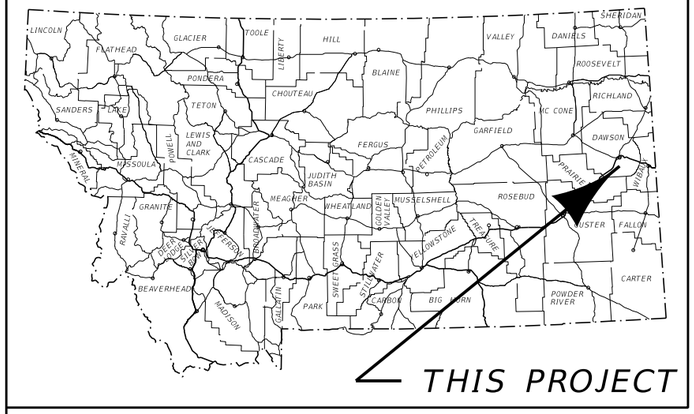
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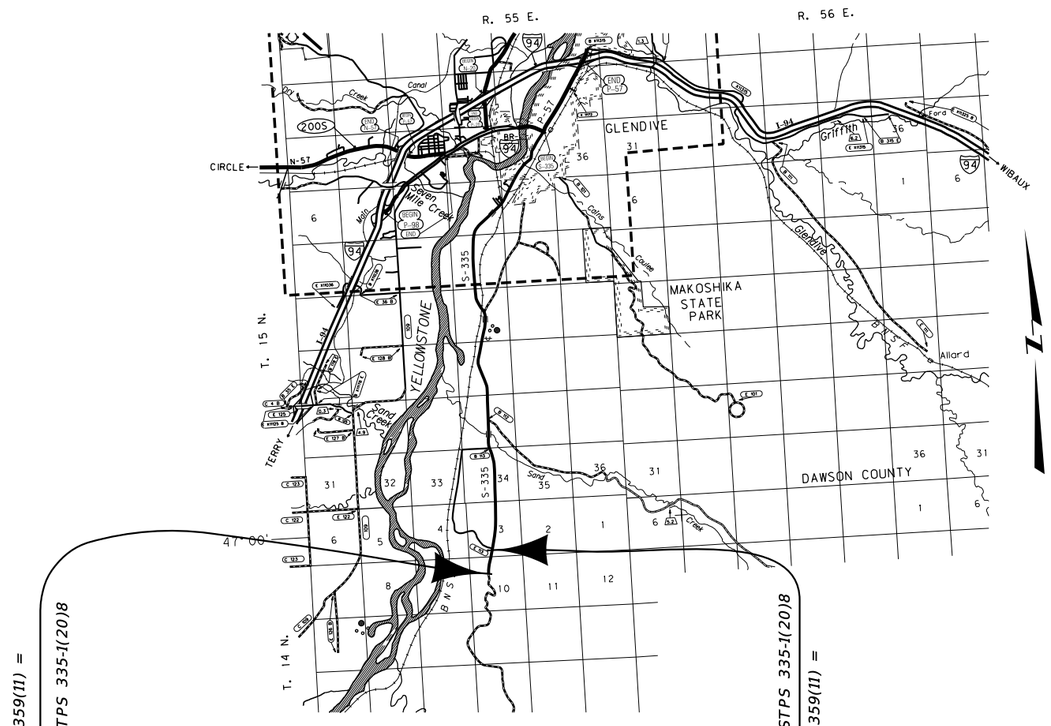
MONTANA DEPARTMENT OF TRANSPORTATION

FEDERAL AID PROJECT STPS 335-1(20)8
RESURFACING - GRAVEL
HASKELL COULEE-8M S GLENDIVE
DAWSON COUNTY

TRAFFIC DATA	
PRESENT 2019	A.D.T. = 108
LETTING 2021	A.D.T. = 115
DESIGN 2041	A.D.T. = 203
	D.H.V. = N/A
	TRUCKS = N/A %
	V. = 55 MPH
	18 KIP ESAL'S = N/A DAILY
	GROWTH RATE = 3.0 % ANNUALLY

LENGTH 0.3 MILES

SURFACING SOURCES -
CONTRACTOR FURNISHED



MONTANA
DEPARTMENT OF TRANSPORTATION

MALCOLM "MACK" LONG
DIRECTOR OF TRANSPORTATION

APPROVED BY:

HIGHWAYS
ENGINEER

MONTANA
DAMIAN
KRINGS
12113PE
LICENSED
PROFESSIONAL ENGINEER

DocuSigned by:
Damian Krings
1C71361CE866454...

6/17/2022
DATE

ASSOCIATED PROJECT AGREEMENT NUMBERS	
R / W	
I.C.	
P. E.	STPS 335-1(19)8

3	MONTANA Department of Transportation	C:\DGN\9725000rdtl001.dgn	DESIGNED BY	A. BORSCHEL	2/3/2022	ROAD PLANS
2		4/28/2022	REVIEWED BY			
		11:02:56 AM CPS - U216C	CHECKED BY	J. FLEMING	2/14/2022	UPN 9725000

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NOTES

UTILITIES

CALL THE UTILITIES UNDERGROUND LOCATION CENTER (811) OR OTHER NOTIFICATION SYSTEM FOR THE MARKING AND LOCATION OF ALL LINES AND SERVICES BEFORE EXCAVATING. ALL CLEARANCES OR DEPTHS PROVIDED FOR UTILITIES ARE FROM EXISTING GROUND LINE.

WETLANDS

WETLANDS MAY EXIST ADJACENT TO THE ROADWAY AND BEYOND THE PROJECT LIMITS. A WETLAND DELINEATION HAS NOT BEEN COMPLETED FOR THIS PROJECT. IMPACTS TO WETLAND AREAS ARE NOT ANTICIPATED IN ASSOCIATION WITH THE PROPOSED WORK. NO PERMITS HAVE BEEN OBTAINED. ANY ACTION IMPACTING WETLAND AREAS WITHOUT THE APPROPRIATE PERMITTING IS THE RESPONSIBILITY OF THE CONTRACTOR.

AS-BUILTS

FOR HORIZONTAL ALIGNMENT AND STATIONING REFER TO THE FOLLOWING "AS-BUILT" PROJECT:
S 359(11) - ORIGINAL CONSTRUCTION 1971

LINEAR DATA

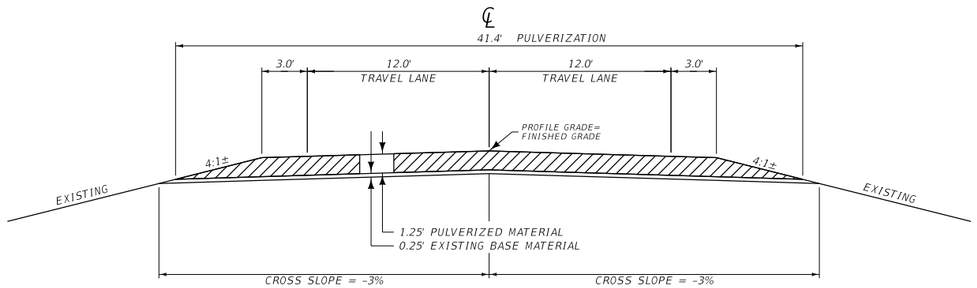
LENGTH OF ROADWAY IN DAWSON COUNTY	2 LANE RURAL	1,675 ft
TOTAL LENGTH OF STPS 335-1(20)8	2 LANE RURAL	1,675 ft

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TYPICAL SECTION NO. 1

MAINLINE

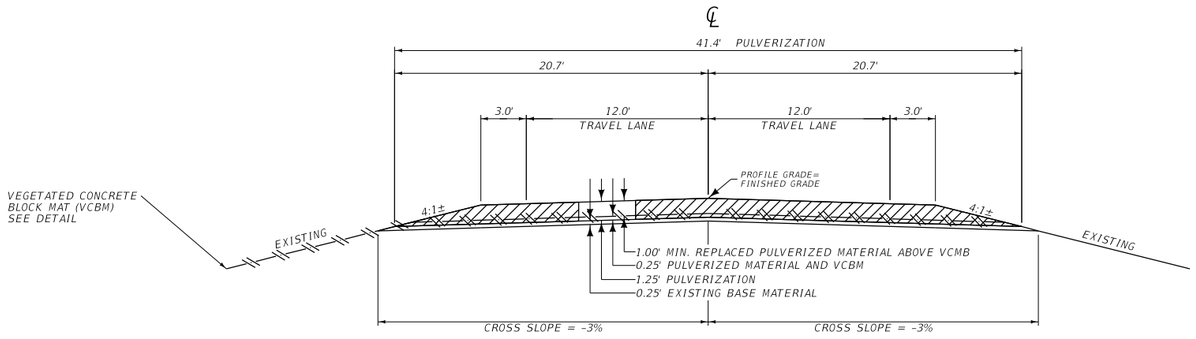
318+00.00 TO 325+16.00 TYP. 1 THEN TYP. 2
329+75.00 TO 334+75.00 TYP. 1



TYPICAL SECTION NO. 2

MAINLINE

325+16.00 TO 329+75.00 TYP. 2 THEN TYP. NO. 1



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SUMMARY

PULVERIZATION *

STATION		sq. yards	REMARKS
		PAVEMENT PULVERI-ZATION	
FROM	TO	1.25 ft	
318+00.00	334+75.00	7,705	41.4' Width
326+20.00		246	LT. Approach #
TOTAL		7,951	

*BEGIN PULVERIZATION AT CATTLE GUARD AND END SOUTH OF ATV PARK ENTRANCE.
#AREA MEASURED IN CADD.

TOPSOIL & SEEDING

STATION		LUMP SUM	cu. yards	acres			REMARKS
		REVEGETATION	TOPSOIL SALVAGING & PLACING #	SEED #	FERTILIZER #	CONDITION SEEDBED #	
FROM	TO			NO. 1	NO. 1		
325+16.00	329+75.00	!	255	0.5	0.5	0.5	VEGETATED CONCRETE BLOCK MAT
TOTAL		!	~	~	~	~	

FOR INFORMATION ONLY

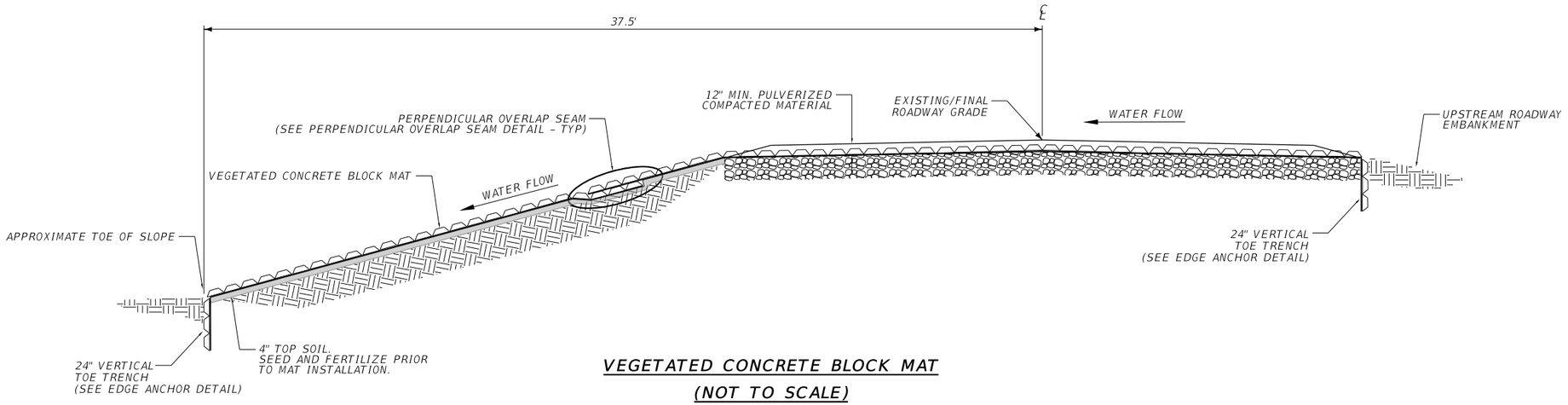
PERMANENT EROSION CONTROL *

STATION		sq. yards	REMARKS
		VEGETATED CONCRETE BLOCK MAT	
FROM	TO		
325+16.00	329+75.00	3,034	SEE DETAILS
TOTAL		3,034	

* SEE DETAILS

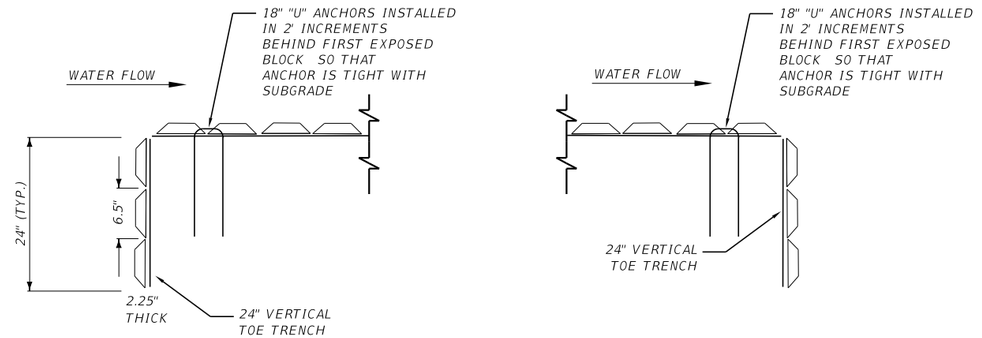
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DETAIL

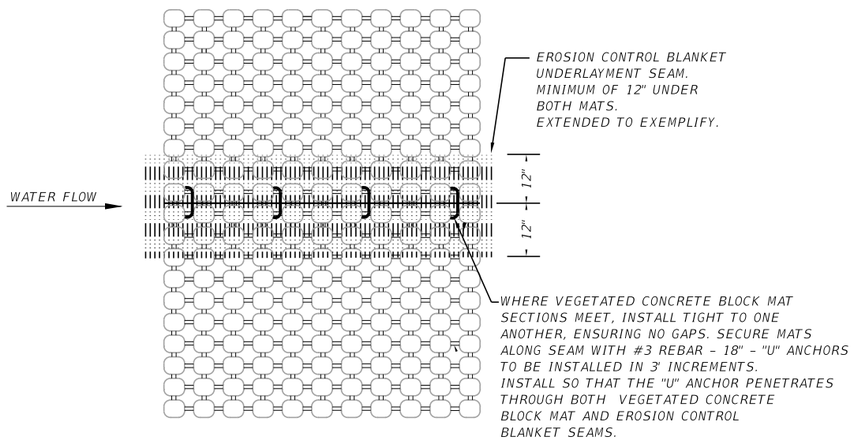


VEGETATED CONCRETE BLOCK MAT

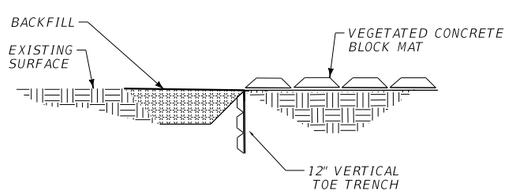
(NOT TO SCALE)



UPSTREAM AND DOWNSTREAN EDGE ANCHOR DETAIL



LONGITUDINAL SEAM DETAIL



LONGITUDINAL EDGE ANCHOR TRENCH DETAIL

DETAIL

VEGETATED CONC. BLOCK MAT OVERVIEW

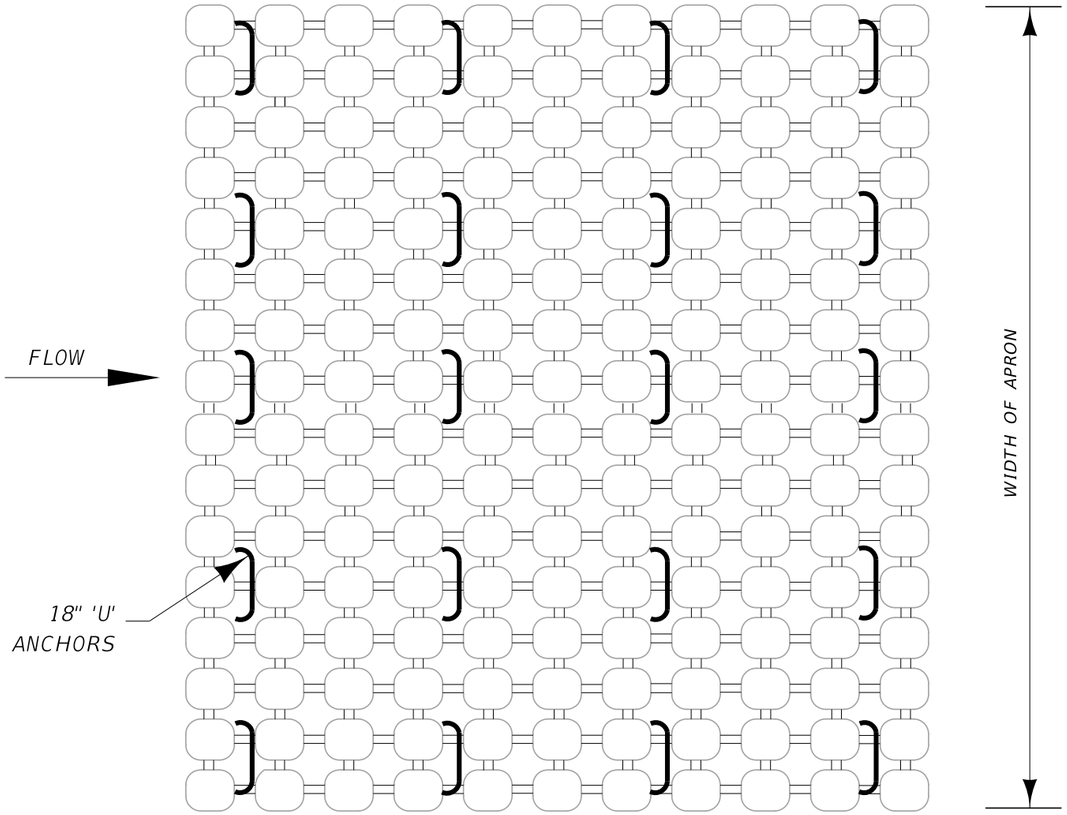
NO SCALE

3	MONTANA Department of Transportation	C:\DGN\9725000rddet001.dgn	DESIGNED BY	T. R. LITTLE	01/10/2022	ROAD PLANS	HASKELL COULEE - 8M S GLENDIVE	STPS 335-1(20)8
2		4/28/2022	REVIEWED BY					
		11:03:39 AM CPS - U2160	CHECKED BY			DAWSON COUNTY	UPN 9725000	5

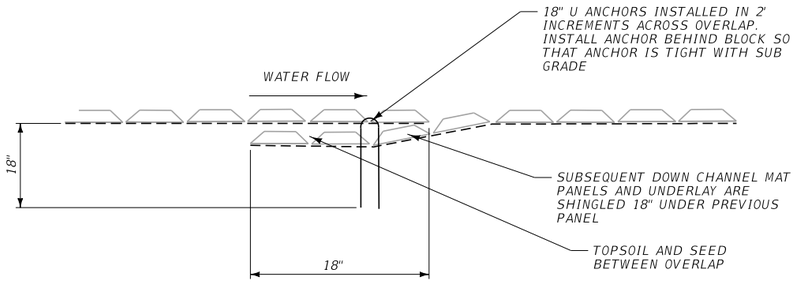
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DETAIL



"U" ANCHOR LAYOUT



PERPENDICULAR OVERLAP SEAM DETAIL

NO SCALE

NOTES:

1. GRADE DRAINAGE CHANNEL, CHUTE, OR OUTLET PROTECTION SO THAT WATER WILL FLOW DOWN AND BE CONFINED TO THE MAT. PREPARE SUBGRADE SURFACES FOR PLACEMENT OF MATS THAT ARE SMOOTH AND FREE OF ALL ROCKS, STICKS, ROOTS, OTHER PROTRUSIONS, OR DEBRIS OF ANY KIND. THE PREPARED SURFACE SHALL PROVIDE A FIRM, UNYIELDING FOUNDATION FOR THE MATS.

2. WHERE APPLICABLE APPLY SEED DIRECTLY TO THE PREPARED SOIL PRIOR TO VEGETATED CONCRETE BLOCK INSTALLATION. USE SEED PER REVEGATATION SPECIAL PROVISION.

3. AT THE UPSTREAM AND DOWNSTREAM ENDS OF THE INSTALLATION, EMBED THE EDGE OF VEGETATED CONCRETE BLOCK 24" PERPENDICULAR INTO THE SUBGRADE TO SERVE AS AN ANCHOR TRENCH. AT THE LONGITUDINAL ENDS OF THE INSTALLATION, EMBED THE EDGES OF VEGETATED CONCRETE BLOCK 12" PERPENDICULAR INTO THE SUBGRADE TO SERVE AS AN ANCHOR TRENCH. FILL AND COMPACT THE TRENCHES WITH SUITABLE FILL.

4. FOR ADDITIONAL SECTIONS OF VEGETATED CONCRETE BLOCK, OVERLAP THE DOWNSTREAM SECTION 18" WITH UPSTREAM SECTION OF MAT. PRIOR TO INSTALLING OVERLAP, FLIP UPSTREAM MAT BACK 24". EXCAVATE 2.25" OF MATERIAL 18" FROM END OF UPSTREAM MAT. LAY DOWNSTREAM SECTION IN THE SHALLOW TRENCH. WHERE APPLICABLE LIGHTLY SPREAD TOPSOIL, SEED, AND FERTILIZER OVER INITIAL EDGE. FLIP END OF UPSTREAM MAT OVER THE SOIL COVERED INITIAL LEADING EDGE OF DOWNSTREAM MAT.

5. ANCHOR TRENCHES AND SEAM OVERLAPS ARE NOT MEASURED FOR PAYMENT.

6. INSTALL "U" ANCHORS CONSISTING OF #3 REBAR BENT INTO A "U" WITH 18" LEGS AT 2' ON CENTER PERPENDICULAR TO FLOW DIRECTION AND ALONG LONGITUDINAL SEAMS. PENETRATE "U" ANCHORS THROUGH VEGETATED CONCRETE BLOCK MAT. INSTALL "U" ANCHOR TIGHT WITH SUBGRADE.

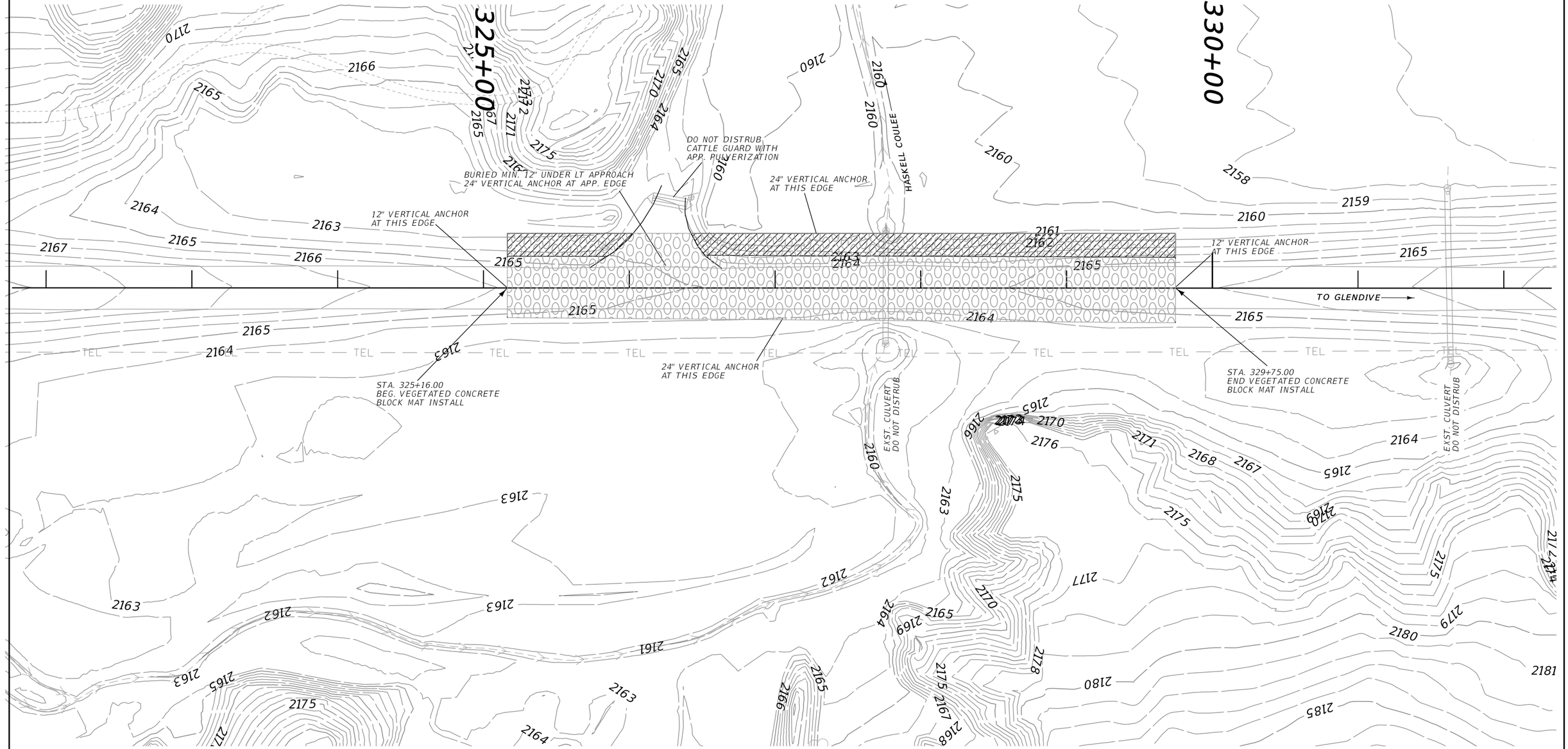
DETAIL

VEGETATED CONC. BLOCK MAT

NO SCALE

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DETAIL

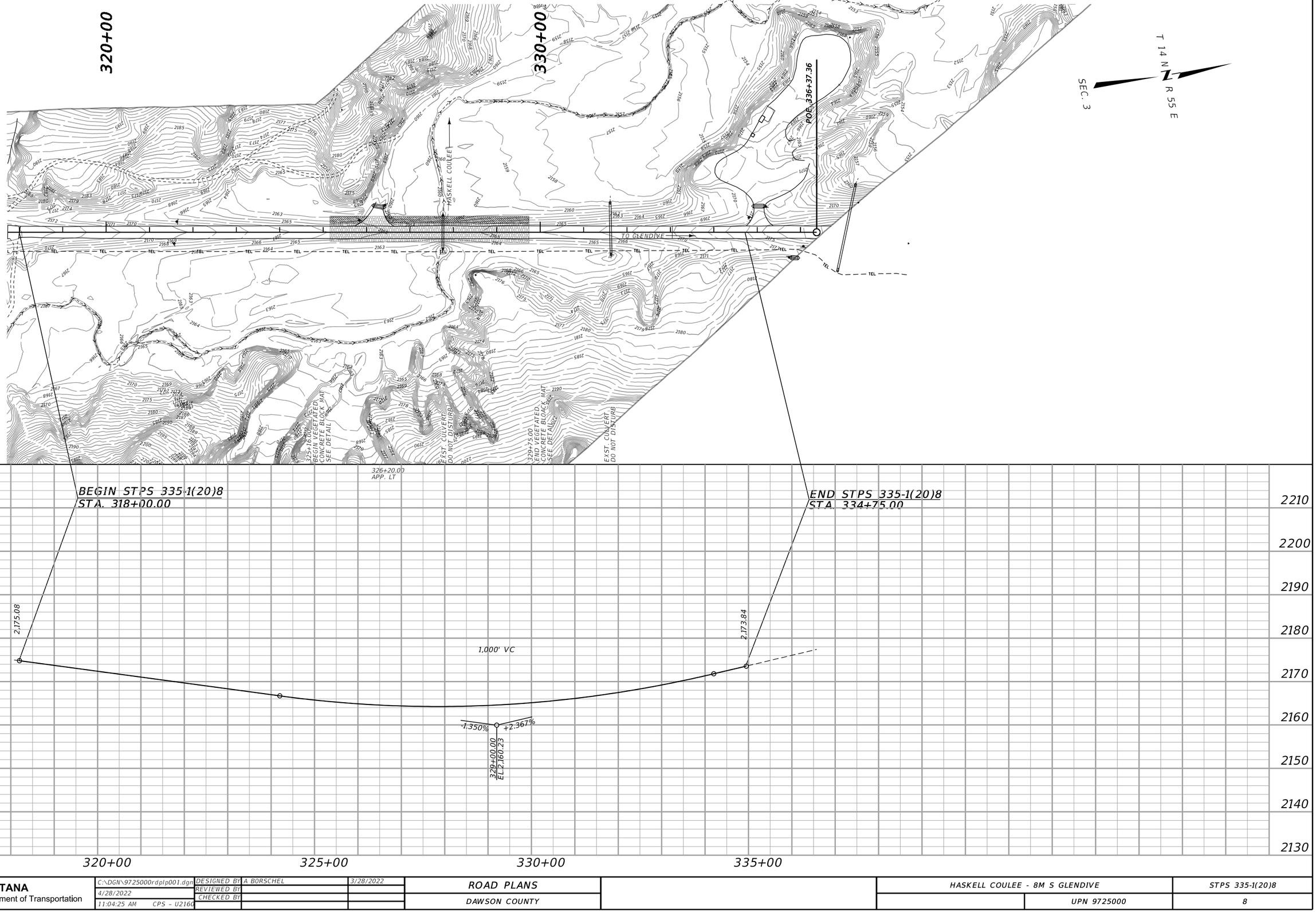
VEGETATED CONC. BLOCK MAT LAYOUT

NO SCALE

3	MONTANA Department of Transportation	C:\DGN\9725000rddet002.dgn	DESIGNED BY	A. BORSCHEL	2/3/2022	ROAD PLANS	HASKELL COULEE - 8M S GLENDIVE	STPS 335-1(20)8
2		4/28/2022	REVIEWED BY					
		11:04:07 AM CPS - U216C	CHECKED BY			DAWSON COUNTY	UPN 9725000	7

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3	MONTANA Department of Transportation	C:\DGN\9725000rdplp001.dgn	DESIGNED BY	A BORSCHEL	3/28/2022	ROAD PLANS	HASKELL COULEE - 8M S GLENDIVE	STPS 335-1(20)8
2		4/28/2022	REVIEWED BY					
		11:04:25 AM CPS - U2160	CHECKED BY			DAWSON COUNTY	UPN 9725000	8

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SUMMARY
SIGNING & DELINEATION QUANTITIES

MATERIAL	TOTAL	UNIT
SIGNS-ALUM REFL SHEET IV		SQ. FOOT
SIGNS-ALUM REFL SHEET XI	38.1	SQ. FOOT
SIGNS-ALUM SHEET INCR IV		SQ. FOOT
SIGNS-ALUM SHEET INCR XI		SQ. FOOT
OVERLAY-SHEET ALUMINUM		SQ. FOOT
POSTS-STEEL U SIGN		POUNDS
POLES-TREATED WOOD 4 IN	90	LINEAR FT.
POLES-TREATED WOOD 5 IN		LINEAR FT.
POLES-TREATED TIMBER-CLASS 4		LINEAR FT.
POLES-TREATED TIMBER-CLASS 3		LINEAR FT.
POSTS-TUBULAR STEEL		POUNDS
POSTS-TUBULAR STEEL-SQ-PERF		POUNDS
POSTS-STEEL STRUCTURAL SIGN		POUNDS
OVERHEAD STR/METAL-CANTILEVER		EACH
OVERHEAD STR/METAL-BRIDGE		EACH
HIGHWAY TRAFFIC STRIPING-WHITE		GAL.(S)
HIGHWAY TRAFFIC STRIPING-YELLOW		GAL.(S)
WORDS & SYMBOLS		GAL.(S)
DELINEATOR DES A		EACH
DELINEATOR DES B		EACH
DELINEATOR DES C		EACH
DELINEATOR DES D		EACH
DELINEATOR DES E		EACH
DELINEATOR DES F		EACH
DELINEATOR DES G		EACH
DELINEATOR DES H		EACH
REMOVE SIGNS	6	EACH
REMOVE SIGNS-GUIDE		EACH
RESET SIGNS		EACH
RESET SIGNS-GUIDE		EACH
FRANG SIGN POST BKWY-		EACH
FRANG SIGN POST BKWY-		EACH
SQ TUBLR SLIP BASE BKWY-3 IN		EACH

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SIGN LOCATION AND SPECIFICATIONS

STATION		SIGN NO.	PANEL SIZE	REFL SHTG TYPE: BACK-GROUND	REFL SHTG TYPE: LEGEND	FEET: CLEARANCE	FEET: SIGN SUPPORT SPACING	TYPE OF SUPPORT	FEET: CANTILEVER	FEET: SUPPORT LENGTH (ESTIMATED)	FEET: SUPPORT LENGTH (INSTALLED)	FEET: MOUNTING HEIGHT	FEET: FOUNDATION DEPTH	SIGN PANEL (SQ. FT.): SHEET ALUMINUM	SIGN PANEL (SQ. FT.): ALUMINUM SHEET INCREMENT	SIGN PANEL (SQ. FT.): ALUMINUM SHEET OVERLAY	TIMBER POLE (LINEAR FT.): 4" TOP DIA.	TIMBER POLE (LINEAR FT.): 5" TOP DIA.	STEEL POST(LBS.): ROUND TUBULAR	STEEL POST(LBS.): SQUARE TUBULAR	STEEL POST(LBS.): STRUCTURAL STEEL	STEEL POST(LBS.): "U" POST	BREAKAWAY	SIGNS: REMOVE	SIGNS: RESET	GUIDE: REMOVE	GUIDE: RESET	REMARKS
323+66 LT		W11-4A	30X30	XI		10-0		4" DIA. POLE		14-5		5-0	3-0	6.3 XI			16							1					
323+66 RT		W11-15A	30X30	XI		10-0		4" DIA. POLE		14-6		5-0	3-0	6.3 XI			16							1					
		W7-3A(1)	24X18	XI										3.0 XI														
325+00 RT		R2-1(55)	REMOVE																					1					
327+79 RT		M3-1	24X12	XI		10-0		4" DIA. POLE		14-0		5-0	3-0	2.0 XI			14							1					
		M1-12(335)	24X24	XI										4.0 XI														
336+96 LT		W8-3	REMOVE																					1					REMOVE PAVEMENT ENDS SIGN
331+63 LT		R1-1	30X30	XI		6-0		4" DIA. POLE		12-1		5-0	3-0	5.2 XI			14							1					
337+00 RT		R2-1(55)	24X30	XI		10-0		4" DIA. POLE		13-5		5-0	3-0	5.0 XI			14												NEW INSTALLATION
347+28 LT		W8-3	30X30	XI		10-0		4" DIA. POLE		14-3		5-0	3-0	6.3 XI			16												NEW INSTALLATION
TOTALS														38.1 XI			90							6					



3	MONTANA Department of Transportation	C:\DGN\9725000sisum001.dgn	DESIGNED BY	NIGEL ANTONY		SIGNING PLANS	HASKELL COULEE - 8M S GLENDIVE	
2		4/28/2022	CHECKED BY	NATHAN STYREN		GLENDIVE COUNTY	STPS 335-1(20)8	UPN #9725000	S2
1		11:04:41 AM CPS - U2160							