					SI	HEET NU	М.							PA	RT.		ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET	JLATED JJ CKED
16	17	18	19	23	38	39	40	41	42	147	148	149	01/ENH/PV	02/ENH/PV	03/NFP/PV	04/NFP/PV	11 [14]	EXT	TOTAL	UNII		NO.	CALCULA' RJJ CHECKE
LS													LS				201	11000	LS		ROADWAY CLEARING AND GRUBBING		-
						~							\										
						2,117)			70,115	1,890		1,047 70,022) 957 1,983	113		202	23001	2,117 72,005	SY	PAVEMENT REMOVED, AS PER PLAN WALK REMOVED, AS PER PLAN	16	_
					7,013					70,113	1,090		4,803	369	1,841		202 202	30001 32001	7,013	SF FT	CURB REMOVED, AS PER PLAN	16 16	-
							95	123					81	65	72		202	35100	218	FT	PIPE REMOVED, 24" AND UNDER		
							2	2					1		3		202	58100	4	EACH	CATCH BASIN REMOVED		_
							3	5					3	4	1		202	58101	8	EACH	CATCH BASIN REMOVED, AS PER PLAN	17	=
				4									4				202	67000	4		REGULATED UNDERGROUND STORAGE TANK REMOVED	23	
										LS			LS				202	98000	LS		REMOVAL MISC.: EXISTING STREETSCAPE ELEMENTS	142	
	12				LS										LS 12		202 202	98000 98100	LS 12	EACH	REMOVAL MISC.: SPRINKLER SYSTEM REMOVAL MISC.: POLE REMOVED, (WOOD OR METAL/CONCRETE)	17	-
	12														12		202	30100	12	LACIT		- 1'	-
					1										1		202	98100	1	EACH	REMOVAL MISC.: EMERGENCY PHONE STATION		1
									800				583	21	196		202	98300	800	SY	REMOVAL MISC.: PAVEMENT REMOVED FOR DRIVES	16	4
						231			10				191	43	7		203	10000	241	CY	EXCAVATION		┤ ≻
						425			13				320	103	15		203	20000	438	CY	EMBANKMENT		ַן אַ
						1,140			722				001	902	100		204	10000	1,873	ev	SURCDADE COMPACTION	_	∤ ≰
	2					1,140			733				881	803	189 2		204 204	10000 45000	1,873	SY HOUR	SUBGRADE COMPACTION PROOF ROLLING	17	Σ
	_														_								5
	LS												LS				511	81200	LS		CONCRETE, MISC.: BASEMENT VAULT RECONSTRUCTION	17	ุ ∣ เร
										49,766	2,956		51,557	803		362	608	10001	52,722	SF	4" CONCRETE WALK, AS PER PLAN	142	┤ ¨.
					4,012					10,100			3,502	96	414	002	608	52001	4,012	SF	CURB RAMP, AS PER PLAN	17	1 ₹
AM										17,049				17,049			608	98000	17,049	SF	WALKWAY, MISC.: CLAY PAVERS OVER CONCRETE BASE	142	ା ଝ
:32		2													2		623	38501	2	EACH	MONUMENT ASSEMBLY, AS PER PLAN	18	┨┈
					14										14		623	39501	14		MONUMENT AGGEMBET, AGT ERT EART MONUMENT BOX ADJUSTED TO GRADE, AS PER PLAN	18	
22] 5
- I		164										270	164	070			653	10000	164	CY	TOPSOIL FURNISHED AND PLACED TOPSOIL FURNISHED AND PLACED, AS PER PLAN (TREE PITS)	4.45	↓
4 ≥												376		376			653	10001	376	CY	TOPSOIL FURNISHED AND PLACED, AS PER PLAN (TREE PITS)	145	=
2																					EROSION CONTROL		
∳		2											2				659	00100	2		SOIL ANALYSIS TEST		_
2007		1,475 74											1,475 74				659 659	00500 14000	1,475 74	SY SY	SEEDING AND MULCHING, CLASS 1 REPAIR SEEDING AND MULCHING		-
9		74											74				659	15000	74	•	INTER-SEEDING		_
185		0.2											0.2				659	20000	0.2	TON	COMMERCIAL FERTILIZER]
25/6		0.3											0.3				659	31000	0.3	ACRE	LIME		-
2032		8											8				659	35000	8		WATER		=
,sms																							4
Ĭ E		LS LS											LS LS				832 832	15000 15002	LS LS		STORM WATER POLLUTION PREVENTION PLAN STORM WATER POLLUTION PREVENTION INSPECTIONS	18	-
00.5		LS											LS				832	15002	LS		STORM WATER POLLUTION PREVENTION INSPECTIONS STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE		1
COO		20,000											20,000				832	30000	20,000	EACH	EROSION CONTROL	18	7
@ <u>a</u>																					ENVIRONMENTAL / REMEDIATION		1
psor				100									100				SPECIAL	69065000	100	TON	WORK INVOLVING NON-REGULATED MATERIALS	23	
mor				300									300				SPECIAL	69065016	300	TON	WORK INVOLVING PETROLEUM CONTAMINATED SOIL	23	1 🔟
‡.[·]				2,000 8,000									2,000 8,000				SPECIAL SPECIAL	69065022 69065024	2,000 8,000	GAL GAL	WORK INVOLVING NON-REGULATED WATER WORK INVOLVING REGULATED WATER	23 23	<u> </u>
hae				0,000									0,000				OI LOIAL	03003024	5,000	- GAL	WORK INVOLVING NEGOCIALED WALLIN	23	⊣ 'თ
Ä																					DRAINAGE		∃ ₽
(919)			250		498								498	206	250		605	13410	748	FT	6" UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC		വ
5					4,123								2,242	226	1,655		605	14020	4,123	FT	6" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC		⊣ ∞
77			50		490								390	40	110		611	00510	540	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS] ⊨
ds2(325	520							602	243	611	04401	845	FT	12" CONDUIT, TYPE B, AS PER PLAN, 706.08 ES	19	AS
Ĕ							16	30					8		8	30	611 611	05900 10401	30 16	FT FT	15" CONDUIT, TYPE B 24" CONDUIT, TYPE B, AS PER PLAN	19	- ₩
000																					· · · · · · · · · · · · · · · · · · ·		╛
) 6							13	3							16		611	98631	16		CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN	20	∃ ວັ
rkir							11	11					8	3	11		611 611	98690 98700	22		CATCH BASIN, MISC.: CITY OF CLEVELAND CB-1 INLET, SIDE DITCH	20	+
× × ×								1							'	1	611	99582	1		MANHOLE, NO. 3 WITH 90" BASE I.D. AND 8" WEIR		$-\sqrt{34}$
							13	19							32		611	99655	32		MANHOLE ADJUSTED TO GRADE, AS PER PLAN	20	-1

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					SI	HEET NU	М.	•		_		•		PART.		ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET
	115	118	132	134	135	147	148						01/ENH/PV	02/ENH/PV	03/NFP/PV	11211	EXT	TOTAL	01121		NO.
																	70404		- A O. I.	TRAFFIC CONTROL	404
	70			4									4	4		630	79101	4	EACH	SIGN HANGER ASSEMBLY, MAST ARM, AS PER PLAN	131
	79			.									69	1 7 4	9	630	79500	79		SIGN SUPPORT ASSEMBLY, POLE MOUNTED	
4	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	404
+				4									4			630	80511	4	EACH	SIGN, STREET NAME, AS PER PLAN	131
-															20	630	83000	20	SF	COVERING OF SIGN	
-	64										<u> </u>		52		12	630	84900	64		REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
-	2												2		12	630	85100	2		REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
\dashv	43										-		33		10	630	86002	43		REMOVAL OF GROUND MOUNTED SIGN AND REERLESTION REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
+	86										 		69		17	630	87500	86		REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	
1															.,,		0.000		2,1011	TEMOVIE OF FOLL MODITIES GIOLVILLS SIGN COME	
T	12												5		7	630	87520	12	EACH	REMOVAL OF POLE MOUNTED SIGN AND REERECTION	
1	1												1			630	89702	1		REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL	
T			2										2			630	97700	2		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		STOP LINE	
_		1,840											1,672		168	644	00620	1,840	FT	CROSSWALK LINE, 12"	
4																				ODOCCIMALIA IN F. O. III. (I. ADDED OT) (I. E.)	
4		336					<u> </u>	.				.	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											4			644	01300	4		LANE ARROW	
+		316											316		44	644	01500	316		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
1						1,100	110						1,210			047	00110	1,210		1770 EMERT MANUALTO, MIGG. BEGGTOTTVE GROSSTWEET	172
1																				TRAFFIC SIGNALS	
			138										138			625	25408	138~	FF	CONDUIT, 24, 725.051	
T				530									530			625	25504	530		CONDUIT, 3", 725.051	
			59	125									184			625	29000	184	\EI\	TRENCH / / / / / / / / / / / / / / / / / / /	$\overline{}$
T			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
4				1									1			625	30530	1		PULL BOX, 725.06, SIZE 18	130
	1		2										3			625	32000	3		GROUND ROD	
				7									5	2		625	32001	7	EACH	GROUND ROD, AS PER PLAN	131
_				12									12			632	05007	12		VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN	129
				8			.						8			632	20731	8		PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN	129
				12									12			632	25000	12		COVERING OF VEHICULAR SIGNAL HEAD	
+				8									8			632	25010 26001	8		COVERING OF PEDESTRIAN SIGNAL HEAD PEDESTRIAN PUSHBUTTON, AS PER PLAN	400
-				4									4			632	20001	4	EACH	FEDES I RIAIN FOSHBOTTON, AS FER FLAIN	128
-			73	597									670			632	40300	670	FT	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG	
-			13	1,150			1	1	1	1	 	1	1,150	 		632	40500	670 1,150		SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	
\dashv				1,130			†	1	1	+	 	1	1,130	 		632	40700	1,130		SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
+				4	1				1	1	†		4			632	64011	4		SIGNAL SUPPORT FOUNDATION, AS PER PLAN	129
+	1		2	2						1			5			632	64020	5		PEDESTAL FOUNDATION	128
\dagger				 						1			T Č				51020			· · · • · · · · · · · · · · · ·	
\dagger			146		49					1	1		195			632	68300	195	FT	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG	
十					197					1	1		197			632	69700	197		SERVICE CABLE, 3 CONDUCTOR, NO. 8 AWG	
1			1		1					1	1		2			632	70001	2		POWER SERVICE, AS PER PLAN	129
T			1							1	1		1			632	70400	1	EACH	CONDUIT RISER, 2" DIAMETER	
Ţ					1								1			632	70600	1	EACH	CONDUIT RISER, 3" DIAMETER	
_					1								1			632	80203	1	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 2, AS PER PLAN	129
					1								1			632	80403	1		SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 4, AS PER PLAN	129
Ι					1								1			632	80603	1		SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 12, AS PER PLAN	129
					1								1			632	80621	1		SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 13, AS PER PLAN	129
\perp					1		_			1			1			632	89601	1	EACH	PEDESTAL, 8', AS PER PLAN	130
\perp										1	_		<u> </u>				00=5	<u> </u>		DEDECTAL 45	
				-				1	I		I	I	1	I	1	632	89750	1	EACH	PEDESTAL, 15'	
	1				1		1	1					1			632	89751			PEDESTAL, 15', AS PER PLAN	130

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1		-		1		SHEE	T NUM.	1	I			I	1	PA	KI.	T	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEE
1	6	25	27	28	132	134	135	146	147	148	149		01/ENH/PV	02/ENH/PV	03/NFP/PV	04/NFP/PV		EXT	TOTAL			NO.
1							_										000	00400	7	EAGU		400
1 1 1 1 1 1 1 1 1 1					400								/								·	129
1					138			<u> </u>	$V \sim$	× ×	V V		V45/ V	~ ~	\wedge \wedge \wedge	V V \			45/~			128
						\downarrow		l	.			.	1						1			. 400
1							_						1									130
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1							1						1				633	67200	1	EACH	CONTROLLER WORK PAD	
1							.			ļ												
1							1						1				809	69122	1	EACH	ATC CONTROLLER	
1							<u> </u>															
1																						
10																					,	146
											133			133			661	14001	133	EACH	. ,	146
1											80			80			661	14001	80		,	146
1											280			280			661	14001	280	EACH	PERENNIALS, AS PER PLAN (SPOROBOLUS HETEROLEPIS 'TARA')	146
1											8			8			661	20041	8	EACH	DECIDUOUS SHRUB, 2' HEIGHT, AS PER PLAN (PRUNUS LAUROCERASUS 'OTTO LUYKEN')	146
1																						
1											13			13			661	40081	13	EACH	DECIDUOUS TREE, 2" CALIPER, AS PER PLAN (MAACKIA AMURENSIS)	146
1											11			11			661	40081	11	EACH	DECIDUOUS TREE, 2" CALIPER, AS PER PLAN (PLATANUS X ACERIFOLIA 'BLOODGOOD')	146
1											4			4			661	40081	4	EACH		146
1											39			39			661	40081	39		DECIDUOUS TREE, 2" CALIPER, AS PER PLAN (SYRINGA RETICULATA 'IVORY SILK')	146
1											3			3			661	40081	3	EACH	DECIDUOUS TREE, 2" CALIPER, AS PER PLAN (TILIA CORDATA 'GREENSPIRE')	146
10 10 10 10 10 10 10 10																						
10											29			29			661	40081	29	EACH	DECIDUOUS TREE, 2" CALIPER, AS PER PLAN (ZELKOVA SERRATA 'CITY SPRITE')	146
BST											48			48			661	99900	48	EACH	PLANTING, MISC.: EXISTING TREE CARE	146
BST								10						10			661	99900	10	EACH	PLANTING, MISC.: TREE REPLACEMENT	146
											651			651			661	99930	651			146
9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9											4,516			4,516			661	99950	4,516	FT	PLANTING, MISC.: ROOT BARRIER	146
9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9																						
1									14					14			SPECIAL	68014550	14	EACH	TRASH RECEPTACLE	143
1																						
									9					9			SPECIAL	69050560	9	EACH	BICYCLE RACK	143
7 7 8 7 8 7 8 8 8 8									7					7			SPECIAL	69098000	7	EACH	BENCH TYPE A	143
1 1 1 1 1 1 1 1 1 1									7					7					7			143
									1					1								144
2 SPECIAL 60098000 2 EACH FIONE TABLE 10									34	6				40								144
Name																						
150										2						2	SPECIAL	69098000	2	EACH	PICNIC TABLE	144
150																						
150																					MAINTENANCE OF TRAFFIC	
150		150													150		614	11110	150	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
LS LS B14 18002 LS MANITAINING TRAFFIC MISC.: MAINTENANCE OF TRAFFIC SIGNAL INSTALLATIONS		150													150		614	11130	150	HOUR	LAW ENFORCEMENT OFFICER FOR ASSISTANCE	
32		150													150		614	13000	150	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
0.12 0.12 0.12 0.12 0.12 0.12 0.12 0.12 0.12 0.12 0.12 0.12 0.12 0.12 0.14						LS							LS				614	18002	LS		MAINTAINING TRAFFIC, MISC.: MAINTENANCE OF TRAFFIC SIGNAL INSTALLATIONS	128
0.74			32												32		614	18601	32	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	27
1.96				0.12											0.12		614	21000	0.12	MILE	WORK ZONE CENTER LINE, CLASS I	
1.96																						
1.18		0.74													0.74		614	21550	0.74	MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT	
1.18				1.96											1.96		614	22000	1.96		, ,	
1,000				0.72											0.72		614	22000	0.72	MILE	WORK ZONE EDGE LINE, CLASS I, 4" (YELLOW)	
1,000 1,000 614 23680 1,000 FT WORK ZONE CHANNELIZING LINE, CLASS III, 8", 642 PAINT 400 614 24600 400 FT WORK ZONE DOTTED LINE, CLASS III, 4", 642 PAINT 250 614 24610 250 FT WORK ZONE DOTTED LINE, CLASS III, 4", 642 PAINT 266 614 26600 266 FT WORK ZONE STOP LINE, CLASS II, 4", 642 PAINT 266 614 26610 300 FT WORK ZONE STOP LINE, CLASS II, 642 PAINT 266 614 26610 300 FT WORK ZONE STOP LINE, CLASS II, 642 PAINT 266 616 26610 300 FT WORK ZONE STOP LINE, CLASS II, 642 PAINT 266 616 26610 300 FT WORK ZONE STOP LINE, CLASS II, 642 PAINT 26610 266 FT WORK ZONE STOP LINE, CLASS II, 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS II, 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS II, 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS II, 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS II, 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS II, 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS II, 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS II, 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS II, 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS III, 6", 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS III, 6", 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS III, 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS III, 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS III, 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS III, 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS III, 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS III, 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS III, 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS III, 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS III, 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS III, 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS III, 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS III, 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS III, 642 PAINT 266 FT WORK ZONE STOP LINE, CLASS III, 642 PAINT 266 FT WORK ZONE STOP LIN		1.18													1.18		614	22350	1.18	MILE	WORK ZONE EDGE LINE, CLASS III, 4", 642 PAINT (WHITE)	
400 400 400 614 24000 400 FT WORK ZONE DOTTED LINE, CLASS II 47, 642 PAINT 250 614 24610 250 FT WORK ZONE DOTTED LINE, CLASS II 47, 642 PAINT 266 614 26600 266 FT WORK ZONE STOP LINE, CLASS II 47, 642 PAINT 266 614 26610 300 FT WORK ZONE STOP LINE, CLASS II 642 PAINT 26610 300 FT WORK ZONE STOP LINE, CLASS III, 642 PAINT 26610 300 TONE ZONE STOP LINE, CLASS III, 642 PAINT 26610 300 TONE ZONE ZONE ZONE ZONE ZONE ZONE ZONE Z				400											400		614	23000	400	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 8"	L
400 400 400 514 24000 400 FT WORK ZONE DOTTED LINE, CLASS II 4*, 642 PAINT 250 514 24610 250 515 WORK ZONE STOP LINE, CLASS II 4*, 642 PAINT 266 614 26600 266 FT WORK ZONE STOP LINE, CLASS II 4*, 642 PAINT 266 614 26610 300 FT WORK ZONE STOP LINE, CLASS II 642 PAINT 26610 300 FT WORK ZONE STOP LINE, CLASS III, 642 PAINT 26610 26610 266 FT WORK ZONE STOP LINE, CLASS III, 642 PAINT 26610 266																						
250		1,000													1,000		614	23680	1,000	FT	WORK ZONE CHANNELIZING LINE, CLASS III, 8", 642 PAINT	
266				400											400		614	24000	400	FT	WORK ZONE DOTTED LINE, CLASS I	
300 300 614 26610 300 FT WORK ZONE STOP LINE, CLASS III, 642 PAINT 13		250													250		614	24610	250			
13				266											266		614	26000	266	FT	WORK ZONE STOP LINE, CLASS I	
3		300													300		614	26610	300	FT	WORK ZONE STOP LINE, CLASS III, 642 PAINT	
3																						
		13											13				616	10000	13			
LS 614 11001 LS MAINTAINING TRAFFIC, AS PER PLAN B 619 16010 8 MNTH FIELD OFFICE, TYPE B B LS 623 10001 LS CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN		3											3				616	20000	3	TON	CALCIUM CHLORIDE	
8 619 16010 8 MNTH FIELD OFFICE, TYPE B LS 623 10001 LS CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN																						
LS 623 10001 LS CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN													LS				614	11001	LS		MAINTAINING TRAFFIC, AS PER PLAN	24
LS 623 10001 LS CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN																						
													8				619	16010	8	MNTH	FIELD OFFICE, TYPE B	
				1																		
LS 624 10000 LS MOBILIZATION							1	1	1				18				623	10001	LS	I	CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN	23
LS 624 10000 LS MOBILIZATION													LO									
																		10000	LS		MOBILIZATION	

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								202	203	203	204	254	254	255	301	305 <u>C</u>	304	407	407	441	441	441	452 ш	638	638	638	638	638	638
REF NO.	SHEET NO.		STATION	TO STA	ATION		PARTICIPATION CODE	'AVEMENT REMOVED, AS PER PLAN	EXCAVATION	EMBANKMENT	SUBGRADE COMPACTION	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (T = 2")	PAVEMENT PLANING, PORTLAND CEMENT CONCRETE (T = 2")	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS QC1, AS PER PLAN	ASPHALT CONCRETE BASE, PG64-22 (T = 4")	CONCRETE BASE, CLASS QC 1P	AGGREGATE BASE, AS PER PLAN (T = 6")	TACK COAT, 702.13	NON-TRACKING TACK COAT	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG70-22M (T = 1.5")	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), AS PER PLAN, PG64-22 (T = 1")	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), AS PER PLAN, PG64-22 (LEVELING)	NON-REINFORCED CONCRET PAVEMENT, CLASS QC 1P	' FIRE HYDRANT, AS PER PLAN	FIRE HYDRANT REMOVED, AS PER PLAN	VALVE BOX ADJUSTED TO GRADE	WATER WORK, MISC.: WATER METER VAULT ADJUSTED TO GRADE	WATER WORK, MISC.: WATER MANHOLE ADJUSTED TO GRADE	SERVICE BOX ADJUSTED TO GRADE
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THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC SIGNAL INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

EXISTING SIGNAL DEVICES - THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL TRAFFIC SIGNAL DEVICES ONCE ANY PROJECT SIGNAL WORK HAS STARTED. IF, IN THE COURSE OF WORK, THE GENERAL CONTRACTOR OR ANY PROJECT SUBCONTRACTOR CAUSED DAMAGE TO ANY EXISTING TRAFFIC SIGNAL DEVICE, THEN THE CONTRATOR. AT THE CONTRACTOR'S COST. SHALL REPAIR AND/OR REPLACE THE DAMAGED DEVICE TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXISTING SIGNAL DEVICES FROM THE TIME HIS OPERATIONS FIRST DISTURB THE INSTALLATION UNTIL THE INSALLATION HAS BEEN SUBSEQUENTLY REMOCED OR MODIFIED AND THE WORK ACCEPTED.

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NEW OR REUSED SIGNAL/FLASHER INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPOSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. THE CONTRACTOR SHALL PROVIDE THE CITY OF CLEVELAND AND THE ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE THE CONTRACTOR'S MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT THE OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM THE OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK TO SERVICE WITHIN TWO (2) HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE. IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE, ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN EIGHT (8) HOURS AFTER THE CONTRACTOR'S NOTIFICATION OF THE OUTAGE, THE CONTRACTOR SHALL ARRANGE FOR FULL TRAFFIC CONTROL UNTIL THE SIGNAL IS BACK IN OPERATION.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED 8-HOUR PERIOD. AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON THEREAFTER AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUCTED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. THAT IS, WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT, THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY COMPENSATION FOR THE WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

WHERE THE CONTRACTOR HAS FAILED TO, OR CANNOT RESPOND TO, AND OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE OR THE CITY OF UPPER ARLINGTON FOR POLICE SERVICES AND MAINTENANCE SERVICES BY CITY FORCES SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE REVISIONS OF THE SIGNAL SYSTEM.

ITEM 614 - MAINTAINING TRAFFIC, MISC.: MAINTENANCE OF TRAFFIC SIGNAL INSTALLATIONS (CONTINUED)

SIGNAL MUST BE TAKEN OUT O THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED EIGHT (8) HOURS AND SHALL NOT INCLUDE THE HOURS OF 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM. ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED, BY THE CONTRACTOR, BY THE INSTALLATION OF TEMPORARY

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.25.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

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

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

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

SIGNAL ACTIVATION

PRIOR TO ACTIVATING THE NEW TRAFFIC SIGNAL TO STOP-AND-GO MODE AND/OR REMOVING THE EXISTING TRAFFIC SIGNAL FROM SERVICE, ALL ITEMS IN THE PROPOSED SIGNAL PLAN SHALL BE FULLY COMPLETED, (I.E., VEHICLE DETECTION, PEDESTRIAN SIGNAL HEADS, ETC.) IF THERE ARE CONSRUCTABILITY ISSUES (I.E., CURB RAMP INSTALLATION, ETC.) THAT PREVENT THE SIGNAL FROM BEING COMPLETED PRIOR TO ACTIVATION, IT SHALL BE BROUGHT TO THE ATTENTION OF ANDREW CROSS, CITY OF CLEVELAND TRAFFIC ENGINEER. THE TRAFFIC ENGINEER WILL THEN REVIEW, APPROVE OR REJECT PROPOSALS TO ACTIVATE THE TRAFFIC SIGNAL PRIOR TO COMPLETION.

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND TRAFFIC ENGINEER AT LEAST TEN (10) WORKING DAYS PRIOR TO SCHEDULING THE FINAL INSPECTION OF THE SIGNAL INSTALLATION. FINAL INSPECTION IS NOT CONSIDERED COMPLETE UNTIL DESIGNATED CITY OF CLEVELAND PERSONNEL INSPECT THE TRAFFIC SIGNAL AND ISSUES WRITTEN APPROVAL. IF ISSUES ARE FOUND DURING THE FINAL INSPECTION THAT EFFECT THE SAFETY OF THE INTERSECTION, THE SIGNAL SHALL NOT BE ACTIVATED ON THE PROPOSED DATE. ANY PUNCH LIST ITEMS THAT ARE FOUND SHALL BE CORRECTED AND RE-INSPECTED BY CITY OF CLEVELAND PERSONNEL PRIOR TO FINAL ACCEPTANCE. CITY FORCES SHALL ONLY ASSUME DAY TO DAY MAINTENANCE OF THE TRAFFIC SIGNAL AFTER FINAL WRITTEN ACCEPTANCE HAS BEEN ISSUED.

WORK INSPECTION

THE CONTRACTOR SHALL PROVIDE THE PROJECT ENGINEER WITH 72 HOUR NOTICE OF ANY SIGNAL WORK TO BE PERFORMED AT THE INTERSECTION SITE(S) SO THAT INSPECTION SERVICES CAN BE SUPPLIED.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 120 DAYS FOLLOWING COMPLETION OF THE 10-DAY PERFORMANCE TEST. IN THE EVENT OF UNSATISFACTORY OPERATION THE CONTRACTOR SHALL CORRECT FAULTY INSTALLATIONS, MAKE REPAIRS AND REPLACE DEFECTIVE PARTS WITH NEW PARTS OF EQUAL OR BETTER QUALITY.

EQUIPMENT, MATERIAL AND LABOR COSTS INCURRED IN CORRECTING AN UNSATISFACTORY OPERATION SHALL BE BORNE BY THE CONTRACTOR.

THE COST OF GUARANTEEING THE TRAFFIC CONTROL SYSTEM WILL BE INCIDENTAL TO AND INCLUDED IN THE CONTRACT UNIT PRICE OF THE VARIOUS ITEMS MAKING UP THE SYSTEM.

ITEM 632 - REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN

TRAFFIC SIGNAL INSTALLATIONS, INCLUDING SIGNAL HEADS, CABLE, MESSENGER WIRE, STRAIN POLES, PULL BOXES, INTERCONNECT, ETC., SHALL BE REMOVED IN ACCORDANCE WITH CMS 632.26 AND AS INDICATED ON THE PLANS.

THE CONTRACTOR IS TO RETURN ALL EXISTING SIGNAL ITEMS NOTED FOR SALVAGE, INCLUDING, BUT NOT LIMITED TO, CONTROLLER CABINET AND COMPONENTS, SIGNAL HEADS, SIGNAL POLES, PEDESTRIAN SIGNA HEADS, SIGNS, PUSHBUTTONS, PULL BOXES AND PEDESTAL POLES. ITEMS SHALL BE DELIVERED TO THE CITY OF CLEVELAND TRAFFIC SIGNAL SHOP, 4150 E. 49TH STREET. CONTRACTOR SHALL PROVIDE AT LEAST 48 HOURS NOTICE TO ANDREW CROSS. TRAFFIC ENGINEER AT (216) 664-3197 PRIOR TO DELIVERY OF SALVAGED ITEMS.

IN THE EVENT THE ITEMS STORED ON THE PROJECT FOR SALVAGE BY THE CITY OF CLEVELAND ARE NOT REMOVED. THE CONTRACTOR SHALL, WHEN DIRECTED BY THE ENGINEER IN WRITING, REMOVE AND DISPOSE OF THE ITEMS AT NO ADDITIONAL COST TO THE PROJECT.

THIS ITEM INCLUDES REMOVAL OF THE EXISTING TRAFFIC SIGNAL AT THE FOLLOWING INTERSECTION:

E. 185TH ST. AT LAKESHORE BLVD.

TRENCH

ALL TRENCHING SHALL CONFORM TO SECTIONS 625.13 AND 625.20 OF THE ODOT CMS. THE MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO REMOVE AND REPLACE PAVED SURFACES IN AREAS OUTSIDE OF PROPOSED WORK SHALL BE INCLUDED IN THE BID QUANTITY FOR TRENCH IN PAVED AREAS, TYPE A OR TYPE B, AS DEFINED IN ODOT CMS 625.13.

WHEN TRENCHING OPERATIONS PASS THROUGH OR INTO CONCRETE CURB AND GUTTER, THE CONCRETE CURB AND GUTTER SHALL BE REMOVED AND REPLACED UP TO THE CONSTRUCTION JOINT ON EACH SIDE OF THE TRENCH. WHEN TRENCHING OPERATIONS PASS INTO OR THROUGH A BLOCK OF SIDEWALK, THE ENTIRE BLOCK OF SIDEWALK SHALL BE REMOVED AND REPLACED. WHEN TRENCHING OPERATIONS PASS INTO OR THROUGH A DRIVEWAY APPROACH, THE DRIVEWAY APPROACH SHALL BE REMOVED AND REPLACED TO THE NEAREST EXISTING CONSTRUCTION JOINT ON EACH SIDE OF THE TRENCH.

<u>UNDERGROUND CONDUIT INSTALLATION</u>

THIS PROJECT INCLUDES CONSTRUCTION OF UNDERGROUND CONDUIT IN LOCATIONS THAT CONTAIN NUMEROUS EXISTING UNDERGROUND FACILITIES. IF A UTILITY CONFLICT IS IDENTIFIED THE CONTRACTOR SHALL REPOSITION THE CONDUIT TO AVOID SAID CONFLICT WITH THE APPROVAL OF THE ENGINEER. NO ADDITIONAL COMPENSATION SHALL BE AWARDED FOR ADDITIONAL WORK REQUIRED.

ITEM 632 - SIGNALIZATION, MISC.: PLASTIC CAUTION TAPE

THE LOCATION OF THE CONDUIT IN THE TRENCH SHALL BE MARKED BY THE USE OF A CONTINUOUSLY IDENTIFYING TAPE BURIED IN THE TENCH ABOVE THE CONDUIT LINE. THE IDENTIFYING TAPE SHALL BE AN INERT MATERIAL APPROXIMATELY 6 INCHES WIDE COMPOSED OF POLYETHYLENE PLASTIC AND SHALL BE HIGHLY RESISTANT TO ALKALIS, ACIDS, OR OTHER CHEMICAL COMPONENTS LIKELY TO BE ENCOUNTERED IN SOILS. THE TYPE SHALL BE RED WITH THE WORDS "ELECTRIC LINE BURIED BELOW" PRINTED IN BLACK LETTERING ON ONE SIDE ONLY. IT SHALL BE SUPPLIED IN CONTINUOUS ROLLS WITH THE IDENTIFYING LETTERS REPEATED FOR THE FULL LENGTH OF THE TAPE. THE CONTRACTOR SHALL BURY THE TAPE IN THE TRENCH WITH ONE STRIP PLACED APPROXIMATELY DOWN THE CENTERLINE AND 8 INCHES TO 12 INCHES BELOW THE FINAL GRADE.

IT SHALL BE PLACED IN THE TRENCH WITH THE PRINTED SIDE UP AND SHALL BE ESSENTIALLY PARALLEL TO THE FINISHED SURFACE. THE CONTRACTOR SHALL TAKE ANY NECESSARY PRECAUTIONS TO ENSURE THE TAPE IS NOT PULLED, DISTORTED, OR OTHERWISE MISPLACED IN COMPLETING THE TRENCH BACKFILLING. THE TAPE SHALL BE "TERRA TAPE", "ALLEN SYSTEM'S", OR APPROVED EQUAL BY THE ENGINEER IN $\Delta DV\Delta NCF$

ITEM 632 - PEDESTRIAN PUSH BUTTON. AS PER PLAN

IN ADDITION TO CMS ITEM 632 AND 732, THE PUSHBUTTON SHALL BE POLARA BULLDOG, PELCO SE-2005-08, OR APPROVED EQUAL PRESSURE ACTIVATED ADA COMPLIANT PEDESTRIAN PUSHBUTTON. THE FOLLOWING SHALL ALSO

- PUSH BUTTON MUST BE HIGHLY VANDAL RESISTANT AND PRESSURE ACTIVATED WITH ESSENTIALLY NO MOVING PARTS. BUTTON MUST BE ABLE TO WITHSTAND AN IMPACT FROM A BASEBALL BAT OR HAMMER.
- BUTTON HOUSING MUST BE CAST ALUMINUM POWDER COATED.
- 3. BUTTON CAP MUST BE MADE OF 316 STAINLESS STEEL. SWITCH MUST BE SOLID STATE ELECTRONIC PIEZO SWITCH RATED FOR 100 MILLION CYCLES WITH NO MOVING PLUNGER OR MOVING ELECTRICAL CONTACTS.
- BUTTON MUST BE ACTIVATED WITH 3 LBS. OF FORCE OR LESS.
- BUTTON MUST HAVE LED TO GIVE INDICATION OF BUTTON BEING PUSHED.
- BUTTON MUST GIVE A TWO-TONED BEEP INDICATION OF BUTTON BEING PUSHED (ONE TONE FOR PUSH, ONE TONE FOR RELEASE)
- 8. BUTTON MUST HAVE BUILT IN SURGE PROTECTION BUTTON MUST BE ABLE TO HOLD THE CALL FOR A MINIMUM OF 5 SECONDS.
- BUTTON MUST OPERATE IMMEDIATELY AFTER BEING PUSHED COMPLETELY IMMERSED IN WATER FOR 5 MINUTES. 11. BUTTON MUST NOT BE ABLE TO ALLOW ICE TO FORM SUCH THAT IT WOULD IMPEDE FUNCTION OF BUTTON OR BUTTON CAP.
- ALL SWITCH ELECTRONICS MUST BE SEALED WITHIN THE CAST ALUMINUM HOUSING.
- 13. TOTAL DEPTH OF BUTTON, FROM FACE OF BUTTON CAP TO BACK OF BUTTON TERMINAL, MUST BE LESS THAN 1.75 INCHES.
- 14. BUTTON MUST HAVE RAISED EDGES TO PROTECT THE BUTTON FROM SIDE IMPACTS.

ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO PERFORM THE REQUIRED WORK SHALL BE INCLUDED IN THE CONTRACT BID PRICE PER EACH ITEM 632 -PEDESTRIAN PUSHBUTTON, AS PER PLAN.

ITEM 614 - MAINTAINING TRAFFIC, MISC.: MAINTENANCE OF TRAFFIC SIGNAL INSTALLATIONS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC SIGNAL INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

- 1. EXISTING SIGNAL DEVICES THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL TRAFFIC SIGNAL DEVICES ONCE ANY PROJECT SIGNAL WORK HAS STARTED. IF, IN THE COURSE OF WORK, THE GENERAL CONTRACTOR OR ANY PROJECT SUBCONTRACTOR CAUSED DAMAGE TO ANY EXISTING TRAFFIC SIGNAL DEVICE, THEN THE CONTRATOR, AT THE CONTRACTOR'S COST, SHALL REPAIR AND/OR REPLACE THE DAMAGED DEVICE TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXISTING SIGNAL DEVICES FROM THE TIME HIS OPERATIONS FIRST DISTURB THE INSTALLATION UNTIL THE INSALLATION HAS BEEN SUBSEQUENTLY REMOCED OR MODIFIED AND THE WORK ACCEPTED.
- 2. NEW OR REUSED SIGNAL/FLASHER INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPOSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. THE CONTRACTOR SHALL PROVIDE THE CITY OF CLEVELAND AND THE ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE THE CONTRACTOR'S MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT THE OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM THE OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK TO SERVICE WITHIN TWO (2) HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE. IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE, ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN EIGHT (8) HOURS AFTER THE CONTRACTOR'S NOTIFICATION OF THE OUTAGE, THE CONTRACTOR SHALL ARRANGE FOR FULL TRAFFIC CONTROL UNTIL THE SIGNAL IS BACK IN OPERATION.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED 8-HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON THEREAFTER AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUCTED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. THAT IS, WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT, THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY COMPENSATION FOR THE WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

WHERE THE CONTRACTOR HAS FAILED TO, OR CANNOT RESPOND TO, AND OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE OR THE CITY OF UPPER ARLINGTON FOR POLICE SERVICES AND MAINTENANCE SERVICES BY CITY FORCES SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE REVISIONS OF THE SIGNAL SYSTEM.

ITEM 614 - MAINTAINING TRAFFIC, MISC.: MAINTENANCE OF TRAFFIC SIGNAL INSTALLATIONS (CONTINUED)

WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED EIGHT (8) HOURS AND SHALL NOT INCLUDE THE HOURS OF 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM. ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED, BY THE CONTRACTOR, BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS.

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.25.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

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

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

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

SIGNAL ACTIVATION

PRIOR TO ACTIVATING THE NEW TRAFFIC SIGNAL TO STOP-AND-GO MODE AND/OR REMOVING THE EXISTING TRAFFIC SIGNAL FROM SERVICE, ALL ITEMS IN THE PROPOSED SIGNAL PLAN SHALL BE FULLY COMPLETED, (I.E., VEHICLE DETECTION, PEDESTRIAN SIGNAL HEADS, ETC.) IF THERE ARE CONSRUCTABILITY ISSUES (I.E., CURB RAMP INSTALLATION, ETC.) THAT PREVENT THE SIGNAL FROM BEING COMPLETED PRIOR TO ACTIVATION, IT SHALL BE BROUGHT TO THE ATTENTION OF ANDREW CROSS, CITY OF CLEVELAND TRAFFIC ENGINEER. THE TRAFFIC ENGINEER WILL THEN REVIEW, APPROVE OR REJECT PROPOSALS TO ACTIVATE THE TRAFFIC SIGNAL PRIOR TO COMPLETION.

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND TRAFFIC ENGINEER AT LEAST TEN (10) WORKING DAYS PRIOR TO SCHEDULING THE FINAL INSPECTION OF THE SIGNAL INSTALLATION. FINAL INSPECTION IS NOT CONSIDERED COMPLETE UNTIL DESIGNATED CITY OF CLEVELAND PERSONNEL INSPECT THE TRAFFIC SIGNAL AND ISSUES WRITTEN APPROVAL. IF ISSUES ARE FOUND DURING THE FINAL INSPECTION THAT EFFECT THE SAFETY OF THE INTERSECTION, THE SIGNAL SHALL NOT BE ACTIVATED ON THE PROPOSED DATE. ANY PUNCH LIST ITEMS THAT ARE FOUND SHALL BE CORRECTED AND RE-INSPECTED BY CITY OF CLEVELAND PERSONNEL PRIOR TO FINAL ACCEPTANCE. CITY FORCES SHALL ONLY ASSUME DAY TO DAY MAINTENANCE OF THE TRAFFIC SIGNAL AFTER FINAL WRITTEN ACCEPTANCE HAS BEEN ISSUED.

WORK INSPECTION

THE CONTRACTOR SHALL PROVIDE THE PROJECT ENGINEER WITH 72 HOUR NOTICE OF ANY SIGNAL WORK TO BE PERFORMED AT THE INTERSECTION SITE(S) SO THAT INSPECTION SERVICES CAN BE SUPPLIED.

<u>GUARANTEE</u>

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 120 DAYS FOLLOWING COMPLETION OF THE 10-DAY PERFORMANCE TEST. IN THE EVENT OF UNSATISFACTORY OPERATION THE CONTRACTOR SHALL CORRECT FAULTY INSTALLATIONS, MAKE REPAIRS AND REPLACE DEFECTIVE PARTS WITH NEW PARTS OF EQUAL OR BETTER QUALITY.

EQUIPMENT, MATERIAL AND LABOR COSTS INCURRED IN CORRECTING AN UNSATISFACTORY OPERATION SHALL BE BORNE BY THE CONTRACTOR.

THE COST OF GUARANTEEING THE TRAFFIC CONTROL SYSTEM WILL BE INCIDENTAL TO AND INCLUDED IN THE CONTRACT UNIT PRICE OF THE VARIOUS ITEMS MAKING UP THE SYSTEM.

<u>ITEM 632 - REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN</u>

TRAFFIC SIGNAL INSTALLATIONS, INCLUDING SIGNAL HEADS, CABLE, MESSENGER WIRE, STRAIN POLES, PULL BOXES, INTERCONNECT, ETC., SHALL BE REMOVED IN ACCORDANCE WITH CMS 632.26 AND AS INDICATED ON THE PLANS.

THE CONTRACTOR IS TO RETURN ALL EXISTING SIGNAL ITEMS NOTED FOR SALVAGE, INCLUDING, BUT NOT LIMITED TO, CONTROLLER CABINET AND COMPONENTS, SIGNAL HEADS, SIGNAL POLES, PEDESTRIAN SIGNA HEADS, SIGNS, PUSHBUTTONS, PULL BOXES AND PEDESTAL POLES. ITEMS SHALL BE DELIVERED TO THE CITY OF CLEVELAND TRAFFIC SIGNAL SHOP, 4150 E. 49TH STREET. CONTRACTOR SHALL PROVIDE AT LEAST 48 HOURS NOTICE TO ANDREW CROSS, TRAFFIC ENGINEER AT (216) 664-3197 PRIOR TO DELIVERY OF SALVAGED ITEMS.

IN THE EVENT THE ITEMS STORED ON THE PROJECT FOR SALVAGE BY THE CITY OF CLEVELAND ARE NOT REMOVED, THE CONTRACTOR SHALL, WHEN DIRECTED BY THE ENGINEER IN WRITING, REMOVE AND DISPOSE OF THE ITEMS AT NO ADDITIONAL COST TO THE PROJECT.

THIS ITEM INCLUDES REMOVAL OF THE EXISTING TRAFFIC SIGNAL AT THE FOLLOWING INTERSECTIONS:

E. 185TH ST. AT VILLAVIEW RD. E. 185TH ST. AT NEFF RD.

TRENCH

ALL TRENCHING SHALL CONFORM TO SECTIONS 625.13 AND 625.20 OF THE ODOT CMS. THE MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO REMOVE AND REPLACE PAVED SURFACES IN AREAS OUTSIDE OF PROPOSED WORK SHALL BE INCLUDED IN THE BID QUANTITY FOR TRENCH IN PAVED AREAS, TYPE A OR TYPE B, AS DEFINED IN ODOT CMS 625.13.

WHEN TRENCHING OPERATIONS PASS THROUGH OR INTO CONCRETE CURB AND GUTTER, THE CONCRETE CURB AND GUTTER SHALL BE REMOVED AND REPLACED UP TO THE CONSTRUCTION JOINT ON EACH SIDE OF THE TRENCH. WHEN TRENCHING OPERATIONS PASS INTO OR THROUGH A BLOCK OF SIDEWALK, THE ENTIRE BLOCK OF SIDEWALK SHALL BE REMOVED AND REPLACED. WHEN TRENCHING OPERATIONS PASS INTO OR THROUGH A DRIVEWAY APPROACH, THE DRIVEWAY APPROACH SHALL BE REMOVED AND REPLACED TO THE NEAREST EXISTING CONSTRUCTION JOINT ON EACH SIDE OF THE TRENCH.

UNDERGROUND CONDUIT INSTALLATION

THIS PROJECT INCLUDES CONSTRUCTION OF UNDERGROUND CONDUIT IN LOCATIONS THAT CONTAIN NUMEROUS EXISTING UNDERGROUND FACILITIES. IF A UTILITY CONFLICT IS IDENTIFIED THE CONTRACTOR SHALL REPOSITION THE CONDUIT TO AVOID SAID CONFLICT WITH THE APPROVAL OF THE ENGINEER. NO ADDITIONAL COMPENSATION SHALL BE AWARDED FOR ADDITIONAL WORK REQUIRED.

ITEM 632 - SIGNALIZATION, MISC.: PLASTIC CAUTION TAPE

THE LOCATION OF THE CONDUIT IN THE TRENCH SHALL BE MARKED BY THE USE OF A CONTINUOUSLY IDENTIFYING TAPE BURIED IN THE TENCH ABOVE THE CONDUIT LINE. THE IDENTIFYING TAPE SHALL BE AN INERT MATERIAL APPROXIMATELY 6 INCHES WIDE COMPOSED OF POLYETHYLENE PLASTIC AND SHALL BE HIGHLY RESISTANT TO ALKALIS, ACIDS, OR OTHER CHEMICAL COMPONENTS LIKELY TO BE ENCOUNTERED IN SOILS. THE TYPE SHALL BE RED WITH THE WORDS "ELECTRIC LINE BURIED BELOW" PRINTED IN BLACK LETTERING ON ONE SIDE ONLY. IT SHALL BE SUPPLIED IN CONTINUOUS ROLLS WITH THE IDENTIFYING LETTERS REPEATED FOR THE FULL LENGTH OF THE TAPE. THE CONTRACTOR SHALL BURY THE TAPE IN THE TRENCH WITH ONE STRIP PLACED APPROXIMATELY DOWN THE CENTERLINE AND 8 INCHES TO 12 INCHES BELOW THE FINAL GRADE.

IT SHALL BE PLACED IN THE TRENCH WITH THE PRINTED SIDE UP AND SHALL BE ESSENTIALLY PARALLEL TO THE FINISHED SURFACE. THE CONTRACTOR SHALL TAKE ANY NECESSARY PRECAUTIONS TO ENSURE THE TAPE IS NOT PULLED, DISTORTED, OR OTHERWISE MISPLACED IN COMPLETING THE TRENCH BACKFILLING. THE TAPE SHALL BE "TERRA TAPE", "ALLEN SYSTEM'S", OR APPROVED EQUAL BY THE ENGINEER IN ADVANCE.

ITEM 632 - PEDESTRIAN PUSH BUTTON, AS PER PLAN

IN ADDITION TO CMS ITEM 632 AND 732, THE PUSHBUTTON SHALL BE POLARA BULLDOG, PELCO SE-2005-08, OR APPROVED EQUAL, PRESSURE ACTIVATED ADA COMPLIANT PEDESTRIAN PUSHBUTTON. THE FOLLOWING SHALL ALSO APPIY:

- 1. PUSH BUTTON MUST BE HIGHLY VANDAL RESISTANT AND PRESSURE ACTIVATED WITH ESSENTIALLY NO MOVING PARTS. BUTTON MUST BE ABLE TO WITHSTAND AN IMPACT FROM A BASEBALL BAT OR HAMMER.
- 2. BUTTON HOUSING MUST BE CAST ALUMINUM POWDER COATED.
- 3. BUTTON CAP MUST BE MADE OF 316 STAINLESS STEEL.
 4. SWITCH MUST BE SOLID STATE ELECTRONIC PIEZO
 SWITCH RATED FOR 100 MILLION CYCLES WITH NO MOVING
 PLUNGER OR MOVING ELECTRICAL CONTACTS.
- 5. BUTTON MUST BE ACTIVATED WITH 3 LBS. OF FORCE OR LESS.
- 6. BUTTON MUST HAVE LED TO GIVE INDICATION OF BUTTON BEING PUSHED.
- 7. BUTTON MUST GIVE A TWO-TONED BEEP INDICATION OF BUTTON BEING PUSHED (ONE TONE FOR PUSH, ONE TONE FOR RELEASE)
- 8. BUTTON MUST HAVE BUILT IN SURGE PROTECTION 9. BUTTON MUST BE ABLE TO HOLD THE CALL FOR A MINIMUM OF 5 SECONDS.
- 10. BUTTON MUST OPERATE IMMEDIATELY AFTER BEING PUSHED COMPLETELY IMMERSED IN WATER FOR 5 MINUTES.
 11. BUTTON MUST NOT BE ABLE TO ALLOW ICE TO FORM SUCH THAT IT WOULD IMPEDE FUNCTION OF BUTTON OR BUTTON CAP.
- 12. ALL SWITCH ELECTRONICS MUST BE SEALED WITHIN THE CAST ALUMINUM HOUSING.
- 13. TOTAL DEPTH OF BUTTON, FROM FACE OF BUTTON CAP TO BACK OF BUTTON TERMINAL, MUST BE LESS THAN 1.75 INCHES.
- 14. BUTTON MUST HAVE RAISED EDGES TO PROTECT THE BUTTON FROM SIDE IMPACTS.

ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS
NECESSARY TO PERFORM THE REQUIRED WORK SHALL BE
INCLUDED IN THE CONTRACT BID PRICE PER EACH ITEM 632 PEDESTRIAN PUSHBUTTON, AS PER PLAN.