

Construction Documents

Alpenview Drive - Fish Passage

Chumstick Creek RM 1.48

Project Number 19-1584



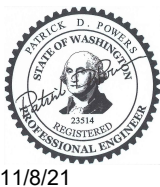
DRAWING INDEX:

- 1. Cover Sheet
- 2. Legend and Notes
- 3. Existing Site Plan
- 4. Site Plan Proposed
- 5. Stream Profile/Details
- 6. Sections/Details
- 7. Riparian Planting Plan/Materials List

VICINITY MAP
NOT TO SCALE



Alpenview Drive - Fish Passage



REV	DATE	BY	APP'D	DESCRIPTION
SCALE VERIFICATION				IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.
BAR IS ONE INCH ON ORIGINAL DRAWING.				0 1"

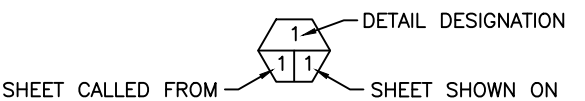
DESIGN BY:
Waterfall Engineering

DRAWN BY:

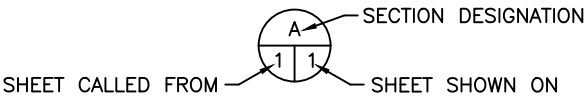
DATE:
11/8/21

Cover Sheet

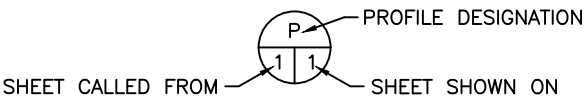
SHEET SYMBOLS



DETAIL CALLOUT

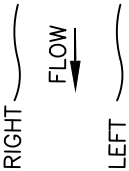


SECTION CALLOUT



PROFILE CALLOUT

References to Right and Left as viewed downstream



- " - INCHES
' - FEET
APPROX. - APPROXIMATELY
B&B - BALLED AND BURLAPPED
BM - BENCH MARK
C - CENTERLINE
CAL. - CALIPER
CFS - CUBIC FEET PER SECOND
CLR. - CLEARANCE
CMP - CORRUGATED METAL PIPE
CONC. - CONCRETE
DIA. - DIAMETER
ELEV. - ELEVATION
EQ. - EQUAL
FTG. - FOOTING
HDPE - HIGH DENSITY POLYETHYLENE
HT. - HEIGHT
GAL. - GALLON
I.D. - INSIDE DIAMETER
I.E. - INVERT ELEVATION
LBS. - POUNDS
LWD - LARGE WOODY DEBRIS
MAX. - MAXIMUM
MFG. - MANUFACTURER'S
MHW - MEAN HIGH WATER
MHHW - MEAN HIGHER HIGH WATER
MIN. - MINIMUM
MISC. - MISCELLANEOUS

ABBREVIATIONS

- MISC. - MISCELLANEOUS
MPH - MILES PER HOUR
O.C. - ON CENTER
O.D. - OUTSIDE DIAMETER
OHW - ORDINARY HIGH WATER
PK - PARKER-KALON
R.O.W. - RIGHT OF WAY
REQ'D - REQUIRED
SEC. - SECTION
S.F. - SQUARE FEET
SHT. - SHEET
SPEC'S. - PROJECT SPECIFICATIONS
STA. - STATION
SS - STAINLESS STEEL
TEMP. - TEMPORARY
TYP. - TYPICAL
W.S. - WATER SURFACE
WSDOT - WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
WSEL - WATER SURFACE ELEVATION

LEGEND

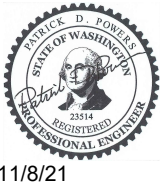
- PROPERTY LINE
--- RIGHT OF WAY LINE
--- CENTERLINE
--- EXISTING FENCE
--- BUILDING LINE
1145 INDEX CONTOUR LINE
--- UGE UNDERGROUND POWER
--- W EXISTING WATER LINE
X SURVEY POINT
O MAPLE 36" EXISTING TREES TO REMAIN
BM1 PROJECT BENCH MARK
B-1 BORING LOCATIONS
SANDBAGS
1 NOTE CALLOUT
2+00 STATION CALLOUT
1 PHOTO CALLOUT
Existing Callout
Proposed Callout
- FOUND SURVEY MONUMENT
SET CONTROL POINT
POWER POLE
MANHOLE
UTILITY CABINET
LIGHT POST
TREE
WATER VALVE
OWNERSHIP REFERENCE
CONCRETE
FILL
ROCK/GRAVEL
UNDISTURBED GRADE
WETLAND DELINEATION
DEMO
ELEVATION MARKER
TREE TO BE REMOVED
TREE TO REMAIN

Survey Completed by M2C December 2019. State Plane Coordinates.

Control Points				
POINT	EASTING	NORTHING	ELEV	Description
40	227726.91	1686674.33	1222.02	M2C Cap
41	227848.92	1686492.37	1223.80	M2C Cap



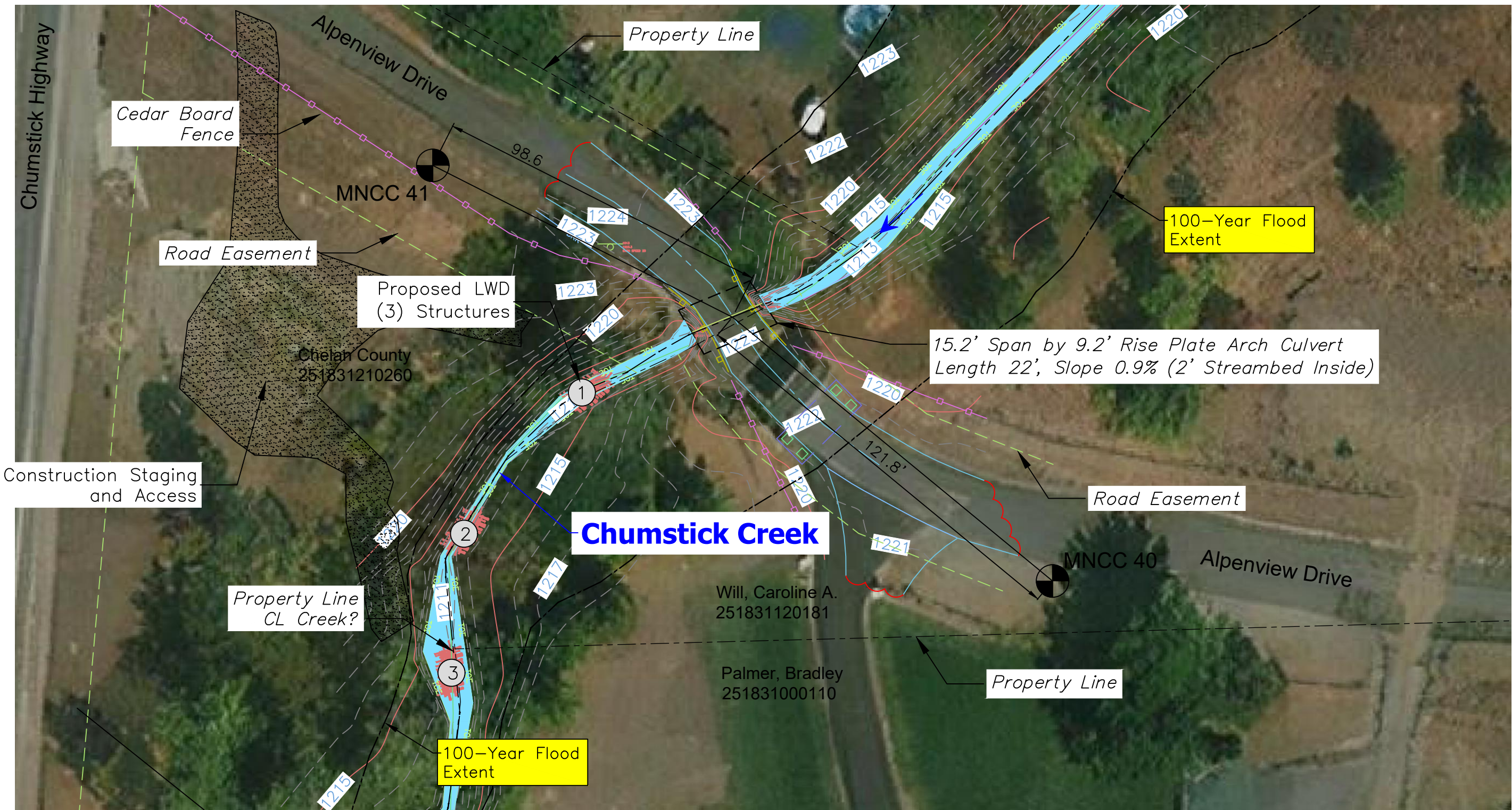
Chumstick Creek - RM 1.48
Alpenview Drive



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SCALE VERIFICATION				
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"				
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DESIGN BY: Waterfall Engineering
DRAWN BY:
DATE: 11/8/21

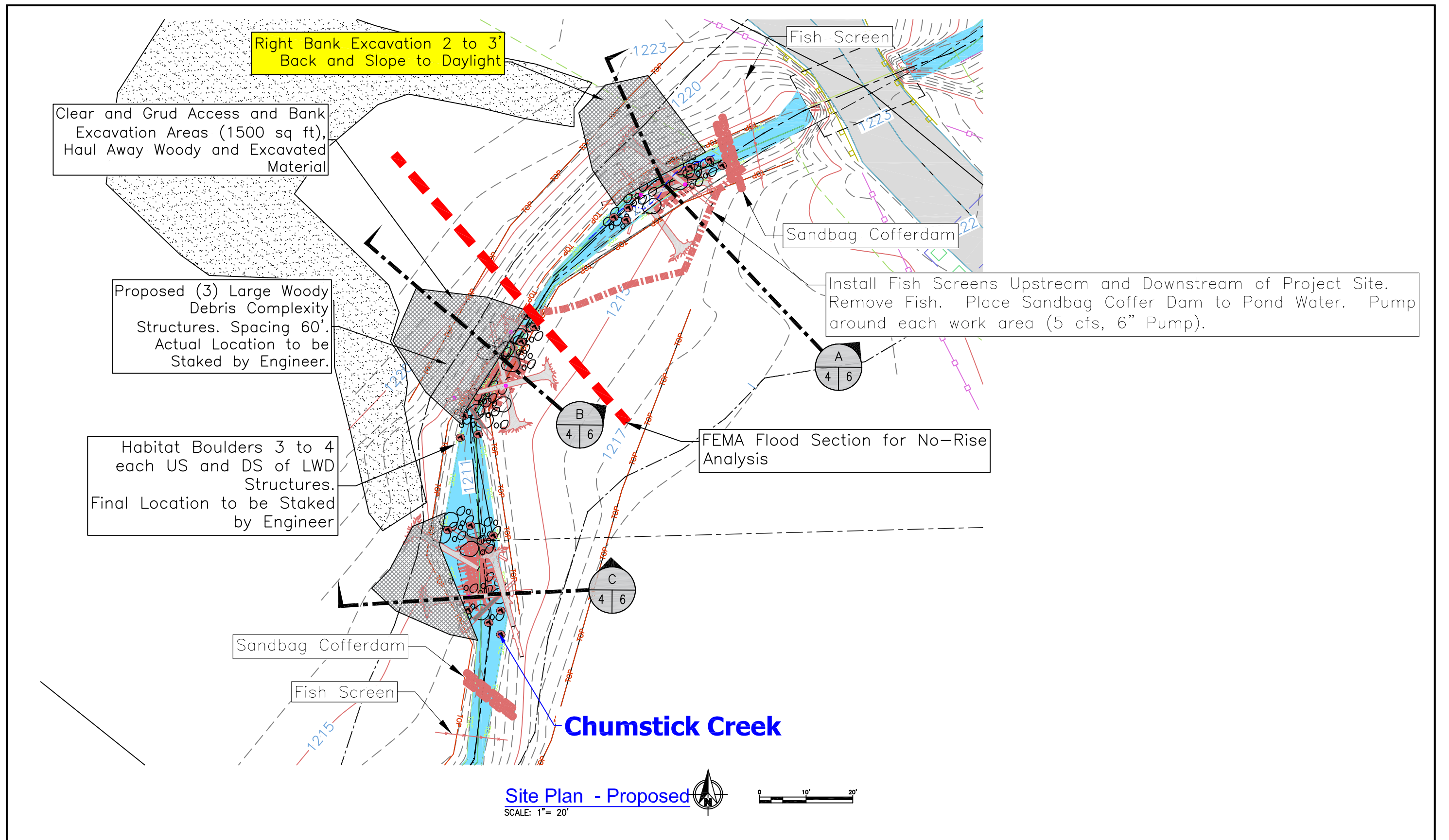
Legend



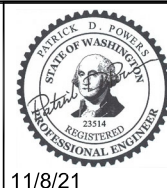
Site Plan - Existing

SCALE: 1"= 30'





Chumstick Creek - RM 1.48 Alpenview Drive



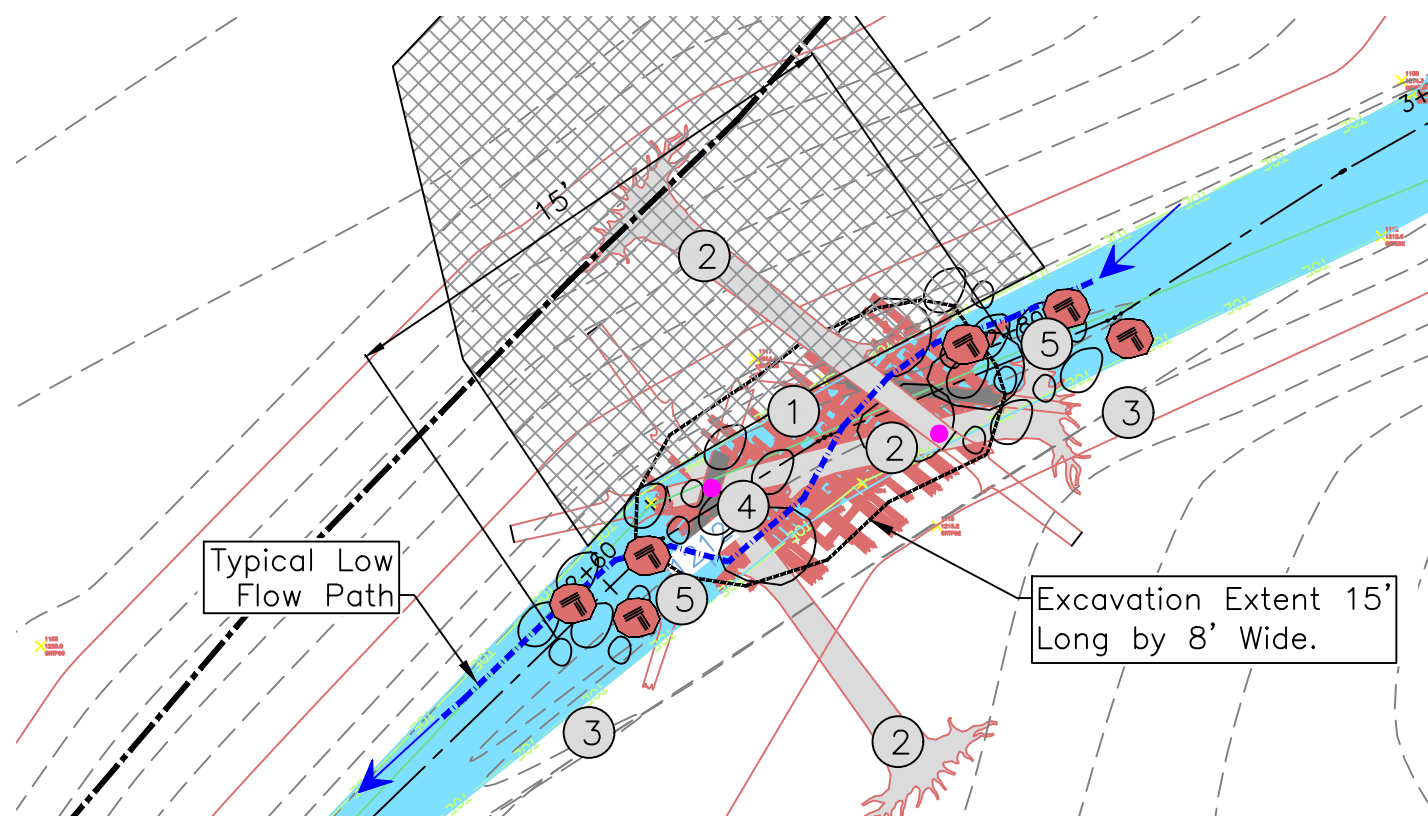
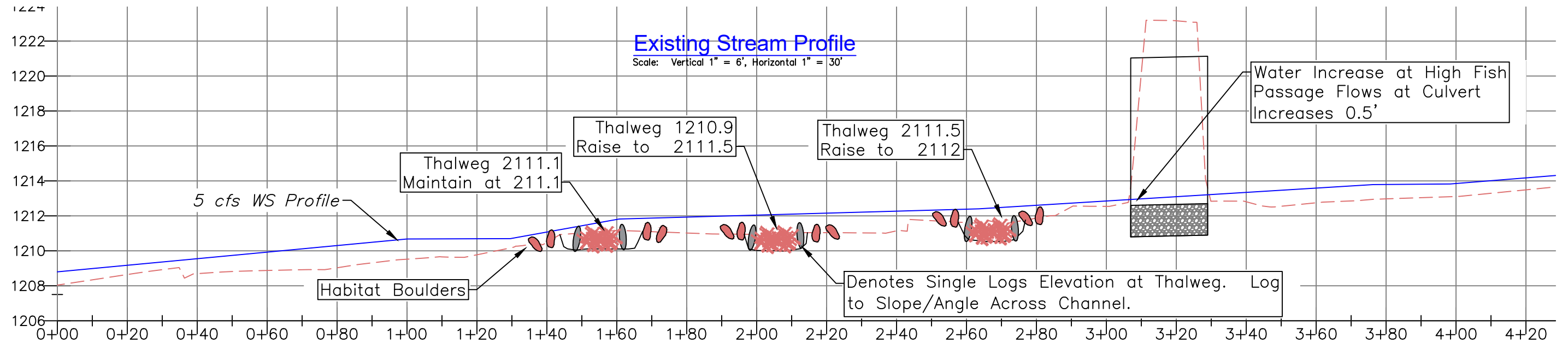
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Site Plan - Proposed

4 **7**
SHEET OF



- ① Excavate Bed 15' Long by 8' Wide by 1' Deep. Fill with Slash (4 yds): LWD 6" dia. minus.
- ② Key Piece – 20' Long, 12 to 15" Dia.w/rootwad
Place three (3) Key Logs as Shown with Tips Buried in bank and log resting on Racking Material with rootwads above 100 year flood
- ③ Single Logs: 12 to 15 Long, 10 to 12" Diam.
Place US and DS of Excavation Area and Racking Logs and Under Key Logs.
- ④ Pin Key Logs and Single Logs as Shown.
To be Determined by Engineer on Site. Assume 2 Pins per Structure
- ⑤ Streambed Boulders and Cobble (3 yds per Structure): 12 to 6" Diam. Place over top of gaps in single logs to seal voids. Include 30% Fines in Mix. Reuse Excavated Bed Material as Approved by Engineer.
- ⑥ Place (3) Habitat Boulders (18 to 24" Diam.) Above and Below Excavated Area and LWD.

LWD Complexity Detail - Actual Layout may vary as Directed by Engineer
Scale: 1" = 8'



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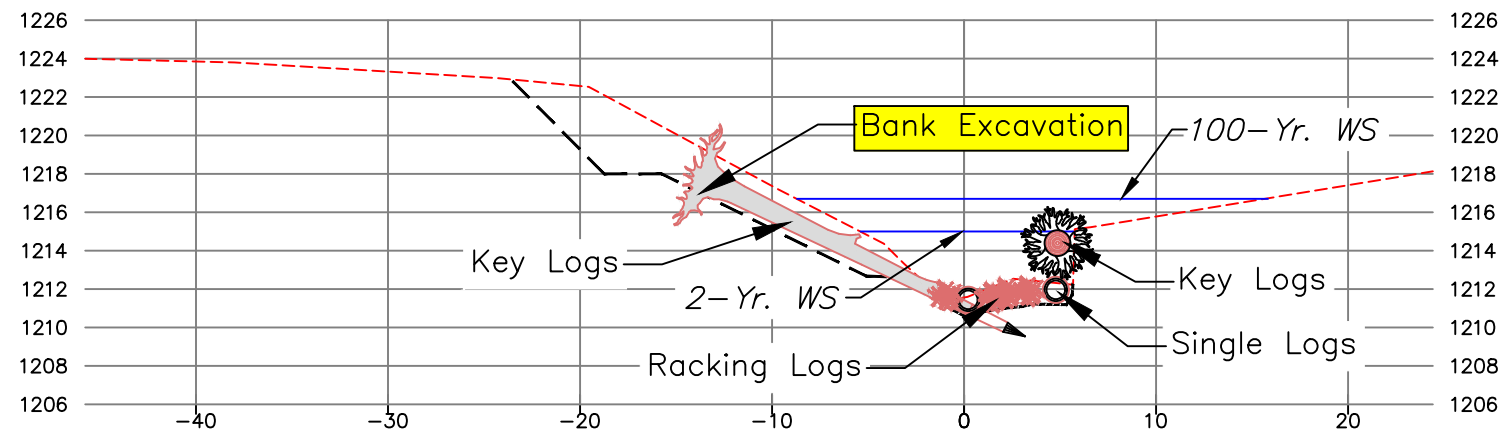
DESIGN BY:
Waterfall Engineering

DRAWN BY:

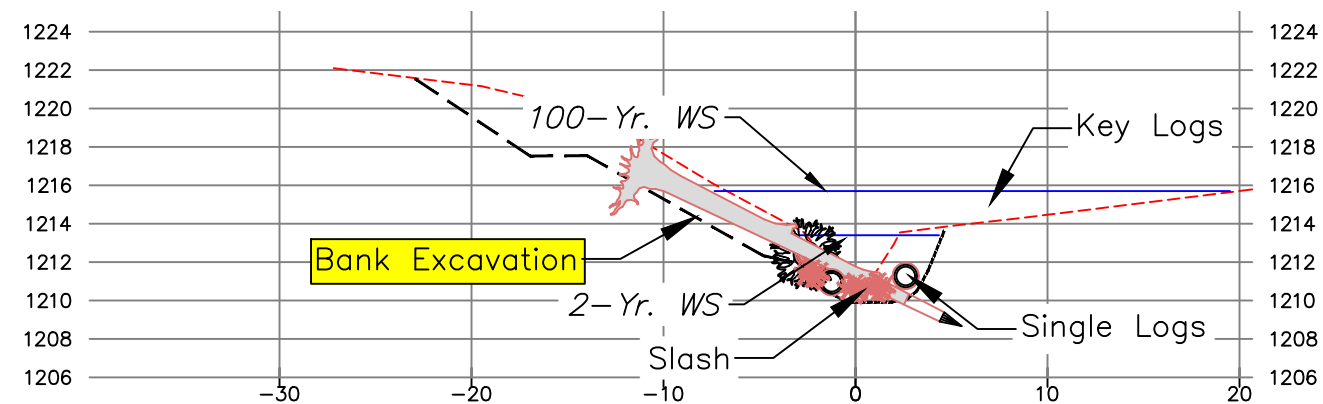
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Stream Profile/Details

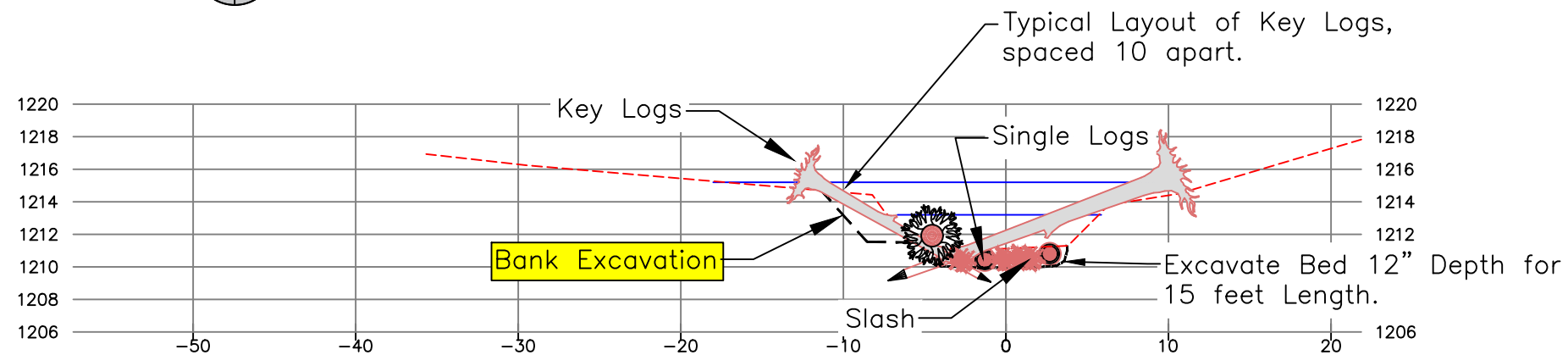
5 **7**
SHEET OF



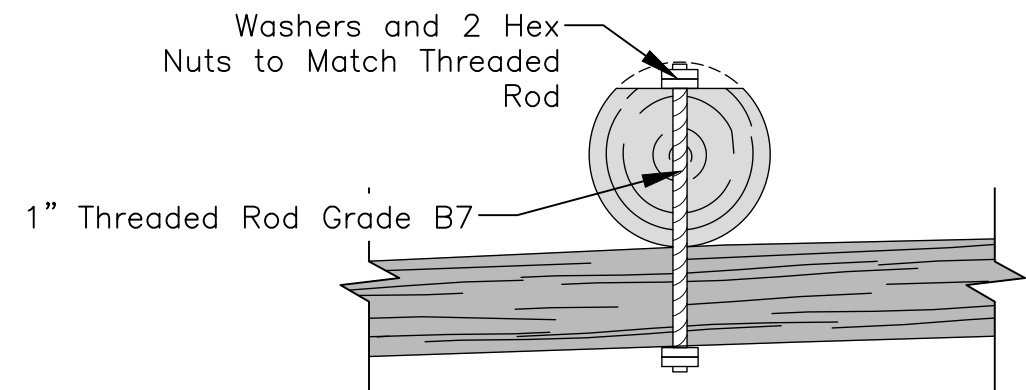
A
4 6
Channel Section - STA 2+71 - View Upstream
Scale: 1" = 10'



B
4 6
Channel Section - STA 2+06 - View Upstream
Scale: 1" = 10'



C
4 6
Channel Section - STA 1+63 - View Upstream
Scale: 1" = 10'



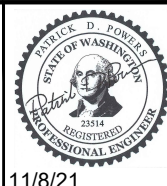
Typical Log Pin
NTS

Notes:

1. Where Pins are Exposed on the outside or top of the LWD Structure Countersink the Ends below the Log.
2. All steel to be non-galvanized and same grade as rod.
3. Peen end of rod or chisel threads to nuts can't be backed off.
4. File or grind rough edges.
5. Rod length based on 2" extension at ends.



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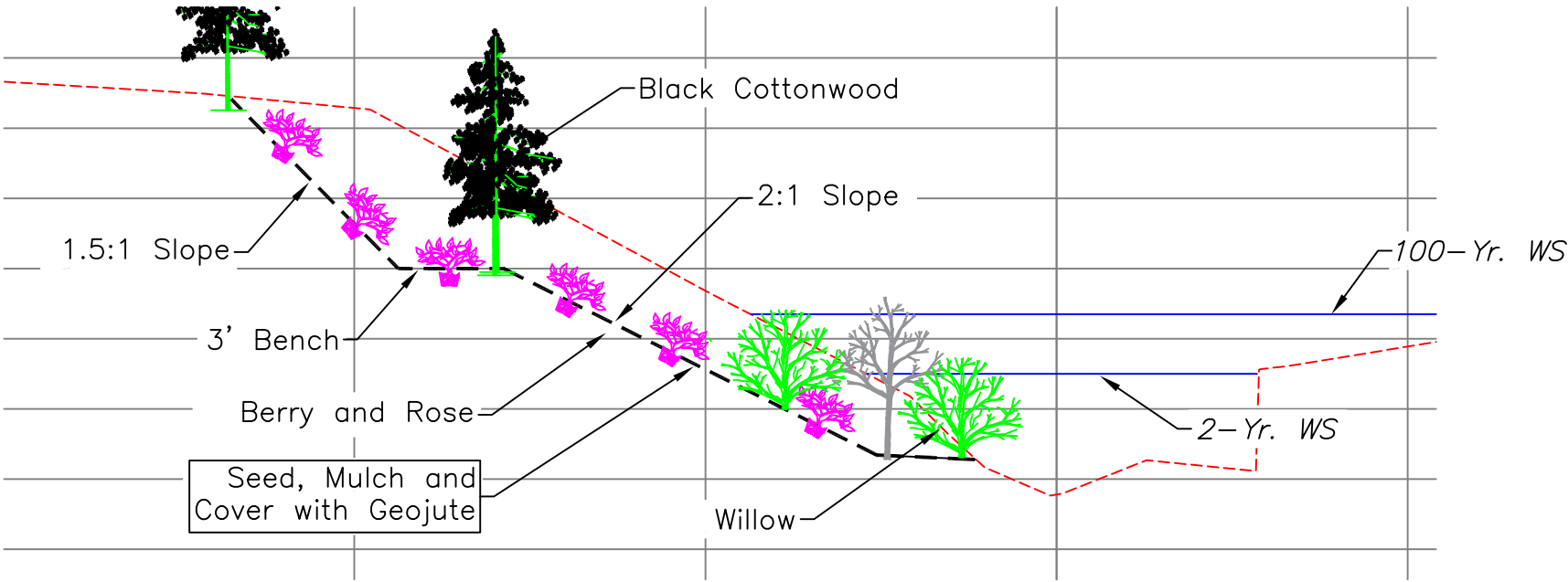
Sections/Details

6 **7**
SHEET OF

Project Name: Alpenview Fish Passage				
PLANT SCHEDULE				
SCIENTIFIC NAME- Common Name	MIN SPACING (FEET)	TREEPO T TP414	1 gallon	2 gallon
POPULUS BALSAMIFERA- black cottonwood	8			6
Holodiscus discolor - oceanspray	5		6	
SALIX LASIANDRA- pacific willow	5	6		
SPIRAEA DOUGLASII- Douglas spirea	5		6	
Lonicera involucrata - twinberry	5		6	
SALIX EXIGUA- coyote willow	5	12		
Rosa woodsii - woods rose	5		6	
SYMPHORICARPOS ALBUS- common snowberry	5		3	
RUBUS PARVIFLORUS- thimble berry	5		3	
	TOTALS	18	30	6

LWD Structure Material List

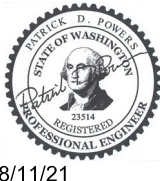
Items	Number	Size	
		DBH (in)	Length (ft)
Key Logs, w/Rootwad	9	12 to 15	20
Habitat Boulders	27	18 to 24" Diam.	
Pins (P1)	6	1" B7 Threaded Rod	
Slash	12 CY	Wood, Limbs, Tree tops 6" diam. And smaller	
Single Logs no Rootwad	6	10 to 12	10 to 12
Boulder Cobble Ballast	9 CY	6" to 12"	



Typical Bank Excavation and Riparian Planting
Scale: 1" = 5'



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Planting Plan