

APPENDIX A

WATERWAY USER SURVEY DATA

Disclaimer: The responses from interviewees are presented in this appendix. The views and opinions expressed are those of the interviewees and do not necessarily reflect the views of LDWG or any other agency or organization. All information in this appendix is provided “as is,” with no guarantee of completeness, accuracy, suitability, or validity.

Interview ID:	125
Interviewee:	Port of Seattle
Subject property(s):	T-108W shoreline parcel/Diagonal Ave S Public Access (Salmon Bay Barge Line, Inc.)
Date of Interview:	6/9/2017
Business/organization type:	Barge shipping
Business physical address(es):	4699 Diagonal Ave S, Seattle, WA 98134
Tax parcel ID#:	7666700510
Approximate river mile:	0.5–0.7 E

DESCRIPTION OF WATERWAY-DEPENDENT USES

Please provide a general description of your current activities that are dependent on use of the waterway (e.g., vessel operations, waterfront facility operations).

Salmon Bay stores one empty deck barge at a time at the overwater structure.

Over what area of the entire LDW (e.g., between what approximate river miles) do you typically operate? If applicable, indicate whether your activities are constrained to a particular side of the waterway (the interview team will utilize the attached maps to prepare sketches and make notes, as needed).

Interviewee does not know transit route. Will follow up. Interviewee does not think that Salmon Bay has other facilities on LDW so likely does not travel upstream from T-108.

Are your waterway-dependent activities continuous or intermittent/seasonal in nature? Please describe the frequency of your operations.

No seasonality. Often one barge is moored at site.

Briefly describe any waterway features of importance to your operations (e.g., turning basins, actual or authorized navigation and berthing areas and depths, wharves, piers, pilings, dolphins, or other structures).

Do not use any other features, per interviewee's knowledge. Likely travels down navigation channel, but transit route is unknown.

Briefly describe any physical constraints that affect your operations (e.g., tidal conditions, waterway width or depth).

Duw/Diag EAA cap constrains ability to spud or anchor. Vessel speed constraints are not defined, though maneuvering must be slow close to structure to safely berth.

INFORMATION SPECIFIC TO OPERATION OF VESSELS

Are your vessel operations dependent on water depths or tide levels, time of year, or bridges? If yes, please describe.

No

Please describe your typical transit route(s) (the interview team will sketch on the attached waterway overview map, as needed).

Not known

Please describe the vessel(s) that you typically operate on the LDW (i.e., type, beam, length, draft, capacity, horsepower). We are interested in approximate number of vessels operated and frequency of each type of vessel traffic (i.e., per week, month, or year).

One empty barge at a time (deck barge).

Please describe other relevant operational characteristics, including berthing and anchoring. We are interested in learning about typical vessel maneuvering, including in and around piers.

No anchoring or spudding allowed.

If you are a tugboat operator, please describe the companies/facilities that you typically serve.

n/a

If your operations are supported by tugboat operators, which operator(s) do you typically use for support?

Tug is used. Interviewee does not know which company is used.

For activities involving barges, when and where are spuds used (or are moorings used instead)?

Spuds not used for Salmon Bay barge at T-108.

For activities involving barges, identify areas of the waterway (if any) where barges are towed and staged/anchored. Also identify areas where barges are pushed. Is it typical to allow bow-mounted bridle chains to be lowered and dragged? If so, note under what

conditions this occurs, and within what areas of the LDW. (The interview team will sketch on the attached waterway overview map, as needed.)

No bridle chain dragging known to occur in LDW, per interviewee.

FACILITY-SPECIFIC INFORMATION

Are as-built drawings, design plans/profiles, or other schematics illustrating the structural configuration of your waterfront or overwater structures (e.g., piers, wharves, bulkheads) available for copying? If yes, the interview team would appreciate noting the general types of documents that are available and any follow-up actions that may be needed to obtain them.

Interviewee has no drawings.

Are dredge records for establishment and maintenance of berthing areas, including authorized dredge depths and limits, available for copying? If yes, the interview team would appreciate the opportunity to note documents that are available and any follow-up actions that may be needed to obtain them.

This structure is at the Duw/Diag EAA cap. LDWG has documents related to dredge/cap activities at EAA.

FUTURE ACTIVITIES

Please describe any planned facility/infrastructure maintenance, development or improvement projects, operational modifications, or other plans that will affect your property's shoreline or affect your future use of the waterway, both within the short term (2 to 5 years) and the longer term (more than 5 years).

No future plans. However, piles are wood and will be replaced with steel if begin to deteriorate. Catwalk is condemned, but interviewee is not sure if it will be or should be fixed.

Is documentation available regarding future plans? We would appreciate discussing these plans with you, and if possible, obtaining copies if they are available.

n/a

FOLLOW-UP ACTIONS

Based on the discussion of topics and questions listed above, please let us know if there are additional tenants or other waterway users that we should contact.

Contact Salmon Bay

For waterfront facilities with in-water structures, we would be grateful if we could arrange a brief follow-up visit to document the type, location, and general condition of the structure(s). Our intent is to conduct this assessment using a small vessel on the LDW, and to perform all observations from a safe working distance to avoid interrupting facility operations, unless otherwise arranged in advance. You would not be required to be present during this survey, although you will be notified in advance when it will occur. Also, could you please provide a facility contact with whom the in-water team can coordinate further, prior to conducting the assessment.

Best to view from water; contact Salmon Bay.

ADDITIONAL DESCRIPTION

Salmon Bay uses overwater structure to tie one empty barge at a time. Public access may be at street end (Diagonal), but no public access to overwater structure. Shoreline and catwalk are dilapidated and unsafe for public access. Soil for dirt bike track construction (possibly for events at Century Link) is stored in the uplands. Tribes also place nets on/near structure when net fishing.

Interview ID:	126
Interviewee:	Port of Seattle
Subject property(s):	T-107 submerged lands/Kellogg Island mooring tenants: Alaska Marine Lines - moors south of Kellogg Island; T-115 (Alaska Marine Lines/Aloha Marine Lines)
Date of Interview:	6/9/2017
Business/organization type:	Barge shipping
Business physical address(es):	4750 West Marginal Way SW, Seattle, WA 98106 5000 West Marginal Way SW, Seattle, WA 98106
Tax parcel ID#:	1924049103; 5367202505
Approximate river mile:	0.6–0.9 W; 1.5–2.0 W

DESCRIPTION OF WATERWAY-DEPENDENT USES

Please provide a general description of your current activities that are dependent on use of the waterway (e.g., vessel operations, waterfront facility operations).

Single file/parallel parking style line up of two empty barges to be staged until needed or until ready to fill. Steel dolphins on south end of Kellogg Island hold AML barges. Are held empty until ready to fill at T-115 or other locations.

Over what area of the entire LDW (e.g., between what approximate river miles) do you typically operate? If applicable, indicate whether your activities are constrained to a particular side of the waterway (the interview team will utilize the attached maps to prepare sketches and make notes, as needed).

AML barges travel to T-115, or other AML yards, to unload then back to subject area to stage empty barges. Also stage empty barges at Pier 34 or at Elliott Bay marine exchange buoys (outside LDW) if LDW areas are full.

Are your waterway-dependent activities continuous or intermittent/seasonal in nature? Please describe the frequency of your operations.

Not seasonal. However, transit to Alaska may be affected by winter in Alaska (icy conditions). But AML can deliver to Hawaii too. Operations are every day with little seasonal variability.

Briefly describe any waterway features of importance to your operations (e.g., turning basins, actual or authorized navigation and berthing areas and depths, wharves, piers, pilings, dolphins, or other structures).

Features at T-115, navigation channel and opening of Spokane Street Bridge are essential.

Briefly describe any physical constraints that affect your operations (e.g., tidal conditions, waterway width or depth).

Tides don't affect mooring at these dolphins. An old tug is moored nearby at LaFarge, but does not pose a constraint. Water depth is low/intertidal on west side of Kellogg Island, so travel is never around west side of Kellogg Island to access dolphins.

INFORMATION SPECIFIC TO OPERATION OF VESSELS

Are your vessel operations dependent on water depths or tide levels, time of year, or bridges? If yes, please describe.

Spokane St Bridge openings to allow passage of full barges. No other constraints.

Please describe your typical transit route(s) (the interview team will sketch on the attached waterway overview map, as needed).

Assumed to be down navigation channel to T-115 to offload then back to subject area (mooring dolphins on south end of Kellogg Island).

Please describe the vessel(s) that you typically operate on the LDW (i.e., type, beam, length, draft, capacity, horsepower). We are interested in approximate number of vessels operated and frequency of each type of vessel traffic (i.e., per week, month, or year).

Interviewee says to see Lynden/Northland Services/AML website for fleet information.

Please describe other relevant operational characteristics, including berthing and anchoring. We are interested in learning about typical vessel maneuvering, including in and around piers.

Just tie up to dolphins, no anchoring.

If you are a tugboat operator, please describe the companies/facilities that you typically serve.

n/a

If your operations are supported by tugboat operators, which operator(s) do you typically use for support?

Western Towboat used a lot by AML. Western Towboat has a Wednesday run to Alaska. Two Western Towboats run the LDW daily. They tie up at the commercial dock at Pier 34 (outside LDW).

For activities involving barges, when and where are spuds used (or are moorings used instead)?

n/a. No spudding for container vessels.

For activities involving barges, identify areas of the waterway (if any) where barges are towed and staged/anchored. Also identify areas where barges are pushed. Is it typical to allow bow-mounted bridle chains to be lowered and dragged? If so, note under what conditions this occurs, and within what areas of the LDW. (The interview team will sketch on the attached waterway overview map, as needed.)

n/a

FACILITY-SPECIFIC INFORMATION

Are as-built drawings, design plans/profiles, or other schematics illustrating the structural configuration of your waterfront or overwater structures (e.g., piers, wharves, bulkheads) available for copying? If yes, the interview team would appreciate noting the general types of documents that are available and any follow-up actions that may be needed to obtain them.

Interviewee does not have drawings.

Are dredge records for establishment and maintenance of berthing areas, including authorized dredge depths and limits, available for copying? If yes, the interview team would appreciate the opportunity to note documents that are available and any follow-up actions that may be needed to obtain them.

No knowledge about dredging.

FUTURE ACTIVITIES

Please describe any planned facility/infrastructure maintenance, development or improvement projects, operational modifications, or other plans that will affect your property's shoreline or affect your future use of the waterway, both within the short term (2 to 5 years) and the longer term (more than 5 years).

Steel dolphins are in good condition.

Is documentation available regarding future plans? We would appreciate discussing these plans with you, and if possible, obtaining copies if they are available.

n/a

FOLLOW-UP ACTIONS

Based on the discussion of topics and questions listed above, please let us know if there are additional tenants or other waterway users that we should contact.

AML should be interviewed.

For waterfront facilities with in-water structures, we would be grateful if we could arrange a brief follow-up visit to document the type, location, and general condition of the structure(s). Our intent is to conduct this assessment using a small vessel on the LDW, and to perform all observations from a safe working distance to avoid interrupting facility operations, unless otherwise arranged in advance. You would not be required to be present during this survey, although you will be notified in advance when it will occur. Also, could you please provide a facility contact with whom the in-water team can coordinate further, prior to conducting the assessment.

Interviewee does not have contact. To be obtained during AML interview.

ADDITIONAL DESCRIPTION

Interview covers south end of Kellogg Island. Alaska Marine Lines moors up to two barges in single file along steel dolphins at south end of Kellogg Island.

Interview ID:	127
Interviewee:	Port of Seattle
Subject property(s):	T-107 submerged lands/Kellogg Island mooring tenants: General Construction & Manson - moors east of Kellogg Island
Date of Interview:	6/9/2017
Business/organization type:	Construction
Business physical address(es):	4750 West Marginal Way SW, Seattle, WA 98106 5000 West Marginal Way SW, Seattle, WA 98106
Tax parcel ID#:	1924049103
Approximate river mile:	0.6–0.9 W

DESCRIPTION OF WATERWAY-DEPENDENT USES

Please provide a general description of your current activities that are dependent on use of the waterway (e.g., vessel operations, waterfront facility operations).

East side of Kellogg Island. Manson moors to the south using spuds. General Construction (GC) moors to the north using spuds. Crane barges lower spuds. Other barges raft up to spudded barges.

Over what area of the entire LDW (e.g., between what approximate river miles) do you typically operate? If applicable, indicate whether your activities are constrained to a particular side of the waterway (the interview team will utilize the attached maps to prepare sketches and make notes, as needed).

GC—Yard 1 is at T-103. Yard 2 at RM 1.4E. GC barges moor along northern half of east side of Kellogg Island. Travel is to/from these three locales. Barges are positioned upstream–downstream orientation, stacked east to west two to four barges deep.

Manson—other yard is in Slip 1. Moorage is on southern half of east side of Kellogg Island. Travel is across waterway from/to KI to/from Slip 1. Barges oriented cross river flow (east-west orientation of bow-stern) stacked north–south.

Are your waterway-dependent activities continuous or intermittent/seasonal in nature? Please describe the frequency of your operations.

Frequency is dependent upon volume of construction work. Not otherwise seasonal/intermittent. Work is conducted in many locales.

Briefly describe any waterway features of importance to your operations (e.g., turning basins, actual or authorized navigation and berthing areas and depths, wharves, piers, pilings, dolphins, or other structures).

GC Yards 1 and 2. At Yard 1 (T-103), maintenance that requires land access is conducted. At Yard 2, items are staged (RM 1.4E). Some maintenance is conducted top side at Kellogg Island. Access provided by skiff.

Manson uses Slip 1. Interviewee assumes maintained navigation channel needed by both tenants.

Briefly describe any physical constraints that affect your operations (e.g., tidal conditions, waterway width or depth).

Dolphins are too shallow to be used; tenants moor barges with spuds instead.

INFORMATION SPECIFIC TO OPERATION OF VESSELS

Are your vessel operations dependent on water depths or tide levels, time of year, or bridges? If yes, please describe.

n/a

Please describe your typical transit route(s) (the interview team will sketch on the attached waterway overview map, as needed).

Vessels move all around between sites listed prior.

Please describe the vessel(s) that you typically operate on the LDW (i.e., type, beam, length, draft, capacity, horsepower). We are interested in approximate number of vessels operated and frequency of each type of vessel traffic (i.e., per week, month, or year).

Interviewee does not know specifics other than that vessels are crane/derrick barges, material barges, flat deck barges. Exact barges and numbers depend upon flow of work.

Please describe other relevant operational characteristics, including berthing and anchoring. We are interested in learning about typical vessel maneuvering, including in and around piers.

Spudding along east side of Kellogg Island.

If you are a tugboat operator, please describe the companies/facilities that you typically serve.

GC has two small tugs but no trained captains. So do not use much in LDW. Tugs are 25 and 40 fee. Keep tugs in LDW or lift up with crane onto beach. Can use own tugs to move small distances, especially if encroaching on navigation channel and need to move quickly.

Manson uses own tugs.

If your operations are supported by tugboat operators, which operator(s) do you typically use for support?

Manson has own tugs. GC uses many different companies including Island Tug and Barge, Manson's tugs (when work together on jobs, such as I-90 floating bridge), Boyer Towing, Campbell, and Star Marine.

For activities involving barges, when and where are spuds used (or are moorings used instead)?

All of the mooring that is the subject of this interview involves spuds (east side of Kellogg Island).

For activities involving barges, identify areas of the waterway (if any) where barges are towed and staged/anchored. Also identify areas where barges are pushed. Is it typical to allow bow-mounted bridle chains to be lowered and dragged? If so, note under what conditions this occurs, and within what areas of the LDW. (The interview team will sketch on the attached waterway overview map, as needed.)

Interviewee does not think chain dragging is common or advisable in LDW.

FACILITY-SPECIFIC INFORMATION

Are as-built drawings, design plans/profiles, or other schematics illustrating the structural configuration of your waterfront or overwater structures (e.g., piers, wharves, bulkheads) available for copying? If yes, the interview team would appreciate noting the general types of documents that are available and any follow-up actions that may be needed to obtain them.

Interviewee does not have drawings.

Are dredge records for establishment and maintenance of berthing areas, including authorized dredge depths and limits, available for copying? If yes, the interview team would appreciate the opportunity to note documents that are available and any follow-up actions that may be needed to obtain them.

Interviewee does not know about dredging.

FUTURE ACTIVITIES

Please describe any planned facility/infrastructure maintenance, development or improvement projects, operational modifications, or other plans that will affect your property's shoreline or affect your future use of the waterway, both within the short term (2 to 5 years) and the longer term (more than 5 years).

No planned changes. No actual structures used.

Is documentation available regarding future plans? We would appreciate discussing these plans with you, and if possible, obtaining copies if they are available.

n/a

FOLLOW-UP ACTIONS

Based on the discussion of topics and questions listed above, please let us know if there are additional tenants or other waterway users that we should contact.

Interviewee suggests interviews with GC and Manson.

For waterfront facilities with in-water structures, we would be grateful if we could arrange a brief follow-up visit to document the type, location, and general condition of the structure(s). Our intent is to conduct this assessment using a small vessel on the LDW, and to perform all observations from a safe working distance to avoid interrupting facility operations, unless otherwise arranged in advance. You would not be required to be present during this survey, although you will be notified in advance when it will occur. Also, could you please provide a facility contact with whom the in-water team can coordinate further, prior to conducting the assessment.

Interviewee suggests contacts to be arranged with Manson and GC.

ADDITIONAL DESCRIPTION

Interview covers moorage on east side of Kellogg Island by GC and Manson.

Interview ID:	229
Interviewee:	Westar Marine Services
Subject property(s):	T-102 (Western Marine Services)
Date of Interview:	7/7/2017
Business/organization type:	Construction
Business physical address(es):	1011 SW Klickitat Ave, Seattle, WA 98134
Tax parcel ID#:	7666701220
Approximate river mile:	0 E

DESCRIPTION OF WATERWAY-DEPENDENT USES

Please provide a general description of your current activities that are dependent on use of the waterway (e.g., vessel operations, waterfront facility operations).

Westar Marine has moored tugs at Harbor Island Marina for the past 3 to 3.5 years. Most vessels are moored at the Northlake Way facility.

Westar Marine has two 75-foot mooring locations at Harbor Island Marina (eastern side of marina). It can moor four vessels there (two on dock face; two tied to others).

Over what area of the entire LDW (e.g., between what approximate river miles) do you typically operate? If applicable, indicate whether your activities are constrained to a particular side of the waterway (the interview team will utilize the attached maps to prepare sketches and make notes, as needed).

In and out of LDW via West Waterway to/from Harbor Island Marina. Conduct much Puget Sound work, so some access to LDW is simply to moor vessels. Also move barges for General Construction/Kiewit (GC) and for Manson. Move GC barges to/from GC Yard 1 (T-105), Kellogg Island, GC Yard 2 (RM 1.2), and GC Yard 3 (interviewee says in Slip 4; later interviewee, Western Towboat, says GC Yard 3 is in Slip 6 and Waste Management is in Slip 4). Move Manson barges to/from Slip 1 and Manson mooring directly outside of Slip 1 and Kellogg Island.

Are your waterway-dependent activities continuous or intermittent/seasonal in nature? Please describe the frequency of your operations.

Dependent on client's activities. GC's work (lots of pile driving) slows down when fish windows are closed, work around Puget Sound.

Operations are also restricted when Tribal gill nets are out.

Briefly describe any waterway features of importance to your operations (e.g., turning basins, actual or authorized navigation and berthing areas and depths, wharves, piers, pilings, dolphins, or other structures).

Harbor Island Marina, Slip 1, camel log near Slip 1, moorings at GC Yards 1, 2, and 3. Railroad bridge openings, First Avenue bridge openings (rarely) to access Slip 4 (this may need to refer to Slip 6). First Avenue is closed to openings during traffic rush hours (0600 to 0900 and 1500 to 1800). If vessel exceeds 5,000 gross tons, bridge must be opened. Westar does not travel past First Avenue Bridge very often.

GC moorage at Kellogg Island restricted by water depth and proximity to navigation channel. Can only go 3 wide.

At T-105, GC uses 500-ft long (face) dock for barge storage.

Briefly describe any physical constraints that affect your operations (e.g., tidal conditions, waterway width or depth).

Slip 4 use is tide dependent. Barges are allowed to beach in slip. Tugs have to time work around these tides. Interviewer noted the RNA at Slip 4 EAA cap, and interviewee said area is so small that he doesn't notice this (Interviewee may have been mixing this up with Slip 6 which GC uses). In Slip 4 (6?), two barges can fit near head, three at mouth. Tugs need 8.5 to 9 ft of draft, so slip access is restricted.

East side of Kellogg Island is also shallow and tug access is tide dependent.

Manson's moorings at and outside of Slip 1 are not tide dependent. NOAA docks a very large vessel on north side of Slip 1 (proving that slip is deep). Manson's mooring outside of Slip 1 is a camel log (dolphins holding a floating log).

Tribe fishing nets cause physical restrictions and sometimes completely block in eastern side of Harbor Island. Often lights on buoys are not working, so towing at night has potential to damage nets. Nets are sometimes tied to tug cleats and then captains can't move tugs.

INFORMATION SPECIFIC TO OPERATION OF VESSELS

Are your vessel operations dependent on water depths or tide levels, time of year, or bridges? If yes, please describe.

Railroad bridge openings are needed. Sometimes need First Avenue Bridge open, but don't often go that far upstream. Tide levels affect access around Kellogg Island and to slip.

Please describe your typical transit route(s) (the interview team will sketch on the attached waterway overview map, as needed).

1. Harbor Island to/from Elliott Bay via West Waterway.
2. GC barges to/from GC Yards 1,2,3 and Kellogg Island.
3. Manson barges to/from Slip 1 and Kellogg Island.
4. During 520 bridge work, Westar also pulled barges of aggregate from Cal Portland out to Lake Washington for ballasting the pontoons. Also hauled scrap metal into LDW to drop off at Seattle Iron and Metal.

Please describe the vessel(s) that you typically operate on the LDW (i.e., type, beam, length, draft, capacity, horsepower). We are interested in approximate number of vessels operated and frequency of each type of vessel traffic (i.e., per week, month, or year).

1. Bear Cat (tug) is most often moored at Harbor Island Marina and operates in LDW and Puget Sound. 1,320 horsepower, twin Cummins QSK 19-M propulsion. 69 ft x 23ft x 8.9 ft (length, beam, draft). Frequency is about 3 weeks out of every month in LDW. Other week at Northlake.
2. Terilyn (tug) is 2nd most often moored at Harbor Island. 1,550 horsepower. Twin cat 3508E push boat with anchor winch. 50,000-lb line pull. 70.5 ft x 26 ft x 8.5 ft. Similar frequency in LDW to Bear Cat.
3. Other vessels sometimes in LDW are Scorpius (124 ft x 31.5 ft x 15 ft), Taurus (75 ft x 24 ft x 8 ft), Solana (65.4 ft x 24.1 ft x 8 ft), and Mudcat (71.7 ft x 21 ft x 4.5 ft).

Maintenance is performed at Northlake location. Movement between LDW and Northlake is based on need for maintenance and for work in Puget Sound. Vessels are also used in San Francisco (home base).

Please describe other relevant operational characteristics, including berthing and anchoring. We are interested in learning about typical vessel maneuvering, including in and around piers.

Push GC and Manson barges into place. At Kellogg Island, these barges use spuds. At Slips 1 and 4 and GC Yards 1 and 2 the barges tie up to fixed structures.

If you are a tugboat operator, please describe the companies/facilities that you typically serve.

GC at Kellogg Island, Yards 1, 2, 3

Manson at Kellogg Island and Slip 1 (and camel log berth just outside of Slip 1).

If your operations are supported by tugboat operators, which operator(s) do you typically use for support?

Interviewee is a tug boat operator.

For activities involving barges, when and where are spuds used (or are moorings used instead)?

Customers use spuds at Kellogg Island.

For activities involving barges, identify areas of the waterway (if any) where barges are towed and staged/anchored. Also identify areas where barges are pushed. Is it typical to allow bow-mounted bridle chains to be lowered and dragged? If so, note under what conditions this occurs, and within what areas of the LDW. (The interview team will sketch on the attached waterway overview map, as needed.)

All areas discussed involve barges towed by tugs. Bow-mounted bridle chains are not lowered and dragged in the mud. The bridle is picked up. Each chain shackle is 45 feet long. A shackle on each side of the bow connects in the middle, and a 90 foot long chain extends forward to the tug. The bridle is not drug. Although interviewee does not pull for AML, he noted that their draft is much deeper than their bridles would drag. In other waterbodies where water is shallow, some barges use the bridle chain as an anchor. This is not done in the LDW because of the current.

FACILITY-SPECIFIC INFORMATION

Are as-built drawings, design plans/profiles, or other schematics illustrating the structural configuration of your waterfront or overwater structures (e.g., piers, wharves, bulkheads) available for copying? If yes, the interview team would appreciate noting the general types of documents that are available and any follow-up actions that may be needed to obtain them.

n/a

Are dredge records for establishment and maintenance of berthing areas, including authorized dredge depths and limits, available for copying? If yes, the interview team would appreciate the opportunity to note documents that are available and any follow-up actions that may be needed to obtain them.

n/a

FUTURE ACTIVITIES

Please describe any planned facility/infrastructure maintenance, development or improvement projects, operational modifications, or other plans that will affect your property's shoreline or affect your future use of the waterway, both within the short term (2 to 5 years) and the longer term (more than 5 years).

n/a

Is documentation available regarding future plans? We would appreciate discussing these plans with you, and if possible, obtaining copies if they are available.

n/a

FOLLOW-UP ACTIONS

Based on the discussion of topics and questions listed above, please let us know if there are additional tenants or other waterway users that we should contact.

Interviewee can provide contacts for Manson and Kiewit. He does not know Ash Grove or Boyer. He says to contact Island Tug. Island has 8–10 tugs and 10 barges.

Suggested contacting SeaTac Marine, which goes past First Avenue bridge and moves large aggregate barges. Boyer also goes past First Avenue bridge and hauls aggregate barges.

He noted that Western Towboat will know a lot about other waterway users. Western has been operating on the LDW for over 60 years. Western ties two tugs at T-104 (Westrac 1 and 2 do ship handling assist). Western tows AML rail barges every Wed and Fri. Make runs to SE Alaska (Dutch and Prince William Sound).

Samson also makes cargo runs to Alaska.

For waterfront facilities with in-water structures, we would be grateful if we could arrange a brief follow-up visit to document the type, location, and general condition of the structure(s). Our intent is to conduct this assessment using a small vessel on the LDW, and to perform all observations from a safe working distance to avoid interrupting facility operations, unless otherwise arranged in advance. You would not be required to be present during this survey, although you will be notified in advance when it will occur. Also, could you please provide a facility contact with whom the in-water team can coordinate further, prior to conducting the assessment.

n/a

ADDITIONAL DESCRIPTION

Westar is a tug company based in San Francisco. It expanded to Seattle for the highway 520 floating bridge project. It moors at T-102 (east side of Harbor Island Marina). LDW clients are Manson and GC/Kiewit.

Interview ID:	230
Interviewee:	Western Towboat Co.
Subject property(s):	T-102 (Western Towboat Co.)
Date of Interview:	7/11/2017
Business/organization type:	Construction
Business physical address(es):	
Tax parcel ID#:	7666701220
Approximate river mile:	0 E

DESCRIPTION OF WATERWAY-DEPENDENT USES

Please provide a general description of your current activities that are dependent on use of the waterway (e.g., vessel operations, waterfront facility operations).

Western Towboat has moored two tugs at Harbor Island Marina for past 20 years. Tugs conduct barge and container ship hauling and ship assist. Tugs move vessels and barges to the following LDW locations:

Ash Grove—RM 0.1 E, T-105, Nucor Steel (General Recycling on map)—RM 0.3W, T107 Kellogg Island mooring for Manson and GC, Kellogg Island south AML mooring, Manson and Cadman Slip 1 and RM 1.1W, Lafarge—RM 1.1 W, AML main yard at RM 1.2 W, AML yard is also at former Duwamish Shipyard, Terminal 115, Glacier NW—outside of Slip 2, Samson—mouth of Slip 2, SeaTac Marine—in and outside of Slip 3, AML yard 2—RM 2.2 W (need upstream berthing area mapped), Seattle Iron and Metal—RM 2.4E, Boyer Towing—RM 2.45W, Waste Management transload—Slip 4 (noted that this is not GC Yard 3 as indicated by Westar; GC Yard 3 is in Slip 6), Kelly Ryan (lease barges)—RM 4.0W, GC Yard 3—Slip 6, Delta Marine—RM 4.2W.

Over what area of the entire LDW (e.g., between what approximate river miles) do you typically operate? If applicable, indicate whether your activities are constrained to a particular side of the waterway (the interview team will utilize the attached maps to prepare sketches and make notes, as needed).

Western Towboat has many customers and operates throughout the LDW; although most work is downstream of South Park Bridge, and most upstream customer is Delta Marine. Western moves container freight barges, bulk aggregate barges, heavy lift barges, cement barges, and construction equipment.

Are your waterway-dependent activities continuous or intermittent/seasonal in nature? Please describe the frequency of your operations.

Work is dependent upon customers' schedules. Many barges leave for work in Alaska during first week of June and stay through summer to Sept/Oct. Western works with these barges when they come back to LDW. When barges need repair, they are moved out of LDW to other locations, to shipyards where repairs can occur.

Average of six barge shifts daily. Work is year-round.

Briefly describe any waterway features of importance to your operations (e.g., turning basins, actual or authorized navigation and berthing areas and depths, wharves, piers, pilings, dolphins, or other structures).

Deep water is needed. Most in- and over-water structures used by Western's customers. Many customers need deeper berths. Can only access upstream of Boyer during mid to high tide.

Briefly describe any physical constraints that affect your operations (e.g., tidal conditions, waterway width or depth).

Cannot travel upstream of Delta Marine. Depth constraints at GC Yard 1/T-103—needs high water, Slip 2, Slip 6, Slip 4. Customers have had difficulty getting permits to dredge and to drive piles, so deepening is difficult.

First Ave. and South Park Bridge openings (not during rush hour) can restrict work. Tug can fold down upper mast to travel under these bridges. Spokane Street Bridge opens any time vessel traffic needs it.

Gill nets during salmon fishing season constrain movement. Interviewee is concerned with safety (ability of fire boats to access structures).

Fires have occurred recently at Harbor Island Marina and at T-107 (noted decrepit structure at Duw/Diag EAA). Nets now are associated with numbered placards along shoreline so that when vessel operators report nets to Tribal Police, they know whom to contact. However, Tribes police themselves, and nets restrict vessel movement. Interviewee noted that Tribe is financially reimbursed for nets tied to Port facilities and tenant vessels that are damaged or removed. However, non-Port entities have little recourse. Tug operators have to wait for nets to be moved. Tribe boats are not properly equipped with PFDs and running lights. Litter and buoys left in place are navigation hazards. Customers incur costs of blockages because tug operators are paid for time until they get back to home dock.

INFORMATION SPECIFIC TO OPERATION OF VESSELS

Are your vessel operations dependent on water depths or tide levels, time of year, or bridges? If yes, please describe.

Areas restricted by low water are noted in above response. Bridge openings at South Park and First Avenue Bridges can restrict traffic, but most of navigation is downstream of these bridges.

Please describe your typical transit route(s) (the interview team will sketch on the attached waterway overview map, as needed).

Western Towboat transits many places along the LDW, has many customers.

Please describe the vessel(s) that you typically operate on the LDW (i.e., type, beam, length, draft, capacity, horsepower). We are interested in approximate number of vessels operated and frequency of each type of vessel traffic (i.e., per week, month, or year).

Tugs: Pacific 1550 HP, 70-ft length; Triumph 2000 HP, 75-ft length, West Point 1200 HP, 60-ft length; Westrac II 2400 HP, 79-ft length; Westrac 2500 HP, 72-ft length. Interviewee marked up printout of company's tugs to indicate which vessels work in LDW.

Please describe other relevant operational characteristics, including berthing and anchoring. We are interested in learning about typical vessel maneuvering, including in and around piers.

Tugs move barges and vessels to permanent structures. Two locations use spudding: Kellogg Island and Pacific Pile (RM 2.7W, former Hurlen). Anchoring not mentioned.

If you are a tugboat operator, please describe the companies/facilities that you typically serve.

See Use section.

If your operations are supported by tugboat operators, which operator(s) do you typically use for support?

N/A, interviewee is a tug boat operator.

For activities involving barges, when and where are spuds used (or are moorings used instead)?

Two locations use spudding: Kellogg Island and Pacific Pile (RM 2.7W, former Hurlen).

For activities involving barges, identify areas of the waterway (if any) where barges are towed and staged/anchored. Also identify areas where barges are pushed. Is it typical to allow bow-mounted bridle chains to be lowered and dragged? If so, note under what conditions this occurs, and within what areas of the LDW. (The interview team will sketch on the attached waterway overview map, as needed.)

Chains may drag on about 1 out of every 15 barges. Chain drag depends on how deep vessel is drafting and how much the bridle/chains are pulled up.

FACILITY-SPECIFIC INFORMATION

Are as-built drawings, design plans/profiles, or other schematics illustrating the structural configuration of your waterfront or overwater structures (e.g., piers, wharves, bulkheads) available for copying? If yes, the interview team would appreciate noting the general types of documents that are available and any follow-up actions that may be needed to obtain them.

n/a

Are dredge records for establishment and maintenance of berthing areas, including authorized dredge depths and limits, available for copying? If yes, the interview team would appreciate the opportunity to note documents that are available and any follow-up actions that may be needed to obtain them.

n/a. Interviewee noted customers who need berth deepening. It's restricted by ability to get permits for dredging and pile driving. He noted Cadman, JA Jacks & Sons, and AML (RM 1.2) needing deeper berths.

FUTURE ACTIVITIES

Please describe any planned facility/infrastructure maintenance, development or improvement projects, operational modifications, or other plans that will affect your property's shoreline or affect your future use of the waterway, both within the short term (2 to 5 years) and the longer term (more than 5 years).

Interviewee thinks that many structures need upgrades. He noted camping under Spokane Street Bridge is a source of litter and graffiti to the river and to his vessels. He noted LaFarge needing a long wait time to install new dolphins (years ago) and that needs to do work on its northern dock (old wood piles).

He also mentioned a need for better shore power for his tugs at Harbor Island Marina. For night shifts, his crew sleeps on tugs. They can only run fridge with shore power, only 30 amps. Must turn on ship's generator to get more power.

Interviewee noted that AML replaced the dolphins south of Kellogg Island about 10 years ago. He also noted that LaFarge needs to do work on its northern dock (old wood piles).

Is documentation available regarding future plans? We would appreciate discussing these plans with you, and if possible, obtaining copies if they are available.

n/a

FOLLOW-UP ACTIONS

Based on the discussion of topics and questions listed above, please let us know if there are additional tenants or other waterway users that we should contact.

Boyer has been on the river a long time. Island Tug and Barge also has been on the river for many years.

For waterfront facilities with in-water structures, we would be grateful if we could arrange a brief follow-up visit to document the type, location, and general condition of the structure(s). Our intent is to conduct this assessment using a small vessel on the LDW, and to perform all observations from a safe working distance to avoid interrupting facility operations, unless otherwise arranged in advance. You would not be required to be present during this survey, although you will be notified in advance when it will occur. Also, could you please provide a facility contact with whom the in-water team can coordinate further, prior to conducting the assessment.

n/a. Interviewee is tenant at Harbor Island Marina.

ADDITIONAL DESCRIPTION

Western Towboat—tug operators on LDW since late 1960s. One of the current owners has piloted on LDW for past 10–12 years.

Interview ID:	231
Interviewee:	Manson Construction Co.
Subject property(s):	Manson Construction Co.
Date of Interview:	8/30/2017
Business/organization type:	Construction
Business physical address(es):	5209 E. Marginal Way South
Tax parcel ID#:	1924049041; 1924049070
Approximate river mile:	1.0 E; 1.05 E

DESCRIPTION OF WATERWAY-DEPENDENT USES

Please provide a general description of your current activities that are dependent on use of the waterway (e.g., vessel operations, waterfront facility operations).

Manson noted that for many years, it has stored flat barges, derrick barges (barges with cranes and spuds), and tugboats in three locations in the LDW: inside of Slip 1 (south side), east side of Kellogg Island (south end of lease area, lease from Port of Seattle), at RM 2.35E (month-to-month lease from Seattle Boiler Works). Manson stores barges in LDW when it is not working in other locations on construction jobs. Additionally, Manson notes it has, for many years, performed top side repairs/outfitting of vessels in Slip 1. When engine upgrades were required for improved air emissions, replacements were installed in Slip 1.

Manson also can load and offload materials to/from barges in Slip 1. A rail spur extends from East Marginal Way South along the south side of Slip 1. Historically, there has been some ship construction and assembly building at the Slip 1 site. Hulls made in other locations were outfitted onsite.

The majority of Manson's work is outside of the LDW, but Manson has also performed heavy lift jobs in the LDW (for example, lifting large transformers from a vessel onto the upland at SCL yard), as well as small works for landowners along the LDW.

Over what area of the entire LDW (e.g., between what approximate river miles) do you typically operate? If applicable, indicate whether your activities are constrained to a particular side of the waterway (the interview team will utilize the attached maps to prepare sketches and make notes, as needed).

Slip 1, east side of Kellogg Island, RM 2.35 E

Are your waterway-dependent activities continuous or intermittent/seasonal in nature? Please describe the frequency of your operations.

When fish construction windows are closed more equipment is stored in LDW because it's not out on jobs. The LDW has long been used for storage of vessels, some repairs (although major repairs are performed at shipyards), and material loading. Ideally vessels are out of the LDW working on jobs. Projects are conducted from Seattle to Anchorage, AK.

Briefly describe any waterway features of importance to your operations (e.g., turning basins, actual or authorized navigation and berthing areas and depths, wharves, piers, pilings, dolphins, or other structures).

For derrick/crane barges, spudding has always been the preferred method of mooring, so physical structures are not always necessary. Spudding is more secure than tying with ropes, which have to be checked often.

Largest tug has a 12-ft draft, and barges have shallow drafts, so navigation depths have not been an issue.

Briefly describe any physical constraints that affect your operations (e.g., tidal conditions, waterway width or depth).

Mooring cannot be conducted alongside the piling on the east side of Kellogg Island because the area is too shallow. Mooring on the east side of Kellogg Island is performed by spudding and rafting outside of intertidal area with barges lined up in "slots" perpendicular to river flow direction. Vessels are not parked in locations where they can ground because it is not good for the equipment and because it is not allowed. A "grounding" is considered a reportable incident to the Coast Guard.

INFORMATION SPECIFIC TO OPERATION OF VESSELS

Are your vessel operations dependent on water depths or tide levels, time of year, or bridges? If yes, please describe.

First Avenue Bridge cannot open during rush hour traffic. Vessel movement is coordinated with this. Spokane Street Bridge can be opened anytime, but Manson tries to avoid rush hour. Interviewees notes that waterway users work well together. On a typical basis, vessels do not operate in areas where access is tide dependent.

Please describe your typical transit route(s) (the interview team will sketch on the attached waterway overview map, as needed).

Other than movement from the mouth of the LDW to any of the three moorage locations, most movement is back-and-forth from Kellogg Island moorage to Slip 1 as vessels are taken to yard to be prepared for a job. RM 2.35E is called Yard 2. Vessels

are stored there as well, but most transit is back-and-forth between Kellogg Island and Slip 1.

Please describe the vessel(s) that you typically operate on the LDW (i.e., type, beam, length, draft, capacity, horsepower). We are interested in approximate number of vessels operated and frequency of each type of vessel traffic (i.e., per week, month, or year).

Ideally vessels are out on jobs and can be on jobs for long periods of time (e.g., SR 520 bridge project). Vessels are only in LDW when they are not out on jobs, so there is not a "typical" vessel count in LDW. The types of vessels stored in LDW are flat barges, crane/derrick barges, tug boats, and sometimes dredge barges. Largest tug has a 12-ft draft. Barges have 2–3 ft drafts.

Please describe other relevant operational characteristics, including berthing and anchoring. We are interested in learning about typical vessel maneuvering, including in and around piers.

No anchoring.

If you are a tugboat operator, please describe the companies/facilities that you typically serve.

n/a

If your operations are supported by tugboat operators, which operator(s) do you typically use for support?

Manson has its own tugs, but also frequently uses Western Towboat. Manson uses Western most often because it is already transiting the LDW and can grab barges as it has availability. Rates are also better when using a local tug because time billed is based on the time it takes the tug to get to/from its home port. Western is also familiar with Manson's equipment. Manson will use its own tugs when checking on roped up equipment at RM 2.35 E. Because this moorage is not visible from the main yard, it has to be visited when barges are tied by rope. A tug is used in case the barge needs to be maneuvered back into place. Spudding is ideal if it can be conducted because it's more secure than tying with a rope. Spudded vessels need fewer visual checks than roped/tied vessels.

Manson also sometimes uses Westar and Island Tug and Barge. Manson has used Foss in the past but because the Foss tugs are not moored in LDW, using Foss is more expensive than using other companies.

For activities involving barges, when and where are spuds used (or are moorings used instead)?

Using spuds on crane barges has always been preferred because it is more secure than roping. Crane barges are spudded at all three locations that Manson uses. Other barges can be rafted to spudded barges. When vessels are being worked on or have crew on board, they may not be rafted more than two vessels from shore, for fire safety purposes, for ingress/egress.

Spudding is also used if crane barge is performing a heavy lift job in the LDW. Manson's crane barges can lift heavy items off of vessels and place them on the upland, even where no overwater structure is present. The cranes have a long boom for moving/placing items.

For activities involving barges, identify areas of the waterway (if any) where barges are towed and staged/anchored. Also identify areas where barges are pushed. Is it typical to allow bow-mounted bridle chains to be lowered and dragged? If so, note under what conditions this occurs, and within what areas of the LDW. (The interview team will sketch on the attached waterway overview map, as needed.)

Staged/towed locations/routes discussed in other responses. Manson does not use bow-mounted bridle chains in the normal operations. Bridle chains are utilized for large vessels for ocean voyages. If Manson does have rare occasion to use a bridle chain, it ties the chain up high and does not drag or lower it in the LDW. Manson's practice is to move heavily laden barges at high tide to avoid scour.

FACILITY-SPECIFIC INFORMATION

Are as-built drawings, design plans/profiles, or other schematics illustrating the structural configuration of your waterfront or overwater structures (e.g., piers, wharves, bulkheads) available for copying? If yes, the interview team would appreciate noting the general types of documents that are available and any follow-up actions that may be needed to obtain them.

Drawings not provided. (Manson notes that drawings were provided in the DQR response and may be produced upon request.) Manson has rebuilt dock in Slip 1 twice and Cadman dock (sublease) in main channel/upstream of LDW at least once.

Are dredge records for establishment and maintenance of berthing areas, including authorized dredge depths and limits, available for copying? If yes, the interview team would appreciate the opportunity to note documents that are available and any follow-up actions that may be needed to obtain them.

No dredging at Manson's facilities noted. Manson has performed dredging for other LDW parties including Ash Grove, Chiyoda, Cadman, Port, Corps, and City. Manson dredged in front of Slip 1 when it first leased the property from King County in the

early 1950s. Portions of Slip 1 were dredged by the U.S. Army Corps of Engineers in 1976 after a PCB spill by the Corps. No dredging has occurred in Slip 1 since.

FUTURE ACTIVITIES

Please describe any planned facility/infrastructure maintenance, development or improvement projects, operational modifications, or other plans that will affect your property's shoreline or affect your future use of the waterway, both within the short term (2 to 5 years) and the longer term (more than 5 years).

Planned improvements/cleanup of head of Slip 1. Property recently purchased by Manson. Shoreline is impacted by sand blast grit and old derelict timbers/structures remain at head of slip. Redevelopment plans have not been fully developed. Over the long term, Manson may also replace, at mouth of the slip, the remaining approximately 50 ft of existing timber dock with a concrete pile dock.

Is documentation available regarding future plans? We would appreciate discussing these plans with you, and if possible, obtaining copies if they are available.

Future work at head of slip not fully planned.

FOLLOW-UP ACTIONS

Based on the discussion of topics and questions listed above, please let us know if there are additional tenants or other waterway users that we should contact.

n/a

For waterfront facilities with in-water structures, we would be grateful if we could arrange a brief follow-up visit to document the type, location, and general condition of the structure(s). Our intent is to conduct this assessment using a small vessel on the LDW, and to perform all observations from a safe working distance to avoid interrupting facility operations, unless otherwise arranged in advance. You would not be required to be present during this survey, although you will be notified in advance when it will occur. Also, could you please provide a facility contact with whom the in-water team can coordinate further, prior to conducting the assessment.

Interviewer let Manson know that Moffat and Nichol would perform structure survey, and Manson noted that it is familiar with M&N.

ADDITIONAL DESCRIPTION

Manson owns parcel adjacent to head of slip. Manson is working on a soil/riverbank remediation of sand blast grit deposited by a previous owner. In-water piles and derelict timber structures are to be removed, and shoreline along head of slip is to be rebuilt. Plans are still being developed. Manson rents parcels on south side of slip from King County. Manson subleases a portion to Cadman, which has a berthing area just upstream of Slip 1.

Interview ID:	232
Interviewee:	Ash Grove Cement Co.
Subject property(s):	Ash Grove Cement
Date of Interview:	9/15/2017
Business/organization type:	Industrial
Business physical address(es):	
Tax parcel ID#:	7666700350
Approximate river mile:	0.2 E

DESCRIPTION OF WATERWAY-DEPENDENT USES

Please provide a general description of your current activities that are dependent on use of the waterway (e.g., vessel operations, waterfront facility operations).

Ash Grove has two berths. The north berth is not used. The south berth can hold one barge at a time. It is used for offloading raw material (limestone) for cement or concrete manufacturing. Neighboring Stoneway Concrete manufactures concrete from Ash Grove cement as well as from raw products offloaded at the wharf. Ash Grove offloads materials for its cement plant and for Stoneway's concrete plant. Ash Grove's product goes out in bulk by truck and rail. It is a dry product. It also goes by pipe next door to Stoneway, where it is blended into concrete. Concrete goes out in mixer trucks from Stoneway.

Over what area of the entire LDW (e.g., between what approximate river miles) do you typically operate? If applicable, indicate whether your activities are constrained to a particular side of the waterway (the interview team will utilize the attached maps to prepare sketches and make notes, as needed).

Ash Grove barges travel down the West Waterway in the navigation channel, to the south wharf. Ash Grove barges do not travel anywhere else in the LDW. Full barges are hauled from Canada (aggregate/lime source) to a buoy in Elliott Bay. Local tug companies haul full barges from Elliott Bay buoy to Ash Grove wharf. Once barge is emptied, it is hauled back out to Elliott Bay. Empty barges are not stored in the LDW. The plant operates 24 hours per day.

Are your waterway-dependent activities continuous or intermittent/seasonal in nature? Please describe the frequency of your operations.

Activities are uniform throughout the year; however, sometimes there is a slowdown in production in the winter. Slowdowns are a function of the business and not of any conditions in the LDW. Ash Grove unloads an average of four barges per week at its

location. Two are for Ash Grove. Two are for Stoneway Concrete. During slowdowns, there may be only two barges unloaded per week.

Briefly describe any waterway features of importance to your operations (e.g., turning basins, actual or authorized navigation and berthing areas and depths, wharves, piers, pilings, dolphins, or other structures).

Only feature used is Ash Grove's own pier.

Briefly describe any physical constraints that affect your operations (e.g., tidal conditions, waterway width or depth).

Largest barges have a 23–26 ft draft. When the tide level is at 0 ft MLLW, Ash Grove has 22 ft of water depth at its wharf. So tide timing is required for larger barges.

During fishing season, nets are sometimes tied for a short period of time to Ash Grove structures. The nets can trap barges in. However, if a barge needs to be moved, Ash Grove calls the Tribal contact, and the net is moved. They also noted that prior to the commencement of fishing season, the Tribe alerts the waterway users and tug captains that the net fishing season is starting.

INFORMATION SPECIFIC TO OPERATION OF VESSELS

Are your vessel operations dependent on water depths or tide levels, time of year, or bridges? If yes, please describe.

No dependence on bridges or time of year. Issue with tide noted in Use (E) question.

Please describe your typical transit route(s) (the interview team will sketch on the attached waterway overview map, as needed).

Enter LDW through West Waterway. Two tugs pull each barge through West Waterway to Ash Grove wharf. Ash Grove is at most downstream end of LDW, so very little transit in LDW.

Please describe the vessel(s) that you typically operate on the LDW (i.e., type, beam, length, draft, capacity, horsepower). We are interested in approximate number of vessels operated and frequency of each type of vessel traffic (i.e., per week, month, or year).

SeaSpan barges and Island barges. Larger barges have 23–26 ft draft. Smaller barges have 14 ft draft.

Please describe other relevant operational characteristics, including berthing and anchoring. We are interested in learning about typical vessel maneuvering, including in and around piers.

The wharf has four cable winches to hold barges in place. Two control upstream-downstream movement. Two control east-west movement. Barges are maneuvered in with two tugs using a "three line make up."

If you are a tugboat operator, please describe the companies/facilities that you typically serve.

n/a

If your operations are supported by tugboat operators, which operator(s) do you typically use for support?

Ash Grove uses Island Tug and Barge, to haul its smaller barges. Its tugs are twin screw tugs. Ash Grove uses Western for to haul its larger barges, which are SeaSpan barges. Western's tugs are Azimuth Stern Drive (ASD) tractors.

For activities involving barges, when and where are spuds used (or are moorings used instead)?

Spuds are not used.

For activities involving barges, identify areas of the waterway (if any) where barges are towed and staged/anchored. Also identify areas where barges are pushed. Is it typical to allow bow-mounted bridle chains to be lowered and dragged? If so, note under what conditions this occurs, and within what areas of the LDW. (The interview team will sketch on the attached waterway overview map, as needed.)

Chains do not drag. They are pulled up.

FACILITY-SPECIFIC INFORMATION

Are as-built drawings, design plans/profiles, or other schematics illustrating the structural configuration of your waterfront or overwater structures (e.g., piers, wharves, bulkheads) available for copying? If yes, the interview team would appreciate noting the general types of documents that are available and any follow-up actions that may be needed to obtain them.

Some drawings of overwater structures and of the newest hopper were provided to interviewer. SeaSpan barges have their own built in conveyors to move material from barge to upland. For smaller barges, Ash Grove uses its portable hopper (conveyor belt

apparatus). The hopper was recently upgraded in December 2016 to include features that restrict material spillage (wider belt, drip pan).

Are dredge records for establishment and maintenance of berthing areas, including authorized dredge depths and limits, available for copying? If yes, the interview team would appreciate the opportunity to note documents that are available and any follow-up actions that may be needed to obtain them.

Dredging to restore original bathymetry occurred in February 2017. Pre- and post-dredge bathymetric survey maps were provided to interviewer. A 2015 bathymetric survey was also provided.

Prior dredging was in 2013.

Spilled aggregate is dredged from below offloading area and used as product. Dredging is to maintain authorized depth. Dredging is not done to increase depths.

FUTURE ACTIVITIES

Please describe any planned facility/infrastructure maintenance, development or improvement projects, operational modifications, or other plans that will affect your property's shoreline or affect your future use of the waterway, both within the short term (2 to 5 years) and the longer term (more than 5 years).

Piles and dolphins on the north finger pier of the south wharf are to be replaced and wrapped (depending upon pile/dolphin). Some old timber piles are being replaced with steel piles. A broken pile is being replaced with steel (for repair) on crib wharf. This work is expected to occur before the end of 2017.

No dredging is planned for north finger pier modifications. Drawings of planned work were provided.

Is documentation available regarding future plans? We would appreciate discussing these plans with you, and if possible, obtaining copies if they are available.

Some drawings of planned pier work were provided to interviewer.

FOLLOW-UP ACTIONS

Based on the discussion of topics and questions listed above, please let us know if there are additional tenants or other waterway users that we should contact.

Noted that LaFarge and CalPortland are other LDW users. Elliott Bay buoy also hold gypsum barges/vessels from Mexico for CertainTeed.

For waterfront facilities with in-water structures, we would be grateful if we could arrange a brief follow-up visit to document the type, location, and general condition of the structure(s). Our intent is to conduct this assessment using a small vessel on the LDW, and to perform all observations from a safe working distance to avoid interrupting facility operations, unless otherwise arranged in advance. You would not be required to be present during this survey, although you will be notified in advance when it will occur. Also, could you please provide a facility contact with whom the in-water team can coordinate further, prior to conducting the assessment.

ADDITIONAL DESCRIPTION

Interview with plant manager, production superintendent, and other on-the-ground staff.

Interview ID:	233
Interviewee:	SeaTac Marine Properties LLC
Subject property(s):	Glacier Marine Services; Delta
Date of Interview:	9/25/2017
Business/organization type:	Transportation logistics and storage
Business physical address(es):	6701 Fox Avenue south
Tax parcel ID#:	0001800104; 0001800128
Approximate river mile:	2.1 E; 2.2 E

DESCRIPTION OF WATERWAY-DEPENDENT USES

Please provide a general description of your current activities that are dependent on use of the waterway (e.g., vessel operations, waterfront facility operations).

SeaTac Marine owns property and overwater structures on the south side of Slip 3 and in the LDW just upstream of Slip 3. SeaTac has owned property for 15 years. Northland Services owned the property before SeaTac Marine. SeaTac Marine ships out building materials (mostly lumber; bulk break) and containers to Alaska. SeaTac unitizes lumber and loads it on barges for Alaska. SeaTac ships out 80,000 tons of building materials annually from four states to Alaska.

Sometimes barges come back full of scrap metal from Alaska and are taken to Seattle Iron and Metals or to Schnitzer Steel in Tacoma.

Material comes in by truck or Union Pacific rail, which services East Marginal Way.

At SeaTac property, SeaTac Marine conducted limited maintenance on containers. Barge maintenance (interior and topside) is conducted on site by mobile contractors from Stabbart Marine, out of Ballard. Stabbart comes to property to do work because it can't bring barges through locks to get to Ballard and because there are not places to lift barges out of water (nor is that efficient).

Over what area of the entire LDW (e.g., between what approximate river miles) do you typically operate? If applicable, indicate whether your activities are constrained to a particular side of the waterway (the interview team will utilize the attached maps to prepare sketches and make notes, as needed).

As far upstream as Slip 3. All barges that are not out on jobs are stored at SeaTac's Slip 3 facility. It does not store barges anywhere else in LDW. SeaTac Marine also leases space to other companies to store barges and will be used as a loading facility for other barge companies because they have facilities to offload from rail and to load onto barges. Commerce from Canada comes by rail to be loaded onto barges at SeaTac.

SeaTac sometimes also leases in-water space at dolphins on north side of Slip 3.

Are your waterway-dependent activities continuous or intermittent/seasonal in nature? Please describe the frequency of your operations.

Activities are dependent upon commerce and construction season in Alaska. There are four primary geographic areas in Alaska that have different seasons. Southeast Alaska can accept barges all year long. Seward and Anchorage area are iced out part of winter with some year round work (but less so than Southeast Alaska). Prudhoe Bay season is very restricted to summer only. Western Alaska commerce is driven by fishing season. Work is driven by construction in Alaska, so slow Nov–Jan. Interviewee also noted that some Alaska customers draw down inventory by Dec 31 for tax purposes, so Jan–Mar can be slow.

Interviewee noted that Lynden’s work is year round because it ships to Hawaii. SeaTac is looking to expand to California so work would be more year-round.

SeaTac also leases space to others, so use of waterway may depend upon tenants’ activities. Delta Marine had previously leased space in a large building at the south end of the property. Luxury yacht hulls were constructed in this building.

Briefly describe any waterway features of importance to your operations (e.g., turning basins, actual or authorized navigation and berthing areas and depths, wharves, piers, pilings, dolphins, or other structures).

Maintenance dredging of upper turning basin is very important for LDW users, to prevent sediment from coming downstream and making these areas of LDW shallower. Ample berthing areas with deep enough areas are also important. Interviewee noted that there are not many places to store barges. Overwater structure directly upstream of SeaTac is leased by Lynden from company that makes cookie dough. Lynden also moors directly across river from SeaTac, just upstream of First Ave Bridge. Cal Portland also stores barges in Slip 3.

Briefly describe any physical constraints that affect your operations (e.g., tidal conditions, waterway width or depth).

Slip 3 is not tide restricted, but berthing area in main channel of LDW cannot hold barges during very low tides. Barge will bottom out and/or ramp will be too steep for forklift to traverse. Users plan ahead and consult tide predictions. Usually storage of barges is not a problem with available depths, but when barges are loaded down they sit lower in the water, and depths can be more of an issue.

First Avenue Bridge must be open for tugs moving barges to come through. Tug operators plan transits around rush hour bridge closures. Interviewee noted that if bridge gets stuck down, it would be a problem for his business.

INFORMATION SPECIFIC TO OPERATION OF VESSELS

Are your vessel operations dependent on water depths or tide levels, time of year, or bridges? If yes, please describe.

Lowest tides restrict use of berthing area in LDW main channel. Slip 3 has been okay with tides. Empty barges sit higher in water than loaded barges, so sometimes loading times are planned according to tides.

Please describe your typical transit route(s) (the interview team will sketch on the attached waterway overview map, as needed).

Down channel to Slip 3 area. No other moorage/resting places in LDW.

Please describe the vessel(s) that you typically operate on the LDW (i.e., type, beam, length, draft, capacity, horsepower). We are interested in approximate number of vessels operated and frequency of each type of vessel traffic (i.e., per week, month, or year).

Many barges used have about 17-ft draft or shallower. Some are up to 20-ft draft. Most barges were about 250-ft x 75-ft but are getting bigger. Can be 340-ft x 90-ft. Harder to accommodate larger barges in LDW.

Please describe other relevant operational characteristics, including berthing and anchoring. We are interested in learning about typical vessel maneuvering, including in and around piers.

Most loading is from land to barges. Sometimes large items can be lifted off of barges. Large transformers have been lifted from barges at SeaTac because they have the facility to access barges. Using water allows commerce to/from Alaska to by-pass Canada (if road/rail were used).

If you are a tugboat operator, please describe the companies/facilities that you typically serve.

n/a

If your operations are supported by tugboat operators, which operator(s) do you typically use for support?

Island Tug and Barge

For activities involving barges, when and where are spuds used (or are moorings used instead)?

Spuds are not used by SeaTac Marine. Vessels are tied up. Dolphins are present along concrete docks to protect docks and prevent vessels from making contact with dock.

For activities involving barges, identify areas of the waterway (if any) where barges are towed and staged/anchored. Also identify areas where barges are pushed. Is it typical to allow bow-mounted bridle chains to be lowered and dragged? If so, note under what conditions this occurs, and within what areas of the LDW. (The interview team will sketch on the attached waterway overview map, as needed.)

Bridle chains do not drag by intention. It wears out the bridle chains and slows down the vessels. They should be tied up. The intention is for the chains to be tied up. The vessel is harder to control if the chains drag.

FACILITY-SPECIFIC INFORMATION

Are as-built drawings, design plans/profiles, or other schematics illustrating the structural configuration of your waterfront or overwater structures (e.g., piers, wharves, bulkheads) available for copying? If yes, the interview team would appreciate noting the general types of documents that are available and any follow-up actions that may be needed to obtain them.

One bird's eye view air photo map with berthing dimensions was provided. Interviewee noted that Slip 3 is narrow.

Are dredge records for establishment and maintenance of berthing areas, including authorized dredge depths and limits, available for copying? If yes, the interview team would appreciate the opportunity to note documents that are available and any follow-up actions that may be needed to obtain them.

No dredging has been conducted in past 15 years. Interviewee noted that Superfund has prevented maintenance dredging, or that they can't pay for planning, design, and permitting if they can't complete work.

FUTURE ACTIVITIES

Please describe any planned facility/infrastructure maintenance, development or improvement projects, operational modifications, or other plans that will affect your property's shoreline or affect your future use of the waterway, both within the short term (2 to 5 years) and the longer term (more than 5 years).

Interviewee would like to conduct maintenance dredging. Shallowing berths and a need to use larger (deeper draft) barges affects many waterway users. SeaTac would like to perform maintenance dredging and maintain overwater structures, but has been told to wait for Superfund process/design. Interviewee claims they are unable to go forward with needed activities to keep property (in-water) maintained. Also noted that dolphins, which protect concrete edge of overwater structure/berthing area need repair, but they're unable to do so.

Interviewee notes that ability to refinance or sell property is encumbered by Superfund.

Interviewee also noted that all shallow draft commerce for Alaska occurs out of LDW.

Is documentation available regarding future plans? We would appreciate discussing these plans with you, and if possible, obtaining copies if they are available.

No documentation because Superfund process and issues with getting permitting have put planning on hold.

FOLLOW-UP ACTIONS

Based on the discussion of topics and questions listed above, please let us know if there are additional tenants or other waterway users that we should contact.

Pacific Crane (Paco) loads cranes at Boyer dock, Rick Rasmussen (wire rope) loads winches and gear for customers in LDW, Kelly Ryan/HECO (lease area by Salty's in Elliott Bay, but use LDW), Boyer (RM 2.4), Crowley (not as active in LDW today, but used to own land), Alaska Logistics (use Boyer facilities), JA Jack & Sons, Waste Management (transload in Slip 4)

For waterfront facilities with in-water structures, we would be grateful if we could arrange a brief follow-up visit to document the type, location, and general condition of the structure(s). Our intent is to conduct this assessment using a small vessel on the LDW, and to perform all observations from a safe working distance to avoid interrupting facility operations, unless otherwise arranged in advance. You would not be required to be present during this survey, although you will be notified in advance when it will occur. Also, could you please provide a facility contact with whom the in-water team can coordinate further, prior to conducting the assessment.

More barges are expected to be in LDW in January than in summer because less work in Alaska. So structure surveys will be harder due to barges blocking structures. Need to coordinate with SeaTac for survey.

ADDITIONAL DESCRIPTION

SeaTac Marine is the newest waterway owner in the allocation group (15 years on LDW). Interviewee (President of SeaTac Marine) expressed need for workable waterway and the struggle for a small business within a Superfund Site. Livelihood is 100 percent tied to the water. Interviewee also expressed concern with four members of LDWG not being waterway users.

Interview ID:	234
Interviewee:	Lafarge Corp
Subject property(s):	Lafarge Corp
Date of Interview:	10/11/2017
Business/organization type:	Aggregates
Business physical address(es):	5400 West Marginal Way SW, Seattle, WA 98106
Tax parcel ID#:	1924049003
Approximate river mile:	1.1 W

DESCRIPTION OF WATERWAY-DEPENDENT USES

Please provide a general description of your current activities that are dependent on use of the waterway (e.g., vessel operations, waterfront facility operations).

Unload cement, gypsum, slag, and dredged sediment from barges at two docks at RM 1.0–1.2 West.

Enclosed cement barges are unloaded at the north dock. Open barges of gypsum or sediment are unloaded at the east dock. Handymax ships with slag are offloaded at east dock.

Most barges leave empty. At times glass and gypsum (jet grout) have been loaded onto barges at LaFarge.

Sediment is offloaded/transloaded into rail cars.

Over what area of the entire LDW (e.g., between what approximate river miles) do you typically operate? If applicable, indicate whether your activities are constrained to a particular side of the waterway (the interview team will utilize the attached maps to prepare sketches and make notes, as needed).

Only operate at facility. Barges are not staged anywhere in the LDW. Cement, gypsum, slag-containing vessels are staged and/or loaded in Elliott Bay. Dredged sediment barges move from location of dredging project to LaFarge's east dock when filled. East dock has a lot of space to hold barges. Barges can tie up together so that many can be moored.

Are your waterway-dependent activities continuous or intermittent/seasonal in nature? Please describe the frequency of your operations.

Sediment offloading is dependent upon work done in river, only during fish construction windows. Cement, slag, gypsum loading is not seasonal. The north dock almost always has a cement barge (enclosed) at the dock. Frequency of unloading and changing out barges is about one per week or one per 2 weeks.

Slag ships arrive once every couple of months, as needed.

Gypsum barges are at a frequency of a couple per year.

Briefly describe any waterway features of importance to your operations (e.g., turning basins, actual or authorized navigation and berthing areas and depths, wharves, piers, pilings, dolphins, or other structures).

No other features of importance. Vessels are moored at LaFarge location only.

Briefly describe any physical constraints that affect your operations (e.g., tidal conditions, waterway width or depth).

Slag vessels (Handymax vessels) are lightered in Elliott Bay to lighten their loads. They can moor at the east dock under all tidal conditions because they are not at full capacity. The vessels, when full, can hold 30,000 tons of material. If the east dock were deeper, a fully loaded vessel could moor at the east dock. The dock has enough berthing frontage. Depth is the only constraint for the slag vessels. Slag comes from Japan and Korea (from primary steel production) and is ground into a powder that is used for cement. It's sold to Read Mix companies who blend it with stones to make concrete.

INFORMATION SPECIFIC TO OPERATION OF VESSELS

Are your vessel operations dependent on water depths or tide levels, time of year, or bridges? If yes, please describe.

No. However, slag vessels are lightered into smaller batches so that they can fit at east dock.

Please describe your typical transit route(s) (the interview team will sketch on the attached waterway overview map, as needed).

Up navigation channel to RM 1.0 to 1.2, west side.

Please describe the vessel(s) that you typically operate on the LDW (i.e., type, beam, length, draft, capacity, horsepower). We are interested in approximate number of vessels operated and frequency of each type of vessel traffic (i.e., per week, month, or year).

Open barges, Handymax ships, enclosed cement barges (same size as open barges).
Interviewee does not know dimensions.

Please describe other relevant operational characteristics, including berthing and anchoring. We are interested in learning about typical vessel maneuvering, including in and around piers.

None

If you are a tugboat operator, please describe the companies/facilities that you typically serve.

n/a

If your operations are supported by tugboat operators, which operator(s) do you typically use for support?

Interviewee says that LaFarge uses all tugboat operators. He did not know the names of any of the companies used.

For dredged sediment, tug company is whomever the dredging contractor hires, not LaFarge managed.

For activities involving barges, when and where are spuds used (or are moorings used instead)?

No spuds are used.

For activities involving barges, identify areas of the waterway (if any) where barges are towed and staged/anchored. Also identify areas where barges are pushed. Is it typical to allow bow-mounted bridle chains to be lowered and dragged? If so, note under what conditions this occurs, and within what areas of the LDW. (The interview team will sketch on the attached waterway overview map, as needed.)

No areas used except LaFarge plant. Interviewee is not aware of positions of bridle chains.

FACILITY-SPECIFIC INFORMATION

Are as-built drawings, design plans/profiles, or other schematics illustrating the structural configuration of your waterfront or overwater structures (e.g., piers, wharves, bulkheads) available for copying? If yes, the interview team would appreciate noting the general types of documents that are available and any follow-up actions that may be needed to obtain them.

Interviewee did not provide drawings.

Are dredge records for establishment and maintenance of berthing areas, including authorized dredge depths and limits, available for copying? If yes, the interview team would appreciate the opportunity to note documents that are available and any follow-up actions that may be needed to obtain them.

No. Interviewer noted that 1,000 cy of material was dredged in 2009. Interviewee thought that raw material was recovered after a caisson broke.

FUTURE ACTIVITIES

Please describe any planned facility/infrastructure maintenance, development or improvement projects, operational modifications, or other plans that will affect your property's shoreline or affect your future use of the waterway, both within the short term (2 to 5 years) and the longer term (more than 5 years).

No future plans. However, there is a desire to deepen the eastern berth so that fully loaded slag vessels can be berthed. However, there are no plans at this time.

Is documentation available regarding future plans? We would appreciate discussing these plans with you, and if possible, obtaining copies if they are available.

No

FOLLOW-UP ACTIONS

Based on the discussion of topics and questions listed above, please let us know if there are additional tenants or other waterway users that we should contact.

No

For waterfront facilities with in-water structures, we would be grateful if we could arrange a brief follow-up visit to document the type, location, and general condition of the structure(s). Our intent is to conduct this assessment using a small vessel on the LDW, and to perform all observations from a safe working distance to avoid interrupting facility operations, unless otherwise arranged in advance. You would not be required to be present during this survey, although you will be notified in advance when it will occur. Also, could you please provide a facility contact with whom the in-water team can coordinate further, prior to conducting the assessment.

Coordination is not necessary, but field staff can contact us ahead of time to find out when fewer vessels will be berthed at the docks (so that they are more visible).

ADDITIONAL DESCRIPTION

No response.

Interview ID:	235
Interviewee:	Pacific Pile and Marine
Subject property(s):	Pacific Pile and Marine (multiple)
Date of Interview:	10/12/2017
Business/organization type:	Construction
Business physical address(es):	614 S Riverside Dr, Seattle, WA 98108
Tax parcel ID#:	7327906755; 7327906645; 7327905350; 7327905725;
Approximate river mile:	2.6 W; 2.55 W; 2.75 W; 2.65 W

DESCRIPTION OF WATERWAY-DEPENDENT USES

Please provide a general description of your current activities that are dependent on use of the waterway (e.g., vessel operations, waterfront facility operations).

Lease upland and overwater structures on contiguous parcels from RM 2.5 to 2.9 West. Also occasionally moor and load barges at Boyer Towing (RM 2.55 W) and at Kelly Ryan property at 4.0W. Moor and load inland and ABS barges. Sometimes offload material from barges at site. At time of interview they were offloading concrete from the Colman Dock (downtown Seattle car ferry) reconstruction. Concrete was being jackhammered into smaller pieces to be shipped for recycling. Site also was used as transload facility for sediment dredged from Jorgensen Forge EAA. Best management practices (BMPs) including truck wash facilities, spill aprons, liners, etc. were temporarily added for handling impacted sediment. The site was approved by EPA Region 10 for transloading. However, Pacific Pile does not anticipate acting as a transload facility in the future.

Over what area of the entire LDW (e.g., between what approximate river miles) do you typically operate? If applicable, indicate whether your activities are constrained to a particular side of the waterway (the interview team will utilize the attached maps to prepare sketches and make notes, as needed).

Up to half of the fleet can fit at the RM 2.7W area structures by tying to structures and rafting to one another. Spuds are also sometimes used to store vessels. Can raft two or three deep from shore out to navigation channel. Also go upstream as far as RM 4.0 (to moor at Kelly Ryan property).

Are your waterway-dependent activities continuous or intermittent/seasonal in nature? Please describe the frequency of your operations.

Work is largely dictated by in-water fish windows. Pacific Pile conducts in-water construction work. Fish runs dictate work, and they differ depending upon location.

This winter, Pacific Pile will work in Haines and Valdez, Alaska. Also do some work in Canada out of its Vancouver, B.C. office. The most barges are moored in LDW in late spring and early summer when fish windows are closed.

Work has also been dictated by ongoing remediation projects. Pacific Pile placed the sand/activated carbon mixtures for the pilot projects in the LDW (material was mixed by Cal Portland). It has also been working with Anchor QEA on a pilot project near the Denny outfall (in Elliott Bay). Interviewee noted that Pacific Pile has the appropriate equipment for proper placement of sand and GAC and that sometimes design specifications don't take the appropriate equipment into account. Some specifications for LDW were written for equipment that only works in quiescent, lake-type environments. In a moving river affected by tides, different equipment is needed to ensure proper placement of material and control of turbidity.

Briefly describe any waterway features of importance to your operations (e.g., turning basins, actual or authorized navigation and berthing areas and depths, wharves, piers, pilings, dolphins, or other structures).

Dredging of upper turning basin is important for Pacific Pile. It's berthing areas have silted in such that they only have 5 ft below MLLW. Depth is a problem for all vessels operating upstream of the First Avenue Bridge. In 1998, the subject property was dredged to -10 ft MLLW, but it has silted in by 5 ft in less than 10 years. Shoaling occurs in different places, and shoals move around depending upon flow and vessel movements.

Interviewee noted that climate change impacts will require river deepening, maintenance of shoals and improvements in shoreline structures to address flooding.

Briefly describe any physical constraints that affect your operations (e.g., tidal conditions, waterway width or depth).

Water depth affects vessel operations. Pacific Pile cannot load its barges that have 20-ft drafts when full, at its docks. It will partially load or will move barges to Boyer location (RM 2.55W) where the berth is deeper. Interviewee noted that Boyer tugs all draft 15 ft down, so they are always depth limited. Load lines on barges vary by season (what's allowable for safe travel), and those load line seasonal difference can mean a 500-ton difference in what can be hauled.

Interviewee also noted that increases in recreational use of river and kayakers on river is dangerous. Movement of tugs and heavy equipment can injure kayakers. Additionally, many street ends have been turned in to pocket parks where people launch kayaks. However, there are no trails, so recreational users walk through/near heavy equipment yards and park cars in industrial working areas. There is a lot of

congestion. Pleasure boats from the SP Marina are also problematic because they are often not on the radio and in the same communication lines that commercial users are using. Recreational uses are incompatible with commercial uses of the waterway when they are in close proximity. Interviewee noted that the Port should decide how the river is to be used. Are they meant to promote commercial uses? They seem to be supporting recreational uses in order to mitigate for NRD/Superfund responsibilities.

Vessels are getting larger and there are more of them as freight shipment to Alaska increases. There is a need for more moorage in Puget Sound and deeper berths in LDW. Pacific Pile also stores barges at Seabeck, Washington (in Hood Canal) and Bremerton, Washington.

INFORMATION SPECIFIC TO OPERATION OF VESSELS

Are your vessel operations dependent on water depths or tide levels, time of year, or bridges? If yes, please describe.

Water depths are restrictive. Shoaling has occurred, further decreasing use of structures for fully loading barges.

Please describe your typical transit route(s) (the interview team will sketch on the attached waterway overview map, as needed).

Down navigation channel to RM 2.6-2.9, or further upstream to RM 4.0.

Please describe the vessel(s) that you typically operate on the LDW (i.e., type, beam, length, draft, capacity, horsepower). We are interested in approximate number of vessels operated and frequency of each type of vessel traffic (i.e., per week, month, or year).

Inland and ABS barges. Inland barges can travel to Alaska through inland waters (inside passage, Puget Sound, etc.) but cannot enter open ocean. Barge dimensions vary from 10 ft width x 40 ft length x 5 ft depth to 110 ft width x 400 ft length x 28 ft depth.

Please describe other relevant operational characteristics, including berthing and anchoring. We are interested in learning about typical vessel maneuvering, including in and around piers.

No anchoring. Sometimes spuds are used at piers. Barges can be rafted two to three wide from dock to edge of navigation channel.

If you are a tugboat operator, please describe the companies/facilities that you typically serve.

n/a

If your operations are supported by tugboat operators, which operator(s) do you typically use for support?

Pacific Pile has a small push tug that can move 24-ft and smaller vessels. It does not have licensed tug operators, so contract with Boyer Towing for jobs needing licensed operators.

For activities involving barges, when and where are spuds used (or are moorings used instead)?

Spuds are sometimes used for mooring at subject properties.

For activities involving barges, identify areas of the waterway (if any) where barges are towed and staged/anchored. Also identify areas where barges are pushed. Is it typical to allow bow-mounted bridle chains to be lowered and dragged? If so, note under what conditions this occurs, and within what areas of the LDW. (The interview team will sketch on the attached waterway overview map, as needed.)

n/a. No additional info provided from what was provided in other responses.

FACILITY-SPECIFIC INFORMATION

Are as-built drawings, design plans/profiles, or other schematics illustrating the structural configuration of your waterfront or overwater structures (e.g., piers, wharves, bulkheads) available for copying? If yes, the interview team would appreciate noting the general types of documents that are available and any follow-up actions that may be needed to obtain them.

Interviewee has some old drawings that were emailed to interviewer. There have been no changes to the overwater structures in a long time. Interviewee noted that structures stay intact for a long time in brackish waters.

Are dredge records for establishment and maintenance of berthing areas, including authorized dredge depths and limits, available for copying? If yes, the interview team would appreciate the opportunity to note documents that are available and any follow-up actions that may be needed to obtain them.

No. However, it was noted that the berthing area has silted in by 5 ft (to -5 ft MLLW) from the depth to which it was dredged in 1998 (-10 ft MLLW).

FUTURE ACTIVITIES

Please describe any planned facility/infrastructure maintenance, development or improvement projects, operational modifications, or other plans that will affect your property's shoreline or affect your future use of the waterway, both within the short term (2 to 5 years) and the longer term (more than 5 years).

Only immediate plans are related to maintenance, replacement of fender piles. Work might be done under nationwide general permit.

Is documentation available regarding future plans? We would appreciate discussing these plans with you, and if possible, obtaining copies if they are available.

No documentation available because no concrete plans. Ideally, Pacific Pile would like its berthing area to have a -20 ft MLLW depth to match that of the navigation channel. Interviewee noted that vessels are getting larger and more freight is being shipped to Alaska. Larger barges and equipment are needed to meet demand, so more berthing space, with deeper depths, is needed. Overall, more moorage in Puget Sound is needed. Pacific Pile sometimes takes equipment to Seabeck, Washington (near Hood Canal) and to Bremerton for mooring. Bremerton has large buoys that can hold large vessels.

FOLLOW-UP ACTIONS

Based on the discussion of topics and questions listed above, please let us know if there are additional tenants or other waterway users that we should contact.

Boyer Towing was mentioned during interview, both in terms of moorage available at their facility and due to providing towing services.

For waterfront facilities with in-water structures, we would be grateful if we could arrange a brief follow-up visit to document the type, location, and general condition of the structure(s). Our intent is to conduct this assessment using a small vessel on the LDW, and to perform all observations from a safe working distance to avoid interrupting facility operations, unless otherwise arranged in advance. You would not be required to be present during this survey, although you will be notified in advance when it will occur. Also, could you please provide a facility contact with whom the in-water team can coordinate further, prior to conducting the assessment.

January is a good time to view structures because many vessels will be out on jobs. Work is busier when fish windows are open.

ADDITIONAL DESCRIPTION

Pacific Pile leases upland and overwater space at several contiguous properties from RM 2.5 to 2.9 West. Property owners are listed as Cascade Barge, Brackish Properties, Six Fourteen Logistics, Six Twenty Logistics, Hurlen, Cassel Point, and Silver Bay Logging.

Interview ID:	236
Interviewee:	Glacier Northwest, Inc d.b.a. CalPortland
Subject property(s):	Glacier Northwest, Inc. [Glacier NW] (multiple properties) and T-103 (CalPortland)
Date of Interview:	10/23/2017 9:16:18 AM
Business/organization type:	Construction
Business physical address(es):	5975 East Marginal Way S, Seattle, WA 98134
Tax parcel ID#:	1924049029; 1924049075; 7666703440
Approximate river mile:	1.45 W; 1.7 E; 0 W

DESCRIPTION OF WATERWAY-DEPENDENT USES

Please provide a general description of your current activities that are dependent on use of the waterway (e.g., vessel operations, waterfront facility operations).

Terminal 103—south side of terminal is leased from the Port of Seattle by Glacier NW and used as an aggregate yard. Barges are unloaded, and aggregate is moved to truck for distribution for particular projects (e.g., third runway at SeaTac airport). Some on-loading of barges may be conducted at T-103 if water delivery is needed for a particular project. Aggregate includes sand, gravel, and quarry rock. Sources of aggregate include Glacier NW Dupont facility. The north side of T-103 and its overwater structure are leased and operated by GC (Kiewit).

At Glacier Bay (RM 1.45W) bulk cement ships (Handysize) are unloaded.

In Slip 2, sand and gravel barges are offloaded. The overwater structure in the waterway, just downstream of Slip 2, is owned by CertainTeed. It is sometimes used by Glacier NW for pneumatic unloading of cement from a cement barge to silos at the concrete plant near Slip 2. At the Slip 2 facility, aggregate (sand and gravel) are mixed with cement and water to make concrete.

Glacier NW also sometimes leases berthing space at SeaTac Marine at 2.15E, just upstream of First Avenue Bridge to tie up their cement barge.

Over what area of the entire LDW (e.g., between what approximate river miles) do you typically operate? If applicable, indicate whether your activities are constrained to a particular side of the waterway (the interview team will utilize the attached maps to prepare sketches and make notes, as needed).

Barges are moved as far upstream as SeaTac Marine facility at 2.15E.

**Are your waterway-dependent activities continuous or intermittent/seasonal in nature?
Please describe the frequency of your operations.**

Work is not seasonal. However, sometimes the summer is busier than the rest of the year. Handysize/cement ships can be unloaded only when it's not raining. (Note: this is because the holds on the ship need to be opened during offloading with the dockside pneumatic offloader at the cement terminal.) So unloading at the cement terminal is weather dependent.

Briefly describe any waterway features of importance to your operations (e.g., turning basins, actual or authorized navigation and berthing areas and depths, wharves, piers, pilings, dolphins, or other structures).

There are no areas to turn around that can be used by Glacier NW. Therefore, Handysize vessels are pushed in to LDW backwards so they can exit bow-first. They are self-propelled vessels, but are brought in to LDW with tug assist. Adequate navigation channel depths are also important, and the channel is shoaled in some areas south of the Spokane Street Bridge.

Briefly describe any physical constraints that affect your operations (e.g., tidal conditions, waterway width or depth).

Although the berthing area at Glacier Bay is maintained to -35 ft MLLW, its use is tide dependent due to shoaling in the channel on the way to the berth. The berth at the cement terminal is depositional and accumulates sediment. As the berth shoals up, berthing at the dock can become tide dependent. The captain will drop a lead line upon berth to determine if the vessel can remain moored during a given tide. If the captain determines that the depth may not be sufficient to berth the ship during a given tide he/she may order the vessel taken back out to Elliott Bay until tide elevations will again accommodate the vessel. Glacier NW incurs demurrage costs during these times. Berthing is at the discretion of the captain and the anticipated time needed to unload the vessel. The vessels are also sometimes short-loaded when the berthing area is shoaled up and maintenance dredging has not occurred. Short-loaded ships are substantially less efficient and cost effective.

The size of vessel that can visit Glacier NW operations is limited by the width of the opening at the railroad bridge crossing the LDW south of Spokane Street.

There have been depth issues at T-103 in the past. A barge had flipped and spilled rock. It was dredged out in 2005.

INFORMATION SPECIFIC TO OPERATION OF VESSELS

Are your vessel operations dependent on water depths or tide levels, time of year, or bridges? If yes, please describe.

Bridge openings for railroad bridge and Spokane Street Bridge are needed at LDW mouth. Movement of bulk cement ships up the waterway are tide dependent due to shoaling in the channel. Berth at Glacier Bay is tide dependent at times depending on how recently maintenance dredging has been performed.

Please describe your typical transit route(s) (the interview team will sketch on the attached waterway overview map, as needed).

Down navigation channel to one of three locations where mooring occurs.

Please describe the vessel(s) that you typically operate on the LDW (i.e., type, beam, length, draft, capacity, horsepower). We are interested in approximate number of vessels operated and frequency of each type of vessel traffic (i.e., per week, month, or year).

Handymax vessels have a 44,000-ton capacity and measure 170 meters x 28 meters. Aggregate barges have a maximum draft of 16 ft. They vary in length and width. The barges used at Slip 2 typically have a 6,000-ton capacity.

Please describe other relevant operational characteristics, including berthing and anchoring. We are interested in learning about typical vessel maneuvering, including in and around piers.

No anchoring. Berthing is by tying up to structures.

If you are a tugboat operator, please describe the companies/facilities that you typically serve.

n/a

If your operations are supported by tugboat operators, which operator(s) do you typically use for support?

Foss is used for tug assist of Handymax vessels. Island Tug and Barge is used at Slip 2. Barges at T-103 are supported by Island Tug and Barge and Western Towboat.

For activities involving barges, when and where are spuds used (or are moorings used instead)?

No spuds are used. The barges used do not have spuds.

For activities involving barges, identify areas of the waterway (if any) where barges are towed and staged/anchored. Also identify areas where barges are pushed. Is it typical to allow bow-mounted bridle chains to be lowered and dragged? If so, note under what conditions this occurs, and within what areas of the LDW. (The interview team will sketch on the attached waterway overview map, as needed.)

Bridle chains are not dragged. The barges are pushed.

FACILITY-SPECIFIC INFORMATION

Are as-built drawings, design plans/profiles, or other schematics illustrating the structural configuration of your waterfront or overwater structures (e.g., piers, wharves, bulkheads) available for copying? If yes, the interview team would appreciate noting the general types of documents that are available and any follow-up actions that may be needed to obtain them.

Interviewee emailed copies of drawings showing overwater structures.

From Interviewee via email, 10-23-17:

I am transmitting three more files for your use. You asked for plan and X-section views that could be used by your field team. Attached are Corps permits for dock repair projects that were completed at the Aggregate yard and Concrete Plant in 2006 and 2007 that include drawings that may be helpful in this regard.

I have also attached a file with two drawings for the dock for the cement terminal. The plan view drawing was used in a corps permit to replace some of the fender piles back in 2005. The X-section is from a drawing that was included in the Corps permit to replace all the fender piles in 2016. Unfortunately, I didn't think the plan view in the 2016 version was very good. Please note that the substrate elevation in the x-section is not correct and you should rely upon the dredge permit drawings for bottom elevation in this area."

Are dredge records for establishment and maintenance of berthing areas, including authorized dredge depths and limits, available for copying? If yes, the interview team would appreciate the opportunity to note documents that are available and any follow-up actions that may be needed to obtain them.

Dredge records were provided for all three locations. 2002—Slip 2. 2011—T103. 2016—Glacier Bay.

T-103 is maintained to -14 ft MLLW. A deeper berth would be ideal because some barges have an 18-ft draft. But it is difficult to deepen a berth. A substantial development permit application, with a SEPA review, is required.

Glacier Bay was dredged to -36 ft MLLW in 2005, and 1-ft cap was placed due to sand blast grit and metals (As, Hg) contamination from the adjacent (downstream) former Duwamish Shipyard. The berth was redredged in 2017. Open water disposal was not an allowable option in 2017. The material was subject to waste characterization for upland disposal. The berth at Glacier Bay silts in quickly and needs dredging every few years.

FUTURE ACTIVITIES

Please describe any planned facility/infrastructure maintenance, development or improvement projects, operational modifications, or other plans that will affect your property's shoreline or affect your future use of the waterway, both within the short term (2 to 5 years) and the longer term (more than 5 years).

There are no current plans for upgrades. Shore protection (rip rap) was placed on the south side of Slip 2 a few years ago. Fender piles were replaced on the Glacier Bay dock in 2016.

These were the last modifications performed in the water.

Is documentation available regarding future plans? We would appreciate discussing these plans with you, and if possible, obtaining copies if they are available.

n/a

FOLLOW-UP ACTIONS

Based on the discussion of topics and questions listed above, please let us know if there are additional tenants or other waterway users that we should contact.

n/a

For waterfront facilities with in-water structures, we would be grateful if we could arrange a brief follow-up visit to document the type, location, and general condition of the structure(s). Our intent is to conduct this assessment using a small vessel on the LDW, and to perform all observations from a safe working distance to avoid interrupting facility operations, unless otherwise arranged in advance. You would not be required to be present during this survey, although you will be notified in advance when it will occur. Also, could you please provide a facility contact with whom the in-water team can coordinate further, prior to conducting the assessment.

Cannot predict very far in advance when berths will be empty for viewing. The weather affects the use of the Glacier Bay cement terminal. Further, the cement terminal is difficult to access because the Dept. of Homeland Security requires guards to be present on the dock when a cement ship is in berth. A chip card is required for access in/around the dock.

Please contact us when the team plans to be in the water, and may help the team coordinate around ship arrivals.

ADDITIONAL DESCRIPTION

Glacier Northwest, Inc. is interviewee. Glacier Northwest, Inc. does business as CalPortland. Glacier Northwest, Inc. owns two locations, one in Slip 2 and one in Glacier Bay. Glacier Northwest, Inc. leases space at T-103 from the Port.

Interview ID:	237
Interviewee:	J.A. Jack And Sons
Subject property(s):	J.A. Jack And Sons
Date of Interview:	10/25/2017
Business/organization type:	Aggregates
Business physical address(es):	5427 Ohio Ave S, Seattle, WA 98134
Tax parcel ID#:	1924049043
Approximate river mile:	1.15 E

DESCRIPTION OF WATERWAY-DEPENDENT USES

Please provide a general description of your current activities that are dependent on use of the waterway (e.g., vessel operations, waterfront facility operations).

JA Jack offloads open barges of limestone from British Columbia and white rock (lime) from Alaska at RM 1.2E, at a structure made of six dolphins. Product is loaded onto trucks and rail to leave site. Barges leave site empty.

Over what area of the entire LDW (e.g., between what approximate river miles) do you typically operate? If applicable, indicate whether your activities are constrained to a particular side of the waterway (the interview team will utilize the attached maps to prepare sketches and make notes, as needed).

JA Jack operates only from the mouth to RM 1.2 East. Barges are not moored in any other locations in the LDW.

Are your waterway-dependent activities continuous or intermittent/seasonal in nature? Please describe the frequency of your operations.

Spring/summer may be more busy than winter. Lime is used for agricultural purposes (affects seasonality), cement, glass, chicken feed (grit), shingles, joint compound. Barge frequency is an average of three or four per month of limestone from British Columbia quarries. Sometimes a barge from Alaska will bring white rock (limestone), placing the barge frequency up to a max of five per month.

Briefly describe any waterway features of importance to your operations (e.g., turning basins, actual or authorized navigation and berthing areas and depths, wharves, piers, pilings, dolphins, or other structures).

No features are important to JA Jack. It relies on the tugboat operator to bring in the barges and deal with tides and waterway features. From JA Jack's perspective, the barges show up when they do (similar to railcars).

Briefly describe any physical constraints that affect your operations (e.g., tidal conditions, waterway width or depth).

Sometimes when tide is too low, the barge cannot come in full upon a low tide. The tug operators check tide predictions before bringing barges in. At a frequency of three to five barges per month, there is usually a broad window to work in.

INFORMATION SPECIFIC TO OPERATION OF VESSELS

Are your vessel operations dependent on water depths or tide levels, time of year, or bridges? If yes, please describe.

Barges can't be brought in full when tide is too low. Barge timing is adjusted accordingly. Barges are not short-loaded.

Please describe your typical transit route(s) (the interview team will sketch on the attached waterway overview map, as needed).

Down navigation channel to RM 1.2 E

Please describe the vessel(s) that you typically operate on the LDW (i.e., type, beam, length, draft, capacity, horsepower). We are interested in approximate number of vessels operated and frequency of each type of vessel traffic (i.e., per week, month, or year).

Open barges. All limestone barges are the same size (8,700 tons). White rock barges are a bit bigger. Interviewee does not know dimensions.

Please describe other relevant operational characteristics, including berthing and anchoring. We are interested in learning about typical vessel maneuvering, including in and around piers.

No anchoring. Barges are tied to six-dolphin structure.

If you are a tugboat operator, please describe the companies/facilities that you typically serve.

n/a

If your operations are supported by tugboat operators, which operator(s) do you typically use for support?

Interviewee states that Canadian tugs bring in barges and that they coordinate with LaFarge Marine, which is a Canadian company in same operational group as Imperial Limestone. (Interviewer's note: LaFarge cement interviewee did not mention tug

operators named LaFarge Marine, so this company may be different from the LaFarge Cement company in the LDW.)

For activities involving barges, when and where are spuds used (or are moorings used instead)?

No spuds used

For activities involving barges, identify areas of the waterway (if any) where barges are towed and staged/anchored. Also identify areas where barges are pushed. Is it typical to allow bow-mounted bridle chains to be lowered and dragged? If so, note under what conditions this occurs, and within what areas of the LDW. (The interview team will sketch on the attached waterway overview map, as needed.)

No

FACILITY-SPECIFIC INFORMATION

Are as-built drawings, design plans/profiles, or other schematics illustrating the structural configuration of your waterfront or overwater structures (e.g., piers, wharves, bulkheads) available for copying? If yes, the interview team would appreciate noting the general types of documents that are available and any follow-up actions that may be needed to obtain them.

No drawings provided by interviewee.

Are dredge records for establishment and maintenance of berthing areas, including authorized dredge depths and limits, available for copying? If yes, the interview team would appreciate the opportunity to note documents that are available and any follow-up actions that may be needed to obtain them.

Interviewee does not know about any past dredging events. LDW FS does not list any dredging events for this location.

FUTURE ACTIVITIES

Please describe any planned facility/infrastructure maintenance, development or improvement projects, operational modifications, or other plans that will affect your property's shoreline or affect your future use of the waterway, both within the short term (2 to 5 years) and the longer term (more than 5 years).

No in-water plans. All upgrades have been in upland. There are plans to do construction in King County-owned property directly to the north. An old building was torn down recently. However, this work will not include in-water activities.

Is documentation available regarding future plans? We would appreciate discussing these plans with you, and if possible, obtaining copies if they are available.

n/a

FOLLOW-UP ACTIONS

Based on the discussion of topics and questions listed above, please let us know if there are additional tenants or other waterway users that we should contact.

n/a

For waterfront facilities with in-water structures, we would be grateful if we could arrange a brief follow-up visit to document the type, location, and general condition of the structure(s). Our intent is to conduct this assessment using a small vessel on the LDW, and to perform all observations from a safe working distance to avoid interrupting facility operations, unless otherwise arranged in advance. You would not be required to be present during this survey, although you will be notified in advance when it will occur. Also, could you please provide a facility contact with whom the in-water team can coordinate further, prior to conducting the assessment.

Coordinate with interviewee for in-water survey. He can advise when no barges will be present.

ADDITIONAL DESCRIPTION

JA Jack has been on LDW since 1950s. Tenant at King County owned parcel at RM 1.2 East. In 2015, ACG Materials of Norman, Oklahoma, purchased J.A. Jack & Sons.

Interview ID:	238
Interviewee:	South Park Marina
Subject property(s):	South Park Marina (multiple)
Date of Interview:	10/27/2017
Business/organization type:	Marina
Business physical address(es):	8604 Dallas Ave S, Seattle, WA 98108
Tax parcel ID#:	2185600070; 0001600001
Approximate river mile:	3.5–3.7 W; 3.45 W

DESCRIPTION OF WATERWAY-DEPENDENT USES

Please provide a general description of your current activities that are dependent on use of the waterway (e.g., vessel operations, waterfront facility operations).

South Park Marina is located at RM 3.4 West. From 1980 to 1981, the marina was rebuilt, including dredging of the marina basin and subsequent dock realignment (supporting documents provided to interview team). Electric and water service was added. Docks and pilings were replaced. The location was a marina prior, since 1970.

Currently, the marina holds 15 live-aboard vessels. Other vessels are weekend-type pleasure boats. No commercial vessels are moored here. However, the marina has been used as a base of operations for scientific survey vessels. The marina contains a boat launch at its downstream end. Launch is in high demand, but it's kept gated off from general, public use, because it can be slippery and hard to use by inexperienced users (not a public park type launch).

Over what area of the entire LDW (e.g., between what approximate river miles) do you typically operate? If applicable, indicate whether your activities are constrained to a particular side of the waterway (the interview team will utilize the attached maps to prepare sketches and make notes, as needed).

Generally, vessels that moor in South Park Marina do not moor in any other parts of the LDW.

Are your waterway-dependent activities continuous or intermittent/seasonal in nature? Please describe the frequency of your operations.

Vessels are in the marina all year long. However, recreational vessels are in and out of the marina more often in the May–Sept boating season than during the rest of the year. Vessels also leave the marina to visit Elliott Bay and other areas during the Christmas boating season.

Briefly describe any waterway features of importance to your operations (e.g., turning basins, actual or authorized navigation and berthing areas and depths, wharves, piers, pilings, dolphins, or other structures).

The State of Washington runs a program by which a large vessel pumps out waste water from smaller boats and yachts. This program is important to the marina.

The boat launch at the downstream end of South Park Marina is very important. South Park Marina allows restricted access to the ramp for users such as Rick's Master Marine, Wooldridge Boats (an aluminum boat manufacturer in South Park), and vessel operators who want to perform maintenance activities in the South Park Marina yard. South Park Marina provides haul-in haul-out services, and the yard is the only do-it-yourself type of yard around. Vessel owners can perform their own maintenance activities, in accordance with best management practices. However, power washing may be performed only by marina staff. Users can rent professional-grade vacuum sanders.

Other important features include the debris deflector located just upstream of the marina in the T-117 EAA. The deflector was rebuilt during the T-117 EAA work and it is working well. Prior deflectors were not angled correctly and would trap debris, instead of deflect it. Historically, when the deflector was not operational (or not present), large debris including large trees, dead cows, and couches would get trapped in and under the marina docks during large storm events. This was especially problematic when shoaling decreased the depths in the marina.

Briefly describe any physical constraints that affect your operations (e.g., tidal conditions, waterway width or depth).

The marina has authorized navigation depths of -8 ft MLLW in the inner portions and -12 ft MLLW in the outer portions. Interviewees expressed the need to be allowed to dredge to maintain the marina at these operational depths. The marina has shoaled in some areas and is currently shallower than the authorized depths.

INFORMATION SPECIFIC TO OPERATION OF VESSELS

Are your vessel operations dependent on water depths or tide levels, time of year, or bridges? If yes, please describe.

Vessels are dependent upon authorized depths being maintained. The last maintenance dredging event occurred in 1992, only at the downstream end of the marina. A 2003 application to dredge was filed, but dredging did not occur. South Park Marina had planned to dredge in 2017.

Sixty percent of recreational vessels at South Park Marina are sailboats, which are restricted (by mast height) at the First Avenue Bridge and the South Park Bridge when the bridges are closed. The railroad bridge at the mouth of the LDW can also hinder vessel traffic.

When fishing nets are blocking waterway, recreational vessels will have trouble going in and out of LDW, so won't traverse around marina as much when nets are out. There is also an increase in hand-powered (crew, kayaks) vessels in waterway, more recreational users.

Please describe your typical transit route(s) (the interview team will sketch on the attached waterway overview map, as needed).

Down navigation channel to South Park Marina. Do not tie up or berth anywhere else.

Please describe the vessel(s) that you typically operate on the LDW (i.e., type, beam, length, draft, capacity, horsepower). We are interested in approximate number of vessels operated and frequency of each type of vessel traffic (i.e., per week, month, or year).

Length ranges 10 to 85 ft

Beam ranges 9 to 15 ft

Draft ranges 2.5 to 6 ft

Many sailboats

15 live-aboards

Scientific survey vessels also use marina during in-water work.

Please describe other relevant operational characteristics, including berthing and anchoring. We are interested in learning about typical vessel maneuvering, including in and around piers.

No anchoring.

If you are a tugboat operator, please describe the companies/facilities that you typically serve.

n/a

If your operations are supported by tugboat operators, which operator(s) do you typically use for support?

n/a

For activities involving barges, when and where are spuds used (or are moorings used instead)?

n/a

For activities involving barges, identify areas of the waterway (if any) where barges are towed and staged/anchored. Also identify areas where barges are pushed. Is it typical to allow bow-mounted bridle chains to be lowered and dragged? If so, note under what conditions this occurs, and within what areas of the LDW. (The interview team will sketch on the attached waterway overview map, as needed.)

n/a

FACILITY-SPECIFIC INFORMATION

Are as-built drawings, design plans/profiles, or other schematics illustrating the structural configuration of your waterfront or overwater structures (e.g., piers, wharves, bulkheads) available for copying? If yes, the interview team would appreciate noting the general types of documents that are available and any follow-up actions that may be needed to obtain them.

Drawings were provided.

Are dredge records for establishment and maintenance of berthing areas, including authorized dredge depths and limits, available for copying? If yes, the interview team would appreciate the opportunity to note documents that are available and any follow-up actions that may be needed to obtain them.

Documents were provided.

FUTURE ACTIVITIES

Please describe any planned facility/infrastructure maintenance, development or improvement projects, operational modifications, or other plans that will affect your property's shoreline or affect your future use of the waterway, both within the short term (2 to 5 years) and the longer term (more than 5 years).

No planned changes. However, some floats may need to be replaced if maintenance dredging occurs. If floats are disassembled for dredging, they may not go back together properly, due to age. When T-117 dredging occurred, outer 120 ft of upstream-most

floats were removed and not replaced. The berthing locations were not made up anywhere else in the marina, so it now has fewer slips.

Is documentation available regarding future plans? We would appreciate discussing these plans with you, and if possible, obtaining copies if they are available.

South Park Marina would like to dredge to return mudline to authorized elevations. Drawings showing current bathymetry were provided to interviewer.

FOLLOW-UP ACTIONS

Based on the discussion of topics and questions listed above, please let us know if there are additional tenants or other waterway users that we should contact.

Rick's Master Marine uses the boat ramp and performs maintenance in the yard.

Wooldridge Boats, an aluminum boat manufacturer located at 96th Ave South, uses the boat ramp to test out vessels on the LDW after a build is completed.

For waterfront facilities with in-water structures, we would be grateful if we could arrange a brief follow-up visit to document the type, location, and general condition of the structure(s). Our intent is to conduct this assessment using a small vessel on the LDW, and to perform all observations from a safe working distance to avoid interrupting facility operations, unless otherwise arranged in advance. You would not be required to be present during this survey, although you will be notified in advance when it will occur. Also, could you please provide a facility contact with whom the in-water team can coordinate further, prior to conducting the assessment.

Send an email prior to performing in-water survey.

ADDITIONAL DESCRIPTION

n/a

Interview ID:	239
Interviewee:	Anchor QEA
Subject property(s):	Duwamish Shipyard Inc.
Date of Interview:	11/16/2017
Business/organization type:	Barge shipping and container storage
Business physical address(es):	5658 W Marginal Way SW, Seattle, WA 98106
Tax parcel ID#:	1924049028
Approximate river mile:	1.35 W

DESCRIPTION OF WATERWAY-DEPENDENT USES

Please provide a general description of your current activities that are dependent on use of the waterway (e.g., vessel operations, waterfront facility operations).

Duwamish Shipyard Inc. (DSI) leases the upland property and overwater structure at 1.3-1.4 West to Alaska Marine Lines (AML). AML uses the overwater structure for loading of container barges bound for Alaska. Barges also hold items on top of containers, such as vehicles. Forklift trucks drive onto an overwater ramp to access barges/move cargo.

AML also leases the upland property. AML owns the adjacent downstream property.

Over what area of the entire LDW (e.g., between what approximate river miles) do you typically operate? If applicable, indicate whether your activities are constrained to a particular side of the waterway (the interview team will utilize the attached maps to prepare sketches and make notes, as needed).

AML operates in many parts of the LDW. Lynden is the parent company. Douglas Management is one arm of Lynden. AML and Northland Services are part of the Douglas Management group. However, this interview covers only the DSI property which AML leases.

Are your waterway-dependent activities continuous or intermittent/seasonal in nature? Please describe the frequency of your operations.

Activities are fairly constant throughout the year, with a slight increase in the spring. AML ships to Southeast Alaska, which can continue through the winter.

Briefly describe any waterway features of importance to your operations (e.g., turning basins, actual or authorized navigation and berthing areas and depths, wharves, piers, pilings, dolphins, or other structures).

No other features with the exception of those at the DSI property were noted.

Briefly describe any physical constraints that affect your operations (e.g., tidal conditions, waterway width or depth).

The current overwater structure is a temporary ramp built over a dilapidated old structure. The ramp extends out from the shore allowing the barges to avoid being tide constrained. However, in the future, when the old structure is removed and the in-water structure is rebuilt to a permanent feature, nearshore deepening will be necessary. The nearshore is tide constrained for large barges. Interviewee did not note any issues with the authorized channel depth.

INFORMATION SPECIFIC TO OPERATION OF VESSELS

Are your vessel operations dependent on water depths or tide levels, time of year, or bridges? If yes, please describe.

Not currently. DSI property is downstream of First Avenue and South Park Bridges. Interviewee noted that railroad bridge at Harbor Island is typically open and that the swing bridge (Spokane Street Bridge) is not a detriment to vessel traffic.

Please describe your typical transit route(s) (the interview team will sketch on the attached waterway overview map, as needed).

Down navigation channel to RM 1.3 W

Please describe the vessel(s) that you typically operate on the LDW (i.e., type, beam, length, draft, capacity, horsepower). We are interested in approximate number of vessels operated and frequency of each type of vessel traffic (i.e., per week, month, or year).

Container-type barges. Dimensions unknown by interviewee.

Please describe other relevant operational characteristics, including berthing and anchoring. We are interested in learning about typical vessel maneuvering, including in and around piers.

Vessels tie up to structure near ramp. Forklift trucks can access ramp to load vessel. AML property to the north has a similar ramp.

If you are a tugboat operator, please describe the companies/facilities that you typically serve.

n/a

If your operations are supported by tugboat operators, which operator(s) do you typically use for support?

Interviewee did not provide names of specific tug companies; stated that many are used. Noted that tugs are twin/double screw engines as opposed to cycloidal.

For activities involving barges, when and where are spuds used (or are moorings used instead)?

Spuds are not used at DSI.

For activities involving barges, identify areas of the waterway (if any) where barges are towed and staged/anchored. Also identify areas where barges are pushed. Is it typical to allow bow-mounted bridle chains to be lowered and dragged? If so, note under what conditions this occurs, and within what areas of the LDW. (The interview team will sketch on the attached waterway overview map, as needed.)

Interviewee not aware of chain dragging.

FACILITY-SPECIFIC INFORMATION

Are as-built drawings, design plans/profiles, or other schematics illustrating the structural configuration of your waterfront or overwater structures (e.g., piers, wharves, bulkheads) available for copying? If yes, the interview team would appreciate noting the general types of documents that are available and any follow-up actions that may be needed to obtain them.

Interviewee does not have drawings of the structures.

Are dredge records for establishment and maintenance of berthing areas, including authorized dredge depths and limits, available for copying? If yes, the interview team would appreciate the opportunity to note documents that are available and any follow-up actions that may be needed to obtain them.

Interviewee provided past dredge information included in a figure (map) and a table for the remedial investigation being written for site. DSI site is under Ecology order for uplands and in-water contamination.

From a 12-11-17 email from the interviewee:

“Dredging – information taken from Anchor QEA’s Final RI Report 2017

Figure 3-7 (attached) from the RI shows dredging history.

Table 3-2 (attached) from the RI provided historical dredging summary with actual dredged volumes and disposal sites.

Brief summary of known dredging events:

- In 1986 and 1993 dredging completed to a depth of -35 ft MLLW.
- In 2005 dredging completed to -36 ft MLLW, and 1 ft of clean sand cap material placed, final elevation of -35 ft MLLW
- In 2017 dredging completed to -34 ft MLLW (with 1-ft overdredge)

FUTURE ACTIVITIES

Please describe any planned facility/infrastructure maintenance, development or improvement projects, operational modifications, or other plans that will affect your property's shoreline or affect your future use of the waterway, both within the short term (2 to 5 years) and the longer term (more than 5 years).

Current structure is dilapidated. There are plans to remove it, as well as the old marine railways in place. Nearshore deepening and sand blast grit removal is planned. A temporary ramp spans the old structure and provides one berthing location. Future plans are for two berthing locations with ramps supported by new piles and dolphins to tie up barges.

Is documentation available regarding future plans? We would appreciate discussing these plans with you, and if possible, obtaining copies if they are available.

No documentation of future plans provided.

FOLLOW-UP ACTIONS

Based on the discussion of topics and questions listed above, please let us know if there are additional tenants or other waterway users that we should contact.

Interviewee is also consultant for Ash Grove cement, Crowley (Slip 4), and AML. Interviewee provided info on Slip 4 and offered to provide contacts for various AML locations along LDW.

For waterfront facilities with in-water structures, we would be grateful if we could arrange a brief follow-up visit to document the type, location, and general condition of the structure(s). Our intent is to conduct this assessment using a small vessel on the LDW, and to perform all observations from a safe working distance to avoid interrupting facility operations, unless otherwise arranged in advance. You would not be required to

be present during this survey, although you will be notified in advance when it will occur. Also, could you please provide a facility contact with whom the in-water team can coordinate further, prior to conducting the assessment.

No coordination with interviewee needed. Interviewee does not have information on barge schedule.

ADDITIONAL DESCRIPTION

DSI owns the property at 1.3 to 1.4 West. It is leased to Alaska Marine Lines (AML). A consultant with Anchor QEA was the designated interviewee.

Interview ID:	240
Interviewee:	Anchor QEA
Subject property(s):	Crowley Marine Services (Waste Management)
Date of Interview:	11/16/2017
Business/organization type:	Transloading facility
Business physical address(es):	7400 8th Ave S, Seattle, WA 98108-3460
Tax parcel ID#:	2136200641
Approximate river mile:	2.8 E

DESCRIPTION OF WATERWAY-DEPENDENT USES

Please provide a general description of your current activities that are dependent on use of the waterway (e.g., vessel operations, waterfront facility operations).

Location is used as a transload facility for Waste Management (tenant). Upland site has rail spurs for loading materials and transporting to Eastern Washington by rail. Site is at mouth of Slip 4 on north side of slip, outside of Slip 4 EAA.

Over what area of the entire LDW (e.g., between what approximate river miles) do you typically operate? If applicable, indicate whether your activities are constrained to a particular side of the waterway (the interview team will utilize the attached maps to prepare sketches and make notes, as needed).

Interview refers to site itself, not to individual barge/tug operators who bring materials to the site. Each vessel operator manages his own transport, independent of operations of upland site (run by Waste Management). Interview is listed under Crowley (company name) as Anchor QEA (interviewee) represents Crowley at this property.

Are your waterway-dependent activities continuous or intermittent/seasonal in nature? Please describe the frequency of your operations.

Not seasonal

Briefly describe any waterway features of importance to your operations (e.g., turning basins, actual or authorized navigation and berthing areas and depths, wharves, piers, pilings, dolphins, or other structures).

n/a

Briefly describe any physical constraints that affect your operations (e.g., tidal conditions, waterway width or depth).

Outer portion/mouth of berth was dredged in near past. Inner portion is shallow and needs dredging, is tide constrained. Proximity to Slip 4 EAA cap is also a constraint.

INFORMATION SPECIFIC TO OPERATION OF VESSELS

Are your vessel operations dependent on water depths or tide levels, time of year, or bridges? If yes, please describe.

Inner portion is tide constrained.

Please describe your typical transit route(s) (the interview team will sketch on the attached waterway overview map, as needed).

n/a

Please describe the vessel(s) that you typically operate on the LDW (i.e., type, beam, length, draft, capacity, horsepower). We are interested in approximate number of vessels operated and frequency of each type of vessel traffic (i.e., per week, month, or year).

n/a. Typically barges. Sediment as well as other materials (e.g., construction debris) can be transloaded at site.

Please describe other relevant operational characteristics, including berthing and anchoring. We are interested in learning about typical vessel maneuvering, including in and around piers.

There is a suitable bulkhead/pier for vessels to tie to.

If you are a tugboat operator, please describe the companies/facilities that you typically serve.

n/a

If your operations are supported by tugboat operators, which operator(s) do you typically use for support?

n/a

For activities involving barges, when and where are spuds used (or are moorings used instead)?

Spuds are not required, but vessel operators determine their best method to secure vessels for transloading.

For activities involving barges, identify areas of the waterway (if any) where barges are towed and staged/anchored. Also identify areas where barges are pushed. Is it typical to allow bow-mounted bridle chains to be lowered and dragged? If so, note under what conditions this occurs, and within what areas of the LDW. (The interview team will sketch on the attached waterway overview map, as needed.)

n/a

FACILITY-SPECIFIC INFORMATION

Are as-built drawings, design plans/profiles, or other schematics illustrating the structural configuration of your waterfront or overwater structures (e.g., piers, wharves, bulkheads) available for copying? If yes, the interview team would appreciate noting the general types of documents that are available and any follow-up actions that may be needed to obtain them.

Interview provided two sets of drawings (dated 2014 and 1982) of the shoreline structure via a 12-11-17 email after the interview.

Are dredge records for establishment and maintenance of berthing areas, including authorized dredge depths and limits, available for copying? If yes, the interview team would appreciate the opportunity to note documents that are available and any follow-up actions that may be needed to obtain them.

Interviewee provided this information in a 12-11-17 email after the interview:

- “- Information taken from SLR’s RI FS Work Plan dated October 2012
- In 1981 Army Corps of Engineers dredged approximately 85,000 cy of sediment from Slip 4 to -15’
- In 1996 nearly 11,000 cy of sediment was dredged from the southwestern part of Slip 4, nearest the 8th Avenue Terminal, to maintain navigable access to the pier.”

FUTURE ACTIVITIES

Please describe any planned facility/infrastructure maintenance, development or improvement projects, operational modifications, or other plans that will affect your property’s shoreline or affect your future use of the waterway, both within the short term (2 to 5 years) and the longer term (more than 5 years).

Pier and bulkhead are in good condition. No changes planned. Maintenance dredging is needed in inner portion of site.

Is documentation available regarding future plans? We would appreciate discussing these plans with you, and if possible, obtaining copies if they are available.

n/a

FOLLOW-UP ACTIONS

Based on the discussion of topics and questions listed above, please let us know if there are additional tenants or other waterway users that we should contact.

n/a

For waterfront facilities with in-water structures, we would be grateful if we could arrange a brief follow-up visit to document the type, location, and general condition of the structure(s). Our intent is to conduct this assessment using a small vessel on the LDW, and to perform all observations from a safe working distance to avoid interrupting facility operations, unless otherwise arranged in advance. You would not be required to be present during this survey, although you will be notified in advance when it will occur. Also, could you please provide a facility contact with whom the in-water team can coordinate further, prior to conducting the assessment.

No coordination with interviewee needed.

ADDITIONAL DESCRIPTION

A consultant with Anchor QEA was the designated interviewee. He is an environmental consultant to Crowley, former owner of DeNovo property at mouth of Slip 4. Waste Management is tenant of property and uses it as a transload facility with rail service.

Interview ID:	241
Interviewee:	Boyer Towing Inc.
Subject property(s):	Boyer Towing Inc. (multiple)
Date of Interview:	11/17/2017
Business/organization type:	Tug and barge
Business physical address(es):	7318 4th Ave S, Seattle, WA 98108
Tax parcel ID#:	6871200620; 6871200210; 7327906685; 6871200100
Approximate river mile:	2.3 W; 2.4 W; 2.55 W; 2.45 W

DESCRIPTION OF WATERWAY-DEPENDENT USES

Please provide a general description of your current activities that are dependent on use of the waterway (e.g., vessel operations, waterfront facility operations).

Moorage of cranes and barges from 2.25 to 2.55 West. Upland properties comprise a freight terminal for loading containers, lumber, sheet rock, cars, and other cargo for transport to Alaska. Almost all work is shipping to Alaska, although Boyer Logistics also handles materials for local jobs such as pilings for the Colman Dock (downtown Seattle WDOT car ferry) construction. Crane barges are also moored. Freight is loaded at this location, and containers are packed/unpacked in a warehouse behind the office. Freight terminal is fenced with access only to TWIC-authorized individuals. Freight to/from terminal by truck.

Over what area of the entire LDW (e.g., between what approximate river miles) do you typically operate? If applicable, indicate whether your activities are constrained to a particular side of the waterway (the interview team will utilize the attached maps to prepare sketches and make notes, as needed).

Most Boyer Towing vessels travel as far upstream as RM 2.55 West. Boyer also sometimes leases space at the Silver Bay Logging wharf (2.9W); it shares with Pacific Pile.

Are your waterway-dependent activities continuous or intermittent/seasonal in nature? Please describe the frequency of your operations.

Activities are mostly continuous, although there may be less traffic to Alaska, or more barges in the LDW, in the winter.

Briefly describe any waterway features of importance to your operations (e.g., turning basins, actual or authorized navigation and berthing areas and depths, wharves, piers, pilings, dolphins, or other structures).

Boyer Logistics uses piers and dolphins to tie up barges and tugboats. Several structures are located from RM 2.25 W to 2.55W. Navigable depths are also important, and the navigation channel has been shoaling recently. Interviewee suspects that sand placed at Boeing Plant 2 EAA is moving downstream and shoaling the navigation channel. Interviewee notes that the sand bars shift often and that the nearshore area is eroding and deepening while the outer berthing areas and navigation channel are shoaling.

Briefly describe any physical constraints that affect your operations (e.g., tidal conditions, waterway width or depth).

Depths constrain activities. If tide is too low, then larger barges are tied off of smaller barges tied to shoreline structures. Navigation channel depth is constrained. Channel is not being maintained at authorized depth. Boyer Logistics locations are authorized to be maintained at -10 ft MLLW, and Boyer has been able to dispose of dredged sediment in open water in the recent past (last event was in 2014). It needs to be able to continue to maintain these depths.

INFORMATION SPECIFIC TO OPERATION OF VESSELS

Are your vessel operations dependent on water depths or tide levels, time of year, or bridges? If yes, please describe.

Water depths can constrain vessel operations. Vessel operations are also dependent upon a shortage of available industrial berthing spaces. Boyer Logistics also has mooring space, at buoys, in Port Orchard (four barges) and Port Madison (two barges). However, change in land uses in those areas to luxury waterfront homes is causing barge mooring to be less desirable. Buoys for mooring have been present since the 1940s, prior to construction of homes. Shortage of industrial mooring spaces is a concern.

Please describe your typical transit route(s) (the interview team will sketch on the attached waterway overview map, as needed).

Down navigation channel to structures at RM 2.25 to 2.55 or to leased location at Silver Bay Logging. No other mooring locations typically used.

Please describe the vessel(s) that you typically operate on the LDW (i.e., type, beam, length, draft, capacity, horsepower). We are interested in approximate number of vessels operated and frequency of each type of vessel traffic (i.e., per week, month, or year).

Crane barges, tugboats, flat deck barges. Larger boats have a 16-ft draft. Draft can be 18 ft when the barge is fully loaded.

Please describe other relevant operational characteristics, including berthing and anchoring. We are interested in learning about typical vessel maneuvering, including in and around piers.

Anchoring was not noted. Vessels are tied to dolphins and overwater structures or to one another.

If you are a tugboat operator, please describe the companies/facilities that you typically serve.

Boyer Logistics operates its own tugboats to tow its own barges. Interviewee noted that tugs are the “conventional” type (not tractor tugs). Boyer also tows for Pacific Pile (adjacent upstream neighbor).

If your operations are supported by tugboat operators, which operator(s) do you typically use for support?

Boyer typically does not hire other tugboat operators. However, on occasion when a very large load is to be hauled, it might use Western Towboat.

For activities involving barges, when and where are spuds used (or are moorings used instead)?

Sometimes the crane barges are moored with spuds. If a barge is loaded from the beach, it is secured with spuds.

For activities involving barges, identify areas of the waterway (if any) where barges are towed and staged/anchored. Also identify areas where barges are pushed. Is it typical to allow bow-mounted bridle chains to be lowered and dragged? If so, note under what conditions this occurs, and within what areas of the LDW. (The interview team will sketch on the attached waterway overview map, as needed.)

Interviewee did not note whether chains are dragged. Barges are not staged or anchored at any locations other than those noted previously (at Boyer Logistics terminal).

FACILITY-SPECIFIC INFORMATION

Are as-built drawings, design plans/profiles, or other schematics illustrating the structural configuration of your waterfront or overwater structures (e.g., piers, wharves, bulkheads) available for copying? If yes, the interview team would appreciate noting the general types of documents that are available and any follow-up actions that may be needed to obtain them.

Drawings were not available.

Concrete structure at 2.45West was replaced about 10 years ago with steel structure. Footprint did not change.

Are dredge records for establishment and maintenance of berthing areas, including authorized dredge depths and limits, available for copying? If yes, the interview team would appreciate the opportunity to note documents that are available and any follow-up actions that may be needed to obtain them.

Dredge records were not available. Site was last dredged in 2014, and sediment was suitable for open water disposal.

FUTURE ACTIVITIES

Please describe any planned facility/infrastructure maintenance, development or improvement projects, operational modifications, or other plans that will affect your property's shoreline or affect your future use of the waterway, both within the short term (2 to 5 years) and the longer term (more than 5 years).

Interviewee would like to remove several creosote-treated timber piles at the downstream end of owned property and in the "marina." Past attempts to remove several piles at once were not permitted due to substantial in-water changes. Therefore, interviewee plans to replace piles 1 or 2 at a time as needed, when replacement is needed for maintenance purposes. It's easier for work to be permitted when it is required for maintenance. Interviewee also noted that the marina is no longer used for recreational vessels. A past tenant had a 35-year lease and constructed the marina. That lease is up, and the debris left on the beach and in the upland has been removed by interviewee. He would like to remove the marina structure and its piles and rebuild a structure more suited to barge berthing.

Interviewee also noted that Boyer Towing and Pacific Pile removed derelict vessel left at former Hurlen Construction location (just upstream of Boyer Towing).

No major changes to other structures are planned.

Is documentation available regarding future plans? We would appreciate discussing these plans with you, and if possible, obtaining copies if they are available.

n/a

FOLLOW-UP ACTIONS

Based on the discussion of topics and questions listed above, please let us know if there are additional tenants or other waterway users that we should contact.

No other interviewees suggested.

For waterfront facilities with in-water structures, we would be grateful if we could arrange a brief follow-up visit to document the type, location, and general condition of the structure(s). Our intent is to conduct this assessment using a small vessel on the LDW, and to perform all observations from a safe working distance to avoid interrupting facility operations, unless otherwise arranged in advance. You would not be required to be present during this survey, although you will be notified in advance when it will occur. Also, could you please provide a facility contact with whom the in-water team can coordinate further, prior to conducting the assessment.

The interviewee may be contacted.

ADDITIONAL DESCRIPTION

Barges and tugs shipping freight to Alaska. Freight terminal at RM 2.25 to 2.55 West. Interviewee desired to communicate the following opinions: 1. Navigation channel depths need to be maintained. Channel is shoaled. 2. Spudding needs to be allowed in the LDW. 3. Boyer towing locations shouldn't be capped. They need to be suitable for barge/tug traffic. 4. Boyer needs to be able to continue to maintain berthing depths.

Interview ID:	242
Interviewee:	Crowley Marine Services
Subject property(s):	Crowley Marine Services
Date of Interview:	11/29/2017
Business/organization type:	Tug and barge
Business physical address(es):	1102 S.W. Massachusetts St., Seattle, WA 98134
Tax parcel ID#:	NA – offsite vessel operator
Approximate river mile:	NA

DESCRIPTION OF WATERWAY-DEPENDENT USES

Please provide a general description of your current activities that are dependent on use of the waterway (e.g., vessel operations, waterfront facility operations).

Crowley provides ship assist services. However, it is not currently very active in the LDW. It has no current contracts in the LDW. The work ebbs and flows.

Over what area of the entire LDW (e.g., between what approximate river miles) do you typically operate? If applicable, indicate whether your activities are constrained to a particular side of the waterway (the interview team will utilize the attached maps to prepare sketches and make notes, as needed).

Depends on client needs.

Are your waterway-dependent activities continuous or intermittent/seasonal in nature? Please describe the frequency of your operations.

Dependent upon contracts and available work, when clients need ship assist. Work contracts vary greatly, but not seasonally.

Briefly describe any waterway features of importance to your operations (e.g., turning basins, actual or authorized navigation and berthing areas and depths, wharves, piers, pilings, dolphins, or other structures).

n/a. Tugs are based in Elliott Bay and north end of Harbor Island.

Briefly describe any physical constraints that affect your operations (e.g., tidal conditions, waterway width or depth).

n/a. Interviewee did not know of any physical constraints except typically unnavigated areas including Trotsky Inlet and west side of Kellogg Island. However, interviewee is

director of sustainability for Crowley and doesn't have specific knowledge of marine operations.

INFORMATION SPECIFIC TO OPERATION OF VESSELS

Are your vessel operations dependent on water depths or tide levels, time of year, or bridges? If yes, please describe.

Vessels need 18–21 ft of draft. No other constraints known by interviewee.

Please describe your typical transit route(s) (the interview team will sketch on the attached waterway overview map, as needed).

Varies. Client dependent.

Please describe the vessel(s) that you typically operate on the LDW (i.e., type, beam, length, draft, capacity, horsepower). We are interested in approximate number of vessels operated and frequency of each type of vessel traffic (i.e., per week, month, or year).

Tugs. Azimuth stern drive vessels or single stern propeller design (with movable rudder) may be used in LDW and Elliott Bay. Tractor style tugs with Voith Schneider propulsion systems ("egg beater" style props near bow) are used in Elliott Bay, but not in the LDW.

Please describe other relevant operational characteristics, including berthing and anchoring. We are interested in learning about typical vessel maneuvering, including in and around piers.

Varies by client.

If you are a tugboat operator, please describe the companies/facilities that you typically serve.

Various, but no current contracts in LDW.

If your operations are supported by tugboat operators, which operator(s) do you typically use for support?

n/a

For activities involving barges, when and where are spuds used (or are moorings used instead)?

Crowley does not own any spud barges. Interviewee did not have specific knowledge of clients who use spuds.

For activities involving barges, identify areas of the waterway (if any) where barges are towed and staged/anchored. Also identify areas where barges are pushed. Is it typical to allow bow-mounted bridle chains to be lowered and dragged? If so, note under what conditions this occurs, and within what areas of the LDW. (The interview team will sketch on the attached waterway overview map, as needed.)

Interviewee does not know how low bridle chains are dragged, but noted that when tug is “hipped” up to vessel that bridle is not used for towing and may be in the water.

FACILITY-SPECIFIC INFORMATION

Are as-built drawings, design plans/profiles, or other schematics illustrating the structural configuration of your waterfront or overwater structures (e.g., piers, wharves, bulkheads) available for copying? If yes, the interview team would appreciate noting the general types of documents that are available and any follow-up actions that may be needed to obtain them.

n/a. Crowley does not have facilities in the LDW.

Are dredge records for establishment and maintenance of berthing areas, including authorized dredge depths and limits, available for copying? If yes, the interview team would appreciate the opportunity to note documents that are available and any follow-up actions that may be needed to obtain them.

n/a. Crowley does not have facilities in the LDW.

FUTURE ACTIVITIES

Please describe any planned facility/infrastructure maintenance, development or improvement projects, operational modifications, or other plans that will affect your property’s shoreline or affect your future use of the waterway, both within the short term (2 to 5 years) and the longer term (more than 5 years).

n/a. Crowley does not have facilities in the LDW.

Is documentation available regarding future plans? We would appreciate discussing these plans with you, and if possible, obtaining copies if they are available.

n/a. Crowley does not have facilities in the LDW.

FOLLOW-UP ACTIONS

Based on the discussion of topics and questions listed above, please let us know if there are additional tenants or other waterway users that we should contact.

n/a

For waterfront facilities with in-water structures, we would be grateful if we could arrange a brief follow-up visit to document the type, location, and general condition of the structure(s). Our intent is to conduct this assessment using a small vessel on the LDW, and to perform all observations from a safe working distance to avoid interrupting facility operations, unless otherwise arranged in advance. You would not be required to be present during this survey, although you will be notified in advance when it will occur. Also, could you please provide a facility contact with whom the in-water team can coordinate further, prior to conducting the assessment.

n/a

ADDITIONAL DESCRIPTION

Crowley is the former owner of the 8th Ave property on Slip 4, but the interviewee was unable to discuss future uses of the property. Instead, the interview focused on Crowley's tug assist services in the LDW.

Interview ID:	243
Interviewee:	Duwamish Marine Center/ Filter Engineering
Subject property(s):	Duwamish Marine Center/ Filter Engineering/ Samson Tug and Barge
Date of Interview:	11/30/2017
Business/organization type:	Tug and barge operations
Business physical address(es):	6365 1st Avenue South, Seattle, WA 98108
Tax parcel ID#:	5367204565
Approximate river mile:	1.8 E

DESCRIPTION OF WATERWAY-DEPENDENT USES

Please provide a general description of your current activities that are dependent on use of the waterway (e.g., vessel operations, waterfront facility operations).

Samson Tug and Barge uses the overwater structures from the mouth of Slip 2 to the downstream side of the First Avenue Bridge (RM 1.8 to 2.0 E) to load and store barges for transport to Alaska. There are five individual structures with the upstream-most being a boathouse structure and the downstream-most being in the mouth (south shore) of Slip 2.

Over what area of the entire LDW (e.g., between what approximate river miles) do you typically operate? If applicable, indicate whether your activities are constrained to a particular side of the waterway (the interview team will utilize the attached maps to prepare sketches and make notes, as needed).

The Slip 2 mouth dock is used for loading barges for transport to Alaska. Smaller docks are also used for offloading barges with sand/gravel and construction equipment. The larger, downstream-most docks are used most often. One of the smaller docks has a crane, so it's used when a crane is needed for lifting items. No other operations elsewhere in LDW.

Are your waterway-dependent activities continuous or intermittent/seasonal in nature? Please describe the frequency of your operations.

Activity is constant throughout the year with most activity during the Alaska fishing season. There is no slack time where there is no traffic.

Briefly describe any waterway features of importance to your operations (e.g., turning basins, actual or authorized navigation and berthing areas and depths, wharves, piers, pilings, dolphins, or other structures).

None noted other than structures at property (RM 1.8 to 2.0 E).

Briefly describe any physical constraints that affect your operations (e.g., tidal conditions, waterway width or depth).

At low tide, barges cannot be fully loaded. Work timing has to be adjusted or barges are short loaded.

INFORMATION SPECIFIC TO OPERATION OF VESSELS

Are your vessel operations dependent on water depths or tide levels, time of year, or bridges? If yes, please describe.

No constraints other than tides.

Please describe your typical transit route(s) (the interview team will sketch on the attached waterway overview map, as needed).

Down navigation channel to RM 1.8-2.0 E.

Please describe the vessel(s) that you typically operate on the LDW (i.e., type, beam, length, draft, capacity, horsepower). We are interested in approximate number of vessels operated and frequency of each type of vessel traffic (i.e., per week, month, or year).

Barges of 400-ft length or less.

Please describe other relevant operational characteristics, including berthing and anchoring. We are interested in learning about typical vessel maneuvering, including in and around piers.

No anchoring.

If you are a tugboat operator, please describe the companies/facilities that you typically serve.

Samson has one tugboat; do not tow others' vessels.

If your operations are supported by tugboat operators, which operator(s) do you typically use for support?

Use Samson's one tug and hire out to other operators including Island, DeForge Towing, and two or three others (not named). Some construction company tugs are also used, and they sometimes use subject property structures for offloading. They sometimes use the crane pier for offloading equipment.

For activities involving barges, when and where are spuds used (or are moorings used instead)?

Spuds are not used. Barges are always tied up.

For activities involving barges, identify areas of the waterway (if any) where barges are towed and staged/anchored. Also identify areas where barges are pushed. Is it typical to allow bow-mounted bridle chains to be lowered and dragged? If so, note under what conditions this occurs, and within what areas of the LDW. (The interview team will sketch on the attached waterway overview map, as needed.)

Interviewee does not know.

FACILITY-SPECIFIC INFORMATION

Are as-built drawings, design plans/profiles, or other schematics illustrating the structural configuration of your waterfront or overwater structures (e.g., piers, wharves, bulkheads) available for copying? If yes, the interview team would appreciate noting the general types of documents that are available and any follow-up actions that may be needed to obtain them.

Interviewee checked his files and does not have any drawings of the structures.

Are dredge records for establishment and maintenance of berthing areas, including authorized dredge depths and limits, available for copying? If yes, the interview team would appreciate the opportunity to note documents that are available and any follow-up actions that may be needed to obtain them.

Interviewee has no records of maintenance dredging activities. Dredging has occurred in the past, but he does not know when nor to what depth.

FUTURE ACTIVITIES

Please describe any planned facility/infrastructure maintenance, development or improvement projects, operational modifications, or other plans that will affect your property's shoreline or affect your future use of the waterway, both within the short term (2 to 5 years) and the longer term (more than 5 years).

No plans for maintenance on structures. Interviewee would like to perform maintenance dredging, but he notes that acquiring a permit is difficult.

Is documentation available regarding future plans? We would appreciate discussing these plans with you, and if possible, obtaining copies if they are available.

n/a

FOLLOW-UP ACTIONS

Based on the discussion of topics and questions listed above, please let us know if there are additional tenants or other waterway users that we should contact.

None provided

For waterfront facilities with in-water structures, we would be grateful if we could arrange a brief follow-up visit to document the type, location, and general condition of the structure(s). Our intent is to conduct this assessment using a small vessel on the LDW, and to perform all observations from a safe working distance to avoid interrupting facility operations, unless otherwise arranged in advance. You would not be required to be present during this survey, although you will be notified in advance when it will occur. Also, could you please provide a facility contact with whom the in-water team can coordinate further, prior to conducting the assessment.

Coordinate with interviewee.

ADDITIONAL DESCRIPTION

Interview was Filter Engineering. Samson Tug and Barge is the tenant at the property located from the mouth of Slip 2 to the downstream side of the First Avenue Bridge RM 1.8 to 2.0 E. Site is also known as Duwamish Marine Center.

Interview ID:	244
Interviewee:	State of Washington Department of Transportation
Subject property(s):	First Avenue Bridge
Date of Interview:	12/5/2017
Business/organization type:	Transportation infrastructure
Business physical address(es):	NA
Tax parcel ID#:	NA
Approximate river mile:	2.1

DESCRIPTION OF WATERWAY-DEPENDENT USES

Please provide a general description of your current activities that are dependent on use of the waterway (e.g., vessel operations, waterfront facility operations).

The First Avenue Bridge has two spans. The northbound bridge was constructed between 1953 and 1956 as a semi-floating bascule bridge with two semi-floating cellular piers of reinforced concrete and connected on the Duwamish River bottom by two reinforced-concrete struts. The northbound bridge received a mechanical and electrical upgrade in 1998. The southbound bridge was constructed between 1993 and 1996 as a bascule bridge. It has a rigid pile support foundation. Piles are exposed above the mudline. The southbound bridge also has shafts that support a fendering system. WDOT also owns land adjacent to the LDW. It has a maintenance yard and small structures on it.

Over what area of the entire LDW (e.g., between what approximate river miles) do you typically operate? If applicable, indicate whether your activities are constrained to a particular side of the waterway (the interview team will utilize the attached maps to prepare sketches and make notes, as needed).

n/a

Are your waterway-dependent activities continuous or intermittent/seasonal in nature? Please describe the frequency of your operations.

n/a

Briefly describe any waterway features of importance to your operations (e.g., turning basins, actual or authorized navigation and berthing areas and depths, wharves, piers, pilings, dolphins, or other structures).

The bridge piers also have pier protection structures in the LDW. They protect the piers from ship contact. The protection structures can flex under the mudline.

Briefly describe any physical constraints that affect your operations (e.g., tidal conditions, waterway width or depth).

n/a

INFORMATION SPECIFIC TO OPERATION OF VESSELS

Are your vessel operations dependent on water depths or tide levels, time of year, or bridges? If yes, please describe.

n/a

Please describe your typical transit route(s) (the interview team will sketch on the attached waterway overview map, as needed).

n/a

Please describe the vessel(s) that you typically operate on the LDW (i.e., type, beam, length, draft, capacity, horsepower). We are interested in approximate number of vessels operated and frequency of each type of vessel traffic (i.e., per week, month, or year).

n/a

Please describe other relevant operational characteristics, including berthing and anchoring. We are interested in learning about typical vessel maneuvering, including in and around piers.

n/a

If you are a tugboat operator, please describe the companies/facilities that you typically serve.

n/a

If your operations are supported by tugboat operators, which operator(s) do you typically use for support?

n/a

For activities involving barges, when and where are spuds used (or are moorings used instead)?

n/a

For activities involving barges, identify areas of the waterway (if any) where barges are towed and staged/anchored. Also identify areas where barges are pushed. Is it typical to allow bow-mounted bridle chains to be lowered and dragged? If so, note under what conditions this occurs, and within what areas of the LDW. (The interview team will sketch on the attached waterway overview map, as needed.)

n/a

FACILITY-SPECIFIC INFORMATION

Are as-built drawings, design plans/profiles, or other schematics illustrating the structural configuration of your waterfront or overwater structures (e.g., piers, wharves, bulkheads) available for copying? If yes, the interview team would appreciate noting the general types of documents that are available and any follow-up actions that may be needed to obtain them.

No drawings provided.

Are dredge records for establishment and maintenance of berthing areas, including authorized dredge depths and limits, available for copying? If yes, the interview team would appreciate the opportunity to note documents that are available and any follow-up actions that may be needed to obtain them.

n/a

FUTURE ACTIVITIES

Please describe any planned facility/infrastructure maintenance, development or improvement projects, operational modifications, or other plans that will affect your property's shoreline or affect your future use of the waterway, both within the short term (2 to 5 years) and the longer term (more than 5 years).

No ongoing or planned maintenance. Both spans are inspected every 24 months above water and every 60 months below water. The struts are inspected by water being pumped into the structure to affect buoyancy. The structures can also be inspected by diver.

Is documentation available regarding future plans? We would appreciate discussing these plans with you, and if possible, obtaining copies if they are available.

n/a

FOLLOW-UP ACTIONS

Based on the discussion of topics and questions listed above, please let us know if there are additional tenants or other waterway users that we should contact.

Interviewee noted the Assistant Regional Administrator for WDOT can answer more questions.

For waterfront facilities with in-water structures, we would be grateful if we could arrange a brief follow-up visit to document the type, location, and general condition of the structure(s). Our intent is to conduct this assessment using a small vessel on the LDW, and to perform all observations from a safe working distance to avoid interrupting facility operations, unless otherwise arranged in advance. You would not be required to be present during this survey, although you will be notified in advance when it will occur. Also, could you please provide a facility contact with whom the in-water team can coordinate further, prior to conducting the assessment.

n/a

ADDITIONAL DESCRIPTION

Interviewee is the state bridge program manager. The First Avenue Bridge, which crosses the LDW at RM 2.0-2.1, is part of the State's inventory.

Interview ID:	245
Interviewee:	Alaska Marine Lines/ Northland Services
Subject property(s):	Alaska Marine Lines/ Northland Services (multiple)
Date of Interview:	12/4/2017
Business/organization type:	Barge shipping
Business physical address(es):	6700 W Marginal Way SW, Terminal 115, Seattle, WA 98106
Tax parcel ID#:	2924049090; 6871200035; 1924049026; 1924049103; 5367202505
Approximate river mile:	2.15 W; 2.25 W; 1.3 W; 0.6–0.9 W; 1.5–2.0 W

DESCRIPTION OF WATERWAY-DEPENDENT USES

Please provide a general description of your current activities that are dependent on use of the waterway (e.g., vessel operations, waterfront facility operations).

AML operates at five named yards. Yard 1 is at 5600 West Marginal, RM 1.2 to 1.4 W. This includes a lease at the Duwamish Shipyard. Yard 1 has 2 berths used to load barges traveling to Southeast Alaska. Yard 2 is at 7100 West Marginal, RM 2.1 to 2.2 W, under the First Ave Bridge, and owned under AML-affiliate 7100 1st Ave Seattle, LLC. It is a maintenance facility and lay berth. However, a small amount of loading can occur at Yard 2. Yards 3 and 4 are upland/non-waterfront locations that were not discussed during the interview. Yard 5 is Terminal 115. It has four berths used to load barges for transit to Central Alaska (and westward) and Hawaii, as well as tug dolphins used for small barge berthing only.

Materials loaded onto barges include break bulk, containers, rolling stock (heavy equipment, like construction tractors, that are too large to fit in a container; vehicles are put in containers), compressed (e.g., CNG) cylinders, and refrigerated containers.

AML can also tie up at Fox dolphins (RM 2.3E) and at the south end of Kellogg Island. There is no land access at these locations. They are lay berths.

Over what area of the entire LDW (e.g., between what approximate river miles) do you typically operate? If applicable, indicate whether your activities are constrained to a particular side of the waterway (the interview team will utilize the attached maps to prepare sketches and make notes, as needed).

AML operates over about half of the LDW from RM 2.65 downstream.

**Are your waterway-dependent activities continuous or intermittent/seasonal in nature?
Please describe the frequency of your operations.**

620 South Riverside—winter storage of non-motorized barges and landing craft (barges that can get pushed onto a beach to be unloaded in Alaska). These barges go back to Alaska in March and stay until Oct/Nov.

Yard 1—year-round use with a fixed number of barges (two per week). Operations are throughout the year as shipping is to Southeast Alaska. Every Wednesday and Friday, an outbound loaded barge leaves Yard 1. It takes 3 days to get from Seattle to Ketchikan.

Yard 2—lay berth, only loads one barge about every year. Use for storage more in winter. Barges come “home to roost” in winter.

Yard 5, T-115—year-round use with greater intensity in summer (March–Sept)

Fox dolphins—lay berth with no land access, so more storage of barges in winter.

Generally, work is year-round but the volume increases in the summer. Western Alaska deliveries are in summer only. Some fleet stays in Alaska all year long. Many vessels are constantly in motion. Some moorage of barges occurs outside of LDW (such as in Sinclair Inlet).

Briefly describe any waterway features of importance to your operations (e.g., turning basins, actual or authorized navigation and berthing areas and depths, wharves, piers, pilings, dolphins, or other structures).

Berths noted in other responses are of importance.

Briefly describe any physical constraints that affect your operations (e.g., tidal conditions, waterway width or depth).

At the Fox Ave and Kellogg Island lay berths, barges are tied empty (never loaded) due to draft restrictions and wind (a loaded barge is like a sail). The Kellogg Island berth cannot accommodate a draft greater than 7 ft, so barges must be empty. Berth 1, the upstream-most berth at T-115, is tide constrained. Loading needs to be coordinated with tides. Interviewee does not know other constraints to transit. Interviewee noted that tug operators would know this.

INFORMATION SPECIFIC TO OPERATION OF VESSELS

Are your vessel operations dependent on water depths or tide levels, time of year, or bridges? If yes, please describe.

Tides in some locations.

Please describe your typical transit route(s) (the interview team will sketch on the attached waterway overview map, as needed).

n/a

Please describe the vessel(s) that you typically operate on the LDW (i.e., type, beam, length, draft, capacity, horsepower). We are interested in approximate number of vessels operated and frequency of each type of vessel traffic (i.e., per week, month, or year).

Barges (all non-motorized) range in length from 230 ft to 420 ft with several size variations in between. Most used lengths are 320, 340, 360, 380, and 420 ft and there are four barge sizes within each of these length categories. Drafts range from 13 to 24 ft. The larger barges have a 15,000 ton capacity.

Please describe other relevant operational characteristics, including berthing and anchoring. We are interested in learning about typical vessel maneuvering, including in and around piers.

Anchoring occurs outside of the LDW at the West Seattle (Elliott Bay) buoy and at Pier 34 (north side of Harbor Island). Rail barges (container on racks above rail spurs that hold loaded railcars) are loaded here with railcars. The containers are loaded at T-115. Pier 34 is the only location where the railcars can be loaded and unloaded.

If you are a tugboat operator, please describe the companies/facilities that you typically serve.

n/a

If your operations are supported by tugboat operators, which operator(s) do you typically use for support?

AML uses Western Towboat for all of its towing.

For activities involving barges, when and where are spuds used (or are moorings used instead)?

No spuds used.

For activities involving barges, identify areas of the waterway (if any) where barges are towed and staged/anchored. Also identify areas where barges are pushed. Is it typical to allow bow-mounted bridle chains to be lowered and dragged? If so, note under what

conditions this occurs, and within what areas of the LDW. (The interview team will sketch on the attached waterway overview map, as needed.)

Stowing/staging already addressed. Bridle chains are not drug.

FACILITY-SPECIFIC INFORMATION

Are as-built drawings, design plans/profiles, or other schematics illustrating the structural configuration of your waterfront or overwater structures (e.g., piers, wharves, bulkheads) available for copying? If yes, the interview team would appreciate noting the general types of documents that are available and any follow-up actions that may be needed to obtain them.

No drawings provided. At T-115, Berth 1 is on piles that are free standing in the water. The ramp rests on the barge during loading. A structure that can be filled with air pushes up the ramp to lift it off the barge as the loaded barge is moved away from the shore. Other berths at T-115 have ramps supported by A-frames on pile caps on shore. Ramps for driving fork lifts onto barges extend from shore to barge and are supported/raised/lowered by A-frame.

At Berth 1, barges can be tied up two abreast. The shore is inset relative to the other berths, allowing room for two barges side-by-side.

Are dredge records for establishment and maintenance of berthing areas, including authorized dredge depths and limits, available for copying? If yes, the interview team would appreciate the opportunity to note documents that are available and any follow-up actions that may be needed to obtain them.

Dredging has been performed at Port facility (T-115 only). Interviewee advised getting info from Port. Further maintenance dredging at all berths may be required.

FUTURE ACTIVITIES

Please describe any planned facility/infrastructure maintenance, development or improvement projects, operational modifications, or other plans that will affect your property's shoreline or affect your future use of the waterway, both within the short term (2 to 5 years) and the longer term (more than 5 years).

Planned work is maintenance on ramps only. No in-water work planned.

Is documentation available regarding future plans? We would appreciate discussing these plans with you, and if possible, obtaining copies if they are available.

n/a

FOLLOW-UP ACTIONS

Based on the discussion of topics and questions listed above, please let us know if there are additional tenants or other waterway users that we should contact.

n/a

For waterfront facilities with in-water structures, we would be grateful if we could arrange a brief follow-up visit to document the type, location, and general condition of the structure(s). Our intent is to conduct this assessment using a small vessel on the LDW, and to perform all observations from a safe working distance to avoid interrupting facility operations, unless otherwise arranged in advance. You would not be required to be present during this survey, although you will be notified in advance when it will occur. Also, could you please provide a facility contact with whom the in-water team can coordinate further, prior to conducting the assessment.

Coordinate with interviewee. There is a lot of barge movement going on during loading. Loading occurs 24 hours per day (night shifts). However, work/traffic is less busy in winter, but more barges will be stowed at structures/blocking view of structures. Barge maintenance occurs in winter.

ADDITIONAL DESCRIPTION

Northland is a Port tenant at T-115 and at the mooring location at the south end of Kellogg Island. AML has a moorage agreement with Spectral Crane & Marine, LLC (Pacific Pile) at the 620 South Riverside lay berth and also moors at the Fox berth (RM 2.3E). AML owns Yard 1 and Yard 2 at 5600 W Marginal and 7100 W Marginal, respectively. AML is also a tenant at the Duwamish Shipyard just adjacent to Yard 1.

Interview ID:	246
Interviewee:	Seattle Iron & Metals
Subject property(s):	Seattle Iron & Metals
Date of Interview:	12/14/2017
Business/organization type:	Metals recycling
Business physical address(es):	601 S Myrtle St, Seattle, WA 98108
Tax parcel ID#:	2136200706
Approximate river mile:	2.4 E

DESCRIPTION OF WATERWAY-DEPENDENT USES

Please provide a general description of your current activities that are dependent on use of the waterway (e.g., vessel operations, waterfront facility operations).

RM 2.4 to 2.5 East, just upstream of Myrtle embayment, between Myrtle and Othello Streets. Two overwater structures. North structure is not used for water-dependent uses. It is use for turning around vehicles that drop off scrap metal. The mapped berthing area next to this structure is not used for berthing. The south structure is used for unloading scrap metal from barges. It has a large swing crane that is out of service. There is no export via water from this location. All barges leave empty.

Over what area of the entire LDW (e.g., between what approximate river miles) do you typically operate? If applicable, indicate whether your activities are constrained to a particular side of the waterway (the interview team will utilize the attached maps to prepare sketches and make notes, as needed).

Interviewee does not operate vessels. So the water-related operations are limited to the south dock at RM 2.5 E.

Are your waterway-dependent activities continuous or intermittent/seasonal in nature? Please describe the frequency of your operations.

There is some seasonality. There is less activity in the winter.

Briefly describe any waterway features of importance to your operations (e.g., turning basins, actual or authorized navigation and berthing areas and depths, wharves, piers, pilings, dolphins, or other structures).

None noted. Interviewee does not operate vessels.

Briefly describe any physical constraints that affect your operations (e.g., tidal conditions, waterway width or depth).

Some tidal constraints during very low tides. Have been close to grounding when tide is very low and barge is heavily loaded. However, interviewee noted that there is not a shoaling issue and no need for ongoing maintenance dredging.

INFORMATION SPECIFIC TO OPERATION OF VESSELS

Are your vessel operations dependent on water depths or tide levels, time of year, or bridges? If yes, please describe.

Interviewee does not operate vessels.

Please describe your typical transit route(s) (the interview team will sketch on the attached waterway overview map, as needed).

n/a

Please describe the vessel(s) that you typically operate on the LDW (i.e., type, beam, length, draft, capacity, horsepower). We are interested in approximate number of vessels operated and frequency of each type of vessel traffic (i.e., per week, month, or year).

Barges that bring scrap metal to interviewee's structure have about a 10–11 ft draft.

Please describe other relevant operational characteristics, including berthing and anchoring. We are interested in learning about typical vessel maneuvering, including in and around piers.

n/a

If you are a tugboat operator, please describe the companies/facilities that you typically serve.

n/a

If your operations are supported by tugboat operators, which operator(s) do you typically use for support?

Interviewee notes that the following tugboat companies bring barges to subject property: Western Towboat, Island, Boyer.

For activities involving barges, when and where are spuds used (or are moorings used instead)?

Spuds are not used. Barges are tied to structure.

For activities involving barges, identify areas of the waterway (if any) where barges are towed and staged/anchored. Also identify areas where barges are pushed. Is it typical to allow bow-mounted bridle chains to be lowered and dragged? If so, note under what conditions this occurs, and within what areas of the LDW. (The interview team will sketch on the attached waterway overview map, as needed.)

n/a. Interviewee does not operate vessels.

FACILITY-SPECIFIC INFORMATION

Are as-built drawings, design plans/profiles, or other schematics illustrating the structural configuration of your waterfront or overwater structures (e.g., piers, wharves, bulkheads) available for copying? If yes, the interview team would appreciate noting the general types of documents that are available and any follow-up actions that may be needed to obtain them.

Interviewee provided memo describing planned maintenance work.

Are dredge records for establishment and maintenance of berthing areas, including authorized dredge depths and limits, available for copying? If yes, the interview team would appreciate the opportunity to note documents that are available and any follow-up actions that may be needed to obtain them.

No maintenance dredging performed since at least 1999 when Seattle Iron and Metals purchased property.

FUTURE ACTIVITIES

Please describe any planned facility/infrastructure maintenance, development or improvement projects, operational modifications, or other plans that will affect your property's shoreline or affect your future use of the waterway, both within the short term (2 to 5 years) and the longer term (more than 5 years).

The south dock will be undergoing two phases of permitted maintenance work involving pile, stringer, and deck replacement. The footprint and function of the structure will remain the same. The work is in-kind repairs. Work is anticipated to start in late 2018 and go through the fish window, into early 2019. The work is dependent upon the acquisition of a federal permit.

Is documentation available regarding future plans? We would appreciate discussing these plans with you, and if possible, obtaining copies if they are available.

Memo describing planned work was provided by interviewee.

FOLLOW-UP ACTIONS

Based on the discussion of topics and questions listed above, please let us know if there are additional tenants or other waterway users that we should contact.

No tenants. No users tie up to structures other than those offloading scrap at south dock.

For waterfront facilities with in-water structures, we would be grateful if we could arrange a brief follow-up visit to document the type, location, and general condition of the structure(s). Our intent is to conduct this assessment using a small vessel on the LDW, and to perform all observations from a safe working distance to avoid interrupting facility operations, unless otherwise arranged in advance. You would not be required to be present during this survey, although you will be notified in advance when it will occur. Also, could you please provide a facility contact with whom the in-water team can coordinate further, prior to conducting the assessment.

ADDITIONAL DESCRIPTION

Phone interview with a representative from Seattle Iron and Metals and a consultant (Floyd|Snider).

Interview ID:	247
Interviewee:	General Recycling of Washington
Subject property(s):	General Recycling of Washington (multiple)
Date of Interview:	12/20/2017
Business/organization type:	Scrap metal recycling
Business physical address(es):	4260 W. Marginal Way S.W, Seattle, WA, 98106
Tax parcel ID#:	7666703540; 7666703630
Approximate river mile:	0.25 W; 0.25 W

DESCRIPTION OF WATERWAY-DEPENDENT USES

Please provide a general description of your current activities that are dependent on use of the waterway (e.g., vessel operations, waterfront facility operations).

Scrap metal unloading yard at RM 0.2 to 0.4 West at former Port Terminal 105. Birmingham Steel purchased land from the Port of Seattle in the mid-1990s. Nucor Corporation acquired the Birmingham assets out of bankruptcy and General Recycling of Washington was formed to continue operations at the West Marginal Property. The yard has two docks. The north dock has two berths. The south dock is in disrepair and is not currently used. The north dock is of steel construction/steel piles. The only timber parts are the whalers. Scrap metal comes from Richmond Recycling in Vancouver (typically) by barge. Oceangoing large vessels also moor at the dock to unload silica magnesium (raw material for steel making) once per quarter. Large oceangoing vessels are also sometimes loaded with billets (semi-finished product).

Over what area of the entire LDW (e.g., between what approximate river miles) do you typically operate? If applicable, indicate whether your activities are constrained to a particular side of the waterway (the interview team will utilize the attached maps to prepare sketches and make notes, as needed).

General recycling barges/ships do not travel any further upstream into LDW than T-105. They currently do not receive barges from any scrap yards or other locations on the LDW.

Are your waterway-dependent activities continuous or intermittent/seasonal in nature? Please describe the frequency of your operations.

Operations are dependent upon melt schedule of mill. One scrap metal barge arrives about per week, though there are typically not more than four barges received each month.

Briefly describe any waterway features of importance to your operations (e.g., turning basins, actual or authorized navigation and berthing areas and depths, wharves, piers, pilings, dolphins, or other structures).

No features noted.

Briefly describe any physical constraints that affect your operations (e.g., tidal conditions, waterway width or depth).

The dock is limited by the type of vessel that can moor there. The large oceangoing vessels are only brought in during daytime high tides, by harbor master who determines when ships can come in. Barges are not depth constrained. Interviewee noted a limit of 31 feet at shallowest point. General Recycling would like to deepen berth in the future, but there are no immediate plans.

INFORMATION SPECIFIC TO OPERATION OF VESSELS

Are your vessel operations dependent on water depths or tide levels, time of year, or bridges? If yes, please describe.

Barges are not dependent upon these features. Large vessels are constrained by high tides. The dock has room for two barges, so there are typically no crowding issues.

Please describe your typical transit route(s) (the interview team will sketch on the attached waterway overview map, as needed).

Vessels do not travel upstream in LDW beyond T-105 yard to RM 0.2 to 0.4 West. Barges leave LDW empty and return to scrap metal source in Canada, on a continual round-trip circuit.

Please describe the vessel(s) that you typically operate on the LDW (i.e., type, beam, length, draft, capacity, horsepower). We are interested in approximate number of vessels operated and frequency of each type of vessel traffic (i.e., per week, month, or year).

Barges are typically 272 ft in length, 68 ft wide, 16 ft draft, with 6,000 ton capacity.

Please describe other relevant operational characteristics, including berthing and anchoring. We are interested in learning about typical vessel maneuvering, including in and around piers.

n/a

If you are a tugboat operator, please describe the companies/facilities that you typically serve.

n/a

If your operations are supported by tugboat operators, which operator(s) do you typically use for support?

Western Towboat and Island Tug/Barge are used to bring in vessels. Island Tug/Barge will also turn barges so they can be unloaded evenly without listing in the water. In exchange, General Recycling lets Island sometimes moor its customers' barges at the subject dock when necessary for moving barges around.

For activities involving barges, when and where are spuds used (or are moorings used instead)?

No. Spuds are not used.

For activities involving barges, identify areas of the waterway (if any) where barges are towed and staged/anchored. Also identify areas where barges are pushed. Is it typical to allow bow-mounted bridle chains to be lowered and dragged? If so, note under what conditions this occurs, and within what areas of the LDW. (The interview team will sketch on the attached waterway overview map, as needed.)

n/a. Interviewees don't move/operate vessels. Interviewees operate upland property.

FACILITY-SPECIFIC INFORMATION

Are as-built drawings, design plans/profiles, or other schematics illustrating the structural configuration of your waterfront or overwater structures (e.g., piers, wharves, bulkheads) available for copying? If yes, the interview team would appreciate noting the general types of documents that are available and any follow-up actions that may be needed to obtain them.

No

Are dredge records for establishment and maintenance of berthing areas, including authorized dredge depths and limits, available for copying? If yes, the interview team would appreciate the opportunity to note documents that are available and any follow-up actions that may be needed to obtain them.

No maintenance dredging has occurred since Nucor has owned property.

FUTURE ACTIVITIES

Please describe any planned facility/infrastructure maintenance, development or improvement projects, operational modifications, or other plans that will affect your

property's shoreline or affect your future use of the waterway, both within the short term (2 to 5 years) and the longer term (more than 5 years).

No immediate plans other than typical maintenance on north dock. Preventative maintenance. Dock is constructed of metal/steel posts in concrete gussets. Wood whalers were replaced recently. General Recycling is in the process of obtaining a 5-year permit allowing standard maintenance/upkeep. The south dock is in disrepair and is not used for any purposes. Its mapped berthing area is not currently used for berthing. There is a desire to improve this dock but no immediate plans.

Is documentation available regarding future plans? We would appreciate discussing these plans with you, and if possible, obtaining copies if they are available.

n/a

FOLLOW-UP ACTIONS

Based on the discussion of topics and questions listed above, please let us know if there are additional tenants or other waterway users that we should contact.

Island Tug and Barge will moor customer barges in subject property when needed for shuttling/moving barges. This is in exchange for Island "spinning" barges being unloaded. So that barges don't list while being unloaded unevenly, tugs will turn them through the unloading process.

For waterfront facilities with in-water structures, we would be grateful if we could arrange a brief follow-up visit to document the type, location, and general condition of the structure(s). Our intent is to conduct this assessment using a small vessel on the LDW, and to perform all observations from a safe working distance to avoid interrupting facility operations, unless otherwise arranged in advance. You would not be required to be present during this survey, although you will be notified in advance when it will occur. Also, could you please provide a facility contact with whom the in-water team can coordinate further, prior to conducting the assessment.

Coordinate with yard day supervisor.

ADDITIONAL DESCRIPTION

General Recycling's mill property is not located on the LDW. It operates a barge unloading yard on the LDW at the former Port Terminal 105.

Table A-1. Completed Responses by Telephone or Email

Property Owner (Tenant)	Tax Parcel ID#	Approx. River Mile	Waterway Use Activities
Waterway-Dependent Users			
Port of Seattle T-102 (Arrow Launch Service)	7666701220	0 E	Contact indicated that they use the Port of Seattle's docks at Harbor Island, but do not go upstream beyond Harbor Island. Their company services ships in Elliott Bay or across the water in Manchester. They generally operate workboats and crew boats. The company has stevedores and pilots ships back and forth from Harbor Island out of the Lower Duwamish Waterway (LDW). Contact indicated that the Harbor Safety Committee may have additional information of traffic in the LDW. Contact declined an in-person interview due to lack of use of the LDW.
Port of Seattle T-102 (Western Marine Construction, Inc.)	7666701220	0 E	Contact indicated that their operations are dependent on Alaska operations. They load/unload freight and cargo in LDW; however, they do not have physical structures along the waterway. Contact indicated that their operations did not warrant an interview, as the infrastructure that they use in the LDW is owned by other tenants that we will be/have contacted.
Ash Grove Cement Co. (Stoneway Concrete)	7666700350	0.2 E	Contact indicated Stoneway Concrete has very little to no use of the waterway and no future plans to develop/increase waterway use. They currently get deliveries of gravel by barge through Ash Grove and unload approximately twice per week. Contact indicated Stoneway Concrete did not need to participate in a face-to-face interview.
Port of Seattle T-107 including submerged lands and Kellogg Island mooring tenants (Trac Intermodal [ConGlobal], southern area tenant)	1924049103	0.6–0.9 W	Contact indicated that T-107 tenant ConGlobal does not conduct waterway use activities. They are a transloading facility for roadway transport. Operations at this property are not associated with any water-related activities except for the discharge of stormwater, which is permitted under its Industrial Stormwater General NPDES Permit. Intermodal equipment is received and dispatched to and from the leased area overland via the City's street network. The leased area is

Property Owner (Tenant)	Tax Parcel ID#	Approx. River Mile	Waterway Use Activities
			not improved with cranes, piers, berthing areas or pilings that would permit loading or offloading from the Lease Area to the vessels or barges in the LDW. ConGlobal currently has no plans to make improvements that would allow for such activity.
Portfolio Management Div (Federal Center South)	3573200975	0.7 E	Contact said that the federal building has a small dock structure where federal boats occasionally dock.
Rainier Petroleum Corporation (Owned by Maxim) (Rainier Petroleum Corporation)	5367204160	2.1 E	Contact said that the company has very minimal waterway use in the LDW at their River St. facility. They have a small boathouse and a self-propelled vessel, which provides lubricants to deep draft vessels (cruise ships, tankers, etc.). Contact said they have a small (~2,000 square-foot) upland property. They use dolphins and obtain fuel at the pier on the north end of Harbor Island. Contact declined to participate in an in-person interview.
Westcore River Street LLC (Westcore River Building)	5367204100	2.1 E	Contact representing the real estate for Westcore River Building indicated that they lease the property to Open Source, a furniture vendor. Open Source does not use the waterway. Westcore Properties leases moorage in front of the property to SeaTac Marine, which docks a large tugboat there. Contact indicated they have no plans for property improvement along the waterway and declined an in-person interview.
Individual Owner (Industrial Container Services)	2924049030	2.25 W	Contact declined an interview. They did indicate the company does not use the waterway and does not have future development plans for the waterway.
First South Properties LLC (Cedar Grove Composting, Inc.)	2924049043	2.9 E	Contact indicated that they do not operate ships or have overwater structures associated with their property. They have no plans to develop along the waterway. Contact declined to participate in an interview.
Silver Bay Logging Inc. (Silver Bay Waterfront Site)	7327903645	2.9 W	Contact representing the real estate for Silver Bay Logging indicated property is for sale and is not in use. Interviews with other parties

Property Owner (Tenant)	Tax Parcel ID#	Approx. River Mile	Waterway Use Activities
[Formerly Silver Bay Logging property])			indicates the waterfront structures are occasionally used for barge moorage by others (Pacific Pile and Marine).
Container Properties LLC (Container Properties LLC)	5422600010	4.1 E	Contact said that the current operations at the site do not involve waterway use. The whole site is completely paved and is occupied by Insurance Auto Auctions where they store damaged vehicles before they are auctioned off. Insurance Auto Auctions lease is ending soon and will likely be moving operations early 2018—no information on potential new tenants. Container Properties LLC is currently undergoing an EPA RCRA action. In 3–5 years, they will be completing a habitat rehabilitation project to regrade the slope of the bank from near vertical to 4.5 or 5:1 slope and vegetate (riparian habitat down to shelf habitat). All current in water structures will be removed and not replaced. The anticipated future use of the property will be for land-based operations or storage—no waterway use.
Boeing (Boeing Developmental Center)	5624201032	4.3 E	<p>The Boeing Developmental Center uses the adjacent slip (Slip 6) every 2–4 years to bring in large parts via barge. Intermittent use for confidential business activities. Associated materials/equipment are sometimes loaded on barges at Delta Marine across the river.</p> <p>There are two bridges associated with the Developmental Center. The north bridge may be removed. The south bridge will remain in place. Some of the pilings will be replaced this fall as part of routine maintenance.</p> <p>Slip 6 facilities (pier) subject to routine maintenance activities. No plans for changes/development. Will maintain as needed in perpetuity. Boeing performs routine maintenance of the adjacent shoreline.</p>
Brusco Tug & Barge	NA - Offsite Vessel Operator	NA	Contact said that they have very limited use of the LDW and that most of their work is outside of the LDW in the Puget Sound. Contact indicated that they have worked for Samson Tug & Barge in the past within the LDW. Contact indicated their infrequent use of the waterway did not warrant an in-person interview.

Property Owner (Tenant)	Tax Parcel ID#	Approx. River Mile	Waterway Use Activities
Manke Tug & Barge Company	NA - Offsite Vessel Operator	NA	Contact indicated that they operate one push-tugboat with a 16 ft draft to haul gravel up and down the LDW approximately twice per week. The furthest up the LDW they transit is to the 1st Ave. bridge. Contact declined an in-person interview.
National Oceanic and Atmospheric Administration (NOAA)	NA - Offsite Vessel Operator	NA	Contact indicated that NOAA generally does not have inland waterway operations. Contact indicated department of the interior or Washington State Department may have inland operations in LDW. Contact did not know of LDW operations and said that their boats are generally out at sea.
U.S. Coast Guard	NA - Offsite Vessel Operator	NA	Contact said that they have minimal boat operations within the LDW and it is on an as-needed basis. They manage the traffic in and out of the LDW and Elliott Bay through the automatic identification system, radars, cameras, radios, etc. They will deploy boats if they determine that a collision may be imminent to redirect traffic. They may enter the LDW if they are called to a fire, oil spill, collision, etc., but do not have boats residing in LDW; their boats are docked at Pier 36. If vessels are used within the LDW, they would likely be less than 40–50 ft., and most often would be 29 ft boats. The maximum size boat they would use is 87 ft.
Recreational Use Businesses/Associations			
City of Seattle (City of Seattle, Parks Dept. [Herrings House Park])	7666703670	0.45 W	Pursuant to City of Seattle municipal code, all existing parks will be maintained in perpetuity as parks. There are currently no plans for any new shoreline development or overwater structures. Herrings House – currently has no structures.
City of Seattle and King County	7327902355 and 7327901195	3.05 W	Duwamish Waterway Park/Duwamish Rowing Club, 1022 S Monroe Street, Seattle WA 98108, Tax Parcel Number 7327902355 Duwamish River Park, Tax Parcel Number 7327901195 (part of park above)

Property Owner (Tenant)	Tax Parcel ID#	Approx. River Mile	Waterway Use Activities
			Pursuant to City of Seattle municipal code, all existing parks will be maintained in perpetuity as parks. There are currently no plans for any new shoreline development or overwater structures.
			Duwamish Waterway Park is the same as “Duwamish River Park”. There are two parcels. One is owned by King County. The Duwamish Rowing Club walks down to the waterway; there are no floating docks.
Alki Kayak Tours	NA	NA	Phone call confirmed recreational watercraft use.
Port of Seattle (T-105 [Park/Public Access])	7666703460; 7666703532	0.1 W	There is a city right-of-way between the north and south T-105 park parcels. Contact noted there is not a maintained boat launch, but people could use T-105 for kayak put-ins. The south parcel has a restored shoreline with woody debris and plantings.
Port of Seattle (T-117)	0001600044	3.5–3.7 W	Currently constructing restoration project. Future plans include steps down to a cobbled beach for a hand-carried boat launch (e.g., kayaks). The public pier will extend into the water way ~190 ft to the edge of the federal navigation channel; pier will be 8 ft wide, on a single row of piles, with a rectangular view point on the end with seating. On the shoreline, there will be a log crib wall, filter fabric lifts, and fill out to the intertidal area. On the shoreline there will also be woody debris in the form of large tow logs at +12 ft, transverse logs every 10-20 ft, at +8 ft, single rank sill logs buried up to the top of the logs as a grade control device.
Port of Seattle (Turning Basin #3 [Park/Public Access])	0423049187	2.85 W	Habitat restoration area with marshes and mudflats. There is a walkway down to the shore, and no piers.
Port of Seattle (Eighth Avenue Public Access)	NA	2.85 W	Shoreline restoration project removing riprap and putting in plantings. There is a kayak launch with steps. No future plans for structures.

Property Owner (Tenant)	Tax Parcel ID#	Approx. River Mile	Waterway Use Activities
Input from EPA Cleanup Site Project Managers			
Boeing (Boeing Plant 2)	0022000005, 2185000005, 3324049002, 0001600020	3.0 to 3.5 E	EPA indicated that shoreline remediation and restoration activities have been completed at this site. Any remaining remediation (under RCRA/TSCA) is limited to upland areas.
Port of Seattle (Terminal 117)	0001600044	3.5 to 3.7 W	EPA reported the remedial action is complete. A Port NRDA restoration plan for the T-117 and adjacent Trenton Boeing shoreline will create 13 acres of habitat. After construction this will include an off-channel intertidal/riparian habitat area in the central portion of the current T-117 uplands area, and the banks of the site will be modified slightly. A small sediment cap will remain in place and there will be a Uniform Environmental Covenant protecting this area.
Star Forge LLC, Jorgensen Forge Early Action Area	0001600023	3.6 to 3.7 E	Jorgensen Forge outfall work is complete. Separate EMJ action for sediments may involve additional sediment work. Extent to which this will involve the shoreline is unknown.
Former Rhone-Poulenc Site (Container Properties)	5422600010	4.1 E	Potential interest in a natural resource damage assessment project on the LDW shoreline, which would include removing riprap and laying back the slope (likely in coordination with nearshore soil/bank cleanup and potentially cleanup of tideflat sediments within facility boundary). The cleanup is not yet planned and is likely a few years away. No work would be done in Slip 6 to the south.