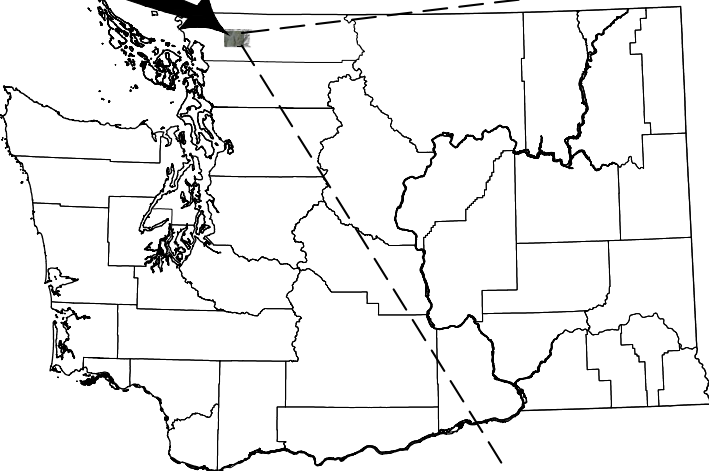


PORTER CREEK ALLUVIAL FAN RESTORATION PROJECT

PROJECT LOCATION



WASHINGTON STATE
SCALE: 1"=50 MILES

CONTACT INFORMATION

ENGINEER: NATURAL SYSTEMS DESIGN, INC
1900 N NORTHLAKE WAY, SUITE 211
SEATTLE, WA 98103
(206) 834-0175

OWNER: LUMMI NATION
2616 KWINA ROAD
BELLINGHAM, WA 98226

NOOKSACK SALMON ENHANCEMENT ASSOCIATION
2445 E BAKERVIEW ROAD
BELLINGHAM, WA 98226
(360) 715-0283

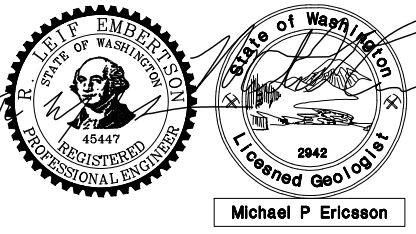


VICINITY MAP
SCALE: 1" = 3,000'

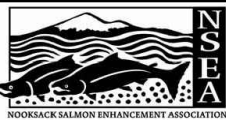
DRAWING LIST TABLE	
SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	GENERAL NOTES
3	SITE OVERVIEW
4	EXISTING CONDITIONS AND ACCESS PLAN
5	PROPOSED CONDITIONS SITE PLAN
6	GRADING PLAN
7	GRADING CROSS SECTIONS AND QUANTITIES
8	HABITAT TREE PLAN
9	TYPICAL DETAILS

GENERAL LEGEND

- PROPERTY LINE (APPROXIMATE)
- EXISTING ROAD
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED GRADING LIMIT (APPROXIMATE BERM REMOVAL EXTENTS)
- PROPOSED CLEARING AND MACHINE DISTURBANCE LIMIT
- EXISTING LOW FLOW CHANNELS (APPROXIMATE)
- EXISTING OHWM (ESTIMATED/NOT DELINEATED)
- PROPOSED OHWM (ESTIMATED)
- EXISTING FLOOD BERM FOOTPRINT, APPROX.
- CROSS-SECTION "2", SHOWN ON SHEET 7
- SURVEYED EXISTING LARGE TREE(NOT ALL ARE SHOWN)
- TEMPORARY ACCESS ROAD
- HABITAT TREE, SALVAGED ON-SITE AND PLACED PER OWNER DIRECTION



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NAME OR INITIALS AND DATE	
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CHECKED	ME
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CHECKED	ME

GEOGRAPHIC INFORMATION	
LATITUDE	48°47'34.20"N
LONGITUDE	122°07'5.74"W
TN/SC/RG	T38N/S11/R5E
DATE	02/28/2020

PORTER CREEK ALLUVIAL FAN RESTORATION PROJECT

COVER SHEET

1
SHEET 1 OF 9

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GENERAL NOTES

1. THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF LUMMI DEPARTMENT OF NATURAL RESOURCES, HEREAFTER REFERRED TO AS "OWNER".
2. THE PARTY SELECTED TO PERFORM THE WORK WITHIN THESE PLANS IS HEREAFTER REFERRED TO AS THE "CONTRACTOR" AND INCLUDES THEIR SUBCONTRACTORS .
3. NATURAL SYSTEMS DESIGN HEREAFTER REFERRED TO AS "ENGINEER" IS RESPONSIBLE FOR THE PREPARATION OF THESE ORIGINAL PLANS AND ASSOCIATED SPECIFICATIONS; AND WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGE, OR USE, OF THESE PLANS WHICH INCLUDES ALTERATION, DELETION, OR EDITING OF THIS DOCUMENT WITHOUT EXPLICIT WRITTEN PERMISSION FROM THE ENGINEER. ANY OTHER UNAUTHORIZED USE OF THIS DOCUMENT IS PROHIBITED.
4. MINOR MODIFICATIONS ARE EXPECTED TO SUIT JOB SITE DIMENSIONS OR CONDITIONS. SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK. THE OWNER, ENGINEER AND APPROPRIATE REGULATORY AGENCIES SHALL BE NOTIFIED OF ANY OWNER-AUTHORIZED CHANGE RESULTING IN MORE THAN A 10% DESIGN CHANGE OF PROPOSED FOOTPRINT OR THAT SIGNIFICANTLY AFFECTS THE INTENDED BENEFIT OR FUNCTION OF A PROJECT ELEMENT.
5. THE LOCATION OF ALL FEATURES SHOWN IS APPROXIMATE.
6. THE CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; AND FURTHER AGREES THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS IN ACCORDANCE WITH THE PROVISIONS OUTLINED BY THE PROJECT CONTRACT AND SPECIFICATIONS.
7. IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTOR(S) TO EXAMINE THE PROJECT SITE PRIOR TO THE OPENING OF BID PROPOSALS. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED, SUCH AS THE NATURE AND LOCATION OF THE WORK; AND THE GENERAL AND LOCAL CONDITIONS, PARTICULARLY THOSE AFFECTING THE AVAILABILITY OF TRANSPORTATION, THE DISPOSAL, HANDLING, AND STORAGE OF MATERIALS, AVAILABILITY OF LABOR, WATER, ELECTRICITY, ROADS, THE UNCERTAINTIES OF WEATHER, THE CONDITIONS OF THE GROUND, SURFACE AND SUBSURFACE MATERIALS, GROUNDWATER, THE EQUIPMENT AND FACILITIES NEEDED FOR AND DURING THE PERFORMANCE OF THE WORK, AND THE COSTS THEREOF. ANY FAILURE BY THE CONTRACTOR AND SUBCONTRACTOR(S) TO ACQUAINT THEMSELVES WITH ALL THE AVAILABLE INFORMATION WILL NOT RELIEVE THE CONTRACTOR AND SUBCONTRACTOR(S) FROM RESPONSIBILITY FOR PROPERLY ESTIMATING THE DIFFICULTY AND COST OF SUCCESSFULLY PERFORMING THE WORK.
8. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE CONTRACT DOCUMENTS AND FOR ALL SUBMITTALS REQUIRED TO THE OWNER FOR REVIEW AND ACCEPTANCE.

PERMIT NOTES

1. EVERY REASONABLE EFFORT SHALL BE MADE TO CONDUCT THE ACTIVITIES SHOWN IN THESE PLANS, IN A MANNER THAT MINIMIZES THE ADVERSE IMPACT ON WATER QUALITY, FISH AND WILDLIFE, AND THE NATURAL ENVIRONMENT.
2. ALL WORK WILL BE IN COMPLIANCE WITH PERMIT CONDITIONS ISSUED BY PERTINENT REGULATORY AGENCIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE COPIES OF ALL PERMITS ON THE JOB SITE, UNDERSTAND AND COMPLY WITH ALL PERMIT CONDITIONS.
3. ALL WORK THAT DISTURBS THE SUBSTRATE, BANK, OR SHORE OF A WATERS OF THE STATE THAT CONTAINS FISH LIFE SHALL BE CONDUCTED ONLY DURING THE WORK PERIOD FOR THAT WATERBODY AS ALLOWED BY RELEVANT HYDRAULIC WORK PERMITS. THOSE PORTIONS OF THE PROJECT WORK THAT OCCUR OUTSIDE OR ABOVE THE ORDINARY HIGH WATER MARK (ABOVE THE USACE JURISDICTIONAL LINE) ARE NOT SUBJECT TO THE WORK PERIODS DESCRIBED ABOVE UNLESS SPECIFIED IN THE RELEVANT PERMITS.
4. ALL ACTIVITIES THAT INVOLVE WORK ADJACENT TO, OR WITHIN THE WETTED CHANNEL SHALL, AT ALL TIMES, REMAIN CONSISTENT WITH ALL APPLICABLE WATER QUALITY STANDARDS; EFFLUENT LIMITATION; AND STANDARDS OF PERFORMANCE, PROHIBITIONS, PRETREATMENT STANDARDS, AND MANAGEMENT PRACTICES ESTABLISHED PURSUANT TO THE CLEAN WATER ACT OR PURSUANT TO APPLICABLE STATE AND LOCAL LAW.
5. IF AT ANY TIME, AS A RESULT OF PROJECT ACTIVITIES, FISH ARE OBSERVED IN DISTRESS, A FISH KILL OCCURS, OR WATER QUALITY PROBLEMS DEVELOP (INCLUDING EQUIPMENT LEAKS OR SPILLS), OPERATIONS SHALL CEASE AND THE OWNER SHALL BE NOTIFIED IMMEDIATELY.
6. IF, DURING CONSTRUCTION, ARCHAEOLOGICAL REMAINS ARE ENCOUNTERED, CONSTRUCTION IN THE VICINITY SHALL BE HALTED, AND THE STATE OFFICE OF HISTORIC PRESERVATION AND THE OWNER SHALL BE NOTIFIED IMMEDIATELY.

SURVEY NOTES

1. UNLESS NOTED OTHERWISE ON THE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SURVEY MONUMENTS AND OTHER SURVEY MARKERS DURING CONSTRUCTION.
2. THE CONTRACTOR SHALL MAINTAIN A SET OF PLANS ON THE JOB SHOWING

- "AS-CONSTRUCTED" CHANGES MADE TO DATE. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUPPLY TO OWNER A SET OF PLANS, MARKED UP TO THE SATISFACTION OF THE OWNER, REFLECTING THE AS-CONSTRUCTED MODIFICATIONS.
3. ELEVATIONS SHOWN ON THE PLANS FOR PIPE INVERTS, TOPS OF BANKS, THALWEG, GRADE CONTROLS, ETC., ARE BASED UPON THE TOPOGRAPHIC INFORMATION SHOWN ON THE PLANS. THE CONTRACTOR SHALL VERIFY ALL NECESSARY SURFACE ELEVATIONS IN THE FIELD AND NOTIFY THE OWNER OF ANY DISCREPANCIES, WHICH MIGHT AFFECT PROPER OPERATION OF THE NEW FACILITIES BEFORE BREAKING GROUND AND PRIOR TO FACILITY INSTALLATION. THE OWNER SHALL BE CONTACTED IN THE EVENT ELEVATIONS ARE INCORRECT SO THAT THE PROPER ADJUSTMENTS CAN BE MADE BY ENGINEER PRIOR TO THE INSTALLATION OF THE FACILITIES, AS SET FORTH IN THE SPECIAL PROVISIONS.
 4. LIDAR FOR THIS PROJECT WAS GENERATED BY THE PUGET SOUND LIDAR CONSORTIUM AND IS REPRESENTATIVE OF 2017 CONDITIONS. THE VERTICAL DATUM IS NAVD88 (FT). THE HORIZONTAL DATUM IS NAD83 WASHINGTON STATE PLANE NORTH (FT). NO DETAILED GROUND SURVEY WAS PERFORMED FOR THIS PROJECT.

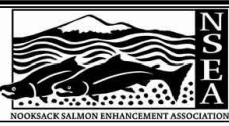
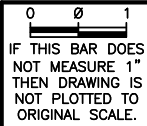
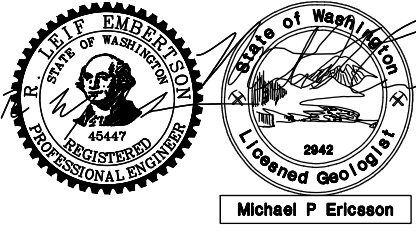
EROSION, SEDIMENT CONTROL AND WATER MANAGEMENT NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING ALL TEMPORARY EROSION CONTROL MEASURES. THE EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND PERFORMANCE OF THE TEMPORARY EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE PROJECT.
2. A SEDIMENT AND EROSION CONTROL PLAN WILL BE DEVELOPED BY THE CONTRACTOR AND SUBMITTED FOR APPROVAL BY OWNER AND/OR THE ENGINEER BEFORE ANY CONSTRUCTION MAY BEGIN. THE SEDIMENT AND EROSION CONTROL PLAN WILL IDENTIFY BEST MANAGEMENT PRACTICES TO ENSURE THAT THE TRANSPORT OF SEDIMENT TO SURFACE WATERS, DRAINAGE SYSTEMS, AND ADJACENT PROPERTIES IS MINIMIZED.
3. ACTIVITIES SHALL BE DESIGNED AND CONSTRUCTED TO AVOID AND MINIMIZE ADVERSE IMPACTS TO WATERS OF THE UNITED STATES TO THE MAXIMUM EXTENT PRACTICAL THROUGH THE USE OF PRACTICAL ALTERNATIVES. ALTERNATIVES THAT SHALL BE CONSIDERED INCLUDE THOSE THAT MINIMIZE THE NUMBER AND EXTENT OF IN-WATER WORK AND EQUIPMENT CROSSINGS OF WETTED CHANNELS.
4. AT NO TIME SHALL SEDIMENT-LADEN WATER BE DISCHARGED OR PUMPED DIRECTLY INTO THE SUBJECT RIVER, STREAM, OR WETLAND. WATER SHALL BE DISCHARGED IN ACCORDANCE WITH REQUIREMENTS SET FORTH IN THE PROJECT PERMITS AND / OR SPECIFICATIONS.
5. IF HIGH WATER LEVEL CONDITIONS THAT CAUSE SILTATION OR EROSION ARE ENCOUNTERED DURING CONSTRUCTION, WORK SHALL STOP UNTIL THE WATER LEVEL SUBSIDES.
6. PERMIT CONDITIONS CONTAIN SPECIFIC REQUIREMENTS FOR THE CONTROL OF EROSION AND TURBIDITY FROM PROJECT OPERATIONS. TURBIDITY WILL BE MONITORED ON A FREQUENT BASIS BY THE PROJECT MANAGEMENT AND INSPECTION STAFF ON-SITE. TURBIDITY AMOUNTS IN EXCESS OF THE PERMITTED CONCENTRATIONS AND/OR DURATIONS WILL CAUSE WORK TO BE STOPPED UNTIL IMPROVED PRACTICES ARE IN EFFECT AND THE PROBLEMS CONTROLLED. THE CONTRACTOR IS COMPLETELY RESPONSIBLE FOR ANY PROJECT DELAYS THAT OCCUR BY NATURE OF THIS FAILURE TO ADEQUATELY CONTAIN SEDIMENT ON-SITE.
7. CONTRACTOR SHALL LIMIT MACHINERY MOVEMENT TO CONSTRUCTION AREAS DEFINED ON SITE PLAN OR IDENTIFIED AS ACCEPTABLE BY THE ENGINEER OR OWNER.
8. ALL EXTERNAL GREASE AND OIL SHALL BE PRESSURE-WASHED OFF THE EQUIPMENT PRIOR TO TRANSPORT TO THE SITE.
9. ALL EQUIPMENT OPERATING BELOW OHWM SHALL UTILIZE READILY BIODEGRADABLE VEGETABLE-BASED HYDRAULIC FLUIDS.
10. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT NO PETROLEUM PRODUCTS, HYDRAULIC FLUID, SEDIMENTS, SEDIMENT-LADEN WATER, CHEMICALS, OR ANY OTHER TOXIC OR DELETERIOUS MATERIALS ARE ALLOWED TO ENTER OR LEACH INTO THE SUBJECT RIVER, STREAM, OR WETLAND.
11. THE CONTRACTOR SHALL HAVE AN EMERGENCY SPILL KIT ONSITE AT ALL TIMES.
12. NO TREES OR WETLAND VEGETATION SHALL BE REMOVED UNLESS THEY ARE SHOWN AND NOTED TO BE REMOVED ON THE PLANS OR AS DIRECTLY SPECIFIED ON-SITE BY THE PROJECT MANAGEMENT STAFF. ALL TREES CONFLICTING WITH GRADING SHALL BE REMOVED. NO GRADING SHALL TAKE PLACE WITHIN THE DRIP LINE OF TREES NOT TO BE REMOVED UNLESS OTHERWISE APPROVED.
13. FOLLOWING CONSTRUCTION, SITE RESTORATION WILL INCLUDE ESTABLISHING LONG-TERM EROSION PROTECTION MEASURES. THESE MEASURES WILL INCLUDE PLANTINGS, EROSION CONTROL FABRIC, SEED, AND MULCH. EQUIPMENT AND EXCESS SUPPLIES WILL BE REMOVED AND THE WORK AREA WILL BE CLEANED. MAINTENANCE ACTIVITIES FOR THE NEWLY CONSTRUCTED RESTORATION PROJECTS ARE ANTICIPATED TO OCCUR PERIODICALLY.

CONSTRUCTION NOTES

1. CONTRACT DOCUMENTS REFER TO THESE PLANS.

2. CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO COMPLETE ALL WORK AS INDICATED IN THE CONTRACT DOCUMENTS.
3. CONSTRUCTION HOURS SHALL BE WEEKDAYS BETWEEN 7:00 A.M. AND 6:30 P.M. UNLESS PRIOR APPROVAL IS RECEIVED FROM THE OWNER.
4. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE OWNER PRIOR TO PROCEEDING WITH THE WORK.
5. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OTHERWISE BY THE OWNER OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
6. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
7. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE BEST SKILLS AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THIS CONTRACT.
8. THE CONTRACTOR SHALL MAKE ALL NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, ROADWAY, DRAINAGE WAYS, PRIVATE BRIDGE, CULVERTS, AND VEGETATION UNTIL SUCH ITEMS ARE TO BE DISTURBED OR REMOVED AS INDICATED ON THE CONTRACT DOCUMENTS.
9. THE CONTRACTOR SHALL KEEP THE JOB SITE CLEAN AND HAZARD FREE. CONTRACTOR SHALL DISPOSE OF ALL DIRT, DEBRIS, AND RUBBISH FOR THE DURATION OF THE WORK. UPON COMPLETION OF WORK, CONTRACTOR SHALL REMOVE ALL MATERIAL AND EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY.
10. NOTES AND DETAILS ON THE PLANS SHALL TAKE PRECEDENCE OVER GENERAL NOTES HEREIN.
11. DIMENSIONS CALLOUTS SHALL TAKE PRECEDENCE OVER SCALES SHOWN ON THE PLANS.
12. THE PLANS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF ALL CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURES, WORKS, AND THE PUBLIC DURING CONSTRUCTION.
13. MATERIAL SHALL NOT BE STORED OUTSIDE OF IDENTIFIED STAGING AREAS. THE CONTRACTOR SHALL USE ONLY DESIGNATED SPECIFIC SITES FOR STORAGE OF EQUIPMENT AND MATERIALS AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SECURITY OF ALL EQUIPMENT AND MATERIALS.



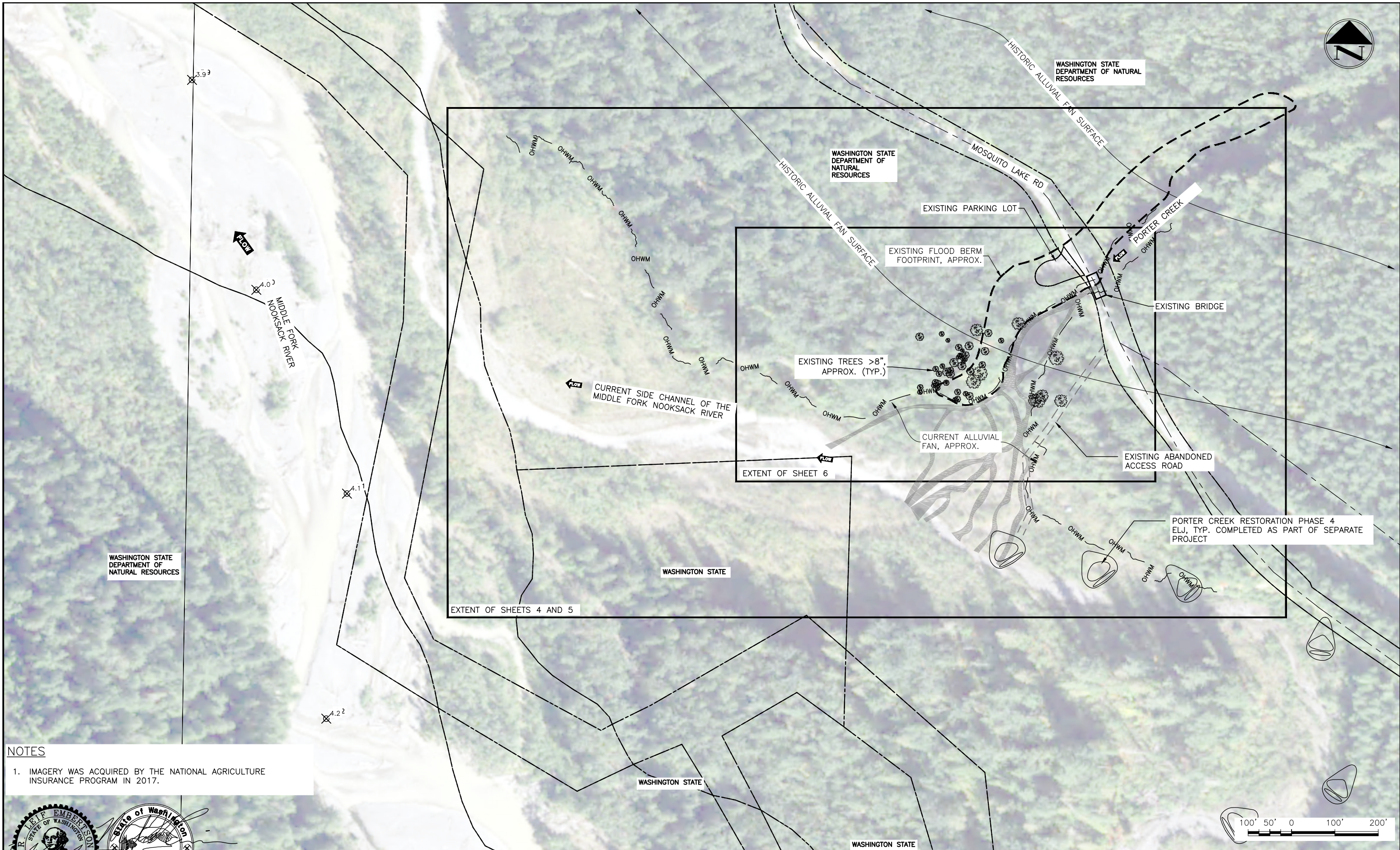
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GEOGRAPHIC INFORMATION	
LATITUDE	48°47'34.20"N
LONGITUDE	122°07'5.74"W
TN/SC/RG	T38N/S11/R5E
DATE	02/28/2020

PORTER CREEK ALLUVIAL FAN
RESTORATION PROJECT

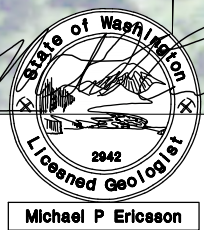
GENERAL NOTES

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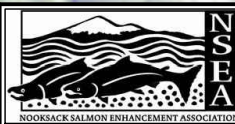


NOTES

1. IMAGERY WAS ACQUIRED BY THE NATIONAL AGRICULTURE INSURANCE PROGRAM IN 2017.



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GEOGRAPHIC INFORMATION	
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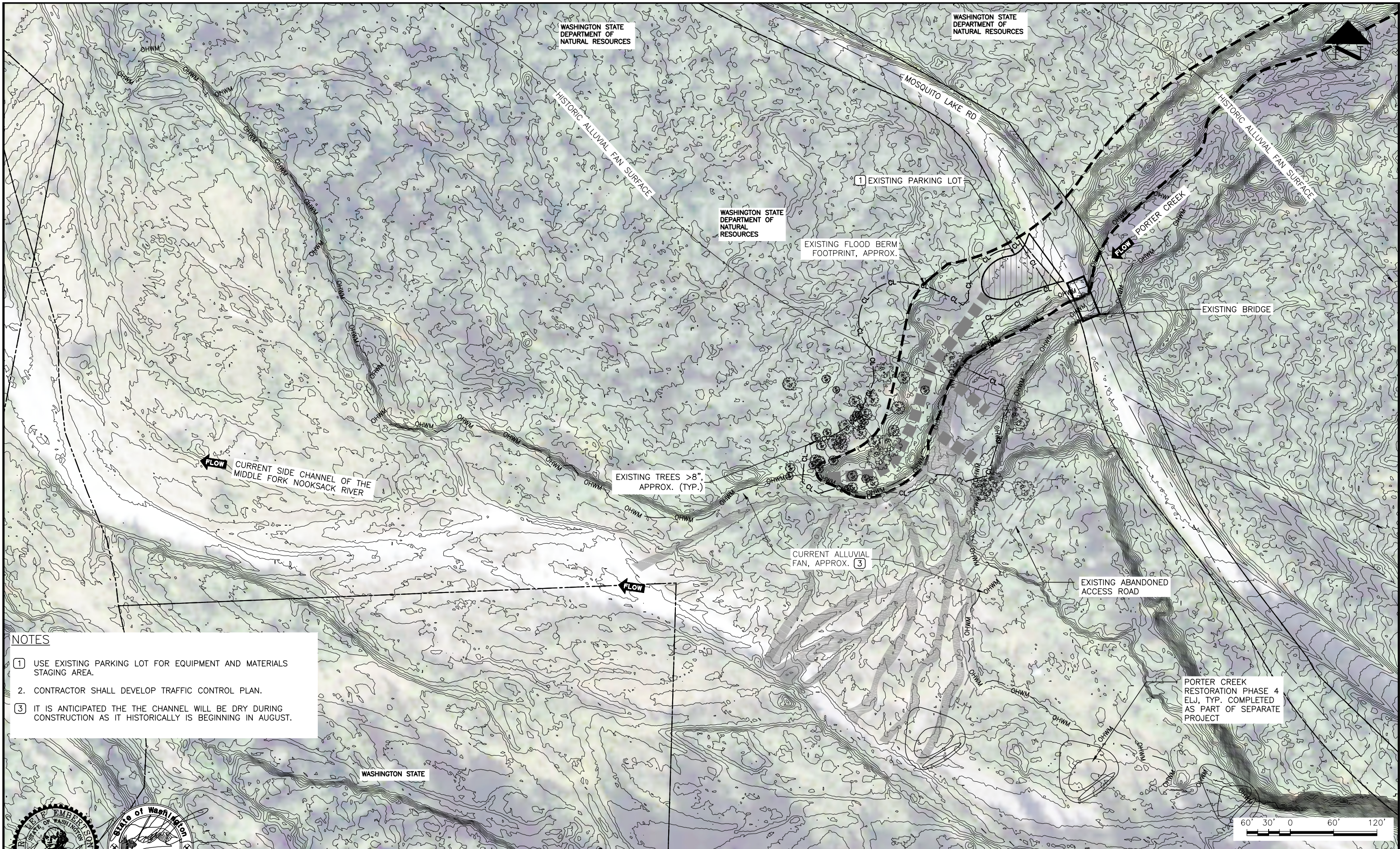
PORTER CREEK ALLUVIAL FAN RESTORATION PROJECT

SITE OVERVIEW

3
SHEET 3 OF 9

Jun 03, 2020 FINAL DESIGN - FOR CONSTRUCTION

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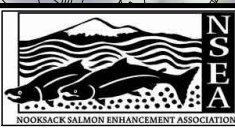


NOTES

- 1 USE EXISTING PARKING LOT FOR EQUIPMENT AND MATERIALS STAGING AREA.
2. CONTRACTOR SHALL DEVELOP TRAFFIC CONTROL PLAN.
- 3 IT IS ANTICIPATED THE THE CHANNEL WILL BE DRY DURING CONSTRUCTION AS IT HISTORICALLY IS BEGINNING IN AUGUST.



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GEOGRAPHIC INFORMATION	
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TN/SC/RG	T38N/S11/R5E
DATE	02/28/2020

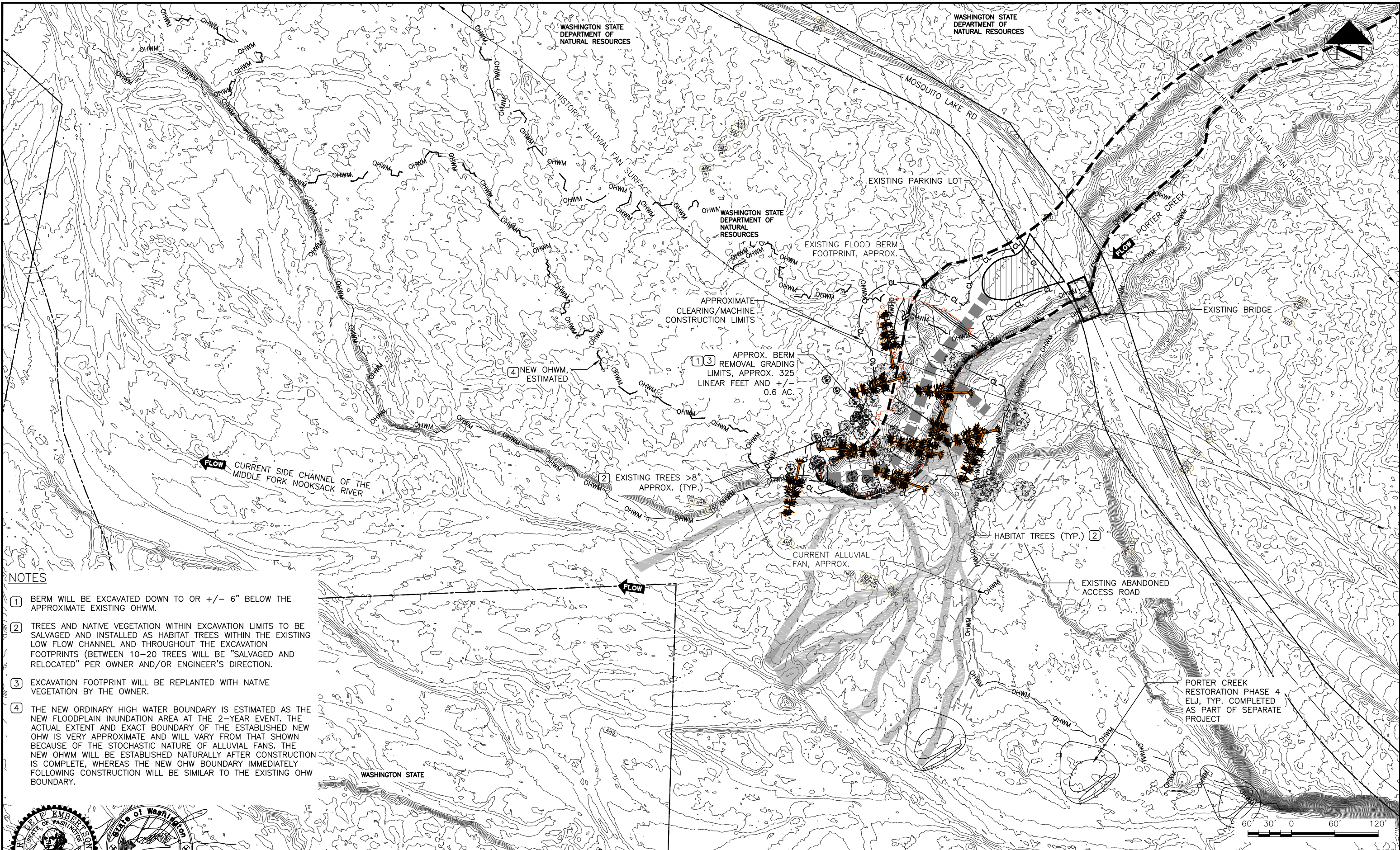
PORTER CREEK ALLUVIAL FAN RESTORATION PROJECT

EXISTING CONDITIONS AND ACCESS PLAN

4
SHEET 4 OF 9

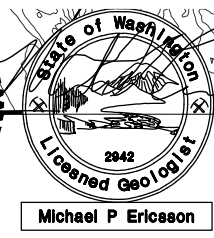
Jun 03, 2020 FINAL DESIGN - FOR CONSTRUCTION

PROJECT'S NOOKSACK SALMON ENHANCEMENT ASSOCIATION PORTER CREEK ALLUVIAL FAN DESIGN CADD DWGS - CURRENT PROPOSED SITE PLANNING EXDORNO 6/3/2020

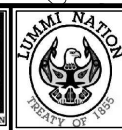
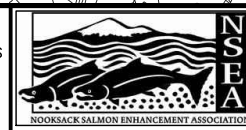


NOTES

- 1 BERM WILL BE EXCAVATED DOWN TO OR +/- 6" BELOW THE APPROXIMATE EXISTING OHWM.
- 2 TREES AND NATIVE VEGETATION WITHIN EXCAVATION LIMITS TO BE SALVAGED AND INSTALLED AS HABITAT TREES WITHIN THE EXISTING LOW FLOW CHANNEL AND THROUGHOUT THE EXCAVATION FOOTPRINTS (BETWEEN 10-20 TREES WILL BE "SALVAGED AND RELOCATED" PER OWNER AND/OR ENGINEER'S DIRECTION.
- 3 EXCAVATION FOOTPRINT WILL BE REPLANTED WITH NATIVE VEGETATION BY THE OWNER.
- 4 THE NEW ORDINARY HIGH WATER BOUNDARY IS ESTIMATED AS THE NEW FLOODPLAIN INUNDATION AREA AT THE 2-YEAR EVENT. THE ACTUAL EXTENT AND EXACT BOUNDARY OF THE ESTABLISHED NEW OHW IS VERY APPROXIMATE AND WILL VARY FROM THAT SHOWN BECAUSE OF THE STOCHASTIC NATURE OF ALLUVIAL FANS. THE NEW OHW WILL BE ESTABLISHED NATURALLY AFTER CONSTRUCTION IS COMPLETE, WHEREAS THE NEW OHW BOUNDARY IMMEDIATELY FOLLOWING CONSTRUCTION WILL BE SIMILAR TO THE EXISTING OHW BOUNDARY.



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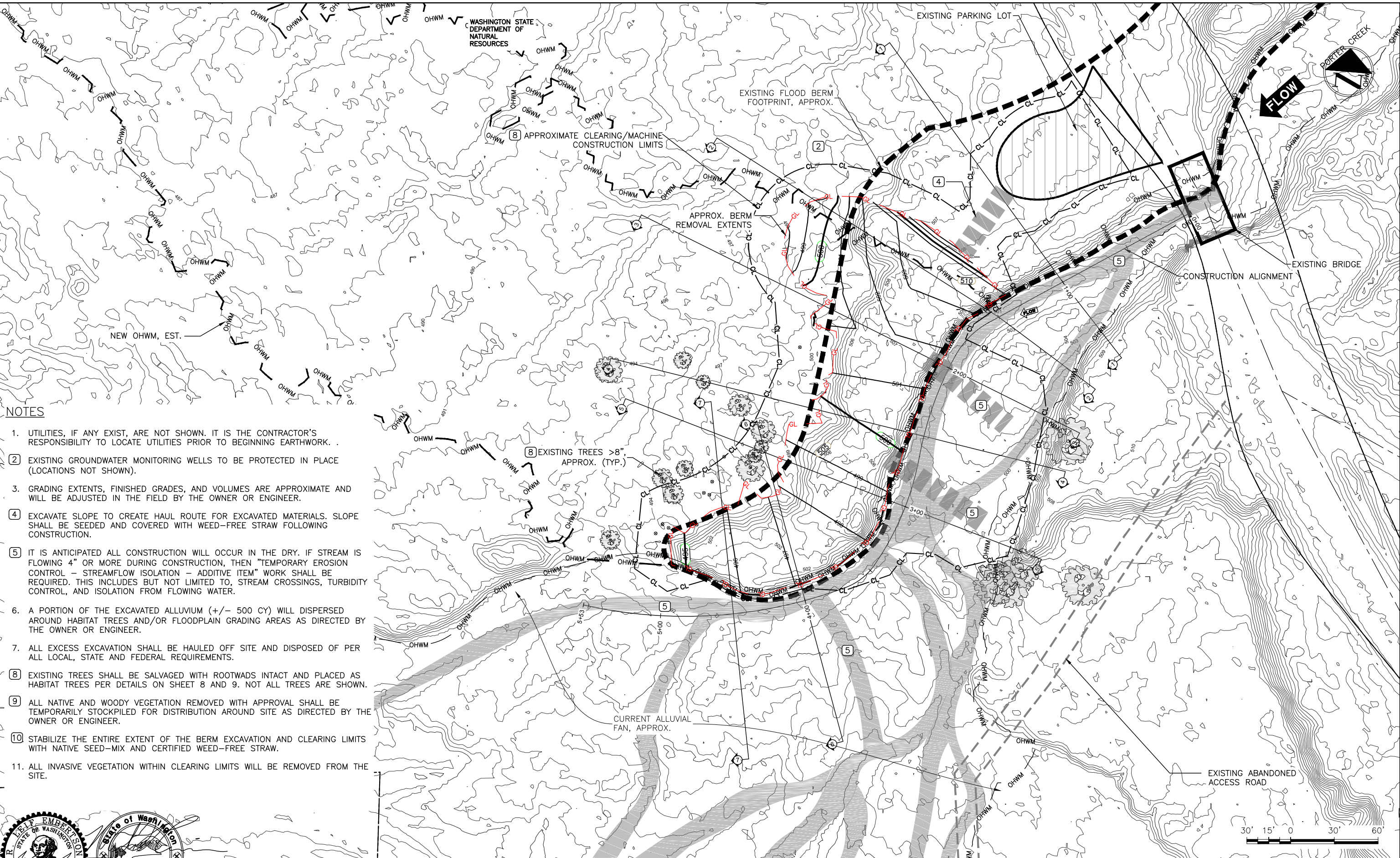
PORTER CREEK ALLUVIAL FAN RESTORATION PROJECT

PROPOSED CONDITIONS SITE PLAN

5
SHEET 5 OF 9

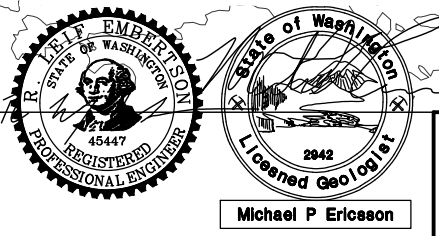
Jun 03, 2020 FINAL DESIGN - FOR CONSTRUCTION

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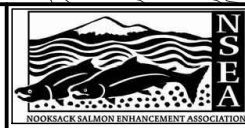


NOTES

1. UTILITIES, IF ANY EXIST, ARE NOT SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITIES PRIOR TO BEGINNING EARTHWORK.
2. EXISTING GROUNDWATER MONITORING WELLS TO BE PROTECTED IN PLACE (LOCATIONS NOT SHOWN).
3. GRADING EXTENTS, FINISHED GRADES, AND VOLUMES ARE APPROXIMATE AND WILL BE ADJUSTED IN THE FIELD BY THE OWNER OR ENGINEER.
4. EXCAVATE SLOPE TO CREATE HAUL ROUTE FOR EXCAVATED MATERIALS. SLOPE SHALL BE SEEDED AND COVERED WITH WEED-FREE STRAW FOLLOWING CONSTRUCTION.
5. IT IS ANTICIPATED ALL CONSTRUCTION WILL OCCUR IN THE DRY. IF STREAM IS FLOWING 4" OR MORE DURING CONSTRUCTION, THEN "TEMPORARY EROSION CONTROL - STREAMFLOW ISOLATION - ADDITIVE ITEM" WORK SHALL BE REQUIRED. THIS INCLUDES BUT NOT LIMITED TO, STREAM CROSSINGS, TURBIDITY CONTROL, AND ISOLATION FROM FLOWING WATER.
6. A PORTION OF THE EXCAVATED ALLUVIUM (+/- 500 CY) WILL DISPERSED AROUND HABITAT TREES AND/OR FLOODPLAIN GRADING AREAS AS DIRECTED BY THE OWNER OR ENGINEER.
7. ALL EXCESS EXCAVATION SHALL BE HAULED OFF SITE AND DISPOSED OF PER ALL LOCAL, STATE AND FEDERAL REQUIREMENTS.
8. EXISTING TREES SHALL BE SALVAGED WITH ROOTWADS INTACT AND PLACED AS HABITAT TREES PER DETAILS ON SHEET 8 AND 9. NOT ALL TREES ARE SHOWN.
9. ALL NATIVE AND WOODY VEGETATION REMOVED WITH APPROVAL SHALL BE TEMPORARILY STOCKPILED FOR DISTRIBUTION AROUND SITE AS DIRECTED BY THE OWNER OR ENGINEER.
10. STABILIZE THE ENTIRE EXTENT OF THE BERM EXCAVATION AND CLEARING LIMITS WITH NATIVE SEED-MIX AND CERTIFIED WEED-FREE STRAW.
11. ALL INVASIVE VEGETATION WITHIN CLEARING LIMITS WILL BE REMOVED FROM THE SITE.



0 30 1
IF THIS BAR DOES
NOT MEASURE 1"
THEN DRAWING IS
NOT PLOTTED TO
ORIGINAL SCALE.



NAME OR INITIALS AND DATE	
DESIGNED	RLE
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CHECKED	ME

GEOGRAPHIC INFORMATION	
LATITUDE	48°47'34.20"N
LONGITUDE	122°07'5.74"W
TN/SC/RG	T38N/S11/R5E
DATE	02/28/2020

PORTER CREEK ALLUVIAL FAN RESTORATION PROJECT

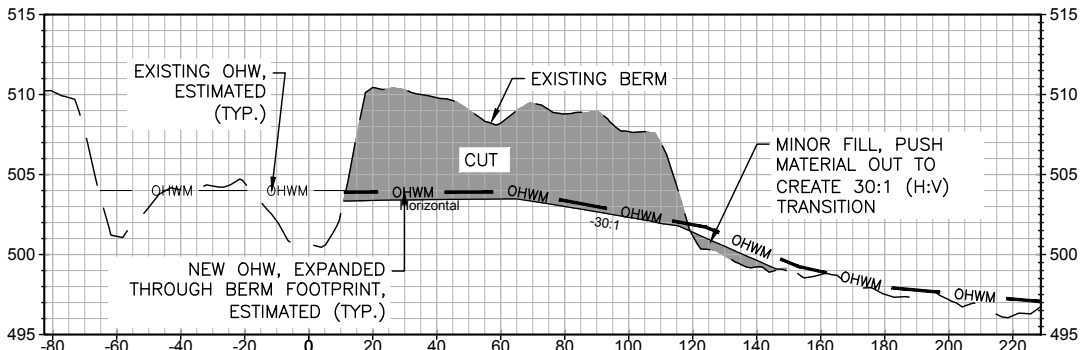
GRADING PLAN

6
SHEET 6 OF 9

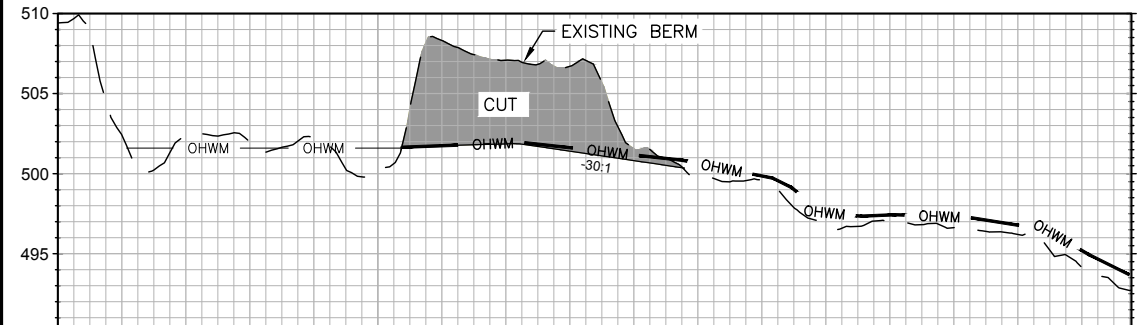
Jun 03, 2020 FINAL DESIGN - FOR CONSTRUCTION



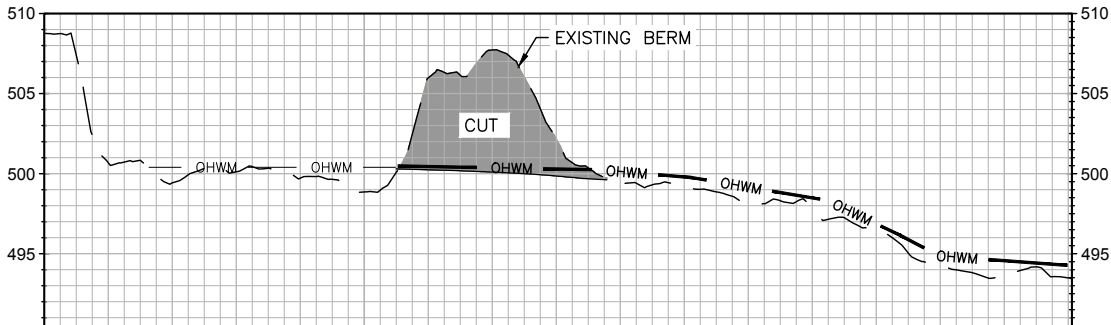
CROSS SECTION 1 AT STATION 1+00



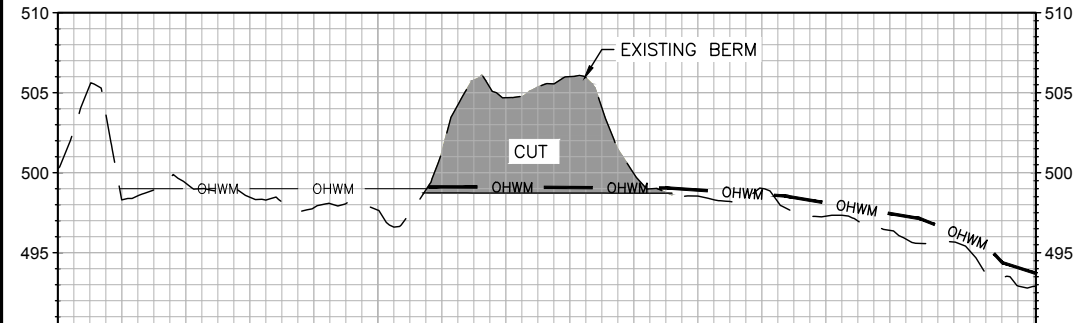
CROSS SECTION 2 AT STATION 1+50



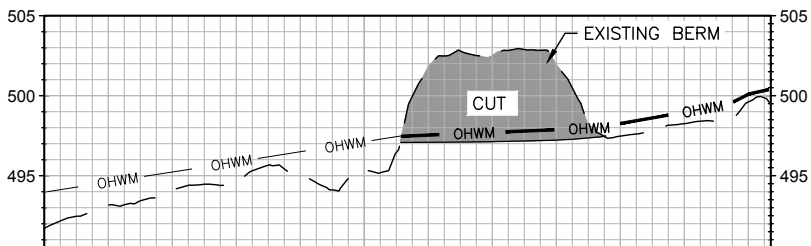
CROSS SECTION 3 AT STATION 2+00



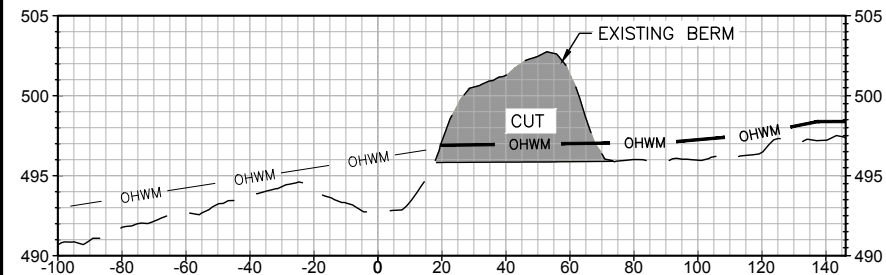
CROSS SECTION 4 AT STATION 2+50



CROSS SECTION 5 AT STATION 3+00



CROSS SECTION 6 AT STATION 4+00



CROSS SECTION 7 AT STATION 4+50

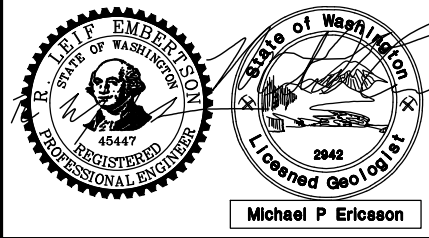
NOTES

1. GRADES, SLOPES AND EXTENTS WILL BE FIELD ADJUSTED BY THE OWNER OR ENGINEER TO SUIT SITE CONDITIONS.
2. HABITAT TREES NOT SHOWN IN CROSS SECTION VIEWS.

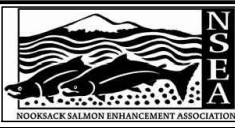
QUANTITIES

ITEM	UNIT	QUANTITY	NOTES
EXCAVATION	BCY	+/- 3,900	200-500 CY TO BE DISTRIBUTED ON-SITE, REMAINDER IS TO BE HAULED OFF-SITE
EXCAVATION	AC	+/- 0.58	
TEMPORARY ACCESS ROADS	LF	+/- 670	
CLEARING LIMITS	AC	+/- 1.3	MAY VARY FROM THE LIMITS DRAWN.

E:\PROJECTS\NOOKSACK_SALMON_ENHANCEMENT_ASSOCIATION\PORTER_CREEK_ALLUVIAL_FAN\DESIGN\CAD DWGS - CURRENT\GRADING PLAN\DWG Evandero 6/3/2020 4:40:52



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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT PLOTTED TO ORIGINAL SCALE.



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GEOGRAPHIC INFORMATION
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LONGITUDE 122°07'5.74"W
TN/SC/RG T38N/S11/R5E
DATE 02/28/2020

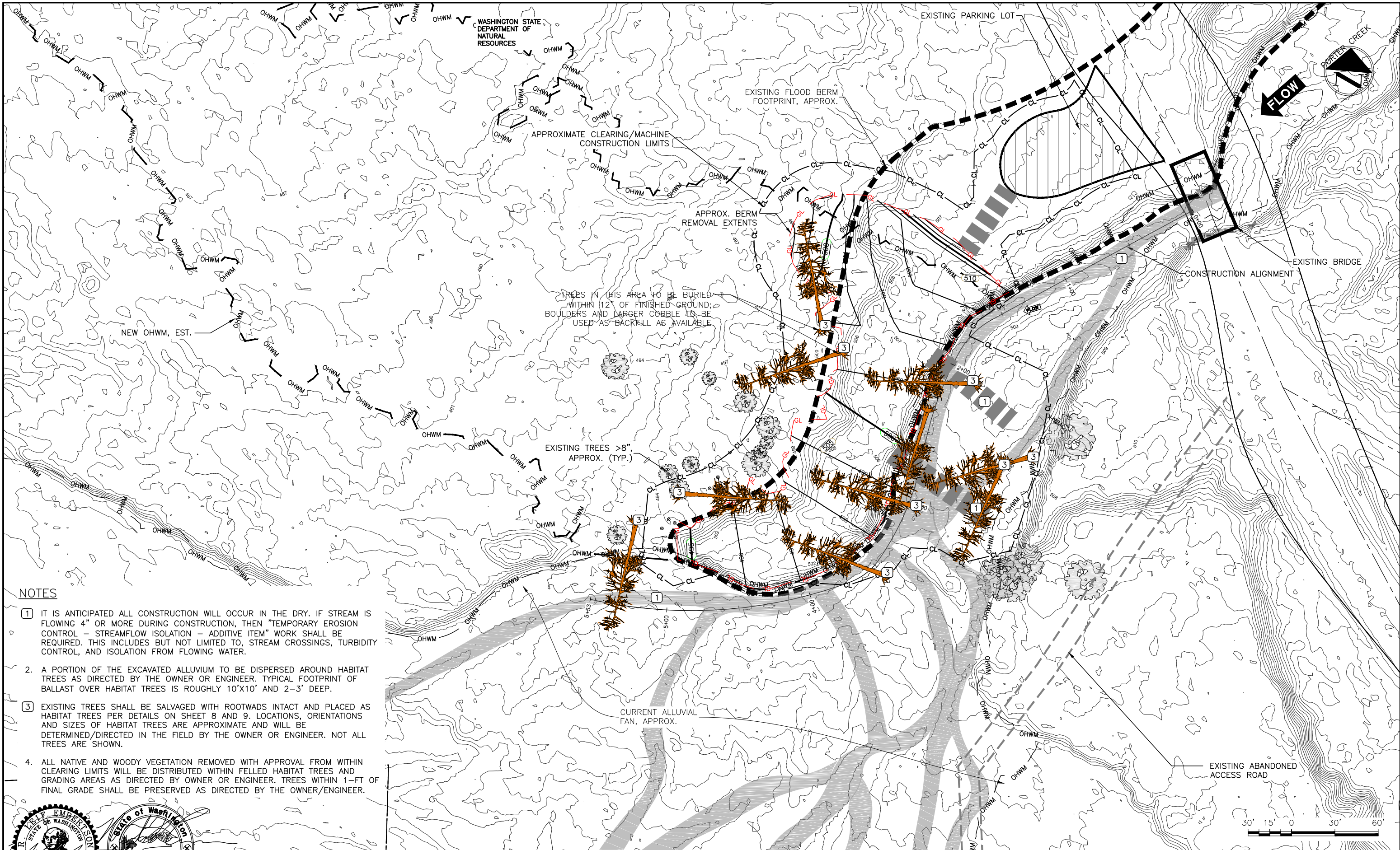
PORTER CREEK ALLUVIAL FAN
RESTORATION PROJECT

GRADING CROSS SECTIONS
AND QUANTITIES

7
SHEET 7 OF 9

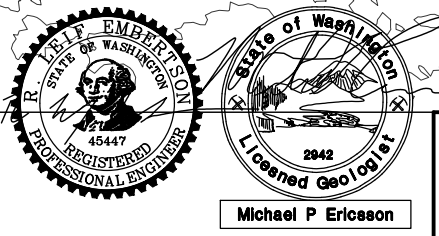
Jun 03, 2020 FINAL DESIGN - FOR CONSTRUCTION

S:\PROJECTS\NOOKSACK_SALMON_ENHANCEMENT_ASSOCIATION\PORTER_CREEK_ALLUVIAL_FAN DESIGN\CAD DWGS - CURRENT\GRADING PLAN\DWG Evandora 6/3/2020 4:41:54

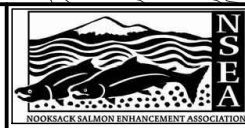


NOTES

- 1 IT IS ANTICIPATED ALL CONSTRUCTION WILL OCCUR IN THE DRY. IF STREAM IS FLOWING 4" OR MORE DURING CONSTRUCTION, THEN "TEMPORARY EROSION CONTROL - STREAMFLOW ISOLATION - ADDITIVE ITEM" WORK SHALL BE REQUIRED. THIS INCLUDES BUT NOT LIMITED TO, STREAM CROSSINGS, TURBIDITY CONTROL, AND ISOLATION FROM FLOWING WATER.
2. A PORTION OF THE EXCAVATED ALLUVIUM TO BE DISPERSED AROUND HABITAT TREES AS DIRECTED BY THE OWNER OR ENGINEER. TYPICAL FOOTPRINT OF BALLAST OVER HABITAT TREES IS ROUGHLY 10'X10' AND 2-3' DEEP.
- 3 EXISTING TREES SHALL BE SALVAGED WITH ROOTWADS INTACT AND PLACED AS HABITAT TREES PER DETAILS ON SHEET 8 AND 9. LOCATIONS, ORIENTATIONS AND SIZES OF HABITAT TREES ARE APPROXIMATE AND WILL BE DETERMINED/DIRECTED IN THE FIELD BY THE OWNER OR ENGINEER. NOT ALL TREES ARE SHOWN.
4. ALL NATIVE AND WOODY VEGETATION REMOVED WITH APPROVAL FROM WITHIN CLEARING LIMITS WILL BE DISTRIBUTED WITHIN FELLED HABITAT TREES AND GRADING AREAS AS DIRECTED BY OWNER OR ENGINEER. TREES WITHIN 1-FT OF FINAL GRADE SHALL BE PRESERVED AS DIRECTED BY THE OWNER/ENGINEER.



0 1 2
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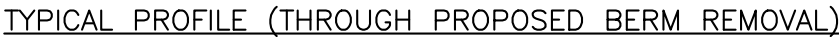
PORTER CREEK ALLUVIAL FAN RESTORATION PROJECT

HABITAT TREE PLAN

8

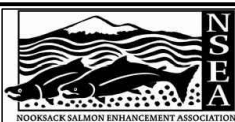
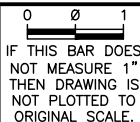
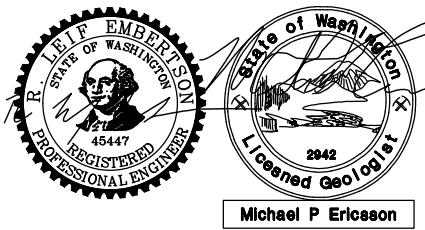
SHEET 8 OF 9

Jun 03, 2020 FINAL DESIGN - FOR CONSTRUCTION



HABITAT TREE DETAILS

SCALE: NOT TO SCALE



NAME OR INITIALS AND DATE		GEOGRAPHIC INFORMATION	
DESIGNED	<u>RL</u>	LATITUDE	<u>48°47'34.20"N</u>
CHECKED	<u>ME</u>	LONGITUDE	<u>122°07'5.74"W</u>
DRAWN	<u>ED</u>	TN/SC/RG	<u>T38N/S11/R5E</u>
CHECKED	<u>ME</u>	DATE	<u>02/28/2020</u>

PORTER CREEK ALLUVIAL FAN RESTORATION PROJECT

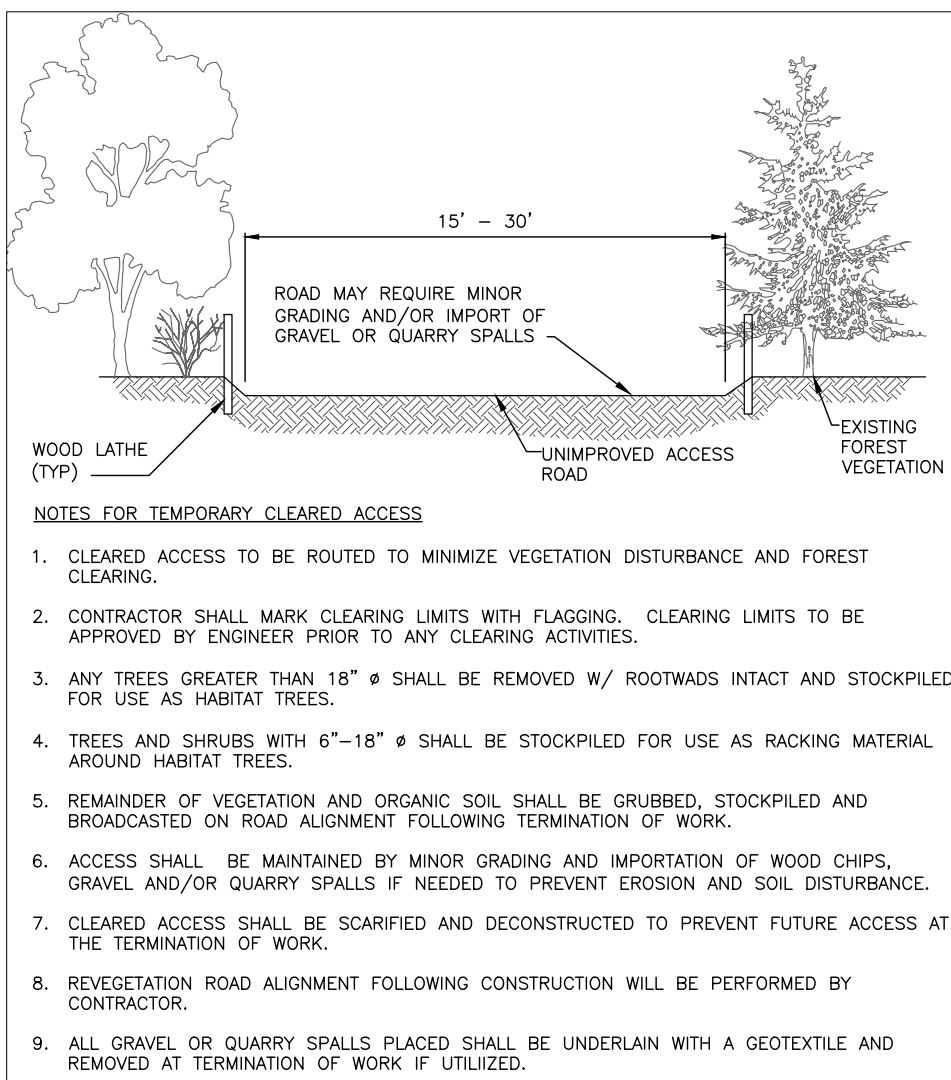
COFFERDAM DETAIL

SCALE: NOT TO SCALE

TYPICAL DETAILS

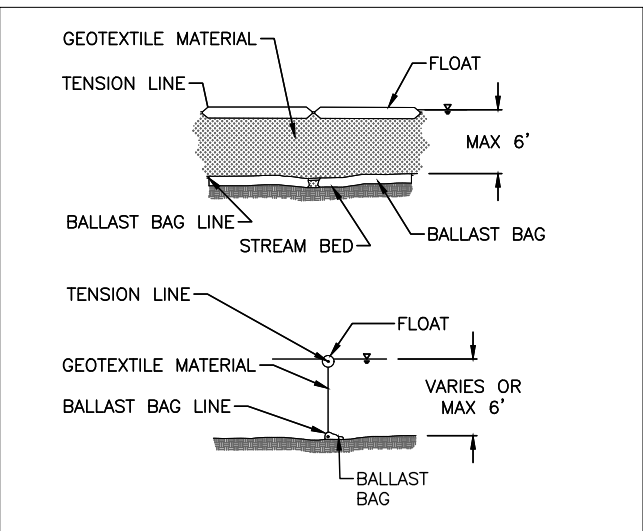
9

SHEET 9 OF 9

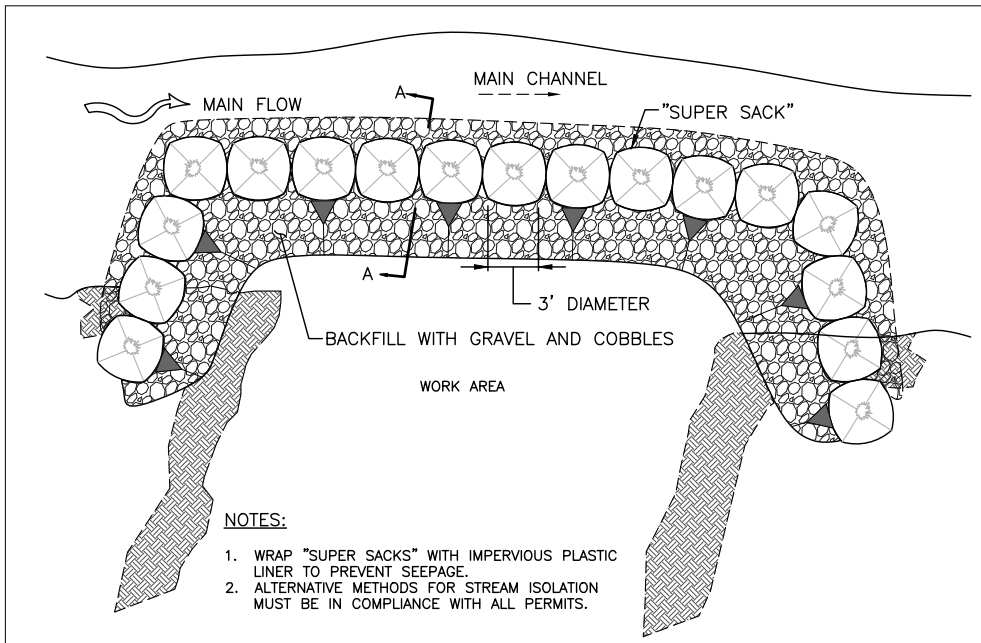


TEMPORARY ACCESS ROAD DETAIL

NOT TO SCALE



TURBIDITY CURTAIN DETAIL
SCALE: NOT TO SCALE



COFFERDAM DETAIL

SCALE: NOT TO SCALE