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SHEET NO.	LOCATION	STATION TO STATION				254	407	442	614	614	614	614	614	614	614	614	614	618	622	630	630	630		
		SY	GAL	CY	FT	EACH	EACH	EACH	EACH	MILE	MILE	MILE	MILE	MILE	FT	FT	FT	FT	FT	EACH	EACH			
			TO																					
PHASE 1																								
21	I-90 EB	881+25	RT	883+25	RT				200	1		4	4								200			
	I-90 WB	879+50	LT																					
		881+25	LT	883+25	LT				200	1		4	4								200	47.4		
PHASE 2																								
25	I-90 EB	867+50	RT	M.L. B-B	RT	6348	571	265										2715						
		870+50	RT	M.L. B-B	RT										0.115	0.115			605					
	I-90 WB	869+30	LT	M.L. B-B	LT	4961	446	207										2160						
		869+30	LT	M.L. B-B	LT										0.080	0.080			420					
26	I-90 EB	M.L. B-B	RT	887+00	RT	7856	707	327				260			0.199	0.199		3150		1050		620		
		877+80	RT	884+00	RT				620	1		13	13											
	I-90 WB	M.L. B-B	LT	887+00	LT	7964	717	332				255			0.199	0.199		3150		1050		640		
		879+50	LT	885+90	LT				640	1		13	13											
27	I-90 EB	887+00	RT	894+20	RT	5332	480	222				180						2160						
		887+00	RT	891+20	RT										0.080	0.080			420					
	I-90 WB	887+00	LT	896+30	LT	7122	641	297				235						2790						
		887+00	LT	893+30	LT										0.119	0.119			630					
PHASE 3																								
20-22	I-90 EB	867+50	RT	894+20	RT								1.517		0.506	0.506								
	I-90 WB	869+30	LT	896+30	LT								1.534		0.511	0.511								
21	I-90 EB	881+25	RT	883+25	RT				200	1		4	4								200			
	I-90 WB	881+25	LT	883+25	LT				200	1		4	4								200			
S MARGINAL STEP 1																								
30	S MARG.	77+50	LT	81+70	LT										0.080	0.080				320				
		80+05	RT	82+05	LT							1	4	4							200			
	W 44TH	43+60	CL	44+00	CL							1	1								40			
S MARGINAL STEP 2																								
30	S MARG.	77+50	L/R	81+70	L/R															320				
		80+05	LT	82+05	CL							1	4	4							200			
N MARGINAL																								
31	N MARG.	49+80	LT	51+80	LT							1	4	4							200			
		50+43	LT	54+50	RT													0.077						
		51+50	LT	54+50	RT															300				
	W 44TH	BEGIN SHIFT	CL	END SHIFT	CL													0.057						
N/A	PRIOR TO FINAL PVMT MKGS. (NO PLAN SHEETS PROVIDED)																							
	I-90 EB	867+50	RT	894+20	RT																1.517			
	I-90 WB	869+30	LT	896+30	LT																1.534			
TOTALS CARRIED TO GENERAL SUMMARY						39583	3562	1650	2060	9	1340	55	55	3.06	3.06	3.86	0.14	16125	940	4175	2700	47.4	2	2

CALCULATED	MAINTENANCE OF TRAFFIC SUBSUMMARY	
JAR CHECKED KWR		
15 135	CUY-90-13.45	

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NOTES:

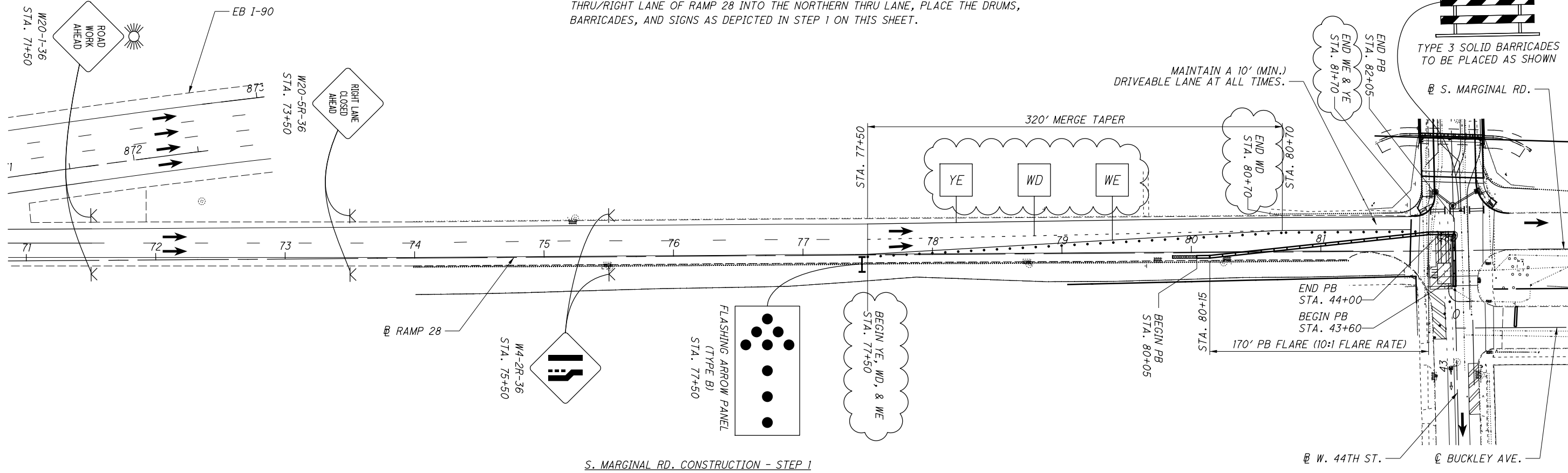
- 1. SEE SHEET 19 FOR MOT LEGEND AND DRUM SPACING CHART.
- 2. W 44TH ST SHALL BE CLOSED BETWEEN N MARGINAL RD AND S MARGINAL RD FOR THE ENTIRE PROJECT.

- DURING BRIDGE WORK: BARRICADES SHALL BE PLACED IMMEDIATELY NORTH OF THE INTERSECTION OF W 44TH ST AT S MARGINAL RD, BUT SHALL NOT EXTEND INTO THE INTERSECTION. RAMP 28 SHALL OPERATE PER EXISTING CONDITION.

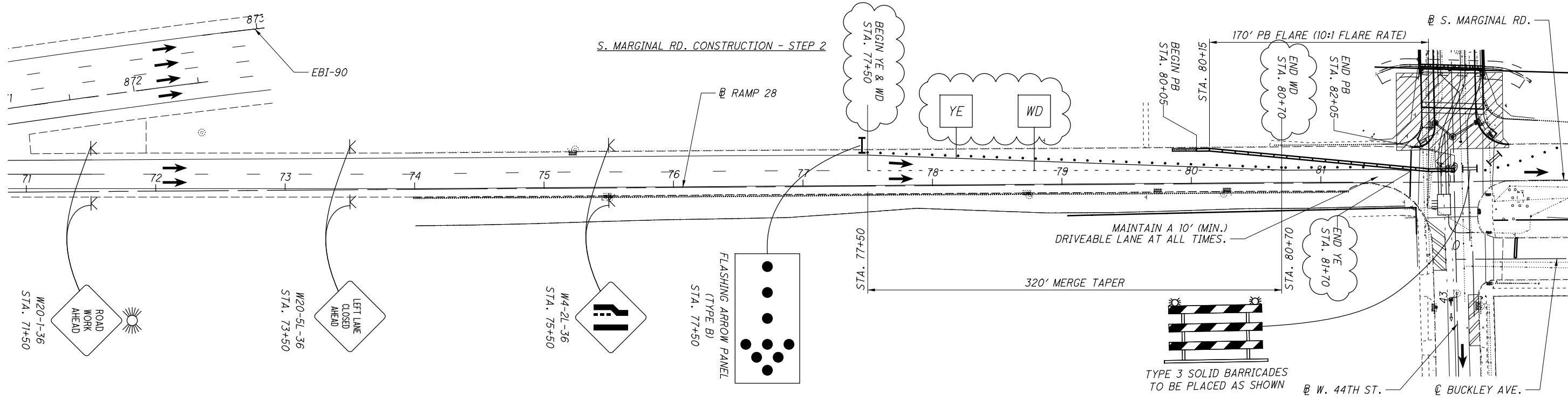
- DURING S MARGINAL INTERSECTION WORK - STEP 1: MERGE THE SOUTHERN THRU/RIGHT LANE OF RAMP 28 INTO THE NORTHERN THRU LANE, PLACE THE DRUMS, BARRICADES, AND SIGNS AS DEPICTED IN STEP 1 ON THIS SHEET.

- DURING S MARGINAL INTERSECTION WORK - STEP 2: MERGE THE NORTHERN THRU LANE OF RAMP 28 INTO THE SOUTHERN THRU/RIGHT LANE, PLACE THE DRUMS, BARRICADES, AND SIGNS AS DEPICTED IN STEP 2 ON THIS SHEET. IMMEDIATELY UPON COMPLETION OF THE INTERSECTION WORK REOPEN RAMP 28 TO EXISTING CONDITIONS (AND PLACE THE BARRICADES PER 'DURING BRIDGE WORK' DESCRIBED ABOVE IF THE PROJECT IS NOT COMPLETE).

3. PAVEMENT MARKINGS PER ODOT SCD MT-95.30 SHALL BE REQUIRED AS SHOWN ON S MARGINAL RD.



S. MARGINAL RD. CONSTRUCTION - STEP 1



S. MARGINAL RD. CONSTRUCTION - STEP 2

CALCULATED
JAR
CHECKED
DRB

0 40 80
HORIZONTAL SCALE IN FEET

MAINTENANCE OF TRAFFIC
S. MARGINAL RD. WORK AREA

CUY-90-13.45

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SHEET NUM.										PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
37	64	84	85	99	100	102				01/BRO/B R	02/BRO/B R	03/BRO/B R						
						6				6			625	00450	6	EACH	CONNECTION, FUSED PULL APART	
						18				18			625	00480	18	EACH	CONNECTION, UNFUSED PERMANENT	
						3				3			625	10500	3	EACH	LIGHT POLE, MISC.: ROUND TAPERED FIBERGLASS DECORATIVE POLE	100, 104
						12				12			625	10614	12	EACH	LIGHT POLE ANCHOR BOLTS ON STRUCTURE	100
						2				2			625	17961	2	EACH	BRACKET ARM, 8', AS PER PLAN	104
						1,089				1,089			625	23300	1,089	FT	NO. 2 AWG 2400 VOLT DISTRIBUTION CABLE	
						384				384			625	23400	384	FT	NO. 10 AWG POLE AND BRACKET CABLE	
						51				51			625	24330	51	FT	1-1/2" DUCT CABLE WITH THREE NO. 2 AWG 2400 VOLT CABLES	
						420				420			625	25408	420	FT	CONDUIT, 2", 725.051	
						75				75			625	25911	75	FT	CONDUIT CLEANED AND CABLES REMOVED, AS PER PLAN	99
						5				5			625	27560	5	EACH	LUMINAIRE, INSTALLATION ONLY	100
						57				57			625	29002	57	FT	TRENCH, 24" DEEP	99
						2				2			625	29901	2	EACH	JUNCTION BOX, AS PER PLAN	101
						1				1			625	29930	1	EACH	MEDIAN JUNCTION BOX	
						4				4			625	31511	4	EACH	PULL BOX REMOVED, AS PER PLAN	99
						4				4			625	31600	4	EACH	PULL BOX, MISC.: 17" X 30"	101
						2				2			625	32000	2	EACH	GROUND ROD	
						1				1			625	33000	1	EACH	STRUCTURE GROUNDING SYSTEM	
						57				57			625	36000	57	FT	PLASTIC CAUTION TAPE	
						LUMP				LUMP			SPECIAL	62540000	LS		MAINTAIN EXISTING LIGHTING	100
						2				2			625	75403	2	EACH	LIGHT POLE REMOVED FOR STORAGE, AS PER PLAN	99
						3				3			625	75505	3	EACH	LUMINAIRE REMOVED FOR STORAGE, AS PER PLAN	99
						1				1			625	75521	1	EACH	LUMINAIRE SUPPORT REMOVED, AS PER PLAN	99
						2				2			625	75801	2	EACH	DISCONNECT CIRCUIT, AS PER PLAN	99
				1						1			625	98000	1	EACH	LIGHTING, MISC.: TEST EXISTING CIRCUITS	99
						2				2			632	70400	2	EACH	CONDUIT RISER, 2" DIAMETER	
						2				2			632	89300	2	EACH	WOOD POLE	
						1				1			632	89400	1	EACH	DOWN GUY	
																	OTHER UTILITIES	
		208								208			202	98200	208	FT	REMOVAL MISC.: CONCRETE ENCASED ELECTRIC DUCT BANK	55
		189								LUMP			503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
		3,312								189			625	25803	189	FT	CONDUIT, CONCRETE ENCASED, AS PER PLAN, 18-5" DIA. CONDUITS	53
		2								3,312			625	25920	3,312	FT	CONDUIT, MISC.: 5" FIBERGLASS REINFORCED EPOXY CONDUIT	53
		2								2			625	98000	2	EACH	LIGHTING, MISC.: MANHOLE RECONSTRUCTED	55
		8,208								8,208			632	69350	8,208	FT	POWER CABLE, MISC.: 750 KCML-IC-CU-15 KV EPR	54-55
		8,424								8,424			632	69350	8,424	FT	POWER CABLE, MISC.: 4/0 IC-CU-EPR-15KV WITH 133% INSULATION	54-55
		2								2			SPECIAL	69098000	2	EACH	PRECAST ELECTRIC MANHOLE	55-56
		4,120								4,120			804	15011	4,120	FT	FIBER OPTIC CABLE, 24 FIBER, AS PER PLAN	55, 58
																	TRAFFIC CONTROL	
										153			621	00100	153	EACH	RPM	
										153			621	54000	153	EACH	RAISED PAVEMENT MARKER REMOVED	
						4				4			625	32000	4	EACH	GROUND ROD	
5										5			626	00102	5	EACH	BARRIER REFLECTOR, TYPE 1(BI-DIRECTIONAL)	
9										9			626	00110	9	EACH	BARRIER REFLECTOR, TYPE 2(ONE-WAY)	
						77				77			630	02100	77	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
						28.5				28.5			630	03100	28.5	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
						6				6			630	08600	6	EACH	SIGN POST REFLECTOR	
						2				2			630	45500	2	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8	
						2				2			630	55000	2	EACH	CONCRETE BARRIER MEDIAN OVERHEAD SIGN SUPPORT FOUNDATION, TC-7.65	
						3				3			630	79500	3	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	
						62.8				62.8			630	80100	62.8	SF	SIGN, FLAT SHEET	
						830				830			630	80224	830	SF	SIGN, OVERHEAD EXTRUSHEET	
						2				2			630	84510	2	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
						5				5			630	84900	5	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
						5				5			630	86002	5	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
						7				7			630	86310	7	EACH	REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL	
						2				2			630	86320	2	EACH	REMOVAL OF STRUCTURE MOUNTED SIGN AND REERECTION	
						3				3			630	87500	3	EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL	
						1				1			631	94350	1	EACH	REMOVAL OF DISCONNECT SWITCH	
						1				1			631	94406	1	EACH	REMOVAL OF SIGNS WIRED	

GENERAL SUMMARY

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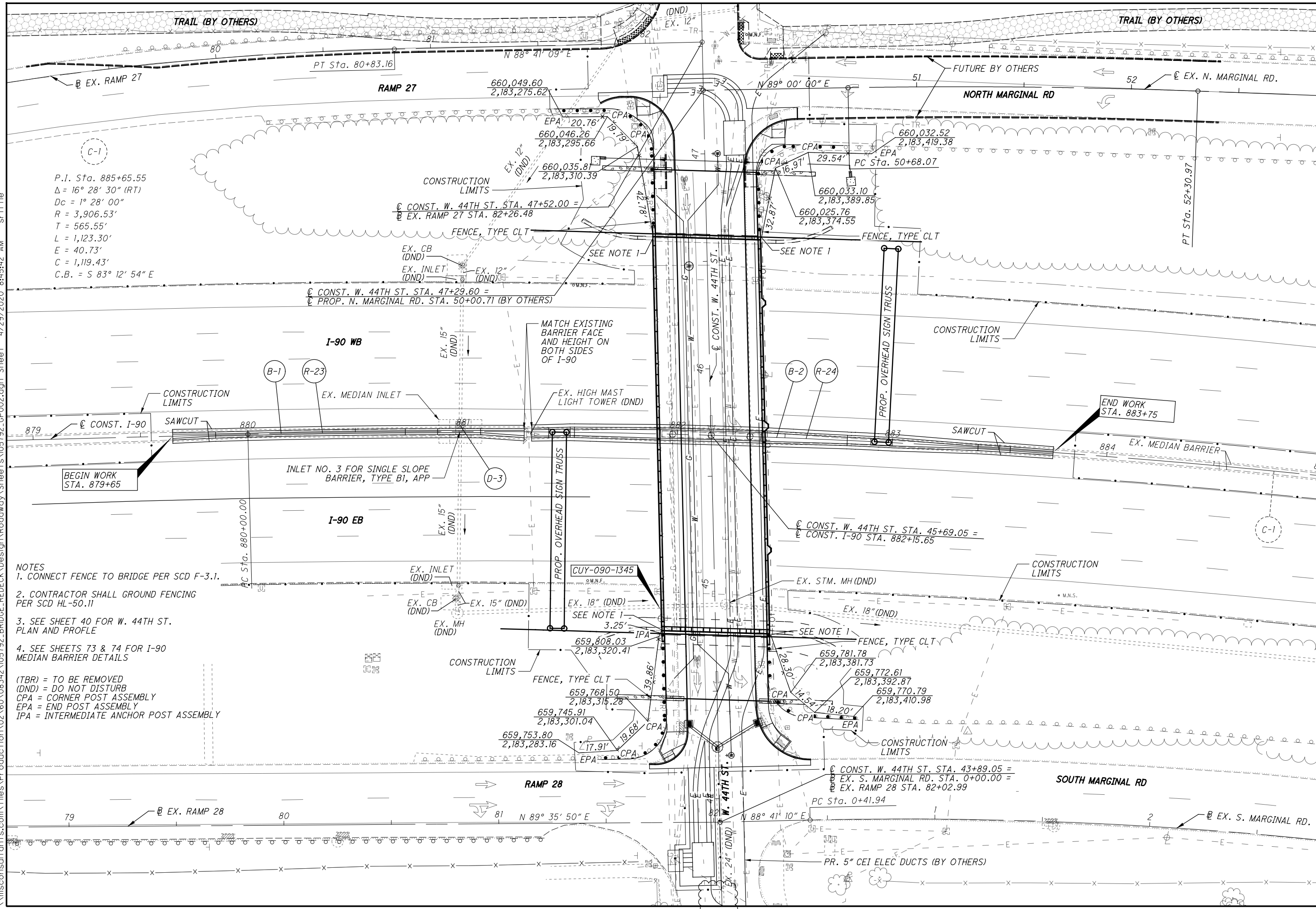
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CALCULATED
MAH
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0 20 40
HORIZONTAL
SCALE IN FEET

PLAN
I-90

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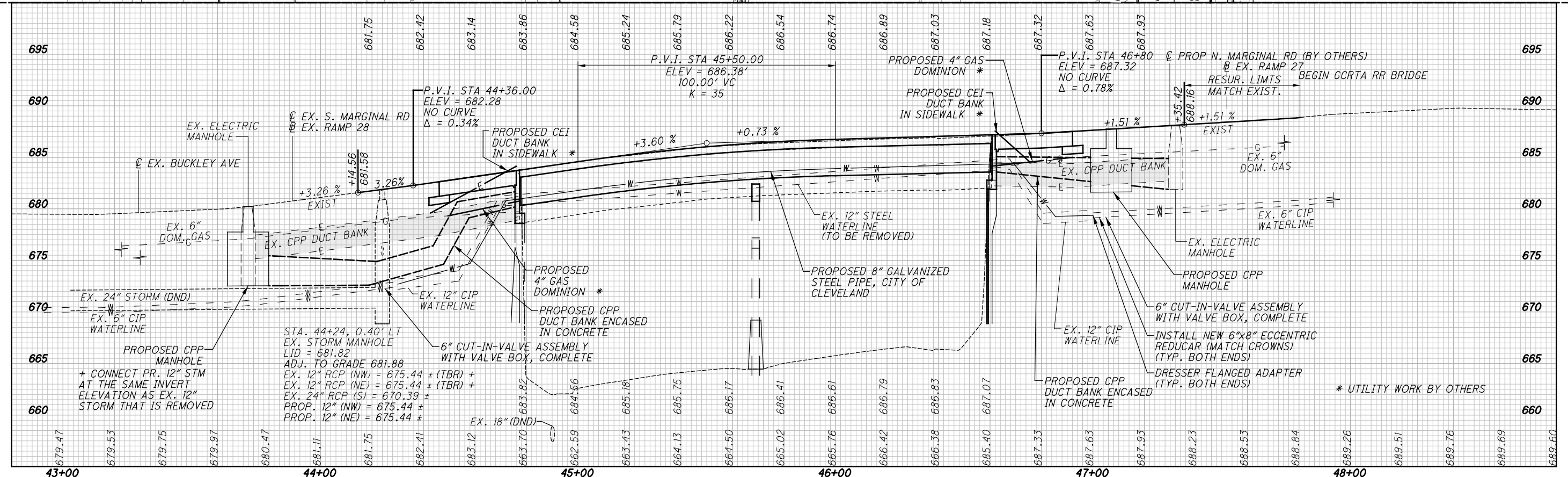
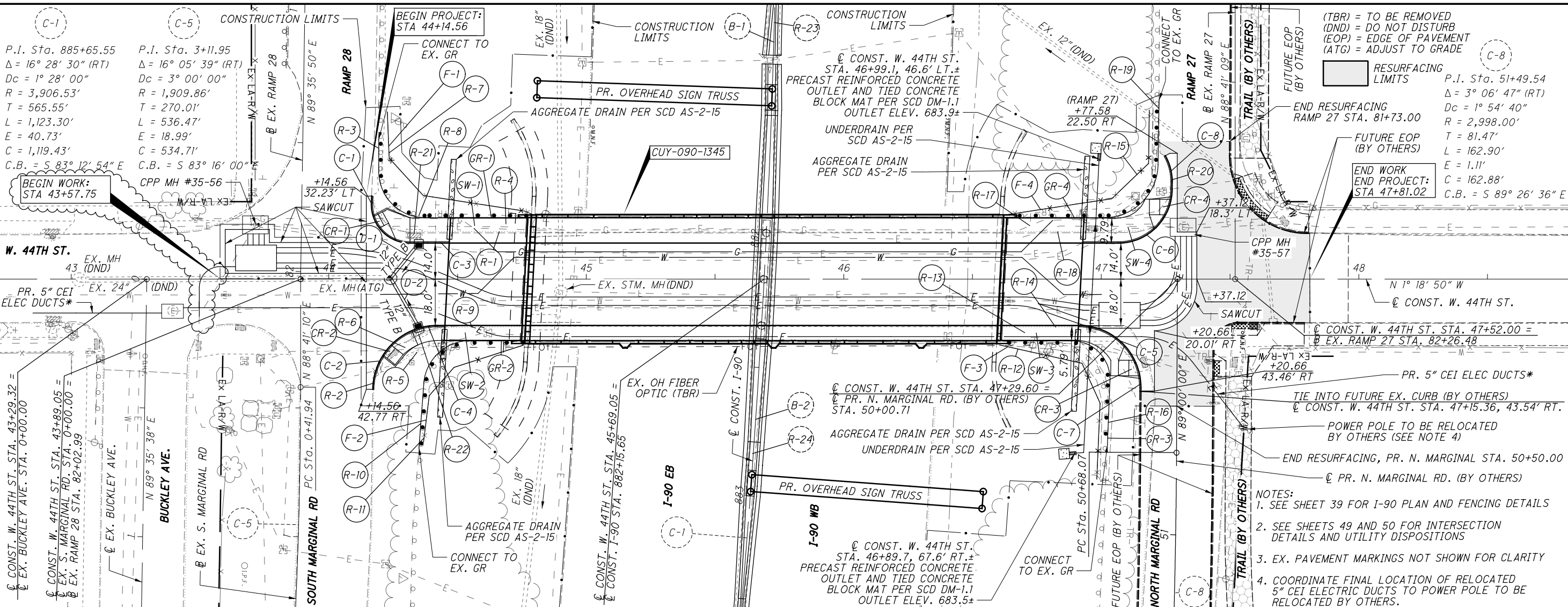


P.I. Sta. 885+65.55
 $\Delta = 16^\circ 28' 30''$ (RT)
 $D_c = 1^\circ 28' 00''$
 $R = 3,906.53'$
 $T = 565.55'$
 $L = 1,123.30'$
 $E = 40.73'$
 $C = 1,119.43'$
 $C.B. = S 83^\circ 12' 54'' E$

- NOTES
1. CONNECT FENCE TO BRIDGE PER SCD F-3.1.
 2. CONTRACTOR SHALL GROUND FENCING PER SCD HL-50.11
 3. SEE SHEET 40 FOR W. 44TH ST. PLAN AND PROFILE
 4. SEE SHEETS 73 & 74 FOR I-90 MEDIAN BARRIER DETAILS

(TBR) = TO BE REMOVED
 (DND) = DO NOT DISTURB
 CPA = CORNER POST ASSEMBLY
 EPA = END POST ASSEMBLY
 IPA = INTERMEDIATE ANCHOR POST ASSEMBLY

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(TBR) = TO BE REMOVED
 (DND) = DO NOT DISTURB
 (EOP) = EDGE OF PAVEMENT
 (ATG) = ADJUST TO GRADE

RESURFACING LIMITS
 END RESURFACING RAMP 27 STA. 81+73.00
 END WORK END PROJECT: STA 47+81.02

P.I. Sta. 51+49.54
 $\Delta = 3^\circ 06' 47''$ (RT)
 $D_c = 1^\circ 54' 40''$
 $T = 2,998.00'$
 $L = 162.90'$
 $E = 1.11'$
 $C = 162.88'$
 $C.B. = S 89^\circ 26' 36'' E$

- NOTES:
- SEE SHEET 39 FOR I-90 PLAN AND FENCING DETAILS
 - SEE SHEETS 49 AND 50 FOR INTERSECTION DETAILS AND UTILITY DISPOSITIONS
 - EX. PAVEMENT MARKINGS NOT SHOWN FOR CLARITY
 - COORDINATE FINAL LOCATION OF RELOCATED 5" CEI ELECTRIC DUCTS TO POWER POLE TO BE RELOCATED BY OTHERS.

PLAN AND PROFILE
W. 44TH ST.
 40
 135

ITEM 632 - POWER CABLE MISC. (VARIES) (CONT.)

I. BONDING

1. MAINTAIN SHIELD CONTINUITY AND CONNECTIONS TO METAL CONNECTION HARDWARE AT ALL CONNECTION POINTS.
2. GROUNDING CONDUCTORS: ROUTE ALONG SHORTEST AND STRAIGHTEST PATHS POSSIBLE UNLESS OTHERWISE INDICATED OR REQUIRED BY CODE. AVOID OBSTRUCTING ACCESS OR PLACING CONDUCTORS WHERE THEY MAY BE SUBJECTED TO STRAIN, IMPACT OR DAMAGE.
3. BONDING STRAPS AND JUMPERS: INSTALL IN LOCATIONS ACCESSIBLE FOR INSPECTION AND MAINTENANCE EXCEPT WHERE ROUTED THROUGH SHORT LENGTHS OF CONDUIT.
4. BONDING TO STRUCTURE: BOND STRAPS DIRECTLY TO BASIC STRUCTURE, TAKING CARE NOT TO PENETRATE ANY ADJACENT PARTS.

J. TESTING

1. VISUAL AND MECHANICAL INSPECTIONS.
2. INSPECT EXPOSED CABLE SECTIONS FOR PHYSICAL DAMAGE.
3. INSPECT SHIELD GROUNDING AND CABLE SUPPORT. VISUALLY INSPECT CABLE TERMINATIONS PERFORMED BY CPP.
4. INSPECT COMPRESSION CONNECTORS FOR CORRECT CABLE MATCH AND IDENTIFICATION.
5. TESTING AGENCY: ENGAGE A QUALIFIED TESTING TO PERFORM TESTS AND INSPECTIONS.
6. PERFORM THE FOLLOWING TESTS AND INSPECTIONS WITH THE ASSISTANCE OF A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE:

PERFORM EACH VISUAL AND MECHANICAL INSPECTION AND ELECTRICAL TEST STATED IN NETA ATS. CERTIFY CERTIFY COMPLIANCE TEST PARAMETERS.

AFTER INSTALLING MEDIUM-VOLTAGE CABLES BEFORE ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, TEST FOR COMPLIANCE WITH REQUIREMENTS.

PERFORM DIRECT-CURRENT HIGH POTENTIAL TEST OF EACH NEW CONDUCTOR ACCORDING TO NETA ATS, CH. 7.3.3. DO NOT EXCEED MANUFACTURER'S RECOMMENDED MAXIMUM TEST VOLTAGE.

7. MEDIUM-VOLTAGE CABLES WILL BE CONSIDERED DEFECTIVE IF THEY DO NOT PASS TESTS AND INSPECTIONS.
8. PREPARE TEST AND INSPECTION REPORTS.

K. MEASUREMENT

THE NUMBER OF FEET OF CABLE TO BE PAID FOR SHALL INCLUDE CABLE LENGTH IN DUCT PLUS LENGTH IN MANHOLES PER THE CABLE WIRING PLANS, INSTALLED IN PLACE INCLUDING CABLE RACKING, TRAINING, TESTING, CABLE TAGS, SPLICE KITS, AND OTHER INCIDENTAL WORK, EXCLUDING SPLICE INSTALLATION.

L. PAYMENT

THE FOOTAGE MEASURED AS PROVIDED ABOVE SHALL BE PAID FOR AT THE CONTRACTOR PRICE BID PER FOOT FOR EACH INDIVIDUAL CABLE, UNDER ITEM 632 AS DIRECTED BELOW, CLASSIFIED AS TO SIZE AND TYPE, PAID FOR UNDER:

ITEM	UNIT	DESCRIPTION
632	FT	POWER CABLE, MISC.: 750 KCMIL-1C-CU-15KV EPR
632	FT	POWER CABLE, MISC.: 4/0-1C-CU-EPR-15KV WITH 133% INSULATION

ITEM 690 - SPECIAL MISC.: PRECAST ELECTRIC MANHOLE

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING COMPLETE IN PLACE PRECAST REINFORCED CONCRETE MANHOLE (VAULT) STRUCTURES IN ACCORDANCE WITH CLEVELAND PUBLIC POWER (CPP) REQUIREMENTS AND DESIGNED TO MEET OR EXCEED THE LATEST ASTM STANDARDS FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES (ASTM C858-10E1) AND MINIMUM STRUCTURAL DESIGN LOADING FOR UNDERGROUND PRECAST UTILITY STRUCTURES (ASTM 857-14) HS25 LOADING. THE FOLLOWING CPP DEVELOPED PLAN DETAILS HAVE BEEN INCLUDED IN THE PLAN SET FOR THIS WORK:

- SAMPLE INDIVIDUAL MANHOLE DETAILS INCLUDING WINDOW OPENING DETAILS AND LIST OF MANHOLE REQUIREMENTS TYPICAL INSTALLATION DETAILS
- TYPICAL INSTALLATION DETAILS
- SAMPLE PRECAST NECK RING SCHEDULE
- GENERAL UNDERGROUND CONSTRUCTION NOTES
- BACKFILL MATERIAL AND BACKFILLING PROCEDURES
- SAMPLE RACKING DETAILS

IT IS NOTED THAT VARIOUS UNDERGROUND UTILITIES ARE PRESENT ALONG THE PROJECT THAT COULD NECESSITATE CHANGES TO MANHOLE DEPTHS AND WINDOW DIMENSIONS. THE CONTRACTOR SHALL PERFORM UTILITY TEST HOLES AT ALL VAULT LOCATIONS PRIOR TO DEVELOPING SHOP DRAWINGS FOR ELECTRIC MANHOLES. IN ADDITION, THE CONTRACTOR WILL BE SUPPLYING AND INSTALLING ELECTRICAL RACK AND BOND SYSTEMS WITHIN THE MANHOLES. CABLE RACKING ASSEMBLIES SHALL CONSIST OF STEEL, HOT-DIP GALVANIZED STANCHIONS AND ARMS, AND PORCELAIN INSULATORS MANUFACTURED BY HUBBELL POWER SYSTEMS, INC OR APPROVED EQUIVALENT.

1. STANCHIONS: NOB-LOC; 1-3/4 INCH NOMINAL SIZE; DUIB SERIES FOR CABLE-ARM ATTACHMENT.
2. ARMS: 1.97 INCHES WIDE, LENGTHS RANGING FROM 3-7/8 INCHES WITH 400 LB MINIMUM CAPACITY TO 14-7/8 INCHES WITH 200 LB MINIMUM CAPACITY. ARMS SHALL BE ARRANGED FOR SECURE MOUNTING IN HORIZONTAL POSITION AT ANY VERTICAL LOCATION ON STANCHIONS.
3. INSULATORS: HIGH GLAZE, DRY-PROCESS PORCELAIN ARRANGED FOR MOUNTING ON CABLE ARMS. THE CONTRACTOR SHALL COORDINATE MANHOLE WORK WITH CPP TO ENSURE COMPATIBILITY AND TIMELY COMPLETION OF RELATED WORK ELEMENTS.

ITEM 690 - SPECIAL MISC.: PRECAST ELECTRIC MANHOLE (CONT.)

SEALING DUCT ENDS IN MANHOLES: USE SEALING COMPOUND IN DUCT ENDS CONTAINING CABLES AND PLUGS IN SPARE DUCTS TO WITHSTAND AT LEAST 15 PSIG HYDROSTATIC PRESSURE. DUCT SEALING COMPOUND SHALL BE NON-HARDENING, SAFE FOR CONTACT WITH HUMAN SKIN, NOT DELETERIOUS TO CABLE INSULATION AND WORKABLE AT TEMPERATURES AS LOW AS 35 DEG. CAPABLE OF WITHSTANDING TEMPERATURE OF 300 DEG F WITHOUT SLUMP, AND ADHERING TO CLEAN SURFACES OF PLASTIC DUCTS, METALLIC CONDUITS, CONDUIT COATINGS, CONCRETE, MASONRY, LEAD, CABLE SHEATHS, CABLE JACKETS, INSULATION MATERIALS AND COMMON METALS.

THE MANHOLES TO BE PAID WILL BE THE ACTUAL NUMBER COMPLETED AND ACCEPTED, INCLUDING CONCRETE LEVELING PAD, GROUND ROD (5/8 INCH X LENGTH PER CPP DETAILS), CLAMP, GROUND WIRE, BONDING, RACK SYSTEM, NECK RINGS, CAP RINGS, PULLING IRONS, AND CASTINGS.

PAYMENT: THE WORK INCLUDED IN THIS ITEM AND THE CONTRACT UNIT PRICE FOR EACH MANHOLE BID UNDER "ITEM 690 MISC.: PRECAST ELECTRIC MANHOLE" IN PLACE, COMPLETED AND ACCEPTED, SHALL FORM THE BASIS OF PAYMENT AND SHALL CONSTITUTE FULL COMPENSATION FOR ALL EXCAVATION AND BACKFILL, FOR FURNISHING, HAULING AND PLACING ALL CASTINGS AND TYING EXISTING OR NEW DUCTS INTO MANHOLES INCLUDING RAISING OR LOWERING DUCTS, REINFORCING STEEL, CONCRETE BRICK AND CONCRETE MASONRY, PULLING IRONS, GROUND RODS, BONDING, RACK SYSTEM AND OTHER MATERIAL, ETC., AND FOR ALL LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THESE ITEMS. ALL MANHOLE CUT SHEETS SHALL BE APPROVED BY CPP ENGINEERING BEFORE THEY ARE CAST.

ITEM 625 - LIGHTING, MISC.: MANHOLE RECONSTRUCTED

TIE INTO EXISTING MANHOLES MH 35-56 AND 35-57

- A. WHEN A NEW DUCT/BANK IS CONNECTED INTO AN EXISTING MANHOLE, A MINIMAL PART OF THE WALL SHALL BE CAREFULLY AND NEATLY CUT OR CORED TO RECEIVE THE DUCT/BANK. AFTER THE DUCT/BANK HAS BEEN INSTALLED, THE EXISTING MANHOLE SHALL BE REPAIRED, PATCHED AND SEALED WITH MORTAR OR AS DIRECTED.
- B. CABLES SHALL BE PROTECTED DURING THIS WORK WITH EXTREME CARE. ANY DAMAGE TO EXISTING CABLES SHALL BE REPAIRED AT NO COST TO THE PROJECT. THIS WORK SHALL BE ACCOMPLISHED UNDER THE DIRECT SUPERVISION OF CPP.

PAYMENT SHALL BE MADE AT THE CONTRACT PRICE PER EACH BID, WHICH SHALL BE FULL COMPENSATION FOR EXCAVATION AND BACKFILL, REMOVAL AND DISPOSAL OF ALL SURPLUS EXCAVATION AND DISCARDED MATERIAL, PROTECTION OF EXISTING CABLES, ALL LABOR, EQUIPMENT TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.

THIS ITEM AS PROVIDED ABOVE SHALL BE PAID FOR UNDER:

ITEM	UNIT	DESCRIPTION
625	EACH	LIGHTING, MISC.: MANHOLE RECONSTRUCTED

MAINTAIN EXISTING POWER

THE CONTRACTOR SHALL NOT INTERRUPT EXISTING POWER EXCEPT FOR SUCH PERIODS AS THE ENGINEER MAY REQUIRE FOR THE PROPER CONSTRUCTION OF NEW FACILITIES TO BE IN PLACE AND OPERATIONAL. FINAL CONNECTION SHALL BE MADE BY CPP AFTER ALL TESTING HAS BEEN CONDUCTED AND FACILITIES HAVE BEEN ACCEPTED BY CPP.

ITEM 202 - REMOVAL MISC.: CONCRETE ENCASED ELECTRIC DUCT BANK

EXISTING CPP FACILITIES TO BE REMOVED WITH THIS ITEM INCLUDE THE EXISTING CONCRETE ENCASED UTILITY DUCT BANK BETWEEN MANHOLES 35-56 AND 35-57, EXCLUDING THE BRIDGE SUPPORTED CONDUITS.

THE BRIDGE SUPPORTED CONDUITS SHALL BE REMOVED PER ITEM 202, PORTIONS OF EXISTING STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, AS NOTED ON THE BRIDGE PLANS. THE EXPOSED CONDUITS ARE MADE OF ASBESTOS CONTAINING MATERIALS (ACM) AS NOTED IN THE ASBESTOS NOTIFICATION NOTE ON THE BRIDGE PLANS.

IT IS POSSIBLE THAT THERE ARE NON-VISIBLE OR PREVIOUSLY UNIDENTIFIED ACM ENCOUNTERED DURING CONSTRUCTION. ANY MATERIAL SUSPECTED OF CONTAINING ASBESTOS SHALL BE EVALUATED BY A CERTIFIED ASBESTOS EVALUATION SPECIALIST TO DETERMINE WHETHER THE MATERIAL ACTUALLY CONTAINS ASBESTOS.

SINCE THE PRESENCE OF ACM IS UNKNOWN WITH THE CURRENTLY UN-EXPOSED CONDUITS, THE CONTRACTOR SHALL ISOLATE AND TEST THESE CONDUITS FOR ACM. IF ACM IS ENCOUNTERED, THEN THE ACM SHALL BE REMOVED AS DESCRIBED IN THE ASBESTOS NOTIFICATION NOTE ON THE BRIDGE PLANS AND SEPARATE PAYMENT WILL BE MADE FOR ADDITIONAL DISPOSAL COSTS IN ACCORDANCE WITH C&MS 109.05.

THE WORK IN THIS ITEM WILL BE PERFORMED AFTER THE EXISTING POWER CABLES ARE DE-ENERGIZED AND REMOVED BY CPP, AND AFTER RECEIVING APPROVAL FROM CPP THAT THE REMOVAL WORK CAN BE PERFORMED.

ITEM 804 - FIBER OPTIC CABLE, 24 CABLE, AS PER PLAN

THE FIBER OPTIC CABLE SHALL BE REPLACED FROM MH 44-07 TO THE CPP SUBSTATION, AS SHOWN IN THE PLANS.

CABLE SHALL MEET THE FOLLOWING REQUIREMENTS:

- A. LOOSE TUBE GEL-FILLED FIBER OPTIC CABLE FOR INSTALLATION IN DUCTS, UNDERGROUND CONDUIT OR AERIAL/LASHED. 24 FIBER SINGLE MODE FIBERS 8.3 μM CORE DIAMETER, 125 μM CLADDING WITH A MAXIMUM ATTENUATION OF 0.4 dB/km AT 1310 nm. COLOR CODED PER TIA/EIA 598A.
- B. FIBERGLASS (EPOXY-GLASS ROD) DIELECTRIC CENTRAL STRENGTH MEMBER, ARAMID FIBER YARN OR FIBERGLASS OVERALL STRENGTH MEMBER. MAXIMUM TENSILE LOAD 600 LBS. DURING INSTALLATION AND IN SERVICE.
- C. DUAL JACKET CONSTRUCTION WITH BLACK UV AND MOISTURE RESISTANT POLYETHYLENE (PE) INNER AND OUTER JACKETS.
- D. THE FIBER OPTIC CABLE SHALL COMPLY WITH THE FOLLOWING, ANSI/TIA/EIA 568A, ICEA S-87-640 AND BE ETL VERIFIED.
- E. GENERAL CABLE PART NUMBER AQ0244HIA-DWB OR EQUAL.

SPLICING SHALL BE COORDINATED WITH CPP BEFORE INSTALLATION.

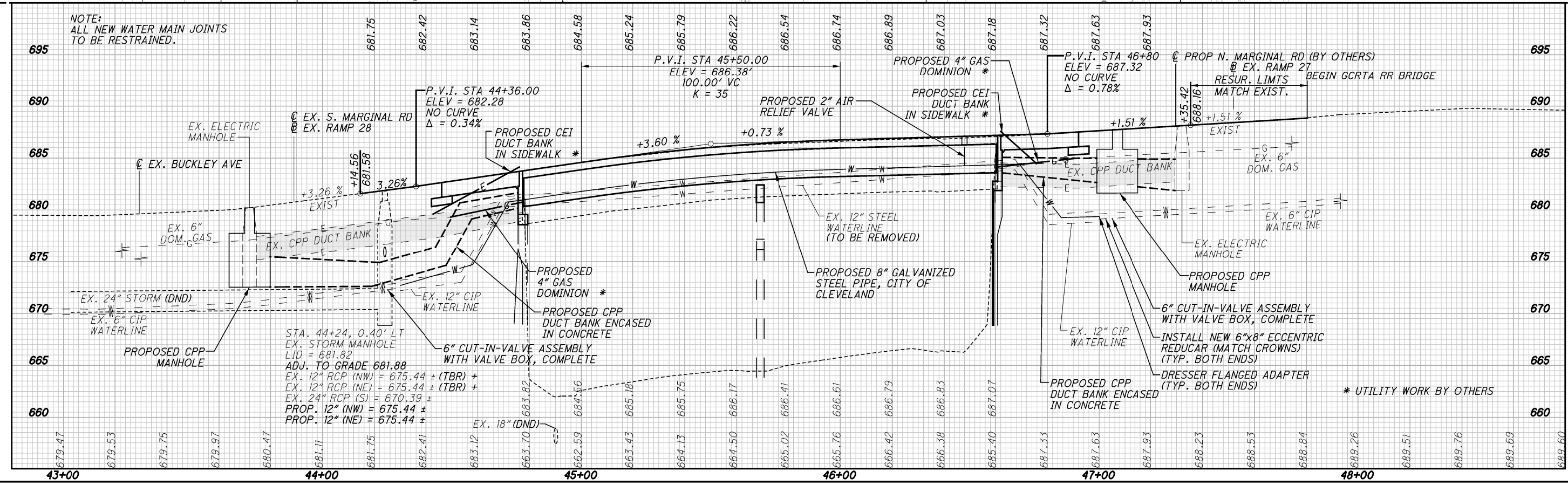
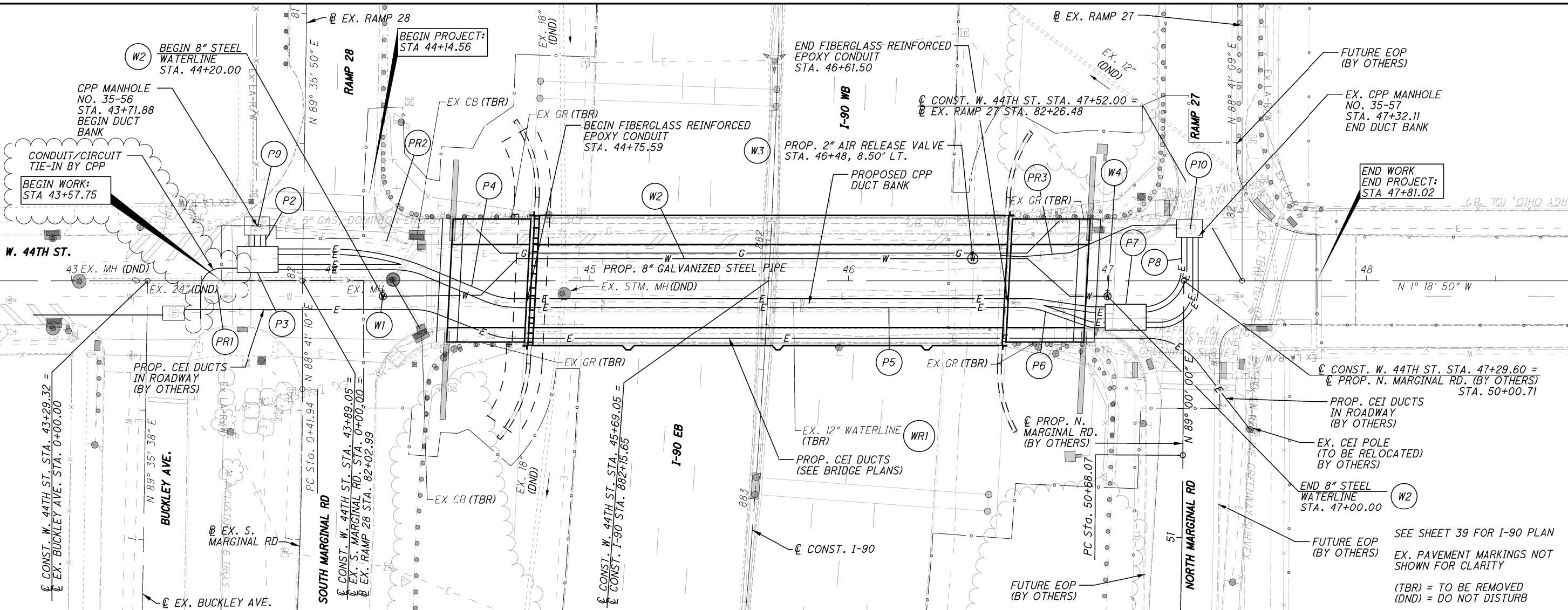
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REF NO.	SHEET NO.	STATION TO STATION	202		638		638		202		625		625		625		632		632		SPECIAL		804	
			PIPE REMOVED, 24" AND UNDER	2" AIR RELEASE VALVE, CITY OF CLEVELAND	WATER WORK, MISC.: SPECIAL - 8" GALVANIZED STEEL PIPE, CITY OF CLEVELAND	WATER WORK, MISC.: SPECIAL - 6" CUT-IN-VALVE ASSEMBLY WITH VALVE BOX, COMPLETE	REMOVAL MISC.: CONCRETE ENCASED ELECTRIC DUCT BANK	CONDUIT, CONCRETE ENCASED, AS PER PLAN	CONDUIT, MISC.: 5" FIBERGLASS REINFORCED EPOXY CONDUIT	LIGHTING, MISC.: MANHOLE RECONSTRUCTED	POWER CABLE, MISC.: 750 KCMIL-1C-CU-15 KV EPR	POWER CABLE, MISC.: 4/0 1C-CU-EPR-15KV WITH 133% INSULATION	PRECAST ELECTRIC MANHOLE	FIBER OPTIC CABLE, 24 FIBER, AS PER PLAN										
WEST 44TH ST.																								
W1	65	44+20.00 RT.					1																	
W2	65	44+20.00 RT. TO 47+00.00 RT.				292																		
W3	65	46+48.00 LT.			1																			
W4	65	47+00.00 RT.					1																	
WR1	65	44+30.00 LT. TO 47+00.00 LT.				282																		
P1		(NOT USED)																						
P2	65	43+71.88 LT. TO 43+71.75 LT.								6			432	648										
P3	65	43+71.75 LT.																			1			
P4	65	43+71.75 RT. TO 44+75.59 LT.								101			1998	1998										
P5	65	44+75.59 LT. TO 46+61.50 RT.									3312		3672	3672										
P6	65	46+61.50 RT. TO 47+07.08 RT.								40			810	810										
P7	65	47+07.08 RT.																			1			
P8	65	47+07.08 RT. TO 47+32.11 LT.								42			1296	1296										
P9	65	43+71.88 LT.																						
P10	65	47+32.11 LT.																						
PR1	65	43+49.76 RT. TO 43+71.88 LT.								34														
PR2	65	43+71.88 LT. TO 44+79.96 LT.								104														
PR3	65	46+58.90 LT. TO 47+32.11 LT.								70														
EXTENDS OUTSIDE OF PROJECT LIMITS (SEE SHEET 58)																							4120	
TOTALS CARRIED TO GENERAL SUMMARY						282	1	292	2	208	189	3312	2	8208	8424	2	4120							

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WATER WORKS AND CPP SUBSUMMARY	CUY-90-13.45
CALCULATED EMB CHECKED TRT	64 135

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**PLAN AND PROFILE
WATER LINE AND CPP POWER**

CUY-90-13.45

65
135

CALCULATED
EMB
CHECKED
TRT

10
HORIZONTAL
SCALE IN FEET

SHEET NO.	LOCATION	STATION TO STATION				621	621	621			646	646	646	646	646	646	646	646	646	646	646	646	646		
						RPM, WHITE/RED	RPM, WHITE	RAISED PAVEMENT MARKER REMOVED			EDGE LINE, 4", WHITE	EDGE LINE, 4", YELLOW	EDGE LINE, 6", WHITE	EDGE LINE, 6", YELLOW	LANE LINE, 6"	CHANNELIZING LINE, 8"	CHANNELIZING LINE, 12"	STOP LINE	CROSSWALK LINE	LANE ARROW	DOTTED LINE, 4"	DOTTED LINE, 8"	BIKE LANE SYMBOL MARKING	TRANSVERSE/DIAGONAL LINE (WHITE)	SHARED LANE MARKING
			TO			EACH	EACH	EACH			MILE	MILE	MILE	MILE	MILE	FT	FT	FT	FT	EACH	FT	FT	EACH	FT	
86	44TH ST	43+62	CL																						
	44TH ST	43+69	CL																						
	44TH ST	43+69	LT	44+37	LT																				
	44TH ST	44+37	CL																						
	44TH ST	44+37	LT	47+19	LT																				
	44TH ST	44+37	LT	47+00	LT					0.053															
	44TH ST	44+37	RT	46+11	RT					0.050															
	44TH ST	44+37	RT	47+11	RT							0.052			174										
	44TH ST	44+47	LT																						
	44TH ST	44+47	CL/RT																						
	44TH ST	45+13	CL/RT																						
	44TH ST	45+79	CL/RT																						
	44TH ST	46+45	CL/RT																						
	44TH ST	46+11	RT	47+00	RT																				
	44TH ST	46+73	LT																						
	44TH ST	47+56	LT/RT																						
	44TH ST	47+75	LT/RT																						
	44TH ST	47+75	LT/RT	47+81	LT/RT																				
	44TH ST	48+43	LT																						
	S. MARG.	0+22	LT/RT																						
	S. MARG.	0+30	LT/RT																						
	RAMP 28	81+76	LT/RT																						
	RAMP 28	81+83	LT/RT																						
	N. MARG.	50+28	LT/RT																						
	N. MARG.	50+38	LT/RT																						
	N. MARG.	50+43	LT/RT																						
	N. MARG.	50+43	CL	50+50	CL																				
	RAMP 27	81+95	LT/RT																						
87	44TH ST	48+68	LT	49+66	LT																				
	44TH ST	49+28	LT																						
	44TH ST	49+66	LT	50+35	LT																				
			NO STATION AVAILABLE																						
	N. MARG.	51+90	CL	52+91	CL																				
	N. MARG.	52+88	RT																						
	N. MARG.	52+91	CL	54+69	CL																				
	N. MARG.	53+48	RT																						
89	I-90 EB	867+51	LT/RT	878+08	LT/RT																				
	I-90 EB	871+15	RT	871+65	RT	2		27	27																
	I-90 EB	871+65	RT	878+08	RT																				
	I-90 WB	869+28	LT/RT	878+00	LT																				
	I-90 WB	874+13	LT	878+00	LT			24	24																
90	I-90 EB	878+08	CL/RT	889+00	RT			30	30																
	I-90 WB	878+00	LT	889+00	LT			30	30																
	S MARG	77+50	LT	78+00	LT																				
	I-90 EB	889+00	RT	894+20	RT			15	15																
	I-90 WB	889+00	LT	896+27	LT			21	21																
	I-90 WB	889+00	LT	895+06	LT																				
	I-90 WB	895+06	LT	896+27	LT																				
	S MARG	78+00	LT	81+70	LT			4	4																
TOTALS CARRIED TO GENERAL SUMMARY																									
						153	153				0.16	1.92			3.13	392	171	95	462	4	383	89	3	185	2

CALCULATED JAR CHECKED DRB
PAVEMENT MARKING SUBSUMMARY
CUY-90-13.45
 84
 135

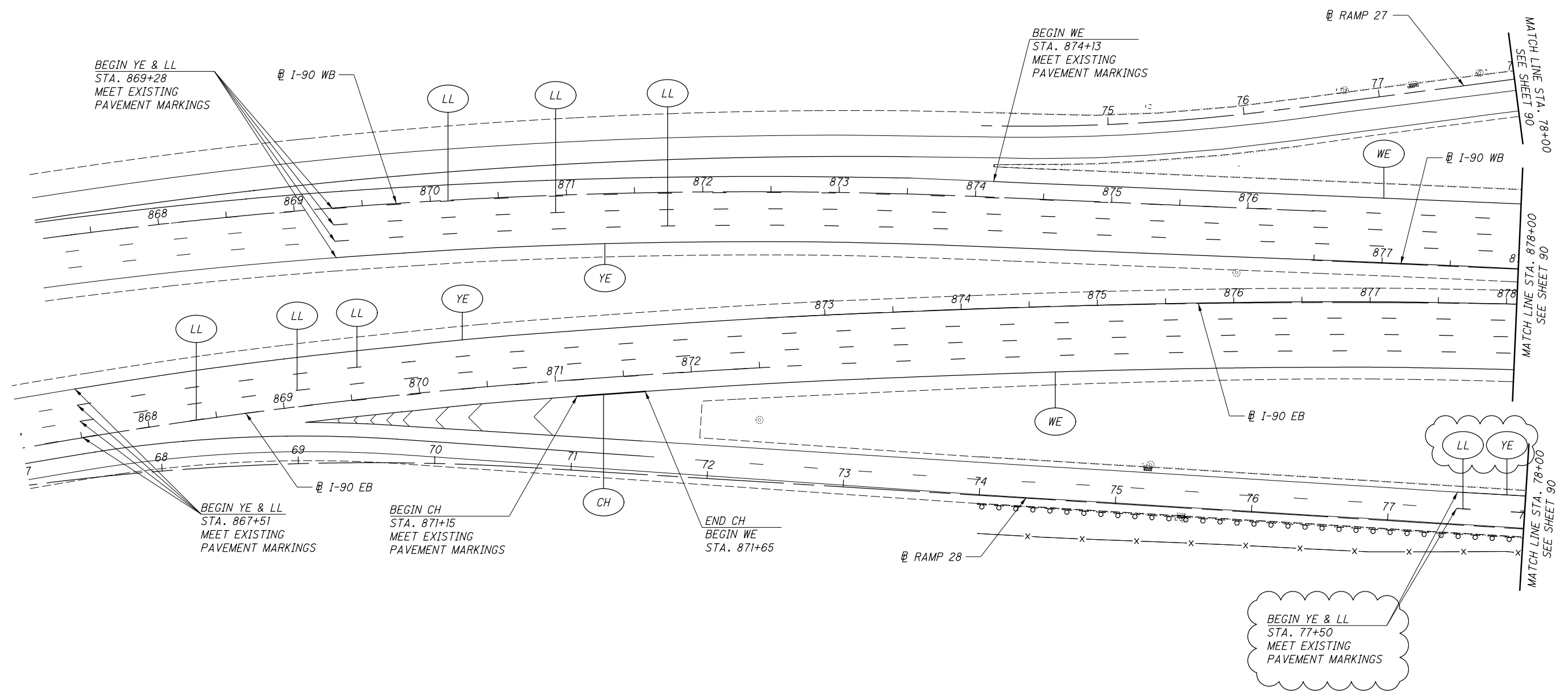
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SCALE IN FEET

PAVEMENT MARKING PLAN
I-90 - STA. 867+00 TO STA. 878+00

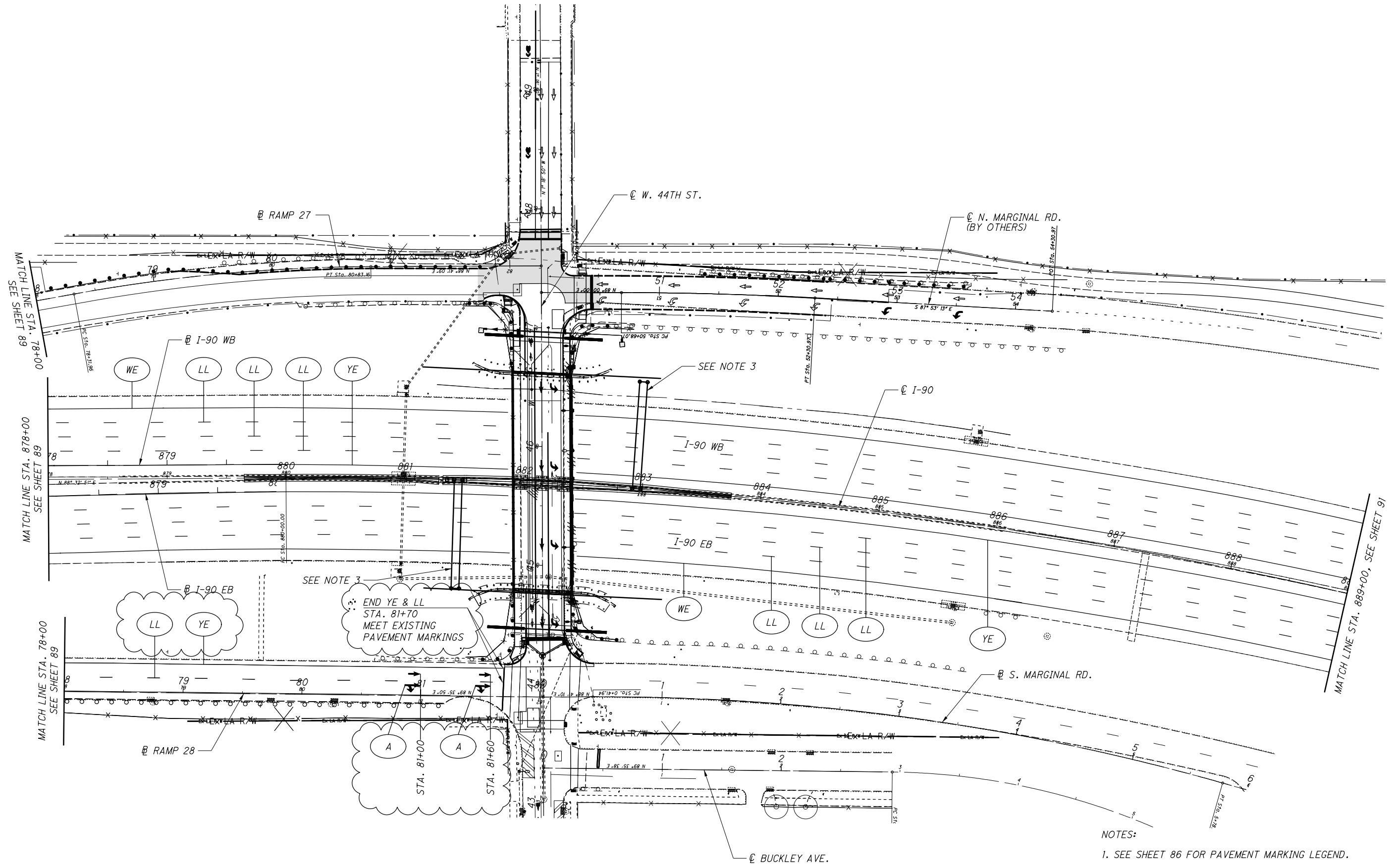
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BEGIN YE & LL
STA. 77+50
MEET EXISTING
PAVEMENT MARKINGS

- NOTES:
- SEE SHEET 86 FOR PAVEMENT MARKING LEGEND.

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- NOTES:
1. SEE SHEET 86 FOR PAVEMENT MARKING LEGEND.
 2. SEE SHEET 86-87 FOR PAVEMENT MARKINGS ON W. 44TH ST./N. MARGINAL RD.
 3. SEE SHEET 92 FOR I-90 SIGNING DETAILS.

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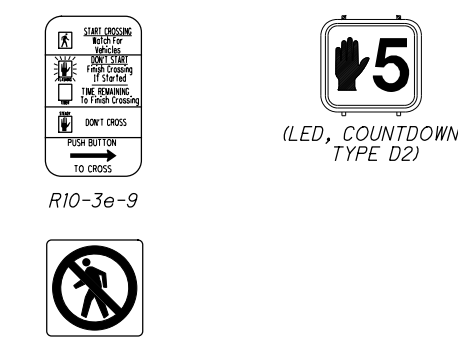
0 20 40 80
HORIZONTAL
SCALE IN FEET

PAVEMENT MARKING PLAN
I-90 - STA. 878+00 TO STA. 889+00

632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION

DESCRIPTION OF ITEM TO BE REMOVED BY CONTRACTOR	REMOVED & DELIVERED TO CITY OF CLEVELAND	DISPOSED OF BY CONTRACTOR
SIGNAL CABLE		X
INTERCONNECT CABLE		X
POWER CABLE (TO N. SIGNAL)		X
(1) PEDESTRIAN PEDESTAL	X	
(1) PEDESTAL FOUNDATION		X
(1) PEDESTRIAN SIGNAL HEAD	X	
(1) PEDESTRIAN PUSHBUTTON	X	

PEDESTRIAN SIGNS **PEDESTRIAN HEADS**



R10-3e-9

R9-3-18 (SEE SIGNING PLAN)

EXIST.	PROP.	LEGEND
		TRAFFIC SIGNAL SUPPORT
		PEDESTRIAN PEDESTAL
		PEDESTRIAN SIGNAL HEAD
		PEDESTRIAN PUSHBUTTON
		PULL BOX/JUNCTION BOX
		2-2" CONDUITS (725.051, SCH 40)
		CONDUIT

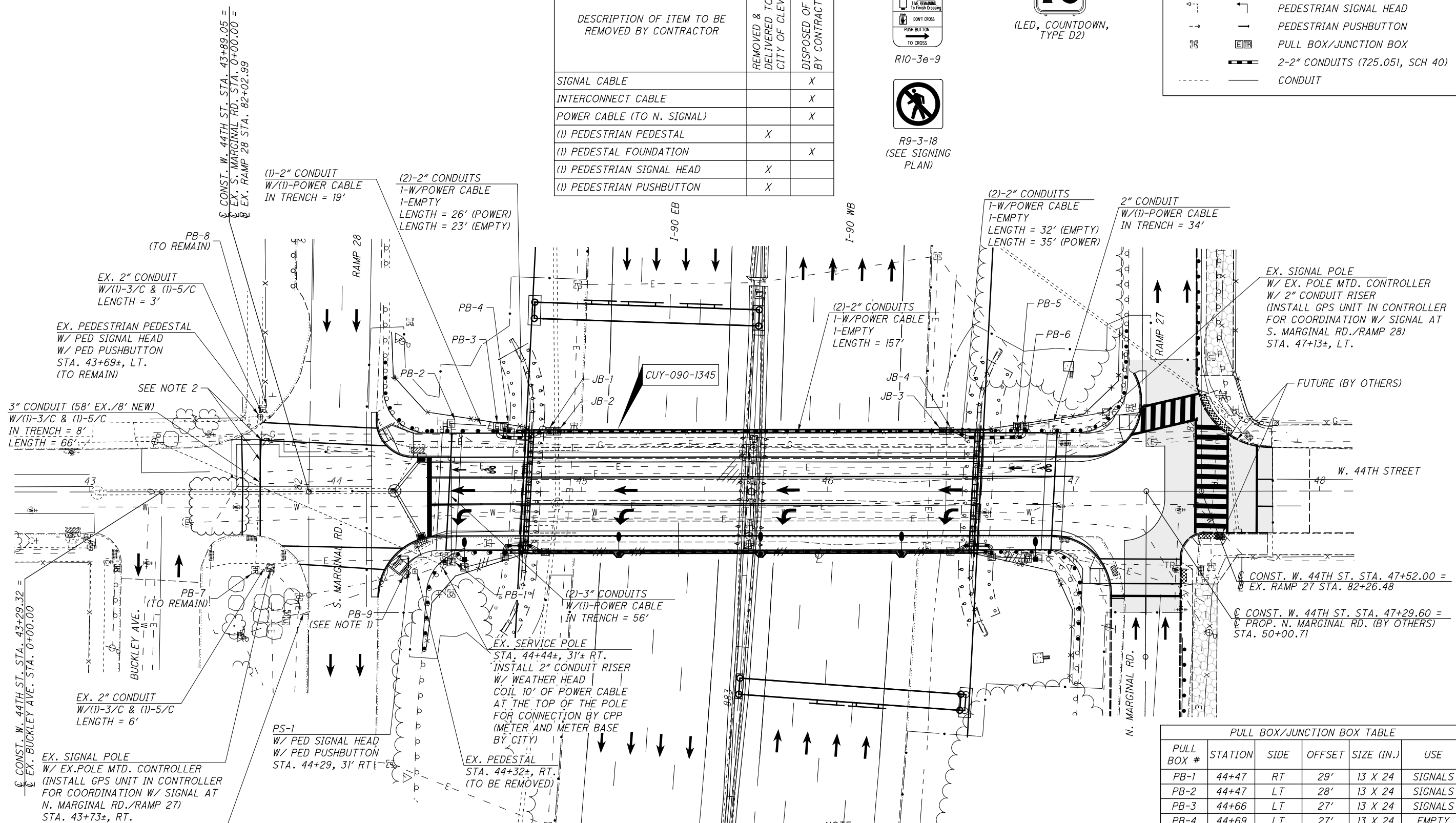
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TRAFFIC SIGNAL PLAN

W. 44TH ST & (N/S) MARGINAL RD / RAMP 27 / 28

CUY-90-13.45

98 / 135



- NOTE:**
1. INSTALL THE NEW PULL BOX ON TOP OF THE EXISTING CONDUIT AND MAKE CONNECTION. REROUTE CABLE FROM THE EXISTING PEDESTAL AND CONNECT TO THE NEW PEDESTAL.
 2. CUT EXISTING TRAFFIC CONDUIT AT SAW CUT LINES AND INSTALL NEW 3" CONDUIT BETWEEN SAW CUT LINES.
 3. JUNCTION BOXES SHALL BE SIZED PER THE "JUNCTION BOX, AS PER PLAN" NOTE ON SHEET 96.

PULL BOX/JUNCTION BOX TABLE

PULL BOX #	STATION	SIDE	OFFSET	SIZE (IN.)	USE
PB-1	44+47	RT	29'	13 X 24	SIGNALS
PB-2	44+47	LT	28'	13 X 24	SIGNALS
PB-3	44+66	LT	27'	13 X 24	SIGNALS
PB-4	44+69	LT	27'	13 X 24	EMPTY
PB-5	46+77	LT	26'	13 X 24	EMPTY
PB-6	46+80	LT	26'	13 X 24	SIGNALS
PB-7	43+67	RT	32'	EXISTING	SIGNALS
PB-8	43+70	LT	34'	EXISTING	SIGNALS
PB-9	44+28	RT	33'	13 X 24	SIGNALS
JB-1	44+87	LT	24.5'	NOTE 3	SIGNALS
JB-2	44+90	LT	24.5'	NOTE 3	EMPTY
JB-3	46+47	LT	24.5'	NOTE 3	EMPTY
JB-4	46+50	LT	24.5'	NOTE 3	SIGNALS

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ITEM SPECIAL - FORM LINER:

THIS ITEM SHALL INCLUDE THE FURNISHING OF ALL MATERIALS AND THE NECESSARY LABOR TO PROVIDE A REUSABLE ARCHITECTURAL TREATMENT ON THE INSIDE FACE OF BRIDGE AND APPROACH SLAB PARAPET RAILINGS.

ALL WORK SHALL CONFORM TO THE APPLICABLE PROVISIONS OF ITEM 511 EXCEPT AS MODIFIED AND ADDED HEREIN.

ARCHITECTURAL TREATMENT OF CONCRETE PARAPETS SHALL BE AS FOLLOWS:

GENERAL: THE WORK SHALL INCLUDE:

- CONSTRUCTION OF TEXTURED CONCRETE SURFACES USING FORM LINERS DESIGNED TO DUPLICATE CLOSELY THE APPEARANCE OF NATURAL STONE.
- DESIGN AND PATTERN OF THE CONCRETE SURFACES SHALL FOLLOW THE MANUFACTURER'S STANDARD DRAWING SELECTED.
- PATTERN SHALL BE: CUSTOM ROCK #1203, NEW ENGLAND DRYSTACK; GREENSTREAK #330, ASHLAR STONE; ARCHITECTURAL POLYMERS #911, LARGE STONE DRYSTACK; OR APPROVED EQUAL.
- SHOP DRAWINGS: PLAN, ELEVATION, AND DETAILS TO SHOW OVERALL PATTERN, JOINT LOCATIONS, FORM TIE LOCATIONS, AND END, EDGE AND OTHER SPECIAL CONSIDERATIONS.
- SAMPLES: FORM TIES, SAMPLE AND DESCRIPTION, SHOWING METHOD OF SEPARATION WHEN FORMS ARE REMOVED.
- MANUFACTURER OF FORM LINERS MUST HAVE A MINIMUM FIVE YEARS EXPERIENCE MAKING CUSTOM FORM LINERS AND COLOR STAINS TO CREATE FORMED CONCRETE SURFACES TO MATCH NATURAL STONE SHAPES AND SURFACE TEXTURES.
- PRE-INSTALLATION MEETING: SCHEDULE CONFERENCE WITH MANUFACTURER'S REPRESENTATIVE TO ASSURE UNDERSTANDING OF FORM LINER USE, REQUIREMENTS FOR CONSTRUCTION OF MOCK-UP, AND TO COORDINATE THE WORK.

PRODUCTS:

- FORM LINERS AS MANUFACTURED BY:

CUSTOM ROCK FORMLINER 2020 WEST 7TH STREET ST. PAUL, MN 55116 (615) 699-1345 WWW.CUSTOMROCK.COM	ARCHITECTURAL POLYMERS 1220 LITTLE GAP ROAD PALMERTON, PA 18071 (610) 824-3322 WWW.APFORMLINER.COM
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GREENSTREAK
3400 TREE COURT INDUSTRIAL BLVD.
ST. LOUIS, MO 63122-6614
(636) 225-9400
WWW.GREENSTREAK.COM

- RELEASE AGENT: COMPATIBLE WITH FORM LINER. CONSULT MANUFACTURER.
- FORM TIES: DESIGNED TO SEPARATE AT LEAST 1 INCH BACK FROM FINISHED SURFACE, LEAVING ONLY A NEAT HOLE THAT CAN BE PLUGGED WITH PATCHING MATERIAL.

EXECUTION:

- FORMED CONCRETE CONSTRUCTION: INSTALLER SHALL HAVE A MINIMUM FIVE YEARS OF EXPERIENCE WITH VERTICALLY FORMED ARCHITECTURAL CONCRETE. INSTALLER SHALL BE TRAINED IN MANUFACTURER'S SPECIAL TECHNIQUES IN ORDER TO ACHIEVE REALISTIC SURFACES.
- FORM LINER PREPARATION: CLEAN AND MAKE FREE OF BUILDUP PRIOR TO EACH POUR. INSPECT FOR BLEMISHES OR TEARS. REPAIR IF NEEDED FOLLOWING MANUFACTURER'S RECOMMENDATIONS.
- FORM LINER ATTACHMENT: PLACE ADJACENT LINERS WITH LESS THAN 1/4 INCH SEPARATION BETWEEN LINERS. ATTACH LINERS TO FORM SECURELY, FOLLOWING MANUFACTURER'S RECOMMENDATIONS.
- FORM RELEASE AGENT: APPLY FOLLOWING MANUFACTURER'S RECOMMENDATIONS.
- FORM STRIPPING AND RELATED CONSTRUCTION SHALL AVOID CREATING DEFECTS IN THE FINISHED SURFACES.
- WHERE FORM LINERS ABUT, CAREFULLY BLEND TO MATCH THE BALANCE OF THE STONE PATTERN, AVOIDING VISIBLE SEAMS OR FORM MARKS.
- PLACE FORM TIES AT THE THINNESS POINTS OF LINER (HIGHER POINTS OF FINISHED WALL). NEATLY PATCH THE HOLE REMAINING AFTER DISENGAGING THE PROTRUDING PORTION OF THE TIE SO THAT IT WILL NOT BE VISIBLE AFTER SEALING THE CONCRETE SURFACE.
- WHERE AN EXPANSION JOINT MUST OCCUR AT A POINT OTHER THAN AT MORTAR OR RUSTICATION JOINTS, SUCH AS AT THE FACE OF CONCRETE TEXTURE WHICH IS TO HAVE THE APPEARANCE OF STONE, CONSULT MANUFACTURER FOR PROPER TREATMENT OF EXPANSION MATERIAL.

BASIS OF PAYMENT: PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE IN PLACE, WILL BE MADE AT THE CONTRACT UNIT PRICE BID FOR ITEM SPECIAL - FORM LINER. THIS PRICE SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM AS SPECIFIED.

ITEM 690 - DOMINION ENERGY ROLLER GUIDE/SUPPORT

UNDER THIS ITEM, THE CONTRACTOR WILL PROVIDE AND INSTALL PIPE ROLLER GUIDE/SUPPORT WHERE SHOWN ON THE PLANS TO SUPPORT THE PROPOSED DOMINION ENERGY (DE) 6" DIAMETER GAS LINE. ROLLERS/SUPPORTS WILL BE SIZED TO CARRY THE PROPOSED GAS LINE. FOR PIPE SUPPORTS, ROLLERS SHALL BE DOUBLE ROLLERS USING NON-CONDUCTIVE MATERIAL. THESE ROLLERS WILL BE FULLY FIELD-ADJUSTABLE AND BE PROVIDED WITH ALL REQUIRED HARDWARE AND FASTENERS FOR A COMPLETE OPERABLE SYSTEM. DOMINION ENERGY WILL SUPPLY AND INSTALL THE GAS MAIN. BEFORE ORDERING THE CONTRACTOR SHALL GET APPROVAL FROM DOMINION ENERGY. THE CONTRACTOR SHALL COORDINATE WITH DOMINION ENERGY TO SCHEDULE THE WORK. NO ADDITIONAL PAYMENT WILL BE MADE FOR ANY SCHEDULE DELAYS WHEN COORDINATING THIS WORK WITH DOMINION ENERGY.

PAYMENT WILL BE MADE AT THE PRICE PER EACH PER ITEM 690 - DOMINION ENERGY ROLLER GUIDE/SUPPORT.

ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN

THE ANCHORS SHALL BE CAST IN PLACE. ALL FENCE FABRIC SHALL BE BLACK VINYL COATED AND ALL RAILS, POSTS, PLATES AND ADDITIONAL VISUAL HARDWARE SHALL BE PAINTED WITH BLACK EPOXY-URETHANE SHOP APPLIED. ALL TIE WIRES AND CAULK SHALL BE BLACK.

PAYMENT SHALL BE AT THE UNIT PRICE BID PER LINEAR FOOT FOR ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ABBREVIATIONS

- ABUT. - ABUTMENT
- APPR. - APPROACH
- APPROX. - APPROXIMATE
- BOT. - BOTTOM
- BRG. - BEARING
- C/C - CENTER TO CENTER
- CEI - CLEVELAND ELECTRIC ILLUM.
- C.J. - CONSTRUCTION JOINT
- COL. - COLUMN
- CONST. - CONSTRUCTION
- C.P.P. - CORRUGATED PLASTIC PIPE
- CPP. - CLEVELAND PUBLIC POWER
- CWD. - CLEVELAND WATER DEPARTMENT
- DIA. - DIAMETER
- E.F. - EACH FACE
- EL. - ELEV.
- EQ. SPA. - EQUAL SPACE
- E.W. - EACH WAY
- EX. - EXIST.
- EXP. - EXPANSION
- F.A. - FORWARD ABUTMENT
- F.F. - FAR FACE
- FTG. - FOOTING
- FWD. - FORWARD
- H.M.W.M. - HIGH MOLECULAR WEIGHT METHACRYLATE
- MAX. - MAXIMUM
- M.O.T. - MAINTENANCE OF TRAFFIC
- MIN. - MINIMUM
- N.F. - NEAR FACE
- P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
- R.A. - REAR ABUTMENT
- RT. - RIGHT
- S.B. - SOUTHBOUND
- SER. - SERIES
- SPA. - SPACING
- STA. - STATION
- T & B - TOP AND BOTTOM
- T.H. - TEST HOLE
- TYP. - TYPICAL
- T/T - TOE TO TOE
- VAR. - VARIES
- V.C. - VERTICAL CURVE
- VERT. - VERTICAL
- U.N.O. - UNLESS NOTED OTHERWISE

CEI FIRST ENERGY COORDINATION

THE CONTRACTOR SHALL COORDINATE DE-ENERGIZING OF THE EXISTING CEI ELECTRIC CABLE(S) WHICH ARE SUPPORTED BY THE EXISTING BRIDGE GIRDERS AND WHICH EXTEND UNDERGROUND UNDER SOUTH MARGINAL AND NORTH MARGINAL ROADS. CEI WILL INSTALL TWO (2) NEW 5" DIA. DUCTS IN THE BRIDGE SIDEWALK AND APPROACH ROADWAYS, AND WILL ALSO INSTALL NEW CABLE(S) IN THE NEW CONDUITS. THE CONTRACTOR SHALL COORDINATE WITH CEI TO PROVIDE ACCESS AND TO SCHEDULE THEIR WORK.

THE EXISTING CEI CONDUITS WILL BE REMOVED BEFORE THE CPP DUCT BANK IS RELOCATED.

THE WORK FOR THIS ITEM SHALL BE INCIDENTAL TO THE PROJECT AND NO SEPARATE PAYMENT SHALL BE MADE.

ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN

THE CONCRETE PATCHING DEPTH SHALL BE 7". THE REINFORCING STEEL WITHIN THE PATCH IS INCLUDED WITH ITEM 509 EPOXY COATED REINFORCING STEEL FOR PAYMENT. ANODES SHALL BE SPACED AT 30 INCHES ON CENTERS EACH WAY.

ASBESTOS NOTIFICATION

A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST SURVEYED THE BRIDGE STRUCTURE SCHEDULED FOR DEMOLITION AND/OR REHABILITATION; THE SURVEY DETERMINED THAT 6415 SQUARE FEET OF ASBESTOS IS PRESENT ON THE BRIDGE STRUCTURE.

ODOT SHALL PROVIDE A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO ONE OF THE ADDRESSES BELOW AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION.

ASBESTOS PROGRAM
OHIO EPA, DAPC
P.O. BOX 1049
COLUMBUS, OH 43216-1049

OR

ASBESTOS PROGRAM
OHIO EPA, DAPC
50 W. TOWN ST., SUITE 700
COLUMBUS, OH 43215

THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION. THE FORM SHALL INCLUDE: 1) THE CONTRACTORS NAME AND ADDRESS, 2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL AND 3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED. COPIES OF THE OEPA FORM AND BRIDGE INSPECTION REPORT ARE AVAILABLE FOR REVIEW AT THE ODOT DISTRICT 12 OFFICE, 5500 TRANSPORTATION BOULEVARD, GARFIELD HEIGHTS, OHIO 44125.

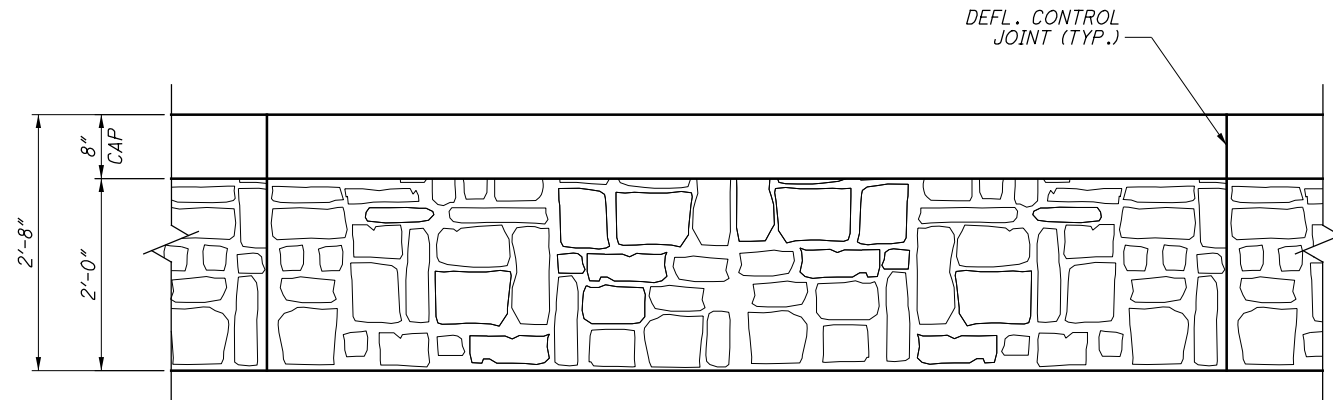
BASIS FOR PAYMENT: THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM, AND REMOVAL, HANDLING AND DISPOSAL OF ASBESTOS CONTAINING MATERIALS. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202 PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 511, THE CONTRACTOR MAY INSTALL GALVANIZED STEEL STAY-IN-PLACE DECK FORMS (SIP FORMS) BETWEEN GIRDER 4 AND GIRDER 5 IF THE FOLLOWING REQUIREMENTS ARE MET:

- SIP FORMS SHALL NOT BE INSTALLED WITHIN APPROXIMATELY 8 FEET OF THE EXPANSION JOINTS.
- THE SIP FORMS AND THEIR SUPPORT SYSTEM SHALL HAVE A MINIMUM MATERIAL THICKNESS AS FOLLOWS: SIP FORMS (20 GAGE), SUPPORT ANGLES (12 GAGE), AND SUPPORT BARS (12 GAGE).
- THE SIP FORMS AND THEIR SUPPORT SYSTEM SHALL BE HOT-DIPPED GALVANIZED PER ASTM A653 WITH A COATING DESIGNATION OF G235.
- THE SIP FORMS AND THEIR SUPPORT SYSTEM SHALL NOT BE CUT OR PERFORATED AFTER THEY HAVE BEEN HOT-DIP GALVANIZED, EXCEPT TO INSTALL SELF-DRILLING FASTENERS.
- THE SELF-DRILLING FASTENERS SHALL BE CADMIUM PLATED PER ASTM B766 AND HAVE A MINIMUM PLATING THICKNESS OF 5, TEN THOUSANDTHS OF AN INCH (0.0005 INCH).
- THE FLUTES OF THE SIP FORMS SHALL BE COMPLETELY FILLED WITH CONCRETE.
- THE WEIGHT OF THE SIP FORMS PLUS THE WEIGHT OF THE CONCRETE WITHIN THE SIP FORM FLUTES SHALL NOT EXCEED 18 PSF.
- THE SIP FORMS SHALL MEET THE DEFLECTION REQUIREMENTS OF CMS 508.
- THE SIP FORMS SHALL BE PLACED ON FORM SUPPORTS. THE SIP FORMS SHALL NOT BE INSTALLED DIRECTLY ON THE BRIDGE'S STRUCTURAL MEMBERS.
- THE SIP FORMS AND/OR THEIR SUPPORTS SHALL NOT BE WELDED TO STEEL BRIDGE MEMBERS.
- THE ELEVATIONS OF THE SIP FORM SUPPORTS SHALL BE SET TO ACHIEVE THE DECK THICKNESS AND SCREED ELEVATIONS, AS SPECIFIED IN THE CONSTRUCTION PLANS.
- THE SIP FORMS SHALL BE PLACED ON THE FORM SUPPORTS TO ACHIEVE THE MINIMUM BEARING LENGTH PER THE MANUFACTURE'S DESIGN.

ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS FOR THE DESIGN, FABRICATION, DELIVERY, AND INSTALLATION OF THE STAY-IN-PLACE DECK FORMS AND THEIR SUPPORT SYSTEM SHALL BE INCLUDED FOR PAYMENT WITH ITEM 511 CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN. DECK HANGERS USED TO CONSTRUCT AS SPECIFIED IN THE PLANS ARE THE MEANS AND METHODS OF THE CONTRACTOR, SUBJECT TO ACCEPTANCE BY THE DEPARTMENT. GALVANIZE ALL DECK HANGERS NOT ENCASED IN CONCRETE PER 711.02.



TYPICAL FORM LINER ELEVATION
(AS VIEWED FROM SIDEWALK)

DESIGN AGENCY: **ms consultants, inc.**
4608 St. Clair Avenue
Cleveland, Ohio 44103-1206

DATE: 7/17/2019
REVIEWED: JDH
DRAWN: JSP
DESIGNED: LAW

STRUCTURE FILE NUMBER: 1807811
CHECKED: SUR
REVISION: JDH

GENERAL NOTES (2 OF 2)
BRIDGE NO. CUY-090-1345
WEST 44TH STREET OVER I-90

CUY-090-13.45
PID No. 105792

3/30
108
135

BY: TVB 6/24/2019
 CHECKED: LAW 9/20/2019

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	PARTICIPATION			TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPERSTRUCTURE	GENERAL	SHEET REF.
		01/BRO/BR	02/BRO/BR	03/BRO/BR								
202	11203	LS			LS	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					LS	2
202	22900	240			240	APPROACH SLAB REMOVED					240	
202	23500	240			240	WEARING COURSE REMOVED			240			
503	11100	LS			LS	COFFERDAMS AND EXCAVATION BRACING					LS	
509	10000	106,810			106,810	EPOXY COATED REINFORCING STEEL	10,317	1,309	91,824		3,360	
510	10000	362			362	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	268	94				
511	34447	269			269	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN			269			3
511	34450	45			45	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)			45			
511	42510	12			12	CLASS QC1 CONCRETE, PIER CAP		12				
511	45710	55			55	CLASS QC1 CONCRETE, ABUTMENT	55					
511	51512	133			133	CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK			107		26	
512	10050	462			462	SEALING OF CONCRETE SURFACES (NON-EPOXY)			462			
512	10100	1,082			1,082	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	492	120	470			
512	10600	33			33	CONCRETE REPAIR BY EPOXY INJECTION	33					
512	33000	11			11	TYPE 2 WATERPROOFING	11					
513	10280	265,003			265,003	STRUCTURAL STEEL MEMBERS, LEVEL 4			265,003			
513	20000	3,168			3,168	WELDED STUD SHEAR CONNECTORS			3,168			
514	00060	14,468			14,468	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			14,468			
514	00066	14,468			14,468	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			14,468			
516	11210	101			101	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			101			
516	13600	86			86	1" PREFORMED EXPANSION JOINT FILLER	86					
516	44100	12			12	ELASTOMERIC BEARING (10" X 16" X 2.0488") WITH INTERNAL LAMINATES (NEOPRENE) AND LOAD PLATE (11" X 19" X 1.5" MIN.)	12					
516	44200	6			6	ELASTOMERIC BEARING (18" X 20" X 3.1235") WITH INTERNAL LAMINATES (NEOPRENE) AND LOAD PLATE (19" X 30.5" X 1.5" MIN.)		6				
518	21200	45			45	POROUS BACKFILL WITH GEOTEXTILE FABRIC	45					
519	11101	537			537	PATCHING CONCRETE STRUCTURE, AS PER PLAN	153	384				2
526	30011	318			318	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN					318	2
526	90010	96			96	TYPE A INSTALLATION					96	
SPECIAL	530E13000	733			733	FORMLINER			733			3
601	20010	37			37	CRUSHED AGGREGATE SLOPE PROTECTION					37	
607	39901	367			367	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN			367			3
SPECIAL	690E98000			11	11	DOMINION ENERGY ROLLER GUIDE/SUPPORT			11			3
844	10001	743			743	CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN	743					3



DESIGN AGENCY
 ms consultants, inc.
 4608 St. Clair Avenue
 Cleveland, Ohio 44103-1206

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 STRUCTURE FILE NUMBER 1807811

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 CHECKED TVB
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ESTIMATED QUANTITIES
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