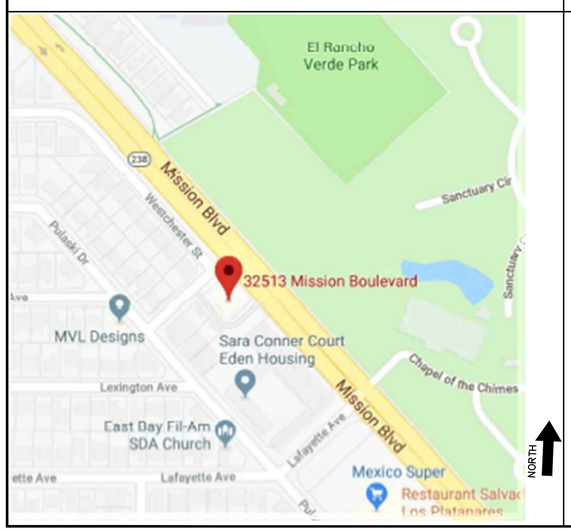
MIXED USE PROJECT
32513 MISSION BLVD., HAYWARD, CA 94544

GENERAL NOTES

1. MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE MINIMUM REQUIREMENTS OF THE CALIFORNIA BUILDING CODE, 2019 EDITION, INTERNATIONAL BUILDING CODE, 2018 EDITION,
   CALIFORNIA MECHANICAL CODE 2019 EDITION (2018 UMC)
   CALIFORNIA PLUMBING CODE 2019 EDITION (2018 UPC)
   CALIFORNIA ELECTRICAL CODE 2019 EDITION (2017 NEC)
   CALIFORNIA FIRE CODE 2019 EDITION
   CALIFORNIA ENERGY CODE 2019 EDITION
   CALIFORNIA GREEN BUILDING CODE 2019 EDITION
   AS AMENDED BY STATE OF CALIFORNIA AND THE CITY OF HAYWARD.
2. THE CONTRACTOR SHALL VERIFY EXISTING JOB CONDITIONS, REVIEW ALL DRAWINGS AND SPECIFICATIONS AND VERIFY DIMENSIONS PRIOR TO CONSTRUCTION. ANY DEVIATIONS BETWEEN DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER PRIOR TO SUBMITTING BID PROPOSAL.
3. THE CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR PROJECT SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY.
4. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR LOCATING EXISTING UTILITIES, AS WELL AS PROTECTING, AND/OR REPAIRS IF NEEDED DUE TO DAMAGE WHILE ON SITE.
5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ADEQUATE BRACING, SHORING, AND SUPPORT OF ALL TEMPORARY CONSTRUCTION, EXISTING CONSTRUCTION, AND PARTIALLY COMPLETED PORTIONS OF THE WORK; FOR ALL LOADS DURING CONSTRUCTION INCLUDING WIND AND EARTHQUAKE FORCES, AND UNBALANCED FORCES DUE TO CONSTRUCTION SEQUENCES. SUCH BRACING, SHORING, AND SUPPORT SHALL INSURE THE SAFETY OF THE STRUCTURE AND ALL PERSONS WHO COME IN CONTACT WITH THE PROJECT.
6. DIMENSIONS SHOWN ARE TYPICALLY TO THE FACE OF STUD FRAMING OR TO THE FACE OF CONCRETE UNLESS OTHERWISE NOTED.

VICNITY MAP



FIRE DEPARTMENT NOTES

1. ALL DEVELOPMENTS ON THE PARCEL ARE REQUIRED TO COMPLY WITH ALL APPLICABLE REQUIREMENTS SET FORTH IN CHAPTER 7 OF THE 2019 CALIFORNIA BUILDING CODE.
2. FIRE SPRINKLERS CONFORMING TO NFPA13 STANDARDS ARE REQUIRED FOR THE NEW MIXED USE BUILDING. WATER METERS SHALL BE SIZED TO MEET FIRE SPRINKLER DEMAND REQUIREMENTS.
3. ALL DRIVEWAYS AND APPROACHES ARE FIRE LANES. NO PARKING OR OTHER OBSTRUCTIONS ARE PERMITTED WITHIN THE DRIVEWAY, EXCEPT WHERE SUCH HAS BEEN APPROVED.
4. IF THE PERMANENT DRIVEWAY IS NOT INSTALLED PRIOR TO THE START OF COMBUSTIBLE CONSTRUCTION, A TEMPORARY ALL-WEATHER ACCESS ROAD MEETING THE APPROVAL OF THE FIRE DEPARTMENT SHALL BE PROVIDED.
5. FIRE DEPARTMENT REVIEW AND APPROVAL OF SITE AND BUILDING PLANS FOR THE NEW MIXED USE BUILDING IS REQUIRED PRIOR TO THE ISSUANCE OF BUILDING PERMITS.
6. THE HAYWARD FIRE DEPARTMENT'S HAZARDOUS MATERIALS OFFICE SHALL BE NOTIFIED IMMEDIATELY AT (510) 583-4900 IF HAZARDOUS MATERIALS OR ASSOCIATED STRUCTURES ARE DISCOVERED DURING DEMOLITION OR DURING GRADING. THESE SHALL INCLUDE BUT SHALL NOT BE LIMITED TO ACTUAL/SUSPECTED HAZARDOUS MATERIALS, UNDERGROUND TANKS, OR OTHER VESSELS THAT MAY HAVE CONTAINED HAZARDOUS MATERIALS.

PROJECT DATA

ADDRESS :	32513 MISSION BLVD. HAYWARD, CA 94544
APN :	078G-2760-009-07 & 078G-2760-021
ZONING :	CN
EXISTING USE :	RESTAURANT
NEW USE :	MIXED USE
OCCUPANCY TYPE :	R-2, B, S-2
CONSTRUCTION TYPE :	V-A
FIRE SPRINKLER :	YES
LOT AREA:	20,875 sf

GROSS RESIDENTIAL SQUARE FOOTAGE:

UNIT	CONDITIONED SPACE	BALCONIES
2.1	= 830	= 38
3.1	= 906	= 38
2.2, 3.2	1304 x 2 = 2608	72 x 2 = 144
2.3, 3.3	1496 x 2 = 2992	144 x 2 = 288
2.4, 3.4	1378 x 2 = 2756	70 x 2 = 140
2.5, 3.5	1304 x 2 = 2608	72 x 2 = 144
2.6, 3.6	1304 x 2 = 2608	72 x 2 = 144
2.7. 3.7	1337 x 2 = 2674	70 x 2 = 140
2ND FLOOR UNITS TOTAL	= 8953 sf	
3RD FLOOR UNITS TOTAL	= 9029 sf	

2ND FLOOR AREA	10,747 sf	BALCONIES 538
3RD FLOOR AREA	10,747 sf	BALCONIES 538
TOTAL	21,494 sf	1076 sf

1ST FLOOR AREA	10,340 sf
COMMERCIAL FLOOR AREA	853 sf

LOT COVERAGE:

MAIN ROOF + PROJECTED BALCONIES	= 11,272 sf
COMMERCIAL ROOF DECK	= 884 sf
COVERED WALKWAY	= 88 sf
TRASH ENCLOSURE	= 123 sf
TOTAL COVERED AREA	= 12,367 sf
LOT COVERAGE = 12,367/20,875	= 59.2% < 90%

SCOPE OF WORK

THE PURPOSE OF THESE DESIGN DOCUMENTS IS TO CONSTRUCT ONE 1-STORY COMMERCIAL UNIT, AND A 2-STORY, 14 UNIT APARTMENTS ABOVE ENCLOSED PARKING GARAGE.

PARKING ANALYSIS

NO. OF PARKING REQUIRED:
RESIDENTIAL:

(2) STUDIOS =	1 x 2 = 2
(8) 2 BEDROOM =	2.1 x 8 = 16.8
(4) 3 BEDROOM =	2.1 x 4 = 8.4

COMMERCIAL OFFICE:

853 SF / 200	= 4.265
SUBTOTAL	= 31.465
BIKE PARKING CREDIT	= -1
TOTAL = 30.465 ROUNDED UP TO	31
NO. OF PARKING PROVIDED:	
COVERED PARKING	= 26
OPEN PARKING	= 5
TOTAL	= 31

SHEET INDEX

SYMBOLS & ABBREVIATIONS

(E)	EXISTING
F.O.S.	FACE OF STUD
R.O.	ROUGH OPENING
RWL	RAIN WATER LEADER
S.S.D.	SEE STRUCTURAL DRAWINGS
S.A.D.	SEE ARCHITECTURAL DRAWINGS
S.C.	SOLID CORE
SLD	SLIDING
T.O.	TOP OF
U.N.O.	UNLESS NOTED OTHERWISE
VTR	VENT THRU ROOF

DATUM LINE

1 — REFERENCE LINE EAST-WEST

A — REFERENCE LINE NORTH-SOUTH

0 / 0-0 — DETAIL REFERENCE: DETAIL NUMBER / SHEET NUMBER

0 / 0-0 — SECTION REFERENCE: SECTION NUMBER / SHEET NUMBER

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3775 Beacon Avenue, Suite 205
Fremont, CA 94538
T (510)795-7737 F (510)796-7737

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SHEET
GENERAL NOTES
PROJECT DATA
VICINITY MAP
SHEET INDEX, SYMBOLS & ABBREVIATIONS

ISSUED FOR:	PLANNING APPROVAL
DATE :	7/721
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SHEET :
A1.0

MISSION BLVD.

LEXINGTON AVENUE

(E) CONC. CURB & GUTTER

(E) CONC. SIDEWALK

REMOVE (E) PALM TREE

(E) UTILITY POLE TO BE REMOVED SEE UTILITY PLAN

(E) TRUNCATED DOME, TYP.

(E) WATER VALVE COVER

(E) DRIVEWAY APPROACH 67'

(E) SIDEWALK

(E) CITY'S UTILITY BOX

100'

(E) RAMP

(E) CONC. CURB TO REMAIN

REMOVE (E) SIGN

(E) BFP

RELOCATE (E) IRR

NO PARKING

(E) SIGN TO BE REMOVED

(E) LANDSCAPE

(E) SIDEWALK

125'

(E) STEEL STRUCTURE COVERED PATIO TO BE REMOVED

(E) WATER METER TO BE RELOCATED FOR NEW COMMERCIAL UNIT

(E) CATCH BASIN TO REMAIN

(E) ASPHALT PAVEMENT TO REMAIN

REMOVE (E) ASPHALT PAVEMENT

REMOVE (E) CATCH BASIN & CONC. APRON

REMOVE (E) STREET TREE, TYP. SEE LANDSCAPE MITIGATION PLAN

REMOVE (E) 6" CONC. CURB CONCRETE WALK, WHEEL STOPS & ASPHALT PAVEMENT

(E) ONE STORY BUILDING TO BE REMOVED

(E) ELEC. METER TO BE REMOVED

REMOVE (E) CONC. CURB

(E) SHRUBS TO REMAIN, U.N.O. SEE LANDSCAPE PLANS

REMOVE (E) CB

(E) GAS METER TO BE REMOVED & CAPPED BY PG&E

REMOVE (E) CONCRETE WALK

REMOVE (E) CONCRETE DRIVEWAY APRON & CURB CUT

REMOVE (E) ASPHALT PAVEMENT

(E) TRASH ENCLOSURE TO BE REMOVED

(E) POLE MOUNTED LUMINAIRE TO REMAIN

(E) LANDSCAPE

(E) W.V.

(E) POLE MOUNTED LUMINAIRE TO REMAIN

(E) CATCH BASIN TO REMAIN

(E) 8"x8'-0" HIGH CMU FENCE WALL

REF NORTH

1 SITE DEMOLITION PLAN

SCALE: 1/8" = 1'-0"

SHEET NOTES :

1. PROTECT AND SAVE TOP SOIL DURING BUILDING PAD EXCAVATIONS AND GRADING, FOR REUSE AFTER CONSTRUCTION.
2. CONSTRUCTION RELATED ACTIVITIES SHALL OCCURE WITHIN BUILDING PAD AND HARD SURFACE AREAS SHOWN ON PLAN, IN ORDER TO MINIMIZE DISRUPTION TO EXISTING PLANTS.

LEGEND:

(E) TO BE REMOVED

(E) TREE TO BE REMOVED SEE LANDSCAPE MITIGATION PLAN.

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SITE DEMOLITION PLAN

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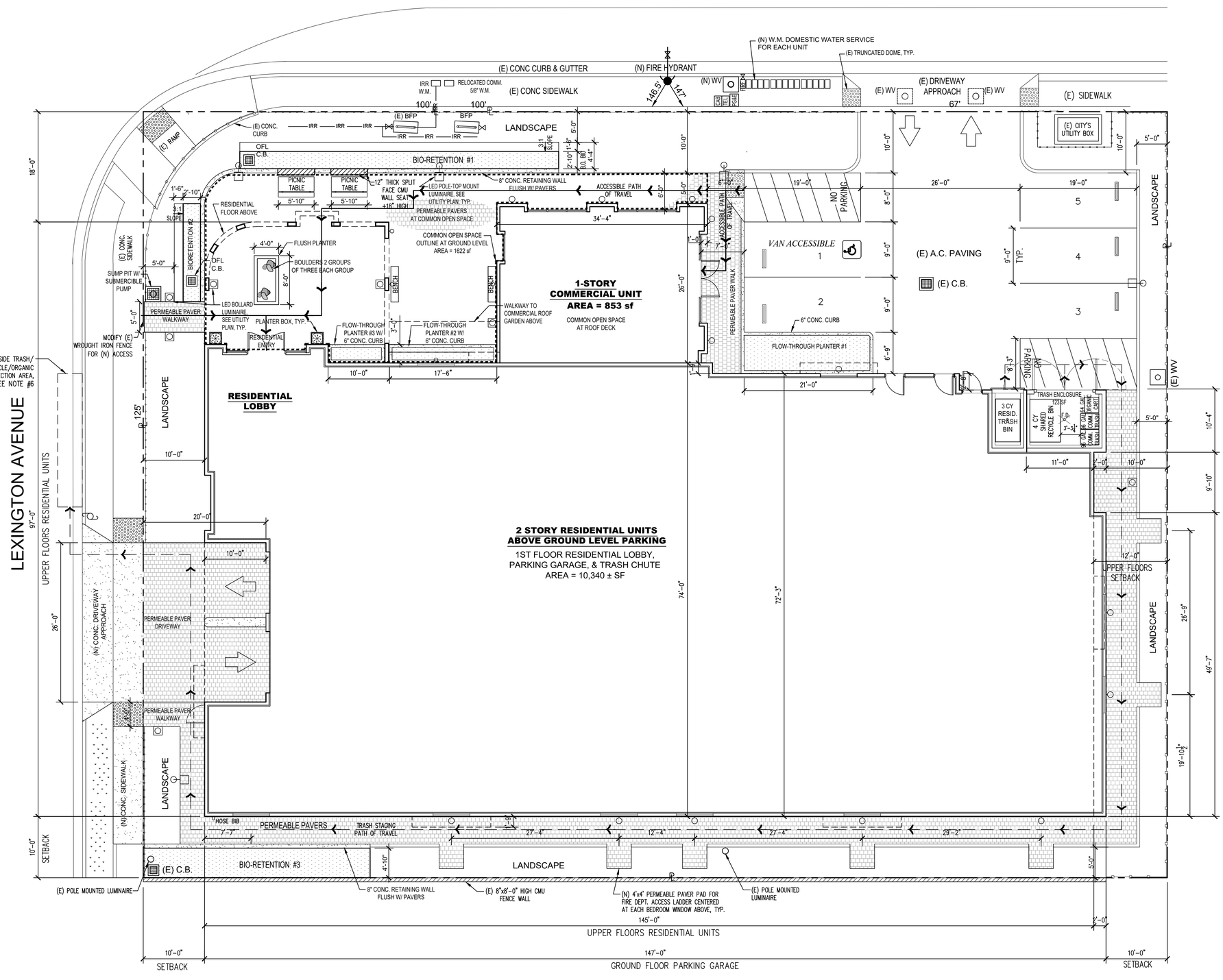
SHEET :

A1.1



1 SITE PLAN
SCALE: 1/8" = 1'-0"

SHEET NOTES :

1. FOR SITE TOPOGRAPHY, GRADING, PAVING, DRAINAGE AND UTILITIES, SEE CIVIL DRAWINGS.
2. FOR LANDSCAPE PLANTING AND MITIGATION, SEE LANDSCAPE DRAWINGS.
3. PROTECT AND SAVE TOP SOIL DURING BUILDING PAD EXCAVATIONS AND GRADING, FOR REUSE AFTER CONSTRUCTION.
4. CONSTRUCTION RELATED ACTIVITIES SHALL OCCUR WITHIN BUILDING PAD AND HARD SURFACE AREAS, IN ORDER TO MINIMIZE DISRUPTION TO EXISTING PLANTS.
5. TRASH CONTAINER CAPACITY REQUIREMENTS:

   MULTY-FAMILY RESIDENTIAL:
   # OF DWELLING UNITS = 14
   MOVING IN/OUT FACTOR = 1.2
   14 x 1.2 x 32 = 538 GALLONS
   538 / 200 = 2.7 USE 3 CY/WEEK TRASH CONTAINER

   COMMERCIAL:
   # OF EMPLOYEES = 2
   DISPOSAL RATE = 58 POUNDS/EMPLOYEE PER WEEK FOR MEDICAL/HEALTH
   2 x 58 / 150 = 0.77 USE 1 CY/WEEK (TWO 96 GAL. CART)

   SHARED RECYCLABLES CONTAINER:
   2.70 + 0.77 = 3.47 USE 4 CY / WEEK RECYCLABLES CONTAINER
6. CURBSIDE OR STREETSIDE CARTS OR BINS SHALL NOT BE PLACED EARLIER THAN 6:00 A.M. ON THE DAY BEFORE SCHEDULED COLLECTION, AND SHALL BE RETRIEVED AND REMOVED FROM PUBLIC VIEW BY MIDNIGHT ON THE DAY OF COLLECTION PER HAYWARD MUNICIPAL CODE 5-1.15.

LEGEND:

- BIO-RETENSION PLANTING AREA – SEE LANDSCAPE DRAWINGS.
- OUTLINE OF COMMON OPEN SPACE AT GROUND LEVEL. AREA = 1622 SF
  COMMERCIAL ROOF OPEN SPACE AREA = 853 SF
  TOTAL OPEN SPACE AREA = 2475 SF

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Fremont, CA 94538
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SITE PLAN

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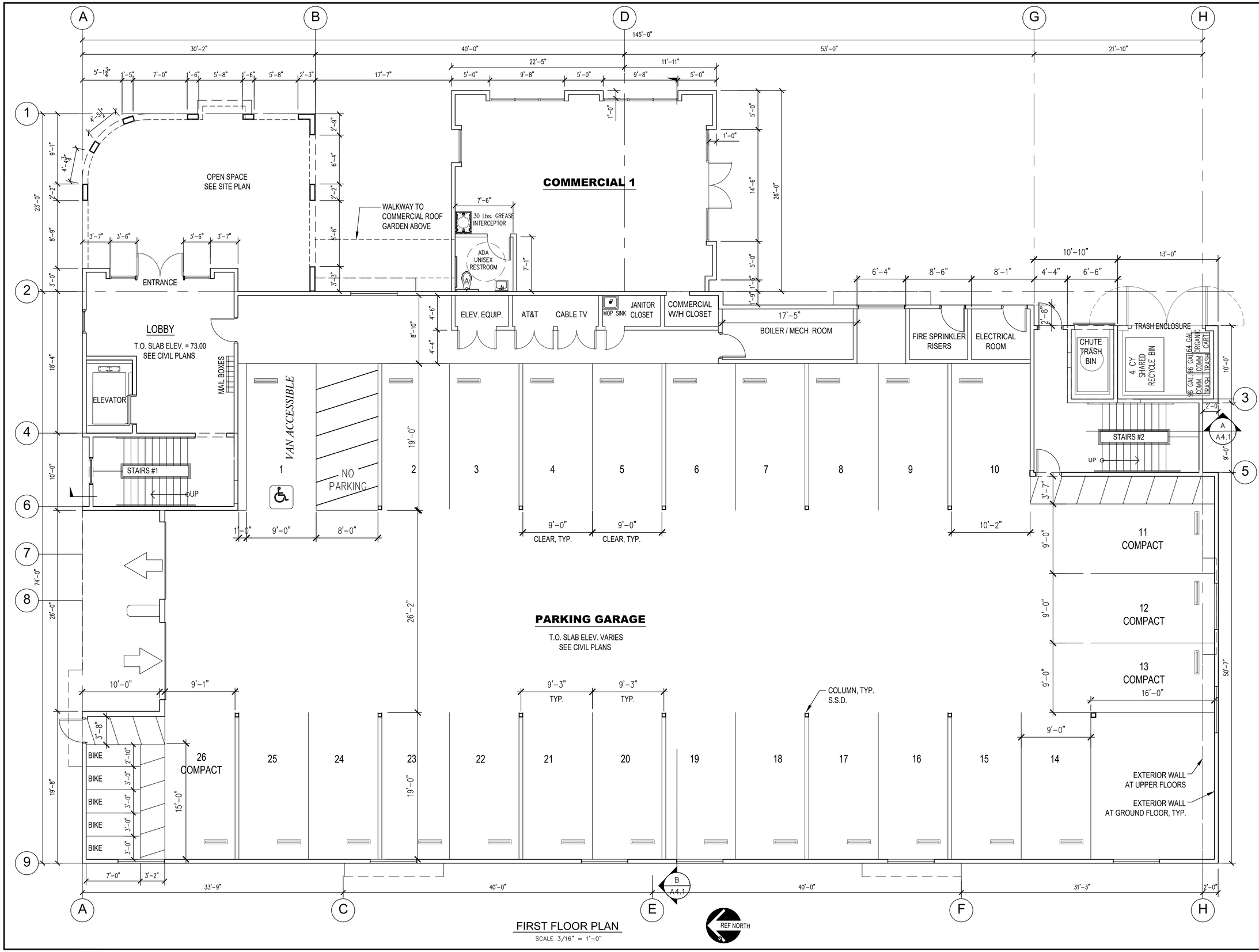
A1.2



FIRST FLOOR PLAN

SCALE 3/16" = 1'-0"

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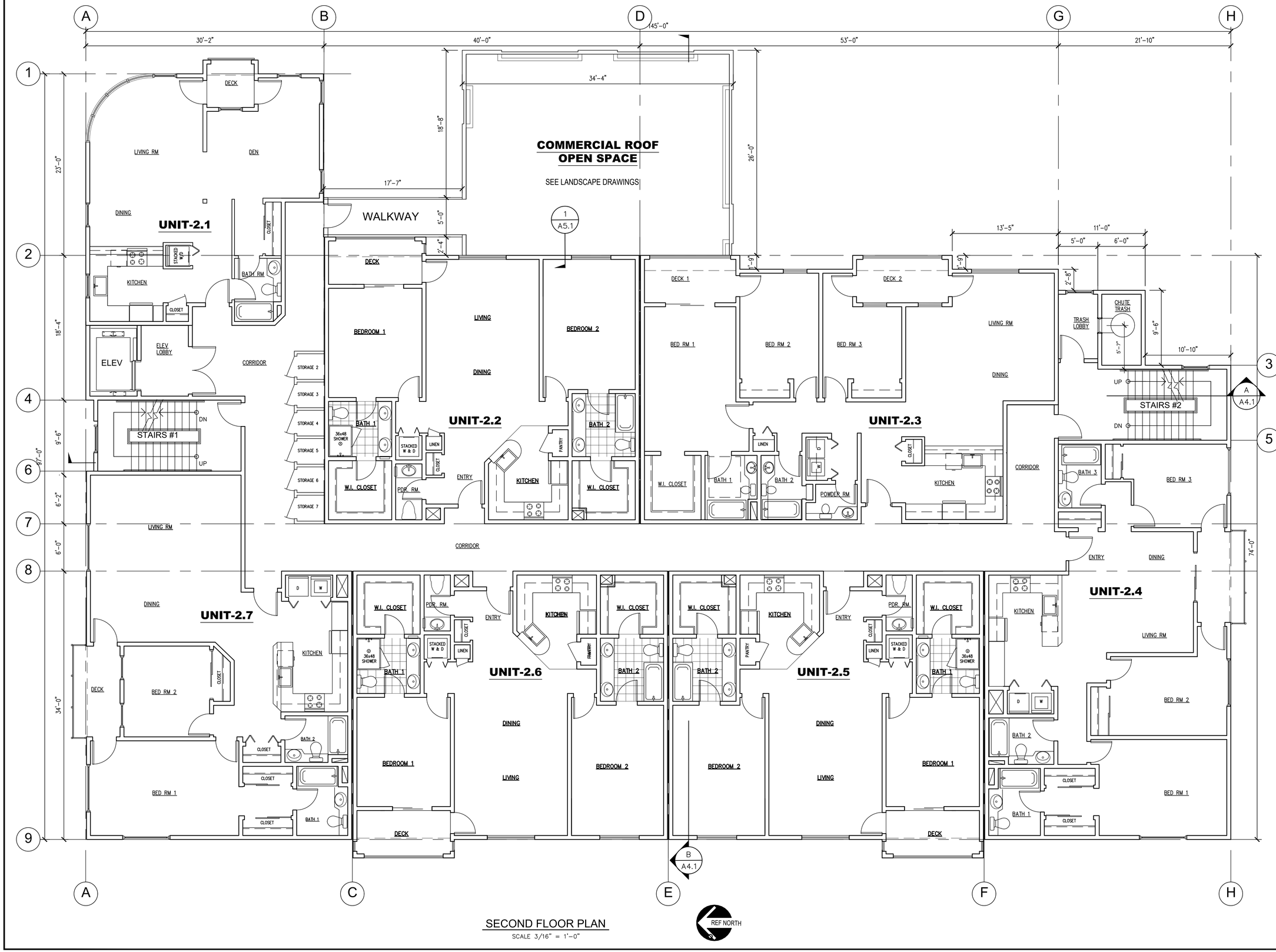

SECOND FLOOR PLAN

SCALE 3/16" = 1'-0"

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SECOND FLOOR PLAN

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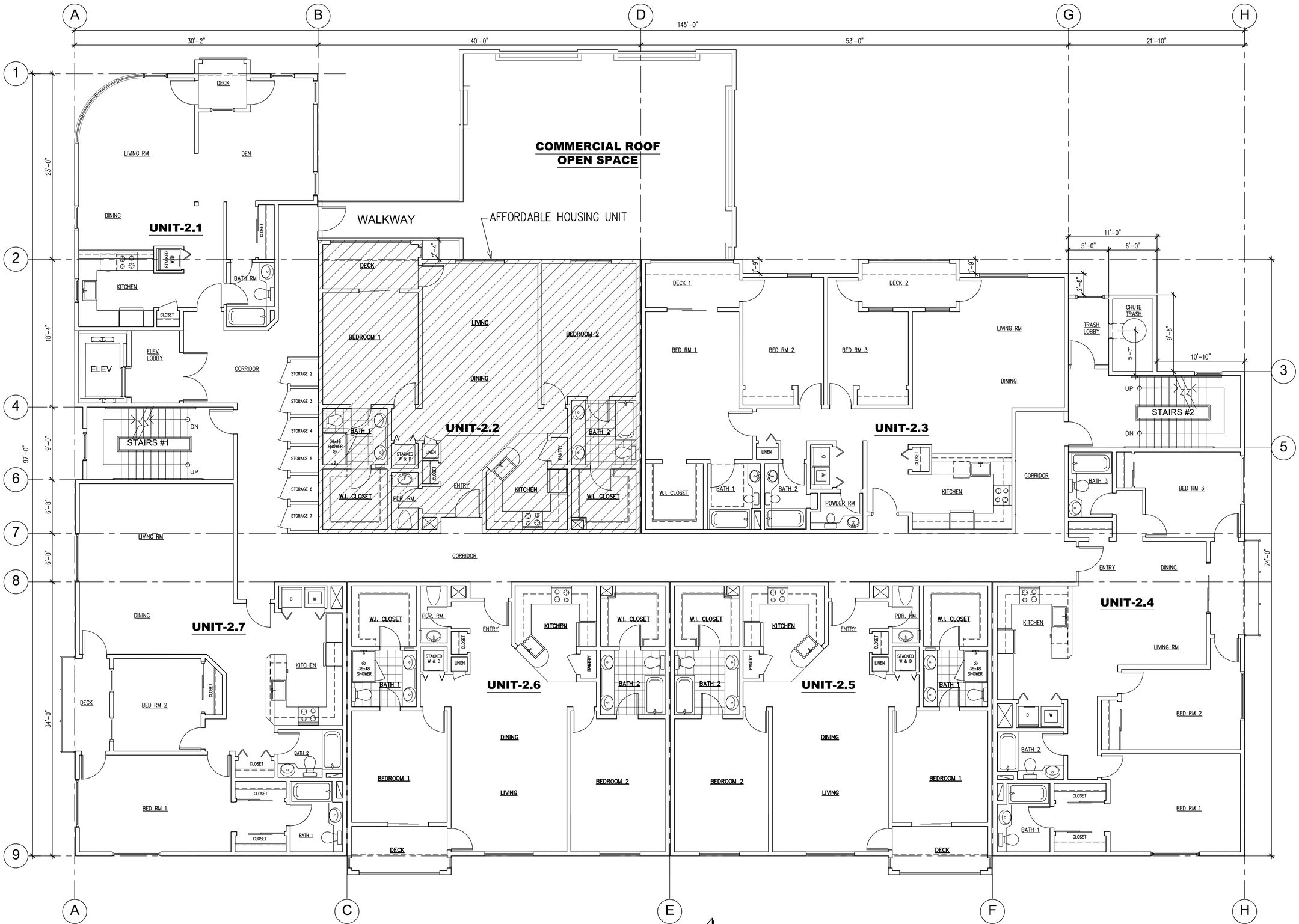

SECOND FLOOR AHU LOCATION PLAN

SCALE 3/16" = 1'-0"

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2ND FLOOR AFFORDABLE HOUSING UNIT LOCATION PLAN

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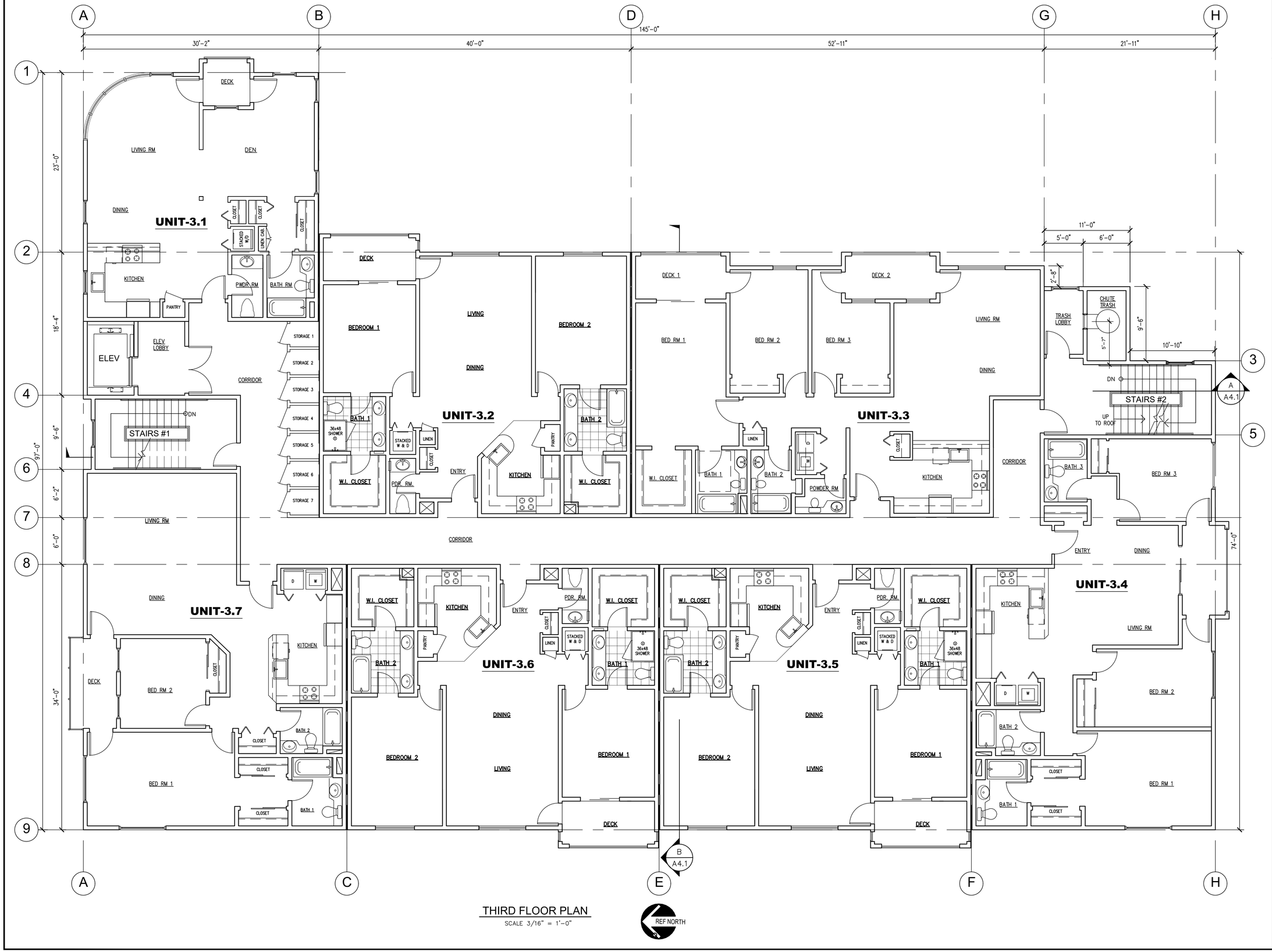

THIRD FLOOR PLAN

SCALE 3/16" = 1'-0"

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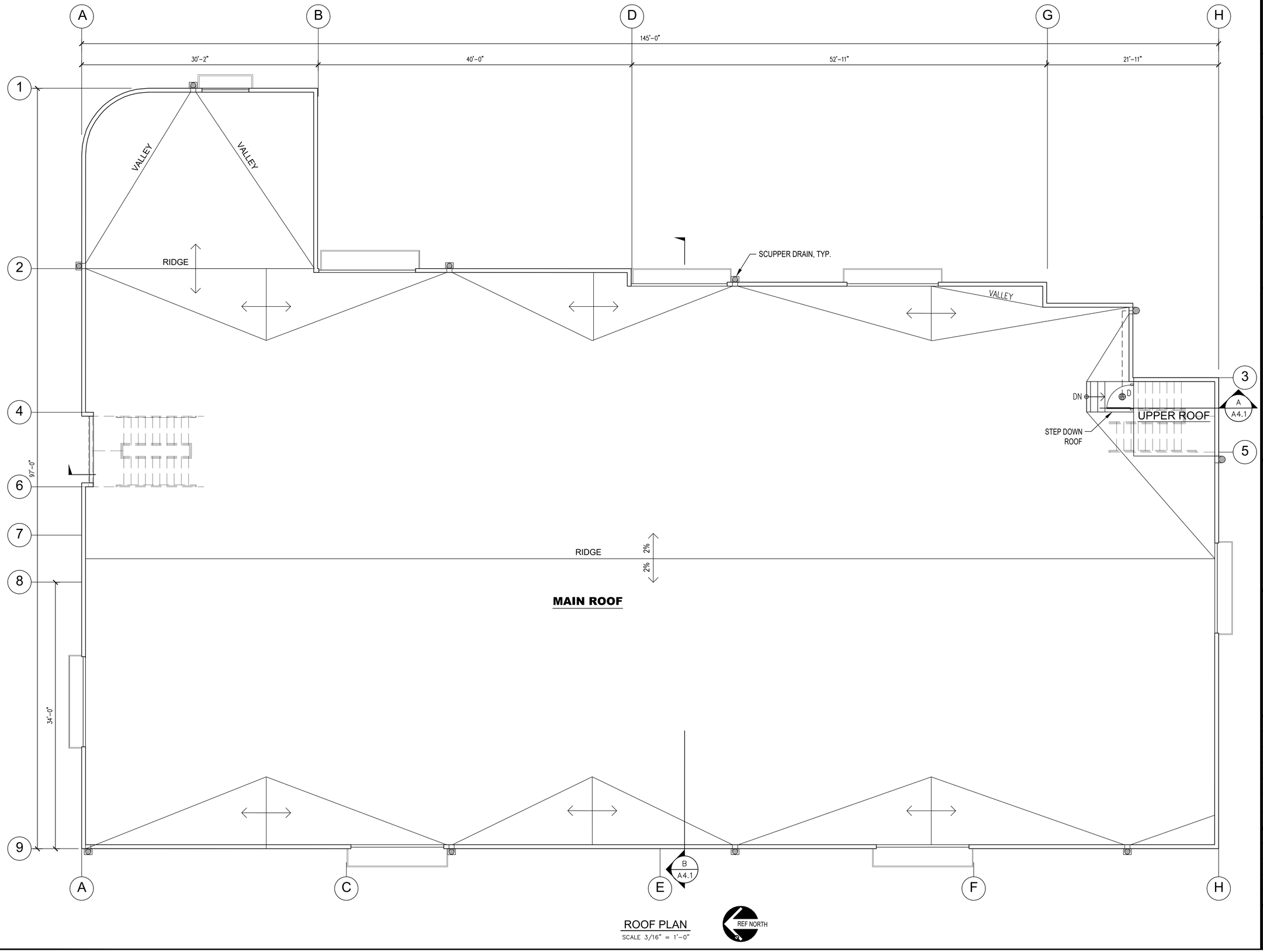

ROOF PLAN
SCALE 3/16" = 1'-0"

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ROOF PLAN

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A2.4

NORTH ELEVATION

SCALE 3/16" = 1'-0"

ELEVATION NOTES:

1. HARDIE REVEAL PANEL SYSTEM, SMOOTH FINISH
2. HARDIE ARTISAN V-RUSTIC SIDING
3. CORNICE W/ ACCENT COLOR
4. CORRUGATED METAL SIDING W/ ACCENT COLOR
5. STUCCO, SAND FINISH
6. 2x6 WESTERN RED CEDAR WOOD RAILING
7. 2x10 WESTERN RED CEDAR TRIM BAND
8. WALKWAY TO COMMERCIAL ROOF

EAST ELEVATION

SCALE 3/16" = 1'-0"

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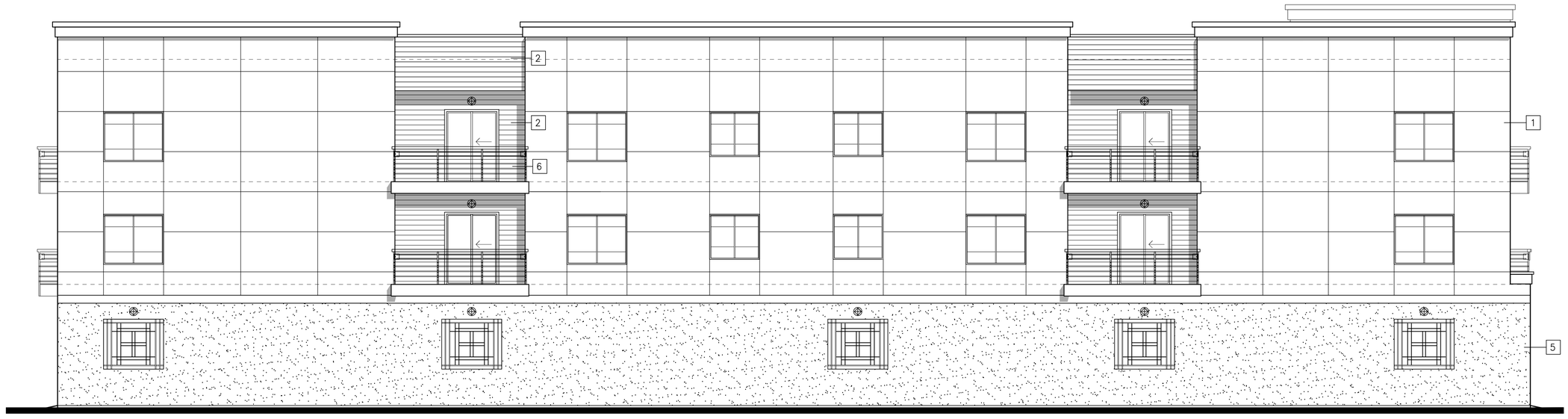
SOUTH ELEVATION

SCALE 3/16" = 1'-0"



WEST ELEVATION

SCALE 3/16" = 1'-0"

ELEVATION NOTES:

1. HARDIE REVEAL PANEL SYSTEM, SMOOTH FINISH
2. HARDIE ARTISAN V-RUSTIC SIDING
3. CORNICE W/ ACCENT COLOR
4. CORRUGATED METAL SIDING W/ ACCENT COLOR
5. STUCCO, SAND FINISH
6. 2x6 WESTERN RED CEDAR WOOD RAILING
7. 2x10 WESTERN RED CEDAR TRIM BAND
8. WALKWAY TO COMMERCIAL ROOF

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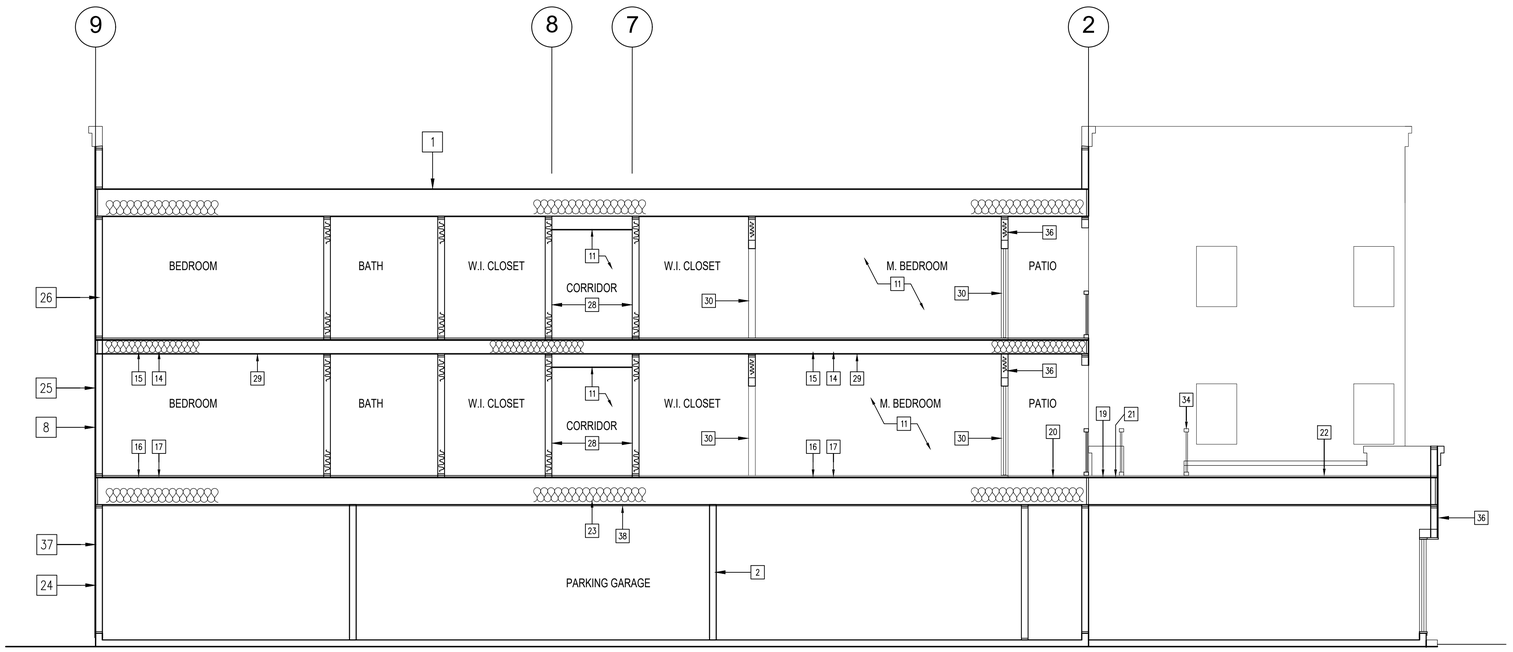
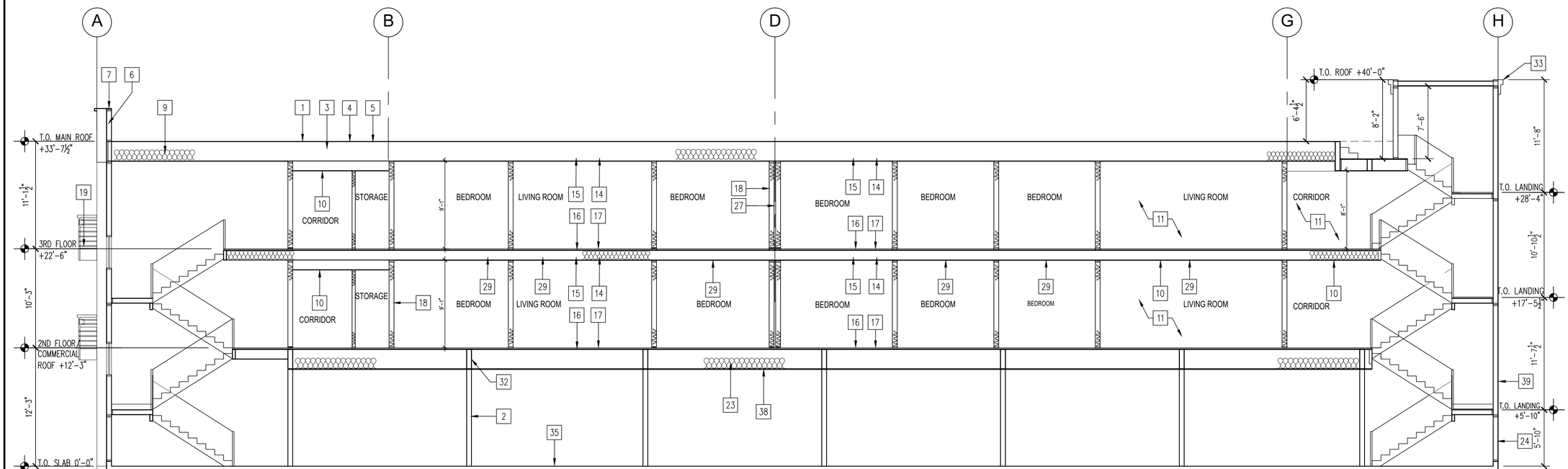


B SECTION
SCALE: 3/16" = 1'-0"



A SECTION
SCALE: 3/16" = 1'-0"

SECTION NOTES:

1. CLASS "A" SINGLE PLY FLAT ROOFING MATERIAL APPLIED OVER PLYWOOD ROOF SHEATHING, SLOPED 1/2" PER FOOT
2. HSS COLUMN, SEE STRUCT.
3. 1-HR. ROOF/CEILING ASSEMBLY.
4. STRUCT, WOOD PANEL ROOF SHEATHING. SOLID BLOCK ALL EDGES WITH WOOD BLOCKING FOR MEMBRANE ROOFING.
5. PRE-FABRICATED ROOF TRUSSES. PROVIDE SOLID BLOCKING FOR ROOF SHEATHING WITH MEMBRANE ROOFING.
6. WOOD STUD PARAPET WALL, CONSTRUCTED AS PART OF THE ROOF TRUSS. 1-HOUR WALL ASSEMBLY
7. SHEET METAL COPING
8. HARDIE REVEAL PANEL SYSTEM, SMOOTH FINISH
9. THERMAL ROOF INSULATION
10. DOUBLE GYP-BOARD 1-HR. ROOF CEILING MEMBRANE.
11. PROVIDE AUTOMATIC FIRE EXTINGUISHING SPRINKLERS IN THE OCCUPIED AREAS AND CONCEALED SPACES
12. SHEET METAL ROOF SCUPPER, TO LEADER HEAD AND DOWNSPOUT
13. SEPARATE OVERFLOW SCUPPER TO DAYLIGHT
14. 1-HR. FLOOR/CEILING ASSEMBLY WITH INSULATION PER TITLE 24 ENERGY CALCS.
15. FLOOR JOISTS, SEE STRUCT.
16. STRUCTURAL WOOD PANEL FLOOR SHEATHING
17. 1 1/4"- GYPSUM-CONCRETE TYPICAL UNIT FLOORING
18. 5/8" TYPE "X" GYPSUM BOARD TYPICAL INTERIOR FINISH THROUGHOUT
19. EXTERIOR DECK/CEILING ASSEMBLY.
20. DECK JOISTS AT PRIVATE DECKS, JOISTS AT WALKWAY, SLOPED 1/4" PER FT. AT PRIVATE PATIOS AND EXTERIOR WALKWAY
21. TONGUE&GROOVE "PLYWOOD" SHEATHING AT DECKS O.S.B. NOT ALLOWED. TO RECIE W.P. MEMBRANE
22. 2" HARDROCK CONC. OVER WATERPROOF MEMBRANE OVER SLOPING SHEATHING.
23. THERMAL FLOOR/ CEILING INSULATION OVER UNCONDITIONED SPACE
24. 3-COAT EXTERIOR CEMENT PLASTER, PAINTED AND INSTALLED OVER STUCCO NETTING AND A BASE LAYER OF TYVEK AND AN EXTERIOR LAYER OF BUILDING PAPER, PROVIDE CONTROL JOINTS WHERE SHOWN ON ELEVATIONS (PER ASTM MAX. 144 SF.)
25. EXTERIOR 1-HOUR WALL CONSTRUCTION.
26. THERMAL EXTERIOR WALL INSULATION
27. ACOUSTICAL BATT INSULATION, AT PARTY WALLS
28. STAGGERED STUD 1-HOUR CORRIDOR WALL
29. FURR DOWN CEILING, SEE UNIT FLOOR PLANS DRYWALL BOTTOM OF JOISTS BEFORE FURRING.
30. DOOR
31. WINDOW
32. FLUSH BEAM (WOOD), SEE FRAMING PLAN
33. CORNICE W/ ACCENT COLOR
34. 44" MIN. HIGH STEEL PLATE AND ROD GUARDRAIL, SEE ELEVATIONS.
35. CONCRETE FOUNDATION SYSTEM, SEE FOUNDATION PLAN
36. HARDIE ARTISAN V-RUSTIC SIDING
37. SINGLE STUD 2-HOUR EXTERIOR ASSEMBLY
38. 2-HOUR CEILING ASSEMBLY
39. CORRUGATED METAL SIDING W/ ACCENT COLOR

SEISMIC Consulting Engineers
3775 Beacon Avenue, Suite 205
Fremont, CA 94538
T (510)795-7737 F (510)796-7737

AJS Architecture | Planning
2038 Fourth Street
Livermore, CA 94550
925.980.4103
Anthony Sarboraria, AIA C27262

CLIENT

SK DEVELOPMENT
32513 Mission Blvd.
Hayward, CA 94544

PROJECT

MIXED USE PROJECT

32513 MISSION BLVD.
HAYWARD, CA 94544

STAMP

SHEET
CROSS SECTIONS

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DRAW :	KRM
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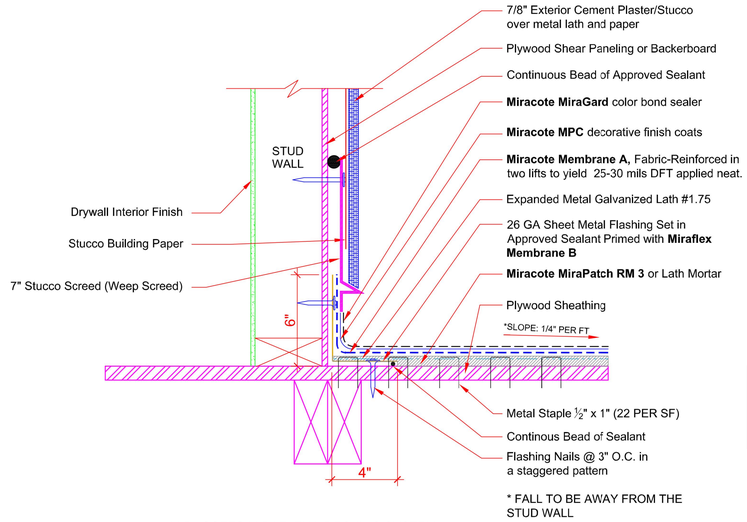
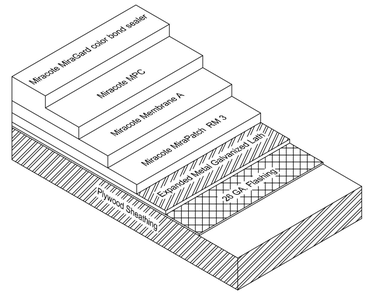


PLYWOOD:
Exterior grade 5/8" sheathing fully blocked, glued and screwed, no deflection.



MIRACOTES MIRAFLEX II DECKING SYSTEM
INSTALL PER ICC-ESR-1714 LATEST REPORT
AND MANUFACTURER'S RECOMMENDATIONS

Plywood Substrate at Wood or Metal Stud Wall Detail

1 DECK COATING SYSTEM

SCALE: N.T.S.

SEISMIC Consulting Engineers
3775 Beacon Avenue, Suite 205
Fremont, CA 94538
T (510)795-7737 F (510)796-7737

AJS Architecture | Planning
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IMPROVEMENT PLANS
APN 78G-2760-9-7 & 21
CITY OF HAYWARD - ALAMEDA COUNTY - CALIFORNIA

CITY OF HAYWARD GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT CITY OF HAYWARD STANDARD DETAILS, SPECIFICATIONS, AND STATE OF CALIFORNIA STANDARD SPECIFICATIONS.
2. NO CHANGE SHALL BE MADE IN THE FIELD PRIOR TO RESUBMITTAL AND APPROVAL BY THE CITY ENGINEER OF REVISED PLANS.
3. ALL EXISTING STREETS SHALL REMAIN OPEN TO TWO-WAY TRAFFIC AT ALL TIMES EXCEPT AS PERMITTED BY THE CITY ENGINEER.
4. THE CONTRACTOR SHALL PROVIDE FOR INGRESS AND EGRESS FOR PRIVATE PROPERTY ADJACENT TO THE WORK SITE THROUGHOUT THE PERIOD OF CONSTRUCTION.
5. ALL UTILITIES INCLUDING BUT NOT LIMITED TO ELECTRIC, TELEPHONE AND CABLE TELEVISION SERVICES SHALL BE PROVIDED UNDERGROUND IN ACCORDANCE WITH CITY STANDARDS, EXCEPT AS OTHERWISE SHOWN ON THESE PLANS.
6. LOCATION OF UNDERGROUND UTILITY WAS TAKEN FORM THE RECORDS OF THE CONTROLLING AGENCIES. NO RESPONSIBILITY FOR THEIR ACCURACY IS ASSUMED BY THE ENGINEER. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND/OR LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. CONTRACTOR SHALL CALL USA NORTH 811 TWO (2) DAYS PRIOR TO COMMENCING WORK WITHIN THE PUBLIC RIGHT-OF-WAY.
7. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAGMEN OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY.
8. ALL UNDERGROUND FACILITIES SHALL BE COMPLETED BEFORE PLACING BASE ROCK.
9. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL NECESSARY UTILITY RELOCATIONS WITH THE APPROPRIATE UTILITY COMPANY.
10. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES PRIOR TO COMMENCING ANY ON-SITE WORK. THE CONTRACTOR SHALL ALWAYS BEGIN WORK AT THE DOWNSTREAM POINT OF CONNECTION AND PROCEED UPSTREAM. IF UTILITY INVERTS DO NOT CORRESPOND TO THE PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER BEFORE PROCEEDING.
11. ALL ABOVE-GROUND WATER FACILITIES SHALL BE INSTALLED OUTSIDE PUBLIC RIGHT-OF-WAY, EXCEPT AS OTHERWISE SHOWN ON THESE PLANS.
12. SANITARY SEWER AND WATER LINE CONNECTIONS MADE TO EXISTING FACILITIES SHALL BE MADE BY UNION SANITARY DISTRICT AND ALAMEDA COUNTY WATER DISTRICT, RESPECTIVELY, AT THE DEVELOPER'S EXPENSE.
13. TRENCH BACKFILL SHALL BE IN ACCORDANCE WITH THE RESPECTIVE AGENCIES AND THE CITY OF NEWARK TRENCH BACKFILL SPECIFICATIONS.
14. CUTS IN EXISTING PAVEMENT SHALL BE REPLACED WITH THE EQUIVALENT SECTION PLUS ONE (1) ADDITIONAL INCH OF ASPHALT OR THREE (3) INCHES OF ASPHALT OVER SIX (6) INCHES OF R-78 BASE ROCK, WHICHEVER IS GREATER.
15. ALL UNPROTECTED ELECTRICAL TRENCHES SHALL BE CAPPED WITH 6" OF CONCRETE.
16. THE DEVELOPER SHALL INSURE THAT A WATER VEHICLE FOR DUST CONTROL OPERATIONS IS KEPT READY AND AVAILABLE AT ALL TIMES DURING CONSTRUCTION FOR USE AT THE CITY ENGINEER'S DIRECTION.
17. EXACT EXTENT OF NEW PAVEMENT TO BE INSTALLED SHALL BE DETERMINED BY THE CITY OF ENGINEER UPON COMPLETION OF ROADWAY EXCAVATION. NEW PAVEMENT SHALL CONFORM TO EXISTING SOUND STRUCTURAL SECTION.
18. CONTRACTOR SHALL PROVIDE STATIC AND VIBRATORY ROLLERS AS REQUIRED BY THE CITY ENGINEER.
19. THE CONTRACTOR SHALL PROVIDE AND USE THE STEEL ROLLER (12-TON MINIMUM), LOADED WATER WAGON OR OTHER PIECE OF HEAVY EQUIPMENT IN THE PRESENCE OF THE PUBLIC WORKS INSPECTOR TO CHECK THE STABILITY OF EACH LAYER OF ROADWAY SECTION, INCLUDING SUBGRADE, BEFORE PROCEEDING WITH HIS NEXT OPERATION.
20. SUBGRADE AT THE GRADING PLANE SHALL HAVE A RELATIVE COMPACTION OF NOT LESS THAN 90%.
21. R-50 AGGREGATE SUBBASE AND R-78 AGGREGATE BASE SHALL BE CLASS II AND SHALL HAVE A RELATIVE COMPACTION OF NOT LESS THAN 95%.
22. CASORON OR AN EQUIVALENT HERBICIDE SHALL BE PLACED UNDER ALL CURBS, GUTTERS, SIDEWALKS, AND DRIVEWAYS IN THE PUBLIC RIGHT-OF-WAY AND EASEMENT AREAS.
23. ALL GRADE BREAKS SHALL BE ROUNDED IN THE FIELD FOR PROPER APPEARANCE.
24. EMULSIFIED ASPHALT FOR USE AS A PRIME BINDER SHALL BE GRADE 60-70 MIXING TYPE EMULSION (SS-1).
25. LIQUID ASPHALT FOR USE AS A PRIME COAT SHALL BE GRADE SC-70.
26. ASPHALT CONCRETE FOR INITIAL COURSES SHALL BE TYPE "A" 3/4-INCH MAXIMUM MEDIUM GRADING. ASPHALT CONCRETE FOR FINAL LIFT SHALL BE TYPE "A" 1/2-INCH MAXIMUM MEDIUM GRADING. THE AMOUNT OF ASPHALT BINDER TO BE MIXED WITH AGGREGATE SHALL BE SUCH THAT THE AIR VOID CONTENT OF THE RESULTING ASPHALT CONCRETE SHALL NOT BE LESS THAN 3% NOR MORE THAN 5%. STABILOMETER VALUE AS DETERMINED BY CALIFORNIA TEST METHOD NO. 304 SHALL BE 38 MINIMUM.
27. THE CONTRACTOR SHALL DO WHATEVER IS NECESSARY TO MAKE A SMOOTH TRANSITION FROM EXISTING PAVEMENT TO NEW ASPHALT CONCRETE.
28. CONTRACTOR TO PROVIDE MYLAR COPY AND 2 SETS OF 35MM MICROFILM APERTURE CARDS AT 24:1 REDUCTION OF AS-BUILT PLANS PRIOR TO FINAL ACCEPTANCE OF WORK.
29. SITE SPECIFIC TRAFFIC AND PEDESTRIAN CONTROL PLAN PREPARED BY A LICENSED CIVIL ENGINEER OR TRAFFIC MANAGEMENT FIRM, MUST BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO THE ISSUANCE OF AN ENCROACHMENT PERMIT FOR THE WORK WITHIN CITY STREET. THE PLAN MUST BE BASED ON THE CURRENT CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD). TWO-WAY TRAFFIC MUST BE PROVIDED AT ALL TIMES AND WORK HOURS OF 9:00AM TO 5:00PM WILL BE STRICTLY ENFORCED.

PROJECT GENERAL NOTES

1. THESE PLANS AND SPECIFICATIONS ARE SUBJECT TO MODIFICATION DURING CONSTRUCTION WHEN CONDITIONS DEVELOP THAT WERE NOT APPARENT DURING THE DESIGN AND APPROVAL OF THESE PLANS. ANY AND ALL SUCH MODIFICATIONS MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO THE CONSTRUCTION OF THE AFFECTED IMPROVEMENT(S).
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THE PLANS AND SPECIFICATIONS AND WALKING THE JOB SITE PRIOR TO THE START OF WORK, AND FOR PROMPTLY NOTIFYING THE DEVELOPER, THE PROJECT ENGINEER, AND THE DIRECTOR OF ANY DISCREPANCIES THAT COULD REQUIRE MODIFICATION TO THE PLAN AND SPECIFICATIONS, OR OF ANY OTHER CONFLICTS THAT COULD AFFECT THE COMPLETION OF THE IMPROVEMENTS.
3. SHOULD IT APPEAR THAT THE WORK TO BE DONE, OR ANY MATTER RELATIVE THERETO, IS NOT SUFFICIENTLY DETAILED OR EXPLAINED ON THESE PLANS, THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER FOR SUCH FURTHER EXPLANATIONS AS MAY BE NECESSARY.
4. THE DUTIES OF THE CITY PUBLIC WORKS DEPARTMENT AND PROJECT ENGINEER DO NOT INCLUDE THE ADEQUACY OF THE CONTRACTOR'S SAFETY IN, ON, OR NEAR THE CONSTRUCTION SITE.
5. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND IS NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY, AND HOLD THE CITY, THE OWNER, AND DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR DESIGN PROFESSIONAL.
6. CONTRACTOR SHALL OBTAIN AN ENCROACHMENT PERMIT FROM THE CITY PUBLIC WORKS DEPARTMENT PRIOR TO COMMENCING CONSTRUCTION INVOLVING THEIR RIGHT-OF-WAY, AND FOR THE CONSTRUCTION, MODIFICATION, OR CONNECTION TO DEPARTMENT-MAINTAINED FACILITIES. ALL WORKMANSHIP, EQUIPMENT AND MATERIALS SHALL CONFORM TO AGENCY STANDARDS AND SPECIFICATIONS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING ALL WORK AUTHORIZED BY A CITY-ISSUED ROADWAY ENCROACHMENT PERMIT IN ACCORDANCE WITH THE PROVISIONS OF THAT PERMIT, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   - COORDINATION WITH THE DESIGNATED REPRESENTATIVE OF THE CITY ENGINEER FOR THE REQUIRED INSPECTION AND APPROVALS;
   - MAINTENANCE OF THE ENCROACHMENT AREA;
   - COORDINATION WITH UTILITIES, INCLUDING OBTAINING CLEARANCE FROM UNDERGROUND SERVICE ALERT (USA), AS NECESSARY TO INSURE THE PROTECTION OF EXISTING UTILITIES;
   - PROTECTION OF VEHICULAR AND PEDESTRIAN TRAFFIC THROUGH AND AROUND THE ENCROACHMENT;
   - PROPER DISPOSAL OF WASTE MATERIAL AND FLUIDS;
   - SECURING OF THE ENCROACHMENT AREA AT THE END OF EACH WORKING DAY, INCLUDING THE PROTECTION OF ALL EXCAVATIONS WITH TEMPORARY BACKFILL AND PAVING, COVERING WITH VEHICLE-RATED STEEL PLATES, OR THE BARRICADING OF THE WORK SITE. ALL SUCH PROTECTIVE MEASURES SHALL BE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER.
8. THE DEVELOPER OR CONTRACTOR SHALL POST EMERGENCY TELEPHONE NUMBERS AT THE JOB SITE FOR THE CONTRACTOR, DEVELOPER, AND CITY ENGINEER.
9. THE CONTRACTOR SHALL ARRANGE A PRE-CONSTRUCTION MEETING WITH THE DESIGNATED REPRESENTATIVE OF THE CITY ENGINEER BEFORE THE START OF EACH MAJOR PHASE OF CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE, THROUGH CONSULTATION WITH SAID REPRESENTATIVE, THE REQUIREMENTS FOR TESTING, OBSERVATION AND VERIFICATION BY THE CITY.
10. THE CONTRACTOR SHALL NOTIFY THE DESIGNATED REPRESENTATIVE OF THE CITY ENGINEER AT LEAST 24 HOURS IN ADVANCE OF ANY REQUIRED INSPECTION. THE CONTRACTOR SHALL ASSURE THAT ALL DETAILED CONSTRUCTION DRAWINGS, CUT SHEETS, TEST RESULTS, SURVEY RECORDS, MANUFACTURER'S CERTIFICATIONS, OR ANY OTHER DOCUMENTATION NECESSARY TO THE COMPLETE THE INSPECTION ARE AVAILABLE FOR REVIEW BY THE REPRESENTATIVE.
11. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY AND ALL DAMAGE TO EXISTING STRUCTURES AND/OR UTILITIES DURING CONSTRUCTION, PROPER REPAIR SHOULD BE DONE TO THE SATISFACTION OF THE PROJECT ENGINEER AND THE CITY ENGINEER.
12. THE FORMS FOR CONCRETE SIDEWALKS, CURBS, GUTTERS AND DRIVEWAYS THAT ARE TO BE CONSTRUCTED TO CONFORM TO EXISTING ROADS SHALL BE INSTALLED TO THE GRADES AND ALIGNMENTS SHOWN ON THESE PLANS. PRIOR TO PLACING CONCRETE, THE FORMS SHALL BE INSPECTED AND APPROVED BY THE PUBLIC WORKS DEPARTMENT INSPECTOR FOR CONFORMANCE TO EXISTING ROAD IMPROVEMENTS. GRADES OF NEW IMPROVEMENTS ARE SUBJECT TO FIELD ADJUSTMENT TO FIT CONDITIONS.
13. IN CONFORM AREAS, IF A FULL STRUCTURAL SECTION (MINIMUM 3" OF ASPHALT CONCRETE OVER MINIMUM 6" OF BASE ROCK) IS NOT FOUND AT THE CONFORM LINE SHOWN ON THE PLANS, FURTHER STREET EXCAVATION WILL BE REQUIRED UNTIL THE FULL SECTION IS ENCOUNTERED.
14. THE CONTRACTOR IS RESPONSIBLE FOR MATCHING EXISTING SURFACE GRADES AND ALIGNMENTS USING REASONABLE TRANSITION SO AS TO AVOID ANY ABRUPT CHANGES IN GRADES OR CROSS SLOPES. IN PARTICULAR, ANY TRANSITION TO EXISTING CURBS, BERMS, ROADWAY SURFACES, DITCHES, GUTTERS OR OTHER SIMILAR EXISTING FACILITIES SHALL NOT CREATE DRAINAGE BLOCKS OR TRAPS, PEDESTRIAN TRIPPING HAZARDS, UNREASONABLE VEHICULAR PASSAGEWAYS OR GRADE BREAKS, OR OTHER SUCH IMPEDIMENTS.
15. WHERE UNSTABLE OR UNSUITABLE MATERIALS ARE ENCOUNTERED DURING SUB-GRADE PREPARATION WITHIN THE PUBLIC ROADWAY, THE AREA IN QUESTION SHALL BE OVER EXCAVATED AND REPLACED BY SELECT BACKFILL MATERIAL AS DIRECTED IN THE FIELD BY THE DESIGNATED REPRESENTATIVE OF THE CITY ENGINEER.
16. THE CONTRACTOR SHALL KEEP EXISTING ROADWAYS FREE FROM DIRT AND DEBRIS DURING ALL PHASES OF CONSTRUCTION. ALL TRASH, CONSTRUCTION DEBRIS, AND WASTE MATERIALS SHALL BE CONTAINED ON-SITE UNTIL DISPOSAL OFF-SITE CAN BE ARRANGED.
17. TEMPORARY REPAIRS TO ALL TRENCHES WITHIN THE TRAVELED WAY ON EXISTING ROADS SHALL BE MADE WITHIN TWENTY-FOUR (24) HOURS OF TRENCH OPENING. MINIMUM TEMPORARY REPAIRS SHALL CONSIST OF BACKFILLING AND COMPACTING 6" OF AGGREGATE BASE AND 1" OF TEMPORARY ASPHALTIC SURFACING. PERMANENT REPAIRS, INCLUDING RESTORATION OF THE EXISTING STRUCTURAL SECTION SHALL BE MADE WITHIN FIFTEEN (15) DAYS OF TRENCH OPENING.
18. COMPACTION TESTS SHALL BE PERFORMED ON ALL TRENCHES AND STREET WORK TO VERIFY THAT COMPACTION CONFORMS TO CITY STANDARDS. ALL TESTING WILL BE AT THE DEVELOPER OR CONTRACTOR'S EXPENSE.
19. THE CONTRACTOR SHALL COMPLY WITH THE RULES AND REGULATIONS OF THE STATE CONSTRUCTION SAFETY ORDERS. ALL TRENCHES OVER FOUR FEET IN DEPTH MUST HAVE A MEANS OF ACCESS AND EGRESS FOR EVERY 25 FEET IN LENGTH. ALL TRENCHES OVER FIVE FEET IN DEPTH SHALL BE SHORED IN ACCORDANCE WITH CAL-OSHA "CONSTRUCTION SAFETY ORDERS" CURRENT EDITION. TRENCHES OVER FIVE FEET IN DEPTH MUST BE PERMITTED BY CAL-OSHA.
20. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE REQUIREMENTS OF THE DIVISION OF INDUSTRIAL SAFETY PERTAINING TO "CONFINED SPACES". ANY MANHOLE, CULVERT, DROP INLET OR TRENCH WHICH COULD CONTAIN AIR WHICH IS NOT READILY VENTILATED MAY BE CONSIDERED A "CONFINED SPACE". THE CONTRACTOR SHALL PROVIDE THE NECESSARY SAFETY OR TESTING EQUIPMENT AND PERSONNEL.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION COORDINATION WITH ALL ADJACENT PROPERTY OWNERS FOR WORK TO BE PERFORMED ON THEIR PROPERTIES.
22. EXISTING UNDERGROUND FACILITIES AS SHOWN ARE APPROXIMATE ONLY AND WERE OBTAINED FROM AVAILABLE UTILITY RECORDS. THE PROJECT ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF EXISTING UTILITY INFORMATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL LOCAL UTILITIES AND TO HAVE ALL EXISTING FACILITIES IN THE AREA OF WORK LOCATED PRIOR TO THE START OF CONSTRUCTION.
23. THE CONTRACTOR SHALL STENCIL, EMBOSS THE CONCRETE, OR AFFIX AN IRON PLACARD ON ALL STORM DRAIN INLETS WITH THE TEXT "NO DUMPING! DRAINS TO BAY". STENCILS CAN BE OBTAINED FROM THE ALAMEDA COUNTYWIDE CLEAN WATER PROGRAM (510) 670-5543.

ABBREVIATIONS

AB	AGGREGATE BASE	EP	EDGE OF PAVEMENT	PL	PROPERTY LINE
AC	ASPHALTIC CONCRETE	EVC	END OF VERTICLE CURVE	R	RADIUS
AD	AREA DRAIN	FC	FACE OF CURB	(R)	RADIAL LINE
AL	AREA LIGHT	FF	FINISH FLOOR	RCP	REINFORCED CONCRETE PIPE
ANC	ANCHOR	FG	FINISH GRADE	RIM	RIM ELEVATION
ANG PT	ANGLE POINT	FH	FIRE HYDRANT	RT	RIGHT
AP	ANCHOR POLE	FL	FLOW LINE	ROW	RIGHT OF WAY
ARV	AIR RELIEF VALVE	G	GAS MAIN	S	SLOPE
ASB	AGGREGATE SUB-BASE	GM	GAS METER	SD	STORM DRAIN
BC	BEGINNING OF CURVE	GB	GRADE BREAK	SDMH	STORM DRAIN MANHOLE
BOC	BACK OF CURB	GR	GRATE ELEVATION	SF	SQUARE FEET
BW	BOTTOM OF WALL	GV	GAS VALVE	SHT	SHEET
BM	BENCH MARK	HC	HANDICAP	SL	STREET LIGHT
BO	BLOWOFF	HGL	HYDRAULIC GRADE LINE	SS	SANITARY SEWER
BPD	BACKFLOW PREVENTION DEVICE	HOR	HORIZONTAL	SSCO	SANITARY SEWER CLEANOUT/RISER
BVC	BEGINNING OF VERTICAL CURVE	HP	HIGH POINT	SSMH	SANITARY SEWER MANHOLE
BOW	BACK OF SIDEWALK	ISA	IMPERVIOUS SURFACE AREA	STA	STATION
CATV	CABLE TELEVISION	INT	INTERSECTION	STD	STANDARD
C&G	CURB AND GUTTER	INV	INVERT ELEVATION	SW	SIDEWALK
CB	CATCH BASIN	JP	JOINT POLE	T	TELEPHONE LINE
CIP	CAST IRON PIPE	LP	LOW POINT	TBO	TEMPORARY BLOWOFF
CL	CENTERLINE	LT	LEFT	TC	TOP OF CURB
CMP	CORRUGATED METAL PIPE	MAX	MAXIMUM	TELE	TELEPHONE
CO	CLEANOUT	MH	MANHOLE	TW	TOP OF WALL
CONF	CONFORM	MIN	MINIMUM	TS	TRAFFIC SIGNAL
CONC	CONCRETE	MON	MONUMENT	TYP	TYPICAL
COTG	CLEANOUT TO GRADE	(N)	NEW	UON	UNLESS OTHERWISE NOTED
DDCV	DOUBLE DETECTOR CHECK VALVE	NTS	NOT TO SCALE	VAR	VARIES
CY	CUBIC YARDS	OD	OUTSIDE DIAMETER	VC	VERTICAL CURVE
DI	DROP INLET	OVF	OVERFLOW	VIF	VERIFY IN FIELD
DIP	DUCTILE IRON PIPE	P	PAVEMENT	VCP	VITRIFIED CLAY PIPE
DWG	DRAWING	PCC	PORTLAND CEMENT CONCRETE	VERT	VERICAL
DWY	DRIVEWAY	PI	POINT OF INTERSECTION	W	WATER
(E)	EXISTING	PIV	POST INDICATOR VALVE	W/	WITH
EA	EACH	POC	POINT OF CURVE	W/O	WITHOUT
EC	END OF CURVE	PRC	POINT OF REVERSE CURVATURE	WM	WATER METER
EG	EXISTING GRADE	PUE	PUBLIC UTILITY EASEMENT	WV	WATER VALVE
ELEC	ELECTRIC	PVC	POLY VINYL CHLORIDE	YL	YARD LIGHT
ELEV	ELEVATION	PIVC	POINT OF VERTICAL INTERSECTION		

LEGEND

EXISTING	PROPOSED	DESCRIPTION
		ASPHALT PAVEMENT
		BUILDING
		CATCH BASIN
		CONCRETE
		CURB
		CURB & GUTTER
		CURB, GUTTER & SIDEWALK
DI	DI	DROP INLET
E	E	ELECTRIC LINE
		ELECTROLIER
X	X	FENCE
		FIRE HYDRANT
F	F	FIRE MAIN
G	G	GAS MAIN
GV	GV	GAS VALVE
		GUY ANCHOR
JT	JT	JOINT TRENCH

EXISTING	PROPOSED	DESCRIPTION
		MONUMENT
OH	OH	OVERHEAD UTILITY
SSCO	SSCO	SANITARY SEWER CLEANOUT
SS	SS	SANITARY SEWER LINE
SSMH	SSMH	SANITARY SEWER MANHOLE
		SIGN
SD	SD	STORM DRAIN LINE
SDMH	SDMH	STORM DRAIN MANHOLE
		TRANSFORMER
		UTILITY POLE
		VALLEY GUTTER
		RETAINING WALL
W	W	WATER MAIN
WM	WM	WATER METER
WV	WV	WATER VALVE

SEISMIC Consulting Engineers
3775 Beacon Avenue, Suite 205
Fremont, CA 94538
T (510)795-7737

CLIENT

Swati Kiran LLC
16 Sonas Place
Hayward, CA 94542

PROJECT

MIXED USE PROJECT

32513 MISSION BLVD.
HAYWARD, CA 94544

STAMP

REGISTERED PROFESSIONAL ENGINEER
KAMRAN R. MAJLESSI
NO. C71231
Exp. 06-30-21
CIVIL
STATE OF CALIFORNIA

SHEET

GENERAL NOTES, ABBREVIATIONS, & LEGEND

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SHEET : C1

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	MIXED USE PROJECT	
1-2	City application ID:	201900754	
1-3	Site Address or APN:	32513 Mission Blvd.	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	18.0	**Inches**
	Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site.		Click here for map
1-6	Applicable Rain Gauge[2]	Oakland	
	Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.		
	MAP adjustment factor is automatically calculated as:	0.98	
	(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)		

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: **BIO-RETENTION #1**

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	4,725	1.0	4,725
2-3	Pervious service	1,622	0.1	162
	Total DMA Area (square feet) =	6,347		
2-4	***Total Effective Impervious Area (EIA)***			4,887 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1	***Unit basin storage volume from Table 5.2:***	0.67	**Inches**
	(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)		
3-2	***Adjusted unit basin storage volume:***	0.66	**Inches**
	(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)		
3-3	***Required Capture Volume (in cubic feet):***	268	**Cubic feet**
	(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)		

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	**Inches per hour**
4-2	Divide Item 3-2 by Item 4-1	3.29	**Hours of Rain Event Duration**

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	195	**Square feet**
5-2	Area 25% smaller than item 5-1	147	**Square feet**
5-3	Volume of treated runoff for area in Item 5-2	201	**Cubic feet** (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	67	**Cubic feet** (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	**Feet** (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.5	**Inches** (Depth of stored runoff in surface ponding area)
6-4	If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.		

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2		**Sq.ft.** (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	0	**Cubic feet** (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3		**Cubic feet** (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1		**Feet** (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches		**Inches** (Depth of stored runoff in surface ponding area)
7-6	If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.		

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	147	**Square feet** (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	MIXED USE PROJECT	
1-2	City application ID:	201900754	
1-3	Site Address or APN:	32513 Mission Blvd.	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	18.0	**Inches**
	Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site.		Click here for map
1-6	Applicable Rain Gauge[2]	Oakland	
	Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.		
	MAP adjustment factor is automatically calculated as:	0.98	
	(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)		

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: **BIO-RETENTION #2**

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	1,477	1.0	1,477
2-3	Pervious service	0	0.1	
	Total DMA Area (square feet) =	1,477		
2-4	***Total Effective Impervious Area (EIA)***			1,477 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1	***Unit basin storage volume from Table 5.2:***	0.67	**Inches**
	(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)		
3-2	***Adjusted unit basin storage volume:***	0.66	**Inches**
	(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)		
3-3	***Required Capture Volume (in cubic feet):***	81	**Cubic feet**
	(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)		

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	**Inches per hour**
4-2	Divide Item 3-2 by Item 4-1	3.29	**Hours of Rain Event Duration**

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	59	**Square feet**
5-2	Area 25% smaller than item 5-1	44	**Square feet**
5-3	Volume of treated runoff for area in Item 5-2	61	**Cubic feet** (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	20	**Cubic feet** (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	**Feet** (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.5	**Inches** (Depth of stored runoff in surface ponding area)
6-4	If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.		

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2		**Sq.ft.** (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	0	**Cubic feet** (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3		**Cubic feet** (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1		**Feet** (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches		**Inches** (Depth of stored runoff in surface ponding area)
7-6	If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.		

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	44	**Square feet** (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	MIXED USE PROJECT	
1-2	City application ID:	201900754	
1-3	Site Address or APN:	32513 Mission Blvd.	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	18.0	**Inches**
	Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site.		Click here for map
1-6	Applicable Rain Gauge[2]	Oakland	
	Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.		
	MAP adjustment factor is automatically calculated as:	0.98	
	(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)		

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: **BIO-RETENTION #3**

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	5,856	1.0	5,856
2-3	Pervious service	783	0.1	78
	Total DMA Area (square feet) =	6,639		
2-4	***Total Effective Impervious Area (EIA)***			5,934 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1	***Unit basin storage volume from Table 5.2:***	0.67	**Inches**
	(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)		
3-2	***Adjusted unit basin storage volume:***	0.66	**Inches**
	(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)		
3-3	***Required Capture Volume (in cubic feet):***	325	**Cubic feet**
	(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)		

4.0 Calculate the Duration of the Rain Event

4-1	Rainfall intensity	0.2	**Inches per hour**
4-2	Divide Item 3-2 by Item 4-1	3.29	**Hours of Rain Event Duration**

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1	4% of DMA impervious surface	237	**Square feet**
5-2	Area 25% smaller than item 5-1	178	**Square feet**
5-3	Volume of treated runoff for area in Item 5-2	244	**Cubic feet** (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1	Subtract Item 5-3 from Item 3-3	81	**Cubic feet** (Amount of runoff to be stored in ponding area)
6-2	Divide Item 6-1 by Item 5-2	0.5	**Feet** (Depth of stored runoff in surface ponding area)
6-3	Convert Item 6-2 from ft to inches	5.5	**Inches** (Depth of stored runoff in surface ponding area)
6-4	If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.		

7.0 Optimize Size of Treatment Measure

7-1	Enter an area larger or smaller than Item 5-2		**Sq.ft.** (enter larger area if you need less ponding depth; smaller for more depth.)
7-2	Volume of treated runoff for area in Item 7-1	0	**Cubic feet** (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)
7-3	Subtract Item 7-2 from Item 3-3		**Cubic feet** (Amount of runoff to be stored in ponding area)
7-4	Divide Item 7-3 by Item 7-1		**Feet** (Depth of stored runoff in surface ponding area)
7-5	Convert Item 7-4 from feet to inches		**Inches** (Depth of stored runoff in surface ponding area)
7-6	If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.		

8.0 Surface Area of Treatment Measure for DMA

8-1	Final surface area of treatment*	178	**Square feet** (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

SEISMIC Consulting Engineers
3775 Beacon Avenue, Suite 205
Fremont, CA 94538
T (510)795-7737

CLIENT

Swati Kiran LLC
16 Sonas Place
Hayward, CA 94542

PROJECT

MIXED USE PROJECT

32513 MISSION BLVD.
HAYWARD, CA 94544

STAMP

REGISTERED PROFESSIONAL ENGINEER — KAMRAN R. MAJLESSI — NO. C71231 Exp. 06-30-21 — CIVIL — STATE OF CALIFORNIA

SHEET

DRAINAGE MANAGEMENT AREA SCHEDULES

ISSUED FOR:	PLANNING APPROVAL
DATE :	7/7/21
SCALE :	AS NOTED
DRAW :	KRM
DESIGN :	KRM
CHECK :	
JOB No.	SCE-17017

REVISIONS	BY

SHEET : C1.1

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	MIXED USE PROJECT	
1-2	City application ID:	201900754	
1-3	Site Address or APN:	32513 Mission Blvd.	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	18.0	**Inches**
	Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site.		Click here for map
1-6	Applicable Rain Gauge[2]	Oakland	
	Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.		
	MAP adjustment factor is automatically calculated as:	0.98	
	(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)		

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: FLOW-THROUGH PLANTER #1

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	1,336	1.0	1,336
2-3	Pervious service	0	0.1	
	Total DMA Area (square feet) =	1,336		

2-4 ***Total Effective Impervious Area (EIA)*** 1,336 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**
(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.66 **Inches**
(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 73 **Cubic feet**
(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1 Rainfall intensity 0.2 **Inches per hour**

4-2 Divide Item 3-2 by Item 4-1 3.29 **Hours of Rain Event Duration**

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1 4% of DMA impervious surface 53 **Square feet**

5-2 Area 25% smaller than Item 5-1 40 **Square feet**

5-3 Volume of treated runoff for area in Item 5-2 55 **Cubic feet** (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1 Subtract Item 5-3 from Item 3-3 18 **Cubic feet** (Amount of runoff to be stored in ponding area)

6-2 Divide Item 6-1 by Item 5-2 0.5 **Feet** (Depth of stored runoff in surface ponding area)

6-3 Convert Item 6-2 from ft to inches 5.5 **Inches** (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1 Enter an area larger or smaller than Item 5-2 **Sq.ft.** (enter larger area if you need less ponding depth; smaller for more depth.)

7-2 Volume of treated runoff for area in Item 7-1 0 **Cubic feet** (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)

7-3 Subtract Item 7-2 from Item 3-3 **Cubic feet** (Amount of runoff to be stored in ponding area)

7-4 Divide Item 7-3 by Item 7-1 **Feet** (Depth of stored runoff in surface ponding area)

7-5 Convert Item 7-4 from feet to inches **Inches** (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1 Final surface area of treatment* 40 **Square feet** (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

Worksheet for Calculating the Combination Flow and Volume Method

Instructions: After completing Section 1, make a copy of this Excel file for each Drainage Management Area within the project. Enter information specific to the project and DMA in the cells shaded in yellow. Cells shaded in light blue contain formulas and values that will be automatically calculated.

1.0 Project Information

1-1	Project Name:	MIXED USE PROJECT	
1-2	City application ID:	201900754	
1-3	Site Address or APN:	32513 Mission Blvd.	
1-4	Tract or Parcel Map No:		
1-5	Site Mean Annual Precip. (MAP)[1]	18.0	**Inches**
	Refer to the Mean Annual Precipitation Map in Appendix D of the C.3 Technical Guidance to determine the MAP, in inches, for the site.		Click here for map
1-6	Applicable Rain Gauge[2]	Oakland	
	Enter "Oakland Airport" if the site MAP is 16.4 inches or greater. Enter "San Jose" if the site MAP is less than 16.4 inches.		
	MAP adjustment factor is automatically calculated as:	0.98	
	(The "Site Mean Annual Precipitation (MAP)" is divided by the MAP for the applicable rain gauge, shown in Table 5.2, below.)		

The calculations presented here are based on the **combination flow and volume hydraulic sizing method** provided in the Clean Water Program Alameda County C.3 Technical Guidance, Version 4.0. The steps presented below are explained in Chapter 5, Section 5.1 of the guidance manual, applicable portions of which are included in this file, in the tab called "Guidance from Chapter 5".

2.0 Calculate Percentage of Impervious Surface for Drainage Management Area (DMA)

2-1 Name of DMA: FLOW-THROUGH PLANTER #2 & 3

For items 2-2 and 2-3, enter the areas in square feet for each type of surface within the DMA.

	Type of Surface	Area of surface type within DMA (Sq. Ft)	Adjust Pervious Surface	Effective Impervious Area
2-2	Impervious surface	1,518	1.0	1,518
2-3	Pervious service	0	0.1	
	Total DMA Area (square feet) =	1,518		

2-4 ***Total Effective Impervious Area (EIA)*** 1,518 **Square feet**

3.0 Calculate Unit Basin Storage Volume in Inches

Table 5-2: Unit Basin Storage Volumes (in inches) for 80 Percent Capture Using 48-Hour Drawdowns

		Unit Basin Storage Volume (in) for Applicable Runoff Coefficients
Applicable Rain Gauge	**Mean Annual Precipitation (in)**	**Coefficient of 1.00**
Oakland Airport	18.35	0.67
San Jose	14.4	0.56

3-1 ***Unit basin storage volume from Table 5.2:*** 0.67 **Inches**
(The coefficient for this method is 1.00, due to the conversion of any landscaping to effective impervious area)

3-2 ***Adjusted unit basin storage volume:*** 0.66 **Inches**
(The unit basin storage volume is adjusted by applying the MAP adjustment factor.)

3-3 ***Required Capture Volume (in cubic feet):*** 83 **Cubic feet**
(The adjusted unit basin sizing volume [inches] is multiplied by the size of the DMA and converted to feet)

4.0 Calculate the Duration of the Rain Event

4-1 Rainfall intensity 0.2 **Inches per hour**

4-2 Divide Item 3-2 by Item 4-1 3.29 **Hours of Rain Event Duration**

5.0 Preliminary Estimate of Surface Area of Treatment Measure

5-1 4% of DMA impervious surface 61 **Square feet**

5-2 Area 25% smaller than Item 5-1 46 **Square feet**

5-3 Volume of treated runoff for area in Item 5-2 62 **Cubic feet** (Item 5-2 * 5 inches per hour * 1/12 * Item 4-2)

6.0 Initial Adjustment of Depth of Surface Ponding Area

6-1 Subtract Item 5-3 from Item 3-3 21 **Cubic feet** (Amount of runoff to be stored in ponding area)

6-2 Divide Item 6-1 by Item 5-2 0.5 **Feet** (Depth of stored runoff in surface ponding area)

6-3 Convert Item 6-2 from ft to inches 5.5 **Inches** (Depth of stored runoff in surface ponding area)

6-4 If ponding depth in Item 6-3 meets your target depth, skip to Item 8-1. If not, continue to Step 7-1.

7.0 Optimize Size of Treatment Measure

7-1 Enter an area larger or smaller than Item 5-2 **Sq.ft.** (enter larger area if you need less ponding depth; smaller for more depth.)

7-2 Volume of treated runoff for area in Item 7-1 0 **Cubic feet** (Item 7-1 * 5 inches per hour * 1/12 * Item 4-2)

7-3 Subtract Item 7-2 from Item 3-3 **Cubic feet** (Amount of runoff to be stored in ponding area)

7-4 Divide Item 7-3 by Item 7-1 **Feet** (Depth of stored runoff in surface ponding area)

7-5 Convert Item 7-4 from feet to inches **Inches** (Depth of stored runoff in surface ponding area)

7-6 If the ponding depth in Item 7-5 meets target, stop here. If not, repeat Steps 7-1 through 7-5 until you obtain target depth.

8.0 Surface Area of Treatment Measure for DMA

8-1 Final surface area of treatment* 46 **Square feet** (Either Item 5-2 or final amount in Item 7-1)

**Note: Check with the local jurisdiction as to its policy regarding the minimum biotreatment surface area allowed.*

SEISMIC Consulting Engineers
3775 Beacon Avenue, Suite 205
Fremont, CA 94538
T (510)795-7737

CLIENT

Swati Kiran LLC
16 Sonas Place
Hayward, CA 94542

PROJECT

MIXED USE PROJECT
32513 MISSION BLVD.
HAYWARD, CA 94544

STAMP

REGISTERED PROFESSIONAL ENGINEER
KAMRAN R. MAJLESSI
NO. C71231
Exp. 06-30-21
CIVIL
STATE OF CALIFORNIA

SHEET

DRAINAGE MANAGEMENT AREA SCHEDULES

ISSUED FOR:	PLANNING APPROVAL
DATE :	7/7/21
SCALE :	AS NOTED
DRAW :	KRM
DESIGN :	KRM
CHECK :	
JOB No.	SCE-17017

REVISIONS	BY

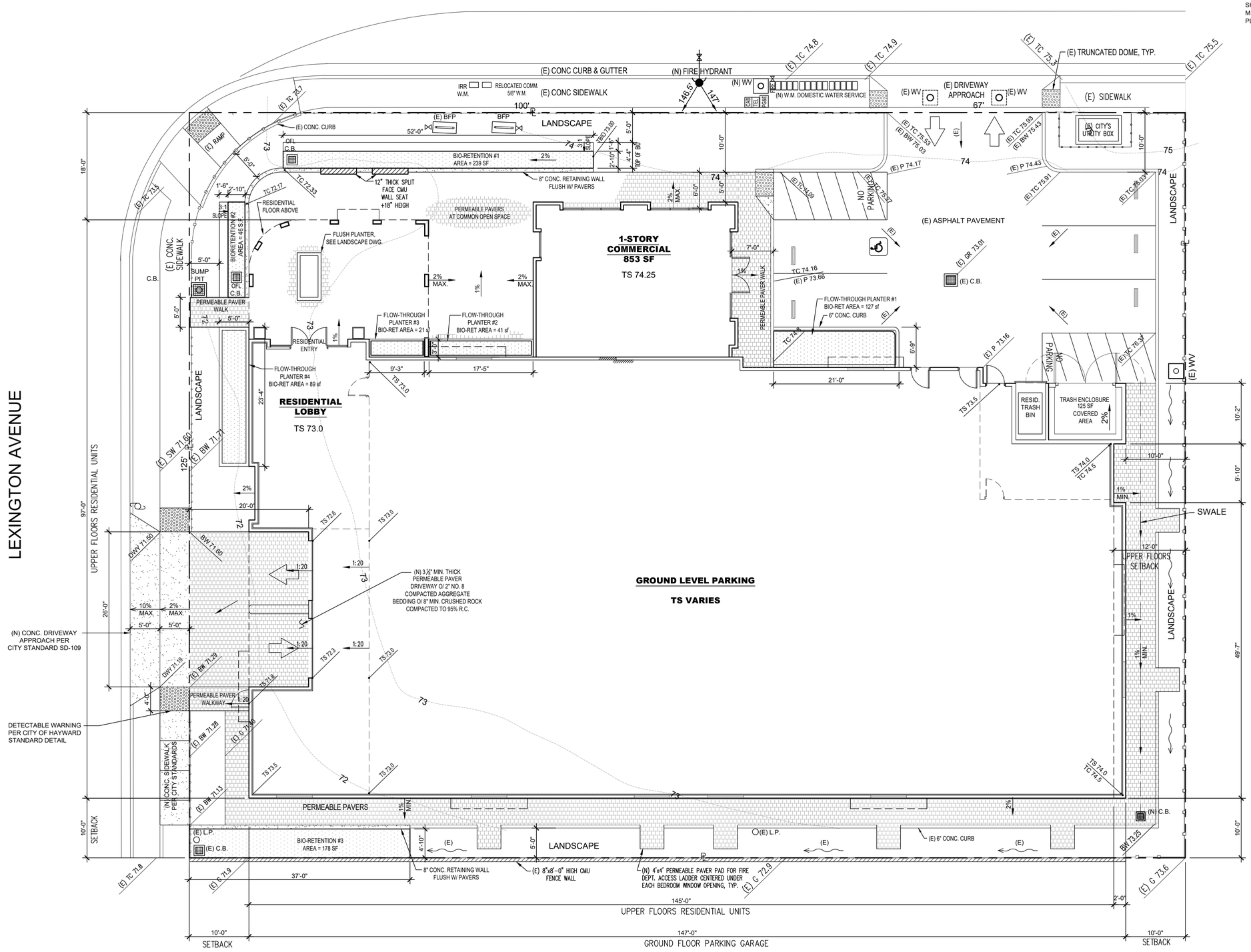
SHEET : C1.2

MISSION BLVD.

LEXINGTON AVENUE

SHEET NOTES :

1. CONSTRUCTION RELATED ACTIVITIES SHALL OCCURE WITHIN BUILDING PAD AND HARD SURFACE AREAS SHOWN ON PLAN, IN ORDER TO MINIMIZE DISRUPTION TO EXISTING PLANTS.



1 GRADING AND PAVING PLAN

SCALE: 1/8" = 1'-0"

NORTH PLAN

SEISMIC Consulting Engineers
3775 Beacon Avenue, Suite 205
Fremont, CA 94538
T (510)795-7737

CLIENT

Swati Kiran LLC

16 Sonas Place
Hayward, CA 94542

PROJECT

MIXED USE PROJECT

32513 MISSION BLVD.
HAYWARD, CA 94544

STAMP

REGISTERED PROFESSIONAL ENGINEER
KAMRAN R. MAJLESSI
NO. C71231
Exp. 06-30-21
CIVIL
STATE OF CALIFORNIA

SHEET

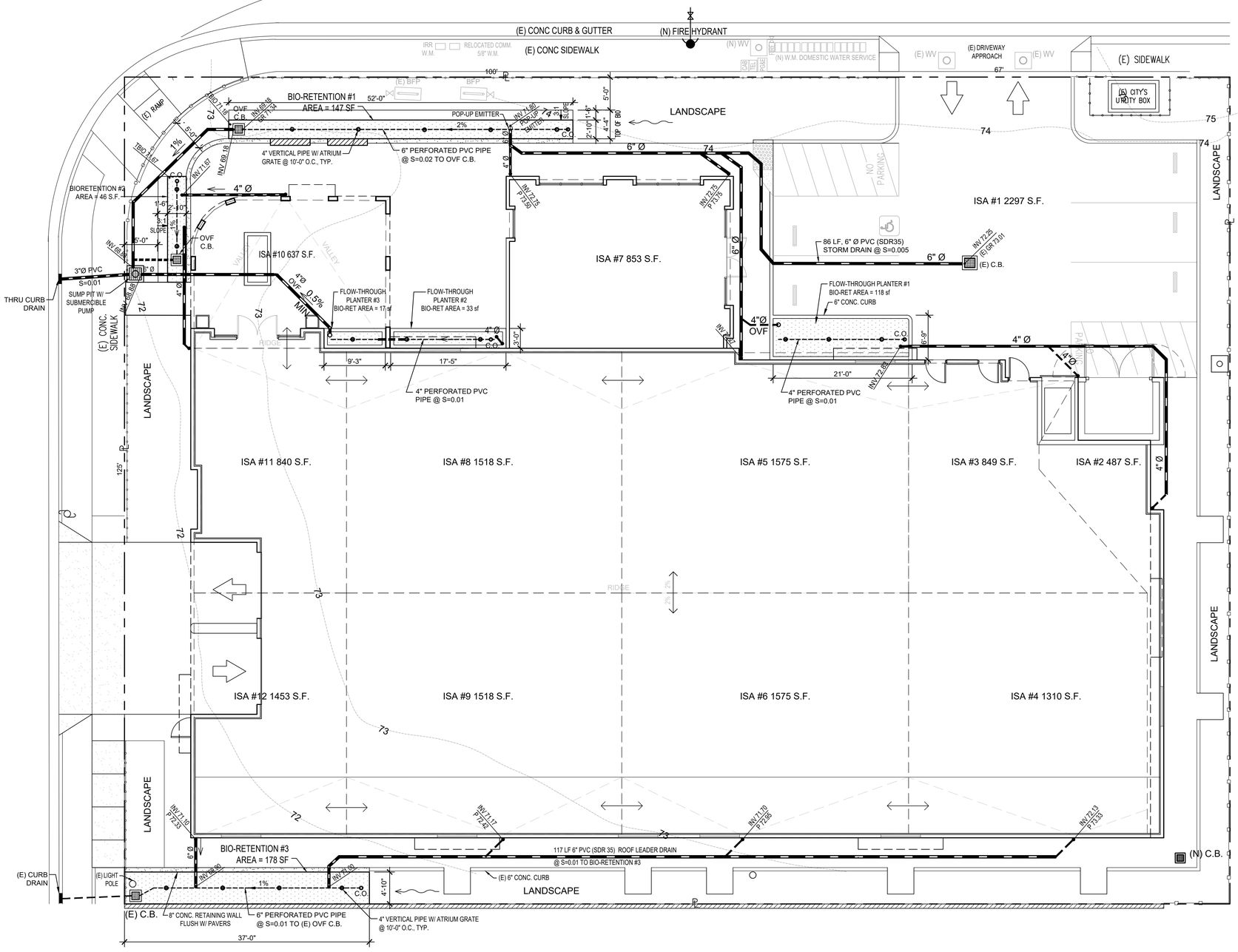
GRADING AND PAVING PLAN

ISSUED FOR:	PLANNING APPROVAL
DATE :	7/7/21
SCALE :	AS NOTED
DRAW :	KRM
DESIGN :	KRM
CHECK :	
JOB No.	SCE-17017

REVISIONS	BY

SHEET :

C2



STORM WATER TABLE (1)					
DRAINAGE MANAGEMENT AREA (DMA) NAME	DMA (sf) PROVIDED	IMPERVIOUS SURFACE AREA (ISA) #	ISA (sf)	PERVIOUS SURFACE AREA (PSA) (sf)	DMA (sf) REQUIRED
BIO-RETENTION #1	147	1, 5, 7	4725	1622	147
BIO-RETENTION #2	46	11, 10	1477	0	44
FLOW-THROUGH PLANTER #1	118	2, 3	1336	0	40
FLOW-THROUGH PLANTER #2 & 3	50	8	1518	0	46
BIO-RETENTION #3	178	4, 6, 9, 12	5856	783	178
TOTAL	539		14912	2405	455

(1) SEE SHEET C1.1 AND C1.2 FOR DMA CALCULATIONS.

1 DRAINAGE PLAN
SCALE: 1/8" = 1'-0"

NORTH PLAN

SEISMIC Consulting Engineers
3775 Beacon Avenue, Suite 205
Fremont, CA 94538
T (510)795-7737

CLIENT

Swati Kiran LLC
16 Sonas Place
Hayward, CA 94542

PROJECT

MIXED USE PROJECT
32513 MISSION BLVD.
HAYWARD, CA 94544

STAMP

REGISTERED PROFESSIONAL ENGINEER
KAMRAN R. MAJLESSI
NO. C71231
Exp. 06-30-21
CIVIL
STATE OF CALIFORNIA

SHEET

DRAINAGE PLAN

ISSUED FOR:	PLANNING APPROVAL
DATE :	7/7/21
SCALE :	AS NOTED
DRAW :	KRM
DESIGN :	KRM
CHECK :	
JOB No.	SCE-17017

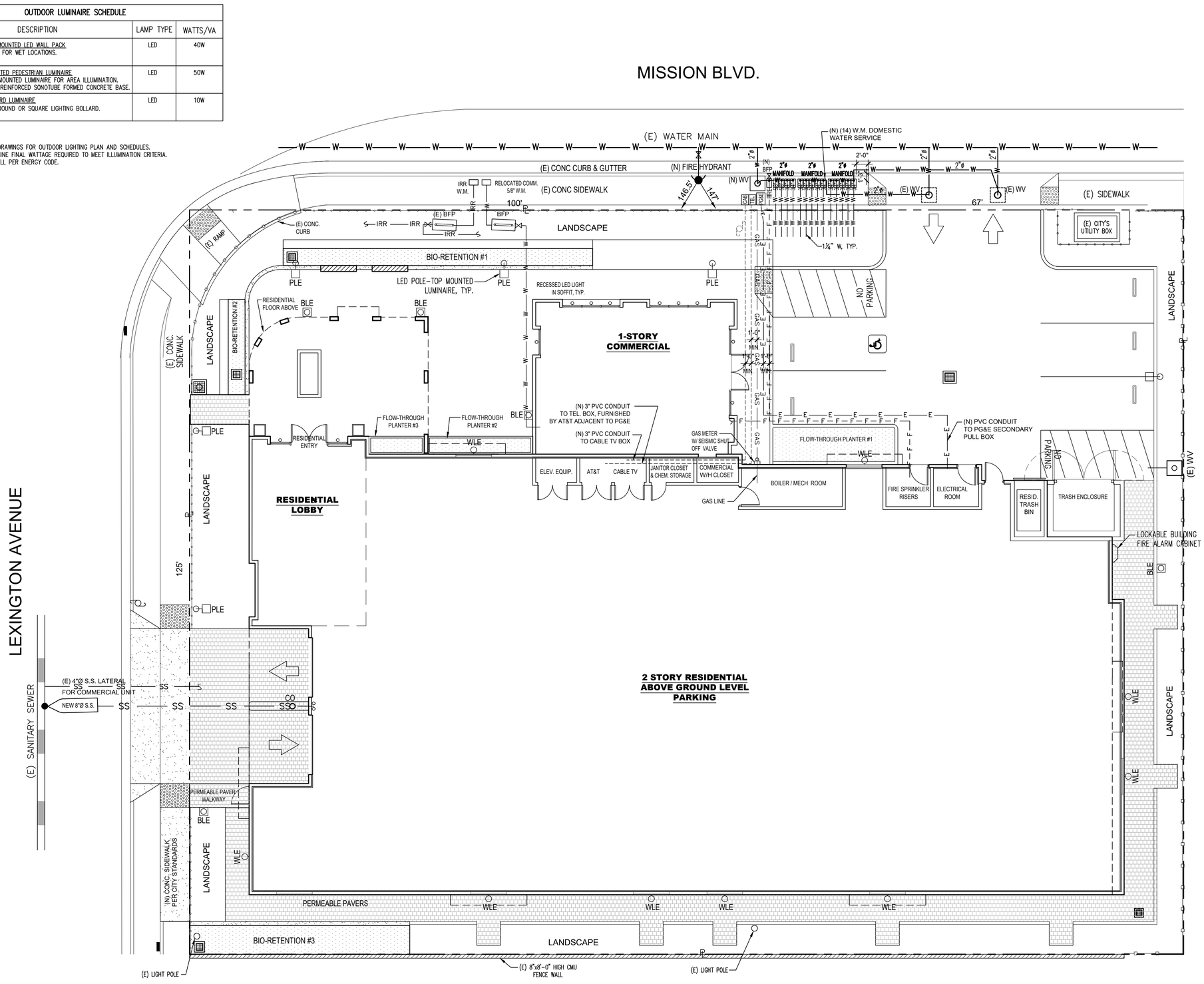
REVISIONS	BY

SHEET :
C3

OUTDOOR LUMINAIRE SCHEDULE			
TYPE	DESCRIPTION	LAMP TYPE	WATTS/VA
WLE	SURFACE MOUNTED LED WALL PACK LABELED FOR WET LOCATIONS.	LED	40W
PLE	POLE MOUNTED PEDESTRIAN LUMINAIRE POLE TOP MOUNTED LUMINAIRE FOR AREA ILLUMINATION. MOUNT ON REINFORCED SONOTUBE FORMED CONCRETE BASE.	LED	50W
BLE	LED BOLLARD LUMINAIRE 48" HIGH ROUND OR SQUARE LIGHTING BOLLARD.	LED	10W

NOTES:

1. SEE ELECTRICAL DRAWINGS FOR OUTDOOR LIGHTING PLAN AND SCHEDULES.
2. EC SHALL DETERMINE FINAL WATTAGE REQUIRED TO MEET ILLUMINATION CRITERIA.
3. PROVIDE PHOTOCELL PER ENERGY CODE.



SHEET NOTES

1- ALL "PROPOSED" UTILITY ELEMENTS SHALL BE COORDINATED WITH THE UTILITY COMPANY AND CONFIRMED TO BE ACCEPTABLE. CONTRACTOR REMAINS RESPONSIBLE FOR ALL UTILITY COORDINATION AND ASSOCIATED UNDERGROUND WORK.

2- BUILDING SHALL BE PROVIDED WITH HOUSE PANEL FOR POWERING EXTERIOR AREA LIGHTING, & BUILDING FIRE ALARM.

3- POLE LIGHT LOCATIONS AND QUANTITY SHALL BE CONFIRMED BY CONTRACTOR BASED UPON ENSURING COMPLIANCE WITH LIGHTING DESIGN CRITERIA. SEE ELECTRICAL DRAWINGS.

1 UTILITY AND OUTDOOR LIGHTING PLAN
SCALE: 1/8" = 1'-0"

NORTH PLAN

SEISMIC Consulting Engineers
3775 Beacon Avenue, Suite 205
Fremont, CA 94538
T (510)795-7737

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STATE OF CALIFORNIA

SHEET

UTILITY & OUTDOOR LIGHTING PLAN

ISSUED FOR:	PLANNING APPROVAL
DATE :	7/7/21
SCALE :	AS NOTED
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CHECK :	
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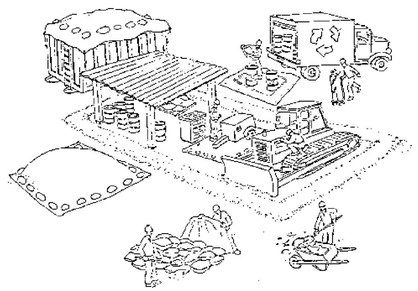
REVISIONS	BY

SHEET :

C4

Pollution Prevention — It's Part of the Plan



Make sure your crews and subs do the job right!

Runoff from streets and other paved areas is a major source of pollution in San Francisco Bay. Construction activities can directly affect the health of the Bay unless contractors and crews plan ahead to keep dirt, debris, and other construction waste away from storm drains and local creeks. Following these guidelines will ensure your compliance with local ordinance requirements.

Materials storage & spill cleanup

Non-hazardous materials management

- ✔ Sand, dirt, and similar materials must be stored at least 10 feet from catch basins, and covered with a tarp during wet weather or when rain is forecast.
- ✔ Use (but don't overuse) reclaimed water for dust control as needed.
- ✔ Sweep streets and other paved areas daily. Do not wash down streets or work areas with water!
- ✔ Recycle all asphalt, concrete, and aggregate base material from demolition activities.
- ✔ Check dumpsters regularly for leaks and to make sure they don't overflow. Repair or replace leaking dumpsters promptly.

Hazardous materials management

- ✔ Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, state, and federal regulations.
- ✔ Store hazardous materials and wastes in secondary containment and cover them during wet weather.
- ✔ Follow manufacturer's application instructions for hazardous materials and be careful not to use more than necessary. Do not apply chemicals outdoors when rain is forecast within 24 hours.
- ✔ Be sure to arrange for appropriate disposal of all hazardous wastes.

Spill prevention and control

- ✔ Keep a stockpile of spill cleanup materials (rags, absorbents, etc.) available at the construction site at all times.
- ✔ When spills or leaks occur, contain them immediately and be particularly careful to prevent leaks and spills from reaching the gutter, street, or storm drain. Never wash spilled material into a gutter, street, storm drain, or creek!
- ✔ Report any hazardous materials spills immediately! Dial 911 or your local emergency response number.

Vehicle and equipment maintenance & cleaning

- ✔ Inspect vehicles and equipment for leaks frequently. Use drip pans to catch leaks until repairs are made; repair leaks promptly.
- ✔ Fuel and maintain vehicles on site only in a bermed area or over a drip pan that is big enough to prevent runoff.
- ✔ If you must clean vehicles or equipment on site, clean with water only in a bermed area that will not allow rinsewater to run into gutters, streets, storm drains, or creeks.
- ✔ Do not clean vehicles or equipment on-site using soaps, solvents, degreasers, steam cleaning equipment, etc.

Earthwork & contaminated soils

- ✔ Keep excavated soil on the site where it is least likely to collect in the street. Transfer to dump trucks should take place on the site, not in the street.
- ✔ Use fiber rolls, silt fences, or other control measures to minimize the flow of silt off the site.

- ✔ Avoid scheduling earth moving activities during the rainy season if possible. If grading activities during wet weather are allowed in your permit, be sure to implement all control measures necessary to prevent erosion.
- ✔ Mature vegetation is the best form of erosion control. Minimize disbturbance to existing vegetation whenever possible.
- ✔ If you disturb a slope during construction, prevent erosion by securing the soil with erosion control fabric, or seed with fast-growing grasses as soon as possible. Place fiber rolls down-slope until soil is secure.
- ✔ If you suspect contamination (from site history, discoloration, odor, texture, abandoned underground tanks or pipes, or buried debris), call the Regional Water Quality Control Board or local hazardous waste management agency for help in determining what testing should be done, and manage disposal of contaminated soil according to their instructions.

Dewatering operations

- ✔ Reuse water for dust control, irrigation, or another on-site purpose to the greatest extent possible.
- ✔ Be sure to call your city's storm drain inspector before discharging water to a street, gutter, or storm drain. Filtration or diversion through a basin, tank, or sediment trap may be required.
- ✔ In areas of known contamination, testing is required prior to reuse or discharge of groundwater. Consult with the city inspector to determine what testing to do and to interpret results. Contaminated groundwater must be treated or hauled off-site for proper disposal.

Saw cutting

- ✔ Always completely cover or barricade storm drain inlets when saw cutting. Use filter fabric, catch basin inlet filters, or sand/gravel bags to keep slurry out of the storm drain system.
- ✔ Shovel, absorb, or vacuum saw-cut slurry and pick up all waste as soon as you are finished in one location or at the end of each work day (whichever is sooner!).
- ✔ If saw cut slurry enters a catch basin, clean it up immediately.

Paving/asphalt work

- ✔ Do not pave during wet weather or when rain is forecast.
- ✔ Always cover storm drain inlets and manholes when paving or applying seal coat, tack coat, slurry seal, or fog seal.
- ✔ Place drip pans or absorbent material under paving equipment when not in use.
- ✔ Protect gutters, ditches, and drainage courses with sand/gravel bags, or earthen berms.
- ✔ Do not sweep or wash down excess sand from sand sealing into gutters, storm drains, or creeks. Collect sand and return it to the stockpile, or dispose of it as trash.
- ✔ Do not use water to wash down fresh asphalt concrete pavement.

Concrete, grout, and mortar storage & waste disposal

- ✔ Be sure to store concrete, grout, and mortar under cover and away from drainage areas. These materials must never reach a storm drain.
- ✔ Wash out concrete equipment/trucks off-site or designate an on-site area for washing where water will flow onto dirt or into a temporary pit in a dirt area. Let the water seep into the soil and dispose of hardened concrete with trash.

- ✔ Divert water from washing exposed aggregate concrete to a dirt area where it will not run into a gutter, street, or storm drain.
- ✔ If a suitable dirt area is not available, collect the wash water and remove it for appropriate disposal off site.

Painting

- ✔ Never rinse paint brushes or materials in a gutter or street!
- ✔ Paint out excess water-based paint before rinsing brushes, rollers, or containers in a sink. If you can't use a sink, direct wash water to a dirt area and spade it in.
- ✔ Paint out excess oil-based paint before cleaning brushes in thinner.
- ✔ Filter paint thinners and solvents for reuse whenever possible. Dispose of oil-based paint sludge and unusable thinner as hazardous waste.

BASMAA Bay Area Stormwater Management Agencies Association (BASMAA)
1-888-BAYWISE

Storm drain polluters may be liable for fines of $10,000 or more per day!

For more detailed information:
Get a copy of the "Field Manual" — (510) 622-2465 or www.abag.ca.gov/bayarea/sfep/reports/construction.html

1 POLUTION CONTROL
SCALE: N.T.S.

SEISMIC Consulting Engineers
3775 Beacon Avenue, Suite 205
Fremont, CA 94538
T (510)795-7737

CLIENT
Swati Kiran LLC
16 Sonas Place
Hayward, CA 94542

PROJECT
MIXED USE PROJECT
32513 MISSION BLVD.
HAYWARD, CA 94544

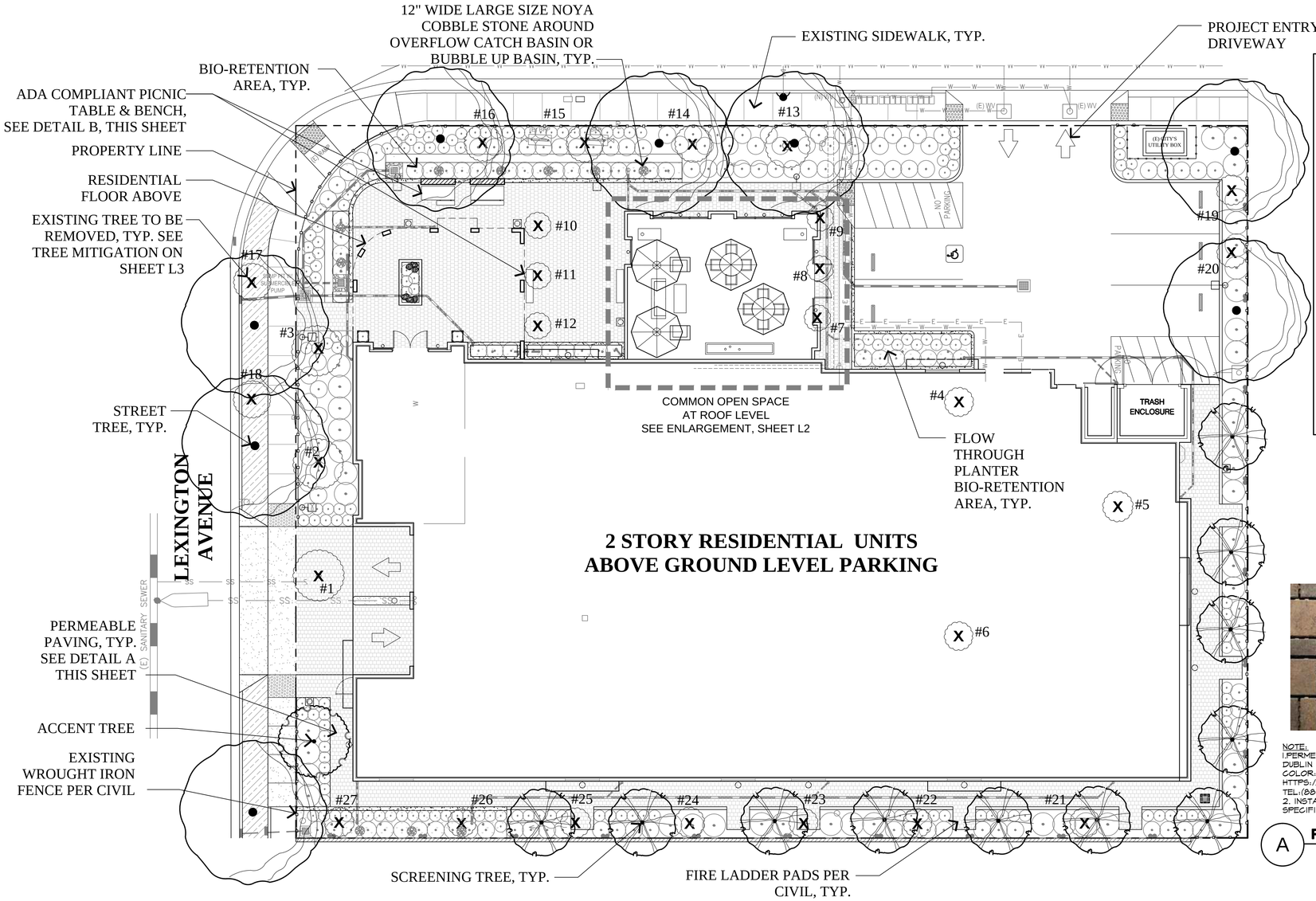
STAMP
REGISTERED PROFESSIONAL ENGINEER
KAMRAN R. MAJLESSI
NO. C71231
Exp. 06-30-21
CIVIL
STATE OF CALIFORNIA

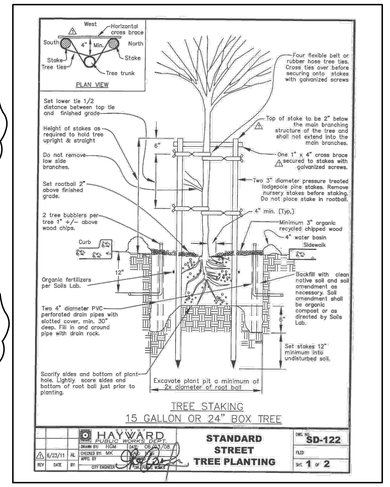
SHEET
POLLUTION CONTROL

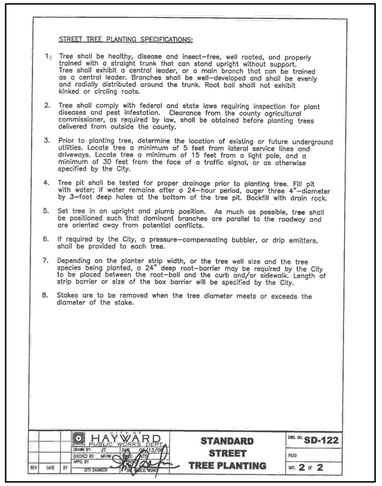
ISSUED FOR:	PLANNING APPROVAL
DATE :	7/7/21
SCALE :	AS NOTED
DRAW :	KRM
DESIGN :	KRM
CHECK :	
JOB No.	SCE-17017

REVISIONS	BY

SHEET : C5







NOTE:
1. PERMEABLE PAVERS TO BE AQUA DUBLIN SERIES FROM BELGARD. COLOR: TOSCANA. HTTPS://WWW.BELGARD.COM TEL: (888) 868-0204
2. INSTALL PER MANUFACTURER'S SPECIFICATIONS.

A **PERMEABLE PAVING**

NOTE:
1. PICNIC TABLE AND BENCH TO BE TRIO TABLE ENSEMBLE OR EQUAL. AVAILABLE FROM FORMS AND SURFACES. HTTPS://WWW.FORMS-SURFACES.COM TEL: (800) 451-0410
2. INSTALL PER MANUFACTURER'S SPECIFICATIONS.

B **ADA PICNIC TABLE & BENCH**

PRELIMINARY PROPOSED PLANT PALETTE

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	WATER USE	MATURE SIZE (HIGH X WIDTH)
ACCENT TREE					
GIN 'GOL'	GINKGO BILOBA GOLDSPIRE'	GOLDSPIRE GINKGO	24" BOX	MED	30' X 25'
STREET TREE					
PIS CHI	PISTACHIA CHINENSIS	CHINESE PISTACHE	36" BOX	LOW	35' X 35'
SCREENING TREE					
GIN 'FAI'	GINKGO BILOBA 'FAIRMONT'	MAIDENHAIR TREE	24" BOX	MED	75' X 25'
SHRUBS					
ASP ELA	ASPIDISTRA ELATIOR	CAST IRON PLANT	5 GALLON	LOW	3' X 2'
DIE IRI	DIETES IRIDIODES	FORTNIGHT LILY	5 GALLON	LOW	4' X 3'
FES MAI	FESTUCA MAIREI	ATLAS FESCUE	5 GALLON	LOW	3' X 3'
GRE 'NOE'	GREVILLEA 'NOELLI'	WOOLY GREVILLEA	5 GALLON	LOW	4' X 5'
NAN 'COM'	NANDINA DOMESTICA 'COMPACTA'	DWARF HEAVENLY BAMBOO	5 GALLON	LOW	5' X 3'
NEP FAA	NEPETA FAASSENII	CATMINT	5 GALLON	LOW	2' X 3'

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	WATER USE	MATURE SIZE (HIGH X WIDTH)
SHRUBS - (CONT.)					
PHO 'B.A.'	PHORMIUM 'BLACK ADDER'	NEW ZEALAND FLAX	5 GALLON	LOW	4' X 3'
PHO 'D.C.'	PHORMIUM 'DUSKY CHIEF'	NEW ZEALAND FLAX	5 GALLON	LOW	8' X 5'
XYL 'COM'	XYLOSMA C. 'COMPACTA'	COMPACT XYLOSMA	5 GALLON	LOW	8' X 8'
SHRUBS - FLOW THROUGH PLANTER / BIO-RETENTION AREA					
CHO ELE	CHONDROPETALUM ELEPHANTINUM	LARGE CAPE RUSH	5 GALLON	LOW	5' X 6'
JUN PAT	JUNCUS PATENS	COMMON RUSH	5 GALLON	LOW	2' X 2'
VINES					
CLE ARM	CLEMATIS ARMANDII	EVERGREEN CLEMATIS	5 GALLON	LOW	
GROUNDCOVERS					
ANI 'B.P.'	ANIGOZANTHOS 'BUSH PEARL'	PINK KANGAROO PAW	1 GALLON	LOW	2' X 2'
CAR TUM	CAREX TUMULICOLA	BERKELEY SEDGE	1 GALLON	LOW	2' X 2'
	ROSMARINUS 'HUNTINGTON CARPET' 1 GALLON @ 36" O.C.	ROSEMARY		LOW	

NOTE: PLANT MATERIAL WATER VERIFIED WITH ONLINE WUCOLS LANDSCAPE WATER-USE PLANNING TOOL. WWW.WATERWONK.US

GRAPHIC SCALE
0 10 20 30
(IN FEET)
1 inch = 10 ft.

NOTES:

1. ALL TREES SHALL BE PLANTED AND STAKED PER CITY STANDARDS.
2. TREES BE PLANTED WITHIN 3' OF HARDSCAPE REQUIRE ROOT BARRIERS INSTALLED ADJACENT TO THE HARDSCAPE ELEMENT AT TIME OF TREE PLANTING.
3. LANDSCAPE AND IRRIGATION SHALL COMPLY WITH CITY'S CURRENT WATER-EFFICIENT LANDSCAPE ORDINANCE.
4. ALL PLANTING AREAS SHALL BE AUTOMATICALLY IRRIGATED PER CITY STANDARDS. USING LOW-FLOW SPRAY, BUBBLERS OR DRIP METHODS.
5. ALL PLANTING AREAS SHALL BE MULCHED TO A MINIMUM DEPTH OF 3".
6. AN AUTOMATIC WEATHER-BASED IRRIGATION CONTROLLER WITH SOIL MOISTURE AND/OR RAIN SENSOR SHALL BE USED.
7. SHRUBS AND TREES SHALL BE IRRIGATED ON SEPARATE VALVES AND PLANTS SHALL BE HYDROZONED.

RIPLEY DESIGN GROUP
LANDSCAPE ARCHITECTURE
LAND PLANNING
1615 BONANZA STREET
SUITE 314
WALNUT CREEK, CA 94596
TEL: 925.938.7377
www.ripleydesign.com

32513 Mission Boulevard
Hayward, CA
July 7, 2021

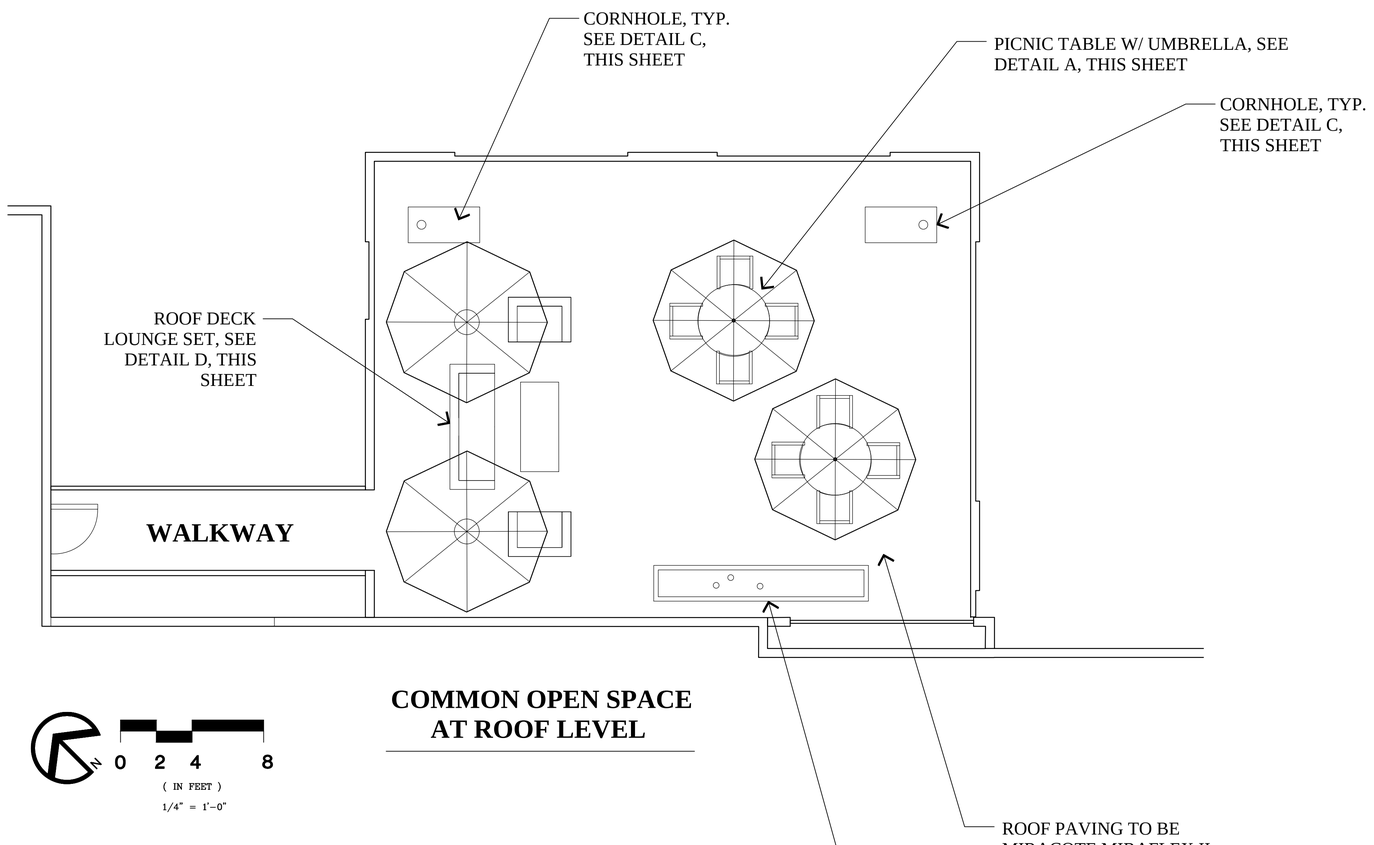
Preliminary Landscape Plan
Design Development

L1

NOTE:
1. THE FRIDAY 4-PIECE DINING SET OR EQUAL, AVAILABLE FROM TEAK AND TABLE.
HTTPS://WWW.TEAKANDTABLE.COM/
TEL: (912) 661-4300
2. INSTALL PER MANUFACTURER'S SPECIFICATIONS.

A **PICNIC TABLE W/ UMBRELLA HOLE**

NOTE:
1. SAFAVIEH CANNES 9-FOOT WHITE WOOD OUTDOOR UMBRELLA OR EQUAL.COLOR: WHITE.
AVAILABLE FROM WWW.OVERSTOCK.COM
2. INSTALL PER MANUFACTURER'S SPECIFICATIONS.



N 0 2 4 8
(IN FEET)
1/4" = 1'-0"

COMMON OPEN SPACE AT ROOF LEVEL

NOTE:
1. HATHAWAY CRESTLINE 12-FT OUTDOOR SHUFFLEBOARD OR EQUAL. AVAILABLE AT HTTPS://WWW.ZORO.COM/ ZORO #: 610693703
2. INSTALL PER MANUFACTURER'S SPECIFICATIONS.

B **SHUFFLEBOARD**

NOTE:
1. LEDGE LOUNGER OUTDOOR GAMES COLLECTION CORNHOLE SET OR EQUAL, BOARD COLOR:WHITE.
AVAILABLE AT WWW.POOLSUPPLYUNLIMITED.COM.
TEL: (888) 836-8225
2. INSTALL PER MANUFACTURER'S SPECIFICATIONS.

C **CORNHOLE**

NOTE:
1. HAVANA 4PC LOUNGE SET OR EQUAL, AVAILABLE AT TEAK AND TABLE.
HTTPS://WWW.TEAKANDTABLE.COM/
TEL: (912) 661-4300
2. INSTALL PER MANUFACTURER'S SPECIFICATIONS.

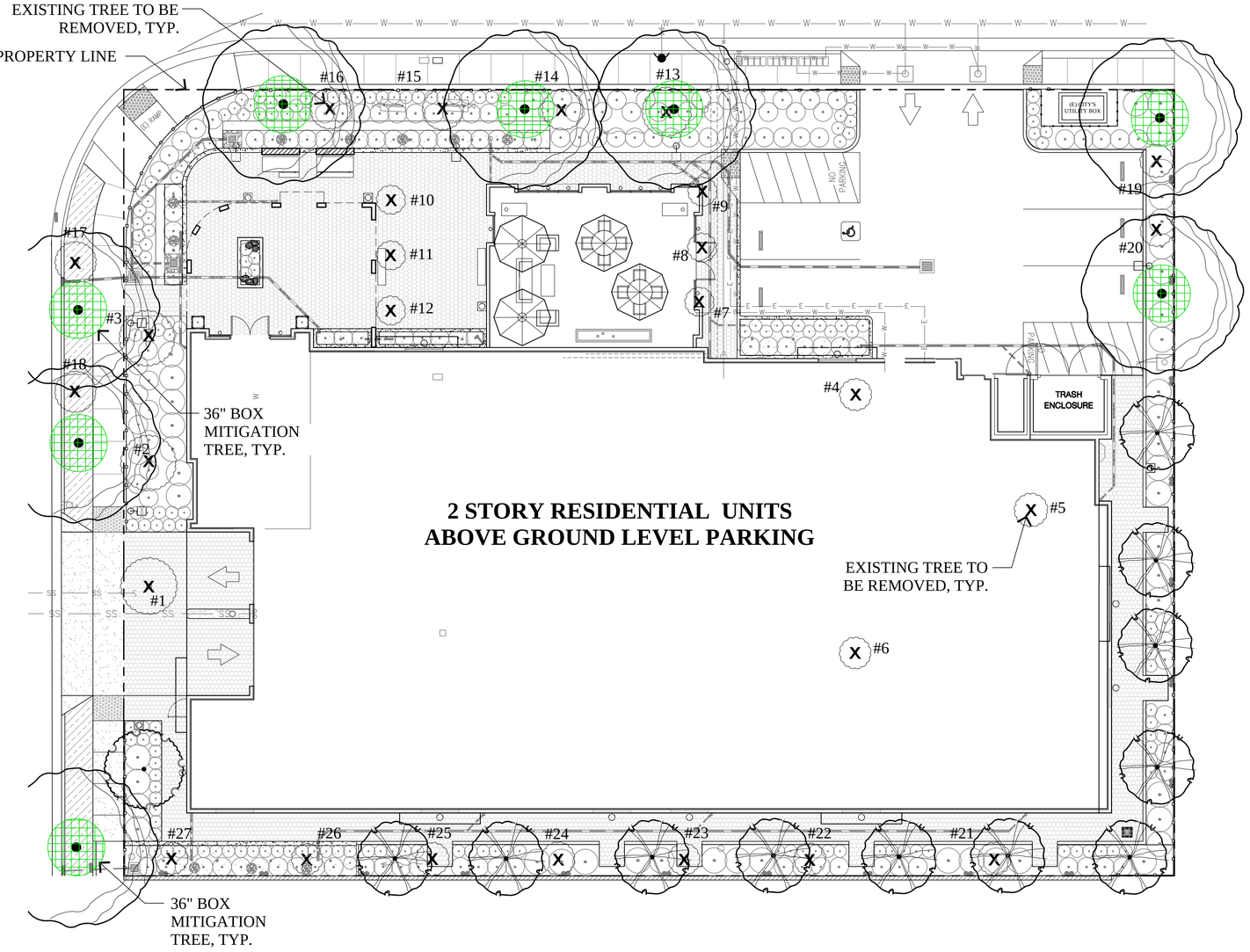
D **ROOF DECK LOUNGE SET**

RIPLEY DESIGN GROUP
LANDSCAPE ARCHITECTURE
LAND PLANNING
1615 BONANZA STREET
SUITE 314
WALNUT CREEK, CA 94596
TEL: 925.938.7377
www.ripleydesign.com

32513 Mission Boulevard
Hayward, CA
July 7, 2021

Preliminary Landscape Plan
Common Open Space Enlargement

L2



EXISTNG TREE SURVEY

Survey:

Tree#	Species	DBH	CON	HT/SP	Comments
1R	Honey locust *(Gleditsia triacanthos)* **Appraised value=$130**	5.4	45	20/12	Fair vigor, poor form, failed limbs, topped in past, sunscald on trunk.
2R	Honey locust *(Gleditsia triacanthos)* **Appraised value=$180**	6.1	45	20/12	Fair vigor, poor form, topped in past, sun scald on trunk.
3R	Honey locust *(Gleditsia triacanthos)* **Appraised value=$240**	7.0	45	20/12	Fair vigor, poor form, topped in past, large scar on trunk, sun scald.
4R	Evergreen pear *(Pyrus kawakamii)* **Appraised value=$560**	8.0	60	15/10	Fair vigor, fair form, crossing limbs, surrounded by hardscapes, not enough room for tree.
5R	Evergreen pear *(Pyrus kawakamii)* **Appraised value=$240**	5.1	60	15/10	Fair vigor, fair form, crossing limbs, surrounded by hardscapes, not enough room for tree.
6R	Evergreen pear *(Pyrus kawakamii)* **Appraised value=$560**	7.7	60	15/10	Fair vigor, fair form, crossing limbs, surrounded by hardscapes, not enough room for tree.
7R	Queen palm *(Syagrus romanzoffiana)* **Appraised value=$230**	2.2	60	5/5	Good vigor, fair form, poor location, surrounded by hardscapes.
8R	Queen palm *(Syagrus romanzoffiana)* **Appraised value=$540**	14.5	60	12/10	Good vigor, fair form, poor location, surrounded by hardscapes.
9R	Queen palm *(Syagrus romanzoffiana)* **Appraised value=$230**	3.0	60	5/5	Good vigor, fair form, poor location, surrounded by hardscapes.
10R	Queen palm *(Syagrus romanzoffiana)* **Appraised value=$540**	10.5	60	12/10	Good vigor, fair form, poor location, surrounded by hardscapes.
11R	Queen palm *(Syagrus romanzoffiana)* **Appraised value=$540**	10.6	60	12/10	Good vigor, fair form, poor location, surrounded by hardscapes.
12R	Queen palm *(Syagrus romanzoffiana)* **Appraised value=$230**	2.2	60	5/5	Good vigor, fair form, poor location, surrounded by hardscapes.
13R	Mexican fan palm *(Washingtonia robusta)* **Appraised value=$750**	15.1	50	30/5	Fair vigor, fair form, poor location under overhead utility lines.
14R	Honey locust *(Gleditsia triacanthos)* **Appraised value=$200**	4.7	65	20/10	Good vigor, fair form, well maintained.
15R	Honey locust *(Gleditsia triacanthos)* **Appraised value=$270**	5.7	65	20/10	Good vigor, fair form, well maintained.
16R	Honey locust *(Gleditsia triacanthos)* **Appraised value=$200**	5.3	65	20/10	Good vigor, fair form, well maintained.
17R	Honey locust *(Gleditsia triacanthos)* **Appraised value=$250**	7.1	45	25/12	Fair vigor, poor form, topped in past.
18R	Honey locust *(Gleditsia triacanthos)* **Appraised value=$140**	5.4	45	25/12	Fair vigor, poor form, topped in past.
19R	Silk tree *(Albizia julibrissin)* **Appraised value=$150**	3.5	65	15/12	Fair vigor, fair form.
20R	Silk tree *(Albizia julibrissin)* **Appraised value=$150**	3.5	65	15/12	Fair vigor, fair form.
21R	Cherry laurel *(Prunus caroliniana)* **Appraised value=$130**	2.0	70	10/5	Good vigor, fair form, good location.
22R	Cherry laurel *(Prunus caroliniana)* **Appraised value=$130**	2.0	70	10/5	Good vigor, fair form, good location.
23R	Cherry laurel *(Prunus caroliniana)* **Appraised value=$130**	2.0	70	10/5	Good vigor, fair form, good location.
24R	Cherry laurel *(Prunus caroliniana)* **Appraised value=$130**	2.0	70	10/5	Good vigor, fair form, good location.
25R	Cherry laurel *(Prunus caroliniana)* **Appraised value=$130**	2.0	70	10/5	Good vigor, fair form, good location.
26R	Cherry laurel *(Prunus caroliniana)* **Appraised value=$130**	2.0	70	10/5	Good vigor, fair form, good location.
27R	Cherry laurel *(Prunus caroliniana)* **Appraised value=$130**	2.0	70	10/5	Good vigor, fair form, good location.

R-Indicates proposed removal - See Symbol 'X' on plan

Appraised values:

Tree #1- $130	**Tree #11- $540**	**Tree #21- $130**
Tree #2- $180	**Tree #12- $230**	**Tree #22- $130**
Tree #3- $240	**Tree #13- $750**	**Tree #23- $130**
Tree #4- $560	**Tree #14- $200**	**Tree #24- $130**
Tree #5- $240	**Tree #15- $270**	**Tree #25- $130**
Tree #6- $560	**Tree #16- $200**	**Tree #26- $130**
Tree #7- $230	**Tree #17- $250**	**Tree #27- $130**
Tree #8- $540	**Tree #18- $140**	
Tree #9- $230	**Tree #19- $150**	
Tree #10- $540	**Tree #20- $150**	

(Trees in bold to be removed)

Appraised value of all trees being removed = $7,240

REFER TO ARBORIST REPORT PREPARED BY KIELTY ARBORIST SERVICES LLC. WE#0476A

NOTE:
THIS PROJECT PROPOSES TO REMOVE (27) EXISTING TREES, (20) NEW TREES ARE PROPOSED, (8) 24" BOX TREES ARE UPSIZED TO 36" BOX FOR MITIGATION. REMAINDER OF TREE MITIGATION SHALL BE SATISFIED BY IN-LIEU FEES.

NOTE:
ROOF PRUNING, TREE PRUNING, TREE REMOVAL SHALL BE DONE WITH A TREE PERMIT FROM THE CITY. PERMIT IS REQUIRED IN ADDITION TO DEMOLITION AND/OR GRADING PERMITS. TREE PERMITS SHALL BE OBTAINED THROUGH CITY LANDSCAPE ARCHITECT.

Tree Protection Plan:
No tree protection plan is needed as all trees are proposed for removal on site.

The information included in this report is believed to be true and based on sound arboricultural principles and practices.
Sincerely, Kevin R. Kielty Certified Arborist WE#0476A

LEGEND

TREE UPGRADE
PROPOSED 36" BOX TREE

PROPOSED TREE MITIGATION UPGRADE CHART

COST OF MATERIALS- TREE UPGRADES							
	15 GALLON	24" BOX	36" BOX	60" BOX	IMPROVEMENT COST	PROPOSED QUANTITY	COST OF IMPROVEMENT
Replace (8) 24" Box Trees with (8) 36" Box Trees	n/a	$150.00 ea.	$500.00 ea.	n/a	$350.00 ea.	8	$2,800.00
						TOTAL MATERIAL UPGRADES=	**$2,800.00**

TOTAL PROPOSED TREE UPGRADE MITIGATION COSTS: $2,800

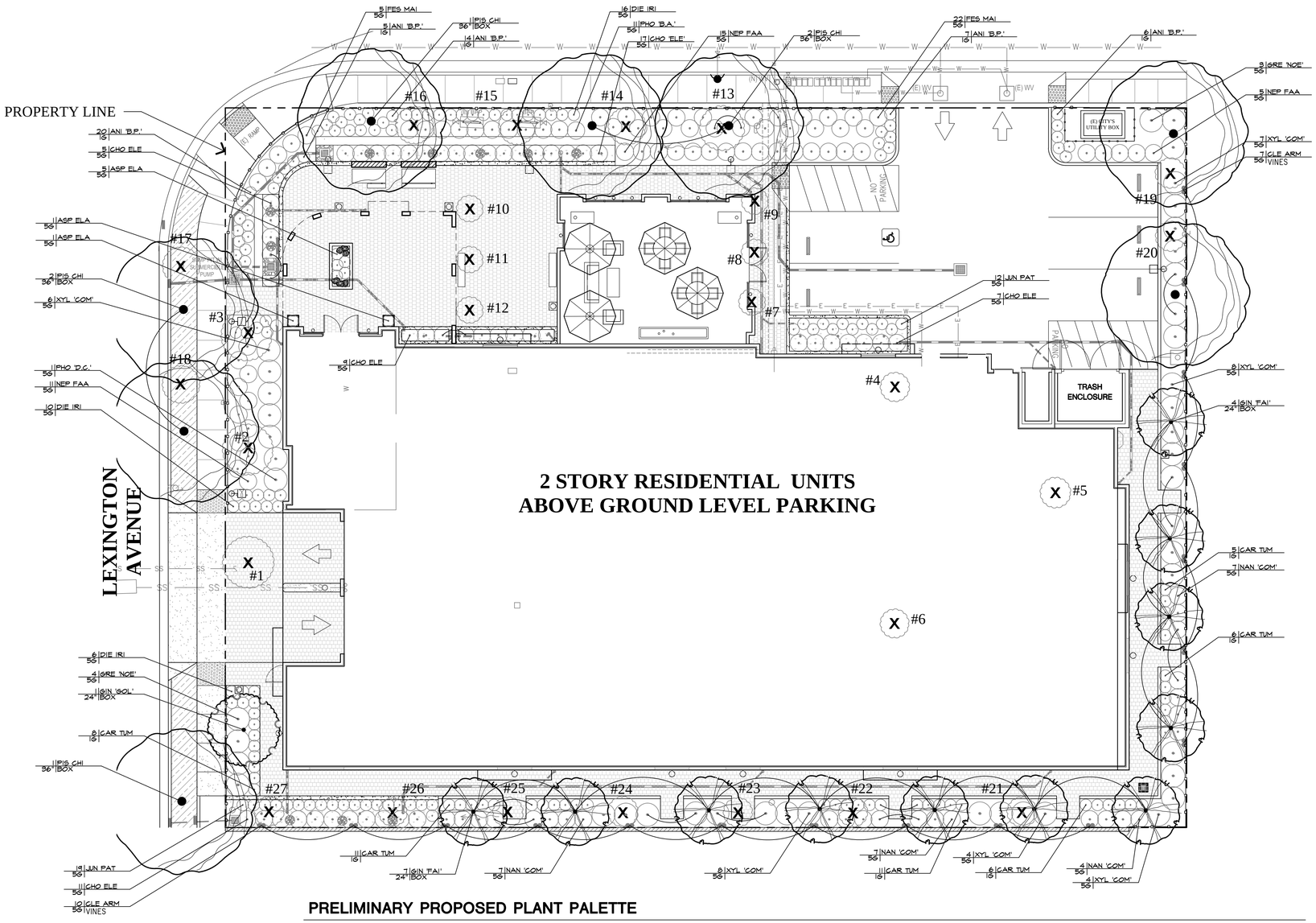
GRAPHIC SCALE
0 10 20 30
(IN FEET)
1 inch = 10 ft.

RIPLEY DESIGN GROUP
LANDSCAPE ARCHITECTURE
LAND PLANNING
1615 BONANZA STREET
SUITE 314
WALNUT CREEK, CA 94596
TEL: 925.938.7377
www.ripleydesign.com

32513 Mission Boulevard
Hayward, CA
July 7, 2021

Preliminary Landscape Plan
Tree Mitigation

L3



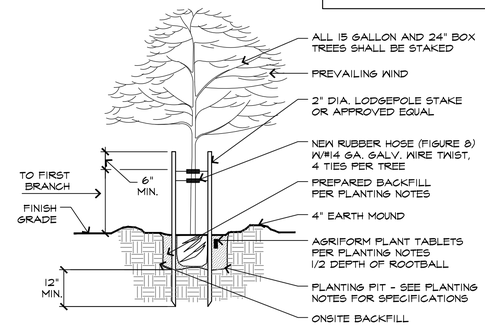
PLANTING NOTES

1. THE CONTRACTOR SHALL MAINTAIN A QUALIFIED SUPERVISOR ON THE SITE AT ALL TIMES DURING CONSTRUCTION THROUGH COMPLETION OF PICK-UP WORK.
2. THE CONTRACTOR SHALL FURNISH AND PAY FOR ALL FORMS OF PLANT MATERIALS AND SPECIFIED INSTALLATIONS, INCLUDING FLATTED GROUNDCOVER.
3. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION AND STAKING ALL SEWER, UTILITY AND WATER MAIN LINES PRIOR TO PLANTING. LANDSCAPE CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR ANY COSTS INCURRED DUE TO DAMAGE AND REPLACEMENT OF SAID UTILITIES. CALL COMMON GROUND ALLIANCE (CGA) AT 811 TO LOCATE AND MARK UTILITIES PRIOR TO EXCAVATION.
4. SOIL PREPARATIONS: GROUNDCOVER AND TURF AREAS SHALL BE CROSSRIPPED OR TILLED TO A DEPTH OF NINE (9) INCHES. THE AMENDMENT SHALL BE UNIFORMLY BROADCAST PER 1,000 S.F. AND THOROUGHLY INCORPORATED TO A DEPTH OF 9" BY MEANS OF ROTOTILLER OR EQUAL. THE FOLLOWING FORMULA SHALL BE USED FOR BIDDING PURPOSES ONLY:
   - 6 CU.YDS. ORGANIC AMENDMENT
   - 35 LBS. 6-20-20 COMMERCIAL FERTILIZER
   - 50 LBS. IRON SULFATE (20% Fe)
5. BACKFILL FOR TREES AND SHRUBS: THE PLANTING PITS FOR TREES AND SHRUBS SHALL BE EXCAVATED TO TWICE THE DIAMETER AND TO THE DEPTH OF THE ROOTBALL. ON SITE SOIL SHALL BE USED FOR BACKFILL PURPOSES. THE FOLLOWING MIX SHALL BE USED FOR BIDDING PURPOSES ONLY:
   - 6 PARTS BY VOLUME ON SITE SOIL
   - 4 PARTS BY VOLUME ORGANIC AMENDMENT PER ABOVE
   - 2LB./CU.YD. OF MIX 6-20-20
   - 2LB./CU.YD. OF MIX IRON SULFATE PER CU.YD. OF MIX
6. ALL SOIL AMENDMENTS SPECIFIED ARE FOR BIDDING PURPOSES ONLY. ONCE SITE HAS BEEN ROUGH GRADED, CONTRACTOR SHALL OBTAIN A SOILS REPORT FROM WAYPOINT ANALYTICAL CALIFORNIA, INC. (408-727-0330) FOR SOIL AMENDMENTS. CONTRACTOR TO SUBMIT ONE COPY OF THE SOILS REPORT TO THE CITY, ONE COPY TO THE OWNER, AND ONE COPY TO THE LANDSCAPE ARCHITECT FOR USE IN PROVIDING UPDATED IRRIGATION SCHEDULING RECOMMENDATIONS TO BE INCLUDED PRIOR TO APPROVAL OF CERTIFICATE OF COMPLIANCE. CONTRACTOR SHALL FOLLOW THE SOIL PREPARATION AND BACKFILL MIX PER THE REPORT.
7. ALL 5 GALLON SHRUBS SHALL RECEIVE TWO (2) 21 GRAM AGRIFORM PLANTING TABLETS, ALL 15 GALLON TREES SHALL RECEIVE FOUR (4) 21 GRAM AGRIFORM PLANTING TABLETS AND ALL BOX TREES SHALL RECEIVE EIGHT (8) 21 GRAM AGRIFORM TABLETS.
8. ALL SHRUB AND GROUNDCOVER PLANTING AREAS SHALL BE MULCHED TO A MINIMUM DEPTH OF 3". MULCH TO BE RECYCLED WOOD WASTE, COLOR TO BE BROWN, ¼" TO 1" DIAMETER FROM WASTE MANAGEMENT, INC., SACRAMENTO, (916-452-0142).
9. CONTRACTOR SHALL SPRAY ALL EXISTING WEEDS IN PLANTING AREAS PRIOR TO RIPPING AND APPLY PRE-EMERGENT TO ALL SHRUB AREAS AFTER PLANTING.
10. CONTRACTORS SHALL APPLY FERTILIZER AND PRE-EMERGENT AT END OF MAINTENANCE PERIOD.
11. LANDSCAPE ARCHITECT AND/ OR OWNER RESERVES THE RIGHT TO SELECT OR REJECT ANY OR ALL PLANT MATERIAL.
12. REFER TO TREE PLANTING/STAKING DETAIL A, THIS SHEET.
13. THIS PLAN COMPLIES WITH THE CRITERIA OF THE CITY'S WATER EFFICIENT LANDSCAPE ORDINANCE AND APPLIES THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE DESIGN PLAN.

PLANT CALLOUT SYMBOL KEY

PLANT QTY / SIZE	PLANT SYMBOL / UNITS

NOTE:
I HAVE COMPLIED WITH THE CRITERIA OF CITY OF HAYWARD BAY-FRIENDLY WATER EFFICIENT LANDSCAPE ORDINANCE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE AND IRRIGATION DESIGN PLAN.



NOTE:
1. ROOT CONTROL BARRIER PANELS SHALL BE REQUIRED WHERE TREES IS WITHIN 10' FROM PAVING. ROOT SOLUTIONS ROOT BARRIER OR EQUAL MAY BE USED. LENGTH OF BARRIER TO BE CENTERED ON TREE.

A **TREE PLANTING AND STAKING DETAIL** SCALE : 1/2" = 1'-0"

024 - TreeStPlt'dg

PRELIMINARY PROPOSED PLANT PALETTE

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	WATER USE	MATURE SIZE (HIGH X WIDTH)
ACCENT TREE					
GIN 'GOL'	GINKGO BILOBA 'GOLDSPIRE'	GOLDSPIRE GINKGO	24" BOX	MED	30' X 25'
STREET TREE					
PIS CHI	PISTACHIA CHINENSIS	CHINESE PISTACHE	36" BOX	LOW	35' X 35'
SCREENING TREE					
GIN 'FAI'	GINKGO BILOBA 'FAIRMONT'	MAIDENHAIR TREE	24" BOX	MED	75' X 25'
SHRUBS					
ASP ELA	ASPIDISTRA ELATIOR	CAST IRON PLANT	5 GALLON	LOW	3' X 2'
DIE IRI	DIETES IRIDIODES	FORTNIGHT LILY	5 GALLON	LOW	4' X 3'
FES MAI	FESTUCA MAIREI	ATLAS FESCUE	5 GALLON	LOW	3' X 3'
GRE 'NOE'	GREVILLEA 'NOELLI'	WOOLY GREVILLEA	5 GALLON	LOW	4' X 5'
NAN 'COM'	NANDINA DOMESTICA 'COMPACTA'	DWARF HEAVENLY BAMBOO	5 GALLON	LOW	5' X 3'
NEP FAA	NEPETA FAASSENII	CATMINT	5 GALLON	LOW	2' X 3'

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	WATER USE	MATURE SIZE (HIGH X WIDTH)
SHRUBS - (CONT.)					
PHO 'B.A.'	PHORMIUM 'BLACK ADDER'	NEW ZEALAND FLAX	5 GALLON	LOW	4' X 3'
PHO 'D.C.'	PHORMIUM 'DUSKY CHIEF'	NEW ZEALAND FLAX	5 GALLON	LOW	8' X 5'
XYL 'COM'	XYLOSMA C. 'COMPACTA'	COMPACT XYLOSMA	5 GALLON	LOW	8' X 8'
SHRUBS - FLOW THROUGH PLANTER / BIO-RETENTION AREA					
CHO ELE	CHONDROPETALUM ELEPHANTINUM	LARGE CAPE RUSH	5 GALLON	LOW	5' X 6'
JUN PAT	JUNCUS PATENS	COMMON RUSH	5 GALLON	LOW	2' X 2'
VINES					
CLE ARM	CLEMATIS ARMANDII	EVERGREEN CLEMATIS	5 GALLON	LOW	
GROUNDCOVERS					
ANI 'B.P.'	ANIGOZANTHOS 'BUSH PEARL'	PINK KANGAROO PAW	1 GALLON	LOW	2' X 2'
CAR TUM	CAREX TUMULICOLA	BERKELEY SEDGE	1 GALLON	LOW	2' X 2'
	ROSMARINUS 'HUNTINGTON CARPET' 1 GALLON @ 36" O.C.	ROSEMARY		LOW	

NOTE: PLANT MATERIAL WATER VERIFIED WITH ONLINE WUCOLS LANDSCAPE WATER-USE PLANNING TOOL. WWW.WATERWONK.US

GRAPHIC SCALE
0 10 20 30
(IN FEET)
1 inch = 10 ft.

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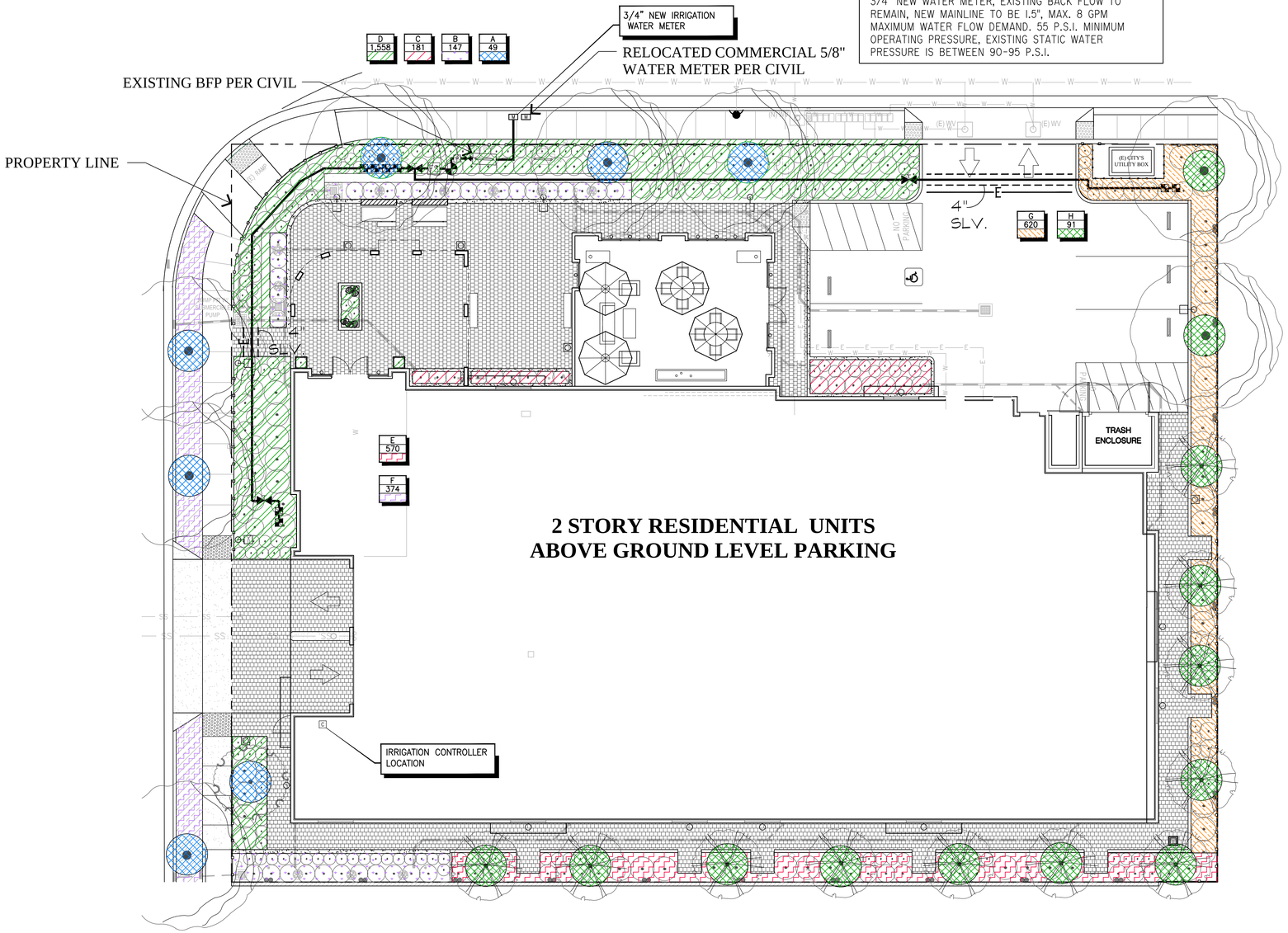
Plantng

L4



NOTE:
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GRAPHIC SCALE

0 10 20 30

(IN FEET)
1 inch = 10 ft.

LANDSCAPE HYDROZONE LEGEND

- ZONE A: PARTIAL TO FULL SUN, TREES WITH TWO BUBBLERS PER TREE. MEDIUM WATER USE.
- ZONE B: BIO-RETENTION SHRUBS WITH DRIP EMITTERS. LOW WATER USE.
- ZONE C: FLOW THROUGH PLANTERS SHRUBS WITH DRIP EMITTERS. LOW WATER USE.
- ZONE D: PARTIAL TO FULL SUN, DROUGHT TOLERANT PLANTING WITH DRIP EMITTERS. LOW WATER USE.
- ZONE E: PARTIAL TO FULL SHADE, DROUGHT TOLERANT PLANTING WITH DRIP EMITTERS. LOW WATER USE.
- ZONE F: PARTIAL TO FULL SUN, RIGHT-OF-WAY AREA PLANTING WITH DRIP EMITTERS. LOW WATER USE.
- ZONE G: PARTIAL TO FULL SHADE, DROUGHT TOLERANT PLANTING WITH DRIP EMITTERS. LOW WATER USE.
- ZONE H: PARTIAL TO FULL SUN, TREES WITH TWO BUBBLERS PER TREE. LOW WATER USE.

WATER BUDGET CALCULATIONS:

LOW WATER USE SHRUB PLANTING AREA = 3,450 SF
LOW WATER USE TREE PLANTING AREA = 91 SF
MEDIUM WATER USE TREE PLANTING AREA =49 SF

TOTAL PLANTING AREA = 3,590 SF

ESTIMATED TOTAL WATER USE:

ETWU (LOW WATER USE PLANTING AREA) = (44.2) X (0.62) X $\frac{(0.2 \times 3,541)}{0.71}$ = 27,335 GAL/YR

ETWU (LOW WATER USE PLANTING AREA) = (44.2) X (0.62) X $\frac{(0.4 \times 49)}{0.71}$ = 757 GAL/YR

TOTAL ETWU = 28,092 GAL/YR

MAXIMUM APPLIED WATER ALLOWANCE:

MAWA (TOTAL LANDSCAPED AREA) = (44.2) X (0.62) X (0.45 X 3,590) = 44,271 GAL/YR

IRRIGATION SYSTEM LEGEND

SYMBOL	DESCRIPTION	SPECIFICATION		NOZZLE GPM	OPERATING PSI
M	IRRIGATION WATER METER	-EXISTING PER CIVIL			
C	ELECTRIC CONTROLLER	-TORO-EVO-4ID/EM0D-4/EUO-SC/EVO-WS (ET-BASED)			
	MASTER VALVE	-TORO REMOTE CONTROL ELECTRIC GLOBE VALVE W/ FLOW CONTROL NO. 220-26-06			
P	PRESSURE REDUCER	-ZURN NR3XL OR EQUAL			
FS	FLOW SENSOR	-TORO FLOW SENSOR-TFS-150 OR EQUIVALENT			
	REMOTE CONTROL VALVES	-TORO 700 SERIES			
	REMOTE CONTROL VALVES	-TORO 700 SERIES W/REGULATOR & FILTER			
	BALL VALVE (master shut off)	-NIBCO-T-560-BR-20-IRR-LINE SIZE			
	QUICK COUPLER	-RAINBIRD-44LRC OR EQUAL			
▲	BUBBLER (SHRUB)	-PEPCO-OCTA-BUBBLER		.27	30
●	BUBBLER (TREE)	-HUNTER AFB (2 PER TREE)		.25	30
	IRRIGATION SUPPLYLINE - 1"	-1120/SCHEDULE 40 PVC PIPE	-18" COVER		
	IRRIGATION SPRINKLERLINE (NOT SHOWN)	-1120/CLASS 200 PVC PIPE	-12" COVER		
E	ELECTRICAL CONDUIT	-1120/SCHEDULE 80 PVC PIPE	-24" COVER		
	SLEEVING	-1120/SCHEDULE 80 PVC PIPE	-24" COVER		
C 181	HYDROZONE/CONTROLLER STATION NUMBER AREA OF COVERAGE (SF) HATCH PATTERN OF AREA				

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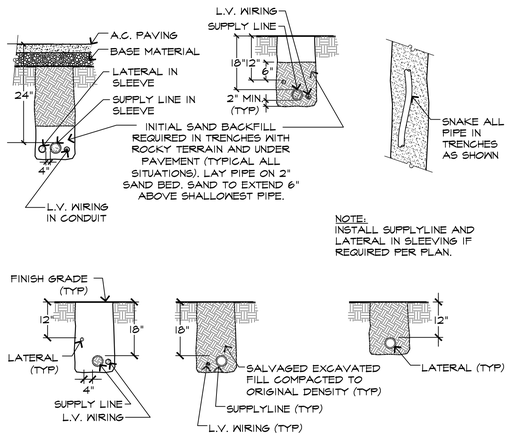
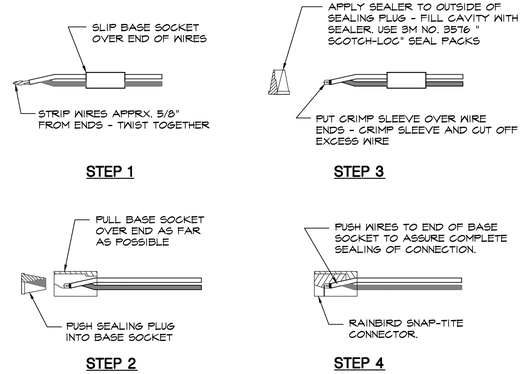
Hydrozone & Irrigation



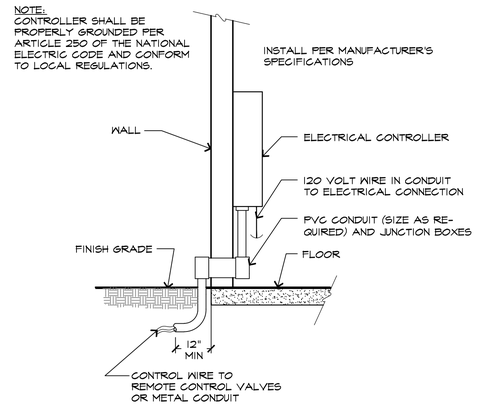
A **TRENCHING DETAILS** SCALE: 1/2" = 1'-0"

024 -



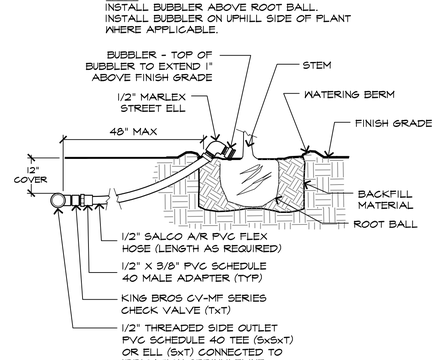
B **WIRE CONNECTION** SCALE: 3/4" = 1'-0"

016 -



C **WALL MOUNT CONTROLLER INSTALLATION** SCALE: Not To Scale

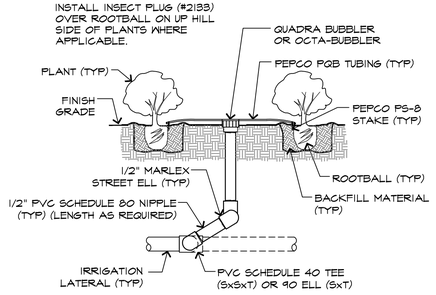
024 - MsMtgCntlr



D **BUBBLER INSTALLATION FOR TREES IN GC/BARK AREAS** SCALE: Not To Scale

024 - BbTrees

NOTE: INSTALL AWAY FROM FUTURE, AND ESTABLISHED TREE CANOPIES FOR UNOBSTRUCTED RAINFALL.

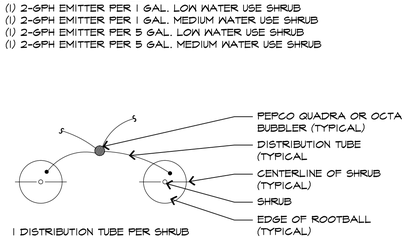


E **OCTA-BUBBLER OR QUADRA-BUBBLER INSTALLATION** SCALE: 1/2" = 1'-0"

024 -

NOTES:
1. MAXIMUM LENGTH OF DISTRIBUTION TUBE FROM EMITTER BODY TO OUTLET LOCAITON SHALL NOT EXCEED TEN (10) FEET

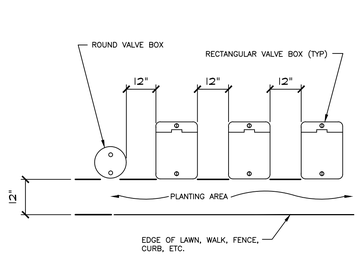
2. EMITTER OUTLETS SHALL BE AS FOLLOWS:
(1) 2-GPH EMITTER PER 1 GAL. LOW WATER USE SHRUB
(1) 2-GPH EMITTER PER 1 GAL. MEDIUM WATER USE SHRUB
(1) 2-GPH EMITTER PER 5 GAL. LOW WATER USE SHRUB
(1) 2-GPH EMITTER PER 5 GAL. MEDIUM WATER USE SHRUB



F **EMITTER TUBE PLACEMENT** SCALE: 3/4" = 1'-0"

016 -

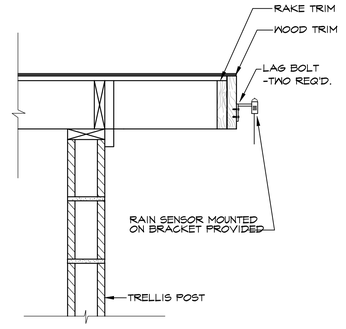
NOTES: 1. CENTER BOXES OVER VALVES.
2. SET BOXES IN GROUND COVER/SHRUB AREA WHERE POSSIBLE.
3. SET BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO EDGE.
4. AVOID HEAVILY COMPACTING SOIL AROUND BOXES TO PREVENT DAMAGING VALVE BOXES.



TOP VIEW

G **VALVE BOX INSTALATION DETAIL** SCALE: NTS

016 -



H **STRUCTURE RAIN SENSOR MOUNT** SCALE: NTS

016- RainSens

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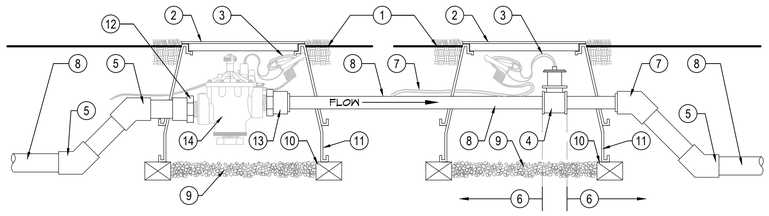
Preliminary Landscape Plan
Irrigation Details

L6



1. FINISH GRADE
2. CARSON 1419 PLASTIC VALVE BOX & COVER
3. CONTROL WIRES WITH 12" MIN. SERVICE COIL AND WATERPROOF WIRE SPLICE CONNECTORS - WIRE COLORS PER SPECIFICATIONS
4. TORO FLOW SENSOR- TFS-150
5. PVC 45 DEGREE ELL (TYP.)
6. MINIMUM 10x PIPE DIAMETER UPSTREAM & MINIMUM 5x PIPE DIAMETER DOWNSTREAM OF STRAIGHT PIPE
7. PVC 45 DEGREE ELL (TYP.) BUSH DOWN TO FLOW METER SIZE AS NECESSARY
8. PVC MAINLINE - LENGTH AS REQUIRED - SEE SPECIFICATIONS FOR TYPE AND DEPTH
9. GRAVEL (1 CU. FT.)
10. CONTINUOUS BRICK SUPPORTS
11. CARSON 1419 PLASTIC VALVE BOX EXTENSIONS AS REQUIRED
12. PVC MALE ADAPTER
13. PVC MALE ADAPTER - BUSH DOWN TO FLOW METER SIZE AS NECESSARY
14. TORO REMOTE CONTROL ELECTRIC GLOBE VALVE WITH FLOW CONTROL MODEL NO. 220-26-06

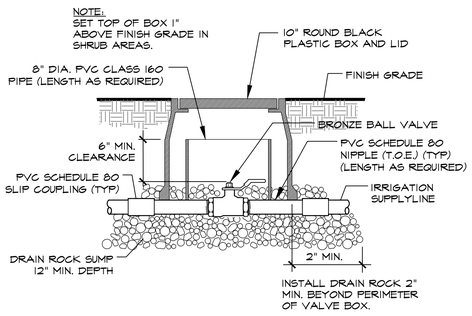
NOTES:

1. VALVE BOX SHALL BE SET 1" ABOVE GRADE.
2. WHEN PLASTIC VALVES ARE USED, THE CARSON VALVE BOX SHALL HAVE AN EMS DEVICE IN THE COVER TO FACILITATE DETECTION BY A METAL DETECTOR. HOT STAMP TOP OF VALVE BOX WITH CORRESPONDING VALVE NUMBER AT CONTROLLER. ATTACH CHRISTY ID MARKER OR EQUAL TO VALVE IN BOX.
3. ONLY ONE (1) VALVE PER BOX .
4. PROVIDE DS-400 DRI-SPLICE WIRE CONNECTION AT ALL SPLICES.
5. CONTROL WIRE SHALL BE SIZED A MINIMUM OF #14 U.L. APPROVED.

I FLOW SENSOR/MASTER VALVE INSTALLATION

NOT TO SCALE

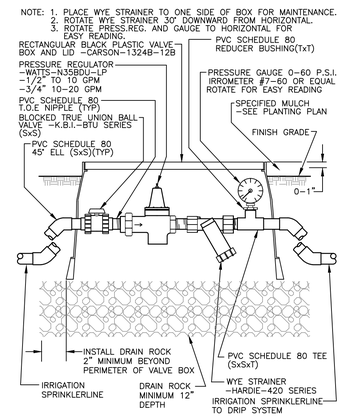
024 -



J BALL VALVE

SCALE: NOT TO SCALE

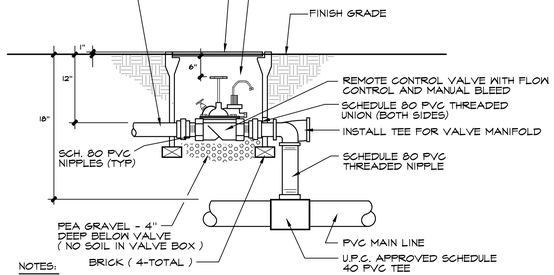
06 - BallValve_16



K DRIP CONTROL ASSEMBALY

SCALE: NTS

012 -



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3. ONLY ONE (1) REMOTE CONTROL VALVE PER BOX .
4. PROVIDE DS-400 DRI-SPLICE WIRE CONNECTION AT ALL SPLICES.
5. CONTROL WIRE SHALL BE SIZED A MINIMUM OF #14 U.L. APPROVED.

L ELECTRIC REMOTE CONTROL VALVE INSTALLATION

SCALE: 1/2" = 1'-0"

024 -

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