Elliott Bay Project: The Alaskan Way Seawall

Background

The Elliott Bay Seawall runs for 7,000 feet along the Seattle waterfront. The project was constructed between 1916 and 1934 to provide level access to Seattle’s piers and to support the Alaskan Way Viaduct and surface street.

The seawall is a concrete wall secured by a 60’ wide timber tie-back structure that supports the fill underneath the surface street and the Viaduct. The timber was left untreated when the wall was built, and has significantly deteriorated. Since the strength of the seawall is in the timber tie-back, the concrete and steel that is visible would collapse without it.

Tests have revealed that the timber has been vulnerable to gribbles, which are microscopic marine borers that consume wood. The structure is now extremely fragile, and if a catastrophic failure of the seawall were to occur, there would be severe damage to the city and regional economies, and potential loss of life.

Current seawall a threat to downtown Seattle and the Northwest economy

The Puget Sound area was shaken by the magnitude 6.8 Nisqually Earthquake in 2001. The quake was felt as far away as Salt Lake City and caused widespread damage to buildings, roads, bridges - and the seawall. Inspections by the City of Seattle revealed the seawall suffered extensive damage due to the quake, and concluded that the structure cannot withstand another seismic event.

Even without another natural catastrophe, the seawall is not expected to last another 50 years. Eventually, enough of the timber will be lost and parts of the concrete and steel wall will begin to fail. Whether from a seismic event in the near term, or from continued deterioration over the longer term, the people and economy of Seattle and the region would be drastically affected:

- 110,000 vehicles per day travel on the Alaskan Way Viaduct
- 12,000 vehicles per day travel on the Alaskan Way surface street
- 30,000 passengers per day use the Colman Ferry Terminal
- The waterfront is a major utilities corridor serving downtown Seattle and the region
- 24 freight trains and 6 passenger trains travel the waterfront every day
- The City of Seattle’s waterfront is a major tourist destination
- Access to Port of Seattle cargo terminals and billions of dollars of international trade

Moving forward

The current plan calls for replacing the seawall in two phases. The first phase is from Washington Street to Pike Street, with construction expected to begin in 2013. The second phase, from Pike Street north to Broad Street, would follow as funding is secured. The goal is to have Phase 1 construction completed before the existing Alaskan Way Viaduct is demolished in 2016.

The FY2013 U.S. Army Corps of Engineers budget did not include funding for this project. However, PNWA is seeking $750K to support completion of 10% of the design, selection of preferred alternatives, followed by completion of 35% of design.

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