Lowman Beach Feasibility Study

Public Meeting 05.31.2017

Seattle Parks & Recreation

The following information was presented at a public meeting held on May 31, 2017, 6:30 PM at The Hall at Fauntleroy. Information represents work-in-progress and does not indicate final findings or conclusions of the feasibility study.

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Photo: DOE 7.29.2016

Scope of Work

1. Project Management & Communication
2. Site Investigation
3. Technical Studies
    - Ecological
    - Geotechnical
    - Historical & Archeological
    - Coastal
    - Structural
4. Alternatives Analysis.
    - Develop Different Concepts
    - Public Meeting
    - Refine Concepts and Preferred
    - Feasibility Study Report, July 2017

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Lowman Beach Park
Legend
Google earth
N
100 ft


1876


1939


1977


Lowman Beach Park
Legend
Google earth
N
100 ft

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Technical Studies – Ecological

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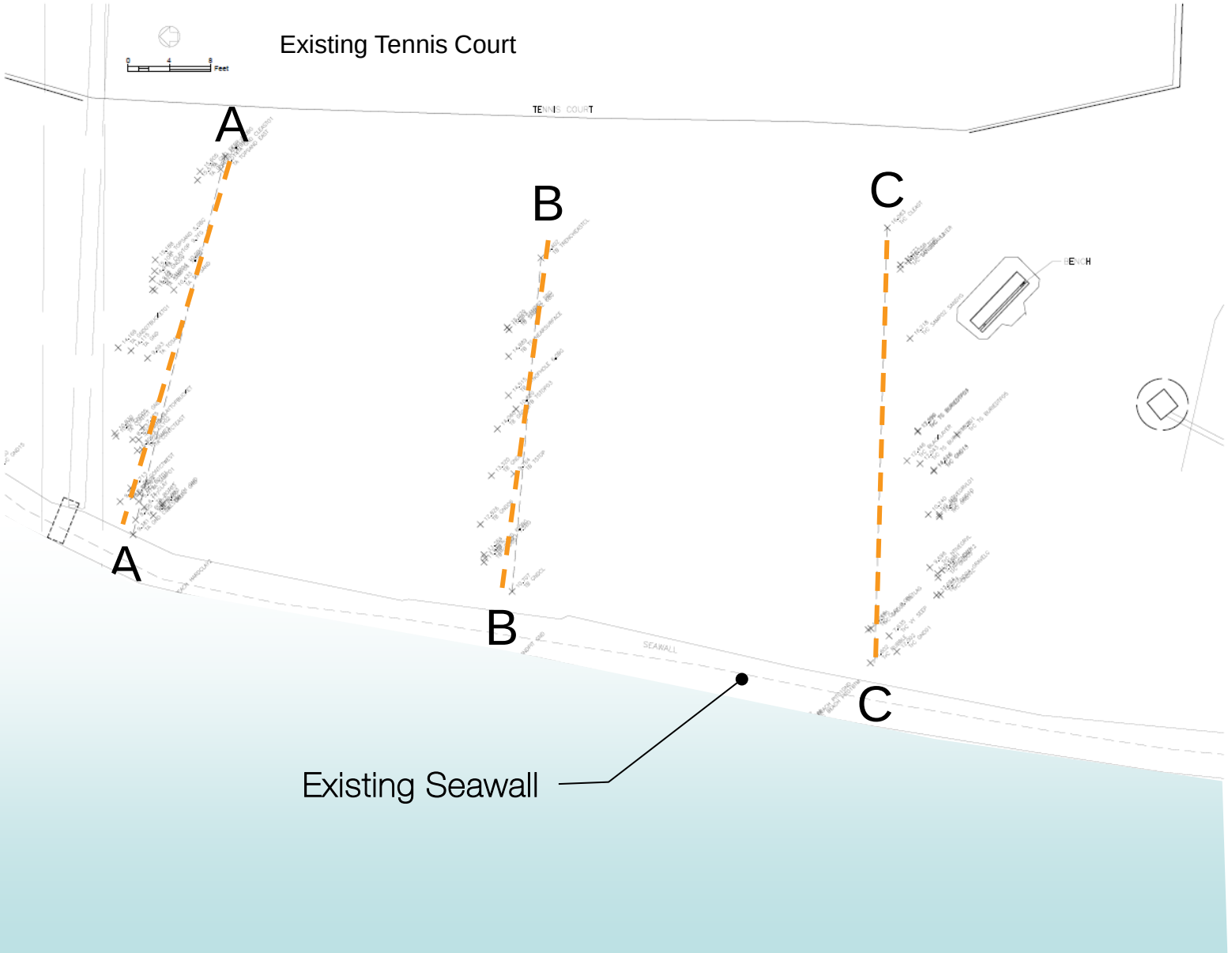
- No wetlands observed onsite from site recon.
- No surveyed forage fish spawning at this site
- Sediments are generally to large to support sand lance.
- Some lenses of sandy gravel may support surf smelt
- Shorebirds and waterfowl use the site (Killdeer, heron, ducks, etc.)
- Removal would require work above and below OHWM, and MHW, thus involving US Army Corps and WDFW

Technical Studies - Geotechnical



Technical Studies - Geotechnical

Technical Studies - Geotechnical

- Test pits performed 5/3/2017
- Encountered some rubble (mostly rock & sidewalk pieces)
- Observed 2 to 5 ft of fill over outwash and silty clay.
- Abundance sand and gravel beneath the surface, with some stiffer clay materials near the bottom of the wall elevation (+4) at Trench A & B.
- Materials behind wall can be eroded by waves/tide
- Potential to reuse some excavated materials for restored beach

Technical Studies – Archaeological

Photo: Seattle Municipal Archives 1936

Technical Studies – Archaeological

Technical Studies – Archaeological

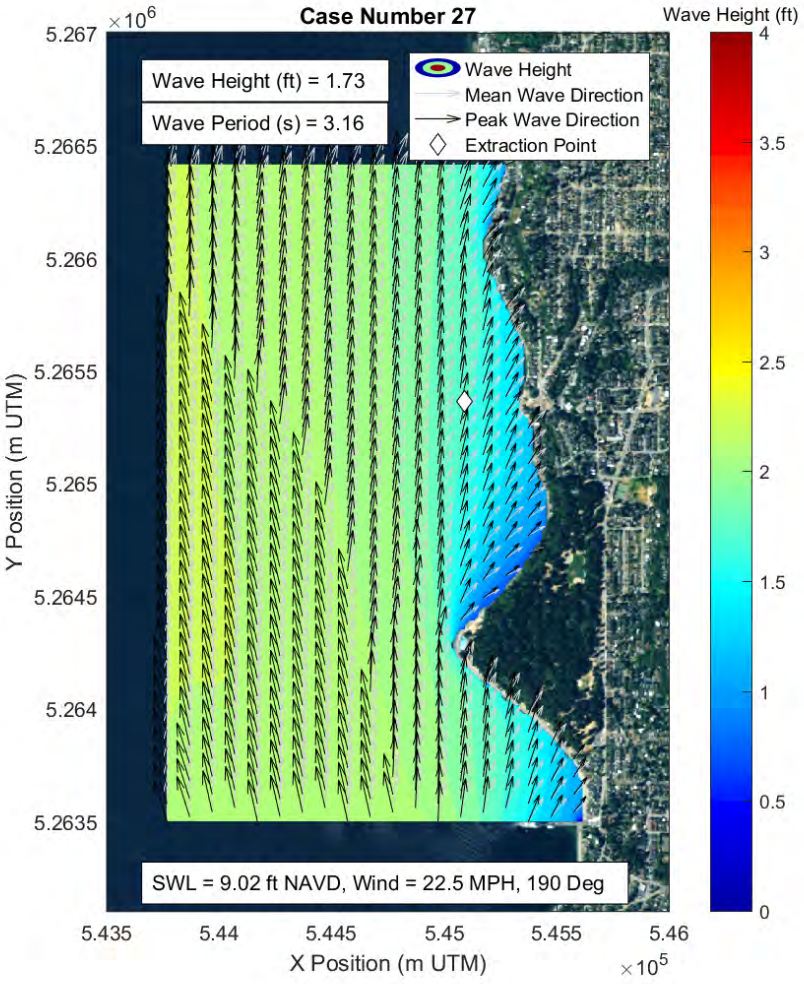
- Tennis court constructed by WPA in 1930's along with seawall
- Original seawall replaced in the 1950s
- No pre-contact artifacts were encountered during excavations and there were essentially no interesting cultural materials within the trenches
- Coordination with tribes and US Army Corps reporting still needed for permitting but additional field investigation not anticipated
- Unlikely that cultural or historical resources will dictate design alternatives or constructability.

Technical Studies - Coastal

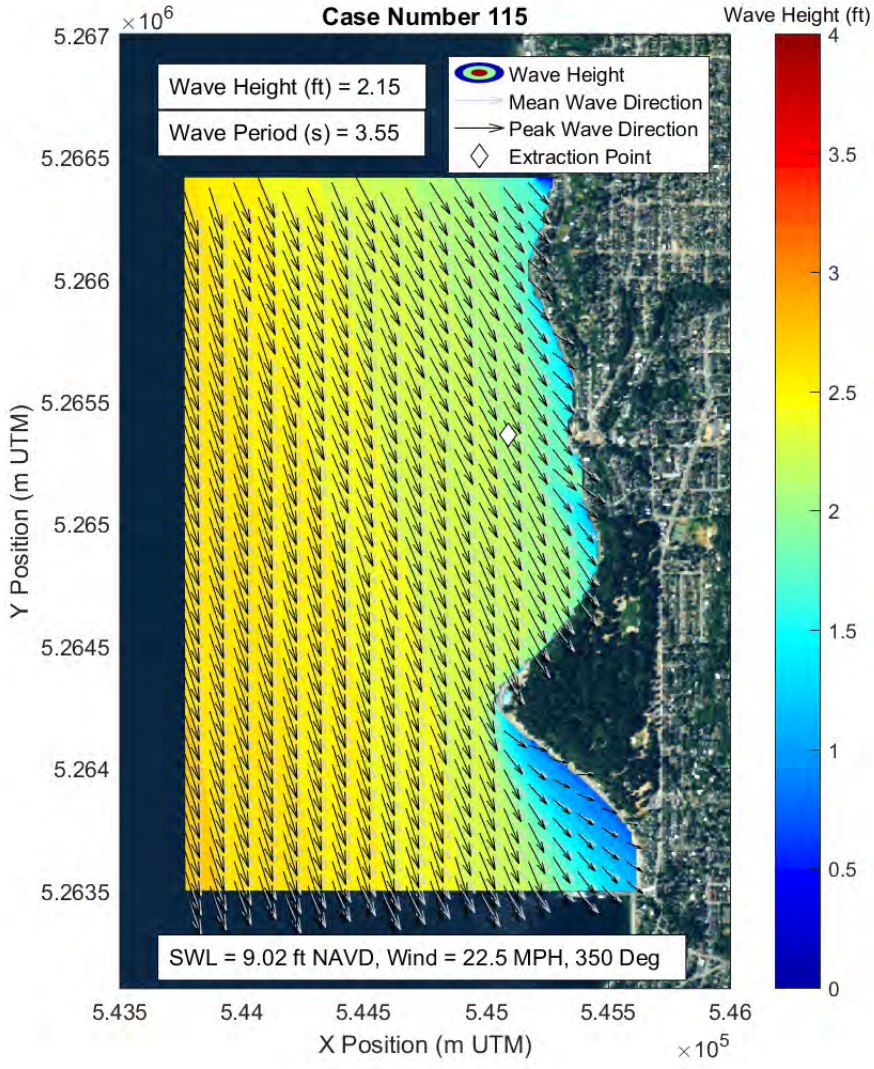
Technical Studies - Coastal

Technical Studies – Coastal Wave Model

Waves from South



Waves from North



Technical Studies – Coastal Wave Model

Technical Studies - Coastal

Net drift towards the north, however:

- Net drift is very slight and nearly in balance
- Net drift reverses from year to year
- Little material is available to be transported or retained to the north of park

Technical Studies - Coastal

- Historically was low bluff-backed beach & creek mouth
- Accretion shore form evidenced by survey and photos
- 1920's shoreline was located landward of existing MHHW
- Since the 1990's material has accumulated on beaches to the south (approx. 3 ft higher along south property line)
- Net drift slightly to the north, but direction reverses and varies
- Beaches to the north have deficit of sediment and lack the capacity to accumulate and retain beach sediment due to structure position and exposure

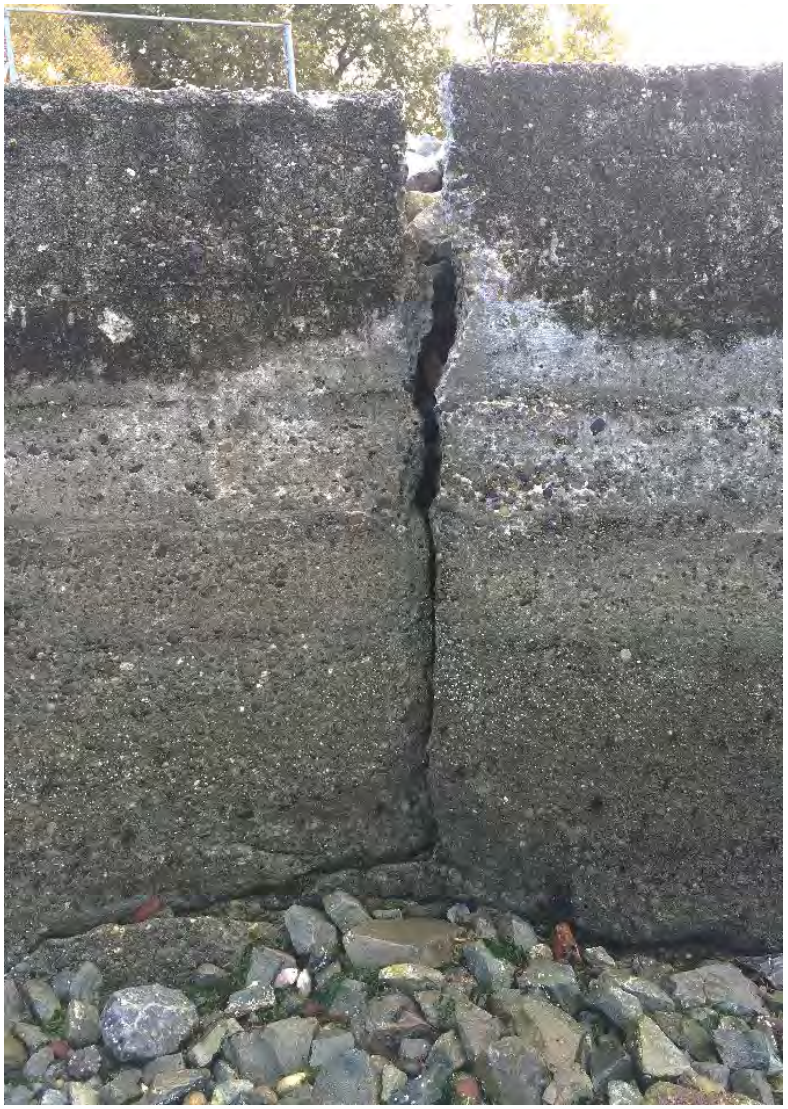
Structural - Existing Conditions

Failure of Existing Wall

- Undermined over time, toe exposed
- Settlement/rotation
- Outfall disconnected

Reuse of Portions of Existing Wall

- Susceptible to similar failure



Structural – Replacement Concepts

Seat Wall at Edmonds waterfront
Reid Middleton

New Elliott Bay Seawall
SDOT

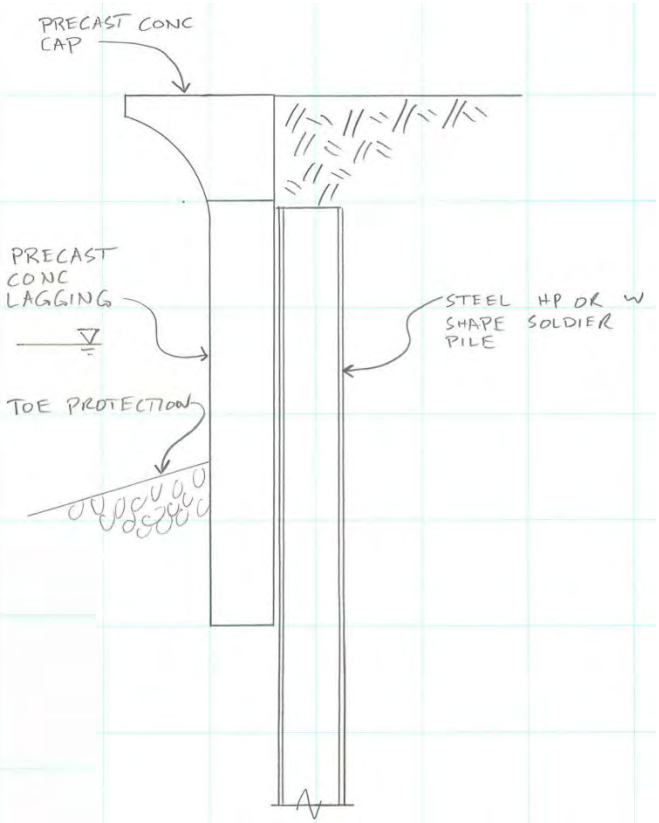
Structural – Replacement Concepts

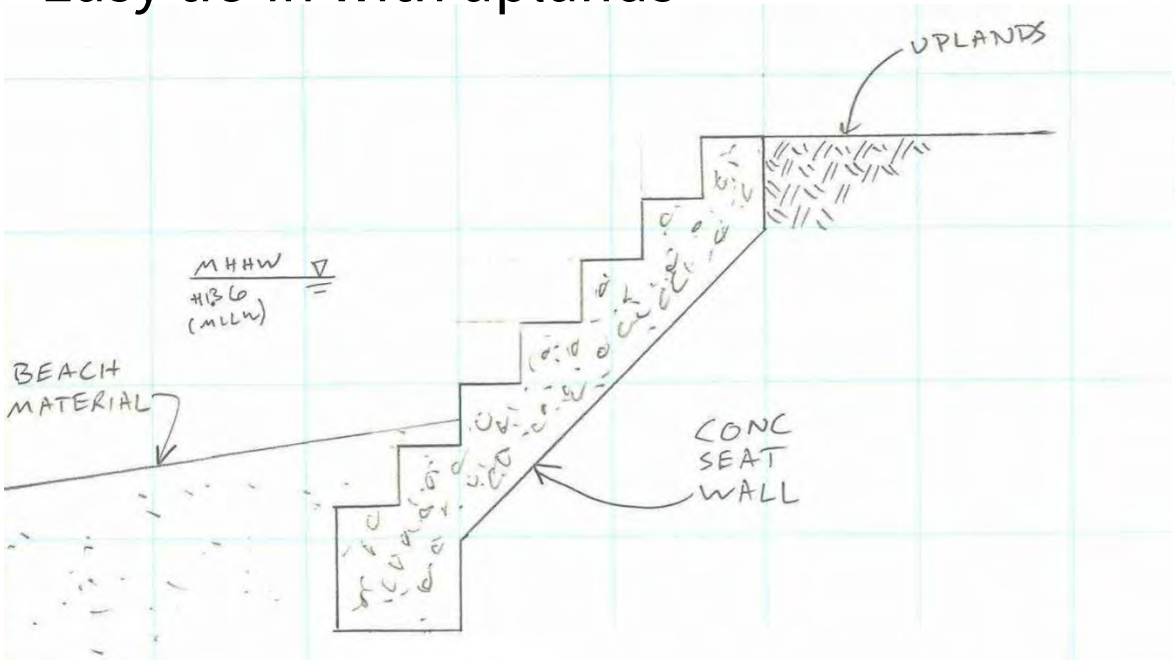
Precast Concrete Sea Wall

- Easy/Fast to Construct
- Durable
- Geometric Limitations

Cast-In-Place Concrete Seat Wall

- Can accommodate curved layouts
- Easy tie-in with uplands





Design Concepts

See Boards