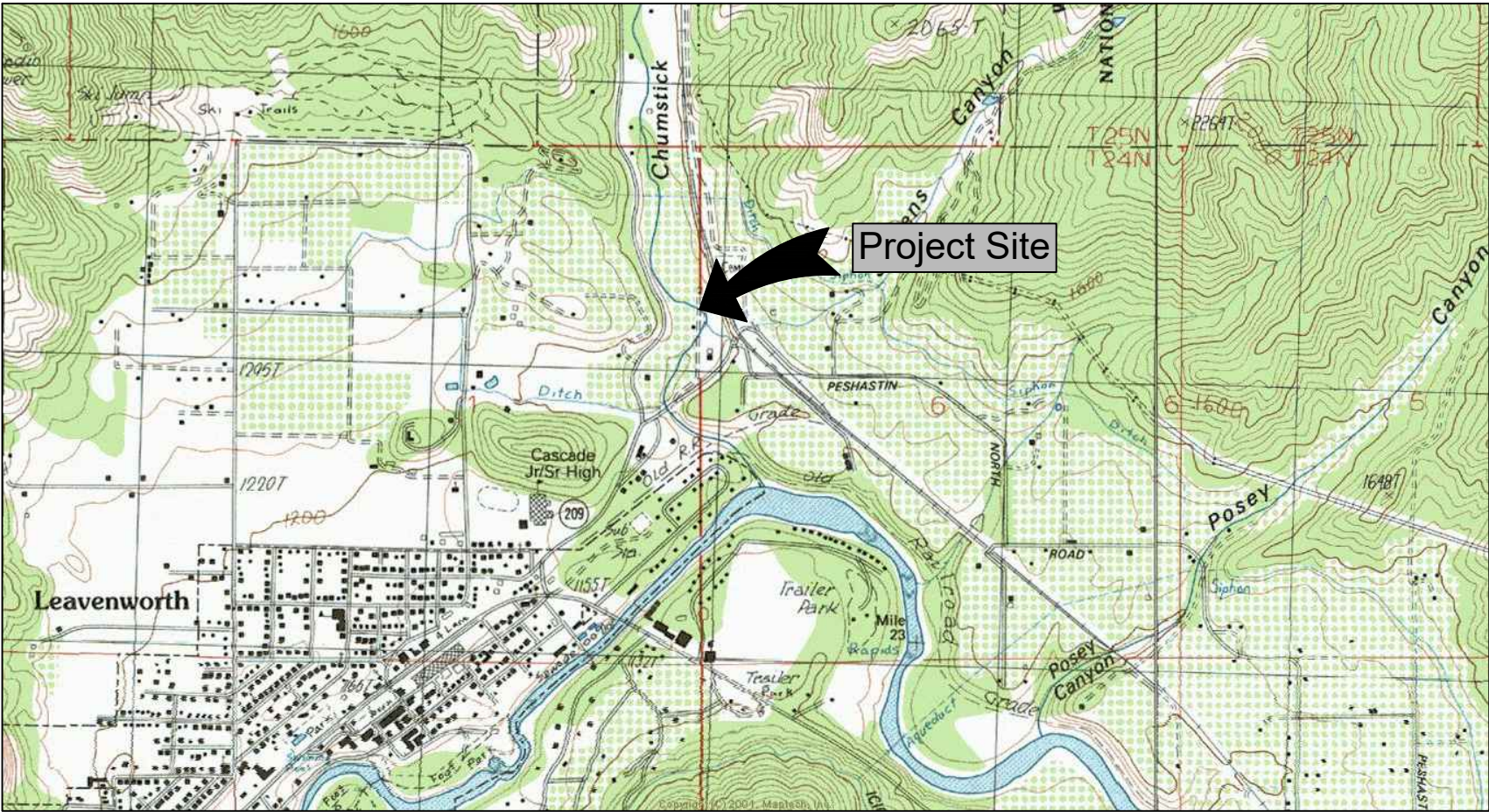


Preliminary Design

Chumstick Crk Culvert - RM 0.52

Motteler Drive

Project Number 19-1584



Landowner: Chelan County
Sec Twnshp Range: E 1/2 Section 1, T24N, R18E
Lat and Long: 47.60799, -120.647189

VICINITY MAP
NOT TO SCALE



DRAWING INDEX:

- 1. Cover Sheet
- 2. Legend and Notes
- 3. Existing Site Plan
- 4. Site Plan Proposed
- 5. Stream Profiles
- 6. Road Profiles
- 7. Sections and Details
- 8. Details



Road View South of Creek



Road View North of Creek



Chumstick Creek Culvert
RM 0.48 - Motteler Drive



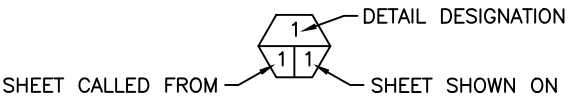
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SCALE VERIFICATION				IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.
BAR IS ONE INCH ON ORIGINAL DRAWING.				0 1"

DESIGN BY: Waterfall Engineering
DRAWN BY:
DATE: 3/13/20

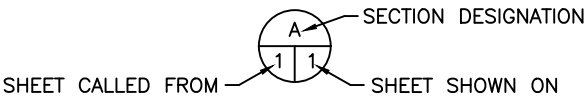
Cover Sheet

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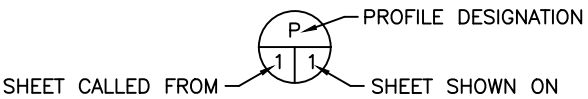
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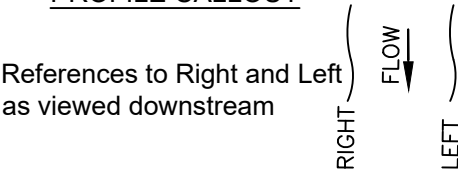
DETAIL CALLOUT



SECTION CALLOUT



PROFILE CALLOUT



ABBREVIATIONS

"	-	INCHES	MISC.	-	MISCELLANEOUS
,	-	FEET	MPH	-	MILES PER HOUR
APPROX.	-	APPROXIMATELY	O.C.	-	ON CENTER
B&B	-	BALLED AND BURLAPPED	O.D.	-	OUTSIDE DIAMETER
BM	-	BENCH MARK	OHW	-	ORDINARY HIGH WATER
CL	-	CENTERLINE	PK	-	PARKER-KALON
CAL.	-	CALIPER	R.O.W.	-	RIGHT OF WAY
CFS	-	CUBIC FEET PER SECOND	REQ'D	-	REQUIRED
CLR.	-	CLEARANCE	SEC.	-	SECTION
CMP	-	CORRUGATED METAL PIPE	S.F.	-	SQUARE FEET
CONC.	-	CONCRETE	SHT.	-	SHEET
DIA.	-	DIAMETER	SPEC'S.	-	PROJECT SPECIFICATIONS
ELEV.	-	ELEVATION	STA.	-	STATION
EQ.	-	EQUAL	SS	-	STAINLESS STEEL
FTG.	-	FOOTING	TEMP.	-	TEMPORARY
HDPE	-	HIGH DENSITY POLYETHYLENE	TYP.	-	TYPICAL
HT.	-	HEIGHT	W.S.	-	WATER SURFACE
GAL.	-	GALLON	WSDOT	-	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
I.D.	-	INSIDE DIAMETER	WSEL	-	WATER SURFACE ELEVATION
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			

LEGEND

	PROPERTY LINE		FOUND SURVEY MONUMENT
	RIGHT OF WAY LINE		SET CONTROL POINT
	CENTERLINE		POWER POLE
	EXISTING FENCE		MANHOLE
	BUILDING LINE		UTILITY CABINET
	INDEX CONTOUR LINE		LIGHT POST
	UNDERGROUND POWER		TREE
	EXISTING WATER LINE		WATER VALVE
	EXISTING CALLOUT		OWNERSHIP REFERENCE
	NEW CALLOUT		CONCRETE
	SURVEY POINT		FILL
	EXISTING TREES TO REMAIN		ROCK/GRAVEL
	PROJECT BENCH MARK		UNDISTURBED GRADE
	BORING LOCATIONS		WETLAND DELINEATION
	SANDBAGS		DEMO
	NOTE CALLOUT		ELEVATION MARKER
	STATION CALLOUT		TREE TO BE REMOVED
	PHOTO CALLOUT		TREE TO REMAIN

Survey Completed by M2C December 2019. State Plane Coordinates.

Control Points				
POINT	EASTING	NORTHING	ELEV	Description
24	1686349.14	221721.72	1139.53	MNCC SET
100	1686334.71	221834.17	1143.02	WFRC
25	1686358.34	221944.69	1145.62	MNCC SET

Bridge Coordinates – Corners on Steel Deck				
Number	EASTING	NORTHING	ELEV	Description
①				
②				
③				
④				

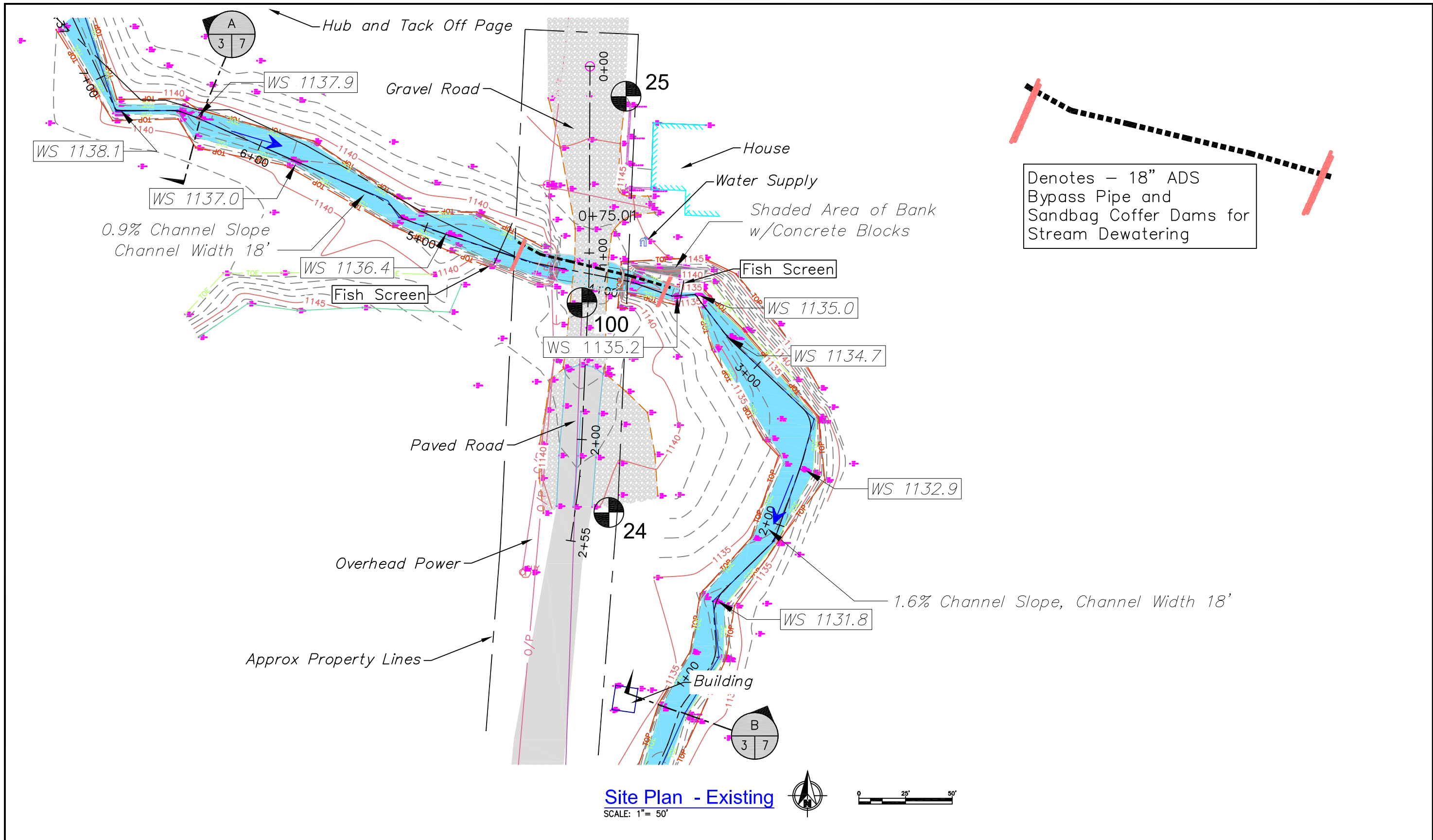
Chumstick Creek Culvert
RM 0.48 - Motteler Drive

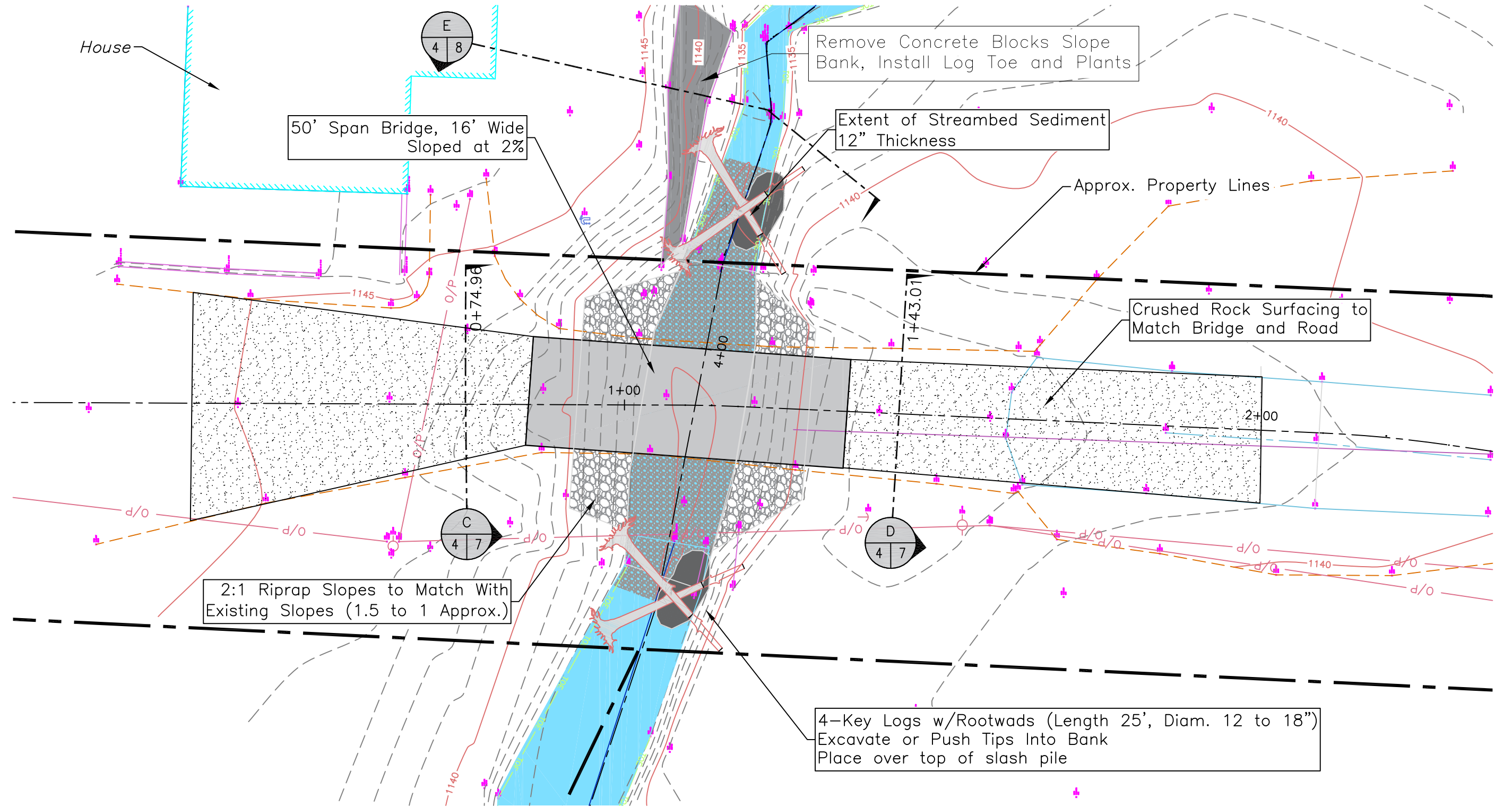


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Legend and Notes





Chumstick Creek Culvert RM 0.48 - Motteler Drive



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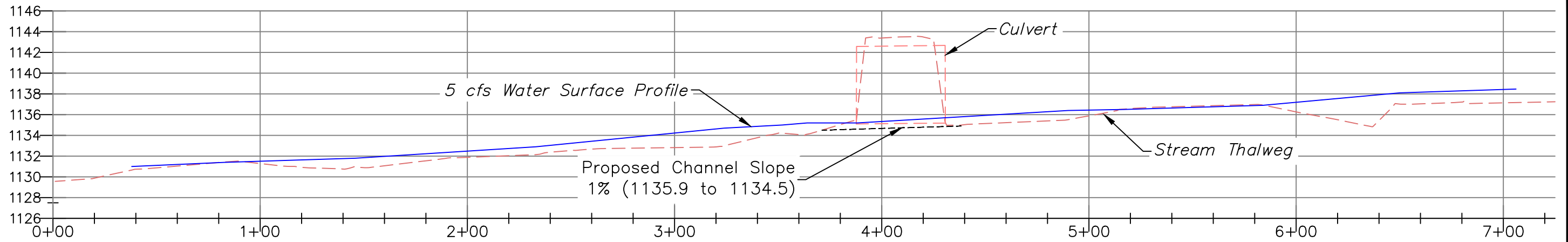
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Waterfall Engineering

DRAWN BY:

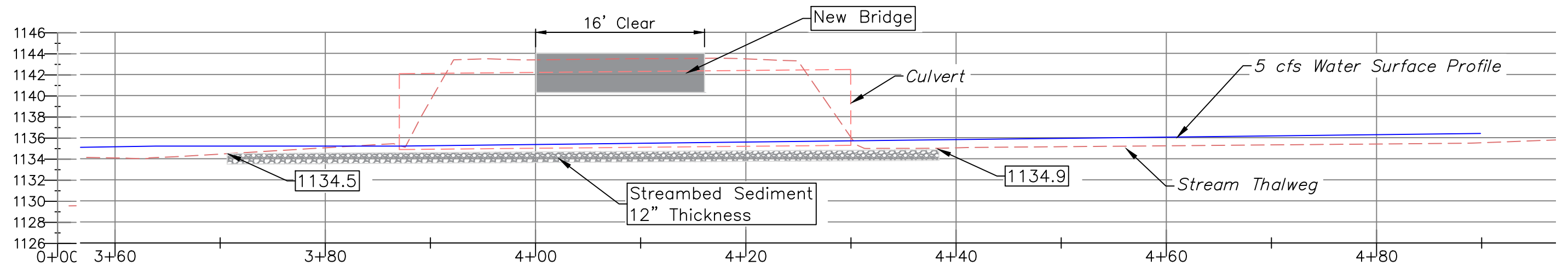
DATE:
3/13/20

Site Plan - Proposed

4 8
SHEET OF



Existing Stream Profile
Scale: Vertical 1" = 10', Horizontal 1" = 50'



Existing Stream Profile
Scale: 1" = 10'

Streambed Sediment	
% Greater Than	Size (in)
100	7"
75	3"
50	1"
25	1/2"
15	Select Fines from Channel Excavation



Chumstick Creek Culvert RM 0.48 - Motteler Drive



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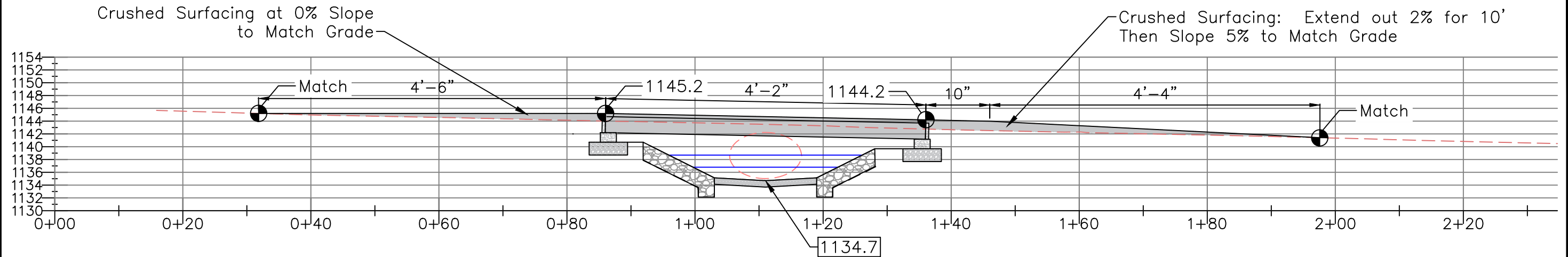
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Waterfall Engineering

DRAWN BY:

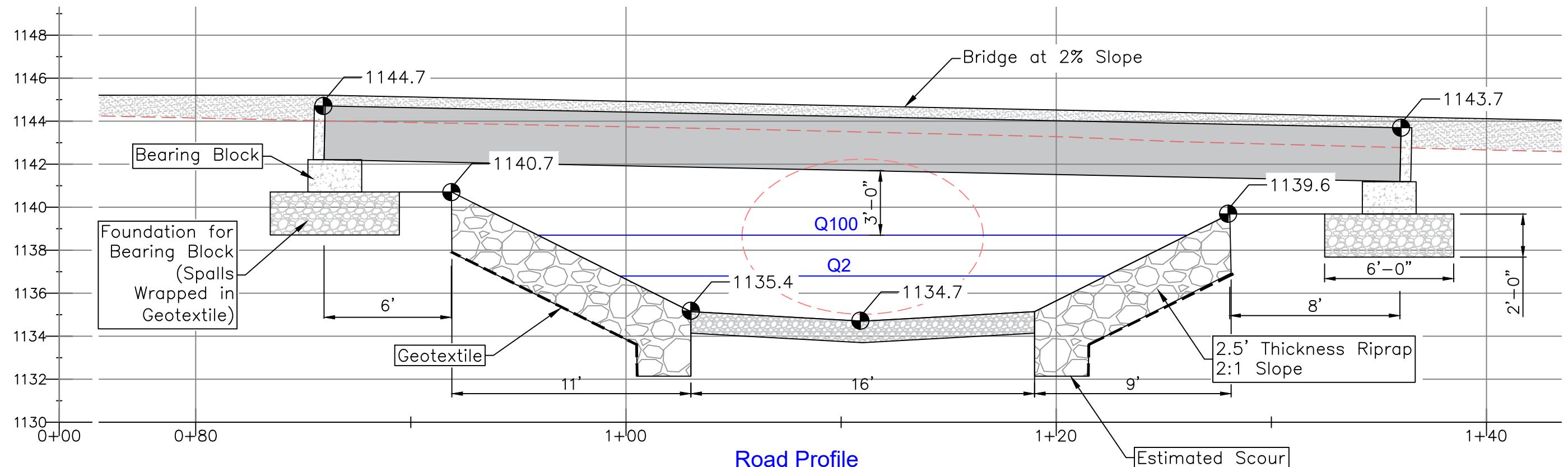
DATE:
3/13/20

Stream Profile



Road Profile (View Downstream)

Scale: 1" = 16'



Road Profile

Scale: 1" = 10'



Chumstick Creek Culvert RM 0.48 - Motteler Drive



4/5/2019

REV	DATE	BY	APP'D	DESCRIPTION

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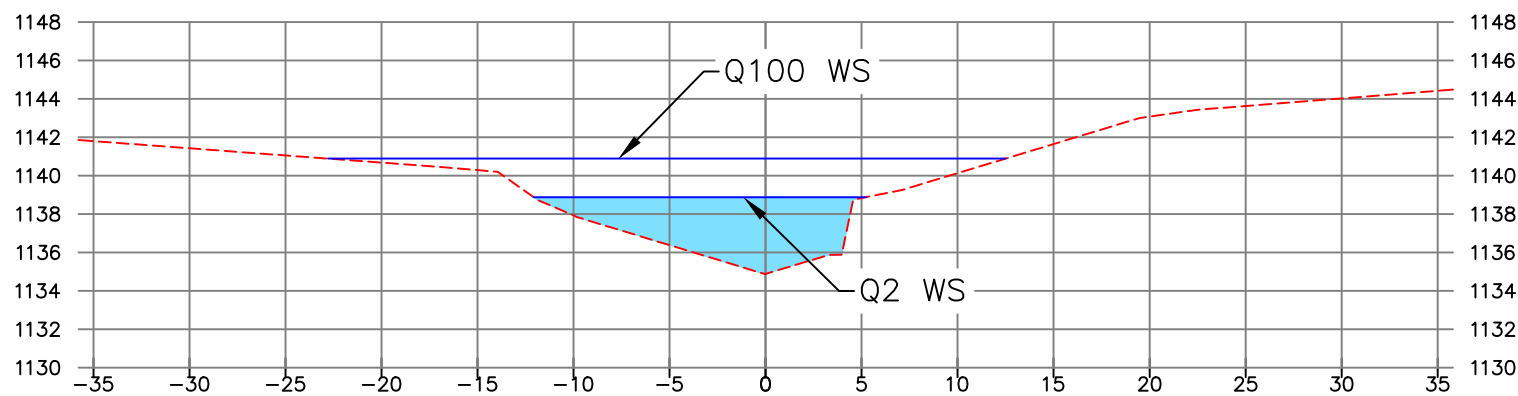
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Waterfall Engineering

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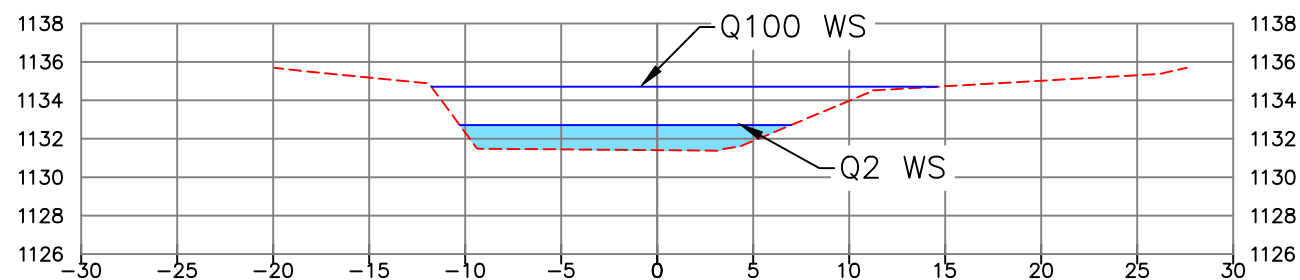
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3/13/20

Road Profiles

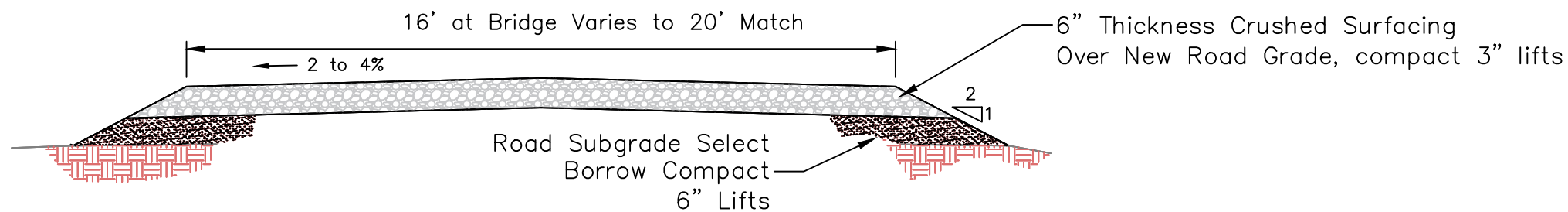
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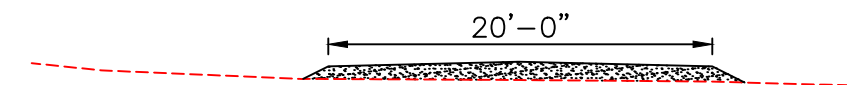
A
3 7
Stream Section STA 6+35 (View Upstream)
Scale: 1" = 10'



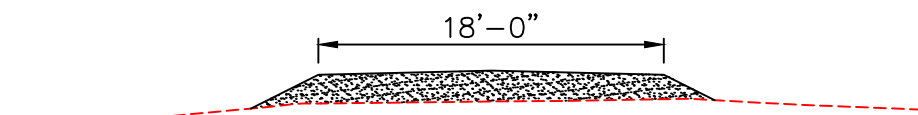
B
3 7
Stream Section STA 0+81 (View Upstream)
Scale: 1" = 10'



TYPICAL ROAD SECTION (Approach and Bridge)
Not to Scale – Engineer to Verify Final Dimensions



C
4 7
Road Section STA 0+75
Scale: 1" = 10'



D
4 7
Road Section STA 1+43
Scale: 1" = 10'



Chumstick Creek Culvert RM 0.48 - Motteler Drive



4/5/2019

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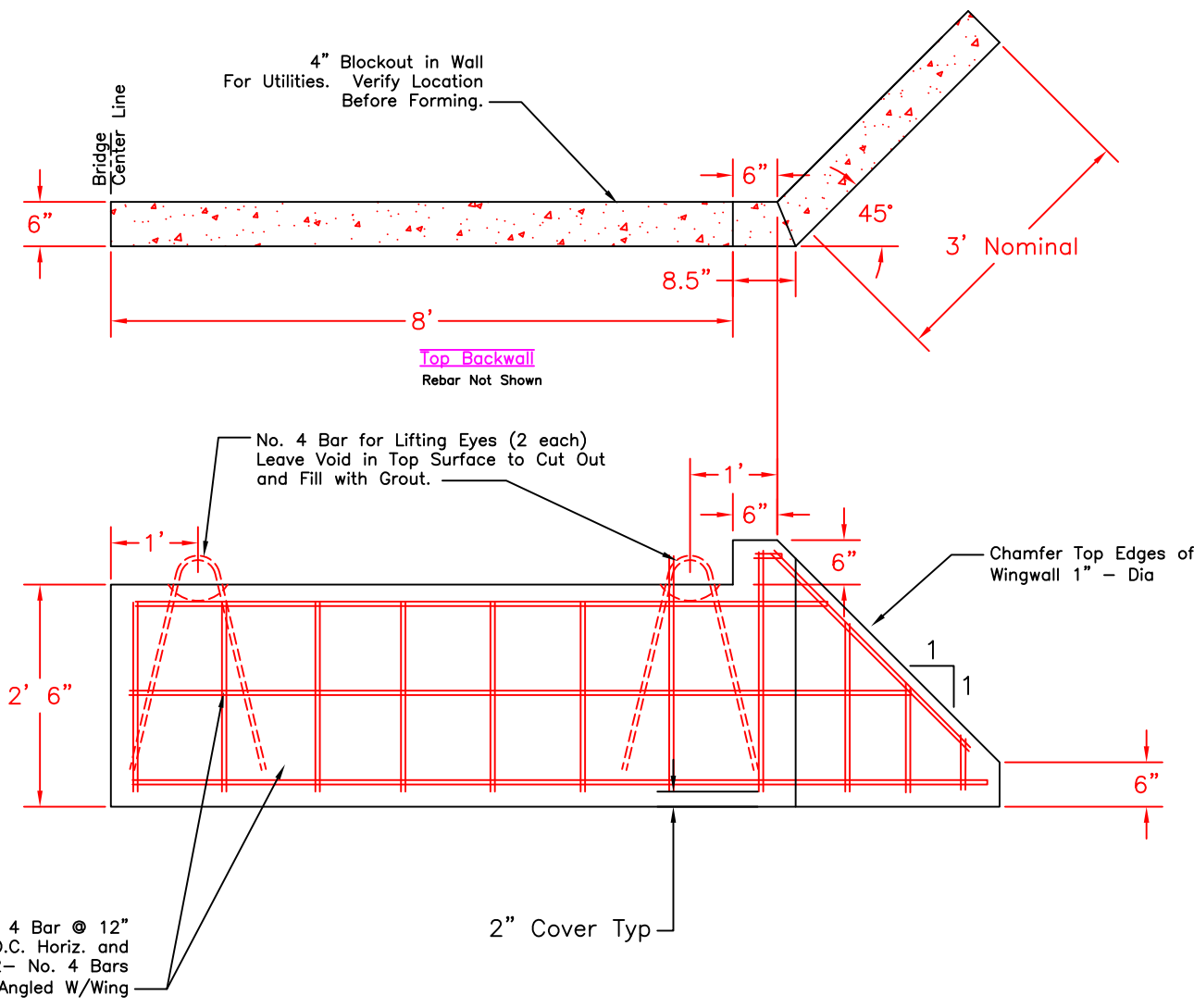
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DRAWN BY:

DATE:
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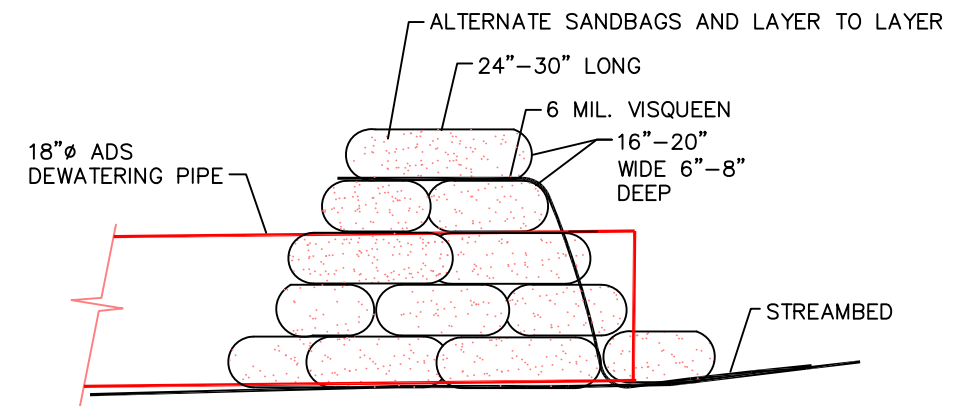
Sections/Details

7 **8**
SHEET OF

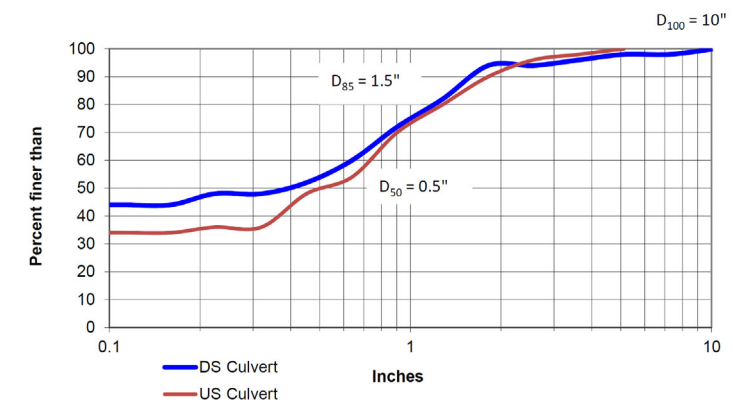


PRE-CAST CONCRETE BACKWALL NOTES:

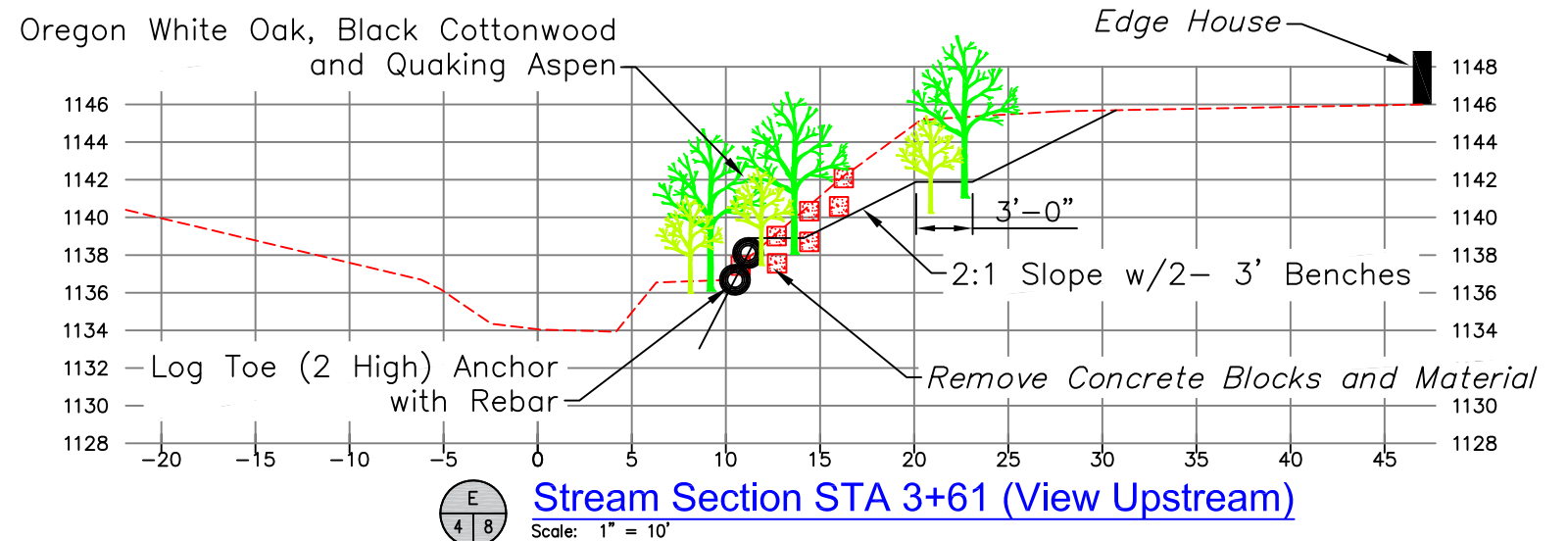
- Two Sections Req'd as shown, plus two sections "opposite".



SANDBAG COFFER DAM
SCALE: 1/4"=1'-0"



Pebble Counts Upstream and Downstream of Culvert



**Chumstick Creek Culvert
RM 0.48 - Motteler Drive**



4/5/2019

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Details

8 8
SHEET OF