



US Army Corps
of Engineers
Seattle District



WASHINGTON STATE
DEPARTMENT OF
E C O L O G Y

Joint Public Notice

Application for a Department of the Army Permit and a Washington Department of Ecology Water Quality Certification and/or Coastal Zone Management Consistency Concurrence

US Army Corps of Engineers
Regulatory Branch
Post Office Box 3755
Seattle, WA 98124-3755
Telephone: (206) 764-3450
ATTN: Jason Sweeney,
Project Manager

WA Department of Ecology
SEA Program
Post Office Box 47600
Olympia, WA 98504-7600
Telephone: (360) 407-6076
ATTN: SEA Program,
Federal Permit Coordinator

Public Notice Date: August 2, 2018
Expiration Date: August 31, 2018

Reference No.: NWS-2017-366
**Name: SPSSEG (Shelton Harbor
Restoration)**

Interested parties are hereby notified that the U.S. Army Corps of Engineers (Corps) and the Washington Department of Ecology (Ecology) have received an application to perform work in waters of the U.S. as described below and shown on the enclosed drawings dated January 2018.

The Corps will review the work in accordance with Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Ecology will review the work pursuant to Section 401 of the CWA, with applicable provisions of State water pollution control laws and the Coastal Zone Management Act.

APPLICANT: South Puget Sound Salmon Enhancement Group
Attention: Mr. Brian Combs
6700 Martin Way East, Suite 112
Olympia, Washington 98516
Telephone: (360) 951-4661

AGENT: Squaxin Island Tribe
Attention: Scott Steltzner
200 Southeast Billy Frank Jr. Way
Shelton, Washington 98584
Telephone: (360) 432-3803

LOCATION: In Shelton Harbor at Shelton, Washington

WORK: The project proposes to place 600,000 cubic yards of fill material into 50 acres of waters of the U.S. waterward of the mean higher high water (MHHW) line to create an estuary and salt marsh in Shelton Harbor.

Three salt marsh lobes (south west, and north) are proposed to be constructed over five years. Each salt marsh lobe would be built to elevations that support salt marsh habitat, with Goldsborough Creek realigned to flow in between the west and south lobes. The proposed project also involves constructing a lagoon at the confluence of Shelton Creek and Shelton Harbor, with a berm at the most southeastern end of the lagoon to slow down water flow, with the purpose of collecting sediment that over time creates a more natural stream channel.

NWS-2017-366, SPSSEG (Shelton Harbor Restoration)

The proposed project would require the removal of up to 260 creosote piles, in-water debris and structures, and the 750 foot long dike.

PURPOSE: To establish salt marsh and estuarine habitat in Shelton Harbor.

ADDITIONAL INFORMATION: The proposed work would be completed over a five year period. U.S. Fish and Wildlife Service (USFWS) is the lead federal agency. The proposed project would be completed by the South Puget Sound Salmon Enhancement Group and the Squaxin Island Tribe.

Phase one would be the construction of the west lobe and lagoon. The other three phases; construction of the south lobe and spit removal, construction of the north lobe, and constructing a new channel in Goldsborough Creek, would be completed over a 5 year period with the timing of each phases depending on acquiring funding.

The locations, and details of the structures and debris to be removed are shown in sheet 6.

The line of Mean High Water and Mean Higher High Water shown on the project drawings have not yet been verified by the Corps. If the Corps determines the boundaries of the waters are substantially inaccurate a new public notice may be published.

MITIGATION: No mitigation is being proposed.

ENDANGERED SPECIES: The Endangered Species Act (ESA) requires federal agencies to consult with the National Marine Fisheries Service (NMFS) and/or USFWS pursuant to Section 7 of the ESA on all actions that may affect a species listed (or proposed for listing) under the ESA as threatened or endangered or any designated critical habitat. The USFWS, as the lead agency for ESA consultation, will consult with the NMFS and/or the USFWS as required under Section 7 of the ESA.

ESSENTIAL FISH HABITAT: The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996, requires all Federal agencies to consult with the NMFS on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). The proposed action would impact EFH in the project area. The USFWS, as the lead agency for a determination regarding EFH, will consult with the National Marine Fisheries Services if necessary.

CULTURAL RESOURCES: The USFWS, as the lead agency for determining compliance with Section 106 of the National Historic Preservation Act, will consult with the State Historic Preservation Officer and Native American Tribes as appropriate.

PUBLIC HEARING: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing.

EVALUATION – CORPS: The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people.

NWS-2017-366, SPSSEG (Shelton Harbor Restoration)

The Corps is soliciting comments from the public; Native American Nations or tribal governments; Federal, State, and local agencies and officials; and other interested parties in order to consider and evaluate the impacts of this activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition or deny a permit for the work. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the activity.

The described discharge will be evaluated for compliance with guidelines promulgated by the Environmental Protection Agency under authority of Section 404(b)(1) of the CWA. These guidelines require an alternatives analysis for any proposed discharge of dredged or fill material into waters of the United States.

SOURCE OF FILL MATERIAL: The applicant has not yet identified the source of the fill material. Should a permit be issued, the Corps will evaluate the fill material source prior to the start of construction.

EVALUATION – ECOLOGY: Ecology is soliciting comments from the public; Federal, Native American Nations or tribal governments, State, and local agencies and officials; and other interested parties in order to consider and evaluate the impacts of this activity. Ecology will be considering all comments to determine whether to certify or deny certification for the proposed project.

ADDITIONAL EVALUATION: The City of Shelton has issued an exemption from the requirement of obtaining a Shorelines Substantial Development permit for this project.

As a Federal agency, the U.S. Fish and Wildlife Service will contact the Washington Department of Ecology directly to ensure the work is consistent with the Coastal Zone Management Program.

COMMENT AND REVIEW PERIOD: Conventional mail or e-mail comments on this public notice will be accepted and made part of the record and will be considered in determining whether authorizing the work would not be contrary to the public interest. In order to be accepted, e-mail comments must originate from the author's e-mail account and must include on the subject line of the e-mail message the permit applicant's name and reference number as shown below. Either conventional mail or e-mail comments must include the permit applicant's name and reference number, as shown below, and the commenter's name, address, and phone number. All comments whether conventional mail or e-mail must reach this office, no later than the expiration date of this public notice to ensure consideration.

CORPS COMMENTS: All e-mail comments should be sent to jason.t.sweeney@usace.army.mil Conventional mail comments should be sent to: U.S. Army Corps of Engineers, Regulatory Branch, Attention: Jason Sweeney, P.O. Box 3755, Seattle, Washington 98124-3755. All comments received will become part of the administrative record and are subject to public release under the Freedom of Information Act including any personally identifiable information such as names, phone numbers, and addresses.

ECOLOGY COMMENTS: Any person desiring to present views on the project pertaining to a request for water quality certification under Section 401 of the CWA and/or Coastal Zone Management consistency concurrence, may do so by submitting written comments to the following address: Washington State Department of Ecology, Attention: Federal Permit Coordinator, Post Office Box 47600, Olympia, Washington 98504-7600, or e-mail to ecyrefedpermits@ecy.wa.gov.

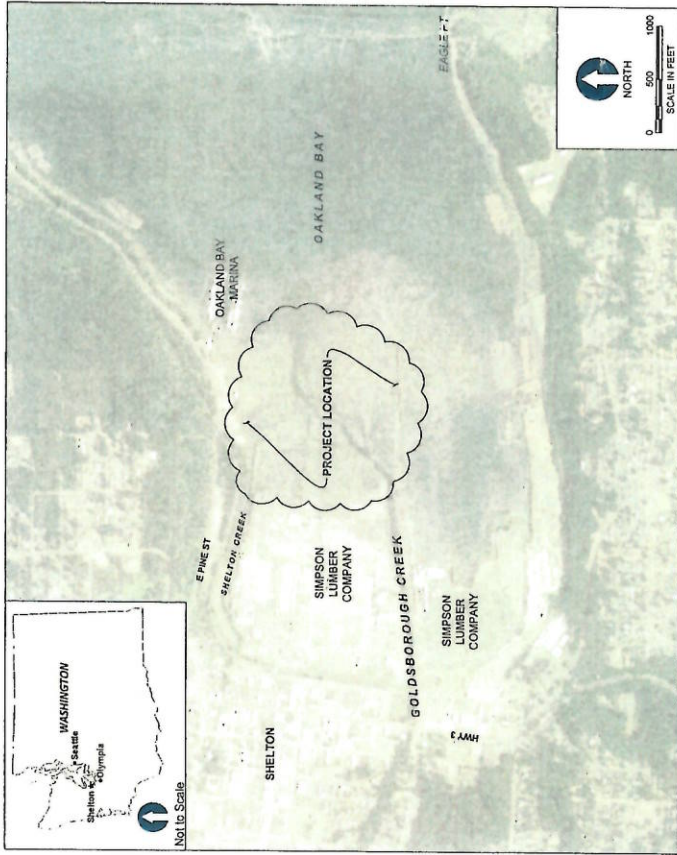
To ensure proper consideration of all comments, responders must include the following name and reference number

NWS-2017-366, SPSSEG (Shelton Harbor Restoration)

in the text of their comments: SPSSEG (Shelton Harbor Restoration), NWS-2017-366

Encl: Figures (16)

60 PERCENT DESIGN WEST OAKLAND BAY RESTORATION PROJECT SOUTH PUGET SOUND SALMON ENHANCEMENT GROUP



NOTE: AERIAL PHOTO ACQUIRED FROM GOOGLE EARTH PRO (V7.17.2006) ON AUGUST 15, 2017. IMAGE DATE: AUGUST 17, 2016

SHT NO	DWG NO	DESCRIPTION
1	T-1	COVER SHEET
2	G-1	GENERAL NOTES AND QUANTITIES
3	G-2	COMPOSITE SITE PLAN
4	G-3	EXISTING CONDITIONS PLAN
5	G-4	TEMPORARY EROSION SEDIMENT CONTROL, ACCESS, AND STAGING PLAN
6	D-1	DEMOLITION PLAN
7	C-1	GRADING PLAN
8	C-2	PROFILES 1 OF 2
9	C-3	PROFILES 2 OF 2
10	C-4	CROSS SECTIONS 1 OF 4
11	C-5	CROSS SECTIONS 2 OF 4
12	C-6	CROSS SECTIONS 3 OF 4
13	C-7	CROSS SECTIONS 4 OF 4
14	CM-1	CONSTRUCTION MATERIALS PLAN
15	L-1	PLANTING PLAN
16	L-2	PLANT SCHEDULE AND PLANTING DETAILS

NWS-2017-366

ONE INCH
AT FULL SIZE & NOT ONE
INCH SCALE ACCORDINGLY

60% PRELIMINARY DESIGN - NOT FOR CONSTRUCTION

		REVISIONS <table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>BY</th> <th>APPD</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	REV	DATE	BY	APPD	DESCRIPTION																										DESIGNER: P. J. ZIMMER DRAWN BY: J. BRADY HUNNITT CHECKED BY: J. BRADY APPROVED BY: J. BRADY SCALE ADJUSTED: DATE: 08/08/2016	WEST OAKLAND BAY RESTORATION PROJECT COVER SHEET	T-1 SHEET No 1 of 16
		REV	DATE	BY	APPD	DESCRIPTION																													

GENERAL CONSTRUCTION NOTES CONT.:

- CONTRACT DOCUMENTS REFER TO THESE DRAWINGS AND SPECIFICATIONS AND SHALL BE USED AS SHOWN. CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO COMPLETE ALL WORK AS INDICATED ON THE CONTRACT DOCUMENTS. CONTRACTOR SHALL VISIT THE JOB SITE AND BE FAMILIAR WITH ALL CONDITIONS AND DIMENSIONS AND CONFIRM THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION.
- ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE OWNER PRIOR TO PROCEEDING WITH THE WORK. THE OWNER PRIOR TO PROCEEDING WITH THE WORK.
- AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS SHALL BE OBTAINED FROM THE OWNER PRIOR TO COMMENCEMENT OF THE CONSTRUCTION. MEETING, LOCATION, DATE, AND TIME TO BE DETERMINED BY THE OWNER.

STANDARD CIVIL NOTES:

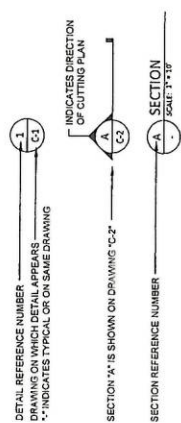
- ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND SPECIFICATIONS. CONTRACTOR SHALL NOT EXCAVATE OR DISTURB BEYOND THE JOB SITE AREA UNLESS NOTED OTHERWISE.
- RUBBISH, DEBRIS, GARBAGE, AND OTHER REFUSE SHALL BE REMOVED FROM THE JOB SITE AND DISPOSED AT AN APPROPRIATE LOCATION. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORK CREW PRIOR TO STARTING THE PROJECT.
- THE AREAS OF THE JOB SITE DISTURBED BY THE WORK SHALL BE REVEGETATED TO THE ORIGINAL PRE-CONSTRUCTION CONDITION. REVEGETATED AREAS AND/OR REVEGETATED AS SPECIFIED HEREIN.
- COMPACTED AREAS NEED TO BE RIPPED PRIOR TO SMOOTHING TO LEAVE AN AREA SUITABLE FOR PLANTING. PLANTING SHALL BE NEW AND UNDAUNAGED, UNLESS OTHERWISE APPROVED BY THE OWNER. THE SAME MANUFACTURER OF EACH ITEM SHALL BE USED THROUGHOUT THE WORK UNLESS OTHERWISE APPROVED BY THE OWNER.

UTILITY NOTES:

- THE LOCATIONS OF EXISTING UTILITIES SHOWN ON THESE DRAWINGS ARE APPROXIMATE. THE LOCATIONS OF EXISTING UTILITIES HAVE NOT BEEN FIELD VERIFIED. THE CONTRACTOR SHALL LOCATE AND VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT THE UTILITY LOCATION REQUEST CENTER (ONE-CALL CENTER) AT 1-800-424-5555 FOR UTILITY LOCATIONS NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL TRENCHING THAT MAY IMPACT EXISTING UTILITIES, UNLESS OTHERWISE NOTED.
- ALL ABANDONED UTILITIES WHICH INTERFERE WITH THE EXECUTION OF THE WORK SHALL BE VERIFIED AND ABANDONED PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WRITING APPROVAL OF DISTURBANCE OR MODIFICATION OF THE UTILITY FROM THE UTILITY LOCATION REQUEST CENTER. THE CONTRACTOR SHALL VERIFY THE SIZE, LOCATION, AND TYPE OF ANY UNDERGROUND UTILITIES OR IMPROVEMENTS SHALL BE ACCURATELY NOTED AND PLACED ON AS-BUILT DRAWINGS BY THE CONTRACTOR AND ISSUED TO THE OWNER AT COMPLETION OF THE PROJECT.

ABBREVIATIONS AND ACRONYMS	ITEM	TERM
ABB	ABBREVIATION	TERM
AC	ACRE OR ACRES	
CONC	CONCRETE	
CY	CUBIC YARD	
DIA	DIAMETER	
EA	EACH	
EL	ELEVATION	
EX	EXISTING	
FT	FOOT OR FEET	
LN	LINE	
LOC(S)	LOCATION(S)	
LF	LINEAR FOOT	
MAX	MAXIMUM	
MHW	MEAN HIGHER HIGH WATER	
MIN	MINIMUM	
MLW	MEAN LOWER LOW WATER	
NAVDS83	NORTH AMERICAN VERTICAL DATUM OF 1983	
O.C.	ON CENTER	
DHWL	DITCHARY HIGH WATER LINE	
P.E.	PROFESSIONAL ENGINEER	
QTY	QUANTITY	
RCP	REINFORCED CONCRETE PIPE	
RF	RANGE FOOT OR SQUARE FEET	
SE	SECTION	
STA	STATION	
TYP	TYPICAL	
WAC	WASHINGTON ADMINISTRATIVE CODE	
WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION	
WSL	WATER SURFACE ELEVATION	

DETAIL AND SECTION REFERENCING



SURVEY NOTES:

- MULTIPLE EXISTING CONDITIONS SURVEYS ARE USED IN THESE DRAWINGS.
 - TOPOGRAPHY (BLUE/GREEN) LIDAR COLLECTED IN 2014 BY PACIFIC KREST SURVEYING, LLC.
 - TOPOGRAPHIC SURVEY CONDUCTED JUNE 30, 2014 BY PACIFIC KREST SURVEYING, LLC.
 - VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW), HORIZONTAL DATUM: WASHINGTON STATE PLANE SOUTH ZONE, NAD83 FEET.
 - ACQUIRED FROM NOAA'S VDATUM TOOL (V3.2).

PROJECT INFORMATION:

PROJECT LOCATION: SHELTON HARBOR/OAKLAND BAY SHELTON, WA 98586
 OWNER: SOUTH PACIFIC BANKS BANK HON ENHANCEMENT GROUP 8700 MARTIN WAY E SUITE 110 OLYMPIA, WA 98516 PHONE (360) 475-0009 CONTRACTOR: ANCHOR O&A
 ENGINEER: ANCHOR O&A, LLC 8000 1ST AVENUE S BELLINGHAM, WA 98228 PHONE (360) 742-2700 FAX (360) 742-2700

NWS-2017-366

50% PRELIMINARY DESIGN - NOT FOR CONSTRUCTION

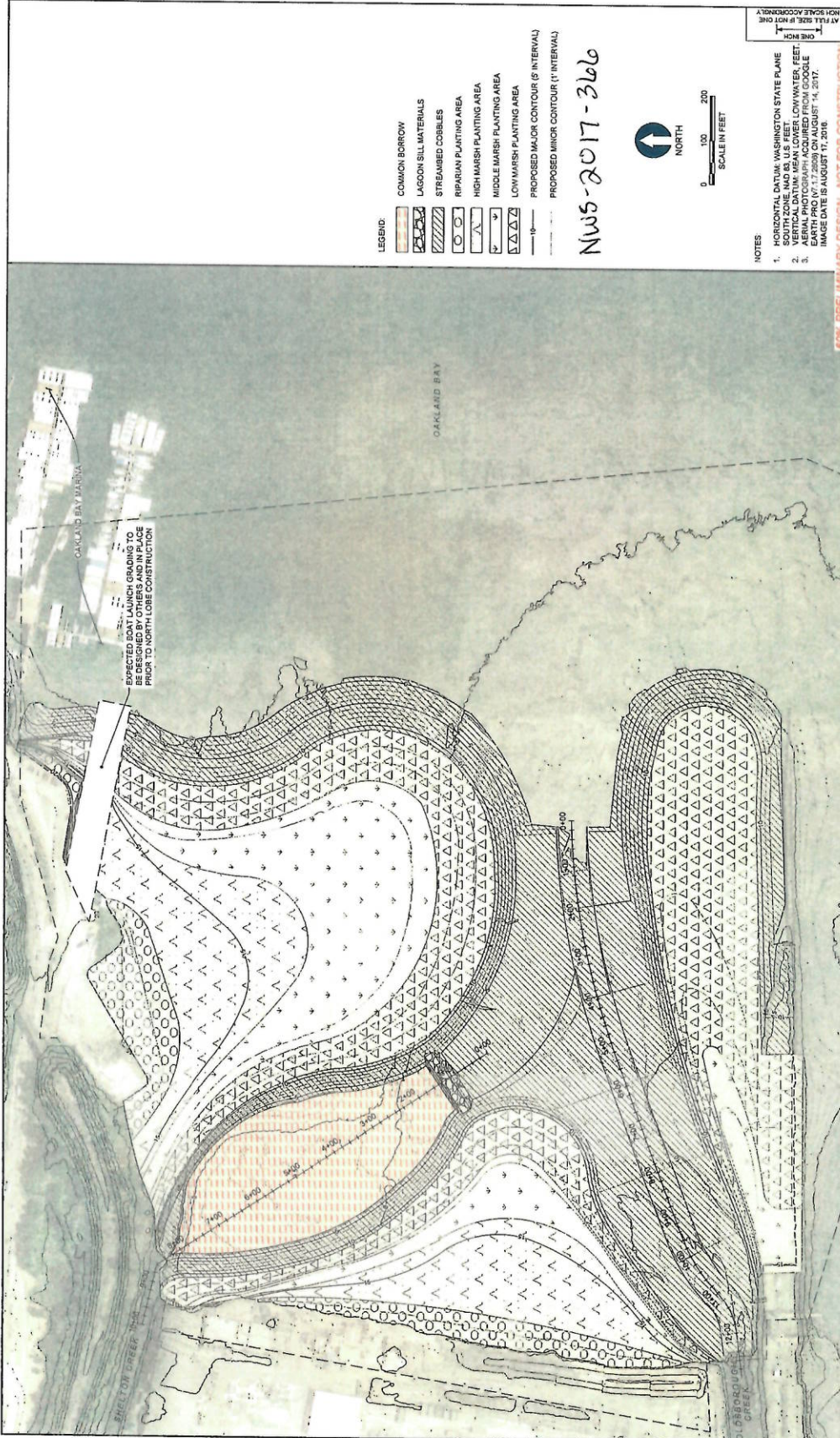
DESIGNED BY: J. QUARTY
 DRAWN BY: J. CHRISTENSEN
 CHECKED BY: J. FLEURY
 APPROVED BY: J. QUARTY
 SCALE: AS SHOWN
 DATE: JANUARY 2018

G-1

WEST OAKLAND BAY RESTORATION PROJECT

GENERAL NOTES AND QUANTITIES

SHEET NO. 2 OF 16



- LEGEND:**
- COMMON BORROW
 - LAGOON SILL MATERIALS
 - STREAMBED COBBLES
 - RIPIARIAN PLANTING AREA
 - HIGH MARSH PLANTING AREA
 - MIDDLE MARSH PLANTING AREA
 - LOW MARSH PLANTING AREA
 - PROPOSED MAJOR CONTOUR (5' INTERVAL)
 - PROPOSED MINOR CONTOUR (1' INTERVAL)

NWS-2017-366



0 100 200
SCALE IN FEET

NOTES:

- HORIZONTAL DATUM: WASHINGTON STATE PLANE
- SOUTH ZONE NAD 83, U.S. FEET
- VERTICAL DATUM: MEAN LOWER LOWWATER, FEET
- VERTICAL DATUM: MEAN LOWER LOWWATER, FEET
- DATE: 11/11/2016
- IMAGE DATE IS AUGUST 14, 2017
- IMAGE DATE IS AUGUST 11, 2016

50% PRELIMINARY DESIGN - NOT FOR CONSTRUCTION

G-2
WEST OAKLAND BAY RESTORATION PROJECT
COMPOSITE SITE PLAN
SHEET NO. 3 OF 16

DESIGNED BY: J. ZIMET
DRAWN BY: J. GRIFFIN/REVET
CHECKED BY: J. ZIMET
APPROVED BY: J. ZIMET
SCALE: AS SHOWN
DATE: JANUARY 2018

REV.	DATE	BY	DATE	DESCRIPTION



NWS-2017-366

- LEGEND:
- EXISTING MAJOR CONTOUR (5' INTERVAL)
 - EXISTING MINOR CONTOUR (1' INTERVAL)
 - EXISTING RIP RAP SLOPE
 - EXISTING PARCELS



- NOTES:
- HORIZONTAL DATUM: WASHINGTON STATE PLANE
 - VERTICAL DATUM: MEAN LOWER LOWWATER, FEET
 - APPROXIMATE
 - AERIAL PHOTOGRAPH ACQUIRED FROM GOOGLE EARTH; DATE IS AUGUST 14, 2017.

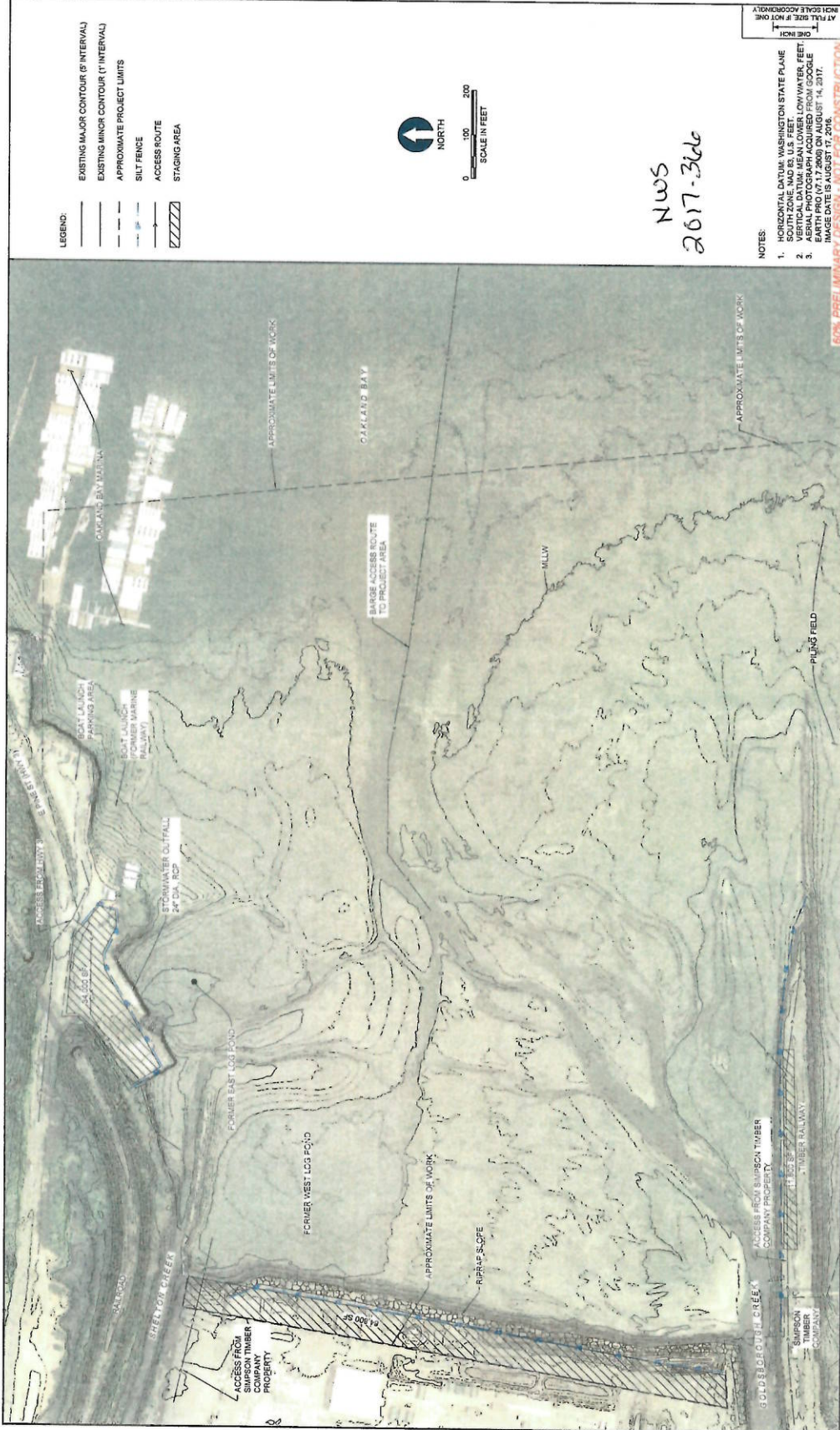


WEST OAKLAND BAY RESTORATION PROJECT
 EXISTING CONDITIONS PLAN

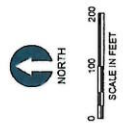
DESIGNED BY: J. J. JENSEN
 DRAWN BY: J. J. JENSEN
 CHECKED BY: J. J. JENSEN
 SCALE: AS SHOWN
 DATE: JANUARY 2018

REF.	DATE	BY	DESCRIPTION





- LEGEND:**
- EXISTING MAJOR CONTOUR (5' INTERVAL)
 - EXISTING MINOR CONTOUR (1' INTERVAL)
 - - - APPROXIMATE PROJECT LIMITS
 - - - SILT FENCE
 - ACCESS ROUTE
 - ▨ STAGING AREA



NWS
2017-366

NOTES:

- HORIZONTAL DATUM: WASHINGTON STATE PLANE
- SOUTH ZONE, NAD 83, U.S. FEET. LOW WATER FOR TIDE
- ASBIL PHOTOGRAPHY ACQUIRED FOR THIS PROJECT ON EARTH PRO (17.8000) ON AUGUST 14, 2017. IMAGE DATE IS AUGUST 17, 2016.

SCALE: APPROXIMATELY 1" = 100' (SEE PLAN FOR SCALE ACCURACY)

60% PRELIMINARY DESIGN - NOT FOR CONSTRUCTION

WEST OAKLAND BAY RESTORATION PROJECT
G-4
 TEMPORARY EROSION SEDIMENT CONTROL, ACCESS, AND STAGING PLAN
 SHEET 5 OF 15

DESIGNED BY: J. LEBRY
 DRAWN BY: J. LEBRY/S. SCHWITZ
 CHECKED BY: J. LEBRY
 APPROVED BY: J. LEBRY
 SCALE: AS SHOWN
 DATE: 08/15/2017

NO.	DATE	BY	DESCRIPTION



© 2017 Anchor OEA. All rights reserved. This drawing is the property of Anchor OEA and is not to be reproduced without written permission. The information contained herein is for informational purposes only and does not constitute a contract. The user of this drawing assumes all liability for its use.

NWS-2017-366

- LEGEND:**
- EXISTING MAJOR CONTOUR (5 INTERVAL)
 - EXISTING MINOR CONTOUR (1' INTERVAL)
 - APPROXIMATE PROJECT LIMITS
 - FEATURES FOR DEMOLITIONS
- 1 REMOVE AND DISPOSE OF LOG WALL
 - 2 REMOVE AND DISPOSE OF PILING BULKHEAD
 - 3 REMOVE AND DISPOSE OF SHEETPILE PILING BULKHEAD (APPROX. 50% COVERAGE)
 - 4 REMOVE AND DISPOSE OF TIMBER PLINGS
 - 5 REMOVE AND DISPOSE OF TIMBER PLINGS (IN FORMER WEST LOG POND)
 - 6 REMOVE AND DISPOSE OF THE TIMBER RAILWAY AND SURFICIAL SOILS ON THE EXISTING SPT
 - 7 REMOVE RAILROAD TRESTLE ON EXISTING SPT
 - 8 REMOVE TIMBER STRUCTURE AT MOUTH OF SHELTON CREEK



0 100 200
SCALE IN FEET

- NOTES:**
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE
 2. VERTICAL DATUM: MEAN LOWER LOW WATER, FEET
 3. LOCATIONS OF FEATURES PRESENTED ARE APPROXIMATE
 4. AERIAL PHOTOGRAPH ACQUIRED FROM GOOGLE EARTH PRO (07.17.2009) ON AUGUST 14, 2017. IMAGE DATE IS AUGUST 11, 2016.

60% PRELIMINARY DESIGN NOT FOR CONSTRUCTION



WEST OAKLAND BAY RESTORATION PROJECT

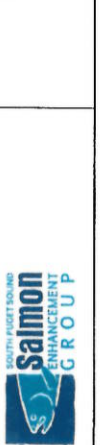
DEMOLITION PLAN

D-1

SHEET NO. 6 OF 16

DESIGNED BY: J. JERRY
 DRAWN BY: T. ORLANDO/HEATH
 CHECKED BY: J. JERRY
 APPROVED BY: J. JERRY
 SCALE: AS SHOWN
 DATE: 08/14/2017

REV	DATE	BY	DESCRIPTION



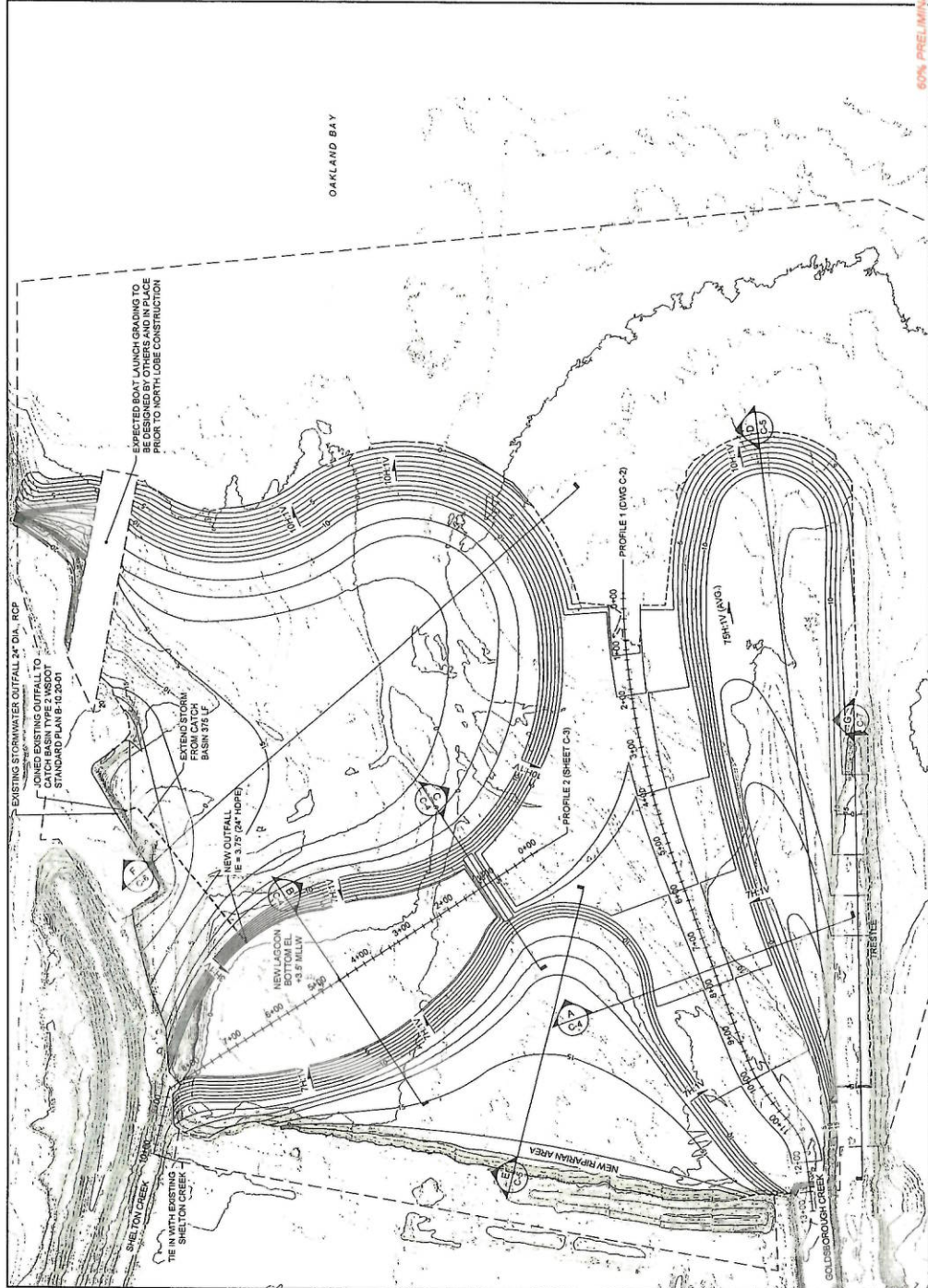
NW5-2017-366

- LEGEND:
- EXISTING MAJOR CONTOUR (5' INTERVAL)
 - EXISTING MINOR CONTOUR (1' INTERVAL)
 - PROPOSED MAJOR CONTOUR (5' INTERVAL)
 - PROPOSED MINOR CONTOUR (1' INTERVAL)
 - SOLID LINE: PROPOSED LIMIT OF GRADING
 - DASHED LINE: APPROXIMATE PROJECT LIMITS
 - DOTTED LINE: PROPOSED OUTFALL EXTENSION PIPE

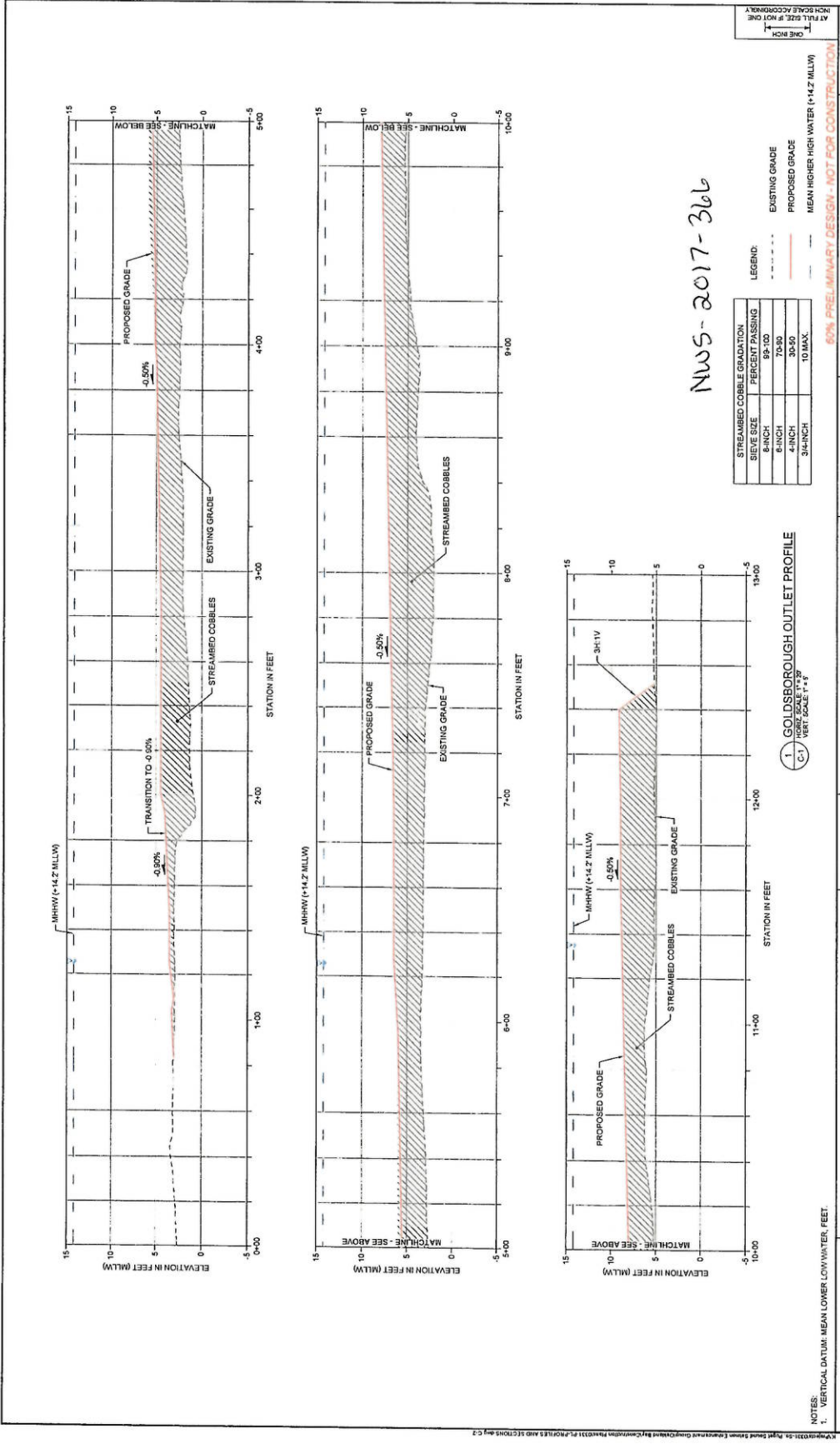


- NOTES:
1. HORIZONTAL DATUM: WASHINGTON STATE PLANE
 2. VERTICAL DATUM: MEAN LOWER LOW WATER, FEET.

60% PRELIMINARY DESIGN - NOT FOR CONSTRUCTION



<p>WEST OAKLAND BAY RESTORATION PROJECT</p> <p>C-1</p>																																													
<p>GRADING PLAN</p>																																													
<p>DESIGNED BY: J. LIBERTY DRAWN BY: J. ORSIC-SHEETS CHECKED BY: J. LIBERTY APPROVED BY: J. LIBERTY DATE: JANUARY 2018</p>	<p>REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	DATE	BY	DESCRIPTION																																								
NO.	DATE	BY	DESCRIPTION																																										



NWS-2017-366

STREAMBED COBBLE GRADATION	PERCENT PASSING
8-INCH	92-100
4-INCH	70-90
3/4-INCH	30-50
	10 MAX.

LEGEND:
 --- EXISTING GRADE
 - - - - PROPOSED GRADE
 --- MEAN HIGHER HIGH WATER (+14.2' MLW)

1 GOLDSBOROUGH OUTLET PROFILE
 C-1 WEST SCALE 1"=3'

NOTES:
 1. VERTICAL DATUM: MEAN LOWER LOWWATER, FEET.



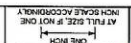
REV	DATE	BY	APPD	DESCRIPTION

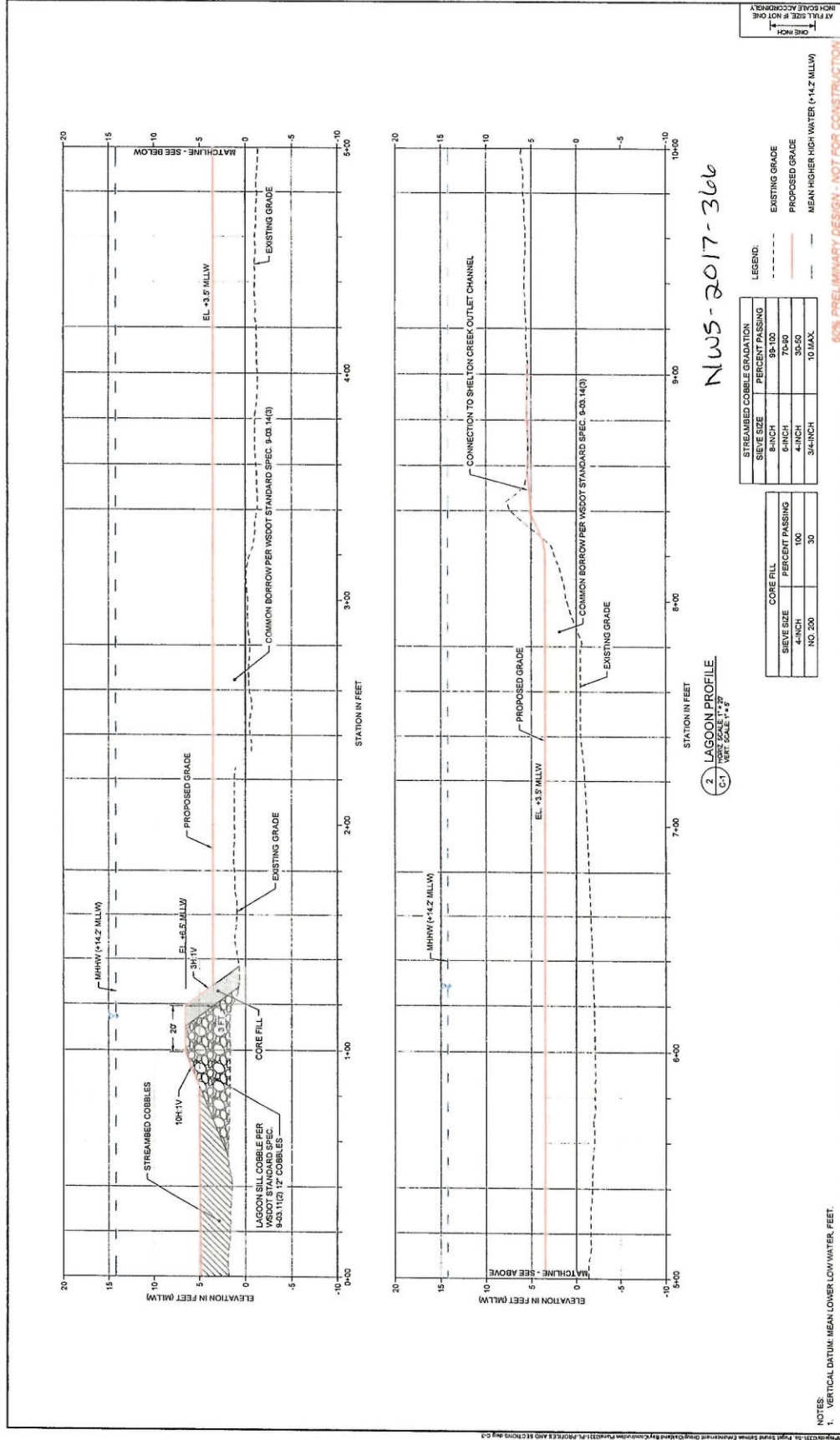
DESIGNED BY: J. JORDEN
 DRAWN BY: J. GORDON-BENNETT
 CHECKED BY: J. GORDON-BENNETT
 APPROVED BY: J. JORDEN
 SCALE: AS INDICATED
 DATE: JANUARY 2018

WEST OAKLAND BAY RESTORATION PROJECT
 PROFILES 1 OF 2

C-2
 SHEET 8 OF 15

50% PRELIMINARY DESIGN - NOT FOR CONSTRUCTION





NWS-2017-366

ANCHOR O&E

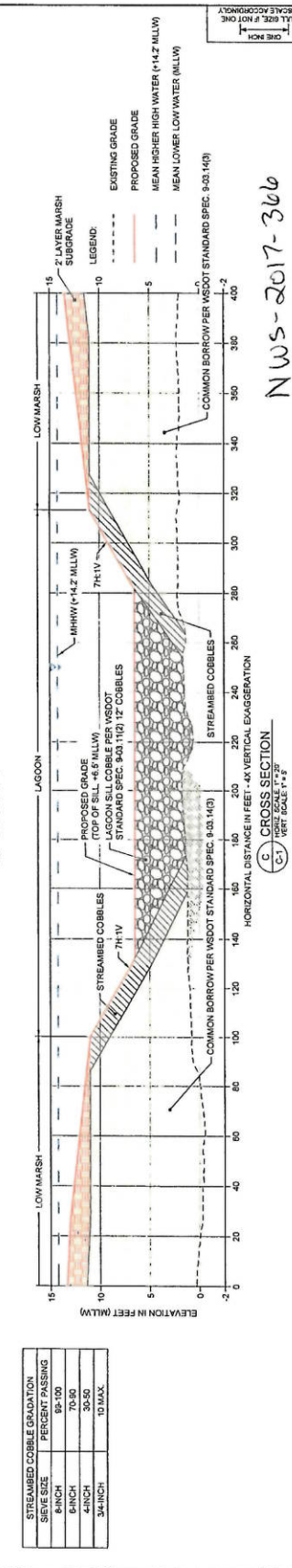
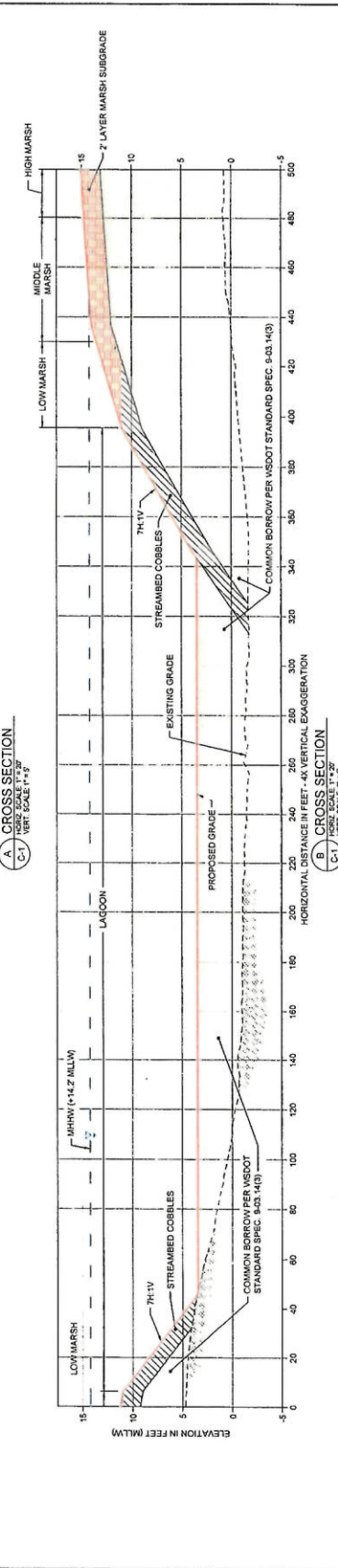
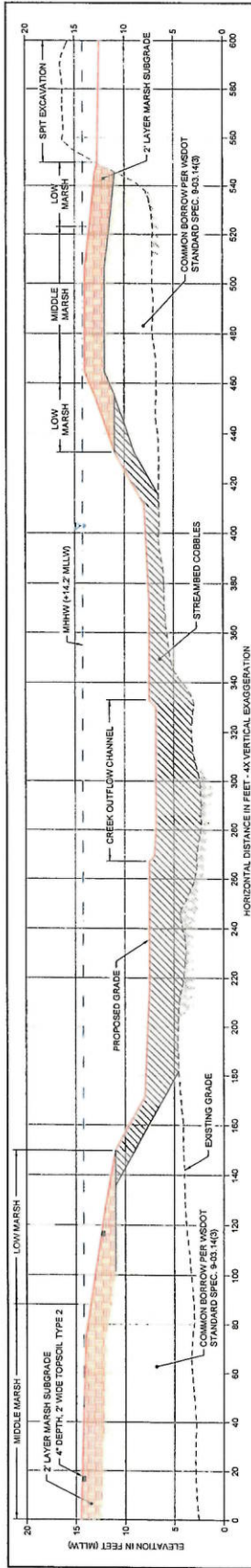
SouthPoint Group
ENHANCEMENT GROUP

DESIGNED BY: Z. JOHNSON
 DRAWN BY: J. GEMMEL/JOHNSON
 CHECKED BY: J. GEMMEL/JOHNSON
 APPROVED BY: Z. JOHNSON
 SCALE: AS SHOWN
 DATE: JANUARY 2018

WEST OAKLAND BAY RESTORATION PROJECT
 PROFILES 2 OF 2

C-3
 SHEET 9 OF 16

50% PRELIMINARY DESIGN - NOT FOR CONSTRUCTION



STREAMBED COBBLE GRADATION	PERCENT PASSING
8-INCH	95-100
6-INCH	70-90
4-INCH	30-50
3/4-INCH	10 MAX.

DESIGNED BY: J. GIBNEY
 DRAWN BY: J. GIBNEY/SJG
 CHECKED BY: A. BERRY
 APPROVED BY: [Signature]
 SCALE AS SHOWN
 DATE: JANUARY 2018

REVISIONS

REV	DATE	BY	APPD	DESCRIPTION

ANCHOR OEA

Salmon ENHANCEMENT GROUP

WEST OAKLAND BAY RESTORATION PROJECT
 CROSS SECTIONS 1 OF 4

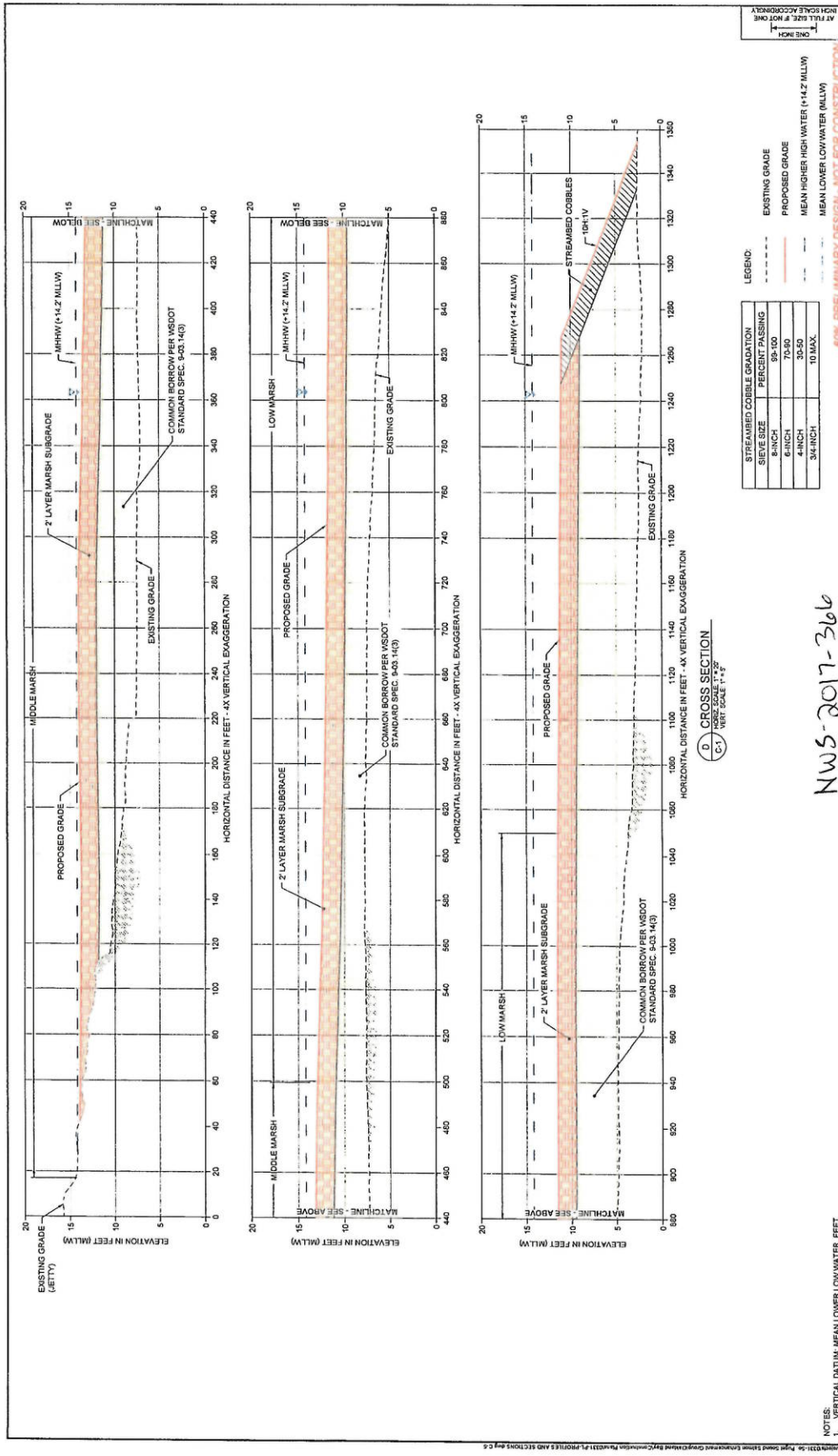
C-4

60% PRELIMINARY DESIGN - NOT FOR CONSTRUCTION

NWS-2017-366

1. VERTICAL DATUM: MEAN LOWER LOW WATER, FEET.

NOTES



LEGEND:

STREAMBED COBBLE GRADATION	EXISTING GRADE
SIEVE SIZE	PROPOSED GRADE
PERCENT PASSING	MEAN HIGHER HIGH WATER (+14.2 MLLV)
8-INCH	MEAN LOWER LOW WATER (MLLV)
99-100	
75-90	
4-INCH	
30-50	
3/4-INCH	
10 MAX.	

60% PRELIMINARY DESIGN - NOT FOR CONSTRUCTION

D CROSS SECTION
 HORIZONTAL DISTANCE IN FEET - AX VERTICAL EXAGGERATION
 VERTICAL DISTANCE IN FEET - AX VERTICAL EXAGGERATION
 VERT. SCALE 1"=2'

NWS-2017-366

NOTES:
 1. VERTICAL DATUM: MEAN LOWER LOW WATER, FEET.

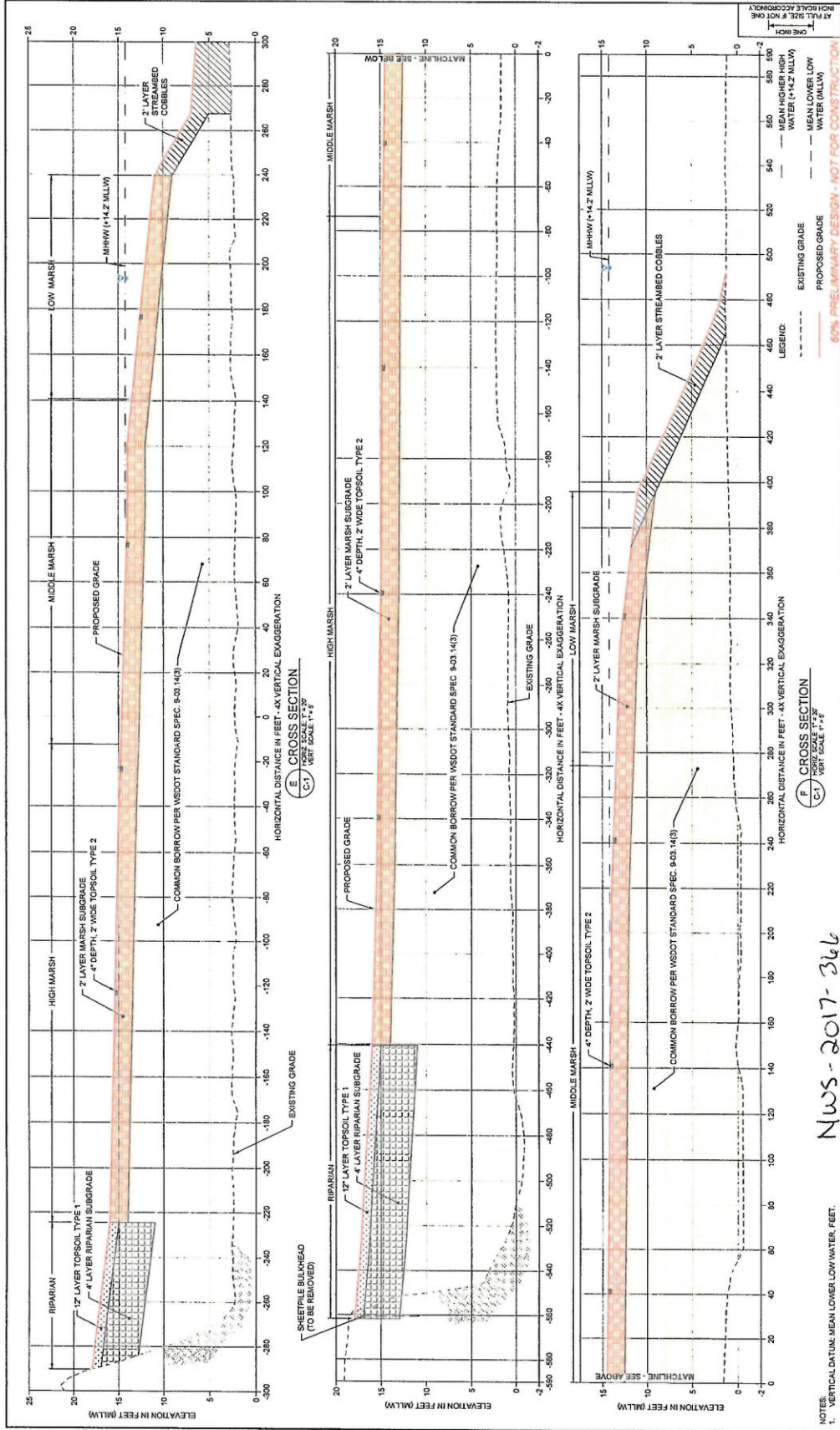
DESIGNED BY: J. JERRY
 CHECKED BY: J. JERRY
 APPROVED BY: J. JERRY
 SCALE: AS INDICATED
 DATE: JANUARY 2018

C-5

WEST OAKLAND BAY RESTORATION PROJECT

CROSS SECTIONS 2 OF 4

Sheet 11 of 16



NOTES:
 1. VERTICAL DATUM: MEAN LOWER LOW WATER, FEET.

DESIGNED BY: ZENBLY
 CHECKED BY: J. BERRY
 APPROVED BY: J. BERRY
 SCALE: AS INDICATED
 DATE: JANUARY 2017

REV.	DATE	BY	APPD.	DESCRIPTION

WEST OAKLAND BAY RESTORATION PROJECT

C-6

CROSS SECTIONS 3 OF 4

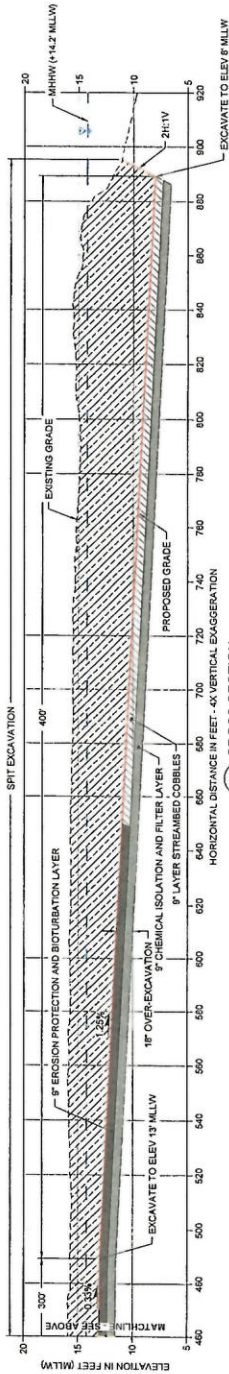
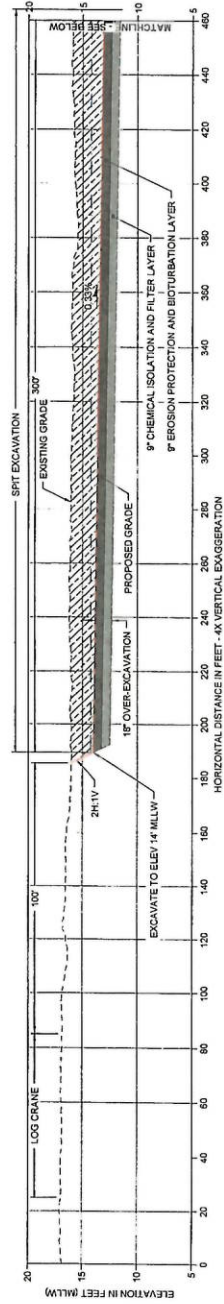
SHEET NO. 12 OF 18

ANCHOR O&E

salmon ENVIRONMENTAL GROUP

NWS-2017-366

NWS-2017-366



C-7 CROSS SECTION
VERT SCALE 1"=8'



LEGEND

STREAMBED COBBLE GRADATION	PERCENT PASSING
8-INCH	95-100
6-INCH	70-90
4-INCH	30-50
3/4-INCH	10 MAX.

EROSION PROTECTION AND BIOTURBATION	PERCENT PASSING
NO. 8	50
NO. 20	30
NO. 40	15

CHEMICAL ISOLATION AND FILTER LAYER	PERCENT PASSING
NO. 8	50
NO. 20	30
NO. 40	15

EXISTING GRADE
PROPOSED GRADE
MEAN HIGHER HIGH WATER (+14.2' MLLW)
MEAN LOWER LOW WATER (MLLW)

DESIGNED BY: J. DIERREY
DRAWN BY: J. GREGG-SHERETT
CHECKED BY: J. GREGG-SHERETT
APPROVED BY: J. DIERREY
SCALE: AS SHOWN
DATE: JANUARY 2018

REVISIONS

REV	DATE	BY	DESCRIPTION

NOTES
1. VERTICAL DATUM: MEAN LOWER LOW WATER, FEET.

80% PRELIMINARY DESIGN - NOT FOR CONSTRUCTION

WEST OAKLAND BAY RESTORATION PROJECT
CROSS SECTIONS 4 OF 4

NWS-2017-366



- LEGEND:
- COMMON BORROW
 - TOPSOIL TYPE 1 OVER RIPARIAN SUBGRADE AND MARSH SUBGRADE
 - TOPSOIL TYPE 2 (PLANTING CLUMPS ONLY)
 - LAGOON SILT MATERIALS
 - STREAMBED COBBLES
 - SEDIMENT CAP
 - PROPOSED MAJOR CONTOUR (5' INTERVAL)
 - PROPOSED MINOR CONTOUR (1' INTERVAL)



0 100 200
SCALE IN FEET

NOTES:
 1. HORIZONTAL DATUM: WASHINGTON STATE PLANE
 2. SOUTH ZONE, NAD 83, U.S. FEET
 3. AERIAL PHOTOGRAPHS ACQUIRED FROM GOOGLE EARTH PRO V7.1.7.2009 ON AUGUST 14, 2017.
 4. IMAGE DATE IS AUGUST 17, 2016.
 5. ALL ELEVATIONS ARE IN FEET ABOVE SEA LEVEL UNLESS OTHERWISE INDICATED.

50% PRELIMINARY DESIGN - NOT FOR CONSTRUCTION

WEST OAKLAND BAY RESTORATION PROJECT
 CM-1
 CONSTRUCTION MATERIALS PLAN

DESIGNED BY: J. DUBOIS
 DRAWN BY: J. DUBOIS/SECRET
 CHECKED BY: J. DUBOIS
 APPROVED BY: J. DUBOIS
 SCALE AS INDICATED
 DATE: JANUARY 2017

REV	DATE	BY	APP'D	DESCRIPTION



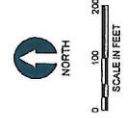
NWS-2017-366



- LEGEND:**
- PROPOSED MAJOR CONTOUR (5' INTERVAL)
 - PROPOSED MINOR CONTOUR (1' INTERVAL)
 - RIPARIAN PLANTING AREA (1&2 L2)
 - HIGH MARSH PLANTING AREA (3&4 L2)
 - MIDDLE MARSH PLANTING AREA (3&4 L2)
 - LOW MARSH PLANTING AREA (3&4 L2)

NOTES:

1. SEE DWG L2 FOR PLANTING SCHEDULE AND DETAILS
2. PLANT AREAS AND SYMBOLS PRESENTED ON THIS SHEET ARE FOR ILLUSTRATIVE PURPOSES ONLY AND DO NOT REPRESENT ACTUAL PLANT CLUSTERS AND DISTRIBUTION. REFER TO THE PLANTING SCHEDULE ON DWG L4 FOR ACTUAL PLANTING DISTRIBUTION.



NOTES:

1. HORIZONTAL DATUM: WASHINGTON STATE PLANE SOUTH ZONE, NAD 83, U.S. FEET.
2. VERTICAL DATUM: MEAN LOWER LOW WATER, FEET.
3. ALL DISTANCES AND DIMENSIONS ARE OBTAINED FROM GOOGLE EARTH PRO 7.29.0000, AUGUST 14, 2017. IMAGE DATE IS AUGUST 17, 2016.

50% PRELIMINARY DESIGN - NOT FOR CONSTRUCTION

WEST OAKLAND BAY RESTORATION PROJECT

L-1

PLANTING PLAN

SHEET NO. 15 OF 16

DESIGNED BY: J. DENNY
 CHECKED BY: J. DENNY
 APPROVED BY: J. DENNY
 SCALE: AS INDICATED
 DATE: JANUARY 2016

REV	DATE	BY	DESCRIPTION





NWS-2017-366

FOR PRELIMINARY DESIGN - NOT FOR CONSTRUCTION

REV	DATE	BY	APPROV	DESCRIPTION

DESIGNED BY	DRAWING BY	CHECKED BY	APPROVED BY

WEST OAKLAND BAY RESTORATION PROJECT	L-2
--------------------------------------	-----

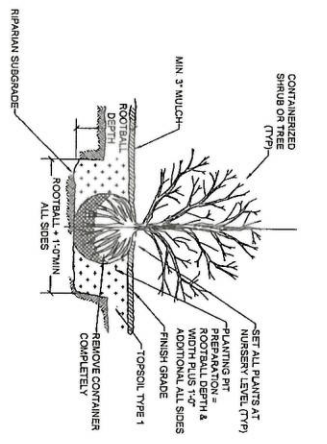
PLANT SCHEDULE AND PLANTING DETAILS

SHEET NO. 18 OF 18

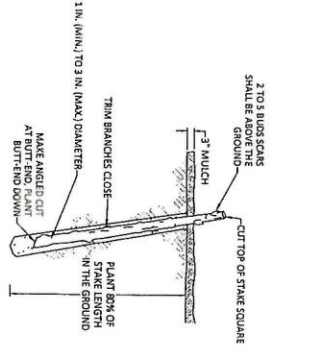
PLANT SCHEDULE:

COMMON NAME	SCIENTIFIC NAME	SIZE	SPACING
RIPARIAN PLANTING (ABOVE ELEV. +161)			
Redwillow	<i>Salix lasiolepis</i>	1.5" x 2.5"	4' O.C.
Slender willow	<i>Salix alba</i>	1.5" x 2.5"	4' O.C.
Red cedar dogwood	<i>Cornus sericea</i>	1.5" x 2.5"	6' O.C.
Shrub willow	<i>Salix glauca</i>	1.5" x 2.5"	6' O.C.
HIGH MARSH PLANTING (ELEV. +14.75 - 16.0')			
Tule	<i>Scirpus americanus</i>	10 can-pkg	Cluster of 7 plants at 100' O.C.
Winged tules	<i>Scirpus americanus</i>	10 can-pkg	Cluster of 7 plants at 100' O.C.
Baccharis	<i>Baccharis conferta</i>	10 can-pkg	25% of Area
MIDDLE MARSH PLANTING (ELEV. +13.5 - 14.75')			
Sea purslane	<i>Portulaca oleracea</i>	10 can-pkg	Cluster of 7 plants at 100' O.C.
Panicum	<i>Panicum capillare</i>	10 can-pkg	Cluster of 7 plants at 100' O.C.
Plant board nurseries	<i>Grassoid subsp. sp.</i>	10 can-pkg	Cluster of 7 plants at 100' O.C. near freshwater riparian and within upper restoration edge
LOW MARSH PLANTING (BELOW ELEV. +11.0 - 13.5')			
Plant board nurseries	<i>Salicornia virginica</i>	10 can-pkg	Cluster of 7 plants at 100' O.C.

1. RIPARIAN CONTAINER PLANTING

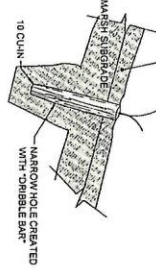


2. RIPARIAN LIVESTAKE PLANTING

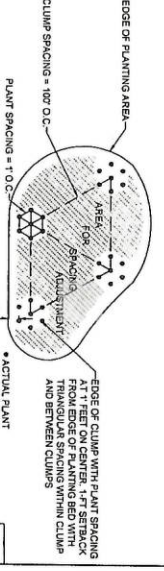


- NOTES:**
- HARVEST AND PLANT STAKES DURING THE DOMINANT SEASON.
 - INSTALLATION CUTS SHOULD BE NOT MADE ON SHUTTING DURING.
 - SOAK CUTTINGS CONTINUOUSLY PRIOR TO INSTALLATION.
 - TAMP THE SOIL AROUND THE STAKE.
 - PLANTING WITHIN STOCK SHALL BE USED. HARVESTING OF HAND PLANTS IS NOT ACCEPTABLE.
 - USE EQUAL NUMBER AND EVEN DISTRIBUTION OF EACH WILLOW SPECIES

TILL 4' LAYER TOPSOIL TYPE 2 INTO TOP 12" OF IMPORT FILL



3. MARSH PLANTING



4. MARSH PLANTING PATTERN

