.

Work experience in graduate school: Co-taught Conservation Biology with Dr. Christine Schonewald, 1991 & 1993, UC Davis Graduate Group in Ecology; Reader for Dr. Richard Coss's course on Psychobiology in 1990, UC Davis Department of Psychology; Research Assistant to Dr. Walter E. Howard, 1988-1990, UC Davis Department of Wildlife and Fisheries Biology, testing durable baits for pocket gopher management in forest clearcuts; Research Assistant to Dr. Terrell P. Salmon, 1987-1988, UC Wildlife Extension, Department of Wildlife and Fisheries Biology, developing empirical models of mammal and bird invasions in North America, and a rating system for priority research and control of exotic species based on economic, environmental and human health hazards in California. Student Assistant to Dr. E. Lee Fitzhugh, 1985-1987, UC Cooperative Extension, Department of Wildlife and Fisheries Biology, developing and implementing statewide mountain lion track count for long-term monitoring.

Fulbright Research Fellow, Indonesia, 1988. Tested use of new sampling methods for numerical monitoring of Sumatran tiger and six other species of endemic felids, and evaluated methods used by other researchers.

Projects

Repowering wind energy projects through careful siting of new wind turbines using map-based collision hazard models to minimize impacts to volant wildlife. Funded by wind companies (principally NextEra Renewable Energy, Inc.), California Energy Commission and East Bay Regional Park District, I have collaborated with a GIS analyst and managed a crew of five field biologists performing golden eagle behavior surveys and nocturnal surveys on bats and owls. The goal is to quantify flight patterns for development of predictive models to more carefully site new wind turbines in repowering projects. Focused behavior surveys began May 2012 and continue. Collision hazard models have been prepared for seven wind projects, three of which were built. Planning for additional repowering projects is underway.

Test avian safety of new mixer-ejector wind turbine (MEWT). Designed and implemented a before-after, control-impact experimental design to test the avian safety of a new, shrouded wind turbine developed by Ogin Inc. (formerly known as FloDesign Wind Turbine Corporation). Supported by a $718,000 grant from the California Energy Commission's Public Interest Energy Research program and a 20% match share contribution from Ogin, I managed a crew of seven field biologists who performed periodic fatality searches and behavior surveys, carcass detection trials, nocturnal behavior surveys using a thermal camera, and spatial analyses with the collaboration of a GIS analyst. Field work began 1 April 2012 and ended 30 March 2015 without Ogin installing its MEWTs, but we still achieved multiple important scientific advances.

Reduce avian mortality due to wind turbines at Altamont Pass. Studied wildlife impacts caused by 5,400 wind turbines at the world's most notorious wind resource area. Studied how impacts are perceived by monitoring and how they are affected by terrain, wind patterns, food resources, range management practices, wind turbine operations, seasonal patterns, population cycles, infrastructure management such as electric distribution, animal behavior and social interactions.

Reduce avian mortality on electric distribution poles. Directed research toward reducing bird electrocutions on electric distribution poles, 2000-2007. Oversaw 5 founds of fatality searches at 10,000 poles from Orange County to Glenn County, California, and produced two large reports.

Cook *et al*. v. Rockwell International *et al*., No. 90-K-181 (D. Colorado). Provided expert testimony on the role of burrowing animals in affecting the fate of buried and surface-deposited radioactive and hazardous chemical wastes at the Rocky Flats Plant, Colorado. Provided expert reports based on four site visits and an extensive document review of burrowing animals. Conducted transect surveys for evidence of burrowing animals and other wildlife on and around waste facilities. Discovered substantial intrusion of waste structures by burrowing animals. I testified in federal court in November 2005, and my clients were subsequently awarded a $553,000,000 judgment by a jury. After appeals the award was increased to two billion dollars.

Hanford Nuclear Reservation Litigation. Provided expert testimony on the role of burrowing animals in affecting the fate of buried radioactive wastes at the Hanford Nuclear Reservation, Washington. Provided three expert reports based on three site visits and extensive document review. Predicted and verified a certain population density of pocket gophers on buried waste structures, as well as incidence of radionuclide contamination in body tissue. Conducted transect surveys for evidence of burrowing animals and other wildlife on and around waste facilities. Discovered substantial intrusion of waste structures by burrowing animals.

Expert testimony and declarations on proposed residential and commercial developments, gas-fired power plants, wind, solar and geothermal projects, water transfers and water transfer delivery systems, endangered species recovery plans, Habitat Conservation Plans and Natural Communities Conservation Programs. Testified before multiple government agencies, Tribunals, Boards of Supervisors and City Councils, and participated with press conferences and depositions. Prepared expert witness reports and court declarations, which are summarized under Reports (below).

Protocol-level surveys for special-status species. Used California Department of Fish and Wildlife and US Fish and Wildlife Service protocols to search for California red-legged frog, California tiger salamander, arroyo southwestern toad, blunt-nosed leopard lizard, western pond turtle, giant kangaroo rat, San Joaquin kangaroo rat, San Joaquin kit fox, western burrowing owl, Swainson's hawk, Valley elderberry longhorn beetle and other special-status species.

Conservation of San Joaquin kangaroo rat. Performed research to identify factors responsible for the decline of this endangered species at Lemoore Naval Air Station, 2000-2013, and implemented habitat enhancements designed to reverse the trend and expand the population.

Impact of West Nile Virus on yellow-billed magpies. Funded by Sacramento-Yolo Mosquito and Vector Control District, 2005-2008, compared survey results pre- and post-West Nile Virus epidemic for multiple bird species in the Sacramento Valley, particularly on yellow-billed magpie and American crow due to susceptibility to WNV.

Workshops on HCPs. Assisted Dr. Michael Morrison with organizing and conducting a 2-day workshop on Habitat Conservation Plans, sponsored by Southern California Edison, and another 1-day workshop sponsored by PG&E. These Workshops were attended by academics, attorneys, and consultants with HCP experience. We guest-edited a Proceedings published in Environmental Management.

Mapping of biological resources along Highways 101, 46 and 41. Used GPS and GIS to delineate vegetation complexes and locations of special-status species along 26 miles of highway in San Luis Obispo County, 14 miles of highway and roadway in Monterey County, and in a large area north of Fresno, including within reclaimed gravel mining pits.

GPS mapping and monitoring at restoration sites and at Caltrans mitigation sites. Monitored the success of elderberry shrubs at one location, the success of willows at another location, and the response of wildlife to the succession of vegetation at both sites. Also used GPS to monitor the response of fossorial animals to yellow star-thistle eradication and natural grassland restoration efforts at Bear Valley in Colusa County and at the decommissioned Mather Air Force Base in Sacramento County.

Mercury effects on Red-legged Frog. Assisted Dr. Michael Morrison and US Fish and Wildlife Service in assessing the possible impacts of historical mercury mining on the federally listed California red-legged frog in Santa Clara County. Also measured habitat variables in streams.

Opposition to proposed No Surprises rule. Wrote a white paper and summary letter explaining scientific grounds for opposing the incidental take permit (ITP) rules providing ITP applicants and holders with general assurances they will be free of compliance with the Endangered Species Act once they adhere to the terms of a "properly functioning HCP." Submitted 188 signatures of scientists and environmental professionals concerned about No Surprises rule US Fish and Wildlife Service, National Marine Fisheries Service, all US Senators.

Natomas Basin Habitat Conservation Plan alternative. Designed narrow channel marsh to increase the likelihood of survival and recovery in the wild of giant garter snake, Swainson's hawk and Valley Elderberry Longhorn Beetle. The design included replication and interspersion of treatments for experimental testing of critical habitat elements. I provided a report to Northern Territories, Inc.

Assessments of agricultural production system and environmental technology transfer to China. Twice visited China and interviewed scientists, industrialists, agriculturalists, and the Directors of the Chinese Environmental Protection Agency and the Department of Agriculture to assess the need and possible pathways for environmental clean-up technologies and trade opportunities between the US and China.

Yolo County Habitat Conservation Plan. Conducted landscape ecology study of Yolo County to spatially prioritize allocation of mitigation efforts to improve ecosystem functionality within the County from the perspective of 29 special-status species of wildlife and plants. Used a hierarchically structured indicators approach to apply principles of landscape and ecosystem ecology, conservation biology, and local values in rating land units. Derived GIS maps to help guide the conservation area design, and then developed implementation strategies.

Mountain lion track count. Developed and conducted a carnivore monitoring program throughout California since 1985. Species counted include mountain lion, bobcat, black bear, coyote, red and gray fox, raccoon, striped skunk, badger, and black-tailed deer. Vegetation and land use are also monitored. Track survey transect was established on dusty, dirt roads within randomly selected quadrats.

Sumatran tiger and other felids. Upon award of Fulbright Research Fellowship, I designed and initiated track counts for seven species of wild cats in Sumatra, including Sumatran tiger, fishing cat, and golden cat. Spent four months on Sumatra and Java in 1988, and learned Bahasa Indonesia, the official Indonesian language.

Wildlife in agriculture. Beginning as post-graduate research, I studied pocket gophers and other wildlife in 40 alfalfa fields throughout the Sacramento Valley, and I surveyed for wildlife along a 200 mile road transect since 1989 with a hiatus of 1996-2004. The data are analyzed using GIS and methods from landscape ecology, and the results published and presented orally to farming groups in California and elsewhere. I also conducted the first study of wildlife in cover crops used on vineyards and orchards.

Agricultural energy use and Tulare County groundwater study. Developed and analyzed a data base of energy use in California agriculture, and collaborated on a landscape (GIS) study of groundwater contamination across Tulare County, California.

Pocket gopher damage in forest clear-cuts. Developed gopher sampling methods and tested various poison baits and baiting regimes in the largest-ever field study of pocket gopher management in forest plantations, involving 68 research plots in 55 clear-cuts among 6 National Forests in northern California.

Risk assessment of exotic species in North America. Developed empirical models of mammal and bird species invasions in North America, as well as a rating system for assigning priority research and control to exotic species in California, based on economic, environmental, and human health hazards.

Peer Reviewed Publications

Smallwood, K. S. 2020. USA wind energy-caused bat fatalities increase with shorter fatality search intervals. Diversity 12(98); doi:10.3390/d12030098.

Smallwood, K. S., D. A. Bell, and S. Standish. 2020. Dogs detect larger wind energy impacts on bats and birds. Journal of Wildlife Management 84:852-864. DOI: 10.1002/jwmg.21863.

Smallwood, K. S., and D. A. Bell. 2020. Relating bat passage rates to wind turbine fatalities. Diversity 12(84); doi:10.3390/d12020084.

Smallwood, K. S., and D. A. Bell. 2020. Effects of wind turbine curtailment on bird and bat fatalities. Journal of Wildlife Management 84:684-696. DOI: 10.1002/jwmg.21844

Kitano, M., M. Ino, K. S. Smallwood, and S. Shiraki. 2020. Seasonal difference in carcass persistence rates at wind farms with snow, Hokkaido, Japan. Ornithological Science 19: 63 –

71.

Smallwood, K. S. and M. L. Morrison. 2018. Nest-site selection in a high-density colony of burrowing owls. Journal of Raptor Research 52:454-470.

Smallwood, K. S., D. A. Bell, E. L. Walther, E. Leyvas, S. Standish, J. Mount, B. Karas. 2018. Estimating wind turbine fatalities using integrated detection trials. Journal of Wildlife Management 82:1169-1184.

Smallwood, K. S. 2017. Long search intervals under-estimate bird and bat fatalities caused by wind turbines. Wildlife Society Bulletin 41:224-230.

Smallwood, K. S. 2017. The challenges of addressing wildlife impacts when repowering wind energy projects. Pages 175-187 in Köppel, J., Editor, Wind Energy and Wildlife Impacts: Proceedings from the CWW2015 Conference. Springer. Cham, Switzerland.

May, R., Gill, A. B., Köppel, J. Langston, R. H.W., Reichenbach, M., Scheidat, M., Smallwood, S., Voigt, C. C., Hüppop, O., and Portman, M. 2017. Future research directions to reconcile wind turbine–wildlife interactions. Pages 255-276 in Köppel, J., Editor, Wind Energy and Wildlife Impacts: Proceedings from the CWW2015 Conference. Springer. Cham, Switzerland.

Smallwood, K. S. 2017. Monitoring birds. M. Perrow, Ed., Wildlife and Wind Farms - Conflicts and Solutions, Volume 2. Pelagic Publishing, Exeter, United Kingdom. www.bit.ly/2v3cR9Q

Smallwood, K. S., L. Neher, and D. A. Bell. 2017. Siting to Minimize Raptor Collisions: an example from the Repowering Altamont Pass Wind Resource Area. M. Perrow, Ed., Wildlife and Wind Farms - Conflicts and Solutions, Volume 2. Pelagic Publishing, Exeter, United Kingdom. www.bit.ly/2v3cR9Q

Johnson, D. H., S. R. Loss, K. S. Smallwood, W. P. Erickson. 2016. Avian fatalities at wind energy facilities in North America: A comparison of recent approaches. Human–Wildlife Interactions 10(1):7-18.

Sadar, M. J., D. S.-M. Guzman, A. Mete, J. Foley, N. Stephenson, K. H. Rogers, C. Grosset, K. S. Smallwood, J. Shipman, A. Wells, S. D. White, D. A. Bell, and M. G. Hawkins. 2015. Mange Caused by a novel Micnemidocoptes mite in a Golden Eagle (*Aquila chrysaetos*). Journal of Avian Medicine and Surgery 29(3):231-237.

Smallwood, K. S. 2015. Habitat fragmentation and corridors. Pages 84-101 in M. L. Morrison and H. A. Mathewson, Eds., Wildlife habitat conservation: concepts, challenges, and solutions. John Hopkins University Press, Baltimore, Maryland, USA.

Mete, A., N. Stephenson, K. Rogers, M. G. Hawkins, M. Sadar, D. Guzman, D. A. Bell, J. Shipman, A. Wells, K. S. Smallwood, and J. Foley. 2014. Emergence of Knemidocoptic mange in wild Golden Eagles (Aquila chrysaetos) in California. Emerging Infectious Diseases 20(10):1716-1718.

Smallwood, K. S. 2013. Introduction: Wind-energy development and wildlife conservation.

Wildlife Society Bulletin 37: 3-4.

Smallwood, K. S. 2013. Comparing bird and bat fatality-rate estimates among North American wind-energy projects. Wildlife Society Bulletin 37:19-33. + Online Supplemental Material.

Smallwood, K. S., L. Neher, J. Mount, and R. C. E. Culver. 2013. Nesting Burrowing Owl Abundance in the Altamont Pass Wind Resource Area, California. Wildlife Society Bulletin: 37:787-795.

Smallwood, K. S., D. A. Bell, B. Karas, and S. A. Snyder. 2013. Response to Huso and Erickson Comments on Novel Scavenger Removal Trials. Journal of Wildlife Management 77: 216-225.

Bell, D. A., and K. S. Smallwood. 2010. Birds of prey remain at risk. Science 330:913.

Smallwood, K. S., D. A. Bell, S. A. Snyder, and J. E. DiDonato. 2010. Novel scavenger removal trials increase estimates of wind turbine-caused avian fatality rates. Journal of Wildlife Management 74: 1089-1097 + Online Supplemental Material.

Smallwood, K. S., L. Neher, and D. A. Bell. 2009. Map-based repowering and reorganization of a wind resource area to minimize burrowing owl and other bird fatalities. Energies 2009(2):915-943. http://www.mdpi.com/1996-1073/2/4/915

Smallwood, K. S. and B. Nakamoto. 2009. Impacts of West Nile Virus Epizootic on Yellow-Billed Magpie, American Crow, and other Birds in the Sacramento Valley, California. The Condor 111:247-254.

Smallwood, K. S., L. Rugge, and M. L. Morrison. 2009. Influence of Behavior on Bird Mortality in Wind Energy Developments: The Altamont Pass Wind Resource Area, California. Journal of Wildlife Management 73:1082-1098.

Smallwood, K. S. and B. Karas. 2009. Avian and Bat Fatality Rates at Old-Generation and Repowered Wind Turbines in California. Journal of Wildlife Management 73:1062-1071.

Smallwood, K. S. 2008. Wind power company compliance with mitigation plans in the Altamont Pass Wind Resource Area. Environmental & Energy Law Policy Journal 2(2):229-285.

Smallwood, K. S., C. G. Thelander. 2008. Bird Mortality in the Altamont Pass Wind Resource Area, California. Journal of Wildlife Management 72:215-223.

Smallwood, K. S. 2007. Estimating wind turbine-caused bird mortality. Journal of Wildlife Management 71:2781-2791.

Smallwood, K. S., C. G. Thelander, M. L. Morrison, and L. M. Rugge. 2007. Burrowing owl mortality in the Altamont Pass Wind Resource Area. Journal of Wildlife Management 71:1513-1524.

Cain, J. W. III, K. S. Smallwood, M. L. Morrison, and H. L. Loffland. 2005. Influence of mammal activity on nesting success of Passerines. J. Wildlife Management 70:522-531.

Smallwood, K.S. 2002. Habitat models based on numerical comparisons. Pages 83-95 *in* Predicting species occurrences: Issues of scale and accuracy, J. M. Scott, P. J. Heglund, M. Morrison, M. Raphael, J. Haufler, and B. Wall, editors. Island Press, Covello, California.

Morrison, M. L., K. S. Smallwood, and L. S. Hall. 2002. Creating habitat through plant relocation: Lessons from Valley elderberry longhorn beetle mitigation. Ecological Restoration 21: 95-100.

Zhang, M., K. S. Smallwood, and E. Anderson. 2002. Relating indicators of ecological health and integrity to assess risks to sustainable agriculture and native biota. Pages 757-768 *in* D.J. Rapport, W.L. Lasley, D.E. Rolston, N.O. Nielsen, C.O. Qualset, and A.B. Damania (eds.), Managing for Healthy Ecosystems, Lewis Publishers, Boca Raton, Florida USA.

Wilcox, B. A., K. S. Smallwood, and J. A. Kahn. 2002. Toward a forest Capital Index. Pages 285-298 *in* D.J. Rapport, W.L. Lasley, D.E. Rolston, N.O. Nielsen, C.O. Qualset, and A.B. Damania (eds.), Managing for Healthy Ecosystems, Lewis Publishers, Boca Raton, Florida USA.

Smallwood, K.S. 2001. The allometry of density within the space used by populations of Mammalian Carnivores. Canadian Journal of Zoology 79:1634-1640.

Smallwood, K.S., and T.R. Smith. 2001. Study design and interpretation of Sorex density estimates. Annales Zoologi Fennici 38:141-161.

Smallwood, K.S., A. Gonzales, T. Smith, E. West, C. Hawkins, E. Stitt, C. Keckler, C. Bailey, and K. Brown. 2001. Suggested standards for science applied to conservation issues. Transactions of the Western Section of the Wildlife Society 36:40-49.

Geng, S., Yixing Zhou, Minghua Zhang, and K. Shawn Smallwood. 2001. A Sustainable Agro-ecological Solution to Water Shortage in North China Plain (Huabei Plain). Environmental Planning and Management 44:345-355.

Smallwood, K. Shawn, Lourdes Rugge, Stacia Hoover, Michael L. Morrison, Carl Thelander. 2001. Intra- and inter-turbine string comparison of fatalities to animal burrow densities at Altamont Pass. Pages 23-37 in S. S. Schwartz, ed., Proceedings of the National Avian-Wind Power Planning Meeting IV. RESOLVE, Inc., Washington, D.C.

Smallwood, K.S., S. Geng, and M. Zhang. 2001. Comparing pocket gopher (*Thomomys bottae*) density in alfalfa stands to assess management and conservation goals in northern California. Agriculture, Ecosystems & Environment 87: 93-109.

Smallwood, K. S. 2001. Linking habitat restoration to meaningful units of animal demography. Restoration Ecology 9:253-261.

Smallwood, K. S. 2000. A crosswalk from the Endangered Species Act to the HCP Handbook and real HCPs. Environmental Management 26, Supplement 1:23-35.

Smallwood, K. S., J. Beyea and M. Morrison. 1999. Using the best scientific data for endangered species conservation. Environmental Management 24:421-435.

Smallwood, K. S. 1999. Scale domains of abundance among species of Mammalian Carnivora. Environmental Conservation 26:102-111.

Smallwood, K.S. 1999. Suggested study attributes for making useful population density estimates. Transactions of the Western Section of the Wildlife Society 35: 76-82.

Smallwood, K. S. and M. L. Morrison. 1999. Estimating burrow volume and excavation rate of pocket gophers (Geomyidae). Southwestern Naturalist 44:173-183.

Smallwood, K. S. and M. L. Morrison. 1999. Spatial scaling of pocket gopher (*Geomyidae*) density. Southwestern Naturalist 44:73-82.

Smallwood, K. S. 1999. Abating pocket gophers (*Thomomys* spp.) to regenerate forests in clearcuts. Environmental Conservation 26:59-65.

Smallwood, K. S. 1998. Patterns of black bear abundance. Transactions of the Western Section of the Wildlife Society 34:32-38.

Smallwood, K. S. 1998. On the evidence needed for listing northern goshawks (*Accipter gentilis*) under the Endangered Species Act: a reply to Kennedy. J. Raptor Research 32:323-329.

Smallwood, K. S., B. Wilcox, R. Leidy, and K. Yarris. 1998. Indicators assessment for Habitat Conservation Plan of Yolo County, California, USA. Environmental Management 22: 947-958.

Smallwood, K. S., M. L. Morrison, and J. Beyea. 1998. Animal burrowing attributes affecting hazardous waste management. Environmental Management 22: 831-847.

Smallwood, K. S, and C. M. Schonewald. 1998. Study design and interpretation for mammalian carnivore density estimates. Oecologia 113:474-491.

Zhang, M., S. Geng, and K. S. Smallwood. 1998. Nitrate contamination in groundwater of Tulare County, California. Ambio 27(3):170-174.

Smallwood, K. S. and M. L. Morrison. 1997. Animal burrowing in the waste management zone of Hanford Nuclear Reservation. Proceedings of the Western Section of the Wildlife Society Meeting 33:88-97.

Morrison, M. L., K. S. Smallwood, and J. Beyea. 1997. Monitoring the dispersal of contaminants by wildlife at nuclear weapons production and waste storage facilities. The Environmentalist 17:289-295.

Smallwood, K. S. 1997. Interpreting puma (*Puma concolor*) density estimates for theory and management. Environmental Conservation 24(3):283-289.

Smallwood, K. S. 1997. Managing vertebrates in cover crops: a first study. American Journal of Alternative Agriculture 11:155-160.

Smallwood, K. S. and S. Geng. 1997. Multi-scale influences of gophers on alfalfa yield and quality. Field Crops Research 49:159-168.

Smallwood, K. S. and C. Schonewald. 1996. Scaling population density and spatial pattern for terrestrial, mammalian carnivores. Oecologia 105:329-335.

Smallwood, K. S., G. Jones, and C. Schonewald. 1996. Spatial scaling of allometry for terrestrial, mammalian carnivores. Oecologia 107:588-594.

Van Vuren, D. and K. S. Smallwood. 1996. Ecological management of vertebrate pests in agricultural systems. Biological Agriculture and Horticulture 13:41-64.

Smallwood, K. S., B. J. Nakamoto, and S. Geng. 1996. Association analysis of raptors on an agricultural landscape. Pages 177-190 in D.M. Bird, D.E. Varland, and J.J. Negro, eds., Raptors in human landscapes. Academic Press, London.

Erichsen, A. L., K. S. Smallwood, A. M. Commandatore, D. M. Fry, and B. Wilson. 1996. White-tailed Kite movement and nesting patterns in an agricultural landscape. Pages 166-176 in D. M. Bird, D. E. Varland, and J. J. Negro, eds., Raptors in human landscapes. Academic Press, London.

Smallwood, K. S. 1995. Scaling Swainson's hawk population density for assessing habitat-use across an agricultural landscape. J. Raptor Research 29:172-178.

Smallwood, K. S. and W. A. Erickson. 1995. Estimating gopher populations and their abatement in forest plantations. Forest Science 41:284-296.

Smallwood, K. S. and E. L. Fitzhugh. 1995. A track count for estimating mountain lion *Felis concolor californica* population trend. Biological Conservation 71:251-259

Smallwood, K. S. 1994. Site invasibility by exotic birds and mammals. Biological Conservation 69:251-259.

Smallwood, K. S. 1994. Trends in California mountain lion populations. Southwestern Naturalist 39:67-72.

Smallwood, K. S. 1993. Understanding ecological pattern and process by association and order. Acta Oecologica 14(3):443-462.

Smallwood, K. S. and E. L. Fitzhugh. 1993. A rigorous technique for identifying individual mountain lions *Felis concolor* by their tracks. Biological Conservation 65:51-59.

Smallwood, K. S. 1993. Mountain lion vocalizations and hunting behavior. The Southwestern Naturalist 38:65-67.

Smallwood, K. S. and T. P. Salmon. 1992. A rating system for potential exotic vertebrate pests. Biological Conservation 62:149-159.

Smallwood, K. S. 1990. Turbulence and the ecology of invading species. Ph.D. Thesis, University of California, Davis.

Peer-reviewed Reports

Smallwood, K. S., and L. Neher. 2017. Comparing bird and bat use data for siting new wind power generation. Report CEC-500-2017-019, California Energy Commission Public Interest Energy Research program, Sacramento, California. http://www.energy.ca.gov/2017publications/CEC-500-2017-019/CEC-500-2017-019.pdf and http://www.energy.ca.gov/2017publications/CEC-500-2017-019/CEC-500-2017-019-APA-F.pdf

Smallwood, K. S. 2016. Bird and bat impacts and behaviors at old wind turbines at Forebay, Altamont Pass Wind Resource Area. Report CEC-500-2016-066, California Energy Commission Public Interest Energy Research program, Sacramento, California. http://www.energy.ca.gov/publications/displayOneReport.php? pubNum=CEC-500-2016-066

Sinclair, K. and E. DeGeorge. 2016. Framework for Testing the Effectiveness of Bat and Eagle Impact-Reduction Strategies at Wind Energy Projects. S. Smallwood, M. Schirmacher, and M. Morrison, eds., Technical Report NREL/TP-5000-65624, National Renewable Energy Laboratory, Golden, Colorado.

Brown, K., K. S. Smallwood, J. Szewczak, and B. Karas. 2016. Final 2012-2015 Report Avian and Bat Monitoring Project Vasco Winds, LLC. Prepared for NextEra Energy Resources, Livermore, California.

Brown, K., K. S. Smallwood, J. Szewczak, and B. Karas. 2014. Final 2013-2014 Annual Report Avian and Bat Monitoring Project Vasco Winds, LLC. Prepared for NextEra Energy Resources, Livermore, California.

Brown, K., K. S. Smallwood, and B. Karas. 2013. Final 2012-2013 Annual Report Avian and Bat Monitoring Project Vasco Winds, LLC. Prepared for NextEra Energy Resources, Livermore, California. http://www.altamontsrc.org/alt_doc/p274_ventus_vasco_winds_2012_13_avian_bat_monitoring_report_year_1.pdf

Smallwood, K. S., L. Neher, D. Bell, J. DiDonato, B. Karas, S. Snyder, and S. Lopez. 2009. Range Management Practices to Reduce Wind Turbine Impacts on Burrowing Owls and Other Raptors in the Altamont Pass Wind Resource Area, California. Final Report to the California Energy Commission, Public Interest Energy Research – Environmental Area, Contract No. CEC-500-2008-080. Sacramento, California. 183 pp. http://www.energy.ca.gov/2008publications/CEC-500-2008-080/CEC-500-2008-080.PDF

Smallwood, K. S., and L. Neher. 2009. Map-Based Repowering of the Altamont Pass Wind Resource Area Based on Burrowing Owl Burrows, Raptor Flights, and Collisions with Wind Turbines. Final Report to the California Energy Commission, Public Interest Energy Research – Environmental Area, Contract No. CEC-500-2009-065. Sacramento, California. http://www.energy.ca.gov/publications/displayOneReport.php?pubNum=CEC-500-2009-065

Smallwood, K. S., K. Hunting, L. Neher, L. Spiegel and M. Yee. 2007. Indicating Threats to Birds Posed by New Wind Power Projects in California. Final Report to the California Energy Commission, Public Interest Energy Research – Environmental Area, Contract No. Submitted but not published. Sacramento, California.

Smallwood, K. S. and C. Thelander. 2005. Bird mortality in the Altamont Pass Wind Resource Area, March 1998 – September 2001 Final Report. National Renewable Energy Laboratory, NREL/SR-500-36973. Golden, Colorado. 410 pp.

Smallwood, K. S. and C. Thelander. 2004. Developing methods to reduce bird mortality in the Altamont Pass Wind Resource Area. Final Report to the California Energy Commission, Public Interest Energy Research – Environmental Area, Contract No. 500-01-019. Sacramento, California. 531 pp. http://www.altamontsrcarchive.org/alt_doc/cec_final_report_08_11_04.pdf

Thelander, C.G. S. Smallwood, and L. Rugge. 2003. Bird risk behaviors and fatalities at the Altamont Pass Wind Resource Area. Period of Performance: March 1998—December 2000. National Renewable Energy Laboratory, NREL/SR-500-33829. U.S. Department of Commerce, National Technical Information Service, Springfield, Virginia. 86 pp.

Thelander, C.G., S. Smallwood, and L. Rugge. 2001. Bird risk behaviors and fatalities at the Altamont Wind Resource Area – a progress report. Proceedings of the American Wind Energy Association, Washington D.C. 16 pp.

Non-Peer Reviewed Publications

Smallwood, K. S. 2009. Methods manual for assessing wind farm impacts to birds. Bird Conservation Series 26, Wild Bird Society of Japan, Tokyo. T. Ura, ed., in English with Japanese translation by T. Kurosawa. 90 pp.

Smallwood, K. S. 2009. Mitigation in U.S. Wind Farms. Pages 68-76 in H. Hötker (Ed.), Birds of Prey and Wind Farms: Analysis of problems and possible solutions. Documentation of an International Workshop in Berlin, 21st and 22nd October 2008. Michael-Otto-Instiut im NABU, Goosstroot 1, 24861 Bergenhusen, Germany. http://bergenhusen.nabu.de/forschung/greifvoegel/

Smallwood, K. S. 2007. Notes and recommendations on wildlife impacts caused by Japan's wind power development. Pages 242-245 in Yukihiro Kominami, Tatsuya Ura, Koshitawa, and Tsuchiya, Editors, Wildlife and Wind Turbine Report 5. Wild Bird Society of Japan, Tokyo.

Thelander, C.G. and S. Smallwood. 2007. The Altamont Pass Wind Resource Area's Effects on Birds: A Case History. Pages 25-46 in Manuela de Lucas, Guyonne F.E. Janss, Miguel Ferrer Editors, Birds and Wind Farms: risk assessment and mitigation. Madrid: Quercus.

Neher, L. and S. Smallwood. 2005. Forecasting and minimizing avian mortality in siting wind turbines. Energy Currents. Fall Issue. ESRI, Inc., Redlands, California.

Jennifer Davidson and Shawn Smallwood. 2004. Laying plans for a hydrogen highway. Comstock's Business, August 2004:18-20, 22, 24-26.

Jennifer Davidson and Shawn Smallwood. 2004. Refined conundrum: California consumers demand more oil while opposing refinery development. Comstock's Business, November 2004:26-27, 29-30.

Smallwood, K.S. 2002. Review of "The Atlas of Endangered Species." By Richard Mackay. Environmental Conservation 30:210-211.

Smallwood, K.S. 2002. Review of "The Endangered Species Act. History, Conservation, and Public Policy." By Brian Czech and Paul B. Krausman. Environmental Conservation 29: 269-270.

Smallwood, K.S. 1997. Spatial scaling of pocket gopher (Geomyidae) burrow volume. Abstract in Proceedings of 44th Annual Meeting, Southwestern Association of Naturalists. Department of Biological Sciences, University of Arkansas, Fayetteville.

Smallwood, K.S. 1997. Estimating prairie dog and pocket gopher burrow volume. Abstract in Proceedings of 44th Annual Meeting, Southwestern Association of Naturalists. Department of Biological Sciences, University of Arkansas, Fayetteville.

Smallwood, K.S. 1997. Animal burrowing parameters influencing toxic waste management. Abstract in Proceedings of Meeting, Western Section of the Wildlife Society.

Smallwood, K.S, and Bruce Wilcox. 1996. Study and interpretive design effects on mountain lion density estimates. Abstract, page 93 in D.W. Padley, ed., *Proceedings 5th Mountain Lion Workshop*, Southern California Chapter, The Wildlife Society. 135 pp.

Smallwood, K.S, and Bruce Wilcox. 1996. Ten years of mountain lion track survey. Page 94 in D.W. Padley, ed. Abstract, page 94 in D.W. Padley, ed., *Proceedings 5th Mountain Lion Workshop*, Southern California Chapter, The Wildlife Society. 135 pp.

Smallwood, K.S, and M. Grigione. 1997. Photographic recording of mountain lion tracks. Pages 75-75 in D.W. Padley, ed., *Proceedings 5th Mountain Lion Workshop*, Southern California Chapter, The Wildlife Society. 135 pp.

Smallwood, K.S., B. Wilcox, and J. Karr. 1995. An approach to scaling fragmentation effects. Brief 8, Ecosystem Indicators Working Group, 17 March, 1995. Institute for Sustainable Development, Thoreau Center for Sustainability – The Presidio, PO Box 29075, San Francisco, CA 94129-0075.

Wilcox, B., and K.S. Smallwood. 1995. Ecosystem indicators model overview. Brief 2, Ecosystem Indicators Working Group, 17 March, 1995. Institute for Sustainable Development, Thoreau Center for Sustainability – The Presidio, PO Box 29075, San Francisco, CA 94129-0075.

EIP Associates. 1996. Yolo County Habitat Conservation Plan. Yolo County Planning and Development Department, Woodland, California.

Geng, S., K.S. Smallwood, and M. Zhang. 1995. Sustainable agriculture and agricultural

sustainability. Proc. 7th International Congress SABRAO, 2nd Industrial Symp. WSAA. Taipei, Taiwan.

Smallwood, K.S. and S. Geng. 1994. Landscape strategies for biological control and IPM. Pages 454-464 in W. Dehai, ed., Proc. International Conference on Integrated Resource Management for Sustainable Agriculture. Beijing Agricultural University, Beijing, China.

Smallwood, K.S. and S. Geng. 1993. Alfalfa as wildlife habitat. California Alfalfa Symposium 23:105-8.

Smallwood, K.S. and S. Geng. 1993. Management of pocket gophers in Sacramento Valley alfalfa. California Alfalfa Symposium 23:86-89.

Smallwood, K.S. and E.L. Fitzhugh. 1992. The use of track counts for mountain lion population census. Pages 59-67 in C. Braun, ed. Mountain lion-Human Interaction Symposium and Workshop. Colorado Division of Wildlife, Fort Collins.

Smallwood, K.S. and E.L. Fitzhugh. 1989. Differentiating mountain lion and dog tracks. Pages 58-63 in Smith, R.H., ed. Proc. Third Mountain Lion Workshop. Arizona Game and Fish Department, Phoenix.

Fitzhugh, E.L. and K.S. Smallwood. 1989. Techniques for monitoring mountain lion population levels. Pages 69-71 in Smith, R.H., ed. Proc. Third Mountain Lion Workshop. Arizona Game and Fish Department, Phoenix.

Reports to or by Alameda County Scientific Review Committee (Note: all documents linked to SRC website have since been removed by Alameda County)

Smallwood, K. S. 2014. Data Needed in Support of Repowering in the Altamont Pass WRA. SRC document P284, County of Alameda, Hayward, California.

Smallwood, K. S. 2013. Long-Term Trends in Fatality Rates of Birds and Bats in the Altamont Pass Wind Resource Area, California. SRC document R68, County of Alameda, Hayward, California.

Smallwood, K. S. 2013. Inter-annual Fatality rates of Target Raptor Species from 1999 through 2012 in the Altamont Pass Wind Resources Area. SRC document P268, County of Alameda, Hayward, California.

Smallwood, K. S. 2012. General Protocol for Performing Detection Trials in the FloDesign Study of the Safety of a Closed-bladed Wind Turbine. SRC document P246, County of Alameda, Hayward, California.

Smallwood, K. S., l. Neher, and J. Mount. 2012. Burrowing owl distribution and abundance study through two breeding seasons and intervening non-breeding period in the Altamont Pass Wind Resource Area, California. SRC document P245, County of Alameda, Hayward, California.

Smallwood, K. S 2012. Draft study design for testing collision risk of Flodesign wind turbine in

former AES Seawest wind projects in the Altamont Pass Wind Resource Area (APWRA). SRC document P238, County of Alameda, Hayward, California.

Smallwood, L. Neher, and J. Mount. 2012. Winter 2012 update on burrowing owl distribution and abundance study in the Altamont Pass Wind Resource Area, California. SRC document P232, County of Alameda, Hayward, California.

Smallwood, S. 2012. Status of avian utilization data collected in the Altamont Pass Wind Resource Area, 2005-2011. SRC document P231, County of Alameda, Hayward, California.

Smallwood, K. S., L. Neher, and J. Mount. 2011. Monitoring Burrow Use of Wintering Burrowing Owls. SRC document P229, County of Alameda, Hayward, California.

Smallwood, K. S., L. Neher, and J. Mount. 2011. Nesting Burrowing Owl Distribution and Abundance in the Altamont Pass Wind Resource Area, California. SRC document P228, County of Alameda, Hayward, California.

Smallwood, K. S. 2011. Draft Study Design for Testing Collision Risk of Flodesign Wind Turbine in Patterson Pass Wind Farm in the Altamont Pass Wind Resource Area (APWRA). http://www.altamontsrc.org/alt_doc/p100_src_document_list_with_reference_numbers.pdf

Smallwood, K. S. 2011. Sampling Burrowing Owls Across the Altamont Pass Wind Resource Area. SRC document P205, County of Alameda, Hayward, California.

Smallwood, K. S. 2011. Proposal to Sample Burrowing Owls Across the Altamont Pass Wind Resource Area. SRC document P155, County of Alameda, Hayward, California. SRC document P198, County of Alameda, Hayward, California.

Smallwood, K. S. 2010. Comments on APWRA Monitoring Program Update**.** SRC document P191, County of Alameda, Hayward, California.

Smallwood, K. S. 2010. Inter-turbine Comparisons of Fatality Rates in the Altamont Pass Wind Resource Area. SRC document P189, County of Alameda, Hayward, California.

Smallwood, K. S. 2010. Review of the December 2010 Draft of M-21: Altamont Pass Wind Resource Area Bird Collision Study. SRC document P190, County of Alameda, Hayward, California.

Alameda County SRC (Shawn Smallwood, Jim Estep, Sue Orloff, Joanna Burger, and Julie Yee). Comments on the Notice of Preparation for a Programmatic Environmental Impact Report on Revised CUPs for Wind Turbines in the Alameda County portion of the Altamont Pass. SRC document P183, County of Alameda, Hayward, California.

Smallwood, K. S. 2010. Review of Monitoring Implementation Plan. SRC document P180, County of Alameda, Hayward, California.

Burger, J., J. Estep, S. Orloff, S. Smallwood, and J. Yee. 2010. SRC Comments on CalWEA Research Plan. SRC document P174, County of Alameda, Hayward, California.

Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, J. Burger, and J. Yee). SRC Comments on Monitoring Team's Draft Study Plan for Future Monitoring. SRC document P168, County of Alameda, Hayward, California.

Smallwood, K. S. 2010. Second Review of American Kestrel-Burrowing owl (KB) Scavenger Removal Adjustments Reported in Alameda County Avian Monitoring Team's M21 for the Altamont Pass Wind Resource Area. SRC document P171, County of Alameda, Hayward, California.

Smallwood, K. S. 2010. Assessment of Three Proposed Adaptive Management Plans for Reducing Raptor Fatalities in the Altamont Pass Wind Resource Area. SRC document P161, County of Alameda, Hayward, California.

Smallwood, K. S. and J. Estep. 2010. Report of additional wind turbine hazard ratings in the Altamont Pass Wind Resource Area by Two Members of the Alameda County Scientific Review Committee. SRC document P153, County of Alameda, Hayward, California.

Smallwood, K. S. 2010. Alternatives to Improve the Efficiency of the Monitoring Program. SRC document P158, County of Alameda, Hayward, California.

Smallwood, S. 2010. Summary of Alameda County SRC Recommendations and Concerns and Subsequent Actions. SRC document P147, County of Alameda, Hayward, California.

Smallwood, S. 2010. Progress of Avian Wildlife Protection Program & Schedule. SRC document P148, County of Alameda, Hayward, California. SRC document P148, County of Alameda, Hayward, California.

Smallwood, S. 2010. Old-generation wind turbines rated for raptor collision hazard by Alameda County Scientific Review Committee in 2010, an Update on those Rated in 2007, and an Update on Tier Rankings. SRC document P155, County of Alameda, Hayward, California.

Smallwood, K. S. 2010. Review of American Kestrel-Burrowing owl (KB) Scavenger Removal Adjustments Reported in Alameda County Avian Monitoring Team's M21 for the Altamont Pass Wind Resource Area. SRC document P154, County of Alameda, Hayward, California.

Smallwood, K. S. 2010. Fatality Rates in the Altamont Pass Wind Resource Area 1998-2009. Alameda County SRC document P-145.

Smallwood, K. S. 2010. Comments on Revised M-21: Report on Fatality Monitoring in the Altamont Pass Wind Resource Area. SRC document P144, County of Alameda, Hayward, California.

Smallwood, K. S. 2009. SRC document P129, County of Alameda, Hayward, California.

Smallwood, K. S. 2009. Smallwood's review of M32. SRC document P111, County of Alameda, Hayward, California.

Smallwood, K. S. 2009. 3rd Year Review of 16 Conditional Use Permits for Windworks, Inc. and Altamont Infrastructure Company, LLC. Comment letter to East County Board of Zoning Adjustments. 10 pp + 2 attachments.

Smallwood, K. S. 2008. Weighing Remaining Workload of Alameda County SRC against Proposed Budget Cap. Alameda County SRC document not assigned. 3 pp.

Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, J. Burger, and J. Yee). 2008. SRC comments on August 2008 Fatality Monitoring Report, M21. SRC document P107, County of Alameda, Hayward, California.

Smallwood, K. S. 2008. Burrowing owl carcass distribution around wind turbines. SRC document P106, County of Alameda, Hayward, California.

Smallwood, K. S. 2008. Assessment of relocation/removal of Altamont Pass wind turbines rated as hazardous by the Alameda County SRC. SRC document P103, County of Alameda, Hayward, California.

Smallwood, K. S. and L. Neher. 2008. Summary of wind turbine-free ridgelines within and around the APWRA. SRC document P102, County of Alameda, Hayward, California.

Smallwood, K. S. and B. Karas. 2008. Comparison of mortality estimates in the Altamont Pass Wind Resource Area when restricted to recent fatalities. SRC document P101, County of Alameda, Hayward, California.

Smallwood, K. S. 2008. On the misapplication of mortality adjustment terms to fatalities missed during one search and found later. SRC document P97, County of Alameda, Hayward, California.

Smallwood, K. S. 2008. Relative abundance of raptors outside the APWRA. SRC document P88, County of Alameda, Hayward, California.

Smallwood, K. S. 2008. Comparison of mortality estimates in the Altamont Pass Wind Resource Area. SRC document P76, County of Alameda, Hayward, California.

Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, J. Burger, and J. Yee). 2010. Guidelines for siting wind turbines recommended for relocation to minimize potential collision-related mortality of four focal raptor species in the Altamont Pass Wind Resource Area. SRC document P70, County of Alameda, Hayward, California.

Alameda County SRC (J. Burger, Smallwood, K. S., S. Orloff, J. Estep, and J. Yee). 2007. First DRAFT of Hazardous Rating Scale First DRAFT of Hazardous Rating Scale. SRC document P69, County of Alameda, Hayward, California.

Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, J. Burger, and J. Yee). December 11, 2007. SRC selection of dangerous wind turbines. Alameda County SRC document P-67. 8 pp.

Smallwood, S. October 6, 2007. Smallwood's answers to Audubon's queries about the SRC's recommended four-month winter shutdown of wind turbines in the Altamont Pass. Alameda County SRC document P-23.

Smallwood, K. S. October 1, 2007. Dissenting opinion on recommendation to approve of the AWI Blade Painting Study. Alameda County SRC document P-60.

Smallwood, K. S. July 26, 2007. Effects of monitoring duration and inter-annual variability on precision of wind-turbine caused mortality estimates in the Altamont Pass Wind Resource Area, California. SRC Document P44.

Smallwood, K. S. July 26, 2007. Memo: Opinion of some SRC members that the period over which post-management mortality will be estimated remains undefined. SRC Document P43.

Smallwood, K. S. July 19, 2007. Smallwood's response to P24G. SRC Document P41, 4 pp.

Smallwood, K. S. April 23, 2007. New Information Regarding Alameda County SRC Decision of 11 April 2007 to Grant FPLE Credits for Removing and Relocating Wind Turbines in 2004. SRC Document P26.

Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, and J. Burger [J. Yee abstained]). April 17, 2007. SRC Statement in Support of the Monitoring Program Scope and Budget.

Smallwood, K. S. April 15, 2007. Verification of Tier 1 & 2 Wind Turbine Shutdowns and Relocations. SRC Document P22.

Smallwood, S. April 15, 2007. Progress of Avian Wildlife Protection Program & Schedule.

Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, J. Burger, and J. Yee). April 3, 2007. Alameda County Scientific Review Committee replies to the parties' responses to its queries and to comments from the California Office of the Attorney General. SRC Document S20.

Smallwood, S. March 19, 2007. Estimated Effects of Full Winter Shutdown and Removal of Tier I & II Turbines. SRC Document S19.

Smallwood, S. March 8, 2007. Smallwood's Replies to the Parties' Responses to Queries from the SRC and Comments from the California Office of the Attorney General. SRC Document S16.

Smallwood, S. March 8, 2007. Estimated Effects of Proposed Measures to be Applied to 2,500 Wind Turbines in the APWRA Fatality Monitoring Plan. SRC Document S15.

Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, J. Burger, and J. Yee). February 7, 2007. Analysis of Monitoring Program in Context of 1/1//2007 Settlement Agreement.

Smallwood, S. January 8, 2007. Smallwood's Concerns over the Agreement to Settle the CEQA Challenges. SRC Document S5.

Alameda County SRC (Smallwood, K. S., S. Orloff, J. Estep, J. Burger, and J. Yee). December 19, 2006. Altamont Scientific Review Committee (SRC) Recommendations to the County on the Avian Monitoring Team Consultants' Budget and Organization.

Reports to Clients

Smallwood, K. S. 2020. Comparison of bird and bat fatality rates among utility-scale solar projects in California. Report to undisclosed client.

Smallwood, K. S., D. Bell, and S. Standish. 2018. Skilled dog detections of bat and small bird carcasses in wind turbine fatality monitoring. Report to East Bay Regional Park District, Oakland, California.

Smallwood, K. S. 2018. Addendum to Comparison of Wind Turbine Collision Hazard Model Performance: One-year Post-construction Assessment of Golden Eagle Fatalities at Golden Hills. Report to Audubon Society, NextEra Energy, and the California Attorney General.

Smallwood, K. S., and L. Neher. 2018. Siting wind turbines to minimize raptor collisions at Rooney Ranch and Sand Hill Repowering Project, Altamont Pass Wind Resource Area. Report to S-Power, Salt Lake City, Utah.

Smallwood, K. S. 2017. Summary of a burrowing owl conservation workshop. Report to Santa Clara Valley Habitat Agency, Morgan Hill, California.

Smallwood, K. S., and L. Neher. 2018. Comparison of wind turbine collision hazard model performance prepared for repowering projects in the Altamont Pass Wind Resources Area. Report to NextEra Energy Resources, Inc., Office of the California Attorney General, Audubon Society, East Bay Regional Park District.

Smallwood, K. S., and L. Neher. 2016. Siting wind turbines to minimize raptor collisions at Summit Winds Repowering Project, Altamont Pass Wind Resource Area. Report to Salka, Inc., Washington, D.C.

Smallwood, K. S., L. Neher, and D. A. Bell. 2017. Mitigating golden eagle impacts from repowering Altamont Pass Wind Resource Area and expanding Los Vaqueros Reservoir. Report to East Contra Costa County Habitat Conservation Plan Conservancy and Contra Costa Water District.

Smallwood, K. S. 2016. Review of avian-solar science plan. Report to Center for Biological Diversity. 28 pp

Smallwood, K. S. 2016. Report of Altamont Pass research as Vasco Winds mitigation. Report to NextEra Energy Resources, Inc., Office of the California Attorney General, Audubon Society, East Bay Regional Park District.

Smallwood, K. S., and L. Neher. 2016. Siting Wind Turbines to Minimize Raptor collisions at Sand Hill Repowering Project, Altamont Pass Wind Resource Area. Report to Ogin, Inc., Waltham, Massachusetts.

Smallwood, K. S., and L. Neher. 2015a. Siting wind turbines to minimize raptor collisions at Golden Hills Repowering Project, Altamont Pass Wind Resource Area. Report to NextEra Energy Resources, Livermore, California.

Smallwood, K. S., and L. Neher. 2015b. Siting wind turbines to minimize raptor collisions at Golden Hills North Repowering Project, Altamont Pass Wind Resource Area. Report to NextEra Energy Resources, Livermore, California.

Smallwood, K. S., and L. Neher. 2015c. Siting wind turbines to minimize raptor collisions at the Patterson Pass Repowering Project, Altamont Pass Wind Resource Area. Report to EDF Renewable Energy, Oakland, California.

Smallwood, K. S., and L. Neher. 2014. Early assessment of wind turbine layout in Summit Wind Project. Report to Altamont Winds LLC, Tracy, California.

Smallwood, K. S. 2015. Review of avian use survey report for the Longboat Solar Project. Report to EDF Renewable Energy, Oakland, California.

Smallwood, K. S. 2014. Information needed for solar project impacts assessment and mitigation planning. Report to Panorama Environmental, Inc., San Francisco, California.

Smallwood, K. S. 2014. Monitoring fossorial mammals in Vasco Caves Regional Preserve, California: Report of Progress for the period 2006-2014. Report to East Bay Regional Park District, Oakland, California.

Smallwood, K. S. 2013. First-year estimates of bird and bat fatality rates at old wind turbines, Forebay areas of Altamont Pass Wind Resource Area. Report to FloDesign in support of EIR.

Smallwood, K. S. and W. Pearson. 2013. Neotropical bird monitoring of burrowing owls (*Athene cunicularia*), Naval Air Station Lemoore, California. Tierra Data, Inc. report to Naval Air Station Lemoore.

Smallwood, K. S. 2013. Winter surveys for San Joaquin kangaroo rat (*Dipodomys nitratoides*) and burrowing owls (*Athene cunicularia*) within Air Operations at Naval Air Station, Lemoore. Report to Tierra Data, Inc. and Naval Air Station Lemoore.

Smallwood, K. S. and M. L. Morrison. 2013. San Joaquin kangaroo rat (*Dipodomys n. nitratoides*) conservation research in Resource Management Area 5, Lemoore Naval Air Station: 2012 Progress Report (Inclusive of work during 2000-2012). Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California.

Smallwood, K. S. 2012. Fatality rate estimates at the Vantage Wind Energy Project, year one. Report to Ventus Environmental, Portland, Oregon.

Smallwood, K. S. and L. Neher. 2012. Siting wind turbines to minimize raptor collisions at North Sky River. Report to NextEra Energy Resources, LLC.

Smallwood, K. S. 2011. Monitoring Fossorial Mammals in Vasco Caves Regional Preserve, California: Report of Progress for the Period 2006-2011. Report to East Bay Regional Park District.

Smallwood, K. S. and M. L. Morrison. 2011. San Joaquin kangaroo rat (*Dipodomys n. nitratoides*) Conservation Research in Resource Management Area 5, Lemoore Naval Air Station: 2011 Progress Report (Inclusive of work during 2000-2011). Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California.

Smallwood, K. S. 2011. Draft study design for testing collision risk of FloDesign Wind Turbine in Patterson Pass, Santa Clara, and Former AES Seawest Wind Projects in the Altamont Pass Wind Resource Area (APWRA). Report to FloDesign, Inc.

Smallwood, K. S. 2011. Comments on Marbled Murrelet collision model for the Radar Ridge Wind Resource Area. Report to EcoStat, Inc., and ultimately to US Fish and Wildlife Service.

Smallwood, K. S. 2011. Avian fatality rates at Buena Vista Wind Energy Project, 2008-2011. Report to Pattern Energy.

Smallwood, K. S. and L. Neher. 2011. Siting repowered wind turbines to minimize raptor collisions at Tres Vaqueros, Contra Costa County, California. Report to Pattern Energy.

Smallwood, K. S. and M. L. Morrison. 2011. San Joaquin kangaroo rat (*Dipodomys n. nitratoides*) Conservation Research in Resource Management Area 5, Lemoore Naval Air Station: 2010 Progress Report (Inclusive of work during 2000-2010). Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California.

Smallwood, K. S. 2010. Wind Energy Development and avian issues in the Altamont Pass, California. Report to Black & Veatch.

Smallwood, K. S. and L. Neher. 2010. Siting repowered wind turbines to minimize raptor collisions at the Tres Vaqueros Wind Project, Contra Costa County, California. Report to the East Bay Regional Park District, Oakland, California.

Smallwood, K. S. and L. Neher. 2010. Siting repowered wind turbines to minimize raptor collisions at Vasco Winds. Report to NextEra Energy Resources, LLC, Livermore, California.

Smallwood, K. S. 2010. Baseline avian and bat fatality rates at the Tres Vaqueros Wind Project, Contra Costa County, California. Report to the East Bay Regional Park District, Oakland, California.

Smallwood, K. S. and M. L. Morrison. 2010. San Joaquin kangaroo rat (*Dipodomys n. nitratoides*) Conservation Research in Resource Management Area 5, Lemoore Naval Air Station: 2009 Progress Report (Inclusive of work during 2000-2009). Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California. 86 pp.

Smallwood, K. S. 2009. Mammal surveys at naval outlying landing field Imperial Beach, California, August 2009. Report to Tierra Data, Inc. 5 pp

Smallwood, K. S. 2009. Mammals and other Wildlife Observed at Proposed Site of Amargosa Solar Power Project, Spring 2009. Report to Tierra Data, Inc. 13 pp

Smallwood, K. S. 2009. Avian Fatality Rates at Buena Vista Wind Energy Project, 2008-2009. Report to members of the Contra Costa County Technical Advisory Committee on the Buena Vista Wind Energy Project. 8 pp.

Smallwood, K. S. 2009. Repowering the Altamont Pass Wind Resource Area more than Doubles Energy Generation While Substantially Reducing Bird Fatalities. Report prepared on behalf of Californians for Renewable Energy. 2 pp.

Smallwood, K. S. and M. L. Morrison. 2009. Surveys to Detect Salt Marsh Harvest Mouse and California Black Rail at Installation Restoration Site 30, Military Ocean Terminal Concord, California: March-April 2009. Report to Insight Environmental, Engineering, and Construction, Inc., Sacramento, California. 6 pp.

Smallwood, K. S. 2008. Avian and Bat Mortality at the Big Horn Wind Energy Project, Klickitat County, Washington. Unpublished report to Friends of Skamania County. 7 pp.

Smallwood, K. S. 2009. Monitoring Fossorial Mammals in Vasco Caves Regional Preserve, California: report of progress for the period 2006-2008. Unpublished report to East Bay Regional Park District. 5 pp.

Smallwood, K. S. and M. L. Morrison. 2008. San Joaquin kangaroo rat (*Dipodomys n. nitratoides*) Conservation Research in Resource Management Area 5, Lemoore Naval Air Station: 2008 Progress Report (Inclusive of work during 2000-2008). Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California. 84 pp.

Smallwood, K. S. and M. L. Morrison. 2008. Habitat Assessment for California Red-Legged Frog at Naval Weapons Station, Seal Beach, Detachment Concord, California. Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California. 48 pp.

Smallwood, K. S. and B. Nakamoto. 2008. Impact of 2005 and 2006 West Nile Virus on Yellow-billed Magpie and American Crow in the Sacramento Valley, California. 22 pp.

Smallwood, K. S. and M. L. Morrison. 2008. Former Naval Security Group Activity (NSGA), Skaggs Island, Waste and Contaminated Soil Removal Project (IR Site #2), San Pablo Bay, Sonoma County, California: Re-Vegetation Monitoring. Report to U.S. Navy, Letter Agreement – N68711-04LT-A0045. Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California. 10 pp.

Smallwood, K. S. and M. L. Morrison. 2008. Burrowing owls at Dixon Naval Radio Transmitter Facility. Report to U.S. Navy. Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California. 28 pp.

Smallwood, K. S. and M. L. Morrison. 2008. San Joaquin kangaroo rat (*Dipodomys n. nitratoides*)

Conservation Research in Resource Management Area 5, Lemoore Naval Air Station: 2007 Progress Report (Inclusive of work during 2001-2007). Naval Facilities Engineering Command, Southwest, Desert Integrated Products Team, San Diego, California. 69 pp.

Smallwood, K. S. and M. L. Morrison. 2007. A Monitoring Effort to Detect the Presence of the Federally Listed Species California Clapper Rail and Salt Marsh Harvest Mouse, and Wetland Habitat Assessment at the Naval Weapons Station, Seal Beach, Detachment Concord, California. Installation Restoration (IR) Site 30, Final Report to U.S. Navy, Letter Agreement – N68711-05LT-A0001. U.S. Navy Integrated Product Team (IPT), West, Naval Facilities Engineering Command, San Diego, California. 8 pp.

Smallwood, K. S. and M. L. Morrison. 2007. San Joaquin kangaroo rat (*Dipodomys n. nitratoides*) Conservation Research in Resource Management Area 5, Lemoore Naval Air Station: 2006 Progress Report (Inclusive of work during 2001-2006). U.S. Navy Integrated Product Team (IPT), West, Naval Facilities Engineering Command, Southwest, Daly City, California. 165 pp.

Smallwood, K. S. and C. Thelander. 2006. Response to third review of Smallwood and Thelander (2004). Report to California Institute for Energy and Environment, University of California, Oakland, CA. 139 pp.

Smallwood, K. S. 2006. Biological effects of repowering a portion of the Altamont Pass Wind Resource Area, California: The Diablo Winds Energy Project. Report to Altamont Working Group. Available from Shawn Smallwood, puma@yolo.com . 34 pp.

Smallwood, K. S. 2006. Impact of 2005 West Nile Virus on yellow-billed magpie and american crow in the Sacramento Valley, California. Report to Sacramento-Yolo Mosquito and Vector Control District, Elk Grove, CA. 38 pp.

Smallwood, K. S. and M. L. Morrison. 2006. San Joaquin kangaroo rat (*Dipodomys n. nitratoides*) Conservation Research in Resource Management Area 5, Lemoore Naval Air Station: 2005 Progress Report (Inclusive of work during 2001-2005). U.S. Navy Integrated Product Team (IPT), West, Naval Facilities Engineering Command, South West, Daly City, California. 160 pp.

Smallwood, K. S. and M. L. Morrison. 2006. A monitoring effort to detect the presence of the federally listed species California tiger salamander and California red-legged frog at the Naval Weapons Station, Seal Beach, Detachment Concord, California. Letter agreements N68711-04LT-A0042 and N68711-04LT-A0044, U.S. Navy Integrated Product Team (IPT), West, Naval Facilities Engineering Command, South West, Daly City, California. 60 pp.

Smallwood, K. S. and M. L. Morrison. 2006. A monitoring effort to detect the presence of the federally listed species California Clapper Rail and Salt Marsh Harvest Mouse, and wetland habitat assessment at the Naval Weapons Station, Seal Beach, Detachment Concord, California. Sampling for rails, Spring 2006, Installation Restoration (IR) Site 1. Letter Agreement – N68711-05lt-A0001, U.S. Navy Integrated Product Team (IPT), West, Naval Facilities Engineering Command, South West, Daly City, California. 9 pp.

Morrison, M. L. and K. S. Smallwood. 2006. Final Report: Station-wide Wildlife Survey, Naval Air Station, Lemoore. Department of the Navy Integrated Product Team (IPT) West, Naval

Facilities Engineering Command Southwest, 2001 Junipero Serra Blvd., Suite 600, Daly City, CA 94014-1976. 20 pp.

Smallwood, K. S. and M. L. Morrison. 2006. Former Naval Security Group Activity (NSGA), Skaggs Island, Waste and Contaminated Soil Removal Project, San Pablo Bay, Sonoma County, California: Re-vegetation Monitoring. Department of the Navy Integrated Product Team (IPT) West, Naval Facilities Engineering Command Southwest, 2001 Junipero Serra Blvd., Suite 600, Daly City, CA 94014-1976. 8 pp.

Dorin, Melinda, Linda Spiegel and K. Shawn Smallwood. 2005. Response to public comments on the staff report entitled *Assessment of Avian Mortality from Collisions and Electrocutions* (CEC-700-2005-015) (Avian White Paper) written in support of the 2005 Environmental Performance Report and the 2005 Integrated Energy Policy Report. California Energy Commission, Sacramento. 205 pp.

Smallwood, K. S. 2005. Estimating combined effects of selective turbine removal and winter-time shutdown of half the wind turbines. Unpublished CEC staff report, June 23. 1 p.

Erickson, W. and S. Smallwood. 2005. Avian and Bat Monitoring Plan for the Buena Vista Wind Energy Project Contra Costa County, California. Unpubl. report to Contra Costa County, Antioch, California. 22 pp.

Lamphier-Gregory, West Inc., Shawn Smallwood, Jones & Stokes Associates, Illingworth & Rodkin Inc. and Environmental Vision. 2005. Environmental Impact Report for the Buena Vista Wind Energy Project, LP# 022005. County of Contra Costa Community Development Department, Martinez, California.

Morrison, M. L. and K. S. Smallwood. 2005. A monitoring effort to detect the presence of the federally listed species California clapper rail and salt marsh harvest mouse, and wetland habitat assessment at the Naval Weapons Station, Seal Beach, Detachment Concord, California. Targeted Sampling for Salt Marsh Harvest Mouse, Fall 2005 Installation Restoration (IR) Site 30. Letter Agreement – N68711-05lt-A0001, U.S. Department of the Navy, Naval Facilities Engineering Command Southwest, Daly City, California. 6 pp.

Morrison, M. L. and K. S. Smallwood. 2005. A monitoring effort to detect the presence of the federally listed species California clapper rail and salt marsh harvest mouse, and wetland habitat assessment at the Naval Weapons Station, Seal Beach, Detachment Concord, California. Letter Agreement – N68711-05lt-A0001, U.S. Department of the Navy, Naval Facilities Engineering Command Southwest, Daly City, California. 5 pp.

Morrison, M. L. and K. S. Smallwood. 2005. Skaggs Island waste and contaminated soil removal projects, San Pablo Bay, Sonoma County, California. Report to the U.S. Department of the Navy, Naval Facilities Engineering Command Southwest, Daly City, California. 6 pp.

Smallwood, K. S. and M. L. Morrison. 2004. 2004 Progress Report: San Joaquin kangaroo rat (*Dipodomys nitratoides*) Conservation Research in Resources Management Area 5, Lemoore Naval Air Station. Progress report to U.S. Department of the Navy, Lemoore, California. 134 pp.

Smallwood, K. S. and L. Spiegel. 2005a. Assessment to support an adaptive management plan for the APWRA. Unpublished CEC staff report, January 19. 19 pp.

Smallwood, K. S. and L. Spiegel. 2005b. Partial re-assessment of an adaptive management plan for the APWRA. Unpublished CEC staff report, March 25. 48 pp.

Smallwood, K. S. and L. Spiegel. 2005c. Combining biology-based and policy-based tiers of priority for determining wind turbine relocation/shutdown to reduce bird fatalities in the APWRA. Unpublished CEC staff report, June 1. 9 pp.

Smallwood, K. S. 2004. Alternative plan to implement mitigation measures in APWRA. Unpublished CEC staff report, January 19. 8 pp.

Smallwood, K. S., and L. Neher. 2005. Repowering the APWRA: Forecasting and minimizing avian mortality without significant loss of power generation. California Energy Commission, PIER Energy-Related Environmental Research. CEC-500-2005-005. 21 pp. [Reprinted (in Japanese) in Yukihiro Kominami, Tatsuya Ura, Koshitawa, and Tsuchiya, Editors, Wildlife and Wind Turbine Report 5. Wild Bird Society of Japan, Tokyo.]

Morrison, M. L., and K. S. Smallwood. 2004. Kangaroo rat survey at RMA4, NAS Lemoore. Report to U.S. Navy. 4 pp.

Morrison, M. L., and K. S. Smallwood. 2004. A monitoring effort to detect the presence of the federally listed species California clapper rails and wetland habitat assessment at Pier 4 of the Naval Weapons Station, Seal Beach, Detachment Concord, California. Letter Agreement N68711-04LT-A0002. 8 pp. + 2 pp. of photo plates.

Smallwood, K. S. and M. L. Morrison. 2003. 2003 Progress Report: San Joaquin kangaroo rat (*Dipodomys nitratoides*) Conservation Research at Resources Management Area 5, Lemoore Naval Air Station. Progress report to U.S. Department of the Navy, Lemoore, California. 56 pp. + 58 figures.

Smallwood, K. S. 2003. Comparison of Biological Impacts of the No Project and Partial Underground Alternatives presented in the Final Environmental Impact Report for the Jefferson-Martin 230 kV Transmission Line. Report to California Public Utilities Commission. 20 pp.

Morrison, M. L., and K. S. Smallwood. 2003. Kangaroo rat survey at RMA4, NAS Lemoore. Report to U.S. Navy. 6 pp. + 7 photos + 1 map.

Smallwood, K. S. 2003. Assessment of the Environmental Review Documents Prepared for the Tesla Power Project. Report to the California Energy Commission on behalf of Californians for Renewable Energy. 32 pp.

Smallwood, K. S., and M. L. Morrison. 2003. 2002 Progress Report: San Joaquin kangaroo rat (*Dipodomys nitratoides*) Conservation Research at Resources Management Area 5, Lemoore Naval Air Station. Progress report to U.S. Department of the Navy, Lemoore, California. 45 pp. + 36 figures.

Smallwood, K. S., Michael L. Morrison and Carl G. Thelander 2002. Study plan to test the effectiveness of aerial markers at reducing avian mortality due to collisions with transmission lines: A report to Pacific Gas & Electric Company. 10 pp.

Smallwood, K. S. 2002. Assessment of the Environmental Review Documents Prepared for the East Altamont Energy Center. Report to the California Energy Commission on behalf of Californians for Renewable Energy. 26 pp.

Thelander, Carl G., K. Shawn Smallwood, and Christopher Costello. 2002 Rating Distribution Poles for Threat of Raptor Electrocution and Priority Retrofit: Developing a Predictive Model. Report to Southern California Edison Company. 30 pp.

Smallwood, K. S., M. Robison, and C. Thelander. 2002. Draft Natural Environment Study, Prunedale Highway 101 Project. California Department of Transportation, San Luis Obispo, California. 120 pp.

Smallwood, K.S. 2001. Assessment of ecological integrity and restoration potential of Beeman/Pelican Farm. Draft Report to Howard Beeman, Woodland, California. 14 pp.

Smallwood, K. S., and M. L. Morrison. 2002. Fresno kangaroo rat (*Dipodomys nitratoides*) Conservation Research at Resources Management Area 5, Lemoore Naval Air Station. Progress report to U.S. Department of the Navy, Lemoore, California. 29 pp. + 19 figures.

Smallwood, K.S. 2001. Rocky Flats visit, April 4th through 6th, 2001. Report to Berger & Montaque, P.C. 16 pp. with 61 color plates.

Smallwood, K.S. 2001. Affidavit of K. Shawn Smallwood, Ph.D. in the matter of the U.S. Fish and Wildlife Service's rejection of Seatuck Environmental Association's proposal to operate an education center on Seatuck National Wildlife Refuge. Submitted to Seatuck Environmental Association in two parts, totaling 7 pp.

Magney, D., and K.S. Smallwood. 2001. Maranatha High School CEQA critique. Comment letter submitted to Tamara & Efren Compeán, 16 pp.

Smallwood, K. S. and D. Mangey. 2001. Comments on the Newhall Ranch November 2000 Administrative Draft EIR. Prepared for Ventura County Counsel regarding the Newhall Ranch Specific Plan EIR. 68 pp.

Magney, D. and K. S. Smallwood. 2000. Newhall Ranch Notice of Preparation Submittal. Prepared for Ventura County Counsel regarding our recommended scope of work for the Newhall Ranch Specific Plan EIR. 17 pp.

Smallwood, K. S. 2000. Comments on the Preliminary Staff Assessment of the Contra Costa Power Plant Unit 8 Project. Submitted to California Energy Commission on November 30 on behalf of Californians for Renewable Energy (CaRE). 4 pp.

Smallwood, K. S. 2000. Comments on the California Energy Commission's Final Staff Assessment

of the MEC. Submitted to California Energy Commission on October 29 on behalf of Californians for Renewable Energy (CaRE). 8 pp.

Smallwood, K. S. 2000. Comments on the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP). Submitted to California Energy Commission on October 29 on behalf of Californians for Renewable Energy (CaRE). 9 pp.

Smallwood, K. S. 2000. Comments on the Preliminary Staff Assessment of the Metcalf Energy Center. Submitted to California Energy Commission on behalf of Californians for Renewable Energy (CaRE). 11 pp.

Smallwood, K. S. 2000. Preliminary report of reconnaissance surveys near the TRW plant south of Phoenix, Arizona, March 27-29. Report prepared for Hagens, Berman & Mitchell, Attorneys at Law, Phoenix, AZ. 6 pp.

Morrison, M. L., K. S. Smallwood, and M. Robison. 2001. Draft Natural Environment Study for Highway 46 compliance with CEQA/NEPA. Report to the California Department of Transportation. 75 pp.

Morrison, M.L., and K.S. Smallwood. 1999. NTI plan evaluation and comments. Exhibit C in W.D. Carrier, M.L. Morrison, K.S. Smallwood, and Vail Engineering. Recommendations for NBHCP land acquisition and enhancement strategies. Northern Territories, Inc., Sacramento.

Smallwood, K. S. 1999. Estimation of impacts due to dredging of a shipping channel through Humboldt Bay, California. Court Declaration prepared on behalf of EPIC.

Smallwood, K. S. 1998. 1998 California mountain lion track count. Report to the Defenders of Wildlife, Washington, D.C. 5 pages.

Smallwood, K.S. 1998. Draft report of a visit to a paint sludge dump site near Ridgewood, New Jersey, February 26th, 1998. Unpublished report to Consulting in the Public Interest.

Smallwood, K.S. 1997. Science missing in the "no surprises" policy. Commissioned by National Endangered Species Network and Spirit of the Sage Council, Pasadena, California.

Smallwood, K.S. and M.L. Morrison. 1997. Alternate mitigation strategy for incidental take of giant garter snake and Swainson's hawk as part of the Natomas Basin Habitat Conservation Plan. Pages 6-9 and *iii* illustrations in W.D. Carrier, K.S. Smallwood and M.L. Morrison, Natomas Basin Habitat Conservation Plan: Narrow channel marsh alternative wetland mitigation. Northern Territories, Inc., Sacramento.

Smallwood, K.S. 1996. Assessment of the BIOPORT model's parameter values for pocket gopher burrowing characteristics. Report to Berger & Montague, P.C. and Roy S. Haber, P.C., Philadelphia. (peer reviewed).

Smallwood, K.S. 1997. Assessment of plutonium releases from Hanford buried waste sites. Report Number 9, Consulting in the Public Interest, 53 Clinton Street, Lambertville, New Jersey, 08530.

Smallwood, K.S. 1996. Soil Bioturbation and Wind Affect Fate of Hazardous Materials that were Released at the Rocky Flats Plant, Colorado. Report to Berger & Montague, P.C., Philadelphia.

Smallwood, K.S. 1996. Second assessment of the BIOPORT model's parameter values for pocket gopher burrowing characteristics and other relevant wildlife observations. Report to Berger & Montague, P.C. and Roy S. Haber, P.C., Philadelphia.

Smallwood, K.S., and R. Leidy. 1996. Wildlife and their management under the Martell SYP. Report to Georgia Pacific, Corporation, Martel, CA. 30 pp.

EIP Associates. 1995. Yolo County Habitat Conservation Plan Biological Resources Report. Yolo County Planning and Development Department, Woodland, California.

Smallwood, K.S. and S. Geng. 1995. Analysis of the 1987 California Farm Cost Survey and recommendations for future survey. Program on Workable Energy Regulation, University-wide Energy Research Group, University of California.

Smallwood, K.S., S. Geng, and W. Idzerda. 1992. Final report to PG&E: Analysis of the 1987 California Farm Cost Survey and recommendations for future survey. Pacific Gas & Electric Company, San Ramon, California. 24 pp.

Fitzhugh, E.L. and K.S. Smallwood. 1987. Methods Manual – A statewide mountain lion population index technique. California Department of Fish and Game, Sacramento.

Salmon, T.P. and K.S. Smallwood. 1989. Final Report – Evaluating exotic vertebrates as pests to California agriculture. California Department of Food and Agriculture, Sacramento.

Smallwood, K.S. and W. A. Erickson (written under supervision of W.E. Howard, R.E. Marsh, and R.J. Laacke). 1990. Environmental exposure and fate of multi-kill strychnine gopher baits. Final Report to USDA Forest Service –NAPIAP, Cooperative Agreement PSW-89-0010CA.

Fitzhugh, E.L., K.S. Smallwood, and R. Gross. 1985. Mountain lion track count, Marin County, 1985. Report on file at Wildlife Extension, University of California, Davis.

Comments on Environmental Documents (Year; pages)

I was retained or commissioned to comment on environmental planning and review documents, including:

- Replies on UCSF Comprehensive Parnassus Heights Plan EIR (2021; 13);
- 14 Charles Hill Circle Design Review (2021; 11);
- SDG Commerce 217 Warehouse IS, American Canyon (2021; 26);
- Mulqueeney Ranch Wind Repowering Project DSEIR (2021; 98);
- Clawiter Road Industrial Project IS/MND, Hayward (2021; 18);
- Garnet Energy Center Stipulations, New York (2020);
- Heritage Wind Energy Project, New York (2020: 71);
- Ameresco Keller Canyon RNG Project IS/MND, Martinez (2020; 11);

- Cambria Hotel Project Staff Report, Dublin (2020; 19);
- Central Pointe Mixed-Use Staff Report, Santa Ana (2020; 20);
- Oak Valley Town Center EIR Addendum, Calimesa (2020; 23);
- Coachillin Specific Plan MND Amendment, Desert Hot Springs (2020; 26);
- Stockton Avenue Hotel and Condominiums Project Tiering to EIR, San Jose (2020; 19);
- Cityline Sub-block 3 South Staff Report, Sunyvale (2020; 22);
- Station East Residential/Mixed Use EIR, Union City (2020; 21);
- Multi-Sport Complex & Southeast Industrial Annexation Suppl. EIR, Elk Grove (2020; 24);
- Sun Lakes Village North EIR Amendment 5, Banning, Riverside County (2020; 27);
- 2nd comments on 1296 Lawrence Station Road, Sunnyvale (2020; 4);
- 1296 Lawrence Station Road, Sunnyvale (2020; 16);
- Mesa Wind Project EA, Desert Hot Springs (2020; 31);
- 11th Street Development Project IS/MND, City of Upland (2020; 17);
- Vista Mar Project IS/MND, Pacifica (2020; 17);
- Emerson Creek Wind Project Application, Ohio (2020; 64);
- Replies on Wister Solar Energy Facility EIR, Imperial County (2020; 12);
- Wister Solar Energy Facility EIR, Imperial County (2020; 28);
- Crimson Solar EIS/EIR, Mojave Desert (2020, 35) not submitted;
- Sakioka Farms EIR tiering, Oxnard (2020; 14);
- 3440 Wilshire Project IS/MND, Los Angeles (2020; 19);
- Replies on 2400 Barranca Office Development Project EIR, Irvine (2020; 8);
- 2400 Barranca Office Development Project EIR, Irvine (2020; 25);
- Replies on Heber 2 Geothermal Repower Project IS/MND, El Centro (2020; 4);
- 2nd comments on Heber 2 Geothermal Repower Project IS/MND, El Centro (2020; 8);
- Heber 2 Geothermal Repower Project IS/MND, El Centro (2020; 3);
- Lots 4-12 Oddstad Way Project IS/MND, Pacifica (2020; 16);
- Declaration on DDG Visalia Warehouse project (2020; 5);
- Terraces of Lafayette EIR Addendum (2020; 24);
- AMG Industrial Annex IS/MND, Los Banos (2020; 15);
- Replies to responses on Casmalia and Linden Warehouse (2020; 15);
- Clover Project MND, Petaluma (2020; 27);
- Ruby Street Apartments Project Env. Checklist, Hayward (2020; 20);
- Replies to responses on 3721 Mt. Diablo Boulevard Staff Report (2020; 5);
- 3721 Mt. Diablo Boulevard Staff Report (2020; 9);
- Steeno Warehouse IS/MND, Hesperia (2020; 19);
- UCSF Comprehensive Parnassus Heights Plan EIR (2020; 24);
- North Pointe Business Center MND, Fresno (2020; 14);
- Casmalia and Linden Warehouse IS, Fontana (2020; 15);
- Rubidoux Commerce Center Project IS/MND, Jurupa Valley (2020; 27);
- Haun and Holland Mixed Use Center MND, Menifee (2020; 23);
- First Industrial Logistics Center II, Moreno Valley IS/MND (2020; 23);
- GLP Store Warehouse Project Staff Report (2020; 15);
- Replies on Beale WAPA Interconnection Project EA & CEQA checklist (2020; 29);
- 2nd comments on Beale WAPA Interconnection Project EA & CEQA checklist (2020; 34);

- Beale WAPA Interconnection Project EA & CEQA checklist (2020; 30);
- Levine-Fricke Softball Field Improvement Addendum, UC Berkeley (2020; 16);
- Greenlaw Partners Warehouse and Distribution Center Staff Report, Palmdale (2020; 14);
- Humboldt Wind Energy Project DEIR (2019; 25);
- Sand Hill Supplemental EIR, Altamont Pass (2019; 17);
- 1700 Dell Avenue Office Project, Campbell (2019, 28);
- 1180 Main Street Office Project MND, Redwood City (2019; 19:
- Summit Ridge Wind Farm Request for Amendment 4, Oregon (2019; 46);
- Shafter Warehouse Staff Report (2019; 4);
- Park & Broadway Design Review, San Diego (2019; 19);
- Pinnacle Pacific Heights Design Review, San Diego (2019; 19);
- Pinnacle Park & C Design Review, San Diego (2019; 19);
- Preserve at Torrey Highlands EIR, San Diego (2019; 24);
- Santana West Project EIR Addendum, San Jose (2019; 18);
- The Ranch at Eastvale EIR Addendum, Riverside County (2020; 19);
- Hageman Warehouse IS/MND, Bakersfield (2019; 13);
- Oakley Logistics Center EIR, Antioch (2019; 22);
- 27 South First Street IS, San Jose (2019; 23);
- 2nd replies on Times Mirror Square Project EIR, Los Angeles (2020; 11);
- Replies on Times Mirror Square Project EIR, Los Angeles (2020; 13);
- Times Mirror Square Project EIR, Los Angeles (2019; 18);
- East Monte Vista & Aviator General Plan Amend EIR Addendum, Vacaville (2019; 22);
- Hillcrest LRDP EIR, La Jolla (2019; 36);
- 555 Portola Road CUP, Portola Valley (2019; 11);
- Johnson Drive Economic Development Zone SEIR, Pleasanton (2019; 27);
- 1750 Broadway Project CEQA Exemption, Oakland (2019; 19);
- Mor Furniture Project MND, Murietta Hot Springs (2019; 27);
- Harbor View Project EIR, Redwood City (2019; 26);
- Visalia Logistics Center (2019; 13);
- Cordelia Industrial Buildings MND (2019; 14);
- Scheu Distribution Center IS/ND, Rancho Cucamonga (2019; 13);
- Mills Park Center Staff Report, San Bruno (2019; 22);
- Site visit to Desert Highway Farms IS/MND, Imperial County (2019; 9);
- Desert Highway Farms IS/MND, Imperial County (2019; 12);
- ExxonMobil Interim Trucking for Santa Ynez Unit Restart SEIR, Santa Barbara (2019; 9);
- Olympic Holdings Inland Center Warehouse Project MND, Rancho Cucamonga (2019; 14);
- Replies to responses on Lawrence Equipment Industrial Warehouse, Banning (2019; 19);
- PARS Global Storage MND, Murietta (2019; 13);
- Slover Warehouse EIR Addendum, Fontana (2019; 16);
- Seefried Warehouse Project IS/MND, Lathrop (2019; 19)
- World Logistics Center Site Visit, Moreno Valley (2019; 19);
- Merced Landfill Gas-To-Energy Project IS/MND (2019; 12);
- West Village Expansion FEIR, UC Davis (2019; 11);
- Site visit, Doheny Ocean Desalination EIR, Dana Point (2019; 11);

- Replies to responses on Avalon West Valley Expansion EIR, San Jose (2019; 10);
- Avalon West Valley Expansion EIR, San Jose (2019; 22);
- Sunroad – Otay 50 EIR Addendum, San Diego (2019; 26);
- Del Rey Pointe Residential Project IS/MND, Los Angeles (2019; 34);
- 1 AMD Redevelopment EIR, Sunnyvale (2019; 22);
- Lawrence Equipment Industrial Warehouse IS/MND, Banning (2019; 14);
- SDG Commerce 330 Warehouse IS, American Canyon (2019; 21);
- PAMA Business Center IS/MND, Moreno Valley (2019; 23);
- Cupertino Village Hotel IS (2019; 24);
- Lake House IS/ND, Lodi (2019; 33);
- Campo Wind Project DEIS, San Diego County (DEIS, (2019; 14);
- Stirling Warehouse MND site visit, Victorville (2019; 7);
- Green Valley II Mixed-Use Project EIR, Fairfield (2019; 36);
- We Be Jammin rezone MND, Fresno (2019; 14);
- Gray Whale Cove Pedestrian Crossing IS/ND, Pacifica (2019; 7);
- Visalia Logistics Center & DDG 697V Staff Report (2019; 9);
- Mather South Community Masterplan Project EIR (2019; 35);
- Del Hombre Apartments EIR, Walnut Creek (2019; 23);
- Otay Ranch Planning Area 12 EIR Addendum, Chula Vista (2019; 21);
- The Retreat at Sacramento IS/MND (2019; 26);
- Site visit to Sunroad – Centrum 6 EIR Addendum, San Diego (2019; 9);
- Sunroad – Centrum 6 EIR Addendum, San Diego (2018; 22);
- North First and Brokaw Corporate Campus Buildings EIR Addendum, San Jose (2018; 30);
- South Lake Solar IS, Fresno County (2018; 18);
- Galloo Island Wind Project Application, New York (not submitted) (2018; 44);
- Doheny Ocean Desalination EIR, Dana Point (2018; 15);
- Stirling Warehouse MND, Victorville (2018; 18);
- LDK Warehouse MND, Vacaville (2018; 30);
- Gateway Crossings FEIR, Santa Clara (2018; 23);
- South Hayward Development IS/MND (2018; 9);
- CBU Specific Plan Amendment, Riverside (2018; 27);
- 2nd replies to responses on Dove Hill Road Assisted Living Project MND (2018; 11);
- Replies to responses on Dove Hill Road Assisted Living Project MND (2018; 7);
- Dove Hill Road Assisted Living Project MND (2018; 12);
- Deer Ridge/Shadow Lakes Golf Course EIR, Brentwood (2018; 21);
- Pyramid Asphalt BLM Finding of No Significance, Imperial County (2018; 22);
- Amáre Apartments IS/MND, Martinez (2018; 15);
- Petaluma Hill Road Cannabis MND, Santa Rosa (2018; 21);
- 2nd comments on Zeiss Innovation Center IS/MND, Dublin (2018: 12);
- Zeiss Innovation Center IS/MND, Dublin (2018: 32);
- City of Hope Campus Plan EIR, Duarte (2018; 21);
- Palo Verde Center IS/MND, Blythe (2018; 14);
- Logisticenter at Vacaville MND (2018; 24);
- IKEA Retail Center SEIR, Dublin (2018; 17);

- Merge 56 EIR, San Diego (2018; 15);
- Natomas Crossroads Quad B Office Project P18-014 EIR, Sacramento (2018; 12);
- 2900 Harbor Bay Parkway Staff Report, Alameda (2018; 30);
- At Dublin EIR, Dublin (2018; 25);
- Fresno Industrial Rezone Amendment Application No. 3807 IS (2018; 10);
- Nova Business Park IS/MND, Napa (2018; 18);
- Updated Collision Risk Model Priors for Estimating Eagle Fatalities, USFWS (2018; 57);
- 750 Marlborough Avenue Warehouse MND, Riverside (2018; 14);
- Replies to responses on San Bernardino Logistics Center IS (2018; 12);
- San Bernardino Logistics Center IS (2018; 19);
- CUP2017-16, Costco IS/MND, Clovis (2018; 11);
- Desert Land Ventures Specific Plan EIR, Desert Hot Springs (2018; 18);
- Ventura Hilton IS/MND (2018; 30);
- North of California Street Master Plan Project IS, Mountain View (2018: 11);
- Tamarind Warehouse MND, Fontana (2018; 16);
- Lathrop Gateway Business Park EIR Addendum (2018; 23);
- Centerpointe Commerce Center IS, Moreno Valley (2019; 18);
- Amazon Warehouse Notice of Exemption, Bakersfield (2018; 13);
- CenterPoint Building 3 project Staff Report, Manteca (2018; 23);
- Cessna & Aviator Warehouse IS/MND, Vacaville (2018; 24);
- Napa Airport Corporate Center EIR, American Canyon (2018, 15);
- 800 Opal Warehouse Initial Study, Mentone, San Bernardino County (2018; 18);
- 2695 W. Winton Ave Industrial Project IS, Hayward (2018; 22);
- Trinity Cannabis Cultivation and Manufacturing Facility DEIR, Calexico (2018; 15);
- Shoe Palace Expansion IS/MND, Morgan Hill (2018; 21);
- Newark Warehouse at Morton Salt Plant Staff Report (2018; 15);
- Northlake Specific Plan FEIR “Peer Review”, Los Angeles County (2018; 9);
- Replies to responses on Northlake Specific Plan SEIR, Los Angeles County (2018; 13);
- Northlake Specific Plan SEIR, Los Angeles County (2017; 27);
- Bogle Wind Turbine DEIR, east Yolo County (2017; 48);
- Ferrante Apartments IS/MND, Los Angeles (2017; 14);
- The Villages of Lakeview EIR, Riverside (2017; 28);
- Data Needed for Assessing Trail Management Impacts on Northern Spotted Owl, Marin County (2017; 5);
- Notes on Proposed Study Options for Trail Impacts on Northern Spotted Owl (2017; 4);
- Pyramid Asphalt IS, Imperial County (Declaration) (2017; 5);
- San Gorgonio Crossings EIR, Riverside County (2017; 22);
- Replies to responses on Jupiter Project IS and MND, Apple Valley (2017; 12);
- Proposed World Logistics Center Mitigation Measures, Moreno Valley (2017, 2019; 12);
- MacArthur Transit Village Project Modified 2016 CEQA Analysis (2017; 12);
- PG&E Company Bay Area Operations and Maintenance HCP (2017; 45);
- Central SoMa Plan DEIR (2017; 14);
- Suggested mitigation for trail impacts on northern spotted owl, Marin County (2016; 5);
- Colony Commerce Center Specific Plan DEIR, Ontario (2016; 16);

- Fairway Trails Improvements MND, Marin County (2016; 13);
- Review of Avian-Solar Science Plan (2016; 28);
- Replies on Pyramid Asphalt IS, Imperial County (2016; 5);
- Pyramid Asphalt IS, Imperial County (2016; 4);
- Agua Mansa Distribution Warehouse Project Initial Study (2016; 14);
- Santa Anita Warehouse MND, Rancho Cucamonga (2016; 12);
- CapRock Distribution Center III DEIR, Rialto (2016: 12);
- Orange Show Logistics Center IS/MND, San Bernardino (2016; 9);
- City of Palmdale Oasis Medical Village Project IS/MND (2016; 7);
- Comments on proposed rule for incidental eagle take, USFWS (2016, 49);
- Replies on Grapevine Specific and Community Plan FEIR, Kern County (2016; 25);
- Grapevine Specific and Community Plan DEIR, Kern County (2016; 15);
- Clinton County Zoning Ordinance for Wind Turbine siting (2016);
- Hallmark at Shenandoah Warehouse Project Initial Study, San Bernardino (2016; 6);
- Tri-City Industrial Complex Initial Study, San Bernardino (2016; 5);
- Hidden Canyon Industrial Park Plot Plan 16-PP-02, Beaumont (2016; 12);
- Kimball Business Park DEIR (2016; 10);
- Jupiter Project IS and MND, Apple Valley, San Bernardino County (2016; 9);
- Revised Draft Giant Garter Snake Recovery Plan of 2015 (2016, 18);
- Palo Verde Mesa Solar Project EIR, Blythe (2016; 27);
- Reply on Fairview Wind Project Natural Heritage Assessment, Ontario, Canada (2016; 14);
- Fairview Wind Project Natural Heritage Assessment, Ontario, Canada (2016; 41);
- Reply on Amherst Island Wind Farm Natural Heritage Assessment, Ontario (2015, 38);
- Amherst Island Wind Farm Natural Heritage Assessment, Ontario (2015, 31);
- Second Reply on White Pines Wind Farm, Ontario (2015, 6);
- Reply on White Pines Wind Farm Natural Heritage Assessment, Ontario (2015, 10);
- White Pines Wind Farm Natural Heritage Assessment, Ontario (2015, 9);
- Proposed Section 24 Specific Plan Agua Caliente Band of Cahuilla Indians DEIS (2015, 9);
- Replies on 24 Specific Plan Agua Caliente Band of Cahuilla Indians FEIS (2015, 6);
- Willow Springs Solar Photovoltaic Project DEIR, Rosamond (2015; 28);
- Sierra Lakes Commerce Center Project DEIR, Fontana (2015, 9);
- Columbia Business Center MND, Riverside (2015; 8);
- West Valley Logistics Center Specific Plan DEIR, Fontana (2015, 10);
- Willow Springs Solar Photovoltaic Project DEIR (2015, 28);
- Alameda Creek Bridge Replacement Project DEIR (2015, 10);
- World Logistic Center Specific Plan FEIR, Moreno Valley (2015, 12);
- Elkhorn Valley Wind Power Project Impacts, Oregon (2015; 143);
- Bay Delta Conservation Plan EIR/EIS, Sacramento (2014, 21);
- Addison Wind Energy Project DEIR, Mojave (2014, 32);
- Replies on the Addison Wind Energy Project DEIR, Mojave (2014, 15);
- Addison and Rising Tree Wind Energy Project FEIR, Mojave (2014, 12);
- Palen Solar Electric Generating System FSA (CEC), Blythe (2014, 20);
- Rebuttal testimony on Palen Solar Energy Generating System (2014, 9);
- Seven Mile Hill and Glenrock/Rolling Hills impacts + Addendum, Wyoming (2014; 105);

- Rising Tree Wind Energy Project DEIR, Mojave (2014, 32);
- Replies on the Rising Tree Wind Energy Project DEIR, Mojave (2014, 15);
- Soitec Solar Development Project PEIR, Boulevard, San Diego County (2014, 18);
- Oakland Zoo expansion on Alameda whipsnake and California red-legged frog (2014; 3);
- Alta East Wind Energy Project FEIS, Tehachapi Pass (2013, 23);
- Blythe Solar Power Project Staff Assessment, California Energy Commission (2013, 16);
- Clearwater and Yakima Solar Projects DEIR, Kern County (2013, 9);
- West Antelope Solar Energy Project IS/MND, Antelope Valley (2013, 18);
- Cuyama Solar Project DEIR, Carrizo Plain (2014, 19);
- Desert Renewable Energy Conservation Plan (DRECP) EIR/EIS (2015, 49);
- Kingbird Solar Photovoltaic Project EIR, Kern County (2013, 19);
- Lucerne Valley Solar Project IS/MND, San Bernardino County (2013, 12);
- Tule Wind project FEIR/FEIS (Declaration) (2013; 31);
- Sunlight Partners LANDPRO Solar Project MND (2013; 11);
- Declaration in opposition to BLM fracking (2013; 5);
- Blythe Energy Project (solar) CEC Staff Assessment (2013;16);
- Rosamond Solar Project EIR Addendum, Kern County (2013; 13);
- Pioneer Green Solar Project EIR, Bakersfield (2013; 13);
- Replies on Soccer Center Solar Project MND (2013; 6);
- Soccer Center Solar Project MND, Lancaster (2013; 10);
- Plainview Solar Works MND, Lancaster (2013; 10);
- Alamo Solar Project MND, Mojave Desert (2013; 15);
- Replies on Imperial Valley Solar Company 2 Project (2013; 10);
- Imperial Valley Solar Company 2 Project (2013; 13);
- FRV Orion Solar Project DEIR, Kern County (PP12232) (2013; 9);
- Casa Diablo IV Geothermal Development Project (2013; 6);
- Reply on Casa Diablo IV Geothermal Development Project (2013; 8);
- Alta East Wind Project FEIS, Tehachapi Pass (2013; 23);
- Metropolitan Air Park DEIR, City of San Diego (2013;);
- Davidon Homes Tentative Subdivision Rezoning Project DEIR, Petaluma (2013; 9);
- Oakland Zoo Expansion Impacts on Alameda Whipsnake (2013; 10);
- Campo Verde Solar project FEIR, Imperial Valley (2013; 11pp);
- Neg Dec comments on Davis Sewer Trunk Rehabilitation (2013; 8);
- North Steens Transmission Line FEIS, Oregon (Declaration) (2012; 62);
- Summer Solar and Springtime Solar Projects Ism Lancaster (2012; 8);
- J&J Ranch, 24 Adobe Lane Environmental Review, Orinda (2012; 14);
- Replies on Hudson Ranch Power II Geothermal Project and Simbol Calipatria Plant II (2012; 8);
- Hudson Ranch Power II Geothermal Project and Simbol Calipatria Plant II (2012; 9);
- Desert Harvest Solar Project EIS, near Joshua Tree (2012; 15);
- Solar Gen 2 Array Project DEIR, El Centro (2012; 16);
- Ocotillo Sol Project EIS, Imperial Valley (2012; 4);
- Beacon Photovoltaic Project DEIR, Kern County (2012; 5);
- Butte Water District 2012 Water Transfer Program IS/MND (2012; 11);

- Mount Signal and Calexico Solar Farm Projects DEIR (2011; 16);
- City of Elk Grove Sphere of Influence EIR (2011; 28);
- Sutter Landing Park Solar Photovoltaic Project MND, Sacramento (2011; 9);
- Rabik/Gudath Project, 22611 Coleman Valley Road, Bodega Bay (CPN 10-0002) (2011; 4);
- Ivanpah Solar Electric Generating System (ISEGS) (Declaration) (2011; 9);
- Draft Eagle Conservation Plan Guidance, USFWS (2011; 13);
- Niles Canyon Safety Improvement Project EIR/EA (2011; 16);
- Route 84 Safety Improvement Project (Declaration) (2011; 7);
- Rebuttal on Whistling Ridge Wind Energy Power DEIS, Skamania County, (2010; 6);
- Whistling Ridge Wind Energy Power DEIS, Skamania County, Washington (2010; 41);
- Klickitat County's Decisions on Windy Flats West Wind Energy Project (2010; 17);
- St. John's Church Project DEIR, Orinda (2010; 14);
- Results Radio Zone File #2009-001 IS/MND, Conaway site, Davis (2010; 20);
- Rio del Oro Specific Plan Project FEIR, Rancho Cordova (2010;12);
- Results Radio Zone File #2009-001, Mace Blvd site, Davis (2009; 10);
- Answers to Questions on 33% RPS Implementation Analysis Preliminary Results Report (2009; 9);
- SEPA Determination of Non-significance regarding zoning adjustments for Skamania County, Washington (Second Declaration) (2008; 17);
- Draft 1A Summary Report to CAISO (2008; 10);
- Hilton Manor Project Categorical Exemption, County of Placer (2009; 9);
- Protest of CARE to Amendment to the Power Purchase and Sale Agreement for Procurement of Eligible Renewable Energy Resources Between Hatchet Ridge Wind LLC and PG&E (2009; 3);
- Tehachapi Renewable Transmission Project EIR/EIS (2009; 142);
- Delta Shores Project EIR, south Sacramento (2009; 11 + addendum 2);
- Declaration in Support of Care's Petition to Modify D.07-09-040 (2008; 3);
- The Public Utility Commission's Implementation Analysis December 16 Workshop for the Governor's Executive Order S-14-08 to implement a 33% Renewable Portfolio Standard by 2020 (2008; 9);
- The Public Utility Commission's Implementation Analysis Draft Work Plan for the Governor's Executive Order S-14-08 to implement a 33% Renewable Portfolio Standard by 2020 (2008; 11);
- Draft 1A Summary Report to California Independent System Operator for Planning Reserve Margins (PRM) Study (2008; 7.);
- SEPA Determination of Non-significance regarding zoning adjustments for Skamania County, Washington (Declaration) (2008; 16);
- Colusa Generating Station, California Energy Commission PSA (2007; 24);
- Rio del Oro Specific Plan Project Recirculated DEIR, Mather (2008: 66);
- Replies on Regional University Specific Plan EIR, Roseville (2008; 20);
- Regional University Specific Plan EIR, Roseville (2008: 33);
- Clark Precast, LLC's "Sugarland" project, ND, Woodland (2008: 15);
- Cape Wind Project DEIS, Nantucket (2008; 157);
- Yuba Highlands Specific Plan EIR, Spenceville, Yuba County (2006; 37);
- Replies to responses on North Table Mountain MND, Butte County (2006; 5);

- North Table Mountain MND, Butte County (2006; 15);
- Windy Point Wind Farm EIS (2006; 14 and Powerpoint slide replies);
- Shiloh I Wind Power Project EIR, Rio Vista (2005; 18);
- Buena Vista Wind Energy Project NOP, Byron (2004; 15);
- Callahan Estates Subdivision ND, Winters (2004; 11);
- Winters Highlands Subdivision IS/ND (2004; 9);
- Winters Highlands Subdivision IS/ND (2004; 13);
- Creekside Highlands Project, Tract 7270 ND (2004; 21);
- Petition to California Fish and Game Commission to list Burrowing Owl (2003; 10);
- Altamont Pass Wind Resource Area CUP renewals, Alameda County (2003; 41);
- UC Davis Long Range Development Plan: Neighborhood Master Plan (2003; 23);
- Anderson Marketplace Draft Environmental Impact Report (2003; 18);
- Negative Declaration of the proposed expansion of Temple B'nai Tikyah (2003; 6);
- Antonio Mountain Ranch Specific Plan Public Draft EIR (2002; 23);
- Replies on East Altamont Energy Center evidentiary hearing (2002; 9);
- Revised Draft Environmental Impact Report, The Promenade (2002; 7);
- Recirculated Initial Study for Calpine's proposed Pajaro Valley Energy Center (2002; 3);
- UC Merced -- Declaration (2002; 5);
- Replies on Atwood Ranch Unit III Subdivision FEIR (2003; 22);
- Atwood Ranch Unit III Subdivision EIR (2002; 19);
- California Energy Commission Staff Report on GWF Tracy Peaker Project (2002; 20);
- Silver Bend Apartments IS/MND, Placer County (2002; 13);
- UC Merced Long-range Development Plan DEIR and UC Merced Community Plan DEIR (2001; 26);
- Colusa County Power Plant IS, Maxwell (2001; 6);
- Dog Park at Catlin Park, Folsom, California (2001; 5);
- Calpine and Bechtel Corporations' Biological Resources Implementation and Monitoring Program (BRMIMP) for the Metcalf Energy Center (2000; 10);
- Metcalf Energy Center, California Energy Commission FSA (2000);
- US Fish and Wildlife Service Section 7 consultation with the California Energy Commission regarding Calpine and Bechtel Corporations' Metcalf Energy Center (2000; 4);
- California Energy Commission's Preliminary Staff Assessment of the proposed Metcalf Energy Center (2000: 11);
- Site-specific management plans for the Natomas Basin Conservancy's mitigation lands, prepared by Wildlands, Inc. (2000: 7);
- Affidavit of K. Shawn Smallwood in Spirit of the Sage Council, et al. (Plaintiffs) vs. Bruce Babbitt, Secretary, U.S. Department of the Interior, et al. (Defendants), Injuries caused by the No Surprises policy and final rule which codifies that policy (1999: 9).
- California Board of Forestry's proposed amended Forest Practices Rules (1999);
- Sunset Skyranch Airport Use Permit IS/MND (1999);
- Ballona West Bluffs Project Environmental Impact Report (1999; oral presentation);
- Draft Recovery Plan for Giant Garter Snake (Fed. Reg. 64(176): 49497-49498) (1999; 8);
- Draft Recovery Plan for Arroyo Southwestern Toad (1998);
- Pacific Lumber Co. (Headwaters) HCP & EIR, Fortuna (1998; 28);
- Natomas Basin HCP Permit Amendment, Sacramento (1998);

- San Diego Multi-Species Conservation Program FEIS/FEIR (1997; 10);

Comments on other Environmental Review Documents:

- Proposed Regulation for California Fish and Game Code Section 3503.5 (2015: 12);
- Statement of Overriding Considerations related to extending Altamont Winds, Inc.'s Conditional Use Permit PLN2014-00028 (2015; 8);
- Covell Village PEIR, Davis (2005; 19);
- Bureau of Land Management Wind Energy Programmatic EIS Scoping (2003; 7.);
- NEPA Environmental Analysis for Biosafety Level 4 National Biocontainment Laboratory (NBL) at UC Davis (2003: 7);
- Notice of Preparation of UC Merced Community and Area Plan EIR, on behalf of The Wildlife Society—Western Section (2001: 8.);
- Preliminary Draft Yolo County Habitat Conservation Plan (2001; 2 letters totaling 35.);
- Merced County General Plan Revision, notice of Negative Declaration (2001: 2.);
- Notice of Preparation of Campus Parkway EIR/EIS (2001: 7.);
- Draft Recovery Plan for the bighorn sheep in the Peninsular Range (*Ovis candensis*) (2000);
- Draft Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*), on behalf of The Wildlife Society—Western Section (2000: 10.);
- Sierra Nevada Forest Plan Amendment Draft Environmental Impact Statement, on behalf of The Wildlife Society—Western Section (2000: 7.);
- State Water Project Supplemental Water Purchase Program, Draft Program EIR (1997);
- Davis General Plan Update EIR (2000);
- Turn of the Century EIR (1999: 10);
- Proposed termination of Critical Habitat Designation under the Endangered Species Act (Fed. Reg. 64(113): 31871-31874) (1999);
- NOA Draft Addendum to the Final Handbook for Habitat Conservation Planning and Incidental Take Permitting Process, termed the HCP 5-Point Policy Plan (Fed. Reg. 64(45): 11485 - 11490) (1999; 2 + attachments);
- Covell Center Project EIR and EIR Supplement (1997).

Position Statements I prepared the following position statements for the Western Section of The Wildlife Society, and one for nearly 200 scientists:

- Recommended that the California Department of Fish and Game prioritize the extermination of the introduced southern water snake in northern California. The Wildlife Society--Western Section (2001);
- Recommended that The Wildlife Society—Western Section appoint or recommend members of the independent scientific review panel for the UC Merced environmental review process (2001);
- Opposed the siting of the University of California's 10th campus on a sensitive vernal pool/grassland complex east of Merced. The Wildlife Society--Western Section (2000);
- Opposed the legalization of ferret ownership in California. The Wildlife Society--Western Section (2000);
- Opposed the Proposed "No Surprises," "Safe Harbor," and "Candidate Conservation Agreement" rules, including permit-shield protection provisions (Fed. Reg. Vol. 62, No.

103, pp. 29091-29098 and No. 113, pp. 32189-32194). This statement was signed by 188 scientists and went to the responsible federal agencies, as well as to the U.S. Senate and House of Representatives.

Posters at Professional Meetings

Leyvas, E. and K. S. Smallwood. 2015. Rehabilitating injured animals to offset and rectify wind project impacts. Conference on Wind Energy and Wildlife Impacts, Berlin, Germany, 9-12 March 2015.

Smallwood, K. S., J. Mount, S. Standish, E. Leyvas, D. Bell, E. Walther, B. Karas. 2015. Integrated detection trials to improve the accuracy of fatality rate estimates at wind projects. Conference on Wind Energy and Wildlife Impacts, Berlin, Germany, 9-12 March 2015.

Smallwood, K. S. and C. G. Thelander. 2005. Lessons learned from five years of avian mortality research in the Altamont Pass WRA. AWEA conference, Denver, May 2005.

Neher, L., L. Wilder, J. Woo, L. Spiegel, D. Yen-Nakafugi, and K.S. Smallwood. 2005. Bird's eye view on California wind. AWEA conference, Denver, May 2005.

Smallwood, K. S., C. G. Thelander and L. Spiegel. 2003. Toward a predictive model of avian fatalities in the Altamont Pass Wind Resource Area. Windpower 2003 Conference and Convention, Austin, Texas.

Smallwood, K.S. and Eva Butler. 2002. Pocket Gopher Response to Yellow Star-thistle Eradication as part of Grassland Restoration at Decommissioned Mather Air Force Base, Sacramento County, California. White Mountain Research Station Open House, Barcroft Station.

Smallwood, K.S. and Michael L. Morrison. 2002. Fresno kangaroo rat (*Dipodomys nitratoides*) Conservation Research at Resources Management Area 5, Lemoore Naval Air Station. White Mountain Research Station Open House, Barcroft Station.

Smallwood, K.S. and E.L. Fitzhugh. 1989. Differentiating mountain lion and dog tracks. Third Mountain Lion Workshop, Prescott, AZ.

Smith, T. R. and K. S. Smallwood. 2000. Effects of study area size, location, season, and allometry on reported *Sorex* shrew densities. Annual Meeting of the Western Section of The Wildlife Society.

Presentations at Professional Meetings and Seminars

Dog detections of bat and bird fatalities at wind farms in the Altamont Pass Wind Resource Area. East Bay Regional Park District 2019 Stewardship Seminar, Oakland, California, 13 November 2019.

Repowering the Altamont Pass. Altamont Symposium, The Wildlife Society – Western Section, 5 February 2017.

Developing methods to reduce bird mortality in the Altamont Pass Wind Resource Area, 1999-

2007. Altamont Symposium, The Wildlife Society – Western Section, 5 February 2017.

Conservation and recovery of burrowing owls in Santa Clara Valley. Santa Clara Valley Habitat Agency, Newark, California, 3 February 2017.

Mitigation of Raptor Fatalities in the Altamont Pass Wind Resource Area. Raptor Research Foundation Meeting, Sacramento, California, 6 November 2015.

From burrows to behavior: Research and management for burrowing owls in a diverse landscape. California Burrowing Owl Consortium meeting, 24 October 2015, San Jose, California.

The Challenges of repowering. Keynote presentation at Conference on Wind Energy and Wildlife Impacts, Berlin, Germany, 10 March 2015.

Research Highlights Altamont Pass 2011-2015. Scientific Review Committee, Oakland, California, 8 July 2015.

Siting wind turbines to minimize raptor collisions: Altamont Pass Wind Resource Area. US Fish and Wildlife Service Golden Eagle Working Group, Sacramento, California, 8 January 2015.

Evaluation of nest boxes as a burrowing owl conservation strategy. Sacramento Chapter of the Western Section, The Wildlife Society. Sacramento, California, 26 August 2013.

Predicting collision hazard zones to guide repowering of the Altamont Pass. Conference on wind power and environmental impacts. Stockholm, Sweden, 5-7 February 2013.

Impacts of Wind Turbines on Wildlife. California Council for Wildlife Rehabilitators, Yosemite, California, 12 November 2012.

Impacts of Wind Turbines on Birds and Bats. Madrone Audubon Society, Santa Rosa, California, 20 February 2012.

Comparing Wind Turbine Impacts across North America. California Energy Commission Staff Workshop: Reducing the Impacts of Energy Infrastructure on Wildlife, 20 July 2011.

Siting Repowered Wind Turbines to Minimize Raptor Collisions. California Energy Commission Staff Workshop: Reducing the Impacts of Energy Infrastructure on Wildlife, 20 July 2011.

Siting Repowered Wind Turbines to Minimize Raptor Collisions. Alameda County Scientific Review Committee meeting, 17 February 2011

Comparing Wind Turbine Impacts across North America. Conference on Wind energy and Wildlife impacts, Trondheim, Norway, 3 May 2011.

Update on Wildlife Impacts in the Altamont Pass Wind Resource Area. Raptor Symposium, The Wildlife Society—Western Section, Riverside, California, February 2011.

Siting Repowered Wind Turbines to Minimize Raptor Collisions. Raptor Symposium, The Wildlife

Society - Western Section, Riverside, California, February 2011.

Wildlife mortality caused by wind turbine collisions. Ecological Society of America, Pittsburgh, Pennsylvania, 6 August 2010.

Map-based repowering and reorganization of a wind farm to minimize burrowing owl fatalities. California burrowing Owl Consortium Meeting, Livermore, California, 6 February 2010.

Environmental barriers to wind power. Getting Real About Renewables: Economic and Environmental Barriers to Biofuels and Wind Energy. A symposium sponsored by the Environmental & Energy Law & Policy Journal, University of Houston Law Center, Houston, 23 February 2007.

Lessons learned about bird collisions with wind turbines in the Altamont Pass and other US wind farms. Meeting with Japan Ministry of the Environment and Japan Ministry of the Economy, Wild Bird Society of Japan, and other NGOs Tokyo, Japan, 9 November 2006.

Lessons learned about bird collisions with wind turbines in the Altamont Pass and other US wind farms. Symposium on bird collisions with wind turbines. Wild Bird Society of Japan, Tokyo, Japan, 4 November 2006.

Responses of Fresno kangaroo rats to habitat improvements in an adaptive management framework. California Society for Ecological Restoration (SERCAL) 13th Annual Conference, UC Santa Barbara, 27 October 2006.

Fatality associations as the basis for predictive models of fatalities in the Altamont Pass Wind Resource Area. EEI/APLIC/PIER Workshop, 2006 Biologist Task Force and Avian Interaction with Electric Facilities Meeting, Pleasanton, California, 28 April 2006.

Burrowing owl burrows and wind turbine collisions in the Altamont Pass Wind Resource Area. The Wildlife Society - Western Section Annual Meeting, Sacramento, California, February 8, 2006.

Mitigation at wind farms. Workshop: Understanding and resolving bird and bat impacts. American Wind Energy Association and Audubon Society. Los Angeles, CA. January 10 and 11, 2006.

Incorporating data from the California Wildlife Habitat Relationships (CWHR) system into an impact assessment tool for birds near wind farms. Shawn Smallwood, Kevin Hunting, Marcus Yee, Linda Spiegel, Monica Parisi. Workshop: Understanding and resolving bird and bat impacts. American Wind Energy Association and Audubon Society. Los Angeles, CA. January 10 and 11, 2006.

Toward indicating threats to birds by California's new wind farms. California Energy Commission, Sacramento, May 26, 2005.

Avian collisions in the Altamont Pass. California Energy Commission, Sacramento, May 26, 2005.

Ecological solutions for avian collisions with wind turbines in the Altamont Pass Wind Resource Area. EPRI Environmental Sector Council, Monterey, California, February 17, 2005.

Ecological solutions for avian collisions with wind turbines in the Altamont Pass Wind Resource Area. The Wildlife Society—Western Section Annual Meeting, Sacramento, California, January 19, 2005.

Associations between avian fatalities and attributes of electric distribution poles in California. The Wildlife Society - Western Section Annual Meeting, Sacramento, California, January 19, 2005.

Minimizing avian mortality in the Altamont Pass Wind Resources Area. UC Davis Wind Energy Collaborative Forum, Palm Springs, California, December 14, 2004.

Selecting electric distribution poles for priority retrofitting to reduce raptor mortality. Raptor Research Foundation Meeting, Bakersfield, California, November 10, 2004.

Responses of Fresno kangaroo rats to habitat improvements in an adaptive management framework. Annual Meeting of the Society for Ecological Restoration, South Lake Tahoe, California, October 16, 2004.

Lessons learned from five years of avian mortality research at the Altamont Pass Wind Resources Area in California. The Wildlife Society Annual Meeting, Calgary, Canada, September 2004.

The ecology and impacts of power generation at Altamont Pass. Sacramento Petroleum Association, Sacramento, California, August 18, 2004.

Burrowing owl mortality in the Altamont Pass Wind Resource Area. California Burrowing Owl Consortium meeting, Hayward, California, February 7, 2004.

Burrowing owl mortality in the Altamont Pass Wind Resource Area. California Burrowing Owl Symposium, Sacramento, November 2, 2003.

Raptor Mortality at the Altamont Pass Wind Resource Area. National Wind Coordinating Committee, Washington, D.C., November 17, 2003.

Raptor Behavior at the Altamont Pass Wind Resource Area. Annual Meeting of the Raptor Research Foundation, Anchorage, Alaska, September, 2003.

Raptor Mortality at the Altamont Pass Wind Resource Area. Annual Meeting of the Raptor Research Foundation, Anchorage, Alaska, September, 2003.

California mountain lions. Ecological & Environmental Issues Seminar, Department of Biology, California State University, Sacramento, November, 2000.

Intra- and inter-turbine string comparison of fatalities to animal burrow densities at Altamont Pass. National Wind Coordinating Committee, Carmel, California, May, 2000.

Using a Geographic Positioning System (GPS) to map wildlife and habitat. Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.

Suggested standards for science applied to conservation issues. Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.

The indicators framework applied to ecological restoration in Yolo County, California. Society for Ecological Restoration, September 25, 1999.

Ecological restoration in the context of animal social units and their habitat areas. Society for Ecological Restoration, September 24, 1999.

Relating Indicators of Ecological Health and Integrity to Assess Risks to Sustainable Agriculture and Native Biota. International Conference on Ecosystem Health, August 16, 1999.

A crosswalk from the Endangered Species Act to the HCP Handbook and real HCPs. Southern California Edison, Co. and California Energy Commission, March 4-5, 1999.

Mountain lion track counts in California: Implications for Management. Ecological & Environmental Issues Seminar, Department of Biological Sciences, California State University, Sacramento, November 4, 1998.

"No Surprises" -- Lack of science in the HCP process. California Native Plant Society Annual Conservation Conference, The Presidio, San Francisco, September 7, 1997.

In Your Interest. A half hour weekly show aired on Channel 10 Television, Sacramento. In this episode, I served on a panel of experts discussing problems with the implementation of the Endangered Species Act. Aired August 31, 1997.

Spatial scaling of pocket gopher (*Geomyidae*) density. Southwestern Association of Naturalists 44th Meeting, Fayetteville, Arkansas, April 10, 1997.

Estimating prairie dog and pocket gopher burrow volume. Southwestern Association of Naturalists 44th Meeting, Fayetteville, Arkansas, April 10, 1997.

Ten years of mountain lion track survey. Fifth Mountain Lion Workshop, San Diego, February 27, 1996.

Study and interpretive design effects on mountain lion density estimates. Fifth Mountain Lion Workshop, San Diego, February 27, 1996.

Small animal control. Session moderator and speaker at the California Farm Conference, Sacramento, California, Feb. 28, 1995.

Small animal control. Ecological Farming Conference, Asylomar, California, Jan. 28, 1995.

Habitat associations of the Swainson's Hawk in the Sacramento Valley's agricultural landscape. 1994 Raptor Research Foundation Meeting, Flagstaff, Arizona.

Alfalfa as wildlife habitat. Seed Industry Conference, Woodland, California, May 4, 1994.

Habitats and vertebrate pests: impacts and management. Managing Farmland to Bring Back Game Birds and Wildlife to the Central Valley. Yolo County Resource Conservation District, U.C. Davis, February 19, 1994.

Management of gophers and alfalfa as wildlife habitat. Orland Alfalfa Production Meeting and Sacramento Valley Alfalfa Production Meeting, February 1 and 2, 1994.

Patterns of wildlife movement in a farming landscape. Wildlife and Fisheries Biology Seminar Series: Recent Advances in Wildlife, Fish, and Conservation Biology, U.C. Davis, Dec. 6, 1993.

Alfalfa as wildlife habitat. California Alfalfa Symposium, Fresno, California, Dec. 9, 1993.

Management of pocket gophers in Sacramento Valley alfalfa. California Alfalfa Symposium, Fresno, California, Dec. 8, 1993.

Association analysis of raptors in a farming landscape. Plenary speaker at Raptor Research Foundation Meeting, Charlotte, North Carolina, Nov. 6, 1993.

Landscape strategies for biological control and IPM. Plenary speaker, International Conference on Integrated Resource Management and Sustainable Agriculture, Beijing, China, Sept. 11, 1993.

Landscape Ecology Study of Pocket Gophers in Alfalfa. Alfalfa Field Day, U.C. Davis, July 1993.

Patterns of wildlife movement in a farming landscape. Spatial Data Analysis Colloquium, U.C. Davis, August 6, 1993.

Sound stewardship of wildlife. Veterinary Medicine Seminar: Ethics of Animal Use, U.C. Davis. May 1993.

Landscape ecology study of pocket gophers in alfalfa. Five County Grower's Meeting, Tracy, California. February 1993.

Turbulence and the community organizers: The role of invading species in ordering a turbulent system, and the factors for invasion success. Ecology Graduate Student Association Colloquium, U.C. Davis. May 1990.

Evaluation of exotic vertebrate pests. Fourteenth Vertebrate Pest Conference, Sacramento, California. March 1990.

Analytical methods for predicting success of mammal introductions to North America. The Western Section of the Wildlife Society, Hilo, Hawaii. February 1988.

A state-wide mountain lion track survey. Sacramento County Dept Parks and Recreation. April 1986.

The mountain lion in California. Davis Chapter of the Audubon Society. October 1985.

Ecology Graduate Student Seminars, U.C. Davis, 1985-1990: Social behavior of the mountain lion;

Mountain lion control; Political status of the mountain lion in California.

Other forms of Participation at Professional Meetings

- Scientific Committee, Conference on Wind energy and Wildlife impacts, Berlin, Germany, March 2015.

- Scientific Committee, Conference on Wind energy and Wildlife impacts, Stockholm, Sweden, February 2013.

- Workshop co-presenter at Birds & Wind Energy Specialist Group (BAWESG) Information sharing week, Bird specialist studies for proposed wind energy facilities in South Africa, Endangered Wildlife Trust, Darling, South Africa, 3-7 October 2011.

- Scientific Committee, Conference on Wind energy and Wildlife impacts, Trondheim, Norway, 2-5 May 2011.

- Chair of Animal Damage Management Session, The Wildlife Society, Annual Meeting, Reno, Nevada, September 26, 2001.

- Chair of Technical Session: Human communities and ecosystem health: Comparing perspectives and making connection. Managing for Ecosystem Health, International Congress on Ecosystem Health, Sacramento, CA August 15-20, 1999.

- Student Awards Committee, Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.

- Student Mentor, Annual Meeting of the Western Section of The Wildlife Society, Riverside, CA, January, 2000.

Printed Mass Media

Smallwood, K.S., D. Mooney, and M. McGuinness. 2003. We must stop the UCD biolab now. Op-Ed to the Davis Enterprise.

Smallwood, K.S. 2002. Spring Lake threatens Davis. Op-Ed to the Davis Enterprise.

Smallwood, K.S. Summer, 2001. Mitigation of habitation. The Flatlander, Davis, California.

Entrikan, R.K. and K.S. Smallwood. 2000. Measure O: Flawed law would lock in new taxes. Op-Ed to the Davis Enterprise.

Smallwood, K.S. 2000. Davis delegation lobbies Congress for Wildlife conservation. Op-Ed to the Davis Enterprise.

Smallwood, K.S. 1998. Davis Visions. The Flatlander, Davis, California.

Smallwood, K.S. 1997. Last grab for Yolo's land and water. The Flatlander, Davis, California.

Smallwood, K.S. 1997. The Yolo County HCP. Op-Ed to the Davis Enterprise.

Radio/Television

PBS News Hour,

FOX News, Energy in America: Dead Birds Unintended Consequence of Wind Power Development, August 2011.

KXJZ Capital Public Radio -- Insight (Host Jeffrey Callison). Mountain lion attacks (with guest Professor Richard Coss). 23 April 2009;

KXJZ Capital Public Radio -- Insight (Host Jeffrey Callison). Wind farm Rio Vista Renewable Power. 4 September 2008;

KQED QUEST Episode #111. Bird collisions with wind turbines. 2007;

KDVS Speaking in Tongues (host Ron Glick), Yolo County HCP: 1 hour. December 27, 2001;

KDVS Speaking in Tongues (host Ron Glick), Yolo County HCP: 1 hour. May 3, 2001;

KDVS Speaking in Tongues (host Ron Glick), Yolo County HCP: 1 hour. February 8, 2001;

KDVS Speaking in Tongues (host Ron Glick & Shawn Smallwood), California Energy Crisis: 1 hour. Jan. 25, 2001;

KDVS Speaking in Tongues (host Ron Glick), Headwaters Forest HCP: 1 hour. 1998;

Davis Cable Channel (host Gerald Heffernon), Burrowing owls in Davis: half hour. June, 2000;

Davis Cable Channel (hosted by Davis League of Women Voters), Measure O debate: 1 hour. October, 2000;

KXTV 10, In Your Interest, The Endangered Species Act: half hour. 1997.

Reviews of Journal Papers (Scientific journals for whom I've provided peer review)

Journal	**Journal**
American Naturalist	Journal of Animal Ecology
Journal of Wildlife Management	Western North American Naturalist
Auk	Journal of Raptor Research
Biological Conservation	National Renewable Energy Lab reports
Canadian Journal of Zoology	Oikos
Ecosystem Health	The Prairie Naturalist
Environmental Conservation	Restoration Ecology

Journal	Journal
Environmental Management	Southwestern Naturalist
Functional Ecology	The Wildlife Society--Western Section Trans.
Journal of Zoology (London)	Proc. Int. Congress on Managing for Ecosystem Health
Journal of Applied Ecology	Transactions in GIS
Ecology	Tropical Ecology
Wildlife Society Bulletin	Peer J
Biological Control	The Condor

Committees

- Scientific Review Committee, Alameda County, Altamont Pass Wind Resource Area
- Ph.D. Thesis Committee, Steve Anderson, University of California, Davis
- MS Thesis Committee, Marcus Yee, California State University, Sacramento

Other Professional Activities or Products

Testified in Federal Court in Denver during 2005 over the fate of radio-nuclides in the soil at Rocky Flats Plant after exposure to burrowing animals. My clients won a judgment of $553,000,000. I have also testified in many other cases of litigation under CEQA, NEPA, the Warren-Alquist Act, and other environmental laws. My clients won most of the cases for which I testified.

Testified before Environmental Review Tribunals in Ontario, Canada regarding proposed White Pines, Amherst Island, and Fairview Wind Energy projects.

Testified in Skamania County Hearing in 2009 on the potential impacts of zoning the County for development of wind farms and hazardous waste facilities.

Testified in deposition in 2007 in the case of O'Dell et al. vs. FPL Energy in Houston, Texas.

Testified in Klickitat County Hearing in 2006 on the potential impacts of the Windy Point Wind Farm.

Memberships in Professional Societies

The Wildlife Society
Raptor Research Foundation

Honors and Awards

Fulbright Research Fellowship to Indonesia, 1987
J.G. Boswell Full Academic Scholarship, 1981 college of choice
Certificate of Appreciation, The Wildlife Society—Western Section, 2000, 2001
Northern California Athletic Association Most Valuable Cross Country Runner, 1984
American Legion Award, Corcoran High School, 1981, and John Muir Junior High, 1977
CIF Section Champion, Cross Country in 1978
CIF Section Champion, Track & Field 2 mile run in 1981
National Junior Record, 20 kilometer run, 1982
National Age Group Record, 1500 meter run, 1978

Community Activities

District 64 Little League Umpire, 2003-2007
Dixon Little League Umpire, 2006-07
Davis Little League Chief Umpire and Board member, 2004-2005
Davis Little League Safety Officer, 2004-2005
Davis Little League Certified Umpire, 2002-2004
Davis Little League Scorekeeper, 2002
Davis Visioning Group member
Petitioner for Writ of Mandate under the California Environmental Quality Act against City of Woodland decision to approve the Spring Lake Specific Plan, 2002
Served on campaign committees for City Council candidates

Representative Clients/Funders

Law Offices of Stephan C. Volker
Blum Collins, LLP
Eric K. Gillespie Professional Corporation
Law Offices of Berger & Montague
Lozeau | Drury LLP
Law Offices of Roy Haber
Law Offices of Edward MacDonald
Law Office of John Gabrielli
Law Office of Bill Kopper
Law Office of Donald B. Mooney
Law Office of Veneruso & Moncharsh
Law Office of Steven Thompson
Law Office of Brian Gaffney
California Wildlife Federation
Defenders of Wildlife
Sierra Club
National Endangered Species Network
Spirit of the Sage Council
The Humane Society
Hagens Berman LLP
Environmental Protection Information Center
Goldberg, Kamin & Garvin, Attorneys at Law
Californians for Renewable Energy (CARE)
Seatuck Environmental Association
Friends of the Columbia Gorge, Inc.
Save Our Scenic Area
Alliance to Protect Nantucket Sound
Friends of the Swainson's Hawk
Alameda Creek Alliance
Center for Biological Diversity
California Native Plant Society
Endangered Wildlife Trust
and BirdLife South Africa
AquAlliance
Oregon Natural Desert Association
Save Our Sound
G3 Energy and Pattern Energy
Emerald Farms
Pacific Gas & Electric Co.
Southern California Edison Co.
Georgia-Pacific Timber Co.
Northern Territories Inc.
David Magney Environmental Consulting
Wildlife History Foundation
NextEra Energy Resources, LLC
Ogin, Inc.
EDF Renewables
National Renewable Energy Lab
Altamont Winds LLC
Salka Energy
Comstocks Business (magazine)
BioResource Consultants
Tierra Data
Black and Veatch
Terry Preston, Wildlife Ecology Research Center
EcoStat, Inc.
US Navy
US Department of Agriculture
US Forest Service
US Fish & Wildlife Service
US Department of Justice
California Energy Commission
California Office of the Attorney General
California Department of Fish & Wildlife
California Department of Transportation
California Department of Forestry
California Department of Food & Agriculture
Ventura County Counsel
County of Yolo
Tahoe Regional Planning Agency
Sustainable Agriculture Research & Education Program
Sacramento-Yolo Mosquito and Vector Control District
East Bay Regional Park District
County of Alameda
Don & LaNelle Silverstien
Seventh Day Adventist Church
Escuela de la Raza Unida
Susan Pelican and Howard Beeman
Residents Against Inconsistent Development, Inc.
Bob Sarvey
Mike Boyd
Hillcroft Neighborhood Fund
Joint Labor Management Committee, Retail Food Industry
Lisa Rocca
Kevin Jackson
Dawn Stover and Jay Letto
Nancy Havassy
Catherine Portman (for Brenda Cedarblade)
Ventus Environmental Solutions, Inc.
Panorama Environmental, Inc.
Adams Broadwell Professional Corporation

Representative special-status species experience

Common name	Species name	Description
Field experience		
California red-legged frog	*Rana aurora draytonii*	Protocol searches; Many detections
Foothill yellow-legged frog	*Rana boylii*	Presence surveys; Many detections
Western spadefoot	*Spea hammondii*	Presence surveys; Few detections
California tiger salamander	*Ambystoma californiense*	Protocol searches; Many detections
Coast range newt	*Taricha torosa torosa*	Searches and multiple detections
Blunt-nosed leopard lizard	*Gambelia sila*	Detected in San Luis Obispo County
California horned lizard	*Phrynosoma coronatum frontale*	Searches; Many detections
Western pond turtle	*Clemmys marmorata*	Searches; Many detections
San Joaquin kit fox	*Vulpes macrotis mutica*	Protocol searches; detections
Sumatran tiger	*Panthera tigris*	Track surveys in Sumatra
Mountain lion	*Puma concolor californicus*	Research and publications
Point Arena mountain beaver	*Aplodontia rufa nigra*	Remote camera operation
Giant kangaroo rat	*Dipodomys ingens*	Detected in Cholame Valley
San Joaquin kangaroo rat	*Dipodomys nitratoides*	Monitoring & habitat restoration
Monterey dusky-footed woodrat	*Neotoma fuscipes luciana*	Non-target captures and mapping of dens
Salt marsh harvest mouse	*Reithrodontomys raviventris*	Habitat assessment, monitoring
Salinas harvest mouse	*Reithrodontomys megalotus distichlus*	Captures; habitat assessment
Bats		Thermal imaging surveys
California clapper rail	*Rallus longirostris*	Surveys and detections
Golden eagle	*Aquila chrysaetos*	Numerical & behavioral surveys
Swainson's hawk	*Buteo swainsoni*	Numerical & behavioral surveys
Northern harrier	*Circus cyaeneus*	Numerical & behavioral surveys
White-tailed kite	*Elanus leucurus*	Numerical & behavioral surveys
Loggerhead shrike	*Lanius ludovicianus*	Large area surveys
Least Bell's vireo	*Vireo bellii pusillus*	Detected in Monterey County
Willow flycatcher	*Empidonax traillii extimus*	Research at Sierra Nevada breeding sites
Burrowing owl	*Athene cunicularia hypugia*	Numerical & behavioral surveys
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	Monitored success of relocation and habitat restoration
Analytical		
Arroyo southwestern toad	*Bufo microscaphus californicus*	Research and report.
Giant garter snake	*Thamnophis gigas*	Research and publication
Northern goshawk	*Accipiter gentilis*	Research and publication
Northern spotted owl	*Strix occidentalis*	Research and reports
Alameda whipsnake	*Masticophis lateralis euryxanthus*	Expert testimony

Exhibit B

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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May 19, 2021

Paige Fennie
Lozeau Drury LLP
1939 Harrison Street, Suite 150
Oakland, CA 94612

Subject: **Comments on 4150 Point Eden Way Industrial Development Project (SCH No. 2020110180)**

Dear Ms. Fennie,

We have reviewed the April 2021 Draft Environmental Report ("DEIR") for the 4150 Point Eden Way Industrial Development Project ("Project") located in the City of Hayward ("City"). The Project proposes to construct 114,059-SF of warehouse space, 2,785-SF of office space, and 79 parking spaces on the 32-acre site.

Our review concludes that the DEIR fails to adequately evaluate the Project's hazards and hazardous materials, air quality, and greenhouse gas impacts. As a result, emissions and health risk impacts associated with construction and operation of the proposed Project are underestimated and inadequately addressed. An updated EIR should be prepared to adequately assess and mitigate the potential hazards and hazardous materials, air quality, and greenhouse gas impacts that the project may have on the surrounding environment.

Hazards and Hazardous Materials

A 2017 Phase I Environmental Site Assessment, provided as Appendix E to the Initial Study, recommended an update to the 2014 Risk Management Plan that was prepared to "control potential hazardous contamination and exposure." The 2017 Phase I states:

> "We recommend preparing an RMP [risk management plan] Addendum that presents the planned development earthwork/grading, soil and ground water management protocol and vapor intrusion mitigation measures. The purpose of the RMP Addendum will be to provide more specific details regarding the development, and will propose any changes to the RMP to

accommodate the proposed development. The RMP Addendum should describe earthwork required for geotechnical soil improvements, such as over-excavation and re-compaction of fills or other ground improvements. The RMP Addendum should be submitted to the Water Board for their review and approval prior to construction" (Appendix E, p. 22).

This recommendation has not been incorporated into the DEIR. An updated RMP is necessary for inclusion in a revised DEIR. The revised DEIR needs to demonstrate the engagement of the San Francisco Bay Regional Water Quality Control Board in the review of an updated RMP and mitigation that is necessary to ensure that the public and workers are not exposed to known contaminants at the site, which include benzene and petroleum hydrocarbons.

Furthermore, the selection of a vapor barrier as mitigation for contaminated vapors (as proposed in the DEIR on p. 4.3-15) should not be pre-selected; instead, the applicant should consider a range of alternatives considering this Phase I note:

> "The Water Board noted that future developments may require the proper management of soil and/or ground water, further risk assessment, additional cleanup work, mitigation measures, or some combination of these tasks" (Appendix E, p. 24).

Consideration of a wide range of alternatives to address contaminated vapors, including soil vapor extraction and groundwater containment or extraction and treatment, should be documented in a revised EIR. Water Board buy-in on the adequacy of any additional cleanup and the selected contaminated vapor remedy should also be documented in the revised EIR.

Air Quality

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The DEIR's air quality analysis relies on emissions calculated with CalEEMod.2016.3.2 (Appendix A, p. 26).[1] CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality Act ("CEQA") requires that such changes be justified by substantial evidence. Once all of the values are inputted into the model, the Project's construction and operational emissions are calculated, and "output files" are generated. These output files disclose to the reader what parameters are utilized in calculating the Project's air pollutant emissions and make known which default values are changed as well as provide justification for the values selected.

When reviewing the Project's CalEEMod output files, provided in the Air Quality and Greenhouse Gas Emissions Modeling Worksheets ("AQ & GHG Worksheets") as Appendix B to the DEIR, we found that several model inputs were not consistent with information disclosed in the DEIR. As a result, the Project's construction and operational emissions are underestimated. As a result, an updated EIR should

[1] CAPCOA (November 2017) CalEEMod User's Guide, http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4.

be prepared to include an updated air quality analysis that adequately evaluates the impacts that construction and operation of the Project will have on local and regional air quality.

Use of an Underestimated Land Use Size

According to the DEIR, the Project proposes to construct 114,059-SF of warehouse space (p. ES-2). However, review of the CalEEMod output files demonstrates that the "Point Eden Industrial Development" model includes only 110,231-SF of warehouse space (see excerpt below) (Appendix B, pp. 214, 249, 278, 307).

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area
General Office Building	2.79	1000sqft	0.06	2,785.00
Unrefrigerated Warehouse-No Rail	110.23	1000sqft	2.53	110,231.00
Parking Lot	288.00	Space	2.59	115,200.00

As you can see in the excerpt above, the proposed warehouse space is underestimated by 3,828-SF. This underestimation presents an issue, as the land use size feature is used throughout CalEEMod to determine default variable and emission factors that go into the model's calculations. The square footage of a land use is used for certain calculations such as determining the wall space to be painted (i.e., VOC emissions from architectural coatings) and volume that is heated or cooled (i.e., energy impacts).[2] Thus, by underestimating the proposed warehouse land use, the model underestimates the Project's construction-related and operational emissions and should not be relied upon to determine Project significance.

Failure to Consider Cold Storage

Review of the Project's CalEEMod output files demonstrates that the model fails to consider potential cold storage requirements. As a result, the Project's operational emissions may be underestimated.

Regarding the proposed warehouse space, the DEIR states:

> "The proposed building would provide approximately 114,059 square feet of warehouse space and a 2,785-square-foot of office, for a total size of approximately 116,844 square feet" (p. ES-2).

As the above excerpt demonstrates, the DEIR fails to specify whether the proposed warehouse would include cold storage. As such, *the warehouse may require cold storage*. However, review of the CalEEMod output files demonstrates that the "Point Eden Industrial Development" model fails to include any amount of refrigerated warehouse space (see excerpt below) (Appendix B, pp. 214, 249, 278, 307).

[2] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 28.

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area
General Office Building	2.79	1000sqft	0.06	2,785.00
Unrefrigerated Warehouse-No Rail	110.23	1000sqft	2.53	110,231.00
Parking Lot	288.00	Space	2.59	115,200.00

As you can see in the excerpt above, the "Point Eden Industrial Development" model fails to account for potential cold storage requirements whatsoever.

This inadequacy presents an issue, as refrigerated warehouses release more air pollutants and greenhouse gas ("GHG") emissions when compared to unrefrigerated warehouses for three reasons. First, warehouses equipped with cold storage (refrigerators and freezers, for example) are known to consume more energy when compared to warehouses without cold storage.[3] Second, warehouses equipped with cold storage typically require refrigerated trucks, which are known to idle for much longer when compared to unrefrigerated hauling trucks.[4] Third, according to an October 2016 Institute of Transportation Engineers ("ITE") report entitled *High-Cube Warehouse Vehicle Trip Generation Analysis*, cold storage warehouses result in greater trip rates when compared to transload & short-term storage warehouses.[5] Furthermore, as is discussed by SCAQMD, "CEQA requires the use of 'conservative analysis' to afford 'fullest possible protection of the environment.'"[6] As such, the warehouse land use should have been modeled as refrigerated space in order account for the additional emissions that refrigeration requirements may generate.

By modeling the Project's emissions without refrigerated warehouse space, the DEIR may underestimate the Project's operational emissions and should not be relied upon to determine Project significance. An updated EIR should be prepared to account for the possibility of refrigerated warehouse needs by future tenants.

Unsubstantiated Reductions to CH_4, CO_2, and N_2O Intensity Factors

Review of the CalEEMod output files demonstrates that the "Point Eden Industrial Development" model includes several reductions to the default CH_4, CO_2, and N_2O intensity factors (see excerpt below) (Appendix B, pp. 215, 250, 279, 308).

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.021
tblProjectCharacteristics	CO2IntensityFactor	641.35	457.68
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004

[3] Managing Energy Costs in Warehouses, Business Energy Advisor, *available at*: http://bizenergyadvisor.com/warehouses

[4] "Estimation of Fuel Use by Idling Commercial Trucks," p. 8, *available at:* http://www.transportation.anl.gov/pdfs/TA/373.pdf

[5] "HIGH-CUBE WAREHOUSE VEHICLE TRIP GENERATION ANALYSIS." ITE, October 2016, *available at:* https://www.ite.org/pub/?id=a3e6679a%2De3a8%2Dbf38%2D7f29%2D2961becdd498, p. 13.

[6] "Warehouse Truck Trip Study Data Results and Usage" Presentation. SCAQMD Inland Empire Logistics Council, June 2014, *available at*: http://www.aqmd.gov/docs/default-source/ceqa/handbook/high-cube-warehouse-trip-rate-study-for-air-quality-analysis/final-ielc_6-19-2014.pdf?sfvrsn=2

As you can see in the excerpt above, the CH_4, CO_2, and N_2O intensity factors were reduced by approximately 28%, 29%, and 33%, respectively. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[7] According to the "User Entered Comments and Non-Default Data" table, the justification provided for these changes is: "Entered PGE RPS" (Appendix B, pp. 215, 250, 278, 307). Furthermore, regarding the Project's anticipated utility company, the DEIR states:

> "[T]he project would continue to reduce its use of nonrenewable energy resources as the percentage of electricity generated by renewable resources provided by PG&E continues to increase to comply with state requirements through Senate Bill 100, which requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045" (p. 5-2).

However, these changes remain unsupported for two reasons. First, simply because the ***State*** has renewable energy ***goals*** does not ensure that these goals will be achieved locally on the Project site or by the Project's specific utility company. Second, the DEIR fails to provide a source for the revised intensity factors. As a result, we cannot verify the revised energy intensity factors.

These unsubstantiated reductions present an issue, as CalEEMod uses the CH_4, CO_2, and N_2O intensity factors to calculate the Project's GHG emissions associated with electricity use.[8] Thus, by including unsubstantiated reductions to the default CH_4, CO_2, and N_2O intensity factors, the model may underestimate the Project's GHG emissions and should not be relied upon to determine Project significance.

Unsubstantiated Reductions to Architectural and Area Coating Emission Factors

Review of the CalEEMod output files demonstrates that the "Point Eden Industrial Development" model includes several reductions to the default architectural and area coating emission factors (see excerpt below) (Appendix B, pp. 215, 250, 279, 308).

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	100.00
tblArchitecturalCoating	EF_Parking	150.00	100.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	100
tblAreaCoating	Area_EF_Parking	150	100

As you can see in the excerpt below, the nonresidential exterior and parking architectural and area coating emission factors were each reduced from the default value of 150- to 100-grams per liter ("g/L"). As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[9] According to the "User Entered Comments and Non-Default Data" table, the justification provided for these changes is: "Per BAAQMD Rules" (Appendix B, pp. 215, 250, 278, 307). However, the

[7] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9
[8] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.caleemod.com/, p. 17.
[9] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9

DEIR fails to mention architectural and area coating emission factors or justify the changes whatsoever. As such, the changes remain unsubstantiated.

These unsubstantiated reductions present an issue, as CalEEMod uses the architectural and area coating emission factors to calculate the Project's reactive organic gas/volatile organic compound ("ROG"/"VOC") emissions.[10] Thus, by including unsubstantiated reductions to the default architectural and area coating emission factors, the model may underestimate the Project's construction-related and operational ROG/VOC emissions and should not be relied upon to determine Project significance.

Failure to Model Material Import

Regarding the material export and import required for the construction of the Project, the DEIR states:

> "The proposed project would generate approximately 18,200 cubic yards of fill and 6,000 cubic yards of cut material, resulting in approximately 12,200 cubic yards of material for import" (p. ES-3).

However, review of the CalEEMod output files demonstrates that the "Point Eden Industrial Development" model fails to include any amount of material import (Appendix B, pp. 215, 250, 279, 308). As such, material import required for Project construction is underestimated by 12,200 cubic yards ("cy") within the model.

This omission presents an issue, as the inclusion of all required material import within the model is necessary to calculate emissions produced from material movement, including truck loading and unloading, and additional hauling truck trips.[11] Thus, by failing to include any amount of material import, the model underestimates the Project's construction-related emissions and should not be relied upon to determine Project significance.

Failure to Substantiate Demolition

According to the CalEEMod User's Guide, "[h]aul trips are based on the amount of material that is demolished, imported or exported assuming a truck can handle 16 cubic yards of material."[12] Therefore, the air model calculates a default number of hauling trips based upon the amount of demolition material inputted into the model. Review of the Project's CalEEMod output files demonstrates that the "Point Eden Industrial Development" model calculated a default value of 63 hauling truck trips (see excerpt below) (Appendix B, pp. 221, 249, 284, 314).

[10] CalEEMod User Guide, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 35, 40.
[11] CalEEMod User's Guide, *available at:* http://www.caleemod.com/, p. 3, 26.
[12] http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number
Demolition	6	15.00	0.00	63.00
Site Preparation	7	18.00	0.00	0.00
Grading	6	15.00	0.00	0.00
Building Construction	9	96.00	37.00	0.00
Paving	6	15.00	0.00	0.00
Architectural Coating	1	19.00	0.00	0.00

As you can see in the excerpt above, the model calculates 63 hauling truck trips for demolition. According to the "User Entered Comments & Non-Default Data" table, the justification provided for the amount of demolition inputted into the model is: "building sf measured from google earth" (Appendix B, pp. 215, 250, 278, 307). However, the DEIR fails to disclose the specific square footage of facilities to be demolished or the tons of debris resulting from this demolition. Specifically, regarding the amount of demolition required for Project construction, the DEIR states:

> "The project would commence with demolition and removal of existing structures on the eastern component of the project site associated with the former Oliver Brothers Salt Works operations" (p. ES-1 – ES-2).

Thus, we cannot verify that the hauling trip number calculated in the model is the result of the input of the correct amount of demolition. As such, demolition may be underestimated.

This potential underestimation presents an issue, as the amount of demolition material inputted into the model is used by CalEEMod to determine emissions associated with this phase of construction. The three primary operations that generate dust emissions during the demolition phase are mechanical or explosive dismemberment, site removal of debris, and on-site truck traffic on paved and unpaved road.[13] Thus, by failing to substantiate the demolition of existing structures, emissions associated with fugitive dust, site removal, and exhaust from hauling trucks traveling to and from the site may be underestimated. As a result, the model may underestimate the Project's construction-related emissions and should not be relied upon to determine the significance of the Project's air quality impacts. An updated EIR should be prepared to substantiate the amount of required demolition and revise the model accordingly, if necessary.

Unsubstantiated Change to Architectural Coating Phase Length

Review of the CalEEMod output files demonstrates that the "Point Eden Industrial Development" model includes a manual reduction to the architectural coating phase length (see excerpt below) (Appendix B, pp. 215, 250, 279, 308).

[13] CalEEMod User Guide, Appendix A, p. 11, *available at:* http://www.caleemod.com/

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	115.00
tblConstructionPhase	PhaseStartDate	3/26/2022	11/15/2021

As a result, the model includes a construction schedule as follows (Appendix B, pp. 219, 247, 282, 312):

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days
1	Demolition	Demolition	2/1/2021	2/26/2021	5	20
2	Site Preparation	Site Preparation	2/27/2021	3/12/2021	5	10
3	Grading	Grading	3/13/2021	4/9/2021	5	20
4	Building Construction	Building Construction	4/10/2021	2/25/2022	5	230
5	Paving	Paving	2/26/2022	3/25/2022	5	20
6	Architectural Coating	Architectural Coating	11/15/2021	4/22/2022	5	115

As you can see in the excerpt above, the architectural coating phase length was increased by 475%, from the default value of 20 to 115 days. As previously mentioned, the CalEEMod User's Guide requires any changes to model defaults be justified.[14] According to the "User Entered Comments and Non-Default Data" table, the justification provided for this change is: "Architectural coating updated to be half way through building construction for standard practices" (Appendix B, pp. 215, 250, 278, 307). Furthermore, regarding the Project's anticipated construction schedule, the DEIR states:

> "Estimated construction duration of the proposed project would be 12 to 18 months, tentatively beginning in 2021" (p. ES-3).

However, while the DEIR indicates the expected construction duration, the DEIR fails to mention or justify the *individual architectural coating phase length* whatsoever. Furthermore, the justification provided in the "User Entered Comments & Non-Default Data" table fails to provide a source to support its claim that the revised architectural coating phase length represents "standard practices." As such, we cannot verify the change.

This unsubstantiated change presents an issue, as it improperly spreads out construction emissions over a longer period of time for the architectural coating phase, but not other phases. According to the CalEEMod User's Guide, each construction phase is associated with different emissions activities (see excerpt below).[15]

[14] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 2, 9
[15] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 31.

Demolition involves removing buildings or structures.

Site Preparation involves clearing vegetation (grubbing and tree/stump removal) and removing stones and other unwanted material or debris prior to grading.

Grading involves the cut and fill of land to ensure that the proper base and slope is created for the foundation.

Building Construction involves the construction of the foundation, structures and buildings.

Architectural Coating involves the application of coatings to both the interior and exterior of buildings or structures, the painting of parking lot or parking garage striping, associated signage and curbs, and the painting of the walls or other components such as stair railings inside parking structures.

Paving involves the laying of concrete or asphalt such as in parking lots, roads, driveways, or sidewalks.

As such, by disproportionately altering the architectural coating phase length without proper justification, the model's calculations are altered and underestimate emissions. Thus, by including an unsubstantiated change to the default architectural coating phase length, the model may underestimate the Project's construction-related emissions and should not be relied upon to determine Project significance.

Updated Analysis Indicates a Potentially Significant Air Quality Impact

In an effort to more accurately estimate the Project's construction-related emissions, we prepared an updated CalEEMod model, using the Project-specific information provided by the DEIR. In our updated model, we accounted for potential refrigeration requirements; omitted the unsubstantiated changes to the energy intensity factors, architectural and area coating emission factors, and architectural coating phse length; and included the total amount of required material import. We did not revise the amount of demolition inputted into the model; however, as previously stated, an updated EIR should be prepared to substantiate the amount of required demolition and revise the model accordingly, if necessary.

Our updated analysis estimates that the Project's construction-related ROG emissions would exceed the applicable daily maximum BAAQMD threshold of 54 pounds per day ("lbs/day") (see table below).[16]

Model	ROG
DEIR Construction	11.7
SWAPE Construction	63.6
% Increase	444%
BAAQMD Regional Threshold (lbs/day)	54
Threshold Exceeded?	***Yes***

As you can see in the excerpt above, the Project's construction-related VOC emissions, as estimated by SWAPE, increase by approximately 444% and exceed the applicable BAAQMD significance threshold.

[16] "California Environmental Quality Act Air Quality Guidelines." BAAQMD, May 2017, *available at*: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en, p. 2-2, Table 2-1.

Thus, our model demonstrates that the Project would result in a potentially significant air quality impact that was not previously identified or addressed in the DEIR. As a result, an updated EIR should be prepared to adequately assess and mitigate the potential air quality impacts that the Project may have on the surrounding environment.

Greenhouse Gas

Failure to Adequately Evaluate Greenhouse Gas Emissions

The DEIR concludes that the Project would generate net annual greenhouse gas ("GHG") emissions of 447.6 metric tons of carbon dioxide equivalents per year ("MT CO_2e/year"), which would not exceed the BAAQMD bright-line threshold of 660 MT CO_2e/year (p. 1-7). However, the DEIR's GHG analysis, as well as the subsequent less-than-significant impact conclusion, is incorrect for two reasons.

(1) The DEIR's quantitative GHG analysis relies upon an incorrect and unsubstantiated air model; and
(2) SWAPE's updated model indicates a potentially significant GHG impact.

1) Incorrect and Unsubstantiated Quantitative Analysis of Emissions

As previously stated, DEIR estimates that the Project would generate net annual GHG emissions of 447.6 MT CO_2e/year (p. 1-7). However, the DEIR's quantitative GHG analysis is unsubstantiated. As previously discussed, when we reviewed the Project's CalEEMod output files, provided in the AQ & GHG Worksheets as Appendix B to the DEIR, we found that several of the values inputted into the model are not consistent with information disclosed in the DEIR. As a result, the model underestimates the Project's emissions, and the DEIR's quantitative GHG analysis should not be relied upon to determine Project significance. An updated EIR should be prepared that adequately assesses the potential GHG impacts that construction and operation of the proposed Project may have on the surrounding environment.

2) Updated Analysis Indicates a Potentially Significant GHG Impact

As previously stated, we prepared an updated CalEEMod model, using the Project-specific information provided by the DEIR, in an effort to more accurately estimate Project emissions. When applying the BAAQMD bright-line threshold of 660 MT CO_2e/year, SWAPE's updated modeling demonstrates a potentially significant GHG impact not previously identified or mitigated by the DEIR. The updated CalEEMod output files, modeled by SWAPE with Project-specific information, disclose the Project's mitigated emissions, which include approximately 620 MT CO_2e of total construction emissions (sum of 2021 and 2022) and approximately 1,301 MT CO_2e/year of net annual operational emissions (sum of area-, energy-, mobile-, water-, and waste-related emissions). When amortizing the Project's construction-related GHG emissions over a period of 30 years and summing them with the Project's operational GHG emissions, we estimate net annual GHG emissions of 1,322 MT CO_2e/year (see table below).

SWAPE Modeling Greenhouse Gas Emissions	
Project Phase	**Proposed Project (MT CO_2e/year)**
Construction (amortized over 30 years)	20.68
Area	0.01
Energy	926.93
Mobile	239.92
Waste	55.22
Water	79.35
Net Annual GHG Emissions	**1,322**
Threshold	660
Exceed?	***Yes***

As the table above demonstrates, the Project's net annual GHG emissions, as estimated by SWAPE, exceed the BAAQMD bright-line threshold of 660 MT CO_2e/year, thus demonstrating a potentially significant impact not previously mitigated by the DEIR. As a result, an updated EIR should be prepared for the Project and additional mitigation should be incorporated accordingly.

Design Features Should Be Included as Mitigation Measures

Our analysis demonstrates that the Project would result in a potentially significant GHG impact that should be mitigated further. We recommend that the DEIR implement all regulatory compliance measures, such as compliance with Title 24, CALGreen standards, and BAAQMD rules aimed at limiting VOC contents, as formal mitigation measures. As a result, we could guarantee that these measures would be implemented, monitored, and enforced on the Project site. Including formal mitigation measures by properly committing to their implementation would result in verifiable emissions reductions that may help reduce emissions to less-than-significant levels.

Disclaimer

SWAPE has received limited discovery regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

Matt Hagemann, P.G., C.Hg.

Paul E. Rosenfeld, Ph.D.

Attachment A: SWAPE Project CalEEMod Modeling
Attachment B: Paul Rosenfeld CV
Attachment C: Matt Hagemann CV

Point Eden Industrial Development

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2.79	1000sqft	0.06	2,785.00	0
Refrigerated Warehouse-No Rail	114.06	1000sqft	2.62	114,059.00	0
Parking Lot	288.00	Space	2.59	115,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See SWA{E comment regarding intensity factors

Land Use - See SWAPE comment regarding land use size and type.

Construction Phase - See SWAPE comment regarding construction phase length.

Grading - See SWAPE comment regarding material import.

Demolition - Consistent with DEIR's model.

Architectural Coating - See SWAPE comment regarding architectural and area coating emission factors.

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialImported	0.00	12,200.00
tblLandUse	LandUseSquareFeet	2,790.00	2,785.00
tblLandUse	LandUseSquareFeet	114,060.00	114,059.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3018	3.0320	2.4098	5.7300e-003	0.2763	0.1304	0.4067	0.1152	0.1220	0.2372	0.0000	514.6809	514.6809	0.0856	0.0000	516.8209
2022	0.6927	0.5172	0.5568	1.1600e-003	0.0230	0.0229	0.0459	6.2300e-003	0.0215	0.0278	0.0000	103.1146	103.1146	0.0190	0.0000	103.5890
Maximum	**0.6927**	**3.0320**	**2.4098**	**5.7300e-003**	**0.2763**	**0.1304**	**0.4067**	**0.1152**	**0.1220**	**0.2372**	**0.0000**	**514.6809**	**514.6809**	**0.0856**	**0.0000**	**516.8209**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3018	3.0320	2.4098	5.7300e-003	0.2763	0.1304	0.4067	0.1152	0.1220	0.2372	0.0000	514.6805	514.6805	0.0856	0.0000	516.8205
2022	0.6927	0.5172	0.5568	1.1600e-003	0.0230	0.0229	0.0459	6.2300e-003	0.0215	0.0278	0.0000	103.1145	103.1145	0.0190	0.0000	103.5889
Maximum	**0.6927**	**3.0320**	**2.4098**	**5.7300e-003**	**0.2763**	**0.1304**	**0.4067**	**0.1152**	**0.1220**	**0.2372**	**0.0000**	**514.6805**	**514.6805**	**0.0856**	**0.0000**	**516.8205**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	2-1-2021	4-30-2021	1.2139	1.2139
2	5-1-2021	7-31-2021	0.7844	0.7844
3	8-1-2021	10-31-2021	0.7855	0.7855
4	11-1-2021	1-31-2022	0.7625	0.7625
5	2-1-2022	4-30-2022	0.9705	0.9705
		Highest	1.2139	1.2139

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5275	3.0000e-005	3.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.2300e-003	7.2300e-003	2.0000e-005	0.0000	7.7100e-003
Energy	0.0112	0.1016	0.0853	6.1000e-004		7.7200e-003	7.7200e-003		7.7200e-003	7.7200e-003	0.0000	923.0908	923.0908	0.0389	9.6300e-003	926.9315
Mobile	0.0579	0.2957	0.7028	2.6100e-003	0.2290	2.3500e-003	0.2314	0.0615	2.2000e-003	0.0637	0.0000	239.7126	239.7126	8.4600e-003	0.0000	239.9240
Waste						0.0000	0.0000		0.0000	0.0000	22.2904	0.0000	22.2904	1.3173	0.0000	55.2236
Water						0.0000	0.0000		0.0000	0.0000	8.5253	42.6097	51.1350	0.8776	0.0211	79.3541
Total	**0.5965**	**0.3973**	**0.7919**	**3.2200e-003**	**0.2290**	**0.0101**	**0.2391**	**0.0615**	**9.9300e-003**	**0.0714**	**30.8158**	**1,205.4203**	**1,236.2360**	**2.2422**	**0.0307**	**1,301.4409**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5275	3.0000e-005	3.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.2300e-003	7.2300e-003	2.0000e-005	0.0000	7.7100e-003
Energy	0.0112	0.1016	0.0853	6.1000e-004		7.7200e-003	7.7200e-003		7.7200e-003	7.7200e-003	0.0000	923.0908	923.0908	0.0389	9.6300e-003	926.9315
Mobile	0.0579	0.2957	0.7028	2.6100e-003	0.2290	2.3500e-003	0.2314	0.0615	2.2000e-003	0.0637	0.0000	239.7126	239.7126	8.4600e-003	0.0000	239.9240
Waste						0.0000	0.0000		0.0000	0.0000	22.2904	0.0000	22.2904	1.3173	0.0000	55.2236
Water						0.0000	0.0000		0.0000	0.0000	8.5253	42.6097	51.1350	0.8776	0.0211	79.3541
Total	**0.5965**	**0.3973**	**0.7919**	**3.2200e-003**	**0.2290**	**0.0101**	**0.2391**	**0.0615**	**9.9300e-003**	**0.0714**	**30.8158**	**1,205.4203**	**1,236.2360**	**2.2422**	**0.0307**	**1,301.4409**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	2/1/2021	2/26/2021	5	20	
2	Site Preparation	Site Preparation	2/27/2021	3/12/2021	5	10	
3	Grading	Grading	3/13/2021	4/9/2021	5	20	
4	Building Construction	Building Construction	4/10/2021	2/25/2022	5	230	
5	Paving	Paving	2/26/2022	3/25/2022	5	20	
6	Architectural Coating	Architectural Coating	3/26/2022	4/22/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 2.59

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 175,266; Non-Residential Outdoor: 58,422; Striped Parking Area: 6,912 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	63.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	1,525.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	97.00	38.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	19.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.7900e-003	0.0000	6.7900e-003	1.0300e-003	0.0000	1.0300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0008	34.0008	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**6.7900e-003**	**0.0155**	**0.0223**	**1.0300e-003**	**0.0144**	**0.0154**	**0.0000**	**34.0008**	**34.0008**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5000e-004	8.5000e-003	1.8100e-003	2.0000e-005	5.3000e-004	3.0000e-005	5.6000e-004	1.5000e-004	3.0000e-005	1.7000e-004	0.0000	2.3831	2.3831	1.2000e-004	0.0000	2.3862
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.3600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0020	1.0020	2.0000e-005	0.0000	1.0026
Total	**7.1000e-004**	**8.8200e-003**	**5.1700e-003**	**3.0000e-005**	**1.7200e-003**	**4.0000e-005**	**1.7500e-003**	**4.7000e-004**	**4.0000e-005**	**4.9000e-004**	**0.0000**	**3.3851**	**3.3851**	**1.4000e-004**	**0.0000**	**3.3887**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.7900e-003	0.0000	6.7900e-003	1.0300e-003	0.0000	1.0300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0007	34.0007	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**6.7900e-003**	**0.0155**	**0.0223**	**1.0300e-003**	**0.0144**	**0.0154**	**0.0000**	**34.0007**	**34.0007**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5000e-004	8.5000e-003	1.8100e-003	2.0000e-005	5.3000e-004	3.0000e-005	5.6000e-004	1.5000e-004	3.0000e-005	1.7000e-004	0.0000	2.3831	2.3831	1.2000e-004	0.0000	2.3862
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.3600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0020	1.0020	2.0000e-005	0.0000	1.0026
Total	**7.1000e-004**	**8.8200e-003**	**5.1700e-003**	**3.0000e-005**	**1.7200e-003**	**4.0000e-005**	**1.7500e-003**	**4.7000e-004**	**4.0000e-005**	**4.9000e-004**	**0.0000**	**3.3851**	**3.3851**	**1.4000e-004**	**0.0000**	**3.3887**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7179	16.7179	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0903**	**0.0102**	**0.1006**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7179**	**16.7179**	**5.4100e-003**	**0.0000**	**16.8530**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	2.0200e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6012	0.6012	1.0000e-005	0.0000	0.6015
Total	**2.8000e-004**	**1.9000e-004**	**2.0200e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6012**	**0.6012**	**1.0000e-005**	**0.0000**	**0.6015**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7178	16.7178	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0903**	**0.0102**	**0.1006**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7178**	**16.7178**	**5.4100e-003**	**0.0000**	**16.8530**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	2.0200e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6012	0.6012	1.0000e-005	0.0000	0.6015
Total	**2.8000e-004**	**1.9000e-004**	**2.0200e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6012**	**0.6012**	**1.0000e-005**	**0.0000**	**0.6015**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0662	0.0000	0.0662	0.0338	0.0000	0.0338	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.2474	0.1586	3.0000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2644
Total	**0.0229**	**0.2474**	**0.1586**	**3.0000e-004**	**0.0662**	**0.0116**	**0.0778**	**0.0338**	**0.0107**	**0.0445**	**0.0000**	**26.0537**	**26.0537**	**8.4300e-003**	**0.0000**	**26.2644**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.0100e-003	0.2058	0.0439	5.9000e-004	0.0129	6.4000e-004	0.0135	3.5400e-003	6.1000e-004	4.1500e-003	0.0000	57.6864	57.6864	2.9400e-003	0.0000	57.7600
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.3600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0020	1.0020	2.0000e-005	0.0000	1.0026
Total	**6.4700e-003**	**0.2061**	**0.0472**	**6.0000e-004**	**0.0141**	**6.5000e-004**	**0.0147**	**3.8600e-003**	**6.2000e-004**	**4.4700e-003**	**0.0000**	**58.6884**	**58.6884**	**2.9600e-003**	**0.0000**	**58.7626**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0662	0.0000	0.0662	0.0338	0.0000	0.0338	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.2474	0.1586	3.0000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2643
Total	**0.0229**	**0.2474**	**0.1586**	**3.0000e-004**	**0.0662**	**0.0116**	**0.0778**	**0.0338**	**0.0107**	**0.0445**	**0.0000**	**26.0537**	**26.0537**	**8.4300e-003**	**0.0000**	**26.2643**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.0100e-003	0.2058	0.0439	5.9000e-004	0.0129	6.4000e-004	0.0135	3.5400e-003	6.1000e-004	4.1500e-003	0.0000	57.6864	57.6864	2.9400e-003	0.0000	57.7600
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.3600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0020	1.0020	2.0000e-005	0.0000	1.0026
Total	**6.4700e-003**	**0.2061**	**0.0472**	**6.0000e-004**	**0.0141**	**6.5000e-004**	**0.0147**	**3.8600e-003**	**6.2000e-004**	**4.4700e-003**	**0.0000**	**58.6884**	**58.6884**	**2.9600e-003**	**0.0000**	**58.7626**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1806	1.6561	1.5746	2.5600e-003		0.0911	0.0911		0.0856	0.0856	0.0000	220.0554	220.0554	0.0531	0.0000	221.3827
Total	**0.1806**	**1.6561**	**1.5746**	**2.5600e-003**		**0.0911**	**0.0911**		**0.0856**	**0.0856**	**0.0000**	**220.0554**	**220.0554**	**0.0531**	**0.0000**	**221.3827**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0115	0.3771	0.0941	9.7000e-004	0.0237	8.2000e-004	0.0245	6.8500e-003	7.8000e-004	7.6300e-003	0.0000	93.6232	93.6232	4.6000e-003	0.0000	93.7382
Worker	0.0283	0.0195	0.2067	6.8000e-004	0.0728	4.8000e-004	0.0733	0.0194	4.4000e-004	0.0198	0.0000	61.5553	61.5553	1.3800e-003	0.0000	61.5898
Total	**0.0397**	**0.3966**	**0.3008**	**1.6500e-003**	**0.0965**	**1.3000e-003**	**0.0978**	**0.0262**	**1.2200e-003**	**0.0274**	**0.0000**	**155.1785**	**155.1785**	**5.9800e-003**	**0.0000**	**155.3280**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1806	1.6561	1.5746	2.5600e-003		0.0911	0.0911		0.0856	0.0856	0.0000	220.0552	220.0552	0.0531	0.0000	221.3824
Total	**0.1806**	**1.6561**	**1.5746**	**2.5600e-003**		**0.0911**	**0.0911**		**0.0856**	**0.0856**	**0.0000**	**220.0552**	**220.0552**	**0.0531**	**0.0000**	**221.3824**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0115	0.3771	0.0941	9.7000e-004	0.0237	8.2000e-004	0.0245	6.8500e-003	7.8000e-004	7.6300e-003	0.0000	93.6232	93.6232	4.6000e-003	0.0000	93.7382
Worker	0.0283	0.0195	0.2067	6.8000e-004	0.0728	4.8000e-004	0.0733	0.0194	4.4000e-004	0.0198	0.0000	61.5553	61.5553	1.3800e-003	0.0000	61.5898
Total	**0.0397**	**0.3966**	**0.3008**	**1.6500e-003**	**0.0965**	**1.3000e-003**	**0.0978**	**0.0262**	**1.2200e-003**	**0.0274**	**0.0000**	**155.1785**	**155.1785**	**5.9800e-003**	**0.0000**	**155.3280**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0341	0.3123	0.3273	5.4000e-004		0.0162	0.0162		0.0152	0.0152	0.0000	46.3451	46.3451	0.0111	0.0000	46.6226
Total	**0.0341**	**0.3123**	**0.3273**	**5.4000e-004**		**0.0162**	**0.0162**		**0.0152**	**0.0152**	**0.0000**	**46.3451**	**46.3451**	**0.0111**	**0.0000**	**46.6226**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2500e-003	0.0752	0.0186	2.0000e-004	4.9800e-003	1.5000e-004	5.1300e-003	1.4400e-003	1.4000e-004	1.5800e-003	0.0000	19.5169	19.5169	9.3000e-004	0.0000	19.5400
Worker	5.5500e-003	3.6800e-003	0.0400	1.4000e-004	0.0153	1.0000e-004	0.0154	4.0800e-003	9.0000e-005	4.1700e-003	0.0000	12.4839	12.4839	2.6000e-004	0.0000	12.4904
Total	**7.8000e-003**	**0.0789**	**0.0586**	**3.4000e-004**	**0.0203**	**2.5000e-004**	**0.0206**	**5.5200e-003**	**2.3000e-004**	**5.7500e-003**	**0.0000**	**32.0008**	**32.0008**	**1.1900e-003**	**0.0000**	**32.0304**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0341	0.3123	0.3273	5.4000e-004		0.0162	0.0162		0.0152	0.0152	0.0000	46.3450	46.3450	0.0111	0.0000	46.6226
Total	**0.0341**	**0.3123**	**0.3273**	**5.4000e-004**		**0.0162**	**0.0162**		**0.0152**	**0.0152**	**0.0000**	**46.3450**	**46.3450**	**0.0111**	**0.0000**	**46.6226**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2500e-003	0.0752	0.0186	2.0000e-004	4.9800e-003	1.5000e-004	5.1300e-003	1.4400e-003	1.4000e-004	1.5800e-003	0.0000	19.5169	19.5169	9.3000e-004	0.0000	19.5400
Worker	5.5500e-003	3.6800e-003	0.0400	1.4000e-004	0.0153	1.0000e-004	0.0154	4.0800e-003	9.0000e-005	4.1700e-003	0.0000	12.4839	12.4839	2.6000e-004	0.0000	12.4904
Total	**7.8000e-003**	**0.0789**	**0.0586**	**3.4000e-004**	**0.0203**	**2.5000e-004**	**0.0206**	**5.5200e-003**	**2.3000e-004**	**5.7500e-003**	**0.0000**	**32.0008**	**32.0008**	**1.1900e-003**	**0.0000**	**32.0304**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0276	20.0276	6.4800e-003	0.0000	20.1895
Paving	3.3900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0144**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0276**	**20.0276**	**6.4800e-003**	**0.0000**	**20.1895**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.8000e-004	3.0900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9653	0.9653	2.0000e-005	0.0000	0.9658
Total	**4.3000e-004**	**2.8000e-004**	**3.0900e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9653**	**0.9653**	**2.0000e-005**	**0.0000**	**0.9658**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0275	20.0275	6.4800e-003	0.0000	20.1895
Paving	3.3900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0144**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0275**	**20.0275**	**6.4800e-003**	**0.0000**	**20.1895**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.8000e-004	3.0900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9653	0.9653	2.0000e-005	0.0000	0.9658
Total	**4.3000e-004**	**2.8000e-004**	**3.0900e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9653**	**0.9653**	**2.0000e-005**	**0.0000**	**0.9658**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6333					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.6354**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	3.6000e-004	3.9200e-003	1.0000e-005	1.5000e-003	1.0000e-005	1.5100e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2227	1.2227	3.0000e-005	0.0000	1.2233
Total	**5.4000e-004**	**3.6000e-004**	**3.9200e-003**	**1.0000e-005**	**1.5000e-003**	**1.0000e-005**	**1.5100e-003**	**4.0000e-004**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**1.2227**	**1.2227**	**3.0000e-005**	**0.0000**	**1.2233**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6333					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.6354**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	3.6000e-004	3.9200e-003	1.0000e-005	1.5000e-003	1.0000e-005	1.5100e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2227	1.2227	3.0000e-005	0.0000	1.2233
Total	**5.4000e-004**	**3.6000e-004**	**3.9200e-003**	**1.0000e-005**	**1.5000e-003**	**1.0000e-005**	**1.5100e-003**	**4.0000e-004**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**1.2227**	**1.2227**	**3.0000e-005**	**0.0000**	**1.2233**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0579	0.2957	0.7028	2.6100e-003	0.2290	2.3500e-003	0.2314	0.0615	2.2000e-003	0.0637	0.0000	239.7126	239.7126	8.4600e-003	0.0000	239.9240
Unmitigated	0.0579	0.2957	0.7028	2.6100e-003	0.2290	2.3500e-003	0.2314	0.0615	2.2000e-003	0.0637	0.0000	239.7126	239.7126	8.4600e-003	0.0000	239.9240

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	30.77	6.86	2.93	55,873	55,873
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	191.62	191.62	191.62	559,439	559,439
Total	222.39	198.48	194.55	615,312	615,312

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768
Parking Lot	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768
Refrigerated Warehouse-No Rail	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	812.5456	812.5456	0.0367	7.6000e-003	815.7294
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	812.5456	812.5456	0.0367	7.6000e-003	815.7294
NaturalGas Mitigated	0.0112	0.1016	0.0853	6.1000e-004		7.7200e-003	7.7200e-003		7.7200e-003	7.7200e-003	0.0000	110.5451	110.5451	2.1200e-003	2.0300e-003	111.2021
NaturalGas Unmitigated	0.0112	0.1016	0.0853	6.1000e-004		7.7200e-003	7.7200e-003		7.7200e-003	7.7200e-003	0.0000	110.5451	110.5451	2.1200e-003	2.0300e-003	111.2021

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	53834.1	2.9000e-004	2.6400e-003	2.2200e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.8728	2.8728	6.0000e-005	5.0000e-005	2.8899
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	2.0177e+006	0.0109	0.0989	0.0831	5.9000e-004		7.5200e-003	7.5200e-003		7.5200e-003	7.5200e-003	0.0000	107.6724	107.6724	2.0600e-003	1.9700e-003	108.3122
Total		**0.0112**	**0.1016**	**0.0853**	**6.1000e-004**		**7.7200e-003**	**7.7200e-003**		**7.7200e-003**	**7.7200e-003**	**0.0000**	**110.5451**	**110.5451**	**2.1200e-003**	**2.0200e-003**	**111.2021**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	53834.1	2.9000e-004	2.6400e-003	2.2200e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.8728	2.8728	6.0000e-005	5.0000e-005	2.8899
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	2.0177e+006	0.0109	0.0989	0.0831	5.9000e-004		7.5200e-003	7.5200e-003		7.5200e-003	7.5200e-003	0.0000	107.6724	107.6724	2.0600e-003	1.9700e-003	108.3122
Total		**0.0112**	**0.1016**	**0.0853**	**6.1000e-004**		**7.7200e-003**	**7.7200e-003**		**7.7200e-003**	**7.7200e-003**	**0.0000**	**110.5451**	**110.5451**	**2.1200e-003**	**2.0200e-003**	**111.2021**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	34756.8	10.1112	4.6000e-004	9.0000e-005	10.1508
Parking Lot	40320	11.7296	5.3000e-004	1.1000e-004	11.7755
Refrigerated Warehouse-No Rail	2.71803e+006	790.7049	0.0358	7.4000e-003	793.8031
Total		**812.5456**	**0.0367**	**7.6000e-003**	**815.7294**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	34756.8	10.1112	4.6000e-004	9.0000e-005	10.1508
Parking Lot	40320	11.7296	5.3000e-004	1.1000e-004	11.7755
Refrigerated Warehouse-No Rail	2.71803e+006	790.7049	0.0358	7.4000e-003	793.8031
Total		**812.5456**	**0.0367**	**7.6000e-003**	**815.7294**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5275	3.0000e-005	3.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.2300e-003	7.2300e-003	2.0000e-005	0.0000	7.7100e-003
Unmitigated	0.5275	3.0000e-005	3.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.2300e-003	7.2300e-003	2.0000e-005	0.0000	7.7100e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0633					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4638					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.5000e-004	3.0000e-005	3.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.2300e-003	7.2300e-003	2.0000e-005	0.0000	7.7100e-003
Total	**0.5275**	**3.0000e-005**	**3.7300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**7.2300e-003**	**7.2300e-003**	**2.0000e-005**	**0.0000**	**7.7100e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0633					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4638					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.5000e-004	3.0000e-005	3.7300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.2300e-003	7.2300e-003	2.0000e-005	0.0000	7.7100e-003
Total	**0.5275**	**3.0000e-005**	**3.7300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**7.2300e-003**	**7.2300e-003**	**2.0000e-005**	**0.0000**	**7.7100e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	51.1350	0.8776	0.0211	79.3541
Unmitigated	51.1350	0.8776	0.0211	79.3541

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.495877 / 0.303925	1.2473	0.0162	3.9000e-004	1.7693
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	26.3764 / 0	49.8876	0.8614	0.0207	77.5848
Total		**51.1350**	**0.8776**	**0.0211**	**79.3541**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.495877 / 0.303925	1.2473	0.0162	3.9000e-004	1.7693
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	26.3764 / 0	49.8876	0.8614	0.0207	77.5848
Total		**51.1350**	**0.8776**	**0.0211**	**79.3541**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	22.2904	1.3173	0.0000	55.2236
Unmitigated	22.2904	1.3173	0.0000	55.2236

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	2.59	0.5258	0.0311	0.0000	1.3025
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	107.22	21.7647	1.2863	0.0000	53.9211
Total		**22.2904**	**1.3173**	**0.0000**	**55.2236**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	2.59	0.5258	0.0311	0.0000	1.3025
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	107.22	21.7647	1.2863	0.0000	53.9211
Total		**22.2904**	**1.3173**	**0.0000**	**55.2236**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Point Eden Industrial Development

Bay Area AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2.79	1000sqft	0.06	2,785.00	0
Refrigerated Warehouse-No Rail	114.06	1000sqft	2.62	114,059.00	0
Parking Lot	288.00	Space	2.59	115,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See SWA{E comment regarding intensity factors

Land Use - See SWAPE comment regarding land use size and type.

Construction Phase - See SWAPE comment regarding construction phase length.

Grading - See SWAPE comment regarding material import.

Demolition - Consistent with DEIR's model.

Architectural Coating - See SWAPE comment regarding architectural and area coating emission factors.

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialImported	0.00	12,200.00
tblLandUse	LandUseSquareFeet	2,790.00	2,785.00
tblLandUse	LandUseSquareFeet	114,060.00	114,059.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.9461	44.9406	22.1092	0.0907	18.2141	2.0454	20.2595	9.9699	1.8818	11.8517	0.0000	9,395.0340	9,395.0340	1.2493	0.0000	9,426.2663
2022	63.5910	19.5009	19.4298	0.0446	1.0541	0.8213	1.8754	0.2854	0.7727	1.0581	0.0000	4,381.6912	4,381.6912	0.7164	0.0000	4,398.6072
Maximum	**63.5910**	**44.9406**	**22.1092**	**0.0907**	**18.2141**	**2.0454**	**20.2595**	**9.9699**	**1.8818**	**11.8517**	**0.0000**	**9,395.0340**	**9,395.0340**	**1.2493**	**0.0000**	**9,426.2663**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.9461	44.9406	22.1092	0.0907	18.2141	2.0454	20.2595	9.9699	1.8818	11.8517	0.0000	9,395.0340	9,395.0340	1.2493	0.0000	9,426.2663
2022	63.5910	19.5009	19.4298	0.0446	1.0541	0.8213	1.8754	0.2854	0.7727	1.0581	0.0000	4,381.6912	4,381.6912	0.7164	0.0000	4,398.6072
Maximum	**63.5910**	**44.9406**	**22.1092**	**0.0907**	**18.2141**	**2.0454**	**20.2595**	**9.9699**	**1.8818**	**11.8517**	**0.0000**	**9,395.0340**	**9,395.0340**	**1.2493**	**0.0000**	**9,426.2663**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.8921	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0886	0.0886	2.3000e-004		0.0945
Energy	0.0612	0.5564	0.4674	3.3400e-003		0.0423	0.0423		0.0423	0.0423		667.6995	667.6995	0.0128	0.0122	671.6673
Mobile	0.3732	1.6202	4.1844	0.0156	1.3448	0.0133	1.3580	0.3598	0.0124	0.3722		1,581.1932	1,581.1932	0.0533		1,582.5267
Total	**3.3266**	**2.1770**	**4.6932**	**0.0190**	**1.3448**	**0.0557**	**1.4005**	**0.3598**	**0.0549**	**0.4146**		**2,248.9814**	**2,248.9814**	**0.0664**	**0.0122**	**2,254.2885**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.8921	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0886	0.0886	2.3000e-004		0.0945
Energy	0.0612	0.5564	0.4674	3.3400e-003		0.0423	0.0423		0.0423	0.0423		667.6995	667.6995	0.0128	0.0122	671.6673
Mobile	0.3732	1.6202	4.1844	0.0156	1.3448	0.0133	1.3580	0.3598	0.0124	0.3722		1,581.1932	1,581.1932	0.0533		1,582.5267
Total	**3.3266**	**2.1770**	**4.6932**	**0.0190**	**1.3448**	**0.0557**	**1.4005**	**0.3598**	**0.0549**	**0.4146**		**2,248.9814**	**2,248.9814**	**0.0664**	**0.0122**	**2,254.2885**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	2/1/2021	2/26/2021	5	20	
2	Site Preparation	Site Preparation	2/27/2021	3/12/2021	5	10	
3	Grading	Grading	3/13/2021	4/9/2021	5	20	
4	Building Construction	Building Construction	4/10/2021	2/25/2022	5	230	
5	Paving	Paving	2/26/2022	3/25/2022	5	20	
6	Architectural Coating	Architectural Coating	3/26/2022	4/22/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 2.59

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 175,266; Non-Residential Outdoor: 58,422; Striped Parking Area: 6,912 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	63.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	1,525.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	97.00	38.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	19.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6792	0.0000	0.6792	0.1028	0.0000	0.1028			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**0.6792**	**1.5513**	**2.2305**	**0.1028**	**1.4411**	**1.5439**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0245	0.8335	0.1757	2.4700e-003	0.0550	2.6100e-003	0.0577	0.0151	2.5000e-003	0.0176		264.5716	264.5716	0.0131		264.8998
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.0728**	**0.8617**	**0.5442**	**3.6600e-003**	**0.1783**	**3.3900e-003**	**0.1817**	**0.0478**	**3.2100e-003**	**0.0510**		**383.3655**	**383.3655**	**0.0158**		**383.7601**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6792	0.0000	0.6792	0.1028	0.0000	0.1028			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**0.6792**	**1.5513**	**2.2305**	**0.1028**	**1.4411**	**1.5439**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0245	0.8335	0.1757	2.4700e-003	0.0550	2.6100e-003	0.0577	0.0151	2.5000e-003	0.0176		264.5716	264.5716	0.0131		264.8998
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.0728**	**0.8617**	**0.5442**	**3.6600e-003**	**0.1783**	**3.3900e-003**	**0.1817**	**0.0478**	**3.2100e-003**	**0.0510**		**383.3655**	**383.3655**	**0.0158**		**383.7601**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0579	0.0338	0.4421	1.4300e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		142.5527	142.5527	3.1900e-003		142.6324
Total	**0.0579**	**0.0338**	**0.4421**	**1.4300e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**142.5527**	**142.5527**	**3.1900e-003**		**142.6324**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0579	0.0338	0.4421	1.4300e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		142.5527	142.5527	3.1900e-003		142.6324
Total	**0.0579**	**0.0338**	**0.4421**	**1.4300e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**142.5527**	**142.5527**	**3.1900e-003**		**142.6324**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.6213	0.0000	6.6213	3.3779	0.0000	3.3779			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.6213**	**1.1599**	**7.7812**	**3.3779**	**1.0671**	**4.4451**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5939	20.1757	4.2531	0.0598	1.3322	0.0633	1.3954	0.3651	0.0605	0.4256		6,404.3116	6,404.3116	0.3178		6,412.2564
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.6421**	**20.2039**	**4.6215**	**0.0610**	**1.4554**	**0.0640**	**1.5194**	**0.3978**	**0.0612**	**0.4590**		**6,523.1055**	**6,523.1055**	**0.3205**		**6,531.1168**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.6213	0.0000	6.6213	3.3779	0.0000	3.3779			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.6213**	**1.1599**	**7.7812**	**3.3779**	**1.0671**	**4.4451**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5939	20.1757	4.2531	0.0598	1.3322	0.0633	1.3954	0.3651	0.0605	0.4256		6,404.3116	6,404.3116	0.3178		6,412.2564
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.6421**	**20.2039**	**4.6215**	**0.0610**	**1.4554**	**0.0640**	**1.5194**	**0.3978**	**0.0612**	**0.4590**		**6,523.1055**	**6,523.1055**	**0.3205**		**6,531.1168**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1179	3.9270	0.9260	0.0104	0.2572	8.5100e-003	0.2657	0.0741	8.1400e-003	0.0822		1,098.0425	1,098.0425	0.0515		1,099.3309
Worker	0.3119	0.1823	2.3826	7.7100e-003	0.7968	5.0100e-003	0.8019	0.2114	4.6200e-003	0.2160		768.2007	768.2007	0.0172		768.6300
Total	**0.4297**	**4.1092**	**3.3086**	**0.0181**	**1.0541**	**0.0135**	**1.0676**	**0.2854**	**0.0128**	**0.2982**		**1,866.2432**	**1,866.2432**	**0.0687**		**1,867.9609**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1179	3.9270	0.9260	0.0104	0.2572	8.5100e-003	0.2657	0.0741	8.1400e-003	0.0822		1,098.0425	1,098.0425	0.0515		1,099.3309
Worker	0.3119	0.1823	2.3826	7.7100e-003	0.7968	5.0100e-003	0.8019	0.2114	4.6200e-003	0.2160		768.2007	768.2007	0.0172		768.6300
Total	**0.4297**	**4.1092**	**3.3086**	**0.0181**	**1.0541**	**0.0135**	**1.0676**	**0.2854**	**0.0128**	**0.2982**		**1,866.2432**	**1,866.2432**	**0.0687**		**1,867.9609**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1099	3.7217	0.8709	0.0103	0.2572	7.3700e-003	0.2646	0.0741	7.0500e-003	0.0811		1,087.3491	1,087.3491	0.0493		1,088.5810
Worker	0.2903	0.1635	2.1955	7.4200e-003	0.7968	4.9000e-003	0.8017	0.2114	4.5100e-003	0.2159		740.0085	740.0085	0.0154		740.3940
Total	**0.4002**	**3.8852**	**3.0664**	**0.0177**	**1.0541**	**0.0123**	**1.0663**	**0.2854**	**0.0116**	**0.2970**		**1,827.3576**	**1,827.3576**	**0.0647**		**1,828.9750**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1099	3.7217	0.8709	0.0103	0.2572	7.3700e-003	0.2646	0.0741	7.0500e-003	0.0811		1,087.3491	1,087.3491	0.0493		1,088.5810
Worker	0.2903	0.1635	2.1955	7.4200e-003	0.7968	4.9000e-003	0.8017	0.2114	4.5100e-003	0.2159		740.0085	740.0085	0.0154		740.3940
Total	**0.4002**	**3.8852**	**3.0664**	**0.0177**	**1.0541**	**0.0123**	**1.0663**	**0.2854**	**0.0116**	**0.2970**		**1,827.3576**	**1,827.3576**	**0.0647**		**1,828.9750**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.3393					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4421**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0449	0.0253	0.3395	1.1500e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		114.4343	114.4343	2.3800e-003		114.4939
Total	**0.0449**	**0.0253**	**0.3395**	**1.1500e-003**	**0.1232**	**7.6000e-004**	**0.1240**	**0.0327**	**7.0000e-004**	**0.0334**		**114.4343**	**114.4343**	**2.3800e-003**		**114.4939**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.3393					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4421**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0449	0.0253	0.3395	1.1500e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		114.4343	114.4343	2.3800e-003		114.4939
Total	**0.0449**	**0.0253**	**0.3395**	**1.1500e-003**	**0.1232**	**7.6000e-004**	**0.1240**	**0.0327**	**7.0000e-004**	**0.0334**		**114.4343**	**114.4343**	**2.3800e-003**		**114.4939**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	63.3296					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**63.5342**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0569	0.0320	0.4300	1.4500e-003	0.1561	9.6000e-004	0.1570	0.0414	8.8000e-004	0.0423		144.9501	144.9501	3.0200e-003		145.0256
Total	**0.0569**	**0.0320**	**0.4300**	**1.4500e-003**	**0.1561**	**9.6000e-004**	**0.1570**	**0.0414**	**8.8000e-004**	**0.0423**		**144.9501**	**144.9501**	**3.0200e-003**		**145.0256**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	63.3296					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**63.5342**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0569	0.0320	0.4300	1.4500e-003	0.1561	9.6000e-004	0.1570	0.0414	8.8000e-004	0.0423		144.9501	144.9501	3.0200e-003		145.0256
Total	**0.0569**	**0.0320**	**0.4300**	**1.4500e-003**	**0.1561**	**9.6000e-004**	**0.1570**	**0.0414**	**8.8000e-004**	**0.0423**		**144.9501**	**144.9501**	**3.0200e-003**		**145.0256**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3732	1.6202	4.1844	0.0156	1.3448	0.0133	1.3580	0.3598	0.0124	0.3722		1,581.1932	1,581.1932	0.0533		1,582.5267
Unmitigated	0.3732	1.6202	4.1844	0.0156	1.3448	0.0133	1.3580	0.3598	0.0124	0.3722		1,581.1932	1,581.1932	0.0533		1,582.5267

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	30.77	6.86	2.93	55,873	55,873
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	191.62	191.62	191.62	559,439	559,439
Total	222.39	198.48	194.55	615,312	615,312

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768
Parking Lot	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768
Refrigerated Warehouse-No Rail	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0612	0.5564	0.4674	3.3400e-003		0.0423	0.0423		0.0423	0.0423		667.6995	667.6995	0.0128	0.0122	671.6673
NaturalGas Unmitigated	0.0612	0.5564	0.4674	3.3400e-003		0.0423	0.0423		0.0423	0.0423		667.6995	667.6995	0.0128	0.0122	671.6673

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	147.491	1.5900e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.3518	17.3518	3.3000e-004	3.2000e-004	17.4549
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	5527.96	0.0596	0.5420	0.4552	3.2500e-003		0.0412	0.0412		0.0412	0.0412		650.3477	650.3477	0.0125	0.0119	654.2124
Total		**0.0612**	**0.5564**	**0.4674**	**3.3400e-003**		**0.0423**	**0.0423**		**0.0423**	**0.0423**		**667.6995**	**667.6995**	**0.0128**	**0.0122**	**671.6673**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	0.147491	1.5900e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.3518	17.3518	3.3000e-004	3.2000e-004	17.4549
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	5.52796	0.0596	0.5420	0.4552	3.2500e-003		0.0412	0.0412		0.0412	0.0412		650.3477	650.3477	0.0125	0.0119	654.2124
Total		**0.0612**	**0.5564**	**0.4674**	**3.3400e-003**		**0.0423**	**0.0423**		**0.0423**	**0.0423**		**667.6995**	**667.6995**	**0.0128**	**0.0122**	**671.6673**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.8921	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0886	0.0886	2.3000e-004		0.0945
Unmitigated	2.8921	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0886	0.0886	2.3000e-004		0.0945

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3470					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5413					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8500e-003	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0886	0.0886	2.3000e-004		0.0945
Total	**2.8921**	**3.8000e-004**	**0.0414**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0886**	**0.0886**	**2.3000e-004**		**0.0945**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3470					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5413					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8500e-003	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0886	0.0886	2.3000e-004		0.0945
Total	**2.8921**	**3.8000e-004**	**0.0414**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0886**	**0.0886**	**2.3000e-004**		**0.0945**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Point Eden Industrial Development

Bay Area AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2.79	1000sqft	0.06	2,785.00	0
Refrigerated Warehouse-No Rail	114.06	1000sqft	2.62	114,059.00	0
Parking Lot	288.00	Space	2.59	115,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See SWA{E comment regarding intensity factors

Land Use - See SWAPE comment regarding land use size and type.

Construction Phase - See SWAPE comment regarding construction phase length.

Grading - See SWAPE comment regarding material import.

Demolition - Consistent with DEIR's model.

Architectural Coating - See SWAPE comment regarding architectural and area coating emission factors.

Table Name	Column Name	Default Value	New Value
tblGrading	MaterialImported	0.00	12,200.00
tblLandUse	LandUseSquareFeet	2,790.00	2,785.00
tblLandUse	LandUseSquareFeet	114,060.00	114,059.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.9495	45.4190	22.0984	0.0896	18.2141	2.0454	20.2595	9.9699	1.8818	11.8517	0.0000	9,277.4022	9,277.4022	1.2646	0.0000	9,309.0159
2022	63.5946	19.5673	19.4096	0.0438	1.0541	0.8216	1.8756	0.2854	0.7730	1.0584	0.0000	4,295.6297	4,295.6297	0.7162	0.0000	4,312.6182
Maximum	**63.5946**	**45.4190**	**22.0984**	**0.0896**	**18.2141**	**2.0454**	**20.2595**	**9.9699**	**1.8818**	**11.8517**	**0.0000**	**9,277.4022**	**9,277.4022**	**1.2646**	**0.0000**	**9,309.0159**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.9495	45.4190	22.0984	0.0896	18.2141	2.0454	20.2595	9.9699	1.8818	11.8517	0.0000	9,277.4022	9,277.4022	1.2646	0.0000	9,309.0159
2022	63.5946	19.5673	19.4096	0.0438	1.0541	0.8216	1.8756	0.2854	0.7730	1.0584	0.0000	4,295.6297	4,295.6297	0.7162	0.0000	4,312.6182
Maximum	**63.5946**	**45.4190**	**22.0984**	**0.0896**	**18.2141**	**2.0454**	**20.2595**	**9.9699**	**1.8818**	**11.8517**	**0.0000**	**9,277.4022**	**9,277.4022**	**1.2646**	**0.0000**	**9,309.0159**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.8921	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0886	0.0886	2.3000e-004		0.0945
Energy	0.0612	0.5564	0.4674	3.3400e-003		0.0423	0.0423		0.0423	0.0423		667.6995	667.6995	0.0128	0.0122	671.6673
Mobile	0.3262	1.7086	4.1435	0.0146	1.3448	0.0133	1.3581	0.3598	0.0125	0.3723		1,480.8917	1,480.8917	0.0540		1,482.2411
Total	**3.2795**	**2.2654**	**4.6523**	**0.0180**	**1.3448**	**0.0558**	**1.4006**	**0.3598**	**0.0549**	**0.4147**		**2,148.6798**	**2,148.6798**	**0.0670**	**0.0122**	**2,154.0028**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.8921	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0886	0.0886	2.3000e-004		0.0945
Energy	0.0612	0.5564	0.4674	3.3400e-003		0.0423	0.0423		0.0423	0.0423		667.6995	667.6995	0.0128	0.0122	671.6673
Mobile	0.3262	1.7086	4.1435	0.0146	1.3448	0.0133	1.3581	0.3598	0.0125	0.3723		1,480.8917	1,480.8917	0.0540		1,482.2411
Total	**3.2795**	**2.2654**	**4.6523**	**0.0180**	**1.3448**	**0.0558**	**1.4006**	**0.3598**	**0.0549**	**0.4147**		**2,148.6798**	**2,148.6798**	**0.0670**	**0.0122**	**2,154.0028**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	2/1/2021	2/26/2021	5	20	
2	Site Preparation	Site Preparation	2/27/2021	3/12/2021	5	10	
3	Grading	Grading	3/13/2021	4/9/2021	5	20	
4	Building Construction	Building Construction	4/10/2021	2/25/2022	5	230	
5	Paving	Paving	2/26/2022	3/25/2022	5	20	
6	Architectural Coating	Architectural Coating	3/26/2022	4/22/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 2.59

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 175,266; Non-Residential Outdoor: 58,422; Striped Parking Area: 6,912 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	63.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	1,525.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	97.00	38.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	19.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6792	0.0000	0.6792	0.1028	0.0000	0.1028			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**0.6792**	**1.5513**	**2.2305**	**0.1028**	**1.4411**	**1.5439**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0252	0.8530	0.1886	2.4300e-003	0.0550	2.6600e-003	0.0577	0.0151	2.5400e-003	0.0176		260.0988	260.0988	0.0138		260.4430
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.0763**	**0.8878**	**0.5333**	**3.5300e-003**	**0.1783**	**3.4400e-003**	**0.1817**	**0.0478**	**3.2500e-003**	**0.0510**		**369.5293**	**369.5293**	**0.0163**		**369.9354**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6792	0.0000	0.6792	0.1028	0.0000	0.1028			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**0.6792**	**1.5513**	**2.2305**	**0.1028**	**1.4411**	**1.5439**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0252	0.8530	0.1886	2.4300e-003	0.0550	2.6600e-003	0.0577	0.0151	2.5400e-003	0.0176		260.0988	260.0988	0.0138		260.4430
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.0763**	**0.8878**	**0.5333**	**3.5300e-003**	**0.1783**	**3.4400e-003**	**0.1817**	**0.0478**	**3.2500e-003**	**0.0510**		**369.5293**	**369.5293**	**0.0163**		**369.9354**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0613	0.0418	0.4137	1.3200e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		131.3166	131.3166	2.9700e-003		131.3909
Total	**0.0613**	**0.0418**	**0.4137**	**1.3200e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**131.3166**	**131.3166**	**2.9700e-003**		**131.3909**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0613	0.0418	0.4137	1.3200e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		131.3166	131.3166	2.9700e-003		131.3909
Total	**0.0613**	**0.0418**	**0.4137**	**1.3200e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**131.3166**	**131.3166**	**2.9700e-003**		**131.3909**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.6213	0.0000	6.6213	3.3779	0.0000	3.3779			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.6213**	**1.1599**	**7.7812**	**3.3779**	**1.0671**	**4.4451**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6100	20.6475	4.5659	0.0588	1.3322	0.0644	1.3965	0.3651	0.0616	0.4267		6,296.0432	6,296.0432	0.3332		6,304.3740
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.6611**	**20.6823**	**4.9106**	**0.0599**	**1.4554**	**0.0652**	**1.5205**	**0.3978**	**0.0623**	**0.4601**		**6,405.4737**	**6,405.4737**	**0.3357**		**6,413.8664**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.6213	0.0000	6.6213	3.3779	0.0000	3.3779			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.6213**	**1.1599**	**7.7812**	**3.3779**	**1.0671**	**4.4451**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6100	20.6475	4.5659	0.0588	1.3322	0.0644	1.3965	0.3651	0.0616	0.4267		6,296.0432	6,296.0432	0.3332		6,304.3740
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.6611**	**20.6823**	**4.9106**	**0.0599**	**1.4554**	**0.0652**	**1.5205**	**0.3978**	**0.0623**	**0.4601**		**6,405.4737**	**6,405.4737**	**0.3357**		**6,413.8664**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1248	3.9607	1.0644	0.0101	0.2572	8.8000e-003	0.2660	0.0741	8.4200e-003	0.0825		1,070.1832	1,070.1832	0.0558		1,071.5770
Worker	0.3304	0.2252	2.2292	7.1000e-003	0.7968	5.0100e-003	0.8019	0.2114	4.6200e-003	0.2160		707.6505	707.6505	0.0160		708.0509
Total	**0.4552**	**4.1859**	**3.2935**	**0.0172**	**1.0541**	**0.0138**	**1.0679**	**0.2854**	**0.0130**	**0.2985**		**1,777.8337**	**1,777.8337**	**0.0718**		**1,779.6279**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1248	3.9607	1.0644	0.0101	0.2572	8.8000e-003	0.2660	0.0741	8.4200e-003	0.0825		1,070.1832	1,070.1832	0.0558		1,071.5770
Worker	0.3304	0.2252	2.2292	7.1000e-003	0.7968	5.0100e-003	0.8019	0.2114	4.6200e-003	0.2160		707.6505	707.6505	0.0160		708.0509
Total	**0.4552**	**4.1859**	**3.2935**	**0.0172**	**1.0541**	**0.0138**	**1.0679**	**0.2854**	**0.0130**	**0.2985**		**1,777.8337**	**1,777.8337**	**0.0718**		**1,779.6279**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1164	3.7498	1.0005	0.0100	0.2572	7.6400e-003	0.2649	0.0741	7.3100e-003	0.0814		1,059.5878	1,059.5878	0.0533		1,060.9193
Worker	0.3084	0.2019	2.0456	6.8400e-003	0.7968	4.9000e-003	0.8017	0.2114	4.5100e-003	0.2159		681.7083	681.7083	0.0143		682.0667
Total	**0.4248**	**3.9517**	**3.0462**	**0.0168**	**1.0541**	**0.0125**	**1.0666**	**0.2854**	**0.0118**	**0.2972**		**1,741.2961**	**1,741.2961**	**0.0676**		**1,742.9860**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1164	3.7498	1.0005	0.0100	0.2572	7.6400e-003	0.2649	0.0741	7.3100e-003	0.0814		1,059.5878	1,059.5878	0.0533		1,060.9193
Worker	0.3084	0.2019	2.0456	6.8400e-003	0.7968	4.9000e-003	0.8017	0.2114	4.5100e-003	0.2159		681.7083	681.7083	0.0143		682.0667
Total	**0.4248**	**3.9517**	**3.0462**	**0.0168**	**1.0541**	**0.0125**	**1.0666**	**0.2854**	**0.0118**	**0.2972**		**1,741.2961**	**1,741.2961**	**0.0676**		**1,742.9860**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.3393					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4421**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0477	0.0312	0.3163	1.0600e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		105.4188	105.4188	2.2200e-003		105.4742
Total	**0.0477**	**0.0312**	**0.3163**	**1.0600e-003**	**0.1232**	**7.6000e-004**	**0.1240**	**0.0327**	**7.0000e-004**	**0.0334**		**105.4188**	**105.4188**	**2.2200e-003**		**105.4742**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.3393					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4421**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0477	0.0312	0.3163	1.0600e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		105.4188	105.4188	2.2200e-003		105.4742
Total	**0.0477**	**0.0312**	**0.3163**	**1.0600e-003**	**0.1232**	**7.6000e-004**	**0.1240**	**0.0327**	**7.0000e-004**	**0.0334**		**105.4188**	**105.4188**	**2.2200e-003**		**105.4742**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	63.3296					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**63.5342**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0604	0.0395	0.4007	1.3400e-003	0.1561	9.6000e-004	0.1570	0.0414	8.8000e-004	0.0423		133.5305	133.5305	2.8100e-003		133.6007
Total	**0.0604**	**0.0395**	**0.4007**	**1.3400e-003**	**0.1561**	**9.6000e-004**	**0.1570**	**0.0414**	**8.8000e-004**	**0.0423**		**133.5305**	**133.5305**	**2.8100e-003**		**133.6007**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	63.3296					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**63.5342**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0604	0.0395	0.4007	1.3400e-003	0.1561	9.6000e-004	0.1570	0.0414	8.8000e-004	0.0423		133.5305	133.5305	2.8100e-003		133.6007
Total	**0.0604**	**0.0395**	**0.4007**	**1.3400e-003**	**0.1561**	**9.6000e-004**	**0.1570**	**0.0414**	**8.8000e-004**	**0.0423**		**133.5305**	**133.5305**	**2.8100e-003**		**133.6007**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3262	1.7086	4.1435	0.0146	1.3448	0.0133	1.3581	0.3598	0.0125	0.3723		1,480.8917	1,480.8917	0.0540		1,482.2411
Unmitigated	0.3262	1.7086	4.1435	0.0146	1.3448	0.0133	1.3581	0.3598	0.0125	0.3723		1,480.8917	1,480.8917	0.0540		1,482.2411

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	30.77	6.86	2.93	55,873	55,873
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	191.62	191.62	191.62	559,439	559,439
Total	222.39	198.48	194.55	615,312	615,312

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768
Parking Lot	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768
Refrigerated Warehouse-No Rail	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0612	0.5564	0.4674	3.3400e-003		0.0423	0.0423		0.0423	0.0423		667.6995	667.6995	0.0128	0.0122	671.6673
NaturalGas Unmitigated	0.0612	0.5564	0.4674	3.3400e-003		0.0423	0.0423		0.0423	0.0423		667.6995	667.6995	0.0128	0.0122	671.6673

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	147.491	1.5900e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.3518	17.3518	3.3000e-004	3.2000e-004	17.4549
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	5527.96	0.0596	0.5420	0.4552	3.2500e-003		0.0412	0.0412		0.0412	0.0412		650.3477	650.3477	0.0125	0.0119	654.2124
Total		**0.0612**	**0.5564**	**0.4674**	**3.3400e-003**		**0.0423**	**0.0423**		**0.0423**	**0.0423**		**667.6995**	**667.6995**	**0.0128**	**0.0122**	**671.6673**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	0.147491	1.5900e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.3518	17.3518	3.3000e-004	3.2000e-004	17.4549
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	5.52796	0.0596	0.5420	0.4552	3.2500e-003		0.0412	0.0412		0.0412	0.0412		650.3477	650.3477	0.0125	0.0119	654.2124
Total		**0.0612**	**0.5564**	**0.4674**	**3.3400e-003**		**0.0423**	**0.0423**		**0.0423**	**0.0423**		**667.6995**	**667.6995**	**0.0128**	**0.0122**	**671.6673**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.8921	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0886	0.0886	2.3000e-004		0.0945
Unmitigated	2.8921	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0886	0.0886	2.3000e-004		0.0945

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3470					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5413					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8500e-003	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0886	0.0886	2.3000e-004		0.0945
Total	**2.8921**	**3.8000e-004**	**0.0414**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0886**	**0.0886**	**2.3000e-004**		**0.0945**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3470					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5413					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8500e-003	3.8000e-004	0.0414	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0886	0.0886	2.3000e-004		0.0945
Total	**2.8921**	**3.8000e-004**	**0.0414**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0886**	**0.0886**	**2.3000e-004**		**0.0945**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Thesis on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years' experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from unconventional oil drilling operations, oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, and many other industrial and agricultural sources. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at dozens of sites and has testified as an expert witness on more than ten cases involving exposure to air contaminants from industrial sources.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

Publications:

Remy, L.L., Clay T., Byers, V., **Rosenfeld P. E.** (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health.* 18:48

Simons, R.A., Seo, Y. **Rosenfeld, P**., (2015) Modeling the Effect of Refinery Emission On Residential Property Value. Journal of Real Estate Research. 27(3):321-342

Chen, J. A, Zapata A. R., Sutherland A. J., Molmen, D.R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences*. 113–125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry*. Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution,* 123 (17), 319-327.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

Rosenfeld, P. E., M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities.* Boston Massachusetts: Elsevier Publishing

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.

Rosenfeld P. E., J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004.* New Orleans, October 2-6, 2004.

Rosenfeld, P.E., and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49(9), 171-178.

Rosenfeld, P. E., Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.

Rosenfeld, P.E., Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008.

Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality.* 29, 1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

Rosenfeld, P.E., and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.

Rosenfeld, P.E., and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.

Chollack, T. and **P. Rosenfeld. (**1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

Presentations:

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society.* Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water.* Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant*. The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

Deposition and/or Trial Testimony:

In the United States District Court For The Southern District of Illinois
Duarte et al, *Plaintiffs,* vs. United States Metals Refining Company et. al. *Defendant.*
Case No.: 3:19-cv-00302-SMY-GCS
Rosenfeld Deposition. 2-19-2020

In the Circuit Court of Jackson County, Missouri
Karen Cornwell, *Plaintiff,* vs. Marathon Petroleum, LP, *Defendant.*
Case No.: 1716-CV10006
Rosenfeld Deposition. 8-30-2019

In the United States District Court For The District of New Jersey
Duarte et al, *Plaintiffs,* vs. United States Metals Refining Company et. al. *Defendant.*
Case No.: 2:17-cv-01624-ES-SCM
Rosenfeld Deposition. 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk, *Plaintiffs,* vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" *Defendant.*
Case No.: 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition. 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No.: No. BC615636
Rosenfeld Deposition, 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No.: No. BC646857
Rosenfeld Deposition, 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiff vs. The 3M Company et al., Defendants
Case: No 1:16-cv-02531-RBJ
Rosenfeld Deposition, 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants
Cause No 1923
Rosenfeld Deposition, 11-17-2017

In The Superior Court of the State of California In And For The County Of Contra Costa
Simons et al., Plaintiffs vs. Chevron Corporation, et al., Defendants
Cause No C12-01481
Rosenfeld Deposition, 11-20-2017

In The Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition, 8-23-2017

In United States District Court For The Southern District of Mississippi
Guy Manuel vs. The BP Exploration et al., Defendants
Case: No 1:19-cv-00315-RHW
Rosenfeld Deposition, 4-22-2020

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No.: LC102019 (c/w BC582154)
Rosenfeld Deposition, 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., *Plaintiffs,* vs. Meritor Inc., et al., *Defendants*
Case Number: 4:16-cv-52-DMB-JVM
Rosenfeld Deposition: July 2017

In The Superior Court of the State of Washington, County of Snohomish
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No.: No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial, March 2017

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No.: RG14711115
Rosenfeld Deposition, September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No.: LALA002187
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Jerry Dovico, et al., Plaintiffs vs. Valley View Sine LLC, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Doug Pauls, et al.,, et al., Plaintiffs vs. Richard Warren, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action N0. 14-C-30000
Rosenfeld Deposition, June 2015

In The Third Judicial District County of Dona Ana, New Mexico
Betty Gonzalez, et al. Plaintiffs vs. Del Oro Dairy, Del Oro Real Estate LLC, Jerry Settles and Deward DeRuyter, Defendants
Rosenfeld Deposition: July 2015

In The Iowa District Court For Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No 4980
Rosenfeld Deposition: May 2015

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Geologic and Hydrogeologic Characterization
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
Industrial Stormwater Compliance
CEQA Review

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 30 years of experience in environmental policy, contaminant assessment and remediation, stormwater compliance, and CEQA review. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) and directed efforts to improve hydrogeologic characterization and water quality monitoring. For the past 15 years, as a founding partner with SWAPE, Matt has developed extensive client relationships and has managed complex projects that include consultation as an expert witness and a regulatory specialist, and a manager of projects ranging from industrial stormwater compliance to CEQA review of impacts from hazardous waste, air quality and greenhouse gas emissions.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2104, 2017;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 300 environmental impact reports and negative declarations since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at more than 150 industrial facilities.
- Expert witness on numerous cases including, for example, perfluorooctanoic acid (PFOA) contamination of groundwater, MTBE litigation, air toxins at hazards at a school, CERCLA compliance in assessment and remediation, and industrial stormwater contamination.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted

public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9.

Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific

principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt is currently a part time geology instructor at Golden West College in Huntington Beach, California where he taught from 2010 to 2014 and in 2017.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F**. 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examinations, 2009-2011.

Letter 5

COMMENTER: Paige Fennie, Lozeau Drury LLP

DATE: May 24, 2021

Response 5.1

The commenter states an opinion that the Draft EIR fails to impose all feasible mitigation measures to reduce impacts and that the City should prepare a revised Draft EIR for recirculation.

The commenter does not provide detail on additional mitigation measures that could be imposed to reduce project impacts. As described throughout Section 4, *Environmental Impact Analysis*, of the Draft EIR, mitigation measures have been identified to reduce potentially significant impacts of the proposed project, except for a significant and unavoidable impact to historic resources. Mitigation Measures CUL-1a and CUL-1b provided on Page 4.2-10 of the Draft EIR were developed to reduce impacts to historic resources. However, as described on Page 4.2-10, impacts would remain significant and unavoidable with implementation of mitigation. The commenter provides no additional mitigation measures to reduce significant and unavoidable impacts to the project. Therefore, no revisions to the Draft EIR are necessary in response to this comment. Because no new mitigation measures, information, or more severe impacts are identified, recirculation of the Draft EIR is not required.

Response 5.2

The commenter indicates that a wildlife biologist and a consulting firm assisted in preparing their comment letter and that the biologist and consulting firm comments and qualifications are attached to the comment letter as exhibits.

The City received the comment letter in its entirety, including exhibits to the letter. The comments provided by the wildlife biologist and the consulting firm have been reviewed and considered in these responses. No revisions to the Draft EIR are necessary in response to this comment.

Response 5.3

The commenter states their understanding of the proposed project in the form of a summary.

The commenter's understanding of the proposed project is an accurate summary of the project as proposed and evaluated in the Draft EIR. This comment is noted and does not require revisions to the Draft EIR.

Response 5.4

The commenter states a thorough summary of the legal background pertaining to CEQA, generally, including the primary purposes of CEQA, the purpose of an EIR, CEQA case law, and the basic requirements of an EIR.

This comment discusses CEQA and the preparation of an EIR broadly and does not directly address the Draft EIR. This comment is noted and does not require revisions to the Draft EIR.

Response 5.5

The commenter states an opinion that the Draft EIR uses an inadequate baseline for biological resources and fails to adequately analyze and mitigate impacts on biological resources. The commenter provides a summary of observed species at the site, including those observed by WRA and Dr. Smallwood, who is the wildlife biologist hired by the commenter. The commenter states an opinion that the Initial Study characterizes the project site empty of special-status species and provides a list of special-status species with potential to occur on-site. The commenter further opines that the Draft EIR provides no distinction between bird nesting habitat and alleged other types of habitat.

The commenter's opinion - that the Initial Study or Draft EIR conclusion is that no special-status species occur on the project site and that the baseline condition assessment is inadequate - is inaccurate. The Draft EIR states that no special-status *plants* occur on the project site. Specifically, Page 4.1-6 of the Draft EIR states: "No special-status plants were found during the site surveys conducted by WRA in 2020, or during previous surveys conducted by Monk & Associates in 2015 and 2016. Accordingly, it was determined that special-status plant species are not expected to occur on the project site." This statement is also found on Page 33 of the Initial Study, which is included as Appendix A to the Draft EIR. Neither the Draft EIR or the Initial Study state that special-status wildlife species do not occur on the project site.

The Biological Resources Technical Report prepared by WRA for the project, which is included as an appendix to the Initial Study, analyses 31 special-status wildlife species known from the region, not ten species as the comment letter states. Of the species identified in WRA's Biological Resources Technical Report, the following species have potential to be impacted by the project: salt marsh harvest mouse, salt marsh wandering shrew, California least tern, western snowy plover, black skimmer, burrowing owl, Alameda song sparrow, San Francisco common yellowthroat, white-tailed kite, and other special-status and common nesting birds, pallid bat and western mastiff bat. Table 4.1-2 beginning on Page 4.1-6 of the Draft EIR also identifies these species. The Draft EIR analyzes impacts to these species on pages 4.1-15 through 4.1-19 and determines that impacts would be potentially significant but mitigable. With implementation of Mitigation Measures BIO-1a through BIO-1h, on pages 4.1-19 through 4.1-22 of the Draft EIR, impacts on special-status wildlife would be reduced to less than significant. As such, the commenter's statement that the Draft EIR fails to adequately identify baseline conditions or mitigate impacts is not accurate.

It should be further noted with respect to the adequacy of the baseline surveys that the methods section of WRA's Biological Resources Technical Report states that Monk & Associates biologists Mr. Geoff Monk and Ms. Hope Kingma conducted surveys of the project site on January 7, 2015, July 1, 2015, and August 29, 2016. WRA conducted a further assessment on June 19, 2020 (WRA biologists Ms. Hope Kingma and Mr. Nick Wagner). The surveys involved systematically looking at habitats on the site to record observed plant and wildlife species. WRA cross-referenced the habitats found on the project site against the habitat requirements of local or regionally known special-status species to determine if the proposed project could directly or indirectly impact special-status species. It is important to note that CEQA does not require an exhaustive list of all bird species that could occur on a site, only an analysis of potential impacts to special-status birds and/or nesting habitat for common birds or other special-status species that raise to the level of significance, which is provided in WRA's Biological Resources Technical Report. The Biological Resources Technical Report is an appendix to the Initial Study, which is included as Appendix A to the Draft EIR. Therefore, the Draft EIR provides an assessment for special-status species, as well as common nesting birds, thereby providing an adequate baseline assessment, as well as suitable measures to mitigate potential

impacts by the proposed project to special-status species. No revisions to the Draft EIR are necessary in response to this comment.

Response 5.6

The commenter states an opinion that the Draft EIR fails to adequately analyze the impact of the project on wildlife movement.

The Biological Resources Technical Report prepared for the project is included as Appendix A to the Initial Study. The Initial Study is included as Appendix A to the Draft EIR. The Biological Resources Technical Report states:

> "The South Bay Salt Pond Restoration Project was developed by the CDFW and the U.S. Fish and Wildlife Service (USFWS), in partnership with the California Coastal Commission and the U.S. Army Corps of Engineers, among others. That restoration effort will restore and enhance wetlands in South San Francisco Bay, while providing flood management and wildlife-oriented public access and recreation (EDAW et al. 2007). One of the goals of the South Bay Salt Pond Restoration Project is to restore a habitat mosaic to represent the historic pre-salt-pond landscape. Since the decommissioning of the salt ponds that were previously used for salt production in the South Bay, thousands of acres of salt ponds have been preserved and restored to provide habitat for listed species. Most of these ponds are currently publicly owned and managed for the benefit of fish and wildlife (EDAW et al. 2007).
>
> One of the large salt pond complexes of the South Bay Salt Pond Restoration Project includes CDFW's Eden Landing Ecological Reserve. During Phase 1 of this Restoration Project (implemented by CDFW circa 2006 -2008) several ponds with opportune elevations were opened to tidal action. Other restored ponds within the Ecological Reserve are currently being managed as Open Water Ponds and Seasonal Managed Ponds. The Goals Project recommends increasing the acreage of self-maintaining habitats to reduce the need for intensive management. The level of habitat management should be assessed as part of any restoration and enhancement proposal (Goals Project 1999). A mix of tidal marsh and managed pond habitats will offer the optimal conditions by providing a variety of habitats for bird species, including federally listed species. Managing salt ponds with varying salinity levels also benefits a larger number of species (BCDC 2005)."

This background provides context that the surrounding areas have been preserved or restored, leading to an abundance of local habitats that are managed for ecological purposes. The Biological Resources Technical Report then states:

> "As described above, wildlife corridors must provide a link between two areas of suitable habitats. While the project site is located adjacent to Eden Landing, it is otherwise bordered by Highway 92 and developed areas in the City of Hayward. The location of the project site adjacent to these substantial barriers to terrestrial passage, as well as the sparse nature of vegetation present within the project site, limit its potential value as a wildlife corridor. The project site provides marginal wildlife corridor value as a stepping stone area for migratory birds, based primarily on its proximity to Eden Landing. However, this value is only marginal given the small size of the site in relation to the size of Eden Landing, and the factors related to edge disturbance from adjacent developed areas."

The excerpts from the Biological Resources Technical Report, above, are paraphrased or summarized on pages 4.1-9 and 4.1-10 of the Draft EIR.

Impacts on wildlife movement are evaluated on Page 36 of the Initial Study. As described therein, the presence of State Route 92 along the northern boundary of the project site creates a barrier to wildlife migration in the project area. Additionally, areas adjacent to the east of the project site are developed with office and industrial uses, limiting their value for wildlife movement and migration. Impacts would be less than significant given the marginal to poor quality of movement habitat or value of the project site. Finally, the proposed project would preserve 32 acres of salt ponds that are immediately west of the Eden Landing Ecological Reserve in perpetuity, thereby increasing preserved wildlife stopover habitat and providing for wildlife movement habitat in the region. The commenter does not provide specific evidence to contradict these findings. Therefore, no revisions to the Draft EIR are necessary in response to this comment.

Response 5.7

The commenter states an opinion that the Draft EIR fails to adequately analyze the impact of project-generated vehicle trips on wildlife. The commenter suggests that the project is predicted to generate 1,192,862 vehicle miles per year which would cause 654 wildlife fatalities per year.

The commenter asserts that the project would generate 1,192,862 vehicle miles per year but does not explain how the mileage was calculated and what percentage increase this may represent for the local area. Page 88 of the Initial Study, which is included as Appendix A to the Draft EIR, states that employment at the proposed industrial building would incrementally increase traffic on area roadways, but that project trips would be a negligible increase in traffic volume on area roadways considering State Route 92 is just north of the site. The commenter does not analyze the context of the project site in relation to existing business parks or State Route 92. According to the Metropolitan Transportation Commission, the San Mateo Bridge (i.e. State Route 92) collected tolls for 19,732,168 vehicles in 2018-2019, which averages to approximately 54,000 vehicles per day[2].

The commenter references a calculation provided by Dr. Smallwood who references a study along Vasco Road. While the City did not have access to this report to review in responding to this comment, the location (Vasco Road) is a rural highway connecting Livermore through the Diablo Range to Brentwood. This road has a typical speed limit of approximately 55 miles per hour, and is surrounded by rural habitats on both sides, including grassland, oak woodlands, streams, agricultural lands and other habitat areas which are highly conducive to animal movement across roads. In this case, the commenter erroneously applies a case study where movement between intact habitats occurs along a high-speed two-lane highway, which is substantially different from the State Route 92 corridor. Because the project would not substantially add new volumes of traffic to area roadways, including roadways immediately adjacent to the project site, there would be no significant increased risk of traffic collisions for wildlife. The proposed project would have no significant impacts on wildlife mortality from traffic collisions and mitigation is not required. Revisions to the Draft EIR text are not necessary in response to this comment.

Response 5.8

The commenter states an opinion that the Draft EIR inadequately analyzes the project's impact related to hazards and hazardous materials and that mitigation measures are inadequate. The commenter suggests that recommendations of the Phase I Environmental Site Assessment (ESA) have not been incorporated into the project or as mitigation in the Draft EIR.

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[2] Metropolitan Transportation Commission. 2020. San Mateo-Hayward Bridge. Available online at : https://mtc.ca.gov/about-mtc/what-mtc/bay-area-toll-authority/san-mateo-hayward-bridge. Accessed June 2021.

The commenter does not elaborate on potential inadequacies of the impact analysis provided in the Draft EIR for hazards and hazardous materials. Therefore, it is not possible to provide specific responses to this comment.

Page 22 of the Phase I ESA, which is included as Appendix E to the Initial Study, recommends preparation of a Risk Management Plan (RMP) Addendum that presents the proposed project and provides more specific details regarding the project. The commenter is correct that this recommendation has not been incorporated as mitigation in the Draft EIR. However, it is unnecessary to incorporate this recommendation as a mitigation measure in the Draft EIR because there is already a site-specific RMP developed for the project site. As described on Page 4.3-1 of the Draft EIR, a RMP was prepared in 2014 for the project site. The 2014 RMP, which is included in the Phase I ESA, provides general protocols for managing soil and groundwater at the site; recommendations for soil vapor mitigations for future structures; and restricted areas where detectable concentrations of contaminants of potential concern may be present. Mitigation Measure HAZ-2a on pages 4.3-13 through 4.3-15 of the Draft EIR requires the2014 RMP to be implemented and provides examples of some of the protocols and recommendations in the RMP. One of the stated examples, on Page 4.3-15, requires an Environmental Professional be called to the site if groundwater is encountered during construction. This is an example of protocols in the 2014 RMP that would further address specific situations encountered during project construction. With implementation of Mitigation Measure HAZ-2a, as well as HAZ-2b and HAZ-2c, impacts would be less than significant, as discussed on Page 4.3-16 of the Draft EIR. Therefore, incorporation of the recommendation for a RMP Addendum as a mitigation measure in the Draft EIR is unnecessary. The Draft EIR was circulated to the San Francisco Bay Regional Water Quality Control Board (RWQCB), and the RWQCB provided no comments on the Draft EIR, including Mitigation Measure HAZ-2a. No revisions to the Draft EIR are necessary in response to this comment.

Response 5.9

The commenter states an opinion that the Draft EIR should not require a vapor barrier of mitigation, but instead a range of alternatives should be an option to the applicant.

The commenter is referring to Mitigation Measure HAZ-2a on pages 4.3-13 through 4.3-15 of the Draft EIR, which requires implementation of the 2014 RMP prepared for the project site (see Response 5.9, above). The RMP requires the use of an engineered vapor barrier for the proposed building, as discussed on Page 4.3-15 of the Draft EIR. The RMP is a document that has been previously accepted and approved by the RWQCB on December 5, 2014. The measures and protocols contained in the RMP were not developed by the City as mitigation measures for the project, but rather the City is requiring the entire RMP be implemented as mitigation. Additionally, as described on Page 4.3-16 of the Draft EIR, implementation of Mitigation Measure HAZ-2a, as well as HAZ-2b and HAZ-2c, would reduce potential impacts associated with soil and groundwater contamination to less than significant levels. Therefore, additional mitigation or a range of mitigation alternatives is unnecessary. No revisions to the Draft EIR are necessary in response to this comment.

Response 5.10

The commenter states an opinion that the Draft EIR underestimates air quality emissions of the project, modified default values in the California Emissions Estimator Model (CalEEMod) without substantiating the modifications and included input values inconsistent with information in the Draft EIR.

The commenter's statement that CalEEMod was used to estimate the air quality emissions of the project is accurate. It is also accurate that default values in CalEEMod were modified based on site- and project-specific details. According to the CalEEMod User's Manual[3], CalEEMod was designed with default assumptions supported by substantial evidence to the extent available at the time of programming. The functionality and content of CalEEMod is based on industry accepted methods and data. However, CalEEMod was also designed to allow the user to change the defaults to reflect site- or project-specific information, when available, provided that the information is supported by substantial evidence as required by CEQA. Generally, CalEEMod default values were used to estimate project construction emissions, as discussed on Page 26 of the Initial Study, which is included as Appendix A to the Draft EIR. However, modifications to CalEEMod defaults were made and are detailed in the CalEEMod output files, which are included as Appendix B to the Initial Study. For example, as shown on Page 2 of Appendix E to the Initial Study, the construction phase default was modified to include architectural coating updates halfway through building construction, which is a standard construction practice. Modifying defaults provided for a more accurate estimate of project emissions because the modified CalEEMod inputs were based on schedules or conditions that are expected to occur based on information provided by the project applicant. Therefore, modifications to CalEEMod are substantiated with evidence in that the modifications allowed for more accurate emissions estimates, and emissions are a metric used to determine the significance of air quality impacts of the project in CEQA.

The commenter's statement that the air quality analysis used an underestimated land size is not accurate. However, the commenter's statement is based on inputs for CalEEMod, which are shown in Appendix B to the Initial Study. The CalEEMod datasheets included as Appendix B to the Initial Study are based on an earlier iteration of the project. After CalEEMod was completed, the project applicant revised the project design, slightly increasing the size of the proposed project. The slightly larger building also generated a different and slightly larger number of vehicle trips compared to the original project design. As building size and trip generation are both components of CalEEMod, the revised project was input into CalEEMod and calculations were redone to determine emissions of the proposed project. However, the CalEEMod datasheets for the revised project were inadvertently left out of the Initial Study and Draft EIR. Additionally, the CalEEMod datasheets for the original, smaller project were inadvertently left in the Initial Study as Appendix B. Accordingly, Appendix B of the Initial Study, which is Appendix A to the Draft EIR, is revised to remove all sheets comprising Appendix B and replaced with the CalEEMod datasheets on the following pages:

[3] South Coast Air Quality Management District. 2021. California Emissions Estimator Model User's Guide [version 2020.4.0]. Retrieved on June 9, 2021, from http://www.caleemod.com/

Point Eden Industrial Development

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2.79	1000sqft	0.99	2,785.00	0
Unrefrigerated Warehouse-No Rail	114.06	1000sqft	5.62	114,060.00	0
Parking Lot	79.00	Space	0.71	31,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	457.68	**CH4 Intensity (lb/MWhr)**	0.021	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Assume start of construciton in July 2021 and operation in 2022. Entered PGE RPS

Land Use - per site plans

Construction Phase - Architectural coating updated to be half way through building construction for standard practices

Demolition - building sf measured from google earth

Architectural Coating - Per BAAQMD Rules

Area Coating - Per BAAQMD rules

Energy Use -

Vehicle Trips - Trip gen rates per March 2021 Kittelson traffic study

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	100.00
tblArchitecturalCoating	EF_Parking	150.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	150.00	100.00
tblConstructionPhase	NumDays	20.00	115.00
tblConstructionPhase	PhaseEndDate	9/23/2022	9/9/2022
tblConstructionPhase	PhaseStartDate	8/27/2022	4/4/2022
tblLandUse	LandUseSquareFeet	2,790.00	2,785.00
tblLandUse	LotAcreage	0.06	0.99
tblLandUse	LotAcreage	2.62	5.62
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.021
tblProjectCharacteristics	CO2IntensityFactor	641.35	457.68
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblVehicleTrips	WD_TR	11.03	9.74
tblVehicleTrips	WD_TR	1.68	1.74

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1621	1.5764	1.2342	2.4500e-003	0.1922	0.0761	0.2682	0.0924	0.0709	0.1633	0.0000	215.8787	215.8787	0.0475	0.0000	217.0670
2022	0.7187	1.5519	1.6346	3.2900e-003	0.0552	0.0717	0.1269	0.0150	0.0676	0.0826	0.0000	290.0551	290.0551	0.0520	0.0000	291.3551
Maximum	**0.7187**	**1.5764**	**1.6346**	**3.2900e-003**	**0.1922**	**0.0761**	**0.2682**	**0.0924**	**0.0709**	**0.1633**	**0.0000**	**290.0551**	**290.0551**	**0.0520**	**0.0000**	**291.3551**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1621	1.5764	1.2342	2.4500e-003	0.1922	0.0761	0.2682	0.0924	0.0709	0.1633	0.0000	215.8785	215.8785	0.0475	0.0000	217.0668
2022	0.7187	1.5519	1.6346	3.2900e-003	0.0552	0.0717	0.1269	0.0150	0.0676	0.0826	0.0000	290.0548	290.0548	0.0520	0.0000	291.3548
Maximum	**0.7187**	**1.5764**	**1.6346**	**3.2900e-003**	**0.1922**	**0.0761**	**0.2682**	**0.0924**	**0.0709**	**0.1633**	**0.0000**	**290.0548**	**290.0548**	**0.0520**	**0.0000**	**291.3548**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-5-2021	10-4-2021	1.0138	1.0138
2	10-5-2021	1-4-2022	0.7286	0.7286
3	1-5-2022	4-4-2022	0.6496	0.6496
4	4-5-2022	7-4-2022	1.0139	1.0139
5	7-5-2022	9-30-2022	0.5699	0.5699
		Highest	1.0139	1.0139

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5201	2.0000e-005	1.8000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5000e-003	3.5000e-003	1.0000e-005	0.0000	3.7300e-003
Energy	1.1500e-003	0.0104	8.7400e-003	6.0000e-005		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004	0.0000	110.5878	110.5878	4.7700e-003	1.0800e-003	111.0275
Mobile	0.0586	0.2993	0.7117	2.6500e-003	0.2320	2.3800e-003	0.2344	0.0623	2.2300e-003	0.0645	0.0000	242.8435	242.8435	8.5600e-003	0.0000	243.0576
Waste						0.0000	0.0000		0.0000	0.0000	22.2904	0.0000	22.2904	1.3173	0.0000	55.2236
Water						0.0000	0.0000		0.0000	0.0000	8.5253	30.4071	38.9324	0.8770	0.0209	67.0986
Total	**0.5799**	**0.3097**	**0.7222**	**2.7100e-003**	**0.2320**	**3.1800e-003**	**0.2352**	**0.0623**	**3.0300e-003**	**0.0653**	**30.8158**	**383.8419**	**414.6576**	**2.2077**	**0.0220**	**476.4110**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5201	2.0000e-005	1.8000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5000e-003	3.5000e-003	1.0000e-005	0.0000	3.7300e-003
Energy	1.1500e-003	0.0104	8.7400e-003	6.0000e-005		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004	0.0000	110.5878	110.5878	4.7700e-003	1.0800e-003	111.0275
Mobile	0.0586	0.2993	0.7117	2.6500e-003	0.2320	2.3800e-003	0.2344	0.0623	2.2300e-003	0.0645	0.0000	242.8435	242.8435	8.5600e-003	0.0000	243.0576
Waste						0.0000	0.0000		0.0000	0.0000	22.2904	0.0000	22.2904	1.3173	0.0000	55.2236
Water						0.0000	0.0000		0.0000	0.0000	8.5253	30.4071	38.9324	0.8770	0.0209	67.0986
Total	**0.5799**	**0.3097**	**0.7222**	**2.7100e-003**	**0.2320**	**3.1800e-003**	**0.2352**	**0.0623**	**3.0300e-003**	**0.0653**	**30.8158**	**383.8419**	**414.6576**	**2.2077**	**0.0220**	**476.4110**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/5/2021	7/30/2021	5	20	
2	Site Preparation	Site Preparation	7/31/2021	8/13/2021	5	10	
3	Grading	Grading	8/14/2021	9/10/2021	5	20	
4	Building Construction	Building Construction	9/11/2021	7/29/2022	5	230	
5	Paving	Paving	7/30/2022	8/26/2022	5	20	
6	Architectural Coating	Architectural Coating	4/4/2022	9/9/2022	5	115	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.71

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 175,268; Non-Residential Outdoor: 58,423; Striped Parking Area: 1,896 (Architectural Coating – sqft)

OffRoad Equipment

Point Eden Industrial Development - Bay Area AQMD Air District, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	63.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	62.00	24.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.7900e-003	0.0000	6.7900e-003	1.0300e-003	0.0000	1.0300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0008	34.0008	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**6.7900e-003**	**0.0155**	**0.0223**	**1.0300e-003**	**0.0144**	**0.0154**	**0.0000**	**34.0008**	**34.0008**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5000e-004	8.5000e-003	1.8100e-003	2.0000e-005	5.3000e-004	3.0000e-005	5.6000e-004	1.5000e-004	3.0000e-005	1.7000e-004	0.0000	2.3831	2.3831	1.2000e-004	0.0000	2.3862
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.3600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0020	1.0020	2.0000e-005	0.0000	1.0026
Total	**7.1000e-004**	**8.8200e-003**	**5.1700e-003**	**3.0000e-005**	**1.7200e-003**	**4.0000e-005**	**1.7500e-003**	**4.7000e-004**	**4.0000e-005**	**4.9000e-004**	**0.0000**	**3.3851**	**3.3851**	**1.4000e-004**	**0.0000**	**3.3887**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.7900e-003	0.0000	6.7900e-003	1.0300e-003	0.0000	1.0300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0007	34.0007	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**6.7900e-003**	**0.0155**	**0.0223**	**1.0300e-003**	**0.0144**	**0.0154**	**0.0000**	**34.0007**	**34.0007**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5000e-004	8.5000e-003	1.8100e-003	2.0000e-005	5.3000e-004	3.0000e-005	5.6000e-004	1.5000e-004	3.0000e-005	1.7000e-004	0.0000	2.3831	2.3831	1.2000e-004	0.0000	2.3862
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.3600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0020	1.0020	2.0000e-005	0.0000	1.0026
Total	**7.1000e-004**	**8.8200e-003**	**5.1700e-003**	**3.0000e-005**	**1.7200e-003**	**4.0000e-005**	**1.7500e-003**	**4.7000e-004**	**4.0000e-005**	**4.9000e-004**	**0.0000**	**3.3851**	**3.3851**	**1.4000e-004**	**0.0000**	**3.3887**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7179	16.7179	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0903**	**0.0102**	**0.1006**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7179**	**16.7179**	**5.4100e-003**	**0.0000**	**16.8530**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	2.0200e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6012	0.6012	1.0000e-005	0.0000	0.6015
Total	**2.8000e-004**	**1.9000e-004**	**2.0200e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6012**	**0.6012**	**1.0000e-005**	**0.0000**	**0.6015**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7178	16.7178	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0903**	**0.0102**	**0.1006**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7178**	**16.7178**	**5.4100e-003**	**0.0000**	**16.8530**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	2.0200e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6012	0.6012	1.0000e-005	0.0000	0.6015
Total	**2.8000e-004**	**1.9000e-004**	**2.0200e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6012**	**0.6012**	**1.0000e-005**	**0.0000**	**0.6015**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.2474	0.1586	3.0000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2644
Total	**0.0229**	**0.2474**	**0.1586**	**3.0000e-004**	**0.0655**	**0.0116**	**0.0771**	**0.0337**	**0.0107**	**0.0443**	**0.0000**	**26.0537**	**26.0537**	**8.4300e-003**	**0.0000**	**26.2644**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.3600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0020	1.0020	2.0000e-005	0.0000	1.0026
Total	**4.6000e-004**	**3.2000e-004**	**3.3600e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0020**	**1.0020**	**2.0000e-005**	**0.0000**	**1.0026**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.2474	0.1586	3.0000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2643
Total	**0.0229**	**0.2474**	**0.1586**	**3.0000e-004**	**0.0655**	**0.0116**	**0.0771**	**0.0337**	**0.0107**	**0.0443**	**0.0000**	**26.0537**	**26.0537**	**8.4300e-003**	**0.0000**	**26.2643**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.3600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0020	1.0020	2.0000e-005	0.0000	1.0026
Total	**4.6000e-004**	**3.2000e-004**	**3.3600e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0020**	**1.0020**	**2.0000e-005**	**0.0000**	**1.0026**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0760	0.6973	0.6630	1.0800e-003		0.0383	0.0383		0.0361	0.0361	0.0000	92.6549	92.6549	0.0224	0.0000	93.2138
Total	**0.0760**	**0.6973**	**0.6630**	**1.0800e-003**		**0.0383**	**0.0383**		**0.0361**	**0.0361**	**0.0000**	**92.6549**	**92.6549**	**0.0224**	**0.0000**	**93.2138**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0500e-003	0.1003	0.0250	2.6000e-004	6.3000e-003	2.2000e-004	6.5100e-003	1.8200e-003	2.1000e-004	2.0300e-003	0.0000	24.8970	24.8970	1.2200e-003	0.0000	24.9276
Worker	7.6100e-003	5.2500e-003	0.0556	1.8000e-004	0.0196	1.3000e-004	0.0197	5.2100e-003	1.2000e-004	5.3300e-003	0.0000	16.5662	16.5662	3.7000e-004	0.0000	16.5754
Total	**0.0107**	**0.1055**	**0.0807**	**4.4000e-004**	**0.0259**	**3.5000e-004**	**0.0262**	**7.0300e-003**	**3.3000e-004**	**7.3600e-003**	**0.0000**	**41.4632**	**41.4632**	**1.5900e-003**	**0.0000**	**41.5031**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0760	0.6973	0.6630	1.0800e-003		0.0383	0.0383		0.0361	0.0361	0.0000	92.6548	92.6548	0.0224	0.0000	93.2136
Total	**0.0760**	**0.6973**	**0.6630**	**1.0800e-003**		**0.0383**	**0.0383**		**0.0361**	**0.0361**	**0.0000**	**92.6548**	**92.6548**	**0.0224**	**0.0000**	**93.2136**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0500e-003	0.1003	0.0250	2.6000e-004	6.3000e-003	2.2000e-004	6.5100e-003	1.8200e-003	2.1000e-004	2.0300e-003	0.0000	24.8970	24.8970	1.2200e-003	0.0000	24.9276
Worker	7.6100e-003	5.2500e-003	0.0556	1.8000e-004	0.0196	1.3000e-004	0.0197	5.2100e-003	1.2000e-004	5.3300e-003	0.0000	16.5662	16.5662	3.7000e-004	0.0000	16.5754
Total	**0.0107**	**0.1055**	**0.0807**	**4.4000e-004**	**0.0259**	**3.5000e-004**	**0.0262**	**7.0300e-003**	**3.3000e-004**	**7.3600e-003**	**0.0000**	**41.4632**	**41.4632**	**1.5900e-003**	**0.0000**	**41.5031**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1280	1.1712	1.2273	2.0200e-003		0.0607	0.0607		0.0571	0.0571	0.0000	173.7939	173.7939	0.0416	0.0000	174.8348
Total	**0.1280**	**1.1712**	**1.2273**	**2.0200e-003**		**0.0607**	**0.0607**		**0.0571**	**0.0571**	**0.0000**	**173.7939**	**173.7939**	**0.0416**	**0.0000**	**174.8348**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3300e-003	0.1781	0.0441	4.8000e-004	0.0118	3.5000e-004	0.0122	3.4100e-003	3.4000e-004	3.7500e-003	0.0000	46.2242	46.2242	2.1900e-003	0.0000	46.2790
Worker	0.0133	8.8300e-003	0.0959	3.3000e-004	0.0367	2.3000e-004	0.0370	9.7700e-003	2.2000e-004	9.9900e-003	0.0000	29.9228	29.9228	6.2000e-004	0.0000	29.9384
Total	**0.0186**	**0.1869**	**0.1400**	**8.1000e-004**	**0.0485**	**5.8000e-004**	**0.0491**	**0.0132**	**5.6000e-004**	**0.0137**	**0.0000**	**76.1470**	**76.1470**	**2.8100e-003**	**0.0000**	**76.2174**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1280	1.1712	1.2273	2.0200e-003		0.0607	0.0607		0.0571	0.0571	0.0000	173.7937	173.7937	0.0416	0.0000	174.8346
Total	**0.1280**	**1.1712**	**1.2273**	**2.0200e-003**		**0.0607**	**0.0607**		**0.0571**	**0.0571**	**0.0000**	**173.7937**	**173.7937**	**0.0416**	**0.0000**	**174.8346**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3300e-003	0.1781	0.0441	4.8000e-004	0.0118	3.5000e-004	0.0122	3.4100e-003	3.4000e-004	3.7500e-003	0.0000	46.2242	46.2242	2.1900e-003	0.0000	46.2790
Worker	0.0133	8.8300e-003	0.0959	3.3000e-004	0.0367	2.3000e-004	0.0370	9.7700e-003	2.2000e-004	9.9900e-003	0.0000	29.9228	29.9228	6.2000e-004	0.0000	29.9384
Total	**0.0186**	**0.1869**	**0.1400**	**8.1000e-004**	**0.0485**	**5.8000e-004**	**0.0491**	**0.0132**	**5.6000e-004**	**0.0137**	**0.0000**	**76.1470**	**76.1470**	**2.8100e-003**	**0.0000**	**76.2174**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0276	20.0276	6.4800e-003	0.0000	20.1895
Paving	9.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0120**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0276**	**20.0276**	**6.4800e-003**	**0.0000**	**20.1895**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.8000e-004	3.0900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9653	0.9653	2.0000e-005	0.0000	0.9658
Total	**4.3000e-004**	**2.8000e-004**	**3.0900e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9653**	**0.9653**	**2.0000e-005**	**0.0000**	**0.9658**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0275	20.0275	6.4800e-003	0.0000	20.1895
Paving	9.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0120**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0275**	**20.0275**	**6.4800e-003**	**0.0000**	**20.1895**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.8000e-004	3.0900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9653	0.9653	2.0000e-005	0.0000	0.9658
Total	**4.3000e-004**	**2.8000e-004**	**3.0900e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9653**	**0.9653**	**2.0000e-005**	**0.0000**	**0.9658**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5460					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0118	0.0810	0.1043	1.7000e-004		4.7000e-003	4.7000e-003		4.7000e-003	4.7000e-003	0.0000	14.6812	14.6812	9.6000e-004	0.0000	14.7051
Total	**0.5577**	**0.0810**	**0.1043**	**1.7000e-004**		**4.7000e-003**	**4.7000e-003**		**4.7000e-003**	**4.7000e-003**	**0.0000**	**14.6812**	**14.6812**	**9.6000e-004**	**0.0000**	**14.7051**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9700e-003	1.3100e-003	0.0142	5.0000e-005	5.4500e-003	3.0000e-005	5.4900e-003	1.4500e-003	3.0000e-005	1.4800e-003	0.0000	4.4402	4.4402	9.0000e-005	0.0000	4.4425
Total	**1.9700e-003**	**1.3100e-003**	**0.0142**	**5.0000e-005**	**5.4500e-003**	**3.0000e-005**	**5.4900e-003**	**1.4500e-003**	**3.0000e-005**	**1.4800e-003**	**0.0000**	**4.4402**	**4.4402**	**9.0000e-005**	**0.0000**	**4.4425**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5460					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0118	0.0810	0.1043	1.7000e-004		4.7000e-003	4.7000e-003		4.7000e-003	4.7000e-003	0.0000	14.6812	14.6812	9.6000e-004	0.0000	14.7051
Total	**0.5577**	**0.0810**	**0.1043**	**1.7000e-004**		**4.7000e-003**	**4.7000e-003**		**4.7000e-003**	**4.7000e-003**	**0.0000**	**14.6812**	**14.6812**	**9.6000e-004**	**0.0000**	**14.7051**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9700e-003	1.3100e-003	0.0142	5.0000e-005	5.4500e-003	3.0000e-005	5.4900e-003	1.4500e-003	3.0000e-005	1.4800e-003	0.0000	4.4402	4.4402	9.0000e-005	0.0000	4.4425
Total	**1.9700e-003**	**1.3100e-003**	**0.0142**	**5.0000e-005**	**5.4500e-003**	**3.0000e-005**	**5.4900e-003**	**1.4500e-003**	**3.0000e-005**	**1.4800e-003**	**0.0000**	**4.4402**	**4.4402**	**9.0000e-005**	**0.0000**	**4.4425**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0586	0.2993	0.7117	2.6500e-003	0.2320	2.3800e-003	0.2344	0.0623	2.2300e-003	0.0645	0.0000	242.8435	242.8435	8.5600e-003	0.0000	243.0576
Unmitigated	0.0586	0.2993	0.7117	2.6500e-003	0.2320	2.3800e-003	0.2344	0.0623	2.2300e-003	0.0645	0.0000	242.8435	242.8435	8.5600e-003	0.0000	243.0576

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	27.17	6.86	2.93	49,729	49,729
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	198.46	191.62	191.62	573,710	573,710
Total	225.64	198.48	194.55	623,440	623,440

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768
Parking Lot	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768
Unrefrigerated Warehouse-No Rail	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	99.2545	99.2545	4.5500e-003	8.7000e-004	99.6269
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	99.2545	99.2545	4.5500e-003	8.7000e-004	99.6269
NaturalGas Mitigated	1.1500e-003	0.0104	8.7400e-003	6.0000e-005		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004	0.0000	11.3333	11.3333	2.2000e-004	2.1000e-004	11.4006
NaturalGas Unmitigated	1.1500e-003	0.0104	8.7400e-003	6.0000e-005		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004	0.0000	11.3333	11.3333	2.2000e-004	2.1000e-004	11.4006

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	53834.1	2.9000e-004	2.6400e-003	2.2200e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.8728	2.8728	6.0000e-005	5.0000e-005	2.8899
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	158543	8.5000e-004	7.7700e-003	6.5300e-003	5.0000e-005		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004	0.0000	8.4605	8.4605	1.6000e-004	1.6000e-004	8.5108
Total		**1.1400e-003**	**0.0104**	**8.7500e-003**	**7.0000e-005**		**7.9000e-004**	**7.9000e-004**		**7.9000e-004**	**7.9000e-004**	**0.0000**	**11.3333**	**11.3333**	**2.2000e-004**	**2.1000e-004**	**11.4006**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	53834.1	2.9000e-004	2.6400e-003	2.2200e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.8728	2.8728	6.0000e-005	5.0000e-005	2.8899
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	158543	8.5000e-004	7.7700e-003	6.5300e-003	5.0000e-005		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004	0.0000	8.4605	8.4605	1.6000e-004	1.6000e-004	8.5108
Total		**1.1400e-003**	**0.0104**	**8.7500e-003**	**7.0000e-005**		**7.9000e-004**	**7.9000e-004**		**7.9000e-004**	**7.9000e-004**	**0.0000**	**11.3333**	**11.3333**	**2.2000e-004**	**2.1000e-004**	**11.4006**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	34756.8	7.2155	3.3000e-004	6.0000e-005	7.2426
Parking Lot	11060	2.2961	1.1000e-004	2.0000e-005	2.3047
Unrefrigerated Warehouse-No Rail	432287	89.7429	4.1200e-003	7.8000e-004	90.0796
Total		**99.2545**	**4.5600e-003**	**8.6000e-004**	**99.6269**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	34756.8	7.2155	3.3000e-004	6.0000e-005	7.2426
Parking Lot	11060	2.2961	1.1000e-004	2.0000e-005	2.3047
Unrefrigerated Warehouse-No Rail	432287	89.7429	4.1200e-003	7.8000e-004	90.0796
Total		**99.2545**	**4.5600e-003**	**8.6000e-004**	**99.6269**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5201	2.0000e-005	1.8000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5000e-003	3.5000e-003	1.0000e-005	0.0000	3.7300e-003
Unmitigated	0.5201	2.0000e-005	1.8000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5000e-003	3.5000e-003	1.0000e-005	0.0000	3.7300e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0616					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4584					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.7000e-004	2.0000e-005	1.8000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5000e-003	3.5000e-003	1.0000e-005	0.0000	3.7300e-003
Total	**0.5201**	**2.0000e-005**	**1.8000e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.5000e-003**	**3.5000e-003**	**1.0000e-005**	**0.0000**	**3.7300e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0616					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4584					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.7000e-004	2.0000e-005	1.8000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5000e-003	3.5000e-003	1.0000e-005	0.0000	3.7300e-003
Total	**0.5201**	**2.0000e-005**	**1.8000e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.5000e-003**	**3.5000e-003**	**1.0000e-005**	**0.0000**	**3.7300e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	38.9324	0.8770	0.0209	67.0986
Unmitigated	38.9324	0.8770	0.0209	67.0986

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.495877 / 0.303925	0.9352	0.0162	3.9000e-004	1.4558
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	26.3764 / 0	37.9972	0.8608	0.0206	65.6429
Total		**38.9324**	**0.8770**	**0.0209**	**67.0986**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.495877 / 0.303925	0.9352	0.0162	3.9000e-004	1.4558
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	26.3764 / 0	37.9972	0.8608	0.0206	65.6429
Total		**38.9324**	**0.8770**	**0.0209**	**67.0986**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	22.2904	1.3173	0.0000	55.2236
Unmitigated	22.2904	1.3173	0.0000	55.2236

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	2.59	0.5258	0.0311	0.0000	1.3025
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	107.22	21.7647	1.2863	0.0000	53.9211
Total		**22.2904**	**1.3173**	**0.0000**	**55.2236**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	2.59	0.5258	0.0311	0.0000	1.3025
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	107.22	21.7647	1.2863	0.0000	53.9211
Total		**22.2904**	**1.3173**	**0.0000**	**55.2236**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Point Eden Industrial Development

Bay Area AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2.79	1000sqft	0.99	2,785.00	0
Unrefrigerated Warehouse-No Rail	114.06	1000sqft	5.62	114,060.00	0
Parking Lot	79.00	Space	0.71	31,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	457.68	**CH4 Intensity (lb/MWhr)**	0.021	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Assume start of construciton in July 2021 and operation in 2022. Entered PGE RPS

Land Use - per site plans

Construction Phase - Architectural coating updated to be half way through building construction for standard practices

Demolition - building sf measured from google earth

Architectural Coating - Per BAAQMD Rules

Area Coating - Per BAAQMD rules

Energy Use -

Vehicle Trips - Trip gen rates per March 2021 Kittelson traffic study

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	100.00
tblArchitecturalCoating	EF_Parking	150.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	150.00	100.00
tblConstructionPhase	NumDays	20.00	115.00
tblConstructionPhase	PhaseEndDate	9/23/2022	9/9/2022
tblConstructionPhase	PhaseStartDate	8/27/2022	4/4/2022
tblLandUse	LandUseSquareFeet	2,790.00	2,785.00
tblLandUse	LotAcreage	0.06	0.99
tblLandUse	LotAcreage	2.62	5.62
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.021
tblProjectCharacteristics	CO2IntensityFactor	641.35	457.68
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblVehicleTrips	WD_TR	11.03	9.74
tblVehicleTrips	WD_TR	1.68	1.74

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.9461	40.5309	22.1092	0.0425	18.2141	2.0454	20.2595	9.9699	1.8818	11.8517	0.0000	4,131.3104	4,131.3104	1.1952	0.0000	4,158.0774
2022	11.6968	19.4994	20.4019	0.0420	0.7704	0.8991	1.6695	0.2080	0.8508	1.0588	0.0000	4,087.0710	4,087.0710	0.7366	0.0000	4,103.8999
Maximum	**11.6968**	**40.5309**	**22.1092**	**0.0425**	**18.2141**	**2.0454**	**20.2595**	**9.9699**	**1.8818**	**11.8517**	**0.0000**	**4,131.3104**	**4,131.3104**	**1.1952**	**0.0000**	**4,158.0774**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.9461	40.5309	22.1092	0.0425	18.2141	2.0454	20.2595	9.9699	1.8818	11.8517	0.0000	4,131.3104	4,131.3104	1.1952	0.0000	4,158.0774
2022	11.6968	19.4994	20.4019	0.0420	0.7704	0.8991	1.6695	0.2080	0.8508	1.0588	0.0000	4,087.0710	4,087.0710	0.7366	0.0000	4,103.8999
Maximum	**11.6968**	**40.5309**	**22.1092**	**0.0425**	**18.2141**	**2.0454**	**20.2595**	**9.9699**	**1.8818**	**11.8517**	**0.0000**	**4,131.3104**	**4,131.3104**	**1.1952**	**0.0000**	**4,158.0774**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.8510	1.8000e-004	0.0200	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0429	0.0429	1.1000e-004		0.0457
Energy	6.2700e-003	0.0570	0.0479	3.4000e-004		4.3400e-003	4.3400e-003		4.3400e-003	4.3400e-003		68.4537	68.4537	1.3100e-003	1.2500e-003	68.8604
Mobile	0.3791	1.6470	4.2571	0.0159	1.3690	0.0135	1.3824	0.3663	0.0126	0.3789		1,609.2952	1,609.2952	0.0543		1,610.6516
Total	**3.2364**	**1.7042**	**4.3251**	**0.0163**	**1.3690**	**0.0179**	**1.3869**	**0.3663**	**0.0170**	**0.3833**		**1,677.7917**	**1,677.7917**	**0.0557**	**1.2500e-003**	**1,679.5577**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.8510	1.8000e-004	0.0200	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0429	0.0429	1.1000e-004		0.0457
Energy	6.2700e-003	0.0570	0.0479	3.4000e-004		4.3400e-003	4.3400e-003		4.3400e-003	4.3400e-003		68.4537	68.4537	1.3100e-003	1.2500e-003	68.8604
Mobile	0.3791	1.6470	4.2571	0.0159	1.3690	0.0135	1.3824	0.3663	0.0126	0.3789		1,609.2952	1,609.2952	0.0543		1,610.6516
Total	**3.2364**	**1.7042**	**4.3251**	**0.0163**	**1.3690**	**0.0179**	**1.3869**	**0.3663**	**0.0170**	**0.3833**		**1,677.7917**	**1,677.7917**	**0.0557**	**1.2500e-003**	**1,679.5577**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/5/2021	7/30/2021	5	20	
2	Site Preparation	Site Preparation	7/31/2021	8/13/2021	5	10	
3	Grading	Grading	8/14/2021	9/10/2021	5	20	
4	Building Construction	Building Construction	9/11/2021	7/29/2022	5	230	
5	Paving	Paving	7/30/2022	8/26/2022	5	20	
6	Architectural Coating	Architectural Coating	4/4/2022	9/9/2022	5	115	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.71

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 175,268; Non-Residential Outdoor: 58,423; Striped Parking Area: 1,896 (Architectural Coating – sqft)

OffRoad Equipment

Point Eden Industrial Development - Bay Area AQMD Air District, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	63.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	62.00	24.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6792	0.0000	0.6792	0.1028	0.0000	0.1028			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**0.6792**	**1.5513**	**2.2305**	**0.1028**	**1.4411**	**1.5439**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0245	0.8335	0.1757	2.4700e-003	0.0550	2.6100e-003	0.0577	0.0151	2.5000e-003	0.0176		264.5716	264.5716	0.0131		264.8998
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.0728**	**0.8617**	**0.5442**	**3.6600e-003**	**0.1783**	**3.3900e-003**	**0.1817**	**0.0478**	**3.2100e-003**	**0.0510**		**383.3655**	**383.3655**	**0.0158**		**383.7601**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6792	0.0000	0.6792	0.1028	0.0000	0.1028			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**0.6792**	**1.5513**	**2.2305**	**0.1028**	**1.4411**	**1.5439**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0245	0.8335	0.1757	2.4700e-003	0.0550	2.6100e-003	0.0577	0.0151	2.5000e-003	0.0176		264.5716	264.5716	0.0131		264.8998
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.0728**	**0.8617**	**0.5442**	**3.6600e-003**	**0.1783**	**3.3900e-003**	**0.1817**	**0.0478**	**3.2100e-003**	**0.0510**		**383.3655**	**383.3655**	**0.0158**		**383.7601**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0579	0.0338	0.4421	1.4300e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		142.5527	142.5527	3.1900e-003		142.6324
Total	**0.0579**	**0.0338**	**0.4421**	**1.4300e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**142.5527**	**142.5527**	**3.1900e-003**		**142.6324**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0579	0.0338	0.4421	1.4300e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		142.5527	142.5527	3.1900e-003		142.6324
Total	**0.0579**	**0.0338**	**0.4421**	**1.4300e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**142.5527**	**142.5527**	**3.1900e-003**		**142.6324**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.0482**	**0.0282**	**0.3685**	**1.1900e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**118.7939**	**118.7939**	**2.6600e-003**		**118.8603**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.0482**	**0.0282**	**0.3685**	**1.1900e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**118.7939**	**118.7939**	**2.6600e-003**		**118.8603**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0744	2.4802	0.5849	6.5400e-003	0.1625	5.3700e-003	0.1678	0.0468	5.1400e-003	0.0519		693.5005	693.5005	0.0326		694.3142
Worker	0.1994	0.1165	1.5229	4.9300e-003	0.5093	3.2000e-003	0.5125	0.1351	2.9500e-003	0.1381		491.0149	491.0149	0.0110		491.2893
Total	**0.2738**	**2.5967**	**2.1078**	**0.0115**	**0.6718**	**8.5700e-003**	**0.6804**	**0.1819**	**8.0900e-003**	**0.1900**		**1,184.5154**	**1,184.5154**	**0.0435**		**1,185.6035**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0744	2.4802	0.5849	6.5400e-003	0.1625	5.3700e-003	0.1678	0.0468	5.1400e-003	0.0519		693.5005	693.5005	0.0326		694.3142
Worker	0.1994	0.1165	1.5229	4.9300e-003	0.5093	3.2000e-003	0.5125	0.1351	2.9500e-003	0.1381		491.0149	491.0149	0.0110		491.2893
Total	**0.2738**	**2.5967**	**2.1078**	**0.0115**	**0.6718**	**8.5700e-003**	**0.6804**	**0.1819**	**8.0900e-003**	**0.1900**		**1,184.5154**	**1,184.5154**	**0.0435**		**1,185.6035**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0694	2.3506	0.5500	6.4800e-003	0.1625	4.6600e-003	0.1671	0.0468	4.4500e-003	0.0512		686.7468	686.7468	0.0311		687.5248
Worker	0.1856	0.1045	1.4033	4.7400e-003	0.5093	3.1300e-003	0.5125	0.1351	2.8800e-003	0.1380		472.9951	472.9951	9.8600e-003		473.2416
Total	**0.2550**	**2.4551**	**1.9533**	**0.0112**	**0.6718**	**7.7900e-003**	**0.6796**	**0.1819**	**7.3300e-003**	**0.1892**		**1,159.7419**	**1,159.7419**	**0.0410**		**1,160.7664**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0694	2.3506	0.5500	6.4800e-003	0.1625	4.6600e-003	0.1671	0.0468	4.4500e-003	0.0512		686.7468	686.7468	0.0311		687.5248
Worker	0.1856	0.1045	1.4033	4.7400e-003	0.5093	3.1300e-003	0.5125	0.1351	2.8800e-003	0.1380		472.9951	472.9951	9.8600e-003		473.2416
Total	**0.2550**	**2.4551**	**1.9533**	**0.0112**	**0.6718**	**7.7900e-003**	**0.6796**	**0.1819**	**7.3300e-003**	**0.1892**		**1,159.7419**	**1,159.7419**	**0.0410**		**1,160.7664**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0930					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1958**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0449	0.0253	0.3395	1.1500e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		114.4343	114.4343	2.3800e-003		114.4939
Total	**0.0449**	**0.0253**	**0.3395**	**1.1500e-003**	**0.1232**	**7.6000e-004**	**0.1240**	**0.0327**	**7.0000e-004**	**0.0334**		**114.4343**	**114.4343**	**2.3800e-003**		**114.4939**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0930					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1958**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0449	0.0253	0.3395	1.1500e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		114.4343	114.4343	2.3800e-003		114.4939
Total	**0.0449**	**0.0253**	**0.3395**	**1.1500e-003**	**0.1232**	**7.6000e-004**	**0.1240**	**0.0327**	**7.0000e-004**	**0.0334**		**114.4343**	**114.4343**	**2.3800e-003**		**114.4939**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.4952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**9.6997**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0359	0.0202	0.2716	9.2000e-004	0.0986	6.1000e-004	0.0992	0.0262	5.6000e-004	0.0267		91.5474	91.5474	1.9100e-003		91.5951
Total	**0.0359**	**0.0202**	**0.2716**	**9.2000e-004**	**0.0986**	**6.1000e-004**	**0.0992**	**0.0262**	**5.6000e-004**	**0.0267**		**91.5474**	**91.5474**	**1.9100e-003**		**91.5951**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.4952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**9.6997**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0359	0.0202	0.2716	9.2000e-004	0.0986	6.1000e-004	0.0992	0.0262	5.6000e-004	0.0267		91.5474	91.5474	1.9100e-003		91.5951
Total	**0.0359**	**0.0202**	**0.2716**	**9.2000e-004**	**0.0986**	**6.1000e-004**	**0.0992**	**0.0262**	**5.6000e-004**	**0.0267**		**91.5474**	**91.5474**	**1.9100e-003**		**91.5951**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3791	1.6470	4.2571	0.0159	1.3690	0.0135	1.3824	0.3663	0.0126	0.3789		1,609.2952	1,609.2952	0.0543		1,610.6516
Unmitigated	0.3791	1.6470	4.2571	0.0159	1.3690	0.0135	1.3824	0.3663	0.0126	0.3789		1,609.2952	1,609.2952	0.0543		1,610.6516

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	27.17	6.86	2.93	49,729	49,729
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	198.46	191.62	191.62	573,710	573,710
Total	225.64	198.48	194.55	623,440	623,440

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768
Parking Lot	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768
Unrefrigerated Warehouse-No Rail	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	6.2700e-003	0.0570	0.0479	3.4000e-004		4.3400e-003	4.3400e-003		4.3400e-003	4.3400e-003		68.4537	68.4537	1.3100e-003	1.2500e-003	68.8604
NaturalGas Unmitigated	6.2700e-003	0.0570	0.0479	3.4000e-004		4.3400e-003	4.3400e-003		4.3400e-003	4.3400e-003		68.4537	68.4537	1.3100e-003	1.2500e-003	68.8604

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	147.491	1.5900e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.3518	17.3518	3.3000e-004	3.2000e-004	17.4549
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	434.365	4.6800e-003	0.0426	0.0358	2.6000e-004		3.2400e-003	3.2400e-003		3.2400e-003	3.2400e-003		51.1018	51.1018	9.8000e-004	9.4000e-004	51.4055
Total		**6.2700e-003**	**0.0570**	**0.0479**	**3.5000e-004**		**4.3400e-003**	**4.3400e-003**		**4.3400e-003**	**4.3400e-003**		**68.4537**	**68.4537**	**1.3100e-003**	**1.2600e-003**	**68.8604**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	0.147491	1.5900e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.3518	17.3518	3.3000e-004	3.2000e-004	17.4549
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0.434365	4.6800e-003	0.0426	0.0358	2.6000e-004		3.2400e-003	3.2400e-003		3.2400e-003	3.2400e-003		51.1018	51.1018	9.8000e-004	9.4000e-004	51.4055
Total		**6.2700e-003**	**0.0570**	**0.0479**	**3.5000e-004**		**4.3400e-003**	**4.3400e-003**		**4.3400e-003**	**4.3400e-003**		**68.4537**	**68.4537**	**1.3100e-003**	**1.2600e-003**	**68.8604**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.8510	1.8000e-004	0.0200	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0429	0.0429	1.1000e-004		0.0457
Unmitigated	2.8510	1.8000e-004	0.0200	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0429	0.0429	1.1000e-004		0.0457

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3375					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5117					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.8600e-003	1.8000e-004	0.0200	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0429	0.0429	1.1000e-004		0.0457
Total	**2.8510**	**1.8000e-004**	**0.0200**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**		**0.0429**	**0.0429**	**1.1000e-004**		**0.0457**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3375					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5117					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.8600e-003	1.8000e-004	0.0200	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0429	0.0429	1.1000e-004		0.0457
Total	**2.8510**	**1.8000e-004**	**0.0200**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**		**0.0429**	**0.0429**	**1.1000e-004**		**0.0457**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Point Eden Industrial Development

Bay Area AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2.79	1000sqft	0.99	2,785.00	0
Unrefrigerated Warehouse-No Rail	114.06	1000sqft	5.62	114,060.00	0
Parking Lot	79.00	Space	0.71	31,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	457.68	**CH4 Intensity (lb/MWhr)**	0.021	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Assume start of construciton in July 2021 and operation in 2022. Entered PGE RPS

Land Use - per site plans

Construction Phase - Architectural coating updated to be half way through building construction for standard practices

Demolition - building sf measured from google earth

Architectural Coating - Per BAAQMD Rules

Area Coating - Per BAAQMD rules

Energy Use -

Vehicle Trips - Trip gen rates per March 2021 Kittelson traffic study

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	100.00
tblArchitecturalCoating	EF_Parking	150.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	150.00	100.00
tblConstructionPhase	NumDays	20.00	115.00
tblConstructionPhase	PhaseEndDate	9/23/2022	9/9/2022
tblConstructionPhase	PhaseStartDate	8/27/2022	4/4/2022
tblLandUse	LandUseSquareFeet	2,790.00	2,785.00
tblLandUse	LotAcreage	0.06	0.99
tblLandUse	LotAcreage	2.62	5.62
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.021
tblProjectCharacteristics	CO2IntensityFactor	641.35	457.68
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblVehicleTrips	WD_TR	11.03	9.74
tblVehicleTrips	WD_TR	1.68	1.74

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.9495	40.5389	22.0984	0.0424	18.2141	2.0454	20.2595	9.9699	1.8818	11.8517	0.0000	4,117.4743	4,117.4743	1.1950	0.0000	4,144.2527
2022	11.7147	19.5464	20.3695	0.0414	0.7704	0.8993	1.6697	0.2080	0.8509	1.0590	0.0000	4,025.0611	4,025.0611	0.7363	0.0000	4,041.9322
Maximum	**11.7147**	**40.5389**	**22.0984**	**0.0424**	**18.2141**	**2.0454**	**20.2595**	**9.9699**	**1.8818**	**11.8517**	**0.0000**	**4,117.4743**	**4,117.4743**	**1.1950**	**0.0000**	**4,144.2527**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.9495	40.5389	22.0984	0.0424	18.2141	2.0454	20.2595	9.9699	1.8818	11.8517	0.0000	4,117.4743	4,117.4743	1.1950	0.0000	4,144.2527
2022	11.7147	19.5464	20.3695	0.0414	0.7704	0.8993	1.6697	0.2080	0.8509	1.0590	0.0000	4,025.0611	4,025.0611	0.7363	0.0000	4,041.9322
Maximum	**11.7147**	**40.5389**	**22.0984**	**0.0424**	**18.2141**	**2.0454**	**20.2595**	**9.9699**	**1.8818**	**11.8517**	**0.0000**	**4,117.4743**	**4,117.4743**	**1.1950**	**0.0000**	**4,144.2527**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.8510	1.8000e-004	0.0200	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0429	0.0429	1.1000e-004		0.0457
Energy	6.2700e-003	0.0570	0.0479	3.4000e-004		4.3400e-003	4.3400e-003		4.3400e-003	4.3400e-003		68.4537	68.4537	1.3100e-003	1.2500e-003	68.8604
Mobile	0.3314	1.7369	4.2143	0.0149	1.3690	0.0136	1.3825	0.3663	0.0127	0.3790		1,507.2189	1,507.2189	0.0549		1,508.5913
Total	**3.1887**	**1.7942**	**4.2822**	**0.0152**	**1.3690**	**0.0180**	**1.3869**	**0.3663**	**0.0171**	**0.3834**		**1,575.7155**	**1,575.7155**	**0.0563**	**1.2500e-003**	**1,577.4975**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.8510	1.8000e-004	0.0200	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0429	0.0429	1.1000e-004		0.0457
Energy	6.2700e-003	0.0570	0.0479	3.4000e-004		4.3400e-003	4.3400e-003		4.3400e-003	4.3400e-003		68.4537	68.4537	1.3100e-003	1.2500e-003	68.8604
Mobile	0.3314	1.7369	4.2143	0.0149	1.3690	0.0136	1.3825	0.3663	0.0127	0.3790		1,507.2189	1,507.2189	0.0549		1,508.5913
Total	**3.1887**	**1.7942**	**4.2822**	**0.0152**	**1.3690**	**0.0180**	**1.3869**	**0.3663**	**0.0171**	**0.3834**		**1,575.7155**	**1,575.7155**	**0.0563**	**1.2500e-003**	**1,577.4975**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/5/2021	7/30/2021	5	20	
2	Site Preparation	Site Preparation	7/31/2021	8/13/2021	5	10	
3	Grading	Grading	8/14/2021	9/10/2021	5	20	
4	Building Construction	Building Construction	9/11/2021	7/29/2022	5	230	
5	Paving	Paving	7/30/2022	8/26/2022	5	20	
6	Architectural Coating	Architectural Coating	4/4/2022	9/9/2022	5	115	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.71

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 175,268; Non-Residential Outdoor: 58,423; Striped Parking Area: 1,896 (Architectural Coating – sqft)

OffRoad Equipment

Point Eden Industrial Development - Bay Area AQMD Air District, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	63.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	62.00	24.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6792	0.0000	0.6792	0.1028	0.0000	0.1028			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**0.6792**	**1.5513**	**2.2305**	**0.1028**	**1.4411**	**1.5439**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0252	0.8530	0.1886	2.4300e-003	0.0550	2.6600e-003	0.0577	0.0151	2.5400e-003	0.0176		260.0988	260.0988	0.0138		260.4430
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.0763**	**0.8878**	**0.5333**	**3.5300e-003**	**0.1783**	**3.4400e-003**	**0.1817**	**0.0478**	**3.2500e-003**	**0.0510**		**369.5293**	**369.5293**	**0.0163**		**369.9354**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6792	0.0000	0.6792	0.1028	0.0000	0.1028			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**0.6792**	**1.5513**	**2.2305**	**0.1028**	**1.4411**	**1.5439**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0252	0.8530	0.1886	2.4300e-003	0.0550	2.6600e-003	0.0577	0.0151	2.5400e-003	0.0176		260.0988	260.0988	0.0138		260.4430
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.0763**	**0.8878**	**0.5333**	**3.5300e-003**	**0.1783**	**3.4400e-003**	**0.1817**	**0.0478**	**3.2500e-003**	**0.0510**		**369.5293**	**369.5293**	**0.0163**		**369.9354**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0613	0.0418	0.4137	1.3200e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		131.3166	131.3166	2.9700e-003		131.3909
Total	**0.0613**	**0.0418**	**0.4137**	**1.3200e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**131.3166**	**131.3166**	**2.9700e-003**		**131.3909**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0613	0.0418	0.4137	1.3200e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		131.3166	131.3166	2.9700e-003		131.3909
Total	**0.0613**	**0.0418**	**0.4137**	**1.3200e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**131.3166**	**131.3166**	**2.9700e-003**		**131.3909**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.0511**	**0.0348**	**0.3447**	**1.1000e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**109.4305**	**109.4305**	**2.4800e-003**		**109.4924**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.5523**	**1.1599**	**7.7123**	**3.3675**	**1.0671**	**4.4346**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.0511**	**0.0348**	**0.3447**	**1.1000e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**109.4305**	**109.4305**	**2.4800e-003**		**109.4924**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0788	2.5015	0.6722	6.3800e-003	0.1625	5.5600e-003	0.1680	0.0468	5.3200e-003	0.0521		675.9052	675.9052	0.0352		676.7855
Worker	0.2112	0.1439	1.4248	4.5400e-003	0.5093	3.2000e-003	0.5125	0.1351	2.9500e-003	0.1381		452.3127	452.3127	0.0102		452.5686
Total	**0.2900**	**2.6454**	**2.0971**	**0.0109**	**0.6718**	**8.7600e-003**	**0.6805**	**0.1819**	**8.2700e-003**	**0.1901**		**1,128.2179**	**1,128.2179**	**0.0454**		**1,129.3541**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0788	2.5015	0.6722	6.3800e-003	0.1625	5.5600e-003	0.1680	0.0468	5.3200e-003	0.0521		675.9052	675.9052	0.0352		676.7855
Worker	0.2112	0.1439	1.4248	4.5400e-003	0.5093	3.2000e-003	0.5125	0.1351	2.9500e-003	0.1381		452.3127	452.3127	0.0102		452.5686
Total	**0.2900**	**2.6454**	**2.0971**	**0.0109**	**0.6718**	**8.7600e-003**	**0.6805**	**0.1819**	**8.2700e-003**	**0.1901**		**1,128.2179**	**1,128.2179**	**0.0454**		**1,129.3541**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0735	2.3683	0.6319	6.3100e-003	0.1625	4.8300e-003	0.1673	0.0468	4.6200e-003	0.0514		669.2134	669.2134	0.0336		670.0543
Worker	0.1971	0.1290	1.3075	4.3700e-003	0.5093	3.1300e-003	0.5125	0.1351	2.8800e-003	0.1380		435.7311	435.7311	9.1600e-003		435.9601
Total	**0.2706**	**2.4973**	**1.9394**	**0.0107**	**0.6718**	**7.9600e-003**	**0.6797**	**0.1819**	**7.5000e-003**	**0.1894**		**1,104.9444**	**1,104.9444**	**0.0428**		**1,106.0145**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0735	2.3683	0.6319	6.3100e-003	0.1625	4.8300e-003	0.1673	0.0468	4.6200e-003	0.0514		669.2134	669.2134	0.0336		670.0543
Worker	0.1971	0.1290	1.3075	4.3700e-003	0.5093	3.1300e-003	0.5125	0.1351	2.8800e-003	0.1380		435.7311	435.7311	9.1600e-003		435.9601
Total	**0.2706**	**2.4973**	**1.9394**	**0.0107**	**0.6718**	**7.9600e-003**	**0.6797**	**0.1819**	**7.5000e-003**	**0.1894**		**1,104.9444**	**1,104.9444**	**0.0428**		**1,106.0145**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0930					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1958**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0477	0.0312	0.3163	1.0600e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		105.4188	105.4188	2.2200e-003		105.4742
Total	**0.0477**	**0.0312**	**0.3163**	**1.0600e-003**	**0.1232**	**7.6000e-004**	**0.1240**	**0.0327**	**7.0000e-004**	**0.0334**		**105.4188**	**105.4188**	**2.2200e-003**		**105.4742**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0930					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1958**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0477	0.0312	0.3163	1.0600e-003	0.1232	7.6000e-004	0.1240	0.0327	7.0000e-004	0.0334		105.4188	105.4188	2.2200e-003		105.4742
Total	**0.0477**	**0.0312**	**0.3163**	**1.0600e-003**	**0.1232**	**7.6000e-004**	**0.1240**	**0.0327**	**7.0000e-004**	**0.0334**		**105.4188**	**105.4188**	**2.2200e-003**		**105.4742**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.4952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**9.6997**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0382	0.0250	0.2531	8.5000e-004	0.0986	6.1000e-004	0.0992	0.0262	5.6000e-004	0.0267		84.3350	84.3350	1.7700e-003		84.3794
Total	**0.0382**	**0.0250**	**0.2531**	**8.5000e-004**	**0.0986**	**6.1000e-004**	**0.0992**	**0.0262**	**5.6000e-004**	**0.0267**		**84.3350**	**84.3350**	**1.7700e-003**		**84.3794**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.4952					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**9.6997**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0382	0.0250	0.2531	8.5000e-004	0.0986	6.1000e-004	0.0992	0.0262	5.6000e-004	0.0267		84.3350	84.3350	1.7700e-003		84.3794
Total	**0.0382**	**0.0250**	**0.2531**	**8.5000e-004**	**0.0986**	**6.1000e-004**	**0.0992**	**0.0262**	**5.6000e-004**	**0.0267**		**84.3350**	**84.3350**	**1.7700e-003**		**84.3794**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3314	1.7369	4.2143	0.0149	1.3690	0.0136	1.3825	0.3663	0.0127	0.3790		1,507.2189	1,507.2189	0.0549		1,508.5913
Unmitigated	0.3314	1.7369	4.2143	0.0149	1.3690	0.0136	1.3825	0.3663	0.0127	0.3790		1,507.2189	1,507.2189	0.0549		1,508.5913

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	27.17	6.86	2.93	49,729	49,729
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	198.46	191.62	191.62	573,710	573,710
Total	225.64	198.48	194.55	623,440	623,440

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768
Parking Lot	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768
Unrefrigerated Warehouse-No Rail	0.576985	0.039376	0.193723	0.112069	0.016317	0.005358	0.017943	0.025814	0.002614	0.002274	0.005874	0.000887	0.000768

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	6.2700e-003	0.0570	0.0479	3.4000e-004		4.3400e-003	4.3400e-003		4.3400e-003	4.3400e-003		68.4537	68.4537	1.3100e-003	1.2500e-003	68.8604
NaturalGas Unmitigated	6.2700e-003	0.0570	0.0479	3.4000e-004		4.3400e-003	4.3400e-003		4.3400e-003	4.3400e-003		68.4537	68.4537	1.3100e-003	1.2500e-003	68.8604

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	147.491	1.5900e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.3518	17.3518	3.3000e-004	3.2000e-004	17.4549
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	434.365	4.6800e-003	0.0426	0.0358	2.6000e-004		3.2400e-003	3.2400e-003		3.2400e-003	3.2400e-003		51.1018	51.1018	9.8000e-004	9.4000e-004	51.4055
Total		**6.2700e-003**	**0.0570**	**0.0479**	**3.5000e-004**		**4.3400e-003**	**4.3400e-003**		**4.3400e-003**	**4.3400e-003**		**68.4537**	**68.4537**	**1.3100e-003**	**1.2600e-003**	**68.8604**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Office Building	0.147491	1.5900e-003	0.0145	0.0122	9.0000e-005		1.1000e-003	1.1000e-003		1.1000e-003	1.1000e-003		17.3518	17.3518	3.3000e-004	3.2000e-004	17.4549
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0.434365	4.6800e-003	0.0426	0.0358	2.6000e-004		3.2400e-003	3.2400e-003		3.2400e-003	3.2400e-003		51.1018	51.1018	9.8000e-004	9.4000e-004	51.4055
Total		**6.2700e-003**	**0.0570**	**0.0479**	**3.5000e-004**		**4.3400e-003**	**4.3400e-003**		**4.3400e-003**	**4.3400e-003**		**68.4537**	**68.4537**	**1.3100e-003**	**1.2600e-003**	**68.8604**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.8510	1.8000e-004	0.0200	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0429	0.0429	1.1000e-004		0.0457
Unmitigated	2.8510	1.8000e-004	0.0200	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0429	0.0429	1.1000e-004		0.0457

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3375					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5117					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.8600e-003	1.8000e-004	0.0200	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0429	0.0429	1.1000e-004		0.0457
Total	**2.8510**	**1.8000e-004**	**0.0200**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**		**0.0429**	**0.0429**	**1.1000e-004**		**0.0457**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3375					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.5117					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.8600e-003	1.8000e-004	0.0200	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0429	0.0429	1.1000e-004		0.0457
Total	**2.8510**	**1.8000e-004**	**0.0200**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**		**0.0429**	**0.0429**	**1.1000e-004**		**0.0457**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Point Eden Industrial Development

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2.79	1000sqft	0.99	2,785.00	0
Unrefrigerated Warehouse-No Rail	114.06	1000sqft	5.62	114,060.00	0
Parking Lot	79.00	Space	0.71	31,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	457.68	**CH4 Intensity (lb/MWhr)**	0.021	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Assume start of construciton in July 2021 and operation in 2030 for GHG analysis. Entered PGE RPS

Land Use - per site plans

Construction Phase - Architectural coating updated to be half way through building construction for standard practices

Demolition - building sf measured from google earth

Architectural Coating - Per BAAQMD Rules

Area Coating - Per BAAQMD rules

Energy Use -

Vehicle Trips - Trip gen rates per March 2021 Kittelson traffic study

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	100.00
tblArchitecturalCoating	EF_Parking	150.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	150.00	100.00
tblConstructionPhase	NumDays	20.00	115.00
tblConstructionPhase	PhaseEndDate	9/23/2022	9/9/2022
tblConstructionPhase	PhaseStartDate	8/27/2022	4/4/2022
tblLandUse	LandUseSquareFeet	2,790.00	2,785.00
tblLandUse	LotAcreage	0.06	0.99
tblLandUse	LotAcreage	2.62	5.62
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.021
tblProjectCharacteristics	CO2IntensityFactor	641.35	457.68
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblVehicleTrips	WD_TR	11.03	9.74
tblVehicleTrips	WD_TR	1.68	1.74

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1621	1.5764	1.2342	2.4500e-003	0.1922	0.0761	0.2682	0.0924	0.0709	0.1633	0.0000	215.8787	215.8787	0.0475	0.0000	217.0670
2022	0.7187	1.5519	1.6346	3.2900e-003	0.0552	0.0717	0.1269	0.0150	0.0676	0.0826	0.0000	290.0551	290.0551	0.0520	0.0000	291.3551
Maximum	**0.7187**	**1.5764**	**1.6346**	**3.2900e-003**	**0.1922**	**0.0761**	**0.2682**	**0.0924**	**0.0709**	**0.1633**	**0.0000**	**290.0551**	**290.0551**	**0.0520**	**0.0000**	**291.3551**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1621	1.5764	1.2342	2.4500e-003	0.1922	0.0761	0.2682	0.0924	0.0709	0.1633	0.0000	215.8785	215.8785	0.0475	0.0000	217.0668
2022	0.7187	1.5519	1.6346	3.2900e-003	0.0552	0.0717	0.1269	0.0150	0.0676	0.0826	0.0000	290.0548	290.0548	0.0520	0.0000	291.3548
Maximum	**0.7187**	**1.5764**	**1.6346**	**3.2900e-003**	**0.1922**	**0.0761**	**0.2682**	**0.0924**	**0.0709**	**0.1633**	**0.0000**	**290.0548**	**290.0548**	**0.0520**	**0.0000**	**291.3548**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-5-2021	10-4-2021	1.0138	1.0138
2	10-5-2021	1-4-2022	0.7286	0.7286
3	1-5-2022	4-4-2022	0.6496	0.6496
4	4-5-2022	7-4-2022	1.0139	1.0139
5	7-5-2022	9-30-2022	0.5699	0.5699
		Highest	1.0139	1.0139

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5201	2.0000e-005	1.7900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5000e-003	3.5000e-003	1.0000e-005	0.0000	3.7300e-003
Energy	1.1500e-003	0.0104	8.7400e-003	6.0000e-005		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004	0.0000	110.5878	110.5878	4.7700e-003	1.0800e-003	111.0275
Mobile	0.0380	0.1974	0.4568	2.1300e-003	0.2319	1.4000e-003	0.2333	0.0622	1.3000e-003	0.0635	0.0000	196.9655	196.9655	6.0100e-003	0.0000	197.1157
Waste						0.0000	0.0000		0.0000	0.0000	22.2904	0.0000	22.2904	1.3173	0.0000	55.2236
Water						0.0000	0.0000		0.0000	0.0000	8.5253	30.4071	38.9324	0.8770	0.0209	67.0986
Total	**0.5593**	**0.2078**	**0.4673**	**2.1900e-003**	**0.2319**	**2.2000e-003**	**0.2341**	**0.0622**	**2.1000e-003**	**0.0643**	**30.8158**	**337.9638**	**368.7796**	**2.2052**	**0.0220**	**430.4692**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5201	2.0000e-005	1.7900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5000e-003	3.5000e-003	1.0000e-005	0.0000	3.7300e-003
Energy	1.1500e-003	0.0104	8.7400e-003	6.0000e-005		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004	0.0000	110.5878	110.5878	4.7700e-003	1.0800e-003	111.0275
Mobile	0.0380	0.1974	0.4568	2.1300e-003	0.2319	1.4000e-003	0.2333	0.0622	1.3000e-003	0.0635	0.0000	196.9655	196.9655	6.0100e-003	0.0000	197.1157
Waste						0.0000	0.0000		0.0000	0.0000	22.2904	0.0000	22.2904	1.3173	0.0000	55.2236
Water						0.0000	0.0000		0.0000	0.0000	8.5253	30.4071	38.9324	0.8770	0.0209	67.0986
Total	**0.5593**	**0.2078**	**0.4673**	**2.1900e-003**	**0.2319**	**2.2000e-003**	**0.2341**	**0.0622**	**2.1000e-003**	**0.0643**	**30.8158**	**337.9638**	**368.7796**	**2.2052**	**0.0220**	**430.4692**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/5/2021	7/30/2021	5	20	
2	Site Preparation	Site Preparation	7/31/2021	8/13/2021	5	10	
3	Grading	Grading	8/14/2021	9/10/2021	5	20	
4	Building Construction	Building Construction	9/11/2021	7/29/2022	5	230	
5	Architectural Coating	Architectural Coating	4/4/2022	9/9/2022	5	115	
6	Paving	Paving	7/30/2022	8/26/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0.71

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 175,268; Non-Residential Outdoor: 58,423; Striped Parking Area: 1,896 (Architectural Coating – sqft)

OffRoad Equipment

Point Eden Industrial Development - Bay Area AQMD Air District, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	63.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	62.00	24.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.7900e-003	0.0000	6.7900e-003	1.0300e-003	0.0000	1.0300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0008	34.0008	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**6.7900e-003**	**0.0155**	**0.0223**	**1.0300e-003**	**0.0144**	**0.0154**	**0.0000**	**34.0008**	**34.0008**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5000e-004	8.5000e-003	1.8100e-003	2.0000e-005	5.3000e-004	3.0000e-005	5.6000e-004	1.5000e-004	3.0000e-005	1.7000e-004	0.0000	2.3831	2.3831	1.2000e-004	0.0000	2.3862
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.3600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0020	1.0020	2.0000e-005	0.0000	1.0026
Total	**7.1000e-004**	**8.8200e-003**	**5.1700e-003**	**3.0000e-005**	**1.7200e-003**	**4.0000e-005**	**1.7500e-003**	**4.7000e-004**	**4.0000e-005**	**4.9000e-004**	**0.0000**	**3.3851**	**3.3851**	**1.4000e-004**	**0.0000**	**3.3887**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.7900e-003	0.0000	6.7900e-003	1.0300e-003	0.0000	1.0300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0007	34.0007	9.5700e-003	0.0000	34.2400
Total	**0.0317**	**0.3144**	**0.2157**	**3.9000e-004**	**6.7900e-003**	**0.0155**	**0.0223**	**1.0300e-003**	**0.0144**	**0.0154**	**0.0000**	**34.0007**	**34.0007**	**9.5700e-003**	**0.0000**	**34.2400**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5000e-004	8.5000e-003	1.8100e-003	2.0000e-005	5.3000e-004	3.0000e-005	5.6000e-004	1.5000e-004	3.0000e-005	1.7000e-004	0.0000	2.3831	2.3831	1.2000e-004	0.0000	2.3862
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.3600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0020	1.0020	2.0000e-005	0.0000	1.0026
Total	**7.1000e-004**	**8.8200e-003**	**5.1700e-003**	**3.0000e-005**	**1.7200e-003**	**4.0000e-005**	**1.7500e-003**	**4.7000e-004**	**4.0000e-005**	**4.9000e-004**	**0.0000**	**3.3851**	**3.3851**	**1.4000e-004**	**0.0000**	**3.3887**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7179	16.7179	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0903**	**0.0102**	**0.1006**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7179**	**16.7179**	**5.4100e-003**	**0.0000**	**16.8530**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	2.0200e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6012	0.6012	1.0000e-005	0.0000	0.6015
Total	**2.8000e-004**	**1.9000e-004**	**2.0200e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6012**	**0.6012**	**1.0000e-005**	**0.0000**	**0.6015**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0194	0.2025	0.1058	1.9000e-004		0.0102	0.0102		9.4000e-003	9.4000e-003	0.0000	16.7178	16.7178	5.4100e-003	0.0000	16.8530
Total	**0.0194**	**0.2025**	**0.1058**	**1.9000e-004**	**0.0903**	**0.0102**	**0.1006**	**0.0497**	**9.4000e-003**	**0.0591**	**0.0000**	**16.7178**	**16.7178**	**5.4100e-003**	**0.0000**	**16.8530**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	2.0200e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6012	0.6012	1.0000e-005	0.0000	0.6015
Total	**2.8000e-004**	**1.9000e-004**	**2.0200e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6012**	**0.6012**	**1.0000e-005**	**0.0000**	**0.6015**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.2474	0.1586	3.0000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2644
Total	**0.0229**	**0.2474**	**0.1586**	**3.0000e-004**	**0.0655**	**0.0116**	**0.0771**	**0.0337**	**0.0107**	**0.0443**	**0.0000**	**26.0537**	**26.0537**	**8.4300e-003**	**0.0000**	**26.2644**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.3600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0020	1.0020	2.0000e-005	0.0000	1.0026
Total	**4.6000e-004**	**3.2000e-004**	**3.3600e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0020**	**1.0020**	**2.0000e-005**	**0.0000**	**1.0026**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0229	0.2474	0.1586	3.0000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	26.0537	26.0537	8.4300e-003	0.0000	26.2643
Total	**0.0229**	**0.2474**	**0.1586**	**3.0000e-004**	**0.0655**	**0.0116**	**0.0771**	**0.0337**	**0.0107**	**0.0443**	**0.0000**	**26.0537**	**26.0537**	**8.4300e-003**	**0.0000**	**26.2643**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.3600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0020	1.0020	2.0000e-005	0.0000	1.0026
Total	**4.6000e-004**	**3.2000e-004**	**3.3600e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0020**	**1.0020**	**2.0000e-005**	**0.0000**	**1.0026**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0760	0.6973	0.6630	1.0800e-003		0.0383	0.0383		0.0361	0.0361	0.0000	92.6549	92.6549	0.0224	0.0000	93.2138
Total	**0.0760**	**0.6973**	**0.6630**	**1.0800e-003**		**0.0383**	**0.0383**		**0.0361**	**0.0361**	**0.0000**	**92.6549**	**92.6549**	**0.0224**	**0.0000**	**93.2138**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0500e-003	0.1003	0.0250	2.6000e-004	6.3000e-003	2.2000e-004	6.5100e-003	1.8200e-003	2.1000e-004	2.0300e-003	0.0000	24.8970	24.8970	1.2200e-003	0.0000	24.9276
Worker	7.6100e-003	5.2500e-003	0.0556	1.8000e-004	0.0196	1.3000e-004	0.0197	5.2100e-003	1.2000e-004	5.3300e-003	0.0000	16.5662	16.5662	3.7000e-004	0.0000	16.5754
Total	**0.0107**	**0.1055**	**0.0807**	**4.4000e-004**	**0.0259**	**3.5000e-004**	**0.0262**	**7.0300e-003**	**3.3000e-004**	**7.3600e-003**	**0.0000**	**41.4632**	**41.4632**	**1.5900e-003**	**0.0000**	**41.5031**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0760	0.6973	0.6630	1.0800e-003		0.0383	0.0383		0.0361	0.0361	0.0000	92.6548	92.6548	0.0224	0.0000	93.2136
Total	**0.0760**	**0.6973**	**0.6630**	**1.0800e-003**		**0.0383**	**0.0383**		**0.0361**	**0.0361**	**0.0000**	**92.6548**	**92.6548**	**0.0224**	**0.0000**	**93.2136**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0500e-003	0.1003	0.0250	2.6000e-004	6.3000e-003	2.2000e-004	6.5100e-003	1.8200e-003	2.1000e-004	2.0300e-003	0.0000	24.8970	24.8970	1.2200e-003	0.0000	24.9276
Worker	7.6100e-003	5.2500e-003	0.0556	1.8000e-004	0.0196	1.3000e-004	0.0197	5.2100e-003	1.2000e-004	5.3300e-003	0.0000	16.5662	16.5662	3.7000e-004	0.0000	16.5754
Total	**0.0107**	**0.1055**	**0.0807**	**4.4000e-004**	**0.0259**	**3.5000e-004**	**0.0262**	**7.0300e-003**	**3.3000e-004**	**7.3600e-003**	**0.0000**	**41.4632**	**41.4632**	**1.5900e-003**	**0.0000**	**41.5031**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1280	1.1712	1.2273	2.0200e-003		0.0607	0.0607		0.0571	0.0571	0.0000	173.7939	173.7939	0.0416	0.0000	174.8348
Total	**0.1280**	**1.1712**	**1.2273**	**2.0200e-003**		**0.0607**	**0.0607**		**0.0571**	**0.0571**	**0.0000**	**173.7939**	**173.7939**	**0.0416**	**0.0000**	**174.8348**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3300e-003	0.1781	0.0441	4.8000e-004	0.0118	3.5000e-004	0.0122	3.4100e-003	3.4000e-004	3.7500e-003	0.0000	46.2242	46.2242	2.1900e-003	0.0000	46.2790
Worker	0.0133	8.8300e-003	0.0959	3.3000e-004	0.0367	2.3000e-004	0.0370	9.7700e-003	2.2000e-004	9.9900e-003	0.0000	29.9228	29.9228	6.2000e-004	0.0000	29.9384
Total	**0.0186**	**0.1869**	**0.1400**	**8.1000e-004**	**0.0485**	**5.8000e-004**	**0.0491**	**0.0132**	**5.6000e-004**	**0.0137**	**0.0000**	**76.1470**	**76.1470**	**2.8100e-003**	**0.0000**	**76.2174**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1280	1.1712	1.2273	2.0200e-003		0.0607	0.0607		0.0571	0.0571	0.0000	173.7937	173.7937	0.0416	0.0000	174.8346
Total	**0.1280**	**1.1712**	**1.2273**	**2.0200e-003**		**0.0607**	**0.0607**		**0.0571**	**0.0571**	**0.0000**	**173.7937**	**173.7937**	**0.0416**	**0.0000**	**174.8346**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3300e-003	0.1781	0.0441	4.8000e-004	0.0118	3.5000e-004	0.0122	3.4100e-003	3.4000e-004	3.7500e-003	0.0000	46.2242	46.2242	2.1900e-003	0.0000	46.2790
Worker	0.0133	8.8300e-003	0.0959	3.3000e-004	0.0367	2.3000e-004	0.0370	9.7700e-003	2.2000e-004	9.9900e-003	0.0000	29.9228	29.9228	6.2000e-004	0.0000	29.9384
Total	**0.0186**	**0.1869**	**0.1400**	**8.1000e-004**	**0.0485**	**5.8000e-004**	**0.0491**	**0.0132**	**5.6000e-004**	**0.0137**	**0.0000**	**76.1470**	**76.1470**	**2.8100e-003**	**0.0000**	**76.2174**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5460					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0118	0.0810	0.1043	1.7000e-004		4.7000e-003	4.7000e-003		4.7000e-003	4.7000e-003	0.0000	14.6812	14.6812	9.6000e-004	0.0000	14.7051
Total	**0.5577**	**0.0810**	**0.1043**	**1.7000e-004**		**4.7000e-003**	**4.7000e-003**		**4.7000e-003**	**4.7000e-003**	**0.0000**	**14.6812**	**14.6812**	**9.6000e-004**	**0.0000**	**14.7051**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9700e-003	1.3100e-003	0.0142	5.0000e-005	5.4500e-003	3.0000e-005	5.4900e-003	1.4500e-003	3.0000e-005	1.4800e-003	0.0000	4.4402	4.4402	9.0000e-005	0.0000	4.4425
Total	**1.9700e-003**	**1.3100e-003**	**0.0142**	**5.0000e-005**	**5.4500e-003**	**3.0000e-005**	**5.4900e-003**	**1.4500e-003**	**3.0000e-005**	**1.4800e-003**	**0.0000**	**4.4402**	**4.4402**	**9.0000e-005**	**0.0000**	**4.4425**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5460					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0118	0.0810	0.1043	1.7000e-004		4.7000e-003	4.7000e-003		4.7000e-003	4.7000e-003	0.0000	14.6812	14.6812	9.6000e-004	0.0000	14.7051
Total	**0.5577**	**0.0810**	**0.1043**	**1.7000e-004**		**4.7000e-003**	**4.7000e-003**		**4.7000e-003**	**4.7000e-003**	**0.0000**	**14.6812**	**14.6812**	**9.6000e-004**	**0.0000**	**14.7051**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9700e-003	1.3100e-003	0.0142	5.0000e-005	5.4500e-003	3.0000e-005	5.4900e-003	1.4500e-003	3.0000e-005	1.4800e-003	0.0000	4.4402	4.4402	9.0000e-005	0.0000	4.4425
Total	**1.9700e-003**	**1.3100e-003**	**0.0142**	**5.0000e-005**	**5.4500e-003**	**3.0000e-005**	**5.4900e-003**	**1.4500e-003**	**3.0000e-005**	**1.4800e-003**	**0.0000**	**4.4402**	**4.4402**	**9.0000e-005**	**0.0000**	**4.4425**

3.7 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0276	20.0276	6.4800e-003	0.0000	20.1895
Paving	9.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0120**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0276**	**20.0276**	**6.4800e-003**	**0.0000**	**20.1895**

3.7 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.8000e-004	3.0900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9653	0.9653	2.0000e-005	0.0000	0.9658
Total	**4.3000e-004**	**2.8000e-004**	**3.0900e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9653**	**0.9653**	**2.0000e-005**	**0.0000**	**0.9658**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0275	20.0275	6.4800e-003	0.0000	20.1895
Paving	9.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0120**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0275**	**20.0275**	**6.4800e-003**	**0.0000**	**20.1895**

3.7 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.8000e-004	3.0900e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9653	0.9653	2.0000e-005	0.0000	0.9658
Total	**4.3000e-004**	**2.8000e-004**	**3.0900e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.1900e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9653**	**0.9653**	**2.0000e-005**	**0.0000**	**0.9658**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0380	0.1974	0.4568	2.1300e-003	0.2319	1.4000e-003	0.2333	0.0622	1.3000e-003	0.0635	0.0000	196.9655	196.9655	6.0100e-003	0.0000	197.1157
Unmitigated	0.0380	0.1974	0.4568	2.1300e-003	0.2319	1.4000e-003	0.2333	0.0622	1.3000e-003	0.0635	0.0000	196.9655	196.9655	6.0100e-003	0.0000	197.1157

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	27.17	6.86	2.93	49,729	49,729
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	198.46	191.62	191.62	573,710	573,710
Total	225.64	198.48	194.55	623,440	623,440

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.585795	0.036515	0.193581	0.106455	0.012789	0.005274	0.019465	0.028415	0.002699	0.001789	0.005626	0.000921	0.000676
Parking Lot	0.585795	0.036515	0.193581	0.106455	0.012789	0.005274	0.019465	0.028415	0.002699	0.001789	0.005626	0.000921	0.000676
Unrefrigerated Warehouse-No Rail	0.585795	0.036515	0.193581	0.106455	0.012789	0.005274	0.019465	0.028415	0.002699	0.001789	0.005626	0.000921	0.000676

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	99.2545	99.2545	4.5500e-003	8.7000e-004	99.6269
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	99.2545	99.2545	4.5500e-003	8.7000e-004	99.6269
NaturalGas Mitigated	1.1500e-003	0.0104	8.7400e-003	6.0000e-005		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004	0.0000	11.3333	11.3333	2.2000e-004	2.1000e-004	11.4006
NaturalGas Unmitigated	1.1500e-003	0.0104	8.7400e-003	6.0000e-005		7.9000e-004	7.9000e-004		7.9000e-004	7.9000e-004	0.0000	11.3333	11.3333	2.2000e-004	2.1000e-004	11.4006

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	53834.1	2.9000e-004	2.6400e-003	2.2200e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.8728	2.8728	6.0000e-005	5.0000e-005	2.8899
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	158543	8.5000e-004	7.7700e-003	6.5300e-003	5.0000e-005		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004	0.0000	8.4605	8.4605	1.6000e-004	1.6000e-004	8.5108
Total		**1.1400e-003**	**0.0104**	**8.7500e-003**	**7.0000e-005**		**7.9000e-004**	**7.9000e-004**		**7.9000e-004**	**7.9000e-004**	**0.0000**	**11.3333**	**11.3333**	**2.2000e-004**	**2.1000e-004**	**11.4006**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	53834.1	2.9000e-004	2.6400e-003	2.2200e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.8728	2.8728	6.0000e-005	5.0000e-005	2.8899
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	158543	8.5000e-004	7.7700e-003	6.5300e-003	5.0000e-005		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004	0.0000	8.4605	8.4605	1.6000e-004	1.6000e-004	8.5108
Total		**1.1400e-003**	**0.0104**	**8.7500e-003**	**7.0000e-005**		**7.9000e-004**	**7.9000e-004**		**7.9000e-004**	**7.9000e-004**	**0.0000**	**11.3333**	**11.3333**	**2.2000e-004**	**2.1000e-004**	**11.4006**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	34756.8	7.2155	3.3000e-004	6.0000e-005	7.2426
Parking Lot	11060	2.2961	1.1000e-004	2.0000e-005	2.3047
Unrefrigerated Warehouse-No Rail	432287	89.7429	4.1200e-003	7.8000e-004	90.0796
Total		**99.2545**	**4.5600e-003**	**8.6000e-004**	**99.6269**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	34756.8	7.2155	3.3000e-004	6.0000e-005	7.2426
Parking Lot	11060	2.2961	1.1000e-004	2.0000e-005	2.3047
Unrefrigerated Warehouse-No Rail	432287	89.7429	4.1200e-003	7.8000e-004	90.0796
Total		**99.2545**	**4.5600e-003**	**8.6000e-004**	**99.6269**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5201	2.0000e-005	1.7900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5000e-003	3.5000e-003	1.0000e-005	0.0000	3.7300e-003
Unmitigated	0.5201	2.0000e-005	1.7900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5000e-003	3.5000e-003	1.0000e-005	0.0000	3.7300e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0616					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4584					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.6000e-004	2.0000e-005	1.7900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5000e-003	3.5000e-003	1.0000e-005	0.0000	3.7300e-003
Total	**0.5201**	**2.0000e-005**	**1.7900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.5000e-003**	**3.5000e-003**	**1.0000e-005**	**0.0000**	**3.7300e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0616					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4584					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.6000e-004	2.0000e-005	1.7900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.5000e-003	3.5000e-003	1.0000e-005	0.0000	3.7300e-003
Total	**0.5201**	**2.0000e-005**	**1.7900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.5000e-003**	**3.5000e-003**	**1.0000e-005**	**0.0000**	**3.7300e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	38.9324	0.8770	0.0209	67.0986
Unmitigated	38.9324	0.8770	0.0209	67.0986

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.495877 / 0.303925	0.9352	0.0162	3.9000e-004	1.4558
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	26.3764 / 0	37.9972	0.8608	0.0206	65.6429
Total		**38.9324**	**0.8770**	**0.0209**	**67.0986**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.495877 / 0.303925	0.9352	0.0162	3.9000e-004	1.4558
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	26.3764 / 0	37.9972	0.8608	0.0206	65.6429
Total		**38.9324**	**0.8770**	**0.0209**	**67.0986**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	22.2904	1.3173	0.0000	55.2236
Unmitigated	22.2904	1.3173	0.0000	55.2236

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	2.59	0.5258	0.0311	0.0000	1.3025
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	107.22	21.7647	1.2863	0.0000	53.9211
Total		**22.2904**	**1.3173**	**0.0000**	**55.2236**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	2.59	0.5258	0.0311	0.0000	1.3025
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	107.22	21.7647	1.2863	0.0000	53.9211
Total		**22.2904**	**1.3173**	**0.0000**	**55.2236**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

The revised Initial Study Appendix B, above, does not constitute new information for purposes of CEQA because Table 5 on Page 28 of the Initial Study provided the estimated construction emissions of the project as determined by CalEEMod *using the revised project design*. Therefore, the results of CalEEmod, as reported in revised Initial Study Appendix B, are presented accurately in the Draft EIR via the Initial Study, which is Appendix A to the Draft EIR.

The commenter's statement that the CalEEMod analysis failed to account for possible cold storage is not applicable to the project. The project is a warehouse for UHAUL storage pods and a regional office and would not include cold storage. Therefore, there would be no emissions associated with cold storage.

The commenter's statement that the CalEEMod analysis used unsubstantiated reductions to pollutants associated with energy intensity is inaccurate. CalEEMod defaults for energy intensity were reduced to account for Pacific Gas & Electric's Renewables Portfolio Standard. The Renewables Portfolio Standard mandates that Pacific Gas & Electric increase energy production from renewable sources, which ultimately reduces pollutant emissions. Accordingly, energy intensity was modified in CalEEMod to account for the reduced pollutant emissions. Page 3 of Initial Study Appendix B documents and explains the adjustments to energy intensity factors.

The commenter's statement that the CalEEMod analysis failed to model material import is accurate. As stated on Page 2-13 of the Draft EIR, approximately 12,200 cubic yards of material would be imported to the site during project construction. A standard semi-transfer trailer is capable of carrying approximately 100 cubic yards of material. Therefore, approximately 122 trips would be necessary to deliver the required import material to the project site.[4] As shown in Table 5 on Page 28 of the Initial Study, project construction would reach approximately 75 percent of the daily emission level considered significant by the Bay Area Air Quality Management District, which are the thresholds of significance used in the Draft EIR. The addition of 122 trips would not result in an increase of 25 percent of total daily emissions during project construction, especially considering that not all 122 trips would occur in a single day. The trips to deliver import fill would occur over days to weeks, meaning only several truck trips would occur daily. Accordingly, the inclusion of truck trips to deliver import fill material from the CalEEMod estimate would result in no new impacts or more severe impacts than identified in the Initial Study and Draft EIR because thresholds of significance would not be exceeded.

The commenter's statement that the CalEEMod analysis or Draft EIR fails to substantiate demolition inputs is not accurate. Page 3 of Appendix B to the Initial Study states that demolition inputs in CalEEmod were based on square footage of the existing building on-site, as measured from aerial photography.

Because inputs to CalEEMod reflect site-specific and project-specific information provided by the applicant, and documented in Appendix B, the air quality analysis is an accurate estimate of emissions for the proposed project. The potential air quality impacts of the project, as described on pages 23 through 29 of the Initial Study, are based on the CalEEMod outputs, among other things, and are therefore accurate determinations with regard to the potential air quality impacts of the project. As described in pages 23 through 29 of the Initial Study, potential air quality impacts of the project would be less than significant without mitigation. No revisions to the Draft EIR are required in response to this comment.

[4] 12,200 cubic yards/100 cubic yards per trip = 122 total trips

Response 5.11

The commenter states an opinion that project construction would generate volatile organic compound (VOC) compounds that would exceed significance thresholds based on a CalEEMod analysis included as Exhibit B to the commenter's letter.

The commenter has not accounted for project-specific inputs in their preparation of a CalEEMod estimate of air pollutant emissions. For example, the commenter states that their CalEEMod analysis accounts for refrigeration requirements within the proposed industrial building. As described above in Response 5.10, the proposed industrial building would be used for storage of UHAUL pods and as a regional office. Refrigeration is not proposed. Therefore, the commenter's CalEEMod analysis overestimates emissions of the project. Because the commenter's air quality analysis does not include project-specific inputs, it is a less accurate estimate of project emissions than what was conducted for the Initial Study and Draft EIR. As described above in Response 5.10, the air quality analysis presented in the Initial Study and Draft EIR is an accurate estimate of project emissions. As described in pages 23 through 29 of the Initial Study, potential air quality impacts of the project would be less than significant without mitigation. No additional revisions to the Draft EIR are required in response to this comment.

Response 5.12

The commenter states an opinion that the Draft EIR fails to adequately analyze greenhouse gas (GHG) impacts of the project and underestimates GHG emissions of the project. The commenter asserts that the project would generate 1,301 metric tons of carbon dioxide equivalent per year (CO_2e/year) of GHG emissions, based on a CalEEMod analysis included as Exhibit B to the commenter's letter.

This comment is similar to comment 5.11. Please see Response 5.11, above. As stated therein, the commenter has not accounted for project-specific inputs in their preparation of a CalEEMod estimate of air pollutant emissions. Because the commenter has not accounted for project-specific conditions in their emissions model, potential GHG emissions are also overestimated and not as accurate as the data presented in the Draft EIR. Accordingly, for the reasons described in Response 5.11, no additional revisions to the Draft EIR are required in response to this comment.

Response 5.13

The commenter states that the Draft EIR is inadequate, and the City should prepare a revised EIR for recirculation for reasons described earlier in the comment letter.

This comment broadly covers comments 5.1 through 5.12, above. Please see Response 5.1 through 5.13, above. As described therein, revisions to the Draft EIR constituting new information, resulting in new or more severe significant impacts, or resulting in new mitigation measures that the project applicant chooses not to implement are not required. Therefore, recirculation of the Draft EIR is not required pursuant to Section 15088.5 of the *State CEQA Guidelines*.

Response 5.Exhibit A

The commenter includes a letter report written by Dr. Shawn Smallwood, reviewing the Draft EIR and providing opinions to the adequacy of the Draft EIR. The letter report generally contains comments already addressed above in Responses 5.1 through 5.7. Therefore, responses 5.1 through 5.7 generally address comments or concerns stated in Exhibit A. However, there are several

statements in Exhibit A that are not directly addressed in Responses 5.1 through 5.7 that require additional response. These statements are addressed below.

Page 20 of Exhibit A states an opinion that the Draft EIR analysis of cumulative impacts to biological resources is flawed because it essentially evaluates of the residual impacts to biological resources after mitigation measures are implemented.

The Draft EIR evaluates cumulative impacts to biological resources on pages 4.1-23 and 4.1-24. As stated therein, other projects in Hayward would impact biological resources. Not all projects in Hayward would be on property containing salt marsh habitat, for example, and so not all cumulative projects would result in impacts to the exact same wildlife species as the proposed project. The Draft EIR states that individual projects would undergo environmental review and mitigation measures would be developed to reduce impacts. However, the Draft EIR does not state that mitigation for other projects would reduce the cumulative impact to a less than significant level. Page 4.1-24 of the Draft EIR states that mitigation measures for biological resources identified in the Draft EIR would reduce project-level impacts to a less than significant level. Impacts of the proposed project would be reduced such that the proposed project would not result in a cumulatively considerable contribution to a significant cumulative impact to biological resources. Accordingly, revisions to the Draft EIR are not necessary in response to this comment.

Page 21 of Exhibit A states an opinion that "either the provisions of the SJMSCP must be fully implemented, or the project's impacts need to be mitigated independent of the SJMSCP. Either way, the EIR needs to be revised. Due to inadequate implementation, the SJMSCP is currently unsuitable as a mitigation strategy for this project."

Exhibit A does not define the acronym "SJMSCP," but it is assumed to be San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP)[5]. The author erroneously recommends provisions of the SJMSCP be applied to the proposed project. However, the project site is not within the jurisdiction of the SJMSCP. Measures developed for species in San Joaquin County for the SJMSCP would not apply to species in Hayward, which is in Alameda County. Assuming coverage under such a plan is not applicable. Accordingly, revisions to the Draft EIR are not necessary in response to this comment.

Page 21 of Exhibit A states an opinion that Draft EIR Mitigation Measure BIO-1a is incomplete because it fails to require live-trap and removal of salt marsh harvest mouse from the project site prior to construction.

Salt-marsh harvest mouse is a fully protected species under the California Fish and Game Code, therefore trapping and relocation for project related activities is not a legal activity. Further, the USFWS also no longer allows trapping to move SMHM for project activities. Instead, both agencies require the prescribed removal of vegetation and fencing under the supervision of a biological monitor. Mitigation Measure BIO-1a on Page 4.1-19 of the Draft EIR is consistent with CDFW and USFWS requirements because the mitigation requires the prescribed removal of vegetation and fencing under the supervision of a biological monitor. Accordingly, revisions to the Draft EIR are not necessary in response to this comment.

Page 21 of Exhibit A states an opinion that Draft EIR mitigation measures should require more than one biological monitor given the size of the project site.

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[5] San Joaquin County Multi-Species Habitat Conservation and Open Space Plan. 2000. Available Online at: https://ca-sjcog2.civicplus.com/173/Plan-Documents. Accessed: June 2021.

The “qualified biological monitor” is described in Mitigation Measure BIO-1b on pages 4.1-19 and 4.1-20 of the Draft EIR. After describing the qualifications of a biologist, the mitigation measure cites “monitor(s).” This indicates that more than one biologist may be on-site at any given time. In addition, the area that would require monitoring is approximately 8 acres because no ground disturbance requiring monitoring is proposed within the 32-acre preserve area of the project site. An area of 8 acres is easily monitored by a single biologist when working with a small crew. Accordingly, revisions to the Draft EIR are not necessary in response to this comment.

Page 21 of Exhibit A states an opinion that the preconstruction surveys for burrowing owl are not a substitute for detection surveys, and negative findings of preconstruction surveys cannot be interpreted as evidence of absence, as characterized in the Draft EIR mitigation measure.

No evidence of burrowing use of the project site has been detected during the multiple surveys conducted over the years. Mitigation Measure BIO-1d on Page 4.1-20 of the DEIR requires surveys for burrowing owl as prescribed by the 2012 CDFW Staff Report for Burrowing Owl Mitigation. This report prescribes how, when, and how many surveys are required to mitigate impacts to burrowing owl to less than significant levels. Therefore, Mitigation Measure BIO-1d would reduce potential impacts to burrowing owl to less than significant levels. Revisions to the Draft EIR are not necessary in response to this comment.

Page 22 of Exhibit A states an opinion that preconstruction nesting bird surveys are incapable of detecting the majority of bird nests that would occur on the site, and that mitigation needs to include detection surveys to inform preconstruction surveys.

Detection surveys in advance of preconstruction surveys is inconsistent with the CDFW methods prescribed as standard nesting bird survey requirements. Mitigation Measure BIO-1e on pages 4.1-20 and 4.1-21 of the Draft EIR require preconstruction nesting surveys pursuant to CDFW methods. The Draft EIR mitigation is implementing the best available science as dictated by CDFW to avoid impacts to nesting birds. Therefore, revisions to the Draft EIR are not necessary in response to this comment.

Page 22 of Exhibit A states an opinion that Draft EIR Mitigation Measure BIO-1f inappropriately defers formulation of the mitigation plan until some unreported date in the future, but most certainly at a date that the commenter asserts precludes meaningful public participation and review.

If the survey required by Mitigation Measure BIO-1f on page 4.1-21 of the Draft EIR detects maternity roosting bats, they would be avoided, as these types of roosts are protected under CEQA, as are any roosting special-status bats. Further, any plan to relocate bats would need to be reviewed by CDFW as the agency with authority to authorize or deny activities associated with species protected under the California Fish and Game Code. CDFW would have to approve of the plan prior to implementation. In addition, should no bats be located, an eviction plan would not be necessary. Impacts to roosting bats would be mitigated to less than significant levels by consulting with CDFW to minimize project-related effects to roosting bats to less than significant levels through implementation of Mitigation Measure BIO-1f. Therefore, revisions to the Draft EIR are not necessary in response to this comment.

Page 21 of Exhibit A recommends mitigating impacts on wildlife from roadway mortality.

This comment is similar to Comment 5.7. Please see Response 5.7, above. As described therein, vehicle trips generated by the proposed project would not substantially increase traffic volumes in the area given that the project site is adjacent to State Route 92. The proposed project would not

result in potentially significant impacts on wildlife from vehicle collisions. Accordingly, mitigation would not be required. Therefore, revisions to the Draft EIR are not necessary in response to this comment.

Response 5.Exhibit B

The commenter includes a letter report written by SWAPE, reviewing the Draft EIR and providing opinions as to the adequacy of the Draft EIR. The letter report generally contains comments already addressed above, in responses 5.8 through 5.13. Therefore, responses 5.8 through 5.13 generally address comments or concerns stated in Exhibit B. No additional revisions to the Draft EIR are necessary in response to Exhibit B.

4 Revisions to the Draft EIR

This section presents specific changes to the text of the Draft EIR that have been made to clarify information presented in the Draft EIR. The changes in this section are in addition to the changes and revisions to the Draft EIR that have been made in response to the comments received on the Draft EIR, as presented above in Section 3, *Comments and Responses*. However, the revisions presented above in Section 3, are also shown below. These revisions are not considered significant new information that would trigger Draft EIR recirculation pursuant to *State CEQA Guidelines* Section 15088.5. For example, they do not disclose a new or substantially more severe significant environmental impact, or a new feasible mitigation measure or alternative not proposed for adoption. Rather, the revisions correct or clarify information presented.

Where revisions to the main text are called for, the page and paragraph are set forth, followed by the appropriate revision. Added text is indicated with underlined text. Text deleted from the Draft EIR is shown in ~~strikethrough~~. Page numbers correspond to the page numbers of the Draft EIR.

Pages ES-8 and ES-9, *Executive Summary*, of the Draft EIR are revised to include the following changes:

Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure (s)	Residual Impact
Biological Resources		
Impact BIO-1. The proposed project would have a substantial adverse effect on species identified as a candidate, sensitive, or special status, such as salt marsh harvest mouse, burrowing owl and other birds, and bats. Impacts would be less than significant with mitigation incorporated.	**BIO-1e Nesting Bird Avoidance and Pre-Construction Surveys.** Project activities, such as vegetation removal, grading, or initial ground-disturbance, shall be conducted between September 1 and January 31 to the greatest extent feasible. If project activities must be conducted during the nesting season (February 1 to August 31), a pre-construction nesting bird survey shall be conducted by a qualified biologist no more than 14 days prior to vegetation removal or initial ground disturbance. Additional nesting surveys shall be conducted if project construction activities cease for more than 14 days during this period. The survey shall include the project site plus a 200-foot buffer around the eastern component of the project site if feasible, and a 500-foot buffer, if feasible, for California least tern, western snowy plover, and black skimmer, to identify the location and status of any nests that could potentially be affected either directly or indirectly by project activities. A survey of the western component of the project site shall be optional and not required because no ground disturbance or construction activities are proposed in the western component of the project site. If active nests are identified during the nesting bird survey, an appropriate avoidance buffer shall be established within which no work activity will be allowed which would impact these nests. The avoidance buffer would be established by the qualified biologist on a case-	Less than significant.

Impact	Mitigation Measure (s)	Residual Impact
	by-case basis based on the species and site conditions. In no cases shall the buffer be smaller than 50 feet for passerine bird species, and 250 feet for raptor species.~~,~~ The buffer ~~or 600 feet~~ for California least tern, western snowy plover, and black skimmer shall be at least 600 feet or otherwise determined by CDFW and USFWS. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. Buffers shall be delineated by orange construction fencing that defines the buffer where it intersects the project site. If a California least tern, western snowy plover, or black skimmer nest is found within 500 feet of the project site, USFWS and CDFW will be immediately notified. USFWS and CDFW shall be consulted on appropriate avoidance and minimization methods, which would likely include work restrictions within 500 feet of the nest, biological monitoring for activity within the nest' line-of-sight, etc. The buffer area(s) shall be closed to all construction personnel and equipment until juveniles have fledged and the nest is inactive. The qualified biologist shall confirm that breeding/nesting is completed, and young have fledged the nest prior to removal of the buffer.	

Pages ES-13 through ES-16, *Executive Summary*, of the Draft EIR are revised to include the following changes:

Table ES-2 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure (s)	Residual Impact
Biological Resources		
Impact HAZ-2. The project would involve development on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5, and due to the potential to encounter residual soil and groundwater contamination on the eastern component of the project site, impacts would be potentially significant but mitigable.	**HAZ-2a Implementation of the RMP.** The project shall implement the appropriate handling procedures and worker health and safety measures during excavating or dewatering activities, as well as the use of an engineered vapor barrier as described in the site-specific RMP developed for the project in 2014. The RMP is an appendix to the Phase I ESA. The Phase I ESA is included as Appendix E to the Initial Study, which is provided as Appendix A to this EIR. Measures included in the RMP to control potential hazardous contamination and exposure include, but are not limited to the following: ▪ Construction contractors shall implement dust control mitigation measures during construction activities at the project site to minimize the generation of dust. Examples of dust control measures that shall be implemented include limiting construction vehicles speeds to 5 miles per hour when on-site; routinely applying water to exposed soils while performing excavation activities; and, covering soil stockpiles with plastic sheets at the end of each workday.	Less than significant.

Impact	Mitigation Measure (s)	Residual Impact
	Additional dust control measures shall be implemented by the selected contractor, as necessary, especially if windy conditions persist during site grading and excavation. These measures may include moisture, conditioning the soil, using dust suppressants, or covering the exposed soil and stockpiles with weighted plastic sheeting to prevent exposure of the soil. ▪ To prevent or minimize construction equipment from tracking polluted spoils off the site onto roadways, construction equipment that contacts soils deeper than 5-feet below ground surface shall be decontaminated prior to leaving the site. Decontamination methods shall include brushing and/or vacuuming to remove loose dirt on vehicle exteriors and wheels. In the event that these dry decontamination methods are inadequate, methods such as steam cleaning, high pressure washing, and cleaning solutions shall be used, as necessary, to thoroughly remove accumulated dirt and other materials. Decontamination activities shall be performed in an on-site decontamination facility established by the contractor. ▪ All project construction workers performing construction activities at depths below 5-feet below ground surface in the restricted areas shall adhere to decontamination procedures when exiting the area. Decontamination measures shall include: (a) vacuuming the surface of coveralls, head covers, and footwear to remove accumulated soil particles and changing into other clean clothes if practical; (b) vacuuming or washing small tools, hand tools, or personal equipment to remove accumulated soil particles; and, (c) placing work clothes and personal equipment in sealed plastic bags or other suitable containers for transportation or on-site storage. ▪ In the event that disturbed soil appears to contain contaminants of potential concern (COPCs), such as odors, staining, and/or discoloration, work should halt in that area and an environmental professional (EP), such as a geologist, engineer, industrial hygienist, or environmental health specialist with expertise in these matters, shall be called to the site to oversee the work and determine safe construction and soil handling procedures. <u>Additionally, if contaminated soil is encountered, the project applicant shall coordinate with the San Francisco Bay Regional Water Quality Control Board and the Alameda County Water District to determine adequate and proper remediation and handling actions.</u> ▪ The EP shall be present on-site during	

Impact	Mitigation Measure (s)	Residual Impact
	excavations greater than 5-feet below ground surface in the restricted areas to observe field conditions and measure hydrocarbon vapors using a hand held photoionization detector (PID). If PID readings are measured in a specific area showing concentrations in excess of construction worker screening levels published by the Regional Water Quality Control Board (RWQCB), construction activities in that area shall halt until appropriate risk mitigation measures are implemented. If necessary, HAZWOPER trained personnel shall be called to the site to complete the construction activities in that area. ▪ Soil excavated from deeper than 5-feet below ground surface in the restricted area shall only be reused on-site as backfill after sampling and analysis soil proves the soil is acceptable to remain on site. Commercial ESLs or concentration limits established in the San Francisco Bay Regional Water Quality Control Board document titled *Characterization and Reuse of Petroleum Hydrocarbon Impacted Soil and Inert Waste* (2006), whichever is lowest shall be used as the threshold to determine if soils may remain on site or require off-site disposal. All appropriate regulatory sampling methods, holding times, and detection limits shall be followed. ▪ A health and safety plan shall be developed and implemented for project construction that incorporates measures and procedures to minimize direct contact by construction workers with site groundwater, particularly in the restricted areas. The health and safety plan shall be approved by either the City or the RWQCB, or both as applicable, prior to excavation activities. ▪ If groundwater is encountered within the former remediation area during construction of the project, as shown on Figure 4 of the RMP, an EP shall be called to the site to determine safe handling procedures. The groundwater shall be pumped into appropriate containers and samples shall be obtained for chemical analysis of the COPCs in accordance with a site sampling plan and the requirements of the waste disposal facility to which the material is sent. The project applicant shall coordinate with the Regional Water Quality Control Board and the Alameda County Water District if possible contaminated groundwater is encountered. If water sample analytical results indicate the water is free of all detectable concentrations of COPCs, such water can be re-used at the site if deemed appropriate by Alameda County and the RWQCB. If water	

Impact	Mitigation Measure (s)	Residual Impact
	sample analytical results indicate the water contains concentrations of COPCs above appropriate RWQCB screening levels, such water shall not be re-used at the site. The contractor and the EP shall elect to: (a) treat the groundwater on-site to render it free of detectable concentrations of COPCs (e.g. by activated carbon filtration); or, (b) transport the groundwater to a local treatment or disposal facility for appropriate handling.	

Section 4.1, *Biological Resources*, on pages 4.1-16 and 4.1-17 of the Draft EIR is revised to include the following changes:

> Project construction activities on the eastern component of the project site could result in direct mortality and/or harassment of the federal and State endangered SMHM and CDFW special-status SMWS. Additionally, the project would potentially result in impacts to marginal pickleweed habitat for these species. No construction activities would occur within the western component of the project site, where most of the former salt ponds and pickleweed habitat occurs. However, construction of the proposed building and parking lot would occur partially within pickleweed habitat at a former salt pond in the eastern component of the project site. Further, disturbance of the upland area immediately adjacent to the salt pond in the eastern component would disturb habitat that could become increasingly important to SMHM and SMWS as escape refugia during flooding and inundation. These impacts to SMHM and SMWS are regarded as potentially significant. Therefore, Mitigation Measures BIO- 1a through BIO-1c listed below would be required to reduce potential impacts to SMHM and SMWS to a less-than-significant level. Additionally, implementation of Mitigation Measure BIO-3, described for Impact BIO-3 below, would be required to reduce potential impacts to SMHM and SMWS.

Mitigation Measure BIO-1e on pages 4.1-20 and 4.1-21 of the Draft EIR is revised to include the following changes:

> If active nests are identified during the nesting bird survey, an appropriate avoidance buffer shall be established within which no work activity will be allowed which would impact these nests. The avoidance buffer would be established by the qualified biologist on a case-by-case basis based on the species and site conditions. In no cases shall the buffer be smaller than 50 feet for passerine bird species, and 250 feet for raptor species~~,~~. The buffer ~~or 600 feet~~ for California least tern, western snowy plover, and black skimmer shall be at least 600 feet or otherwise determined by CDFW and USFWS. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. Buffers shall be delineated by orange construction fencing that defines the buffer where it intersects the project site.

Mitigation Measure HAZ-2a on pages 4.3-14 and 4.3-15 of the Draft EIR is revised as follows.

> …In the event that disturbed soil appears to contain contaminants of potential concern (COPCs), such as odors, staining, and/or discoloration, work should halt in that area and an environmental professional (EP), such as a geologist, engineer, industrial hygienist, or environmental health specialist with expertise in these matters, shall be called to the site to

> oversee the work and determine safe construction and soil handling procedures. Additionally, if contaminated soil is encountered, the project applicant shall coordinate with the San Francisco Bay Regional Water Quality Control Board and the Alameda County Water District to determine adequate and proper remediation and handling actions…
>
> …Soil excavated from deeper than 5-feet below ground surface in the restricted area shall only be reused on-site as backfill after sampling and analysis soil proves the soil is acceptable to remain on site. Commercial ESLs or concentration limits established in the San Francisco Bay Regional Water Quality Control Board document titled *Characterization and Reuse of Petroleum Hydrocarbon Impacted Soil and Inert Waste* (2006), whichever is lowest, shall be used as the threshold to determine if soils may remain on site or require off-site disposal. All appropriate regulatory sampling methods, holding times, and detection limits shall be followed…

…If groundwater is encountered within the former remediation area during construction of the project, as shown on Figure 4 of the RMP, an EP shall be called to the site to determine safe handling procedures. The groundwater shall be pumped into appropriate containers and samples shall be obtained for chemical analysis of the COPCs in accordance with a site sampling plan and the requirements of the waste disposal facility to which the material is sent. The project applicant shall coordinate with the Regional Water Quality Control Board and the Alameda County Water District if possible contaminated groundwater is encountered. If water sample analytical results indicate the water is free of all detectable concentrations of COPCs, such water can be re-used at the site if deemed appropriate by Alameda County and the RWQCB. If water sample analytical results indicate the water contains concentrations of COPCs above appropriate RWQCB screening levels, such water shall not be re-used at the site. The contractor and the EP shall elect to: (a) treat the groundwater on-site to render it free of detectable concentrations of COPCs (e.g. by activated carbon filtration); or, (b) transport the groundwater to a local treatment or disposal facility for appropriate handling…

Appendix B of the Initial Study, which is provided as Appendix A to the Draft EIR is revised to remove all sheets comprising Appendix B and replaced with the CalEEMod datasheets provided above inResponse 5.10 in Section 3 of this RTC document.

Mitigation Monitoring and Reporting Program

The Environmental Impact Report (EIR) for the 4150 Point Eden Way Industrial Development Project identifies the mitigation measures required to reduce the environmental impacts associated with the project. The California Environmental Quality Act (CEQA) requires a public agency to adopt a monitoring and reporting program for assessing and ensuring compliance with any required mitigation measures applied to proposed development. As stated in section 21081.6(a)(1) of the Public Resources Code:

> ...the public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment.

Section 21081.6 also provides general guidelines for implementing mitigation monitoring programs and indicates that specific reporting and/or monitoring requirements, to be enforced during project implementation, shall be defined as part of making findings or adopting a mitigated negative declaration.

The mitigation monitoring table lists the identified mitigation measures for the project. To ensure that the mitigation measures are properly implemented, a monitoring program has been devised which identifies the timing and responsibility for monitoring each measure. The project applicant will have the responsibility for implementing the measures, and the various City of Hayward departments will have the primary responsibility for monitoring and reporting the implementation of the mitigation measures.

The first column identifies mitigation measures that were identified in the Final EIR, including within the Initial Study that is an appendix to the EIR. The second column, entitled “Action Required,” refers to the monitoring action that must be taken to ensure the mitigation measure’s implementation. The third column, entitled “Monitoring Timing,” refers to when the monitoring will occur to ensure that the mitigation action is complete. The fourth column, “Responsible Agency,” refers to the agency responsible for oversight or ensuring that the mitigation measure is implemented. The “Compliance Verification” column is where the Responsible Agency verifies that the measures have been implemented.

Mitigation Measure/ Condition of Approval	Monitoring and Reporting Actions	Monitoring Timing	Monitoring Responsibility	Compliance Verification		
				Initial	Date	Comments
Biological Resources						
BIO-1a: SWHM and SMWS Habitat Fencing						
Prior to ground disturbing activities adjacent to potential SMHM and SMWS habitat, temporary exclusion barriers and/or fencing shall be installed to exclude individuals of these species from areas of active construction. The design of the exclusion barriers and fencing shall be approved by a qualified biologist and shall be installed in the presence of a qualified biological monitor. The fence will be made of a material that does not allow SMHM or SMWS to pass through, and the bottom shall be buried to a depth of a minimum of four inches so that these species cannot crawl under the fence. All support for the exclusion fencing shall be placed on the inside of the project footprint. Additionally, removal of marsh or associated ruderal vegetation shall be completed using only hand tools and in the presence of a biological monitor. The barriers and/or fencing shall remain in place for the duration of construction of the project.	Grading permit application shall identify location and type of temporary exclusion barriers and/or fencing and shall include note that the facilities were approved by a biologist and installed under supervision of a qualified biological monitor. Verify that a qualified biological monitor is present when marsh or associated ruderal vegetation is removed, and removal is with hand tools.	Prior to construction and the periodically during the duration of construction activities	City of Hayward Planning Division (barrier and fencing design) and City of Hayward Public Works Engineering Division and Building Division (field verification)			
BIO-1b: Qualified Biological Monitor						
A qualified biological monitor shall be present during wildlife exclusion fence installation and removal, and during all vegetation clearing and initial ground disturbance which take place in marsh habitats of the former salt ponds and the vegetation adjacent to marsh habitats. The monitor will have demonstrated experience in biological construction monitoring and knowledge of the biology of the special-status species that may be found in the project site, including SMHM and SMWS. The monitor(s) shall have the authority to halt construction, if necessary, if noncompliance actions occur. If a federal or State listed species is observed at any time during construction, work shall not be initiated or shall be stopped immediately until the animal leaves the vicinity of the work area of its own volition. If the animal in question does not leave the work area, work shall not be reinitiated until the qualified biological monitor has contacted the appropriate agency to discuss on how to proceed with work activities. The biological monitor shall direct the contractor on how to proceed accordingly. The biological monitor(s) shall be the contact person for any employee or contractor	Prior to issuance of grading permits applicant shall verify that a qualified biological monitor will be present during wildlife fence installation and removal, and during all vegetation clearing and initial ground disturbance within salt ponds and marsh habitat. If a special-status species is	Prior to construction of the wildlife exclusion fence; weekly site visits to provide guidance and ensure compliance with permit conditions	City of Hayward Public Works Engineering Division and Building Division			

Mitigation Measure/ Condition of Approval	Monitoring and Reporting Actions	Monitoring Timing	Monitoring Responsibility	Compliance Verification		
				Initial	Date	Comments
who might inadvertently kill or injure a special-status species or anyone who finds a dead, injured, or entrapped special-status species. Following fence installation, vegetation removal in potential habitat areas, and initial ground disturbance in potential habitat areas, the biologist shall train an onsite monitor to continue to document compliance. The biologist shall conduct weekly site checks to provide guidance for fence maintenance, provide environmental sensitivity training, and document compliance with permit conditions.	observed at any time, verify construction has halted until documentation from the appropriate agency is received. Verify environmental sensitivity training and document permit compliance.					
BIO-1c: Worker Environmental Awareness Program Training						
The biological monitor shall provide an endangered species training program to all personnel involved in project construction. At a minimum, the employee education program shall consist of a brief presentation by persons knowledgeable about the biology of sensitive species with potential to occur in the project footprint, and about their legislative protection to explain concerns to contractors and their employees involved with implementation of the project. The program shall include a description of the species and their habitat needs, any reports of occurrences in the area; an explanation of the status of these species and their protection under State and federal legislation; and a list of measures being taken to reduce impacts to these species during construction.	Prior to issuance of grading permits, applicant shall verify that all personnel involved in project construction undergo endangered species training.	Prior to construction and on an as-needed basis after personnel training	City of Hayward Public Works Engineering Division and Building Division			
BIO-1d: Burrowing Owl Pre-Construction Surveys and Avoidance						
A qualified biologist shall conduct pre-construction clearance surveys prior to ground disturbance activities within suitable natural habitats and ruderal areas throughout the eastern component of the project site to confirm the presence/absence of active burrowing owl burrows. The surveys shall be consistent with the recommended survey methodology provided by CDFW (2012). Clearance surveys shall be conducted within 30 days prior to construction and ground disturbance activities. If no burrowing owls are observed, no further actions are required. If burrowing owls are detected during the pre-construction clearance surveys, the following measures shall apply: ▪ Avoidance buffers during the breeding and non-breeding season shall be implemented in accordance with the CDFW (2012) and Burrowing Owl Consortium (1993) minimization mitigation measures. ▪ If avoidance of burrowing owls is not feasible, then additional measures such as passive relocation during the nonbreeding season and construction buffers of 200 feet during the breeding season shall be implemented, in consultation with	Materials submitted to the Planning Division prior to issuance of grading permits shall verify that a qualified biologist conducts a pre-construction clearance and if owls are observed that avoidance buffers are implemented, or passive relocation and construction buffers are established. Verify that a Burrowing Owl	30 days prior to construction and then as needed during construction to verify avoidance buffers are maintained.	City of Hayward Planning Division			

Mitigation Measure/ Condition of Approval	Monitoring and Reporting Actions	Monitoring Timing	Monitoring Responsibility	Compliance Verification		
				Initial	Date	Comments
CDFW. In addition, a Burrowing Owl Exclusion Plan and Mitigation and Monitoring Plan shall be developed by a qualified biologist in accordance with the CDFW (2012) and Burrowing Owl Consortium (1993).	Exclusion Plan and Mitigation and Monitoring Plan is developed and implemented is owl avoidance is not feasible.					
BIO-1e: Nesting Bird Avoidance and Pre-Construction Surveys						
Project activities, such as vegetation removal, grading, or initial ground-disturbance, shall be conducted between September 1 and January 31 to the greatest extent feasible. If project activities must be conducted during the nesting season (February 1 to August 31), a pre-construction nesting bird survey shall be conducted by a qualified biologist no more than 14 days prior to vegetation removal or initial ground disturbance. Additional nesting surveys shall be conducted if project construction activities cease for more than 14 days during this period. The survey shall include the project site plus a 200-foot buffer around the eastern component of the project site if feasible, and a 500-foot buffer for California least tern, western snowy plover, and black skimmer, if feasible, to identify the location and status of any nests that could potentially be affected either directly or indirectly by project activities. A survey of the western component of the project site shall be optional and not required because no ground disturbance or construction activities are proposed in the western component of the project site. If active nests are identified during the nesting bird survey, an appropriate avoidance buffer shall be established within which no work activity will be allowed which would impact these nests. The avoidance buffer would be established by the qualified biologist on a case-by-case basis based on the species and site conditions. In no cases shall the buffer be smaller than 50 feet for passerine bird species and 250 feet for raptor species. The buffer for California least tern, western snowy plover, and black skimmer shall be at least 600 feet or otherwise determined by CDFW and USFWS. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. Buffers shall be delineated by orange construction fencing that defines the buffer where it intersects the project site. If a California least tern, western snowy plover, or black skimmer nest is found within 500 feet of the project site, USFWS and CDFW will be immediately notified. USFWS and CDFW shall be consulted on appropriate avoidance and minimization methods, which would likely include work restrictions within 500 feet of the nest, biological	Verify that if initial ground disturbing activities occurs between February 1 and August 31, a qualified biologist shall prepare a pre-construction survey two weeks prior to start of construction and shall be submitted to the Planning Division. If active nests are discovered, verify that buffers have been established and work is avoided in in the buffer as appropriate. Verify that USFWS and CDFW are consulted if California least tern, western snowy plover, or black skimmer are found and that recommendations of the agencies are implemented.	Once before construction to review pre-construction survey; as needed during construction to verify buffers established and work is avoiding buffer zones.	City of Hayward Planning Division and Public Works Engineering (inspections)			

Mitigation Measure/ Condition of Approval	Monitoring and Reporting Actions	Monitoring Timing	Monitoring Responsibility	Compliance Verification		
				Initial	Date	Comments
monitoring for activity within the nest' line-of-sight, etc. The buffer area(s) shall be closed to all construction personnel and equipment until juveniles have fledged and the nest is inactive. The qualified biologist shall confirm that breeding/nesting is completed, and young have fledged the nest prior to removal of the buffer.						
BIO-1f: Special-Status Bat Avoidance and Pre-Construction Surveys						
To avoid impacts to roosting special-status bats, focused surveys to determine the presence/absence of roosting bats shall be conducted prior to the initiation of demolition of buildings and removal of mature trees large enough to contain crevices and hollows that could support bat roosting. If active maternity roosts are identified, a qualified biologist shall establish avoidance buffers applicable to the species, the roost location and exposure, and the proposed construction activity in the area. If active non-maternity day or night roosts are found on the project site, measures shall be implemented to passively relocate bats from the roosts prior to the onset of construction activities. Such measures may include removal of roosting site during the time of day the roost is unoccupied or the installation of one-way doors, allowing the bats to leave the roost but not to re-enter. These measures shall be presented in a Bat Passive Relocation Plan that shall be submitted to, and approved by, CDFW.	Verify that a qualified biologist has conducted focused surveys and submitted to Planning Division. If bats or signs of roosting bats are observed, verify that qualified biologist has prepared recommendations and that recommendations are included on the building permit plans and implemented.	Once before construction before to review pre-construction surveys; as needed during construction to verify implementation.	City of Hayward Planning Division (surveys) and City of Hayward Building Division (field verification)			
BIO-1g: Trash Removal						
During construction of the project, all food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in solid, closed containers (trash cans) and removed at the end of each workday from the project site to eliminate an attraction to predators of special-status species.	Verify that all food-related trash be disposed of in solid containers and removed from the project site	As needed during project construction.	City of Hayward Building Division			
BIO-1h: Public Access Exclusion Fencing						
Access by all project construction personnel into the Eden Landing Ecological Reserve shall be prohibited. Upon completion of the development project a permanent fence shall be installed on the eastern component of the project site to prevent access from the San Francisco Bay Trail relocated segment and the new industrial development into the adjacent salt ponds and associated marsh habitats to the west. In addition, signs shall be posted stating that public access into the salt ponds and associated marsh habitat is strictly prohibited owing to the sensitivity of the habitat and to ensure the continued use of this habitat by special-status species.	Verify the construction of a permanent fence and signage. Fence shall be included on improvement plans and reviewed and approved by Planning Division and the East Bay Regional	Once after project construction is complete.	City of Hayward Building Division			

Mitigation Measure/ Condition of Approval	Monitoring and Reporting Actions	Monitoring Timing	Monitoring Responsibility	Compliance Verification		
				Initial	Date	Comments
	Park District					
BIO-3: Protected Wetlands Mitigation Credits						
To compensate for impacts to approximately 0.97 acre of waters of the U.S., the project applicant shall purchase wetland mitigation credits at a minimum of 1:1 mitigation ratio from an approved mitigation bank with a Service Area that covers the project site. The San Francisco Bay Wetland Mitigation Bank currently has "Tidal Wetland and Other Waters Creation" credits available for purchase. Either the U.S. Army Corps of Engineers or the CDFW may adjust the mitigation ratio and the applicant shall comply, but in no case shall the mitigation ratio be less than 1:1.	Verify the applicant purchases wetland credits at a minimum of 1:1 mitigation ratio. Evidence of such purchase shall be submitted to the Planning Division.	Prior to issuing a Certificate of Occupancy.	City of Hayward Planning Division			
Cultural Resources						
CUL-1a: Building Recordation						
Archival documentation of as-built and as-found condition shall be prepared for the Oliver Brothers Salt Company prior to demolition. Prior to issuance of demolition permits, the City of Hayward shall ensure that documentation of the buildings and structures proposed for demolition is completed that follows the general guidelines of Historic American Building Survey (HABS)-level III documentation. The documentation shall include high resolution digital photographic recordation, a historic narrative report, and compilation of historic research. The documentation shall be completed by a qualified professional who meets the standards for history, architectural history, or architecture as set forth by the Secretary of the Interior's Professional Qualification Standards (36 CFR, Part 61). The original archival-quality documentation shall be offered as donated material to the Hayward Library and/or Hayward Area Historical Society to make it available for current and future generations. Archival copies of the documentation shall be submitted to the City of Hayward where it shall be available to local researchers.	Verify that the referenced buildings are documented prior to demolition using general guidelines of HABS Level III documentation. Verify copy of documentation is provided to City Planning Division and offered to Hayward Historic Society and local library.	Prior to issuing demolition permits.	City of Hayward Planning Division			
CUL-1b: Interpretive Display						
An interpretive display shall be developed and installed on site to commemorate the history of the Oliver Brothers Salt Company. The display may include historic photographs, drawings, and text to convey the history of the site and the significance of salt processing in Alameda County. The display shall be reviewed and approved by the City prior to installation at a site to be chosen by the City. The installation shall occur prior to issuance of a Certificate of Occupancy.	Verify installation of an interpretative display that is approved by the City. Applicant shall include display information, text, design	Prior to issuing a Certificate of Occupancy.	City of Hayward Planning Division			

Mitigation Measure/ Condition of Approval	Monitoring and Reporting Actions	Monitoring Timing	Monitoring Responsibility	Compliance Verification		
				Initial	Date	Comments
	and display on building permits.					
CUL-2: Unanticipated Discovery of Archaeological Resources						
In the event that archaeological resources are unexpectedly encountered during ground-disturbing activities, work in the immediate area shall be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archeology (National Park Service 1983) shall be contacted immediately to evaluate the find. If the find is prehistoric, then a Native American representative should also be contacted to participate in the evaluation of the find. If necessary, as determined by the archaeologist in consultation with the City, the evaluation may require preparation of a treatment plan and archaeological testing for California Register of Historical Resources (CRHR) eligibility. If the discovery proves to be eligible for the CRHR and cannot be avoided by the modified project, additional work, such as data recovery excavation, may be warranted to mitigate impacts to archaeological resources.	Verify that if archaeological artifacts are encountered during project construction, all work in the vicinity of the find has been halted until such time as the find is evaluated.	As needed during construction activities; work must stop immediately if resources are discovered, and consultation initiated as soon as practical.	City of Hayward Building Division (field compliance) and City of Hayward Planning Division (actions in the event of encountering resources)			
Geology and Soils						
GEO-1: Geotechnical Considerations						
The project applicant shall implement all measures and recommendations set forth in the Geotechnical Engineering Services Report prepared by Professional Services Industries, Inc., an Intertek company, in January 2018 (included as Appendix D and on file with the City of Hayward). This measure shall be implemented for development on the eastern component of the project site. Recommendations include but are not limited to the following topic areas: ▪ Engineered fill material required at this site shall not contain rocks greater than 3-inches in diameter or greater than 30 percent retained on the ¾-inch sieve, and shall not contain more than 3 percent (by weight) of organic matter or other unsuitable material. The expansion index for the material shall not exceed 50. ▪ Engineered fill shall be compacted to at least 90 percent of the maximum dry density as determined by the modified Proctor (ASTM D1557). The moisture content of engineered fill shall be maintained at approximately 2 percent above or below the material's optimum moisture content as determined by the same index during compaction. ▪ Engineered fill shall be placed in maximum lifts of 8-inches of loose material. Each lift of engineered fill shall be tested by a PSI soils technician, working under	Verify that building plans for the eastern component of the site incorporate all design and construction criteria specified in the 2018 geotechnical report. All recommendations should be included in the grading and improvement plans and building permit plans, as appropriate.	Once prior to approval of grading permit; periodically on-site during grading and construction; once after the installation of roof gutters.	City of Hayward Building Division			

Mitigation Measure/ Condition of Approval	Monitoring and Reporting Actions	Monitoring Timing	Monitoring Responsibility	Compliance Verification		
				Initial	Date	Comments
the direction of a licensed geotechnical engineer, prior to placement of subsequent lifts. ▪ Properly compacted engineered fill shall extend horizontally outward beyond the exterior perimeter of the foundations a distance equal to the height of fill or 5 feet, whichever is greater, prior to substantial sloping. ▪ Permanent cut or fill slopes shall not exceed 2 Horizontal to 1 Vertical (2H:1V). Excavations extending below a 1H:1V plane extending down from any adjacent footings shall be shored for safety. ▪ Utilities trenches within the building, pavement, and sidewalk areas shall be backfilled with granular engineered fill such as sand, sand and gravel, fragmental rock, or recycled concrete of up to 2 inches maximum size with less than 5 percent passing the No. 200 sieve (washed analysis). Granular backfill shall be placed in lifts and compacted to 95 percent of the maximum dry density as determined by ASTM D 1557. Compaction by jetting or flooding shall not be permitted. ▪ To ensure precipitation is conveyed away from structural foundation, continuous roof gutters shall be installed on the proposed industrial building. The roof drains shall be connected to a tight-line pipe leading to storm drain facilities. Pavement surfaces and open space areas shall be sloped such that surface water runoff is collected and routed to suitable discharge points. Ground surfaces adjacent the building shall be sloped to facilitate positive drainage away from the building. Landscaped or planted areas shall not be placed within 10 feet of the footings of the proposed building.						
Hazards and Hazardous Materials						
HAZ-1: Project Demolition Activities						
In conformance with State and local laws, a visual inspection/pre-demolition survey, and possible sampling, shall be conducted prior to the demolition of on-site building(s) to determine the presence of asbestos-containing materials (ACMs) and/or lead-based paint (LBP). Documentation of the survey shall be provided to the City prior to commencement of demolition activities. During demolition activities, all building materials containing lead-based paint shall be removed in accordance with Cal/OSHA Lead in Title 8, California Code of Regulations (CCR), Section 1532.1, including employee training, employee air monitoring, and dust control. Any debris or soil containing lead-based paint or coatings shall be disposed of at landfills that meet acceptance criteria for the type of lead being disposed. All potentially friable asbestos containing materials (ACMs) shall be removed in accordance with National Emission Standards for Air Pollution (NESHAP) guidelines	Verify that inspection or survey for ACMs and LBP is performed. Verify that if present, ACMs and LBP is removed and disposed of pursuant to specified regulatory requirements. Applicant is responsible for providing confirmation of inspection prior to	Prior to the demolition of onsite buildings.	City of Hayward Building Division and/or Hayward Fire Department – Hazardous Materials Division			

Mitigation Measure/ Condition of Approval	Monitoring and Reporting Actions	Monitoring Timing	Monitoring Responsibility	Compliance Verification		
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prior to demolition or renovation activities that may disturb ACMs. All demolition activities shall be undertaken in accordance with Cal/OSHA standards contained in Title 8, CCR, Section 1529, to protect workers from asbestos exposure. A registered asbestos abatement contractor shall be retained to remove and dispose of ACMs identified in the asbestos survey performed for the site in accordance with the standards stated above in this mitigation measure. Materials containing more than one-percent asbestos are also subject to Bay Area Air Quality Management District (BAAQMD) regulations. Removal of materials containing more than one-percent asbestos shall be completed in accordance with BAAQMD requirements and notifications. Based on Cal/OSHA rules and regulations, the following conditions shall be implemented to limit impacts to construction workers: ▪ Prior to commencement of demolition activities, a building survey, including sampling and testing, shall be completed to identify and quantify building materials containing lead-based paint. ▪ During demolition activities, all building materials containing lead-based paint shall be removed in accordance with Cal/OSHA Lead in Construction Standard, Title 8, CCR, Section 1532.1, including employee training, employee air monitoring and dust control. ▪ Any debris or soil containing lead-based paint or coatings shall be disposed of at landfills that meet acceptance criteria for the type of waste being disposed.	issuance of demolition permit.					
HAZ-2a: Implementation of the RMP						
The project shall implement the appropriate handling procedures and worker health and safety measures during excavating or dewatering activities, as well as the use of an engineered vapor barrier as described in the site-specific RMP developed for the project in 2014. The RMP is an appendix to the Phase I ESA. The Phase I ESA is included as Appendix D to this EIR. Measures included in the RMP to control potential hazardous contamination and exposure include, but are not limited to the following: ▪ Construction contractors shall implement dust control mitigation measures during construction activities at the project site to minimize the generation of dust. Examples of dust control measures that shall be implemented include limiting construction vehicles speeds to 5 miles per hour when on-site; routinely applying water to exposed soils while performing excavation activities; and, covering soil stockpiles with plastic sheets at the end of each workday. Additional dust control measures shall be implemented by the selected contractor, as necessary, especially if windy conditions persist during site grading and excavation. These measures may include moisture, conditioning the soil, using	Verify all applicable handling procedures and safety measures as outlined in the RMP are implemented.	During the duration of construction.	City of Hayward Building Division and/or Engineering Division (inspections)			

Mitigation Measure/ Condition of Approval	Monitoring and Reporting Actions	Monitoring Timing	Monitoring Responsibility	Compliance Verification		
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dust suppressants, or covering the exposed soil and stockpiles with weighted plastic sheeting to prevent exposure of the soil. ▪ To prevent or minimize construction equipment from tracking polluted spoils off the site onto roadways, construction equipment that contacts soils deeper than 5-feet below ground surface shall be decontaminated prior to leaving the site. Decontamination methods shall include brushing and/or vacuuming to remove loose dirt on vehicle exteriors and wheels. In the event that these dry decontamination methods are inadequate, methods such as steam cleaning, high pressure washing, and cleaning solutions shall be used, as necessary, to thoroughly remove accumulated dirt and other materials. Decontamination activities shall be performed in an on-site decontamination facility established by the contractor. ▪ All project construction workers performing construction activities at depths below 5-feet below ground surface in the restricted areas shall adhere to decontamination procedures when exiting the area. Decontamination measures shall include: (a) vacuuming the surface of coveralls, head covers, and footwear to remove accumulated soil particles and changing into other clean clothes if practical; (b) vacuuming or washing small tools, hand tools, or personal equipment to remove accumulated soil particles; and, (c) placing work clothes and personal equipment in sealed plastic bags or other suitable containers for transportation or on-site storage. ▪ In the event that disturbed soil appears to contain contaminants of potential concern (COPCs), such as odors, staining, and/or discoloration, work should halt in that area and an environmental professional (EP), such as a geologist, engineer, industrial hygienist, or environmental health specialist with expertise in these matters, shall be called to the site to oversee the work and determine safe construction and soil handling procedures. Additionally, if contaminated soil is encountered, the project applicant shall coordinate with the San Francisco Bay Regional Water Quality Control Board and the Alameda County Water District to determine adequate and proper remediation and handling actions. ▪ The EP shall be present on-site during excavations greater than 5-feet below ground surface in the restricted areas to observe field conditions and measure hydrocarbon vapors using a hand held photoionization detector (PID). If PID readings are measured in a specific area showing concentrations in excess of construction worker screening levels published by the Regional Water Quality Control Board (RWQCB), construction activities in that area shall halt until appropriate risk mitigation measures are implemented. If necessary, HAZWOPER trained personnel shall be called to the site to complete the construction activities in that area.						

Mitigation Measure/ Condition of Approval	Monitoring and Reporting Actions	Monitoring Timing	Monitoring Responsibility	Compliance Verification		
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▪ Soil excavated from deeper than 5-feet below ground surface in the restricted area shall only be reused on-site as backfill after sampling and analysis soil proves the soil is acceptable to remain on site. Commercial ESLs or concentration limits established in the San Francisco Bay Regional Water Quality Control Board document titled *Characterization and Reuse of Petroleum Hydrocarbon Impacted Soil and Inert Waste* (2006), whichever is lowest shall be used as the threshold to determine if soils may remain on site or require off-site disposal. All appropriate regulatory sampling methods, holding times, and detection limits shall be followed. ▪ A health and safety plan shall be developed and implemented for project construction that incorporates measures and procedures to minimize direct contact by construction workers with site groundwater, particularly in the restricted areas. The health and safety plan shall be approved by either the City or the RWQCB, or both as applicable, prior to excavation activities. ▪ If groundwater is encountered within the former remediation area during construction of the project, as shown on Figure 4 of the RMP, an EP shall be called to the site to determine safe handling procedures. The groundwater shall be pumped into appropriate containers and samples shall be obtained for chemical analysis of the COPCs in accordance with a site sampling plan and the requirements of the waste disposal facility to which the material is sent. The project applicant shall coordinate with the Regional Water Quality Control Board and the Alameda County Water District if possible contaminated groundwater is encountered. If water sample analytical results indicate the water is free of all detectable concentrations of COPCs, such water can be re-used at the site if deemed appropriate by Alameda County and the RWQCB. If water sample analytical results indicate the water contains concentrations of COPCs above appropriate RWQCB screening levels, such water shall not be re-used at the site. The contractor and the EP shall elect to: (a) treat the groundwater on-site to render it free of detectable concentrations of COPCs (e.g. by activated carbon filtration); or, (b) transport the groundwater to a local treatment or disposal facility for appropriate handling. ▪ The proposed industrial building shall be constructed on top of a minimum of a 5-foot bioattenuation zone within the restricted areas. This bioattenuation zone shall consist of a minimum of 5-feet of soil above the anticipated shallowest groundwater elevation, and the soil shall not contain total petroleum hydrocarbons greater than 100 parts per million. ▪ An engineered vapor barrier shall be employed to further protect against possible vapor intrusion of COPCs into the proposed industrial building. The vapor barrier shall be designed to meet the needs of building. Vapor barriers are						

Mitigation Measure/ Condition of Approval	Monitoring and Reporting Actions	Monitoring Timing	Monitoring Responsibility	Compliance Verification		
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generally constructed using membranes constructed with high-density polyethylene (HDPE) or other polyolefin-based resins. The vapor barrier shall be resistant to VOCs. The vapor barrier shall meet the American Society for Testing and Materials (ASTM) guideline for a vapor barrier and have a permeance rating of 0.1 perms or less. The thickness and strength of the vapor barrier shall be based on the needs for the building, but the architect and contractor shall use a material strong enough to easily withstand the building construction and other building considerations. The selected vapor barrier shall be approved by the RWQCB prior to installation.						
HAZ-2b: Bioretention Design Coordination						
The project applicant shall consult with the City on location and/or design of the on-site bioretention basins to ensure protection of the groundwater basin, which may include, but is not limited to, locating the basins outside of the restricted areas or use of a liner in the detention basin. The final design and location of the on-site bioretention basins shall demonstrate that groundwater would be protected from contamination.	Bioretention design and location design shall be included on the improvement plans and other plans as necessary. Verify that design and location protects groundwater.	Prior to construction.	City of Hayward Public Works – Engineering			
HAZ-2c: Displacement Pier Design and Construction						
The project applicant shall retain a geotechnical engineer to design the displacement piers for support of the building foundation. The displacement piers shall be designed in a way to prevent creating a preferential pathway between shallow groundwater at approximately 5 feet below ground surface and deeper groundwater. The displace pier design developed by the geotechnical engineer shall be incorporated into project plans prior to commencement of construction. This mitigation measure shall apply to all displacement piers within the restricted areas or the larger area where benzene concentrations exceed ESLs, as shown in Figure 4.3-2 of the EIR. Additionally, air-jetting shall not be used to create the holes for the displacement piers within the restricted areas to avoid bringing subsurface soils to the ground surface.	Verify that displacement pier design is approved by a geotechnical engineer and incorporated into project plans. Verify that air jetting is not used within the restricted areas. Details shall be included on building permit plans and reviewed and approved by Building and/or Engineering staff as appropriate.	Prior to construction and during construction, as needed, to confirm air jetting is avoided in restricted areas.	City of Hayward Public Works – Engineering/Building Division			
Transportation						

Mitigation Measure/ Condition of Approval	Monitoring and Reporting Actions	Monitoring Timing	Monitoring Responsibility	Compliance Verification		
				Initial	Date	Comments
TR-1: Travel Demand Management						
The project applicant shall implement at least one of the measures described below: ▪ **Voluntary Employer Commute Program:** The project applicant shall encourage alternative modes of transportation through a program that may include elements such as: a carpool or vanpool program, subsidized or discounted transit passes, bike amenities, commute trip-reduction marketing, and preferential parking permit program. ▪ **Employer Carpool Program:** The project applicant shall encourage carpooling by providing ride matching assistance to employees, providing priority parking for carshare vehicles, and providing incentives for carpooling. The applicant shall provide to the City documentation that at lease one of the above measures is implemented. Documentation shall be provided annually.	Verify that either a voluntary employee commute program or an employer carpool program is implemented. Applicant is responsible to reporting to City.	Once annually commencing with building occupancy.	City of Hayward Public Works – Engineering and Transportatio n Division.			
Tribal Cultural Resources						
TCR-1: Unanticipated Discovery of Tribal Cultural Resources						
In the event that cultural resources of Native American origin are identified during construction, all earth disturbing work within the vicinity of the find must be temporarily suspended or redirected until an archaeologist has evaluated the nature and significance of the find and an appropriate Native American representative, based on the nature of the find, is consulted. If the City determines that the resource is a tribal cultural resource and thus significant under CEQA, a mitigation plan shall be prepared and implemented in accordance with state guidelines and in consultation with Native American groups. The plan shall include avoidance of the resource or, if avoidance of the resource is infeasible, the plan shall outline the appropriate treatment of the resource in coordination with the archeologist and the appropriate Native American tribal representative.	Verify that in the event that cultural artifacts of Native American origin are encountered during project construction, all work in the vicinity of the find has been halted until such time as the find is evaluated.	As needed during construction activities; work must stop immediately if resources are discovered, and consultation initiated as soon as practical.	City of Hayward Building Division (field compliance) and City of Hayward Planning Division (actions in the event of encountering resources)			

PLANNING COMMISSION MEETING
REMOTE PARTICIPATION
Thursday, July 8, 2021, 7:00 p.m.

This meeting was conducted utilizing teleconference and electronic means consistent with State of California Executive Order No. 29-20 dated March 17, 2020, regarding the COVID-19 pandemic. The Planning Commission, City Staff, and public members participated via the Zoom Webinar platform.

MEETING

The Planning Commission meeting was called to order at 7:00 p.m. by Chair Roche.

ROLL CALL

Present:	COMMISSIONERS:	Ali-Sullivan, Goldstein, Mendall, Oquenda, Stevens
	CHAIRPERSON:	Roche
Absent:	COMMISSIONER:	Bonilla

Staff Members Present: Billoups, Brick, Buizer, Chan, Lochirco, Nguyen, Patenaude, Schmidt

PUBLIC COMMENT:

There were none.

PUBLIC HEARING:

For agenda items Nos. 1 and 2, the decision of the Planning Commission is final unless appealed. The appeal period is 10 days from the date of the decision. If appealed, a public hearing will be scheduled before the City Council for final decision.

1. Proposed Addition of a Drive-Thru for a Proposed Starbucks Coffee Shop to a Previously Approve Mission Village Retail Structure at 411 Industrial Parkway, APN 078G-2651-011-02, Requiring Approval of Conditional Use Permit with Site Plan Review Application No. 202101267: Doug Rich, Valley Oak Partners LLC (Applicant)/Edwin Sommer LLC ETAL (Owner)

Consulting Planner Patenaude provided a synopsis of the staff report and PowerPoint presentation.

Mr. Doug Rich, applicant, spoke about the proposed project and the background of the change to the project with the addition of the proposed drive thru.

Commissioner Mendall disclosed that he lived about a quarter of a mile from the project site and that there is not a conflict. Mr. Mendall mentioned that he has participated in project discussions over the years as a City Council Member and a member of the Council Economic Development Committee (CEDC) and that he has met with community members and the applicant many times.

Discussion ensued between staff, Planning Commission and applicant regarding the following: which landscape plan renderings were correct and what authority does the City have to enforce the landscaping plans moving forward; what metrics does Starbucks use when planning their stores and car queuing plans; the drive-thru's build out impact to the main project timeline; what are the plans to maintain trash commitment for the community and locally; and please post applicant's contact information for trash and other issues.

Consulting Planner Patenaude confirmed that the landscape plan presented this evening are the correct renderings.

Acting Principal Planner Schmidt said that landscape maintenance is part of the conditions of approval (COA); and that the City's Landscape Architect Koo ensures that there are sufficient COA to cover the landscape and maintenance into perpetuity for the life of the project. Ms. Schmidt shared that staff receives conceptual plans as part of the plans submittal and spoke about the process.

Mr. Rich explained the landscape plan process they will go through and that these plans will become part of the documented plans; spoke about the landscaping plans; provided Starbucks point of view of how to set up a drive-thru to make sure there is sufficient queuing within the space and cars will not impact the public thoroughfare. He spoke about a contingency plan for the cars; through their property management company they are committed to maintaining the trash. He said they are the owners; will remain the owners and they plan to be here in Hayward. Mr. Rich said the drive-thru will not impact the main project and elaborated on what is moving forward with the main project. Mr. Rich said that they can post contact information for the public in case there are any issues with the project.

Mr. Eric Tse, of Hextrans, spoke about the traffic study conducted in Pleasanton for Starbucks and how they were not able to conduct a Hayward study because of COVID limitations. Mr. Tse said they compared the Hayward site with the Pleasanton Starbucks as the settings are similar and was able to be used in the estimation for the car queuing. Mr. Tse noted that they also consulted with City Transportation Engineer Chang.

Chair Roche opened the public hearing at 7:38 p.m.

Mr. Glen Kirby, spoke against the project, wants to see another alternative to allow for modest tenant space and local serving businesses. He spoke about the zoning, the lack of inclusionary housing, and the ratio between residential and retail.

Ms. Ro Aquilar, Hayward resident, spoke about the email that she submitted to the Commission; spoke against the project. She spoke about the need for housing and asked the Commission to oppose the drive-thru and suggested building low-income housing on top of the retail even if her suggested changes delays the project. She urged the Commission to not give in to the developer.

Ms. Mimi Bauer, Hayward resident, spoke in favor of the overall project and the added Starbucks drive thru. She said that this is the first project to revitalize Hayward and the Fairway Park community. Ms. Bauer spoke about the many efforts by the Fairway Park Association to bring affordable housing to the community including the efforts for seven years on this project and mentioned the many challenges the developer has had with this site. She asked the Commission to approve this project to keep the project moving forward.

Chair Roche closed the public hearing at 7.49 p.m.

Commissioner Goldstein said that he is familiar with the Fairway Park neighborhood and location and that he moved to Twin Bridges in 2005; spoke about the issues and concerns since the Holiday Bowl closed; this project is a major improvement and will be transformative for this neighborhood; appreciates the time and effort that the applicant has put into this project and that they are committed to seeing this through. He asked if inclusionary housing can be added to the retail component.

Consulting Planner Patenaude said he does not know the feasibility of adding housing and this would be a whole new study to add housing on top of the retail component.

Mr. Rich said they have included inclusionary housing in many of their project, but it would not be feasible at this time to add this element to this existing project.

Commissioner Stevens fully supports the project and commended both staff and applicant. Mr. Stevens suggested a modification to condition of approval #14 to have a landscape plan that is consistent with the plans that were presented to the Commission at this meeting.

Commissioner Ali-Sullivan said this project is a well-done and appreciates what the applicant has done on as this will be a significant, positive addition to the neighborhood. He noted a business reality is that Starbucks is taking revenue from the developer. Mr. Ali-Sullivan appreciates the significant landscaping, and he has been wanting to see a great development on this corner for a long time and is happy to support this item.

Commissioner Mendall said it is worthy to note that if the project came before the Commission today that the plan would be different than what was approved six years ago. He said at that time this project was groundbreaking and forward looking, as it had both retail and residential elements and is walkable to the BART station; the City had a lot of trouble getting developers interested in developing this site. He said this developer had a lot of environmental challenges with this site from a previous use and it took time to resolve those issues. He said the project is underway and this drive-thru is the last piece to complete the project. Mr. Mendall said that as a Council Member, he made sure that a viable commercial element was part of the project which also included a park and retail for the community. He said the Starbucks drive thru is a good addition and will be popular with the community and will guarantee long term viability of this commercial/retail site. He had concerns about the look of that corner and other Commissioners have expressed the same concern and recommended to have a modification to COA #14 that the visuals presented tonight be part of the project plans. Mr. Mendall made a motion to approve the staff recommendation with a modification to COA #14 that the landscape visuals presented at this meeting are what the Commission expects to see in the long term and will be made part of the permanent plans.

Commissioner Ali-Sullivan seconded the motion.

Commissioner Oquenda appreciates the changes made by the applicant; appreciated the different opinions shared by the public speakers; he is an advocate of inclusionary housing; but this is not the best time to try to force the developer to modify the project given that it has been in front of the CEDC several times and the applicant has made modifications to the project based of those meetings and the feedback that he received from the CEDC. He said Starbucks will be a popular addition and appreciates and agrees with Commissioner Mendall's comments about how the development would be different if it came before the Commission today. Mr. Oquenda supports the project.

Chair Roche supports the project; noted that the bulk of the public email comments were in support of the project; this has been a long haul and wants this project completed. Ms. Roche said this will be a great gateway into this part of town as this site has been a blight on this corner for a long time. She said to include housing on top of the retail would block the view. Ms. Roche encouraged Ms. Aquilar and Mr. Kirby to continue being advocates for affordable housing just as the Commissioners are. Ms. Roche supports the project and appreciates everyone's work and effort on this project.

A motion was made by Commissioner Mendall seconded by Commissioner Ali-Sullivan, to approve the staff recommendation with a modification to condition of approval #14: no building permit shall be issued prior to approval of landscape and irrigation plans consistent

with depictions presented in the City's staff report and as part of the Planning Commission presentation.

The motion passed with the following roll call votes:

AYES:	Commissioners Ali-Sullivan, Goldstein, Mendall, Oquenda, Stevens Chair Roche
NOES:	None
ABSENT:	Commissioner Bonilla
ABSTAIN:	None

2. Proposed Development of a New Approximately 116,844 Square Foot Industrial Building Requiring Site Plan Review Approval and a Historic Resources Demolition Permit; Certification of an Environmental Impact Report; and Adoption of a Mitigation, Monitoring and Reporting Program and Statement of Overriding Considerations at 4150 Point Eden Way (APN 461-0085-020-02). Jerry Owen on Behalf of U-Haul (Applicant); Amerco Real Estate Co. (Property Owner)

Acting Principal Planner Schmidt provided a synopsis of the staff report and PowerPoint presentation. Ms. Schmidt said staff received a 20-page letter at 6 p.m. this evening which was forwarded to the Commission.

Mr. George Dix, City's consultant Rincon Consultants, spoke about the letter from Dr. Smallwood and that they provided written responses. Mr. Dix said they also received a rebuttal letter from Dr. Smallwood and the responses have been addressed and that the mitigation measures in the draft EIR were sufficient to reduce any concerns to less than significant.

Mr. Jerry Owen of U-Haul, spoke about the project and the many agencies that are involved in this project. He said that U-Haul understands that this will be a gateway to Hayward and that they worked on the design to shows this and wants to make sure that they honor the historical value of the property and talked about placing signs along the Bay Trail.

Discussion ensued between staff, Commissioners and applicant and his team regarding the following: Will there be traffic impacts to local roads from trucks coming into the facility; will the salt pond preservation be maintained into perpetuity; mitigation credits one for one ratio and wetland credit; what would happen if building was left in place; to avoid flooding is there a height level requirement; will there be glare off SR92 on the glass part of the building; has the mitigation ratio for approved wetland back changed and why the western segment was not remediated to be wetlands; impacts by converting property to

hardscape; and are there soft soils that will require mitigation before construction of the building.

Acting Principal Planner Schmidt responded that there is a flood plain ordinance; Public Works Engineering and Transportation Division looked at this project and staff determined that a local transportation analysis (LTA) was not warranted. Ms. Schmidt described the U-Haul low impact operation at this site. Ms. Schmidt said in the COAs the salt ponds are to be preserved and the applicant will hold it into perpetuity. Ms. Schmidt stated that the recommendations from the geotechnical report are mitigation measures in the COAs.

Mr. Owen said the project is to be the main warehouse for storage and distribution in this area and there will not be any truck rental at this site.

Ms. Hope Kingma of WRA, said the salt flats and salt ponds do not get tidal influence from the bay and that the Regional Water Quality Control Board oversees the salt ponds. She described the wetland credit; spoke about what would need to be done to mitigate the salt ponds to be able to return these to marshlands. Ms. Kingma said the 32 acres western portion is not part of the project and these waters are under the jurisdiction of the United States. She said there is a significant levy on the southern boundary that precludes any tidal action to flood this parcel.

Mr. Dix spoke about the existing structure, pollutants, and lead from paint and that the impacts from this toxic situation and issues with squatters. He spoke about the general impacts from sea level rise which will occur with or without this project.

Ms. Renata Tyler from AC Martin, spoke about the sea level rise and that the project provides the opportunity to continue working on this area with City staff and other agencies; the proposed building pad is currently two feet above and the only area that would flood is the loading dock; spoke about the soil remediation and that they are working to find the right solution and that the geotechnical report is attached to the EIR. Ms. Tyler stated that this is not an easy project.

Chair Roche opened the public hearing at 8:58 p.m.

Mr. Kim Huggett, Chamber of Commerce, spoke in favor of the project and that staff had relayed how it was very difficult to find a business who would want to take on this complex site. Mr. Huggett spoke about the positive aspects of the applicant.

Mr. Kevin Dowling, Hayward resident and former Council Member, spoke in favor of the project and asked if the City can request that U-Haul dedicate a portion of the land for signage that you are entering Hayward the Heart of the Bay.

Michael Lozeau, spoke on behalf of Local 304 and the following concerns raised by Dr. Smallwood; impact to habitats; bird collisions; cumulative impacts from vehicles collisions; and noise impacts to neighboring wildlife.

Chair Roche closed the public hearing at 9:04 p.m.

Mr. Owens said that U-Haul is opened to discussing gateway signage with the City.

Acting Principal Planner Schmidt said the warehouse is not a noise generator and this warehouse is not going to have a generator or equipment that will generate noise. She said that the SR92 generates noise.

Mr. Dix responded about bird strikes and the mitigation measures they have incorporated such as the glass will have architectural features that will break up the glass, the glass is not reflective, and the building is only 50 feet tall.

Ms. Hope Kingma, spoke about the harvest mice and the upland areas are largely non-vegetative; in this case the project will not have a significant reduction in the upland areas and there will area preserved for the harvest mouse.

Commissioner Oquenda asked if there have been any discussions with labor groups about a labor agreement.

The applicant group said there has not been any discussions with labor groups.

Commissioner Ali-Sullivan asked if the signage will be added to the COA. Assistant City Attorney Brick confirmed as such.

Commissioner Mendall is not in favor of the proposed project and that this area along with other industrial areas were rezoned to exclude maintenance yards and to not allow the building of warehouses. This was done because the City does not want to attract warehouses; as the City goal is to attract office buildings; advanced manufacturing; food manufacturing; biotech; and high-tech uses. Mr. Mendall said that he used to work for a high-tech company on that street and shared that there is a hub of these types of uses that area which confirms the viability of the zoning for this area and that the application runs contrary to Council's approved zoning for this area. He said that the Planning Commission must make a statement of overriding consideration and to be able to do this, the Commission has to say that the proposed project is so good that it outweighs the environmental issues that cannot be mitigated. He said that if this was an office building, high-tech or biotech, then the Commission can make this finding as this use will align with job generation and Council goals.

Mr. Mendall said that a regional warehouse does not serve the Hayward area and that there will only be 25 warehouse jobs. Mr. Mendall said this is a gateway site and the proposed project is in contradiction to City goals. He encouraged his colleagues to vote against this project.

Commissioner Stevens has concerns about the biological impacts as the plan calls for removal of salt marsh sections and once a salt marsh is disturbed, this is a nonstarter. He is having a hard time understanding why this project is before the Commission and the mitigations offered, that even though the mitigations are consistent with state regulations and U.S. Corp policies, he does not agree with this. Mr. Stevens said that a gateway has many meanings and agrees with Commissioner Mendall regarding a gateway for Hayward. He is strongly opposed to having a developer conditioned with the gateway signage as this should be a community event. Mr. Stevens is opposed to building on the bayfront as the bayfront buffer is important for ecological reasons and helps attenuate future sea level rise. Mr. Stevens said there is not sufficient analysis from the report that this will protect Hayward's future. He is very concerned that an analysis was not performed about the potential damage to the City's roadways. Mr. Stevens does not support the project.

Commissioner Goldstein said that both Commissioner Mendall and Commissioner Stevens have made compelling arguments. He concurs with Commissioner Stevens that a gateway memorial would need to have community input. He agrees with Commissioner Mendall about the type of use proposed. Mr. Goldstein said that he supports the project, likes the design and the preservation of the 32 acres is a huge benefit.

Commissioner Oquenda questions why unions have not been engaged in talks with the applicant; he stated that he tends to agree with Commissioner Mendall's aspirational comments about this site being a gateway and will be voting against the project. As discussion ensued, he reviewed the Hayward Shoreline Master Plan and has concerns about long term planning for this area and the ability for the City to address the climate crisis.

Chair Roche appreciates her colleagues' discussion about this item as she was weighing the pros and cons and saw the benefit of the 32 acres preserved into perpetuity and that the dilapidated building would be torn down. Ms. Roche wondered why we are building further out into the bay when the City needs to be shoring up the coastline because of sea level rise. She would like to see something great as a gateway, did not have an issue with the warehouse building, and appreciates Commissioner Mendall's comments the City's desire to have high-tech uses in this area. Ms. Roche said she asked about a conservation group taking over this property and would like the City to take more time to see what can be done to preserve more of this site or potentially build in a different way on this site. Ms. Roche said that while she is on the fence, she will not be supporting the item and appreciates the applicant's hard work

and efforts to make this a good project both environmentally and help with Hayward's development.

Commissioner Stevens made a motion to deny the staff recommendation.

Commissioner Mendall seconded the motion.

A motion was made by Commissioner Stevens seconded by Commissioner Mendall, to deny the staff recommendation.

The motion passed with the following roll call votes:

AYES:	Commissioners Ali-Sullivan, Mendall, Oquenda, Stevens Chair Roche
NOES:	Commissioner Goldstein
ABSENT:	Commissioner Bonilla
ABSTAIN:	None

APPROVAL OF MINUTES

3. Minutes of the Planning Commission Meeting of June 10, 2021.

A motion was made by Commissioner Oquenda, seconded by Commissioner Stevens, to approve the Planning Commission Meeting Minutes of June 10, 2021.

AYES:	Commissioners Ali-Sullivan, Goldstein, Mendall, Oquenda, Stevens Chair Roche
NOES:	None
ABSENT:	Commissioner Bonilla
ABSTAIN:	None

4. Approval of the Planning Commission Meeting Minutes of June 24, 2021.

A motion was made by Commissioner Stevens seconded by Commissioner Ali-Sullivan, to approve the Planning Commission Meeting Minutes of June 24, 2021.

The motion passed with the following roll call votes:

AYES:	Commissioners Ali-Sullivan, Goldstein, Mendall, Oquenda, Stevens Chair Roche
NOES:	None

ABSENT: Commissioner Bonilla
ABSTAIN: None

COMMISSION REPORTS

Oral Report on Planning and Zoning Matters:

Acting Principal Planner Schmidt announced that for the July 22, 2021, meeting there will be three items that includes a Work Session with a report on transportation impact fees by the Public Works Department.

Commissioners' Announcements, Referrals:

Commissioner Stevens shared that the Alameda County Department of Public Works is working on a plan to design and construct a trail that will link Niles to Sunol and there will be a scoping meeting next Thursday from 6-8 p.m. to review their EIR. He said that information can be found at nilescanyontrail.org.

ADJOURNMENT

Chair Roche adjourned the meeting at 9:31 p.m.

APPROVED:

Robert Stevens, Secretary
Planning Commission

ATTEST:

Denise Chan, Senior Secretary
Office of the City Clerk

ATTACHMENT XI

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Leigha Schmidt, Senior Planner
City of Hayward
777 B Street
Hayward, CA 94541

8 July 2021

RE: 4150 Point Eden Way Industrial Development Project

Dear Ms. Schmidt,

I write to reply to the City of Hayward's responses to comments on the DEIR prepared for the proposed 4150 Point Eden Way Industrial Development Project (City of Hayward 2021). My qualifications as an expert were provided in my original comment letter of 19 May 2021.

I reply to the City's responses to comments presented in the Final EIR (FEIR). My replies appear under each summarized response, which are numbered consistently with their appearance in the FEIR. Responses to my comments, which the FEIR refers to as Exhibit A, are unnumbered, so I preface my replies to these responses under headings that summarize the relevant issue.

Response 4.4 to Letter 4: Citizens Committee to Complete the Refuge
Food waste, which attracts animals that pose threats to salt-marsh harvest mouse and salt-marsh wandering shrew, is generally associated with either residential areas or commercial development with restaurants, but not with industrial projects such as the proposed project.

Reply: The City's response is inaccurate. The industrial sites located east of the site of the proposed project harbor house cats and other non-native species. I witnessed a house cat emerge from the neighboring industrial site to hunt on the trail along the east border of the project site.

Response 4.5 to Letter 4: Citizens Committee to Complete the Refuge
Concern over the loss of options for salt-marsh harvest mouse to escape tidal and flood waters are dismissed on the grounds that project mitigation includes the purchase of credits from the San Francisco Bay Wetland Mitigation Bank for the loss of 0.97 acres of waters of the U.S.

Reply: This response misses the point of the comment and applies the wrong mitigation to the impact at issue. The escape refugia is upland vegetation where the mouse can escape inundated pickleweed. The mouse can swim to refugia, but the farther the mouse must swim, the greater the risks to the mouse. The loss of 0.97 acres of wetlands has little to do with the loss of the upland areas to which salt-marsh harvest mouse can find safety when the surrounding pickleweed is flooded. Neither does the purchase of credits for those 0.97 acres have anything to do with mitigating the impact of 8.31 acres of lost refugia.

Neither would the preservation of 32 on-site acres of former salt ponds qualify as mitigation for the loss of upland refugia. The salt ponds are no longer natural wetlands dominated by pickleweed, but even if they were restored as wetlands, they offer no upland refugia.

Response 4.6 to Letter 4: Citizens Committee to Complete the Refuge
The reply refers to a discussion of noise in the Initial Study (pages 86-89), thereby implying that the issue raised in the comment was already analyzed.

Reply: The response is misleading because the noise analysis in the Initial Study was focused on impacts to humans, not to wildlife. Wildlife live in the wild, so they tend to suffer more prolonged exposures to noise sources than do humans. And much more so than do humans, wildlife rely on sound for communication and predator detection. Analysis of potential impacts to wildlife from noise exposure is needed, but entirely missing from the EIR. The missing analysis is all the more glaring considering the large number of special-status species that occur in the area, and the multiple threatened and endangered species that have been documented at or near the site.

Sound that humans might find innocuous or even pleasant can be devastating noise to wildlife populations. Animal species vary in their perception of sound due to variation in morphology and variation in exposure to sound mediated by the environments in which they live. Animal species also vary in reactions to noise (sound pollution), and in impacts caused by noise. Within each species, impacts vary by sound pressure (dBA), frequency, duration, timing of exposure within a day or season, and to what degree the same noise adversely affects predatory or competitor species; thus, no single metric, such as dBA, can adequately serve to measure impacts (McKenna et al. 2016). Noise can interfere with, and thus debilitate, either or both sound emission and sound reception from an animal species, and it can alter the animals' physiology via tissue damage or release of stress hormones. Costs can be expressed as increased energy needed to overcome noise effects, as diminished productivity (i.e., lower reproductive output), as lower fitness, as increased mortality, and ultimately as extirpation.

City of Hayward has not seriously addressed the issue of project noise impacts to wildlife.

Response 4.6 to Letter 4: Citizens Committee to Complete the Refuge
The response identifies the noise sources as "vehicle circulation noise (e.g., engine startups, alarms, parking) at the on-site parking lot and, heating, ventilation, and air conditioning (HVAC) equipment at the proposed industrial building," and explains that "Vehicle trips generated by the project would be only a small fraction of the total trips that occur daily on State Route 92, adjacent to the project site."

Reply: The response trivializes the effect of noise from the project by suggesting that it would be drowned out by the existing noise of Highway 92, but noise attenuates at a rate of about 6 dBA per doubling of the distance from source. The Initial Study reports that noise is typically measured at 87 dBA at 25 feet from trucks. Therefore, noise from truck traffic on Highway 92 would attenuate to about 58 dBA by the time it reaches the south end of the project site (216 m from the Highway). The attenuation is shown in the table below, in which the first distance is 25 feet expressed in meters.

Distance from source (m)	dBA
7.62	87
15.24	81
30.48	75
60.96	69
121.92	63
244	57
488	51
976	45

The 58 dBA of Highway noise measurable at the south end of the project site would be exceeded by the 87-dBA noise originating from trucks on the project site. This noise originating from the project site would attenuate at the same rate as in the Table above. Therefore, the project site would extend the noise source of trucks by another 216 m toward the wetlands south of Highway 92. Any of this noise that interferes with wildlife communication and predator detection would be noise that degrades habitat; some of this noise would lessen the extent of suitable habitat to at least some species that currently reside in or migrate to the wetlands.

Noise impacts can contribute to habitat fragmentation, which is defined as the reduced numerical capacity of a species caused by the pattern of habitat loss or degradation (Smallwood 2015). Habitat-penetration of noise that interferes with auditory signals related to mate-attraction, territorial defense, foraging, and predator alarm-calling can degrade habitat, thereby reducing the effective population size (Anthony and Blumstein 2000). Another impact of noise is physiological stress associated with startling responses to noise and increased effort to overcome noise interference (Francis and Barber 2013). For example, increasing residential noise from 42 dB to 63 dB forced one bird species to increase its call frequency by 9%, which was significant (Slabbekoorn and Peet 2003). Noise impacts can reduce habitat patch sizes, effective movement corridor widths, and habitat connectivity, which reduces the numerical capacity of a species and therefore contributes to habitat fragmentation (Smallwood 2015). Worse, habitat-penetration of noise can transform habitat patches into ecological sinks for species attracted to the habitat for its structure which visually connotes the availability of cover, forage and breeding opportunities, but where noise will interfere with the species' ability to capitalize on these opportunities. Ecological sinks remove individuals of a species from habitat patches where those individuals could have functioned as members of a population had they selected a different habitat patch unpolluted by noise.

Noise affects animal behaviors, so numerical abundance around noise sources is not always the most useful metric for assessing a species' response to noise (Pater et al. 2009, Francis and Barber 2013). Noise can change activity patterns by time of day or by spatial exposure to noise, and it can be perceived and reacted upon as false threats or false cues. Also, dBA and equivalent continuous sound levels (L_{eq}) are not necessarily the best ways to characterize noise that might adversely affect wildlife (Francis and Barber 2013). Sudden or episodic noises, such as traffic noises, can be more disruptive to some species than continuous or regular noises, so it is helpful to characterize the spectra of noise sources. Noise impacts should be assessed within the

auditory frequency range perceived by the species (Pater et al. 2009), so audiograms of each species should be compared to the acoustical spectra of sound sources (Pater et al. 2009).

As an example of what can be learned from comparing avian audiograms to acoustical spectra of sound sources, Warrington et al. (2018) detected most effects of extractive energy noise "*resulted from noise frequencies with the greatest overlap with song features*." Warrington et al. (2018) found particular infrastructure generated noise that affected particular aspects of a bird's call, and these effects were measured at distances of 43 to 451 m from sources. Noise impacts on wildlife can be highly significant, but they are also complex. Whereas thorough analysis of noise impacts on each species of wildlife is likely infeasible, gross analysis is feasible and warranted.

Each special-status species likely occurring at or near the project site should be assessed for potential impacts. Where no scientific data are available for a particular species, one could make careful use of surrogate species for which data *are* available. For example, lacking measurements of noise impacts on willow flycatcher, one could examine impacts on other species of songbirds. In one study of two frog species exposed to 65 dBA traffic noise, mate-calling frequency declined 42% (Caorsi et al. 2017). For these species, if they were to occur next to the project site and roads leading to and from the site, mating call frequency would lessen by 42% across the area within 15 m of the roadways. In this hypothetical example, and applying it to 10 miles of nearby roadways, effective habitat loss could be estimated as 48.27 ha – (48.27 ha × 0.58 normal call frequency) = 20.27 ha, where the 48.27 ha was calculated as 10 miles × 1,609 m/mile × 15 m × 2 sides of the road.

Another species of frog exposed to 7 days of 70 dBA traffic noise experienced 95% increase in corticosterone levels in the blood, resulting in 56% lower sperm count and 25% lower sperm viability (Kaiser et al. 2015). One might estimate effective habitat loss along 10 miles of nearby roadway in this hypothetical case as 48.27 ha – (48.27 ha × 0.44 sperm count × 0.75 viable sperm) = 32.23 ha.

Table 2 in my comment letter of 19 May 2021 includes 24 special-status species of hummingbirds, woodpeckers and songbirds for which impacts can be predicted by existing studies of surrogate species. For example, Ware et al. (2015) measured changes in songbirds exposed to 61 dBA noise compared to 32 dBA "ambient" sound, finding an 8% decrease in foraging, 21% increase in vigilance, and 30% decrease in feeding duration. They also quantified reduced migration stopover efficiency of multiple species of songbird exposed to 61 dBA noise. Ware et al. (2015) showed that although avian habitat might look just as suitable after the introduced noise as before, its suitability declines nevertheless.

Response 4.7 to Letter 4: Citizens Committee to Complete the Refuge
In response to concern over birds colliding with windows facing the Ecological Reserve, City of Hayward writes, "The proposed industrial building was designed to avoid bird strikes, particularly the western-facing windows. As illustrated in the conceptual image of the proposed building below, the western-facing windows would have architectural features that break up the glass surface and protrude outward from the window surface."

Reply: The response treats the bird-window collision issue as the result of two causal factors, which the response characterizes as (1) unbroken expanse of windows on a facade, and (2) the degree to which glass windows protrude from a building. In reality, the bird-window collision problem is much more complex with many hypothesized causal factors. The City's analysis of the issue is overly simplistic and very likely inaccurate.

If the bird-window collision issue was as simple as portrayed by the City's response, window collisions would not be characterized as either the second or third largest source or human-caused bird mortality. The numbers behind these characterizations are often attributed to Klem's (1990) and Dunn's (1993) estimates of about 100 million to 1 billion bird fatalities in the USA, or more recently Loss et al.'s (2014) estimate of 365-988 million bird fatalities in the USA or Calvert et al.'s (2013) and Machtans et al.'s (2013) estimates of 22.4 million and 25 million bird fatalities in Canada, respectively. However, these estimates were likely biased too low, because they were based on opportunistic sampling, volunteer study participation, fatality monitoring by more inexperienced than experienced searchers, and usually no adjustments made for scavenger removals of carcasses before searchers could detect them (Bracey et al. 2016). A high rate of bird-window collisions has been measured in the Bay Area (Kahle et al. 2016), which is within the prominent bird migration route known as the Pacific Flyway, and within which the proposed project is located. The precedent for high bird-window collision mortality exists both worldwide and locally, and the birds that might collide with the building's windows are available in abundance along the Pacific Flyway and locally between two adjacent Ecological Preserves. And the problem is indeed a complicated one.

Below is a list of collision factors I found in the scientific literature, and which I suggest ought to be used to revise the EIR. Following this list are specific notes and findings taken from the literature and my own experience.

(1) Inherent hazard of a structure in the airspace used for nocturnal migration or other flights
(2) Window transparency, falsely revealing passage through structure or to indoor plants

(3) Window reflectance, falsely depicting vegetation, competitors, or open airspace
(4) Black hole or passage effect
(5) Window or façade extent, or proportion of façade consisting of window or other reflective surface
(6) Size of window
(7) Type of glass
(8) Lighting, which is correlated with window extent and building operations
(9) Height of structure (collision mechanisms shift with height above ground)
(10) Orientation of façade with respect to winds and solar exposure
(11) Structural layout causing confusion and entrapment
(12) Context in terms of urban-rural gradient, or surrounding extent of impervious surface vs vegetation
(13) Height, structure, and extent of vegetation grown near home or building
(14) Presence of birdfeeders or other attractants
(15) Relative abundance
(16) Season of the year
(17) Ecology, demography and behavior
(18) Predatory attacks or cues provoking fear of attack
(19) Aggressive social interactions

(1) Inherent hazard of structure in airspace.—Not all of a structure's collision risk can be attributed to windows. Overing (1938) reported 576 birds collided with the Washington Monument in 90 minutes on one night, 12 September 1937. The average annual fatality count had been 328 birds from 1932 through 1936. Gelb and Delacretaz (2009) and Klem et al. (2009) also reported finding collision victims at buildings lacking windows, although many fewer than they found at buildings fitted with widows. The takeaway is that any building going up at the project site would likely kill birds, although mortality would increase with larger expanses of glass.

(2) Window transparency.—Widely believed as one of the two principal factors contributing to avian collisions with buildings is the transparency of glass used in windows on the buildings (Klem 1989). Gelb and Delacretaz (2009) felt that many of the collisions they detected occurred where transparent windows revealed interior vegetation.

(3) Window reflectance.—Widely believed as one of the two principal factors contributing to avian collisions with buildings is the reflectance of glass used in windows on the buildings (Klem 1989). Reflectance can deceptively depict open airspace, vegetation as habitat destination, or competitive rivals as self-images (Klem 1989). Gelb and Delacretaz (2009) felt that many of the collisions they detected occurred toward the lower parts of buildings where large glass exteriors reflected outdoor vegetation. Klem et al. (2009) and Borden et al. (2010) also found that reflected outdoor vegetation associated positively with collisions.

(4) Black hole or passage effect.—Although this factor was not often mentioned in the bird-window collision literature, it was suggested in Sheppard and Phillips (2015). The black hole or passage effect is the deceptive appearance of a cavity or darkened ledge that certain species of bird typically approach with speed when seeking roosting sites. The deception is achieved when

shadows from awnings or the interior light conditions give the appearance of cavities or protected ledges. This factor appears potentially to be nuanced variations on transparency or reflectance or possibly an interaction effect of both of these factors. It might play a significant role in the proposed project, as I am concerned that this factor might also express itself from the shadows cast by the project's design feature intended to break up the glass surface.

(5) Window or façade extent.—Klem et al. (2009), Borden et al. (2010), Hager et al. (2013), Ocampo-Peñuela et al. (2016), Loss et al. (2019), Rebolo-Ifrán et al. (2019), and Riding et al. (2020) reported increased collision fatalities at buildings with larger reflective façades or higher proportions of façades composed of windows. However, Porter and Huang (2015) found a negative relationship between fatalities found and proportion of façade that was glazed.

(6) Size of window.—According to Kahle et al. (2016), collision rates were higher on large-pane windows compared to small-pane windows. Many of the windows of the proposed project would be large, with hundreds of them each about 2.42 m^2 in area, in addition to the expansive bottom-floor windows.

(7) Type of glass.—Klem et al. (2009) found that collision fatalities associated with the type of glass used on buildings. Otherwise, little attention has been directed towards the types of glass in buildings.

(8) Lighting.—Parkins et al. (2015) found that light emission from buildings correlated positively with percent glass on the façade, suggesting that lighting is linked to the extent of windows. Zink and Eckles (2010) reported fatality reductions, including an 80% reduction at a Chicago high-rise, upon the initiation of the Lights-out Program. However, Zink and Eckles (2010) provided no information on their search effort, such as the number of searches or search interval or search area around each building.

(9) Height of structure.—Except for Riding et al. (2020), I found little if any hypothesis-testing related to building height, including whether another suite of factors might relate to collision victims of high-rises. Are migrants more commonly the victims of high-rises or of smaller buildings? Some of the most notorious buildings are low-rise buildings.

(10) Orientation of façade.—Some studies tested façade orientation, but not convincingly. Some evidence that orientation affects collision rates was provided by Winton et al. (2018). Confounding factors such as the extent and types of windows would require large sample sizes of collision victims to parse out the variation so that some portion of it could be attributed to orientation of façade. Whether certain orientations cause disproportionately stronger or more realistic-appearing reflections ought to be testable through measurement, but counting dead birds under façades of different orientations would help.

(11) Structural layout.—Bird-safe building guidelines have illustrated examples of structural layouts associated with high rates of bird-window collisions, but little attention has been directed towards hazardous structural layouts in the scientific literature. An exception was Johnson and Hudson (1976), who found high collision rates at 3 stories of glassed-in walkways atop an open

breezeway, located on a break in slope with trees on one side of the structure and open sky on the other, Washington State University.

(12) Context in urban-rural gradient.—Numbers of fatalities found in monitoring have associated negatively with increasing developed area surrounding the building (Hager et al. 2013), and positively with more rural settings (Kummer et al. 2016).

(13) Height, structure and extent of vegetation near building.—Correlations have sometimes been found between collision rates and the presence or extent of vegetation near windows (Hager et al. 2008, Borden et al. 2010, Kummer et al. 2016, Ocampo-Peñuela et al. 2016). However, Porter and Huang (2015) found a negative relationship between fatalities found and vegetation cover near the building. In my experience, what probably matters most is the distance from the building that vegetation occurs. If the vegetation that is used by birds is very close to a glass façade, then birds coming from that vegetation will be less likely to attain sufficient speed upon arrival at the glass façade to result in a fatal injury. Too far away and there is probably no relationship. But 30 to 50 m away, as proposed for this project (see image used in the response), and birds alighting from vegetation can attain lethal speeds by the time they arrive at the windows.

(14) Presence of birdfeeders.—Dunn (1993) reported a weak correlation ($r = 0.13$, $P < 0.001$) between number of birds killed by home windows and the number of birds counted at feeders. However, Kummer and Bayne (2015) found that experimental installment of birdfeeders at homes increased bird collisions with windows 1.84-fold.

(15) Relative abundance.—Collision rates have often been assumed to increase with local density or relative abundance (Klem 1989), and positive correlations have been measured (Dunn 1993, Hager et al. 2008). However, Hager and Craig (2014) found a negative correlation between fatality rates and relative abundance near buildings.

(16) Season of the year.—Borden et al. (2010) found 90% of collision fatalities during spring and fall migration periods. The significance of this finding is magnified by 7-day carcass persistence rates of 0.45 and 0.35 in spring and fall, rates which were considerably lower than during winter and summer (Hager et al. 2012). In other words, the concentration of fatalities during migration seasons would increase after applying seasonally-explicit adjustments for carcass persistence. Fatalities caused by collisions into the glass façades of the project's building would likely be concentrated in fall and spring migration periods.

(17) Ecology, demography and behavior.—Klem (1989) noted that certain types of birds were not found as common window-caused fatalities, including soaring hawks and waterbirds. Cusa et al. (2015) found that species colliding with buildings surrounded by higher levels of urban greenery were foliage gleaners, and species colliding with buildings surrounded by higher levels of urbanization were ground foragers. Sabo et al. (2016) found no difference in age class, but did find that migrants are more susceptible to collision than resident birds.

(18) Predatory attacks.—Panic flights caused by raptors were mentioned in 16% of window strike reports in Dunn's (1993) study. I have witnessed Cooper's hawks chasing birds into

windows, including house finches next door to my home and a northern mocking bird chased directly into my office window. Predatory birds likely to collide with the project's windows would include Peregrine falcon, red-shouldered hawk, Cooper's hawk, and sharp-shinned hawk.

(19) Aggressive social interactions.—I found no hypothesis-testing of the roles of aggressive social interactions in the literature other than the occasional anecdotal account of birds attacking their self-images reflected from windows. However, I have witnessed birds chasing each other and sometimes these chases resulting in one of the birds hitting a window.

If the project goes forward as proposed and bird-window collisions occur at a high rate, fatality-reduction measures would be the only practical solution. The most efficacious approach to the problem is to avoid or minimize impacts to the degree feasible at the planning side of the project. Any new project should be informed by preconstruction surveys of daytime and nocturnal flight activity. Such surveys can reveal the one or more façades facing the prevailing approach direction of birds, and these revelations can help prioritize where certain types of mitigation can be targeted. It is critical to formulate effective measures prior to construction, because post-construction options will be limited, likely more expensive, and probably less effective.

(1) Retrofitting to reduce impacts
(1A) Marking windows
(1B) Managing outdoor landscape vegetation
(1C) Managing indoor landscape vegetation
(1D) Managing nocturnal lighting

(1A) Marking windows.— Whereas Klem (1990) found no deterrent effect from decals on windows, Johnson and Hudson (1976) reported a fatality reduction of about 69% after placing decals on windows. In an experiment of opportunity, Ocampo-Peñuela et al. (2016) found only 2 of 86 fatalities at one of 6 buildings – the only building with windows treated with a bird deterrent film. At the building with fritted glass, bird collisions were 82% lower than at other buildings with untreated windows. Kahle et al. (2016) added external window shades to some windowed façades to reduce fatalities 82% and 95%. Brown et al. (2020) reported an 84% lower collision probability among fritted glass windows and windows treated with ORNILUX R UV. City of Portland Bureau of Environmental Services and Portland Audubon (2020) reduced bird collision fatalities 94% by affixing marked Solyx window film to existing glass panels of Portland's Columbia Building. Many external and internal glass markers have been tested experimentally, some showing no effect and some showing strong deterrent effects (Klem 1989, 1990, 2009, 2011; Klem and Saenger 2013; Rössler et al. 2015).

Following up on the results of Johnson and Hudson (1976), I decided to mark windows of my home, where I have documented 5 bird collision fatalities between the time I moved in and 6 years later. I marked my windows with decals delivered to me via US Postal Service from a commercial vendor. I have documented no fatalities at my windows during the 10 years hence. In my assessment, markers can be effective in some situations.

The response depicts vertical slats to break up the glass surface. I have seen such slats on another building. However, it would help for the City to provide the scientific foundation for

using this design feature. It would help to reveal any scientific evidence of efficacy. Otherwise, if the proposed design feature is in effective, then the following is my prediction of bird mortality based on what has been measured at many other sites across the USA.

By the time of these replies I had reviewed and processed results of bird collision monitoring at 213 buildings and façades for which bird collisions per m^2 of glass per year could be calculated and averaged (Johnson and Hudson 1976, O'Connell 2001, Somerlot 2003, Hager et al. 2008, Borden et al. 2010, Hager et al. 2013, Porter and Huang 2015, Parkins et al. 2015, Kahle et al. 2016, Ocampo-Peñuela et al. 2016, Sabo et al. 2016, Barton et al. 2017, Gomez-Moreno et al. 2018, Schneider et al. 2018, Loss et al. 2019, Brown et al. 2020, , City of Portland Bureau of Environmental Services and Portland Audubon 2020, Riding et al. 2020). These study results averaged 0.073 bird deaths per m^2 of glass per year (95% CI: 0.042-0.102). Looking over the proposed building design, I estimated the portion of the building that protrudes with expansive glass surfaces would include at least 1,155.3 m^2 of glass panels, which applied to the mean fatality rate would predict at least **84 bird deaths per year (95% CI: 50-119)** at just this portion of the building. The 100-year toll from this average annual fatality rate would be at least **8,400 bird deaths (95% CI: 5,000-11,900)**. These estimates would be perhaps 3 times higher after accounting for the proportions of fatalities removed by scavengers or missed by fatality searchers where studies have been performed. The mortality of collision fatalities would continue until the building is either renovated to reduce bird collisions or it comes down. If the project moves forward as proposed, and annually kills 84 birds protected by state and federal laws, then the project will cause significant unmitigated impacts.

The project should not go forward as proposed unless the design features can be proven effective. Unless evidence can be provided to soundly support the implementation of the proposed design features, then the City should adhere to available guidelines prepared by American Bird Conservancy and New York and San Francisco. The American Bird Conservancy (ABC) produced an excellent set of guidelines recommending actions to: (1) Minimize use of glass; (2) Placing glass behind some type of screening (grilles, shutters, exterior shades); (3) Using glass with inherent properties to reduce collisions, such as patterns, window films, decals or tape; and (4) Turning off lights during migration seasons (Sheppard and Phillips 2015). The City of San Francisco (San Francisco Planning Department 2011) also has a set of building design guidelines, based on the excellent guidelines produced by the New York City Audubon Society (Orff et al. 2007). The ABC document and both the New York and San Francisco documents provide excellent alerting of potential bird-collision hazards as well as many visual examples. The San Francisco Planning Department's (2011) building design guidelines are more comprehensive than those of New York City, but they could have gone further. For example, the San Francisco guidelines probably should have also covered scientific monitoring of impacts as well as compensatory mitigation for impacts that could not be avoided, minimized or reduced.

Monitoring and the use of compensatory mitigation should be incorporated at any new building project because the measures recommended in the available guidelines remain of uncertain efficacy, and even if these measures are effective, they will not reduce collision fatalities to zero. The only way to assess efficacy and to quantify post-construction fatalities is to monitor the project for fatalities.

Response 5.1: Paige Fenny, Lozeau Drury LLP
"The commenter does not provide detail on additional mitigation measures that could be imposed to reduce project impacts."

Reply: The response is incorrect. Ms. Fenny attached my comments to her letter. My comments included feasible mitigation measures to minimize project impacts.

Response 5.5: Paige Fenny, Lozeau Drury LLP
"The commenter's opinion - that the Initial Study or Draft EIR conclusion is that no special-status species occur on the project site and that the baseline condition assessment is inadequate – is inaccurate." And "Neither the Draft EIR or the Initial Study state that special-status wildlife species do not occur on the project site."

Reply: By a thin margin, I can agree with the response. WRA (2020:17) began by summarily dismissing the possibility of half of the 26 special-status species that WRA determined to occur in the vicinity of the project. (In my comment letter, I determined 79 special-status species of wildlife likely use the site at one time or another). On pages 17-18, WRA wrote that many of the other 13 species "are unlikely to occur on the project site." Each of the 13 species is then assessed in more detail, and for all but a few of them, the determination was that the species is not expected to occur or similar language to the same effect. WRA concluded that Alameda song sparrow "may nest in the shrubs onsite, or near the project site in the surrounding marshes," although the DEIR did not report that Alameda song sparrow could nest on the site. WRA also concluded that burrowing owl "may use the levees surrounding the project site for wintering and nesting habitat," and for white-tailed kite, "shrubs in the eastern portion of the project site may provide marginal nesting habitat for this species." These are not strong endorsements for potential presence on the project site. The strongest endorsement for presence of a special-status species was "salt marsh harvest mice could potentially be present within the Project Site." Contributing further to the DEIR's dwindling of occurrence likelihoods, the DEIR reported that no such species had been seen during the biological surveys. The DEIR presents this outcome in the context of species occurrence likelihood determinations, which in my read of it implies it is evidence of absence. As I pointed out in my comments, this outcome is not evidence of absence.

Response 5.5: Paige Fenny, Lozeau Drury LLP
"The Biological Resources Technical Report prepared by WRA for the project, which is included as an appendix to the Initial Study, analyses 31 special-status wildlife species known from the region, not ten species as the comment letter states."

Reply: See my reply above. WRA started with 26 species (not 31), then summarily dismissed half of them. Actual analyses were presented only for 16 species. Of these 16 species, I determined that 6 should not have been considered in the first place because it was not reasonable to consider the possibility that those species might occur at the project site. The analyses for those 6 species were empty analyses. I considered that 10 species were legitimately analyzed for occurrence potential.

Response 5.5: Paige Fenny, Lozeau Drury LLP

"It should be further noted with respect to the adequacy of the baseline surveys that the methods section of WRA's Biological Resources Technical Report states that Monk & Associates biologists Mr. Geoff Monk and Ms. Hope Kingma conducted surveys of the project site on January 7, 2015, July 1, 2015, and August 29, 2016."

Reply: Understood, but where are the results of these surveys. The EIR does not report what species were detected by these biologists during the stated surveys.

Response 5.5: Paige Fenny, Lozeau Drury LLP
"It is important to note that CEQA does not require an exhaustive list of all bird species that could occur on a site..."

Reply: No suggestion was made for the need of an exhaustive list of all bird species that use the site. What is important, however, is to more accurately characterize the existing environment, because this characterization serves as the baseline for analysis of impacts to wildlife. What is also needed is for the EIR to not characterize its 4 reconnaissance-level surveys as sufficient for characterizing the wildlife community of the existing environmental setting. Those surveys performed by Monk & Associates could not possibly have detected anywhere near the complete suite of species that use the site. There should be no implication that they did, just as there should be no implication that those surveys provide evidence of absence of special-status species.

Response 5.6: Paige Fenny, Lozeau Drury LLP
Quotes paragraphs from WRA (2019) as "background" to a speculative argument downplaying the value of the project site to wildlife migration and movement through the area.

Reply: The entire argument is speculative and built on vague, nearly meaningless terms. The same argument used to downplay the value of the site to wildlife would apply equally to the adjacent Ecological Preserves, which also abut Highway 92 and the existing industrial facilities. According to the argument of the response, neither of the adjacent Ecological Preserves provide any habitat and movement value to wildlife. But I do not agree with this. Furthermore, the documented occurrences of wildlife on the Preserves and on the project site soundly refute the response's argument.

Response 5.7: Paige Fenny, Lozeau Drury LLP
"The commenter asserts that the project would generate 1,192,862 vehicle miles per year but does not explain how the mileage was calculated and what percentage increase this may represent for the local area."

Reply: This is not true. I identified where the number came from, which was the DEIR.

The rest of the response is misleading in multiple ways. First, the Vasco Road study I cited was intended as an example foundation for performing an appropriate analysis; it was intended to show the possible magnitude of the impact. Second, the response mischaracterizes the environment of the study area along Vasco Road. There was no agriculture there, nor oak woodlands or riparian. It was grassland. Third, the response conflates a significance finding

typically made for traffic analysis to a significance finding regarding wildlife mortality. Traffic analysis in CEQA reviews do not consider impacts to wildlife, so the response's conflation of significance findings from such analyses is misdirected here. The reality is that adding 1,192,862 vehicle miles per year is going to kill many wild animals. Note that the response was silent on the calculation per my prediction of mortality. The fatality rate might differ between the project site and the Vasco Road study site, but the number of fatalities per year would still be substantial, and significant.

Thank you for your attention,

_____
Shawn Smallwood, Ph.D.

REFERENCE CITED

Barton, C. M., C. S. Riding, and S. R. Loss. 2017. Magnitude and correlates of bird collisions at glass bus shelters in an urban landscape. Plos One 12. (6): e0178667. https://doi.org/10.1371/journal.pone.0178667

Basilio, L. G., D. J. Moreno, and A, J. Piratelli. 2020. Main causes of bird-window collisions: a review. Anais da Academia Brasileira de Ciências 92(1): e20180745 DOI 10.1590/0001-3765202020180745.

Borden, W. C., O. M. Lockhart, A. W. Jones, and M. S. Lyons. 2010. Seasonal, taxonomic, and local habitat components of bird-window collisions on an urban university campus in Cleveland, OH. Ohio Journal of Science 110(3):44-52.

Bracey, A. M., M. A. Etterson, G. J. Niemi, and R. F. Green. 2016. Variation in bird-window collision mortality and scavenging rates within an urban landscape. The Wilson Journal of Ornithology 128:355-367.

Brown, B. B., L. Hunter, and S. Santos. 2020. Bird-window collisions: different fall and winter risk and protective factors. PeerJ 8:e9401 http://doi.org/10.7717/peerj.9401

Calvert, A. M., C. A. Bishop, R. D. Elliot, E. A. Krebs, T. M. Kydd, C. S. Machtans, and G. J. Robertson. 2013. A synthesis of human-related avian mortality in Canada. Avian Conservation and Ecology 8(2): 11. http://dx.doi.org/10.5751/ACE-00581-080211

Caorsi, V. Z., C. Both, S. Cechin, R. Antunes, and M. Borges-Martins. 2017. Effects of traffic noise on the calling behavior of two Neotropical hylid frogs. PLoS ONE 12(8): e0183342. https://doi.org/10.1371/journal.pone.0183342

Cusa M, Jackson DA, Mesure M. 2015. Window collisions by migratory bird species: urban geographical patterns and habitat associations. Urban Ecosystems 18(4):1–20. DOI 10.1007/s11252-015-0459-3.

City of Portland Bureau of Environmental Services and Portland Audubon. 2020. Collisions at the Columbia Building: A synthesis of pre- and post-retrofit monitoring. Environmental Services of City of Portland, Oregon.

Dunn, E. H. 1993. Bird mortality from striking residential windows in winter. Journal of Field Ornithology 64:302-309.

Francis, C. D. and J. R. Barber. 2013. A framework for understanding noise impacts on wildlife: an urgent conservation priority. Frontiers in Ecology and Environment 11:305–313. doi:10.1890/120183

Gauthreaux, Jr., S. A., J. W. Livingston, and C. G. Belser. 2008. Detection and discrimination of fauna in the aerosphere using Doppler weather surveillance radar. Integrative and Comparative Biology 48:12-23.

Gelb, Y. and N. Delacretaz. 2009. Windows and vegetation: Primary factors in Manhattan bird collisions. Northeastern Naturalist 16:455-470.

Gómez-Moreno, V. del C., J. R. Herrera-Herrera, and S. Niño-Maldonado. 2018. Bird collisions in windows of Centro Universitario Victoria, Tamaulipas, México. Huitzil, Revista Mexicana de Ornitología 19(2): 227-236. https://doi.org/10.28947/hrmo.2018.19.2.347

Hager, S. B, and M. E. Craig. 2014. Bird-window collisions in the summer breeding season. PeerJ 2:e460 DOI 10.7717/peerj.460.

Hager, S. B., H. Trudell, K. J. McKay, S. M. Crandall, and L. Mayer. 2008. Bird density and mortality at windows. Wilson Journal of Ornithology 120:550-564.

Hager, S. B., B. J. Cosentino, and K. J. McKay. 2012. Scavenging effects persistence of avian carcasses resulting from window collisions in an urban landscape. Journal of Field Ornithology 83:203-211.

Hager S. B., B. J. Cosentino, K J. McKay, C. Monson, W. Zuurdeeg, and B. Blevins. 2013. Window area and development drive spatial variation in bird-window collisions in an urban landscape. PLoS ONE 8(1): e53371. doi:10.1371/journal.pone.0053371

Johnson, R. E., and G. E. Hudson. 1976. Bird mortality at a glassed-in walkway in Washington State. Western Birds 7:99-107.

Kahle, L. Q., M. E. Flannery, and J. P. Dumbacher. 2016. Bird-window collisions at a west-coast urban park museum: analyses of bird biology and window attributes from Golden Gate Park, San Francisco. PLoS ONE 11(1):e144600 DOI 10.1371/journal.pone.0144600.

Kaiser, K., J. Devito, C. G. Jones, A. Marentes, R. Perez, L. Umeh, R. M. Weickum, K. E. McGovern, E. H. Wilson, and W. Saltzman. 2015. Effects of anthropogenic noise on endocrine and reproductive function in White's treefrog, *Litoria caerulea*. Conservation Physiology 3: doi:10.1093/conphys/cou061.

Klem, D., Jr. 1989. Bird-window collisions. Wilson Bulletin 101:606-620.

Klem, D., Jr. 1990. Collisions between birds and windows: mortality and prevention. Journal of Field Ornithology 61:120-128.

Klem, D., Jr. 2009. Preventing bird-window collisions. The Wilson Journal of Ornithology 121:314-321.

Klem, D., Jr. 2010. Avian mortality at windows: the second largest human source of bird mortality on earth. Pages 244-251 in Proc. Fourth Int. Partners in Flight Conference: Tundra to Tropics.

Klem, D., Jr. 2011. Evaluating the effectiveness of Acopian Birdsavers to deter or prevent bird-glass collisions. Unpublished report.

Klem, D., Jr. and P. G. Saenger. 2013. Evaluating the effectiveness of select visual signals to prevent bird-window collisions. The Wilson Journal of Ornithology 125:406–411.

Klem, D. Jr., C. J. Farmer, N. Delacretaz, Y. Gelb and P. G. Saenger. 2009. Architectural and landscape risk factors associated with bird-glass collisions in an urban environment. Wilson Journal of Ornithology 121:126-134.

Kummer J. A., and E. M. Bayne. 2015. Bird feeders and their effects on bird-window collisions at residential houses. Avian Conservation and Ecology 10(2):6 DOI 10.5751/ACE-00787-100206.

Kummer, J. A., E. M. Bayne, and C. S. Machtans. 2016. Use of citizen science to identify factors affecting bird-window collision risk at houses. The Condor: Ornithological Applications 118:624-639. DOI: 10.1650/CONDOR-16-26.1

Loss, S. R., T. Will, S. S. Loss, and P. P. Marra. 2014. Bird–building collisions in the United States: Estimates of annual mortality and species vulnerability. The Condor: Ornithological Applications 116:8-23. DOI: 10.1650/CONDOR-13-090.1

Loss, S. R., S. Lao, J. W. Eckles, A. W. Anderson, R. B. Blair, and R. J. Turner. 2019. Factors influencing bird-building collisions in the downtown area of a major North American city. PLoS ONE 14(11): e0224164. https://doi.org/10.1371/journal.pone.0224164

Machtans, C. S., C. H. R. Wedeles, and E. M. Bayne. 2013. A first estimate for Canada of the number of birds killed by colliding with building windows. Avian Conservation and Ecology 8(2):6. http://dx.doi.org/10.5751/ACE-00568-080206

McKenna, M. F., G. Shannon, and K. Fristrup. 2016. Characterizing anthropogenic noise to improve understanding and management of impacts to wildlife. Endangered Species Research 31:279-291. doi: 10.3354/esr00760

Ocampo-Peñuela, N., R. S. Winton, C. J. Wu, E. Zambello, T. W. Wittig and N. L. Cagle . 2016. Patterns of bird-window collisions inform mitigation on a university campus. PeerJ4:e1652;DOI10.7717/peerj.1652

O'Connell, T. J. 2001. Avian window strike mortality at a suburban office park. The Raven 72:141-149.

Orff, K., H. Brown, S. Caputo, E. J. McAdams, M. Fowle, G. Phillips, C. DeWitt, and Y. Gelb. 2007. Bird-safe buildings guidelines. New York City Audubon, New York.

Overing, R. 1938. High mortality at the Washington Monument. The Auk 55:679.

Parkins, K. L., S. B. Elbin, and E. Barnes. 2015. Light, glass, and bird–building collisions in an urban park. Northeastern Naturalist 22:84-94.

Pater, L. L., T. G. Grubb, and D. D. Delaney. 2009. Recommendations for improved assessment of noise impacts on wildlife. Journal of Wildlife Management 73(5):788–795.

Porter, A., and A. Huang. 2015. Bird collisions with glass: UBC pilot project to assess bird collision rates in Western North America. UBC Social Ecological Economic Development Studies (SEEDS) Student Report. Report to Environment Canada, UBC SEEDS and UBC BRITE.

Rebolo-Ifrán, N., A. di Virgilio, and S. A. Lambertucci. 2019. Drivers of bird-window collisions in southern South America: a two-scale assessment applying citizen science. Scientific Reports 9:18148 | https://doi.org/10.1038/s41598-019-54351-3

Riding, C. S., T. J. O'Connell, and S. R. Loss. 2020. Building façade-level correlates of bird–window collisions in a small urban area. The Condor: Ornithological Applications 122:1–14.

Rössler, M., E. Nemeth, and A. Bruckner. 2015. Glass pane markings to prevent bird-window collisions: less can be more. Biologia 70: 535—541. DOI: 10.1515/biolog-2015-0057

Sabo, A. M., N. D. G. Hagemeyer, A. S. Lahey, and E. L. Walters. 2016. Local avian density influences risk of mortality from window strikes. PeerJ 4:e2170; DOI 10.7717/peerj.2170

San Francisco Planning Department. 2011. Standards for bird-safe buildings. San Francisco Planning Department, City and County of San Francisco, California.

Schneider, R. M., C. M. Barton, K. W. Zirkle, C. F. Greene, and K. B. Newman. 2018. Year-round monitoring reveals prevalence of fatal bird-window collisions at the Virginia Tech Corporate Research Center. *PeerJ* 6:e4562 https://doi.org/10.7717/peerj.4562

Sheppard, C., and G. Phillips. 2015. Bird-friendly building design, 2nd Ed., American Bird Conservancy, The Plains, Virginia.

Slabbekoorn, H. and M. Peet. 2003. Birds sing at a higher pitch in urban noise. Nature 424:267.

Smallwood, K. S. 2015. Habitat fragmentation and corridors. Pages 84-101 in M. L. Morrison and H. A. Mathewson, Eds., Wildlife habitat conservation: concepts, challenges, and solutions. John Hopkins University Press, Baltimore, Maryland, USA.

Somerlot, K. E. 2003. Survey of songbird mortality due to window collisions on the Murray State University campus. Journal of Service Learning in Conservation Biology 1:1–19.

Ware, H. E., C. J. W. McClure, J. D. Carlisle, and J. R. Barber. 2015. A phantom road experiment reveals traffic noise is an invisible source of habitat degradation. PNAS 112:12105-12109.

Warrington, M. H., C. M. Curry, B. Antze, and N. Koper. 2018. Noise from four types of extractive energy infrastructure affects song features of Savannah Sparrows. The Condor 120(1):1-15.

Winton, R. S., N. Ocampo-Peñuela, and N. Cagle. 2018. Geo-referencing bird-window collisions for targeted mitigation. PeerJ 6:e4215; DOI 10.7717/peerj.4215

Zink, R. M., and J. Eckles. 2010. Twin cities bird-building collisions: a status update on “Project Birdsafe.” The Loon 82:34-37.

File #: LB 22-005

DATE: February 15, 2022

TO: Mayor and City Council

FROM: Director of Human Resources

SUBJECT

Adopt a Resolution Approving an Amendment to the City of Hayward Salary Plan for Fiscal Year 2022

RECOMMENDATION

That Council adopts a resolution (Attachment II) approving an amendment to the City of Hayward Salary Plan for Fiscal Year 2022 (FY 2022), which designates all classifications and the corresponding salary range for employment in the City of Hayward as of February 14, 2022, superseding Resolution No. 21-215 and all amendments thereto.

SUMMARY

As required by the Municipal Code, the FY 2022 salary plan has been updated to reflect salary adjustments to the classifications in the City's classified service as a result of the negotiated and ratified Memorandum of Understanding (MOU) between the City of Hayward and the Hayward Association of Management Employees (HAME). The salary plan has also been updated to reflect the addition of the Streets and Landscape Maintenance Supervisor positions and salary adjustments to three additional classifications. On January 27, 2022, the Personnel Commission held a public hearing in which they reviewed and recommended to Council the revised Salary Plan for each position in the City's classified service for Fiscal Year 2022, effective February 14, 2022.

ATTACHMENTS

Attachment I	Staff Report
Attachment II	Resolution
Attachment III	FY 2022 Salary Plan

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BACKGROUND/DISCUSSION

Cost-of-Living-Adjustments (COLAs):

Pursuant to the negotiated terms of the successor MOU between the City of Hayward and HAME, classifications in the classified service shall receive a one percent (1%) COLA effective the pay period that includes December 2, 2021.

New Classifications:

In May 2021, the Maintenance Services Department (MSD) requested to update job descriptions for the supervisory positions in its four (4) divisions: Landscape, Streets, Fleet and Facilities, which had been removed from the City's classification plan approximately ten

(10) years ago due to staffing reductions. MSD is currently requesting the addition of two (2) frontline supervisors in the Landscape and Streets divisions to help address span of control issues and support the manager with daily operations.

LANDSCAPE MAINTENACE SUPERVISOR: The salary for the Landscape Maintenance Supervisor will be set internally to ten percent (10%) above the Groundskeeper III. The salary range for Landscape Maintenance Supervisor is $47.76 per hour at Step A and $55.58 per hour at Step E.

STREETS MAINTENACE SUPERVISOR: The salary for the Streets Maintenance Supervisor will be set internally to ten percent (10%) above the Senior Maintenance Leader. The salary range for Streets Maintenance Supervisor is $50.07 per hour at Step A and $58.21 per hour at Step E.

Salary Adjustments:

COMMUNICATIONS AND MARKETING OFFICER/ PUBLIC INFORMATION OFFICER (PIO): In March 2020, Human Resources staff completed a total compensation market study for the Communications and Marketing Officer. Based on the findings of the market study, the Communications and Marketing Officer shall receive a salary adjustment of eight percent (8%) effective the pay period that includes January 1, 2022. The salary range for the Communications and Marketing Officer is $69.07 at Step A and $83.97 at Step B.

HAZMAT PROGRAM COORDINATOR: Pursuant to section 7.16 of the HAME MOU, a minimum pay differential of ten percent (10%) shall be maintained between this classification and its highest paid subordinate position, which is the Environmental Specialist (T505). As a result, the Hazmat Program Coordinator shall receive a salary adjustment of 3.21% effective August 16, 2021. The salary range for Hazmat Program Coordinator Inspector is $60.70 per hour at Step A and $73.77 per hour at Step E.

SENIOR CIVIL ENGINEER: The salary for the Senior Civil Engineer is internally set to ten percent (10%) above the Associate Civil Engineer. To maintain the internal relationship between this position and the Associate Civil Engineer, the Senior Civil Engineer shall receive a salary adjustment of 0.99% effective February 14, 2022. The salary range for Senior Civil Engineer is $63.22 per hour at Step A and $76.82 per hour at Step E.

FISCAL IMPACT

HAME COLA: The additional annual fiscal impact for HAME Employees is as follows: $63,880 from the General Fund and $42,410 from all other funds for a total fiscal impact of $106,290. Budget adjustments will be included in the FY 2022 mid-year budget process.

LANDSCAPE MAINTENANCE SUPERVISOR: The annual fiscal impact for the Landscape Maintenance Supervisor would be approximately $176,061 with $149,652 coming from the General Fund and $26,409 from the Enterprise Water Fund. Budget adjustments will be included in the FY 2022 mid-year budget process.

STREETS MAINTENANCE SUPERVISOR: The annual fiscal impact for the Streets Maintenance Supervisor would be $186,313 to the General Fund. Budget adjustments will be included in the FY 2022 mid-year budget process.

COMMUNICATIONS AND MARKETING OFFICER/ PUBLIC INFORMATION OFFICER (PIO): There is no additional fiscal impact for the Communications and Marketing Officer as the salary adjustment was previously budgeted in anticipation of this increase resulting from the salary survey.

HAZMAT PROGRAM COORDINATOR: The additional annual fiscal impact for the Hazmat Program Coordinator is an increase of approximately $6,362 to the General Fund. Budget adjustments will be included in the FY 2022 mid-year budget process.

SENIOR CIVIL ENGINEER: The additional annual fiscal impact for the Senior Civil Engineer is an increase of approximately $6,323 to the General Fund. Budget adjustments will be included in the FY 2022 mid-year budget process.

STRATEGIC ROADMAP

This agenda item is a routine operational item and does not relate to one of the City Council's Strategic Roadmap initiatives.

NEXT STEPS

If approved, salary adjustments will be implemented by the Human Resources and Finance departments and will be reflected in the employees' paychecks dated March 4, 2022.

Prepared by: Valeria Cazares, Acting Human Resources Analyst

Recommended by: Kakshi Master, Acting Deputy Director of Human Resources
Jana Sangy, Director of Human Resources

Approved by:

Kelly McAdoo, City Manager

HAYWARD CITY COUNCIL

RESOLUTION NO. 22-____

Introduced by Council Member _____

RESOLUTION APPROVING THE AMENDED FISCAL YEAR 2022 SALARY PLAN DESIGNATING POSITIONS OF EMPLOYMENT IN THE CITY OF HAYWARD AND SALARY RANGE; AND SUPERSEDING RESOLUTION NO. 21-215 AND ALL AMENDMENTS THERETO

WHEREAS, the City and the Hayward Association of Management Employees (HAME) have reached agreement on a successor Memorandum of Understanding that provides a cost-of-living adjustment of one percent (1%) effective the pay period that includes December 2, 2021; and

WHEREAS, the Salary Plan has also been revised to reflect the addition of the Streets and Landscape Maintenance Supervisor positions and salary adjustments to three additional classifications; and

WHEREAS, the revised Salary Plan was reviewed and recommended for City Council approval by the Personnel Commission in a Public Hearing held on January 27, 2022; and

WHEREAS, the current pay rate for these classifications must be adjusted to ensure the salary range is reflective of these changes.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Hayward, as follows:

Section 1. That a revised Positions and Salaries Schedule relating to the positions of employment in the City of Hayward, and the hourly rates of pay for those positions, is hereby set forth in Attachment "III," attached hereto and made a part hereof. The positions enumerated under the columns headed "Classification Title" are hereby designated as the positions of employment in the City of Hayward, and the hourly, bi-weekly, monthly, and annual rates of pay shown in the adjacent rows under the headings "Step A" through "Step E" are the salary rates or the minimum and maximum rates of pay for such positions.

Section 2. Salaries paid to occupants of said positions shall be administered in accordance with the Personnel Rules and Memoranda of Understanding and Side Letter Agreements approved by the City Council and currently in effect.

Section 3. All class titles used herein refer to the specifications of the position classification plan as reviewed by the Personnel Commission of the City of Hayward, or as set forth in the City Charter.

Section 4. The City Manager may approve in advance of an established effective date, payment to certain classifications in the Management Unit of all or a portion of a general salary increase previously approved by the City Council. Such advance payments shall be made only for those management classifications where the salary range is less than ten percent above an immediately subordinate classification. The amount of advance payment approved by the City Manager shall not exceed the amount required to establish a ten percent salary differential between the affected classifications. The City Manager shall advise the City Council and each bargaining unit in advance of any payments made pursuant to the provisions of this section.

Section 5. The salary ranges set forth in Attachment "III" shall be revised to reflect salary changes provided in any Memorandum of Understanding, Side Letters of Agreement, or resolution setting forth the wages, hours, and other terms and conditions of employment for a bargaining unit or group of unrepresented employees of the City. Any revisions made pursuant to the provisions of this section shall be incorporated into a document prepared by the Human Resources Director and distributed to affected employees or their representatives that reflects the date of the revision and cites both the authority provided by this section and the provision of the memorandum or resolution being effectuated by the revision.

Section 6. This resolution supersedes Resolution No. 21-197 and all amendments thereto.

IN COUNCIL, HAYWARD, CALIFORNIA _____, 2022

ADOPTED BY THE FOLLOWING VOTE:

AYES: COUNCIL MEMBERS:
MAYOR:

NOES: COUNCIL MEMBERS:

ABSTAIN: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

ATTEST: _____
City Clerk of the City of Hayward

APPROVED AS TO FORM:

_____
City Attorney of the City of Hayward

ATTACHMENT III
Presented to
Personnel Commission
on January 27, 2022
Approved by Council
February 15, 2022

SALARY PLAN FOR ALL CLASSIFICATIONS
(PER MUNI CODE SEC.2-4.30)
FY 2022

Classification Title	Job Code	Service Type		Step A	Step B	Step C	Step D	Step E
CITY ELECTED OFFICIALS/APPOINTED OFFICERS/EXECUTIVES								
MAYOR	E100	Unclassified	**Hourly**					
			Bi-Weekly					
			Monthly					
			Annual					39,960.00
CITY COUNCIL	E110	Unclassified	**Hourly**					
			Bi-Weekly					
			Monthly					
			Annual					24,975.00
CITY MANAGER	A120	Unclassified	**Hourly**					145.49
			Bi-Weekly					11,639.20
			Monthly					25,218.27
			Annual					302,619.20
CITY ATTORNEY	A100	Unclassified	**Hourly**					116.26
			Bi-Weekly					9,300.80
			Monthly					20,151.73
			Annual					241,820.80
CITY CLERK	A110	Unclassified	**Hourly**					73.38
			Bi-Weekly					5,870.40
			Monthly					12,719.20
			Annual					152,630.40
ASSISTANT CITY MANAGER	U735	Unclassified	**Hourly**	98.67	103.61	108.79	114.22	119.93
			Bi-Weekly	7,893.60	8,288.80	8,703.20	9,137.60	9,594.40
			Monthly	17,102.80	17,959.07	18,856.93	19,798.13	20,787.87
			Annual	205,233.60	215,508.80	226,283.20	237,577.60	249,454.40
CHIEF OF POLICE	P500	Unclassified	**Hourly**	93.75	98.43	103.36	108.52	113.94
			Bi-Weekly	7,500.00	7,874.40	8,268.80	8,681.60	9,115.20
			Monthly	16,250.00	17,061.20	17,915.73	18,810.13	19,749.60
			Annual	195,000.00	204,734.40	214,988.80	225,721.60	236,995.20
COMMUNICATIONS AND MARKETING OFFICER / PUBLIC INFORMATION OFFICER (PIO)	U311	Unclassified	**Hourly**	69.07	72.53	76.14	79.97	83.97
			Bi-Weekly	5,525.60	5,802.40	6,091.20	6,397.60	6,717.60
			Monthly	11,972.13	12,571.87	13,197.60	13,861.47	14,554.80
			Annual	143,665.60	150,862.40	158,371.20	166,337.60	174,657.60
DEPUTY CITY MANAGER	U505	Unclassified	**Hourly**	90.03	94.52	99.25	104.23	109.43
			Bi-Weekly	7,202.40	7,561.60	7,940.00	8,338.40	8,754.40
			Monthly	15,605.20	16,383.47	17,203.33	18,066.53	18,967.87
			Annual	187,262.40	196,601.60	206,440.00	216,798.40	227,614.40
DIRECTOR OF DEVELOPMENT SERVICES	U700	Unclassified	**Hourly**	86.37	90.68	95.23	99.99	104.98
			Bi-Weekly	6,909.60	7,254.40	7,618.40	7,999.20	8,398.40
			Monthly	14,970.80	15,717.87	16,506.53	17,331.60	18,196.53
			Annual	179,649.60	188,614.40	198,078.40	207,979.20	218,358.40
DIRECTOR OF FINANCE	U725	Unclassified	**Hourly**	86.37	90.68	95.23	99.99	104.98
			Bi-Weekly	6,909.60	7,254.40	7,618.40	7,999.20	8,398.40
			Monthly	14,970.80	15,717.87	16,506.53	17,331.60	18,196.53
			Annual	179,649.60	188,614.40	198,078.40	207,979.20	218,358.40
DIRECTOR OF HUMAN RESOURCES	U705	Unclassified	**Hourly**	92.73	97.35	102.22	107.33	112.69
			Bi-Weekly	7,418.40	7,788.00	8,177.60	8,586.40	9,015.20
			Monthly	16,073.20	16,874.00	17,718.13	18,603.87	19,532.93
			Annual	192,878.40	202,488.00	212,617.60	223,246.40	234,395.20
DIRECTOR OF INFORMATION TECHNOLOGY / CHIEF INFORMATION OFFICER (CIO)	U720	Unclassified	**Hourly**	91.56	96.11	100.93	105.99	111.28
			Bi-Weekly	7,324.80	7,688.80	8,074.40	8,479.20	8,902.40
			Monthly	15,870.40	16,659.07	17,494.53	18,371.60	19,288.53
			Annual	190,444.80	199,908.80	209,934.40	220,459.20	231,462.40
DIRECTOR OF LIBRARY SERVICES	U710	Unclassified	**Hourly**	86.37	90.68	95.23	99.99	104.98
			Bi-Weekly	6,909.60	7,254.40	7,618.40	7,999.20	8,398.40
			Monthly	14,970.80	15,717.87	16,506.53	17,331.60	18,196.53
			Annual	179,649.60	188,614.40	198,078.40	207,979.20	218,358.40
DIRECTOR OF MAINTENANCE SERVICES	U715	Unclassified	**Hourly**	86.37	90.68	95.23	99.99	104.98
			Bi-Weekly	6,909.60	7,254.40	7,618.40	7,999.20	8,398.40
			Monthly	14,970.80	15,717.87	16,506.53	17,331.60	18,196.53
			Annual	179,649.60	188,614.40	198,078.40	207,979.20	218,358.40
DIRECTOR OF PUBLIC WORKS	U730	Unclassified	**Hourly**	89.70	94.20	98.90	103.87	109.04
			Bi-Weekly	7,176.00	7,536.00	7,912.00	8,309.60	8,723.20
			Monthly	15,548.00	16,328.00	17,142.67	18,004.13	18,900.27
			Annual	186,576.00	195,936.00	205,712.00	216,049.60	226,803.20
FIRE CHIEF	F800	Unclassified	**Hourly**	95.56	100.33	105.36	110.63	116.16
			Bi-Weekly	7,644.80	8,026.40	8,428.80	8,850.40	9,292.80
			Monthly	16,563.73	17,390.53	18,262.40	19,175.87	20,134.40
			Annual	198,764.80	208,686.40	219,148.80	230,110.40	241,612.80

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FY 2022

Classification Title	Job Code	Service Type		Step A	Step B	Step C	Step D	Step E
CITY WIDE ADMINISTRATIVE/ANALYTICAL SUPPORT								
SENIOR MANAGEMENT ANALYST	H115	Classified	**Hourly**	53.45	56.10	58.90	61.85	64.93
			Bi-Weekly	4,276.00	4,488.00	4,712.00	4,948.00	5,194.40
			Monthly	9,264.67	9,724.00	10,209.33	10,720.67	11,254.53
			Annual	111,176.00	116,688.00	122,512.00	128,648.00	135,054.40
MANAGEMENT ANALYST II	H110	Classified	**Hourly**	48.60	51.03	53.58	56.25	59.05
			Bi-Weekly	3888.00	4082.40	4286.40	4500.00	4724.00
			Monthly	8,424.00	8,845.20	9,287.20	9,750.00	10,235.33
			Annual	101,088.00	106,142.40	111,446.40	117,000.00	122,824.00
MANAGEMENT ANALYST I	H105	Classified	**Hourly**	44.18	46.40	48.71	51.13	53.69
			Bi-Weekly	3,534.40	3,712.00	3,896.80	4,090.40	4,295.20
			Monthly	7,657.87	8,042.67	8,443.07	8,862.53	9,306.27
			Annual	91,894.40	96,512.00	101,316.80	106,350.40	111,675.20
EXECUTIVE ASSISTANT	U315	Unclassified	**Hourly**	41.15	43.04	44.98	46.91	48.98
			Bi-Weekly	3,292.00	3,443.20	3,598.40	3,752.80	3,918.40
			Monthly	7,132.67	7,460.27	7,796.53	8,131.07	8,489.87
			Annual	85,592.00	89,523.20	93,558.40	97,572.80	101,878.40
ADMINISTRATIVE SUPERVISOR	H120	Classified	**Hourly**	42.26	44.36	46.58	48.88	51.33
			Bi-Weekly	3,380.80	3,548.80	3,726.40	3,910.40	4,106.40
			Monthly	7,325.07	7,689.07	8,073.87	8,472.53	8,897.20
			Annual	87,900.80	92,268.80	96,886.40	101,670.40	106,766.40
ADMINISTRATIVE SECRETARY	C120	Classified	**Hourly**	39.57	41.20	42.81	44.43	46.20
			Bi-Weekly	3,165.60	3,296.00	3,424.80	3,554.40	3,696.00
			Monthly	6,858.80	7,141.33	7,420.40	7,701.20	8,008.00
			Annual	82,305.60	85,696.00	89,044.80	92,414.40	96,096.00
SENIOR SECRETARY	C115	Classified	**Hourly**	36.17	37.58	39.11	40.55	42.11
			Bi-Weekly	2,893.60	3,006.40	3,128.80	3,244.00	3,368.80
			Monthly	6,269.47	6,513.87	6,779.07	7,028.67	7,299.07
			Annual	75,233.60	78,166.40	81,348.80	84,344.00	87,588.80
SECRETARY	C110	Classified	**Hourly**	31.83	33.28	34.97	36.59	38.32
			Bi-Weekly	2,546.40	2,662.40	2,797.60	2,927.20	3,065.60
			Monthly	5,517.20	5,768.53	6,061.47	6,342.27	6,642.13
			Annual	66,206.40	69,222.40	72,737.60	76,107.20	79,705.60
ADMINISTRATIVE CLERK II	C105	Classified	**Hourly**	27.91	29.06	30.24	31.59	33.15
			Bi-Weekly	2,232.80	2,324.80	2,419.20	2,527.20	2,652.00
			Monthly	4,837.73	5,037.07	5,241.60	5,475.60	5,746.00
			Annual	58,052.80	60,444.80	62,899.20	65,707.20	68,952.00
ADMINISTRATIVE CLERK I	C100	Classified	**Hourly**	24.57	25.88	27.19	28.64	30.14
			Bi-Weekly	1,965.60	2,070.40	2,175.20	2,291.20	2,411.20
			Monthly	4,258.80	4,485.87	4,712.93	4,964.27	5,224.27
			Annual	51,105.60	53,830.40	56,555.20	59,571.20	62,691.20
ADMINISTRATIVE INTERN	Z120	Classified	**Hourly**				15.82	20.00
			Bi-Weekly				1,265.60	1,600.00
			Monthly				2,742.13	3,466.67
			Annual				32,905.60	41,600.00
MAIL CLERK	C410	Classified	**Hourly**			16.87	17.70	18.59
			Bi-Weekly			1,349.60	1,416.00	1,487.20
			Monthly			2,924.13	3,068.00	3,222.27
			Annual			35,089.60	36,816.00	38,667.20

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CITY WIDE MAINTENANCE								
ELECTRICIAN II	M410	Classified	**Hourly**	46.27	48.12	50.01	52.14	54.29
			Bi-Weekly	3,701.60	3,849.60	4,000.80	4,171.20	4,343.20
			Monthly	8,020.13	8,340.80	8,668.40	9,037.60	9,410.27
			Annual	96,241.60	100,089.60	104,020.80	108,451.20	112,923.20
ELECTRICIAN I	M405	Classified	**Hourly**	42.08	43.81	45.55	47.45	49.39
			Bi-Weekly	3,366.40	3,504.80	3,644.00	3,796.00	3,951.20
			Monthly	7,293.87	7,593.73	7,895.33	8,224.67	8,560.93
			Annual	87,526.40	91,124.80	94,744.00	98,696.00	102,731.20
MAINTENANCE WORKER	M305	Classified	**Hourly**	35.96	37.39	38.91	40.28	41.84
			Bi-Weekly	2,876.80	2,991.20	3,112.80	3,222.40	3,347.20
			Monthly	6,233.07	6,480.93	6,744.40	6,981.87	7,252.27
			Annual	74,796.80	77,771.20	80,932.80	83,782.40	87,027.20
LABORER	M200 M300 M830 M905	Classified	**Hourly**	27.34	28.35	29.48	30.69	31.78
			Bi-Weekly	2,187.20	2,268.00	2,358.40	2,455.20	2,542.40
			Monthly	4,738.93	4,914.00	5,109.87	5,319.60	5,508.53
			Annual	56,867.20	58,968.00	61,318.40	63,835.20	66,102.40
CITY ATTORNEY DEPARTMENT								
SENIOR ASSISTANT CITY ATTORNEY	U215	Classified	**Hourly**	81.82	85.94	90.23	94.75	99.49
			Bi-Weekly	6,545.60	6,875.20	7,218.40	7,580.00	7,959.20
			Monthly	14,182.13	14,896.27	15,639.87	16,423.33	17,244.93
			Annual	170,185.60	178,755.20	187,678.40	197,080.00	206,939.20
ASSISTANT CITY ATTORNEY	U210	Classified	**Hourly**	74.39	78.11	82.04	86.13	90.43
			Bi-Weekly	5,951.20	6,248.80	6,563.20	6,890.40	7,234.40
			Monthly	12,894.27	13,539.07	14,220.27	14,929.20	15,674.53
			Annual	154,731.20	162,468.80	170,643.20	179,150.40	188,094.40
DEPUTY CITY ATTORNEY II	U205	Classified	**Hourly**	61.50	64.55	67.78	71.16	74.75
			Bi-Weekly	4,920.00	5,164.00	5,422.40	5,692.80	5,980.00
			Monthly	10,660.00	11,188.67	11,748.53	12,334.40	12,956.67
			Annual	127,920.00	134,264.00	140,982.40	148,012.80	155,480.00
DEPUTY CITY ATTORNEY I	U200	Classified	**Hourly**	55.89	58.69	61.62	64.71	67.94
			Bi-Weekly	4,471.20	4,695.20	4,929.60	5,176.80	5,435.20
			Monthly	9,687.60	10,172.93	10,680.80	11,216.40	11,776.27
			Annual	116,251.20	122,075.20	128,169.60	134,596.80	141,315.20
SENIOR PARALEGAL	U196	Classified	**Hourly**	41.55	43.65	45.82	48.10	50.50
			Bi-Weekly	3,324.00	3,492.00	3,665.60	3,848.00	4,040.00
			Monthly	7,202.00	7,566.00	7,942.13	8,337.33	8,753.33
			Annual	86,424.00	90,792.00	95,305.60	100,048.00	105,040.00
PARALEGAL	U195	Classified	**Hourly**	37.78	39.67	41.66	43.73	45.92
			Bi-Weekly	3,022.40	3,173.60	3,332.80	3,498.40	3,673.60
			Monthly	6,548.53	6,876.13	7,221.07	7,579.87	7,959.47
			Annual	78,582.40	82,513.60	86,652.80	90,958.40	95,513.60
LEGAL SECRETARY II	C935	Classified	**Hourly**	34.35	36.35	39.08	39.90	41.95
			Bi-Weekly	2,748.00	2,908.00	3,126.40	3,192.00	3,356.00
			Monthly	5,954.00	6,300.67	6,773.87	6,916.00	7,271.33
			Annual	71,448.00	75,608.00	81,286.40	82,992.00	87,256.00
LEGAL SECRETARY I	C930	Classified	**Hourly**	30.93	32.56	34.28	36.13	38.04
			Bi-Weekly	2,474.40	2,604.80	2,742.40	2,890.40	3,043.20
			Monthly	5,361.20	5,643.73	5,941.87	6,262.53	6,593.60
			Annual	64,334.40	67,724.80	71,302.40	75,150.40	79,123.20
CITY CLERK DEPARTMENT								
DEPUTY CITY CLERK	H500	Classified	**Hourly**	48.60	51.04	53.57	56.25	59.06
			Bi-Weekly	3,888.00	4,083.20	4,285.60	4,500.00	4,724.80
			Monthly	8,424.00	8,846.93	9,285.47	9,750.00	10,237.07
			Annual	101,088.00	106,163.20	111,425.60	117,000.00	122,844.80

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CITY MANAGER DEPARTMENT								
OFFICE OF THE CITY MANAGER								
ASSISTANT TO CITY MANAGER	U320	Unclassified	**Hourly**	54.53	57.26	60.12	63.13	66.27
			Bi-Weekly	4,362.40	4,580.80	4,809.60	5,050.40	5,301.60
			Monthly	9,451.87	9,925.07	10,420.80	10,942.53	11,486.80
			Annual	113,422.40	119,100.80	125,049.60	131,310.40	137,841.60
GRAPHICS AND MEDIA RELATIONS TECHNICIAN	T300	Classified	**Hourly**	35.77	37.52	39.52	41.48	43.49
			Bi-Weekly	2,861.60	3,001.60	3,161.60	3,318.40	3,479.20
			Monthly	6,200.13	6,503.47	6,850.13	7,189.87	7,538.27
			Annual	74,401.60	78,041.60	82,201.60	86,278.40	90,459.20
DIGITAL APPLICATIONS DEVELOPER	T470	Classified	**Hourly**	50.78	53.30	55.97	58.76	61.72
			Bi-Weekly	4,062.40	4,264.00	4,477.60	4,700.80	4,937.60
			Monthly	8,801.87	9,238.67	9,701.47	10,185.07	10,698.13
			Annual	105,622.40	110,864.00	116,417.60	122,220.80	128,377.60
MANAGEMENT FELLOW	U300	Classified	**Hourly**					39.76
			Bi-Weekly					3,180.80
			Monthly					6,891.73
			Annual					82,700.80
COMMUNITY SERVICES								
COMMUNITY SERVICES MANAGER	H745	Classified	**Hourly**	67.04	70.39	73.92	77.63	81.49
			Bi-Weekly	5,363.20	5,631.20	5,913.60	6,210.40	6,519.20
			Monthly	11,620.27	12,200.93	12,812.80	13,455.87	14,124.93
			Annual	139,443.20	146,411.20	153,753.60	161,470.40	169,499.20
COMMUNITY PROGRAMS SPECIALIST	T705	Classified	**Hourly**	44.61	46.93	49.31	51.74	54.26
			Bi-Weekly	3,568.80	3,754.40	3,944.80	4,139.20	4,340.80
			Monthly	7,732.40	8,134.53	8,547.07	8,968.27	9,405.07
			Annual	92,788.80	97,614.40	102,564.80	107,619.20	112,860.80
SENIOR PROPERTY REHABILITATION SPECIALIST	T730	Classified	**Hourly**	49.05	51.60	54.22	56.90	59.68
			Bi-Weekly	3,924.00	4,128.00	4,337.60	4,552.00	4,774.40
			Monthly	8,502.00	8,944.00	9,398.13	9,862.67	10,344.53
			Annual	102,024.00	107,328.00	112,777.60	118,352.00	124,134.40
PROPERTY REHABILITATION SPECIALIST	T725	Classified	**Hourly**	44.61	46.93	49.31	51.74	54.26
			Bi-Weekly	3,568.80	3,754.40	3,944.80	4,139.20	4,340.80
			Monthly	7,732.40	8,134.53	8,547.07	8,968.27	9,405.07
			Annual	92,788.80	97,614.40	102,564.80	107,619.20	112,860.80
PARATRANSIT COORDINATOR	T715	Classified	**Hourly**	42.53	44.65	46.80	49.19	51.59
			Bi-Weekly	3,402.40	3,572.00	3,744.00	3,935.20	4,127.20
			Monthly	7,371.87	7,739.33	8,112.00	8,526.27	8,942.27
			Annual	88,462.40	92,872.00	97,344.00	102,315.20	107,307.20
ECONOMIC DEVELOPMENT								
ECONOMIC DEVELOPMENT MANAGER	H710	Classified	**Hourly**	67.04	70.39	73.92	77.63	81.49
			Bi-Weekly	5,363.20	5,631.20	5,913.60	6,210.40	6,519.20
			Monthly	11,620.27	12,200.93	12,812.80	13,455.87	14,124.93
			Annual	139,443.20	146,411.20	153,753.60	161,470.40	169,499.20
ECONOMIC DEVELOPMENT SPECIALIST	T745	Classified	**Hourly**	48.41	50.84	53.32	56.04	58.77
			Bi-Weekly	3,872.80	4,067.20	4,265.60	4,483.20	4,701.60
			Monthly	8,391.07	8,812.27	9,242.13	9,713.60	10,186.80
			Annual	100,692.80	105,747.20	110,905.60	116,563.20	122,241.60
NEIGHBORHOOD PARTNERSHIP SERVICES								
NEIGHBORHOOD DEVELOPMENT MANAGER	H735	Classified	**Hourly**	66.20	69.48	72.95	76.60	80.43
			Bi-Weekly	5,296.00	5,558.40	5,836.00	6,128.00	6,434.40
			Monthly	11,474.67	12,043.20	12,644.67	13,277.33	13,941.20
			Annual	137,696.00	144,518.40	151,736.00	159,328.00	167,294.40
NEIGHBORHOOD PARTNERSHIP MANAGER	H730	Classified	**Hourly**	59.52	62.50	65.61	68.90	72.35
			Bi-Weekly	4,761.60	5,000.00	5,248.80	5,512.00	5,788.00
			Monthly	10,316.80	10,833.33	11,372.40	11,942.67	12,540.67
			Annual	123,801.60	130,000.00	136,468.80	143,312.00	150,488.00

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Classification Title	Job Code	Service Type		Step A	Step B	Step C	Step D	Step E
HOUSING AUTHORITY								
HOUSING MANAGER	H715	Classified	**Hourly**	67.04	70.39	73.92	77.63	81.49
			Bi-Weekly	5,363.20	5,631.20	5,913.60	6,210.40	6,519.20
			Monthly	11,620.27	12,200.93	12,812.80	13,455.87	14,124.93
			Annual	139,443.20	146,411.20	153,753.60	161,470.40	169,499.20
HOUSING DEVELOPMENT SPECIALIST	T750	Classified	**Hourly**	48.41	50.84	53.32	56.04	58.77
			Bi-Weekly	3,872.80	4,067.20	4,265.60	4,483.20	4,701.60
			Monthly	8,391.07	8,812.27	9,242.13	9,713.60	10,186.80
			Annual	100,692.80	105,747.20	110,905.60	116,563.20	122,241.60
HOMEOWNERSHIP COORDINATOR	T710	Classified	**Hourly**	42.53	44.65	46.80	49.19	51.59
			Bi-Weekly	3,402.40	3,572.00	3,744.00	3,935.20	4,127.20
			Monthly	7,371.87	7,739.33	8,112.00	8,526.27	8,942.27
			Annual	88,462.40	92,872.00	97,344.00	102,315.20	107,307.20
DEVELOPMENT SERVICES DEPARTMENT								
DEVELOPMENT SERVICE ADMINISTRATION								
DEPUTY DIRECTOR OF DEVELOPMENT SERVICES	U515	Classified	**Hourly**	78.71	82.67	86.81	91.14	95.71
			Bi-Weekly	6,296.80	6,613.60	6,944.80	7,291.20	7,656.80
			Monthly	13,643.07	14,329.47	15,047.07	15,797.60	16,589.73
			Annual	163,716.80	171,953.60	180,564.80	189,571.20	199,076.80
BUILDING DIVISION								
CITY BUILDING OFFICIAL	H335	Classified	**Hourly**	68.82	72.27	75.87	79.69	83.65
			Bi-Weekly	5,505.60	5,781.60	6,069.60	6,375.20	6,692.00
			Monthly	11,928.80	12,526.80	13,150.80	13,812.93	14,499.33
			Annual	143,145.60	150,321.60	157,809.60	165,755.20	173,992.00
SUPERVISING BUILDING INSPECTOR	H330	Classified	**Hourly**	58.73	61.66	64.75	67.99	71.39
			Bi-Weekly	4,698.40	4,932.80	5,180.00	5,439.20	5,711.20
			Monthly	10,179.87	10,687.73	11,223.33	11,784.93	12,374.27
			Annual	122,158.40	128,252.80	134,680.00	141,419.20	148,491.20
SENIOR BUILDING INSPECTOR/STRUCTURAL	T365	Classified	**Hourly**	52.72	55.53	58.33	61.08	64.13
			Bi-Weekly	4,217.60	4,442.40	4,666.40	4,886.40	5,130.40
			Monthly	9,138.13	9,625.20	10,110.53	10,587.20	11,115.87
			Annual	109,657.60	115,502.40	121,326.40	127,046.40	133,390.40
SENIOR BUILDING INSPECTOR/PLUMBING-MECHANICAL	T360	Classified	**Hourly**	52.72	55.53	58.33	61.08	64.13
			Bi-Weekly	4,217.60	4,442.40	4,666.40	4,886.40	5,130.40
			Monthly	9,138.13	9,625.20	10,110.53	10,587.20	11,115.87
			Annual	109,657.60	115,502.40	121,326.40	127,046.40	133,390.40
SENIOR BUILDING INSPECTOR/ELECTRICAL	T355	Classified	**Hourly**	52.72	55.53	58.33	61.08	64.13
			Bi-Weekly	4,217.60	4,442.40	4,666.40	4,886.40	5,130.40
			Monthly	9,138.13	9,625.20	10,110.53	10,587.20	11,115.87
			Annual	109,657.60	115,502.40	121,326.40	127,046.40	133,390.40
BUILDING INSPECTOR	T350	Classified	**Hourly**	45.51	47.66	50.08	52.63	56.07
			Bi-Weekly	3,640.80	3,812.80	4,006.40	4,210.40	4,485.60
			Monthly	7,888.40	8,261.07	8,680.53	9,122.53	9,718.80
			Annual	94,660.80	99,132.80	104,166.40	109,470.40	116,625.60
PLAN CHECKING ENGINEER	T335	Classified	**Hourly**	55.91	58.61	61.57	64.78	68.07
			Bi-Weekly	4,472.80	4,688.80	4,925.60	5,182.40	5,445.60
			Monthly	9,691.07	10,159.07	10,672.13	11,228.53	11,798.80
			Annual	116,292.80	121,908.80	128,065.60	134,742.40	141,585.60
SUPERVISING PLAN CHECKER AND EXPEDITOR	H325	Classified	**Hourly**	62.33	65.43	68.72	72.16	75.78
			Bi-Weekly	4,986.40	5,234.40	5,497.60	5,772.80	6,062.40
			Monthly	10,803.87	11,341.20	11,911.47	12,507.73	13,135.20
			Annual	129,646.40	136,094.40	142,937.60	150,092.80	157,622.40
SENIOR PLAN CHECKER	T330	Classified	**Hourly**	52.72	55.53	58.33	61.08	64.13
			Bi-Weekly	4,217.60	4,442.40	4,666.40	4,886.40	5,130.40
			Monthly	9,138.13	9,625.20	10,110.53	10,587.20	11,115.87
			Annual	109,657.60	115,502.40	121,326.40	127,046.40	133,390.40
PLAN CHECKER	T325	Classified	**Hourly**	47.94	50.45	53.03	55.55	58.32
			Bi-Weekly	3,835.20	4,036.00	4,242.40	4,444.00	4,665.60
			Monthly	8,309.60	8,744.67	9,191.87	9,628.67	10,108.80
			Annual	99,715.20	104,936.00	110,302.40	115,544.00	121,305.60

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SUPERVISING PERMIT TECHNICIAN	H340	Classified	**Hourly**	41.48	43.55	45.72	48.02	50.41
			Bi-Weekly	3,318.40	3,484.00	3,657.60	3,841.60	4,032.80
			Monthly	7,189.87	7,548.67	7,924.80	8,323.47	8,737.73
			Annual	86,278.40	90,584.00	95,097.60	99,881.60	104,852.80
SENIOR PERMIT TECHNICIAN	C205	Classified	**Hourly**	38.26	39.84	41.38	43.18	45.37
			Bi-Weekly	3,060.80	3,187.20	3,310.40	3,454.40	3,629.60
			Monthly	6,631.73	6,905.60	7,172.53	7,484.53	7,864.13
			Annual	79,580.80	82,867.20	86,070.40	89,814.40	94,369.60
PERMIT TECHNICIAN II	C200	Classified	**Hourly**	34.50	35.86	37.32	38.94	40.90
			Bi-Weekly	2,760.00	2,868.80	2,985.60	3,115.20	3,272.00
			Monthly	5,980.00	6,215.73	6,468.80	6,749.60	7,089.33
			Annual	71,760.00	74,588.80	77,625.60	80,995.20	85,072.00
PERMIT TECHNICIAN I	C199	Classified	**Hourly**	31.36	32.60	33.92	35.37	37.18
			Bi-Weekly	2,508.80	2,608.00	2,713.60	2,829.60	2,974.40
			Monthly	5,435.73	5,650.67	5,879.47	6,130.80	6,444.53
			Annual	65,228.80	67,808.00	70,553.60	73,569.60	77,334.40
PLANNING DIVISION								
PLANNING MANAGER	H320	Classified	**Hourly**	69.13	72.58	76.20	80.00	84.03
			Bi-Weekly	5,530.40	5,806.40	6,096.00	6,400.00	6,722.40
			Monthly	11,982.53	12,580.53	13,208.00	13,866.67	14,565.20
			Annual	143,790.40	150,966.40	158,496.00	166,400.00	174,782.40
PRINCIPAL PLANNER	H315	Classified	**Hourly**	59.52	62.50	65.61	68.90	72.35
			Bi-Weekly	4,761.60	5,000.00	5,248.80	5,512.00	5,788.00
			Monthly	10,316.80	10,833.33	11,372.40	11,942.67	12,540.67
			Annual	123,801.60	130,000.00	136,468.80	143,312.00	150,488.00
SENIOR PLANNER	H310	Classified	**Hourly**	53.34	55.98	58.79	61.72	64.81
			Bi-Weekly	4,267.20	4,478.40	4,703.20	4,937.60	5,184.80
			Monthly	9,245.60	9,703.20	10,190.27	10,698.13	11,233.73
			Annual	110,947.20	116,438.40	122,283.20	128,377.60	134,804.80
ASSOCIATE PLANNER	T315	Classified	**Hourly**	48.54	50.92	53.46	56.21	58.90
			Bi-Weekly	3,883.20	4,073.60	4,276.80	4,496.80	4,712.00
			Monthly	8,413.60	8,826.13	9,266.40	9,743.07	10,209.33
			Annual	100,963.20	105,913.60	111,196.80	116,916.80	122,512.00
ASSISTANT PLANNER	T310	Classified	**Hourly**	39.84	41.78	44.03	46.19	48.54
			Bi-Weekly	3,187.20	3,342.40	3,522.40	3,695.20	3,883.20
			Monthly	6,905.60	7,241.87	7,631.87	8,006.27	8,413.60
			Annual	82,867.20	86,902.40	91,582.40	96,075.20	100,963.20
JUNIOR PLANNER	T305	Classified	**Hourly**	35.32	37.18	38.92	40.88	42.87
			Bi-Weekly	2,825.60	2,974.40	3,113.60	3,270.40	3,429.60
			Monthly	6,122.13	6,444.53	6,746.13	7,085.87	7,430.80
			Annual	73,465.60	77,334.40	80,953.60	85,030.40	89,169.60
DEVELOPMENT REVIEW SPECIALIST	T320	Classified	**Hourly**	44.57	46.72	49.28	51.70	54.32
			Bi-Weekly	3,565.60	3,737.60	3,942.40	4,136.00	4,345.60
			Monthly	7,725.47	8,098.13	8,541.87	8,961.33	9,415.47
			Annual	92,705.60	97,177.60	102,502.40	107,536.00	112,985.60
LANDSCAPE ARCHITECT	H300	Classified	**Hourly**	62.85	65.98	69.29	72.75	76.40
			Bi-Weekly	5,028.00	5,278.40	5,543.20	5,820.00	6,112.00
			Monthly	10,894.00	11,436.53	12,010.27	12,610.00	13,242.67
			Annual	130,728.00	137,238.40	144,123.20	151,320.00	158,912.00
ASSOCIATE LANDSCAPE ARCHITECT	T370	Classified	**Hourly**	48.54	50.92	53.46	56.21	58.90
			Bi-Weekly	3,883.20	4,073.60	4,276.80	4,496.80	4,712.00
			Monthly	8,413.60	8,826.13	9,266.40	9,743.07	10,209.33
			Annual	100,963.20	105,913.60	111,196.80	116,916.80	122,512.00
CODE ENFORCEMENT DIVISION								
CODE ENFORCEMENT MANAGER	H703	Classified	**Hourly**	54.39	57.12	59.95	62.95	66.09
			Bi-Weekly	4,351.20	4,569.60	4,796.00	5,036.00	5,287.20
			Monthly	9,427.60	9,900.80	10,391.33	10,911.33	11,455.60
			Annual	113,131.20	118,809.60	124,696.00	130,936.00	137,467.20
CODE ENFORCEMENT SUPERVISOR	H700	Classified	**Hourly**	47.28	49.65	52.14	54.73	57.48
			Bi-Weekly	3,782.40	3,972.00	4,171.20	4,378.40	4,598.40
			Monthly	8,195.20	8,606.00	9,037.60	9,486.53	9,963.20
			Annual	98,342.40	103,272.00	108,451.20	113,838.40	119,558.40
SENIOR CODE ENFORCEMENT INSPECTOR	T610	Classified	**Hourly**	47.61	49.99	52.48	55.11	57.86
			Bi-Weekly	3,808.80	3,999.20	4,198.40	4,408.80	4,628.80
			Monthly	8,252.40	8,664.93	9,096.53	9,552.40	10,029.07
			Annual	99,028.80	103,979.20	109,158.40	114,628.80	120,348.80
CODE ENFORCEMENT INSPECTOR II	T605	Classified	**Hourly**	43.27	45.42	47.69	50.09	52.58
			Bi-Weekly	3,461.60	3,633.60	3,815.20	4,007.20	4,206.40
			Monthly	7,500.13	7,872.80	8,266.27	8,682.27	9,113.87
			Annual	90,001.60	94,473.60	99,195.20	104,187.20	109,366.40
CODE ENFORCEMENT INSPECTOR I	T600	Classified	**Hourly**	39.33	41.29	43.34	45.52	47.81
			Bi-Weekly	3,146.40	3,303.20	3,467.20	3,641.60	3,824.80
			Monthly	6,817.20	7,156.93	7,512.27	7,890.13	8,287.07
			Annual	81,806.40	85,883.20	90,147.20	94,681.60	99,444.80

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FINANCE DEPARTMENT								
ADMINISTRATION DIVISION								
DEPUTY DIRECTOR OF FINANCE	U500	Classified	**Hourly**	71.92	75.51	79.29	83.26	87.41
			Bi-Weekly	5,753.60	6,040.80	6,343.20	6,660.80	6,992.80
			Monthly	12,466.13	13,088.40	13,743.60	14,431.73	15,151.07
			Annual	149,593.60	157,060.80	164,923.20	173,180.80	181,812.80
BUDGET OFFICER	H170	Classified	**Hourly**	55.97	58.79	61.71	64.80	68.02
			Bi-Weekly	4,477.60	4,703.20	4,936.80	5,184.00	5,441.60
			Monthly	9,701.47	10,190.27	10,696.40	11,232.00	11,790.13
			Annual	116,417.60	122,283.20	128,356.80	134,784.00	141,481.60
FINANCIAL ANALYST	H165	Classified	**Hourly**	48.80	51.23	53.77	56.46	59.30
			Bi-Weekly	3,904.00	4,098.40	4,301.60	4,516.80	4,744.00
			Monthly	8,458.67	8,879.87	9,320.13	9,786.40	10,278.67
			Annual	101,504.00	106,558.40	111,841.60	117,436.80	123,344.00
FINANCE TECHNICIAN	C320	Classified	**Hourly**	36.90	38.74	40.68	42.71	44.86
			Bi-Weekly	2,952.00	3,099.20	3,254.40	3,416.80	3,588.80
			Monthly	6,396.00	6,714.93	7,051.20	7,403.07	7,775.73
			Annual	76,752.00	80,579.20	84,614.40	88,836.80	93,308.80
ACCOUNTING DIVISION								
ACCOUNTING MANAGER	H150	Classified	**Hourly**	64.75	67.97	71.37	74.93	78.69
			Bi-Weekly	5,180.00	5,437.60	5,709.60	5,994.40	6,295.20
			Monthly	11,223.33	11,781.47	12,370.80	12,987.87	13,639.60
			Annual	134,680.00	141,377.60	148,449.60	155,854.40	163,675.20
SENIOR ACCOUNTANT	H145	Classified	**Hourly**	49.09	51.52	54.09	56.79	59.62
			Bi-Weekly	3,927.20	4,121.60	4,327.20	4,543.20	4,769.60
			Monthly	8,508.93	8,930.13	9,375.60	9,843.60	10,334.13
			Annual	102,107.20	107,161.60	112,507.20	118,123.20	124,009.60
ACCOUNTANT	H140	Classified	**Hourly**	44.60	46.82	49.16	51.61	54.20
			Bi-Weekly	3,568.00	3,745.60	3,932.80	4,128.80	4,336.00
			Monthly	7,730.67	8,115.47	8,521.07	8,945.73	9,394.67
			Annual	92,768.00	97,385.60	102,252.80	107,348.80	112,736.00
SENIOR ACCOUNT CLERK	C305	Classified	**Hourly**	31.95	33.50	34.96	36.64	38.35
			Bi-Weekly	2,556.00	2,680.00	2,796.80	2,931.20	3,068.00
			Monthly	5,538.00	5,806.67	6,059.73	6,350.93	6,647.33
			Annual	66,456.00	69,680.00	72,716.80	76,211.20	79,768.00
ACCOUNT CLERK	C300	Classified	**Hourly**	29.11	30.41	31.84	33.29	34.98
			Bi-Weekly	2,328.80	2,432.80	2,547.20	2,663.20	2,798.40
			Monthly	5,045.73	5,271.07	5,518.93	5,770.27	6,063.20
			Annual	60,548.80	63,252.80	66,227.20	69,243.20	72,758.40
REVENUE DIVISION								
REVENUE MANAGER	H160	Classified	**Hourly**	64.75	67.97	71.37	74.93	78.69
			Bi-Weekly	5,180.00	5,437.60	5,709.60	5,994.40	6,295.20
			Monthly	11,223.33	11,781.47	12,370.80	12,987.87	13,639.60
			Annual	134,680.00	141,377.60	148,449.60	155,854.40	163,675.20
FINANCE SUPERVISOR	H155	Classified	**Hourly**	48.26	50.67	53.19	55.84	58.64
			Bi-Weekly	3,860.80	4,053.60	4,255.20	4,467.20	4,691.20
			Monthly	8,365.07	8,782.80	9,219.60	9,678.93	10,164.27
			Annual	100,380.80	105,393.60	110,635.20	116,147.20	121,971.20
SUPERVISING CUSTOMER ACCOUNT CLERK	C332	Classified	**Hourly**	34.70	36.44	38.24	40.16	42.18
			Bi-Weekly	2,776.00	2,915.20	3,059.20	3,212.80	3,374.40
			Monthly	6,014.67	6,316.27	6,628.27	6,961.07	7,311.20
			Annual	72,176.00	75,795.20	79,539.20	83,532.80	87,734.40
SENIOR CUSTOMER ACCOUNT CLERK	C330	Classified	**Hourly**	31.95	33.50	34.96	36.64	38.35
			Bi-Weekly	2,556.00	2,680.00	2,796.80	2,931.20	3,068.00
			Monthly	5,538.00	5,806.67	6,059.73	6,350.93	6,647.33
			Annual	66,456.00	69,680.00	72,716.80	76,211.20	79,768.00
CUSTOMER ACCOUNT CLERK	C325	Classified	**Hourly**	29.11	30.41	31.84	33.29	34.98
			Bi-Weekly	2,328.80	2,432.80	2,547.20	2,663.20	2,798.40
			Monthly	5,045.73	5,271.07	5,518.93	5,770.27	6,063.20
			Annual	60,548.80	63,252.80	66,227.20	69,243.20	72,758.40
MAIL AND REVENUE CLERK	C322	Classified	**Hourly**	24.57	25.88	27.19	28.64	30.14
			Bi-Weekly	1,965.60	2,070.40	2,175.20	2,291.20	2,411.20
			Monthly	4,258.80	4,485.87	4,712.93	4,964.27	5,224.27
			Annual	51,105.60	53,830.40	56,555.20	59,571.20	62,691.20
PURCHASING DIVISION								
PURCHASING AND SERVICES MANAGER	H180	Classified	**Hourly**	55.96	58.76	61.69	64.77	67.99
			Bi-Weekly	4,476.80	4,700.80	4,935.20	5,181.60	5,439.20
			Monthly	9,699.73	10,185.07	10,692.93	11,226.80	11,784.93
			Annual	116,396.80	122,220.80	128,315.20	134,721.60	141,419.20
PURCHASING TECHNICIAN	C345	Classified	**Hourly**	33.57	35.25	36.98	38.81	40.78
			Bi-Weekly	2,685.60	2,820.00	2,958.40	3,104.80	3,262.40
			Monthly	5,818.80	6,110.00	6,409.87	6,727.07	7,068.53
			Annual	69,825.60	73,320.00	76,918.40	80,724.80	84,822.40
MAIL AND PURCHASING CLERK	C335	Classified	**Hourly**	26.50	27.83	29.13	30.65	32.15
			Bi-Weekly	2,120.00	2,226.40	2,330.40	2,452.00	2,572.00
			Monthly	4,593.33	4,823.87	5,049.20	5,312.67	5,572.67
			Annual	55,120.00	57,886.40	60,590.40	63,752.00	66,872.00

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Classification Title	Job Code	Service Type		Step A	Step B	Step C	Step D	Step E
FIRE DEPARTMENT								
SWORN								
DEPUTY FIRE CHIEF (40 HR)	F600	Classified	**Hourly**	95.36	100.13	105.14	110.40	115.91
			Bi-Weekly	7,628.80	8,010.40	8,411.20	8,832.00	9,272.80
			Monthly	16,529.07	17,355.87	18,224.27	19,136.00	20,091.07
			Annual	198,348.80	208,270.40	218,691.20	229,632.00	241,092.80
FIRE MARSHAL - EMT (40 HR)	F401	Classified	**Hourly**	76.77	80.62	84.65	88.88	93.32
			Bi-Weekly	6,141.60	6,449.60	6,772.00	7,110.40	7,465.60
			Monthly	13,306.80	13,974.13	14,672.67	15,405.87	16,175.47
			Annual	159,681.60	167,689.60	176,072.00	184,870.40	194,105.60
FIRE MARSHAL (40 HR)	F400	Classified	**Hourly**	82.92	87.07	91.42	95.99	100.79
			Bi-Weekly	6,633.60	6,965.60	7,313.60	7,679.20	8,063.20
			Monthly	14,372.80	15,092.13	15,846.13	16,638.27	17,470.27
			Annual	172,473.60	181,105.60	190,153.60	199,659.20	209,643.20
FIRE TRAINING OFFICER (40 HR)	F420	Classified	**Hourly**	82.92	87.07	91.42	95.99	100.79
			Bi-Weekly	6,633.60	6,965.60	7,313.60	7,679.20	8,063.20
			Monthly	14,372.80	15,092.13	15,846.13	16,638.27	17,470.27
			Annual	172,473.60	181,105.60	190,153.60	199,659.20	209,643.20
BATTALION CHIEF (56 HR)	F410	Classified	**Hourly**	53.84	56.53	59.36	62.34	65.45
			Bi-Weekly	6,030.08	6,331.36	6,648.32	6,982.08	7,330.40
			Monthly	13,065.17	13,717.95	14,404.69	15,127.84	15,882.53
			Annual	156,782.08	164,615.36	172,856.32	181,534.08	190,590.40
BATTALION CHIEF (40 HR)	F415	Classified	**Hourly**	75.37	79.14	83.11	87.27	91.62
			Bi-Weekly	6,029.60	6,331.20	6,648.80	6,981.60	7,329.60
			Monthly	13,064.13	13,717.60	14,405.73	15,126.80	15,880.80
			Annual	156,769.60	164,611.20	172,868.80	181,521.60	190,569.60
STAFF FIRE CAPTAIN (40 HR)	F240	Classified	**Hourly**			72.58	76.21	80.02
			Bi-Weekly			5,806.40	6,096.80	6,401.60
			Monthly			12,580.53	13,209.73	13,870.13
			Annual			150,966.40	158,516.80	166,441.60
STAFF FIRE CAPTAIN - EMT (40 HR)	F241	Classified	**Hourly**			67.20	70.56	74.09
			Bi-Weekly			5,376.00	5,644.80	5,927.20
			Monthly			11,648.00	12,230.40	12,842.27
			Annual			139,776.00	146,764.80	154,107.20
FIRE CAPTAIN (56 HR)	F245	Classified	**Hourly**			47.12	49.47	51.96
			Bi-Weekly			5,277.44	5,540.64	5,819.52
			Monthly			11,434.45	12,004.72	12,608.96
			Annual			137,213.44	144,056.64	151,307.52
FIRE CAPTAIN (40 HR)	F250	Classified	**Hourly**			65.98	69.27	72.73
			Bi-Weekly			5,278.40	5,541.60	5,818.40
			Monthly			11,436.53	12,006.80	12,606.53
			Annual			137,238.40	144,081.60	151,278.40
FIRE PREVENTION INSPECTOR (56 HR)	F225	Classified	**Hourly**	39.93	41.91	44.00	46.21	48.51
			Bi-Weekly	4,472.16	4,693.92	4,928.00	5,175.52	5,433.12
			Monthly	9,689.68	10,170.16	10,677.33	11,213.63	11,771.76
			Annual	116,276.16	122,041.92	128,128.00	134,563.52	141,261.12
FIRE PREVENTION INSPECTOR - EMT (40 HR)	F221	Classified	**Hourly**	51.72	54.31	57.03	59.88	62.87
			Bi-Weekly	4,137.60	4,344.80	4,562.40	4,790.40	5,029.60
			Monthly	8,964.80	9,413.73	9,885.20	10,379.20	10,897.47
			Annual	107,577.60	112,964.80	118,622.40	124,550.40	130,769.60
FIRE PREVENTION INSPECTOR (40 HR)	F220	Classified	**Hourly**	55.85	58.66	61.59	64.67	67.89
			Bi-Weekly	4,468.00	4,692.80	4,927.20	5,173.60	5,431.20
			Monthly	9,680.67	10,167.73	10,675.60	11,209.47	11,767.60
			Annual	116,168.00	122,012.80	128,107.20	134,513.60	141,211.20
APPARATUS OPERATOR (56 HR)	F210	Classified	**Hourly**	37.80	39.69	41.68	43.76	45.94
			Bi-Weekly	4,233.60	4,445.28	4,668.16	4,901.12	5,145.28
			Monthly	9,172.80	9,631.44	10,114.35	10,619.09	11,148.11
			Annual	110,073.60	115,577.28	121,372.16	127,429.12	133,777.28
APPARATUS OPERATOR - EMT (56 HR)	F211	Classified	**Hourly**	35.01	36.74	38.59	40.52	42.54
			Bi-Weekly	3,921.12	4,114.88	4,322.08	4,538.24	4,764.48
			Monthly	8,495.76	8,915.57	9,364.51	9,832.85	10,323.04
			Annual	101,949.12	106,986.88	112,374.08	117,994.24	123,876.48
APPARATUS OPERATOR (40 HR)	F215	Classified	**Hourly**	52.87	55.52	58.29	61.20	64.27
			Bi-Weekly	4,229.60	4,441.60	4,663.20	4,896.00	5,141.60
			Monthly	9,164.13	9,623.47	10,103.60	10,608.00	11,140.13
			Annual	109,969.60	115,481.60	121,243.20	127,296.00	133,681.60
FIREFIGHTER (56 HR)	F200	Classified	**Hourly**	35.62	37.41	39.28	41.25	43.32
			Bi-Weekly	3,989.44	4,189.92	4,399.36	4,620.00	4,851.84
			Monthly	8,643.79	9,078.16	9,531.95	10,010.00	10,512.32
			Annual	103,725.44	108,937.92	114,383.36	120,120.00	126,147.84
FIREFIGHTER (40 HR)	F205	Classified	**Hourly**	49.89	52.37	54.98	57.74	60.63
			Bi-Weekly	3,991.20	4,189.60	4,398.40	4,619.20	4,850.40
			Monthly	8,647.60	9,077.47	9,529.87	10,008.27	10,509.20
			Annual	103,771.20	108,929.60	114,358.40	120,099.20	126,110.40
FIREFIGHTER TRAINEE (40 HR)	F100	Classified	**Hourly**	45.35	47.61			
			Bi-Weekly	3,628.00	3,808.80			
			Monthly	7,860.67	8,252.40			
			Annual	94,328.00	99,028.80			

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PROFESSIONAL STAFF								
HAZARDOUS MATERIALS PROGRAM COORDINATOR	H590	Classified	**Hourly**	60.70	63.73	66.91	70.27	73.77
			Bi-Weekly	4,856.00	5,098.40	5,352.80	5,621.60	5,901.60
			Monthly	10,521.33	11,046.53	11,597.73	12,180.13	12,786.80
			Annual	126,256.00	132,558.40	139,172.80	146,161.60	153,441.60
FIRE PROTECTION ENGINEER	T510	Classified	**Hourly**	55.91	58.61	61.57	64.78	68.07
			Bi-Weekly	4,472.80	4,688.80	4,925.60	5,182.40	5,445.60
			Monthly	9,691.07	10,159.07	10,672.13	11,228.53	11,798.80
			Annual	116,292.80	121,908.80	128,065.60	134,742.40	141,585.60
EMERGENCY MEDICAL SERVICES COORDINATOR	H585	Classified	**Hourly**	53.41	56.09	58.87	61.81	64.91
			Bi-Weekly	4,272.80	4,487.20	4,709.60	4,944.80	5,192.80
			Monthly	9,257.73	9,722.27	10,204.13	10,713.73	11,251.07
			Annual	111,092.80	116,667.20	122,449.60	128,564.80	135,012.80
ENVIRONMENTAL SPECIALIST	T505	Classified	**Hourly**	54.52	57.24	60.10	63.12	66.27
			Bi-Weekly	4,361.60	4,579.20	4,808.00	5,049.60	5,301.60
			Monthly	9,450.13	9,921.60	10,417.33	10,940.80	11,486.80
			Annual	113,401.60	119,059.20	125,008.00	131,289.60	137,841.60
HAZARDOUS MATERIALS INSPECTOR	T500	Classified	**Hourly**	51.94	54.53	57.26	60.13	63.12
			Bi-Weekly	4,155.20	4,362.40	4,580.80	4,810.40	5,049.60
			Monthly	9,002.93	9,451.87	9,925.07	10,422.53	10,940.80
			Annual	108,035.20	113,422.40	119,100.80	125,070.40	131,289.60
FIRE SERVICES SUPERVISOR	H580	Classified	**Hourly**	53.45	56.13	58.91	61.86	64.96
			Bi-Weekly	4,276.00	4,490.40	4,712.80	4,948.80	5,196.80
			Monthly	9,264.67	9,729.20	10,211.07	10,722.40	11,259.73
			Annual	111,176.00	116,750.40	122,532.80	128,668.80	135,116.80
SENIOR FIRE TECHNICIAN	C260	Classified	**Hourly**	38.26	39.84	41.38	43.18	45.37
			Bi-Weekly	3,060.80	3,187.20	3,310.40	3,454.40	3,629.60
			Monthly	6,631.73	6,905.60	7,172.53	7,484.53	7,864.13
			Annual	79,580.80	82,867.20	86,070.40	89,814.40	94,369.60
FIRE TECHNICIAN II	C255	Classified	**Hourly**	33.66	35.33	37.10	38.97	40.90
			Bi-Weekly	2,692.80	2,826.40	2,968.00	3,117.60	3,272.00
			Monthly	5,834.40	6,123.87	6,430.67	6,754.80	7,089.33
			Annual	70,012.80	73,486.40	77,168.00	81,057.60	85,072.00
FIRE TECHNICIAN I	C250	Classified	**Hourly**	30.57	32.10	33.71	35.39	37.17
			Bi-Weekly	2,445.60	2,568.00	2,696.80	2,831.20	2,973.60
			Monthly	5,298.80	5,564.00	5,843.07	6,134.27	6,442.80
			Annual	63,585.60	66,768.00	70,116.80	73,611.20	77,313.60
HUMAN RESOURCES DEPARTMENT								
DEPUTY DIRECTOR OF HUMAN RESOURCES	U520	Classified	**Hourly**	70.51	74.03	77.74	81.63	85.70
			Bi-Weekly	5,640.80	5,922.40	6,219.20	6,530.40	6,856.00
			Monthly	12,221.73	12,831.87	13,474.93	14,149.20	14,854.67
			Annual	146,660.80	153,982.40	161,699.20	169,790.40	178,256.00
HUMAN RESOURCES MANAGER	U135	Classified	**Hourly**	54.18	56.89	59.74	62.73	65.86
			Bi-Weekly	4,334.40	4,551.20	4,779.20	5,018.40	5,268.80
			Monthly	9,391.20	9,860.93	10,354.93	10,873.20	11,415.73
			Annual	112,694.40	118,331.20	124,259.20	130,478.40	136,988.80
SENIOR HUMAN RESOURCES ANALYST	U120	Classified	**Hourly**	53.98	56.65	59.49	62.46	65.58
			Bi-Weekly	4,318.40	4,532.00	4,759.20	4,996.80	5,246.40
			Monthly	9,356.53	9,819.33	10,311.60	10,826.40	11,367.20
			Annual	112,278.40	117,832.00	123,739.20	129,916.80	136,406.40
HUMAN RESOURCES ANALYST II	U115	Classified	**Hourly**	49.08	51.53	54.11	56.80	59.64
			Bi-Weekly	3,926.40	4,122.40	4,328.80	4,544.00	4,771.20
			Monthly	8,507.20	8,931.87	9,379.07	9,845.33	10,337.60
			Annual	102,086.40	107,182.40	112,548.80	118,144.00	124,051.20
HUMAN RESOURCES ANALYST I	U110	Classified	**Hourly**	44.61	46.86	49.19	51.63	54.22
			Bi-Weekly	3,568.80	3,748.80	3,935.20	4,130.40	4,337.60
			Monthly	7,732.40	8,122.40	8,526.27	8,949.20	9,398.13
			Annual	92,788.80	97,468.80	102,315.20	107,390.40	112,777.60
HUMAN RESOURCES TECHNICIAN	U100	Classified	**Hourly**	32.50	34.14	35.84	37.62	39.49
			Bi-Weekly	2,600.00	2,731.20	2,867.20	3,009.60	3,159.20
			Monthly	5,633.33	5,917.60	6,212.27	6,520.80	6,844.93
			Annual	67,600.00	71,011.20	74,547.20	78,249.60	82,139.20
HUMAN RESOURCES ADMINISTRATIVE ASSISTANT	U105	Classified	**Hourly**	41.56	43.26	44.96	46.66	48.51
			Bi-Weekly	3,324.80	3,460.80	3,596.80	3,732.80	3,880.80
			Monthly	7,203.73	7,498.40	7,793.07	8,087.73	8,408.40
			Annual	86,444.80	89,980.80	93,516.80	97,052.80	100,900.80

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LIBRARY SERVICES DEPARTMENT								
LIBRARY SERVICES DIVISION								
LIBRARY OPERATIONS MANAGER	H755	Classified	**Hourly**	46.31	48.62	51.05	53.59	56.27
			Bi-Weekly	3,704.80	3,889.60	4,084.00	4,287.20	4,501.60
			Monthly	8,027.07	8,427.47	8,848.67	9,288.93	9,753.47
			Annual	96,324.80	101,129.60	106,184.00	111,467.20	117,041.60
SUPERVISING LIBRARIAN I	H750	Classified	**Hourly**	46.31	48.62	51.05	53.59	56.27
			Bi-Weekly	3,704.80	3,889.60	4,084.00	4,287.20	4,501.60
			Monthly	8,027.07	8,427.47	8,848.67	9,288.93	9,753.47
			Annual	96,324.80	101,129.60	106,184.00	111,467.20	117,041.60
LIBRARIAN II	T795	Classified	**Hourly**	37.40	39.28	41.17	43.26	45.30
			Bi-Weekly	2,992.00	3,142.40	3,293.60	3,460.80	3,624.00
			Monthly	6,482.67	6,808.53	7,136.13	7,498.40	7,852.00
			Annual	77,792.00	81,702.40	85,633.60	89,980.80	94,224.00
LIBRARIAN I	T790	Classified	**Hourly**	33.92	35.62	37.40	39.18	41.18
			Bi-Weekly	2,713.60	2,849.60	2,992.00	3,134.40	3,294.40
			Monthly	5,879.47	6,174.13	6,482.67	6,791.20	7,137.87
			Annual	70,553.60	74,089.60	77,792.00	81,494.40	85,654.40
LEAD LIBRARY ASSISTANT	C520	Classified	**Hourly**	32.04	33.66	35.26	36.99	38.94
			Bi-Weekly	2,563.20	2,692.80	2,820.80	2,959.20	3,115.20
			Monthly	5,553.60	5,834.40	6,111.73	6,411.60	6,749.60
			Annual	66,643.20	70,012.80	73,340.80	76,939.20	80,995.20
SENIOR LIBRARY ASSISTANT	C515	Classified	**Hourly**	29.58	30.89	32.30	33.73	35.35
			Bi-Weekly	2,366.40	2,471.20	2,584.00	2,698.40	2,828.00
			Monthly	5,127.20	5,354.27	5,598.67	5,846.53	6,127.33
			Annual	61,526.40	64,251.20	67,184.00	70,158.40	73,528.00
LIBRARY ASSISTANT	C510	Classified	**Hourly**	26.80	28.05	29.31	30.66	32.10
			Bi-Weekly	2,144.00	2,244.00	2,344.80	2,452.80	2,568.00
			Monthly	4,645.33	4,862.00	5,080.40	5,314.40	5,564.00
			Annual	55,744.00	58,344.00	60,964.80	63,772.80	66,768.00
SENIOR LIBRARY PAGE (.6 FTE)	C505	Classified	**Hourly**					21.56
			Bi-Weekly					1,034.88
			Monthly					2,242.24
			Annual					26,906.88
LIBRARY PAGE (.3 FTE)	C500	Classified	**Hourly**					19.59
			Bi-Weekly					470.16
			Monthly					1,018.68
			Annual					12,224.16
EDUCATION SERVICES MANAGER	H760	Classified	**Hourly**	46.31	48.62	51.05	53.59	56.27
			Bi-Weekly	3,704.80	3,889.60	4,084.00	4,287.20	4,501.60
			Monthly	8,027.07	8,427.47	8,848.67	9,288.93	9,753.47
			Annual	96,324.80	101,129.60	106,184.00	111,467.20	117,041.60
EDUCATIONAL SERVICES COORDINATOR	T780	Classified	**Hourly**	33.15	34.81	36.57	38.38	40.31
			Bi-Weekly	2,652.00	2,784.80	2,925.60	3,070.40	3,224.80
			Monthly	5,746.00	6,033.73	6,338.80	6,652.53	6,987.07
			Annual	68,952.00	72,404.80	76,065.60	79,830.40	83,844.80
LITERACY PROGRAM COORDINATOR	T785	Classified	**Hourly**	33.19	34.87	36.60	38.34	40.31
			Bi-Weekly	2,655.20	2,789.60	2,928.00	3,067.20	3,224.80
			Monthly	5,752.93	6,044.13	6,344.00	6,645.60	6,987.07
			Annual	69,035.20	72,529.60	76,128.00	79,747.20	83,844.80
LEAD PROGRAM ASSISTANT	C508	Classified	**Hourly**	32.04	33.66	35.26	36.99	38.94
			Bi-Weekly	2,563.20	2,692.80	2,820.80	2,959.20	3,115.20
			Monthly	5,553.60	5,834.40	6,111.73	6,411.60	6,749.60
			Annual	66,643.20	70,012.80	73,340.80	76,939.20	80,995.20
PROGRAM ASSISTANT	C506	Classified	**Hourly**	26.80	28.05	29.31	30.66	32.10
			Bi-Weekly	2,144.00	2,244.00	2,344.80	2,452.80	2,568.00
			Monthly	4,645.33	4,862.00	5,080.40	5,314.40	5,564.00
			Annual	55,744.00	58,344.00	60,964.80	63,772.80	66,768.00

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FY 2022

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Classification Title	Job Code	Service Type		Step A	Step B	Step C	Step D	Step E
MAINTENANCE SERVICES DEPARTMENT								
FACILITIES MANAGEMENT								
FACILITIES AND BUILDING MANAGER	H605	Classified	**Hourly**	58.72	61.63	64.72	67.96	71.37
			Bi-Weekly	4,697.60	4,930.40	5,177.60	5,436.80	5,709.60
			Monthly	10,178.13	10,682.53	11,218.13	11,779.73	12,370.80
			Annual	122,137.60	128,190.40	134,617.60	141,356.80	148,449.60
FACILITIES LEADWORKER	M135	Classified	**Hourly**	57.53	59.82	62.14	64.70	67.45
			Bi-Weekly	4,602.40	4,785.60	4,971.20	5,176.00	5,396.00
			Monthly	9,971.87	10,368.80	10,770.93	11,214.67	11,691.33
			Annual	119,662.40	124,425.60	129,251.20	134,576.00	140,296.00
HVAC MECHANIC	M140	Classified	**Hourly**	46.27	48.12	50.01	52.14	54.29
			Bi-Weekly	3,701.60	3,849.60	4,000.80	4,171.20	4,343.20
			Monthly	8,020.13	8,340.80	8,668.40	9,037.60	9,410.27
			Annual	96,241.60	100,089.60	104,020.80	108,451.20	112,923.20
FACILITIES PAINTER II	M130	Classified	**Hourly**	40.60	42.25	43.90	45.72	47.63
			Bi-Weekly	3,248.00	3,380.00	3,512.00	3,657.60	3,810.40
			Monthly	7,037.33	7,323.33	7,609.33	7,924.80	8,255.87
			Annual	84,448.00	87,880.00	91,312.00	95,097.60	99,070.40
FACILITIES PAINTER I	M125	Classified	**Hourly**	36.93	38.44	39.98	41.65	43.30
			Bi-Weekly	2,954.40	3,075.20	3,198.40	3,332.00	3,464.00
			Monthly	6,401.20	6,662.93	6,929.87	7,219.33	7,505.33
			Annual	76,814.40	79,955.20	83,158.40	86,632.00	90,064.00
FACILITIES CARPENTER II	M120	Classified	**Hourly**	40.32	41.92	43.66	45.47	47.36
			Bi-Weekly	3,225.60	3,353.60	3,492.80	3,637.60	3,788.80
			Monthly	6,988.80	7,266.13	7,567.73	7,881.47	8,209.07
			Annual	83,865.60	87,193.60	90,812.80	94,577.60	98,508.80
FACILITIES CARPENTER I	M115	Classified	**Hourly**	36.68	38.19	39.75	41.36	43.10
			Bi-Weekly	2,934.40	3,055.20	3,180.00	3,308.80	3,448.00
			Monthly	6,357.87	6,619.60	6,890.00	7,169.07	7,470.67
			Annual	76,294.40	79,435.20	82,680.00	86,028.80	89,648.00
FACILITIES SERVICEWORKER II	M110	Classified	**Hourly**	32.69	33.98	35.37	36.62	38.04
			Bi-Weekly	2,615.20	2,718.40	2,829.60	2,929.60	3,043.20
			Monthly	5,666.27	5,889.87	6,130.80	6,347.47	6,593.60
			Annual	67,995.20	70,678.40	73,569.60	76,169.60	79,123.20
FACILITIES SERVICEWORKER I	M105	Classified	**Hourly**	29.72	30.90	32.15	33.29	34.57
			Bi-Weekly	2,377.60	2,472.00	2,572.00	2,663.20	2,765.60
			Monthly	5,151.47	5,356.00	5,572.67	5,770.27	5,992.13
			Annual	61,817.60	64,272.00	66,872.00	69,243.20	71,905.60
FLEET MANAGEMENT DIVISION								
FLEET MAINTENANCE MANAGER	H635	Classified	**Hourly**	58.72	61.63	64.72	67.96	71.37
			Bi-Weekly	4,697.60	4,930.40	5,177.60	5,436.80	5,709.60
			Monthly	10,178.13	10,682.53	11,218.13	11,779.73	12,370.80
			Annual	122,137.60	128,190.40	134,617.60	141,356.80	148,449.60
SENIOR EQUIPMENT MECHANIC	M620	Classified	**Hourly**	41.37	43.30	45.50	47.87	50.23
			Bi-Weekly	3,309.60	3,464.00	3,640.00	3,829.60	4,018.40
			Monthly	7,170.80	7,505.33	7,886.67	8,297.47	8,706.53
			Annual	86,049.60	90,064.00	94,640.00	99,569.60	104,478.40
EQUIPMENT MECHANIC II	M615	Classified	**Hourly**	35.65	37.31	39.21	41.25	43.29
			Bi-Weekly	2,852.00	2,984.80	3,136.80	3,300.00	3,463.20
			Monthly	6,179.33	6,467.07	6,796.40	7,150.00	7,503.60
			Annual	74,152.00	77,604.80	81,556.80	85,800.00	90,043.20
EQUIPMENT MECHANIC I	M610	Classified	**Hourly**	32.45	34.08	35.82	37.59	39.44
			Bi-Weekly	2,596.00	2,726.40	2,865.60	3,007.20	3,155.20
			Monthly	5,624.67	5,907.20	6,208.80	6,515.60	6,836.27
			Annual	67,496.00	70,886.40	74,505.60	78,187.20	82,035.20
EQUIPMENT PARTS STOREKEEPER	M605	Classified	**Hourly**	30.23	31.85	33.37	35.07	36.84
			Bi-Weekly	2,418.40	2,548.00	2,669.60	2,805.60	2,947.20
			Monthly	5,239.87	5,520.67	5,784.13	6,078.80	6,385.60
			Annual	62,878.40	66,248.00	69,409.60	72,945.60	76,627.20
EQUIPMENT SERVICE ATTENDANT	M600	Classified	**Hourly**	27.90	28.99	30.20	31.22	32.43
			Bi-Weekly	2,232.00	2,319.20	2,416.00	2,497.60	2,594.40
			Monthly	4,836.00	5,024.93	5,234.67	5,411.47	5,621.20
			Annual	58,032.00	60,299.20	62,816.00	64,937.60	67,454.40

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LANDSCAPE MAINTENANCE DIVISION								
LANDSCAPE MAINTENANCE MANAGER	H615	Classified	**Hourly**	58.72	61.63	64.72	67.96	71.37
			Bi-Weekly	4,697.60	4,930.40	5,177.60	5,436.80	5,709.60
			Monthly	10,178.13	10,682.53	11,218.13	11,779.73	12,370.80
			Annual	122,137.60	128,190.40	134,617.60	141,356.80	148,449.60
LANDSCAPE MAINTENANCE SUPERVISOR	H610	Classified	**Hourly**	47.76	49.67	51.67	53.53	55.58
			Bi-Weekly	3,820.80	3,973.60	4,133.60	4,282.40	4,446.40
			Monthly	8,278.40	8,609.47	8,956.13	9,278.53	9,633.87
			Annual	99,340.80	103,313.60	107,473.60	111,342.40	115,606.40
GROUNDSKEEPER III	M215	Classified	**Hourly**	43.42	45.15	46.97	48.66	50.53
			Bi-Weekly	3,473.60	3,612.00	3,757.60	3,892.80	4,042.40
			Monthly	7,526.13	7,826.00	8,141.47	8,434.40	8,758.53
			Annual	90,313.60	93,912.00	97,697.60	101,212.80	105,102.40
GROUNDSKEEPER II	M210	Classified	**Hourly**	37.75	39.27	40.85	42.30	43.93
			Bi-Weekly	3,020.00	3,141.60	3,268.00	3,384.00	3,514.40
			Monthly	6,543.33	6,806.80	7,080.67	7,332.00	7,614.53
			Annual	78,520.00	81,681.60	84,968.00	87,984.00	91,374.40
GROUNDSKEEPER I	M205	Classified	**Hourly**	34.29	35.66	37.16	38.45	39.94
			Bi-Weekly	2,743.20	2,852.80	2,972.80	3,076.00	3,195.20
			Monthly	5,943.60	6,181.07	6,441.07	6,664.67	6,922.93
			Annual	71,323.20	74,172.80	77,292.80	79,976.00	83,075.20
TREE TRIMMER	M220	Classified	**Hourly**	37.75	39.27	40.85	42.30	43.93
			Bi-Weekly	3,020.00	3,141.60	3,268.00	3,384.00	3,514.40
			Monthly	6,543.33	6,806.80	7,080.67	7,332.00	7,614.53
			Annual	78,520.00	81,681.60	84,968.00	87,984.00	91,374.40
STREET MAINTENANCE DIVISION								
STREETS MAINTENANCE MANAGER	H625	Classified	**Hourly**	58.72	61.63	64.72	67.96	71.37
			Bi-Weekly	4,697.60	4,930.40	5,177.60	5,436.80	5,709.60
			Monthly	10,178.13	10,682.53	11,218.13	11,779.73	12,370.80
			Annual	122,137.60	128,190.40	134,617.60	141,356.80	148,449.60
STREETS MAINTENANCE SUPERVISOR	H620	Classified	**Hourly**	50.07	52.00	54.15	56.07	58.21
			Bi-Weekly	4,005.60	4,160.00	4,332.00	4,485.60	4,656.80
			Monthly	8,678.80	9,013.33	9,386.00	9,718.80	10,089.73
			Annual	104,145.60	108,160.00	112,632.00	116,625.60	121,076.80
SENIOR MAINTENANCE LEADER	M315	Classified	**Hourly**	45.52	47.27	49.23	50.97	52.92
			Bi-Weekly	3,641.60	3,781.60	3,938.40	4,077.60	4,233.60
			Monthly	7,890.13	8,193.47	8,533.20	8,834.80	9,172.80
			Annual	94,681.60	98,321.60	102,398.40	106,017.60	110,073.60
MAINTENANCE LEADER	M310	Classified	**Hourly**	39.58	41.12	42.82	44.32	46.02
			Bi-Weekly	3,166.40	3,289.60	3,425.60	3,545.60	3,681.60
			Monthly	6,860.53	7,127.47	7,422.13	7,682.13	7,976.80
			Annual	82,326.40	85,529.60	89,065.60	92,185.60	95,721.60
SWEEPER EQUIPMENT OPERATOR	M700	Classified	**Hourly**	33.81	34.94	36.35	37.90	39.40
			Bi-Weekly	2,704.80	2,795.20	2,908.00	3,032.00	3,152.00
			Monthly	5,860.40	6,056.27	6,300.67	6,569.33	6,829.33
			Annual	70,324.80	72,675.20	75,608.00	78,832.00	81,952.00
POLICE DEPARTMENT								
SWORN								
POLICE CAPTAIN	P300	Classified	**Hourly**	89.04	93.48	98.17	103.07	108.21
			Bi-Weekly	7,123.20	7,478.40	7,853.60	8,245.60	8,656.80
			Monthly	15,433.60	16,203.20	17,016.13	17,865.47	18,756.40
			Annual	185,203.20	194,438.40	204,193.60	214,385.60	225,076.80
POLICE LIEUTENANT	P215	Classified	**Hourly**				77.65	81.43
			Bi-Weekly				6,212.00	6,514.40
			Monthly				13,459.33	14,114.53
			Annual				161,512.00	169,374.40
POLICE SERGEANT	P210	Classified	**Hourly**			66.53	69.74	73.31
			Bi-Weekly			5,322.40	5,579.20	5,864.80
			Monthly			11,531.87	12,088.27	12,707.07
			Annual			138,382.40	145,059.20	152,484.80
POLICE OFFICER	P200	Classified	**Hourly**	48.86	51.20	53.69	56.28	58.96
			Bi-Weekly	3,908.80	4,096.00	4,295.20	4,502.40	4,716.80
			Monthly	8,469.07	8,874.67	9,306.27	9,755.20	10,219.73
			Annual	101,628.80	106,496.00	111,675.20	117,062.40	122,636.80
POLICE OFFICER TRAINEE	P100	Classified	**Hourly**	36.62	38.42			
			Bi-Weekly	2,929.60	3,073.60			
			Monthly	6,347.47	6,659.47			
			Annual	76,169.60	79,913.60			

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PROFESSIONAL STAFF								
PERSONNEL AND TRAINING ADMINISTRATOR	H450	Classified	**Hourly**	67.01	70.36	73.89	77.58	81.45
			Bi-Weekly	5,360.80	5,628.80	5,911.20	6,206.40	6,516.00
			Monthly	11,615.07	12,195.73	12,807.60	13,447.20	14,118.00
			Annual	139,380.80	146,348.80	153,691.20	161,366.40	169,416.00
PERSONNEL OPERATIONS SPECIALIST	H460	Classified	**Hourly**	43.98	45.77	47.57	49.36	51.33
			Bi-Weekly	3,518.40	3,661.60	3,805.60	3,948.80	4,106.40
			Monthly	7,623.20	7,933.47	8,245.47	8,555.73	8,897.20
			Annual	91,478.40	95,201.60	98,945.60	102,668.80	106,766.40
SENIOR CRIME AND INTELLIGENCE ANALYST	H406	Classified	**Hourly**	53.45	56.10	58.90	61.85	64.93
			Bi-Weekly	4,276.00	4,488.00	4,712.00	4,948.00	5,194.40
			Monthly	9,264.67	9,724.00	10,209.33	10,720.67	11,254.53
			Annual	111,176.00	116,688.00	122,512.00	128,648.00	135,054.40
CRIME AND INTELLIGENCE ANALYST	H405	Classified	**Hourly**	48.60	51.03	53.58	56.25	59.05
			Bi-Weekly	3,888.00	4,082.40	4,286.40	4,500.00	4,724.00
			Monthly	8,424.00	8,845.20	9,287.20	9,750.00	10,235.33
			Annual	101,088.00	106,142.40	111,446.40	117,000.00	122,824.00
POLICE PROGRAMS ANALYST	H400	Classified	**Hourly**	48.60	51.03	53.58	56.25	59.05
			Bi-Weekly	3,888.00	4,082.40	4,286.40	4,500.00	4,724.00
			Monthly	8,424.00	8,845.20	9,287.20	9,750.00	10,235.33
			Annual	101,088.00	106,142.40	111,446.40	117,000.00	122,824.00
SPECIAL OPERATIONS DIVISION								
CRIME PREVENTION SPECIALIST II	C671	Classified	**Hourly**	37.08	38.92	40.87	42.93	45.07
			Bi-Weekly	2,966.40	3,113.60	3,269.60	3,434.40	3,605.60
			Monthly	6,427.20	6,746.13	7,084.13	7,441.20	7,812.13
			Annual	77,126.40	80,953.60	85,009.60	89,294.40	93,745.60
CRIME PREVENTION SPECIALIST I	C670	Classified	**Hourly**	33.70	35.37	37.15	39.02	40.96
			Bi-Weekly	2,696.00	2,829.60	2,972.00	3,121.60	3,276.80
			Monthly	5,841.33	6,130.80	6,439.33	6,763.47	7,099.73
			Annual	70,096.00	73,569.60	77,272.00	81,161.60	85,196.80
RESERVE OFFICER COORDINATOR	H455	Classified	**Hourly**	60.94	64.00	67.19	70.44	74.04
			Bi-Weekly	4,875.20	5,120.00	5,375.20	5,635.20	5,923.20
			Monthly	10,562.93	11,093.33	11,646.27	12,209.60	12,833.60
			Annual	126,755.20	133,120.00	139,755.20	146,515.20	154,003.20
INVESTIGATION DIVISION								
YOUTH AND FAMILY SERVICES ADMINISTRATOR	H445	Classified	**Hourly**	67.01	70.36	73.89	77.58	81.45
			Bi-Weekly	5,360.80	5,628.80	5,911.20	6,206.40	6,516.00
			Monthly	11,615.07	12,195.73	12,807.60	13,447.20	14,118.00
			Annual	139,380.80	146,348.80	153,691.20	161,366.40	169,416.00
COUNSELING SUPERVISOR	H440	Classified	**Hourly**	50.42	52.95	55.59	58.36	61.29
			Bi-Weekly	4,033.60	4,236.00	4,447.20	4,668.80	4,903.20
			Monthly	8,739.47	9,178.00	9,635.60	10,115.73	10,623.60
			Annual	104,873.60	110,136.00	115,627.20	121,388.80	127,483.20
FAMILY COUNSELOR	T550	Classified	**Hourly**	41.56	43.62	45.81	47.91	50.41
			Bi-Weekly	3,324.80	3,489.60	3,664.80	3,832.80	4,032.80
			Monthly	7,203.73	7,560.80	7,940.40	8,304.40	8,737.73
			Annual	86,444.80	90,729.60	95,284.80	99,652.80	104,852.80
CERTIFIED LATENT PRINT EXAMINER	T560	Classified	**Hourly**	54.52	57.24	60.10	63.12	66.27
			Bi-Weekly	4,361.60	4,579.20	4,808.00	5,049.60	5,301.60
			Monthly	9,450.13	9,921.60	10,417.33	10,940.80	11,486.80
			Annual	113,401.60	119,059.20	125,008.00	131,289.60	137,841.60
SUPPORT SERVICES DIVISION								
OPERATIONS SUPPORT SERVICES MANAGER	U400	Classified	**Hourly**	77.82	81.70	86.62	90.95	95.48
			Bi-Weekly	6,225.60	6,536.00	6,929.60	7,276.00	7,638.40
			Monthly	13,488.80	14,161.33	15,014.13	15,764.67	16,549.87
			Annual	161,865.60	169,936.00	180,169.60	189,176.00	198,598.40
PROPERTY/EVIDENCE AND CRIME SCENE ADMINISTRATOR	H415	Classified	**Hourly**	53.45	56.11	58.90	61.86	64.95
			Bi-Weekly	4,276.00	4,488.80	4,712.00	4,948.80	5,196.00
			Monthly	9,264.67	9,725.73	10,209.33	10,722.40	11,258.00
			Annual	111,176.00	116,708.80	122,512.00	128,668.80	135,096.00
PROPERTY AND EVIDENCE SUPERVISOR	H410	Classified	**Hourly**	39.45	41.42	43.49	45.65	47.92
			Bi-Weekly	3,156.00	3,313.60	3,479.20	3,652.00	3,833.60
			Monthly	6,838.00	7,179.47	7,538.27	7,912.67	8,306.13
			Annual	82,056.00	86,153.60	90,459.20	94,952.00	99,673.60
POLICE ID SPECIALIST	T555	Classified	**Hourly**	36.64	38.47	40.40	42.44	44.43
			Bi-Weekly	2,931.20	3,077.60	3,232.00	3,395.20	3,554.40
			Monthly	6,350.93	6,668.13	7,002.67	7,356.27	7,701.20
			Annual	76,211.20	80,017.60	84,032.00	88,275.20	92,414.40
CRIME SCENE SPECIALIST	C687	Classified	**Hourly**	36.94	38.61	40.38	42.19	44.19
			Bi-Weekly	2,955.20	3,088.80	3,230.40	3,375.20	3,535.20
			Monthly	6,402.93	6,692.40	6,999.20	7,312.93	7,659.60
			Annual	76,835.20	80,308.80	83,990.40	87,755.20	91,915.20
CRIME SCENE TECHNICIAN	C685	Classified	**Hourly**	33.58	35.10	36.71	38.35	40.17
			Bi-Weekly	2,686.40	2,808.00	2,936.80	3,068.00	3,213.60
			Monthly	5,820.53	6,084.00	6,363.07	6,647.33	6,962.80
			Annual	69,846.40	73,008.00	76,356.80	79,768.00	83,553.60
PROPERTY & EVIDENCE TECHNICIAN	C665	Classified	**Hourly**	32.45	33.85	35.49	37.11	38.87
			Bi-Weekly	2,596.00	2,708.00	2,839.20	2,968.80	3,109.60
			Monthly	5,624.67	5,867.33	6,151.60	6,432.40	6,737.47
			Annual	67,496.00	70,408.00	73,819.20	77,188.80	80,849.60

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SALARY PLAN FOR ALL CLASSIFICATIONS
(PER MUNI CODE SEC.2-4.30)
FY 2022

Classification Title	Job Code	Service Type		Step A	Step B	Step C	Step D	Step E
ANIMAL SERVICES ADMINISTRATOR	H430	Classified	Hourly	53.45	56.11	58.90	61.86	64.95
			Bi-Weekly	4,276.00	4,488.80	4,712.00	4,948.80	5,196.00
			Monthly	9,264.67	9,725.73	10,209.33	10,722.40	11,258.00
			Annual	111,176.00	116,708.80	122,512.00	128,668.80	135,096.00
SHELTER OPERATIONS SUPERVISOR	C621	Classified	Hourly	35.75	37.34	39.08	40.87	42.81
			Bi-Weekly	2,860.00	2,987.20	3,126.40	3,269.60	3,424.80
			Monthly	6,196.67	6,472.27	6,773.87	7,084.13	7,420.40
			Annual	74,360.00	77,667.20	81,286.40	85,009.60	89,044.80
ANIMAL CONTROL OFFICER	C610	Classified	Hourly	30.74	32.31	33.78	35.37	37.05
			Bi-Weekly	2,459.20	2,584.80	2,702.40	2,829.60	2,964.00
			Monthly	5,328.27	5,600.40	5,855.20	6,130.80	6,422.00
			Annual	63,939.20	67,204.80	70,262.40	73,569.60	77,064.00
ANIMAL CARE ATTENDANT	C600	Classified	Hourly	25.57	26.66	27.72	28.93	30.37
			Bi-Weekly	2,045.60	2,132.80	2,217.60	2,314.40	2,429.60
			Monthly	4,432.13	4,621.07	4,804.80	5,014.53	5,264.13
			Annual	53,185.60	55,452.80	57,657.60	60,174.40	63,169.60
SHELTER VOLUNTEER COORDINATOR	C607	Classified	Hourly	25.57	26.66	27.72	28.93	30.37
			Bi-Weekly	2,045.60	2,132.80	2,217.60	2,314.40	2,429.60
			Monthly	4,432.13	4,621.07	4,804.80	5,014.53	5,264.13
			Annual	53,185.60	55,452.80	57,657.60	60,174.40	63,169.60
COMMUNICATIONS ADMINISTRATOR	H435	Classified	Hourly	53.45	56.11	58.90	61.86	64.95
			Bi-Weekly	4,276.00	4,488.80	4,712.00	4,948.80	5,196.00
			Monthly	9,264.67	9,725.73	10,209.33	10,722.40	11,258.00
			Annual	111,176.00	116,708.80	122,512.00	128,668.80	135,096.00
COMMUNICATIONS SUPERVISOR	C645	Classified	Hourly	44.27	46.49	48.82	51.25	53.84
			Bi-Weekly	3,541.60	3,719.20	3,905.60	4,100.00	4,307.20
			Monthly	7,673.47	8,058.27	8,462.13	8,883.33	9,332.27
			Annual	92,081.60	96,699.20	101,545.60	106,600.00	111,987.20
COMMUNICATIONS OPERATOR	C635	Classified	Hourly	38.41	40.37	42.34	44.52	46.75
			Bi-Weekly	3,072.80	3,229.60	3,387.20	3,561.60	3,740.00
			Monthly	6,657.73	6,997.47	7,338.93	7,716.80	8,103.33
			Annual	79,892.80	83,969.60	88,067.20	92,601.60	97,240.00
CALL TAKER	C633	Classified	Hourly	31.97	33.53	35.23	36.99	38.84
			Bi-Weekly	2,557.60	2,682.40	2,818.40	2,959.20	3,107.20
			Monthly	5,541.47	5,811.87	6,106.53	6,411.60	6,732.27
			Annual	66,497.60	69,742.40	73,278.40	76,939.20	80,787.20
RECORDS ADMINISTRATOR	H425	Classified	Hourly	53.45	56.11	58.90	61.86	64.95
			Bi-Weekly	4,276.00	4,488.80	4,712.00	4,948.80	5,196.00
			Monthly	9,264.67	9,725.73	10,209.33	10,722.40	11,258.00
			Annual	111,176.00	116,708.80	122,512.00	128,668.80	135,096.00
RECORDS SUPERVISOR	C705	Classified	Hourly	38.42	40.35	42.35	44.48	46.71
			Bi-Weekly	3,073.60	3,228.00	3,388.00	3,558.40	3,736.80
			Monthly	6,659.47	6,994.00	7,340.67	7,709.87	8,096.40
			Annual	79,913.60	83,928.00	88,088.00	92,518.40	97,156.80
POLICE RECORDS CLERK II	C695	Classified	Hourly	29.88	31.07	32.31	33.73	35.38
			Bi-Weekly	2,390.40	2,485.60	2,584.80	2,698.40	2,830.40
			Monthly	5,179.20	5,385.47	5,600.40	5,846.53	6,132.53
			Annual	62,150.40	64,625.60	67,204.80	70,158.40	73,590.40
POLICE RECORDS CLERK I	C690	Classified	Hourly	26.26	27.63	29.10	30.53	32.18
			Bi-Weekly	2,100.80	2,210.40	2,328.00	2,442.40	2,574.40
			Monthly	4,551.73	4,789.20	5,044.00	5,291.87	5,577.87
			Annual	54,620.80	57,470.40	60,528.00	63,502.40	66,934.40
JAIL ADMINISTRATOR	H420	Classified	Hourly	53.45	56.11	58.90	61.86	64.95
			Bi-Weekly	4,276.00	4,488.80	4,712.00	4,948.80	5,196.00
			Monthly	9,264.67	9,725.73	10,209.33	10,722.40	11,258.00
			Annual	111,176.00	116,708.80	122,512.00	128,668.80	135,096.00
JAIL SUPERVISOR	C660	Classified	Hourly	40.67	42.36	44.41	46.48	48.71
			Bi-Weekly	3,253.60	3,388.80	3,552.80	3,718.40	3,896.80
			Monthly	7,049.47	7,342.40	7,697.73	8,056.53	8,443.07
			Annual	84,593.60	88,108.80	92,372.80	96,678.40	101,316.80
COMMUNITY SERVICE OFFICER	C650	Classified	Hourly	35.52	37.07	38.84	40.64	42.57
			Bi-Weekly	2,841.60	2,965.60	3,107.20	3,251.20	3,405.60
			Monthly	6,156.80	6,425.47	6,732.27	7,044.27	7,378.80
			Annual	73,881.60	77,105.60	80,787.20	84,531.20	88,545.60

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ATTACHMENT III
Presented to
Personnel Commission
on January 27, 2022
Approved by Council
February 15, 2022

Classification Title	Job Code	Service Type		Step A	Step B	Step C	Step D	Step E
PUBLIC WORKS & UTILITIES DEPARTMENT								
ADMINISTRATION								
ASSISTANT DIRECTOR OF PUBLIC WORKS-UTILITIES	U525	Classified	**Hourly**	83.43	87.61	91.99	96.59	101.43
			Bi-Weekly	6,674.40	7,008.80	7,359.20	7,727.20	8,114.40
			Monthly	14,461.20	15,185.73	15,944.93	16,742.27	17,581.20
			Annual	173,534.40	182,228.80	191,339.20	200,907.20	210,974.40
DEPUTY DIRECTOR OF PUBLIC WORKS	U510	Classified	**Hourly**	75.85	79.64	83.64	87.82	92.21
			Bi-Weekly	6,068.00	6,371.20	6,691.20	7,025.60	7,376.80
			Monthly	13,147.33	13,804.27	14,497.60	15,222.13	15,983.07
			Annual	157,768.00	165,651.20	173,971.20	182,665.60	191,796.80
WATER RESOURCES MANAGER	H875	Classified	**Hourly**	75.10	78.86	82.82	86.96	91.30
			Bi-Weekly	6,008.00	6,308.80	6,625.60	6,956.80	7,304.00
			Monthly	13,017.33	13,669.07	14,355.47	15,073.07	15,825.33
			Annual	156,208.00	164,028.80	172,265.60	180,876.80	189,904.00
UTILITIES ENGINEERING MANAGER	H880	Classified	**Hourly**	75.10	78.86	82.82	86.96	91.30
			Bi-Weekly	6,008.00	6,308.80	6,625.60	6,956.80	7,304.00
			Monthly	13,017.33	13,669.07	14,355.47	15,073.07	15,825.33
			Annual	156,208.00	164,028.80	172,265.60	180,876.80	189,904.00
SENIOR UTILITY SERVICE REPRESENTATIVE	M820	Classified	**Hourly**	42.77	44.87	47.03	49.45	51.86
			Bi-Weekly	3,421.60	3,589.60	3,762.40	3,956.00	4,148.80
			Monthly	7,413.47	7,777.47	8,151.87	8,571.33	8,989.07
			Annual	88,961.60	93,329.60	97,822.40	102,856.00	107,868.80
STOREKEEPER - EXPEDITER	M100	Classified	**Hourly**	31.57	32.88	34.11	35.40	36.75
			Bi-Weekly	2,525.60	2,630.40	2,728.80	2,832.00	2,940.00
			Monthly	5,472.13	5,699.20	5,912.40	6,136.00	6,370.00
			Annual	65,665.60	68,390.40	70,948.80	73,632.00	76,440.00
AIRPORT DIVISION SUMMARY								
AIRPORT MANAGER	H205	Classified	**Hourly**	66.20	69.48	72.95	76.60	80.43
			Bi-Weekly	5,296.00	5,558.40	5,836.00	6,128.00	6,434.40
			Monthly	11,474.67	12,043.20	12,644.67	13,277.33	13,941.20
			Annual	137,696.00	144,518.40	151,736.00	159,328.00	167,294.40
AIRPORT OPERATIONS SUPERVISOR	H200	Classified	**Hourly**	55.17	57.90	60.81	63.86	67.04
			Bi-Weekly	4,413.60	4,632.00	4,864.80	5,108.80	5,363.20
			Monthly	9,562.80	10,036.00	10,540.40	11,069.07	11,620.27
			Annual	114,753.60	120,432.00	126,484.80	132,828.80	139,443.20
AIRPORT BUSINESS SUPERVISOR	H198	Classified	**Hourly**	53.45	56.10	58.90	61.85	64.93
			Bi-Weekly	4,276.00	4,488.00	4,712.00	4,948.00	5,194.40
			Monthly	9,264.67	9,724.00	10,209.33	10,720.67	11,254.53
			Annual	111,176.00	116,688.00	122,512.00	128,648.00	135,054.40
AIRPORT OPERATIONS SPECIALIST	T270	Classified	**Hourly**	34.84	36.62	38.42	40.25	42.32
			Bi-Weekly	2,787.20	2,929.60	3,073.60	3,220.00	3,385.60
			Monthly	6,038.93	6,347.47	6,659.47	6,976.67	7,335.47
			Annual	72,467.20	76,169.60	79,913.60	83,720.00	88,025.60
SENIOR AIRPORT MAINTENANCE WORKER	M510	Classified	**Hourly**	41.40	42.93	44.64	46.47	48.33
			Bi-Weekly	3,312.00	3,434.40	3,571.20	3,717.60	3,866.40
			Monthly	7,176.00	7,441.20	7,737.60	8,054.80	8,377.20
			Annual	86,112.00	89,294.40	92,851.20	96,657.60	100,526.40
AIRPORT MAINTENANCE WORKER	M505	Classified	**Hourly**	37.75	39.27	40.84	42.30	43.93
			Bi-Weekly	3,020.00	3,141.60	3,267.20	3,384.00	3,514.40
			Monthly	6,543.33	6,806.80	7,078.93	7,332.00	7,614.53
			Annual	78,520.00	81,681.60	84,947.20	87,984.00	91,374.40
AIRPORT ATTENDANT	M500	Classified	**Hourly**	29.72	30.90	32.15	33.29	34.57
			Bi-Weekly	2,377.60	2,472.00	2,572.00	2,663.20	2,765.60
			Monthly	5,151.47	5,356.00	5,572.67	5,770.27	5,992.13
			Annual	61,817.60	64,272.00	66,872.00	69,243.20	71,905.60
ENGINEERING/TRANSPORTATION DIVISION								
REAL PROPERTY MANAGER	H225	Classified	**Hourly**	48.55	50.99	53.53	56.22	59.02
			Bi-Weekly	3,884.00	4,079.20	4,282.40	4,497.60	4,721.60
			Monthly	8,415.33	8,838.27	9,278.53	9,744.80	10,230.13
			Annual	100,984.00	106,059.20	111,342.40	116,937.60	122,761.60
REAL PROPERTY ASSOCIATE	T260	Classified	**Hourly**	43.94	46.25	48.56	50.92	53.44
			Bi-Weekly	3,515.20	3,700.00	3,884.80	4,073.60	4,275.20
			Monthly	7,616.27	8,016.67	8,417.07	8,826.13	9,262.93
			Annual	91,395.20	96,200.00	101,004.80	105,913.60	111,155.20
REAL PROPERTY ASSISTANT	T255	Classified	**Hourly**	37.46	39.33	41.20	43.26	45.43
			Bi-Weekly	2,996.80	3,146.40	3,296.00	3,460.80	3,634.40
			Monthly	6,493.07	6,817.20	7,141.33	7,498.40	7,874.53
			Annual	77,916.80	81,806.40	85,696.00	89,980.80	94,494.40
SENIOR CIVIL ENGINEER	H240	Classified	**Hourly**	63.22	66.37	69.69	73.18	76.82
			Bi-Weekly	5,057.60	5,309.60	5,575.20	5,854.40	6,145.60
			Monthly	10,958.13	11,504.13	12,079.60	12,684.53	13,315.47
			Annual	131,497.60	138,049.60	144,955.20	152,214.40	159,785.60
ASSOCIATE CIVIL ENGINEER	T215	Classified	**Hourly**	57.54	60.45	63.38	66.60	69.84
			Bi-Weekly	4,603.20	4,836.00	5,070.40	5,328.00	5,587.20
			Monthly	9,973.60	10,478.00	10,985.87	11,544.00	12,105.60
			Annual	119,683.20	125,736.00	131,830.40	138,528.00	145,267.20
ASSISTANT CIVIL ENGINEER	T210	Classified	**Hourly**	49.56	52.14	54.80	57.43	60.32
			Bi-Weekly	3,964.80	4,171.20	4,384.00	4,594.40	4,825.60
			Monthly	8,590.40	9,037.60	9,498.67	9,954.53	10,455.47
			Annual	103,084.80	108,451.20	113,984.00	119,454.40	125,465.60

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ENGINEERING TECHNICIAN	T200	Classified	Hourly	37.50	39.32	41.31	43.36	45.44
			Bi-Weekly	3,000.00	3,145.60	3,304.80	3,468.80	3,635.20
			Monthly	6,500.00	6,815.47	7,160.40	7,515.73	7,876.27
			Annual	78,000.00	81,785.60	85,924.80	90,188.80	94,515.20
SURVEY ENGINEER	H230	Classified	Hourly	56.82	59.67	62.66	65.79	69.06
			Bi-Weekly	4,545.60	4,773.60	5,012.80	5,263.20	5,524.80
			Monthly	9,848.80	10,342.80	10,861.07	11,403.60	11,970.40
			Annual	118,185.60	124,113.60	130,332.80	136,843.20	143,644.80
SURVEYOR	T265	Classified	Hourly	46.85	49.17	51.60	54.17	56.89
			Bi-Weekly	3,748.00	3,933.60	4,128.00	4,333.60	4,551.20
			Monthly	8,120.67	8,522.80	8,944.00	9,389.47	9,860.93
			Annual	97,448.00	102,273.60	107,328.00	112,673.60	118,331.20
SENIOR TRANSPORTATION ENGINEER	H215	Classified	Hourly	63.20	66.36	69.67	73.15	76.80
			Bi-Weekly	5,056.00	5,308.80	5,573.60	5,852.00	6,144.00
			Monthly	10,954.67	11,502.40	12,076.13	12,679.33	13,312.00
			Annual	131,456.00	138,028.80	144,913.60	152,152.00	159,744.00
ASSOCIATE TRANSPORTATION ENGINEER	T240	Classified	Hourly	57.54	60.45	63.38	66.60	69.84
			Bi-Weekly	4,603.20	4,836.00	5,070.40	5,328.00	5,587.20
			Monthly	9,973.60	10,478.00	10,985.87	11,544.00	12,105.60
			Annual	119,683.20	125,736.00	131,830.40	138,528.00	145,267.20
ASSISTANT TRANSPORTATION ENGINEER	T235	Classified	Hourly	49.56	52.14	54.80	57.43	60.32
			Bi-Weekly	3,964.80	4,171.20	4,384.00	4,594.40	4,825.60
			Monthly	8,590.40	9,037.60	9,498.67	9,954.53	10,455.47
			Annual	103,084.80	108,451.20	113,984.00	119,454.40	125,465.60
SENIOR TRANSPORTATION PLANNER	H210	Classified	Hourly	53.34	55.98	58.79	61.72	64.81
			Bi-Weekly	4,267.20	4,478.40	4,703.20	4,937.60	5,184.80
			Monthly	9,245.60	9,703.20	10,190.27	10,698.13	11,233.73
			Annual	110,947.20	116,438.40	122,283.20	128,377.60	134,804.80
ASSOCIATE TRANSPORTATION PLANNER	T225	Classified	Hourly	48.54	50.92	53.46	56.21	58.90
			Bi-Weekly	3,883.20	4,073.60	4,276.80	4,496.80	4,712.00
			Monthly	8,413.60	8,826.13	9,266.40	9,743.07	10,209.33
			Annual	100,963.20	105,913.60	111,196.80	116,916.80	122,512.00
TRAFFIC SIGNAL TECHNICIAN	T220	Classified	Hourly	39.38	41.28	43.38	45.53	47.71
			Bi-Weekly	3,150.40	3,302.40	3,470.40	3,642.40	3,816.80
			Monthly	6,825.87	7,155.20	7,519.20	7,891.87	8,269.73
			Annual	81,910.40	85,862.40	90,230.40	94,702.40	99,236.80
SUPERVISING CONSTRUCTION INSPECTOR	H235	Classified	Hourly	58.73	61.66	64.75	67.99	71.39
			Bi-Weekly	4,698.40	4,932.80	5,180.00	5,439.20	5,711.20
			Monthly	10,179.87	10,687.73	11,223.33	11,784.93	12,374.27
			Annual	122,158.40	128,252.80	134,680.00	141,419.20	148,491.20
SENIOR CONSTRUCTION INSPECTOR	T250	Classified	Hourly	52.72	55.53	58.33	61.08	64.13
			Bi-Weekly	4,217.60	4,442.40	4,666.40	4,886.40	5,130.40
			Monthly	9,138.13	9,625.20	10,110.53	10,587.20	11,115.87
			Annual	109,657.60	115,502.40	121,326.40	127,046.40	133,390.40
CONSTRUCTION INSPECTOR	T245	Classified	Hourly	44.17	46.43	48.60	51.07	53.66
			Bi-Weekly	3,533.60	3,714.40	3,888.00	4,085.60	4,292.80
			Monthly	7,656.13	8,047.87	8,424.00	8,852.13	9,301.07
			Annual	91,873.60	96,574.40	101,088.00	106,225.60	111,612.80

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RECYCLING-SOLID WASTE								
SOLID WASTE PROGRAM MANAGER	H800	Classified	**Hourly**	53.45	56.10	58.90	61.85	64.93
			Bi-Weekly	4,276.00	4,488.00	4,712.00	4,948.00	5,194.40
			Monthly	9,264.67	9,724.00	10,209.33	10,720.67	11,254.53
			Annual	111,176.00	116,688.00	122,512.00	128,648.00	135,054.40
RECYCLING SPECIALIST	T800	Classified	**Hourly**	37.78	39.67	41.59	43.71	45.88
			Bi-Weekly	3,022.40	3,173.60	3,327.20	3,496.80	3,670.40
			Monthly	6,548.53	6,876.13	7,208.93	7,576.40	7,952.53
			Annual	78,582.40	82,513.60	86,507.20	90,916.80	95,430.40
SUSTAINABILITY SPECIALIST	T803	Classified	**Hourly**	43.27	45.42	47.70	50.08	52.59
			Bi-Weekly	3,461.60	3,633.60	3,816.00	4,006.40	4,207.20
			Monthly	7,500.13	7,872.80	8,268.00	8,680.53	9,115.60
			Annual	90,001.60	94,473.60	99,216.00	104,166.40	109,387.20
SUSTAINABILITY TECHNICIAN	T802	Classified	**Hourly**	39.34	41.29	43.35	45.51	47.79
			Bi-Weekly	3,147.20	3,303.20	3,468.00	3,640.80	3,823.20
			Monthly	6,818.93	7,156.93	7,514.00	7,888.40	8,283.60
			Annual	81,827.20	85,883.20	90,168.00	94,660.80	99,403.20
WATER POLLUTION CONTROL FACILITY (WPCF)								
WATER POLLUTION CONTROL FACILITY MANAGER	H870	Classified	**Hourly**	75.10	78.86	82.82	86.96	91.30
			Bi-Weekly	6,008.00	6,308.80	6,625.60	6,956.80	7,304.00
			Monthly	13,017.33	13,669.07	14,355.47	15,073.07	15,825.33
			Annual	156,208.00	164,028.80	172,265.60	180,876.80	189,904.00
WPCF OPERATIONS AND MAINTENANCE MANAGER	H865	Classified	**Hourly**	61.26	64.32	67.55	70.93	74.48
			Bi-Weekly	4,900.80	5,145.60	5,404.00	5,674.40	5,958.40
			Monthly	10,618.40	11,148.80	11,708.67	12,294.53	12,909.87
			Annual	127,420.80	133,785.60	140,504.00	147,534.40	154,918.40
WPCF MAINTENANCE SUPERVISOR	H860	Classified	**Hourly**	55.72	58.49	61.42	64.50	67.72
			Bi-Weekly	4,457.60	4,679.20	4,913.60	5,160.00	5,417.60
			Monthly	9,658.13	10,138.27	10,646.13	11,180.00	11,738.13
			Annual	115,897.60	121,659.20	127,753.60	134,160.00	140,857.60
WPCF OPERATIONS SUPERVISOR	H855	Classified	**Hourly**	55.72	58.49	61.42	64.50	67.72
			Bi-Weekly	4,457.60	4,679.20	4,913.60	5,160.00	5,417.60
			Monthly	9,658.13	10,138.27	10,646.13	11,180.00	11,738.13
			Annual	115,897.60	121,659.20	127,753.60	134,160.00	140,857.60
WPCF LEAD OPERATOR	M935	Classified	**Hourly**	50.72	52.73	54.84	56.98	59.29
			Bi-Weekly	4,057.60	4,218.40	4,387.20	4,558.40	4,743.20
			Monthly	8,791.47	9,139.87	9,505.60	9,876.53	10,276.93
			Annual	105,497.60	109,678.40	114,067.20	118,518.40	123,323.20
WPCF OPERATOR	M930	Classified	**Hourly**	44.10	45.85	47.68	49.55	51.56
			Bi-Weekly	3,528.00	3,668.00	3,814.40	3,964.00	4,124.80
			Monthly	7,644.00	7,947.33	8,264.53	8,588.67	8,937.07
			Annual	91,728.00	95,368.00	99,174.40	103,064.00	107,244.80
OPERATOR-IN-TRAINING	M925	Classified	**Hourly**	40.37	41.96	43.71	45.22	46.98
			Bi-Weekly	3,229.60	3,356.80	3,496.80	3,617.60	3,758.40
			Monthly	6,997.47	7,273.07	7,576.40	7,838.13	8,143.20
			Annual	83,969.60	87,276.80	90,916.80	94,057.60	97,718.40

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LAB SUPERVISOR	H850	Classified	**Hourly**	55.72	58.49	61.42	64.50	67.72
			Bi-Weekly	4,457.60	4,679.20	4,913.60	5,160.00	5,417.60
			Monthly	9,658.13	10,138.27	10,646.13	11,180.00	11,738.13
			Annual	115,897.60	121,659.20	127,753.60	134,160.00	140,857.60
CHEMIST	T807	Classified	**Hourly**	44.62	46.85	49.20	51.65	54.22
			Bi-Weekly	3,569.60	3,748.00	3,936.00	4,132.00	4,337.60
			Monthly	7,734.13	8,120.67	8,528.00	8,952.67	9,398.13
			Annual	92,809.60	97,448.00	102,336.00	107,432.00	112,777.60
LABORATORY TECHNICIAN	T805	Classified	**Hourly**	38.80	40.25	41.81	43.53	45.16
			Bi-Weekly	3,104.00	3,220.00	3,344.80	3,482.40	3,612.80
			Monthly	6,725.33	6,976.67	7,247.07	7,545.20	7,827.73
			Annual	80,704.00	83,720.00	86,964.80	90,542.40	93,932.80
WATER POLLUTION SOURCE CONTROL								
ENVIRONMENTAL SERVICES MANAGER	H805	Classified	**Hourly**	64.79	68.02	71.44	75.01	78.76
			Bi-Weekly	5,183.20	5,441.60	5,715.20	6,000.80	6,300.80
			Monthly	11,230.27	11,790.13	12,382.93	13,001.73	13,651.73
			Annual	134,763.20	141,481.60	148,595.20	156,020.80	163,820.80
WATER POLLUTION CONTROL ADMINISTRATOR	H845	Classified	**Hourly**	56.31	59.14	62.08	65.21	68.47
			Bi-Weekly	4,504.80	4,731.20	4,966.40	5,216.80	5,477.60
			Monthly	9,760.40	10,250.93	10,760.53	11,303.07	11,868.13
			Annual	117,124.80	123,011.20	129,126.40	135,636.80	142,417.60
SENIOR WATER POLLUTION SOURCE CONTROL INSPECTOR	T815	Classified	**Hourly**	48.44	50.95	53.51	56.05	58.92
			Bi-Weekly	3,875.20	4,076.00	4,280.80	4,484.00	4,713.60
			Monthly	8,396.27	8,831.33	9,275.07	9,715.33	10,212.80
			Annual	100,755.20	105,976.00	111,300.80	116,584.00	122,553.60
WATER POLLUTION SOURCE CONTROL INSPECTOR	T810	Classified	**Hourly**	44.02	46.32	48.43	50.92	53.46
			Bi-Weekly	3,521.60	3,705.60	3,874.40	4,073.60	4,276.80
			Monthly	7,630.13	8,028.80	8,394.53	8,826.13	9,266.40
			Annual	91,561.60	96,345.60	100,734.40	105,913.60	111,196.80
TECHNICAL INTERN	Z125	Classified	**Hourly**					15.82
			Bi-Weekly					1,265.60
			Monthly					2,742.13
			Annual					32,905.60
SENIOR WATER RESOURCES ENGINEER	H813	Classified	**Hourly**	62.60	65.72	69.01	72.46	76.07
			Bi-Weekly	5,008.00	5,257.60	5,520.80	5,796.80	6,085.60
			Monthly	10,850.67	11,391.47	11,961.73	12,559.73	13,185.47
			Annual	130,208.00	136,697.60	143,540.80	150,716.80	158,225.60
SENIOR UTILITIES ENGINEER	H810	Classified	**Hourly**	62.60	65.72	69.01	72.46	76.07
			Bi-Weekly	5,008.00	5,257.60	5,520.80	5,796.80	6,085.60
			Monthly	10,850.67	11,391.47	11,961.73	12,559.73	13,185.47
			Annual	130,208.00	136,697.60	143,540.80	150,716.80	158,225.60
SEWER COLLECTIONS & WATER DISTRIBUTION								
UTILITIES OPERATIONS AND MAINTENANCE MANAGER	H835	Classified	**Hourly**	69.14	72.58	76.20	80.01	84.02
			Bi-Weekly	5,531.20	5,806.40	6,096.00	6,400.80	6,721.60
			Monthly	11,984.27	12,580.53	13,208.00	13,868.40	14,563.47
			Annual	143,811.20	150,966.40	158,496.00	166,420.80	174,761.60
UTILITIES OPERATIONS AND MAINTENANCE SUPERVISOR	H830	Classified	**Hourly**	57.62	60.47	63.52	66.68	70.02
			Bi-Weekly	4,609.60	4,837.60	5,081.60	5,334.40	5,601.60
			Monthly	9,987.47	10,481.47	11,010.13	11,557.87	12,136.80
			Annual	119,849.60	125,777.60	132,121.60	138,694.40	145,641.60
UTILITIES FIELD SERVICES SUPERVISOR	H825	Classified	**Hourly**	57.62	60.47	63.52	66.68	70.02
			Bi-Weekly	4,609.60	4,837.60	5,081.60	5,334.40	5,601.60
			Monthly	9,987.47	10,481.47	11,010.13	11,557.87	12,136.80
			Annual	119,849.60	125,777.60	132,121.60	138,694.40	145,641.60
WASTEWATER COLLECTIONS SYSTEM SUPERVISOR	H823	Classified	**Hourly**	55.72	58.49	61.42	64.50	67.72
			Bi-Weekly	4,457.60	4,679.20	4,913.60	5,160.00	5,417.60
			Monthly	9,658.13	10,138.27	10,646.13	11,180.00	11,738.13
			Annual	115,897.60	121,659.20	127,753.60	134,160.00	140,857.60
WATER INSTALLATION AND MAINTENANCE SUPERVISOR	H815	Classified	**Hourly**	45.41	47.70	50.07	52.59	55.21
			Bi-Weekly	3,632.80	3,816.00	4,005.60	4,207.20	4,416.80
			Monthly	7,871.07	8,268.00	8,678.80	9,115.60	9,569.73
			Annual	94,452.80	99,216.00	104,145.60	109,387.20	114,836.80

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SENIOR UTILITY FIELD SERVICES LEADER	M827	Classified	**Hourly**	46.24	48.07	50.03	51.80	53.81
			Bi-Weekly	3,699.20	3,845.60	4,002.40	4,144.00	4,304.80
			Monthly	8,014.93	8,332.13	8,671.87	8,978.67	9,327.07
			Annual	96,179.20	99,985.60	104,062.40	107,744.00	111,924.80
SENIOR UTILITY CUSTOMER SERVICE LEADER	M825	Classified	**Hourly**	45.03	46.57	48.41	50.42	52.47
			Bi-Weekly	3,602.40	3,725.60	3,872.80	4,033.60	4,197.60
			Monthly	7,805.20	8,072.13	8,391.07	8,739.47	9,094.80
			Annual	93,662.40	96,865.60	100,692.80	104,873.60	109,137.60
CROSS CONNECTION CONTROL SPECIALIST	M815	Classified	**Hourly**	39.14	40.50	42.10	43.86	45.62
			Bi-Weekly	3,131.20	3,240.00	3,368.00	3,508.80	3,649.60
			Monthly	6,784.27	7,020.00	7,297.33	7,602.40	7,907.47
			Annual	81,411.20	84,240.00	87,568.00	91,228.80	94,889.60
WATER METER MECHANIC	M810	Classified	**Hourly**	38.05	39.51	41.14	42.83	44.54
			Bi-Weekly	3,044.00	3,160.80	3,291.20	3,426.40	3,563.20
			Monthly	6,595.33	6,848.40	7,130.93	7,423.87	7,720.27
			Annual	79,144.00	82,180.80	85,571.20	89,086.40	92,643.20
CUSTOMER FIELD TECHNICIAN	M807	Classified	**Hourly**	34.00	35.36	36.78	38.14	39.67
			Bi-Weekly	2,720.00	2,828.80	2,942.40	3,051.20	3,173.60
			Monthly	5,893.33	6,129.07	6,375.20	6,610.93	6,876.13
			Annual	70,720.00	73,548.80	76,502.40	79,331.20	82,513.60
BACKFLOW/CROSS CONNECTION TESTER	M800	Classified	**Hourly**	32.90	34.47	36.07	37.82	39.67
			Bi-Weekly	2,632.00	2,757.60	2,885.60	3,025.60	3,173.60
			Monthly	5,702.67	5,974.80	6,252.13	6,555.47	6,876.13
			Annual	68,432.00	71,697.60	75,025.60	78,665.60	82,513.60
UTILITIES MAINTENANCE SUPERVISOR	H820	Classified	**Hourly**	52.22	54.82	57.57	60.46	63.48
			Bi-Weekly	4,177.60	4,385.60	4,605.60	4,836.80	5,078.40
			Monthly	9,051.47	9,502.13	9,978.80	10,479.73	11,003.20
			Annual	108,617.60	114,025.60	119,745.60	125,756.80	132,038.40
UTILITIES SERVICE WORKER	M900	Classified	**Hourly**	37.51	39.00	40.63	42.03	43.68
			Bi-Weekly	3,000.80	3,120.00	3,250.40	3,362.40	3,494.40
			Monthly	6,501.73	6,760.00	7,042.53	7,285.20	7,571.20
			Annual	78,020.80	81,120.00	84,510.40	87,422.40	90,854.40
GENERAL MAINTENANCE								
EQUIPMENT OPERATOR	M400	Classified	**Hourly**	38.09	39.60	41.26	42.68	44.34
			Bi-Weekly	3,047.20	3,168.00	3,300.80	3,414.40	3,547.20
			Monthly	6,602.27	6,864.00	7,151.73	7,397.87	7,685.60
			Annual	79,227.20	82,368.00	85,820.80	88,774.40	92,227.20
SENIOR UTILITY LEADER	M845	Classified	**Hourly**	47.45	49.34	51.40	53.18	55.25
			Bi-Weekly	3,796.00	3,947.20	4,112.00	4,254.40	4,420.00
			Monthly	8,224.67	8,552.27	8,909.33	9,217.87	9,576.67
			Annual	98,696.00	102,627.20	106,912.00	110,614.40	114,920.00
UTILITY LEADER	M840	Classified	**Hourly**	41.27	42.90	44.69	46.26	48.04
			Bi-Weekly	3,301.60	3,432.00	3,575.20	3,700.80	3,843.20
			Monthly	7,153.47	7,436.00	7,746.27	8,018.40	8,326.93
			Annual	85,841.60	89,232.00	92,955.20	96,220.80	99,923.20
UTILITY WORKER	M835	Classified	**Hourly**	37.51	39.00	40.63	42.03	43.68
			Bi-Weekly	3,000.80	3,120.00	3,250.40	3,362.40	3,494.40
			Monthly	6,501.73	6,760.00	7,042.53	7,285.20	7,571.20
			Annual	78,020.80	81,120.00	84,510.40	87,422.40	90,854.40
SENIOR UTILITY LEADER - SEWER	M920	Classified	**Hourly**	46.24	48.07	50.03	51.80	53.81
			Bi-Weekly	3,699.20	3,845.60	4,002.40	4,144.00	4,304.80
			Monthly	8,014.93	8,332.13	8,671.87	8,978.67	9,327.07
			Annual	96,179.20	99,985.60	104,062.40	107,744.00	111,924.80
UTILITY LEADER - SEWER	M915	Classified	**Hourly**	40.21	41.80	43.51	45.03	46.78
			Bi-Weekly	3,216.80	3,344.00	3,480.80	3,602.40	3,742.40
			Monthly	6,969.73	7,245.33	7,541.73	7,805.20	8,108.53
			Annual	83,636.80	86,944.00	90,500.80	93,662.40	97,302.40
UTILITY WORKER - SEWER	M910	Classified	**Hourly**	36.54	38.01	39.57	40.94	42.54
			Bi-Weekly	2,923.20	3,040.80	3,165.60	3,275.20	3,403.20
			Monthly	6,333.60	6,588.40	6,858.80	7,096.27	7,373.60
			Annual	76,003.20	79,060.80	82,305.60	85,155.20	88,483.20
UTILITIES MAINTENANCE MECHANIC	M415	Classified	**Hourly**	45.75	47.52	49.38	51.37	53.47
			Bi-Weekly	3,660.00	3,801.60	3,950.40	4,109.60	4,277.60
			Monthly	7,930.00	8,236.80	8,559.20	8,904.13	9,268.13
			Annual	95,160.00	98,841.60	102,710.40	106,849.60	111,217.60

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INFORMATION TECHNOLOGY DEPARTMENT								
DEPUTY DIRECTOR OF INFORMATION TECHNOLOGY	U530	Classified	**Hourly**	71.92	75.51	79.29	83.26	87.41
			Bi-Weekly	5,753.60	6,040.80	6,343.20	6,660.80	6,992.80
			Monthly	12,466.13	13,088.40	13,743.60	14,431.73	15,151.07
			Annual	149,593.60	157,060.80	164,923.20	173,180.80	181,812.80
INFORMATION SYSTEMS MANAGER	H565	Classified	**Hourly**	59.24	62.19	65.30	68.58	72.00
			Bi-Weekly	4,739.20	4,975.20	5,224.00	5,486.40	5,760.00
			Monthly	10,268.27	10,779.60	11,318.67	11,887.20	12,480.00
			Annual	123,219.20	129,355.20	135,824.00	142,646.40	149,760.00
INFORMATION TECHNOLOGY MANAGER	H566	Classified	**Hourly**	65.82	69.11	72.58	76.21	80.03
			Bi-Weekly	5,265.60	5,528.80	5,806.40	6,096.80	6,402.40
			Monthly	11,408.80	11,979.07	12,580.53	13,209.73	13,871.87
			Annual	136,905.60	143,748.80	150,966.40	158,516.80	166,462.40
DATA AND SYSTEMS COORDINATOR	H560	Classified	**Hourly**	53.29	55.96	58.77	61.70	64.78
			Bi-Weekly	4,263.20	4,476.80	4,701.60	4,936.00	5,182.40
			Monthly	9,236.93	9,699.73	10,186.80	10,694.67	11,228.53
			Annual	110,843.20	116,396.80	122,241.60	128,336.00	134,742.40
NETWORK SYSTEMS SPECIALIST	H555	Classified	**Hourly**	52.68	55.33	58.11	60.99	64.05
			Bi-Weekly	4,214.40	4,426.40	4,648.80	4,879.20	5,124.00
			Monthly	9,131.20	9,590.53	10,072.40	10,571.60	11,102.00
			Annual	109,574.40	115,086.40	120,868.80	126,859.20	133,224.00
GEOGRAPHIC INFO SYSTEMS COORDINATOR	T460	Classified	**Hourly**	58.36	61.27	64.19	67.42	71.89
			Bi-Weekly	4,668.80	4,901.60	5,135.20	5,393.60	5,751.20
			Monthly	10,115.73	10,620.13	11,126.27	11,686.13	12,460.93
			Annual	121,388.80	127,441.60	133,515.20	140,233.60	149,531.20
PROGRAMMER ANALYST	T455	Classified	**Hourly**	50.80	53.28	56.04	58.81	61.72
			Bi-Weekly	4,064.00	4,262.40	4,483.20	4,704.80	4,937.60
			Monthly	8,805.33	9,235.20	9,713.60	10,193.73	10,698.13
			Annual	105,664.00	110,822.40	116,563.20	122,324.80	128,377.60
WEB SPECIALIST	T450	Classified	**Hourly**	45.40	47.69	50.07	52.55	55.19
			Bi-Weekly	3,632.00	3,815.20	4,005.60	4,204.00	4,415.20
			Monthly	7,869.33	8,266.27	8,678.80	9,108.67	9,566.27
			Annual	94,432.00	99,195.20	104,145.60	109,304.00	114,795.20
INFORMATION TECHNOLOGY ANALYST II	T435	Classified	**Hourly**	50.78	53.30	55.97	58.76	61.72
			Bi-Weekly	4,062.40	4,264.00	4,477.60	4,700.80	4,937.60
			Monthly	8,801.87	9,238.67	9,701.47	10,185.07	10,698.13
			Annual	105,622.40	110,864.00	116,417.60	122,220.80	128,377.60
INFORMATION TECHNOLOGY ANALYST I	T430	Classified	**Hourly**	46.15	48.46	50.89	53.45	56.09
			Bi-Weekly	3,692.00	3,876.80	4,071.20	4,276.00	4,487.20
			Monthly	7,999.33	8,399.73	8,820.93	9,264.67	9,722.27
			Annual	95,992.00	100,796.80	105,851.20	111,176.00	116,667.20
TECHNOLOGY SOLUTIONS ANALYST II	T445	Classified	**Hourly**	50.78	53.30	55.97	58.76	61.72
			Bi-Weekly	4,062.40	4,264.00	4,477.60	4,700.80	4,937.60
			Monthly	8,801.87	9,238.67	9,701.47	10,185.07	10,698.13
			Annual	105,622.40	110,864.00	116,417.60	122,220.80	128,377.60
TECHNOLOGY SOLUTIONS ANALYST I	T440	Classified	**Hourly**	46.15	48.46	50.89	53.45	56.09
			Bi-Weekly	3,692.00	3,876.80	4,071.20	4,276.00	4,487.20
			Monthly	7,999.33	8,399.73	8,820.93	9,264.67	9,722.27
			Annual	95,992.00	100,796.80	105,851.20	111,176.00	116,667.20
GEOGRAPHIC INFO SYSTEM TECHNICIAN II	T465	Classified	**Hourly**	41.82	43.91	46.09	48.40	50.85
			Bi-Weekly	3,345.60	3,512.80	3,687.20	3,872.00	4,068.00
			Monthly	7,248.80	7,611.07	7,988.93	8,389.33	8,814.00
			Annual	86,985.60	91,332.80	95,867.20	100,672.00	105,768.00
GEOGRAPHIC INFO SYSTEM TECHNICIAN I	T464	Classified	**Hourly**	38.04	39.92	41.93	44.03	46.24
			Bi-Weekly	3,043.20	3,193.60	3,354.40	3,522.40	3,699.20
			Monthly	6,593.60	6,919.47	7,267.87	7,631.87	8,014.93
			Annual	79,123.20	83,033.60	87,214.40	91,582.40	96,179.20
INFORMATION TECHNOLOGY TECHNICIAN II	T425	Classified	**Hourly**	41.82	43.91	46.09	48.40	50.85
			Bi-Weekly	3,345.60	3,512.80	3,687.20	3,872.00	4,068.00
			Monthly	7,248.80	7,611.07	7,988.93	8,389.33	8,814.00
			Annual	86,985.60	91,332.80	95,867.20	100,672.00	105,768.00
INFORMATION TECHNOLOGY TECHNICIAN I	T424	Classified	**Hourly**	38.04	39.92	41.93	44.03	46.24
			Bi-Weekly	3,043.20	3,193.60	3,354.40	3,522.40	3,699.20
			Monthly	6,593.60	6,919.47	7,267.87	7,631.87	8,014.93
			Annual	79,123.20	83,033.60	87,214.40	91,582.40	96,179.20
INFORMATION SYSTEMS SUPPORT TECHNICIAN	T415	Classified	**Hourly**	34.26	35.96	37.80	39.69	41.59
			Bi-Weekly	2,740.80	2,876.80	3,024.00	3,175.20	3,327.20
			Monthly	5,938.40	6,233.07	6,552.00	6,879.60	7,208.93
			Annual	71,260.80	74,796.80	78,624.00	82,555.20	86,507.20
DATA SYSTEMS OPERATOR	C450	Classified	**Hourly**	30.32	31.68	33.26	34.84	36.47
			Bi-Weekly	2,425.60	2,534.40	2,660.80	2,787.20	2,917.60
			Monthly	5,255.47	5,491.20	5,765.07	6,038.93	6,321.47
			Annual	63,065.60	65,894.40	69,180.80	72,467.20	75,857.60
AUDIO VIDEO SPECIALIST	T410	Classified	**Hourly**	32.64	34.24	35.99	37.76	39.56
			Bi-Weekly	2,611.20	2,739.20	2,879.20	3,020.80	3,164.80
			Monthly	5,657.60	5,934.93	6,238.27	6,545.07	6,857.07
			Annual	67,891.20	71,219.20	74,859.20	78,540.80	82,284.80
VIDEO ASSISTANT	T400	Classified	**Hourly**					17.92
			Bi-Weekly					1,433.60
			Monthly					3,106.13
			Annual					37,273.60
INFORMATION TECHNOLOGY INTERN	Z121	Classified	**Hourly**				15.82	20.00
			Bi-Weekly				1,265.60	1,600.00
			Monthly				2,742.13	3,466.67
			Annual				32,905.60	41,600.00