UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
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OFFICE OF
ENVIRONMENTAL
CLEANUP

SUBJECT: Action Memorandum for a Time-Critical Removal Action at the Bremerton Gas Works Site, Bremerton, Kitsap County, Washington

FROM: Kathy Parker, On-Scene Coordinator
Emergency Preparedness and Prevention Unit

TO: Chris D. Field, Manager
Emergency Management Program

THRU: Wally Moon, Manager
Emergency Preparedness and Prevention Unit

I. Purpose

The purpose of this memorandum is to request and document approval for a time-critical removal action (TCRA) described herein for the Bremerton Gas Works Site (Site), Bremerton, Kitsap County, Washington. The proposed TCRA will be conducted by a potentially responsible party, Cascade Natural Gas Corporation (Cascade). The work will be performed by Cascade in accordance with the Settlement Agreement entered into with EPA on May 1, 2013 pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

II. Site Information

A. Site Description

Site Name:	Bremerton Gas Works Site
Superfund Site ID (SSID):	10JS
NRC Case Number:	N/A
CERCLIS Number:	WAH001002907
Site Location:	1725 Pennsylvania Ave., Bremerton, WA 98310
County:	Kitsap County
Lat/Long:	47.578 North, 122.643 West
Currently Identified Potentially Responsible Parties:	Cascade Natural Gas Corporation
Access:	Partially fenced
NPL Status:	Listed on May 10, 2012
Removal Action Start Date:	October 12, 2013

B. Site Background

1. 2010 TCRA

A TCRA was conducted at the Site in 2010 after multiple observations of hydrocarbon sheen were reported near the Port Washington marina. These reports were investigated by Kitsap County Health District (Kitsap Health). Kitsap Health identified the source of the sheens to be a black oily liquid discharging from a dislocated joint in a cement pipe buried approximately one foot below ground surface (bgs) in the intertidal area due north of the property owned by Natacha Sesko. Kitsap Health reported the release to EPA on October 4, 2010.

The EPA On-Scene Coordinator (OSC) visited the site on October 5, 2010 and collected samples of the oily liquid discharging from the pipe for analysis of its polynuclear aromatic hydrocarbon (PAH) constituents. The results indicated that the liquid contained PAHs. EPA placed a temporary surficial rope-type boom around the impacted beach area to prevent the surface migration of the oily liquid and mitigate the release of PAHs to marine waters.

The EPA OSC notified the USCG of the release in their jurisdiction and put out a temporary boom to contain the sheen. On October 6, 2010, the USCG mobilized to the Site. By October 10, 2010, USCG had replaced the temporary boom installed by EPA with a two-level boom to contain both light non-aqueous phase liquid (LNAPL) and dense non-aqueous phase liquid (DNAPL) fractions of the released material. On October 16, 2010, USCG commenced activities to mitigate the apparent discharge from the pipe. The activities included breaking a 4-foot section of the pipe with a hydraulic hammer, plugging the pipe-end in that area, and placing hydraulic cement over the temporary plug. These activities were implemented by an emergency response contractor working at the direction of the USCG.

After replacement of the boom, EPA and the USCG conducted a joint removal assessment to gain a basic understanding of any risks posed to human health and/or the environment by releases or threatened releases at the Site. The USCG established a Unified Command to assist with the response activities. The Unified Command initially included representatives of USCG, EPA, Ecology, Washington Department of Natural Resources (DNR), and Kitsap Health.

On October 19, 2010, Cascade met with USCG, EPA, and the rest of the Unified Command to discuss additional actions appropriate at the Site. The USCG subsequently added Cascade to the Unified Command and issued Cascade an Administrative Order for a Pollution Incident (Order) to implement response

actions at the Site USCG oversight. Cascade accepted the Order in a letter dated October 29, 2010.

The work conducted pursuant to the Order included:

- Locating the pipe and tracing it to the shoreline;
- Plugging the pipe as close as practicable to the shoreline;
- Removing all pipe sections down gradient of the new plug together with all overburden sediments;
- Filling all excavations to grade with clean beach material; and
- Placing a cap consisting of an organo-clay mat covered with a foot of clean imported beach rock over the area of impacted sediments near the end of the pipe.

2. Removal Evaluation Findings

Cascade completed sampling of sediment in the intertidal beach area during July 2013, consistent with the Removal Evaluation Work Plan approved by EPA pursuant to the Settlement Agreement. The purpose of the sampling was to evaluate sediment quality adjacent to the former gasworks and to provide EPA with the information necessary to determine whether a removal action is required to protect human health and the environment and minimize potential impacts to sediment and surface water quality within Port Washington Narrows prior to completion of the RI/FS.

Sampling activities were initiated July 8, 2013 by Cascade and its contractors. EPA provided oversight during sampling activities. Work included sampling of the intertidal beach sediments, investigation of the existing drainage pipes located in the upland portion of the Site, and inspection of the bluff for evidence of hydrocarbon seeps or other potential ongoing or threatened contaminant migration pathways to the beach.

The following key investigatory findings from the Removal Evaluation are documented in the Removal Evaluation Report:

- The cap in the eastern portion of the beach area continues to be effective. No hydrocarbon-like sheen was observed in this area, which is consistent with the results of previous visual monitoring activities. Concentrations of PAHs and carcinogenic PAHs (cPAHs) (Figure 2 and Attachment 1) were lower in this area than in beach areas to the west. Additionally, the measured concentrations of cPAHs in the vicinity of the cap were lower than those measured previously in 2010.
- Sampling indicated elevated concentrations of cPAHs in surface sediment. The measured cPAH concentrations exceeded preliminary risk screening values defined in the Removal Evaluation Work Plan based on a child beach-play exposure scenario.
- The highest cPAH concentrations were noted at station BGW-RE-SG-05 (Figure 2), located adjacent to a localized surface deposit of solid

hydrocarbon-like material that measured approximately 10-feet by 15-feet. An additional 2-feet by 8-feet deposit of solid hydrocarbon-like material was observed slightly to the east of the larger deposit. A visible hydrocarbon-like sheen was also observed in subsurface sediments between this area and the bluff. All observations are presented in Figure 2.

- Within the upland portion of the Site (the area of the site above the high tide line), two pathways were identified that could result in rain water entering the drainage pipe that was the subject of the 2010 TCRA. Although the drainage pipe has been plugged at the high water line of the beach, the pipe appears to be connected to Manhole A, located on the west side of property owned by Natacha Sesko (see Figure 2). Surface water on the Sesko property appears to drain into Manhole A, which is open at the surface. The drainage pipe is believed to still contain black oily liquid known to contain high levels of PAHs.

Based on the results of the Removal Evaluation, EPA has directed Cascade to prepare a Removal Action Work Plan describing actions to be taken to minimize potential risks to human health and the environment and further protect sediment and surface water quality within the Port Washington Narrows from potential releases of Site-associated hydrocarbon materials. These actions are described in Section IV below.

3. Physical Location and Site Characteristics

The Site vicinity is shown in Figure 1. The geospatial coordinates of the Site are 47.578 North Latitude, 122.643 West Longitude. The Site is located on the southern shoreline of Port Washington Narrows, a tidal inlet connecting Sinclair Inlet to Dyes Inlet.

Operations at the former Gas Works were located within portions of two current shoreline industrial properties as shown on Figure 2. The eastern property is owned by Natacha Sesko (tax parcel 3711-000-022-0101). The western property (tax parcels 3711-000-001-0409 and 3711-000-001-0607) is owned by the McConkey Family Trust.

The former Gas Works also included a former dock located within leased harbor areas owned by the State and managed by the Washington State Department of Natural Resources (DNR). The DNR-managed lands also include portions of the bluff, the intertidal beach area adjacent to the Site, and sediments underlying Port Washington Narrows.

As shown in Figure 2, a City of Bremerton sewer force main is located beneath portions of the beach at the Site. Based on available record drawings, the force main was installed initially around the 1950s and was replaced in the 1980s. The force main is buried several feet beneath the beach within the DNR-managed harbor areas and the northern portion of the Sesko property.

The property located immediately east of the Site is zoned for industrial use, and is used for operation of a bulk petroleum terminal. Properties further east are zoned for residential use and include single-family and multi-family residences.

The properties located immediately south and west of the Site are zoned for industrial uses. The Port of Washington Narrows marina is located to the west of the Site. The marina includes both recreational boat moorage and numerous live-aboard vessels.

A City of Bremerton recreational park, Lions Park, is directly north, across Port Washington Narrows, from the Site.

There are no known or identified historical landmarks or cultural structures with historical significance at the Site although the Suquamish Tribe has stated in comments to EPA that the Site is located in an area where there are native soils with a high potential for archaeological resources.

The Suquamish Tribe is a federally recognized Tribe with usual and accustomed fishing and shellfish harvesting areas in portions of Hood Canal and Puget Sound, including Sinclair Inlet and Dyes Inlet and the vicinity of the Site. Puget Sound (including Sinclair and Dyes Inlets) also includes active commercial and recreational fisheries. The Washington State Department of Health monitors portions of Dyes Inlet under its Shellfish Growing Area Program. Local agencies and the Suquamish Tribe have been working to upgrade water quality and to expand areas of shellfish harvesting that remain restricted by bacterial contamination associated with storm water discharges and combined sewer overflows.

Migratory birds are known to pass through the area of the Site.

4. Release or Threatened Release into the Environment of a Hazardous Substance, Pollutant or Contaminant

As described in the Removal Evaluation Report (Anchor QEA and Aspect, 2013a), sampling confirmed the presence of an existing release and conditions that could threaten to cause further releases of hazardous substances into the environment.

Human Health:

Although the intertidal beach is not a designated public access area, physical access to the beach is currently unrestricted. Use of the beach by the community has been noted by EPA. The Removal Evaluation Work Plan included development of preliminary human health risk screening values for a child beach-play exposure scenario. The screening values developed in that analysis for cPAHs were expressed as the benzo(a)pyrene toxicity equivalent concentrations (TEQ). The resultant screening values were calculated to be

8 mg cPAH TEQ/kg at the $1x10^{-4}$ risk threshold and 0.08 mg cPAH TEQ/kg at the $1x10^{-6}$ risk threshold.

Sampling indicated that cPAH compounds are present at elevated concentrations in sediments within the intertidal beach area of the Site. Concentrations were lowest along the eastern edge of the Site and near the sediment cap placed as part of the 2010 TCRA. As shown in Table 1 and in Figure 2, most samples within the central and western portions of the beach exceeded the $1x10^{-4}$ risk threshold (8 mg cPAH TEQ/kg) and one location (station BGW-RE-SG-05) in the western beach area exceeded the $1x10^{-3}$ risk threshold (80 mg cPAH TEQ/kg).

Hydrocarbon-like sheen was also noted in shallow subsurface sediments between sampling stations BGW-RE-SG-04 and BGW-RE-SG-05 and the foot of the bluff. The most contaminated sample of these subsurface sediments exceeded 350 mg cPAH TEQ/kg. EPA determined that these subsurface sediments could present an additional human health exposure risk in the event that these subsurface sediments were disturbed (e.g., by people digging on the beach).

Ecological Risk:
As documented in the Removal Evaluation Report, the sediment PAH concentrations were also screened for potential impacts to the sediment benthic community. That screening included comparison of the analytical results to numeric criteria contained within Washington State Sediment Management Standards (SMS) set forth in state regulations (WAC 173-204). Where the total organic carbon (TOC) content was within range for TOC normalization (0.5% to 5%), individual PAHs, low-molecular weight PAHs (LPAH), and high molecular weight PAHs (HPAH) were compared to the SMS criteria on an organic carbon normalized (OCN) basis. For stations where the TOC content was outside of this range, the measured concentrations were compared to the Lowest Apparent Threshold Limit (LAET) or 2LAET (Second LAET) criteria.

Results confirmed that sediments within portions of the beach area had the potential to result in impacts to the benthic community. Although no benthic risk assessment has been performed yet, individual PAH parameters, low molecular weight PAHs, and high molecular weight PAHs results exceeded SMS criteria Cleanup Screening Level (CSL). The highest potential for impacts (based on the level of exceedance of the SMS numeric criteria) was noted in the western beach area at station BGW-RE-SG-05. No confirmatory bioassay or benthic community testing was performed as part of the Removal Evaluation.

Potential for migration to the surrounding environment
Results of visual monitoring and the testing performed during the Removal Evaluation confirmed that the cap placed in the 2010 TCRA area has been effective at controlling hydrocarbon sheens in this area. However, two conditions

were noted at the Site that had the potential to result in migration of hazardous substances into the surrounding environment.

- **Rain Water Pathways to Manhole A:** Manhole A is believed to remain connected to the pipe that was plugged as part of the 2010 TCRA. Based on inspections conducted as part of the Removal Evaluation, rain water can enter Manhole A through surface runoff and a piping connection. That water has the potential to surcharge the plug at the lower end of the pipe that was installed during the 2010 TCRA, which in turn could potentially result in further releases of hazardous substances remaining in the pipe to Port Washington Narrows. This risk can be minimized by appropriately plugging the piping connection and directing surface runoff away from the manhole.

- **Hydrocarbon-Like Sheens in Shallow Subsurface Sediments of the Western Beach Area:** Hydrocarbon-like sheens were observed in shallow subsurface sediments in the vicinity of sample location BGW-RE-SG-04 and BGW-RE-SG-05. These subsurface sediments have the potential to release additional hazardous substances in the form of PAHs to surface waters of Port Washington Narrows if they are disturbed (e.g., by storm action or by people digging in the beach sediment). This risk can be minimized by applying a sediment cap similar to that placed in the eastern beach area during the 2010 TCRA.

III. Threats to Public Health Welfare or the Environment

A. Nature of Actual or Threatened Release of Hazardous Substances, Pollutants or Contaminants.

The current conditions at this Site meet the following factors which indicate that the Site is a threat to public health or welfare or the environment and a TCRA is appropriate under the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) , 40 C.F.R. § 300.415(b)(2).

B. Applicable Factors (from 40 CFR 300.415) Which Were Considered in Determining the Appropriateness of a Removal Action:

1. Actual or potential exposure to nearby human populations, animals or the food chain from hazardous substances or pollutants or contaminants [300.415(b)(2)(i)]:

The elevated concentrations of cPAHs found on the beach at the Site indicate that a direct contact exposure pathway exists. Access to the beach is not restricted and the beach is occasionally used recreationally by nearby community members. Exposure to cPAHs may result in potential health risks through dermal contact, incidental ingestion, and inhalation. Continued exposure to cPAHs can result in an increased risk of developing cancer.

2. High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate [300.415(b)(2)(iv)]:

The analytical results show that cPAHs are present at elevated concentrations in the beach surface sediments, particularly in the western beach area near sampling station BGW-RE-SG-05. In addition, hydrocarbon-like sheen was noted in shallow subsurface sediments that could release hazardous substances in the form of PAHs to other beaches on the Port Washington Narrows if these sediments are disturbed by storm action or digging.

3. Weather conditions that may cause hazardous substances or pollutants to migrate or to be released [300.415(b)(2)(v)]:

Surface water generated from rain fall may enter Manhole A, which could in turn surcharge the plugged pipe down-gradient of Manhole A. This could potentially result in releases of the hazardous substances in the form of PAHs in the black oily liquid remaining in the pipe (i.e., if the plug or lower pipe sections fail) to Port Washington Narrows.

In addition, tidal action can cause migration of contaminated sediments from the beach to Port Washington Narrows spreading PAHs to the marine environment.

4. The availability of other appropriate federal or state response mechanisms to respond to the release [300.415(b)(2)(vii)]:

The proposed TCRA is expected to be conducted by Cascade, pursuant to the Settlement Agreement. The Washington State Department of Ecology and the USCG referred the Site to EPA because they did not have the capacity to oversee the work. There are no other known appropriate federal or state response mechanisms capable of providing the appropriate resources in the prompt manner needed to address the potential human health and ecological risks associated with hydrocarbon-like sheen and elevated cPAH concentrations in the western beach area or the potential for rain water entry and pipe surcharge at Manhole A.

IV. Endangerment Determination

Actual or threatened releases of hazardous substances from the Site may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. Selected Removal Action and Estimated Costs

A. Situation and Removal Activities to Date

1. Current Situation

Cascade has developed a Removal Action Work Plan (Anchor QEA and Aspect, 2013c) that addresses the proposed TCRA elements identified by EPA. That work plan will be reviewed and approved by EPA. Cascade and EPA have also secured property access rights as necessary to implement the actions described in the work plan, including access to the Sesko and McConkey properties and to the State-owned lands managed by DNR. Cascade has retained contractors and is prepared to implement the work under EPA oversight.

2. Removal Activities to Date

In November 2010, Cascade, under order from the USCG, removed the leaking pipe and contaminated sediments on the beach, permanently plugged the beach end of the pipe, covered the vicinity of the former pipe with a reactive core organo-clay mat, and secured the mat with a one-foot-thick layer of imported beach material (streambed cobbles). Visual monitoring conducted by Cascade between 2010 and 2013 demonstrated that the 2010 TCRA has been effective at preventing the recurrence of hydrocarbon sheen in this area. In December 2010, the USCG referred the Site to the EPA for further cleanup under CERCLA since the majority of the site is upland in EPA area of responsibility and the PAHs remaining on the beach appear to be migrating there from the upland.

B. Planned Removal Action

1. Removal Action Description

The proposed TCRA is described in detail in the Removal Action Work Plan and will include specific activities within the beach area and the upland portion of the Site, including the following:

- **Removal of solid hydrocarbon-like material:** The localized surface deposit of solid hydrocarbon-like material (approximately 5 cubic yards) located near sampling station BGW-RE-SG-05 will be removed. The removed material will be sent to an appropriately-permitted off-site treatment/storage/disposal facility.

- **Placement of a sediment cap over an area of subsurface hydrocarbon-like sheen:** As shown in Figure 2, a sediment cap, approximately fifty feet square, will be placed over the western beach area where a hydrocarbon-like sheen was noted in subsurface sediments (i.e., adjacent to locations BGW-RE-SG-04 and BGW-RE-SG-05). Placement of the cap will require removal of a creosote-treated piling within the mat placement area. The cap will use the same design as that used successfully in the eastern beach area in 2010. The cap will consist of an organo-clay mat covered by streambed

cobbles. The cobbles will protect the cap against wave erosion and will limit potential human disturbance (e.g., digging) of the cap. Specifications for the organo-clay mat are provided in Attachment 2. Specifications for the materials that will cover the organo-clay mat are provided in Attachment 3. The cap will be designed to remain in place for several years, throughout the performance of the RI/FS to minimize potential impacts to sediment and surface water quality within Port Washington Narrows. Cascade will continue to perform beach monitoring following completion of the TCRA to confirm that conditions remain stable and that the completed TCRA elements continue to meet their objectives. Cascade is responsible for operation and maintenance of the cap with oversight by the EPA remedial program.

- **Plugging of connections to Manhole A located within the upland area of the Site:** This manhole is associated with the pipe that was plugged at the beach during the 2010 TCRA. Plugging of the remaining connections to Manhole A will minimize potential rain water intrusion into the pipe, and thereby minimize potential risk of future oily liquid and PAHs release from the pipe.

- **Installation of signage:** Signage will be installed on the beach to alert potential beach users to the presence of contamination and provide guidance on measures to protect their health.

Attachment 3 describes Best Management Practices (BMPs) that will be used by Cascade and its contractors to minimize potential impacts to human health and the environment during performance of the TCRA. These BMPs are specified in the Removal Action Work Plan

2. Contribution to Remedial Performance

The Site was added to the National Priorities List in May of 2012. In May of 2013, EPA and Cascade executed the Settlement Agreement for performance of a RI/FS. The scope of work in the Settlement Agreement specified performance of a Removal Evaluation and a possible removal action prior to initiating scoping for the RI/FS.

The proposed removal action will, to the extent practicable, contribute to the efficient performance of any long term remedial action by minimizing the potential for further releases to Port Washington Narrows and by removing hydrocarbon materials containing high concentration of cPAHs from the beach (i.e., materials near sampling station BGW-RE-SG-05). This action was developed in consultation with the EPA remedial program manager, Bill Ryan, for the Site to ensure it is consistent with any potential long term cleanup designs for the Site. Immediate immobilization of the high concentration cPAHs on the beach will prevent further spread of the contamination and protect people from contact until a final remedy can be implemented.

3. Applicable or Relevant and Appropriate Requirements (ARARs)

Removal actions conducted under CERCLA authority must comply with other state and federal Applicable or Relevant and Appropriate Requirements (ARARs) to the extent practicable given the urgency of the situation and the scope of the removal action (40 CFR 300.415[i]). Local regulations may be included as "to be considered" (TBC) standards, but are not designated as ARARs under CERCLA.

ARARs consist of promulgated federal and stricter state environmental or facility siting laws and regulations which are either applicable or relevant and appropriate requirements. EPA, working with the State, consistent with the National Contingency Plan (NCP), is required to identify ARARs that will be met during the implementation of the TCRA. TBCs include other than formally promulgated federal and stricter state standards, local government requirements in ordinances and regulations, and other pertinent published criteria, that are TBC by EPA in the implementation of the TCRA. TBCs are discretionary rather than mandatory, but compliance is recommended.

The Removal Action Work Plan describes the work methods and BMPs to be used to address compliance with substantive provisions of identified ARARs to the extent practicable. The ARARs that have been determined by EPA to potentially apply to the removal action are described in Table 1 below. As part of its review of ARAR consistency, EPA has consulted with federal, state, and local resource and regulatory agencies and with the Suquamish Tribe.

Table 1

Applicable or Relevant and Appropriate Requirements

Topic	Standard or Requirement	Regulatory Citation	Notes
Sediment Quality Standards	Sediment quality standards; cleanup screening levels	Sediment Management Standards (WAC 173-204)	The proposed action will remove or contain materials that have the potential to further degrade sediment quality. The cap to be placed in the western beach area will provide clean surface materials in this area. The TCRA will not achieve SMS criteria throughout the beach area (completion of the RI/FS is required prior to addressing remaining beach areas).
Surface Water Quality	Surface Water Quality Standards	Ambient Water Quality Criteria (Section 304(a) of Clean Water Act) and Surface Water Quality Standards (RCW 90-48; WAC 173-201A)	To protect water quality, construction activities on the beach area will be conducted during low tide conditions, and the work area will be surrounded by an absorbent boom.

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Topic	Standard or Requirement	Regulatory Citation	Notes
Land Disposal of Waste	Hazardous Waste	RCRA Land Disposal Restrictions (42 USC 7401-7642; 40 CFR 268) and Dangerous Waste Regulations Land Disposal (RCW 70.105; WAC 173-303, 140-141)	Waste materials removed from the Site will be managed using appropriately-permitted off-site treatment, storage and disposal facilities.
Solid Waste Disposal	Requirements for solid waste handling and disposal	Solid Waste Disposal Act (42 USC 215103259-6901-6991; 40 CFR 257-258)	Waste materials and debris removed from the Site will be managed using appropriately-permitted off-site treatment, storage and disposal facilities.
Fill, in-water work	Discharge of dredge/fill material in navigable waters	Clean Water Act (33 USC 401 et seq.; 33 USC 141; 33 USC 1251-1316; 40 CFR 230, 231, 404; 33 CFR 320-330) River and Harbors Act (33 USC 401 et seq.) and Hydraulic Code Rules (RCW 75.20; WAC 220-110)	The proposed action includes construction, waste removal and cap placement within the intertidal beach area at the Site. EPA has consulted State and Federal agencies. Project work practices and BMPs address ARAR substantive requirements, including minimizing fill placement, use of clean cap and cover materials, minimizing water quality and fisheries impacts by conducting the work "in the dry" under low tide conditions, and implementing the work within appropriate work windows to avoid potential impacts to fisheries resources.
Shorelines	Construction and development	Shoreline Management Act (RCW 90.58; WAC 173-16); City of Bremerton Shoreline Master Program (BMC 20.16)	The proposed action is consistent with the regulation because it will minimize potential risks to human health and the environment, and further protect sediment and surface water quality within Port Washington Narrows from potential releases of Site-associated hydrocarbon materials. Disturbance of shoreline vegetation will be minimized to the extent practicable.

DNR-00050636

Topic	Standard or Requirement	Regulatory Citation	Notes
Critical Areas – (Note: This is a TBC)	Evaluate and Mitigate Impacts	Growth Management Act (RCW 36.70a) City of Bremerton Critical Areas (BMC 20.14)	The proposed action has been designed to minimize affects to vegetation in shoreline areas. No excavation or fill placement is to be performed in potential steep slope areas. Protection of aquatic areas is addressed through the use of appropriate work practices and BMPs.
Habitat for Fish, Plants or Birds	Evaluate and mitigate habitat impacts	Clean Water Act (Section 404(b)(1); U.S. Fish and Wildlife Mitigation Policy (44 CFR 7644); U.S. Fish and Wildlife Coordination Act (16 USC 661 et seq.) Migratory Bird Treaty Act (16 USC 703-712)	The proposed action is consistent with the regulation because it will minimize potential risks to fish and wildlife habitat from potential releases of Site-associated hydrocarbon materials. BMPs described in the Removal Action Work Plan will be followed, including working "in the dry" at low tide conditions and adhering to work windows. The cap cover material has been selected in consultation with state and federal agencies, and provides improved habitat for fish in comparison to existing conditions.
Endangered Species and Critical Habitat for Endangered Species	Conserve endangered or threatened species	Endangered Species Act (16 USC 1531 et seq.; 50 CFR 200, 402); Magnuson-Stevens Fishery Conservation and Management Act (16 USC 1801-1884).	EPA has consulted with the US Fish and Wildlife Service and with the National Marine Fisheries Service. The proposed action incorporates measures to prevent potential impacts to endangered species during construction, including completing construction activities during work windows that minimize potential impacts to fisheries resources, implementing construction "in the dry" during low tide conditions, and incorporating measures to protect water quality. The cap cover material has been selected in consultation with state and federal agencies, and provides improved habitat for fish in comparison to existing conditions.
Native American Graves and Sacred Sites	Evaluate and mitigate impacts to cultural resources	Native American Graves Protection and Repatriation Act (25 USC 3001 et seq.; 43 CFR Pt. 10) and American Indian Religious Freedom Act (42 USC 1996 et seq.)	The proposed work was reviewed for its potential to impact cultural or archaeological resources. The proposed action does not include excavations or disturbance in native soils that could contain potential cultural or archaeological resources.

Topic	Standard or Requirement	Regulatory Citation	Notes
Historic Sites or Structures	Avoid or minimize impacts to historic or cultural resources	National Historic Preservation Act (16 USC 470f; 36 CFR Parts 60, 63, and 800)	No historic sites or structures are expected to be impacted as a part of the proposed action.

4. Project Schedule

The schedule for the TCRA has been established to allow implementation of the construction activities on the beach during daylight, low-tide conditions in mid-October 2013. Construction activities within the beach area are scheduled to be performed between October 12 and October 16. This schedule facilitates implementation of the work during daylight hours when safety conditions are optimized, minimizes potential impacts to water quality, and minimizes potential impacts to fish and sensitive aquatic species including juvenile salmonids. Some upland activities, including mobilization, site preparation, waste disposal and demobilization may occur before or after these dates.

C. Estimated Costs

The Settlement Agreement requires Cascade to pay for the cost of the removal action, including EPA's oversight costs. The estimated oversight costs for the proposed TCRA are estimated at less than $10,000. If EPA were to undertake implementation of the work described in the action memorandum with its own resources, an action memorandum amendment and cost ceiling increase would be required.

VI. Expected Change in the Situation Should Action Be Delayed or Not Taken

A delay in action or no action at this Site would increase the actual or potential threat to the public health and the environment. Delayed action in placing the cap may increase public health risks to people walking on the beach through prolonged exposure to cPAHs. Delayed action in plugging Manhole A increases the risk that the plug will blow out and release black oily liquid remaining in the pipe onto the beach, spreading PAHs to the beach and Port Washington Narrows.

VII. Outstanding Policy Issues

None.

VIII. Enforcement

Cascade has agreed, through the Settlement Agreement, to conduct the TCRA selected in this Action Memorandum. Concurrent with implementation of the removal action and the RI/FS, EPA will continue to identify viable potentially responsible parties (PRPs) at the Site. EPA will continue to evaluate involving

Conditions at the Site meet the NCP section 300.415(b)(2) criteria for a removal action and I request your approval of the removal action described herein.

X. Approval / Disapproval

✓ Approval

Chris D. Field, Manager
Emergency Management Program

9/30/13
Date

_____ Disapproval

_____
Chris D. Field, Manager
Emergency Management Program

_____
Date

DNR-00050639