



First Periodic Review Report Final

Former Scott Paper Mill
17th-20th St & R Ave
Anacortes, Washington 98221

Facility Site ID#: 8122259
Cleanup Site ID#: 4520

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1.0 INTRODUCTION

This document is a review by the Washington State Department of Ecology (Ecology) of post-cleanup Site conditions and monitoring data to assure human health and the environment are being protected at the Former Scott Paper Mill Site (Site). Cleanup at this Site was implemented under the Model Toxics Control Act (MTCA) regulations, Chapter 173-340 Washington Administrative Code (WAC).

Cleanup activities at this Site were completed under Consent Decree No. 09-2-01247-7 (dated June 12, 2009). While the cleanup actions achieved the site-specific cleanup levels set forth in the Cleanup Action Plan (Ecology 2009) and discussed further in Section 2.3.1, subsurface upland soils underlying engineered caps contain concentrations of petroleum hydrocarbons (diesel and heavy oil), metals (arsenic, copper and lead) and carcinogenic polycyclic aromatic hydrocarbons (cPAHs) above unrestricted use MTCA cleanup levels. Similarly, subsurface marine sediments underlying engineered caps contain concentrations of mercury, polychlorinated biphenyls (PCBs), total volatile solids (TVS) and wood that exceed Sediment Management Standards (SMS) cleanup criteria. The MTCA cleanup levels for soil are established under WAC 173-340-740. The MTCA cleanup levels for groundwater are established under WAC 173-340-720. The MTCA cleanup levels for sediment are established under SMS (WAC 173-204-560¹). WAC 173-340-420(2) requires Ecology to conduct a periodic review of a Site every 5 years under the following conditions:

1. Whenever the department conducts a cleanup action
2. Whenever the department approves a cleanup action under an order, agreed order or consent decree
3. Or, as resources permit, whenever the department issues a no further action opinion,
4. And one of the following conditions exists at the site:
 - (a) Institutional controls or financial assurance are required as part of the cleanup;
 - (b) Where the cleanup level is based on a practical quantitation limit; or
 - (c) Where, in the department's judgment, modifications to the default equations or assumptions using Site-specific information would significantly increase the concentration of hazardous substances remaining at the Site after cleanup or the uncertainty in the ecological evaluation or the reliability of the cleanup action is such that additional review is necessary to assure long-term protection of human health and the environment.

When evaluating whether human health and the environment are being protected, the factors Ecology shall consider include [WAC 173-340-420(4)]:

1. The effectiveness of ongoing or completed cleanup actions, including the effectiveness of engineered controls and institutional controls in limiting exposure to hazardous substances remaining at the Site.

¹ SMS (Chapter 173-204 WAC) Revised February 2013.

2. New scientific information for individual hazardous substances of mixtures present at the Site.
3. New applicable state and federal laws for hazardous substances present at the Site.
4. Current and projected Site use.
5. Availability and practicability of higher preference technologies; and.
6. The availability of improved analytical techniques to evaluate compliance with cleanup levels.

Ecology shall publish a notice of all periodic reviews in the Site Register and provide an opportunity for public comment.

2.0 SUMMARY OF SITE CONDITIONS

2.1 Site History

The former Scott Paper Mill was located in Anacortes, Washington, on the west shore of Fidalgo Bay (Vicinity Map; Section 6.1). The development of the shoreline as an industrial area began in the late 1800s. Prior to development of the Site, the area was largely a shallow tideland. In 1892, a lumber mill was built at the Site that extended on pilings into Fidalgo Bay. The lumber mill was located in the area referred to as the Port Uplands Area (Site Plan; Section 6.2 - Pre-construction - dated 2004). Wharves and offshore log rafts were present in much of the northern portion of the Marine Area (extending from the shoreline to about the inner harbor line) until the late 1940s. Between approximately 1890 and 1940, approximately 5 to 20 feet of fill materials including sawdust and mill refuse were placed throughout the former tide flat beneath and adjacent to the wharves, also extending into the MJB North Area.

In 1925, a pulp mill was constructed at the property referred to as the MJB North Area. Pulp was produced using an acid-sulfate process using byproducts from the lumber mill. In 1940, Scott Paper purchased the pulp and lumber mills and operated the facilities until 1955. Process improvements by Scott Paper included the conversion to an ammonium sulfite process in 1952, the construction of a 16-inch effluent pipeline to Guemes Channel and an on-site surge pond for the pipeline in May 1951, and the addition of pulp bleaching facilities in 1955. Effluent was discharged directly into Fidalgo Bay from 1925 to 1951. A knots and tailings pond was constructed in 1959, on what is now Port Parcel 2, to reduce settleable solids in the mill's effluent. Materials known to have been utilized at the former pulp mill include petroleum, sulfur, anhydrous ammonia, ammonium hydroxide, and chlorine. Bunker C and diesel fuels were used to generate power and operate equipment. The pulp mill closed in 1978.

Scott Paper was acquired by Kimberly Clark (K-C) in December 1995. The former Scott Paper Mill operations were bounded by Cap Sante Boat Haven to the north, Fidalgo Bay to the east, and Q Avenue to the west. To the south, the maximum extent of former Scott Paper Mill operations was approximately 20th Street. Site boundaries are depicted the Site Plan (Section 6.2). In 1978 and 1979, the Port purchased the northern portion of the Site. The southern portion of the Site was purchased by the Snelson-Anvil Corporation in 1979, and has been owned by MJB since 1990. In 1999, Sun Healthcare Systems, Inc. (SHS) purchased Parcel 2 from the Port and, following initial cleanup and redevelopment, subsequently subdivided and sold Parcel 2 into four sublots. In 2008, the Port acquired a narrow strip of the Marine Area between the Port and MJB properties.

2.2 Site Investigations

Detailed investigations of Port Parcel 2 were performed by ThermoRetec (ThermoRetec 1999a), followed by preparation of a soil cleanup action plan (CAP) for this area (ThermoRetec 1999b).

Between 2004 and 2008, the Port conducted environmental investigations of Port-owned property pursuant to Consent Decree No. 03-2-00492-1 dated March 21, 2003. The work

required under this Consent Decree included preparation of a Remedial Investigation/Feasibility Study (RI/FS) for soil at Port Parcels 1 and 3, groundwater throughout the Port Uplands Area, and marine sediments offshore of the Port Uplands Area.

Concurrent investigations of the MJB North Area were performed under Agreed Order No. DE 1783 dated January 27, 2005 between K-C and Ecology. The work required under this Agreed Order included preparation of an RI/FS for soil and groundwater at the MJB North Area and marine sediments offshore of the MJB North Area. K-C conducted the marine sediment investigation. K-C (pursuant to agreements with MJB) performed the upland soil and groundwater investigations.

In addition to the work described above, Consent Decree No. 03-2-00492-1 and Agreed Order No. DE 1783 also required the Port and K-C, respectively, to address any remaining site-wide RI/FS issues. To ensure that site-wide issues were efficiently addressed, the Port, K-C, and MJB combined the various required elements of the Consent Decree and Agreed Order into a single site-wide RI/FS report. The final RI/FS report (GeoEngineers et al. 2008) was approved by Ecology on December 16, 2008.

2.3 Cleanup Levels and Points of Compliance

Cleanup standards consist of: 1) cleanup levels that are protective of human health and the environment; and 2) the point of compliance at which the cleanup levels must be met. Site-specific cleanup levels and points of compliance for indicator hazardous substances were established in the CAP (Ecology 2009) and are summarized in this section.

2.3.1 Cleanup Levels

Site-specific cleanup levels for indicator hazardous substances in soil, groundwater, and sediment are discussed below. Details regarding the derivation of these cleanup levels are provided in the CAP (Ecology 2009).

2.3.1.1 Soil

Soil cleanup levels for the Site are presented in Table 1. Soil cleanup levels for unrestricted land use were developed in accordance with WAC 173-340-740, conservatively assuming potential future ground-floor residential land use. Site-specific soil remediation levels applicable to the shoreline buffer zone are also presented in Table 1.

Table 1. Soil Cleanup Levels

Analyte	Units	Uplands Area		Shoreline Buffer Zone		
		Port Uplands Area	MJB North Area	Port Uplands Area	MJB North Area	Port Upland and MJB North Area
		All Depths		0 to 6 feet bgs		6 to 10 feet bgs
TPH-Diesel	mg/kg	2,000	2,000	2,000	2,000	2,000
TPH-Oil	mg/kg	2,000	2,000	2,000	2,000	2,000
Total cPAHs TEQ	µg/kg	140	140	140	140	NE
Total PCBs	mg/kg	1	1	1	1	1.3
Antimony	mg/kg	32	32	32	32	NE
Arsenic	mg/kg	20	20	20	20	NE
Total Chromium	mg/kg	117	117	117	117	NE
Copper	mg/kg	100	366	100	366	390
Lead	mg/kg	220	220	220	220	530
Mercury	mg/kg	9	9	0.59	0.59	0.59
Nickel	mg/kg	100	977	100	977	NE
Thallium	mg/kg	5.6	5.6	5.6	5.6	NE
Zinc	mg/kg	270	622	270	622	NE
Total Dioxins and Furans TEQ	ng/kg	11	11	11	11	NE
Total Dioxins	ng/kg	5	5	5	5	NE
Total Furans	ng/kg	3	3	3	3	NE

Notes:

bgs = below ground surface
 TPH = total petroleum hydrocarbons
 cPAHs = carcinogenic polycyclic aromatic hydrocarbons
 TEQ = Toxicity Equivalent Quotient
 PCBs = polychlorinated biphenyls
 mg/kg = milligrams per kilogram
 µg/kg = micrograms per kilogram
 ng/kg = monograms per kilogram
 NE = Not Established

2.3.1.2 Groundwater

Groundwater cleanup levels for the Site are presented in Table 2. As discussed in the CAP (Ecology 2009), human ingestion of hazardous substances in groundwater is not a potential exposure pathway because groundwater at the Site or potentially affected by the Site is not a current or reasonable future source of drinking water. Consequently, the Site groundwater qualifies as a non-potable water source.

Table 2. Groundwater Cleanup Levels

Analyte	Units	Uplands Area		Shoreline Buffer Zone	
		Port Uplands Area	MJB North Area	Port Uplands Area	MJB North Area
TPH-Diesel	µg/L	500		500	
TPH-Oil	µg/L	500		500	
Total cPAHs TEQ	µg/L	0.1		0.1	
Total PCBs	µg/L	1.8		1.8	
Antimony	µg/L	640		640	
Arsenic	µg/L	8		8	
Total Chromium	µg/L	50		50	
Copper	µg/L	20		20	
Lead	µg/L	8.1		8.1	
Mercury	µg/L	0.04		0.04	
Nickel	µg/L	22		22	
Zinc	µg/L	160		160	

Notes:

- TPH = total petroleum hydrocarbons
- cPAHs = carcinogenic polycyclic aromatic hydrocarbons
- PCBs = polychlorinated biphenyls
- TEQ = Toxicity Equivalent Quotient
- µg/L = micrograms per liter

2.3.1.3 Sediment

Sediment cleanup levels are presented in Table 3. No promulgated SMS criteria exist for wood debris in sediment. Consequently, sediment bioassays were performed to develop site-specific cleanup levels for wood debris content and TVS that are protective of sediment habitats

(GeoEngineers et al. 2008; Ecology 2009). Based on interpretation of the available biological data, surface sediment TVS levels greater than 12.2 percent (dry-weight basis) and/or wood debris content greater than 25 percent (by volume) were identified as having the potential for site-specific deleterious effects exceeding Sediment Quality Standard (SQS) biological criteria.

Table 3. Sediment Screening Levels

Analyte	Units	Marine Area	
		Sediment Cleanup Objective (SCO)	Cleanup Screening Level (CSL)
Wood Debris (by volume)	%	25	25
Total Volatile Solids (TVS)	%	12.2	12.5
TPH-Diesel	mg/kg	2,000	2,000
TPH-Oil	mg/kg	2,000	2,000
Total PCBs	mg/kg dw	0.13	1
Total PCBs	mg/kg OC	12	65
Arsenic	mg/kg dw	57	93
Copper	mg/kg dw	390	390
Lead	mg/kg dw	450	530
Mercury	mg/kg dw	0.41	0.59

Notes:

- TPH = total petroleum hydrocarbons
- PCBs = polychlorinated biphenyls
- mg/kg = milligrams per kilogram
- dw = dry weight
- OC = organic carbon normalized

2.3.2 Points of Compliance

Under MTCA, the point of compliance is the point or location on a site where the cleanup levels must be met. This section describes the points of compliance for soil, groundwater, and sediment.

2.3.2.1 Soil

The standard point of compliance for the soil cleanup levels presented in Table 1 will be throughout the soil column from the ground surface to 15 feet below the ground surface (bgs), in accordance with WAC 173-340-740(6)(d) and WAC 173-340-7490(4)(b). For potential terrestrial ecological exposures, MTCA regulations allow a conditional point of compliance to be established from the ground surface to 6 feet bgs (the biologically active zone according to

MTCA default assumptions), provided that environmental covenants are used to address potential excavation of deeper soil (WAC 173-340- 7490[4][a]). Accordingly, in areas of the Site where potential ecological exposures are a concern, and where appropriate environmental covenants can be implemented, a conditional point of compliance for soil concentrations protective of terrestrial ecological receptors will apply throughout the soil column from 0 to 6 feet bgs.

There are limited areas of the Site where attainment of soil cleanup levels within the 0 to 6 feet bgs conditional point of compliance is impracticable, such as immediately adjacent to, or beneath existing buildings or other Site structures. In such localized areas, and consistent with WAC 173-340-740(6)(f), other engineering approaches such as capping the soil with asphalt or concrete pavement, or placement of an indicator layer and clean soil cap (similar to cleanup actions previously implemented at Port Parcel 2; ThermoRetec 2000) will provide the necessary environmental protection.

2.3.2.2 Groundwater

Because groundwater cleanup levels are based on protection of marine surface water and not protection of groundwater as drinking water, Ecology has established a conditional point of compliance for groundwater at the groundwater/surface water interface along the shoreline. Accordingly, shoreline monitoring wells will be used to evaluate compliance with groundwater cleanup levels for the Uplands Area.

2.3.2.3 Sediment

The point of compliance for marine sediments is the biologically active surface water habitat zone, which consists of sediments within 10 centimeters (cm) of the mudline.

2.4 Remedial Actions

Following detailed investigations of Port Parcel 2 (ThermoRetec 1999a) and subsequent preparation of a soil CAP for this area (ThermoRetec 1999b), cleanup at Parcel 2 was conducted by SHS, with oversight by Ecology under the MTCA Voluntary Cleanup Program (VCP). The Parcel 2 cleanup included, among other elements, removal and offsite landfill disposal of approximately 3,500 tons of petroleum-contaminated soil (excavation areas are depicted in Appendix 6.2), soil capping, and environmental covenants to prevent future exposure to subsurface soil at the property and to restrict groundwater use for drinking water. Work also included the installation of a sheetpile wall along the shoreline (near MW-112) for containment of residual contaminated soil, concurrently providing structural foundation support for the building constructed by SHS. A project completion report for the Parcel 2 property was submitted to Ecology in 2000 (ThermoRetec 2000).

In 2000, Ecology issued a No Further Action (NFA) letter for diesel-range and oil-range petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), PCBs, dioxins/furans, wood debris, and metals in soil at Parcel 2 (Ecology 2000). The NFA letter was conditional to long-

term groundwater monitoring to ensure continued environmental protection. However, in 2005 Ecology modified the type of written opinions it provides under the VCP, and no longer provides NFA letters for a single medium such as soil (Ecology 2005). Accordingly, Ecology subsequently rescinded the NFA letter on September 26, 2006, as the completed cleanup did not address all contamination in all media at the Site.

In February 2005, the Port completed a MTCA Bank Stabilization Interim Action along the Seafarers' Memorial Park shoreline under the Consent Decree (Landau 2005). As part of the bank stabilization, the shoreline along parts of the Port and MJB properties were temporarily reinforced to minimize erosion from storm-generated wave and current action. Since at least 1962, shoreline erosion has contributed to contaminant transport from the uplands to the marine area (GeoEngineers et al. 2008).

In 2008, the Port installed two underground storage tanks (USTs) at Parcel 3. An interim action was completed to address contaminated soils and wood debris removed during the tank installation activities. Remedial activities are documented in the Interim Action Completion Report (GeoEngineers 2009).

Between 2009 and 2011, major cleanup efforts to address any remaining site-wide contamination at the Site were completed by the Port and the K-C pursuant to Consent Decree No. 09-2-01247-7. In accordance with the Engineering Design Report (EDR; GeoEngineers et al. 2009), the Port was the lead respondent for the cleanup efforts within the northern upland portion of the Site (referred to as the Port Uplands Area) and the Marine Area which includes the portion of land located 75-foot upland of mean higher-high water (MHHW; referred to as the 75-Foot Shoreline Buffer Zone). K-C was the lead respondent for the cleanup efforts within the southern upland portion of the Site (referred to as the MJB North Area). Cleanup areas within the Port Uplands, MJB North and Marine Areas are shown relative to the Site in Appendix 6.3 – Post-Construction Site Plan.

Based on field screening results, visual observations and the results of verification samples obtained during remedial excavation activities, a total of approximately 82,500 cubic yards (100,371 tons) of contaminated soil was removed from the Port Uplands Area and Marine Area Shoreline Buffer Zone for permitted landfill disposal. In addition, approximately 6,300 cubic yards (13,200 tons) of contaminated soil was removed from the MJB North Uplands Area for permitted landfill disposal. A comprehensive as-built construction completion report to document cleanup activities completed at the Site was prepared by the Port and K-C. Specific cleanup activities completed by the Port and K-C are presented in the following report volumes:

- Volume 1 - Port Uplands and Marine Area As-Built Construction Completion Report, Former Scott Paper Mill Site, Anacortes, Washington, Ecology Consent Decree No. 09-2-01247-7," dated September 12, 2012 for the Washington State Department of Ecology.
- Volume 2 - MJB North Area As-Built Construction Completion Report, Former Scott Paper Mill Site, Anacortes, Washington, Ecology Consent Decree No. 09-2-01247-7," dated January 27, 2012 for the Washington State Department of Ecology.

Within the Port Uplands and 75-Foot Shoreline Buffer Zone, contaminants of concern either were not detected or were detected at concentrations less than soil cleanup levels with the following exceptions:

- Heavy oil-range petroleum hydrocarbons were detected greater than cleanup levels in soil at the northern Remedial Excavation Area 5 sidewall. Soil represented by this sample was not removed to avoid the risk of damaging two 10,000-gallon USTs and associated product piping at this location. However, because the detected concentration of hydrocarbons in this sample is not greater than two times the site-specific soil cleanup level (WAC 173-340-740(7)(e)(i)) and less than 10 percent of the sample concentrations exceed the site-specific soil cleanup level (WAC 173-340-740(7)(e)(ii)), soil represented by this sample was determined to be statistically insignificant by Ecology.
- Composite sidewall samples were collected from the sidewalls of Remedial Excavation Area 5, Remedial Excavation Area 6, Remedial Excavation Area 8 and Remedial Excavation Area 9 for chemical analysis of dioxins and furans. Dioxins and/or furans calculated using the toxic equivalent (TEQ) methodology relative to 2,3,7,8-TCDD were detected at concentrations exceeding the soil cleanup level in the northern and southern sidewalls of Remedial Excavation Area 5, northern sidewall of Remedial Excavation Area 8 and eastern and southern sidewalls of Remedial Excavation Area 9. Dioxin and furan chemical testing was completed in accordance with the EDR to document soil conditions at the final excavation limit. However, removal of soil containing dioxins and furans was not an Ecology-required cleanup objective for the Site.
- Diesel- and heavy oil-range petroleum hydrocarbons and metals (arsenic, lead and copper) were detected greater than cleanup levels in soil at the base of Remedial Excavation Area MJB2 west of the 75-foot shoreline buffer (Remedial Excavation Area 11). However, soil with residual contamination at this location is located below the Ecology-approved 6-foot point of compliance established for the MJB North Area.
- Carcinogenic PAHs (cPAHs) calculated using the TEQ methodology relative to benzo(a)pyrene was detected greater than the cleanup level in soil in the eastern sidewall of Remedial Excavation Area 11. Soil with residual contamination east of MHHW are isolated by the marine area cap as required by Ecology.
- Lead was detected at a concentration greater than the cleanup level for soil at the base of Remedial Excavation Area 12. However, soil with residual contamination at this location is located below the Ecology-approved 10-foot point of compliance established for the shoreline buffer zone.
- Within the MJB North Uplands Area, the contaminants of concern either were not detected or were detected at concentrations less than soil cleanup levels within the 6-foot (10-foot shoreline buffer zone) for compliance depth with the cleanup area of MJB North.

-
- Cleanup activities (dredging) within the impacted Marine area were also completed to remove contaminated sediment, wood, and other debris exceeding site-specific sediment cleanup levels and to accommodate the placement of the marine cap and backfill. Dredging for the marine cap included the removal of sediment, dimensional lumber, and wood debris and relic piles within the inter-tidal area to a depth of approximately 3 feet below the mudline. Within the sub-tidal area, dredging for the marine backfill was conducted to a depth of approximately 2 feet below mudline with a 1-foot over the dredge allowance.
 - Approximately 20,253 cubic yards of impacted material were removed from the intertidal dredge area. In addition, 29,734 cubic yards of sediment and wood debris were generated from the sub-tidal dredge area. Approximately 19,673 cubic yards of dredged sediment after DMMO's open-water suitability determination was transported to Port Gardner open water disposal site. The remainder (20,722 ton) of contaminated sediment and wood debris and 846 tons of creosote piling generated from the marine area were transported and disposed at off-site permitted facility.
 - Contaminants of concern either were not detected or were detected at concentrations less than site-specific sediment cleanup levels with the following exceptions: Mercury and/or PCBs and percentage of TVS and/or wood content exceeded cleanup levels in certain sediment samples (GEI-SED-1, 6, 7, 8, 10, 11). However, sediment area represented by these sample is being isolated by protective caps (marine cap or habitat back-fill) measuring 2 to 3 feet in thickness.

Also site restoration and mitigation measures for the Marine Area - as parts of remedial actions - included construction of wave attenuation structures, replacement of the pier structure, backfilling/capping, placement of marine habitat fill in areas outside of dredged areas in preparation for mitigation eelgrass planting. Post-construction monitoring of the site, as required and approved by Ecology will be used to evaluate the near- and long-term effectiveness of the completed remedial actions of uplands and in-water at the site.

2.5 Compliance Monitoring

2.5.1 Upland Area

Compliance monitoring of the upland and shoreline buffer zone areas of the Site are being completed in accordance with the Ecology-approved Post-Construction Groundwater Monitoring Sampling and Analysis Plan Set dated September 15, 2011 (Anchor 2011 and GeoEngineers 2011). Groundwater monitoring efforts are coordinated between the Port and K-C to evaluate the effectiveness of the cleanup actions completed at the Site:

- Port Upland and Marine Area – To document groundwater conditions related to Remedial Excavation Areas 1 through 13, the Port installed twelve post-construction monitoring wells (MW-201 through MW-212).

- MJB North Area – To document groundwater conditions related to Remedial Excavation Areas MJB-1 through MJB-4, MJB-6, RA-11a, RA11b, HR-1 through HR-5, K-C installed twelve post-construction monitoring wells (MW-213 through MW-222 and MW-6R).

Post-construction monitoring well installation activities for the Site are summarized in As-Built Reports (Anchor 2012 and GeoEngineers 2012). To date, a total of four rounds of quarterly (Rounds 1 through 4) and eight rounds of semi-annual (Rounds 5 through 12) and one round of annual (Round 13) post-construction groundwater monitoring have been completed.

Based on the results of the initial quarterly and follow up semi-annual groundwater monitoring activities, additional groundwater monitoring was required by Ecology to verify the effectiveness of the cleanup action in accordance with Ecology’s memorandums dated December 26, 2012, February 2, 2015 and March 9, 2017. Currently, the results of groundwater monitoring demonstrate compliance with the performance criteria set forth in Ecology’s December 26, 2012 Memorandum at the conditional point of compliance with the exception of MW-206 located within Remedial Excavation 10. At MW-206, arsenic exceeds the groundwater cleanup level however, the concentration of arsenic is decreasing over-time.

Groundwater monitoring in upland areas is still being completed at the direction of Ecology. Well locations MW-206 and MW-207 where arsenic concentrations continue to exceed groundwater cleanup levels and at well locations MW-216, MW-218 and MW-219 where residual contamination in soil remains in-place.

2.5.2 Marine Area

Within the Marine Area, physical and biological monitoring activities are being completed to evaluate the success of the stated goals, functional objectives, and established performance standards as outlined in the Ecology-approved Work Plan (Grette Associates 2011). Specifically, the Port is collecting information to determine if the mitigation site is on track to meet the performance standards established for the Site. Monitoring of the Site is being conducted over a 10-year period unless the plan is ended earlier by a consensus reached among the permitting agencies and the Port.

Table 4. Physical and Biological Monitoring Schedule

Years After Construction (Monitoring Year)	Biological Monitoring	Physical Monitoring
0 (2011)		X ^c
1 (2012)	X	X ^d
2 (2013)	X	X ^d
3 (2014)		

Years After Construction (Monitoring Year)	Biological Monitoring	Physical Monitoring
4 ^a (2015)	X	X ^e
5 (2016)		
6 (2017)	X ^f	
7 (2018)		
8 (2019)		
9 (2020)		
10 ^b (2021)	X	X ^e

Notes:

^a Preliminary comparison to performance standards.

^b Final comparison to performance standards.

^c “As-built” survey.

^d Photograph points and visual inspection of fine material placed on landward side of wave attenuators only, no bathymetric survey.

^e Physical monitoring will include bathymetric survey, photograph points and visual inspection of fine material placed on landward side of wave attenuators only.

^f Pacific Herring Survey only (recommended for Survey).

In addition, chemical testing of the sediment cap placed within the intertidal portion of the Marine Area was completed by the Port in accordance with the Ecology-approved Sampling and analysis Plan Addendum (GeoEngineers 2017a) to document post-construction sediment conditions and evaluate the effectiveness of the sediment cap placed during the 2009/2010 Cleanup Action.

2.5.2.1 Physical Monitoring

The current bathymetric survey of the site is presented in Appendix 6.4 and indicates that there have been minimal changes in the elevations from the “as-built” survey (Grette 2016). The changes in elevations depicted in Appendix 6.5 indicates that although substrates have moved around the Site, the changes in elevation are nominal and generally less than 0.5 feet different from the “as-built” survey since 2009. The integrity of the cap material is intact.

2.5.2.2 Biological Monitoring

The results of the Year 4 (2015) monitoring of the Site indicates that the transplanted eelgrass and the large number of volunteer eelgrass turions are thriving at the Site (Grette 2016). Patchy

eelgrass beds cover approximately 3.11 acres of the Site, with an estimated total number of turions of 472,443 (Appendix 6.6). The Site is also providing quality macroalgae and riparian habitats. With the continued eelgrass survival and colonization of the Site, all of the performance standards are expected to be met prior to Year 10 (2021).

2.5.2.3 Chemical Monitoring

Sampling and analysis was performed by the Port to evaluate the post-construction sediment conditions within the Marine Sediment Cap Area (GeoEngineers 2017b). Field investigations included the collection of surface (0 – 10 cm) sediment for chemical analysis at locations shown in Appendix 6.7. Environmental data collection followed an Ecology-approved tiered approach consisting of an evaluation of the surface sediments within the marine cap area (Phase 1) prior to the collection and chemical analysis of surface sediment within the marine backfill area (Phase 2).

Phase 1 sediment monitoring of the marine cap area was completed on September 5, 2017 to evaluate the post-construction performance relative to the sediment screening criteria (Section 2.3.1) established for the Site. Based on the results of the sediment cap monitoring activities, compliance with the Site cleanup criteria has been maintained at each sample location and Phase 2 monitoring is not required based on the initial sediment sample results. Based on the sampling results, the marine cap is effective in containing the underlying contamination.

A chemical monitoring plan will be developed for the Marine Area in advance of the next Periodic Review to verify that the remedy continues to function as intended. Consistent with the Ecology-approved Sediment Sampling and Analysis Plan (GeoEngineers 2017b), environmental data collection for the next Periodic Review will utilize a tiered approach that re-occupies previous sampling locations to evaluate the post-construction performance relative to the sediment screening criteria.

2.6 Environmental Covenant

Based on the current/future Site use, surface cover and cleanup objectives, it was determined that an environmental covenant was necessary for the MJB North Area (Tax Parcel No. P32963 and P32965). An environmental covenant for the MJB North Area was submitted to Ecology on November 12, 2013 and countersigned by Ecology on November 14, 2013 that imposed the following limitations summarized below by section (the full Environmental Covenant is available as Appendix 6.8):

- Section 1: Any activity on the Property that may result in the release or exposure to the environment of the contaminated soil that was contained as part of the Remedial Action, or create a new exposure pathway, is prohibited.
- Section 2: Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.

- Section 3: Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or create a new exposure pathway is prohibited without prior written approval from Ecology.
- Section 4: The Owner of the Property must give thirty (30) days advance written notice to Ecology of Owner's intent to convey any interest in the Property.
- Section 5: The Owner must restrict leases to uses and activities consistent with the Covenant and notify all lessees of the restriction on the use of the Property.
- Section 6: The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Covenant.
- Section 7: The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose to evaluating the Remedial Action.
- Section 8: The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Covenant shall no longer limit use of the Property or be of any further force or effect.

3.0 PERIODIC REVIEW

3.1 Effectiveness of completed cleanup actions

Soils with petroleum hydrocarbon, metals (arsenic, copper and lead), cPAHs and dioxins and furans concentrations exceeding cleanup levels are still present at the Site. However, the remedy implemented during the 2009/2010 Cleanup Action prevents exposure to this contamination by ingestion and direct contact with soils. Disturbance of residual soil contamination within the MJB North Area below a depth of 6 feet is being restricted by an environmental covenant. This covenant prohibits activities that would result in the release of contaminants at the Site without Ecology's approval, prohibits any use of the property that is inconsistent with the covenant, and serves to ensure the long-term integrity of the remedy.

Groundwater with arsenic concentrations exceeding cleanup levels are still present at the Site. However, contaminant concentrations are below cleanup levels within all of the shoreline wells (i.e., conditional point of compliance) with the exception of MW-206 which shows a decreasing trend in detected concentrations over time.

Contaminants of concern either were not detected or were detected at concentrations less than cleanup levels within the Marine Sediment Cap Area.

Based upon the Site visit conducted on April 27, 2017, the remedy implemented during the 2009/2010 Cleanup Action at the Site continues to eliminate exposure to contaminated soils by ingestion and contact. The paved surfaces, landscaped areas and sediment cap appears in satisfactory condition and no repair, maintenance, or contingency actions have been required. A photo log is available as Appendix 6.9.

3.2 New scientific information for individual hazardous substances for mixtures present at the Site

There is no new scientific information for the contaminants related to the Site.

3.3 New applicable state and federal laws for hazardous substances present at the Site

When the cleanup action plan was implemented, the cleanup at the Site was governed by Chapter 173-340 WAC (2007 ed.), and Chapter 173-204(1995 ed.), and all other applicable, relevant, and appropriate requirements. WAC 173-340-702(12)(c)[2007 ed.] provides that,

“A release cleaned up under the cleanup levels determined in (a) or (b) of this subsection shall not be subject to further cleanup action due solely to subsequent amendments to the provision in this chapter on cleanup levels, unless the department determines, on a case-

by-case basis, that the previous cleanup action is no longer sufficiently protective of human health and the environment.”

The Sediment Management Standards (WAC 173-204) were revised in 2013. The revision introduced the detailed procedures for evaluating risks to human health and upper trophic levels species from ingestion of bio-accumulative chemicals. Even so, Ecology determines that the cleanup action conducted is still protective of human health and the environment based on the monitoring results.

3.4 Current and projected Site use

The Port Uplands Area is expected to continue to be used in its current configuration, with commercial uses on Parcel 2 and Seafarers’ Memorial Park on Parcel 3. Construction of a Marine Skills Center was completed on Parcel 1 in 2010. MJB has made a preliminary determination that a water and water-view-dependent mixed-use development, with a residential component is a viable future development option for the MJB North Area.

3.5 Availability and practicability of higher preference technologies

The remedy implemented included removal and/or containment of hazardous substances, and it continues to be protective of human health and the environment. While higher preference cleanup technologies may be available, they are still not practicable or cost-effective at this Site.

3.6 Availability of improved analytical techniques to evaluate compliance with cleanup levels

The analytical methods used at the time of the remedial action were capable of detection below selected Site cleanup levels. The presence of improved analytical techniques would not affect decisions or recommendations made for the Site.

4.0 CONCLUSIONS

- The Cleanup Actions completed at the Site between 2009 and 2011 are protective of human health and the environment.
- Soils cleanup levels have not been met at the standard 15-foot point of compliance in all areas of the Site; however, MTCA regulations allow a conditional point of compliance to be established from the ground surface to 6 feet bgs (the biologically active zone according to MTCA default assumptions), provided that environmental covenants are used to address potential excavation of deeper soil (WAC 173-340- 7490[4][a]). In all areas of the Site, cleanup standards at the conditional point of compliance has been met since the long-term integrity of the containment system is ensured, and the requirements for containment technologies are being met.
- Groundwater cleanup levels have not been met throughout the Site; however, because groundwater cleanup levels are based on protection of marine surface water and not protection of groundwater as drinking water, a conditional point of compliance for groundwater has been established at the groundwater/surface water interface along the shoreline. Groundwater at the conditional point of compliance has been met with the exception of MW-206 which shows a stable and decreasing trend in contaminant levels. No adverse impacts to the adjacent sediments were identified offshore of MW-206.
- Confirmational monitoring of the Marine Area indicate that there have been no significant changes in the elevations from the “as-built” survey, eelgrass survival and colonization of the Site continues to exceed the performance criteria and chemical analysis of the sediment cap met the cleanup action objectives. The integrity of the sediment cap is intact.
- Institutional controls in the form of a covenant are in place for the MJB North Area and will be effective in protecting public health and the environment from exposure to hazardous substances and protecting the integrity of the cleanup action.

Based on this periodic review, Ecology has determined that the requirements for the 2009/2010 Cleanup Action are being followed and that no additional cleanup actions are required by the property owner(s). It is the property owner’s responsibility to continue to inspect the Site to assure that the integrity of the remedy is maintained.

4.1 Next Review

The next review for the Site will be scheduled 5 years from the date of this periodic review. In the event that additional cleanup actions or institutional controls are required, the next periodic review will be scheduled 5 years from the completion of those activities.

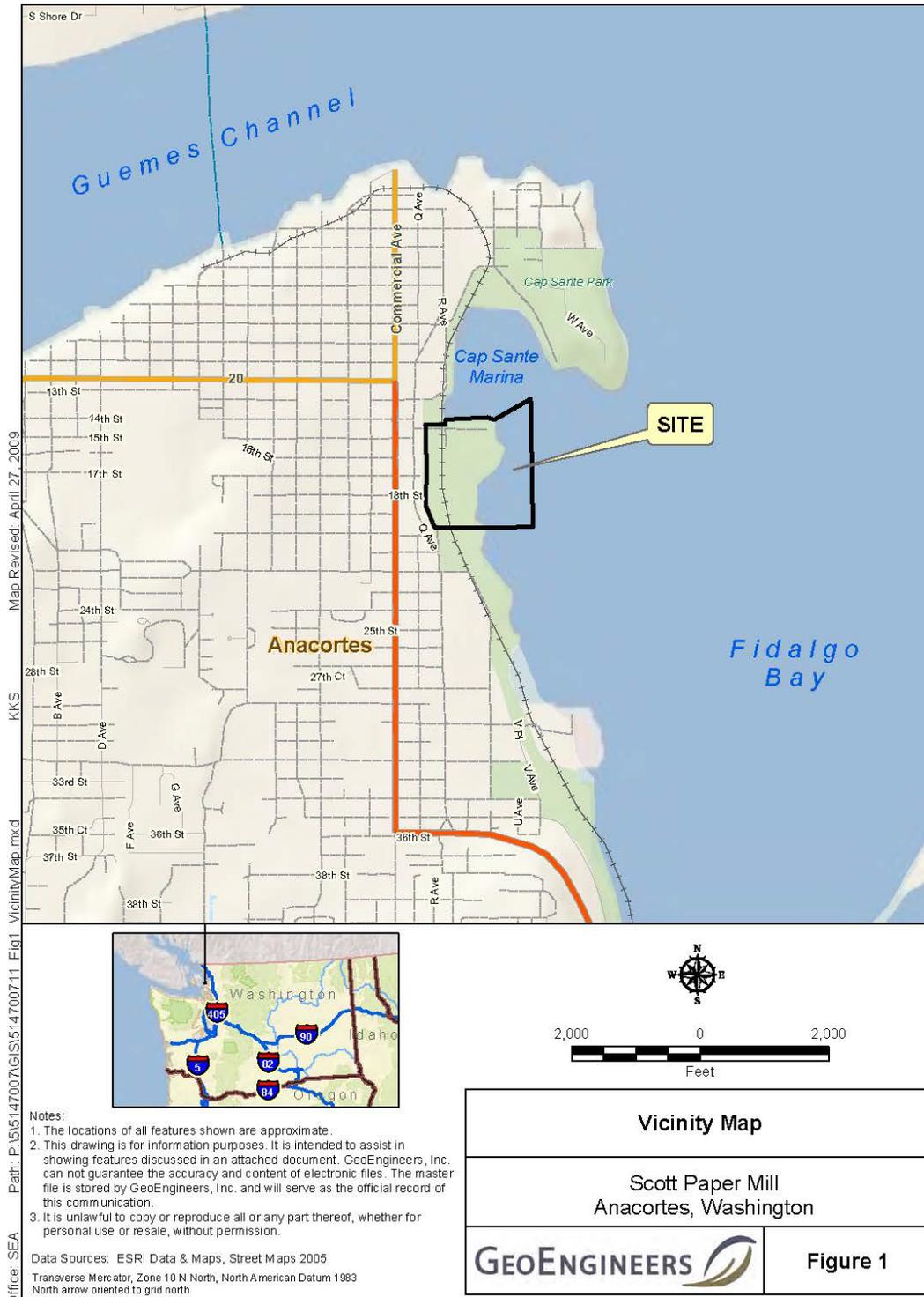
5.0 REFERENCES

- Anchor QEA. 2012. As-Built Report, MJB North and Marine Area Post-Construction Groundwater Monitoring Wells, Former Scott Paper Mill Cleanup Site, Ecology Consent Decree No. 03 2 00492 1. November 11.
- Anchor QEA. 2011. MJB Uplands and Marine Area Post-Construction Groundwater Monitoring Sampling and Analysis Plan, Former Scott Paper Mill Cleanup Site, Ecology Consent Decree No. 03 2 00492 1. November.
- GeoEngineers, Inc. and Anchor Environmental, LLC. (GeoEngineers et al.) 2010. Final Draft Engineering Design Report (EDR), Former Scott Paper Company Mill Site, Anacortes, Washington, Ecology Consent Decree No.09-2-01247-7. March 11.
- GeoEngineers. 2017a. Sediment Sampling and Analysis Plan Addendum, Former Scott Paper Mill Site, Former Scott Paper Mill Cleanup Site, Ecology Consent Decree No. 03 2 00492 1. August 24.
- GeoEngineers. 2017b. Post-Construction Sediment Cap Monitoring Data Report, Former Scott Paper Mill Site, Former Scott Paper Mill Cleanup Site, Ecology Consent Decree No. 03 2 00492 1. October 19.
- GeoEngineers. 2012. As-Built Report, Port Uplands and Marine Area Post-Construction Groundwater Monitoring Wells, Former Scott Paper Mill Cleanup Site, Ecology Consent Decree No. 03 2 00492 1. November 11.
- GeoEngineers. 2011. Port Uplands and Marine Area Post-Construction Groundwater Monitoring Sampling and Analysis Plan, Former Scott Paper Mill Cleanup Site, Ecology Consent Decree No. 03 2 00492 1. September 8.
- GeoEngineers. 2009. Interim Action Completion Report, Permanent Fuel System and UST Installation, Former Scott Paper Mill Cleanup Site, Ecology Consent Decree No. 03 2 00492 1. Report prepared for Port of Anacortes. February 13.
- GeoEngineers, AMEC Geomatrix, and Anchor Environmental (GeoEngineers et al.). 2008. Final Remedial Investigation/Feasibility Study Report: Port Uplands Area, MJB North Area, and Marine Area. November 7.
- Grette Associates LLC (Grette). 2016. Former Scott Paper Mill Clean-Up Project, Former Scott Paper Mill Site; Year 4 (2015) Long-Term Monitoring Report. Prepared for the Port of Anacortes. March.
- Grette Associates LLC (Grette). 2011. Former Scott Paper Mill Clean-Up Project Eelgrass Transplant and Long-Term Monitoring Work Plan. Prepared for the Port of Anacortes. May 9.
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- Landau Associates (Landau). 2005. Interim Action Completion Report, Seafarers' Memorial Park Bank Stabilization, Former Scott Paper Company Mill Site, Anacortes, Washington. Prepared for the Port of Anacortes. August 4.
- ThermoRetec. 2000. Completion Report for the Soils Cleanup Action at Parcel 2 of the Former Scott Paper Mill Site, Anacortes, Washington. Prepared for SHS.com. May 22.
- ThermoRetec. 1999a. Remedial Investigation and Feasibility Study for Soils at Parcel 2 of the Former Scott Paper Company Mill Site, Anacortes, Washington. Prepared for Sun Systems. January 8.
- ThermoRetec. 1999b. Cleanup Action Plan, Parcel 2 of the Former Scott Paper Company Mill Site, Anacortes, Washington. Prepared for Sun Health-Care Systems, Inc. by ThermoRetec. February 8.
- Washington State Department of Ecology (Ecology), 2009. Cleanup Action Plan (CAP), Former Scott Paper Company Mill Site, Anacortes, Washington. May 8.
- Washington State Department of Ecology (Ecology), 2005. Focus on Opinions Regarding Independent Remedial Actions from Ecology's Toxics Cleanup Program. Washington State Department of Ecology, Publication No. 05-09-049.
- Washington State Department of Ecology (Ecology), 2000. Letter to Kevin Welch, CEO/President, Shared Healthcare Systems, Inc., re: No Further Action Letter. Ronald Timm, Hydrogeologist, Toxic Cleanup Program, Washington State Department of Ecology, Bellevue, Washington. October 26.

6.0 APPENDICES

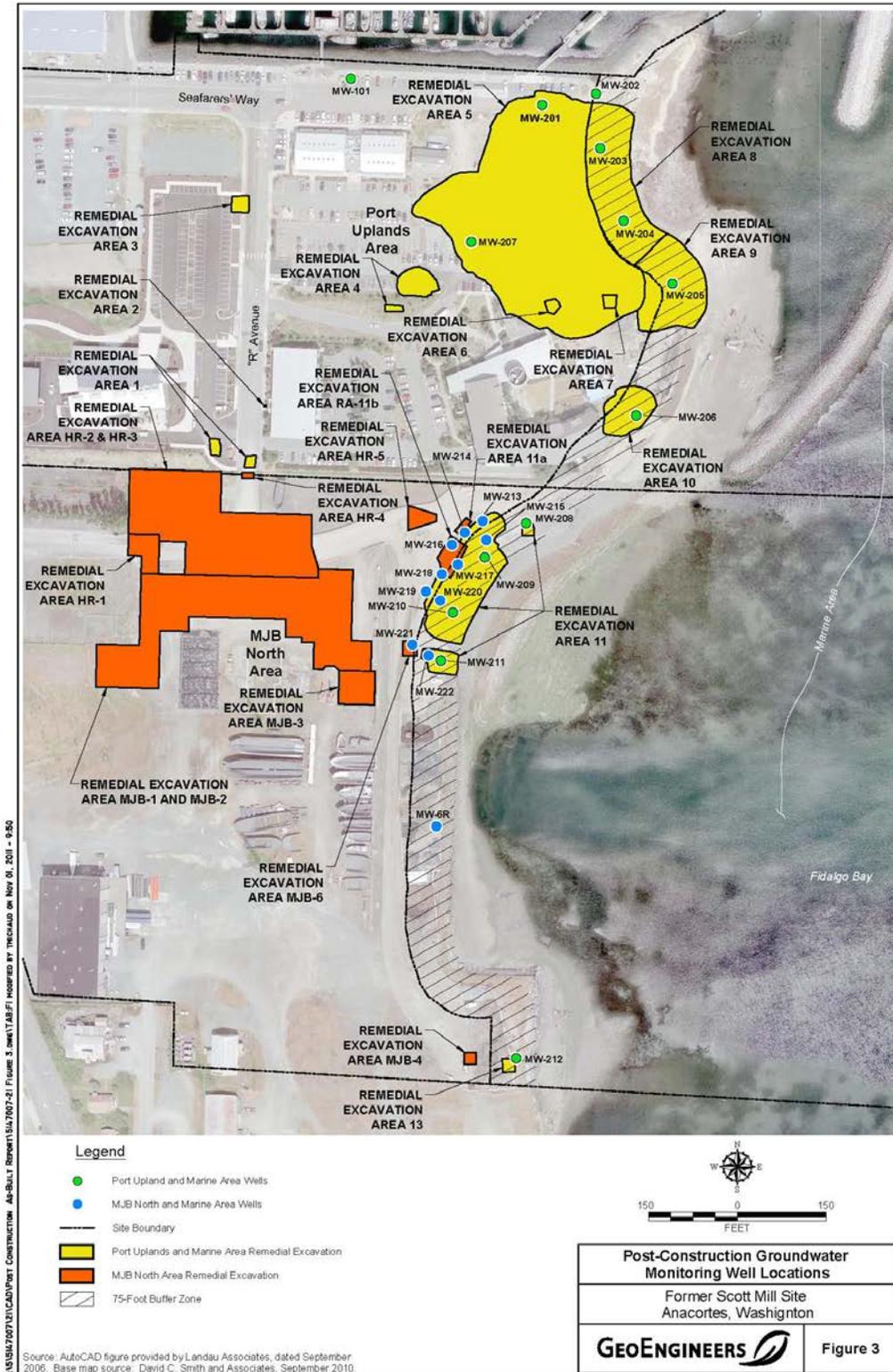
6.1 Vicinity Map



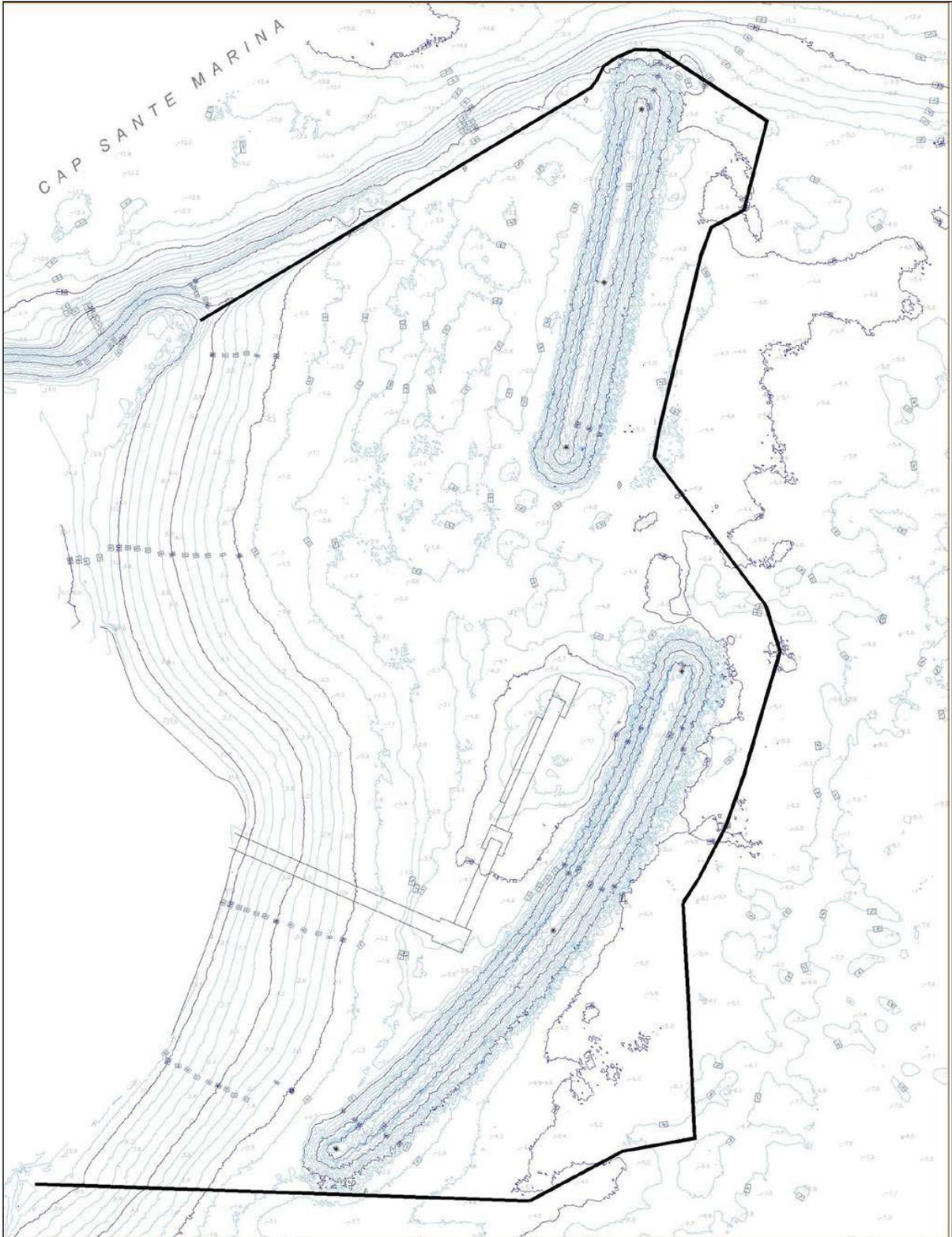
6.2 Pre-Construction Site Plan



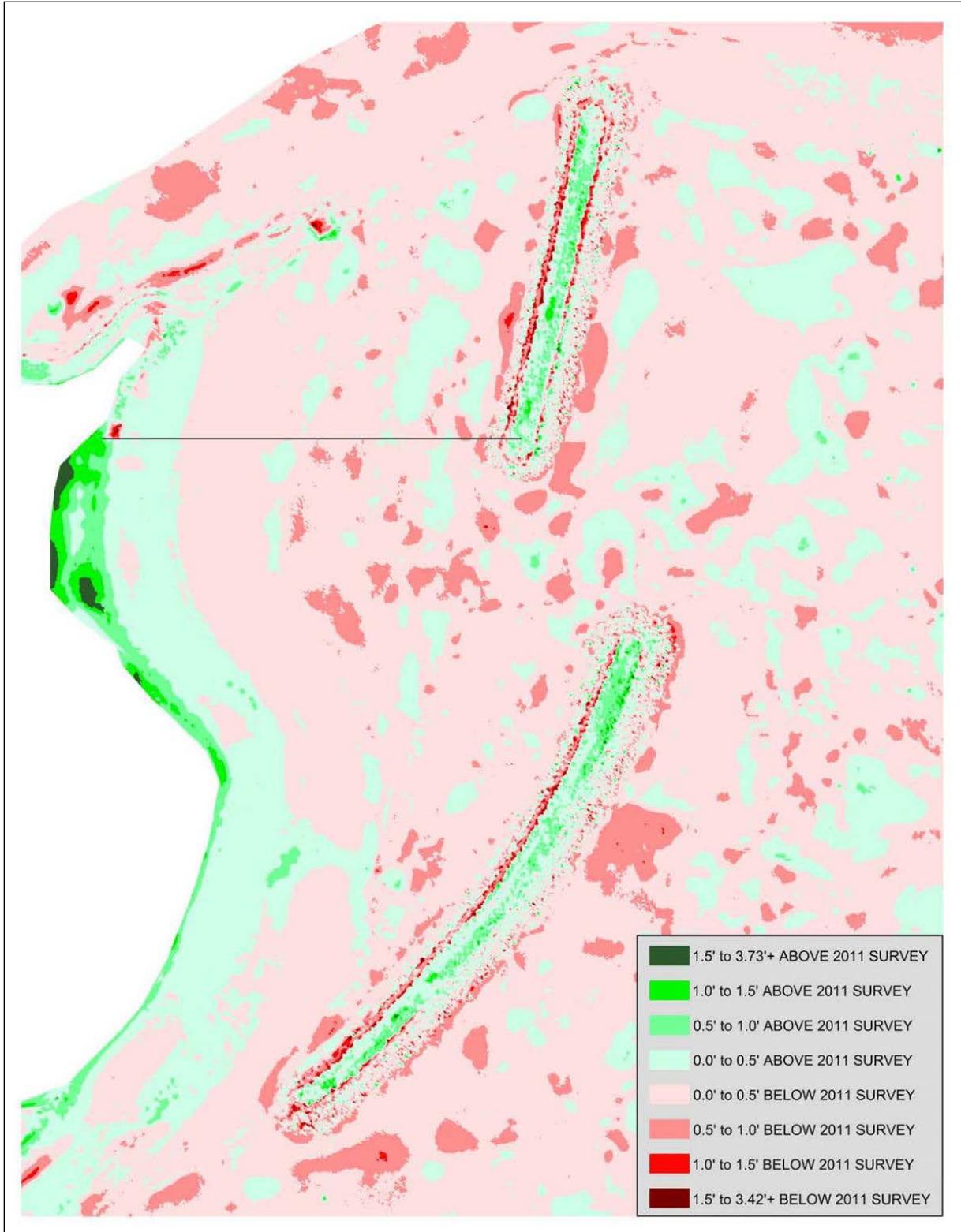
6.3 Post-Construction Site Plan



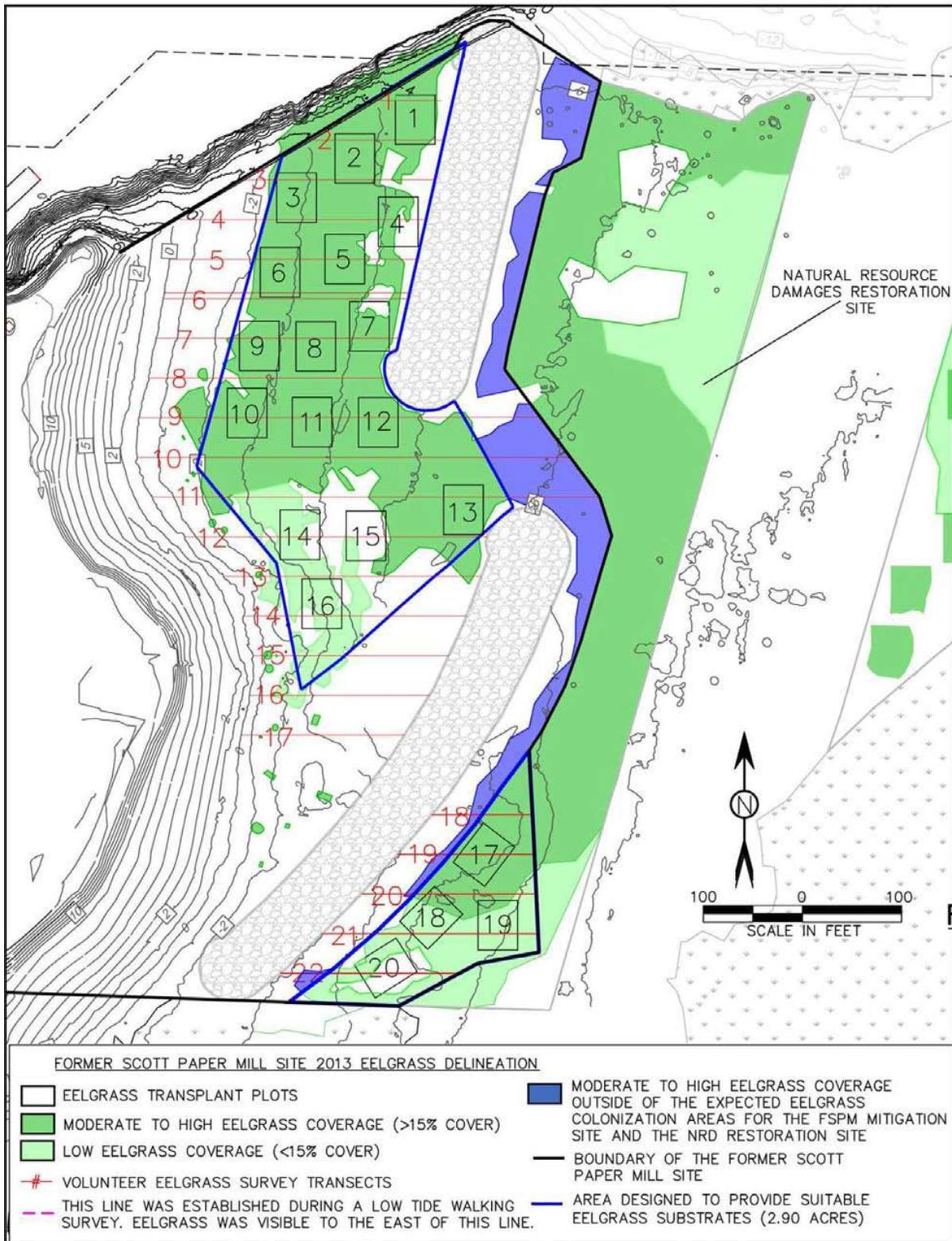
6.4 Year 4 (2015) Bathymetric Survey



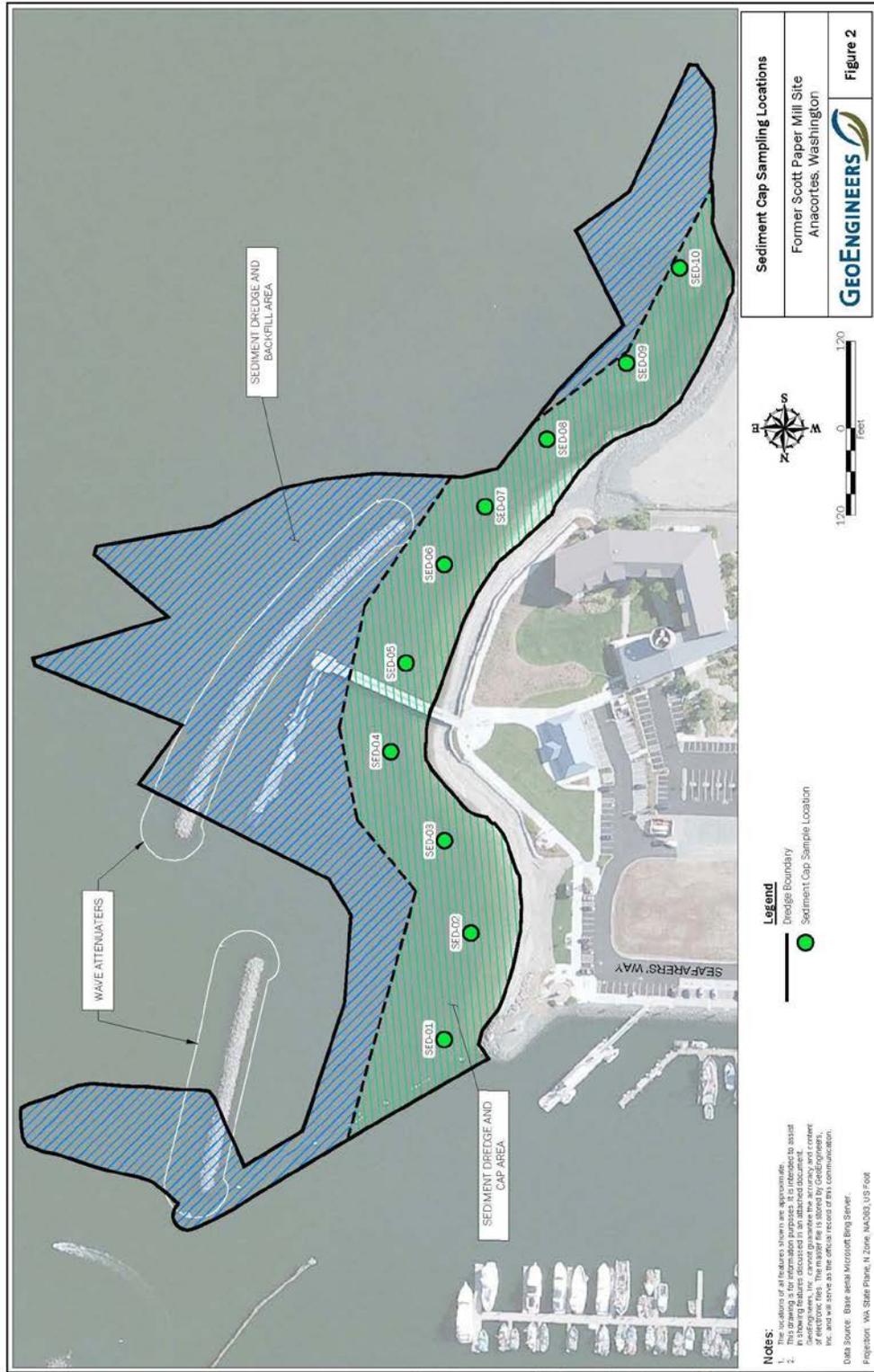
6.5 Comparison of Year 4 (2016) Bathymetric Survey to “As-Built” Survey



6.6 Year 4 (2015) Eelgrass Distribution



6.7 Marine Area Sediment Cap Monitoring



6.8 Environmental Covenant



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After Recording Return to:

Sandra Caldwell
Department of Ecology
PO Box 47600
Olympia, WA 98504-7600

Environmental Covenant

Grantor: MJB Properties LLC

Grantee: State of Washington, Department of Ecology

Abbreviated Legal Description: Quarter 00 Section 19 Township 35 Range 02 (see Exhibit A for full legal description)

Tax Parcel Nos.: P32963 and P32965

Environmental Covenant for MJB Properties LLC, Anacortes, WA - Page 1

Environmental Covenant

Grantor, MJB Properties LLC, hereby binds Grantor, its successors and assigns to the land use restrictions identified herein and grants such other rights under this environmental covenant (hereafter "Covenant") made this 5th day of November, 2013, in favor of the State of Washington Department of Ecology (Ecology). Ecology shall have full right of enforcement of the rights conveyed under this Covenant pursuant to the Model Toxics Control Act, RCW 70.105D.030(1)(g), and the Uniform Environmental Covenants Act, 2007 Wash. Laws ch. 104, sec. 12.

This Declaration of Covenant is made pursuant to RCW 70.105D.030(1)(f) and (g) and WAC 173-340-440 by MJB Properties LLC, its successors and assigns, and the State of Washington Department of Ecology, its successors and assigns (hereafter "Ecology").

A remedial action (hereafter "Remedial Action") occurred at the property that is the subject of this Covenant. The Remedial Action conducted at the property is described in the following documents:

- Consent Decree entered in the *State of Washington Department of Ecology v. Port of Anacortes and Kimberly-Clark Corporation*, Skagit County Superior Court No. 09-2-01247-7.
- Cleanup Action Plan (CAP) attached to the Consent Decree (May 8, 2009).
- Engineering Design Report (EDR) prepared by GeoEngineers, Inc. and Anchor Environmental, L.L.C. (March 11, 2010) for the Former Scott Paper Company Mill Site, Anacortes, WA.
- MJB North Area As-Built Construction Completion Report, Former Scott Paper Mill Site, Anacortes, WA prepared by Anchor QEA, LLC (February 2012).

These documents are on file at Ecology's Northwest Regional Office.

The undersigned, MJB Properties LLC, is the fee owner of the "Property" in the County of Skagit, State of Washington, that is subject to this Covenant. The Property is legally described in Exhibit A and Exhibit B to this Covenant, both of which are made a part hereof by reference.

Environmental Covenant for MJB Properties LLC, Anacortes, WA – Page 2



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This Environmental Covenant is required because a conditional point of compliance has been established for soil. Within the property are located three areas where residual concentrations of lead, copper, and other metals remain on-site at or below six feet below ground surface (bgs) at levels above Model Toxics Control Act (MTCA) Method B Cleanup Levels for soil. Also within the property is one area where residual concentrations of lead remain onsite at or below ten feet bgs at levels above MTCA Method B Cleanup levels for soil. These four areas, known as Restricted Areas 1 through 4 (hereinafter "Property"), are more particularly described in Exhibit B attached to this Covenant and made a part hereof.

MJB Properties LLC makes the following declaration as to limitations, restrictions, and uses to which the Property may be put and specifies that such declarations shall constitute covenants to run with the land, as provided by law and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Property (hereafter "Owner").

Section 1. Any activity on the Property that may result in the release or exposure to the environment of the contaminated soil that was contained as part of the Remedial Action, or create a new exposure pathway, is prohibited. Some examples of activities that are prohibited in the capped areas include: drilling, digging, placement of any objects or use of any equipment which deforms or stresses the surface beyond its load bearing capability, piercing the surface with a rod, spike or similar item, bulldozing or earthwork. Provided, however, construction or maintenance activities may be performed at the Property so long as applicable health and safety procedures are implemented, and all media is managed in compliance with applicable Ecology regulations. Prior to performing such work, Owner shall prepare a Health and Safety Plan that describes the applicable requirements and shall notify and obtain approval from Ecology prior to any activity being conducted on the Property. In the event soil will be disposed of off-site, soil shall be characterized and disposed of at a facility legally permitted to accept such soil.

Section 2. Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.

Environmental Covenant for MJB Properties LLC, Anacortes, WA



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Section 3. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology.

Section 4. The Owner of the Property must give thirty (30) days advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action. A pledge of the Property, whether all or in part, as collateral for any financing shall not be construed as a conveyance of an interest in the Property.

Section 5. The Owner must restrict leases to uses and activities consistent with the Covenant and notify all lessees of the restrictions on the use of the Property.

Section 6. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Covenant. Ecology may approve any inconsistent use only after public notice and comment.

Section 7. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action; to take samples, to inspect remedial actions conducted at the property, to determine compliance with this Covenant, and to inspect records that are related to the Remedial Action. Except in the event of an emergency, Ecology shall provide at least 24 hours' notice prior to entering the Property to Manager, MJB Properties, LLC, at 206.762.9125.

Section 8. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.



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MJB PROPERTIES LLC

By: G. Merlino

Its: MANAGER

Dated: Nov 5, 2013

STATE OF Washington
COUNTY OF King

On this 5th day of November, 2013, I certify that Gary Merlino personally appeared before me, acknowledged that he is a Member of the Limited Liability Company that executed the within and foregoing instrument, and signed said instrument by free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he was authorized to execute said instrument for said corporation.



V. C. Trofin
Notary Public in and for the State of
Washington, residing at
Skamania
My appointment
expires 2-19-2014



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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Benny Rogowski

[Name of Person Acknowledging Receipt]

Section Manager, Ecology HQ

[Title]

Dated: *11/14/13*



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Environmental Covenant for MJB Properties LLC, Anacortes, WA - Page 6

**Exhibit A
Legal Description**

The Property is legally described as follows:

The parcels on which the Restricted Areas are located are legally described as follows. The Restricted Areas are shown with more specificity in Exhibit B.

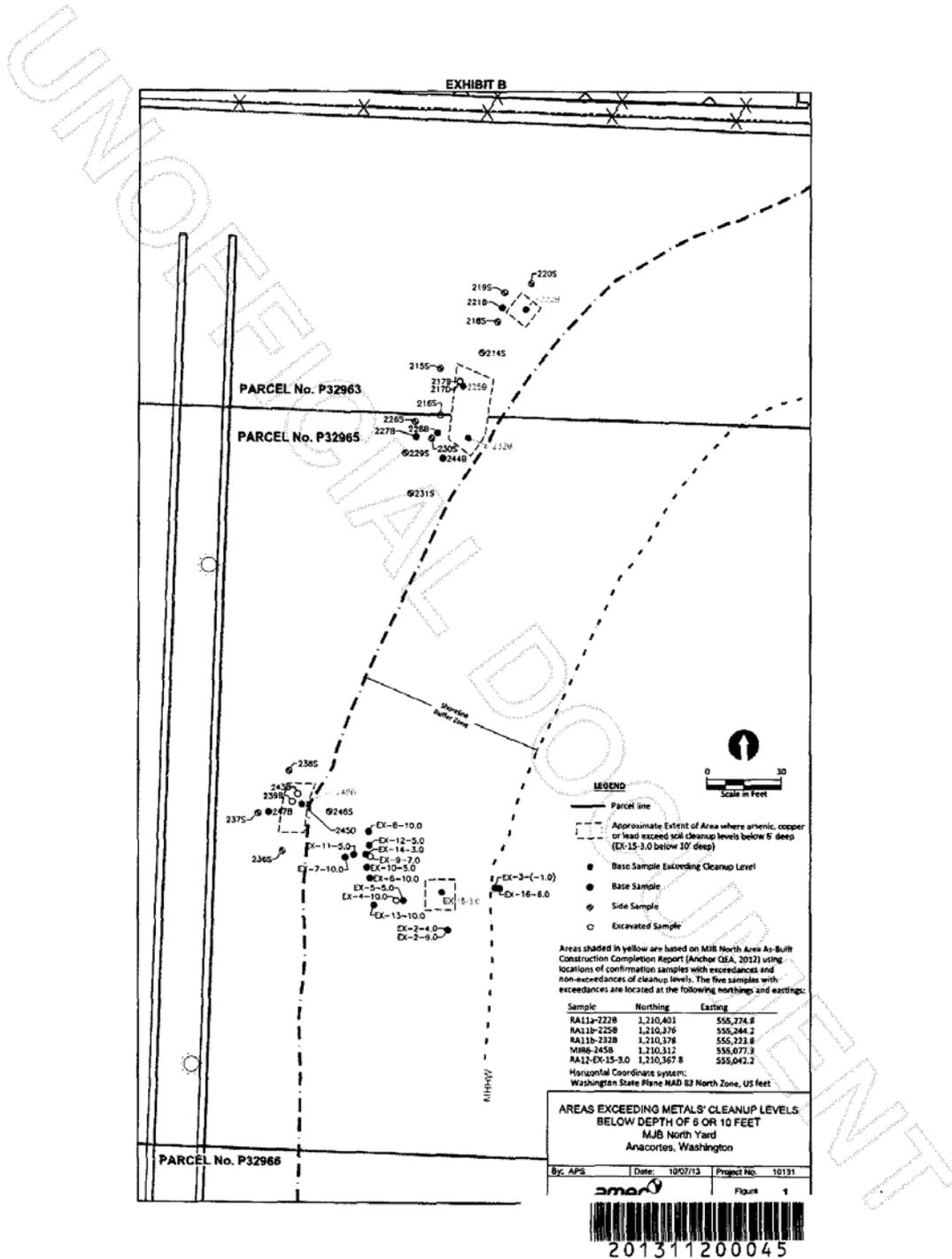
- Parcel No. P32963: ANACORTES TDLDS- S 152FT OF TR 17 PL 10 LESS RT 0-053-02
- Parcel No. P32965: ANACORTES TIDE LANDS TR 18 PL 10



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Environmental Covenant for MJB Properties LLC, Anacortes, WA -- Page 7



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6.9 Photo log

Photo 1: Armored intertidal area on southern side of the Site (April 27, 2017)



Photo 2: Driftwood and backshore vegetation on southern side of the Site (April 27, 2017)



Photo 3: Macroalgae in lower intertidal area on southern side of the Site (April 27, 2017)

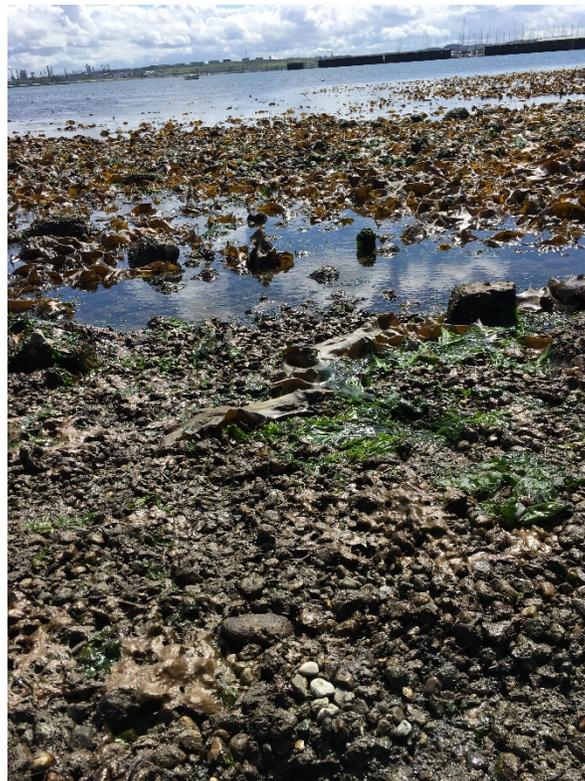


Photo 4: View looking northeast toward southern breakwater (April 27, 2017)



Photo 5: *Salicornia virginica* in intertidal area on northern side of the Site (April, 27, 2017)



Photo 6: Aerial View: (8/18/ 2016)

