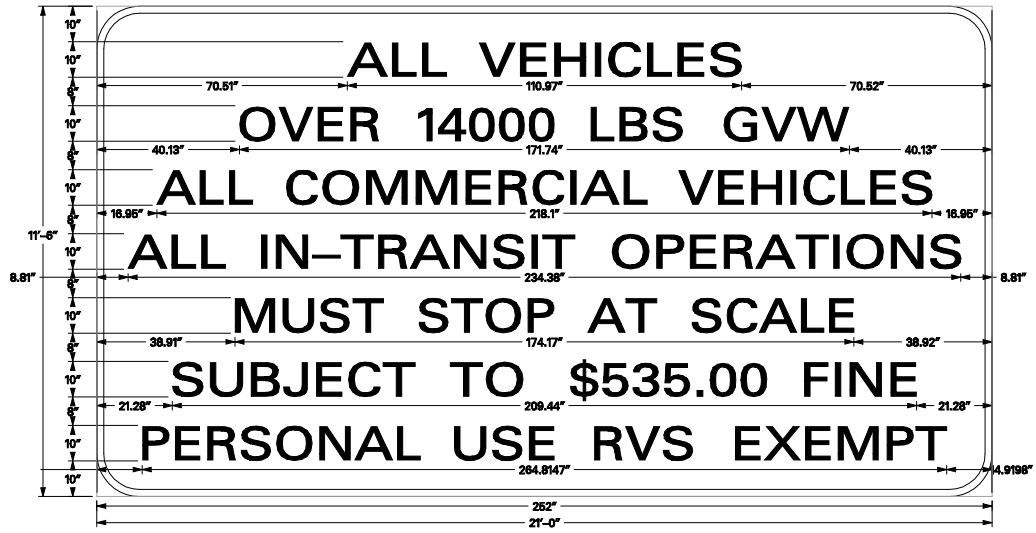
SIGN DESIGN CALCULATIONS

MONTANA DEPARTMENT OF TRANSPORTATION

PROJ. NO. _____

PROJ. TITLE HAUGEN INTERCHANGE



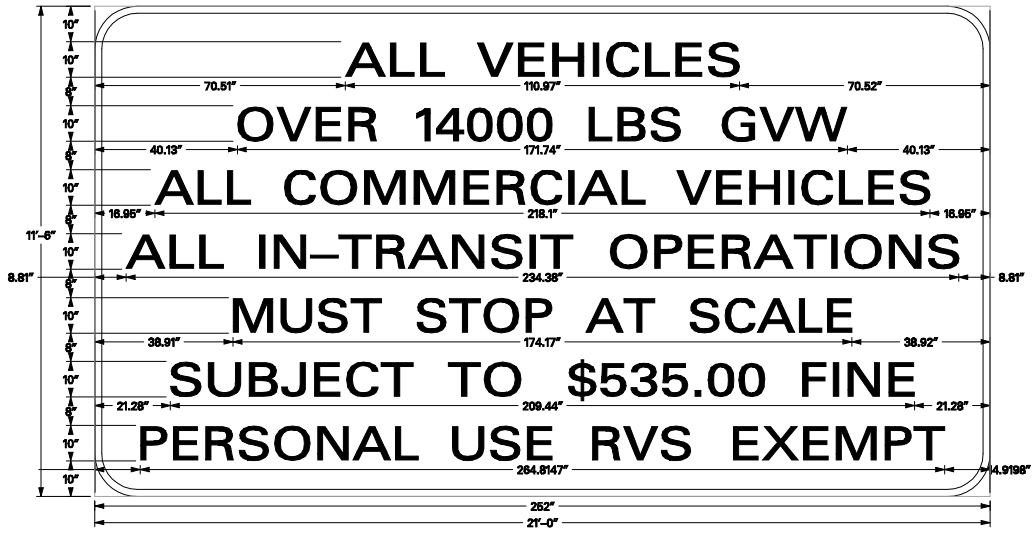
NOTE:
748+50R†
829+25L†

LINE 1			LINE 2			LINE 3			LINE 4			SPEC'S
LEGEND	LETTER		LEGEND	LETTER		LEGEND	LETTER		LEGEND	LETTER		SIGN NO.
	WIDTH	HEIGHT		WIDTH	HEIGHT		WIDTH	HEIGHT		WIDTH	HEIGHT	R13-1a
A	12.06	10"	O	10.34	10"	A	12.06	10"	A	12.06	10"	STA.
L	9.40	|	V	11.12	|	L	9.40	|	L	9.40	|	SEE NOTE
L	7.34	|	E	9.40	|	L	7.34	|	L	7.34	|	PANEL MAT'L
	10.00		R	7.97	|		10.00			10.00		ALUM INC
V	11.12	10"		10.00		C	10.03	10"	I	4.30	10"	WIDTH
E	9.40	|	1	5.03	10"	O	10.86	|	N	12.97	|	21'-0"
H	10.55	|	4	11.28	|	M	11.80	|	-	10.00	|	HEIGHT
I	4.30	|	O	10.34	|	M	11.80	|	T	9.40	|	11'-6"
C	10.03	|	O	10.34	|	E	9.40	|	R	10.03	|	AREA
L	9.40	|	O	8.28	|	R	10.03	|	A	12.06	|	241.5 sq.'
E	9.40	|		10.00		C	10.03	|	N	10.55	|	MARGIN
S	7.97	|	L	9.40	10"	I	3.78	|	S	10.55	|	
			B	10.03	|	A	12.06	|	I	3.78	|	BORDER
			S	7.97	|	L	7.34	|	T	7.34	|	2"
				10.00			10.00			10.00		CORNER R
			G	10.03	10"	V	11.12	10"	O	10.86	10"	12"
			V	9.74	|	E	9.40	|	P	10.55	|	LEGEND
			W	10.47	|	H	10.55	|	E	9.40	|	☐ REFL. "I"
						I	4.30	|	R	10.03	|	☒ REFL. "IV"
						C	10.03	|	A	10.68	|	COLOR
						L	9.40	|	T	9.40	|	WHITE
						E	9.40	|	I	4.30	|	BACKGROUND
						S	7.97	|	O	10.86	|	☐ REFL. "I"
									N	10.55	|	☐ REFL. "IV"
									S	7.97	|	COLOR
TOTAL TEMP.	110.97		TOTAL TEMP.	171.74		TOTAL TEMP.	218.10		TOTAL TEMP.	234.38		BLACK
LEFT EDGE	70.51		LEFT EDGE	40.13		LEFT EDGE	16.95		LEFT EDGE	8.81		LETTER SERIES "E"
RIGHT EDGE	70.52		RIGHT EDGE	40.13		RIGHT EDGE	16.95		RIGHT EDGE	8.81		ARROW SIZE
SIGN WIDTH	252.00		SIGN WIDTH	252.00		SIGN WIDTH	252.00		SIGN WIDTH	252.00		DESIGNED:RDS DATE: 02-09
												CHECKED: JHC DATE: 02-09

SIGN DESIGN CALCULATIONS

MONTANA DEPARTMENT OF TRANSPORTATION

PROJ. NO. _____
PROJ. TITLE HAUGEN INTERCHANGE



NOTE:
748+50Rt
829+25Lt

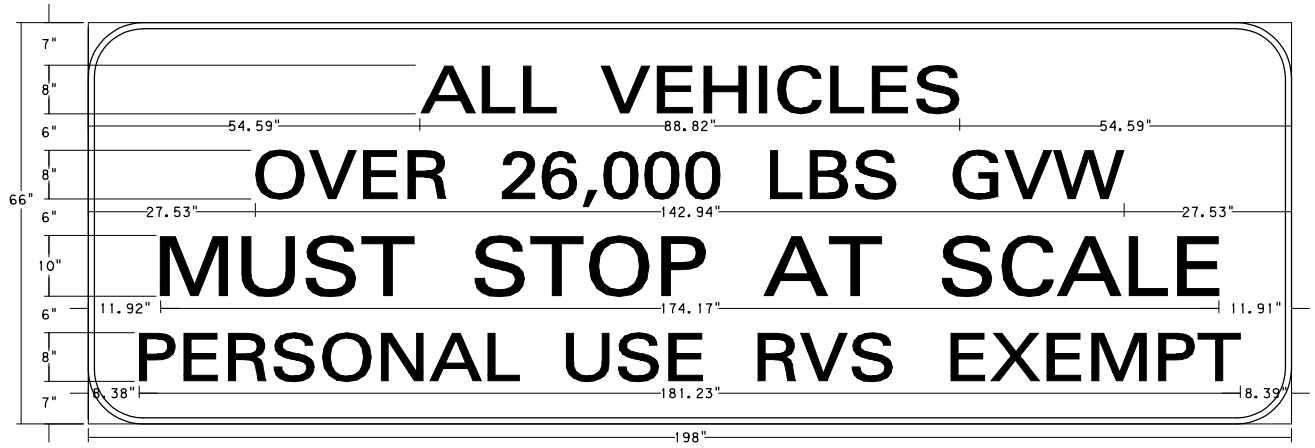
LINE 1			LINE 2			LINE 3			LINE 4			SPEC'S
LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	SIGN NO. R13-1a
M	11.80	10"	S	10.55	10"	P	10.55	10"				STA. SEE NOTE
U	10.55		U	10.55		E	9.40					
S	10.03		B	10.03		R	10.03					PANEL MAT'L ALUM INC
T	7.34		J	10.08		S	10.03					
	10.00		E	9.40		O	10.86					WIDTH 21'-0"
S	10.03	10"	C	9.34		N	10.03					
T	9.40		T	7.34		A	12.06					HEIGHT 11'-6"
O	10.86			10.00		L	7.34					
P	7.97		T	9.40	10"		10.00					AREA 241.5 sq.'
	10.00		O	8.28		U	10.55	10"				
A	10.68	10"		10.00		S	10.55					MARGIN
T	7.34		$	10.55	10"	E	7.34					
	10.00		5	10.03			10.00					BORDER 2"
S	10.03	10"	3	10.55		R	10.03	10"				
C	9.34		5	9.69		V	11.12					CORNER R 12"
A	12.06		.	3.44		S	7.97					
L	9.40		O	10.34			10.00					LEGEND ☐ REFL. "I" ☒ REFL. "IV" COLOR WHITE
E	7.34		O	8.28		E	9.40	10"				
				10.00		X	10.65					
			F	9.40	10"	E	9.40					
			I	4.30		M	11.80					BACKGROUND ☐ REFL. "I" ☐ REFL. "IV" COLOR BLACK
			N	10.55		P	10.03					
			E	7.34		T	7.34					
TOTAL TEMP.	174.17		TOTAL TEMP.	209.44		TOTAL TEMP.	226.48		TOTAL TEMP.			LETTER SERIES "E"
LEFT EDGE	38.91		LEFT EDGE	21.28		LEFT EDGE	12.76		LEFT EDGE			ARROW SIZE
RIGHT EDGE	38.92		RIGHT EDGE	21.28		RIGHT EDGE	12.76		RIGHT EDGE			DESIGNED: RDS DATE: 02-09
SIGN WIDTH	252.00		SIGN WIDTH	252.00		SIGN WIDTH	252.00		SIGN WIDTH			CHECKED: JHC DATE: 02-09

SIGN DESIGN CALCULATIONS

MONTANA DEPARTMENT OF TRANSPORTATION

PROJ. NO. _____

PROJ. TITLE HAUGEN INTERCHANGE



LINE 1			LINE 2			LINE 3			LINE 4			SPEC'S
LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	SIGN NO. R13-1a
A	9.65	8"	O	8.27	8"	M	11.80	10"	P	8.43	8"	STA.
L	7.53		V	8.90		U	10.55		E	7.53		
L	5.88		E	7.53		S	10.03		R	8.03		PANEL MAT'L
	8.00		R	6.38		T	7.34		S	8.03		ALUM INCR
V	8.90	8"		8.00			10.00		O	8.67		WIDTH
E	7.53		2	8.03	8"	S	10.03	10"	N	8.03		16'-6"
H	8.43		6	7.76		T	9.40		A	9.65		HEIGHT
I	3.43		,	2.76		O	10.86		L	5.88		5'-5"
C	8.03		0	8.27		P	7.97			8.00		AREA
L	7.53		0	8.27			10.00		U	8.43	8"	90.8sq
E	7.53		0	6.62		A	10.68	10"	S	8.43		MARGIN
S	6.38			8.00		T	7.34		E	5.88		
			L	7.53	8"		10.00			8.00		BORDER
			B	8.03		S	10.03	10"	R	8.03	8"	1"
			S	6.38		C	9.34		V	8.90		CORNER R
				8.00		A	12.06		S	6.38		9"
			G	8.03	8"	L	9.40			8.00		LEGEND
			V	7.80		E	7.34		E	7.53	8"	☐ REFL. "I"
			W	8.38					X	8.53		☒ REFL. "IV"
									E	7.53		COLOR WHITE
									M	9.43		BACKGROUND
									P	8.03		☐ REFL. "I"
									T	5.88		☐ REFL. "IV"
												COLOR BLACK
TOTAL TEMP.	88.82		TOTAL TEMP.	142.94		TOTAL TEMP.	174.17		TOTAL TEMP.	181.23		LETTER SERIES "E"
LEFT EDGE	54.59		LEFT EDGE	27.53		LEFT EDGE	11.92		LEFT EDGE	8.38		ARROW SIZE
RIGHT EDGE	54.59		RIGHT EDGE	27.53		RIGHT EDGE	11.91		RIGHT EDGE	8.39		DESIGNED: RDS DATE: 05/10
SIGN WIDTH	198.00		SIGN WIDTH	198.00		SIGN WIDTH	198.00		SIGN WIDTH	198.00		CHECKED: JHC DATE: 05/10

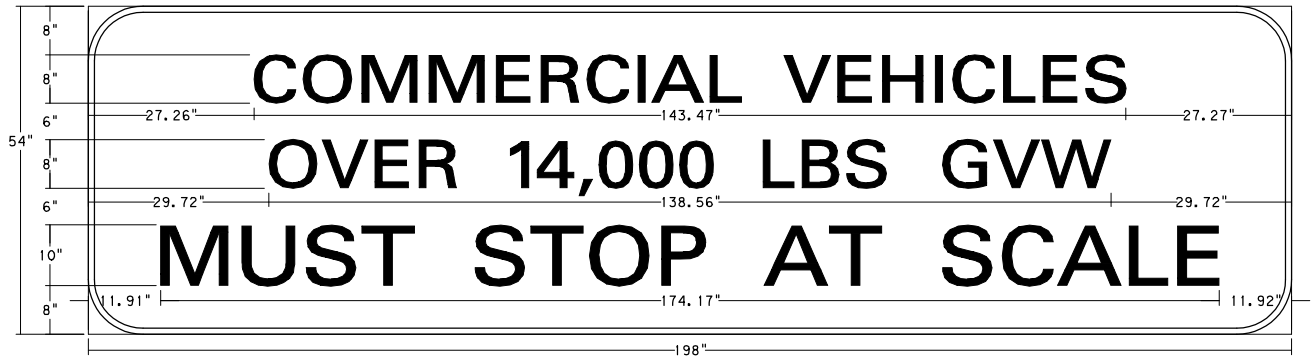
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SHEET 4
MONTANA CADD
$TIME$
$DATE$
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MONTANA DEPARTMENT OF TRANSPORTATION

PROJ. NO. _____
PROJ. TITLE HAUGEN INTERCHANGE



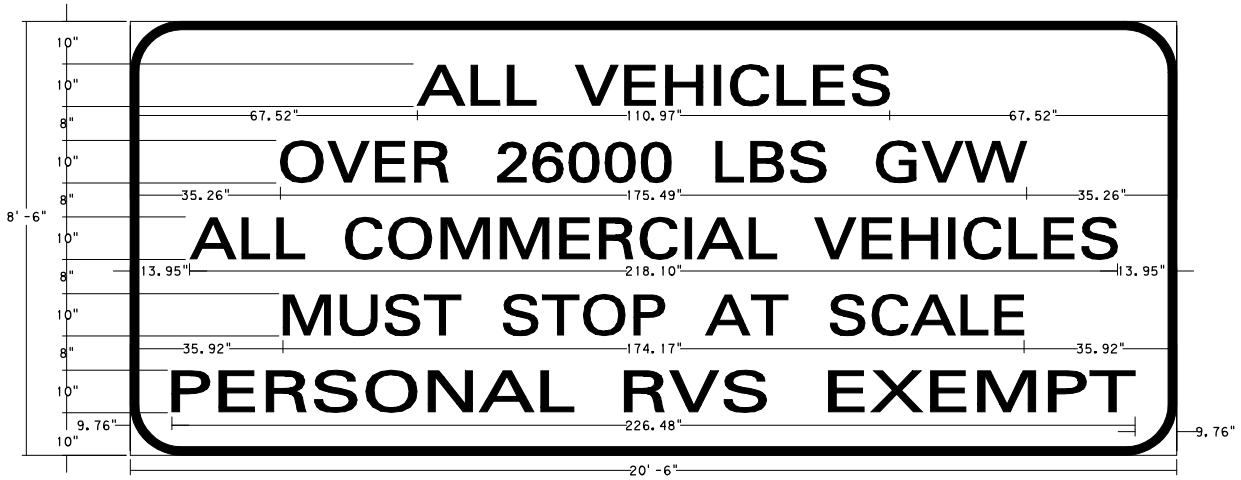
LINE 1			LINE 2			LINE 3			LINE 4			SPEC'S
LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	SIGN NO. R13-1b
C	8.03	8"	O	8.27	8"	M	11.80	10"				STA.
O	8.67		V	8.90		U	10.55					
M	9.43		E	7.53		S	10.03					PANEL MAT'L ALUM INCR
M	9.43		R	6.38		T	7.34					
E	7.53			8.00			10.00					WIDTH 16'-6"
R	8.03		1	4.03	8"	S	10.03	10"				
C	8.03		4	7.38		T	9.40					HEIGHT 4'-6"
I	3.03		,	2.76		O	10.86					
A	9.65		O	8.27		P	7.97					AREA 74.3sq
L	5.88		O	8.27			10.00					
	8.00		O	6.62		A	10.68	10"				MARGIN
V	8.90	8"		8.00		T	7.34					
E	7.53		L	7.53	8"		10.00					BORDER 1"
H	8.43		B	8.03		S	10.03	10"				
I	3.43		S	6.38		C	9.34					CORNER R 9"
C	8.03			8.00		A	12.06					
L	7.53		G	8.03	8"	L	9.40					LEGEND ☐ REFL."I" ☒ REFL."IV" COLOR WHTIE
E	7.53		V	7.80		E	7.34					
S	6.38		W	8.38								
												BACKGROUND ☐ REFL."I" ☐ REFL."IV" COLOR BLACK
TOTAL TEMP.	143.47		TOTAL TEMP.	138.56		TOTAL TEMP.	174.17		TOTAL TEMP.			LETTER SERIES "E"
LEFT EDGE	27.26		LEFT EDGE	29.72		LEFT EDGE	11.91		LEFT EDGE			ARROW SIZE
RIGHT EDGE	27.27		RIGHT EDGE	29.72		RIGHT EDGE	11.92		RIGHT EDGE			DESIGNED:RDS DATE: 05/10
SIGN WIDTH	198.00		SIGN WIDTH	198.00		SIGN WIDTH	198.00		SIGN WIDTH			CHECKED: JHC DATE: 05/10

SIGN DESIGN CALCULATIONS

MONTANA DEPARTMENT OF TRANSPORTATION

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PROJ. TITLE HAUGEN INTERCHANGE

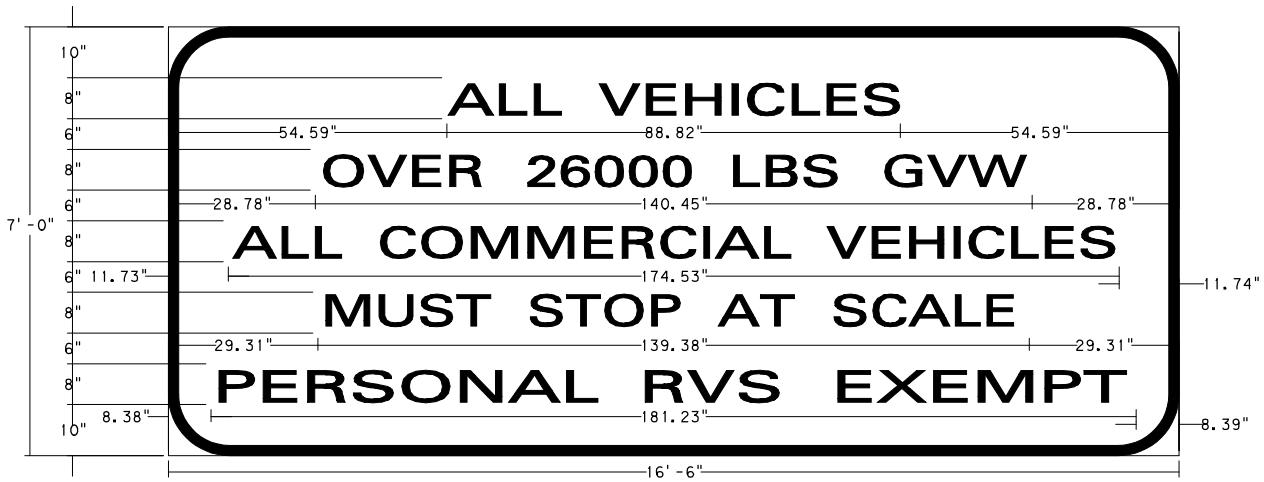


LINE 1			LINE 2			LINE 3			LINE 4			LINE 5			LINE 6			SPEC'S
LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	SIGN NO. R13-1b
A	12.06	10"	O	10.34	10"	A	12.06	10"	M	11.80	10"	P	10.55	10"				STA. SEE NOTE
L	9.40	|	V	11.12	|	L	9.40	|	U	10.55	|	E	9.40	|				
L	7.34	|	E	9.40	|	L	7.34	|	S	10.03	|	R	10.03	|				PANEL MAT'L ALUM INC
	10.00		R	7.97	|		10.00		T	7.34	|	S	10.03	|				
V	11.12	10"		10.00		C	10.03	10"		10.00		O	10.86	|				WIDTH 20'-6"
E	9.40	|	2	10.03	10"	O	10.86	|	S	10.03	10"	N	10.03	|				
H	10.55	|	6	10.03	|	M	11.80	|	T	9.40	|	A	12.06	|				HEIGHT 8'-6"
I	4.30	|	O	10.34	|	M	11.80	|	O	10.86	|	L	7.34						
C	10.03	|	O	10.34	|	E	9.40	|	P	7.97	|		10.00					AREA 174.25 sq.'
L	9.40	|	O	8.28	|	R	10.03	|		10.00		U	10.55	10"				
E	9.40	|		10.00		C	10.03	|	A	10.68	10"	S	10.55	|				MARGIN
S	7.97	|	L	9.40	10"	I	3.78.	|	T	7.34	|	E	7.34	|				
			B	10.03	|	A	12.06	|		10.00			10.00					BORDER 2"
			S	7.97	|	L	7.34	|	S	10.03	10"	R	10.03	10"				
				10.00			10.00		C	9.34	|	V	11.12	|				CORNER R 12"
			G	10.03	10"	V	11.12	10"	A	12.06	|	S	7.97					
			V	9.74	|	E	9.40	|	L	9.40	|		10.00					LEGEND ☐ REFL. "I" ☒ REFL. "IV" COLOR WHITE
			W	10.47	|	H	10.55	|	E	7.34	|	E	9.40	10"				
						I	4.30	|				X	10.65	|				
						C	10.03	|				E	9.40	|				
						L	9.40	|				M	11.80	|				BACKGROUND ☐ REFL. "I" ☐ REFL. "IV" COLOR BLAC K
						E	9.40	|				P	10.03	|				
						S	7.97	|				T	7.34	|				
TOTAL TEMP.	110.97		TOTAL TEMP.	175.49		TOTAL TEMP.	218.10		TOTAL TEMP.	174.17		TOTAL TEMP.	226.48		TOTAL TEMP.			LETTER SERIES "E"
LEFT EDGE	67.52		LEFT EDGE	35.26		LEFT EDGE	13.95		LEFT EDGE	35.92		LEFT EDGE	9.76		LEFT EDGE			ARROW SIZE
RIGHT EDGE	67.52		RIGHT EDGE	35.26		RIGHT EDGE	13.95		RIGHT EDGE	35.92		RIGHT EDGE	9.76		RIGHT EDGE			DESIGNED: RDS DATE: 12/09
SIGN WIDTH	246.00		SIGN WIDTH	246.00		SIGN WIDTH	246.00		SIGN WIDTH	246.00		SIGN WIDTH	246.00		SIGN WIDTH			CHECKED: JHC DATE: 12/09

SIGN DESIGN CALCULATIONS

MONTANA DEPARTMENT OF TRANSPORTATION

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PROJ. TITLE HAUGEN INTERCHANGE



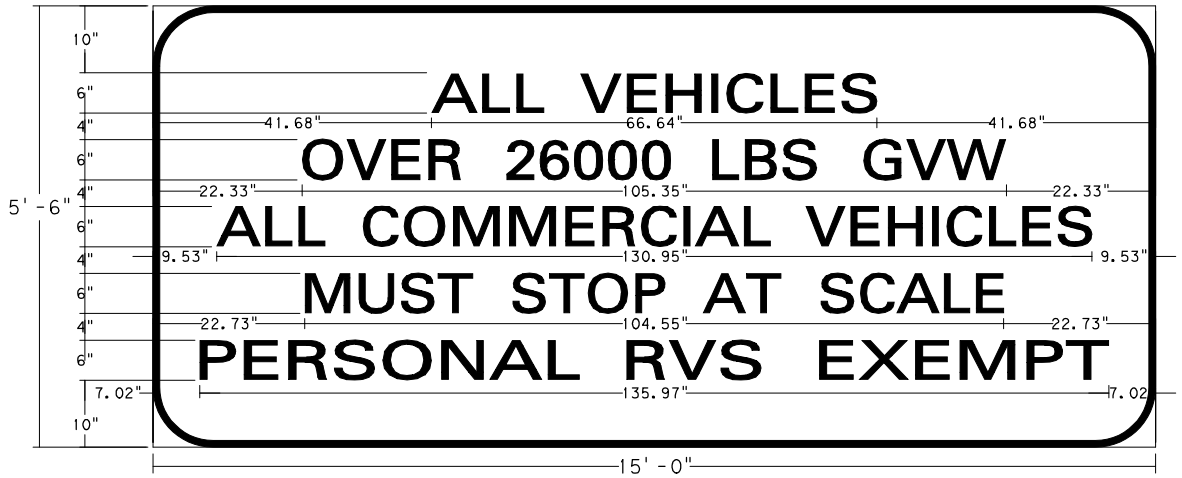
LINE 1			LINE 2			LINE 3			LINE 4			LINE 5			LINE 6			SPEC'S
LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	SIGN NO. R13-1c
A	9.65	8"	O	8.27	8"	A	9.65	8"	M	9.43	8"	P	8.43	8"				STA. SEE NOTE
L	7.53	|	V	8.90	|	L	7.53	|	U	8.43	|	E	7.53	|				
L	5.88	|	E	7.53	|	L	5.88	|	S	8.03	|	R	8.03	|				PANEL MAT'L ALUM INC
	8.00		R	6.38	|		8.00		T	5.88	|	S	8.03	|				
V	8.90	8"		8.00		C	8.03	8"		8.00		O	8.67	|				WIDTH 16'-6"
E	7.53	|	2	8.03	8"	O	8.67	|	S	8.03	8"	N	8.03	|				
H	8.43	|	6	8.03	|	M	9.43	|	T	7.53	|	A	9.65	|				HEIGHT 7'-0"
I	3.43	|	O	8.27	|	M	9.43	|	O	8.67	|	L	5.88					
C	8.03	|	O	8.27	|	E	7.53	|	P	6.38	|		8.00					AREA 115.5 sq.'
L	7.53	|	O	6.62	|	R	8.03	|		8.00		U	8.43	8"				
E	7.53	|		8.00		C	8.03	|	A	8.55	8"	S	8.43	|				MARGIN
S	6.38	|	L	7.53	8"	I	3.03	|	T	5.88	|	E	5.88	|				
			B	8.03	|	A	9.65	|		8.00			8.00					BORDER 2"
			S	6.38	|	L	5.88	|	S	8.03	8"	R	8.03	8"				
				8.00			8.00		C	7.48	|	V	8.90	|				CORNER R 12"
			G	8.03	8"	V	8.90	8"	A	9.65	|	S	6.38	|				
			V	7.80	|	E	7.53	|	L	7.53	|		8.00					LEGEND ☐ REFL. "I" ☒ REFL. "IV" COLOR WHITE
			W	8.38	|	H	8.43	|	E	5.88	|	E	7.53	8"				
						I	3.43	|				X	8.53	|				
						C	8.03	|				E	7.53	|				
						L	7.53	|				M	9.43	|				BACKGROUND ☐ REFL. "I" ☐ REFL. "IV" COLOR BLAC K
						E	7.53	|				P	8.03	|				
						S	6.38	|				T	5.88	|				
TOTAL TEMP.	88.82		TOTAL TEMP.	140.45		TOTAL TEMP.	174.53		TOTAL TEMP.	139.38		TOTAL TEMP.	181.23		TOTAL TEMP.			LETTER SERIES "E"
LEFT EDGE	54.59		LEFT EDGE	28.78		LEFT EDGE	11.74		LEFT EDGE	29.31		LEFT EDGE	8.39		LEFT EDGE			ARROW SIZE
RIGHT EDGE	54.59		RIGHT EDGE	28.78		RIGHT EDGE	11.74		RIGHT EDGE	29.31		RIGHT EDGE	8.39		RIGHT EDGE			DESIGNED: RDS DATE: 12/09
SIGN WIDTH	198.00		SIGN WIDTH	198.00		SIGN WIDTH	198.00		SIGN WIDTH	198.00		SIGN WIDTH	198.00		SIGN WIDTH			CHECKED: JHC DATE: 12/09

SIGN DESIGN CALCULATIONS

MONTANA DEPARTMENT OF TRANSPORTATION

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PROJ. TITLE HAUGEN INTERCHANGE



LINE 1			LINE 2			LINE 3			LINE 4			LINE 5			LINE 6			SPEC'S
LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	LEGEND	LETTER WIDTH	LETTER HEIGHT	SIGN NO. R13-1d
A	7.24	6"	O	6.21	6"	A	7.24	6"	M	7.08	6"	P	6.33	6"				STA. SEE NOTE
L	5.65	|	V	6.68	|	L	5.65	|	U	6.33	|	E	5.65	|				
L	4.41	|	E	5.65	|	L	4.41	|	S	6.02	|	R	6.02	|				PANEL MAT'L ALUM INC
	6.00		R	4.78	|		6.00		T	4.41	|	S	6.02	|				
V	6.68	6"		6.00		C	6.02	6"		6.00		O	6.52	|				WIDTH 15'-0"
E	5.65	|	2	6.02	6"	O	6.52	|	S	6.02	6"	N	6.02	|				
H	6.33	|	6	6.02	|	M	7.08	|	T	5.65	|	A	7.24	|				HEIGHT 5'-6"
I	2.58	|	O	6.21	|	M	7.08	|	O	6.52	|	L	4.41	|				
C	6.02	|	O	6.21	|	E	5.65	|	P	4.78	|		6.00					AREA 82.5 sq.'
L	5.65	|	O	4.97	|	R	6.02	|		6.00		U	6.33	6"				
E	5.65	|		6.00		C	6.02	|	A	6.41	6"	S	6.33	|				MARGIN
S	4.78	|	L	5.65	6"	I	2.27	|	T	4.41	|	E	4.41	|				
			B	6.02	|	A	7.24	|		6.00			6.00					BORDER 1"
			S	4.78	|	L	4.41	|	S	6.02	6"	R	6.02	6"				
				6.00			6.00		C	5.60	|	V	6.68	|				CORNER R 9"
			G	6.02	6"	V	6.68	6"	A	7.24	|	S	4.78	|				
			V	5.85	|	E	5.65	|	L	5.65	|		6.00					LEGEND ☐ REFL."I" ☒ REFL."IV" COLOR WHITE
			W	6.28	|	H	6.33	|	E	4.41	|	E	5.65	6"				
						I	2.58	|				X	6.40	|				
						C	6.02	|				E	5.65	|				
						L	5.65	|				M	7.08	|				BACKGROUND ☐ REFL."I" ☐ REFL."IV" COLOR BLACK
						E	5.65	|				P	6.02	|				
						S	4.78	|				T	4.41	|				
TOTAL TEMP.	66.64		TOTAL TEMP.	105.35		TOTAL TEMP.	130.95		TOTAL TEMP.	104.55		TOTAL TEMP.	135.97		TOTAL TEMP.			LETTER SERIES "E"
LEFT EDGE	41.68		LEFT EDGE	22.33		LEFT EDGE	9.53		LEFT EDGE	22.73		LEFT EDGE	7.02		LEFT EDGE			ARROW SIZE
RIGHT EDGE	41.68		RIGHT EDGE	22.33		RIGHT EDGE	9.53		RIGHT EDGE	22.73		RIGHT EDGE	7.02		RIGHT EDGE			DESIGNED: RD DATE: 12/09
SIGN WIDTH	180.00		SIGN WIDTH	180.00		SIGN WIDTH	180.00		SIGN WIDTH	180.00		SIGN WIDTH	180.00		SIGN WIDTH			CHECKED: JHC DATE: 12/09