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US Army Corps
Of Engineers (Portland District)

Joint Permit Application Form

AGENCIES WILL ASSIGN NUMBERS

Corps Action ID Number

Oregon Department of State Lands No 48218 Revised

SEND ONE SIGNED COPY OF YOUR APPLICATION TO EACH AGENCY

US Army Corps of Engineers:		DSL - West of the Cascades:		DSL - East of the Cascades:		Send DSL Application Fees to:
District Engineer ATTN: CENWP-OD-GPFO Box 2946 Portland, OR 97208-2946 503-808-4373	AND	State of Oregon Department of State Lands 775 Summer Street, Suite 100 Salem, OR 97301-1279 503-986-5200	OR	State of Oregon Department of State Lands 1645 NE Forbes Road, Suite 112 Bend, Oregon 97701 541-388-6112	AND	State of Oregon Department of State Lands PO Box 4395, Unit ~~10~~ Portland, OR 97208-4395 **(Attach a copy of the first page of the application)**

(1) APPLICANT INFORMATION

Applicant Name and Address	Port of Brookings Harbor PO Box 848 Brookings, OR 97415	Business Phone # Home Phone # Fax # Email	541-469-2218 541-469-0672
Authorized Agent Name and Address Check one Consultant ☐ Contractor ☐	Ted Fitzgerald PO Box 848 Brookings, OR 97415	Business Phone # Home Phone # Fax # Email	541-469-2218 541-469-0672 director@port-brookings-harbor.org
Property Owner Name and Address If different from above[1]	Same	Business Phone # Home Phone # Fax # Email	

(2) PROJECT LOCATION

Street, Road or Other Descriptive Location	Legal Description (attach *tax lot map**)			
	Township	Range	Section	Quarter/Quarter
	41S	13W	05	DB

In or near (City or Town)	County	Tax Map #[2]	Tax Lot #[2]
Brookings	Curry	17-9	1100
Wetland/Waterway (pick one)	River Mile (if known)	Latitude (in DD.DDDD format)	Longitude (in DD.DDDD format)
~~Waterway~~ Chetco R.	0.2	42.0473	-124.2688

[1] If applicant is not the property owner, permission to conduct the work must be attached.
[2] Attach a copy of all tax maps with the project area highlighted.

- *Italicized areas are not required by the Corps for a complete application, but may be necessary prior to final permit decision by the Corps.*

v. 07-07-09

Directions to the site	Enter Lower Harbor Road from US HWY 101, Brookings, Oregon, travel below US HWY 101 and thense along Lower Harbor Road. The basins are on the RHS while travelling southward. Latitude and Longitude locate point at center of inlet, on a line connecting jetty tip to Coast Guard Station. Jetty is that separating the North Harbor (Basin 1) from the Chetco River.

(3) PROPOSED PROJECT INFORMATION

Type: Fill ☐ Excavation (removal) ☒ In-Water Structure ☒ Maintain/Repair an Existing Structure ☐

Brief Description: Application is segregated into two projects: Project A, the post-tsunami dredging and disposal, and Project B, the dredging and disposal necessary for harbor maintenance.

Project A:- Port of Brookings wishes to conduct post-tsunami dredging and disposal of about 28,000 yds3 (with overdredged sediments included) of sediment within the North and South Basins (Basin 1 and Basin 2), and within the Ice House/Fueling Dock Inlet. The net sediment volume is calculated (by comparing pre-tsunami with post-tsunami surveys, see attached drawing entitled OVERALL CROSS SECTION PLAN.pdf) to have been imported by tsunami surging is not significant. Therefore this project is expected to reduce annual dredging requirements. In addition to the plan view of the proposed dredging areas shown in this report, cross-sectional views (prisms) have been constructed at key locations, which have been provided to the USACE, and are available to particular regulatory reviewers of this report upon request (Jack Akin, Engineer of Record, cell: 541-261-9929, emc@emcengineersscientists.com).

An hydraulic dredge with cutter head will cut sediments according to the submitted dredge and disposal plan, deliver them to a booster pump via 12.75' OD, SDR 11 HDPE pipe. The booster pump will be set on land. The pipe and sediment distribution systems will be designed to allow a 300 foot vessel traffic corridor and floatation/sink operation (see drawings entitled FIGURE 1.pdf and FIGURE 2.pdf).

Design dredging depths are shown in the attached dredge volume drawings, and in no case exceed 12 (twelve) feet MLLW, plus two feet of overdredging as is permitted by the USACE to compensate for sediment "sloughing". This work will be conducted under a Joint Permit and is purposed to remove accumulated sediments that, as a result of surge energy from the 3/11/11 tsunami, are at present encumbering, and, in some areas of the harbor, threatening to damage boat traffic and mooring.

Project B - Also included is the disposal of 12,000 (or less) cubic yards of sediment per year over the ten (10) year life of the sought-for permit. Operations are planned to be accomplished as described for Project A.

Design dredging depths are generally shown in the attached drawing entitled BASIN SEDIMENT REMOVAL CALCS-1.pdf, and in no case exceed 12 (twelve) feet MLLW, plus the two feet of overdredging generally permitted to compensate for sediment "sloughing". It is hoped that the Port will be able to proceed with the first phase of this project in 2012, fourth 1/4, as shown in the attached drawings entitled BASIN FLOOR CUTTING LINES-1.pdf, and CHANNEL PROFILE & CROSS-SECTIONS 1-4.pdf. Dredging cuts in future phases to be accomplished in future years must be determined, as dictated by cost/payback analyses. The first phase maintenance dredging is to be performed as indicated on the attached drawing entitled KEY PLAN.pdf.

Fill

Riprap ☐ Rock ☐ Gravel ☒ Organics ☐ Sand ☒ Silt ☒ Clay ☒ Other: ☐

Wetlands	Permanent (cy)	Temporary (cy)						Total cubic yards for project (including outside OHW/wetlands)	
	Impact Area in Acres	Dimensions (feet)							
		L'		W'		H'			
Waters below OHW	Permanent (cy)	Temporary (cy)						Total cubic yards for project (including outside OHW/wetlands)	88000
	Impact Area in Acres	Dimensions (feet)							
		L'	1800	W'	600	H'	2.2		

Removal

Wetlands	Permanent (cy)	Temporary (cy)						Total cubic yards for project (including outside OHW/wetlands)	
	Impact Area in Acres	Dimensions (feet)							
		L'		W'		H'			
Waters below OHW	Permanent (cy)	Temporary (cy)						Total cubic yards for	88000

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	88,000 (for 5 yr period, 148,000 for 10 yr)	Approx. 28,000 cy fir Project A and 60,000 or less (5 yr period) for Project B.	project (including outside OHW/wetlands)	
	Impact Area in Acres	Dimensions (feet)		
	21 Acres	3.1 2572 VII 302 IV 41 14		

Total acres of construction related ground disturbance (If 1 acre or more a 1200-C permit may be required from DEQ)

Is the disposal area upland? Yes ☐ No ☒ Impervious surface created? 0<1 acre ☒ 0>1 acre? ☐

	Yes	No
Are you aware of any state or federally listed species on the project site?	X	
Are you aware of any Cultural/Historic Resources on the project site?		X
Is the project site within a national Wild & Scenic River?		X
*Is the project site within a State Scenic State Scenic Waterway?**		X

If yes, please explain in the project description (in block 4)

(4) PROPOSED PROJECT PURPOSE AND DESCRIPTION

Purpose and Need:

*Provide a description of the public, social, economic, or environmental benefits of the project along with any supporting formal actions of a public body (e.g. city or county government), as appropriate.**

Project A - During the incident period of March 11, 2011 tsunami waves and surges entered the Chetco River, which was at high flow, causing the force of the river to be diverted into Brookings Harbor. The force of this diverted flow coupled with the surges caused severe turbulence in the harbor and resulted in severe damage to the docks and pilings in both the Commercial (South) basin and the Sport (North) basin. Approximately 3630 LF of floating dock was destroyed during the event. The destroyed docks were concrete foam filled floats with treated timber whalers and galvanized connections and piling collars. In the Sport Basin, 440 LF of 7 ft. wide main dock and 726 LF of 6 ft. wide finger dock were destroyed. In the Commercial Basin 1008 LF of 6 ft. wide main dock and 1456 IF of 3.3 ft wide finger dock were destroyed. In all, 18,289 SF of dock was Identified as being swept away and destroyed. Other dock sections have been identified as being damaged but salvageable. During the same incident the commercial receiving dock, which consisted of a sheet pile wall with tie-backs and soil anchors, concrete pad, 5000 lb electric hoist and a scale house, to be damaged or destroyed. 200 LF of sheet pile wall including tie-back walls back to native ground and the soil anchoring system were destroyed. The 30 ft X 60' X 9" (50 CV) reinforced concrete pad was destroyed. The structural fill behind the wall was either eroded out of place or slumped when the wall was destroyed. This area is approximately 150 ft. X 25 ft. X 25 ft. deep. The lOft. X 14 ft scale shack was tilted off its foundation due to the fill being eroded and displaced and is sitting at an angle but appears to be salvageable. The 5000 lb. lift is still attached to the slab. The outer edge of the slab and the base of the hoist are now in the water. The lift may be able to be salvaged once it is recovered and inspected by a certified electrician.The 220 volt electrical system and the 1" dia. water supply to the receiving dock were destroyed. Oregon Marine Board completed a basin depth survey in April, and sediment displacement was determined by overlaying the OMB readings with those of EMC (BioScape) that were produced before the tsunami.

The Port of Brookings Harbor is the busiest port in Oregon, and its successful operation is a key factor in the economic well being of Curry County, providing jobs, crabbing and fisheries resources, sports fishing and recreation, commercial fishing and crabbing, and public safety services as provided by the US Coast Guard. The repair of the damage as described above has been funded by FEMA/OEM and Oregon State matching funds.

Project B - Maintenance of the Port of Brookings on a routine basis has been recognized by Port management as required in order for the harbors to continue to operate.

RE listed species: NMFS and other findings apply to both Projects A and B. The Chetco River estuary provides a migration corridor for adult and juvenile SONCC coho salmon between salt and fresh water environments. Juvenile SONCC coho salmon are present in the estuary all year. Studies in Coos Bay, Oregon have shown that the ecotone between fresh and saltwater, where salinities are relatively low, is an important rearing area for juvenile SONCC coho salmon (Miller and Sadro 2003). The action area is located in the lower estuary approximately 0.2 mile from the ocean, and is separated from the main channel of the Chetco River by a jetty approximately 1,600 feet long. The entrance to the Port of Brookings Harbor is approximately 250 feet wide. The NMFS is reasonably certain that juvenile SONCC coho salmon do not use the action area for rearing due to high salinity and lack of habitat, and that they likely only migrate through the action area during outmigration. SONCC coho salmon within the Coos Bay estuary may follow different life history patterns than those in the Chetco; however, this nformation represents the best available.Adults begin to migrate through the action area beginning in October, with downstream juvenile migration beginning in April. Historically, the Chetco River basin sustained a functionally-independent population of SONCC coho salmon within the SONCC coho salmon species (Williams et al. 2006). Currently, this population is very small, with only a few SONCC coho salmon observed each year.

Southern green sturgeon occupy the Chetco River estuary during the summer months. Adult and sub-adult southern green sturgeon use estuarine areas for foraging and growth and development outside of the natal river system (Moser and Lindley 2007). Data from Washington studies indicate that southern green sturgeon will only be present in estuaries from June until October (Moser and Lindley 2007).

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While the status of southern eulachon in the Chetco River is not well known, they inhabit several riverine and estuarine systems along the west coast and population sizes vary between these systems. Southern eulachon adults return to freshwater between January and March and evidence suggests that some adults may return as early as December or as late as May to spawn (WDFW and ODFW 2001). Adults may enter the estuary between June and November to forage for plankton driven by tides. Therefore, adult southern eulachon may be present in the estuary in low abundance during those months, and are reasonably likely to become present in December with higher numbers in January and February. When eggs hatch in 20 to 40 days, southern eulachon larvae are immediately washed downstream to estuarine and ocean areas where they feed on phytoplankton and zooplankton.

The project area also includes habitat which has been designated as EFH for various life stages of 20 species of groundfish (PFMC 2006), five species of coastal pelagic (PFMC 1998), and two species of Pacific salmon (PFMC 1999).

NMFS produces a biological assessment which is performed as part of the Joint Permit Application review, which is overseen by the members of the Program Group (PRG). The USACE officer, Mr. Ben Dean, is, as of the date of this application, the regulatory Project Manager.

Note: RE Cultural/Historic Resources - Some areas within the post-tsunami restoration areas at the Port of Brookings Harbor are suspected to be a Native American settlement. However, to date, all areas of concern expressed by local Tribes and the Oregon State Archaeologist have been confined to upland areas, and not to those described in this project.

Sediment has been sampled per a PRG-approved workplan, analyzed per the USACE SEF, and presented via a sediment characterization report.

A dredge and disposal plan has also been submitted to the PRG. These tasks were completed specifally for both Projects A and B. Revisions will be necessary for Project B, because it was originally proposed for upland disposal. However, with the ocurrence of the 3/11/11 tsunami, necessary operations for loosened sediment removal can be performed for maintenance dredging as well, more cleanly and directly.

Project Description:

Please describe in detail the proposed removal and fill activities, including the following information:

- Volumes and acreages of all fill and removal activities in waterway or wetland separately
- Permanent and temporary impacts
- Types of materials (e.g., gravel, silt, clay, etc.)
- How the project will be accomplished (i.e., describe construction methods, equipment, site access)
- *Describe any changes that the project may make to the hydraulic and hydrologic characteristics (e.g., general direction of stream and surface water flow, estimated winter and summer flow volumes.) of the waters of the state, and an explanation of measures taken to avoid or minimize any adverse effects of those changes.*
- Is any of the work already complete? Yes ☐ No ☒ If yes, please describe the completed work.

In addition, for fish habitat or wetland restoration or enhancement activities, complete the information requested in supplemental Fish Habitat or Wetland Restoration and Enhancement form.

Project Drawings

State the number of project drawing sheets included with this application:	For Project A: Four drawing sheets; for Project B: Four drawing sheets; and for both Projects, the vicinity map. Two additional post-tsunami, high res aerials of Basins attached. Tax Lot maps including Basins also attached..

- ***Italicized areas are not required by the Corps for a complete application, but may be necessary prior to final permit decision by the Corps.***

A complete application must include a location map, site plan, cross-section drawings and recent aerial photo as follows and as applicable to the project:

- **Location map** (must be legible with street names)
  - Site plan including;
  - Entire project site and activity areas
  - Existing and proposed contours
  - Location of ordinary high water, wetland boundaries or other jurisdictional boundaries
  - Identification of temporary and permanent impact areas within waterways or wetlands
  - Map scale or dimensions and north arrow
  - Location of staging areas
  - Location of construction access
  - Location of cross section(s), as applicable
  - Location of mitigation area, if applicable
- **Cross section drawing**(s) including;
  - Existing and proposed elevations
  - Identification of temporary and permanent impact areas within waterways or wetlands
  - Ordinary high water and/or wetland boundary or other jurisdictional boundaries
  - Map scale or dimensions
- **Recent Aerial photo** (1:200, or if not available for your site, the highest resolution available)

Will any construction debris, runoff, etc., enter a wetland or waterway? Yes ☐ No ☒

If yes, describe the type of discharge and show the discharge location on the site plan.

DESCRIPTION OF DISPOSAL OPERATION AND SITE - DELIVERY: During the dredging operation, as described above, disposal of the materials described will be accomplished as follows (see the attached map entitled "FIGURE 1" for reference). Sediments will be delivered by the hydraulic dredge to the land-stationed booster pump (designed at 350 HP, subject to revision, as shown in FIGURE 1. The booster pump will then deliver the sediments to the disposal site (1800' X 1800' location as shown). Piping is to be 12.75" OD, SDR 11 HDPE material, with structural, hydrostatic strength of about 1250 psi. Piping will be laid along the approximately 1500' length of the jetty, and thence anchored to the sea floor for about 300' (to allow vessel traffic), and thence allowed to float or sink, depending on contents (fraction of air, sea water and sediments determine full pipe buoyancy). The pipe will be anchored against lateral movement and lighted with flashing lights per requirements. The pipe end will be anchored to a vessel above the disposal site and submerged to a depth of 25' before sediment dispersion. Vessel will move back and forth (approximately east-west) during dispersion at about 2 knots.

DISPOSAL SITE DESCRIPTION: The disposal site is about 1800' X 1800' area designated Here is the NOAA multibeam bathymetry data for the Chetco ODMDS. Please refer to the attached map (reddish hued), which shows the disposal area, estimated by the drawn in rectangle. The darker more prominent areas are clearly large (likely school bus size) reefs; and the pock-marks or slight depressions that you can see are most likely gravel/rocky deposits. Remaining areas are likely sandy ocean floor.

COMMENTS ON BIOLOGICAL CONCERNS IN ADDITION TO THAT DESCRIBED ABOVE (see narrative in Section 4, under Project B) - Please see the attached correspondence entitled "USACE Determination".

Estimated project start date:	November, 2011	Estimated project completion date:	December, 2011

(5) PROJECT IMPACTS AND ALTERNATIVES

Alternatives Analysis:

Describe alternative sites and project designs that were considered to avoid or minimize impacts to the waterway or wetland. (Include alternative design(s) with less impact and reasons why the alternative(s) were not chosen. Reference OAR 141-085-0565 (1) through (6) for more information).*

* *Italicized areas are not required by the Corps for a complete application, but may be necessary prior to final permit decision by the Corps.*

The narratives below refer to both Projects (A & B)

Dredging is the only alternative to provide adequate drafts for sports and commercial vessels at the Port of Brookings. The Port of Brookings has selected the hydraulic dredge with cutter head to dredge accumulated sediments, and a direct piping method to the Chetco EPA disposal site for sediment disposal. The following provides alternative methodologies.

Alternative to the hydraulic dredging equipment described above would be a Barge with Excavator/Crane.

The barge may be as large as a 200-foot long by 50-foot wide by 12-deep scow. The barge would be outfitted with appropriate duty spuds, or anchoring platform, for anchoring and stability once it is in the desired location. The spuds on the barge will be of sufficient length allowing it to anchor itself in harbor depth of water. The barge also would have a full complement of tools for making on site repairs and maintenance. On the deck of the specified barge would be an excavator or crane. The excavator or crane will be rated to reach and lift sediment as constrained by bucket load and basin depths. The initial dredge pass would be no greater than 4' in depth to allow for controlled sloughing and will be equal to the width of the barge. It would progress from the south to the northern limits of the dredge areas. Upon completion of the initial pass, the barge would be repositioned to dredge a second pass from south to north in a similar fashion. The Port understands that a minimum of 2 and a maximum of 4 passes will be required to dredge along the face of each of the docks in order to achieve the required grades, clean sloughed material, and minimize cut depth so as to avoid slope destabilization.

Advantage: The advantages to using this alternative would be 1) equipment availability, and 2) eased sediment transfer from basin floors to delivery barge.

Disadvantage: The disadvantages include 1) Navigability difficulties and 2) vertical and horizontal control.

Regarding navigability: the Port has not to date found a barge-tug combination that, while able to support a crane/excavator and provide adequate capacity for efficient sediment disposal, does not exceed draft limitations present at the North and South Basins. In nearly all cases, land-mounted crane/excavation is not possible at the Port. The hydraulic dredging equipment described above requires only a few feet of draft and is capable of working in confined spaces such as those present in some areas of the Port.Regarding vertical and horizontal control: the Port is constrained by FEMA/OEM requirements to limit its dredging to the restoration to pre-tsunami conditions. The location of sediments shifted by the tsunami requires some precision, and hydraulic suction dredging is more precise and controllable for this particular project.

Conclusion: In the consideration of use of a barge with excavator/crane, the disadvantages outweigh the advantages.

Sediment Disposal: The sediment, after removal by a hydraulic dredge or equivalent system, would be delivered to the approved EPA dumping site. The disposal site is about a mile off-shore in and is called the Chetco ODMDS, or Chetco River Entrance, and is described, for example, in the EPA document entitled Chetco Ocean Dredged Material Disposal Site Designation, Draft Environmental Impact Statement, (1999). The four corners of the 1800' X 1800' sediment disposal area are located via four geographic points in that EIS. Various tug and barge combinations are under consideration. Choices take into account draft constraints and capacity.

Alternative Considered: Alternative to the tug/barge disposal option being considered is a direct piping from the hydraulic dredge to the Chetco ODMDS. According to the above-referenced EPA EIS, the average depth of this disposal area is 70 feet. Distances are therefore well within the capabilities of the dredging equipment described above, except that an auxiliary booster pump may be required. A pipeline (probably 12" diameter, plastic, welded) could be constructed, laid out along a nearby beachhead or basin embankment, towed to location, and anchored to the ocean floor. The pipe outlet would be mounted to a tug or other adequate vessel, equipped with location monitoring. Dredged sediment would be thence pumped directly from the hydraulic suction dredge to the disposal location.

Advantages to the direct pipeline are efficiency, traffic reduction, fuel savings, turbidity reduction (if decanting of return water from the scow during loading would be permitted if tug and barge were used), and no draft concerns.

Regarding efficiency and turbidity: without decanting, one may assume 12.5% sediment concentration in the dredged material as it flows out from the dredge discharge. The number of trips to and from the disposal Site from and back to the barge anchoring location would be excessive. If decanting were permitted, and the Port was permitted to attain about 50% solids in the scow, then nearby turbidity, though controlled by curtain, would be increased. Regarding traffic reduction: the Port is a busy Port, with daily commercial and sport vessels passing in and out of the single inlet/outlet. An anchored, well-located, underwater pipeline would not impede this traffic. Regarding fuel: this alternative does not require the considerable use of petroleum fuels required for tug and barge mobilization, and the many trips between the disposal site and the barge anchoring location. Regarding draft concerns: the most recent study of the inlet area, conducted by the USACE, indicates there may be several shallow areas and other obstructions that may complicate the planned positioning of the tug and the loaded barge. These concerns are eliminated with this alternative.

Disadvantages: The disadvantages include 1) operational difficulties during storm surges 2) piping pathway concerns.

Regarding operational difficulties during storm surges/waves: the Port has been advised by knowledgeable service providers that this option is rendered very difficult to impossible during storm surges/waves. Regarding piping pathway concerns: Finding a pipe pathway that avoids incoming and outgoing draft concerns require some overland (from harbor to sea) piping.

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Measures to Minimize Impacts

Describe what measures you will use (before and after construction) to minimize impacts to the waterway or wetland. These may include but are not limited to the following:

- *For projects with ground disturbance include an erosion control plan or description of other best management practices (BMP's) as appropriate. (For more information on erosion control practices see DEQ's Oregon Sediment and Erosion Control Manual.)*
- *For work in waterways where fish or flowing water are likely to be present, discuss how the work area will be isolated from the flowing water.*
- *If native migratory fish are present (or were historically present) and you are installing, replacing or abandoning a culvert or other potential obstruction to fish passage, complete and attach a statement of how the Fish Passage Requirements, set by the Oregon Department of Fish and Wildlife will be met.*

ENVIRONMENTAL PROTECTION (Measures described below will be used for both Projects)

Dredging operations will be limited to occur between November 15 and February 15. To reduce the potential for entrainment of SONCC coho salmon, southern green sturgeon, or southern eulachon the cutterheads will remain on the bottom to the greatest extent possible and only be raised 3 feet off the bottom when necessary for dredge operations.

The pipeline will be inspected initially, and subsequently, at the least, daily when dredging is taking place.

Only sound pipeline will be used. The PE has reviewed the pipe and application. Net maximum pressure on the piping material is internal, created by flow requirements, and is greatest at maximum hydrostatic conditions (at water surface). The selected pipe was rated as a function of the hydrostatic strength of the material, the pipe dimensional ratio, and environmental and temperature factors. Affected employees will have undergone pipe handling and welding training, as provided by the pipe supplier (3-4 classroom plus 4-hour hands-on training session, to certify employees to set up and weld medium diameter (4 – 20") HDPE pipe via butt fusion. Welded pipe bending radii will not exceed that recommended (usually about 25 pipe diameters). All calculations available upon request by authorized. The pipeline will be positioned, weighted and marked for safe navigation. PE (Jack Akin, cell # 541-261-9929, will be on site during operations and will supply to the Project Manager (USACE) the names of all representatives prior to initiating on-site dredging operation.

The pipe outlet will be attached to the vessel, which will move side to side at about two knots above designated areas of the Chetco EPA Disposal Site. The pipe end will be submerged to 25 feet below water surface, to avoid the creation of turbidity in upper water aquatic life pathways.

Description of resources in project area

Ocean ☒ Estuary ☒ River ☒ Lake ☐ Stream ☐ Freshwater Wetland ☐

Describe the existing **physical and biological characteristics** of the wetland/waterway site by area and type of resource (Use separate sheets and photos, if necessary).

For wetlands, include, as applicable:

- *Cowardin and Hydrogeomorphic(HGM) wetland class(s)**
- *Dominant plant species by layer (herb, shrub, tree)**
- Whether the wetland is freshwater or tidal
- *Assessment of the functional attributes of the wetland to be impacted**
- Identify any vernal pools, bogs, fens, mature forested wetland, seasonal mudflats, or native wet prairies in or near the project area.)

For waterways, include a description of, as applicable:

- *Channel and bank conditions**
- *Type and condition of riparian vegetation**
- *Channel morphology (i.e., structure and shape)**
- *Stream substrate**
- Fish and wildlife (type, abundance, period of use, significance of site)
- *General hydrological conditions (e.g. stream flow, seasonal fluctuations)**

- ***Italicized areas are not required by the Corps for a complete application, but may be necessary prior to final permit decision by the Corps.***

The description below refers to both Projects (A & B)

The Chetco River empties into the Pacific Ocean at Brookings, Oregon, 300 miles south of entrance to Columbia River and 345 miles north of San Francisco Bay. The Chetco River is 59 miles long and drains a 359-square mile basin. Nearly the entire basin is within the Siskiyou National Forest. The Chetco's main tributary, the North Fork of the Chetco, drains 40 square miles and is 14 miles long. Approximately 140 acres, the Chetco River estuary is one of the smallest on the Oregon Coast. Rainfall in the basin varies from 80 inches annually at the mouth to about 120 inches annually in the Siskiyou Mountains, the headwaters of the Chetco River. Average annual water yield at the mouth is 1,230,000 acre-feet.

The Port of Brookings has developed two large boat basins, one for commercial fishing boats and the other for sport boats, and a public boat launching ramp. There are four fish receiving docks and a sea-going barge dock for lumber loading and storage.

Basin banks are stable and of clay/silt atop fine to coarse sands. There are no grasses or other vegetation within the project areas. Banks cuts are not designed into the projects. The sediment, whether loose or in-situ, is primarily a sand/silt/clay material, found by engineering lab analyses to be of 0.20/0.74/0.6.0 fraction, respectively, with about 2.7 SG..

Fish and wildlife of concern are described in Block 4 of this application

Hydrology may be described as entirely tidal, marine, without floodway, marshes, wetlands, except on embankments, which are not to be removed or disturbed by operations during either of these projects.

*Describe the existing navigation, fishing and recreational use of the waterway or wetland.**

For Projects A and B: Used exclusively for recreational boat, sports and commercial fishing, and for US Coast Guard operations.

Site Restoration/Rehabilitation

- *For temporary disturbance of soils and/or vegetation in waterways, wetlands or riparian areas, please discuss how you will restore the site after construction including any monitoring, if necessary**

For Projects A & B: Loose sediments will be delivered to the EPA Chetco Disposal site. New exposed surface material will tend to be more compacted, cemented and/or stablized.

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Mitigation

*Describe the reasonably expected adverse effects of the development of this project and how the effects will be mitigated.**

- *For permanent impact to wetlands, complete and attach a Compensatory Wetland Mitigation (CWM) Plan. (See OAR 141-085-0705 for plan requirements)**
- *For permanent impact to waters other than wetlands, complete and attach a Compensatory Mitigation (CM) plan (See OAR 141-085-0765 for plan requirements)**
- *For permanent impact to estuarine wetlands, you must submit a CWM plan.**

For Projects A and B: Not applicable

Mitigation Location Information (Fill out only when mitigation is proposed or required)

Proposed mitigation (Check all that apply):

- ☐ *Onsite Mitigation*
- ☐ *Offsite Mitigation*
- ☐ *Mitigation Bank*
- ☐ *Payment to Provide*

Type of mitigation:

- ☐ *Wetland Mitigation*
- ☐ *Mitigation for impacts to other waters*
- ☐ *Mitigation for impacts to navigation, fishing, or recreation*

Street, Road or Other Descriptive Location	*Legal Description (attach tax lot map*)*			
	Quarter/Quarter	*Section*	*Township*	*Range*

In or near (City or Town)	*County*	*Tax Map #*	*Tax Lot #*[3]
Wetland/Waterway (pick one)	*River Mile (if known)*	*Latitude (in DD.DDDD format)*	*Longitude (in DD.DDDD format)*
Name of waterway/watershed/HUC		*Name of mitigation bank (if applicable)*	

(6) ADDITIONAL INFORMATION

Adjoining Property Owners and Their Addresses and Phone Numbers (if more than 5, attach printed labels.)

[3] Attach a copy of all tax maps with the project area highlighted.

- ***Italicized areas are not required by the Corps for a complete application, but may be necessary prior to final permit decision by the Corps.***

Has the proposed activity or any related activity received the attention of the Corps of Engineers or the Department of State Lands in the past, e.g. wetland delineation, violation, permit, lease request, etc.?

Yes ☒ No ☐

If yes, what identification number(s) were assigned by the respective agencies:

Corps #	NWP-1999-381/2	State of Oregon #	

Has a wetland delineation been completed for this site? *Yes* ☐ *No* ☒

*If yes by whom?**	*Banks are stable, very vertical no routine flooding onto upland areas to create marine wetlands occurs.*

Has the wetland delineation been approved by DSL or the COE? *Yes* ☐ *No* ☒

If yes, attach a concurrence letter. *

* *Italicized areas are not required by the Corps for a complete application, but may be necessary prior to final permit decision by the Corps.*

(7) CITY/COUNTY PLANNING DEPARTMENT AFFIDAVIT
*(TO BE COMPLETED BY LOCAL PLANNING OFFICIAL) **

I have reviewed the project outlined in this application and have determined that:

- ☐ This project is not regulated by the comprehensive plan and land use regulations.
- ☒ This project is consistent with the comprehensive plan and land use regulations. (see CCZO Section 3.221 (3))
- ☐ This project will be consistent with the comprehensive plan and land use regulations when the following local approval(s) are obtained.
- ☐ Conditional Use Approval
- ☐ Development Permit
- ☐ Other

This project is not consistent with the comprehensive plan. Consistency requires a

- ☐ Plan Amendment
- ☐ Zone Change
- ☐ Other

An application has ☐ has not ☐ been filed for local approvals checked above.

Local planning official name (print)	Signature	Title	City / County	Date
David J. Pratt	[redacted]	Planning Director	Curry County	11/10/2011

Comments:

(8) *COASTAL ZONE CERTIFICATION* *

If the proposed activity described in your permit application is within the Oregon coastal zone, the following certification is required before your application can be processed. A public notice will be issued with the certification statement, which will be forwarded to the Oregon Department of Land Conservation and Development for its concurrence or objection. For additional information on the Oregon Coastal Zone Management Program, contact the department at 635 Capitol Street NE, Suite 150, Salem, Oregon 97301 or call 503-373-0050.

CERTIFICATION STATEMENT

I certify that, to the best of my knowledge and belief, the proposed activity described in this application complies with the approved Oregon Coastal Zone Management Program and will be completed in a manner consistent with the program

Print /Type Name	Title
Applicant Signature	Date

* *Italicized areas are not required by the Corps for a complete application, but may be necessary prior to final permit decision by the Corps.*

(7) CITY/COUNTY PLANNING DEPARTMENT AFFIDAVIT
*(TO BE COMPLETED BY LOCAL PLANNING OFFICIAL) **

I have reviewed the project outlined in this application and have determined that:

- ☐ This project is not regulated by the comprehensive plan and land use regulations.
- ☐ This project is consistent with the comprehensive plan and land use regulations.
- ☐ This project will be consistent with the comprehensive plan and land use regulations when the following local approval(s) are obtained.
- ☐ Conditional Use Approval
- ☐ Development Permit
- ☐ Other

This project is not consistent with the comprehensive plan. Consistency requires a

- ☐ Plan Amendment
- ☐ Zone Change
- ☐ Other

An application has ☐ has not ☐ been filed for local approvals checked above.

Local planning official name (print)	Signature	Title	City / County	Date

Comments:

(8) *COASTAL ZONE CERTIFICATION **

If the proposed activity described in your permit application is within the Oregon coastal zone, the following certification is required before your application can be processed. A public notice will be issued with the certification statement, which will be forwarded to the Oregon Department of Land Conservation and Development for its concurrence or objection. For additional information on the Oregon Coastal Zone Management Program, contact the department at 635 Capitol Street NE, Suite 150, Salem, Oregon 97301 or call 503-373-0050.

CERTIFICATION STATEMENT

I certify that, to the best of my knowledge and belief, the proposed activity described in this application complies with the approved Oregon Coastal Zone Management Program and will be completed in a manner consistent with the program.

Print /Type Name	Title
Ted Fitzgerald	Port Director
Applicant Signature	Date
[redacted]	11/15/11

* *Italicized areas are not required by the Corps for a complete application, but may be necessary prior to final permit decision by the Corps.*

v. 07-07-09

(9) SIGNATURES FOR JOINT APPLICATION

Application is hereby made for the activities described herein. I certify that I am familiar with the information contained in the application, and, to the best of my knowledge and belief, this information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities. By signing this application I consent to allow Corps or Dept. of State Lands staff to enter into the above-described property to inspect the project location and to determine compliance with an authorization, if granted. I hereby authorize the person identified in the authorized agent block below to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

I understand that the granting of other permits by local, county, state or federal agencies does not release me from the requirement of obtaining the permits requested before commencing the project. *I understand that payment of the required state processing fee does not guarantee permit issuance. The fee for the state application must accompany the application for completeness.*

Amount enclosed	*$*

Print /Type Name	Title	Print /Type Name	Title
Ted Fitzgerald	Executive Director		
Applicant Signature	Date	**Authorized Agent Signature**	Date
[redacted]	10/14/11		

Landowner signatures: *For projects and /or mitigation work proposed on land not owned by the applicant, including state-owned submerged and submersible lands, please provide signatures below. A signature by the Department of State Lands for activities proposed on state-owned submerged/submersible lands only grants the applicant consent to apply for authorization to conduct removal/fill activities on such lands. This signature for activities on state-owned submerged and submersible lands grants no other authority, express or implied.*

Print /Type Name	Title	Print /Type Name	Title
Property Owner Signature	Date	***Mitigation Property Owner Signature***	Date

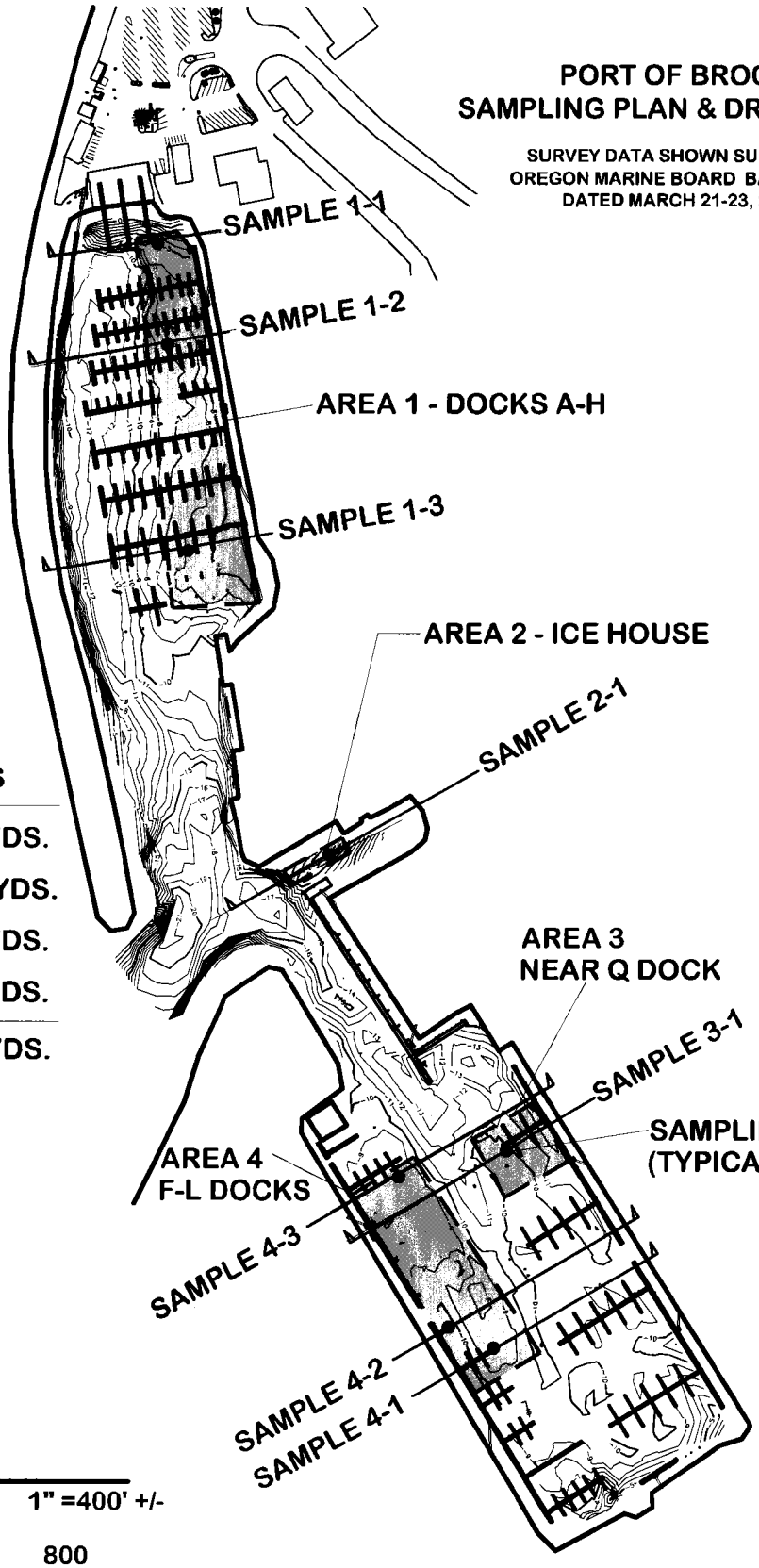
- ***Italicized areas are not required by the Corps for a complete application, but may be necessary prior to final permit decision by the Corps.***

PROJECT A

DRAWINGS

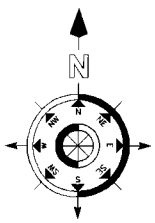
PORT OF BROOKINGS
SAMPLING PLAN & DREDGE AREAS

SURVEY DATA SHOWN SUPPLIED BY
OREGON MARINE BOARD BASIN SURVEY
DATED MARCH 21-23, 2011



DREDGE VOLUMES

AREA 1	16,960 CU. YDS.
AREA 2	878 CU. YDS.
AREA 3	1,352 CU. YDS.
AREA 4	8,965 CU. YDS.
TOTAL	28,155 CU. YDS.



KEY PLAN

BROOKINGS HARBOR 1" =400' +/-

0 200 400 800

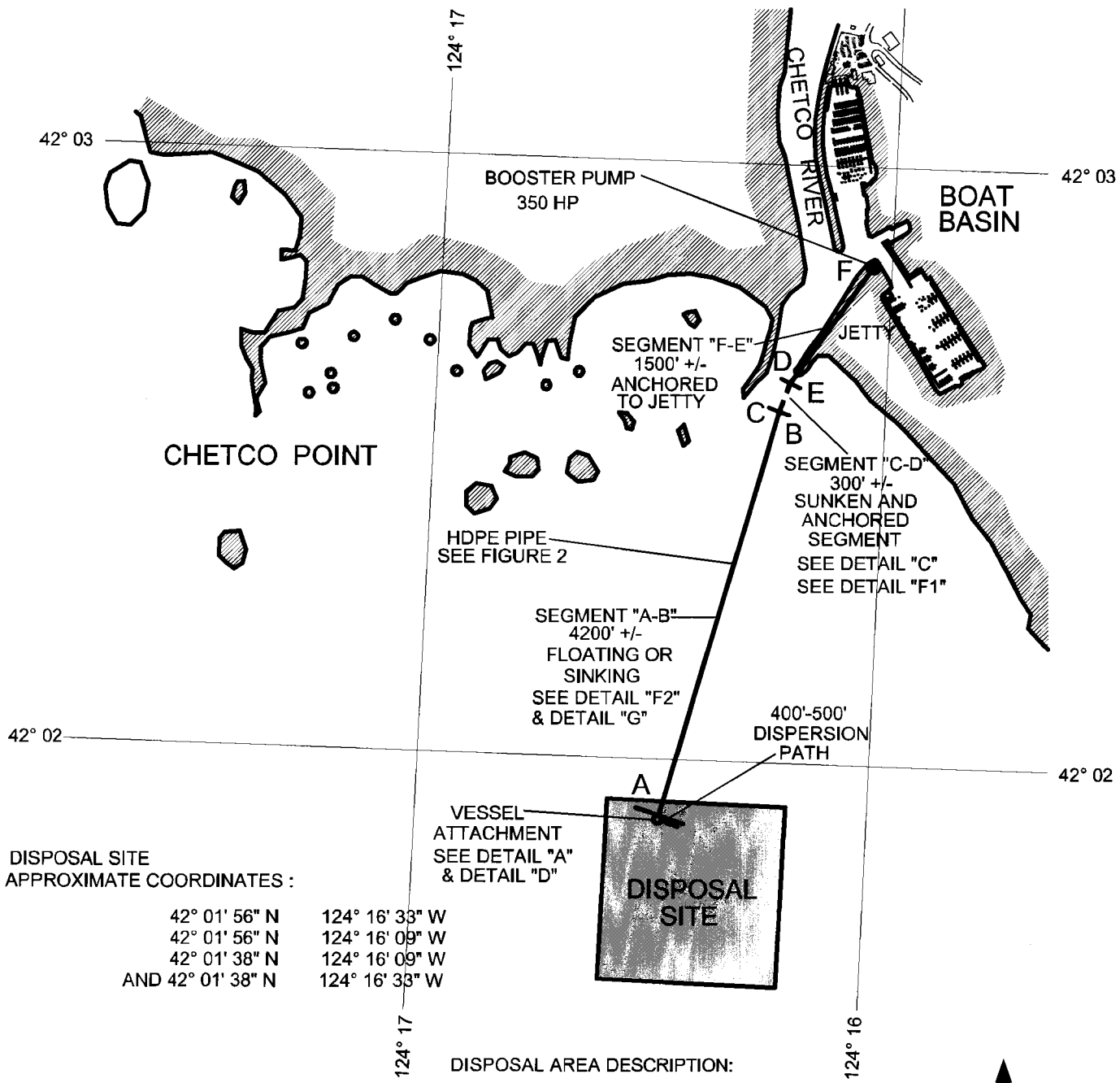
Environmental Management Consultants
724 S. Central Avenue, Suite 106, Medford, OR 97501
Ph: 541-261-9929 Fax 541-899-1700
Engineers Scientists, LLC - a BioSage Technologies Affiliate

5-27-11

SHEET 1 OF 9

FIGURE 1

PORT OF BROOKINGS
DREDGE AREAS
APPROXIMATE DISPOSAL PIPE LOCATION



DISPOSAL SITE
APPROXIMATE COORDINATES :

42° 01' 56" N	124° 16' 33" W
42° 01' 56" N	124° 16' 09" W
42° 01' 38" N	124° 16' 09" W
AND 42° 01' 38" N	124° 16' 33" W

DISPOSAL AREA DESCRIPTION:

THE APPROXIMATE LOCATION OF THIS SITE IS ONE MILE FROM THE CHETCO RIVER ENTRANCE, WITH DIMENSIONS OF 1800 FEET BY 1800 FEET AND AVERAGE DEPTH OF 70 FEET. THE SITE OCCUPIES APPROXIMATELY 74 ACRES (0.08 NAUTICAL MILES).

INFORMATION SOURCE:

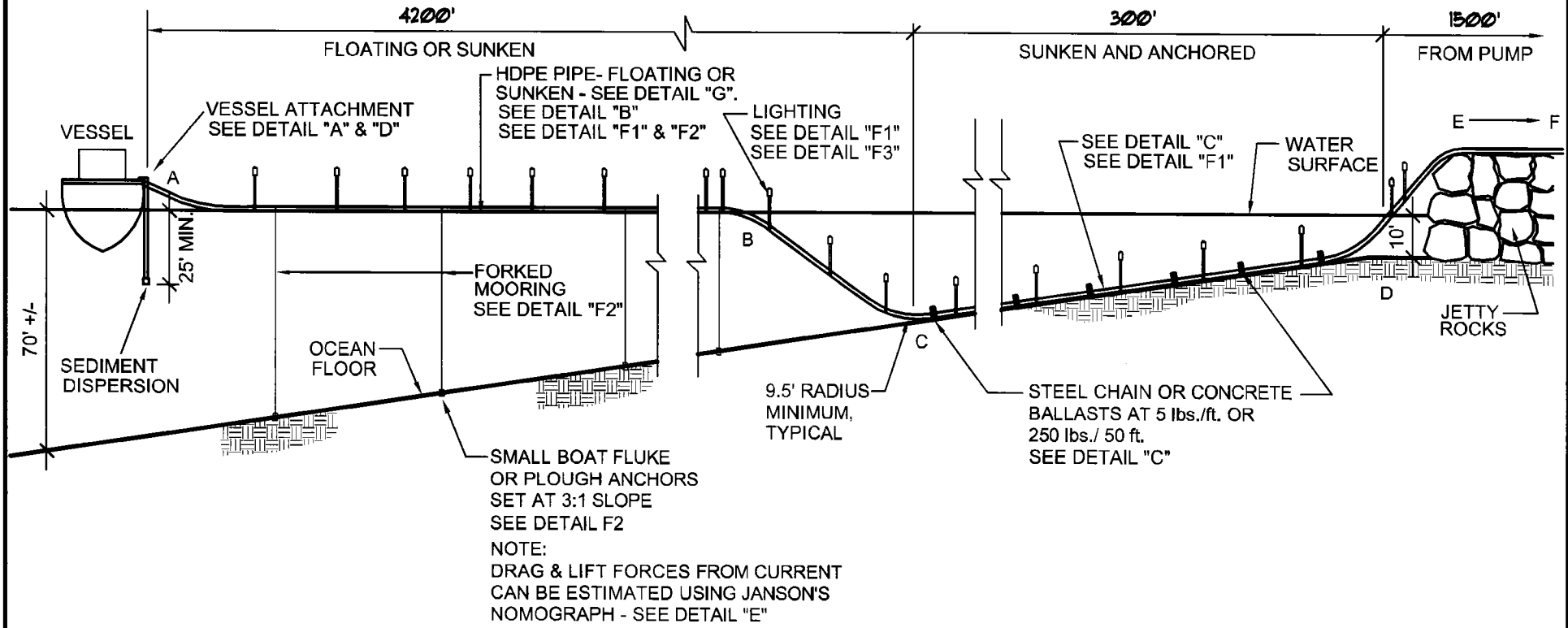
EPA DOCUMENT ENTITLED:
CHECTO, OCEAN DREDGED MATERIAL DISPOSAL
SITE DESIGNATION - DRAFT ENVIRONMENTAL IMPACT STATEMENT
DATED: OCTOBER, 1989

Environmental Management Consultants - Engineers/Scientists, LLC
Ph: 541-261-9929 * Fax 541-727-5488

BROOKINGS HARBOR 1" =1500' +/-
09-25-11

0 750 1500 3000

FIGURE 2



SCHEMATIC PROFILE
DISPOSAL PIPE LOCATION
PORT OF BROOKINGS

BROOKINGS HARBOR
NO SCALE
09-25-11

Environmental Management Consultants - Engineers/Scientists, LLC (a BioScape Technologies Affiliate)
724 S. Central Avenue, Suite 106, Medford, OR 97501
Ph: 541-261-9929 * Fax 541-727-5488

PORT OF BROOKINGS
BASIN FLOOR TOPOGRAPHY STUDY

BOTTOM SURFACE COMPARISON
OMB SURVEY DATA OF MARCH 23, 2011 SHOWN

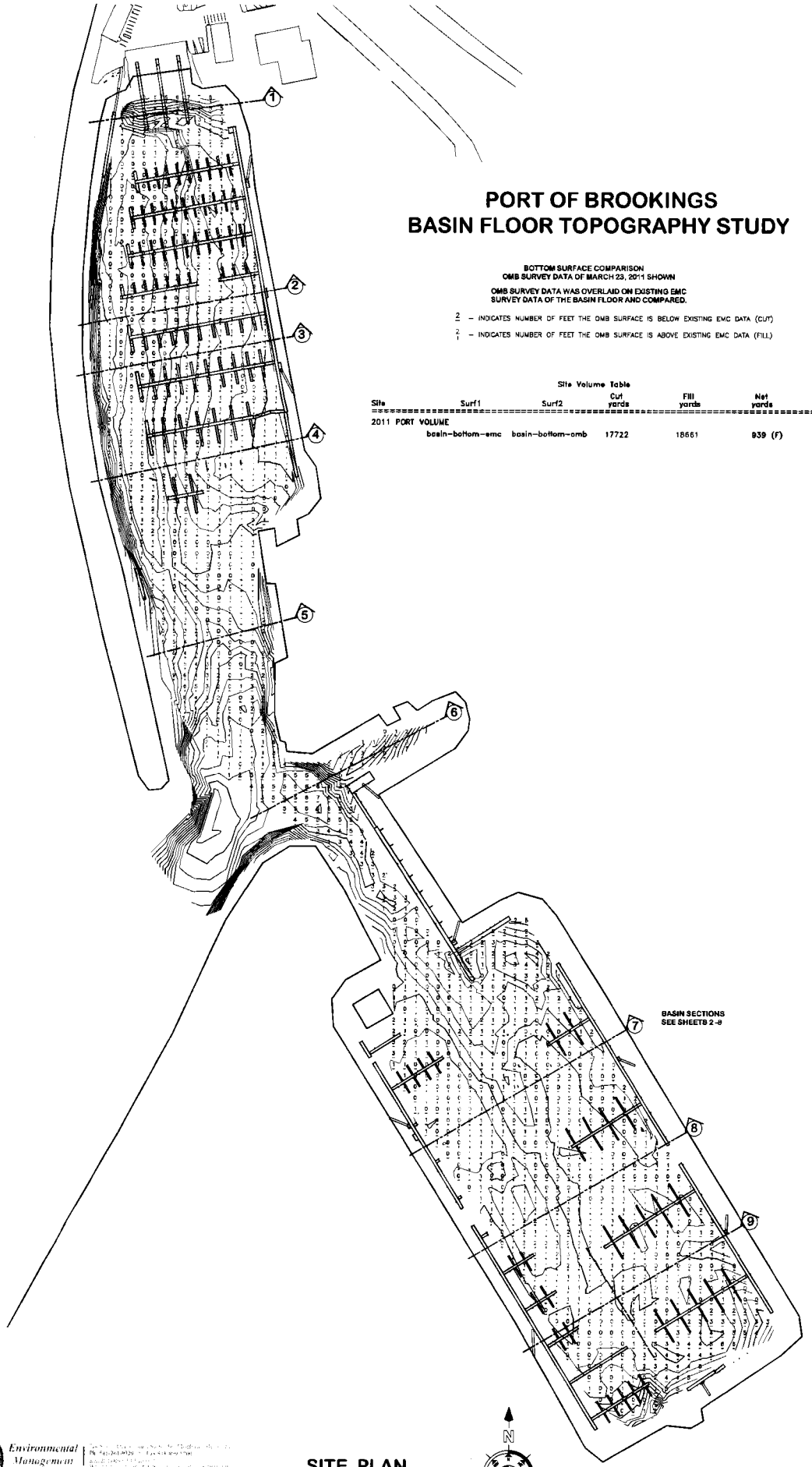
OMB SURVEY DATA WAS OVERLAID ON EXISTING EMC SURVEY DATA OF THE BASIN FLOOR AND COMPARED.

2 – INDICATES NUMBER OF FEET THE OMB SURFACE IS BELOW EXISTING EMC DATA (CUT)

2 – INDICATES NUMBER OF FEET THE OMB SURFACE IS ABOVE EXISTING EMC DATA (FILL)

Site Volume Table

Site	Surf1	Surf2	Cut yards	Fill yards	Net yards	Method
2011 PORT VOLUME						
	basin-bottom-emc	basin-bottom-omb	17722	18661	939 (F)	Grid



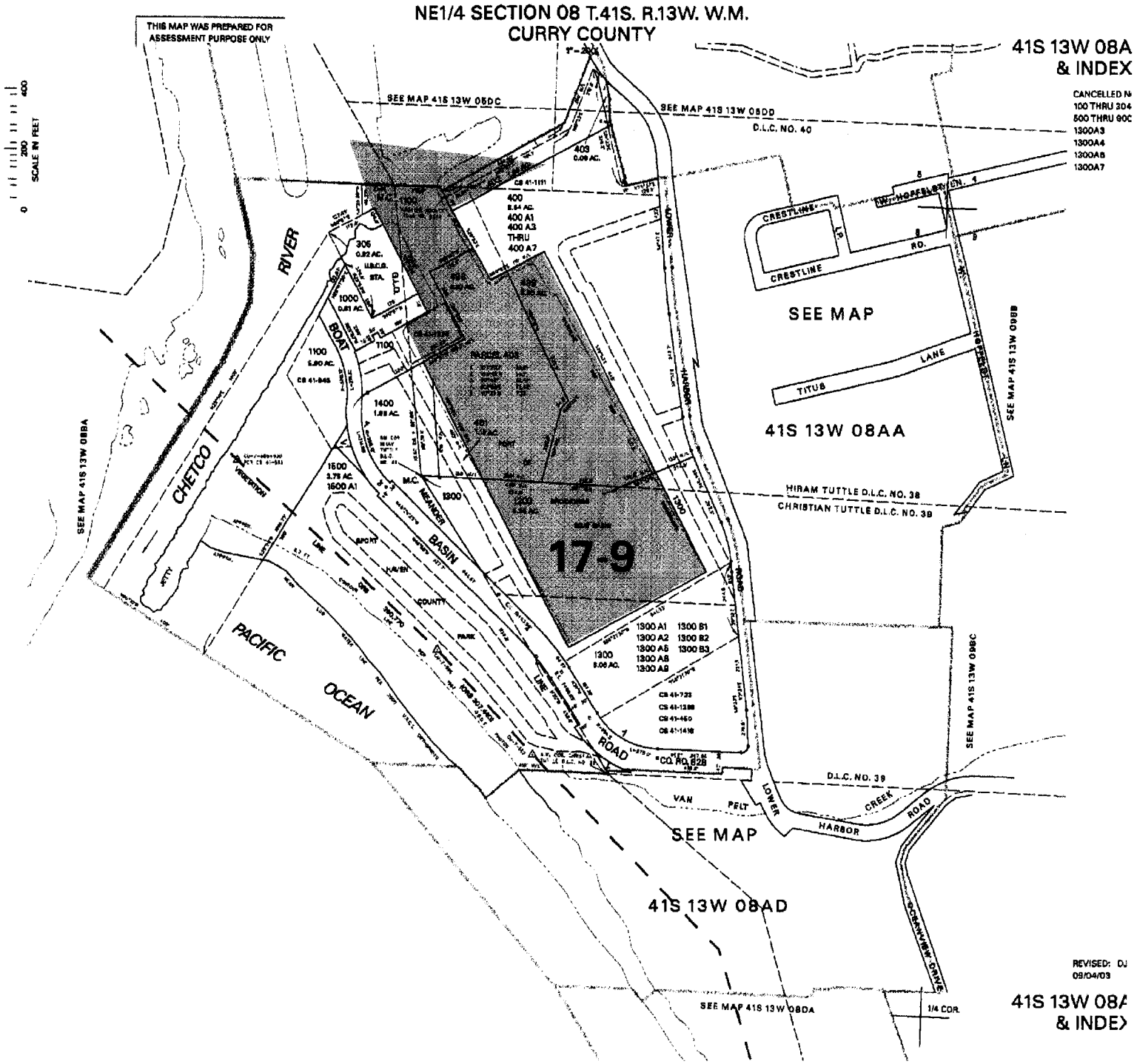
Environmental Management Consultants

SITE PLAN

BROOKINGS HARBOR 1" = 100' +/-

4-06-11

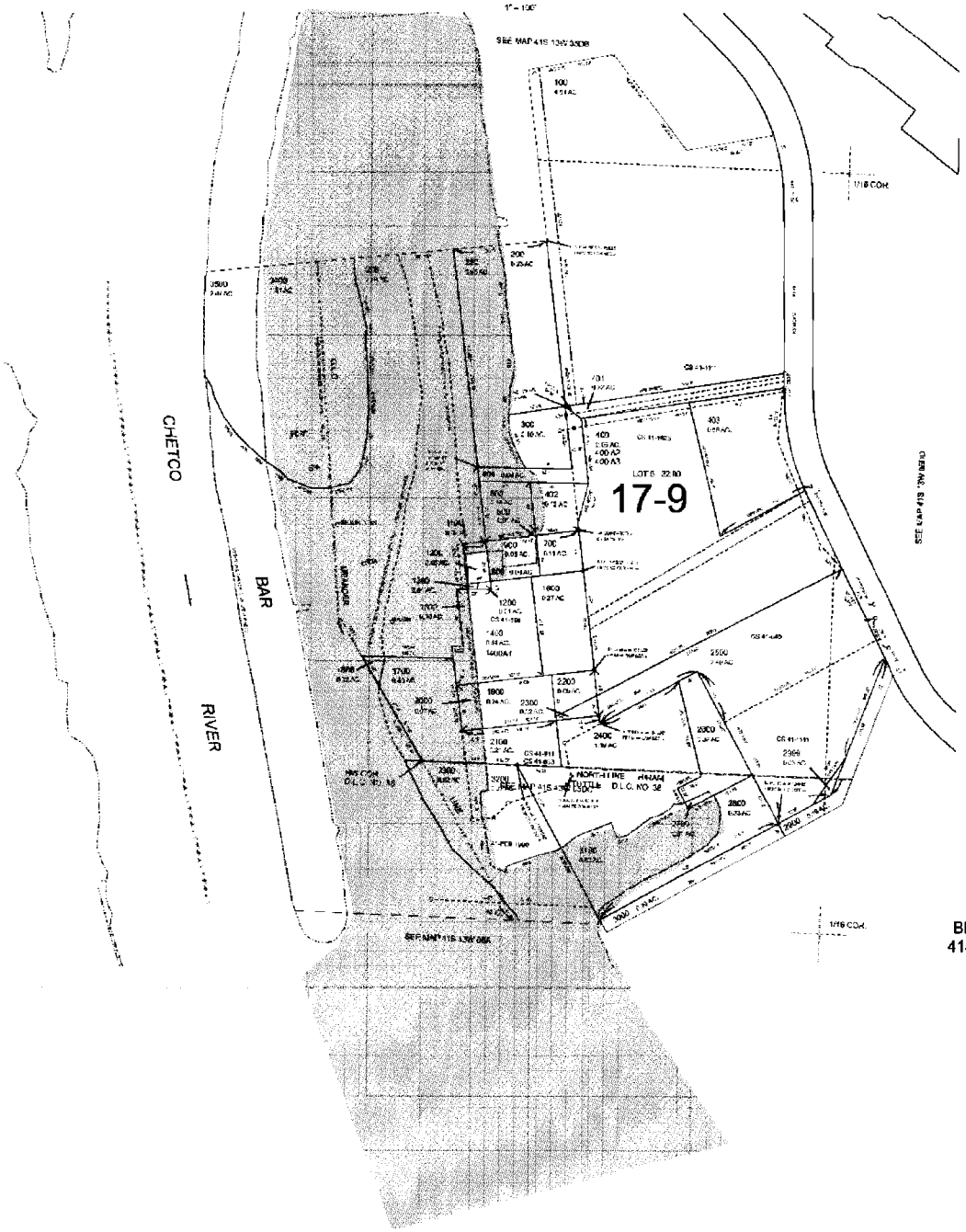
SHEET 1 OF 10


NE1/4 SECTION 08 T.41S. R.13W. W.M.
CURRY COUNTY
THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSE ONLY
SCALE IN FEET
0 200 400
41S 13W 08A
& INDEX
CANCELLED N
100 THRU 304
500 THRU 900
1300A3
1300A4
1300A6
1300A7
SEE MAP 41S 13W 05DC
SEE MAP 41S 13W 05DD
D.L.C. NO. 40
403
0.09 AC.
400
8.64 AC.
400 A1
400 A3
THRU
400 A7
306
0.92 AC.
U.S.C.G. STA.
1000
0.81 AC.
1100
5.90 AC.
1400
1.88 AC.
1500
3.75 AC.
1500 A1
1300
17-9
1300 A1
1300 A2
1300 A5
1300 A8
1300 A9
1300 B1
1300 B2
1300 B3
1300
8.06 AC.
CS 41-723
CS 41-1388
CS 41-450
CS 41-1418
CRESTLINE
CRESTLINE
RD.
TITUS
LANE
SEE MAP
41S 13W 08AA
HIRAM TUTTLE D.L.C. NO. 38
CHRISTIAN TUTTLE D.L.C. NO. 39
SEE MAP 41S 13W 09BB
SEE MAP 41S 13W 09BC
SEE MAP 41S 13W 08BA
CHETCO
RIVER
BOAT
BASIN
MEANDER
LINE
COUNTY
PARK
SPORT
HAVEN
JETTY
VEGETATION
PACIFIC
OCEAN
ROAD
CO. RD. 82B
D.L.C. NO. 39
VAN
PELT
LOWER
HARBOR
CREEK
ROAD
SEE MAP
41S 13W 08AD
OCEANVIEW DRIVE
SEE MAP 41S 13W 08DA
1/4 COR.
REVISED: DJ
09/04/03
41S 13W 08A
& INDEX

THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSE ONLY

S.W.1/4 S.E.1/4 SEC.5 T.41S. R.13W. W.M.
CURRY COUNTY

41S13W05DC
BROOKINGS

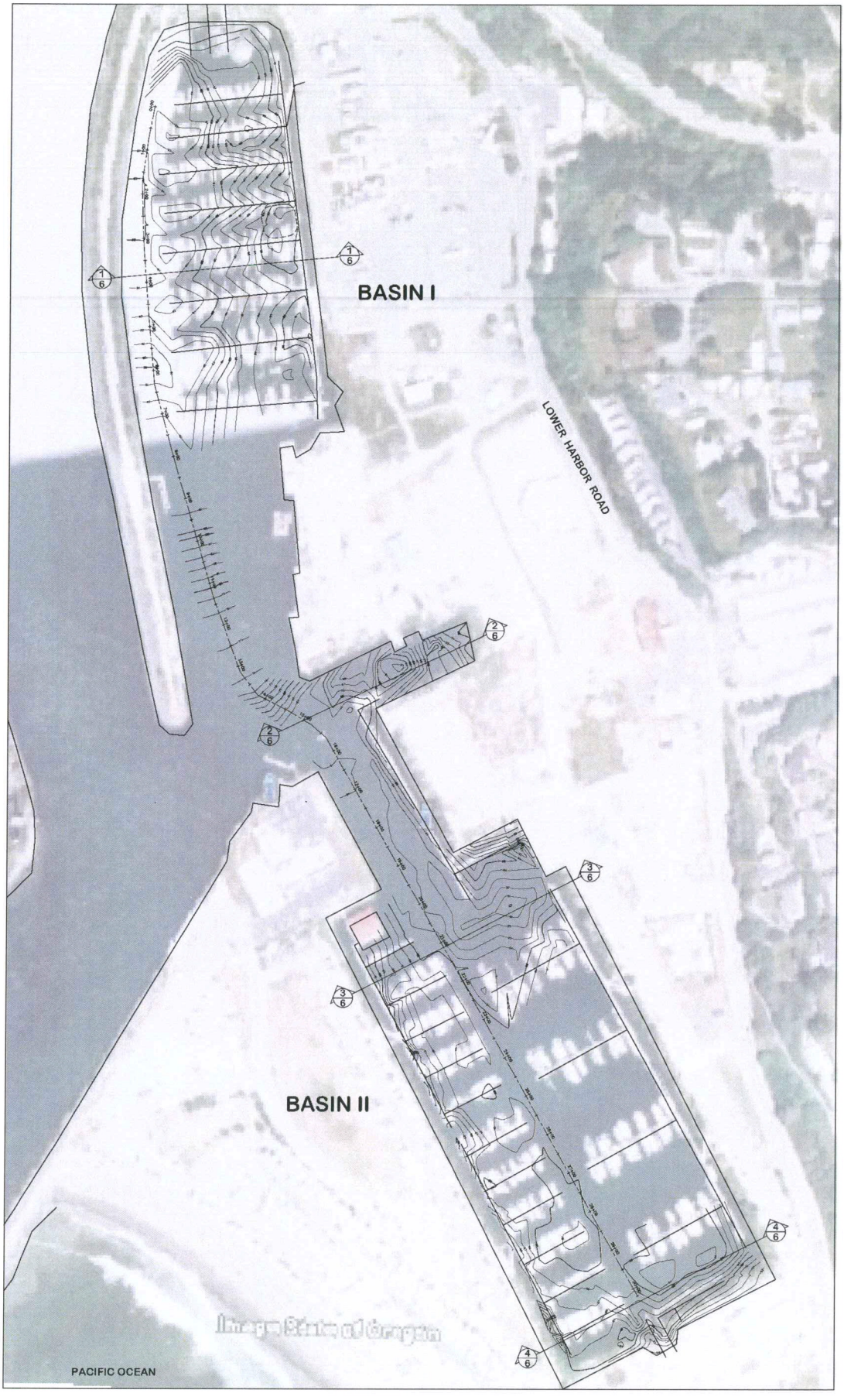


Revised: HAA
10/5/2009

BROOKINGS
41S13W05DC

PROJECT B

DRAWINGS



BioScape TECHNOLOGIES

BASIN BOTTOM TOPO MAP

BROOKINGS HARBOR

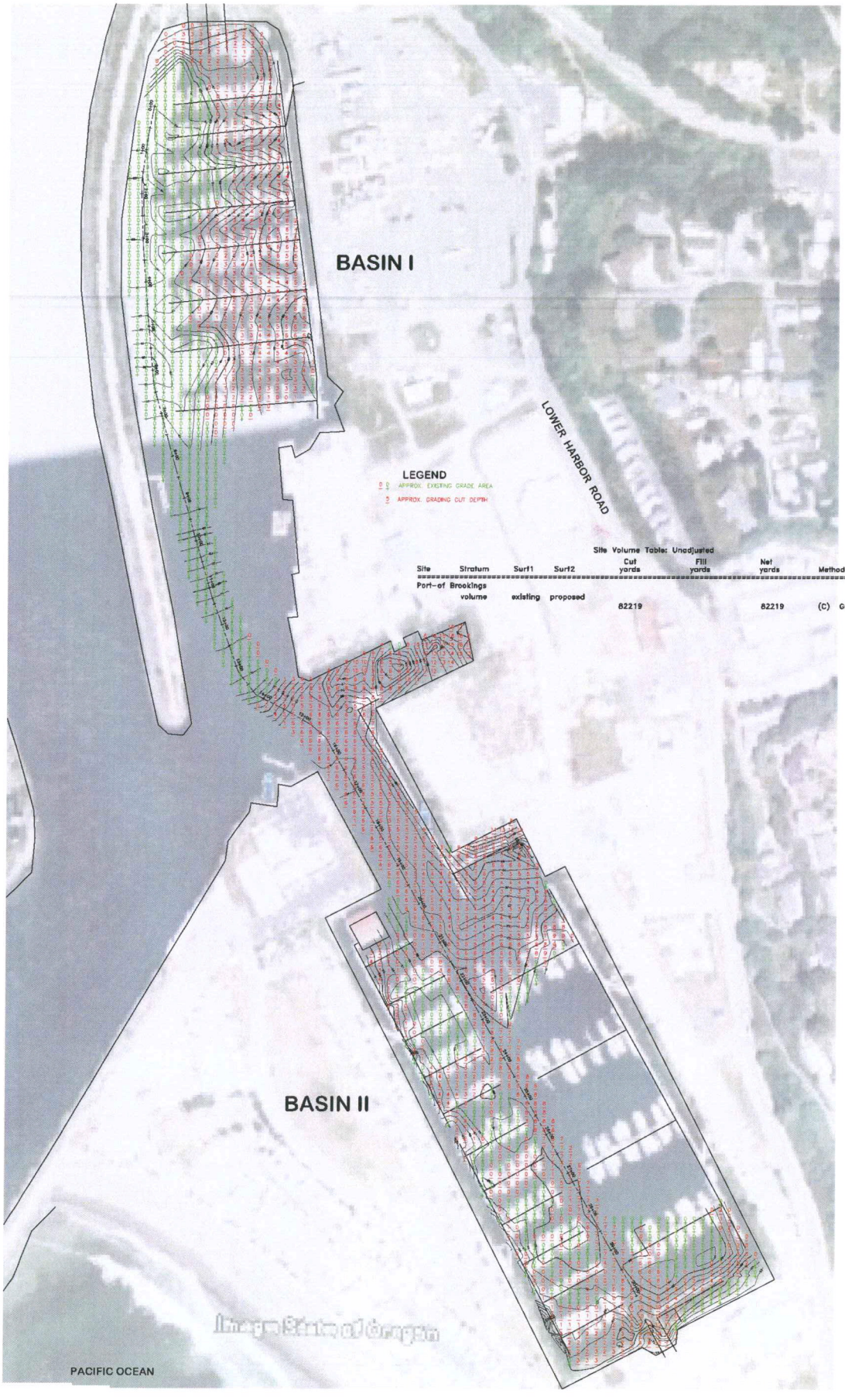
1" = 100' +/-

NOTES:

1. DATUM LEVEL = 5.0' TIDE LEVEL (100.0' ASSUMED)
2. EXISTING CONTOURS SHOWN AT 1' INTERVALS
3. THESE DEPTHS AND CONTOURS ARE LIMITED IN ACCURACY TO THE MEASURING TECHNIQUE UTILIZED, AND ARE MEANT TO GENERATE APPROXIMATE VOLUMES FOR SEDIMENT DREDGING. MORE ACCURATE DEPTHS AND CONTOURS ARE TO BE GENERATED AFTER DREDGING.

7-30-09

SHEET 5 OF 9



Site Volume Table: Unadjusted

Site	Stratum	Surf1	Surf2	Cut yards	Fill yards	Net yards	Method
Port-of Brookings							
	volume	existing	proposed	82219		82219	(C) Grid

NOTES:

1. DATUM LEVEL = 5.0' TIDE LEVEL (100.0' ASSUMED)
2. DREDGE DEPTHS SHOWN ARE BASED UPON 0.0' TIDE LEVEL + DRAFT DEPTH REQUIRED.
3. EXISTING CONTOURS SHOWN AT 1' INTERVALS
4. THESE DEPTHS AND CONTOURS ARE LIMITED IN ACCURACY TO THE MEASURING TECHNIQUE UTILIZED, AND ARE MEANT TO GENERATE APPROXIMATE VOLUMES FOR SEDIMENT DREDGING. MORE ACCURATE DEPTHS AND CONTOURS ARE TO BE GENERATED AFTER DREDGING.

BioScape TECHNOLOGIES

724 S. Central Avenue, Suite 404
Medford, OR 97501
Ph: 541-261-9926
Fax: 541-899-1706

DREDGE DEPTH MAP

0.0' TIDE LEVEL

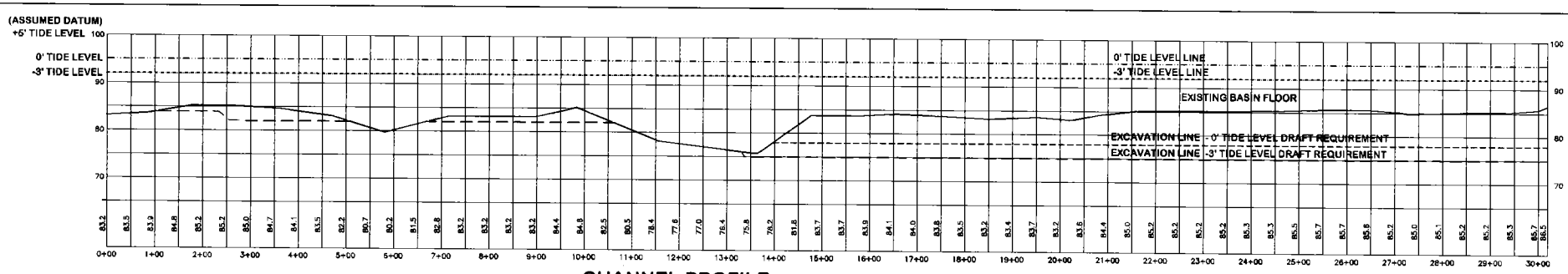
BROOKINGS HARBOR

1" = 100' +/-

N

7-30-09

SHEET 7 OF 9



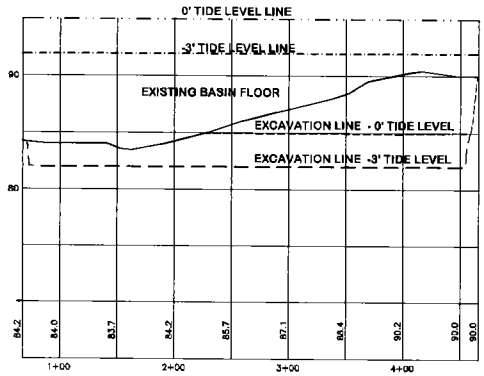
CHANNEL PROFILE

CENTER OF CHANNEL - AREA K PROFILE

HORIZ. SCALE 1" = 100'
VERT. SCALE 1" = 10'

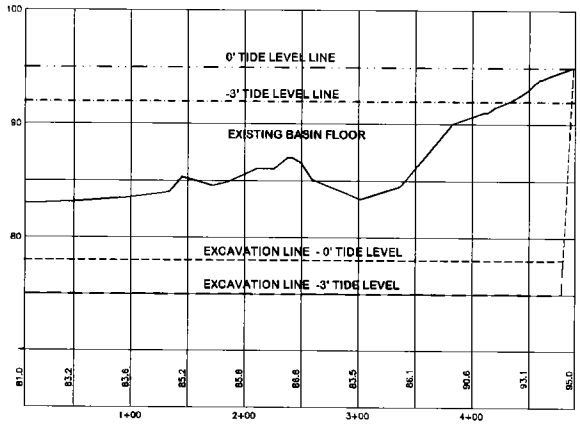
NOTES:

1. DATUM LEVEL = 5.0' TIDE LEVEL (100.0' ASSUMED)
2. THESE DEPTHS AND CONTOURS ARE LIMITED IN ACCURACY TO THE MEASURING TECHNIQUE UTILIZED, AND ARE MEANT TO GENERATE APPROXIMATE VOLUMES FOR SEDIMENT DREDGING. MORE ACCURATE DEPTHS AND CONTOURS ARE TO BE GENERATED AFTER DREDGING.



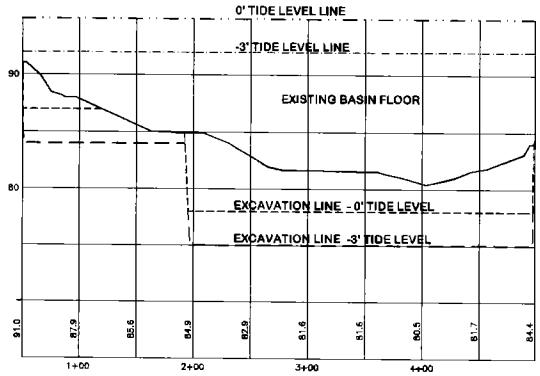
CROSS SECTION 1

HORIZ. SCALE 1" = 50'
VERT. SCALE 1" = 5'



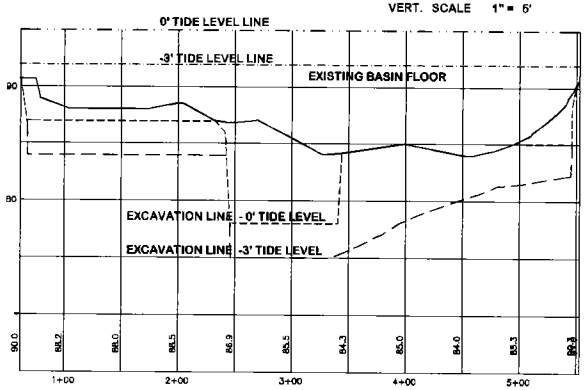
CROSS SECTION 2

HORIZ. SCALE 1" = 50'
VERT. SCALE 1" = 5'



CROSS SECTION 3

HORIZ. SCALE 1" = 50'
VERT. SCALE 1" = 5'

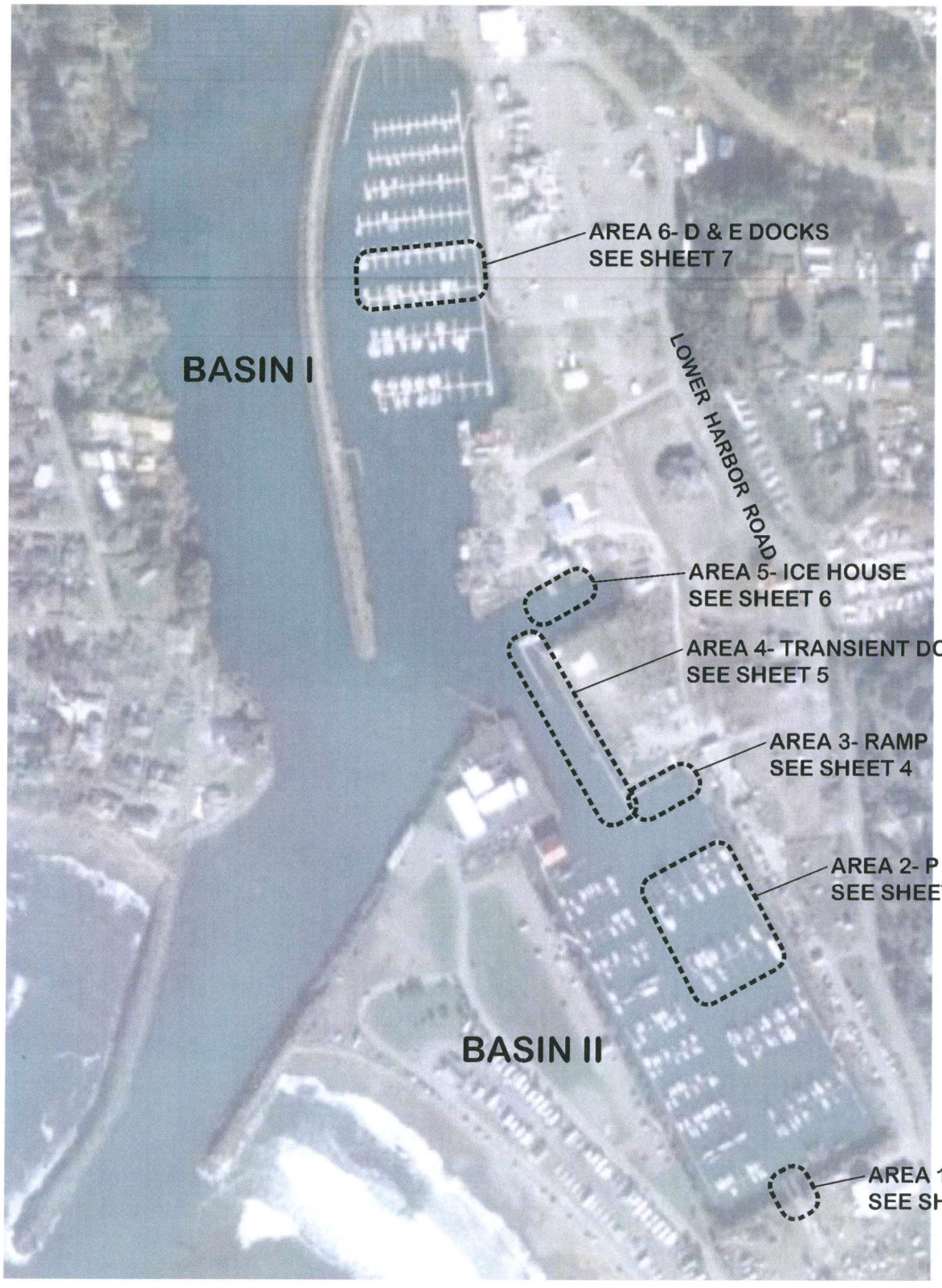


CROSS SECTION 4

HORIZ. SCALE 1" = 50'
VERT. SCALE 1" = 5'

BioScape TECHNOLOGIES

7-30-09



KEY PLAN

BROOKINGS HARBOR 1" = 400' +/-

0 400 800

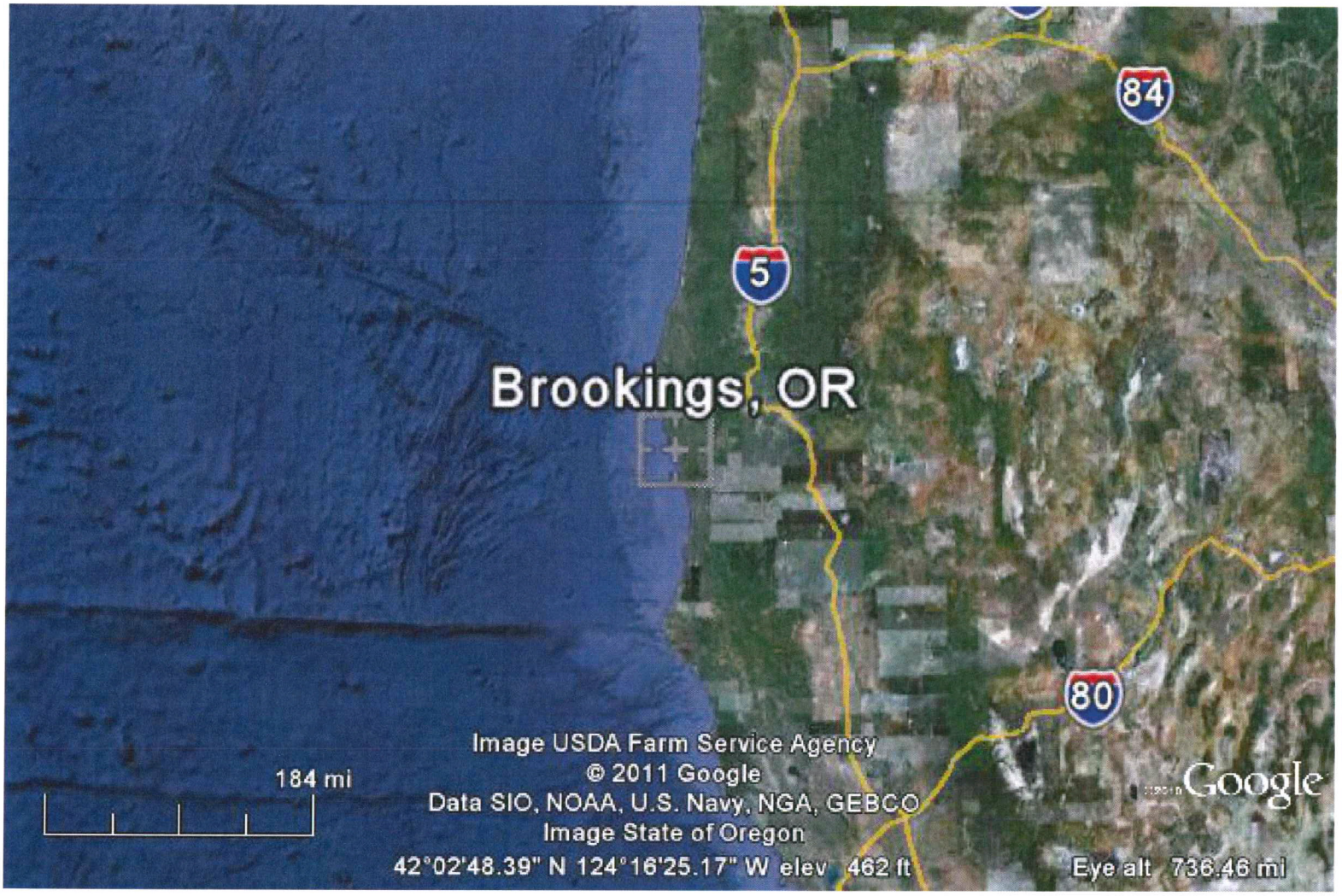
N

Environmental Management Consultants - Engineers/Scientists, LLC (a BioScape Technologies Affiliate)
724 S. Central Avenue, Suite 106, Medford, OR 97501
Ph: 541-261-9929 * Fax 541-899-1700
info@bioscapetechnologies.com
http://www.bioscapetechnologies.com/wastewater_treatment.html

PORT OF BROOKINGS PROPOSED DREDGING PLAN

04-14-10
SHEET 1 OF 17

VICINITY MAP



VICINITY MAP – Main HWY Access

Showing Port of Brookings Harbor and Surrounding Area

Environmental Management Consultants

724 S. Central Avenue, Ste 106,
Medford, OR 97501
Ph: 541-261-9929 Fax: 541-727-5488

- Engineers/Scientists, LLC

Scale: See LLHC of Aerial

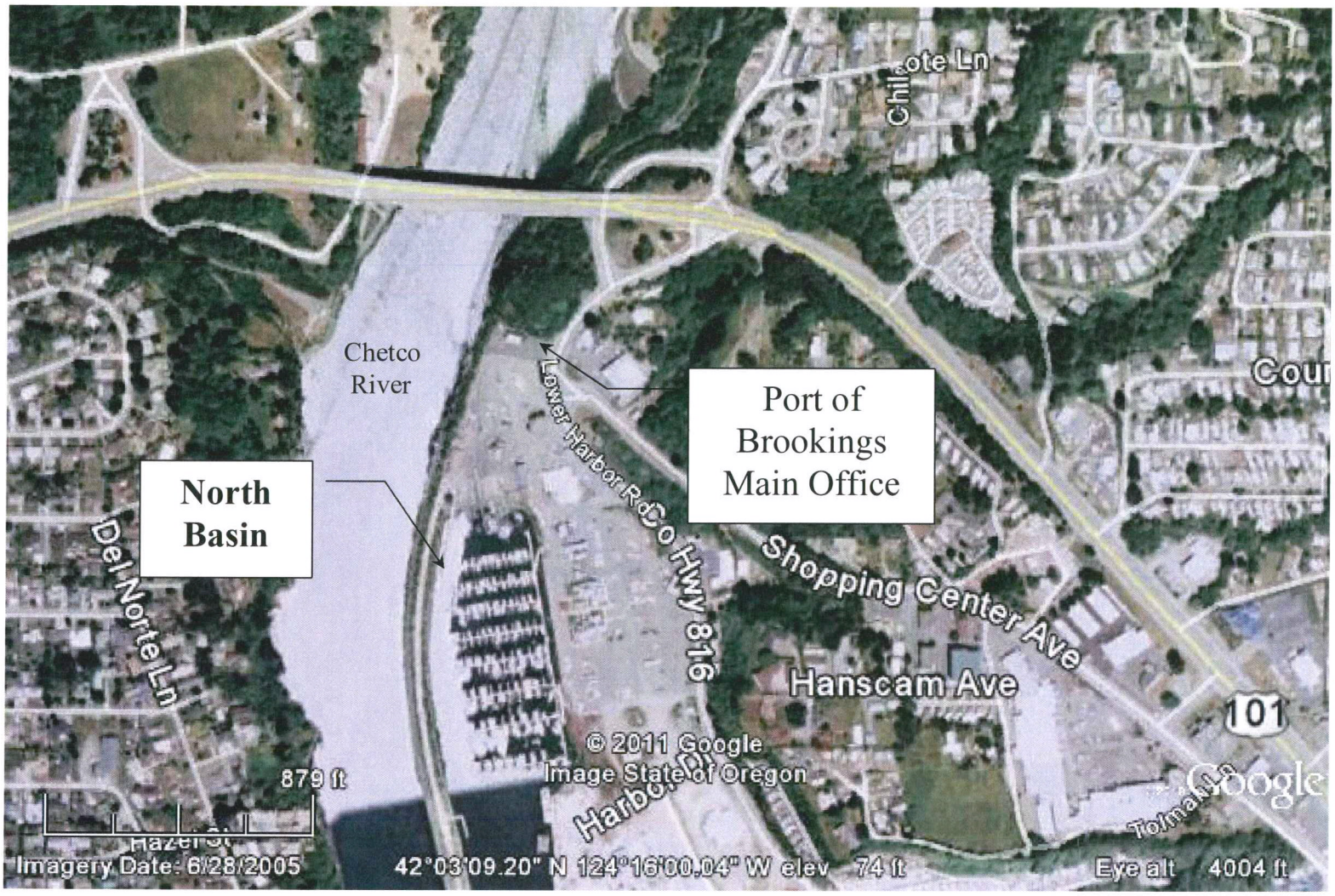
Date: October 12, 2011

Prepared by: JAA

Source: Base provided by on-Site measurements and Google maps

E:\emc\datacmc\POB\Basins Dredge\FEMA Budget\Regulations & Guidances Correspondences\Gloria Kiryuta\Vicinity Map\HWY Vicinity Map.com

N



VICINITY MAP – to Port Office

Showing Port of Brookings Harbor and Surrounding Area

Environmental Management Consultants - Engineers/Scientists, LLC

724 S. Central Avenue, Ste 106,
Medford, OR 97501
Ph: 541-261-9929 Fax: 541-727-5488

Scale: See LLHC of Aerial

Date: October 12, 2011

Prepared by: JAA

Source: Base provided by on-Site measurements and Google maps

E:\emc\dataemc\POB\Basins Dredge\FEMA Budget\Regulations & Guidances \Correspondences\Gloria Kiryuta\Vicinity Map\Vicinity Map.com

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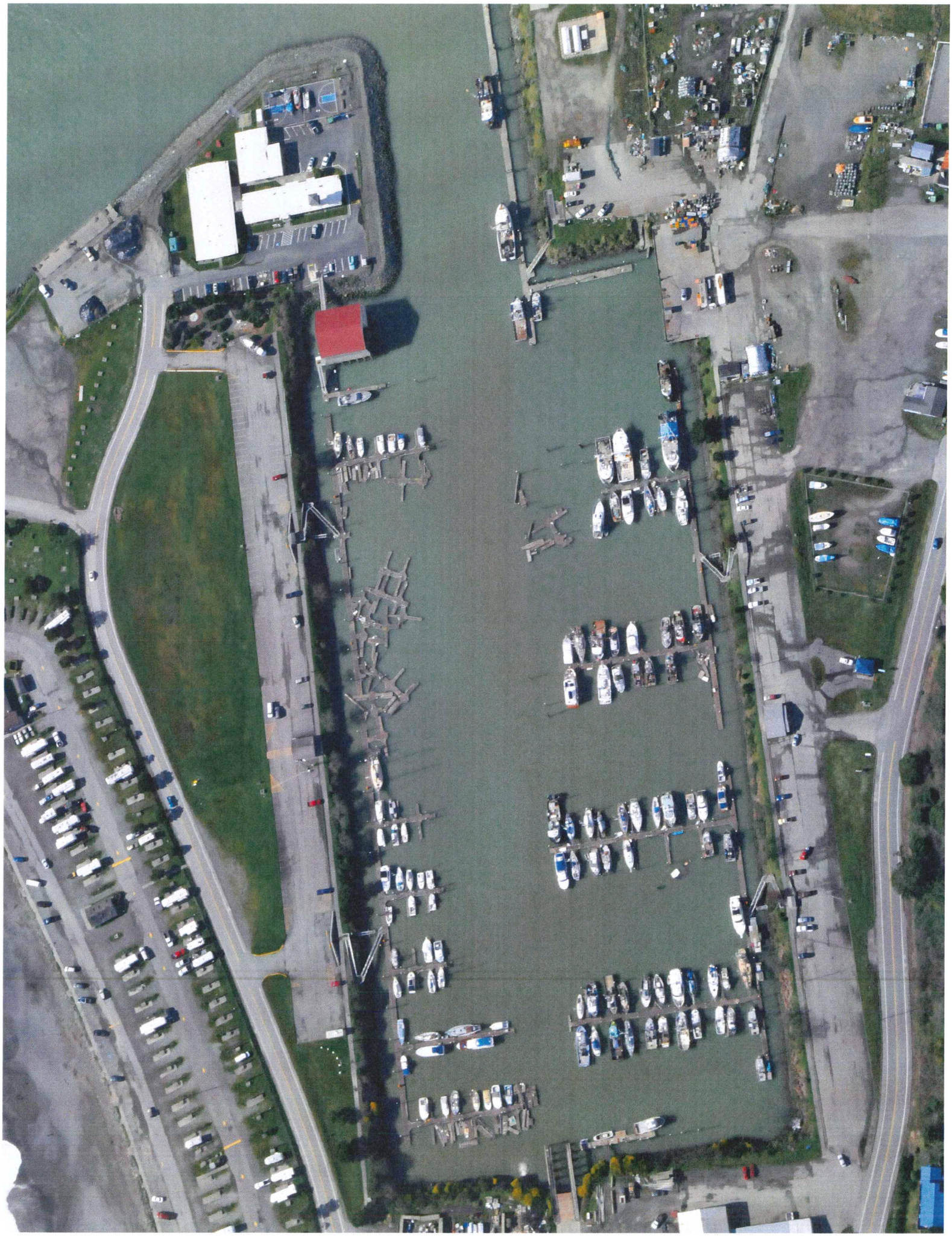

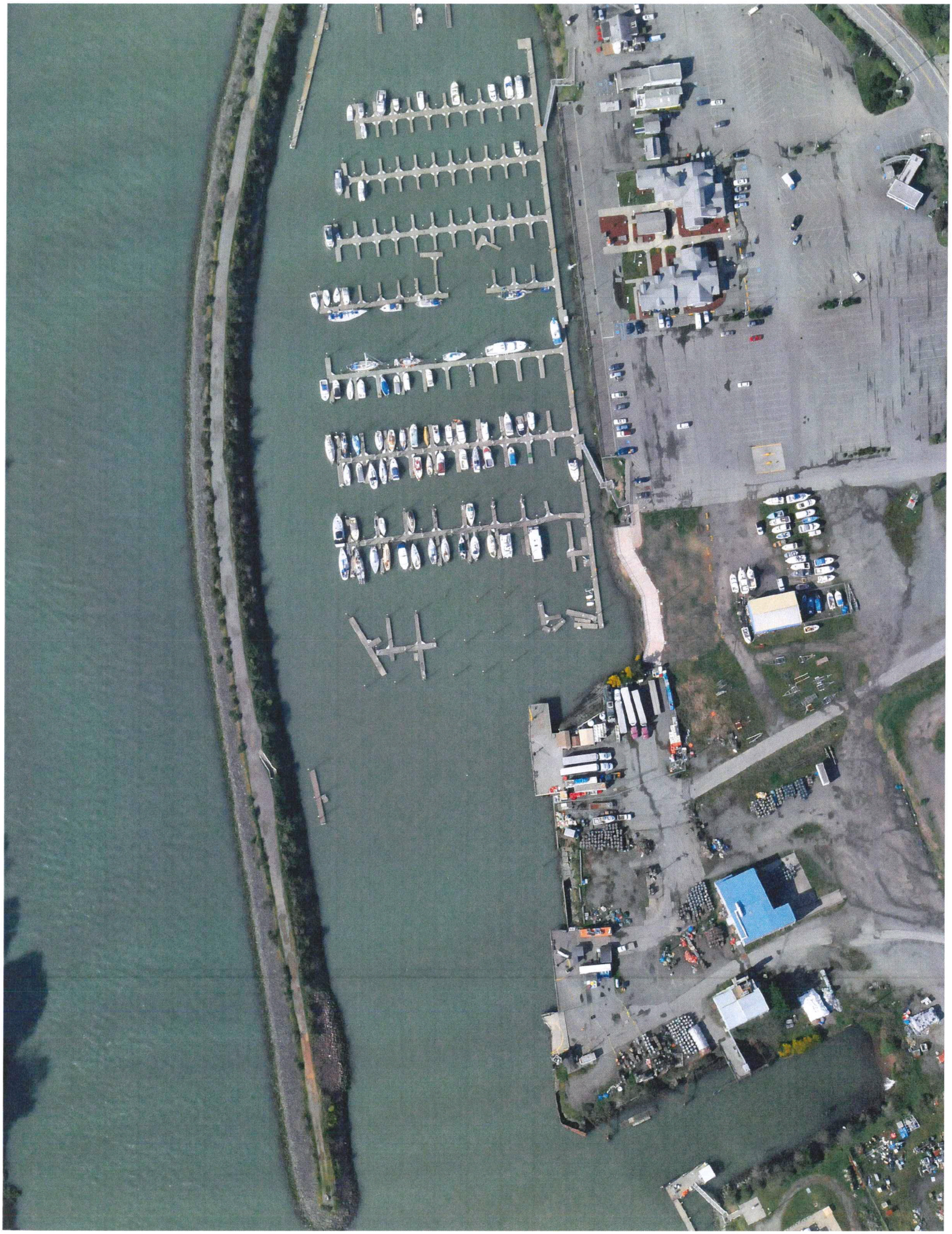

David Pratt

From: Jack Akin, MS, PE, EMC-Engineers/Scientists, LLC [emc@emcengineersscientists.com]
Sent: Tuesday, November 01, 2011 2:35 PM
To: David Pratt
Cc: KIRYUTA Gloria
Subject: JPA
Attachments: 10-10-11 ODSL JPA-2.pdf

Dear Mr. Pratt

Please see the attached JPA. County review and sign-off are required by ODSL (see page 11).

Please call or text or email me if you need any information or clarification.

Thanks for your assistance.

Jack Akin, MS, PE
EMC-Engineers/Scientists, LLC

Ph: 541-261-9929
Fax: 541-727-5488
Email: emc@emcengineersscientists.com
Website: www.emcengineersscientists.com
Mail: 724 S. Central Ave., Suite 106
Medford, OR 97501

CURRY COUNTY DEPARTMENT OF PUBLIC SERVICES

94235 MOORE STREET
PO BOX 746
GOLD BEACH, OREGON 97444

David J. Pratt, AICP
Public Services Director

Phone (541) 247-3304
FAX (541) 247-4579

RECEIVED
NOV 16 2011
DEPARTMENT OF STATE LANDS

FAX TRANSMITTAL

TO: [redacted]

FAX NUMBER: 541 727-5488

PHONE NUMBER

FROM: Nancy Chester

PHONE: 541 247-3284

SUBJECT: LUC

DATE:

PAGES 20 (INCLUDING THIS COVER SHEET)

ORIGINAL TO FOLLOW IN MAIL _____ YES _____ NO

COMMENTS