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					SHEET	Γ NUM.						PART.		ITEM	GRAND			SEE
2	3	6	7	8	12							01/SAF/21	ITEM	EXT	TOTAL	UNIT		NO.
					1	1	1		1			1	625	31510	1	EACH	PULL BOX REMOVED	
					- '		-	1				- 1	625	31310	-	EACH	POLL BOX REWOVED	
																	EROSION CONTROL	
5												5	659	00300	5	CY	TOPSOIL	
45												45	659	00500	45	SY	SEEDING AND MULCHING, CLASS 1	
20												20	659	14000	20	SY	REPAIR SEEDING AND MULCHING	
20 0.05					<u> </u>	1		-	-			20 0.05	659 659	15000	20 0.05	SY TON	INTER-SEEDING COMMERCIAL FERTILIZER	
0.05					-		+	1	1			0.05	009	20000	0.05	TON	COMMERCIAL PER HILLER	
1												1	659	35000	1	MGAL	WATER	
																	PAVEMENT	
					15							15	617	10100	15	CY	COMPACTED AGGREGATE	
																	TRAFFIC CONTROL	
			13		-		+		 		\vdash	13	630	03100	13	FT	GROUND-MOUNTED-SURRORT, NO3-ROST	
			1									1	630	74500	1	EACH	OVERHEAD SIGN SUPPORT, MISC.:SIGN SUPPORT, TYPE TC-9.31, DESIGN 2	9
			4									4	630	79101	4	EACH	SIGN-HANGER ASSEMBLY, MASTARM, AS PER PLAN	9
			3									3	630	79501	3	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN	9
			16				-		-			16	630	80100	16	SF	SIGN, FLAT SHEET	
			20				1		-			20	630	80101	20	SF	SIGN, FLAT SHEET, AS PER PLAN	9
			1			<u> </u>	+					1	630	80511	1	EACH	SIGN, STREET NAME, AS PER PLAN	9
			2									2	630	84900	2	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
			2									2	630	87101	2	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION, AS PER PLAN	9
			1									1	630	89706	1	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-12.30	
			470									470	0.40		470			
			170				-					170	642	30000	170	FT	REMOVAL OF PAVEMENT MARKING	
			0.02				1					0.02	646	10200	0.02	MILE	CENTER LINE	
			62									62	646	10400	62	FT	STOP LINE	
			46									46	646	10800	46	SF	ISLAND MARKING	
			136									136	646	50100	136	FT	REMOVAL OF PAVEMENT MARKING	
					<u> </u>	<u> </u>	1											
				60								60	611	00400	60	FT	TRAFFIC SIGNALS 4" CONDUIT, TYPE E	
				00								00	011	00400	00		4 CONDON, TIPE E	
		58										58	625	25408	58	FT	CONDUIT, 2", 725.051	
		22										22	625	25504	22	FT	CONDUIT, 3", 725.051	
		24										24	625	25604	24	FT	CONDUIT, 4", 725.051	
		91				<u> </u>	-	ļ				91	625 625	25909 25909	91 112	FT FT	CONDUIT, JACKED OR DRILLED, 725.052, AS PER PLAN, 3" CONDUIT, JACKED OR DRILLED, 725.052, AS PER PLAN, 4"	9
		112										112	625	25909	112	FI	CONDUIT, JACKED ON DRILLED, 725.052, AS PER PLAIN, 4	9
		92										92	625	29000	92	FT	TRENCH	
		1										1	625	30700	1		PULL BOX, 725.08, 18"	
		2										2	625	30706	2		PULL BOX, 725.08, 24"	
		5										5	625	32000	5	EACH	GROUND ROD	
		92			-	 	1		1	1	 	92	625	36010	92	FT	UNDERGROUND WARNING/MARKING TAPE	
		7			-							7	632	05007	7	EACH	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, BLACK	9
		1										1	632	05087	1	EACH	VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, BLACK	9
		8										8	632	25000	8	EACH	COVERING OF VEHICULAR SIGNAL HEAD	
		632										632	632	40500	632	FT	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	
		712										712	632	40700	712	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
		2			 	1	1		-	1		2	632	64044	2	EACH	SIGNAL SUPPORT FOUNDATION, AS PER PLAN	9
		3 39			-	1	+		1			3 39	632	64011 69800	3 39	EACH FT	SERVICE CABLE, 3 CONDUCTOR, NO. 6 AWG	9
		1					1		1			1	632	70001	1	EACH	POWER SERVICE, AS PER PLAN	9
		2										2	632	72151	2	EACH	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 14, AS PER PLAN	10
		1										1	632	79151	1	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 14, AS PER PLAN	10
													200	055.1		E. C.	CARNET TYPE TO CAR PER PLAN	40
		1			<u> </u>	1	-		1			1	633	65511	1	EACH	CABINET, TYPE TS-2, AS PER PLAN	10
		1					+		-			1	633 633	67100 67201	1 1	EACH EACH	CABINET FOUNDATION CONTROLLER WORK PAD. AS PER PLAN	10
		1							1			1	633	75001	1	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN	10
																	, , , , , , , , , , , , , , , , , , , ,	
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CHOICE ONE ENGINEERING

BMW
REVIEWER
AJH 02-22-2022

PROJECT ID 117515 SHEET TOTAL P:4 18

LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	GROUND MOUNTED SUPPORT, NO. 3 POST	OVERHEAD SIGN SUPPORT, MISC.:SIGN SUPPORT, TYPE TC-9.31, DESIGN 2	SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN	SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN	SIGN, FLAT SHEET	FLAT SHEET, AS PER PLAN	STREET NAME, AS PER PLAN	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION, AS PER PLAN	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-12.30								
NORTHWOODS						0 2	Sov	SIGN	O)	SIGN,	SIGN,	REMC	REMOVA MOUN	REMOVA SIGN S DISPOSA								
	(00:00 (0 (00 0)				FT	EACH	EACH	EACH	SF	SF	EACH	EACH	EACH	EACH								
	108+36.10 (SP-3)	RT	R3-5	30"x36"			1			7.5												
NORTHWOODS	107+31.80 (SP-1)	LT	R3-1	30"x30"			1			6.25												
NORTHWOODS	107+31.80 (SP-1)	LT	R3-2	30"x30"			1			6.25												
NORTHWOODS	107+31.63 (SP-2)	RT	D3-1	78"x18"			1				1											
NORTHWOODS	107+31.80 (SP-1)	LT	R9-3	24"x24"				1	4													
NORTHWOODS	107+31.63 (SP-2)	RT	R9-3	24"x24"				1	4													
NORTHWOODS	107+69.97	LT										1										
NORTHWOODS	108+13.97	LT										1										
NORTHWOODS	108+36.00	LT	R9-3	24"x24"	13				4													
NORTHWOODS	108+36.10 (SP-3)	RT	R9-3	24"x24"				1	4													
NORTHWOODS	108+36.10 (SP-3)	RT	MISC.	96"x84"		1							2	1								
			100000 200 00000	20000000									0.0									
TOTALS CARRIED TO GENERAL SUMMARY								3	16	20	1	2	2	1								
	NORTHWOODS NORTHWOODS NORTHWOODS NORTHWOODS NORTHWOODS NORTHWOODS NORTHWOODS NORTHWOODS	NORTHWOODS 107+31.63 (SP-2) NORTHWOODS 107+31.80 (SP-1) NORTHWOODS 107+31.63 (SP-2) NORTHWOODS 107+69.97 NORTHWOODS 108+13.97 NORTHWOODS 108+36.00 NORTHWOODS 108+36.10 (SP-3) NORTHWOODS 108+36.10 (SP-3)	NORTHWOODS 107+31.63 (SP-2) RT NORTHWOODS 107+31.80 (SP-1) LT NORTHWOODS 107+31.63 (SP-2) RT NORTHWOODS 107+69.97 LT NORTHWOODS 108+13.97 LT NORTHWOODS 108+36.00 LT NORTHWOODS 108+36.10 (SP-3) RT	NORTHWOODS 107+31.63 (SP-2) RT D3-1 NORTHWOODS 107+31.80 (SP-1) LT R9-3 NORTHWOODS 107+31.63 (SP-2) RT R9-3 NORTHWOODS 107+69.97 LT NORTHWOODS 108+13.97 LT NORTHWOODS 108+36.00 LT R9-3 NORTHWOODS 108+36.10 (SP-3) RT R9-3 NORTHWOODS 108+36.10 (SP-3) RT MISC.	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78"x18" 1 1 NORTHWOODS 107+31.80 (SP-1) LT R9-3 24"x24" 1 4 NORTHWOODS 107+31.63 (SP-2) RT R9-3 24"x24" 1 4 NORTHWOODS 107+69.97 LT 1 1 NORTHWOODS 108+13.97 LT 1 NORTHWOODS 108+36.00 LT R9-3 24"x24" 13 NORTHWOODS 108+36.10 (SP-3) RT R9-3 24"x24" 1 4 NORTHWOODS 108+36.10 (SP-3) RT MISC. 96"x84" 1 1 4	NORTHWOODS 107+31.63 (SP-2) RT D3-1 78"x18" 1 1 1 NORTHWOODS 107+31.80 (SP-1) LT R9-3 24"x24" 1 4 4 NORTHWOODS 107+31.63 (SP-2) RT R9-3 24"x24" 1 4 1 NORTHWOODS 108+36.97 LT 1 1 1 1 NORTHWOODS 108+36.00 LT R9-3 24"x24" 13 4 1 NORTHWOODS 108+36.10 (SP-3) RT R9-3 24"x24" 1 4 1 NORTHWOODS 108+36.10 (SP-3) RT MISC. 96"x84" 1 4 1	NORTHWOODS 107+31.63 (SP-2) RT D3-1 78"x18" 1 1 1 1 NORTHWOODS 107+31.80 (SP-1) LT R9-3 24"x24" 1 4 4 NORTHWOODS 107+31.63 (SP-2) RT R9-3 24"x24" 1 4 NORTHWOODS 107+69.97 LT 1 1 1 NORTHWOODS 108+13.97 LT 1 1 1 NORTHWOODS 108+36.00 LT R9-3 24"x24" 13 4 1 NORTHWOODS 108+36.10 (SP-3) RT R9-3 24"x24" 1 1 4 NORTHWOODS 108+36.10 (SP-3) RT MISC. 96"x84" 1 1 4	NORTHWOODS 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			642	646	646	646	646							
REF NO.	SHEET NO.	STATION TO STATION	REMOVAL OF PAVEMENT MARKING	CENTER LINE	STOP LINE	ISLAND MARKING	REMOVAL OF PAVEMENT MARKING							
			FT	MILE	FT	SF	FT							
CL1	18	109+67.15 TO 110+66.21		0.02										
IS1	18	107+37.16 TO 107+42.16				46								
			İ											
SL1	18	107+37.16			27									
SL2	18	108+29.48			35									
R1	18	107+37.16 TO 107+65.17	29											
R2	18	107+37.16 TO 107+75.32	38											
R3	18	107+37.16 TO 107+76.69	40											
R4	18	108+18.43 TO 108+29.48	21											
R5	18	108+18.63 TO 108+29.48	21											
R6	18	108+19.48 TO 108+29.48	21											
R7	18	109+42.15 TO 110+66.21					136							
TOTALS	CARRIED TO	O GENERAL SUMMARY	170	0.02	62	46	136							



CHOICE ONE ENGINEERING
DESIGNER
BMW
REVIEWER
AJH 02-22-2022
PROJECT ID
117515
SHEET TOTAL
P:7 18

22 75 |≌ MOT

MAINTENANCE OF TRAFFIC SIGNAL

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

- 1. TIME OF NOTIFICATION OF MALFUNCTION:
- 2. TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION;
- 3. ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED;
- 4. A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY
- 5. TIME OF COMPLETION OF THE REPAIR AND SYSTEM RESTORED TO FULL SERVICE.

A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE PROJECT ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF FACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

ITEM 625 CONDUIT, JACKED OR DRILLED, 725.052, AS PER PLAN (DIAMETER).

THIS ITEM OF WORK SHALL CONSIST OF THE WORK AS DESCRIBED IN OHIO DEPARTMENT OF TRANSPORTATION ITEM 625 CONDUIT, EXCEPT AS HEREIN MODIFIED.

ALL MATERIALS, PROCEDURES, AND TESTING USED SHALL CONFORM WITH THE ENCLOSED STANDARDS AND SPECIFICATIONS.

ALL CONDUIT CAPABLE OF HORIZONTAL DIRECTIONAL DRILLING SHALL BE EPEC-40-HDPE.

THE HORIZONTAL DIRECTIONAL DRILLING SHALL BE IN ACCORDANCE WITH ASTM F1962 AT THE LOCATIONS SHOWN ON THE PLANS.

AN EXTRA PULL STRING, FOR FUTURE USE, SHALL BE INSTALLED IN ALL CONDUIT.

THIS ITEM OF WORK SHALL INCLUDE FURNISHING AND INSTALLING ALL FITTINGS, BENDS, TEES, COUPLINGS, RESTRAINTS, TRACING WIRE, PULL STRING, ETC. AND SHALL INCLUDE THE COST FOR THE HORIZONTAL DIRECTIONAL DRILLING OF THE CONDUIT.

THIS ITEM OF WORK SHALL INCLUDE ALL COSTS ASSOCIATED WITH THE HORIZONTAL DIRECTIONAL DRILLING OF THE CONDUIT. THIS INCLUDES ANY REQUIRED BORING PITS, DEWATERING, BACKFILLING OF PITS, COMPACTION, ASPHALT, GRAVEL AND CONCRETE REPAIR, SEEDING AND MULCHING, LANDSCAPING REPAIR, ETC. NECESSARY TO RESTORE THE AREA BACK TO EQUAL OR BETTER CONDITIONS.

PAYMENT FOR ITEM 625 CONDUIT, JACKED OR DRILLED, 725.052, AS PER PLAN, (DIAMETER), FOR ALL OPERATIONS DESCRIBED (INCLUDING TESTING AND PURITIES) ABOVE SHALL BE AT THE CONTRACT FOOT BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 630 OVERHEAD SIGN SUPPORT, MISC.: SIGN SUPPORT, TYPE TC-9.31, DESIGN 2

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATION 630 OVERHEAD SIGN SUPPORT, TYPE TC-9.31 THE FOLLOWING REQUIREMENTS SHALL APPLY:

THE CONTRACTOR SHALL SUPPLY THE CENTER MOUNTED OVERHEAD SIGN SUPPORT TYPE TC-9.31 ASSEMBLY FOR THE EXISTING BACK-TO-BACK IR-75 OVERHEAD GUIDE SIGN TO BE ATTACHED TO THE PROPOSED SIGNAL SUPPORT #3 (SP-3). THE CONTRACTOR SHALL SUPPLY NEW MOUNTING ASSEMBLY, HARDWARE AND ALL NECESSARY MATERIAL TO MOUNT THE EXISTING BACK-TO-BACK SIGNS TO THE PROPOSED SIGNAL SUPPORT

PAYMENT FOR ITEM 632 OVERHEAD SIGN SUPPORT, MISC.: SIGN SUPPORT, TYPE 9.31, DESIGN 2 FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 630 SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATIONS ITEM 630, 730, AND ODOT SCD TC-16.22 THE CONTRACTOR SHALL RIGIDLY ATTACH A SIGN TO THE MAST ARM. THE SIGN ATTACHMENT ASSEMBLY SHALL HAVE A BLACK FINISH AND BE DESIGNED WITHOUT SET SCREWS, PIPE THREADS, RETAINER RINGS, AND SCREW LOCK BUCKLES. THE SADDLE USED TO FASTEN THE SUPPORT MEMBER TO THE MAST ARM SHALL ALSO HAVE A MULTI-TOOTH MOUNTING SURFACE TO INHIBIT MOVEMENT OR ROTATION. THIS ITEM SHALL INCLUDE ALL NECESSARY HARDWARE, FASTENERS, AND ACCESSORIES. ALL NECESSARY HARDWARE, FASTENERS, AND ACCESSORIES SHALL BE STAINLESS STEEL AND HAVE A BLACK

PAYMENT FOR ITEM 630 SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS

ITEM 630 SIGN SUPPORT ASSEMBLY. POLE MOUNTED, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATIONS ITEM 630 AND 730, THE CONTRACTOR SHALL RIGIDLY ATTACH A SIGN TO THE MAST ARM. THE SIGN ATTACHMENT ASSEMBLY SHALL HAVE A BLACK FINISH AND BE DESIGNED WITHOUT SET SCREWS, PIPE THREADS, RETAINER RINGS, AND SCREW LOCK BUCKLES. THE SADDLE USED TO FASTEN THE SUPPORT MEMBER TO THE MAST ARM SHALL ALSO HAVE A MULTI-TOOTH MOUNTING SURFACE TO INHIBIT MOVEMENT OR ROTATION. THIS ITEM SHALL INCLUDE ALL NECESSARY HARDWARE, FASTENERS, AND ACCESSORIES. ALL NECESSARY HARDWARE, FASTENERS, AND ACCESSORIES SHALL BE STAINLESS STEEL AND HAVE A BLACK FINISH.

PAYMENT FOR ITEM 630 SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 630 SIGN, STREET NAME, AS PER PI AN

THIS ITEM OF WORK SHALL CONSIST OF THE WORK AS DESCRIBED IN OHIO DEPARTMENT OF TRANSPORTATION ITEM 630 TRAFFIC SIGNS AND SIGN SUPPORTS, EXCEPT AS HEREIN MODIFIED.

THE WORK SHALL INCLUDE THE PAINTING OF THE BACK OF THE MAST ARM MOUNTED STREET NAME SIGNS FLAT BLACK. THIS ITEM SHALL ALSO INCLUDE ALL NECESSARY HARDWARE FOR INSTALLATION TO THE MAST ARMS. THE EXPOSED HARDWARE SHALL BE STAINLESS STEEL. THE TYPE OF PAINT SHALL BE APPROVED BY THE PROJECT ENGINEER PRIOR TO USE AND SHALL BE CAPABLE TO ADHERE TO ALUMINUM AND STAINLESS

THE CITY OF VANDALIA WILL PROVIDE THE STREET NAME SIGNS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ATTACHING THE STREET NAME SIGN TO THE APPROPRIATE MAST ARM AS PER PLAN.

PAYMENT FOR ITEM 630 SIGN, STREET NAME, AS PER PLAN, FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 630 SIGN, FLAT SHEET, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF THE WORK AS DESCRIBED IN OHIO DEPARTMENT OF TRANSPORTATION ITEM 630 TRAFFIC SIGNS AND SIGN SUPPORTS, EXCEPT AS HEREIN MODIFIED.

THE WORK SHALL INCLUDE THE PAINTING OF THE BACK OF THE MAST ARM MOUNTED FLAT SHEET SIGNS FLAT BLACK. THE TYPE OF PAINT SHALL BE APPROVED BY THE PROJECT ENGINEER PRIOR TO USE AND SHALL BE CAPABLE TO ADHERE TO ALUMINUM.

PAYMENT FOR ITEM 630 SIGN, FLAT SHEET, AS PER PLAN, FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT SOUARE FOOT PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

ITEM 630 REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION. AS

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATION 630 REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION THE FOLLOWING REQUIREMENTS SHALL APPLY:

THE CONTRACTOR SHALL REMOVE THE EXISTING IR-75 OVERHEAD GUIDE SIGN AND REINSTALL ON THE PROPOSED SP-3 SIGNAL SUPPORT POLE. THE SIGN SHALL UTILIZE A CENTER MOUNTED OVERHEAD SUPPORT TYPE TC-9.31. ITEM 630 OVERHEAD SIGN SUPPORT TYPE 9.31 WILL BE PAID BY A SEPARATE BID ITEM.

PAYMENT FOR ITEM 632 REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION, AS PER PLAN, FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM

ITEM 632 VEHICULAR SIGNAL HEAD. (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, BLACK ITEM 632 VEHICULAR SIGNAL HEAD. (LED), 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, BLACK IN ADDITION TO THE REQUIREMENTS OF C&MS 632 AND 732. THE FOLLOWING REQUIREMENTS SHALL APPLY:

- SIGNAL HEADS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC AND VISORS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC WITH VISORS AS SPECIFIED AND MEET ITE SPECIFICATIONS.
- 2. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.
- 3. ALL UPPER SIGNAL SUPPORT HARDWARE AND PIPING UP TO AND INCLUDING THE WIRE INLET FITTING SHALL BE FERROUS METAL.
- 4. PIPE SPACERS AND FITTINGS SHOULD BE CONSTRUCTED OF GALVANIZED STEEL OR ALUMINUM AND HAVE A BLACK FINISH, INCLUDING MAST ARM ATTACHMENT STEEL CABLES.
- 5. THE ENTRANCE FITTING SHALL BE OF THE TRI-STUD DESIGN WITH SERRATED RINGS IN ORDER TO ACHIEVE POSITIVE LOCKING.
- 6. ALL SIGNAL HEADS AND SIGNS SHALL BE RIGIDLY MOUNTED TO THE MAST ARM WITH YELLOW LENS LOCATED IN FRONT OF THE MAST ARM.
- 7. ALUMINUM BACKPLATES SHALL BE IN ACCORDANCE WITH THE C&MS AND INCLUDE A FLUORESCENT YELLOW REFLECTIVE BORDER.
- 8. THE LIGHT EMITTING DIODE (LED) SIGNAL LAMP UNITS SHALL MEET THE REQUIREMENTS OF C&MS 732.04-C. THE CONTRACTOR SHALL PROVIDE THE ENGINEER. IN WRITING, WITH THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS THAT ARE TO BE USED IN THE SIGNAL HEAD PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES.
- 9. SIGNAL HEADS SHALL HAVE A MINIMUM WALL THICKNESS OF 0.117 INCHES.
- 10. SIGNAL HEADS SHALL INCLUDE CUTAWAY TYPE VISORS UNLESS OTHERWISE SPECIFIED IN THE PLANS.
- 11. APPLY A BEAD OF SILICONE TO THE SIGNAL HEAD, WASHER, AND ENTRANCE ADAPTER SERRATIONS TO PREVENT WATER INTRUSION. ALSO, FILL THE SPACE BETWEEN CONCENTRIC SERRATION RINGS ON THE TOP OF THE SIGNAL HEAD TO COMPLETELY EXCLUDE WATER FROM THE SPACE BETWEEN THE CONCENTRIC RINGS.
- 12. BALANCE ADJUSTERS SHALL NOT BE USED ON RIGID MOUNTED HEADS OR TETHERED HEADS.
- 13. ALL SIGNAL HEADS SHALL BE FIELD LOCATED AND APPROVED BY THE ENGINEER BEFORE FINAL WIRING.

PAYMENT FOR ITEM 632 VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, I-WAY, POLYCARBONATE, AS PER PLAN, BLACK AND ITEM 632 VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, BLACK SHALL BE MADE FOR COMPLETE SIGNAL HEAD FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS, AND NEW ATTACHMENT HARDWARE.

ITEM 632 SIGNAL SUPPORT FOUNDATION, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATIONS 632 TRAFFIC SIGNAL EQUIPMENT, THE SIGNAL SUPPORT FOUNDATIONS SHALL BE INSTALLED PER 632.14 AND HAVE A FINISHED ELEVATION FLUSH TO THE SIDEWALK (WHERE APPLICABLE) WHEN WITHIN 6" OF THE SIDEWALK.

PRIOR TO ORDERING THE SIGNAL SUPPORTS. THE CONTRACTOR SHALL CONTACT OUPS TO HAVE ALL THE UTILITIES LOCATED IN THE FIELD. THEN, THE CONTRACTOR SHALL MEET THE PROJECT ENGINEER TO LOCATE THE PROPOSED SUPPORT LOCATIONS TO INSURE THERE ARE NO CONFLICTS WITH UTILITIES. IF THERE ARE ISSUES, THE PROJECT ENGINEER SHALL PROVIDE GUIDANCE AS TO THE RELOCATION OF THE SUPPORTS.

DUE TO THE FURTHER POSSIBILITY OF CONFLICT WITH EXISTING OR PROPOSED UNDERGROUND OBSTRUCTIONS (INCLUDING THE POSSIBILITY OF UNRECORDED OBSTRUCTIONS) WHICH COULD AFFECT THE LOCATION OF THE FOUNDATION FOR THIS ITEM, AND CONSEQUENTLY, THE DESIGN OF THE SUPPORT AND/OR ARMS, THE CONTRACTOR SHALL NOT PLACE FINAL ORDERS FOR THE ITEM UNTIL THE FOUNDATIONS HAVE BEEN INSTALLED, AT FINAL GRADE, AND THE CONTRACTOR HAS RECEIVED, FROM ENGINEER, WRITTEN NOTICE TO PROCEED WITH THE ORDERS FOR THE ITEM.

IF ANY FOUNDATION LOCATIONS MUST BE ADJUSTED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND MAINTAINING AGENCY, WHO WILL DETERMINE THE REVISED LOCATION AND IF NEEDED, THE SUPPORT DESIGN. THE CONTRACTOR WILL NOT BE RESPONSIBLE FOR DETERMINING THE REVISED DESIGN. THE ENGINEER WILL INFORM THE CONTRACTOR OF ANY CHANGES NECESSARY AND AUTHORIZE THE CONTRACTOR TO ORDER THE SUPPORT.

THE CONTRACTOR SHALL, WHEN DEVELOPING THE PROGRESS SCHEDULE, AND THOSE OF SUBCONTRACTORS, ENSURE THAT THE FOUNDATIONS ARE INSTALLED AT THE EARLIEST TIME AS IS FEASIBLE AND PRACTICAL, AND SHALL INCLUDE SUFFICIENT TIME IN THE PROGRESS SCHEDULE FOR ORDERING, MANUFACTURING, DELIVERY, AND INSTALLATION OF THE SUPPORT ITEMS AFTER THE FOUNDATIONS ARE IN PLACE.

A 3" CONDUIT ELL IN LIEU OF A STANDARD 2" CONDUIT ELL SHALL BE INSTALLED IN EACH SIGNAL SUPPORT FOUNDATION AS REQUIRED BY ODOT SCD TC-21.21. SEE THE POLE ORIENTATION DIAGRAM FOR THE RESPECTIVE TRAFFIC SIGNAL PLAN FOR FURTHER INFORMATION.

NO PAYMENTS FOR DELIVERED MATERIALS FOR THE FOUNDATION OR SUPPORT ITEMS SHALL BE MADE UNTIL THE FOUNDATIONS ARE IN PLACE, AND IF CHANGES IN THE DESIGN OF THIS ITEM ARE REQUIRED, NO PAYMENT SHALL BE MADE FOR THE ITEMS MANUFACTURED TO THE ORIGINAL DESIGN.

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE AND WILL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH SUPPORT FURNISHED, IN PLACE, COMPLETE AND ACCEPTED.

ITEM 632 POWER SERVICE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT SPECIFICATIONS 632 AND 732 AND SCD TC-83.10, THE FOLLOWING REQUIREMENTS SHALL APPLY:

- 1. THE POWER SHALL BE PROVIDED FROM THE EXISTING ITS/HIGHWAY LIGHTING METER NEAR STATION 107+02.50, 45.76' LT.
- 2. THE DISCONNECT SWITCH SHALL BE MOUNTED ON THE WEST SIDE OF THE METER, OR THE NORTH SIDE OF THE EXISTING UTILITY POLE AT STA. 107+02.50, 45.76' LT. THE DISCONNECT WILL USE THE ADDITIONAL PUNCHOUT OF THE OWNER SIDE OF THE METER. THE CONTRACTOR SHALL ALSO PROVIDE THE CONDUIT RISER FOR THE POWER SERVICE FEED TO THE CONTROLLER CABINET AND THE RISER TO GROUND THE POWER SERVICE. THESE ITEMS SHALL BE INCIDENTAL TO THIS PAY ITEM.
- 3. DISCONNECT SWITCH ENCLOSURES FURNISHED IN ACCORDANCE WITH CMS ITEM 632, POWER SERVICE, AS PER PLAN, SHALL INCLUDE A PADLOCK EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNON 660, WITH LOCK BODY OF BRONZE OR BRASS AND KEYING SHALL BE TO THE STATE MASTER.
- 4. THE CONTRACTOR SHALL CONTACT AES OHIO, ODOT AND THE PROJECT ENGINEER FOR INFORMATION REGARDING THE POWER SERVICE INSTALLATION PRIOR TO ORDERING POLES AND CABINET. THE VOLTAGE SUPPLIED SHALL BE NOMINALLY 120/240 VOLTS.

PAYMENT FOR ITEM 632 POWER SERVICE, AS PER PLAN, FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.



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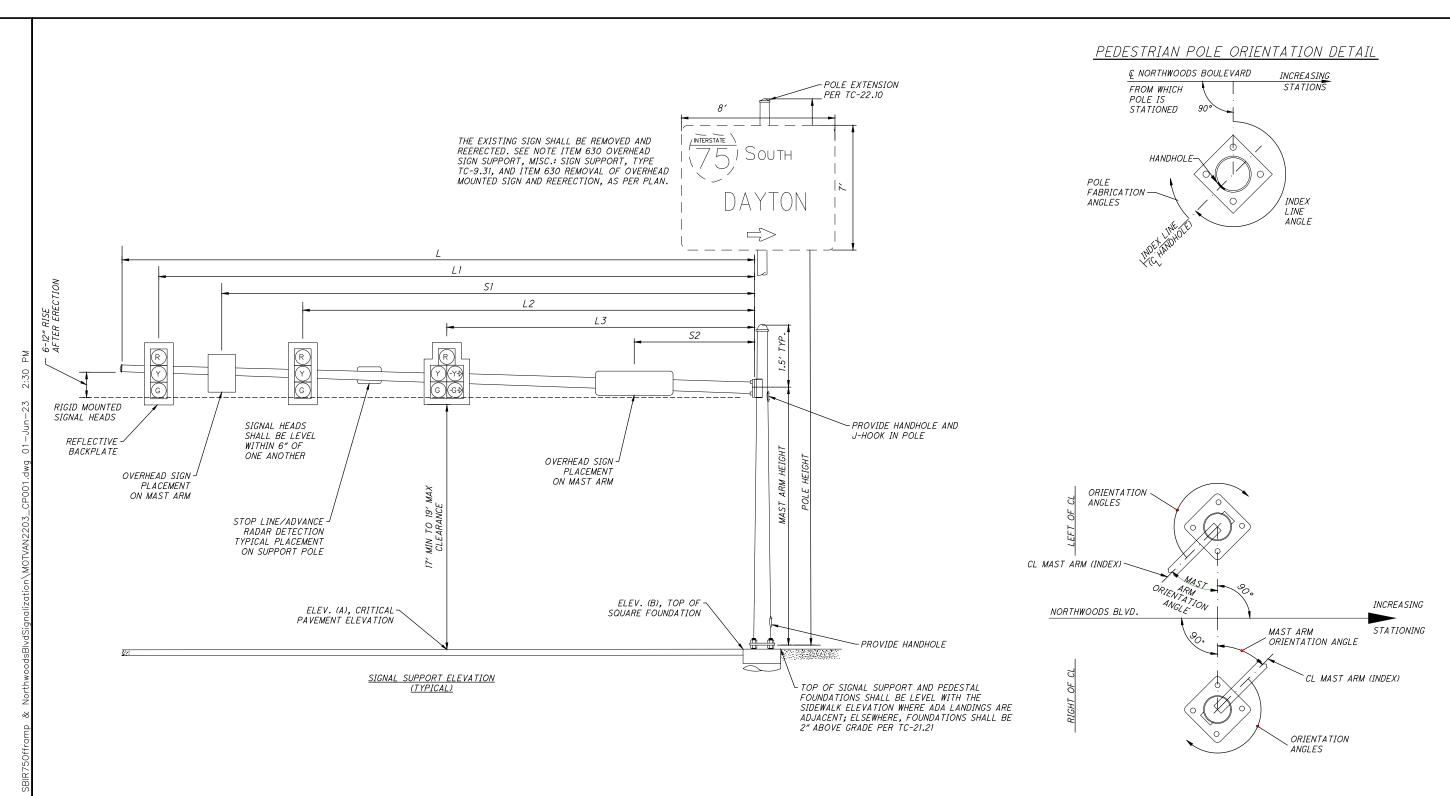
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MAST ARM TABLE

			ELEVA	TION	SIG	NAL SUF	PPORT DETA	4 <i>ILS</i>				SIGNAL	SUPPORT		ORIENTATION ANGLES FROM MAST ARM				
SUPPORT NO.	STATION	OFFSET	A (PAVEMENT ELEVATION)	B (TOP OF FOUNDATION)	DESIGN TYPE	DESIGN NO.	1НЭІЭН В ТОТЕ	MAST ARM ATTACHMENT HEIGHT	BOTTOM OF IR-75 SIGN	L	L1	L2	L3	<i>S1</i>	S2	MAST ARM A ANGLE	SIGNAL CONDUIT ELL	BASE HANDHOLE	MAST ARM HANDHOLE
							FT	FT (FT	S FT	FT	FT	FT	FT	FT	DEG	DEG	DEG	DEG
SP-1	107+31.80	59.27′ LT	977.04	974.30	TC-81.22	*14	27.5	22.5	-	65	58.5	47	35.5	60.5	30.5	0	90	180	180
SP-2	107+31.63	49.30′ RT	977.10	976.16	TC-81.22	14	22	20.5	-	50	45.5	35	21	-	28	90	30	180	180
SP-3	108+36.10	50.16′ RT	979.34	977.95	TC-81.22	14	33	21	25	57	37.5	26	-	49.5	-	0	215	180	180

*MECHANICAL DAMPER FOR TC-81.22 MAST ARM (GREATER THAN 59 IN LENGTH)
INCLUDED AND PAID UNDER ITEM 632 SIGNAL SUPPORT.

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