

Washington State Recreational Conservation Office Preliminary Design of Bear Creek Reach 6 Restoration Phase 2 SRFB #15-1059

PREPARED
BY:



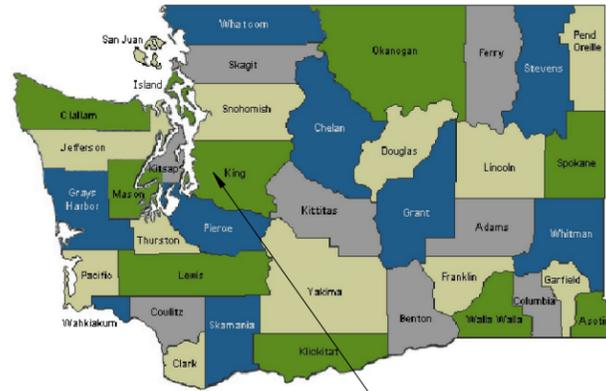
860 Windrose Drive
Coupeville, Washington 98239
(360) 678-4747
Professional Consulting Engineers

PREPARED
for:

Adopt-A-Stream Foundation Everett, WA



Know what's below.
Call before you dig.

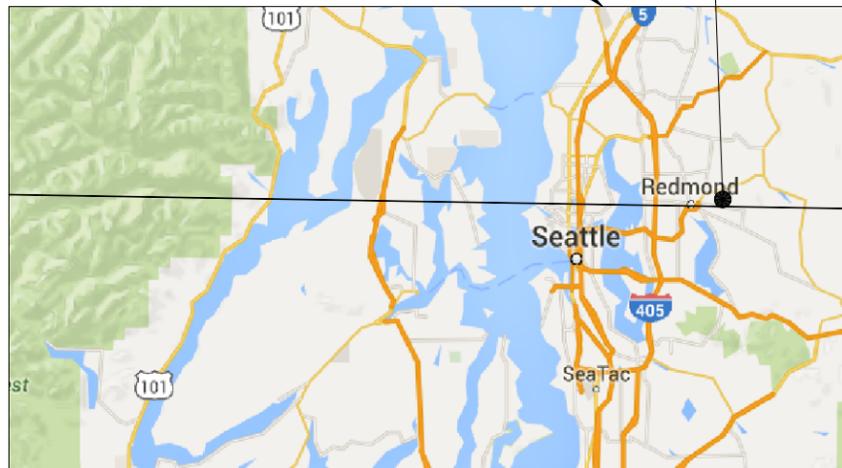


Project Location
King County

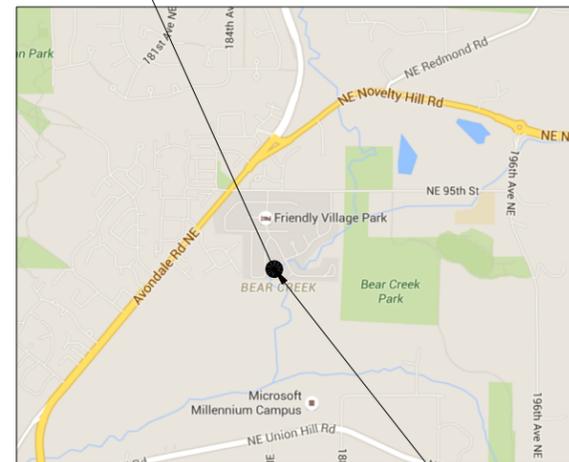
Washington

To Everett

Project Locations



To Tacoma



Project Location
SE1/4 NW1/4 S6 T25N R6E WM
Lat - 47°40'58.06"N
Long- 122° 5'36.66"W
King County

VICINITY MAPS



Project Manager

Walter Rung
Adopt-A-Stream Foundation
NW Stream Center 600 -128th Street SE
Everett, WA 98208
Email: walterr@streamkeeper.org

Jay S. Kidder, P.E.
Project Engineer
Chinook Engineering
360-672-5528

APPROVED AT CHINOOK ENGINEERING: DATE April 12, 2016

1" Bar at Original Scale



REV	DATE	ISSUE	DWG	DES	CHK	APP
1	4-12-2016	Issued for Review	JSK	JSK	JSK	JSK
2						
3						
4						

PROJECT NO. 15236

WA State Recreation Conservation Office
15-1059 SE 1/4 NW 1/4 S6 T25N R6E WM
Bear Creek Reach 6 Restoration Phase 2
Cover

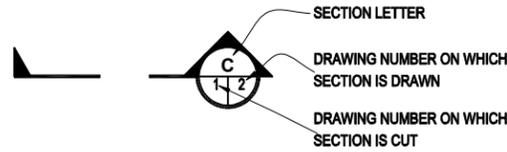
DRAWING NO.
CVR
1 OF 7

ABBREVIATIONS:

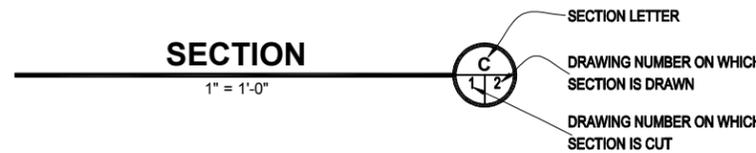
%	PERCENT	MH	MANHOLE
&	AND	MIN	MINIMUM
@	AT	MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS
AB	ANCHOR BOLT	N	NORTH or NORTHING
ABV	ABOVE	NAF	NEAR AND FAR
AL	ALUMINUM	NEC	NECESSARY
ALG	ALONG	NIC	NOT IN CONTRACT
ALT	ALTERNATE	NML	NORMAL or NOMINAL
ALUM	ALUMINUM	NO or #	NUMBER
APPROX or ~	APPROXIMATELY	NTS	NOT TO SCALE
ASPH	ASPHALT	O.C.	ON CENTER
ASSOC	ASSOCIATION	PC	POINT OF CURVATURE
AVG	AVERAGE	PE	POLYETHYLENE
BOT	BOTTOM	PERF	PERFORATED
B.O.F.	BOTTOM OF FOOTING	PI	POINT OF INTERSECTION
B.O.P.	BEGINNING OF PROJECT	PL	PLATE
BF	BUTTERFLY	PL	PLATE
BLDG	BUILDING	PLCS	PLACES
BVC	BEGN OF VERTICAL CURVE	PROP	PROPOSED
C	CHANNEL	PS	PUMP STATION
CIP	CAST-IN-PLACE	PT	POINT OF TANGENCY
CL	CENTERLINE	PVC	POINT OF VERTICAL CURVE
CLR	CLEAR	RAD	RADIUS
CMP	CORRUGATED METAL PIPE	RD	ROAD
CONC	CLEAN OUT	RED	REDUCER
CONC	CONCRETE	REF	REFERENCE
CY	CUBIC YARD	REINF	REINFORCEMENT
DEF	DEFINITION	REQD	REQUIRED
DESC	DESCRIPTION	ROW	RIGHT OF WAY
DET	DETAIL	RW	RACEWAY
DI	DUCTILE IRON	S	SOUTH
DIA or Ø	DIAMETER	SC	SQUARE CORNER
DIST	DISTRIBUTION OR DISTRIBUTOR	SCH or SCHED	SCHEDULE
DS	DOWNSTREAM	SFR	Single Family Residence
DWG	DRAWING	SPA or SPCS	SPACE OR SPACES
E	EAST or EASTING	SPEC	SPECIFICATIONS
E.O.P.	END OF PROJECT	SS	STAINLESS STEEL
EA	EACH	STA	STATION
EF	EACH FACE	STD	STANDARD
EL or ELEV	ELEVATION	STL	STEEL
ELL	ELBOW	T	for rebar TRANSVERSE
EQ or EQUIV	EQUIVALENT	TBD	To be determined
EVC	END VERTICAL CURVE	TEMP	TEMPERATURE
EW	EACH WAY	TOC	TOP OF CONCRETE
EXIST or EX	EXISTING	TOF	TOP OF FOOTING
FAB	FABRICATOR, ED, TION	TOS	TOP OF SLAB
FB	FLAT BAR	TS	TUBE STEEL
FCA	FLANGE COUPLING ADAPTER	TYP	TYPICAL
FF or FIN FLR	FINISH FLOOR	UON	UNLESS OTHERWISE NOTED
FL	FLOW LINE	UNO	UNLESS NOTED OTHERWISE
FOC	FACE OF CURVE	VERT	VERTICAL
FT or'	FEET	VIC	VICTAULIC
GALV	GALVANIZED	VPC	VERTICAL POINT OF CURVATURE
GB	GRADE BREAK	VPI	VERTICAL POINT OF INTERSECTIO
GS	GROUND SURFACE	VPT	VERTICAL POINT OF TANGENCY
HDBOX	HEADBOX	W/	WITH
HDPE	HIGH DENSITY POLYETHYLENE	WF	WIDE FLANGE
HEX	HEXAGONAL		
HORIZ	HORIZONTAL		
HP	HIGH PRESSURE		
ID	INSIDE DIAMETER		
IE	INVERT ELEVATION		
IN or"	INCHES		
INT	INTERSECTION		
L	for rebar LONGITUDINAL		
L	LENGTH OF CURVE		
L	ANGLE IRON		
L	for rebar LONGITUDINAL		
LF	LINEAR FOOT		
LG	LONG		
LOC	LOCATION		
LOD	LARGE ORGANIC DEBRIS		
LWD	LARGE WOODY DEBRIS		
LP	LOW PRESSURE		
LP	LOW POINT		
MANUF	MANUFACTURER		
MAX	MAXIMUM		
MEZZ	MEZZANINE		

SECTION INDICATOR:

DRAWING ON WHICH SECTION IS CUT FROM:

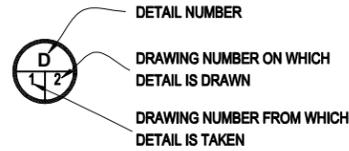


DRAWING ON WHICH SECTION APPEARS:

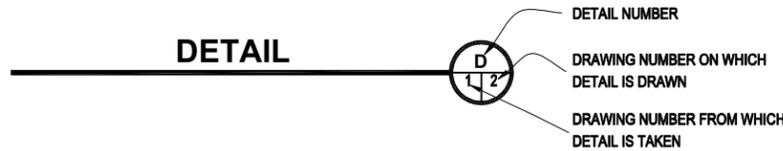


DETAIL INDICATOR:

DRAWING ON WHICH DETAIL IS PULLED FROM:



DRAWING ON WHICH DETAIL APPEARS:



LEGEND:

— FNC — FNC —	EXISTING FENCE
----- 2200 -----	EXISTING CONTOUR
=====	EXISTING GRAVEL ROAD
— W — W —	EXISTING WATER
— P — P —	EXISTING POWER
— T — T —	EXISTING TELEPHONE
M O	EXISTING WATER MANHOLE W/ METER
○	EXISTING POWER POLE
⊙	EXISTING MONITORING WELL
— FNC — FNC —	FENCE
	ASPHALT PAVED ROAD
(V)1 $\sqrt{\frac{2(H)}{2:1}}$	SLOPE DESIGNATION
→	FLOW DIRECTION
	BUILDING
	CATCH BASIN
○	TELEPHONE/POWER RISER
— P — P —	POWER
— W — W —	WATER (POTABLE)
— PW — PW —	PROCESS WATER
— T — T —	TELEPHONE
	TRANSVERSE DRAINAGE STRUCTURE
8%	GRADE
=====	RETAINING WALL

Planform	Dimensions in feet	Bend									
		1	2	3	4	5	6	7	8	9	Average
Meander Wavelength	L	105.5	96.5	143.25	150	200.75	146	119	237	237	159
BFW avg	W	22.5	30.5	23.8	30.5	30.1	32.25	27.75	35.25	43.5	31
Meander amplitude	Ma	74	36.5	40	44	250	250	250	250	141	148
Radius of Curvature	Rc	37.25	25.875	38	31.5	103	111	33.5	97	77.6	62
Belt width	B	88	88	88	88	260	260	260	260	260	184

Hydrology, Union Gauge 02a, Daily average flow

Fl (w)	P (%)	Q (cfs)
1.0101	99	23
1.25	80	28
2	50	42
5	20	93
10	10	171
25	4	382
50	2	700
100	1	1293



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WA State Recreation Conservation Office
15-1059 SE 1/4 NW1/4 S6 T25N R6E WM

Bear Creek Reach 6 Restoration Phase 2
Abbreviations



1" Bar at Original Scale

SPECIFICATIONS

All work performed under these contract documents shall be in accordance with the State of Washington Standard Specifications for Road, Bridge, and Municipal Construction, M41-10, most recent version. In the event of a conflict between the following attached specifications and the State of Washington Standard Specifications for Road, Bridge, and Municipal Construction, M41-10, the attached specifications on this sheet for this contract shall prevail. Special Provisions shall follow and then the WSDOT M41-10.

The following most current provisions, codes and specific material and workmanship specifications are attached to this contract and shall be adhered to;

- AAWA Architectural Aluminum Manufacturers' Association
- ACI American Concrete Institute
- AISC American Institute of Steel Construction
- ANSI American National Standards Institute
- APA American Plywood Association
- APWA American Public Works Association
- AREA American Railway Engineering Association
- ASCE American Society of Civil Engineers
- ASHRAE American Society of Heating, Refrigerating and Air Conditioning Engineers
- ASME American Society of Mechanical Engineers
- ASTM American Society For Testing of Materials
- AWPA American Wood Preservers Association
- AWS American Welding Society
- AWWA American Water Works Association
- WSDOT Washington Standard Specifications for Road, Bridge, and Municipal Construction, M41-10

Items in Specifications

Certain items described in the specification may not be utilized in this project but are listed as general items and may or may not apply specifically to this project.

Alternates

Alternative materials and construction methods are acceptable. The overall size and concept of the project shall be unchanged. Alternate methods of construction and any dimensional alternates shall be provided in writing for approval by the engineer, prior to installation. Changes in cost associated with alternates shall be at the risk of the contractor. Any alternates installed without prior written approval may be removed and replaced at the discretion of the engineer at no cost to the owner.

Submittals

Submittals for appurtenances installed under this contract shall be provided to the engineer prior to installation for approval. The following notes apply unless indicated otherwise:

Special inspection, as noted shall be provided by the owner's representative.

Code:

International Building Code, 2015 edition and AASHTO Standard Specifications for Highway Bridges 17th ed with errata.

Design soil pressure:

Surface 2ksf max dead + live load allowable as per AASHTO
Cast footings and slab on grade over 12" thick compacted granular fill over compacted subgrade 95% min. compaction. Special inspection required.

Design loads:

Snow = 100 psf
Snow drift = ANSI 58.1
Seismic Design Category D
Site Classification D

Fa= 1.00
Fv= 1.50
Sms= 1.626
Sm1= 1.023
Sds= 1.084
Sd1= 0.682

Equivalent lateral Fluid pressure

Cantilevered walls 35 pcf
Restrained 50 pcf
Wind 50 psf on exposure

Culverts

Culverts shall be as specified on the drawing and shall be supplied by Pacific Corrugated, contact Bill Sullivan, 541-461-0990, BigR contact Doug Meyers, (253) 797-8293 or Contech Michael Blank 253.952.1154 or equal. Culvert shall be fabricated from a minimum of 8 gage, 0.1644" steel thickness and shall be galvanized as per AASHTO M274 and ASTM A 929 UNO on the drawings. Culvert backfill soil compaction shall be constructed in multiple 8" loose soil thickness layers subsequently compacted to 95% maximum density at optimum moisture content. Care shall be taken to compact the haunches of the culvert to the same 95% maximum soil density. Shop drawing submittals shall be submitted for bevels and skews.

Bridges

Bridges shall be fabricated in accordance with AASHTO Standard Specifications for Highway Bridges, 17th Edition with errata or AASHTO LRFD Bridge Design Specifications, 5th or 6th Edition. Furnish a prefabricated concrete or steel superstructure. Prefabricated steel superstructures shall be fabricated with corrosion resistant steel meeting the requirements of ASTM A588 for the primary structural elements; steel decking may be galvanized. Fabrication of the steel bridge shall be performed in a plant certified by AISC for Simple Bridge Fabrication. Concrete super structures shall be constructed in accordance with the ACI 318. Special inspection is required for reinforcement by engineer of record. Bridge rail elements to be timber and/or weathering steel with galvanized hardware; incorporate railing bolts or attachments into the prefabricated superstructure as required by the design. The bridge superstructure shall be designed and sealed by a professional engineer licensed in the State of Washington, in accordance with the required design specifications. Concrete bridges may be substituted as a three sided concrete structure placed on footings UNO. Submit shop drawings and calculations that have been stamped and sealed by a professional engineer licensed in the State of Washington. All bridges shall meet minimum specifications as set by AASHTO and shall be capable of resisting HL93 U80/L90 intermittent overload loads unless noted otherwise. Rail loading shall be half AASHTO (5 kip) and steel or approved equal.

Crushed gravel surfacing

Crushed gravel surfacing shall meet WSDOT spec. 9-03.9(3) for crushed surfacing rock and shall meet WSDOT spec. 9-03.9(3) for base course or top coarse as indicated on the drawings.

Culvert Demolition

Culverts shall be removed and disposed of offsite in a location as approved by the landowner or engineer.

Structural fill

Structural fill material shall be composed of crushed gravel, or quarry spalls as specified herein or approved by the project engineer and shall be compacted to 95% maximum density at optimum moisture content and shall be placed in 8" maximum loose lifts prior to compaction and in accordance with WSDOT 2-03.3(14)C compacting earth embankment Method C.

Riprap

WSDOT spec. 9-13.1(2) light loose rip rap. Riprap may exist on site and shall be salvaged and reused as shown in the drawings.

Quarry spalls

Quarry spalls shall be WSDOT 9-13.6

Fish mix

Fish mix gravel shall consist of washed round river gravel consisting of a smooth gradation by weight of 0%-60% sand to 2" rock, as per WSDOT 9-03.11(1) Streambed Sediment and 0%-20% 6" cobble, per WSDOT 9-03.11(2) Streambed Cobbles and 0%-20% 6" to 24" rock as WSDOT 9-03.11(2) Streambed Cobbles and streambed boulders. Fish mix shall be supplemented as necessary with native bed material and/or imported pit run in order to match existing bed material gradation and prevent subsurface flow. All fish mix gravel shall be approved in writing by the engineer at the gravel pit source prior to delivery of site.

Stream Dewatering

If stream dewatering is anticipated to be necessary during construction, a pump and diversion or gravity system will be required. The pump intake shall be screened and water discharged downstream of the project site. Discharge pipeline shall be placed and/or protected so as to prevent erosion in the channel. Upon completion of diversion, sponsor, contractor and/or project biologist will remove stranded fish, if present. Pumped diversions shall run continuously for the duration of the diversion UNO.

Pump intakes shall be affixed with a fish screen with mesh openings of 1/16" and shall be maintained clean. Through screen velocities shall not exceed 0.33 feet per second.

Exact locations of all in-stream habitat structures are to be approved by written submittal prior to construction by project manager or project engineer prior to installation.

Reinforced Concrete:

All concrete - fc = 4000 psi at 28 days minimum, maximum w/c = 0.45, 6 sacks of cement minimum per cubic yard. Submit mix design. Special inspection required steel bars per ASTM A615, grade 60. Submit reinforcing steel shop drawings with details per ACI 315 manual of standard practice. Lap bars with a class B splice. Field bending bars not permitted w/o written approval. Welded wire fabric (WWF) per ASTM A185. Furnish WWF in flat sheets, not rolls. Lap edges 1 1/2 mesh minimum.

Concrete cover:

Footings 3". Pile caps 3". Walls 1", except 1 1/2" where Exposed to weather and 2" against earth. Beams and Columns 1 1/2" to stirrups or ties. Slabs and joists 1". Slabs on grade 1 1/2". Cover to be not less than nearest bar diameter.

Footings:

Provide 2-#5 longitudinal bottom bars in wall footings. Provide corner bars of same size and number at corners and inter-sections, 40 diameters each leg. Provide vertical dowels of same size, number and spacing as vertical bars with a 90 degree standard hook at bottom of footing.

Beams and slabs

Rigidly support bars with concrete blocks or approved accessories. Provide #5 support bars all slabs. Where main slab bars are parallel to a support, provide #4 @ 12 top bars extending 2'-0" beyond each face of support into slab. Where slab is on one side only, provide a 90 degree standard hook at discontinuous face. At slab openings over 12" square, provide two additional bottom main slab bars or 2-#5 minimum on all four sides of the opening extending 40 diameters past opening. Slabs on grade shall have contraction joints and construction joints as indicated on the plans. Contraction joints shall be saw cut to a depth of 1" by concrete sawing.

Provide 1-#5x4'-0" diagonal bottom bar all four corners. All slabs

Provide slab temperature bars as follows:

4" slabs, #3 @ 15 bottom,
5" slabs, #4 @ 18 bottom,
6" slabs, #4 @ 18 bottom,
7" slabs, #4 @ 15 bottom,
8" slabs, #3 @ 18 top, #4 @ 18 bottom,
9" slabs, #3 @ 18 top, #4 @ 18 bottom,
10" slabs, #3 @ 16 top, #4 @ 18 bottom,
11" slabs, #4 @ 18 top, #4 @ 18 bottom,
12" slabs, #4 @ 18 top, #4 @ 18 bottom.

Walls

Reinforce as follows:

6" walls, #4 @ 12 horizontal and vertical @ center of wall,
8" walls, #5 @ 15 horizontal and vertical @ center of wall,
10" walls, #4 @ 16 horizontal and vertical each face,
12" walls, #4 @ 12 horizontal and vertical each face.

At openings over 12" square, provide 2-#5 bars @ center of wall all four sides, except 10" walls and over provide 1-#6 bar each face all four sides, extending 40 diameters past opening. Provide 1-#5 x 4'-0" diagonal bar @ center of wall all four corners. At corners, provide corner bars in outside face of same size and spacing as horizontal bars, 40 diameter each leg. At intersections, provide corner bars of same size, number and spacing as horizontal bars of intersecting wall, 40 diameter each leg. Provide 2-#5 longitudinal bars at top and bottom of walls. Provide roughened surface at construction. Provide vertical dowels of same size, number and spacing as vertical bars.

Grout

Grout shall be 6000 psi minimum 7-day cube strength per ASTM C109. Grout to be pre-mixed, non-shrink "Masterflow" by Master Builders or "Concrete" by Adhesive Engineering or approved equal. ICBO certification required. Use specific grout mix recommended by manufacturer for each grout application and follow manufacturer's instructions. Special inspection required.

Anchor Bolts

Anchor bolts shall be hot dipped galvanized ASTM A307. Special inspection required. Set all anchor bolts by template.

Drill in Expansion Bolts

"Kwik-Bolts" by Hilti fastening systems, "Parabolics" by USM Corp, "Red Head Wedge Anchor" by ITT Phillips or approved equal ICBO certification required. Special inspection required.

Adhesive Anchoring

"Hy-150" by Hilti inc., or Simpson SET-XP use A36 or A307 threaded rod. ICBO certification required for bolts and rod. May be applied to stainless steel cable. Special inspection required.

Structural Steel

All steel ASTM A36 or A588, fy = 36 ksi. Special inspection required. Fabrication and erection per AISC Specifications. Submit shop drawings. Welding per AWS D1.1. Minimum size welds 3/16" continuous fillet. Welders certified per AWS for rod and position. Use cold galvanizing spray on finished surface for field weld. High - strength bolts per ASTM A325. Typical bolted connections - friction type. Tension high-strength bolts by direct tension indicator method using load indicator washers installed per manufacturer's instructions. All steel shall be hot dip galvanized unless otherwise noted. Where ASTM A588 steel is used galvanizing is not allowed.

Revegetation NIC Sponsor to Complete

Revegetate all disturbed areas of construction. Replant riparian areas as follows: red osier dogwood and willow (salix spp.) shall be live staked along the waters edge at 2'-0" on center for 4 rows back from anticipated Ordinary

High Water (OHW) edge. Disturbed areas 10' from OHW edge shall be replanted as follows: western red cedar, black cottonwood and Douglas fir shall be interspersed and planted as pull ups with roots in soil throughout disturbed upland areas @ 25' O.C.. Erosion control seed mixture appropriate for local shall be hand broadcast or hydroseeded in all upland disturbed areas.

Streambed Cobbles and Boulders

Streambed rock including Cobbles and Boulders shall be in conformance with WSDOT spec. 9-03.11(2) and 9-03.11(3). Rock size shall be as indicated on the plans and shall be as found in a naturally occurring fluvial sediment and shall be rounded or semi-rounded.

Geotextile fabric

Geotextile fabric shall be woven material in conformance with WSDOT spec. 9-33.1 and 9-33.2. Geotextile shall be woven Layfield LP 350 or equal.

Erosion control seed mixture

Erosion control seed mixture shall consist of 20% white clover, 20% annual rye, 60% creeping red fescue.

Rootwads and Large Woody Debris (LOD or LWD)

Rootwads and large organic debris shall be utilized from live trees and shall have a minimum of 15 feet of tree stem integral with the roots UNO. LOD shall be from live or recently live wood. All LOD shall have a minimum diameter of 10" at the DBH UNO. LOD shall be Douglas fir, western red cedar, spruce, or hemlock unless otherwise approved by project engineer.

Habitat and Stream Restoration Work

All work water ward of the OHWL shall be completed in the dry UNO. Work shall be completed during the WDFW seasonal in water work window as indicated in the project HPA.

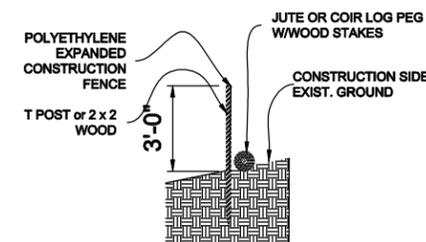
All works shall be completed with the minimum of impact to the disturbed footprint of work, stream bank disturbance, stream bed disturbance and shall be completed in such a way as to protect existing riparian and stream conditions.

Coir Fabric

Coir blanket shall be placed for steep slopes as identified in the drawings and along all areas that are identified for revegetation. Coir fabric shall be Rolanka blanket BioD-Mat 70 weight or equal and in accordance with WSDOT 9-14.5(2), Biodegradable Erosion Control Blanket. All edges shall be anchored with soil by trenching in 6" Ø soil ballasts. Blanket fields shall be staked at 2' o.c. with 2"x2" wood stakes to anchor.

T.E.S.C. PLAN:

Appropriate erosion control BMP's shall be installed and remain throughout the duration of the project where there is a risk of sediment runoff. This may include but is not limited to the use of plastic sheeting, straw mulch, hay bales and silt fence. Fences shall be installed as shown in the detail on sheet SPC. Upon completion of the project or during construction periods of inclement weather all disturbed areas shall be seeded or covered with plastic to prevent erosion.



TESC Fence Section

NTS



1" Bar at Original Scale

WA State Recreation Conservation Office
15-1059 SE 1/4 NW1/4 S6 T25N R6E WM

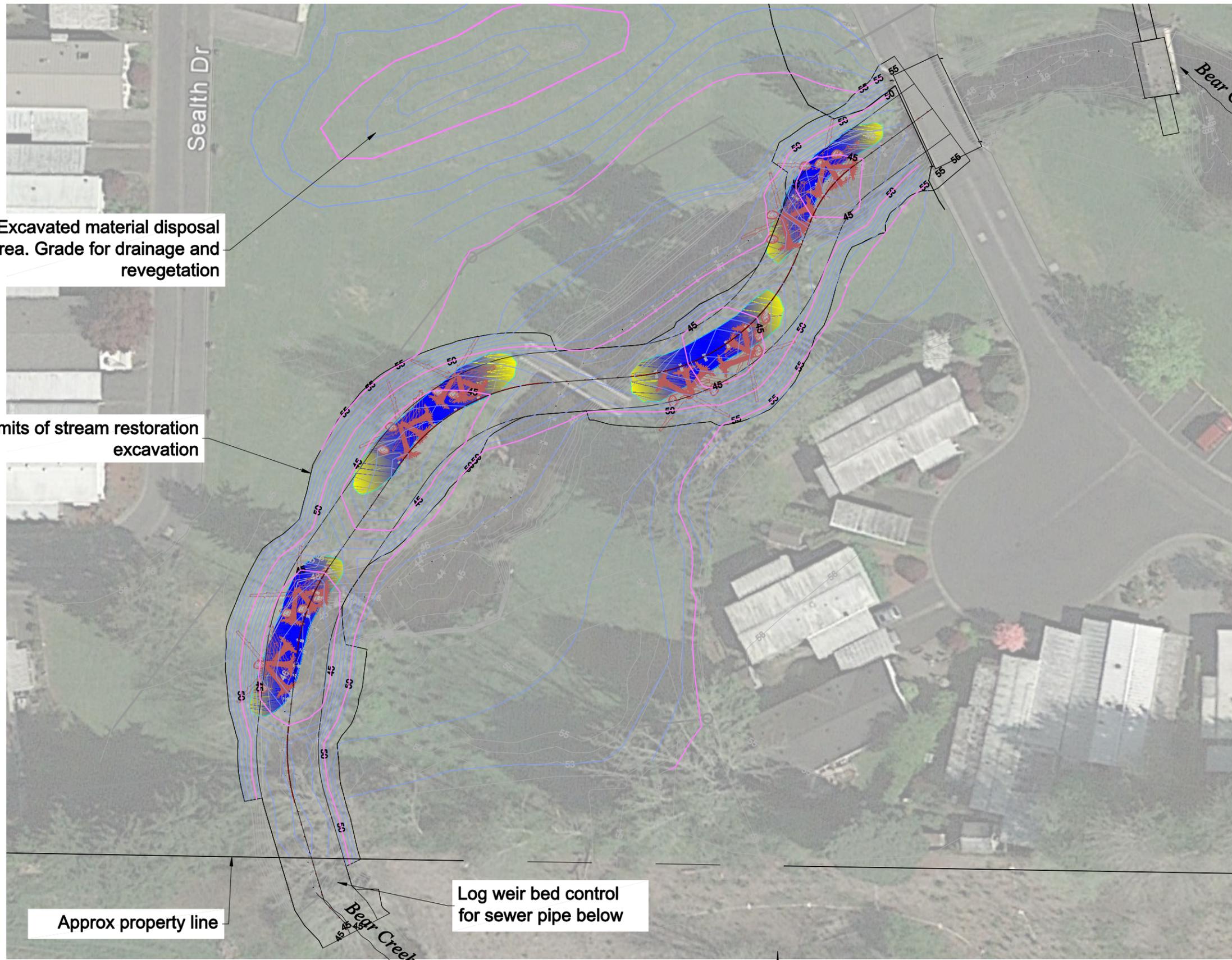
Bear Creek Reach 6 Restoration Phase 2 Specifications

DRAWING NO.
SPC
3 OF 7



REV	DATE	ISSUE	DWG	DES	CHK	APP
1	4-12-2016	Issued for Review	JSK	JSK	JSK	JSK
2						
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PROJECT NO. 15236



Excavated material disposal area. Grade for drainage and revegetation

Limits of stream restoration excavation

Approx property line

Log weir bed control for sewer pipe below

Site Plan
1" = 20'-0"

1
C2 C2

1" Bar at Original Scale



Know what's below.
Call before you dig.

Notes:

1. Elevations based on data obtained from Chinook Engineering. Survey completed for work on this project. Vertical Datum is NAVD 88.
2. All precise elevations and locations must be field verified during construction when setting grades with engineer.
3. Construction surveying shall be the responsibility of the contractor.
4. Staging of equipment and materials is allowed on the landowner property but is very limited.
5. Any damage to area, survey monuments, utilities or sewer installed in the road embankment from construction staging, track loads, heavy wheel loads or other activities shall be restored to original condition at Contractors cost.



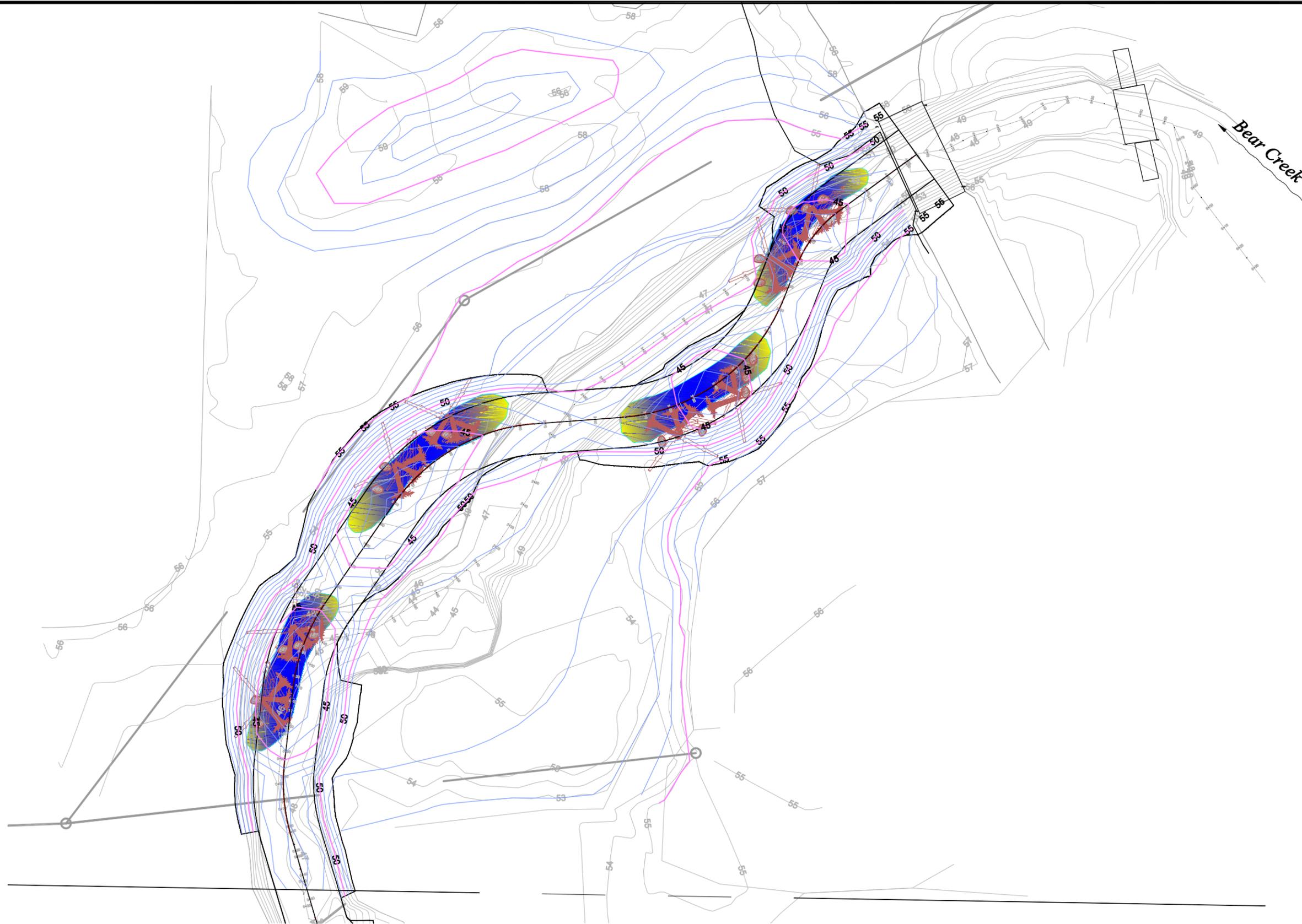
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PROJECT NO. 15236

WA State Recreation Conservation Office
15-1059 SE 1/4 NW1/4 S6 T25N R6E WM
Bear Creek Reach 6 Restoration Phase 2
Overall Site Plan



DRAWING NO.
C1
4 OF 7



Site Plan

1" = 20'-0"

1
C2 | C2

1" Bar at Original Scale



WA State Recreation Conservation Office
15-1059 SE 1/4 NW1/4 S6 T25N R6E WM

**Bear Creek Reach 6 Restoration Phase 2
Detail Site Plan**

DRAWING NO.
C2
5 OF 7

REV	DATE	ISSUE	DWG	DES	CHK	APP
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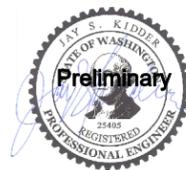
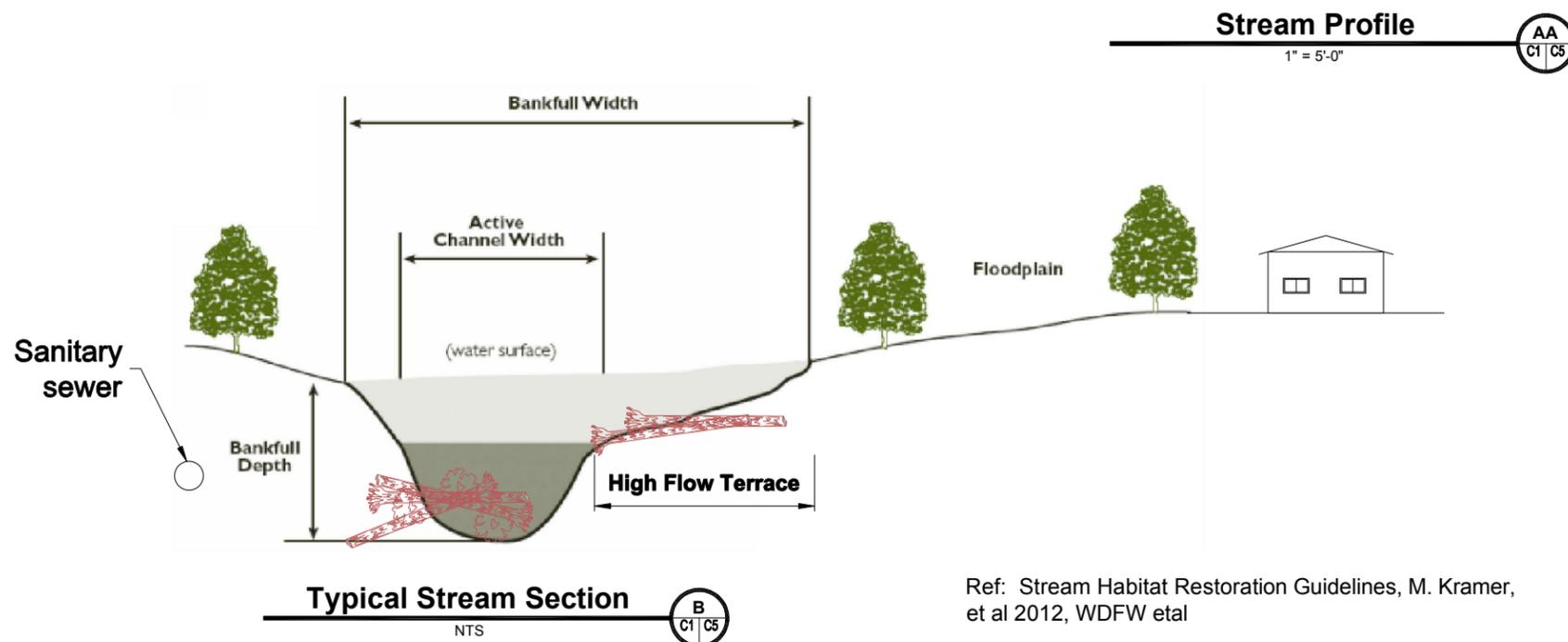
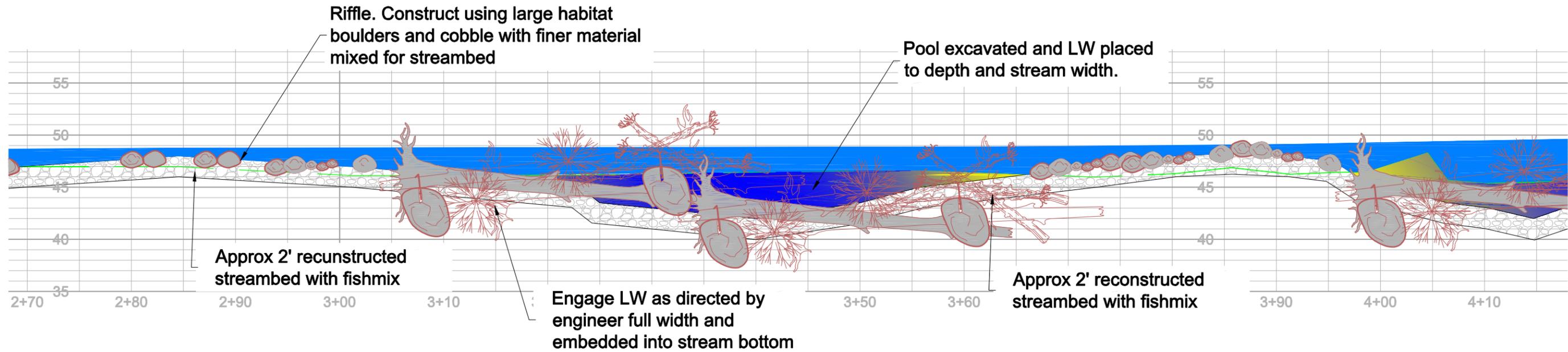
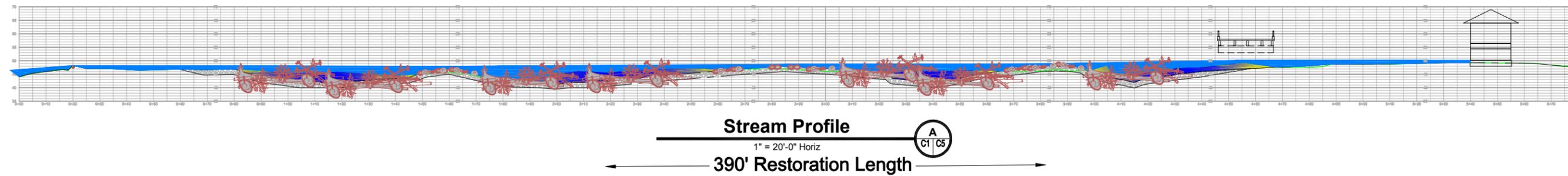
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CHIN COOK ENGINEERING
600 W. Adams Drive
Coupeville, Washington 98239
(360) 678-4747
Professional Consulting Engineers

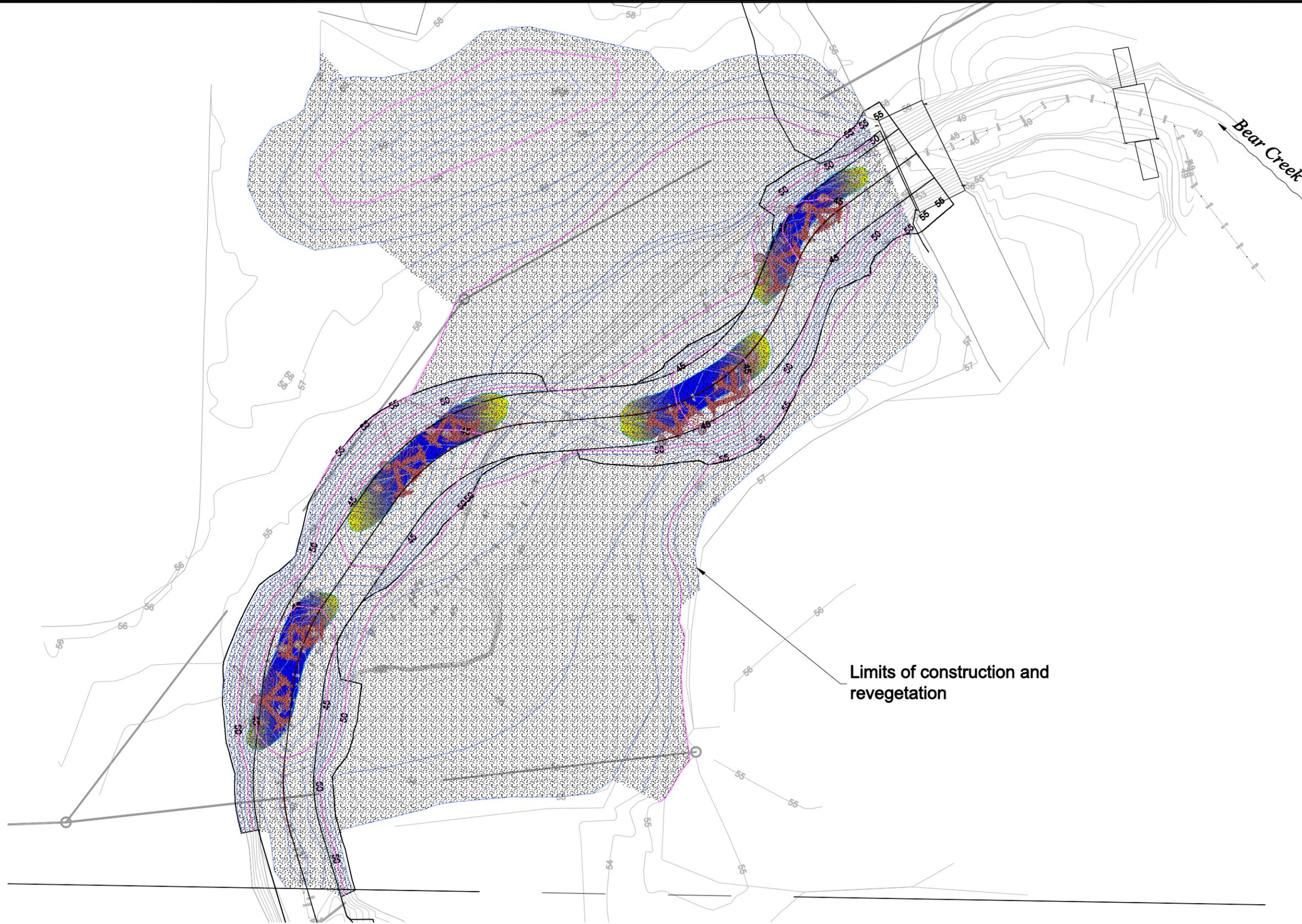
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1	4-12-2016	Issued for Review	JSK	JSK	JSK	JSK
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PROJECT NO. 15236

WA State Recreation Conservation Office
 15-1059 SE 1/4 NW 1/4 S6 T25N R6E WM
Bear Creek Reach 6 Restoration Phase 2
Stream Profiles



1" Bar at Original Scale



Bear Creek

Limits of construction and revegetation

Site Plan

1" = 20'-0"



1" Bar at Original Scale



WA State Recreation Conservation Office
 15-1059 SE 1/4 NW1/4 S6 T25N R6E WM
Bear Creek Reach 6 Restoration Phase 2
Construction Limits

DRAWING NO.
C4
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REV	DATE	ISSUE	DWG	DES	CHK	APP
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