



July 26, 2012

Mr. Randy Hayden
Port of Pasco
PO Box 769
Pasco, WA 99301

RE: PORT OF PASCO, OLD GRAIN TERMINAL PIER

Dear Randy:

This is the report on the Old Grain Terminal Pier located on West River Street. The pier structure is an approximately 240 feet long, single story, wood frame structure supported on wood piles. Approximately 95% of the pier structure is over the waters of the Columbia River.

Meier Architecture • Engineering (Meier) conducted a site observation of the facility on April 30, 2012. The observations were visual only, and no material testing or other inspections were done. The observation was for general layout and construction of the structure, so not every structural member was observed. Certain measurements were taken to determine general structural layout.

OBSERVATIONS

For both the main pier and the east pier, the floor is a wood framed deck consisting of 2x4's set vertical side by side bearing on 6x12 joists at 2'-0" center to center, which in turn bear on 12x12 girders on 11'-6" to 12'-0" spacing. The girders are supported by 11" diameter wood posts that are located at 5'-6" to 6'-6" on center spacing.

The independent walkway between the main pier and the east pier was also constructed of a wood framed deck consisting of 2x4's set vertical side by side bearing on 12x12 girders on the north and south side. The girder is support at two locations with another 12x12 beam that bears on 11" diameter wood posts. The retaining wall is a vertical concrete wall with a shotcrete formed concrete angled toe wall at the base.

The piles are braced by diagonal wood X-bracing in both the east to west and north to south directions. The bracing occurs from the bottom of the joists to essentially the water line. From the water line to the ground below, the piles appear to be cantilevered.

VISUAL FINDINGS

We observed approximately 8 bays where there appears to be extensive crushing of the girders on the wood piles.



This crushing was observed on the first four piles on the north end of the pier near the loading dock between bays 4 to 11, with bay one occurring on the west end of the pier.



There were also a few sections of the shotcrete retaining wall that has spalled off and are bearing against the 11" diameter posts.

CONCLUSIONS

Based on our visual observations, the Old Grain Terminal Pier does not have adequate load carrying capacity to support a car or truck loading, but is still adequate for pedestrian loading. However, the walkway to the east of the main pier is not recommended for any use. The east pier has limited access due to not allowing access to the walkway and the height of the structure above grade. It is recommended that stairs are provided to access the east pier. In addition, it is also recommended that the pieces of spalled shotcrete wall that are bearing on the posts be removed.



The existing bollards/mooring posts are damaged in places and it is recommended that barges not tie off until they can be reinforced back to the wood structure. Refer to attached sketch SKS-01 for recommended bollard/mooring post fix.

The piles should be checked for soundness at least every 10 years and may be due for such an inspection. It is recommended the wood structure should be inspected every five (5) years for damage, or sooner, if concerns develop. Because of the lack of positive anchorage of the joists, beams, and piles, the structure should be inspected after a big wind or seismic event.

Please let us know if you have any questions. I can be reached at 509.735.1589.

Sincerely,

Paul M. Giever, S.E.
Project Engineer

PMG:sjm

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