

PAVEMENT, CONT.

ITEM 441 - ASPHALT CONCRETE, MISC.: ASPHALT BEHIND DRIVES AND WALKS (448)

WHERE DIRECTED IN THE FIELD BY THE ENGINEER THE CONTRACTOR SHALL REMOVE AND REPLACE THE EXISTING ASPHALT BEHIND THE WALK TO THE LIMITS AS INDICATED BY THE ENGINEER IN THE FIELD.

THE ASPHALT DRIVEWAY SHALL BE REPLACED PER DETAIL ON SHEET 65.

THE COST FOR PAVEMENT REMOVAL, ITEM 304 AGGREGATE BASE, ITEM 407 TACK COAT FOR INTERMEDIATE COURSE, ITEM 407 TACK COAT, ITEM 441 INTERMEDIATE COURSE AND ITEM 441 SURFACE COURSE SHALL BE INCLUDED IN THE COST FOR ITEM 441 ASPHALT CONCRETE, MISC.: ASPHALT BEHIND DRIVES AND WALKS.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

ITEM 441 - ASPHALT CONCRETE, MISC.: ASPHALT BEHIND DRIVES AND WALKS (448) 5 CY

ITEM 452 - 8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ITEMS 452 AND 608, THE COST OF EXCAVATING, FURNISHING AND COMPACTING 2" LIMESTONE SCREENING BED SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THESE ITEMS. ALL CONCRETE FOR WALKS, ADA RAMPS AND DRIVES SHALL HAVE RETRACED PICTURE FRAME TOOLED EDGE JOINTS.

EXISTING PAVEMENT DISPOSAL/CASTING ADJUSTMENT

THE EXISTING ASPHALT PAVEMENT WEARING COURSE, BRICK BASE, AND CONCRETE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. ONCE THE BASE IS REMOVED, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DELINEATE ANY CASTINGS THAT MAY PROTRUDE ABOVE THE EXISTING CONCRETE BASE. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SUFFICIENT MATERIAL IN THE VICINITY OF THESE CASTINGS TO PROVIDE AN ADEQUATE RAMP AROUND THE CASTINGS. IN NO CASE SHALL THE CASTING REMAIN EXPOSED WITHOUT PROPER PROTECTION.

ITEM 452 - NON-REINFORCED CONCRETE PAVEMENT, MISC.: SURCHARGE FOR CLASS MS CONCRETE

AT VARIOUS LOCATIONS ALONG THE CORRIDOR AND TIMES DURING CONSTRUCTION, CIRCUMSTANCES MAY REQUIRE THE USE OF CLASS MS CONCRETE. THE USE OF THIS TYPE OF CONCRETE SHALL BE AT THE DISCRETION AND DIRECTION OF THE ENGINEER AND THE SPECIFICATIONS OUTLINED IN THESE NOTES AND ODOT CMS. THE FOLLOWING ESTIMATED QUANTITY IS CARRIED TO THE GENERAL SUMMARY FOR USE BY THE ENGINEER:

ITEM 452 - NON-REINFORCED CONCRETE PAVEMENT, MISC.: SURCHARGE FOR CLASS MS CONCRETE 260 SY

WATER WORK

ITEM 638 - WATER WORK, MISC.: WATER METER VAULT ADJUSTED TO GRADE AND WATER MANHOLE ADJUSTED TO GRADE

ON THE PLANS WHERE WATER METER VAULTS AND WATER MANHOLES ARE INDICATED TO BE ADJUSTED TO GRADE, SHALL BE ADJUSTED TO GRADE IN ACCORDANCE WITH ITEM 638.

CAREFULLY REMOVE AND CLEAN THE EXISTING FRAME, ADJUST THE HEIGHT OF THE SUPPORTING WALLS, AND RESET THE EXISTING FRAME IN MORTAR OF CONCRETE TO THE NEW GRADE.

CAREFULLY REMOVE THE EXISTING COVER OR GRATE AND INSTALL A CASTING OR AN ACCEPTABLE ADJUSTING DEVICE APPROVED BY THE ENGINEER TO THE NEW GRADE INSTALLED ACCORDING TO THE DEVICE MANUFACTURER'S RECOMMENDATIONS.

ITEM 638 - WATER WORK, MISC.: WATER MANHOLE RECONSTRUCTED TO GRADE

THE FOLLOWING CONTINGENCY QUANTITY HAS BEEN ADDED TO THE GENERAL SUMMARY:

ITEM 638 - WATER WORK MISC.: WATER MANHOLE RECONSTRUCTED TO GRADE 10 EACH

ITEM 638 - 6" FIRE HYDRANT, AS PER PLAN

THE PAYMENT FOR THIS ITEM SHALL INCLUDE, BUT IS NOT LIMITED TO, THE INSTALLATION OF THE NEW HYDRANT, EXCAVATION, BACKFILL, BRANCH PIPING, CUT-IN TEE (INCLUDING SLEEVES, COUPLINGS, AND PIPING), GATE VALVE, VALVE BOX, THRUST BLOCKING, APPURTENANCES, AND ANY OTHER MATERIALS OR WORK REQUIRED TO INSTALL.

ITEM 638 - FIRE HYDRANT REMOVED, AS PER PLAN

THE WORK FOR THIS ITEM SHALL INCLUDE THE REMOVAL OF THE EXISTING HYDRANT, REMOVAL OF THE EXISTING TEE, AND INSERTION OF NEW STRAIGHT PIECE OF PIPE AND COUPLINGS.

ITEM SPECIAL - EXTEND 1" COPPER WATER SERVICE CONNECTION, CITY OF CLEVELAND

ITEM SPECIAL - EXTEND 2" COPPER WATER SERVICE CONNECTION, CITY OF CLEVELAND

IN LOCATIONS WHERE AN EXISTING SERVICE STOP BOX IS CURRENTLY LOCATED LESS THAN 2'-0" BEHIND THE CURB BEING REPLACED WITH THIS PROJECT, EXTEND THE WATER SERVICE CONNECTION TO ALLOW FOR PLACEMENT OF THE PROPOSED UNDERDRAIN WHERE DIRECTED BY THE ENGINEER.

ALL WORK UNDER THESE ITEMS SHALL CONFORM TO THE LATEST CITY OF CLEVELAND, DIVISION OF WATER STANDARDS AND DETAILS FOUND AT:

[HTTPS://WWW.CLEVELANDWATER.COM/CONSTRUCTION/DESIGN-CONSTRUCTION-SPECIFICATIONS](https://www.clevelandwater.com/construction/design-construction-specifications)

THE BACKFILL SPECIFICATIONS REQUIRED BY CWD STD-023 SHALL BE CONSIDERED INCIDENTAL TO THE WATER SERVICE EXTENSION WORK. THE NEW SERVICE CONNECTION VALVE, VALVE STEM, AND NEW SERVICE BOX SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BIT FOR THESE ITEMS. IN ADDITION, THE REMOVAL OF THE EXISTING SERVICE BOX AND, IN CERTAIN CASES WHEN DIRECTED, THE REMOVAL OF THE EXISTING SERVICE VALVE AND TUBING, AS NOTED ON CWD STD-C01 & STD-C02, SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR THESE ITEMS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN ADDED TO THE GENERAL SUMMARY:

ITEM SPECIAL - EXTEND 1" COPPER WATER SERVICE CONNECTION, CITY OF CLEVELAND 50 FT

ITEM SPECIAL - EXTEND 2" COPPER WATER SERVICE CONNECTION, CITY OF CLEVELAND 20 FT

SANITARY

ITEM 611 - DRAINAGE STRUCTURE MISC.: TEST TEE ADJUST TO GRADE

ACTIVE SANITARY SEWER CONNECTION TEST TEES ENCOUNTERED WITHIN THE CONSTRUCTION LIMITS SHALL BE ADJUSTED TO GRADE AS REQUIRED AT THE LOCATION SHOWN IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER, ALL IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF ITEM 611.

THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

ITEM 611 - DRAINAGE STRUCTURE MISC.: TEST TEE ADJUST TO GRADE 5 EACH

WATER QUALITY

POST CONSTRUCTION STORM WATER TREATMENT

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT.

MANUFACTURED WATER QUALITY STRUCTURE

THIS PLAN UTILIZES MANUFACTURED WATER QUALITY STRUCTURES FOR WATER QUALITY TREATMENT. AREAS ARE SHOWN IN THE PLANS FOR PLACEMENT OF AN OFF-LINE SYSTEM. PAYMENT FOR THESE DEVICES IS MADE AT THE CONTRACT UNIT PRICE FOR ITEM 895, MANUFACTURED WATER QUALITY STRUCTURE, TYPE 2.

TRAFFIC CONTROL

ITEM 630 - OVERHEAD SIGN SUPPORT, TYPE TC-16.22, DESIGN 7, AS PER PLAN

THE ARM ATTACHMENT SHALL BE OMITTED FROM THE OVERHEAD SIGN SUPPORT. ALL OTHER SPECS SHALL BE PER SCD TC-16.22.

ABBREVIATIONS

- AA - ANCHOR ASSEMBLY
- ABND - ABANDONNED
- ATG - ADJUST TO GRADE
- ATGBO - ADJUST TO GRADE BY OTHERS
- @ - BASELINE
- BM - BENCHMARK
- BOC - BACK OF CURB
- BTA - BRIDGE TERMINAL ASSEMBLY
- CI - CURB INLET
- CL - CLASS
- Ⓢ CONST. - CENTERLINE OF CONSTRUCTION
- Ⓢ - CENTERLINE
- COC - CITY OF CLEVELAND
- COMM - COMMERCIAL
- CONST. LIMITS - CONSTRUCTION LIMITS
- CUY - CUYAHOGA COUNTY
- CWD - CLEVELAND WATER DEPARTMENT
- DI - DUCTILE IRON PIPE
- DND - DO NOT DISTURB
- EB - EASTBOUND
- ELEC - ELECTRIC
- EL - ELEVATION
- EOP - EDGE OF PAVEMENT
- EX - EXISTING
- FC - FACE OF CURB
- FDO - FOR DIRECTION ONLY
- FF - FILTER FABRIC
- FH - FIRE HYDRANT
- FL - FLOW LINE
- GR - GUARDRAIL
- INV - INVERT
- LON - LENGTH OF NEED
- LT - LEFT
- MH - MANHOLE
- NB - NORTHBOUND
- OHE - OVERHEAD ELECTRIC
- PROP - PROPOSED
- R&R - REMOVE AND REERECT
- RCHP - ROCK CHANNEL PROTECTION
- RCP - REINFORCED CONCRETE PIPE
- RES - RESIDENTIAL
- RNS - ROUNDED END SECTION
- RR- RAILROAD
- RT - RIGHT
- RTG - RECONSTRUCT TO GRADE
- RW - RIGHT OF WAY
- SAN - SANITARY SEWER
- SB - SOUTHBOUND
- SH - STANDARD HIGHWAY EASEMENT
- STA - STATION
- STM - STORM
- TBA - TO BE ABANDONED
- TBRLBO - TO BE RELOCATED BY OTHERS
- TBRL - TO BE RELOCATED
- TBR - TO BE REMOVED
- TBRO - TO BE REMOVED BY OTHERS
- TCB - TOP OF CURB
- TC - TOP OF CASTING
- TELE - TELEPHONE
- TR - TO REMAIN
- TYP - TYPICAL
- UD - UNDERDRAIN
- UNKN - UNKNOWN
- UTIL - UTILITY
- VCP - VITRIFIED CLAY PIPE
- WB - WESTBOUND
- WV - WATER VALVE

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CALCULATED
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NSP

GENERAL NOTES

CUY-EAST 185TH STREET

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SHEET NUM.												PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	
26	115	118	132	134	135	147	148	22				01/ENH/PV	02/ENH/PV	03/NFP/PV							
															TRAFFIC CONTROL						
				4								4			630	79101	4	EACH	SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN	131	
	79											69	1	9	630	79500	79	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED		
	611			4								524.9	17.1	72.7	630	80100	614.7	SF	SIGN, FLAT SHEET		
	24											24			630	80500	24	EACH	SIGN, DOUBLE FACED, STREET NAME		
				4								4			630	80511	4	EACH	SIGN, STREET NAME, AS PER PLAN	131	
								1				1			630	72521	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.22, DESIGN 7, AS PER PLAN	22	
20														20	630	83000	20	SF	COVERING OF SIGN		
	64											52		12	630	84900	64	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL		
	2											2			630	85100	2	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION		
	43											33		10	630	86002	43	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL		
	86											69		17	630	87500	86	EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL		
	1											1			630	84510	1	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION		
	12											5		7	630	87520	12	EACH	REMOVAL OF POLE MOUNTED SIGN AND REERECTION		
	1											1			630	89702	1	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL		
			2									2			630	97700	2	EACH	SIGNING, MISC.: RECTANGULAR RAPID FLASHING BEACON (RRFB) SIGN ASSEMBLY	130	
	1											1			631	92990	1	EACH	SCHOOL SPEED LIMIT SIGN ASSEMBLY, 24" X 36"		
		1.18										1.18			644	00100	1.18	MILE	EDGE LINE, 4" (WHITE)		
		0.74										0.74			644	00300	0.74	MILE	CENTER LINE (DOUBLE SOLID)		
		119										119			644	00400	119	FT	CHANNELIZING LINE, 8"		
		309										269		40	644	00500	309	FT	STOP LINE		
		1,840										1,672		168	644	00620	1,840	FT	CROSSWALK LINE, 12"		
												336			644	00630	336	FT	CROSSWALK LINE, 24" (LADDER STYLE)		
		1,091										867		224	644	00700	1,091	FT	TRANSVERSE/DIAGONAL LINE (WHITE)		
		4										4			644	01300	4	EACH	LANE ARROW		
		316										316			644	01500	316	FT	DOTTED LINE, 4"		
		37										26		11	644	19000	37	EACH	SHARED LANE MARKING		
						4,133	113					4,246			647	50110	4,246	SF	PAVEMENT MARKING, MISC.: DECORATIVE CROSSWALK	142	
															TRAFFIC SIGNALS						
			138									138			625	25408	138	FT	CONDUIT, 2", 725.051		
				530								530			625	25504	530	FT	CONDUIT, 3", 725.051		
			59	125								184			625	29000	184	FT	TRENCH		
			79	194								273			625	29400	273	FT	TRENCH IN PAVED AREA		
			4	5								9			625	30520	9	EACH	PULL BOX, 725.06, SIZE 7	130	
				1								1			625	30530	1	EACH	PULL BOX, 725.06, SIZE 18	130	
	1		2									3			625	32000	3	EACH	GROUND ROD		
				7								5	2		625	32001	7	EACH	GROUND ROD, AS PER PLAN	131	
				12								12			632	05007	12	EACH	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN	129	
				8								8			632	20731	8	EACH	PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN	129	
				12								12			632	25000	12	EACH	COVERING OF VEHICULAR SIGNAL HEAD		
				8								8			632	25010	8	EACH	COVERING OF PEDESTRIAN SIGNAL HEAD		
				4								4			632	26001	4	EACH	PEDESTRIAN PUSHBUTTON, AS PER PLAN	128	
			73	597								670			632	40300	670	FT	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG		
				1,150								1,150			632	40500	1,150	FT	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG		
				1,241								1,241			632	40700	1,241	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG		
				4								4			632	64011	4	EACH	SIGNAL SUPPORT FOUNDATION, AS PER PLAN	129	
			2	2								4			632	64020	4	EACH	PEDESTAL FOUNDATION		
			146		49							195			632	68300	195	FT	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG		
				197								197			632	69700	197	FT	SERVICE CABLE, 3 CONDUCTOR, NO. 8 AWG		
			1	1								2			632	70001	2	EACH	POWER SERVICE, AS PER PLAN	129	
			1									1			632	70400	1	EACH	CONDUIT RISER, 2" DIAMETER		
				1								1			632	70600	1	EACH	CONDUIT RISER, 3" DIAMETER		
					1							1			632	72101	1	EACH	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 2, AS PER PLAN	129	
					1							1			632	72111	1	EACH	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 4, AS PER PLAN	129	
					1							1			632	72131	1	EACH	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 12, AS PER PLAN	129	
					1							1			632	72141	1	EACH	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 13, AS PER PLAN	129	
					1							1			632	89601	1	EACH	PEDESTAL, 8", AS PER PLAN	130	
					1							1			632	89751	1	EACH	PEDESTAL, 15', AS PER PLAN	130	
					1							1			632	90101	1	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	128	

GENERAL SUMMARY

CUY-EAST 185TH STREET

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REF NO.	SHEET NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	PARTICIPATION CODE	625	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	631				
								GROUND ROD EACH	GROUND MOUNTED SUPPORT, NO. 2 POST FT	GROUND MOUNTED SUPPORT, NO. 3 POST FT	SIGN POST REFLECTOR EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.22, DESIGN 7, AS PER PLAN EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH	SIGN, FLAT SHEET SF	SIGN, DOUBLE FACED, STREET NAME EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF POLE MOUNTED SIGN AND REERECTION EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL EACH	SCHOOL SPEED LIMIT SIGN ASSEMBLY, 24" X 36" EACH					
R1	119	EAST 185TH ST		LT			01/ENH/PV														2							
R2	119	EAST 185TH ST		LT			01/ENH/PV															2						
R3	119	EAST 185TH ST		LT			01/ENH/PV															1						
R4	119	EAST 185TH ST		RT			01/ENH/PV									2							1					
R5	119	EAST 185TH ST		RT			01/ENH/PV																1					
R6	119	EAST 185TH ST		RT			01/ENH/PV																3					
R7	119	EAST 185TH ST		RT			01/ENH/PV																1					
R8	119	EAST 185TH ST		LT			01/ENH/PV																1					
R9	120	EAST 185TH ST		LT			01/ENH/PV																4					
R10	120	EAST 185TH ST		LT			01/ENH/PV									1			1									
R11	120	EAST 185TH ST		LT			01/ENH/PV																2					
R12	120	EAST 185TH ST		LT			01/ENH/PV																2					
R13	120	EAST 185TH ST		LT			01/ENH/PV																1					
R14	120	EAST 185TH ST		LT			01/ENH/PV									2			1									
R15	120	EAST 185TH ST		LT			01/ENH/PV																3					
R16	120	LANDSEER RD		LT			01/ENH/PV									2			1									
R17	120	EAST 185TH ST		LT			01/ENH/PV																2					
R18	120	EAST 185TH ST		RT			01/ENH/PV									2			1									
R19	120	ABBY AVE		RT			01/ENH/PV									1			1									
R20	120	EAST 185TH ST		RT			01/ENH/PV																1					
R21	120	EAST 185TH ST		RT			01/ENH/PV																1					
R22	120	EAST 185TH ST		RT			01/ENH/PV																1					
R23	121	EAST 185TH ST		LT			01/ENH/PV																1					
R24	121	EAST 185TH ST		LT			01/ENH/PV																2					
R25	121	EAST 185TH ST		LT			01/ENH/PV									1			1									
R26	121	EAST 185TH ST		LT			01/ENH/PV												1		1							
R27	121	EAST 185TH ST		LT			01/ENH/PV									2			1									
R28	121	EAST 185TH ST		LT			01/ENH/PV																1					
R29	121	CORNWALL RD		LT			01/ENH/PV									2			1									
R30	121	EAST 185TH ST		LT			01/ENH/PV									4			1									
R31	121	EAST 185TH ST		LT			01/ENH/PV																2					
R32	121	EAST 185TH ST		LT			01/ENH/PV									1			1									
R33	121	EAST 185TH ST		RT			01/ENH/PV									2			1									
R34	121	EAST 185TH ST		RT			01/ENH/PV												1		1							
R35	121	EAST 185TH ST		RT			01/ENH/PV																1					
R36	121	EAST 185TH ST		RT			01/ENH/PV									2			1									
R37	121	EAST 185TH ST		RT			01/ENH/PV									1			1									
R38	121	EAST 185TH ST		RT			01/ENH/PV																1					
R39	121	EAST 185TH ST		RT			01/ENH/PV									2			1									
R40	121	EAST 185TH ST		RT			01/ENH/PV																1					
R41	121	RENWOOD AVE		RT			01/ENH/PV									1			1									
R42	121	EAST 185TH ST		RT			01/ENH/PV									2			1									
R43	122	EAST 185TH ST		LT			01/ENH/PV									3			1									
R44	122	CANTERBURY RD		LT			01/ENH/PV									2			1									
R45	122	EAST 185TH ST		LT			01/ENH/PV																2					
R46	122	EAST 185TH ST		LT			01/ENH/PV																1					
R47	122	ROSECLIFF RD		LT			01/ENH/PV									2			1									
R48	122	EAST 185TH ST		LT			01/ENH/PV																2					
R49	122	EAST 185TH ST		LT			01/ENH/PV																1	1				
R50	122	EAST 185TH ST		RT			01/ENH/PV																1					
SUBTOTALS THIS SHEET - CARRIED TO SHEET 115																37		2		22		43		2				

SIGNING SUB-SUMMARY

CUY-EAST 185TH STREET

CALCULATED
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REF NO.	SHEET NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	PARTICIPATION CODE	625	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	631				
								GROUND ROD EACH	GROUND MOUNTED SUPPORT, NO. 2 POST FT	GROUND MOUNTED SUPPORT, NO. 3 POST FT	SIGN POST REFLECTOR EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.22, DESIGN 7, AS PER PLAN EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH	SIGN, FLAT SHEET SF	SIGN, DOUBLE FACED, STREET NAME EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF POLE MOUNTED SIGN AND REERECTION EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL EACH	SCHOOL SPEED LIMIT SIGN ASSEMBLY, 24" X 36" EACH					
R51	122	EAST 185TH ST		RT			01/ENH/PV										2		1									
R52	122	NAUMANN AVE		RT			01/ENH/PV										1		1									
R53	122	EAST 185TH ST		RT			01/ENH/PV													1								
R54	123	EAST 185TH ST		LT			01/ENH/PV										2		1									
R55	123	EAST 185TH ST		LT			01/ENH/PV																					
R56	123	EAST 185TH ST		LT			01/ENH/PV																					
R57	123	EAST 185TH ST		LT			01/ENH/PV																					
R58	123	EAST 185TH ST		LT			01/ENH/PV																					
R59	123	PASNOW AVE		RT			01/ENH/PV										1		1									
R60	123	EAST 185TH ST		RT			01/ENH/PV																					
R61	123	EAST 185TH ST		RT			01/ENH/PV										2		1									
R62	123	EAST 185TH ST		RT			01/ENH/PV																					
R63	123	EAST 185TH ST		RT			01/ENH/PV																					
R64	123	EAST 185TH ST		RT			01/ENH/PV																					
R65	123	EAST 185TH ST		RT			01/ENH/PV																					
R66	123	MEREDITH AVE		RT			01/ENH/PV										1		1									
R67	123	EAST 185TH ST		RT			01/ENH/PV																					
R68	123	EAST 185TH ST		RT			01/ENH/PV																					
R69	124	EAST 185TH ST		LT			01/ENH/PV										1		1									
R70	124	LAKESHORE BLVD		LT			01/ENH/PV										1		1									
R71	124	LAKESHORE BLVD		LT			01/ENH/PV																					
R72	124	LAKESHORE BLVD		LT			01/ENH/PV																					
R73	124	EAST 185TH ST		LT			01/ENH/PV																					
R74	124	EAST 185TH ST		LT			03/NFP/PV																					
R75	124	EAST 185TH ST		LT			03/NFP/PV																					
R76	124	EAST 185TH ST		RT			01/ENH/PV																					
R77	124	EAST 185TH ST		RT			01/ENH/PV																					
R78	124	EAST 185TH ST		RT			01/ENH/PV																					
R79	124	EAST 185TH ST		RT			01/ENH/PV																					
R80	124	EAST 185TH ST		RT			01/ENH/PV																					
R81	124	LOCHERIE AVE		RT			01/ENH/PV																					
R82	124	LOCHERIE AVE		RT			01/ENH/PV										1		1									
R83	124	EAST 185TH ST		RT			01/ENH/PV																					
R84	124	EAST 185TH ST		RT			03/NFP/PV																					
R85	125	EAST 185TH ST		LT			03/NFP/PV																					
R86	125	EAST 185TH ST		LT			03/NFP/PV																					
R87	125	EAST 185TH ST		LT			03/NFP/PV																					
R88	125	EAST 185TH ST		LT			03/NFP/PV																					
R89	125	EAST 185TH ST		LT			03/NFP/PV																					
R90	125	EAST 185TH ST		LT			03/NFP/PV																					
R91	125	EAST 185TH ST		LT			03/NFP/PV																					
R92	125	EAST 185TH ST		LT			03/NFP/PV																					
R93	125	EAST 185TH ST		RT			03/NFP/PV																					
R94	125	EAST 185TH ST		RT			03/NFP/PV																					
R95	125	EAST 185TH ST		RT			03/NFP/PV																					
R96	126	EAST 185TH ST		LT			03/NFP/PV																					
R97	126	EAST 185TH ST		LT			03/NFP/PV																					
R98	126	EAST 185TH ST		RT			03/NFP/PV																					
R99	126	EAST 185TH ST		RT			03/NFP/PV																					
R100	126	EAST 185TH ST		RT			03/NFP/PV																					
SUBTOTALS THIS SHEET - CARRIED TO SHEET 115																	20		14		42		10		1			

SIGNING SUB-SUMMARY

CUY-EAST 185TH STREET

CALCULATED
SJK
CHECKED
CM

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REF NO.	SHEET NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	PARTICIPATION CODE	625	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	631			
								GROUND ROD EACH	GROUND MOUNTED SUPPORT, NO. 2 POST FT	GROUND MOUNTED SUPPORT, NO. 3 POST FT	SIGN POST REFLECTOR EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.22, DESIGN 7, AS PER PLAN EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH	SIGN, FLAT SHEET SF	SIGN, DOUBLE FACED, STREET NAME EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF POLE MOUNTED SIGN AND REERECTION EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL EACH	SCHOOL SPEED LIMIT SIGN ASSEMBLY, 24" X 36" EACH				
R101	126	EAST 185TH ST		RT			03/NFP/PV											1									
R102	126	EAST 185TH ST		RT			03/NFP/PV											1									
R103	127	EAST 185TH ST		LT			03/NFP/PV																1				
R104	127	EAST 185TH ST		LT			03/NFP/PV											1									
R105	127	EAST 185TH ST		LT			03/NFP/PV											1									
R106	127	EAST 185TH ST		RT			03/NFP/PV											1									
R107	127	EAST 185TH ST		RT			03/NFP/PV											1									
R108	127	EAST 185TH ST		RT			03/NFP/PV											1									
S1	119	EAST 185TH ST	546+56	LT	R7-5	12 x 18	01/ENH/PV		13.5																		
					R7-107	12 x 18	01/ENH/PV																				
S1A	119	EAST 185TH ST	547+68	LT	R7-107	12 x 18	01/ENH/PV		13.5																		
					R7-5	12 x 18	01/ENH/PV																				
S2	119	EAST 185TH ST	546+56	LT	R7-5	12 x 18	01/ENH/PV						1	1.5													
S3	119	EAST 185TH ST	549+32	LT	R7-5	12 x 18	01/ENH/PV		13.5																		
					R7-1	12 x 18	01/ENH/PV																				
S4	119	EAST 185TH ST	546+62	RT	R7-107	12 x 18	01/ENH/PV		13.5																		
					R7-5	12 x 18	01/ENH/PV																				
S5	119	EAST 185TH ST	546+98	RT	D3-1	36 x 10	01/ENH/PV						1	2.5	1												
					D3-1	36 x 10	01/ENH/PV						1	2.5	1												
S6	119	EAST 185TH ST	548+28	RT	R7-108	12 x 18	01/ENH/PV						1	1.5													
S7	119	EAST 185TH ST	549+34	RT	R7-108	12 x 18	01/ENH/PV						1	1.5													
S8	120	EAST 185TH ST	549+50	LT	D3-1	36 x 10	01/ENH/PV						1	2.5	1												
					D3-1	36 x 10	01/ENH/PV						1	2.5	1												
S9	120	WINDWARD ST	39+58	RT	R1-1	30 x 30	01/ENH/PV																				
S10	120	EAST 185TH ST	550+30	LT	R7-1	12 x 18	01/ENH/PV		13.5																		
					R7-5	12 x 18	01/ENH/PV																				
S11	120	EAST 185TH ST	550+77	LT	R7-5	12 x 18	01/ENH/PV		13.5																		
					R7-1	12 x 18	01/ENH/PV																				
S12	120	EAST 185TH ST	550+90	LT	R2-1	24 x 30	01/ENH/PV						1	5.0													
S12A	120	EAST 185TH ST	551+13	LT	W11-2	36 x 36	01/ENH/PV																				
					W16-7P	24 x 12	01/ENH/PV																				
S13	120	EAST 185TH ST	551+33	LT	R7-1	12 x 18	01/ENH/PV		13.5																		
					R7-5	12 x 18	01/ENH/PV																				
S13A	120	EAST 185TH ST	552+28	RT	W11-2	36 x 36	01/ENH/PV						1	9.0													
					W16-9P	24 x 12	01/ENH/PV						1	2.0													
S14	120	EAST 185TH ST	552+95	LT	R7-5	12 x 18	01/ENH/PV		13.5																		
					R7-1	12 x 18	01/ENH/PV																				
S15	120	EAST 185TH ST	553+22	LT	D3-1	36 x 10	01/ENH/PV						1	2.5	1												
					D3-1	36 x 10	01/ENH/PV						1	2.5	1												
S16	120	LANDSEER ST	59+59	RT	R12-3	24 x 36	01/ENH/PV																				
					R1-1	36 x 36	01/ENH/PV																				
S17	120	EAST 185TH ST	553+92	LT	R7-1	12 x 18	01/ENH/PV																				
					R7-5	12 x 18	01/ENH/PV						1	1.5													
S17A	120	EAST 185TH ST	549+70	RT	W11-2	36 x 36	01/ENH/PV																				
					W16-9P	24 x 12	01/ENH/PV																				
S18	120	EAST 185TH ST	550+77	RT	R7-1	12 x 18	01/ENH/PV		13.5																		
					R7-108	12 x 18	01/ENH/PV																				
S18A	120	EAST 185TH ST	550+98	RT	W11-2	36 x 36	01/ENH/PV																				
					W16-7P	24 x 12	01/ENH/PV																				
S19	120	ABBY AVE	50+40	LT	R1-1	30 x 30	01/ENH/PV																				
S20	120	EAST 185TH ST	551+61	RT	D3-1	36 x 10	01/ENH/PV						1	2.5	1												
					D3-1	36 x 10	01/ENH/PV						1	2.5	1												
S21	120	EAST 185TH ST	551+83	RT	R7-108	12 x 18	01/ENH/PV		13.5																		
					R7-1	12 x 18	01/ENH/PV																				
S22	120	EAST 185TH ST	552+77	RT	R7-108	12 x 18	01/ENH/PV						1	1.5													
S23	120	EAST 185TH ST	554+15	RT	R7-108	12 x 18	01/ENH/PV						1	1.5													
SUBTOTALS THIS SHEET - CARRIED TO SHEET 115									135.0	83.0	3		18	137.0	8		7		7		1						

CALCULATED	SJK
	CHECKED
CM	

SIGNING SUB-SUMMARY

CUY-EAST 185TH STREET

112
173

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REF NO.	SHEET NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	PARTICIPATION CODE	625	630	630	630	630	630	630	630	630	630	630	630	630	631				
								GROUND ROD	GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 3 POST	SIGN POST REFLECTOR	OVERHEAD SIGN SUPPORT, TYPE TC-16.22, DESIGN 7, AS PER PLAN	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SIGN, FLAT SHEET	SIGN, DOUBLE FACED, STREET NAME	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND REERECTION	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL	SCHOOL SPEED LIMIT SIGN ASSEMBLY, 24" X 36"		
S24	121	EAST 185TH ST	554+90	LT	R7-5	12 x 18	01/ENH/PV	EACH					1	1.5											
S25	121	EAST 185TH ST	556+24	LT	R7-107	12 x 18	01/ENH/PV		12.0					1.5											
S25A	121	EAST 185TH ST	556+40	LT	SPECIAL	24 x 30	01/ENH/PV			13				5.0											
					SPECIAL	24 x 30	01/ENH/PV							5.0											
S26	121	CORNWALL ST	79+59	RT	R1-1	30 x 30	01/ENH/PV			14.5	1			6.3											
					R7-1	12 x 18	01/ENH/PV							1.5											
S27	121	EAST 185TH ST	556+88	LT	D3-1	36 x 10	01/ENH/PV			13.8				2.5	1										
					D3-1	36 x 10	01/ENH/PV							2.5	1										
					SPECIAL	24 x 30	01/ENH/PV							5.0											
					SPECIAL	24 x 30	01/ENH/PV							5.0											
S28	121	EAST 185TH ST	557+13	LT	R7-1	12 x 18	01/ENH/PV		13.5					1.5											
					R7-5	12 x 18	01/ENH/PV							1.5											
S29	121	EAST 185TH ST	557+48	LT	R7-5	12 x 18	01/ENH/PV					1		1.5											
					R7-1	12 x 18	01/ENH/PV					1		1.5											
S29A	121	EAST 185TH ST	558+45	LT	W11-2	36 x 36	01/ENH/PV			14.5				9.0											
					W16-7P	24 x 12	01/ENH/PV							2.0											
S30	121	EAST 185TH ST	558+88	LT	R7-1	12 x 18	01/ENH/PV		13.5					1.5											
					R7-5	12 x 18	01/ENH/PV							1.5											
S31	121	EAST 185TH ST	555+06	RT	R7-108	12 x 18	01/ENH/PV		12.0					1.5											
S32	121	EAST 185TH ST	555+39	RT	D3-1	36 x 10	01/ENH/PV					1		2.5	1										
					D3-1	36 x 10	01/ENH/PV					1		2.5	1										
S33	121	EAST 185TH ST	556+41	RT	R7-108	12 x 18	01/ENH/PV					1		1.5											
					R7-107	12 x 18	01/ENH/PV					1		1.5											
S34	121	EAST 185TH ST	556+80	RT	R5-1	30 x 30	01/ENH/PV			13.0	1			6.3											
S35	121	EAST 185TH ST	557+32	RT	W11-2	36 x 36	01/ENH/PV					1		9.0											
					W16-9P	24 x 12	01/ENH/PV					1		2.0											
					R7-108	12 x 18	01/ENH/PV					1		1.5											
S36	121	EAST 185TH ST	557+78	RT	R7-1	12 x 18	01/ENH/PV		13.5					1.5											
					R7-108	12 x 18	01/ENH/PV							1.5											
S37	121	EAST 185TH ST	558+02	RT	D3-1	36 x 10	01/ENH/PV					1		2.5	1										
					D3-1	36 x 10	01/ENH/PV					1		2.5	1										
S38	121	RENWOOD AVE	90+42	LT	R1-1	30 x 30	01/ENH/PV			13.0	1			6.3											
S38A	121	EAST 185TH ST	558+60	RT	W11-2	36 x 36	01/ENH/PV			14.5				9.0											
					W16-7P	24 x 12	01/ENH/PV							2.0											
S39	121	EAST 185TH ST	558+80	RT	R7-108	12 x 18	01/ENH/PV		13.5					1.5											
					R7-1	12 x 18	01/ENH/PV							1.5											
S40	122	EAST 185TH ST	559+38	LT	R7-5	12 x 18	01/ENH/PV		13.5					1.5											
					R7-1	12 x 18	01/ENH/PV							1.5											
S41	122	EAST 185TH ST	559+48	RT	W11-2	36 x 36	01/ENH/PV			14.5				9.0											
					W16-9P	24 x 12	01/ENH/PV							2.0											
S42	122	CANTERBURY RD	99+59	RT	R1-1	30 x 30	01/ENH/PV			14.5	1			6.3											
					R7-1	12 x 18	01/ENH/PV							1.5											
S42A	122	EAST 185TH ST	560+05	LT	D3-1	36 x 10	01/ENH/PV			13.2				2.5	1										
					D3-1	36 x 10	01/ENH/PV							2.5	1										
S43	122	EAST 185TH ST	560+38	LT	R7-1	12 x 18	01/ENH/PV		13.5					1.5											
					R7-5	12 x 18	01/ENH/PV							1.5											
S44	122	EAST 185TH ST	561+91	LT	R7-5	12 x 18	01/ENH/PV					1		1.5											
S45	122	EAST 185TH ST	562+48	LT	W11-2	36 x 36	01/ENH/PV	SEE SIGNAL PLANS																	
					W11-2	36 x 36	01/ENH/PV																		
					W16-7P	24 x 12	01/ENH/PV																		
					W16-7P	24 x 12	01/ENH/PV																		
S46	122	ROSECLIFF RD	119+60	RT	R12-3	24 x 36	01/ENH/PV			13.5				6.0											
					R1-1	36 x 36	01/ENH/PV				1			9.0											
S47	122	EAST 185TH ST	559+57	LT	D3-1	36 x 10	01/ENH/PV					1		2.5	1										
					D3-1	36 x 10	01/ENH/PV					1		2.5	1										
S48	122	EAST 185TH ST	563+36	LT	R7-107	12 x 18	01/ENH/PV					1		1.5											
					R7-5	12 x 18	01/ENH/PV					1		1.5											
SUBTOTALS THIS SHEET - CARRIED TO SHEET 115									105.0	152.0	5	17	167.0	10											

CALCULATED	SJK	CHECKED	CM
SIGNING SUB-SUMMARY			
CUY-EAST 185TH STREET			
113			
173			

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REF NO.	SHEET NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	PARTICIPATION CODE	625	630	630	630	630	630	630	630	630	630	630	630	630	630	630	631					
								GROUND ROD	GROUND MOUNTED SUPPORT, NO. 2 POST	GROUND MOUNTED SUPPORT, NO. 3 POST	SIGN POST REFLECTOR	OVERHEAD SIGN SUPPORT, TYPE TC-16.22, DESIGN 7, AS PER PLAN	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SIGN, FLAT SHEET	SIGN, DOUBLE FACED, STREET NAME	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND REERECTION	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL	SCHOOL SPEED LIMIT SIGN ASSEMBLY, 24" X 36"					
								EACH	FT	FT	EACH	EACH	SF	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH					
S49	122	EAST 185TH ST	560+00	RT	R7-1	12 x 18	01/ENH/PV		13.5					1.5														
					R7-108	12 x 18	01/ENH/PV							1.5														
S50	122	NAUMANN AVE	110+40	LT	R1-1	30 x 30	01/ENH/PV			13.0	1			6.3														
S51	122	EAST 185TH ST	560+77	RT	D3-1	36 x 10	01/ENH/PV						1	2.5	1													
					D3-1	36 x 10	01/ENH/PV						1	2.5	1													
S52	122	EAST 185TH ST	561+00	RT	W11-2	36 x 36	01/ENH/PV			18.5				9.0														
					W16-9P	24 x 12	01/ENH/PV							2.0														
					R7-108	12 x 18	01/ENH/PV							1.5														
					R7-1	12 x 18	01/ENH/PV							1.5														
S53	122	EAST 185TH ST	562+42	RT	W11-2	36 x 36	01/ENH/PV	SEE SIGNAL PLANS																				
					W11-2	36 x 36	01/ENH/PV																					
					W16-7P	24 x 12	01/ENH/PV																					
					W16-7P	24 x 12	01/ENH/PV																					
S54	122	EAST 185TH ST	562+90	RT	R7-107	12 x 18	01/ENH/PV		12.0					1.5														
S55	122	EAST 185TH ST	563+43	RT	R7-108	12 x 18	01/ENH/PV		12.0					1.5														
S55A	123	EAST 185TH ST	564+14	LT	W11-2	36 x 36	01/ENH/PV			14.5				9.0														
					W16-9P	24 x 12	01/ENH/PV							2.0														
S56	123	EAST 185TH ST	564+74	LT	R7-5	12 x 18	01/ENH/PV						1	1.5														
S57	123	EAST 185TH ST	566+13	LT	R7-203	18 x 24	01/ENH/PV						1	3.0														
S58	123	EAST 185TH ST	566+79	LT	R7-5	12 x 18	01/ENH/PV		13.5					1.5														
					R7-1	12 x 18	01/ENH/PV							1.5														
S58A	123	EAST 185TH ST	567+37	LT	W11-2	36 x 36	01/ENH/PV						1	9.0														
					W16-7P	24 x 12	01/ENH/PV						1	2.0														
S59	123	EAST 185TH ST	570+12	LT	R7-1	12 x 18	01/ENH/PV						1	1.5														
					R7-5	12 x 18	01/ENH/PV						1	1.5														
S59A	123	EAST 185TH ST	565+59	RT	W11-2	36 x 36	01/ENH/PV			14.5				9.0														
					W16-9P	24 x 12	01/ENH/PV							2.0														
S60	123	EAST 185TH ST	563+79	RT	R7-1	12 x 18	01/ENH/PV		13.5					1.5														
					R7-108	12 x 18	01/ENH/PV							1.5														
S61	123	PASNOW AVE	130+40	LT	R1-1	30 x 30	01/ENH/PV			13.0	1			6.3														
S62	123	EAST 185TH ST	564+50	RT	D3-1	36 x 10	01/ENH/PV						1	2.5	1													
					D3-1	36 x 10	01/ENH/PV						1	2.5	1													
S63	123	EAST 185TH ST	565+59	RT	W11-2	36 x 36	01/ENH/PV						1	9.0														
					W16-9P	24 x 12	01/ENH/PV						1	2.0														
					R7-108	12 x 18	01/ENH/PV						1	1.5														
					R7-1	12 x 18	01/ENH/PV						1	1.5														
S64	123	EAST 185TH ST	566+66	RT	R7-1	12 x 18	01/ENH/PV		13.5					1.5														
					R7-108	12 x 18	01/ENH/PV							1.5														
S65	123	EAST 185TH ST	566+87	RT	D3-1	36 x 10	01/ENH/PV						1	2.5	1													
					D3-1	36 x 10	01/ENH/PV						1	2.5	1													
S66	123	MEREDITH AVE	140+38	LT	R1-1	30 x 30	01/ENH/PV			13.0	1			6.3														
S66A	123	EAST 185TH ST	567+39	RT	W11-2	36 x 36	01/ENH/PV			14.5				9.0														
					W16-7P	24 x 12	01/ENH/PV							2.0														
S67	123	EAST 185TH ST	567+60	RT	R7-108	12 x 18	01/ENH/PV		13.5					1.5														
					R7-1	12 x 18	01/ENH/PV							1.5														
S68	123	EAST 185TH ST	567+85	RT	S1-1	36 x 36	01/ENH/PV						1	9.0														
					S4-3P	24 x 8	01/ENH/PV						1	1.3														
					W16-9P	24 x 12	01/ENH/PV						1	2.0														
S69	124	EAST 185TH ST	568+91	LT	R7-5	12 x 18	01/ENH/PV						1	1.5														
S70	124	EAST 185TH ST	570+12	LT	S5-3	24 x 30	01/ENH/PV						1	5.0														
					R7-5	12 x 18	01/ENH/PV						1	1.5														
					R7-1	12 x 18	01/ENH/PV						1	1.5														
SUBTOTALS THIS SHEET - CARRIED TO SHEET 115									91.5	101.0	3		23	154.0	6													

SIGNING SUB-SUMMARY

CUY-EAST 185TH STREET

CALCULATED
SJK
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REF NO.	SHEET NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	PARTICIPATION CODE	625	630	630	630	630	630	630	630	630	630	630	630	630	630	631
								GROUND ROD EACH	GROUND MOUNTED SUPPORT, NO. 2 POST FT	GROUND MOUNTED SUPPORT, NO. 3 POST FT	SIGN POST REFLECTOR EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.22, DESIGN 7, AS PER PLAN EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH	SIGN, FLAT SHEET SF	SIGN, DOUBLE FACED, STREET NAME EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF POLE MOUNTED SIGN AND REERECTION EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL EACH
S71	124	LAKESHORE BLVD	160+36	RT	R3-H8cg	48 x 30	01/ENH/PV						1	10.0								
S72	124	LAKESHORE BLVD	160+89	LT	S5-H1	24 x 48	01/ENH/PV	1					1				1					1
S73	124	LAKESHORE BLVD	161+04	LT	R12-3	24 x 36	01/ENH/PV						1	6.0								
S74	124	EAST 185TH ST	571+94	LT	R7-107	12 x 18	03/NFP/PV						1	1.5								
S75	124	EAST 185TH ST	568+80	RT	D9-2	24 x 24	01/ENH/PV						1	4.0								
					M5-1	21 x 15	01/ENH/PV						1	2.2								
					R7-1	12 x 18	01/ENH/PV						1	1.5								
					R7-108	12 x 18	01/ENH/PV						1	1.5								
S76	124	EAST 185TH ST	569+51	RT	R3-H8bj	36 x 30	01/ENH/PV						1	7.5								
S77	124	EAST 185TH ST	570+06	RT	R7-1	12 x 18	01/ENH/PV						1	1.5								
					SPECIAL	30 x 30	01/ENH/PV						1	6.3								
S78	124	EAST 185TH ST	569+51	RT	R3-H8bj	36 x 30	01/ENH/PV			13.0				7.5								
S79					NONE		01/ENH/PV															
S80	124	LOCHERIE AVE	151+03	RT	R7-1	12 x 18	02/ENH/PV						1	1.5								
S80A	124	LOCHERIE AVE	155+70	LT	W14-1	30 x 30	02/ENH/PV			13				6.3								
S80B	124	LOCHERIE AVE	155+70	RT	W14-1	30 x 30	02/ENH/PV			13				6.3								
S81	124	LOCHERIE AVE	151+65	LT	R7-1	12 x 18	02/ENH/PV			12.0				1.5								
S82	124	LOCHERIE AVE	150+38	LT	R7-1	12 x 18	02/ENH/PV			12.0				1.5								
S83	124	LAKESHORE BLVD	162+06	LT	SPECIAL	48 x 30	01/ENH/PV			26.0				10.0								
S84	124	EAST 185TH ST	571+93	RT	S4-3P	24 x 8	01/ENH/PV							1	1.3							
					R2-1	24 x 30	01/ENH/PV							1	5.0							
S85	124	EAST 185TH ST	572+40	RT	R7-108	12 x 18	03/NFP/PV			13.5				1.5								
					R7-1	12 x 18	03/NFP/PV							1.5								
S86	125	EAST 185TH ST	574+33	LT	R1-1	30 x 30	03/NFP/PV							1	6.3							
S87	125	EAST 185TH ST			NONE		03/NFP/PV															
S88	125	EAST 185TH ST	576+15	LT	R7-107	12 x 18	03/NFP/PV			12.0				1.5								
S89	125	EAST 185TH ST	577+70	LT	R7-1	12 x 18	03/NFP/PV							1	1.5							
S90	125	EAST 185TH ST	574+40	RT	R7-1	12 x 18	03/NFP/PV			13.5				1.5								
					R7-108	12 x 18	03/NFP/PV							1.5								
S91	125	EAST 185TH ST	574+78	RT	R7-108	12 x 18	03/NFP/PV							1	1.5							
					R7-1	12 x 18	03/NFP/PV							1	1.5							
S92	125	EAST 185TH ST	576+12	RT	R7-108	12 x 18	03/NFP/PV							1	1.5							
S93	125	EAST 185TH ST	577+52	RT	R7-108	12 x 18	03/NFP/PV							1	1.5							
S94	126	EAST 185TH ST	579+28	LT	R7-1	12 x 18	03/NFP/PV							1	1.5							
S95	126	EAST 185TH ST	582+40	LT	R7-1	12 x 18	03/NFP/PV			12.0				1.5								
S96	126	EAST 185TH ST	578+35	RT	R7-1	12 x 18	03/NFP/PV			13.5				1.5								
					R7-108	12 x 18	03/NFP/PV							1.5								
S97	126	EAST 185TH ST	578+85	RT	SPECIAL	36 x 36	03/NFP/PV							1	9.0							
S98	126	EAST 185TH ST	579+55	RT	R1-1	30 x 30	03/NFP/PV				13.0	1		6.3								
S99	126	EAST 185TH ST	580+35	RT	R7-108	12 x 18	03/NFP/PV			12.0				1.5								
S100	126	EAST 185TH ST	582+35	RT	R7-108	12 x 18	03/NFP/PV			12.0				1.5								
S101	127	EAST 185TH ST	584+25	LT	R5-1	36 x 36	03/NFP/PV				13.5	1		9.0								
					R5-1	36 x 36	03/NFP/PV				13.5	1		9.0								
S102	127	EAST 185TH ST	583+50	RT	R7-108	12 x 18	03/NFP/PV			12.0				1.5								
S103	127	EAST 185TH ST	584+22	RT	R1-1	30 x 30	03/NFP/PV				13.0	1		6.3								
SUBTOTALS THIS SHEET								1	150.5	92.0	4.0	1	21	154.1		1						1
SUBTOTALS SHEET 110																37	2	22	43	2		
SUBTOTALS SHEET 111															20	14	42	10	1			
SUBTOTALS SHEET 112									135.0	83.0	3.0		18	137.0	8		7	1				
SUBTOTALS SHEET 113									105.0	152.0	5.0		17	167.0	10							
SUBTOTALS SHEET 114									91.5	101.0	3.0		23	154.0	6							
TOTALS CARRIED TO GENERAL SUMMARY								1	482.0	428.0	15.0	1	79	612.1	24	1	64	2	43	86	12	1

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GROUNDING AND BONDING

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS) AND THE TC SERIES OF STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

1. ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.

A. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.

B. WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.

C. METALLIC CONDUIT CARRYING THE LOOP WIRES FROM IN THE PAVEMENT TO THE PULL BOX SPLICE LOCATION WILL ONLY BE BONDED AT THE PULL BOX END, AND WILL NOT CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR.

D. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.

E. IF AN EQUIPMENT GROUNDING CONDUCTOR IS NEEDED IN CONDUIT BETWEEN SIGNALIZED INTERSECTIONS FOR UNDERGROUND INTERCONNECT CABLE, THE GROUNDING SYSTEM FOR EACH SIGNALIZED INTERSECTION WILL BE SEPARATED ABOUT MIDWAY BETWEEN THE INTERSECTIONS.

F. THE MESSENGER WIRE AT SIGNALIZED INTERSECTIONS WILL BE USED AS THE CONDUCTIVE PATH FROM CORNER TO CORNER IF CONDUIT IS NOT PROVIDED UNDER THE ROADWAY. WHEN CONDUIT CONNECTS THE CORNERS OF AN INTERSECTIONS, AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE USED IN THE CONDUIT.

2. CONDUITS

A. THE 725.04 CONDUIT SHALL HAVE GROUNDING BISHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.

B. THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.

C. BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

D. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

E. ALL CONDUIT SHALL BE CAPPED WITH THE DUCT SEALED.

3. WIRE FOR GROUNDING AND BONDING

A. USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS:

I. USE 4 AWG BETWEEN THE POWER SERVICE AND SUPPORTS, POLES, PEDESTALS, CONTROLLER OR FLASHER CABINETS.

II. USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.1 ABOVE.

III. USE A MINIMUM OF 8 AWG BETWEEN THE "PREPARE TO STOP WHEN FLASHING" INSTALLATION (INCLUDING SUPPORT) AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.1. ABOVE.

GROUNDING AND BONDING (CONTINUED)

IV. THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPES(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.

B. IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.

4. GROUNDED ROD (2-6' APART)

A. A 3/4 INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.

B. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.

5. THE GREEN CONDUCTOR IN SIGNAL CABLES (CONDUCTOR #4) SHALL NOT BE USED TO SUPPLE POWER TO A SIGNAL INDICATION. IT WILL BE CONNECTED TO THE SIGNAL BODY AS AN EQUIPMENT GROUND IN ALUMINUM HEADS AND IT WILL BE UNUSED IN PLASTIC HEADS. UNUSED CONDUCTORS SHALL BE GROUNDED IN THE CABINET. TYPICAL USE OF CONDUCTORS IS AS FOLLOWS:

COND. NO.	COLOR	VEHICLE SIGNAL	PED. SIGNAL
1	BLACK	GREEN BALL	#1 WALK
2	WHITE	AC NEUTRAL	AC NEUTRAL
3	RED	RED BALL	#1 DW/FDW
4	GREEN	EQUIP. GROUND	EQUIP. GROUND
5	ORANGE	YELLOW BALL	#2 DW/FDW
6	BLUE	GREEN ARROW	#2 WALK
7	WHITE/ BLACK STRIPE	YELLOW ARROW	NOT USED

6. POWER SERVICE AND DISCONNECT SWITCH

A. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPLICE.

B. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.

I. NEMA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC-) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS-2, FIGURE 5-4.

II. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH, EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.

7. PAYMENT - ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT.

ITEM 632 - VEHICULAR SIGNAL HEAD (LED), (BY SECTION), 12' LENS, 1-WAY, POLYCARBONATE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT CMS 632 AND 732, THE FOLLOWING SHALL APPLY:

1. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF INJECTION MOLDED, UV STABILIZED, POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS.

2. PLASTIC LENSES SHALL BE USED.

3. PIPE, SPACERS, AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.

4. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.

5. TRAFFIC SIGNAL MUST BE RIGID MOUNTED WITH CENTERLINE OF MAST ARM MATCHING CENTERLINE OF RED LENS.

6. SIGNAL HEADS SHALL BE YELLOW AND INCLUDE BACKPLATES AS PER ODOT CMS 632 AND 732.

ITEM 632 - PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT CMS 632 AND 732 THE FOLLOWING SHALL APPLY:

1. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS.

2. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.

3. PIPE, SPACERS, AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.

4. THE PEDESTRIAN SIGNAL HEAD SHALL BE OF THE LED COUNTDOWN TYPE.

5. NEW ATTACHMENT HARDWARE AND FITTINGS SHALL BE USED.

6. THE LIGHT EMITTING DIODE (LED) MODULES SHALL MEET THE REQUIREMENTS OF CMS 732.04-C. THE CONTRACTOR SHALL PROVIDE THE CITY OF CLEVELAND, 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.

7. PEDESTRIAN SIGNAL HEAD SHALL POINT TO THE CENTERLINE OF THE CROSSWALK.

8. INSTALLATION SHALL BE PER ODOT STANDARD DRAWING TC-85.10 WITH THE EXCEPTION THAT "CLAM SHELLS" SHALL NOT BE USED.

PAYMENT FOR ITEM 632 - PEDESTRIAN SIGNAL HEAD (LED), (COUNTDOWN), TYPE D2, AS PER PLAN SHALL BE MADE FOR THE NUMBER OF COMPLETE SIGNAL HEAD FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS AND NEW ATTACHMENT HARDWARE.

ITEM 632 - SIGNAL SUPPORT FOUNDATION, AS PER PLAN

THE CONTRACTOR SHALL PROTECT PEDESTRIANS AND VEHICLES FROM EXPOSED ANCHOR BOLTS AT ALL TIMES, UNTIL THE ASSOCIATED SIGNAL SUPPORT IS ERECTED. THE METHOD OF COVERING THE ANCHOR BOLTS SHALL BE APPROVED BY THE ENGINEER.

ALL COSTS ASSOCIATED WITH THE PROCEDURES AS OUTLINED ABOVE SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE UNIT PRICE BID PER EACH FOR ITEM 632 - SIGNAL SUPPORT FOUNDATION, AS PER PLAN.

ITEM 632 - POWER SERVICE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT CMS 632.24, ELECTRIC POWER SHALL BE OBTAINED FROM CLEVELAND PUBLIC POWER (CPP) AS INDICATED IN THE PLANS. POWER SUPPLIED SHALL BE 120 VOLTS. ALL POWER CABLES SHALL BE RATED FOR 600 VOLTS AND CONSIST OF NO. 6 AWG COPPER. ALL CONNECTIONS OF POWER CABLE TO EQUIPMENT SHALL BE BY MEANS OF APPROVED SOLDERLESS TYPE CONNECTORS. THE SOLDERLESS CONNECTORS ARE TO BE TAPED. POWER SERVICE SHALL ALSO INCLUDE 2 INCH CONDUIT RISES WHERE NECESSARY.

THE CONTRACTOR SHALL MEET ON SITE WITH CPP THREE (3) DAYS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT CPP TO MAKE THE NECESSARY ARRANGEMENTS.

ITEM 632 - SIGNALIZATION, MISC.: FOUNDATION TEST HOLES

IF UNDERGROUND OBSTRUCTIONS ARE ENCOUNTERED THAT PRECLUDE THE USE OF THE STANDARD OR ALTERNATE FOUNDATION DESIGNS, THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH COMPLETE INFORMATION REGARDING THE OBSTRUCTION INCLUDING TYPE (I.E. UTILITY), SIZE, DEPTH, AND LATERAL CLEARANCES TO THE SIDES OF THE FOUNDATION EXCAVATION. THE FOUNDATION HOLE SHALL BE COVERED WITH A STEEL PLATE (3/4 INCH PLYWOOD ION PEDESTRIAN ACCESSIBLE AREA) UNTIL THE ENGINEER DETERMINES IF A NEW FOUNDATION LOCATION IS REQUIRED. IF SUBSEQUENTLY DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL BACKFILL AND COMPACT THE HOLE AND PROPERLY RESTORE THE SURFACE. ALL DRIVEWAYS, SIDEWALKS, CURB, TREE-LAWNS, AND AREAS BEHIND THE SIDEWALK AND THE RIGHT-OF-WAY LINE NOT DESIGNATED FOR REMOVAL OR REPAIR THAT HAVE BEEN DAMAGED OR DISTURBED DURING CONSTRUCTION SHALL BE RESTORED. GENERALLY, ANY DAMAGED SLAB SHALL BE TOTALLY REPLACED. PARTIAL REPLACEMENTS WILL BE PERMITTED ONLY IF ADJACENT SLAB IS REPLACED AND AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE COMPENSATED FOR EACH FOUNDATION HOLE THAT MUST BE ABANDONED. PAYMENT FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND OTHER INCIDENTALS, INCLUDING BACKFILL COMPACTING AND SURFACE RESTORATION, SHALL BE AT THE CONTRACT BID UNIT PRICE PER EACH FOR ITEM 632 - SIGNALIZATION, MISC.: FOUNDATION TEST HOLES FOR THE NUMBER EXCAVATED AND BACKFILLED.

ITEM 632 - SIGNAL SUPPORT, TYPE TC-81.22 (BY DESIGN), AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT CMS 632 AND 732, SIGNAL SUPPORTS SHALL BE PAINTED ACCORDING TO THE FOLLOWING:

POWDER COATING - COLOR: BLACK

SURFACE PREPARATION: THE EXTERIOR STEEL SURFACE SHALL BE BLAST CLEANED TO STEEL STRUCTURES PAINTING COUNCIL SURFACE PREPARATION SPECIFICATION NO. 6 (SSPC-SP6) REQUIREMENTS UTILIZING CAST STEEL ABRASIVES CONFORMING TO THE SOCIETY OF AUTOMOTIVE ENGINEERS (SAE) RECOMMENDED PRACTICE J827. THE BLAST METHOD USED IS A RECIRCULATING, CLOSED CYCLE CENTRIFUGAL WHEEL SYSTEM WITH ABRASIVE CONFORMING TO SAE SHOT NUMBER S280.

INTERIOR COATING: INTERIOR SURFACES (POLE SHAFTS ONLY) AT THE BASE END FOR A LENGTH OF APPROXIMATELY 2.0 FEET SHALL BE MECHANICALLY CLEANED AND COATED WITH A ZINC RICH EPOXY POWDER. THE COATING SHALL BE ELECTROSTATICALLY APPLIED AND CURED IN A GAS FIRED CONVECTION OVEN BY HEATING THE STEEL SUBSTRATE TO A MINIMUM OF 359 DEGREES FAHRENHEIT AND A MAXIMUM OF 400 DEGREES FAHRENHEIT.

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TRAFFIC SIGNAL NOTES

CUY-EAST 185TH STREET

ITEM 632 - SIGNAL SUPPORT, TYPE TC-81.22 (BY DESIGN), AS PER PLAN (CONTINUED)

EXTERIOR COATING: ALL OF THE EXTERIOR SURFACES SHALL BE COATED WITH A URETHANE OR TRIGLYCIDYL ISOCYANURATE (TRIC) POLYESTER POWDER TO A MINIMUM FILM THICKNESS OF 2.0 MILS (0.002"). THE COATING SHALL BE ELECTROSTATICALLY APPLIED AND CURED IN A GAS FIRED CONVECTION OVEN BY HEATING THE STEEL SUBSTRATE TO A MINIMUM OF 350 DEGREES FAHRENHEIT. THE THERMOSETTING POWDER RESIN SHALL PROVIDE BOTH INTERCOAT AS WELL AS SUBSTRATE FUSION ADHESION THAT MEETS 5A OR 5B CLASSIFICATIONS OF ASTM D3359.

COMBINATION COATING GALVANIZED-POWDER TOP COAT COLOR: BLACK

SURFACE PREPARATION: PRIOR TO BEING INCORPORATED INTO AN ASSEMBLED PRODUCT, STEEL PLATES 3/4 INCHES OR MORE IN THICKNESS SHALL BE BLAST CLEANED WHEN REQUIRED TO REMOVE ROLLED-IN MILL SCALE, IMPURITIES AND NON-METALLIC FOREIGN MATERIALS. AFTER ASSEMBLY, ALL WELD FLUX SHALL BE MECHANICALLY REMOVED. THE IRON OR STEEL PRODUCT SHALL BE DEGREASED BY IMMERSION IN AN AGITATED 4.5% - 6.0% CONCENTRATED CAUSTIC SOLUTION ELEVATED TO A TEMPERATURE RANGING FROM 150 DEGREES FAHRENHEIT TO 190 DEGREES FAHRENHEIT. IT SHALL NEXT BE RINSED CLEAN FROM ANY RESIDUAL EFFECTS OF THE CAUSTIC OR ACID SOLUTIONS BY IMMERSION IN A CIRCULATING FRESH WATER BATH. FINAL PREPARATIONS SHALL BE ACCOMPLISHED BY IMMERSION IN CONCENTRATED ZINC AMMONIUM CHLORIDE FLUX SOLUTION HEATED TO 130 DEGREES FAHRENHEIT. THE SOLUTIONS ACIDITY CONTENT SHALL BE MAINTAINED BETWEEN 4.5-5.0 pH. THE ASSEMBLY SHALL BE AIR-DRIED TO REMOVE ANY MOISTURE REMAINING IN THE FLUX COAT AND/OR TRAPPED WITHIN THE PRODUCT.

ZINC COATING: THE PRODUCT SHALL BE HOT-DIP GALVANIZED TO THE REQUIREMENTS OF EITHER ASTM A123 (FABRICATED PRODUCTS) OR ASTM A153 (HARDWARE ITEMS) BY IMMERSION IN A MOLTEN BATH OF PRIME WESTERN GRADE ZINC MAINTAINED BETWEEN 810 DEGREES FAHRENHEIT AND 850 DEGREES FAHRENHEIT. THE ENTIRE PRODUCT SHALL BE TOTALLY IMMERSSED WITH NO PARTS PROTRUDING OUT OF THE ZINC (NO DOUBLE DIPPING). THIS IS TO LIMIT RISK OF TRAPPED CONTAMINANTS CONTAINING CHLORIDES AND REDUCE THE RISK OF BARE SPOTS (BARE SPOTS CAN OCCUR WHEN FLUX ON THE STEEL SURFACE IS BURNED AWAY BY HEAT OF THE FIRST DIP). MAXIMUM ALUMINUM CONTENT OF THE BATH SHALL BE 0.01% FLUX ASH SHALL BE SKIMMED FROM THE BATH SURFACE PRIOR TO IMMERSION AND EXTRACTION OF THE PRODUCT TO ASSURE A DEBRIS FREE ZINC COATING.

EXTERIOR COATING: ALL GALVANIZED EXTERIOR SURFACES SHALL BE COATED WITH A URETHANE OR TRIGLYCIDYL ISOCYANURATE (TRIC) POLYESTER POWDER TO A MINIMUM FILM THICKNESS OF 2.0 MILS (0.002"). PRIOR TO APPLICATION, THE SURFACES TO BE POWDER COATED SHALL BE MECHANICALLY ETCHED BY BRUSH BLASTING (REF. SSPC-SP7) AND THE ZINC COATED SUBSTRATE PREHEATED TO 450 DEGREES FAHRENHEIT FOR A MINIMUM OF ONE-HOUR IN A GAS FIRED CONVECTION OVEN. THE COATING SHALL BE ELECTROSTATICALLY APPLIED AND CURED IN A GAS FIRED CONVECTION OVEN TO A MINIMUM OF 350 DEGREES FAHRENHEIT AND A MAXIMUM OF 400 DEGREES FAHRENHEIT. THE THERMOSETTING POWDER RESIN SHALL PROVIDE BOTH INTERCOAT AS WELL AS SUBSTRATE FUSION ADHESION THAT MEETS 5A OR 5B CLASSIFICATIONS OF ASTM D3359.

THE CITY OF CLEVELAND, DIVISION OF TRAFFIC ENGINEERING REQUIRES THAT THE CONTRACTOR MEET WITH A TRAFFIC DEPARTMENT REPRESENTATIVE PRIOR TO FOUNDATION INSTALLATIONS TO VERIFY LOCATIONS AND FOR FINAL POLE ORIENTATIONS. CONTACT ANDREW CROSS, TRAFFIC ENGINEER AT (216) 664-3197, 48 HOURS PRIOR TO COMMENCING WORK.

ITEM 632 - PEDESTAL, 8', AS PER PLAN
ITEM 632 - PEDESTAL, 15', AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT CMS 632 AND 732, PEDESTALS SHALL BE PAINTED AND FINISHED ACCORDING TO THE SIGNAL SUPPORT SPECIFICATIONS IN THESE PLANS.

ITEM 633 - CABINET, TYPE TS-2, AS PER PLAN

TRAFFIC SIGNAL CONTROLLER -

THE CONTROLLER SHALL MEET OR EXCEED ALL REQUIREMENTS SET FORTH BY THE INSTITUTE OF TRANSPORTATION ENGINEERS, THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND ALL ADOPTED REVISIONS. ALL TRAFFIC SIGNAL CONTROLLERS SHALL BE SIEMENS M-60.

BASE MOUNTED CABINETS -

THE CONTROLLER SHALL BE PROVIDED IN A BASE-MOUNTED CONTROL CABINET.

ALL NECESSARY INSTALLATION HARDWARE AND TEMPLATES SHALL BE PROVIDED.

MINIMUM OUTSIDE DIMENSIONS OF CABINET SHALL BE 25 INCHES (WIDTH) BY 16 INCHES (DEPTH) BY 48 INCHES (HEIGHT).

A GPS TIMESYNC UNIT SHALL BE COMPLETELY WIRED IN EACH CABINET IN ORDER TO REPORT CABINET FAILURES, DETECTOR FAILURES AND TRAFFIC COUNTS. THE CONTROLLER SHALL BE COMPLETELY COMPATIBLE WITH THE LATEST EDITION OF THE CITY OF CLEVELAND'S CLOSED LOOP SYSTEM SOFTWARE.

THE ITEMS SUPPLIED SHALL BE IN CONFORMANCE WITH THE ABOVE REFERENCE SPECIFICATION AND SHALL BE SUPPLEMENTED WITH THE LATEST EDITION OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIAL SPECIFICATIONS. PAYMENT FOR ACCEPTED MATERIALS WILL BE MADE AT THE UNIT BID PRICE OF EACH ITEM INSTALLED AND ACCEPTED.

ITEM 630 - SIGNING, MISC.: RECTANGULAR RAPID FLASHING BEACON (RRFB) SIGN ASSEMBLY

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING A RECTANGULAR RAPID FLASHING BEACON (RRFB) SIGN ASSEMBLY. THE FLASHING UNIT SHALL BE PEDESTRIAN ACTIVATED AND 2-SIDED WITH TWO LED ARRAY BASED YELLOW INDICATIONS ON EACH SIDE. THE UNIT SHALL BE COMPLIANT WITH THE MOST CURRENT OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) AND FHWA INTERIM APPROVAL FOR RRFBs (1A-21).

GENERAL REQUIREMENTS -

EACH RRFB SHALL CONSIST OF TWO RAPIDLY FLASHED RECTANGULAR-SHAPED YELLOW INDICATIONS HAVING LED ARRAY BASED LIGHT SOURCE.

EACH RRFB SHALL BE A COMPLETE ASSEMBLY, CONSISTING OF BUT NOT LIMITED TO, SIGNAGE, SIGN MOUNTING HARDWARE, INDICATIONS AND ELECTRICAL COMPONENTS (WIRING, SOLID-STATE CIRCUIT BOARDS, ETC.).

FUNCTIONAL REQUIREMENTS -

EACH RRFB SHALL BE ACTIVATED BY ADA COMPLIANT PUSHBUTTONS.

THE RRFB SHALL BE NORMALLY DARK, SHALL INITIATE OPERATION ONLY UPON PEDESTRIAN ACTUATION, AND SHALL CEASE OPERATION AFTER A PREDETERMINED TIME LIMIT (BASED ON OMUTCD PROCEDURES).

EACH REMOTE RRFB SHALL BE WIRELESSLY ACTIVATED.

ALL RRFB LIGHT INDICATIONS SHALL BE WIRELESSLY SYNCHRONIZED (ALL LIGHTS WILL TURN ON WITHIN 120 MSEC AND REMAIN SYNCHRONIZED THROUGHOUT THE DURATION OF THE FLASHING CYCLE).

MATERIALS -

FURNISH A COMPLETE ASSEMBLY, CONSISTING OF BUT NOT LIMITED TO, SIGNAGE, SIGN MOUNTING HARDWARE, INDICATIONS, POLE MOUNTED CONTROLLER, AND ELECTRICAL COMPONENTS (WIRING, SOLID-STATE CIRCUIT BOARDS, ETC.). THE RRFB ASSEMBLY INCLUDES THE FOLLOWING ITEMS:

1. RRFB INDICATIONS
 - A. EACH RRFB INDICATION LENS SHALL BE A MINIMUM SIZE OF APPROXIMATELY 5" WIDE X 2" HIGH.
 - B. THE RRFB INDICATIONS SHALL BE ALIGNED HORIZONTALLY, WITH THE LONGER DIMENSION OF THE INDICATION HORIZONTAL. THERE SHALL BE TWO INDICATIONS ON THE FRONT AND TWO INDICATIONS ON THE BACK.
 - C. EACH RRFB SHALL BE SUPPLIED WITH ALL REQUIRED HARDWARE TO INSTALL ASSEMBLY. ALL EXPOSED HARDWARE SHALL BE ANTI-VANDAL.
 - D. EACH RRFB SHALL BE LOCATED BETWEEN THE BOTTOM OF THE CROSSING WARNING SIGN AND THE TOP OF THE SUPPLEMENTAL DOWNWARD DIAGONAL ARROW PLAQUE.
 - E. THE LIGHT INTENSITY OF THE YELLOW INDICATIONS SHALL MEET THE MINIMUM CLASS 1 SPECIFICATIONS OF SOCIETY OF AUTOMOTIVE ENGINEERS (SAE) STANDARD J595 (DIRECTIONAL FLASHING OPTICAL WARNING DEVICES FOR AUTHORIZED EMERGENCY, MAINTENANCE, AND SERVICE VEHICLES) DATED JANUARY, 2005.
 - F. TO MINIMIZE EXCESSIVE GLARE DURING NIGHTTIME CONDITIONS, AN AUTOMATIC SIGNAL DIMMING DEVICE SHALL BE USED TO REDUCE THE BRILLIANCE OF THE RRFB INDICATIONS.
 - G. SMALL LED CONFIRMATION LIGHT DIRECTED AT AND VISIBLE TO PEDESTRIANS IN THE CROSSWALK SHALL BE INSTALLED INTEGRAL TO THE RRFB OR PUSHBUTTON TO GIVE CONFIRMATION THAT THE RRFB IS IN OPERATION.

ITEM 630 - SIGNING, MISC.: RECTANGULAR RAPID FLASHING BEACON (RRFB) SIGN ASSEMBLY (CONTINUED)

1. SIGNS

- A. ALL SIGN ASSEMBLIES SHALL USE ANTI-VANDAL FASTENERS TO MOUNT COMPONENTS TO SIGN AND SIGN TO FIXTURE.
- B. PEDESTRIAN PUSHBUTTON SIGNS SHALL BE PROVIDED AND INCLUDE THE LEGEND "PUSH BUTTON TO TURN ON WARNING LIGHTS". SIGNS SHOULD BE MOUNTED ADJACENT TO OR INTEGRAL WITH EACH PEDESTRIAN PUSHBUTTON.
- C. TWO SETS OF SIGNS SHALL BE REQUIRED PER UNIT FOR VIEW FROM EACH APPROACH.
- D. ASSURE SIGN MEETS THE REQUIREMENTS OF CMS 630.

3. CONTROL CIRCUIT

- A. THE CONTROL CIRCUIT SHALL HAVE THE CAPABILITY OF INDEPENDENTLY FLASHING UP TO TWO INDEPENDENT OUTPUTS. THE LED LIGHT OUTPUTS AND FLASH PATTERN SHALL BE COMPLETELY PROGRAMMABLE.
- B. THE CONTROL CIRCUIT SHALL BE SEALED WATERTIGHT TO ELIMINATE DIRT CONTAMINATION AND ALLOW FOR SAFE HANDLING IN ALL WEATHER CONDITIONS.
- C. THE LEDS SHALL BE SEALED AGAINST DUST AND MOISTURE INTRUSION AS PER THE REQUIREMENTS OF NEMA STANDARD 250-1991 FOR TYPE 4 ENCLOSURE AND TO PROTECT ALL INTERNAL LED AND ELECTRICAL COMPONENTS.

5. PUSHBUTTON

- A. THE PUSHBUTTON SHALL BE CAPABLE OF CONTINUOUS OPERATION OVER A TEMPERATURE RANGE OF - 30 DEGREES F TO +165 DEGREES F.
- B. PUSHBUTTON SHALL BE ADA COMPLIANT.
6. PEDESTAL SHAFT AND BASE - MOUNT ON A STANDARD 4.5-INCH OD ALUMINUM PEDESTAL POLE WITH BREAKAWAY BASE. A 12.5 FOOT POLE SHALL BE PROVIDED AND FIELD ADJUSTED AND CAPPED TO MAINTAIN THE PROPER SIGN MOUNTING HEIGHTS, UNLESS SPECIFIED OTHERWISE IN THE PLANS. POLE AND BASE MANUFACTURER SHALL BE LISTED ON ODOT'S QUALIFIED PRODUCTS LIST.

CONSTRUCTION -

THE RRFB SHALL BE ASSEMBLED AND CONSTRUCTED BY THE CONTRACTOR AS SHOWN AND SPECIFIED ON THE PLANS.

WARRANTY -

WARRANTY SHALL BE TWO YEARS FROM THE DATE OF FINAL ACCEPTANCE. MEASUREMENT - THE DEPARTMENT WILL MEASURE THE ITEM COMPLETE IN PLACE, INCLUDING ALL MATERIALS, TESTING, LABOR AND SOFTWARE FOR A FULLY FUNCTIONAL UNIT.

PAYMENT -

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE PER EACH FOR ITEM 630 - SIGNING, MISC.: RECTANGULAR RAPID FLASHING BEACON (RRFB) SIGN ASSEMBLY.

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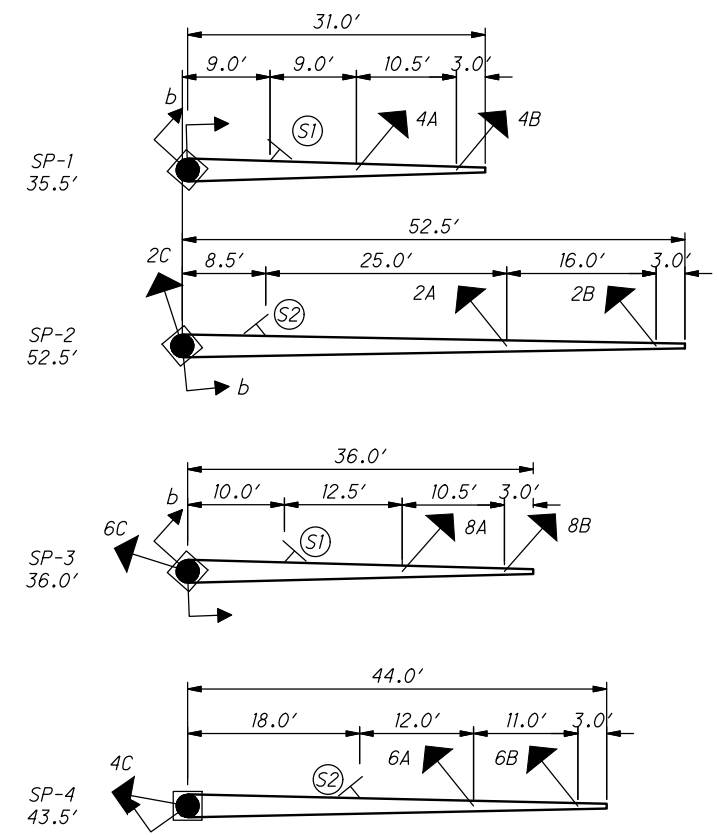
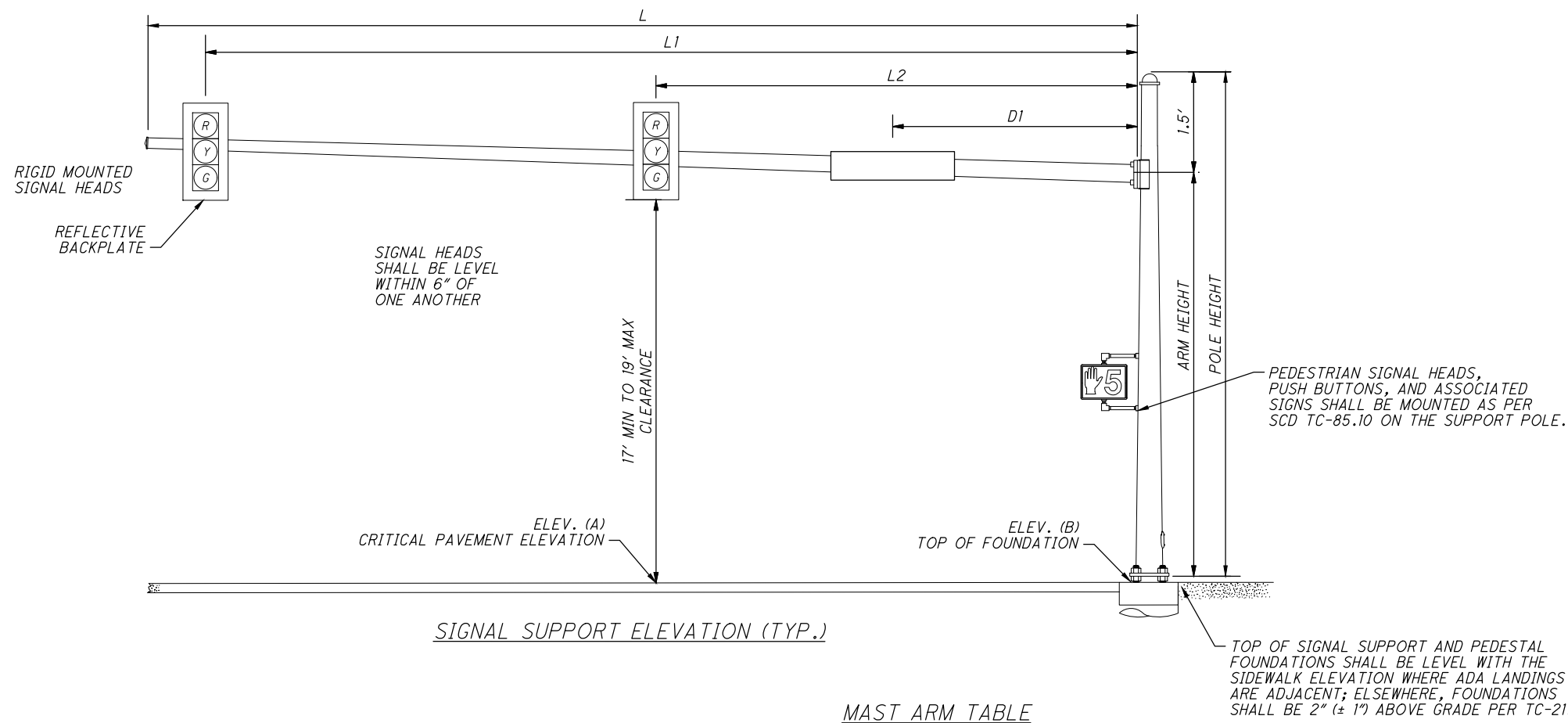
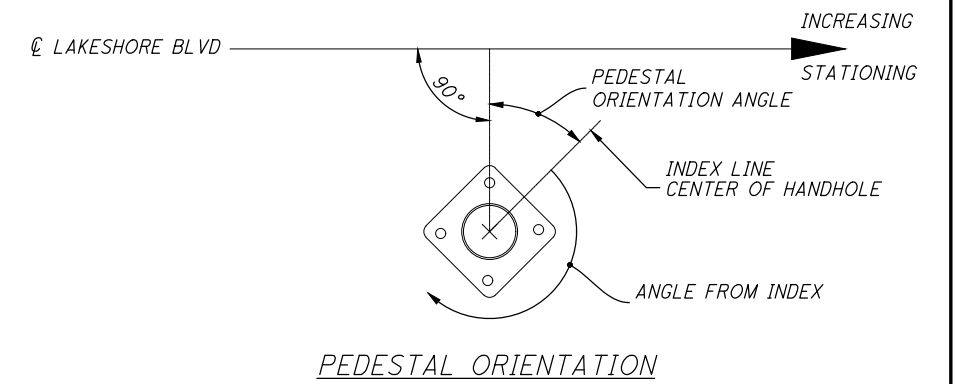
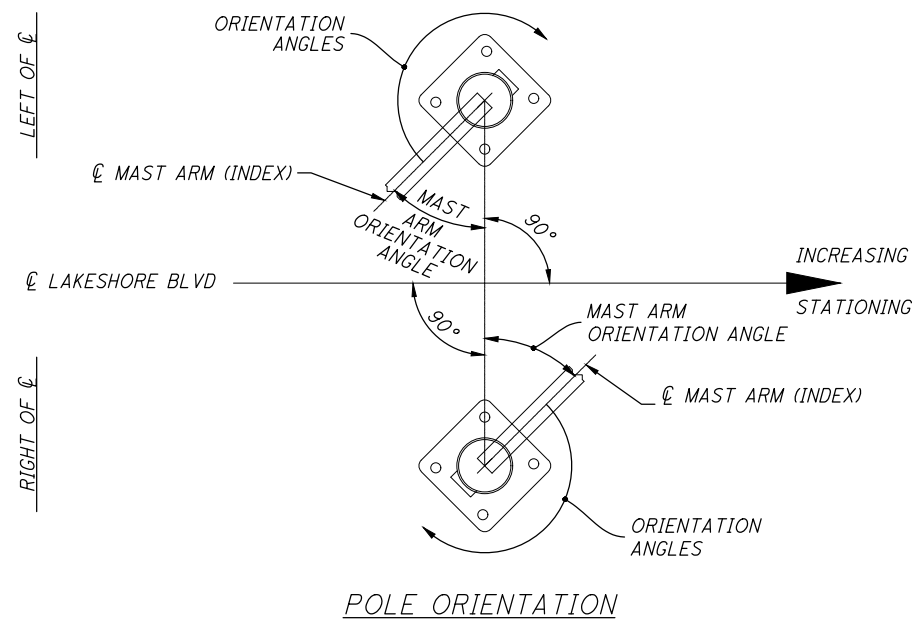
REF NO.	SHEET NO.	STATION TO STATION				PARTICIPATION CODE	632	632	632	632	632	632	632	632	632	632	633	633	633	633	809		
							POWER CABLE, 3 CONDUCTOR, NO. 6 AWG FT	SERVICE CABLE, 3 CONDUCTOR, NO. 6 AWG FT	POWER SERVICE, AS PER PLAN EACH	CONDUIT RISER, 3" DIAMETER EACH	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 2, AS PER PLAN EACH	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 4, AS PER PLAN EACH	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 12, AS PER PLAN EACH	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 13, AS PER PLAN EACH	PEDESTAL, 8', AS PER PLAN EACH	PEDESTAL, 15', AS PER PLAN EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN EACH	SIGNALIZATION, MISC.: FOUNDATION TEST HOLE EACH	SIGNALIZATION, MISC.: PLASTIC CAUTION TAPE FT	GPS (GLOBAL POSITIONING SYSTEM) CLOCK ASSEMBLY EACH	CABINET, TYPE TS-2, AS PER PLAN EACH		
PS-1	136	161+19.00	LT		(LAKESHORE BLVD)	03/NFP/PV	49	197	1	1					1								
C-1	136	161+46.00	LT			01/ENH/PV									1	1	1	1	1	1			
SP-1	136	160+58.00	RT			01/ENH/PV				1					1								
SP-2	136	161+48.50	RT			01/ENH/PV							1		1								
SP-3	136	162+00.00	LT			01/ENH/PV					1				1								
SP-4	136	161+35.50	LT			01/ENH/PV						1			1								
PP-1	136	161+17.50	RT			01/ENH/PV								1	1								
PP-2	136	161+16.00	LT			01/ENH/PV							1	1	1								
	136	C-1	TO	PB-3		01/ENH/PV										17							
	136	PB-3	TO	PB-6		01/ENH/PV										40							
	136	PB-6	TO	SP-3		01/ENH/PV										6							
	136	C-1	TO	PB-2		01/ENH/PV										10							
	136	PB-2	TO	SP-4		01/ENH/PV										5							
	136	PB-2	TO	PB-1		01/ENH/PV										23							
	136	PB-1	TO	PP-2		01/ENH/PV										7							
	136	PB-1	TO	PB-4		01/ENH/PV										91							
	136	PB-4	TO	SP-1		01/ENH/PV										9							
	136	PB-4	TO	PB-5		01/ENH/PV										57							
	136	PB-5	TO	PP-1		01/ENH/PV										11							
	136	PB-5	TO	SP-2		01/ENH/PV										43							
	136	C-1	TO	SIGNAL 2A		01/ENH/PV																	
	136	C-1	TO	SIGNAL 2B		01/ENH/PV																	
	136	C-1	TO	SIGNAL 2C		01/ENH/PV																	
	136	C-1	TO	SIGNAL 4A		01/ENH/PV																	
	136	C-1	TO	SIGNAL 4B		01/ENH/PV																	
	136	C-1	TO	SIGNAL 4C		01/ENH/PV																	
	136	C-1	TO	SIGNAL 6A		01/ENH/PV																	
	136	C-1	TO	SIGNAL 6B		01/ENH/PV																	
	136	C-1	TO	SIGNAL 6C		01/ENH/PV																	
	136	C-1	TO	SIGNAL 8A		01/ENH/PV																	
	136	C-1	TO	SIGNAL 8B		01/ENH/PV																	
	136	C-1	TO	SIGNAL 8C		01/ENH/PV																	
	136	C-1	TO	PED A-A		01/ENH/PV																	
	136	C-1	TO	PED B-B		01/ENH/PV																	
	136	C-1	TO	PED C-C		01/ENH/PV																	
	136	C-1	TO	PED D-D		01/ENH/PV																	
TOTALS CARRIED TO GENERAL SUMMARY							49	197	1	1	1	1	1	1	1	7	319	1	1	1	1	1	

SIGNAL TIMING CHART

TO BE PROVIDED BY THE CITY OF CLEVELAND

PHASING DIAGRAM

TO BE PROVIDED BY THE CITY OF CLEVELAND



MAST ARM TABLE

SUPPORT NO.	STATION	OFFSET	ELEVATION		SIGNAL SUPPORT DETAILS										ORIENTATION ANGLES FROM MAST ARM									
			A (PAVEMENT ELEVATION)	B (TOP OF FOUNDATION)	DESIGN TYPE	DESIGN NO.	POLE HEIGHT	ARM HEIGHT	L	L1	L2	L3	D1	D2	D3	MAST ARM A ANGLE	MAST ARM B ANGLE	PEDESTRIAN SIGNAL	PEDESTRIAN PUSH BUTTON	POWER SERVICE	SIGNAL CABINET	BRACKET ARM	HANDHOLE	CABLE ENTRANCE 12" FROM TOP
SP-1	160+58.0	48.5' RT	597.13	597.46	TC-81.22	2	21.5	20.0	31.0	28.0	17.5	-	8.5	-	-	90	-	220/270	220	-	-	-	220	-
SP-2	161+48.5	44.0' RT	597.19	597.41	TC-81.22	13	21.5	20.0	52.5	49.5	33.5	-	8.5	-	-	40	-	85	230	-	-	-	180	-
SP-3	162+00.0	38.5' LT	597.34	597.39	TC-81.22	4	21.5	20.0	36.0	33.0	22.5	-	10.0	-	-	90	-	90/220	220	-	-	-	180	-
SP-4	161+35.5	39.0' LT	596.86	597.26	TC-81.22	12	21.5	20.0	44.0	41.0	30.0	-	18.0	-	-	40	-	145	-	25	-	-	180	-
PP-1	161+17.5	58.0' RT	-	-	-	-	15.0	-	-	-	-	-	-	-	-	-	-	180	-	-	-	-	180	-
PP-2	161+16.0	32.5' LT	-	-	-	-	8.0	-	-	-	-	-	-	-	-	-	-	130	90	-	-	-	180	-

CALCULATED
AA
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GM

TRAFFIC SIGNAL DETAILS
EAST 185TH STREET AND LAKESHORE BOULEVARD

CUY-EAST 185TH STREET

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PAVEMENT, CONT.

ITEM 441 - ASPHALT CONCRETE, MISC.: ASPHALT BEHIND DRIVES AND WALKS (448)

WHERE DIRECTED IN THE FIELD BY THE ENGINEER THE CONTRACTOR SHALL REMOVE AND REPLACE THE EXISTING ASPHALT BEHIND THE WALK TO THE LIMITS AS INDICATED BY THE ENGINEER IN THE FIELD.

THE ASPHALT DRIVEWAY SHALL BE REPLACED PER DETAIL ON SHEET 82.

THE COST FOR PAVEMENT REMOVAL, ITEM 304 AGGREGATE BASE, ITEM 407 TACK COAT FOR INTERMEDIATE COURSE, ITEM 407 TACK COAT, ITEM 441 INTERMEDIATE COURSE AND ITEM 441 SURFACE COURSE SHALL BE INCLUDED IN THE COST FOR ITEM 441 ASPHALT CONCRETE, MISC.: ASPHALT BEHIND DRIVES AND WALKS.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

ITEM 441 - ASPHALT CONCRETE, MISC.: ASPHALT BEHIND DRIVES AND WALKS (448) 5 CY

**ITEM 452 - 8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P, AS PER PLAN
ITEM 452 - 6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P, AS PER PLAN**

IN ADDITION TO THE REQUIREMENTS OF ITEMS 452 AND 608, THE COST OF EXCAVATING, FURNISHING AND COMPACTING 2" LIMESTONE SCREENING BED SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THESE ITEMS. ALL CONCRETE FOR WALKS, ADA RAMPS AND DRIVES SHALL HAVE RETRACED PICTURE FRAME TOOLED EDGE JOINTS.

EXISTING PAVEMENT DISPOSAL/CASTING ADJUSTMENT

THE EXISTING ASPHALT PAVEMENT WEARING COURSE, BRICK BASE, AND CONCRETE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. ONCE THE BASE IS REMOVED, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DELINEATE ANY CASTINGS THAT MAY PROTRUDE ABOVE THE EXISTING CONCRETE BASE. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SUFFICIENT MATERIAL IN THE VICINITY OF THESE CASTINGS TO PROVIDE AN ADEQUATE RAMP AROUND THE CASTINGS. IN NO CASE SHALL THE CASTING REMAIN EXPOSED WITHOUT PROPER PROTECTION.

ITEM 452 - NON-REINFORCED CONCRETE PAVEMENT, MISC.: SURCHARGE FOR CLASS MS CONCRETE

AT VARIOUS LOCATIONS ALONG THE CORRIDOR AND TIMES DURING CONSTRUCTION, CIRCUMSTANCES MAY REQUIRE THE USE OF CLASS MS CONCRETE. THE USE OF THIS TYPE OF CONCRETE SHALL BE AT THE DISCRETION AND DIRECTION OF THE ENGINEER AND THE SPECIFICATIONS OUTLINED IN THESE NOTES AND ODOT CMS. THE FOLLOWING ESTIMATED QUANTITY IS CARRIED TO THE GENERAL SUMMARY FOR USE BY THE ENGINEER:

ITEM 452 - NON-REINFORCED CONCRETE PAVEMENT, MISC.: SURCHARGE FOR CLASS MS CONCRETE 300 SY

ITEM 609 - CURB, MISC.: INTEGRAL CURB AND WALK

WHERE SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER, REPLACE INTEGRAL CURB AND WALK PER THE DETAILS ON SHEET 11. IN ADDITION TO THE REQUIREMENTS OF ITEMS 608 AND 609, THE COST OF EXCAVATING, FURNISHING AND COMPACTING 2" LIMESTONE SCREENING BED UNDER THE WALK PORTION SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THIS ITEM. THE NOSING OF THE CURB SHALL BE 1/2 INCH.

SANITARY

ITEM 611 - DRAINAGE STRUCTURE MISC.: TEST TEE ADJUST TO GRADE

ACTIVE SANITARY SEWER CONNECTION TEST TEES ENCOUNTERED WITHIN THE CONSTRUCTION LIMITS SHALL BE ADJUSTED TO GRADE AS REQUIRED AT THE LOCATION SHOWN IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER, ALL IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF ITEM 611.

THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

ITEM 611 - DRAINAGE STRUCTURE MISC.: TEST TEE ADJUST TO GRADE 5 EACH

TRAFFIC CONTROL

ITEM 630 - OVERHEAD SIGN SUPPORT, TYPE TC-16.22, DESIGN 7, AS PER PLAN

THE ARM ATTACHMENT SHALL BE OMITTED FROM THE OVERHEAD SIGN SUPPORT. ALL OTHER SPECS SHALL BE PER SCD TC-16.22.

ABBREVIATIONS

- AA - ANCHOR ASSEMBLY
- ABND - ABANDONNED
- ATG - ADJUST TO GRADE
- ATGBO - ADJUST TO GRADE BY OTHERS
- B - BASELINE
- BM - BENCHMARK
- BOC - BACK OF CURB
- BTA - BRIDGE TERMINAL ASSEMBLY
- CI - CURB INLET
- CL - CLASS
- CL CONST. - CENTERLINE OF CONSTRUCTION
- CL - CENTERLINE
- COC - CITY OF CLEVELAND
- COMM - COMMERCIAL
- CONST. LIMITS - CONSTRUCTION LIMITS
- CUY - CUYAHOGA COUNTY
- CWD - CLEVELAND WATER DEPARTMENT
- DI - DUCTILE IRON PIPE
- DND - DO NOT DISTURB
- EB - EASTBOUND
- ELEC - ELECTRIC
- EL - ELEVATION
- EOP - EDGE OF PAVEMENT
- EX - EXISTING
- FC - FACE OF CURB
- FDO - FOR DIRECTION ONLY
- FF - FILTER FABRIC
- FH - FIRE HYDRANT
- FL - FLOW LINE
- GR - GUARDRAIL
- INV - INVERT
- LON - LENGTH OF NEED
- LT - LEFT
- MH - MANHOLE
- NB - NORTHBOUND
- OHE - OVERHEAD ELECTRIC
- PROP - PROPOSED
- R&R - REMOVE AND REERECT
- RCHP - ROCK CHANNEL PROTECTION
- RCP - REINFORCED CONCRETE PIPE
- RES - RESIDENTIAL
- RNS - ROUNDED END SECTION
- RR- RAILROAD
- RT - RIGHT
- RTG - RECONSTRUCT TO GRADE
- RW - RIGHT OF WAY
- SAN - SANITARY SEWER
- SB - SOUTHBOUND
- SH - STANDARD HIGHWAY EASEMENT
- STA - STATION
- STM - STORM
- TBA - TO BE ABANDONED
- TBRLBO - TO BE RELOCATED BY OTHERS
- TBRL - TO BE RELOCATED
- TBR - TO BE REMOVED
- TBRO - TO BE REMOVED BY OTHERS
- TCB - TOP OF CURB
- TC - TOP OF CASTING
- TELE - TELEPHONE
- TR - TO REMAIN
- TYP - TYPICAL
- UD - UNDERDRAIN
- UNKN - UNKNOWN
- UTIL - UTILITY
- VCP - VITRIFIED CLAY PIPE
- WB - WESTBOUND
- WV - WATER VALVE

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GENERAL NOTES

CUY-EAST 185TH STREET

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SHEET NUM.											PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
27	29	170	190	191	195	196	207	208	209	210	05/ENH/PV	06/ENH/PV	08/NFP/PV						
TRAFFIC SIGNALS																			
			8		8						16			632	05007	16	EACH	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN	188
			1		2						3			632	05087	3	EACH	VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN	188
			8		8						16			632	20731	16	EACH	PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN	188
			9		10						19			632	25000	19	EACH	COVERING OF VEHICULAR SIGNAL HEAD	
			8		8						16			632	25010	16	EACH	COVERING OF PEDESTRIAN SIGNAL HEAD	
			4								4			632	26001	4	EACH	PEDESTRIAN PUSHBUTTON, AS PER PLAN	187
			9		2						11			632	26500	11	EACH	DETECTOR LOOP	
			632								632			632	40300	632	FT	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG	
			1,265		1,199						2,464			632	40500	2,464	FT	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	
			1,079		1,103						2,182			632	40700	2,182	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
				4	4						8			632	64011	8	EACH	SIGNAL SUPPORT FOUNDATION, AS PER PLAN	188
				2	2						4			632	64020	4	EACH	PEDESTAL FOUNDATION	
				462	200						662			632	65200	662	FT	LOOP DETECTOR LEAD-IN CABLE	
				77	75						152			632	68300	152	FT	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG	
				31		51					82			632	69800	82	FT	SERVICE CABLE, 3 CONDUCTOR, NO. 6 AWG	
				1		1					2			632	70001	2	EACH	POWER SERVICE, AS PER PLAN	188
				1		1					2			632	70600	2	EACH	CONDUIT RISER, 3" DIAMETER	
				1		1					2			632	72101	2	EACH	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 2, AS PER PLAN	188
				1		1					2			632	72111	2	EACH	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 4, AS PER PLAN	188
				1		1					2			632	72131	2	EACH	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 12, AS PER PLAN	188
				1		1					2			632	72141	2	EACH	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 13, AS PER PLAN	188
				1		1					2			632	89601	2	EACH	PEDESTAL, 8", AS PER PLAN	189
				1		1					2			632	89751	2	EACH	PEDESTAL, 15", AS PER PLAN	189
				1		1					2			632	90101	2	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	187
				7		7					14			632	90400	14	EACH	SIGNALIZATION, MISC.: FOUNDATION TEST HOLE	188
				480		380					860			632	90500	860	FT	SIGNALIZATION, MISC.: PLASTIC CAUTION TAPE	187
				1		1					2			633	45000	2	EACH	GPS (GLOBAL POSITIONING SYSTEM) CLOCK ASSEMBLY	
				1		1					2			633	65511	2	EACH	CABINET, TYPE TS-2, AS PER PLAN	189
				1		1					2			633	67100	2	EACH	CABINET FOUNDATION	
				1							1			633	67200	1	EACH	CONTROLLER WORK PAD	
				1		1					2			809	69122	2	EACH	ATC CONTROLLER	
LANDSCAPING/STREETSCAPE																			
										59	59			661	14001	59	EACH	PERENNIALS, AS PER PLAN (ACHILLEA MILLEFOLIUM 'LITTLE MOONSHINE')	207
										134	134			661	14001	134	EACH	PERENNIALS, AS PER PLAN (LIATRIS SPICATA 'KOBOLD')	207
										63	63			661	14001	63	EACH	PERENNIALS, AS PER PLAN (PEROVSKIA ATRIPLICIFOLIA 'DENIM 'N LACE')	207
										182	182			661	14001	182	EACH	PERENNIALS, AS PER PLAN (SPOROBOLUS HETEROLEPIS 'TARA')	207
										8	8			661	20041	8	EACH	DECIDUOUS SHRUB, 2' HEIGHT, AS PER PLAN (HYDRANGEA QUERCIFOLIA)	207
										1	1			661	40081	1	EACH	DECIDUOUS TREE, 2" CALIPER, AS PER PLAN (CERCIS CANADENSIS)	207
										12	9	3		661	40081	12	EACH	DECIDUOUS TREE, 2" CALIPER, AS PER PLAN (KOEREUTERIA PANICULATA)	207
										6	6			661	40081	6	EACH	DECIDUOUS TREE, 2" CALIPER, AS PER PLAN (MAACKIA AMURENSIS)	207
										20	20			661	40081	20	EACH	DECIDUOUS TREE, 2" CALIPER, AS PER PLAN (SYRINGA RETICULATA 'IVORY SILK')	207
										41	40	1		661	99900	41	EACH	PLANTING, MISC.: EXISTING TREE CARE	206
							10				10			661	99900	10	EACH	PLANTING, MISC.: TREE REPLACEMENT	207
										478	478			661	99930	478	SY	PLANTING, MISC.: STONE MULCH	207
										3,073	2,905	168		661	99950	3,073	FT	PLANTING, MISC.: ROOT BARRIER	207
							6	2			8			SPECIAL	68014550	8	EACH	TRASH RECEPTACLE	204
							3	2			5			SPECIAL	69050560	5	EACH	BICYCLE RACK	204
							4	3			7			SPECIAL	69098000	7	EACH	BENCH TYPE A	204
							3				3			SPECIAL	69098000	3	EACH	BENCH TYPE B	204
							21	5			26			SPECIAL	69098000	26	EACH	DECORATIVE STREET BANNER	205
							1				1			SPECIAL	69098000	1	EACH	GATEWAY TOTEM SIGN	205
							1				1		1	SPECIAL	69098000	1	EACH	PUBLIC ART FOUNDATION	205
							26,000				26,000			SPECIAL	69098000	26,000	EACH	FABRICATION AND INSTALLATION OF PUBLIC ART	205

GENERAL SUMMARY

CUY-EAST 185TH STREET

C:\pwworking\aecom_ds21_na_2020\dms46506\C185_TS001.dwg 28-Mar-22 9:37 AM

REF NO.	SHEET NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	PARTICIPATION CODE	625	630	630	630	630	630	630	630	630	630	630	630	630	631		
								GROUND ROD EACH	GROUND MOUNTED SUPPORT, NO. 2 POST FT	GROUND MOUNTED SUPPORT, NO. 3 POST FT	ONE WAY SUPPORT, NO. 3 POST FT	SIGN POST REFLECTOR EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.22, DESIGN 7, AS PER PLAN EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH	SIGN, FLAT SHEET SF	SIGN, DOUBLE FACED, STREET NAME EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF POLE MOUNTED SIGN AND REERECTION EACH	SCHOOL SPEED LIMIT SIGN ASSEMBLY, 24" X 36" EACH
R1	176	EAST 185TH ST		LT			07/NFP/PV										3		1				
R2	176	EAST 185TH ST		LT			07/NFP/PV												2				
R3	176	EAST 185TH ST		LT			07/NFP/PV									1		1					
R4	176	EAST 185TH ST		RT			07/NFP/PV												1				
R5	176	EAST 185TH ST		RT			07/NFP/PV												1				
R6	177	EAST 185TH ST		LT			07/NFP/PV										1		1				
R7	177	EAST 185TH ST		LT			07/NFP/PV													1			
R8	177	EAST 185TH ST		LT			07/NFP/PV												2				
R9	177	EAST 185TH ST		RT			07/NFP/PV									1		1					
R10	177	EAST 185TH ST		RT			07/NFP/PV									4		2					
R11	177	EAST 185TH ST		RT			07/NFP/PV										4		2				
R12	177	EAST 185TH ST		RT			07/NFP/PV										1		1				
R13	178	EAST 185TH ST		LT			07/NFP/PV												1				
R14	178	EAST 185TH ST		LT			07/NFP/PV										1		1				
R15	178	EAST 185TH ST		LT			07/NFP/PV												2				
R16	178	VILLAVIEW RD		RT			07/NFP/PV										2		1				
R17	178	EAST 185TH ST		LT			05/ENH/PV												2				
R18	178	EAST 185TH ST		LT			05/ENH/PV												2				
R19	178	EAST 185TH ST		LT			05/ENH/PV											1	1				
R20	178	EAST 185TH ST		RT			07/NFP/PV									1	1	1					
R21	178	EAST 185TH ST		RT			07/NFP/PV												1				
R22	178	EAST 185TH ST		RT			07/NFP/PV													1			
R23	178	VILLAVIEW RD		RT			07/NFP/PV												2				
R24	178	VILLAVIEW RD		LT			05/ENH/PV										1		1				
R25	179	EAST 185TH ST		LT			05/ENH/PV												3				
R26	179	MOZINA DR		RT			05/ENH/PV										2		1				
R27	179	MOZINA DR		LT			05/ENH/PV										2		1				
R28	179	EAST 185TH ST		LT			05/ENH/PV												4				
R29	179	EAST 185TH ST		LT			05/ENH/PV												1				
R30	179	EAST 185TH ST		RT			05/ENH/PV												2				
R31	179	EAST 185TH ST		RT			05/ENH/PV												3	1			
R32	179	UNDERWOOD AVE		LT			05/ENH/PV										1		1				
R33	179	EAST 185TH ST		RT			05/ENH/PV												1				
R34	179	EAST 185TH ST		RT			05/ENH/PV												2				
R35	180	EAST 185TH ST		LT			05/ENH/PV												3				
R36	180	EAST 185TH ST		LT			05/ENH/PV												1	1			
R37	180	EAST 185TH ST		LT			05/ENH/PV													2			
R38	180	MARCELLA RD		RT			05/ENH/PV										2		1				
R39	180	EAST 185TH ST		LT			05/ENH/PV													2			
R40	180	EAST 185TH ST		RT			05/ENH/PV													2			
R41	180	GLENFIELD RD		LT			05/ENH/PV										2		1				
R42	180	EAST 185TH ST		RT			05/ENH/PV													1			
R43	180	EAST 185TH ST		RT			05/ENH/PV													2			
R44	181	EAST 185TH ST		LT			05/ENH/PV													3			
R45	181	EAST 185TH ST		LT			05/ENH/PV													4			
R46	181	EAST 185TH ST		RT			05/ENH/PV													2	2		
R47	181	EAST 185TH ST		RT			05/ENH/PV													2			
R48	181	EAST 185TH ST		RT			05/ENH/PV													2	1		
R49	181	NEFF RD		LT			05/ENH/PV													2			
R50	181	NEFF RD		LT			05/ENH/PV													1			
SUBTOTALS THIS SHEET - CARRIED TO SHEET 170																	29	3	20	60	6		

CALCULATED	CM
	CHECKED
SJK	
SIGNING SUB-SUMMARY	
CUY-EAST 185TH STREET	
164	239

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REF NO.	SHEET NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	PARTICIPATION CODE	625	630	630	630	630	630	630	630	630	630	630	630	630	630	630	631					
								GROUND ROD EACH	GROUND MOUNTED SUPPORT, NO. 2 POST FT	GROUND MOUNTED SUPPORT, NO. 3 POST FT	ONE WAY SUPPORT, NO. 3 POST FT	SIGN POST REFLECTOR EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.22, DESIGN 7, AS PER PLAN EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH	SIGN, FLAT SHEET SF	SIGN, DOUBLE FACED, STREET NAME EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF POLE MOUNTED SIGN AND REERECTION EACH	SCHOOL SPEED LIMIT SIGN ASSEMBLY, 24" X 36" EACH					
R51	181	EAST 185TH ST		RT			05/ENH/PV																					
R52	182	EAST 185TH ST		LT			05/ENH/PV																					
R53	182	EAST 185TH ST		LT			05/ENH/PV																					
R54	182	EAST 185TH ST		LT			05/ENH/PV																					
R55	182	EAST 185TH ST		LT			05/ENH/PV																					
R56	182	EAST 185TH ST		RT			05/ENH/PV																					
R57	182	SHAWNEE AVE		LT			05/ENH/PV																					
R58	182	EAST 185TH ST		RT			05/ENH/PV																					
R59	182	EAST 185TH ST		RT			05/ENH/PV																					
R60	182	KEWANEE AVE		LT			05/ENH/PV																					
R61	182	EAST 185TH ST		RT			05/ENH/PV																					
R62	183	EAST 185TH ST		LT			05/ENH/PV																					
R63	183	EDGERTON RD		RT			05/ENH/PV																					
R64	183	EAST 185TH ST		LT			05/ENH/PV																					
R65	183	EAST 185TH ST		LT			05/ENH/PV																					
R66	183	EAST 185TH ST		LT			05/ENH/PV																					
R67	183	EAST 185TH ST		LT			05/ENH/PV																					
R68	183	EAST 185TH ST		LT			05/ENH/PV																					
R69	183	EAST 185TH ST		LT			05/ENH/PV																					
R70	183	EAST 185TH ST		RT			05/ENH/PV																					
R71	183	CHICKASAW AVE		LT			05/ENH/PV																					
R72	183	EAST 185TH ST		RT			05/ENH/PV																					
R73	183	EAST 185TH ST		RT			05/ENH/PV																					
R74	183	EAST 185TH ST		RT			05/ENH/PV																					
R75	184	EAST 185TH ST		LT			05/ENH/PV																					
R76	184	EAST 185TH ST		LT			05/ENH/PV																					
R77	184	EAST PARK AVE		RT			05/ENH/PV																					
R78	184	EAST 185TH ST		LT			05/ENH/PV																					
R79	184	EAST 185TH ST		LT			05/ENH/PV																					
R80	184	EAST 185TH ST		LT			05/ENH/PV																					
R81	184	HARLAND AVE		RT			05/ENH/PV																					
R82	184	EAST 185TH ST		LT			05/ENH/PV																					
R83	184	EAST 185TH ST		RT			05/ENH/PV																					
R84	184	EAST 185TH ST		RT			05/ENH/PV																					
R85	184	CHEROKEE AVE		LT			05/ENH/PV																					
R86	184	EAST 185TH ST		RT			05/ENH/PV																					
R87	184	EAST 185TH ST		RT			05/ENH/PV																					
R88	184	EAST 185TH ST		RT			05/ENH/PV																					
R89	184	EAST 185TH ST		RT			05/ENH/PV																					
R90	184	ARROWHEAD AVE		LT			05/ENH/PV																					
R91	185	EAST 185TH ST		LT			05/ENH/PV																					
R92	185	EAST 185TH ST		LT			05/ENH/PV																					
R93	185	EAST 185TH ST		LT			05/ENH/PV																					
R94	185	SCHENELY AVE		RT			05/ENH/PV																					
R95	185	EAST 185TH ST		LT			05/ENH/PV																					
R96	185	EAST 185TH ST		LT			05/ENH/PV																					
R97	185	EAST 185TH ST		RT			05/ENH/PV																					
R98	185	EAST 185TH ST		RT			05/ENH/PV																					
R99	185	EAST 185TH ST		RT			05/ENH/PV																					
R100	185	EAST 185TH ST		RT			05/ENH/PV																					
SUBTOTALS THIS SHEET - CARRIED TO SHEET 170																												

SIGNING SUB-SUMMARY

CUY-EAST 185TH STREET

CALCULATED
SJK
CHECKED
CM

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REF NO.	SHEET NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	PARTICIPATION CODE	625	630	630	630	630	630	630	630	630	630	630	630	630	630	631			
								GROUND ROD EACH	GROUND MOUNTED SUPPORT, NO. 2 POST FT	GROUND MOUNTED SUPPORT, NO. 3 POST FT	ONE WAY SUPPORT, NO. 3 POST FT	SIGN POST REFLECTOR EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.22, DESIGN 7, AS PER PLAN EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH	SIGN, FLAT SHEET SF	SIGN, DOUBLE FACED, STREET NAME EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF POLE MOUNTED SIGN AND REERECTION EACH	SCHOOL SPEED LIMIT SIGN ASSEMBLY, 24" X 36" EACH		
S47	181	NEFF RD	80+32	LT	SPECIAL	36 x 36	05/ENH/PV						1	9.0											
S48	181	EAST 185TH ST	525+70	RT	SPECIAL	36 x 36	05/ENH/PV						1	9.0											
S49	182	EAST 185TH ST	526+68	LT	R3-H8bh	36 x 30	05/ENH/PV						1	7.5											
					R7-107	12 x 18	05/ENH/PV						1	1.5											
S50	182	EAST 185TH ST	528+38	LT	R7-1	12 x 18	05/ENH/PV		13.5					1.5											
					R7-5	12 x 18	05/ENH/PV							1.5											
S51	182	EAST 185TH ST	529+43	LT	R7-5	12 x 18	05/ENH/PV		13.5					1.5											
					R7-1	12 x 18	05/ENH/PV							1.5											
S52	182	EAST 185TH ST	530+14	LT	W11-2	36 x 36	05/ENH/PV						1	9.0											
					W16-7P	24 x 12	05/ENH/PV						1	2.0											
S53	182	EAST 185TH ST	530+93	LT	R7-1	12 x 18	05/ENH/PV		13.5					1.5											
					R7-5	12 x 18	05/ENH/PV							1.5											
S54	182	EAST 185TH ST	526+92	RT	D3-1	36 x 10	05/ENH/PV						1	2.5	1										
					D3-1	36 x 10	05/ENH/PV						1	2.5	1										
					R7-1	12 x 18	05/ENH/PV						1	1.5											
S55	182	SHAWNEE AVE	90+44	LT	R1-1	30 x 30	05/ENH/PV			14.5		1		6.3											
					R7-1	12 x 18	05/ENH/PV							1.5											
S55A	182	EAST 185TH ST	527+87	RT	W11-2	36 x 36	05/ENH/PV			14.5				9.0											
					W16-9P	24 x 12	05/ENH/PV							2											
S56	182	EAST 185TH ST	528+44	RT	R7-203	18 x 24	05/ENH/PV						1	3.0											
					R7-5	12 x 18	05/ENH/PV						1	1.5											
					R7-1	12 x 18	05/ENH/PV						1	1.5											
S57	182	EAST 185TH ST	529+25	RT	R7-1	12 x 18	05/ENH/PV		13.5					1.5											
					R7-5	12 x 18	05/ENH/PV							1.5											
S58	182	EAST 185TH ST	529+48	RT	D3-1	36 x 10	05/ENH/PV						1	2.5	1										
					D3-1	36 x 10	05/ENH/PV						1	2.5	1										
S59	182	KEWANEE AVE	100+40	LT	R1-1	30 x 30	05/ENH/PV			14.5		1		6.3											
					R7-1	12 x 18	05/ENH/PV							1.5											
S59A	182	EAST 185TH ST	530+14	RT	W11-2	36 x 36	05/ENH/PV			14.5				9.0											
					W16-7P	24 x 12	05/ENH/PV							2.0											
S60	182	EAST 185TH ST	530+34	RT	R7-5	12 x 18	05/ENH/PV		13.5					1.5											
					R7-1	12 x 18	05/ENH/PV							1.5											
S61	183	EAST 185TH ST	531+18	LT	R7-5	12 x 18	05/ENH/PV							1.5											
					R7-1	12 x 18	05/ENH/PV							1.5											
S62	183	EAST 185TH ST	531+40	LT	D3-1	36 x 10	05/ENH/PV						1	2.5	1										
					D3-1	36 x 10	05/ENH/PV						1	2.5	1										
					W11-2	36 x 36	05/ENH/PV						1	9											
					W16-9P	24 x 12	05/ENH/PV						1	2											
S63	183	EDGERTON RD	109+53	RT	R1-1	30 x 30	05/ENH/PV			14.5		1		6.3											
					R7-1	12 x 18	05/ENH/PV							1.5											
S64	183	EAST 185TH ST	532+60	LT	R7-1	12 x 18	05/ENH/PV							1.5											
					R7-5	12 x 18	05/ENH/PV		13.5					1.5											
S65	183	EAST 185TH ST	533+70	LT	R7-5	12 x 18	05/ENH/PV							1.5											
					R7-107	12 x 18	05/ENH/PV							1.5											
S66	183	EAST 185TH ST	534+00	LT	D3-1	36 x 10	05/ENH/PV						1	2.5	1										
					D3-1	36 x 10	05/ENH/PV						1	2.5	1										
S67	183	EAST 185TH ST	535+28	LT	R7-5	12 x 18	05/ENH/PV							1.5											
S68	183	EAST 185TH ST	531+73	RT	R7-1	12 x 18	05/ENH/PV		13.5					1.5											
					R7-5	12 x 18	05/ENH/PV							1.5											
S69	183	EAST 185TH ST	531+93	RT	D3-1	36 x 10	05/ENH/PV				13.2			2.5	1										
					D3-1	36 x 10	05/ENH/PV							2.5	1										
S70	183	CHICKASAW AVE	120+38	LT	R1-1	30 x 30	05/ENH/PV			14.5		1		6.3											
					R7-1	12 x 18	05/ENH/PV							1.5											
SUBTOTALS THIS SHEET - CARRIED TO SHEET 170									133.5	87.0	13.2	4		20	163.2	10									

SIGNING SUB-SUMMARY

CUY-EAST 185TH STREET

CALCULATED
SJK
CHECKED
CM

168
239

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REF NO.	SHEET NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	PARTICIPATION CODE	625	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	631		
								GROUND ROD EACH	GROUND MOUNTED SUPPORT, NO. 2 POST FT	GROUND MOUNTED SUPPORT, NO. 3 POST FT	ONE WAY SUPPORT, NO. 3 POST FT	SIGN POST REFLECTOR EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.22, DESIGN 7, AS PER PLAN EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH	SIGN, FLAT SHEET SF	SIGN, DOUBLE FACED, STREET NAME EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF POLE MOUNTED SIGN AND REERECTION EACH	SCHOOL SPEED LIMIT SIGN ASSEMBLY, 24" X 36" EACH			
S71	183	EAST 185TH ST	532+69	RT	R7-5	12 x 18	05/ENH/PV		13.5							1.5										
					R7-1	12 x 18	05/ENH/PV									1.5										
S72	183	EAST 185TH ST	533+68	RT	R7-107	12 x 18	05/ENH/PV		13.5							1.5										
					R7-5	12 x 18	05/ENH/PV									1.5										
S73	183	EAST 185TH ST	534+98	RT	D3-1	36 x 10	05/ENH/PV						1	2.5	1											
					D3-1	36 x 10	05/ENH/PV						1	2.5	1											
S74	184	EAST 185TH ST	536+26	LT	R7-5	12 x 18	05/ENH/PV		13.5							1.5										
					R7-1	12 x 18	05/ENH/PV									1.5										
S75	184	EAST PARK AVE	149+58	RT	R1-1	30 x 30	05/ENH/PV			14.5	1					6.3										
					R7-1	12 x 18	05/ENH/PV									1.5										
S76	184	EAST 185TH ST	537+48	LT	D3-1	36 x 10	05/ENH/PV						1	2.5	1											
					D3-1	36 x 10	05/ENH/PV						1	2.5	1											
S77	184	EAST 185TH ST	537+67	LT	R7-1	12 x 18	05/ENH/PV		13.5							1.5										
					R7-5	12 x 18	05/ENH/PV									1.5										
S78	184	EAST 185TH ST	538+44	LT	R7-5	12 x 18	05/ENH/PV		13.5							1.5										
					R7-1	12 x 18	05/ENH/PV									1.5										
S79	184	EAST 185TH ST	538+53	LT	D3-1	36 x 10	05/ENH/PV						1	2.5	1											
					D3-1	36 x 10	05/ENH/PV						1	2.5	1											
S80	184	HARLAND AVE	169+60	LT	R1-1	30 x 30	05/ENH/PV						1	6.3												
					R7-1	12 x 18	05/ENH/PV						1	1.5												
S80A	184	EAST 185TH ST	539+19	LT	W11-2	36 x 36	05/ENH/PV			14.5						9.0										
					W16-7P	24 x 12	05/ENH/PV									2.0										
S81	184	EAST 185TH ST	539+85	LT	R7-1	12 x 18	05/ENH/PV						1	1.5												
					R7-5	12 x 18	05/ENH/PV						1	1.5												
S82	184	EAST 185TH ST	535+92	RT	R7-5	12 x 18	05/ENH/PV						1	1.5												
S83	184	EAST 185TH ST	536+70	RT	R7-1	12 x 18	05/ENH/PV		13.5							1.5										
					R7-5	12 x 18	05/ENH/PV									1.5										
S84	184	EAST 185TH ST	536+92	RT	D3-1	36 x 10	05/ENH/PV						1	2.5	1											
					D3-1	36 x 10	05/ENH/PV						1	2.5	1											
S85	184	CHEROKEE AVE	160+44	RT	R1-1	30 x 30	05/ENH/PV			13.0	1					6.3										
S86	184	EAST 185TH ST	537+60	RT	R7-5	12 x 18	05/ENH/PV		15.0							1.5										
					SPECIAL	12 x 18	05/ENH/PV									1.5										
					R7-1	12 x 18	05/ENH/PV									1.5										
S86A	184	EAST 185TH ST	537+83	RT	W11-2	36 x 36	05/ENH/PV			14.5						9.0										
					W16-9P	24 x 12	05/ENH/PV									2.0										
S87	184	EAST 185TH ST	538+99	RT	R7-1	12 x 18	05/ENH/PV		15.0							1.5										
					R7-5	12 x 18	05/ENH/PV									1.5										
					SPECIAL	12 x 18	05/ENH/PV									1.5										
S87A	184	EAST 185TH ST	539+19	RT	W11-2	36 x 36	05/ENH/PV			14.5						9.0										
					W16-7P	24 x 12	05/ENH/PV									2.0										
S88	184	EAST 185TH ST	539+44	RT	D3-1	36 x 10	05/ENH/PV						1	2.5	1											
					D3-1	36 x 10	05/ENH/PV						1	2.5	1											
S89	184	ARROWHEAD AVE	180+40	LT	R1-1	30 x 30	05/ENH/PV			14.5	1					6.3										
					R7-1	12 x 18	05/ENH/PV									1.5										
S89A	185	EAST 185TH ST	540+25	LT	W11-2	36 x 36	05/ENH/PV			14.5						9.0										
					W16-9P	24 x 12	05/ENH/PV									2.0										
S90	185	EAST 185TH ST	540+64	LT	R7-5	12 x 18	05/ENH/PV						1	1.5												
S90A	185	EAST 185TH ST	540+90	LT	S5-3	24 x 30	05/ENH/PV			13.0						5.0										
S91	185	EAST 185TH ST	541+40	LT	R7-5	12 x 18	05/ENH/PV		12.0							1.5										
S92	185	EAST 185TH ST	541+73	LT	D3-1	36 x 10	05/ENH/PV						1	2.5	1											
					D3-1	36 x 10	05/ENH/PV						1	2.5	1											
S93	185	SCHENELEY AVE	189+60	RT	R7-1	12 x 18	05/ENH/PV		12							1.5										
S93A	185	SCHENELEY AVE	189+42	LT	R12-3	24 x 36	05/ENH/PV			13.5						6.0										
SUBTOTALS THIS SHEET - CARRIED TO SHEET 170									135.0	126.5		3		18	150.7	12										

SIGNING SUB-SUMMARY

CUY-EAST 185TH STREET

CALCULATED
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REF NO.	SHEET NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	PARTICIPATION CODE	625	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	631						
								GROUND ROD EACH	GROUND MOUNTED SUPPORT, NO. 2 POST FT	GROUND MOUNTED SUPPORT, NO. 3 POST FT	ONE WAY SUPPORT, NO. 3 POST FT	SIGN POST REFLECTOR EACH	OVERHEAD SIGN SUPPORT, TYPE TC-16.22, DESIGN 7, AS PER PLAN EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH	SIGN, FLAT SHEET SF	SIGN, DOUBLE FACED, STREET NAME EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL EACH	REMOVAL OF POLE MOUNTED SIGN AND REERECTION EACH	SCHOOL SPEED LIMIT SIGN ASSEMBLY, 24" X 36" EACH							
S93B	185	EAST 185TH ST	542+62	LT	S1-1	36 x 36	05/ENH/PV			15.5						9.0														
					S4-3P	24 x 8	05/ENH/PV									1.3														
					W16-7P	24 x 12	05/ENH/PV									2														
S94	185	EAST 185TH ST	543+22	LT	R7-107	12 x 18	05/ENH/PV		13.5							1.5														
					R7-5	12 x 18	05/ENH/PV									1.5														
S95	185	EAST 185TH ST	543+52	LT	R7-203	18 x 24	05/ENH/PV						1			3.0														
S95A	185	EAST 185TH ST	540+00	RT	S1-1	36 x 36	05/ENH/PV			15.5						9.0														
					S4-3P	24 x 8	05/ENH/PV									1.3														
					W16-9P	24 x 12	05/ENH/PV									2.0														
S96	185	EAST 185TH ST	540+22	RT	R7-5	12 x 18	05/ENH/PV		13.5							1.5														
					R7-1	12 x 18	05/ENH/PV									1.5														
S97	185	EAST 185TH ST	540+97	RT	S5-H1		05/ENH/PV																	1						
S98	185	EAST 185TH ST	541+44	RT	R7-107	12 x 18	05/ENH/PV		13.5							1.5														
					R7-5	12 x 18	05/ENH/PV									1.5														
S99	185	EAST 185TH ST	541+69	RT	S1-1	36 x 36	05/ENH/PV			15.5						9.0														
					S4-3P	24 x 8	05/ENH/PV									1.3														
					W16-7P	24 x 12	05/ENH/PV									2														
S100	185	EAST 185TH ST	541+92	RT	D3-1	36 x 10	05/ENH/PV					1	2.5	1																
					D3-1	36 x 10	05/ENH/PV					1	2.5	1																
S101	185	EAST 185TH ST	543+45	RT	R7-203	18 x 24	05/ENH/PV					1	3.0																	
					R7-5	12 x 18	05/ENH/PV					1	1.5																	
S102	186	EAST 185TH ST	544+25	LT	R7-5	12 x 18	05/ENH/PV		13.5							1.5														
					R7-1	12 x 18	05/ENH/PV									1.5														
S103	186	EAST 185TH ST	544+50	LT	S5-H1		05/ENH/PV	1																1						
S104	186	HILLER AVE	219+53	RT	R1-1	30 x 30	05/ENH/PV			13.0		1				6.3														
S105	186	EAST 185TH ST	545+54	LT	D3-1	36 x 10	05/ENH/PV						1	2.5	1															
					D3-1	36 x 10	05/ENH/PV						1	2.5	1															
S106	186	EAST 185TH ST	545+81	LT	S1-1	36 x 36	05/ENH/PV			18.5						9														
					S4-3P	24 x 8	05/ENH/PV									1.3														
					W16-9P	24 x 12	05/ENH/PV									2.0														
					R7-1	12 x 18	05/ENH/PV									1.5														
					R7-5	12 x 18	05/ENH/PV									1.5														
S107	186	EAST 185TH ST	655+24	RT	R7-1	12 x 18	05/ENH/PV		13.5							1.5														
					R7-5	12 x 18	05/ENH/PV									1.5														
S108	186	EAST 185TH ST	544+50	RT	D3-1	36 x 10	05/ENH/PV					1	2.5	1																
					D3-1	36 x 10	05/ENH/PV					1	2.5	1																
					S5-3	24 x 30	05/ENH/PV					1	5.0																	
S108A	186	MOHAWK AVE	210+45	RT	R12-3	24 x 36	05/ENH/PV			13.5						6.0														
S109	186	MOHAWK AVE	210+40	LT	R1-1	30 x 30	05/ENH/PV					1				6.3														
					R7-1	12 x 18	05/ENH/PV									1.5														
S110	186	EAST 185TH ST	545+29	RT	R7-5	12 x 18	05/ENH/PV		13.5							1.5														
					R7-1	12 x 18	05/ENH/PV									1.5														
S111	186	EAST 185TH ST	545+75	RT	D9-2	24 x 24	05/ENH/PV			13.8						4.0														
					M6-3	21 x 15	05/ENH/PV									2.2														
SUBTOTALS THIS SHEET								1	81	119.8		2	1	10	124	6	1							2						
SUBTOTALS SHEET 164																				29	3	20	60	6						
SUBTOTALS SHEET 165																														
SUBTOTALS SHEET 166									143.1	188.0	57.0	11		11	288.6	2			30	2	17	76	1							
SUBTOTALS SHEET 167									13.5	145.8	13.2	3		32	203.0	8														
SUBTOTALS SHEET 168									133.5	87.0	13.2	4		20	163.2	10														
SUBTOTALS SHEET 169									135.0	126.5		3		18	150.7	12														
TOTALS CARRIED TO GENERAL SUMMARY								1	506.1	667.1	83.4	23	1	91	929.5	38	1	65	5	40	153	7		2						

SIGNING SUB-SUMMARY

CUY-EAST 185TH STREET

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GROUNDING AND BONDING

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS) AND THE TC SERIES OF STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

1. ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.

A. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.

B. WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.

C. METALLIC CONDUIT CARRYING THE LOOP WIRES FROM IN THE PAVEMENT TO THE PULL BOX SPLICE LOCATION WILL ONLY BE BONDED AT THE PULL BOX END, AND WILL NOT CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR.

D. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.

E. IF AN EQUIPMENT GROUNDING CONDUCTOR IS NEEDED IN CONDUIT BETWEEN SIGNALIZED INTERSECTIONS FOR UNDERGROUND INTERCONNECT CABLE, THE GROUNDING SYSTEM FOR EACH SIGNALIZED INTERSECTION WILL BE SEPARATED ABOUT MIDWAY BETWEEN THE INTERSECTIONS.

F. THE MESSENGER WIRE AT SIGNALIZED INTERSECTIONS WILL BE USED AS THE CONDUCTIVE PATH FROM CORNER TO CORNER IF CONDUIT IS NOT PROVIDED UNDER THE ROADWAY. WHEN CONDUIT CONNECTS THE CORNERS OF AN INTERSECTIONS, AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE USED IN THE CONDUIT.

2. CONDUITS

A. THE 725.04 CONDUIT SHALL HAVE GROUNDING BISHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.

B. THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.

C. BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

D. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

E. ALL CONDUIT SHALL BE CAPPED WITH THE DUCT SEALED.

3. WIRE FOR GROUNDING AND BONDING

A. USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS:

I. USE 4 AWG BETWEEN THE POWER SERVICE AND SUPPORTS, POLES, PEDESTALS, CONTROLLER OR FLASHER CABINETS.

II. USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.1 ABOVE.

III. USE A MINIMUM OF 8 AWG BETWEEN THE "PREPARE TO STOP WHEN FLASHING" INSTALLATION (INCLUDING SUPPORT) AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.1. ABOVE.

GROUNDING AND BONDING (CONTINUED)

IV. THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPES(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.

B. IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.

4. GROUNDED ROD (2-6' APART)

A. A 1/4 INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.

B. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.

5. THE GREEN CONDUCTOR IN SIGNAL CABLES (CONDUCTOR #4) SHALL NOT BE USED TO SUPPLE POWER TO A SIGNAL INDICATION. IT WILL BE CONNECTED TO THE SIGNAL BODY AS AN EQUIPMENT GROUND IN ALUMINUM HEADS AND IT WILL BE UNUSED IN PLASTIC HEADS. UNUSED CONDUCTORS SHALL BE GROUNDED IN THE CABINET. TYPICAL USE OF CONDUCTORS IS AS FOLLOWS:

COND. NO.	COLOR	VEHICLE SIGNAL	PED. SIGNAL
1	BLACK	GREEN BALL	#1 WALK
2	WHITE	AC NEUTRAL	AC NEUTRAL
3	RED	RED BALL	#1 DW/FDW
4	GREEN	EQUIP. GROUND	EQUIP. GROUND
5	ORANGE	YELLOW BALL	#2 DW/FDW
6	BLUE	GREEN ARROW	#2 WALK
7	WHITE/ BLACK STRIPE	YELLOW ARROW	NOT USED

6. POWER SERVICE AND DISCONNECT SWITCH

A. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPLICE.

B. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.

I. NEMA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC-) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS-2, FIGURE 5-4.

II. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH, EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.

7. PAYMENT - ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT.

ITEM 632 - VEHICULAR SIGNAL HEAD (LED), (BY SECTION), 12' LENS, 1-WAY, POLYCARBONATE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT CMS 632 AND 732, THE FOLLOWING SHALL APPLY:

1. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF INJECTION MOLDED, UV STABILIZED, POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS.

2. PLASTIC LENSES SHALL BE USED.

3. PIPE, SPACERS, AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.

4. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.

5. TRAFFIC SIGNAL MUST BE RIGID MOUNTED WITH CENTERLINE OF MAST ARM MATCHING CENTERLINE OF RED LENS.

6. SIGNAL HEADS SHALL BE YELLOW AND INCLUDE BACKPLATES AS PER ODOT CMS 632 AND 732.

ITEM 632 - PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT CMS 632 AND 732 THE FOLLOWING SHALL APPLY:

1. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS.

2. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.

3. PIPE, SPACERS, AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.

4. THE PEDESTRIAN SIGNAL HEAD SHALL BE OF THE LED COUNTDOWN TYPE.

5. NEW ATTACHMENT HARDWARE AND FITTINGS SHALL BE USED.

6. THE LIGHT EMITTING DIODE (LED) MODULES SHALL MEET THE REQUIREMENTS OF CMS 732.04-C. THE CONTRACTOR SHALL PROVIDE THE CITY OF CLEVELAND, 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.

7. PEDESTRIAN SIGNAL HEAD SHALL POINT TO THE CENTERLINE OF THE CROSSWALK.

8. INSTALLATION SHALL BE PER ODOT STANDARD DRAWING TC-85.10 WITH THE EXCEPTION THAT "CLAM SHELLS" SHALL NOT BE USED.

PAYMENT FOR ITEM 632 - PEDESTRIAN SIGNAL HEAD (LED), (COUNTDOWN), TYPE D2, AS PER PLAN SHALL BE MADE FOR THE NUMBER OF COMPLETE SIGNAL HEAD FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS AND NEW ATTACHMENT HARDWARE.

ITEM 632 - SIGNAL SUPPORT FOUNDATION, AS PER PLAN

THE CONTRACTOR SHALL PROTECT PEDESTRIANS AND VEHICLES FROM EXPOSED ANCHOR BOLTS AT ALL TIMES, UNTIL THE ASSOCIATED SIGNAL SUPPORT IS ERECTED. THE METHOD OF COVERING THE ANCHOR BOLTS SHALL BE APPROVED BY THE ENGINEER.

ALL COSTS ASSOCIATED WITH THE PROCEDURES AS OUTLINED ABOVE SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE UNIT PRICE BID PER EACH FOR ITEM 632 - SIGNAL SUPPORT FOUNDATION, AS PER PLAN.

ITEM 632 - POWER SERVICE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT CMS 632.24, ELECTRIC POWER SHALL BE OBTAINED FROM CLEVELAND PUBLIC POWER (CPP) AS INDICATED IN THE PLANS. POWER SUPPLIED SHALL BE 120 VOLTS. ALL POWER CABLES SHALL BE RATED FOR 600 VOLTS AND CONSIST OF NO. 6 AWG COPPER. ALL CONNECTIONS OF POWER CABLE TO EQUIPMENT SHALL BE BY MEANS OF APPROVED SOLDERLESS TYPE CONNECTORS. THE SOLDERLESS CONNECTORS ARE TO BE TAPED. POWER SERVICE SHALL ALSO INCLUDE 2 INCH CONDUIT RISES WHERE NECESSARY.

THE CONTRACTOR SHALL MEET ON SITE WITH CPP THREE (3) DAYS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT CPP TO MAKE THE NECESSARY ARRANGEMENTS.

ITEM 632 - SIGNALIZATION, MISC.: FOUNDATION TEST HOLES

IF UNDERGROUND OBSTRUCTIONS ARE ENCOUNTERED THAT PRECLUDE THE USE OF THE STANDARD OR ALTERNATE FOUNDATION DESIGNS, THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH COMPLETE INFORMATION REGARDING THE OBSTRUCTION INCLUDING TYPE (I.E. UTILITY), SIZE, DEPTH, AND LATERAL CLEARANCES TO THE SIDES OF THE FOUNDATION EXCAVATION. THE FOUNDATION HOLE SHALL BE COVERED WITH A STEEL PLATE (3/4 INCH PLYWOOD ION PEDESTRIAN ACCESSIBLE AREA) UNTIL THE ENGINEER DETERMINES IF A NEW FOUNDATION LOCATION IS REQUIRED. IF SUBSEQUENTLY DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL BACKFILL AND COMPACT THE HOLE AND PROPERLY RESTORE THE SURFACE. ALL DRIVEWAYS, SIDEWALKS, CURB, TREE-LAWNS, AND AREAS BEHIND THE SIDEWALK AND THE RIGHT-OF-WAY LINE NOT DESIGNATED FOR REMOVAL OR REPAIR THAT HAVE BEEN DAMAGED OR DISTURBED DURING CONSTRUCTION SHALL BE RESTORED. GENERALLY, ANY DAMAGED SLAB SHALL BE TOTALLY REPLACED. PARTIAL REPLACEMENTS WILL BE PERMITTED ONLY IF ADJACENT SLAB IS REPLACED AND AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE COMPENSATED FOR EACH FOUNDATION HOLE THAT MUST BE ABANDONED. PAYMENT FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND OTHER INCIDENTALS, INCLUDING BACKFILL COMPACTING AND SURFACE RESTORATION, SHALL BE AT THE CONTRACT BID UNIT PRICE PER EACH FOR ITEM 632 - SIGNALIZATION, MISC.: FOUNDATION TEST HOLES FOR THE NUMBER EXCAVATED AND BACKFILLED.

ITEM 632 - SIGNAL SUPPORT, TYPE TC-81.22 (BY DESIGN), AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT CMS 632 AND 732, SIGNAL SUPPORTS SHALL BE PAINTED ACCORDING TO THE FOLLOWING:

POWDER COATING - COLOR: BLACK

SURFACE PREPARATION: THE EXTERIOR STEEL SURFACE SHALL BE BLAST CLEANED TO STEEL STRUCTURES PAINTING COUNCIL SURFACE PREPARATION SPECIFICATION NO. 6 (SSPC-SP6) REQUIREMENTS UTILIZING CAST STEEL ABRASIVES CONFORMING TO THE SOCIETY OF AUTOMOTIVE ENGINEERS (SAE) RECOMMENDED PRACTICE J827. THE BLAST METHOD USED IS A RECIRCULATING, CLOSED CYCLE CENTRIFUGAL WHEEL SYSTEM WITH ABRASIVE CONFORMING TO SAE SHOT NUMBER S280.

INTERIOR COATING: INTERIOR SURFACES (POLE SHAFTS ONLY) AT THE BASE END FOR A LENGTH OF APPROXIMATELY 2.0 FEET SHALL BE MECHANICALLY CLEANED AND COATED WITH A ZINC RICH EPOXY POWDER. THE COATING SHALL BE ELECTROSTATICALLY APPLIED AND CURED IN A GAS FIRED CONVECTION OVEN BY HEATING THE STEEL SUBSTRATE TO A MINIMUM OF 359 DEGREES FAHRENHEIT AND A MAXIMUM OF 400 DEGREES FAHRENHEIT.

ITEM 632 - SIGNAL SUPPORT, TYPE TC-81.22 (BY DESIGN), AS PER PLAN (CONTINUED)

EXTERIOR COATING: ALL OF THE EXTERIOR SURFACES SHALL BE COATED WITH A URETHANE OR TRIGLYCIDYL ISOCYANURATE (TRIC) POLYESTER POWDER TO A MINIMUM FILM THICKNESS OF 2.0 MILS (0.002³²). THE COATING SHALL BE ELECTROSTATICALLY APPLIED AND CURED IN A GAS FIRED CONVECTION OVEN BY HEATING THE STEEL SUBSTRATE TO A MINIMUM OF 350 DEGREES FAHRENHEIT. THE THERMOSETTING POWDER RESIN SHALL PROVIDE BOTH INTERCOAT AS WELL AS SUBSTRATE FUSION ADHESION THAT MEETS 5A OR 5B CLASSIFICATIONS OF ASTM D3359.

COMBINATION COATING GALVANIZED-POWDER TOP COAT
COLOR: BLACK

SURFACE PREPARATION: PRIOR TO BEING INCORPORATED INTO AN ASSEMBLED PRODUCT, STEEL PLATES ¼ INCHES OR MORE IN THICKNESS SHALL BE BLAST CLEANED WHEN REQUIRED TO REMOVE ROLLED-IN MILL SCALE, IMPURITIES AND NON-METALLIC FOREIGN MATERIALS. AFTER ASSEMBLY, ALL WELD FLUX SHALL BE MECHANICALLY REMOVED. THE IRON OR STEEL PRODUCT SHALL BE DEGREASED BY IMMERSION IN AN AGITATED 4.5% - 6.0% CONCENTRATED CAUSTIC SOLUTION ELEVATED TO A TEMPERATURE RANGING FROM 150 DEGREES FAHRENHEIT TO 190 DEGREES FAHRENHEIT. IT SHALL NEXT BE RINSED CLEAN FROM ANY RESIDUAL EFFECTS OF THE CAUSTIC OR ACID SOLUTIONS BY IMMERSION IN A CIRCULATING FRESH WATER BATH. FINAL PREPARATIONS SHALL BE ACCOMPLISHED BY IMMERSION IN CONCENTRATED ZINC AMMONIUM CHLORIDE FLUX SOLUTION HEATED TO 130 DEGREES FAHRENHEIT. THE SOLUTIONS ACIDITY CONTENT SHALL BE MAINTAINED BETWEEN 4.5-5.0 pH. THE ASSEMBLY SHALL BE AIR-DRIED TO REMOVE ANY MOISTURE REMAINING IN THE FLUX COAT AND/OR TRAPPED WITHIN THE PRODUCT.

ZINC COATING: THE PRODUCT SHALL BE HOT-DIP GALVANIZED TO THE REQUIREMENTS OF EITHER ASTM A123 (FABRICATED PRODUCTS) OR ASTM A153 (HARDWARE ITEMS) BY IMMERSION IN A MOLTEN BATH OF PRIME WESTERN GRADE ZINC MAINTAINED BETWEEN 810 DEGREES FAHRENHEIT AND 850 DEGREES FAHRENHEIT. THE ENTIRE PRODUCT SHALL BE TOTALLY IMMERSED WITH NO PARTS PROTRUDING OUT OF THE ZINC (NO DOUBLE DIPPING). THIS IS TO LIMIT RISK OF TRAPPED CONTAMINANTS CONTAINING CHLORIDES AND REDUCE THE RISK OF BARE SPOTS (BARE SPOTS CAN OCCUR WHEN FLUX ON THE STEEL SURFACE IS BURNED AWAY BY HEAT OF THE FIRST DIP). MAXIMUM ALUMINUM CONTENT OF THE BATH SHALL BE 0.01% FLUX ASH SHALL BE SKIMMED FROM THE BATH SURFACE PRIOR TO IMMERSION AND EXTRACTION OF THE PRODUCT TO ASSURE A DEBRIS FREE ZINC COATING.

EXTERIOR COATING: ALL GALVANIZED EXTERIOR SURFACES SHALL BE COATED WITH A URETHANE OR TRIGLYCIDYL ISOCYANURATE (TRIC) POLYESTER POWDER TO A MINIMUM FILM THICKNESS OF 2.0 MILS (0.002"). PRIOR TO APPLICATION, THE SURFACES TO BE POWDER COATED SHALL BE MECHANICALLY ETCHED BY BRUSH BLASTING (REF. SSPC-SP7) AND THE ZINC COATED SUBSTRATE PREHEATED TO 450 DEGREES FAHRENHEIT FOR A MINIMUM OF ONE-HOUR IN A GAS FIRED CONVECTION OVEN. THE COATING SHALL BE ELECTROSTATICALLY APPLIED AND CURED IN A GAS FIRED CONVECTION OVEN TO A MINIMUM OF 350 DEGREES FAHRENHEIT AND A MAXIMUM OF 400 DEGREES FAHRENHEIT. THE THERMOSETTING POWDER RESIN SHALL PROVED BOTH INTERCOAT AS WELL AS SUBSTRATE FUSION ADHESION THAT MEETS 5A OR 5B CLASSIFICATIONS OF ASTM D3359.

THE CITY OF CLEVELAND. DIVISION OF TRAFFIC ENGINEERING REQUIRES THAT THE CONTRACTOR MEET WITH A TRAFFIC DEPARTMENT REPRESENTATIVE PRIOR TO FOUNDATION INSTALLATIONS TO VERIFY LOCATIONS AND FOR FINAL POLE ORIENTATIONS. CONTACT ANDREW CROSS, TRAFFIC ENGINEER AT (216) 664-3197, 48 HOURS PRIOR TO COMMENCING WORK.

ITEM 632 - PEDESTAL, 8', AS PER PLAN
ITEM 632 - PEDESTAL, 15', AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT CMS 632 AND 732, PEDESTALS SHALL BE PAINTED AND FINISHED ACCORDING TO THE SIGNAL SUPPORT SPECIFICATIONS IN THESE PLANS.

ITEM 633 - CABINET, TYPE TS-2, AS PER PLAN

TRAFFIC SIGNAL CONTROLLER -

THE CONTROLLER SHALL MEET OR EXCEED ALL REQUIREMENTS SET FORTH BY THE INSTITUTE OF TRANSPORTATION ENGINEERS, THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND ALL ADOPTED REVISIONS. ALL TRAFFIC SIGNAL CONTROLLERS SHALL BE SIEMENS M-60.

BASE MOUNTED CABINETS -

THE CONTROLLER SHALL BE PROVIDED IN A BASE-MOUNTED CONTROL CABINET.

ALL NECESSARY INSTALLATION HARDWARE AND TEMPLATES SHALL BE PROVIDED.

MINIMUM OUTSIDE DIMENSIONS OF CABINET SHALL BE 25 INCHES (WIDTH) BY 16 INCHES (DEPTH) BY 48 INCHES (HEIGHT).

A GPS TIMESYNC UNIT SHALL BE COMPLETELY WIRED IN EACH CABINET IN ORDER TO REPORT CABINET FAILURES, DETECTOR FAILURES AND TRAFFIC COUNTS. THE CONTROLLER SHALL BE COMPLETELY COMPATIBLE WITH THE LATEST EDITION OF THE CITY OF CLEVELAND'S CLOSED LOOP SYSTEM SOFTWARE.

THE ITEMS SUPPLIED SHALL BE IN CONFORMANCE WITH THE ABOVE REFERENCE SPECIFICATION AND SHALL BE SUPPLEMENTED WITH THE LATEST EDITION OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIAL SPECIFICATIONS. PAYMENT FOR ACCEPTED MATERIALS WILL BE MADE AT THE UNIT BID PRICE OF EACH ITEM INSTALLED AND ACCEPTED.

ITEM 630 - SIGN, STREET NAME, AS PER PLAN

OVERHEAD MOUNTED STREET NAME SIGNS SUPPLIED UNDER THIS ITEM SHALL MEET THE REQUIREMENTS OF 630, WITH THE FOLLOWING EXCEPTIONS:

1. THE BACKGROUND COLOR OF THE SIGN SHALL BE BLUE.
2. TYPE G SHEETING SHALL BE USED FOR THE BACKGROUND, BORDER, AND LEGEND.
3. THE LEGEND SHALL BE FORMED FROM UPPER AND LOWER CASE LETTERS USING THE UNIVERSE 65 FONT, 12 INCHES HIGH FOR ONE LINE MESSAGES, AND 7 INCHES HIGH FOR TWO LINE MESSAGES.
4. THE BACKING MATERIAL SHALL BE A FLAT SHEET PLATE 20 INCHES HIGH FOR ONE LINE MESSAGES AND 24 INCHES HIGH FOR TWO LINE MESSAGES.
5. THE BORDER SHALL BE ¼ INCH WIDE, INSET ½ INCH FROM THE EDGE OF THE PLATE.

PAYMENT FOR ITEM 630 - SIGN, STREET NAME, AS PER PLAN, WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH SIGN.

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

SIGN HANGER ASSEMBLY, MAST ARM SHALL BE AS PER REQUIREMENTS OF C&MS 630 AND 730. SIGNS MOUNTED ON PROPOSED TRAFFIC SIGNAL MAST ARMS SHALL BE RIGIDLY ATTACHED TO THE ARM AND CENTERED VERTICALLY ON THE ARM. THE CONTRACTOR MAY USE THE METHOD OF ATTACHMENT SHOWN IN STANDARD CONSTRUCTION DRAWING TC-16.21 OR ANOTHER METHOD OF RIGID ATTACHMENT AS APPROVED BY THE ENGINEER.

THE CONTRACTOR SHALL INSURE THE SIGN FACE IS MOUNTED PERPENDICULAR (90 DEGREES) TO THE DIRECTION OF TRAFFIC.

PAYMENT FOR ITEM 630 - SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN SHALL BE MADE AT THE CONTRACT UNIT PRICE BID FOR EACH. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABORS, TOOLS, EQUIPMENT AND ALL PARTS NECESSARY TO ERECT ON INDIVIDUAL SIGN.

REF NO.	SHEET NO.	STATION TO STATION				632	632	632	632	632	632	632	632	632	632	632	632	632	633	633	633	633	809
						SIGNAL SUPPORT FOUNDATION, AS PER PLAN	PEDESTAL FOUNDATION	LOOP DETECTOR LEAD-IN CABLE	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG	SERVICE CABLE, 3 CONDUCTOR, NO. 6 AWG	POWER SERVICE, AS PER PLAN	CONDUIT RISER, 3" DIAMETER	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 2, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 4, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 12, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 13, AS PER PLAN	PEDESTAL, 8', AS PER PLAN	PEDESTAL, 15', AS PER PLAN	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	SIGNALIZATION, MISC.: FOUNDATION TEST HOLE	SIGNALIZATION, MISC.: PLASTIC CAUTION TAPE	GPS (GLOBAL POSITIONING SYSTEM) CLOCK ASSEMBLY	CABINET, TYPE TS-2, AS PER PLAN
PARTICIPATION CODE (ALL ITEMS): 05/ENH/PV					EACH	EACH	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	EACH	EACH	EACH	EACH	EACH	
PS-1	192	29+35.30	LT	(VILLAVIEW ROAD)				77	31	1	1					1							
C-1	192	512+73.00	LT													1		1	1	1	1	1	
SP-1	192	512+15.50	LT		1																		
SP-2	192	512+77.50	LT		1								1										
SP-3	192	513+38.00	RT		1									1									
SP-4	192	512+36.00	RT		1										1								
PP-1	192	513+15.00	LT			1										1							
PP-2	192	512+04.00	RT			1										1							
	192	C-1	TO	PB-4																		24	
	192	PB-4	TO	SP-2																		13	
	192	PB-4	TO	PB-2																		67	
	192	PB-2	TO	PB-3																		32	
	192	PB-2	TO	SP-1																		6	
	192	PB-2	TO	PB-1																		56	
	192	PB-2	TO	PB-5																		83	
	192	PB-5	TO	PP-2																		29	
	192	PB-5	TO	SP-4																		6	
	192	PB-4	TO	PP-1																		34	
	192	PB-4	TO	PB-6																		108	
	192	PB-6	TO	SP-3																		22	
	192	C-1	TO	SIGNAL 2A																			
	192	C-1	TO	SIGNAL 2B																			
	192	C-1	TO	SIGNAL 4A																			
	192	C-1	TO	SIGNAL 4B																			
	192	C-1	TO	SIGNAL 5A																			
	192	C-1	TO	SIGNAL 6A																			
	192	C-1	TO	SIGNAL 6B																			
	192	C-1	TO	SIGNAL 8A																			
	192	C-1	TO	SIGNAL 8B																			
	192	C-1	TO	PED A-A																			
	192	C-1	TO	PED B-B																			
	192	C-1	TO	PED C-C																			
	192	C-1	TO	PED D-D																			
	192	C-1	TO	L4A, L4B, & L4C																		147	
	192	C-1	TO	L5A, L5B																		172	
	192	C-1	TO	L8A, L8B, L8C, & L8D																		143	
TOTALS CARRIED TO GENERAL SUMMARY					4	2	462	77	31	1	1	1	1	1	1	1	7	480	1	1	1	1	

TRAFFIC SIGNAL SUBSUMMARY - VILLAVIEW ROAD

CUY-EAST 185TH STREET

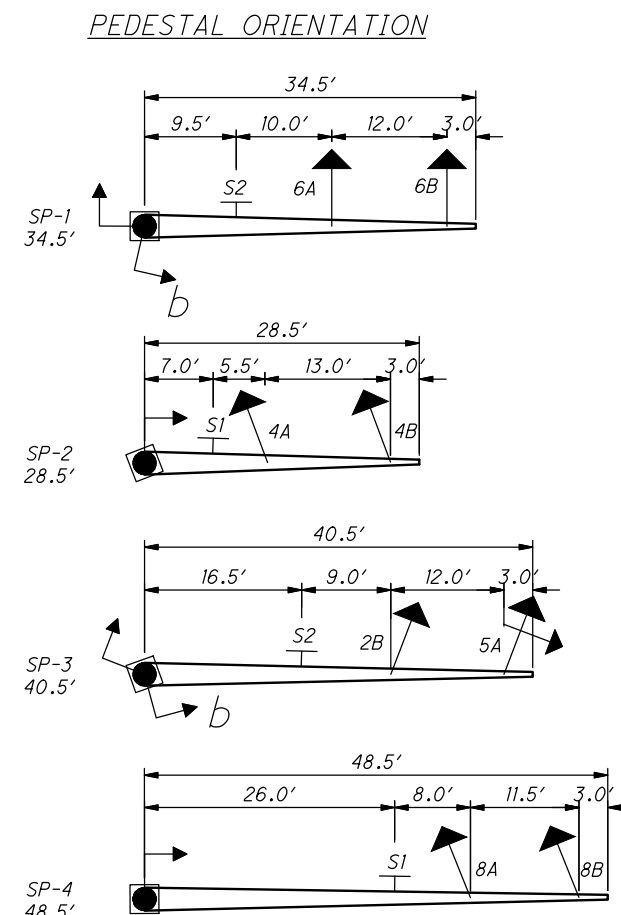
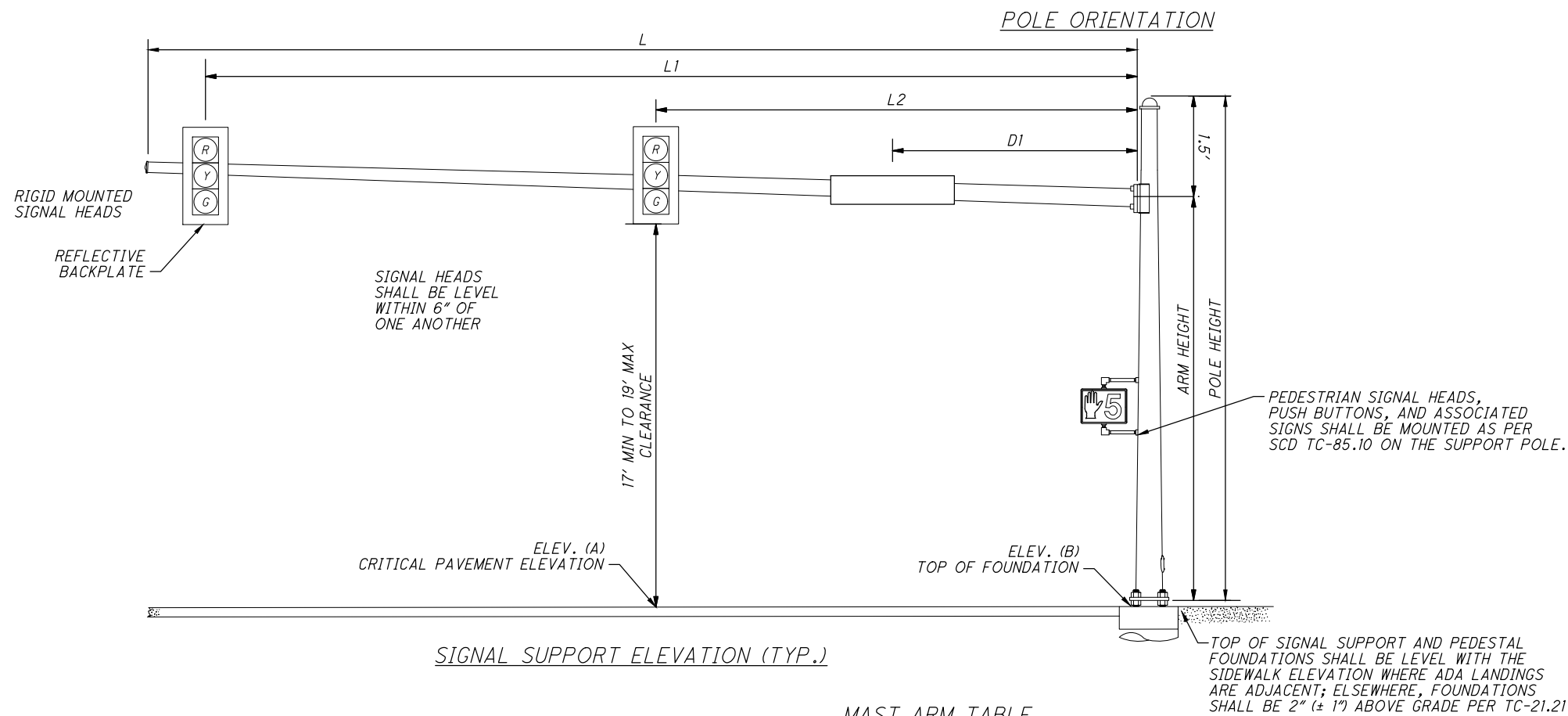
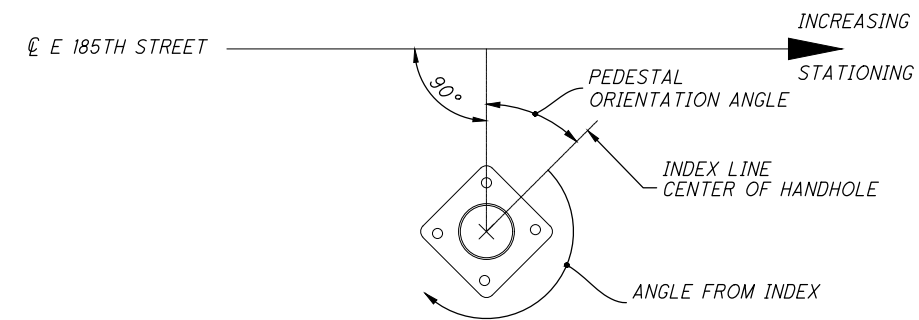
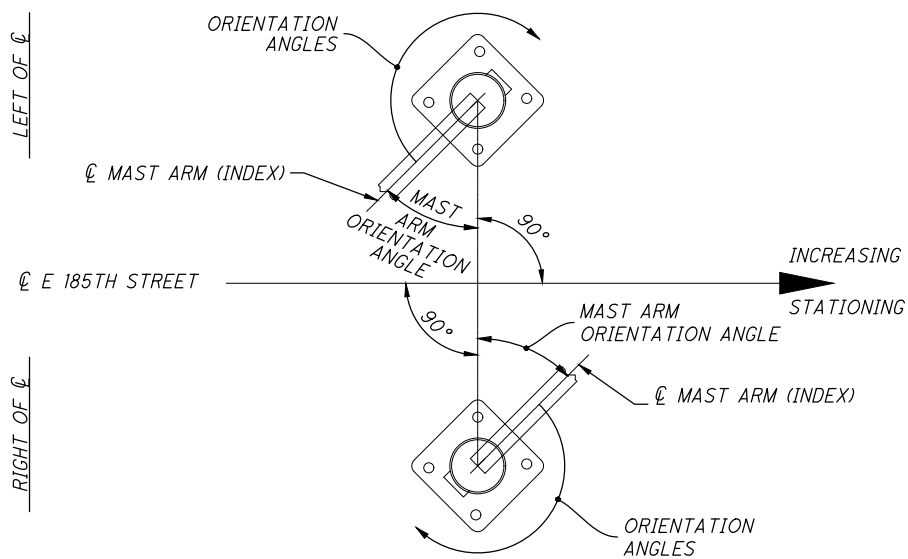
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SIGNAL TIMING CHART

TO BE PROVIDED BY THE CITY OF CLEVELAND

PHASING DIAGRAM

TO BE PROVIDED BY THE CITY OF CLEVELAND



SIGNAL SUPPORT ELEVATION (TYP.)

MAST ARM TABLE

SUPPORT NO.	STATION	OFFSET	ELEVATION		SIGNAL SUPPORT DETAILS											ORIENTATION ANGLES FROM MAST ARM									
			A (PAVEMENT ELEVATION)	B (TOP OF FOUNDATION)	DESIGN TYPE	DESIGN NO.	POLE HEIGHT	ARM HEIGHT	L	L1	L2	L3	D1	D2	D3	MAST ARM A ANGLE	MAST ARM B ANGLE	PEDESTRIAN SIGNAL	PEDESTRIAN PUSH BUTTON	POWER SERVICE	SIGNAL CABINET	BRACKET ARM	HANDHOLE	CABLE ENTRANCE 12" FROM TOP	
																									FT
SP-1	512+15.5	36.5' LT	596.72	596.78	TC-81.22	4	21.5	20.0	34.5	31.5	19.5	-	9.5	-	-	0	-	100/180	90	-	-	-	180	-	
SP-2	512+77.5	51.0' LT	595.40	596.08	TC-81.22	2	21.5	20.0	28.5	25.5	12.5	-	7.0	-	-	90	-	270	-	60	-	-	180	-	
SP-3	513+38.0	42.0' RT	595.13	595.67	TC-81.22	12	21.5	20.0	40.5	37.5	25.5	-	16.5	-	-	340	-	75/200	0	-	-	-	180	-	
SP-4	512+36.0	45.0' RT	595.43	596.76	TC-81.22	13	20.5	19.0	48.5	45.5	34.0	-	26.0	-	-	90	-	270	-	-	-	-	180	-	
PP-1	513+15.0	25.5' LT	-	-	-	-	8.0	-	-	-	-	-	-	-	-	-	-	75	180	-	-	-	180	-	
PP-2	512+04.0	37.5' RT	-	-	-	-	15.0	-	-	-	-	-	-	-	-	-	-	105	180	-	-	-	180	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

CALCULATED
AA
CHECKED
GM

TRAFFIC SIGNAL DETAILS
EAST 185TH STREET & VILLAVIEW ROAD

CUY-EAST 185TH STREET

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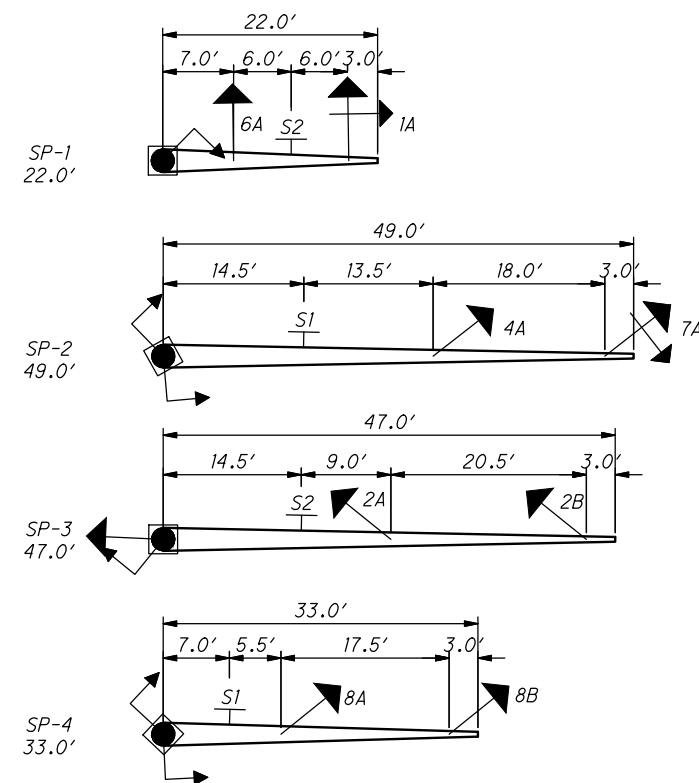
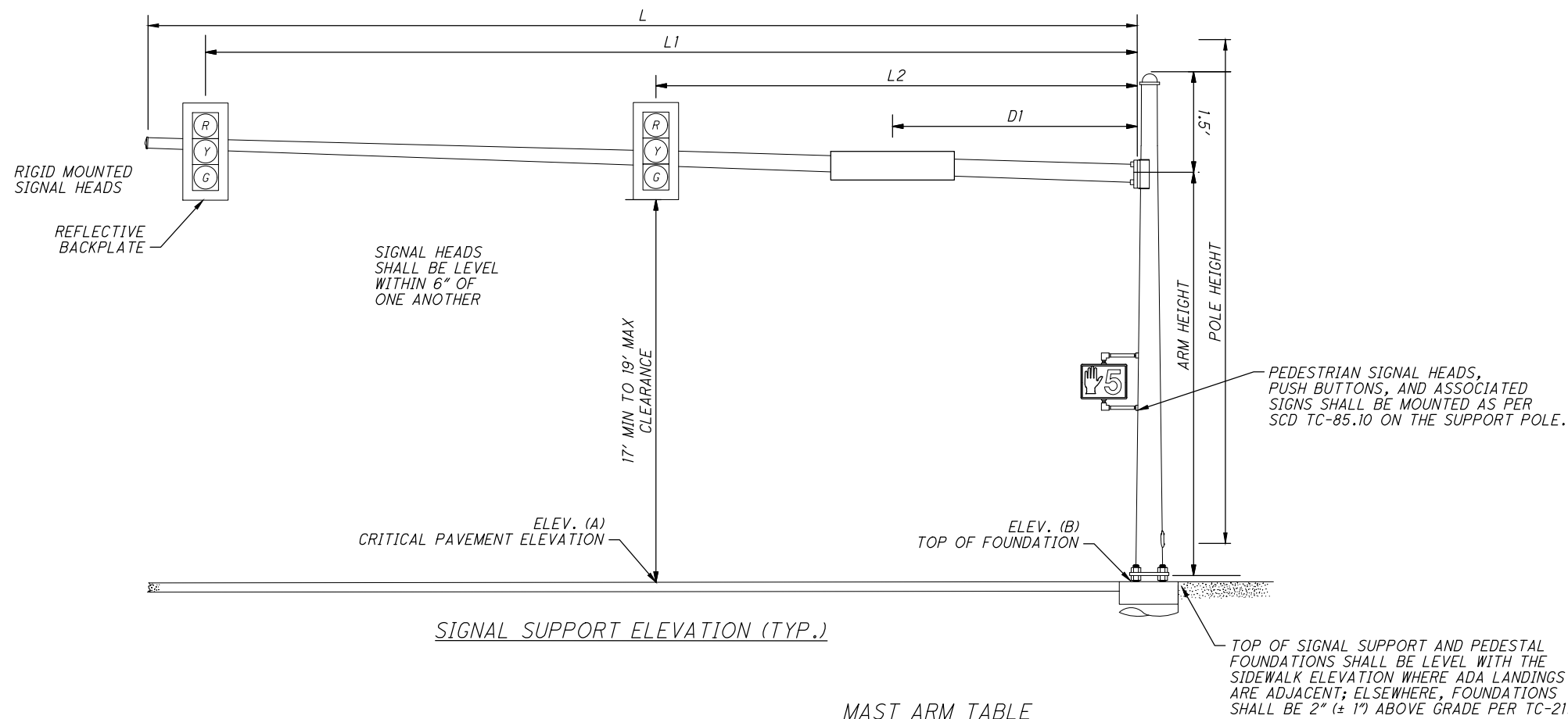
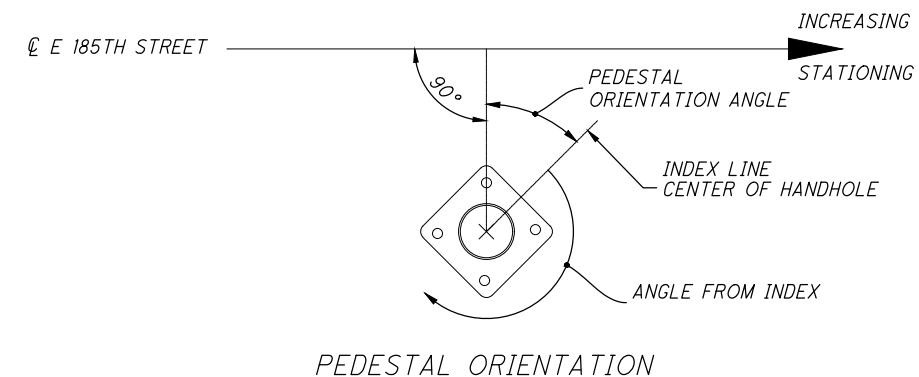
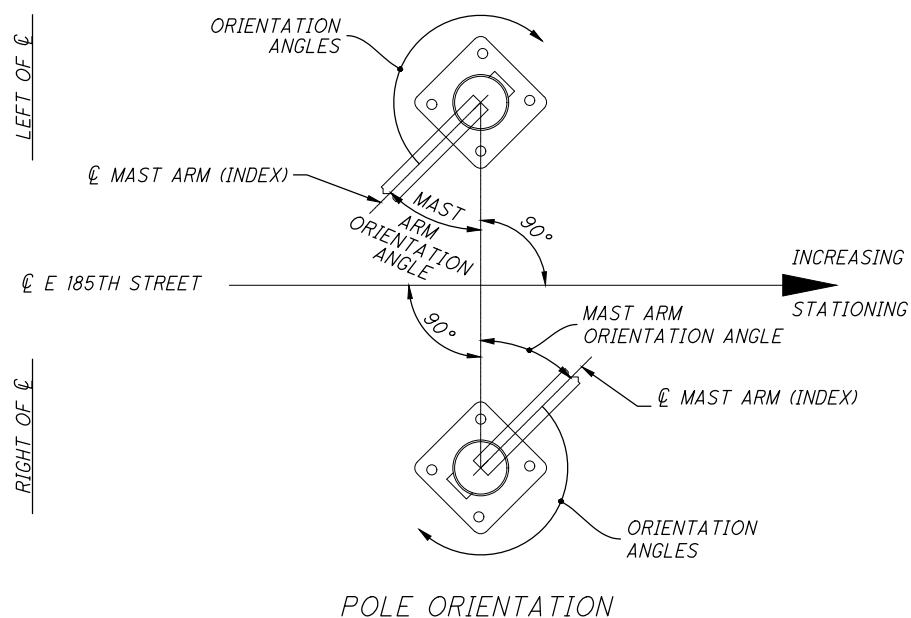
REF NO.	SHEET NO.	STATION TO STATION				632	632	632	632	632	632	632	632	632	632	633	633	633	809									
						SERVICE CABLE, 3 CONDUCTOR, NO. 6 AWG	POWER SERVICE, AS PER PLAN	CONDUIT RISER, 3" DIAMETER	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 2, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 4, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 12, AS PER PLAN	SIGNAL SUPPORT, TYPE TC-81.22, DESIGN 13, AS PER PLAN	PEDESTAL, 8', AS PER PLAN	PEDESTAL, 15', AS PER PLAN	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	SIGNALIZATION, MISC.: FOUNDATION TEST HOLE	SIGNALIZATION, MISC.: PLASTIC CAUTION TAPE	GPS (GLOBAL POSITIONING SYSTEM) CLOCK ASSEMBLY	CABINET, TYPE TS-2, AS PER PLAN	CABINET FOUNDATION	ATC V6.24 CONTROLLER							
PARTICIPATION CODE (ALL ITEMS): 05/ENH/PV																												
PS-1	197	523+64.10	LT	(NEFF ROAD)	51	1	1							1														
C-1	197	523+94.50	LT											1		1	1	1										
SP-1	197	524+05.00	LT				1							1														
SP-2	197	525+24.00	LT										1															
SP-3	197	524+18.00	RT									1																
SP-4	197	523+53.50	RT					1																				
PP-1	197	524+47.00	LT										1	1														
PP-2	197	524+33.00	RT										1															
	197	C-1	TO	PB-1																								
	197	PB-1	TO	PB-5																								
	197	PB-5	TO	SP-4																								
	197	PB-5	TO	PB-6																								
	197	PB-6	TO	SP-3																								
	197	PB-6	TO	PP-2																								
	197	PB-1	TO	PB-2																								
	197	PB-2	TO	PP-1																								
	197	PB-2	TO	PB-3																								
	197	PB-3	TO	SP-2																								
	197	PB-3	TO	PB-4																								
	197	C-1	TO	SIGNAL 1A																								
	197	C-1	TO	SIGNAL 2A																								
	197	C-1	TO	SIGNAL 2B																								
	197	C-1	TO	SIGNAL 4A																								
	197	C-1	TO	SIGNAL 4B																								
	197	C-1	TO	SIGNAL 6A																								
	197	C-1	TO	SIGNAL 7A																								
	197	C-1	TO	SIGNAL 8A																								
	197	C-1	TO	SIGNAL 8B																								
	197	C-1	TO	SIGNAL 8C																								
	197	C-1	TO	PED A-A																								
	197	C-1	TO	PED B-B																								
	197	C-1	TO	PED C-C																								
	197	C-1	TO	PED D-D																								
	197	C-1	TO	L1A & L1B																								
TOTALS CARRIED TO GENERAL SUMMARY					51	1	1	1	1	1	1	1	1	1	7	380	1	1	1	1								

SIGNAL TIMING CHART

TO BE PROVIDED BY THE CITY OF CLEVELAND

PHASING DIAGRAM

TO BE PROVIDED BY THE CITY OF CLEVELAND



MAST ARM TABLE

SUPPORT NO.	STATION	OFFSET	ELEVATION		SIGNAL SUPPORT DETAILS											ORIENTATION ANGLES FROM MAST ARM									
			A (PAVEMENT ELEVATION)	B (TOP OF FOUNDATION)	DESIGN TYPE	DESIGN NO.	POLE HEIGHT	ARM HEIGHT	L	L1	L2	L3	D1	D2	D3	MAST ARM A ANGLE	MAST ARM B ANGLE	PEDESTRIAN SIGNAL	PEDESTRIAN PUSH BUTTON	POWER SERVICE	SIGNAL CABINET	BRACKET ARM	HANDHOLE	CABLE ENTRANCE 12" FROM TOP	
																									FT
SP-1	524+05.0	23.5' LT	604.36	604.68	TC-81.22	2	21.5	20.0	22.0	19.0	7.0	-	13.0	-	-	0	-	315	-	90	-	-	180	-	
SP-2	525+24.0	33.0' LT	605.29	606.56	TC-81.22	13	20.5	19.0	49.0	46.0	28.0	-	14.5	-	-	90	-	85/225	-	-	-	-	180	-	
SP-3	524+18.0	34.5' RT	605.30	605.31	TC-81.22	12	21.5	20.0	47.0	44.0	23.5	-	14.5	-	-	50	-	130	-	-	-	-	180	-	
SP-4	523+53.5	37.0' RT	604.53	604.40	TC-81.22	4	21.5	20.0	33.0	30.0	12.5	-	7.0	-	-	90	-	90/225	-	-	-	-	180	-	
PP-1	524+47.0	36.5' LT	-	-	-	-	15.0	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	180	-	
PP-2	524+33.0	29.5' RT	-	-	-	-	8.0	-	-	-	-	-	-	-	-	-	-	140	-	-	-	-	180	-	

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**TRAFFIC SIGNAL DETAILS
EAST 185TH STREET & NEFF ROAD**

CUY-EAST 185TH STREET

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ITEM SPECIAL - BENCH TYPE A (WITH BACK)

THE BENCHES SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE DRAWINGS AND MANUFACTURER'S RECOMMENDED INSTALLATION. PAYMENT FOR THIS ITEM INCLUDES ALL EQUIPMENT, LABOR AND MATERIALS FOR SITE PREPARATION, SHOP DRAWINGS, MOUNTING HARDWARE, AND ANY OTHER INCIDENTAL WORK RELATING TO THE COMPLETE IN PLACE INSTALLATION OF THE BENCHES. THE CONTRACTOR MUST SUBMIT SHOP DRAWINGS TO PROJECT ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.

MOUNTING: SURFACE MOUNT
MATERIAL: POWDER COATED STEEL SLATS AND FRAME
DUCTILE IRON ARMS AND LEGS
LENGTH: 6'-0"
COLOR: BLACK
PROVIDE CENTER ARM REST

ALL STEEL AND IRON TO BE MADE IN THE USA WITH TRACEABLE ORIGIN IN COMPLIANCE WITH THE BUY AMERICA ACT AND ODOT CMS 106.09.

APPROVED BENCH MODELS AND MANUFACTURERS ARE AS SPECIFIED BELOW.

BASIS OF DESIGN:
MODEL CR-10 WITH CENTER ARM REST BY VICTOR STANLEY, INC. DUNKIRK, MD 20754, 1-800-368-2573

ALT 1:
MODEL 493 WITH CENTER ARMREST BY DUMOR, INC., P.O. BOX 142, MIFFLINTOWN, PA, 17059, 1-800-598-4018

ALT 2:
ARLINGTON BENCH WITH VERTICAL STRAP SEAT AND CENTER ARMREST BY SITESCAPES, INC. P.O. BOX 22326, LINCOLN, NE, 68542, 1-888-331-9464

THIS ITEM SHALL BE PAID ON A PER EACH BASIS.

ITEM SPECIAL - BENCH TYPE B (BACKLESS)

THE BENCHES SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE DRAWINGS AND MANUFACTURER'S RECOMMENDED INSTALLATION. PAYMENT FOR THIS ITEM INCLUDES ALL EQUIPMENT, LABOR AND MATERIALS FOR SITE PREPARATION, SHOP DRAWINGS, MOUNTING HARDWARE, AND ANY OTHER INCIDENTAL WORK RELATING TO THE COMPLETE IN PLACE INSTALLATION OF THE BENCHES. THE CONTRACTOR MUST SUBMIT SHOP DRAWINGS TO PROJECT ENGINEER FOR APPROVAL PRIOR TO INSTALLATION. APPROVED BENCH MODELS AND MANUFACTURERS/SALES REPRESENTATIVE ARE AS SPECIFIED BELOW.

MOUNTING: SURFACE MOUNT
MATERIAL: POWDER COATED STEEL SLATS AND FRAME
DUCTILE IRON ARMS AND LEGS
LENGTH: 6'-0"
COLOR: BLACK
PROVIDE CENTER ARM REST

ALL STEEL AND IRON TO BE MADE IN THE USA WITH TRACEABLE ORIGIN IN COMPLIANCE WITH THE BUY AMERICA ACT AND ODOT CMS 106.09.

APPROVED BENCH MODELS AND MANUFACTURERS ARE AS SPECIFIED BELOW.

BASIS OF DESIGN:
MODEL CR-5 WITH CENTER ARM REST
BY VICTOR STANLEY, INC. DUNKIRK, MD 20754,
1-800-368-2573

ALT 1:
WESTPORT BACKLESS BENCH WITH CAST IRON ENDS AND CENTER ARMREST BY SITESCAPES, INC. P.O. BOX 22326, LINCOLN, NE, 68542, 1-888-331-9464

ALT 2:
MODEL 494 WITH CENTER ARMREST BY DUMOR, INC., P.O. BOX 142, MIFFLINTOWN, PA, 17059, 1-800-598-4018

THIS ITEM SHALL BE PAID ON A PER EACH BASIS.

ITEM SPECIAL - GATEWAY TOTEM SIGN

THIS ITEM SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE DRAWINGS AND NOTES. PAYMENT FOR THIS ITEM INCLUDES ALL EQUIPMENT, LABOR, AND MATERIAL FOR SHOP DRAWINGS, SUBMITTALS, SITE PREPARATION, AND ANY OTHER INCIDENTAL WORK RELATING TO THE COMPLETE IN PLACE INSTALLATION OF THE GATEWAY TOTEM SIGN. CONTRACTOR TO SUBMIT ALL SUBMITTALS LISTED IN SIGNAGE NOTES TO PROJECT ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.

ALL STEEL AND IRON TO BE MADE IN THE USA WITH TRACEABLE ORIGIN IN COMPLIANCE WITH THE BUY AMERICA ACT AND ODOT CMS 106.09.

THIS ITEM SHALL BE PAID ON A PER EACH BASIS.

ITEM SPECIAL - DECORATIVE STREET BANNER

THIS ITEM SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE DRAWINGS AND NOTES. PAYMENT FOR THIS ITEM INCLUDES ALL EQUIPMENT, LABOR AND MATERIAL FOR SHOP DRAWINGS, SITE PREPARATION, SUBMITTALS, FASTENING STRIPS, METAL BANNERS, BOLTS, AND ANY OTHER INCIDENTAL WORK RELATING TO THE COMPLETE IN PLACE INSTALLATION OF THE DECORATIVE STREET BANNER. CONTRACTOR TO SUBMIT ALL SUBMITTALS LISTED IN SIGNAGE NOTES TO PROJECT ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.

ALL STEEL AND IRON TO BE MADE IN THE USA WITH TRACEABLE ORIGIN IN COMPLIANCE WITH THE BUY AMERICA ACT AND ODOT CMS 106.09.

THIS ITEM SHALL BE PAID ON A PER EACH BASIS.

ITEM SPECIAL - FABRICATION AND INSTALLATION OF PUBLIC ART

THIS ITEM SHALL COVER THE COST FOR THE FABRICATION AND INSTALLATION OF (1) PUBLIC ART WORK LOCATED ON E. 185TH STREET AT THE FOLLOWING LOCATION.

- STA. 533+90.62, OFFSET 20.00 LT

THE ARTIST WILL BE SELECTED BY THE CITY OF CLEVELAND AND LAND STUDIO. THE DESIGN OF THE ARTWORK IS NOT INCLUDED IN THIS PAY ITEM AND IS EXCLUDED FROM THIS CONTRACT.

THE CONTRACTOR'S BID ITEM SHALL INCLUDE COSTS TO BE ALLOCATED FOR THE ARTIST TO FABRICATE AND INSTALL THE PUBLIC ARTWORK. THIS ITEM SHALL INCLUDE THE FASTENERS (ANCHOR BOLTS OR OTHER MEANS OF ATTACHMENT), AS DESIGNED BY THE ARTIST, REQUIRED TO ATTACH THE PUBLIC WORK TO THE FOUNDATION.

THE DESIGN AND CONSTRUCTION OF THE FOUNDATION FOR THE PUBLIC ART WORK SHALL BE PAID FOR UNDER A SEPARATE PAY ITEM:
ITEM SPECIAL - PUBLIC ART FOUNDATION.

THERE IS AN ESTABLISHED BID ALLOWANCE FOR THIS ITEM IN THE AMOUNT OF \$26,000.

THIS ITEM IS FUNDED 100% LOCALLY. WRITTEN QUOTES FOR THE ARTISTS FABRICATION AND INSTALLATION OF THE PUBLIC ARTWORK CAN BE OBTAINED BY CONTACTING:

TARRA PETRAS
PUBLIC ART PROJECT COORDINATOR
CITY OF CLEVELAND
216.664.6740

VINCE REDDY,
PROJECT MANAGER
LAND STUDIO
216.621.5413, EXT. 107

PAYMENT FOR ACCEPTED QUANTITIES SHALL BE MADE AT THE CONTRACT PRICE FOR: ITEM SPECIAL - FABRICATION AND INSTALLATION OF PUBLIC ART (LUMP)

ALL STEEL AND IRON TO BE MADE IN THE USA WITH TRACEABLE ORIGIN IN COMPLIANCE WITH THE BUY AMERICA ACT AND ODOT CMS 106.09.

THIS ITEM SHALL BE PAID FOR ON A PER EACH BASIS.

ITEM SPECIAL - PUBLIC ART FOUNDATION

THIS ITEM SHALL INCLUDE THE FURNISHING AND INSTALLATION OF THE CONCRETE FOUNDATION FOR THE PUBLIC ART WORK. THIS ITEM SHALL INCLUDE BUT IS NOT LIMITED TO THE FOLLOWING:

- FOUNDATION TEST PIT TO VERIFY THERE ARE NO UTILITIES OR OTHER OBSTRUCTIONS.
- EXCAVATION TO THE REQUIRED DEPTH AND TO THE DIMENSIONS THAT ALLOWS FOR THE INSTALLATION OF THE FORM WORK.
- DISPOSAL OF EXCAVATED MATERIAL
- ALL NECESSARY FORMWORK
- FURNISHING AND PLACEMENT OF THE FOUNDATION TO THE DIMENSIONS AND SPECIFICATIONS INDICATED ON THE DETAIL DRAWINGS. ALL CONCRETE SHALL BE CLASS OCl.
- BACKFILL

ARTWORK ANCHORAGE SHALL BE EXCLUDED FROM THIS PAY ITEM AND INSTEAD INCLUDED IN THE FOLLOWING PAY ITEM:
• ITEM SPECIAL - FABRICATION AND INSTALLATION OF PUBLIC ART

THE CONTRACTOR SHALL COORDINATE WITH THE ARTISTS AS TO NOT DELAY THE PROJECT.

THE PUBLIC ART FOUNDATION SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE DETAILS AND DETAIL NOTES ON SHEET 217.

THIS ITEM SHALL BE PAID ON A PER EACH BASIS.

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CALCULATED
MSB
CHECKED
NSP

STREETSCAPE NOTES

CUY-EAST 185TH STREET

205
239