



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, SEATTLE DISTRICT
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-3755

Regulatory Branch

July 9, 2020

Mr. Rob Wilson
Grays Harbor County Department of Public Works
100 West Broadway, Suite 31
Montesano, Washington 98563

Reference: NWS-2020-322
Grays Harbor County
Public Works (Keys Road
Flood Protection Project)

Dear Mr. Wilson:

We have reviewed your application to excavate and discharge fill in up to 0.33 of an acre of wetlands and up to 5.61 acres of the Satsop River to construct setback revetments, install engineered log jams, remove existing riprap, and construct a bypass channel, approximately 0.5 mile upstream from the confluence with the Chehalis River, near Montesano, Grays Harbor County, Washington. Based on the information you provided to us, Nationwide Permit (NWP) 13, *Bank Stabilization* (Federal Register January 6, 2017, Vol. 82, No. 4), authorizes your proposal as depicted on the enclosed drawings dated May 22, 2020, provided the proposed activities do not result in the permanent loss or conversion of wetlands or waters of the United States.

In order for this authorization to be valid, you must ensure the work is performed in accordance with the enclosed *NWP 13, Terms and Conditions* and the following special conditions:

- a. You must implement and abide by the revegetation planting plan as shown on sheets 7 and 8 of the Project Drawings dated May 22, 2020. The plants shall be installed concurrent or immediately following the work authorized by this permit. A report, as-built drawing and photographs demonstrating the trees/plants have been installed or a report on the status of project construction must be submitted to the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch, within 12 months from the date of permit verification. You can meet this reporting requirement by completing and submitting the enclosed *Report for Mitigation Work Completion* form.

- b. You must maintain and monitor the survival of installed revegetation plantings for five years after the U.S. Army Corps of Engineers accepts the as-built report. Installed plants shall achieve 100% survival during monitoring Years 1 and 2. Installed trees/plants shall achieve at least 80% survival during monitoring Years 3, 4 and 5. Percent survival is based on the total number of plants installed in accordance with the approved revegetation planting plan as shown on sheets 7 and 8 of the Project Drawings dated May 22, 2020. Individual plants that die must be replaced with native riparian species in order to meet the survival performance standards.
- c. You must submit annual monitoring reports for five years (Monitoring Years 1-5). Each annual monitoring report shall include written and photographic documentation on plant mortality and replanting efforts and must document whether the performance standards are being met. Photos must be taken from established points and used repeatedly for each monitoring year. In addition to photos at designated points, photo documentation must include a panoramic view(s) of the entire planting area. Submitted photos must be formatted on standard 8 ½" x 11" paper, dated with the date the photo was taken, and clearly labeled with the direction from which the photo was taken. The photo location points must be identified on an appropriate drawing. Annual restoration monitoring reports must be submitted to the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch, by December 31 of each monitoring year. You can meet this reporting requirement by completing and submitting the enclosed *Mitigation Planting Monitoring Report* form.
- d. Your responsibility to implement the revegetation planting plan as set forth in Special Condition "a" will not be considered fulfilled until you have demonstrated planting success/survival and have received written verification from the U.S. Army Corps of Engineers.
- e. In order to meet the requirements of the Endangered Species Act (ESA) 2008 Fish Passage and Restoration Programmatic Consultation (U.S. Fish and Wildlife Service (USFWS) Reference Number 1341-2008-FWS-#F-0209), you must comply with the conditions included in the *Abbreviated Biological Evaluation*, dated March 25, 2020. If you cannot comply with the terms and conditions of this programmatic consultation, you must, prior to commencing construction, contact the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch, for an individual consultation in accordance with the requirements of the ESA.
- f. In order to meet the requirements of the Endangered Species Act you may conduct the authorized activities from July 1 through August 31 in any year this permit is valid. You shall not conduct work authorized by this permit from September 1 through June 30 in any year this permit is valid.

We have reviewed your project pursuant to the requirements of the Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act and the National Historic Preservation Act. We have determined this project complies with the requirements of these laws provided you comply with all of the permit general and special conditions.

Please note that National General Condition 21, *Discovery of Previously Unknown Remains and Artifacts*, found in the *Nationwide Permit Terms and Conditions* enclosure, details procedures that must be followed should an inadvertent discovery occur. You must ensure that you comply with this condition during the construction of your project.

The authorized work complies with the Washington State Department of Ecology's (Ecology) Water Quality Certification (WQC) requirements and Coastal Zone Management (CZM) consistency determination response for this NWP. No further coordination with Ecology for WQC and CZM is required.

You have not requested a jurisdictional determination for this proposed project. If you believe the U.S. Army Corps of Engineers does not have jurisdiction over all or portions of your project you may request a preliminary or approved jurisdictional determination (JD). If one is requested, please be aware that we may require the submittal of additional information to complete the JD and work authorized in this letter may not occur until the JD has been completed.

Our verification of this NWP authorization is valid until March 18, 2022, unless the NWP is modified, reissued, or revoked prior to that date. If the authorized work has not been completed by that date and you have commenced or are under contract to commence this activity before March 18, 2022, you will have until March 18, 2023, to complete the activity under the enclosed terms and conditions of this NWP. Failure to comply with all terms and conditions of this NWP verification invalidates this authorization and could result in a violation of Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act. You must also obtain all local, State, and other Federal permits that apply to this project.

You are cautioned that any change in project location or plans will require that you submit a copy of the revised plans to this office and obtain our approval before you begin work. Deviating from the approved plans could result in the assessment of criminal or civil penalties.

Upon completing the authorized work, you must fill out and return the enclosed *Certificate of Compliance with Department of the Army Permit*. Thank you for your cooperation during the permitting process. We are interested in your experience with our Regulatory Program and

encourage you to complete a customer service survey. These documents and information about our program are available on our website at www.nws.usace.army.mil, select "Regulatory Branch, Permit Information" and then "Contact Us." If you have any questions, please contact me at evan.g.carnes@usace.army.mil or (206) 316-3049.

Sincerely,

A handwritten signature in black ink, reading "Evan G. Carnes". The signature is fluid and cursive, with the first name "Evan" and last name "Carnes" clearly legible.

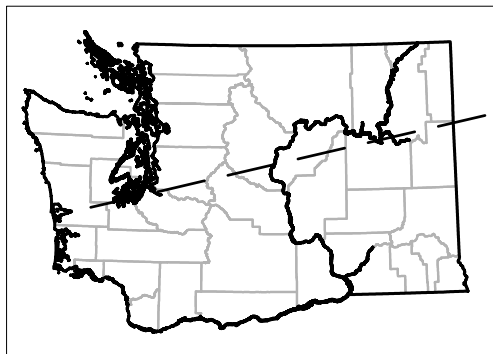
Evan G. Carnes, Project Manager
Regulatory Branch

Enclosures

KEYS ROAD FLOOD PROTECTION

JARPA FIGURES

GRAYS HARBOR COUNTY



WASHINGTON STATE

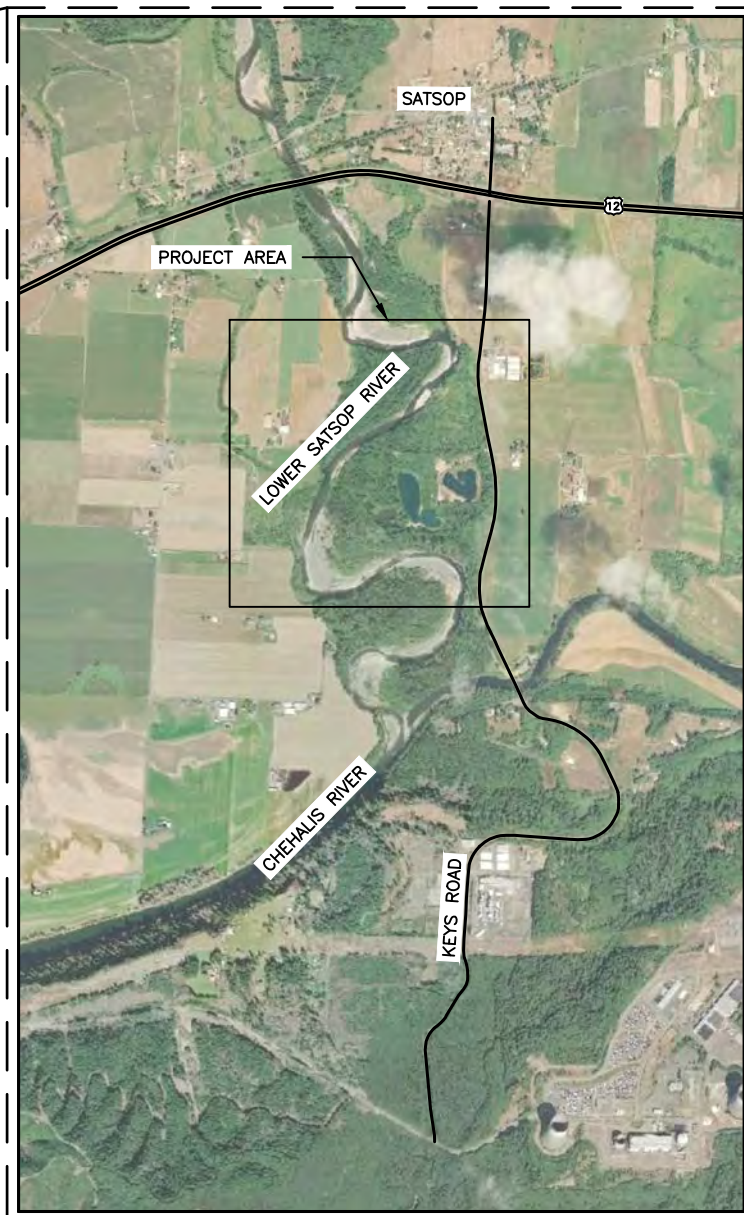
SCALE: 1" = 50 MILES

SHEET LIST TABLE	
SHEET NO.	SHEET TITLE
01	COVER SHEET
02	EXISTING CONDITIONS, SITE ACCESS, & STAGING
03	PROPOSED CONDITIONS & IMPACTS
04	PROPOSED CONDITIONS & IMPACTS
05	PROJECT ELEMENT QUANTITIES
06	PROJECT ELEMENT QUANTITIES
07	REVEGETATION & ALLUVIUM PLACEMENT PLAN
08	PLANT SCHEDULES & DETAILS
09	TYPE 1 APEX ELJ DETAILS
10	TYPE 2 APEX ELJ DETAILS
11	TYPE 1 DEFLECTOR ELJ DETAILS
12	FLOODPLAIN ROUGHNESS ELJ DETAILS
13	TIMBER COMPLEX ELJ DETAILS
14	TYPE 1 SETBACK REVETMENT ELJ DETAILS
15	TYPE 2 SETBACK REVETMENT ELJ DETAILS

CONTACT INFORMATION

GRAYS HARBOR COUNTY

DEPARTMENT OF PUBLIC WORKS
110 WEST BROADWAY, SUITE 31
MONTESANO, WA 98563
(360) 249-4222



PROJECT LOCATION MAP

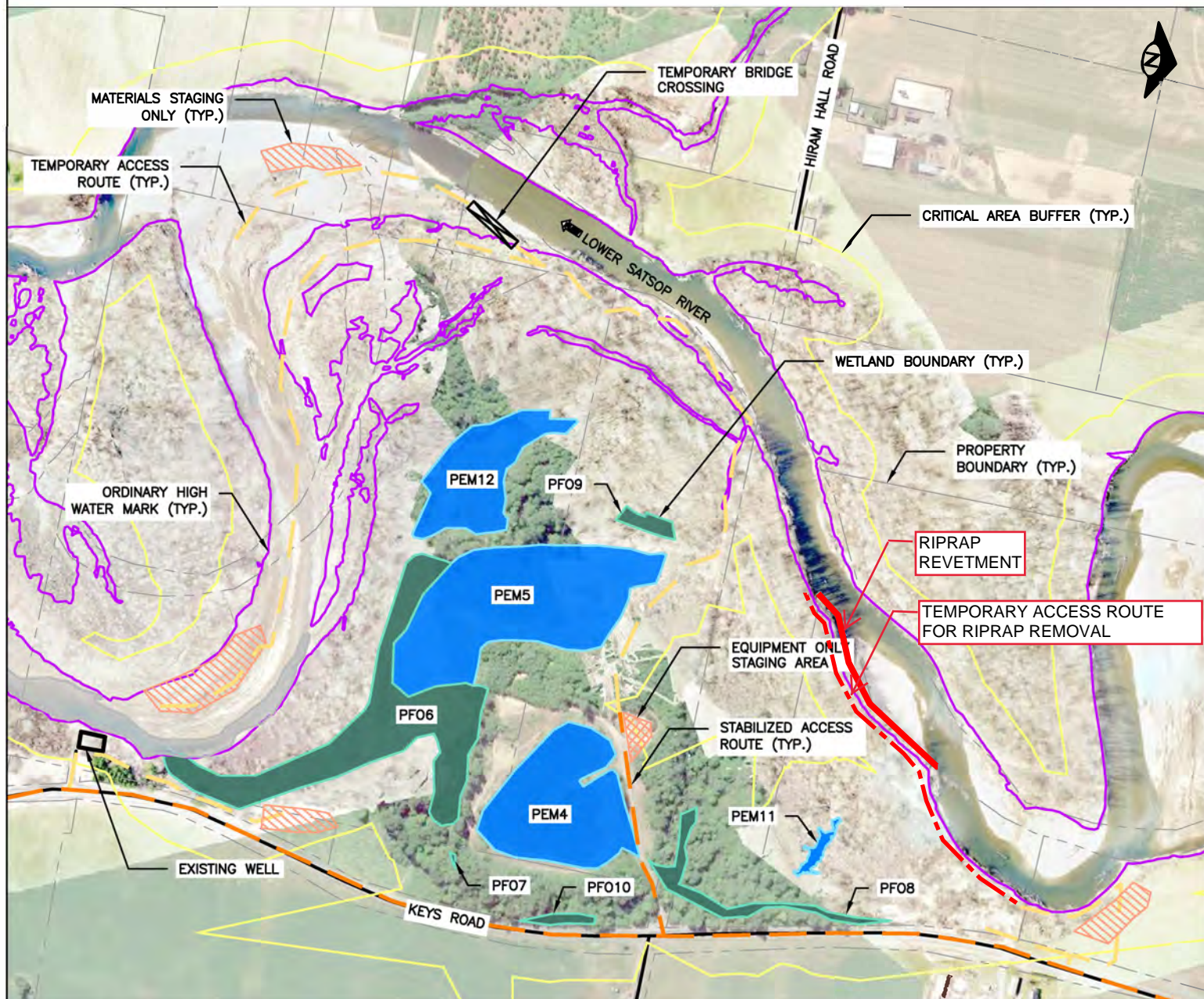
SCALE: 1" = 3,000'



REFERENCE NUMBER: NWS-2020-0322 APPLICANT: GRAYS HARBOR COUNTY		PROJECT LOCATION: SEE SHEET 01	PROPOSED PROJECT: KEYS ROAD FLOOD PROTECTION
LATITUDE: 47° 03' 49" N LONGITUDE: 123° 29' 29" W		VERTICAL DATUM - NAVD 88 HORIZONTAL DATUM - NAD 83/91	
SHEET 01 - COVER SHEET	DATE: 5/22/2020	IN: LOWER SATSOP RIVER NEAR/AT: SATSOP	COUNTY: GRAYS HARBOR STATE: WA FILE: JARPA_COVER SHEET.DWG

NOTES:

1. AERIAL IMAGERY SOURCE: COMPOSITE DRONE IMAGERY 2019. DUE TO EROSION OF STREAMBANKS AND DEPOSITION OF STREAMBED MATERIAL SINCE IMAGERY WAS CAPTURED, THE GEOMETRY OF THE STREAMBANKS AT THE TIME OF CONSTRUCTION COULD BE DIFFERENT THAN SHOWN IN THESE FIGURES.
2. MATERIALS STAGING AREAS ARE LOCATED ON UNVEGETATED GRAVEL BARS. NO CLEARING WILL OCCUR.
3. EQUIPMENT STAGING AREA IS LOCATED IN AN UNVEGETATED UPLAND AREA. NO CLEARING WILL OCCUR.
4. ALL TEMPORARY ACCESS AND STAGING AREAS WILL BE SEEDED FOLLOWING PROJECT COMPLETION WITH AN APPROPRIATE NATIVE UPLAND SEED MIX.



EXISTING CONDITIONS, SITE ACCESS, & STAGING

SCALE: 1" = 600'

REFERENCE NUMBER: NWS-2020-0322
APPLICANT: GRAYS HARBOR COUNTY

PROJECT LOCATION:
SEE SHEET 01

PROPOSED PROJECT:
KEYS ROAD FLOOD PROTECTION

LATITUDE: 47° 03' 49" N
LONGITUDE: 123° 29' 29" W

VERTICAL DATUM - NAVD 88
HORIZONTAL DATUM - NAD 83/91

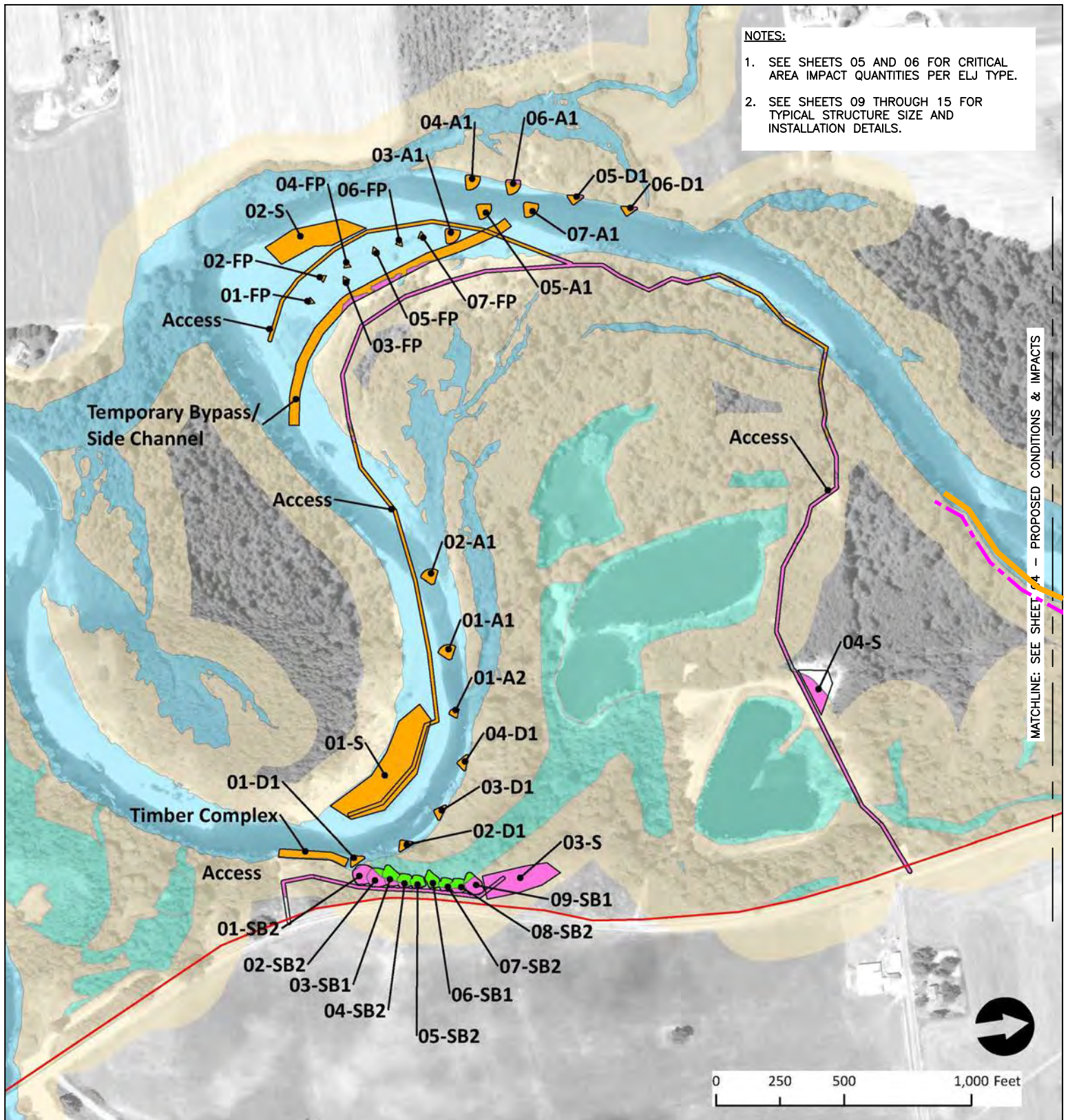
SHEET 02 - EXISTING
CONDITIONS, SITE
ACCESS, & STAGING

DATE: 5/22/2020

IN: LOWER SATSOP RIVER
NEAR/AT: SATSOP

COUNTY: GRAYS HARBOR
STATE: WA

FILE: JARPA_EXISTING
CONDITIONS.DWG



NOTES:

1. SEE SHEETS 05 AND 06 FOR CRITICAL AREA IMPACT QUANTITIES PER ELJ TYPE.
2. SEE SHEETS 09 THROUGH 15 FOR TYPICAL STRUCTURE SIZE AND INSTALLATION DETAILS.

PROPOSED CONDITIONS & IMPACTS

ELJ Structure Types

- ◊ Large Apex
- ◊ Small Apex
- ▷ Large Deflector
- ◄ Floodplain Roughness Element
- Setback Revetment
- Timber Complex

- Wetlands
- Ordinary High Water
- Wetlands and Waters Buffers
- Project Element Footprint

- Temporary Impacts to Wetlands
- Temporary Impacts to Waterbodies
- Temporary Impacts to Critical Areas Buffers
- Cascade Natural Gas Line

REFERENCE NUMBER: NWS-2020-0322
APPLICANT: GRAYS HARBOR COUNTY

PROJECT LOCATION:
SEE SHEET 01

PROPOSED PROJECT:
KEYS ROAD FLOOD PROTECTION

LATITUDE: 47° 03' 49" N
LONGITUDE: 123° 29' 29" W

VERTICAL DATUM - NAVD 88
HORIZONTAL DATUM - NAD 83/91

SHEET 03 - PROPOSED
CONDITIONS & IMPACTS

DATE: 5/22/2020

IN: LOWER SATSOP RIVER
NEAR/AT: SATSOP

COUNTY: GRAYS HARBOR
STATE: WA

FILE: JARPA_PROPOSED
CONDITIONS.DWG



REFERENCE NUMBER: NWS-2020-0322 APPLICANT: GRAYS HARBOR COUNTY		PROJECT LOCATION: SEE SHEET 01	PROPOSED PROJECT: KEYS ROAD FLOOD PROTECTION	
LATITUDE: 47° 03' 49" N LONGITUDE: 123° 29' 29" W		VERTICAL DATUM - NAVD 88 HORIZONTAL DATUM - NAD 83/91		
SHEET 04 - PROPOSED CONDITIONS & IMPACTS	DATE: 5/22/2020	IN: LOWER SATSOP RIVER NEAR/AT: SATSOP	COUNTY: GRAYS HARBOR STATE: WA	FILE: JARPA_PROPOSED CONDITIONS.DWG

KEYS ROAD FLOOD PROTECTION PROJECT ELEMENTS

		TOTAL IMPACTS		CRITICAL AREAS BUFFER IMPACTS		TEMPORARY WETLAND IMPACTS		WATERBODY IMPACTS	
PROJECT ELEMENT	IMPACTED RESOURCE	EXCAVATION (CY)	AREA (AC)	EXCAVATION (CY)	AREA (AC)	EXCAVATION (CY)	AREA (AC)	EXCAVATION (CY)	AREA (AC)
TYPE 1 APEX ELJ									
01-A1	SATSOP RIVER	0	0.063	–	–	–	–	0	0.063
02-A1	SATSOP RIVER	0	0.063	–	–	–	–	0	0.063
03-A1	SATSOP RIVER	687	0.063	–	–	–	–	687	0.063
04-A1	SATSOP RIVER	102	0.063	–	–	–	–	102	0.063
05-A1	SATSOP RIVER	51	0.063	–	–	–	–	51	0.063
06-A1	SATSOP RIVER AND BUFFER	102	0.063	27	0.017	–	–	75	0.046
07-A1	SATSOP RIVER	0	0.063	–	–	–	–	0	0.063
TYPE 2 APEX ELJ									
01-A2	SATSOP RIVER	121	0.023	–	–	–	–	121	0.023
TYPE 1 DEFLECTOR ELJ									
01-D1	SATSOP RIVER	170	0.035	–	–	–	–	170	0.035
02-D1	SATSOP RIVER	170	0.035	–	–	–	–	170	0.035
03-D1	SATSOP RIVER	170	0.035	–	–	–	–	170	0.035
04-D1	SATSOP RIVER	170	0.035	–	–	–	–	170	0.035
05-D1	SATSOP RIVER	170	0.035	–	–	–	–	170	0.035
06-D1	SATSOP RIVER	170	0.035	–	–	–	–	170	0.035
07-D1	SATSOP RIVER	170	0.035	–	–	–	–	170	0.035
08-D1	SATSOP RIVER	170	0.035	–	–	–	–	170	0.035
09-D1	SATSOP RIVER	170	0.035	–	–	–	–	170	0.035
FLOODPLAIN ROUGHNESS ELJ									
01-FP	SATSOP RIVER	0	0.009	–	–	–	–	0	0.009
02-FP	SATSOP RIVER	0	0.009	–	–	–	–	0	0.009
03-FP	SATSOP RIVER	0	0.009	–	–	–	–	0	0.009
04-FP	SATSOP RIVER	0	0.009	–	–	–	–	0	0.009
05-FP	SATSOP RIVER	0	0.009	–	–	–	–	0	0.009
06-FP	SATSOP RIVER	0	0.009	–	–	–	–	0	0.009
07-FP	SATSOP RIVER	0	0.009	–	–	–	–	0	0.009
TIMBER COMPLEX ELJ									
	SATSOP RIVER	1,200	0.180	–	–	–	–	1,200	0.180
TYPE 1 SB REVETMENT ELJ									
03-SB1	WETLAND PF06	1,214	0.089	254	0.026	960	0.063	–	–
06-SB1	WETLAND PF06	538	0.063	14	0.003	524	0.060	–	–
09-SB1	WETLAND PF06	1,308	0.106	1,027	0.084	281	0.023	–	–
12-SB1	WETLAND PF06 BUFFER	2,318	0.111	2,318	0.111	–	–	–	–
15-SB1	WETLAND PF06 BUFFER	2,278	0.107	2,278	0.107	–	–	–	–
18-SB1	WETLAND PF06 BUFFER	98	0.006	98	0.006	–	–	–	–

REFERENCE NUMBER: NWS-2020-0322
APPLICANT: GRAYS HARBOR COUNTY

PROJECT LOCATION:
SEE SHEET 01

PROPOSED PROJECT:
KEYS ROAD FLOOD PROTECTION

LATITUDE: 47° 03' 49" N
LONGITUDE: 123° 29' 29" W

VERTICAL DATUM – NAVD 88
HORIZONTAL DATUM – NAD 83/91

SHEET 05 – PROJECT
ELEMENT QUANTITIES

DATE: 5/22/2020

IN: LOWER SATSOP RIVER
NEAR/AT: SATSOP

COUNTY: GRAYS HARBOR
STATE: WA

FILE:
JARPA_STAGE1.DWG

KEYS ROAD FLOOD PROTECTION PROJECT ELEMENTS CONTINUED

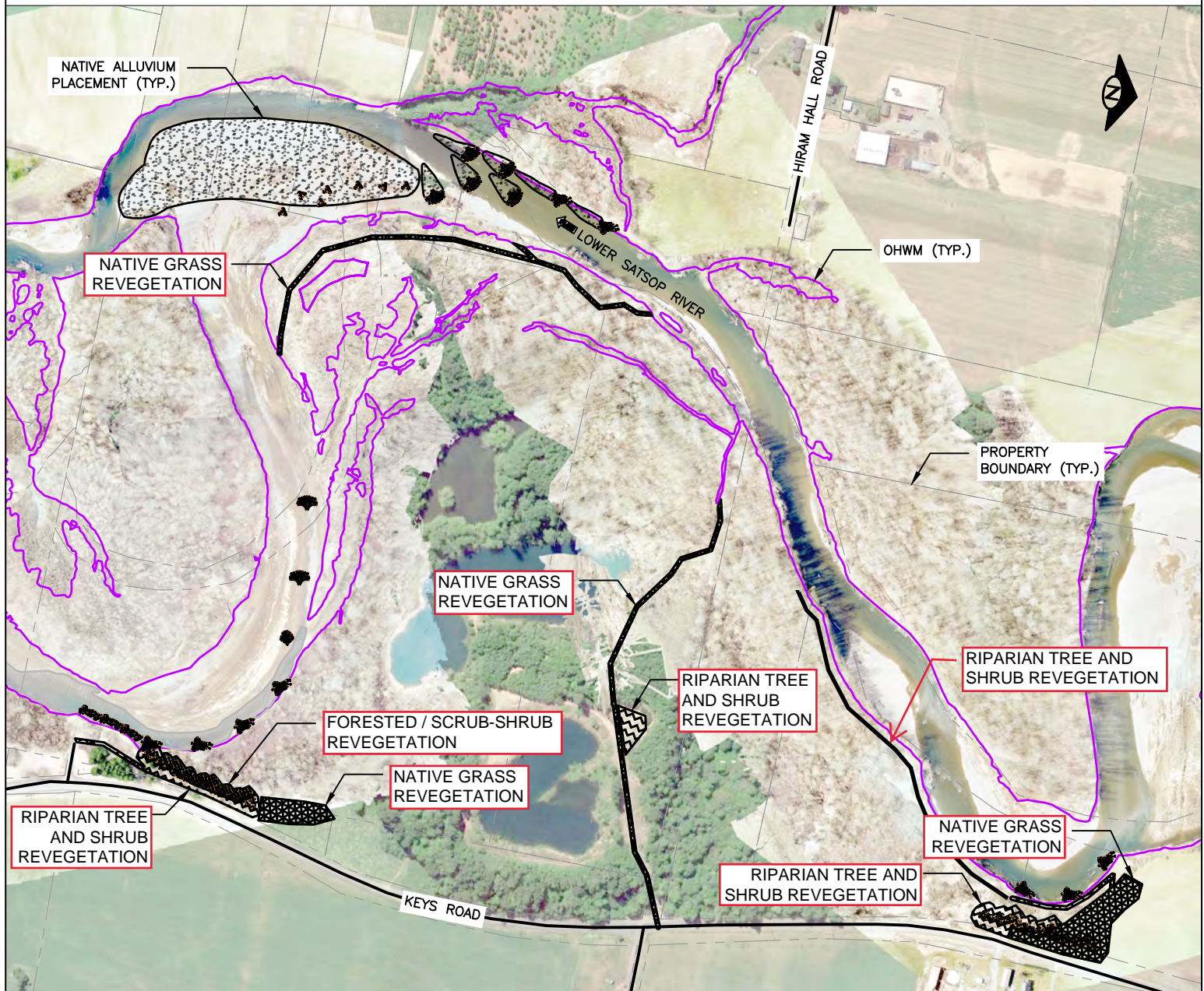
		TOTAL TEMPORARY IMPACTS		TEMPORARY CRITICAL AREAS BUFFER IMPACTS		TEMPORARY WETLAND IMPACTS		TEMPORARY WATERBODY IMPACTS	
PROJECT ELEMENT	IMPACTED RESOURCE	EXCAVATION (CY)	AREA (AC)	EXCAVATION (CY)	AREA (AC)	EXCAVATION (CY)	AREA (AC)	EXCAVATION (CY)	AREA (AC)
TYPE 2 SB REVETMENT ELJ									
01-SB2	WETLAND PF06 BUFFER	1,726	0.093	1,726	0.093	-	-	-	-
02-SB2	WETLAND PF06	1,706	0.099	1,383	0.080	323	0.018	-	-
04-SB2	WETLAND PF06	714	0.058	111	0.014	603	0.044	-	-
05-SB2	WETLAND PF06	587	0.057	49	0.008	538	0.049	-	-
07-SB2	WETLAND PF06	537	0.049	79	0.011	458	0.038	-	-
08-SB2	WETLAND PF06	799	0.063	243	0.024	556	0.039	-	-
10-SB2	WETLAND PF06 BUFFER	1,221	0.051	1,221	0.051	-	-	-	-
11-SB2	WETLAND PF06 BUFFER	1,454	0.063	1,454	0.063	-	-	-	-
13-SB2	WETLAND PF06 BUFFER	1,506	0.079	1,506	0.079	-	-	-	-
14-SB2	WETLAND PF06 BUFFER	1,251	0.104	1,251	0.104	-	-	-	-
16-SB2	WETLAND PF06 BUFFER	721	0.046	721	0.046	-	-	-	-
17-SB2	WETLAND PF06 BUFFER	250	0.015	250	0.015	-	-	-	-
BYPASS/ SIDE CHANNEL									
	SATSOP RIVER AND BUFFER	10,000	1.140	1,228	0.140	-	-	8,772	1.000
TEMPORARY ACCESS ROUTES									
	SATSOP RIVER AND BUFFER	0	3.800	0	2.80	-	-	0	1.000
STAGING AREAS									
01-S	SATSOP RIVER	0	1.503	-	-	-	-	0	1.503
02-S	SATSOP RIVER	0	0.691	-	-	-	-	0	0.691
03-S	WETLAND PF06 BUFFER	0	0.569	0	0.569	-	-	-	-
04-S	WETLAND PEM4 BUFFER	0	0.286	0	0.286	-	-	-	-
05-S	SATSOP RIVER BUFFER	0	0.713	0	0.713	-	-	-	-
PROJECT TOTALS		34,318	11.393	17,238	5.449	4,243	0.334	12,837	5.610
Project totals include Riprap Removal areas and volumes in below row									
RIPRAP REMOVAL									
	SATSOP RIVER	300	0.410	-	-	-	-	300	0.41

All riprap removal is conservatively included as occurring below OHWM and classified as a waterbody impact. It is unlikely that all the riprap is actually below OHWM.

REFERENCE NUMBER: NWS-2020-0322 APPLICANT: GRAYS HARBOR COUNTY		PROJECT LOCATION: SEE SHEET 01	PROPOSED PROJECT: KEYS ROAD FLOOD PROTECTION	
LATITUDE: 47° 03' 49" N LONGITUDE: 123° 29' 29" W		VERTICAL DATUM - NAVD 88 HORIZONTAL DATUM - NAD 83/91		
SHEET 06 - PROJECT ELEMENT QUANTITIES	DATE: 5/22/2020	IN: LOWER SATSOP RIVER NEAR/AT: SATSOP	COUNTY: GRAYS HARBOR STATE: WA	FILE: JARPA_STAGE1.DWG

NOTES:

1. UPON COMPLETION OF CONSTRUCTION, ACCESS ROUTES ABOVE OHWM WILL BE HYDROSEEDING USING A GRASS AND FORB SEED MIX. ACCESS ROUTES BELOW OHWM WILL BE DECOMPACTED AND NOT SEEDED.
2. EMERGENT AND SCRUB SHRUB REVEGETATION WILL OCCUR IN DISTURBED WETLAND AREAS.
3. FORESTED REVEGETATION WILL OCCUR IN DISTURBED UPLAND AREAS.
4. SEE SHEET 08 FOR NATIVE PLANT SCHEDULES AND NATIVE SEED MIX.



REVEGETATION & ALLUVIUM PLACEMENT PLAN

SCALE: 1" = 600'

REFERENCE NUMBER: NWS-2020-0322
APPLICANT: GRAYS HARBOR COUNTY

PROJECT LOCATION:
SEE SHEET 01

PROPOSED PROJECT:
KEYS ROAD FLOOD PROTECTION

LATITUDE: 47° 03' 49" N
LONGITUDE: 123° 29' 29" W

VERTICAL DATUM - NAVD 88
HORIZONTAL DATUM - NAD 83/91

07 - REVEGETATION &
SHEET ALLUVIUM PLACEMENT
PLAN

DATE: 5/22/2020

IN: LOWER SATSOP RIVER
NEAR/AT: SATSOP

COUNTY: GRAYS HARBOR
STATE: WA

FILE: JARPA_EXISTING
CONDITIONS.DWG



TYPE 1 AND 2 REVETMENT STRUCTURE EXAMPLES

NOTES:

1. TYPE 1 AND 2 SETBACK REVETMENT STRUCTURES TO BE BACKFILLED TO ORIGINAL GRADE AND REVEGETATED WITH NATIVE FORESTED AND SCRUB SHRUB PLANT SPECIES.
2. SEE REVEGETATION PLANT SCHEDULE THIS SHEET.
3. SEE SHEETS 14 AND 15 FOR REVETMENT STRUCTURE CONSTRUCTION DETAILS.

RIPARIAN TREE AND SHRUB REVEGETATION AREAS - 2.25 ACRES TOTAL

SPECIES	COMMON NAME	BAREROOT MATERIAL SIZE	AVG. SPACING	QTY.
<i>ALNUS RUBRA</i>	RED ALDER	18-24"	9	458
<i>PSEUDOTSUGA MENZIESII</i>	DOUGLAS-FIR	18-24"	12	515
<i>CORYLUS CORNUTA</i>	BEAKED HAZELNUT	12-18"	8	580
<i>RUBUS PARVIFLORUS</i>	THIMBELBERRY	12-18"	4	1,546
<i>SYMPHORICARPOS ALBUS</i>	SNOWBERRY	12-18"	4	1,934
TOTAL				5,033

FORESTED/SCRUB-SHRUB WETLAND REVEGETATION AREA - 18,644 SQFT (0.43 ACRES) TOTAL

PLANT COMMUNITY	LAYER	BAREROOT MATERIAL SIZE	AVG. SPACING	QTY.
<i>ALNUS RUBRA</i>	RED ALDER	18-24"	9	138
<i>SALIX LASIANDRA</i>	PACIFIC WILLOW	12-18"	8	102
<i>CORNUS SERICEA</i>	REDOSIER DOGWOOD	12-18"	6	104
<i>RUBUS SPECTABILIS</i>	SALMONBERRY	12-18"	4	291
<i>SYMPHORICARPOS ALBUS</i>	SNOWBERRY	12-18"	4	233
<i>CAREX OBNUPTA</i>	SLOUGH SEDGE	6-12"	1.5	829
TOTAL				1,697

NATIVE GRASS REVEGETATION - 2.75 ACRES TOTAL

SPECIES	COMMON NAME	BULK PLANTING RATE (LBS/ACRE)	TOTAL BULK SEED (LBS)
<i>ELYMUS GLAUCUS</i>	BLUE WILDRYE	4.46	12.26
<i>FESTUCA RUBRA</i>	NATIVE RED FESCUE	1.49	4.09
<i>BROMUS CARINATUS</i>	CALIFORNIA BROME	1.98	5.45
<i>DESCHAMPSIA CESPITOSA</i>	TUFTED HAIRGRASS	0.20	0.54
<i>ELYMUS LANCEOLATUS SSP. PSAMMOPHILUS</i>	STREAMBANK WHEATGRASS	1.05	2.88
TOTAL			25.21

REFERENCE NUMBER: NWS-2020-0322
APPLICANT: GRAYS HARBOR COUNTY

PROJECT LOCATION:
SEE SHEET 01

PROPOSED PROJECT:
KEYS ROAD FLOOD PROTECTION

LATITUDE: 47° 03' 49" N
LONGITUDE: 123° 29' 29" W

VERTICAL DATUM - NAVD 88
HORIZONTAL DATUM - NAD 83/91

SHEET 08 - PLANT
SCHEDULES & DETAILS

DATE: 5/22/2020

IN: LOWER SATSOP RIVER
NEAR/AT: SATSOP

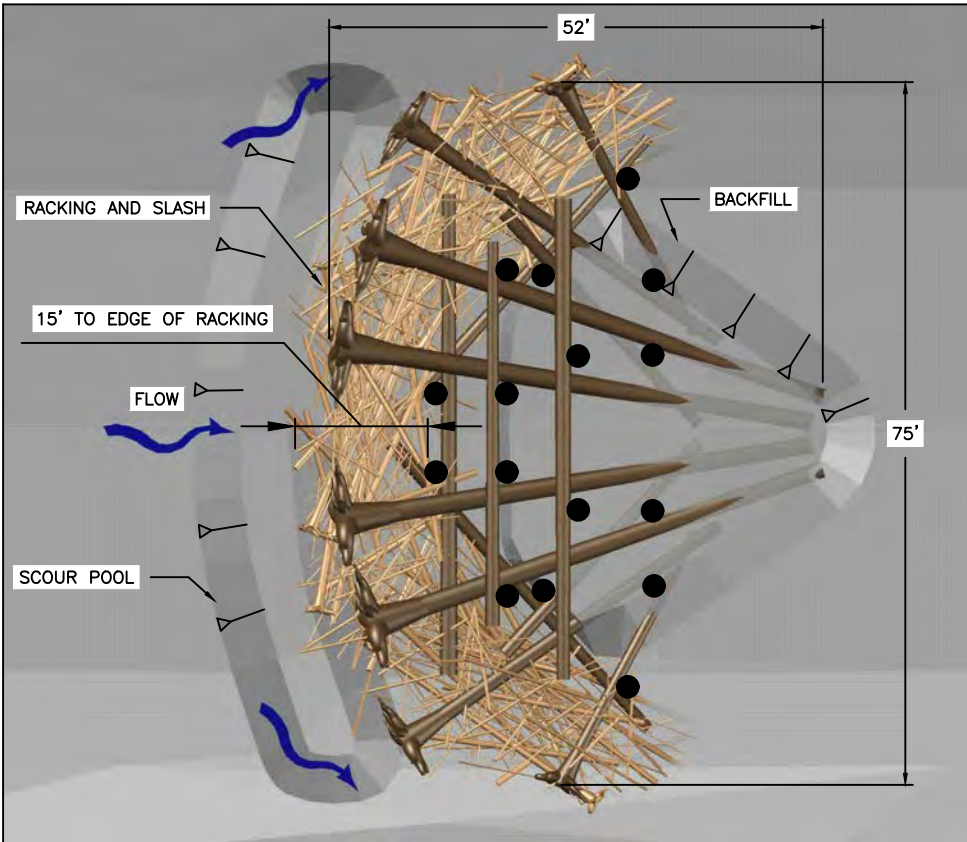
COUNTY: GRAYS HARBOR
STATE: WA

FILE:
JARPA_STAGE1.DWG

TYPE 1 APEX STRUCTURE DIMENSIONS	
TOTAL STRUCTURE LENGTH	52'
STRUCTURE WIDTH	75'
STRUCTURE HEIGHT	VARIABLE
EXCAVATION QUANTITY	106 CY

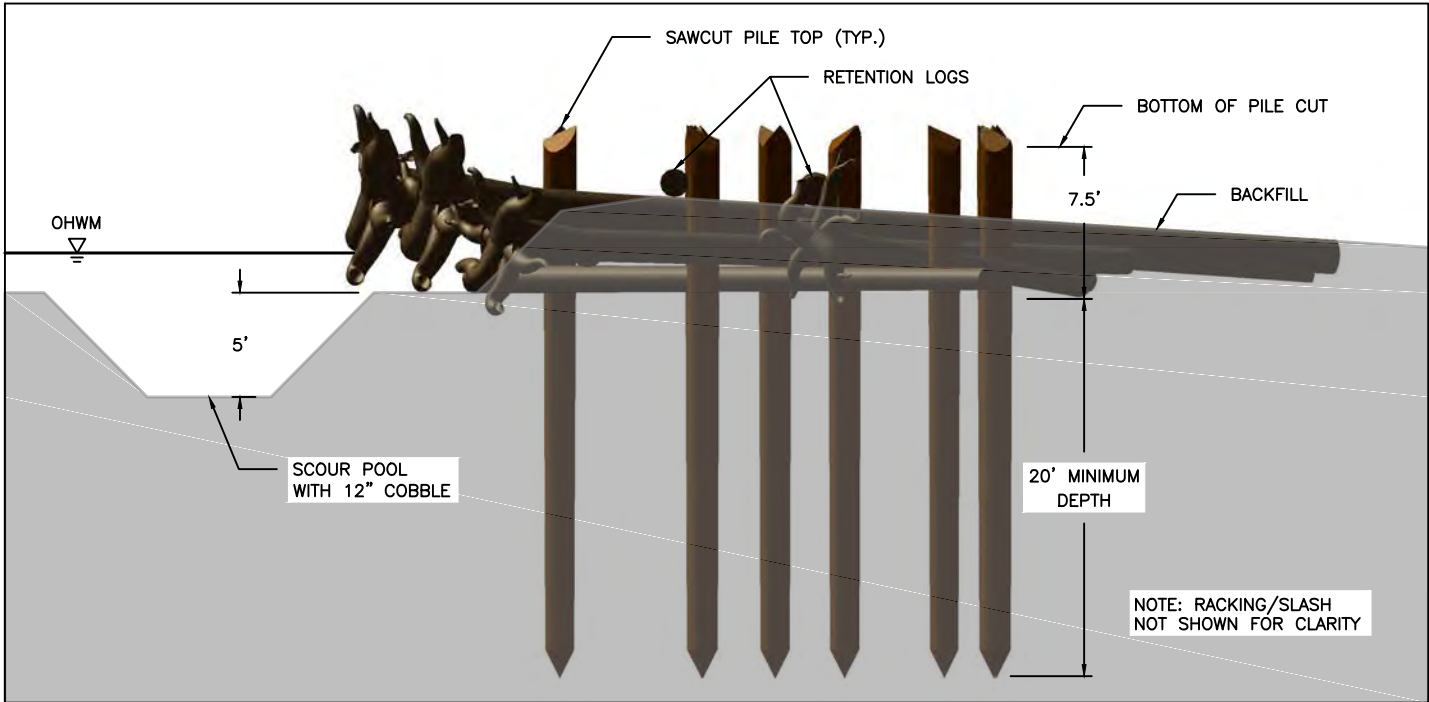
NOTES:

- ALL LOGS ARE DOUGLAS FIR, OR WESTERN RED CEDAR.
- SOIL EXCAVATED DURING CONSTRUCTION SHALL BE REPLACED TO ORIGINAL GROUND FOLLOWING PLACEMENT OF ALL LOGS.
- THE LOCATIONS SHOWN IN THE PLANS ARE APPROXIMATE AND MAY BE ADJUSTED IN THE FIELD BY THE CONTRACTING OFFICER.
- EXTENTS AND LOCATION OF THE SCOUR POOL IS APPROXIMATE AND TO BE ADJUSTED IN THE FIELD BY THE CONTRACTING OFFICER.
- EXISTING WOODY MATERIAL AT THE STRUCTURE CONSTRUCTION SITE SHALL BE MOVED OR PROTECTED FROM CONSTRUCTION ACTIVITIES AND THEN INCORPORATED INTO THE STRUCTURE AS DIRECTED BY THE CONTRACTING OFFICER.



TYPE 1 APEX ELJ PERSPECTIVE

1" = 20'



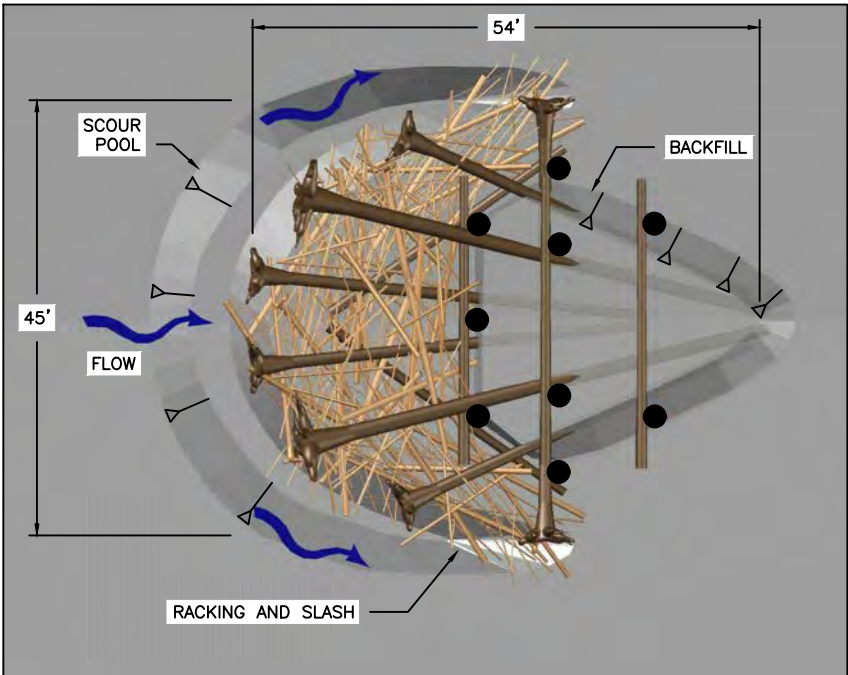
TYPE 1 APEX ELJ PROFILE

1" = 10'

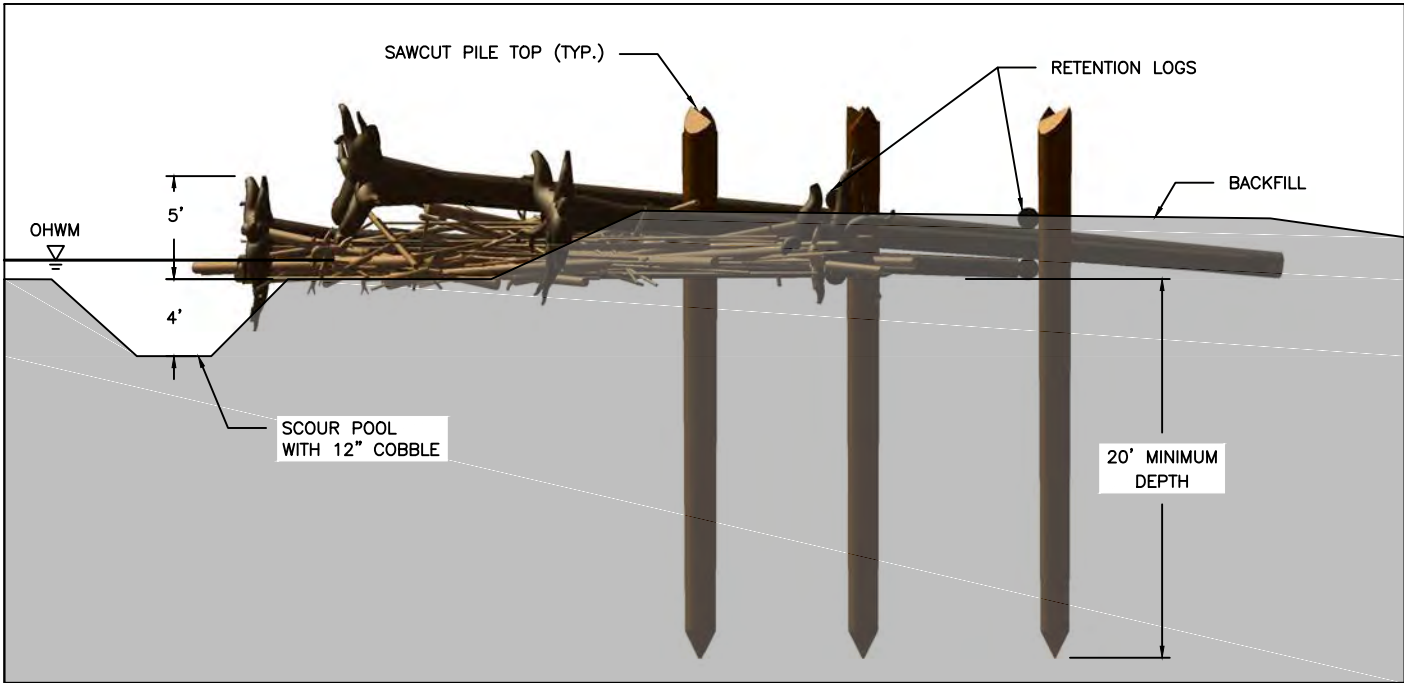
REFERENCE NUMBER: NWS-2020-0322 APPLICANT: GRAYS HARBOR COUNTY		PROJECT LOCATION: SEE SHEET 01	PROPOSED PROJECT: KEYS ROAD FLOOD PROTECTION
LATITUDE: 47° 03' 49" N LONGITUDE: 123° 29' 29" W		VERTICAL DATUM - NAVD 88 HORIZONTAL DATUM - NAD 83/91	
SHEET 09 - TYPE 1 APEX ELJ DETAILS	DATE: 5/22/2020	IN: LOWER SATSOP RIVER NEAR/AT: SATSOP	COUNTY: GRAYS HARBOR STATE: WA FILE: JARPA TYPE 1 APEX LARGE.DWG

TYPE 2 APEX STRUCTURE DIMENSIONS	
TOTAL STRUCTURE LENGTH	54'
STRUCTURE WIDTH	45'
STRUCTURE HEIGHT	VARIES
EXCAVATION QUANTITY	45 CY

- NOTES:
- ALL LOGS ARE DOUGLAS FIR, OR WESTERN RED CEDAR.
 - SOIL EXCAVATED DURING CONSTRUCTION SHALL BE REPLACED TO ORIGINAL GROUND FOLLOWING PLACEMENT OF ALL LOGS.
 - THE LOCATIONS SHOWN IN THE PLANS ARE APPROXIMATE AND MAY BE ADJUSTED IN THE FIELD BY THE CONTRACTING OFFICER.
 - EXTENTS AND LOCATION OF THE SCOUR POOL ARE APPROXIMATE AND TO BE ADJUSTED IN THE FIELD BY THE CONTRACTING OFFICER.
 - EXISTING WOODY MATERIAL AT THE STRUCTURE CONSTRUCTION SITE SHALL BE MOVED OR PROTECTED FROM CONSTRUCTION ACTIVITIES AND THEN INCORPORATED INTO THE STRUCTURE AS DIRECTED BY THE CONTRACTING OFFICER.



TYPE 2 APEX ELJ PLAN
1" = 20'



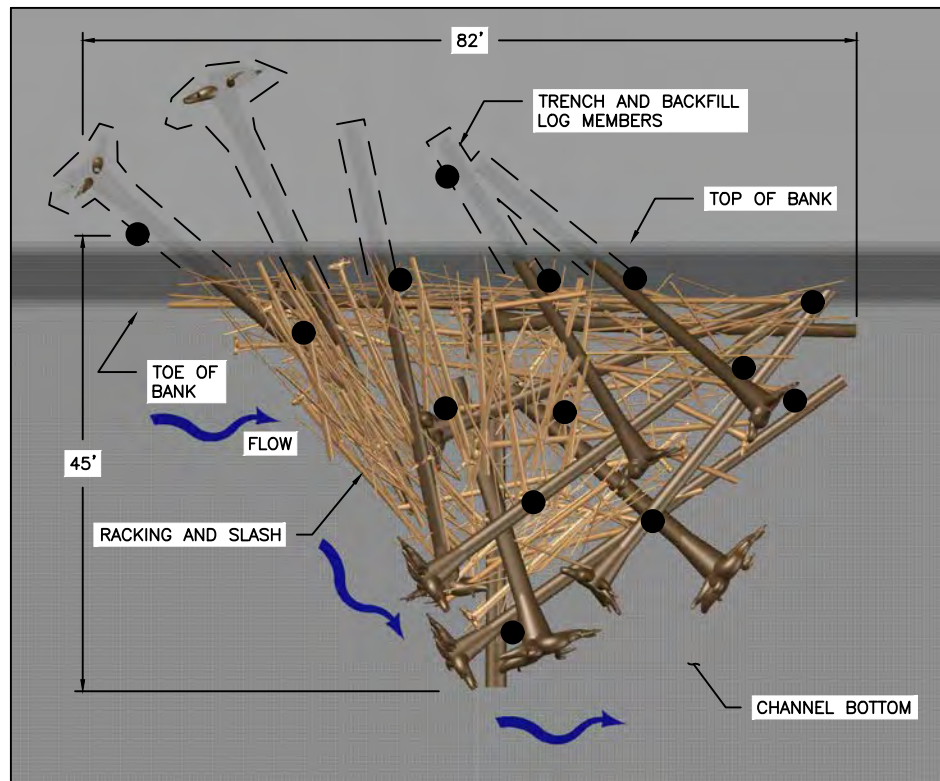
TYPE 2 APEX ELJ PROFILE
1" = 10'

REFERENCE NUMBER: NWS-2020-0322 APPLICANT: GRAYS HARBOR COUNTY		PROJECT LOCATION: SEE SHEET 01	PROPOSED PROJECT: KEYS ROAD FLOOD PROTECTION	
LATITUDE: 47° 03' 49" N LONGITUDE: 123° 29' 29" W		VERTICAL DATUM – NAVD 88 HORIZONTAL DATUM – NAD 83/91		
SHEET 10 – TYPE 2 APEX ELJ DETAILS	DATE: 5/22/2020	IN: LOWER SATSOP RIVER NEAR/AT: SATSOP	COUNTY: GRAYS HARBOR STATE: WA	FILE: JARPA TYPE 2 APEX SMALL.DWG

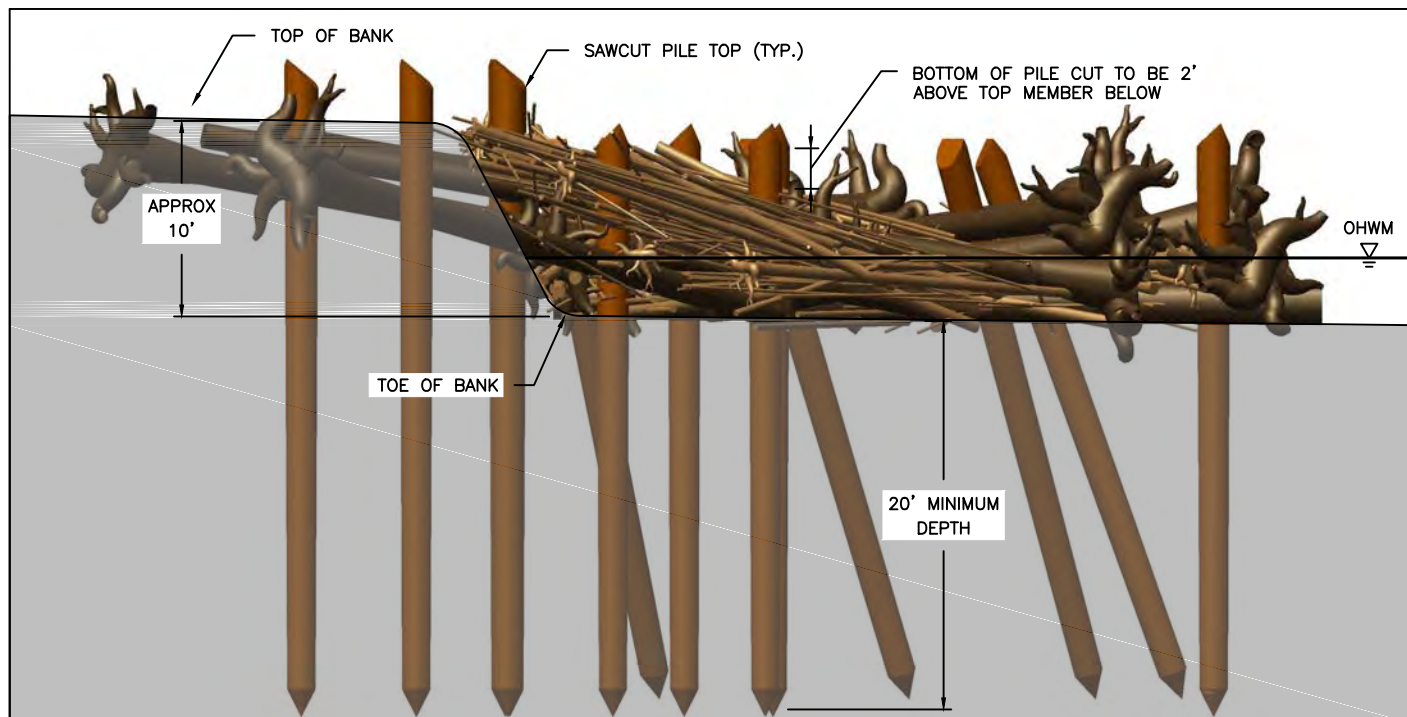
TYPE 1 DEFLECTOR STRUCTURE DIMENSIONS	
TOTAL STRUCTURE LENGTH	82'
STRUCTURE WIDTH	45'
STRUCTURE HEIGHT	VARIES
EXCAVATION QUANTITY	170 CY

NOTES:

1. ALL LOGS ARE DOUGLAS FIR, OR WESTERN RED CEDAR.
2. SOIL EXCAVATED DURING CONSTRUCTION SHALL BE REPLACED TO ORIGINAL GROUND FOLLOWING PLACEMENT OF ALL LOGS.
3. THE LOCATIONS SHOWN IN THE PLANS ARE APPROXIMATE AND MAY BE ADJUSTED IN THE FIELD BY THE CONTRACTING OFFICER.
4. EXTENTS AND LOCATION OF THE SCOUR POOL ARE APPROXIMATE AND TO BE ADJUSTED IN THE FIELD BY THE CONTRACTING OFFICER.
5. EXISTING WOODY MATERIAL AT THE STRUCTURE CONSTRUCTION SITE SHALL BE MOVED OR PROTECTED FROM CONSTRUCTION ACTIVITIES AND THEN INCORPORATED INTO THE STRUCTURE AS DIRECTED BY THE CONTRACTING OFFICER.



TYPE 1 DEFLECTOR ELJ PLAN
1" = 20'



TYPE 1 DEFLECTOR ELJ PROFILE
1" = 10'

REFERENCE NUMBER: NWS-2020-0322
APPLICANT: GRAYS HARBOR COUNTY

PROJECT LOCATION:
SEE SHEET 01

PROPOSED PROJECT:
KEYS ROAD FLOOD PROTECTION

LATITUDE: 47° 03' 49" N
LONGITUDE: 123° 29' 29" W

VERTICAL DATUM - NAVD 88
HORIZONTAL DATUM - NAD 83/91

SHEET 11 - TYPE 1
DEFLECTOR ELJ DETAILS

DATE: 5/22/2020

IN: LOWER SATSOP RIVER
NEAR/AT: SATSOP

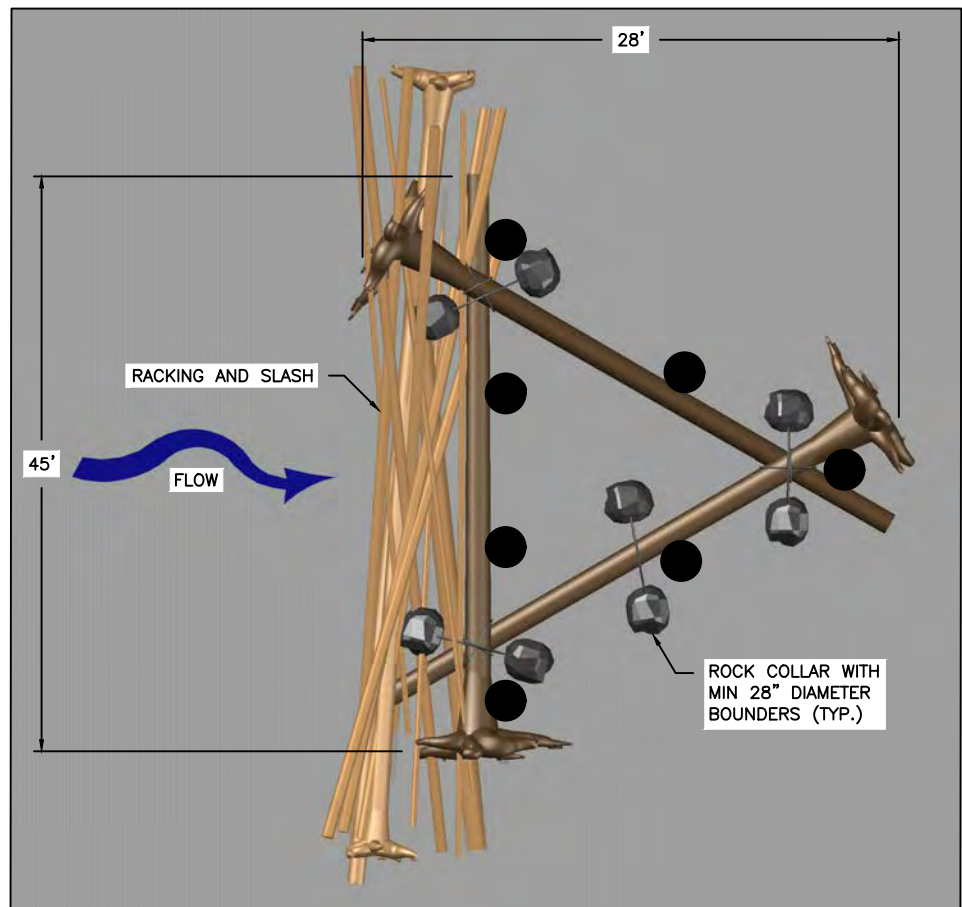
COUNTY: GRAYS HARBOR
STATE: WA

FILE:
JARPA TYPE 1
DEFLECTOR-LARGE.DWG

FLOODPLAIN ROUGHNESS STRUCTURE DIMENSIONS	
TOTAL STRUCTURE LENGTH	28'
STRUCTURE WIDTH	45'
STRUCTURE HEIGHT	VARIES
EXCAVATION QUANTITY	N/A

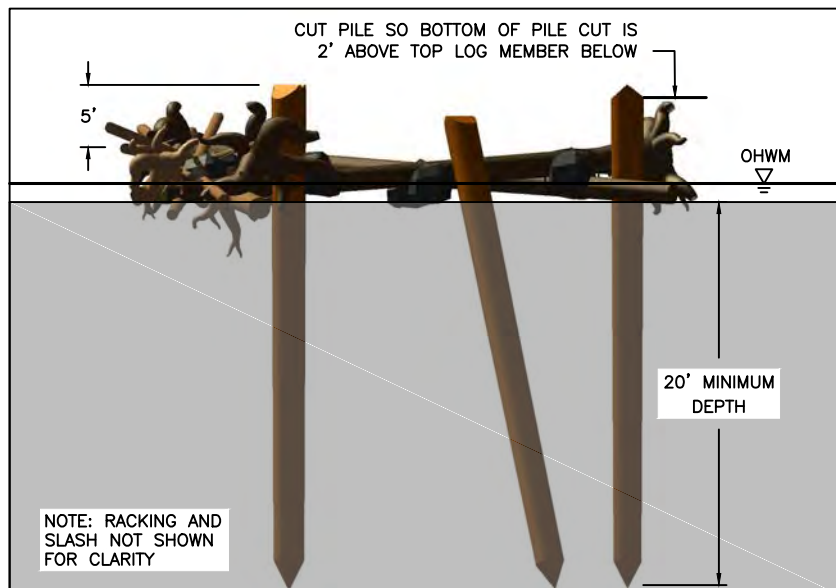
NOTES:

1. ALL LOGS ARE DOUGLAS FIR, OR WESTERN RED CEDAR.
2. SOIL EXCAVATED DURING CONSTRUCTION SHALL BE REPLACED TO ORIGINAL GROUND FOLLOWING PLACEMENT OF ALL LOGS.
3. THE LOCATIONS SHOWN IN THE PLANS ARE APPROXIMATE AND MAY BE ADJUSTED IN THE FIELD BY THE CONTRACTING OFFICER.
4. EXISTING WOODY MATERIAL AT THE STRUCTURE CONSTRUCTION SITE SHALL BE MOVED OR PROTECTED FROM CONSTRUCTION ACTIVITIES AND THEN INCORPORATED INTO THE STRUCTURE AS DIRECTED BY THE CONTRACTING OFFICER.
5. TRIANGLE FRAME UNITS SHALL BE PRE-ASSEMBLED IN THE DRY AND LIFTED INTO PLACE TO REDUCE IN-WATER WORK DURATION. FRAME UNITS SHALL BE PINNED AT LOG INTERSECTIONS.



FLOODPLAIN ROUGHNESS ELJ PLAN

1" = 10'



FLOODPLAIN ROUGHNESS ELJ PROFILE

1" = 10'

REFERENCE NUMBER: NWS-2020-0322
APPLICANT: GRAYS HARBOR COUNTY

PROJECT LOCATION:
SEE SHEET 01

PROPOSED PROJECT:
KEYS ROAD FLOOD PROTECTION

LATITUDE: 47° 03' 49" N
LONGITUDE: 123° 29' 29" W

VERTICAL DATUM - NAVD 88
HORIZONTAL DATUM - NAD 83/91

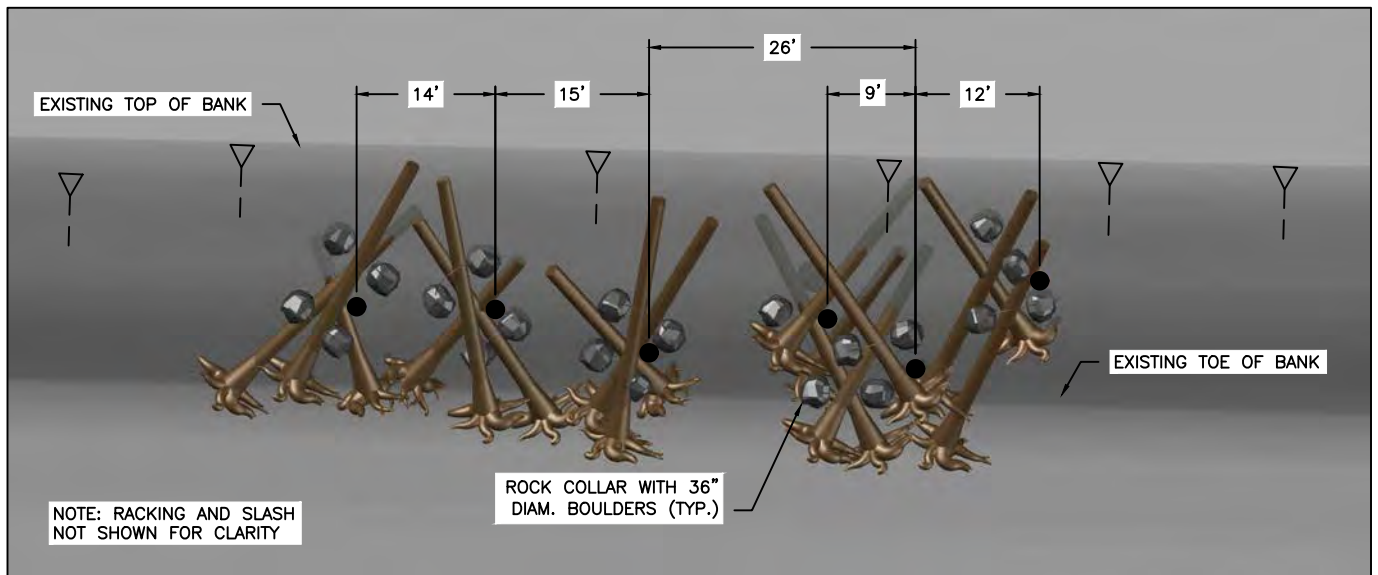
SHEET 12 - FLOODPLAIN
ROUGHNESS ELJ DETAILS

DATE: 5/22/2020

IN: LOWER SATSOP RIVER
NEAR/AT: SATSOP

COUNTY: GRAYS HARBOR
STATE: WA

FILE: JARPA FLOODPLAIN
ROUGHNESS ELJ.DWG

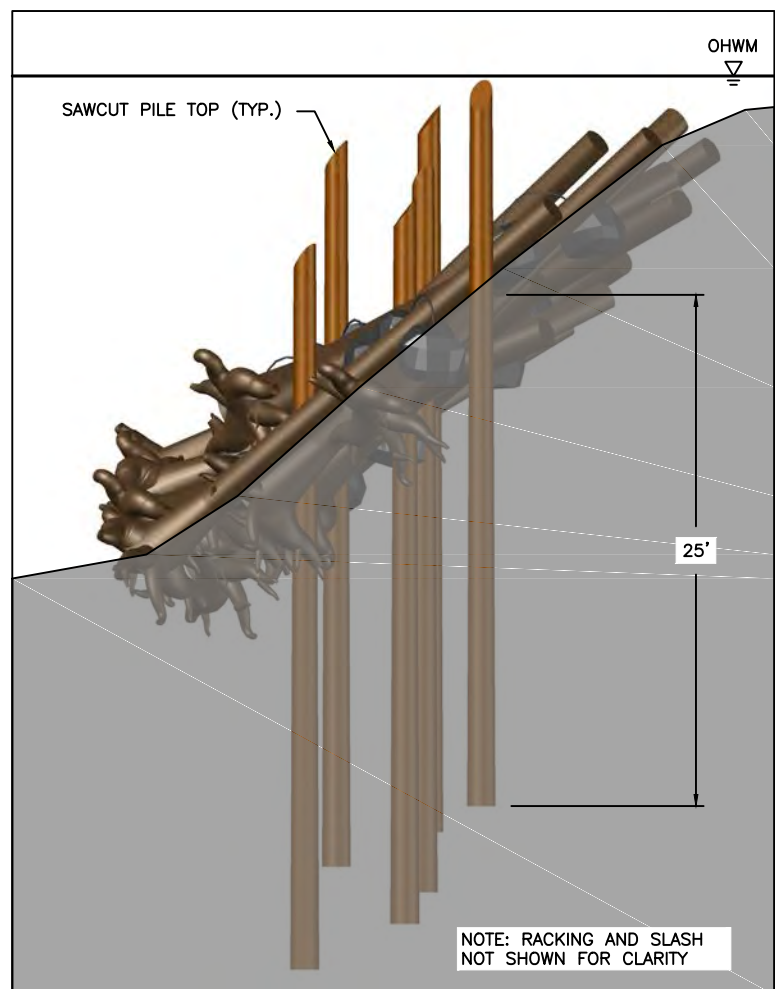


TIMBER COMPLEX ELJ PLAN
1" = 20'

TIMBER COMPLEX STRUCTURE DIMENSIONS	
TOTAL STRUCTURE LENGTH	80'
STRUCTURE WIDTH	28'
STRUCTURE HEIGHT	VARIES
EXCAVATION QUANTITY	300 CY PER 70' INSTALLED LENGTH

NOTES:

1. ALL LOGS ARE DOUGLAS FIR, OR WESTERN RED CEDAR.
2. SOIL EXCAVATED DURING CONSTRUCTION SHALL BE REPLACED TO ORIGINAL GROUND FOLLOWING PLACEMENT OF ALL LOGS.
3. THE LOCATIONS SHOWN IN THE PLANS ARE APPROXIMATE AND MAY BE ADJUSTED IN THE FIELD BY THE CONTRACTING OFFICER.
4. EXTENTS AND LOCATION OF THE SCOUR POOL IS APPROXIMATE AND TO BE ADJUSTED IN THE FIELD BY THE CONTRACTING OFFICER.
5. EXISTING WOODY MATERIAL AT THE STRUCTURE CONSTRUCTION SITE SHALL BE MOVED OR PROTECTED FROM CONSTRUCTION ACTIVITIES AND THEN INCORPORATED INTO THE STRUCTURE AS DIRECTED BY THE CONTRACTING OFFICER.
6. TRIANGLE FRAME UNITS SHALL BE PRE-ASSEMBLED IN THE DRY AND LIFTED INTO PLACE TO REDUCE IN-WATER WORK DURATION. FRAME UNITS SHALL BE PINNED AT LOG INTERSECTIONS.



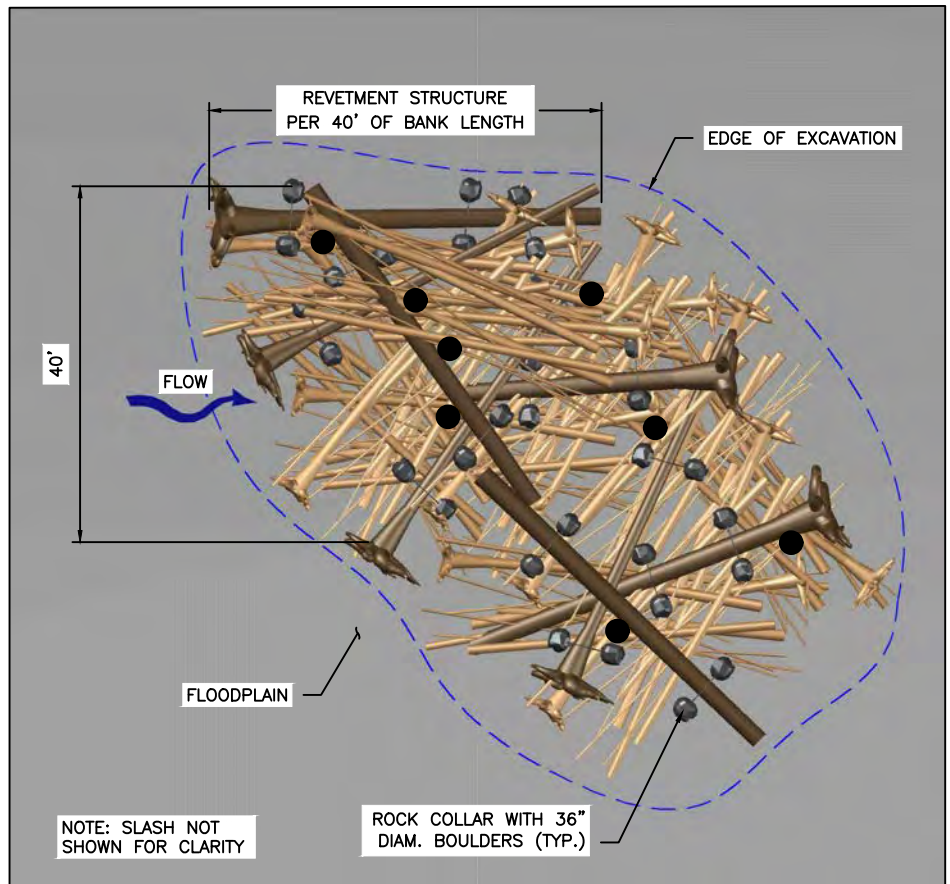
TIMBER COMPLEX ELJ PROFILE
1" = 10'

REFERENCE NUMBER: NWS-2020-0322 APPLICANT: GRAYS HARBOR COUNTY		PROJECT LOCATION: SEE SHEET 01	PROPOSED PROJECT: KEYS ROAD FLOOD PROTECTION
LATITUDE: 47° 03' 49" N LONGITUDE: 123° 29' 29" W		VERTICAL DATUM - NAVD 88 HORIZONTAL DATUM - NAD 83/91	
SHEET 13 - TIMBER COMPLEX ELJ DETAILS	DATE: 5/22/2020	IN: LOWER SATSOP RIVER NEAR/AT: SATSOP	COUNTY: GRAYS HARBOR STATE: WA FILE: JARPA TIMBER COMPLEX.DWG

TYPE 1 SETBACK REVETMENT STRUCTURE DIMENSIONS	
TOTAL STRUCTURE LENGTH	40'
STRUCTURE WIDTH	40'
STRUCTURE HEIGHT	VARIES
EXCAVATION QUANTITY	733 CY

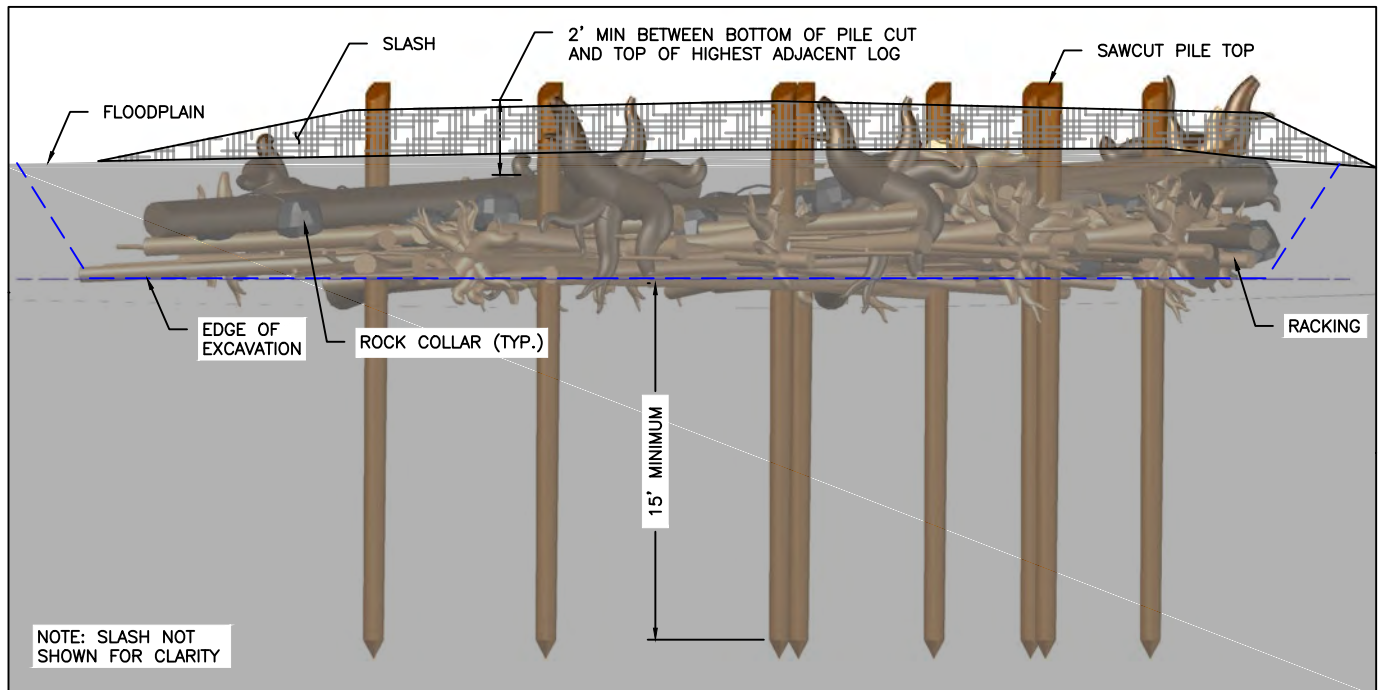
NOTES:

1. ALL SETBACK REVETMENT STRUCTURES ARE LOCATED ABOVE THE OHWM.
2. THE LOCATIONS SHOWN IN THE PLANS ARE APPROXIMATE AND MAY BE ADJUSTED IN THE FIELD BY THE CONTRACTING OFFICER.
3. EXCAVATION SPOILS SHALL BE STAGED WITHIN THE WORK AREA AND OUTSIDE FLOWING WATER. SPOILS SHALL BE STOCKPILED TO ALLOW LOG LAYER PLACEMENT AND CONSTRUCTION ACCESS.
4. BACKFILL EXTENTS VARY AND TO BE CONSTRUCTED WITH NATIVE ALLUVIUM FROM EXCAVATION SPOILS.
5. COVER TOP OF BACKFILL AREA AND BASE OF STRUCTURES WITH LOOSE WOOD DEBRIS AND CHIPS. MIX 6 INCHES OF LOOSE WOOD INTO UPPER 2 FT ON BACKFILL.
6. FINAL REVETMENT HEIGHT TO BE ACHIEVED AS SPECIFIED REGARDLESS OF ACTUAL LOG DIAMETERS USED OR STACKING ARRANGEMENT.
7. AREA OF DISTURBANCE WILL BE REVEGETATED USING NATIVE WETLAND AND UPLAND SPECIES FOLLOWING CONSTRUCTION ACTIVITIES. SEE SHEET 05 FOR PLANT SCHEDULE.



TYPE 1 SETBACK REVETMENT PLAN

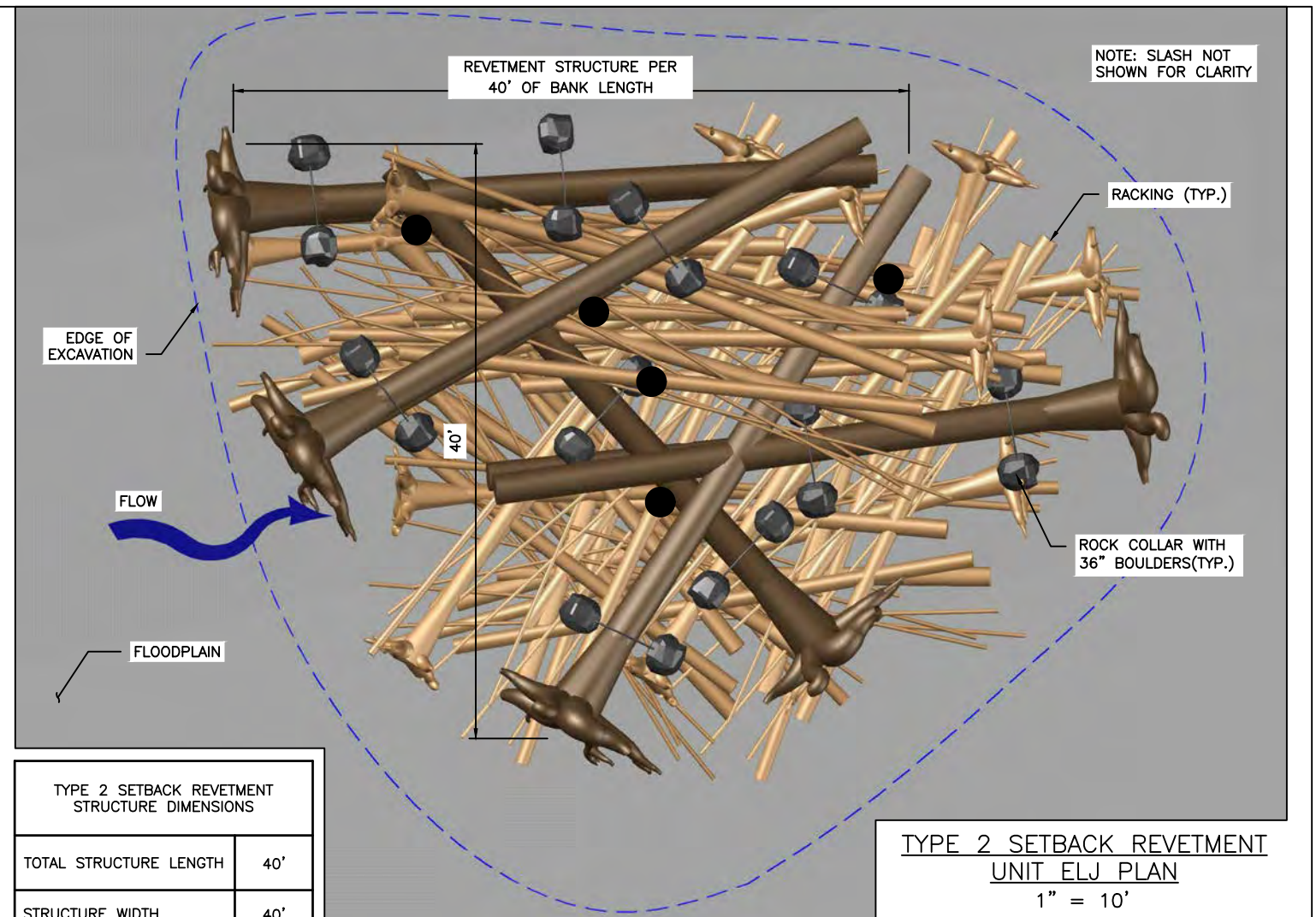
1" = 20'



TYPE 1 SETBACK REVETMENT PROFILE

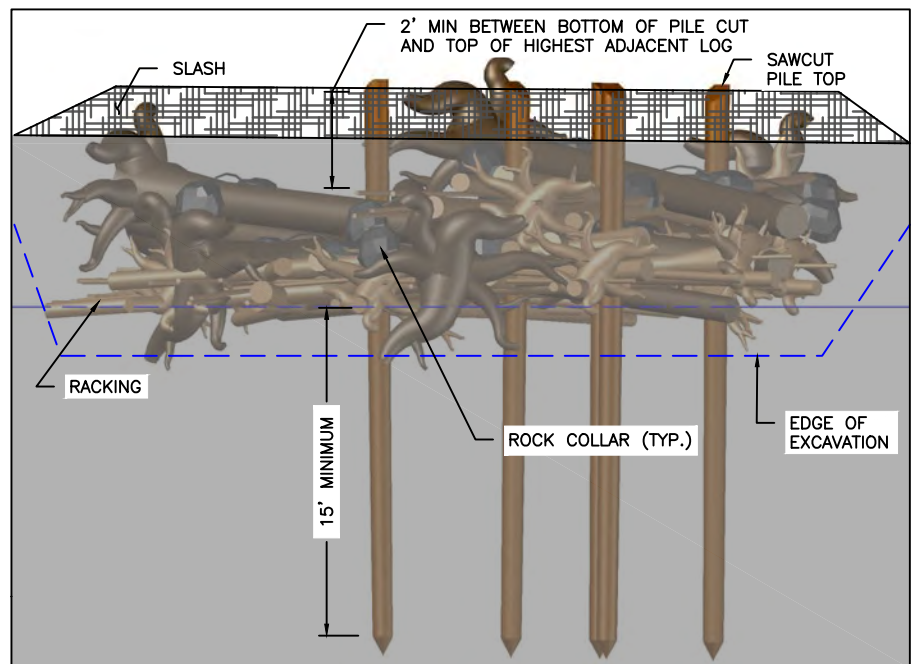
1" = 10'

REFERENCE NUMBER: NWS-2020-0322 APPLICANT: GRAYS HARBOR COUNTY		PROJECT LOCATION: SEE SHEET 01	PROPOSED PROJECT: KEYS ROAD FLOOD PROTECTION
LATITUDE: 47° 03' 49" N LONGITUDE: 123° 29' 29" W		VERTICAL DATUM - NAVD 88 HORIZONTAL DATUM - NAD 83/91	
SHEET 14 - TYPE 1 SETBACK REVETMENT ELJ DETAILS	DATE: 5/22/2020	IN: LOWER SATSOP RIVER NEAR/AT: SATSOP	COUNTY: GRAYS HARBOR STATE: WA FILE: JARPA TYPE 1 SETBACK REVETMENT.DWG



NOTES:

1. ALL SETBACK REVETMENT STRUCTURES ARE LOCATED ABOVE THE OHWM.
2. THE LOCATIONS SHOWN IN THE PLANS ARE APPROXIMATE AND MAY BE ADJUSTED IN THE FIELD BY THE CONTRACTING OFFICER.
3. EXCAVATION SPOILS SHALL BE STAGED WITHIN THE WORK AREA AND OUTSIDE FLOWING WATER. SPOILS SHALL BE STOCKPILED TO ALLOW LOG LAYER PLACEMENT AND CONSTRUCTION ACCESS.
4. BACKFILL EXTENTS VARY AND TO BE CONSTRUCTED WITH NATIVE ALLUVIUM FROM EXCAVATION SPOILS.
5. COVER TOP OF BACKFILL AREA AND BASE OF STRUCTURES WITH LOOSE WOOD DEBRIS AND CHIPS. MIX 6 INCHES OF LOOSE WOOD INTO UPPER 2 FT ON BACKFILL.
6. FINAL REVETMENT HEIGHT TO BE ACHIEVED AS SPECIFIED REGARDLESS OF ACTUAL LOG DIAMETERS USED OR STACKING ARRANGEMENT.
7. AREA OF DISTURBANCE WILL BE REVEGETATED USING NATIVE WETLAND AND UPLAND SPECIES FOLLOWING CONSTRUCTION ACTIVITIES. SEE SHEET 05 FOR PLANT SCHEDULE.



TYPE 2 SETBACK REVETMENT SECTION 1" = 10'

REFERENCE NUMBER: NWS-2020-0322 APPLICANT: GRAYS HARBOR COUNTY		PROJECT LOCATION: SEE SHEET 01	PROPOSED PROJECT: KEYS ROAD FLOOD PROTECTION
LATITUDE: 47° 03' 49" N LONGITUDE: 123° 29' 29" W		VERTICAL DATUM - NAVD 88 HORIZONTAL DATUM - NAD 83/91	
SHEET 15 - TYPE 2 SETBACK REVETMENT ELJ DETAILS	DATE: 5/22/2020	IN: LOWER SATSOP RIVER NEAR/AT: SATSOP	COUNTY: GRAYS HARBOR STATE: WA FILE: JARPA_TYPE II REVETMENT.DWG



US Army Corps
of Engineers ®
Seattle District

NATIONWIDE PERMIT 13

Terms and Conditions

Effective Date: March 19, 2017



-
- A. Description of Authorized Activities
 - B. U.S. Army Corps of Engineers (Corps) National General Conditions for all NWP
 - C. Corps Seattle District Regional General Conditions
 - D. Corps Regional Specific Conditions for this NWP
 - E. Washington Department of Ecology (Ecology) Section 401 Water Quality Certification (401 Certification): General Conditions
 - F. Ecology 401 Certification: Specific Conditions for this NWP
 - G. Coastal Zone Management Consistency Response for this NWP
-

In addition to any special condition that may be required on a case-by-case basis by the District Engineer, the following terms and conditions must be met, as applicable, for a Nationwide Permit (NWP) authorization to be valid in Washington State.

A. DESCRIPTION OF AUTHORIZED ACTIVITIES

Bank Stabilization. Bank stabilization activities necessary for erosion control or prevention, such as vegetative stabilization, bioengineering, sills, rip rap, revetment, gabion baskets, stream barbs, and bulkheads, or combinations of bank stabilization techniques, provided the activity meets all of the following criteria:

- (a) No material is placed in excess of the minimum needed for erosion protection;
- (b) The activity is no more than 500 feet in length along the bank, unless the district engineer waives this criterion by making a written determination concluding that the discharge will result in no more than minimal adverse environmental effects (an exception is for bulkheads – the district engineer cannot issue a waiver for a bulkhead that is greater than 1,000 feet in length along the bank);
- (c) The activity will not exceed an average of one cubic yard per running foot, as measured along the length of the treated bank, below the plane of the ordinary high water mark or the high tide line, unless the district engineer waives this criterion by making a written determination concluding that the discharge will result in no more than minimal adverse environmental effects;
- (d) The activity does not involve discharges of dredged or fill material into special aquatic sites, unless the district engineer waives this criterion by making a written determination concluding that the discharge will result in no more than minimal adverse environmental effects;
- (e) No material is of a type, or is placed in any location, or in any manner, that will impair surface water flow into or out of any waters of the United States;
- (f) No material is placed in a manner that will be eroded by normal or expected high flows (properly anchored native trees and treetops may be used in low energy areas);
- (g) Native plants appropriate for current site conditions, including salinity, must be used for bioengineering or vegetative bank stabilization;
- (h) The activity is not a stream channelization activity; and
- (i) The activity must be properly maintained, which may require repairing it after severe storms or erosion events. This NWP authorizes those maintenance and repair activities if they require authorization.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to construct the bank stabilization activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a

manner, that will not be eroded by expected high flows. After construction, temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate. Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if the bank stabilization activity: (1) involves discharges into special aquatic sites; or (2) is in excess of 500 feet in length; or (3) will involve the discharge of greater than an average of one cubic yard per running foot as measured along the length of the treated bank, below the plane of the ordinary high water mark or the high tide line. (See general condition 32.) (Authorities: Sections 10 and 404)

B. CORPS NATIONAL GENERAL CONDITIONS FOR ALL NWP's

To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Every person who may wish to obtain permit authorization under one or more NWP's, or who is currently relying on an existing or prior permit authorization under one or more NWP's, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation. (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States. (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWP's 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers. (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. (b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. The permittee shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or

study status. (c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: <http://www.rivers.gov/>.

17. Tribal Rights. No NWP activity may cause more than minimal adverse effects on tribal rights (including treaty rights), protected tribal resources, or tribal lands.

18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which “may affect” a listed species or critical habitat, unless ESA section 7 consultation addressing the effects of the proposed activity has been completed. Direct effects are the immediate effects on listed species and critical habitat caused by the NWP activity. Indirect effects are those effects on listed species and critical habitat that are caused by the NWP activity and are later in time, but still are reasonably certain to occur. (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA. (c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed activity or that utilize the designated critical habitat that might be affected by the proposed activity. The district engineer will determine whether the proposed activity “may affect” or will have “no effect” to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps’ determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have “no effect” on listed species or critical habitat, or until ESA section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps. (d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWPs. (e) Authorization of an activity by an NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word “harm” in the definition of “take” means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering. (f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the

agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required. (g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.nmfs.noaa.gov/pr/species/esa/> respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for ensuring their action complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory birds or eagles, including whether “incidental take” permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties. (a) In cases where the district engineer determines that the activity may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied. (b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act. If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106. (c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect. Where the non-Federal applicant has identified

historic properties on which the activity might have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed. (d) For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps. (e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment. (a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters. (b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal: (a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site). (b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects. (d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation to ensure that the activity results in no more than minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)). (e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. Restored riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses. (f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation. (2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f)). (3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation. (4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). (5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided. (6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements)

may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs. (h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management. (i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature: “When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.”

(Transferee)

(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include: (a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions; (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and (c) The signature of the permittee certifying the completion of the activity and mitigation. The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. Activities Affecting Structures or Works Built by the United States. If an NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a “USACE project”), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission is not authorized by NWP until the appropriate Corps office issues the section 408 permission to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. Pre-Construction Notification. (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

- (1) Name, address and telephone numbers of the prospective permittee;
- (2) Location of the proposed activity;
- (3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;
- (4) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures. For single and complete linear projects, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);
- (5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;
- (6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than

minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-Federal permittees, if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed activity or utilize the designated critical habitat that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-Federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the “study river” (see general condition 16); and

(10) For an activity that requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from the Corps office having jurisdiction over that USACE project.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is an NWP PCN and must include all of the applicable information required in paragraphs (b)(1) through (10) of this general condition. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals. (d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity’s compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity’s adverse environmental effects so that they are no more than minimal. (2) Agency coordination is required for: (i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of stream bed; (iii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iv) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes. (3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity’s compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided

below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act. (5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

District Engineer's Decision: 1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the individual crossings of waters of the United States to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings authorized by NWP. If an applicant requests a waiver of the 300 linear foot limit on impacts to streams or of an otherwise applicable limit, as provided for in NWPs 13, 21, 29, 36, 39, 40, 42, 43, 44, 50, 51, 52, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects. For those NWPs that have a waivable 300 linear foot limit for losses of intermittent and ephemeral stream bed and a 1/2-acre limit (i.e., NWPs 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52), the loss of intermittent and ephemeral stream bed, plus any other losses of jurisdictional waters and wetlands, cannot exceed 1/2-acre. 2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns. 3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters (e.g., streams). The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district

engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer. 4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) that the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31, or to evaluate PCNs for activities authorized by NWPs 21, 49, and 50), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

Further Information: 1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP. 2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law. 3. NWPs do not grant any property rights or exclusive privileges. 4. NWPs do not authorize any injury to the property or rights of others. 5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

C. CORPS SEATTLE DISTRICT REGIONAL GENERAL CONDITIONS: The following conditions apply to all NWPs for the Seattle District in Washington State, unless specified.

1. Project Drawings: Drawings must be submitted with pre-construction notification (PCN). Drawings must provide a clear understanding of the proposed project, and how waters of the U.S. will be affected. Drawings must be originals and not reduced copies of large-scale plans. Engineering drawings are not required. Existing and proposed site conditions (manmade and landscape features) must be drawn to scale.

2. Aquatic Resources Requiring Special Protection: Activities resulting in a loss of waters of the United States in mature forested wetlands, bogs and peatlands, aspen-dominated wetlands, alkali wetlands, vernal pools, camas prairie wetlands, estuarine wetlands, wetlands in coastal lagoons, and wetlands in dunal systems along the Washington coast cannot be authorized by a NWP, except by the following NWPs:

- NWP 3 – Maintenance
- NWP 20 – Response Operations for Oil and Hazardous Substances
- NWP 32 – Completed Enforcement Actions
- NWP 38 – Cleanup of Hazardous and Toxic Waste

In order to use one of the above-referenced NWPs in any of the aquatic resources requiring special protection, prospective permittees must submit a PCN to the Corps of Engineers (see NWP general condition 32) and obtain written authorization before commencing work.

3. New Bank Stabilization in Tidal Waters of Puget Sound: Activities involving new bank stabilization in tidal waters in Water Resource Inventory Areas (WRIAs) 8, 9, 10, 11 and 12 (within the areas identified on Figures 1a through 1e on Corps website) cannot be authorized by NWP.

4. Commencement Bay: The following NWPs may not be used to authorize activities located in the Commencement Bay Study Area (see Figure 2 on Corps website):

- NWP 12 – Utility Line Activities (substations)
- NWP 13 – Bank Stabilization
- NWP 14 – Linear Transportation Projects
- NWP 23 – Approved Categorical Exclusions
- NWP 29 – Residential Developments
- NWP 39 – Commercial and Institutional Developments
- NWP 40 – Agricultural Activities
- NWP 41 – Reshaping Existing Drainage Ditches
- NWP 42 – Recreational Facilities
- NWP 43 – Stormwater and Wastewater Management Facilities

5. Bank Stabilization: All projects including new or maintenance bank stabilization activities require PCN to the Corps of Engineers (see NWP general condition 32). For new bank stabilization projects only, the following must be submitted to the Corps of Engineers:

- a. The cause of the erosion and the distance of any existing structures from the area(s) being stabilized.
- b. The type and length of existing bank stabilization within 300 feet of the proposed project.
- c. A description of current conditions and expected post-project conditions in the waterbody.
- d. A statement describing how the project incorporates elements avoiding and minimizing adverse environmental effects to the aquatic environment and nearshore riparian area, including vegetation impacts in the waterbody.

In addition to a. through d., the results from any relevant geotechnical investigations can be submitted with the PCN if it describes current or expected conditions in the waterbody.

6. Crossings of Waters of the United States: Any project including installing, replacing, or modifying crossings of waters of the United States, such as culverts or bridges, requires submittal of a PCN to the Corps of Engineers (see NWP general condition 32). If a culvert is proposed to cross waters of the U.S. where salmonid species are present or could be present, the project must apply the stream simulation design method from the Washington Department of Fish and Wildlife located in the *Water Crossing Design Guidelines* (2013), or a design method which provides passage at all life stages at all flows where the salmonid species would naturally seek passage. If the stream simulation design method is not applied for a culvert where salmonid species are present or could be present, the project proponent must provide a rationale in the PCN sufficient to establish one of the following:

- a. The existence of extraordinary site conditions.
- b. How the proposed design will provide equivalent or better fish passage and fisheries habitat benefits than the stream simulation design method.

If a culvert is proposed to cross waters of the U.S. where salmonid species are present or could be present, project proponents must provide a monitoring plan with the PCN that specifies how the proposed culvert will be assessed over a five-year period from the time of construction completion to ensure its effectiveness in providing passage at all life stages at all flows where the salmonid species would naturally seek passage. Culverts installed under emergency authorization that do not meet the above design criteria will be required to meet the above design criteria to receive an after-the-fact nationwide permit verification.

7. Stream Loss: A PCN is required for all activities that result in the loss of any linear feet of stream beds. No activity shall result in the loss of any linear feet of perennial stream beds or the loss of greater than 300 linear feet of intermittent and/or ephemeral stream beds. A stream may be rerouted if it is designed in a manner that maintains or restores hydrologic, ecologic, and geomorphic stream processes, provided there is not a reduction in the linear feet of stream bed. Streams include brooks, creeks, rivers, and historical waters of the U.S. that have been channelized into ditches. This condition does not apply to ditches constructed in uplands. Stream loss restrictions may be waived by the district engineer on a case-by-case basis provided the activities result in net increases of aquatic resource functions and services.

8. Mitigation: Pre-construction notification is required for any project that will result in permanent wetland losses that exceed 1,000 square feet. In addition to the requirements of General Condition 23 (Mitigation), compensatory mitigation at a minimum one-to-one ratio will be required for all permanent wetland losses that exceed 1,000 square feet. When a PCN is required for wetland losses less than 1,000 square feet, the Corps of Engineers may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Compensatory mitigation for impacts to marine waters, lakes, and streams will be determined on a case-by-case basis. If temporary impacts to waters of the U.S. exceed six months, the Corps of Engineers may require compensatory mitigation for temporal effects.

9. Magnuson-Stevens Fishery Conservation and Management Act – Essential Fish Habitat Essential Fish Habitat (EFH) is defined as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. If EFH may be adversely affected by a proposed activity, the prospective permittee must provide a written EFH assessment with an analysis of the effects of the proposed action on EFH. The assessment must identify the type(s) of essential fish habitat (i.e., Pacific salmon, groundfish, and/or coastal-pelagic species) that may be affected. If the Corps of Engineers determines the project will adversely affect EFH, consultation with NOAA Fisheries will be required. Federal agencies should follow their own procedures for complying with the requirements of the Magnuson-Stevens Fishery Conservation and Management Act. If PCN is required for the proposed activity, Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

10. Forage Fish: For projects in forage fish spawning habitat, in-water work must occur within designated forage fish work windows, or when forage fish are not spawning. If working outside of a designated work window, or if forage fish work windows are closed year round, work may occur if the work window restriction is released for a period of time after a forage fish spawning survey has been conducted by a biologist approved by the Washington State Department of Fish and Wildlife (WDFW). Forage fish species with designated in-water work windows include Pacific sand lance (*Ammodytes hexapterus*), Pacific herring (*Clupea pallasii*), and surf smelt (*Hypomesus pretiosus*). This RGC does not apply to NWP 48, *Commercial Shellfish Aquaculture Activities*. Please see specific regional conditions for NWP 48.

11. Notification of Permit Requirements: The permittee must provide a copy of the nationwide permit authorization letter, conditions, and permit drawings to all contractors and any other parties performing the authorized work prior to the commencement of any work in waters of the U.S. The permittee must

ensure all appropriate contractors and any other parties performing the authorized work at the project site have read and understand relevant NWP conditions as well as plans, approvals, and documents referenced in the NWP letter. A copy of these documents must be maintained onsite throughout the duration of construction.

12. Construction Boundaries: Permittees must clearly mark all construction area boundaries before beginning work on projects that involve grading or placement of fill. Boundary markers and/or construction fencing must be maintained and clearly visible for the duration of construction. Permittees should avoid and minimize removal of native vegetation (including submerged aquatic vegetation) to the maximum extent possible.

13. Temporary Impacts and Site Restoration

- a. Temporary impacts to waters of the U.S. must not exceed six months unless the prospective permittee requests and receives a waiver by the district engineer. Temporary impacts to waters of the U.S. must be identified in the PCN.
- b. No more than 1/2 acre of waters of the U.S. may be temporarily filled unless the prospective permittee requests and receives a waiver from the district engineer (temporary fills do not affect specified limits for loss of waters associated with specific nationwide permits).
- c. Native soils removed from waters of the U.S. for project construction should be stockpiled and used for site restoration. Restoration of temporarily disturbed areas must include returning the area to pre-project ground surface contours. If native soil is not available from the project site for restoration, suitable clean soil of the same textural class may be used. Other soils may be used only if identified in the PCN.
- d. The permittee must revegetate disturbed areas with native plant species sufficient in number, spacing, and diversity to restore affected functions. A maintenance and monitoring plan commensurate with the impacts, may be required. Revegetation must begin as soon as site conditions allow within the same growing season as the disturbance unless the schedule is approved by the Corps of Engineers. Native plants removed from waters of the U.S. for project construction should be stockpiled and used for revegetation when feasible. Temporary Erosion and Sediment Control measures must be removed as soon as the area has established vegetation sufficient to control erosion and sediment.
- e. If the Corps determines the project will result in temporary impacts of submerged aquatic vegetation (SAV) that are more than minimal, a monitoring plan must be submitted. If recovery is not achieved by the end of the monitoring period, contingencies must be implemented, and additional monitoring will be required.

This RGC does not apply to NWP 48, *Commercial Shellfish Aquaculture Activities*. Please see specific regional conditions for NWP 48.

D. CORPS REGIONAL SPECIFIC CONDITIONS FOR THIS NWPS: None

E. ECOLOGY 401 CERTIFICATION: GENERAL CONDITIONS

In addition to all the Corps National and Seattle Districts' Regional permit conditions, the following State General Section 401 Water Quality Certification (Section 401) conditions apply to all Nationwide Permits whether **certified** or **partially certified** in the State of Washington.

1. **For in-water construction activities.** Ecology Section 401 review is required for projects or activities authorized under NWPs that will cause, or may be likely to cause or contribute to an exceedance of a State water quality standard (Chapter 173-201A WAC) or sediment management standard (Chapter 173-204 WAC). State water quality standards and sediment management standards are available on Ecology's website. Note: In-water activities include any activity within a wetland and/or activities below the ordinary high water mark (OHWM).

2. Projects or Activities Discharging to Impaired Waters. Ecology Section 401 review is required for projects or activities authorized under NWP's if the project or activity will occur in a 303(d) listed segment of a waterbody or upstream of a listed segment and may result in further exceedances of the specific listed parameter. To determine if your project or activity is in a 303(d) listed segment of a waterbody, visit Ecology's Water Quality Assessment webpage for maps and search tools.

3. Application. For projects or activities that will require Ecology Section 401 review, applicants must provide Ecology with a Joint Aquatic Resources Permit Application (JARPA) along with the documentation provided to the Corps, as described in National General Condition 32, Pre-Construction Notification, including, when applicable: (a) A description of the project, including site plans, project purpose, direct and indirect adverse environmental effects the project would cause, best management practices (BMPs), and any other Department of the Army or federal agency permits used or intended to be used to authorize any part of the proposed project or any related activity. (b) Drawings indicating the Ordinary High Water Mark (OHWM), delineation of special aquatic sites and other waters of the state. Wetland delineations must be prepared in accordance with the current method required by the Corps and shall include Ecology's Wetland Rating form. Wetland rating forms are subject to review and verification by Ecology staff. Guidance for determining the OHWM is available on Ecology's website. (c) A statement describing how the mitigation requirement will be satisfied. A conceptual or detailed mitigation or restoration plan may be submitted. See State General Condition 5 for details on mitigation requirements. (d) Other applicable requirements of Corps Nationwide Permit General Condition 32, Corps Regional Conditions, or notification conditions of the applicable NWP. (e) Within 180 calendar days from receipt of applicable documents noted above **and** a copy of the final authorization letter from the Corps providing coverage for a proposed project or activity under the NWP Program Ecology will provide the applicant notice of whether an individual Section 401 will be required for the project. If Ecology fails to act within a year after receipt of **both** of these documents, Section 401 is presumed waived.

4. Aquatic resources requiring special protection. Certain aquatic resources are unique, difficult-to-replace components of the aquatic environment in Washington State. Activities that would affect these resources must be avoided to the greatest extent possible. Compensating for adverse impacts to high value aquatic resources is typically difficult, prohibitively expensive, and may not be possible in some landscape settings. Ecology Section 401 review is required for activities in or affecting the following aquatic resources (and not prohibited by Seattle District Regional General Condition): (a) Wetlands with special characteristics (as defined in the Washington State Wetland Rating Systems for western and eastern Washington, Ecology Publications #14-06-029 and #14-06-030):

- Estuarine wetlands.
- Wetlands of High Conservation Value.
- Bogs.
- Old-growth and mature forested wetlands.
- Wetlands in coastal lagoons.
- Interdunal wetlands.
- Vernal pools.
- Alkali wetlands.

(b) Fens, aspen-dominated wetlands, camas prairie wetlands. (c) Marine water with eelgrass (*Zostera marina*) beds (except for NWP 48). (d) Category I wetlands. (e) Category II wetlands with a habitat score ≥ 8 points. This State General Condition does not apply to the following Nationwide Permits: NWP 20 – *Response Operations for Oil and Hazardous Substances*, NWP 32 – *Completed Enforcement Actions*

5. Mitigation. Applicants are required to show that they have followed the mitigation sequence and have first avoided and minimized impacts to aquatic resources wherever practicable. For projects

requiring Ecology Section 401 review with unavoidable impacts to aquatics resources, adequate compensatory mitigation must be provided.

(a) Wetland mitigation plans submitted for Ecology review and approval shall be based on the most current guidance provided in Wetland Mitigation in Washington State, Parts 1 and 2 (available on Ecology's website) and shall, at a minimum, include the following:

i. A description of the measures taken to avoid and minimize impacts to wetlands and other waters of the U.S.

ii. The nature of the proposed impacts (i.e., acreage of wetlands and functions lost or degraded).

iii. The rationale for the mitigation site that was selected.

iv. The goals and objectives of the compensatory mitigation project.

v. How the mitigation project will be accomplished, including construction sequencing, best management practices to protect water quality, proposed performance standards for measuring success and the proposed buffer widths.

vi. How it will be maintained and monitored to assess progress towards goals and objectives. Monitoring will generally be required for a minimum of five years. For forested and scrub-shrub wetlands, 10 years of monitoring will often be necessary.

vii. How the compensatory mitigation site will be legally protected for the long term. Refer to Wetland Mitigation in Washington State – Part 2: Developing Mitigation Plans (Ecology Publication #06-06-011b) and Selecting Wetland Mitigation Sites Using a Watershed Approach (Ecology Publications #09-06-032 (Western Washington) and #10-06-007 (Eastern Washington)) for guidance on selecting suitable mitigation sites and developing mitigation plans. Ecology encourages the use of alternative mitigation approaches, including credit/debit methodology, advance mitigation, and other programmatic approach such as mitigation banks and in-lieu fee programs. If you are interested in proposing use of an alternative mitigation approach, consult with the appropriate Ecology regional staff person. Information on alternative mitigation approaches is available on Ecology's website.

(b) Mitigation for other aquatic resource impacts will be determined on a case-by-case basis.

6. Temporary Fills. Ecology Section 401 review is required for any project or activity with temporary fill in wetlands or other waters of the state for more than 90 days, unless the applicant has received written approval from Ecology. Note: This State General Condition does not apply to projects or activities authorized under NWP 33, *Temporary Construction, Access, and Dewatering*

7. Stormwater pollution prevention: All projects that involve land disturbance or impervious surfaces must implement stormwater pollution prevention or control measures to avoid discharge of pollutants in stormwater runoff to waters of the State.

(a) For land disturbances during construction, the applicant must obtain and implement permits (e.g., Construction Stormwater General Permit) where required and follow Ecology's current stormwater manual.

(b) Following construction, prevention or treatment of on-going stormwater runoff from impervious surfaces shall be provided.

Ecology's Stormwater Management and Design Manuals and stormwater permit information are available on Ecology's website.

8. State Section 401 Review for PCNs not receiving 45-day response from the Seattle District. In the event the Seattle District Corps does not issue a NWP authorization letter within 45 calendar days of receipt of a **complete** pre-construction notification, the applicant must contact Ecology for Section 401 review prior to commencing work.

F. ECOLOGY 401 CERTIFICATION: SPECIFIC CONDITIONS FOR THIS NWP:

Certified subject to conditions.

1. An individual Section 401 Certification is required for new, or expansion of existing, bank stabilization in marine and estuarine waters of the Salish Sea.
2. Ecology Section 401 review is required for projects or activities authorized under this NWP if:
 - a. The project or activity is greater than 500 feet in length.
 - b. The project or activity has not been designed and stamped by a Professional Engineer or Engineering Geologist.
 - c. The project or activity exceeds an average of one cubic yard per running foot below the Ordinary High Water Mark or High Tide Line.
 - d. The project or activity involves discharges of dredged or fill material into special aquatic sites.

G. COASTAL ZONE MANAGEMENT CONSISTENCY RESPONSE FOR THIS NWP:

(Note: This only applies in the following counties: Clallam, Grays Harbor, Island, Jefferson, King, Kitsap, Mason, Pacific, Pierce, San Juan, Skagit, Snohomish, Thurston, Wahkiakum and Whatcom)

Response: Ecology concurs that this NWP is consistent with the CZMP, subject to the following condition: An individual Coastal Zone Management Consistency Determination is required for project or activities under this NWP if State Section 401 review is required.

General Conditions: For Non-Federal Permittees

1. Necessary Data and Information. A Coastal Zone Management Program “Certification of Consistency” form is required for projects located within a coastal county. “Certification of Consistency” forms are available on Ecology’s website. The form shall include a description of the proposed project or activity and evidence of compliance with the applicable enforceable policies of the Washington Coastal Zone Management Program (CZMP). Also, a map of the site location is required.
2. Timing. Within 6 months from receipt of the necessary data and information, Ecology will provide a federal consistency determination for the proposed project or activity. If Ecology fails to act within the 6 month period, concurrence with the CZMP is presumed.

General Conditions: For Federal Permittees (Agencies)

1. Necessary Data and Information. Federal agencies shall submit the determination, information, and analysis required by 15 CFR 930.39 to obtain a federal consistency determination.
2. Timing. Within 60 days from receipt of the necessary data and information, Ecology will provide a federal consistency determination for the proposed project or activity. If Ecology fails to act within the 60 day period, concurrence with the CZMP is presumed.



US Army Corps
of Engineers ®
Seattle District

CERTIFICATE OF COMPLIANCE WITH DEPARTMENT OF THE ARMY PERMIT



Permit Number: NWS- 2020-322

Name of Permittee: Grays Harbor County Public Works

Date of Issuance: July 9, 2020

Upon completion of the activity authorized by this permit, please check the applicable boxes below, date and sign this certification, and return it to the following address:

Department of the Army
U.S. Army Corps of Engineers
Seattle District, Regulatory Branch
Post Office Box 3755
Seattle, Washington 98124-3755

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with the terms and conditions of your authorization, your permit may be subject to suspension, modification, or revocation.

<input type="checkbox"/>	<p>The work authorized by the above-referenced permit has been completed in accordance with the terms and conditions of this permit.</p> <p>Date work complete: _____</p> <p><input type="checkbox"/> Photographs and as-built drawings of the authorized work (OPTIONAL, unless required as a Special Condition of the permit).</p>
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<input type="checkbox"/>	<p>If applicable, the mitigation required (e.g., construction and plantings) in the above-referenced permit has been completed in accordance with the terms and conditions of this permit (not including future monitoring).</p> <p>Date work complete: _____ <input type="checkbox"/> N/A</p> <p><input type="checkbox"/> Photographs and as-built drawings of the mitigation (OPTIONAL, unless required as a Special Condition of the permit).</p>
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<input type="checkbox"/>	<p>Provide phone number/email for scheduling site visits (must have legal authority to grant property access).</p> <p>Printed Name: _____</p> <p>Phone Number: _____ Email: _____</p>
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Printed Name: _____

Signature: _____

Date: _____

Report for Mitigation Work Completion

Immediately upon completion of the plantings, submit this form to:
U.S. Army Corps of Engineers, Regulatory Branch, P.O. Box 3755, Seattle, WA 98124-3755

Corps' Reference Number: NWS-2020-322

Date the Corps Verified Your Permit: July 9, 2020

Date this Report is Due: _____

Your Name: _____

Your Address: _____

Your City/State/Zip Code: _____

Your Phone Number and Email: _____

You must attach to this form: 1) As-built drawing of planting area(s), and

2) Photographs of the planting area(s)

Date mitigation was completed: _____

Describe any changes from the approved mitigation plan:

Name of Species You Planted	Number Planted
Total Planted:	

If there are multiple sites, fill out a separate table for each planting area.

Mitigation Planting Monitoring Report

Submit this completed form to: U.S. Army Corps of Engineers, Regulatory Branch, P.O. Box 3755, Seattle, WA 98124-3755. A completed form must be submitted 1, 2, 3, 4 and 5 years after the Corps accepts your as-built drawing of the mitigation planting area.

Corps' Verification Reference Number: NWS-2020-322_____

Date Your As-Built Was Accepted by the Corps _____

Date This Report Is Due: _____

Number of Mitigation Points Required by the Corps: _____

Your Name: _____

Your Address: _____

Your City/State/Zip Code: _____

Your Phone Number: _____

You must attach to this form: ☒ Photographs of the mitigation area taken within the last month.

Date of Inspection	Species name of Dead Plants	Number of Dead Plants	Name of Species Replanted	Number Replanted



US Army Corps
of Engineers®
Seattle District

**BIOLOGICAL EVALUATION
FOR INFORMAL ESA CONSULTATION**
For: _____ (Corps Reference Number)
Version: May 2012



**** This form is for projects that have insignificant or discountable impacts on listed species. It contains all the information required for a biological evaluation, but in abbreviated form and with minimal instructions on how to fill it out. For more detailed instructions, a format for development of a biological assessment or biological evaluation can be found on the Seattle District Corps website (www.nws.usace.army.mil – click on regulatory and then on endangered species, BA Template). You may also contact the Corps at 206-764-3495 for further information.**

Drawings and Photographs - Drawings and photographs must be submitted. Photographs must be submitted showing local area, shoreline conditions, existing overwater structures, and location of the proposed project. Drawings must include a vicinity map; plan, profile, and cross-section drawings of the proposed structures; and over- and in-water structures on adjacent properties. (For assistance with the preparation of the drawings, please refer to our *Drawing Checklist* located on our website at www.nws.usace.army.mil Select Regulatory – Regulatory/Permits – Forms.) Submit the information to: U.S. Army Corps of Engineers, Regulatory Branch, P.O. Box 3755, Seattle, Washington 98124-3755.

Date: March 25, 2020

SECTION A - General Information			
1. Applicant name: Grays Harbor County Department of Public Works, Attention: Rob Wilson			
Mailing address: 100 West Broadway, Suite 31, Montesano Washington, 98563			
Work phone: 360-249-4222	Home phone:	Email: RWilson@co.grays-harbor.wa.us	Fax:
2. Joint-use applicant name (if applicable):			
Mailing address:			
Work phone:	Home phone:	Email:	Fax:
3. Authorized agent name:			
Mailing address:			
Work phone:	Home phone:	Email:	Fax:
4. Location where proposed work will occur			
Address (street address, city, county): 110 Keys Road Montesano, WA 98563			
Location of joint-use property (street address, city, county):			
Waterbody: Satsop River			
¼ Section: NW	Section: 6	Township: 17N	Range: 06W
Latitude: 46.982143		Longitude: -123.482279	

5. Description of Work:

Include project drawings and site photographs.

Describe the proposed project in detail. Please describe any mitigation that is being proposed for impacts from your project. Attach a mitigation plan as an appendix, if appropriate.

- Refer to Attachment A for Project Description
- Refer to Attachment B for Project Plan Sheets

For projects that include pile driving

If steel or concrete piles are being installed with an impact hammer pile driver, marbled murrelets may be adversely impacted. For installation of any type of pile with a vibratory pile driver, marine mammals may be adversely impacted. A monitoring plan may be required to ensure protection of these species.

Please fill out the following: (obtain information from contractor)	
5.1 Number of piles being replaced installed	422 piles will be installed (not replaced) as anchors to secure wood structures (i.e. Engineered Log Jams and setback revetments) 265 piles will be installed in-water. 157 piles will be installed out-of-water, within the floodplain
5.2 Replacement pile type: (e.g.: ACZA-treated wood, steel, coating used on steel piles)	Piles will be untreated wooden piling
5.3 Replacement pile size: (e.g. 12-inch)	Piling will be 16- to 24-inch diameter.
5.4 Installation method: (e.g.: vibratory, impact hammer)	Vibratory. Note: Vibratory or impact installation of wood, concrete, plastic, or other non-metal piles of any size is allowed. Impact installation of steel piles in marine waters is not covered under the programmatic and, in freshwater, is only covered programmatic for steel piles up to 10 inches.
5.5 Anticipated dates, number of minutes and number of days vibratory pile driving	<u>240</u> minutes per day <u>31</u> number of days Anticipated dates: August 1—August 31
5.6 For vibratory installation, will proofing be required? If so, how many pile strikes per pile?	Yes _____ Number of pile strikes per pile _____ No <u>X</u>
5.7 For impact hammer installation, estimate the number of pile strikes required per pile:	Not applicable.
5.8 For impact hammer installation or proofing, estimated number of pile strikes per day:	Minutes per day _____ Number of days _____ Anticipated dates: _____
5.9 For impact hammer pile driving or proofing, sound attenuation measures:	Not applicable.
5.10 Anticipated dates, number of minutes and number of days of impact hammer pile driving or proofing:	Not applicable.
5.11 Describe substrate into which piling will be driven:	Gravel, cobble and sand

6. Construction Techniques:

Describe methods and timing of construction to be employed in building the project and any associated features. Identify actions that could affect listed / proposed species or designated / proposed critical habitat and describe in sufficient detail to allow an assessment of potential impacts. Consider actions such as vegetation removal, temporary or permanent elevations in noise level, channel modifications, hydrological or hydraulic alterations, access roads, power lines etc. Also discuss construction techniques associated with any interdependent or interrelated projects.

Address the following:

A. Construction sequencing and timing of each stage (duration and dates):

Construction mobilization will begin in early- to mid-June, with transport of equipment and woody material to the project site and establishing staging areas and construction access, as permissible. All construction activities that are performed prior to August 1 will be in upland areas, outside of the OHWL of the Satsop River and associated floodplain ponds and other aquatic features. In-water work will occur during the approved in-water work window of August 1—August 31. In-water work will consist of the following elements:

Complete temporary construction access, including temporary bridge and material staging area
Excavate temporary bypass channel (1,250 ft. long x 50 ft. wide at toe, 60 ft. wide at top of bank)
Install Type 1 Apex ELJs, Type 2 Apex ELJs, Type 1 Deflectors, and Timber Complexes.
Install Floodplain Roughness and Type 1 and Type 2 Setback Levees.

Once the in-water work is completed, the project site will be cleaned up, all erosion and sediment control measures will be removed, and the project site will be returned to pre-project contours to the extent practicable. In total, the project will require the excavation of 33,256 cubic yards of material over 10.48 acres. Of this, 11,802 cubic yards will be excavated from the Satsop River, below the OHWM of the river. Material excavated from below the OHWM will be spread out over those areas where floodplain roughness elements will be installed, which will be dry during construction. This could raise the elevation in the areas around the floodplain roughness elements by 0.5 feet.

All areas of temporary upland and floodplain disturbance will be replanted with native grasses, shrubs and trees. The project related in-water work will be completed by August 31. Other project related upland work is expected to be completed by September 30.

B. Site preparation:

Site prep will include establishing construction ingress-egress. Construction access will use existing primitive roads, reducing the extent of clearing required. Specific points and routes for construction ingress-egress will be delineated in the field with orange barrier fencing to avoid and minimize impacts to vegetation and other sensitive habitats. A temporary access route will be developed as well as an equipment staging and refueling area, located approximately 600 feet from the Satsop River. A material staging area will be located near the river, on a gravel bar.

C. Equipment to be used:

The project will require the use of pick-up trucks, dump truck, backhoe, grader, trackhoe mounted vibratory pile driver, and hand-held power tools.

D. Construction materials to be used:

Logs and woody racking material, concrete dolos, boulders, and anchoring cable to secure the structures.

E. Work corridor:

Work will occur in the lower 1.5 miles of the Satsop River, just upstream from the confluence with the Chehalis River.

F. Staging areas and equipment wash outs:

The staging and refueling area for equipment will be located in an upland area, just off Keys Road and approximately 600 feet from the Satsop River. Two material staging areas will be established down along the river, near the areas where the ELJs will be constructed. See Sheet 6 of 16 for locations of equipment/refueling and material staging areas.

G. Stockpiling areas:

See response above. Sheet 6 of 16 shows the locations of the material staging areas.

H. Running of equipment during construction:

Equipment will run 10-12 hours per day during the in-water work window of August 1—August 31, due to the compressed timeframe and the extent of work to be completed during this short window. Work in upland areas, gravel bars and the floodplain, that can be completed in the dry may occur before and/or after August 31, if necessary, to complete the project and ensure all in-water work is completed between August 1—August 31.

I. Soil stabilization needs / techniques:

Temporary Erosion and Sediment Control (TESC) measures will comply with all permit terms and conditions at a minimum. It will be the responsibility of the contractor to develop the TESC Plan and implement and maintain the appropriate measures during construction.

J. Clean-up and re-vegetation:

Post project, all construction related material will be removed from the project area and disposed of at an approved facility. Temporary construction ingress-egress will be regraded to original contours and site restoration will be implanted, including; plantings, installation of erosion control fabric as needed, seeding and mulching where necessary to return temporarily disturbed areas to pre-project conditions.

K. Storm water controls / management:

Not applicable.

L. Source location of any fill used:

Fill material will not be imported from off-site. All fill material will be sourced on-site from excavation of the temporary bypass channel and the pump outlet containment ponds.

M. Location of any spoil disposal:

Spoils will be used on-site. Spoils will consist of material from the active channel and adjacent floodplain and any spoils from the project will be returned to the active channel, gravel bars and adjacent floodplain as appropriate. No piles or other features will be created from disposal of spoils. Spoils will be incorporated into gravel bars and the floodplain to match existing contours as much as possible.

7. Action Area

Please describe the action area. The action area means all areas to be affected directly (e.g., earth moving, vegetation removal, construction noise, placement of fill, release of environmental contaminants) and indirectly by the proposed action. (Example: as a direct effect, the action area for pile driving would include the area out to where the noise from the pile driving falls below the level of harm or disturbance for listed species. For vibratory hammer pile driving impacts to killer whales, this level is 120 dB. Action area will include any area where the underwater noise level may exceed 120 dB).

The project is in a rural setting and will require the use of heavy machinery, including a tracked excavator, vibratory pile-driver and a dump truck along the active channel of the Satsop River. The Satsop River is forested along both banks, and the work will occur below the top of the river banks. This will reduce the extent terrestrial construction related noise can travel. Typical noise levels generated by this type of heavy equipment are around 90 A-weighted decibels (dBA) at 50 feet, decreasing to approximately 60-70 dBA at 3,000 feet. Ambient noise levels in a rural setting with a low-speed and high-speed arterial (i.e., Keys Road to the east and Hwy 101 to the north) are approximately 60-70 dBA at 50 feet from the roadway, decreasing to approximately 43 dBA at 3,000 feet. Thus, construction noise levels are anticipated to be at ambient noise levels at a distance of 3,000 feet (0.57 mile) from the project site, based on the noise buffer provided by the vegetation and the river banks, the rural setting in which the project is located and the noise levels generated by project construction activities; thus, the action area associated with impacts from noise is delineated at 3,000 feet.

Temporary degradation to water quality associated with project construction is not anticipated to occur beyond 3,000 feet downstream of any project-related in-water work with the incorporation of appropriate BMPs to avoid or minimize temporary increases in turbidity associated with in-water work.

The indirect effects of the project include the potential increase in production for salmonids within the Satsop River. The anticipated increase in production will have a temporal, beneficial impact to fish and other aquatic organisms, but will not affect the delineation of the project action area because conditions within the project reach will improve for fish locally over time but not over a known or measurable distance.

No interrelated or interdependent actions are anticipated as a result of the project.

The construction activities required to complete the project were the basis of the determination that an action area of 3,000 feet is adequate for analysis of potential impacts to federally listed species. See Attachment C—Figure 1. Project Action Area

8. Species Information:

Identify each listed or proposed species, including terrestrial species, as well as designated or proposed critical habitat in the action area. Please include information on which listed species use are expected to be found in the action area and the potential for them to be there during project activities.

To determine what listed or proposed species may occur in the action area, contact NOAA Fisheries at the address listed below and obtain a county list of federally listed/ designated and proposed species and critical habitat from the:

U.S Fish and Wildlife Service at: http://westernwashington.fws.gov/se/SE_List/endangered_Species.asp

National Marine Fisheries Service at:
510 Desmond Dr., SE # 103
Lacey, WA 98503
(360) 753-9530
<http://www.nwr.noaa.gov>

The following species are listed as of August 11, 2011

Species covered, based on species list received from the USFWS iPac web site February 7, 2020: Refer to Attachment D—Species List from USFWS.

USFWS SPECIES

BIRDS

Marbled murrelet
Northern spotted owl
Short-tailed albatross
Western snowy plover
Streaked horned lark
Yellow-billed cuckoo

MAMMALS

Canada lynx
Columbia white-tailed deer
Gray wolf (western WA)
Gray wolf (eastern WA)
Grizzly bear
Woodland caribou
Pygmy rabbit (Columbia Basin DPS)
Fisher

INSECTS

Oregon silverspot butterfly

PLANTS

Bradshaw's desert parsley
Marsh sandwort
Showy stickseed
Wenatchee Mtns. Checker-mallow
Golden paintbrush
Kincaid's lupine
Nelson's checker-mallow
Water howellia
Spalding's catchfly
Ute ladies'-tresses

FISH

Bull trout, Columbia River
Bull trout, coastal-Puget Sound
Dolly varden, coastal-Puget Sound

NMFS SPECIES

FISH

Chum, Columbia River
Chum, Hood Canal summer
Chinook, lower Columbia River
Chinook, upper Columbia River spring
Chinook, Puget Sound
Chinook, Snake River fall
Chinook, Snake River spring-summer
Chinook, upper Willamette River
Coho, lower Columbia River
Sockeye, Ozette Lake
Sockeye, Snake River
Steelhead, upper Columbia River
Steelhead, middle Columbia River
Steelhead, lower Columbia River
Steelhead, Snake River
Steelhead, upper Willamette River
Steelhead, Puget Sound
Sturgeon, Green (southern DPS)
Eulachon, Pacific (southern DPS)
Bocaccio (Georgia Basin DPS)
Rockfish, canary (Georgia Basin DPS)
Rockfish, yelloweye (Georgia Basin DPS)

MARINE MAMMALS

Humpback whale
Blue whale
Fin whale
Sei whale
Sperm whale
Southern resident killer whale
Steller sea lion

REPTILES-AMPHIBIANS

Leatherback sea turtle
Loggerhead sea turtle
Green sea turtle
Olive Ridley sea turtle

9. Existing Environmental Conditions:

Describe existing environmental conditions for the following:

A. Shoreline riparian vegetation and habitat features

Riparian vegetation is primarily young deciduous forest dominated by red alder (*Alnus rubra*) with a dense shrub understory of mixed native and invasive species such as giant knotweed (*Fallopia sachalinensis*), Himalayan blackberry (*Rubus armeniacus*), and reed canarygrass (*Phalaris arundinacea*).

Riparian vegetation is primarily established within the adjacent floodplain and channel migration zone or potential avulsion areas. Those areas beyond the active channel migration zone have sparse riparian vegetation such as deciduous trees, but are mostly agricultural fields beyond the river's active channel migration zone.

- B. Aquatic substrate and vegetation (include information on the amount and type of eelgrass or macroalgae present at the site)*
- No aquatic vegetation is present in the project area. Substrate consists of gravel and cobble within the active channel and high-flow channels, as well as fine sediments such as sand and mud in remnant side-channels.
- C. Surrounding land/water uses*
- The surrounding land use is primarily agricultural. The project setting is rural.
- D. Level of development*
- The level of development in the project action area is relatively low, with family farms and single-family residential homes.
- E. Water quality*
- The Department of Ecology lists this segment of the Satsop River as a Category 1 water, meaning it meets the state water quality standards.
- The Satsop River upstream of the Hwy 101 Bridge is a Category 5 water, listed for dissolved oxygen.
- The Chehalis River downstream of the project area, is also a Category 5 water, listed for Polychlorinated Biphenyls (PCBs) and Mercury.
- F. Describe use of the action area by listed salmonid fish species.*
- Bull trout presence in the project action area is assumed based on documented historic presence. Bull trout have not been observed in the Satsop River in some time and the USFWS indicates that they have likely been extirpated from the system, however WDFW indicates that bull trout have been documented in the Satsop River. Bull trout historically occurred in the Satsop River and the Satsop River is designated as critical habitat for bull trout.
- G. Is the project located within designated / proposed bull trout or Pacific salmon critical habitat? If so, please address the proposed projects' potential direct and indirect effect to primary constituent elements (Critical habitat templates can be found on the Corps website at: <http://www.nws.usace.army.mil/Missions/CivilWorks/Regulatory/PermitGuidebook/EndangeredSpecies.aspx>, select Forms, Tools and References; Forms and Templates; Critical Habitat Assessment Forms.*
- The project area is located within designated critical habitat for bull trout. The project will not have any potential direct or indirect effects on the following primary constituent elements; Water Temperature, Substrate Quality, Hydrology, Groundwater Connectivity, or Food Base.
- The project could have direct or indirect impacts on the following primary constituent elements;
- Complexity.** Complex stream channels are required by bull trout, with features such as woody debris, side channels, pools, and undercut banks to provide a variety of depths, velocities, and instream structures. The project will result in increased complexity within the project area, by installing instream structure in the form of Engineered Log Jams and other in-stream structures. These structures will develop pools and provide cover in the lower Satsop River that could benefit bull trout that may use this area of the Satsop River.

Migratory Corridors. Migratory corridors must have minimal physical, biological, or water quality impediments between spawning, rearing, overwintering, and foraging habitats, including intermittent or seasonal barriers induced by high water temperatures or low flows.

The project will not result in any impediments to migratory corridors, but may in fact improve migratory corridors by provide increased habitat complexity in the lower Satsop River; providing cover and reducing bank erosion.

Water Quantity and Quality. Bull trout require permanent water of sufficient quantity and quality such that normal reproduction, growth, and survival are not limited.

The project will not alter water quantity. Short-term, localized impacts to water quality are likely to occur from project related in-water work. This direct impact to water quality will occur during the approved in-water work window, will be temporary and not result in a permanent change in water quality.

- H. *Describe use of the action area by other listed fish species (green sturgeon, eulachon, bocaccio, canary rockfish and yelloweye rockfish).*

Not applicable. No other listed fish species are anticipated to occur in the project action area.

- I. *Is the project located within designated/proposed critical habitat for any of the species listed below? If so please address the proposed projects' potential direct and indirect effect to primary constituent elements. Please see the NOAA-Fisheries and US Fish and Wildlife websites (www.nwr.noaa.gov and www.fws.gov/pacific respectively) for further information.*

Southern resident killer whale	Marbled murrelet
Northern spotted owl	Western snowy plover
Green sturgeon	Eulachon

Not applicable.

- J. *Describe use of action area by marbled murrelets. How far to the nearest marbled murrelet nest site or critical habitat? Some information is available on the Fish and Wildlife Service website: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B08C>.*

The action area may be used as a migratory corridor for marbled murrelets traveling between the Pacific Ocean and nest sites located in the Satsop or Chehalis River watershed. The nearest designated critical habitat is approximately ten miles to the east along the Chehalis River and 22 miles to the north along the Satsop River, in Olympic National Park.

- K. *Describe use of action area by the spotted owl. How far to the nearest spotted owl nest site or critical habitat? Some information is available on the Fish and Wildlife Service website: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B08B>.*

Northern spotted owls are not expected to occur in the project action area due to lack of suitable habitat. Designated critical habitat is located approximately 22 miles to the north, in Olympic National Park.

- L. **For marine areas only:** Describe use of action area by Southern Resident killer whales. How often have they been seen in the area and during what months of the year? For information on noise

impacts on killer whales and other marine mammals, please see the National Marine Fisheries website: <http://www.nwr.noaa.gov/Marine-Mammals/MM-consults.cfm>.

Not applicable

- M. **For marine areas and Columbia River:** How far is the nearest Steller sea lion haul out site from the action area? Describe their use of the action area. See the National Marine Fisheries website: <http://www.nwr.noaa.gov/Marine-Mammals/MM-consults.cfm> for information on the Steller sea lion and location of their haul out sites.

Not applicable.

- N. **For marine areas only: Forage Fish Habitat** – only complete this section if the project is in tidal waters.

Not applicable.

Check box if Washington Department of Fish and Wildlife (WDFW) documented habitat is present. Go to the WDFW website for this information: <http://wdfw.wa.gov/fish/forage/forage.htm>, then search for each species under the link to Biology, then the link to Documented Spawning Grounds (if available, please attach a copy of the Hydraulic Project Approval from WDFW):

Surf Smelt: ☐

Pacific Herring: ☐

Sand Lance: ☐

Check box if the proposed action will occur in potentially suitable forage fish spawning habitat:

Surf Smelt: ☐

Pacific Herring: ☐

Sand Lance: ☐

If no boxes are checked, please explain why site is not suitable as forage fish spawning habitat.

Please describe the type of substrate and elevation and presence of aquatic vegetation at the project area. For example:

At +10 to +5 feet above MLLW, there is no aquatic vegetation, the substrate consists of large cobbles. At +5 to +1 foot above MLLW, there is eelgrass and the substrate consists of fine sand.

Not applicable.

10. Effects Analysis

Describe the direct and indirect effects of the action on the proposed and listed species as well as designated and proposed critical habitat within the action area. Consider the impact to both individuals and the population. Discuss the short-term, construction-related, impacts as well as the long-term and permanent effects.

Direct Impacts:

Underwater Noise from Vibratory Pile Driving

The primary impact mechanism to bull trout is exposure to elevated underwater noise levels associated with vibratory pile driving activities necessary to install 422 untreated wooden piling for the various structures (265 piling to be installed in-water and 157 piling to be installed in-the-dry). Piling sizes will be 16 inches. For this analysis, it is assumed all piling installed in-water will be 16-inch wooden piling.

The noise produced during vibratory pile driving of 16-inch wooden piling was obtained from data presented in the Caltrans Pile Driving Compendium (Caltrans 2015). The recorded noise levels for installing 16-inch wooden piling with a vibratory pile driver are presented in Table 1, below. Additionally, the distance to thresholds for injury and behavioral effects are also shown in Table 1.

Table 1. Underwater Noise- Distance to Injury and Disturbance Thresholds for Bull Trout

Effect	Fish size	USFWS/NMFS Thresholds	Recorded dB (measured at 10 m)	Distance to Threshold (m)
Onset of physical injury	N/A	206 dB _{peak} (re: 1 µPa)	176 peak	n/a
	≥ 2 g	187 dB _{SEL} (re: 1µPa ² •sec)	165 SEL	n/a
	< 2 g	183 dB _{SEL} (re: 1µPa ² •sec)	165 SEL	n/a
Behavioral effects	N/A	150 dB _{RMS} (re: 1 µPa)	170 RMS	215

In general, bull trout within 215 meters of in-water vibratory pile driving activities would be subject to underwater noise levels exceeding the onset of behavioral effects. In-water vibratory pile driving is not anticipated to produce underwater noise levels that would result in physical injury to bull trout.

The approved in-water work window for the Satsop River is August 1—August 31 for WDFW and July 1—August 31 for the Corps of Engineers. All in-water work will be completed during the in-water work window specified in the permits, adhering to the most restrictive permit conditions.

Turbidity

Increases in sedimentation and turbidity have been shown to affect salmonid physiology, behavior, and habitat. Physiological effects of turbidity on salmonids include stressors that can affect the physical health of salmonids. Effects that have been studied in salmonids include gill trauma, blood sugar levels, and osmoregulatory function. Behavioral effects include changes associated with increases in turbidity, such as avoidance, as well as changes in foraging ability, response to predation risk, and reduced territoriality (Meehan 1991). Effects to salmonid habitat include changes to spawning and rearing habitat (Bash et al. 2001).

Sedimentation and erosion associated with project construction could potentially affect fish and fish habitat. Ground-disturbing construction activities could potentially degrade aquatic habitat through erosion and subsequent sediment transport and delivery to streams. Short-term pulses of suspended sediments have been shown to cause gill trauma in salmonids (Bash et al. 2001). Deposition of excessive fine sediment on the stream substrate could eliminate habitat for aquatic insects; reduce density, biomass, number, and diversity of aquatic insects and vegetation; reduce the permeability of spawning gravel; and block the interchange of surface and subsurface waters. Increases in fine sediments in low-velocity stream reaches could also cover suitable spawning gravel. Other potential effects include channel braiding, increased width/depth ratios, increased incidence and severity of bank erosion, reduced pool volume and frequency, and increased subsurface flow. Such changes could result in a reduction in the quality and quantity of spawning and rearing habitat (Meehan 1991).

The project will incorporate BMPs to avoid or minimize sediment inputs to the river during construction, as well as minimize potential increases in turbidity associated with in-water activities. The project will not introduce fine sediments to the system that would affect spawning areas, further increase substrate embeddedness, or degrade existing channel conditions.

Turbidity will increase during construction but is not expected to increase to a level that could cause injury to fish that may be present within the action area, such as causing gill trauma or negatively affecting blood sugar levels or osmoregulatory function. Turbidity levels may temporarily affect the behavior of fish, causing such behavioral changes as avoidance of project activities, or turbidity levels may temporarily affect juvenile foraging success and response to potential predation.

Construction will not occur across the entire channel at any given time but will occur from a stationary point, then progress as work is completed. The sediment plume created by construction activities will be relatively concentrated at the position within the channel where the work is occurring (i.e., left bank, right bank, center of channel), thereby providing a portion of the stream where fish are able to avoid the sediment plume to some extent. Additionally, the plume will dissipate as it moves downstream.

Adhering to the approved in-water work window will ensure that in-water activities occur when the life history stages of federally listed fish species that are best able to avoid increased turbidity are present and impacts to incubating eggs or alevins are minimized to the greatest extent practicable, should these life history stages occur in the project area.

Channel Modifications

Channel modifications will occur as a result of the ELJs and timber complex installed as part of the project, increasing habitat complexity for salmonids and benefit both juveniles and adults by providing overhead cover and deep-water habitat, which provides rearing and holding areas for fish.

The increased habitat complexity will be maintained by the hydraulic conditions created by the various wood structures. The timber complex will reduce streambank erosion by reducing the hydraulic force exerted on the bank. Timber complex ELJs will also provide bank protection as well as push the thalweg away from the toe of the streambank, while also providing overhead cover for juvenile salmonids. The Apex ELJs will create scour pools within the active channel, creating deep water habitat and providing overhead cover. The project will greatly increase habitat complexity within the lower Satsop River, providing log jams in a segment of the system that has relatively low woody material in the active channel. Overall, the project related channel modifications will increase productivity within the lower Satsop River.

Fish Removal and Exclusion

Fish removal and exclusion will adhere to the WSDOT fish removal and exclusion protocols. Bull trout have likely been extirpated from the Satsop River, according to the USFWS; although WDFW indicates that bull trout have been documented in the Satsop River. Bull trout historically did occur in the Satsop River. Overall, the likelihood of encountering bull trout during the fish removal and exclusion effort is unlikely.

Fish exclusion and removal efforts will be completed with a beach seine. The beach seine will be deployed from shore and spread waterward to effectively isolate the in-water work area without the need to capture or handle fish.

Temporary Impacts to Riparian Vegetation

Riparian vegetation directly influences the quality of salmonid habitat, affecting cover, food, instream habitat complexity, streambank stability, and temperature regulation. LWD recruited from streamside trees provides instream cover and habitat complexity, an essential component of fish habitat. Riparian vegetation also provides shade and an insulating canopy that moderates water temperatures in both summer and winter. Riparian vegetation provides a filter that reduces the transport of fine sediment to the stream, and the roots provide streambank stability and cover for rearing fish (Meehan 1991).

Riparian vegetation influences the food chain of a stream, providing organic detritus and terrestrial insects. Riparian vegetation also controls aquatic productivity dependent on solar radiation (Meehan 1991). Because of the numerous ways riparian vegetation influences the stream ecosystem, the effects of altering riparian vegetation are highly variable, ranging from increased sedimentation and stream temperatures to decreased food production and habitat complexity.

A relatively small amount of riparian vegetation will be removed as part of the project, and to the extent practicable, every effort will be made to preserve riparian vegetation. The project includes the restoration and enhancement of habitat to improve conditions for salmonids, which also includes restoration of riparian habitat.

During construction, approximately 4.96 acres (216,058 square feet) of buffer vegetation will be temporarily impacted along the left bank. All buffer areas temporarily impacted will be replanted post-construction. The temporal loss of approximately 4.96 acres of buffer vegetation is expected to have a negligible impact to the aquatic and terrestrial environment and species. The vegetation to be removed would not affect the overall shading of the river, the allochthonous inputs, streambank stability, and overhead cover along the stream margins. Nor would it have a measurable effect on the overall suitability of the riparian forest area for species such as yellow-billed cuckoo, since existing primitive roads would be used to provide construction access, reducing the extent of clearing required for project construction.

Indirect Impacts:

The project will modify the character of the lower Satsop River by increasing habitat complexity, forming pool habitat over time, increasing overhead and in-stream cover, and increasing streambank stability.

The project has been designed to result in indirect effects beneficial to salmonids within the lower Satsop River, with the overall objective of stabilizing stream banks and reducing bank erosion while improving in-stream habitat conditions.

11. Conservation measures:

Conservation measures are measures that would reduce or eliminate adverse impacts of the proposed activity (examples: work done during the recommended work window (to avoid times when species are most likely to be in the area), silt curtain, erosion control best management practices, percent grating on a pier to reduce shading impacts).

Proposed work window: In-water work will occur August 1—August 31. Work outside of the active channel, and not in-water will occur as needed and allowed in permits obtained for the project. It is anticipated that work in upland areas may begin in July and be completed in September.

Other conservation measures:

The following conservation measures and Best Management Practices (BMPs) are incorporated as part of the project to avoid or minimize potential impacts to federally listed species within the project action area.

- Work within the active channel will be completed during the approved in-water work window (August 1—August 31).
- All material used to construct in-stream structures shall be clean of mud, dirt, and other material that could temporarily degrade water quality within the project action area.
- Clearing limits will be marked with flagging wherever clearing is proposed in or adjacent to the Satsop River.
- Construction equipment will be limited to the minimum access and construction footprint required for the construction the project.
- The contractor shall be responsible for preparing a detailed Spill Prevention Control and Countermeasures (SPCC) Plan, which will identify all the contingencies in the event of an accidental spill of any hazardous material.
- Equipment will be refueled in a designated area, with absorbent pads in place and spill containment equipment present to reduce the potential for contaminants to reach the water should any sort of accidental spill or leakage occur.
- All heavy equipment will be inspected prior to operating each day during project construction. All heavy equipment shall be deemed clean and free of external oil, fuel, or other potential pollutants prior to operating and performing construction activities, particularly in-water work.
- Hydraulic fluid in all heavy machinery operating in water will be replaced with vegetable oil.
- Refueling of all heavy machinery will occur at least 150 feet from the Satsop River or other sensitive areas (i.e., wetlands).
- A hazardous material spill kit will be on-site, and a hazardous material boom will be set up immediately downstream of the work site in case of a spill when vehicles are working near the active channel.
- The contractor will designate at least one employee as the Erosion and Spill Control Lead (ESCL). The ESCL will be responsible for installing and monitoring erosion control measures and maintaining spill containment and control equipment. The ESCL will also be responsible for ensuring compliance with all local, state, and federal erosion and sediment control requirements. Moreover, the ESCL will be responsible for inspecting all temporary

erosion and sediment control measures on a regular basis, as well as maintaining and repairing such measures and ensuring their continued performance.

12. Determination of Effect:

Provide a summary of impacts concluding with statement(s) of effect, by species. Even projects that are intended to benefit the species might have short-term adverse impacts and those must be addressed. Only the following determinations are valid for listed species or designated critical habitat:

No effect. Literally no effect. No probability of any effect. The action is determined to have ‘no effect’ if there are no proposed or listed salmon and no proposed or designated critical habitat in the action area or downstream from it. This effects determination is the responsibility of the action agency to make and does not require NMFS review.

May Affect, Not Likely to Adversely Affect (NLAA) – Insignificant, discountable, or beneficial effects. The effect level is determined to be ‘may affect, not likely to adversely affect’ if the proposed action does not have the potential to hinder attainment of relevant properly functioning indicators and has a negligible (extremely low) probability of taking proposed or listed salmon or resulting in the destruction or adverse modification of their habitat. An insignificant effect relates to the size of the impact and should never reach the scale where take occurs. A ‘discountable effect’ is defined as being so extremely unlikely to occur that a reasonable person cannot detect, measure, or evaluate it. This level of effect requires informal consultation, which consists of NMFS and/or USFWS concurrence with the action agency’s determination.

May Affect, Likely to Adversely Affect (LAA) This form is not appropriate for use with a project that is LAA listed species. Please see the Biological Assessment (BA) template on the Corps website:

http://www.nws.usace.army.mil/PublicMenu/Menu.cfm?sitename=REG&pagename=mainpage_ESA

Bull Trout

The information and analysis presented in this Abbreviated BE was the basis of the finding that the project warrants an effect determination of **May Affect, Not Likely to Adversely Affect** for bull trout.

A determination of **May Affect** is warranted based on the following rationale:

- Bull trout have likely been extirpated from the Satsop River, according to the USFWS; although WDFW indicates that bull trout have been documented in the Satsop River. Bull trout historically did occur in the Satsop River and are not currently precluded from the Satsop River; thus, they could occur during project construction.
- The project will require in-water work and will modify habitat conditions for bull trout.

A determination of **Not Likely to Adversely Affect** is warranted based on the following rationale:

- Bull trout spawning has not been documented within the project action area; however, various life history stages may occur throughout the year.
- The project will modify habitat conditions within the project action area. The modifications will be positive over the long term, they will require relatively extensive in-water work and work in the adjacent floodplain and gravel bars.
- The in-water work will occur during the approved in-water work window of August 1—August 31, minimizing the number of bull trout and life history stages that may be present within the project action area during construction.

- Increases in turbidity will be of a short duration, and bull trout that may occur within the project action area will be able to avoid areas with increased turbidity.
- The project will stabilize the streambanks in a manner that also improves in-stream habitat conditions for salmonids, including bull trout. The project will increase in-stream and overhead cover, stabilize eroding streambanks, and increase habitat complexity.

Fisher (Proposed Threatened)

The project **will not jeopardize the continued existence** of fisher of the West Coast DPS. Fisher are opportunistic predators that hunt exclusively in forested habitats. They prefer late-successional coniferous or mixed forests that contain key habitat and structural components including relatively large diameter trees, high canopy closure, large trees with cavities and large down wood. The project action area does not provide suitable habitat.

Should fisher be listed as threatened before project construction is completed, the project would have **No Effect** on fisher of the West Coast DPS.

Marbled Murrelet

As mentioned above, the action area may be used as a migratory corridor for marbled murrelets traveling between the Pacific Ocean and nest sites located in the Satsop or Chehalis River watershed. The nearest designated critical habitat is approximately ten miles to the east along the Chehalis River and 22 miles to the north along the Satsop River, in Olympic National Park.

The project will not affect documented nest sites or designated critical habitat, and will not affect foraging activities or alter migratory patterns or corridors. Therefore, the project will have **No Effect** on marbled murrelets.

Streaked Horned-Lark

Streaked horned-larks use a wide range of habitats, including open prairie and agricultural fields, which are present in the project action area. Thus, it is possible that streaked horned-larks could occur in the project action area and thus the project warrants a determination of **May Affect, Not Likely to Adversely Affect** for streaked horned-lark.

A determination of **May Affect** is warranted based on the following rationale:

- Suitable habitat is present within the project action area.
- The project action area is within the expected range of streaked horned-lark.

A determination of **Not Likely to Adversely Affect** is warranted based on the following rationale:

- The project will not result in any destruction or modification of potentially suitable habitat for the streaked horned-lark.
- Streaked horned-larks may be affected by construction related noise, resulting in behavioral response or disturbance.

Yellow-billed Cuckoo

Yellow-billed cuckoo's nest in deciduous habitats with clearings and dense shrubby vegetation, especially those near rivers, streams and wetlands (Hughes 2015 in WDFW 2017). However, the last confirmed record of cuckoos nesting in Washington occurred in Seattle in 1923. A yellow-billed cuckoo was sighted in Grays Harbor County in 1996. However, is it unlikely, cuckoos could occur in the project action area and thus the project warrants a determination of **May Affect, Not Likely to Adversely Affect** for streaked horned-lark.

A determination of **May Affect** is warranted based on the following rationale:

- Suitable habitat is present within the project action area.
- The project action area is within the historic range of yellow-billed cuckoos.

A determination of **Not Likely to Adversely Affect** is warranted based on the following rationale:

- Yellow-billed cuckoos have not been observed in Grays Harbor County in over 24 years.
- Were cuckoos to occur in the project action area, noise generated by construction could affected them, resulting in behavioral response or disturbance.
- The project will temporarily remove 4.96 acres (216,058 square feet) of buffer vegetation. These areas will be replanted upon completion of construction activities and will not result in any long-term modification or loss of habitat.

13. EFH Analysis

Essential Fish Habitat (EFH) is broadly defined by the Act (now called the Magnuson-Stevens Act or the Sustainable Fisheries Act) to include “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity”. This language is interpreted or described in the 1997 Interim Final Rule [62 Fed. Reg. 66551, Section 600.10 Definitions] -- Waters include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include historic areas if appropriate; substrate includes sediment, hard bottom, structures underlying the waters, and associated biological communities; necessary means the habitat required to support a sustainable fishery and the managed species’ contribution to a healthy ecosystem; and “spawning, breeding, feeding, or growth to maturity” covers a species’ full life cycle.

Additional guidance for EFH analyses can be found at the NOAA Fisheries web site under the Sustainable Fisheries Division.

A. Description of the Proposed Action (may refer to BA project description)

See Attachment A, Project Description and Attachment B, Project Plan Sheets.

B. Addresses EFH for Appropriate Fisheries Management Plans (FMP)

The Pacific Salmon Fishery Management Plan covers EFH for Chinook salmon, coho salmon and Puget Sound Pink Salmon. Only EFH for Chinook salmon and coho salmon occurs in the project action area.

C. Effects of the Proposed Action

i. Effects on EFH (groundfish, coastal pelagic, and salmon EFH should be discussed separately)

The impacts to Pacific salmon (Chinook salmon and coho salmon) EFH are similar to those impacts described above for bull trout designated critical habitat.

ii. Effects on Managed Species (unless effects to an individual species are unique, it is not necessary to discuss adverse effects on a species-by species basis)

The effects on Chinook salmon and coho salmon would be similar to those described above for bull trout.

iii. Effects on Associated Species, Including Prey Species

Major prey species for juvenile Chinook salmon and coho salmon includes aquatic macroinvertebrates. The project is not anticipated to have a measurable impact on macroinvertebrates. Short-term impacts could occur from in-water construction activities, but long term the project would likely improve conditions for macroinvertebrates by increasing habitat complexity, and types of substrate available (i.e., specific areas of wood, sand, gravel and cobble).

iv. Cumulative Effects

No cumulative effects associated with this project have been identified.

D. Proposed Conservation Measures

Conservation measures are included for all activities associated with the construction of the project. Conservation measures will maintain existing habitat conditions, including EFH, in the action area. See Section 11 of the Abbreviated BE, above, for list of proposed conservation measures.

E. Conclusions by EFH (taking into account proposed conservation measures)

In accordance with the EFH requirements of the Magnuson-Stevens Fishery Conservation and Management Act, it has been determined that the project will have **no adverse impact to EFH** utilized by Pacific salmon species.

14. References:

Include any studies or papers that support statements made in this form (example: reference the source for the listed species that are covered).

Bash, J., C. Berman, and S. Bolton. 2001. *Effects of Turbidity and Suspended Solids on Salmonids*. Center for Streamside Studies, College of Forest Resources. University of Washington. In press for Washington State Department of Transportation. Seattle, WA.

Caltrans (California Department of Transportation). 2015. Technical guidance for assessment and mitigation of the hydroacoustic effects of pile driving on fish. Prepared by Caltrans Division of Environmental Analysis, Report No. CTHWANP-RT-306.01.01. Sacramento, CA.

Meehan, W. R. (ed.). 1991. *Influences of Forest and Rangeland Management on Salmonid Fishes and Their Habitats*. Special publication 19. American Fisheries Society. Bethesda, MD.

15. Appendices:

As needed include mitigation, revegetation plans, monitoring plans, results of studies, water quality information, etc.

Attachment A—Project Description
Attachment B—Project Plan Sheets
Attachment C—Project Action Area
Attachment D—Species List from USFWS

Attachment A

Project Description

PROJECT DESCRIPTION

Project Area

The project area is located approximately 1.5 miles north of the confluence of the Satsop River with the Chehalis River, approximately 1.5 miles south of the community of Satsop Washington and within Water Resources Inventory Area (WRIA) 22, the Lower Chehalis Watershed. The project area is specifically located near the center of Section 6 in Township 17N, Range 6W.

The Satsop River and its eroding streambanks are located along the western edge of the project area. The river flows south with significant meanders at approximately RM 1.5 and 0.5. Four large ponds formed from past mining of the floodplain for gravels in the 1970s-1980s are located between the meanders and surrounded by young floodplain forest. The Port of Grays Harbor's well is located near the center of the RM 0.5 portion of the project area. Keys Road forms the eastern edge of the project area; adjacent land uses east of the road are rural residential and agricultural (primarily pasture).

The project area lies in a unique geomorphic setting which can help explain its active rates of channel migration. The Satsop River leaves its own valley and enters the Chehalis River valley directly downstream from Highway 12. Here, it forms a region of elevated land that surrounds the Satsop River and extends above the Chehalis River floodplain. Bank stratigraphy indicates that the underlying material is highly erodible silt which was likely deposited by floods from both river basins. Because the "confluence ridge" lies within the over-widened Chehalis River Valley¹, there are no hillslopes to constrain the river's lateral migration, and thus, the Satsop River moves through the valley with few resistant features.

Topography of the project area is relatively flat with higher cut banks along the western bank of the river outside of the project area and an area of higher elevation sidecast along the northern edge of the ponds. Vegetation is primarily young deciduous forest dominated by red alder (*Alnus rubra*) with a dense shrub understory of mixed native and invasive species such as giant knotweed (*Fallopia sachalinensis*), Himalayan blackberry (*Rubus armeniacus*), and reed canarygrass (*Phalaris arundinacea*).

Project Background

Prior to European Settlement, resistance to erosion on the landscape was likely provided by old-growth conifer forests and the stable logjams that they created. Logjams and patches of mature forest would have provided stability to the river channel banks (logjams by deflecting flow, roughening and strengthening banks and trees through their extensive root systems). The mature trees were also a source of the "key pieces" of large wood essential for forming stable logjams and creating an important ecosystem function referred to as the 'floodplain large wood cycle' in which

¹ The Chehalis River was one of the main drainage paths of the Puget Lobe of the Cordilleran Ice Sheet at the end of the last ice age. As the ice sheet melted, large quantities of water, ice, and rock were transported through the modern-day Chehalis River Valley into the ocean. During these flood waves, the valley was scoured and widened with forces much greater than the modern-day river can exert. Because of this, the valley is wider than it would have been, had it only been subject to erosion from the river alone. (First discussed in Bretz, J.H. 1913. *Glaciation of the Puget Sound Region*. Washington Geological Survey Bulletin No. 8).

stable logjams create stable areas where trees can mature within areas of frequent channel migration.

Today however, the resistance provided by the old-growth forest and stable logjams is no longer present on the landscape and the system is lacking natural material that can provide erosional resistance. The only features that are resisting lateral migration within the project area are man-made structures, such as roads and revetments. These features do not react dynamically to the river in a manner that slows erosion (such as a tree falling in and forming a stable log jam), rather they act as static features that direct the river.

Channel migration in the project area is driven by lateral migration of meander bends and channel avulsions, or cutoffs. It is these processes that establish the river's "meander belt" where meander bends expand in both directions around a central axis until they are cutoff by a channel avulsion when the slope of the bend gets too low. The lower meander between RM 0.0 and RM 1.0 experienced this expansion/cutoff process between ~1990 until November 2018. Prior to 2006, the meander sequence eroded outward from a central axis in both eastward and westward directions. However, when the eastern portion of the sequence met resistance with riprap protecting the Port's well, the bend between RM 0.2 and RM 0.6 began migrating towards itself from both ends because the stream's energy could no longer move eastward. The bends continued to migrate closer towards each other, until they eventually cutoff in a neck cutoff avulsion at RM 0.4 on November 27, 2018.

The current issues with the river are the result of confining the river and concentrating its power in locations where the river hasn't been in thousands of years. The system is now concentrating stream power resulting in increased erosion rates, loss of riparian vegetation, and loss of aquatic habitat. Since the avulsion, the primary flow path is now to the west, along the avulsion route. The cutoff shifted the central axis of the meander belt towards the west where it is likely to remain until the river expands in both directions and another bend eventually cuts off.

Because of this, both right bank outer bends are likely to migrate into existing farmland. The avulsed channel's proximity to landowner residences and the highly erodible soils have placed homes and valuable farmland in imminent danger. River discharge at the time of the avulsion coincided approximately with a 2-year peak flow recurrence event.

Prior to the avulsion, the river's primary route was through the meander bends which convey flow past the Port of Grays Harbor potable water well and adjacent to Keys Road. Although these meander bends are now secondary flow paths, they are engaged multiple times every year at relatively low flows and are experiencing rapid bank erosion which endangers Keys Road and the Port's well.

Proposed Project

The goals of the proposed bank stabilization project are to distribute stream power across the floodplain, creating a system with dynamic equilibrium that supports riparian vegetation, aquatic habitat, and a restored historic channel migration zone. To achieve this goal, the proposed project focuses on stabilizing the floodplain, stabilizing river flow paths, and reducing rates of erosion along the lower approximately 2 miles of the Satsop River.

The proposed project will use ecologically sensitive solutions consistent with habitat restoration projects in the basin. Specifically, the proposed project would construct two timber revetments on the floodplain to protect Keys Road and to ultimately support full removal of revetments along the left bank adjacent to the upstream most structures to be constructed (Figure 1). The proposed

project also includes construction of a temporary bypass channel and 42 engineered log jams (ELJs) in the river, and 320 feet of timber complex along its banks to further reduce erosion of opposite bank agricultural lands by improving floodplain connectivity and helping distribute stream power across the floodplain and reducing main channel velocities.

The setback revetments will be installed within the floodplain of the Satsop River, but will be installed in-the-dry, and not in-water. Similarly, the Floodplain Roughness Structures will be installed on a gravel bar and are anticipated to be in-the-dry during installation, and not in-water. The other ELJ structures will be installed in-water. All the structures will be installed using a vibratory pile driver. Table 1 provides information on the number of piling. Piling sizes will range from 16 inches to 24 inches in diameter. For this analysis, it is assumed that all piling will be 24-inch, untreated wooden piling.

Table 1. Total Number of 24-inch Untreated Wooden Piling to be Driven with Vibratory Pile Driver

Structure	No of Piles/Structure	No of Structures	Total No of Piles
Type 1 Apex ELJ ¹	16	7	112
Type 2 Apex ELJ ¹	9	1	9
Type 1 Deflector ¹	14	9	126
Floodplain Roughness ²	7	7	49
Timber Complex ¹	6	5	30
Type 1 Setback Levee ²	8	6	48
Type 2 Setback Levee ²	5	12	60
TOTAL No of PILES			434
Total No of Piles to be installed In-Water			277
Total No of Piles to be installed In-the-Dry			157

¹ Piles to be driven in-water

² Piles to be driven in floodplain, not in-water

In-water structures will require fish removal and exclusion. Fish removal and exclusion will adhere to the WSDOT protocols.

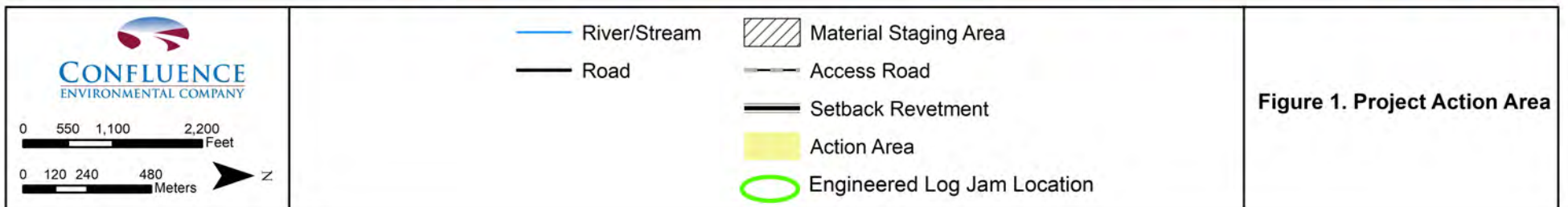
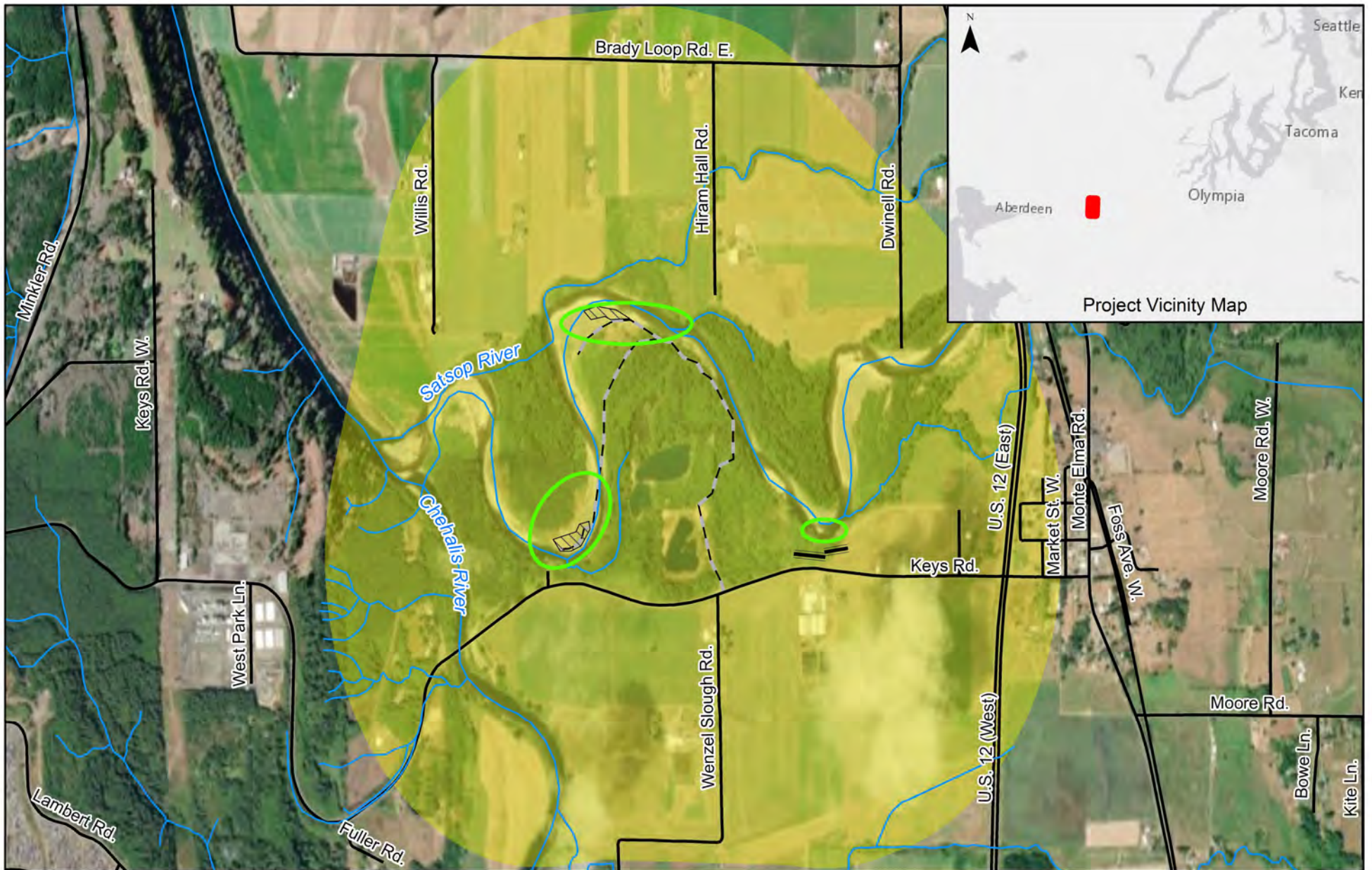
Post-project conditions are anticipated to reduce erosion and channel migration rates near the two meanders that currently threaten Keys Road and the Port of Grays Harbor well. Post-project instream conditions are anticipated to include higher quality habitat for aquatic species around the installed ELJ structures. These structures are designed to create habitat by:

- Scouring pools;
- Sorting sediment for spawning;
- Providing velocity refuge; and
- Supporting production of allochthonous organic matter in the ELJs which supports benthic macroinvertebrate productivity and thus provides food-web support to aquatic species.

Once the system is allowed to return to, and distribute its energy across its historic floodplain, a less intensive approach to improve habitat functions and further reduce bank erosion will be more feasible.

Attachment C

Figure 1. Project Action Area



Attachment D

Species List from USFWS



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Washington Fish And Wildlife Office

510 Desmond Drive Se, Suite 102

Lacey, WA 98503-1263

Phone: (360) 753-9440 Fax: (360) 753-9405

<http://www.fws.gov/wafwo/>



In Reply Refer To:

February 07, 2020

Consultation Code: 01EWF00-2020-SLI-0560

Event Code: 01EWF00-2020-E-01149

Project Name: Keys Road Bank Stabilization Project

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated and proposed critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. The species list is currently compiled at the county level. Additional information is available from the Washington Department of Fish and Wildlife, Priority Habitats and Species website: <http://wdfw.wa.gov/mapping/phs/> or at our office website: http://www.fws.gov/wafwo/species_new.html. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether or not the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species, and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.). You may visit our website at <http://www.fws.gov/pacific/eagle/for> information on disturbance or take of the species and information on how to get a permit and what current guidelines and regulations are. Some projects affecting these species may require development of an eagle conservation plan: (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Also be aware that all marine mammals are protected under the Marine Mammal Protection Act (MMPA). The MMPA prohibits, with certain exceptions, the "take" of marine mammals in U.S. waters and by U.S. citizens on the high seas. The importation of marine mammals and marine mammal products into the U.S. is also prohibited. More information can be found on the MMPA website: <http://www.nmfs.noaa.gov/pr/laws/mmpa/>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Related website:

National Marine Fisheries Service: http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

Attachment(s):

- Official Species List
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Washington Fish And Wildlife Office

510 Desmond Drive Se, Suite 102

Lacey, WA 98503-1263

(360) 753-9440

Project Summary

Consultation Code: 01EWF00-2020-SLI-0560

Event Code: 01EWF00-2020-E-01149

Project Name: Keys Road Bank Stabilization Project

Project Type: STREAM / WATERBODY / CANALS / LEVEES / DIKES

Project Description: Installation of several Engineered Log Jams and wood debris revetments in the lower 1.5 miles of the Satsop River to reduce bank erosion and loss of private property in a way to provides improved habitat conditions for fish.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/46.984561377080624N123.48582619560646W>



Counties: Grays Harbor, WA

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Fisher <i>Pekania pennanti</i> Population: West coast DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3651	Proposed Threatened

Birds

NAME	STATUS
Marbled Murrelet <i>Brachyramphus marmoratus</i> Population: U.S.A. (CA, OR, WA) There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Streaked Horned Lark <i>Eremophila alpestris strigata</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7268	Threatened
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is proposed critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Fishes

NAME	STATUS
Bull Trout <i>Salvelinus confluentus</i> Population: U.S.A., conterminous, lower 48 states There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8212	Threatened

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Bull Trout <i>Salvelinus confluentus</i> https://ecos.fws.gov/ecp/species/8212#crithab	Final
