

Memorandum

March 13, 2019

To: Tim Bell, Washington State Parks and Recreation Commission

From: Anna Spooner, Anchor QEA, LLC

cc: Michael Hankinson, Washington State Parks and Recreation Commission
Peter Hummel, Anchor QEA, LLC

Re: Fort Worden Marine Facilities Preliminary Design Program

This preliminary design program is the starting point for the Fort Worden Marine Facilities project design and consists of a list of the design assumptions and elements and that will be included in the project's conceptual alternative plans.

Design Assumptions

Design Life

The project's design life is 50 years.

Sea Level Rise Projections

The project will forecast sea level rise to 2070, as follows:

- Projected mean higher high water (MHHW) elevation ranges are 9.6 to 9.8 mean lower low water (MLLW), a 0.9- to 1.1-foot increase from current MHHW
- Projected Highest Astronomical Tide (HAT) ranges are 11.1 to 11.3 MLLW, a 1.1- to 1.3-foot increase from current HAT
- The projected 2070 MHHW is very similar to the current HAT elevation (10.0 MLLW)

Design Elements: Built Facilities

Boat Launch

- The structure will be an elevated boat launch.
- An elevated trestle will extend from the upland loading/circulation area to a waterward float and will be constructed on steel piles.
- The toe of the elevated trestle will extend waterward to allow for boat launching at extreme low tides during summer months (-4.0 is current Lowest Astronomical Tide).
- The deck elevation of the trestle will be set between 2 and 5 feet above the existing beach grade to allow/improve littoral drift along the shoreline.

- The elevated trestle will accommodate two 10- to 12-foot-wide vehicle lanes and one 6-foot-wide pedestrian pathway.
- The pedestrian pathway will connect to a grated gangway and grated float.
- Grating will meet the Washington Department of Fish and Wildlife (WDFW) 62% open area requirement.
- The pedestrian pathway will be ADA accessible.
- There will be a boat washdown area at the boat launch entry/exit.

Existing Pier

- The existing pier will be rehabilitated (piles and framing) to achieve the 50-year design life.
- The existing pier guardrails will be rehabilitated and/or replaced.
- The existing pier's concrete deck will be replaced with grating, as required by environmental permit agencies (entirely grated everywhere, exemptions for loading).
- The existing pier will be reconfigured for future water taxi connection (future gangway and float attachment).
- A sewer and water utility connection will be added to serve the Marine Science Center (MSC) building.
- The existing pier will be seismically upgraded to accommodate the expansion of the pier building and meet the building code.

New Pier

- A new pier will accommodate pedestrians only (no vehicles).
- The pier will be 6 to 8 feet wide.
- The pier will be supported by piles.
- The new pier will have a grated deck.
- Grating will meet the WDFW 62% open area requirement.
- The pedestrian pathway will be ADA accessible.
- The pier will have a wood guardrail.
- The pier will be designed for a future water taxi connection (future gangway and float attachment). It will extend far enough waterward to accommodate water taxi vessels.

Marine Science Center Building

- MSC space will be expanded to accommodate a 9,000-square-foot facility. Expansion could include rehabilitating current indoor spaces and/or constructing new indoor spaces.
 - Currently the MSC accommodates 6,200 square feet of indoor space, including: the MSC aquarium (2,540 square feet), the MSC museum (2,260 square feet), and administrative/storage spaces in Buildings 200 and 298 on the bluff (700 square feet in each)

- Any changes to the current MSC space will need to be accommodated in new MSC spaces in addition to the expansion area, as follows:
 - Expand exhibit space by 100% (from 2,861 square feet to 5,500 square feet).
 - Expand Lifelong Learning Center classroom space by 50% (from 1,228 square feet to 1,850 square feet).
 - Expand laboratory space by 100% (from 324 square feet to 650 square feet).
 - Accommodate storage and office space at the beach (1,000 square feet for both). These facilities are currently upland of the bluff in Buildings 200 and 298.

Design Elements: Parking and Circulation

The design program only addresses the Discovery Pass parking area. It is assumed that the existing MSC parking area next to the canteen will remain and will not be affected as part of the project.

Boat Launch Parking

- Maintain existing parking stall counts.
- Provide parking for 16 to 20 trucks and trailers.
- Provide a pedestrian pathway.

Harbor Defense Way Parking

- Maintain existing parking stall counts.
- Provide parking for 60 to 70 vehicles.
- Provide a pedestrian pathway.

Design Elements: Recreation Amenities

Provide the following facilities:

- Water filling station
- New diving park upland facilities
 - Two outdoor showers
 - Orientation area with two to four benches and two to four picnic tables
- Interpretive signage (history, culture)
- Environmental education signage
- Six to 10 benches along pedestrian pathways
- Two to four benches on the pier structure
- Two to four benches at the boat launch entry
- Four to eight picnic tables in the project area
- Four to eight trash and recycling receptacles in the project area

Design Elements: Lighting

- Provide pedestrian scale lighting on the pier structure

Design Elements: Utilities

- Extend sewer and water utility connection on the existing pier to serve the MSC building
- Provide stormwater drainage for new paving