ITEM 608 - CURB RAMP, AS PER PLAN

THE TYPE B3, AND C2 CURB RAMPS SHALL BE MODIFIED TO ACCOMMODATE THE USE OF A WHEEL CHAIR BETWEEN THE SIDE STREET ADJOINING PAVEMENT AND THE PROPOSED CURB RAMP AND SIDEWALK. WHERE THE RETURN RADII OF THE COMBINATION CURB AND GUTTER TYPE 2 TERMINATES IN ASPHALT PAVEMENT OR PARKING LOT ADJACENT TO THE SIDE STREET OF AN INTERSECTION.

ALL DESIGN CRITERIA FOR CURB RAMPS, TYPE B3, AND C2 SHALL APPLY EXCEPT THAT THE RADIAL BARRIER AT THE EDGE OF THE RAMP SHALL NOT BE CONSTRUCTED. THE ADJOINING PAVEMENT TO THE CURB RAMP LANDING AREA SHALL BE TAPERED AT A RATE OF 8.33% TO MEET EXISTING, AND THE BACK OF WALK BARRIER SHALL BE EXTENDED TO MEET EXISTING. FOR DETAILS SEE SHEET 117.

PAYMENT FOR THE OPERATIONS DESCRIBED ABOVE, INCLUDING ALL LABOR, EQUIPMENTS, MATERIALS, AND INCIDENTALS SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 608 CURB RAMP, AS PER PLAN.

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE

AS NOTED ON THE TYPICAL SECTIONS THE PROPOSED SHOULDER AREA WITHIN THE EXISTING PAVEMENT TO REMAIN HAS A 4% CROSS SLOPE. THE CONTRACTOR SHALL ENSURE THAT THE MILLING IN THESE AREAS ARE PERFORMED AT THE REQUIRED CROSS SLOPE TO PROVIDE A UNIFORM THICKNESS OF PROPOSED ASPHALT AS INDICATED ON THE TYPICAL SECTIONS.

PAYMENT FOR ALL NECESSARY WORK, LABOR, AND EQUIPMENT SHALL BE UNDER THE PERTINENT PAVEMENT PLANING ITEM.

THE CONTRACTOR SHALL BE TOTALLY RESPONSIBLE FOR ANY AND ALL DAMAGE TO THE CONTRACTORS EQUIPMENT THAT MAY RESULT FROM THE PLANING OPERATION, INCLUDING DAMAGE CAUSED BY CASTINGS AND LOOP DETECTORS. THE DEPTH OF PLANING CLOSE TO THE CASTINGS SHALL BE AS DIRECTED; TO ACHIEVE A SMOOTH RIDING FINISHED PAVEMENT. GREAT CARE SHALL BE TAKEN TO PREVENT THE REMOVAL OF THE EXISTING PAVEMENT CROSS-SLOPE (CROWN) DURING THE PLANING OPERATIONS.

ALL PLANED PAVEMENT SHALL BE PLANED TO A DEPTH OF 1 INCH MINIMUM AND RESURFACED WITH 1.5 INCHES OF THE ASPHALT CONCRETE SUFFACE COURSE WITHIN THE SAME WORK PERIOD. FAILURE TO MEET THIS REQUIREMENT WILL SUBJECT THE CONTRACTOR TO A DISINCENTIVE OF \$900/DAY FOR EACH DAY THE PLANED SURFACE IS NOT RESURFACED.

CB-3, AND CB-3A, AS PER PLAN

ALL CB-3, AND CB-3A, AS PER PLAN, LOCATED IN THE PAVEMENT ARE PLACED ON SHOULDER'S WITH 4% CROSS SLOPE. THE CONTRACTOR SHALL ENSURE THAT THE CATCH BASINS SHALL BE IN CONFORMANCE WITH THE APPLICABLE STANDARD CONSTRUCTION DRAWINGS EXCEPT THAT THE DEPRESSION IS 1/2" AND THAT THE GRATE SLOPE DOES NOT CAUSE THE EDGE OF GRATE AT THE PAVEMENT EDGE TO BE HIGHER THAN THE PAVEMENT SURFACE. THE GRATE SHALL BE BICYCLE SAFE.

ITEM SPECIAL - FILL AND PLUG EXISTING CONDUIT

THIS ITEM SHALL CONSIST OF THE CONSTRUCTION OF BULKHEADS IN AN EXISTING 12 IN DIAMETER CONDUIT AND FILLING THE AREA THUS SEALED OFF WITH ITEM 613, SAND OR OTHER MATERIAL APPROVED BY THE ENGINEER.

BULKHEADS SHALL BE LOCATED AT THE LIMITS OF THE AREA TO BE FILLED AS INDICATED ON THE PLANS. THE BULKHEADS SHALL CONSIST OF BRICK OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 12 INCHES.

THE FILL MATERIAL SHALL BE PUMPED INTO PLACE, OR PLACED BY OTHER MEANS APPROVED BY THE ENGINEER, SO THAT, AFTER SETTLEMENT, AT LEAST 90 PERCENT OF THE CROSS-SECTIONAL AREA OF THE CONDUIT, FOR ITS ENTIRE LENGTH, SHALL BE FILLED. THE LENGTH OF FILLED AND PLUGGED CONDUIT TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF FEET [METERS] (MEASURED ALONG THE CENTERLINE OF EACH CONDUIT FROM OUTER FACE TO OUTER FACE OF BULKHEADS) FILLED AND PLUGGED AS DESCRIBED ABOVE.

IN LIEU OF FILLING AND PLUGGING THE EXISTING CONDUIT, THE PIPE MAY BE CRUSHED AND BACKFILLED IN ACCORDANCE WITH THE PROVISIONS OF 203, OR IT MAY BE REMOVED. THE LENGTH. MEASURED AS PROVIDED ABOVE. SHALL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR, ITEM SPECIAL, FILL AND PLUG EXISTING CONDUIT.

MANHOLES IN PAVEMENT

ANY MANHOLE TO BE CONSTRUCTED WITHIN THE PROPOSED PAVEMENT SHALL HAVE A BOLT DOWN COVER.

SAWCUT FOR CONCRETE PAVEMENT

LOCATION OF CONCRETE PAVEMENT VARIES ALONG THE US 40 CORRIDOR AS SHOWN IN ORIGINAL CONSTRUCTION PLANS AND SUSQUENT WIDENINGS AND IMPROVEMENTS. THESE PLANS CAN BE OBTAINED FROM ODOT.

THE FOLLOWING ESTIMATED CONTINGENCY QUANTITY HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

ITEM 252 - FULL DEPTH PAVEMENT SAWING 10,000 FT

BLIND TAPS

NO BLIND TAPS ARE ALLOWED. ITEM 611 CATCH BASIN, NO. 7 AS SHOWN IN CB-4.1 SHALL BE USED WHERE BLIND TAPS ARE ENCOUNTERED. A FOLLOWING CONTINGENCY QUYANTITY HAS BEEN ADDED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER. ITEM 611 - CATCH BASIN NO. 7 5 EACH

EXISTING UNDERDRAINS

PROVIDE UNOBSTRUCTED OUTLETS FOR ALL EXISTING UNDERDRAINS ENCOUNTERED DURING CONSTRUCTION.

PROVIDE AN OUTLET PER STANDARD CONSTRUCTION DRAWING DM-1.1 FOR ALL UNDERDRAINS THAT OUTLET TO A SLOPE.

UNDERDRAINS THAT CAN BE CONNECTED TO THE NEW OR EXISTING UNDERDRAINS AT THE END OF THE PROJECT LIMITS AS WELL AS ALL NECESSARY BENDS OR BRANCHES REQUIRED FOR CONNECTION ARE INCLUDED IN THE BASIS OF PAYMENT FOR UNCLASSIFIED PIPE UNDERDRAINS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

611	6" CONDUIT, TYPE F	50 FT.
605	6" UNCLASSIFIED PIPE UNDERDRAINS	50 FT

ITEM 625 - CONDUIT, 4", 725.04, AS PER PLAN (CONDUIT FOR FUTURE IRRIGATION) 2-4" CONDUITS FOR FUTURE IRRIGATION, SHALL BE INSTALLED FROM B/C TO B/C

AT THE LOCATIONS SHOWN IN THE PLANS. IF CONFLICTS WITH UTILITIES OCCUR. THE CONDUITS SHALL BE DEFLECTED ABOVE OR BELOW THE CONFLICTING UTILITIES IN A MANNER SO THAT THE DEFLECTION IS GRADUAL AS DIRECTED BY THE ENGINEER. AT LEAST 18" OF VERTICAL SEPARATION SHALL BE HELD BETWEEN THE CONFLICTING UTILITIES WHILE MAINTAINING AT LEAST 36" OF COVER TO THE TOP OF THE CONDUIT.

PAYMENT FOR ALL MATERIAL, LABOR, EQUIPMENT, EXCAVATION, BEDDING AND BACKFILL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 625 - CONDUIT, 4", 725.04, AS PER PLAN.

PAVEMENT REPAIR PROCEDURE

ALL AREAS OF PAVEMENT REPAIR SHALL BE COMPLETED AT THE END OF EACH DAYS OPERATION AND OPEN TO THE NORMAL FLOW OF TRAFFIC.

ITEM 253 - PAVEMENT REPAIR

KULL DERTH REPAIRS SHALL BE COMPLEVED PRIOR VO RLANING, AREAS SHALL BE DETERMINED BY THE ENGINEER AND SHALL BE PAID AT THE CONTRACT UNIT PRICE BID FOR ITEM 253 - PAVEMENT REPAIR. THE PAVEMENT REPAIR MATERIAL SHALL CONSIST OF 13" OF ITEM 301, ASPHALT CONCRETE BASE, PG64-22, (449) A CONTINGENCY QUANTITY OF 100 SY HAS BEEN ADDED TO THE GENERAL SUMMARY.

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (441)

PARTIAL DEPTH REPAIRS SHALL BE COMPLETED PRIOR TO PLANING. AREAS SHALL BE DETERMINED BY THE ENGINEER AND SHALL BE PAID AT THE CONTRACT UNIT PRICE BID FOR ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR. PARTIAL DEPTH PAVEMENT REPAIR MATERIAL SHALL CONSIST OF THE PROPOSED PAVEMENT COMPOSITION AS DESCRIBED IN THE TYPICAL SECTIONS. A CONTINGENCY QUANTITY OF 100 SY HAS BEEN ADDED TO THE GENERAL SUMMARY.

ITEM 202 - REMOVAL MISC .: WHITE CASTLE SIGN

THIS ITEM SHALL INCLUDE THE REMOVAL AND DISPOSAL OF THE EXISTING WHITE CASTLE SIGN, FOUNDATION, ELECTRICAL SERVICE, ETC. THE FOUNDATION SHALL BE REMOVED TO A MINIMUM OF 18" BELOW FINISHED GRADE. THE ELECTRICAL SERVICE SHALL BE DISCONNECTED AT THE SOURCE AND THE WIRING REMOVED. PAYMENT FOR ALL MATERIAL, LABOR, EQUIPMENT, ETC. SHALL BE INCLUDED WITH THIS ITEM.

FRANKLIN COUNTY NOTES

2. FRANKLIN COUNTY PERMIT (FOR PROJECTS INVOLVING STORM SEWERS, WATERLINES, AND/OR SANITARY LINES)-THE CONTRACTOR SHALL SECURE A WRITTEN PERMIT FROM FRANKLIN COUNTY ENGINEER'S OFFICE, 970 DUBLIN RD., A MINIMUN OF TWO WORKING DAYS PRIOR TO BEGINNING WORK WITHIN FRANKLIN COUNTY ROAD RIGHT-OF-WAY. THE CONTRACTOR SHALL PROVIDE THE FRANKLIN COUNTY ENGINEER'S OFFICE A 24-HOUR TELEPHONE NUMBER TO BE USED IN CASE OF EMERGENCY. THE CONTRACTOR WILL BE REQUIRED TO POST A BOND FOR A PERIOD OF TWO YEARS FROM THE ONE-YEAR ANNIVERSARY OF THE DATE OF FINAL ACCEPTANCE OF THE WORK. WITH THE FRANKLIN COUNTY ENGINEER AS THE BENEFICIARY, PRIOR TO ISSUANCE OF THE PERMIT TO INSURE PROPER RESTORATION OF THE PAVEMENT AND RIGHT-OF-WAY. THIS BOND WILL BE 100% OF THE BID PRICE OF ITEMS 301, 402, AND 404 ASPHALT CONCRETE (OR ITEM 252 PERMANENT PAVEMENT REPLACEMENT) WITH A MINIMUM OF \$5.000.00 AND A MAXIMUM OF \$100,000.00.

3. FRANKLIN COUNTY PERMIT (FOR ALL OTHER PROJECTS)-THE CONTRACTOR SHALL SECURE A WRITTEN PERMIT FROM THE FRANKLIN COUNTY ENGINEER'S OFFICE, 970 DUBLIN RD., A MINIMUM OF TWO WORKING DAYS PRIOR TO BEGINNING WORK WITHIN FRANKLIN COUNTY RIGHT-OF-WAY. THE CONRACTOR MAY BE REQUIRED TO POST A BOND WITH THE FRANKLIN COUNTY ENGINEER PRIOR TO ISSUANCE OF THE PERMIT TO INSURE PROPER RESTORATION OF THE PAVEMENT AND RIGHT-OF-WAY. THE CONTRACTOR SHALL PROVIDE THE FRANKLIN COUNTY ENGINEER'S OFFICE A 24-HOUR TELEPHONE NUMBER TO BE USED IN CASE OF AN EMERGENCY.

4. UNTREATED SEPTIC CONNECTIONS-THIS PLAN MAKES NO PROVISION FOR CONNECTING, NOR SHALL THE ENGINEER OR CONTRACTOR CONNECT, ANY UNTREATED SEPTIC DRAINAGE INTO THE HIGHWAY DRAINAGE SYSTEM. ANY PIPE CARRYING POSSIBLY UNTREATED SEPTIC FLOW SHALL BE LEFT EXPOSED. CALL FRANKLIN COUNTY HEALTH DEPARTMENT AT 462-3909 FOR DIRECTION ON TYING THE PIPE INTO THE HIGHWAY DRAINAGE SYSTEM OR PLUGGING THE PIPE AT THE RIGHT-OF-WAY LINE WITH CLASS C CONCRETE. PAYMENT FOR PLUGGING SHALL BE INCLUDED IN CONTRACT PRICE FOR THE PERTINENT 202 OR 203 ITEM.

5. EROSION CONTROL-THE CONTRACTOR SHALL OBTAIN AN OEPA PERMIT AND NOI AS PER NPDES REQUIREMENTS INCLUDING ANY OFFSITE DUMPING OR BORROW AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY HIS SUBCONTRACTORS OF THE OEPA REQUIRE-MENTS. FURNISH COPIES OF THE DOCUMENTS TO FRANKLIN COUNTY ENGINEER'S OFFICE. THE CONTRACTOR SHALL NOT BEGIN CONSTRUCTION UNTIL AN NOI HAS BEEN ISSUED BY THE OEPA AND THE PERMIT NUMBER IS PROVIDED TO THE SITE CONTACT LISTED BELOW.

ON SITE CONTACT ANDREW OPSITNIC (740)833-8085 ANDREW.OPSITNIC@DOT.OHIO.GOV

PERMITS

WHEN EXCAVATING WITHIN COLUMBUS PUBLIC RIGHT OF WAY LIMITS. THE CONTRACTOR SHALL OBTAIN AN EXCAVATION PERMIT FROM THE CITY OF COLUMBUS, DEPARTMENT OF PUBLIC SERVICE-PERMIT OFFICE BETWEEN THE HOURS OF 7:30 AM AND 4:00 PM, MONDAY THROUGH FRIDAY. PHONE (614)645-7497: FAX (614)645-1876 EMAIL: COLSPERMITS@COLUMBUS.GOV

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1. FRANKLIN COUNTY ENGINEER'S MONUMENTATION-THE CONTRACTOR SHALL CONTACT THE FRANKLIN COUNTY ENGINEER'S OFFICE, SURVEY DEPARTMENT AT (614)462-2489 TWO WORKING DAYS BEFORE DISTURBING ANY FRANKLIN COUNTY GEODETIC MONUMENTS (VERTICAL AND/OR HORIZONTAL) FOR REFERENCE AND REPLACEMENT.

SITE IS A TRIBUTARY TO SCIOTO BIG RUN AND DRY RUN.

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						48								48	611	05900	48	FT	15" CONDUIT, TYPE B
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			 810 549			44 72							213 124	641 497	611 611	10400 10600	854 621		24" CONDUIT, TYPE B 24" CONDUIT, TYPE C
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			240										48	192	611	13600	240	FT	30" CONDUIT, TYPE C
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			 457		463								184	736	611	16600	920	FT	36" CONDUIT, TYPE C
					772								154	618	611	19400	772	FT	42" CONDUIT, TYPE B
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			1 29		22	4							34	1 21	611 611	98710 99574	1 55		INLET, NO. 2-6 MANHOLE, NO. 3
			1		1	7							2	21	611	99575	2		MANHOLE, NO. 3, AS P
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TO GRADE		
B WITH STANDARD GRATE		
R QUALITY STRUCTURE, TYPE 4		
PAVEMENT		
MENT REPAIR (441)		
NT SAWING		
man have been ha		
ASPHALT CONCRETE, 1"		
ASPHALT CONCRETE, 1.5"		8
ASPHALT CONCRETE, 3.5"		, C
BASE, PG64-22, (449) BASE, PG64-22, (449), (DRIVEWAYS)		
		FRA-40-7°00
CLASS QC IP		4
		∢
SURFACE COURSE, TYPE 1, (448), PG64-22		Ř
SURFACE COURSE, 12.5 MM, TYPE A (446)		ш
INTERMEDIATE COURSE, 19 MM, TYPE A (446)		
CONCRETE PAVEMENT, CLASS QC IP		
CONCRETE PAVEMENT, CLASS QC IP		58
		242

	UNIT	GRAND	ITEM	ITEM	Υ Τ.	PA	•			 		NUM.	SHEET						
	UNIT	TOTAL	EXT		02/NHS/05	01/SAF/21					67		14	13	11	10	9	8	7 <i>A</i>
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VORK ZONE LANE L		1.79	20550	614	1.28 0.89	0.9							0.81	0.98			2.50		
VORK ZONE CENTER		0.99	21550	614	0.49	0.5											0.99		
VORK ZONE EDGE L	MILE	2.76	22100	614	1.38	1.38							0.95	1.81					
VORK ZONE EDGE L		1.74	22350	614	0.87	0.87											1.74		
VORK ZONE CHANNE		6,895	23200	614	3,448	3,447							1,247	5,648					
VORK ZONE CHANNE VORK ZONE DOTTEL		2,944 1,659	23680 24610	614 614	1,472 829.5	1,472 829.5											2,944 1,659		
VORK ZONE STOP L		246	26200	614	123	123							118	128					
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DESCRIPTION	SEE Sheet No.	CALCULATED LZS CHECKED GKB
WATER WORK		
ILE IRON PIPE ANSI CLASS 52, PUSH-ON JOINTS AND FITTINGS, AS P	er pizan	
STED TO GRADE, AS PER PLAN	7A	
SATE VALVE REMOVED AND RESET, AS PER PLAN	7A	
D TO GRADE, AS PER PLAN		
CUT AND PLUG EXISTING SPRINKLER LINES	7A	
LIGHTING		
UMMARY	177	
TRAFFIC CONTROL	142	
ENERAL SUMMARY	142	
TRAFFIC SIGNALS		
NERAL SUMMARY	164	
VERAL JONNMANT	104	
		\succ
MAINTENANCE OF TRAFFIC		2
SURFACE, TYPE A OR B		SUMMARY
		Σ
OFFICER WITH PATROL CAR FOR ASSISTANCE		Σ
ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)		5
FOR MAINTAINING TRAFFIC		S I
, TYPE 1 (ONE-WAY)		••
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BLE MESSAGE SIGN, AS PER PLAN	10	2
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LINE, CLASS III, 642 PAINT		G
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NE, CLASS I, 4″, 642 PAINT		
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IZING LINE, CLASS III, 8", 642 PAINT		
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ALK LINE, CLASS I, 12", 642 PAINT		
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SIGN, AS PER PLAN	10	
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						204	254	254		304	305	407				42	452	 609	609	S ATED
REF. NO.	SHEET NO.	STA	TION	SIDE	CAD MEASURED AREA (SF)	SUBGRADE COMPACTION	PAVEMENT PLANING, ASPHALT CONCRETE, 1"	PAVEMENT PLANING, ASPHALT CONCRETE, 3.5"	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	10" AGGREGATE BASE	6" CONCRETE BASE, CLASS QC 1P	NON-TRACKING TACK COAT			1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446)	2" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446)	10" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	CURB, TYPE 6	CONCRETE MEDIAN	CALCULAT LZS
	_	FROM	ТО	-		SQ YD	SQ YD	SQ YD	$\left \right\rangle$	CU YD	SQ YD	GAL			CU YD	CU YD	 SQ YD	 FT	SQ YD	-
		CONCRE	TE MEDIAN			<u> </u>			$\left \right\rangle$											-
PPP-1	78-79	388+98.50	395+37.00	LT & RT					$\left \right\rangle$									 	709	-
PPP-2	79-50	396+00.81	398+08.00	LT & RT		<u> </u>			5										154	_
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PP-1	78	PAVEMENT PLAN 389+05.50	NNING & OVERLAY 392+50.00	LT	15338	<u> </u>	1475	230	1)			196			71	95				() Z
PP-2	78	389+05.50	392+50.00	RT	12917	<u>ح</u>	1475	230	1)			195			60	95 80				- ē
PP-3	79	392+50.00	398+00.00	LT & RT	50132		5204	367)			641			232	309				╡╒
PP-4	80	398+00.00	403+50.00	LT & RT	46577	<u>├</u>	4809	367	+)			595			216	288				<
PP-5	81	403+50.00	409+00.00	LT & RT	42669		4374	367	1)			546			198	263				1 3
PP-6	82	409+00.00	414+50.00	LT & RT	44666		4596	367	1			568			207	276		 		- ī
PP-7 PP-8	83 84	<u>414+50.00</u> 420+00.00	420+00.00 425+50.00	LT & RT	48570 44901	\vdash	5030 4622	367 367	1			621 574			225 208	300 277				
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PP-9	85	425+50.00	427+50.00	LT & RT	6117	<u>├</u>	547	133	1			78			28	38				- `
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P-5	79	392+50.00	398+00.00	LT	1293	5			1		144	17			6	8		550		-
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P-6	79	392+50.00	395+38.99	LT & RT	8986.8	999			$ \prec \rangle$	124	446	')								-
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REF. NO.	SHEET NO.	STA	TION	SIDE	CAD MEASURED AREA (SF)	SUBGRADE COMPACTION		ASPHALT CONCRETE BASE, PG64-22, (449)	10" AGGREGATE BASE	6° CONCRETE BASE CLASS QC	NON-TRACKING TACK COAT				1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446)	2" ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446)	10" NON-REINFORCED Concrete Pavement, Class QC 1P	CURB, TYPE 6	
		FROM	ТО	_	0	SQ YD	ξ [CU YD	U YD	SQ YD	GAL				CU YD	CU YD	SQ YD	FT	1
		FULL DEPTI	H PAVEMENT				<u> </u>		1										
P-12	81	403+50.00	409+00.00	LT	973.7		- ≻		+	108	12				5	6	249	539	-
					1544	172			97										_
P-13	81	403+50.00	409+00.00	RT	4238.7 5025.7	558	- {		132	471	54				20	26	142	583	_
P-14	82	409+00.00	414+50.00	LT	3800.2 4711.7	524			152	422	49				18	23	234	638	_
P-15	82	409+00.00	414+50.00	RT	3762.9 4774.6	531		·	142	418	48				17	23	187	577	_
P-16	83	414+50.00	420+00.00	LT	2600.1 3327.5	370		5	102	289	34				12	16	231	585	_
P-17	83	414+50.00	420+00.00	RT	4268.7		\mid	· · · · · · · · · · · · · · · · · · ·	3	474	55				20	26		550	
P-18	84	420+00.00	425+50.00	LT	4543.7 2423.4	505	E X	· · · · · · · · · · · · · · · · · · ·		269	31				11	15		503	_
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P-20	85	425+50.00	427+50.00	LT	2360.6 412.2	262	Ę	8	73	46	5				2	3	53	200	_
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P-21	85	425+50.00	425+75.00	RT	52 64.5	7	5	· · · · · · · · · · · · · · · · · · ·	2	6	2				1	1		25	_
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THE CONTROLLER SHALL BE AN ECONOLITE COBALT AND COMPATIBLE WITH THE CABINET TYPE BEING INSTALLED.

ITEM 809, STOP-BAR RADAR DETECTION: THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A WAVETRONIX SMARTSENSOR MATRIX DETECTION UNIT. THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING:

--POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET. --ALL REQUIRED INPUTS CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, NEMA TSI AND NEMA TS2 DETECTOR RACKS. THE CARDS SHALL PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER. -THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. RECOMMENDED AND RECOMMENDED BY THE MANUFACTURER. --SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO

PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE

CABINET ELECTRONICS. --THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION AND MAINTENANCE OF THE UNIT. --A SERIAL TO ETHERNET COMMUNICATIONS MODULE AND ETHERNET CABLE

(MIN. 7 FEET) -- THE POWER SUPPLY AND COMMUNICATION MODULES SHALL BE SECURED TO A

--IHE POWER SUPPLY AND COMMUNICATION MODULES SHALL BE SECURED TO A SINGLE PANEL THAT CAN BE MOUNTED INTERIOR TO THE TRAFFIC CABINET. THE PANEL SHALL INCLUDE MODULAR-PLUG STYLE CONNECTIONS FOR UP TO FOUR (4) SENSOR CABLES. ADDITIONAL SENSORS MAY BE HARD-WIRED TO THE COMMUNICATION MODULES, AS NECESSARY. --PRIOR TO PROGRAMMING, THE CONTRACTOR SHALL CONTACT THE ODOT DISTRICT 6 DISTRICT TRAFFIC ENGINEER AT 740-833-8198. A DISTRICT 6 TRAFFIC

DEPARTMENT REPRESENTATIVE SHALL BE PRESENT DURING THE PROGRAMMING OF THE SYSTEM.

PAYMENT FOR ITEM 809 STOP-BAR RADAR DETECTION SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT AND CONNECTIONS TESTED AND ACCEPTED.

ITEM 809, ADVANCE RADAR DETECTION:

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A WAVETRONIX SMARTSENSOR ADVANCE DETECTION UNIT (MODEL SS-200E). THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING:

--POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET. --POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET. --ALL REQUIRED INPUTS CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, NEMA TSI AND NEMA TS2 DETECTOR RACKS. THE CARDS SHALL PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER. --THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE(S) SHALL BE PROVIDED AS PEQUIPED AND RECOMMENDED RETURES. REQUIRED AND RECOMMENDED BY THE MANUFACTURER.

--SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE CABINET ELECTRONICS.

--THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION AND MAINTENANCE OF THE UNIT.

--A SÉRIAL TO ETHERNET COMMUNICATIONS MODULE AND ETHERNET CABLE (MIN. 7 FEET)

(MIN. 7 FEET) --THE POWER SUPPLY AND COMMUNICATION MODULES SHALL BE SECURED TO A SINGLE PANEL THAT CAN BE MOUNTED INTERIOR TO THE TRAFFIC CABINET. THE PANEL SHALL INCLUDE MODULAR-PLUG STYLE CONNECTIONS FOR UP TO FOUR (4) SENSOR CABLES. ADDITIONAL SENSORS MAY BE HARD-WIRED TO THE COMMUNICATION MODULES, AS NECESSARY. --PRIOR TO PROGRAMMING, THE CONTRACTOR SHALL CONTACT THE ODOT DISTPLCT & DISTPLCT TRAFEIC ENCINEER AT 740-833-8198 A DISTPLCT & THAFE

DISTRICT 6 DISTRICT TRAFFIC ENCINEER AT 740-833-8198. A DISTRICT 6 TRAFFIC DEPARTMENT_REPRESENTATIVE SHALL BE PRESENT DURING THE PROGRAMMING OF THE SYSTEM.

PAYMENT FOR ITEM 809 ADVANCE RADAR DETECTION SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT, CONNECTIONS TESTED AND ACCEPTED, AND ANY OTHER NECESSARY HARDWARE TO ESTABLISH A FULLY FUNCTIONAL DETECTION SYSTEM.

ITEM 804, FIBER OPTIC CABLE, MISC .: RELOCATE EXISTING CABLE

THE CONTRACTOR SHALL RELOCATE THE EXISTING CTSS 144-STRAND FIBER OPTIC CABLE THAT IS LOCATED BETWEEN THE EAST END OF THE PROJECT TO WILSON ROAD ON EXISTING UTILITY POLES TO THE PROPOSED MAST ARM POLES AND RELOCATED UTILITY POLES AFTER THE PROPOSED UTILITY POLES ARE PLACED AS SHOWN IN THE PLAN SHEET.

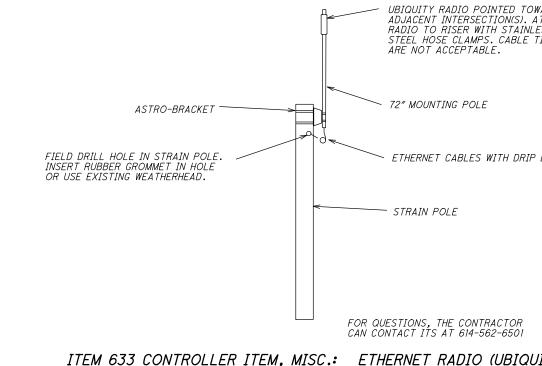
THE REINSTALLATION OF THE EXISTING CABLE VIA THE NEW AERIAL PATH AND NEW MOUNTING HARDWARE ARE INCIDENTAL TO THIS PAY ITEM. REMOVE AND DISPOSE OF THE EXISTING MESSENGER WIRE AND PROVIDE NEW 1 / 4 INCH MESSENGER WIRE AND RELASH RELOCATED CABLE TO NEW MESSENGER WIRE.

IN ADDITION TO THE REQUIREMENTS OF 632.22, THE CONTRACTOR SHALL FURNISH AND INSTALL MESSENGER WIRE AS SHOWN IN THE PLANS TO SUPPORT THE FIBER OPTIC CABLE SYSTEM. MESSENGER WIRE SHALL BE RATED AS EXTRA-HIGH STRENGTH AND MEET THE REQUIREMENTS OF 732.18. ACCESSORIES USED WITH MESSENGER WIRE SHALL INCLUDE THRU BOLTS, EYE BOLTS, SUSPENSION HANGERS, THIMBLES, PREFORMED GUY GRIPS, POLE CLAMPS, DEAD-ENDS, AND THREE BOLT CLAMPS AS SHOWN ON THE PLANS. THE MESSENGER WIRE SHALL BE DEAD-ENDED ON BOTH SIDES OF A STREET CROSSING. MESSENGER WIRE SHALL BE ATTACHED USING THIMBLES TO THE CLEVISES OF STRAIN POLE SPAN WIRE CLAMPS AND TO EYE BOLTS. ALL ACCESSORIES SHALL HAVE A RATED LOADING STRENGTH EQUAL TO OR GREATER THAN THE MESSENGER WIRE MINIMUM BREAKING STRENGTH AND SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM.

FOR THE AERIAL INSTALLATION OF FIBER OPTIC CABLE, THE CABLE SHALL BE ATTACHED TO THE MESSENGER WIRE BY DOUBLE 0.045-INCH TYPE 316 STAINLESS STEEL LASHING WIRES, HAVING AN AVERAGE OF ONE WRAP PER LINEAR FOOT OF MESSENGER WIRE. LASHING WIRE SHALL MAINTAIN A CONSISTENT SPIRAL THROUGHOUT THE ENTIRE SPAN, WITHOUT EXCEPTION, AND MUST MAINTAIN A MINIMUM OF 40 LB. OF PULL DURING AND AFTER INSTALLATION. THERE SHALL BE NO VISIBLE SEPARATION OF MESSENGER WIRE AND CABLE IN MIDSPAN LASHING. THE LASHED CABLE REQUIRES SUPPORT WHEN IT EXTENDS BEYOND THE POINTS OF TERMINATION OF THE LASHING WIRE. THIS SUPPORT IS NECESSARY TO KEEP THE CABLE IN PLACE AND TO MAINTAIN CLEARANCES BETWEEN THE CABLE SHEATH AND VARIOUS ITEMS OF HARDWARE. A POLYPROPYLENE AERIAL SUPPORT TIE WITH AN INTEGRAL 0.50-IN. SPACER SHALL BE USED TO FASTEN THE CABLE TO THE SUPPORTING MESSENGER WIRE AND MAINTAIN SEPARATION BETWEEN THE CABLE AND MESSENGER WIRE

WHEN ATTACHING CABLE TO THE MESSENGER WIRE FOR DISTANCES OF 100 FEET OR LESS, THE METHOD OF ATTACHMENT SHALL BE GALVANIZED STEEL HELICAL LASHING RODS OF 5 OR 6 FOOT LENGTHS OF A PROPER INTERNAL DIAMETER TO TIGHTLY SECURE THE CABLE TO THE MESSENGER WIRE. THIS METHOD MAY ALSO BE USED AT LOCATIONS AS REQUESTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

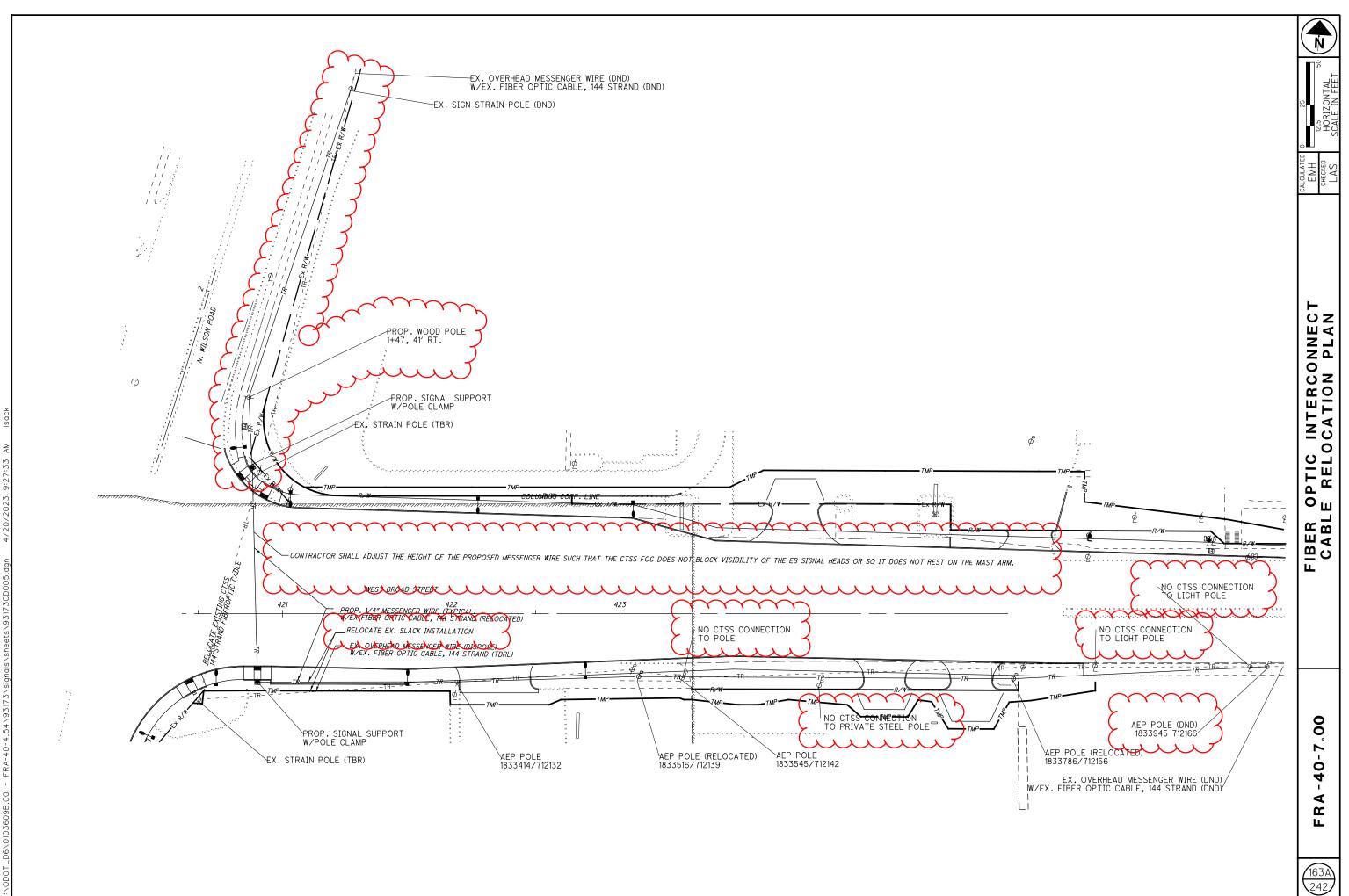
ITEM 804, FIBER OPTIC CABLE, MISC.: RELOCATE EXISTING CABLE WILL BE PAID BY LUMP SUM AND WILL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND INCIDENTIALS NECESSARY TO COPMPLETE THE WORK SPECIFIED.



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VARDS TTACH TTACH TES	TRAFFIC SIGNAL GENERAL NOTES
LOOP	FRA-40-7.00
ITY) TYPICAL INSTALLATION	163 242



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										167	171		01/ SAF/ 21		EXT.	TOTAL		
										107	230		337	625	25400	337	FT	CONDUIT, 2″, 725.04
									 	10	10		20	625	25500	20 715	FT	CONDUIT, 3", 725.04
										290 60	425 105		715 165	625 625	25902 29000	165	FT FT	CONDUIT, JACKED OR DRILLED, 725.04 TRENCH
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									 	52	53		105	630	80100	105	SQ FT	SIGN, FLAT SHEET
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										12	13		25	632	25001	25	EACH	COVERING OF VEHICULAR SIGNAL HEAD, TIFE
										8	8		16	632	25011	16	EACH	COVERING OF PEDESTRIAN SIGNAL HEAL
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										8 2798	8 4822		16 7620	632 632	26001 40700	16 7620	EACH FT	PEDESTRIAN PUSHBUTTON, AS PER PLA SIGNAL CABLE, 7 CONDUCTOR, NO. 14
										3	4		7	632	64011	7	EACH	SIGNAL SUPPORT FOUNDATION, AS PER
										3	3		6	632	64021	6	EACH	PEDESTAL FOUNDATION, AS PER PLAN
										811	1411		2222	632	65200	2222	FT	LOOP DETECTOR LEAD-IN CABLE
	<u></u>									150	50		200	632	68100	200	FT	POWER CABLE, 1 CONDUCTOR, NO. 6 AN
	<u>~</u>									50	175		225	632	69800	225	FT	SERVICE CABLE, 3 CONDUCTOR, NO. 6
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7	- -									1	/		2	632 632	70400 75485	2	EACH EACH	CONDUIT RISER, 2" DIAMETER SIGNAL SUPPORT, TYPE TC-12.30, DES.
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(4									1			1	632	80621	1	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESI
									(\sim		\sim		638	80629	\sim		SIGNAL SOPPORT, VYPE TO 81.21, DEST
									Y	121			1	632 632	89300 90001		EACH	WOOD POLE, 35' (COC) PEDESTAL II', TRANSFORMER BASE, AS
, , , ,											\mathbf{r}	\sim	2	632	90010	2	EACH	PEDESTAL, MISC.: 17', TRANSFORMER B
((4	2) 									1	1		2	632	90101	2	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALL,
1	2								 				0	077	05511	0	5400	
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0	2									1	1		2	633	67201	2	EACH	CONTROLLER WORK PAD, AS PER PLAN
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	10 LD								 	1	1		2	633	99000	2	EACH	CONTROLLER ITEM, MISC.: UNMANAGED
										1	1		2	633	99000	2	EACH	CONTROLLER ITEM, MISC.: ETHERNET R
C 2	* 								 		1			804	98100	1	EACH	FIBER OPTIC CABLE, MISC.: RELOCATE
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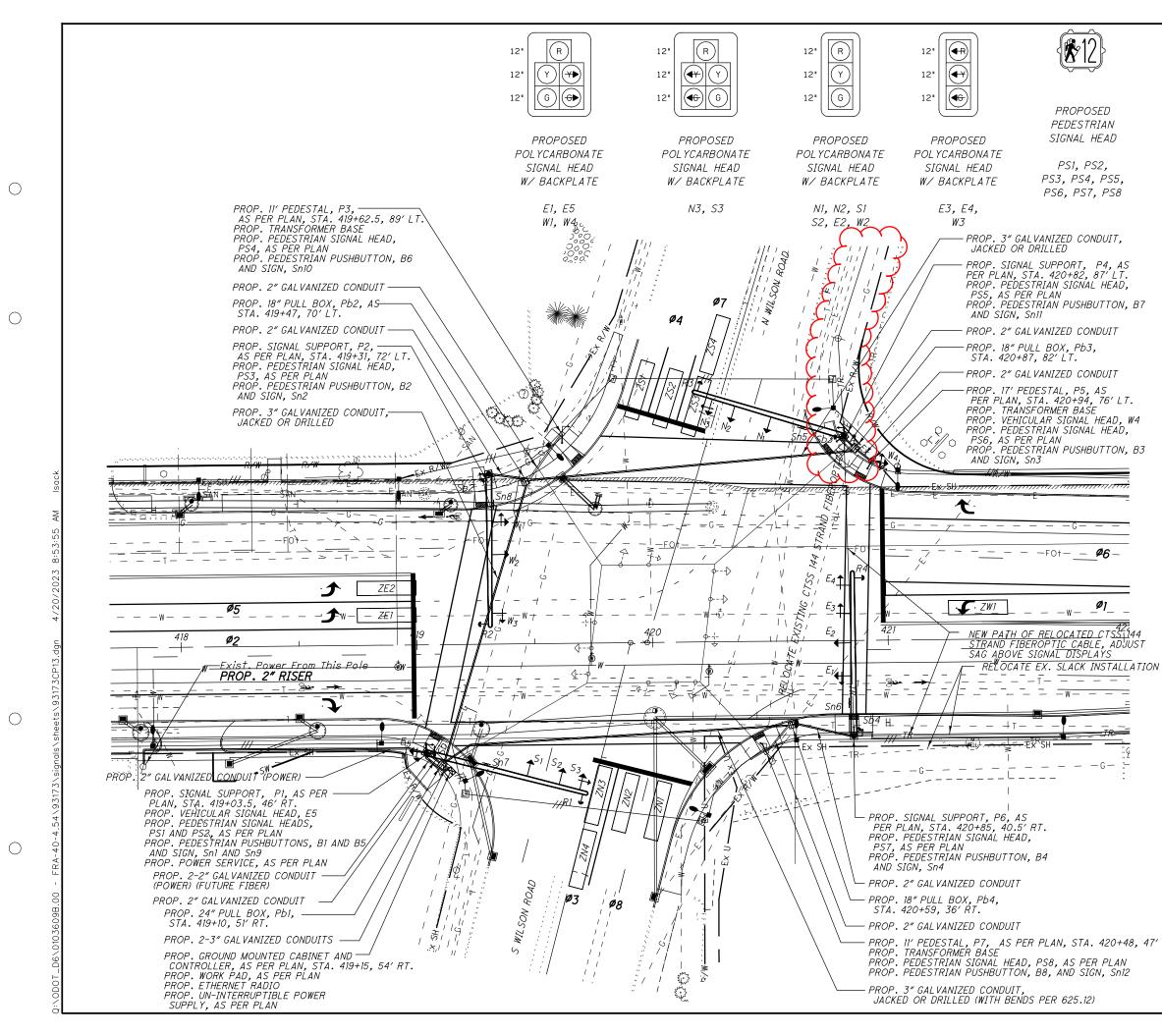


Image: State of the state	₩ilson Rd PROPOSED D3-1-81 Sn6, Sn8 N W Broad St PROPOSED D3-1-78 Sn5, Sn7	CALCULATED 0 20 EMH 10 CHECKED HORIZONTAL 40 LAS SCALE IN FEET
	E (PEDESTAL) ANGLE (SIGNAL SUPPORT)	TRAFFIC SIGNAL PLAN WILSON ROAD AND US ROUTE 40
<u>REMOVAL ITEMS</u> Strain Pole Pullbox Power Service Vehicular Signal Head	4 5 1 11	00°
REMOVAL ITEMS FOR STORAG Controller Cabinet Cabinet UPS Ubiquity Radio Radar Detection RT.	E 1 1 1 1 6	FRA - 40- 7 °00
		169 242

			SUB-SUMMARY	TRAFFIC SIGNAL CONTROLLER TIMING CHART	JLATED MH
ТЕМ	QUAN.	UNIT	DESCRIPTION	INTERSECTION: <u>Wilson Rd. & US Route 40</u>	CALCULAT FMH
625	230	FT	CONDUIT, 2", 725.04	START IN: START UP DUAL ENTRY: YES START IN: Y/R FLASH- ALL RED- X REST IN RED: RING 1- RING 2-	
625	10	FT	CONDUIT, 3″, 725.04	TIME FOR FLASH OR ALL RED: 6 SEC SIMULTANEOUS GAP YES	
625 625	425 105		CONDUIT, JACKED OR DRILLED, 725.04, 3" TRENCH	FIRST PHASE(S): # - 2 & # - 6 COLOR DISPLAYED: GREEN- YELLOW- X OVERLAP A B C D	
525 525	3		PULL BOX, 725.08, 18"	PHASES	
625	1	EACH	PULL BOX, 725.08, 24″	INTERVAL OR FEATURE CONTROLLER MOVEMENT No. 1 2 3 4 5 6 7 8	
525 525	8		GROUND ROD	INTERSECTION MOVEMENT WBL EB NBL SB EBL WB SBL NB	
30	4	EACH	SIGN HANGER ASSEMBLY, MAST ARM. AS PER PLAN	MINIMUM GREEN (INITIAL) (SEC.) 10 15 10 15 10 10 15 10 <t< td=""><td></td></t<>	
30	53		SIGN HANGER ASSEMBLT, MAST ARM, AS FER FLAN SIGN, FLAT SHEET	MAXIMUM INITIAL (SEC.)	
70	0	FACU		PASSAGE TIME (PRESET GAP) (SEC.) 5.0 1.0 5.0 1.0 4.0 1.0 * MINIMUM GAP (SEC.)	
32	9	EALH	VEHICULAR SIGNAL HEAD, (LED), BLACK, 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE WITH BACKPLATE, AS PER PLAN	TIME BEFORE REDUCTION (SEC.)	
32	6	EACH	VEHICULAR SIGNAL HEAD, (LED), BLACK, 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE	* TIME TO REDUCE (SEC.) -	
32	8	EACH	WITH BACKPLATE, AS PER PLAN PEDESTRIAN SIGNAL HEAD LED. COUNTDOWN. TYPE D2. AS PER PLAN	MAXIMUM GREEN I (SEC.) 40 55 40 40 55 40 40 55 40 40	
				MAXIMUM GREEN III (SEC.) 4.0 5.0 3.5 4.5	<
2 2	13 8		COVERING OF VEHICULAR SIGNAL HEAD, AS PER PLAN COVERING OF PEDESTRIAN SIGNAL HEAD, AS PER PLAN	YELLOW CHANGE (SEC.) 4.0 5.0 3.5 4.0 5.0 3.5 4.0 5.0 3.5 4.5 ALL RED CLEARANCE (SEC.) 3.5 1.5 3.5 2.5 3.5 1.5 3.5 3.5 1.5 3.5	
2	1411	FT	LOOP DETECTOR LEAD-IN CABLE	WALK (SEC.) 15.0 12.0 13.0 12.0	.
2 2	8 4822		PEDESTRIAN PUSHBUTTON SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	PED CLEAR (SEC.) 36.0 25.0 27.0 26.0 PED CLEAR THROUGH YELLOW (SEC.) 26.0 26.0 26.0 26.0 26.0 <	
2	4022		SIGNAL CADLE, F CONDUCTON, NO. 14 AND	ADJUST (SEC.)	
2	4		SIGNAL SUPPORT FOUNDATION, AS PER PLAN PEDESTAL FOUNDATION, AS PER PLAN	LIMIT (SEC.) SET (SEC.)	
2	3 50		POWER CABLE, 1 CONDUCTOR, NO. 6 AWG	CLEAR (SEC.)	C
2	175	FT	SERVICE CABLE, 3 CONDUCTOR, NO. 6 AWG	MAX (NO/YES) NO	
2	1	EACH	POWER SERVICE, AS PER PLAN	PED (NO/YES) NO	i
32	4		SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 14, AS PER PLAN	MEMORY (ON/OFF)	L
32 32	2		PEDESTAL, 11', TRANSFORMER BASE, AS PER PLAN PEDESTAL, MISC.: 17', TRANSFORMER BASE, AS PER PLAN	CALL TO NON-ACTUATED No. 1 No. 2	
32	1	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	NOTES: MAX II ENABLE FROM 06:00 TO 08:00 AND 16:00 TO 18:30	F
32	4	EACH	SIGNAL SUPPORT, MECHANICAL DAMPER FOR TC-81.21 MAST ARM		
32	1	EACH	WOOD POLE, 35' (COC)	COORDINATION TIMING	
» V	\mathcal{L}	EACH	CONDUCT PRISER, 2" QIANETER	USE EXISTING SYSTEM SETTINGS	
33	1		CABINET FOUNDATION, AS PER PLAN	POLE ORIENTATION	
33 33	1		CONTROLLER WORK PAD, AS PER PLAN UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN	ANGLES (DEG) FROM INDEX LINE OR ARM A	
3	1		CABINET, TYPE TS-2, AS PER PLAN	HEAD	
33	1	EACH	CONTROLLER ITEM, MISC.: UNMANAGED ETHERNET SWITCH		
33	1	EACH	CONTROLLER ITEM, MISC.: ETHERNET RADIO (UBIQUITY)	NUMBER NUMBER HEIGHT HEIGHT HEIGHT HEIGHT HEIGH TION STRIAN STRIAN STRIAN STRIAN STRIAN STRIAN STRIAN STRIAN STRIAN STRIAN CE E CE E CE E CE E CE	
		51011		POLE NUMBER ODDT DESIGN NUMBER DESIGN NUMBER FEIGHT FOUNDATION FOUNDATION FELEVATION FOUNDATION FOU	
)4	1	EACH	FIBER OPTIC CABLE, MISC.: RELOCATE EXISTING CABLE	POLE I POLE I NUMBET POLE I POLE I POLI POLI POLI POLI POLI POLI POLI POLI	
9	4		ADVANCE RADAR DETECTION		
9 9	4		STOP LINE RADAR DETECTION ATC V6.24 CONTROLLER, AS PER PLAN	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
				$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
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				P6 14 23 838.0 0 90 90 - 280 -	
			\checkmark	№18.№6 №48.№7 P7 PED 11 838.4 135 225 225 - 260 -	
				***ELEVATIONS SHOWN ARE FOR COMPUTATIONAL PURPOSES ONLY. THE ACTUAL ELEVATION C	OF
				THE FOUNDATION SHALL BE IN ACCORDANCE WITH SCD TC-21.20.	
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