# Public Information Meeting
# Mechanic St. Pump Station Replacement
# September 21, 2026

AECOM Underwood Engineers terra firma landscape architecture

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## Agenda

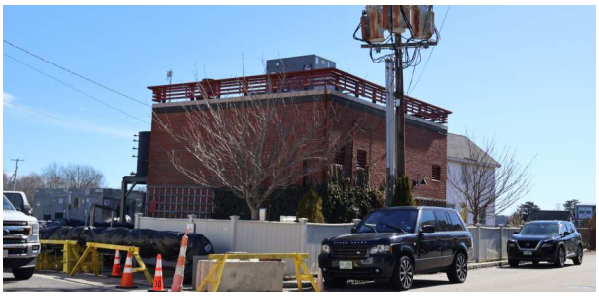
1. Introductions
2. Background, Needs and Goals
3. Proposed Concept
4. Alternatives Evaluated
5. Public Greenspace Amenities and Site Enhancements
6. Timeline and Next Steps



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## Background

- Largest Wastewater Pump Station in System
- Conveys Flows to the Peirce Island WWTF
- Located at 113 Mechanic Street in the Historic South End
- Constructed in 1963 and Past its Useful Life
- Recent Pump Failures



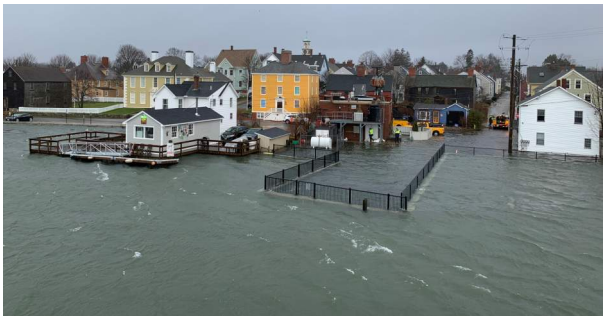




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## Project Need and Goals

- Replace Pump Station for Improved Reliability
- Meet Current Design and Operation Standards
- Integrate the Station into its Surroundings
- Protect and Plan for Sea Level Rise and Flooding Protection













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# Existing Site




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# Proposed Concept

- Connection to Prescott Park and Point of Graves Cemetery
- Improved Intersection Safety
- New Pump Station Control Building
- New Pump Station (Below Grade)
- Public Greenspace and Amenities




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# Proposed Concept Rendering

Prescott Park toward Mechanic St



*Preliminary – for Illustrative Purposes Only. Full Mature Plantings Depicted.*



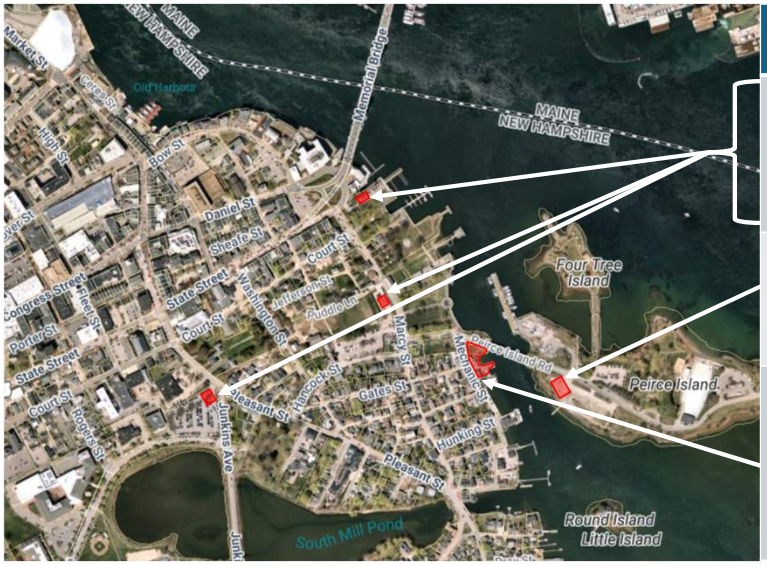
# Proposed Concept Rendering

Mechanic St toward Peirce Island Rd




*Preliminary – for Illustrative Purposes Only. Full Mature Plantings Depicted.*

# Alternatives Evaluated: Overall Summary




| Alternative | Proposed Locations | Options Considered |
|---|---|---|
| Relocation towards Downtown | One of 3 Parking Lots (Puddle Dock, Memorial Bridge, or Parrott Ave) | • 3 sub-options |
| Relocate Pump Station to Peirce Island | New station on Peirce Island via Underwater Pipe Tunnel | • 2 sub-options |
| New Pump Station at Existing Site | 113 Mechanic St. & 95 Mechanic St. & Prescott Park parcel | • 3 sub-options to reuse existing infrastructure<br>• 4 sub-options for new pump station |



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# Relocation towards Downtown

All Options Result in:

- Permanent loss of parking
- Major sewer system overhaul
- Neighborhood disruptions
- Mechanic St. Pump Station still required for reduced service area

**Not Recommended**

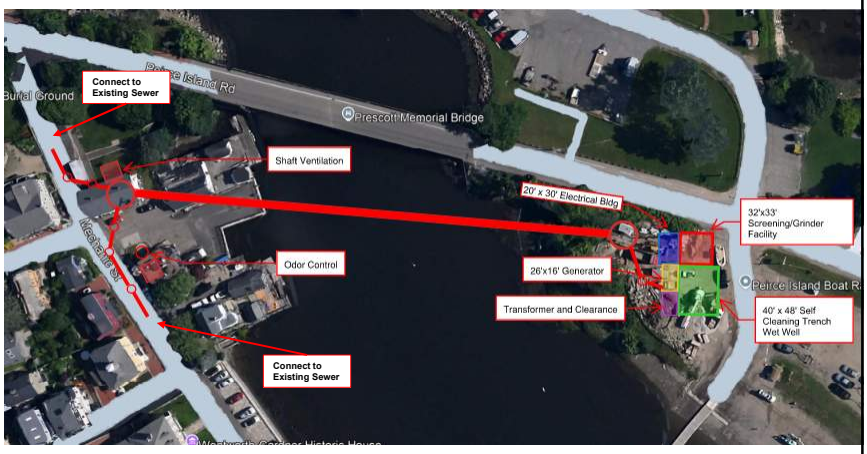





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# Relocate Pump Station to Peirce Island

- Directional Drilling Not Feasible
  - Challenging soil and rock conditions
- Micro-tunnel Cost Prohibitive
  - Deep drop shafts (~80-ft )
  - Sewer reconfiguration
  - Elevated odor control facilities
  - Ventilation facilities
  - Challenging construction
  - Additional maintenance needs

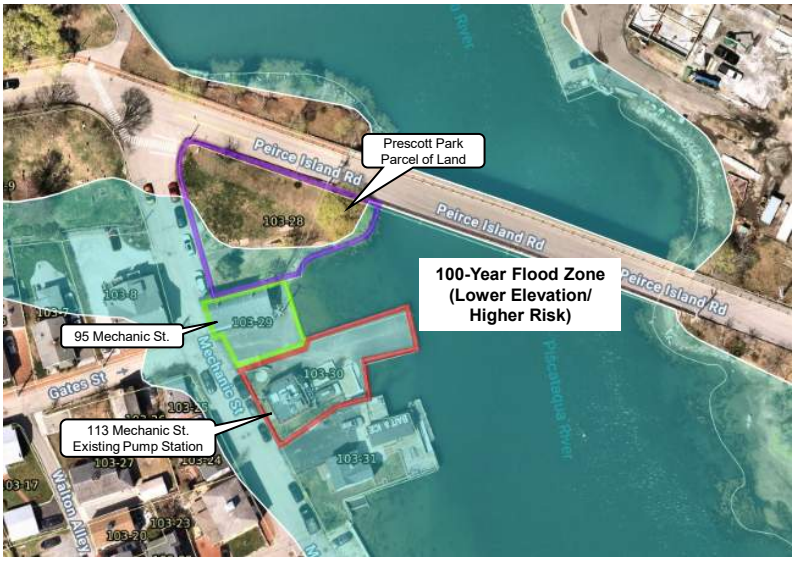



**Not Recommended**



# Evaluate New Pump Station at Existing Site

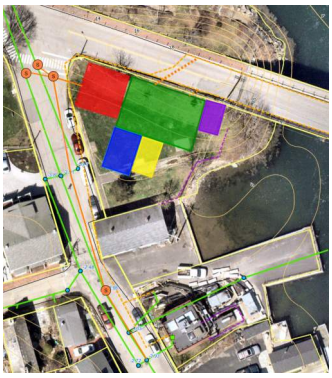
- Available area for new infrastructure
- Uses configuration of existing sewer collection system
- Existing pump station and 95 Mechanic St. in 100-Year Flood Zone (higher risk)
  - Low area of site – need elevated buildings or other flood protections
- Prescott Park parcel (lower risk)
  - Higher-ground elevation for above ground building



# Existing Site Alternatives Investigated

- Reuse Existing Infrastructure
- New Configuration Above Grade
- New Configuration Above and Below Grade
- Optimize Site for Public Benefit

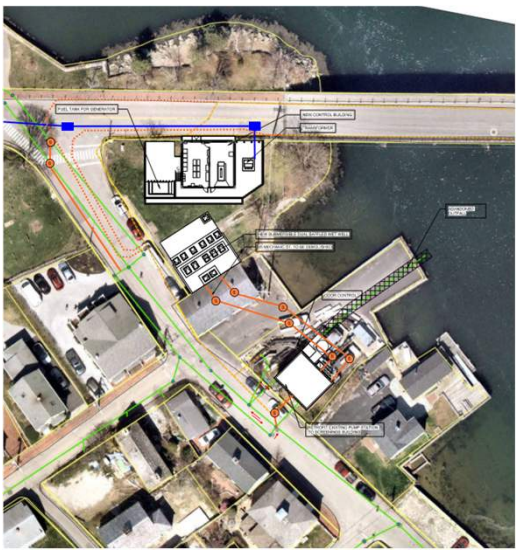






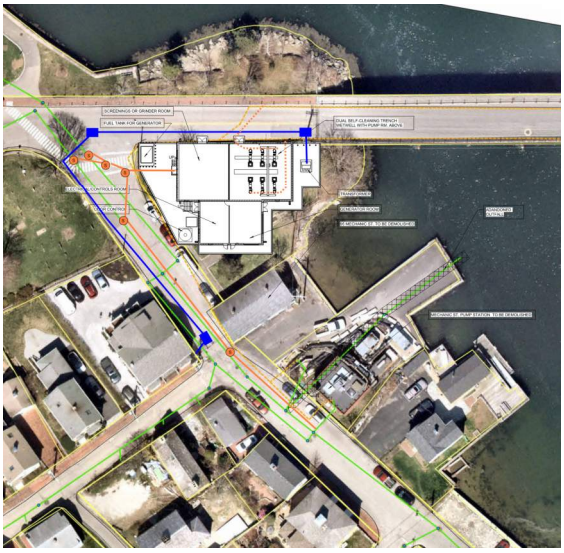
# Alternative A – Reuse Existing Infrastructure





# Alternative B – Consolidated Above Ground



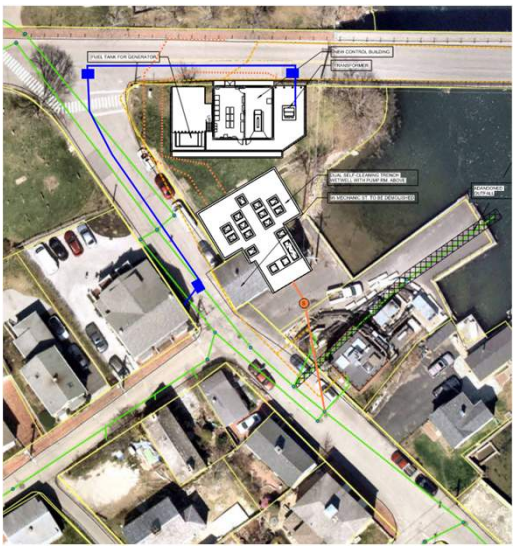
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# Alternative C – Above and Below Ground



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# Proposed Concept

- Connection to Prescott Park and Point of Graves Cemetery
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- Public Greenspace and Amenities






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# Proposed Concept Rendering

Prescott Park toward Mechanic St



*Preliminary – for Illustrative Purposes Only. Full Mature Plantings Depicted.*



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# Proposed Concept Rendering

Mechanic St toward Peirce Island Rd

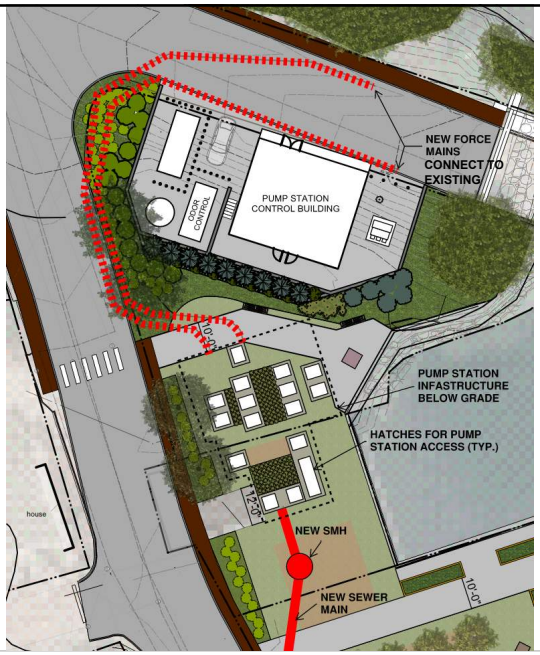



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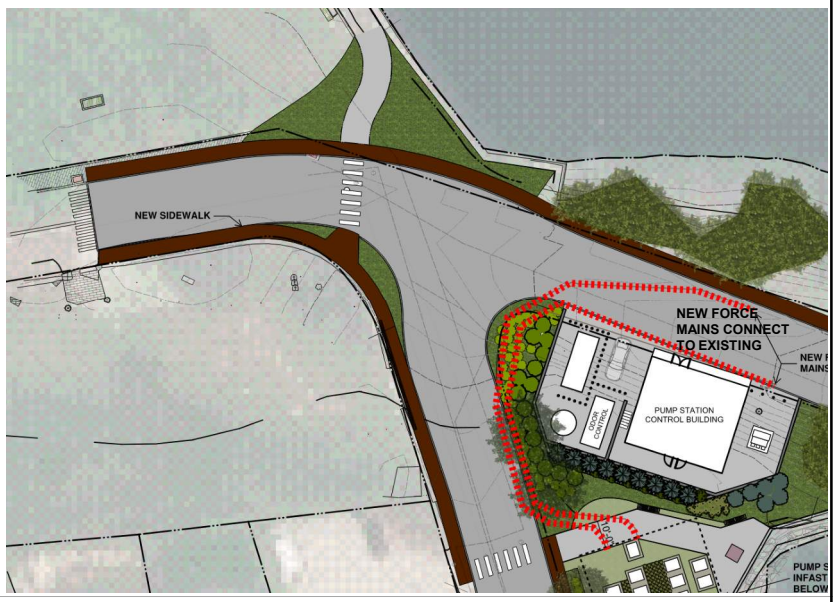
# Conceptual Pump Station

- Below Grade Pump Station
- Control Building
- Support Equipment
- Landscape Features
  - Retaining walls
  - Terraced plantings
  - Greenery to shroud exterior equipment



# Conceptual Intersection Improvements

- Safety Improvements
- Revised Pedestrian Pathways
- Additional Sidewalks
- Intersection Alignment Adjustment
- Access to New Greenspace



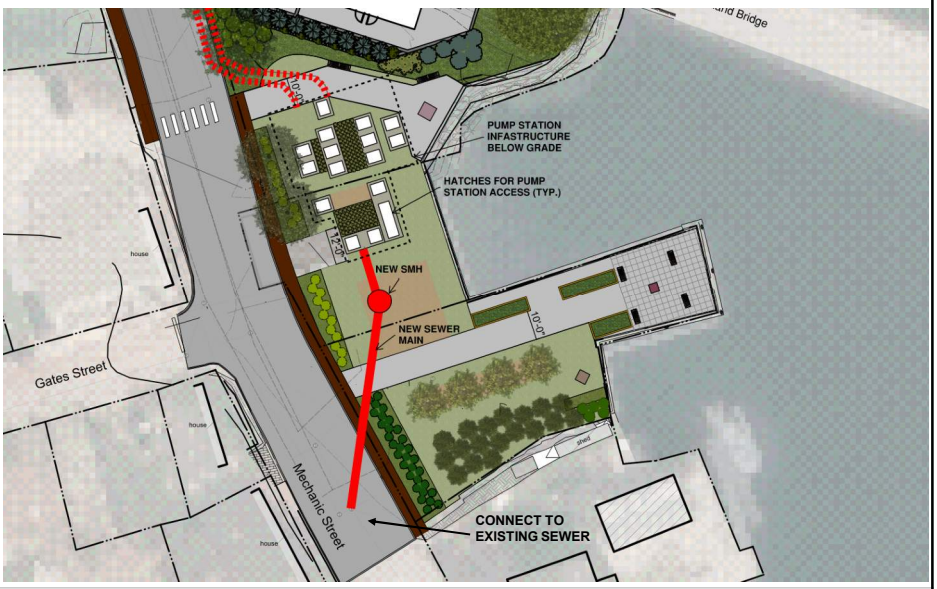

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# Conceptual Greenspace

- Seating
- Walking Pathways
- Art Opportunities
- Plantings
- Greenery




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# Timeline

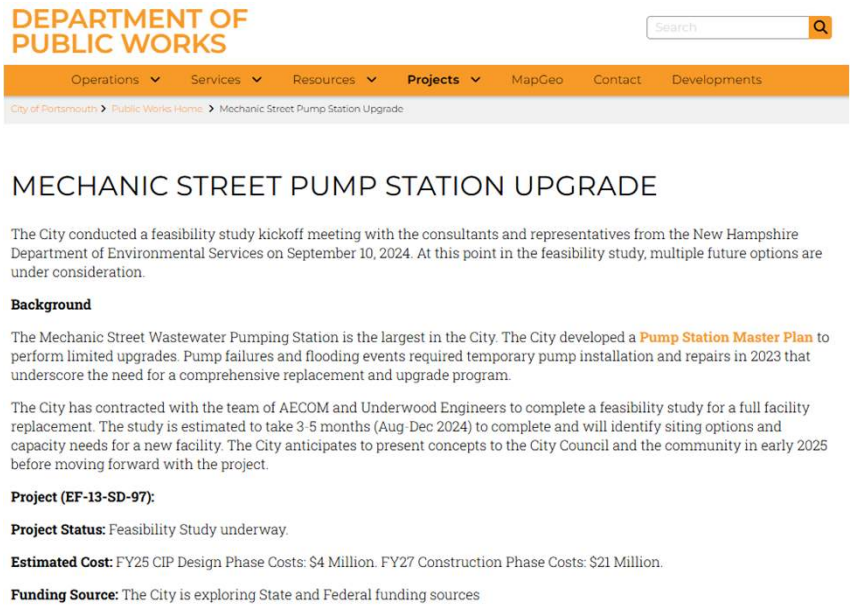
- May 2026: Feasibility analysis **(Completed)**
- May – June 2026: FY27 Capital Improvement Plan **(Completed)**
- June 2026: CWSRF Pre Application **(Completed)**
- June 22, 2026: City Council Work **(Completed)**
- June 2026: Begin Discussions with NH Charitable Division of Attorney General's Office **(Completed)**
- July 2026 – November 2026: Initial Public Outreach Process **(Ongoing)**
- October 2026 – March 2027: Preliminary Design and Updated Cost Opinion
- April 2027 – December 2027: Final Design
- April 2028 – November 2029: Construction



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# Next Steps

1. Incorporate Feedback From this Public Outreach Session
2. Public Meetings (One) (October)
3. Online Option for Public Feedback
4. Presentation to PARC
5. Update on Public Input



DEPARTMENT OF PUBLIC WORKS

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Operations Services Resources Projects MapGeo Contact Developments

City of Portsmouth > Public Works Home > Mechanic Street Pump Station Upgrade

## MECHANIC STREET PUMP STATION UPGRADE

The City conducted a feasibility study kickoff meeting with the consultants and representatives from the New Hampshire Department of Environmental Services on September 10, 2024. At this point in the feasibility study, multiple future options are under consideration.

**Background**

The Mechanic Street Wastewater Pumping Station is the largest in the City. The City developed a **Pump Station Master Plan** to perform limited upgrades. Pump failures and flooding events required temporary pump installation and repairs in 2023 that underscore the need for a comprehensive replacement and upgrade program.

The City has contracted with the team of AECOM and Underwood Engineers to complete a feasibility study for a full facility replacement. The study is estimated to take 3-5 months (Aug-Dec 2024) to complete and will identify siting options and capacity needs for a new facility. The City anticipates to present concepts to the City Council and the community in early 2025 before moving forward with the project.

**Project (EF-13-SD-97):**

**Project Status:** Feasibility Study underway.

**Estimated Cost:** FY25 CIP Design Phase Costs: $4 Million. FY27 Construction Phase Costs: $21 Million.

**Funding Source:** The City is exploring State and Federal funding sources



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