

**ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN**

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE OFFICE OF MATERIALS MANAGEMENT WEB PAGE. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 800 FEET AND 650 FEET, RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH C&MS 614.03.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE SHOWN ON SHEET(S) OF THE PLAN. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED AWAY FROM ALL TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGEABLE MESSAGES WILL BE IMPLEMENTED WITHIN 4 HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE. THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR PHONE AREAS) ALLOW REMOTE SIGN ACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES. ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM OR EQUIVALENT) SHALL BE FURNISHED FOR USE BY THE DISTRICT TRAFFIC ENGINEER, OR EQUIVALENT, AND SHALL BE INSURED AGAINST THEFT.

**ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN, CONT'D**

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF C&MS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 6 SIGN MONTH ASSUMING 2 PCMS SIGN(S) FOR 3 MONTH(S)

**ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR)**

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC, OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

**ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) CONT'D**

**IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION (OR AT THE POINT OF ROAD CLOSURE), AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES.**

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE THAT SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 80 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF A LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

**WORK ZONE MARKINGS AND SIGNS**

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS AND SIGNS PER THE REQUIREMENTS OF C&MS 614.04 AND 614.11.

ITEM 614, WORK ZONE MARKING SIGN	23 EACH
ITEM 614, WORK ZONE LANE LINE, CLASS III, 642 PAINT	89.88 MILE
ITEM 614, WORK ZONE EDGE LINE, CLASS I, 6", 740.06, TYPE I	0.57 MILE
ITEM 614, WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT	12,300 FT
ITEM 614, WORK ZONE STOP LINE, CLASS III, 642 PAINT	879 FT
ITEM 614, WORK ZONE DOTTED LINE, CLASS I, 6", 740.06, TYPE I	184 FT

WORK XONE MARKING QUANTITIES FOR USE AFTER THE REMOVAL OF EXISTING THERMOPLASTIC PAVEMENT MARKINGS AND AFTER MICROSURFACING LEVELING COURSE, AND MICROSURFACING SURFACE COURSE.

**DUST CONTROL**

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER 5 M. GAL.

DESIGN AGENCY



DESIGNER

KDR

REVIEWER

DMB

PROJECT ID

114765

SHEET

P.6


TOTAL

11

SHEET NUM.					PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
4	5	6	8	9	01/NHS/PV	EXT	TOTAL				
										<b>EROSION CONTROL</b>	
					LS	201	11000	LS		CLEARING AND GRUBBING	
					1,000	832	30000	1,000	EACH	EROSION CONTROL	
										<b>PAVEMENT</b>	
2,500					2,500	251	01021	2,500	SY	PARTIAL DEPTH PAVEMENT REPAIR (442), AS PER PLAN	4
			333,027		333,027	421	10010	333,027	SY	MICROSURFACING, SURFACE COURSE	
			333,027		333,027	421	10020	333,027	SY	MICROSURFACING, LEVELING COURSE	
450					450	617	10100	450	CY	COMPACTED AGGREGATE	
		30			30	618	40600	30	MILE	RUMBLE STRIPS, SHOULDER (ASPHALT CONCRETE)	
			900		900	897	01011	900	SY	PAVEMENT PLANING, ASPHALT CONCRETE, CLASS A, AS PER PLAN	4
180					180	897	02000	180	SY	PATCHING PLANED SURFACE	
										<b>TRAFFIC CONTROL</b>	
				1,127	1,127	621	00100	1,127	EACH	RPM	
				1,127	1,127	621	54000	1,127	EACH	RAISED PAVEMENT MARKER REMOVED	
				110	110	644	00500	110	FT	STOP LINE	
				850	850	644	00700	850	FT	TRANSVERSE/DIAGONAL LINE	
				100	100	644	00900	100	SF	ISLAND MARKING	
				20	20	644	01300	20	EACH	LANE ARROW	
				960	960	644	30000	960	FT	REMOVAL OF PAVEMENT MARKING	
				100	100	644	30010	100	SF	REMOVAL OF PAVEMENT MARKING	
				20	20	644	30020	20	EACH	REMOVAL OF PAVEMENT MARKING	
				46.34	46.34	644	30030	46.34	MILE	REMOVAL OF PAVEMENT MARKING	
				0.24	0.24	807	12010	0.24	MILE	WET REFLECTIVE EPOXY PAVEMENT MARKING, EDGE LINE, 6"	
				0.12	0.12	807	12110	0.12	MILE	WET REFLECTIVE EPOXY PAVEMENT MARKING, LANE LINE, 6"	
				29.96	29.96	807	14010	29.96	MILE	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, EDGE LINE, 6"	
				14.98	14.98	807	14110	14.98	MILE	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, LANE LINE, 6"	
				4,920	4,920	807	14310	4,920	FT	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, CHANNELIZING LINE, 12"	
				5,515	5,515	807	14410	5,515	FT	WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING, DOTTED LINE, 6"	
				44.94	44.94	850	10010	44.94	MILE	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (ASPHALT)	
				5,515	5,515	850	10110	5,515	FT	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (ASPHALT)	
				4,920	4,920	850	10130	4,920	FT	GROOVING FOR 12" RECESSED PAVEMENT MARKING, (ASPHALT)	
				0.36	0.36	850	20010	0.36	MILE	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (CONCRETE)	
										<b>MAINTENANCE OF TRAFFIC</b>	
		80			80	614	11110	80	hour	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
		23			23	614	12460	23	EACH	WORK ZONE MARKING SIGN	
16					16	614	12484	16	EACH	WORK ZONE INCREASED PENALTIES SIGN	
		6			6	614	18601	6	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	6
		89.88			89.88	614	20560	89.88	MILE	WORK ZONE LANE LINE, CLASS III, 6", 642 PAINT	
		0.57			0.57	614	22210	0.57	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 740.06, TYPE I	
		12,300			12,300	614	23680	12,300	FT	WORK ZONE CHANNELIZING LINE, CLASS III, 8", 642 PAINT	
		184			184	614	24402	184	FT	WORK ZONE DOTTED LINE, CLASS I, 6", 740.06, TYPE I	
		879			879	614	26610	879	FT	WORK ZONE STOP LINE, CLASS III, 642 PAINT	
		5			5	616	10000	5	MGAL	WATER	
54					54	808	18700	54	SNMT	DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY	
					LS	614	11000	LS		<b>INCIDENTALS</b>	
					LS	624	10000	LS		MAINTAINING TRAFFIC	
										MOBILIZATION	

GENERAL SUMMARY

DESIGN AGENCY



DESIGNER  
KDR

REVIEWER  
DMB

PROJECT ID  
114765


SHEET TOTAL  
P.7 11

BRO/HIG-32-8.15/0.00

MODEL: Sheet PAPER: 34x22 (in.) DATE: 9/12/2022 TIME: 10:00:11 AM USER: kraybur1  
p:\vhodod-pw-bentley.com\vhodod-pw-02\Documents\01 Active Projects\District 09\Browm\114765400-Engineering\Roadway\Sheets\114765\_GS001.dgn

LOCATION	DIRECTION	LOG POINT		LENGTH	807									644						850				644			621			COMMENTS				
		FROM	TO		WET REFLECTIVE THERMOPLASTIC PAVEMENT MARKING					WET REFLECTIVE EPOXY PAVEMENT MARKING				EXTRA MARKINGS						GROOVING				REMOVAL OF PAVEMENT MARKING			RPM	RAISED PAVEMENT MARKER REMOVED						
					SLM	SLM	MILE	MILE	MILE	MILE	MILE	FT	FT	FT	MILE	MILE	MILE	FT	EACH	SF	FT	FT	MILE	FT	FT	MILE			FT		SF	EACH	MILE	EACH
HIG-32	EB	0.00	0.39	0.39	0.39	0.39	0.39														1.17								1.17					
	WB	0.00	0.39	0.39	0.39	0.39	0.39														1.17								1.17					
BRO-32	EB	8.15	11.34	3.19	3.19	3.19	3.19														9.57								9.57					
	WB	8.15	11.34	3.19	3.19	3.19	3.19														9.57								9.57					
	EB	11.34	11.37	0.03	0.03	0.03	0.03														0.09								0.09					
	WB	11.34	11.37	0.03	0.03	0.03	0.03														0.09								0.09					
	EB	11.37	11.40	0.03	0.03	0.03	0.03														0.09								0.09					
	WB	11.37	11.40	0.03	0.03	0.03	0.03														0.09								0.09					
	EB	11.40	11.46	0.06							0.06	0.06	0.06																0.18					
	WB	11.40	11.46	0.06							0.06	0.06	0.06																0.18					
	EB	11.46	15.31	3.85	3.85	3.85	3.85														11.55								11.55					
	WB	11.46	15.31	3.85	3.85	3.85	3.85														11.55								11.55					
EXTRA AREAS																																		
SICILY RD			8.35					130	825												955								0.18					
BEAN RD			9.02					290	800												1090								0.21					
CORBOY & FRYE RD.			9.56					300	850												1150								0.22					
REST STOP			10.34					675	495	185											680	675						0.13						
MATTHEWS RD			10.70					280	770												1050								0.20					
SR 134			11.34					1210	320	270				110	6	100					590	1210		402.00	100.00	6.00		0.11				LEFT TURN ARROW		
SARDINIA MOWRYSTOWN RD			11.94					1208																									LEFT TURN ARROW	
STIEMAN RD INTERSECTION			13.00					1827																									LEFT TURN ARROW	
FIVE POINTS-MOWRYSTOWN RD			14.05																															
FIVE PONTES-FINCASTLE RD			14.39																															
FREEH RD INTERSECTION			15.27																															
TOTALS CARRIED FROM SHEET 10																																		
THIS SHEET SUB-TOTALS				14.98	14.98	14.98	4920	1815	3700		0.12	0.12	0.12	110	20	100				850	44.94	5515	4920	0.36	960.00	100	20	46.34	1127	1127				
THIS SHEET TOTALS				29.96	14.98	4920		5515			0.24	0.12	110	20	100				850	44.94	5515	4920	0.36	960.00	100	20	46.34	1127	1127					
TOTALS CARRIED TO GENERAL SUMMARY				29.96	14.98	4920		5515			0.24	0.12	110	20	100				850	44.94	5515	4920	0.36	960.00	100	20	46.34	1127	1127					

PAVEMENT MARKING SUB-SUMMARY

DESIGN AGENCY: 

DESIGNER: KDR

REVIEWER: DMB

PROJECT ID: 114765

SHEET: P.9 TOTAL: 11