CUY-90-14.90

PID 77332/85531

APPENDIX TC-06

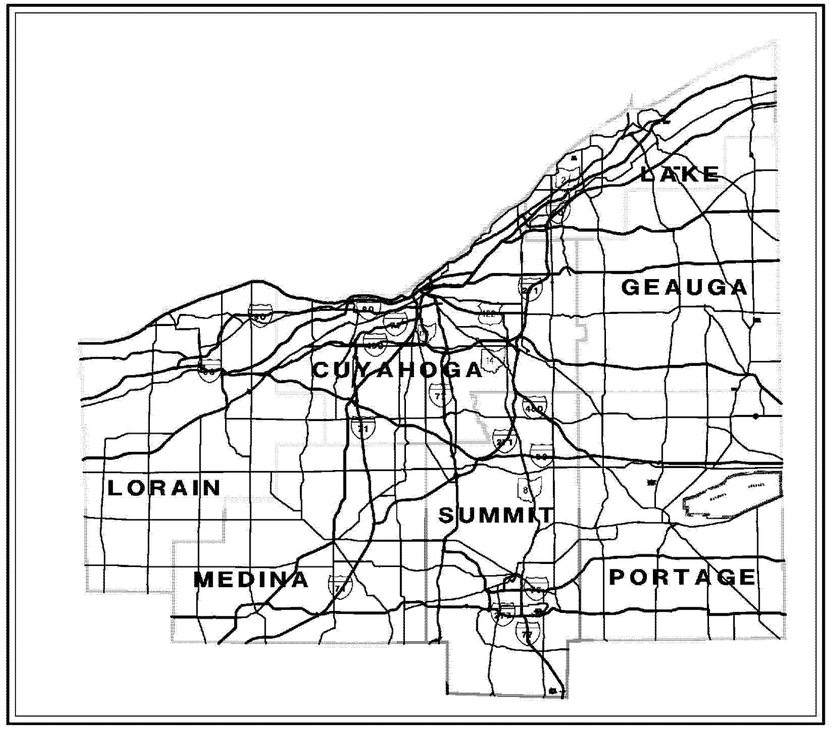
VAR – Cleveland Freeway Management System, Part 1 (ODOT ITS Plans)

(Reference Document)

State of Ohio
Department of Transportation
Jolene M. Molitoris, Director

Innerbelt Bridge
Construction Contract Group 1 (CCG1)

Revision Date: July 9, 2009



LOCATION MAP

LATITUDE: 41°16'81" LONGITUDE: 81°41'05"

SCALE IN MILES

0 7.58 15.16 22.74 30.32

(1 IN: 40,000 FT.)

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM PART 1

FOR PART 2, SEE STA-SUM ITS

INDEX OF SHEETS:

SHEETS NOT USED: 27

PROJECT DESCRIPTION

THE CLEVELAND FREEWAY MANAGEMENT SYSTEM IS INTENDED TO IMPROVE SAFETY THROUGH BETTER CONGESTION MANAGEMENT AND TRAVELER INFORMATION THROUGHOUT THE CLEVELAND REGION. THE SYSTEM COVERS PORTIONS OF CUYAHOGA, LAKE, LORAIN, MEDINA, PORTAGE & SUMMIT COUNTIES.

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2008 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

FEDERAL PROJECT NO.
E 040 (623)
E 090 (808)

PID NO. 77331

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT
NONE

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

UNDERGROUND UTILITIES

TWO WORKING DAYS
BEFORE YOU DIG
CALL 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

PLAN PREPARED BY:

DMJM HARRIS | AECOM

ENGINEERS SEAL:

STATE OF OHIO
ANGELA M. CHRISTO
E-69111
REGISTERED PROFESSIONAL ENGINEER

SIGNED: Angela M Christo
DATE: 11/24/08

ODOT STANDARD CONSTRUCTION DRAWINGS

GR-1.1	07/16/04	TC-21.20	01/19/07	MT-98.20	10/19/07	F - 3.2	07/18/08
GR-2.1	01/16/04	TC-21.40	01/19/07	MT-98.29	10/19/07		
GR-3.1	01/19/07	TC-22.20	01/19/01	MT-105.10	10/18/02		
GR-3.2	01/19/07	TC-41.41	01/19/01	MT-105.11	10/18/02		
GR-4.1	04/18/03	TC-81.10	05/01/00				
GR-4.2	01/19/07	TC-83.20	01/19/07	HL-20.11	01/19/07		
GR-5.1	04/18/03	TC-84.20	01/19/07	HL-20.21	01/19/07		
		TC-84.21	01/19/07	HL-30.11	01/21/05		
RM-4.3	01/19/07			HL-30.21	01/19/07		
RM-4.4	01/19/07	MT-35.10	04/20/01	HL-30.22	01/21/05		
RM-4.5	01/19/07	MT-95.30	09/05/06	HL-40.10	01/19/07		
		MT-95.31	09/05/06	HL-40.20	01/19/07		
TC-9.30	01/19/07	MT-95.32	09/05/06	HL-50.11	01/19/07		
TC-12.30	01/19/07	MT-98.10	10/19/07	HL-60.12	10/19/07		
TC-15.115	01/19/07	MT-98.11	10/19/07				
TC-16.20	01/19/07	MT-98.22	10/19/07	F - 1.1	07/16/04		

SUPPLEMENTAL SPECIFICATIONS

SS 800	04/17/09
SS 832	05/05/09
SS 977	10/17/08

SPECIAL PROVISIONS

VAR-CLEVELAND
FREEWAY MANGEMENT
SYSTEM 11-24-08

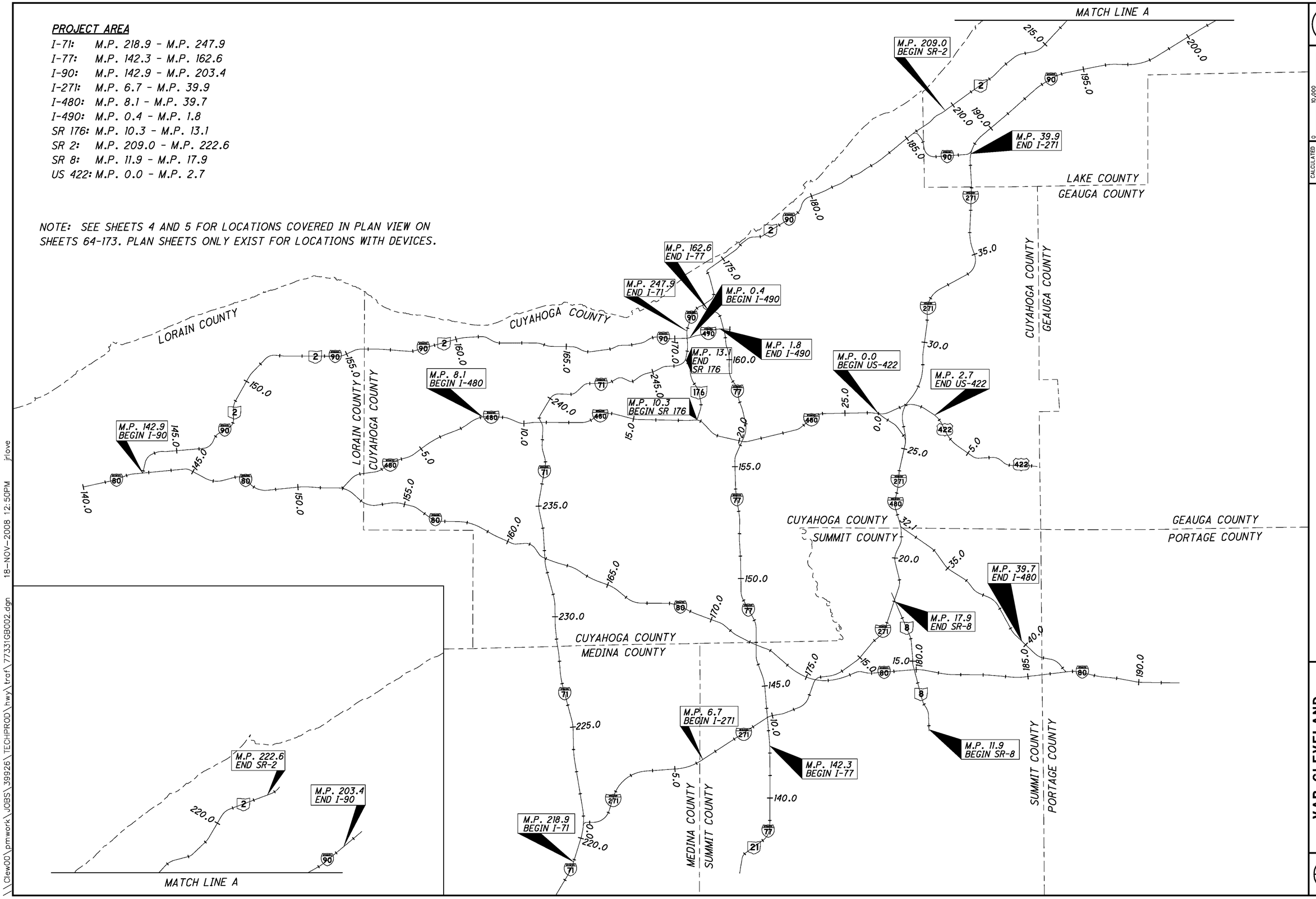
APPROVED _____
DATE _____ DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

PROJECT AREA

I-71: M.P. 218.9 - M.P. 247.9
I-77: M.P. 142.3 - M.P. 162.6
I-90: M.P. 142.9 - M.P. 203.4
I-271: M.P. 6.7 - M.P. 39.9
I-480: M.P. 8.1 - M.P. 39.7
I-490: M.P. 0.4 - M.P. 1.8
SR 176: M.P. 10.3 - M.P. 13.1
SR 2: M.P. 209.0 - M.P. 222.6
SR 8: M.P. 11.9 - M.P. 17.9
US 422: M.P. 0.0 - M.P. 2.7

NOTE: SEE SHEETS 4 AND 5 FOR LOCATIONS COVERED IN PLAN VIEW ON SHEETS 64-173. PLAN SHEETS ONLY EXIST FOR LOCATIONS WITH DEVICES.



HORIZONTAL SCALE IN FEET
0 5,000 10,000 20,000

CALCULATED STS
CHECKED JDG

SCHEMATIC PLAN

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

MATCH LINE A
LAKE ERIE
LAKE
GEAUGA
CUYAHOGA
LORAIN
MEDINA
PORTAGE
SUMMIT
CLEVELAND
Willowick
Willoughby
Kirtland Hills
Wickliffe
Euclid
Waite Hill
Kirtland
Willoughby Hills
Bratenahl
East Cleveland
Richmond Heights
Highland Heights
Mayfield
Gates Mills
CHARDO
CHESTER
MUNSON
Cleveland Heights
South Euclid
Lyndhurst
Mayfield Heights
University Heights
Pepper Pike
Hunting Valley
Shaker Heights
Beachwood
Woodmere
NEWBURY
RUSSELL
Highland Hills
Moreland Hills
Warrensville Heights
North Randall
Orange
Chagrin Falls
South Russell
Garfield Heights
Maple Heights
Bedford
Bedford Heights
Bentleyville
AUBURN
BAINBRIDGE
Solon
Walton Hills
Glenwillow
Reminderville
Aurora
Northfield
Broadview Heights
North Royalton
Parma
Parma Heights
Seven Hills
Valley View
Independence
Olmsted Falls
Berea
Middleburg Heights
North Olmsted
Fairview Park
Lakewood
Rocky River
Bay Village
Westlake
Avon
Avon Lake
Sheffield
Sheffield Lake
Lorain
Amherst
South Amherst
ELYRIA
North Ridgeville
NEW RUSSIA
EATON
COLUMBIA
CARLISLE
Oberlin
PITTSFIELD
Grafton
Strongsville
Brunswick
HINCKLEY
BRUNSWICK HILLS
GRANGER
MEDINA
Medina Municipal Airport
Brecksville
SAGAMORE HILLS
NORTHFIELD CENTER
Macedonia
TWINSBURG
Streetsboro
Mantua
Boston Heights
Peninsula
BOSTON
SHALERSVILLE
Portage County Airport
Richfield
BATH
Cuyahoga Falls
Linndale
Newburgh Heights
Brooklyn
Brooklyn Heights
Cleveland Hopkins Airport
Burke Lakefront Airport
Grand River
Mentor-on-the-Lake
Mentor
Lost Nation Airport
Timberlake
Lakeline
Eastlake
CONCORD
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008005
008003
008001
080006
090064
002002
080004
090001
090002
GATE 8A
GATE 9
GATE 10
GATE 11
GATE 12
GATE 13
GATE 13A
DOT District 12 TMC
LEGEND
INTERSTATE
U.S. ROUTE
STATE ROUTE
COUNTY BOUNDARY
TMC
PROPOSED HAR
EXISTING HAR
CCTV
CCTV WITH VEHICLE DETECTOR
DMS TRUSS
WIRELESS DMS TRUSS
DMS PEDESTAL
WIRELESS DMS PEDESTAL
DEVICE NUMBERING
123456 : 123 (ROUTE) 456 (DEVICE #)
HORIZONTAL SCALE IN FEET
0
5,000
10,000
20,000
CALCULATED STS
CHECKED JDG
ITS DEVICE LOCATIONS
VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM
3
207
C:\ewO0\prwork\JOBS\39926\TECHPROD\hwy\traf\77331GB001.dgn 18-NOV-2008 12:50PM jrlove

I-71 DEVICES

DEVICE NUMBER	SHEET PLANS	SHEET COMM.	STA.	OFFSET	DEVICE	COMM.
HAR	64	189	896+90	238' RT	HAR	WIRELESS CDMA
071001	65	189	913+33	107' RT	DMS TRUSS	WIRELESS CDMA
071003	66	189	986+78	96' RT	CCTV	T-1
071005	67	189	1267+74	91' LT	CCTV	T-1
071007	68	189	625+43	159' LT	CCTV	EOC
071009	69	189	719+01	137' LT	CCTV	T-1
HAR	70	189			HAR	WIRELESS CDMA
071011	71	189	839+12	64' LT	CCTV	EOC
071013	72	189	902+38	65' RT	DMS TRUSS	WIRELESS CDMA
071015	73	189	958+83	77' RT	CCTV	T-1
071017	74	189	1009+49	156' LT	CCTV W/ VD	EOC
071019	75	189	643+96	85' RT	CCTV	SHARED T-1
071021	75	189	658+18	112' LT	DMS TRUSS	T-1
HAR	76	190			HAR	WIRELESS CDMA
071023	77	190	721+77	96' RT	CCTV	T-1
071025	77	190	730+99	100' RT	CCTV W/ VD	T-1
071027	78	190	769+31	188' LT	CCTV	EOC
071029	79	190	825+57	85' RT	CCTV	T-1
071031	80	190	884+07	94' RT	CCTV	EOC
071033	81	190	912+80	75' RT	DMS TRUSS	WIRELESS CDMA
071035	82	190	942+59	105' RT	CCTV	EOC
071037	83	190	895+62	139' RT	CCTV W/ VD	EOC
071039	84	190	946+97	175' RT	CCTV W/ VD	T-1

I-77 DEVICES

DEVICE NUMBER	SHEET PLANS	SHEET COMM.	STA.	OFFSET	DEVICE	COMM.
077001	86	191	850+13	85' RT	DMS PEDESTAL	WIRELESS CDMA
HAR	88	191	1027+38	166' RT	HAR	WIRELESS CDMA
077003	89	191	1091+43	152' RT	CCTV	T-1
077005	90	191	351+00	87' RT	DMS TRUSS	WIRELESS CDMA
077007	91	191	479+14	59' LT	CCTV W/ VD	EOC
077009	92	191	44+82	59' LT	DMS TRUSS	T-1
077011	92	191	55+91	62' RT	CCTV W/ VD	SHARED T-1
077013	93	191	75+62	79' LT	CCTV	EOC
077015	94	191	111+27	76' LT	CCTV	EOC
077017	95	191	140+91	70' RT	DMS TRUSS	WIRELESS CDMA
077019	96	191	196+29	77' LT	CCTV W/ VD	T-1
077021	97	191	1025+76	228' RT	CCTV	EOC
HAR	97	191			HAR	WIRELESS CDMA
077023	98	191	117+31	60' RT	CCTV W/ VD	EOC
077025	99	191	41+44	63' RT	CCTV	EOC

I-80 DEVICES

DEVICE NUMBER	SHEET PLANS	SHEET COMM.	STA.	OFFSET	DEVICE	COMM.
080004	100	524	1020+10	133' LT	CCTV	T-1
080006	101	525	58+58	149' RT	CCTV	EOC

EOC - ETHERNET OVER COPPER
CDMA - CODE DIVISION MULTIPLE ACCESS

I-90 DEVICES

DEVICE NUMBER	SHEET PLANS	SHEET COMM.	STA.	OFFSET	DEVICE	COMM.
090001	102	192	503+67	38' LT	CCTV	T-1
090002	103	192	566+58	23' RT	CCTV	T-1
090004	104	192	187+18	159' RT	CCTV	EOC
090006	105	192	244+07	105' RT	CCTV	T-1
090007	106	192	268+94	69' RT	DMS PEDESTAL	WIRELESS CDMA
090008	107	192	312+69	85' RT	CCTV	EOC
090010	108	192	548+16	102' RT	CCTV	EOC
090012	109	192	588+47	93' RT	CCTV	EOC
090014	110	192	636+76	83' RT	CCTV	T-1
090016	111	192	732+79	℄	CCTV W/VD	EOC
090018	112	192	768+68	109' RT	CCTV	EOC
090020	113	192	811+05	107' RT	CCTV	SHARED EOC
090022	113	192	823+56	137' RT	DMS TRUSS	EOC
090024	114	193	881+08	109' RT	CCTV W/VD	EOC
090026	115	193	904+51	93' LT	CCTV W/VD	EOC
090027	85	193	966+94	65' LT	CCTV	T-1
090028	116	193	991+33	77' LT	CCTV	EOC
090030	117	193	58+24	86' LT	CCTV	EOC
090031	118	193	83+57	166' RT	CCTV	EOC
090031A	119	193	109+18	93' RT	CCTV	EOC
090031B	120	193	49+25	73' LT	DMS TRUSS	WIRELESS CDMA
090032	121	193	85+07	81' LT	CCTV W/VD	EOC
090034	122	193	137+70	102' RT	CCTV	EOC
090036	123	193	237+16	76' RT	CCTV W/VD	T-1
090038	124	193	38+67	68' LT	DMS TRUSS	EOC
090040	124	193	39+66	69' RT	CCTV	SHARED EOC
090042	125	194	99+34	68' RT	CCTV	EOC
090044	126	194	139+29	91' LT	CCTV	EOC
090046	127	194	210+61	83' RT	CCTV W/VD	EOC
090048	128	194	271+44	79' RT	CCTV	EOC
090050	129	194	353+27	83' RT	DMS TRUSS	WIRELESS CDMA
090052	130	194	383+50	78' RT	CCTV W/VD	EOC
090054	131	194	15+88	42' LT	CCTV	EOC
090056	132	194	92+26	95' RT	CCTV W/VD	EOC
HAR	132	194			HAR	WIRELESS CDMA
090058	133	194	37+29	73' RT	CCTV	T-1
090060	134	194	120+92	154' LT	CCTV	T-1
090062	135	194	273+60	142' LT	DMS TRUSS	WIRELESS CDMA
090064	136	194	514+39	9' LT	DMS PEDESTAL	WIRELESS CDMA

I-271 DEVICES

DEVICE NUMBER	SHEET PLANS	SHEET COMM.	STA.	OFFSET	DEVICE	COMM.
271001	137	195	418+28	83' RT	DMS PEDESTAL	WIRELESS CDMA
271003	87	195	191+65	141' LT	CCTV	T-1
271005	138	195	57+68	86' LT	CCTV	T-1
271007	139	195	18+87	117' LT	CCTV	EOC
271008	140	195			FLOW DETECTOR	WIRELESS CDMA
271009	141	195	97+03	173' RT	CCTV	EOC
271011	142	195	139+37	144' LT	DMS PEDESTAL	WIRELESS CDMA
271013	142	195	139-38	140' LT	DMS TRUSS	WIRELESS CDMA
271015	144	195	332+88	267' LT	CCTV W/VD	EOC
HAR	144	195			HAR	WIRELESS CDMA
271017	145	195	426+88	63' LT	DMS PEDESTAL	WIRELESS CMDA
271019	146	195	450+54	183' LT	CCTV	EOC
271020	147	195	591+80	147' LT	CCTV	EOC
271021	148	195	707+74	193' LT	CCTV W/VD	EOC
271023	149	195	54+83	69' RT	DMS PEDESTAL	WIRELESS CDMA
271027	150	195	17+73	152' LT	CCTV W/VD	T-1

I-480 DEVICES

DEVICE NUMBER	SHEET PLANS	SHEET COMM.	STA.	OFFSET	DEVICE	COMM.
480002	151	196	411+91	106' RT	DMS TRUSS	WIRELESS CDMA
480004	152	196	456+41	74' RT	CCTV	EOC
480006	153	196	580+23	85' RT	CCTV W/VD	EOC
480008	154	196	781+10	113' LT	CCTV W/VD	EOC
480010	155	196	803+87	93' RT	DMS TRUSS	WIRELESS CDMA
480012	156	196	900+91	196' RT	CCTV W/VD	EOC
480014	157	196	1048+02	136' LT	CCTV W/VD	EOC
TMC	157	196			TMC	EOC
480016	158	196	1119+31	67' RT	CCTV	EOC
480018	159	196	1137+17	68' LT	DMS TRUSS	WIRELESS CDMA
480020	160	196	1212+19	84' RT	DMS TRUSS	WIRELESS CDMA
480022	161	196	1282+47	145' LT	CCTV	EOC
480024	162	196	58+48	72' LT	CCTV	T-1
480026	146	196	103+83	52' LT	CCTV W/VD	T-1
480028	163	196	396+17	14' LT	DMS PEDESTAL	WIRELESS CDMA

I-490 DEVICES

DEVICE NUMBER	SHEET PLANS	SHEET COMM.	STA.	OFFSET	DEVICE	COMM.
490002	164	197	954+23	103" RT	CCTV	T-1

SR 176 DEVICES

DEVICE NUMBER	SHEET PLANS	SHEET COMM.	STA.	OFFSET	DEVICE	COMM.
176001	165	197	154+76	137' RT	CCTV	T-1
176003	166	197	193+87	72' LT	CCTV	SHARED EOC
176005	166	197	196+84	93' RT	DMS TRUSS	EOC
176007	167	197	51+13	16' LT	CCTV W/VD	EOC

SR 2 DEVICES

DEVICE NUMBER	SHEET PLANS	SHEET COMM.	STA.	OFFSET	DEVICE	COMM.
002000	168	197	165+26	82' LT	CCTV W/VD	EOC
002002	169	197	653+24	76' RT	DMS TRUSS	WIRELESS CDMA

SR 8 DEVICES

DEVICE NUMBER	SHEET PLANS	SHEET COMM.	STA.	OFFSET	DEVICE	COMM.
008001	170	197	1247+85	68' RT	DMS TRUSS	WIRELESS CDMA
008003	171	197	1302+11	63' RT	CCTV	T-1
008005	172	197	394+40	73' LT	CCTV	T-1

US 422 DEVICES

DEVICE NUMBER	SHEET PLANS	SHEET COMM.	STA.	OFFSET	DEVICE	COMM.
422002	173	197	775+88	74' LT	DMS PEDESTAL	WIRELESS CDMA

CALCULATED STS
CHECKED JDG

ITS DEVICE LOCATIONS (STATIONS)

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

I-71 DEVICES

DEVICE NUMBER	SHEET PLANS	SHEET COMM.	LAT.	LONG.	DEVICE	COMM.
HAR	64	189	41.13789	-81.79282	HAR	WIRELESS CDMA
071001	65	189	41.14217	-81.79130	DMS TRUSS	WIRELESS CDMA
071003	66	189	41.16178	-81.78508	CCTV	T-1
071005	67	189	41.23800	-81.79850	CCTV	T-1
071007	68	189	41.31357	-81.81195	CCTV	EOC
071009	69	189	41.33886	-81.81766	CCTV	T-1
HAR	70	189	41.35652	-81.81881	HAR	WIRELESS CDMA
071011	71	189	41.37155	-81.82122	CCTV	EOC
071013	72	189	41.38851	-81.81652	DMS TRUSS	WIRELESS CDMA
071015	73	189	41.40382	-81.81784	CCTV	T-1
071017	74	189	41.41762	-81.81820	CCTV W/ VD	EOC
071019	75	189	41.42924	-81.81618	CCTV	SHARED T-1
071021	75	189	41.43285	-81.81405	DMS TRUSS	T-1
HAR	76	190	41.43848	-81.80082	HAR	WIRELESS CDMA
071023	77	190	41.43837	-81.79435	CCTV	T-1
071025	77	190	41.43870	-81.79090	CCTV W/ VD	T-1
071027	78	190	41.44576	-81.78015	CCTV	EOC
071029	79	190	41.44590	-81.75947	CCTV	T-1
071031	80	190	41.44613	-81.74002	CCTV	EOC
071033	81	190	41.45044	-81.73124	DMS TRUSS	WIRELESS CDMA
071035	82	190	41.45286	-81.72077	CCTV	EOC
071037	83	190	41.45623	-81.70137	CCTV W/ VD	EOC
071039	84	190	41.46783	-81.69226	CCTV W/ VD	T-1

I-77 DEVICES

DEVICE NUMBER	SHEET PLANS	SHEET COMM.	LAT.	LONG.	DEVICE	COMM.
077001	86	191	41.20956	-81.62538	DMS PEDESTAL	WIRELESS CDMA
HAR	88	191	41.25884	-81.63202	HAR	WIRELESS CDMA
077003	89	191	41.27590	-81.63583	CCTV	T-1
077005	90	191	41.37094	-81.65149	DMS TRUSS	WIRELESS CDMA
077007	91	191	41.40594	-81.64788	CCTV W/ VD	EOC
077009	92	191	41.43056	-81.64777	DMS TRUSS	T-1
077011	92	191	41.43351	-81.64872	CCTV W/ VD	SHARED T-1
077013	93	191	41.43881	-81.65010	CCTV	EOC
077015	94	191	41.44742	-81.65558	CCTV	EOC
077017	95	191	41.45542	-81.65695	DMS TRUSS	WIRELESS CDMA
077019	96	191	41.47035	-81.65994	CCTV W/ VD	T-1
077021	97	191	41.47930	-81.66479	CCTV	EOC
HAR	97	191	41.48111	-81.66333	HAR	WIRELESS CDMA
077023	98	191	41.49028	-81.66661	CCTV W/ VD	EOC
077025	99	191	41.49239	-81.67478	CCTV	EOC

I-80 DEVICES

DEVICE NUMBER	SHEET PLANS	SHEET COMM.	LAT.	LONG.	DEVICE	COMM.
080004	100	198	41.37959	-81.99423	CCTV	T-1
080006	101	198	41.25559	-81.37114	CCTV	EOC

EOC - ETHERNET OVER COPPER
CDMA - CODE DIVISION MULTIPLE ACCESS

I-90 DEVICES

DEVICE NUMBER	SHEET PLANS	SHEET COMM.	LAT.	LONG.	DEVICE	COMM.
090001	102	192	41.38979	-82.16118	CCTV	T-1
090002	103	192	41.40245	-81.14914	CCTV	T-1
090004	104	192	41.47210	-81.90194	CCTV	EOC
090006	105	192	41.47556	-81.88182	CCTV	T-1
090007	106	192	41.47607	-81.87222	DMS PEDESTAL	WIRELESS CDMA
090008	107	192	41.47246	-81.85803	CCTV	EOC
090010	108	192	41.47180	-81.83567	CCTV	EOC
090012	109	192	41.47202	-81.82094	CCTV	EOC
090014	110	192	41.46934	-81.80291	CCTV	T-1
090016	111	192	41.46663	-81.76912	CCTV W/VD	EOC
090018	112	192	41.46808	-81.75607	CCTV	EOC
090020	113	192	41.46986	-81.74117	CCTV	SHARED EOC
090022	113	192	41.47036	-81.73664	DMS TRUSS	EOC
090024	114	193	41.47491	-81.71689	CCTV W/VD	EOC
090026	115	193	41.47371	-81.70853	CCTV W/VD	EOC
090027	116	193	41.47328	-81.69323	CCTV	T-1
090028	116	193	41.47996	-81.69316	CCTV	EOC
090030	117	193	41.49460	-81.68261	CCTV	EOC
090031	118	193	41.49739	-81.67408	CCTV	EOC
090031A	119	193	41.50341	-81.66939	CCTV	EOC
090031B	120	193	41.51019	-81.67240	DMS TRUSS	WIRELESS CDMA
090032	121	193	41.52167	-81.66872	CCTV W/VD	EOC
090034	122	193	41.52953	-81.65247	CCTV	EOC
090036	123	193	41.53898	-81.63191	CCTV W/VD	T-1
090038	124	193	41.54578	-81.61536	DMS TRUSS	EOC
090040	124	193	41.54567	-81.61475	CCTV	SHARED EOC
090042	125	194	41.55461	-81.59644	CCTV	EOC
090044	126	194	41.56400	-81.58906	CCTV	EOC
090046	127	194	41.57127	-81.56485	CCTV W/VD	EOC
090048	128	194	41.57881	-81.54514	CCTV	EOC
090050	129	194	41.59095	-81.51996	DMS TRUSS	WIRELESS CDMA
090052	130	194	41.59612	-81.51126	CCTV W/VD	EOC
090054	131	194	41.60555	-81.49579	CCTV	EOC
090056	132	194	41.59072	-81.48439	CCTV W/VD	EOC
HAR	132	194	41.58924	-81.47766	HAR	WIRELESS CDMA
090058	133	194	41.59078	-81.44905	CCTV	T-1
090060	134	194	41.60176	-81.44047	CCTV	T-1
090062	135	194	41.62754	-81.39956	DMS TRUSS	WIRELESS CDMA
090064	136	194	41.69201	-81.20324	DMS PEDESTAL	WIRELESS CDMA

I-271 DEVICES

DEVICE NUMBER	SHEET PLANS	SHEET COMM.	LAT.	LONG.	DEVICE	COMM.
271001	137	195	41.20187	-81.68275	DMS PEDESTAL	WIRELESS CDMA
271003	87	195	41.22939	-81.62685	CCTV	T-1
271005	138	195	41.30581	-81.51685	CCTV	T-1
271007	139	195	41.35102	-81.51186	CCTV	EOC
271008	140	195	41.36250	-81.51580	FLOW DETECTOR	WIRELESS CDMA
271009	141	195	41.37126	-81.51440	CCTV	EOC
271011	142	195	41.38281	-81.51222	DMS PEDESTAL	WIRELESS CDMA
271013	142	195	41.38284	-81.51330	DMS TRUSS	WIRELESS CDMA
271015	144	195	41.43406	-81.50247	CCTV W/VD	EOC
HAR	144	195	41.43564	-81.49831	HAR	WIRELESS CDMA
271017	145	195	41.45727	-81.49115	DMS PEDESTAL	WIRELESS CDMA
271019	146	195	41.46396	-81.49137	CCTV	EOC
271020	147	195	41.50138	-81.48133	CCTV	EOC
271021	148	195	41.51973	-81.44593	CCTV W/VD	EOC
271023	149	195	41.54803	-81.44848	DMS PEDESTAL	WIRELESS CDMA
271027	150	195	41.57477	-81.44803	CCTV W/VD	T-1

I-480 DEVICES

DEVICE NUMBER	SHEET PLANS	SHEET COMM.	LAT.	LONG.	DEVICE	COMM.
480002	151	196	41.42417	-81.86880	DMS TRUSS	WIRELESS CDMA
480004	152	196	41.42028	-81.82675	CCTV	EOC
480006	153	196	41.42030	-81.78124	CCTV W/VD	EOC
480008	154	196	41.42175	-81.71021	CCTV W/VD	EOC
480010	155	196	41.42094	-81.70197	DMS TRUSS	WIRELESS CDMA
480012	156	196	41.41164	-81.67096	CCTV W/VD	EOC
480014	157	196	41.41148	-81.61874	CCTV W/VD	EOC
TMC	157	196			TMC	EOC
480016	158	196	41.41679	81.59381	CCTV	EOC
480018	159	196	41.42067	-81.58951	DMS TRUSS	WIRELESS CDMA
480020	160	196	41.42450	-81.56333	DMS TRUSS	WIRELESS CDMA
480022	161	196	41.42530	-81.53786	CCTV	EOC
480024	162	196	41.41896	-81.51909	CCTV	T-1
480026	143	196	41.40986	-81.50796	CCTV W/VD	T-1
480028	163	196	41.27660	-81.40927	DMS PEDESTAL	WIRELESS CDMA

I-490 DEVICES

DEVICE NUMBER	SHEET PLANS	SHEET COMM.	LAT.	LONG.	DEVICE	COMM.
490002	164	197	41.47440	-81.68950	CCTV	T-1

SR 176 DEVICES

DEVICE NUMBER	SHEET PLANS	SHEET COMM.	LAT.	LONG.	DEVICE	COMM.
176001	165	197	41.43390	-81.68161	CCTV	T-1
176003	166	197	41.44373	-81.68664	CCTV	SHARED EOC
176005	166	197	41.44462	-81.68678	DMS TRUSS	EOC
176007	167	197	41.45844	-81.69273	CCTV W/VD	EOC

SR 2 DEVICES

DEVICE NUMBER	SHEET PLANS	SHEET COMM.	LAT.	LONG.	DEVICE	COMM.
002000	168	197	41.61957	-81.46931	CCTV W/VD	EOC
002002	169	197	41.72600	-81.26873	DMS TRUSS	WIRELESS CDMA

SR 8 DEVICES

DEVICE NUMBER	SHEET PLANS	SHEET COMM.	LAT.	LONG.	DEVICE	COMM.
008001	170	197	41.21970	-81.48911	DMS TRUSS	WIRELESS CDMA
008003	171	197	41.23434	-81.49156	CCTV	T-1
008005	172	197	41.25619	-81.50084	CCTV	T-1

US 422 DEVICES

DEVICE NUMBER	SHEET PLANS	SHEET COMM.	LAT.	LONG.	DEVICE	COMM.
422002	173	197	41.42290	-81.48108	DMS PEDESTAL	WIRELESS CDMA

CALCULATED STS
CHECKED JDG

ITS DEVICE LOCATIONS (LAT. & LONG.)

VAR-CLEVELAND
FREEWAY MANAGEMENT
SYSTEM

MATCH LINE A

LAKE

GEAUGA

CUYAHOGA

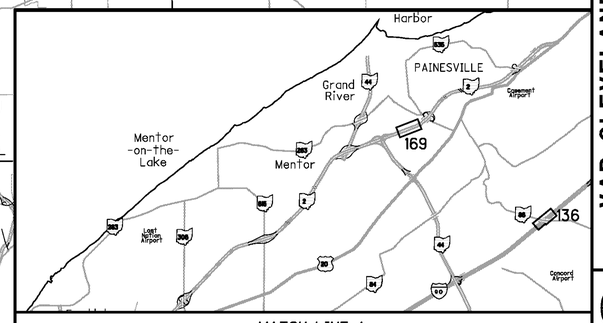
LORAIN

PORTACE

MEDINA

SUMMIT

ODOT District 12 TMC



INTERSTATE
U.S. ROUTE
STATE ROUTE
COUNTY BOUNDARY
TMC

HORIZONTAL SCALE IN FEET
0 5,000 10,000 20,000

CALCULATED STS
CHECKED JDG

SHEET LAYOUT

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

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LOCATIONS WITH ATTACHMENTS ON STRUCTURE

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

HORIZONTAL SCALE IN FEET
0 5,000 10,000 20,000

CALCULATED STS
CHECKED JDG

1810030

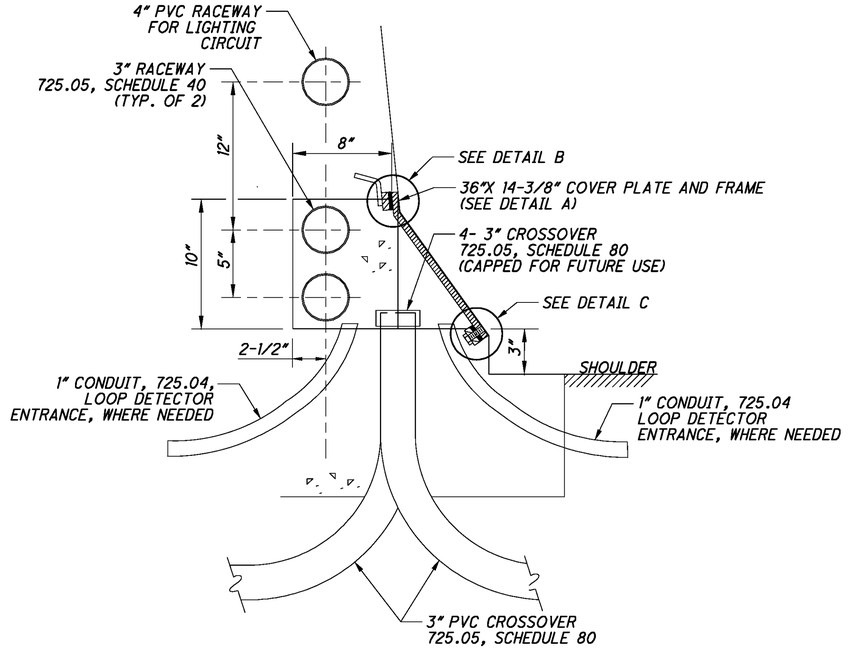
INTERCHANGE 10
RAMP C-D OVER RAMP S

LAKE ERIE

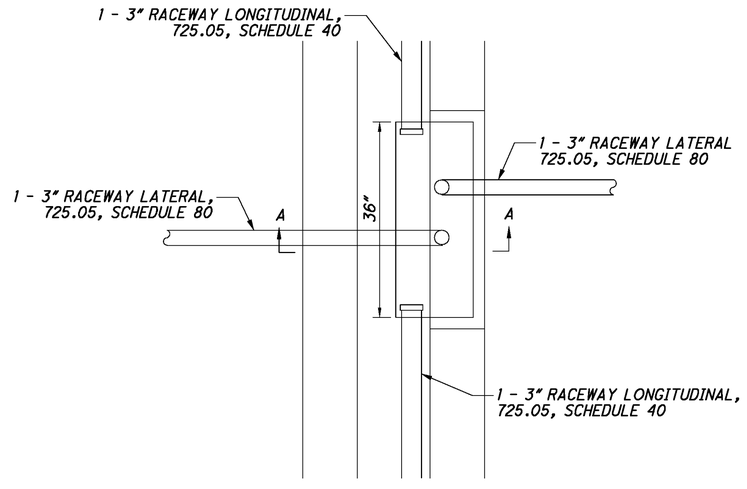
LORAIN
MEDINA
CUYAHOGA
SUMMIT
PORTAGE
GEAUGA
LAKE

Timberlake
Lakeline
Willowick
Eastlake
Willoughby
Kirtland Hills
Waite Hill
Wickliffe
Euclid
Kirtland
Willoughby Hills
Bratenahl
Highland Heights
Richmond Heights
Mayfield
Gates Mills
East Cleveland
Cleveland Heights
South Euclid
Lyndhurst
Mayfield Heights
University Heights
Pepper Pike
Hunting Valley
Shaker Heights
Beachwood
Woodmere
Moreland Hills
Warrensville Heights
Highland Hills
North Randall
Orange
Chagrin Falls
South Russell
Bentleyville
Bedford Heights
Bedford
Maple Heights
Garfield Heights
Cuyahoga Heights
Brooklyn Heights
Brooklyn
Linndale
Newburgh Heights
Rocky River
Lakewood
Bay Village
Avon Lake
Sheffield Lake
Sheffield
Avon
Westlake
Fairview Park
North Olmsted
Cleveland Hopkins Airport
Brook Park
Olmsted Falls
Berea
Middleburg Heights
Parma Heights
Parma
Seven Hills
Valley View
Independence
Walton Hills
Oakwood
Glenwillow
Solon
Reminderville
Aurora
Northfield
Broadview Heights
North Royalton
Macedonia
NORTHFIELD CENTER
TWINSBURG
Streetsboro
Montua
Boston Heights
Peninsula
BOSTON
HUDSON
Sugarbush Knolls
SHALERSVILLE
Portage County Airport
Silver Lake
Stow
Cuyahoga Falls
FRANKLIN
Kent
Brady Lake
RAVENNA
Munroe Falls
Tallmadge
Richfield
BATH
Brunswick
LIVERPOOL
BRUNSWICK HILLS
HINCKLEY
YORK
GRANGER
MEDINA
Medina Municipal Airport
Strongsville
Brecksville
SAGAMORE HILLS
Grafton
Oberlin
CARLISLE
PITTSFIELD
LaGrange
GRAFTON
LAGRANGE
WELLINGTON
Wellington
PENFIELD
LITCHFIELD
NEW RUSSIA
EATON
COLUMBIA
Amherst
South Amherst
ELYRIA
North Ridgeville
CONCORD
CHARDO
AUBURN
BAINBRIDGE
MUNSON
NEWBURY
RUSSELL
CHESTER
Burke Lakefront Airport
Concord Airport

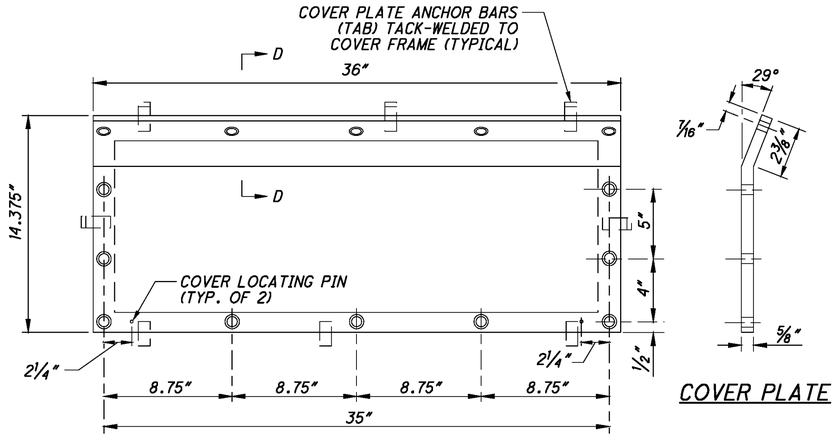
GATE 8A
GATE 9
GATE 10
GATE 11
GATE 12
GATE 13
GATE 13A



SECTION "A-A"

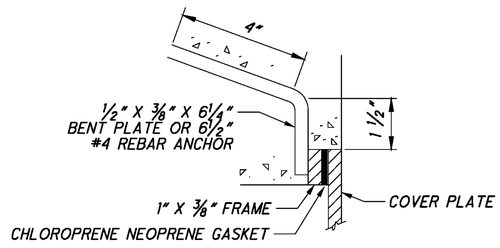


PLAN VIEW

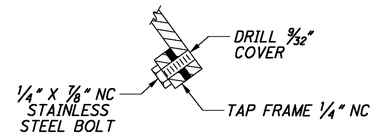


DETAIL A
(COVER PLATE FRAME FOR PULLBOX CAVITY)

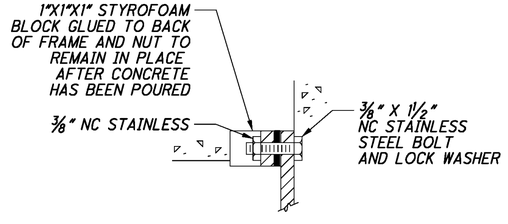
COVER PLATE



DETAIL B
(ANCHOR BAR TAB)



DETAIL C
(LOCATING PIN)



SECTION "D-D"
(COVER BOLT)

PULL BOX, MISC.: 725.08, 36" MEDIAN

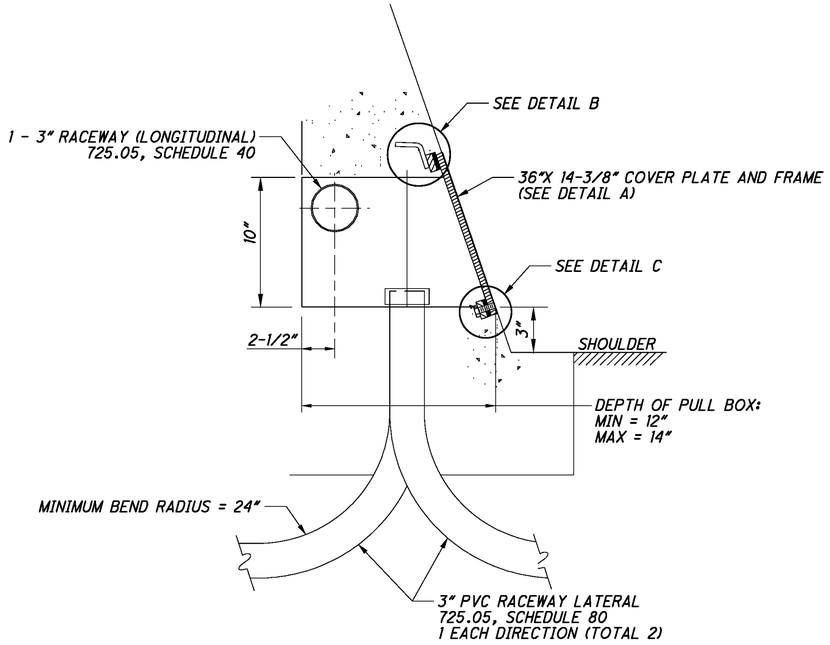
NOTES:

1. COVER PLATE FRAME SHALL BE ORIENTED WITH THE LOCATING PINS BEFORE DRILLING COVER PLATE BOLT HOLES.
2. THE PULLBOX CAVITY COVER PLATE AND FRAME SHALL BE HOT DIP GALVANIZED AFTER ALL FABRICATION IS FINISHED, IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A-123.
3. ALL CONDUITS SHALL HAVE PUSH-IN CAPS.
4. ALL SURVEILLANCE CONDUITS SHALL BE ACCESSIBLE INSIDE THE PULL BOX.

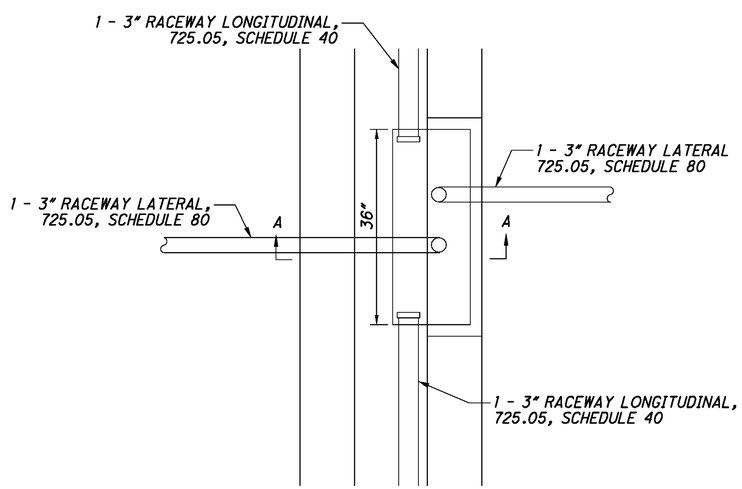
CALCULATED STS CHECKED JDG

36" MEDIAN PULL BOX DETAILS FOR EXISTING BARRIER

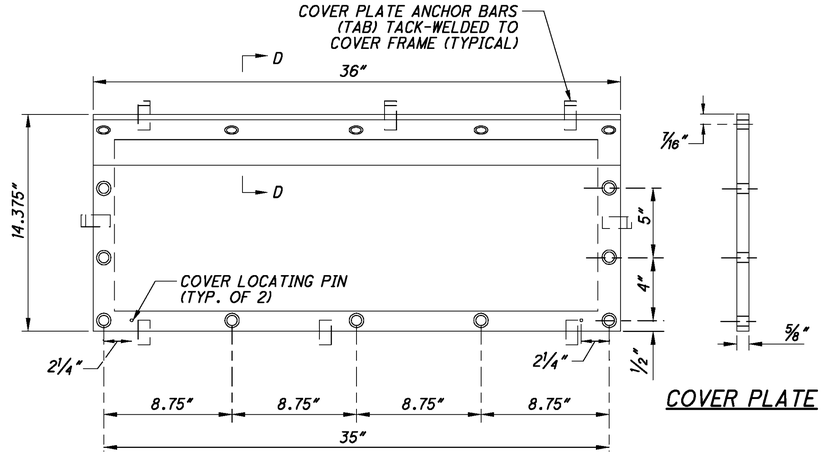
VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM



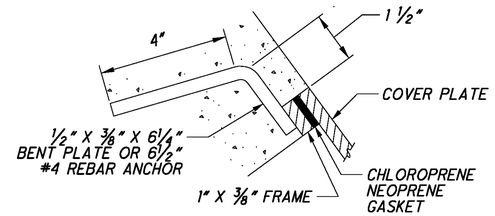
SECTION "A-A"



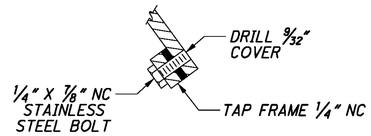
PLAN VIEW



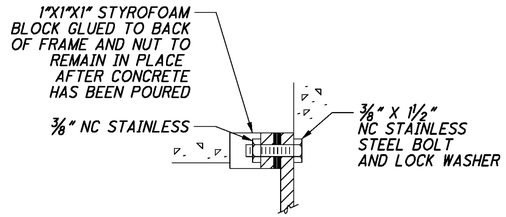
DETAIL A
(COVER PLATE FRAME FOR PULLBOX CAVITY)



DETAIL B
(ANCHOR BAR TAB)



DETAIL C
(LOCATING PIN)



SECTION "D-D"
(COVER BOLT)

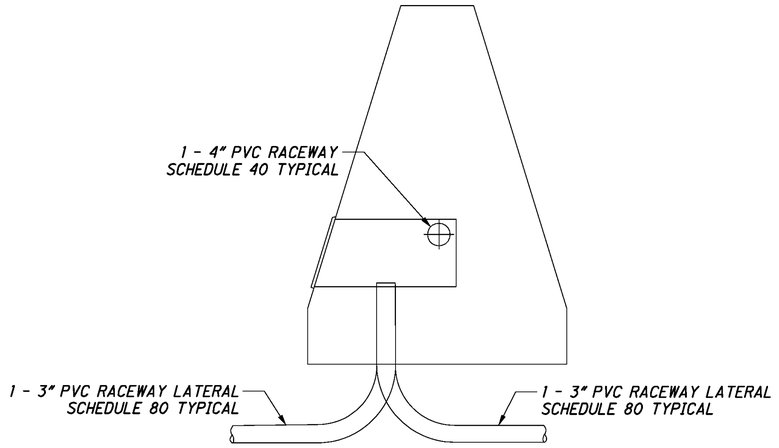
NOTES:

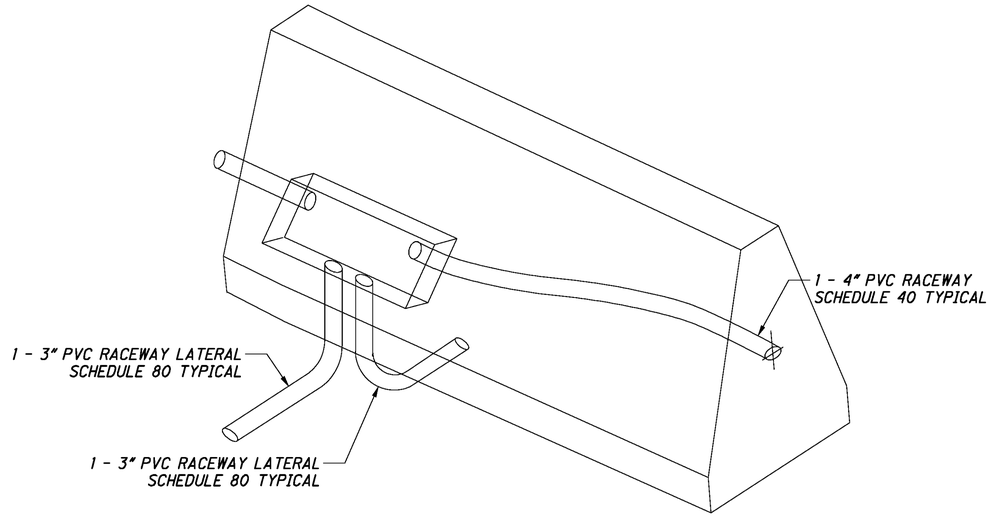
1. COVER PLATE FRAME SHALL BE ORIENTED WITH THE LOCATING PINS BEFORE DRILLING COVER PLATE BOLT HOLES.
2. THE PULLBOX CAVITY COVER PLATE AND FRAME SHALL BE HOT DIP GALVANIZED AFTER ALL FABRICATION IS FINISHED, IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A-123.
3. EACH SINGLE-CELL CONDUIT SHALL HAVE PUSH-IN CAPS.
4. ALL SURVEILLANCE CONDUITS SHALL BE ACCESSIBLE INSIDE THE PULL BOX.

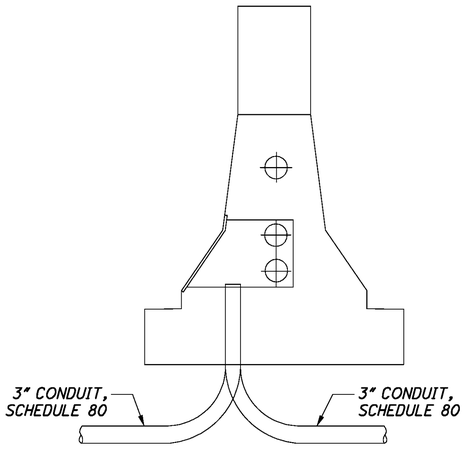
CALCULATED STS
CHECKED JDG

36" SINGLE SLOPE MEDIAN PULL BOX DETAILS FOR BARRIER

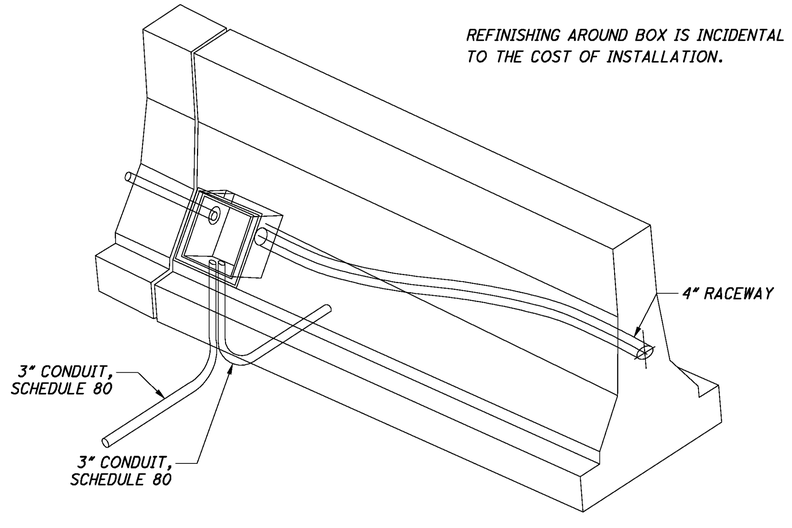
VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM







ALTERNATE METHOD:
CONTRACTOR MAY CUT OUT A 10'-0" SECTION OF WALL AND REPLACE IT WITH A SECTION CONTAINING A NEW PULLBOX. AN EXPANSION JOINT SHALL BE USED ON EACH END OF THE CUT OUT SECTION. SEE DETAIL, SHEET 11.



SURVEILLANCE PULL BOX AND CONDUIT MODIFICATIONS TO EXISTING MEDIAN PULL BOX

CALCULATED STS
CHECKED JDG

PULL BOX IN BARRIER WALL DETAILS

CONDUIT AND

VAR-CLEVELAND
FREEWAY MANAGEMENT
SYSTEM

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NOTES:

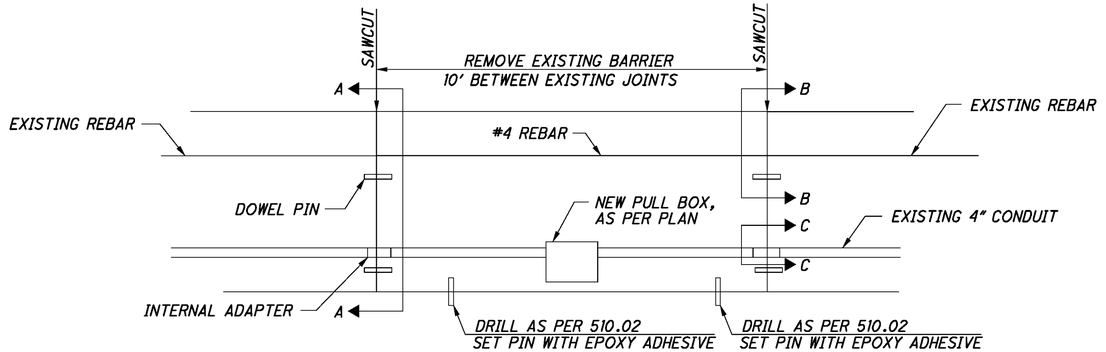
1. HORIZONTAL AND VERTICAL SAWCUT EXISTING BARRIER AT EXISTING JOINTS. REMOVE AND DISPOSE OF ALL MATERIAL BETWEEN CUTS DOWN TO THE BASE SLAB. HORIZONTAL AND VERTICAL SAWCUTS ARE INCIDENTAL TO BARRIER WORK.

2. SET DOWEL PINS BY EPOXY GROUTING IN EXISTING BARRIER WALL, CONNECT ALL CONDUITS AND SET NEW PULL BOX AS SHOWN.

3. POUR NEW CONCRETE. EXISTING BARRIER SHALL BE COATED WITH A BONDING COMPOUND, IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, BEFORE THE POUR IS STARTED.

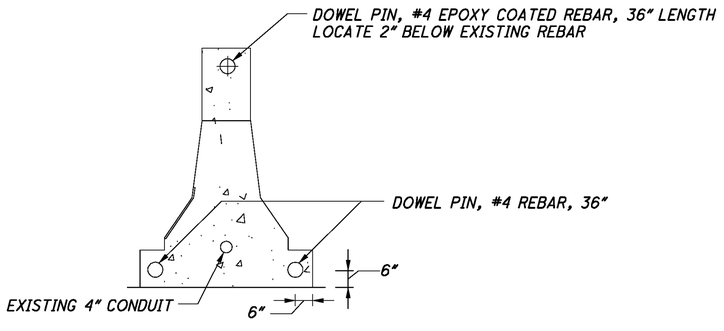
4. WORK SHALL INCLUDE ALL REMOVAL AND REPLACEMENT OF, STEEL, CONDUIT, MEDIAN PULL BOX (IF APPLICABLE) AND CONCRETE ITEMS.

5. THE CONTRACTOR SHALL ASSURE THAT THE REMOVAL AND REPLACEMENT OF MEDIAN BARRIER PROVIDES MINIMAL RISK TO MOTORISTS. UPON REMOVAL OF THE SECTIONS OF BARRIER TO BE REPLACED, THE CONTRACTOR SHALL INSTALL TWO TEMPORARY STEEL GUARDRAIL SECTIONS OF DOUBLE THICKNESS (NESTED) ACROSS THE OPENING ON EACH SIDE OF THE BARRIER. EACH END OF EACH SECTION SHALL BE BOLTED TO THE BARRIER USING FORMED END SECTIONS AND WEDGE BOLTS OF THE SIZE AND QUANTITY SHOWN ON STANDARD DRAWING GR-3.2. THE TEMPORARY STEEL GUARDRAIL SHALL BE IN PLACE BY THE END OF THE WORK SHIFT OR BEFORE THE CONTRACTOR LEAVES THE SITE. AS AN ALTERNATE, THE CONTRACTOR MAY POUR THE REPLACEMENT CONCRETE BARRIER THE SAME DAY AS THE ORIGINAL SECTION IS REMOVED.

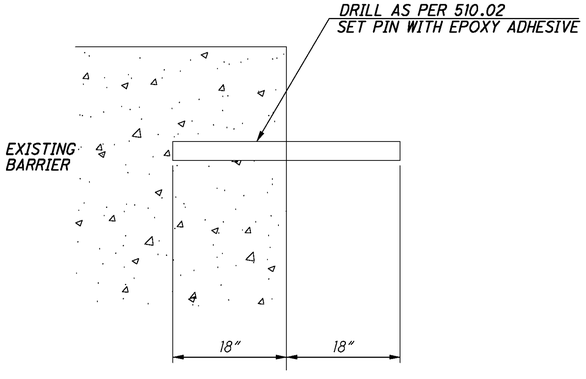


CONCRETE BARRIER

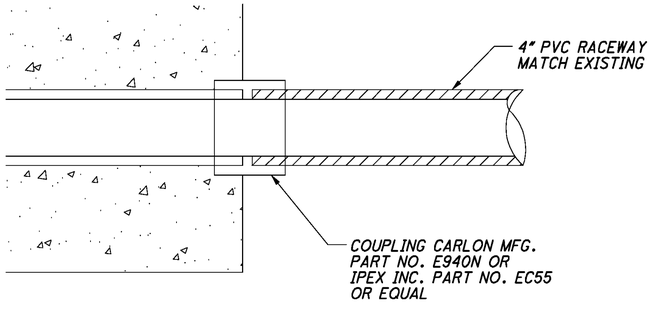
NEW OR REPLACEMENT MEDIAN PULL BOX IN EXISTING BARRIER



SECTION A-A



SECTION B-B



SECTION C-C

CALCULATED STS
CHECKED JDG

CONCRETE BARRIER REPLACEMENT DETAILS

VAR-CLEVELAND
FREEWAY MANAGEMENT
SYSTEM

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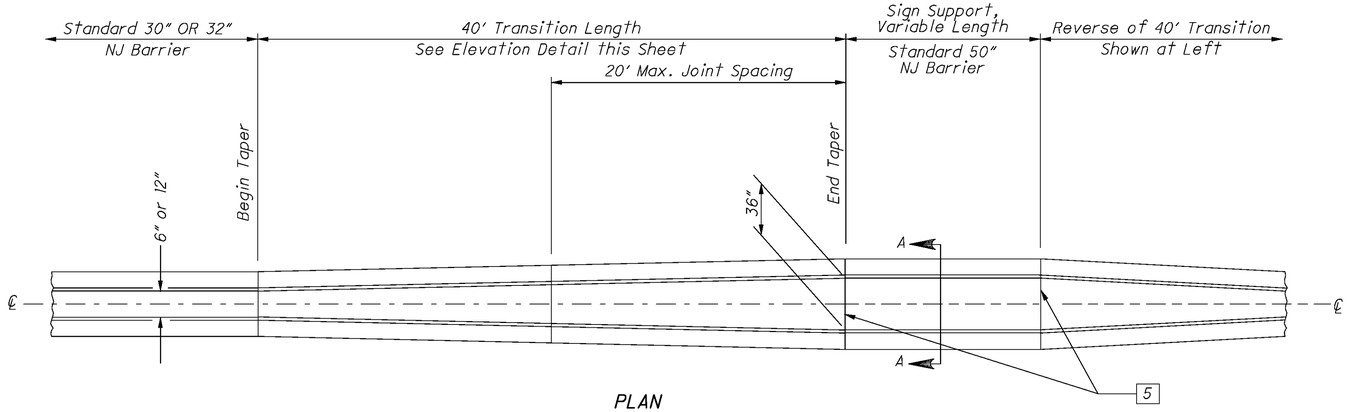
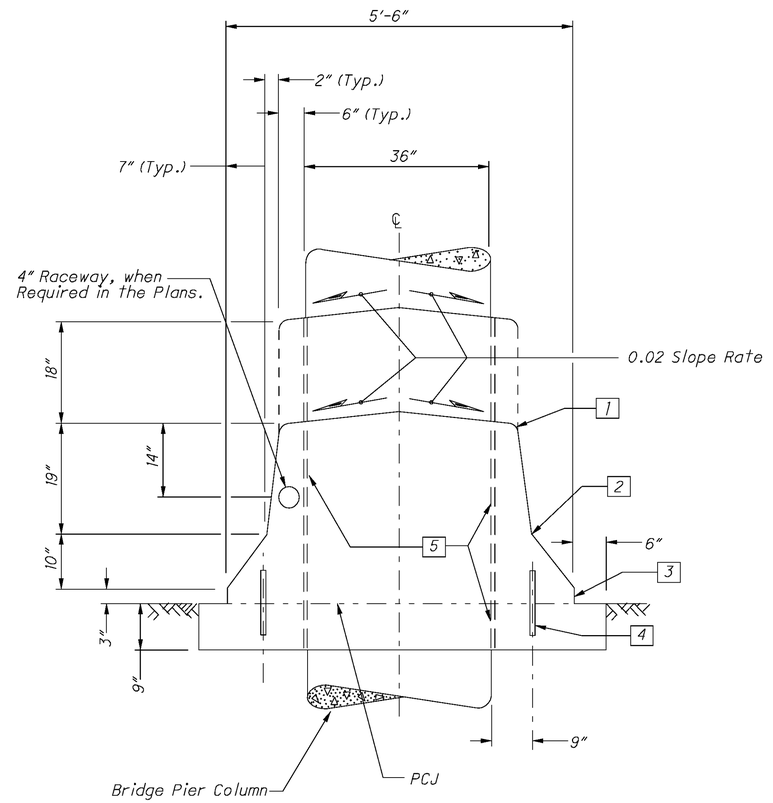
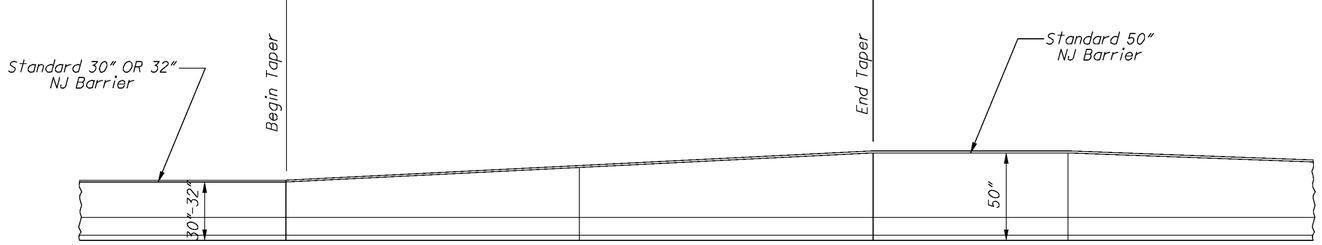


PLAN



SECTION A-A



ELEVATION

SIGN SUPPORT TRANSITION

(For 50" Barriers, the Upper 18"-20" Varies from 6" or 12" to 36" in width.)

NOTES

STANDARD BARRIERS: Types A, B, and C Concrete Barriers shall be constructed as shown on the New Jersey Shape Barrier insert or as detailed in the plans.

LEGEND

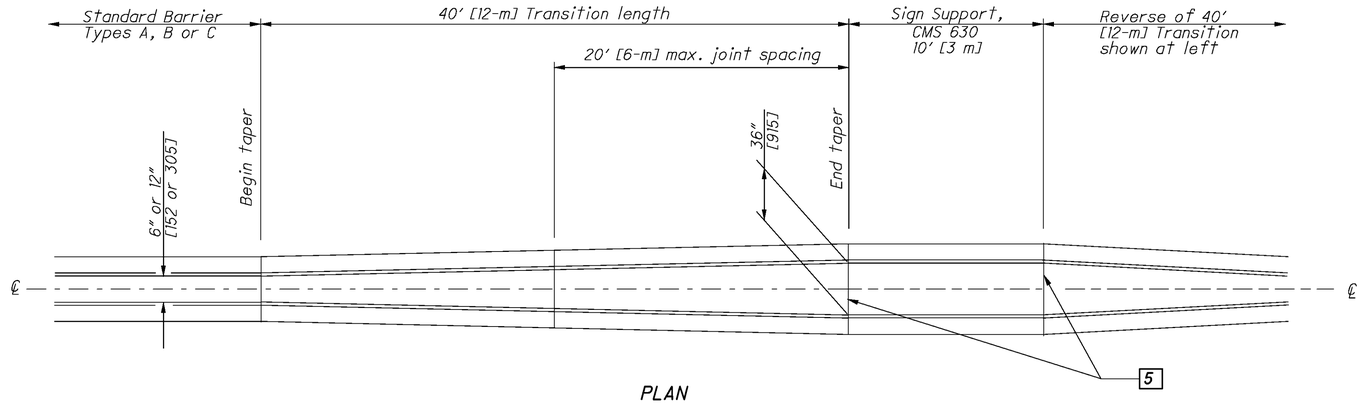
1. 1" radius or ¾" chamfer.
2. Permissible 10" radius.
3. Permissible 1" radius.
4. #8 epoxy coated deformed Steel Bars, 12" long, spaced 2' between successive Bars on a staggered pattern. Dowel Bars shall begin 4' from the leading edge of the End Terminal. Omit Dowels when the top is constructed integrally with the Base.
5. Expansion Joint, ¾" min. Preformed Filler, CMS 705.03.

CALCULATED STS
CHECKED JDG

BARRIER HEIGHT TRANSITION DETAILS

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

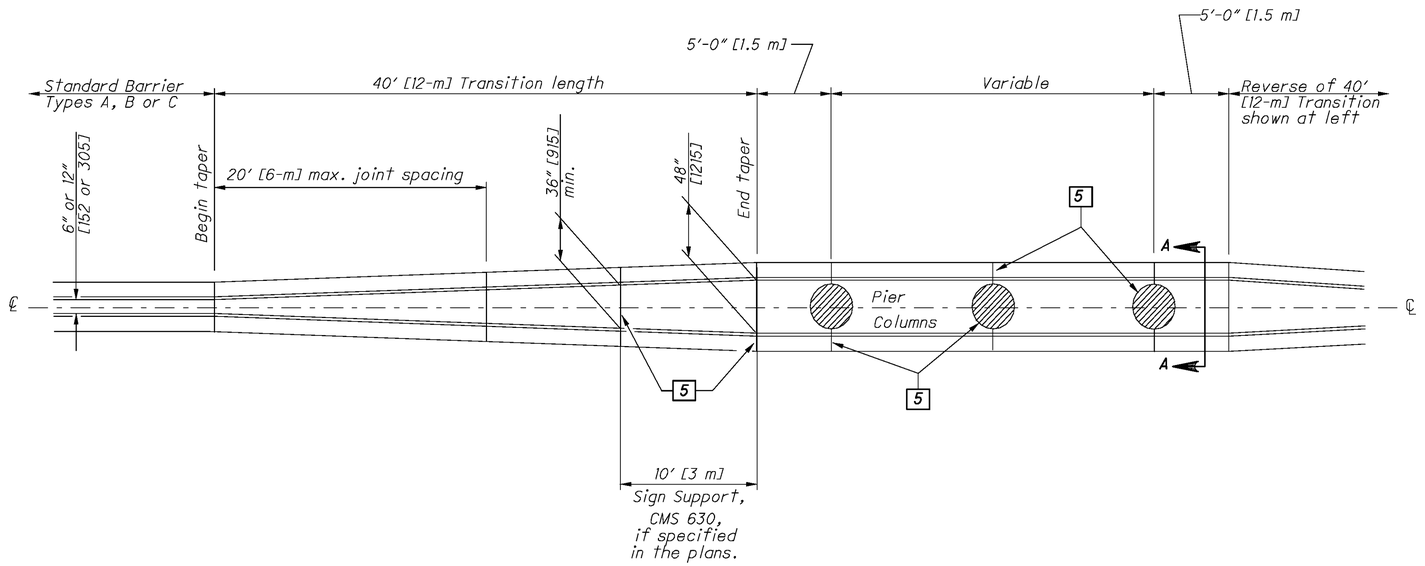
11A
207



PLAN

SIGN SUPPORT TRANSITION

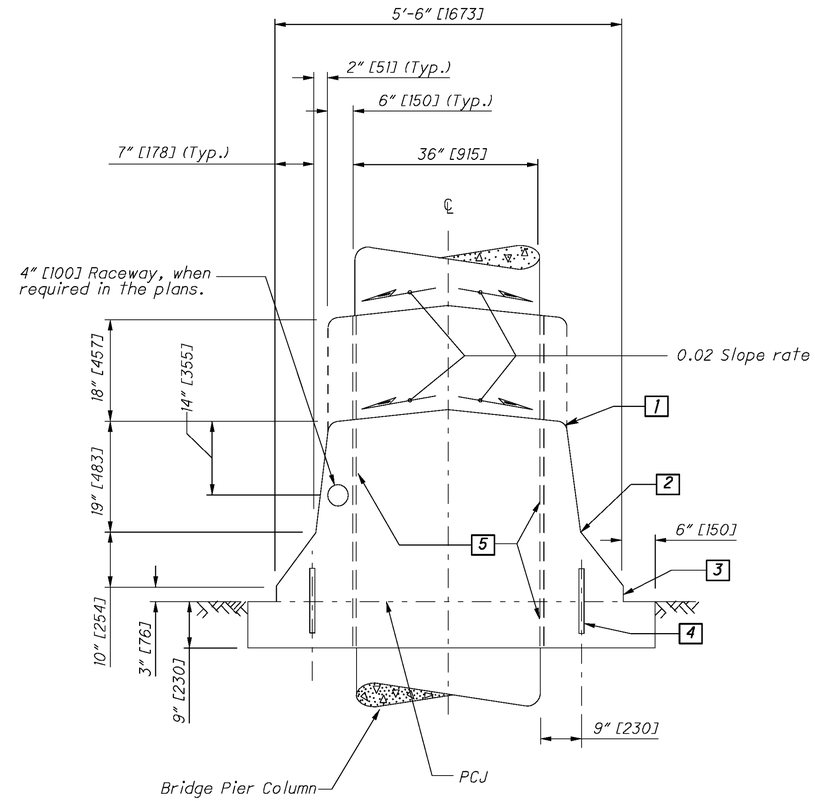
(For 50″ [1270] Barriers, the upper 18″ [457] varies from 6″ or 12″ [152 or 305] to 36″ [915] in width.)



PLAN

BRIDGE PIER TRANSITION

(With Sign Support)



SECTION A-A

All metric dimensions (in brackets [ ]) are in millimeters unless otherwise noted.

NOTES

STANDARD BARRIERS: Types A, B, and C Concrete Barriers shall be constructed as shown on the New Jersey Shape Barrier insert or as detailed in the plans.

LEGEND

1. 1″ [25] radius or ¾″ [19] chamfer.
2. Permissible 10″ [250] radius.
3. Permissible 1″ [25] radius.
4. #8 [#25M] epoxy coated deformed Steel Bars, 12″ [300] long, spaced 2′ [600] between successive Bars on a staggered pattern. Dowel Bars shall begin 4′ [1220] from the leading edge of the End Terminal. Omit Dowels when the top is constructed integrally with the Base.
5. Expansion Joint, ¾″ [19] min. Preformed Filler, CMS 705.03.

OFFICE OF ROADWAY ENGINEERING

DESIGNED | REVIEWED

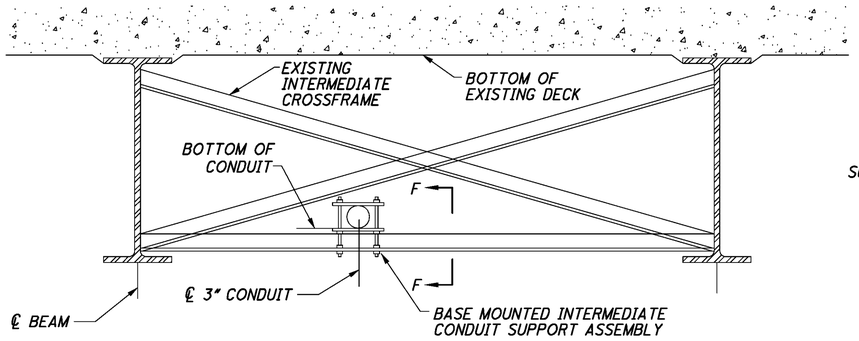
REVISION DATE 10-20-06 | CHECKED

PLAN INSERT SHEET

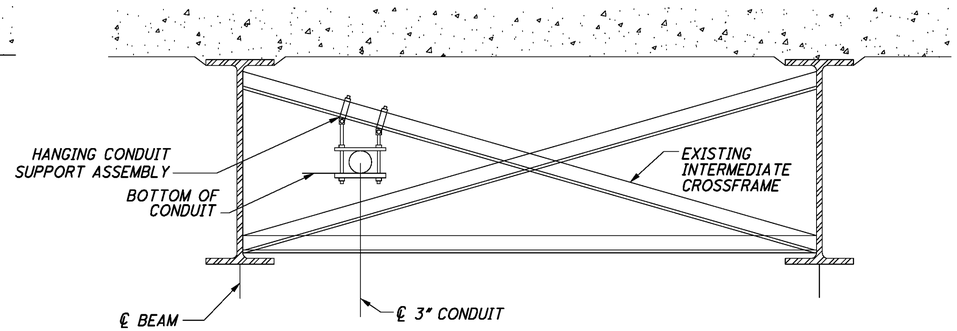
NEW JERSEY SHAPE BARRIER TRANSITIONS

1 / 1

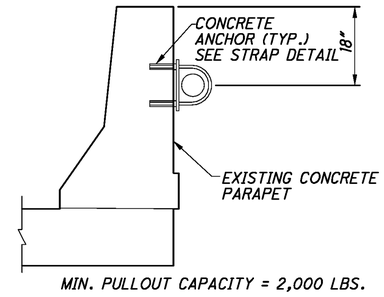
11B
207



CONDUIT BEARING ATTACHMENT



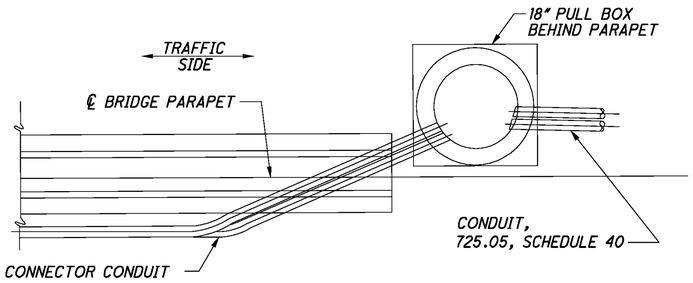
CONDUIT HANGING ATTACHMENT



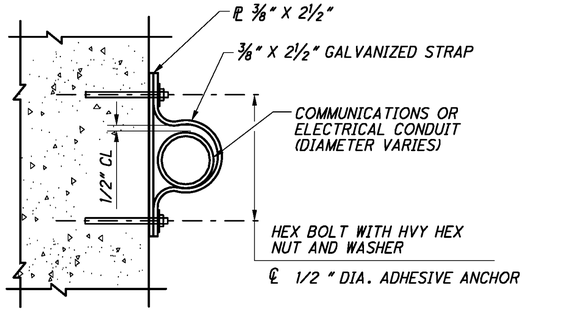
CONDUIT ATTACHMENT TO PARAPET OR BACK OF BARRIER WALL

CONDUIT ON STRUCTURE

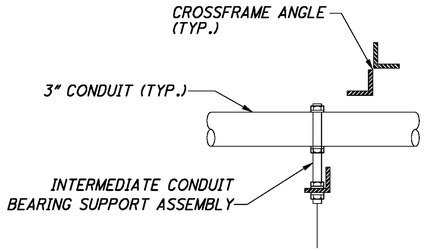
EXPANSION FITTINGS FOR CONDUIT ON STRUCTURE SHALL BE OZ (TYPE AX), SPRING CITY (TYPE AF), OR CROUSE-HINDS (TYPE XJ-4) OR APPROVED EQUAL. EACH EXPANSION FITTING SHALL HAVE A COPPER EXTERNAL BONDING JUMPER.



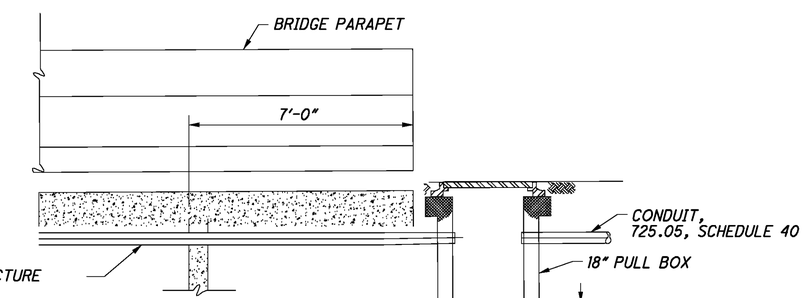
END PARAPET DETAIL PLAN VIEW



STRAP DETAIL
NOT TO SCALE

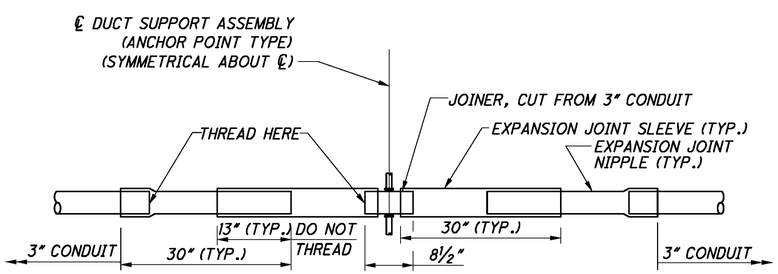


SECTION "F-F"

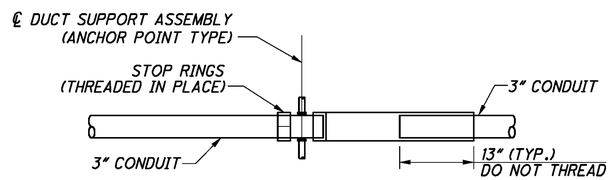


END PARAPET DETAIL
ELEVATION VIEW

TYPICAL SURVEILLANCE CONDUIT TREATMENT AT END OF BRIDGE PARAPET



BACK-TO-BACK EXPANSION JOINT DETAIL



COMBINATION STOP RING AND EXPANSION JOINT

TYPICAL EXPANSION JOINT DETAILS

CONDUIT ATTACHED TO STRUCTURE DETAILS

CALCULATED GM
CHECKED JDM

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

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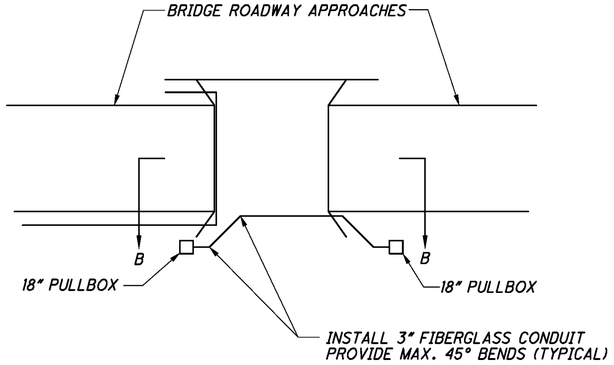
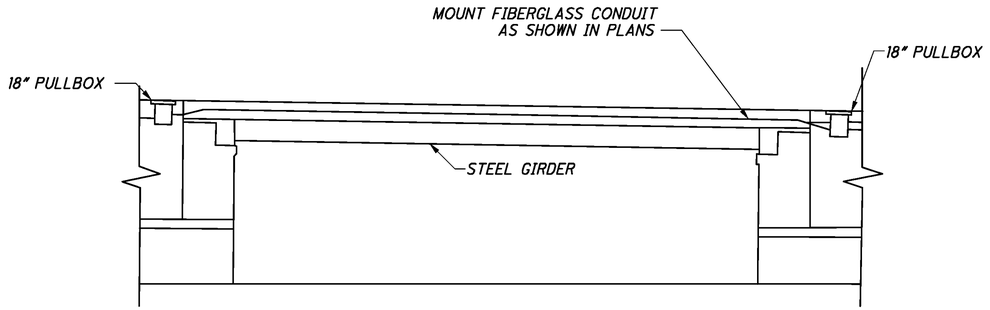
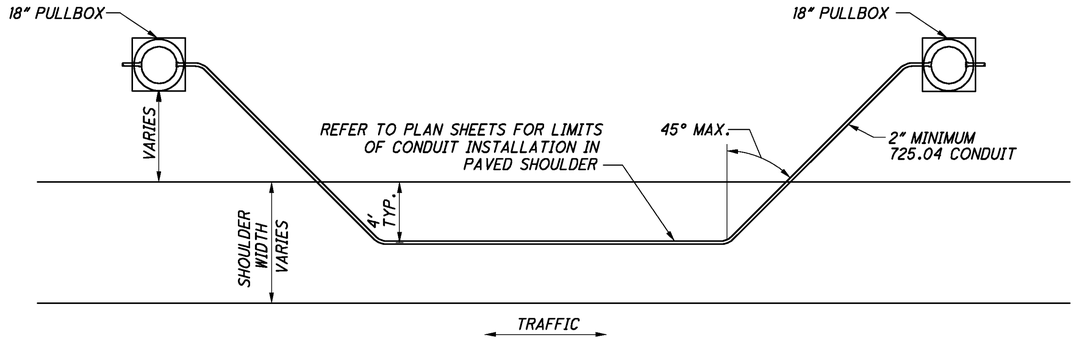


PLAN VIEW

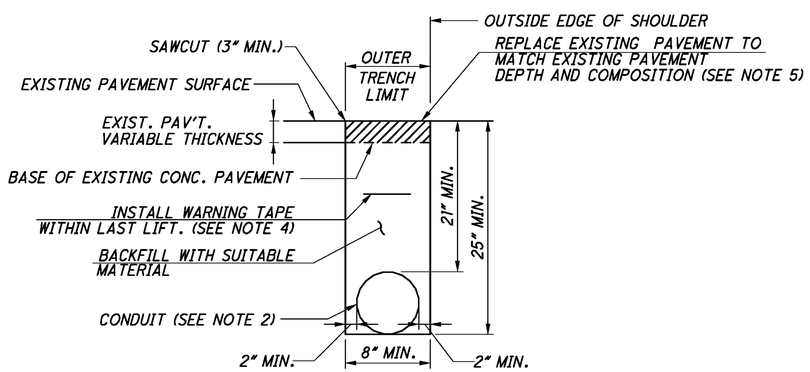


SECTION B-B

TYPICAL CONDUIT ATTACHMENT DETAILS
DETAIL "A"
NOT TO SCALE



CONDUIT TRANSITION INTO PAVED SHOULDER
NOT TO SCALE



TYPE B
IN PAVED SHOULDER
NOT TO SCALE

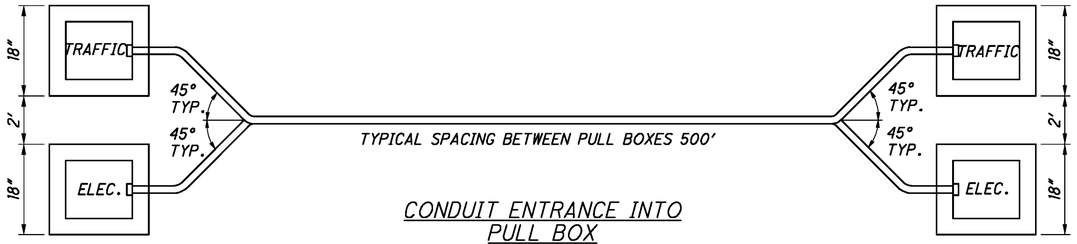
NOTES:

1. REMOVE AND STORE TOPSOIL FROM THE EXCAVATION. DISPOSE OF ALL UNSUITABLE MATERIAL BEFORE BACKFILLING.
2. CENTER THE CONDUIT IN THE TRENCH AND HOLD FIRMLY IN PLACE WHILE THE TRENCH IS BACKFILLED.
3. THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH ITEM 625 OF THE OHIO DEPARMENT OF TRANSPORTATION 2008 CONSTRUCTION AND MATERIALS SPECIFICATION BOOK
4. INSTALL A 4 MIL PLASTIC ORANGE WARNING TAPE WITHIN THE ENTIRE LENGTH OF TRENCH.
5. MAINTAIN ALL EXISTING SHOULDER CROSS SLOPES AND RESTORE ANY "RUMBLE STRIPS" ENCOUNTERED.

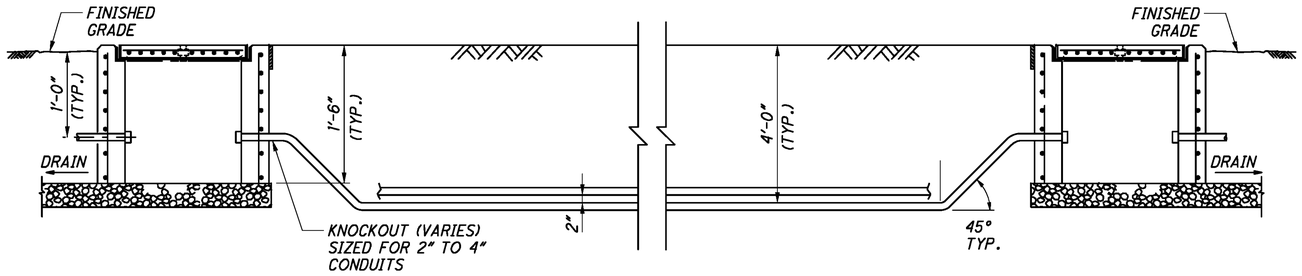
CALCULATED STS
CHECKED JDG

CONDUIT TRANSITION TO SHOULDER DETAILS

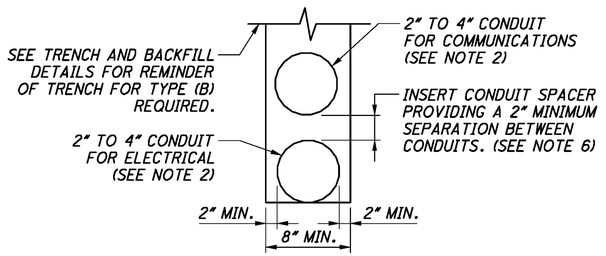
VAR-CLEVELAND
FREEWAY MANAGEMENT
SYSTEM



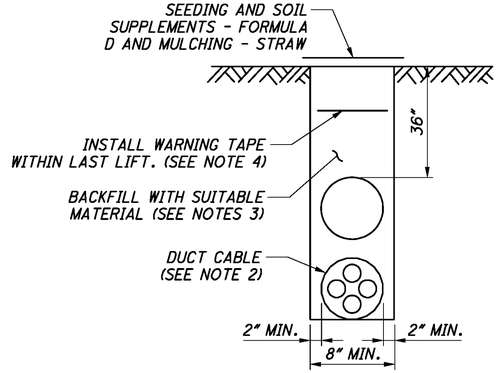
CONDUIT ENTRANCE INTO
PULL BOX
NOT TO SCALE



CONDUIT ENTRANCE INTO
PULL BOX
NOT TO SCALE



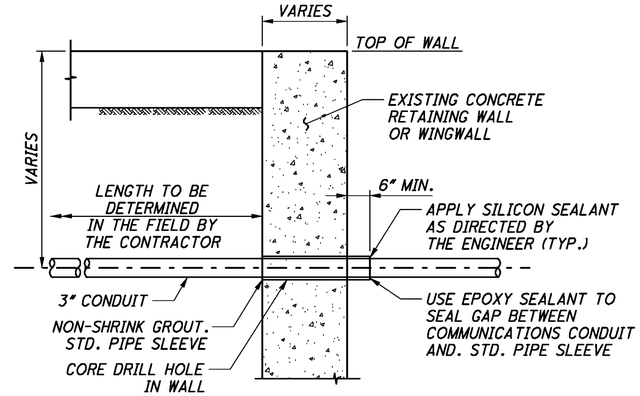
TRENCH WITH TWO OR MORE CONDUITS
NOT TO SCALE



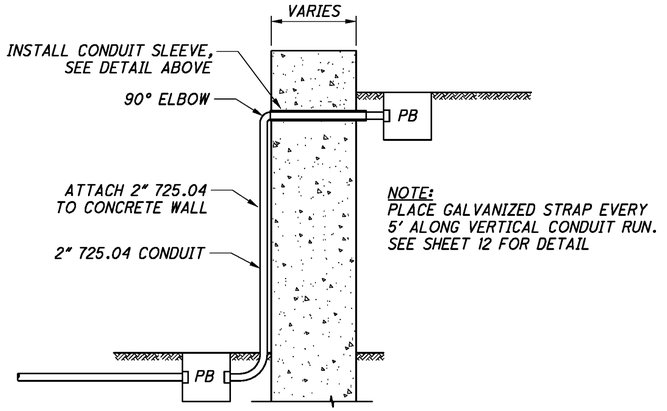
TRENCH WITH TWO OR MORE CONDUITS
WITH INNER DUCT
NOT TO SCALE

NOTES:

1. REMOVE AND STORE TOPSOIL FROM THE EXCAVATION. DISPOSE OF ALL UNSUITABLE MATERIAL BEFORE BACKFILLING.
2. CENTER THE CONDUIT IN THE TRENCH AND HOLD FIRMLY IN PLACE WHILE THE TRENCH IS BACKFILLED.
3. THE BACKFILL MATERIAL SHALL CONFORM TO ODOT ITEM 625 - TRENCHING (INCIDENTAL).
4. INSTALL A 4 MIL PLASTIC ORANGE WARNING TAPE 6" TO 8" BELOW SURFACE, (INCIDENTAL) FOR THE ENTIRE LENGTH OF THE TRENCH.
5. AFTER BACKFILL MATERIAL IS PLACED IN UNPAVED AREAS, SEED AND MULCH OVER TRENCHED AREA.
6. PROVIDE HIGH IMPACT CONDUIT SPACERS AT INTERVALS NOT GREATER THAT 10'. SPACERS ARE CONSIDERED INCIDENTAL TO THE CONDUIT ITEM AND WILL NOT BE PAID FOR SEPARATELY.



LIGHTING, MISC.: CORE DRILL CONCRETE WALL
TYPICAL SECTION THROUGH WALL
NOT TO SCALE

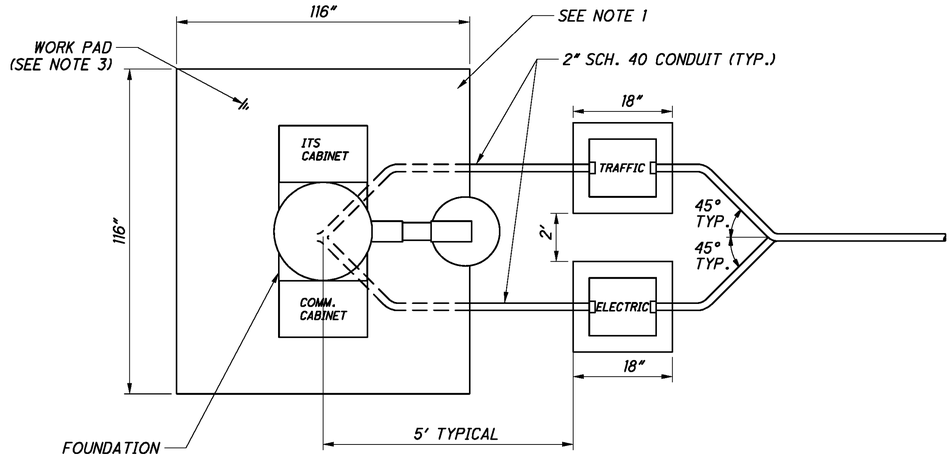


CONDUIT ATTACHED TO WALL
(090010 & 090012)
NOT TO SCALE

CALCULATED STS
CHECKED JDG

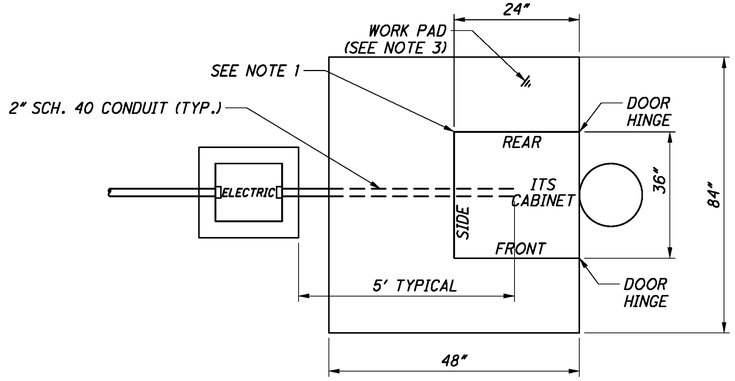
CONDUIT DETAILS

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM



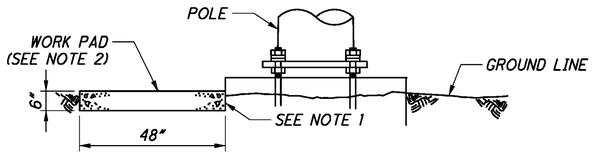
PLAN VIEW

CONCRETE PAD WITH CAMERA
AND JUNCTION BOXES (TYP.)
NOT TO SCALE

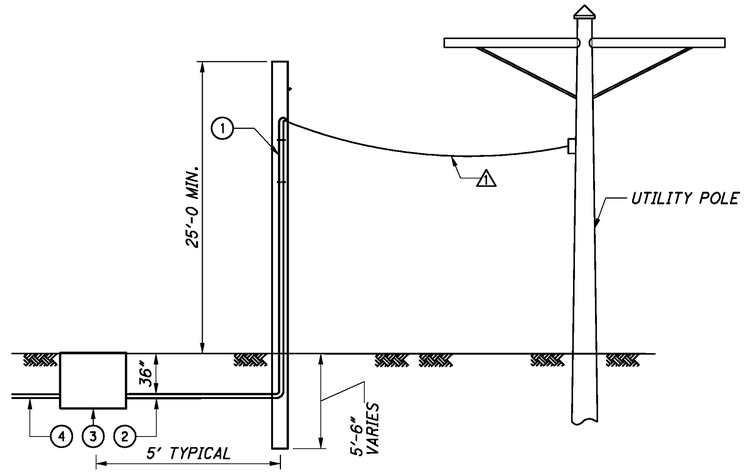


PLAN VIEW

CONCRETE WORK PAD FOR
HAR OR VEHICLE DETECTOR
ASSEMBLY WITH CABINET (TYP.)
NOT TO SCALE



CONCRETE WORK PAD FOR HAR AND
VEHICLE DETECTOR ASSEMBLIES (TYP.)
NOT TO SCALE



COMMUNICATION SERVICE AS PER PLAN
NOT TO SCALE

NOTES

1. ½" PREFORMED JOINT FILLER AS PER 705.03 SHALL BE USED BETWEEN FOUNDATIONS AND ADJACENT PAVED AREAS.
2. A MINIMUM OF ONE 48" X 84" X 6" WORK PAD SHALL BE LOCATED AT GROUND LEVEL BELOW EACH POLE MOUNTED CABINET UNLESS LOCATED IN AN OTHERWISE PAVED AREA OR SHOWN IN THE PLAN VIEW. IN SOME LOCATIONS IT MAY NOT BE POSSIBLE FOR THE CONTRACTOR TO PLACE THE FULL SIZE WORK PAD(S) AS SHOWN IN THE PLANS, SHEETS 15 AND 15A. AT THESE LOCATIONS THE CONTRACTOR SHALL NOTIFY THE DISTRICT CONSTRUCTION ENGINEER AND THE SIZE OF THE WORK PAD(S) SHALL BE DETERMINED BASED ON FIELD CONDITIONS WITH THE APPROVAL OF THE DISTRICT CONSTRUCTION ENGINEER. WHEN REQUIRED, THIS ITEM SHALL BE PAID FOR UNDER THE DEVICE TYPE. IN LEVEL AREAS, THE TOP OF THE PAD SHALLBE 1" ABOVE THE GROUND LINE. IN STEEPLY SLOPED AREAS, THE PAD'S LOCATION SHALL BE ADJUSTED TO PROVIDE ACCESS AND DRAINAGE WHILE COMPLYING WITH THE REQUIRED CABINET MOUNTING HEIGHT.
3. A 6" THICK WORK PAD WITH DIMENSIONS SHOWN ON DETAILS SHALL BE PROVIDED UNLESS IN AN OTHERWISE PAVED AREA. WHEN REQUIRED, THIS ITEM SHALL BE PAID FOR UNDER THE DEVICE TYPE. IN LEVEL AREAS, THE TOP OF THE PAD SHALL BE 1" ABOVE THE GROUND LINE. IN STEEPLY SLOPED AREAS, THE PAD'S LOCATION SHALL BE ADJUSTED TO PROVIDE ACCESS AND DRAINAGE.

⚠ COMMUNICATIONS CABLE FURNISHED AND INSTALLED BY UTILITY

(1) 2" CONDUIT RISER. SEE SHEET 17, DETAIL 4 - CONDUIT MOUNTING BRACKET FOR MOUNTING DETAILS.

(2) SCHEDULE 40 PVC CONDUIT IN TRENCH. CONDUIT SHALL BE 2" MINIMUM. TERMINATE THIS CONDUIT IN PULL BOX. CONDUIT INSTALLED AT A MINIMUM OF 36" BELOW GRADE.

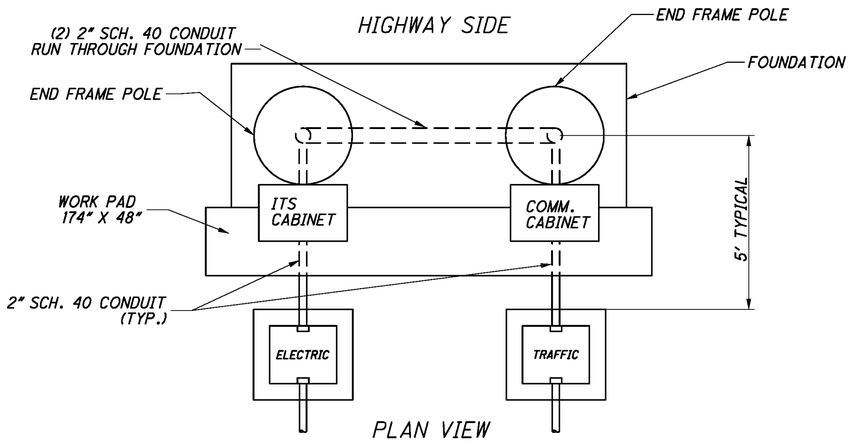
(3) CONCRETE PULL BOX, 18" WILL BE INSTALLED WITHIN 5 FT OF EVERY COMMUNICATION SERVICE.

(4) CONDUIT PER PLAN BY CONTRACTOR.

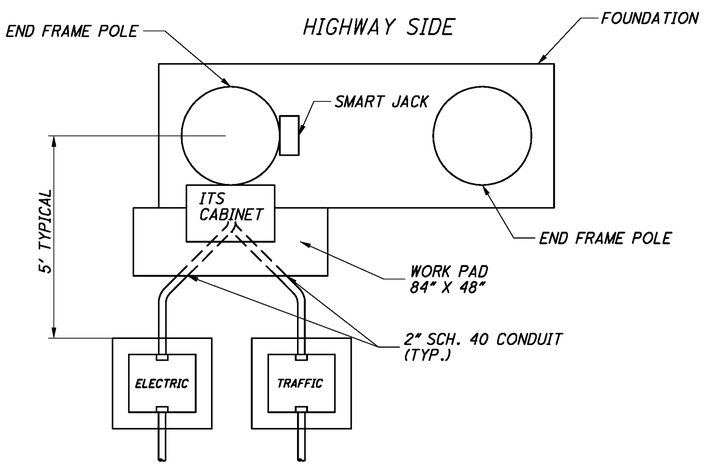
CALCULATED STS
CHECKED JDG

PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

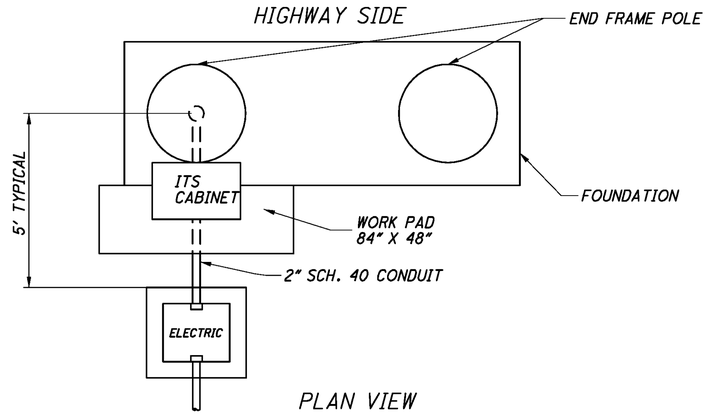
VAR-CLEVELAND
FREEWAY MANAGEMENT
SYSTEM



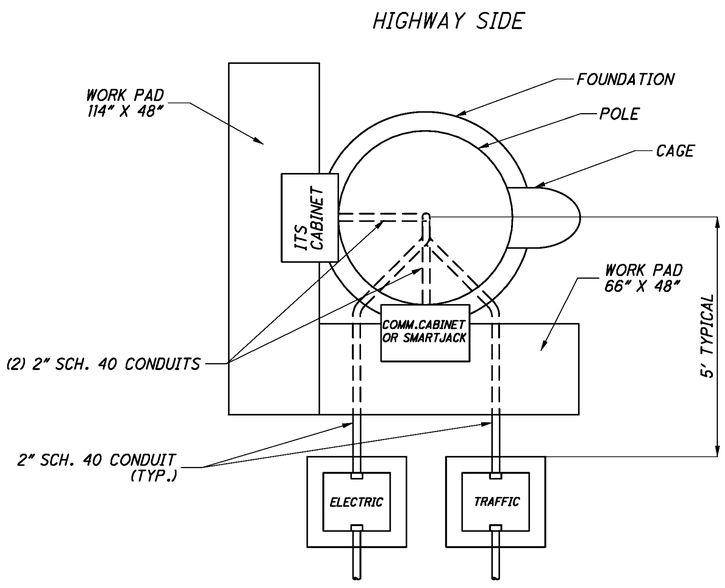
TYPICAL DMS TRUSS LOCATION
WITH ETHERNET OVER COPPER (TYP.)
NOT TO SCALE



TYPICAL DMS TRUSS LOCATION
WITH T-1 (TYP.)
NOT TO SCALE



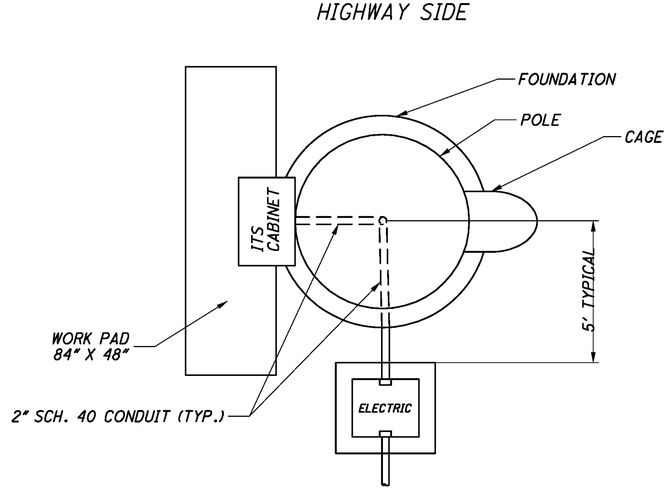
TYPICAL DMS TRUSS
WIRELESS LOCATION (TYP.)
NOT TO SCALE



TYPICAL DMS PEDESTAL LOCATION
WITH ETHERNET OVER COPPER OR T-1 (TYP.)
NOT TO SCALE

NOTES

1. IN SOME LOCATIONS IT MAY NOT BE POSSIBLE FOR THE CONTRACTOR TO PLACE THE FULL SIZE WORK PAD(S) AS SHOWN IN THE PLANS, SHEETS 15 AND 15A. AT THESE LOCATIONS THE CONTRACTOR SHAL NOTIFY THE DISTRICT CONSTRUCTION ENGINEER AND THE SIZE OF THE WORK PAD(S) SHALL BE DETERMINED BASED ON FIELD CONDITIONS WITH THE APPROVAL OF THE DISTRICT CONSTRUCTION ENGINEER.



TYPICAL DMS PEDESTAL
WIRELESS LOCATION (TYP.)
NOT TO SCALE

CALCULATED STS
CHECKED JDG

PULL BOX ORIENTATION FOR DMS LOCATIONS

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

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LEGEND:

WORK BY UTILITY:

1. AERIAL SERVICE ENTRANCE CABLE FURNISHED AND INSTALLED BY UTILITY.
2. SPLICING OF UTILITY'S SERVICE ENTRANCE CABLE ONTO CONTRACTOR'S SERVICE ENTRANCE CABLE BY UTILITY.
3. TERMINATION OF CONTRACTOR SUPPLIED SERVICE ENTRANCE CABLE ONTO CONTRACTOR INSTALLED WOOD POLE/ H-FRAME.
4. EXISTING/PROPOSED ELECTRIC UTILITY POLE INSTALLED BY UTILITY. (NO WORK)
5. EXISTING/PROPOSED ELECTRIC UTILITY METER BASE INSTALLED BY UTILITY (NO WORK)
6. COMMUNICATIIONS CABLE FURNISHED AND INSTALLED BY UTILITY

WORK BY CONTRACTOR:

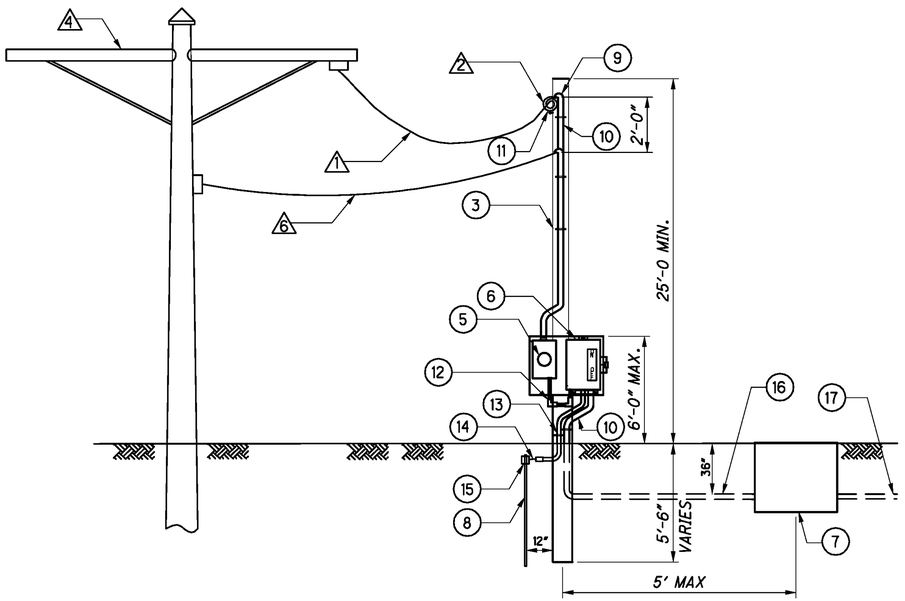
1. INSTALL 90° - 24" RADIUS PVC BEND, SCHEDULE 80.
2. WARNING RIBBON 12" ABOVE SERVICE LATERAL.
3. CONTRACTOR FURNISHED AND INSTALLED CLASS V WOOD POLE. MINIMUM 25' LONG. SEE TABLE ON THIS SHEET FOR SETTING DEPTHS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FURNISH AND INSTALL A WOOD POLE THAT IS SUFFICIENT IN LENGTH TO MEET MIN. ROADWAY CLEARANCE OF 20FT.
4. CONTRACTOR INSTALLED EQUIPMENT STAND PER HL-40.20. CHANNEL STRUT ATTACHED TO POLE PER DETAIL 4 ON SHEET 17.
5. UTILITY METER. CONTRACTOR TO SUPPLY MANUAL BYPASS TYPE SOCKET.
6. FUSIBLE SERVICE DISCONNECT SWITCH. FUSE SIZES & SERVICE RATING SHOWN ON PLAN SHEETS.
7. CONCRETE PULL BOX, 18" WILL BE INSTALLED WITHIN 5 FT OF EVERY ELECTRICAL SERVICE. NO ELECTRICAL SPLICES PERMITTED.
8. 5/8" x 10' COPPER CLAD STEEL GROUNDING ROD ELECTRODE, APP. TOP OF GROUND ROD INSTALLED 30" BELOW GRADE AND AT LEAST 1' OFF EDGE OF POLE OR EQUIPMENT FOUNDATION. SEE DETAIL 'SITE GROUNDING.'
9. 2" WEATHERHEAD AND STRAIN RELIEF HARDWARE FURNISHED & INSTALLED BY CONTRACTOR.
10. 2" CONDUIT RISER. SEE DETAIL 4 - CONDUIT MOUNTING BRACKET FOR MOUNTING DETAILS.
11. SERVICE ENTRANCE CABLE IN CONDUIT BY CONTRACTOR. ALL SERVICE ENTRANCE CABLE SHALL BE #4-USE-5KV FOR 100A SERVICES AND #1/0 FOR 200A SERVICES OR AS REQUIRED BY UTILITY.
12. THREADED HUB TYPE CONDUIT COUPLING BETWEEN ENCLOSURES SIZED TO ACCOMADATE CONDUCTORS. SEE PLAN FOR WIRE REQUIREMENTS.
13. 1" SCHEDULE 80 PVC CONDUIT FOR GROUND.
14. 1-1/C #4 XHHW-2 GROUNDING ELECTRODE CONDUCTOR IN CONDUIT TO DISCONNECT SWITCH NEUTRAL BUS.
15. GROUNDING ELECTRODE CONDUCTOR ATTACHED TO GROUNDING ELECTRODE AT LEAST 30" BELOW GRADE WITH GROUND CLAMPS SUITABLE FOR DIRECT BURIAL. FROM THE DISCONNECT SWITCH NEUTRAL BUS, THE GROUNDING ELECTRODE CONDUCTOR MUST ALWAYS BE DIRECTED DOWNWARD OR HORIZONTAL.
16. SCHEDULE 40 PVC CONDUIT IN TRENCH. CONDUIT SHALL BE 2" MINIMUM. TERMINATE THIS CONDUIT IN PULL BOX. CONDUIT INSTALLED A MINIMUM OF 36" BELOW GRADE.
17. CONDUIT AND CABLE PER PLAN BY CONTRACTOR. NO SPLICES PERMITTED IN PULLBOX. STRIP CASING BACK FROM UNIT DUCT CABLE AND PULL CABLE THROUGH TO DISCONNECT.
18. 2" 725.04 CONDUIT INSTALLED A MINIMUM OF 36" BELOW GRADE. CONDUIT RUN IS CONTINUOUS BETWEEN EQUIPMENT STAND AND UTILITY POLE/TRANSFORMER OR AS INDICATED ON PLAN SHEETS.
19. CONTRACTOR SHALL INSTALL CONDUIT NO CLOSER THAN 2' FROM EDGE OF UTILITY TRANSFORMER PAD. APPROACH TO TRANSFORMER MUST BE COORDINATED WITH UTILITY.
20. NEMA 4X CIRCUIT BREAKER ENCLOSURE WITH TWO 2-POLE, 600V BOLT-ON TYPE CIRCUIT BREAKERS. ENCLOSURE SHALL BE SERVICE ENTRANCE RATED. PROVIDE ONE PADLOCK FOR EACH ENCLOSURE. PADLOCK SHALL BE IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

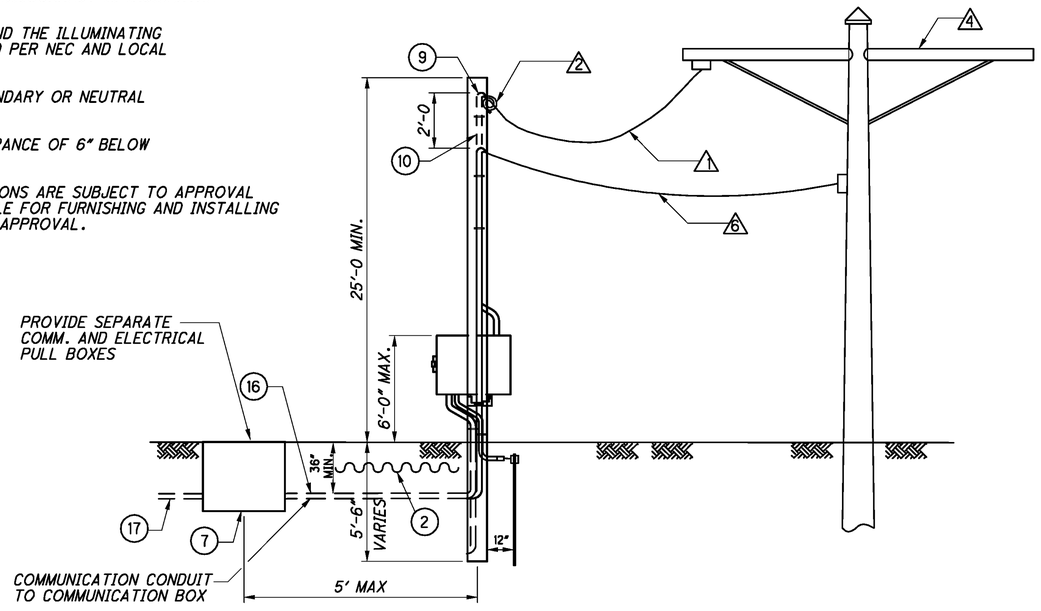
NOTES:.

1. CONTRACTOR MUST COORDINATE WITH UTILITIES' FIELD ENGINEER. CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING AND COORDINATING OF ALL UTILITES, RELATED WORK, AND INSPECTIONS AS NECESSITATED BY THE PROJECT.
2. ALL WORK AND MATERIALS SHOWN ON ELECTRICAL SERVICE DETAILS FROM THE ELECTRIC UTILITY POLE TO THE DISCONNECT IS INCIDENTAL TO POWER SERVICE PAY ITEMS.
3. OHIO EDISON, CLEVELAND PUBLIC POWER AND THE ILLUMINATING CO. CONDUIT SYSTEMS SHALL BE INSTALLED PER NEC AND LOCAL REQUIREMENTS.
4. DO NOT EXTEND CONDUIT ABOVE THE SECONDARY OR NEUTRAL POSITION AT ANY TIME.
5. CONDUIT SHALL MAINTAIN A MINUMUM CLEARANCE OF 6" BELOW THE SECONDARY OR NEUTRAL.
6. ALL PROPOSED SERVICE TYPES AND LOCATIONS ARE SUBJECT TO APPROVAL FROM UTILITY. CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING ALL EQUIPMENT ACCORDING TO ENGINEER'S APPROVAL.

WOOD POLE SETTING DEPTH CHART

LENGTH	WOOD POLE SETTING DEPTH
30	5' - 6"
35	6' - 0"
40	6' - 0"
45	6' - 6"
50	7' - 0"
55	7' - 6"
60	8' - 0"
65	8' - 6"





DETAIL 1
POWER SERVICE, AS PER PLAN A

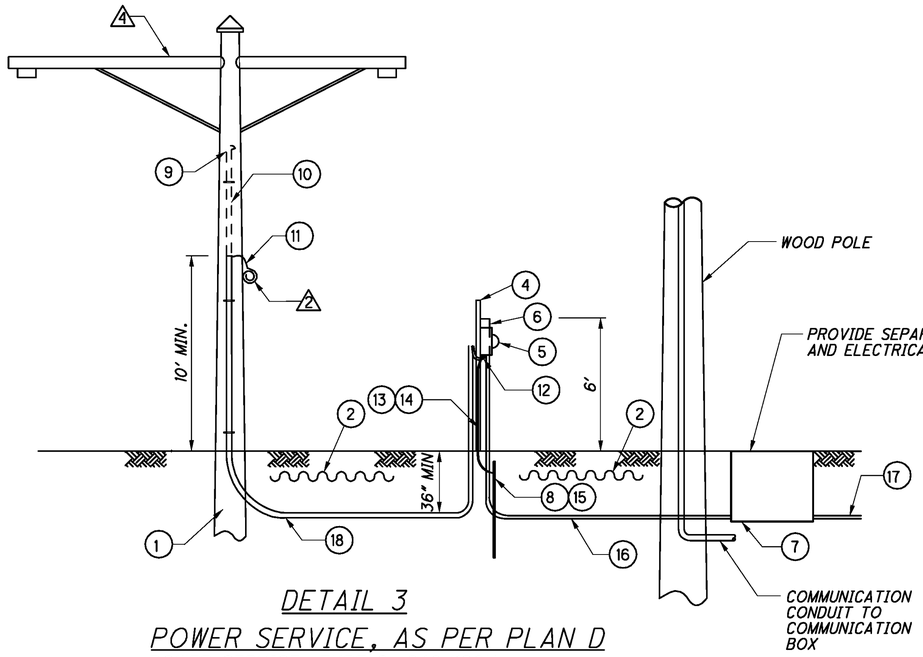
POWER SERVICE, TYPE A, 240/120V
3 WIRE, 1 PHASE, PER PLAN

* SEE STANDARD CONSTRUCTION DRAWING HL-40.10 FOR MORE DETAILS.
* 60A DISCONNECTS WILL BE FUSED AT 30A.
* 100A DISCONNECTS WILL BE FUSED AT 80A.

CALCULATED STS
CHECKED JDG

ELECTRICAL DETAILS
TYPICAL ELECTRICAL SERVICE

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM



DETAIL 3

POWER SERVICE, AS PER PLAN D

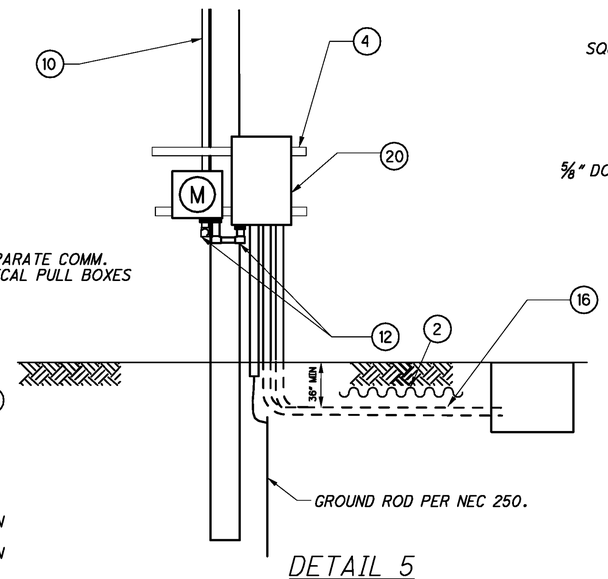
POWER SERVICE, TYPE C, 240/120V,
3 WIRE, 1 PHASE, PER PLAN

** A 200A SERVICE WITH TWO 100A CIRCUIT BREAKERS IS REQUIRED FOR DMS SITE 271011/271013

* SEE STANDARD CONSTRUCTION DRAWING HL-40.20 FOR MORE DETAILS

* 30A DISCONNECTS WILL BE FUSED @ 30A

* 100A DISCONNECTS WILL BE FUSED @ 80A



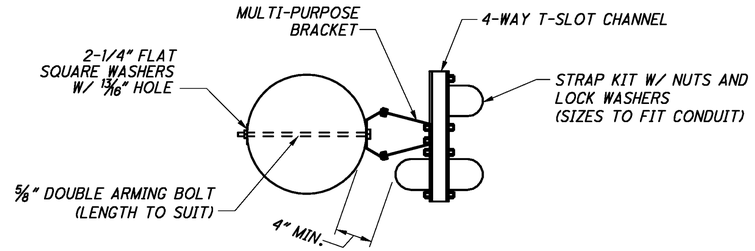
DETAIL 5

POWER SERVICE, AS PER PLAN B

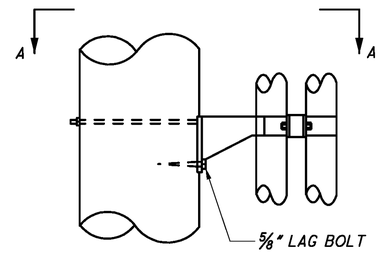
POWER SERVICE, TYPE A, DUAL, 240/120V
3 WIRE, 1 PHASE, PER PLAN

* CIRCUIT BREAKERS SIZED PER PLANS

* SEE STANDARD CONSTRUCTION DRAWING HL-40.10 FOR DOUBLE ENCLOSURE DETAILS

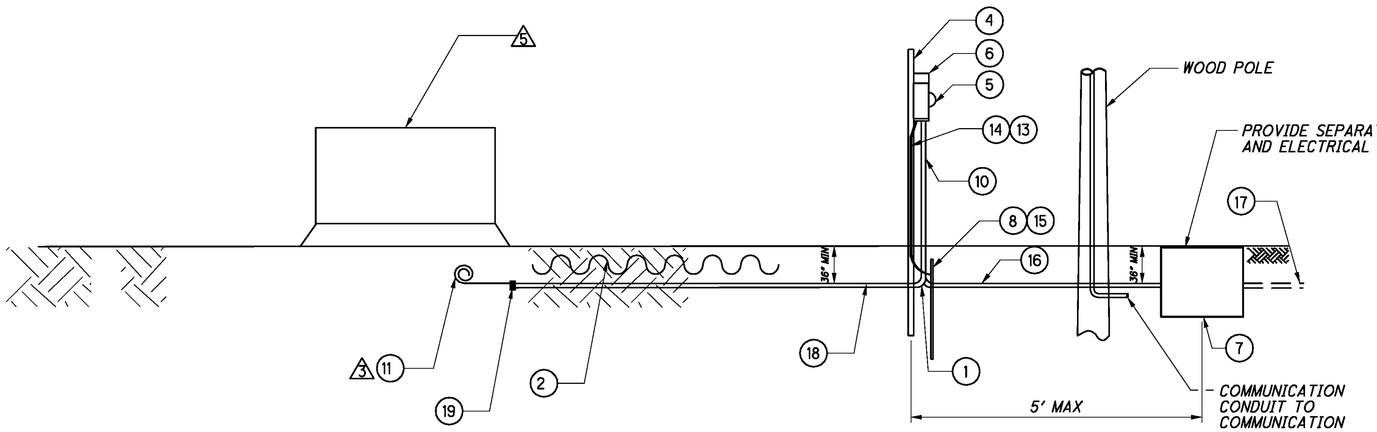


ELEVATION A-A



DETAIL 4

CONDUIT MOUNTING BRACKET



DETAIL 2

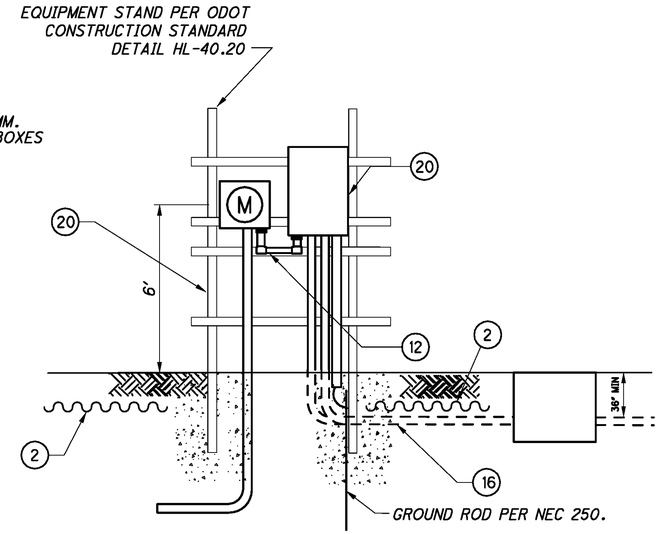
POWER SERVICE AS PER PLAN C

POWER SERVICE, TYPE B, 240/120V 3 WIRE,
1 PHASE, PER PLAN

* SEE STANDARD CONSTRUCTION DRAWING HL-40.20 FOR MORE DETAILS.

* 30A DISCONNECTS WILL BE FUSED AT 30A.

* 100A DISCONNECTS WILL BE FUSED AT 80A.



DETAIL 6

POWER SERVICE, AS PER PLAN E

POWER SERVICE, TYPE C, DUAL UNDERGROUND,
240/120V, 3 WIRE, 1 PHASE, PER PLAN

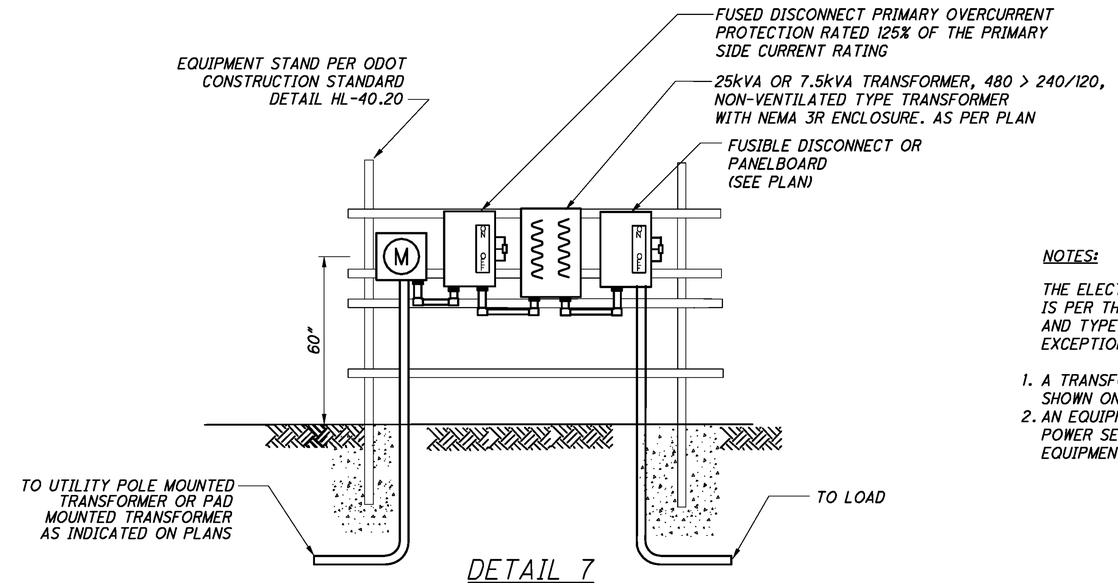
* CIRCUIT BREAKERS SIZED PER PLANS

* SEE STANDARD CONSTRUCTION DRAWING HL-40.20 FOR MORE DETAILS

CALCULATED STS
CHECKED JDG

ELECTRICAL DETAILS
METER AND DISCONNECT STAND

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM



NOTES:

THE ELECTRIC POWER SERVICE W/ TRANSFORMER IS PER THE ELECTRICAL DETAILS FOR TYPE A, TYPE B, AND TYPE C POWER SERVICES WITH THE FOLLOWING EXCEPTIONS:

1. A TRANSFORMER AND DISCONNECT ARE ADDED AS SHOWN ON THIS DETAIL.
2. AN EQUIPMENT STAND SHALL BE USED FOR ALL ELECTRIC POWER SERVICE TYPES TO ACCOMODATE ALL OF THE EQUIPMENT AS SHOWN ON THIS DETAIL.

DETAIL 7

TRANSFORMER, GENERAL PURPOSE, 7.5KVA, NON-VENTILATED TYPE

TRANSFORMER, GENERAL PURPOSE, 25KVA, NON-VENTILATED TYPE

POWER SERVICE WITH TRANSFORMER

* CIRCUIT BREAKERS SIZED PER PLANS
* SEE STANDARD CONSTRUCTION DRAWING HL-40.20 FOR MORE DETAILS

CALCULATED STS
CHECKED JDG

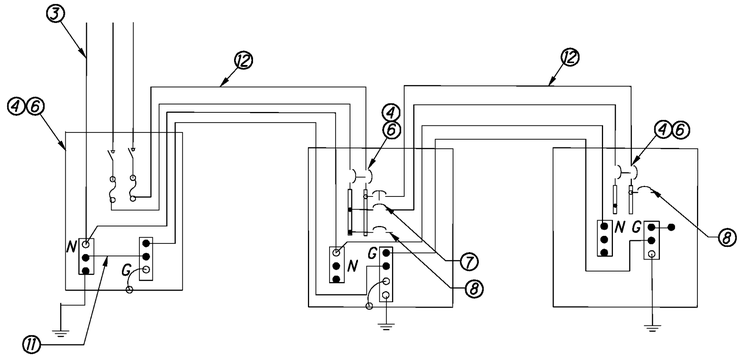
ELECTRICAL DETAILS
ELECTRIC SERVICE TRANSFORMER

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

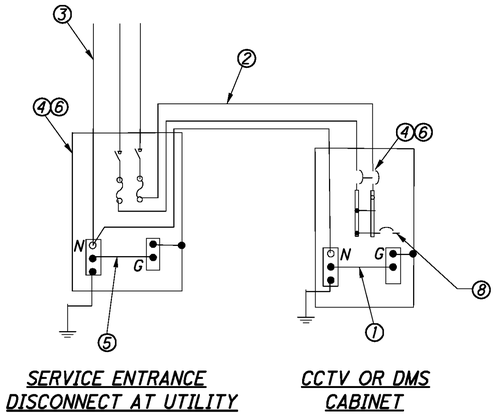
ELECTRICAL NOTES:

1. IF A METAL CONDUIT OR GROUND IS BROUGHT FORWARD FROM THE SERVICE ENTRANCE, THEN NEUTRAL AND GROUND CANNOT BE BONDED AT DEVICE CABINET. IF GROUND IS BROUGHT FORWARD THEN SIZE THE GROUND THE SAME AS THE NEUTRAL CONDUCTOR. SEE 'CONTINUOUS METALLIC PATH BETWEEN DEVICES' DETAIL 1.
2. FEEDER SIZED PER PLAN. NO EQUIPMENT GROUND AND NO METALLIC CONDUIT BROUGHT FORWARD FROM SERVICE ENTRANCE.
3. 120/240V SERVICE ENTRANCE CONDUCTORS SIZED PER PLAN
4. FUSIBLE OR MAIN BREAKER DISCONNECT. OVERCURRENT PROTECTION DEVICES ARE AS SIZED PER PLAN. TYPICAL FUSE CONFIGURATIONS FOR 120/240V SERVICE:
   - 30A FOR ONE CAMERA
   - 80A FOR ONE DMS
   - 80A FOR ONE DMS AND ONE CAMERA
   - 100A FOR TWO DMS
5. NEUTRAL AND GROUND BONDED AT SERVICE ENTRANCE EQUIPMENT.
6. SERVICE ENTRANCE RATED DISTRIBUTION EQUIPMENT.
7. TWO POLE CIRCUIT BREAKER FOR FEEDERS ARE SIZED AS PER PLAN. TYPICAL CIRCUIT BREAKER CONFIGURATIONS FOR 120/240 SERVICE:
   - 30A FOR ONE CAMERA
   - 80A FOR ONE DMS
   - 80A FOR ONE DMS AND ONE CAMERA
   - 100A FOR TWO DMS
8. CIRCUIT BREAKERS FOR LOCAL EQUIPMENT ARE SIZED PER MANUFACTURER RECOMMENDATIONS
9. MULTIPLE MAIN BREAKER DISCONNECTS. CIRCUIT BREAKERS ARE AS SIZED PER PLAN TYPICAL CIRCUIT BREAKER CONFIGURATIONS FOR 120/240V SERVICE:
   - 30A FOR ONE CAMERA
   - 80A FOR ONE DMS
   - 80A FOR ONE DMS AND ONE CAMERA
   - 100A FOR TWO DMS
   - REFER TO PLANS FOR EXCEPTIONS
10. FEEDERS AND EQUIPMENT GROUND ARE SIZED PER PLAN
11. NEUTRAL AND GROUND ARE BONDED ONLY AT THE SERVICE ENTRANCE
12. FEEDER SIZED PER PLAN. EQUIPMENT GROUND BROUGHT FORWARD FROM SERVICE ENTRANCE AND SIZED THE SAME AS THE PHASE AND NEUTRAL CONDUCTORS. IF METALLIC CONDUIT IS USED, THEN USE GROUNDING BUSHING.

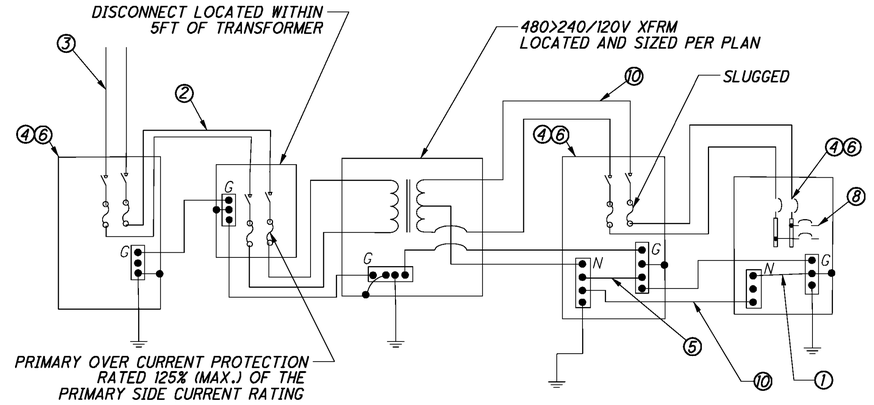
NOTES:
1. SEE PLAN SHEETS FOR SITE SPECIFIC ELECTRICAL EQUIPMENT RATINGS.



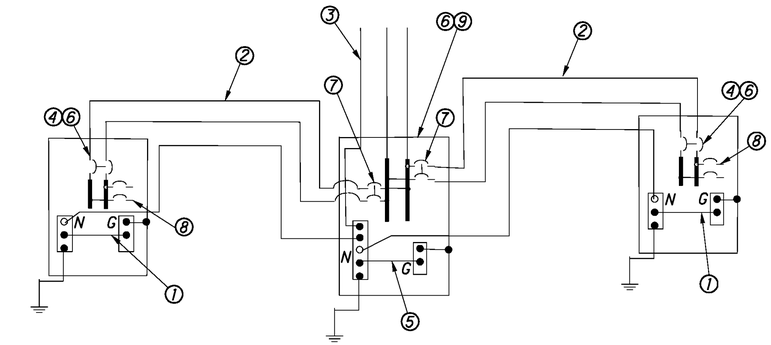
DETAIL 1
CONTINUOUS METALLIC PATHS BETWEEN DEVICES



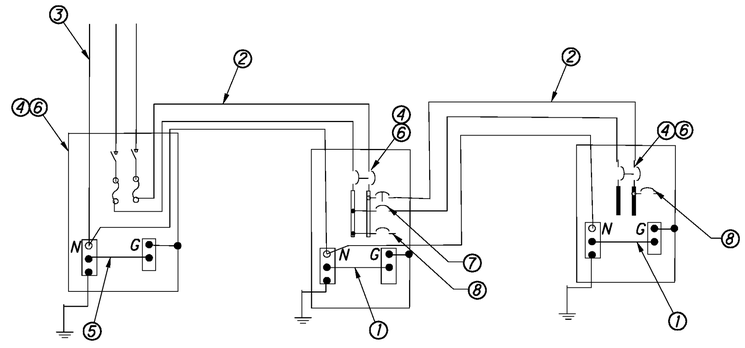
DETAIL 2
TYPICAL WIRING SCHEMATIC FOR A SINGLE DEVICE SITE



DETAIL 3
WIRING SCHEMATIC FOR A DEVICE SITE WITH A TRANSFORMER



DETAIL 4
TYPICAL WIRING SCHEMATIC FOR A MULTI-DEVICE SITE (CAMERA FED FROM SERVICE ENTRANCE)

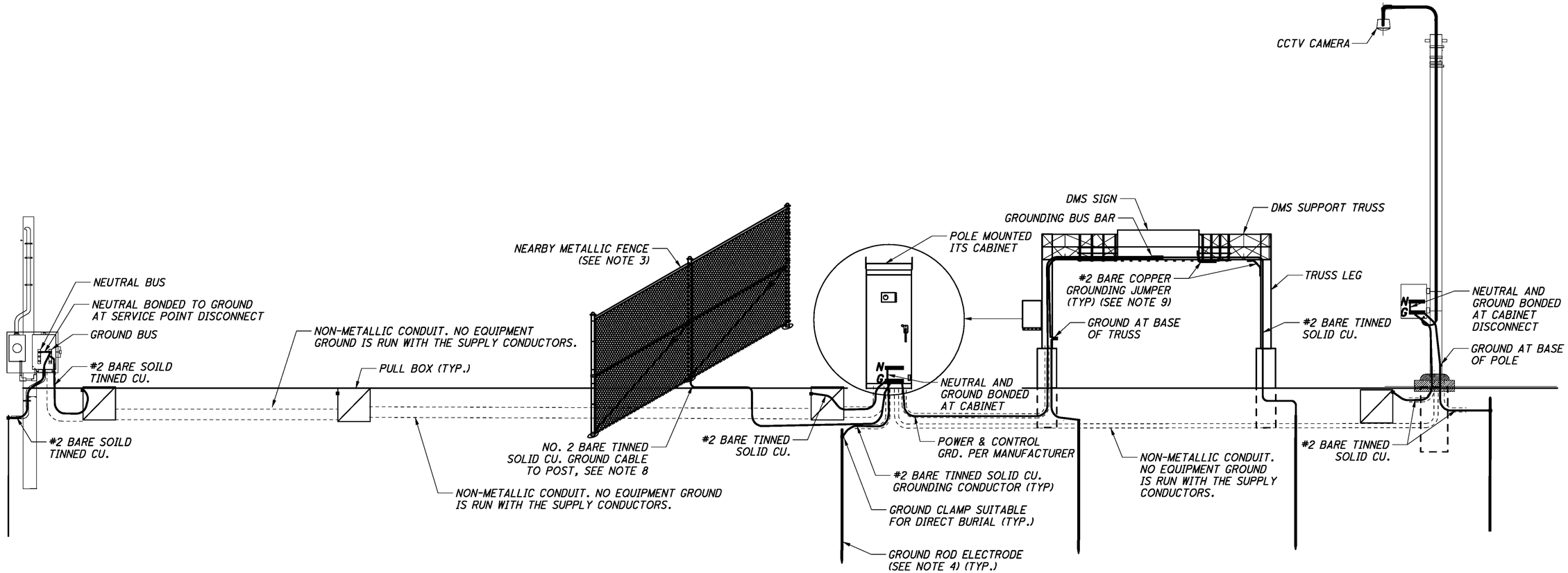


DETAIL 5
TYPICAL WIRING SCHEMATIC FOR A MULTI-DEVICE (CAMERA FED FROM DMS)

CALCULATED STS
CHECKED JDG

TYPICAL 120/240V ELECTRICAL SERVICE AT TYPICAL SINGLE LINE DIAGRAMS

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM



DMS SITE GROUND RING

ITS CABINET SHALL BE POLE MOUNTED
THIS DIAGRAM IS TO SHOW THE ROUTING AND PLACEMENT OF CONDUIT, CABLES, AND GROUND RODS.

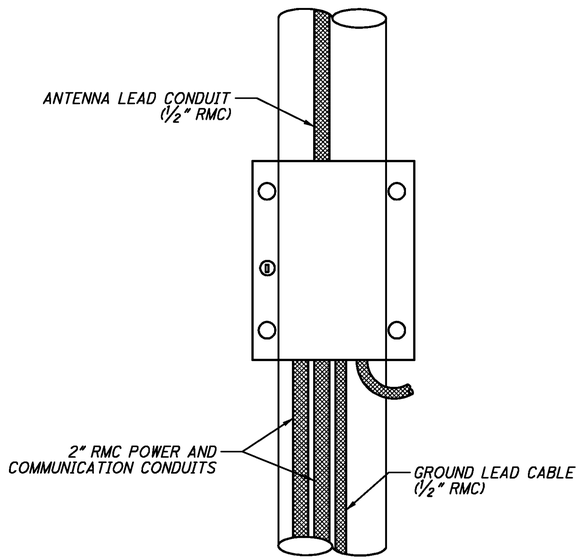
NOTES:

1. ADDITIONAL GROUND ROD ELECTRODES SHALL BE ADDED TO GROUNDING CONDUCTOR AS REQUIRED UNTIL RESISTANCE TO GROUND IS 5 OHMS OR LESS FOR DEVICE LOCATIONS AND 25 OHMS OR LESS AT POWER SERVICE AND PULL BOX. IF ADDITIONAL GROUND ROD ELECTRODES ARE REQUIRED IN ORDER TO ACHIEVE REQUIRED RESISTANCE THEY SHALL RADIATE OUT FROM EXISTING GROUND ROD ELECTRODES, SHALL BE CONNECTED WITH #2 BARE TINNED SOLID CONDUCTOR, AND SHALL BE 30' FROM CONNECTED GROUND ROD. ALL COMMUNICATION EQUIPMENT GROUNDING SITES SHALL BE TESTED FOR RESISTANCE TO GROUND USING THE THREE- POINT/FALL-OF-POTENTIAL TEST PER ANSI/I/EEE STD 81. SEE GROUNDING SPECIFICATIONS.
2. GROUND ROD ELECTRODES SHALL NOT BE ROUTED THROUGH FOUNDATIONS.
3. FENCES AND OTHER METALLIC STRUCTURES WITH PATHS TO GROUND SHALL BE CONNECTED TO THE GROUNDING CONDUCTOR IF THEY ARE LOCATED WITHIN 10' OF THE GROUNDING ELECTRODE SYSTEM OR ANY OBJECT GROUNDED TO THE GROUNDING ELECTRODE SYSTEM. SEE STANDARD CONSTRUCTION DRAWING HL-50.11.
4. GROUND ROD ELECTRODES SHALL BE BURIED TO A MINIMUM DEPTH OF 36 INCHES BELOW FINISHED GRADE, WHERE POSSIBLE.
5. CCTV CAMERA AND ASSOCIATED PULL BOX SHALL BE CONNECTED TO THE DMS SITE GROUND RING ONLY WHEN EITHER THE DMS TRUSS OR THE DMS CONTROL CABINET IS LOCATED CLOSER TO THE BASE OF THE CCTV POLE THAN THE LENGTH OF THE CCTV POLE.
6. ALL EQUIPMENT GROUNDS SHALL BE PROPERLY CONNECTED TO A CHASSIS; ALL PAINT AND OTHER COATINGS, INCLUDING GALVANIZATION, SHALL BE REMOVED PRIOR TO TERMINATION OF A GROUND. AFTER THE GROUND IS TERMINATED A NON-OXIDIZING COATING SHALL BE PAINTED OVER THE EXPOSED METAL SURFACES.
7. GROUNDING ELECTRODE SYSTEM CONNECTIONS TO FENCING SHALL BE MADE USING HEAVY DUTY TINNED LISTED PIPE CLAMPS DESIGNED FOR GROUNDING AND STAINLESS STEEL HARDWARE. SEE STANDARD CONSTRUCTION DRAWING HL-50.11.
8. ALL GROUNDING DIAGRAMS ARE SCHEMATIC ONLY.
9. ALL METALLIC MEMBERS OF THE DMS TRUSS AND THE DMS SIGN WITHIN 6 FEET OF EACH OTHER SHALL BE BONDED TOGETHER. WELDS SHALL BE CONSIDERED AN ACCEPTABLE BONDING METHOD. U-BOLT CONNECTIONS SHALL NOT BE CONSIDERED AN ACCEPTABLE BONDING METHOD.
10. AT LEAST AN 8 INCH MINIMUM BENDING RADIUS SHALL BE MAINTAINED ON ALL GROUNDING ELECTRODE CONDUCTORS. THE ANGLE OF ANY BEND SHALL NOT BE LESS THEN 90°.
11. GROUNDING CONDUCTORS SHALL ALWAYS ROUTE AS STRAIGHT AS POSSIBLE. "U" FORM JUMPERS SHALL BE ACCEPTABLE ONLY FOR GATES AND DOORS.
12. THE QUANTITY OF GROUNDING ELECTRODE CONDUCTORS CONNECTED TO A GROUND ROD ELECTRODE SHALL BE LIMITED TO FOUR.
13. WHENEVER POSSIBLE, GROUND ROD ELECTRODES SHALL BE INSTALLED NO CLOSER THAN 16.5' FROM A FOUNDATION.
14. SEE SHEET 19 FOR DETAILED NEUTRAL AND EQUIPMENT GROUND CONDUCTOR INSTALLATION REQUIREMENTS.
15. GROUNDING ELECTRODE CONDUCTORS SHALL BE INSTALLED IN ONE CONTINUOUS LENGTH. SPLICING SHALL BE PERMITTED ONLY BY IRREVERSIBLE COMPRESSION-TYPE CONNECTORS LISTED AS GROUNDING AND BONDING EQUIPMENT OR BY EXOTHERMIC WELDING PROCESS.

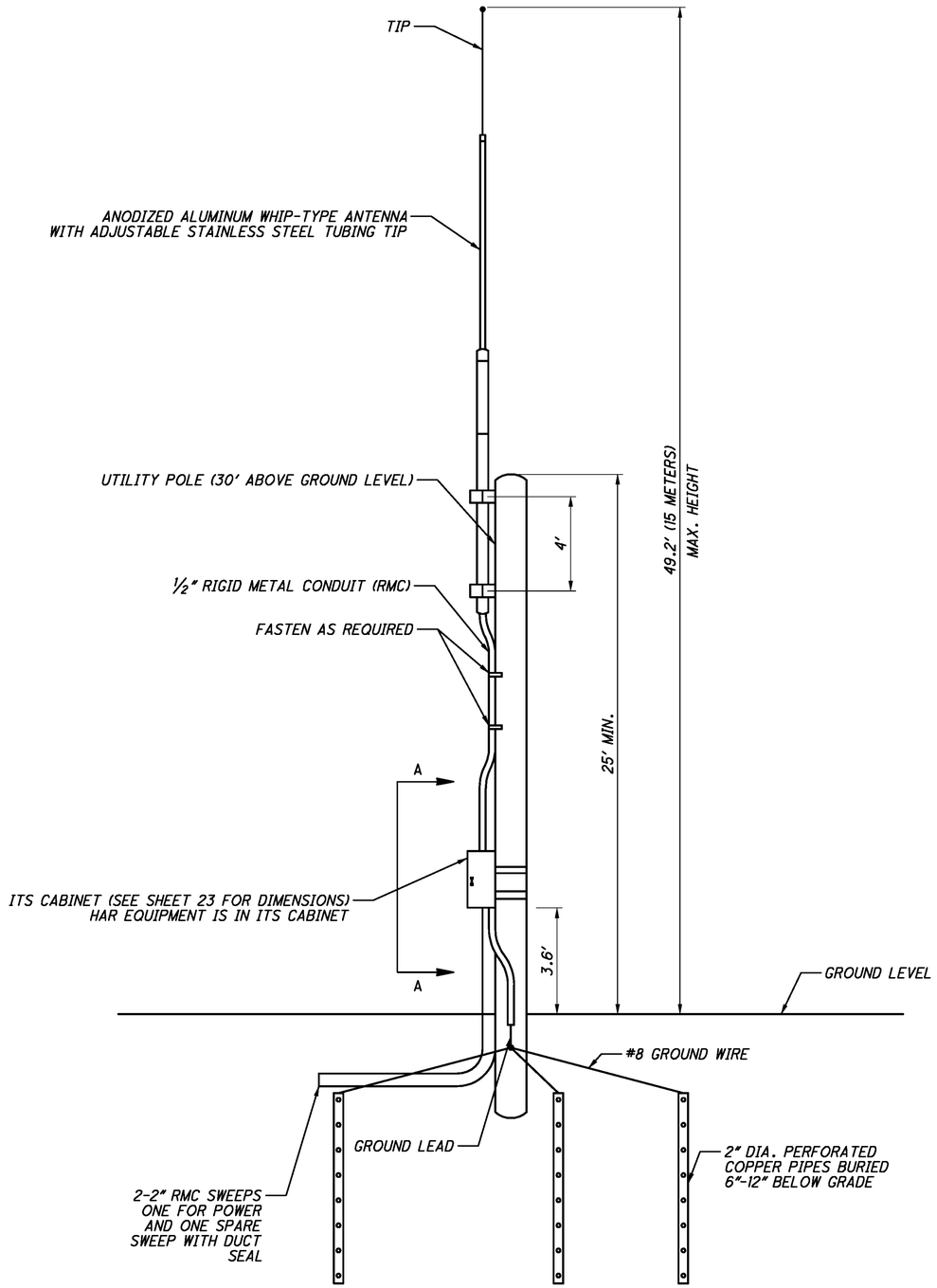
CALCULATED STS
CHECKED JDG

SITE GROUNDING

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM



SECTION A-A
NOT TO SCALE



APPROX. DEPTH 10'-20'

TRIAD GROUND SYSTEM
NOT TO SCALE

NOTES:

1. CONTRACTOR HAS OPTION FOR PROVIDING RADIAL PATTERN GROUND SYSTEM.

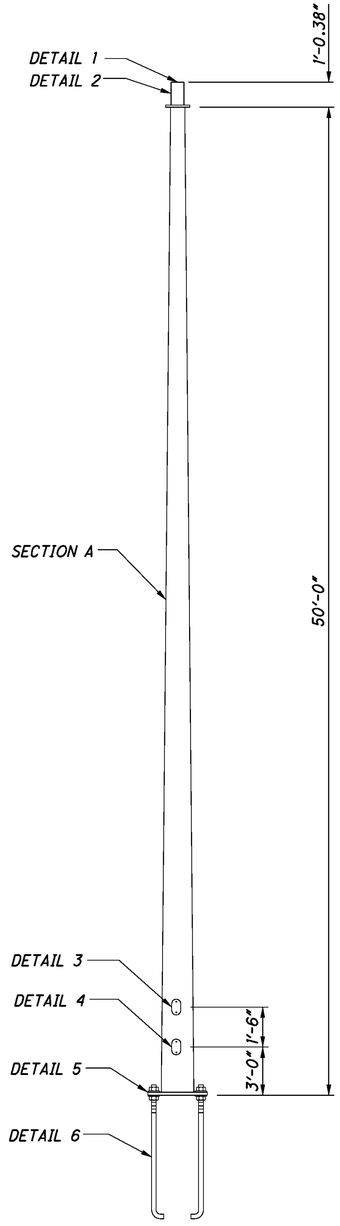
CALCULATED STS
CHECKED JDG

TYPICAL HIGHWAY ADVISORY RADIO (HAR) DETAILS

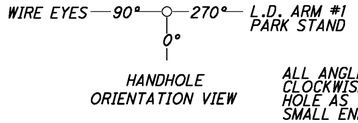
VAR-CLEVELAND
FREEWAY MANAGEMENT
SYSTEM

NOTES:

1. CONTRACTOR SHALL PROVIDE THE DETAILS OF A (2 PIECE) 70' CCTV POLE AND FOUNDATION FOR REVIEW AND APPROVAL BY THE ENGINEER.
2. POLE ORIENTATION TO BE DETERMINED BY THE ENGINEER.
3. THIS IS INCLUDED TO SHOW TYPICAL INFORMATION TO BE PROVIDED BY CONTRACTOR FOR 70' CCTV CAMERA POLE DETAIL



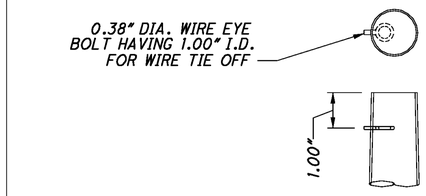
CCTV CAMERA POLE (50 FT.)



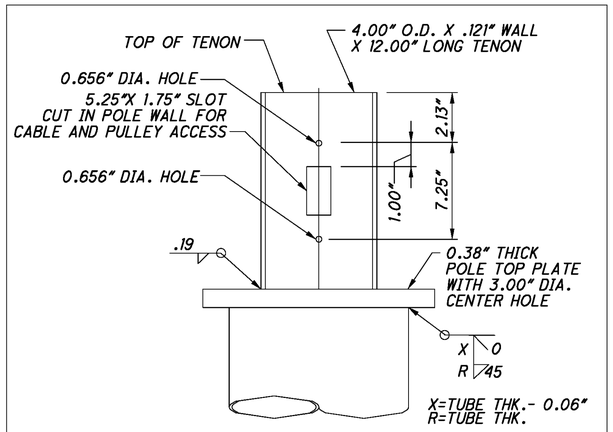
ALL ANGLES MEASURED CLOCKWISE FROM HAND-HOLE AS VIEWED FROM SMALL END OF POLE

MAXIMUM HORIZONTAL DEFLECTION IS 1" FOR A SUSTAINED 30 MPH WIND VELICITY W/NO GUST

LOADING AND ALLOWING STRESS CRITERIA: 1994 AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS."

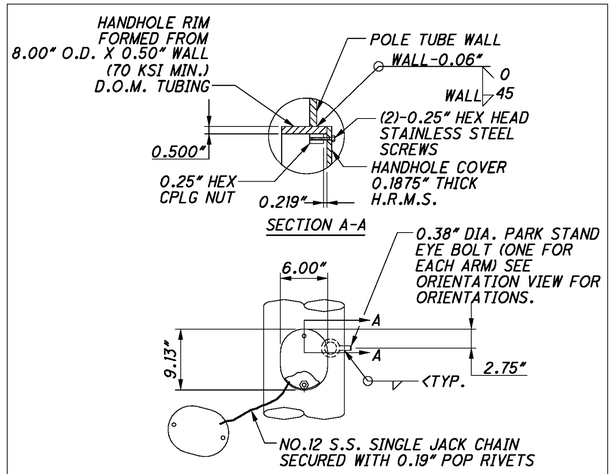


DETAIL 1 — TENON TOP

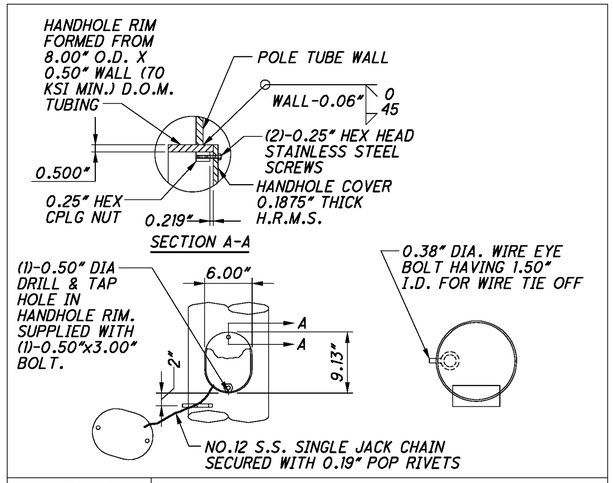


DETAIL 2 — POLE TENON

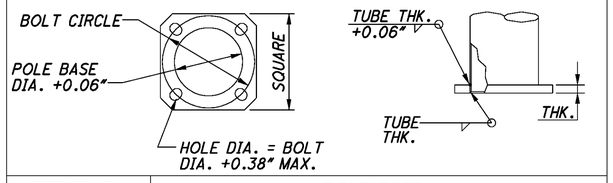
MATERIAL DATA		
COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
POLE SHAFTS	A595 GR.A	55
BASE PLATES	A36	36
POLE TOP PLATE	A36	36
TENON - C.D.S. TUBING	----	42
ANCHOR BOLTS	F1554 GR.55	55
GALVANIZING - STRUCTURE	A123	--
GALVANIZING - HARDWARE	A153	--



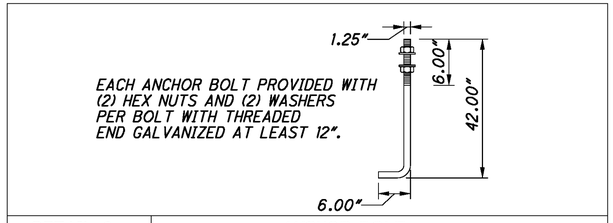
DETAIL 3 — HANDHOLE & EYE BOLT



DETAIL 4 — HANDHOLE



DETAIL 5 — POLE BASE



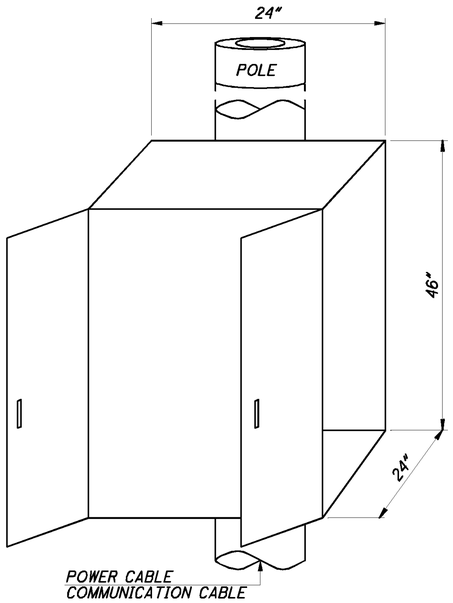
DETAIL 6 — ANCHOR BOLT

POLE DATA														
					TUBE						POLE BASE			
ITEM	QTY.	DESIGNATION EPA/MASS (FT)/(LB)	HEIGHT (FT)	NO. L.D. ARMS REQ'D	SECTION	BASE DIAMETER (IN)	TOP DIAMETER (IN)	LENGTH (FT)	GAUGE OR THICK	MINIMUM SLIP LENGHT	SQUARE (IN)	BOLT CIRCLE DIA (IN)	THICK (IN)	BOLT HOLE DIA. (IN)
1	2	AHM050-SPCL (GV) 2.8/120(LD+CAMERA) 7.9/150(PANEL BOX)	50.00	1	A	18.00	6.00	50.00	5 GA	N/A				1.563

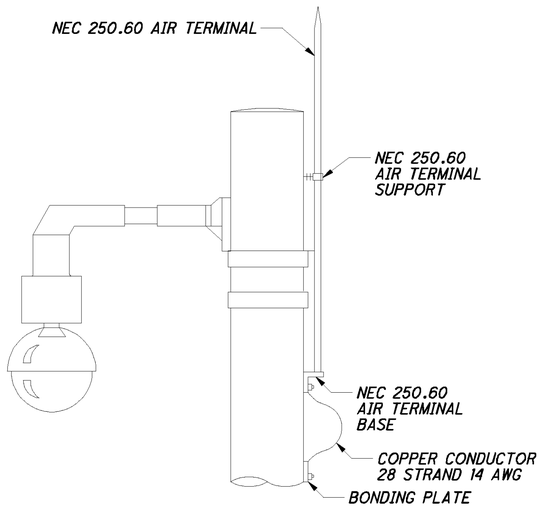
CALCULATED STS
CHECKED JDG

CCTV CAMERA POLE DETAIL (50')

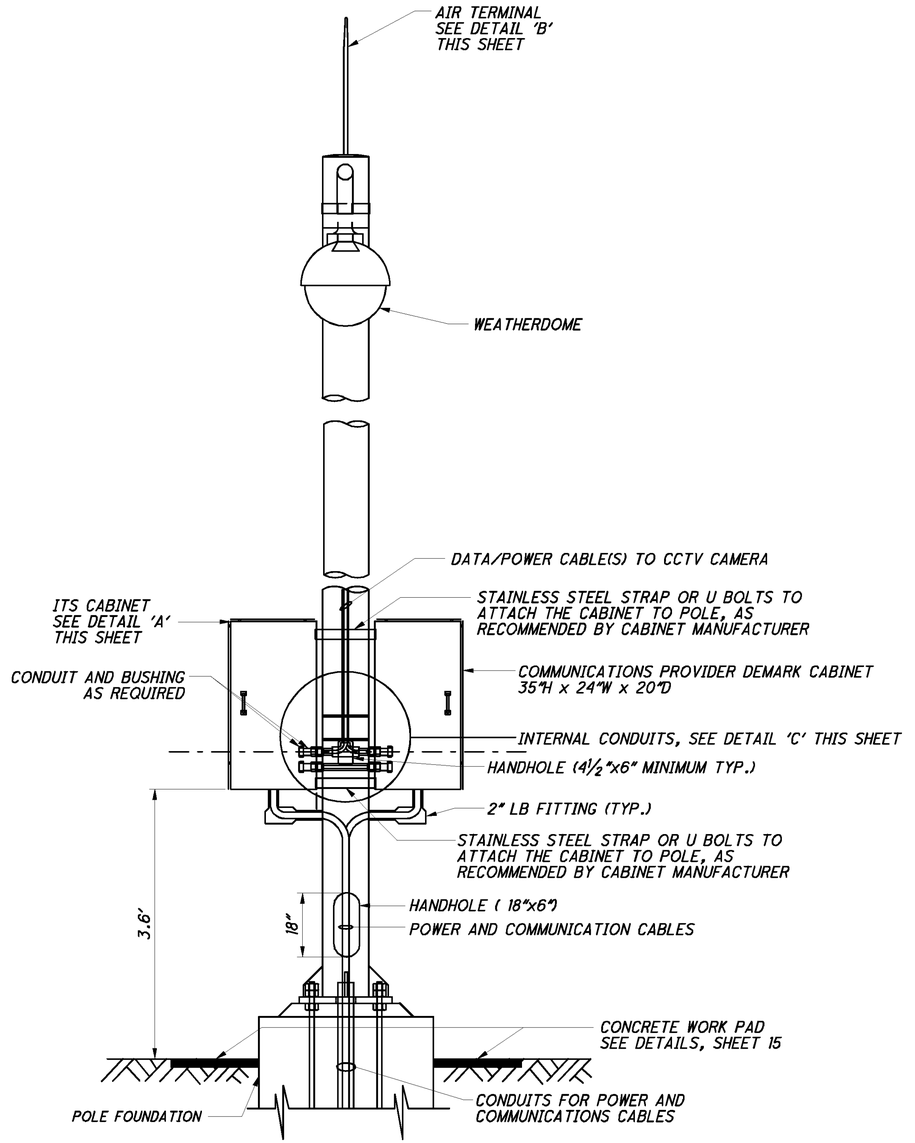
VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM



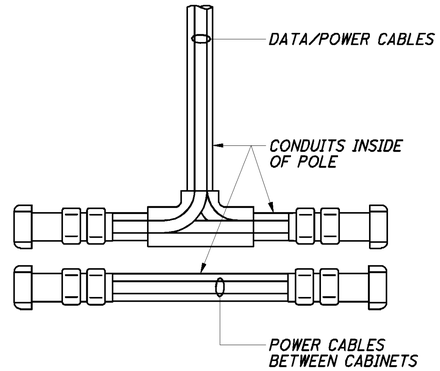
DETAIL 'A'
ITS CABINET
NOT TO SCALE



DETAIL 'B'
AIR TERMINAL
NOT TO SCALE



CCTV CAMERA INSTALLATION
NOT TO SCALE



DETAIL 'C'
INTERNAL CONDUITS
NOT TO SCALE

NOTE: CONFIGURATION OF THIS DETAIL SHALL BE SUBMITTED FOR APPROVAL BY THE DISTRICT CONSTRUCTION ENGINEER

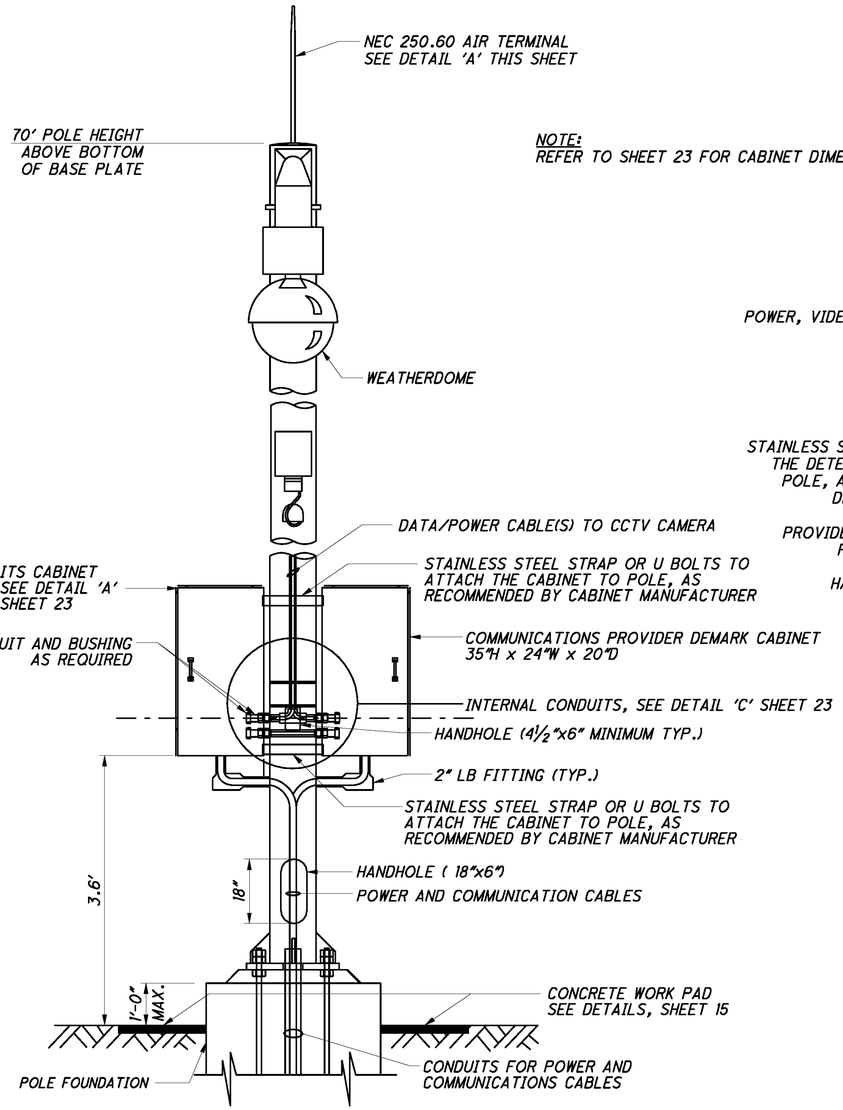
CCTV POLE CAMERA ASSEMBLY NOTES:

1. THIS DRAWING REPRESENTS ONLY A TYPICAL SITE OVERVIEW OF THE SYSTEM. THIS DRAWING IS NOT INTENDED TO SHOW ALL DEVICES OR COMBINATION OF DEVICES IN THE SYSTEM. BASED ON SITE CONFIGURATIONS EACH SITE MAY CONTAIN ONE OR MORE COMBINATIONS NOT SHOWN ON THE PLANS.
2. CABINETS SHOULD NOT BE LOCATED ON THE SAME SIDE OF THE POLE AS THE CCTV DOME HOUSING.
3. CCTV POLE SHALL BE INSTALLED WITH CAMERA LOWERING SYSTEM.
4. CCTV LOWERING SYSTEM MANUFACTURER SHALL PROVIDE ADEQUATE LENGTH OF CCTV CABLE FOR 70' POLE.
5. MAINTAIN 6' FROM GUARDRAIL PLACEMENT OR AS DIRECTED BY THE ENGINEER.

CALCULATED STS
CHECKED JDG

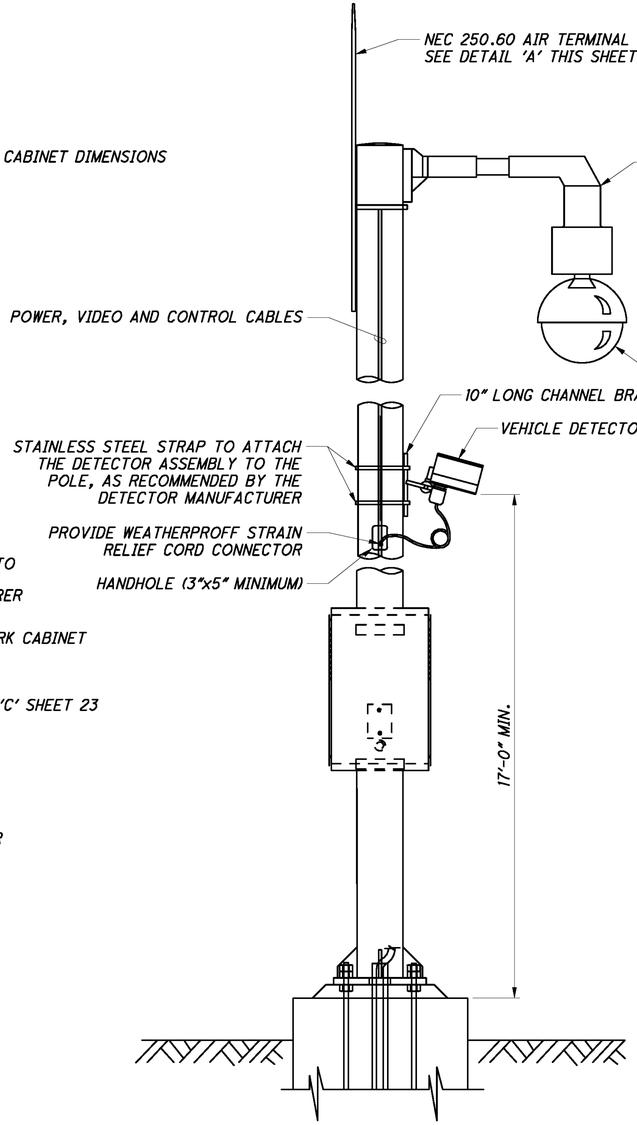
CCTV CAMERA DETAIL

VAR-CLEVELAND
FREEWAY MANAGEMENT
SYSTEM

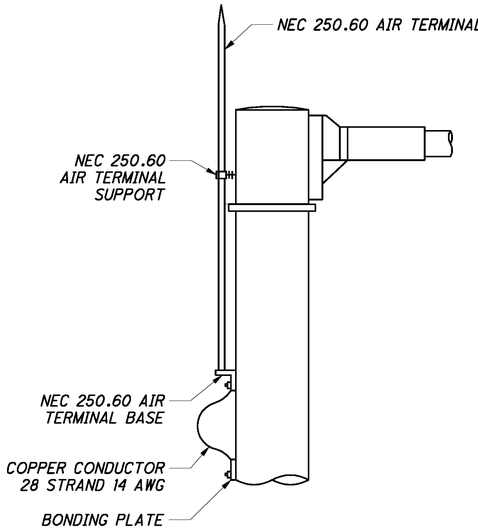


VEHICLE DETECTOR UNIT, SIDE VIEW
NOT TO SCALE

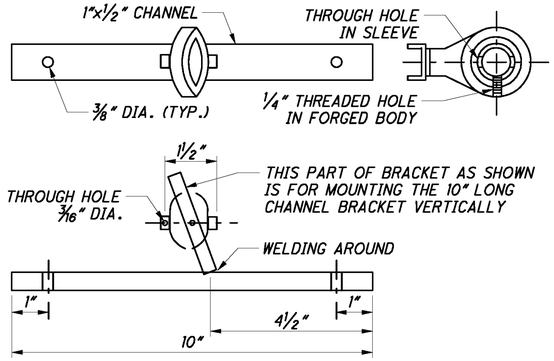
NOTE:
REFER TO SHEET 23 FOR CABINET DIMENSIONS



VEHICLE DETECTOR UNIT,
MOUNTED ON CCTV CAMERA POLE
NOT TO SCALE



DETAIL 'A'
NOT TO SCALE



DETAIL 'B', CHANNEL BRACKET
(SUPPLIED BY DETECTOR MANUFACTURER)
NOT TO SCALE

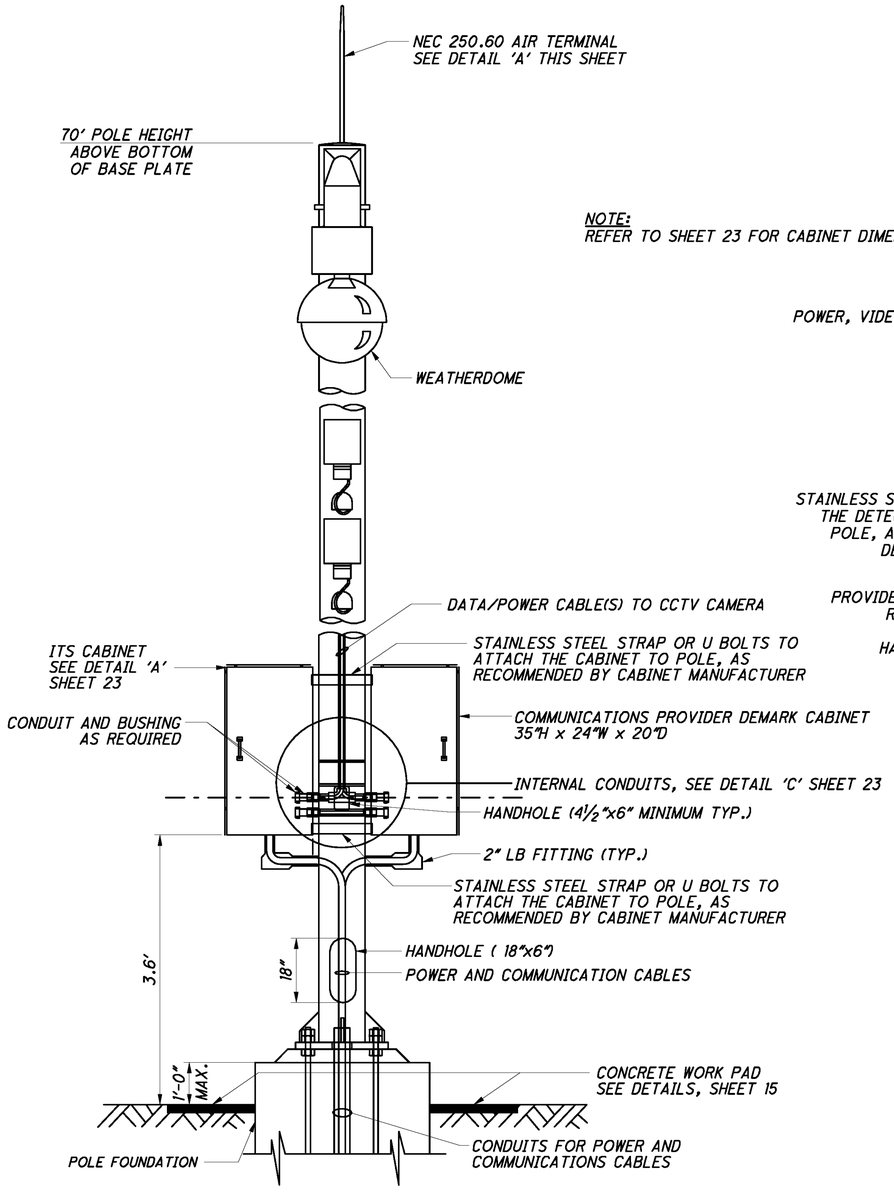
NOTES:

1. MOUNT VEHICLE DETECTOR UNIT SO THAT THE DETECTOR IS MOUNTED ON THE ROADWAY SIDE OF POLE AT A HEIGHT RECOMMENDED BY THE MANUFACTURER.
2. SUPPORT HOOKS SHOULD BE APPROPRIATELY SIZED FOR THE NUMBER AND SIZE OF CONDUCTORS TO BE SUPPORTED. SUPPORT ELECTRICAL AND COMMUNICATION CABLES WITH SEPARATE HOOKS.
3. RUN ALL WIRING INSIDE THE POLE AND PROVIDE STRAIN RELIEF AND SUPPORT FOR ALL CONTROL CABLES.
4. SEE PLAN SHEETS FOR VEHICLE DETECTOR LOCATIONS.
5. WHEN INSTALLING THE MOUNTING BRACKETS FOR VEHICLE DETECTORS, ALIGN AND ANGLE THE DETECTORS TO COVER THE DETECTION ZONE(S) PER MANUFACTURER'S SPECIFICATIONS.

CALCULATED STS
CHECKED JDG

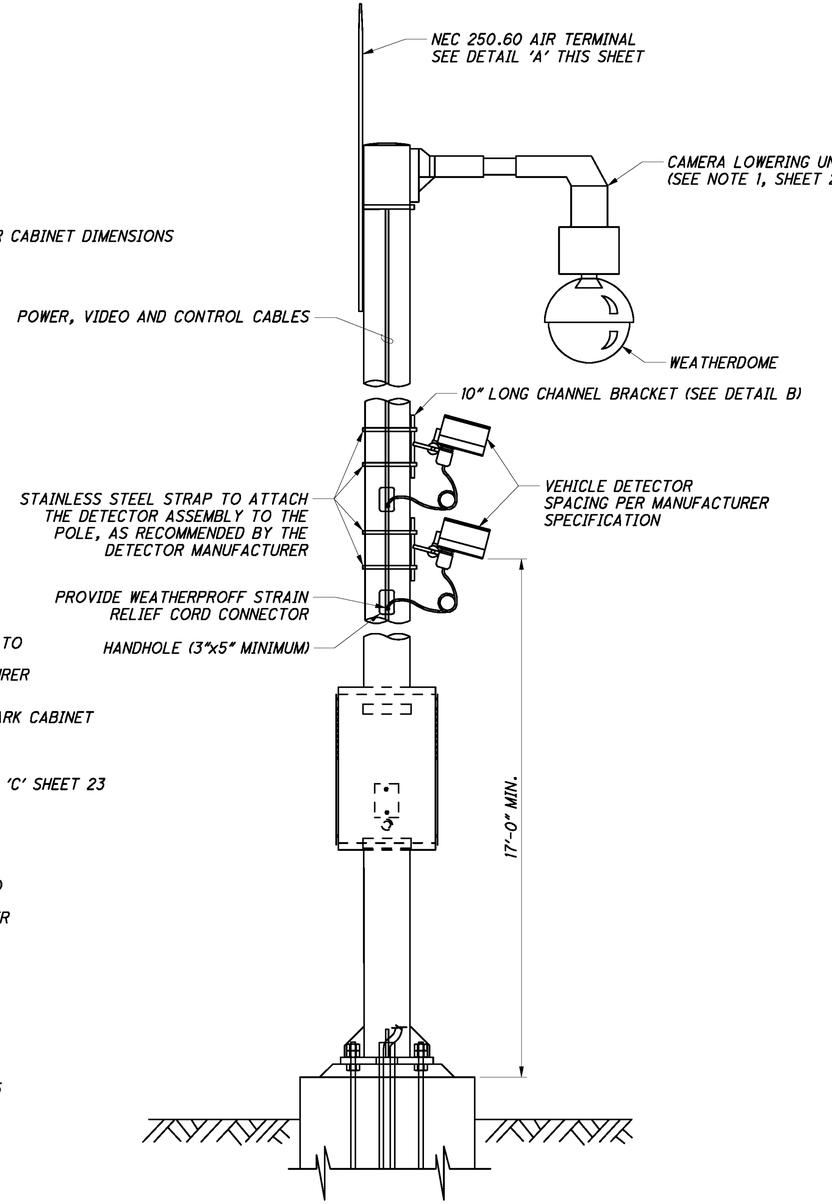
CCTV WITH VEHICLE DETECTOR UNIT

VAR-CLEVELAND
FREEWAY MANAGEMENT
SYSTEM

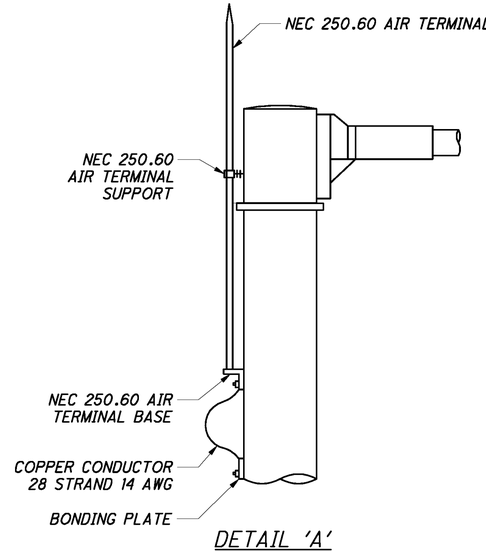


VEHICLE DETECTOR UNIT, SIDE VIEW
NOT TO SCALE

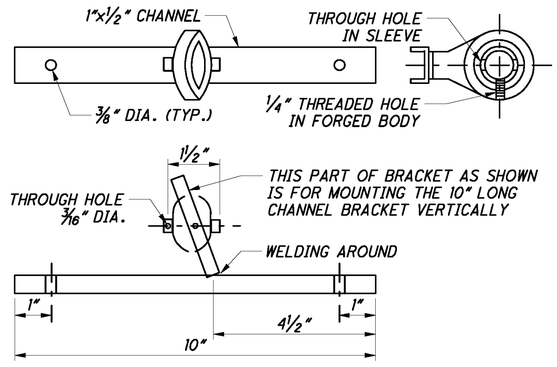
NOTE:
REFER TO SHEET 23 FOR CABINET DIMENSIONS



VEHICLE DETECTOR UNIT,
MOUNTED ON CCTV CAMERA POLE
NOT TO SCALE



DETAIL 'A'
NOT TO SCALE



DETAIL 'B', CHANNEL BRACKET
(SUPPLIED BY DETECTOR MANUFACTURER)
NOT TO SCALE

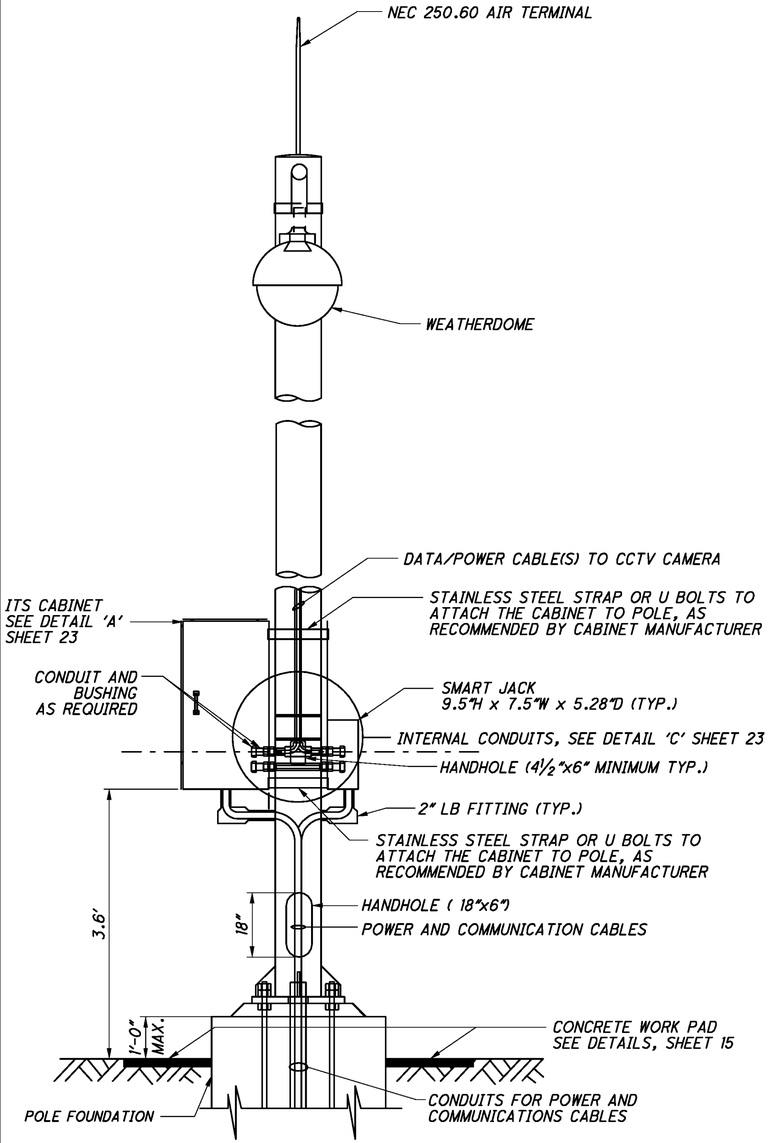
NOTES:

1. MOUNT VEHICLE DETECTOR UNIT SO THAT THE DETECTOR IS MOUNTED ON THE ROADWAY SIDE OF POLE AT A HEIGHT RECOMMENDED BY THE MANUFACTURER.
2. SUPPORT HOOKS SHOULD BE APPROPRIATELY SIZED FOR THE NUMBER AND SIZE OF CONDUCTORS TO BE SUPPORTED. SUPPORT ELECTRICAL AND COMMUNICATION CABLES WITH SEPARATE HOOKS.
3. RUN ALL WIRING INSIDE THE POLE AND PROVIDE STRAIN RELIEF AND SUPPORT FOR ALL CONTROL CABLES.
4. SEE PLAN SHEETS FOR VEHICLE DETECTOR LOCATIONS.
5. WHEN INSTALLING THE MOUNTING BRACKETS FOR VEHICLE DETECTORS, ALIGN AND ANGLE THE DETECTORS TO COVER THE DETECTION ZONE(S) PER MANUFACTURER'S SPECIFICATIONS.

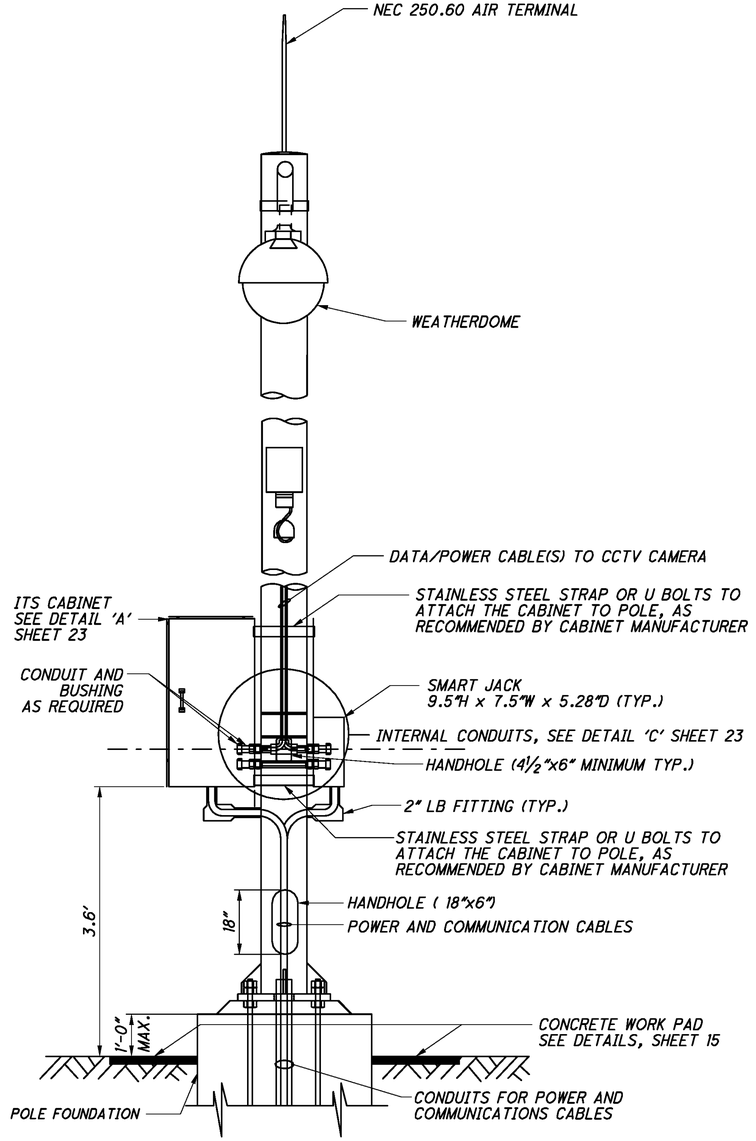
CALCULATED STS
CHECKED JDG

CCTV WITH TWO VEHICLE DETECTOR UNITS

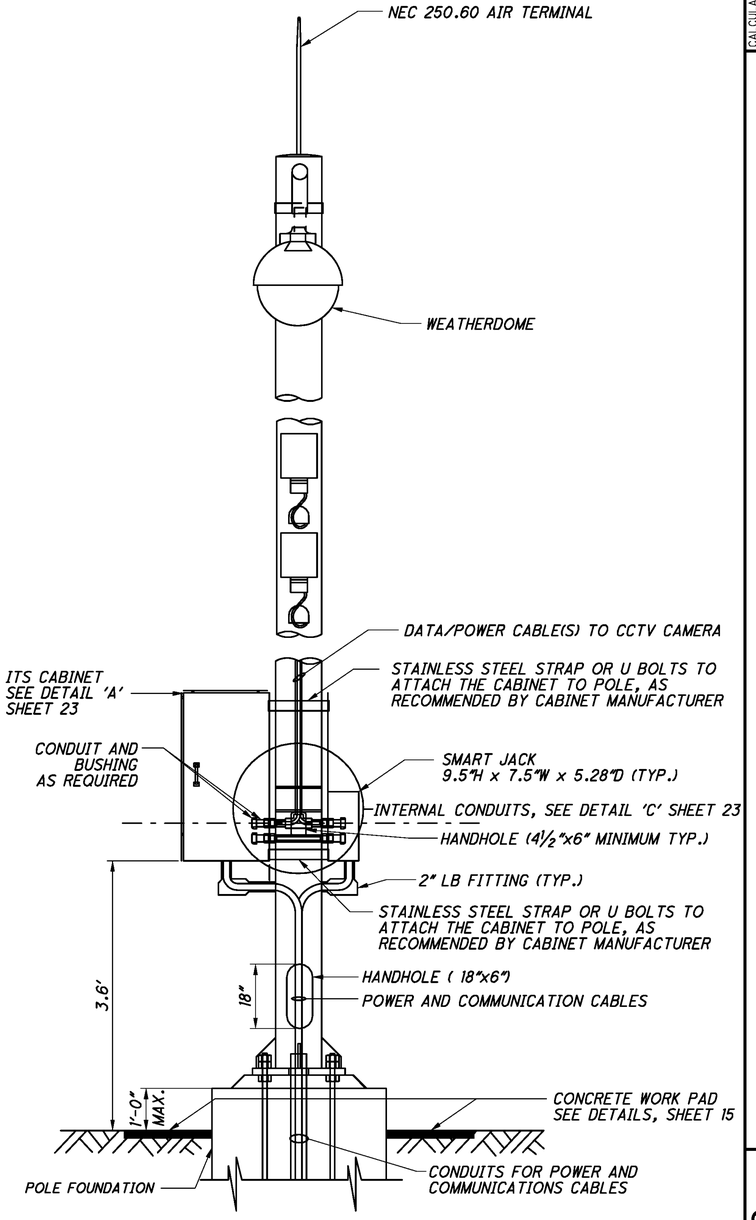
VAR-CLEVELAND
FREEWAY MANAGEMENT
SYSTEM



CCTV CAMERA INSTALLATION
WITH SMART JACK CABINET
NOT TO SCALE



VEHICLE DETECTOR UNIT, SIDE VIEW
WITH SMART JACK CABINET
NOT TO SCALE

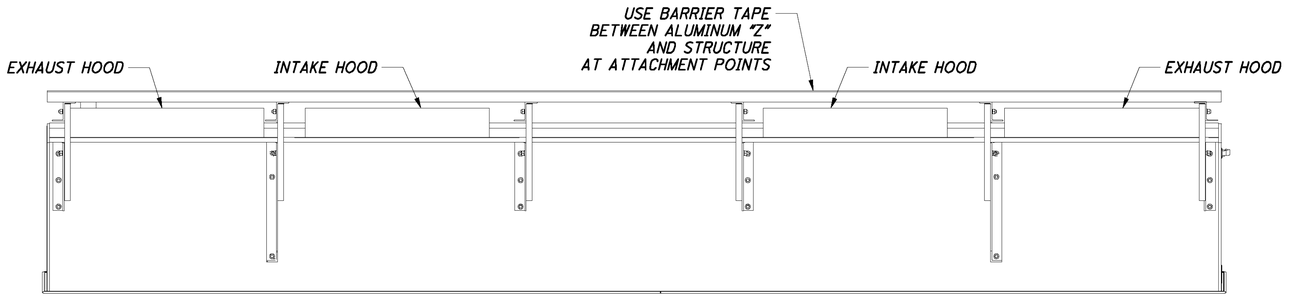


VEHICLE DETECTOR UNITS, SIDE VIEW
WITH SMART JACK CABINET
NOT TO SCALE

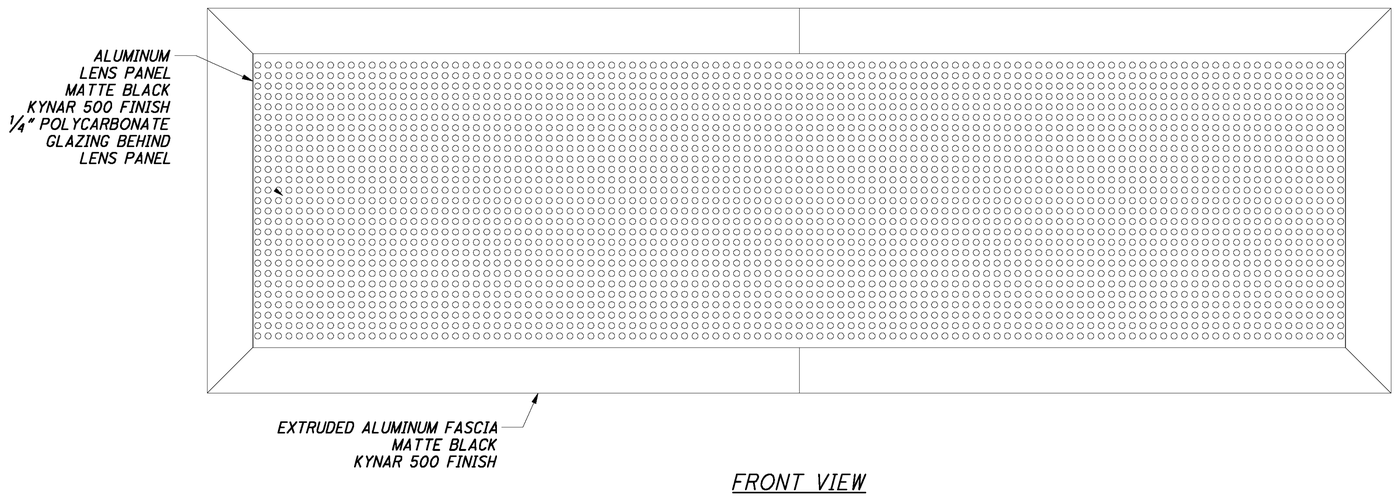
CALCULATED STS
CHECKED JDG

CCTV WITH SMART JACK

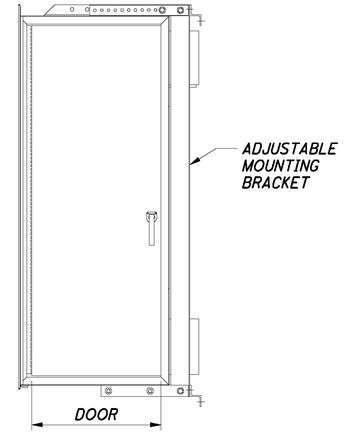
VAR-CLEVELAND
FREEWAY MANAGEMENT
SYSTEM



TOP VIEW



FRONT VIEW



END VIEW
(WALK-IN ENCLOSURE)

CALCULATED STS
CHECKED JDG

CHANGEABLE MESSAGE SIGN, UNLIMITED MESSAGE, AS PER PLAN A DETAILS

VAR-CLEVELAND
FREEWAY MANAGEMENT
SYSTEM

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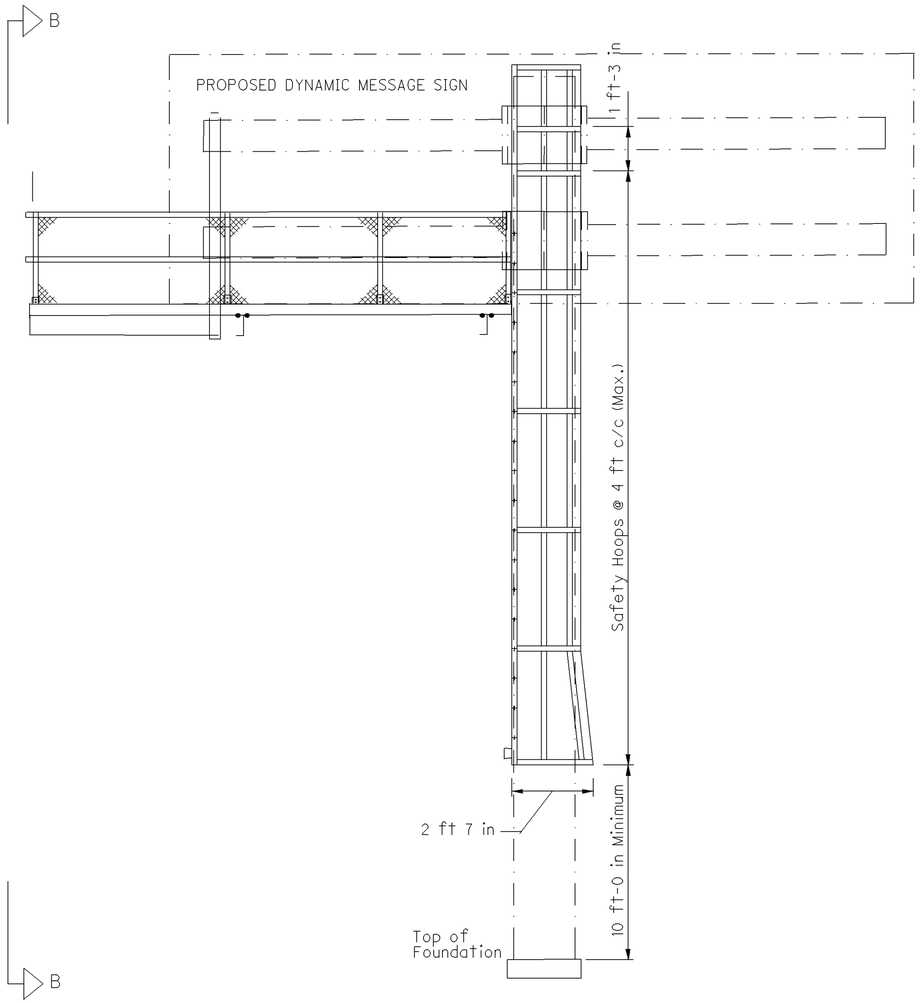
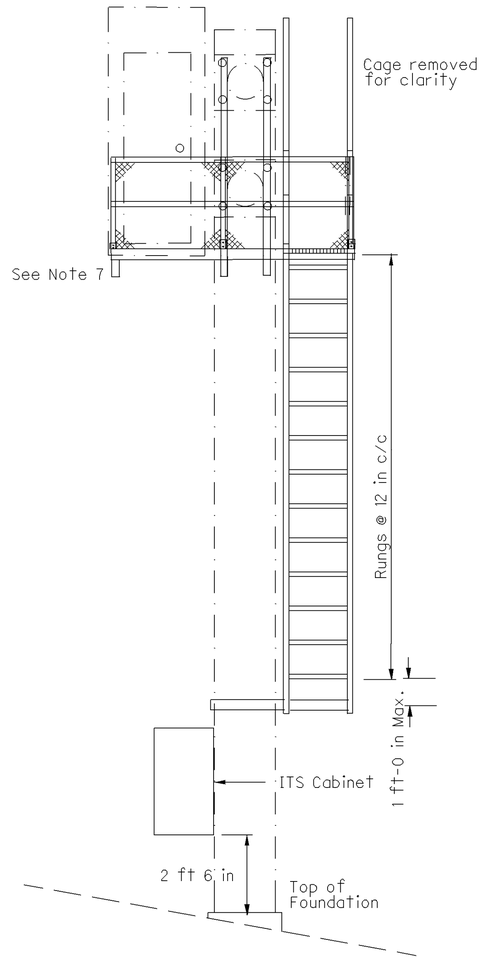
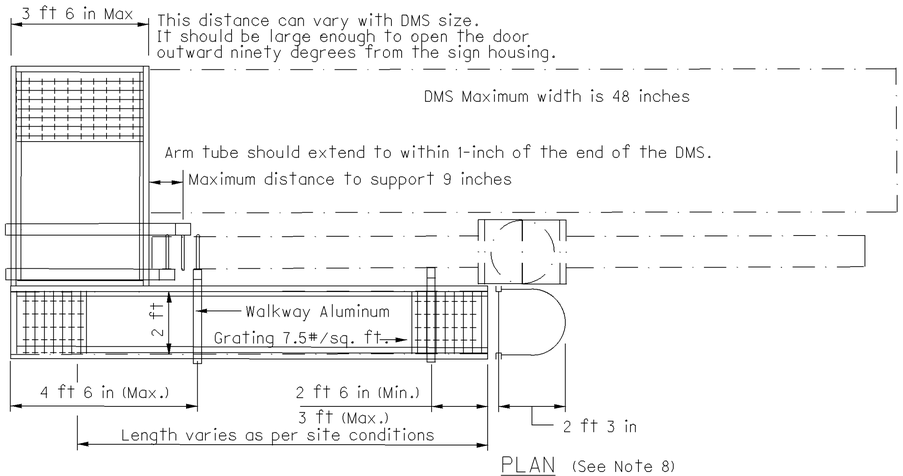


ELEVATION - Back Side

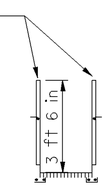


SIDE VIEW B-B



PLAN (See Note 8)

Supported wire mesh with 1 in. diamonds. 11 gage wire with polyvinyl chloride coating. Top, bottom and side rails to be clamped to the railing posts. Extend to rails of ladder to close gap between ladder and catwalk.



RAILING DETAILS

(See Detail Of Catwalk Frame And Frame Hangers On Sheet 2)

NOTES

1. DESIGN SPECIFICATIONS:
This Catwalk Structure conforms to the Specifications For The Design, Fabrication And Erection Of Structural Steel as adopted by the American Institute Of Steel Construction latest edition, and to the Structural Welding Code of the American Welding Society, latest edition.

2. DESIGN DATA: Loading: Walkway Live Load=85 pounds per square foot.

3. MATERIAL: Structural Steel ASTM A36 minimum yield strength Fy=36000 pounds per square inch. Welding Electrode Grade and Welding Process: E60XX or E70XX Manual Shielded Metal-Arc. F6X-EXXX or F7X-EXXX Submerged-Arc. E70S-X or E700-1 Gas Metal-Arc. Main Connections Bolts: ASTM A325 Other Bolts (As Noted): ASTM A307 Threaded Bars (stock) ASTM A36. Steel shall be galvanized to conform to ASTM A123 after cutting, bending and welding. Bolts, nuts, washers and similar threaded fasteners shall be galvanized as per ASTM A153. These items may be mechanically zinc coated in accordance to ASTM B695 Class 50.

4. WORK DESCRIPTION: The work shall consist of the fabrication and installation of a hung catwalk structure. The host structure will be the Steel Pedestal Overhead Sign Support TC-(Modified). The Contractor shall prepare full catwalk structure construction drawings to fit the span requirements by the Project Plan at the site of interest. The Construction Drawings shall be based on the Plan, Details and Materials described. The Contractor shall determine the exact placement of the sign on the sign support pedestal to calculate the length of catwalk required. If the wearing surface of the proposed catwalk is not at the same level as the bearing deck of the sign, steps shall be provided. The Contractor shall determine the width of tread and height of riser steps to assure that the sign enclosure door will open out. A landing area shall be provided to allow total opening of the door.

5. Shop drawings shall be submitted to the Engineer 10 days before fabrication.

6. Payment for materials and installation of catwalk and ladder is incidental to sign pedestal.

7. Aluminum grating for walkway shall be clipped to top flange and fastened as per manufacturers recommendations.

8. The end beam is optional but preferred. The beam should go across the end of the catwalk and attach to the DMS. Contact the DMS manufacturer for permission and attachment method and location. The total vertical load should not exceed 525 pounds. The additional wind load should not exceed 220 pounds. The additional natural wind gust load should not exceed 45 pounds.

9. Grating support rail shall be bolted (2 places) to the end support rail of the overhanging catwalk.

10. The width of the catwalk at the door of the DMS enclosure can vary with DMS size. It should be wide enough to open the access door outward ninety degrees from the sign housing.

OFFICE OF TRAFFIC ENGINEERING

DESIGNED | REVIEWED

REVISION DATE 12-18-07 | CHECKED

PTS NUMBER

PLAN INSERT SHEET

SIGN PEDESTAL CATWALK

DYNAMIC MESSAGE SIGN

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

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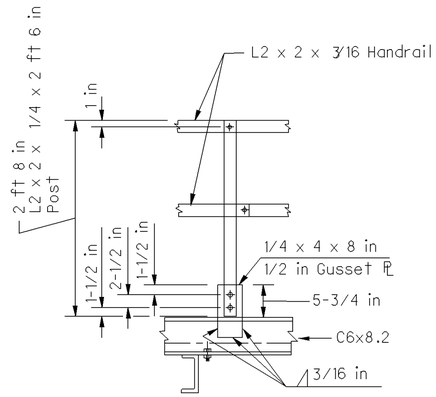
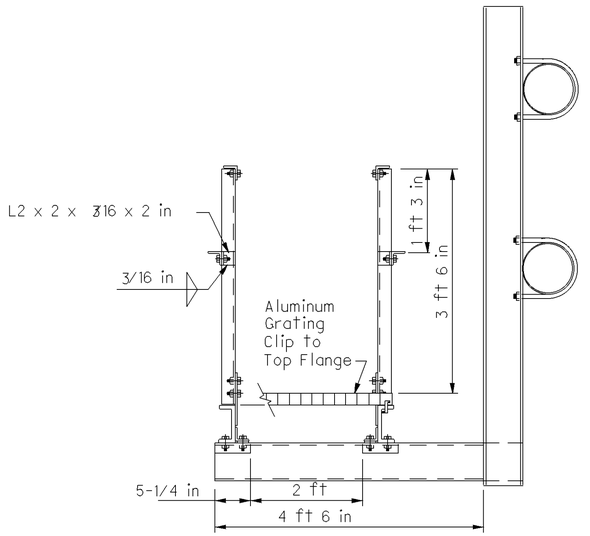
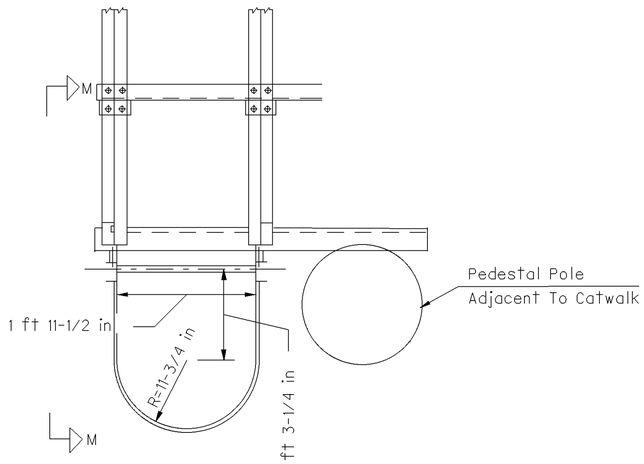


HANDRAIL AND POST

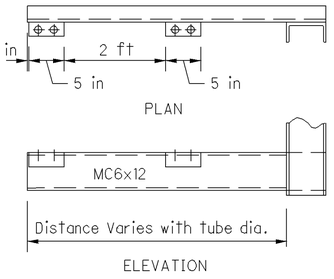


CATWALK CROSS SECTION AND HANGERS

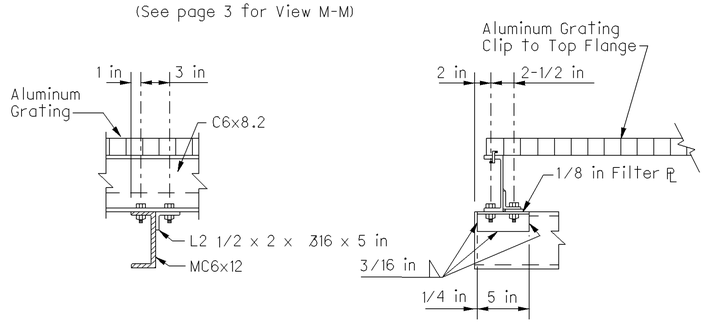


LADDER PLAN

(See page 3 for View M-M)



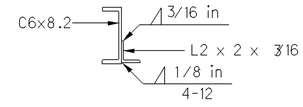
TRANSVERSE BEAM DETAIL



All bolts 5/8 in HS ASTM A325

DETAIL OF CONNECTION

Isolate alum. from galv. steel and use
SS bolts/nuts at alum./steel connections.



FRAME RAIL DETAIL

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DESIGNED | REVIEWED

REVISION DATE 11-29-07 | CHECKED

PIS NUMBER

PLAN INSERT SHEET

DYNAMIC MESSAGE SIGN PEDESTAL CATWALK

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

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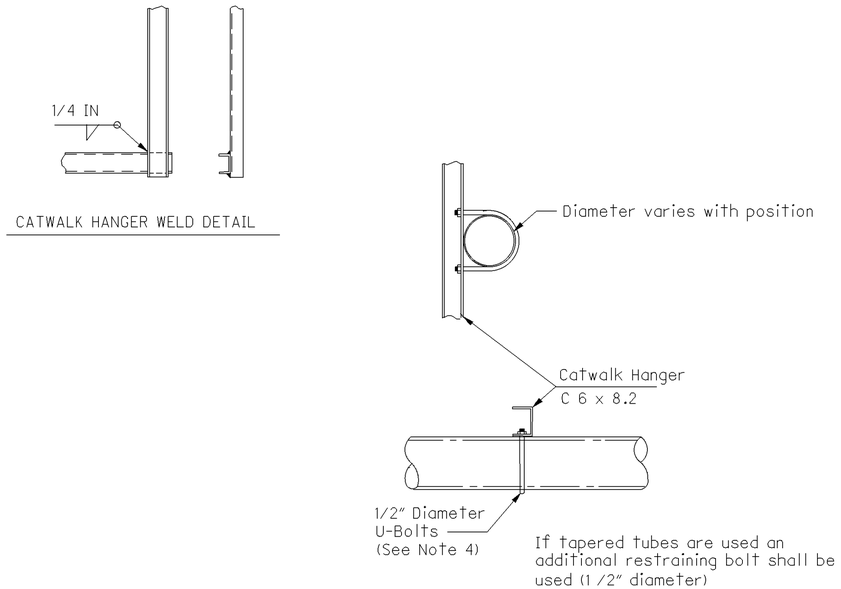
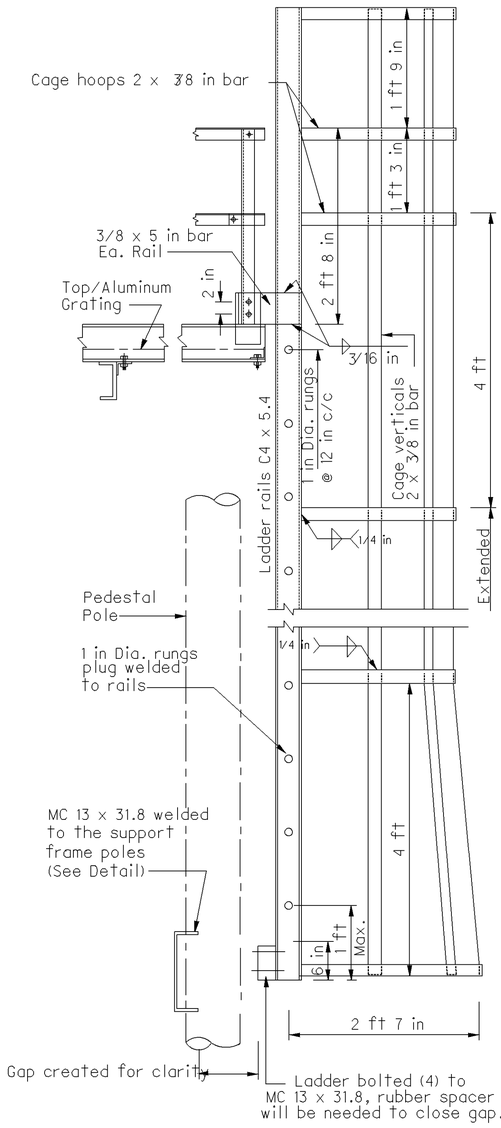
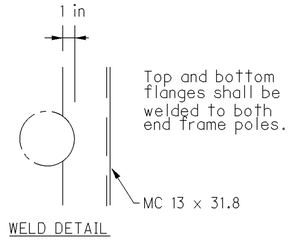


CATWALK HANGER WELD DETAIL

CATWALK HANGER DETAIL



CAGED LADDER VIEW M-M



WELD DETAIL

NOTES:

1. Saddle bars shown on details shall be bent hot.
2. Isolate aluminum from galvanized steel and use SS bolts/nuts at aluminum/steel connections.
3. Contact between aluminum and galvanized parts shall be prevented with a ⅛ inch (minimum) chloroprene gasket or approved substitute.
4. U-Bolts shall be galvanized steel.

OFFICE OF TRAFFIC ENGINEERING

DESIGNED | REVIEWED

REVISION DATE 11-26-07 | CHECKED

PIS NUMBER

PLAN INSERT SHEET

DYNAMIC MESSAGE SIGN PEDESTAL CATWALK

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

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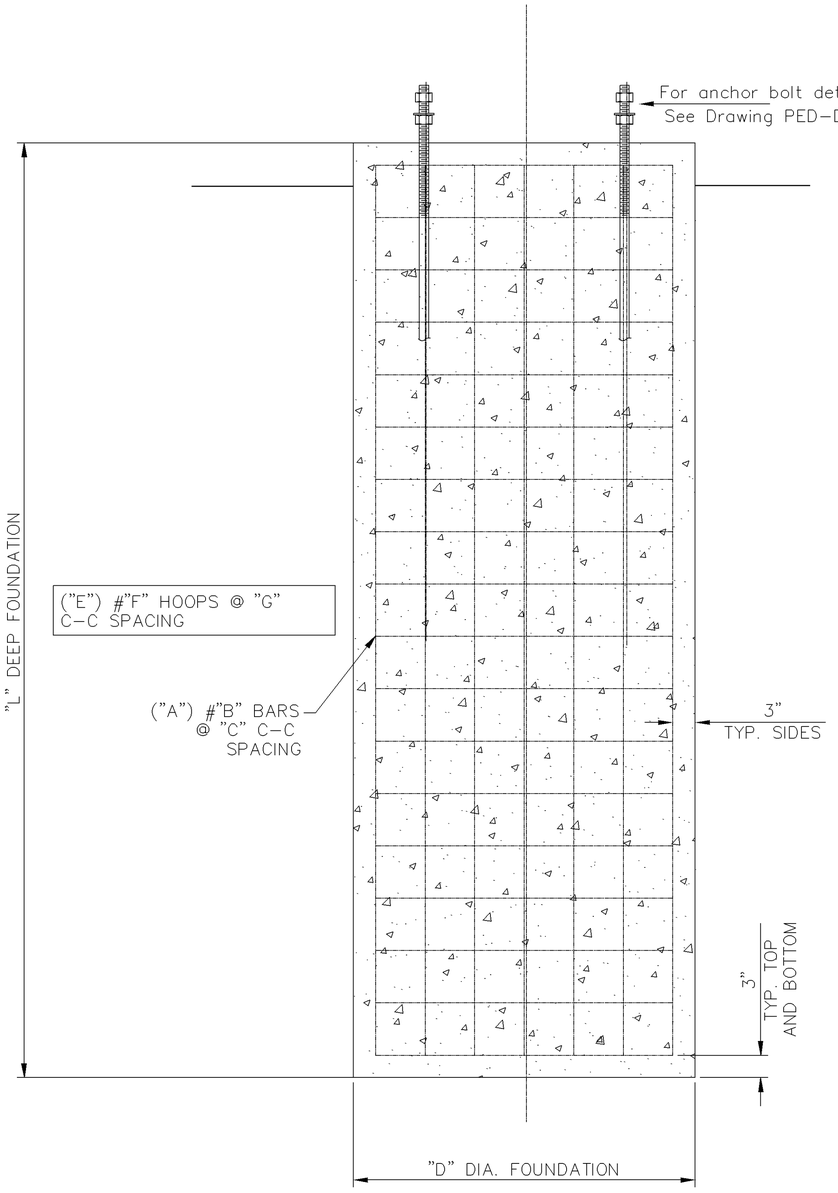
FOR STRUCTURE		FOUNDATION		BARS			HOOPS		
STRUCTURE LOCATION	SOIL DENSITY	L	D	A	B	C	E	F	G
	pcf	ft	ft		imperial	in		imperial	in
Pedestal	100	10.5	3	13	#8	6.75	11	#5	12



NOTES:

1. FOR SOIL DENSITY SEE CHART
2. ROD REINFORCEMENT = ASTM A615, GR. 60 (60 KSI). (BAR LENGTHS DO NOT INCLUDE HOOKS OR BENDS).
3. CONCRETE DENSITY – 150 P.C.F. CONCRETE STRENGTH – 3000 P.S.I.
4. GRANULAR SOIL ASSUMED
5. ANCHOR BOLTS 8 EA. 1.25 x 48 (42" + 6" BEND) F1554,Gr55.

OFFICE OF TRAFFIC ENGINEERING

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REVISION DATE | CHECKED

PTS NUMBER

PLAN INSERT SHEET

DMS PEDESTAL FOUNDATION - ROW

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

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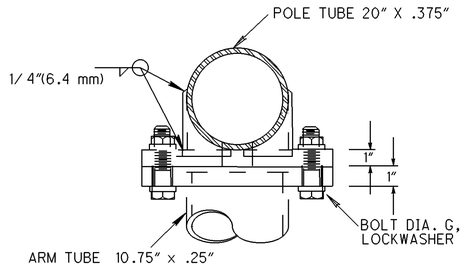
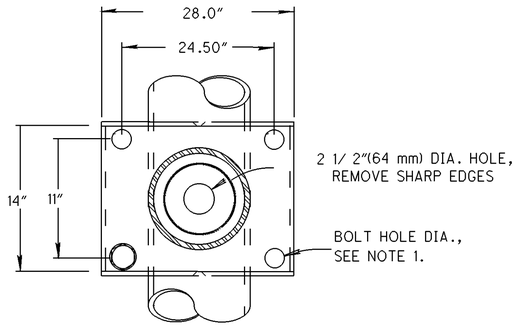
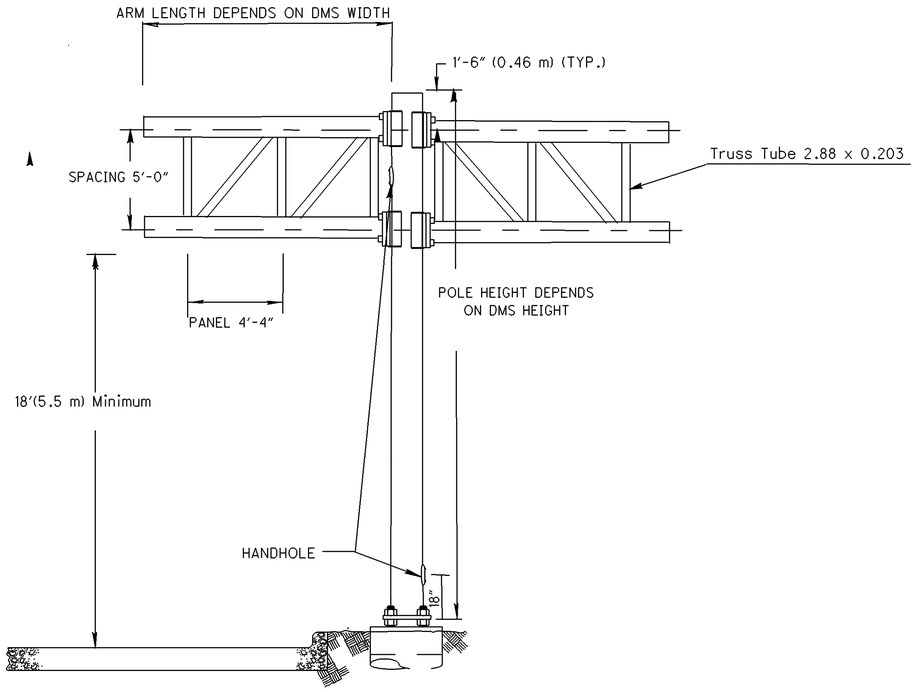
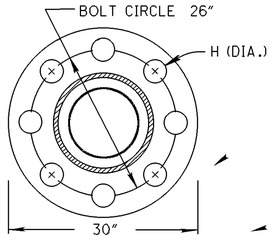




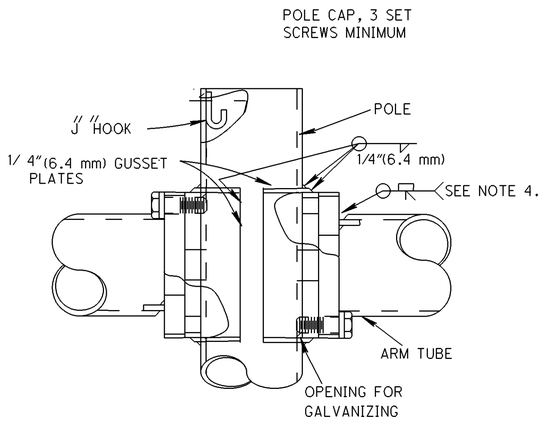


NOTES

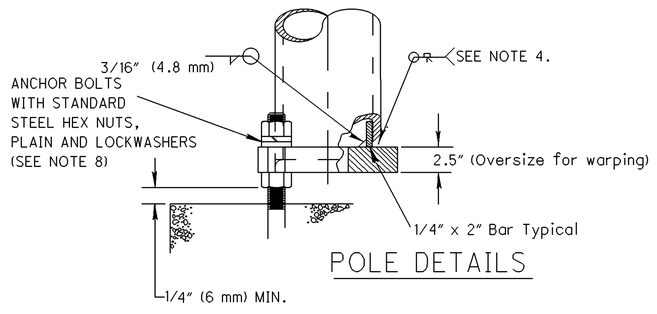
1. Arm plate hole diameter shall be bolt diameter plus 1/8" (3.2 mm). Threads may be retapped after galvanizing.
2. For sign mounting details, see drawings TC-16.20 and TC-41.41.
3. For foundation details, see drawing TC-21.20.
4. The arm attachment plate shall be welded using a full penetration weld. The pole attachment to the base plate shall be welded using a full penetration weld.
5. Arm and Pole tube are 52,000 psi.
6. Truss Tubes are 35,000 psi.
7. A minimum of one bolt thread shall remain above the anchor nut.
8. All unused couplings shall be provided with a removable galvanized cast iron plug.
9. The design loads were developed without applying galloping fatigue loads. Also, the stress requirements of note b, table 11-2 in the AASHTO code were not applied. This is a joint decision of the ODOT Engineers and the Consultants.
10. When placed on a concrete median barrier foundation, the length of the vertical support member shall be reduced by the height of the barrier wall (approx. 50").



BASE PLATE



ARM ATTACHMENT



POLE DETAILS

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PIS NUMBER

PLAN INSERT SHEET

DYNAMIC MESSAGE SIGN PEDESTAL SUPPORT

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

1 / 2

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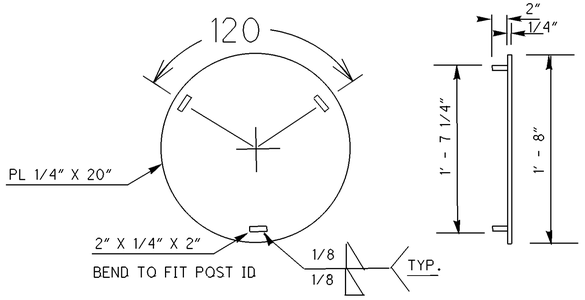
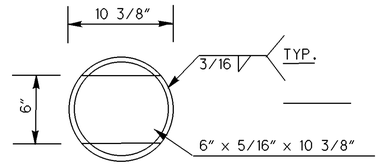
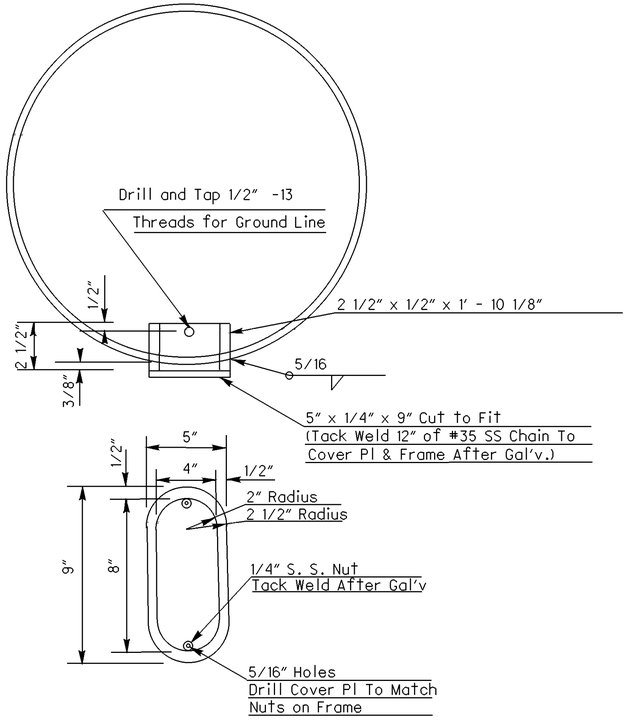


COLUMN END CAP DETAIL

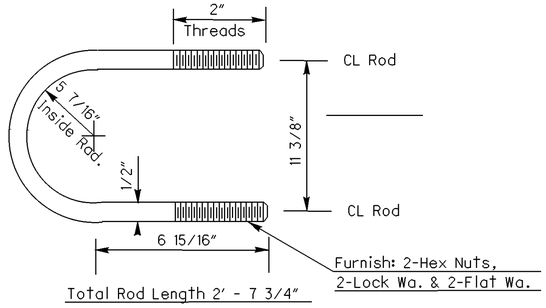


END CAP DETAIL

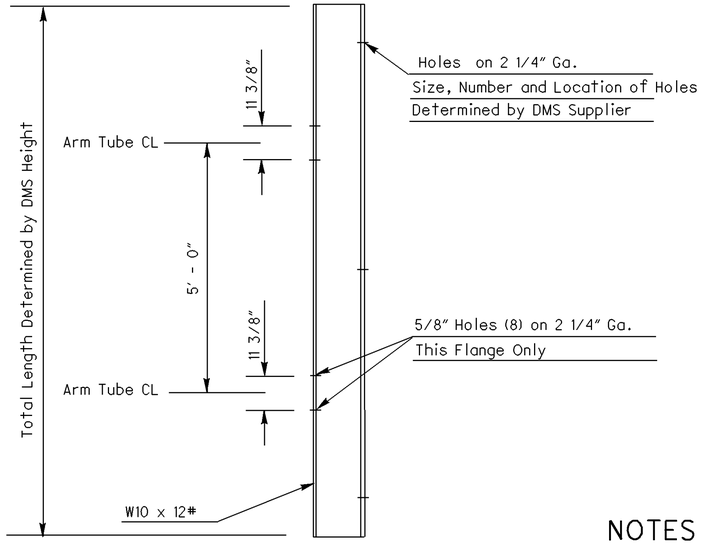


HANDHOLE AND COVER PLATE DETAIL

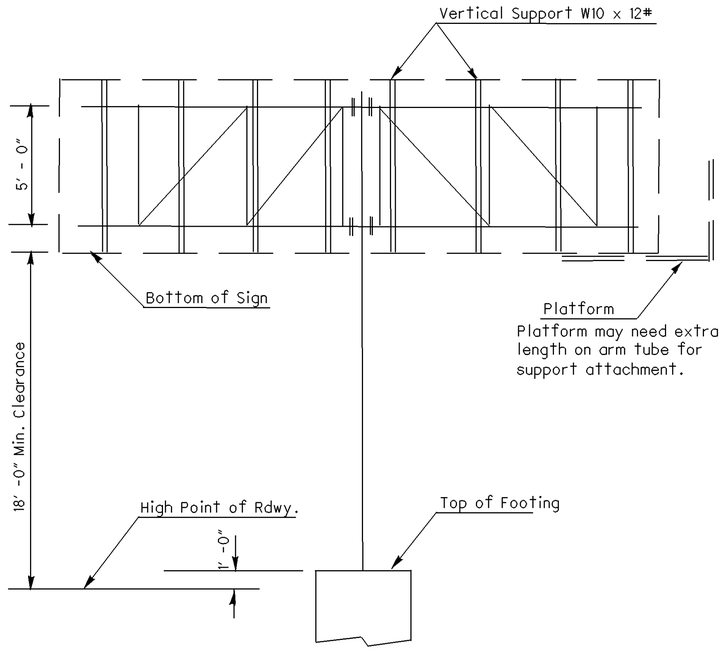
(Two handholes required. One at the base and one between the arms.)



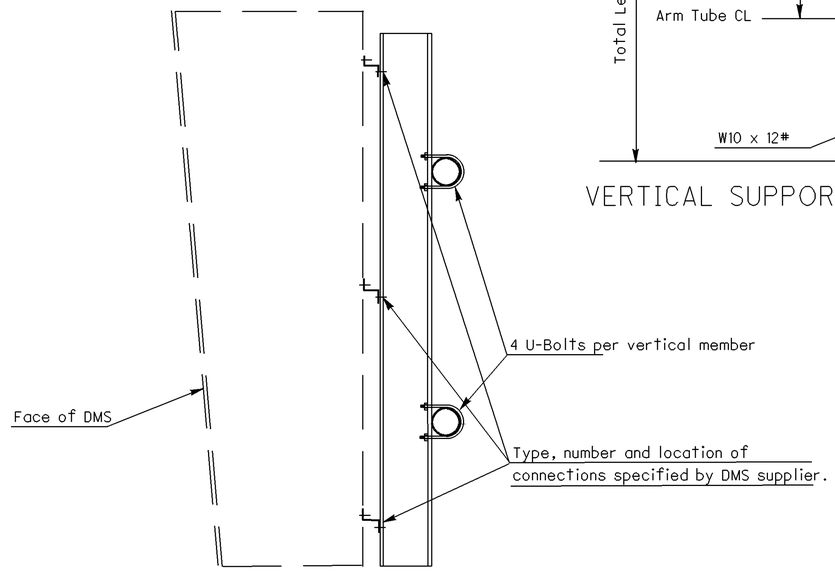
U-BOLT FOR SIGN HANGER



VERTICAL SUPPORT MEMBER



DMS SUPPORT FRAMING



TYPICAL SECTION @ DMS SUPPORT

NOTES

1. Steel shapes other than arm and pole tubes are A.S.T.M. A36.
2. Galvanize steel after fabrication per A.S.T.M. A123
3. Steel U-Bolts A.S.T.M. A307
4. Steel nuts and washers A.S.T.M. A307
5. H.S. bolts, nuts and wahers A.S.T.M. A325
6. Galvanize Steek U-Bolts, H.S. Bolts, nuts and washers per A.S.T.M. A153
7. When placed on a concrete median barrier foundation, the length of the vertical support member shall be reduced by the height of the barrier wall (approx. 50").

OFFICE OF TRAFFIC ENGINEERING

DESIGNED | REVIEWED

REVISION DATE | CHECKED

PID NUMBER

PLAN INSERT SHEET

DYNAMIC MESSAGE SIGN PEDESTAL SUPPORT

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

2 / 2

34
207

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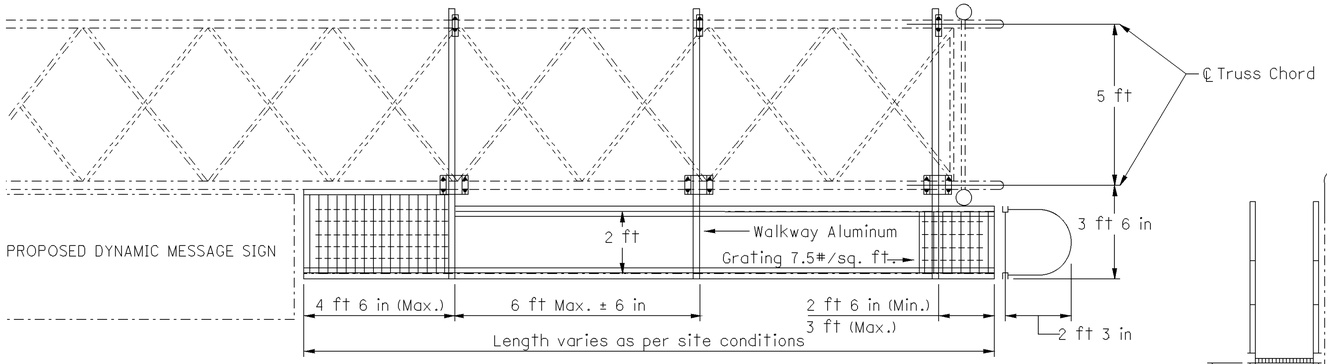
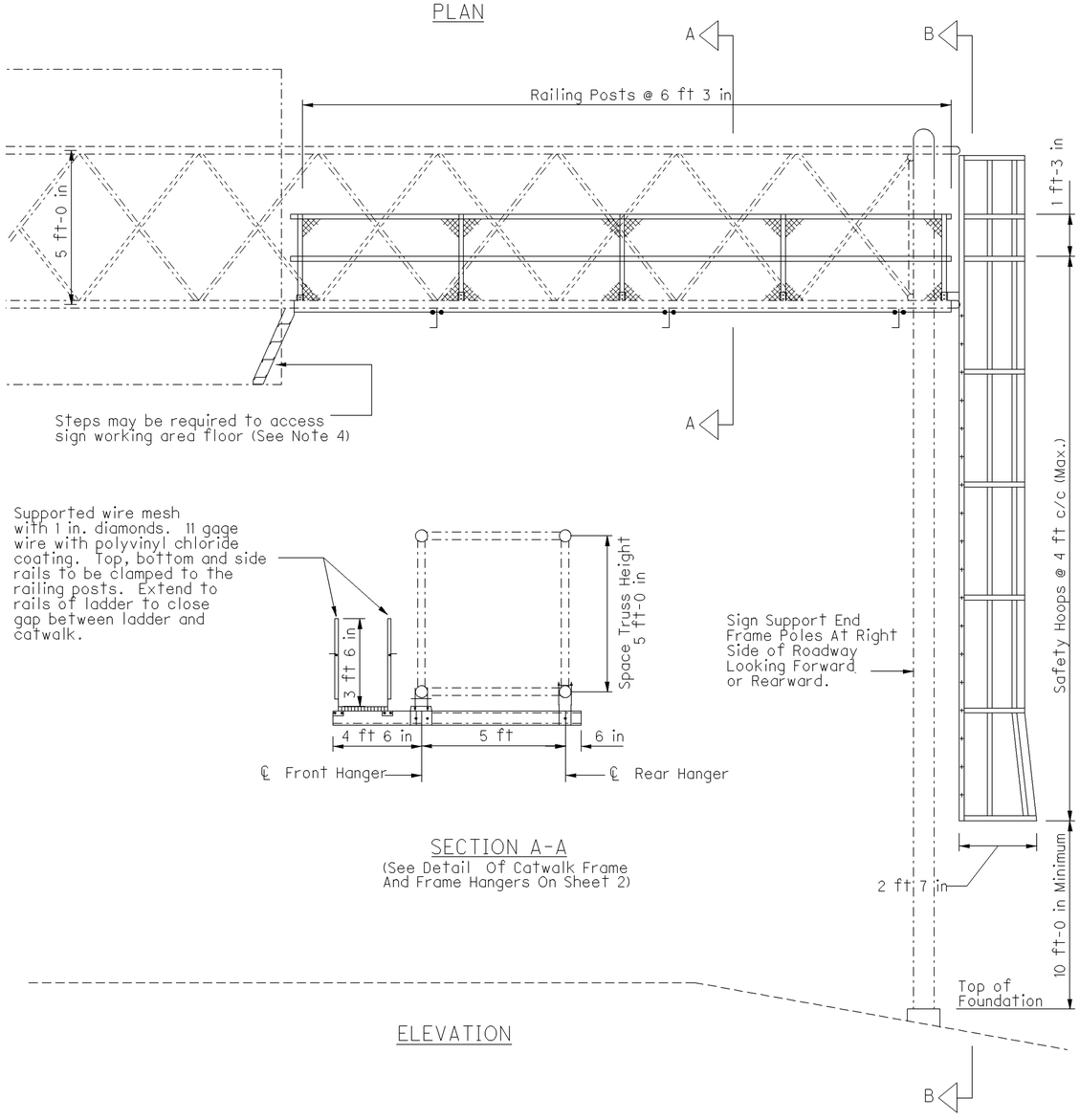
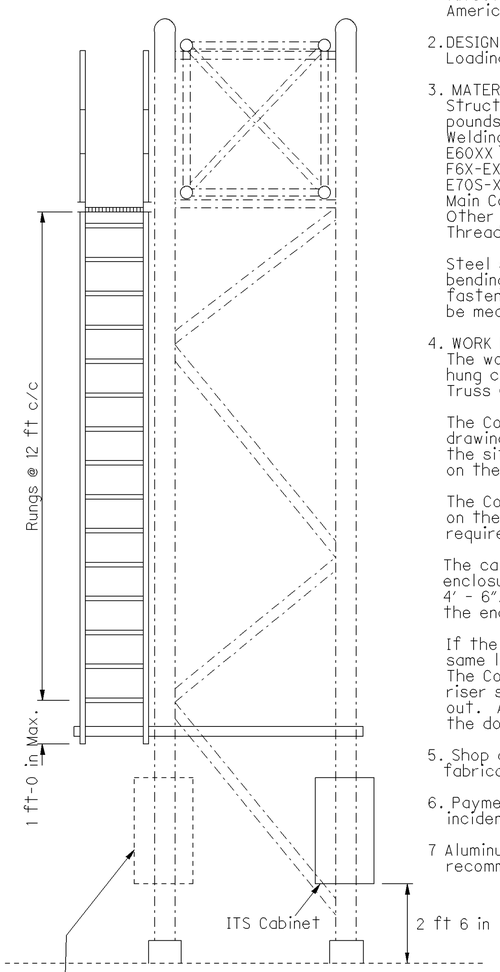


PLAN



ELEVATION

SECTION A-A
(See Detail Of Catwalk Frame And Frame Hangers On Sheet 2)



SIDE VIEW B-B

AS PER PLAN COMMUNICATIONS CABINET TO BE PLACED OPPOSITE OF THE CATWALK LADDER ON THE LEFT VERTICAL OF THE ENDFRAME

NOTES

1. DESIGN SPECIFICATIONS:
This Catwalk Structure conforms to the Specifications For The Design, Fabrication And Erection Of Structural Steel as adopted by the American Institute Of Steel Construction latest edition, and to the Structural Welding Code of the American Welding Society, latest edition.

2. DESIGN DATA:
Loading: Walkway Live Load=85 pounds per square foot.

3. MATERIAL:
Structural Steel ASTM A36 minimum yield strength Fy=36000 pounds per square inch.
Welding Electrode Grade and Welding Process:
E60XX or E70XX Manual Shielded Metal-Arc.
F6X-EXXX or F7X-EXXX Submerged-Arc.
E70S-X or E700-1 Gas Metal-Arc.
Main Connections Bolts: ASTM A325
Other Bolts (As Noted): ASTM A307
Threaded Bars (stock) ASTM A36

Steel shall be galvanized to conform to ASTM A123 after cutting bending and welding. Bolts, nuts, washers and similar threaded fasteners shall be galvanized as per ASTM A153. These items may be mechanically zinc coated in accordance to ASTM B695 Class 50.

4. WORK DESCRIPTION:
The work shall consist of the fabrication and installation of a hung catwalk structure. The host structure will be the Steel Truss Overhead Sign Support TC-15.115 (Modified).

The Contractor shall prepare full catwalk structure construction drawings to fit the span requirements by the Project Plan at the site of interest. The Construction Drawings shall be based on the Plan, Details and Materials described.

The Contractor shall determine the exact placement of the sign on the sign support truss to calculate the length of catwalk required.

The catwalk shall be widened to 3′ - 0″ from the door of the DMS enclosure a minimum distance of 3′ - 0″ and a maximum distance of 4′ - 6″. The door must be able to fully open to 90-degrees from the enclosure.

If the wearing surface of the proposed catwalk is not at the same level as the bearing deck of the sign, steps shall be provided. The Contractor shall determine the width of tread and height of riser steps to assure that the sign enclosure door will open out. A landing area shall be provided to allow total opening of the door.

5. Shop drawings shall be submitted to the Engineer 10 days before fabrication.

6. Payment for materials and installation of catwalk and ladder is incidental to sign truss.

7 Aluminum grating for walkway shall be fastened per manufacturers recommendations.

OFFICE OF TRAFFIC ENGINEERING

DESIGNED
REVIEWED LAM
REVISION DATE 07/16/07
CHECKED

PID NUMBER 202400

PLAN INSERT SHEET

DYNAMIC MESSAGE SIGN TRUSS CATWALK

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

1 / 3

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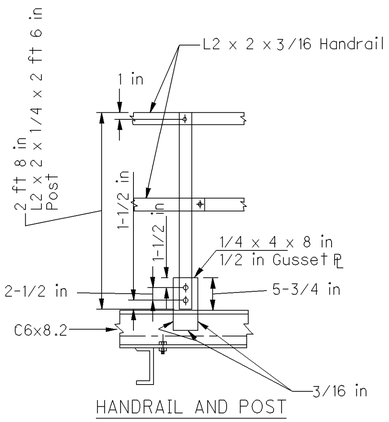
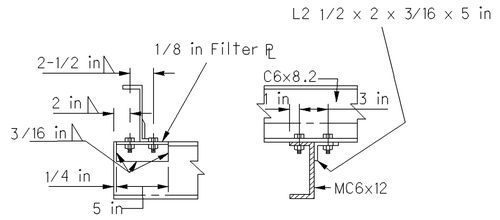


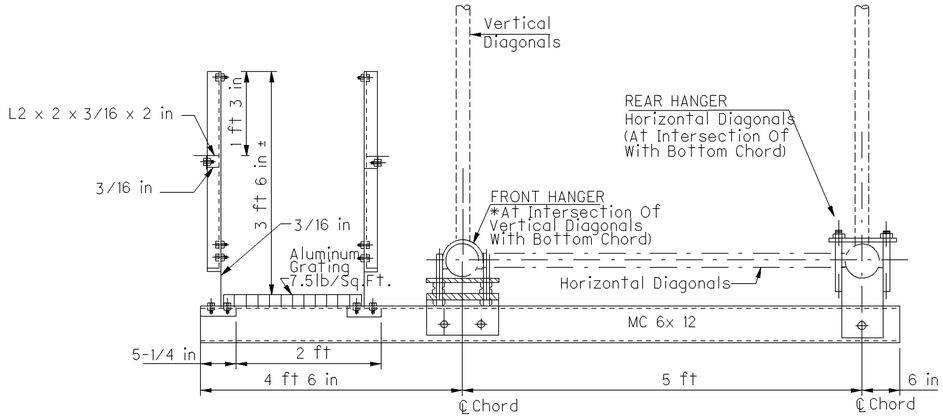
HANDRAIL AND POST



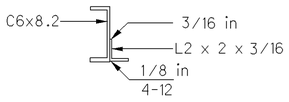
All bolts 5/8 in HS ASTM A325

DETAIL OF CONNECTION

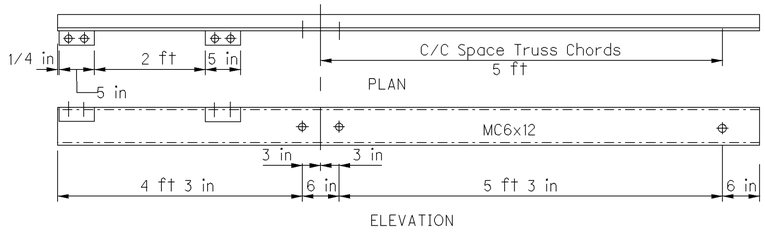
Isolate alum. from galv. steel and use
SS bolts/nuts at alum./steel connections.



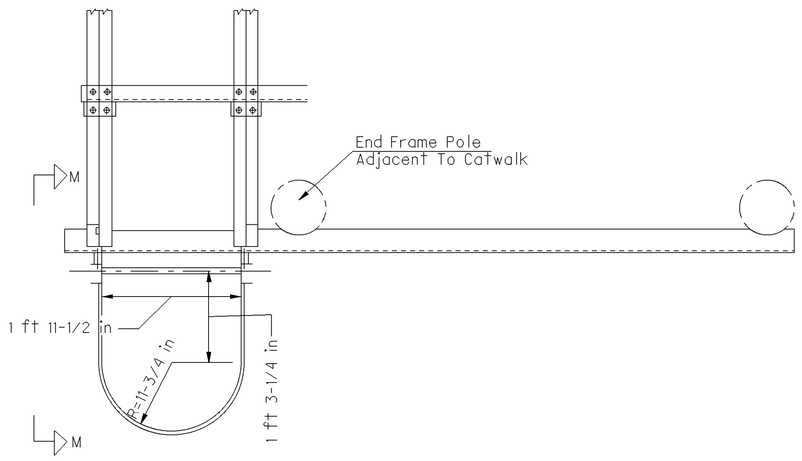
CATWALK CROSS SECTION AND HANGERS



FRAME RAIL
DETAIL

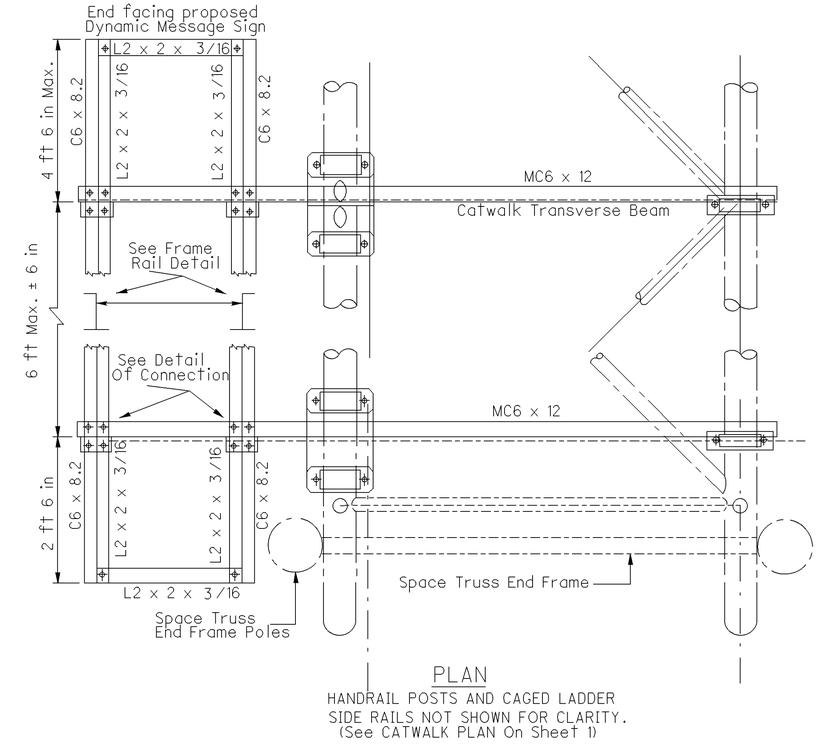


TRANSVERSE BEAM DETAIL



LADDER PLAN

(See page 3 for View M-M)



PLAN

HANDRAIL POSTS AND CAGED LADDER
SIDE RAILS NOT SHOWN FOR CLARITY.
(See CATWALK PLAN On Sheet 1)

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REVISION DATE 07/16/07 | CHECKED

PID NUMBER 202400

PLAN INSERT SHEET

DYNAMIC MESSAGE SIGN TRUSS CATWALK

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

2 / 3

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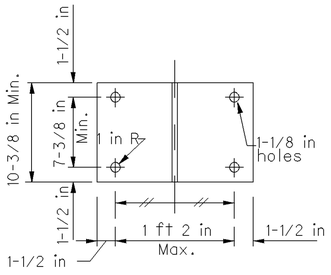
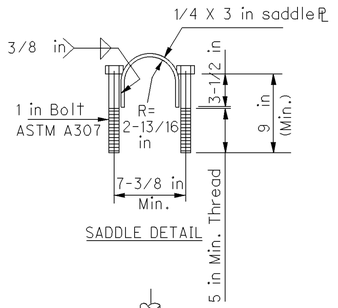
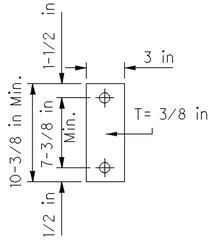


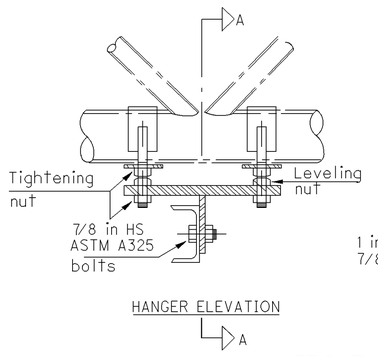
BEARING PLATE
(See Section A-A)



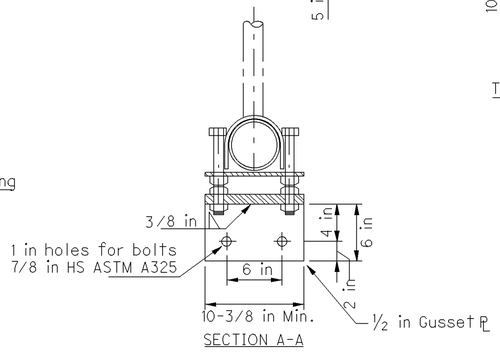
SADDLE DETAIL



TIGHTENING PLATE

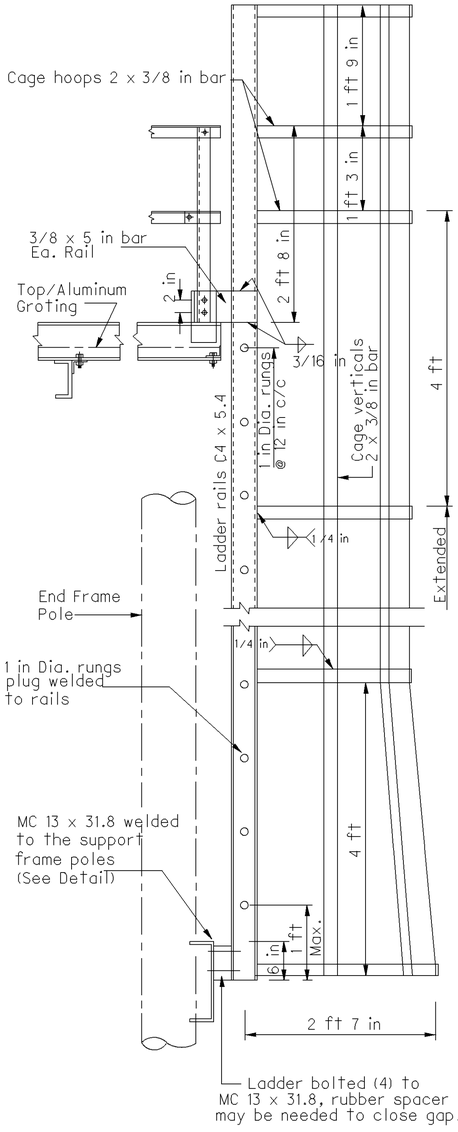


HANGER ELEVATION
A

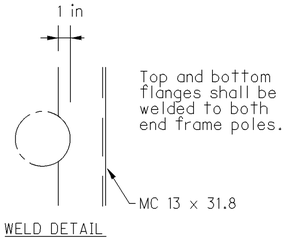


SECTION A-A

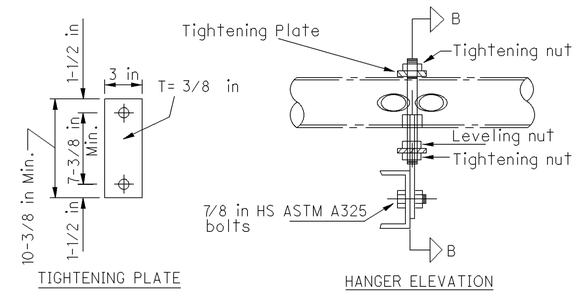
FRONT HANGER DETAIL



CAGED LADDER VIEW M-M

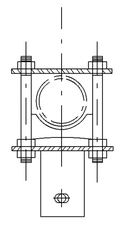


WELD DETAIL

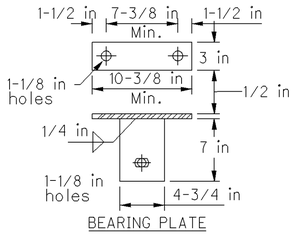


TIGHTENING PLATE

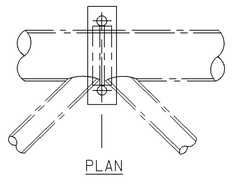
HANGER ELEVATION



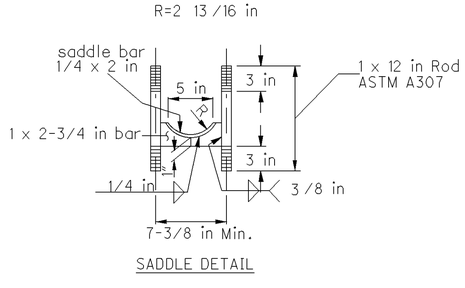
SECTION B-B



BEARING PLATE



PLAN



SADDLE DETAIL

REAR HANGER DETAIL

NOTES:

1. Saddle bars shown on details shall be bent hot.
2. Isolate aluminum from galvanized steel and use SS bolts/nuts at aluminum/steel connections.
3. Contact between aluminum and galvanized parts shall be prevented with a 1/16 inch (minimum) chloroprene gasket or approved substitute.

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REVISION DATE 07/16/07 | CHECKED

PTS NUMBER 202400

PLAN INSERT SHEET

DYNAMIC MESSAGE SIGN TRUSS CATWALK

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

3 / 3

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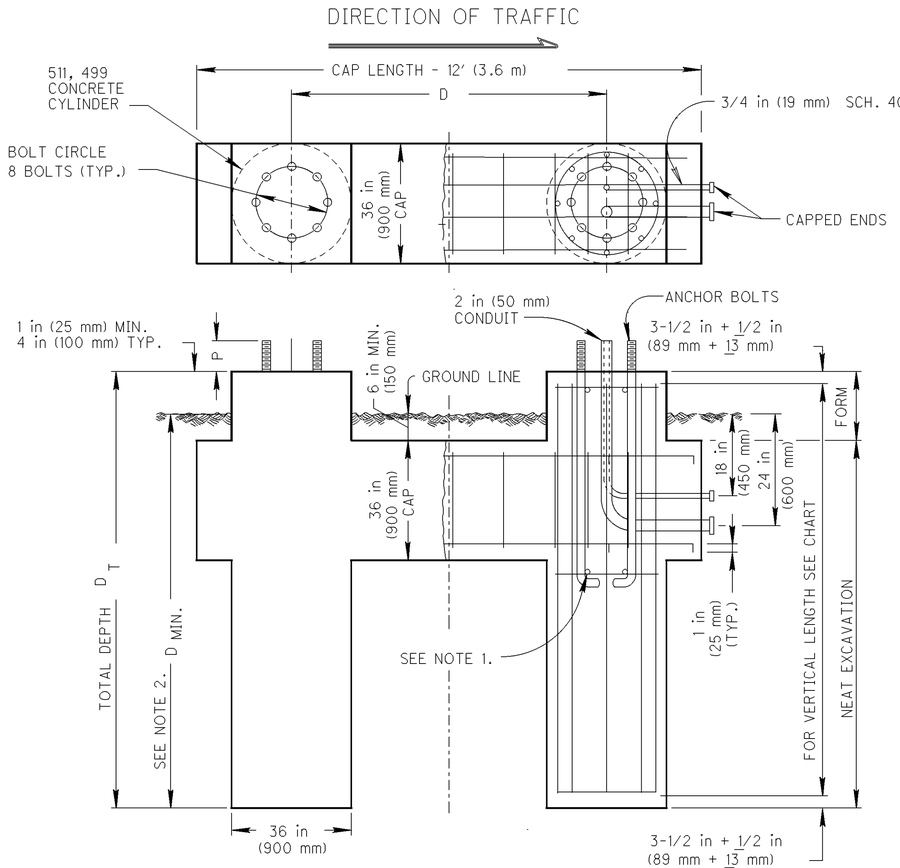
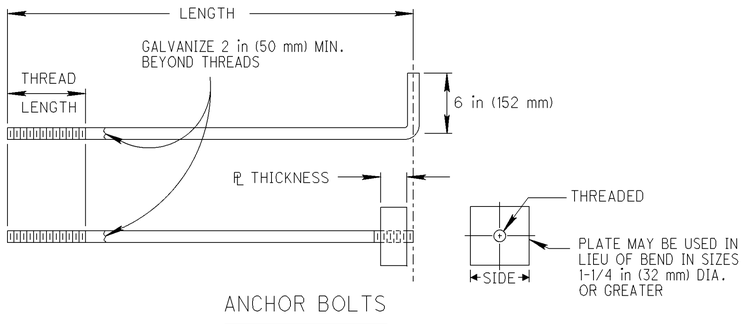


(RIGHT HAND SHOWN - LEFT HAND OPPOSITE)

ALL DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED											
SUPPORT TYPE	TRUSS BOX SIZE	D	D MIN.	ANCHOR BOLTS							
				CIRCLE	DIA.	LENGTH	THREAD LENGTH	P	PL THICK	PL SIDE	THREADS PER INCH
F0-06-80	5ft-0in	7ft-6in	21ft-6in	22	1-1/2	60	9	5	1-1/2	4	6
F0-06-150	5ft-0in	7ft-6in	28ft-6in	22	1-1/2	60	9	5	1-1/2	4	6

ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED											
SUPPORT TYPE	TRUSS BOX SIZE	D	D MIN.	ANCHOR BOLTS							
				CIRCLE	DIA.	LENGTH	THREAD LENGTH	P	PL THICK	PL SIDE	THREADS PER mm
F0-06-80	1.52 m	2.29 m	6.55 m	550	38	1.52 m	229	127	38	102	4.2
F0-06-150	1.52 m	2.29 m	8.69 m	550	38	1.52 m	229	127	38	102	4.2

CAP REINFORCEMENT FOR ALL CAPS				
	NUMBER OF BARS	SIZE BARS	SPACING TOP BARS	LENGTH TOP BARS
TOP LONGITUDINAL	4	8	10"	11.25
BOTTOM LONGITUDINAL	4	8	10"	11.25
STIRRUPS	14	4	12" c/c	-



ANCHOR BOLTS

FOUNDATION REINFORCEMENT SCHEDULE								
SUPPORT TYPE	NUMBER VERTICAL BARS	SIZE VERTICAL BARS	LENGTH VERTICAL BARS	SPACING VERTICAL BARS	# TIES	SIZE TIES	SPACING TIES	SPECIAL NOTE
F0-06-80	10	#6	21 FT	9.5"	22	#4	12" c/c MAX	
F0-06-150	10	#6	28 FT	9.5"	29	#4		

FOUNDATION REINFORCEMENT SCHEDULE (METRIC)								
SUPPORT TYPE	NUMBER VERTICAL BARS	SIZE VERTICAL BARS	LENGTH VERTICAL BARS	SPACING VERTICAL BARS	# TIES	SIZE TIES	SPACING TIES	SPECIAL NOTE
F0-06-80	10	#6	6.3 m	20 mm	22	#4	25 mm c/c MAX	
F0-06-150	10	#6	8.4 m	20 mm	29	#4	25 mm c/c MAX	

NOTES

1. Tie anchor bolts to rebar cage near the top and bottom of the anchor bolts.
2. D MIN. may be deeper as required in the plans.
3. When required by local conditions and aoorived by the Engineer, alternate foundation designs are acceptable.
4. Provide all anchor bolts with standard steel hex nuts, leveling nuts, and plain washers. The nuts shall be capable of developing the full strength of the anchor bolts.
5. At locations where the existing slope is 6:1 or greater, the buried depth of foundation shall apply to the low side of the slope. Set the top of the foundation 2 in (50 mm) above the existing surface on the high side of the slope. The additional depth of foundation necessary to meet these requirements shall be added to the formed top.

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PLAN INSERT SHEET

DYMANIC MESSAGE SIGN TRUSS FOUNDATION - ROW

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

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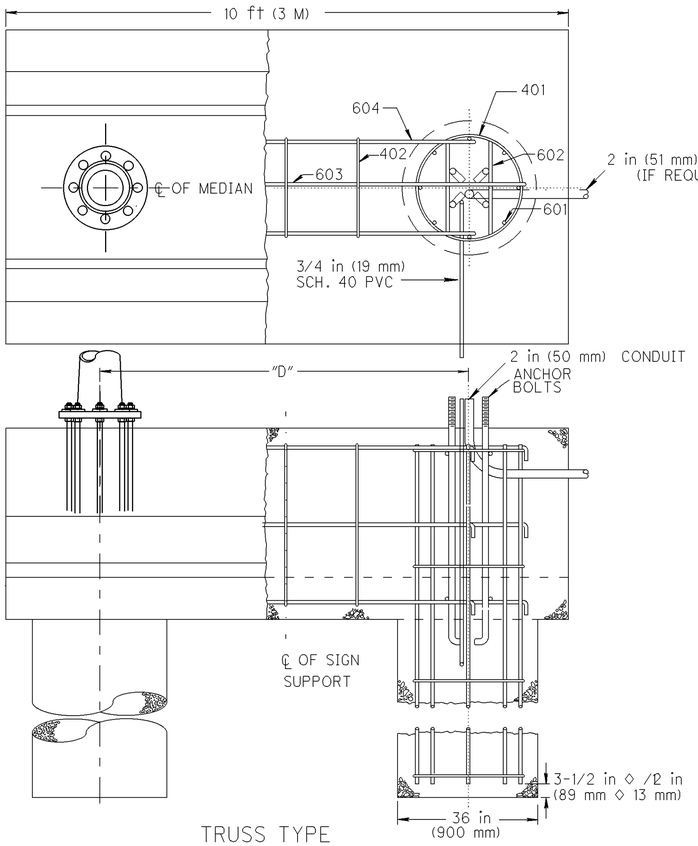
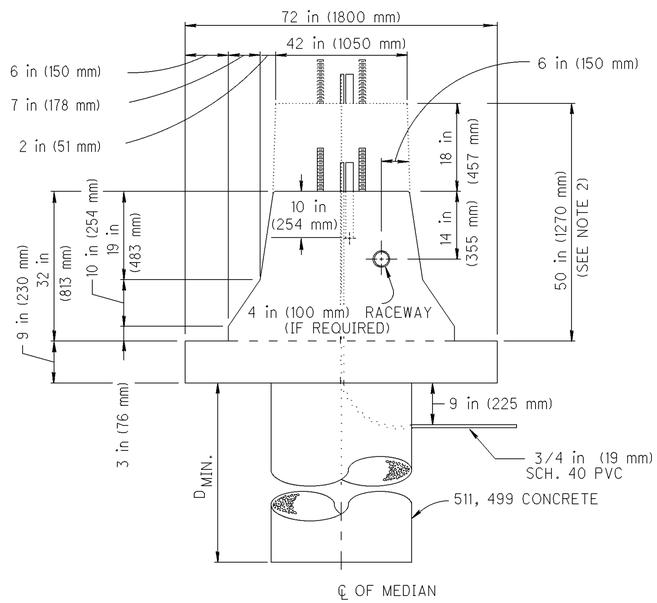
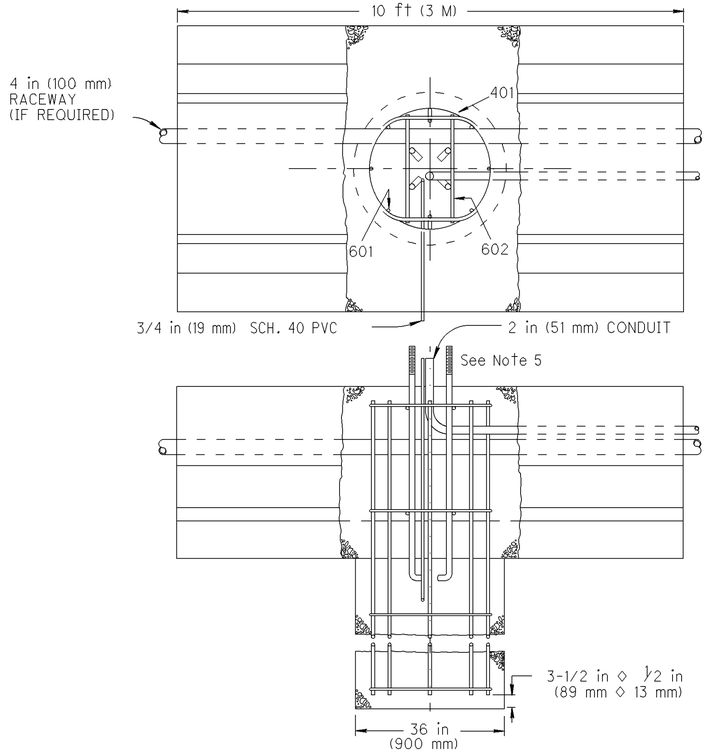


TRUSS TYPE





PEDESTAL MOUNT

NOTES

1. This foundation is intended for use with concrete barrier as detailed in Standard Construction Drawing RM-4.3M.
2. If a 50 inch (1270 mm) wall is required the reinforcing steel and anchor bolts shall remain in the same position, relative to the top of the wall, as in the 32 inch (813 mm) wall.
3. Refer to Standard Construction Drawings TC-21.10 and TC-32.10 for typical dimensions with the following modifications to the reinforcement schedules:

   32 inch (813 mm) WALL

   MARK 601 LENGTH = D MIN. - 13 inch (330 mm)
   MARK 603 NUMBER = 3
   MARK 604 NUMBER = 6
   MARK 402 VERTICAL DIMENSION = 34 inch (864 mm)

   50 inch (1270 mm) WALL

   MARK 601 LENGTH = D MIN. + 5 inch (127 mm)
   MARK 603 NUMBER = 4
   MARK 604 NUMBER = 8
   MARK 402 VERTICAL DIMENSION = 52 inch (1321 mm)
4. For information regarding the transition sections of the barrier wall, see Standard Construction Drawing RM-4.4M.
5. Anchor bolts - 8 ea - 1.25″ x 48″ (42″ + 6″ bend), F1554,Gr55
   Anchor bolts - 8 ea - 32mm x 1.22m (1.07m + 152mm bend)

CAP REINFORCEMENT FOR ALL CAPS

	NUMBER OF BARS	SIZE BARS	SPACING TOP BARS	LENGTH TOP BARS
TOP LONGITUDINAL	11	8	2.8″	11.25
BOTTOM LONGITUDINAL	11	8	2.8″	11.25
STIRRUPS	14	4	12″ c/c	-

ALL DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED

SUPPORT TYPE	TRUSS BOX SIZE	D	D MIN.	ANCHOR BOLTS							
				CIRCLE	DIA.	LENGTH	THREAD LENGTH	P	℄ THICK	℄ SIDE	THREADS PER INCH
F0-06-80	5ft-0in	7ft-6in	21ft-6in	22	1-1/2	60	9	5	1-1/2	4	6
F0-06-150	5ft-0in	7ft-6in	28ft-6in	22	1-1/2	60	9	5	1-1/2	4	6
Pedestal	NA	NA	10ft-6in	26	1-1/4	48	9	NA	NA	NA	7

ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE NOTED

SUPPORT TYPE	TRUSS BOX SIZE	D	D MIN.	ANCHOR BOLTS							
				CIRCLE	DIA.	LENGTH	THREAD LENGTH	P	℄ THICK	℄ SIDE	THREADS PER mm
F0-06-80	1.52 m	2.29 m	6.55 m	550	38	1.52 m	229	127	38	102	.24
F0-06-150	1.52 m	2.29 m	8.69 m	550	38	1.52 m	229	127	38	102	.24
Pedestal	NA	NA	3.20 m	660	32	1.22 m	229	NA	NA	NA	.28

FOUNDATION REINFORCEMENT SCHEDULE

SUPPORT TYPE	NUMBER VERTICAL BARS	SIZE VERT. BARS	LENGTH VERTICAL BARS 50″	LENGTH VERTICAL BARS 32″	SPACING VERTICAL BARS	# TIES 50″	# TIES 32″	SIZE TIES	SPACING TIES	SPECIAL NOTE
F0-06-80	10	#6	24′-8″	23′-2″	9.5″	26	25	#4	12″ c/c MAX	
F0-06-150	10	#6	31′-8″	30′-2″	9.5″	33	31	#4	12″ c/c MAX	
Pedestal	13	#8	14′-2″	12′-8″	7.0″	16	14	#4	12″ c/c MAX	

FOUNDATION REINFORCEMENT SCHEDULE (METRIC)

SUPPORT TYPE	NUMBER VERTICAL BARS	SIZE VERT. BARS	LENGTH VERTICAL BARS 1.28 m	LENGTH VERTICAL BARS .81 m	SPACING VERTICAL BARS	# TIES 1.28 m	# TIES .81 m	SIZE TIES	SPACING TIES	SPECIAL NOTE
F0-06-80	10	#6	7.5 m	7.1 m	240 mm	26	25	#4	300 mm c/c MAX	
F0-06-150	10	#6	9.7 m	9.2 m	240 mm	33	31	#4	300 mm c/c MAX	
Pedestal	13	#8	4.3 m	3.9 m	180 mm	16	14	#4	300 mm c/c MAX	

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PIS NUMBER

PLAN INSERT SHEET

DMS TRUSS & PEDESTAL FOUNDATIONS - CONCRETE BARRIER

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

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RM-BHM

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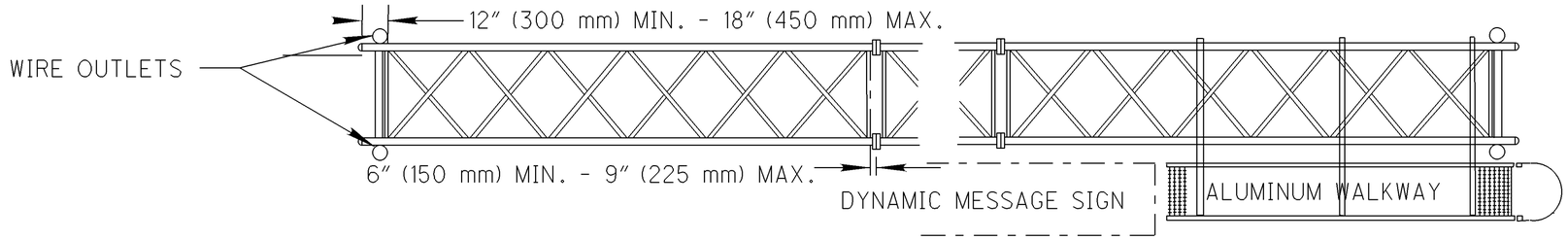
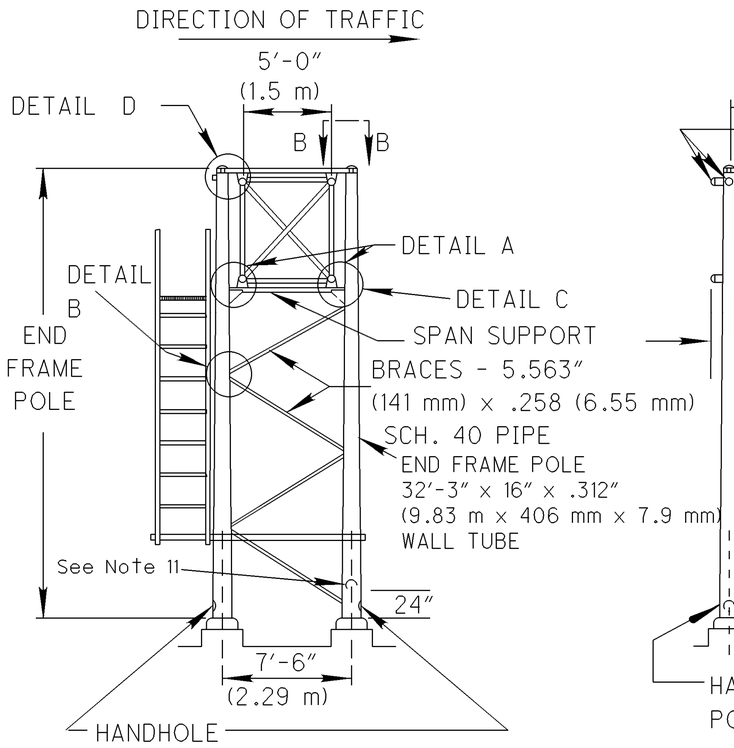
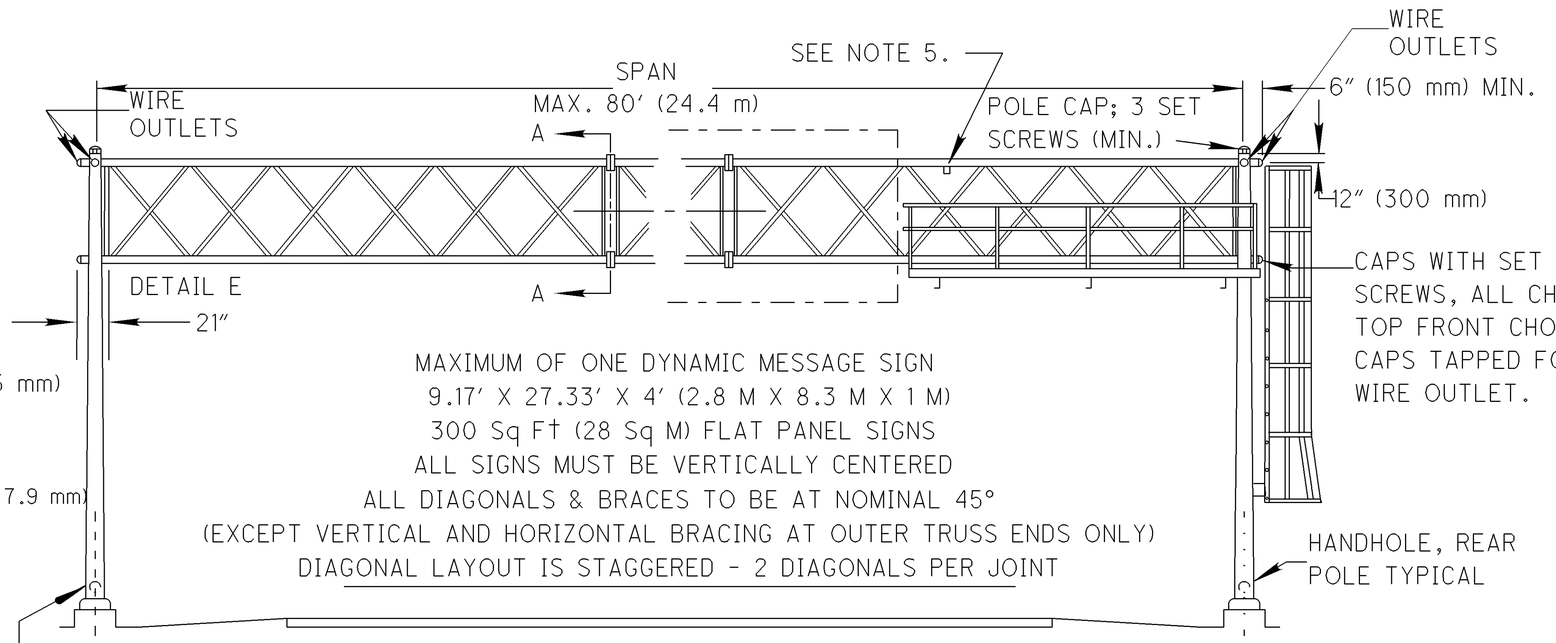


SEE CATWALK DRAWINGS FOR WALKWAY DETAILS

WALKWAY CAN BE AT EITHER END OF SPAN





MAXIMUM OF ONE DYNAMIC MESSAGE SIGN
9.17' X 27.33' X 4' (2.8 M X 8.3 M X 1 M)
300 Sq Ft (28 Sq M) FLAT PANEL SIGNS
ALL SIGNS MUST BE VERTICALLY CENTERED
ALL DIAGONALS & BRACES TO BE AT NOMINAL 45°
(EXCEPT VERTICAL AND HORIZONTAL BRACING AT OUTER TRUSS ENDS ONLY)
DIAGONAL LAYOUT IS STAGGERED - 2 DIAGONALS PER JOINT

FRONT ELEVATION

NOTES

1. For sign attachment assemblies to be furnished with this support, construction details and location of handholes and switch enclosure mounting brackets, see drawings TC-22.10 AND TC-22.20.
2. For foundation details, see applicable foundation drawings.
3. One internal diagonal is required at each end of each section.
4. Weld one threaded steel 1-1/4" (32 mm) pipe coupling or short nipple to the outside of each end frame pole as shown in detail D. Remove all sharp edges inside the pole and pipe coupling.
5. Weld one threaded steel 1-1/4" (32 mm) pipe coupling or short nipple to the front top chord of the truss approximately 12" (300 mm) outboard of the first sign bracket for each sign. Remove all sharp edges inside the chord and pipe coupling.
6. Camber the truss a minimum of 1" (25 mm) for a span of 50' (15.2 m) or less. Increase the camber 1/4" (6.4 mm) for each 5' (1.5 m) of span over 50' (15.2 m).
7. Internal diagonals only may be relocated from the indicated position to avoid weld joint overlap.
8. Provide a removable galvanized cast iron plug for all unused couplings and wire outlets.
9. Steel shall be 35 ksi minimum.
10. These structures conform to the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, 4th Edition, 2001, Interim 2003 and to the Structural Welding Code of the American Welding Society, 2006 Edition. Any variation from the specified design or maximum loadings must be evaluated and approved by ODOT and a registered Professional Engineer.
11. Weld one threaded steel 2" (50 mm) pipe coupling or short nipple to the outside of each end frame pole. Remove all sharp edges inside the pole and pipe coupling.
12. Use variable panel spacing on truss

OFFICE OF TRAFFIC ENGINEERING

DESIGNED | REVIEWED

REVISION DATE | CHECKED

PIS NUMBER

PLAN INSERT SHEET

DMS TRUSS SUPPORT - MAX. 80'

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

1 / 2

40 / 207

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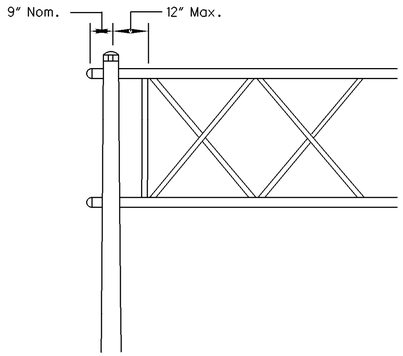
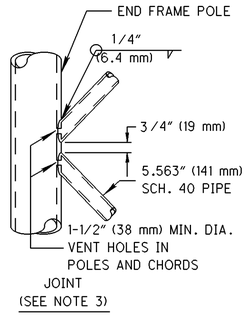
JAM



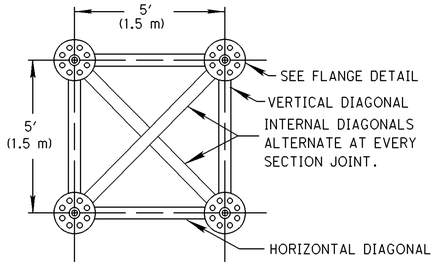
CORD STUB LENGTH

DETAIL E

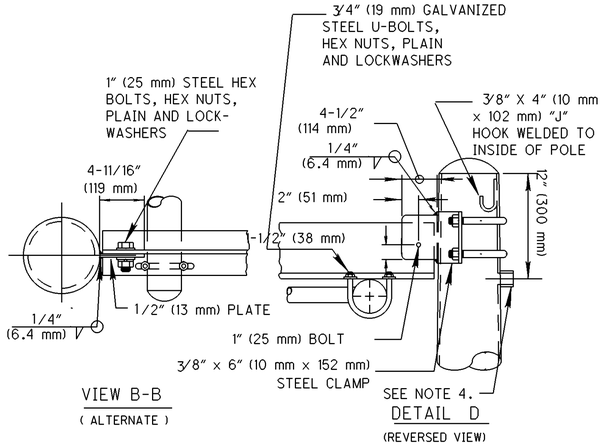


END FRAME AND TRUSS END JOINT DETAILS

DETAIL B



SECTION A-A



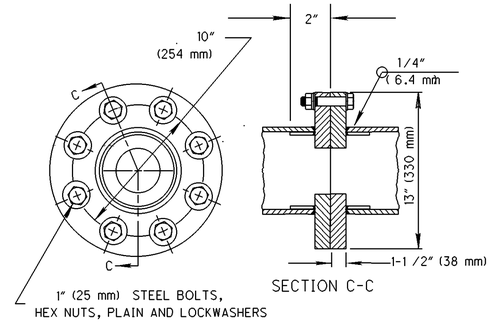
VIEW B-B
(ALTERNATE)

DETAIL D
(REVERSED VIEW)

UPPER SPAN SUPPORT

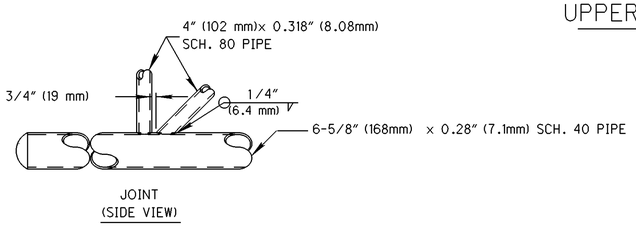
NOTES

1. For sign attachment assemblies to be furnished with this support, construction details and location of handholes and switch enclosure mounting brackets, see drawings TC-22.10 AND TC-22.20.
2. For foundation details, see concrete barrier median truss sign support and truss row sign support foundation drawings
3. One internal diagonal is required at each end of each section.
4. Weld one threaded steel 1-1/4" (32 mm) pipe coupling or short nipple to the outside of each end frame pole as shown in detail D. Remove all sharp edges inside the pole and pipe coupling.
5. Weld one threaded steel 1-1/4" (32 mm) pipe coupling or short nipple to the front top chord of the truss approximately 12" (300 mm) outboard of the first sign bracket for each sign. Remove all sharp edges inside the chord and pipe coupling.
6. Camber the truss a minimum of 1" (25 mm) for a span of 50' (15.2 m) or less. Increase the camber 1/4" (6.4 mm) for each 5' (1.5 m) of span over 50' (15.2 m).
7. Internal diagonals only may be relocated from the indicated position to avoid weld joint overlap.
8. Provide a removable galvanized cast iron plug for all unused couplings and wire outlets.
9. Steel shall be 35 ksi minimum.
10. These structures conform to the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, 4th Edition, 2001, Interim 2003 and to the Structural Welding Code of the American Welding Society, 2006 Edition. Any variation from the specified design or maximum loadings must be evaluated and approved by ODOT and a registered Professional Engineer.
11. Weld one threaded steel 2" (50 mm) pipe coupling or short nipple to the outside of each end frame pole. Remove all sharp edges inside the pole and pipe coupling.
12. Use variable panel spacing on truss.

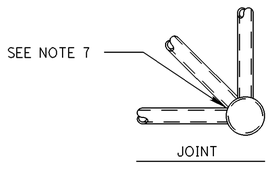


SECTION C-C

FLANGE DETAIL

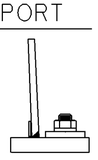


(DOTTED LINES OF HORIZONTAL MEMBERS OMITTED FOR CLARITY)

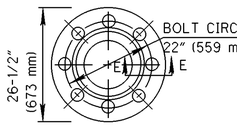


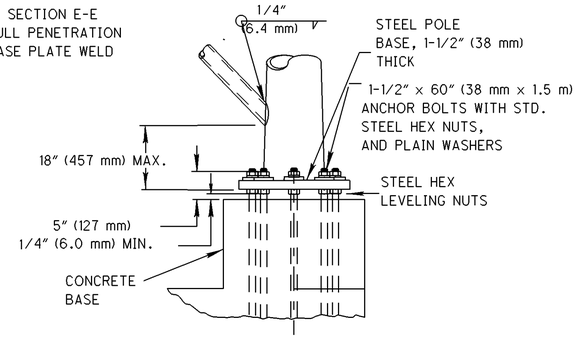
TRUSS END JOINT DETAILS

DETAIL C

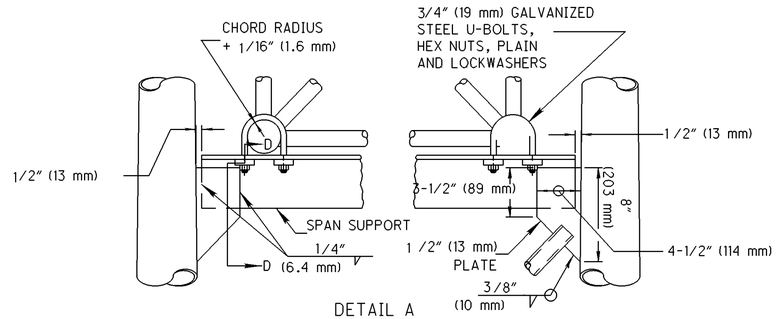


SECTION E-E
FULL PENETRATION BASE PLATE WELD



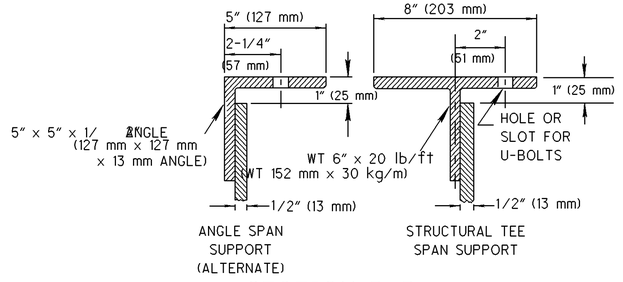


POLE BASE DETAIL



DETAIL A

LOWER SPAN SUPPORT



SECTION D-D

OFFICE OF TRAFFIC ENGINEERING

DESIGNED | REVIEWED
REVISION DATE | CHECKED
PIS NUMBER

PLAN INSERT SHEET

DMS TRUSS SUPPORT - MAX. 80'

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

2 / 2

41 / 207

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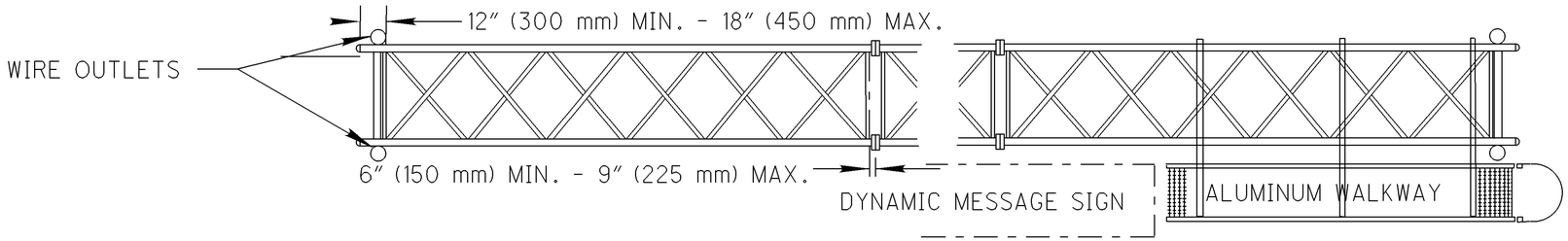
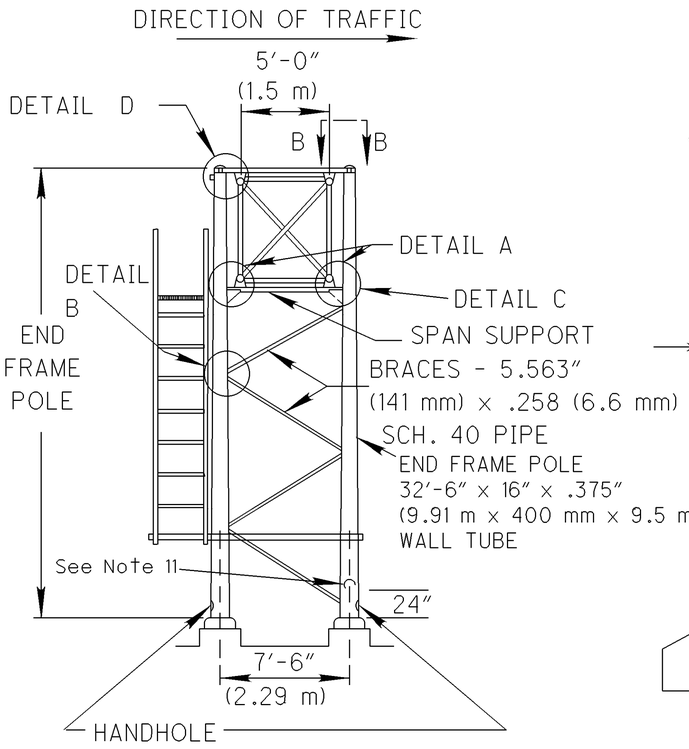
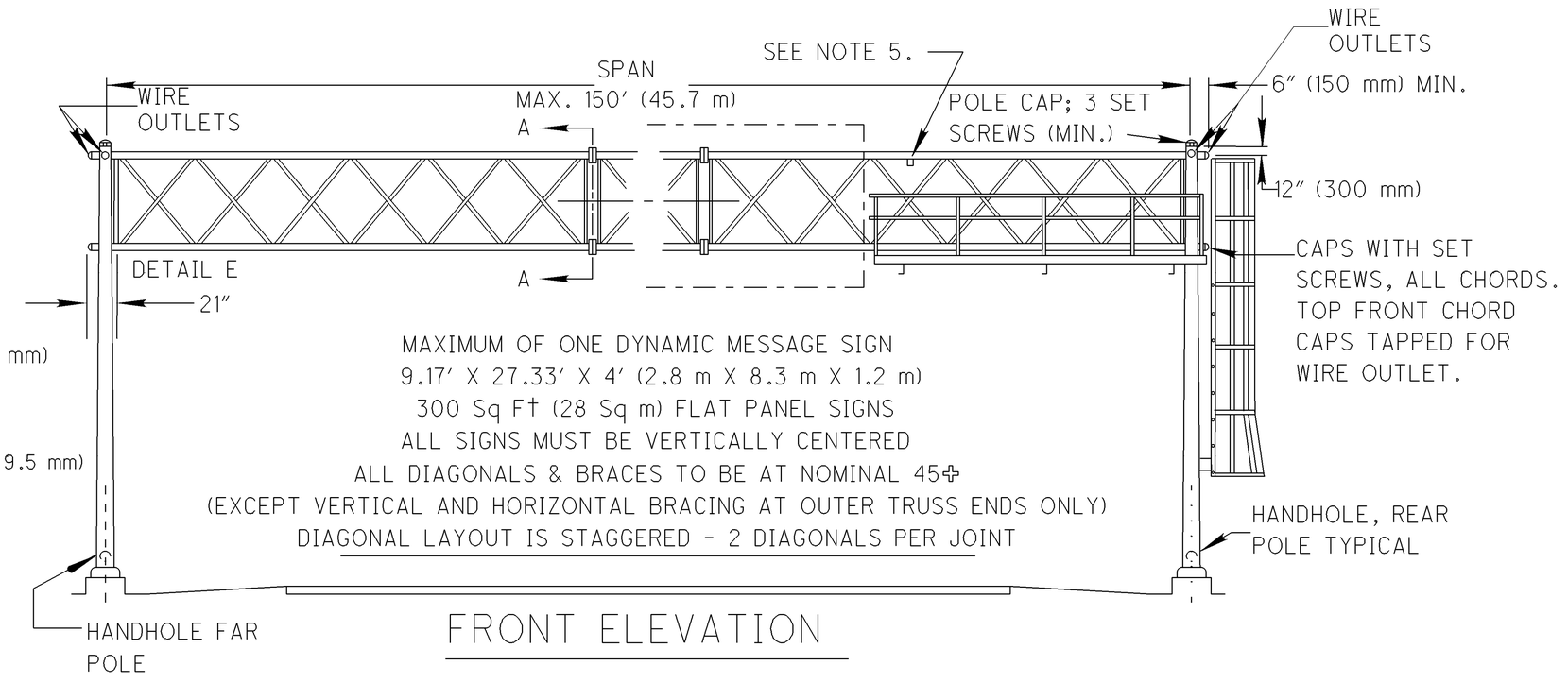
JAM



SEE CATWALK DRAWINGs FOR WALKWAY DETAILS

WALKWAY CAN BE AT EITHER END OF SPAN





FRONT ELEVATION

NOTES

1. For sign attachment assemblies to be furnished with this support, construction details and location of handholes and switch enclosure mounting brackets, see drawings TC-22.10 AND TC-22.20.
2. For foundation details, see applicable foundation drawings.
3. One internal diagonal is required at each end of each section.
4. Weld one threaded steel 1-1/4" (32 mm) pipe coupling or short nipple to the outside of each end frame pole as shown in detail D. Remove all sharp edges inside the pole and pipe coupling.
5. Weld one threaded steel 1-1/4" (32 mm) pipe coupling or short nipple to the front top chord of the truss approximately 12" (300 mm) outboard of the first sign bracket for each sign. Remove all sharp edges inside the chord and pipe coupling.
6. Camber the truss a minimum of 1" (25 mm) for a span of 50' (15.2 m) or less. Increase the camber 1/4" (6.4 mm) for each 5' (1.5 m) of span over 50' (15.2 m).
7. Internal diagonals only may be relocated from the indicated position to avoid weld joint overlap.
8. Provide a removable galvanized cast iron plug for all unused couplings and wire outlets.
9. Steel shall be 35 ksi minimum.
10. These structures conform to the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, 4th Edition, 2001, Interim 2006 and to the Structural Welding Code of the American Welding Society, 2006 Edition. Any variation from the specified design or maximum loadings must be evaluated and approved by ODOT and a registered Professional Engineer.
11. Weld one threaded steel 2" (50 mm) pipe coupling or short nipple to the outside of each end frame pole. Remove all sharp edges inside the pole and pipe coupling.
12. Use variable panel spacing on truss

OFFICE OF TRAFFIC ENGINEERING

DESIGNED | REVIEWED

REVISION DATE | CHECKED

PID NUMBER

PLAN INSERT SHEET

DMS TRUSS SUPPORT - 81' TO MAX. 150'

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

1 / 2

42 / 207

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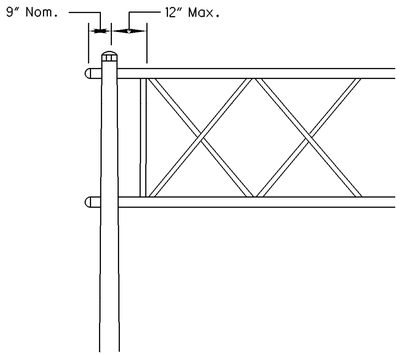
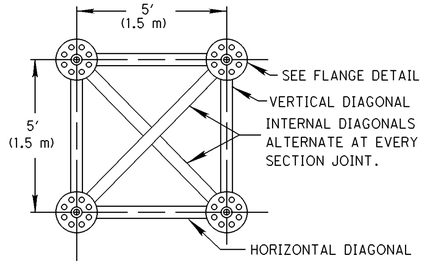
JAM



CORD STUB LENGTH

DETAIL E



SECTION A-A

NOTES

1. For sign attachment assemblies to be furnished with this support, construction details and location of handholes and switch enclosure mounting brackets, see drawings TC-22.10 AND TC-22.20.
2. For foundation details, see drawing FO-06-Fou.
3. One internal diagonal is required at each end of each section.
4. Weld one threaded steel 1-1/4" (32 mm) pipe coupling or short nipple to the outside of each end frame pole as shown in detail D. Remove all sharp edges inside the pole and pipe coupling.
5. Weld one threaded steel 1-1/4" (32 mm) pipe coupling or short nipple to the front top chord of the truss approximately 12" (300 mm) outboard of the first sign bracket for each sign. Remove all sharp edges inside the chord and pipe coupling.
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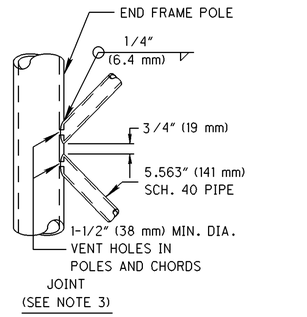
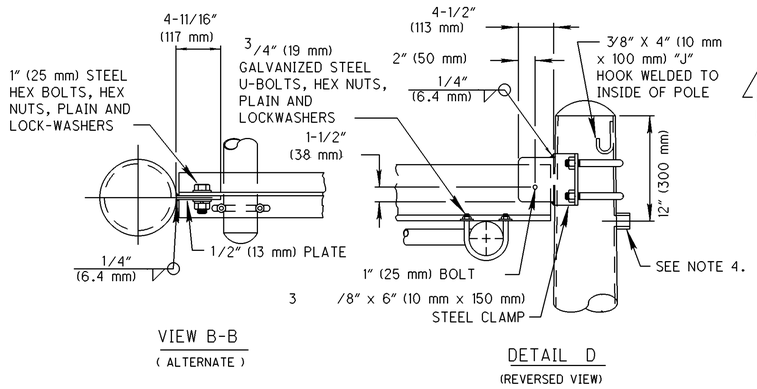
12. Use variable panel spacing on truss.



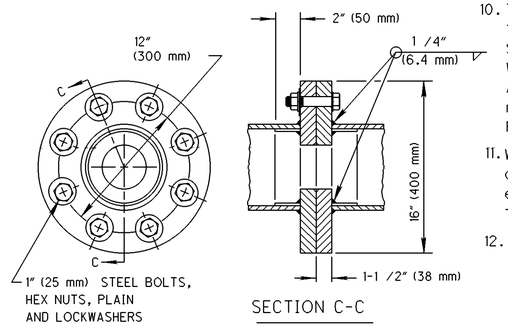
END FRAME AND TRUSS END JOINT DETAILS

DETAIL B



VIEW B-B
(ALTERNATE)

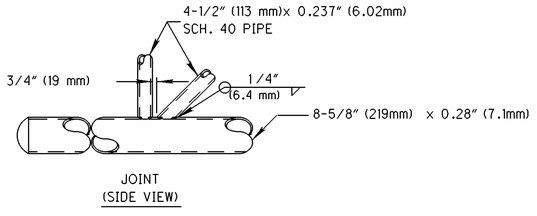
DETAIL D
(REVERSED VIEW)



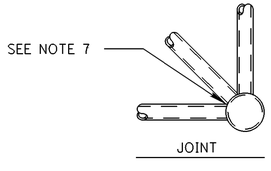
SECTION C-C

FLANGE DETAIL

UPPER SPAN SUPPORT

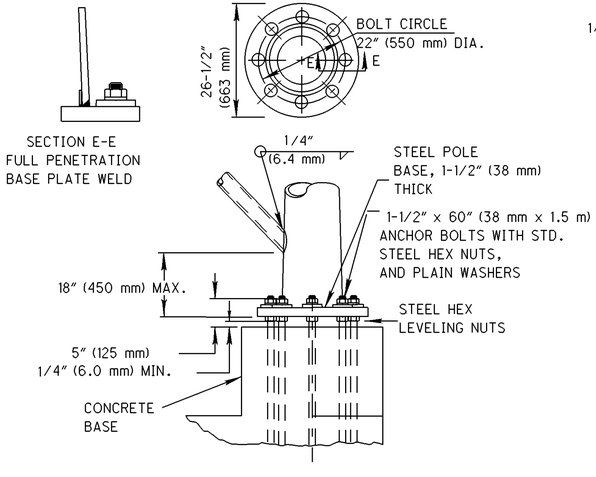


(DOTTED LINES OF HORIZONTAL MEMBERS OMITTED FOR CLARITY)

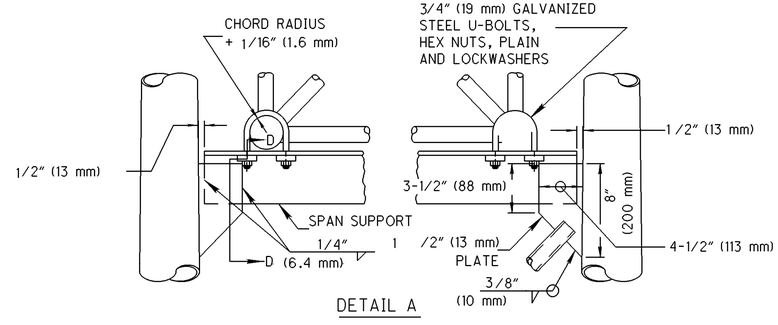


TRUSS END JOINT DETAILS

DETAIL C

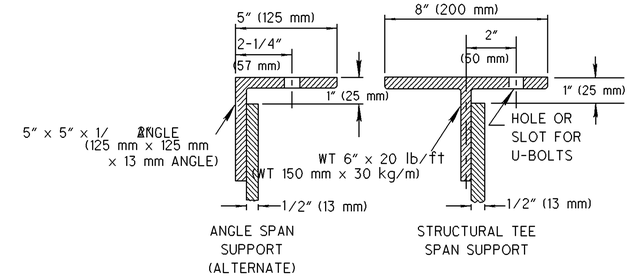


POLE BASE DETAIL



DETAIL A

LOWER SPAN SUPPORT



SECTION D-D

OFFICE OF TRAFFIC ENGINEERING

DESIGNED | REVIEWED

REVISION DATE | CHECKED

PIS NUMBER

PLAN INSERT SHEET

DMS SUPPORT - 81' TO MAX. 150'

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

2 / 2

42A / 207

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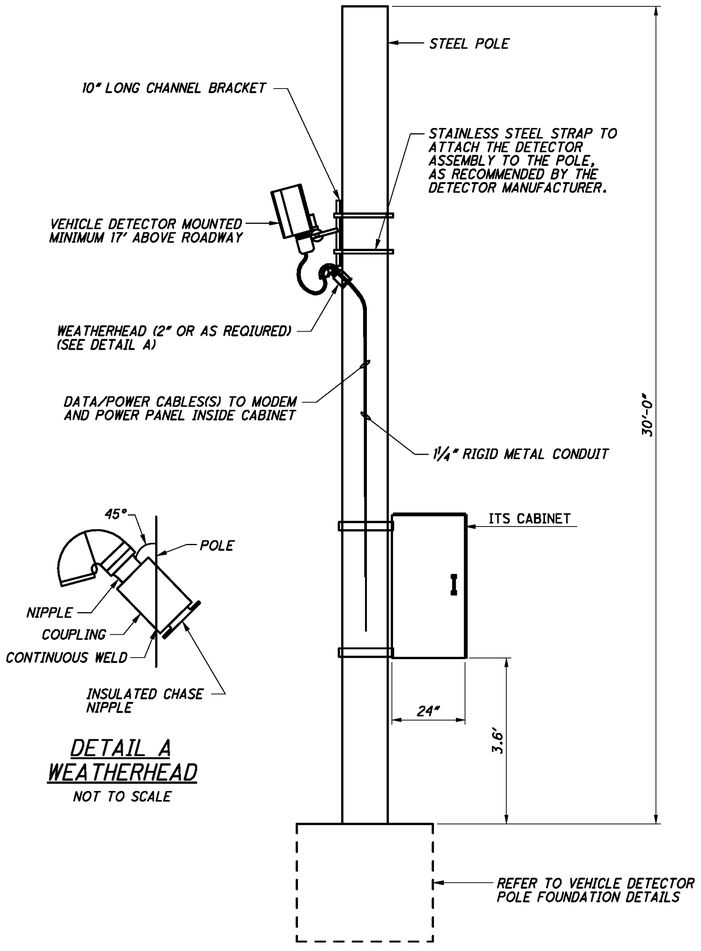


DETAIL A
WEATHERHEAD
NOT TO SCALE

VEHICLE DETECTOR ASSEMBLY MOUNTED TO CONTRACTOR INSTALLED POLE
NOT TO SCALE

VEHICLE DETECTION ASSEMBLY TO INCLUDE THE FOLLOWING:

1 - 30' STEEL POLE

1 - ITS CABINET*
1 - VEHICLE DETECTOR

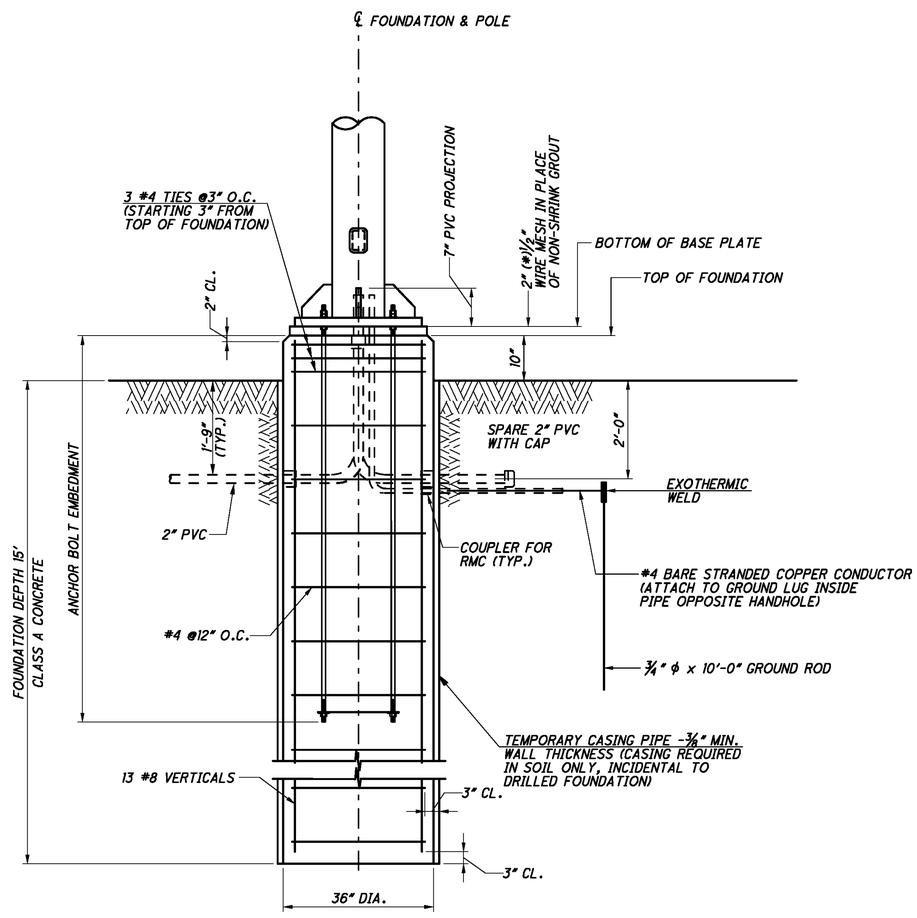
1 - CONTROLLER WORK PAD

ALL ASSOCIATED CONDUIT AND CABLING AT THE SITE NECESSARY FOR THE CONNECTIONS TO PRODUCE A WORKING DEVICE

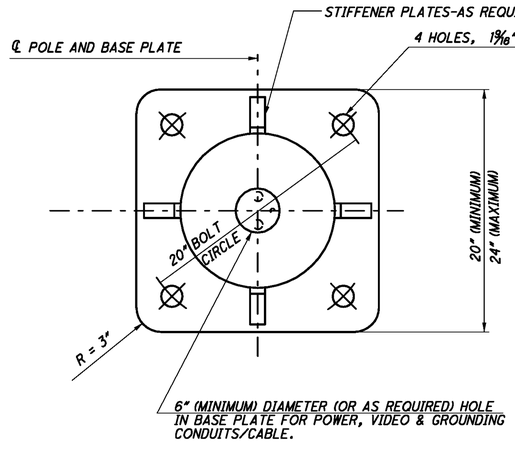
*ITS CABINET TO BE TURNED OVER TO ODOT FOR STORAGE AT ALL LOCATIONS EXCLUDING 271008

NOTES:

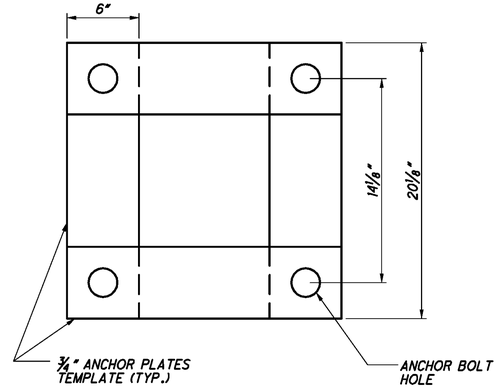
1. MOUNT VEHICLE DETECTOR ASSEMBLY SO THAT THE DETECTOR IS ON THE ROADWAY SIDE OF POLE.
2. SUPPORT HOOKS SHOULD BE APPROPRIATELY SIZED FOR THE NUMBER AND SIZE OF CONDUCTORS TO BE SUPPORTED. SUPPORT ELECTRICAL AND COMMUNICATION CABLES WITH SEPARATE HOOKS.
3. RUN ALL WIRING INSIDE THE POLE AND PROVIDE STRAIN RELIEF AND SUPPORT FOR ALL CONTROL CABLES.
4. WHEN INSTALLING THE VEHICLE DETECTORS, MAINTAIN THE MINIMUM CLEARANCES ON ROADWAYS.
5. WHEN INSTALLING THE MOUNTING BRACKETS FOR VEHICLE DETECTORS, ALIGN AND ANGLE THE DETECTORS TO COVER THE DETECTION ZONE(S) AS INDICATED AND AS SPECIFIED.
6. IF SECOND VEHICLE DETECTOR SPECIFIED, MOUNT AT MANUFACTURER'S RECOMMENDED HEIGHT.



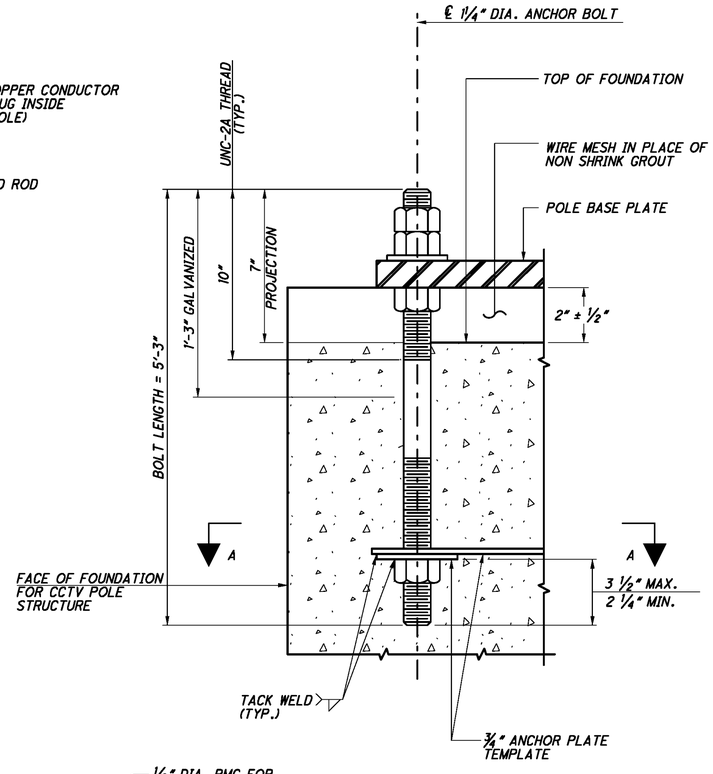
VEHICLE DETECTOR POLE FOUNDATION DETAILS
NOT TO SCALE



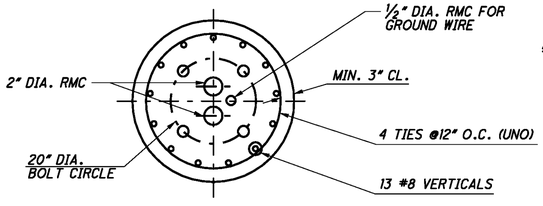
POLE BASE PLATE
(PLATE THICKNESS AS REQUIRED PER DESIGN - 1½" THICK MINIMUM)
NOT TO SCALE



SECTION A-A
NOT TO SCALE



ANCHOR BOLT DETAIL
NOT TO SCALE



VEHICLE DETECTOR POLE FOUNDATION, PLAN VIEW
NOT TO SCALE

CALCULATED STS
CHECKED JDG

VEHICLE DETECTOR ASSEMBLY DETAILS

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

43
207

GENERAL

ITEMS INDICATED IN THESE PLANS "AS PER PLAN" ARE AS SPECIFIED IN THESE PLANS OR IN THE SPECIAL PROVISIONS. SEE SPECIAL PROVISIONS FOR ADDITIONAL PROJECT NOTES.

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

CONDUIT RISER (BY SIZE)

RISERS AND WEATHERHEADS SHALL BE INSTALLED UNDER THIS PROJECT ON POLES. PAYMENT FOR THESE ITEMS AND THEIR INSTALLATION SHALL FALL UNDER:

625E3400I: POWER SERVICE, AS PER PLAN A,B,C,D,E
632E89300: WOOD POLE

CONDUIT MISC.: 3", CONDUIT FIBERGLASS REINFORCED, ATTACHED TO STRUCTURE

CONDUIT SHALL BE INSTALLED UNDERNEATH THE BRIDGE DECK, OR IN THE LOCATIONS SHOWN ON THE PLAN, AS DIRECTED BY THE ENGINEER. INSTALLATION PRACTICES SHALL CONFORM TO 625.12. STANDARD CLAMP TYPE CONDUIT HANGERS SHALL BE USED. STRAP HANGERS ARE NOT ACCEPTABLE. ALL HANGERS AND HANGER HARDWARE SHALL BE GALVANIZED. HOLES FOR EXPANSION ANCHORS SHALL BE DRILLED AS PER 510.03 EXPANSION ANCHORS SHALL BE SET WITH EPOXY ADHESIVE. THREAD ADHESIVE SHALL BE USED ON BOTH THE ANCHOR BOLT MACHINE SCREW AND THE CONDUIT CLAMP SCREW AND NUT.

UTILITY NOTE

UTILITIES TO BE CONTACTED WITH REGARD TO POSSIBLE CONFLICT WITH WORK HEREIN ARE LISTED IN THE SPECIAL PROVISIONS. CONTRACTOR SHALL CONTACT THE OHIO UTILITIES PROTECTION SERVICE (OUPS) AND ANY NON-MEMBERS OF OUPS AT LEAST TWO WORKING DAYS BEFORE DIGGING. CONTRACTOR SHALL MAKE EVERY EFFORT TO MAINTAIN A 15' CLEARANCE FROM ALL EXISTING UTILITIES. IF THIS CLEARANCE IS NOT POSSIBLE THE CONTRACTOR MUST RECEIVE APPROVAL FROM THE DISTRICT CONSTRUCTION ENGINEER FOR PLACEMENT OF THE DEVICE.

SURVEY NOTE

ELEVATIONS ARE BASED ON STATE PLANE GRID, OHIO NORTHERN NAD 83.

ACCURACY OF COMMON HAND-HELD GPS DEVICES IS INADEQUATE FOR LAYOUT OF PROPOSED FIELD EQUIPMENT.

CONCRETE MEDIAN BARRIER REPLACEMENT

REMOVING, GRADING AND INSTALLING THE REPLACEMENT BARRIER IN A CONTINUOUS OPERATION SHALL BE LIMITED TO 10 FEET AND SHALL AT ALL TIMES BE SUBJECT TO THE APPROVAL OF THE DISTRICT CONSTRUCTION ENGINEER.

THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

ITS EQUIPMENT NOTES:

1) DMS CONTROL CABLE, DMS CONTROLLER, AND DMS CONTROLLER CABINET SHALL BE PAID FOR UNDER ITEM 631, SIGN LIGHTING MISC.: DMS ASSEMBLY.

2) WIRELESS CABLE SHALL BE PAID UNDER ITEM 632, "WIRELESS COMMUNICATION ASSEMBLY". CCTV CAMERA DRIVER AND CCTV CONTROL CABLE SHALL BE PAID UNDER ITEM "CCTV CAMERA ASSEMBLY."

3) IN ALL CONDUIT INSTALLED ON THIS PROJECT, THE CONTRACTOR SHALL PLACE PULL ROPE AND PLUGS IN ALL UNUSED CONDUIT IMMEDIATELY UPON INSTALLATION, THIS WORK WILL BE INCIDENTAL TO THE VARIOUS PAY ITEMS.

4) ALL ITS FIELD EQUIPMENT CABINETS WILL BE KEYED WITH CORBIN #2 LOCKS.

5) CONTROLLER WORK PADS SIZE SHALL BE SIZED PER PLAN SHEETS 15 AND 15A. EXCAVATE A MINIMUM OF 12" BELOW GRADE. PLACE AND COMPACT 6" OF MATERIAL CONFORMING TO 304.02. INSTALL CONTROLLER WORK PAD THAT IS A MINIMUM OF 6" THICK.

6) ALL DMS SIGNS SHALL BE POSITIONED SO THAT THE MAXIMUM VIEWING ANGLE IS 1500 FEET PRIOR TO THE LOCATION OF THE SIGN. ANCHOR BOLTS FOR THE SIGN WILL BE POSITIONED SO THAT THE SIGN IS PERPENDICULAR TO THE ROADWAY CENTERLINE.CONTRACTOR SHALL USE ELECTRONIC SURVEY METHODS FOR LOCATING ALL DEVICES. ODOT WILL APPROVE THE PLACEMENT OF ALL EQUIPMENT IN THE FIELD BEFORE BEGINNING WORK.

ITEM 625E30701, PULL BOX, 725.08, 18", AS PER PLAN, TYPE A

PULL BOX LIDS SHALL BE FABRICATED WITH RAISED LETTERS "ELECTRIC".
ALL PULL BOX LOCATIONS MUST BE APPROVED BY THE DISTRICT CONSTRUCTION ENGINEER.

ITEM 625E30701, PULL BOX, 725.08, 18", AS PER PLAN, TYPE B

PULL BOX LIDS SHALL BE FABRICATED WITH RAISED LETTERS "TRAFFIC". ALL
PULL BOX LOCATIONS MUST BE APPROVED BY THE DISTRICT CONSTRUCTION ENGINEER.

CONSTRUCTION INITIATION

THE CONTRACTOR SHALL ADVISE THE DISTRICT PUBLIC INFORMATION OFFICE AT 216-584-2005 OR BY FAX AT 216-584-3524 AND THE DISTRICT WORK ZONE TRAFFIC MANAGER AT 216-584-2204 (DONEIL@DOT.STATE.OH.US), FOURTEEN (14) DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. THE CONTRACTOR WILL IMMEDIATELY INFORM THE DISTRICT PUBLIC INFORMATION OFFICE AND THE DISTRICT TRAFFIC MANAGEMENT ENGINEER OF ANY AND ALL DELAYS AND/OR CHANGES REGARDING THE CONSTRUCTION PROJECT. THE PROJECT ENGINEER WILL PROVIDE CLARIFICATION FOR ANY QUESTIONS ABOUT THIS NOTIFICATION REQUIREMENT.

EROSION PROTECTION

THIS WORK CONSISTS OF FURNISHING, PLACING AND MAINTAINING SLOPE, DITCH, AND VEGETATED SWALE EROSION PROTECTION. THIS WORK IS CONSIDERED INCIDENTAL TO WORK ITEMS.

PROPOSED CONDUIT PLACEMENT

PLACEMENT OF PROPOSED CONDUIT AND/OR DUCT CABLE SHALL BE A MINIMUM OF 5' BEHIND EXISTING GUARDRAIL. IF THIS CLEARANCE IS NOT POSSIBLE, LOCATION SHALL BE APPROVED BY THE DISTRICT CONSTRUCTION ENGINEER.

COORDINATION WITH OTHER PROJECTS

THE CONTRACTOR SHALL BE REQUIRED TO COORDINATE THE WORK WITH OTHER ONGOING PROJECTS TO INCLUDE BUT NOT LIMITED TO THE FOLLOWING PROJECTS:

PID	PROJECT DESCRIPTION	TYPE OF WORK	SALE DATE CURRENT
22222	CUY IR 077 01.89 TRAC	MAJOR RECONSTRUCTION	03/21/08
25277	SUM IR 0077 30.96	BRIDGE REPAIR	10/08/08
82069	CUY IR 090 15.24 STEEL REPAIR #2	BRIDGE REPAIR	11/05/08
24507	SUM SR 0008 13.30	MAJOR RECONSTRUCTION	10/22/08
13486	LAK SR 002 03.33 TRAC	MAJOR WIDENING	12/17/08
22859	LAK IR 090 01.88	RESURFACING, DIVIDED SYSTEM	12/10/08
25557	SUM/POR IR 0480 03.72	MINOR REHABILITATION - PAVEMENT PRMY SYS	01/28/09
25621	CUY IR 480 18.42 L&R	BRIDGE REPAIR	01/28/09
23960	CUY IR 271 09.73	MINOR REHABILITATION - PAVEMENT PRMY SYS	02/04/09
83505	D12 SIGN FY2009 REPLACE	SIGN MAINTENANCE/REPAIR (NEW)	03/25/09
83506	D12 SIGN FY2009 STRUCTURE REPAIR	SIGN MAINTENANCE/REPAIR (NEW)	04/08/09
82167	CUY IR 090 18.20	BRIDGE DECK REPLACEMENT	07/01/09
75477	LAK IR 090 21.42	MAJOR REHABILITATION	12/04/09
21781	CUY SR 002 05.97	BRIDGE DECK REPLACEMENT	01/01/10
75482	CUY/LAK IR 271 14.09/0.00	RESURFACING, DIVIDED SYSTEM	01/01/10
77508	LAK IR 090 02.43	BRIDGE DECK REPLACEMENT	01/01/10
79545	LAK SR 002 07.60 TRAC	MAJOR WIDENING	01/27/10
82713	CUY IR 071 16.40 NOISE WALL	NOISE WALL	01/01/10
83680	CUY IR 90 15.24	BRIDGE DECK REPLACEMENT/REHAB	07/14/10
13567	CUY IR 77 14.35	BRIDGE DECK REPLACEMENT/WIDENING	01/01/12
12075	CUY SR 176 12.61	BRIDGE DECK REPLACMENET	12/15/10
80558	CUY IR 480 23.86	BRIDGE REPLACMENT	01/01/11
24507	SUM SR 8 13.3		11/05/08
24508	SUM SR 8 15.63		11/22/06

ITEM 632 - SIGNALIZATION, MISC.: FOUNDATION TEST HOLE

IF UNDERGROUND OBSTRUCTIONS ARE ENCOUNTERED THAT PRECLUDE THE USE OF STANDARD OR ALTERNATE FOUNDATION DESIGNS FOR ANY STRAIN POLES, SIGNAL SUPPORTS, OR OVERHEAD SIGN SUPPORTS, PROVIDE THE DISTRICT CONSTRUCTION ENGINEER WITH COMPLETE INFORMATION REGARDING THE OBSTRUCTION, INCLUDING TYPE (I.E. UTILITY), SIZE, DEPTH, AND LATERAL CLEARANCES TO THE SIDES OF THE FOUNDATION EXCAVATION. COVER THE FOUNDATION HOLE WITH A STEEL PLATE UNTIL THE ENGINEER DETERMINES IF A NEW FOUNDATION LOCATION WILL BE REQUIRED. BACKFILL AND COMPACT THE HOLE AND RESTORE THE SURFACE AS DESCRIBED UNDER "RESTORATION OF DISTURBED AREAS" WHEN DIRECTED BY THE DISTRICT CONSTRUCTION ENGINEER.

PAYMENT FOR FOUNDATION TEST HOLES INCLUDES THE COST OF ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, AND OTHER INCIDENTALS, INCLUDING BACKFILL, COMPACTING, AND SURFACE RESTORATION AND EXCAVATION OF A NEW FOUNDATION HOLE. THE DEPARTMENT WILL PAY FOR EACH FOUNDATION HOLE THAT MUST BE ABANDONED AT THE CONTRACT UNIT BID PRICE FOR "ITEM 632 - SIGNALIZATION, MISC.: FOUNDATION TEST HOLE" OR ITEM 630 - SIGNING MISC.: FOUNDATION TEST HOLE.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY AS CONTINGENCY QUANTITIES FOR USE AS DESCRIBED HEREIN.

ITEM	TOTAL	UNIT	DESCRIPTION
632	20	EACH	SIGNALIZATION, MISC.: FOUNDATION TEST HOLE

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY, ITEM 201E11000, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN SECTION 201 OF TH OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR THIS ITEM. SOME LOCATIONS FOR CLEARING AND GRUBBING HAVE BEEN LOCATED IN THE PLANS. THESE LOCATIONS ARE NOT INTENDED TO IDENTIFY ALL POTENTIAL AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT EACH LOCATION AND IDENTIFY THE WORK REQUIRED IN CONJUNCTION WITH THE DISTRICT CONSTRUCTION ENGINEER.

FOUNDATIONS FOR SUPPORTS

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY AND RESOLVE POTENTIAL CONFLICTS WITH EXISTING UTILITIES NOT SHOWN IN THESE PLANS PRIOR TO CONSTRUCTION. WORK MAY BEGIN ONLY AFTER THE CONTRACTOR HAS ASSURED THE ENGINEER THAT ALL EXISTING UTILITIES ARE CLEAR. DUE TO THE POSSIBILITY OF CONFLICT WITH EXISTING OR PROPOSED UNDERGROUND OBSTRUCTIONS (INCLUDING THE POSSIBILITY OF UNRECORDED OBSTRUCTIONS) WHICH COULD AFFECT THE LOCATION OF THE FOUNDATIONS FOR THESE ITEMS, AND CONSEQUENTLY, THE DESIGN OF THE VARIOUS SUPPORTS, AND/OR ARMS, THE CONTRACTOR SHALL NOT PLACE FINAL ORDERS FOR THESE ITEMS UNTIL THE FOUNDATION LOCATIONS AND/OR SPAN LENGTHS HAVE BEEN FIELD VERIFIED AND HE HAS RECEIVED, FROM THE DISTRICT CONSTRUCTION ENGINEER, WRITTEN NOTICE TO PROCEED WITH THE ORDERS FOR THESE ITEMS. LOCATING ADJACENT UTILITIES (LINE AND ELEVATION) IS INCIDENTAL TO THE FOUNDATION PAY ITEM.

IF ANY FOUNDATION LOCATIONS MUST BE ADJUSTED, THE CONTRACTOR SHALL NOTIFY THE DISTRICT CONSTRUCTION ENGINEER, WHO WILL DETERMINE THE REVISED LOCATIONS AND IF ANY SUPPORT DESIGN CHANGES ARE NECESSARY, IN CONSULTATION WITH DISTRICT 12.THE CONTRACTOR WILL NOT BE RESPONSIBLE FOR DETERMINING THE REVISED DESIGN. THE DISTRICT CONSTRUCTION ENGINEER WILL SUBSEQUENTLY INFORM THE CONTRACTOR OF ANY CHANGES NECESSARY, AND AUTHORIZE HIM TO ORDER THE SUPPORTS.

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

NO PAYMENTS FOR DELIVERED MATERIALS FOR THESE ITEMS WILL BE MADE UNTIL THE FOUNDATIONS ARE IN PLACE, AND IF CHANGES IN THE DESIGN OF THESE ITEMS ARE REQUIRED, NO PAYMENTS WILL BE MADE FOR ITEMS MANUFACTURED TO THE ORIGINAL DESIGNS.

EXISTING CONDUIT CLEANED, AS PER PLAN

IN ADVANCE OF INSTALLING CABLE WITHIN THE EXISTING CONDUIT, THE CONTRACTOR SHALL VERIFY CONTINUITY AND CLEAN THE REQUIRED CONDUIT AS NECESSARY. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE BID PRICES FOR ITEM 202, EXISTING CONDUIT CLEANED, AS PER PLAN. A CONTINGENCY QUANTITY OF 25% OF THE LENGTH OF EXISTING CONDUITS IS USED. IN ALL OTHER CONDUITS PAYMENT SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS PROPOSED CABLES BEING INSTALLED. IN BOTH CASES THIS WORK SHALL INCLUDE CLEANING PULL BOXES AND DRESSING EXISTING CONDUIT WITHIN THESE PULL BOXES IN A MANNER THAT CAN BE UTILIZED IN THE FUTURE. IF THE CONTRACTOR LOCATES BROKEN OR MISSING CONDUIT, THE CONTRACTOR WILL BE PAID TO REMOVE AND REPAIR THE BROKEN ITEM FOR THE CONTRACTED BID PRICE. THE CONTRACTOR SHALL PLAN THE WORK IN ADVANCE TO PREVENT ANY DELAY. THE CONTRACTOR WILL NOT BE ALLOWED ANY ADDITIONAL TIME DUE TO REMOVING OR REPLACING THE CONDUIT.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS WORK

EXISTING CONDUIT CLEANED, AS PER PLAN 573 FT.

CONDUIT, MISC.: EXISTING CONDUIT REPAIR

IN ADVANCE OF INSTALLING CABLE WITHIN THE EXISTING CONDUIT, THE CONTRACTOR SHALL VERIFY CONTINUITY AND REPAIR THE REQUIRED CONDUIT AS NECESSARY. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE BID PRICES FOR ITEM 625, CONDUIT, MISC.: EXISTING CONDUIT REPAIRED. A CONTINGENCY QUANTITY 25% OF THE LENGTH OF EXISTING CONDUIT CLEANED, AS PER PLAN IS USED. THIS WORK SHALL ALSO INCLUDE REPAIRING ANY DAMAGED PULL BOXES THAT MAY BE FOUND.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS WORK

EXISTING CONDUIT REPAIR 144 FT.

HIGHWAY ADVISORY RADIO ADVANCE WARNING STATIC SIGN

FOR THIS PROJECT STATIC SIGNS WILL BE ERECTED IN ADVANCE OF THE HIGHWAY ADVISORY RADIOS TO PROVIDE MOTORISTS WITH ADVANCE WARNING. THE CONTRACTOR SHALL INSTALL A D12-H7 HIGHWAY ADVISORY RADIO SIGNING AS SHOWN IN THE ODOT SIGN DESIGN MANUAL. BELOW IS A LISTING OF THE APPROXIMATE LOCATIONS WHERE ADVANCE WARNING SIGNS WILL BE PLACED. THE FINAL PLACEMENT OF THE SIGNS WILL BE DETERMINED BY THE STRENGTH OF THE SIGNAL AND SHALL BE APPROVED BY THE DISTRICT CONSTRUCTION ENGINEER.

PAYMENT FOR HIGHWAY ADVISORY RADIO ADVANCE WARNING STATIC SIGN WILL BE MADE UNDER THE FOLLOWING ITEMS:
ITEM 630E07600 - GROUND MOUNTED SUPPORT, W10 X 12 BEAM
ITEM 630E81200 - SIGN ERECTED, EXTRUSHEET
ITEM 630E84500 - GROUND MOUNTED BEAM SUPPORT FOUNDATION

APPLICABLE HAR	LOCATION DESCRIPTION
NEW HAR-71	I-71N AND WADSWORTH RD.
NEW HAR-71	I-71N PAST ONRAMP FROM SR-18
NEW HAR-71	I-271S NORTH OF CR-66
NEW HAR-71	I-71S SOUTH OF SR-3
HAR-71-1	I-71N SOUTH OF SR-82
HAR-71-1	I-71S SOUTH OF HUMMEL RD.
HAR-71-2	I-71N SOUTH OF SHELDON RD.
HAR-71-2	I-480E EAST OF W 277TH ST.
HAR-71-2	I-480W WEST OF RIDGE RD.
HAR-71-2	I-71S WEST OF RIDGE RD.
HAR-71-2	I-90E EAST OF WAGAR RD.
HAR-71-2	I-90W WEST OF W. 98TH ST.
NEW HAR-77	I-77N SOUTH OF FIVE OAKS DR.
NEW HAR-77	I-271N EAST OF SOUTHERN RD.
NEW HAR-77	I-271S WEST OF RIVERVIEW RD.
NEW HAR-77	I-77S NORTH OF OAKES RD.
HAR-77-1	I-77N SOUTH OF GRANT AVE.
HAR-77-1	SR-176N SOUTH OF SPRING RD.
HAR-77-1	I-71N WEST OF DENISON AVE.
HAR-77-1	I-90E EAST OF W. 65TH ST.
HAR-77-1	I-90W EAST OF E. 55TH ST.
HAR-90-1	I-90E EAST OF NEFF RD.
HAR-90-1	SR-2W WEST OF SR-91
HAR-90-1	I-90W WEST OF RIVER RD.
HAR-90-1	I-271N NORTH OF WILSON MILLS RD.
HAR-271-1	I-480E EAST OF LEE RD.
HAR-271-1	I-271S SOUTH OF FALMOUNT BLVD.
HAR-271-1	US-422W WEST OF SR-91
HAR-271-1	I-271N NORTH OF SOLON RD.

ITEM 625E25901: CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, AS PER PLAN

DISTRICT 4 HAS STORED 8820' OF 4" CONDUIT, SCH. 80, FOR USE ON THIS PROJECT UNDER THIS PAY ITEM. 3285' IS TO BE USED ON PART 2, STA-SUM ITS FOR THIS ITEM AND THE REMAINING QUANTITY OF 5535' IS TO BE USED UNDER PART 1, CLEVELAND FMS.

THIS QUANTITY OF CONDUIT IS TO BE USED PRIOR TO THE PURCHASE OR USE OF ANY ADDITIONAL CONDUIT AND SHALL BE OMITTED FROM THE CALCULATION OF CONDUIT NEEDED FOR THE COMPLETION OF THIS PAY ITEM. THE PAY ITEM QUANTITIES HAVE BEEN CALCULATED BASED ON THE THE USE OF THIS CONDUIT. THE QUANTITY HAS BEEN OMITTED FROM THE PAY ITEM FOR USE ON THE FOLLOWING ROUTES: I-71, I-77, AND A PORTION OF I-90. THIS 4" CONDUIT, SCH. 80, SHALL BE USED IN LIEU OF THE 3" CONDUIT, SCH. 80, SHOWN IN THE PLANS.

THIS QUANTITY SHALL BE OBTAINED FROM THE ODOT DISTRICT 4 NORTON OUTPOST LOCATED AT I-76 AND SR-21. CONTRACTOR IS REQUIRED TO PROVIDE THE ENGINEER 48 HOURS ADVANCE NOTICE TO ARRANGE FOR PICKUP. ONCE ALL THE 4" CONDUIT HAS BEEN USED THE REMAINING QUANTITY UNDER THIS PAY ITEM SHALL BE COMPLETED USING 3" CONDUIT, SCH. 80. THIS QUANTITY HAS BEEN INCLUDED UNDER PAY ITEM 625E25502, CONDUIT 3" 725.05.

CALCULATED KAO CHECKED WLJ

GENERAL NOTES

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

IMPACT ATTENUATOR, TYPE 1-98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY ONE OF THE FOLLOWING IMPACT ATTENUATORS, OR AN APPROVED EQUAL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE AT WWW.DOT.STATE.OH.US/DRRC/ UNDER ROADSIDE SAFETY DEVICES FOR APPROVED IMPACT ATTENUATORS:

1) THE C-A-T MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

   THE LENGTH OF THE C-A-T SYSTEM IS CONSIDERED TO BE 31'-3" LONG. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. NO.	DRAWING NAME	DWG./ REV. DATE	ODOT APPROVAL DATE
SS245M	CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATION & SECTIONS FOR USE AS A LONGITUDINAL MEDIAN BARRIER TERMINAL OR CRASH CUSHION ATTENUATOR	4/10/97 REV. 4	3/6/98
SS224M	C-A-T TRANSITION TO MEDIAN BARRIER GUARDRAIL PLAN, ELEVATION & SECTIONS	4/26/96	3/6/98
SS226M	C-A-T TRANSITION TO VERTICAL WALL OR PIER PLAN, ELEVATION & SECTIONS	4/26/96	3/6/98

2) THE BRAKEMASTER MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., ONE EAST WACKER DRIVE, CHICAGO, IL 60601 (TELEPHONE: 312-467-6750).

   THE LENGTH OF THE BRAKEMASTER SYSTEM IS CONSIDERED TO BE 32'-9" LONG. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. NO.	DRAWING NAME	DWG./ REV. DATE	ODOT APPROVAL DATE
92-00-01	BRAKEMASTER GENERAL ASSEMBLY (UNIDIRECTIONAL SYSTEM)	3/6/97 REV. K	3/6/98
92-00-81	BRAKEMASTER (UNIDIRECTIONAL) WITH FOUNDATION TUBES	2/9/98	3/6/98
92-00-02	BRAKEMASTER GENERAL ASSEMBLY (BIDIRECTIONAL SYSTEM)	3/10/97 REV. K	3/6/98
92-00-82	BRAKEMASTER (BIDIRECTIONAL) WITH FOUNDATION TUBES	2/9/98	3/6/98
9202024	ANCHOR ASSEMBLY, FOUNDATION TUB, 6½FT., BRS	6/12/97 REV. D	3/6/98

3) THE FLEAT-MT MANUFACTURED BY ROAD SYSTEMS, INC. (RSI), 3616 OLD HOWARD COUNTY AIRPORT ROAD, BIG SPRINGS, TX, 79720 (TELEPHONE: 915-263-2435) AND AVAILABLE FROM RSI'S LIST OF APPROVED DISTRIBUTORS.

   THE LENGTH OF THE FLEAT-MT SYSTEM IS CONSIDERED TO BE 37'-6" LONG. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS AND THE MANUFACTURERS INSTALLATION MANUAL:

DWG. NO.	DRAWING NAME	DWG./ REV. DATE	ODOT APPROVAL DATE
MEDFLT-W-US	FLARED ENERGY ABSORBING TERMINAL FLEAT-MT ASSEMBLY FOR WOOD BREAKAWAY POST SYSTEM	4/10/02 REV. 5	1/6/03
MEDFLT-S-US	FLARED ENERGY ABSORBING TERMINAL FLEAT-MT ASSEMBLY FOR STEEL BREAKAWAY POST SYSTEM	4/10/02 REV. 6	1/6/03
MEDFLT-W-M	FLARED ENERGY ABSORBING TERMINAL FLEAT-MT (METRIC) ASSEMBLY FOR WOOD BREAKAWAY POST SYSTEM	4/10/02 REV. 5	1/6/03
MEDFLT-S-M	FLARED ENERGY ABSORBING TERMINAL FLEAT-MT (METRIC) ASSEMBLY FOR WOOD BREAKAWAY POST SYSTEM	4/10/02 REV. 6	1/6/03

THE FACE OF THE TYPE 1-98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 36" X 12". PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 1-98 (UNIDIRECTIONAL OR BIDIRECTIONAL), EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED TRANSITIONS, HARDWARE, REFLECTIVE SHEETING AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN IN AASHTO M 180. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

ITEM 202E42207, ANCHOR ASSEMBLY REMOVED, AS PER PLAN

WHEN IT IS NECESSARY TO REMOVE TYPE E-98 GUARDRAIL CONTRACTOR SHALL ONLY REMOVE THE LAST SECTION (12.5') OF TYPE E-98 GUARDRAIL. THE REMAING 37.5' OF TYPE E GUARDRAIL SHALL BE REUSED AS TYPE 5 GUARDRAIL AND SPLICED TO PROPOSED GUARD RAIL. THE PAY ITEM SHALL ONLY INCLUDE REMOVAL OF FINAL SECTION (12.5') OF TYPE E-98 GUARDRAIL.

PUBLIC SAFETY

INSTALL PROPOSED GUARDRAIL PRIOR TO, OR IN CONJUNCTION WITH, THE INSTALLATION OF ANY DEVICES WHICH REQUIRE PROTECTION. NO HAZARD SHALL BE LEFT UNPROTECTED.

THE ENGINEER WILL ORDER WORK STOPPED ON THE PROJECT IF THE CONTRACTOR FAILS TO COMPLY WITH THIS REQUIREMENT. WORK WILL NOT RESUME UNTIL THE VIOLATION IS CORRECTED TO THE SATISFACTION OF THE ENGINEER.

ANCHOR ASSEMBLY, TYPE E-98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS, OR AN APPROVED EQUAL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE AT WWW.DOT.STATE.OH.US/DRRC/ UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS:

1) THE ET-2000 (1997) MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

   THE LENGTH OF THE ET-2000 (1997) SYSTEM IS CONSIDERED TO BE 50'-0" [15.24M], INCLUSIVE OF TWO 25'-0" [7.62M] LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. NO.	DRAWING NAME	DWG./ REV. DATE	ODOT APPROVAL DATE
SS265M	ET-2000 (1997) PLAN, ELEVATION AND SECTIONS	6/20/97	3/6/98
SS142	ET2000 PLUS 50'-0" PLAN, ELEVATION AND SECTION 25'-0" RAIL, SLEEVE W/PL POSTS 1-4	4/12/00	7/31/00
SS141	ET2000 PLUS PLAN, ELEVATION AND SECTION 25'-0" RAIL, HBA POSTS 1-4	2/29/00	7/31/00
SS158	ET2000 PLUS 50'-0" WITH 12'-6" PANELS AND HBA POSTS 1-4 PLAN, ELEVATION AND SECTION	5/22/00	7/31/00

2) THE SKT-350 MANUFACTURED BY ROAD SYSTEMS, INC., 2516 MALLORY LANE, STOW, OHIO, 44224, (TELEPHONE: 330-346-0721).

   THE LENGTH OF THE SKT-350 SYSTEM IS CONSIDERED TO BE 50'-0" [15.24M], INCLUSIVE OF FOUR 12'-6" [3.81M] LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PREAPPROVED SHOP DRAWINGS:

DWG. NO.	DRAWING NAME	DWG./ REV. DATE	ODOT APPROVAL DATE
SKT-4M	SEQUENTIAL KINKING TERMINAL (SKT-350) ASSEMBLY WITH 4 FOUNDATION TUBES	12/11/97	3/6/98

THE FACE OF THE TYPE E-98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 18" X 18" [450MM X 450MM], OR 12" [30MM] X 18" [450MM] IF APPLIED TO A RECTANGULAR ET-2000 "PLUS" EXTRUDER HEAD.

REFER TO THE MANUFACTURER'S INSTRUCTION REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4-INCHES [100M] ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27-3/4-INCHES [706MM] FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4-INCHES [100MM] ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E-98, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

NONCONFORMANCE TO SPECIFICATIONS

FAULTS IN THE DESIGN OR FABRICATION OF THE MATERIALS AND EQUIPMENT SUPPLIED, ERRORS IN CONSTRUCTION, OR MISTAKES OR OMISSIONS IN THE SOFTWARE OR ANY INABILITY OF THE HARDWARE AND SOFTWARE SUPPLIED TO PERFORM NORMAL TRAFFIC SIGNAL CONTROL FUNCTIONS OR SPECIFIC FUNCTIONS ENUMERATED IN THE SPECIFICATION CATALOGUE CUTS, OR THE SYSTEM SOFTWARE USERS MANUAL (IF REQUIRED) ARE ALL CONSIDERED TO BE NONCONFORMANCE TO THE SPECIFICATION.

NONCONFORMANCE TO THE SPECIFICATION WILL NOT BE CONSIDERED TO INCLUDE ROUTINELY EXPECTED FAILURES SUCH AS LAMP BURN OUTS, PAVEMENT FAILURES AFFECTING EQUIPMENT, DAMAGE DUE TO VEHICULAR ACCIDENTS, LIGHTING AND WEATHER RELATED INCIDENTS, NOR WOULD IT INCLUDE RANDOM EQUIPMENT FAILURES EXCEPT WHEN A PATTERN OF FAILURES IN A PARTICULAR TYPE OF EQUIPMENT OR ELEMENT IS EVIDENT.

IN THE EVENT A NONCONFORMACE TO THE SPECIFICATION IS DISCOVERED AND CALLED TO THE CONTRACTOR'S ATTENTION PRIOR TO COMMENCEMENT OF THE PERFORMANCE TEST, THE TEST SHALL NOT BE STARTED UNTIL THE NONCONFORMANCES ARE REMEDIED TO THE SATISFACTION OF THE ENGINEER.

THE CONTRACTOR SHALL KEEP A LOG OF ALL FAILURES AND NONCONFORMANCES TO THE SPECIFICATION WHICH OCCUR DURING THE LIFE OF THE PROJECT. THIS LOG SHALL INCLUDE DESCRIPTION, TYPE OF MATERIAL OR EQUIPMENT INVOLVED, SERIAL NUMBER OF EQUIPMENT, LOCATION, EXPLANATION OF HOW FAULT WAS ISOLATED, CORRECTIVE STEPS TAKEN AND DATES OF FAILURE AND REPAIRS. THE LOG SHALL BE AVAILABLE FOR INSPECTION BY THE DISTRICT CONSTRUCTION ENGINEER. IT SHALL BE TURNED OVER TO THE OHIO DEPARTMENT OF TRANSPORTATION UPON COMPLETION OF THE PERFORMANCE TEST.

CALCULATED KAO
CHECKED WLJ

GENERAL NOTES

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

SPECIAL PROVISION NOTES

BELOW IS A LIST OF ITEMS FOR WHICH THE DESCRIPTIONS OF WORK CAN BE FOUND IN THE SPECIAL PROVISIONS PROVIDED WITH THIS PLAN SET.

ITEM 606E98000: GUARDRAIL MISC.: REMOVED AND REPLACED, APP
ITEM 607E20001: FENCE, TYPE CL, APP
ITEM 607E23001: FENCE, TYPE CLT, APP
ITEM 622E23401: CONCRETE BARRIER, TYPE B, APP
ITEM 625E23308: DISTRIBUTION CABLE MISC.: NO. 8 AWG 5000 VOLT
ITEM 625E23308: DISTRIBUTION CABLE MISC.: NO. 4/0 AWG 5000 VOLT
ITEM 625E23308: DISTRIBUTION CABLE MISC.: AERIAL CABLE WITH FOUR NO. 4 AWG 5000 VOLT CABLES
ITEM 625E24400: DUCT CABLE MISC.: 1-1/2" DUCT CABLE WITH FOUR NO. 8 AWG 5000 VOLT CABLES
ITEM 625E24400: DUCT CABLE MISC.: 1-1/2" DUCT CABLE WITH FOUR NO. 6 AWG 5000 VOLT CABLES
ITEM 625E24400: DUCT CABLE MISC.: 1-1/2" DUCT CABLE WITH FOUR NO. 2 AWG 5000 VOLT CABLES
ITEM 625E24400: DUCT CABLE MISC.: 2" DUCT CABLE WITH FOUR NO. 1/0 AWG 5000 VOLT CABLES
ITEM 625E24400: DUCT CABLE MISC.: 2-1/2" DUCT CABLE WITH FOUR NO. 3/0 AWG 5000 VOLT CABLES
ITEM 625E24400: DUCT CABLE MISC.: 2-1/2" DUCT CABLE WITH FOUR NO. 4/0 AWG 5000 VOLT CABLES
ITEM 625E25901: CONDUIT JACKED OR DRILLED UNDER PAVEMENT, APP
ITEM 625E25920: CONDUIT MISC.: 3" CONDUIT FIBERGLASS REINFORCED ATTACHED TO STRUCTURE
ITEM 625E29700: TRENCHING, MISC.: REMOVE AND REPLACE CLASS C ROCK
ITEM 625E34001: POWER SERVICE, AS PER PLAN, TYPE A
ITEM 625E34001: POWER SERVICE, AS PER PLAN, TYPE B
ITEM 625E34001: POWER SERVICE, AS PER PLAN, TYPE C
ITEM 625E34001: POWER SERVICE, AS PER PLAN, TYPE D
ITEM 625E34001: POWER SERVICE, AS PER PLAN, TYPE E
ITEM 630E66501: OVERHEAD SIGN SUPPORT, AS PER PLAN, TYPE A
ITEM 630E66501: OVERHEAD SIGN SUPPORT, AS PER PLAN, TYPE B
ITEM 630E74500: OVERHEAD SIGN SUPPORT, MISC.: DMS PEDESTAL
ITEM 630E70070 : CONCRETE MEDIAN BARRIER SIGN SUPPORT FOUNDATION, DMS TRUSS
ITEM 630E70080 : RIGHT OF WAY SIGN SUPPORT FOUNDATION, DMS TRUSS
ITEM 630E84511 : RIGID OVERHEAD SIGN SUPPORT FOUNDATION, APP, DMS PEDESTAL
ITEM 630E90400: SIGNING MISC.: REMOVAL OF DMS SIGN FOR STORAGE
ITEM 632E62820: INTERCONNECT MISC.: HIGHWAY ADVISORY RADIO
ITEM 632E62820: INTERCONNECT MISC.: EXISTING HIGHWAY ADVISORY RADIO TO BE REMOVED FOR STORAGE
ITEM 632E62820: INTERCONNECT MISC.: INNERDUCT 1"
ITEM 632E62820: INTERCONNECT MISC.: INNERDUCT 2"
ITEM 632E62810: INTERCONNECT CABLE MISC.: COMPOSITE CABLE
ITEM 632E90400: SIGNALIZATION MISC.: CCTV POLE CAMERA ASSEMBLY
ITEM 632E90400: SIGNALIZATION MISC.: CCTV POLE FOUNDATION, TYPE A (70 FT)
ITEM 632E90400: SIGNALIZATION MISC.: CCTV POLE FOUNDATION, TYPE B (50 FT)
ITEM 632E90400: SIGNALIZATION MISC.: CCTV POLE, TYPE A, 70 FT, WITH LOWERING DEVICE
ITEM 632E90400: SIGNALIZATION MISC.: AAI CCTV POLE, TYPE A, 70 FT, WITH LOWERING DEVICE (CONCRETE)
ITEM 632E90400: SIGNALIZATION MISC.: CCTV POLE, TYPE B, 50 FT, WITH LOWERING DEVICE
ITEM 632E90400: SIGNALIZATION MISC.: AAI CCTV POLE, TYPE B, 50 FT, WITH LOWERING DEVICE (CONCRETE)
ITEM 632E90400: SIGNALIZATION MISC.: VEHICLE DETECTION ASSEMBLY
ITEM 632E90400: SIGNALIZATION MISC.: AAI VEHICLE DETECTION ASSEMBLY (CONCRETE)
ITEM 632E90400: SIGNALIZATION MISC.: VEHICLE DETECTION UNIT
ITEM 632E90400: SIGNALIZATION MISC.: TRANSFORMER, GENERAL PURPOSE 7.5KVA NON-VENTILATED TYPE
ITEM 632E90400: SIGNALIZATION MISC.: TRANSFORMER, GENERAL PURPOSE 25KVA NON-VENTILATED TYPE
ITEM 632E90400: SIGNALIZATION MISC.: PURCELL COMMUNICATION CABINET, INSTALLATION ONLY
ITEM 632E90400: SIGNALIZATION MISC.: UNIVERSAL DATA ENCLOSURE, SMART JACK, INSTALLATION ONLY
ITEM 632E62810: INTERCONNECT CABLE, MISC.: COMPOSITE CABLE IN EXISTING CONDUIT
ITEM 325E25920: CONDUIT, MISC.: INSTALL THREE 4/0 ELECTRICAL CABLES IN EXISTING CONDUIT
ITEM 630E86311: REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL, APP
ITEM 630E85101: REMOVAL OF GROUND MOUNTED SIGN AND RE-ERECTION, APP

GENERAL MAINTENANCE OF TRAFFIC

ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE CURRENT EDITION OF THE OHIO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICE FOR CONSTRUCTION AND MAINTENANCE OPERATIONS (HEREIN AFTER REFERRED TO AS OMUTCD). COPIES OF WHICH ARE AVAILABLE FROM THE OHIO DEPARTMENT OF TRANSPORTATION, BUREAU OF CONTRACT SALES, 1980 WEST BROAD STREET, COLUMBUS, OHIO 43223. PAYMENT FOR ALL THE ITEMS REQUIRED TO MAINTAIN TRAFFIC SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC. CONSTRUCTION OPERATIONS SHALL NOT BEGIN UNTIL ALL TRAFFIC CONTROL PLANS ARE SUBMITTED AND APPROVED BY THE ENGINEER.

ALL TRENCHES SHALL BE BACKFILLED OR SECURELY PLATED DURING NON-WORKING HOURS.

"EXCAVATED AREAS" SHALL BE PROTECTED BY THE USE OF BARRICADES OR PLASTIC DRUMS WITH CAUTION TAPE (PLASTIC FENCE WHERE PEDESTRIANS ARE INVOLVED). "EXCAVATED AREAS" MUST NOT BE LEFT OPEN WITHIN THE CLEAR ZONE DURING NON-WORKING HOURS UNLESS PROTECTED BY GUARDRAIL OR CONCRETE BARRIER. THIS ALSO APPLIES TO OPENINGS IN THE MEDIAN BARRIER.

ACCESS TO ADJOINING PROPERTIES SHALL BE MAINTAINED AT ALL TIMES.

NO MATERIALS OR EQUIPMENT SHALL BE STORED ON ODOT RIGHT-OF-WAY UNLESS IT IS BEHIND GUARDRAIL OR 30-FEET FROM THE EDGE OF PAVEMENT. NO MATERIALS OR EQUIPMENT SHALL BE STORED WITHIN THE RIGHT-OF-WAY WITHOUT WRITTEN PERMISSION FROM ODOT. THE CONTRACTOR SHALL ARRANGE OPERATIONS TO PREVENT ANY INTERFERENCE WITH TRAFFIC FLOWING THROUGH THE WORK ZONE. THE CONTRACTOR IS EXPRESSLY PROHIBITED FROM ENTERING, CROSSING, OR INFRINGING UPON THE REMAINING OPEN LANES ADJACENT TO A LANE CLOSURE. ALL VEHICLES, EQUIPMENT, PERSONNEL, AND ACTIVITIES SHALL BE RESTRICTED TO ONE SIDE OF ANY OPEN LANE OF TRAFFIC UNLESS OTHERWISE APPROVED BY THE DISTRICT CONSTRUCTION ENGINEER.

ALL TRAFFIC CONTROL DEVICES SHALL BE APPROVED FOR CONDITION AND LOCATION BY THE CONSTRUCTION INSPECTOR BEFORE THE CONTRACTOR WILL BE ALLOWED TO BEGIN WORKING. IF THE CONTRACTOR DOES NOT COMPLY WITH THE STANDARDS, HIS PERMIT SHALL BE REVOKED AND ALL WORK SHALL BE TERMINATED.

PRIOR TO THE CLOSURE OF ANY PORTION OF A ROADWAY WITHIN THE JURISDICTION OF THE PROJECT, THE CONTRACTOR SHALL APPLY FOR A PERMIT WITH THE DISTRICT 12 PERMIT OFFICE (216-584-2195). A COPY OF THESE PLANS AND TIME OF OPERATIONS MUST BE PRESENTED AT THE TIME OF APPLICATION. THE PERMIT APPLICATION WILL THEN BE REVIEWED PRIOR TO A PERMIT BEING ISSUED. A SIGNED COPY OF THIS PERMIT SHALL BE PRESENTED TO THE ENGINEER, AND THE CONTRACTOR'S FOREMAN AND SHALL BE RETAINED ON THE JOB AT ALL TIMES.

FAILURE TO COMPLY WITH THIS PERMIT, INCLUDING WORKING OUTSIDE THE PERMITTED TIME PERIODS AND FAILURE TO INSTALL THE REQUIRED TRAFFIC CONTROL SHALL RESULT IN THE REVOCATION OF THE PERMIT. NO WORK WILL BE ALLOWED IN ANY ODOT RIGHT-OF-WAY WITHOUT A VALID PERMIT.

A TOTAL OF 12 MONTHS FOR ITEM 614E18510 PORTABLE CHANGEABLE MESSAGE SIGN HAS BEEN INCLUDED IN THE PAY ITEMS FOR USE IN MAINTENANCE OF TRAFFIC ACTIVITIES OR WHEN A LANE CLOSURE IS NEEDED. IT IS ANTICIPATED THAT THESE DEVICES WILL NOT BE NEEDED FOR THE ENTIRE DURATION OF THE PROJECT. THE HOURS OF USE SHALL BE DEDUCTED FROM THE TOTAL PROVIDED QUANTITY.

642-44 WORKSITE TRAFFIC SUPERVISOR, AS PER PLAN

SUBJECT TO APPROVAL OF THE ENGINEER, THE CONTRACTOR SHALL EMPLOY AND IDENTIFY (SOMEONE OTHER THAN THE SUPERINTENDENT) A CERTIFIED WORKSITE TRAFFIC SUPERVISOR (WTS) BEFORE STARTING WORK IN THE FIELD.THE WTS MAY BE CERTIFIED FROM ONE OF THE FOLLOWING ORGANIZATIONS:

1. AMERICAN TRAFFIC SAFETY SERVICE ASSOCIATION (ATSSA), PHONE NUMBER 1-800-272-8772, CERTIFIED TRAFFIC CONTROL SUPERVISOR (TCS).

2. NATIONAL HIGHWAY INSTITUTE, DESIGN AND OPERATION OF WORK ZONE TRAFFIC CONTROL, PHONE NUMBER 1-703-235-0528.

3. THE OHIO CONTRACTORS ASSOCIATION, TRAFFIC CONTROL SUPERVISOR (OCA/TCS) WORK ZONE CLASS, ONLY IF TAKEN AFTER MAY 5, 2004, PHONE NUMBER 1-614-599-7915.

4. OHIO LABORERS' TRAINING, TRAFFIC CONTROL SUPERVISORS CLASS, PHONE NUMBER 1-740-599-7915.

A COPY OF EACH WTSS CERTIFICATION AND 24-HOUR CONTACT INFORMATION SHALL BE PROVIDED TO THE ENGINEER AT THE PRECONSTRUCTION CONFERENCE. THE WTS ONLY HAS TO BE ON SITE FOR LANE CLOSURES. THE WTS POSITION HAS THE RESPONSIBILITY OF MONITORING AND CORRECTING TRAFFIC CONTROL DEFICIENCIES FOR THE ENTIRE WORK ZONE. THE DUTIES OF THE WTS ARE AS FOLLOWS:

1. BE AVAILABLE ON A 24-HOUR PER DAY BASIS, AND BE ABLE TO BE ON SITE FOR ALL EMERGENCY TRAFFIC CONTROL NEEDS WITHIN ONE HOUR OF NOTIFICATION BY POLICE OR PROJECT STAFF AND BE PREPARED TO EFFECT CORRECTIVE MEASURES IMMEDIATELY ON EXISTING WORK ZONE TRAFFIC CONTROL DEVICES.

2. ATTEND PRECONSTRUCTION MEETING AND ALL PROJECT MEETINGS WHERE TRAFFIC CONTROL MANAGEMENT IS DISCUSSED.

3. BE AVAILABLE FOR MEETINGS OR DISCUSSIONS WITH THE ENGINEER UPON REQUEST OR WITHIN 36 HOURS.

4. BE AWARE OF, AND COORDINATE IF NECESSARY, ALL TRAFFIC CONTROL OPERATIONS, INCLUDING THOSE OF SUBCONTRACTORS AND SUPPLIERS.

5. COORDINATE PROJECT ACTIVITIES WITH ALL LAW ENFORCEMENT OFFICERS (LEOS). A WTS SHALL ALSO BE THE MAIN CONTACT PERSON WITH THE LEOS WHILE THEY ARE ON THE PROJECT.

6. COORDINATE MEETINGS WITH ODOT PERSONNEL, LEOS AND OTHER APPLICABLE ENTITIES BEFORE EACH PLAN PHASE SWITCH TO DISCUSS WORK ZONE TRAFFIC CONTROL.

7. ENSURE COMPLIANCE WITH THE CONTRACT DOCUMENTS FOR SIGNS, BARRICADES, TEMPORARY CONCRETE BARRIER, PAVEMENT MARKINGS, PORTABLE MESSAGE SIGNS, AND OTHER TRAFFIC CONTROL DEVICES ON A DAILY BASIS; AND FACILITATE ANY CORRECTIVE ACTION NECESSARY.

8. NOTIFY THE CONTRACTOR OF THE NEED FOR CLEANING AND MAINTENANCE OF ALL TRAFFIC CONTROL DEVICES, INCLUDING THE COVERING AND REMOVAL OF INAPPLICABLE SIGNS.

9. INSPECT, EVALUATE, PROPOSE NECESSARY MODIFICATIONS TO, AND DOCUMENT THE EFFECTIVENESS OF, THE TRAFFIC CONTROL DEVICES AND/OR TRAFFIC OPERATIONS WHEN A LANE IS CLOSED.

10. COMPLETE THE DEPARTMENT APPROVED LONG TERM INSPECTION FORM (CA-D-8) AFTER EACH INSPECTION AS REQUIRED IN # 9 AND SUBMIT IT TO THE ENGINEER THE FOLLOWING WORK DAY. THESE REPORTS SHALL INCLUDE A CHECKLIST OF ALL TRAFFIC CONTROL MAINTENANCE ITEMS TO BE REVIEWED.

A COPY OF THE FORM WILL BE PROVIDED AT THE PRE-CONSTRUCTION MEETING. ANY DEFICIENCIES OBSERVED SHALL BE NOTED, ALONG WITH RECOMMENDED CORRECTIVE ACTIONS AND THE DATES BY WHICH SUCH CORRECTIONS WERE, OR WILL BE, COMPLETED. A COPY OF THIS DOCUMENT CAN BE FOUND IN THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION INSPECTION FORMS MANUAL DATED 10/15/06 OR CURRENT REVISION.

11. VERIFY THAT ALL FLAGGING OPERATIONS ARE BEING CONDUCTED PER THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

12. HAVE COPIES OF THE ODOT TEMPORARY TRAFFIC CONTROL MANUAL AND APPLICABLE STANDARDS AND SPECIFICATIONS INCLUDED IN THE CONTRACT DOCUMENTS AVAILABLE AT ALL TIMES ON THE PROJECT.

SHOULD THE CONTRACTOR'S FAILURE TO PERFORM ANY OF THE DUTIES DESCRIBED ABOVE RESULT IN A MAINTENANCE OF TRAFFIC SAFETY ISSUE, THE DEPARTMENT WILL DEDUCT THE PRORATED DAILY AMOUNT FOR ITEM 614 MAINTENANCE OF TRAFFIC FROM THE CONTRACTOR'S NEXT SCHEDULED ESTIMATE.

IF THREE OR MORE FAILURES TO PERFORM THE DUTIES SET FORTH ABOVE OCCUR, THE WTS SHALL BE IMMEDIATELY REMOVED FROM THE WORK IN ACCORDANCE WITH C&MS 108.05.

PAYMENT FOR THE WTS SHALL BE INCLUDED UNDER THE LUMP SUM ITEM 614 MAINTAINING TRAFFIC.

MAINTENANCE OF TRAFFIC SCHEME (AT ALL LOCATIONS)

DEVISE A SIMPLE MAINTENANCE OF TRAFFIC SCHEME STAMPED BY A PROFESSIONAL ENGINEER (SCHEME MAY BE A HAND SKETCH). PRESENT THE MAINTENANCE OF TRAFFIC SCHEME TO THE DISTRICT WORK ZONE TRAFFIC CONTROL ENGINEER AND PROJECT ENGINEER FOR ACCEPTANCE AT LEAST TWO WEEKS PRIOR TO IMPLEMENTATION.

THE MAINTENANCE OF TRAFFIC SCHEME MUST PRESENT, IN GENERAL, THE METHODS FOR MAINTAINING TRAFFIC THAT THE CONTRACTOR PROPOSES TO USE FOR CONDUCTING THE REQUIRED WORK IN A SAFE AND EFFICIENT MANNTER. THE MAINTENANCE OF TRAFFIC SCHEME MUST BE IN CONFORMANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (O.M.U.T.C.D.), LATEST REVISION, AND THE REFERENCED STANDARD CONSTRUCTION DRAWINGS, THE ATTACHED MAINTENANCE OF TRAFFIC SHEETS, AND THE SPECIFICATIONS. DO NOT COMMENCE WORK UNTIL THE MAINTENANCE OF TRAFFIC SCHEME IS ACCEPTED BY THE ENGINEER.

IF, DURING THE PROJECT, THE ENGINEER DETERMINES THAT THE ACCEPTED MAINTENANCE OF TRAFFIC PLAN IS NOT PERFORMING AS DESIRED, THE WORK SHALL BE SUSPENDED UNTIL THE PROBLEM IS RESOLVED TO THE SATISFACTION OF THE ENGINEER AND THE MAINTENANCE OF TRAFFIC PLAN REVISED ACCORDINGLY. ANY COSTS OR DELAYS INCURRED AS A RESULT OF THE FAILURE OF THE SATISFACTION OF THE ENGINEER WILL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR.

PAYMENT FOR ALL THE ITEMS REQUIRED TO MAINTAIN TRAFFIC IN ACCORDANCE WITH THESE REQUIREMENTS IS INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

MAINTENANCE OF TRAFFIC

THE CONTRACTOR WILL CONDUCT WORK IN FOUR TYPES OF ROADWAYS. THE FIRST IS A FULL FREEWAY SECTION WITH CENTER BARRIER. THESE ROADWAYS/FREEWAYS ARE HEAVILY CONGESTED WITH NO WORKING AREA IN THE MEDIAN. NO WORK WILL BE ALLOWED IN THIS AREA WITHOUT LANE CLOSURES IN ACCORDANCE WITH THE OMUTCD AND THE PERMITTED LANE CLOSURE SCHEDULE (PLCS). THE MAJORITY OF THESE ROADWAYS ARE LOCATED NEAR THE DOWNTOWN BUSINESS DISTRICT. THE SECOND TYPE OF ROADWAY IS THE DIVIDED HIGHWAY. THESE ROADWAYS/FREEWAYS ARE TYPICALLY TWO TO FOUR LANES IN EACH DIRECTION DIVIDED BY A WIDE GRASSY MEDIAN. THESE AREAS PROVIDE SOME AREAS TO CONDUCT WORK IF THE TRAFFIC CONTROL MEETS THE OMUTCD REQUIREMENTS. THE THIRD TYPE OF ROADWAY WHERE WORK WILL OCCUR IS CITY STREETS WITH AT-GRADE INTERSECTIONS. THE CONTRACTOR WILL COORDINATE CLOSURES WITH ODOT AND THE CITY. THE FINAL TYPE OF ROADWAY IS ACCESS ROADS (I.E. RAMPS, FRONTAGE ROADS, ETC). THIS ROADWAY WILL REQUIRE EXTREME CAUTION AND TRAFFIC CONTROL MUST MEET ALL OMUTCD REQUIREMENTS.

AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS

SITES WITHIN THIS PROJECT MAY BE WITHIN THE INFLUENCE AREA OF A PUBLIC USE AIRPORT OR HELIPORT. THE CONTRACTOR IS ADVISED THAT NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED THE HEIGHT OF THE PERMANENT POLE (IN PLACE). IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THE PERMANENT POLE HEIGHT AT THESE SITES, THE CONTRACTOR IS ADVISED THAT COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA) WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT.

THE CONTRACTOR WILL BE REQUIRED TO SUBMIT FORM 7460-1 TO THE FAA. A COPY OF THE SUBMISSION AND TWO COPIES OF FORM 7460-1 SHALL BE FORWARDED TO THE ODOT OFFICE OF AVIATION. THE CONTRACTOR IS ADVISED THAT NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT, UNTIL A COPY OF THE FAA APPROVAL AND ODOT OFFICE OF AVIATION PERMIT HAS BEEN FURNISHED TO THE PROJECT ENGINEER.

FAA APPROVAL MAY TAKE UP TO 45 DAYS. ALL SUBMISSIONS SHALL BE DIRECTED TO THESE OFFICES:

EXPRESS PROCESSING CENTER
THE FEDERAL AVIATION ADMINISTRATION
OFFICE OF AVIATION
OHIO DEPARTMENT OF AVIATION
SOUTHWEST REGIONAL OFFICE
2829 WEST DUBLIN-GRANVILLE ROAD
COLUMBUS, OHIO 43235

CALCULATED KAO CHECKED WLJ

GENERAL NOTES

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

RESTRICTIONS

THE CONTRACTOR SHALL SUBMIT A SCHEDULE TO THE OHIO DEPARTMENT OF TRANSPORTATION INDICATING THE LOCATIONS AND DATES OF THE LANE CLOSURES AT LEAST THREE (3) DAYS PRIOR TO THE IMPLEMENTATION OF ANY SUCH CLOSURES. THE CONTRACTOR SHALL ALSO NOTIFY THE LOCAL LAW ENFORCEMENT AGENCIES OF LANE CLOSURES AT LEAST THREE (3) DAYS PRIOR TO IMPLEMENTATION. LANE CLOSURES MAY ONLY BE IMPLEMENTED AT THE TIMES PERMITTED BY THE "THE DISTRICT 12, DISTRICT 3, OR DISTRICT 4 PERMITTED LANE CLOSURE TIMES" LISTS. THE DISTRICT 12 LIST IS LOCATED ON THE DISTRICT 12 WEBSITE: WWW.DOT.STATE.OH.US/DISTRICTS/D12/HIGHWAYMANAGEMENT/PAGES/PERMITTEDLANECLOSURES.ASPX

CLOSURE TIMES FOR DISTRICT 12 WILL ONLY BE ALLOWED BY THE CLOSURE TIMES ON THE ABOVE WEBSITE AND NOT ON ANY OTHER WEBSITE. THE OTHER DISTRICT'S LANE CLOSURE LISTS CAN BE FOUND AT: HTTP://PLCM.DOT.STATE.OH.US/PLCM/PLCM_WEB.JSP. THE LATEST REVISION OF THE PERMITTED LANE CLOSURE LIST, AS OF 14 DAYS PRIOR TO THE BID DATE, SHALL BE IN EFFECT FOR THIS PROJECT. ANY ROADWAY NOT LISTED IN THE "DISTRICT 12, 3, OR 4 PERMITTED LANE CLOSURE TIMES" SHALL NOT HAVE ANY CLOSURES WEEKDAYS FROM 7AM-9AM AND 3PM-6PM.

1. LANE CLOSURE TIMES SHALL BE ADJUSTED FOR SPECIAL EVENTS THAT HAVE A SEATING CAPACITY OF 20,000 IN THE DOWNTOWN CLEVELAND AREA. THE CONTRACTOR SHALL NOT CLOSE A LANE(S) IN THE INBOUND DIRECTION 2 HOURS BEFORE AN EVENT AND IN THE OUTBOUND DIRECTION 2 HOURS AFTER AN EVENT ENDS. THIS NOTE ONLY APPLIES FOR LOCATIONS WITHIN 6 MILES FROM DOWNTOWN CLEVELAND (PUBLIC SQUARE) EXCEPT FOR I-77.

2. THERE SHALL BE NO LANE CLOSURES ON HOLIDAY WEEKENDS. THE FOLLOWING ARE CONSIDERED HOLIDAYS: MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING, CHRISTMAS, NEW YEARS, EASTER. NO LANE CLOSURES ARE ALLOWED AFTER 12 NOON ON THE DAY PRECEEDING A HOLIDAY. FOR HOLIDAY WEEKENDS NO LANE CLOSURES ARE ALLOWED AFTER 12 NOON ON THE DAY PRECEEDING THE HOLIDAY WEEKEND UNTIL 6 AM THE DAY AFTER THE HOLIDAY WEEKEND.

   EXAMPLE: HOLIDAY FALLS ON A MONDAY THEN NO LANE CLOSURES FROM 12 NOON ON FRIDAY UNTIL 6 AM TUESDAY.

3. SHOULDER CLOSURES SHALL ONLY BE ALLOWED AT THE TIMES SPECIFIED FOR LANE CLOSURES.

4. THE CONTRACTOR WILL BE ACCESSED ROAD USER COSTS IN THE AMOUNTED DETERMINED BY QUEWZ-98 FOR LANES THAT ARE CLOSED OUTSIDE OF THE TIMES GIVEN. QUEWZ-98 IS A COMPUTER PROGRAM DEVELOPED BY THE TEXAS TRANSPORTATION INSTITUTE IN 1993. IF DETERMINES ROAD USER COSTS FOR SECTIONS OF HIGHWAY. ROAD USER COSTS ARE VERY HIGH, MOST WILL BE $50 TO $100 PER MINUTE PER LANE, OR $3,000 TO $6,000 PER HOUR. IN SOME CASES ROAD USER'S COSTS MAY BE HIGHER.

5. THREE LANE CLOSURES MAY BE TAKEN ON ANY 4 LANE SECTION FROM 1:00 AM TO 5:00 AM.

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN ACCORDANCE WITH CMS 108.07.

LANE CLOSURES

ALL LANE CLOSURES AND RAMP CLOSURES SHALL BE CONSIDERED INCIDENTAL TO LUMP SUM BID ITEM 614 - MAINTAINING TRAFFIC.

SINGLE LANE CLOSURES SHALL BE MADE IN ACCORDANCE WITH MT-95.30 AND MEET THE FOLLOWING CONDITIONS:

A. 42-INCH (GRABBER OR EQUAL) CONES MAY BE SUBSTITUTED FOR DRUMS AT NIGHT IN TANGENT SECTIONS, IF THEY ARE EQUIPPED WITH A FOUR 6-INCH REFLECTORIZED STRIPED BANDS AND SPACED PER ODOT STANDARDS.

B. THE BARRIER TRUCK SHALL BE EQUIPPED WITH AN APPROVED ENERGY ABSORPTION DEVICE AND A TYPE C FLASHING ARROW PANEL.

C. ALL ADVANCED LEAD-IN SIGNS SHALL BE 48" X 48" AND INCLUDE TWO (2) 24" RED FLAGS AND FLASHING TYPE A LIGHTS.

D. A FLASHING ARROW PANEL (96" X 48") TYPE "C" SHALL BE USED IN ALL LANE CLOSURES IN ACCORDANCE WITH THE OMUTCD.

TWO-LANE CLOSURES SHALL BE MADE IN ACCORDANCE WITH FIGURE TA-37 OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. ITEMS A THROUGH D ABOVE, WHICH DEFINE THE CONDITIONS FOR A SINGLE LANE CLOSURE, SHALL APPLY TO THE TWO-LANE CLOSURE.

THE CENTER LANE OF ANY THREE OR MORE LANE DIRECTIONAL ROADWAY WITH A POSTED SPEED LIMIT GREATER THAN 35 MPH SHALL NOT BE CLOSED BY ITSELF. TRAFFIC SHALL BE PERMITTED TO PASS ON ONLY ONE SIDE OF THE WORK AREA UNDER THESE CONDITIONS.

WHEN ONE OR TWO LANES ARE CLOSED AT AN EXIT OR ENTRANCE RAMP, MT-98.10 AND MT-98.20 SHALL APPLY.

AN EXIT RAMP MAY BE CLOSED BY THE PROJECT ENGINEER IF, IN HIS/HER OPINION, ALLOWING TRAFFIC TO USE THE RAMP IS UNSAFE. ALL EXIT RAMP CLOSURES SHALL BE IN ACCORDANCE WITH ODOT STANDARD CONSTRUCTION DRAWING MT-98.20, LANE CLOSURE AT EXIT RAMP USING DRUMS. RAMPS SHALL ONLY BE CLOSED DURING NON-PEAK HOURS AND DETOURS SHALL BE POSTED. COST OF THE DETOUR SIGNS ARE PART OF THE LUMP SUM 614 MAINTAINING TRAFFIC. A TRUCK SHALL BE USED FOR PROTECTION WHEN WORKERS ARE SETTING ADVANCE WARNING SIGNS AND THE SHOULDER IS LESS THAN 10 FT.

THE PROTECTION VEHICLE SHALL BE EQUIPPED WITH AN APPROVED ENERGY ABSORPTION DEVICE THAT MEETS NCHRP 350, LEVEL III.

IN THE CASE OF TWO LANE EXIT RAMPS, ONLY ONE EXIT LANE SHALL BE MAINTAINED THROUGH A LANE CLOSURE.

ONLY ONE EXIT RAMP MAY BE CLOSED IN EACH DIRECTION AT ANY ONE TIME.

A WORK ZONE TRAFFIC SUPERVISOR IS REQUIRED ON SITE WHEN CLOSING LANES ON FREEWAYS OR RAMPS.

ENTRANCE RAMP CLOSURES

THE ENGINEER MAY REQUIRE AN ENTRANCE RAMP TO BE CLOSED IF, IN HIS/HER OPINION ALLOWING TRAFFIC TO MERGE INTO THE WORK AREA IS UNSAFE OR IF SIGNIFICANT CONGESTION DEVELOPS. THE RAMPS SHALL BE CLOSED IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING MT-98.29, EXIT RAMP CLOSURE.

SHORT TERM TOTAL CLOSURE

WHERE AN OVERHEAD SIGN STRUCTURE OR DYNAMIC MESSAGE SIGN IS TO BE REMOVED OR INSTALLED, ALL INTERSTATE LANES IN ONE DIRECTION OR ANY SURFACE STREET MAY BE CLOSED FOR A PERIOD NOT TO EXCEED 15 MINUTES. THE CLOSURE SHALL BE ACCORDING TO SHEET 47 AND THE FOLLOWING CONDITIONS SHALL APPLY:

TWO L.E.O.S WITH PATROL CARS SHALL STOP TRAFFIC BY TRAVELING SIDE BY SIDE AND COMING TO A ROLLING STOP AT THE NEAREST UPSTREAM EXIT RAMP GORE. PROVISIONS SHALL BE MADE TO ALLOW TRAFFIC TO EXIT AT THEIR DISCRETION. REENTRY SHALL NOT BE PERMITTED AT THE ADJACENT ENTRANCE RAMP, AND THEREFORE A FULL CLOSURE OF THAT RAMP USING R-75 SIGNS AND TYPE III BARRICADES TIGHTLY SPACED ACROSS THE ENTIRE EXIT RAMP SHALL BE REQUIRED. THE CONTRACTOR MAY PROVIDE A SUPPLEMENTAL VEHICLE(S) EQUIPPED WITH A FLASHING YELLOW BEACON TO ASSIST THE L.E.O.'S ON WIDE SECTIONS OF ROADWAY. L.E.O. #1 SHALL BE RESPONSIBLE FOR PHYSICALLY CLOSING THE ROADWAY WITH THE PATROL CAR AND FLARES. L.E.O. #2 SHALL BACKUP ALONG THE RIGHT BERM, STAYING APPROXIMATELY 500 TO 600 FEET AHEAD OF ANY STOPPED TRAFFIC. L.E.O. #2 SHALL BE VISIBLE TO APPROACHING TRAFFIC AT ALL TIMES. THE PORTABLE DYNAMIC MESSAGE SIGN SHALL BE TURNED ON AT THE BEGINNING OF THE CLOSURE, AND TURNED OFF AS SOON AS TRAFFIC IS MOVING NORMALLY.

SHOULDER WORK

FIGURE TA-4 OF THE OMUTCD SHALL APPLY TO ALL WORK THAT IS CONFINED TO THE SHOULDERS OR ANY OF THE RAMPS. THE FOLLOWING CONDITIONS SHALL APPLY:

CONE OR DRUM SPACING SHALL BE AT 40 FEET (APPROXIMATELY EACH SKIP DASH)

THE "EXPRESSWAY" VALUE SHALL BE USED FOR DISTANCES ON SIGN. THE SIGN SHALL BE PLACED AT THE BEGINNING OF A RAMP WHERE THE WORK AREA IS LESS THAN 1200 FEET FROM THE STREET (ENTRANCE RAMPS) OR THE EXIT GORE (EXIT RAMPS).

A PROTECTION VEHICLE EQUIPPED WITH AN APPROVED ENERGY ABSORPTION DEVICE SHALL BE USED.

THE ADJACENT LANE SHALL BE CLOSED WHEN THE BERM WIDTH IS LESS THAN 10 FEET.

LAW ENFORCEMENT OFFICER WITH PATROL CAR

IN ADDITION TO THE REQUIREMENTS OF 614 AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER (L.E.O.) AND OFFICIAL PATROL CAR WITH
WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS MAY BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED.

FOR EXIT RAMP CLOSURES: DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE.

SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

FOR SAFETY IN SOME AREAS BESIDES TRAFFIC CONTROL, AS DESCRIBED IN THE SPECIAL PROVISIONS.

LAW ENFORCEMENT OFFICERS (L.E.O.'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES. LAW ENFORCEMENT OFFICERS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR). THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR 2,000 HOURS:

THE HOURS PAID SHALL INCLUDE MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

IF CONTRACTORS WISH TO UTILIZE L.E.O.'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, THEY MAY DO SO AT THEIR OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614, MAINTAINING TRAFFIC.

THE CONTRACTOR SHALL PROVIDE THE SERVICES OF SPECIAL DUTY LAW ENFORCEMENT OFFICERS FOR THE PURPOSE OF ASSISTING WITH CLOSING AND OPENING LANES, AND GUIDING TRAFFIC THROUGH THE WORK AREA.
THE SERVICES OF A L.E.O. ARE NOT NORMALLY REQUIRED FOR LANE CLOSURES ON CROSS STREETS UNLESS THE TRAFFIC CONTROL EXTENDS THROUGH A SIGNALIZED INTERSECTION.
FLAGGERS SHALL BE USED TO DIRECT TRAFFIC WHEN WORKING ON TWO-LANE, TWO-WAY STREETS WITH ONE LANE CLOSED OR RESTRICTED BY EQUIPMENT.

FLAGGERS MAY BE UTILIZED IN RESIDENTIAL AREAS AND ON LOW VOLUME STREETS. L.E.O.'S SHALL BE USED FOR ALL OTHER STREETS, INCLUDING ALL INTERSECTION WORK.

TWO L.E.O.S OR FLAGGERS SHALL BE UTILIZED WHENEVER WORKING ON TWO-WAY STREETS WITH SPEED LIMITS OVER 25 MPH, WORK LIMITS LONGER THAN 50 FEET, OR THE SIGHT DISTANCE IS LIMITED BY CURVES, INTERSECTIONS, ETC. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES AT HIS EXPENSE. THEY SHALL CONFORM TO THE CONDITIONS THAT APPLY TO THE CONTRACTOR.

FLAGGING OPERATIONS SHALL ONLY BE PERMITTED AS LONG AS ALL TRAFFIC CONTROL IS IN PLACE ACCORDING TO TA-10 OF THE OMUTCD. THIS APPLIES TO BOTH FLAGGERS AND L.E.O.'S. FLAGGERS MAY BE UTILIZED IN PLACE OF L.E.O.'S ONLY IF THE L.E.O.'S ARE UNABLE TO WORK. FLAGGERS SHALL WEAR HARD HATS AND SAFETY VESTS AND SHALL USE STOP/SLOW PADDLES (NOT FLAGS) AND WALKIE TALKIES (WHEN NECESSARY).

IN ALL CASES WHERE APPROVAL OF ODOT IS REQUIRED, THE APPROVAL SHALL BE THROUGH THE ENGINEER. PAYMENT WILL BE INCLUDED IN THE LUMP SUM PRICE FOR ITEM 614, "MAINTAINING TRAFFIC".

THE CONTRACTOR IS RESPONSIBLE FOR THE ACTIONS OF THE L.E.O.. THEY SHALL CONFORM TO ALL CONDITIONS AND DIRECTIONS BY THE ENGINEER WHICH APPLY TO THE CONTRACTOR.

ALTERNATIVE METHODS

IF THE CONTRACTOR SO ELECTS, THEY MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THE ABOVE PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS FROM THE CHANGE. NO ALTERNATE PLAN SHALL BE PLACED IN EFFECT UNTIL APPROVAL HAS BEEN GRANTED BY THE ENGINEER AND ODOT IN WRITING.

FLOOD LIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHT TIME PERIODS WILL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE HIGHWAY. TO INSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER WILL DRIVE THROUGH THE WORK SITE EACH NIGHT, WHEN THE LIGHT IS IN PLACE AND OPERATIVE, PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING WILL BE ADJUSTED.

ELECTRICAL NOTE

THE INSTALLATION OF DISTRIBUTION OR DUCT CABLE IN CONDUIT WILL BE INCIDENTAL TO THE PAY ITEM FOR JACKING/BORING CONDUIT. THE INSTALLATION OF DISTRIBUTION OR DUCT CABLE IN TRENCH WILL BE PAID FOR UNDER THE PAY ITEM FOR TRENCHING. THE DISTRIBUTION OR DUCT CABLE MATERIAL WILL BE PROCURED UNDER THE PAY ITEM FOR DISTRIBUTION OR DUCT CABLE.

A MINIMUM OF 5 FEET SLACK CABLE SHALL BE COILED IN EACH ELECTRICAL PULL BOX. 10 FEET OF CABLE AT ALL TERMINATIONS AND 5 FEET OF CABLE FOR EACH PULL BOX HAS BEEN ACCOUNTED FOR IN THE CABLE QUANTITIES WITH AN ADDITIONAL 35' OF CABLE AT THE POWER SERVICE. NO EXTRA QUANTITY SHALL BE PROVIDED FOR UNDER THE DISTRIBUTION OR DUCT CABLE PAY ITEM. EXTRA CABLE NEEDED WILL BE CONSIDERED INCIDENTAL TO THE NECESSARY EQUIPMENT PAY ITEMS.

ALL TRENCHING FOR ELECTRICAL WORK SHALL BE A MINIMUM OF 48" DEEP. THIS ITEM WILL BE PAID SEPARATELY FROM THE CABLE AS TRENCH, 48" DEEP.

CONDUIT JACKED OR BORED UNDER ROADWAY SHALL BE PERPENDICULAR TO ROADWAY. THE CLEARANCE FROM THE FACE TO AN OBSTRUCTION, SUCH AS A UTILITY POLE OR ELECTRICAL SERVICE POLE, SHOULD BE A MINIMUM OF 1.5 FEET. THE MINIMUM CLEAR ZONE FOR HIGHWAYS WILL BE NO LESS THAN 30 FEET OR AS OTHERWISE ALLOWED PER THE LOCATION AND DESIGN MANUAL, VOLUME ONE "ROADWAY DESIGN."

POWER SERVICE

DESCRIPTION
THE ELECTRICAL POWER SERVICE SHALL BE ACCORDING TO THE STATE STANDARDS SPECIFICATION 625.15, 725.19 AND THE STATE STANDARD CONSTRUCTION DRAWING HL-40.10 AND HL-40.20 WITH THE EXCEPTIONS AS NOTED:

ALL ELECTRICAL SERVICES PROVIDED UNDER THIS ITEM SHALL BE METERED UNLESS NOTED OTHERWISE. ALL METER SOCKETS SHALL BE A MANUAL BYPASS METER SOCKET TYPE OR AS REQUIRED BY THE UTILITY. THE ELECTRICAL SERVICE SHALL BE PROVIDED BY THE UTILITY COMPANY AS INDICATED ON THE PLANS, AND SHALL BE CLOSELY COORDINATED WITH THE UTILITY'S REQUIREMENTS.

THE FUSIBLE ELECTRICAL DISCONNECT SWITCH IS TO BE UL LISTED FOR USE AS A SERVICE ENTRANCE WITH A FACTORY INSTALLED NEUTRAL ASSEMBLY. THE SWITCH IS TO BE OF THE HEAVY DUTY TYPE, NEMA 3R, SINGLE THROW, 2-POLE, AND RATED FOR 60A OR 100A AT 240V OR AS INDICATED ON THE PLANS. THE LUGS IN THE DISCONNECT SHALL BE SIZED TO TERMINATE THE CABLE SIZES AS SHOWN ON THE PLANS. THE DISCONNECT SWITCHES SHALL INCLUDE WATERTIGHT HUBS AND SHALL BE CAPABLE OF BEING LOCKED IN BOTH THE OFF AND ON POSITION. PROVIDE TWO PADLOCKS FOR EACH SWITCH. PADLOCKS ARE TO BE IN ACCORDANCE WITH THE PADLOCK SPECIAL PROVISIONS AND ARE PAID SEPARATELY. THE FUSES ARE AS INDICATED ON THE PLANS AND SHALL BE EITHER 30A, OR 80A, CLASS R FUSES, WITH CLASS R FUSE CLIPS. THE FUSES ARE CONSIDERED INCIDENTAL TO THE POWER SERVICE. EACH DISCONNECT WILL HAVE THE DEVICE NUMBER THAT IT OPERATES ETCHED INTO IT.

FOR A DUAL SERVICE POINT, A DISTRIBUTION PANEL SHALL BE MOUNTED IN PLACE OF A DISCONNECT. A DUAL SERVICE POINT IS DEFINED AS A SERVICE POINT THAT FEEDS TWO DIFFERENT DEVICES WITH TWO SEPARATE SETS OF FEEDERS. THE PANEL ENCLOSURE SHALL BE RATED NEMA 4X AND SIZED APPROPRIATELY FOR THE CONDUCTORS AS SHOWN ON THE PLANS. THE PANEL AND ENCLOSURE SHALL BE SERVICE ENTRANCE RATED. THE PANEL SHALL BE ABLE TO BE LOCKED WITH A PADLOCK. THE PADLOCK SHALL BE IN ACCORDANCE WITH THE PADLOCK SPECIAL PROVISIONS AND ARE PAID SEPARATELY. THE SERVICE PANEL SHALL HAVE A 100 AMP MAIN BREAKER WITH TWO 2-POLE, 600V BOLT-ON TYPE BRANCH CIRCUIT BREAKERS DESCRIBED IN THE OVERCURRENT PROTECTIVE DEVICES SECTION OF THE SPECIFICATIONS. SITE 27101 SHALL HAVE A 120A MAIN DISCONNECT. THE CIRCUIT BREAKERS SHALL BE SIZED ACCORDING TO PLAN.

FOR THE 480V SERVICE POINT, AN EXTRA NON-FUSIBLE DISCONNECT WILL BE REQUIRED IN ADDITION TO THE PRIMARY AND SECONDARY DISCONNECTS, AS SHOWN IN THE DETAILS. THE TRANSFORMER THAT IS REQUIRED FOR THE 480V SERVICE SHALL BE PAID FOR SEPARATELY.

THE PAY ITEM POWER SERVICE DOES NOT REQUIRE THE FURNISHING OR INSTALLATION OF A LIGHTING CONTACTOR, PHOTOELECTRIC CELL, OR HAND-OFF-AUTOMATIC SWITCH FOR CONTROL OF CONTACTOR, OR OVER CURRENT PROTECTION DEVICES FOR LIGHTING CIRCUITS.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CLEAR AND OR TRIM ANY TREES OR BRUSH FOR THE INSTALLATION OF THE POWER SERVICE AND ALL RELATING MATERIALS, INCLUDING THE AERIAL OR UNDERGROUND FEED FROM THE UTILITY POLE TO THE SERVICE POLE. THE TRIMMING AND CLEARING WILL BE DONE AT THE UTILITIES DISCRETION. NO EXTRA PAYMENT WILL BE MADE FOR TREE OR BRUSH CLEARING AND TRIMMING FOR THE INSTALLATION OF POWER SERVICES.

TERMINATIONS, CONNECTIONS, FITTINGS, SWITCHES, DISCONNECTS, GROUND RODS JUNCTION BOXES, WEATHER HEADS, METER SOCKETS, CABLES, CONDUITS DOWN TO FIRST PULL BOX, WOOD POLES, EQUIPMENT STANDS, ALUMINUM CHANNELS, BRACES, AND MOUNTING SURFACES, AND OTHER MISCELLANEOUS ITEMS ETC. SHALL BE INCIDENTAL TO THIS WORK AND NO SEPARATE PAYMENT WILL BE MADE.

PAYMENT

THE ELECTRICAL POWER SERVICE WILL BE PAID FOR AS:

POWER SERVICE, TYPE A PAID FOR UNDER POWER SERVICE, AS PER PLAN A

POWER SERVICE, TYPE A, DUAL PAID FOR UNDER POWER SERVICE, AS PER PLAN B

POWER SERVICE, TYPE B PAID FOR UNDER POWER SERVICE, AS PER PLAN C

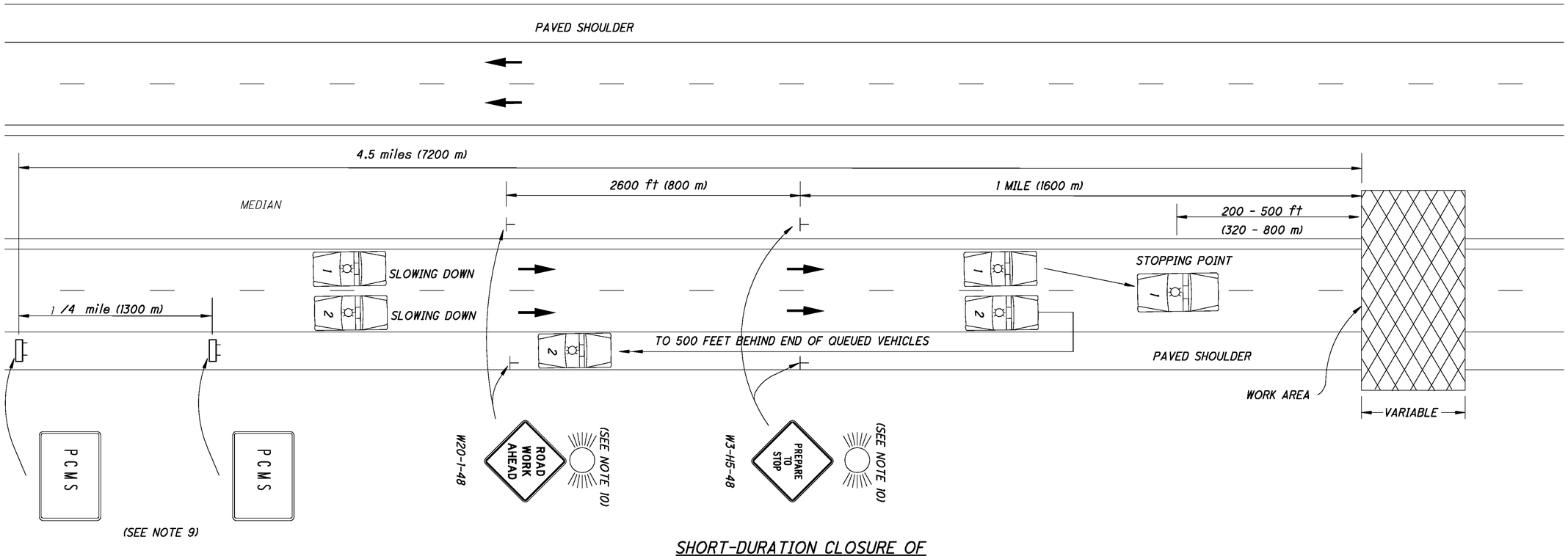
POWER SERVICE, TYPE C PAID FOR UNDER POWER SERVICE, AS PER PLAN D

POWER SERVICE, TYPE C, DUAL PAID FOR UNDER POWER SERVICE, AS PER PLAN E

CALCULATED KAO
CHECKED WLJ

GENERAL NOTES

VAR-CLEVELAND
FREEWAY MANAGEMENT
SYSTEM



SHORT-DURATION CLOSURE OF MULTI-LANE DIVIDED HIGHWAY

1. THIS TYPE OF HIGHWAY CLOSURE SHALL BE USED FOR ALL CONSTRUCTION, MAINTENANCE AND UTILITY OPERATIONS WHEN THE DURATION OF CLOSURE WILL NOT EXCEED 15 MINUTES.

2. A MINIMUM OF TWO LAW ENFORCEMENT OFFICERS (LEO) WITH PATROL CARS PER DIRECTION SHALL BE PROVIDED TO BLOCK TRAFFIC AND PACE MOTORISTS TO A STOP. THE NUMBER OF PATROL CARS SHALL EQUAL THE NUMBER OF LANES CLOSED ON THE HIGHWAY.

3. PATROL CARS, WITH LIGHTS FLASHING, SHOULD ENTER THE STREAM OF TRAFFIC AT APPROXIMATELY THREE (3) MILES BEFORE THE POINT OF CLOSURE. AT APPROXIMATELY TWO (2) MILES BEFORE THE POINT OF CLOSURE, THEY SHOULD BEGIN THE GRADUAL SLOW DOWN. TRAFFIC SHALL BE BROUGHT TO A COMPLETE STOP A SAFE DISTANCE, BETWEEN 200 FEET AND 500 FEET, FROM THE WORK AREA. THIS SLOWING OPERATION SHALL TAKE NO MORE THAN TEN (10) MINUTES. AFTER TRAFFIC HAS BEEN STOPPED, ONE PATROL CAR SHALL TRAVEL ALONG THE ROADWAY SHOULDER 500 FEET BEHIND THE END OF THE QUEUED VEHICLES.

4. THE CONTRACTOR SHALL NOT BEGIN WORK UNTIL TRAFFIC HAS BEEN BROUGHT TO A COMPLETE STOP.

5. ALL ENTRANCE RAMPS LOCATED BETWEEN THE STOPPED TRAFFIC AND THE WORK AREA SHALL BE CLOSED.

6. AFTER THE HIGHWAY HAS BEEN CLOSED AND REOPENED VIA THIS PROCEDURE, BOTH OF THE FOLLOWING REQUIREMENTS SHALL HAVE BEEN MET BEFORE IMPLEMENTATION OF ANOTHER SHORT DURATION CLOSURE, EXCEPT WITH THE APPROVAL OF THE ENGINEER:
   A. A MINIMUM PERIOD OF 15 MINUTES SHALL HAVE ELAPSED
   B. THE QUEUED TRAFFIC SHALL HAVE DISSIPATED

7. THIS TIME FRAME FOR STOPPING TRAFFIC SHALL BE SPECIFIED IN THE PLANS OR BY THE DISTRICT DEPUTY DIRECTOR.

8. THE PUBLIC SHALL BE GIVEN ADVANCE NOTICE OF THE UPCOMING CLOSURE BY PROVIDING PORTABLE CHANGEABLE MESSAGE SIGNS AT THE SITE AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED CLOSING. CLOSURE INFORMATION SHOULD ALSO BE PROVIDED THROUGH THE NEWS MEDIA.

9. TWO ODOT APPROVED PORTABLE CHANGEABLE MESSAGE SIGNS, CLASS 1, SHALL BE PROVIDED. THE FIRST MESSAGE SIGN SHALL BE PLACED AT APPROXIMATELY 4.5 MILES IN ADVANCE OF THE CLOSURE OR AS DIRECTED BY THE ENGINEER. THE SECOND MESSAGE SIGN SHALL BE PLACED AT APPROXIMATELY ONE QUARTER MILE BEYOND THE FIRST MESSAGE SIGN. THE FIRST MESSAGE SIGN SHALL READ ROAD CLOSED AHEAD (0.8 SEC.), PREPARE TO STOP (0.8 SEC.), (BLACK SCREEN FOR 0.3 SEC.) THE SECOND MESSAGE SIGN SHALL READ ROAD CLOSED AHEAD (0.8 SEC.), "EXPECT 30 MIN. DELAY" (0.8 SEC.), (BLACK SCREEN FOR 0.3 SEC.)

10. THE CONTRACTOR SHALL ERECT AND MAINTAIN 48 INCH "ROAD WORK AHEAD" AND PREPARE TO STOP" SIGNS ON EACH SIDE OF THE HIGHWAY. DURING NIGHT OPERATIONS, EACH SIGH SHALL BE ILLUMINATED WITH ONE (1) TYPE A FLASHING WARNING LIGHT OR TWO (2) FLARES. THE FLARES SHALL BE REPLACED IF THEY BURN OUT.

NOTE:

SEE SPECIAL PROVISIONS AND ODOT STANDARD DRAWINGS FOR ADDITIONAL MAINTENANCE OF TRAFFIC NOTES AND DETAILS.

CALCULATED STS
CHECKED JDG

MAINTENANCE OF TRAFFIC DETAILS

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

SHEET NUMBER												PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
53	56	59	62																
																		ROADWAY	
														201	11000	LUMP		CLEARING AND GRUBBING	
990														202	30700	990	FT	CONCRETE BARRIER REMOVED	
62.5														202	38000	62.5	FT	GUARDRAIL REMOVED	
17														202	42207	17	EACH	ANCHOR ASSEMBLY REMOVED, AS PER PLAN	44A
573														202	75711	573	FT	EXISTING CONDUIT CLEANED, AS PER PLAN	44
5097														606	13000	5097	FT	GUARDRAIL, TYPE 5	
30														606	22010	30	EACH	ANCHOR ASSEMBLY, TYPE E-98	
21														606	26500	21	EACH	ANCHOR ASSEMBLY, TYPE T	
3														606	35000	3	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
5														606	35100	5	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2	
1														606	60010	1	EACH	IMPACT ATTENUATOR, TYPE 1-98 (BIDIRECTIONAL)	
25														606	98000	25	FT	GUARDRAIL MISC.: GUARDRAIL REMOVED AND REPLACED, AS PER PLAN	45
168														607	20001	168	FT	FENCE, TYPE CL, AS PER PLAN	
528														607	23001	528	FT	FENCE, TYPE CLT, AS PER PLAN	
40														609	24510	40	FT	CURB, TYPE 4-C	
12.5														622	10160	12.5	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	
22														622	10200	22	EACH	BARRIER TRANSITION	
880														622	23401	880	FT	CONCRETE BARRIER, TYPE B, AS PER PLAN	
2														622	25000	2	EACH	CONCRETE BARRIER END SECTION, TYPE D	
																		TRAFFIC SURVEILLANCE	
213														625	22900	213	FT	NO. 1/0 AWG 5000 VOLT DISTRIBUTION CABLE	
48580														625	23200	48580	FT	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	
2932														625	23300	2932	FT	NO. 2 AWG 5000 VOLT DISTRIBUTION CABLE	
37629														625	23302	37629	FT	NO. 6 AWG 5000 VOLT DISTRIBUTION CABLE	
85747														625	23308	85747	FT	DISTRIBUTION CABLE, MISC.: NO. 8 AWG 5000 VOLT	45
	9718													625	23308	9718	FT	DISTRIBUTION CABLE, MISC.: NO. 4/0 AWG 5000 VOLT	45
	150													625	23308	150	FT	DISTRIBUTION CABLE, MISC.: AERIAL CABLE WITH FOUR NO. 4 AWG 5000 VOLT CABLES	45
	2311													625	24350	2311	FT	1-1/2" DUCT CABLE WITH FOUR NO. 4 AWG 5000 VOLT CABLES	
	2876													625	24400	2876	FT	DUCT CABLE, MISC.: 1-1/2" DUCT CABLE WITH FOUR NO. 8 AWG 5000 VOLT CABLES	45
	2389													625	24400	2389	FT	DUCT CABLE, MISC.: 1-1/2" DUCT CABLE WITH FOUR NO. 2 AWG 5000 VOLT CABLES	
	2166													625	24400	2166	FT	DUCT CABLE, MISC.: 2" DUCT CABLE WITH FOUR NO. 1/0 AWG 5000 VOLT CABLES	45
	1086													625	24400	1086	FT	DUCT CABLE, MISC.: 2-1/2" DUCT CABLE WITH FOUR NO. 3/0 AWG 5000 VOLT CABLES	45
	8479													625	24400	8479	FT	DUCT CABLE, MISC.: 2-1/2" DUCT CABLE WITH FOUR NO. 4/0 AWG 5000 VOLT CABLES	45
	1334													625	25400	1334	FT	CONDUIT, 2", 725.04	
	11286													625	25901	11286	FT	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, AS PER PLAN, 3" SCHEDULE 80	44
	74062													625	25920	74062	FT	CONDUIT, MISC.: 2", 725.05, SCHEDULE 40	45
	8731													625	25920	8731	FT	CONDUIT, MISC.: 3", 725.05, SCHEDULE 40	45
	1677													625	25920	1677	FT	CONDUIT, MISC.: 4", 725.05, SCHEDULE 40	45
	6462													625	25920	6462	FT	CONDUIT, MISC.: INSTALL THREE 4/0 ELECTRICAL CABLES IN EXISTING CONDUIT	45
	506													625	25920	506	FT	CONDUIT, MISC.: 3", CONDUIT FIBERGLASS REINFORCED, ATTACHED TO STRUCTURE	44
	144													625	25920	144	FT	CONDUIT, MISC.: EXISTING CONDUIT REPAIR	44
	61784													625	29200	61784	FT	TRENCH, 48" DEEP	
	358													625	29400	358	FT	TRENCH IN PAVED AREA	
	105													625	29700	105	FT	TRENCH, MISC.: REMOVE AND REPLACE CLASS C ROCK	46
	399													625	30701	399	EACH	PULL BOX, 725.08, 18", AS PER PLAN A	46
	340													625	30701	340	EACH	PULL BOX, 725.08, 18", AS PER PLAN B	46
	81													625	34001	81	EACH	POWER SERVICE, AS PER PLAN A	16, 46
	3													625	34001	3	EACH	POWER SERVICE, AS PER PLAN B	17, 46
	3													625	34001	3	EACH	POWER SERVICE, AS PER PLAN C	16, 46
		16												625	34001	16	EACH	POWER SERVICE, AS PER PLAN D	17, 46

CALCULATED GM
CHECKED JRL

GENERAL SUMMARY
DISTRICT 12 - 100% BOND

VAR-CLEVELAND
FREEWAY MANAGEMENT
SYSTEM

SHEET NUMBER												PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
53	56	59	62																
																		TRAFFIC SURVEILLANCE CONT.	
		2												625	34001	2	EACH	POWER SERVICE, AS PER PLAN E	17, 46
		5												625	34300	5	EACH	TRANSFORMER PAD, CONCRETE	
		3												625	98000	3	EACH	LIGHTING, MISC.: CORE DRILL CONCRETE WALL	14
		12												630	70070	12	EACH	CONCRETE MEDIAN BARRIER SIGN,OVERHEAD SIGN SUPPORT FOUNDATION, DMS TRUSS	
		54												630	70080	54	EACH	OVERHEAD SIGN SUPPORT FOUNDATION, DMS TRUSS	
		9												630	74500	9	EACH	OVERHEAD SIGN SUPPORT, MISC.: DMS PEDESTAL	15A
		10												630	74500	10	EACH	OVERHEAD SIGN SUPPORT, MISC.: DMS TRUSS SUPPORT, 80' MAXIMUM	40, 41
		10												630	74500	10	EACH	OVERHEAD SIGN SUPPORT, MISC.: DMS TRUSS SUPPORT, 81' TO MAXIMUM 150'	42, 42A
		9												630	84511	9	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION, AS PER PLAN, DMS PEDESTAL	
		29												631	90201	29	EACH	CHANGEABLE MESSAGE SIGN, UNLIMITED MESSAGE, AS PER PLAN A	28, 45
		4												631	94200	4	EACH	REMOVAL OF LUMINARE AND DISPOSAL	
		4												631	94408	4	EACH	REMOVAL OF SIGN WIRING AND DISPOSAL	
		9518												632	62810	9518	FT	INTERCONNECT CABLE, MISC.: COMPOSITE CABLE	45
		154												632	62810	154	FT	INTERCONNECT CABLE, MISC.: COMPOSITE CABLE IN EXISTING CONDUIT	45
		3675												632	62810	3675	FT	INTERCONNECT CABLE, MISC.: INNERDUCT 1"	
		156												632	62810	156	FT	INTERCONNECT CABLE, MISC.: INNERDUCT 2"	45
		7												632	62820	7	EACH	INTERCONNECT, MISC.: HIGHWAY ADVISORY RADIO	21
														632	62830	LUMP		INTERCONNECT, MISC.: TRAINING	45
		8												632	89300	8	EACH	WOOD POLE	
		83												632	90400	83	EACH	SIGNALIZATION, MISC.: CCTV POLE CAMERA ASSEMBLY	23
		82												632	90400	82	EACH	SIGNALIZATION, MISC.: CCTV POLE FOUNDATION, TYPE A (70 FT.)	45
		1												632	90400	1	EACH	SIGNALIZATION, MISC.: CCTV POLE FOUNDATION, TYPE B (50 FT.)	45
														632	90400	20	EACH	SIGNALIZATION, MISC.: FOUNDATION TEST HOLE	44
		82												632	90400	82	EACH	SIGNALIZATION, MISC.: CCTV POLE, TYPE A (70 FT), WITH LOWERING DEVICE	15, 45
		82												632	90400	82	EACH	SIGNALIZATION, MISC.: AA1 CCTV POLE, TYPE A (70 FT), W/ LOWERING DEVICE (CONCRETE)	45
			1											632	90400	1	EACH	SIGNALIZATION, MISC.: CCTV POLE, TYPE B (50 FT), WITH LOWERING DEVICE	15, 22
			1											632	90400	1	EACH	SIGNALIZATION, MISC.: AA1 CCTV POLE, TYPE B (50 FT), W/ LOWERING DEVICE (CONCRETE)	45
			5											632	90400	5	EACH	SIGNALIZATION, MISC.: EXISTING HIGHWAY ADVISORY RADIO TO BE REMOVED FOR STORAGE	45
			26											632	90400	26	EACH	SIGNALIZATION, MISC.: VEHICLE DETECTION UNIT	24, 25
			6											632	90400	6	EACH	SIGNALIZATION, MISC.: VEHICLE DETECTION ASSEMBLY	43
			6											632	90400	6	EACH	SIGNALIZATION, MISC.: AA1 VEHICLE DETECTION ASSEMBLY (CONCRETE)	45
			4											632	90400	4	EACH	SIGNALIZATION, MISC.: TRANSFORMER, GENERAL PURPOSE, 7.5KVA, NON-VENTILATED TYPE	18
			1											632	90400	1	EACH	SIGNALIZATION, MISC.: TRANSFORMER, GENERAL PURPOSE, 25KVA, NON-VENTILATED TYPE	18
			53											632	90400	53	EACH	SIGNALIZATION, MISC.: PURCELL COMMUNICATION CABINET, INSTALLATION ONLY	45
			30											632	90400	30	EACH	SIGNALIZATION, MISC.: UNIVERSAL DATA ENVIRONMENTAL ENCLOSURE,	45
																		SMART JACK, INSTALLATION ONLY	
																		TRAFFIC CONTROL	
														630	07600	928	FT	GROUND MOUNTED SUPPORT, W10 X 12 BEAM	44
			16											630	75000	16	EACH	SIGN ATTACHMENT ASSEMBLY	
			1											630	77400	1	EACH	OVERPASS STRUCTURE MOUNTED SIGN SUPPORT, TYPE TC-18.26, DESIGN 4	
			531											630	80224	531	SQ FT	SIGN, OVERHEAD EXTRUSHEET	
														630	81200	1595	SQ FT	SIGN ERECTED, EXTRUSHEET	44
			58											630	84500	58	EACH	GROUND MOUNTED BEAM SUPPORT FOUNDATION	44
			1											630	85000	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE	
			1											630	85101	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION, AS PER PLAN	45
			1											630	85500	1	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND STORAGE	
			4											630	86102	4	EACH	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	
			1											630	86311	1	EACH	REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL, AS PER PLAN	45
			12											630	87100	12	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION	
			6											630	87400	6	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	
			8											630	88100	8	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND STORAGE, TYPE TC-12.30	

CALCULATED GM
CHECKED JRL

GENERAL SUMMARY
DISTRICT 12 - 100% BOND

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

SHEET NUMBER												PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
53	56	59	62																
																		TRAFFIC CONTROL CONT.	
			1											630	88200	1	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND STORAGE, TYPE TC-9.30	
			2											630	88500	2	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND STORAGE, TYPE TC-15.115	
			2											630	89808	2	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-18.26	
																		MAINTENANCE OF TRAFFIC	
														103	05000	LUMP		PREMIUM FOR CONTRACT PERFORMANCE BOND AND FOR PAYMENT BOND	
														614	11100	2000	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	46
														614	18510	12	MONTH	PORTABLE CHANGEABLE MESSAGE SIGN	45
														614	11000	LUMP		MAINTAINING TRAFFIC	
														619	16020	36	MONTH	FIELD OFFICE, TYPE C	
														623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
														624	10000	LUMP		MOBILIZATION	

CALCULATED GM
CHECKED JRL

GENERAL SUMMARY
DISTRICT 12 - 100% BOND

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

SHEET NO.		202	202	202	202	606	606	606	606	606	606	606	607	607	609	622	622	622	622	625	625	625	625	625
		CONCRETE BARRIER REMOVED	GUARDRAIL REMOVED	ANCHOR ASSEMBLY REMOVED, AS PER PLAN	EXISTING CONDUIT CLEANED, AS PER PLAN	GUARDRAIL, TYPE 5	ANCHOR ASSEMBLY, TYPE E-98	ANCHOR ASSEMBLY, TYPE T	BRIDGE TERMINAL ASSEMBLY, TYPE 1	BRIDGE TERMINAL ASSEMBLY, TYPE 2	IMPACT ATTENUATOR, TYPE 1-98 (BIDIRECTIONAL)	GUARDRAIL MISC.: GUARDRAIL REMOVED AND REPLACED, AS PER PLAN	FENCE, TYPE CL, AS PER PLAN	FENCE, TYPE CLT, AS PER PLAN	CURB, TYPE 4-C	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	BARRIER TRANSITION	CONCRETE BARRIER, TYPE B, AS PER PLAN	CONCRETE BARRIER END SECTION, TYPE D	NO. 1/0 AWG 5000 VOLT DISTRIBUTION CABLE	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	NO. 2 AWG 5000 VOLT DISTRIBUTION CABLE	NO. 6 AWG 5000 VOLT DISTRIBUTION CABLE	DISTRIBUTION CABLE, MISC.: NO. 8 AWG 5000 VOLT
		FT	FT	EACH	FT	FT	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	FT	EACH	FT	EACH	FT	FT	FT	FT	FT
64																								
65			62.5			162.5	1	1	1	1					20	12.5			2					
66				1		25	1														9204			
67																					672			
68																					1000			
69													24											1840
70																								
71																					432			
72		90											24				2	80						
73																					1508			
74																								1816
75		90															2	80				1576		
76																								
77																								4764
78																					1668			
79				1		150	1						24								364			1544
80						237.5	1	1						24							8532			
81				2		100	2																	
82																					1340			
83																								856
84														24							756			
85														24										2936
86						137.5	1	1																
87																					320		4936	
88																								
89																								1672
90																								
91																							3853	
92		90															2	80						
93																					1168			
94																					824			
95				1		107	1																	
96																					952			
97																								1488
98																					2024			
99																					860			
100																								4184
101																								1244
102																							4636	
103																					748			
104																								3552
105																								2724
106						125	1	1																
107																								420
108						150		1		1														652
109						75		1		1		25												3248
110						187.5	1	1																808
111																								2584
112				1		127.5	1																	2480
113						225	1	1														1084		
114													24											552
115														24										992
SUBTOTALS																								
		270	62.5	6	0	1809.5	12	8	1	3	0	25	96	96	20	12.5	6	240	2	0	32372	2660	13425	40356

CALCULATED GM
CHECKED JRL

ITS SUBSUMMARY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

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SHEET NO.		202	202	202	202	606	606	606	606	606	606	606	607	607	609	622	622	622	622	625	625	625	625	625
		CONCRETE BARRIER REMOVED	GUARDRAIL REMOVED	ANCHOR ASSEMBLY REMOVED, AS PER PLAN	EXISTING CONDUIT CLEANED, AS PER PLAN	GUARDRAIL, TYPE 5	ANCHOR ASSEMBLY, TYPE E-98	ANCHOR ASSEMBLY, TYPE T	BRIDGE TERMINAL ASSEMBLY, TYPE 1	BRIDGE TERMINAL ASSEMBLY, TYPE 2	IMPACT ATTENUATOR, TYPE 1-98 (BIDIRECTIONAL)	GUARDRAIL MISC.: GUARDRAIL REMOVED AND REPLACED, AS PER PLAN	FENCE, TYPE CL, AS PER PLAN	FENCE, TYPE CLT, AS PER PLAN	CURB, TYPE 4-C	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	BARRIER TRANSITION	CONCRETE BARRIER, TYPE B, AS PER PLAN	CONCRETE BARRIER END SECTION, TYPE D	NO. 1/0 AWG 5000 VOLT DISTRIBUTION CABLE	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	NO. 2 AWG 5000 VOLT DISTRIBUTION CABLE	NO. 6 AWG 5000 VOLT DISTRIBUTION CABLE	DISTRIBUTION CABLE, MISC.: NO. 8 AWG 5000 VOLT
		FT	FT	EACH	FT	FT	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	FT	EACH	FT	EACH	FT	FT	FT	FT	FT
116														24										692
117						50		1		1														1236
118																								500
119																								2460
120		90		1		175	1							24			2	80						
121				1		100	1							24										
122																								1380
123																								
124		90															2	80						420
125																								484
126														24										1608
127				1		162.5	1							24										556
128																					388			1312
129		90				137.5	1	1						24			2	80			260			
130														24										420
131														24										
132																					288		6216	
133														24										4356
134																					288			2688
135														24										
136						200	1	1						24										
137				1		87.5	1														272			
138														24							248			1828
139																					260			660
140																								
141																								2968
142				1	539	125		2	1											213				
143																					308			492
144					34																308			1908
145						400	2	2																
146				1		187.5	1															272		1304
147				1		62.5	1							24										1012
148																								500
149						425		2			1													
150						225	1	1						24									6976	
151		90											24				2	80						
152																								3012
153				1		137.5	1														276			1028
154				1		62.5	1																	2420
155		90				200	1	1									2	80						
156																							6192	
157														24									4820	
158																								1924
159				1		250	2	1					24											
160		90															2	80						
161						187.5	1	1	1	1					20									704
162														24										632
163																								
164														24										1428
165																								820
166		90												24			2	80			820			
167																					11492			
SUBTOTALS																								
		630	0	10	573	3175	17	13	2	2	1	0	48	432	20	0	14	560	0	213	15208	272	24204	40752

CALCULATED GM
CHECKED JRL

ITS SUBSUMMARY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

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SHEET NO.		202	202	202	202	606	606	606	606	606	606	606	607	607	609	622	622	622	622	625	625	625	625	625
		CONCRETE BARRIER REMOVED	GUARDRAIL REMOVED	ANCHOR ASSEMBLY REMOVED, AS PER PLAN	EXISTING CONDUIT CLEANED, AS PER PLAN	GUARDRAIL, TYPE 5	ANCHOR ASSEMBLY, TYPE E-98	ANCHOR ASSEMBLY, TYPE T	BRIDGE TERMINAL ASSEMBLY, TYPE 1	BRIDGE TERMINAL ASSEMBLY, TYPE 2	IMPACT ATTENUATOR, TYPE 1-98 (BIDIRECTIONAL)	GUARDRAIL MISC.: GUARDRAIL REMOVED AND REPLACED, AS PER PLAN	FENCE, TYPE CL, AS PER PLAN	FENCE, TYPE CLT, AS PER PLAN	CURB, TYPE 4-C	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	BARRIER TRANSITION	CONCRETE BARRIER, TYPE B, AS PER PLAN	CONCRETE BARRIER END SECTION, TYPE D	NO. 1/0 AWG 5000 VOLT DISTRIBUTION CABLE	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	NO. 2 AWG 5000 VOLT DISTRIBUTION CABLE	NO. 6 AWG 5000 VOLT DISTRIBUTION CABLE	DISTRIBUTION CABLE, MISC.: NO. 8 AWG 5000 VOLT
		FT	FT	EACH	FT	FT	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	FT	EACH	FT	EACH	FT	FT	FT	FT	FT
168													24											3796
169																								
170		90															2	80			364			
171																					248			843
172				1		112.5	1														388			
173																								
SUBTOTALS THIS SHEET																								
		90	0	1	0	112.5	1	0	0	0	0	0	24	0	0	0	2	80	0	0	1000	0	0	4639
SUBTOTALS SHEET 51																								
		270	62.5	6	0	1809.5	12	8	1	3	0	25	96	96	20	12.5	6	240	2	0	32372	2660	13425	40356
SUBTOTALS SHEET 52																								
		630	0	10	573	3175	17	13	2	2	1	0	48	432	20	0	14	560	0	213	15208	272	24204	40752
TOTALS CARRIED TO THE GENERAL SUMMARY																								
		990	62.5	17	573	5097	30	21	3	5	1	25	168	528	40	12.5	22	880	2	213	48580	2932	37629	85747

CALCULATED GM
CHECKED JRL

ITS SUBSUMMARY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

SHEET NO.	625 DISTRIBUTION CABLE, MISC.: NO. 4/0 AWG 5000 VOLT FT	625 DISTRIBUTION CABLE, MISC.: AERIAL CABLE WITH FOUR NO. 4 AWG 5000 VOLT CABLES FT	625 1-1/2" DUCT CABLE WITH FOUR NO. 4 AWG 5000 VOLT CABLES FT	625 DUCT CABLE, MISC.: 1-1/2" DUCT CABLE WITH FOUR NO. 8 AWG 5000 VOLT CABLES FT	625 DUCT CABLE, MISC.: 1-1/2" DUCT CABLE WITH FOUR NO. 2 AWG 5000 VOLT CABLES FT	625 DUCT CABLE, MISC.: 2" DUCT CABLE WITH FOUR NO. 1/0 AWG 5000 VOLT CABLES FT	625 DUCT CABLE, MISC.: 2-1/2" DUCT CABLE WITH FOUR NO. 3/0 AWG 5000 VOLT CABLES FT	625 DUCT CABLE, MISC.: 2-1/2" DUCT CABLE WITH FOUR NO. 4/0 AWG 5000 VOLT CABLES FT	625 CONDUIT, 2", 725.04 FT	625 CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, AS PER PLAN, SCHEDULE 80 FT	625 CONDUIT, MISC.: 2", 725.05, SCHEDULE 40 FT	625 CONDUIT, MISC.: 3", 725.05, SCHEDULE 40 FT	625 CONDUIT, MISC.: 4", 725.05, SCHEDULE 40 FT	625 CONDUIT, MISC.: INSTALL THREE 4/0 ELECTRICAL CABLES IN EXISTING CONDUIT FT	625 CONDUIT, MISC.: 3", CONDUIT FIBERGLASS REINFORCED, ATTACHED TO STRUCTURE FT	625 CONDUIT, MISC.: EXISTING CONDUIT REPAIR FT	625 TRENCH, 48" DEEP FT	625 TRENCH IN PAVED AREA FT	625 TRENCH, MISC.: REMOVE AND REPLACE CLASS C ROCK FT	625 PULL BOX, 725.08, 18", AS PER PLAN A EACH	625 PULL BOX, 725.08, 18", AS PER PLAN B EACH	625 POWER SERVICE, AS PER PLAN A EACH	625 POWER SERVICE, AS PER PLAN B EACH	625 POWER SERVICE, AS PER PLAN C EACH
64			552					1777									2234			4			1	
65								428									413			2				
66										132	4320						2170			8	8	1		
67											246						133			2	2	1		
68											410						215			2	2	1		
69										108	1187					124	898			4	5	1		
70																								
71											126						73			2	2	1		
72			221														171			3		1		
73										110	534						277			4	4	1		
74										75	648						339			3	3	1		
75										203	2104	45					1810			3	7	1		
76																								
77											1950		156				1068			5	5		1	
78									155	80	264						297			4	4			
79									56	46	682						351			2	2			
80								1565		786	3582						3044			10	9		1	
81								425									410			2				
82											580						300			2	2	1		
83										102	216						118			4	4	1		
84											278						149			3	3	1		
85										190	1148						584			6	6	1		
86						679											629			3		1		
87									45	208	2995						1990			7	9			1
88				153													108			2		1		
89											1952						1589			2	6			1
90							1086			51							980			5		1		
91										228	1576						798			6	6	1		
92	7924									127		2683	1154				1931			6	7	1		
93									30	68	276						168			4	4			
94										80	222						121			4	4	1		
95			152														102			3		1		
96										74	292						156			4	4	1		
97										210	424						222			4	4	1		
98										100	792						411			4	4	1		
99											340						180			2	2	1		
100											1982						1001			5	5	1		
101											532						276			2	2	1		
102										134	2084						1042			5	5	1		
103										102	172						96			3	3	1		
104										122	1544						782			4	4	1		
105										520	722						371			5	5	1		
106					564												514			3		1		
107											120						70			2	2	1		
108									80		156						88			3	3	1		
109									403	314	153						143	358		5	2	1		
110										184	120						50			3	3	1		
111										324	848						409			6	6	1		
112										88	1042						531			4	4	1		
113										64	1674						1463			3	7	1		
114											186						103			2	2	1		
115											396						208			3	3	1		
SUBTOTALS																								
	7924	0	925	153	564	679	1086	4195	769	4830	38875	2728	1310	0	124	0	31586	358	0	189	174	40	3	2

CALCULATED GM
CHECKED JRL

ITS SUBSUMMARY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

SHEET NO.	625 DISTRIBUTION CABLE, MISC.: NO. 4/0 AWG 5000 VOLT	625 DISTRIBUTION CABLE, MISC.: AERIAL CABLE WITH FOUR NO. 4 AWG 5000 VOLT CABLES	625 1-1/2" DUCT CABLE WITH FOUR NO. 4 AWG 5000 VOLT CABLES	625 DUCT CABLE, MISC.: 1-1/2" DUCT CABLE WITH FOUR NO. 8 AWG 5000 VOLT CABLES	625 DUCT CABLE, MISC.: 1-1/2" DUCT CABLE WITH FOUR NO. 2 AWG 5000 VOLT CABLES	625 DUCT CABLE, MISC.: 2" DUCT CABLE WITH FOUR NO. 1/0 AWG 5000 VOLT CABLES	625 DUCT CABLE, MISC.: 2-1/2" DUCT CABLE WITH FOUR NO. 3/0 AWG 5000 VOLT CABLES	625 DUCT CABLE, MISC.: 2-1/2" DUCT CABLE WITH FOUR NO. 4/0 AWG 5000 VOLT CABLES	625 CONDUIT, 2", 725.04	625 CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, AS PER PLAN, SCHEDULE 80	625 CONDUIT, MISC.: 2", 725.05, SCHEDULE 40	625 CONDUIT, MISC.: 3", 725.05, SCHEDULE 40	625 CONDUIT, MISC.: 4", 725.05, SCHEDULE 40	625 CONDUIT, MISC.: INSTALL THREE 4/0 ELECTRICAL CABLES IN EXISTING CONDUIT	625 CONDUIT, MISC.: 3", CONDUIT FIBERGLASS REINFORCED, ATTACHED TO STRUCTURE	625 CONDUIT, MISC.: EXISTING CONDUIT REPAIR	625 TRENCH, 48" DEEP	625 TRENCH IN PAVED AREA	625 TRENCH, MISC.: REMOVE AND REPLACE CLASS C ROCK	625 PULL BOX, 725.08, 18", AS PER PLAN A	625 PULL BOX, 725.08, 18", AS PER PLAN B	625 POWER SERVICE, AS PER PLAN A	625 POWER SERVICE, AS PER PLAN B	625 POWER SERVICE, AS PER PLAN C
	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH
116											256							138			2	2	1		
117										290	228							114			3	3	1		
118		150									160							90			2	2	1		
119										350	750							385			6	6	1		
120			259							57								157			3		1		
121				547						179	83	179						585			2	3	1		
122										98	482	98						251			4	4	1		
123				239						192	450	192						585			4	3	1		
124										138	185	138						145			2	4	1		
125											152							86			2	2	1		
126										380	314	380						167			4	4	1		
127											188							104			2	2	1		
128									62	104	442	104						236			4	4			
129			228						30									208			2				
130											120							70			2	2	1		
131				670						204	475	204						974			6	6	1		
132									32	80	2898	80						1491			6	6			
133										120	1928	120						974			6	6	1		
134									32	378	856	378						470			4	4			
135			185															140			2		1		
136			247							46		46						146			4		1		
137					470				33									453			3				
138									27	436	368	446						199			3	3			
139									30	20	240							140			2	2			
140				696						62		62						579			4		1		
141											1374							697			4	4	1		
142	1794								26					6462		135		554			8				
143									42		156							130			2	2			
144										207	715	207	367			9		702			3	7			
145								1022		91		96						911			3				
146								1512	33	250	330	250						1622			8	4			
147											416							218			2	2	1		
148										376	270	376						200			2	6	1		
149								1750		76		81						1609			6		1		
150										315	3368	325						1704			5	6	1		
151					419					174		179						190			4		1		
152										128	1268	128						644			4	4	1		
153									34		424							232			2	2			
154										126	964	126						492			5	5	1		
155						717				173		178						489			4		1		
156									39	323	2881	589						1672		105	5	9			1
157											2300							1160			4	4	1		
158										90	762	90						391			4	4	1		
159						770												720			3		1		
160					423													378			2		1		
161										86	156	96						93			3	3	1		
162											226							123			2	2	1		
163					513					63		63						483			5		1		
164											614							317			3	3	1		
165										92	208	92						114			4	4	1		
166										160	622	160						472			2	4	1		
167										340	4844	340			382			2422			11	11	1		
SUBTOTALS																									
	1794	150	919	2152	1825	1487	0	4284	420	6204	32473	5803	367	6462	382	144		27626	0	105	194	154	38	0	1

CALCULATED GM
CHECKED JRL

ITS SUBSUMMARY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

SHEET NO.	625 DISTRIBUTION CABLE, MISC.: NO. 4/0 AWG 5000 VOLT FT	625 DISTRIBUTION CABLE, MISC.: AERIAL CABLE WITH FOUR NO. 4 AWG 5000 VOLT CABLES FT	625 1-1/2" DUCT CABLE WITH FOUR NO. 4 AWG 5000 VOLT CABLES FT	625 DUCT CABLE, MISC.: 1-1/2" DUCT CABLE WITH FOUR NO. 8 AWG 5000 VOLT CABLES FT	625 DUCT CABLE, MISC.: 1-1/2" DUCT CABLE WITH FOUR NO. 2 AWG 5000 VOLT CABLES FT	625 DUCT CABLE, MISC.: 2" DUCT CABLE WITH FOUR NO. 1/0 AWG 5000 VOLT CABLES FT	625 DUCT CABLE, MISC.: 2-1/2" DUCT CABLE WITH FOUR NO. 3/0 AWG 5000 VOLT CABLES FT	625 DUCT CABLE, MISC.: 2-1/2" DUCT CABLE WITH FOUR NO. 4/0 AWG 5000 VOLT CABLES FT	625 CONDUIT, 2", 725.04 FT	625 CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, AS PER PLAN, SCHEDULE 80 FT	625 CONDUIT, MISC.: 2", 725.05, SCHEDULE 40 FT	625 CONDUIT, MISC.: 3", 725.05, SCHEDULE 40 FT	625 CONDUIT, MISC.: 4", 725.05, SCHEDULE 40 FT	625 CONDUIT, MISC.: INSTALL THREE 4/0 ELECTRICAL CABLES IN EXISTING CONDUIT FT	625 CONDUIT, MISC.: 3", CONDUIT FIBERGLASS REINFORCED, ATTACHED TO STRUCTURE FT	625 CONDUIT, MISC.: EXISTING CONDUIT REPAIR FT	625 TRENCH, 48" DEEP FT	625 TRENCH IN PAVED AREA FT	625 TRENCH, MISC.: REMOVE AND REPLACE CLASS C ROCK FT	625 PULL BOX, 725.08, 18", AS PER PLAN A EACH	625 PULL BOX, 725.08, 18", AS PER PLAN B EACH	625 POWER SERVICE, AS PER PLAN A EACH	625 POWER SERVICE, AS PER PLAN B EACH	625 POWER SERVICE, AS PER PLAN C EACH
168											1798							909			3	3	1		
169			173															123			3		1		
170			158						56									169			2				
171									27	94	398	94						236			4	4			
172				571					62	158	518	106						1044			2	5			
173			136															91			2		1		
SUBTOTALS THIS SHEET	0	0	467	571	0	0	0	0	145	252	2714	200	0	0	0	0	2572	0	0	16	12	3	0	0
SUBTOTALS SHEET 54	7924	0	925	153	564	679	1086	4195	769	4830	38875	2728	1310	0	124	0	31586	358	0	189	174	40	3	2
SUBTOTALS SHEET 55	1794	150	919	2152	1825	1487	0	4284	420	6204	32473	5803	367	6462	382	144	27626	0	105	194	154	38	0	1
TOTALS CARRIED TO THE GENERAL SUMMARY	9718	150	2311	2876	2389	2166	1086	8479	1334	11286	74062	8731	1677	6462	506	144	61784	358	105	399	340	81	3	3

CALCULATED GM
CHECKED JRL

ITS SUBSUMMARY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

SHEET NO.	625	625	625	625	630	630	630	630	630	630	631	631	631	632	632	632	632	632	632	632	632	632	632
	POWER SERVICE, AS PER PLAN D	POWER SERVICE, AS PER PLAN E	TRANSFORMER PAD, CONCRETE	LIGHTING, MISC.: CORE DRILL CONCRETE WALL	OVERHEAD SIGN SUPPORT, AS PER PLAN A	OVERHEAD SIGN SUPPORT, AS PER PLAN B	CONCRETE MEDIAN BARRIER SIGN SUPPORT FOUNDATION, DMS TRUSS	RIGHT OF WAY SIGN SUPPORT FOUNDATION, DMS TRUSS	OVERHEAD SIGN SUPPORT, MISC.: DMS PEDESTAL	RIGID OVERHEAD SIGN SUPPORT FOUNDATION, AS PER PLAN, DMS PEDESTAL	CHANGEABLE MESSAGE SIGN, UNLIMITED MESSAGE, AS PER PLAN A	REMOVAL OF LUMINARE AND DISPOSAL	REMOVAL OF SIGN WIRING AND DISPOSAL	INTERCONNECT CABLE, MISC.: COMPOSITE CABLE	INTERCONNECT CABLE, MISC.: COMPOSITE CABLE IN EXISTING CONDUIT	INTERCONNECT CABLE, MISC.: INNERDUCT 1"	INTERCONNECT CABLE, MISC.: INNERDUCT 2"	INTERCONNECT, MISC.: HIGHWAY ADVISORY RADIO	WOOD POLE	SIGNALIZATION MISC.: CCTV POLE CAMERA ASSEMBLY	SIGNALIZATION MISC.: CCTV POLE FOUNDATION, TYPE A (70 FT.)	SIGNALIZATION MISC.: CCTV POLE FOUNDATION, TYPE B (50 FT.)	SIGNALIZATION MISC.: CCTV POLE, TYPE A (70 FT.), WITH LOWERING DEVICE	SIGNALIZATION MISC.: AAI CCTV POLE, TYPE A (70 FT.),WITH LOWERING DEVICE (CONCRETE)
	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH
64			1															1					
65						1	1	2			1													
66			1																	1	1		1	1
67			1																	1	1		1	1
68																				1	1		1	1
69																				1	1		1	1
70																		1						
71																				1	1		1	1
72					1		1	2			1													
73																				1	1		1	1
74																				1	1		1	1
75						1	1	2			1			1744		45				1	1		1	1
76																		1						
77																	156			2	2		2	2
78	1																			1	1		1	1
79	1																			1	1		1	1
80																				1	1		1	1
81						1		4			1	4	4											
82																				1	1		1	1
83																				1	1		1	1
84																				1	1		1	1
85																				1	1		1	1
86									1	1	1													
87			1																1	1	1		1	1
88																		1						
89			1																1	1	1		1	1
90					1			2			1													
91																				1	1		1	1
92					1		1	2			1			2465		2440				1	1		1	1
93	1																			1	1		1	1
94																				1	1		1	1
95						1		4			1													
96																				1	1		1	1
97																		1		1	1		1	1
98																				1	1		1	1
99																				1	1		1	1
100																				1	1		1	1
101																				1	1		1	1
102																				1	1		1	1
103																				1	1		1	1
104																				1	1		1	1
105																				1	1		1	1
106									1	1	1													
107																				1	1		1	1
108				2																1	1		1	1
109				1															1	1	1		1	1
110																				1	1		1	1
111																				1	1		1	1
112																				1	1		1	1
113						1		4			1			1331						1	1		1	1
114																				1	1		1	1
115																				1	1		1	1
SUBTOTALS																								
	3	0	5	3	3	5	4	22	2	2	10	4	4	5540	0	2485	156	5	3	42	42	0	42	42

CALCULATED GM
CHECKED JRL

ITS SUBSUMMARY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

SHEET NO.	625	625	625	625	630	630	630	630	630	630	631	631	631	632	632	632	632	632	632	632	632	632	632
	POWER SERVICE, AS PER PLAN D	POWER SERVICE, AS PER PLAN E	TRANSFORMER PAD, CONCRETE	LIGHTING, MISC.: CORE DRILL CONCRETE WALL	OVERHEAD SIGN SUPPORT, AS PER PLAN A	OVERHEAD SIGN SUPPORT, AS PER PLAN B	CONCRETE MEDIAN BARRIER SIGN SUPPORT FOUNDATION, DMS TRUSS	RIGHT OF WAY SIGN SUPPORT FOUNDATION, DMS TRUSS	OVERHEAD SIGN SUPPORT, MISC.: DMS PEDESTAL	RIGID OVERHEAD SIGN SUPPORT FOUNDATION, AS PER PLAN, DMS PEDESTAL	CHANGEABLE MESSAGE SIGN, UNLIMITED MESSAGE, AS PER PLAN A	REMOVAL OF LUMINARE AND DISPOSAL	REMOVAL OF SIGN WIRING AND DISPOSAL	INTERCONNECT CABLE, MISC.: COMPOSITE CABLE	INTERCONNECT CABLE, MISC.: COMPOSITE CABLE IN EXISTING CONDUIT	INTERCONNECT CABLE, MISC.: INNERDUCT 1"	INTERCONNECT CABLE, MISC.: INNERDUCT 2"	INTERCONNECT, MISC.: HIGHWAY ADVISORY RADIO	WOOD POLE	SIGNALIZATION MISC.: CCTV POLE CAMERA ASSEMBLY	SIGNALIZATION MISC.: CCTV POLE FOUNDATION, TYPE A (70 FT.)	SIGNALIZATION MISC.: CCTV POLE FOUNDATION, TYPE B (50 FT.)	SIGNALIZATION MISC.: CCTV POLE, TYPE A (70 FT.), WITH LOWERING DEVICE	SIGNALIZATION MISC.: AAI CCTV POLE, TYPE A (70 FT.), WITH LOWERING DEVICE (CONCRETE)
	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH
116																				1	1		1	1
117																				1	1		1	1
118																			1	1	1		1	1
119																				1	1		1	1
120					1		1	2			1													
121																			1	1	1		1	1
122																				1	1		1	1
123																			1	1	1		1	1
124					1		1	2			1			238						1	1		1	1
125																				1	1		1	1
126																				1	1		1	1
127																				1	1		1	1
128	1																			1	1		1	1
129	1				1		1	2			1													
130																				1	1		1	1
131																				1	1		1	1
132	1																	1		1	1		1	1
133																				1	1		1	1
134	1																			1	1		1	1
135					1			4			1													
136									1	1	1													
137	1								1	1	1													
138	1																		1	1	1		1	1
139	1																			1	1		1	1
140																								
141																				1	1		1	1
142		1			1			4	1	1	2													
143	1																			1	1		1	1
144	1													1439	154	924		1		1	1		1	1
145									1	1	1													
146		1																		1	1		1	1
147																				1	1		1	1
148														526						1	1		1	1
149									1	1	1													
150														345						1	1		1	1
151						1	1	2			1													
152																				1		1		
153	1																			1	1		1	1
154																				1	1		1	1
155						1	1	2			1													
156														948		266				1	1		1	1
157																				1	1		1	1
158																				1	1		1	1
159						1		4			1													
160						1	1	2			1													
161																				1	1		1	1
162																				1	1		1	1
163									1	1	1													
164																				1	1		1	1
165																				1	1		1	1
166						1	1	2			1			482						1	1		1	1
167																				1	1		1	1
SUBTOTALS																								
	10	2	0	0	5	5	7	26	6	6	16	0	0	3978	154	1190	0	2	4	38	37	1	37	37

CALCULATED GM
CHECKED JRL

ITS SUBSUMMARY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

SHEET NO.	625	625	625	625	630	630	630	630	630	630	631	631	631	632	632	632	632	632	632	632	632	632	632
	POWER SERVICE, AS PER PLAN D	POWER SERVICE, AS PER PLAN E	TRANSFORMER PAD, CONCRETE	LIGHTING, MISC.: CORE DRILL CONCRETE WALL	OVERHEAD SIGN SUPPORT, AS PER PLAN A	OVERHEAD SIGN SUPPORT, AS PER PLAN B	CONCRETE MEDIAN BARRIER SIGN SUPPORT FOUNDATION, DMS TRUSS	RIGHT OF WAY SIGN SUPPORT FOUNDATION, DMS TRUSS	OVERHEAD SIGN SUPPORT, MISC.: DMS PEDESTAL	RIGID OVERHEAD SIGN SUPPORT FOUNDATION, AS PER PLAN, DMS PEDESTAL	CHANGEABLE MESSAGE SIGN, UNLIMITED MESSAGE, AS PER PLAN A	REMOVAL OF LUMINARE AND DISPOSAL	REMOVAL OF SIGN WIRING AND DISPOSAL	INTERCONNECT CABLE, MISC.: COMPOSITE CABLE	INTERCONNECT CABLE, MISC.: COMPOSITE CABLE IN EXISTING CONDUIT	INTERCONNECT CABLE, MISC.: INNERDUCT 1"	INTERCONNECT CABLE, MISC.: INNERDUCT 2"	INTERCONNECT, MISC.: HIGHWAY ADVISORY RADIO	WOOD POLE	SIGNALIZATION MISC.: CCTV POLE CAMERA ASSEMBLY	SIGNALIZATION MISC.: CCTV POLE FOUNDATION, TYPE A (70 FT.)	SIGNALIZATION MISC.: CCTV POLE FOUNDATION, TYPE B (50 FT.)	SIGNALIZATION MISC.: CCTV POLE, TYPE A (70 FT.), WITH LOWERING DEVICE	SIGNALIZATION MISC.: AA1 CCTV POLE, TYPE A (70 FT.), WITH LOWERING DEVICE (CONCRETE)
	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH
168																				1	1		1	1
169					1			4			1													
170	1				1		1	2			1													
171	1																			1	1		1	1
172	1																		1	1	1		1	1
173									1	1	1													
SUBTOTALS THIS SHEET																								
	3	0	0	0	2	0	1	6	1	1	3	0	0	0	0	0	0	0	1	3	3	0	3	3
SUBTOTALS SHEET 57																								
	3	0	5	3	3	5	4	22	2	2	10	4	4	5540	0	2485	156	5	3	42	42	0	42	42
SUBTOTALS SHEET 58																								
	10	2	0	0	5	5	7	26	6	6	16	0	0	3978	154	1190	0	2	4	38	37	1	37	37
TOTALS CARRIED TO THE GENERAL SUMMARY																								
	16	2	5	3	10	10	12	54	9	9	29	4	4	9518	154	3675	156	7	8	83	82	1	82	82

CALCULATED GM
CHECKED JRL

ITS SUBSUMMARY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

SHEET NO.	632 SIGNALIZATION, MISC.: CCTV POLE, TYPE B (50 FT.), WITH LOWERING DEVICE EACH	632 SIGNALIZATION, MISC.: AA1 CCTV POLE, TYPE B (50 FT.), WITH LOWERING DEVICE (CONCRETE) EACH	632 SIGNALIZATION, MISC.: EXISTING HIGHWAY ADVISORY RADIO TO BE REMOVED FOR STORAGE EACH	632 SIGNALIZATION, MISC.: VEHICLE DETECTION UNIT EACH	632 SIGNALIZATION, MISC.: VEHICLE DETECTION ASSEMBLY EACH	632 SIGNALIZATION, MISC.: AA1 VEHICLE DETECTION ASSEMBLY (CONCRETE) EACH	632 SIGNALIZATION, MISC.: TRANSFORMER, GENERAL PURPOSE, 7.5KVA, NON-VENILATED TYPE EACH	632 SIGNALIZATION, MISC.: TRANSFORMER, GENERAL PURPOSE, 25KVA, NON-VENILATED TYPE EACH	632 SIGNALIZATION, MISC.: PURCELL COMMUNICATION CABINET, INSTALLATION ONLY EACH	632 SIGNALIZATION, MISC.: UNIVERSAL DATA ENVIRONMENTAL CLOSURE, "SMART JACK", INSTALLATION ONLY EACH	630 SIGN ATTACHMENT ASSEMBLY EACH	630 OVERPASS STRUCTURE MOUNTED SIGN SUPPORT, TYPE TC-18.26, DESIGN 4 EACH	630 SIGN, OVERHEAD EXTRUSHEET SQ FT	630 REMOVAL OF GROUND MOUNTED SIGN AND STORAGE EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION, AS PER PLAN EACH	630 REMOVAL OF GROUND MOUNTED MAJOR SIGN AND STORAGE EACH	630 REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL EACH	630 REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL, AS PER PLAN EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND STORAGE, TYPE TC-12.30 EACH	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND STORAGE, TYPE TC-9.30 EACH	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND STORAGE, TYPE TC-15.115 EACH	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-18.26 EACH
64								1																
65																								
66							1			1														
67							1			1														
68									1															
69										1														
70			1																					
71									1															
72											1								1		1			
73										1														
74				1					1															
75										1														
76			1																					
77				1						2														
78									1															
79										1														
80									1															
81											2		300								2		1	
82									1															
83				1					1															
84				1						1														
85										1														
86																								
87							1			1														
88																								
89							1			1														
90																								
91				1					1															
92				1						1	1								1		1			
93									1															
94									1															
95											1								1		1			
96				1						1														
97			1						1															
98				1					1															
99									1															
100										1														
101									1															
102										1														
103										1														
104									1															
105										1														
106																								
107									1															
108									1															
109									1															
110										1														
111				2					1															
112									1															
113									1							1								
114				1					1															
115				1					1															
SUBTOTALS																								
	0	0	3	12	0		4	1	23	19	5	0	300	0	0	1	0	0	3	2	3	0	1	0

CALCULATED GM
CHECKED JRL

ITS SUBSUMMARY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

SHEET NO.	632	632	632	632	632	632	632	632	632	632	630	630	630	630	630	630	630	630	630	630	630	630
	SIGNALIZATION, MISC.: CCTV POLE, TYPE B (50 FT.), WITH LOWERING DEVICE	SIGNALIZATION, MISC.: AA1 CCTV POLE, TYPE B (50 FT.), WITH LOWERING DEVICE (CONCRETE)	SIGNALIZATION, MISC.: EXISTING HIGHWAY ADVISORY RADIO TO BE REMOVED FOR STORAGE	SIGNALIZATION, MISC.: VEHICLE DETECTION UNIT	SIGNALIZATION, MISC.: VEHICLE DETECTION ASSEMBLY	SIGNALIZATION, MISC.: AA1 VEHICLE DETECTION ASSEMBLY (CONCRETE)	SIGNALIZATION, MISC.: TRANSFORMER, GENERAL PURPOSE, 7.5KVA, NON-VENILATED TYPE	SIGNALIZATION, MISC.: TRANSFORMER, GENERAL PURPOSE, 25KVA, NON-VENILATED TYPE	SIGNALIZATION, MISC.: PURCELL COMMUNICATION CABINET, INSTALLATION ONLY	SIGNALIZATION, MISC.: UNIVERSAL DATA ENVIRONMENTAL CLOSURE, "SMART JACK", INSTALLATION ONLY	SIGN ATTACHMENT ASSEMBLY	OVERPASS STRUCTURE MOUNTED SIGN SUPPORT, TYPE TC-18.26, DESIGN 4	SIGN, OVERHEAD EXTRUSHEET	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION, AS PER PLAN	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND STORAGE	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL, AS PER PLAN	REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	REMOVAL OF OVERHEAD SIGN SUPPORT AND STORAGE, TYPE TC-12.30	REMOVAL OF OVERHEAD SIGN SUPPORT AND STORAGE, TYPE TC-9.30	REMOVAL OF OVERHEAD SIGN SUPPORT AND STORAGE, TYPE TC-15.115	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-18.26
	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	SQ FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
116									1													
117									1													
118									1													
119									1													
120											1	1	231	1			2	1	2	2		2
121				1					1													
122									1													
123				1						1												
124									1													
125									1													
126									1													
127				1					1													
128									1													
129											1									2		1
130				1					1													
131									1													
132			1	1					1													
133										1												
134										1												
135											1								1		1	
136																						
137																						
138										1												
139									1													
140					1	1																
141									1													
142											1								1		1	
143				1						1												
144			1		2	2			1													
145																						
146									1													
147									1													
148				1	1	1			1													
149																						
150				1	1	1				1												
151											2								2			1
152	1	1							1													
153				1					1													
154				1					1													
155											2								1		1	
156				1	1	1			1													
157				1					1													
158									1													
159																						
160																						
161									1													
162										1												
163																						
164										1												
165										1												
166									1		1				1		2					
167				1					1													
SUBTOTALS																						
	1	1	2	13	6	6	0	0	29	9	9	1	231	1	1	0	4	1	7	4	3	1	1	2

CALCULATED GM
CHECKED JRL

ITS SUBSUMMARY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

SHEET NO.	632	632	632	632	632	632	632	632	632	632	630	630	630	630	630	630	630	630	630	630	630	630	630
	SIGNALIZATION, MISC.: CCTV POLE, TYPE B (50 FT.), WITH LOWERING DEVICE	SIGNALIZATION, MISC.: AA1 CCTV POLE, TYPE B (50 FT.), WITH LOWERING DEVICE (CONCRETE)	SIGNALIZATION, MISC.: EXISTING HIGHWAY ADVISORY RADIO TO BE REMOVED FOR STORAGE	SIGNALIZATION, MISC.: VEHICLE DETECTION UNIT	SIGNALIZATION, MISC.: VEHICLE DETECTION ASSEMBLY	SIGNALIZATION, MISC.: AA1 VEHICLE DETECTION ASSEMBLY (CONCRETE)	SIGNALIZATION, MISC.: TRANSFORMER, GENERAL PURPOSE, 7.5KVA, NON-VENILATED TYPE	SIGNALIZATION, MISC.: TRANSFORMER, GENERAL PURPOSE, 25KVA, NON-VENILATED TYPE	SIGNALIZATION, MISC.: PURCELL COMMUNICATION CABINET, INSTALLATION ONLY	SIGNALIZATION, MISC.: UNIVERSAL DATA ENVIRONMENTAL CLOSURE, "SMART JACK", INSTALLATION ONLY	SIGN ATTACHMENT ASSEMBLY	OVERPASS STRUCTURE MOUNTED SIGN SUPPORT, TYPE TC-18.26, DESIGN 4	SIGN, OVERHEAD EXTRUSHEET	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION, AS PER PLAN	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND STORAGE	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL, AS PER PLAN	REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	REMOVAL OF OVERHEAD SIGN SUPPORT AND STORAGE, TYPE TC-12.30	REMOVAL OF OVERHEAD SIGN SUPPORT AND STORAGE, TYPE TC-9.30	REMOVAL OF OVERHEAD SIGN SUPPORT AND STORAGE, TYPE TC-15.115	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-18.26
	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	SQ FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
168				1					1														
169											1								1		1		
170											1								1		1		
171										1													
172										1													
173																							
SUBTOTALS THIS SHEET	0	0	0	1	0	0	0	0	1	2	2	0	0	0	0	0	0	0	2	0	2	0	0	0
SUBTOTALS SHEET 60	0	0	3	12	0	0	4	1	23	19	5	0	300	0	0	1	0	0	3	2	3	0	1	0
SUBTOTALS SHEET 61	1	1	2	13	6	6	0	0	29	9	9	1	231	1	1	0	4	1	7	4	3	1	1	2
TOTALS CARRIED TO THE GENERAL SUMMARY	1	1	5	26	6	6	4	1	53	30	16	1	531	1	1	1	4	1	12	6	8	1	2	2

CALCULATED GM
CHECKED JRL

ITS SUBSUMMARY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

LEGEND

- CCTV WITH ITS CABINET AND WORK PAD, APP
- CCTV WITH VEHICLE DETECTION UNIT, ITS CABINET AND WORK PAD, APP
- DMS TRUSS WITH ITS CABINET AND WORK PAD, APP
- WIRELESS DMS TRUSS WITH ITS CABINET AND WORK PAD, APP
- DMS PEDESTAL WITH ITS CABINET AND WORK PAD, APP
- WIRELESS DMS PEDESTAL WITH ITS CABINET AND WORK PAD, APP
- ELECTRIC PULL BOX, 725.08, 18", APP A
- TRAFFIC PULL BOX, 725.08, 18", APP B
- EXISTING PULL BOX
- PROPOSED HAR
- EXISTING HAR
- VEHICLE DETECTION ASSEMBLY
- GUARD RAIL END TREATMENT
- PEDESTAL POLE
- EXISTING LIGHTING CONTROLLER
- EXISTING ELECTRICAL UTILITY POLE
- POWER SERVICE, OR 45' WOOD POLE, OR PROPOSED UTILITY POLE INSTALLED BY CONTRACTOR, OR COMMUNICATION POLE, APP
- EXISTING FLASHER POLE
- E — ELECTRICAL DUCT CABLE IN TRENCH, APP
- E-B — ELECTRICAL DUCT CABLE IN CONDUIT, DIRECTIONAL BORED
- E-A — ELECTRICAL AERIAL CABLE
- NOISE WALL
- EXISTING GUARDRAIL
- PROPOSED GUARDRAIL
- EXISTING CONDUIT
- PROPOSED CONDUIT

ABBREVIATIONS

CCTV	CLOSED CIRCUIT TELEVISION
DMS	DYNAMIC MESSAGE SIGN
VD	VEHICLE DETECTOR
W	WIRELESS
HAR	HIGHWAY ADVISORY RADIO

DEFINITIONS

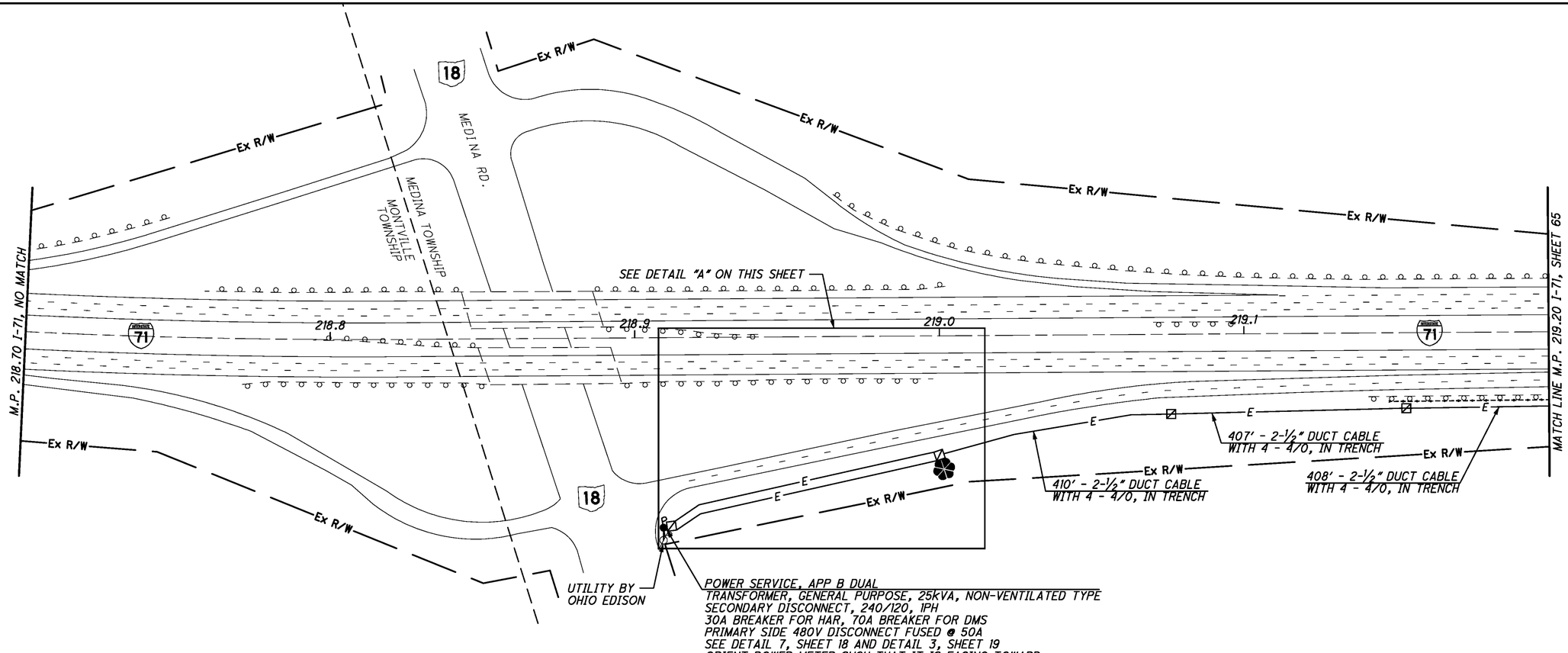
BEHIND GUARDRAIL: MEASURE DISTANCE FROM BACK OF GUARDRAIL POST

EDGELINE: MEASURED AT THE POINT FROM THE EDGE OF TRAVELED WAY

CALCULATED STS
CHECKED JDG

ITS DEVICE LEGEND

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM



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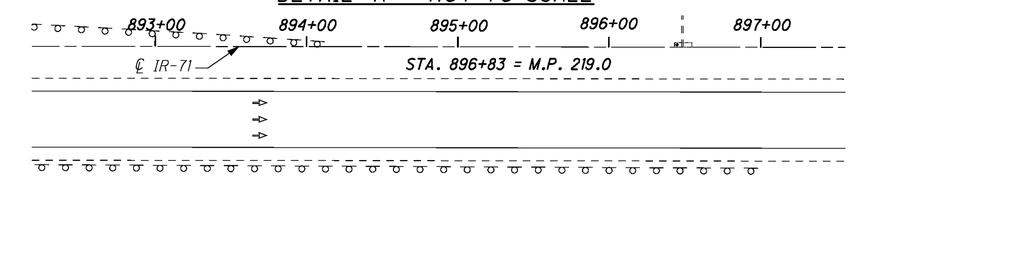

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN B DETAILS

REFER TO SHEET 21 FOR TYPICAL HAR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 189 FOR COMMUNICATIONS PLANS

REFER TO SHEET 203 FOR TYPICAL HAR WIRELESS COMMUNICATIONS DETAILS

PROP. 71-N HAR

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-71 AT SR-18 (MP 218.70 TO MP 219.20)
MEDINA TOWNSHIP, MEDINA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

64
207

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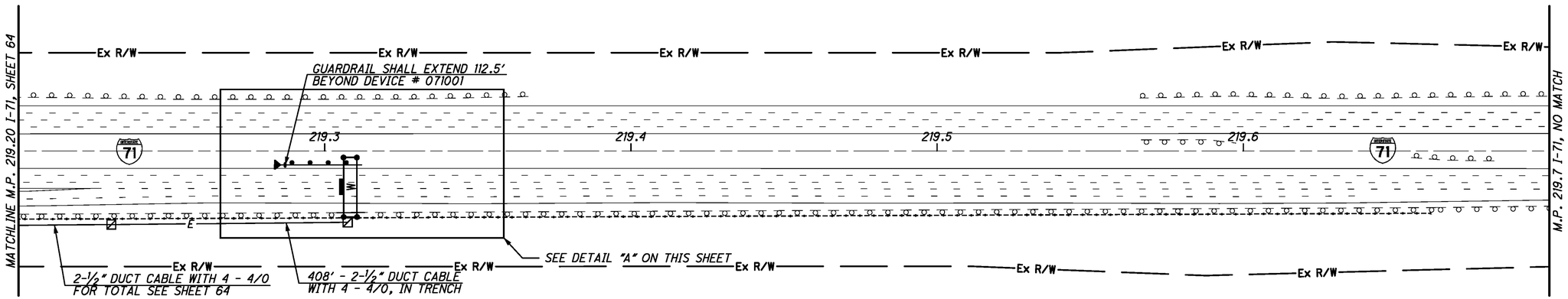
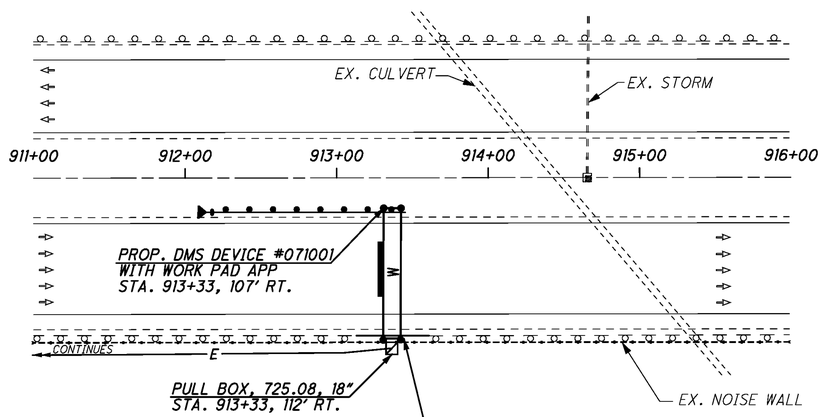


DETAIL "A" - NOT TO SCALE



REPLACE SECTION OF EXISTING GUARDRAIL WITH 12.5' OF CONCRETE BARRIER, SINGLE SLOPE, TYPE D.INCLUDE SIGN FOUNDATION IN NEW BARRIER WALL. ATTACH GUARDRAIL TO NEW BARRIER WALL.TIE IN EXISTING GUARDRAIL TO NEW WALL SECTION.

REFER TO SHEET 15A FOR PULL BOX ORIENTATION FOR DMS LOCATIONS DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO TRUSS ROW SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO CONCRETE BARRIER MEDIAN TRUSS AND PEDESTAL SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 174 FOR DMS PROFILE

REFER TO SHEET 189 FOR COMMUNICATIONS PLANS

REFER TO SHEET 202 FOR TYPICAL DMS WIRELESS COMMUNICATIONS DETAILS

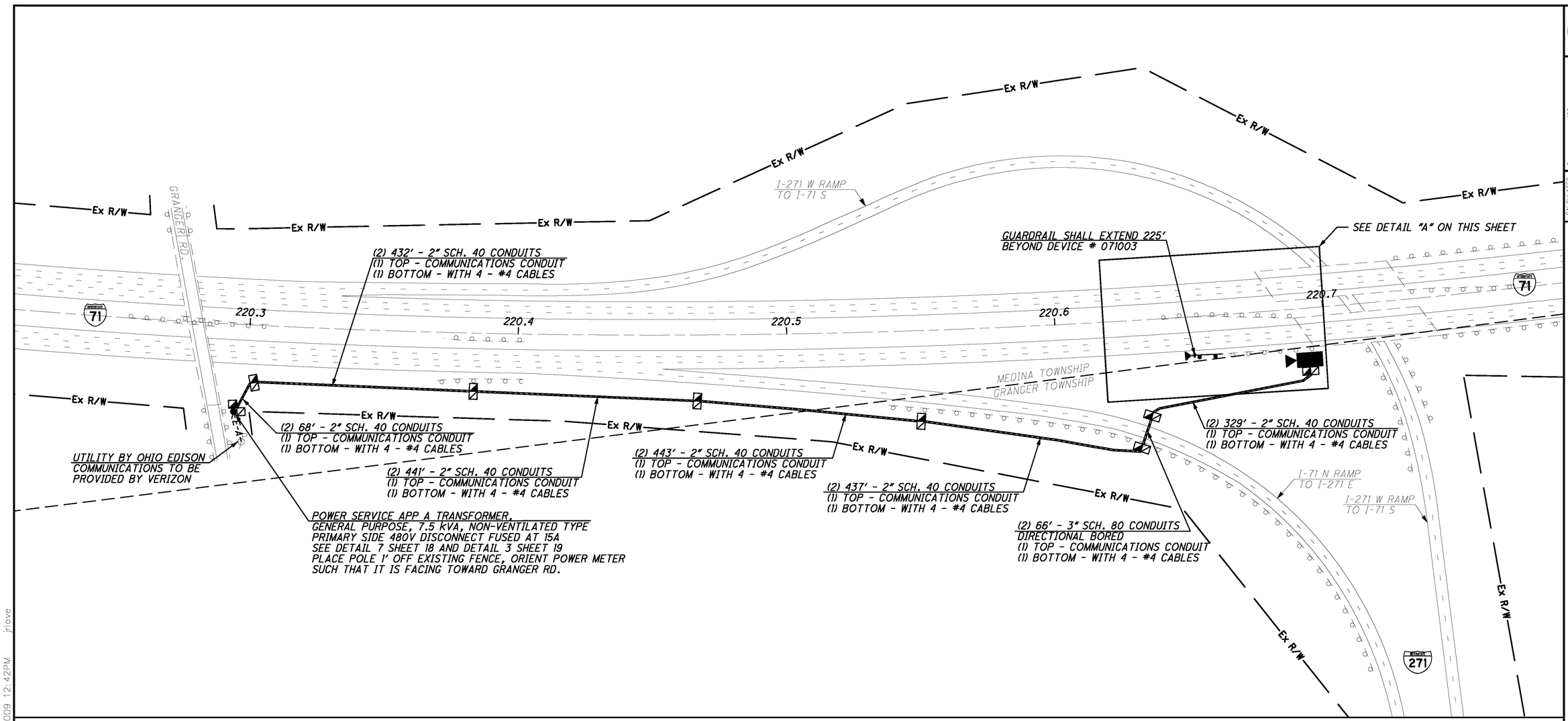
DMS 071001

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-71 N. OF SR-18 (MP 219.20 TO MP 219.70)
MEDINA TOWNSHIP, MEDINA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM



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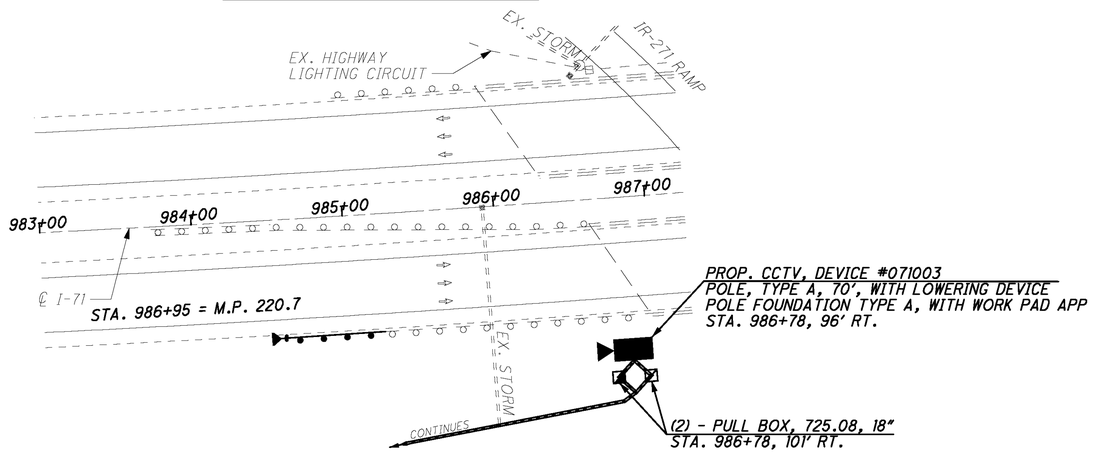

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 189 FOR COMMUNICATIONS PLANS

REFER TO SHEET 198 FOR TYPICAL CCTV T1 COMMUNICATIONS DETAILS

CCTV 071003

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-71 AT I-271 (MP 220.21 TO MP 220.79)
MEDINA TOWNSHIP, MEDINA COUNTY

VAR-CLEVELAND
FREEWAY MANAGEMENT
SYSTEM

66
207

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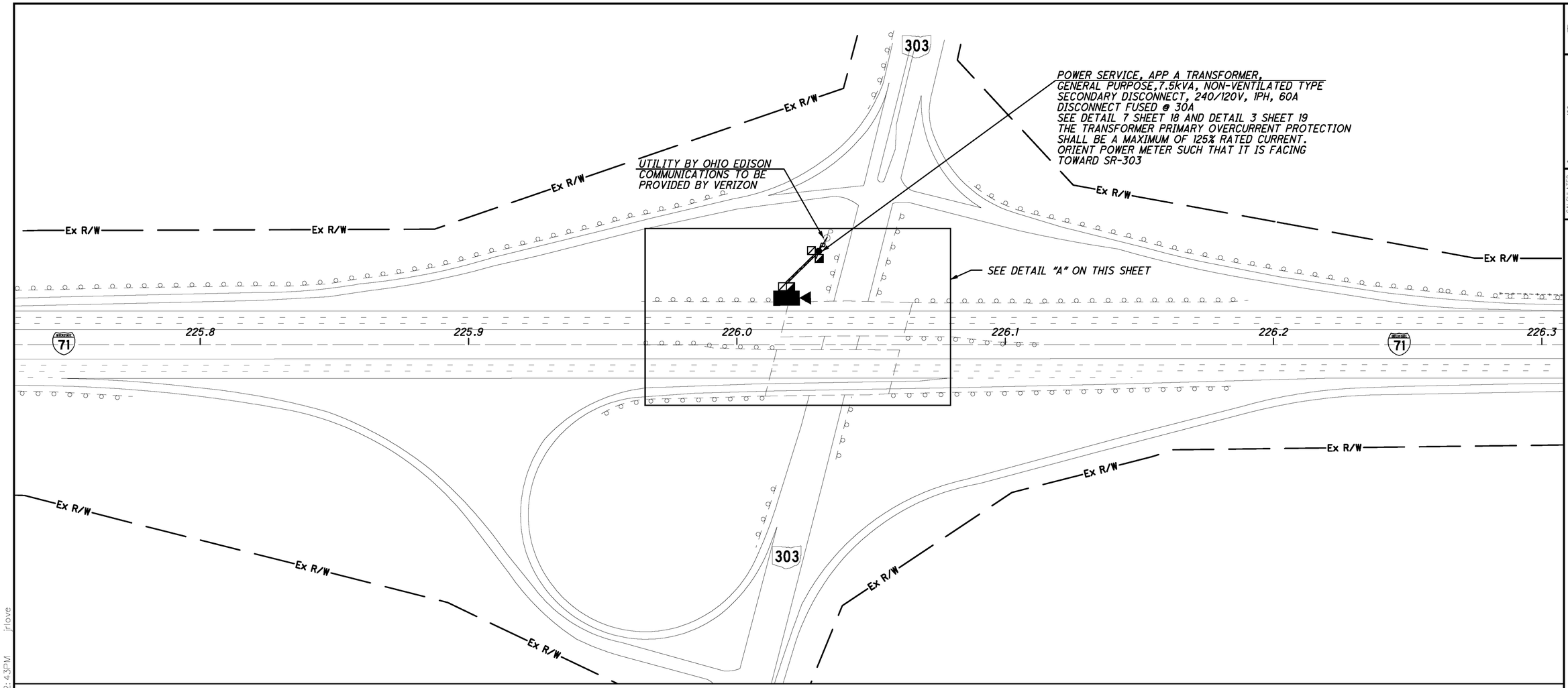

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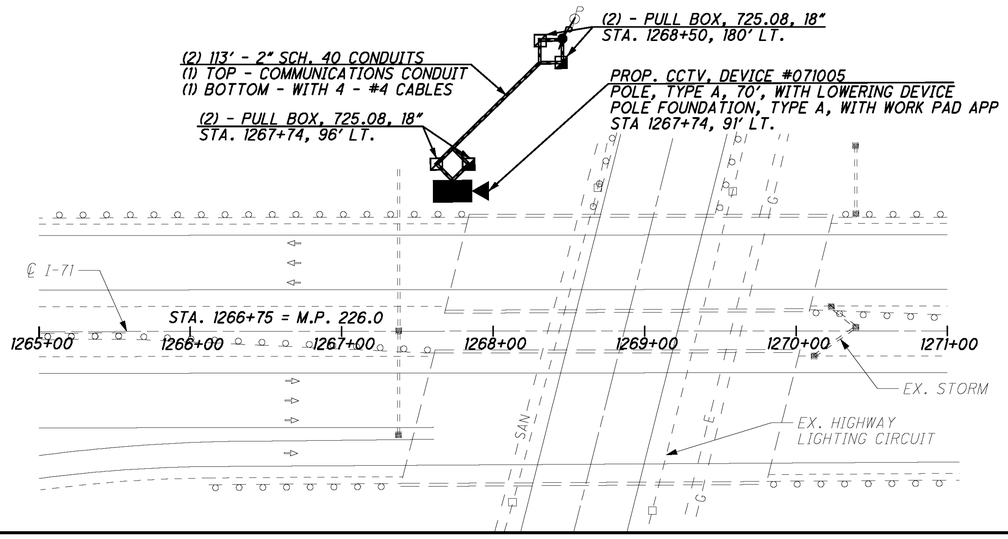


REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 189 FOR COMMUNICATIONS PLANS

REFER TO SHEET 198 FOR TYPICAL CCTV T-1 COMMUNICATIONS DETAILS

CCTV 071005

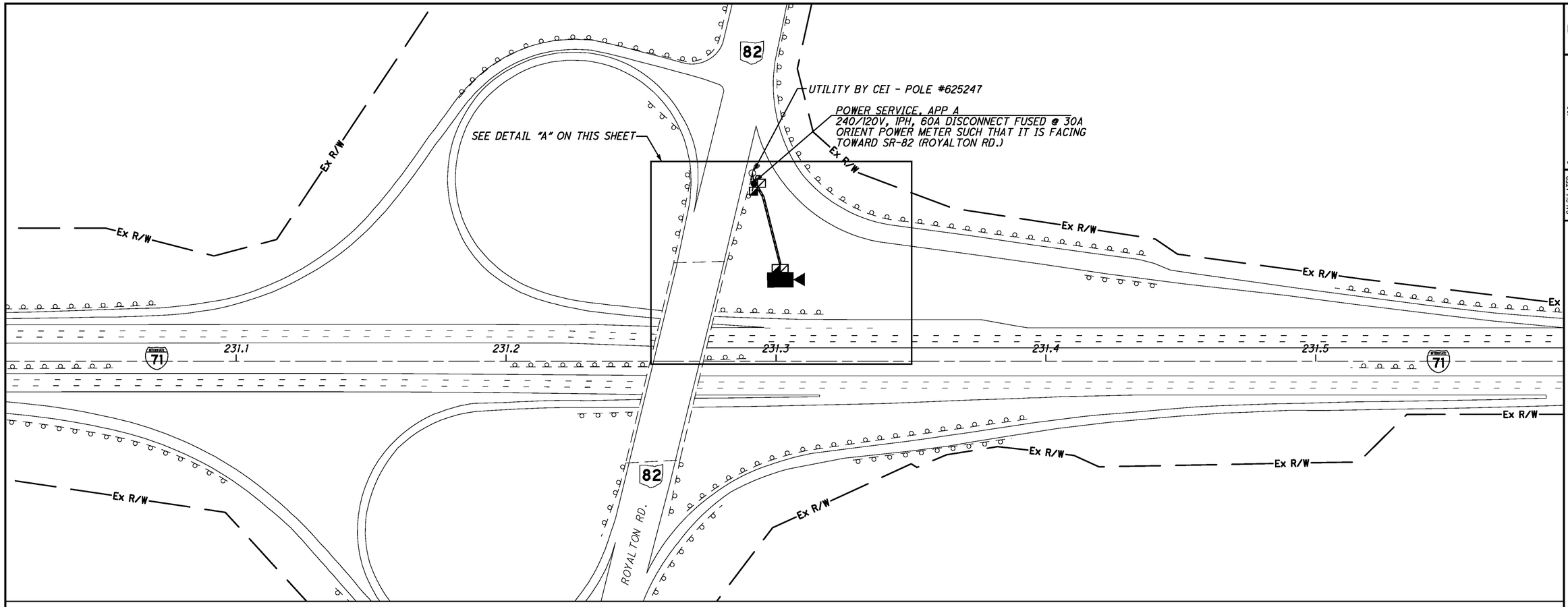
HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-71 AT SR-303 (MP 225.73 TO MP 226.31)
CITY OF BRUNSWICK, MEDINA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

67
207



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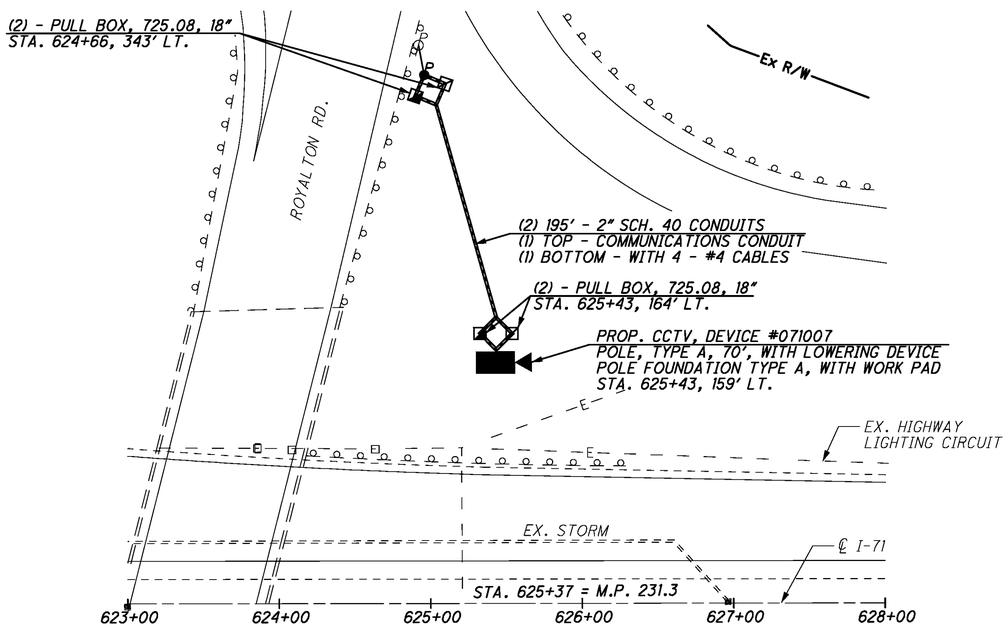

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 189 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 071007

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-71 AT SR-82 (MP 231.01 TO MP 231.59)
CITY OF STRONGSVILLE, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

68
207

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EX R/W EXTENDS OFF THE EXISTING PLANS

124' - 3" FIBERGLASS CONDUIT
COMMUNICATIONS CONDUIT
CONDUIT ATTACHED TO STRUCTURE

COMMUNICATIONS POLE

537' - 2" SCH. 40 CONDUIT
COMMUNICATIONS CONDUIT

TOLL PLAZA EXIT 161
RAMP TO I-80 N

TOLL
BOOTH

UTILITY
BY CEI

POWER SERVICE, APP A
240/120V, 1PH, 60A DISCONNECT FUSED @ 30A
ORIENT POWER METER SUCH THAT IT IS FACING
TOWARD PARKING LOT; INSTALL FENCE CL, APP
IN EXISTING FENCE FOR ACCESS TO POWER METER

52' - 2" SCH. 40 CONDUIT
WITH 4 - #8 CABLES

I-80 W RAMP TO
TOLL PLAZA EXIT 161

(2) 54' - 3" SCH. 80 CONDUITS
DIRECTIONAL BORED
(1) TOP - COMMUNICATIONS CONDUIT
(1) BOTTOM - WITH 4 - #8 CABLES

(2) 289' - 2" SCH. 40 CONDUITS
(1) TOP - COMMUNICATIONS CONDUIT
(1) BOTTOM - WITH 4 - #8 CABLES

I-80 RAMP
TO PEARL RD

Ex R/W

I-80 RAMP
TO I-71 S

I-71 S RAMP
TO I-80

232.8 | 232.9 | 233.0 | 233.1 | 233.2 | 233.3

INTERSTATE 71

SEE DETAIL "A" ON THIS SHEET

Ex R/W

Ex R/W

I-71 N RAMP
TO I-80

I-80 RAMP
TO I-71 N

WHITNEY RD.

EX R/W EXTENDS OFF THE EXISTING PLANS

DETAIL "A" - NOT TO SCALE

CONTINUES

(2) - PULL BOX, 725.08, 18"
STA. 719+00, 142' LT.

PROP. CCTV DEVICE #071009
POLE, TYPE A 70', WITH LOWERING DEVICE
POLE FOUNDATION, TYPE A, WITH WORK PAD APP
STA. 719+00, 137' LT.

EX. HIGHWAY
LIGHTING CIRCUIT

℄ I-71

717+00 | 718+00 | 719+00 | 720+00 | 721+00

℄ RAMP C-D OHIO TURNPIKE

STA. 720+41 = M.P. 233.1

EX. STORM

REFER TO SHEET 12 FOR CONDUIT ATTACHED TO STRUCTURE DETAILS

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 186 FOR CONDUIT ATTACHED TO STRUCTURE DETAILS FOR BRIDGE CROSSING RAMP

REFER TO SHEET 189 FOR COMMUNICATIONS PLANS

REFER TO SHEET 198 FOR TYPICAL CCTV T-1 COMMUNICATIONS DETAILS

CCTV 071009

N

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-71 AT OHIO TURNPIKE (MP 232.78 TO MP 233.36)
CITY OF STRONGSVILLE, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

69
207

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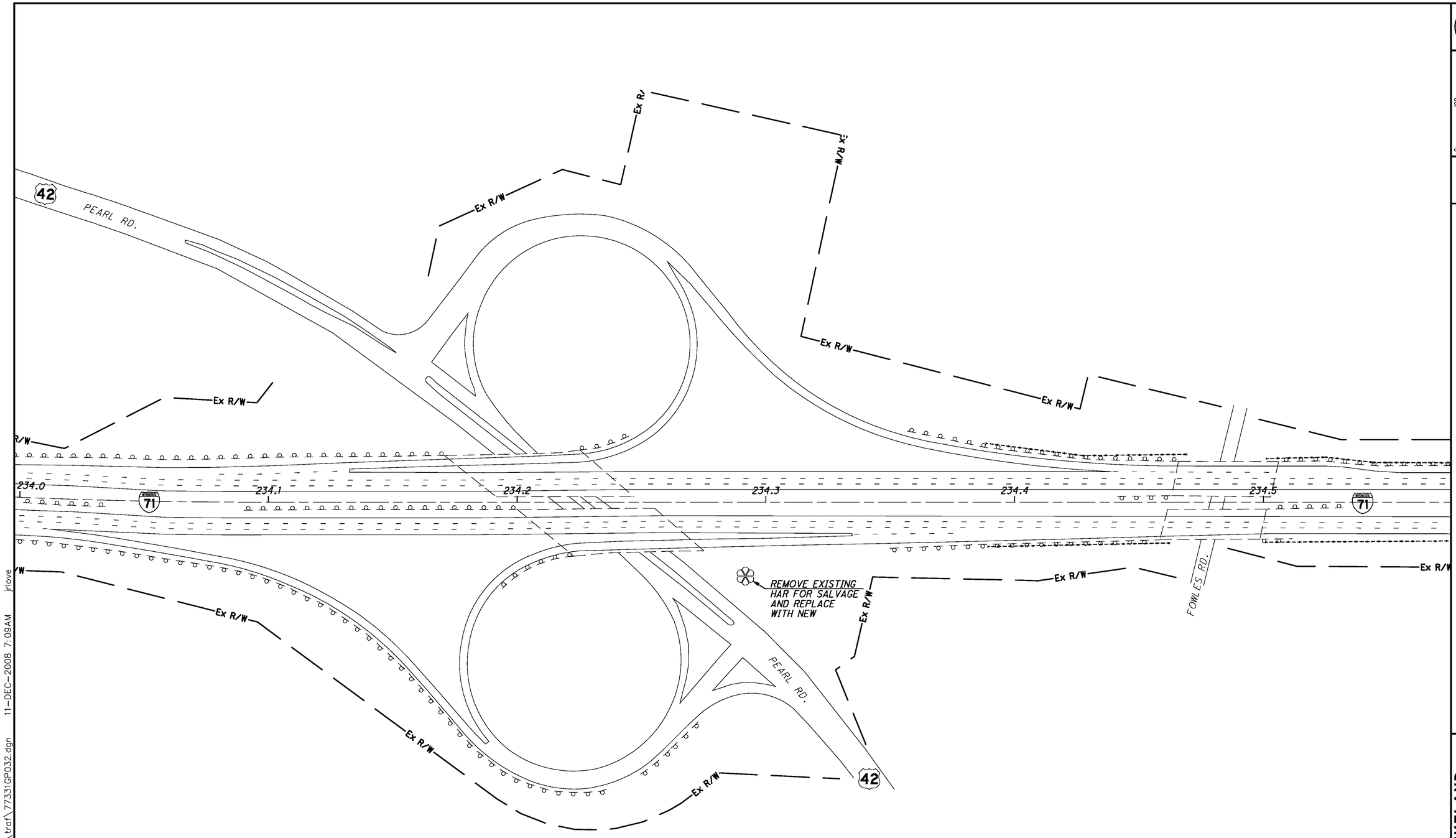

REFER TO SHEET 21 FOR TYPICAL HAR DETAILS

REFER TO SHEET 189 FOR COMMUNICATIONS PLANS

REFER TO SHEET 203 FOR TYPICAL HAR WIRELESS COMMUNICATIONS DETAILS

EXISTING HAR 71-1

HORIZONTAL SCALE IN FEET
0 50 100 200

STS
CHECKED JDG

I-71 AT US-42 (MP 233.99 TO MP 234.58)
CITY OF MIDDLEBURG HTS, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

70
207

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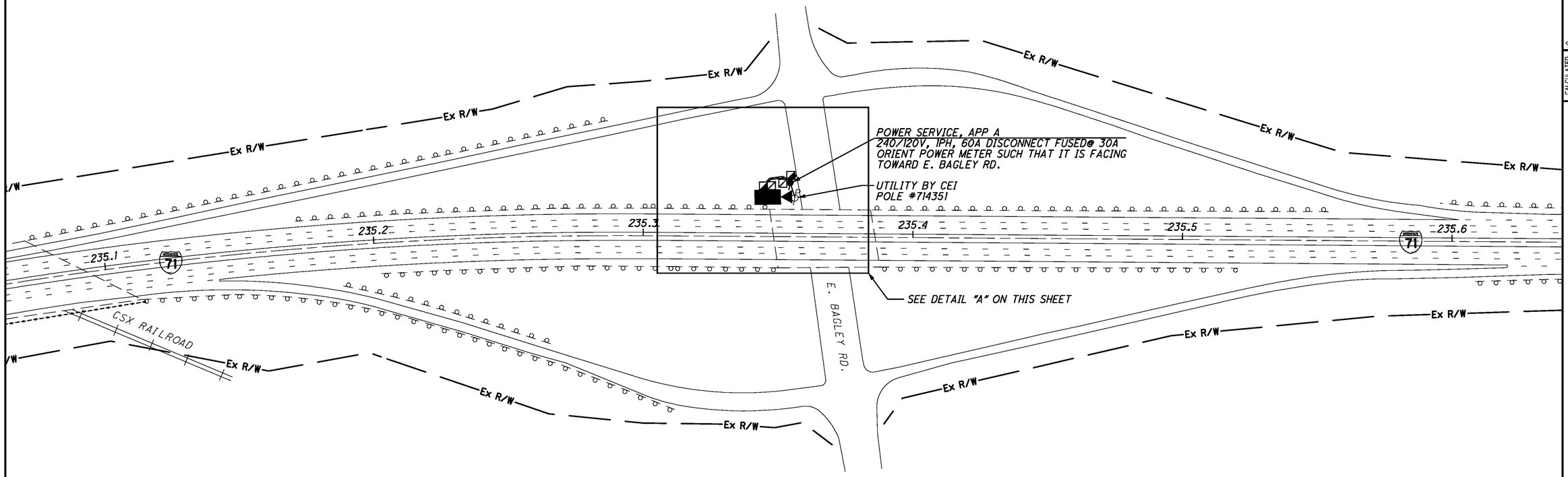
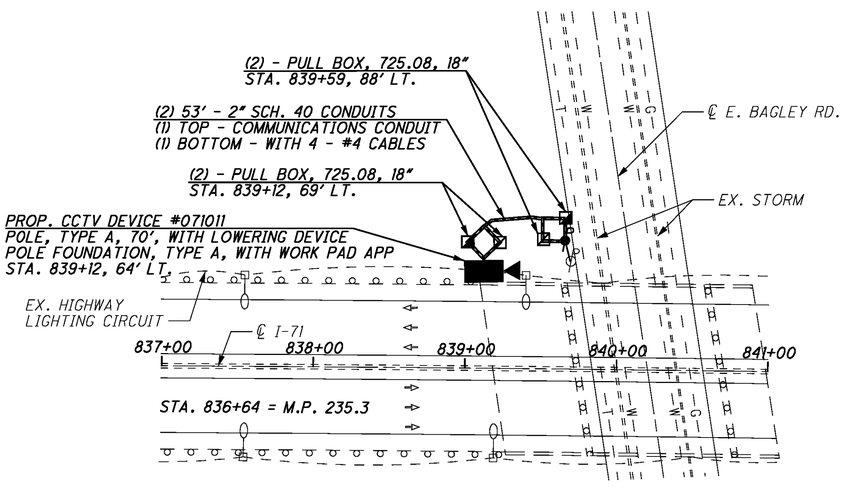


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 189 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 071011

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-71 AT BAGLEY RD. (MP 235.06 TO MP 235.64)
CITY OF MIDDLEBURG HTS, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

71
207

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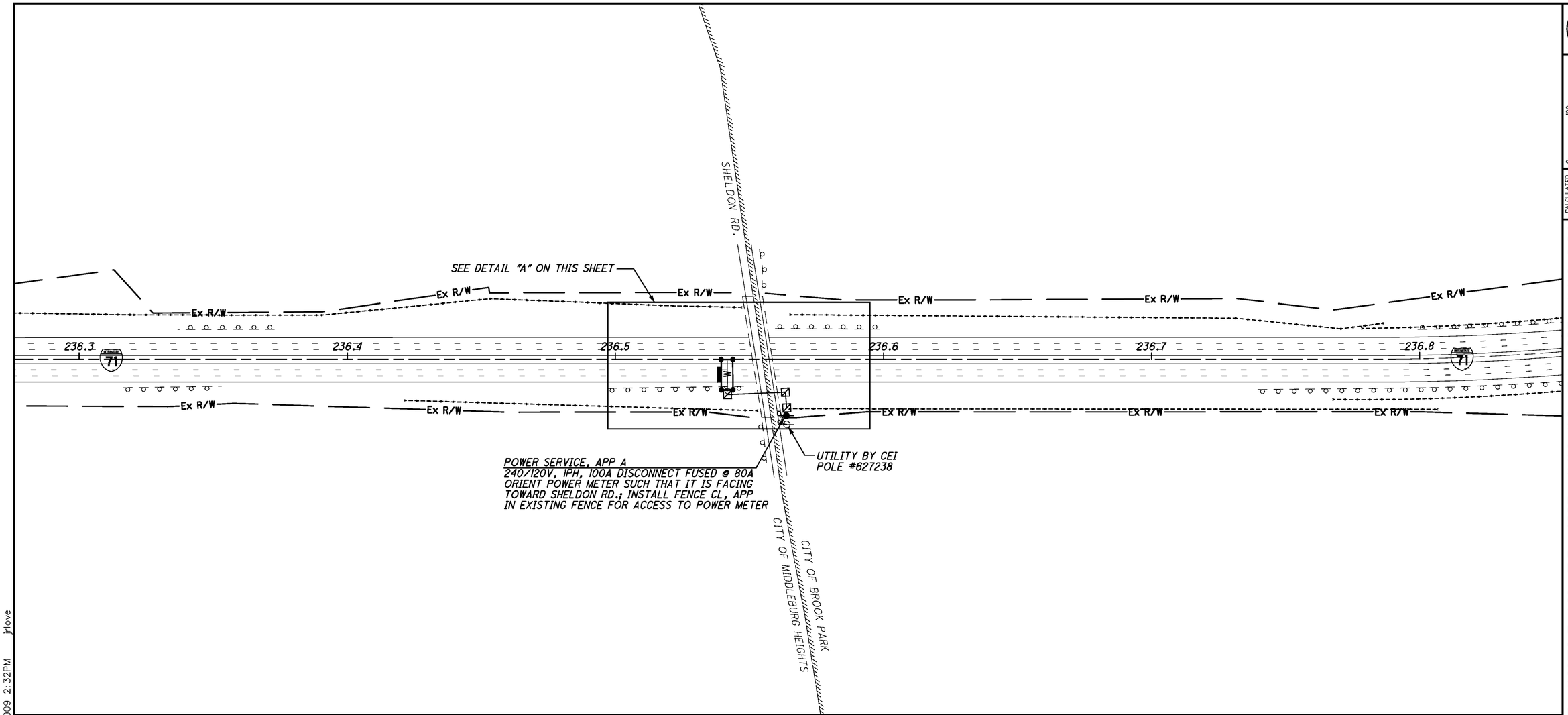
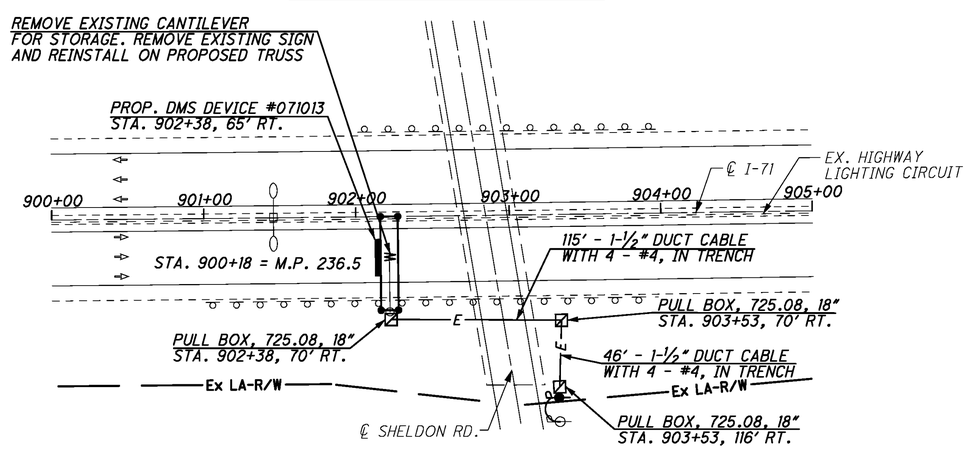


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 11 FOR CONCRETE BARRIER REPLACEMENT DETAILS

REFER TO SHEET 11B FOR BARRIER AT TRANSITION DETAILS

REFER TO SHEET 15A FOR PULL BOX ORIENTATION FOR DMS LOCATIONS DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO TRUSS ROW SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO CONCRETE BARRIER MEDIAN TRUSS AND PEDESTAL SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 174 FOR DMS PROFILE

REFER TO SHEET 189 FOR COMMUNICATIONS PLANS

REFER TO SHEET 202 FOR TYPICAL DMS WIRELESS COMMUNICATIONS DETAILS

DMS 071013

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-71 AT SHELDON RD. (MP 236.28 TO MP 236.86)
CITY OF MIDDLEBURG HTS, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

72
207

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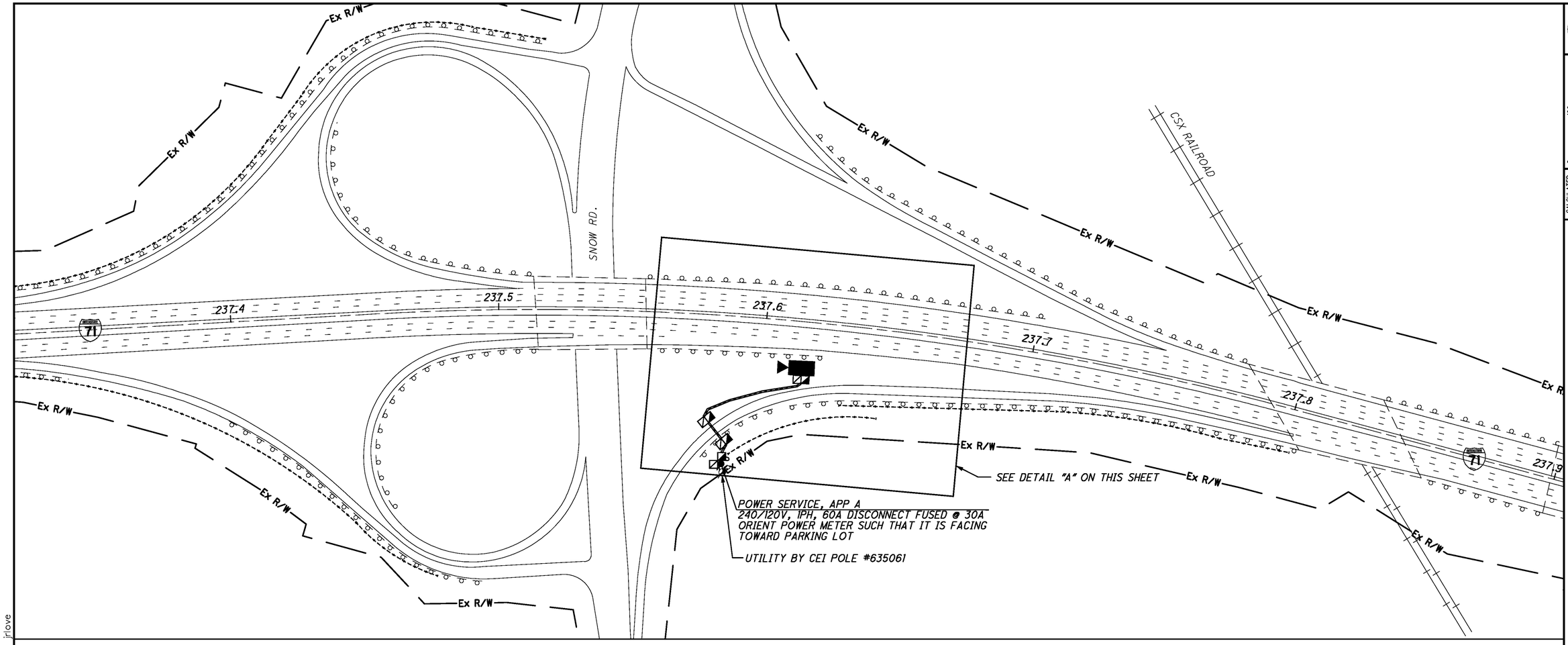
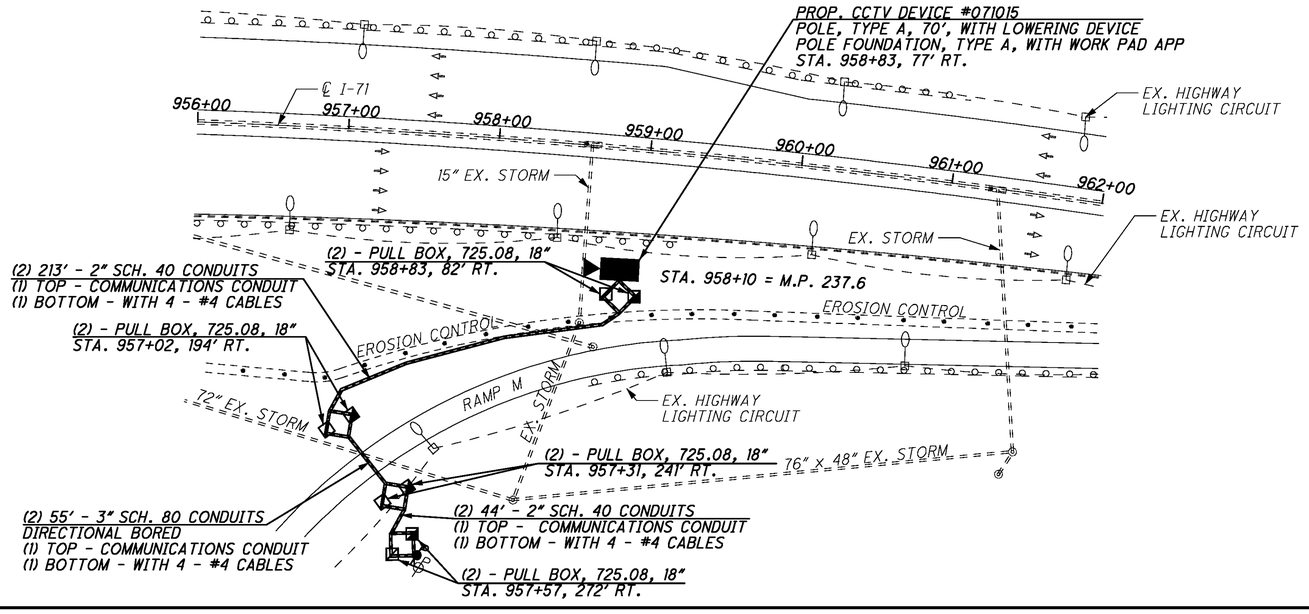


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 189 FOR COMMUNICATIONS PLANS

REFER TO SHEET 198 FOR TYPICAL CCTV T-1 COMMUNICATIONS DETAILS

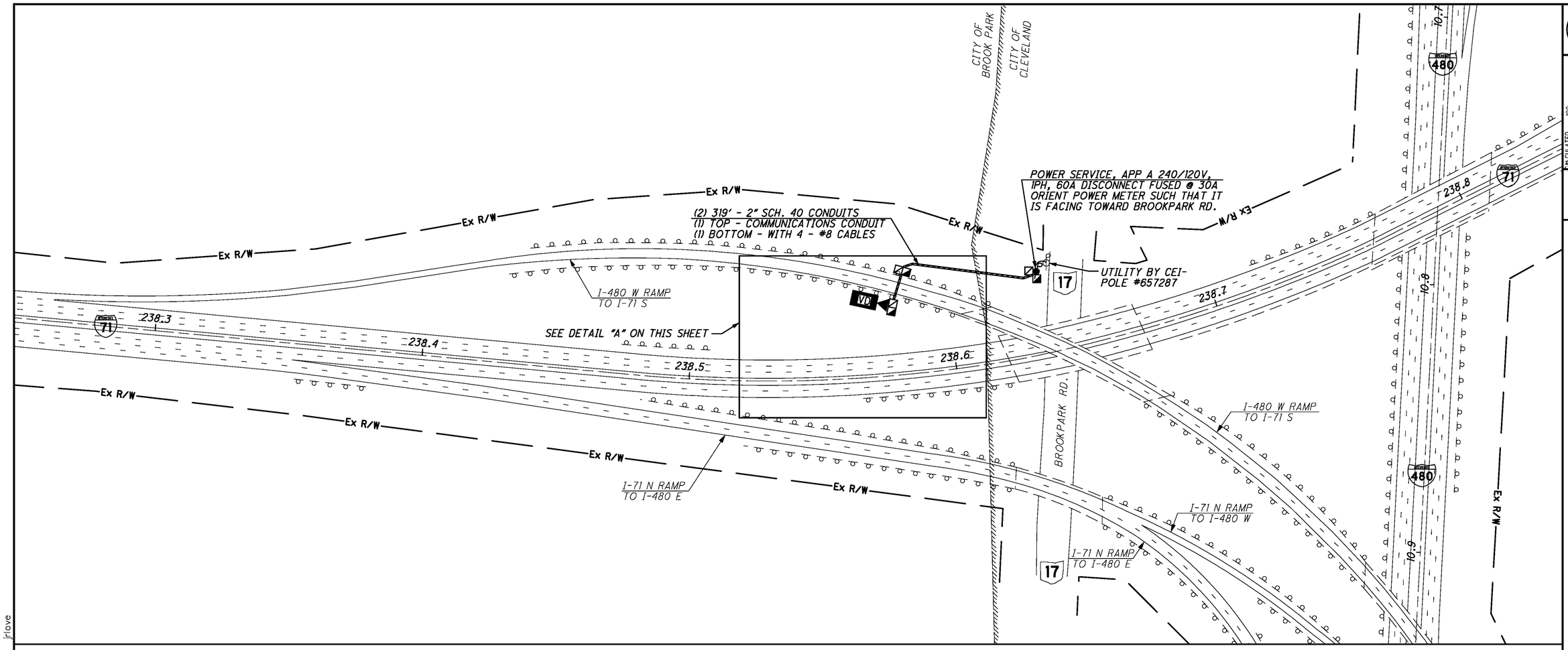
CCTV 071015

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-71 AT SNOW RD. (MP 237.32 TO MP 237.90)
CITY OF BROOK PARK, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM



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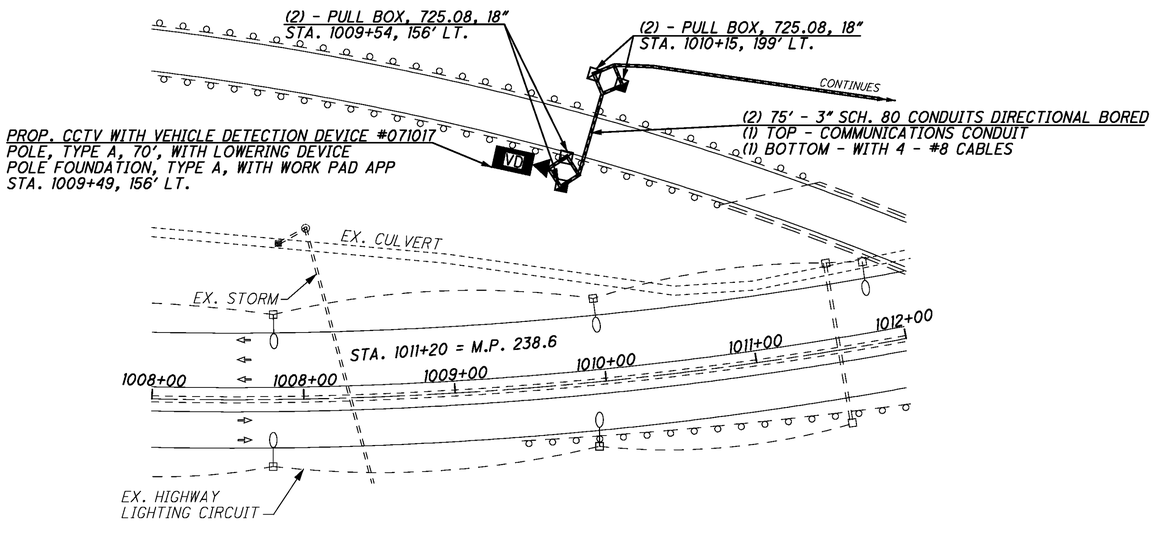

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 24 FOR TYPICAL CCTV CAMERA WITH VEHICLE DETECTOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 189 FOR COMMUNICATIONS PLANS

REFER TO SHEET 201 FOR TYPICAL CCTV W/VD EOC COMMUNICATIONS DETAILS

CCTV 071017

HORIZONTAL SCALE IN FEET
0 50 100 200
CALCULATED
STS
CHECKED JDG

I-71 AT SR-17 (MP 238.25 TO MP 238.84)
CITY OF BROOK PARK, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

74
207

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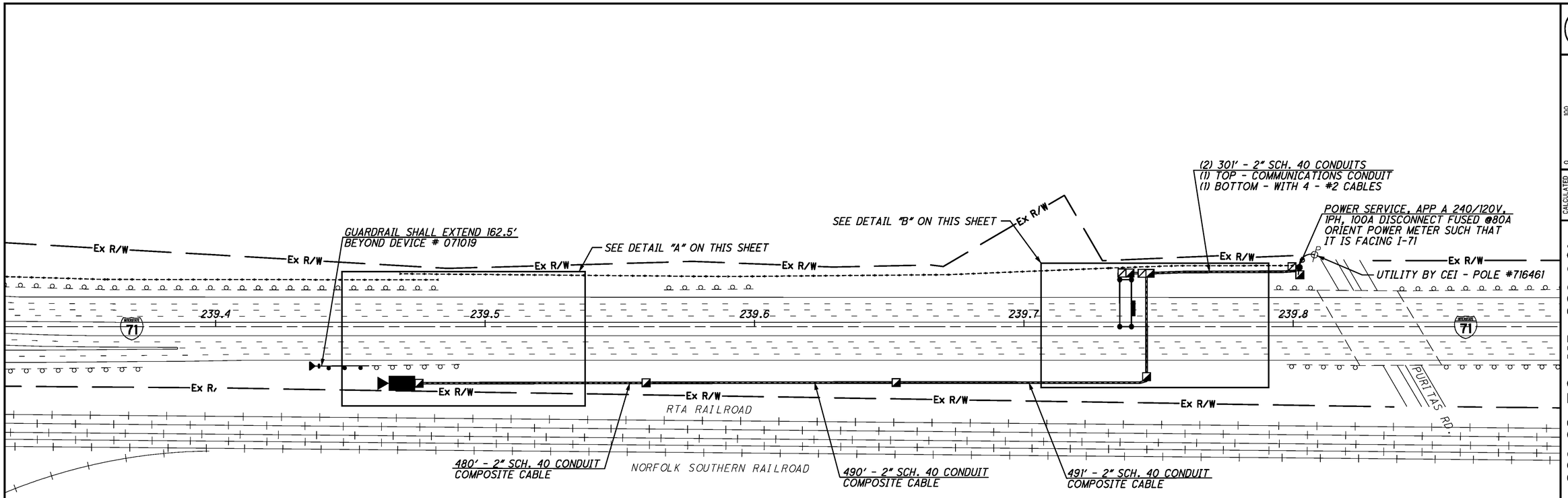

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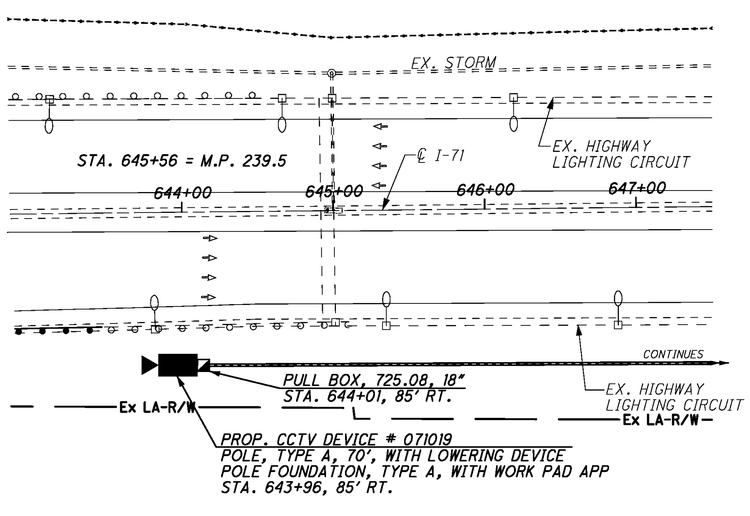
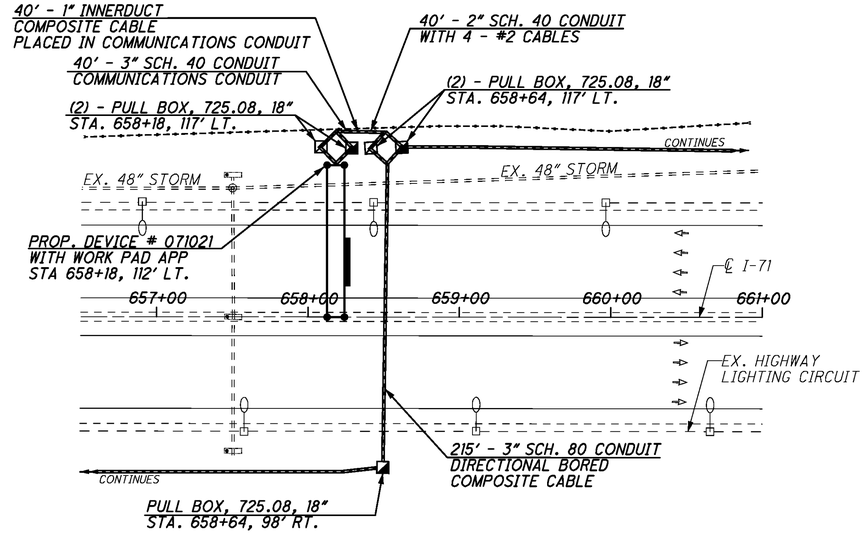


DETAIL "B" - NOT TO SCALE



REFER TO SHEET 11 FOR CONCRETE BARRIER REPLACEMENT DETAILS

REFER TO SHEET 11B FOR BARRIER AT TRANSITION DETAILS

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEETS 15-15A FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO TRUSS ROW SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO CONCRETE BARRIER MEDIAN TRUSS AND PEDESTAL SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 175 FOR DMS PROFILE

REFER TO SHEET 189 FOR COMMUNICATIONS PLANS

REFER TO SHEET 206 FOR TYPICAL DMS W/ COMPOSITE CABLE T-1 DETAILS

REFER TO SHEET 207 FOR TYIPCAL CCTV W/ COMPOSITE CABLE DETAILS

CCTV 071019
DMS 071021

HORIZONTAL SCALE IN FEET
0 50 100 200

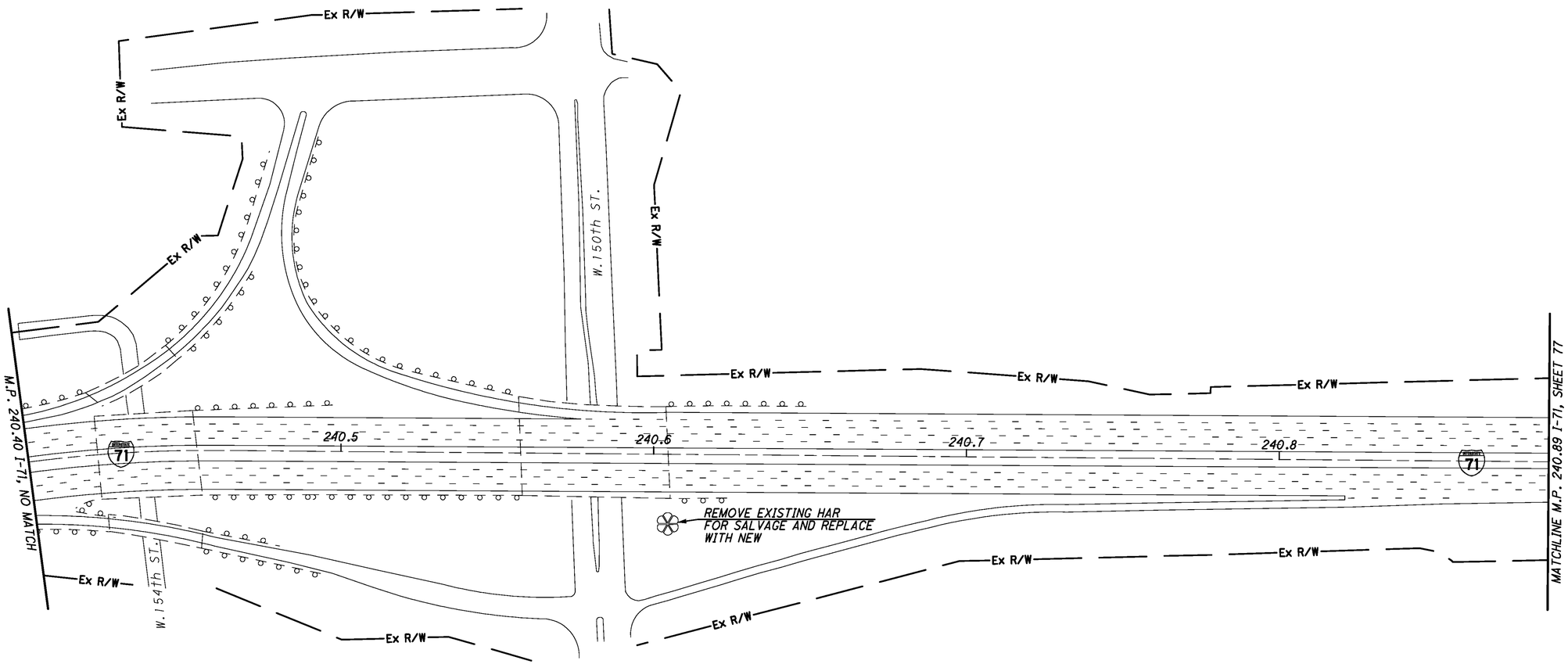
CALCULATED STS
CHECKED JDG

I-71 AT PURITAS RD. (MP 239.32 TO MP 239.90)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

75
207

M:\JOBS\39926\TECHPROD\hwy\traf\77331GP042.dgn 12-DEC-2008 7:18AM jrlove



REFER TO SHEET 21 FOR TYPICAL HAR DETAILS

REFER TO SHEET 189 FOR COMMUNICATIONS PLANS

REFER TO SHEET 203 FOR TYPICAL HAR WIRELESS COMMUNICATIONS DETAILS

EXISTING HAR 71-2

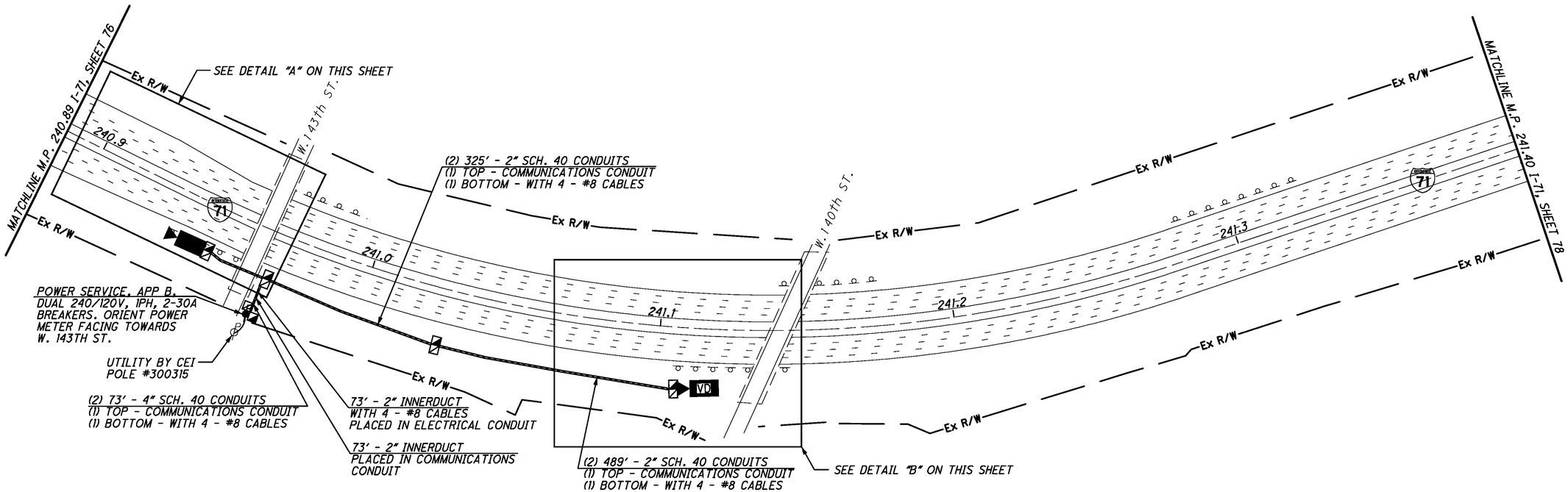
I-71 AT W.150TH ST. (MP 240.40 TO MP 240.89)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

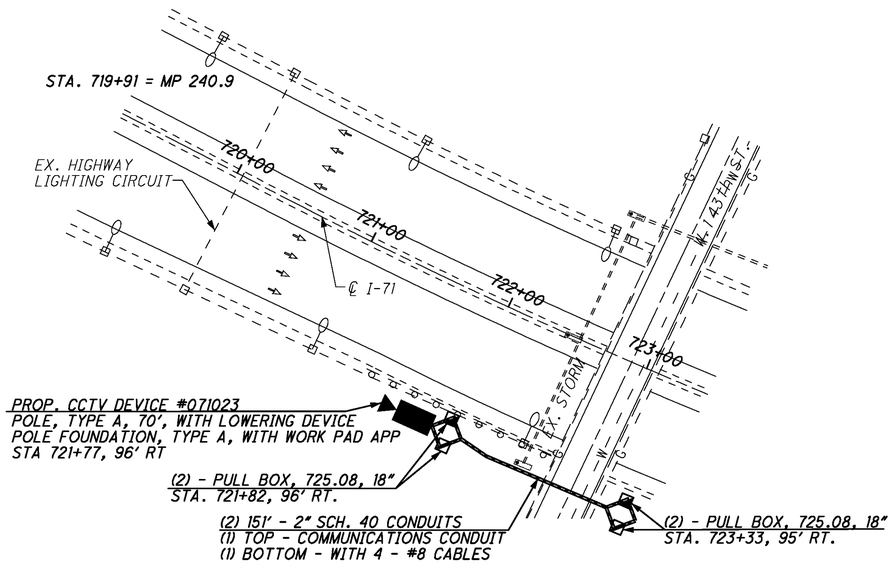
CALCULATED STS
CHECKED JDG

0 50 100 200
HORIZONTAL SCALE IN FEET

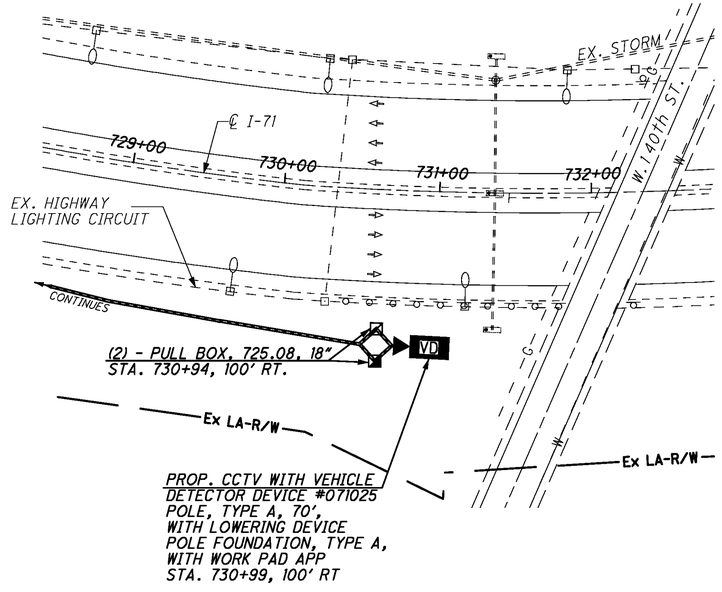
M:\JOBS\39926\TECHPROD\hwy\traf\77331GP044.dgn 11-DEC-2008 7:11AM jrlove



DETAIL "A" - NOT TO SCALE



DETAIL "B" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 17 FOR TYPICAL POWER SERVICE AS PER PLAN B DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 190 FOR COMMUNICATIONS PLANS

REFER TO SHEET 198 FOR TYPICAL CCTV T-1 COMMUNICATIONS DETAILS

REFER TO SHEET 199 FOR TYPICAL CCTV W/VD T-1 COMMUNICATIONS DETAILS

CCTV 071023
CCTV 071025

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-71 AT W.140TH ST. (MP 240.89 TO MP 241.40)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

77
207

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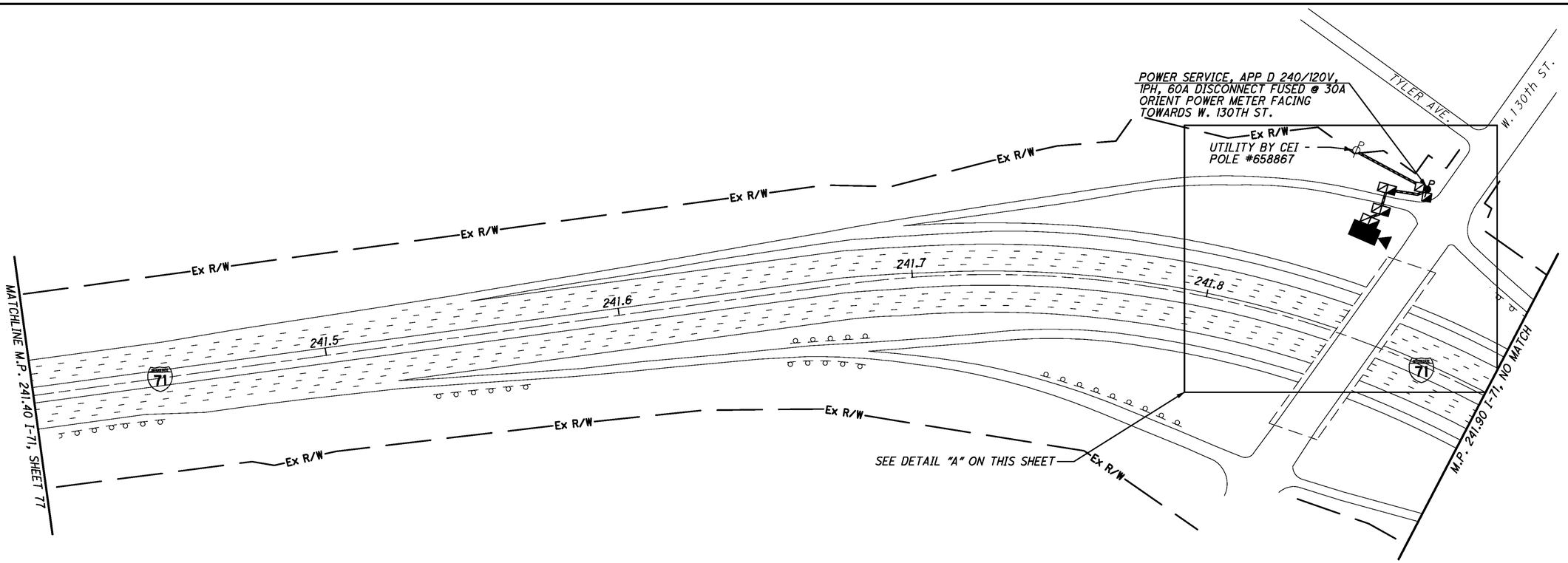

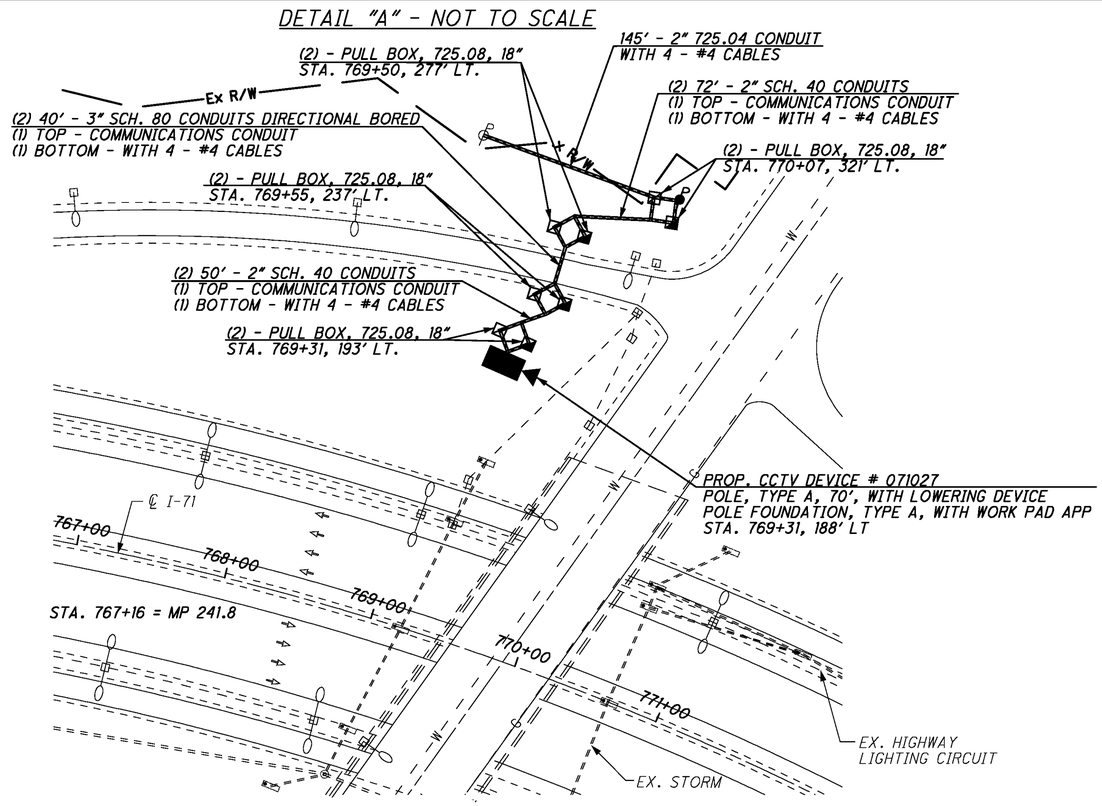

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 17 FOR TYPICAL POWER SERVICE AS PER PLAN D DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 190 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 071027

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-71 AT W.130TH ST. (MP 241.40 TO MP 241.90)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

78
207

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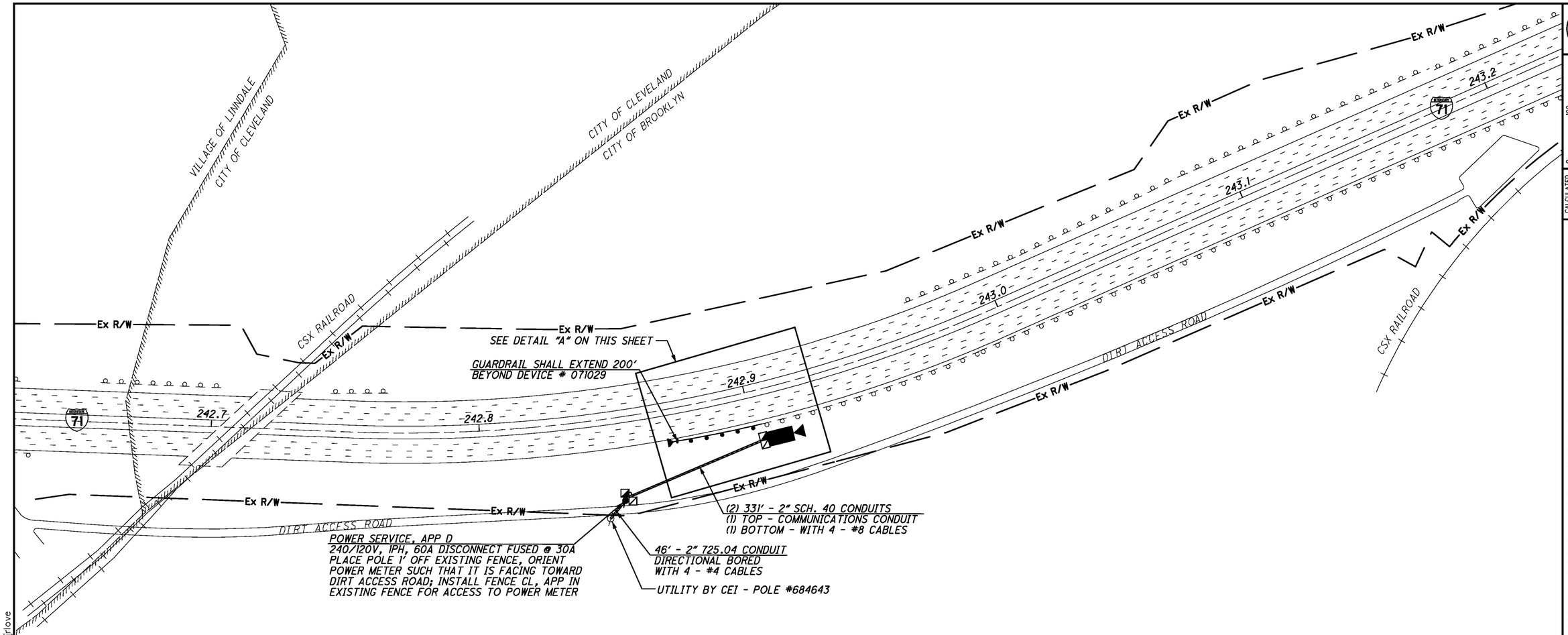

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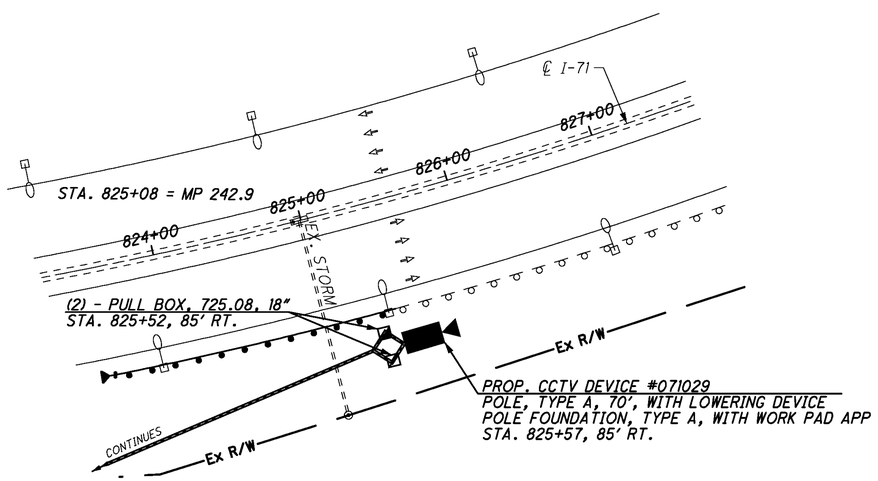

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 17 FOR TYPICAL POWER SERVICE AS PER PLAN D DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 190 FOR COMMUNICATIONS PLANS

REFER TO SHEET 198 FOR TYPICAL CCTV T-1 COMMUNICATIONS DETAILS

CCTV 071029

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-71 AT MEMPHIS AVE. (MP 242.63 TO MP 243.23)
CITY OF BROOKLYN, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

79
207

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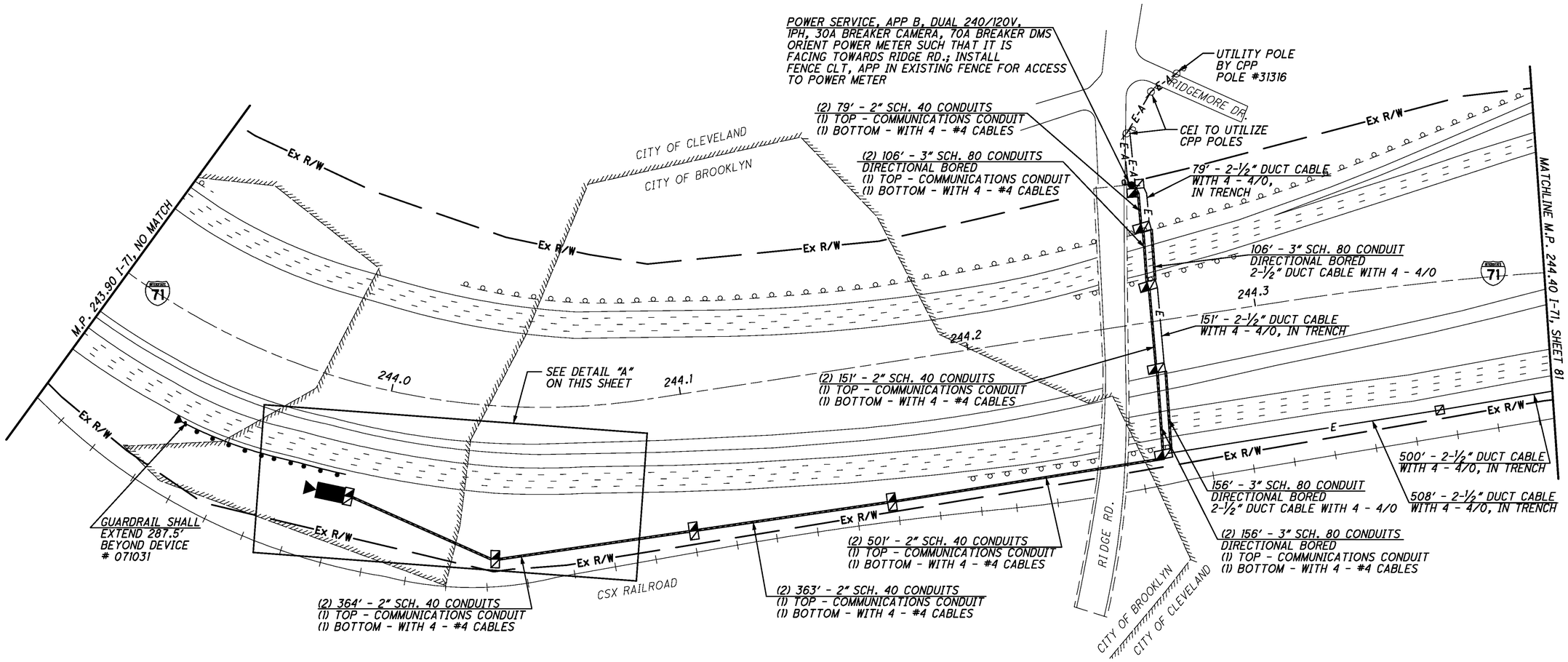
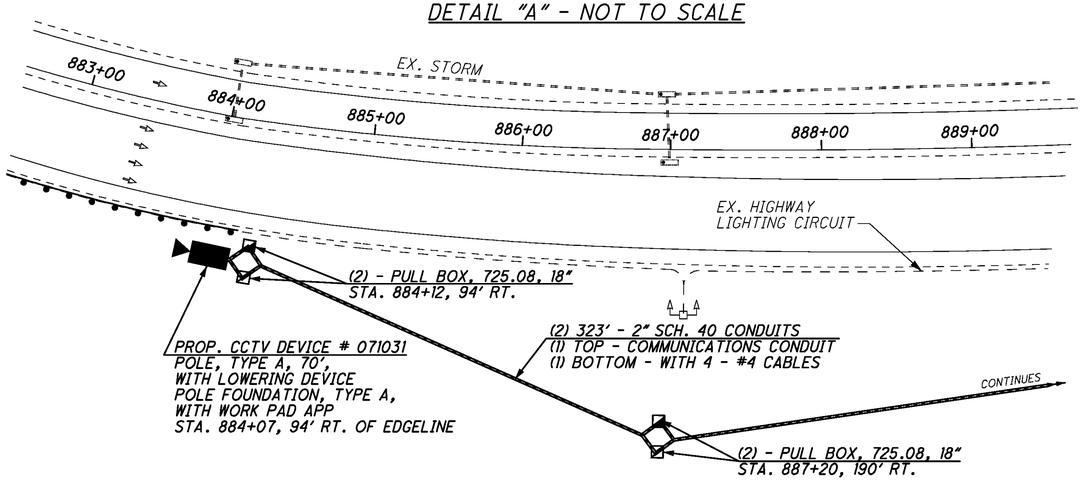


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 17 FOR TYPICAL POWER SERVICE AS PER PLAN B DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 190 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 071031

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-71 AT RIDGE ROAD (MP 243.90 TO MP 244.40
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND
FREEWAY MANAGEMENT
SYSTEM

80
207

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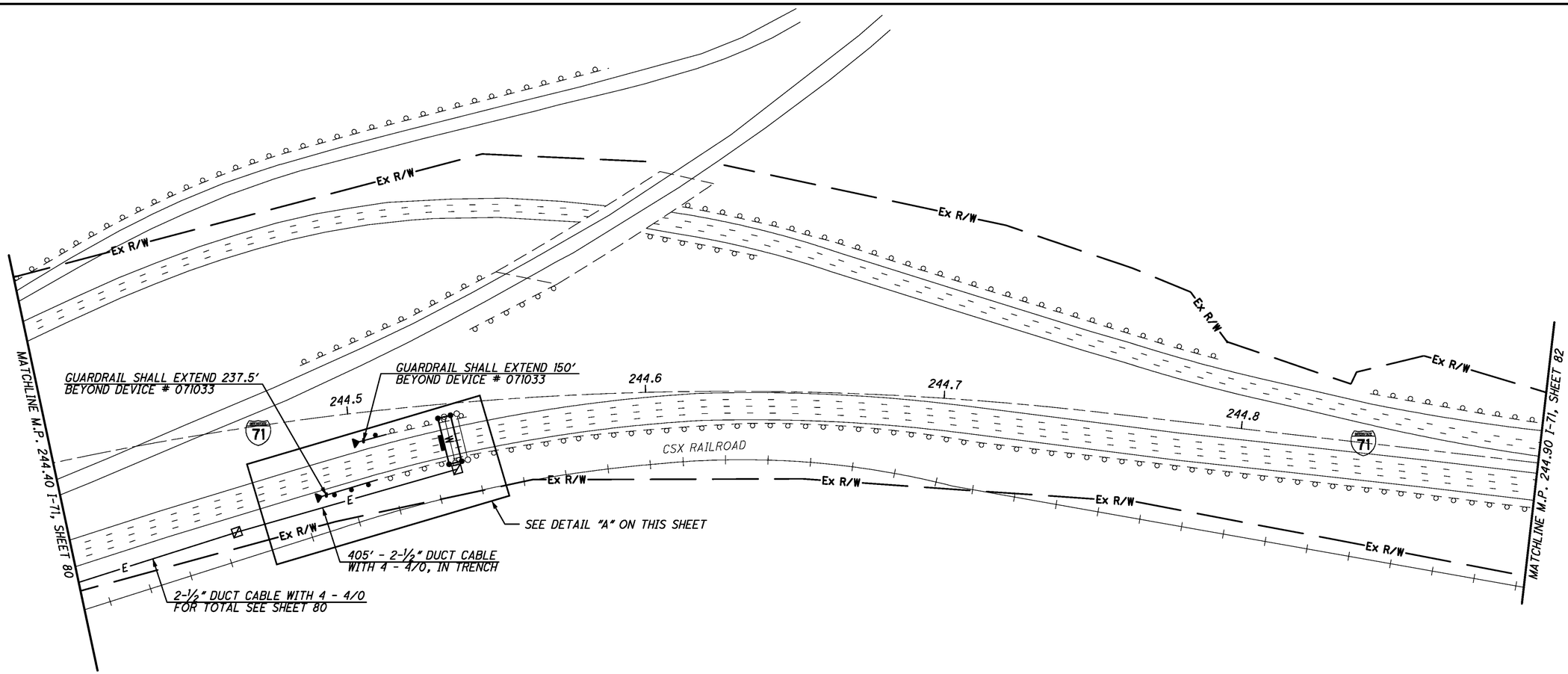
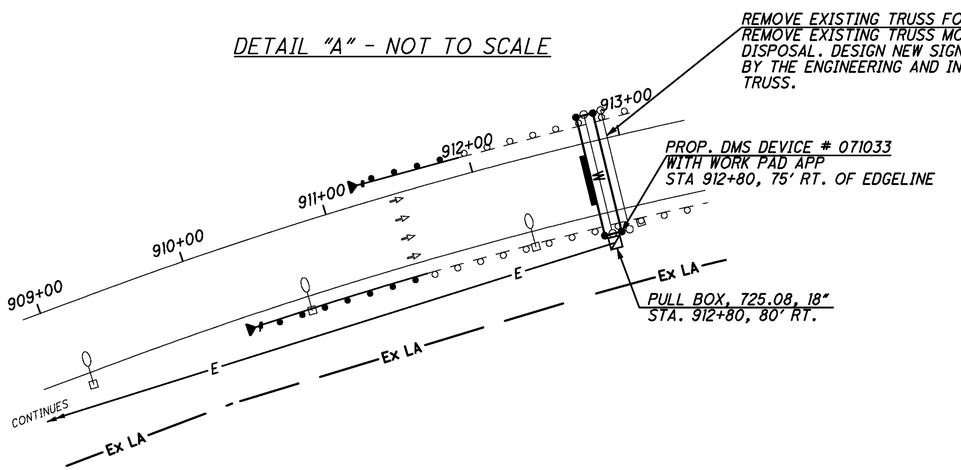


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 15A FOR PULL BOX ORIENTATION FOR DMS LOCATIONS DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS SYSTEM DETAILS

REFER TO TRUSS ROW SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 175 FOR DMS PROFILE

REFER TO SHEET 190 FOR COMMUNICATIONS PLANS

REFER TO SHEET 202 FOR TYPICAL DMS WIRELESS COMMUNICATIONS DETAILS

DMS 071033

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-71 S OF DENISON AVE. (MP 244.40 TO MP 244.90)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

81
207

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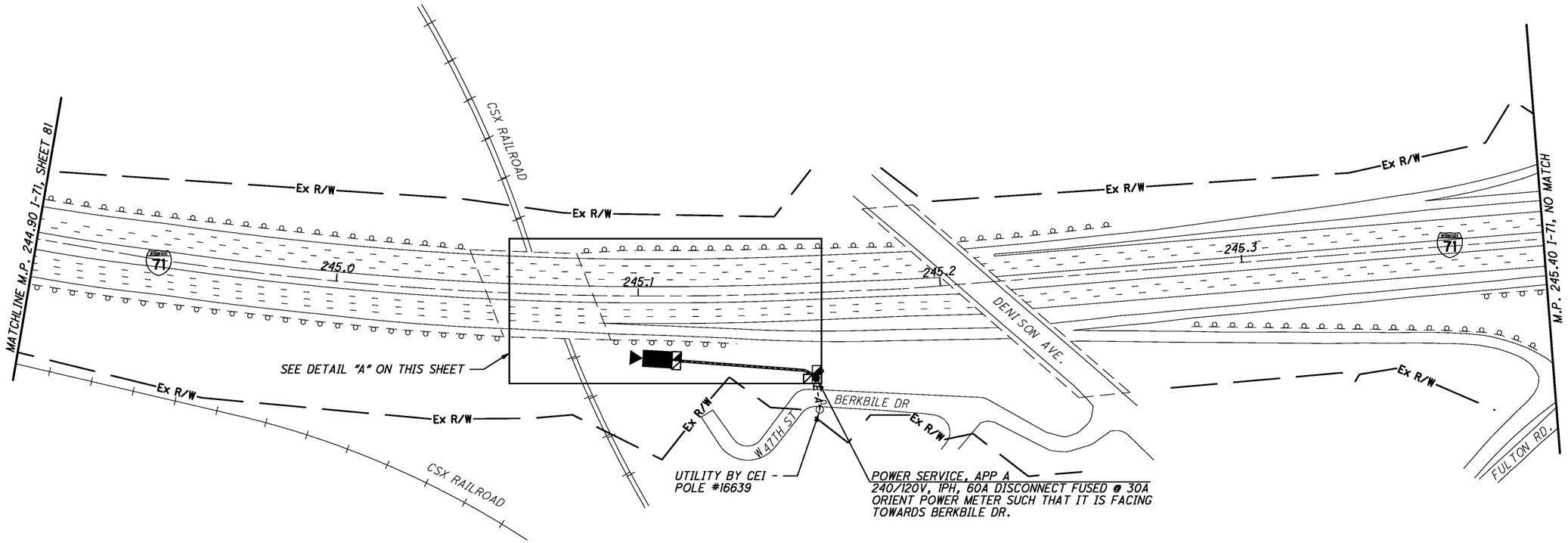
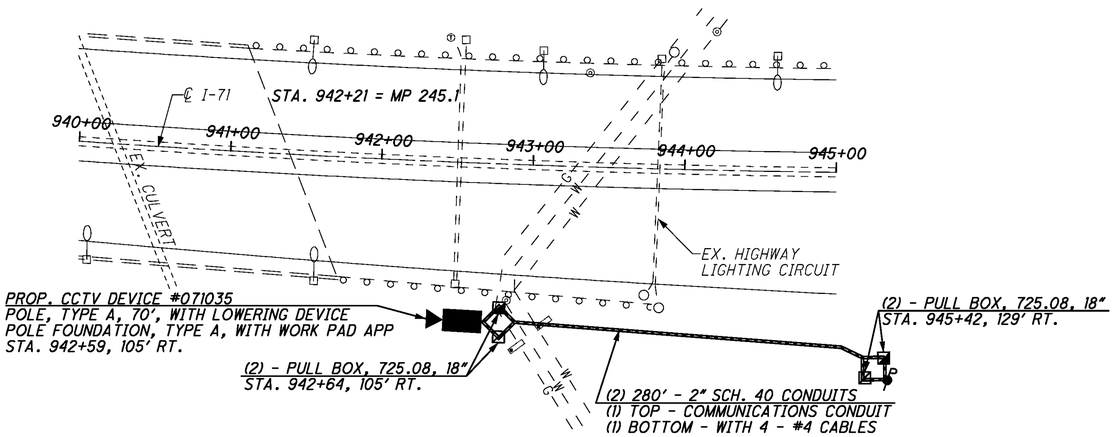


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 190 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 071035

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-71 AT DENISON AVE. (MP 244.90 TO MP 245.40)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

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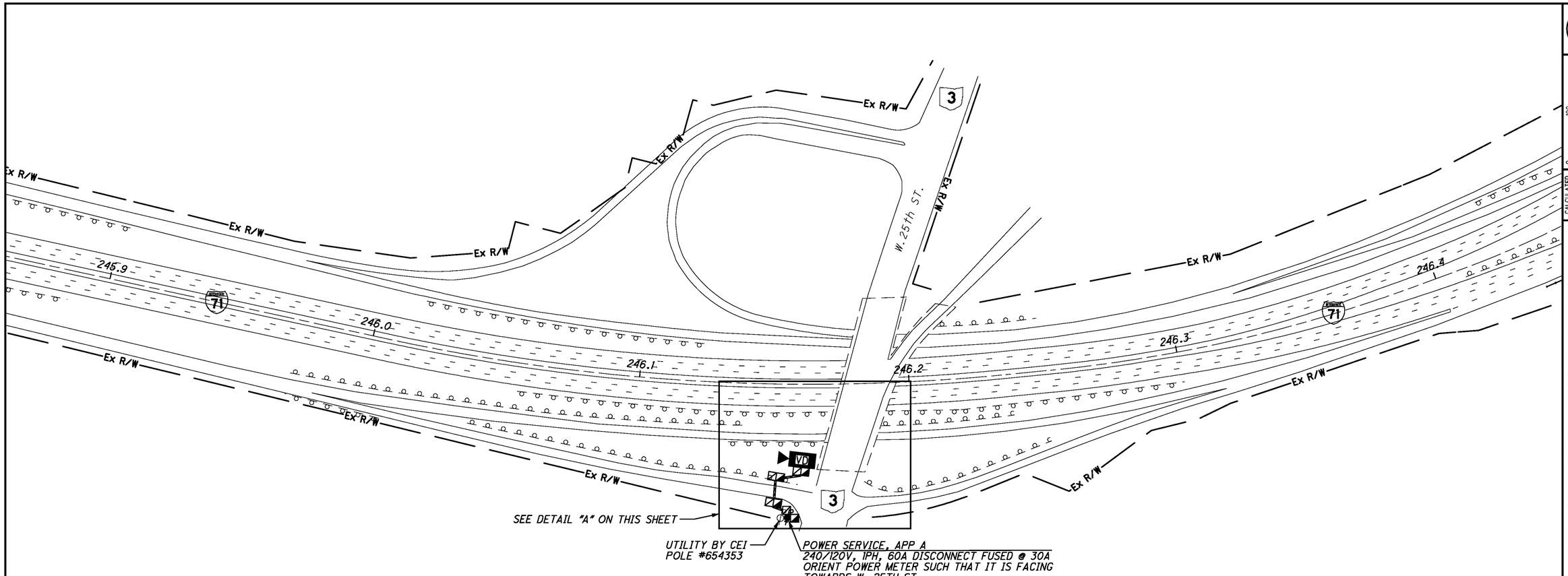
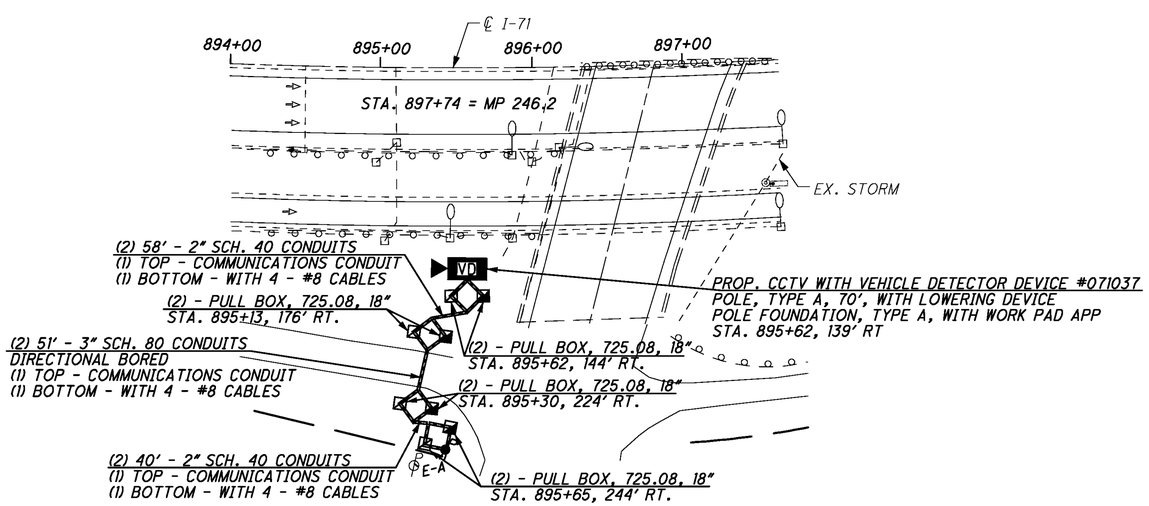


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 24 FOR TYPICAL CCTV WITH VEHICLE DETECTOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 190 FOR COMMUNICATIONS PLANS

REFER TO SHEET 201 FOR TYPICAL CCTV W/VD EOC COMMUNICATIONS DETAILS

CCTV 071037

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-71 AT SR-3 (MP 245.85 TO MP 246.45)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

83
207

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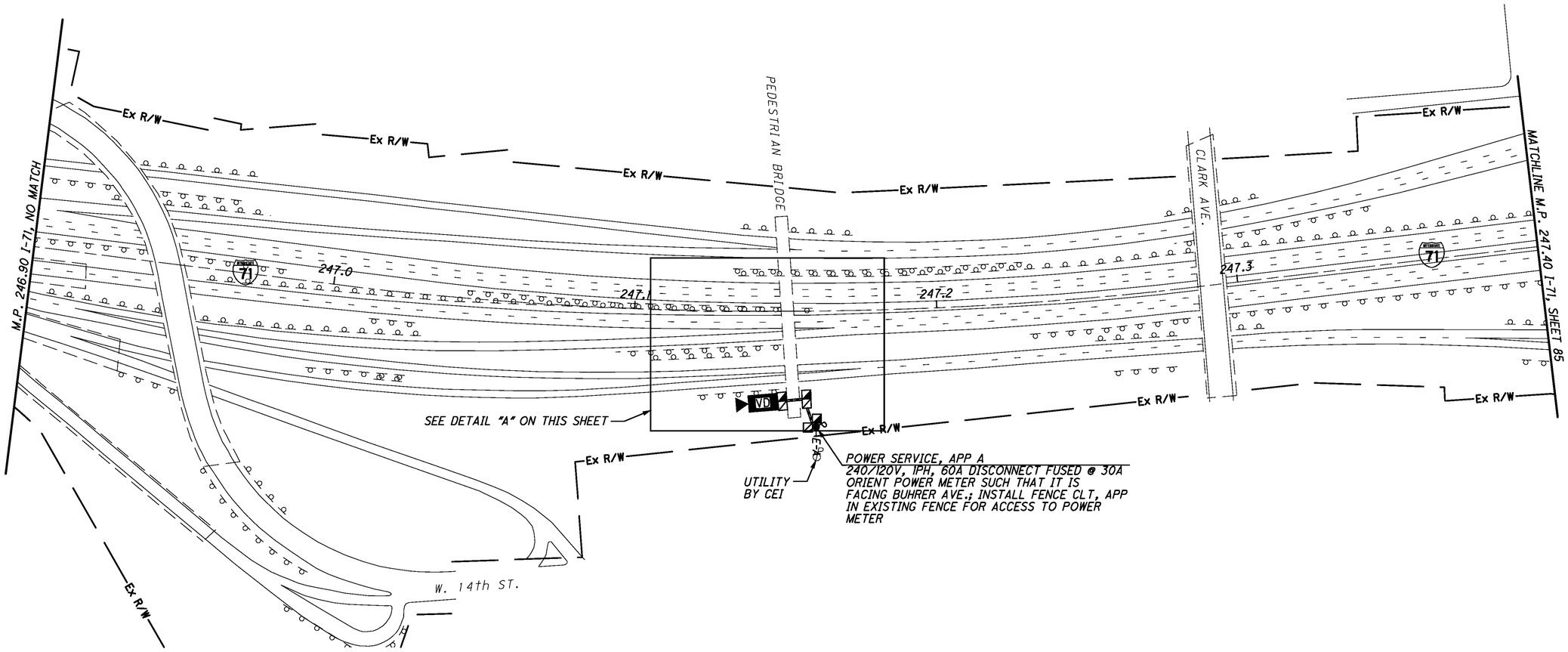

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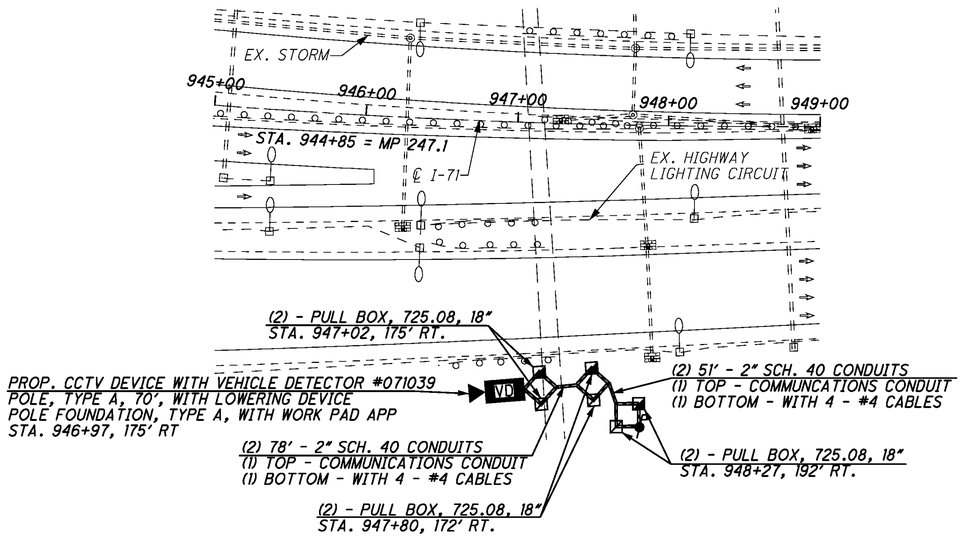

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 190 FOR COMMUNICATIONS PLANS

REFER TO SHEET 199 FOR TYPICAL CCTV W/VD T-1 COMMUNICATIONS DETAILS

CCTV 071039

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-71 AT CLARK AVE. (MP 246.90 TO MP 247 .40)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

84
207

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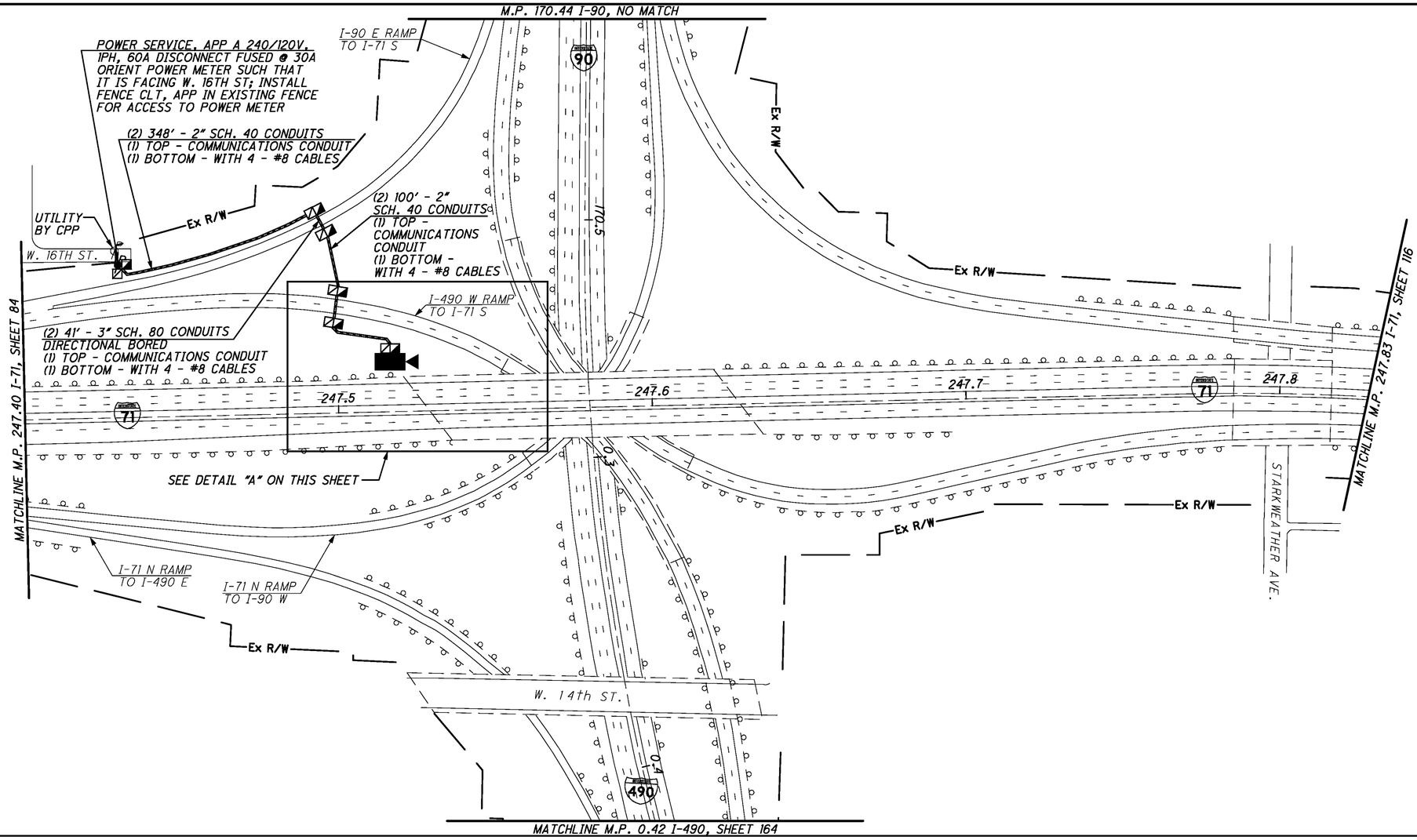

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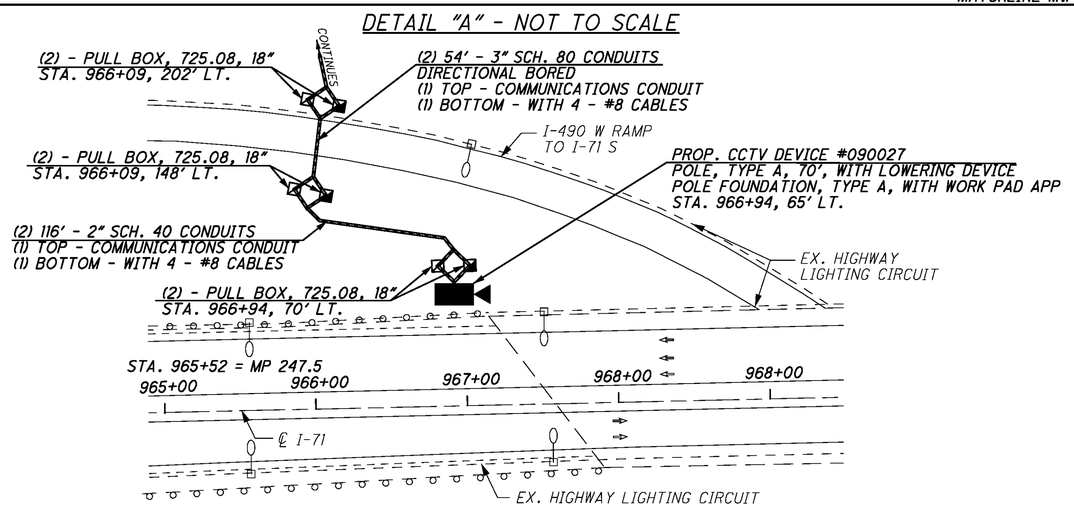

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 190 FOR COMMUNICATIONS PLANS

REFER TO SHEET 198 FOR TYPICAL CCTV T-1 COMMUNICATIONS DETAILS

CCTV 090027

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-71 AT I-90/I-490 (MP 247.40 TO MP 247.83)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

85
207

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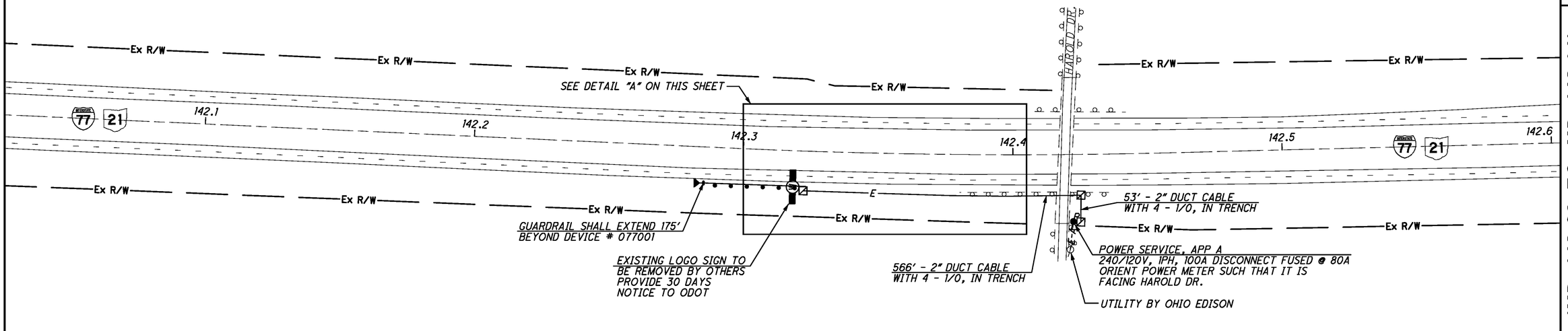

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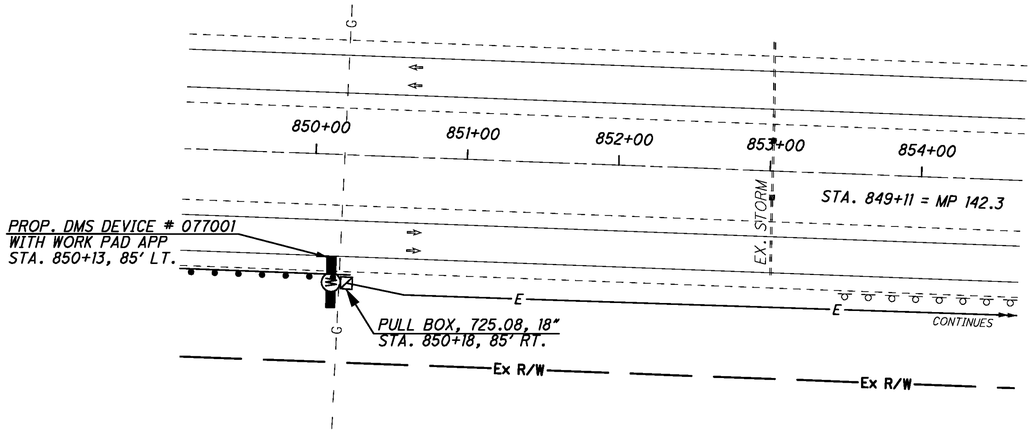


REFER TO SHEET 15A FOR PULL BOX ORIENTATION FOR DMS LOCATIONS DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO DMS PEDESTAL SIGN SUPPORT PIER FOUNDATION DESIGNS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 191 FOR COMMUNICATIONS PLANS

REFER TO SHEET 202 FOR TYPICAL DMS WIRELESS COMMUNICATIONS DETAILS

DMS 077001

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-77 AT HAROLD DR. (MP 142.03 TO MP 142.61)
CITY OF RICHFIELD, SUMMIT COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

Ex R/W

Ex R/W

(2) 149' - 2" SCH. 40 CONDUITS
(1) TOP - COMMUNICATIONS CONDUIT
(1) BOTTOM - WITH 4 - #6 CABLES

(2) 311' - 2" SCH. 40 CONDUITS
(1) TOP - COMMUNICATIONS CONDUIT
(1) BOTTOM - WITH 4 - #6 CABLES

INTERSTATE 271

I-271 S RAMP
TO I-77 S

10.1

(2) 519' - 2" SCH. 40 CONDUITS
(1) TOP - COMMUNICATIONS CONDUIT
(1) BOTTOM - WITH 4 - #6 CABLES

Ex R/W

I-77 S RAMP
TO I-271 S

INTERSTATE 77 21

143.3

143.4

143.5

143.6

143.7

INTERSTATE 77 21

420' - 2" SCH. 40 CONDUIT
COMMUNICATIONS CONDUIT

Ex R/W

Ex R/W

Ex R/W

450' - 2" SCH. 40 CONDUIT
COMMUNICATIONS CONDUIT

I-77 N RAMP
TO I-271 N

10.2

COMMUNICATIONS POLE
COMMUNICATIONS TO BE
PROVIDED BY WINDSTREAM

TENNIS
COURTS

POWER SERVICE, APP C TRANSFORMER,
GENERAL PURPOSE, 7.5KVA, NON-VENTILATED TYPE
SECONDARY DISCONNECT 240/120V, 1PH, 60A
DISCONNECT FUSED @ 30A PRIMARY SIDE 480V
DISCONNECT FUSED @ 15A
SEE DETAIL 7 SHEET 18 AND DETAIL 3 SHEET 19
ORIENT POWER METER SUCH THAT IT IS FACING I-77

EXISTING 480/240V
PAD MOUNTED TRANSFORMER
OHIO EDISON

Ex R/W

(2) 45' - 3" SCH. 80 CONDUITS
DIRECTIONAL BORED
(1) TOP - COMMUNICATIONS CONDUIT
(1) BOTTOM - WITH 4 - #6 CABLES

SEE DETAIL "A" ON THIS SHEET

35' - 2" 725.04 CONDUIT
WITH 4 - #4 CABLES

(2) 59' - 3" SCH. 80 CONDUITS
DIRECTIONAL BORED
(1) TOP - COMMUNICATIONS CONDUIT
(1) BOTTOM - WITH 4 - #6 CABLES

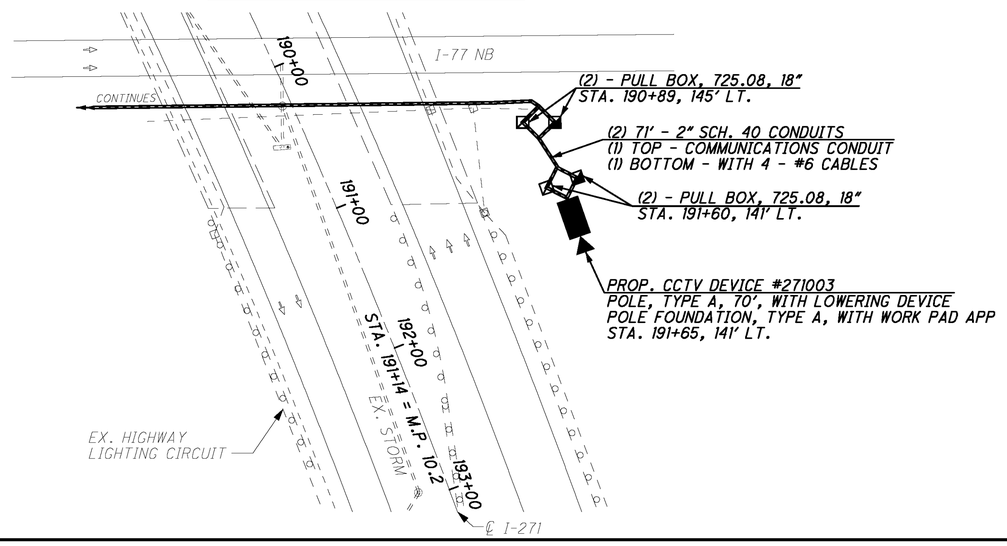
I-271 N RAMP
TO I-77 N

DIRT ACCESS
ROAD

INTERSTATE 271

I-271 N RAMP
TO I-77 N

DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 17 FOR TYPICAL POWER SERVICE AS PER PLAN C DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 195 FOR COMMUNICATIONS PLANS

REFER TO SHEET 198 FOR TYPICAL CCTV T-1 COMMUNICATIONS DETAILS

CCTV 271003

HORIZONTAL SCALE IN FEET
0 50 100 200

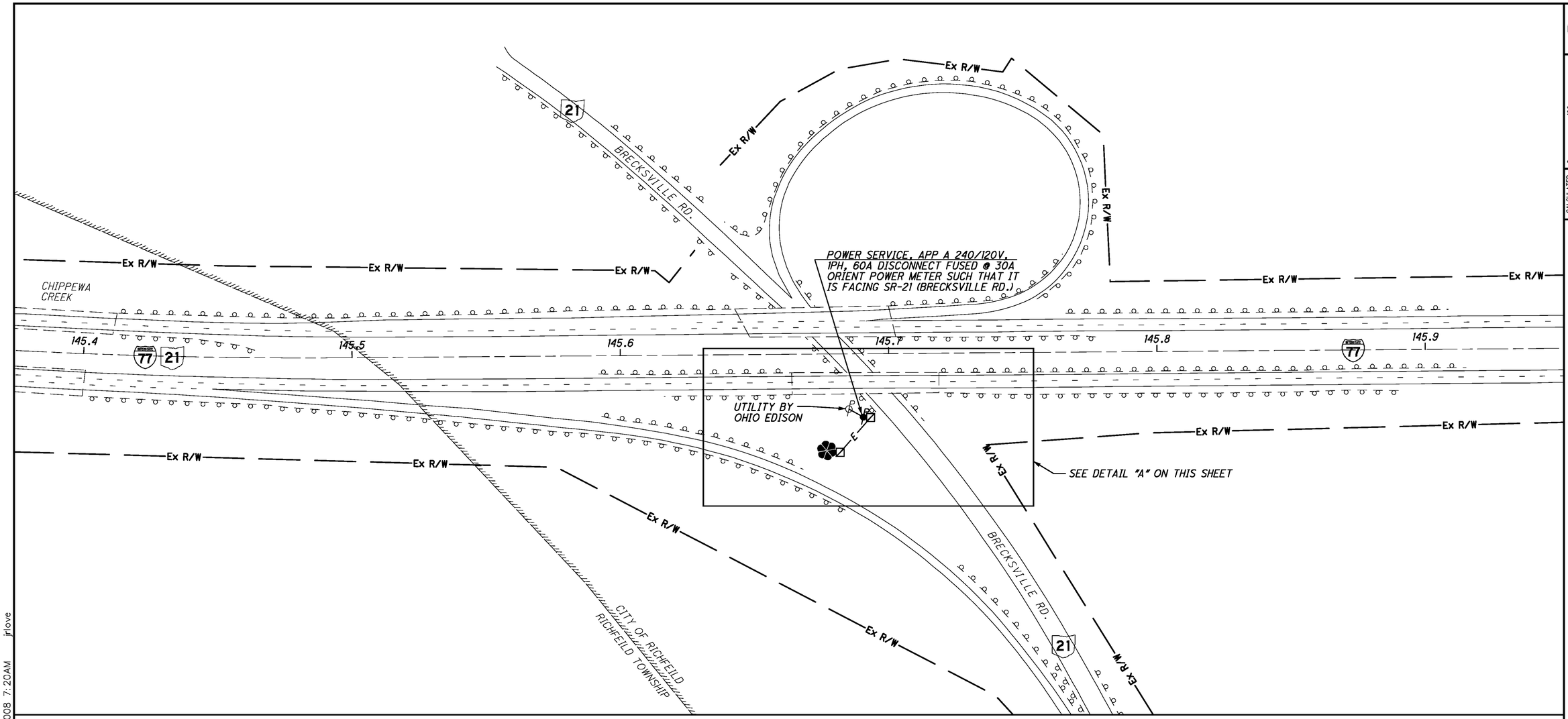
CALCULATED STS
CHECKED JDG

I-77 AT I-271 (MP 143.21 TO MP 143.79)
RICHFIELD TOWNSHIP, SUMMIT COUNTY

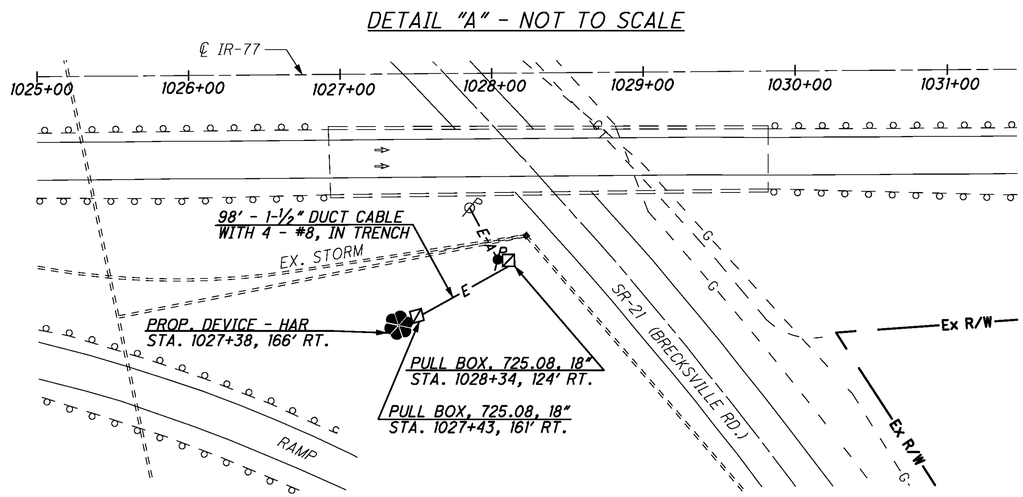
VAR-CLEVELAND
FREEWAY MANAGEMENT
SYSTEM

87
207

M:\JOBS\39926\TECHPROD\tw\tra\77331GP061.dgn 02-APR-2009 12:43PM jrlove



DETAIL "A" - NOT TO SCALE



REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 21 FOR TYPICAL HAR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 189 FOR COMMUNICATIONS PLANS

REFER TO SHEET 203 FOR TYPICAL HAR WIRELESS COMMUNICATIONS DETAILS

PROP. 77-N HAR

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-77 AT SR-21 (MP 145.37 TO MP 145.95)
CITY OF RICHFIELD, SUMMIT COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

88
207

M:\JOBS\39926\TECHPROD\hwy\traf\77331GP066.dgn 12-DEC-2008 7:20AM jrlove

Ex R/W

SEE DETAIL "A" ON THIS SHEET

172.3

146.7 | 146.8 | 146.9 | 147.0 | 147.1

I-77 N RAMP TO I-80

I-80 E RAMP TO I-77 N

200' - 2" SCH. 40 CONDUIT COMMUNICATIONS CONDUIT

EXISTING 480/240V PAD MOUNTED TRANSFORMER, OHIO EDISON

POWER SERVICE, APP C
TRANSFORMER, GENERAL PURPOSE, 7.5 kVA, NON-VENTILATED TYPE
SECONDARY DISCONNECT, 240/120V, 1PH, 60A DISCONNECT FUSED @ 30A
PRIMARY SIDE 480V
DISCONNECT FUSED AT 15A
SEE DETAIL 7 SHEET 18
AND DETAIL 3 SHEET 19
ORIENT POWER METER SUCH THAT IT IS FACING I-77

172.4

SUMMIT COUNTY
CUYAHOGA COUNTY

Ex R/W

500' - 2" SCH. 40 CONDUIT COMMUNICATIONS CONDUIT

157' - 3" SCH. 80 CONDUIT DIRECTIONAL BORED COMMUNICATIONS CONDUIT

511' - 2" SCH. 40 CONDUIT COMMUNICATIONS CONDUIT

COMMUNICATIONS POLE
COMMUNICATIONS TO BE PROVIDED BY WINDSTREAM

M/R x3

172.5

CITY OF RICHFIELD
CITY OF BRECKSVILLE

DETAIL "A" - NOT TO SCALE

EX. STORM

15+00

℄ I-80

STA. 1091+46 = M.P. 146.9

℄ I-77

1087+00 | 1088+00 | 1089+00 | 1090+00 | 1091+00 | 1092+00

(2) 363' - 2" SCH. 40 CONDUITS
(1) TOP - COMMUNICATIONS CONDUIT
(1) BOTTOM - WITH 4 - #8 CABLES

EX. STORM

17+00

EX. STORM

CONTINUES

EX. STORM

(2) - PULL BOX, 725.08, 18"
STA. 1091+43, 147' RT.

PROP. CCTV DEVICE #077003
POLE, TYPE A, 70', WITH LOWERING DEVICE
POLE FOUNDATION, TYPE A, WITH WORK PAD APP
STA. 1091+43, 152' RT.

(2) - PULL BOX, 725.08, 18"
STA. 1087+80, 135' RT.

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 17 FOR TYPICAL POWER SERVICE AS PER PLAN C DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 191 FOR COMMUNICATIONS PLANS

REFER TO SHEET 198 FOR TYPICAL CCTV T-1 COMMUNICATIONS DETAILS

CCTV 077003

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-77 AT OHIO TURNPIKE (MP 146.61 TO MP 147.18)
CITY OF RICHFIELD, SUMMIT COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

89
207

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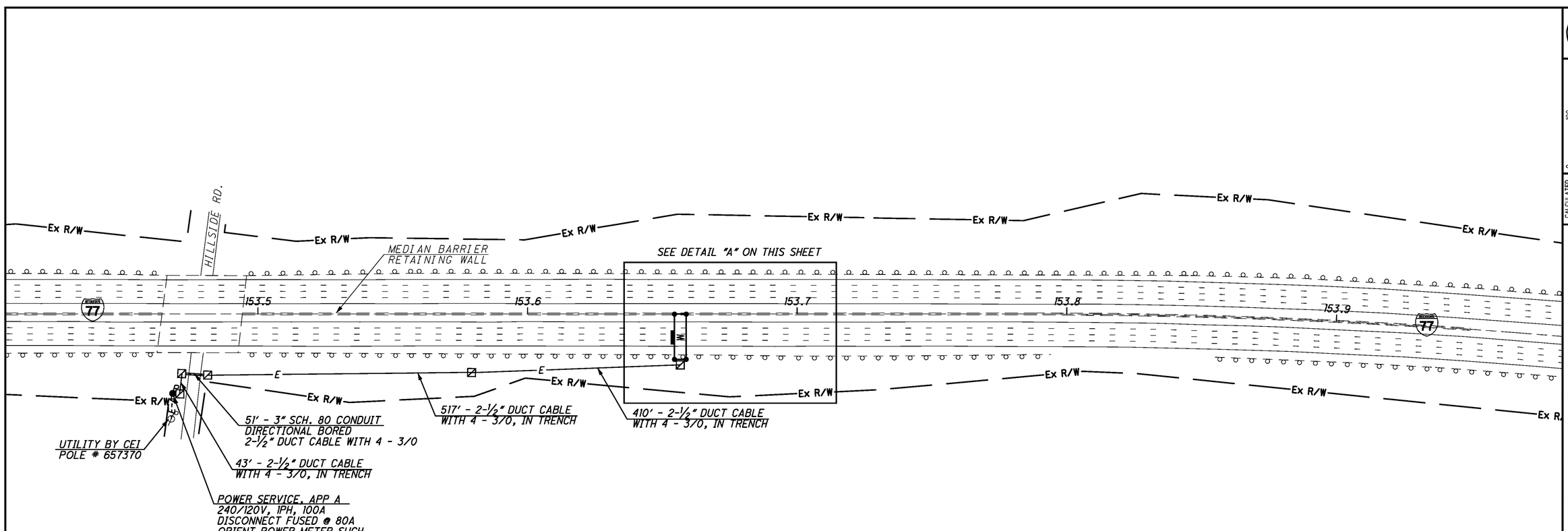

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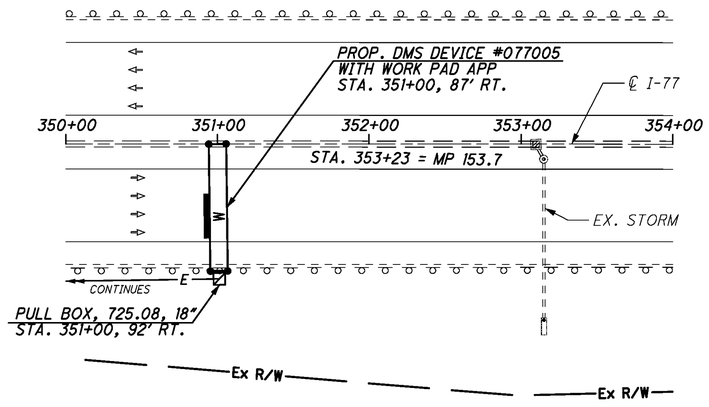

REFER TO SHEET 15A FOR PULL BOX ORIENTATION FOR DMS LOCATIONS DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO TRUSS ROW SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 176 FOR DMS PROFILE

REFER TO SHEET 191 FOR COMMUNICATIONS PLANS

REFER TO SHEET 202 FOR TYPICAL DMS WIRELESS COMMUNICATIONS DETAILS

DMS 077005

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-77 AT HILLSIDE RD. (MP 153.41 TO MP 153.98)
CITY OF INDEPENDENCE, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

90
207

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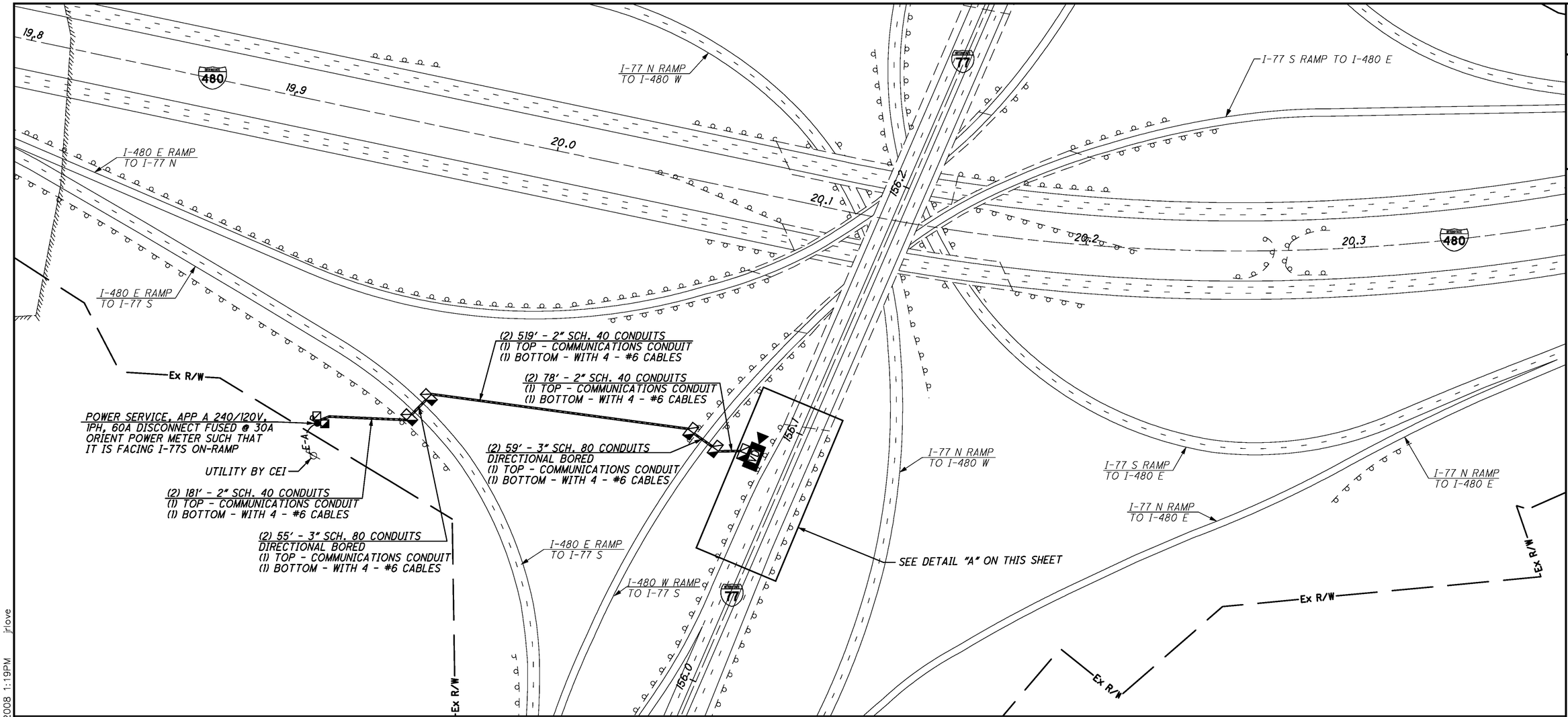

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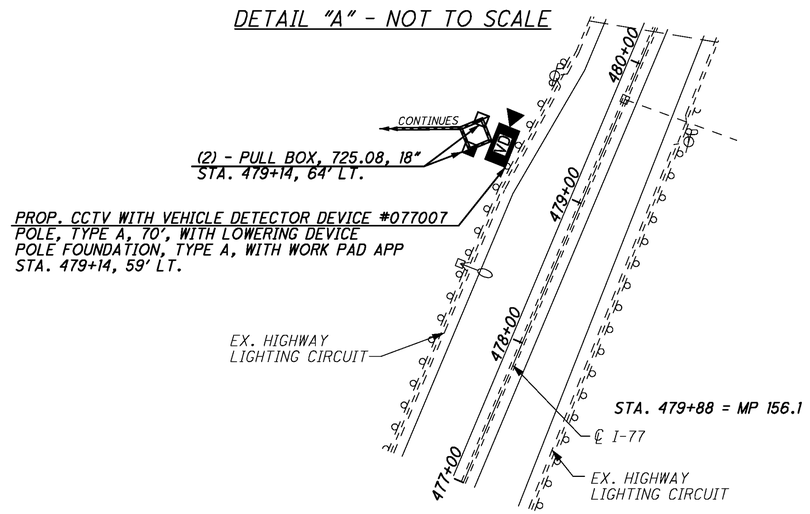

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 24 FOR TYPICAL CCTV CAMERA WITH VEHICLE DETECTOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 191 FOR COMMUNICATIONS PLANS

REFER TO SHEET 201 FOR TYPICAL CCTV W/VD EOC COMMUNICATIONS DETAILS

CCTV 077007

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-77 AT I-480 (MP 155.98 TO MP 156.28)
CITY OF INDEPENDENCE, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

91
207

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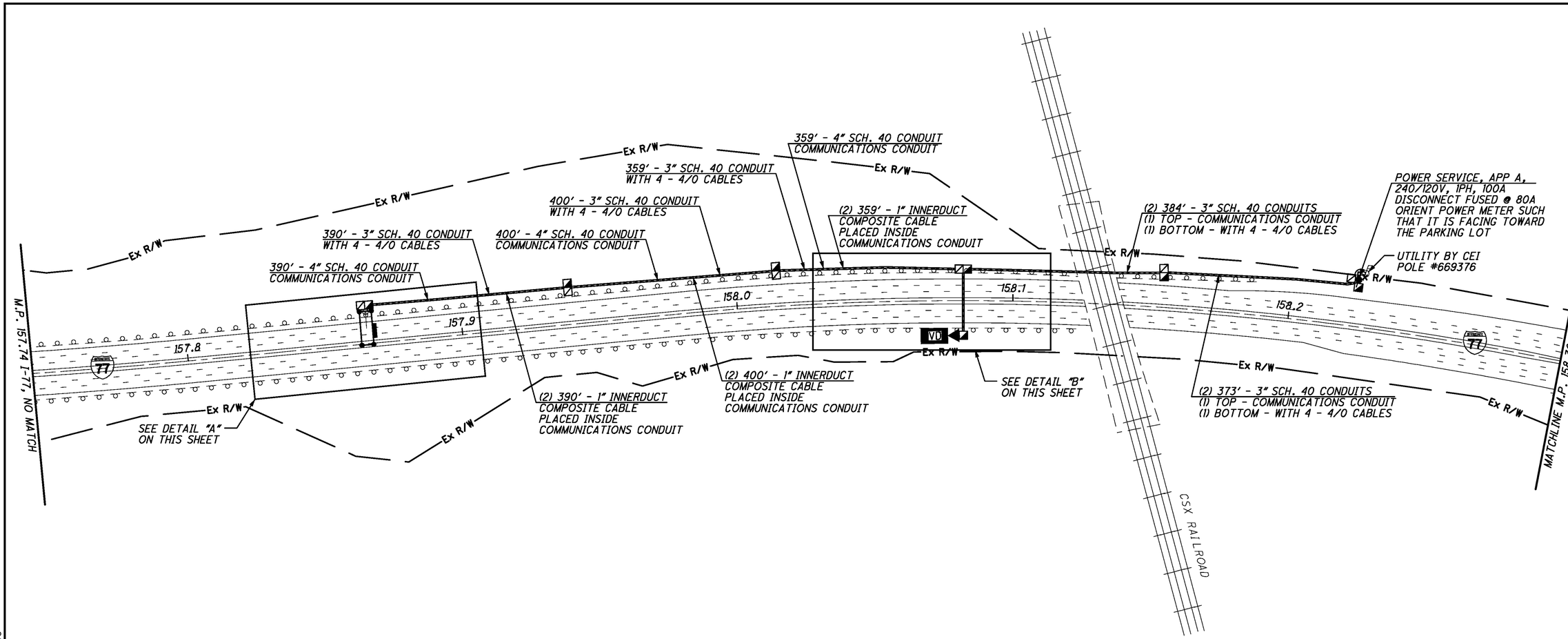

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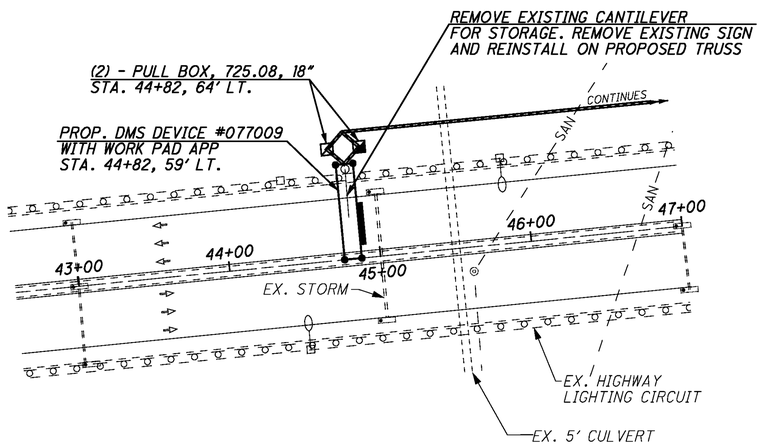

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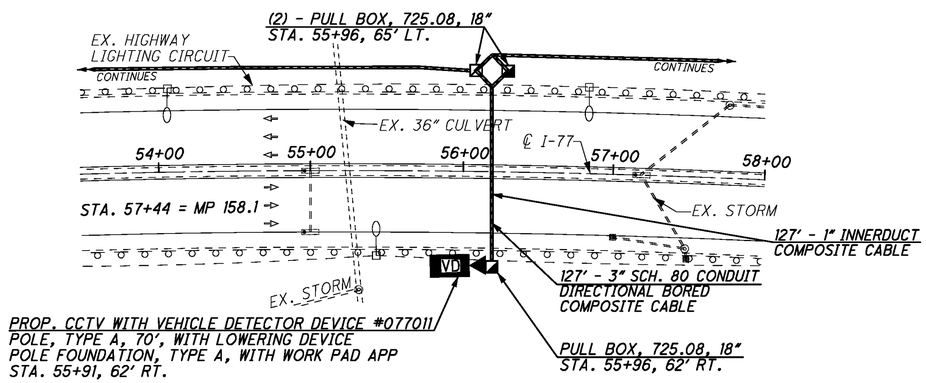

REFER TO SHEET 11 FOR CONCRETE BARRIER REPLACEMENT DETAILS

REFER TO SHEET 11A FOR BARRIER HEIGHT TRANSITION DETAILS

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEETS 15-15A FOR PULL BOX ORIENTATION FOR DMS LOCATIONS DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO TRUSS ROW SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO CONCRETE BARRIER MEDIAN TRUSS AND PEDESTAL SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 176 FOR DMS PROFILE

REFER TO SHEET 191 FOR COMMUNICATIONS PLANS

REFER TO SHEET 207A FOR TYPICAL DMS - CCTV W/ VD T-1 COMMUNCATIONS DETAILS

REFER TO SHEET 208 FOR TYPICAL DMS - CCTV W/ VD W/ COMPOSITE CABLE COMMUNICATIONS DETAILS

DMS 077009
CCTV 077011

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-77 S OF GRANT AVE. (MP 157.74 TO MP 158.30)
VILLAGE OF CUY. HTS, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

92
207

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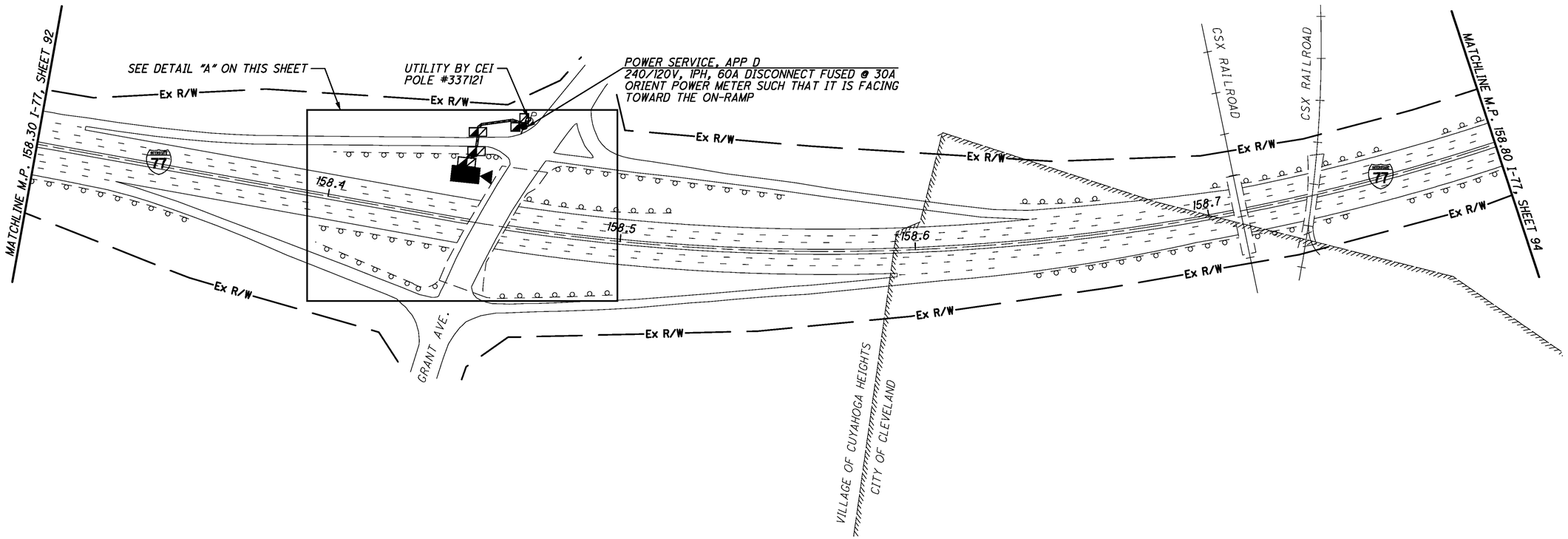

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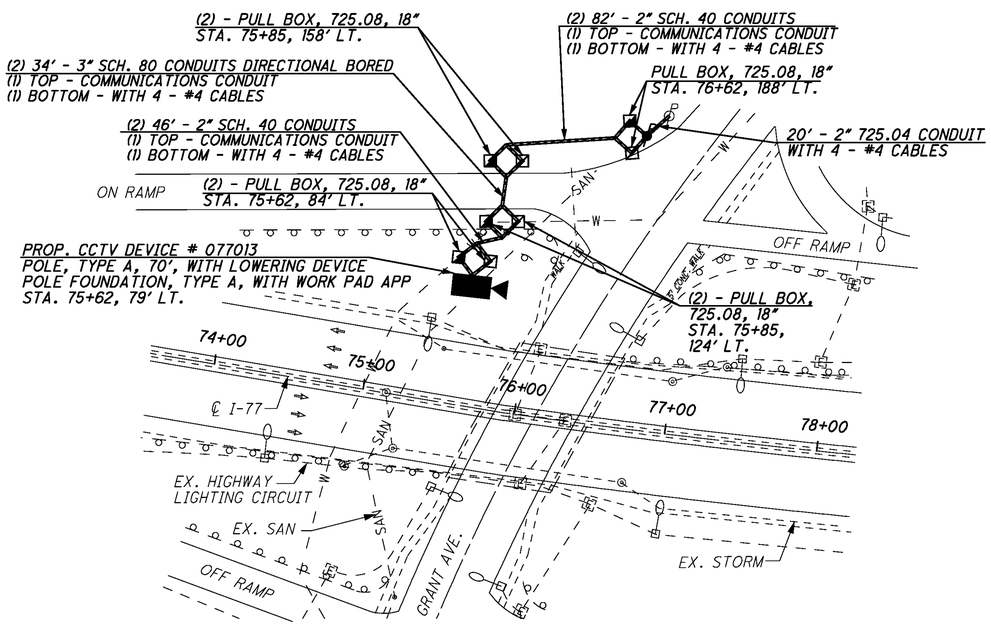

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 17 FOR TYPICAL POWER SERVICE AS PER PLAN D DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 191 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 077013

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-77 AT GRANT AVE. (MP 158.30 TO MP 158.80)
VILLAGE OF CUY. HTS, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

93
207

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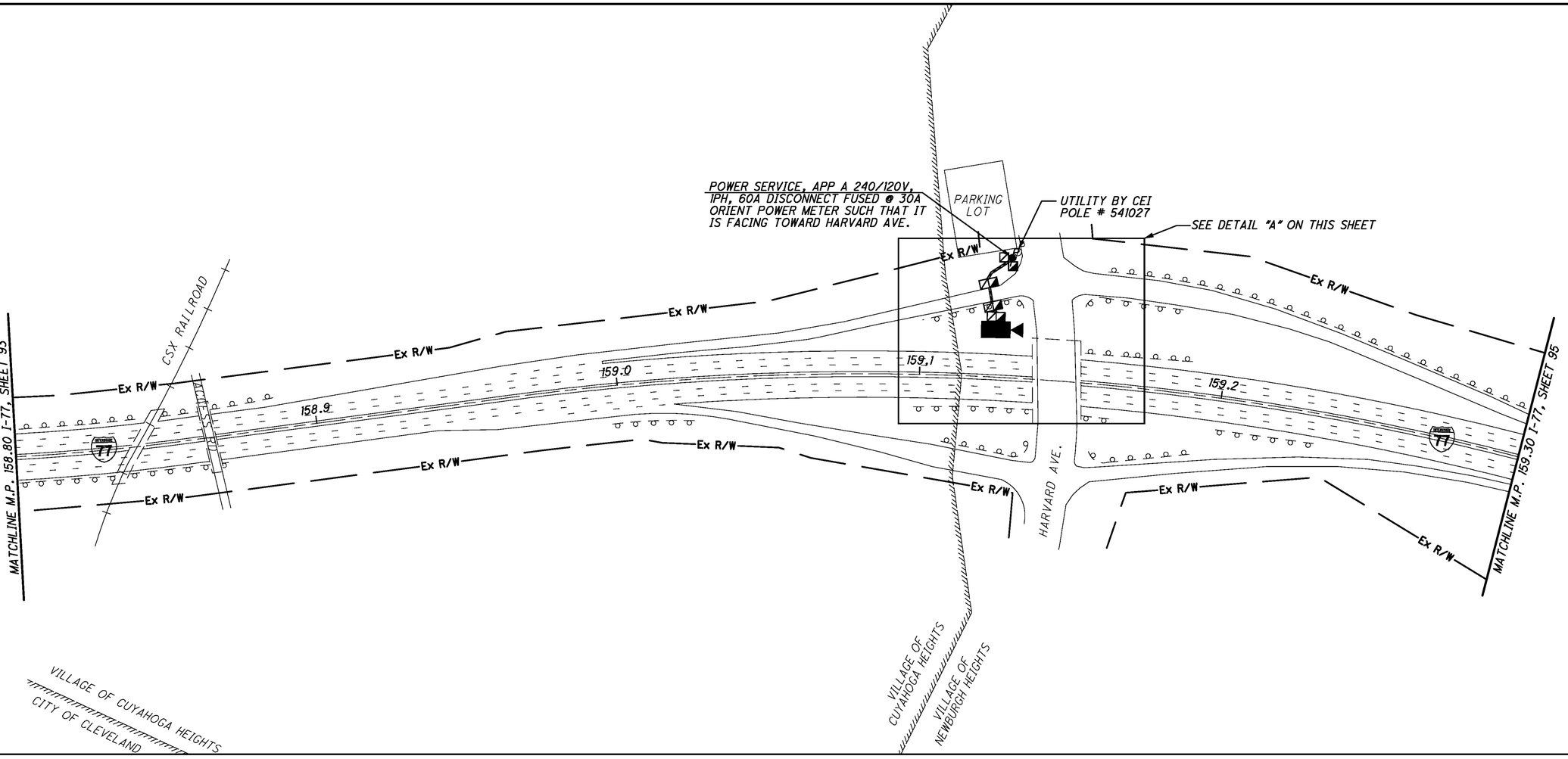

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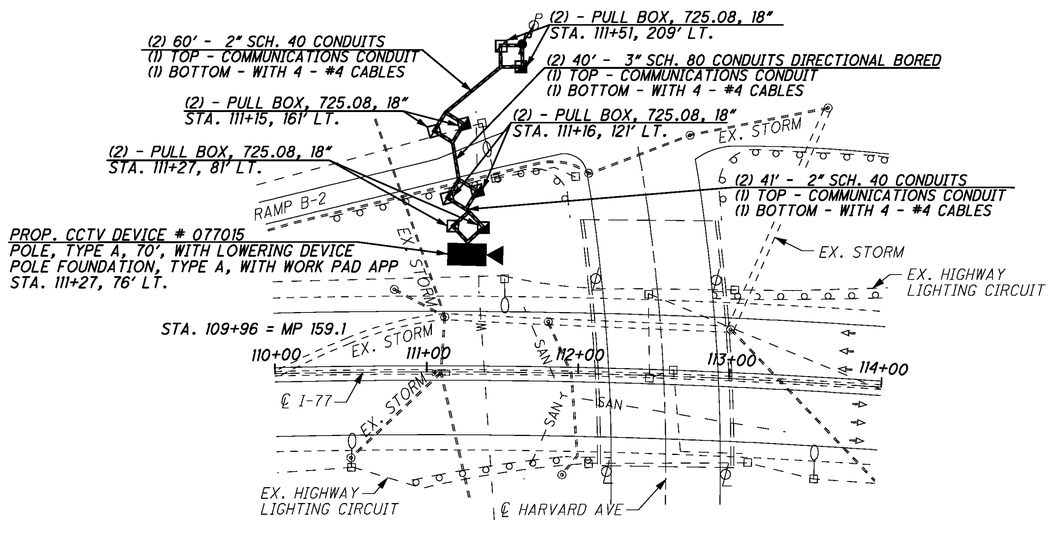

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 191 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 077015

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-77 AT HARVARD AVE. (MP 158.80 TO MP 159.30)
VILLAGE OF NEWBURG HTS, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

94
207

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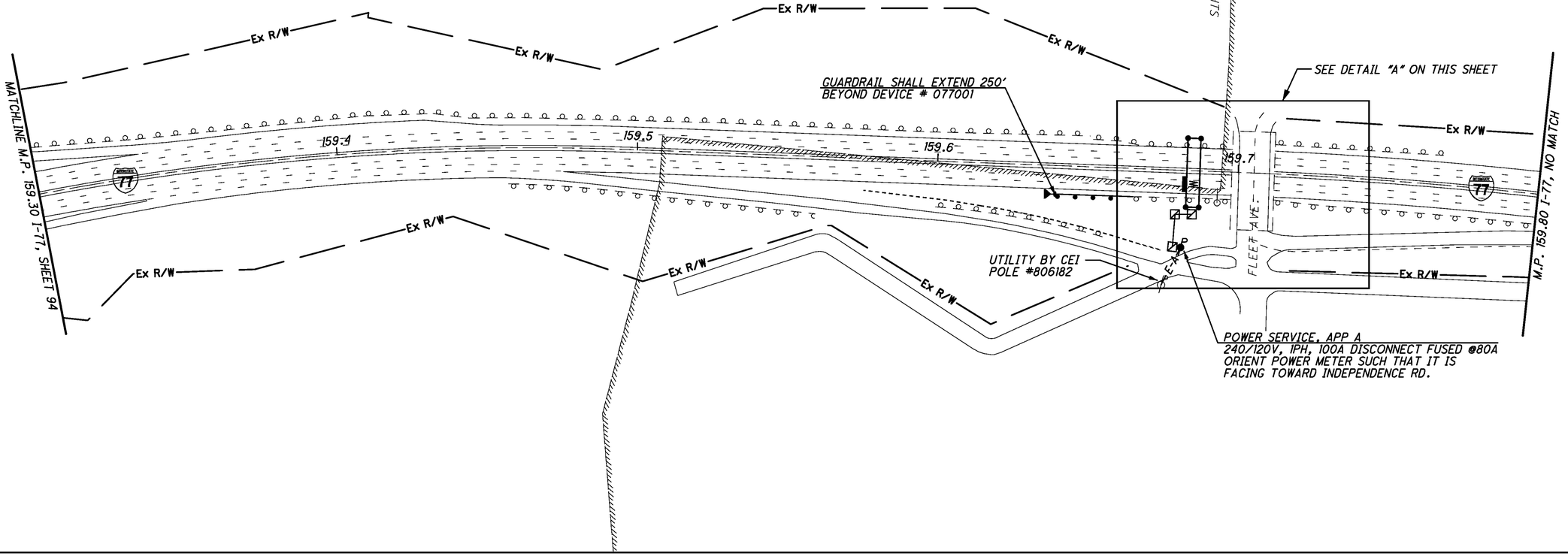

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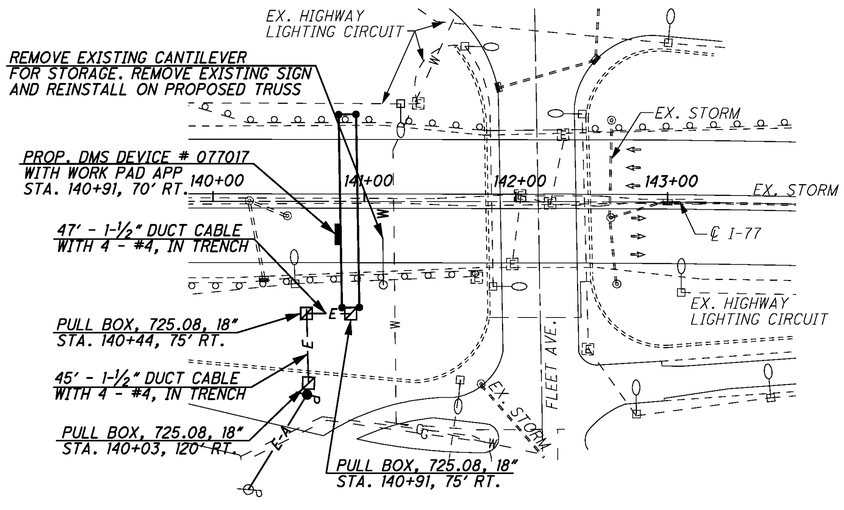


REFER TO SHEET 15A FOR PULL BOX ORIENTATION FOR DMS LOCATIONS DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO TRUSS ROW SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO SHEET 177 FOR DMS PROFILE

REFER TO SHEET 191 FOR COMMUNICATIONS PLANS

REFER TO SHEET 202 FOR TYPICAL DMS WIRELESS COMMUNICATIONS DETAILS

DMS 077017

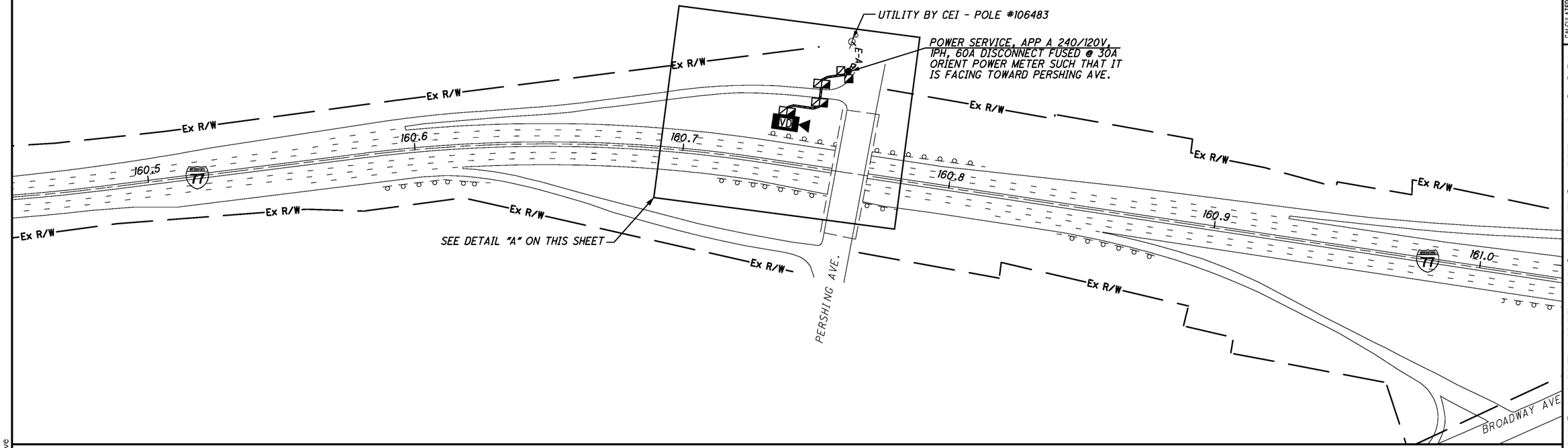
N

0 50 100 200 HORIZONTAL SCALE IN FEET

CALCULATED STS CHECKED JDG

I-77 AT FLEET AVE. (MP 159.30 TO MP 159.80)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM



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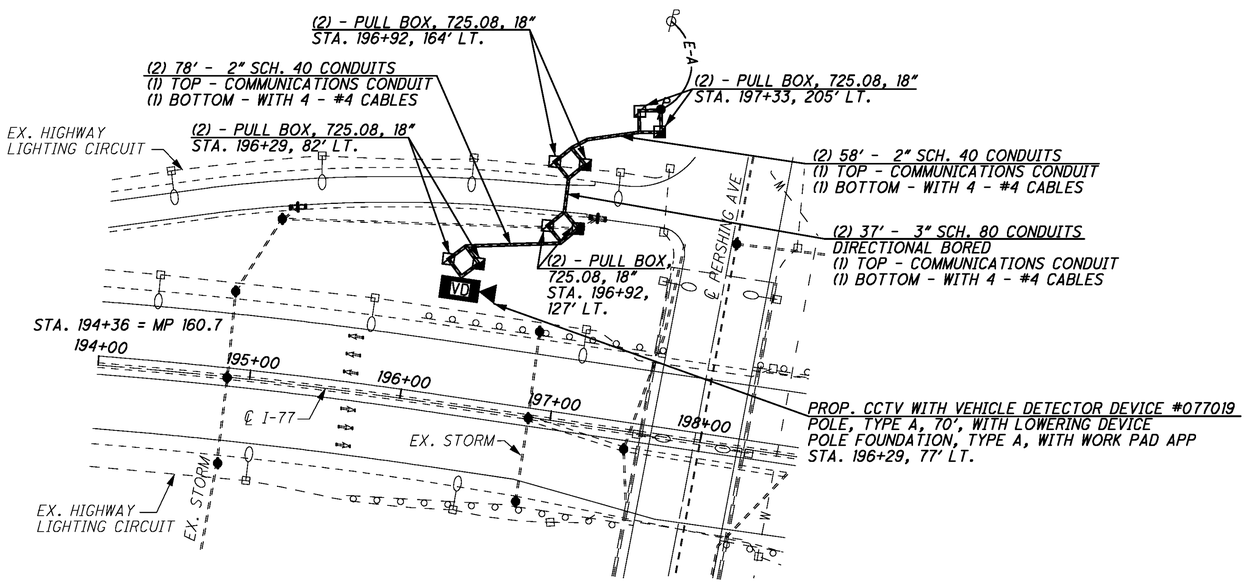

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 191 FOR COMMUNICATIONS PLANS

REFER TO SHEET 199 FOR TYPICAL CCTV W/VD T-1 COMMUNICATIONS DETAILS

CCTV 077019

N

0 50 100 200
HORIZONTAL SCALE IN FEET

CALCULATED STS
CHECKED JDG

I-77 AT PERSHING AVE. (MP 160.45 TO MP 160.03)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

96
207

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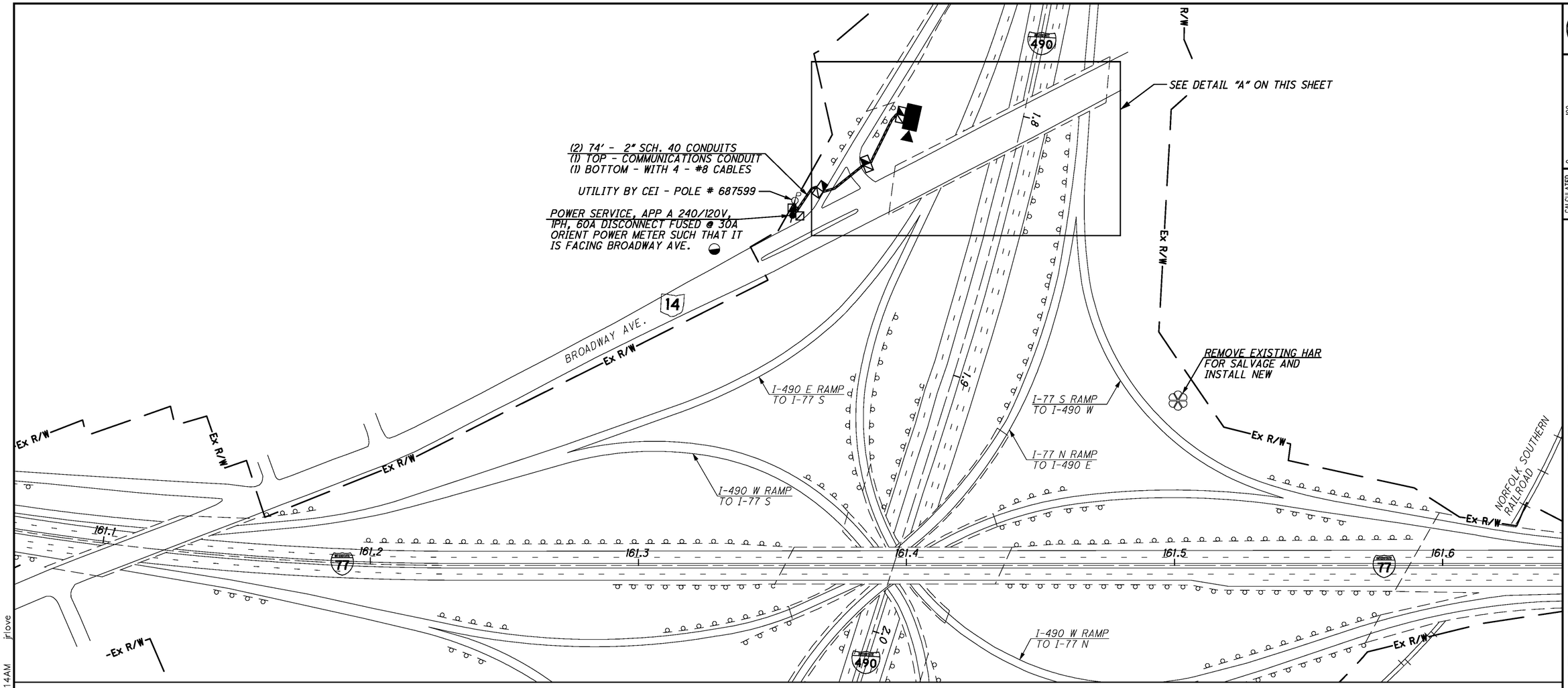

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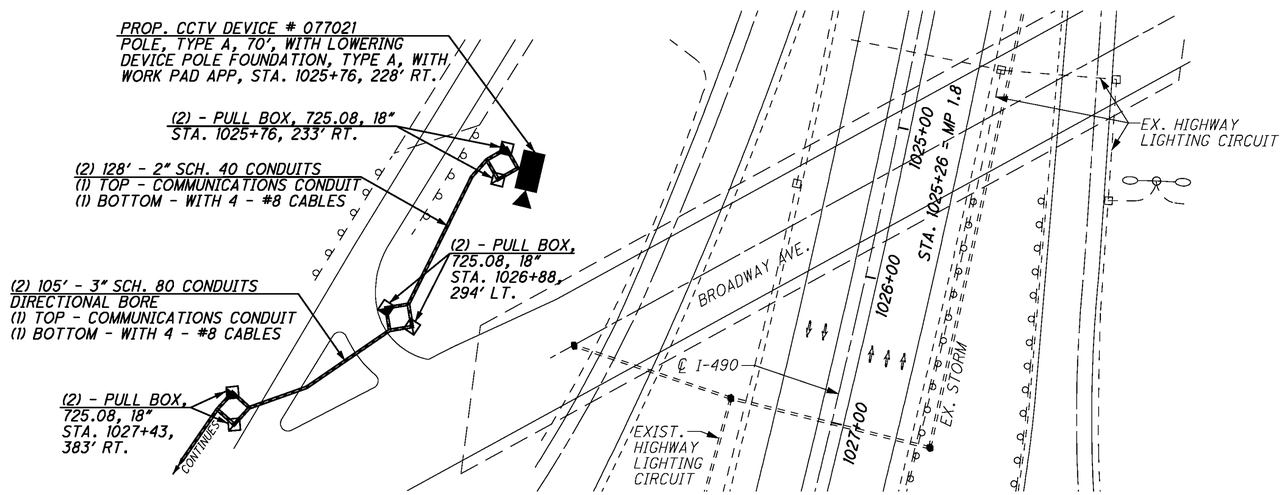

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 21 FOR TYPICAL HAR DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 191 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

REFER TO SHEET 203 FOR TYPICAL HAR WIRELESS COMMUNICATIONS DETAILS

CCTV 077021
EXISTING 77-1 HAR

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-77 AT I-490 (MP 161.07 TO MP 161.64)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

97
207

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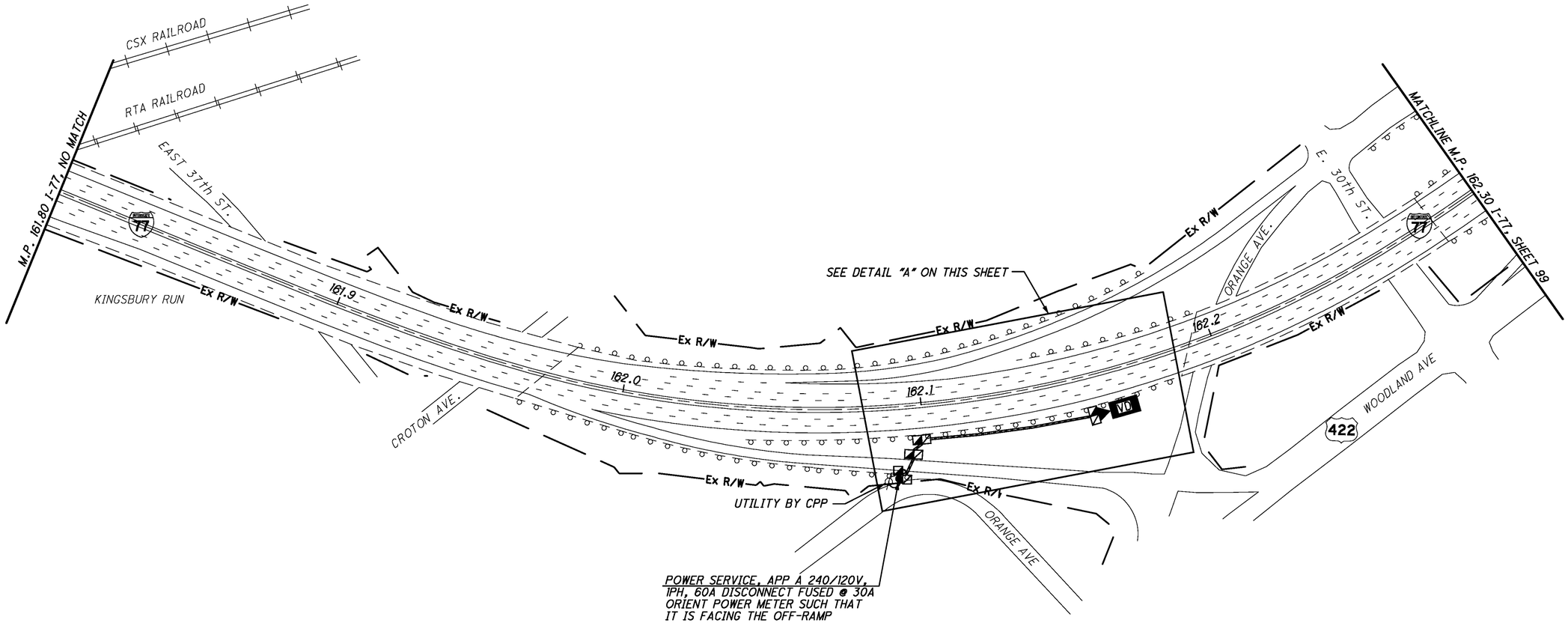

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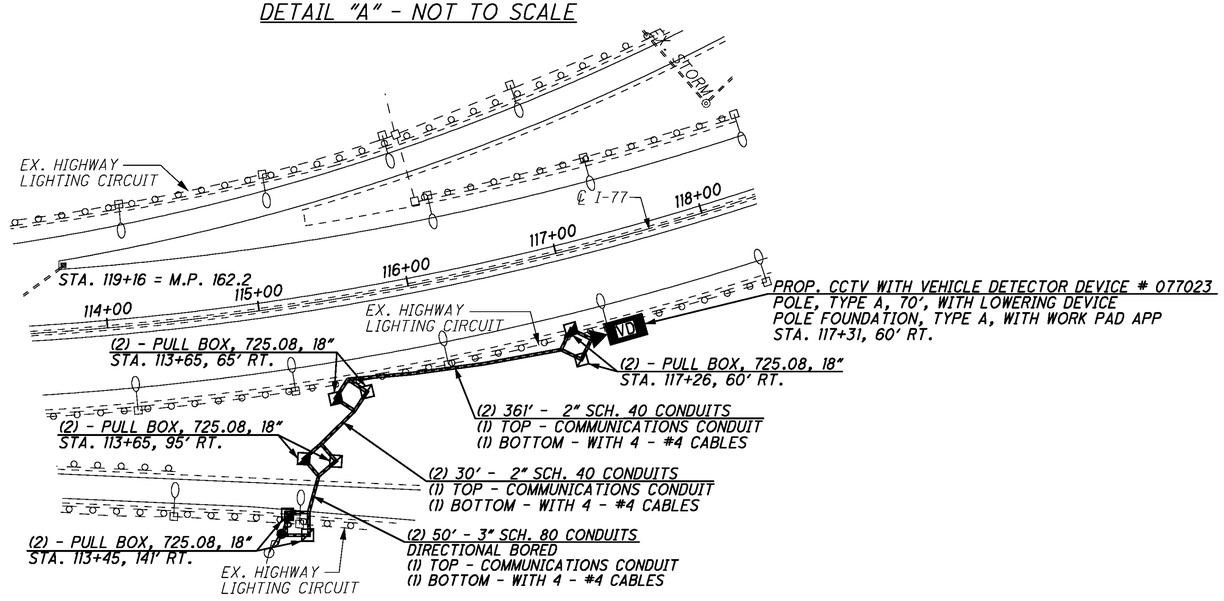

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 24 FOR TYPICAL CCTV CAMERA WITH VEHICLE DETECTOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 191 FOR COMMUNICATIONS PLANS

REFER TO SHEET 201 FOR TYPICAL CCTV W/VD EOC COMMUNICATIONS DETAILS

CCTV 077023

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-77 AT ORANGE AVE. (MP 161.80 TO MP 162.30)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

98
207

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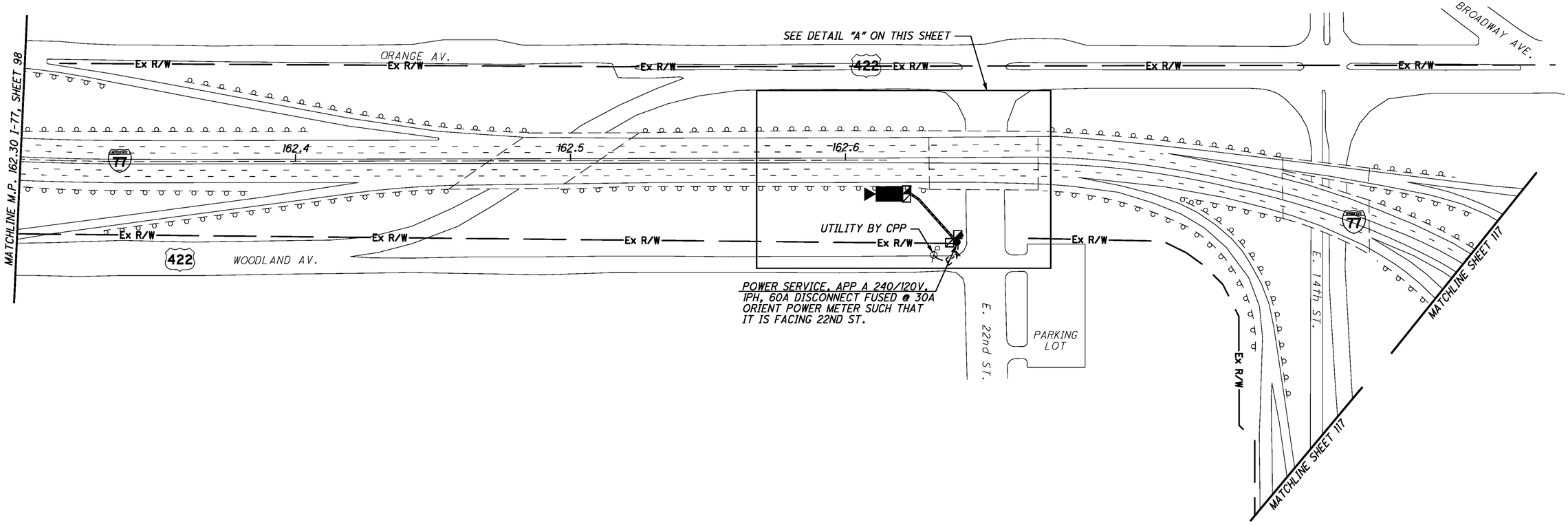

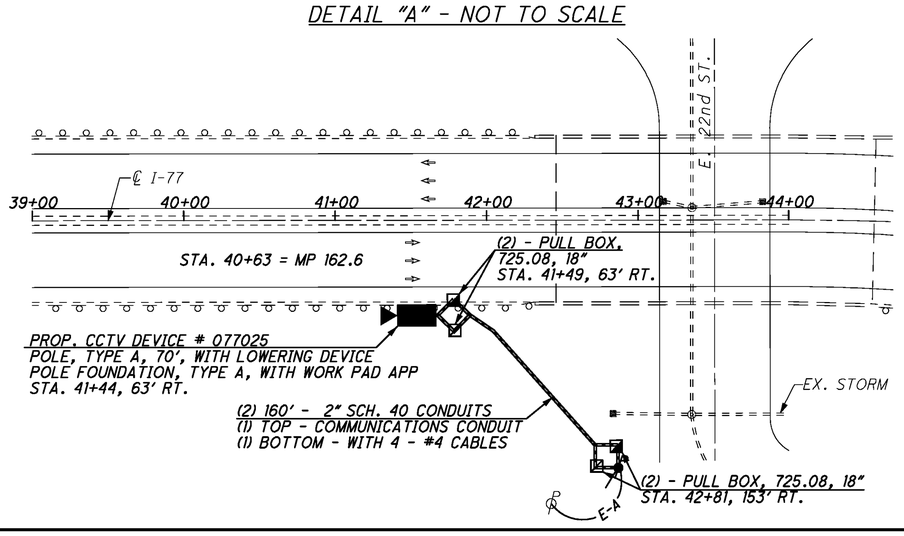

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 191 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 077025

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-77 AT E.14TH ST. (MP 162.30 TO END)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

99
207

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(2) 50' - 2" SCH. 40 CONDUITS
(1) TOP - COMMUNICATIONS CONDUIT
(1) BOTTOM - WITH 4 - #8 CABLES

(2) 392' - 2" SCH. 40 CONDUITS
(1) TOP - COMMUNICATIONS CONDUIT
(1) BOTTOM - WITH 4 - #8 CABLES

(2) 479' - 2" SCH. 40 CONDUITS
(1) TOP - COMMUNICATIONS CONDUIT
(1) BOTTOM - WITH 4 - #8 CABLES

POWER SERVICE, APP A
240/120V, 1PH, 60A DISCONNECT
FUSED @ 30A
ORIENT POWER METER SUCH
THAT IT IS FACING CHESTNUT
RIDGE RD.

UTILITY BY OHIO
EDISON
COMMUNICATIONS
TO BE PROVIDED BY
WINDSTREAM

SEE DETAIL "A"
ON THIS SHEET

E-A

Ex R/W

SR-10 S RAMP TO I-80 W

OHIO TURNPIKE

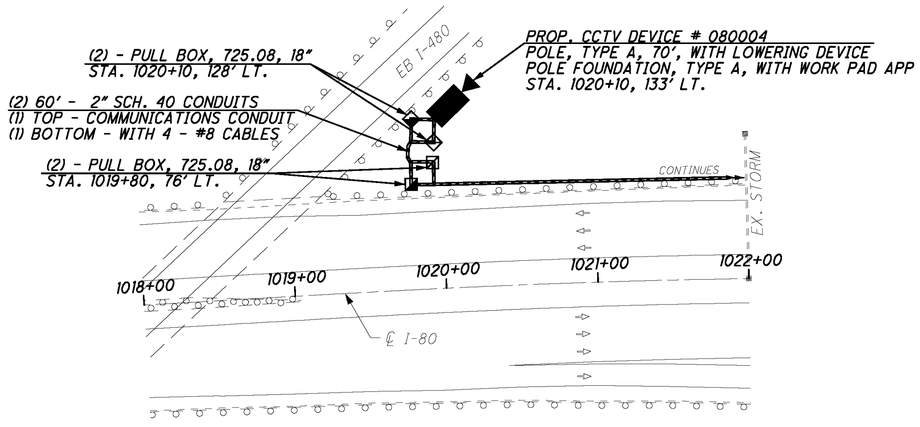
151.5 151.6 151.7 151.8 151.9 152.0 1.0

I-80 E RAMP TO I-480 E

CHESTNUT RIDGE RD.

I-480 I-80 10

DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 197 FOR COMMUNICATIONS PLANS

REFER TO SHEET 198 FOR TYPICAL CCTV T-1 COMMUNICATIONS DETAILS

CCTV 080004

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-80 AT I-480 (MP 151.45 TO MP 152.04)
CITY OF NORTH RIDGEVILLE, LORAIN COUNTY

VAR-CLEVELAND
FREEWAY MANAGEMENT
SYSTEM

100
207

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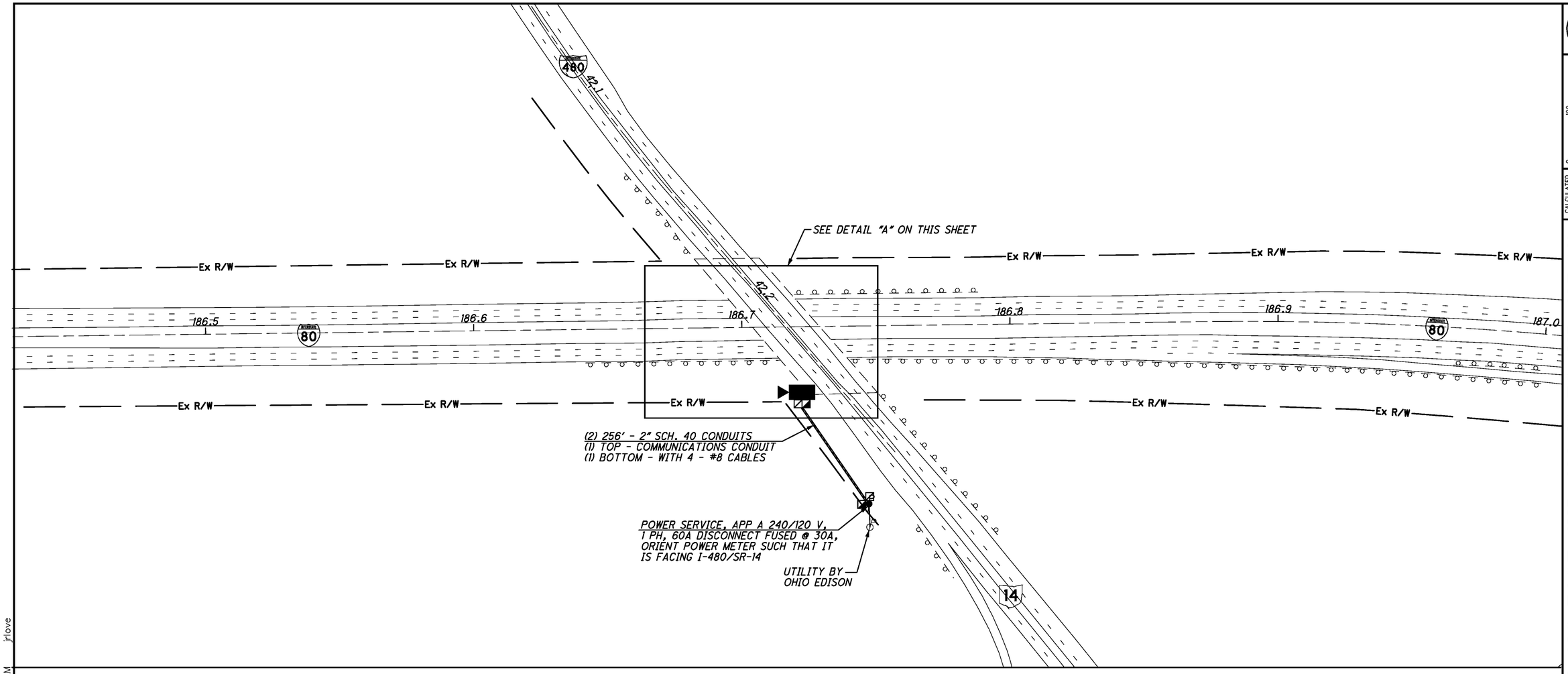

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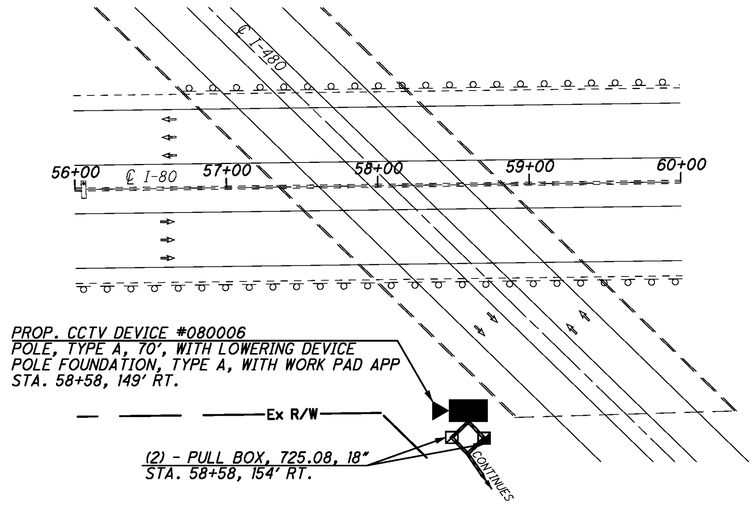

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 197 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 080006

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-80 AT I-480 EAST (MP 186.43 TO MP 187.01)
CITY OF STREETSBORO, PORTAGE COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

101
207

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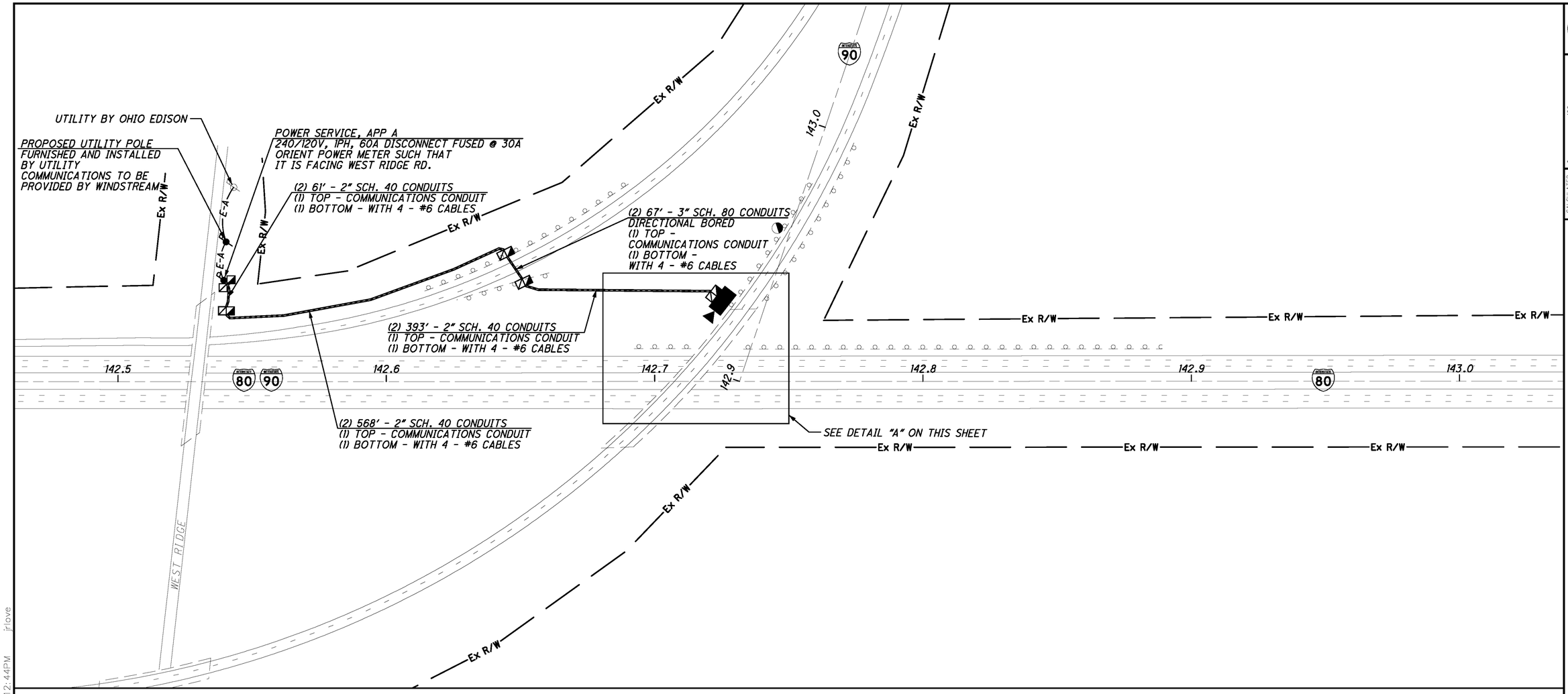
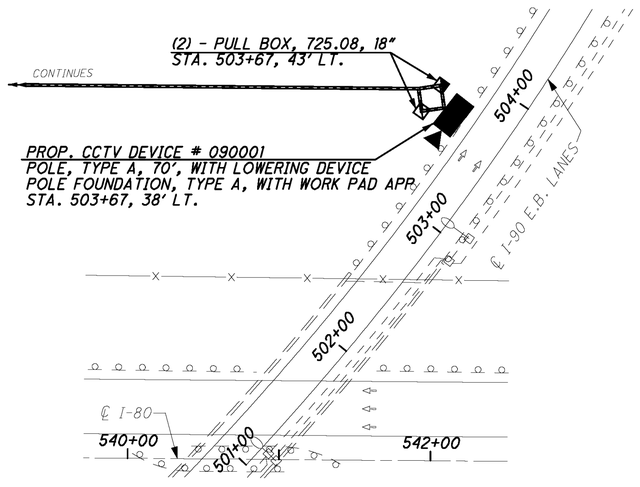


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 192 FOR COMMUNICATIONS PLANS

REFER TO SHEET 198 FOR TYPICAL CCTV T-1 COMMUNICATIONS DETAILS

CCTV 090001

HORIZONTAL SCALE IN FEET
0 50 100 200

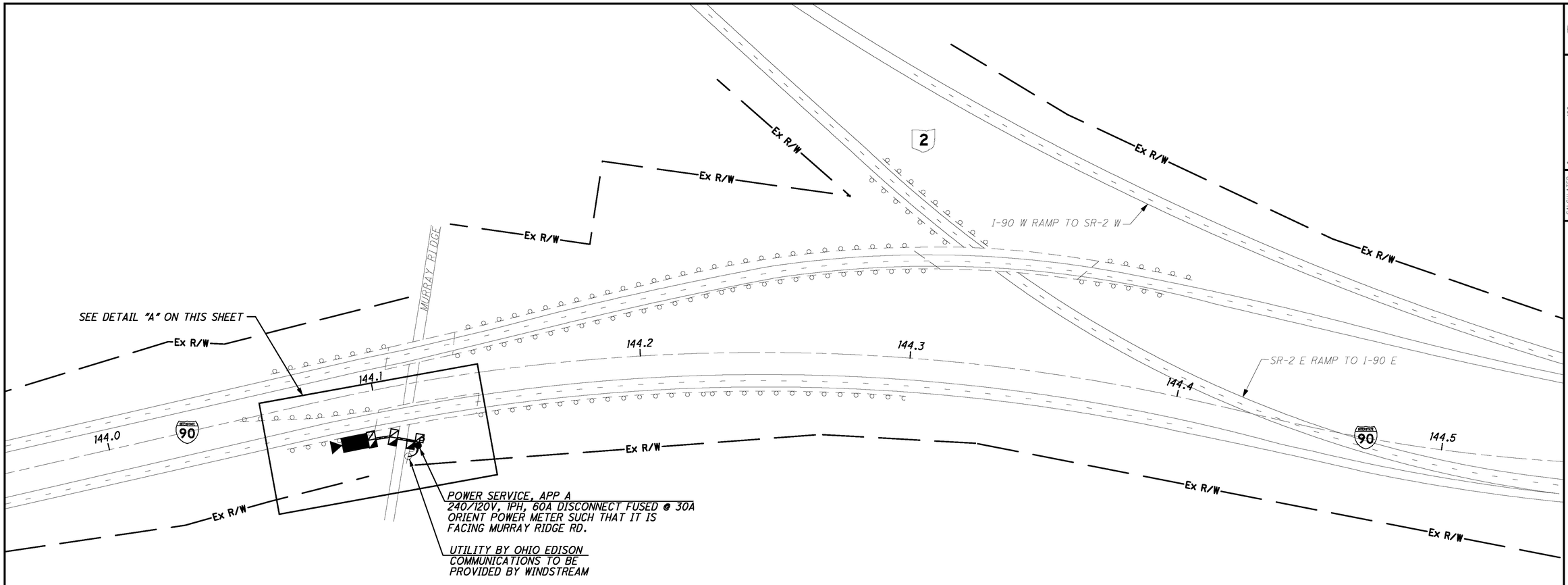
CALCULATED STS
CHECKED JDG

I-90 AT I-80 (MP 142.46 TO MP 143.04)
ELYRIA TOWNSHIP, LORAIN COUNTY

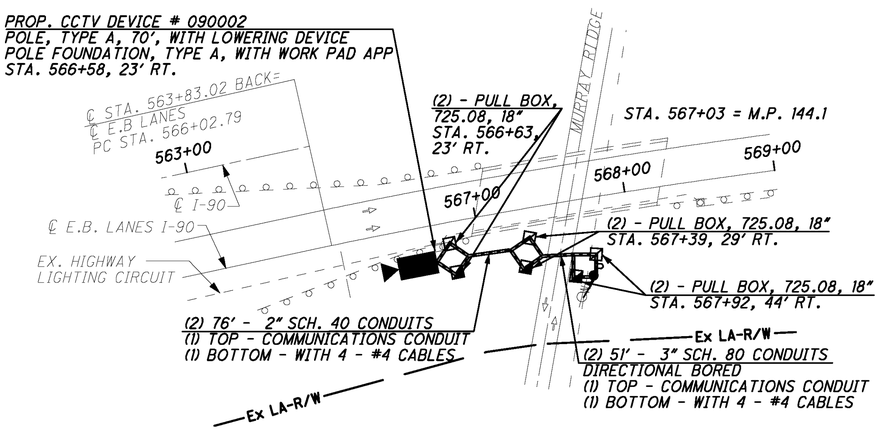
VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

102
207

M:\JOBS\39926\TECHPROD\tw\tra\77331GP102.dgn 02-APR-2009 12:44PM jrlove



DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 192 FOR COMMUNICATIONS PLANS

REFER TO SHEET 198 FOR TYPICAL CCTV T-1 COMMUNICATIONS DETAILS

CCTV 090002

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT SR-2 WEST (MP 143.96 TO MP 144.54)
ELYRIA TOWNSHIP, LORAIN COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

103
207

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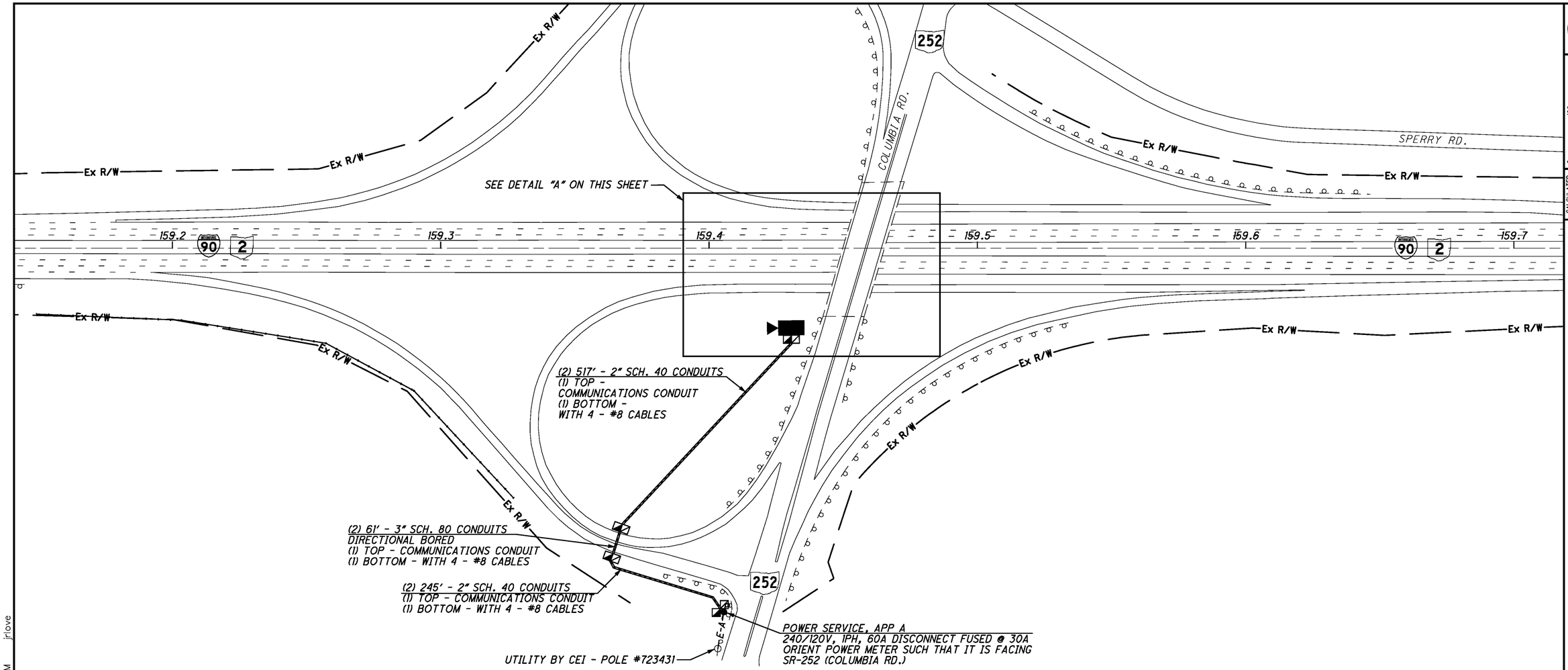
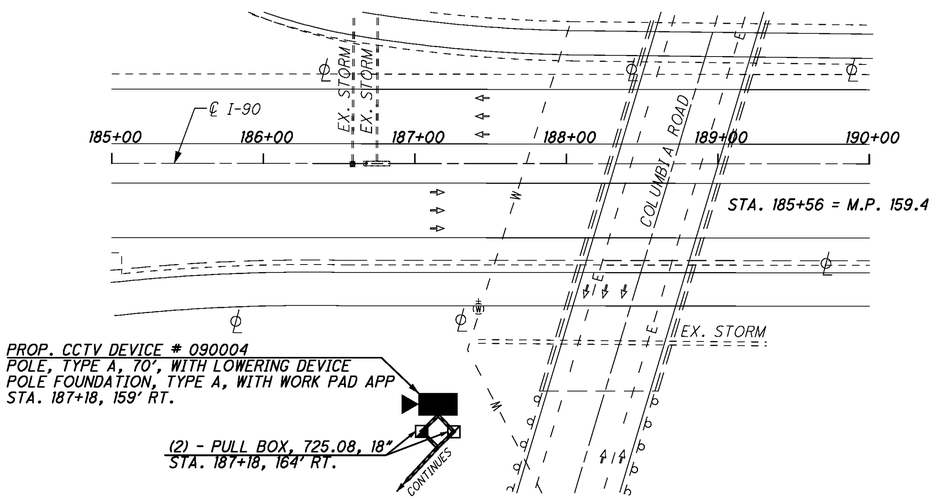


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 192 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 090004

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT SR-252 (MP 159.14 TO MP 159.72)
CITY OF WESTLAKE, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

104
207

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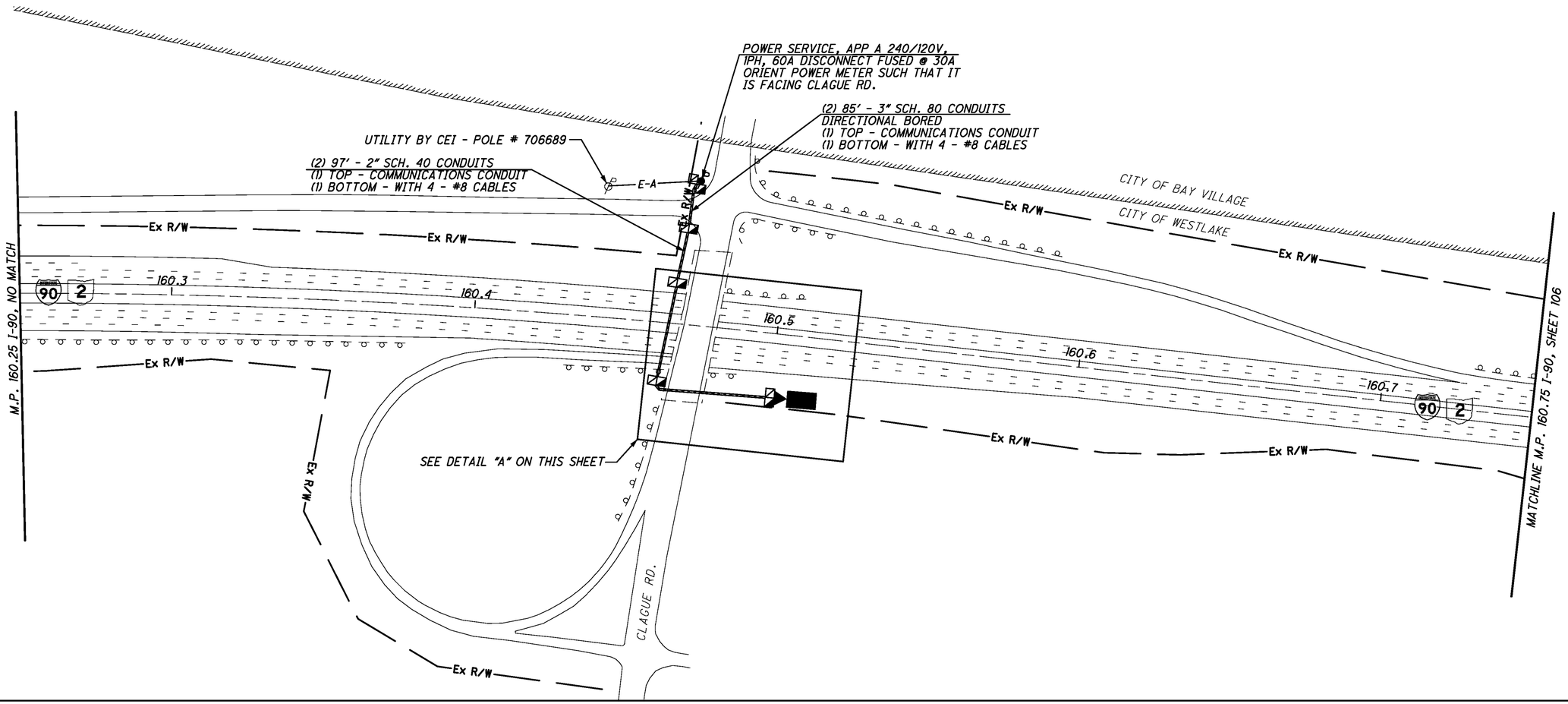
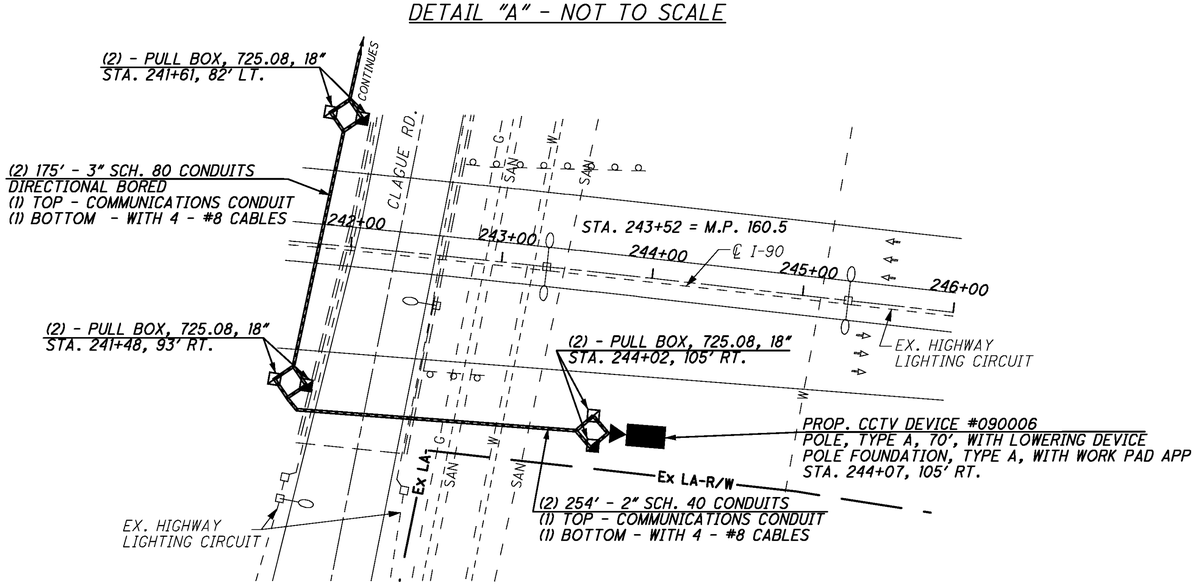




REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 192 FOR COMMUNICATIONS PLANS

REFER TO SHEET 198 FOR TYPICAL CCTV T-1 COMMUNICATIONS DETAILS

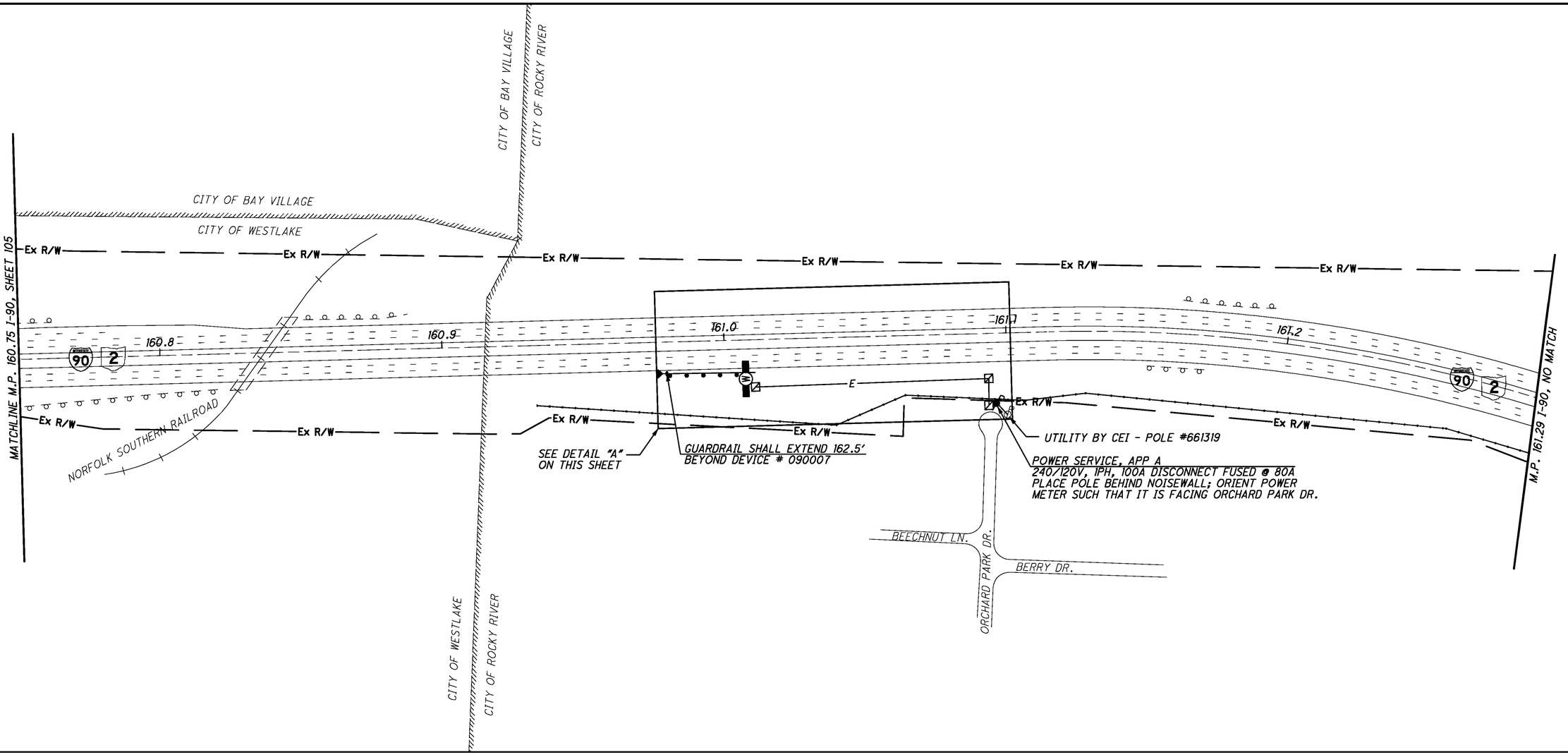
CCTV 090006

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT CLAGUE RD. (MP 160.25 TO MP 160.75)
CITY OF WESTLAKE, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM



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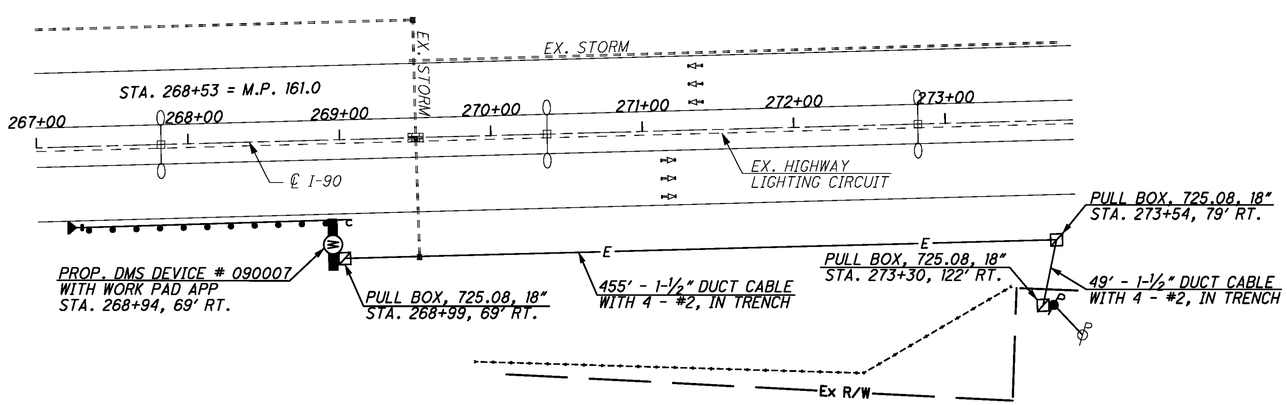

REFER TO SHEET 15A FOR PULL BOX ORIENTATION FOR DMS LOCATIONS DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO DMS PEDESTAL SIGN SUPPORT PIER FOUNDATION DESIGNS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 192 FOR COMMUNICATIONS PLANS

REFER TO SHEET 202 FOR TYPICAL DMS WIRELESS COMMUNICATIONS DETAILS

DMS 090007

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 W. OF SR-254 (MP 160.75 TO MP 161.29)
CITY OF ROCKY RIVER, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

106
207

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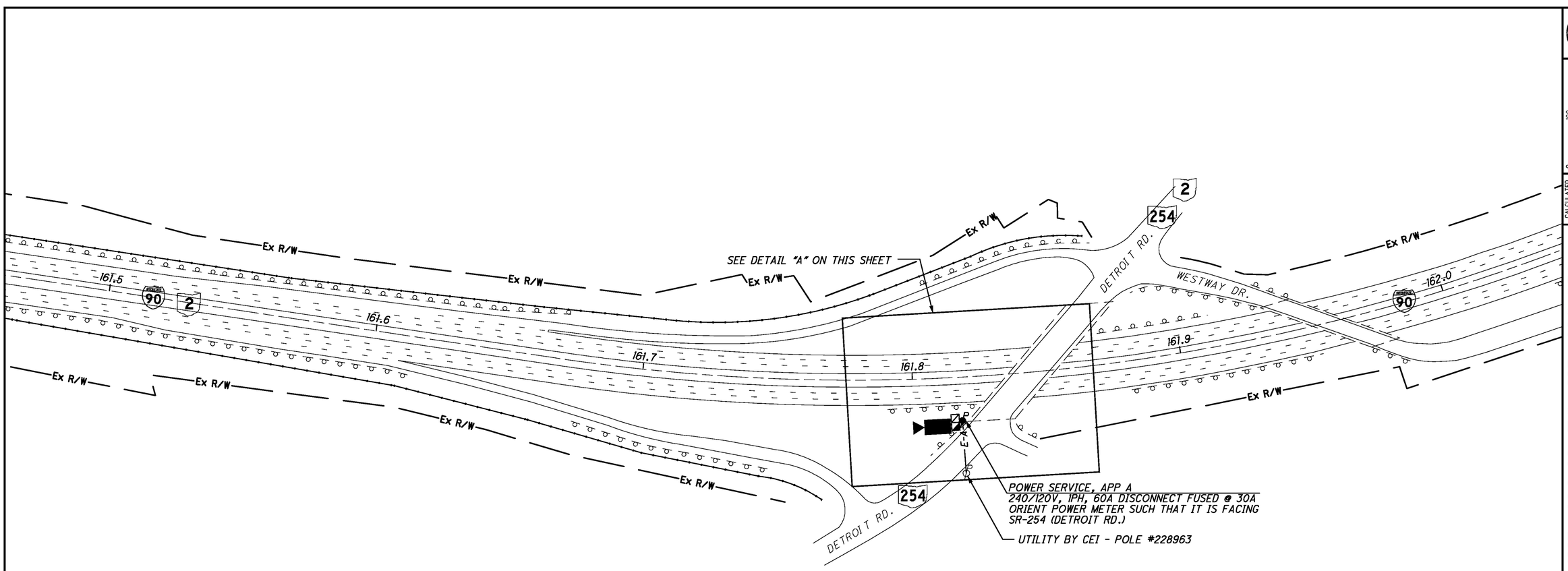

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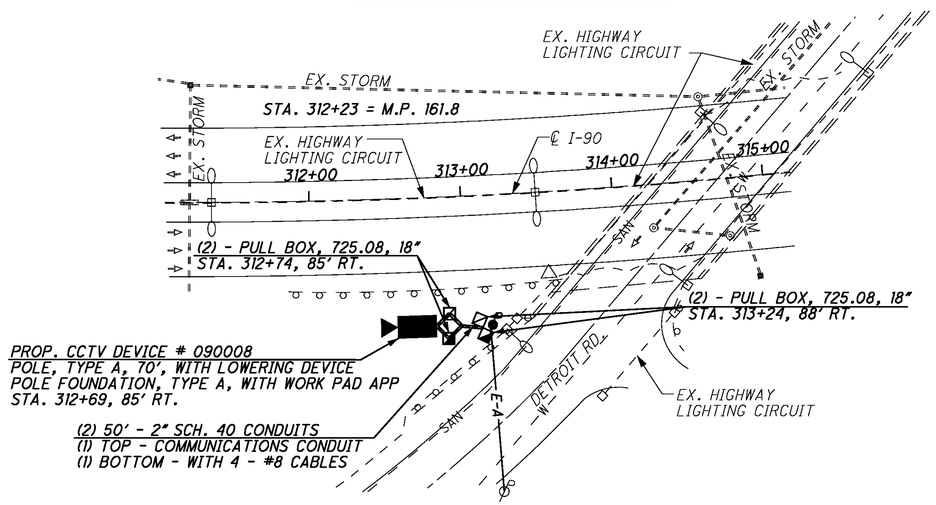

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 192 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 090008

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT SR-254 (MP 161.46 TO MP 162.05)
CITY OF ROCKY RIVER, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

107
207

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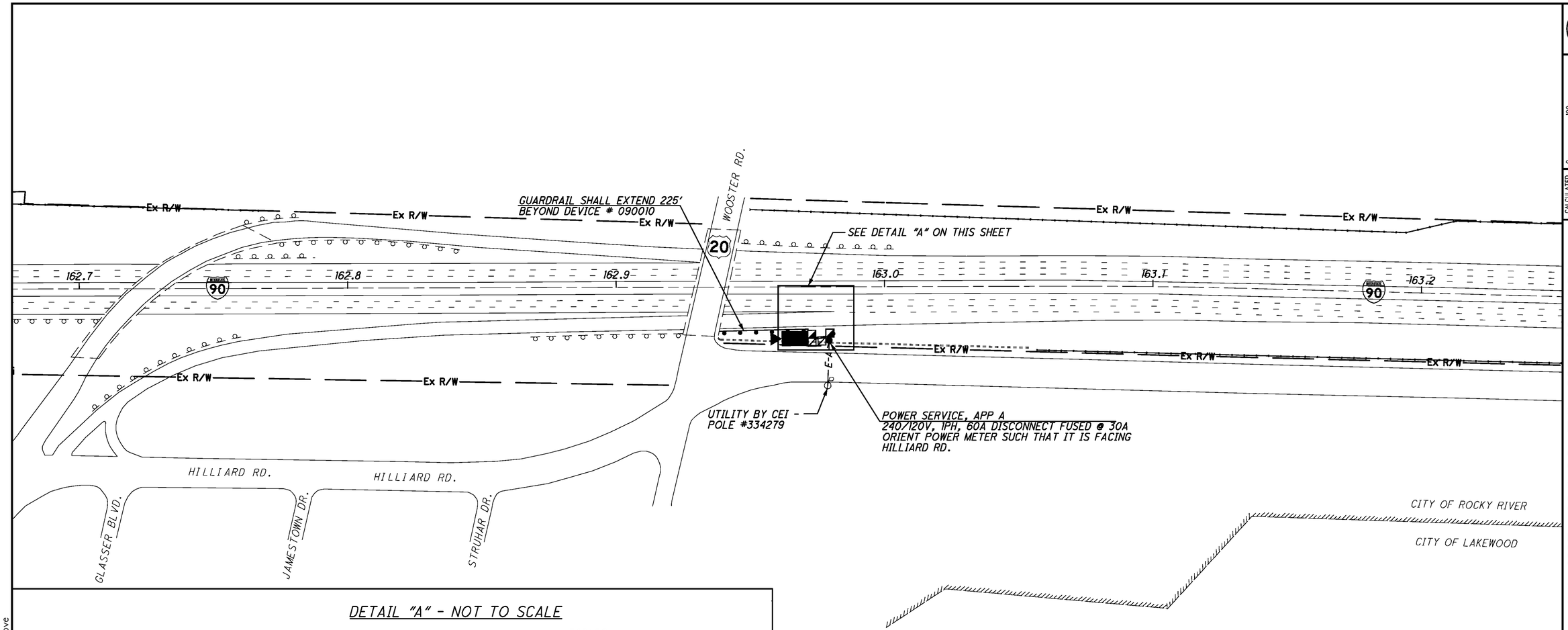

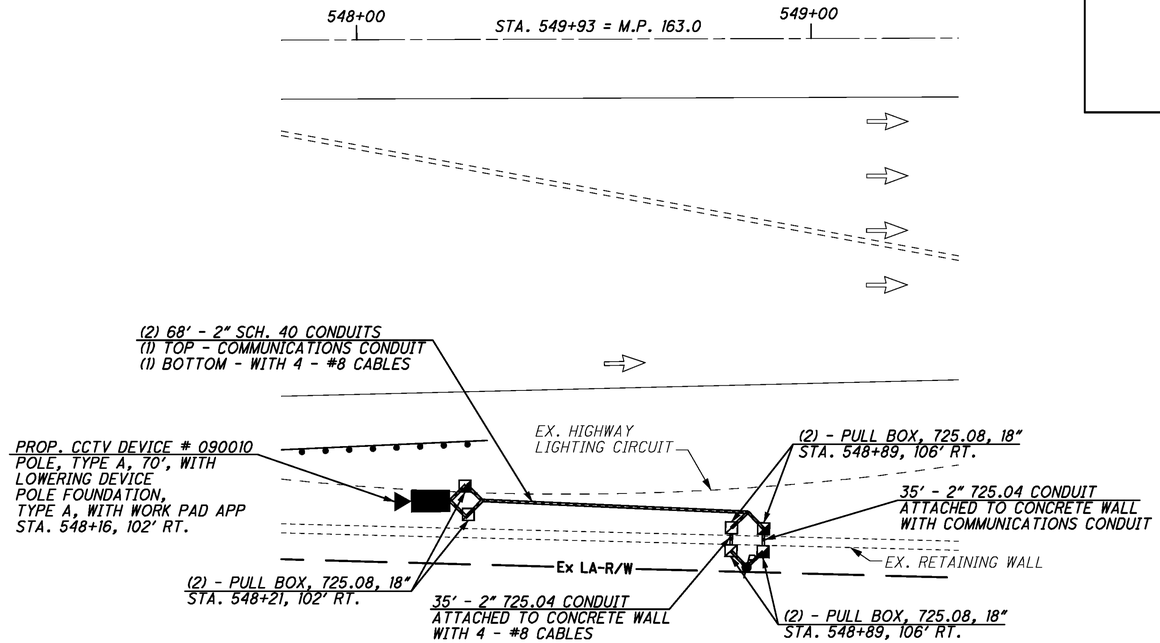

REFER TO SHEET 14 FOR CONDUIT AND CONDUIT ATTACHED TO WALL DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 192 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 090010

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT US-20 (MP 162.68 TO MP 163.25)
CITY OF ROCKY RIVER, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

108
207

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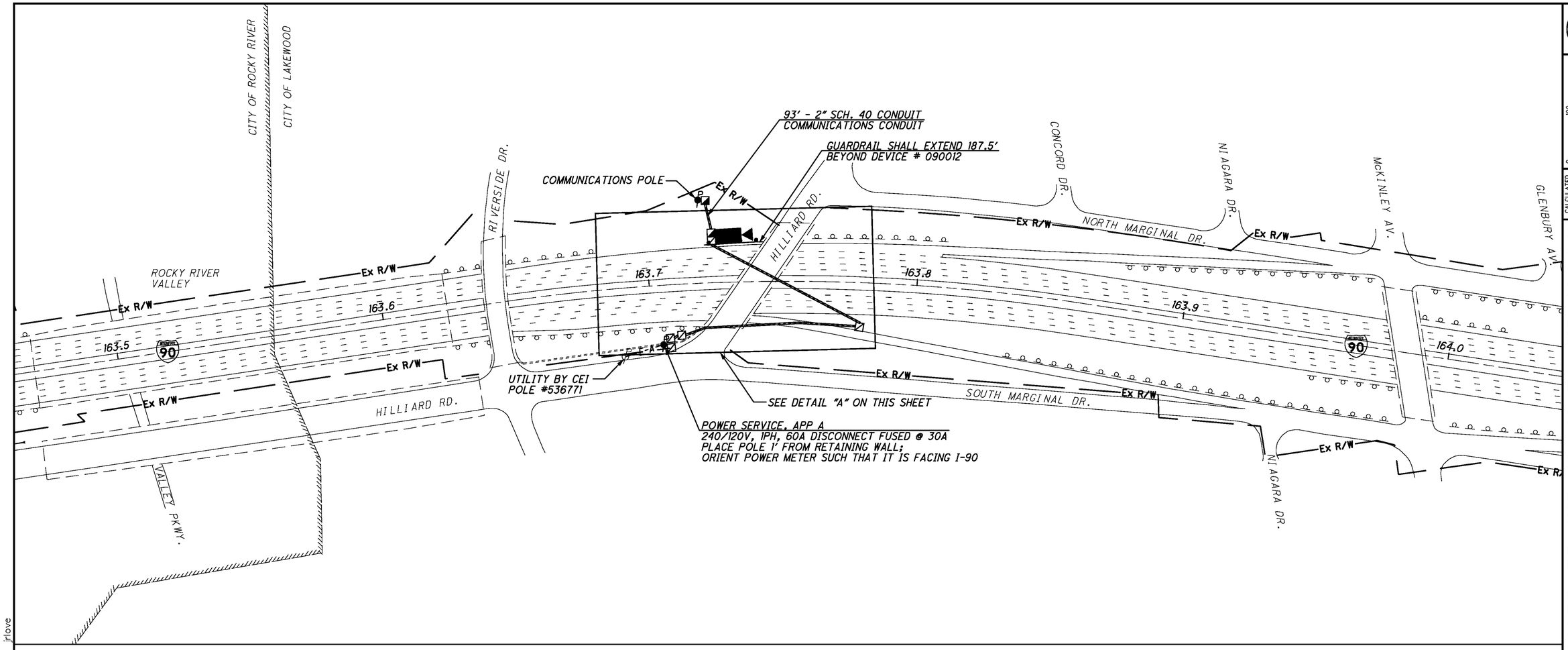

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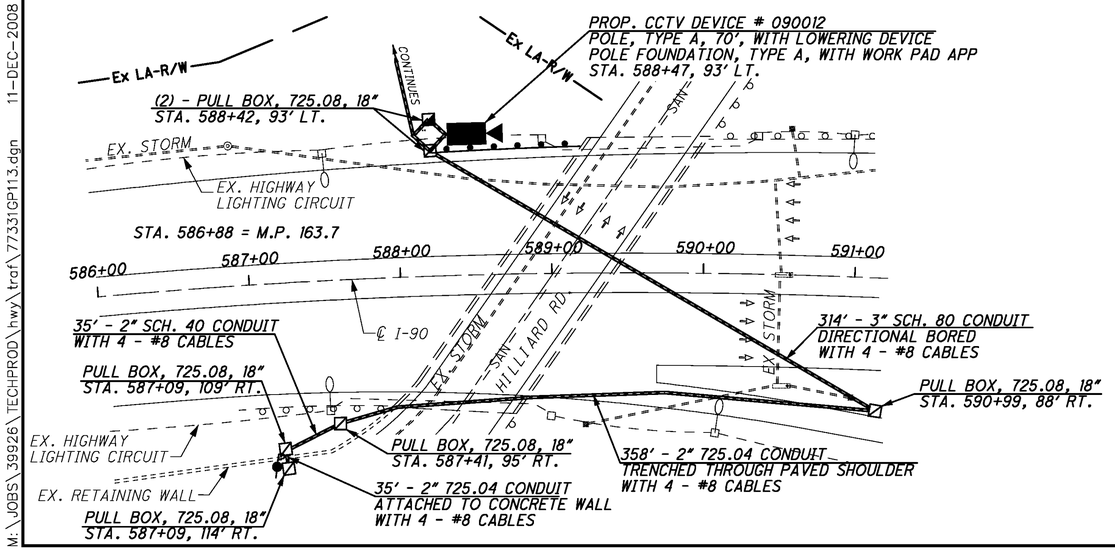

REFER TO SHEET 13 FOR CONDUIT TRANSITION TO SHOULDER DETAILS

REFER TO SHEET 14 FOR CONDUIT AND CONDUIT ATTACHED TO WALL DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 192 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 090012

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT HILLIARD RD. (MP 163.46 TO MP 164.04)
CITY OF LAKEWOOD, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

109
207

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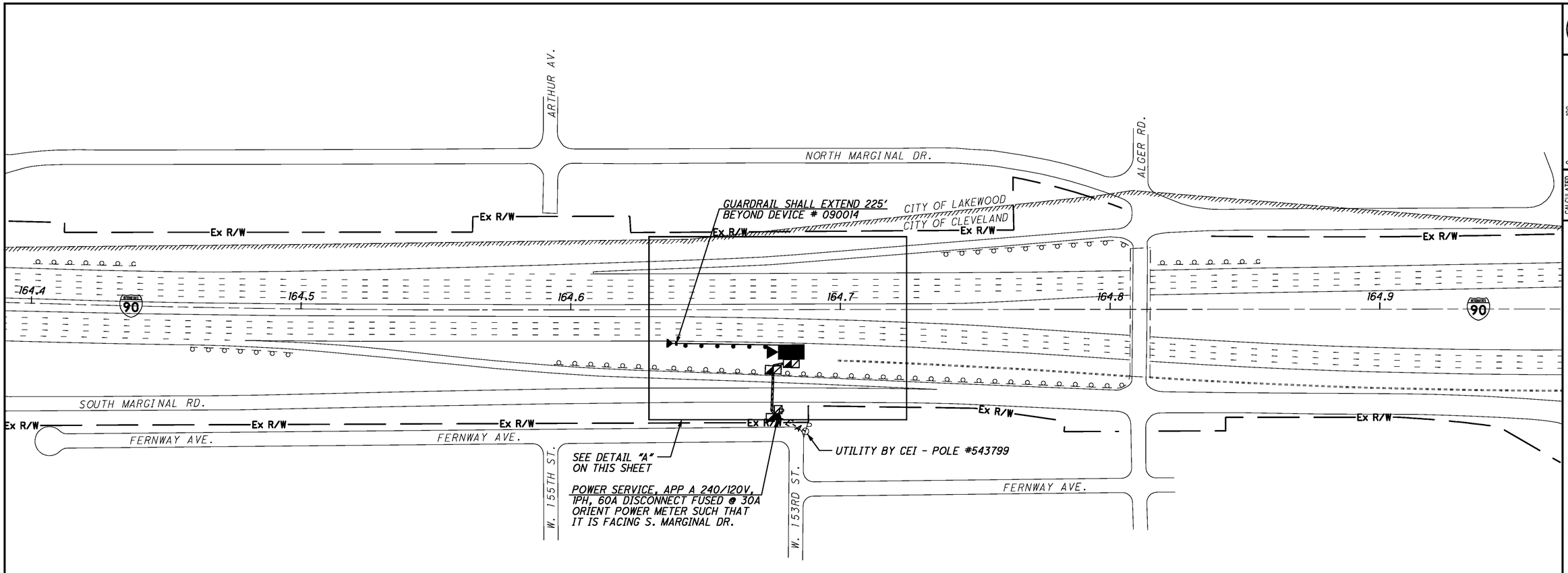

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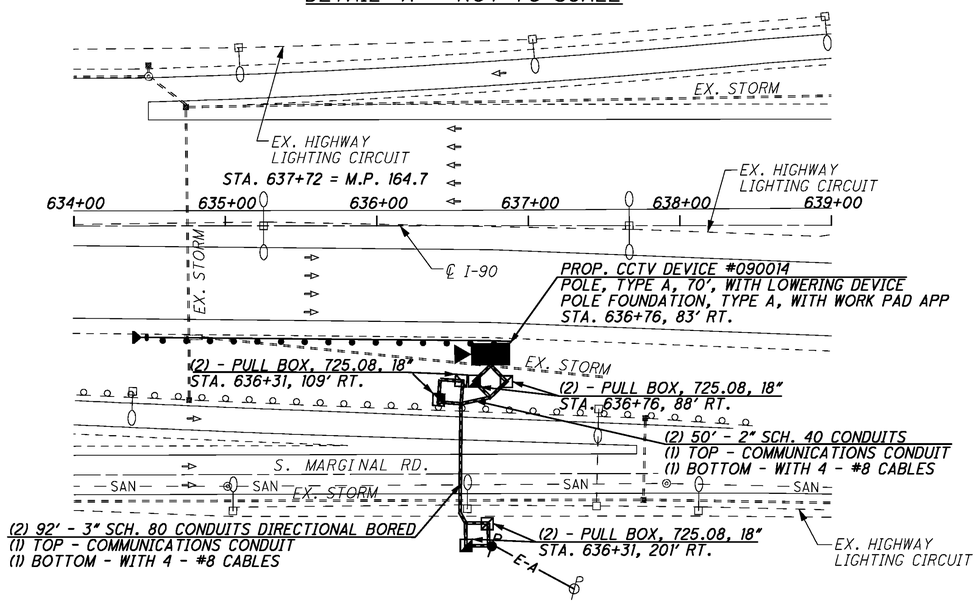

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 192 FOR COMMUNICATIONS PLANS

REFER TO SHEET 198 FOR TYPICAL CCTV T-1 COMMUNICATIONS DETAILS

CCTV 090014

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT ALGER RD.(MP 164.39 TO MP 164.97)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

110
207

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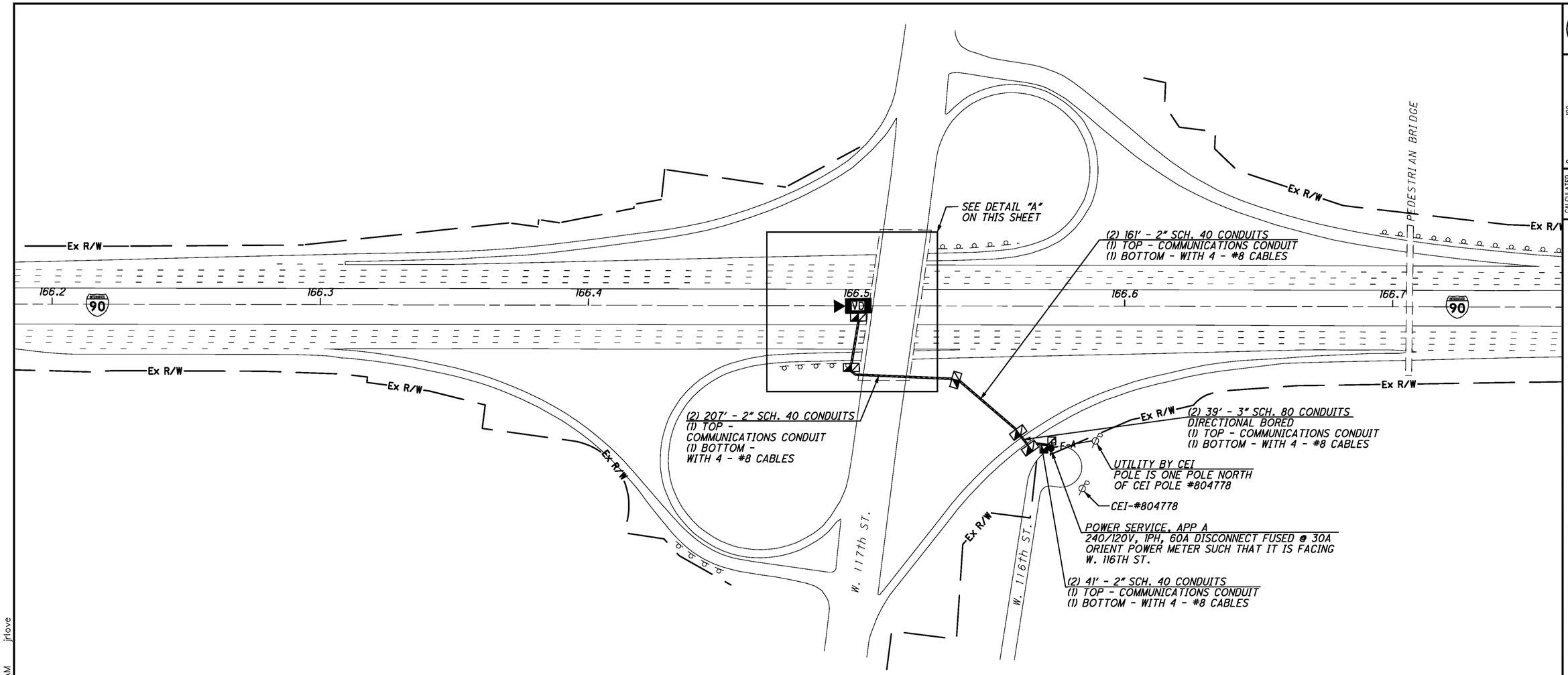

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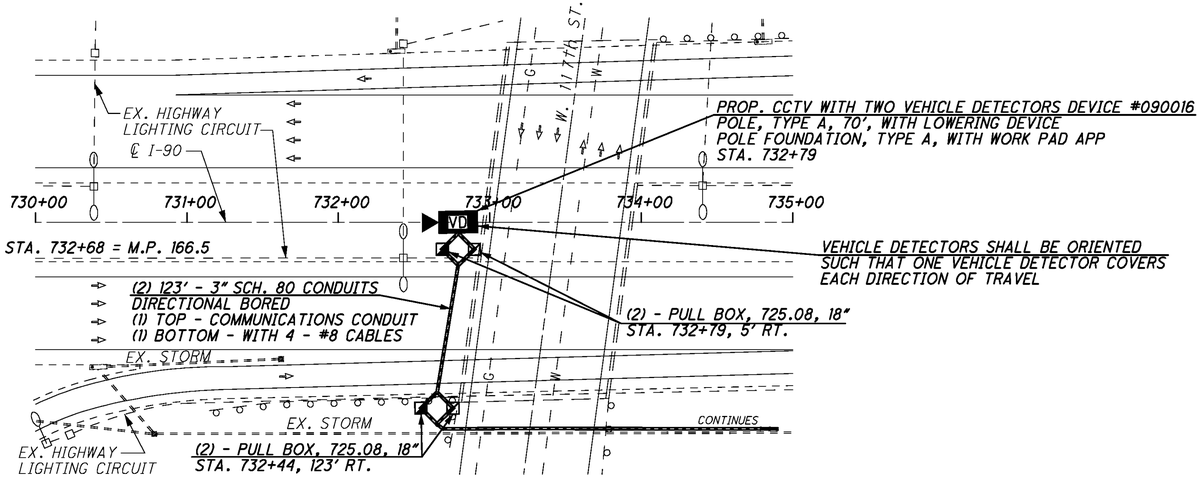

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 25 FOR TYPICAL CCTV CAMERA WITH TWO VEHICLE DETECTORS DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 192 FOR COMMUNICATIONS PLANS

REFER TO SHEET 201 FOR TYPICAL CCTV W/VD EOC COMMUNICATIONS DETAILS

CCTV 090016

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT W.117TH ST. (MP 166.19 TO 166.76)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

111
207

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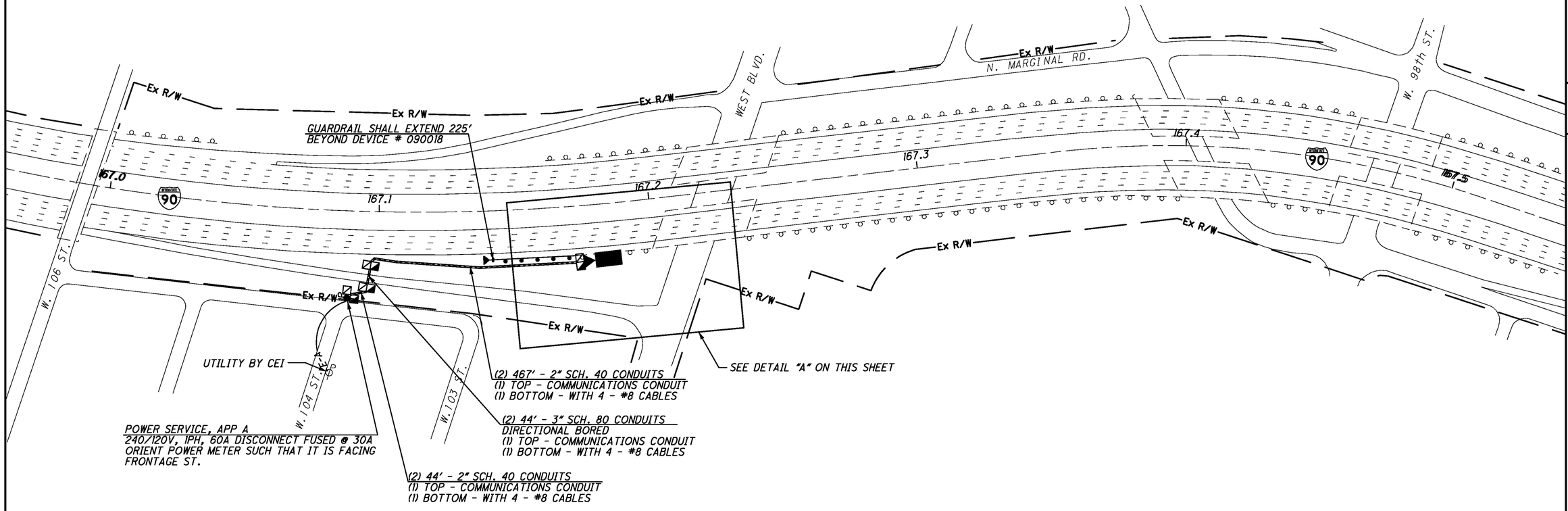

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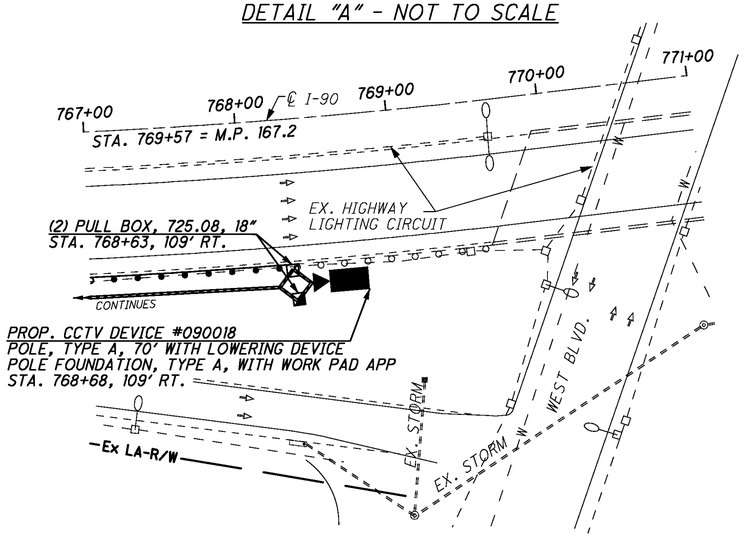

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 192 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 090018

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT WEST BLVD. (MP 166.96 TO MP 167.54)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

112
207

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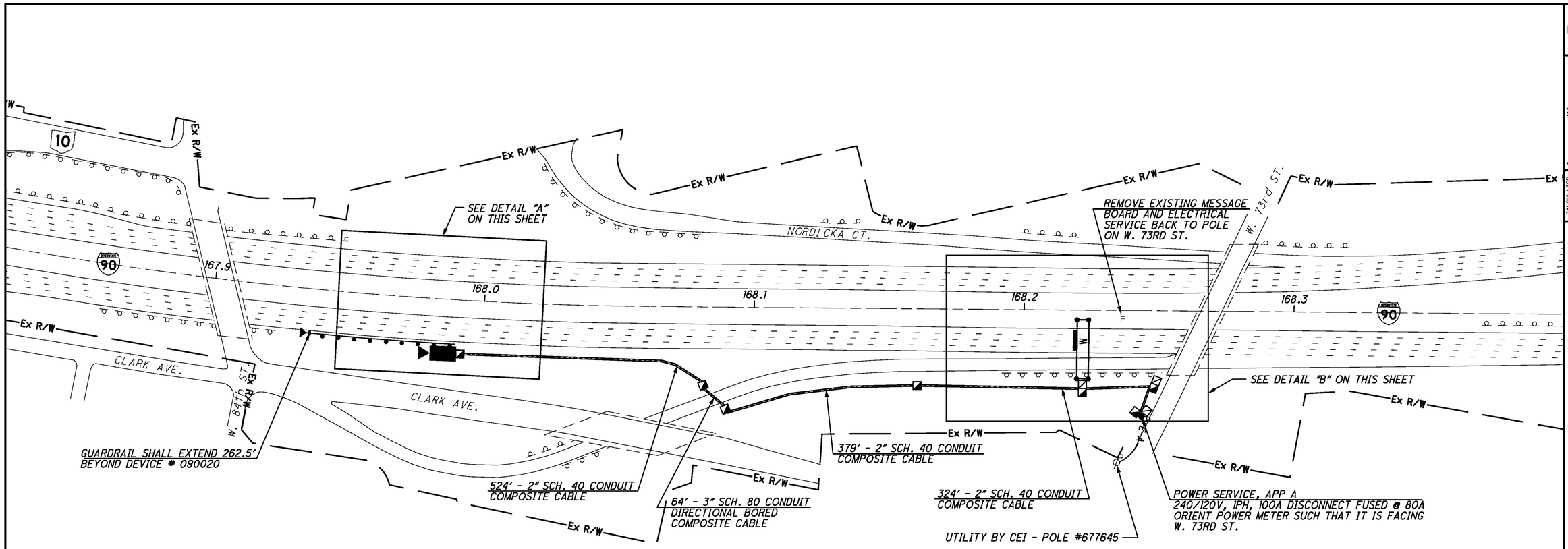

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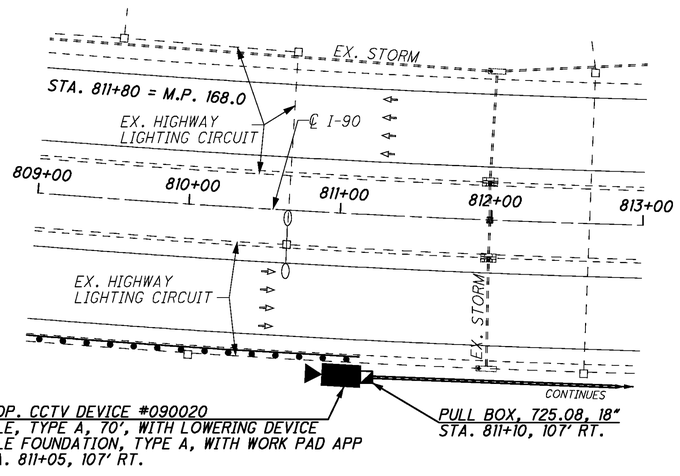

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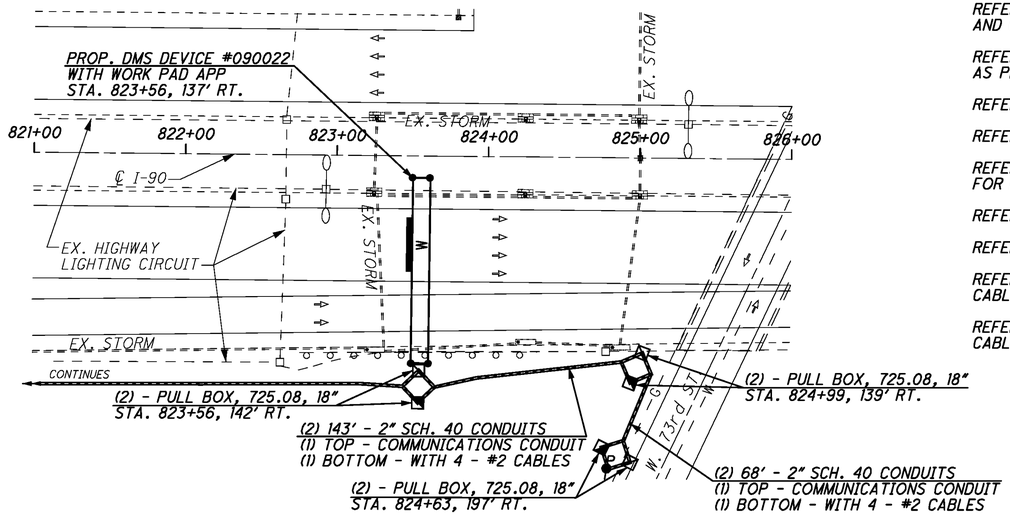

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEETS 15-15A FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO TRUSS ROW SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 192 FOR COMMUNICATIONS PLANS

REFER TO SHEET 205 FOR TYPICAL DMS W/ COMPOSITE CABLE EOC DETAILS

REFER TO SHEET 207 FOR TYPICAL CCTV W/ COMPOSITE CABLE DETAILS

CCTV 090020
DMS 090022

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT W.73RD ST. (MP 167.82 TO MP 168.40)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

113
207

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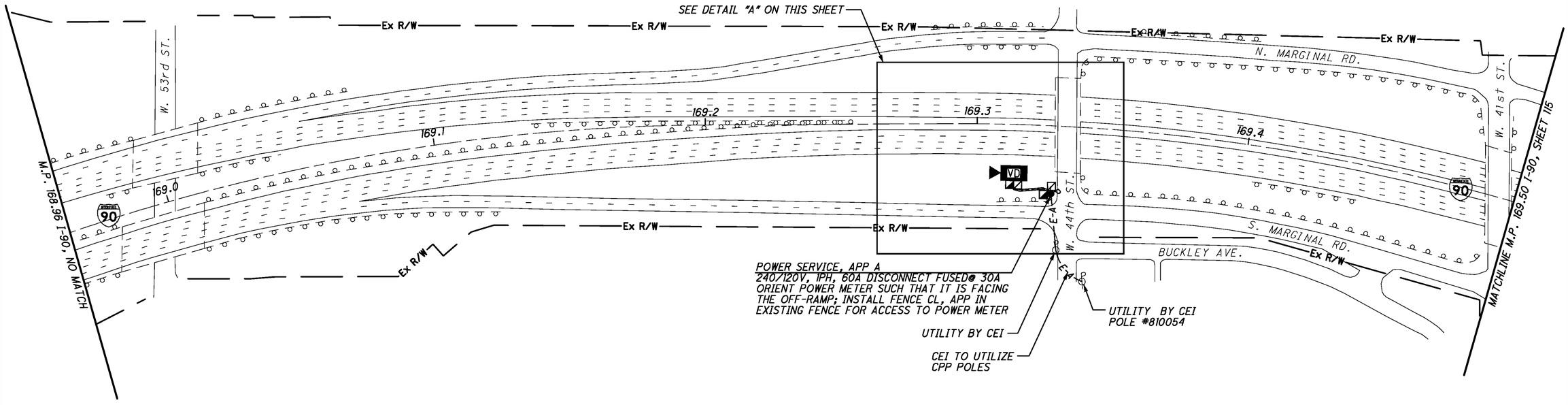

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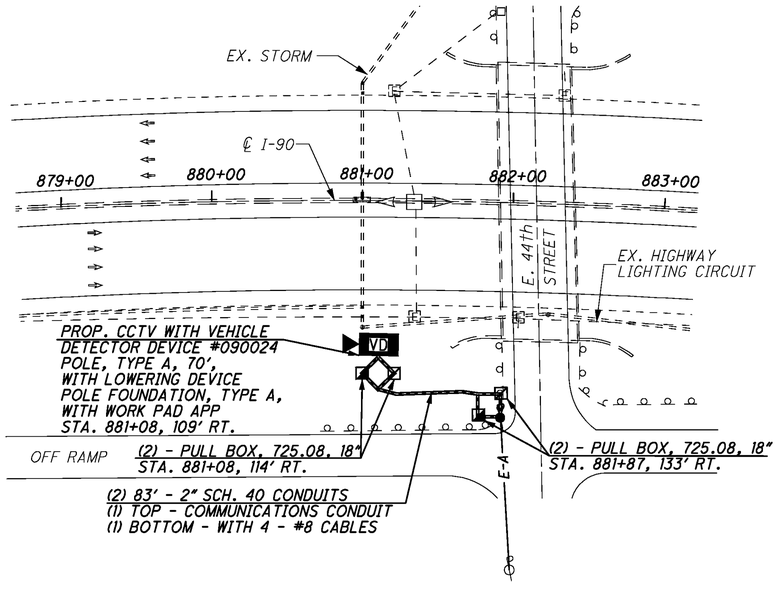


REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 24 FOR TYPICAL CCTV CAMERA WITH VEHICLE DETECTOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 193 FOR COMMUNICATIONS PLANS

REFER TO SHEET 201 FOR TYPICAL CCTV W/VD EOC COMMUNICATIONS DETAILS

CCTV 090024

HORIZONTAL SCALE IN FEET
0 50 100 200

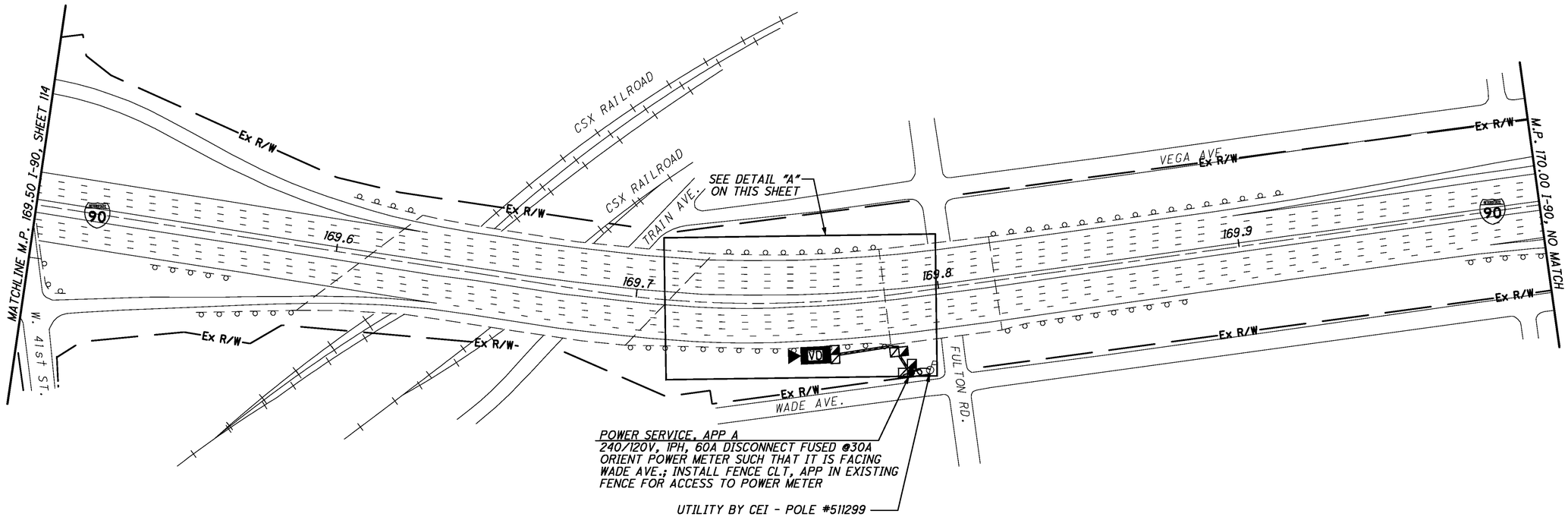
CALCULATED STS
CHECKED JDG

I-90 AT W.44TH ST. (MP 168.94 TO MP 169.50)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

114
207

M:\JOBS\39926\TECHPROD\hwy\traf\77331GP124.dgn 05-MAY-2009 1:28PM jrlove



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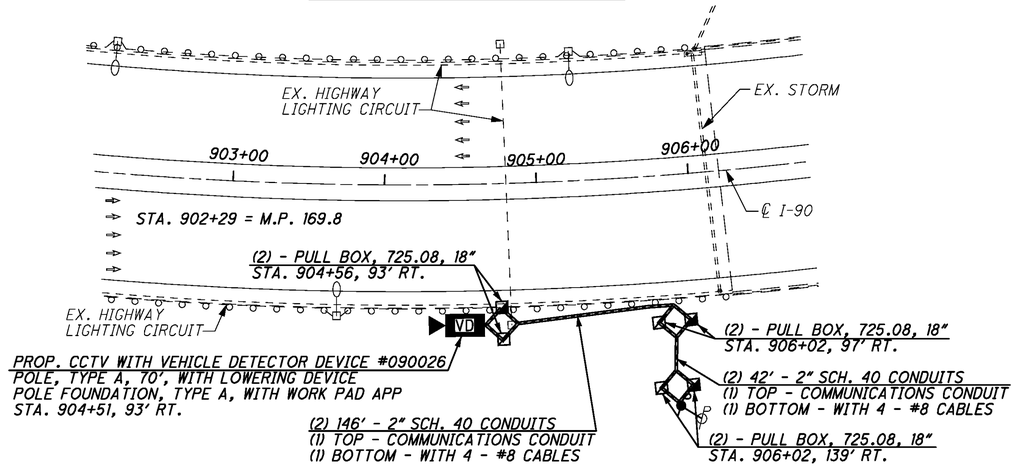


REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 24 FOR TYPICAL CCTV CAMERA WITH VEHICLE DETECTOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 193 FOR COMMUNICATIONS PLANS

REFER TO SHEET 201 FOR TYPICAL CCTV W/VD EOC COMMUNICATIONS DETAILS

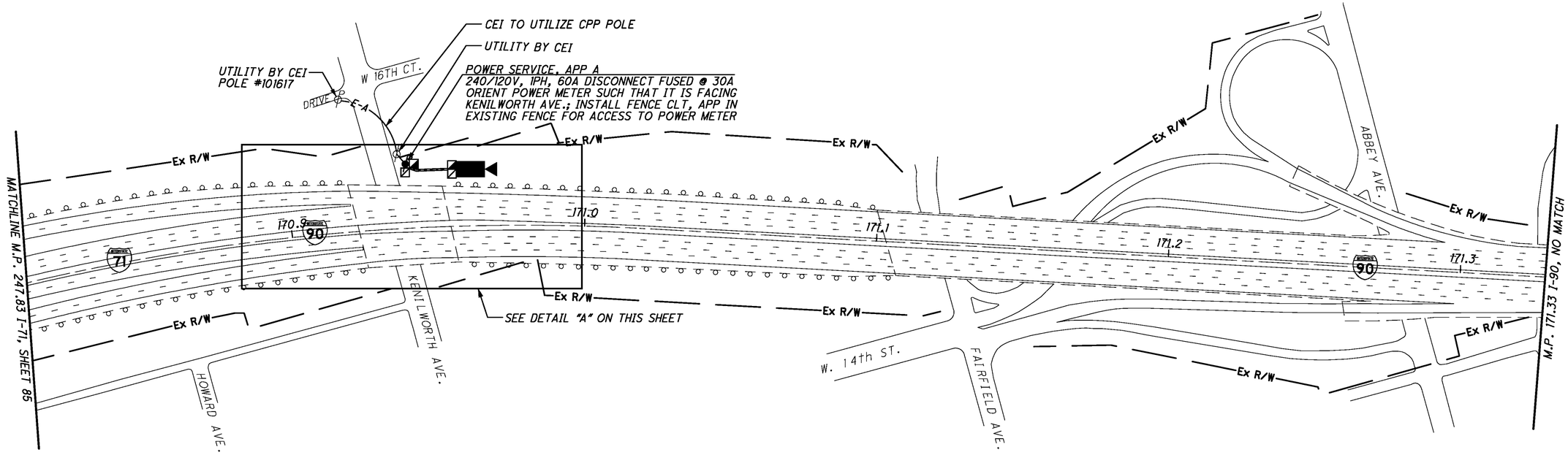
CCTV 090026

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT FULTON RD. (MP 169.50 TO MP 170.00)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM



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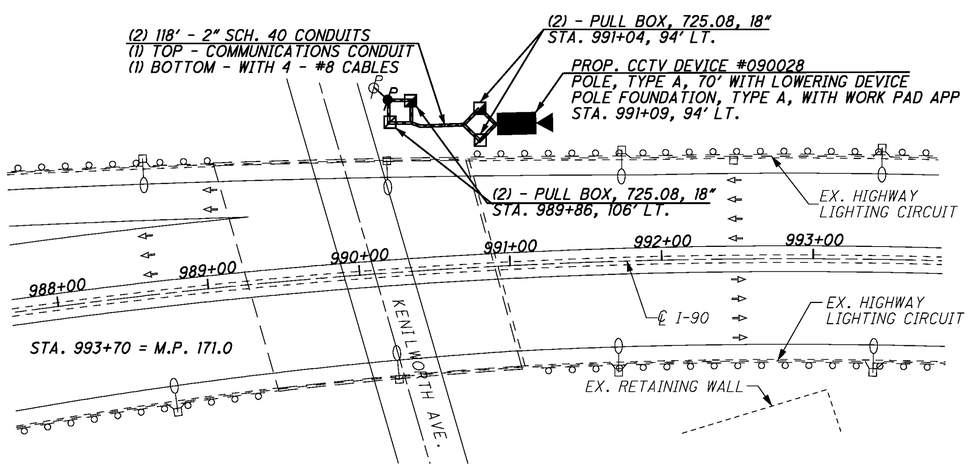

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 193 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 090028

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT KENILWORTH AVE. (MP 247.83 TO MP 171.33)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

116
207

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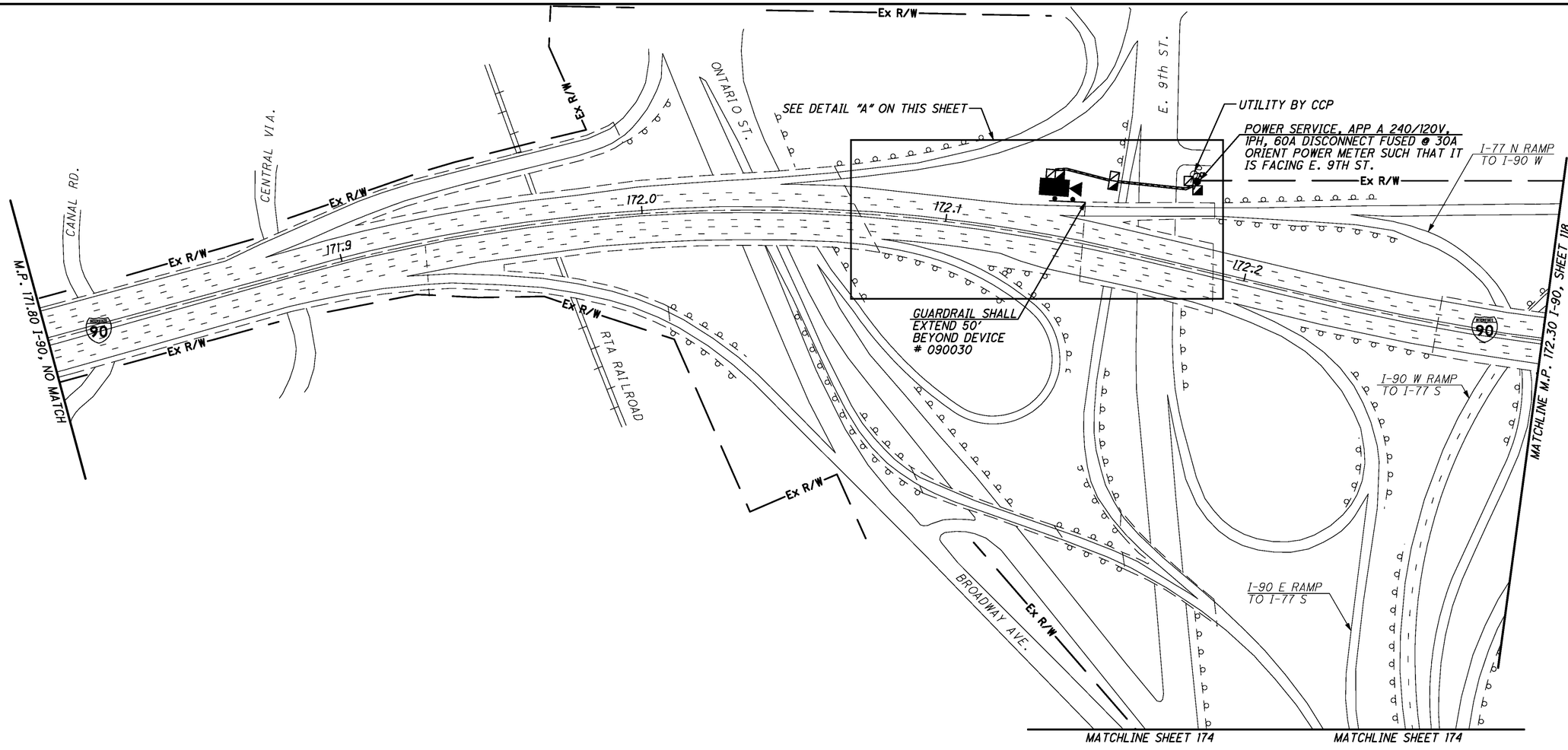
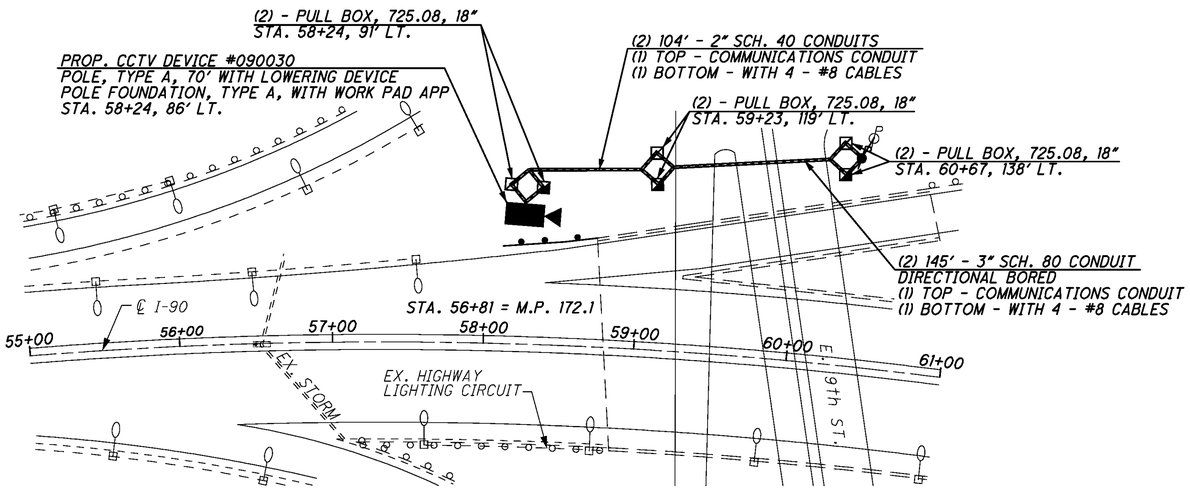


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 193 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 090030

HORIZONTAL SCALE IN FEET
0 50 100 200

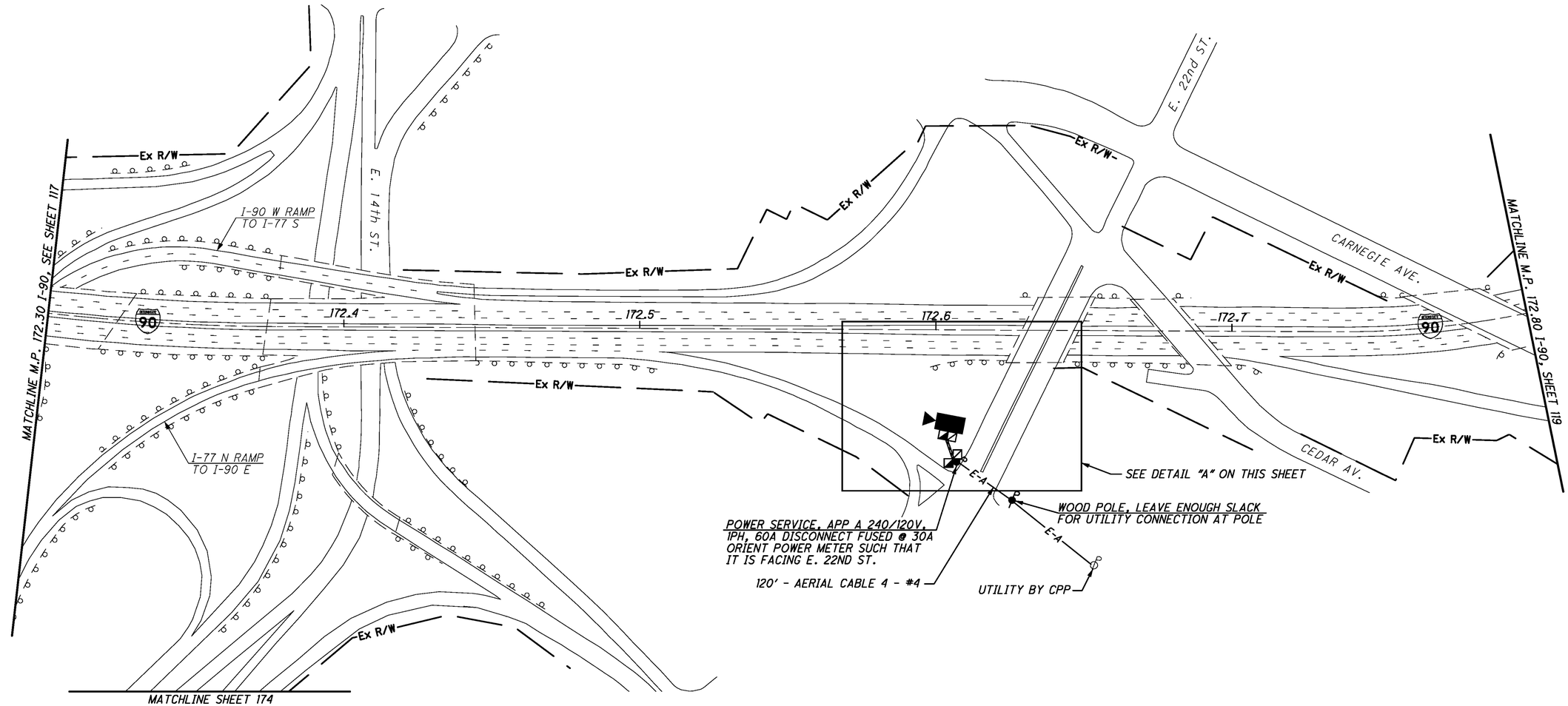
CALCULATED STS
CHECKED JDG

I-90 AT E.9TH ST. (MP 171.80 TO MP 172.30)
CITY OF CLEVELAND, CUYAHOGA COUNTY

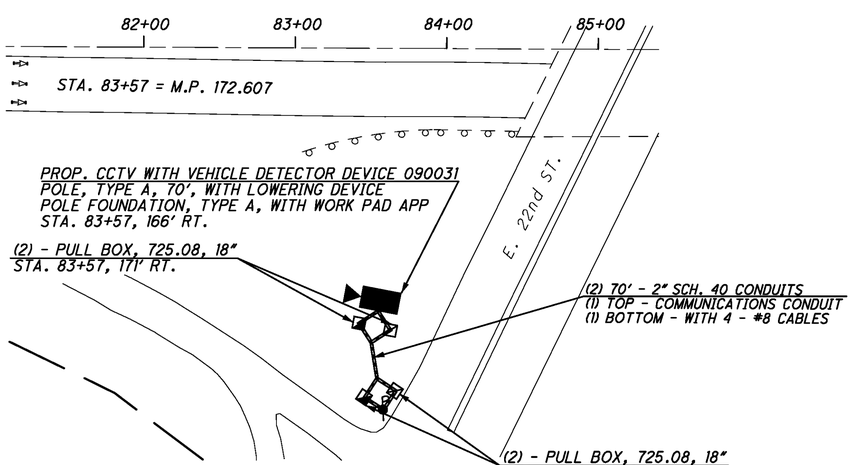
VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

117
207

M:\JOBS\39926\TECHPROD\hwy\traf\77331CP129.dgn 18-NOV-2008 1:27PM jrlove



DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 193 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 090031

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT E. 22ND ST. (MP 172.30 TO MP 172.80)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND
FREEWAY MANAGEMENT
SYSTEM

118
207

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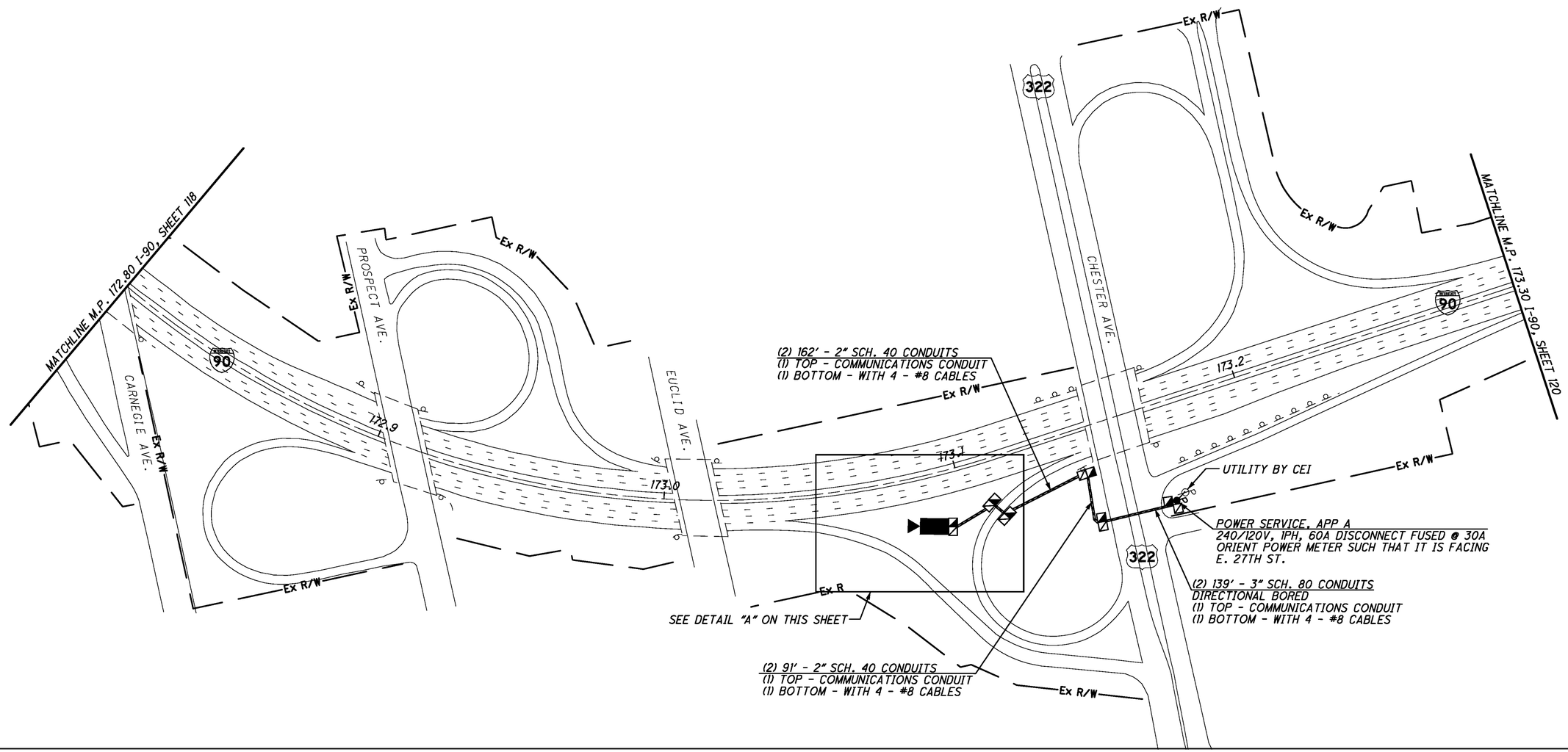

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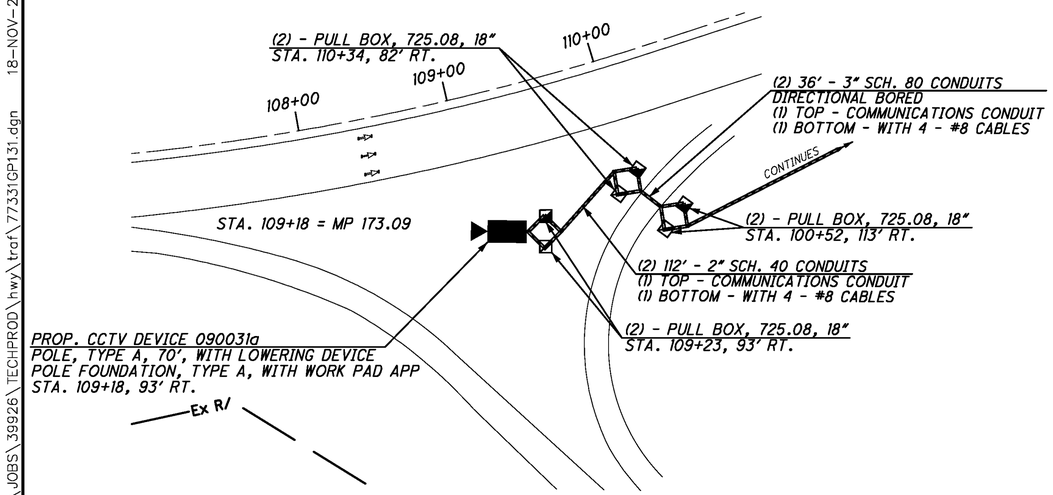

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 193 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 090031A

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT US-322 (MP 172.80 TO MP 173.30)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

119
207

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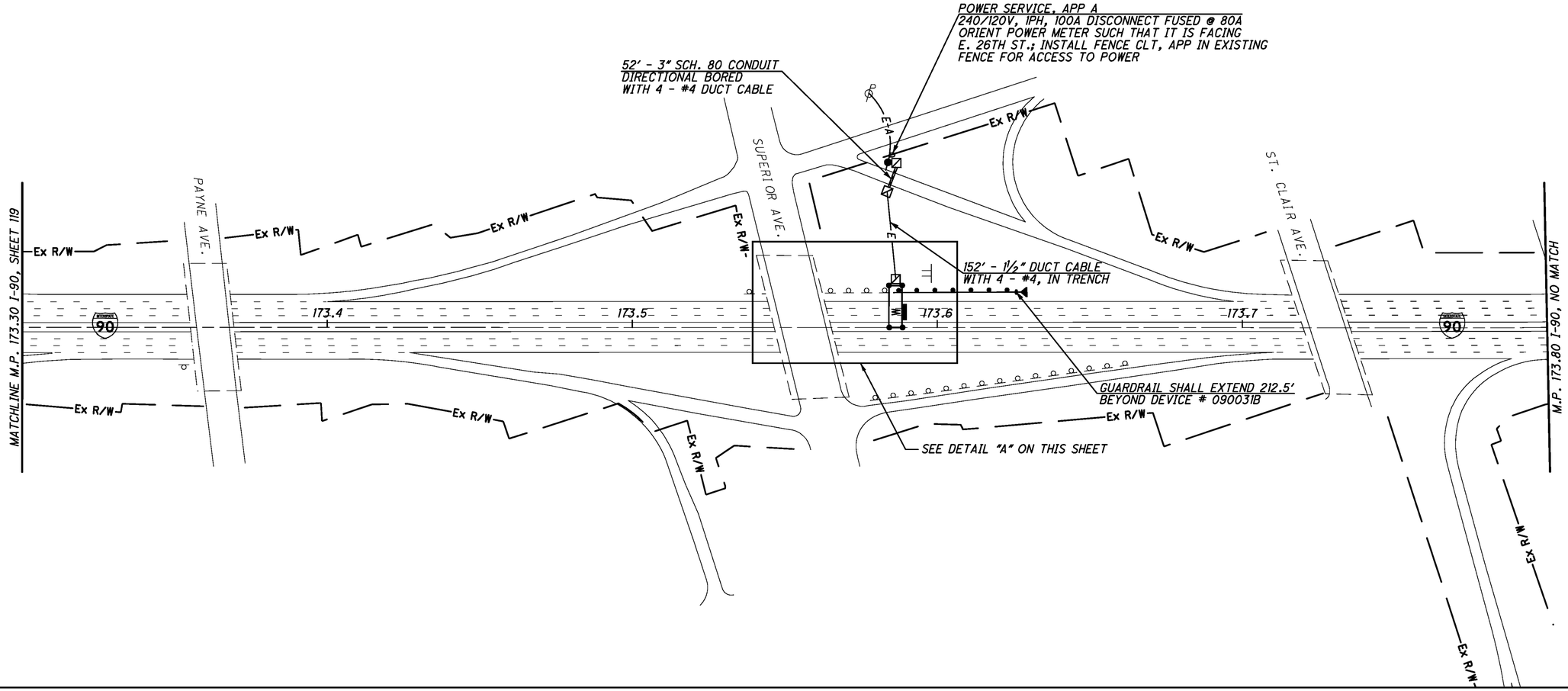
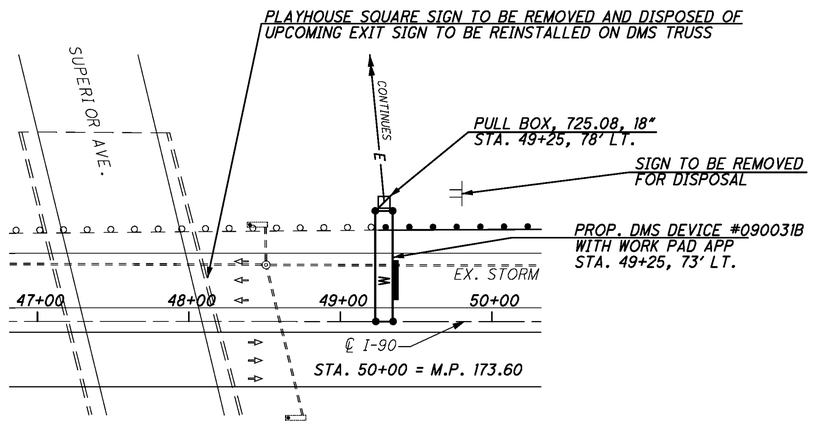


DETAIL "A" - NOT TO SCALE



NOTES:

REMOVE AND RE-ERECT EXITING SIGN (EXIT 173B) 9'X2' ON THE NEW SIGN.

DISPOSE OF THE SIGN "CHESTER AVE ½ MILE" 17'X6'.
REMOVE SIGN SUPPORT FOR "CHESTER AVE ½ MILE" SIGN FROM ST. CLAIR BRIDGE.

INSTALL NEW SKEWED STRUCTURE MOUNTED SIGN SUPPORT (TC 18.26, DESIGN NO. 4) ON ST. CLAIR BRIDGE.

INSTALL NEW SIGN OVERHEAD EXTRUSHEET. REFER TO SPECIAL PROVISIONS FOR NEW SIGN DESIGN.

REFER TO SHEET 11 FOR CONCRETE BARRIER REPLACEMENT DETAILS

REFER TO SHEET 11B FOR BARRIER TRANSITION DETAILS

REFER TO SHEET 15A FOR PULL BOX ORIENTATION FOR DMS LOCATION DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO TRUSS ROW SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO CONCRETE BARRIER MEDIAN TRUSS AND PEDESTAL SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO SHEET 178 FOR DMS TRUSS PROFILE

REFER TO SHEET 193 FOR COMMUNICATIONS PLANS

REFER TO SHEET 202 FOR TYPICAL DMS WIRELESS COMMUNICATIONS DETAILS

DMS 090031B

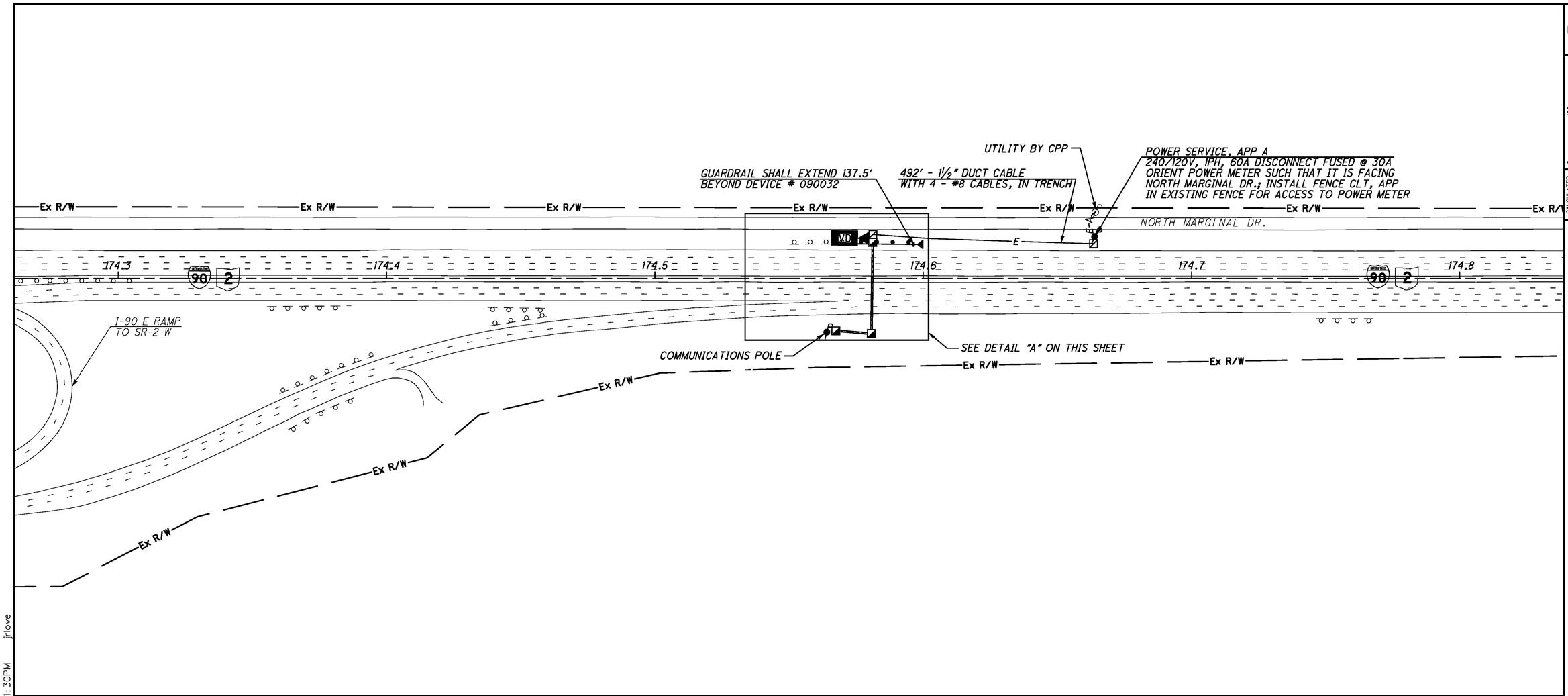
HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

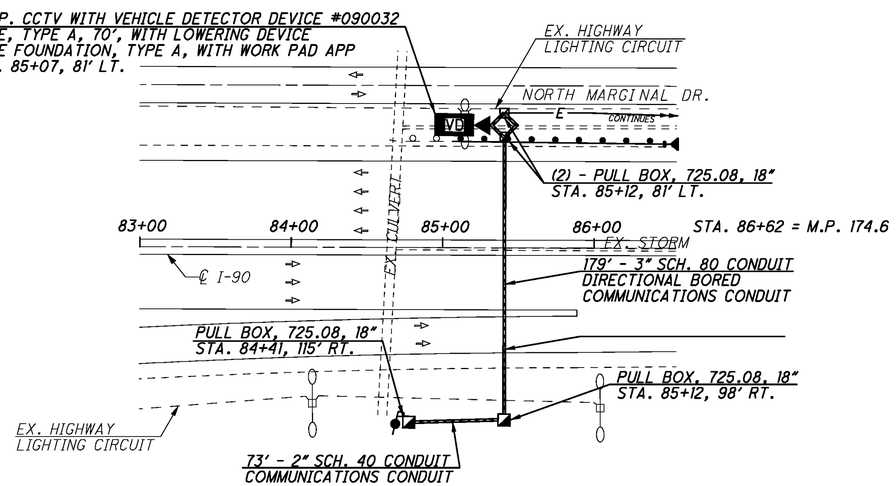
I-90 AT SUPERIOR AVE.(MP 173.30 TO MP 173.80)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

120
207



DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 24 FOR TYPICAL CCTV CAMERA WITH VEHICLE DETECTOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 193 FOR COMMUNICATIONS PLANS

REFER TO SHEET 201 FOR TYPICAL CCTV W/VD EOC COMMUNICATIONS DETAILS

CCTV 090032

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT E.40TH ST.(MP 174.26 TO MP 174.84)
CITY OF CLEVELAND , CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

121
207

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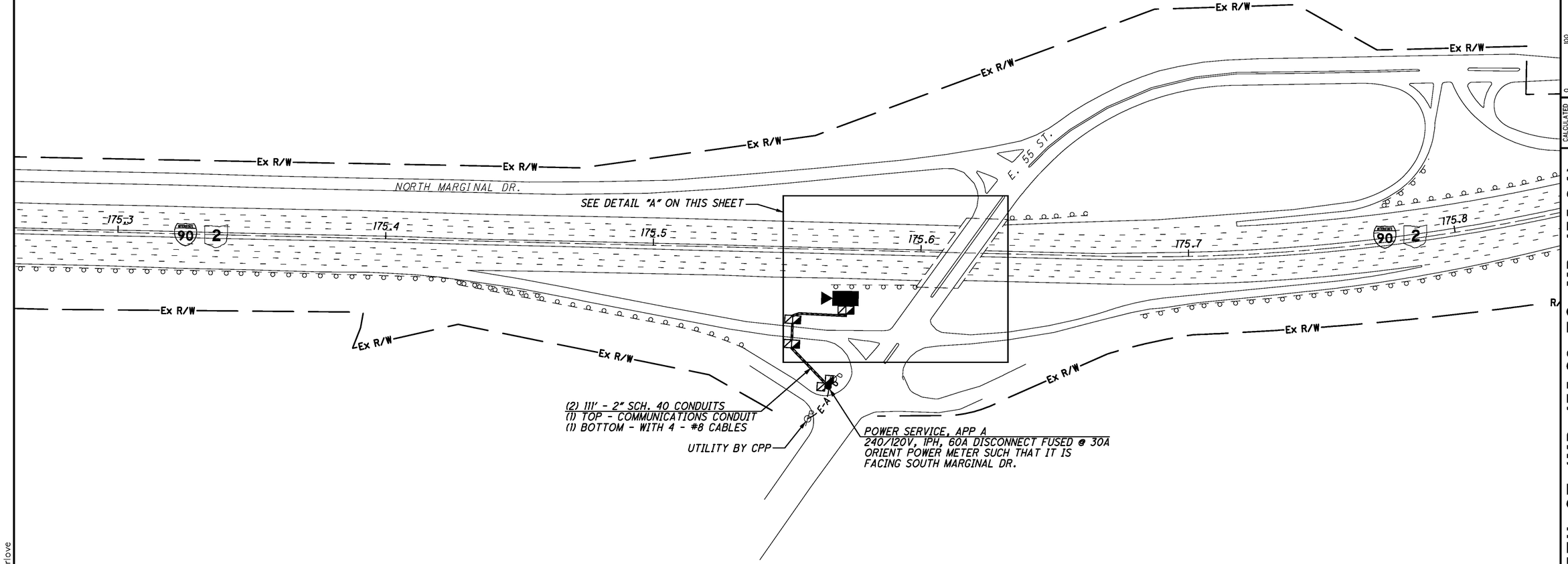

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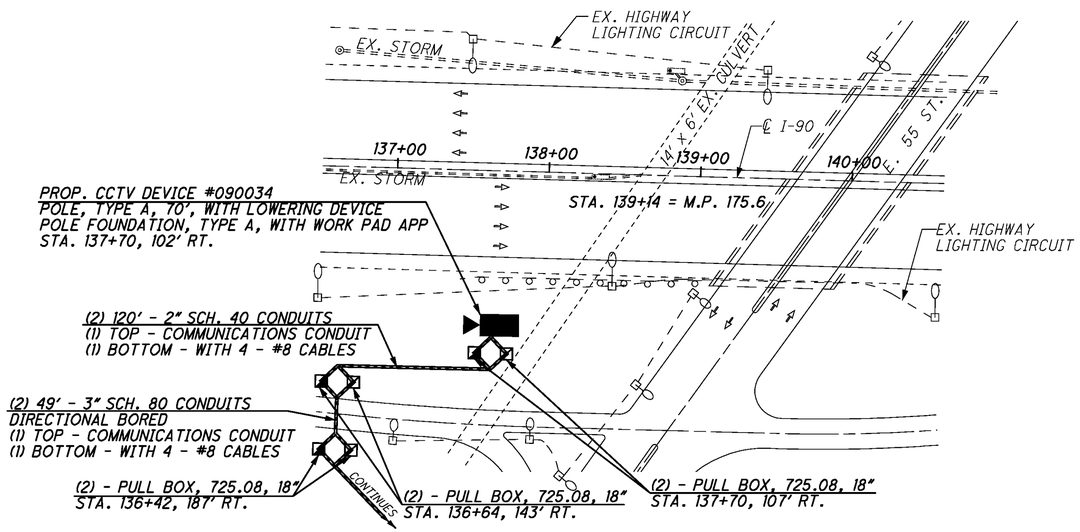

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 193 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 090034

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT E.55TH ST.(MP 175.26 TO MP 175.84)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

122
207

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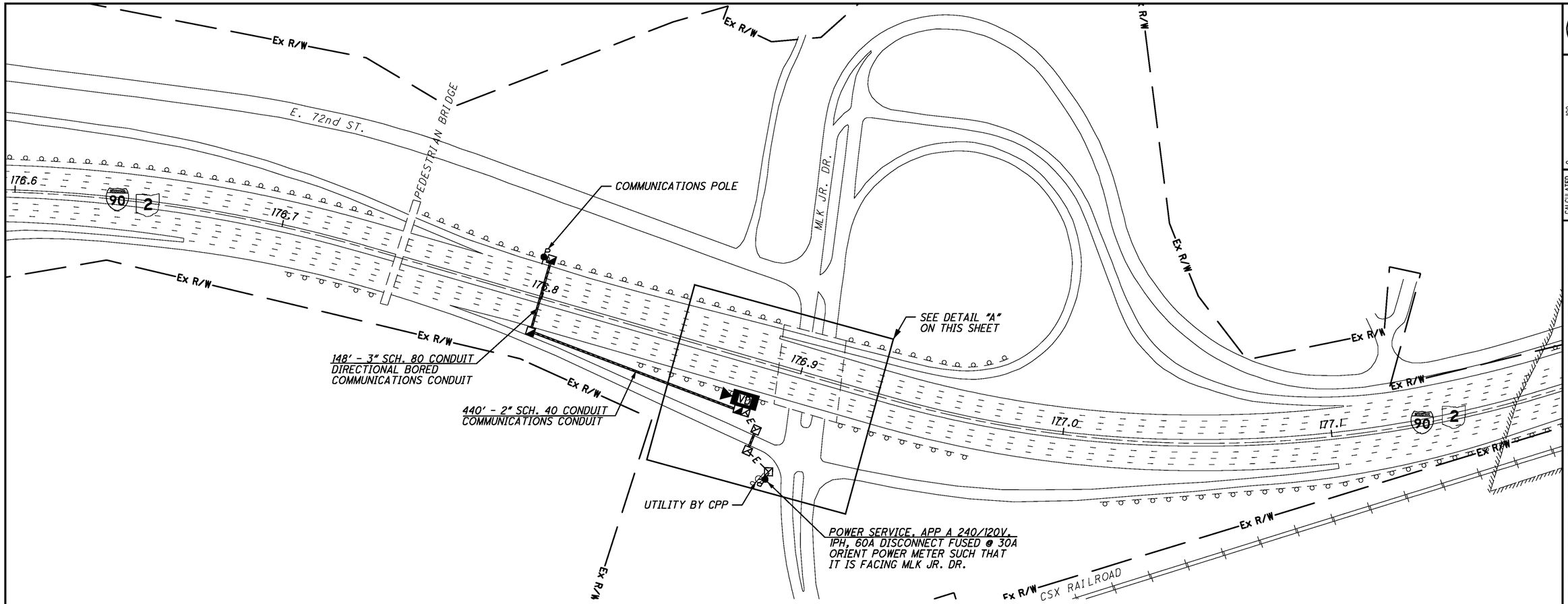
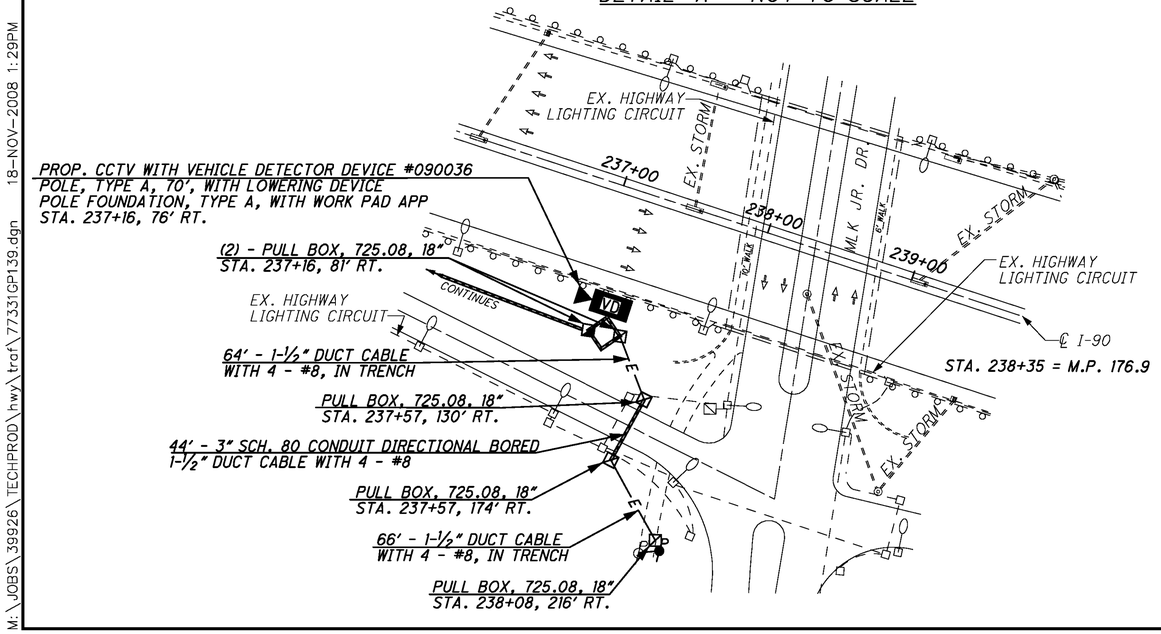


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 193 FOR COMMUNICATIONS PLANS

REFER TO SHEET 199 FOR TYPICAL CCTV W/VD T-1 COMMUNICATIONS DETAILS

CCTV 090036

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT MLK DR. (MP 176.59 TO MP 177.18)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

123
207

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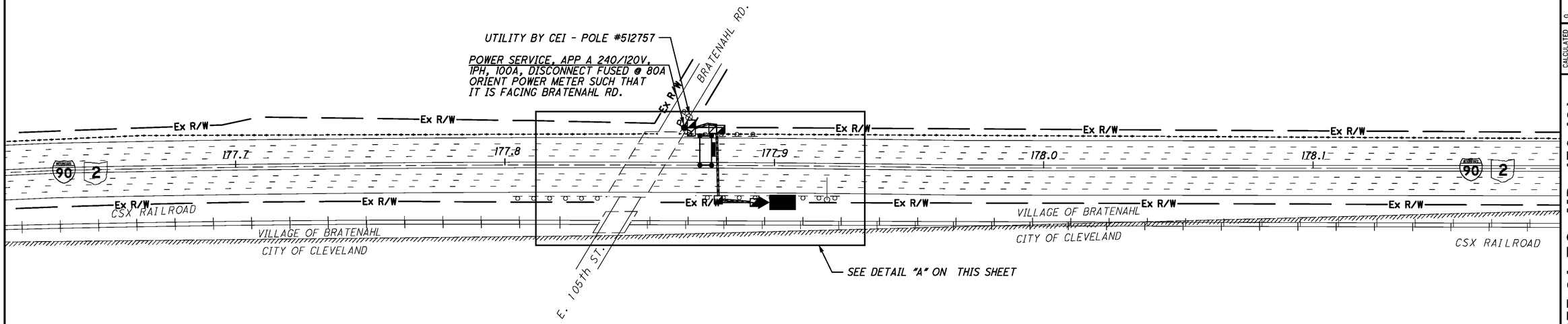
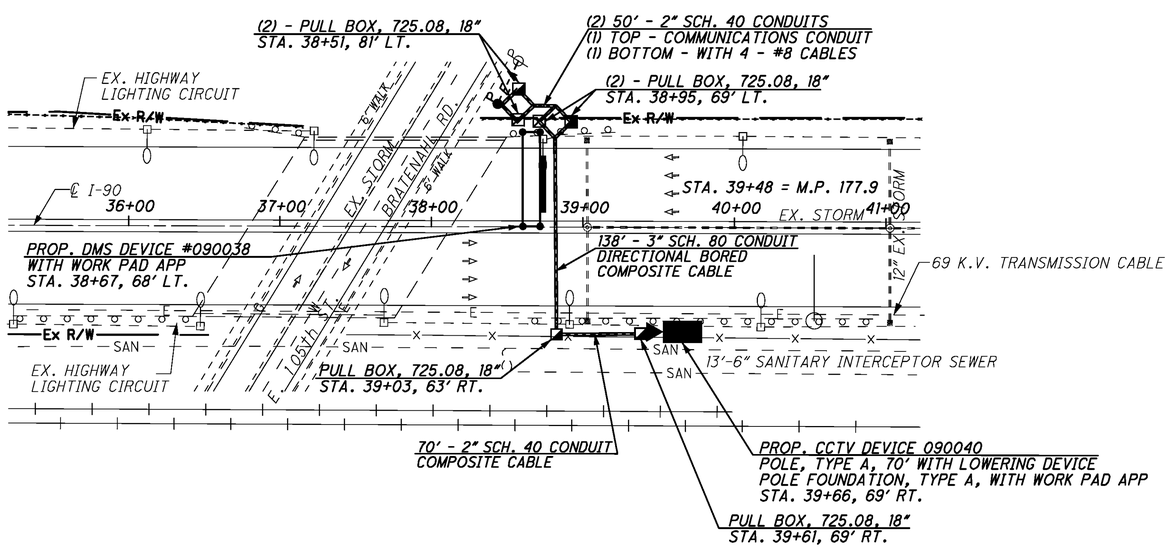


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 11 FOR CONCRETE BARRIER REPLACEMENT DETAILS

REFER TO SHEET 11B FOR BARRIER TRANSITION DETAILS

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEETS 15-15A FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO TRUSS ROW SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO CONCRETE BARRIER MEIDAN TRUSS AND PEDESTAL SUPPORT FOUNDATIONS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 178 FOR DMS PROFILE

REFER TO SHEET 193 FOR COMMUNICATIONS PLANS

REFER TO SHEET 205 FOR TYPICAL DMS-CCTV W/ COMPOSITE CABLE EOC DETAILS

REFER TO SHEET 207 FOR TYPICAL CCTV W/ COMPOSITE CABLE DETAILS

DMS 090038
CCTV 090040

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT E. 105TH ST. (MP 177.61 TO MP 178.19)
VILLAGE OF BRATENAHL, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

124
207

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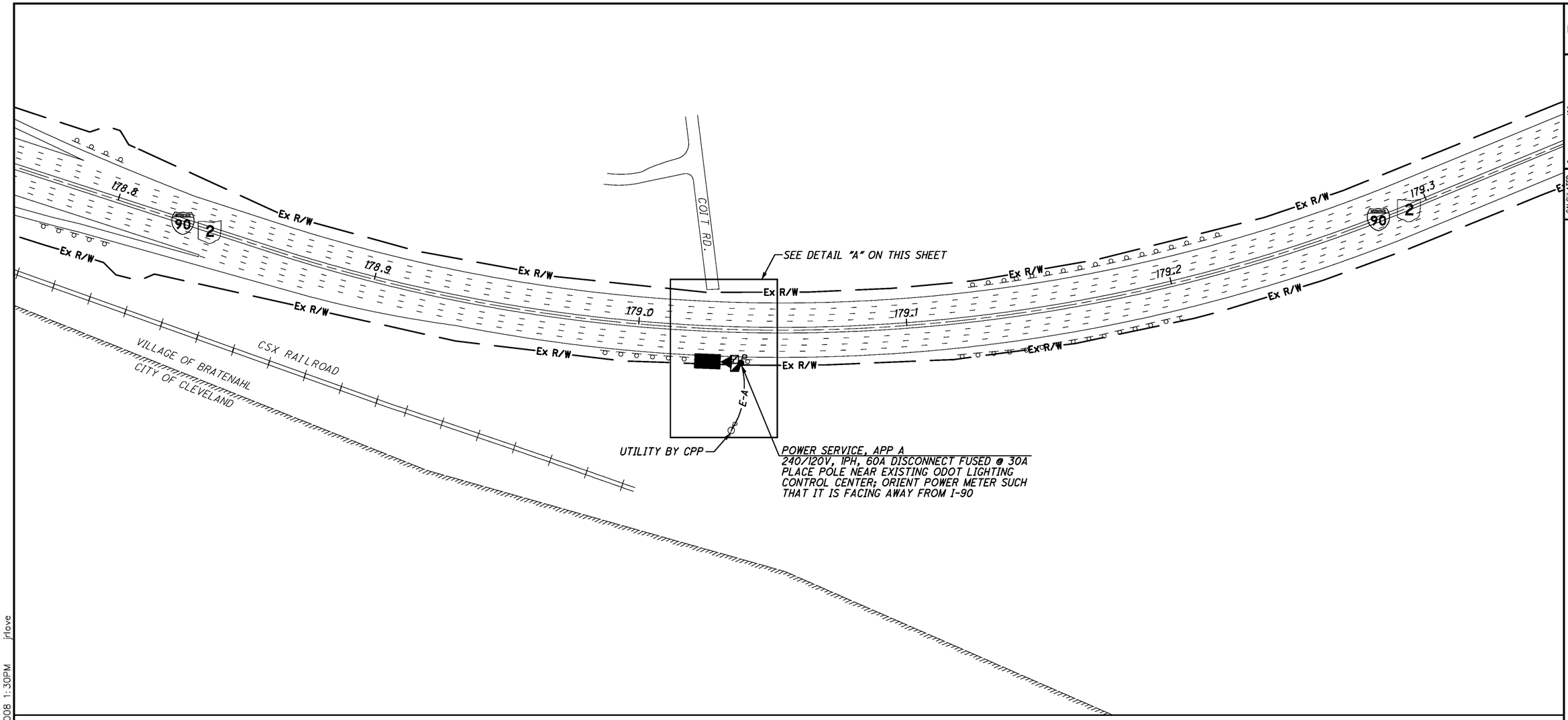
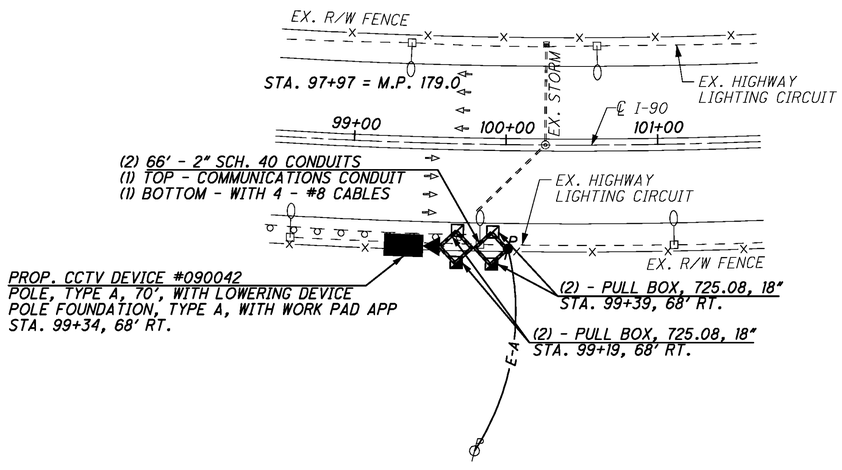


DETAIL "A" - NOT TO SCALE



*NOTE: ALIGN PROPOSED CCTV FOUNDATION WITH EXISTING TRUSS FOUNDATION. HIGHWAY LIGHTING MAY NOT BE INOPERATIVE FOR LONGER THAN 4 DAYS.

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 194 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 090042

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT COIT RD. (MP 178.76 TO MP 179.35)
VILLAGE OF BRATENAHL, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

125
207

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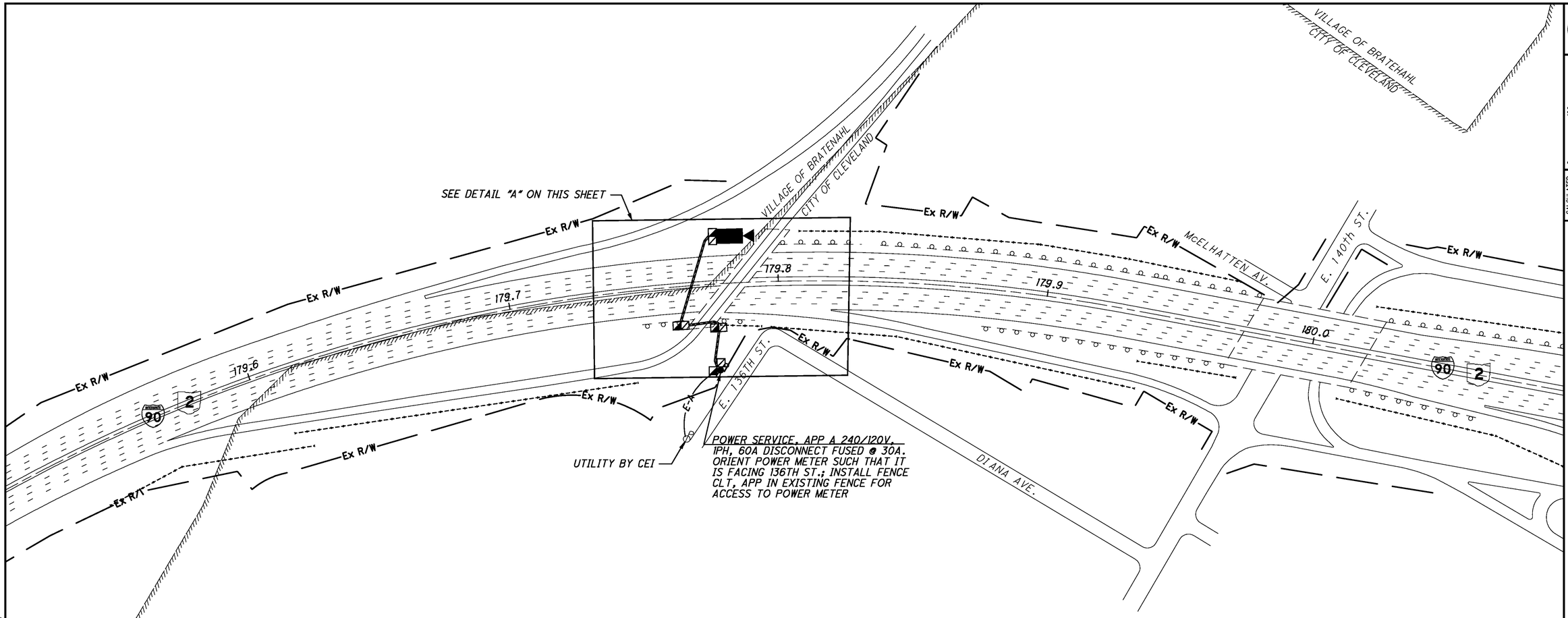
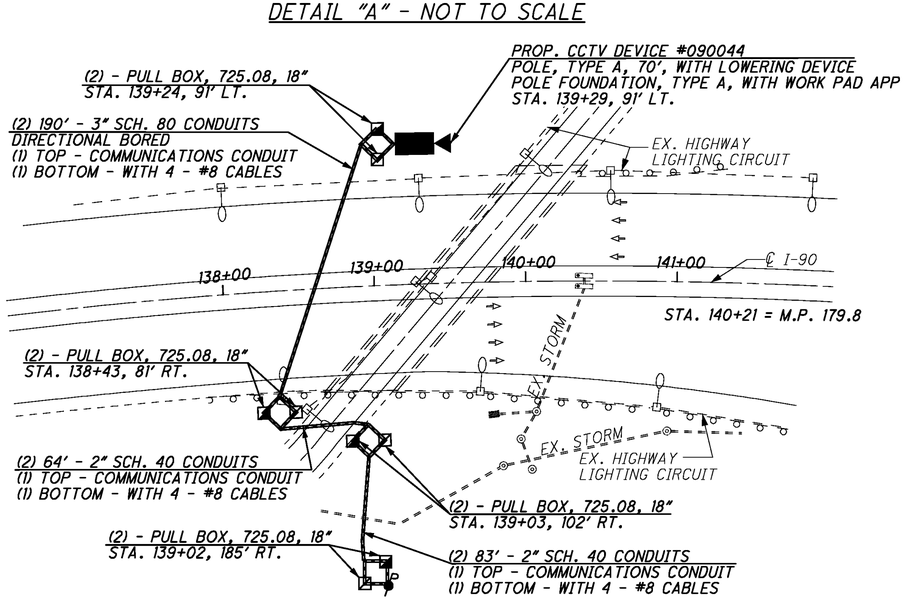


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 194 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 090044

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT E.136TH ST.(MP 179.51 TO MP 180.89)
VILLAGE OF BRATENAHL, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

126
207

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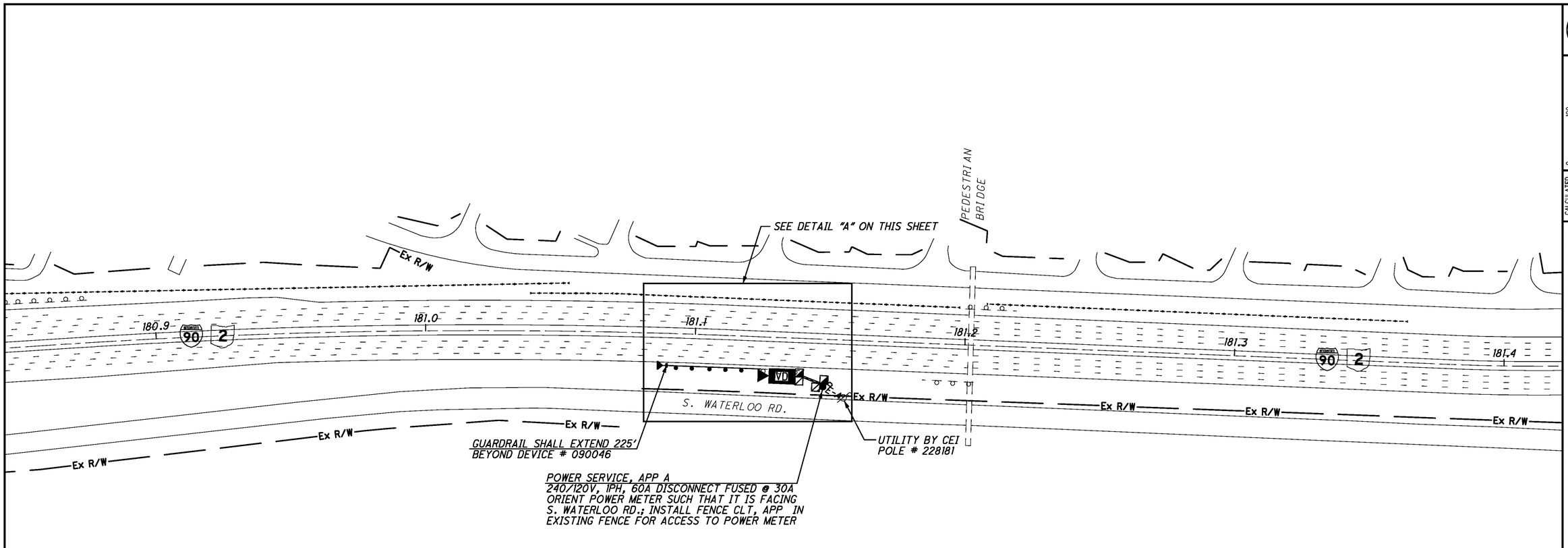
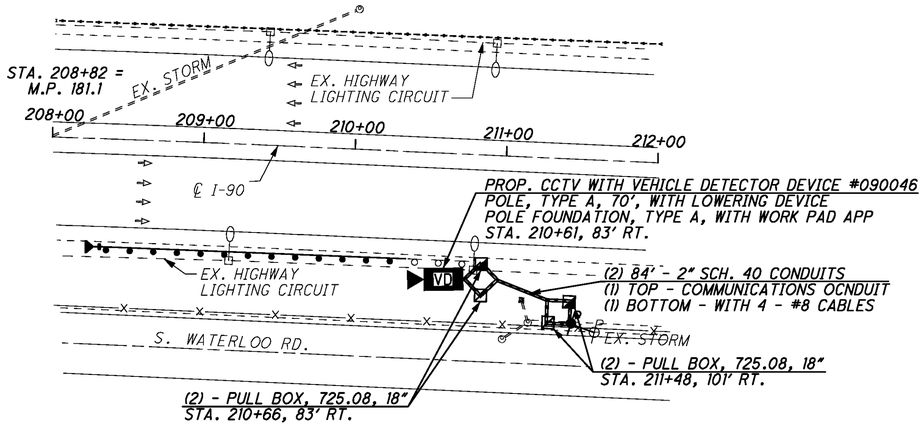


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 24 FOR TYPICAL CCTV CAMERA WITH VEHICLE DETECTOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 194 FOR COMMUNICATIONS PLANS

REFER TO SHEET 201 FOR TYPICAL CCTV W/VD EOC COMMUNICATIONS DETAILS

CCTV 090046

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 E OF E.152ND (MP 180.84 TO MP 181.42)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

127
207

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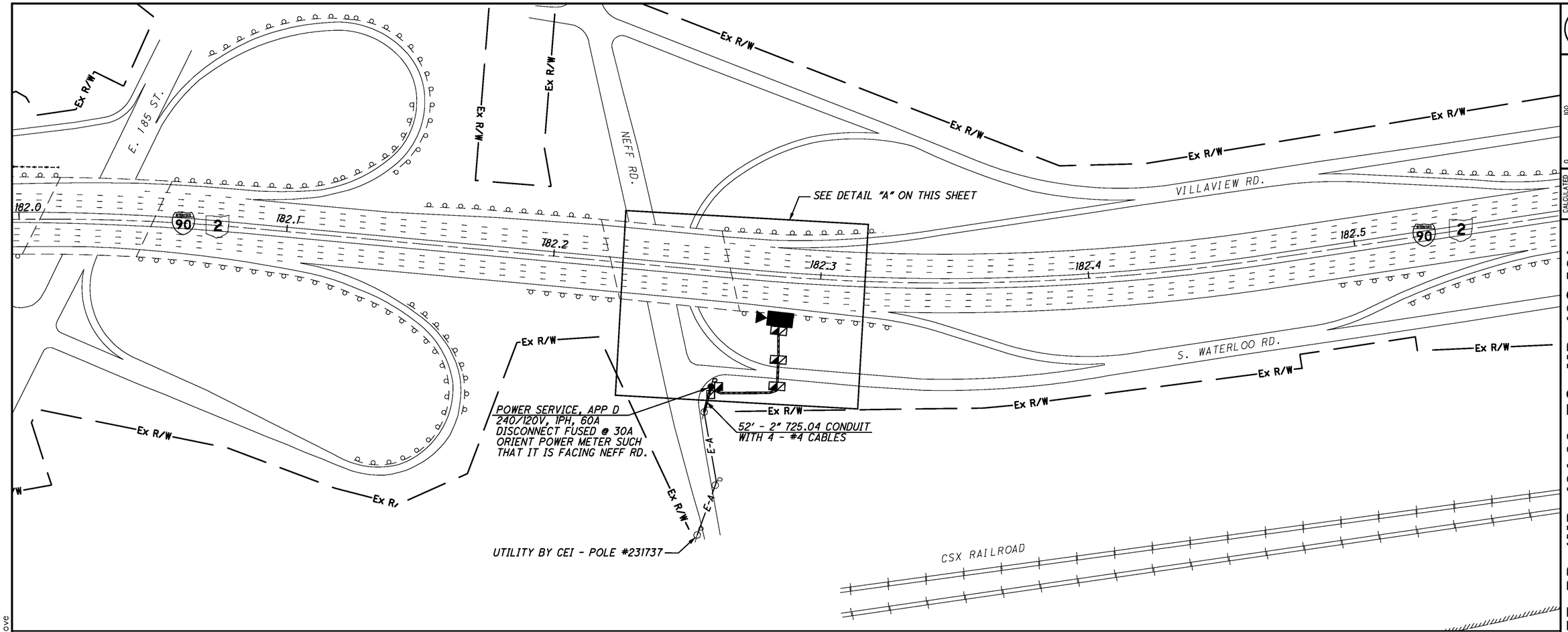
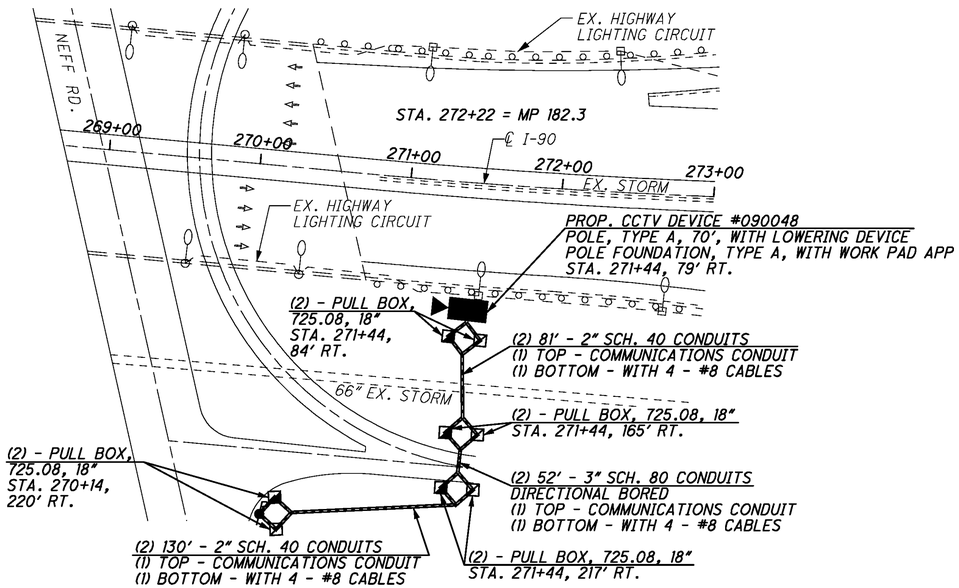


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 17 FOR TYPICAL POWER SERVICE AS PER PLAN D DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 194 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 090048

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT NEFF RD. (MP 181.99 TO MP 182.58)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

128
207

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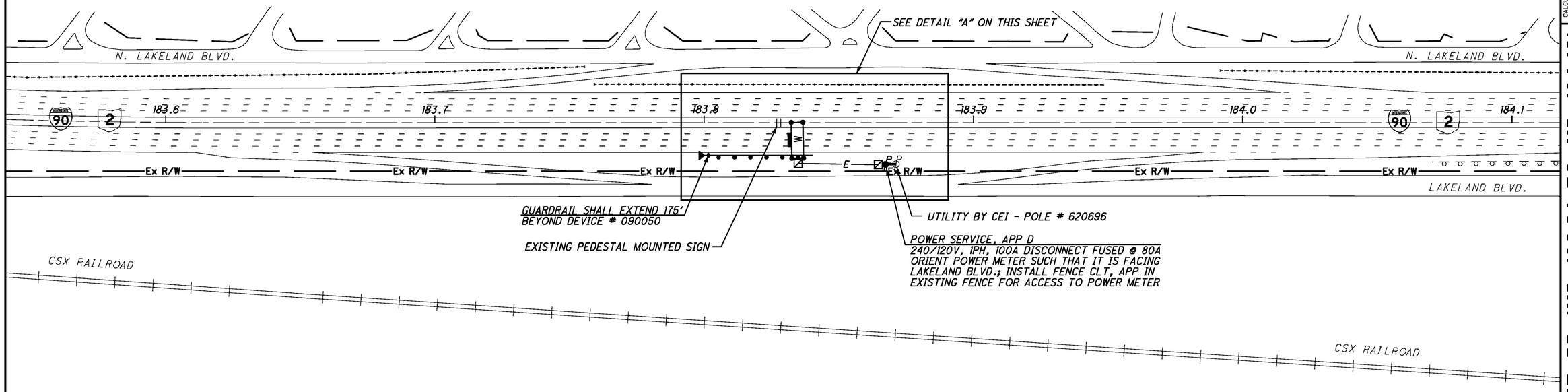
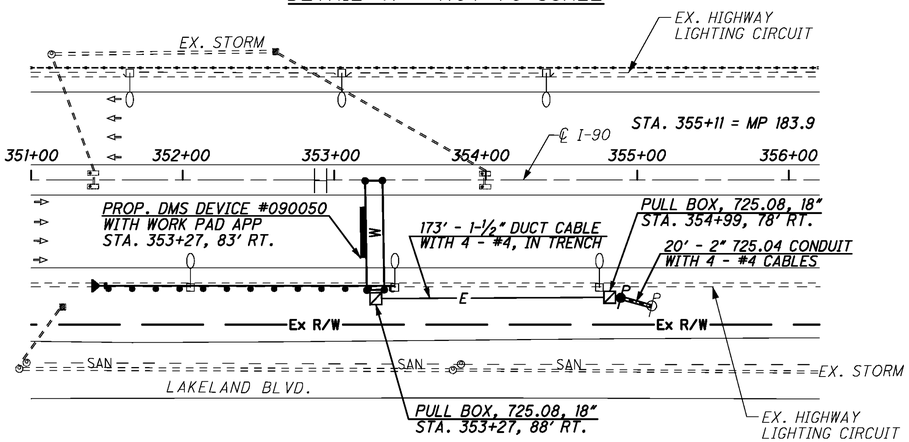


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 11 FOR CONCRETE BARRIER REPLACEMENT DETAILS

REFER TO SHEET 11A FOR MEDIAN BARRIER HEIGHT TRANSISTION DETAILS

REFER TO SHEET 15A FOR PULL BOX ORIENTATION FOR DMS LOCATIONS DETAILS

REFER TO SHEET 17 FOR TYPICAL POWER SERVICE AS PER PLAN D DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO TRUSS ROW SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO CONCRETE BARRIER MEDIAN TRUSS AND PEDESTAL SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO SHEET 179 FOR DMS PROFILE

REFER TO SHEET 194 FOR COMMUNICATIONS PLANS

REFER TO SHEET 202 FOR TYPICAL DMS WIRELESS COMMUNICATIONS DETAILS

DMS 090050

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 W. OF BABBITT RD. (MP 183.54 TO MP 184.12)
CITY OF EUCLID, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

129
207

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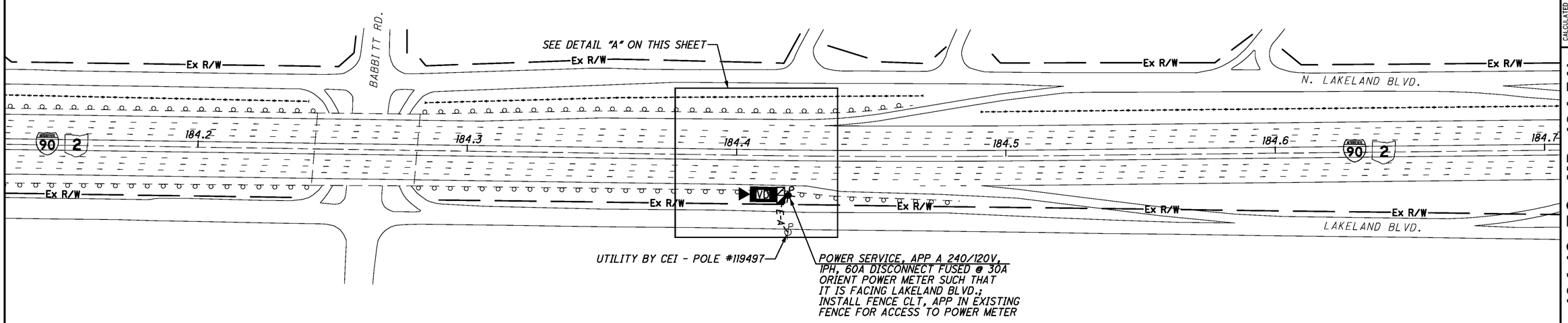
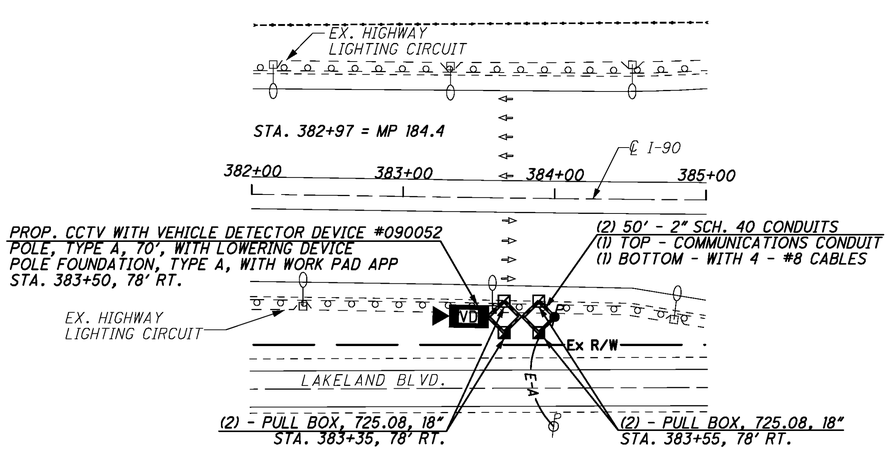


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 24 FOR TYPICAL CCTV CAMERA WITH VEHICLE DETECTOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 194 FOR COMMUNICATIONS PLANS

REFER TO SHEET 201 FOR TYPICAL CCTV W/VD EOC COMMUNICATIONS DETAILS

CCTV 090052

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT E.250TH ST. (MP 184.13 TO MP 184.71)
CITY OF EUCLID, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

130
207

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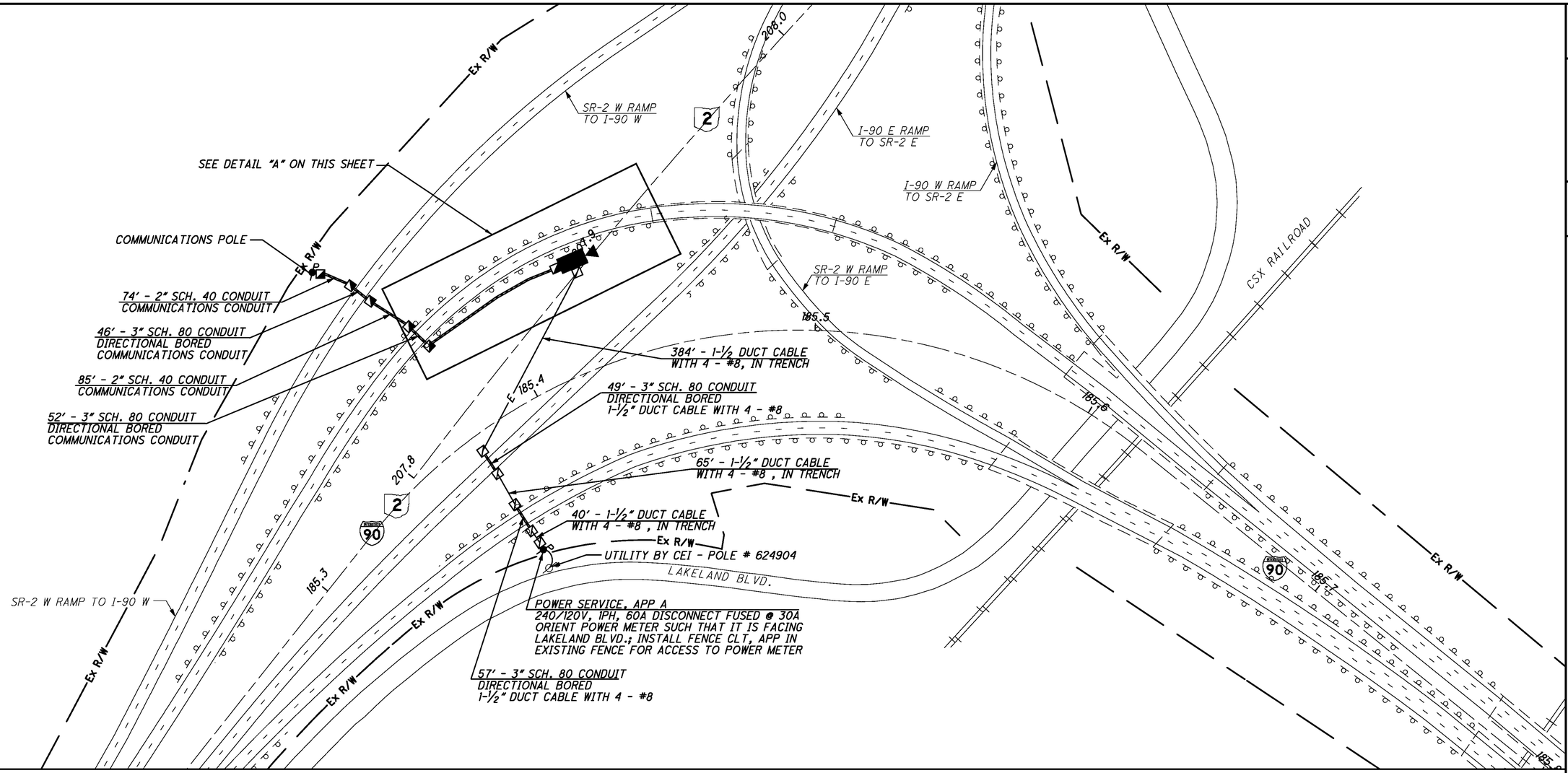
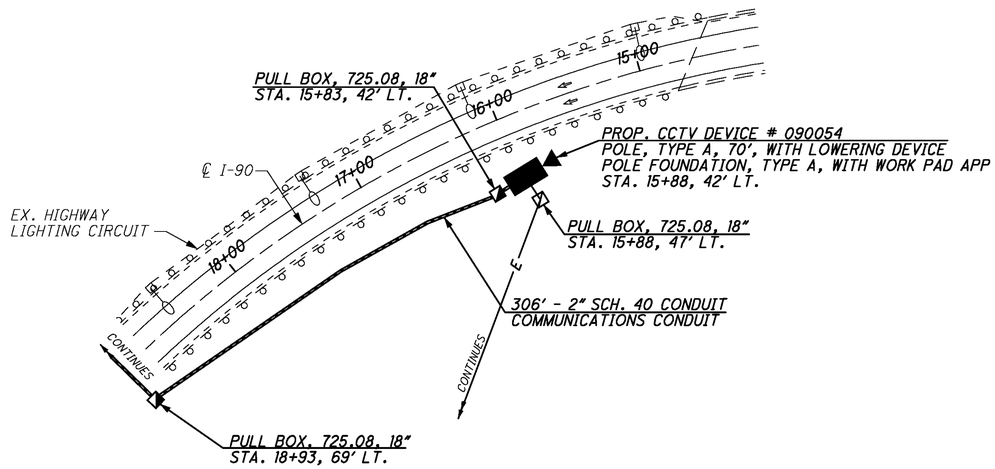


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 194 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 090054

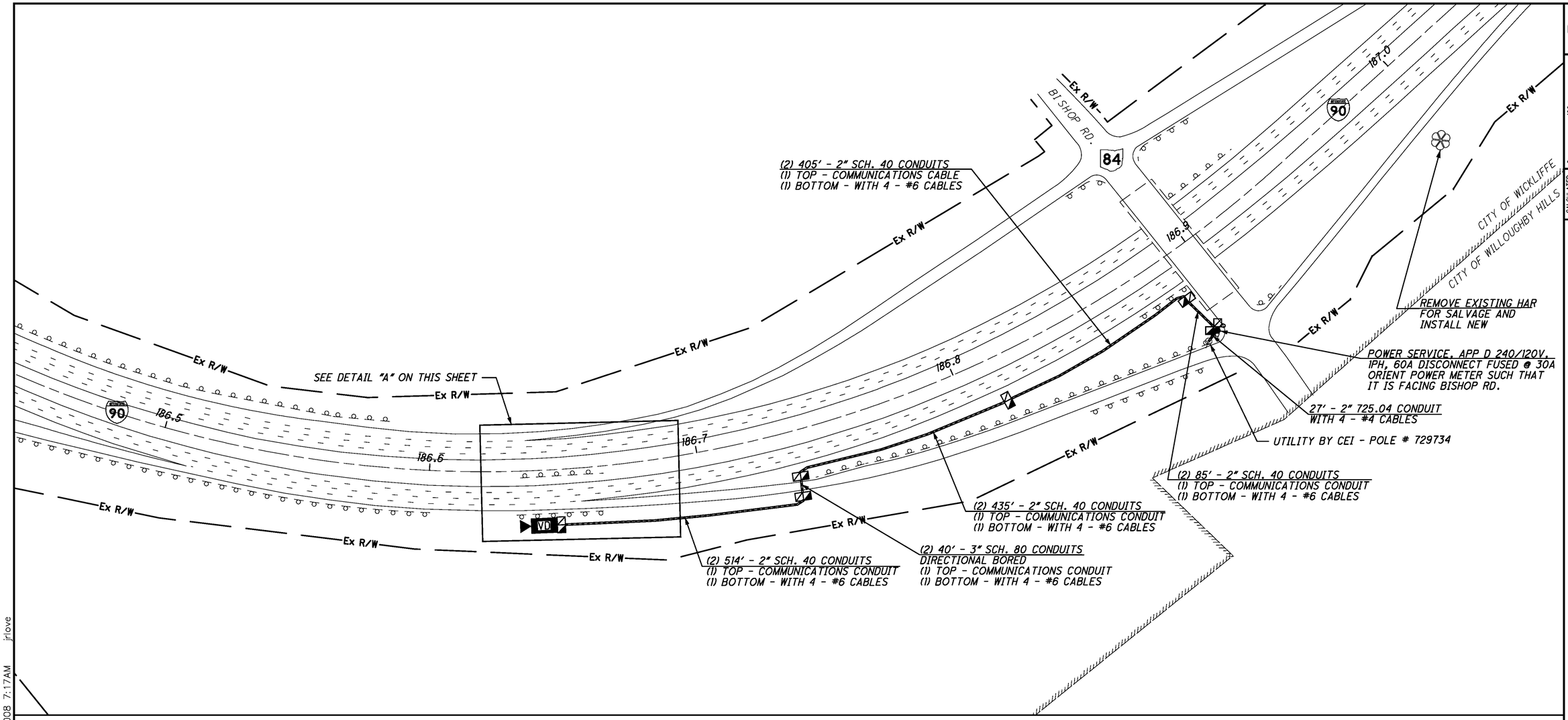
HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

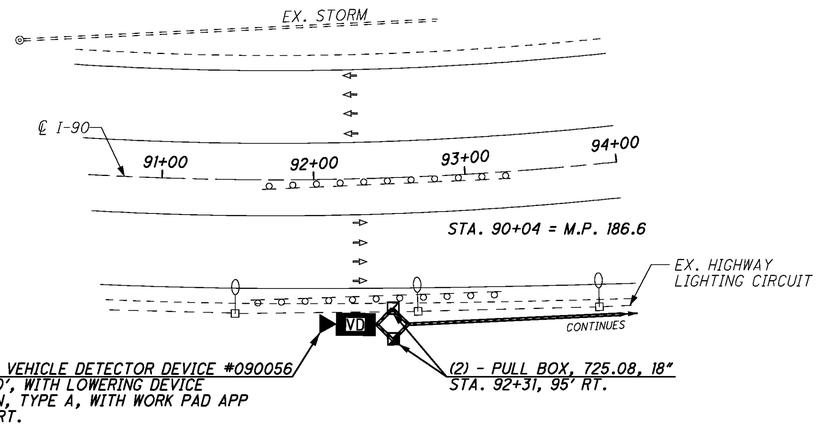
I-90 AT SR-2 (MP 185.25 TO MP 185.77)
CITY OF EUCLID, CUYAOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

131
207



DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 17 FOR TYPICAL POWER SERVICE AS PER PLAN D DETAILS

REFER TO SHEET 21 FOR TYPICAL HAR DETAILS

REFER TO SHEET 24 FOR TYPICAL CCTV CAMERA WITH VEHICLE DETECTOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 194 FOR COMMUNICATIONS PLANS

REFER TO SHEET 201 FOR TYPICAL CCTV W/VD EOC COMMUNICATIONS DETAILS

REFER TO SHEET 203 FOR TYPICAL HAR WIRELESS COMMUNICATIONS DETAILS

CCTV 090056
EXISTING HAR 90-1

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT SR-84 (MP 186.45 TO MP 187.03)
CITY OF WICKLIFFE, LAKE COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

132
207

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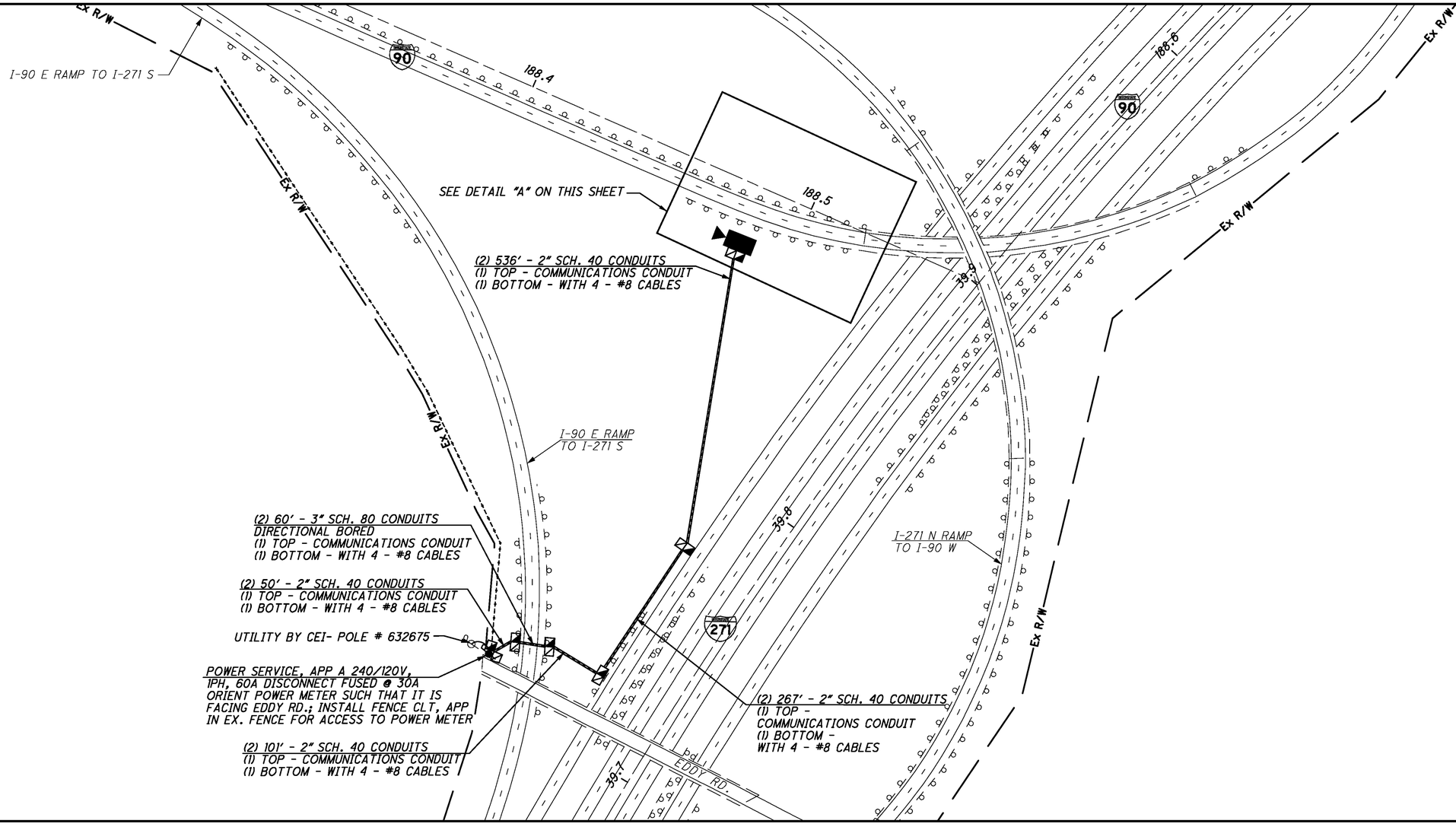
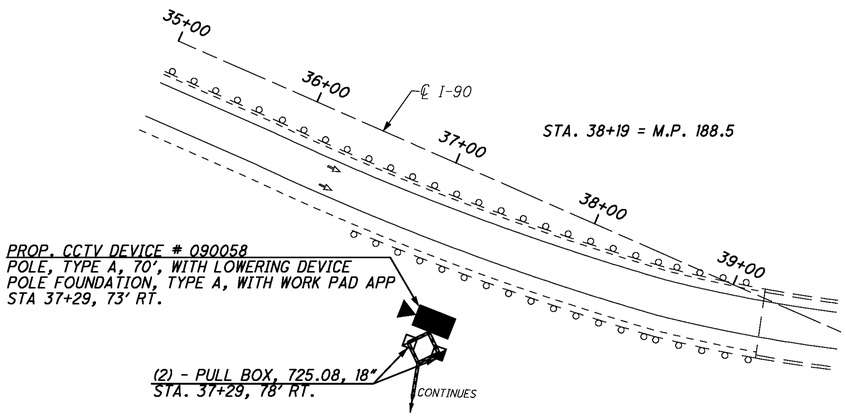


DETAIL A - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 194 FOR COMMUNICATIONS PLANS

REFER TO SHEET 198 FOR TYPICAL CCTV T-1 COMMUNICATIONS DETAILS

CCTV 090058

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT I-271 (MP 188.24 TO MP 188.67)
CITY OF WILLOUGBY HILLS, LAKE COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

133
207

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UTILITY BY CEI

EXISTING ODOT SIGNAL POLE
USE FOR SERVICE

(2) 63' - 3" SCH. 80 CONDUITS
DIRECTIONAL BORED
(1) TOP - COMMUNICATIONS CONDUIT
(1) BOTTOM - WITH 4 - #8 CABLES

27' - 2" 725.04 CONDUIT
WITH 4 - #4 CABLES

POWER SERVICE, APP D 240/120V,
1PH, 60A DISCONNECT FUSED @ 30A
ORIENT POWER METER SUCH THAT IT
IS FACING SR-91 (S.O.M. CENTER RD.)

(2) 418' - 2" SCH. 40 CONDUITS
(1) TOP - COMMUNICATIONS CONDUIT
(1) BOTTOM - WITH 4 - #8 CABLES

(2) 126' - 3" SCH. 80 CONDUITS DIRECTIONAL BORED
(1) TOP - COMMUNICATIONS CONDUIT
(1) BOTTOM - WITH 4 - #8 CABLES

SEE DETAIL "A" ON THIS SHEET

Ex R/W

189.1 189.2 189.3 189.4 189.5 189.6

S.O.M. CENTER RD.

DETAIL "A" - NOT TO SCALE

(2) - PULL BOX, 725.08, 18"
STA. 120+92, 159' LT.

PROP. CCTV DEVICE # 090060
POLE, TYPE A, 70', WITH LOWERING DEVICE
POLE FOUNDATION, TYPE A, WITH WORK PAD APP
STA. 120+92, 154' LT.

CONTINUES

SAN

W

EX. HIGHWAY
LIGHTING CIRCUIT

EX. STORM

119+00 120+00 121+00 122+00 123+00 124+00

℄ I-90

STA. 119+12 = M.P. 189.3

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 17 FOR TYPICAL POWER SERVICE AS PER PLAN D DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 194 FOR COMMUNICATIONS PLANS

REFER TO SHEET 198 FOR TYPICAL CCTV T-1 COMMUNICATIONS DETAILS

CCTV 090060

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT SR-91 (MP 189.06 TO MP 189.62)
CITY OF WILLOUGHBY HILLS, LAKE COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

134
207

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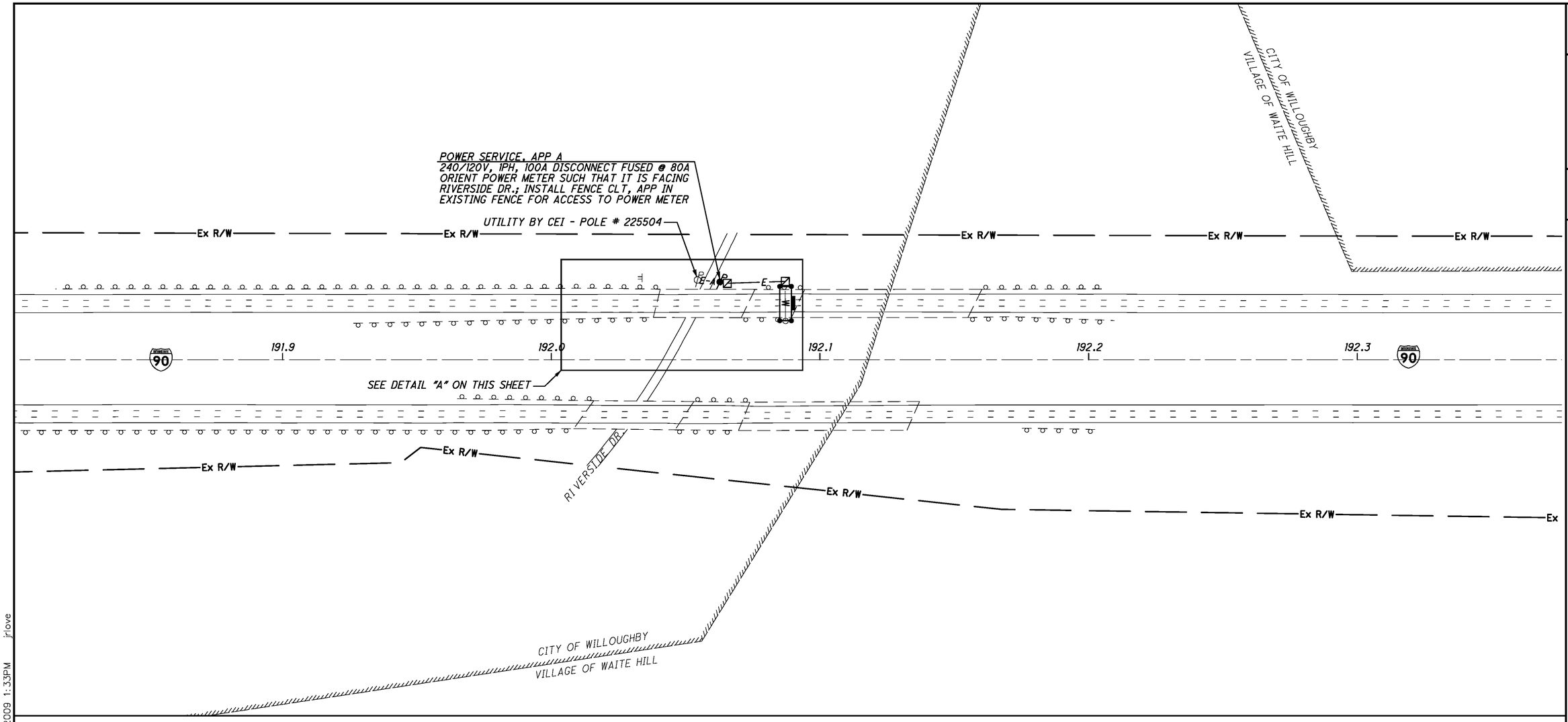
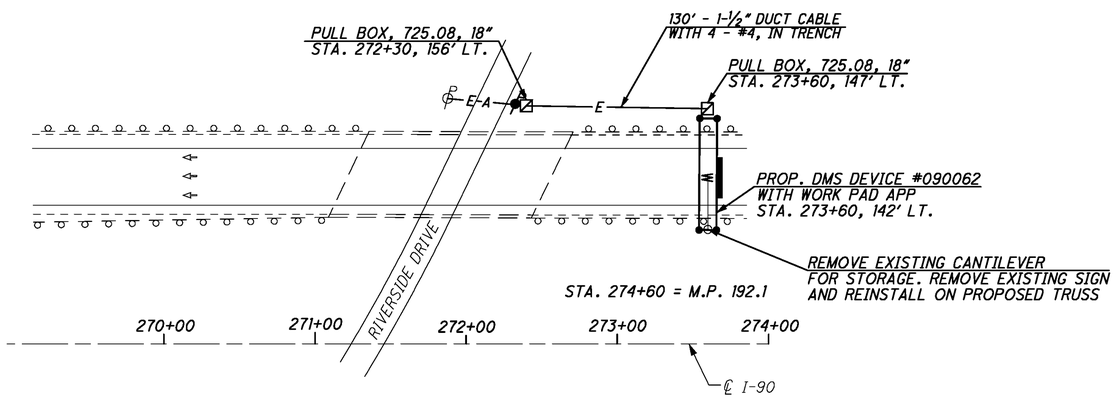


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 15A FOR PULL BOX ORIENTATION FOR DMS LOCATIONS DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO TRUSS ROW SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 179 FOR DMS PROFILE

REFER TO SHEET 194 FOR COMMUNICATIONS PLANS

REFER TO SHEET 202 FOR TYPICAL DMS WIRELESS COMMUNICATIONS DETAILS

DMS 090062

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT RIVERSIDE DR. (MP 191.80 TO MP 192.38)
CITY OF WILLOUGHBY, LAKE COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

135
207

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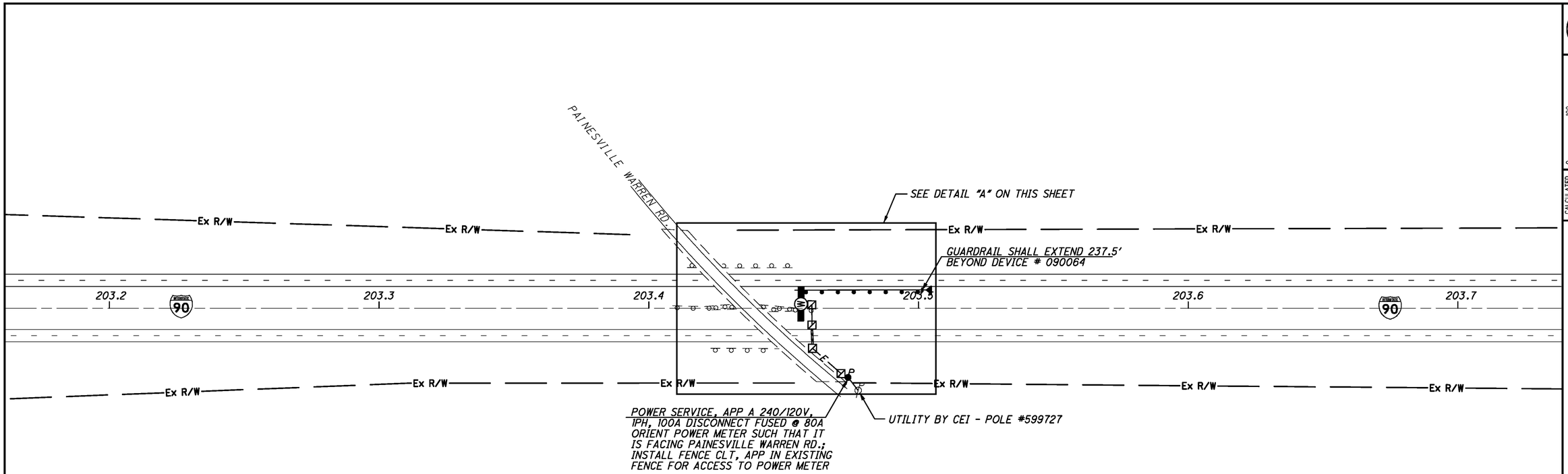

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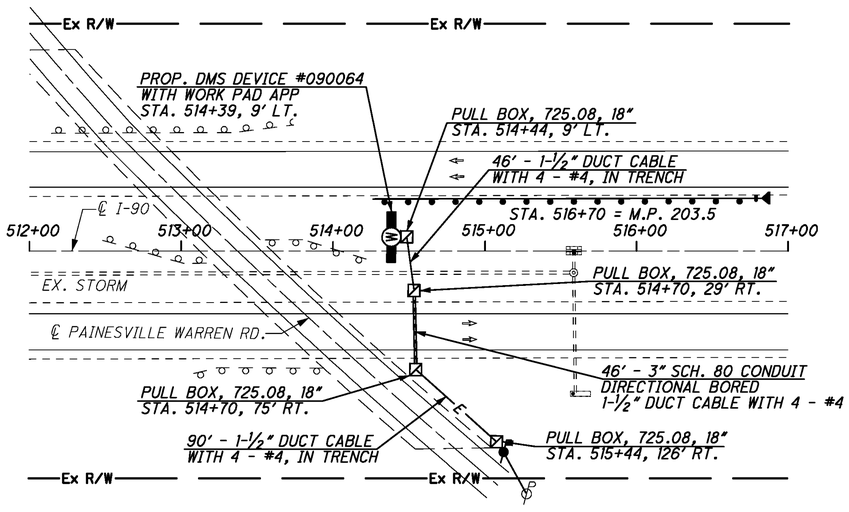

REFER TO SHEET 15A FOR PULL BOX ORIENTATION FOR DMS LOCATIONS DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO DMS PEDESTAL SIGN SUPPORT PIER FOUNDATION DESIGNS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 194 FOR COMMUNICATIONS PLANS

REFER TO SHEET 202 FOR TYPICAL DMS WIRLESS COMMUNICATIONS DETAILS

DMS 090064

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-90 AT PVILLE-WRN RD. (MP 203.16 TO MP 203.74)
CONCORD TOWNSHIP, LAKE COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

136
207

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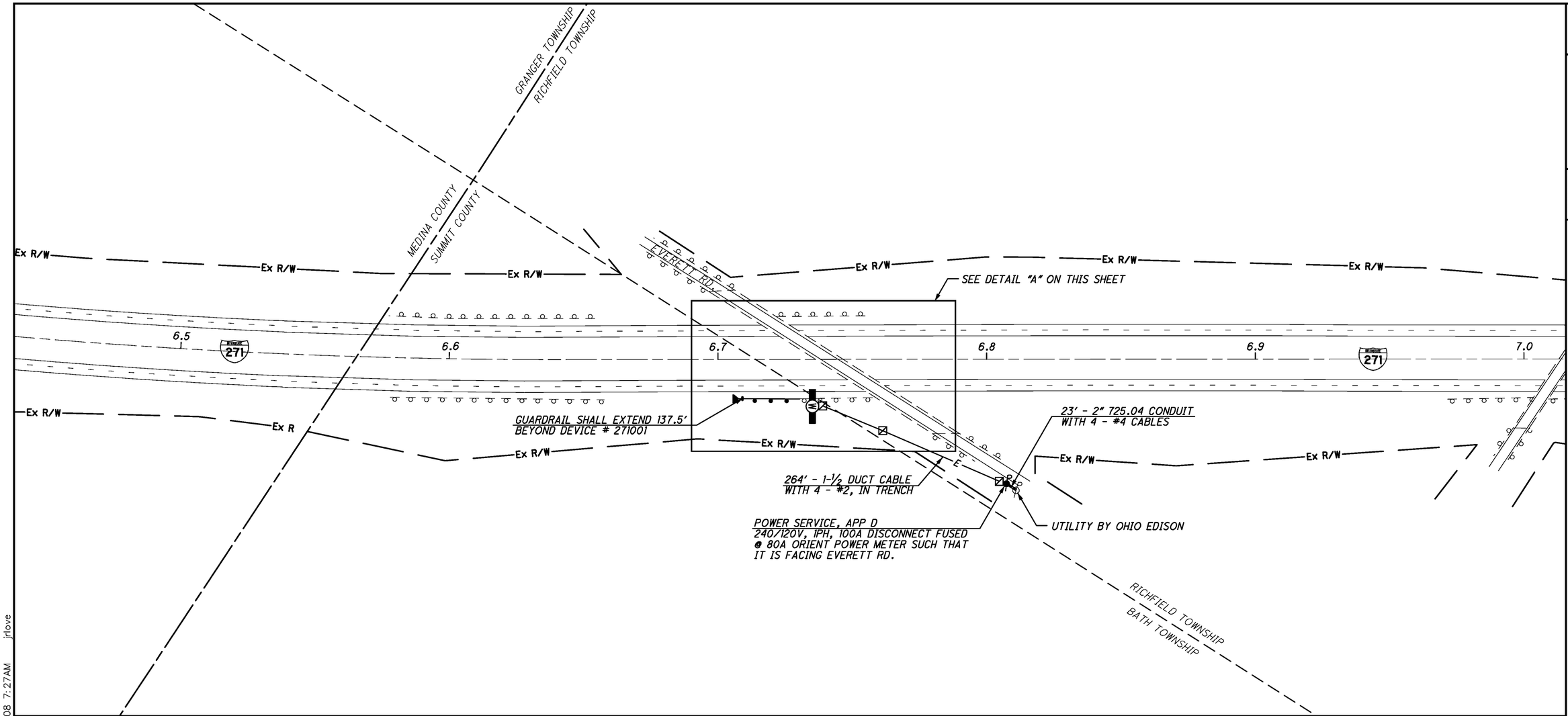

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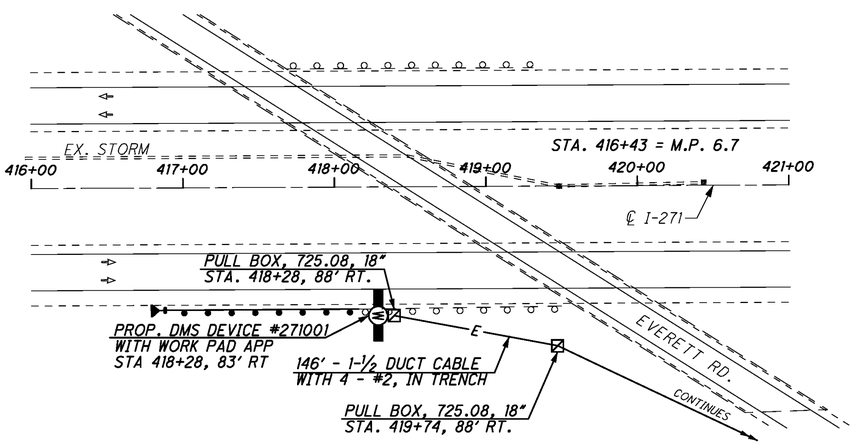

REFER TO SHEET 15A FOR PULL BOX ORIENTATION FOR DMS LOCATIONS DETAILS

REFER TO SHEET 17 FOR TYPICAL POWER SERVICE AS PER PLAN D DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO DMS PEDESTAL SIGN SUPPORT PIER FOUNDATION DESIGNS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 195 FOR COMMUNICATIONS PLANS

REFER TO SHEET 202 FOR TYPICAL DMS WIRELESS COMMUNICATIONS DETAILS

DMS 271001

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-271 AT EVERETT RD.(MP 6.44 TO MP 7.02)
RICHFIELD TOWNSHIP, SUMMIT COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

137
207

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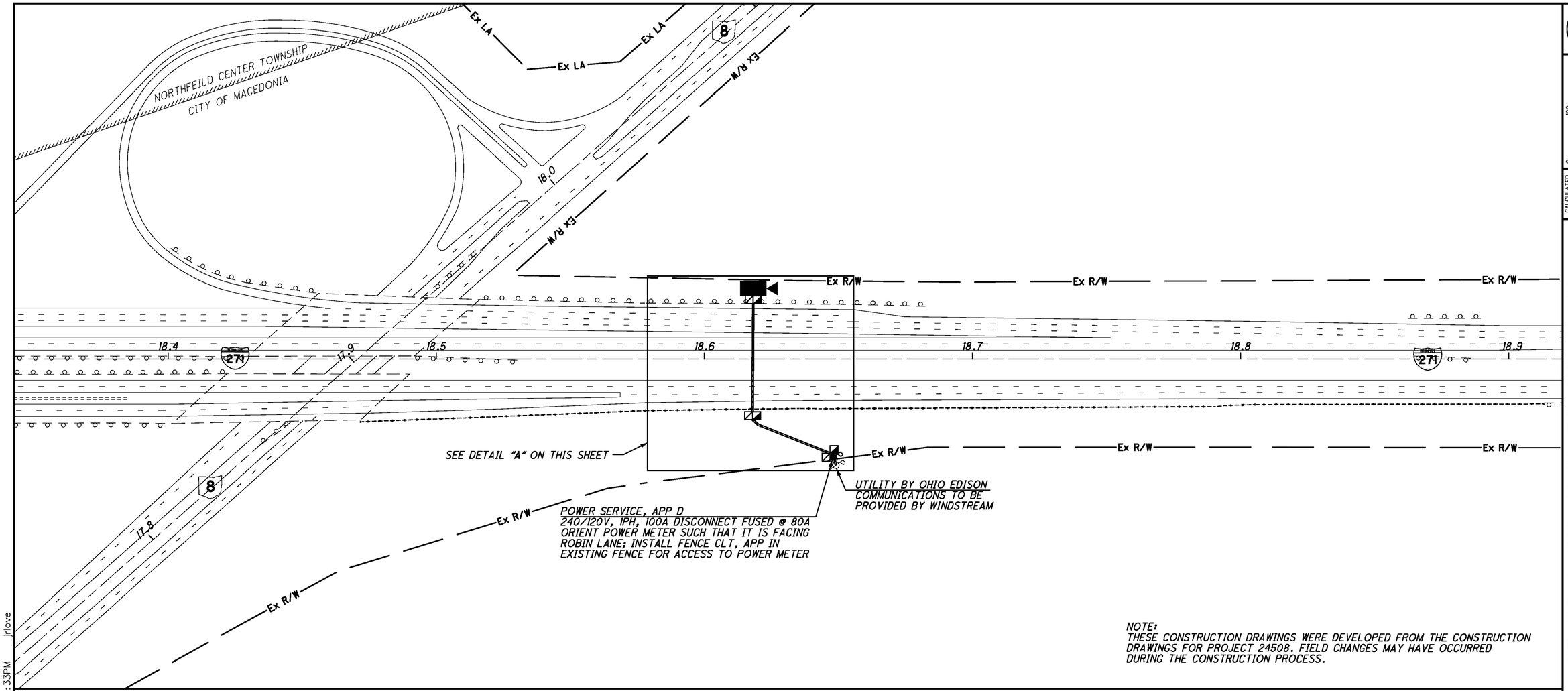
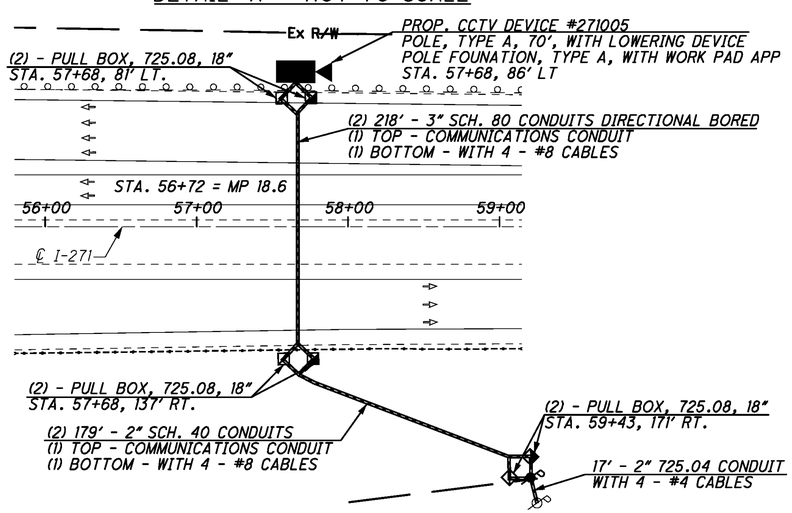


NOTE:
THESE CONSTRUCTION DRAWINGS WERE DEVELOPED FROM THE CONSTRUCTION DRAWINGS FOR PROJECT 24508. FIELD CHANGES MAY HAVE OCCURRED DURING THE CONSTRUCTION PROCESS.

DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 17 FOR TYPICAL POWER SERVICE AS PER PLAN D DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 195 FOR COMMUNICATIONS PLANS

REFER TO SHEET 198 FOR TYPICAL CCTV T-1 COMMUNICATIONS DETAILS

CCTV 271005

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-271 AT SR-8 (MP 18.34 TO MP 18.92)
CITY OF MACEDONIA, SUMMIT COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

138
207

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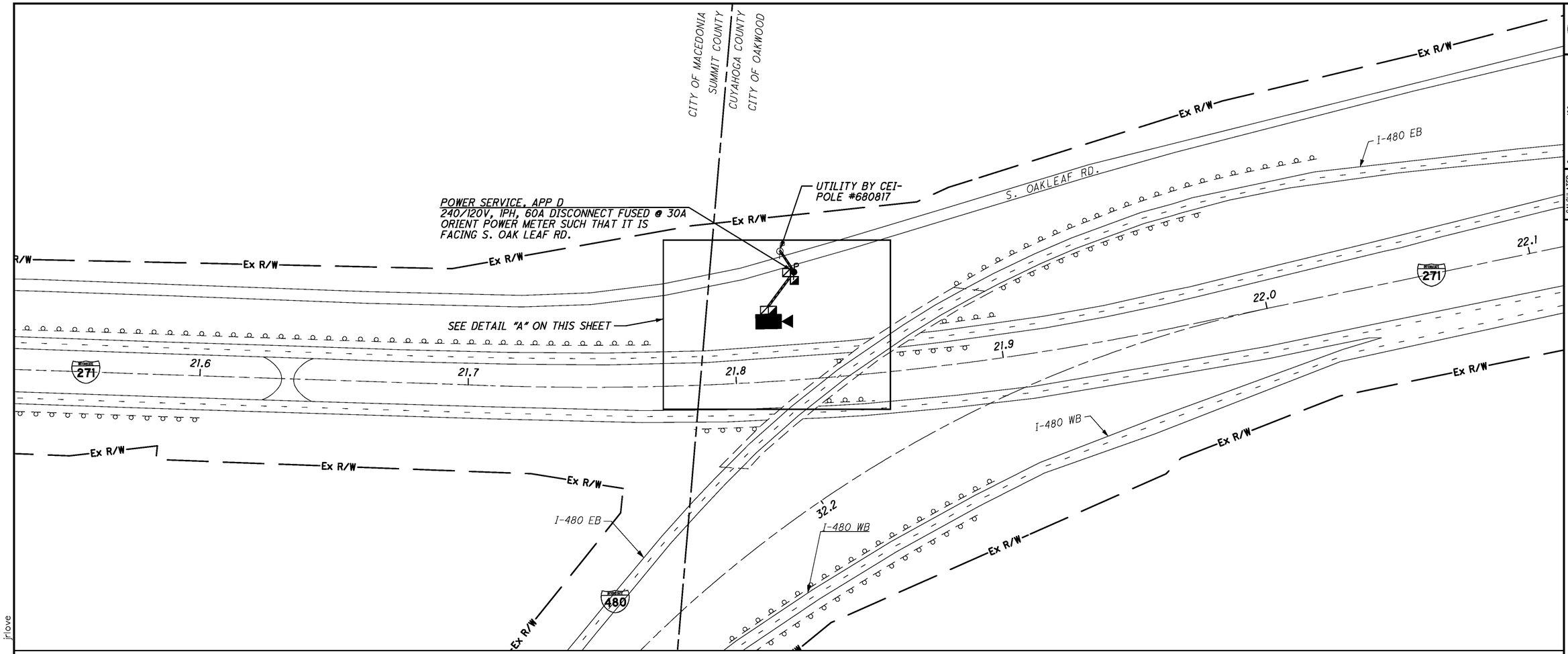
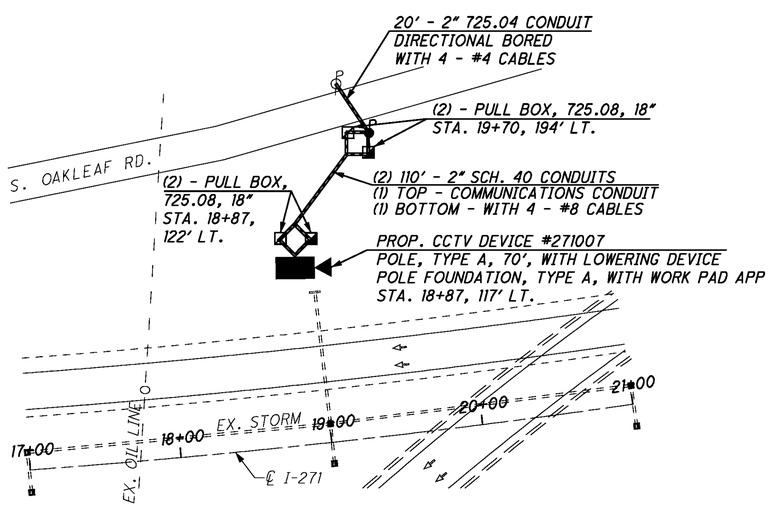


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 17 FOR TYPICAL POWER SERVICE AS PER PLAN D DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 195 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 271007

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-271 AT I-480 SOUTH (MP 21.53 TO MP 22.11)
CITY OF MACEDONIA, SUMMIT COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

139
207

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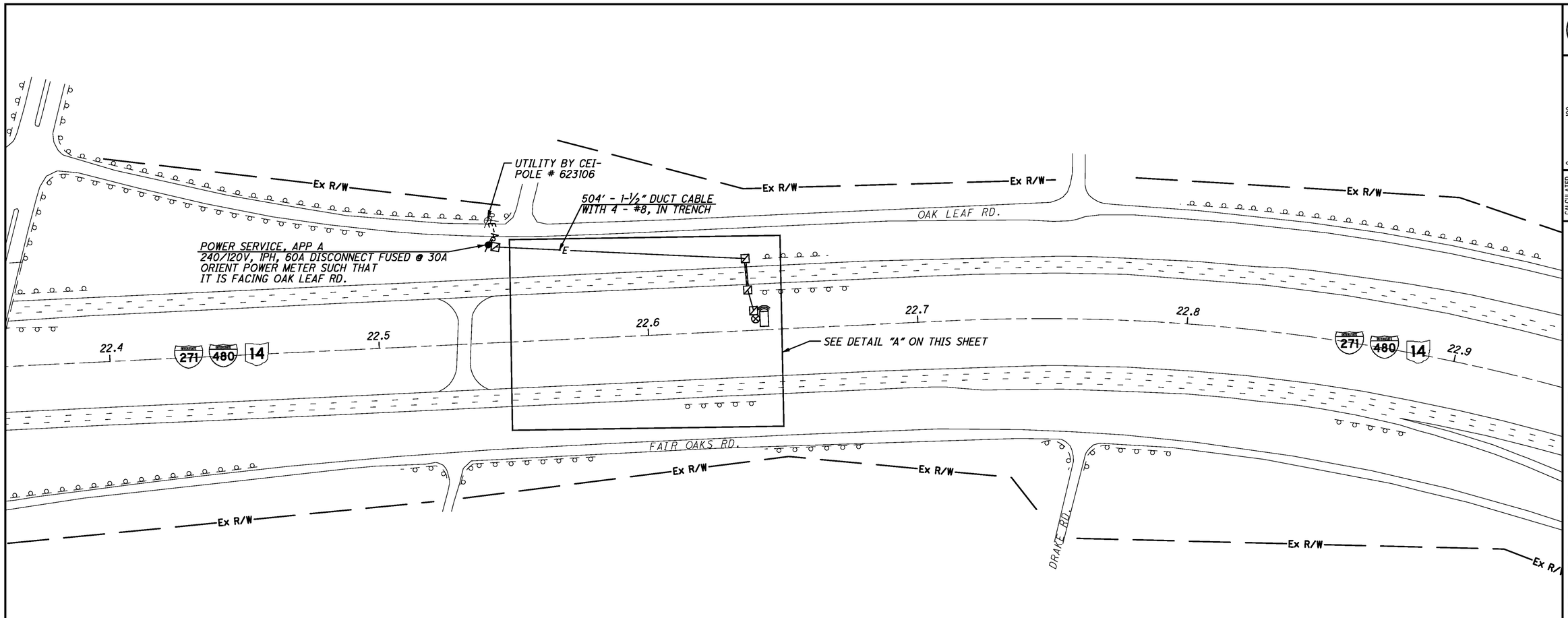
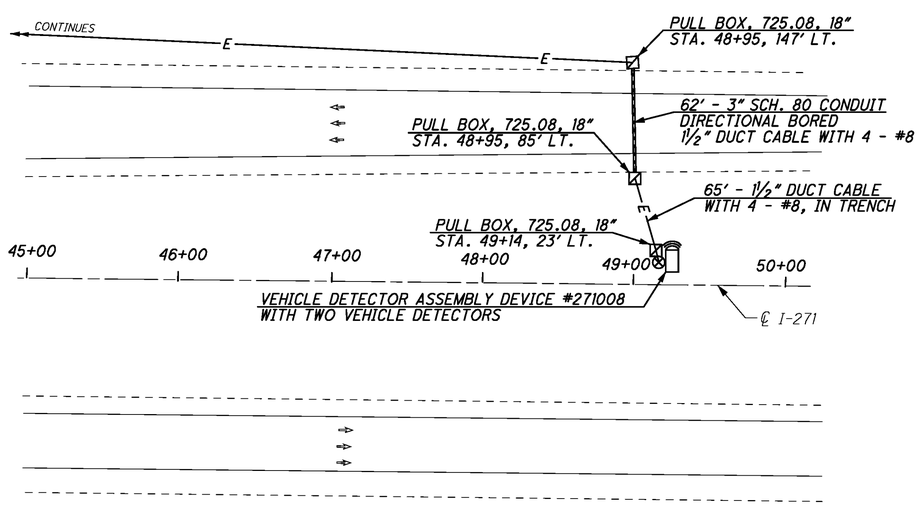


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 43 FOR TYPICAL VEHICLE DETECTOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 195 FOR COMMUNICATIONS PLANS

REFER TO SHEET 204 FOR TYPICAL WIRELESS VEHICLE DETECTOR COMMUNICATIONS DETAILS

VD 271008

HORIZONTAL SCALE IN FEET
0 50 100 200

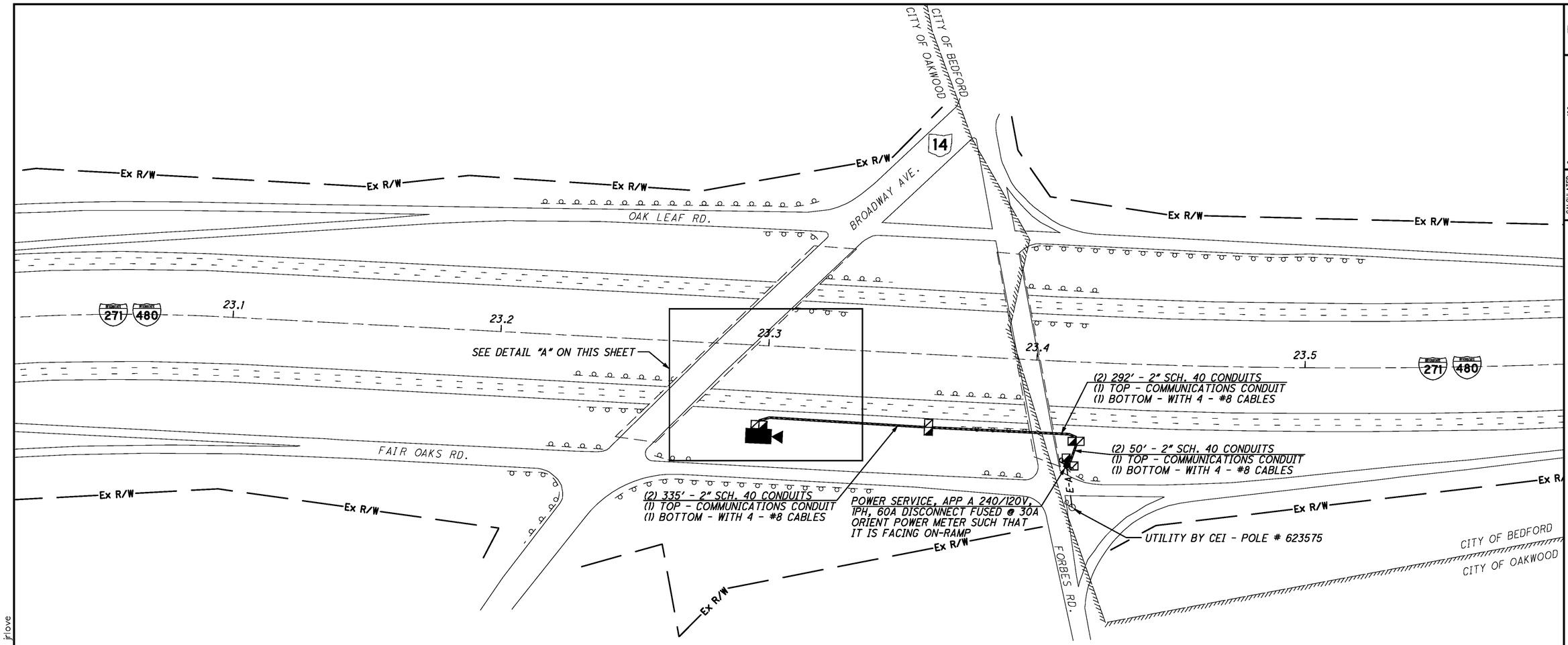
CALCULATED STS
CHECKED JDG

I-271 AT DRAKE RD. (MP 22.36 TO MP 22.94)
CITY OF OAKWOOD, CUYAHOGA COUNTY

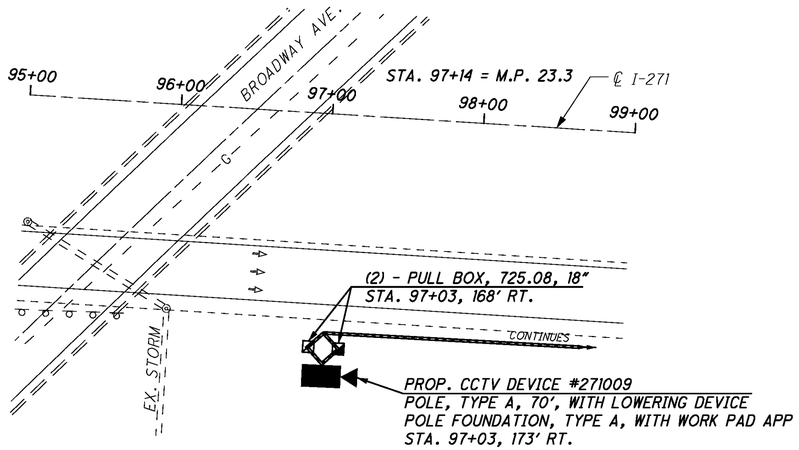
VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

140
207

M:\JOBS\39926\TECHPROD\hwy\traf\77331GP176.dgn 18-NOV-2008 1:36PM jrlove



DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 195 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 271009

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-271 AT SR-14 (MP 23.02 TO MP 23.59)
CITY OF OAKWOOD, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

141
207

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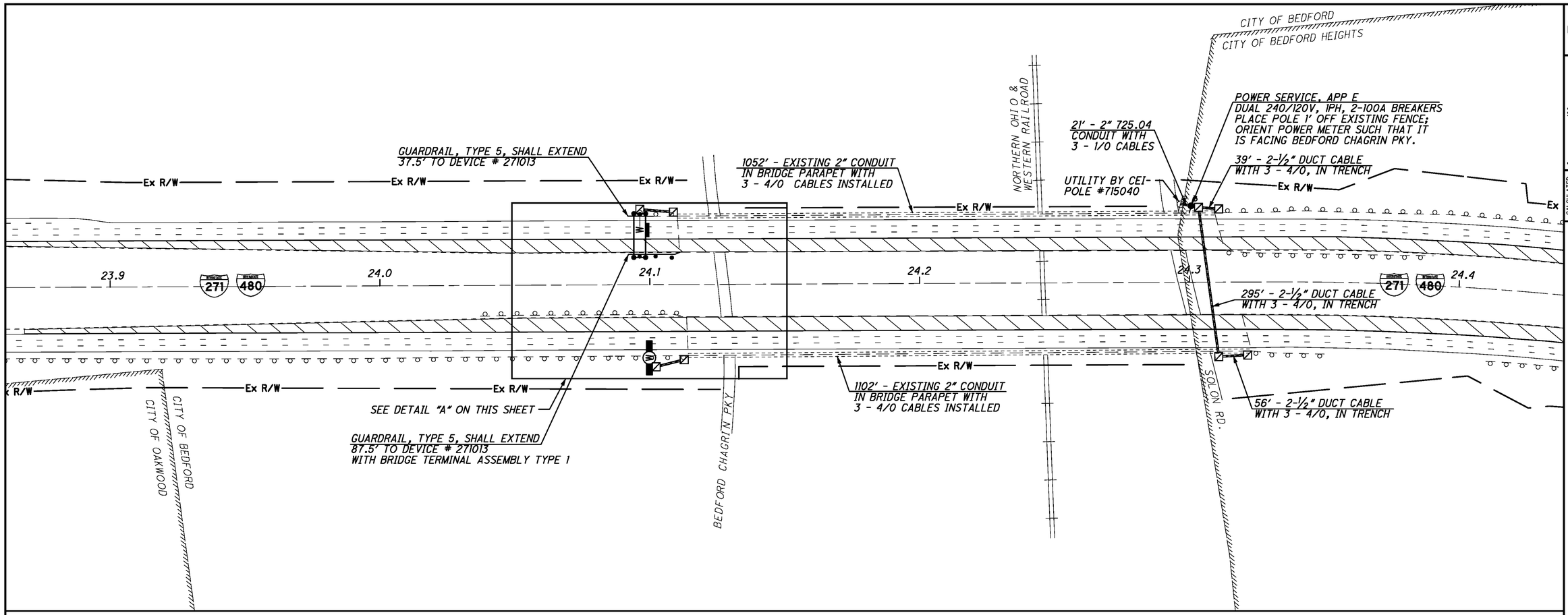

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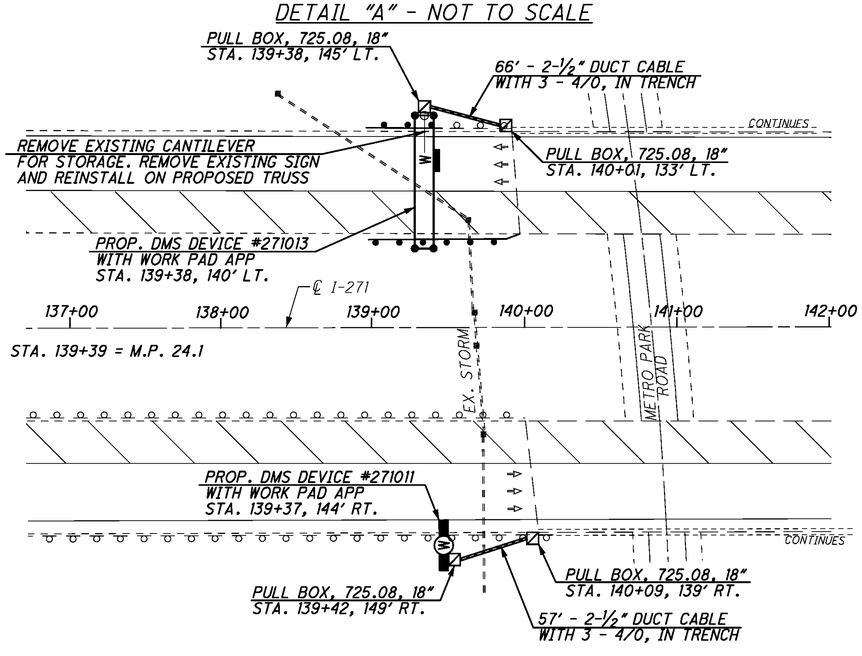

REFER TO SHEET 15A FOR PULL BOX ORIENTATION FOR DMS LOCATIONS DETAILS

REFER TO SHEET 17 FOR TYPICAL POWER SERVICE AS PER PLAN E DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO DMS PEDESTAL SIGN SUPPORT PIER FOUNDATION DESIGNS FOR DETAILS

REFER TO TRUSS ROW SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 180 FOR DMS PROFILE

REFER TO SHEET 185 FOR CONDUIT DETAILS FOR BRIDGE CROSSING SOLON RD.

REFER TO SHEET 195 FOR COMMUNICATIONS PLANS

REFER TO SHEET 202 FOR TYPICAL DMS WIRELESS COMMUNICATIONS DETAILS

DMS 271011
DMS 271013

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-271 AT SOLON RD. (MP 23.86 TO MP 24.44)
CITY OF BEDFORD, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

142
207

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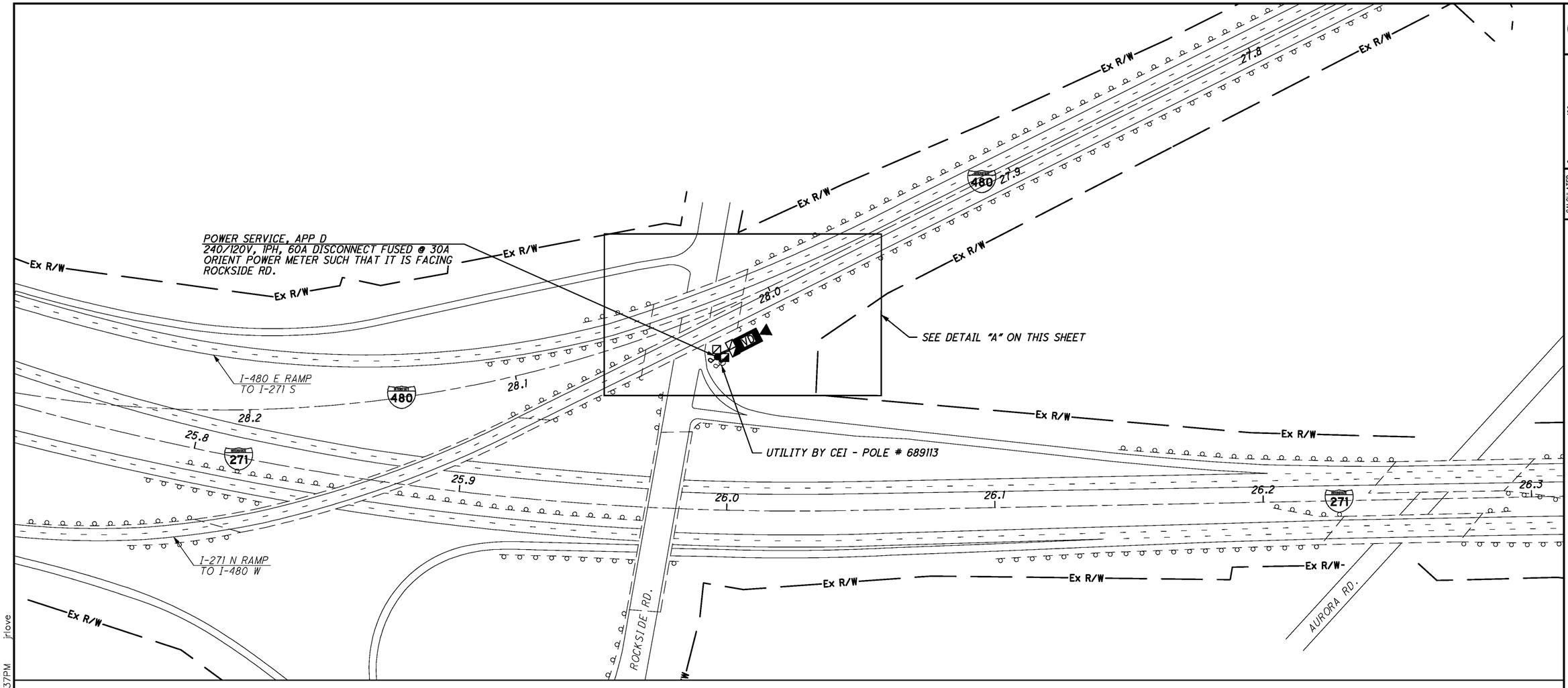
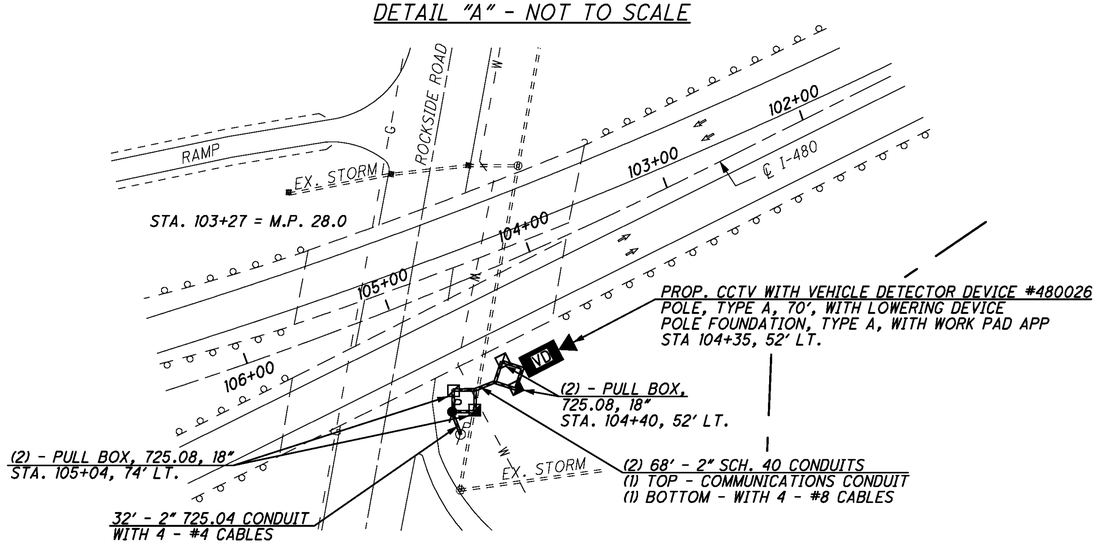


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 17 FOR TYPICAL POWER SERVICE AS PER PLAN D DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 196 FOR COMMUNICATIONS PLANS

REFER TO SHEET 199 FOR TYPICAL CCTV W/VD T-1 COMMUNICATIONS DETAILS

CCTV 480026

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-271 AT AURORA RD. (MP 25.73 TO MP 26.31)
CITY OF BEDFORD HTS, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

143
207

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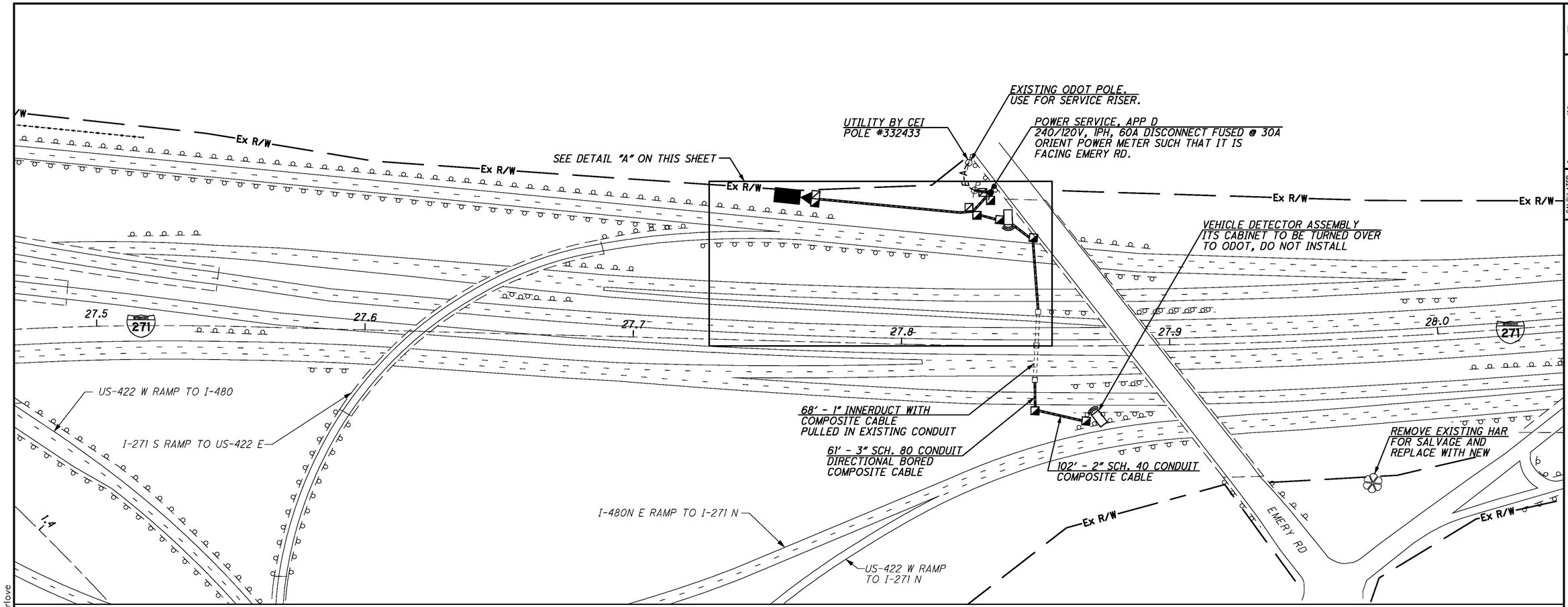
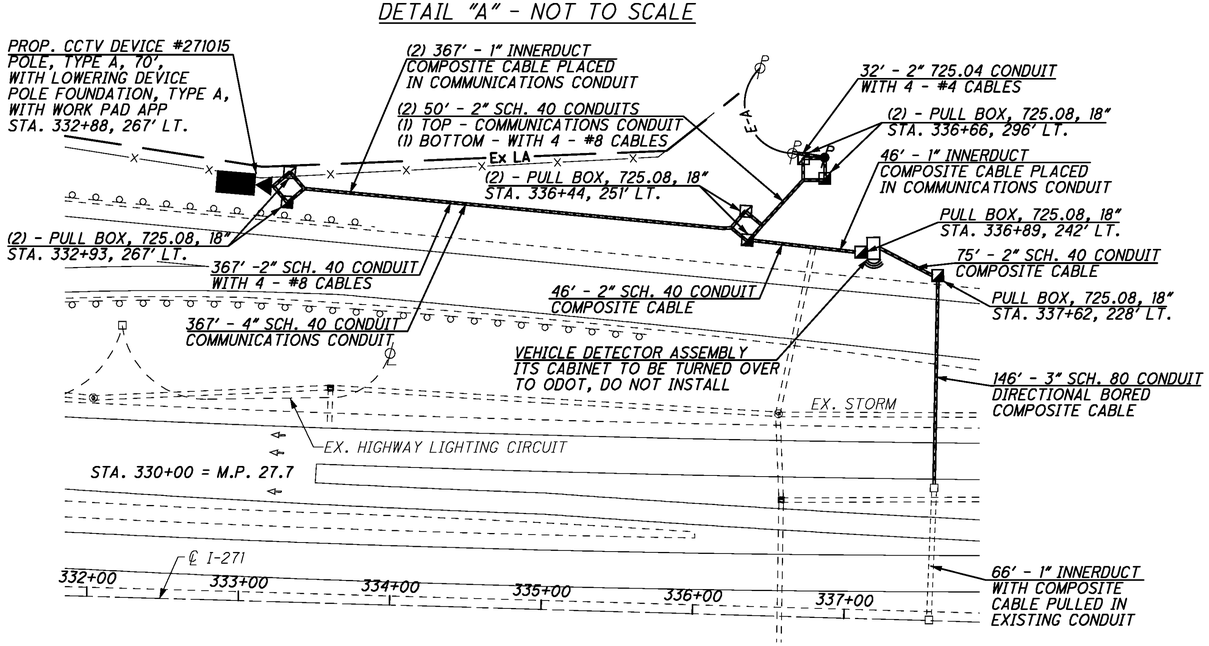


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 8 FOR MEDIAN BARRIER WITH EXISTING PULLBOX DETAILS

REFER TO SHEET 10 FOR CONDUIT AND PULL BOX IN BARRIER WALL DETAILS

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 17 FOR TYPICAL POWER SERVICE AS PER PLAN D DETAILS

REFER TO SHEET 21 FOR TYPICAL HAR DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 43 FOR TYPICAL VEHICLE DETECTOR ASSEMBLY DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 195 AND 189 FOR COMMUNICATIONS PLANS

REFER TO SHEET 201 FOR TYPICAL CCTV W/VD EOC COMMUNICATIONS DETAILS

REFER TO SHEET 203 FOR TYPICAL HAR WIRELESS COMMUNICATIONS DETAILS

CCTV 271015
EXISTING HAR 271-1

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-271 AT EMERY RD. (MP 27.47 TO MP 28.05)
CITY OF WARRENSVILLE HTS, CUYAHOGA CTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

144
207

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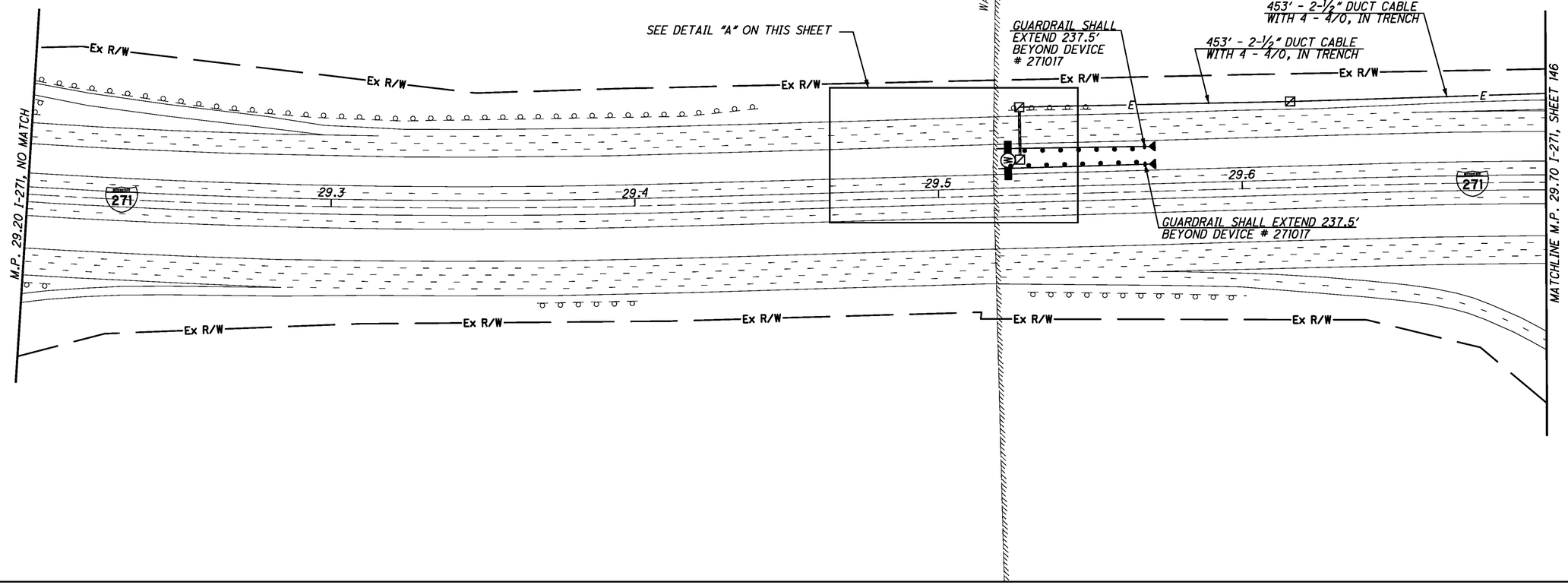

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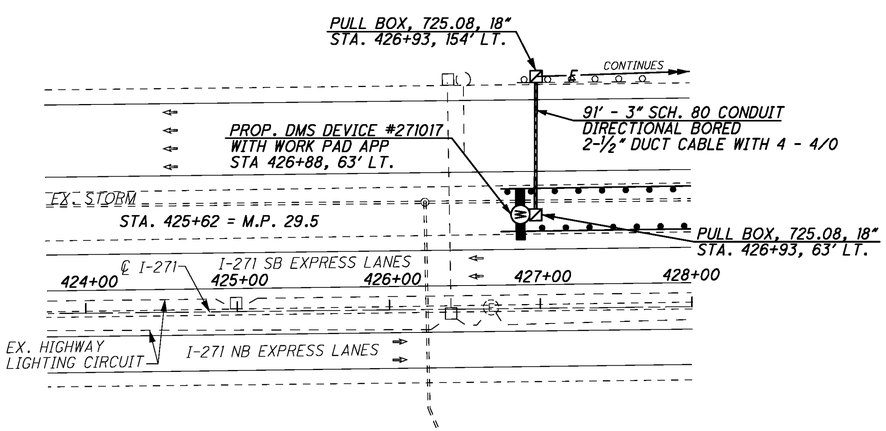

REFER TO SHEET 15A FOR PULL BOX ORIENTATION FOR DMS LOCATIONS DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO DMS PEDESTAL SIGN SUPPORT PIER FOUNDATION DESIGNS FOR DETAILS

REFER TO SHEET 195 FOR COMMUNICATIONS PLANS

REFER TO SHEET 202 FOR TYPICAL DMS WIRELESS COMMUNICATIONS DETAILS

DMS 271017

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-271 S. OF CHAGRIN BLVD. (MP 29.20 TO MP 29.70)
CITY OF BEACHWOOD, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

145
207

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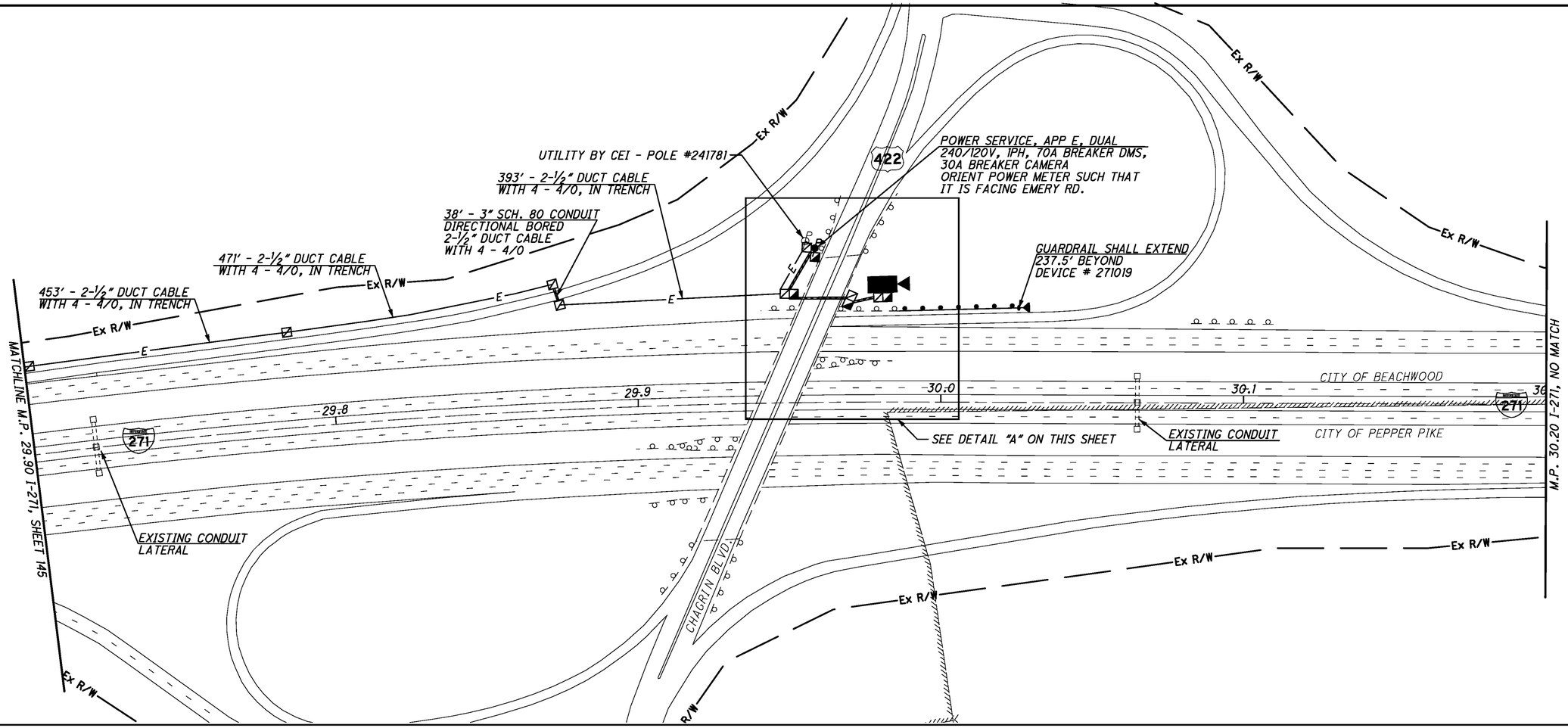
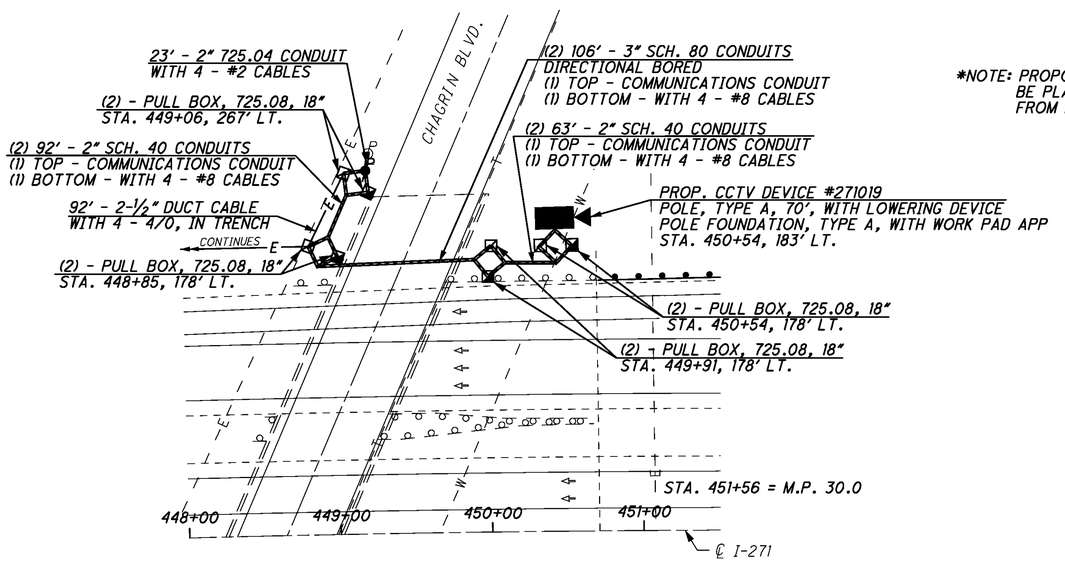


DETAIL A - NOT TO SCALE



*NOTE: PROPOSED FOUNDATION SHALL BE PLACED A MINIMUM OF 15' FROM EXISTING WATER LINE.

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 17 FOR TYPICAL POWER SERVICE AS PER PLAN E DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 195 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 271019

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS CHECKED JDG

I-271 AT US-422
CITY OF BEACHWOOD, CUYAHOGA COUNTY
M.P. 29.90 TO M.P. 30.20)

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

146
207

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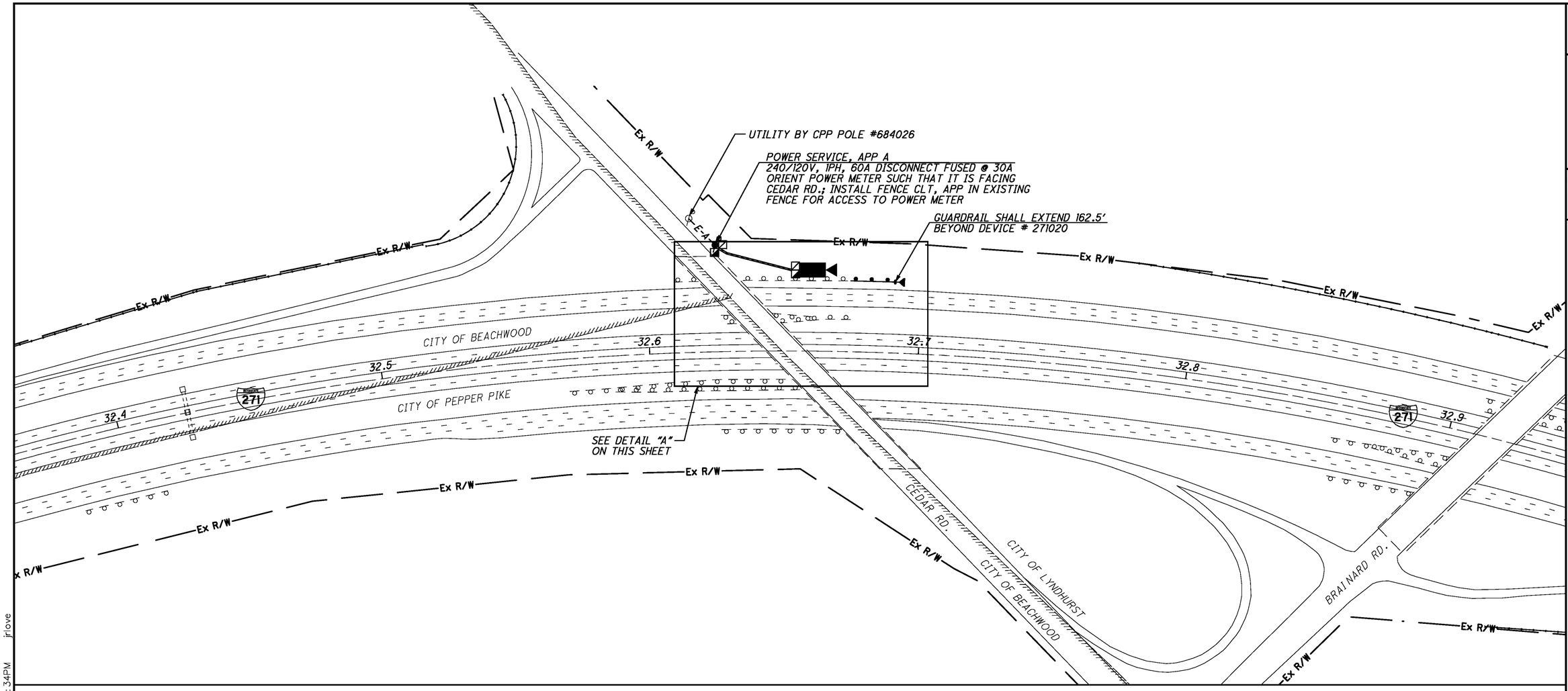

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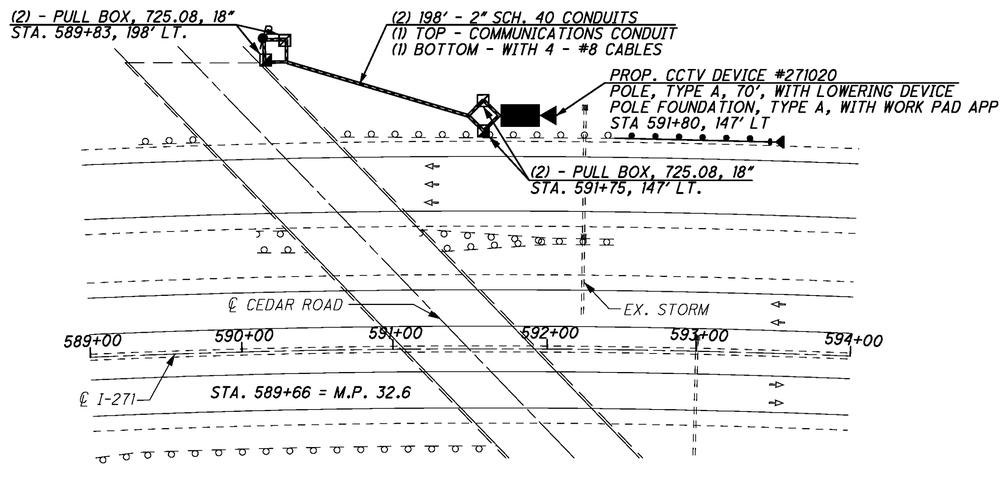

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 195 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 271020

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-271 AT CEDAR RD. (MP 32.36 TO MP 32.95)
CITY OF MAYFIELD HTS, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

147
207

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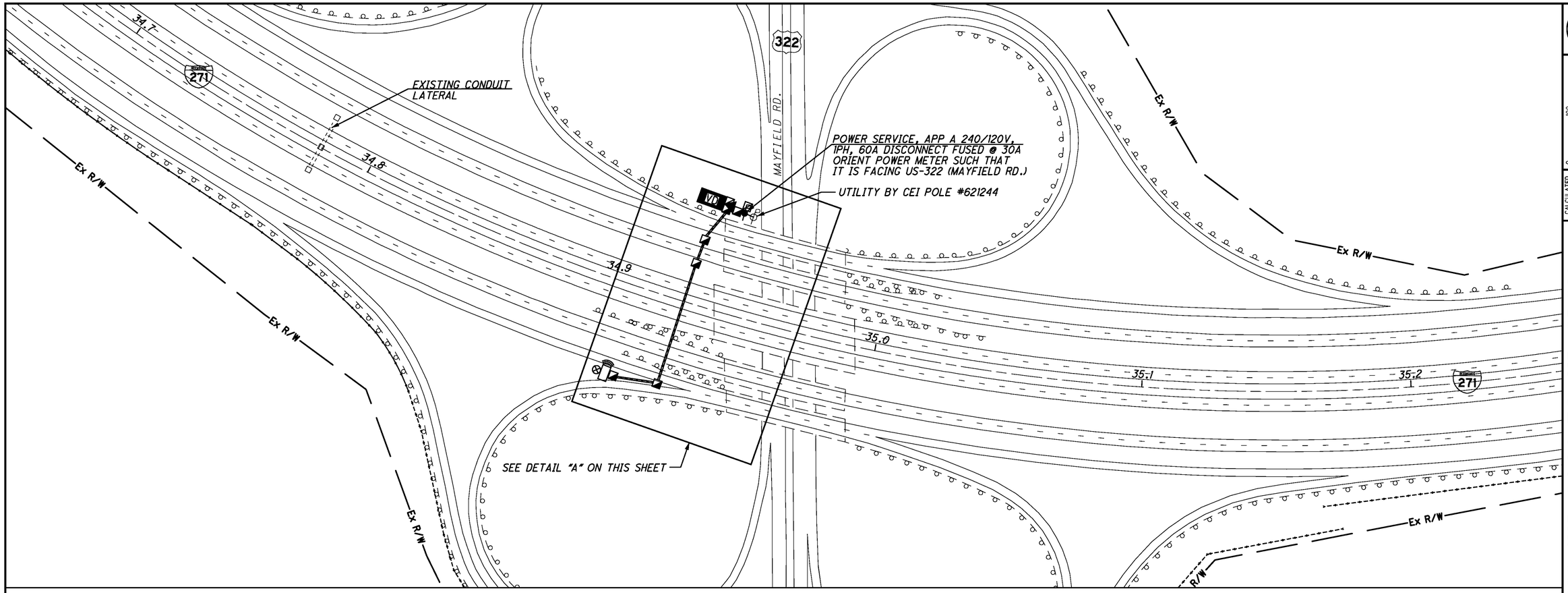
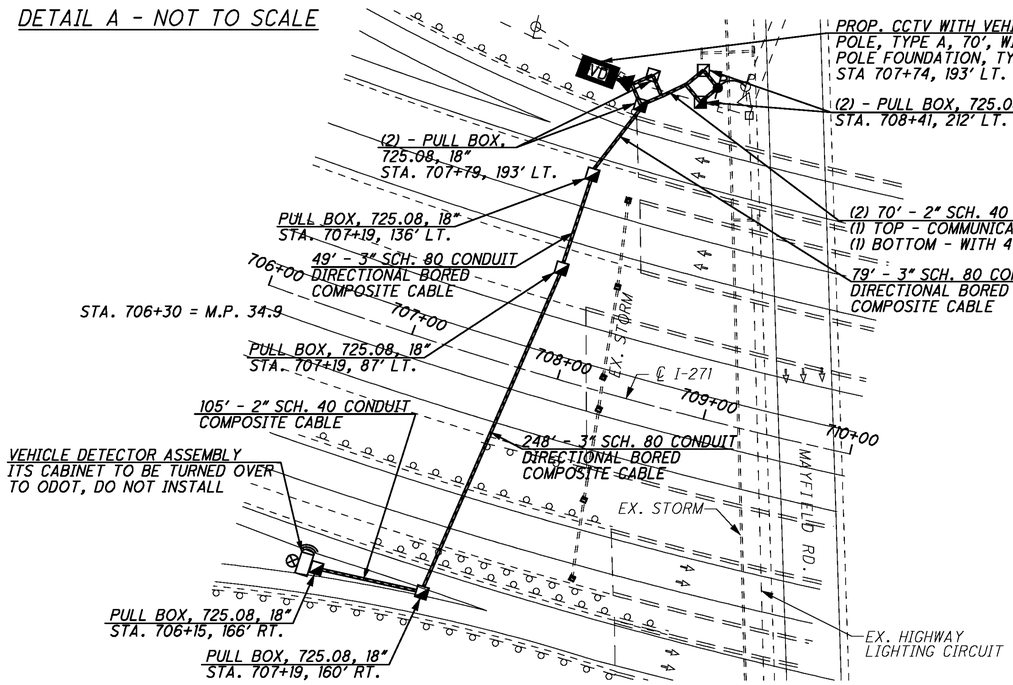


DETAIL A - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 24 FOR TYPICAL CCTV CAMERA WITH VEHICLE DETECTOR DETAILS

REFER TO SHEET 43 FOR TYPICAL VEHICLE DETECTOR ASSEMBLY DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 195 FOR COMMUNICATIONS PLANS

REFER TO SHEET 201 FOR TYPICAL CCTV W/VD EOC COMMUNICATIONS DETAILS

CCTV 271021

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-271 AT US-322 (MP 34.64 TO MP 35.26)
CITY OF MAYFIELD HTS, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

148
207

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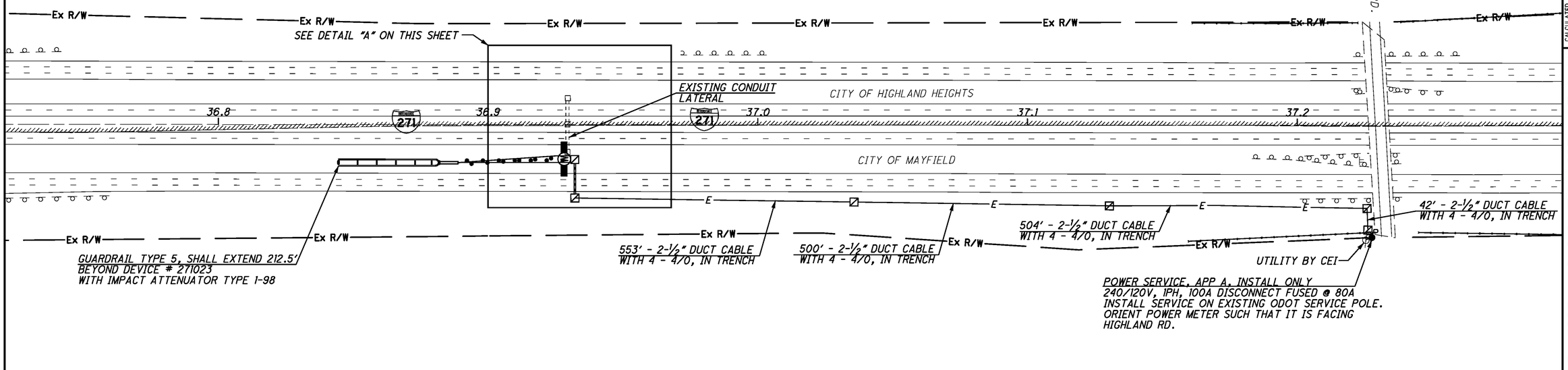

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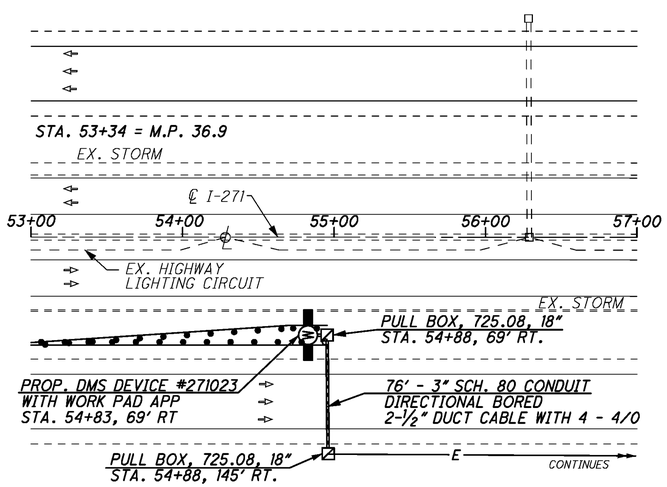

REFER TO SHEET 15A FOR PULL BOX ORIENTATION FOR DMS LOCATIONS DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO DMS PEDESTAL SIGN SUPPORT PIER FOUNDATION DESIGNS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 195 FOR COMMUNICATIONS PLANS

REFER TO SHEET 202 FOR TYPICAL DMS WIRELESS COMMUNICATIONS DETAILS

DMS 271023

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-271 AT HIGHLAND RD. (MP 36.64 TO MP 37.22)
CITY OF MAYFIELD, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

149
207

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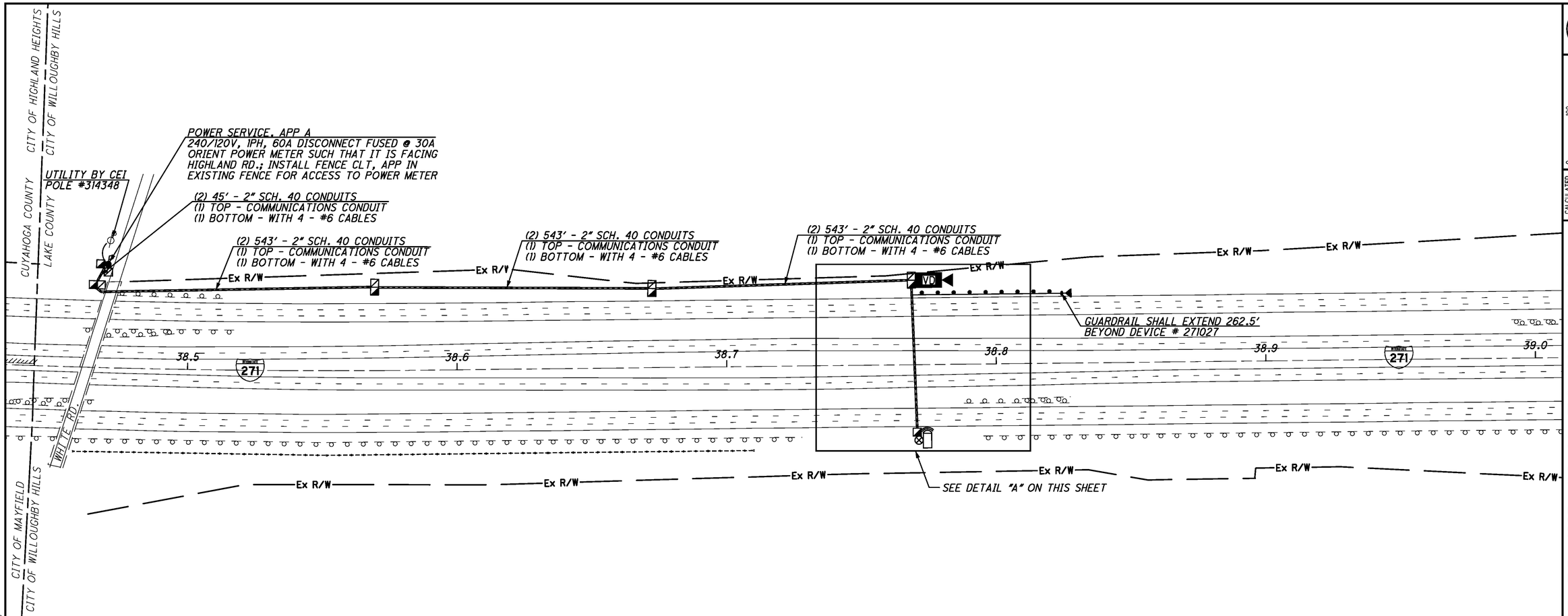

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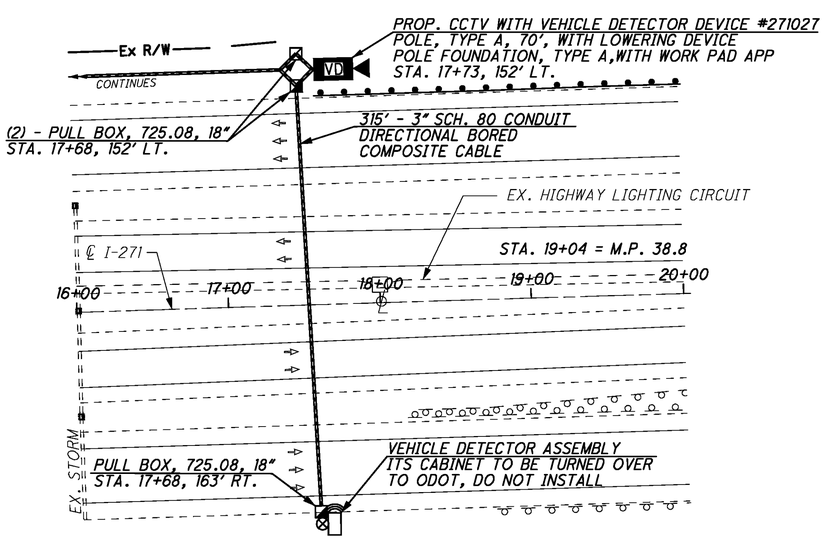

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 43 FOR TYPICAL VEHICLE DETECTOR ASSEMBLY DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 195 FOR COMMUNICATIONS PLANS

REFER TO SHEET 199 FOR TYPICAL CCTV W/VD T-1 COMMUNICATIONS DETAILS

CCTV 271027

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-271 AT WHITE RD. (MP 38.43 TO MP 39.01)
CITY OF WILLOUGHBY HILLS, LAKE COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

150
207

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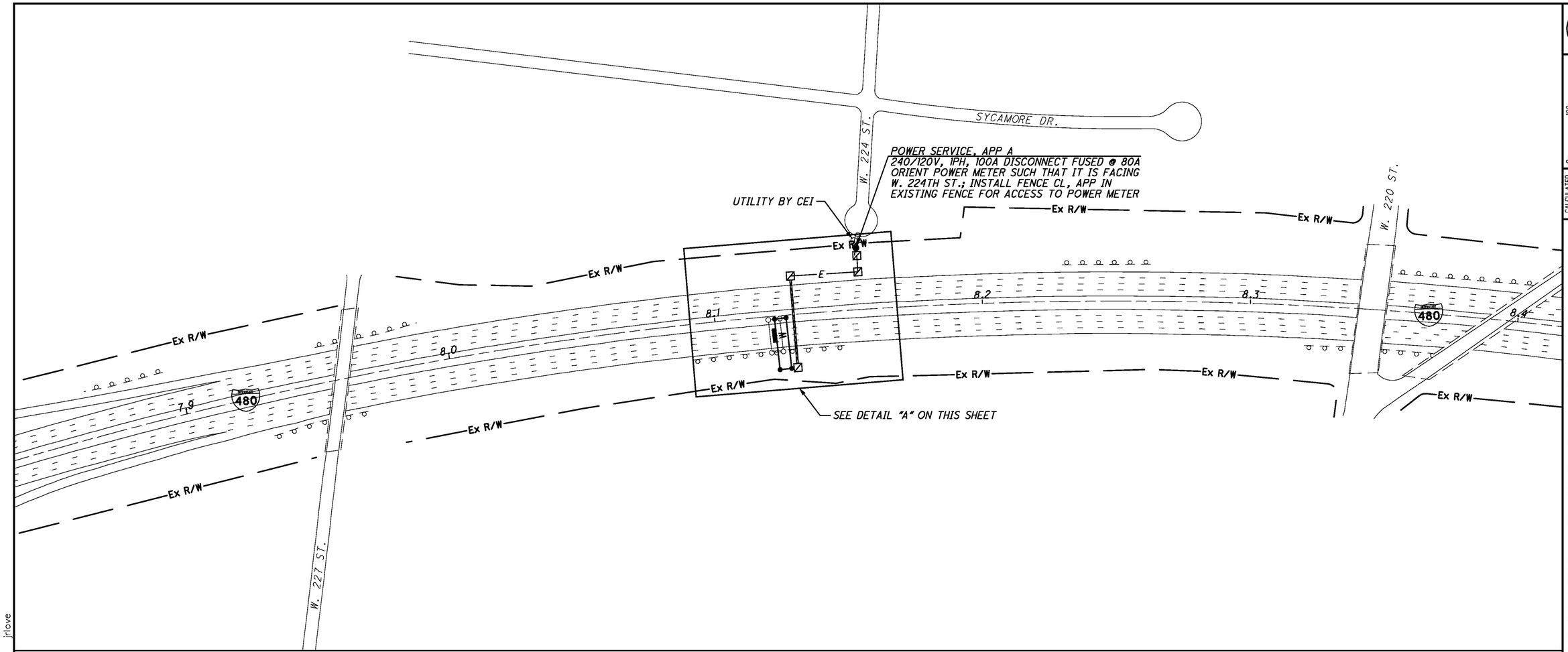

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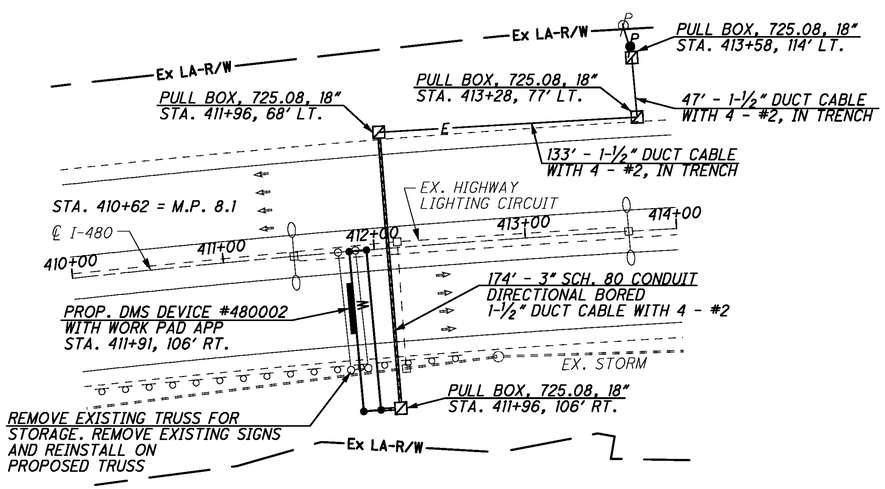

REFER TO SHEET 11 FOR CONCRETE BARRIER REPLACEMENT DETAILS

REFER TO SHEET 11B FOR BARRIER TRANSITION DETAILS

REFER TO SHEET 15A FOR PULL BOX ORIENTATION FOR DMS LOCATIONS DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO TRUSS ROW SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO CONCRETE BARRIER MEDIAN TRUSS AND PEDESTAL SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 180 FOR DMS PROFILE

REFER TO SHEET 196 FOR COMMUNICATIONS PLANS

REFER TO SHEET 202 FOR TYPICAL DMS WIRELESS COMMUNICATIONS DETAILS

DMS 480002

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-480 AT W.220TH ST.(MP 7.83 TO MP 8.42)
CITY OF FAIRVIEW PARK, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

151
207

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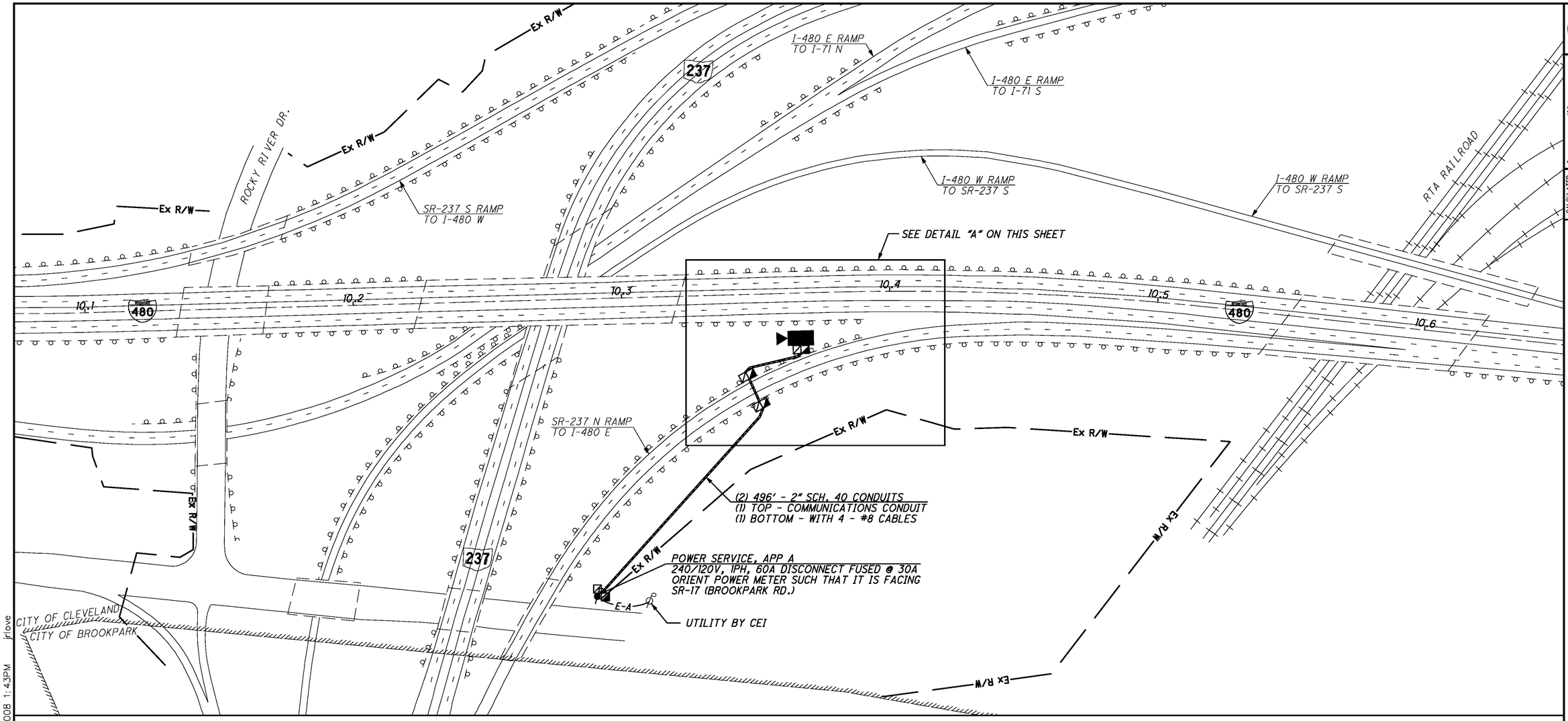

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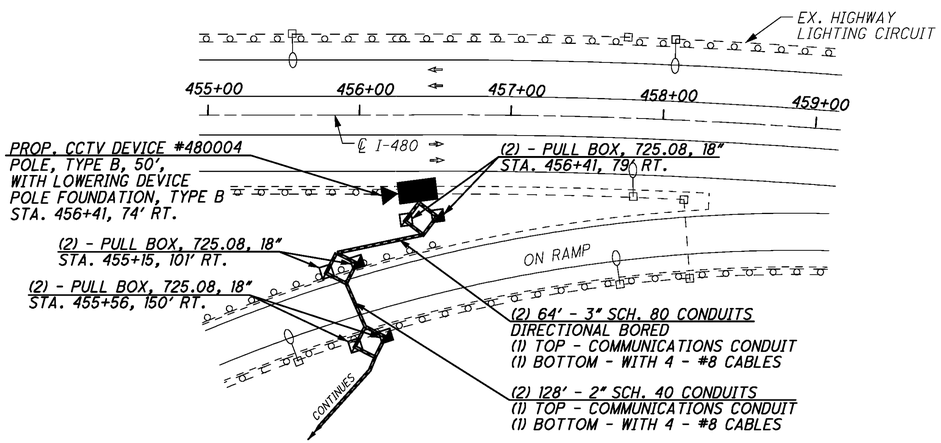

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 196 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 480004

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-480 AT SR-237 (MP 10.07 TO MP 10.65)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

152
207

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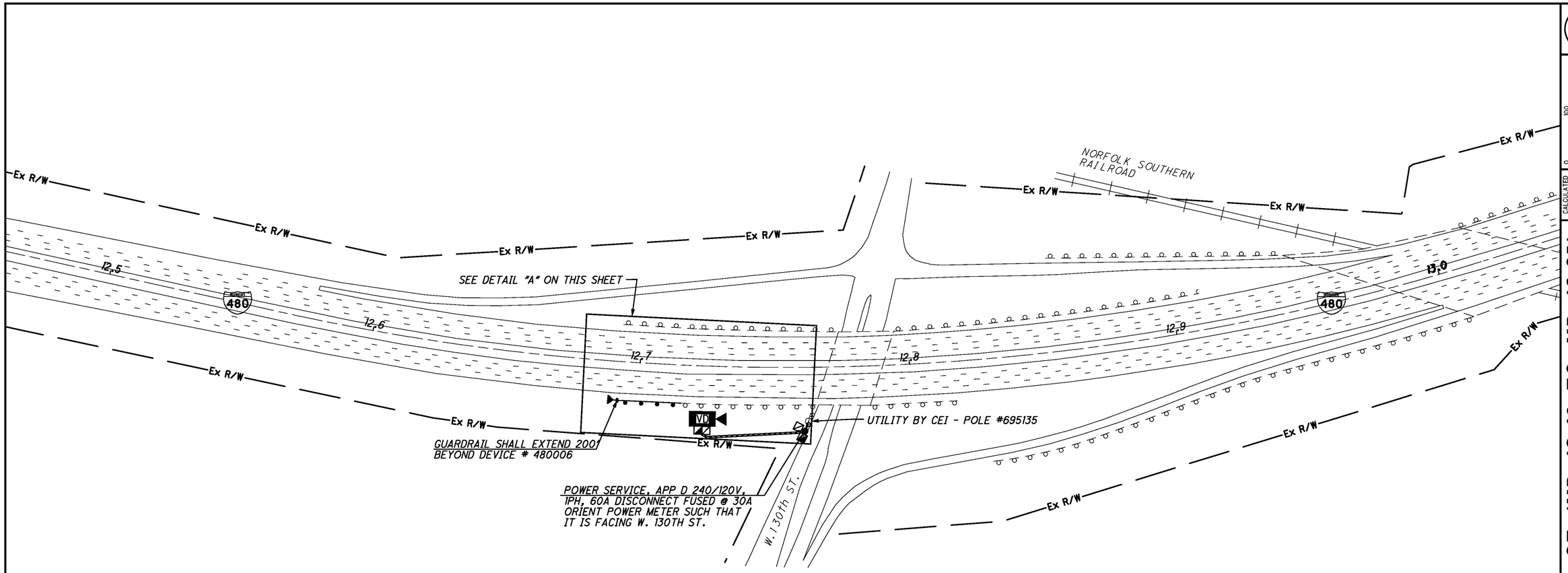

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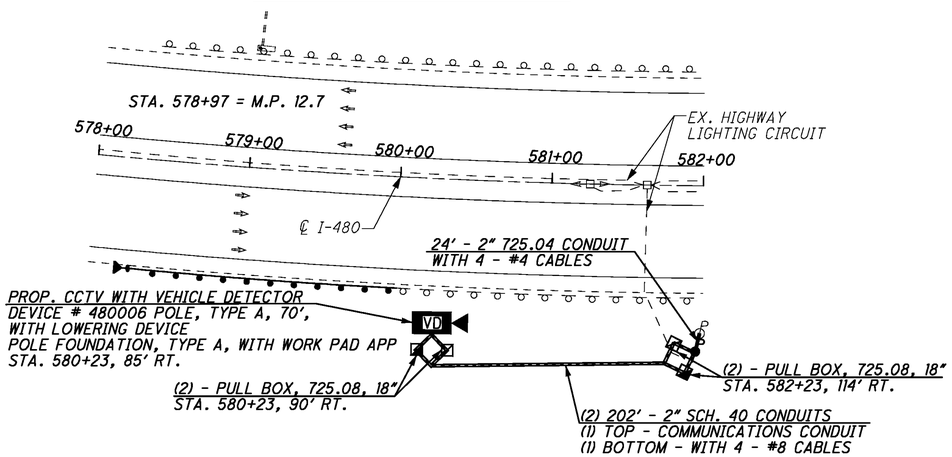

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 17 FOR TYPICAL POWER SERVICE AS PER PLAN D DETAILS

REFER TO SHEET 24 FOR TYPICAL CCTV CAMERA WITH VEHICLE DETECTOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 196 FOR COMMUNICATIONS PLANS

REFER TO SHEET 201 FOR TYPICAL CCTV W/VD EOC COMMUNICATIONS DETAILS

CCTV 480006

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-480 AT W.130TH ST (MP 12.46 TO MP 13.05)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

153
207

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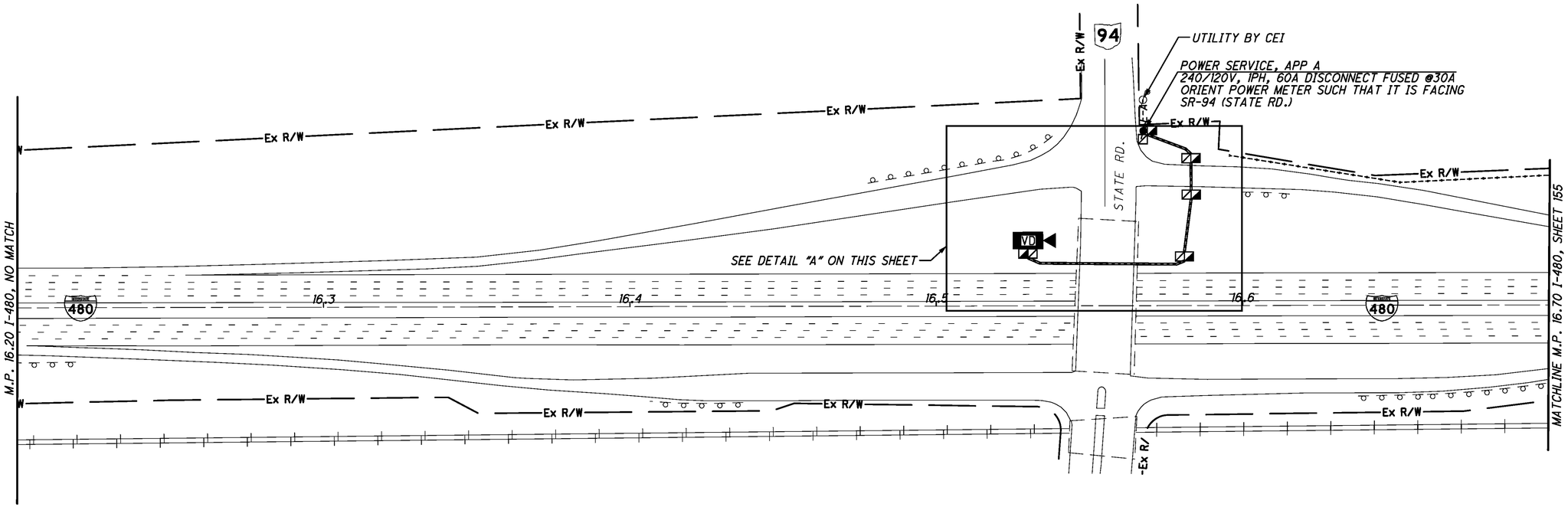

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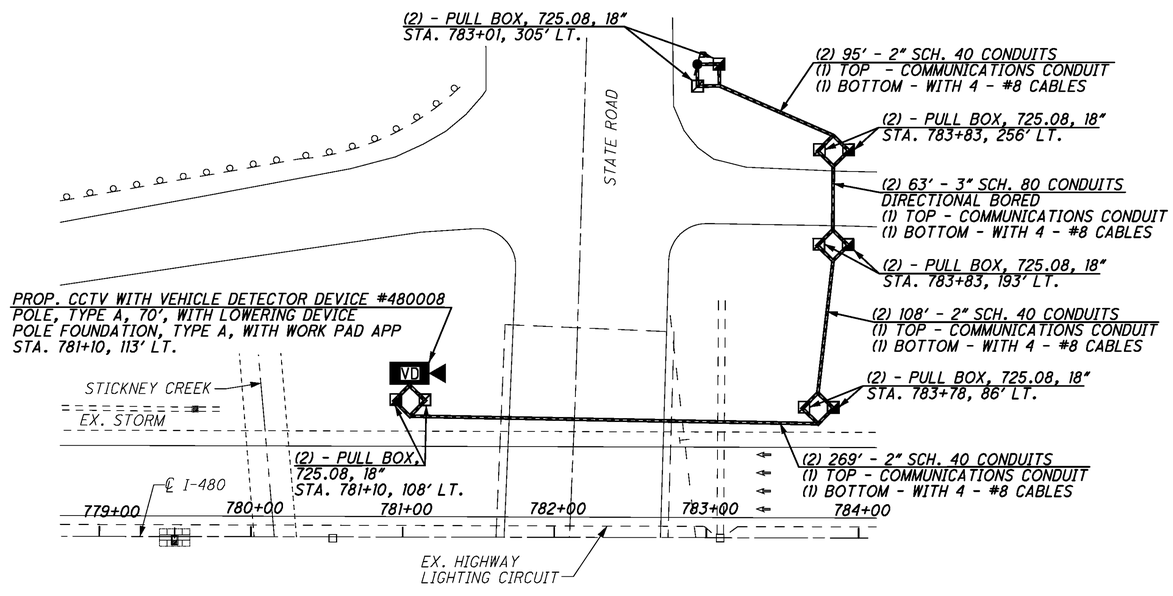

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 24 FOR TYPICAL CCTV CAMERA WITH VEHICLE DETECTOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 196 FOR COMMUNICATIONS PLANS

REFER TO SHEET 201 FOR TYPICAL CCTV W/VD EOC COMMUNICATIONS DETAILS

CCTV 480008

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-480 AT SR-94 (MP 16.20 TO MP 16.70)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

154
207

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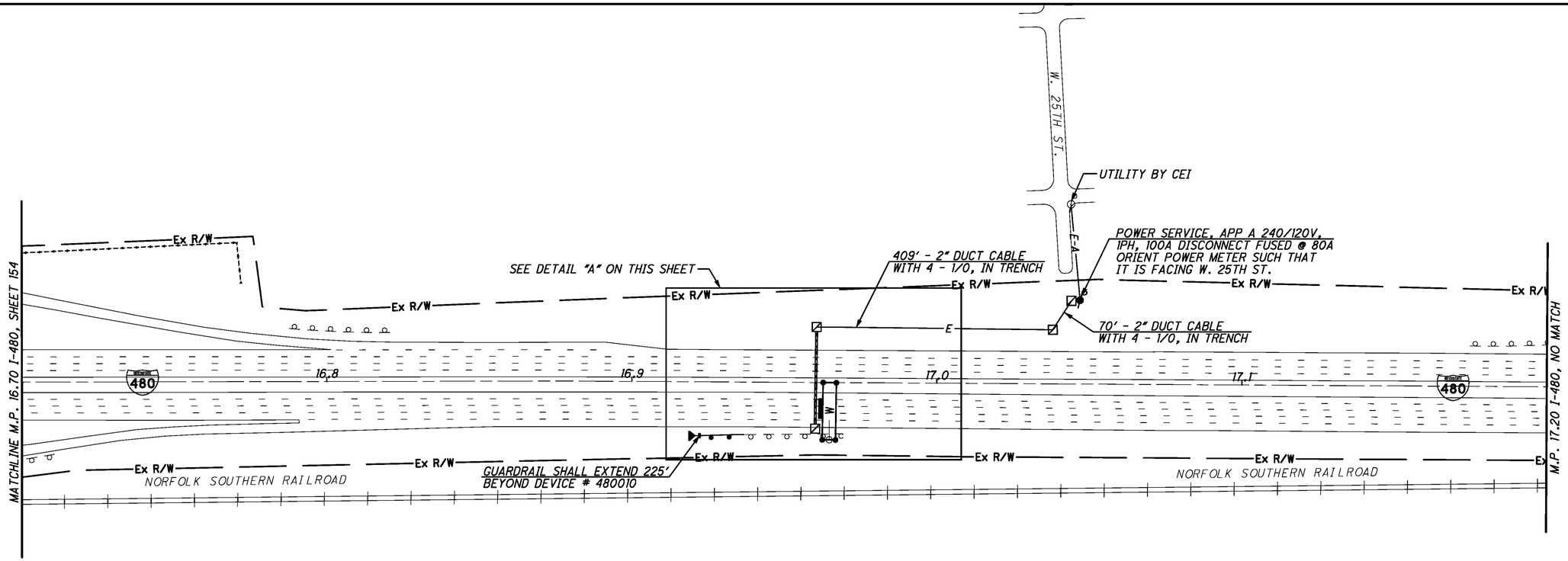

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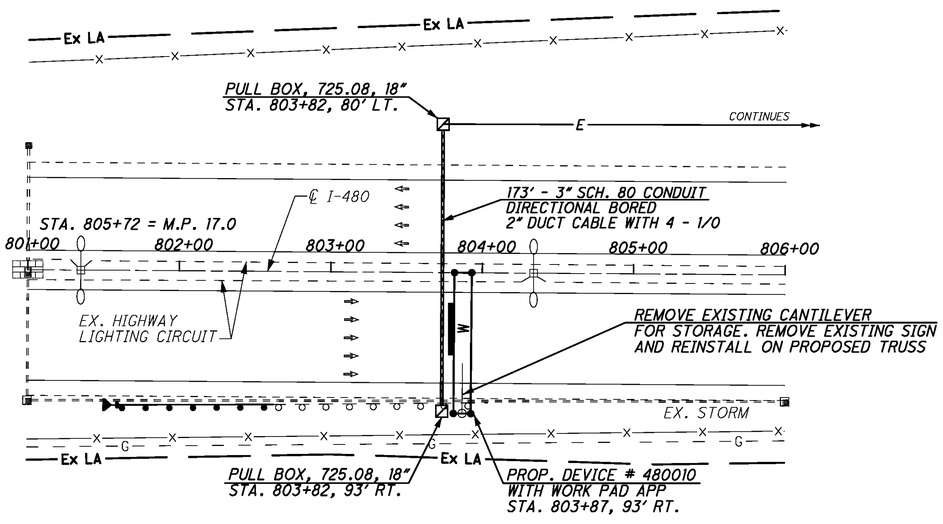

REFER TO SHEET 11 FOR CONCRETE BARRIER REPLACEMENT DETAILS

REFER TO SHEET 11B FOR BARRIER TRANSITION DETAILS

REFER TO SHEET 15A FOR PULL BOX ORIENTATION FOR DMS LOCATIONS DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO TRUSS ROW SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO CONCRETE BARRIER MEDIAN TRUSS AND PEDESTAL SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 181 FOR DMS PROFILE

REFER TO SHEET 196 FOR COMMUNICATIONS PLANS

REFER TO SHEET 202 FOR TYPICAL DMS WIRELESS COMMUNICATIONS DETAILS

DMS 480010

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-480 E. OF SR-94 (MP 16.70 TO MP 17.20)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

155
207

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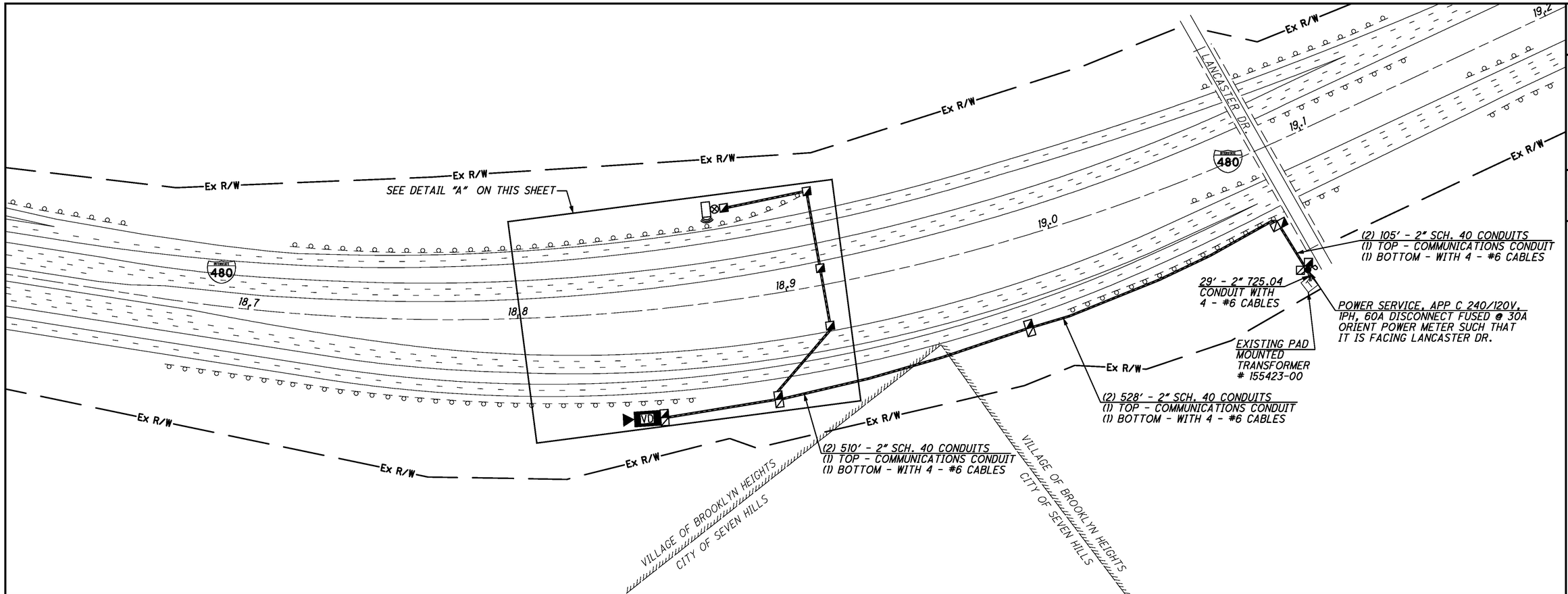

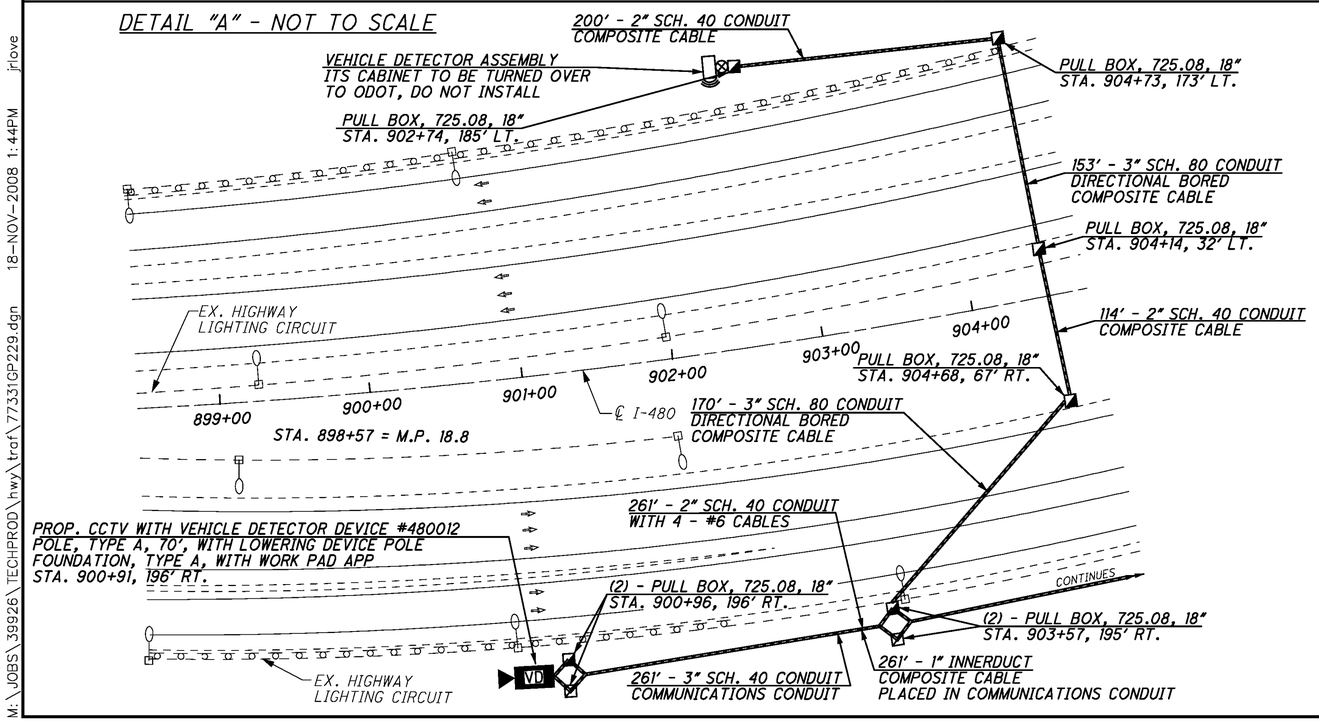

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 17 FOR TYPICAL POWER SERVICE AS PER PLAN C DETAILS

REFER TO SHEET 24 FOR TYPICAL CCTV CAMERA WITH VEHICLE DETECTOR DETAILS

REFER TO SHEET 43 FOR TYPICAL VEHICLE DETECTOR ASSEMBLY DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 196 FOR COMMUNICATIONS PLANS

REFER TO SHEET 201 FOR TYPICAL CCTV W/VD EOC COMMUNICATIONS DETAILS

CCTV 480012

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-480 AT LANCASTER DR. (MP 18.55 TO MP 19.14)
VILLAGE OF BROOKLYN HTS, CUYAHOGA CTY

VAR-CLEVELAND
FREEWAY MANAGEMENT
SYSTEM

156
207

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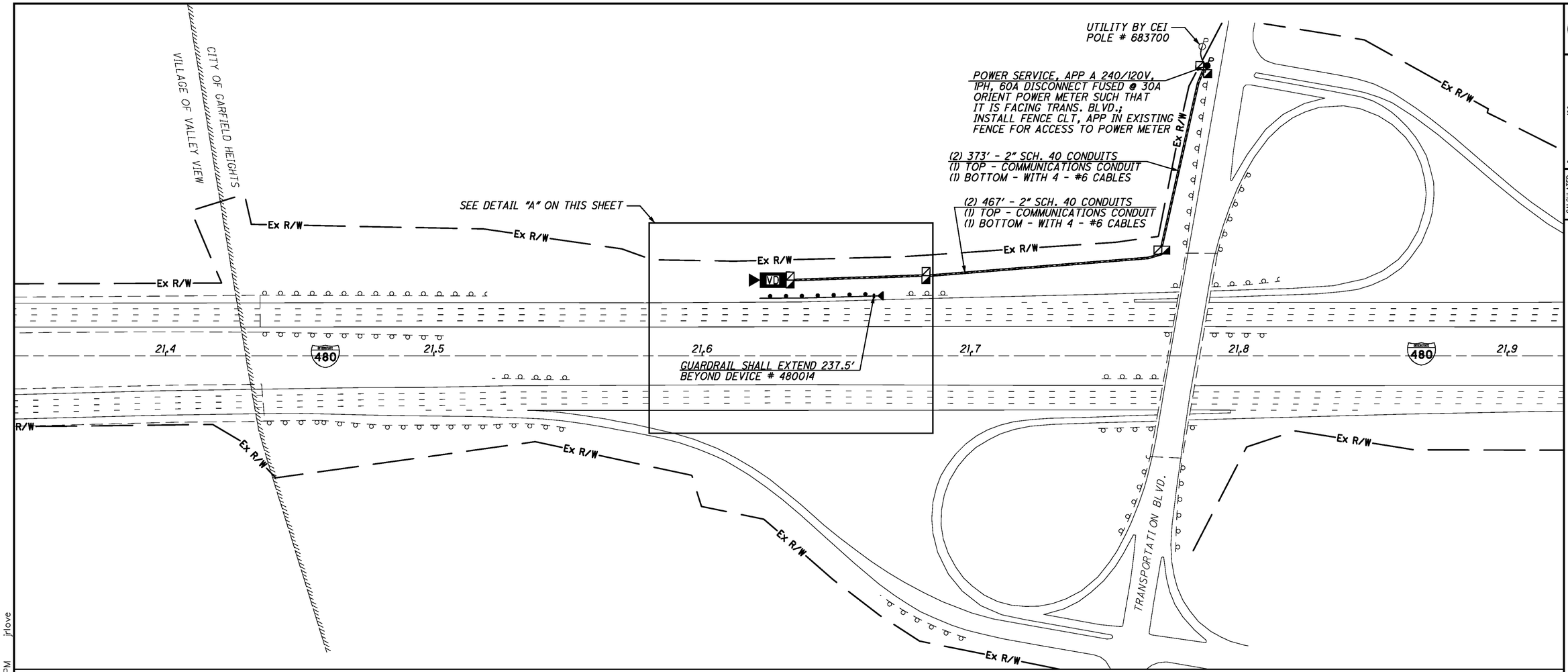

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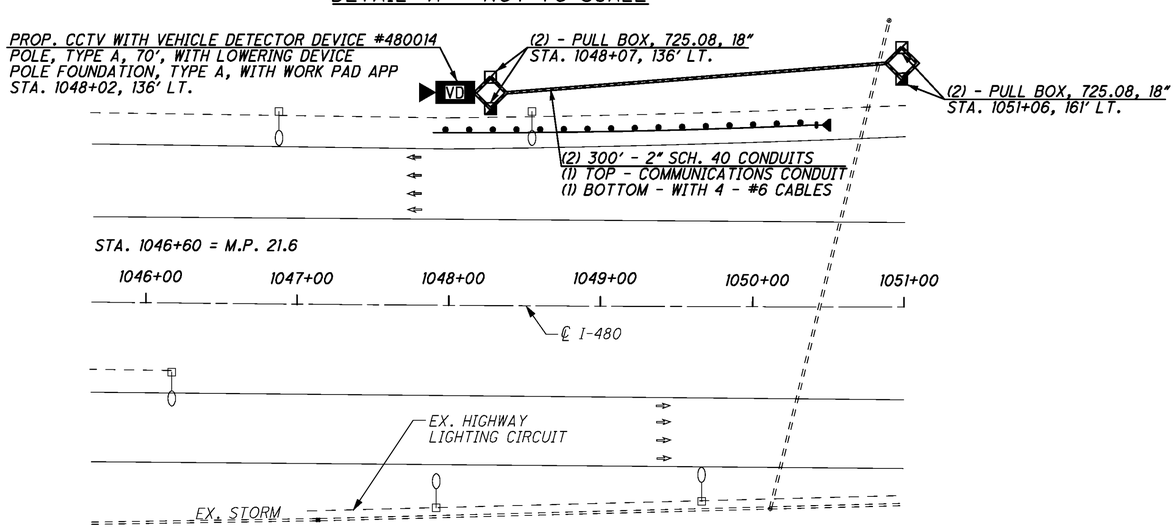

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 24 FOR TYPICAL CCTV CAMERA WITH VEHICLE DETECTOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 196 FOR COMMUNICATIONS PLANS

REFER TO SHEET 201 FOR TYPICAL CCTV W/VD EOC COMMUNICATIONS DETAILS

CCTV 480014

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-480 AT TRANS. BLVD. (MP 21.34 TO MP 21.92)
CITY OF GARFIELD HTS, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

157
207

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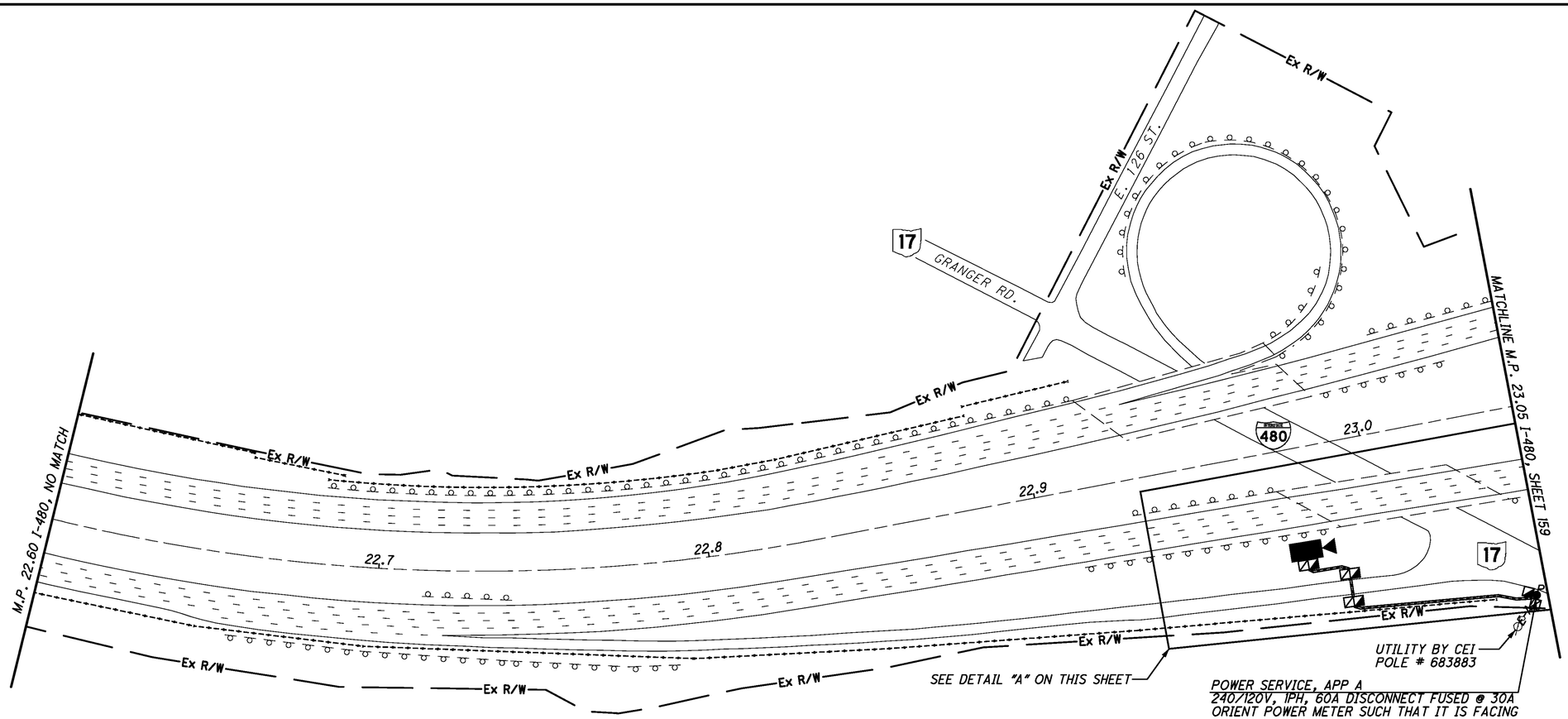
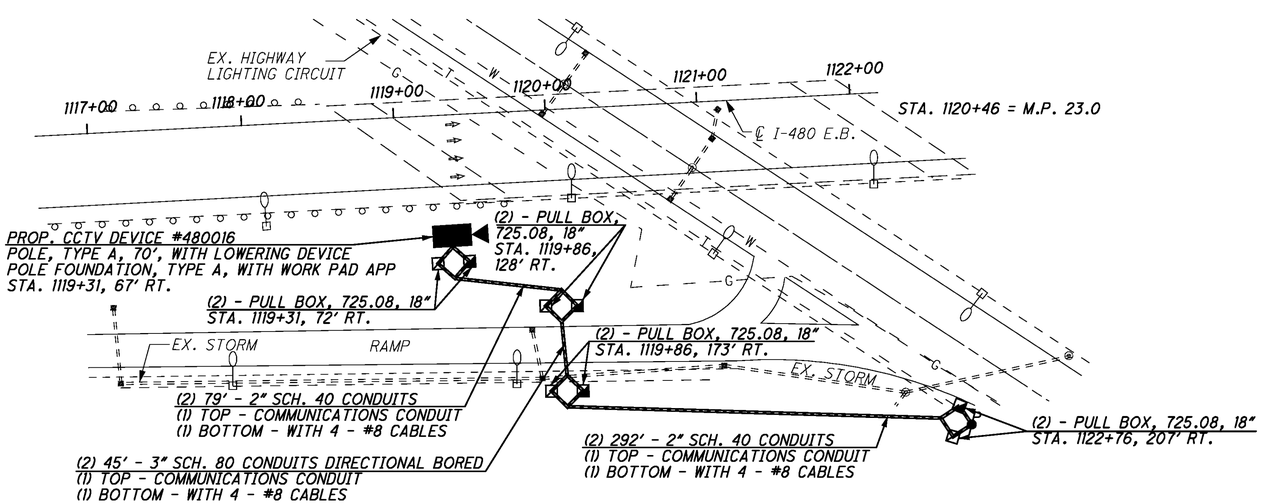


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 196 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 480016

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-480 AT SR-17 (MP 22.50 TO MP 23.05)
CITY OF GARFIELD HTS, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

158
207

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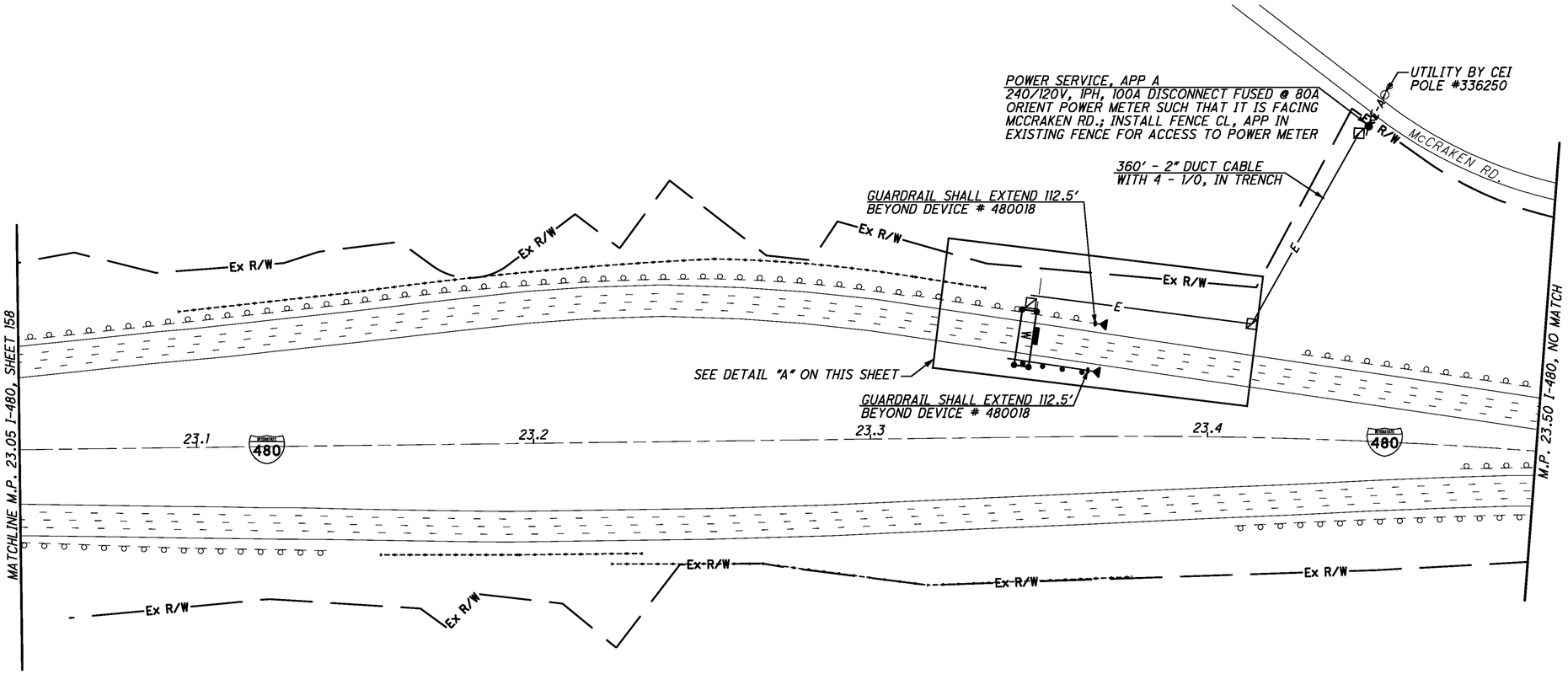
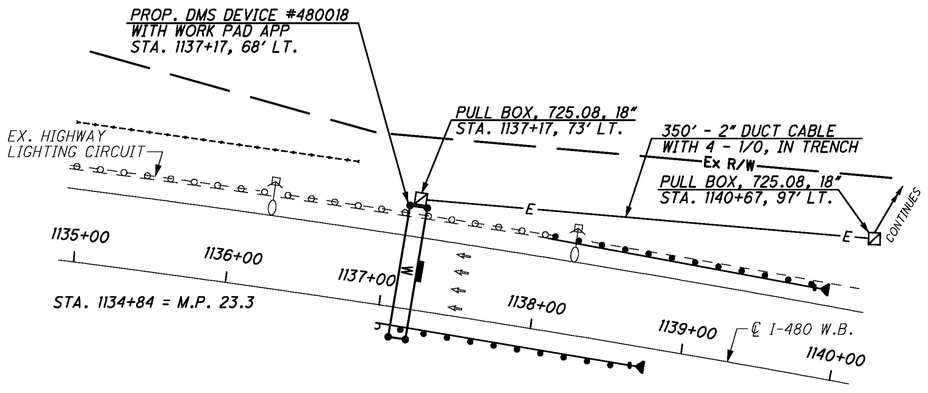


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 15A FOR PULL BOX ORIENTATION FOR DMS LOCATIONS DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO TRUSS ROW SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 181 FOR DMS PROFILE

REFER TO SHEET 196 FOR COMMUNICATIONS PLANS

REFER TO SHEET 202 FOR TYPICAL DMS WIRELESS COMMUNICATIONS DETAILS

DMS 480018

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-480 AT SR-17 (MP 23.05 TO MP 23.50)
CITY OF GARFIELD HTS, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

159
207

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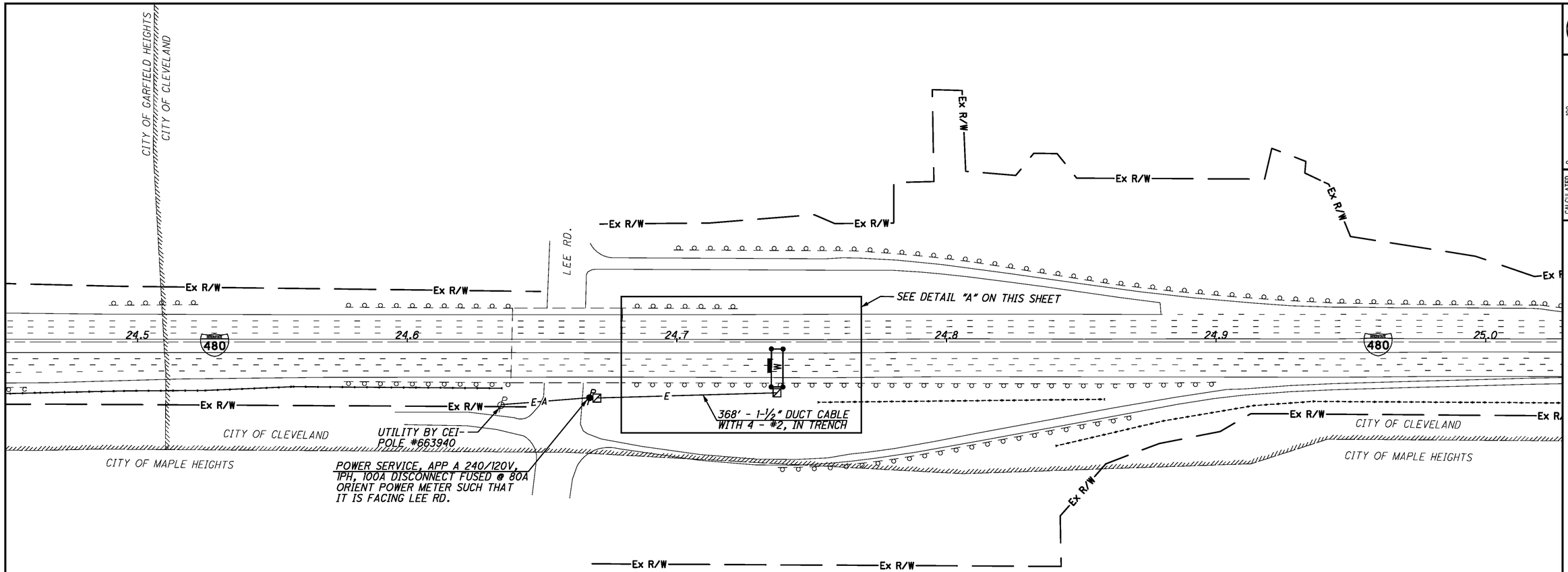
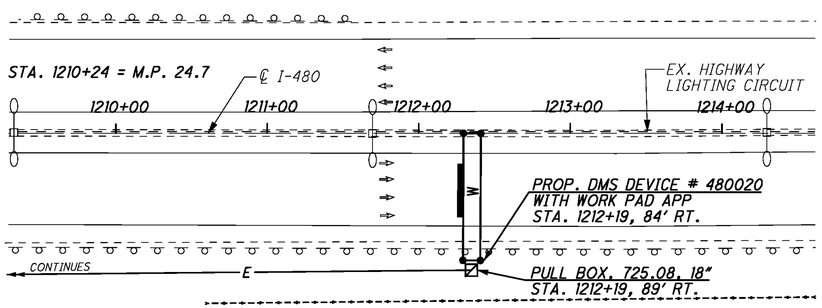


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 11 FOR CONCRETE BARRIER REPLACEMENT DETAILS

REFER TO SHEET 11B FOR BARRIER TRANSITION DETAILS

REFER TO SHEET 15A FOR PULL BOX ORIENTATION FOR DMS LOCATIONS DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO TRUSS ROW SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO CONCRETE BARRIER MEDIAN TRUSS AND PEDESTAL SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 182 FOR DMS PROFILE

REFER TO SHEET 196 FOR COMMUNICATIONS PLANS

REFER TO SHEET 202 FOR TYPICAL DMS WIRELESS COMMUNICATIONS DETAILS

DMS 480020

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-480 AT LEE RD. (MP 24.46 TO MP 25.04)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

160
207

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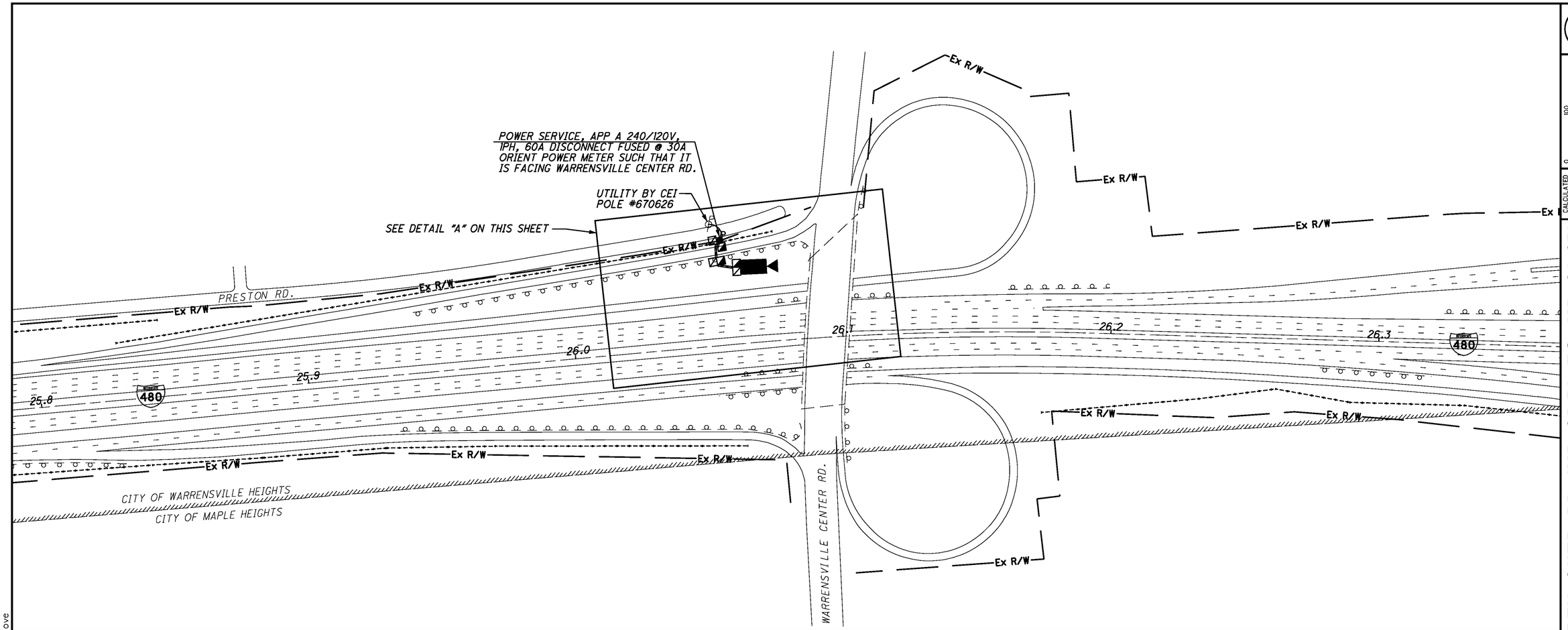

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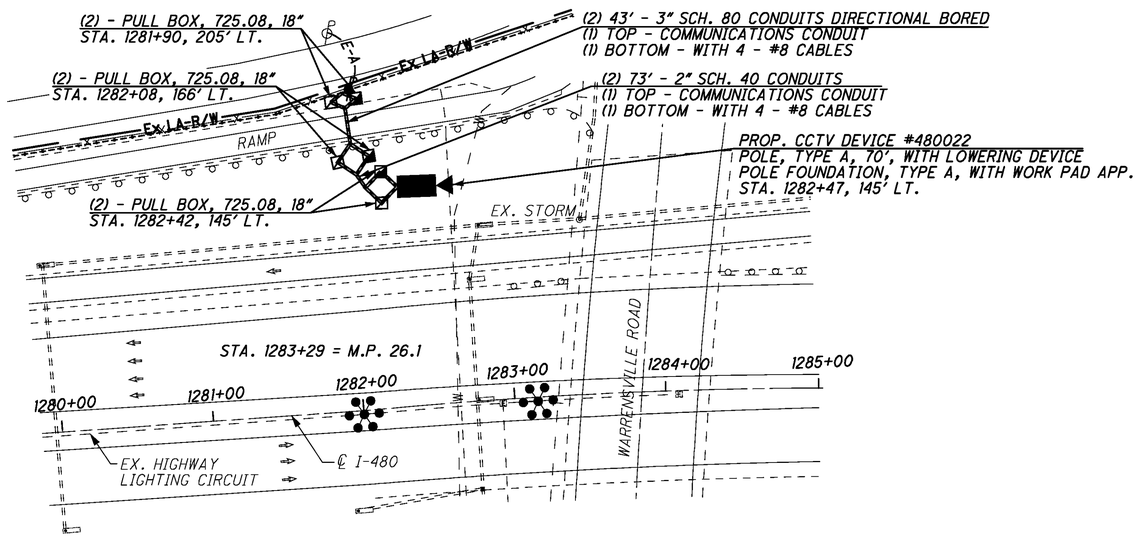

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 196 FOR COMMUNICATIONS PLANS

REFER TO SHEET 200 FOR TYPICAL CCTV EOC COMMUNICATIONS DETAILS

CCTV 480022

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-480 AT WARREN. CNTR. RD. (MP 25.79 TO MP 26.37)
CITY OF WARRENSVILLE HTS, CUYAHOGA CTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

161
207

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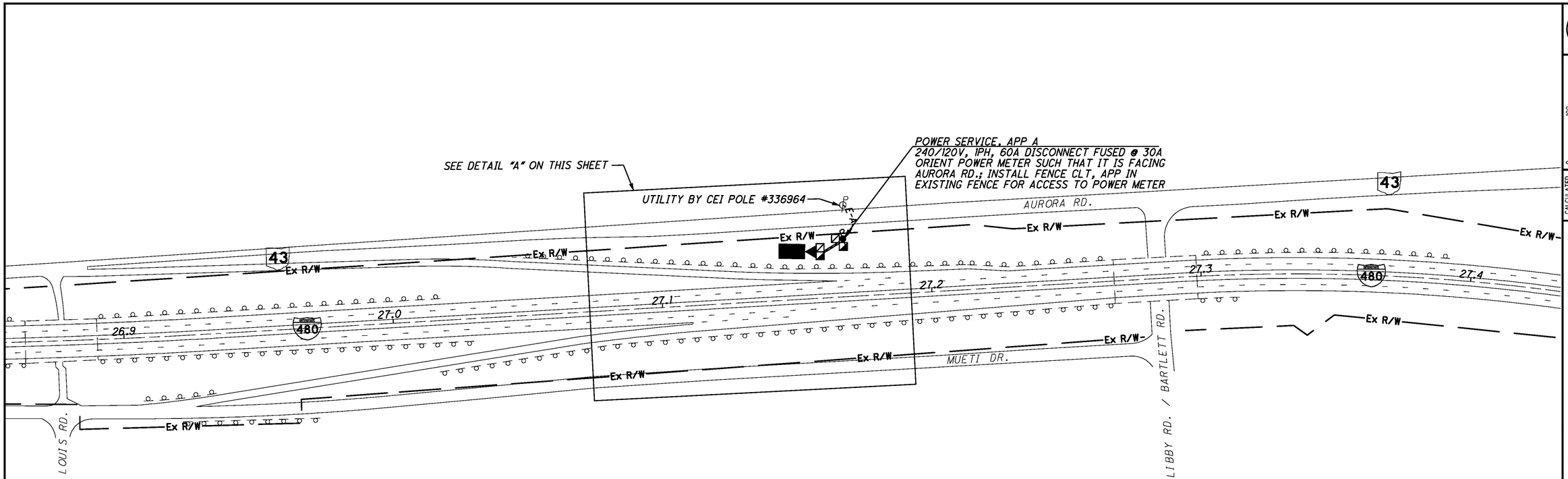

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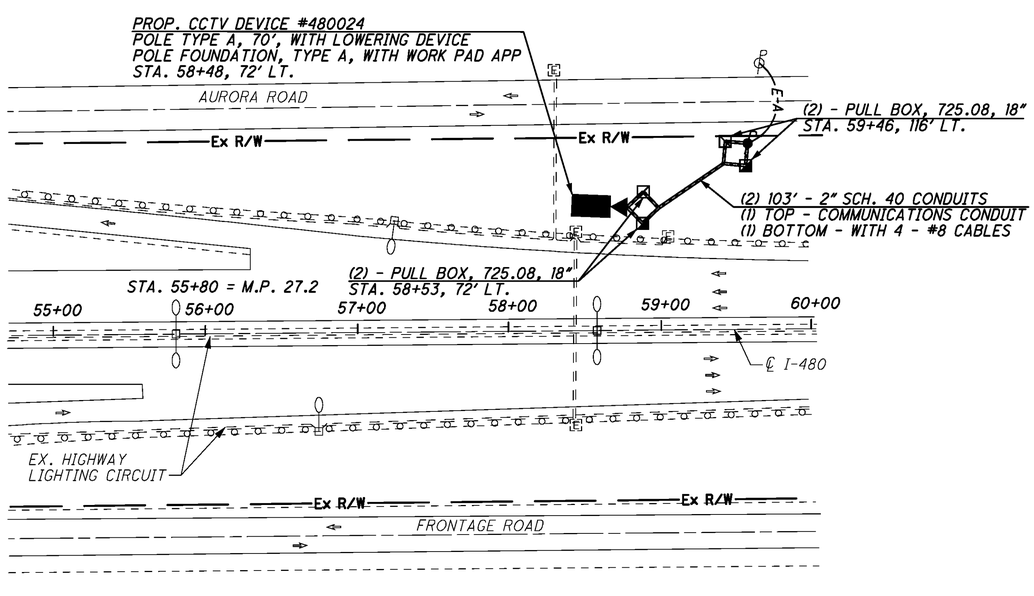

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 196 FOR COMMUNICATIONS PLANS

REFER TO SHEET 198 FOR TYPICAL CCTV T-1 COMMUNICATIONS DETAILS

CCTV 480024

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-480 AT LIBBY RD. (MP 26.86 TO MP 27.43)
CITY OF BEDFORD HTS, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

162
207

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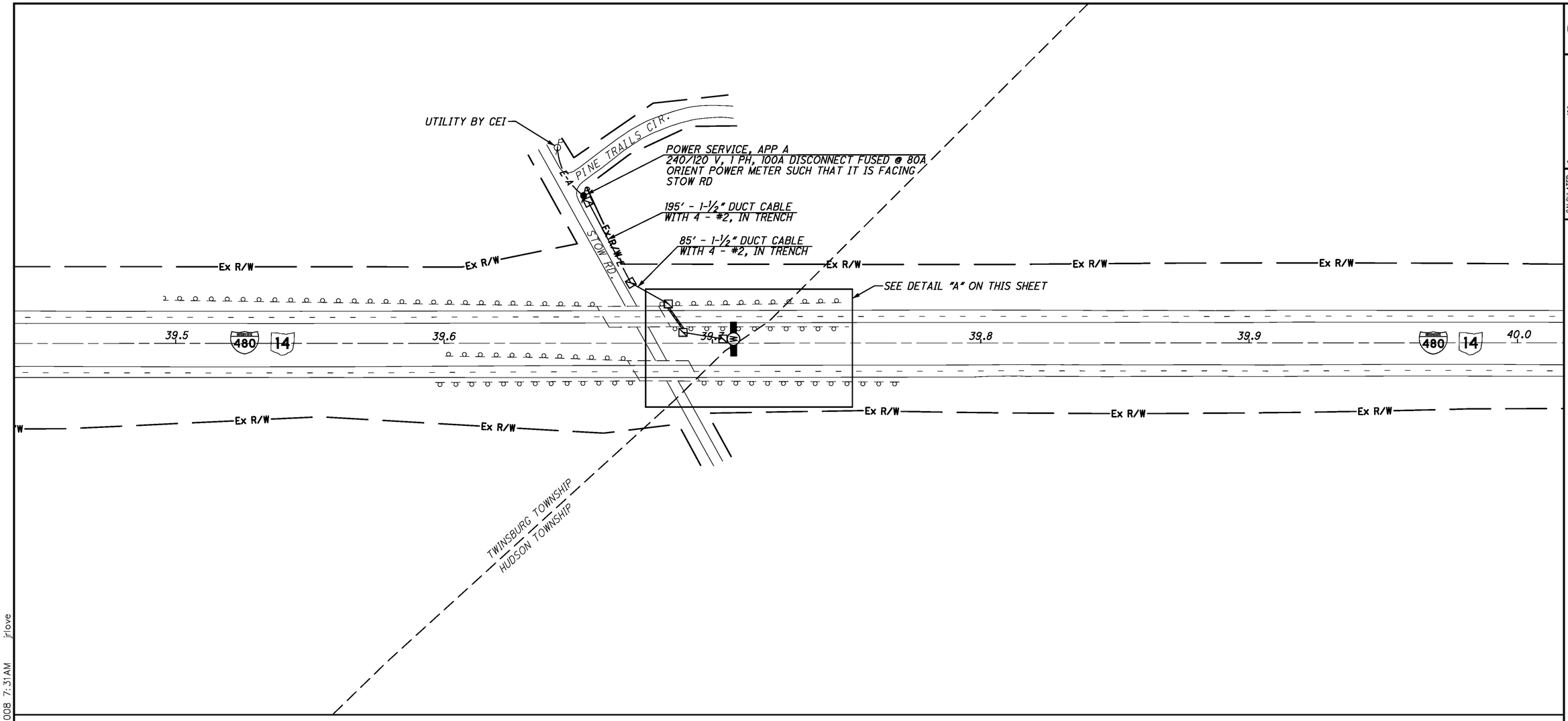

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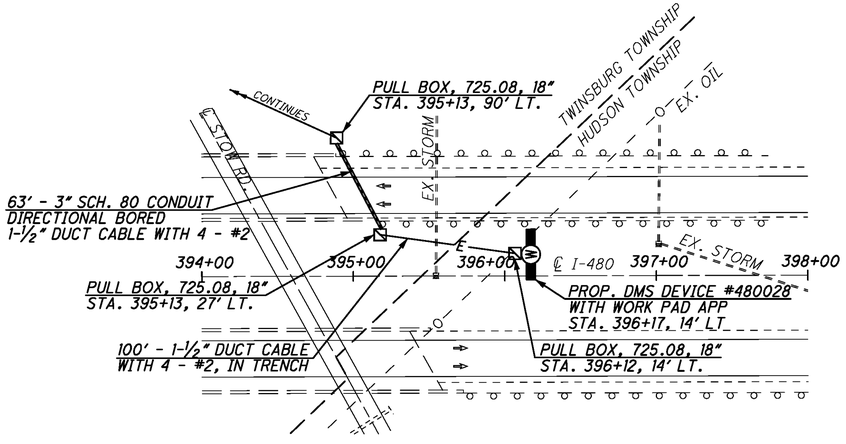

REFER TO SHEET 15A FOR PULL BOX ORIENTATION FOR DMS LOCATIONS DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO DMS PEDESTAL SIGN SUPPORT PIER FOUNDATION DESIGNS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 196 FOR COMMUNICATIONS PLANS

REFER TO SHEET 202 FOR TYPICAL DMS WIRELESS COMMUNICATIONS DETAILS

DMS 480028

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-480 AT STOW RD. (MP 39.46 TO MP 40.04)
TWINSBURG TOWNSHIP, SUMMIT COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

163
207

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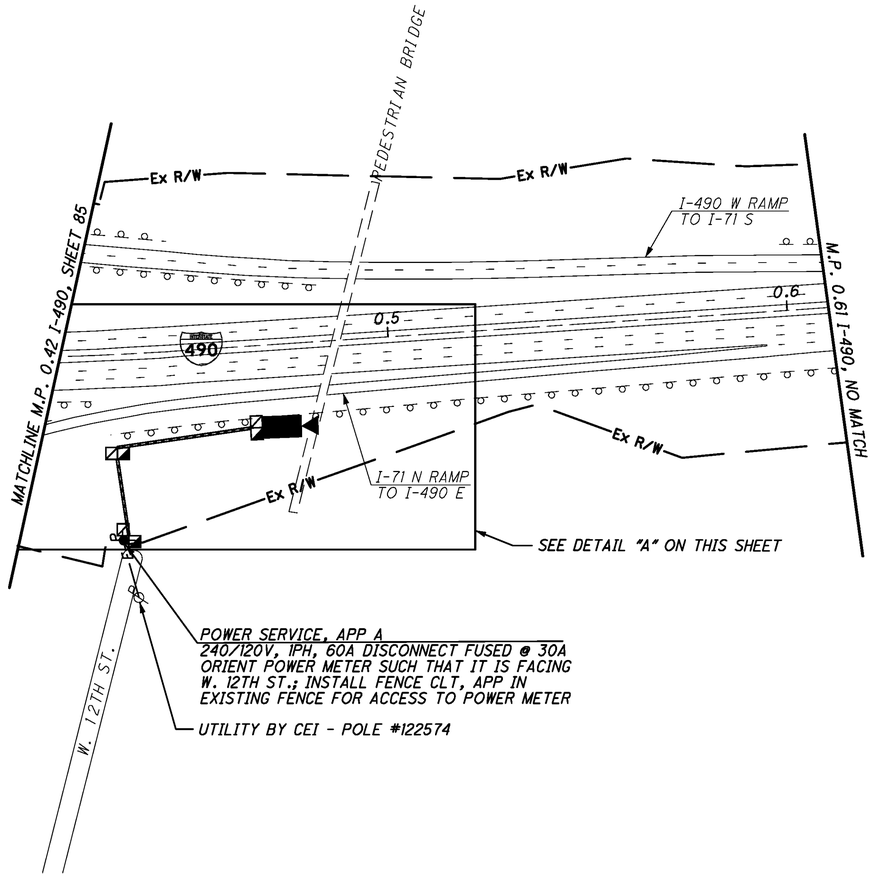

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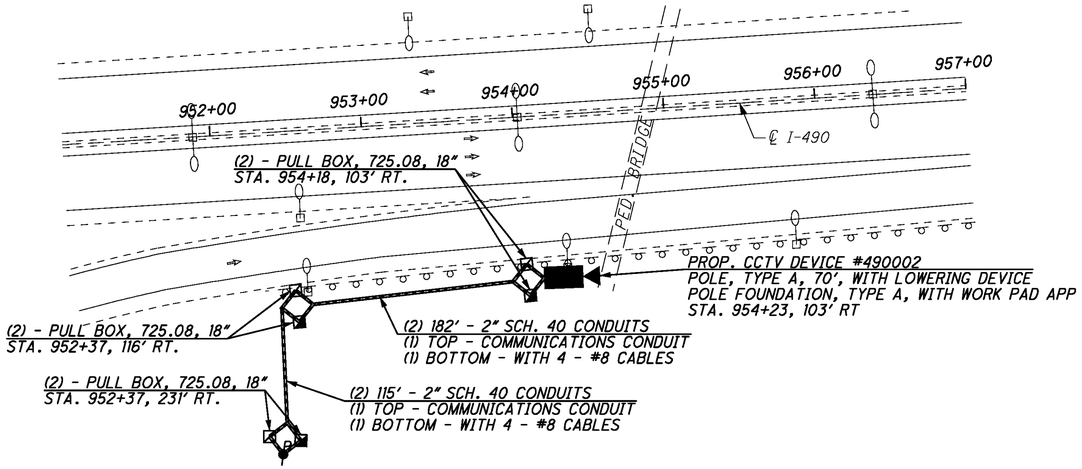

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 197 FOR COMMUNICATIONS PLANS

REFER TO SHEET 198 FOR TYPICAL CCTV T-1 COMMUNICATIONS DETAILS

CCTV 490002

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

I-490 EAST OF I-71/I-90 (MP 0.42 TO MP 0.61)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

164
207

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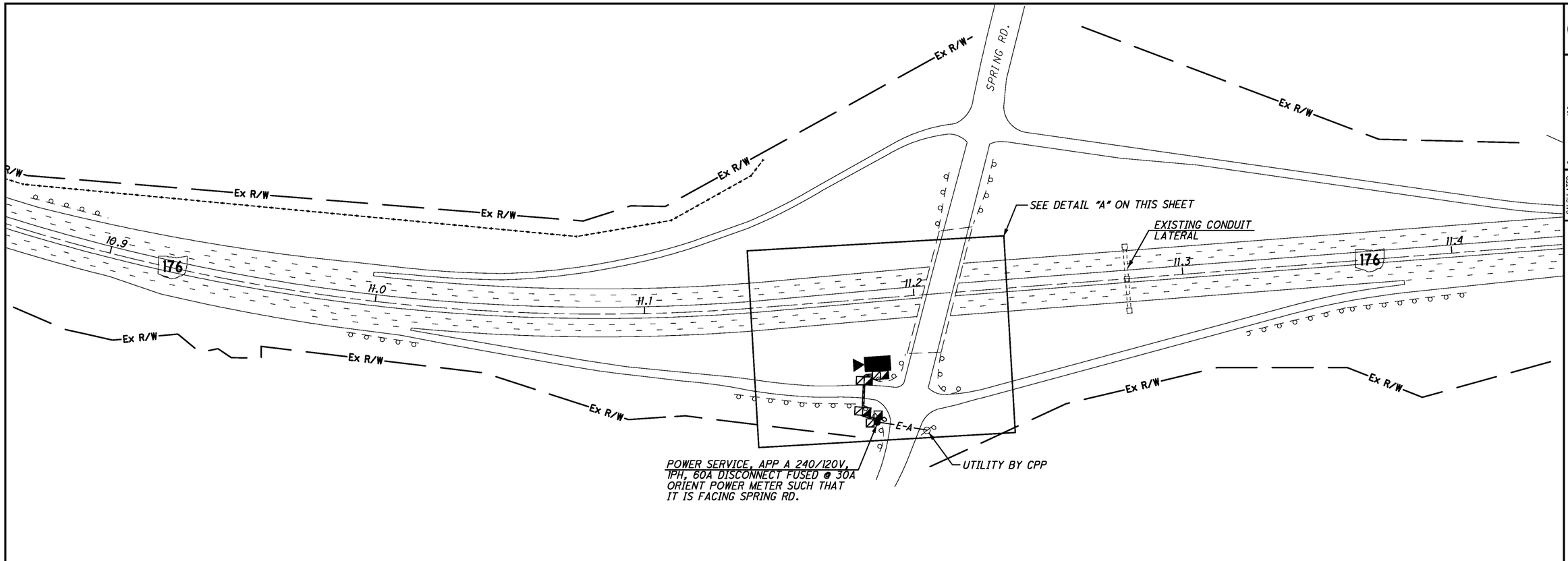

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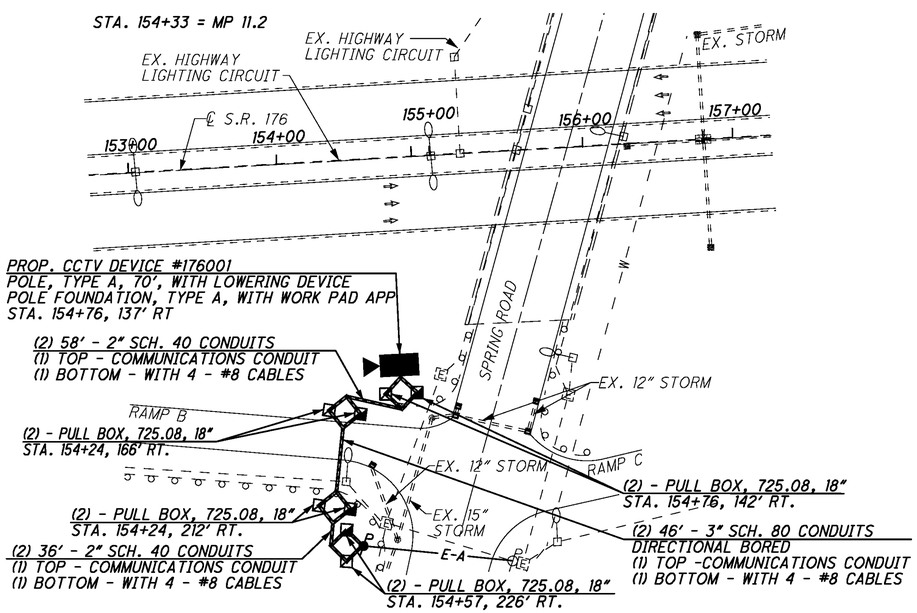


REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 197 FOR COMMUNICATIONS PLANS

REFER TO SHEET 198 FOR TYPICAL CCTV T-1 COMMUNICATIONS DETAILS

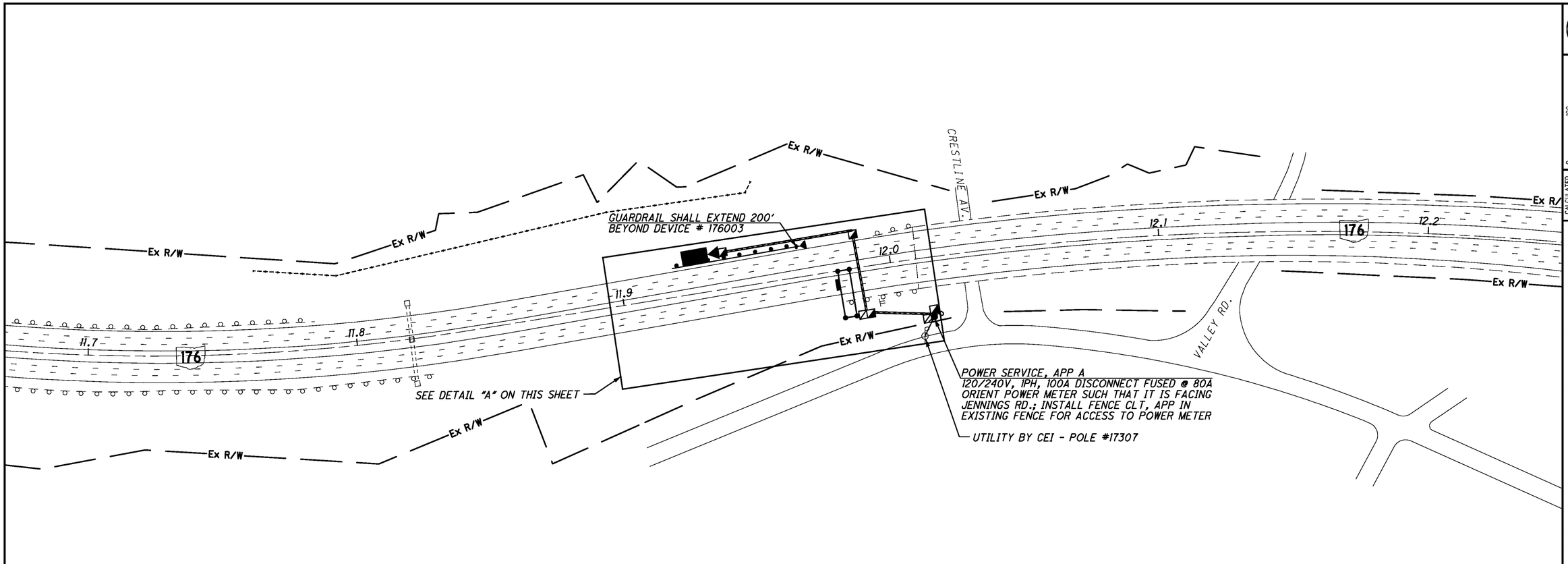
CCTV 176001

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

SR-176 AT SPRING RD. (MP 10.86 TO MP 11.44)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM



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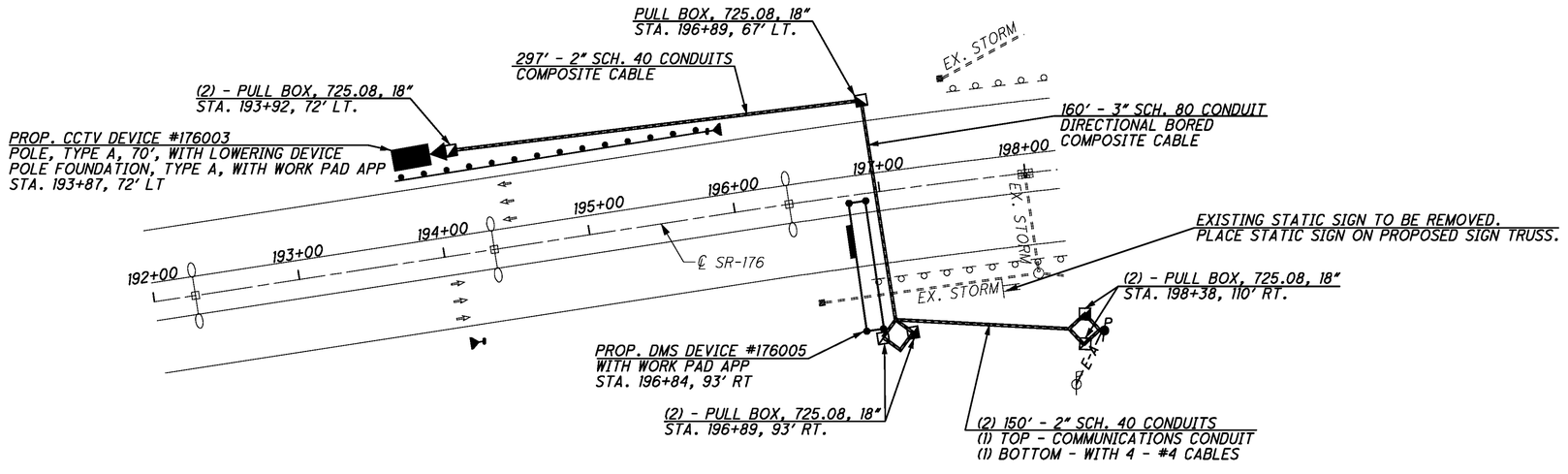

REFER TO SHEET 11 FOR CONCRETE BARRIER REPLACEMENT DETAILS

REFER TO SHEET 11B FOR BARRIER TRANSITION DETAILS

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEETS 15-15A FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 23 FOR TYPICAL CCTV CAMERA DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO ROW SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO CONCRETE BARRIER MEDIAN TRUSS AND PEDESTAL SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 182 FOR DMS PROFILE

REFER TO SHEET 197 FOR COMMUNICATIONS PLANS

REFER TO SHEET 205 FOR TYPICAL DMS W/ COMPOSITE CABLES COMMUNICATIONS DETAILS

REFER TO SHEET 207 FOR TYPICAL CCTV W/ COMPOSITE CABLE COMMUNICATIONS DETAILS

CCTV 176003
DMS 176005

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

SR-176 AT VALLEY RD. (MP 11.66 TO MP 12.24)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

166
207

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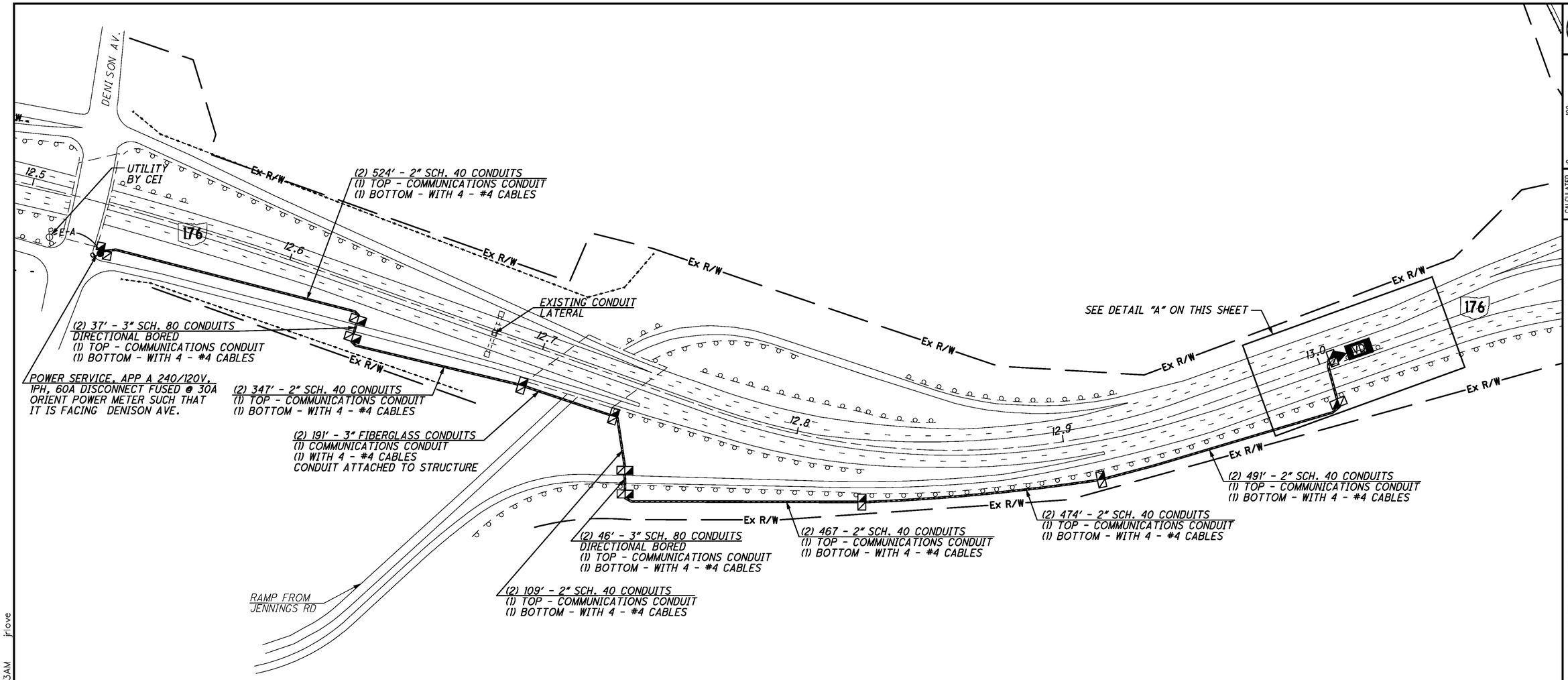

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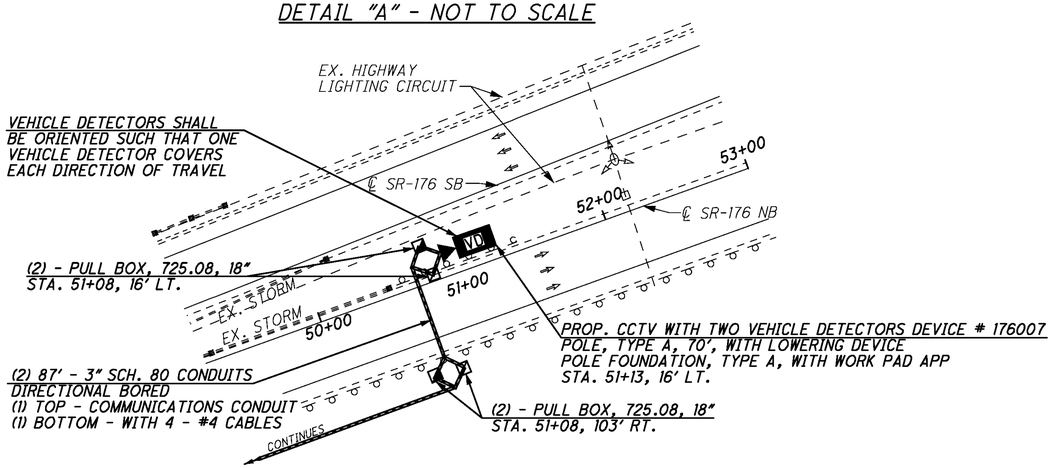

REFER TO SHEET 12 FOR CONDUIT ATTACHED TO STRUCTURE DETAILS

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 25 FOR TYPICAL CCTV CAMERA WITH TWO VEHICLE DETECTORS DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 184 FOR CONDUIT ATTACHED TO STRUCTURE DETAILS FOR BRIDGE CROSSING RAMP

REFER TO SHEET 197 FOR COMMUNICATIONS PLANS

REFER TO SHEET 201 FOR TYPICAL CCTV W/VD EOC COMMUNICATIONS DETAILS

CCTV 176007

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

SR-176 S. OF I-71 (MP 12.90 TO MP 13.10)
CITY OF CLEVELAND, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

167
207

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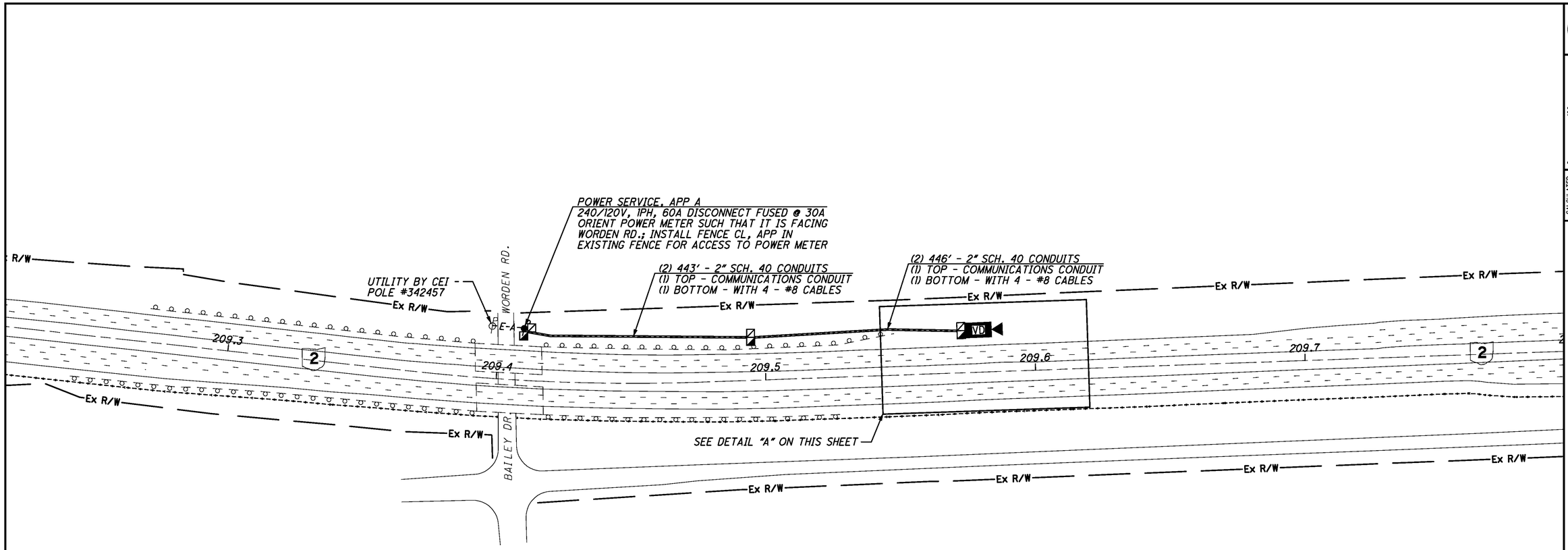

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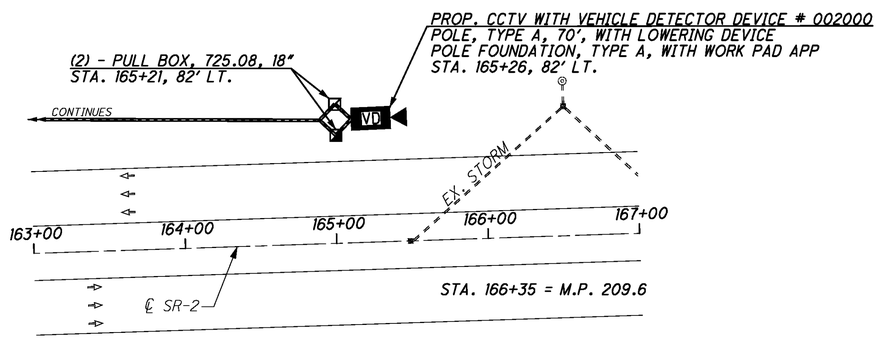

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 24 FOR TYPICAL CCTV CAMERA WITH VEHICLE DETECTOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 197 FOR COMMUNICATIONS PLANS

REFER TO SHEET 201 FOR TYPICAL CCTV W/VD EOC COMMUNICATIONS DETAILS

CCTV 002000

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

SR-2 AT BAILEY DR. (MP 209.26 TO MP 209.84)
CITY OF WICKLIFFE, LAKE COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

168
207

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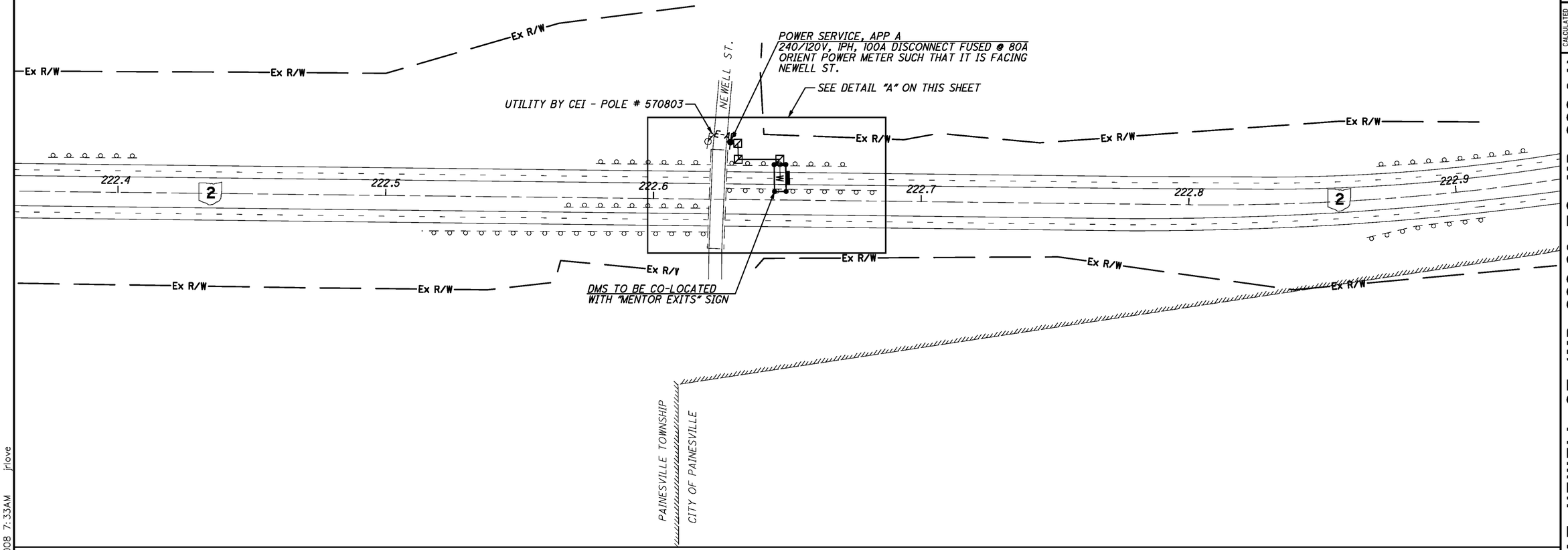

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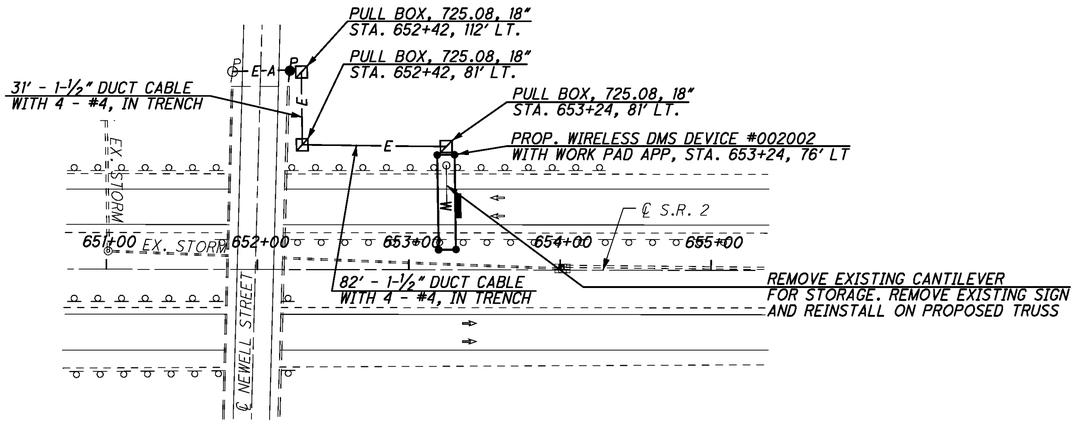

REFER TO SHEET 15A FOR PULL BOX ORIENTATION FOR DMS LOCATIONS DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO TRUSS ROW SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 183 FOR DMS PROFILE

REFER TO SHEET 197 FOR COMMUNICATIONS PLANS

REFER TO SHEET 202 FOR TYPICAL DMS WIRELESS COMMUNICATIONS DETAILS

DMS 002002

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

SR-2 AT NEWELL ST.(MP 222.36 TO MP 222.94)
PAINESVILLE TOWNSHIP, LAKE COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

169
207

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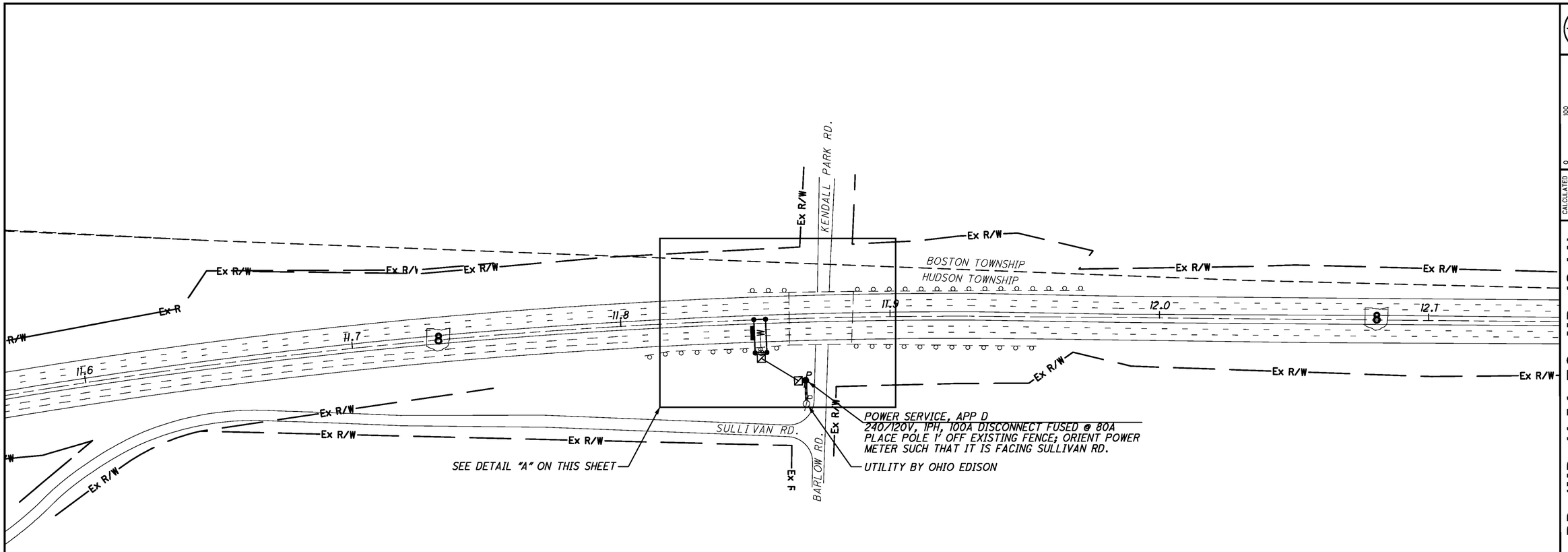

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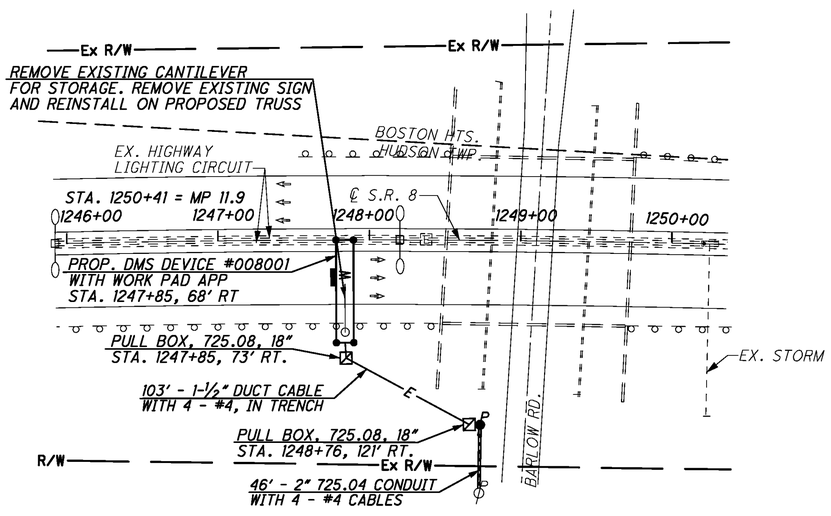


REFER TO SHEET 11 FOR CONCRETE BARRIER REPLACEMENT DETAILS

REFER TO SHEET 11B FOR BARRIER TRANSITION DETAILS

REFER TO SHEET 15A FOR PULL BOX ORIENTATION FOR DMS LOCATIONS DETAILS

REFER TO SHEET 17 FOR TYPICAL POWER SERVICE AS PER PLAN D DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO TRUSS ROW SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO CONCRETE BARRIER MEDIAN TRUSS AND PEDESTAL SIGN SUPPORT FOUNDATIONS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 183 FOR DMS PROFILE

REFER TO SHEET 197 FOR COMMUNICATIONS PLANS

REFER TO SHEET 202 FOR TYPICAL DMS WIRELESS COMMUNICATIONS DETAILS

DMS 008001

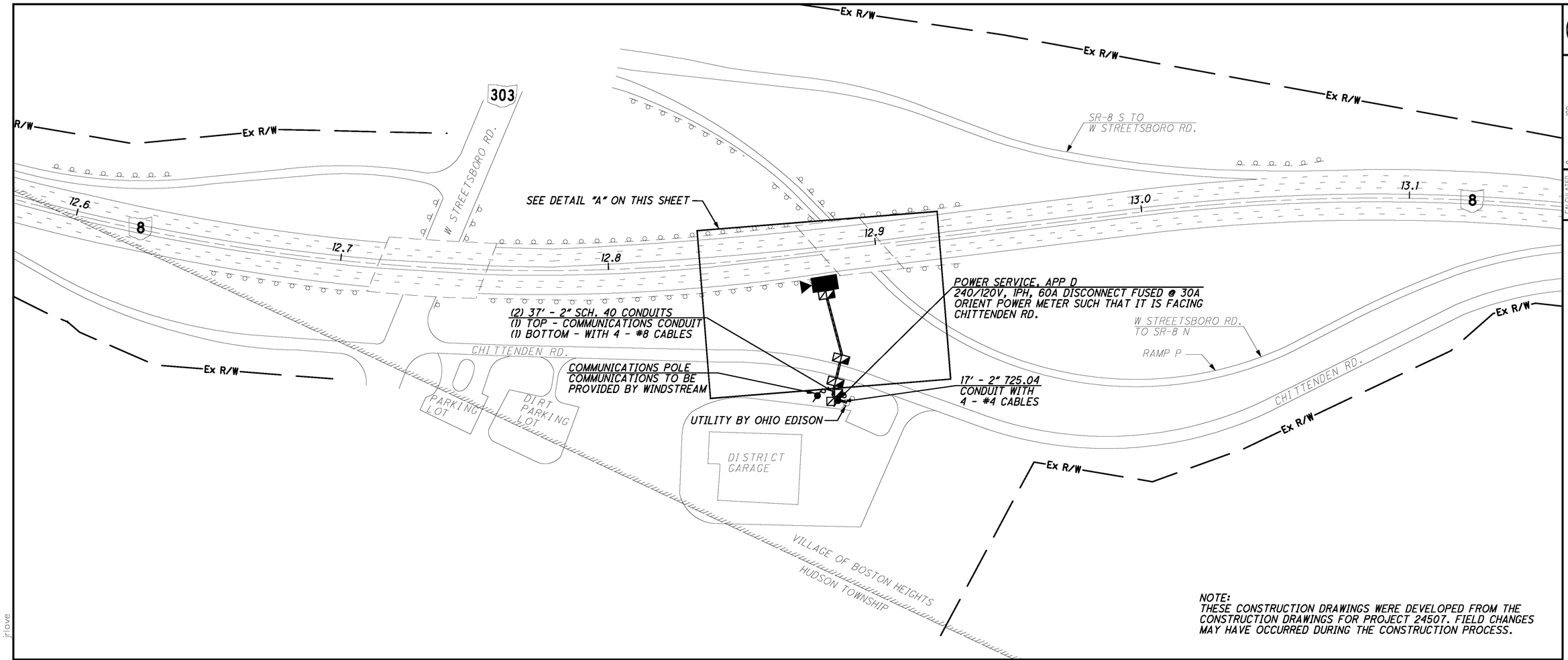
HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

SR-8 S. AT BARLOW RD. (MP 11.54 TO MP 12.14)
BOSTON TOWNSHIP, SUMMIT COUNTY

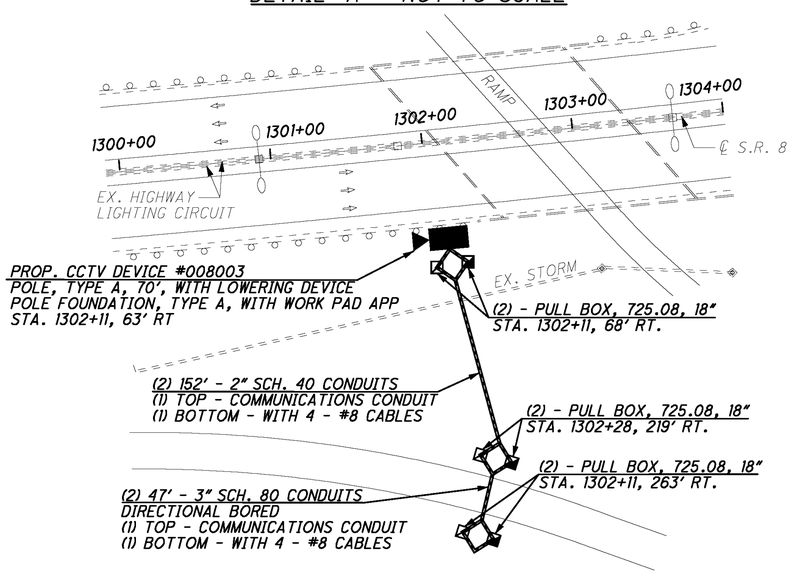
VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

170
207



NOTE:
THESE CONSTRUCTION DRAWINGS WERE DEVELOPED FROM THE CONSTRUCTION DRAWINGS FOR PROJECT 24507. FIELD CHANGES MAY HAVE OCCURRED DURING THE CONSTRUCTION PROCESS.

DETAIL "A" - NOT TO SCALE



REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 17 FOR TYPICAL POWER SERVICE AS PER PLAN D DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 197 FOR COMMUNICATIONS PLANS

REFER TO SHEET 198 FOR TYPICAL CCTV T-1 COMMUNICATIONS DETAILS

CCTV 008003

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

SR-8 AT SR-303 (MP 12.58 TO MP 13.16)
VILLAGE OF BOSTON HTS, SUMMIT COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

171
207

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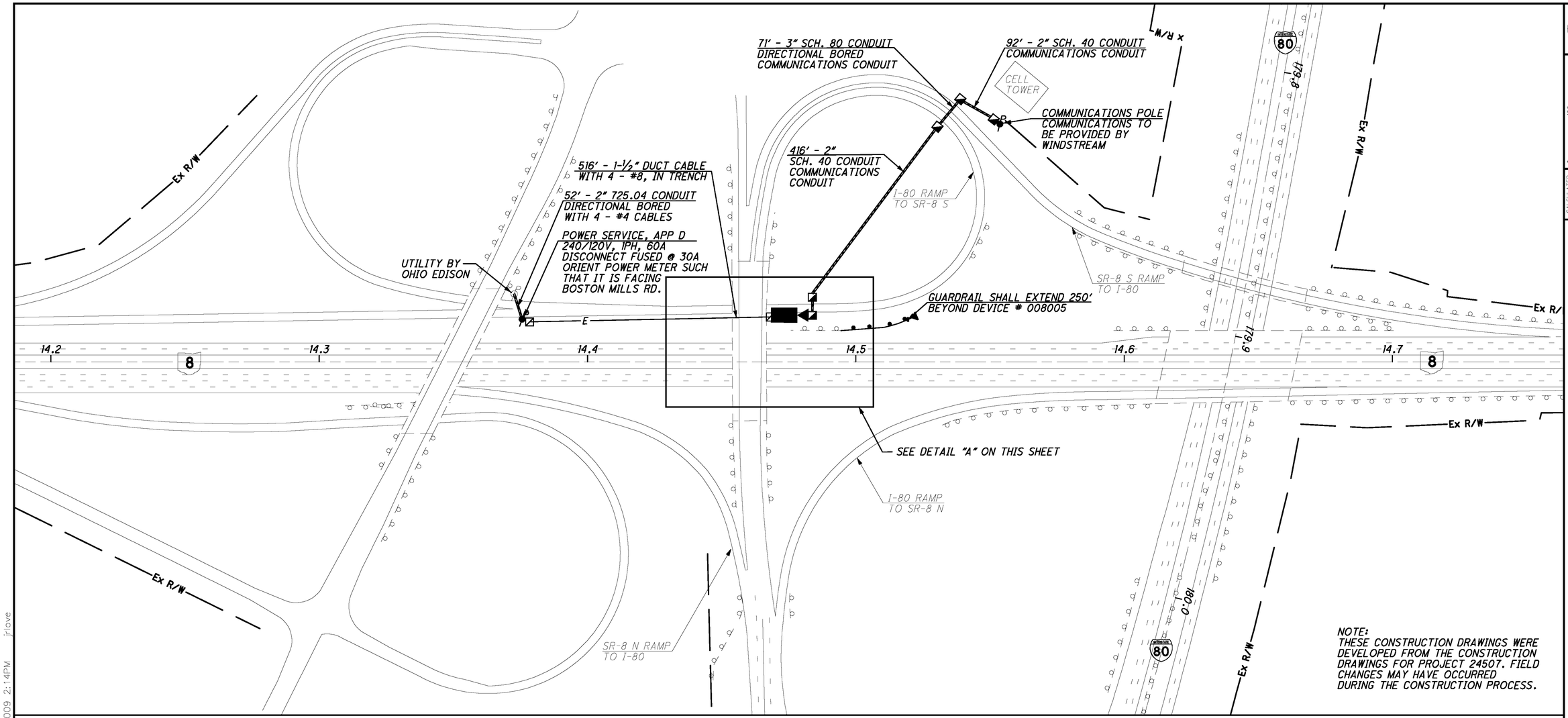
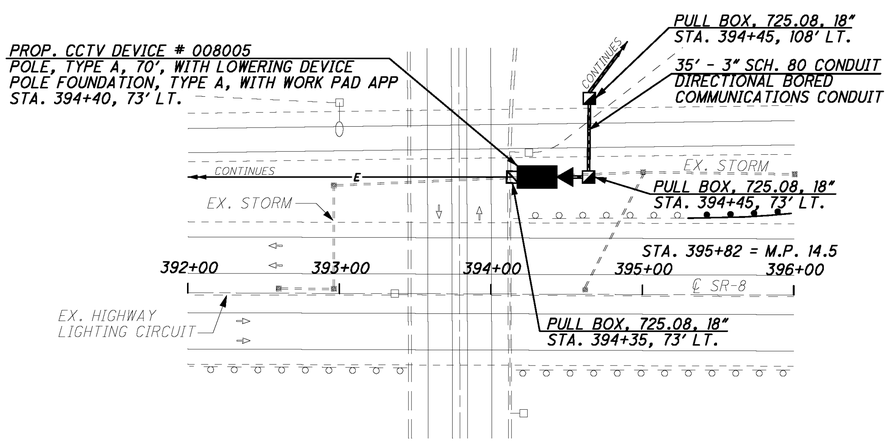


DETAIL "A" - NOT TO SCALE



NOTE:
THESE CONSTRUCTION DRAWINGS WERE DEVELOPED FROM THE CONSTRUCTION DRAWINGS FOR PROJECT 24507. FIELD CHANGES MAY HAVE OCCURRED DURING THE CONSTRUCTION PROCESS.

REFER TO SHEET 14 FOR CONDUIT DETAILS

REFER TO SHEET 15 FOR PULL BOX ORIENTATION AND COMMUNICATION POLE DETAILS

REFER TO SHEET 17 FOR TYPICAL POWER SERVICE AS PER PLAN D DETAILS

REFER TO SHEET 26 FOR TYPICAL CCTV CAMERA WITH SMART JACK DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 197 FOR COMMUNICATIONS PLANS

REFER TO SHEET 198 FOR TYPICAL CCTV T-1 COMMUNICATIONS DETAILS

CCTV 008005

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

SR-8 AT I-80 (MP 14.26 TO MP 14.84)
VILLAGE OF BOSTON HTS, SUMMIT COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

172
207

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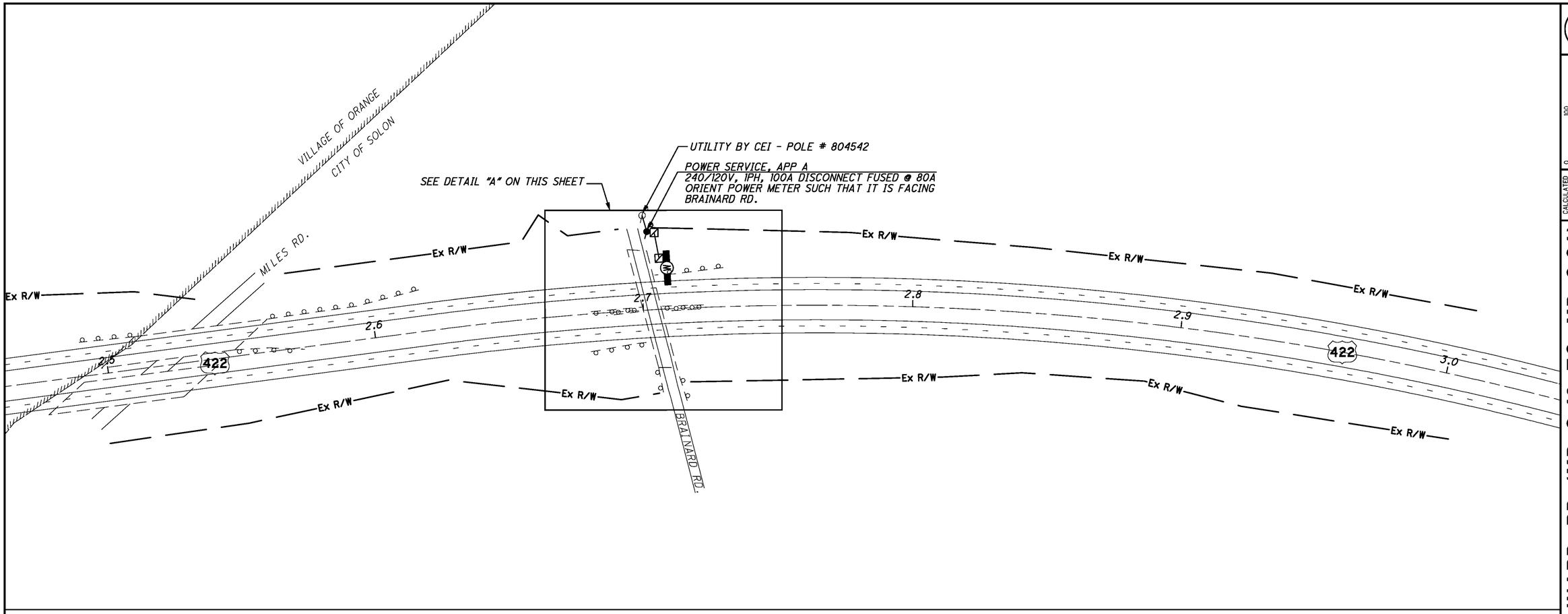
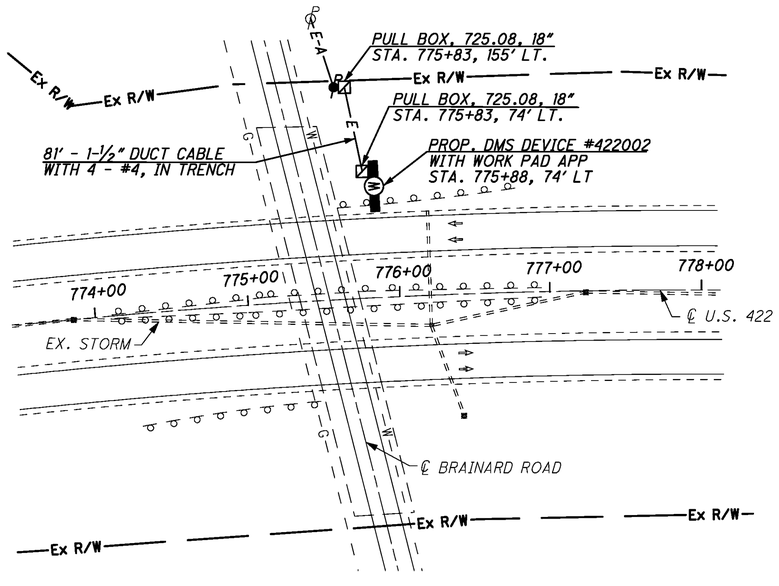


DETAIL "A" - NOT TO SCALE



REFER TO SHEET 15A FOR PULL BOX ORIENTATION FOR DMS LOCATIONS DETAILS

REFER TO SHEET 16 FOR TYPICAL POWER SERVICE AS PER PLAN A DETAILS

REFER TO SHEET 28 FOR TYPICAL DMS DETAILS

REFER TO DMS PEDESTAL SIGN SUPPORT PIER FOUNDATION DESIGNS FOR DETAILS

REFER TO SHEET 46 FOR ELECTRICAL SLACK NOTES

REFER TO SHEET 197 FOR COMMUNICATIONS PLANS

REFER TO SHEET 202 FOR TYPICAL DMS WIRELESS COMMUNICATIONS DETAILS

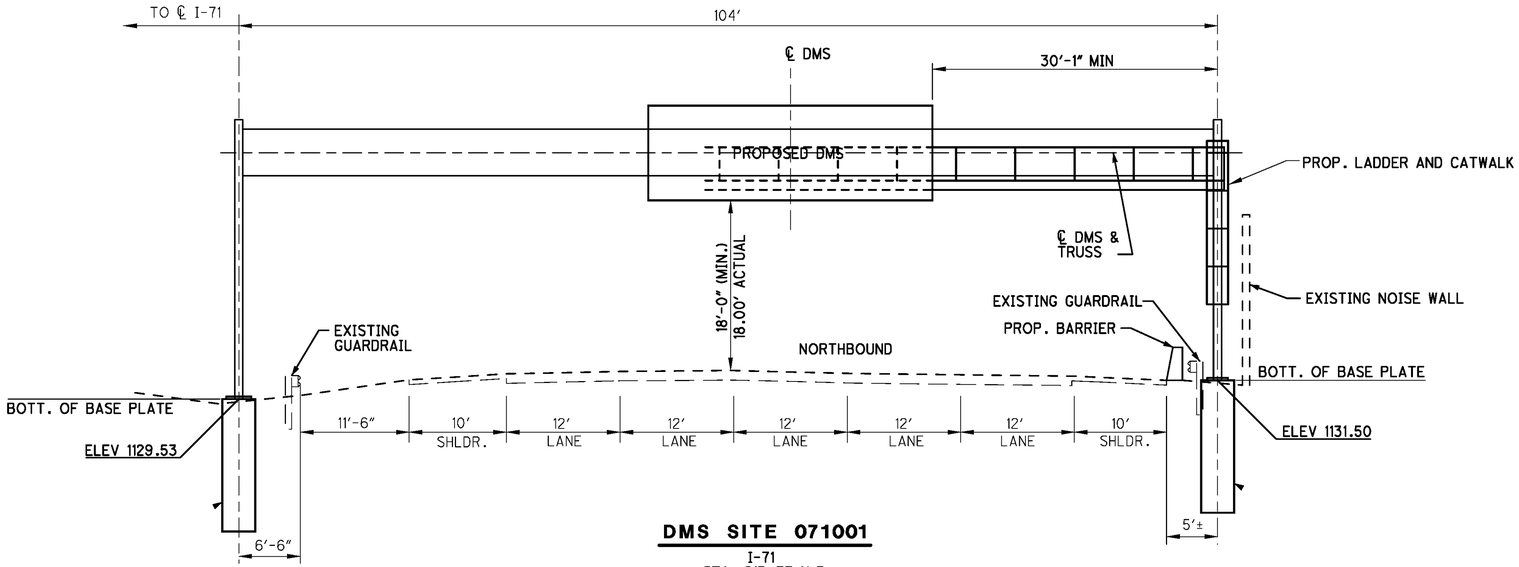
CCTV 422002

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED STS
CHECKED JDG

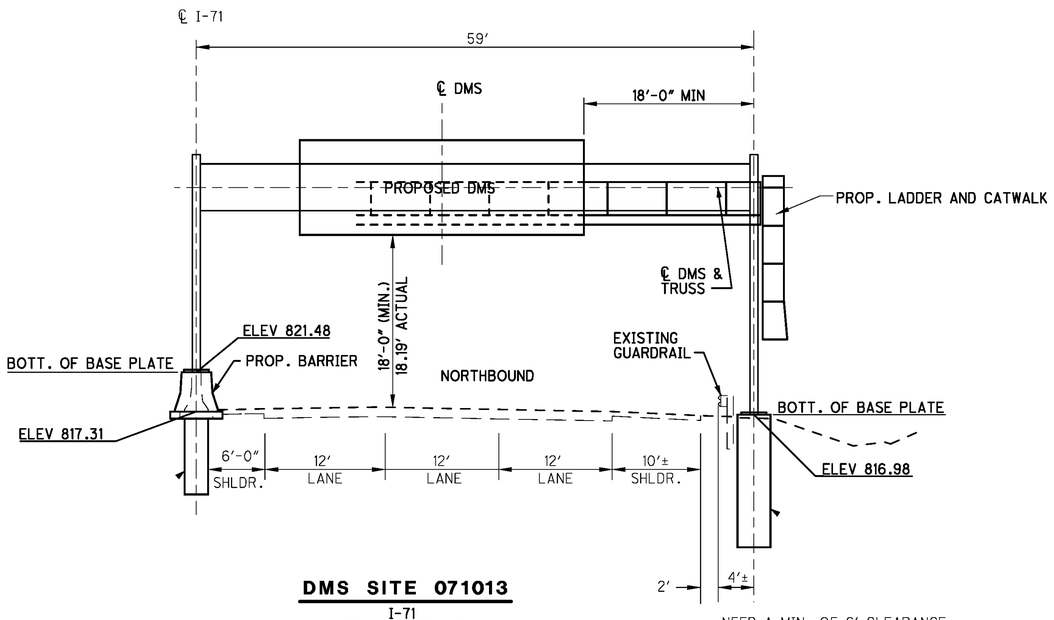
US-422 AT BRAINARD RD. (MP 2.46 TO MP 3.04)
CITY OF SOLON, CUYAHOGA COUNTY

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM



DMS SITE 071001

I-71
STA. 913+33 N.B.
EXIST. SIGN AREA = N/A
PROP. STRUCTURE: ODOT DETAIL SHEET DMS SPAN - 150′
OVERHEAD SIGN SUPPORT, AS PER PLAN B
REFER TO SHEET 65 FOR PLAN SHEET



DMS SITE 071013

I-71
STA. 902+36 N.B.
EXIST. SIGN AREA = 150 SF
PROP. STRUCTURE: ODOT DETAIL SHEET DMS SPAN - 80′
OVERHEAD SIGN SUPPORT, AS PER PLAN A
COLOCATE EXISTING STATIC SIGN
ON DMS TRUSS
REFER TO SHEET 72 FOR PLAN SHEET

NEED A MIN. OF 6′ CLEARANCE,
REPLACE GR. WITH TYPE 5A

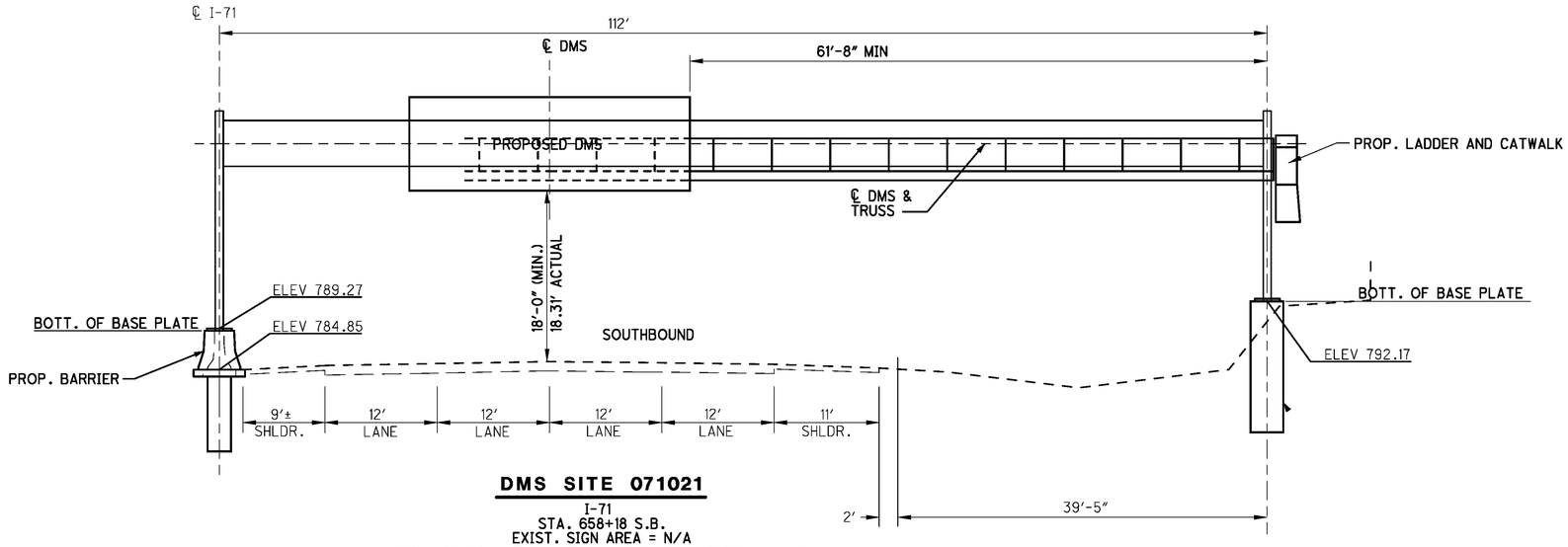
NOTE:
SIGN STRUCTURE, SUPPORTS, CATWALK AND FOOTINGS ARE ALL SCHEMATIC AND FOR ILLUSTRATIVE PUPROSES ONLY. CONTRACTOR TO DESIGN ALL STRUCTURAL ELEMENTS.

ALL DIMENSIONS ARE APPROXIMATE FOR BIDDING PURPOSES. CONTRACTOR SHALL VERIFY DISTANCES BEFORE DESIGNING STRUCTURES.

CALCULATED GM
CHECKED JEL

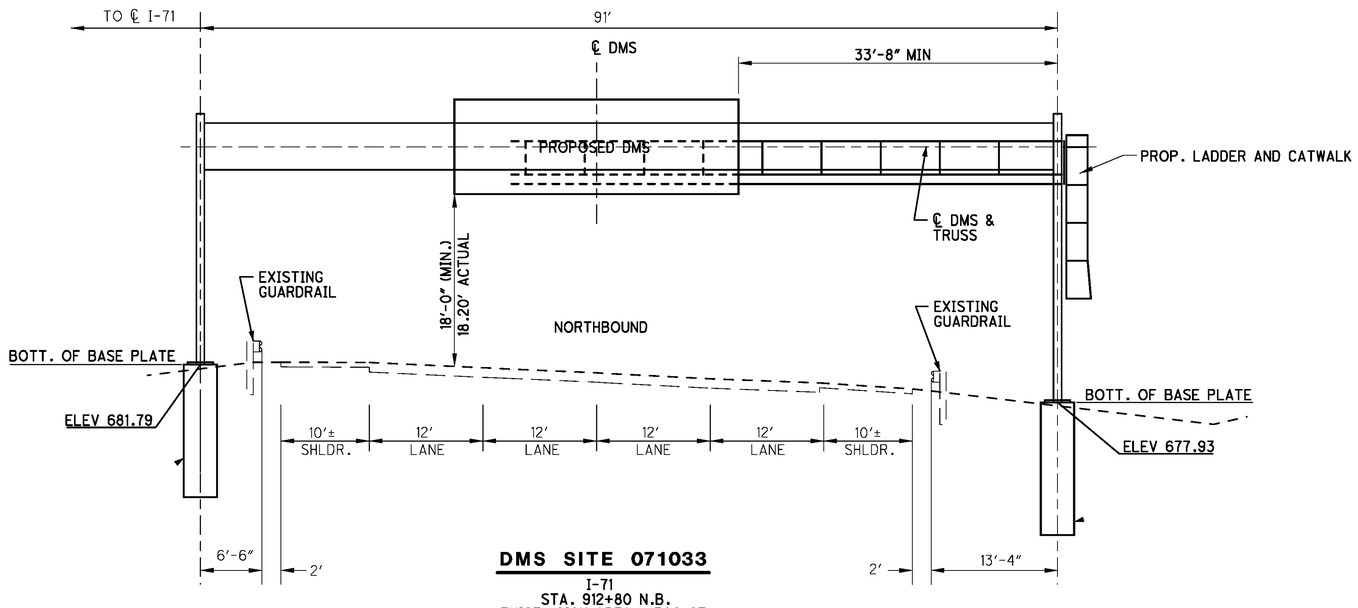
DYNAMIC MESSAGE SIGN PROFILES SITE 071001 AND SITE 071013

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM



DMS SITE 071021

I-71
STA. 658+18 S.B.
EXIST. SIGN AREA = N/A
PROP. STRUCTURE: ODOT DETAIL SHEET DMS SPAN - 150′
OVERHEAD SIGN SUPPORT, AS PER PLAN B
REFER TO SHEET 75 FOR PLAN SHEET



DMS SITE 071033

I-71
STA. 912+80 N.B.
EXIST. SIGN AREA = 300 SF
PROP. STRUCTURE: ODOT DETAIL SHEET SPAN - 150′
OVERHEAD SIGN SUPPORT, AS PER PLAN B
COLOCATE TWO EXISTING STATIC SIGNS
ON DMS TRUSS
REFER TO SHEET 81 FOR PLAN SHEET

NOTE:
SIGN STRUCTURE, SUPPORTS, CATWALK AND FOOTINGS ARE ALL SCHEMATIC AND FOR ILLUSTRATIVE PUPROSES ONLY. CONTRACTOR TO DESIGN ALL STRUCTURAL ELEMENTS.

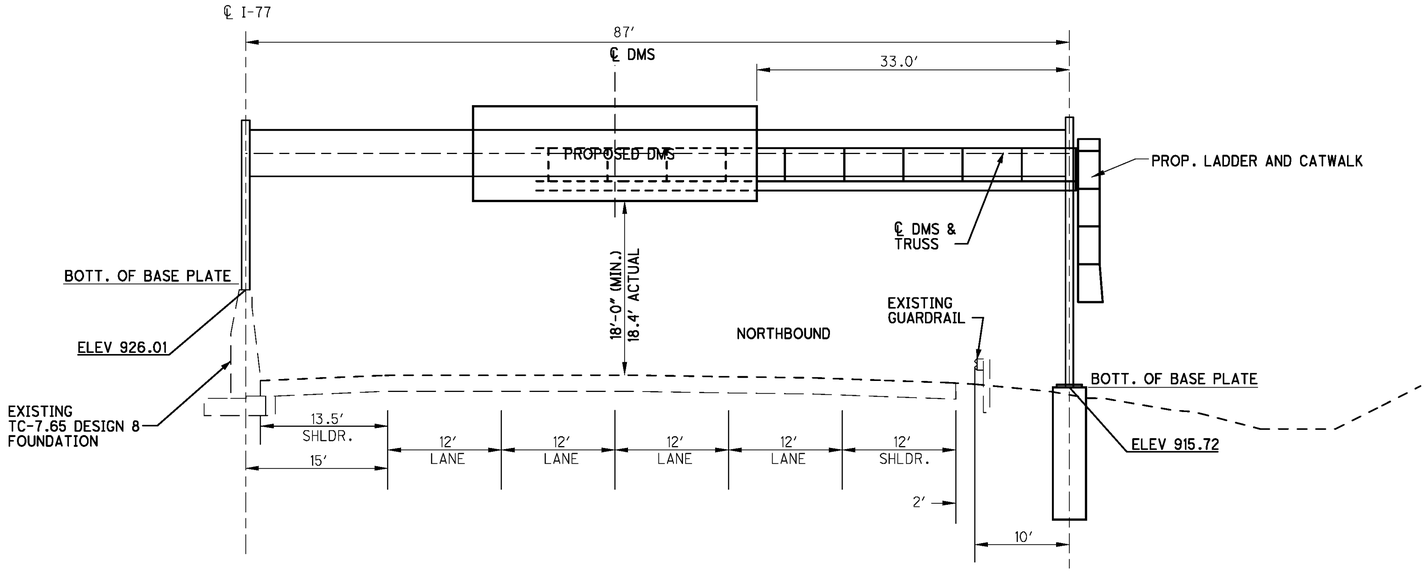
ALL DIMENSIONS ARE APPROXIMATE FOR BIDDING PURPOSES. CONTRACTOR SHALL VERIFY DISTANCES BEFORE DESIGNING STRUCTURES.

M:\JOBS\39926\TECHPROD\hwy\design\77331GF002.dgn 05-MAY-2009 1:38PM jrlove

CALCULATED GM
CHECKED JEL

DYNAMIC MESSAGE SIGN PROFILES
SITE 071021 AND SITE 071033

VAR-CLEVELAND
FREEWAY MANAGEMENT
SYSTEM

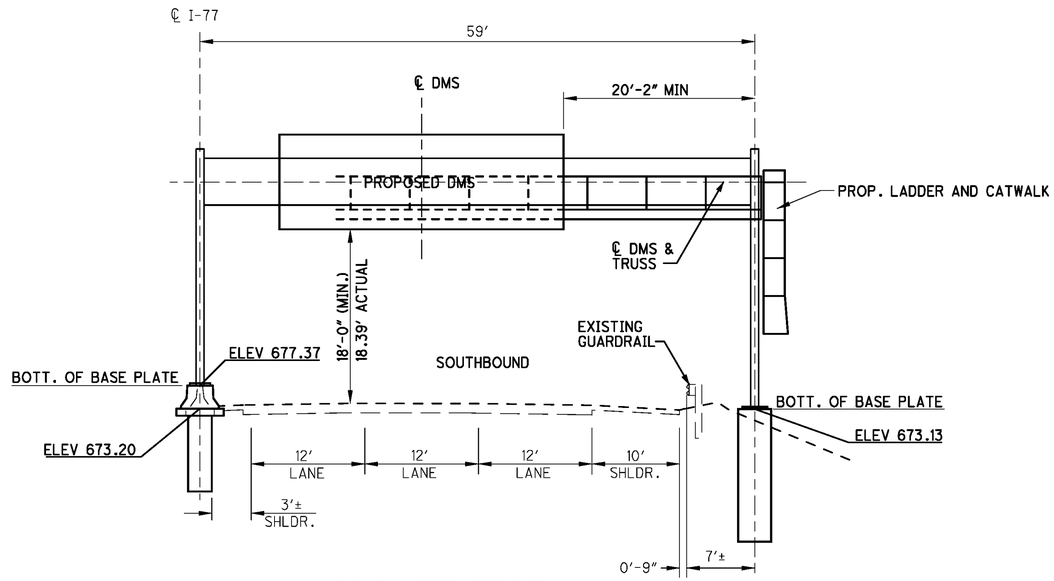


DMS SITE 077005

I-77
STA. 351+00 N.B.
EXIST. SIGN AREA = N/A
PROP. STRUCTURE: ODOT DETAIL SHEET DMS SPAN - 150′
OVERHEAD SIGN SUPPORT, AS PER PLAN B
*NOTE: CONTRACTOR SHALL MATCH
AS BUILT BOLT PATTERN IN EXISTING BARRIER WALL
REFER TO SHEET 90 FOR PLAN SHEET

NOTE:
SIGN STRUCTURE, SUPPORTS, CATWALK AND FOOTINGS ARE ALL SCHEMATIC AND FOR ILLUSTRATIVE PUPROSES ONLY. CONTRACTOR TO DESIGN ALL STRUCTURAL ELEMENTS.

ALL DIMENSIONS ARE APPROXIMATE FOR BIDDING PURPOSES. CONTRACTOR SHALL VERIFY DISTANCES BEFORE DESIGNING STRUCTURES.



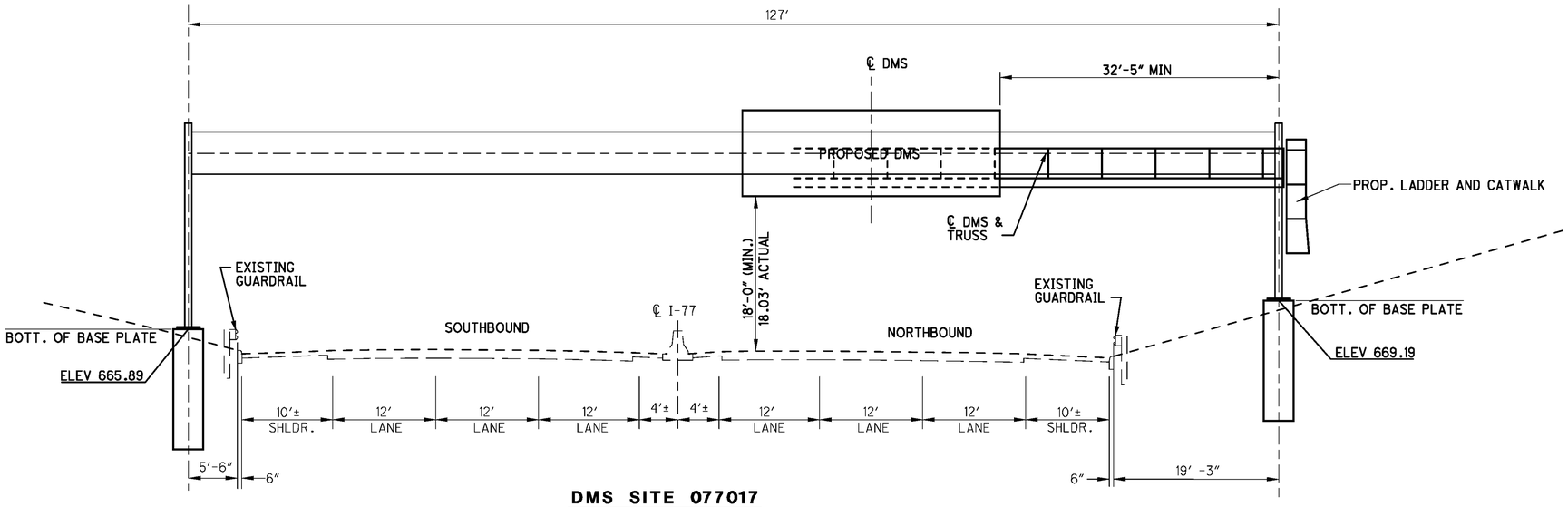
DMS SITE 077009

I-77
STA. 44+82 S.B.
EXIST. SIGN AREA = 150
PROP. STRUCTURE: ODOT DETAIL SHEET DMS SPAN - 80′
OVERHEAD SIGN SUPPORT, AS PER PLAN A
COLOCATE EXISTING STATIC SIGN
ON DMS TRUSS
REFER TO SHEET 92 FOR PLAN SHEET

CALCULATED GM
CHECKED JEL

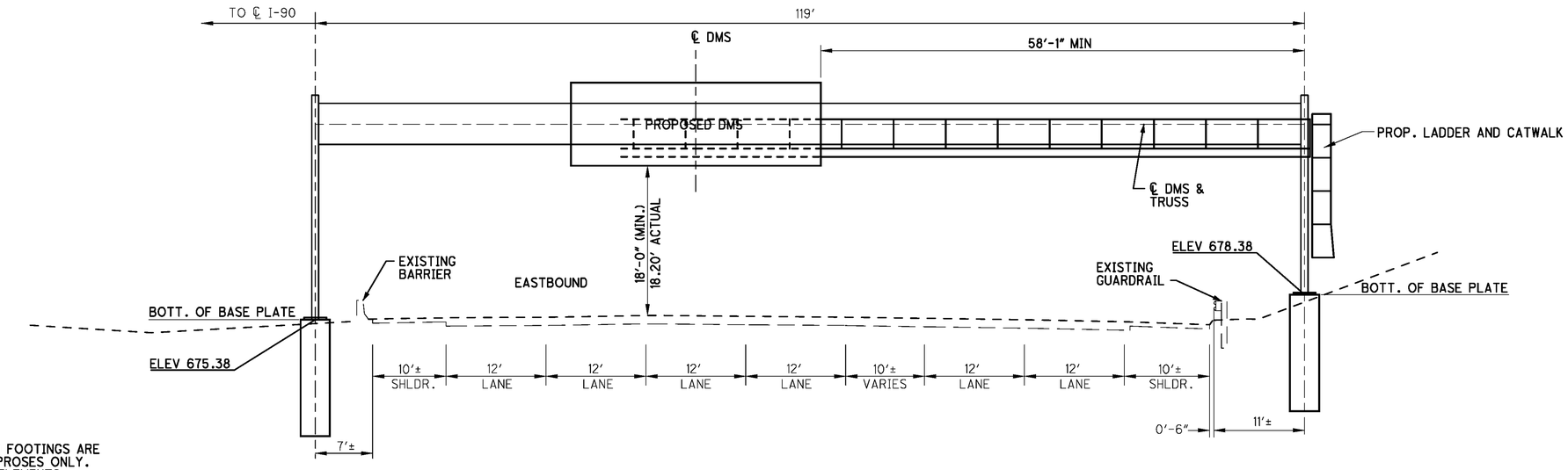
DYNAMIC MESSAGE SIGN PROFILES
SITE 077005 AND SITE 077009

VAR-CLEVELAND
FREEWAY MANAGEMENT
SYSTEM



DMS SITE 077017

I-77
STA. 140+91 N.B.
EXIST. SIGN AREA = 150 SF
PROP. STRUCTURE: ODOT DETAIL SHEET DMS SPAN - 150′
OVERHEAD SIGN SUPPORT, AS PER PLAN B
COLOCATE EXISTING STATIC SIGN
ON DMS TRUSS
REFER TO SHEET 95 FOR PLAN SHEET



DMS SITE 090022

I-90
STA. 823+56 E.B.
EXIST. SIGN AREA = N/A
PROP. STRUCTURE: ODOT DETAIL SHEET DMS SPAN - 150′
OVERHEAD SIGN SUPPORT, AS PER PLAN B
REFER TO SHEET 113 FOR PLAN SHEET

NOTE:
SIGN STRUCTURE, SUPPORTS, CATWALK AND FOOTINGS ARE ALL SCHEMATIC AND FOR ILLUSTRATIVE PUPROSES ONLY. CONTRACTOR TO DESIGN ALL STRUCTURAL ELEMENTS.

ALL DIMENSIONS ARE APPROXIMATE FOR BIDDING PURPOSES. CONTRACTOR SHALL VERIFY DISTANCES BEFORE DESIGNING STRUCTURES.

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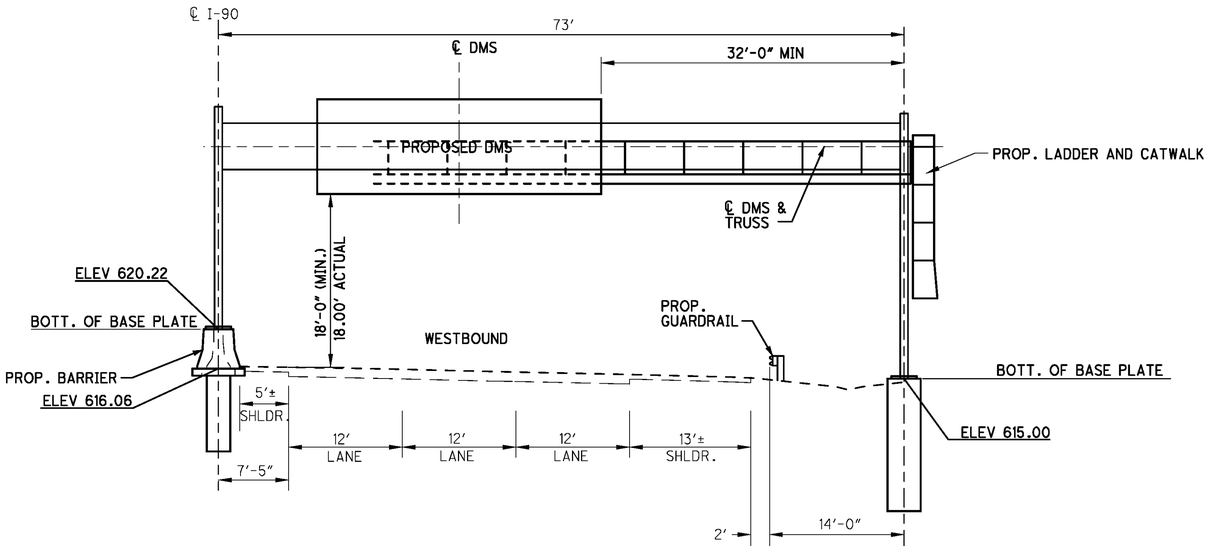
CALCULATED GM
CHECKED JEL

DYNAMIC MESSAGE SIGN PROFILES SITE 077017 AND SITE 090022

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

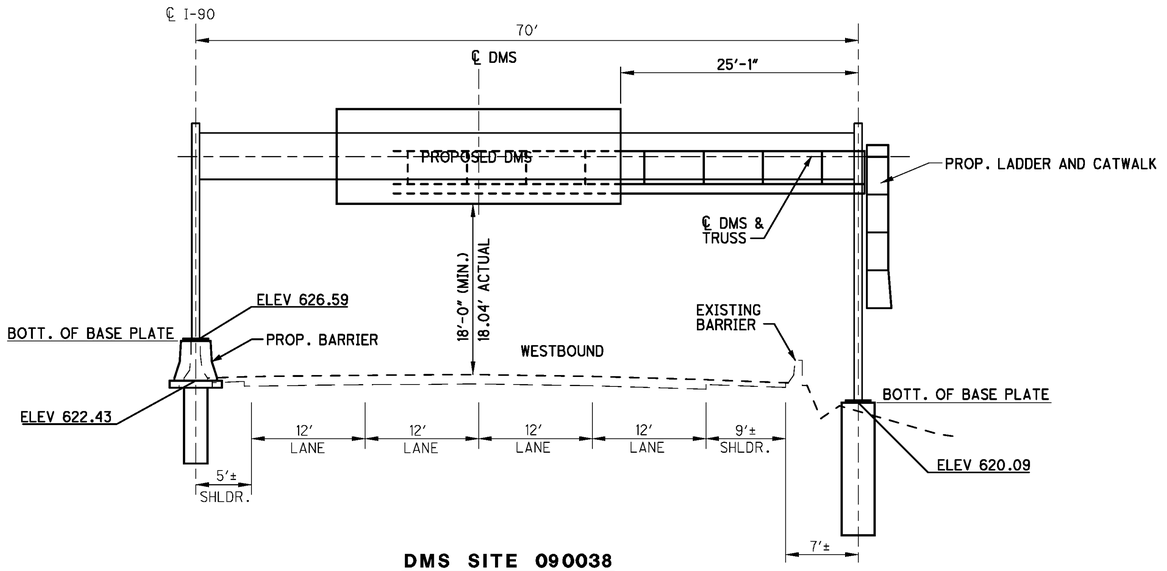


DMS SITE 090031B

I-90
STA. 49+25 W.B.
EXIST. SIGN AREA = 150′
PROP. STRUCTURE: ODOT DETAIL SHEET DMS SPAN - 80′
OVERHEAD SIGN SUPPORT, AS PER PLAN A
REFER TO SHEET 120 FOR PLAN SHEET
COLOCATE EXISTING GROUND MOUNTED STATIC
SIGN ON DMS TRUSS

NOTE:
SIGN STRUCTURE, SUPPORTS, CATWALK AND FOOTINGS ARE ALL SCHEMATIC AND FOR ILLUSTRATIVE PUPROSES ONLY. CONTRACTOR TO DESIGN ALL STRUCTURAL ELEMENTS.

ALL DIMENSIONS ARE APPROXIMATE FOR BIDDING PURPOSES. CONTRACTOR SHALL VERIFY DISTANCES BEFORE DESIGNING STRUCTURES.



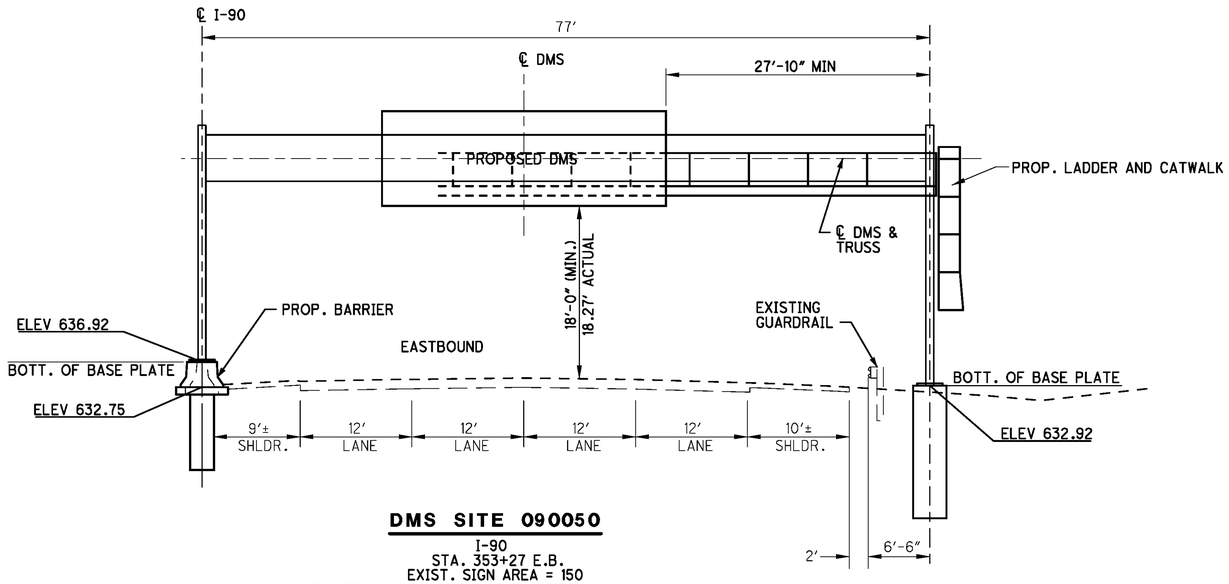
DMS SITE 090038

I-90
STA. 38+67 W.B.
EXIST. SIGN AREA = N/A
PROP. STRUCTURE: ODOT DETAIL SHEET DMS SPAN - 80′
OVERHEAD SIGN SUPPORT, AS PER PLAN A
REFER TO SHEET 124 FOR PLAN SHEET

CALCULATED GM
CHECKED JEL

DYNAMIC MESSAGE SIGN PROFILES
SITE 090031B AND SITE 090038

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

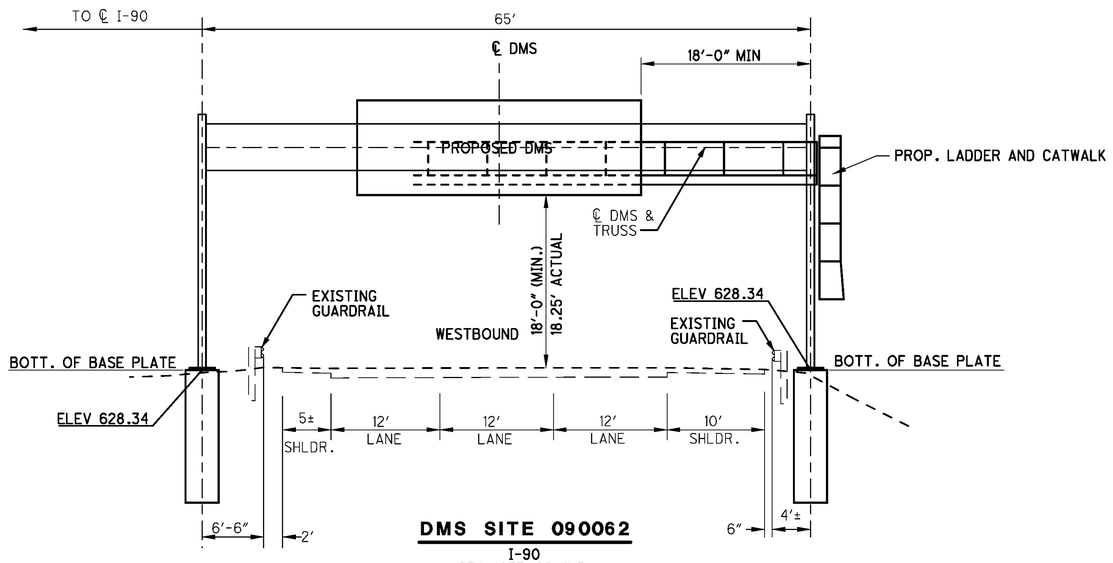


DMS SITE 090050

I-90
STA. 353+27 E.B.
EXIST. SIGN AREA = 150
PROP. STRUCTURE: ODOT DETAIL SHEET DMS SPAN - 80′
OVERHEAD SIGN SUPPORT, AS PER PLAN A
COLOCATE EXISTING STATIC SIGN
ON DMS TRUSS
REFER TO SHEET 129 FOR PLAN SHEET

NOTE:
SIGN STRUCTURE, SUPPORTS, CATWALK AND FOOTINGS ARE ALL SCHEMATIC AND FOR ILLUSTRATIVE PUPROSES ONLY. CONTRACTOR TO DESIGN ALL STRUCTURAL ELEMENTS.

ALL DIMENSIONS ARE APPROXIMATE FOR BIDDING PURPOSES. CONTRACTOR SHALL VERIFY DISTANCES BEFORE DESIGNING STRUCTURES.



DMS SITE 090062

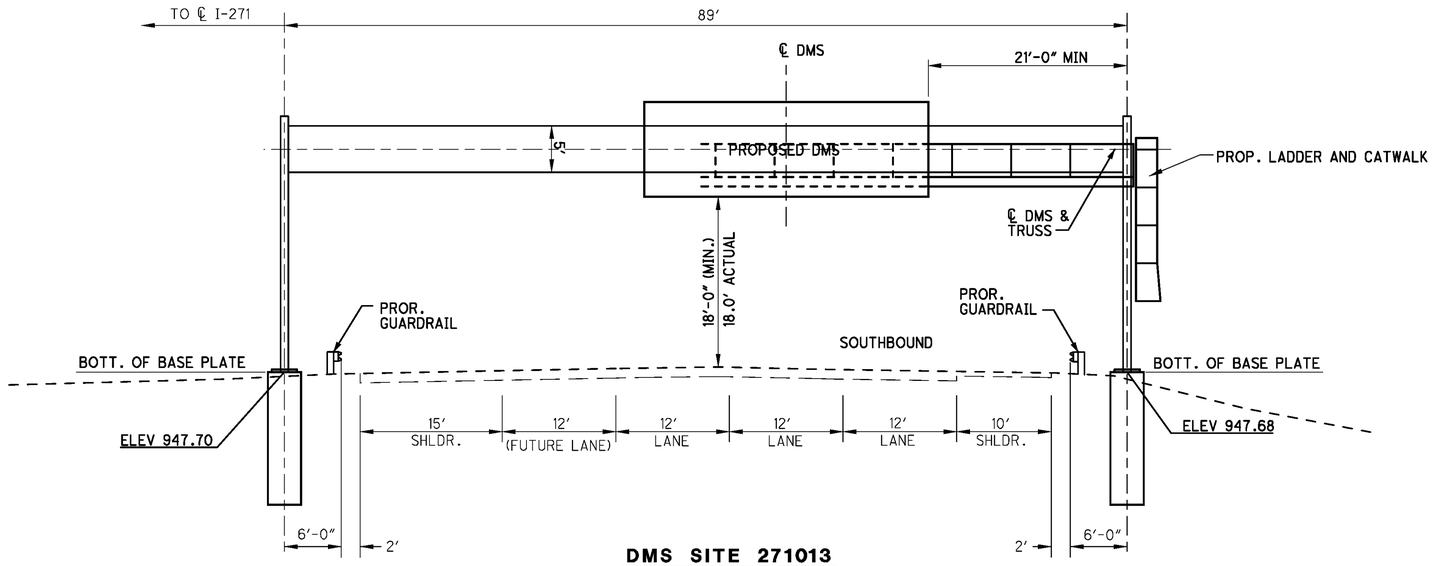
I-90
STA. 273+60 W.B.
EXIST. SIGN AREA = 150
PROP. STRUCTURE: ODOT DETAIL SHEET DMS SPAN - 80′
OVERHEAD SIGN SUPPORT, AS PER PLAN A
COLOCATE EXISTING STATIC SIGN
ON DMS TRUSS
REFER TO SHEET 135 FOR PLAN SHEET

NEED A MIN. OF 6′ CLEARANCE,
REPLACE GR. WITH TYPE 5A

CALCULATED GM
CHECKED JEL

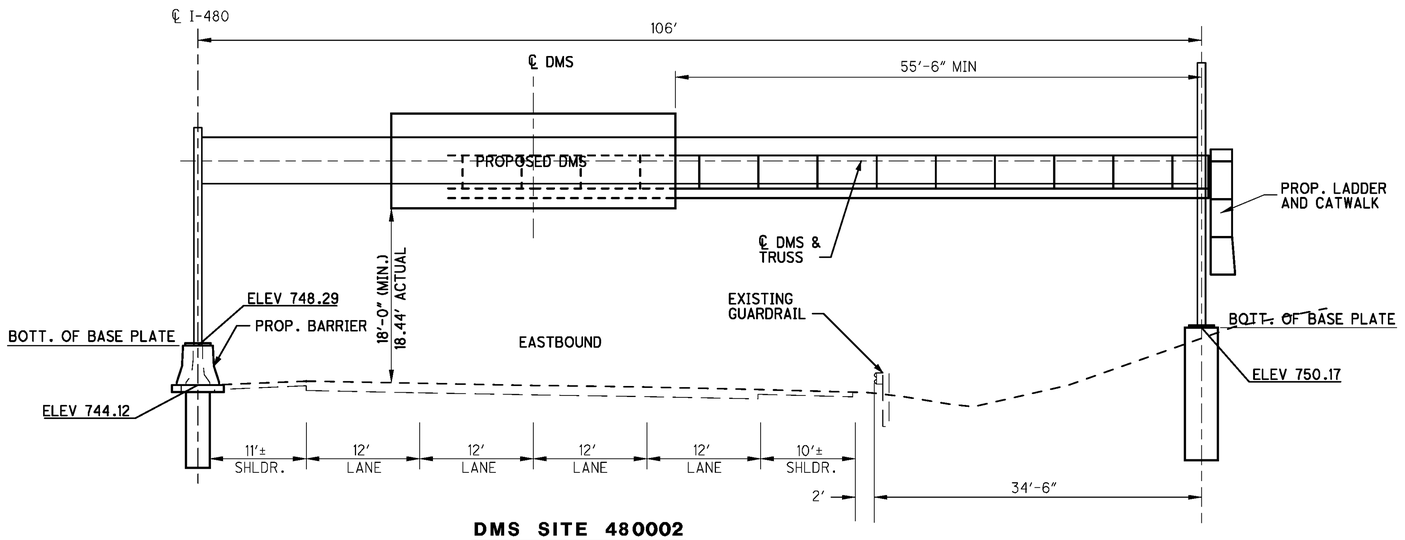
DYNAMIC MESSAGE SIGN PROFILES
SITE 090050 AND SITE 090062

VAR-CLEVELAND
FREEWAY MANAGEMENT
SYSTEM



DMS SITE 271013

I-271
STA. 139+38 S.B.
EXIST. SIGN AREA = 150 SF
PROP. STRUCTURE: ODOT DETAIL SHEET DMS SPAN - 150′
OVERHEAD SIGN SUPPORT, AS PER PLAN B
COLOCATE EXISTING STATIC SIGN
ON DMS TRUSS
REFER TO SHEET 142 FOR PLAN SHEET



DMS SITE 480002

I-480
STA. 411+91 E.B.
EXIST. SIGN AREA = 300 SF
PROP. STRUCTURE: ODOT DETAIL SHEET DMS SPAN - 150′
OVERHEAD SIGN SUPPORT, AS PER PLAN B
COLOCATE TWO EXISTING STATIC SIGNS
ON DMS TRUSS
REFER TO SHEET 151 FOR PLAN SHEET

NOTE:
SIGN STRUCTURE, SUPPORTS, CATWALK AND FOOTINGS ARE ALL SCHEMATIC AND FOR ILLUSTRATIVE PUPROSES ONLY. CONTRACTOR TO DESIGN ALL STRUCTURAL ELEMENTS.

ALL DIMENSIONS ARE APPROXIMATE FOR BIDDING PURPOSES. CONTRACTOR SHALL VERIFY DISTANCES BEFORE DESIGNING STRUCTURES.

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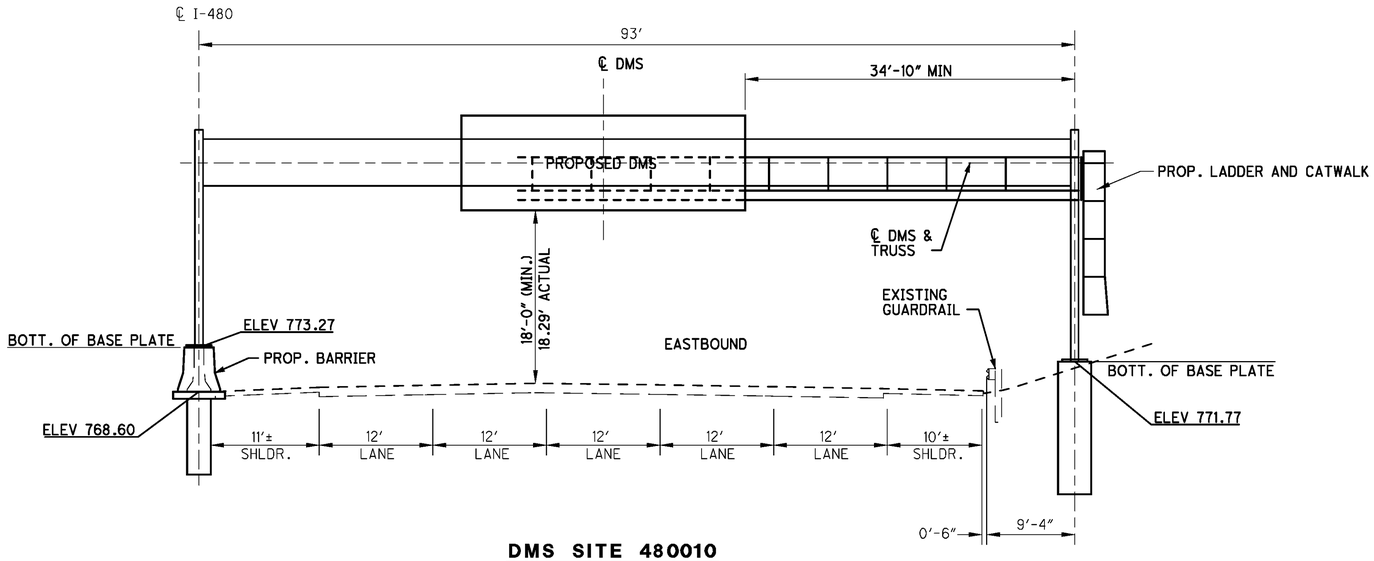
CALCULATED GM
CHECKED JEL

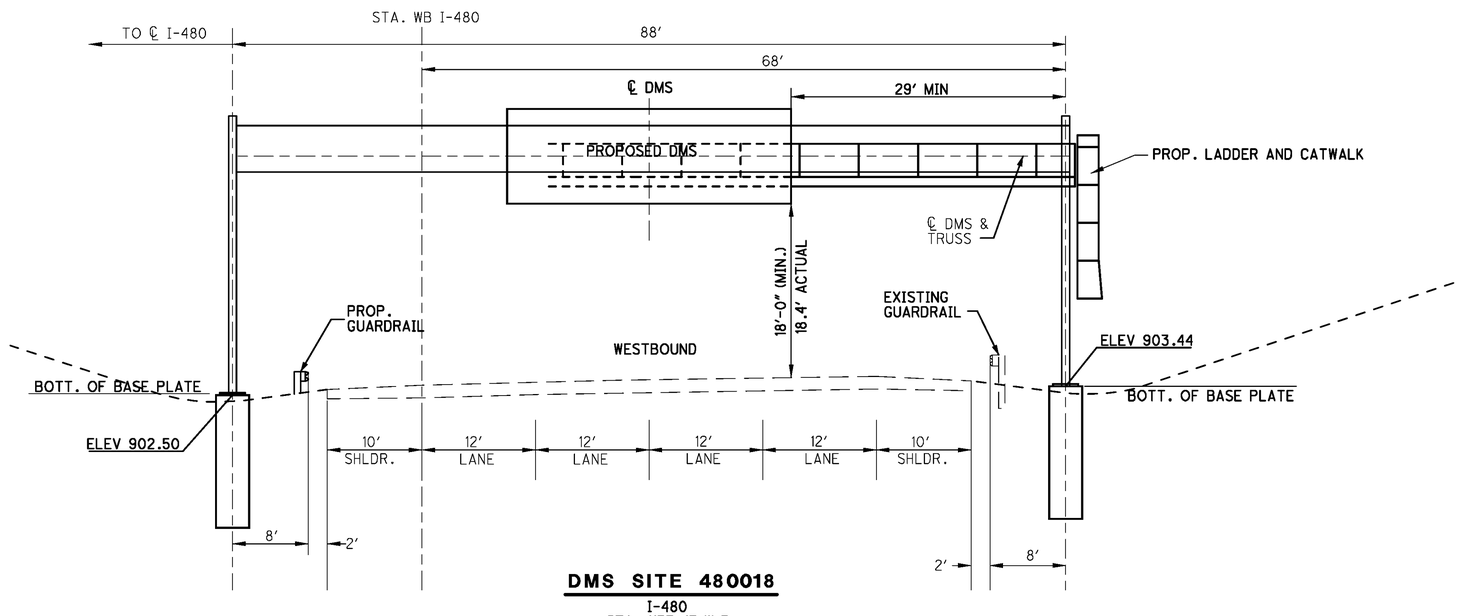
DYNAMIC MESSAGE SIGN PROFILES SITE 271013 AND SITE 480002

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM



DMS SITE 480010

I-480
STA. 803+87 E.B.
EXIST. SIGN AREA = 150 SF
PROP. STRUCTURE: ODOT DETAIL SHEET DMS SPAN - 150′
OVERHEAD SIGN SUPPORT, AS PER PLAN B
COLOCATE EXISTING STATIC SIGN
ON DMS TRUSS
REFER TO SHEET 155 FOR PLAN SHEET



DMS SITE 480018

I-480
STA. 1137+17 W.B.
EXIST. SIGN AREA = N/A
PROP. STRUCTURE: ODOT DETAIL SHEET DMS SPAN - 150′
OVERHEAD SIGN SUPPORT. AS PER PLAN B
REFER TO SHEET 159 FOR PLAN SHEET

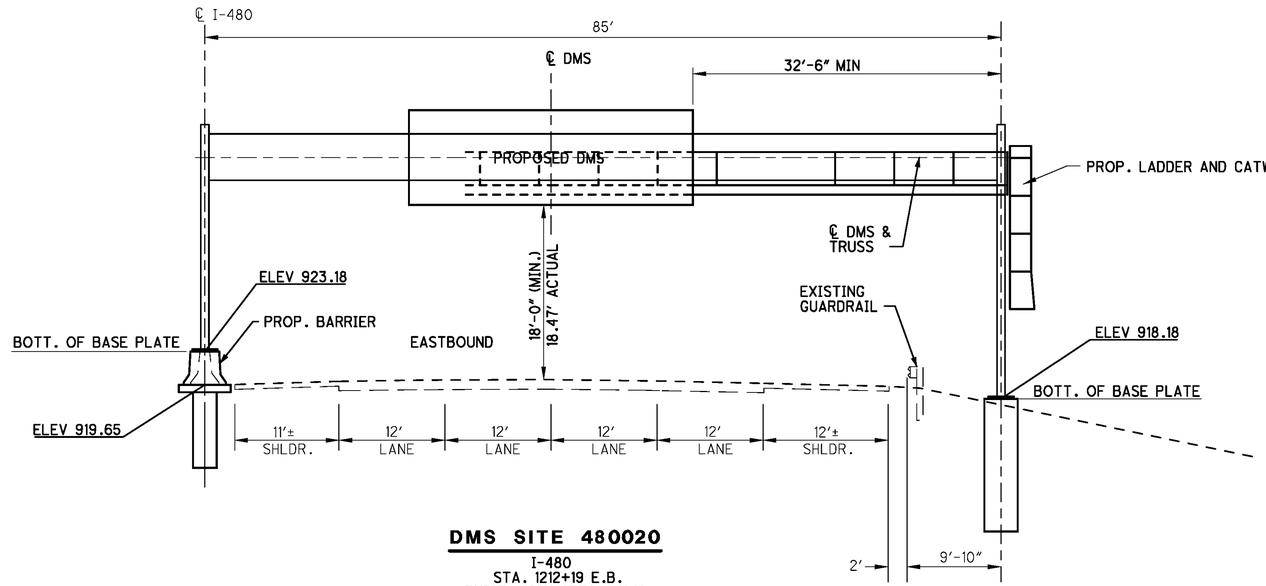
NOTE:
SIGN STRUCTURE, SUPPORTS, CATWALK AND FOOTINGS ARE ALL SCHEMATIC AND FOR ILLUSTRATIVE PUPROSES ONLY. CONTRACTOR TO DESIGN ALL STRUCTURAL ELEMENTS.

ALL DIMENSIONS ARE APPROXIMATE FOR BIDDING PURPOSES. CONTRACTOR SHALL VERIFY DISTANCES BEFORE DESIGNING STRUCTURES.

CALCULATED GM
CHECKED JEL

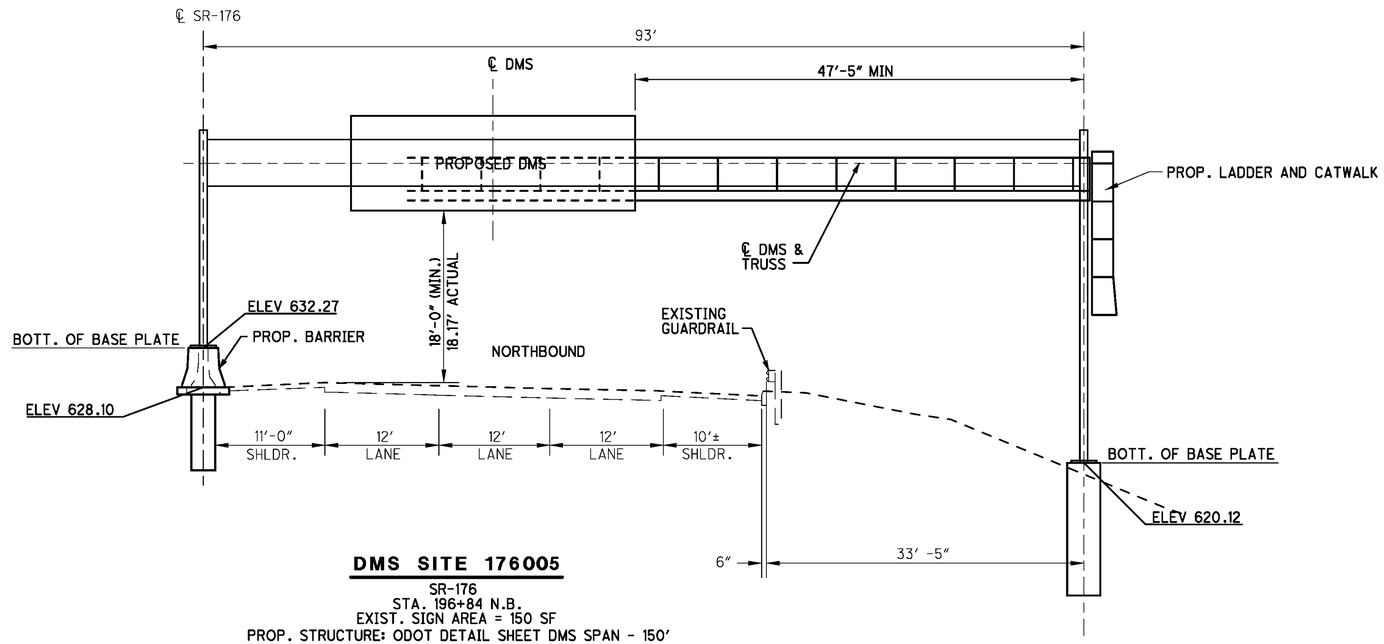
DYNAMIC MESSAGE SIGN PROFILES SITE 480010 AND SITE 480018

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM



DMS SITE 480020

I-480
STA. 1212+19 E.B.
EXIST. SIGN AREA = N/A
PROP. STRUCTURE: DETAIL SHEET DMS SPAN - 150′
OVERHEAD SIGN SUPPORT, AS PER PLAN B
REFER TO SHEET 160 FOR PLAN SHEET



DMS SITE 176005

SR-176
STA. 196+84 N.B.
EXIST. SIGN AREA = 150 SF
PROP. STRUCTURE: ODOT DETAIL SHEET DMS SPAN - 150′
OVERHEAD SIGN SUPPORT, AS PER PLAN B
REFER TO SHEET 166 FOR PLAN SHEET
COLOCATE EXISTING GROUND MOUNTED
STATIC SIGN ON DMS TRUSS

NOTE:
SIGN STRUCTURE, SUPPORTS, CATWALK AND FOOTINGS ARE ALL SCHEMATIC AND FOR ILLUSTRATIVE PUPROSES ONLY. CONTRACTOR TO DESIGN ALL STRUCTURAL ELEMENTS.

ALL DIMENSIONS ARE APPROXIMATE FOR BIDDING PURPOSES. CONTRACTOR SHALL VERIFY DISTANCES BEFORE DESIGNING STRUCTURES.

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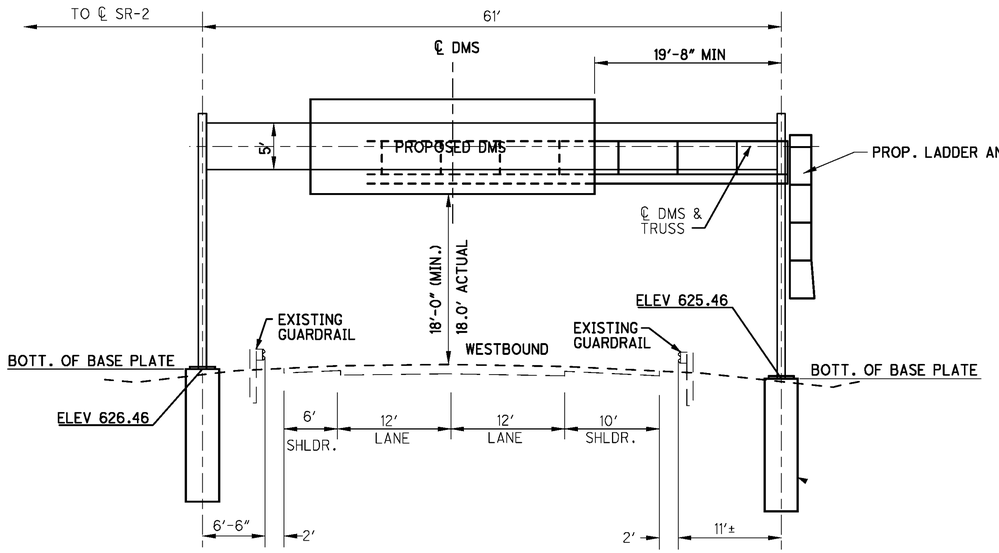
CALCULATED GM
CHECKED JEL

DYNAMIC MESSAGE SIGN PROFILES SITE 480020 AND SITE 176005

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

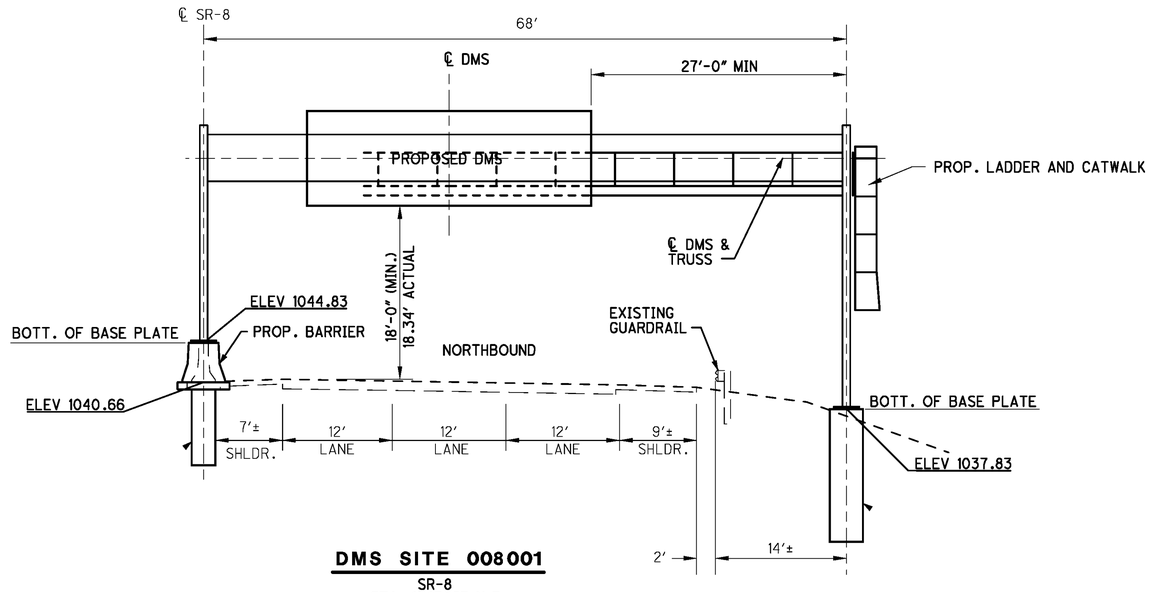


DMS SITE 002002

SR-2
STA. 653+24 W.B.
EXIST. SIGN AREA = 150 SF
PROP. STRUCTURE: ODOT DETAIL SHEET DMS SPAN - 80′
OVERHEAD SIGN SUPPORT, AS PER PLAN A
REFER TO SHEET 169 FOR PLAN SHEET

NOTE:
SIGN STRUCTURE, SUPPORTS, CATWALK AND FOOTINGS ARE ALL SCHEMATIC AND FOR ILLUSTRATIVE PUPROSES ONLY. CONTRACTOR TO DESIGN ALL STRUCTURAL ELEMENTS.

ALL DIMENSIONS ARE APPROXIMATE FOR BIDDING PURPOSES. CONTRACTOR SHALL VERIFY DISTANCES BEFORE DESIGNING STRUCTURES.



DMS SITE 008001

SR-8
STA. 1247+85 N.B.
EXIST. SIGN AREA = 150 SF
PROP. STRUCTURE: ODOT DETAIL SHEET DMS SPAN - 80′
OVERHEAD SIGN SUPPORT, AS PER PLAN A
COLOCATE EXISTING STATIC SIGN
ON DMS TRUSS
REFER TO SHEET 170 FOR PLAN SHEET

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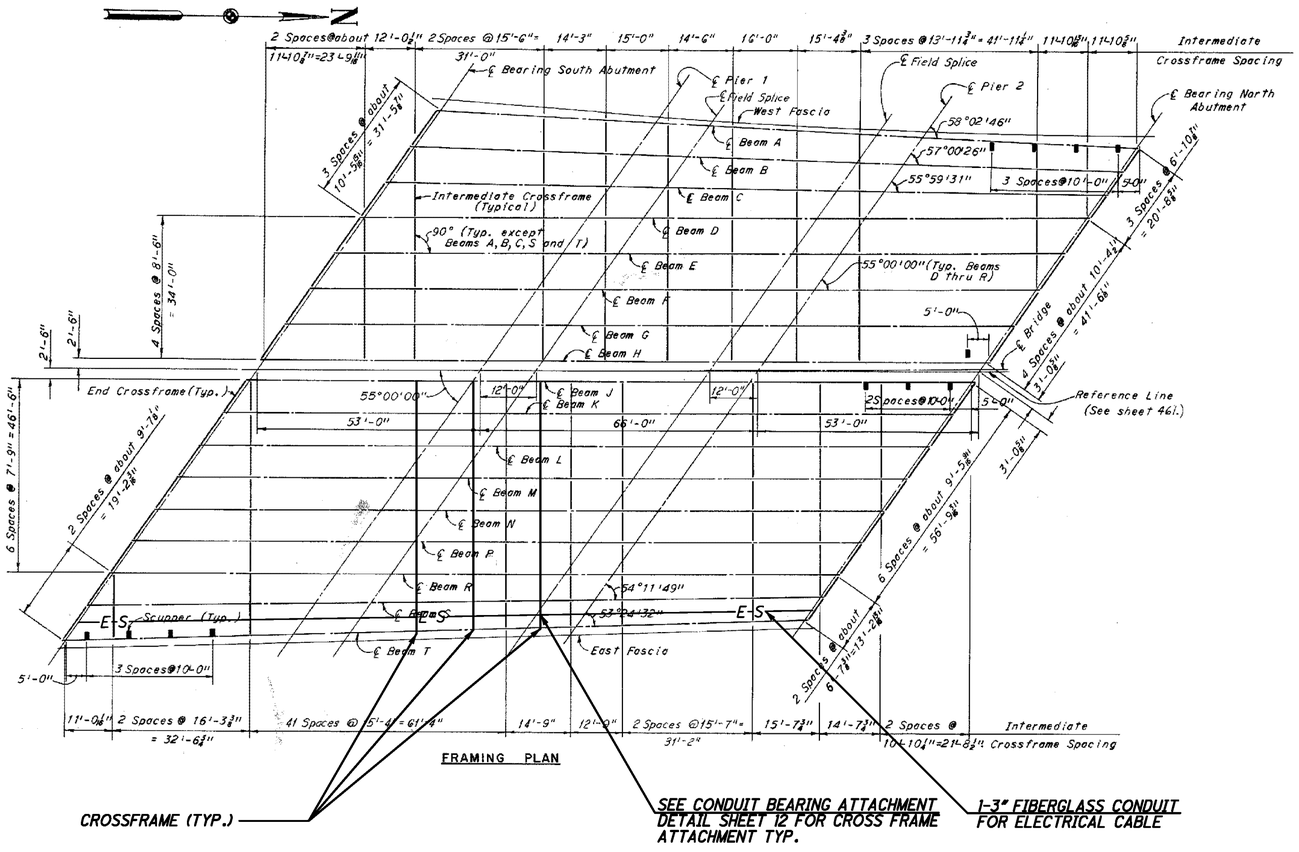
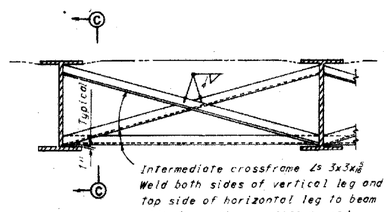
CALCULATED GM
CHECKED JEL

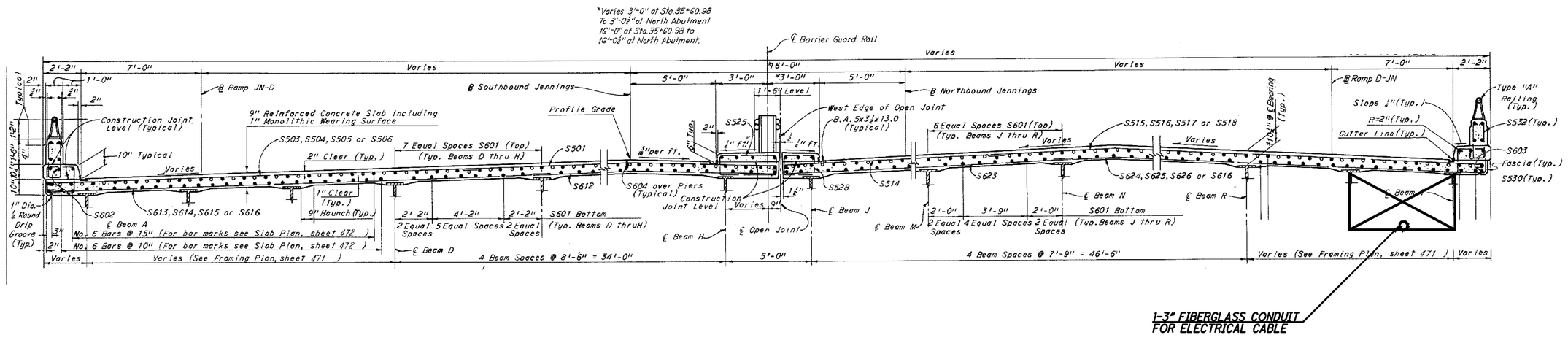
DYNAMIC MESSAGE SIGN PROFILES SITE 002002 AND SITE 008001

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM





INTERMEDIATE CROSSFRAME



NOTE: INCLUDE EXPANSION COUPLING FOR E-S AT ALL EXPANSION JOINTS INDICATED

* SHEETS 184 - 186 WERE TAKEN FROM ODOT RECORD PLANS AND ARE ONLY TO BE USED TO SHOW PROPOSED LOCATIONS OF CONDUIT, HANGERS AND EXPANSION COUPLINGS ON BRIDGE STRUCTURES AS NEEDED

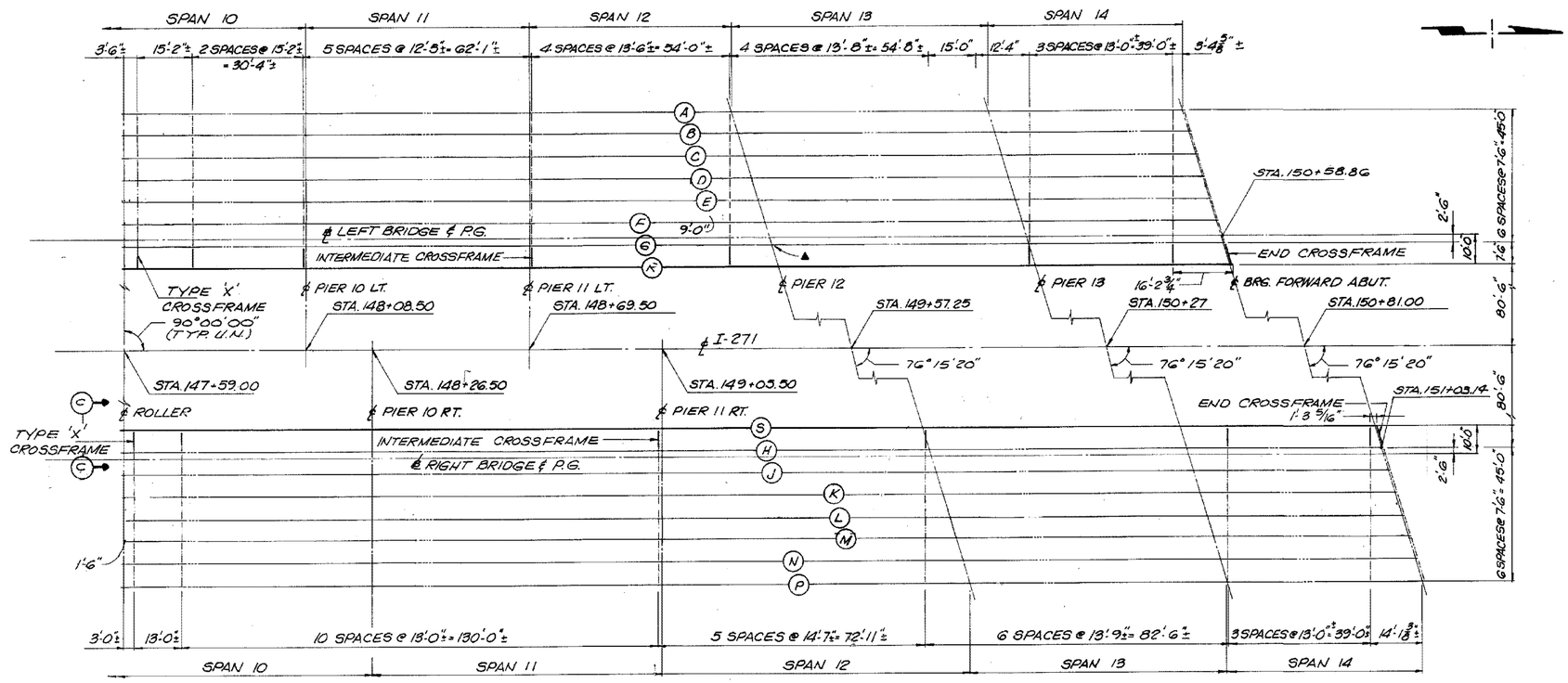
REFER TO SHEET 167 FOR PLAN SHEET

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION

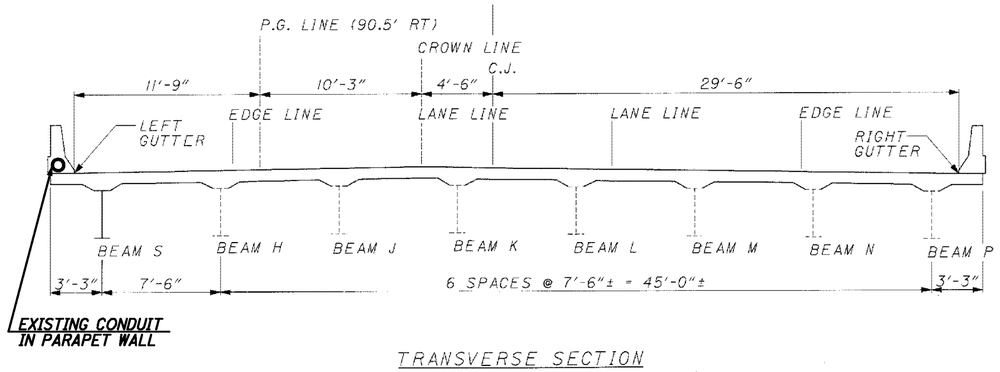
DESIGNED	DRAWN	REVIEWED	DATE	STRUCTURE FILE NUMBER
RAW	GM			1810030
CHECKED	REVISED			
JDG	GM			

CONDUIT ATTACHED TO STRUCTURE DETAIL
BRIDGE NO. 1810030
STATE ROUTE 176 OVER RAMP FROM JENNINGS ROAD

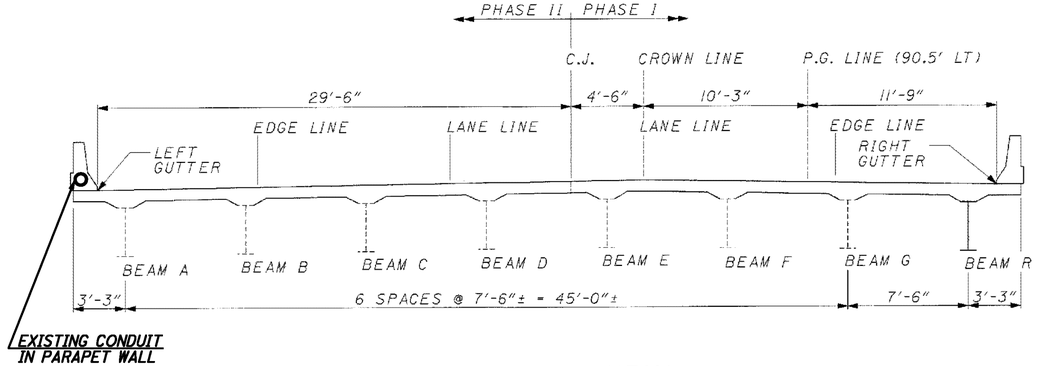
CLEVELAND FMS
PID No. 77331



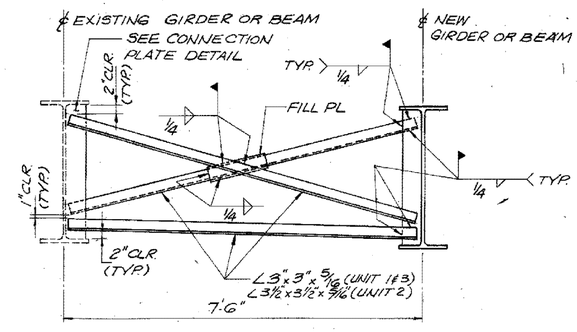
FRAMING PLAN
UNIT Nº 3



TRANSVERSE SECTION
LOOKING UP STATION



TRANSVERSE SECTION
LOOKING UP STATION



INTERMEDIATE CROSSFRAME
GIRDER SPANS OR BEAM SPANS

NOTE: INCLUDE EXPANSION COUPLING FOR E-S AT ALL EXPANSION JOINTS INDICATED

*** SHEETS 184-186 WERE TAKEN FROM ODOT RECORD PLANS AND ARE ONLY TO BE USED TO SHOW PROPOSED LOCATIONS OF CONDUIT, HANGERS AND EXPANSION COUPLINGS ON BRIDGE STRUCTURES AS NEEDED**

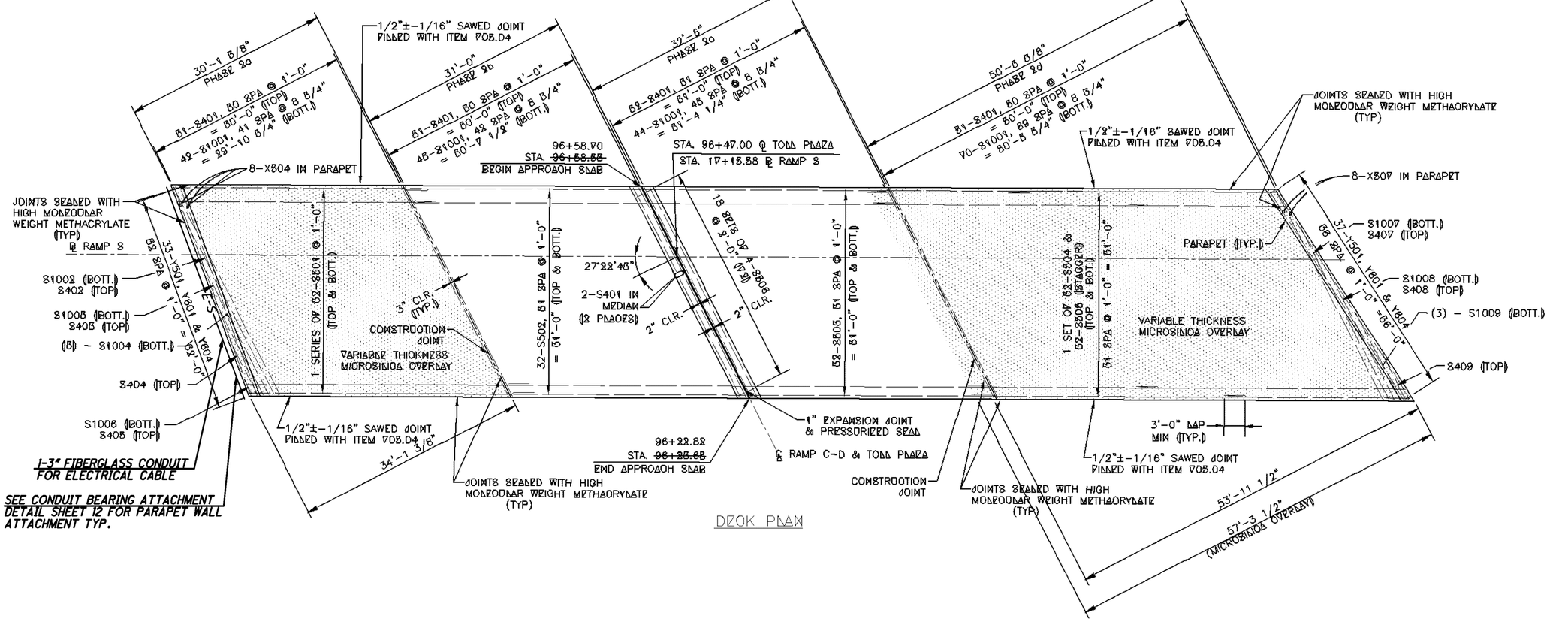
REFER TO SHEET 142 FOR PLAN SHEET

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION

DESIGNED	DRAWN	REVIEWED	DATE
RAW	GM		
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JDG	GM	1810774R	

CONDUIT ATTACHED TO STRUCTURE DETAIL
BRIDGE NO. CUY-271-0232
INTERSTATE 271 OVER SOLON ROAD

CLEVELAND FMS
PID No. 77331



NOTE: INCLUDE EXPANSION COUPLING FOR E-S AT ALL EXPANSION JOINTS INDICATED

* SHEETS 184 - 186 WERE TAKEN FROM ODOT RECORD PLANS AND ARE ONLY TO BE USED TO SHOW PROPOSED LOCATIONS OF CONDUIT, HANGERS AND EXPANSION COUPLINGS ON BRIDGE STRUCTURES AS NEEDED

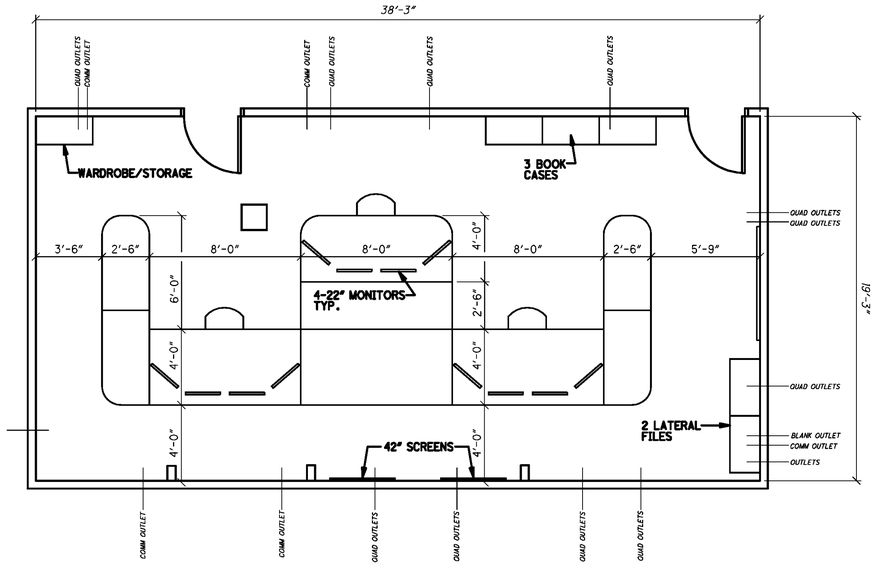
REFER TO SHEET 69 FOR PLAN SHEET

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION

DESIGNED	DRAWN	REVIEWED	DATE	STRUCTURE FILE NUMBER
RAW	GM			XXXXXXX
CHECKED	REVISED			
JDG	GM			

CONDUIT ATTACHED TO STRUCTURE DETAIL
BRIDGE NO. CUY-80
OHIO TURNPIKE INTERCHANGE 10 RAMP C-D OVER RAMP S

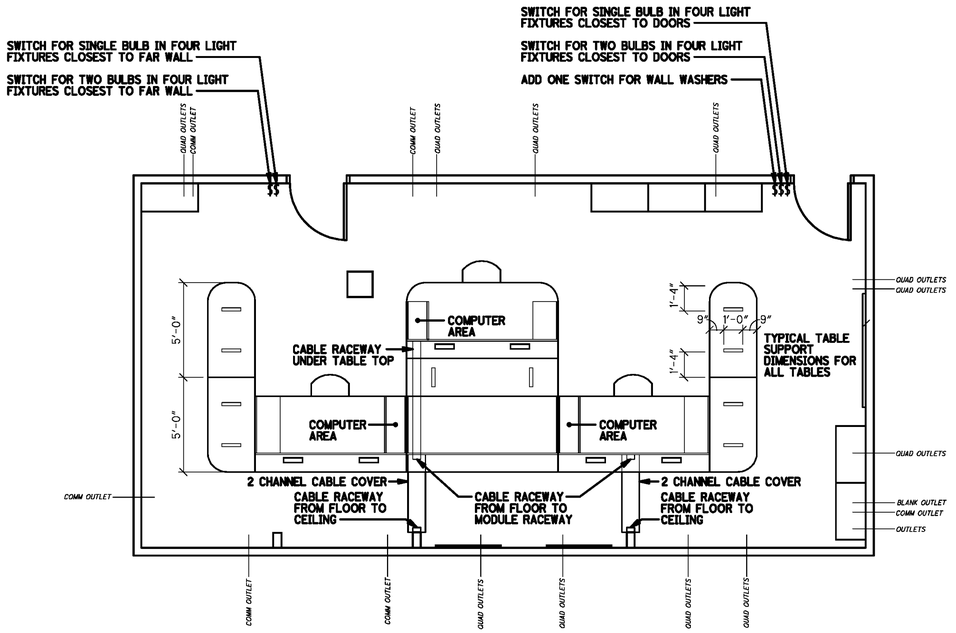
CLEVELAND FMS
PID No. 77331



FLOOR PLAN

0 5 10 FT

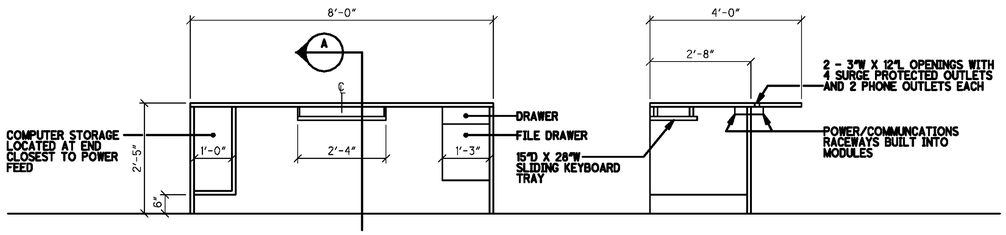
SCALE: 1/4" = 1'-0"



ELECTRICAL FLOOR PLAN

0 5 10 FT

SCALE: 1/4" = 1'-0"



TYPICAL MODULE FRONT ELEVATION

0 2.5 5 FT

SCALE: 1/2" = 1'-0"

SECTION A

0 2.5 5 FT

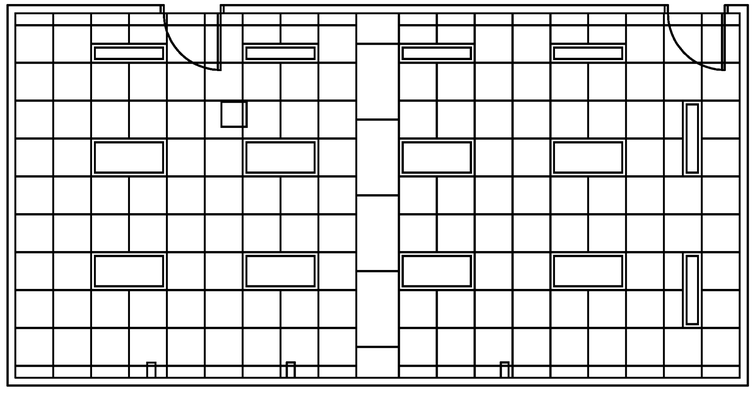
SCALE: 1/2" = 1'-0"

LIGHTING TYPES

TYPE	DESCRIPTION	MANUFACTURER'S CATALOG NUMBER
A	2'x4' RECESSED DIRECT/INDIRECT ARCHITECTURAL FLUORESCENT LUMINAIRE, 3-LAMP, WITH MICRO-PERFORATED METAL MESH LAMP SHIELD AND WHITE OVERLAY ON INSIDE OF SHIELD, 2/1 STEP LAMP BALLAST CONFIGURATION.	DAY-BRIGHT CAT NO. 2AVMG332-PMW-UNV-1/21 EB OR APPROVED EQUAL
B	1'x4' RECESSED DIRECT/INDIRECT ARCHITECTURAL FLUORESCENT LUMINAIRE, 2-LAMP, WITH MICRO-PERFORATED METAL MESH LAMP SHIELD AND WHITE OVERLAY ON INSIDE OF SHIELD, 2/1 STEP LAMP BALLAST CONFIGURATION.	DAY-BRIGHT CAT NO. 2AVAG232-PMW-UNV-1/21 EB OR APPROVED EQUAL

ELECTRICAL REQUIREMENTS

1. ALL ELECTRICAL WORK SHALL MEET NEC, STATE, AND LOCAL CODE REQUIREMENTS
2. SWITCHES: TOTALLY ENCLOSED, 20 AMPERE, 120/277 VOLT QUIET A/C GENERAL USE SNAP SWITCHES, SPECIFICATION GRADE AS MANUFACTURED BY HUBBELL, P&S, OR LEVITON
3. RECEPTACLES: NEMA CONFIGURATION 5-20R 125 VOLT GROUNDING TYPE RATED FOR 20 AMPERES, SPECIFICATION GRADE AS MANUFACTURED BY HUBBELL, P&S, OR LEVITON
4. CABLE RACEWAY: PANDUIT PAN-WAY T-70 CABLE RACEWAY WITH ACCESSORIES REQUIRED OR APPROVED EQUAL
5. FLOOR CABLE PROTECTOR: CABLE GUARD 2 CHANNEL CABLE COVER, 1.25" HIGH X 11" WIDE OR APPROVED EQUAL



CEILING TILE GRID AND LIGHTING PLAN

0 5 10 FT

SCALE: 1/4" = 1'-0"

CALCULATED PD
CHECKED LE

TRAFFIC MANAGEMENT CENTER LAYOUT

VAR-CLEVELAND FREEWAY MANAGEMENT SYSTEM

CALCULATED RCM | CHECKED JDG

COMMUNICATIONS PLAN OVERVIEW

090001 Phase 2
090002 Phase 2
090004 Phase 2
090006 Phase 2
090007 Phase 1
090008 Phase 2
090010 Phase 2
090012 Phase 2
090014 Phase 2
090016 Phase 2
090018 Phase 2
090020-090022 Phase 1
090024 Phase 2
090026 Phase 1
090027 Phase 1
090028 Phase 2
090030 Phase 1
090031 Phase 1
090031A Phase 1
090031B Phase 1
090032 Phase 1
090034 Phase 1
090036 Phase 1
090038-090040 Phase 1
090042 Phase 2
090044 Phase 2
090046 Phase 2
090048 Phase 2
090050 Phase 2
090052 Phase 2
090054 Phase 2
090056 Phase 2
090058 Phase 2
090060 Phase 2
090062 Phase 1
090064 Phase 2
002000 Phase 2
002002 Phase 1
90-1 HAR Phase 2
271027 Phase 2
271023 Phase 2
271021 Phase 2
271020 Phase 2
271019 Phase 2
271017 Phase 2
271-1 HAR Phase 2
271015 Phase 2
490002 Phase 2
077021 Phase 2
077025 Phase 3
077023 Phase 3
77-1 HAR Phase 1
077019 Phase 1
077017 Phase 1
077015 Phase 1
077013 Phase 4
077009-077011 Phase 4
071039 Phase 1
071037 Phase 1
071035 Phase 3
071033 Phase 1
071031 Phase 3
071029 Phase 3
071027 Phase 3
071025 Phase 3
071023 Phase 3
71-2 HAR Phase 1
071019-071021 Phase 1
176007 Phase 1
176003-176005 Phase 1
176001 Phase 4
080004 Phase 3
480002 Phase 1
480004 Phase 3
480006 Phase 3
480008 Phase 1
480010 Phase 1
480012 Phase 4
480014 Phase 4
480016 Phase 4
480018 Phase 1
480020 Phase 4
480022 Phase 4
480024 Phase 4
480026 Phase 4
422002 Phase 4
271013 Phase 4
271011 Phase 4
271009 Phase 4
271008 Phase 4
271007 Phase 4
480028 Phase 4
271005 Phase 4
008005 Phase 4
008003 Phase 4
008001 Phase 4
080006 Phase 4
077007 Phase 4
077005 Phase 1
077003 Phase 4
77-N HAR Phase 4
271003 Phase 4
271001 Phase 4
077001 Phase 4
071017 Phase 3
071015 Phase 3
071013 Phase 3
071011 Phase 3
71-1 HAR Phase 3
071009 Phase 3
071007 Phase 3
071005 Phase 3
071003 Phase 3
071001 Phase 3
71-N HAR Phase 3

ASR 1000
ODOT D-12 TMC

ODOT CLEVELAND FMS CONSTRUCTION SEQUENCE

PHASE 1	PHASE 2	PHASE 3	PHASE 4
090007	090001	71-N HAR	480012
090020	090002	071001	480014
090022	090004	071003	480016
090026	090006	071005	480020
090027	090008	071007	480022
090030	090010	071009	480024
090031	090012	71-1 HAR	480026
090031A	090014	071011	480028
090031B	090016	071013	008001
090032	090018	071015	008003
090034	090024	071017	008005
090036	090028	071023	080006
090038	090042	071025	271001
090040	090044	071027	271003
090062	090046	071029	271005
480002	090048	071031	271007
480008	090050	071035	271008
480010	090052	077023	271009
480018	090054	077025	271011
071019	090056	480004	271013
071021	90-1 HAR	480006	422002
71-2 HAR	090058	080004	176001
071033	090060		077001
071037	090064		77-N HAR
071039	271015		077003
176003	271-1 HAR		077007
176005	271017		077009
176007	271019		077011
077005	271020		077013
077015	271021		
077017	271023		
077019	271027		
77-1 HAR	077021		
002202	490002		
	002000		

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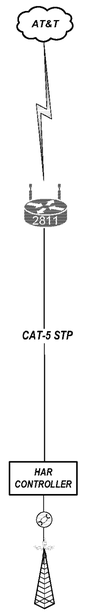
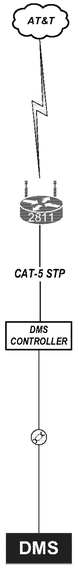
VAR – CLEVELAND
FREEWAY MANAGEMENT SYSTEM



71-N HAR



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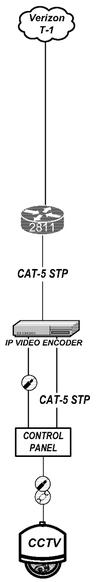

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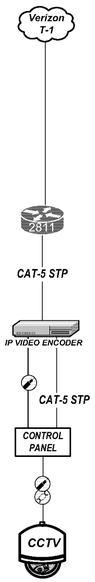

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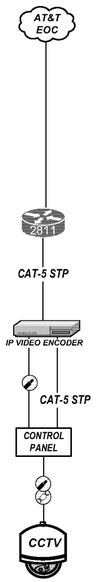

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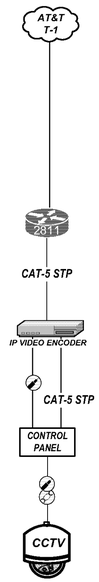

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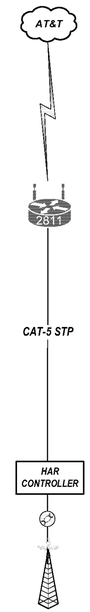
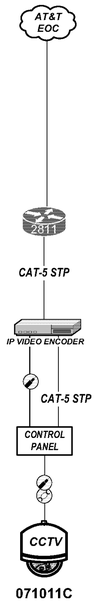
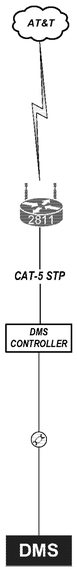


71-1 HAR



071011C



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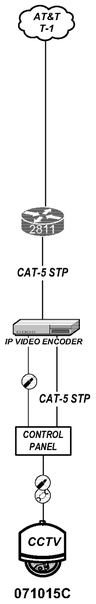

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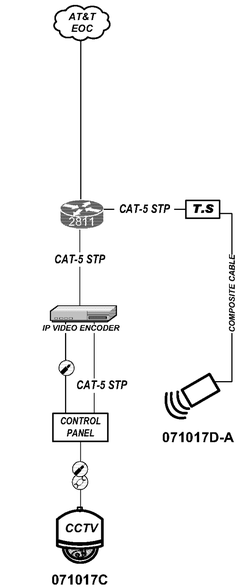
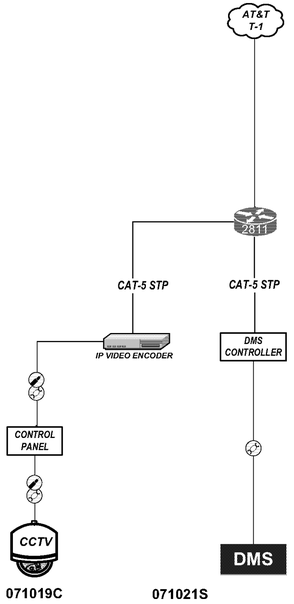


071017C

071017D-A



071019C

071021S

KEY

090027C	DEVICE IDENTIFIER
	PROPOSED MICROWAVE DETECTOR *DEVICE NUMBER FOLLOWED BY 'D'*
CCTV	PROPOSED CCTV CAMERA *DEVICE NUMBER FOLLOWED BY 'C'*
DMS	PROPOSED DYNAMIC MESSAGE SIGN *DEVICE NUMBER FOLLOWED BY 'S'*
IP VIDEO ENCODER	PROPOSED IP VIDEO ENCODER
	PROPOSED ROUTER
	PROPOSED WIRELESS ROUTER
T.S	PROPOSED SERIAL TO ETHERNET TERMINAL SERVER
	PROPOSED HIGHWAY ADVISORY RADIO
CAT-5 STP	CATEGORY 5 SHIELDED TWISTED PAIR ETHERNET CABLE
	WIRELESS CONNECTION
	COAX CABLE
	TWISTED PAIR CABLE
	COMPOSITE VIDEO AND DATA CABLE
	SERVICE PROVIDER

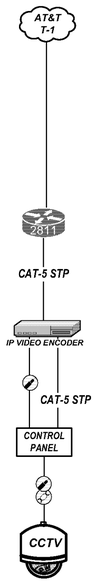
CALCULATED RCM
CHECKED JDG

COMMUNICATIONS PLAN ONE-LINES

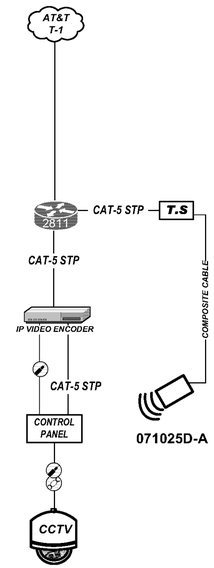
VAR – CLEVELAND
FREEWAY MANAGEMENT SYSTEM

DMJM HARRIS | AECOM

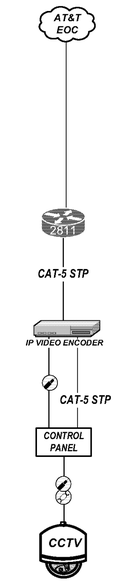
71-2 HAR



071023C



071025C



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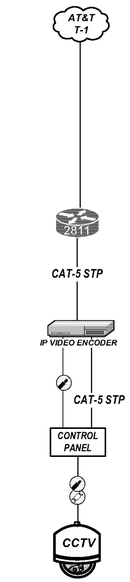

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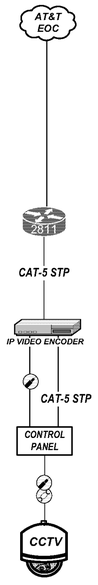

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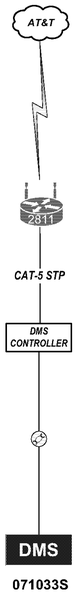
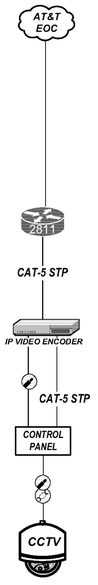
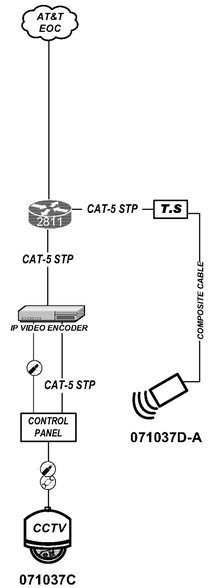


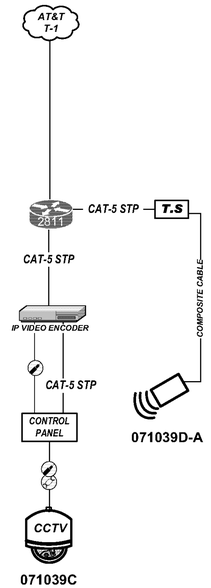
071033S



071035C



071037C



071039C

KEY

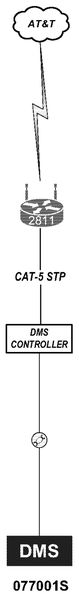
090027C	DEVICE IDENTIFIER
	PROPOSED MICROWAVE DETECTOR *DEVICE NUMBER FOLLOWED BY 'D'*
CCTV	PROPOSED CCTV CAMERA *DEVICE NUMBER FOLLOWED BY 'C'*
DMS	PROPOSED DYNAMIC MESSAGE SIGN *DEVICE NUMBER FOLLOWED BY 'S'*
IP VIDEO ENCODER	PROPOSED IP VIDEO ENCODER
	PROPOSED ROUTER
	PROPOSED WIRELESS ROUTER
T.S	PROPOSED SERIAL TO ETHERNET TERMINAL SERVER
	PROPOSED HIGHWAY ADVISORY RADIO
CAT-5 STP	CATEGORY 5 SHIELDED TWISTED PAIR ETHERNET CABLE
	WIRELESS CONNECTION
	COAX CABLE
	TWISTED PAIR CABLE
	COMPOSITE VIDEO AND DATA CABLE
	SERVICE PROVIDER

DMJM HARRIS | AECOM

CALCULATED RCM
CHECKED JDG

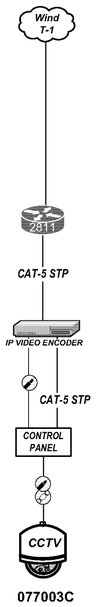
COMMUNICATIONS PLAN ONE-LINES

VAR – CLEVELAND
FREEWAY MANAGEMENT SYSTEM

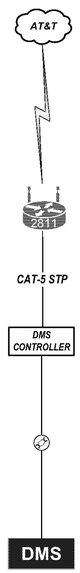


077001S

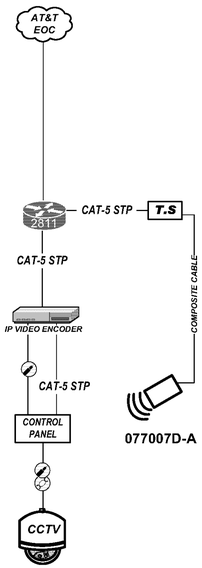
77-N HAR



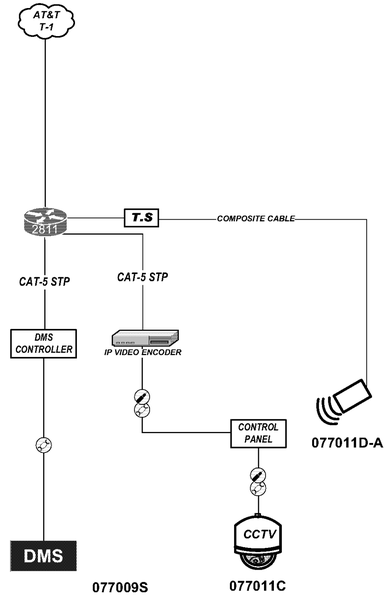
077003C



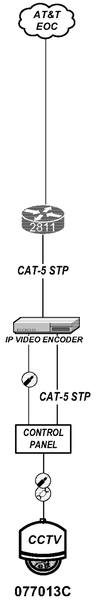
077005S



077007C
077007D-A



077009S
077011C
077011D-A



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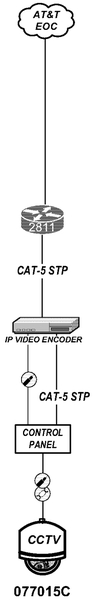

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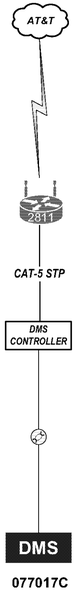
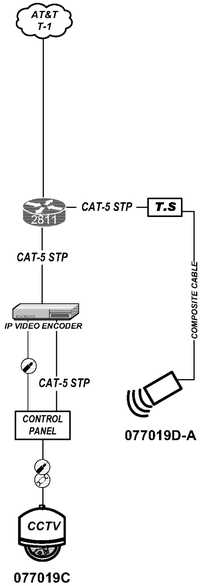
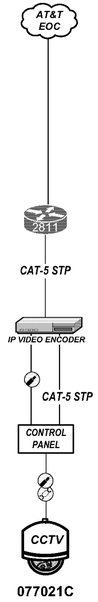


077017C



077019C
077019D-A



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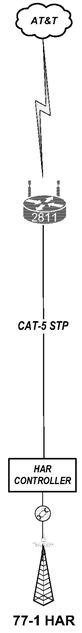
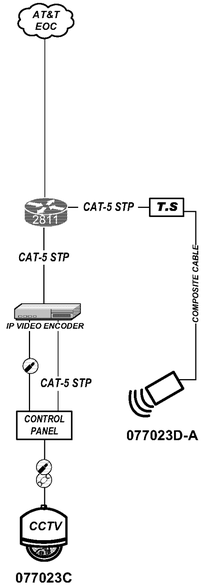
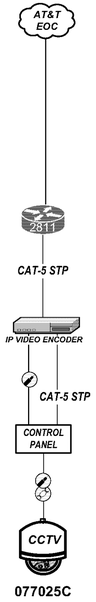


77-1 HAR



077023C
077023D-A



077025C

KEY

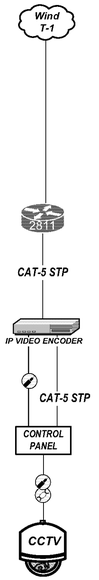
090027C	DEVICE IDENTIFIER
	PROPOSED MICROWAVE DETECTOR *DEVICE NUMBER FOLLOWED BY 'D'*
CCTV	PROPOSED CCTV CAMERA *DEVICE NUMBER FOLLOWED BY 'C'*
DMS	PROPOSED DYNAMIC MESSAGE SIGN *DEVICE NUMBER FOLLOWED BY 'S'*
IP VIDEO ENCODER	PROPOSED IP VIDEO ENCODER
	PROPOSED ROUTER
	PROPOSED WIRELESS ROUTER
T.S	PROPOSED SERIAL TO ETHERNET TERMINAL SERVER
	PROPOSED HIGHWAY ADVISORY RADIO
CAT-5 STP	CATEGORY 5 SHIELDED TWISTED PAIR ETHERNET CABLE
	WIRELESS CONNECTION
	COAX CABLE
	TWISTED PAIR CABLE
	COMPOSITE VIDEO AND DATA CABLE
	SERVICE PROVIDER

CALCULATED RCM
CHECKED JDG

COMMUNICATIONS PLAN ONE-LINES

VAR – CLEVELAND
FREEWAY MANAGEMENT SYSTEM

DMJM HARRIS | AECOM



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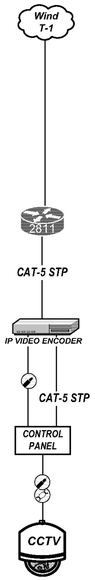

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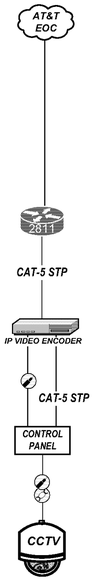

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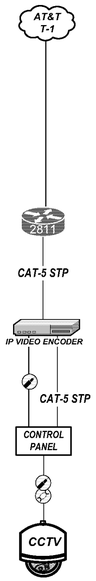

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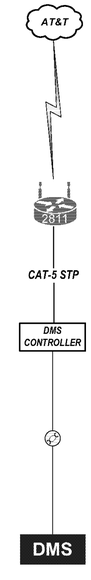

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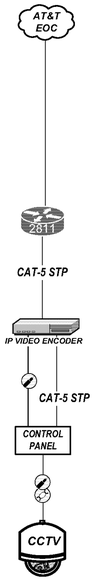

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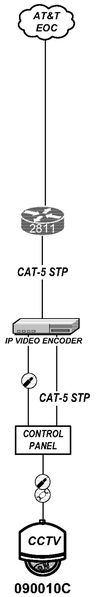

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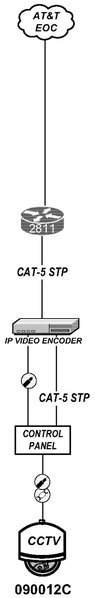

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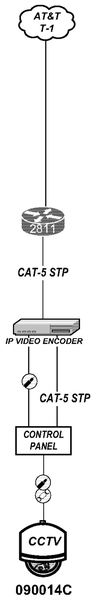

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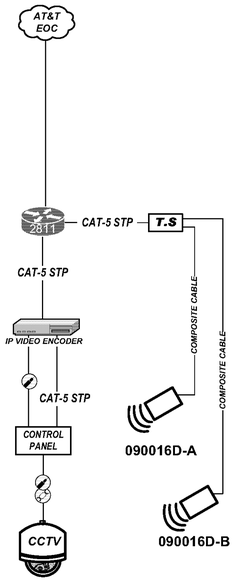
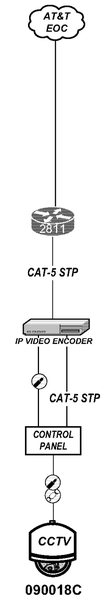


090016C

090016D-A

090016D-B



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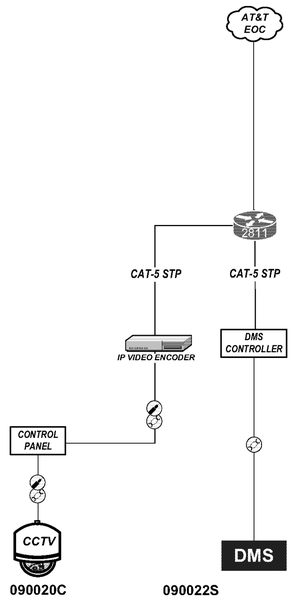


090020C

090022S

KEY

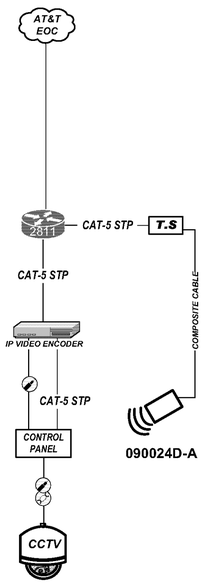
090027C	DEVICE IDENTIFIER
	PROPOSED MICROWAVE DETECTOR *DEVICE NUMBER FOLLOWED BY 'D'*
CCTV	PROPOSED CCTV CAMERA *DEVICE NUMBER FOLLOWED BY 'C'*
DMS	PROPOSED DYNAMIC MESSAGE SIGN *DEVICE NUMBER FOLLOWED BY 'S'*
IP VIDEO ENCODER	PROPOSED IP VIDEO ENCODER
	PROPOSED ROUTER
	PROPOSED WIRELESS ROUTER
T.S	PROPOSED SERIAL TO ETHERNET TERMINAL SERVER
	PROPOSED HIGHWAY ADVISORY RADIO
CAT-5 STP	CATEGORY 5 SHIELDED TWISTED PAIR ETHERNET CABLE
	WIRELESS CONNECTION
	COAX CABLE
	TWISTED PAIR CABLE
	COMPOSITE VIDEO AND DATA CABLE
	SERVICE PROVIDER

DMJM HARRIS | AECOM

CALCULATED RCM
CHECKED JDG

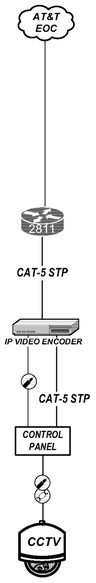
COMMUNICATIONS PLAN ONE-LINES

VAR – CLEVELAND
FREEWAY MANAGEMENT SYSTEM



090024D-A

090024C



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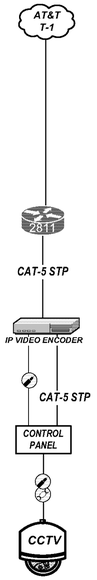
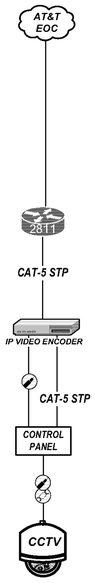


090027C

090028C

090030C



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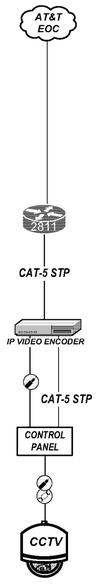

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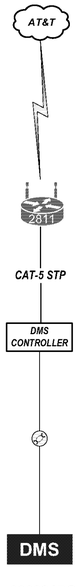

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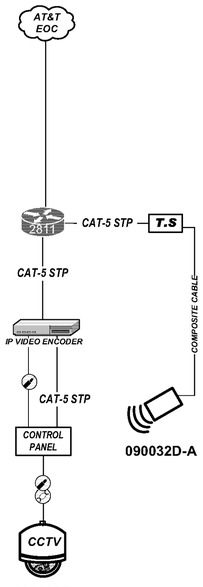
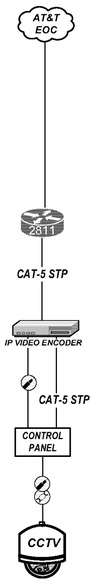


090032D-A

090032C



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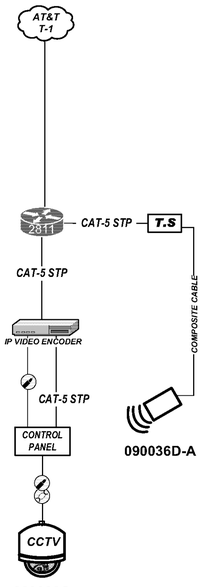
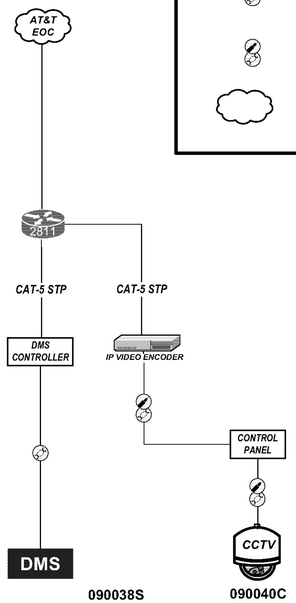


090036D-A

090036C



090038S

090040C

KEY

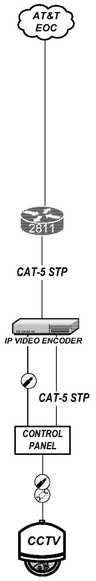
090027C	DEVICE IDENTIFIER
	PROPOSED MICROWAVE DETECTOR *DEVICE NUMBER FOLLOWED BY 'D'*
CCTV	PROPOSED CCTV CAMERA *DEVICE NUMBER FOLLOWED BY 'C'*
DMS	PROPOSED DYNAMIC MESSAGE SIGN *DEVICE NUMBER FOLLOWED BY 'S'*
IP VIDEO ENCODER	PROPOSED IP VIDEO ENCODER
	PROPOSED ROUTER
	PROPOSED WIRELESS ROUTER
T.S	PROPOSED SERIAL TO ETHERNET TERMINAL SERVER
	PROPOSED HIGHWAY ADVISORY RADIO
CAT-5 STP	CATEGORY 5 SHIELDED TWISTED PAIR ETHERNET CABLE
	WIRELESS CONNECTION
	COAX CABLE
	TWISTED PAIR CABLE
	COMPOSITE VIDEO AND DATA CABLE
	SERVICE PROVIDER

CALCULATED RCM
CHECKED JDG

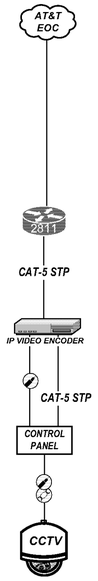
COMMUNICATIONS PLAN ONE-LINES

VAR – CLEVELAND
FREEWAY MANAGEMENT SYSTEM

DMJM HARRIS | AECOM



090042C



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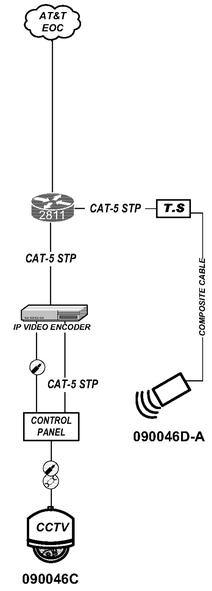
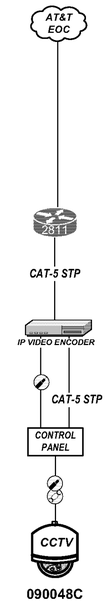


090046D-A

090046C



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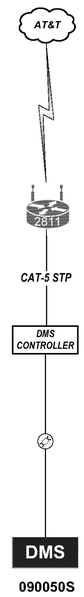

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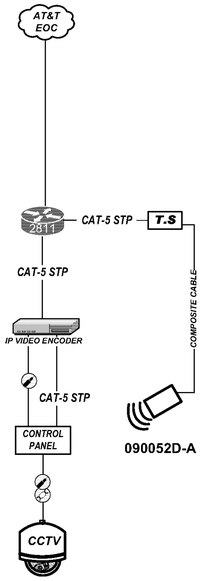

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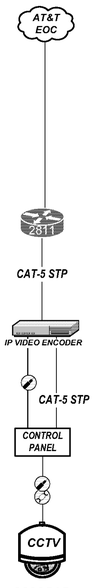
090052C



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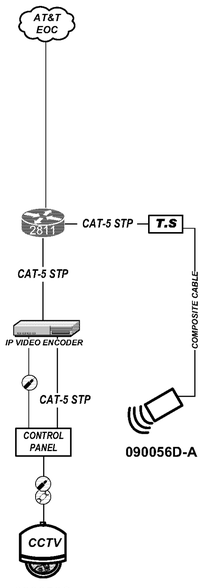
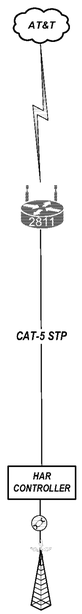
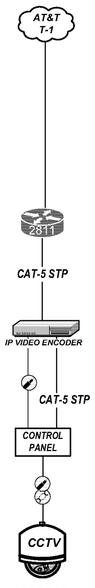


090056D-A

090056C



90-1 HAR



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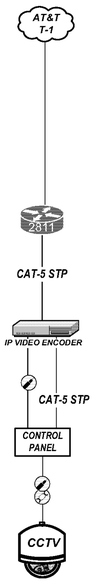

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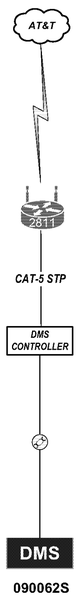

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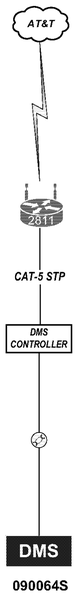


090064S

KEY

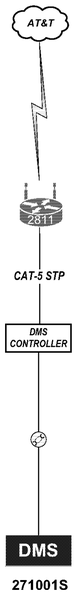
090027C	DEVICE IDENTIFIER
	PROPOSED MICROWAVE DETECTOR *DEVICE NUMBER FOLLOWED BY 'D'*
CCTV	PROPOSED CCTV CAMERA *DEVICE NUMBER FOLLOWED BY 'C'*
DMS	PROPOSED DYNAMIC MESSAGE SIGN *DEVICE NUMBER FOLLOWED BY 'S'*
IP VIDEO ENCODER	PROPOSED IP VIDEO ENCODER
	PROPOSED ROUTER
	PROPOSED WIRELESS ROUTER
T.S	PROPOSED SERIAL TO ETHERNET TERMINAL SERVER
	PROPOSED HIGHWAY ADVISORY RADIO
CAT-5 STP	CATEGORY 5 SHIELDED TWISTED PAIR ETHERNET CABLE
	WIRELESS CONNECTION
	COAX CABLE
	TWISTED PAIR CABLE
	COMPOSITE VIDEO AND DATA CABLE
	SERVICE PROVIDER

CALCULATED RCM
CHECKED JDG

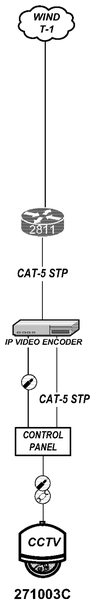
COMMUNICATIONS PLAN ONE-LINES

VAR – CLEVELAND
FREEWAY MANAGEMENT SYSTEM

DMJM HARRIS | AECOM



271001S



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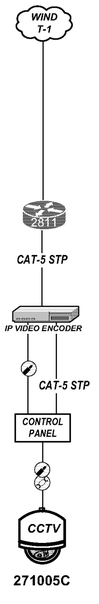

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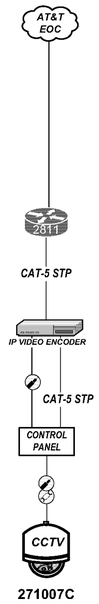

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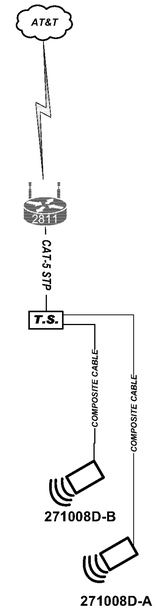
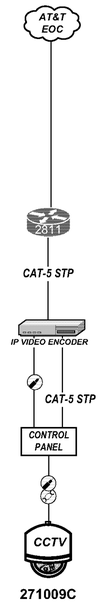


271008D-B

271008D-A



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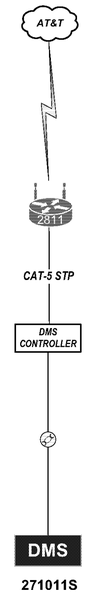
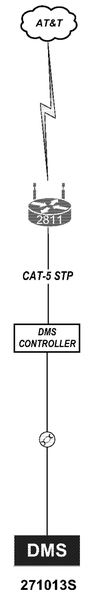


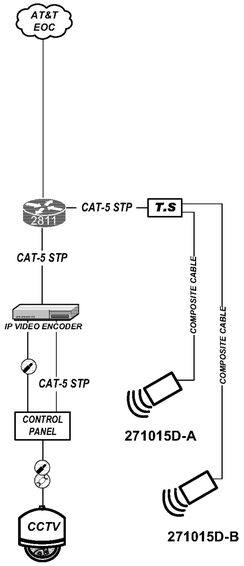
271011S



271013S

KEY

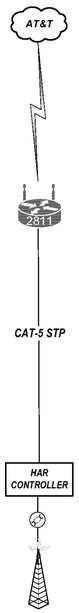
090027C	DEVICE IDENTIFIER
	PROPOSED MICROWAVE DETECTOR *DEVICE NUMBER FOLLOWED BY 'D'*
CCTV	PROPOSED CCTV CAMERA *DEVICE NUMBER FOLLOWED BY 'C'*
DMS	PROPOSED DYNAMIC MESSAGE SIGN *DEVICE NUMBER FOLLOWED BY 'S'*
IP VIDEO ENCODER	PROPOSED IP VIDEO ENCODER
	PROPOSED ROUTER
	PROPOSED WIRELESS ROUTER
T.S	PROPOSED SERIAL TO ETHERNET TERMINAL SERVER
	PROPOSED HIGHWAY ADVISORY RADIO
CAT-5 STP	CATEGORY 5 SHIELDED TWISTED PAIR ETHERNET CABLE
	WIRELESS CONNECTION
	COAX CABLE
	TWISTED PAIR CABLE
	COMPOSITE VIDEO AND DATA CABLE
	SERVICE PROVIDER



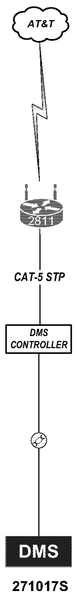
271015C

271015D-A

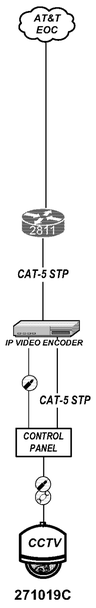
271015D-B



271-1 HAR



271017S



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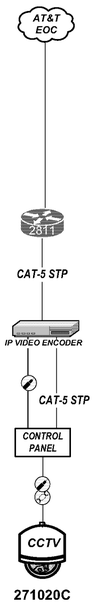
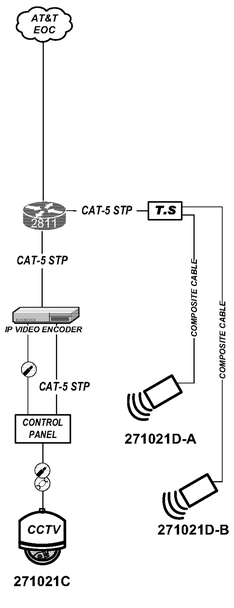


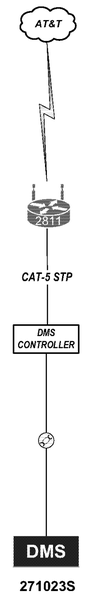
271020C



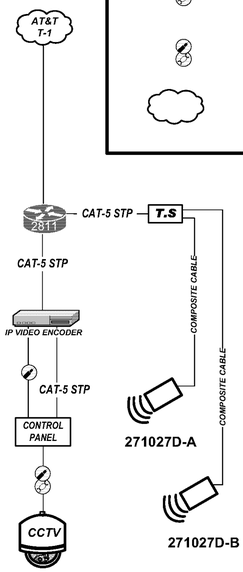
271021C

271021D-A

271021D-B



271023S



271027C

271027D-A

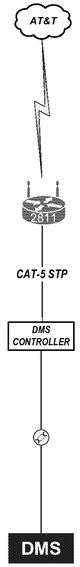
271027D-B

DMJM HARRIS | AECOM

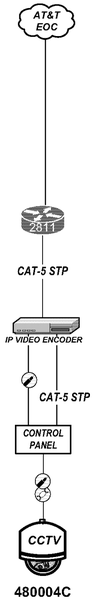
CALCULATED RCM
CHECKED JDG

COMMUNICATIONS PLAN ONE-LINES

VAR – CLEVELAND
FREEWAY MANAGEMENT SYSTEM



480002S



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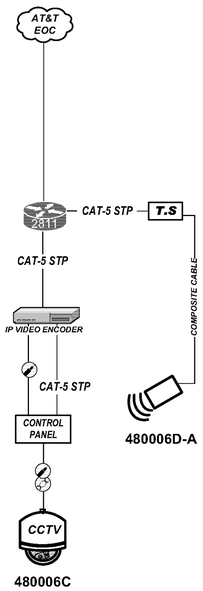

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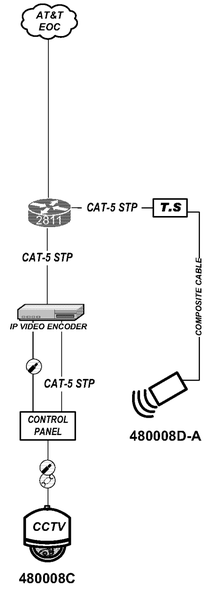
480006D-A



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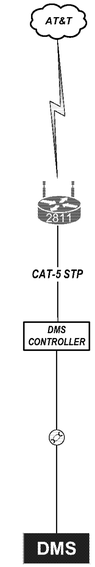
480008D-A



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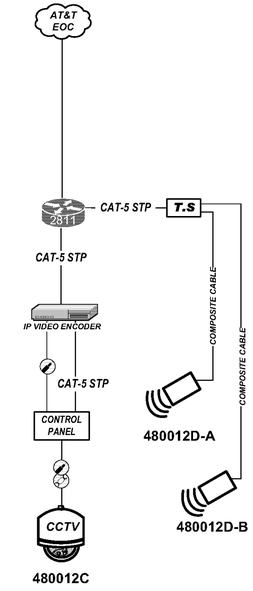
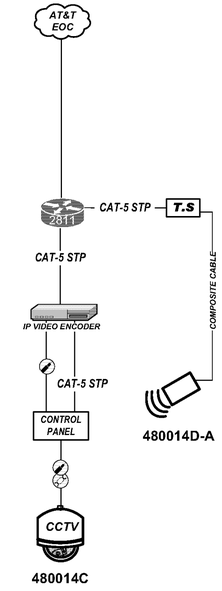


480012C

480012D-A

480012D-B



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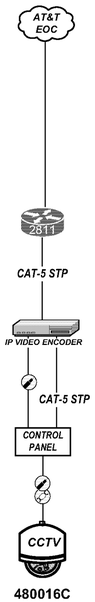
480014D-A



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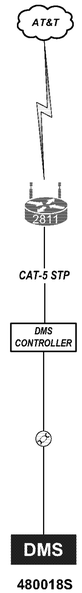

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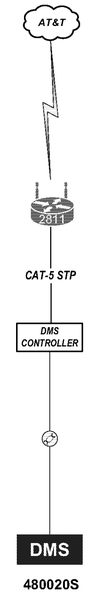

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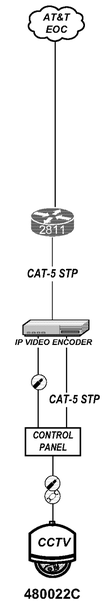

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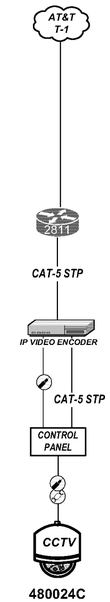

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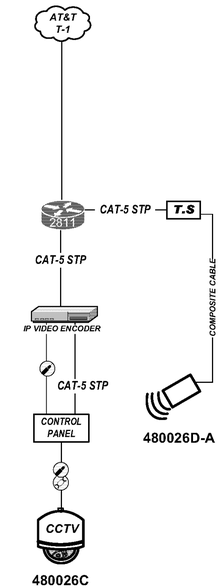
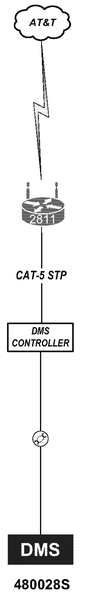


480026C

480026D-A



480028S

KEY

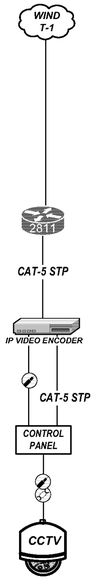
090027C	DEVICE IDENTIFIER
	PROPOSED MICROWAVE DETECTOR *DEVICE NUMBER FOLLOWED BY 'D'*
CCTV	PROPOSED CCTV CAMERA *DEVICE NUMBER FOLLOWED BY 'C'*
DMS	PROPOSED DYNAMIC MESSAGE SIGN *DEVICE NUMBER FOLLOWED BY 'S'*
IP VIDEO ENCODER	PROPOSED IP VIDEO ENCODER
	PROPOSED ROUTER
	PROPOSED WIRELESS ROUTER
T.S	PROPOSED SERIAL TO ETHERNET TERMINAL SERVER
	PROPOSED HIGHWAY ADVISORY RADIO
CAT-5 STP	CATEGORY 5 SHIELDED TWISTED PAIR ETHERNET CABLE
	WIRELESS CONNECTION
	COAX CABLE
	TWISTED PAIR CABLE
	COMPOSITE VIDEO AND DATA CABLE
	SERVICE PROVIDER

CALCULATED RCM
CHECKED JDG

COMMUNICATIONS PLAN ONE-LINES

VAR – CLEVELAND
FREEWAY MANAGEMENT SYSTEM

DMJM HARRIS | AECOM



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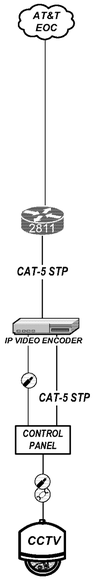

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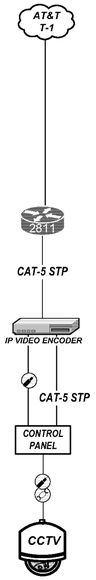

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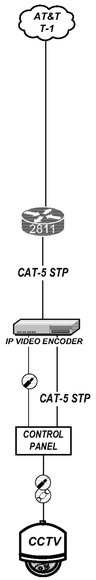
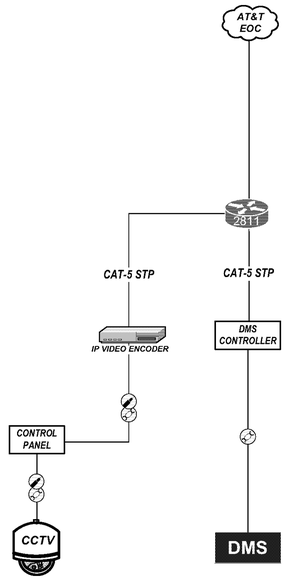
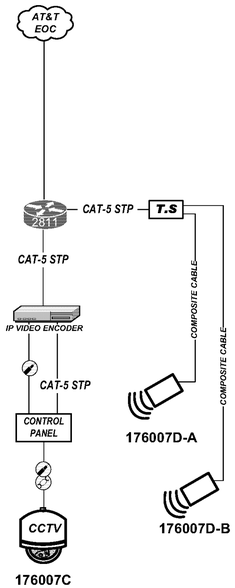


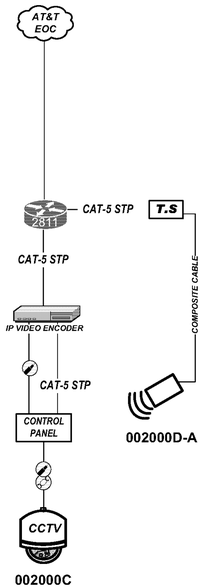
176001C



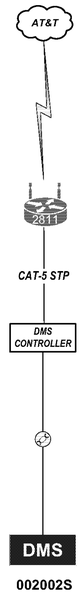
176003C 176005S



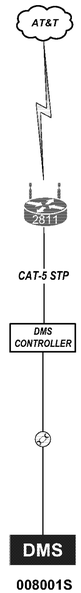
176007C 176007D-A 176007D-B



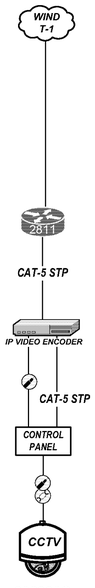
002000C 002000D-A



002002S



008001S



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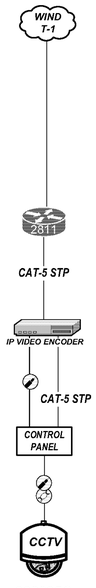

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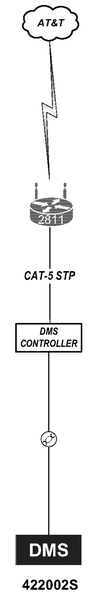


422002S

KEY

090027C	DEVICE IDENTIFIER
	PROPOSED MICROWAVE DETECTOR *DEVICE NUMBER FOLLOWED BY 'D'*
CCTV	PROPOSED CCTV CAMERA *DEVICE NUMBER FOLLOWED BY 'C'*
DMS	PROPOSED DYNAMIC MESSAGE SIGN *DEVICE NUMBER FOLLOWED BY 'S'*
IP VIDEO ENCODER	PROPOSED IP VIDEO ENCODER
	PROPOSED ROUTER
	PROPOSED WIRELESS ROUTER
T.S	PROPOSED SERIAL TO ETHERNET TERMINAL SERVER
	PROPOSED HIGHWAY ADVISORY RADIO
CAT-5 STP	CATEGORY 5 SHIELDED TWISTED PAIR ETHERNET CABLE
	WIRELESS CONNECTION
	COAX CABLE
	TWISTED PAIR CABLE
	COMPOSITE VIDEO AND DATA CABLE
	SERVICE PROVIDER

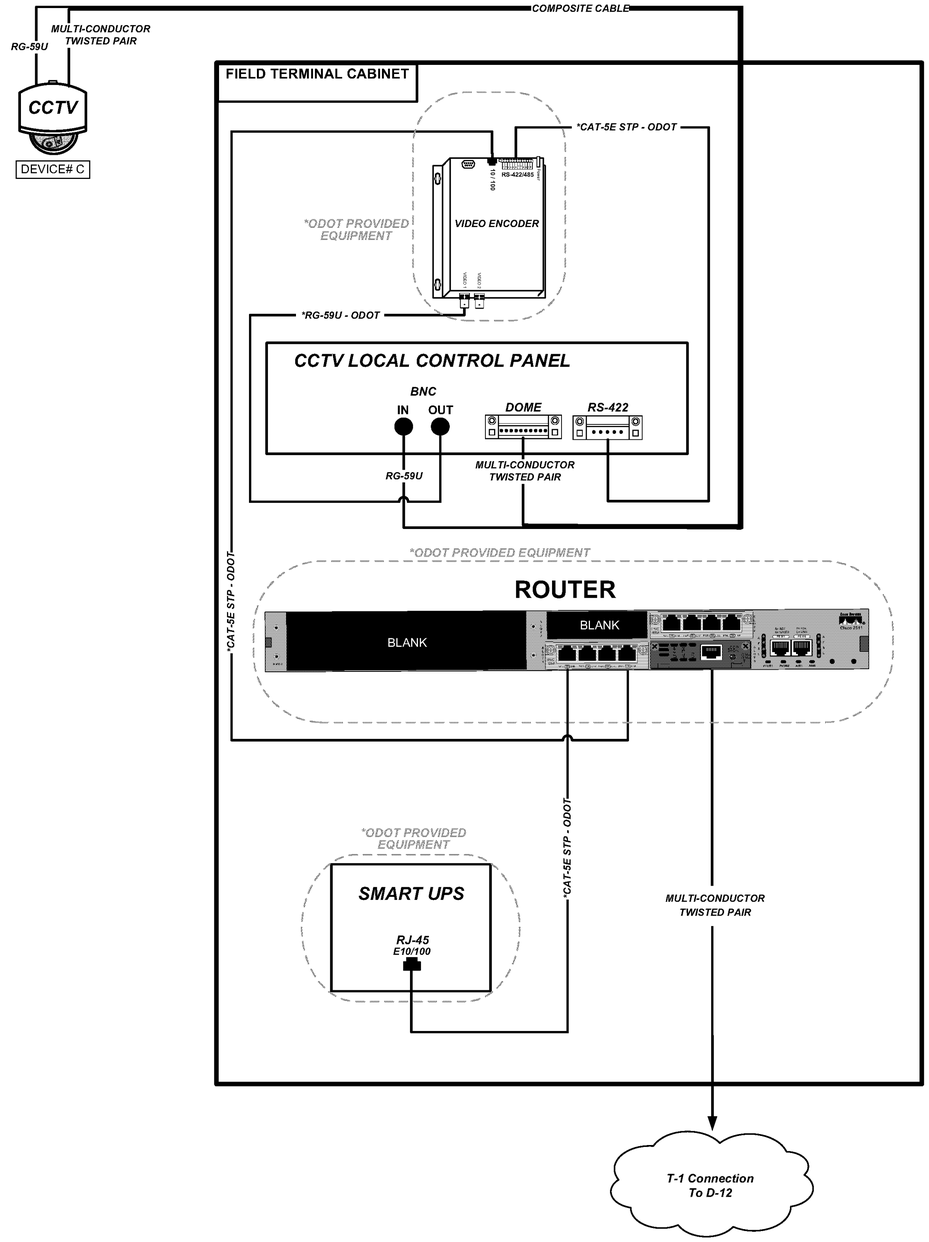
CALCULATED RCM
CHECKED JDG

COMMUNICATIONS PLAN ONE-LINES

VAR – CLEVELAND
FREEWAY MANAGEMENT SYSTEM

DMJM HARRIS | AECOM

Field Cabinet Locations w/CCTV T-1
I-71
071003
071005
071009
071015
071023
071029
I-77
077003
I-80
080004
I-90
090001
090002
090006
090014
090027
090058
090060
I-271
271003
271005
271027
SR-8
008003
008005
I-480
480024
I-490
490002
SR-176
176001



KEY

- **MICROWAVE DETECTOR** — *DEVICE NUMBER FOLLOWED BY 'D'*
- **CCTV CAMERA** — *DEVICE NUMBER FOLLOWED BY 'C'*
- **DMS** — **DYNAMIC MESSAGE SIGN** — *DEVICE NUMBER FOLLOWED BY 'S'*
- **SERVICE PROVIDER**
- **WIRELESS ACCESS POINT**
- ***HIGHWAY ADVISORY RADIO***

NOTES

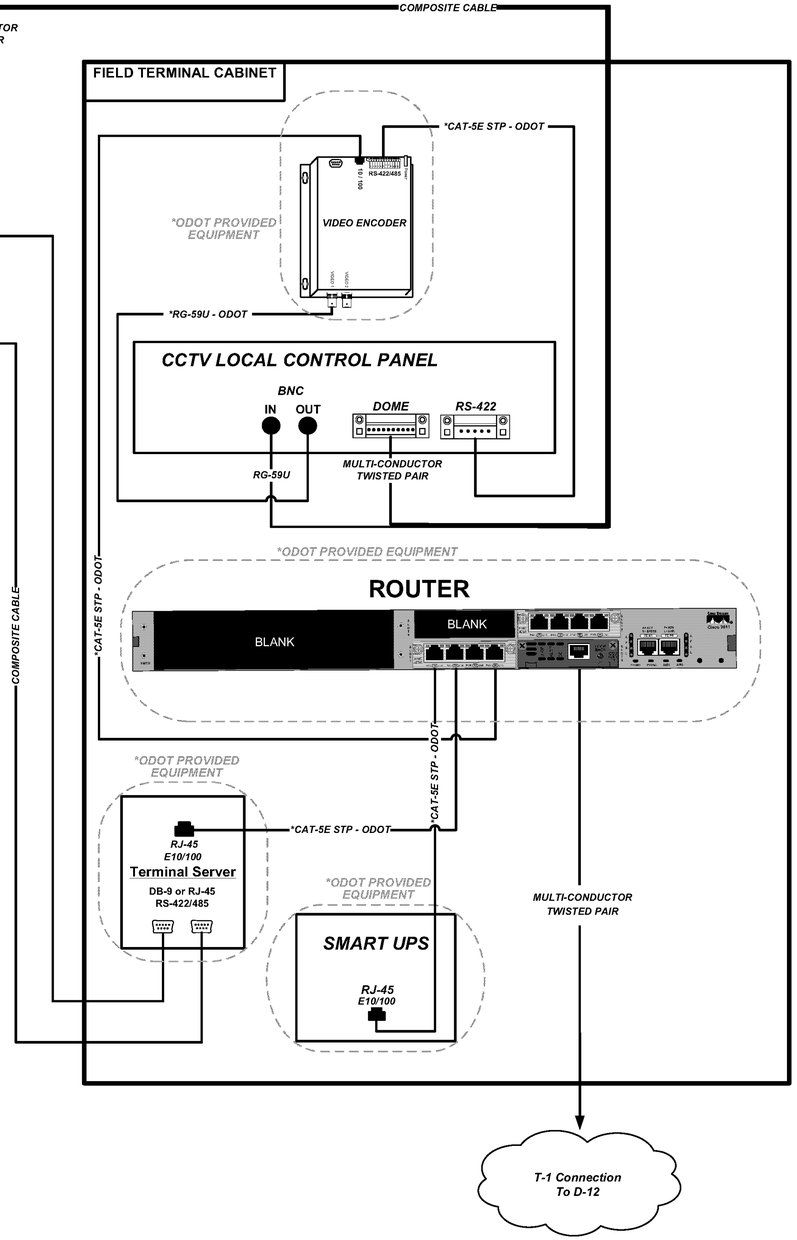
1. **ODOT TO INSTALL ALL CISCO PRODUCTS, TERMINAL SERVERS, UPS AND ALL ASSOCIATED CABLING THAT CONNECTS ODOT PROVIDED EQUIPMENT.**

DMJM HARRIS | AECOM

CALCULATED RCM
CHECKED JDG

TYPICAL FIELD TERMINAL CABINET CCTV T-1

VAR – CLEVELAND
FREEWAY MANAGEMENT SYSTEM



Field Cabinet Locations w /CCTV-Det. T-1
I-271
271027
I-71
071025
071039
I-77
077019
I-90
090036
I-480
480026

KEY

- MICROWAVE DETECTOR — *DEVICE NUMBER FOLLOWED BY 'D'*
- CCTV CAMERA — *DEVICE NUMBER FOLLOWED BY 'C'*
- DMS — DYNAMIC MESSAGE SIGN — *DEVICE NUMBER FOLLOWED BY 'S'*
- SERVICE PROVIDER
- WIRELESS ACCESS POINT
- *HIGHWAY ADVISORY RADIO*

NOTES

1. ODOT TO INSTALL ALL CISCO PRODUCTS, TERMINAL SERVERS, UPS AND ALL ASSOCIATED CABLING THAT CONNECTS ODOT PROVIDED EQUIPMENT.

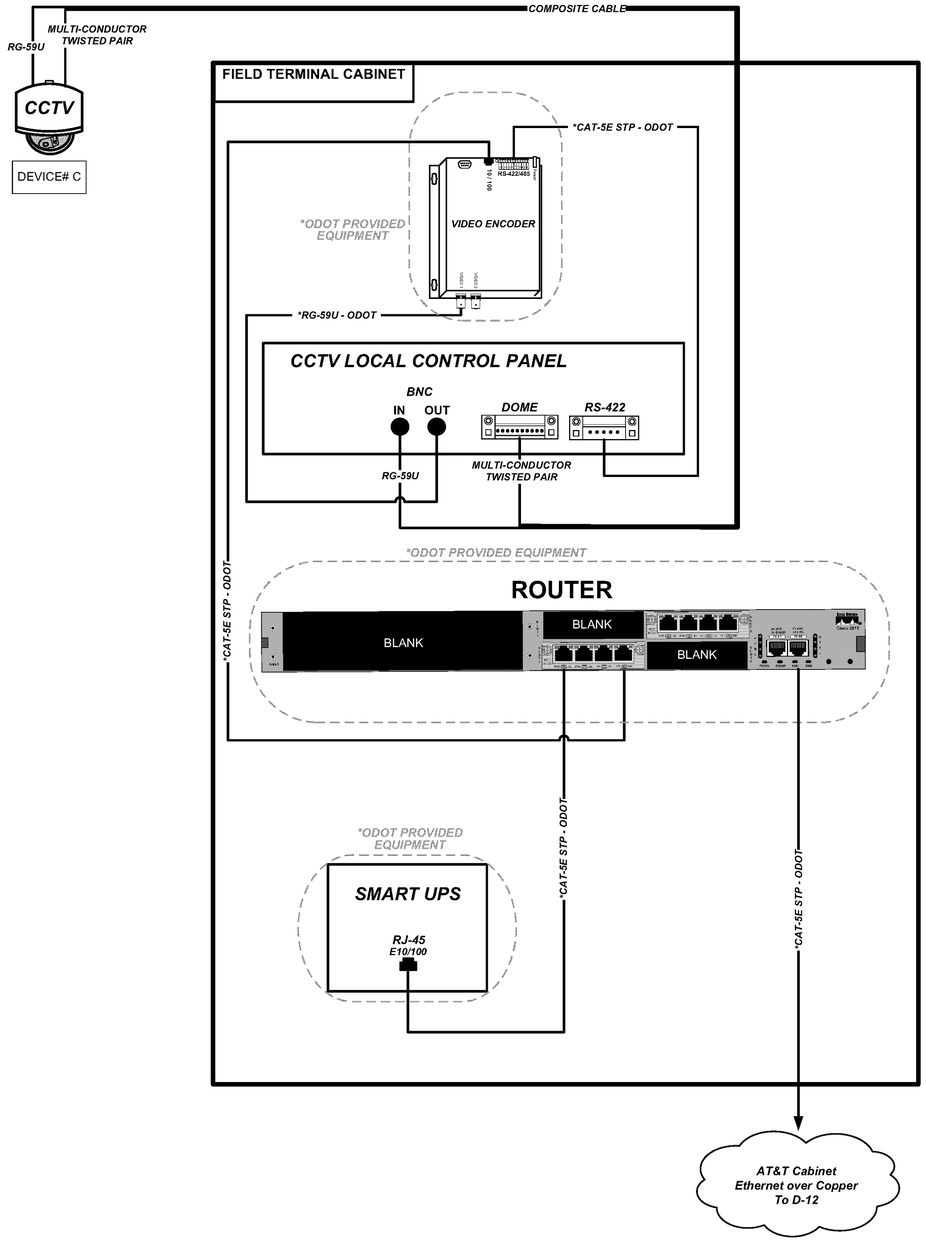
DMJM HARRIS | AECOM

CALCULATED RCM
CHECKED JDG

TYPICAL FIELD TERMINAL CABINET CCTV-DETECTOR T-1

VAR – CLEVELAND
FREEWAY MANAGEMENT SYSTEM

Field Cabinet Locations w /CCTV EOC
I-71
071007
071011
071027
071031
071035
I-77
077013
077015
077021
077025
I-90
090004
090008
090010
090012
090018
090028
090030
090031
090031a
090034
090042
090044
090048
090054
I-271
271007
271009
271019
271020
I-480
480004
480016
480022
I-80
80006



KEY

- **MICROWAVE DETECTOR** — *DEVICE NUMBER FOLLOWED BY 'D'*
- **CCTV CAMERA** — *DEVICE NUMBER FOLLOWED BY 'C'*
- **DMS** — **DYNAMIC MESSAGE SIGN** — *DEVICE NUMBER FOLLOWED BY 'S'*
- **SERVICE PROVIDER**
- **WIRELESS ACCESS POINT**
- ***HIGHWAY ADVISORY RADIO***

NOTES

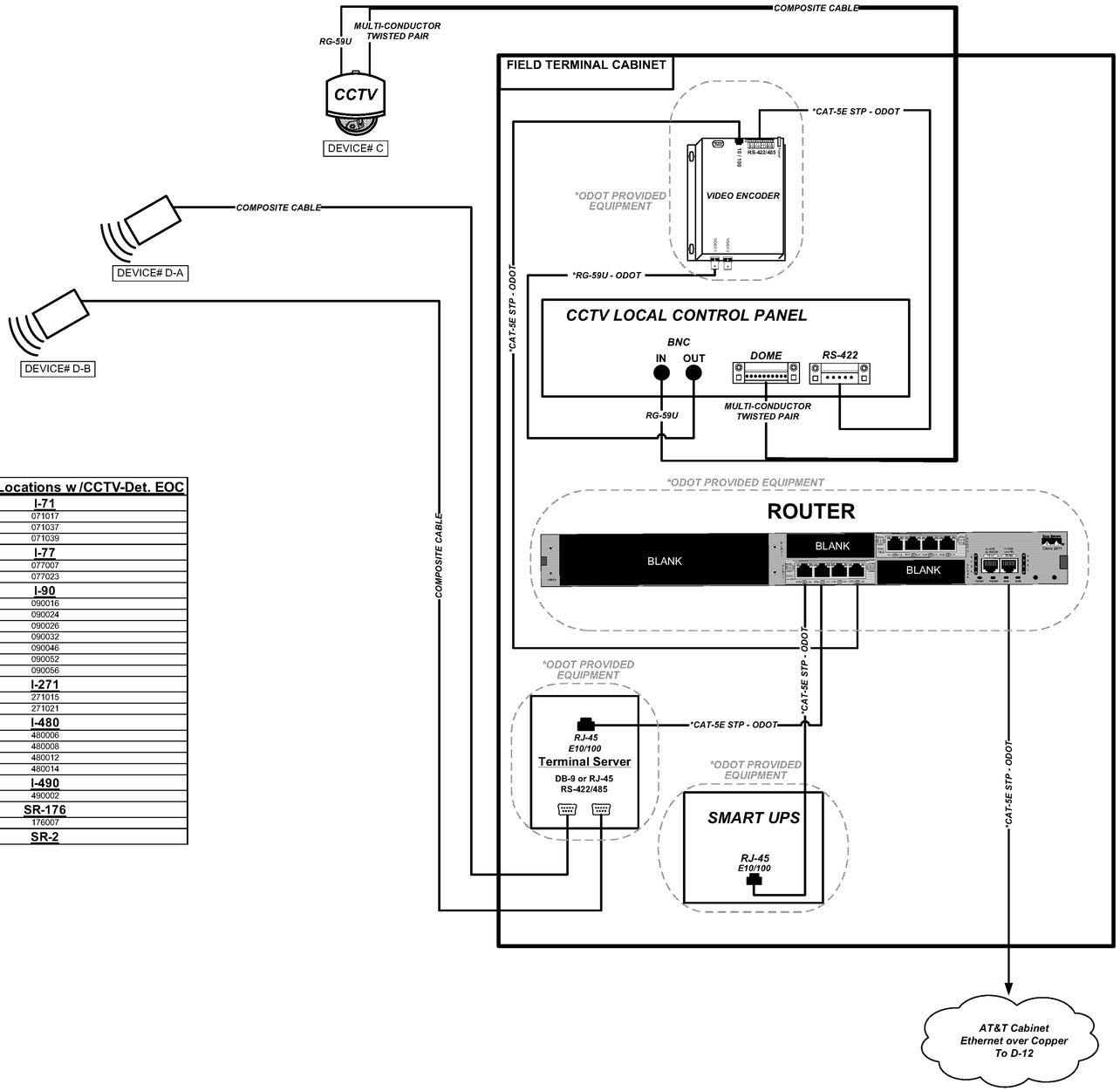
1. ODOT TO INSTALL ALL CISCO PRODUCTS, TERMINAL SERVERS, UPS AND ALL ASSOCIATED CABLING THAT CONNECTS ODOT PROVIDED EQUIPMENT.

DMJM HARRIS | AECOM

CALCULATED RCM
CHECKED JDG

TYPICAL FIELD TERMINAL CABINET CCTV ETHERNET OVER COPPER (EOC)

VAR – CLEVELAND
FREEWAY MANAGEMENT SYSTEM



Field Cabinet Locations w /CCTV-Det. EOC
I-71
071017
071037
071039
I-77
077007
077023
I-90
090016
090024
090026
090032
090046
090052
090056
I-271
271015
271021
I-480
480006
480008
480012
480014
I-490
490002
SR-176
176007
SR-2

KEY

- **MICROWAVE DETECTOR** — *DEVICE NUMBER FOLLOWED BY 'D'*
- **CCTV CAMERA** — *DEVICE NUMBER FOLLOWED BY 'C'*
- **DMS** — **DYNAMIC MESSAGE SIGN** — *DEVICE NUMBER FOLLOWED BY 'S'*
- **SERVICE PROVIDER**
- **WIRELESS ACCESS POINT**
- ***HIGHWAY ADVISORY RADIO***

NOTES

1. **ODOT TO INSTALL ALL CISCO PRODUCTS, TERMINAL SERVERS, UPS AND ALL ASSOCIATED CABLING THAT CONNECTS ODOT PROVIDED EQUIPMENT.**

DMJM HARRIS | AECOM

CALCULATED RCM
CHECKED JDG

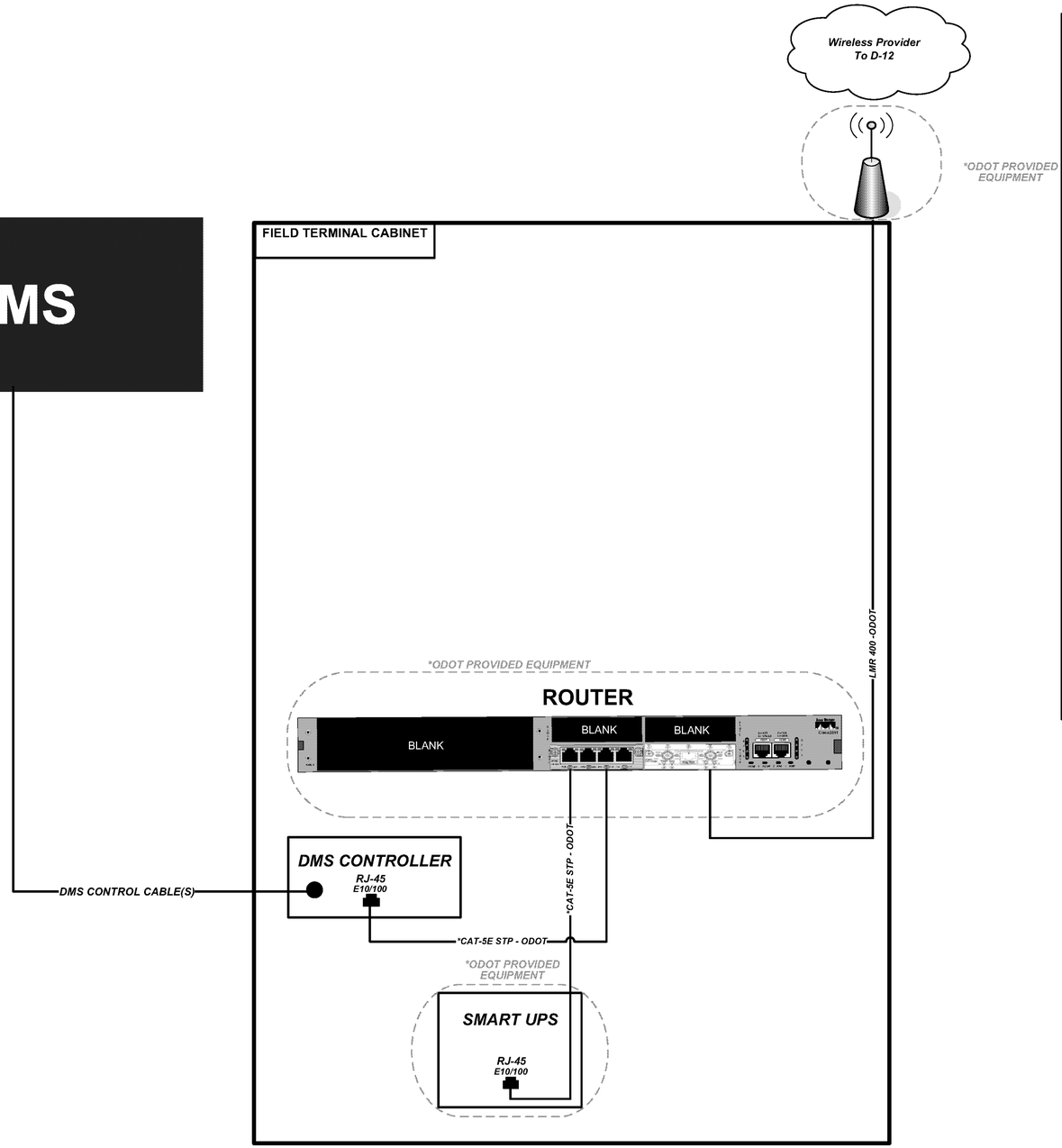
TYPICAL FIELD TERMINAL CABINET CCTV-DETECTOR ETHERNET OVER COPPER (EOC)

VAR – CLEVELAND
FREEWAY MANAGEMENT SYSTEM

TYPICAL FIELD TERMINAL CABINET DMS WIRELESS

DMS

Field Cabinet Locations w /DMS Wireless
I-71
071001
071013
071033
I-77
077001
077005
077017
I-90
090007
090031B
090050
090062
090064
I-271
271001
271011
271013
271017
271023
I-480
480002
480010
480018
480020
480028
SR-2
002002
SR-8
008001
US-422
422002



KEY

- MICROWAVE DETECTOR — *DEVICE NUMBER FOLLOWED BY 'D'*
- CCTV CAMERA — *DEVICE NUMBER FOLLOWED BY 'C'*
- DMS — DYNAMIC MESSAGE SIGN — *DEVICE NUMBER FOLLOWED BY 'S'*
- SERVICE PROVIDER
- WIRELESS ACCESS POINT
- *HIGHWAY ADVISORY RADIO*

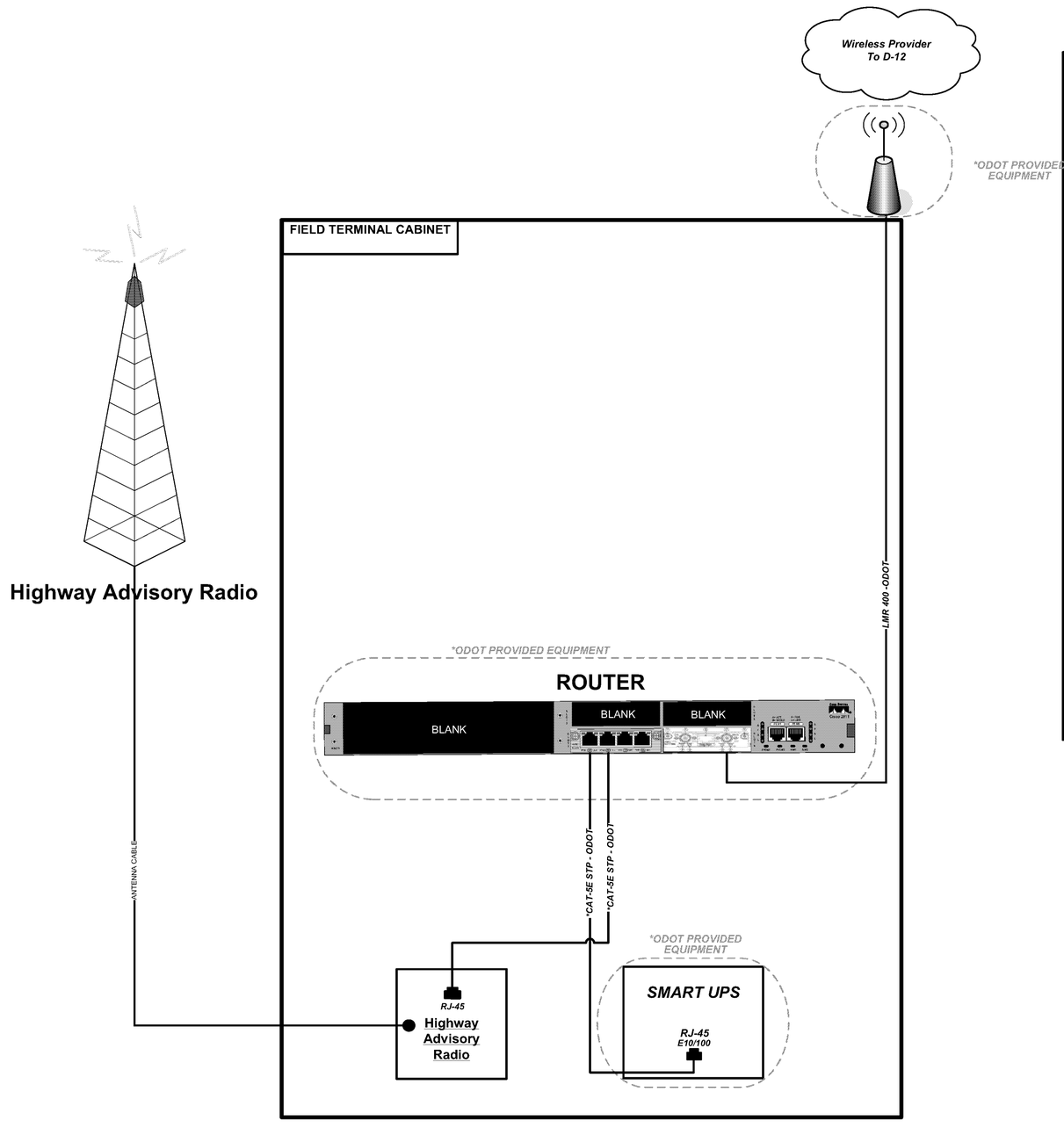
NOTES

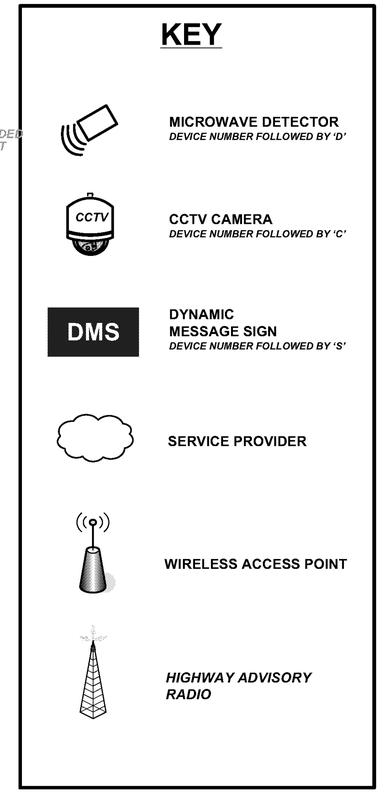
1. ODOT TO INSTALL ALL CISCO PRODUCTS, TERMINAL SERVERS, UPS AND ALL ASSOCIATED CABLING THAT CONNECTS ODOT PROVIDED EQUIPMENT.

DMJM HARRIS | AECOM

VAR – CLEVELAND
FREEWAY MANAGEMENT SYSTEM

Field Cabinet Locations w /DMS Wireless
I-71
71-N
71-1
71-2
I-77
77-N
77-1
I-90
90-1
I-271
271-1





NOTES

1. ODOT TO INSTALL ALL CISCO PRODUCTS, TERMINAL SERVERS, UPS AND ALL ASSOCIATED CABLING THAT CONNECTS ODOT PROVIDED EQUIPMENT.

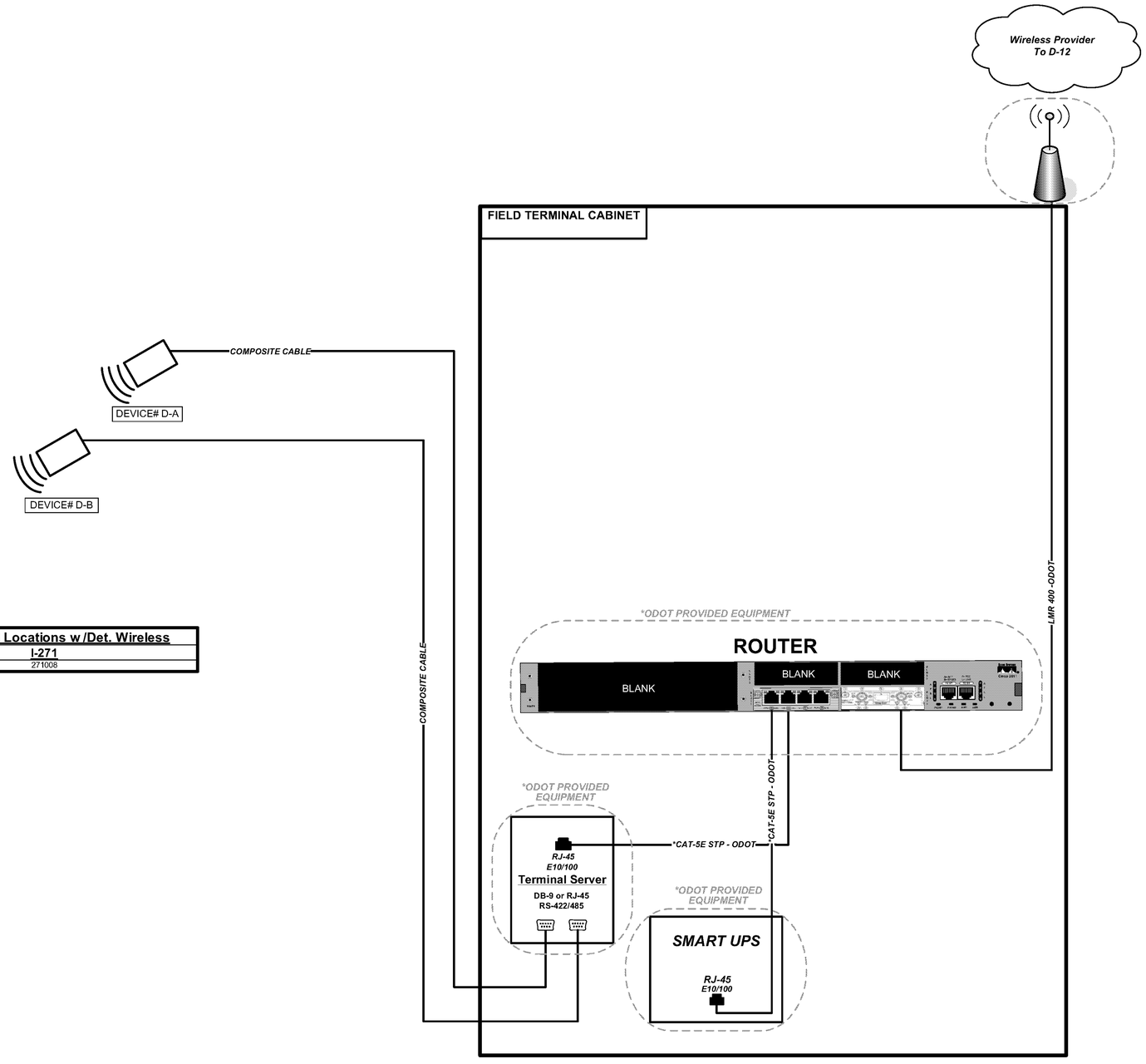
DMJM HARRIS | AECOM

CALCULATED RCM
CHECKED JDG

TYPICAL FIELD TERMINAL CABINET WIRELESS HIGHWAY ADVISORY RADIO

VAR – CLEVELAND
FREEWAY MANAGEMENT SYSTEM

CALCULATED	CHECKED
RCM	JDG



KEY

- **MICROWAVE DETECTOR** — *DEVICE NUMBER FOLLOWED BY 'D'*
- **CCTV CAMERA** — *DEVICE NUMBER FOLLOWED BY 'C'*
- **DMS** — **DYNAMIC MESSAGE SIGN** — *DEVICE NUMBER FOLLOWED BY 'S'*
- **SERVICE PROVIDER**
- **WIRELESS ACCESS POINT**
- ***HIGHWAY ADVISORY RADIO***

Field Cabinet Locations w /Det. Wireless
I-271
271008

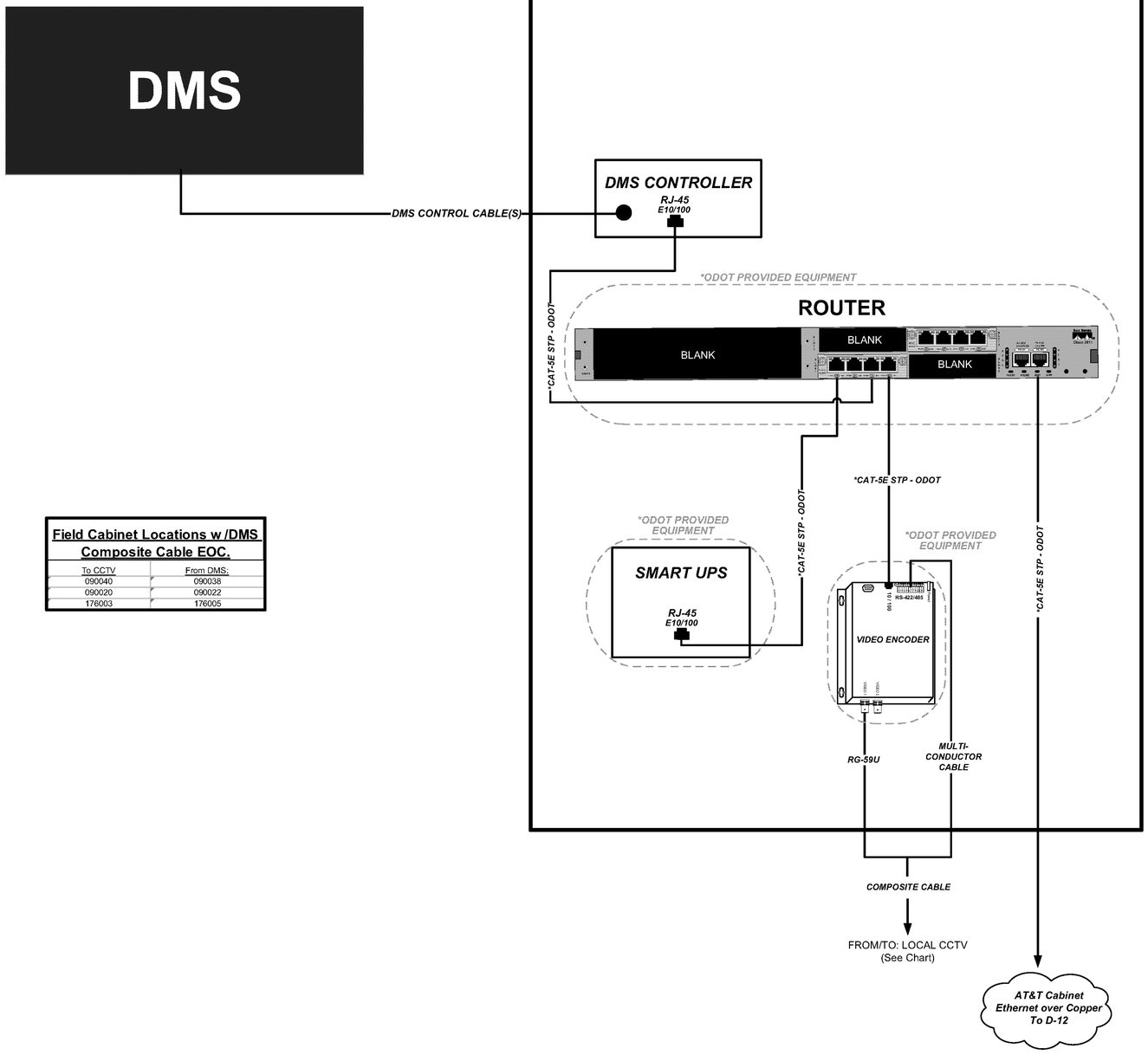
NOTES

1. **ODOT TO INSTALL ALL CISCO PRODUCTS, TERMINAL SERVERS, UPS AND ALL ASSOCIATED CABLING THAT CONNECTS ODOT PROVIDED EQUIPMENT.**

DMJM HARRIS | AECOM

TYPICAL FIELD TERMINAL CABINET DETECTOR WIRELESS

VAR – CLEVELAND
FREEWAY MANAGEMENT SYSTEM



Field Cabinet Locations w /DMS Composite Cable EOC.

To CCTV	From DMS:
090040	090038
090020	090022
176003	176005

KEY

- MICROWAVE DETECTOR — *DEVICE NUMBER FOLLOWED BY 'D'*
- CCTV CAMERA — *DEVICE NUMBER FOLLOWED BY 'C'*
- DMS — DYNAMIC MESSAGE SIGN — *DEVICE NUMBER FOLLOWED BY 'S'*
- SERVICE PROVIDER
- WIRELESS ACCESS POINT
- *HIGHWAY ADVISORY RADIO*

NOTES

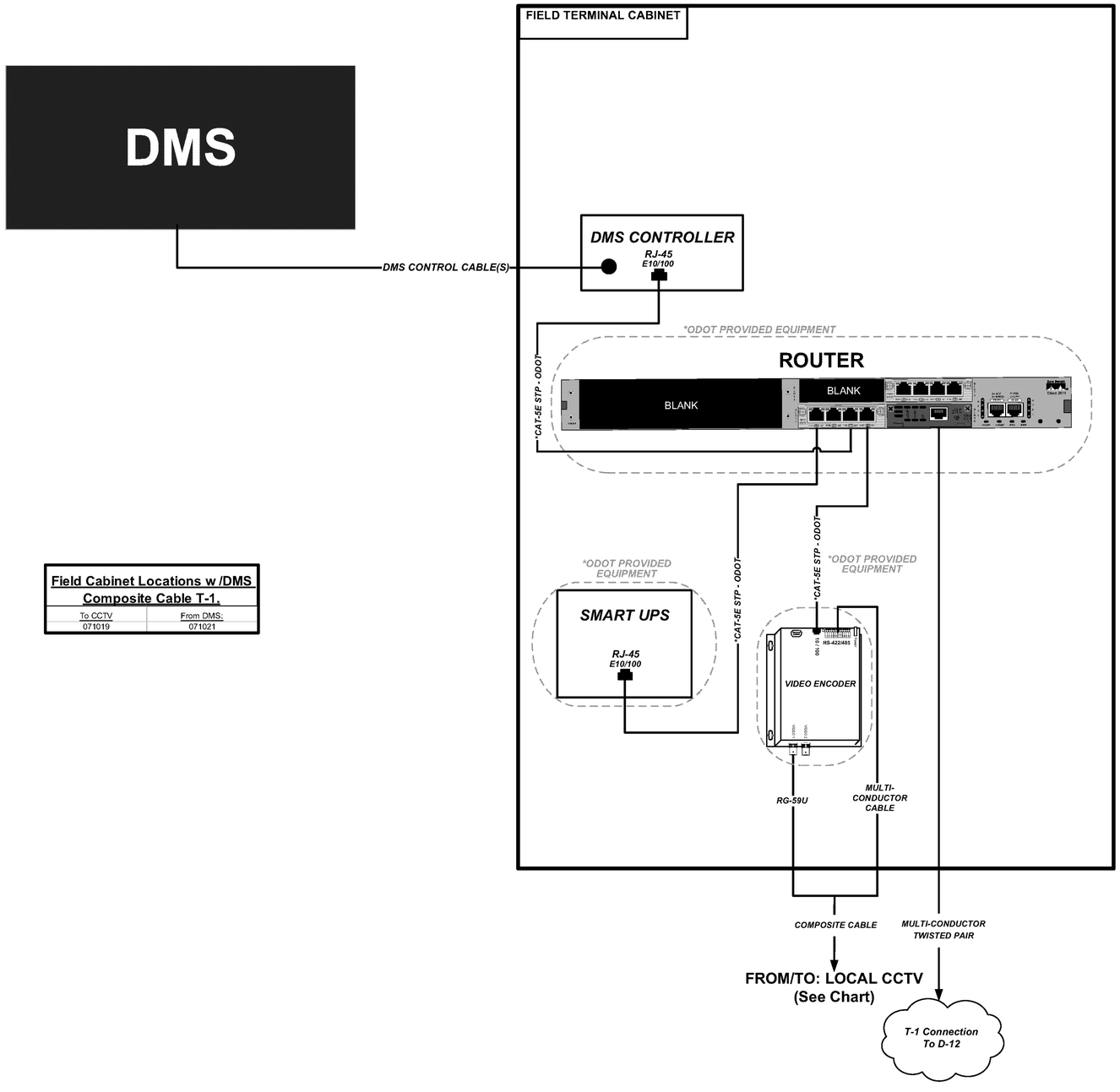
1. ODOT TO INSTALL ALL CISCO PRODUCTS, TERMINAL SERVERS, UPS AND ALL ASSOCIATED CABLING THAT CONNECTS ODOT PROVIDED EQUIPMENT.

DMJM HARRIS | AECOM

CALCULATED RCM
CHECKED JDG

TYPICAL FIELD TERMINAL CABINET DMS-EOC W/ COMPOSITE CABLE EOC

VAR – CLEVELAND
FREEWAY MANAGEMENT SYSTEM



Field Cabinet Locations w /DMS Composite Cable T-1.

To CCTV	From DMS:
071019	071021

KEY

- **MICROWAVE DETECTOR** — *DEVICE NUMBER FOLLOWED BY 'D'*
- **CCTV CAMERA** — *DEVICE NUMBER FOLLOWED BY 'C'*
- **DMS** — **DYNAMIC MESSAGE SIGN** — *DEVICE NUMBER FOLLOWED BY 'S'*
- **SERVICE PROVIDER**
- **WIRELESS ACCESS POINT**
- ***HIGHWAY ADVISORY RADIO***

NOTES

1. **ODOT TO INSTALL ALL CISCO PRODUCTS, TERMINAL SERVERS, UPS AND ALL ASSOCIATED CABLING THAT CONNECTS ODOT PROVIDED EQUIPMENT.**

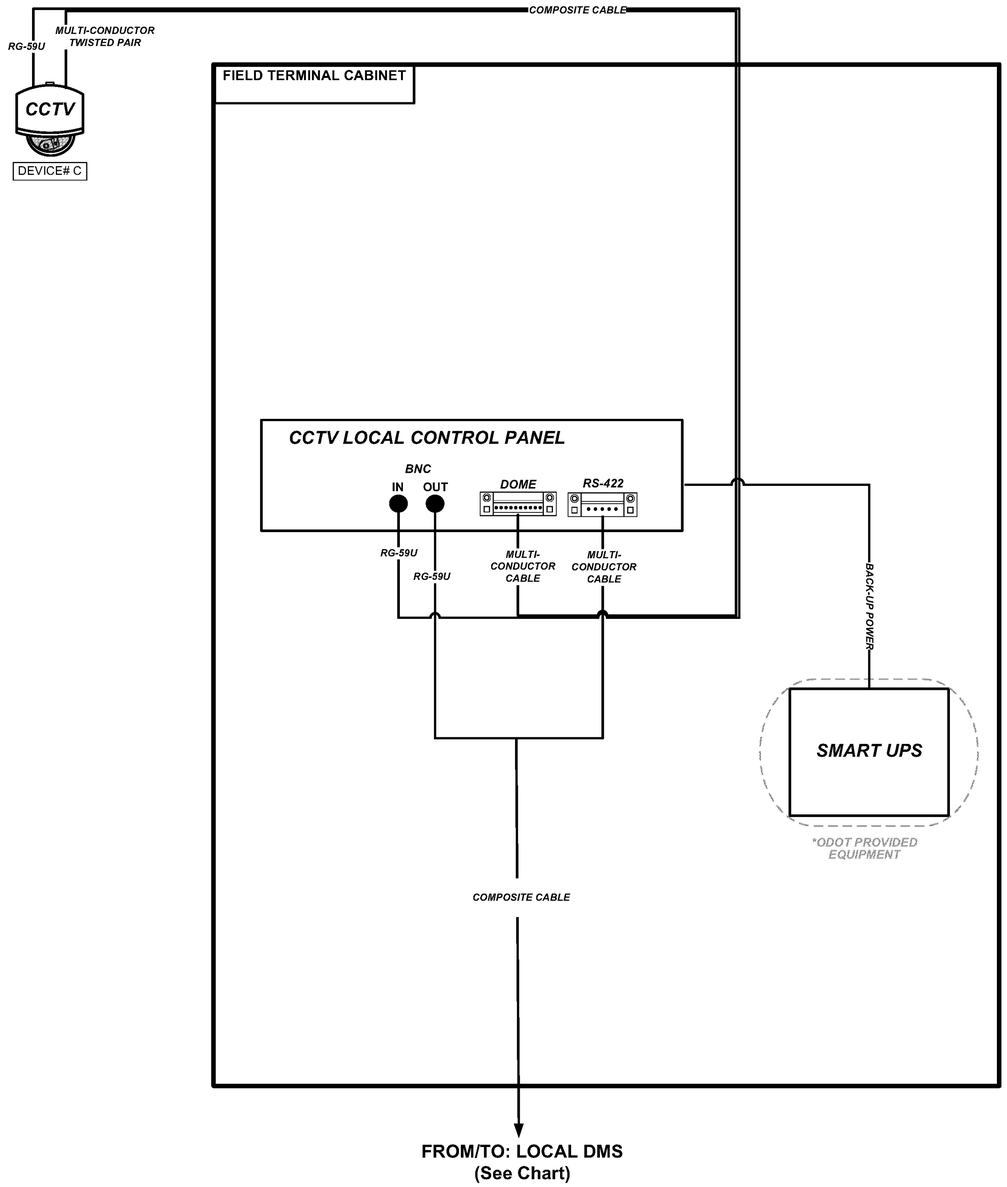
DMJM HARRIS | AECOM

CALCULATED RCM | CHECKED JDG

TYPICAL FIELD TERMINAL CABINET DMS W/ COMPOSITE CABLE T-1

VAR – CLEVELAND
FREEWAY MANAGEMENT SYSTEM

Field Cabinet Locations w /CCTV Composite Cable.	
From CCTV	To DMS:
077030	077028
071019	071021
090040	090038
090020	090022
176003	176005



KEY

MICROWAVE DETECTOR
DEVICE NUMBER FOLLOWED BY 'D'

CCTV CAMERA
DEVICE NUMBER FOLLOWED BY 'C'

DMS **DYNAMIC MESSAGE SIGN**
DEVICE NUMBER FOLLOWED BY 'S'

SERVICE PROVIDER

WIRELESS ACCESS POINT

HIGHWAY ADVISORY RADIO

NOTES

1. **ODOT TO INSTALL ALL CISCO PRODUCTS, TERMINAL SERVERS, UPS AND ALL ASSOCIATED CABLING THAT CONNECTS ODOT PROVIDED EQUIPMENT.**

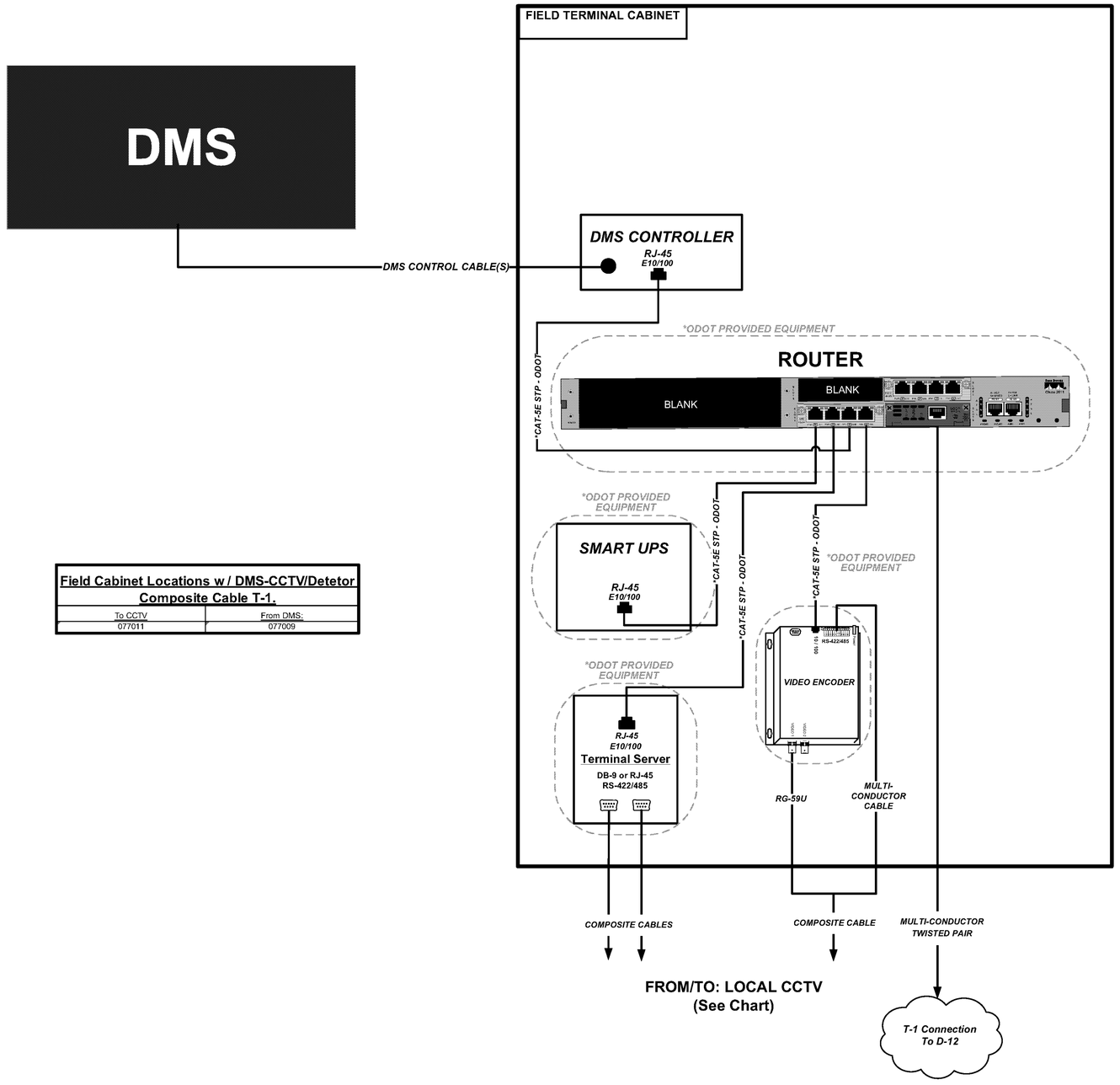
DMJM HARRIS | AECOM

CALCULATED RCM
CHECKED JDG

TYPICAL FIELD TERMINAL CABINET CCTV-DMS W/ COMPOSITE CABLE

VAR – CLEVELAND
FREEWAY MANAGEMENT SYSTEM

206 A
207



Field Cabinet Locations w / DMS-CCTV/Detetor Composite Cable T-1.	
To CCTV	From DMS:
077011	077009

KEY

- MICROWAVE DETECTOR — *DEVICE NUMBER FOLLOWED BY 'D'*
- CCTV CAMERA — *DEVICE NUMBER FOLLOWED BY 'C'*
- DMS — DYNAMIC MESSAGE SIGN — *DEVICE NUMBER FOLLOWED BY 'S'*
- SERVICE PROVIDER
- WIRELESS ACCESS POINT
- *HIGHWAY ADVISORY RADIO*

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DMJM HARRIS | AECOM

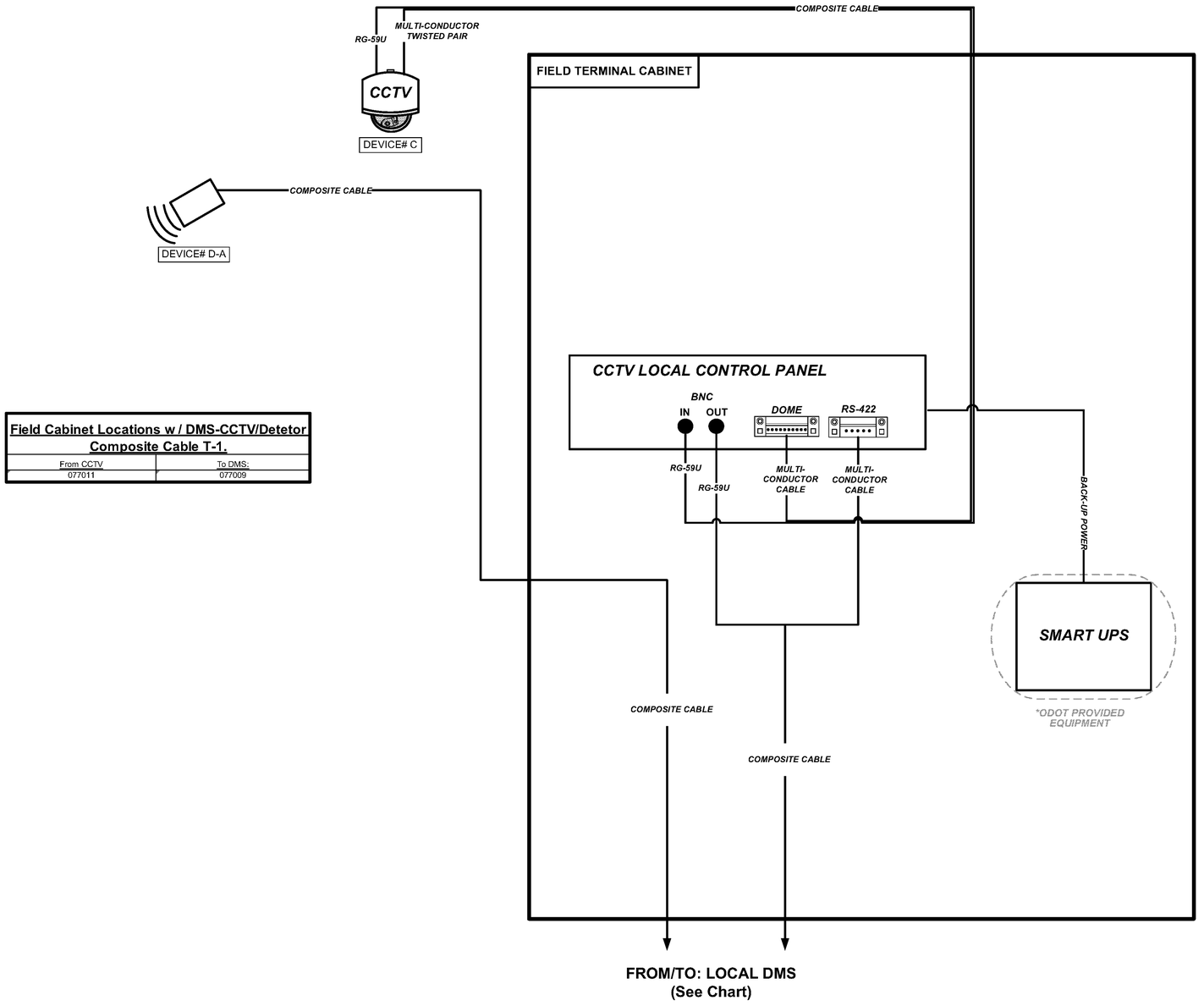
CALCULATED RCM | CHECKED JDG

TYPICAL FIELD TERMINAL CABINET DMS-CCTV/DETECTOR W/ COMPOSITE CABLE T-1

VAR – CLEVELAND
FREEWAY MANAGEMENT SYSTEM

CALCULATED RCM
CHECKED JDG

TYPICAL FIELD TERMINAL CABINET CCTV-DETECTOR-DMS W/ COMPOSITE CABLE



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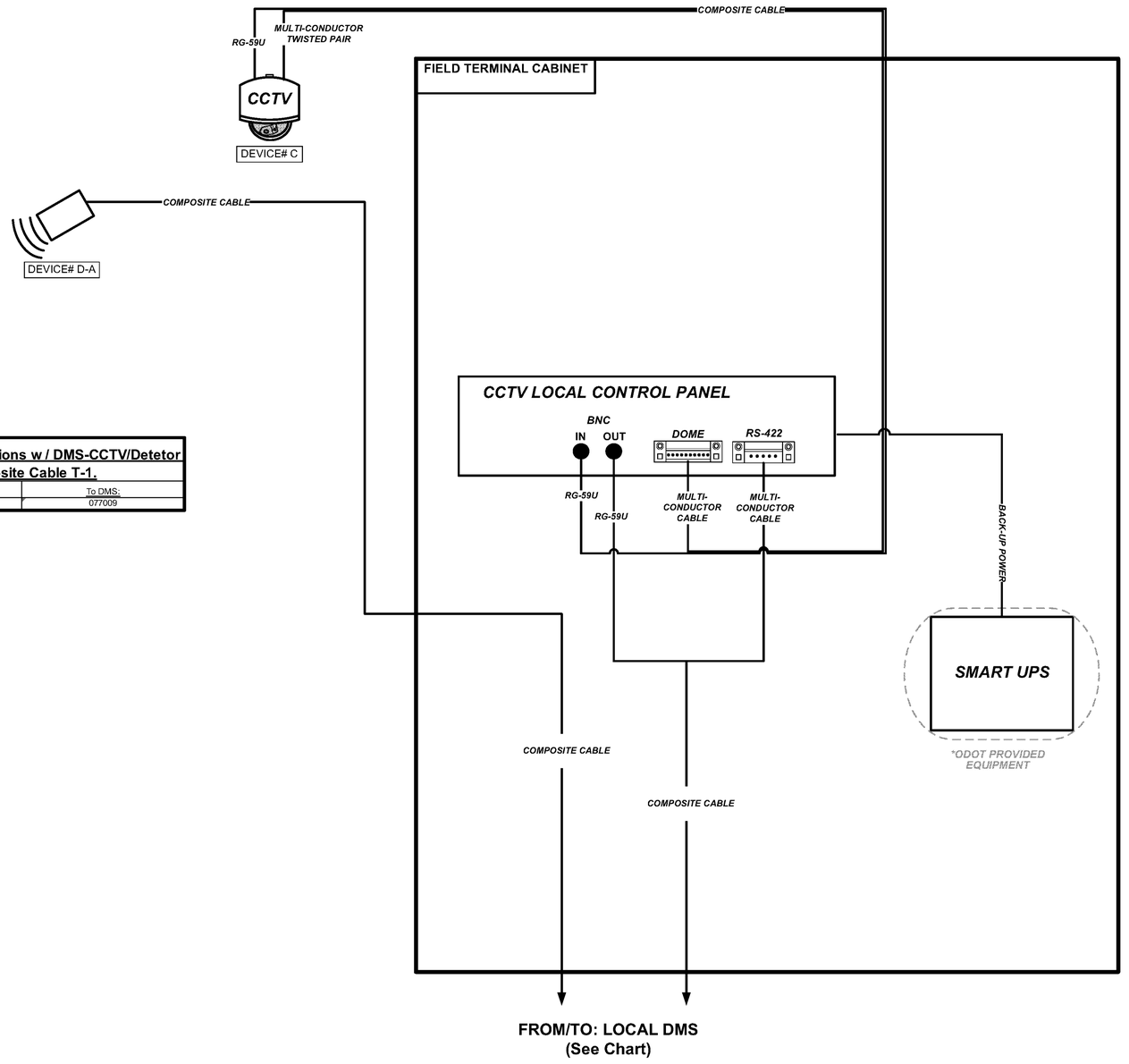
AECOM

VAR – CLEVELAND
FREEWAY MANAGEMENT SYSTEM



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TYPICAL FIELD TERMINAL CABINET CCTV-DETECTOR-DMS W/ COMPOSITE CABLE

VAR – CLEVELAND
FREEWAY MANAGEMENT SYSTEM