



DATE: May 3, 2022
TO: Mayor and City Council
FROM: Director of Public Works
SUBJECT Adopt a Resolution Approving the Plans and Specifications and Calling for Bids for the Sewer Line Improvements Project, Project No. 07761

RECOMMENDATION

That Council adopts a resolution (Attachment II) approving the plans and specifications for the Sewer Line Improvements Project, Project No. 07761, and calling for construction bids to be received on June 7, 2022.

SUMMARY

The Utilities Division of the Department of Public Works & Utilities replaces the City’s undersized or structurally damaged sewer mains through annual capital improvement projects. The Sewer Line Improvements Project will improve the capacity and maintain the operability of the sewer collection system by replacing approximately 4.1 miles of existing vitrified clay pipe (VCP), asbestos cement pipe (ACP), and high-density polyethylene pipe (HDPE) ranging in diameter from 6 to 12-inch with new 8, 10, 12, or 15-inch polyvinyl chloride (PVC) or HDPE. This project takes place at twenty-nine locations throughout the City (Attachment III). Approximately 3.3 miles will be replaced by traditional open-cut method, and another approximately 0.8 mile will be replaced by trenchless technology used to cross under obstructions that prohibit open-cut installation. Design has been completed and bid documents have been prepared. Staff is requesting Council’s approval of the plans and specifications, and calling for bids to be received on June 7, 202.

BACKGROUND

The City’s current Capital Improvement Program (CIP) includes funding to replace the City’s undersized or structurally damaged sewer mains through annual sewer line replacement projects. The City operates approximately 325 miles of sanitary sewer mains. The Utilities Division staff performs regular sewer main cleaning and has an ongoing program to monitor and inspect the condition of the City’s sanitary sewer collection system using closed circuit television (CCTV) technology. The inspection is performed by placing a camera, mounted on tracks, inside a sewer pipe and remotely guiding it through the length of the pipe to identify structurally damaged sewer mains for repair or replacement.

On September 15, 2020¹, Council approved Resolution No. 20-141, authorizing the City to enter into a Professional Services Agreement (PSA) with HydroScience Engineers, Inc. (HydroScience), for design services and technical support during construction.

On December 7, 2021², Council approved Resolution No. 21-236, adopting the Initial Study and Mitigated Negative Declaration (IS/MND). The City completed the environmental analysis for the construction of the Water and Sewer Line Improvements Project (Project) in accordance with the California Environmental Quality Act (CEQA). Combining both water and sewer projects into one analysis allows for better design efficiencies and economies of scale. The water main improvement part of the Project was issued for bidding and awarded separately. It is currently in the construction phase getting all the documents in order prior to starting the actual construction in the field.

On November 15, 2016³, Council passed a resolution authorizing a Community Workforce Agreement (CWA) with the Alameda County Building Trades Council (BTC), which applies to City projects with construction costs of \$1,000,000 or more. The agreement requires contractors to use local union hiring halls, encourages contractors to employ Hayward residents or Hayward Unified School District graduates, and requires hired workers to pay union dues and other benefit trust fund contributions, etc. The CWA agreement applies to this Sewer Line Improvements Project because the construction cost estimate is more than \$1,000,000.

DISCUSSION

The sewer main improvements include replacing approximately 4.1 miles of existing 6, 8, 10, and 12-inch vitrified clay, asbestos cement, and high-density polyethylene pipes at twenty-nine locations throughout the City as shown in Attachment III. The sewer line locations were selected by staff based on performance and maintenance data over the past several years. Recommended projects from the 2015 Sewer Master Plan, including upsizing undersized sewer mains, rerouting flows, and installing new sewer lines, were also incorporated to address capacity deficiencies within the existing sewer collection system.

Approximately 3.3 miles of sewer main will be replaced by traditional open-cut method constructed in segments to minimize the impact to customers and traffic. Traditional open-cut sewer repair involves excavating a trench of approximately two to four feet in width and to the depth of the damaged or undersized pipe. Once the sewer main is exposed, the damaged or undersized section is removed and replaced with new pipe. At the same time, a portion of the existing sewer laterals that connect to the sewer are replaced and services are restored. When the repair is complete, the opened trench is backfilled, compacted, and paved to match the original pavement section.

¹ <https://hayward.legistar.com/LegislationDetail.aspx?ID=4640098&GUID=DAAB6C51-8A86-47A4-B5D0-35F45982BD1F&Options=&Search=>

² <https://hayward.legistar.com/LegislationDetail.aspx?ID=5347829&GUID=B1C01790-44AD-4D1E-A005-CD3DADA51E29&Options=ID|Text|&Search=07093>

³ <https://hayward.legistar.com/MeetingDetail.aspx?ID=504356&GUID=BBB3510A-72A9-4C24-ADA5-97D40B48097B&Options=info|&Search=>

The remaining 0.8 mile will either be rehabilitated or replaced by trenchless pipe techniques including microtunneling, pipe bursting, pipe reaming, or cured-in-place pipe (CIPP), where open-cut installation is not recommended due to surface features.

- The microtunneling method generally utilizes a boring head that is driven into the ground together with a protective steel casing using jacking equipment. The boring head cuts through and extracts the soil, and the steel casing allows installation of new sewer mains. This method will be used to install new sewer pipe at Torrano Ave crossing under railroad tracks and flood channels.
- The pipe bursting method uses a bursting head that is pulled through the existing pipe and pushes the pipe outward until it breaks apart. At the same time, the bursting head pulls the new pipe behind it and fills the space created by the old pipe with the new pipe. The locations using pipe bursting are on Cypress Avenue, a section on Carlos Bee Boulevard, and in the easement at Whitestone Court, where bursting existing vitrified clay is effective.
- Pipe reaming uses a horizontal directional drilling (HDD) machine. As the drill head rotates and simultaneously pulls through the existing pipe, the old pipe is ground up and replaced with new pipe. The old pipe is removed by mixing the ground up material with the drilling fluid and transferring the mixture to an exit point for removal via a vacuum truck. This method will be employed in Mission Boulevard and Torrano Avenue, where the existing sewer pipe is under the sidewalk and in area of heavy traffic.
- The CIPP technique involves inserting a resin-impregnated flexible tube into the pipe, inflating, and curing with hot water or steam forming a structurally sound, water-tight new pipe within a pipe that has all the structural properties of a stand-alone pipe. This method will be employed to rehabilitate the existing pipe in the easement at Central Avenue.

This project also includes installation of new manholes in areas where it is often difficult to access the existing manholes located in easements on residential properties. Installing new manholes in the public street improves accessibility for future maintenance and operational efficiency when performing Hydro cleaning and CCTV.

Construction is anticipated to begin in August 2022 and take approximately 16 months.

ECONOMIC IMPACT

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

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

FISCAL IMPACT

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

Construction Contract with Contingency	\$13,600,000
Professional Engineering Services – Consultant	\$908,933
Inspection & Testing & Permitting	\$430,000
Construction Administration – City Staff	<u>\$375,000</u>
Total	\$15,313,933

The Sewer Line Improvements Project, Project No. 07761, has a total available budget of \$11,116,653 in Sewer Replacement Fund 611. In 2020, the City entered into a PSA with HydroScience, of which \$908,933 is for sewer design services and technical support during construction. The adopted FY22 CIP includes a remaining budget of \$10,489,000. Due to the rising cost of construction labor and materials, the City needs to go through the bidding process to determine the most current project budget. At that time staff would return to Council to request whether additional funds need to be appropriated to cover the total cost of the project.

STRATEGIC ROADMAP

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

Project 15: Upgrade sewer collection system by replacing 3-4 miles of sewer lines annually.

SUSTAINABILITY FEATURES

The repair and replacement of deteriorating sewer lines reduces the risk of sewer overflows, which can cause untreated wastewater to flow into public waterways.

PUBLIC CONTACT

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

NEXT STEPS

If Council approves the project, staff will advertise the construction project for public bidding and return to Council for the award of the construction contract, after construction bids have been received and reviewed.

The following schedule has been developed for this project:

Receive Bids	June 7, 2022
Award Construction Contract	July 5, 2022
Notice to Proceed	August 19, 2022
Construction Completion	December 2023

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Reviewed by: Tay Nguyen, Senior Utilities Engineer

Recommended by: Alex Ameri, Director of Public Works

Approved by:



Kelly McAdoo, City Manager