MINOR CHANGE - A

Lewis County Department of Public Works

April 27, 2020

☒ ORDERED BY ENGINEER UNDER TERMS OF SECTION 1-04.4 OF THE STANDARD SPECIFICATIONS ☐ CHANGE PROPOSED BY CONTRACTOR	CONTRACT NO.: CMP 1802 TO: Jeff Barcott, Owner
ENDORSED BY: Barcott Construction (Contractor Firm Name) Signature: [signature] Date: 4-29-2020 TITLE: Owner	Barcott Construction PO Box 366 Chehalis, WA 98532 COUNTY ROAD: Middle Fork Rd MP 7.07
	PROJECT TITLE: Middle Fork Rd. MP 7.07 Culvert Replacement Project (MF Newaukum R.) County Maintenance Project No. 1802

DESCRIPTION OF WORK
YOU ARE ORDERED TO PERFORM THE FOLLOWING DESCRIBED WORK UPON RECEIPT OF AN APPROVED COPY OF THIS CHANGE ORDER:

Minor Change (A) – Additional Anchored Large Woody Debris

Minor Change (A) will include equipment re-mobilization, minor brush clearing, traffic control, labor, and material supply to construct five additional pieces of anchored large woody debris (LWD). The project plans originally incorporated six pieces of self-ballasting LWD which the Contractor installed under the direction of Lewis County's Consulting Engineer. High flows in October 2019 caused all LWD pieces to shift and dislodge from their original position. Existing LWD pieces are downstream of the culvert site and provide habitat in a limited capacity and will remain in their current locations. To provide bank stability immediately downstream of the culvert, five additional LWD pieces have been re-designed and approved through permitting agencies. The additional five LWD pieces will be installed and anchored using Manta Ray MR-2 anchors and rock ballast per details on page 2 of this Minor Change (A). This work is anticipated to be completed in one day during project's the in-water work window (June 15 – Sept. 30) and may constructed without the need for stream bypass (work area isolation as much as practical).

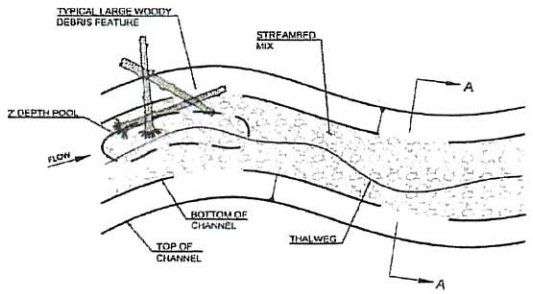
Re-mobilization, traffic control and anchored LWD differ from originally established Contract Bid Items. Therefore, Lewis County and the Contractor have discussed and agreed upon a Lump Sum price to complete this work as described above. The Contractor supplied Lump Sum breakdown, page 3 of this Minor Change (A), appears reasonable for this additional work.

Minor Change (A) Total agreed upon Lump Sum Price for five (5) Anchored LWD **$10,867.50**

ALL WORK, MATERIALS AND MEASUREMENTS TO BE IN ACCORDANCE WITH THE PROVISIONS OF THE STANDARD SPECIFICATIONS AND SPECIAL PROVISION FOR THE TYPE OF CONSTRUCTION INVOLVED.

Approved: [signature] 5/11/2020

Asst. County Engineer Date



CHANNEL PLAN

GENERAL NOTES:

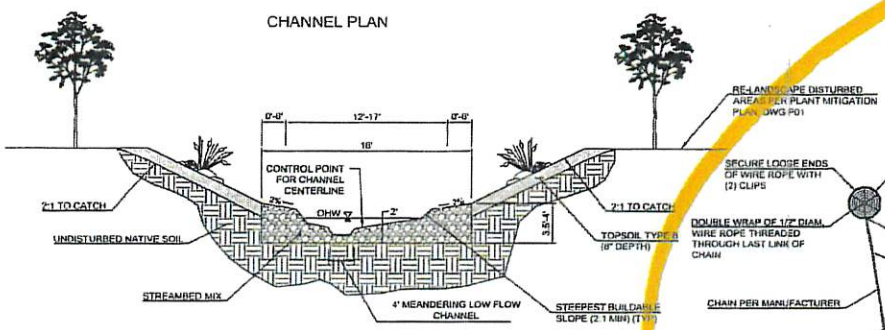
1. LARGE WOODY DEBRIS FEATURES AND THALWEG LOCATIONS ARE TO BE PLACED AS SHOWN ON PLANS. MINOR CHANGES TO THE WOOD FEATURES CAN BE MADE IN THE FIELD BY THE ENGINEER.
2. STREAMBED MIX: ONE PART 12" COBBLES, 1 PART 8" COBBLES, AND ONE PART STREAMBED SEDIMENT. TWO-MAN STREAMBED BOULDERS SHALL BE PLACED AS DIRECTED BY THE ENGINEER.
3. STREAMBED SEDIMENT IS TO PROVIDE STABILITY TO THE STREAMBED MIX AND BE PLACED IN AREA OF VOIDS TO CREATE A UNIFORM, NON-POROUS BED.
4. SEE PLANT MITIGATION PLANS ON DWG P01 FOR FINAL STABILIZATION REQUIREMENTS.

LARGE WOODY DEBRIS CONTROL TABLE		
LWD FEATURE STATION	LOGS*	VOLUME (FT^3)
19+38.57	1,1,2,3,3	251.2
20+60.11	1,1,2,3,3	251.2

*SEE LOG SCHEDULE TO THE RIGHT

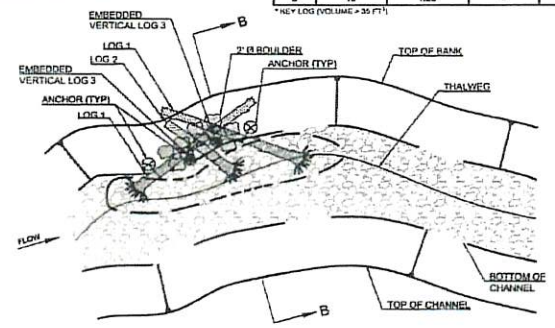
LOG SCHEDULE					
LOG #	LOG LENGTH (FT)	LOG DIAMETER (FT)	ROOTWAD LENGTH (FT)	ROOTWAD DIAMETER (FT)	VOLUME (FT^3)
1*	25	2	2	3	87.0
2*	20	1.5	2	3	52.6
3	10	1.25	-	-	12.3

* KEY LOG (VOLUME ≥ 35 FT^3)

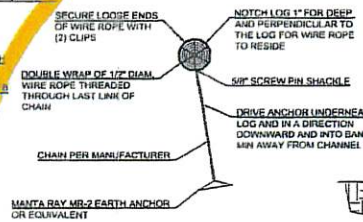


CHANNEL SECTION A-A

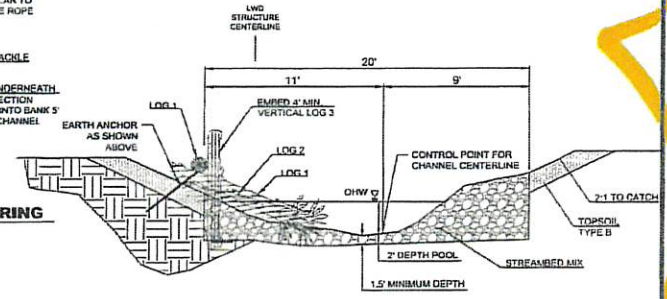
1 **MIDDLE FORK NEWAUKUM CHANNEL**
NOT TO SCALE



TYPICAL LARGE WOODY DEBRIS PLAN

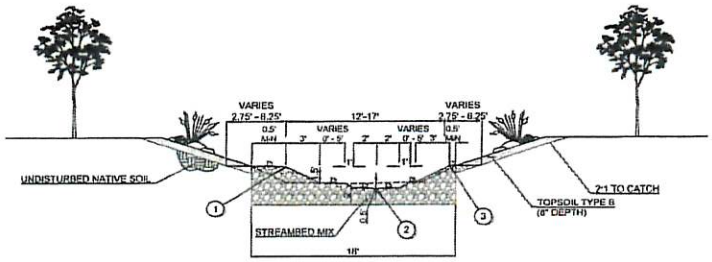


4 **LARGE WOODY DEBRIS ANCHORING**



TYPICAL LARGE WOODY DEBRIS SECTION B-B

2 **TYPICAL LARGE WOODY DEBRIS FEATURE**
NOT TO SCALE



3 **BANK LOCATION AND STREAMBED MIXSECTIONS**
NOT TO SCALE

STREAMBED MIX FINISHED SURFACE SECTIONS				
STREAM CL STATION (A)	PT #1 (CL TO LEFT TERRACE)	PT #2 (DIST CL TO THALWEG)	PT #3 (DIST CL TO RIGHT TERRACE)	BANK FULL WIDTH
18+85	MATCH EXISTING STREAM	MATCH EXISTING THALWEG	MATCH EXISTING STREAM	MATCH EXISTING STREAM
19+00	8' LT	1' LT	7' RT	15'
19+25	11' LT	4' RT	6' RT	17'
19+50	10' LT	3' RT	7' RT	17'
CULVERT SECTION	CULVERT SECTION	CULVERT SECTION	CULVERT SECTION	17'
20+00	11' LT	2' RT	5' RT	16'
20+25	7' LT	1' LT	8' RT	15'
20+50	10' LT	4' RT	3' RT	13'
20+75	9' LT	5' RT	5' RT	14'
21+00	5' LT	1' LT	7' RT	12'
21+10	MATCH EXISTING STREAM	MATCH EXISTING THALWEG	MATCH EXISTING STREAM	MATCH EXISTING STREAM

Full Size Sheet Format is 22x34. If Printed Size is Not 22x34, Then This Sheet Format Has Been Modified & Indicated Drawing Scale Is Not Accurate.

CONSTRUCTION PLAN

PBS Engineering and Environmental Inc.
165 NE Dekum St, Suite 103
Portland, OR 97212
503.331.1770
pbseng.com

PBS

DETAILS
MIDDLE FORK RD MP 7.07 (MIDDLE FORK NEWAUKUM RIVER) CULVERT REPLACEMENT
CMP 1802

811 Know what's below. Call before you dig.

DESIGNED: TLF
CHECKED: DAS
February 2019
45013.000

SHEET ID
D02
SHEET 11 of 14

MINOR CHANGE (A) - FIVE ADDITIONAL ANCHORED LARGE WOODY DEBRIS (HIGHLIGHTED DETAILS)

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BARCOTT CONSTRUCTION			
Project Name:	Middle Fork	Track Number	Report No.
Project No:		Fed/State No:	Date: 4/22/2020
Work Description:	Install LWD's		

Labor Costs

Name	Position	Regular Hours	Regular Rate*	Overtime Hours	Overtime Rate*	Amount Regular	Amount Overtime
						-	-
	Operator	10.00	75.00		#N/A	750.00	-
	Laborer	20.00	70.00		#N/A	1,400.00	
	Flagging	20.00	65.00		#N/A	1,300.00	-
						-	-
						-	-
				Labor Subtotal		3,450.00	-
				Labor Total			3,450.00

* including fringe benefits

Equipment Rental Costs

Type	Number	Hours Regular	Hours Standby	Rate Regular	Rate Standby	Amount Regular	Amount Standby
Mobe Equipment		1.00		200.00		200.00	-
Excavator		1.00		600.00		600.00	-
Tool Truck		10.00		40.00		400.00	-
Air Compressor & hammer		1.00		250.00		250.00	-
Truck & Trailer		1.00		150.00		150.00	-
						-	-
						-	-
						-	-
				Equipment Subtotal		1,600.00	-
				Equipment Total			1,600.00

Materials/Invoices/Services

Kind	Unit	Quantity	Price	Amount
Logs	LS		2,800.00	2,800.00
Rocks	LS		500.00	500.00
Exports	LS		200.00	200.00
Manta Ray	LS		750.00	750.00
Traffic Control Devices			150.00	150.00
				-
				-
			Material Total	**4,400.00**

Cost Summary	
Total Labor	3,450.00
15% Labor Markup	517.50
Total Equipment Rental	1,600.00
15% Equipment Markup	240.00
Total Materials Sub invoice	4,400.00
15% Materials/ sub Markup	660.00
Subtotal	10,867.50
Prime markup on Sub	-
Grand Total	**10,867.50**

Barcott Const. 4/22/2020

Contractor

Pay Estimate Date:	
Bid Item Number:	A1

MIDDLE FORK MP 7.07 CULVERT
MINOR CHANGE (A)
PAGE 3/3