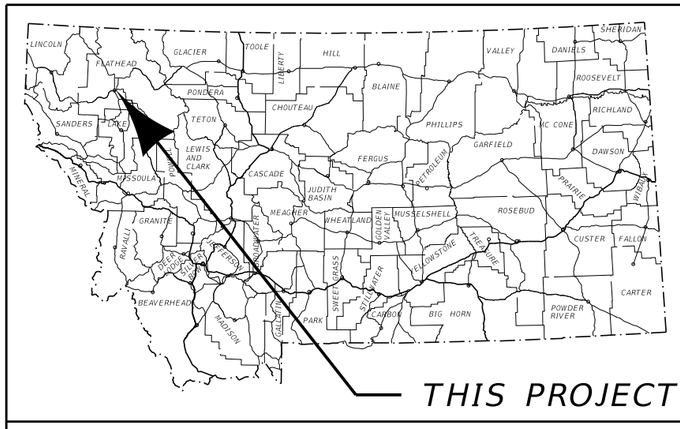
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MONTANA DEPARTMENT OF TRANSPORTATION

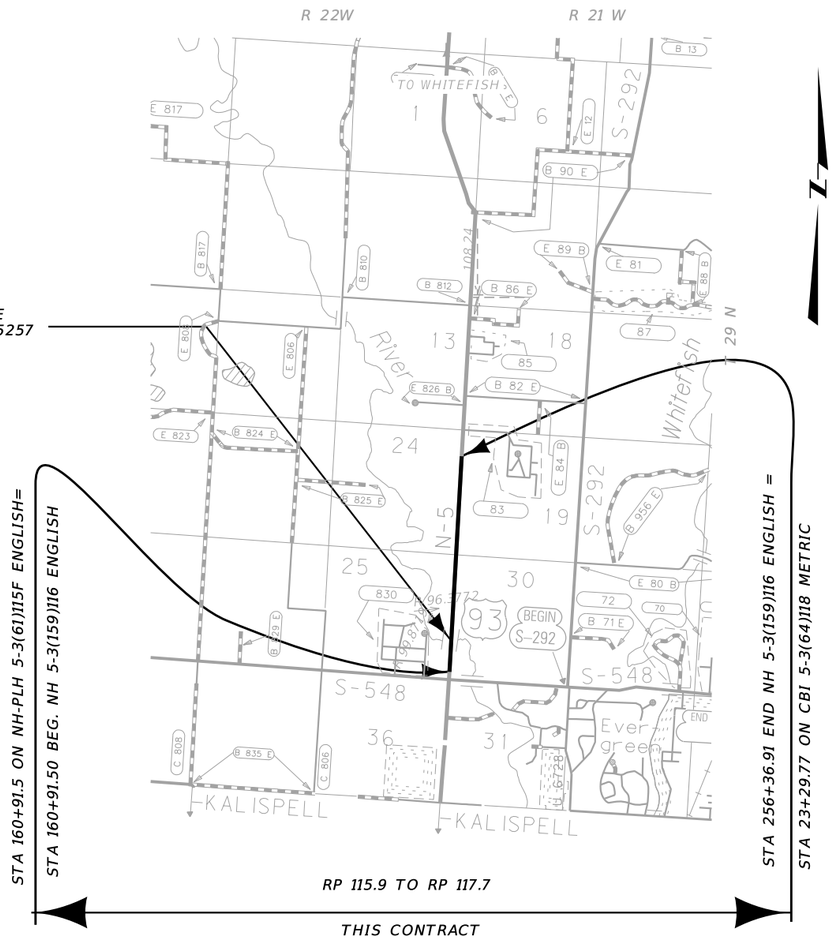
FEDERAL AID PROJECT NH 5-3(159)116
COLD MILLING, PLANT MIX, SIGNING
RESERVE DRIVE - NORTH (KAL)
FLATHEAD COUNTY

A LIMITED ACCESS FACILITY

TRAFFIC DATA		
PRESENT	2021	A.D.T. = 24,340
LETTING	2024	A.D.T. = 26,210
DESIGN	2044	A.D.T. = 42,950
		D.H.V. = 4680
		TRUCKS = 1.4 %
		V. = 60 MPH
		18 KIP ESAL'S = 93 DAILY
		GROWTH RATE = 2.5 % ANNUALLY

LENGTH 1.8 MILES

SURFACING SOURCES -
CONTRACTOR FURNISHED



RELATED PROJECTS
HSIP 109-1(4)4

3	MONTANA Department of Transportation	C:\DGN\9937000rdtl001.dgn	DESIGNED BY	RANDY CATHEY		ROAD PLANS
2		11/1/2022	REVIEWED BY			UPN 9937000
		9:21:54 AM CPS - U6523	CHECKED BY	J. FLEMING		

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NOTES

BASIS OF PLAN QUANTITIES

(QUANTITIES FOR ESTIMATING PURPOSES ONLY)

COMP. AGGREGATE WEIGHT	= 3700 LBS. PER CUBIC YARD
COMP. WEIGHT OF PL. MIX BIT. SURF.	= 3855 LBS. PER CUBIC YARD
ASPHALT CEMENT – GRADE S – 1/2" AGG.	= 5.8% OF PL.MIX BIT.SURF.
HYDRATED LIME	= 1.4% OF PL.MIX BIT.SURF.
ASPHALT CEMENT	= 3.0% OF RECYCLED PL.MIX (50% RAP)
HYDRATED LIME	= 1.4% OF RECYCLED PL.MIX BIT.SURF.
BITUMINOUS MATERIAL	= 8.5 LBS. PER GAL.
EMULSIFIED ASPHALT – TACK (ALL OTHER SURFACES)	= 0.05 GAL. PER SQ.YARD (UNDILUTED)
EMULSIFIED ASPHALT – FOG SEAL (S & C)	= 0.075 GAL. PER SQ.YARD (UNDILUTED)
EMULSIFIED ASPHALT – FOG SEAL (RUMBLE STRIPS)	= 0.10 GAL. PER SQ.YARD (UNDILUTED)
SEAL	= 0.42 GAL. PER SQ.YARD
COVER	= 25 LBS. PER SQ.YARD
HIGH TENSILE STRENGTH REINFORCING FIBER	= 2.1 OUNCES PER TON OF PLANT MIX

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.

LIMITED ACCESS CONTROL

THIS PROJECT IS A LIMITED ACCESS CONTROL FACILITY. OBTAIN APPROVAL FROM THE CHIEF OF THE RIGHT-OF-WAY BUREAU PRIOR TO ADDING, DELETING OR RELOCATING ANY APPROACHES.

AS-BUILTS

FOR HORIZONTAL ALIGNMENT AND STATIONING, REFER TO THE FOLLOWING "AS-BUILT" PROJECT(S):

F 5-3(61)115 – FULL 1996
CBI 5-3(64)118 2008

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.

PUBLIC LAND SURVEY MONUMENTS

ALL MONUMENTS TO BE REMOVED AND RELOCATED OR RESET WILL BE DONE BY THE CONTRACTOR UNDER SUPERVISION OF THE MDT DISTRICT LAND SURVEYOR.

LINEAR DATA

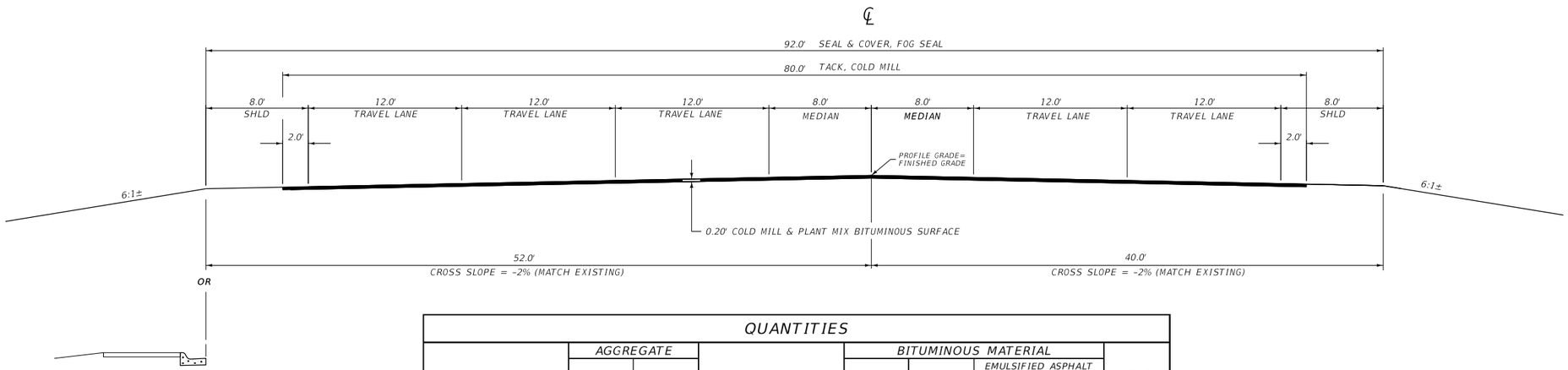
LENGTH OF ROADWAY	FLATHEAD COUNTY	4 LANE	9,359.41 ft
LENGTH OF BRIDGE (NOT THIS CONTRACT)	FLATHEAD COUNTY	4 LANE	186.00 ft
TOTAL LENGTH OF	NH 5-3(159)116		9,545.41 ft

AWARD COPY

TYPICAL SECTION NO. 1

MAINLINE

STA. 160+91.50 ONLY
STA. 160+91.50 TO 163+04.50 TRANS. TYP. NO. 1 TO TYP. NO. 2



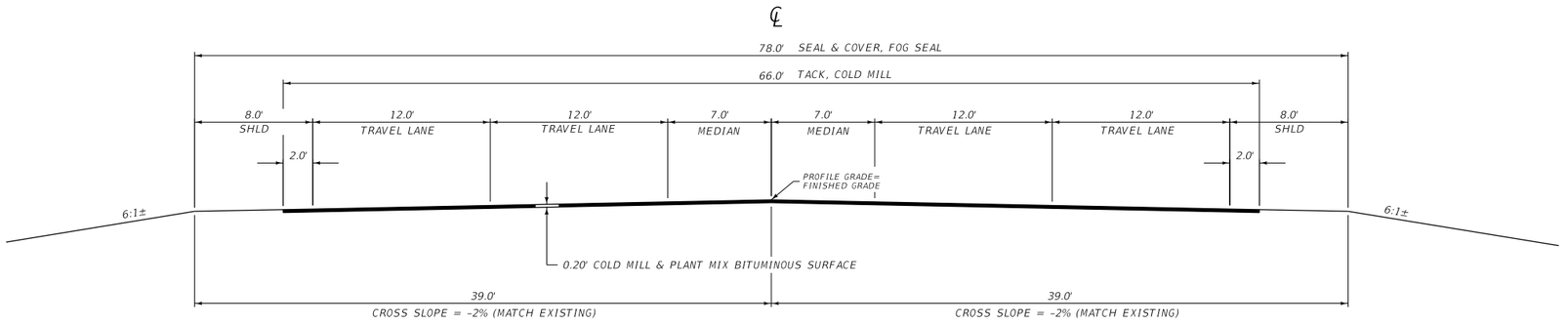
QUANTITIES								
UNIT	AGGREGATE		UNIT	BITUMINOUS MATERIAL				COLD MILLING
						EMULSIFIED ASPHALT		
	COVER	PLANT MIX		ASPHALT CEMENT	SEAL	TACK *	FOG SEAL (OVER SEAL & COVER)	
AREA square feet		16.00	square yards PER STATION		1022	889	1022	889
cubic yards PER STATION		59.3	tons PER STATION	6.63	1.82			
tons PER STATION		114.3	gallons PER STATION			44	77	
square yards PER STATION	1022							

*BASED ON 1 APPLICATION

TYPICAL SECTION NO. 2

MAINLINE

STA. 163+04.50 TO 172+56.25 THEN TYP. NO.3
STA. 176+42.25 TO 253+00.00
STA. 253+00.00 TO 256+36.91 TRANS. TYP. NO. 2 TO TYP NO. 4



QUANTITIES								
UNIT	AGGREGATE		UNIT	BITUMINOUS MATERIAL				COLD MILLING
						EMULSIFIED ASPHALT		
	COVER	PLANT MIX		ASPHALT CEMENT	SEAL	TACK *	FOG SEAL (OVER SEAL & COVER)	
AREA square feet		13.20	square yards PER STATION		867	733	867	733
cubic yards PER STATION		48.9	tons PER STATION	5.47	1.55			
tons PER STATION		94.3	gallons PER STATION			37	65	
square yards PER STATION	867							

*BASED ON 1 APPLICATION

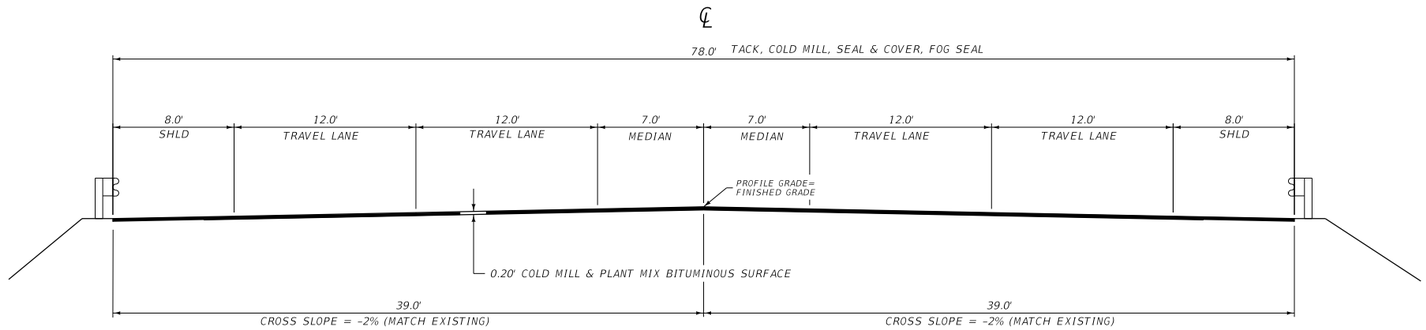
3	MONTANA Department of Transportation	C:\DGN\9937000rdtyp001.dgn	DESIGNED BY	RANDY CATHEY		ROAD PLANS	RESERVE DRIVE - NORTH (KAL)	NH 5-3(159)116
2		11/1/2022	REVIEWED BY					
		9:22:09 AM CPS - U6523	CHECKED BY	J. FLEMING		FLATHEAD COUNTY	UPN 9937000	3

AWARD COPY

TYPICAL SECTION NO. 3

MAINLINE

STA. 172+56.25 TO 173+56.25 BE
STA. 175+42.25 BE TO 176+42.25 THEN TYP. NO. 2



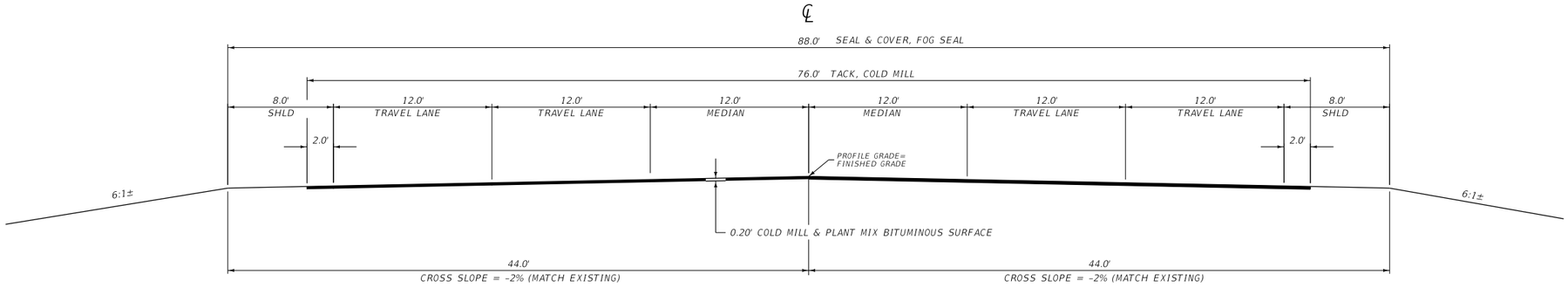
QUANTITIES								
UNIT	AGGREGATE		UNIT	BITUMINOUS MATERIAL				COLD MILLING
	COVER	PLANT MIX		ASPHALT CEMENT	SEAL	EMULSIFIED ASPHALT		
						TACK *	FOG SEAL (OVER SEAL & COVER)	
AREA square feet		15.60	square yards PER STATION		867	867	867	867
cubic yards PER STATION		57.8	tons PER STATION	6.46	1.55			
tons PER STATION		111.4	gallons PER STATION			43	65	
square yards PER STATION	867							

*BASED ON 1 APPLICATION

TYPICAL SECTION NO. 4

MAINLINE

STA. 256+36.91 ONLY



QUANTITIES								
UNIT	AGGREGATE		UNIT	BITUMINOUS MATERIAL				COLD MILLING
	COVER	PLANT MIX		ASPHALT CEMENT	SEAL	EMULSIFIED ASPHALT		
						TACK*	FOG SEAL (OVER SEAL & COVER)	
AREA square feet		15.20	square yards PER STATION		978	844	978	844
cubic yards PER STATION		56.3	tons PER STATION	6.29	1.75			
tons PER STATION		108.5	gallons PER STATION			42	73	
square yards PER STATION	978							

*BASED ON 1 APPLICATION

AWARD COPY

SUMMARY

SURFACING

STATION FROM	STATION TO	linear feet GROSS	linear feet NET	linear feet +	linear feet -	FOR	tons HYDRATED LIME	AGGREGATE sq. yards COVER TYPE II	AGGREGATE tons PLANT MIX BIT. SURF. GR. S - 1/2"	BITUMINOUS MATERIAL tons ASPHALT CEMENT PG 70-28	BITUMINOUS MATERIAL tons SEAL CHFRS-2P	BITUMINOUS MATERIAL gallons EMULSIFIED ASPHALT TACK	BITUMINOUS MATERIAL gallons EMULSIFIED ASPHALT FOG SEAL	REMARKS
160+91.50	163+04.50	213.00	213.00					2,012	222	12.9	3.6	86	151	TRANS. TYP. NO. 1 TO TYP. NO. 2
163+04.50	172+56.25	951.75	951.75					8,252	898	52.1	14.8	352	619	TYP. NO. 2
172+56.25														
173+56.25 BE	175+42.25 BE				186.00	BRIDGE								
	176+42.25	386.00	200.00					1,734	223	12.9	3.1	86	130	TYP. NO. 3
176+42.25	253+00.00	7,657.75	7,657.75					66,393	7,221	418.9	118.7	2,833	4,978	TYP. NO. 2
253+00.00	256+36.91	336.91	336.91					3,108	342	19.8	5.6	133	232	TRANS. TYP. NO. 2 TO TYP. NO. 4
TOTAL		9,545.41	9,359.41	~	186.00		125	81,499	8,906	516.6	145.8	3,490	6,110	

COLD MILLING

STATION FROM	STATION TO	sq. yards COLD MILLING 0.20 ft	REMARKS
160+91.50	163+04.50	1,727	TRANS. TYP. NO. 1 TO TYP. NO. 2
163+04.50	172+56.25	6,976	TYP. NO. 2
172+56.25	173+56.25 BE	867	TYP. NO. 3 / SEE BR END GRADE CORRECTION DETAIL
175+42.25 BE	176+42.25	867	TYP. NO. 3 / SEE BR END GRADE CORRECTION DETAIL
176+42.25	253+00.00	56,131	TYP. NO. 2
253+00.00	256+36.91	2,657	TRANS. TYP. NO. 2 TO TYP. NO. 4
TOTAL		69,225	

RUMBLE STRIPS

STATION FROM	STATION TO	miles RUMBLE STRIPS SINUSOIDAL SHOULDER	gals EMULSIFIED ASPHALT FOG SEAL #	REMARKS
160+91.50	173+56.25 BE	0.5	21	LT. & RT.
175+42.25 BE	256+36.91	3.1	168	LT. & RT.
SUBTOTAL		3.6	188	
TOTAL		3.6	~	

FOR INFORMATION ONLY, INCLUDE IN THE COST OF RUMBLE STRIPS

PAVEMENT MARKINGS

ITEM	UNIT	INTERIM APPLICATION #	FINAL APPLICATION	TOTAL
STRIPING - WHITE PAINT	gallon	174		174
STRIPING - YELLOW PAINT	gallon	186		186
WORDS & SYMBOLS - WHITE PAINT	gallon	14		14
WORDS & SYMBOLS - YELLOW PAINT	gallon	14		14
STRIPING - WHITE EPOXY	gallon		116	116
STRIPING - YELLOW EPOXY	gallon		124	124
WORDS & SYMBOLS - WHITE EPOXY	gallon		9	9
WORDS & SYMBOLS - YELLOW EPOXY	gallon		9	9
TEMPORARY STRIPING	linear feet			36,194

BASED ON 2 APPLICATIONS.

GUARDRAIL

STATION FROM	STATION TO	linear feet REMOVE GUARDRAIL LEFT	linear feet REMOVE GUARDRAIL RIGHT	linear feet MGS GUARDRAIL LEFT	linear feet MGS GUARDRAIL RIGHT	each MASH W-BEAM TERMINAL SECTION LEFT	each MASH W-BEAM TERMINAL SECTION RIGHT	each MGS ONE-WAY DEPARTURE TERMINAL SECTION LEFT	each MGS ONE-WAY DEPARTURE TERMINAL SECTION RIGHT	each MASH THRIE-BEAM BRIDGE APPROACH SECTION LEFT	each MASH THRIE-BEAM BRIDGE APPROACH SECTION RIGHT	each REVISE CONCRETE BARRIER RAIL END - BR LEFT	each REVISE CONCRETE BARRIER RAIL END - BR RIGHT	REMARKS
NEW RAIL														
171+08.47	173+42.84 BE				162.5		1				1		1	
172+80.91	173+68.41 BE			37.5				1		1		1		20 degree flare (see detail)
175+30.09 BE	175+92.59				12.5				1		1		1	20 degree flare (see detail)
175+55.66 BE	177+90.04			162.5		1				1		1		
REMOVE GUARDRAIL														
170+92.84	173+42.84 BE		250.0											
172+80.91	173+68.41 BE	87.5												
175+30.09 BE	176+12.09		100.0											
175+55.66 BE	178+05.66	250.0												
SUBTOTAL		337.5	350.0	200.0	175.0	1	1	1	1	2	2	2	2	
TOTAL		687.5		375.0		2		2		4		4		

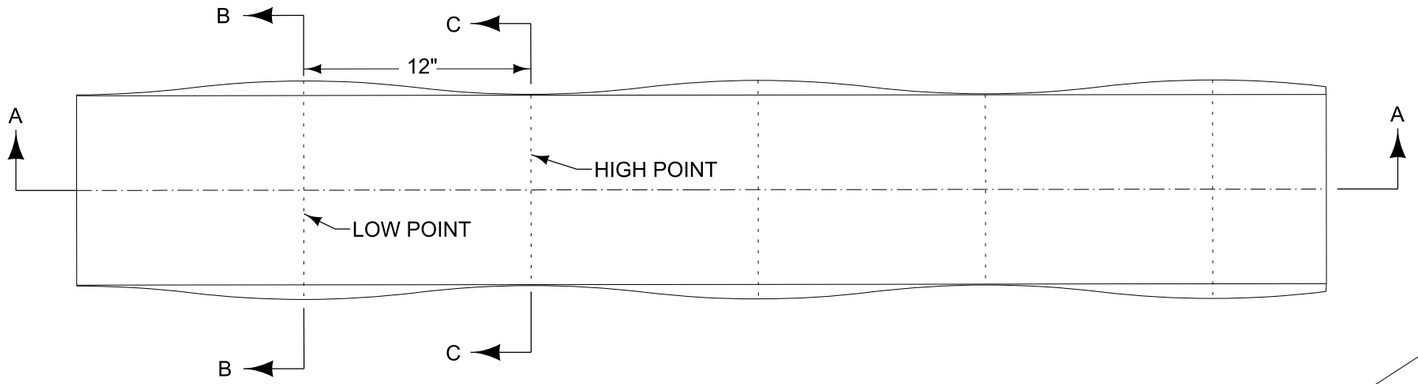
MISCELLANEOUS ITEMS

STATION	ADJUST MONUMENT BOX each	REMARKS
203+80	1	MEDIAN- NEW SURVEY MONUMENT BOX
290+70	1	NB DRIVING LANE. - NEW SURVEY MONUMENT BOX
377+25	1	MEDIAN - NEW SURVEY MONUMENT BOX
TOTAL	3	

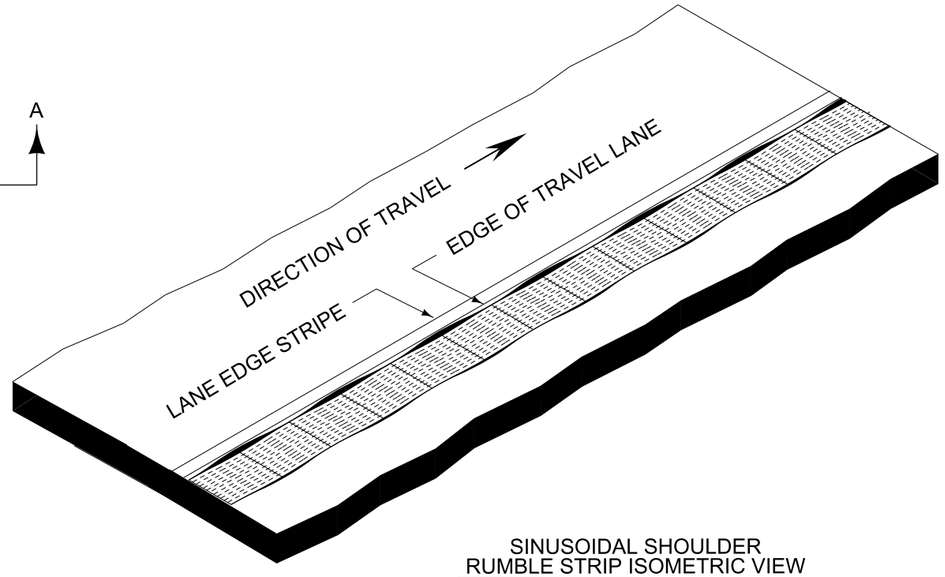
RE-MONUMENTATION OF SURVEY MONUMENTS WILL BE DONE UNDER THE SUPERVISION OF THE MDT DISTRICT LAND SURVEYOR.

AWARD COPY

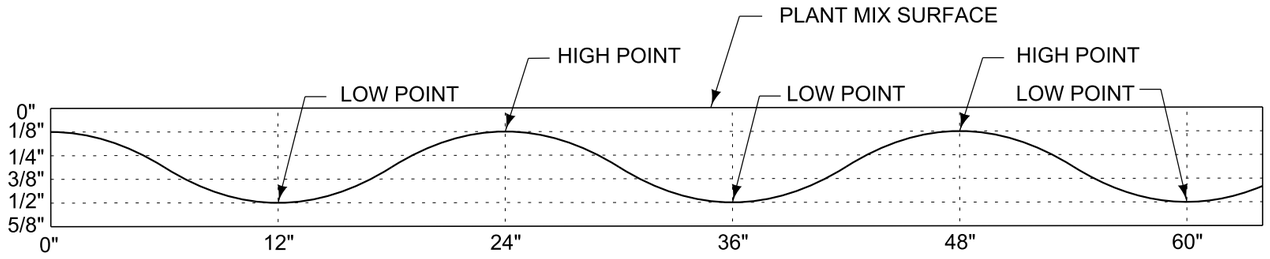
DETAIL



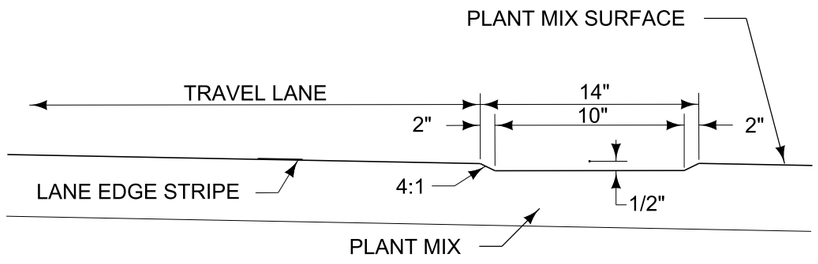
SINUSOIDAL SHOULER RUMBLE STRIP
WITH TAPERED GROOVE PLAN VIEW



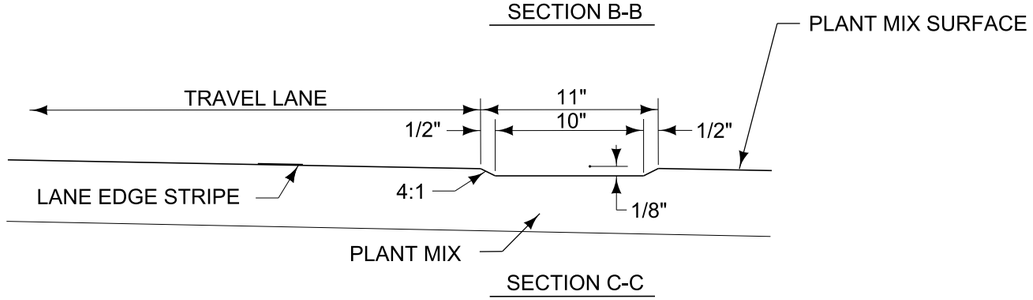
SINUSOIDAL SHOULDER
RUMBLE STRIP ISOMETRIC VIEW



SECTION A-A



SECTION B-B



SECTION C-C

NOTES:

SEE DETAIL DRAWING 411-03 FOR REQUIREMENTS FOR INTERMITTENT RUMBLE STRIP SPACING AND DISCONTINUING RUMBLE STRIPS AT PUBLIC APPROACHES, INTERSTATE RAMPS AND GUARDRAIL RUNS.

DO NOT INSTALL SINUSOIDAL SHOULDER RUMBLE STRIPS ON CONCRETE BRIDGE DECKS AND CONCRETE BRIDGE APPROACH SLABS.

MINIMUM VERTICAL MILLING DEPTHS AND DIFFERENCE BETWEEN MILLING HIGH POINTS AND LOW POINTS SHOWN IN DETAIL. ADDITIONAL 1/8" DEPTH OF MILLING IS ALLOWABLE ON INSTALLATION OF SINUSOIDAL SHOULDER RUMBLE STRIP.

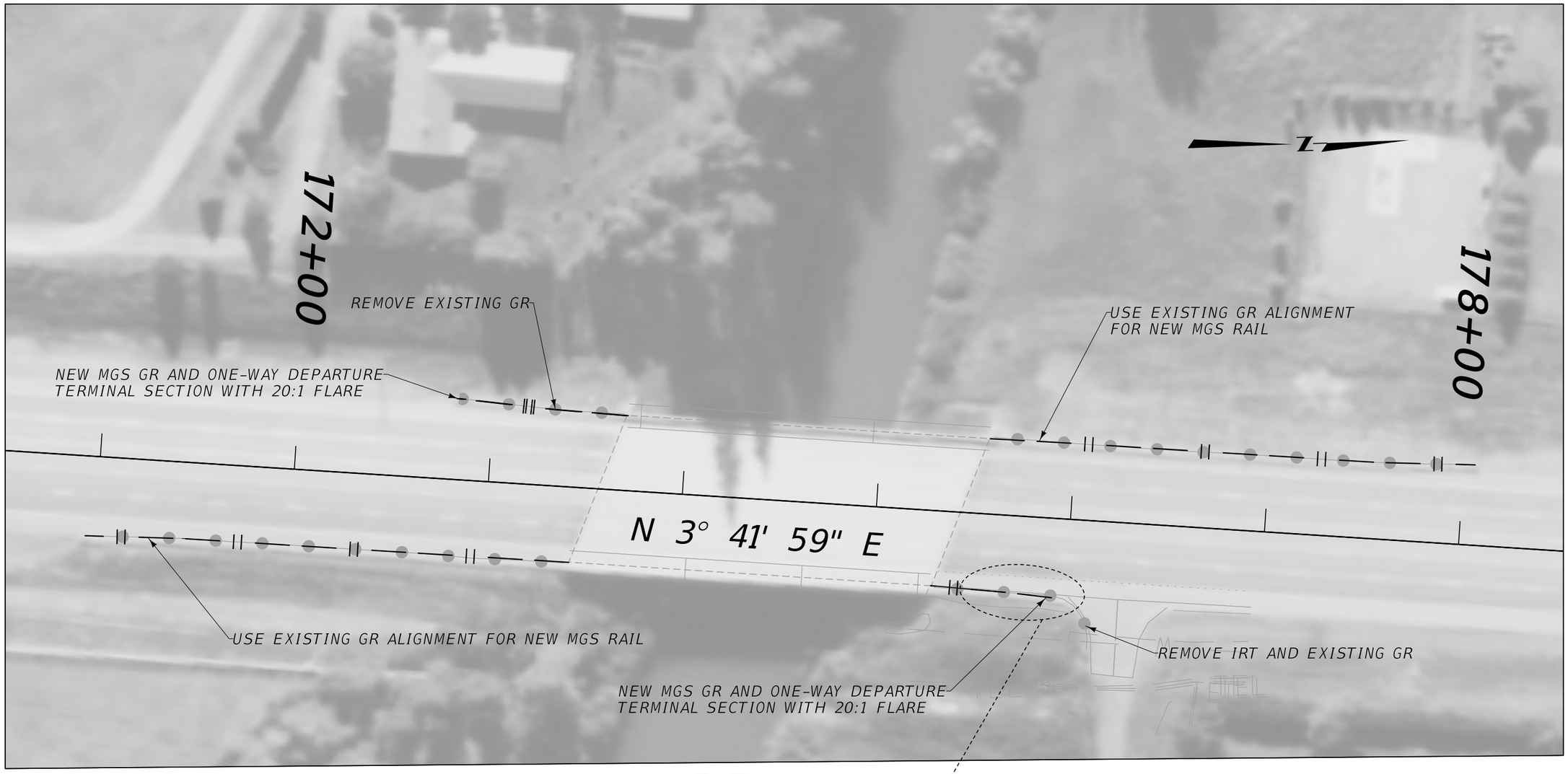
SINUSOIDAL SHOULDER RUMBLE STRIPS

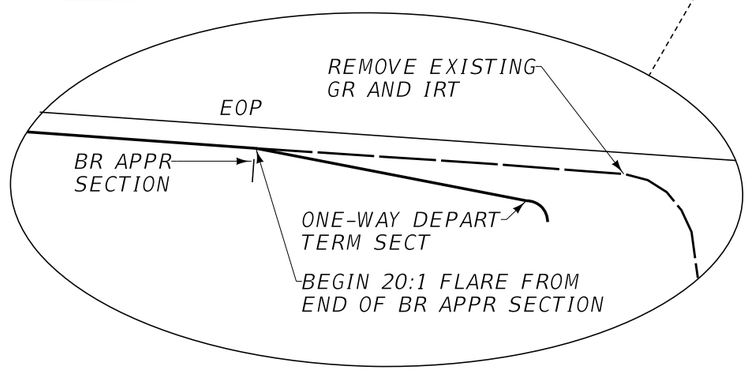
NO SCALE

2	MONTANA Department of Transportation	C:\DGN\9937000rddet001.dgn	DESIGNED BY RANDY CATHEY		ROAD PLANS	RESERVE DRIVE - NORTH (KAL)	NH 5-3(159)116
1		11/1/2022	REVIEWED BY				
		9:22:45 AM CPS - U6523	CHECKED BY J. FLEMING		FLATHEAD COUNTY	UPN 9937000	6

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DETAIL





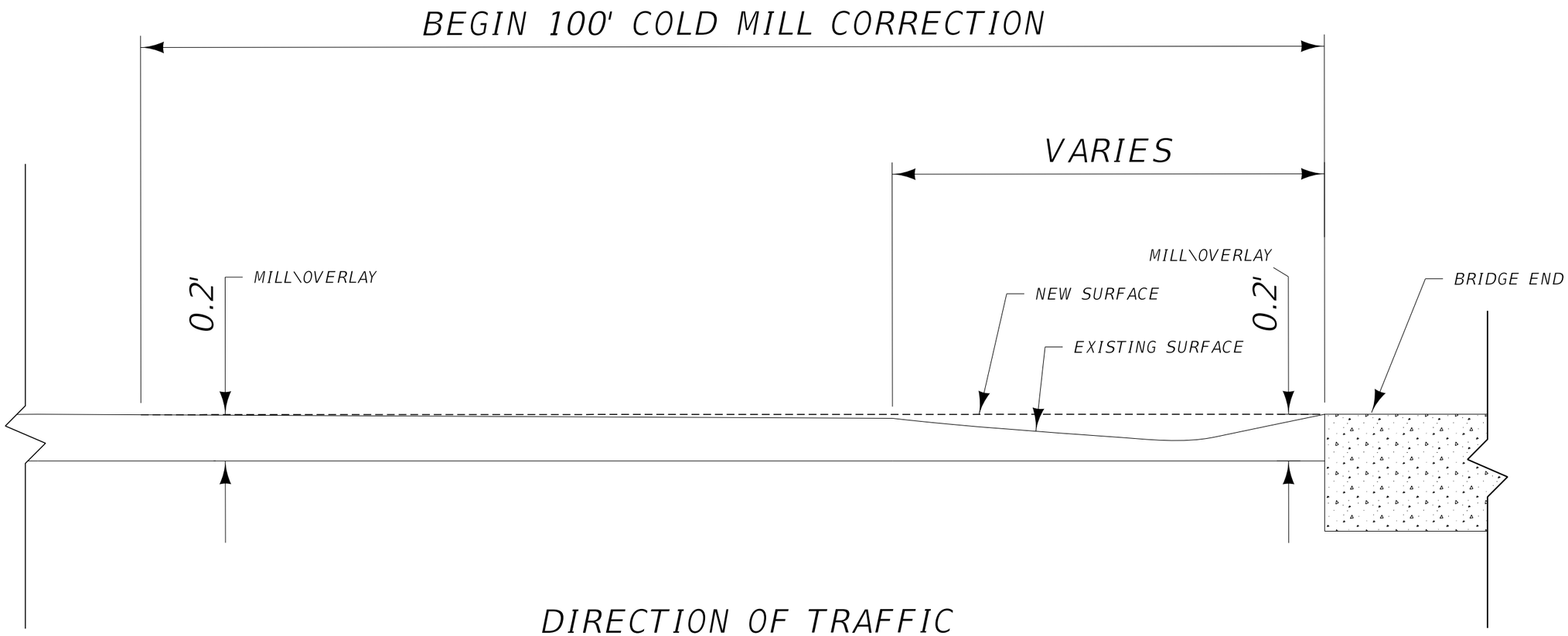
GUARDRAIL DETAIL

NO SCALE

3	MONTANA Department of Transportation	C:\DGN\9937000rddet001.dgn	DESIGNED BY			ROAD PLANS		RESERVE DRIVE - NORTH (KAL)	NH 5-3(159)116
2		11/1/2022	REVIEWED BY						
		9:22:50 AM CPS - U6523	CHECKED BY			FLATHEAD COUNTY		UPN 9937000	7

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DETAIL

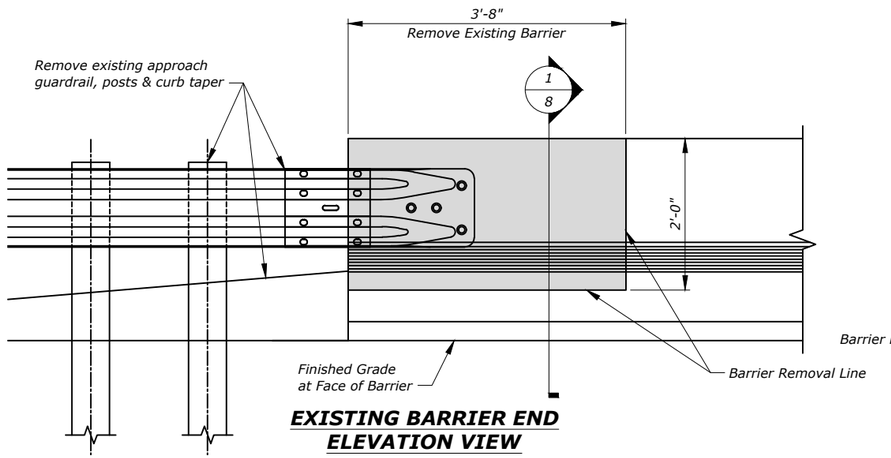


BRIDGE END
GRADE CORRECTION

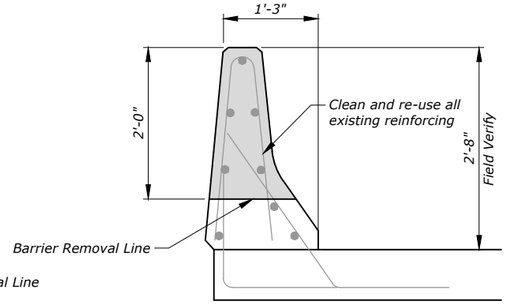
NO SCALE

3 / 1	MONTANA Department of Transportation	C:\DGN\9937000rddet001.dgn	DESIGNED BY			ROAD PLANS	RESERVE DRIVE - NORTH (KAL)	NH 5-3(159)116
		11/1/2022	REVIEWED BY					
		9:23:49 AM CPS - U6523	CHECKED BY			FLATHEAD COUNTY	UPN 9937000	8

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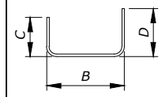
EXISTING BARRIER END ELEVATION VIEW

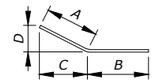


1/8 **EXISTING BARRIER SECTION**

BILL OF REINFORCING STEEL

(ALL DIMENSIONS ARE OUT TO OUT)





FOR INFORMATION PURPOSES ONLY

FOR ONE BARRIER END ONLY

TYPE 17 TYPE 28

Mark	Size	No.	Type	Length	A	B	C	D	E	G	N
B1	#4	3	17	3'-1"		8½"	7½"	1'-9"			
B2	#4	1	17	2'-9½"		5"	7½"	1'-9"			
B3	#4	3	28	3'-6"	1'-0"	2'-6"	11"	4½"			

GENERAL NOTES

SPECIFICATIONS:
Plans were prepared from original drawings and as-built drawings. No additional survey information was procured for this project. Existing structure dimensions may vary from those shown on the drawings. Verify all dimensions necessary to complete the work.

The current version of the Standard and Supplemental Specifications for Road and Bridge Construction, adopted by the Montana Department of Transportation, applies.

See Standard Specifications and Special Provisions for Traffic Control and Sequence of Operations.

All dimensions are in feet and inches except as noted. Verify all necessary dimensions of the existing structures in the field before ordering materials. Obtain approval of shop plans from the State of Montana, Department of Transportation before beginning fabrication. If the dimensions and details of the existing structure are not as shown on the plans, vary construction as necessary to best suit existing conditions and the nature of the intended work.

REINFORCING STEEL:
Unless specified otherwise on the drawings, provide 2" minimum concrete cover measured from the face of the concrete to the face of any reinforcing steel, except as noted below:

Bottom of Slab	1"
Top of Slab	2 ½"
Bottom of Abutment Caps	3"
Concrete Barriers and Curbs	1 ½"

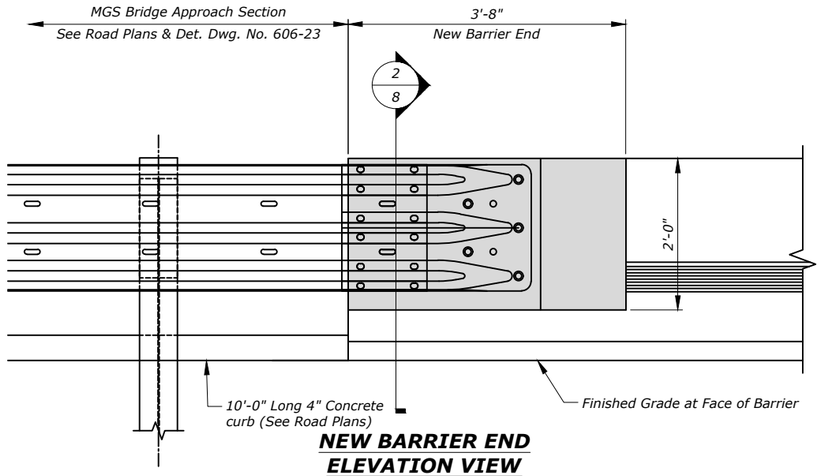
Concrete cover to any tie bar is ½" less than what is listed above.

Use new deformed type reinforcing steel meeting the requirements of AASHTO M 31 Grade 60. Include all costs associated with furnishing and placing new reinforcing steel in the unit price bid for Revise Concrete Barrier Rail End - BR.

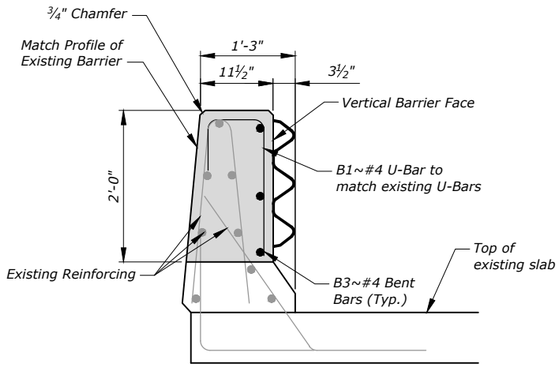
Replace existing reinforcing steel damage during construction that is called out to remain in place at no additional cost to the State.

Include cleaning exposed existing reinforcing steel in other items of work.

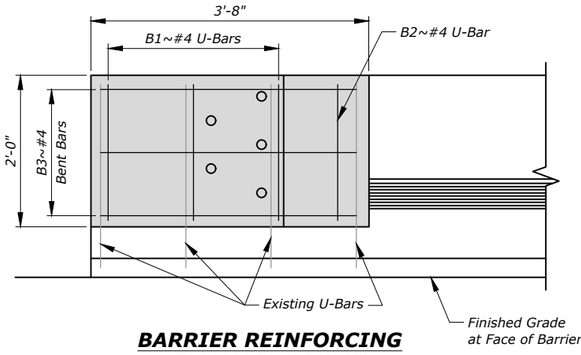
Use Concrete - Class Structure for all new barrier end concrete. Include all costs associated with furnish and placing new concrete in the unit price bid for Revise Concrete Barrier Rail End - BR.



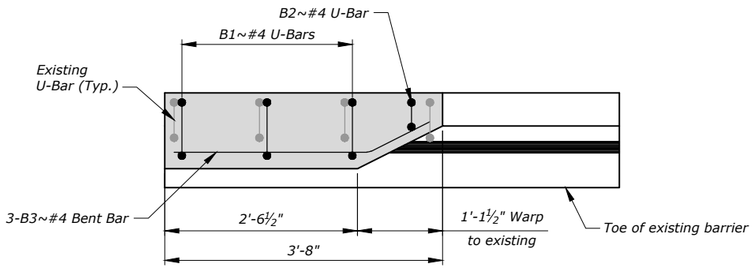
NEW BARRIER END ELEVATION VIEW



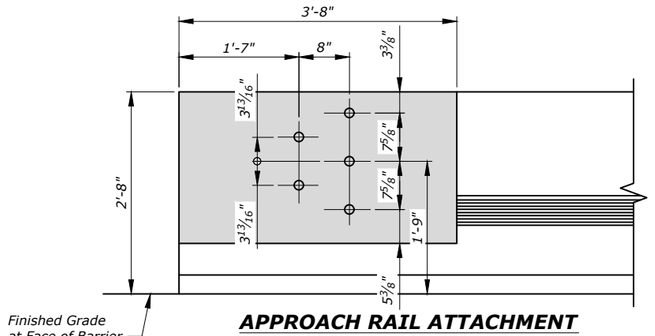
2/8 **NEW BARRIER SECTION**



BARRIER REINFORCING ELEVATION VIEW



BARRIER REINFORCING PLAN VIEW



APPROACH RAIL ATTACHMENT ELEVATION VIEW

SHEET NO. 9

BARRIER END REVISION DETAILS

SCALE: 1/2" = 1'-0"

PROJECT NAME
RESERVE DRIVE - NORTH (KAL)

MDT STRUCTURE ID
05257
(P00005116+01831)

FEDERAL AID PROJECT
NH 5-3(159)116

COUNTY
FLATHEAD

REVISED						
REVISED						
REVISED						
CHECKED	J.M.M.	5-17-22				
DRAWN	T.J.B.	5-2-22				
DESIGNED	T.J.B.	5-2-22				

9937000BRRRV001.dwg \ REH001

MONTANA Department of Transportation — BRIDGE BUREAU

5/17/2022 2:41:47 PM

UPN NUMBER
9937000

DRAWING NO.
24792

AWARD COPY

SUMMARY
SIGNING & DELINEATION QUANTITIES

MATERIAL	TOTAL	UNIT
SIGNS-ALUM REFL SHEET IV		SQ. FOOT
SIGNS-ALUM REFL SHEET XI	226.0	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	88	POUNDS
POLES-TREATED WOOD 4 IN	232	LINEAR FT.
POLES-TREATED WOOD 5 IN	96	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	46	EACH
DELINEATOR DES B		EACH
DELINEATOR DES C		EACH
DELINEATOR DES D	14	EACH
DELINEATOR DES E		EACH
DELINEATOR DES F		EACH
DELINEATOR DES G		EACH
DELINEATOR DES H		EACH
REMOVE SIGNS	27	EACH
REMOVE SIGNS-GUIDE	2	EACH
RESET SIGNS		EACH
RESET SIGNS-GUIDE		EACH
FRANG SIGN POST BKWY-		EACH
FRANG SIGN POST BKWY-		EACH
DELINEATION FLEX SURF MTD-White	1	EACH
DELINEATION FLEX SURF MTD-Yellow	3	EACH
SQ TUBLR SLIP BASE BKWY-3 IN		EACH

AWARD COPY

SIGN LOCATION AND SPECIFICATIONS

STATION	RAMP NO.	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/GUIDE: REMOVE	SIGNS/GUIDE: RESET	SIGNS/GUIDE: REMOVE	SIGNS/GUIDE: RESET	REMARKS
163+65 Rt.		R3-9b	24"x36"	XI		10-0		4" Dia. POLE		12-10		5-0	3-0	6.0 (XI)			14							1					
164+96 Lt.		D10-3	10"x36"	XI		4-0		2 lb./ft. STL-U		10-8		4-0	3-0	2.5 (XI)									22	1					
164+97 Rt.		R1-1	30"x30"	XI	XI	—		R.S.F.O.		—		5-0	—	5.2 (XI)										1					
165+26 Rt.		D10-3	10"x36"	XI		4-0		2 lb./ft. STL-U		10-8		4-0	3-0	2.5 (XI)									22	1					
165+51 Lt.		M2-1	21"x15"	XI		10-0		4" Dia. POLE		13-2		5-0	3-0	2.2 (XI)			14							1					
		M1-12	24"x24"	XI										4.0 (XI)															
166+10 Rt.		W8-12b	36"x36"	XI		10-0		5" Dia. POLE		14-7		5-0	3-6	9.0 (XI)				16					X	1				FY	Hinged Panel
168+14 Rt.		R1-1	30"x30"	XI	XI	—		R.S.F.O.		—		5-0	—	5.2 (XI)										1					
169+43 Rt.		R2-1	30"x36"	XI	XI	10-0		4" Dia. POLE		12-11		5-0	3-0	7.5 (XI)			14							1					
171+16 Rt.		R2-6a	24"x30"	XI		2-0		4" Dia. POLE		12-11		5-7	3-0	5.0 (XI)			14							1					B.G.R.
		R2-3a	REMOVE	—																									
171+74 Lt.		R2-1	30"x36"	XI		10-0		4" Dia. POLE		12-11		5-0	3-0	7.5 (XI)			14							1					
172+50 Lt.		GS-115a	USE AS IS	—																									General Imformation Signing By City
173+46 Rt.		N6-2	48"x24"	XI		2-0		4" Dia. POLE		11-4		5-0	3-0	8.0 (XI)			12									1			B.G.R.
175+58 Lt.		N6-2	48"x24"	XI		2-0		4" Dia. POLE		11-4		5-0	3-0	8.0 (XI)			12									1			B.G.R.
176+23 Lt.		W3-5	36"x36"	XI	XI	2-0		4" Dia. POLE		12-10		5-0	3-0	9.0 (XI)			14							1					B.G.R.
182+27 Lt.		GS-115b	USE AS IS	—																									General Imformation Signing By City
185+66 Rt.		R3-9b	24"x36"	XI		10-0		4" Dia. POLE		12-10		5-0	3-0	6.0 (XI)			14							1					
186+36 Lt.		R3-9b	24"x36"	XI		10-0		4" Dia. POLE		12-10		5-0	3-0	6.0 (XI)			14							1					
187+90 Lt.		W8-12b	36"x36"	XI		10-0		5" Dia. POLE		14-7		5-0	3-6	9.0 (XI)				16					X	1				FY	Hinged Panel
196+70 Median Rt.		R5-1	36"x36"	XI	XI	2-0		5" Dia. POLE		12-8		5-0	3-6	9.0 (XI)				14					X						
196+80 Rt.		D3 (2)	42"x10"	XI		—	—	R.S.F.O.		—			—	2.9 (XI) 2.9 (XI)										1					Mount on PIPE
		R1-1	30"x30"			—	—	R.S.F.O.		—			—	5.2 (XI)															
210+47 Rt.		D3 (2)	30"x10"	XI		6-0		4" Dia. POLE		12-7		5-0	3-0	2.1 (XI) 2.1 (XI)			14							1					
		D3 (2)	42"x10"	XI										2.9 (XI) 2.9 (XI)															
		R1-1	30"x30"	XI	XI									5.2 (XI)															
217+28 Rt.		R1-1	30"x30"	XI	XI	6-0		4" Dia. POLE		11-8		5-0	3-0	5.2 (XI)			12							1					

FY = TYPE XI FLUORESCENT YELLOW SHEETING REQUIRED.

RSFO = REPLACE SIGN FACE ONLY

X = STANDARD BREAKAWAY DEVICE:
- FOR WOOD POST SEE DETAILED DRAWING 619-20.
- FOR STRUCTURAL STEEL SEE DETAILED DRAWING 619-13.

B. G. R. = BEHIND GUARDRAIL

3	MONTANA Department of Transportation	C:\DGN\9937000sisum001.dgn	Designed by: Roger D. Schroeder 02/2022	SIGNING PLANS		RESERVE DRIVE - NORTH (KAL)	NH 5-3(159)116
2		10/13/2022	Checked by: Erick K. Matye 03/2022				
1		8:31:32 AM CPS - U4044	Reveiwed by:	FLATHEAD COUNTY		UPN #9937000	S2

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SIGN LOCATION AND SPECIFICATIONS

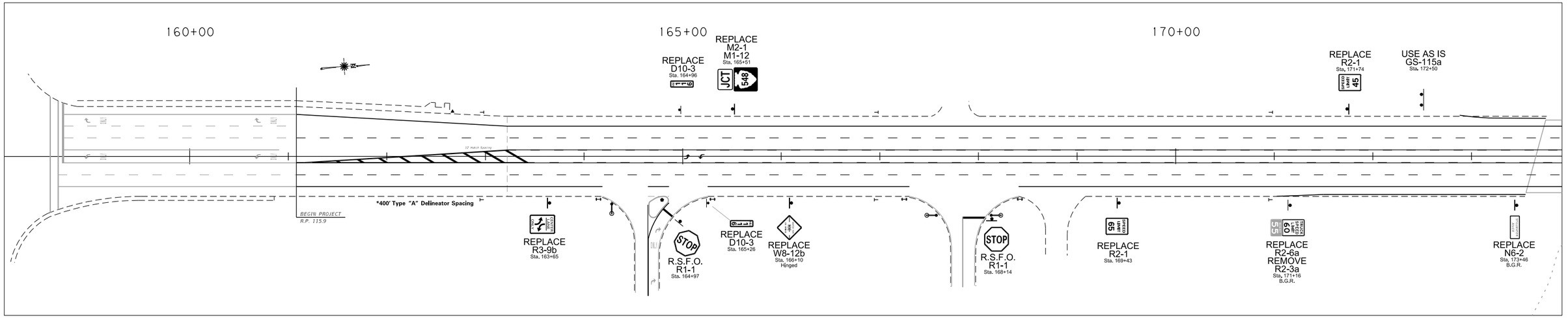
STATION	RAMP NO.	SIGN NO.	PANEL SIZE	REFL SHTG TYPE: BACK-GROUND	REFL SHTG TYPE: LEGEND	FEET: CLEARANCE	FEET: SIGN SUPPORT SPACING	TYPE OF SUPPORT	FEET: CANTILEVER	FEET: SUPPORT LENGTH (ESTIMATED)	FEET: SUPPORT LENGTH (INSTALLED)	FEET: MOUNTING HEIGHT	FEET: FOUNDATION DEPTH	SIGN PANEL (SQ. FT.): SHEET 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/GUIDE: REMOVE	SIGNS/GUIDE: RESET	SIGNS/GUIDE: REMOVE	SIGNS/GUIDE: RESET	REMARKS
217+77 Rt.		N7-1	36"x48"	XI		10-0		5" Dia. POLE	16-6			7-0	3-6	12.0 (XI)				18					X	1					
		N7-1p	36"x12"	XI										3.0 (XI)															
217+77 Rt.		D10-3	10"x36"	XI		4-0		2 lb./ft. STL-U	10-8			4-0	3-0	2.5 (XI)								22		1					
217+77 Lt.		N7-1	36"x48"	XI		10-0		5" Dia. POLE	16-5			7-0	3-6	12.0 (XI)				18					X	1					
217+77 Lt.		D10-3	10"x36"	XI		4-0		2 lb./ft. STL-U	10-8			4-0	3-0	2.5 (XI)								22		1					
236+43 Lt.		VA Cross	USE AS IS																										
245+60 Lt.		R4-3	24"x30"	XI		10-0		4" Dia. POLE	12-4			5-0	3-0	5.0 (XI)			14							1					
249+61 Lt.		D3 (2)	42"x10"	XI		6-0		4" Dia. POLE	12-7					2.9 (XI) 2.9 (XI)			14							1					
		R1-1	30"x30"	XI	XI									5.2 (XI)															
251+21 Rt.		R3-9k	24"x36"	XI		10-0		4" Dia. POLE	12-10			5-0	3-0	6.0 (XI)			14							1					
251+45 Lt.		R3-9j	24"x36"	XI		10-0		4" Dia. POLE	12-10			5-0	3-0	6.0 (XI)			14							1					
252+60 Rt.		D3 (2)	42"x10"	XI		6-0		4" Dia. POLE	12-7					2.9 (XI) 2.9 (XI)			14							1					NEW
		R1-1	30"x30"	XI	XI									5.2 (XI)															
256+28 MEDIAN		R4-7	36"x48"	XI		2-0		5" Dia. POLE	13-1			5-0	3-6	12.0 (XI)				14					X	1					
										TOTALS				226.0 (XI)			232	96				88		27	2			

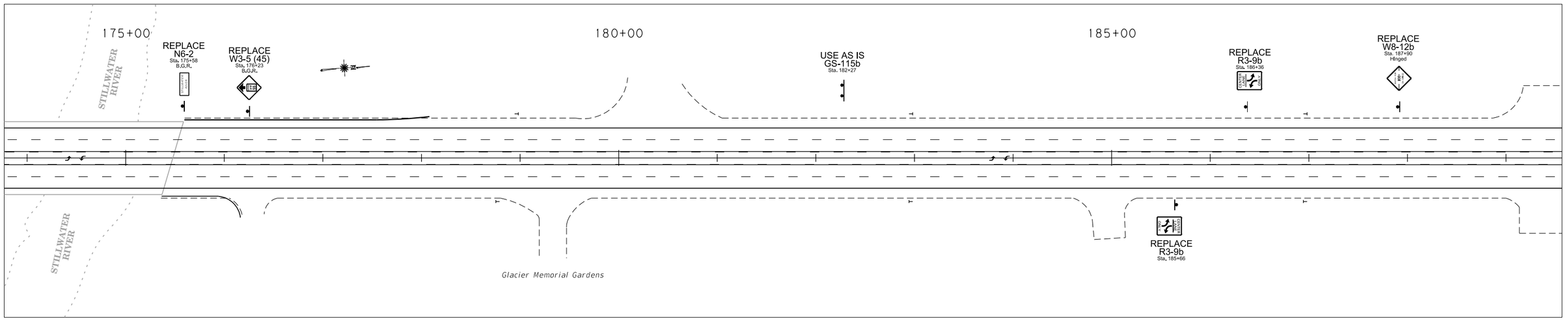
X = STANDARD BREAKAWAY DEVICE:
- FOR WOOD POST SEE DETAILED DRAWING 619-20.
- FOR STRUCTURAL STEEL SEE DETAILED DRAWING 619-13.

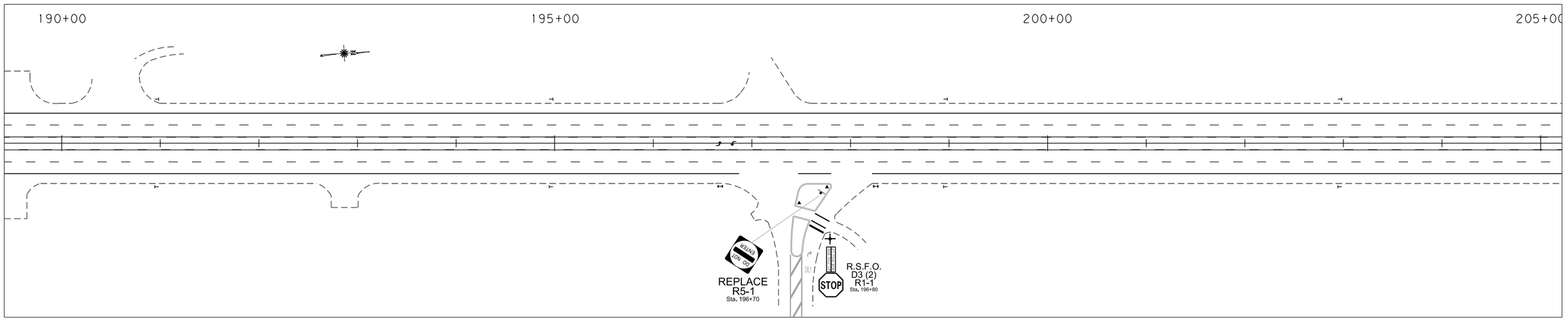
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⊣	DESIGN "A"	46
⊣⊢	DESIGN "D"	14
⬟	White FLEX SURF MTD	1
▲	Yellow FLEX SURF MTD	3

3	MONTANA Department of Transportation	C:\DGN\9937000sisum001.dgn	Designed by:	Roger D. Schroeder	02/2022	SIGNING PLANS	RESERVE DRIVE - NORTH (KAL)	NH 5-3(159)116
2		10/13/2022	Checked by:	Erick K. Matye	03/2022			
1		8:31:36 AM CPS - U404a	Reveiwed by:			FLATHEAD COUNTY	UPN #9937000	S3

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3	MONTANA Department of Transportation	C:\DGN\9937000sipln001.dgn	Designed by:	Roger D. Schroeder	02/2022	SIGNING PLANS	RESERVE DRIVE - NORTH (KAL) / NH 5-3(159)116
2		10/13/2022	Checked by:	Erick K. Matye	03/2022		
1		8:31:47 AM CPS - U044	Reveiwed by:			FLATHEAD COUNTY	UPN #9937000 / S4

AWARD COPY

00

210+00

215+00

REPLACE
N7-1
Sta. 217+77

REPLACE
D10-3
Sta. 217+77

220+00

REPLACE
D3 (2)
D3 (2)
R1-1
Sta. 210+47

REPLACE
D10-3
Sta. 217+77

REPLACE
R1-1
Sta. 217+28

REPLACE
N7-1
N7-1p
Sta. 217+77

225+00

230+00

235+00

USE AS IS
VA Cross
Sta. 236+43

240+00

245+00

REPLACE
R4-3
Sta. 245+60

REPLACE
D3 (2)
R1-1
Sta. 249+61

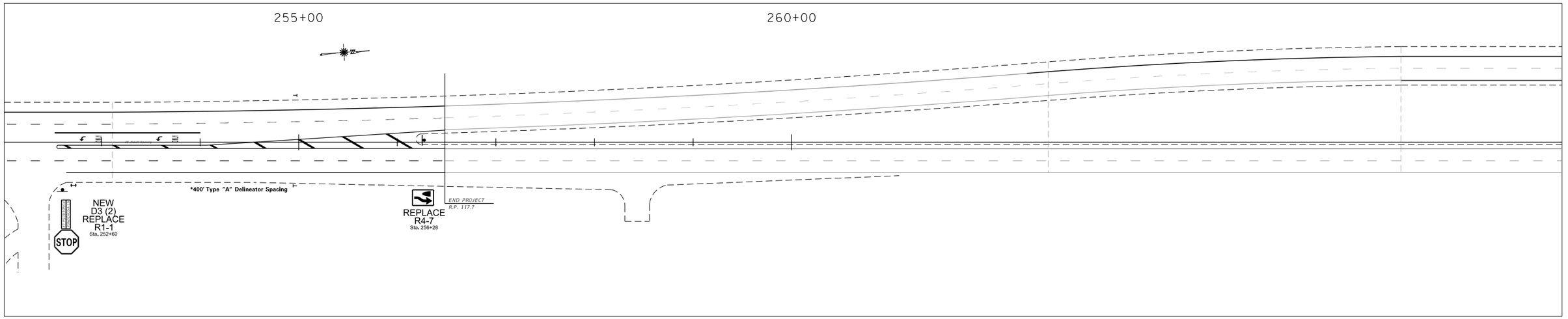
250+00

REPLACE
R3-9j
Sta. 251+45

REPLACE
R3-9k
Sta. 251+21

3	MONTANA Department of Transportation	C:\DGN\9937000sipln001.dgn	Designed by:	Roger D. Schroeder	02/2022	SIGNING PLANS	RESERVE DRIVE - NORTH (KAL) / NH 5-3(159)116
2		10/13/2022	Checked by:	Erick K. Matye	03/2022		UPN #9937000 / S5
1		8:31:50 AM CPS - U4044	Reveiwed by:			FLATHEAD COUNTY	

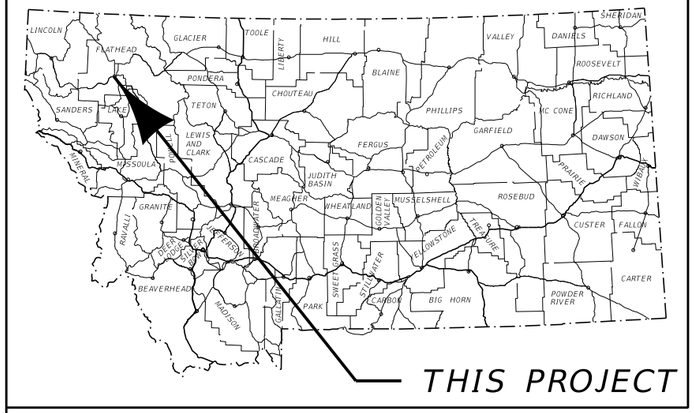
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3	MONTANA Department of Transportation	C:\DGN\9937000sipln001.dgn	Designed by:	Roger D. Schroeder	02/2022	SIGNING PLANS	RESERVE DRIVE - NORTH (KAL)	NH 5-3(159)116
2		10/13/2022	Checked by:	Erick K. Matye	03/2022			
1		8:31:54 AM CPS - U044	Reveiwed by:			FLATHEAD COUNTY	UPN #9937000	S6

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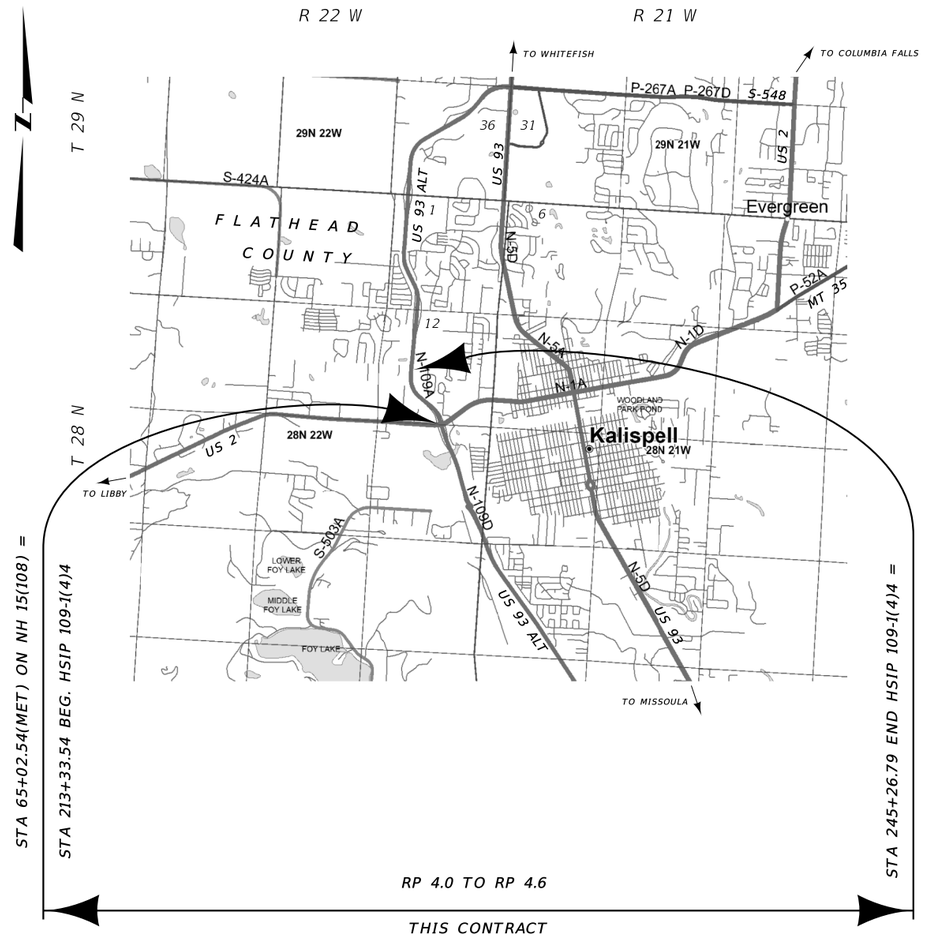
MONTANA DEPARTMENT OF TRANSPORTATION

FEDERAL AID PROJECT HSIP 109-1(4)4
SAFETY IMPROVEMENTS
SF189 US 93 ALT SAFETY IMPRV
FLATHEAD COUNTY

(A LIMITED ACCESS FACILITY)

PROJECT DESIGN DATA		
PRESENT 2021	A.D.T. =	22,140
LETTING 2023	A.D.T. =	23,030
DESIGN 2043	A.D.T. =	34,220
	D.H.V. =	N/A
	TRUCKS =	3.5%
	V. =	70 MPH
	18 KIP ESAL'S =	199
	GROWTH RATE =	2.0%

LENGTH N/A MILES



RELATED PROJECTS
NH 5-3(159)116

ASSOCIATED PROJECT AGREEMENT NUMBERS	
R / W	
I.C.	
P. E.	HSIP 109-1(3)4

MONTANA
DEPARTMENT OF TRANSPORTATION

MALCOLM "MACK" LONG
DIRECTOR OF TRANSPORTATION

APPROVED BY:

TRAFFIC AND SAFETY ENGINEER

MONTANA
GABE B. PRIEBE
13957PE
LICENSED PROFESSIONAL ENGINEER

DocuSigned by:
Gabe Priebe
4895FFA73587466...

12/14/2022
DATE

3	MONTANA Department of Transportation	C:\DGN\9898000sattl001.dgn	DESIGNED BY K. JOHNSON	10/15/2021	ROAD PLANS
2		8/4/2022	REVIEWED BY		UPN 9898000
		9:12:47 AM CPS - U2948	CHECKED BY JERRY SABOL	8/3/2022	

DocuSign Envelope ID: 46254C8F-C785-4AB9-95F7-5C9A6245883F

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TABLE OF CONTENTS

ROAD PLANS	SHEET NO.
TITLE SHEET	1
TABLE OF CONTENTS	2
NOTES	2
TYPICAL SECTION	2
SUMMARIES	2
CONCRETE BARRIER RAIL	2
GUARDRAIL	2
LINEAR DELINEATION	2
DETAILS	3
CAST IN PLACE MODIFIED CBR TRANSITION	3

NOTES

AS-BUILTS

FOR HORIZONTAL ALIGNMENT AND STATIONING, REFER TO THE FOLLOWING "AS-BUILT" PROJECT:

NH 15(108)

AS-BUILT STATIONING HAS BEEN CONVERTED FROM METRIC.

LIMITED ACCESS CONTROL

THIS PROJECT IS A LIMITED ACCESS CONTROL FACILITY. OBTAIN APPROVAL FROM THE CHIEF OF THE RIGHT-OF-WAY BUREAU PRIOR TO ADDING, DELETING OR RELOCATING ANY APPROACHES.

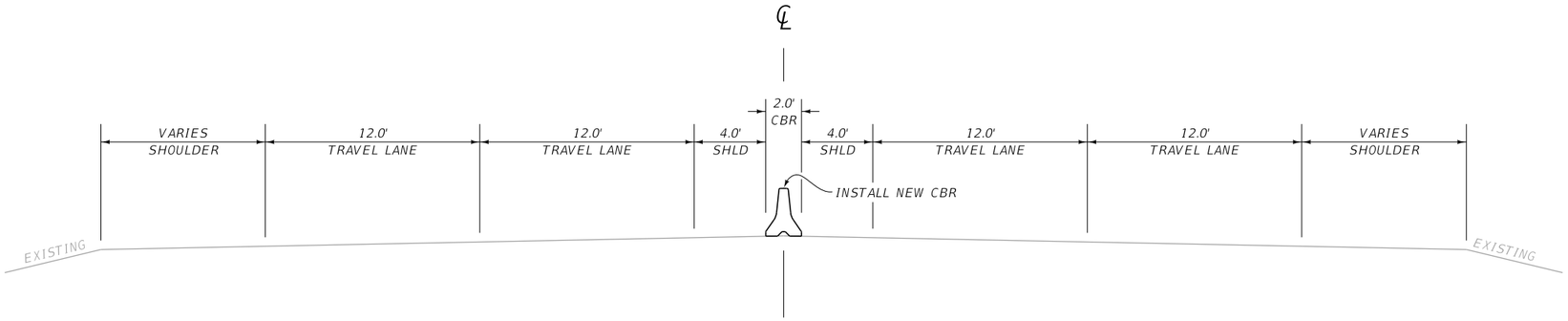
WETLANDS

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.

TYPICAL SECTION

MAINLINE (US 93 ALT)

213+55.05 TO 243+55.05



SUMMARY

CONCRETE BARRIER RAIL

STATION FROM	STATION TO	each: CONCRETE BARRIER RAIL	each: MODIFIED CONCRETE BARRIER RAIL	each: IMPACT ATTENUATOR-LOW MAINTENANCE	REMARKS
213+33.54	213+55.05			1	BEGINS APPROX. 40 FT N. OF NORTHERN B.E. OF BRIDGE OVER US 2
213+55.05	243+45.05	299			ANCHORS REQUIRED ON FIRST & LAST SECTION
243+45.05	243+55.05		1		CAST IN PLACE MODIFIED CBR TRANSITION ON S. SIDE OF 2 MILE DR. OVERPASS, SEE DETAIL
245+05.28	245+26.79			1	ON NORTH SIDE OF 2 MILE DR. OVERPASS
TOTAL		299	1	2	

GUARDRAIL

STATION FROM	STATION TO	linear feet: REMOVE AND SALVAGE GUARDRAIL	REMARKS
REMOVE RAIL			
243+33.54	243+55.05	22.0	REMOVE & SALVAGE ATTENUATOR ON S. SIDE OF 2 MILE DR. OVERPASS
245+05.28	245+26.79	22.0	REMOVE & SALVAGE ATTENUATOR ON N. SIDE OF 2 MILE DR. OVERPASS
TOTAL		44.0	

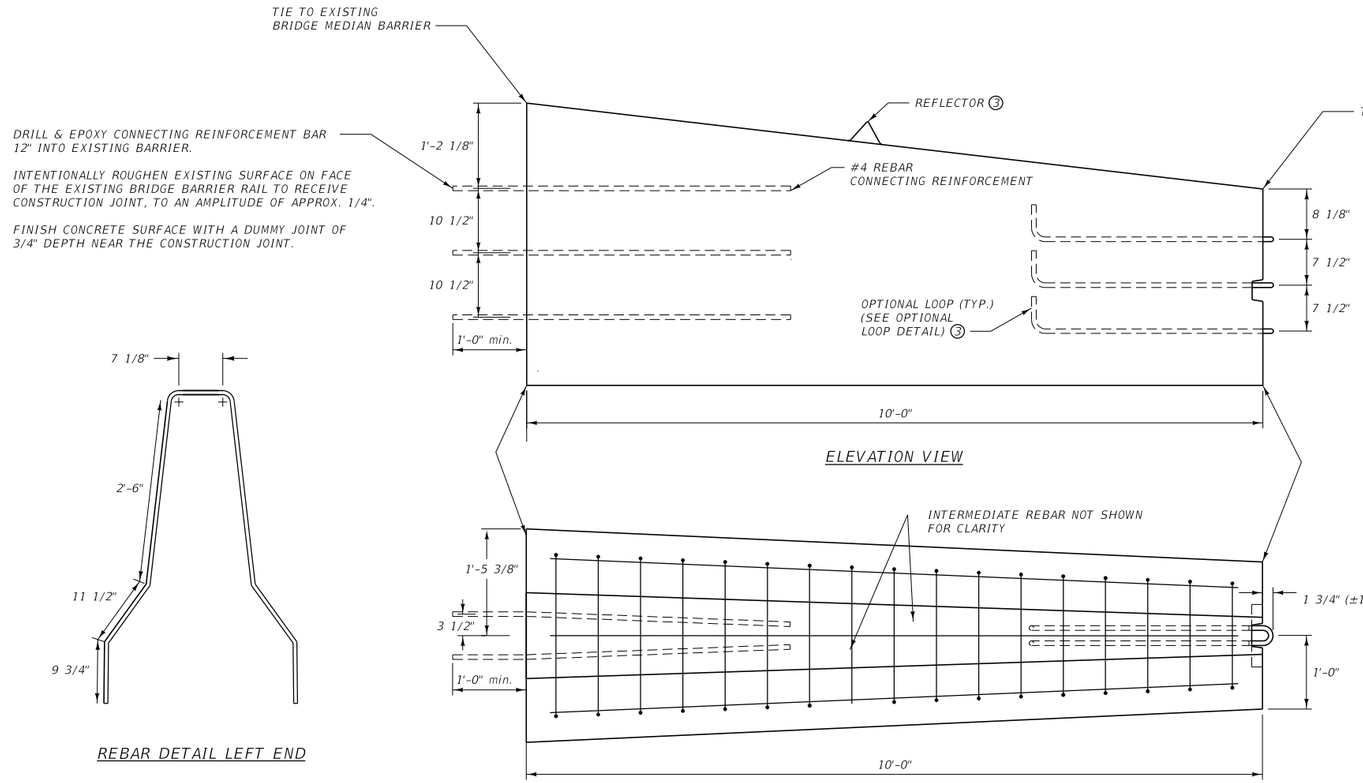
NOTE: REMOVAL OF EXISTING GUARDRAIL CONNECTION TO THE EXISTING CONCRETE MEDIAN BARRIER IS NOT MEASURED FOR PAYMENT

LINEAR DELINEATION

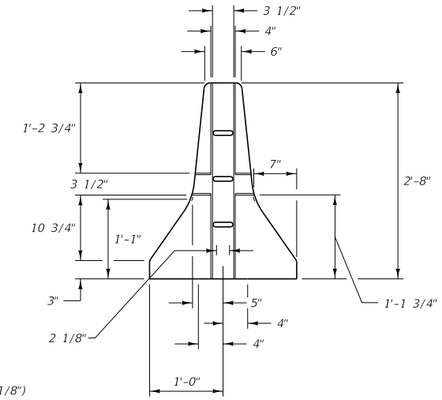
STATION FROM	STATION TO	each: DELINEATION-LINEAR BARRIER YELLOW	REMARKS
213+55.05	243+55.05	1,200	
243+55.05	245+05.28	60	ATTACH TO EXISTING BRIDGE MEDIAN BARRIER UNDER THE 2 MILE DR. OVERPASS
TOTAL		1,260	

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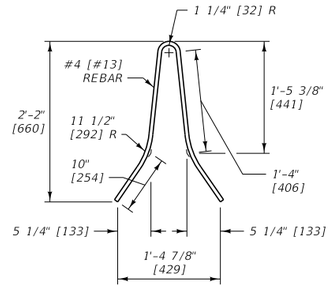
AWARD COPY



REBAR DETAIL LEFT END



RIGHT END VIEW

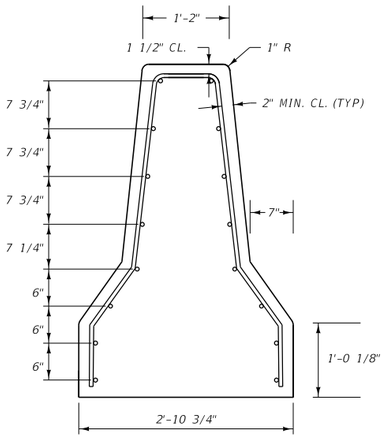


REBAR DETAIL RIGHT END

1. USE CLASS DECK CONCRETE OR EQUIVALENT.
2. REINFORCING STEEL CONSISTS OF DEFORMED BARS CONFORMING TO AASHTO M 31, GRADE 60.
3. REFER TO DETAIL DRAWING 605-15 FOR OPTIONAL LOOP, CONNECTING PIN, AND REFLECTOR DETAILS.

NOTE:

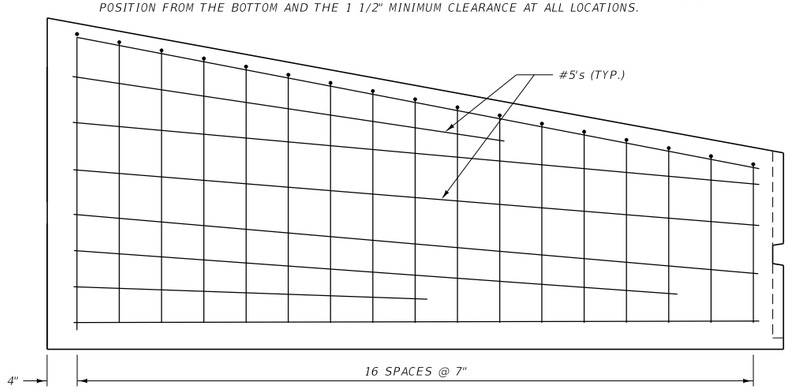
LEFT END EXTERIOR DIMENSIONS ARE APPROXIMATE.
MATCH FORMWORK TO EXISTING BRIDGE END BARRIER RAIL.



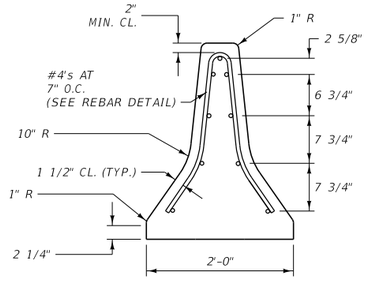
LEFT END VIEW

NOTE:

LEFT AND RIGHT REBAR DETAILS ARE FOR EXISTING BRIDGE BARRIER AND REGULAR CONCRETE BARRIER RAIL SECTIONS. TAPER REBAR HEIGHT AND WIDTH AS NEEDED BY MAINTAINING THE VERTICAL POSITION FROM THE BOTTOM AND THE 1 1/2" MINIMUM CLEARANCE AT ALL LOCATIONS.



ELEVATION VIEW



RIGHT END VIEW

DETAIL

CAST IN PLACE
MODIFIED CONCRETE BARRIER
RAIL TRANSITION

NO SCALE

2	MONTANA Department of Transportation	C:\DGN\9898000sattl001.dgn	DESIGNED BY	K. JOHNSON	4/11/2022	ROAD PLANS	SF189 US 93 ALT SAFETY IMPRV	HSIP 109-1(4)4
		8/4/2022	REVIEWED BY					
1		9:13:00 AM CPS - U2948	CHECKED BY			FLATHEAD COUNTY	UPN 9898000	SHEET 3