Agenda Bill AB24-114
Meeting Date: July 1, 2024
Agenda Item: Consent VII E
☒ **Regular Business Meeting**
☐ **Workshop/Study Session**
☐ **Special Business Meeting**

Submitted By: Steve King/Andre Harper **Date Submitted:** June 27, 2024
Department: Public Works **Contact Phone:** 360-379-5090

SUBJECT: Approval for application of funding for the Lawrance Street Stormwater / Sewer Separation.

CATEGORY:
☒ Consent ☐ Resolution
☐ Staff Report ☐ Ordinance
☐ Contract Approval ☐ Other:
☐ Public Hearing (Legislative, unless otherwise noted)
☐ **3-Year Strategic Plan:** N/A
Cost Allocation Fund: 411 Water Sewer Fund - General

BUDGET IMPACT: See below
Expenditure Amount:
Included in Budget? Yes ☐ No ☒

SUMMARY STATEMENT:

Background:
In the City of Port Townsend's (City) 2024 Draft General Sewer Plan, Capital Improvement Project No. SM9 identifies the need to separate stormwater inflow and sanitary sewer flow in Lawrence Street. Currently, it is estimated that approximately 40 percent of the Monroe Street Pump Station's peak hour flow comes from surface water inflow tributary to Lawrence Street.

Disconnecting the stormwater inflow from the sanitary sewer flow in Lawrence Street is intended give the Monroe Street Pump Station additional years of service and eliminate the station's current capacity shortfalls during storm events. Additionally, the stormwater inflow is needlessly being treated at the City's wastewater treatment plant. Removal of the Lawrence Street inflow source will reduce the need for immediate upgrades to the Monroe Street Pump Station and will free capacity at the City's wastewater treatment plant. An excerpt from the General Sewer Plan provides a full description of the project as it relates to the Monroe Lift Station.

This spring, the City Council adopted a capital plan and associated rate schedule to address capital needs of the City's stormwater and sewer system. Included in this rate study is funding for 50% of the Lawrence Street Stormwater Separation project. 50% of the funding will need to come from grants and 25% will come from the Stormwater Utility, and 25% will come from the Sewer Utility. The total cost of this project is estimated at $5.6 million. Design is scheduled to begin in 2025 with construction to follow in 2026 and 2027. These costs include installation of a new stormwater pipe and

repaving of Lawrence Street between Filmore and Monroe Streets. This project couples well with the current Lawrence Street complete streets project.

This application is for loan funding under the Public Works Trust Fund program administered by the Department of Commerce. This is the same program that funded the Water Street Sewer Replacement Project. The City may qualify for 50% grant based on our community household income status qualifying as a distressed community.

Staff is recommending applying for a pre-construction or design engineering loan/grant for approximately $280,000 with follow up applications to EPA for additional grant funding to build the project. If EPA funding is not successful, this design loan/grant application will help the City qualify for another Public Works Trust Fund application in 2025 or 2026. The loan/grant application was submitted to meet the deadline of June 28th. Staff recognizes this approval is retroactive and apologizes for missing this date. Should Council desire to disprove of this application, staff can always pull the application.

RH2 Engineering has assisted the City in the development of this application under on-call services.

Staff is recommending authorization for this application as well as others to meeting the goals of the General Sewer Plan and adopted financial plan.

ATTACHMENT INSERT:

1. General Sewer Plan Chapter 6 Lift Station Analysis

CITY COUNCIL COMMITTEE RECOMMENDATION: N/A

Authorization to apply for a Public Works Trust Fund preconstruction loan/grant as well as other loans and grant programs for the Lawrence Street Stormwater Separation project in the future is considered approved unanimously with under the consent agenda.

ALTERNATIVES:

☐ Take No Action ☐ Refer to Committee ☐ Refer to Staff ☐ Postpone Action
☒ Remove from Consent Agenda ☐ Waive Council Rules and approve Ordinance ____
☐ Other:

LIFT STATION ANALYSIS

Lift Station Capacity

Existing System

The hydraulic analysis of the City's existing lift stations (**Table 4-12**) shows that only the Monroe Street Lift Station does not have adequate capacity. As discussed previously, capacity analyses of each lift station are based on estimated PHF. According to discussions with the system operators, there are no known capacity deficiencies in the City's existing lift stations during current operating conditions except for the Monroe Street Lift Station. These deficiencies are discussed later in this chapter.

2028, 2033, and 2043 Lift Station Needs

Only modest population growth is forecast within the current City limits and it is dispersed throughout the City as shown in **Figure 3-3**. Of this growth, less than 20 percent is forecast to occur in the existing lift station basins. The remainder will flow by gravity to the WWTF. There will be small, incremental increases to each existing lift station over the next 20 years, leaving the total flow to be pumped by each station below each their firm capacities. None of the existing lift stations are forecast to have capacity shortfalls, except for the Monroe Street Lift Station. The station handling most of the new growth will be the proposed Mill Lift Station.

Predesign studies show that a 1,062 gallons per minute (gpm) capacity is required. Refer to **Appendix J** for an estimation of the flows for this lift station. Capacity upgrades are needed for the Mill and Monroe Street Lift Stations.

Monroe Street Lift Station

The Monroe Street Lift Station is currently under capacity and regularly has all three of the station's pumps operating to convey peak flows. The station has not overflowed, but it is the City's standard to have two pumps with one redundant pump to accommodate PHFs. For this reason, the capacity must be increased, or the peak flow tributary to the station must be reduced. As part of the Water Street Sewer Replacement project, scheduled for 2024, new pump impellers will be installed for each of the station's pumps. The existing electric motors have spare capacity to accommodate larger impellers that could deliver approximately 100 gpm more from the station. However, this will not be enough to bring the lift station into compliance with desired capacity standards. RH2 Engineering, Inc., (RH2) recommends that inflow in the basin draining to the lift station be reduced to decrease the load on the lift station.

Lawrence Street, between Fillmore and Monroe Streets, has stormwater inlets connecting to the gravity sewer (**Figure [1]-9**). This is a likely cause for the Monroe Street Lift Station's overload. This inflow also taxes the capacity of the WWTF unnecessarily with stormwater. Separation of the storm and sanitary sewer could possibly reduce the hydraulic loads entering the Monroe Street Lift Station. Smoke testing and video inspection of the sewer main in

Lawrence Street should be performed to locate the connections between the storm and sanitary sewer systems.

Figure 6-9 – CIP SM9

The sanitary and storm sewers in Lawrence Street must be separated to reduce hydraulic loads on wastewater facilities.

In addition to capacity shortfalls, the Monroe Street Lift Station is aging and near the shoreline, placing it at risk for flooding due to forecasted sea level rise. The *City of Port Townsend Sea Level Rise and Coastal Flooding Risk Assessment* (City of Port Townsend & Cascadia Consulting Group, 2022) (**Appendix K**) lists the Monroe Street Lift Station as a public facility at risk of flooding with the potential for "high consequence." The lift station access hatches must be elevated or the lift station must be relocated to higher ground. All pumps, pipes, valves, electrical panels, and controls must be replaced with new units to increase the reliability of this vital lift station. Flow measurement also should be added to the station to assist the City in quantifying the inflow tributary to the lift station.
Hydraulically, the lift station's force main is performing well and appears to be in good condition. It is approaching 60 years in age, and record drawings show that it is cast iron pipe. When the existing 10-inch cast iron force main is exposed for any reason, the exterior should be inspected for pitting and corrosion. Cast iron pipe from the 1960s came with cement mortar lining, and the main could still be in good condition. Out of caution, the City should monitor the discharge pressure characteristics of the lift station closely. Sudden

decreases in pressure could indicate a breach in the pipe. Increases show occlusion of the pipeline due to corrosion or

sediment deposition. The City should take all opportunities to observe the main's exterior for deterioration since exterior corrosion of the iron main is a risk in the marine environment. Work to separate the Lawrence Street storm and sanitary sewers should be completed prior to designing improvements for the Monroe Street Lift Station. This will allow the pumps to be sized appropriately if inflow is substantially reduced. RH2 suspects that PHF could drop dramatically with the storm inlets removed from the sanitary sewer. This may be adequate to provide a temporary solution to the Monroe Street Lift Station's capacity problem. This temporary solution may allow the full lift station rehabilitation or relocation to be delayed by 5 to 10 years.

Other Lift Station Improvements

A budget will be set aside in the CIP for minor repairs and replacements of pump motors, pump impellers, telemetry unit replacement, valve overhauls, panel replacements, generator replacements, force main repairs, and other minor improvements to keep the existing lift stations operating reliably. The City has two existing major lift stations: Monroe Street and Gaines Street. Gaines Street was upgraded in 2021, and Monroe Street will be scheduled for upgrades as discussed previously. The Mill site will add another major lift station within the next 2 to 3 years. All major lift stations will be relatively new and/or rehabilitated in the 2020s, and no additional capacity or significant upgrades will be needed during the 20-year planning horizon. The remaining lift stations are small with minor replacement needs. The CIP will include a general allowance to cover these needs.