Lovell Avenue Beach Mains

Sunday Cove, Lovell, and Wood Avenue Sewer System

July 8, 2020

Hosted by: Peter Corelis, P.E., Engineering Project Manager, Capital Projects

Public Works Department

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Tonight's Schedule

- Presentation of Sewer Project Overview
- Q & A Session

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Intended Audience

- Neighborhood residents – post cards sent out in the mail
- Listserv group
- Interested rate payers and general public
- City Council members

(Note: Webinar will be recorded for future playback)

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Project Brief

- Multi-year project to decommission aging and failing sewer mains in the beach within West Eagle Harbor.
- Sewer flows will be re-routed to a new sewer pump station in Wood Avenue and to rehabilitated sewer pump stations at the end of Lovell Avenue and Sunday Cove.
- Residences that currently drain to the beach sewer main will have their side sewers replumbed and directed upland to existing or new sewer mains with gravity and pumped systems.

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Project Goals

The GOAL of the Lovell Beach Mains Sewer Basin Project in West Eagle Harbor is to:

1) Improve shoreline environment by removing aging pipe from beach. (It is unlikely to replace the existing pipe in-kind due to challenges of working in the shoreline space).
2) To reduce maintenance and operating costs associated with an aging and defunct system by improving system reliability and serviceability

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Goal #1: Environmentally Sound

The existing sewer main system is located waterward of the adjacent shoreline properties and is buried shallow in the beach:

2,200 feet of ductile iron pipe embedded in the beach

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Goal #1: Environmentally Sound

Environmental concerns for the existing pipe include:

- Corroding pipe will eventually rupture and leak.
- Pipe is buried in beach sand with inadequate structural support leading to sagging of pipe, blockages, and grease buildup and
- Potential for a large spill in the future

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Goal #2: Efficient Operation

The existing sewer main system is only accessible during low-tide and requires frequent cleaning due to shifting and poor performance:

- System requires firm foundation to maintain a constant smooth slope
- Frequency of cleaning would be drastically reduced by proper pipe slope and embedment
- Better maintenance access needed to effectively manage

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Meeting Our Goals and Objectives

The pre-design report looked at both rehabilitating and replacing the existing beach main and found both options infeasible due to:

- Limitations of rehabilitation techniques
- Solutions still did not address the accessibility to the pipe
- Rehabilitation having no effect on sags and low spots in pipe
- Expense from dewatering open trench construction areas in sync with tidal schedules
- Expense of structural support systems for a new pipe

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Meeting Our Goals and Objectives

The recommended SOLUTION includes:

1) Decommission existing sewer mains located in the beach
2) Rehabilitating existing upland facilities to accommodate re-routed flows
3) Install new facilities to accommodate re-routed flows

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Schedule

Pre-design report and final recommendations -- COMPLETED

Begin Design (Skillings Connolly, Inc., late summer 2020 through 2021)

- Surveying
- Easements
- Site assessments
- Design Documents
- Permitting

Construction (2022 through 2023 – later phase in out years 2025-2026)

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Existing Sewer System Operation

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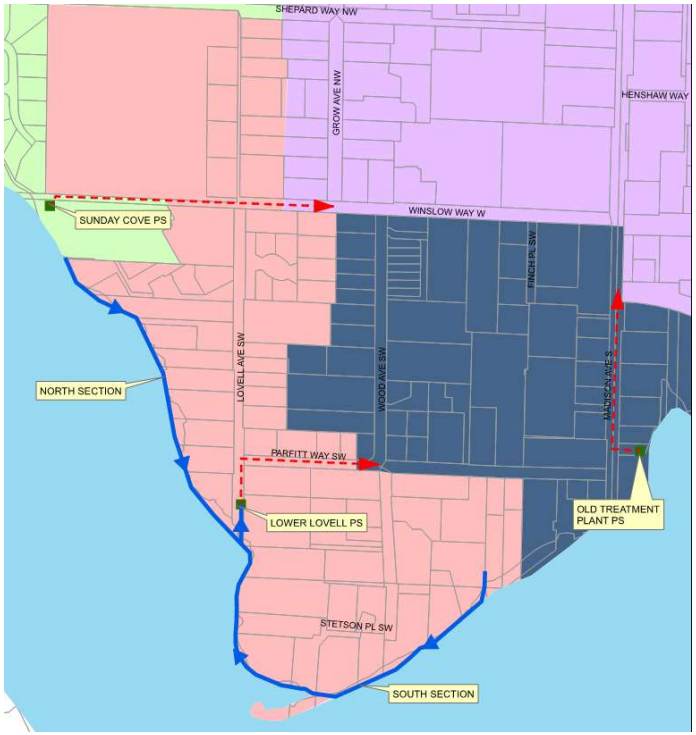
Existing Sewer System (cont'd)



EXISTING PINK SEWER BASIN SERVES 105 EQUIVALENT RESIDENTIAL UNITS (ERUs)

PROPOSED RE-ROUTING OF SEWER FLOW

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Proposed Sewer System Operation

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Types of Work to be Performed

- Pump station rehabilitation
- New pump station construction
- Sewer main construction
- Individual residential side sewers

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Pump Station Rehabilitation

Lovell Pump Station – To be rehabbed with new generator, new pumps, and controls

Sunday Cove Pump Station – rehabbed with new pumps and controls

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Pump Station Construction

Wood Avenue – New Pump Station Location in Public Parking Over Existing Sewer Main

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Pump Station Construction (cont'd)

Preliminary Conventional Pump Station Installation Sketch

Typically includes a deep below-ground structure (wet well) fitted with two or three large pumps, control panel and telemetry, power panel, emergency generator, and protective bollards, etc.

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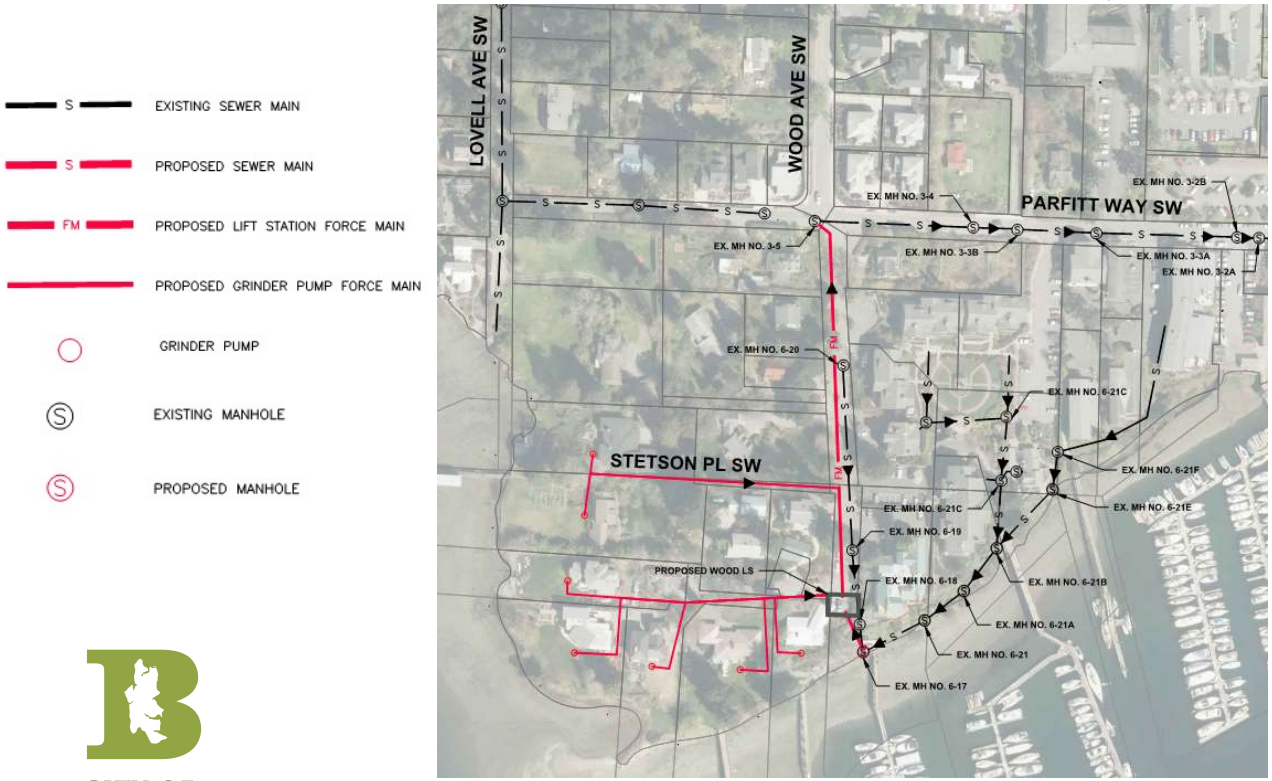
Sewer Main Construction & Pumped Residential Side Sewers

Wood Avenue Alternative W2 – New Pump Station



Wood Avenue and Stetson Place construction includes new pump station, force main, and new side sewers with grinder pumps

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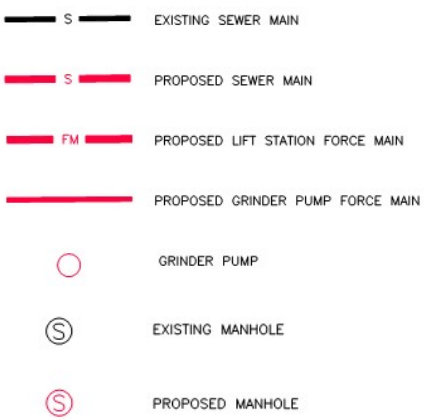
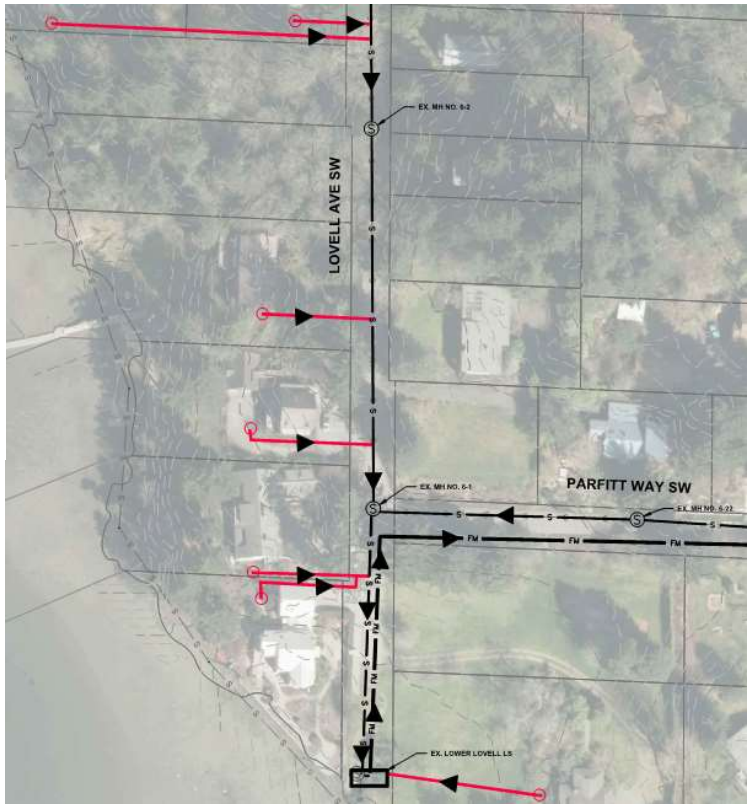
Pumped Residential Side Sewers

Lovell Avenue Grinder Pumps





West side Lovell customers fitted with grinder pumps to existing main in street

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Pumped Residential Side Sewers

Currently 300± individual residential pumps owned and operated by the City

- Rockaway Beach Road
- Point White Drive
- Byron Drive

- Standardized equipment
- On-call service contract

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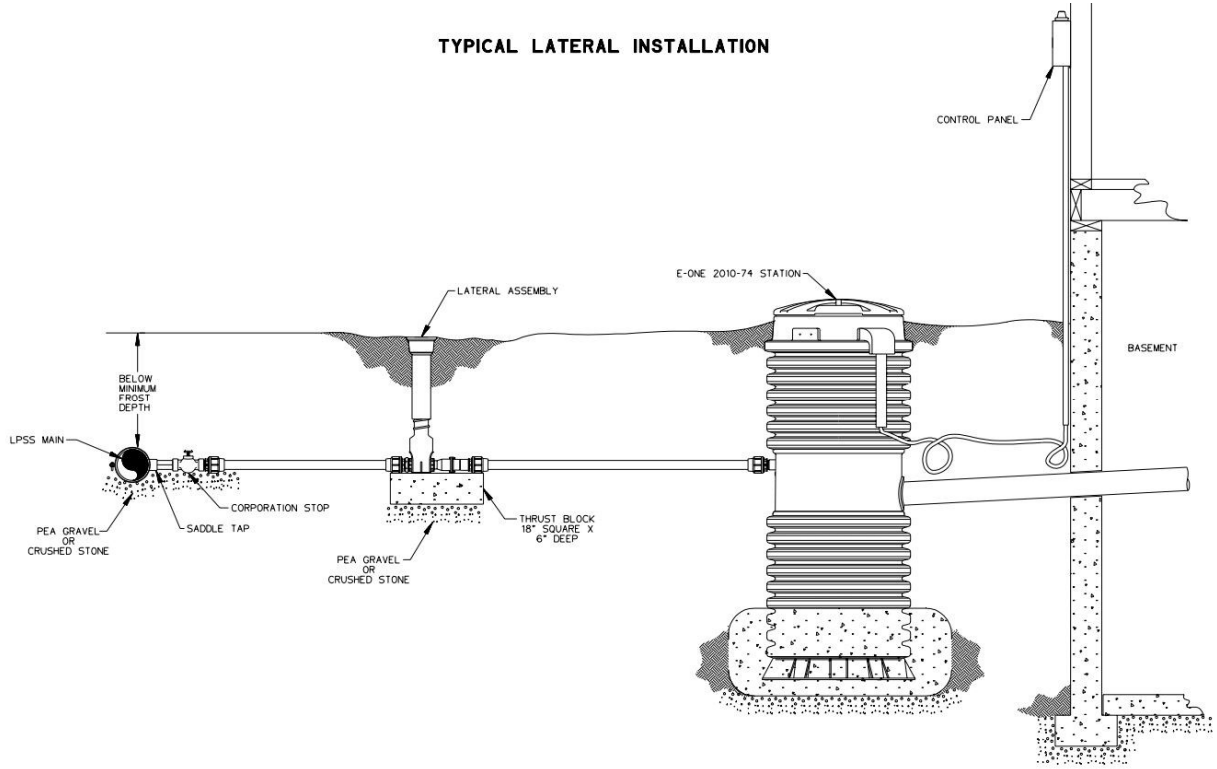
Pumped Residential Side Sewers



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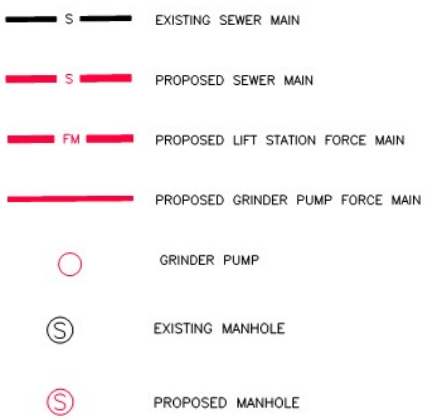
Gravity Residential Side Sewers (later phase to be discussed)

Sunday Cove Gravity Side Sewers



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Project Cost

- Ballpark total cost of construction = $5.35 million
- Covered by current rate study
- Monies earmarked in City's current Capital Improvement Plan (CIP)
- No additional cost to customers and property owners – City pays for all equipment, installation, and on-site private property restoration (landscaping features, etc.)

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Neighborhood Impacts

- Survey crew
- Individual residential side sewer installations
- Sewer main and pump station installation fronting property
- Local traffic revision and delays resulting from construction
- Construction related noise and vibration
- Visual impacts

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Next Steps

- Council discussion on 28th
- Design consultant contract
- Group and individual meetings
- Side sewer easements
- Contact with consultant design team and their surveyor

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