

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR USE AS DETERMINED BY THE PROJECT ENGINEER AND CARRIED TO THE GENERAL SUMMARY:

**ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A, AS PER PLAN, PG76-22M (RAMP PAVING):**

GREAT CARE SHALL BE TAKEN TO MAINTAIN THE EXISTING PAVEMENT CROSS-SLOPE (CROWN), INTERSECTION CROSS-SLOPES (CROWN) AS WELL AS ALL LONGITUDINAL SLOPES DURING THE PAVING OPERATIONS.

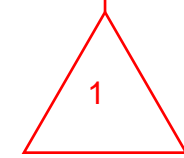
DUE TO THE HIGH STRESS CHARACTERISTICS OF THE ASPHALT RAMPS IN THIS PLAN, APPENDIX B OF THE PAVEMENT DESIGN MANUAL APPLIES. ITEM 442 ON THE RAMPS SHALL REQUIRE A PG76-22M BINDER.

**ITEM 620 - DELINEATOR, POST GROUND MOUNTED**

THIS ITEM CONSISTS OF INSTALLING MISSING AND DAMAGED FLEXIBLE POST MOUNTED DELINEATORS ON ALL APPLICABLE RAMPS WITHIN THE PROJECT LIMITS. THIS ITEM SHALL USED "AS DIRECTED" BY THE ENGINEER.

THE FOLLOWING CONTINGENCY QUANTITIES HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 620 - DELINEATOR, POST GROUND MOUNTED 18 EACH



Note Deleted

**ITEM 626 - BARRIER REFLECTOR, TYPE 1, 1-WAY**

THIS ITEM CONSISTS OF INSTALLING MISSING AND DAMAGED BARRIER REFLECTORS ON ALL CONCRETE BARRIER, AND BRIDGE PARAPETS WITHIN THE PROJECT LIMITS. THIS ITEM SHALL ONLY BE "NON-PERFORMED" IN AREAS AS DETERMINED BY THE ENGINEER.

THE FOLLOWING CONTINGENCY QUANTITIES HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 626 - BARRIER REFLECTOR,TYPE 1, 1-WAY 8 EACH

**ITEM 623 - CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN:**

THIS ITEM SHALL CONSIST OF STATIONING USING 3 FT LATH STAKES. THE STAKES SHALL BE SPACED AT 200 FT INTERVALS AND SHALL EXTEND THROUGHOUT THE LENGTH OF EACH PROJECT LOCATION AND THROUGHOUT THE LENGTH OF ANY RAMPS.

PLACEMENT OF THE STAKES SHALL BE AS DIRECTED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY DAMAGED OR MISSING STAKES.

CONSTRUCTION LAYOUT STAKES, AS PER PLAN WILL BE PAID FOR AT THE CONTRACT LUMP SUM BID, WHICH SHALL BE FULL COMPENSATION FOR ALL SERVICES, MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS, INCLUDING THE REMOVAL, NECESSARY TO COMPLETE THIS ITEM.

**PAVEMENT SAWCUTTING**

THE COST OF SAW CUTTING FOR THE REMOVAL OF PAVEMENT, CURB, WALKS, ETC. SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 202 WORK ITEMS. SAW CUTTING IS REQUIRED TO PROVIDE SMOOTH STRAIGHT EDGES FOR REMOVAL PURPOSES.

THE CONTRACTOR PERFORMING PAVEMENT-CUTTING OPERATIONS ON CITY OF COLUMBUS STREETS AND ROADWAYS SHALL PROTECT THE ENVIRONMENT FROM DISCHARGES CREATED BY THEIR PAVEMENT CUTTING OPERATIONS. NOTE THAT COLUMBUS CITY CODE 1145 PROHIBITS NON-STORMWATER DISCHARGE INTO THE CITY OF COLUMBUS SEWER SYSTEM, CURB INLETS AND ANY PART OF ITS MS4 (MUNICIPAL SEPARATE STORM SEWER SYSTEM).

THE REQUIREMENT INCLUDES BUT IS NOT LIMITED TO WET OR DRY SAW-CUTTING, JACK HAMMERING, EXCAVATION EQUIPMENT USE, ETC. THE PUBLIC AGENCY AND/OR PRIVATE CONTRACTOR WORK CREWS SHALL RECOVER AND DISPOSE OF DETRITUS, POLLUTED WATERS, OR OTHER SUCH DISCHARGES RESULTING FROM THEIR PAVEMENT CUTTING OPERATIONS AND PROTECT ALL STORM SEWER INLETS FROM RECEIVING ANY DISCHARGES FROM THE CONSTRUCTION OPERATIONS. THE AGENCY OR CONTRACTOR RESPONSIBLE FOR EACH PAVEMENT CUTTING ACTIVITY SHALL BE SOLELY LIABLE FOR NOTICE OF VIOLATIONS (NOV/S) AND FINES ISSUED BY CITY OF COLUMBUS AND/OR STATE OF OHIO AUTHORITIES.

EQUIPMENT, MATERIALS AND METHODS SHALL BE PROVIDED BY THE RESPONSIBLE CONTRACTOR TO WORK CREWS PERFORMING THE PAVEMENT CUTTING ACTIVITY AND MADE AVAILABLE TO WORK CREWS FOR USE IN CLEANING UP DISCHARGES RESULTING FROM SUCH CUTTING ACTIVITIES AND PREVENTING RUNOFF. ALL WORK CREWS SHALL BE TRAINED TO EXERCISE AND EMPLOY EQUIPMENT, MATERIALS, AND ENVIRONMENTAL PROTECTIVE MEASURES TO PREVENT POLLUTED DISCHARGES FROM ENTERING THE CITY OF COLUMBUS STORM SEWER SYSTEM AND WATERS OF THE STATE OF OHIO.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING THAT THE INLET PROTECTION IS ADEQUATE. THE MOST STRINGENT PROJECT PLANS, NOTES AND/OR DRAWINGS INCLUDING STORMWATER POLLUTION PREVENTION PLAN (SWP3) OR SPILL PREVENTION/REMEDATION PLAN SHALL APPLY TO ALL PAVEMENT CUTTING, SAWING OR EXCAVATION OPERATIONS.

**FOR THE DIVISION OF POWER**

FOR THE DIVISION OF POWER THE DIVISION OF POWER (DOP) MAY HAVE UNDERGROUND AND OVERHEAD PRIMARY, SECONDARY, AND STREET LIGHTING AT THIS WORK LOCATION. THE CONTRACTOR IS HEREBY REQUIRED TO CONTACT OUPS AT 811 OR 1-800-362-2764 FORTY-EIGHT HOURS PRIOR TO CONDUCTING ANY ACTIVITY WITHIN THE CONSTRUCTION AREA.

ANY REQUIRED RELOCATION, SUPPORT, PROTECTION, OR ANY OTHER ACTIVITY CONCERNED WITH THE CITY'S ELECTRICAL FACILITIES IN THE CONSTRUCTION AREA IS TO BE PERFORMED BY THE CONTRACTOR UNDER THE DIRECTION OF DOP PERSONNEL AND AT THE EXPENSE OF THE PROJECT. THE CONTRACTOR SHALL USE MATERIAL AND MAKE REPAIRS TO A CITY OF COLUMBUS STREET LIGHTING SYSTEM BY FOLLOWING DOP'S " MATERIAL AND INSTALLATION SPECIFICATIONS" (MIS) AND THE CITY OF COLUMBUS "CONSTRUCTION AND MATERIAL SPECIFICATIONS" (CMSC). ANY NEW OR RE-INSTALLED UNDERGROUND STREETLIGHT SYSTEM SHALL REQUIRE TESTING AS REFERRED TO IN SECTION 1001.18 OF THE CMSC MANUAL. THE CONTRACTOR SHALL CONFORM TO DOP'S EXISTING STREET LIGHTING LOCKOUT/TAGOUT (LOTO) PROCEDURE MIS-01, COPIES OF WHICH ARE AVAILABLE FROM DOP.

IF ANY ELECTRIC FACILITY BELONGING TO DOP IS DAMAGED IN ANY MANNER BY THE CONTRACTOR, ITS AGENTS, SERVANTS, OR EMPLOYEES, AND REQUIRES EMERGENCY REPAIRS, THE DOP DISPATCH OFFICE SHOULD BE CONTACTED IMMEDIATELY AT (614) 645-7627. DOP SHALL MAKE ALL NECESSARY REPAIRS, AND THE EXPENSE OF SUCH REPAIRS AND OTHER RELATED COSTS SHALL BE PAID BY THE CONTRACTOR TO THE DIVISION OF POWER, CITY OF COLUMBUS, OHIO.

**ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS**

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE OMTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC, OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE OMTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

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 LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

FOR OPERATIONS WITHOUT POSITIVE PROTECTION OCCURRING WITHIN 10 FEET OF AN OPEN TRAVELED LANE THAT MEET ALL OF THE FOLLOWING CRITERIA:

- ON A MULTI-LANE DIVIDED INTERSTATE, OTHER FREEWAY OR EXPRESSWAY; AND
- AN AUTHORIZED SPEED LIMIT OF 45 MPH OR GREATER THAT IS IN EFFECT AT THE TIME OF THE OPERATION; AND,
- AADT OF 50,000 (OR AADT OF 30,000 WITH 25% OR HIGHER PERCENT TRUCKS)

"WITHOUT POSITIVE PROTECTION" MEANS USE OF DRUMS, CONES, SHADOW VEHICLE, ETC, WITHOUT PROTECTION FROM PORTABLE BARRIER OR OTHER RIGID BARRIER ALONG THE WORK AREA. THIS PHRASE DOES NOT APPLY TO CASES WHERE POSITIVE PROTECTION IS REQUIRED. MOBILE OPERATIONS ARE REGARDED AS "WITHOUT POSITIVE PROTECTION". FOR WORK ZONES USING A COMBINATION OF BARRIER AND TEMPORARY TRAFFIC CONTROL DEVICES (CONES, DRUMS, ETC), THE DESIGNATION SHALL BE BASED UPON THE TYPE OF DEVICES USED IN THE AREA THAT WORKERS ARE LOCATED.

IF MULTIPLE ACTIVE LOCALIZED QUALIFYING WORK AREAS OCCUR WITHOUT POSITIVE PROTECTION, PER MAINLINE TRAFFIC DIRECTION, PROVIDE A UNIFORMED LEO AND OFFICIAL PATROL CAR IN ADVANCE OF:

- THE FIRST ACTIVE WORK AREA THAT DRIVERS WILL ENCOUNTER; OR
- THE ACTIVE WORK AREA Laterally Closest to the OPEN TRAVELED LANE; OR
- OTHER LOCATION AS APPROVED BY THE ENGINEER.

THE UNIFORMED LEO AND OFFICIAL PATROL CAR MAY RELOCATE AMONG THE LISTED LOCATIONS AS APPROPRIATE AS THE OPERATIONS PROCEED IN THE LOCALIZED QUALIFYING WORK AREAS.

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION (OR AT THE POINT OF ROAD CLOSURE), AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&MS 614.03.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE THAT SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (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) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 96 HOURS

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

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF A LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

**DRUM REQUIREMENTS**

IN ADDITION TO THE REQUIREMENTS OF THE PLANS, SPECIFICATION AND PROPOSAL, DRUMS FURNISHED BY THE CONTRACTOR SHALL BE NEW AND UNUSED AT THE TIME OF ARRIVAL ON THE PROJECT. ANY DRUMS BROUGHT ON THE PROJECT, WHICH HAVE PREVIOUSLY BEEN USED ELSEWHERE, WILL NOT BE ACCEPTED.

PAYMENT FOR DRUMS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR MAINTAINING TRAFFIC, AS PER PLAN UNLESS SEPARATELY ITEMIZED.

**OVERNIGHT TRENCH CLOSING**

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 1.5 INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

**ROADS AND PAVEMENTS FOR MAINTAINING TRAFFIC**

THE WORK CONSISTS OF PROVIDING, MAINTAINING, AND SUBSEQUENTLY REMOVING ROADS AND PAVEMENT FOR MAINTAINING TRAFFIC

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE PLAN FOR INFORMATION ONLY:

EXCAVATION FOR MAINTAINING TRAFFIC 100 CU YD  
EMBANKMENT FOR MAINTAINING TRAFFIC 2,288 CU YD

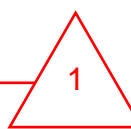
WHEN UNDERCUTS ARE NECESSARY FOR MAINLINE PAVEMENT OR EMBANKMENT CONSTRUCTION, EVALUATE THE NEED FOR TEMPORARY ROAD UNDERCUTS IF WITHIN A CLOSE PROXIMITY TO THE MAINLINE UNDERCUTS. A GEOTECHNICAL EVALUATION SHOULD BE CONSIDERED TO DETERMINE IF THE EXISTING SOIL CONDITIONS ARE ADEQUATE TO SUPPORT THE TEMPORARY ROAD. ADDITIONAL SOIL BORINGS ALONG THE TEMPORARY ROAD ARE NOT NORMALLY REQUIRED.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

ITEM 615 - ROADS FOR MAINTAINING TRAFFIC LUMP SUM

**ITEM 622 - PORTABLE BARRIER, UNANCHORED, AS PER PLAN**  
**ITEM 622 - PORTABLE BARRIER, ANCHORED, AS PER PLAN**

THIS BARRIER SHALL MET THE REQUIREMENTS FOR PCB-91 AND SHALL HAVE TEMPORARY VANDAL FENCE INSTALLED AS SHOWN ON SHEET 169. THE TEMPORARY VANDAL FENCE IS ITEMIZED SEPARATELY.



**FLOODLIGHTING**

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 - MAINTAINING TRAFFIC, AS PER PLAN.

**TRENCH FOR WIDENING**

TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

**ITEM 614 - WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL)**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NONGATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARDS APPROVED PRODUCTS WEB PAGE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

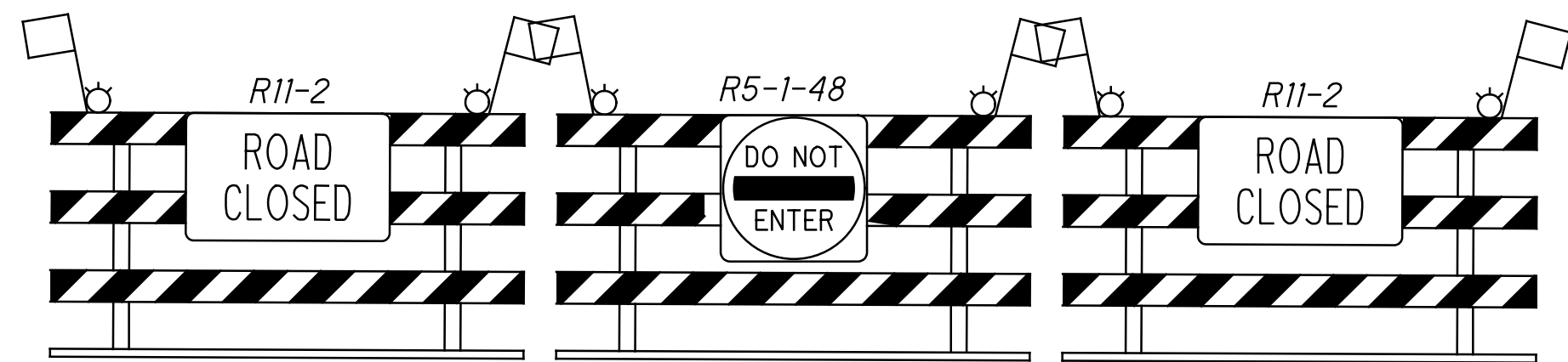
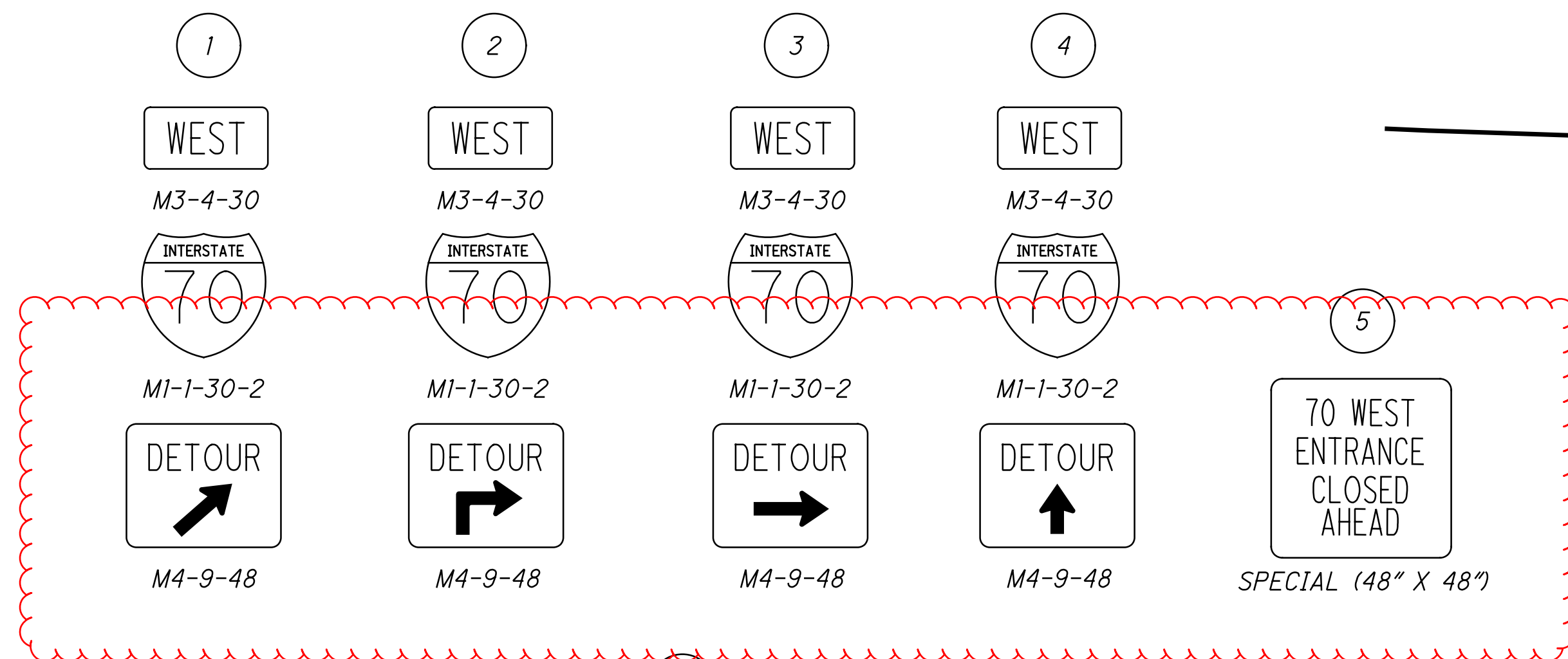
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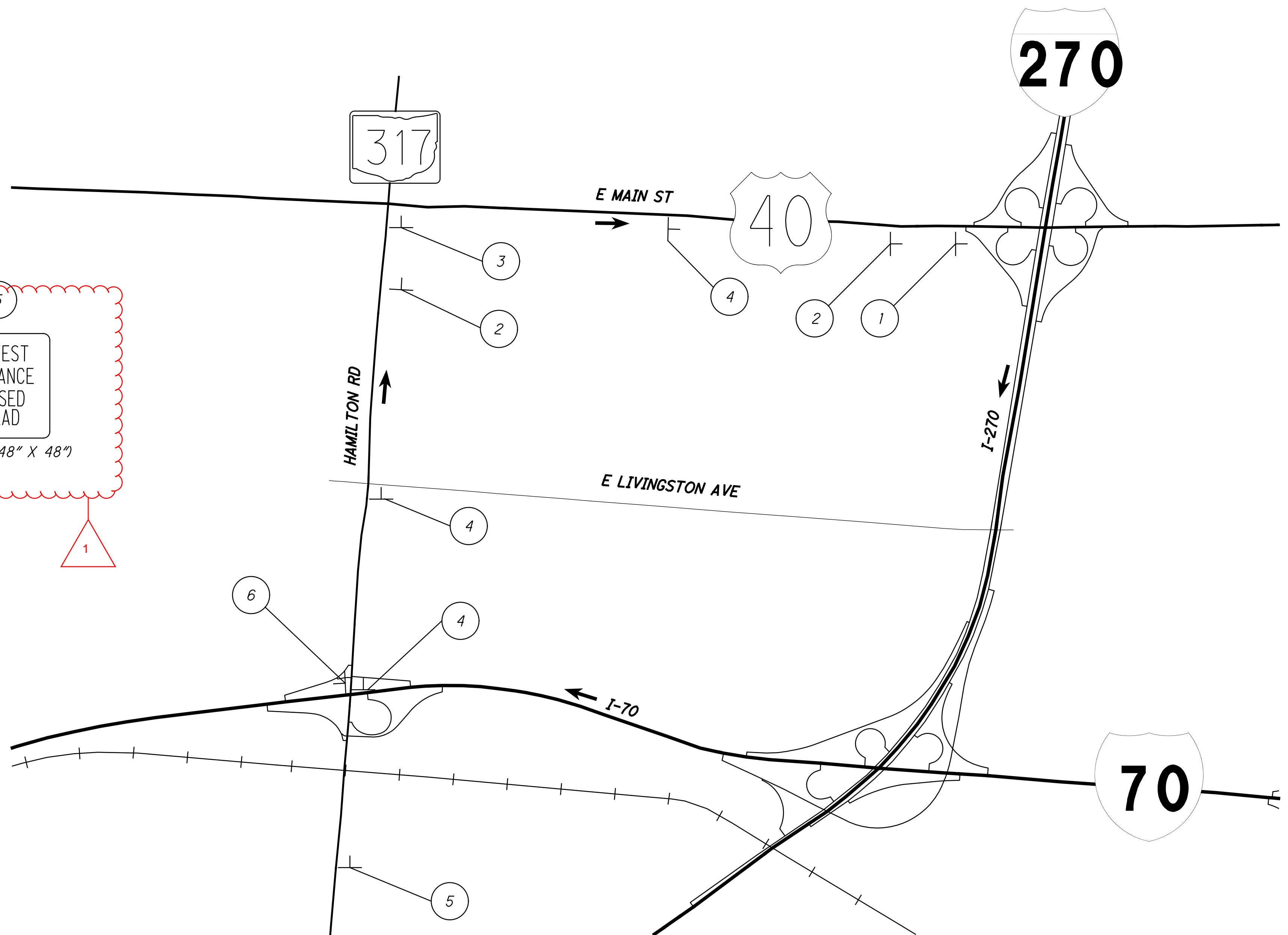
MAINTENANCE OF TRAFFIC GENERAL NOTES

FRA-70-21.33

↔ - DETOUR ROUTE



SOLID ACROSS ROAD OR INTERSECTION (EXCEPT GATES)  
10' TYPE III BARRICADE(S) SOLID  
SEE STANDARD CONSTRUCTION DRAWING MT-101.60



NOTES:

1. FOR MAINTENANCE OF TRAFFIC NOTES, SEE SHEETS 11-15

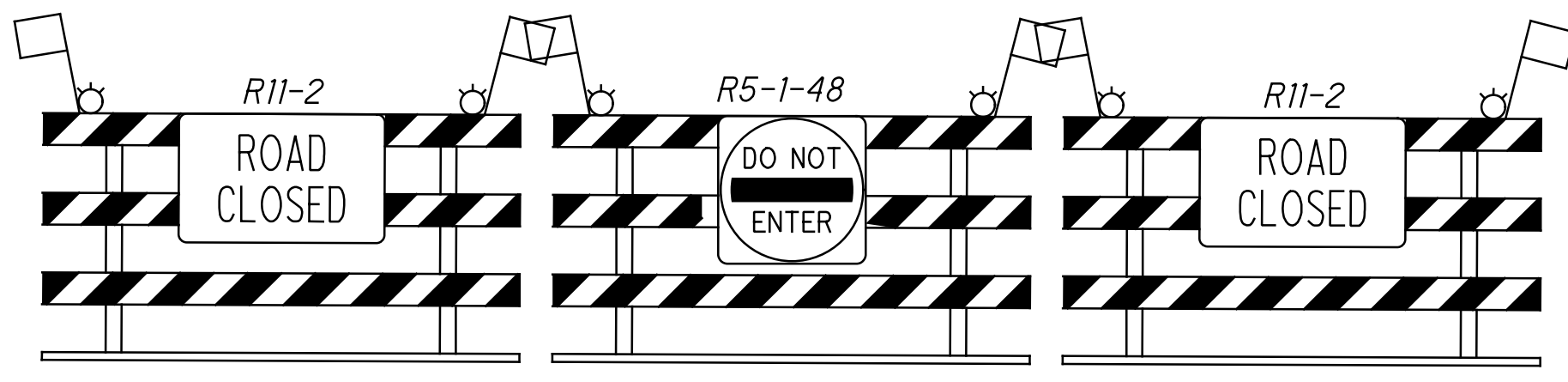
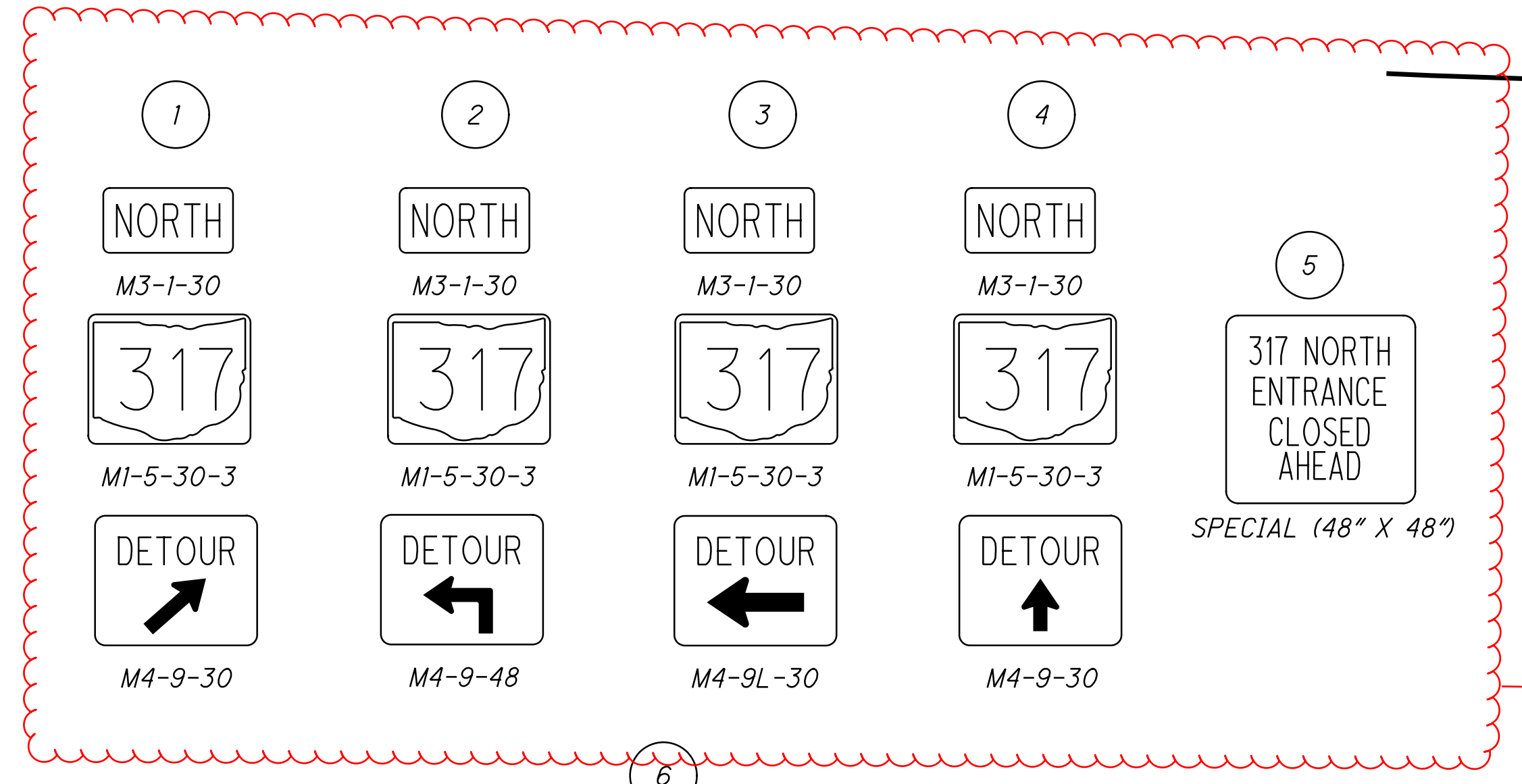
2. PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE PLACED AT OR NEAR THE FOLLOWING LOCATIONS, IN ACCORDANCE WITH MAINTENANCE OF TRAFFIC GENERAL NOTES AND APPLICABLE ODOT SPECIFICATIONS.

MESSAGE SHALL READ: RAMP CLOSED, 70 WB, FOLLOW DETOUR.

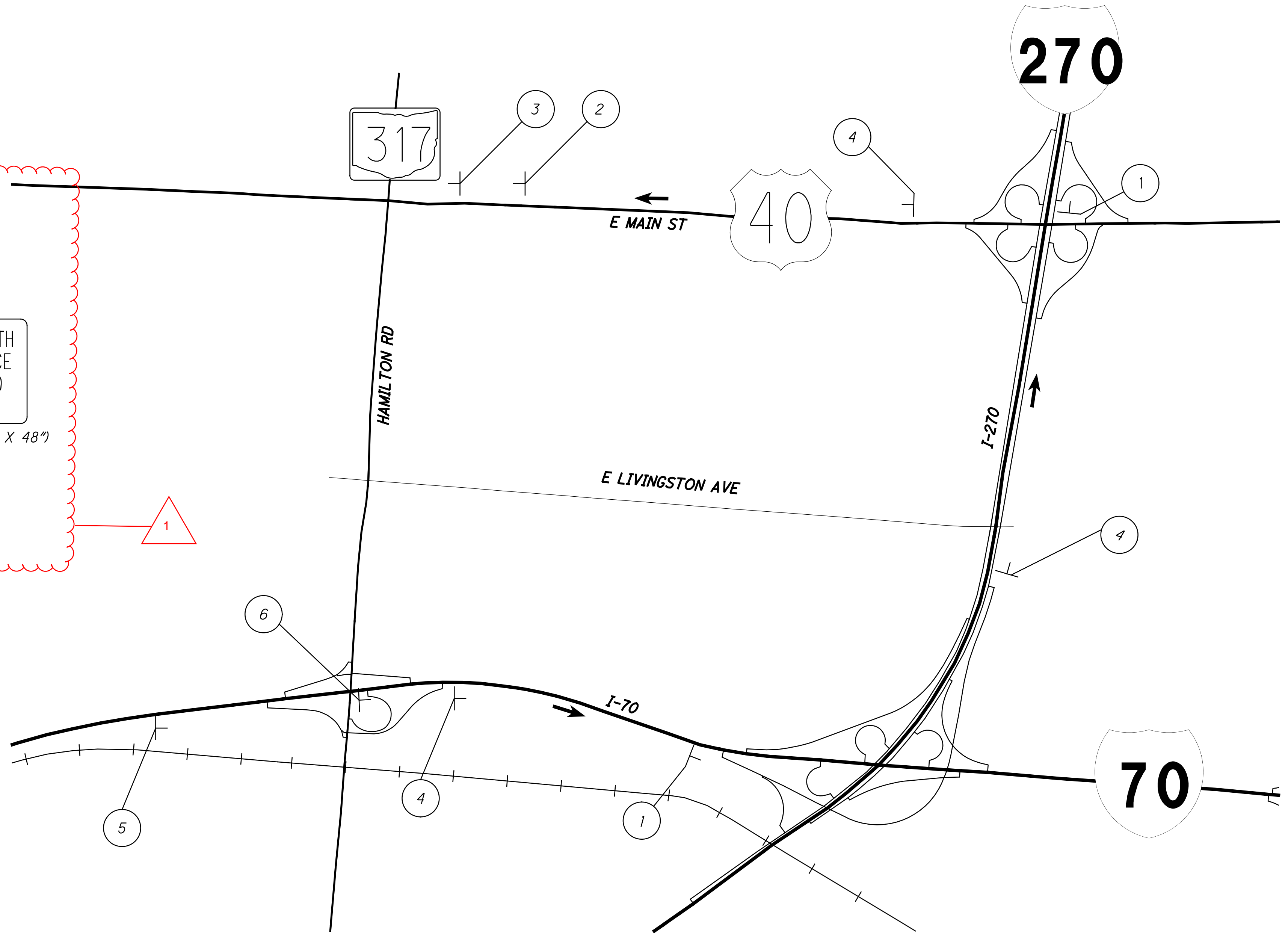
SR 317 NB STA 49+00

3. LAW ENFORCEMENT OFFICER WITH PATROL CAR SHALL BE PRESENT TO ASSIST WITH TRAFFIC CONTROL DURING INITIAL SETUP AS WELL AS ALL CONSTRUCTION OPERATIONS WHICH INVOLVE SHIFTS IN TRAFFIC OR SHIFTS IN CONSTRUCTION PHASING, IN ACCORDANCE WITH ODOT C&MS 614.09, TEM 642-55, TEM 640-19, AND MAINTENANCE OF TRAFFIC GENERAL NOTES.

↔ - DETOUR ROUTE



SOLID ACROSS ROAD OR INTERSECTION (EXCEPT GATES)  
10' TYPE III BARRICADE(S) SOLID  
SEE STANDARD CONSTRUCTION DRAWING MT-101.60



**NOTES:**

1. FOR MAINTENANCE OF TRAFFIC NOTES, SEE SHEETS 11-15

2. PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE PLACED AT OR NEAR THE FOLLOWING LOCATIONS, IN ACCORDANCE WITH MAINTENANCE OF TRAFFIC GENERAL NOTES AND APPLICABLE ODOT SPECIFICATIONS.

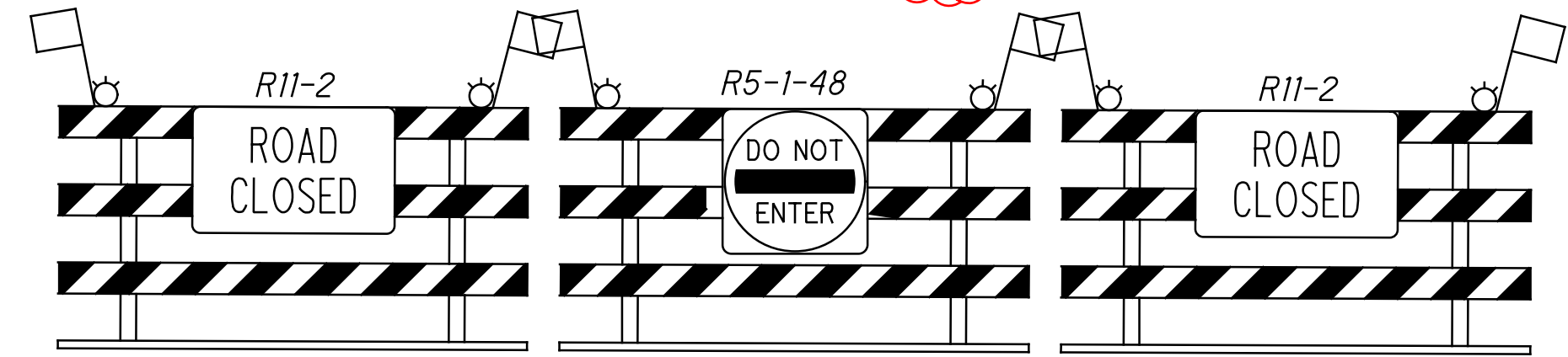
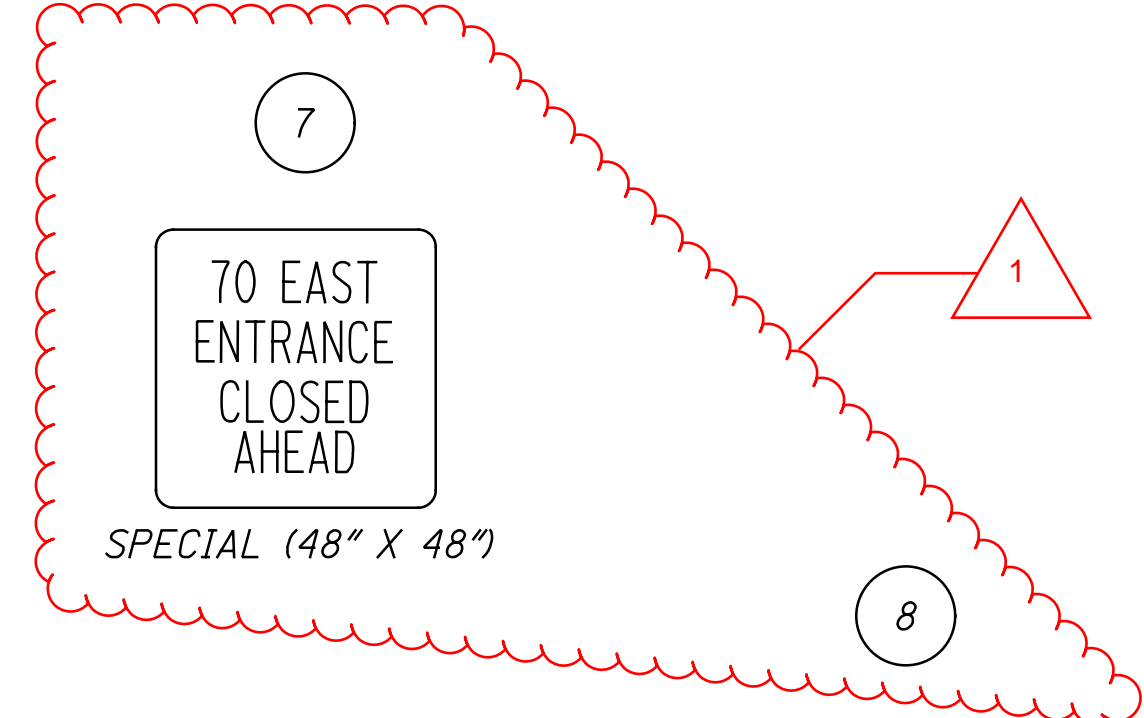
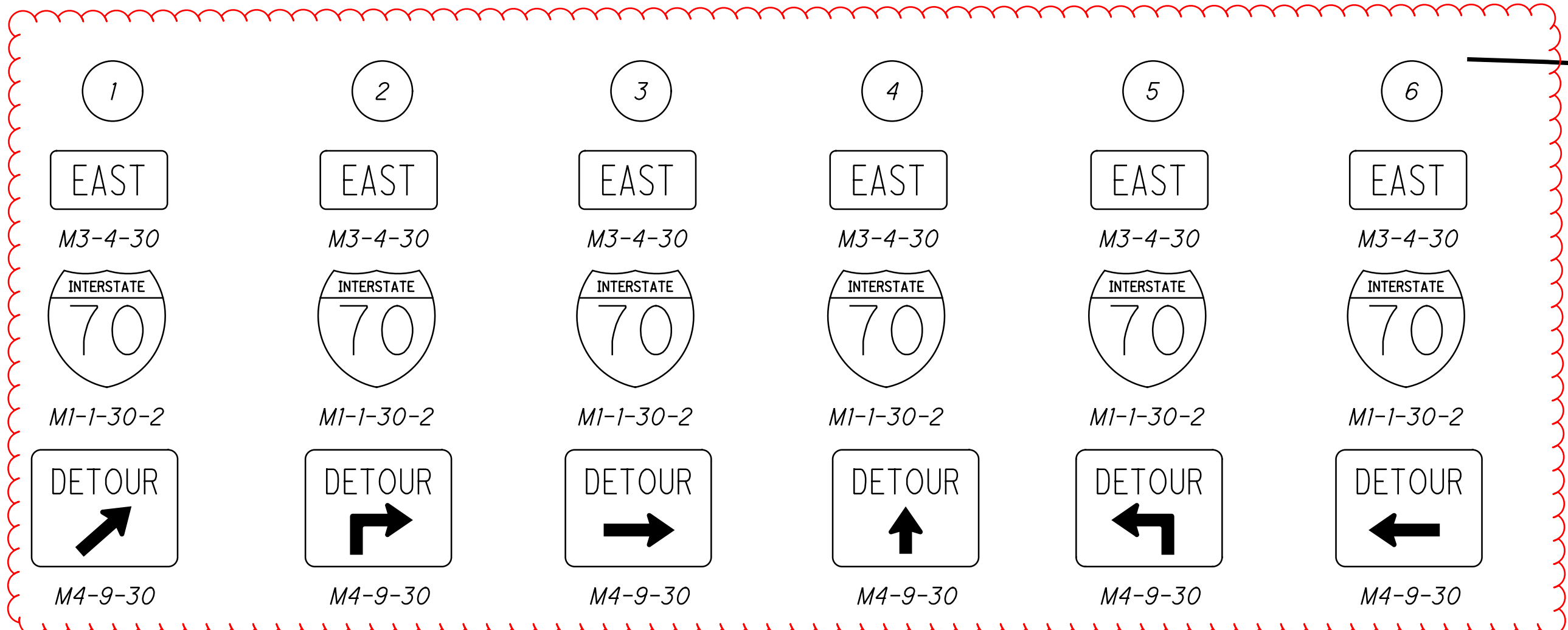
MESSAGE SHALL READ: RAMP CLOSED, HAMILTON ROAD, FOLLOW DETOUR.

IR 70 EB STA 409+50

3. LAW ENFORCEMENT OFFICER WITH PATROL CAR SHALL BE PRESENT TO ASSIST WITH TRAFFIC CONTROL DURING INITIAL SETUP AS WELL AS ALL CONSTRUCTION OPERATIONS WHICH INVOLVE SHIFTS IN TRAFFIC OR SHIFTS IN CONSTRUCTION PHASING, IN ACCORDANCE WITH ODOT C&MS 614.09, TEM 642-55, TEM 640-19, AND MAINTENANCE OF TRAFFIC GENERAL NOTES.

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↔ - DETOUR ROUTE



SOLID ACROSS ROAD OR INTERSECTION (EXCEPT GATES)  
10' TYPE III BARRICADE(S) SOLID  
SEE STANDARD CONSTRUCTION DRAWING MT-101.60

NOTES:

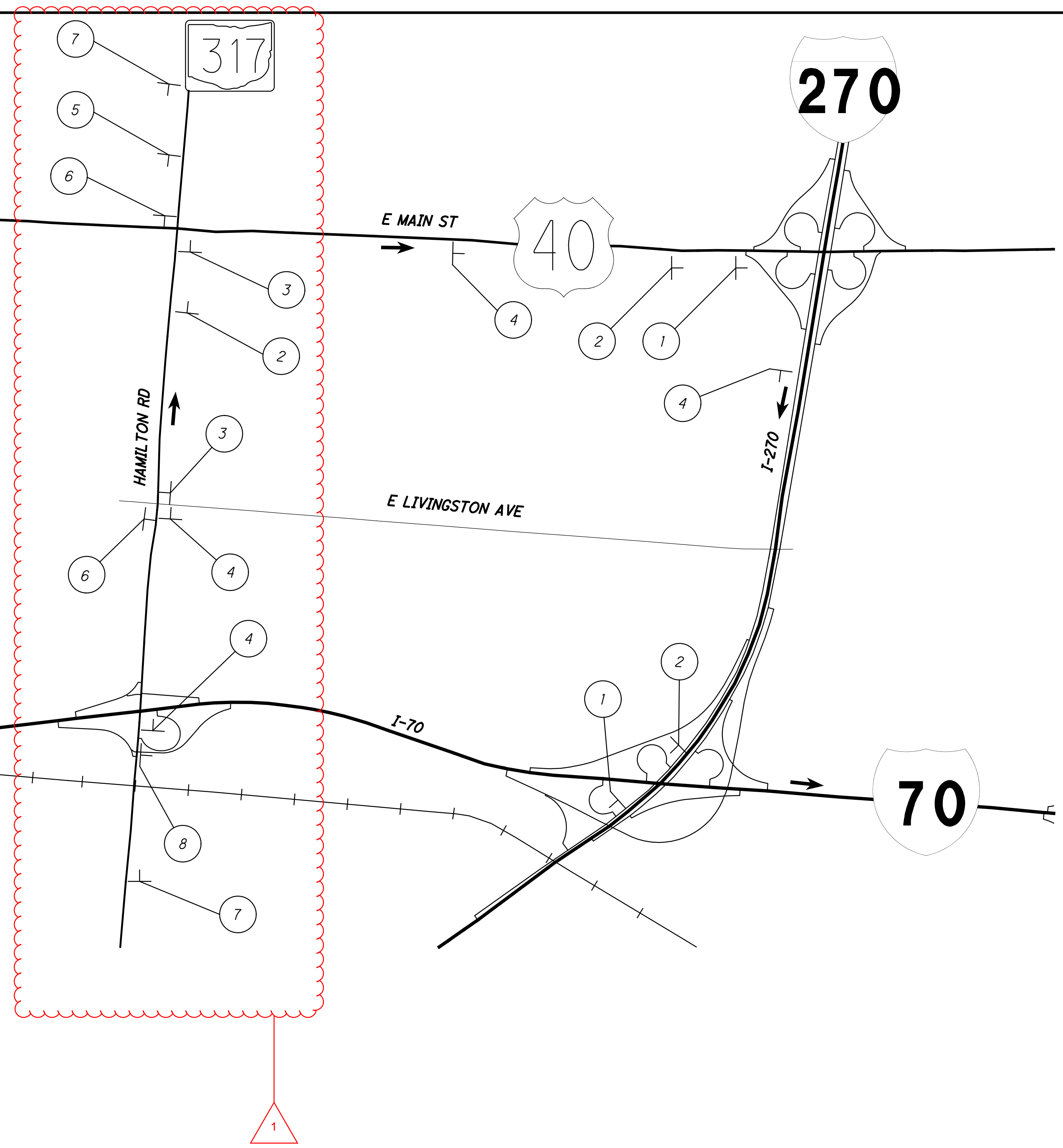
1. FOR MAINTENANCE OF TRAFFIC NOTES, SEE SHEET 11

2. PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE PLACED AT OR NEAR THE FOLLOWING LOCATIONS, IN ACCORDANCE WITH MAINTENANCE OF TRAFFIC GENERAL NOTES AND APPLICABLE ODOT SPECIFICATIONS.

MESSAGE SHALL READ: RAMP CLOSED, 70 EB, FOLLOW DETOUR.

SR 317 NB STA 49+00  
SR 317 SB STA 10+00

3. LAW ENFORCEMENT OFFICER WITH PATROL CAR SHALL BE PRESENT TO ASSIST WITH TRAFFIC CONTROL DURING INITIAL SETUP AS WELL AS ALL CONSTRUCTION OPERATIONS WHICH INVOLVE SHIFTS IN TRAFFIC OR SHIFTS IN CONSTRUCTION PHASING, IN ACCORDANCE WITH ODOT C&MS 614.09, TEM 642-55, TEM 640-19, AND MAINTENANCE OF TRAFFIC GENERAL NOTES.



MAINTENANCE OF TRAFFIC  
RAMP E 317 TO 70 EB DETOUR MAP

FRA-70-21.33

SHEET NUM.										PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
7	9	13	56	57	58	59	60	112		01/IMS /14	02/SAF /21	03/NHS /14/COLS						
<b>ROADWAY</b>																		
LS			4,950							LS	4,950		201	4000	LS		CLEARING AND GRUBBING	
			550								550		202	30000	SY		PAVEMENT REMOVED	
			85								85		202	34900	FT		CONCRETE MEDIAN REMOVED	
			1,841								1,841		202	38000	FT		PIPE REMOVED	
													202				GUARDRAIL REMOVED	
			2								2		202	42010	2	EACH	ANCHOR ASSEMBLY REMOVED, TYPE E	
			3								3		202	42040	3	EACH	ANCHOR ASSEMBLY REMOVED, TYPE T	
			2								2		202	47000	2	EACH	BRIDGE TERMINAL ASSEMBLY REMOVED	
			2								2		202	58100	2	EACH	CATCH BASIN REMOVED	
							6,850				6,850		203	10000	6,850	CY	EXCAVATION	
											7,332		203	20000	7,332	CY	EMBANKMENT	
					9,133						9,133		204	10000	9,133	SY	SUBGRADE COMPACTION	
					12						12		204	45000	12	HOUR	PROOF ROLLING	
			1,294								1,294		606	15050	1,294	FT	GUARDRAIL, TYPE MGS	
			898								898		606	15100	898	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS	
			2								2		606	26151	2	EACH	ANCHOR ASSEMBLY, MGS TYPE E, AS PER PLAN, MASH 2016	9
			6								6		606	26500	6	EACH	ANCHOR ASSEMBLY, TYPE T	
			1								1		606	35002	1	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
			1								1		606	35102	1	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
								1			1		607	98100	1	EACH	FENCE, MISC.:VERTICAL SWING GATE	112
			13,086								13,086		608	10000	13,086	SF	4" CONCRETE WALK	
			1,436								1,436		608	15000	1,436	SF	8" CONCRETE WALK	
			444								444		608	52000	444	SF	CURB RAMP	
			64								64		608	53020	64	SF	DETECTABLE WARNING	
			659								659		609	12000	659	FT	COMBINATION CURB AND GUTTER, TYPE 2	
			2,709								2,709		609	26000	2,709	FT	CURB, TYPE 6	
			391								391		609	71000	391	SF	CONCRETE MEDIAN, 6"	
											LS		878	25000	LS		INSPECTION AND COMPACTION TESTING OF UNBOUND MATERIALS	
<b>EROSION CONTROL</b>																		
4											32		601	21050	32	SY	TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT	
				1.33							1.33		601	32200	1.33	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
		11									11		616	10000	11	MGAL	WATER	
											2		659	00100	2	EACH	SOIL ANALYSIS TEST	
											1,252		659	00300	1,252	CY	TOPSOIL	
											11,473		659	10000	11,473	SY	SEEDING AND MULCHING	
											574		659	14000	574	SY	REPAIR SEEDING AND MULCHING	
											574		659	15000	574	SY	INTER-SEEDING	
											1.57		659	20000	1.57	TON	COMMERCIAL FERTILIZER	
											2.37		659	31000	2.37	ACRE	LIME	
											64		659	35000	64	MGAL	WATER	
											1,517		670	00510	1,517	SY	SLOPE EROSION PROTECTION MAT, TYPE A	
											LS		832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN	
											LS		832	15002	LS		STORM WATER POLLUTION PREVENTION INSPECTIONS	
											LS		832	15010	LS		STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE	
											10,000		832	30000	10,000	EACH	EROSION CONTROL	
<b>DRAINAGE</b>																		
											0.65		602	20000	0.65	CY	CONCRETE MASONRY	
											652		605	05100	652	FT	4" SHALLOW PIPE UNDERDRAINS	
	100										100		605	05200	100	FT	4" UNCLASSIFIED PIPE UNDERDRAINS	
											4,361		605	06000	4,361	FT	4" BASE PIPE UNDERDRAINS	
											117		611	00100	117	FT	4" CONDUIT, TYPE B	
											202		611	00410	202	FT	4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET	
											264		611	04400	264	FT	12" CONDUIT, TYPE B	
											16		611	04600	16	FT	12" CONDUIT, TYPE C	
	100										52		611	05200	152	FT	12" CONDUIT, TYPE F	
											75		611	06100	75	FT	15" CONDUIT, TYPE C	
											3		611	98180	3	EACH	CATCH BASIN, NO. 3A	
											2		611	98470	2	EACH	CATCH BASIN, NO. 2-2B	
											1		611	99574	1	EACH	MANHOLE, NO. 3	
	4										8		611	99710	12	EACH	PRECAST REINFORCED CONCRETE OUTLET	

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**GENERAL SUMMARY**  
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SHEET NUM.										PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
11	12	13	64	112	146	168				01/IMS /14	02/SAF /21	03/NHS /14/CLS						
<b>TRAFFIC SIGNALS CONT.</b>																		
					2						2		632	80700	2	EACH	SIGNAL SUPPORT, MISC.:CITY OF COLUMBUS SCD 4170 - DESIGN 6	140
					1						1		632	80700	1	EACH	SIGNAL SUPPORT, MISC.:CITY OF COLUMBUS SCD 4170 - DESIGN 7	140
			1		4						4		632	80700	4	EACH	SIGNAL SUPPORT, MISC.:CITY OF COLUMBUS SCD 4170 - DESIGN 8	
					1						1		632	80700	1	EACH	SIGNAL SUPPORT, MISC.:CITY OF COLUMBUS SCD 4170 - DESIGN 9	140
					1						1		632	89300	1	EACH	WOOD POLE	
					1						1		632	89400	1	EACH	DOWN GUY	
					2						2		632	90010	2	EACH	PEDESTAL, MISC.:10.7' PEDESTAL	140
					2						2		632	90010	2	EACH	PEDESTAL, MISC.:17.5' PEDESTAL	140
					2						2		632	90101	2	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	138
				1	2						3		632	90400	3	EACH	SIGNALIZATION, MISC.:POWER METER CABINET TYPE II, BASE MOUNT, WITH FOUNDATION	140
					2						2		632	90400	2	EACH	SIGNALIZATION, MISC.:STOP LINE RADAR DETECTION SYSTEM	139
					2						2		632	90400	2	EACH	SIGNALIZATION, MISC.:DILEMMA ZONE RADAR DETECTION SYSTEM	139
					2						2		633	67100	2	EACH	CABINET FOUNDATION	
					2						2		633	67200	2	EACH	CONTROLLER WORK PAD	
					2						2		633	99000	2	EACH	CONTROLLER ITEM, MISC.:CONTROLLER UNIT, TS2/A2, W/CABINET, 16 CH, SIZE 6, GROUND MOUNTED	141
					2						2	2	633	99000	2	EACH	CONTROLLER ITEM, MISC.:FIBER OPTIC ETHERNET TRANSCEIVER, SHORT RANGE	145
					1						1		633	99000	1	EACH	CONTROLLER ITEM, MISC.:REUSE LAYER 2 ETHERNET SWITCH	145
					147						147		804	32012	147	EACH	DROP CABLE, 24 FIBER FIBER OPTIC CABLE, 24 STRAND	
					456						456		804	35000	456	EACH	FUSION SPLICE FIBER OPTIC FUSION SPLICE	
					3,237						3,237		804	15040	3,237	FT	FIBER OPTIC CABLE, 144 FIBER FIBER OPTIC CABLE, 144 STRAND	
<b>MAINTENANCE OF TRAFFIC</b>																		
	96										96		614	11110	96	hour	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	12
		3,206									3,206		614	11630	3,206	FT	INCREASED BARRIER DELINEATION	
			10								10		614	12380	10	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	
											LS		614	12420	LS		DETOUR SIGNING	15
											30		614	12460	30	EACH	WORK ZONE MARKING SIGN	
											139		614	13310	139	EACH	BARRIER REFLECTOR, TYPE 1, ONE WAY	
67											67		614	13312	67	EACH	BARRIER REFLECTOR, TYPE 2, ONE WAY	
67											206		614	13350	206	EACH	OBJECT MARKER, ONE WAY	
											24		614	18601	24	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	16
					0.21						0.21		614	21000	0.21	MILE	WORK ZONE CENTER LINE, CLASS I	
					4.5						4.5		614	22010	4.5	MILE	WORK ZONE EDGE LINE, CLASS I, 6"	
					7,307						7,307		614	23000	7,307	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 8"	
					984						984		614	24000	984	FT	WORK ZONE DOTTED LINE, CLASS I	
					118						118		614	26000	118	FT	WORK ZONE STOP LINE, CLASS I	
					7						7		614	30000	7	EACH	WORK ZONE ARROW, CLASS I	
	LS										LS		615	10000	LS		ROADS FOR MAINTAINING TRAFFIC	12
					1,473						1,473		615	20000	1,473	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
					4,380						4,380		622	41100	4,380	FT	PORTABLE BARRIER, UNANCHORED	
					390						390		622	41101	390	FT	PORTABLE BARRIER, UNANCHORED, AS PER PLAN	12
					690						690		622	41110	690	FT	PORTABLE BARRIER, ANCHORED	
					380						380		622	41111	380	FT	PORTABLE BARRIER, ANCHORED, AS PER PLAN	12
											LS		202	11201	LS		STRUCTURE OVER 20 FOOT SPAN (FRA-317-1242)	
						31,900					31,900		509	10000	31,900	LB	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	165
					224						224		510	10001	224	EACH	EPOXY COATED STEEL REINFORCEMENT	
					41						41		511	34445	41	CY	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	165
					203						203		511	51512	203	CY	CLASS QC2 CONCRETE, BRIDGE DECK, AS PER PLAN	165
											482		512	10050	482	SY	CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK	
					482						482		512	10050	482	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	
					253						253		512	10101	253	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	165
					LS						LS		513	10001	LS		SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	165
					LS						LS		514	80030	LS		STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	165
					156						156		516	14600	156	FT	SHOP PAINTING AND FIELD TOUCH-UP OF STRUCTURAL STEEL	
											18		516	44201	18	EACH	STRUCTURAL JOINT OR JOINT SEALER, MISC.: STRUCTURAL SEALING JOINT	165
					9						9		516	44201	9	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, APP	(11 165
					18						18		516	44201	18	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, APP	(1'-265
					LS						LS		516	47001	LS		ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, APP	(1'-265
					342						342		517	75122	342	FT	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	165
					283						283		607	39930	283	FT	RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING AND VANDAL PROTECTION FENCE)	
					570						570		607	39994	570	FT	VANDAL PROTECTION FENCE, 12' CURVED, COATED FABRIC	
																	TEMPORARY VANDAL FENCE, TYPE B	

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**GENERAL SUMMARY**  
**FRA-70-21.33**  
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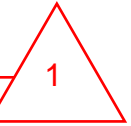
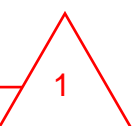
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REFERENCE NO.	SHEET NO.	STATION		SIDE	202	202	202	202	202	202	202	202	606	606	606	606	606	606	608	608	608	608	609	609	609
		FROM	TO		PAVEMENT REMOVED	CONCRETE MEDIAN REMOVED	GUARDRAIL REMOVED	ANCHOR ASSEMBLY REMOVED, TYPE E	ANCHOR ASSEMBLY REMOVED, TYPE T	BRIDGE TERMINAL ASSEMBLY REMOVED	PIPE REMOVED	CATCH BASIN REMOVED	GUARDRAIL, TYPE MGS	GUARDRAIL, TYPE MGS, WITH LONG POSTS	ANCHOR ASSEMBLY, TYPE E	ANCHOR ASSEMBLY, TYPE T	BRIDGE TERMINAL ASSEMBLY, TYPE 1	BRIDGE TERMINAL ASSEMBLY, TYPE 2	4" CONCRETE WALK	8" CONCRETE WALK	CURB RAMP	DETECTABLE WARNING	COMBINATION CURB AND GUTTER, TYPE 2, AS PER PLAN	6" CONCRETE MEDIAN	CURB, TYPE 6
		SY	SY		FT	EACH	EACH	EACH	FT	EACH	FT	EACH	FT	FT	EACH	EACH	EACH	EACH	SF	SF	SF	SF	FT	SY	FT
C1	66	20+32.29	23+49.08	LT																					328
C2	66	24+32.90	28+50.00	LT																					418
C3	66	21+03.50	23+61.43	LT / RT																					519
C4	66	100+61.62	100+98.00	LT																					37
C5	66	100+52.47	100+98.00	RT																					46
W1	66	20+32.79	22+97.20	LT														2340							
W2	66	22+97.20	23+58.23	LT															431	95	16				
W3	66	24+14.40	24+71.96	LT															424	130	16				
W4	66, 67	28+09.57	31+03.56	LT														2402							
GR1	66	20+42.03	101+03.66	LT									342		1										
R1	66	20+20.00	101+03.66	LT			377	1																	
GR2	66	101+12.33	24+70.87	LT									38		1			1							
R2	66	24+32.14	24+84.81	LT	51		53		1	1															
GR3	66	28+04.41	28+50.00	LT									19				1								
R3	66	27+90.98	28+50.00	LT	46		59			1															
R4	66	20+30.00	24+77.15	LT/RT	130																				
R5	66	21+03.50	23+74.06	LT/RT	214	424																			
R6	66	28+15.69	28+50.00	LT/RT	23	12																			
M1	66	21+03.50	23+61.43	LT/RT																				259	
W5	67	31+03.56	31+47.90	LT															295	113	16				
C6	67	28+50.00	31+37.92	LT																					305
C7	67	32+51.41	35+28.89	LT																					283
C8	67	38+62.36	41+00.00	LT																			238		
GR3	67	28+50.00	31+49.84	LT									333		1										
R7	67	28+50.00	30+10.61	LT	224		164	1																	
W6	67	32+39.34	32+90.88	LT																286	106	16			
R8	67	32+46.67	33+23.09	LT	115		95		1																
GR4	67	32+39.19	33+23.09	LT									122												
W7	67	32+90.88	35+28.94	LT															1669						
R9	67	28+14.47	35+28.41	LT/RT	159																				
GR5	67	31+86.72	32+43.99	RT									44		1										
R10	67	38+61.97	41+00.00	LT	110																				
R11	67	31+43.96		LT																					
R12	67	28+50.00	31+70.42	LT/RT		114							1												
W8	67, 68	38+61.97	48+16.00	LT															6675						
C9	68	41+00.00	45+20.31	LT																			421		
R13	68	41+00.00	45+20.31	LT	275																				
R10	69	48+61.04	50+87.39	LT	69		249																		
GR6	69	48+61.04	51+23.42	LT									258			1									
M2	70	60+88.72	64+67.80	LT																			132		
C10	70	60+88.72	64+67.80	LT																					773
R18	70	51+03.73		RT						85	1														
R19	70	59+30.00	67+53.98	LT/RT	1372																				
GR7	71	49+45.60	51+52.11	RT									203		1										
GR8	71	51+79.85	59+80.51	RT									833		2										
R20	71	51+79.85	59+64.32	RT			844		1																
R21	71, 72	57+47.03	62+50.00	LT/RT	175																				
R22	71, 72	49+23.60	57+47.03	LT/RT	1987																				
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>					<b>4950</b>	<b>550</b>	<b>1841</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>85</b>	<b>2</b>	<b>1294</b>	<b>898</b>	<b>2</b>	<b>6</b>	<b>1</b>	<b>1</b>	<b>13086</b>	<b>1436</b>	<b>444</b>	<b>64</b>	<b>659</b>	<b>391</b>	<b>2709</b>

MAINTENANCE OF TRAFFIC SUBSUMMARY

Table with columns: REFERENCE NO., SHEET NO., LOCATION, STATION (FROM, TO), STAGE, PHASE, and various maintenance items categorized under 614, 615, and 622. Items include work zone channelizing lines, edge lines, stop lines, impact attenuators, work zone stop lines, impact attenuators, work zone dotted lines, lane arrows, barrier reflectors, object markers, pavement for maintaining traffic, and various types of barriers.



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MAINTENANCE OF TRAFFIC SUBSUMMARY

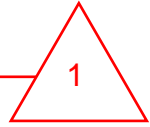
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MAINTENANCE OF TRAFFIC SUBSUMMARY

REFERENCE NO.	SHEET NO.	LOCATION	STATION		STAGE	PHASE	614										615	622			
			FROM	TO			WORK ZONE CHANNELIZING LINE, CLASS 1, 8"	WORK ZONE EDGE LINE WHITE, CLASS 1, 6"	WORK ZONE EDGE LINE YELLOW, CLASS 1, 6"	WORK ZONE CENTERLINE (DOUBLE YELLOW)	WORK ZONE STOP LINE, CLASS 1	WORK ZONE IMPACT ATTENUATOR	WORK ZONE DOTTED LINE, CLASS 1	WORK ZONE LANE ARROW, CLASS 1	BARRIER REFLECTOR, TYPE 1	OBJECT MARKER, ONE WAY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	ANCHORED PORTABLE BARRIER, AS PER PLAN	UNANCHORED PORTABLE BARRIER, AS PER PLAN	ANCHORED PORTABLE BARRIER	UNANCHORED PORTABLE BARRIER
			FT	MILE			MILE	MILE	FT	EACH	FT	EACH	EACH	EACH	SY	FT	FT	FT	FT		
WYL-6	21	RAMP B	43+97	46+00	1	1 & 2			0.04												
ATT-1	21	SR-317	29+13		1	1 & 2							1								
ATT-2	21	RAMP B	48+38		1	1 & 2							1								
PB-1	21	SR-317	28+50	29+00	1	1 & 2								1	1			50			
PB-2	21	RAMP B	48+51	51+82	1	1 & 2								7	7				340		
WEL-1	22	RAMP E	48+91	54+00	1	1		0.10													
WYL-1	22	RAMP E	50+41	54+00	1	1		0.07													
ATT-1	22	RAMP E	49+71		1	1							1								
PB-1	22	RAMP E	49+84	54+00	1	1								9	9				420		
PB-2	22	RAMP D	60+00	65+00	1	1								10	10				500		
TP-1	22	RAMP D	60+00	64+72	1	1										636					
WEL-1	23	RAMP E	54+00	59+50	1	1		0.10													
WEL-2	23	RAMP E	59+50	64+50	1	1		0.10													
WEL-3	23	RAMP E	64+50	66+50	1	1		0.04													
WYL-1	23	RAMP E	54+00	59+50	1	1			0.10												
WYL-2	23	RAMP E	59+50	64+50	1	1			0.10												
WYL-3	23	RAMP E	64+50	66+50	1	1			0.03												
PB-1	23	RAMP E	54+00	59+50	1	1								11	11				550		
PB-2	23	RAMP E	59+50	62+70	1	1								7	7				330		
TP-1	23	RAMP E	55+58	59+50	1	1										133					
TP-2	23	RAMP E	59+50	64+25	1	1										361					
ATT-1	24	RAMP D	57+15		1	1							1								
PB-1	24	RAMP D	57+28	60+00	1	1								6	6				270		
TP-1	24	RAMP D	56+42	60+00	1	1										343					
WEL-1	29	RAMP D	65+25	65+93	1	2		0.01													
WEL-2	29	RAMP D	61+00	67+17	1	2		0.13													
WEL-3	29	RAMP E	48+89	54+00	1	2		0.11													
WYL-1	29	RAMP D	61+00	65+25	1	2			0.10												
WYL-2	29	RAMP E	48+93	54+00	1	2			0.10												
ATT-1	29	RAMP E	49+47		1	2							1								
ATT-2	29	SR-317	31+74	31+87	1	2							1								
PB-1	29	RAMP E	49+40	54+00	1	2													460		
PB-2	29	RAMP D	60+00	64+92	1	2													490		
PB-3	29	SR-317	30+74	31+74	1	2													100		
WEL-1	30	RAMP E	54+00	59+50	1	1		0.11													



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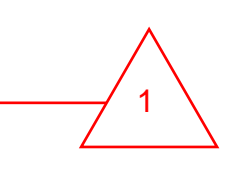
MAINTENANCE OF TRAFFIC SUBSUMMARY

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**MAINTENANCE OF TRAFFIC SUBSUMMARY**

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REFERENCE NO.	SHEET NO.	LOCATION	STATION		STAGE	PHASE	614								615	622					
			FROM	TO			WORK ZONE CHANNELIZING LINE, CLASS 1, 8"	WORK ZONE EDGE LINE WHITE, CLASS 1, 6"	WORK ZONE EDGE LINE YELLOW, CLASS 1, 6"	WORK ZONE CENTERLINE (DOUBLE YELLOW)	WORK ZONE STOP LINE, CLASS 1	WORK ZONE IMPACT ATTENUATOR	WORK ZONE DOTTED LINE, CLASS 1	WORK ZONE LANE ARROW, CLASS 1	BARRIER REFLECTOR, TYPE 1	OBJECT MARKER, ONE WAY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	ANCHORED PORTABLE BARRIER, AS PER PLAN	UNANCHORED PORTABLE BARRIER, AS PER PLAN	ANCHORED PORTABLE BARRIER	UNANCHORED PORTABLE BARRIER
			FT	MILE			MILE	MILE	FT	EACH	FT	EACH	EACH	EACH	SY	FT	FT	FT	FT		
WEL-2	30	RAMP E	59+50	62+89	1	1		0.06													
WYL-1	30	RAMP E	54+00	59+50	1	1			0.11												
WYL-2	30	RAMP E	59+50	63+13	1	1			0.06												
PB-1	30	RAMP E	54+00	59+50	1	1												550			
PB-2	30	RAMP E	59+50	61+62	1	1												220			
WEL-1	31	RAMP D	53+83	57+00	1	1		0.06													
WEL-2	31	RAMP D	57+00	60+00	1	1		0.05													
WYL-1	31	RAMP D	55+14	57+00	1	1			0.04												
WYL-2	31	RAMP D	57+00	60+00	1	1			0.06												
ATT-1	31	RAMP D	58+43		1	1				1											
PB-1	31	RAMP D	58+55	60+00	1	1												150			
WCL-1	34	SR-317	24+79	28+50	2	--				0.09											
WCH-1	34	SR-317	19+50	23+59	2	--	408														
WCH-2	34	SR-317	24+79	28+50	2	--	371														
WCH-3	34	SR-317	24+79	28+50	2	--	370														
WDL-1	34	SR-317	23+59	24+50	2	--					92										
WDL-2	34	SR-317	23+67	24+50	2	--					83										
WDL-3	34	SR-317	24+50	24+79	2	--					29										
WDL-4	34	SR-317	24+50	24+79	2	--					29										
WEL-1	34	SR-317	19+50	23+78	2	--		0.09													
WEL-2	34	SR-317	24+79	28+50	2	--		0.07													
WEL-3	34	SR-317	24+79	28+50	2	--		0.07													
PB-1	34	SR-317	24+50	28+50	2	--										400					
WCH-1	35	SR-317	28+50	31+00	2	--	320														
WCH-2	35	SR-317	28+50	31+68	2	--	318														
WCH-3	35	SR-317	29+64	31+68	2	--	204														
WCH-4	35	SR-317	32+53	34+00	2	--	147														
WCH-5	35	SR-317	32+57	34+00	2	--	143														
WCH-6	35	SR-317	34+00	39+00	2	--	500														
WCH-7	35	SR-317	34+00	35+07	2	--	107														
WCL-1	35	SR-317	28+50	31+69	2	--				0.12											
WDL-1	35	SR-317	31+68	32+57	2	--					88										
WDL-2	35	SR-317	31+00	32+53	2	--					84										
WEL-1	35	SR-317	28+50	31+57	2	--		0.06													
WEL-2	35	SR-317	28+50	31+68	2	--		0.06													
WEL-3	35	SR-317	32+83	34+00	2	--		0.04													
WEL-4	35	SR-317	32+57	34+00	2	--		0.03													
WEL-5	35	SR-317	34+00	39+00	2	--		0.10													



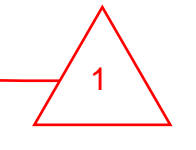
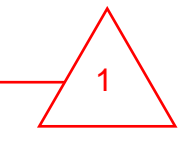
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**MAINTENANCE OF TRAFFIC SUBSUMMARY**

**FRA - 70 - 21 . 33**

MAINTENANCE OF TRAFFIC SUBSUMMARY

REFERENCE NO.	SHEET NO.	LOCATION	STATION		STAGE	PHASE	614										615	622			
			FROM	TO			WORK ZONE CHANNELIZING LINE, CLASS 1, 8"	WORK ZONE EDGE LINE WHITE, CLASS 1, 6"	WORK ZONE EDGE LINE YELLOW, CLASS 1, 6"	WORK ZONE CENTERLINE (DOUBLE YELLOW)	WORK ZONE STOP LINE, CLASS 1	WORK ZONE IMPACT ATTENUATOR	WORK ZONE DOTTED LINE, CLASS 1	WORK ZONE LANE ARROW, CLASS 1	BARRIER REFLECTOR, TYPE 1	OBJECT MARKER, ONE WAY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	ANCHORED PORTABLE BARRIER, AS PER PLAN	UNANCHORED PORTABLE BARRIER, AS PER PLAN	ANCHORED PORTABLE BARRIER	UNANCHORED PORTABLE BARRIER
			FT	MILE			MILE	MILE	FT	EACH	FT	EACH	EACH	EACH	SY	FT	FT	FT	FT		
WEL-6	35	SR-317	34+00	35+07	2	--		0.02													
WLA-1	35	SR-317	30+68		2	--															
WLA-2	35	SR-317	30+68		2	--															
WLA-3	35	SR-317	30+68		2	--															
WLA-4	35	SR-317	32+76		2	--															
WYL-1	35	SR-317	32+53	34+00	2	--			0.03												
WYL-2	35	SR-317	32+57	34+00	2	--			0.03												
WYL-3	35	SR-317	34+00	39+00	2	--			0.10												
WYL-4	35	SR-317	34+00	35+07	2	--			0.02												
ATT-1	35	SR-317	30+86		2	--							1								
PB-1	35	SR-317	28+50	30+86	2	--												240			
WCH-1	36	SR 317	39+00	44+50	2	--	550														
WCH-2	36	SR 317	44+50	48+18	2	--	368														
WEL-1	36	SR 317	39+00	44+50	2	--		0.10													
WEL-2	36	SR 317	44+50	48+18	2	--		0.07													
WYL-1	36	SR 317	39+00	44+50	2	--			0.10												
WYL-2	36	SR 317	44+50	48+18	2	--			0.07												
WCH-1	37	RAMP E	49+29	54+00	2	--	470														
WEL-1	37	RAMP D	60+00	64+66	2	--		0.09													
WEL-2	37	RAMP E	48+85	51+67	2	--		0.06													
WEL-3	37	RAMP E	51+78	60+00	2	--		0.05													
WLA-1	37	RAMP D	64+12		2	--															
WSL-1	37	RAMP D	64+66		2	--							30								
WYL-1	37	RAMP D	60+00	64+71	2	--			0.09												
WYL-2	37	RAMP E	49+25	54+00	2	--			0.09												
ATT-1	37	RAMP D	65+20		2	--															
PB-1	37	RAMP D	29+06	30+86	2	--															
WCH-1	38	RAMP E	54+00	58+50	2	--	450														
WEL-1	38	RAMP E	54+00	59+50	2	--		0.11													
WYL-1	38	RAMP E	54+00	55+47	2	--			0.11												
WYL-2	38	RAMP E	59+50	62+50	2	--			0.06												
WEL-1	39	RAMP D	59+30	60+00	2	--		0.01													
WYL-1	39	RAMP D	59+30	60+00	2	--			0.01												
WSL-1	41	SR317	31+33	31+33	3								27								
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>							<b>7307</b>	<b>4.50</b>	<b>0.21</b>	<b>118</b>	<b>10</b>	<b>984</b>	<b>7</b>	<b>67</b>	<b>67</b>	<b>1473</b>	<b>380</b>	<b>390</b>	<b>5070</b>		
								<b>2.41</b>	<b>2.09</b>									<b>690</b>	<b>4380</b>		



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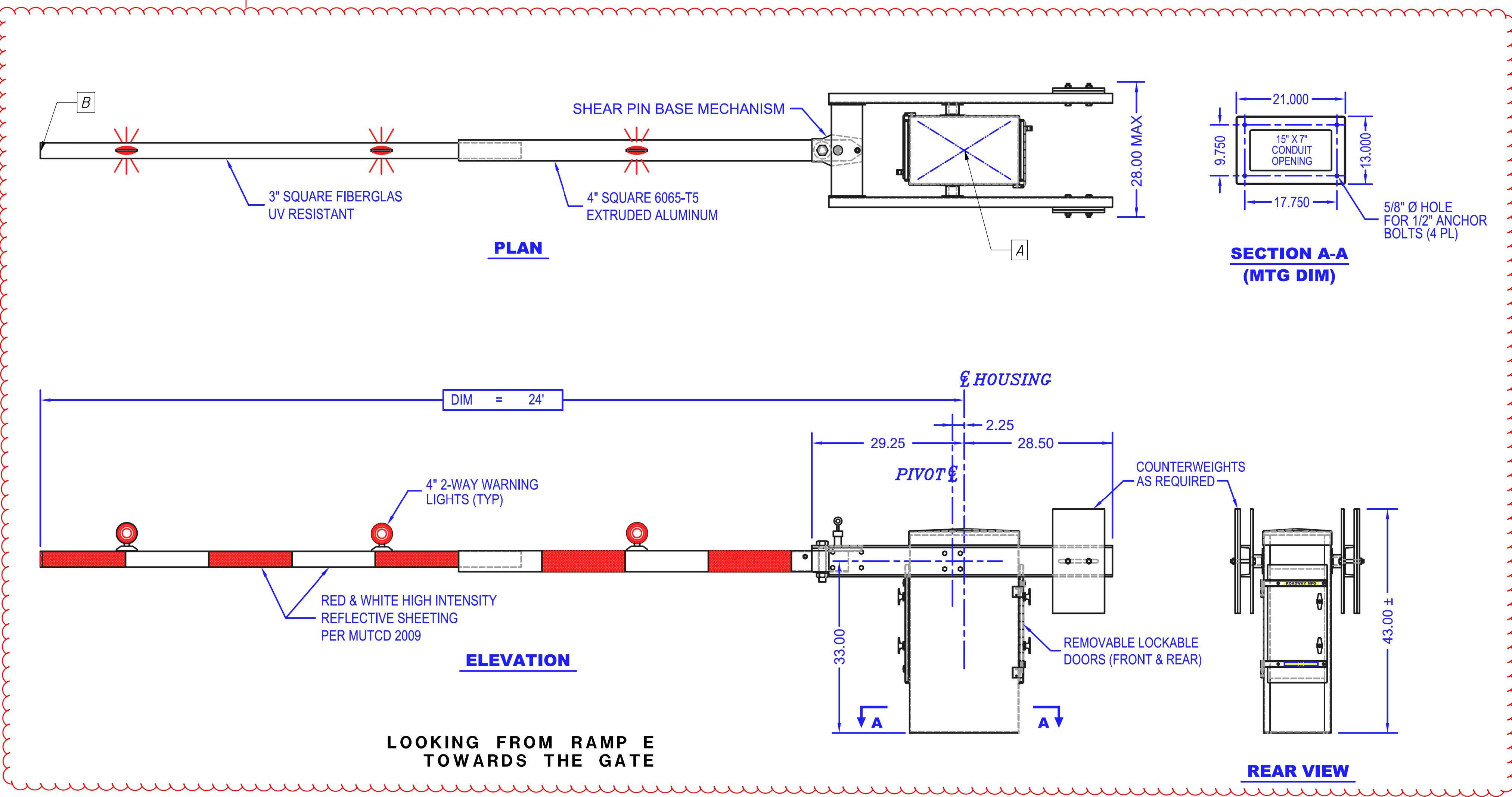
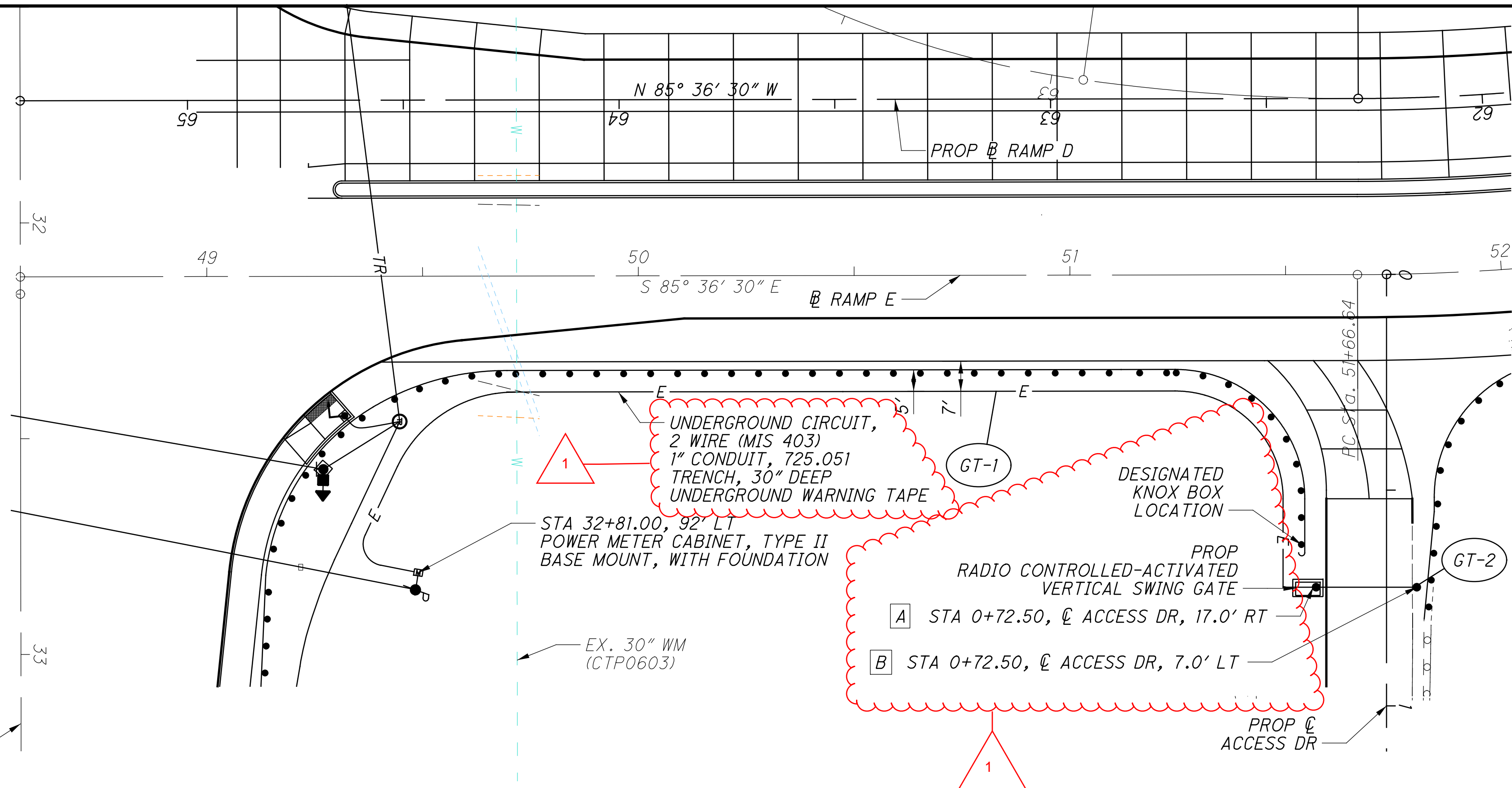
MAINTENANCE OF TRAFFIC SUBSUMMARY

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GATE SUBSUMMARY										
REFERENCE NO.	LOCATION	STATION		607				625		632
		FROM	TO	EACH	FT	FT	FT	FT	EACH	
GT-1	RAMP E	49+20	51+50		295	295	330	295	1	
GT-2	ACCESS RD	0+72	0+72	1						



- NOTES:
- BID ITEM 607 - FENCE MISC.; VERTICAL SWING GATE (607E98100) SHALL INCLUDE ALL LABOR, NEW MATERIALS, NEW EQUIPMENT, AND ONE-YEAR MAINTENANCE AGREEMENT (TRANSFERRABLE TO ODOT) NECESSARY TO FULLY INSTALL, POWER AND OPERATE A NEW VERTICAL PIVOT GATE (VW-2 OR EQUAL) WITH A RADIO-CONTROLLED SENSOR (CLICK 2 ENTER OR EQUAL). THIS BID ITEM ALSO INCLUDES (BUT IS NOT LIMITED TO) POWER SUPPLY INSTALLATION, PERMITS, OPERATION AND MAINTENANCE (O&M) MANUALS, WARRANTIES AND AS-BUILT DRAWINGS.
  - ALL INSTALLATION WORK RELATED TO THE GATE SHALL OCCUR WITHIN THE EXISTING PUBLIC RIGHT-OF-WAY.
  - GATE SHALL BE CONSTRUCTED OF FIBERGLASS. ALL CONNECTORS AND ADJACENT MATERIALS SHALL BE COMPATIBLE.
  - CONTRACTOR SHALL LOCATED NEAREST POWER SUPPLY FOR GATE OPERATION.
  - CONTRACTOR SHALL SUPPLY GATE EQUIPMENT THAT "FAILS" IN OPEN MODE.
  - CONTRACTOR SHALL PROVIDE AND INSTALL FIRE DEPARTMENT KNOX BOX FOR GATE KEY STORAGE. KNOX BOX SHALL BE INSTALLED ON A DESIGNATED GUARDRAIL POST.
  - CONTRACTOR SHALL OBTAIN THE OPERATIONAL RADIO FREQUENCY ON THE COLUMBUS MARCS CHANNEL FOR THE CLICK 2 ENTER UNIT (OR EQUAL) FROM THE CITY OF COLUMBUS DEPARTMENT OF PUBLIC SAFETY, JOHN GREMBOWSKI (JAGREMBOWSKI@COLUMBUS.GOV, 614-724-4006). CONTRACTOR TO PROVIDE MARCS CHANNEL INFORMATION WITH ODOT DISTRICT 6 MAINTENANCE.
  - PRIOR TO BEGINNING WORK, CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS. CONTRACTOR SHALL OBTAIN ELECTRICAL AND STRUCTURAL PERMITS FROM THE DIVISION OF INDUSTRIAL COMPLIANCE IN THE STATE OF OHIO DEPARTMENT OF COMMERCE. CONTRACTOR SHALL ALSO OBTAIN ANY NECESSARY PERMITS REQUIRED BY THE CITY OF COLUMBUS.
  - CONTRACTOR SHALL PROVIDE TWO COMPLETE SETS OF O&M MANUALS (INCLUDING BUT NOT LIMITED TO OPERATION & MAINTENANCE INSTRUCTIONS, AS-BUILT DRAWINGS, MAINTENANCE AGREEMENTS AND WARRANTIES) TO ODOT AND THE CITY OF COLUMBUS. CONTRACTOR SHALL PROVIDE 4 COMPLETE SETS OF KEYS TO ODOT AND THE CITY OF COLUMBUS FOR EQUIPMENT OPERATIONAL PANELS.
  - THE ENTIRE GATE AND EQUIPMENT INSTALLATION SHALL BE SUCCESSFULLY TESTED FOR COMPLETE OPERATIONAL CAPACITY IN THE PRESENCE OF ODOT AND CITY OF COLUMBUS FIRE DEPARTMENT REPRESENTATIVES BEFORE IT WILL BE ACCEPTED. ALL GATE/EQUIPMENT "FAILURES" (FOR EXAMPLE, IN THE EVENT OF A COMPLETE POWER FAILURE FROM BOTH PRIMARY POWER SOURCE AND BACK-UP BATTERIES) SHALL BE IN THE OPEN MODE. IN THE EVENT OF A COMPLETE POWER FAILURE, GATE SHALL BE OPERABLE BY HAND.

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NOTES:

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- OR ONE HOUR BEFORE SUNSET THROUGH ONE-HALF HOUR AFTER SUN RISE, WHICHEVER IS THE LONGEST DURATION.

2. ANY UNUSED SIGNAL HEAD, PEDESTRIAN SIGNAL HEAD, PEDESTRIAN PUSHBUTTON, OR POLE OR SPAN/ARM MOUNTED SIGN SHALL BE COVERED AND DISCONNECTED. VEHICULAR SIGNAL HEADS AND PEDESTRIAN SIGNAL HEADS SHALL BE COVERED PER THE REQUIREMENTS OF CMSC 632.25.

3. VEHICULAR SIGNAL HEADS SHALL BE ALIGNED PER THE PLAN. NO TWO VEHICULAR SIGNAL HEADS SHALL BE LOCATED WITHIN EIGHT FEET OF ONE ANOTHER, MEASURED PERPENDICULAR TO THE TRAVEL LANE.

4. SIGNS SHALL BE ALIGNED PER THE PLANS. EXISTING SIGNS IN CONFLICT WITH THE PROPOSED TEMPORARY TRAFFIC CONTROL SETUP SHALL BE COVERED OR TEMPORARILY REMOVED

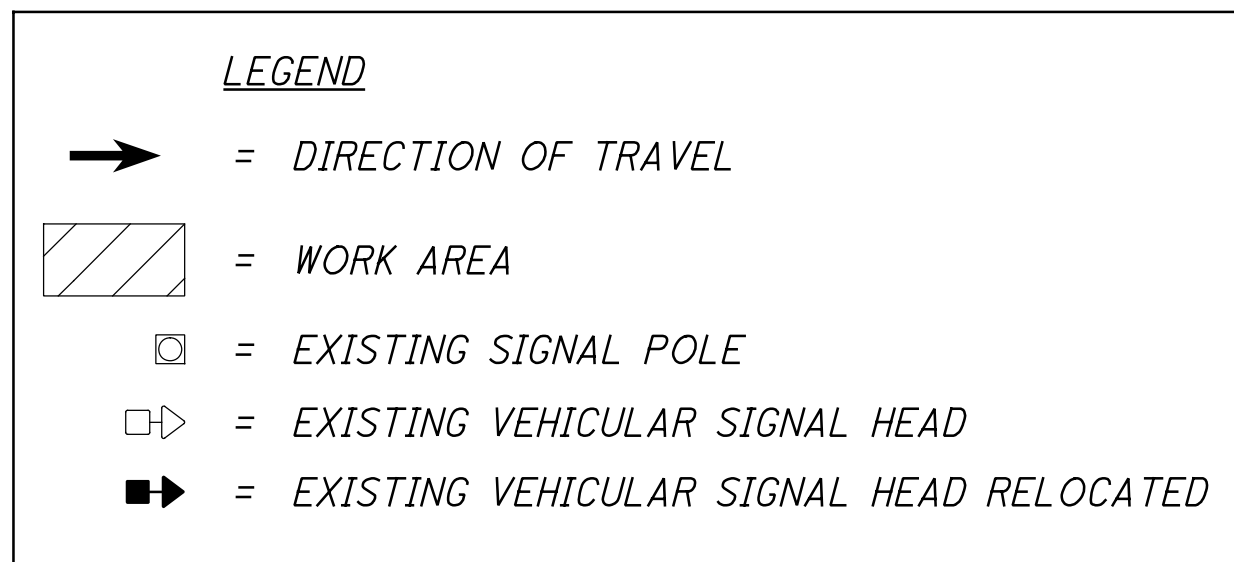
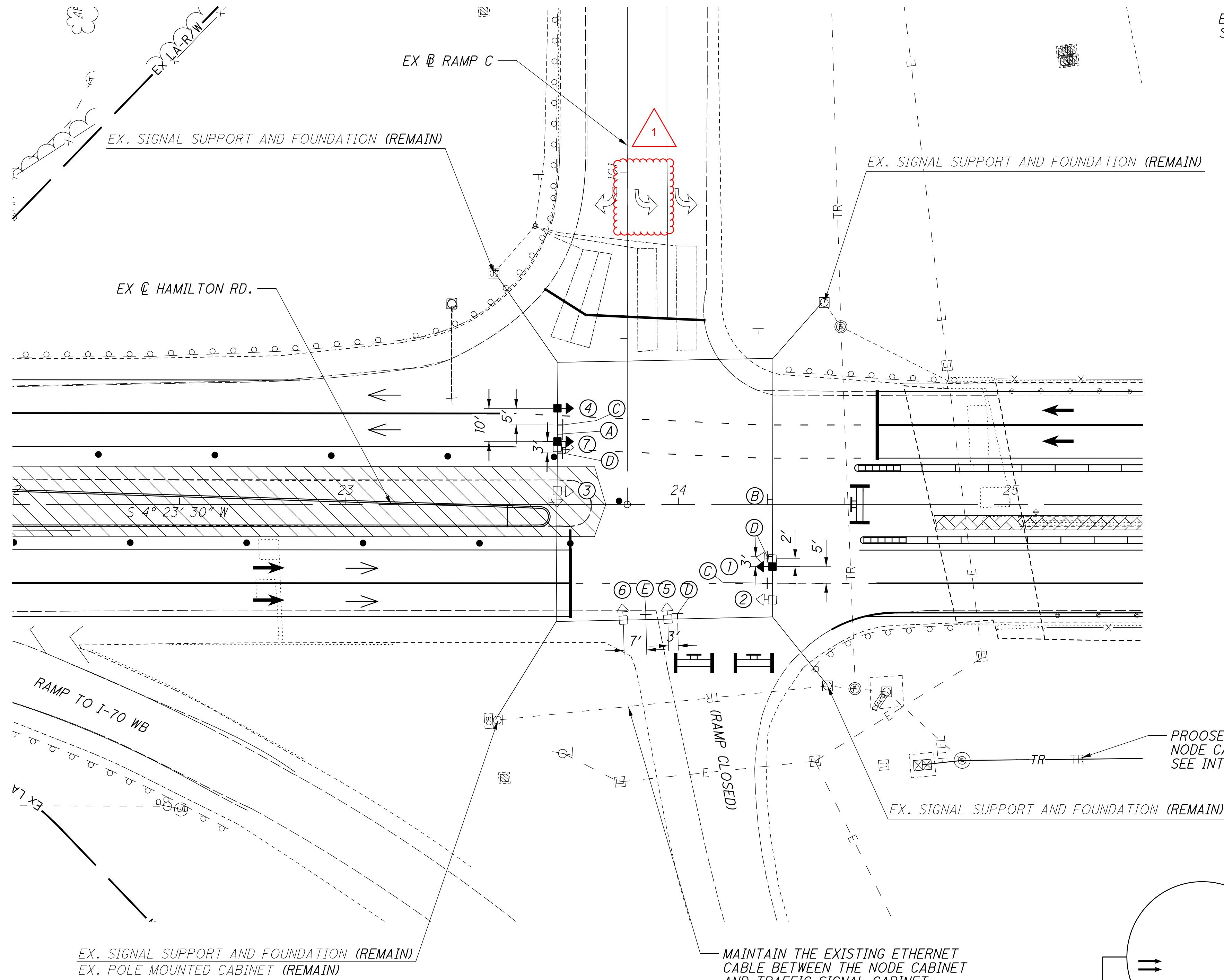
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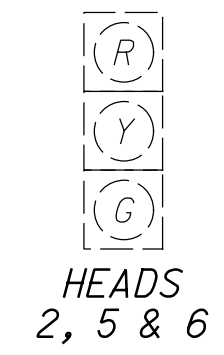
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8. UNLESS NOTED IN THE PLANS, THE TRAFFIC SIGNAL SHALL UTILIZE THE EXISTING TIMING AND PHASING.

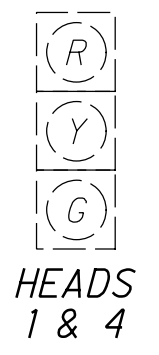
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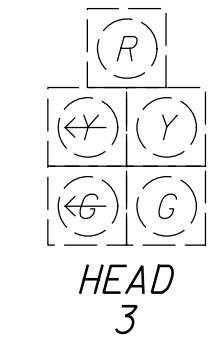
EXISTING VEHICULAR TRAFFIC SIGNAL HEAD CONFIGURATION (REMAIN)



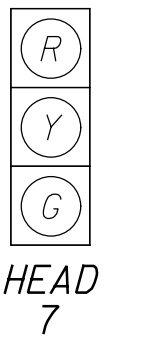
EXISTING VEHICULAR TRAFFIC SIGNAL HEAD CONFIGURATION (RELOCATED)



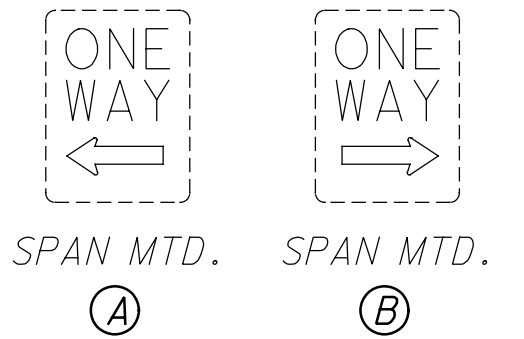
EXISTING VEHICULAR TRAFFIC SIGNAL HEAD CONFIGURATION (REMOVED)



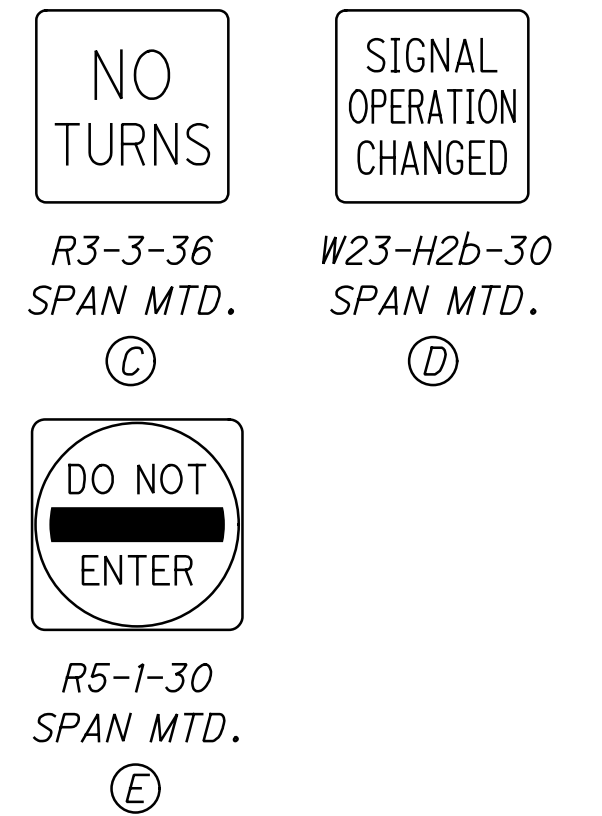
TEMPORARY VEHICULAR TRAFFIC SIGNAL HEAD CONFIGURATION



EXISTING SIGN (REMOVED)

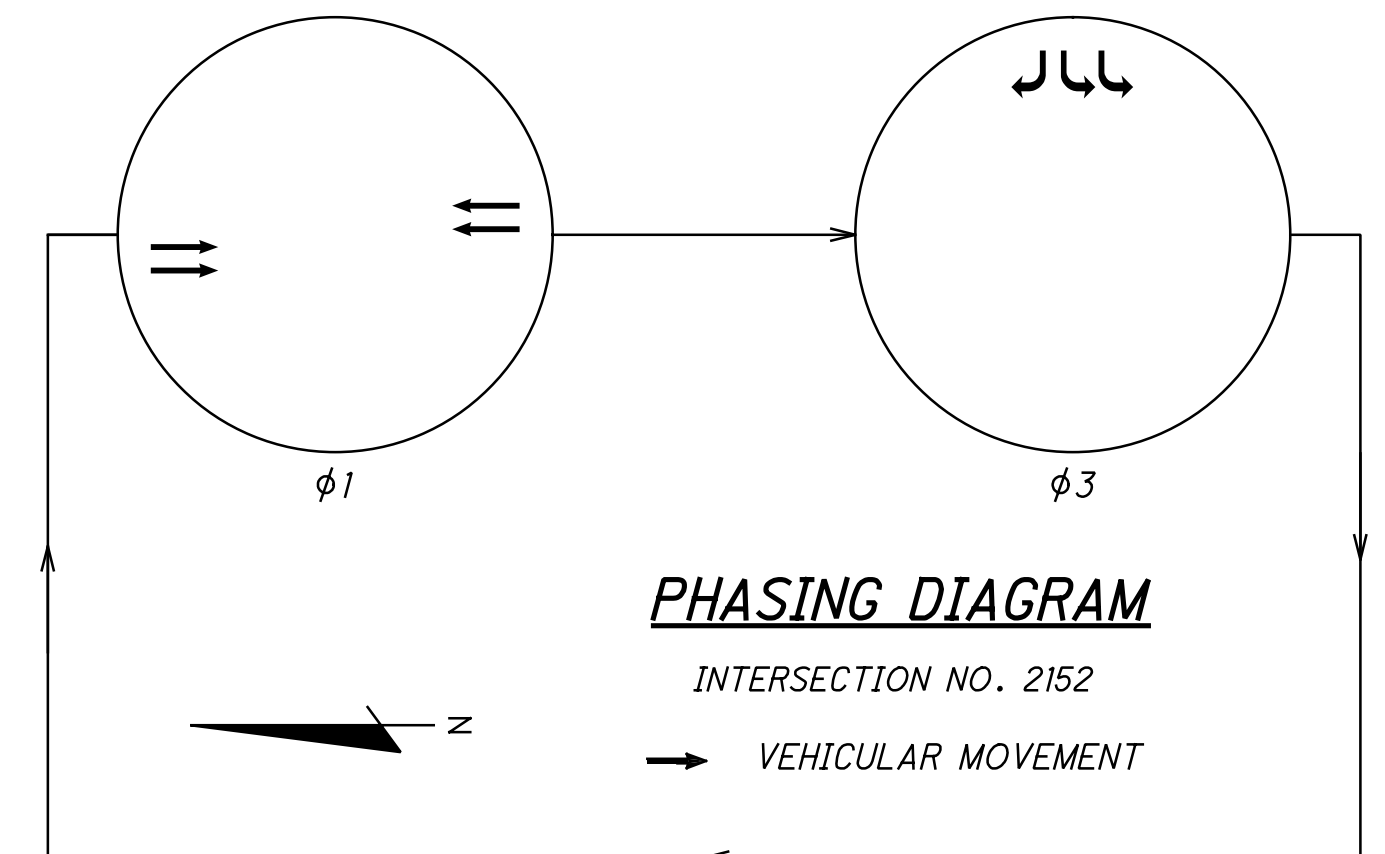


TEMPORARY SIGN



PROPOSED INTERCONNECT FROM NODE CABINET TO THE SOUTH. SEE INTERCONNECT PLANS.

**PHASING DIAGRAM**



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**TEMP. SIGNAL PLAN - STAGE 1 PHASE 1**  
**HAMILTON ROAD AT I-70 WB RAMP**  
**FRA-70-21.33**  
 113  
 188



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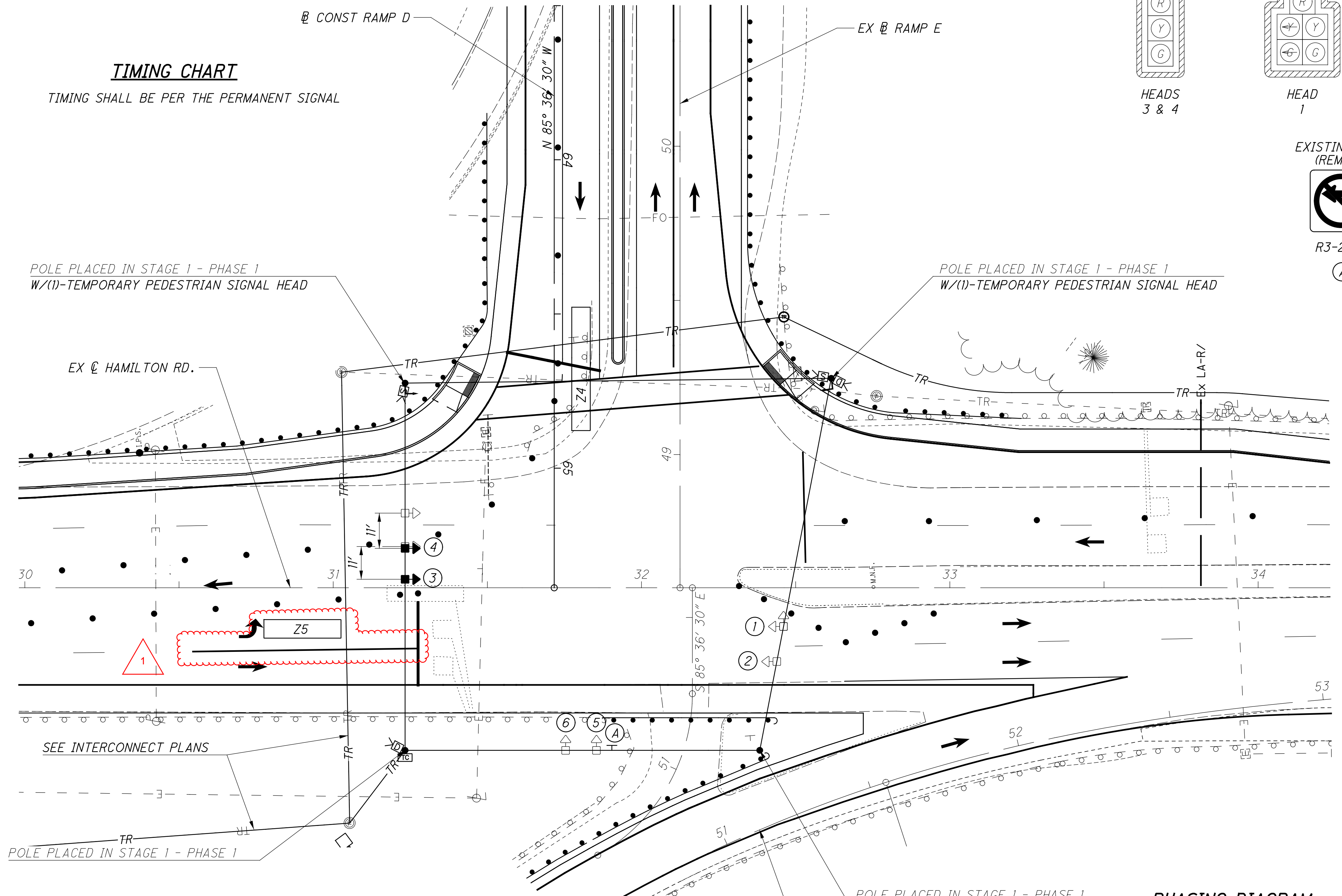
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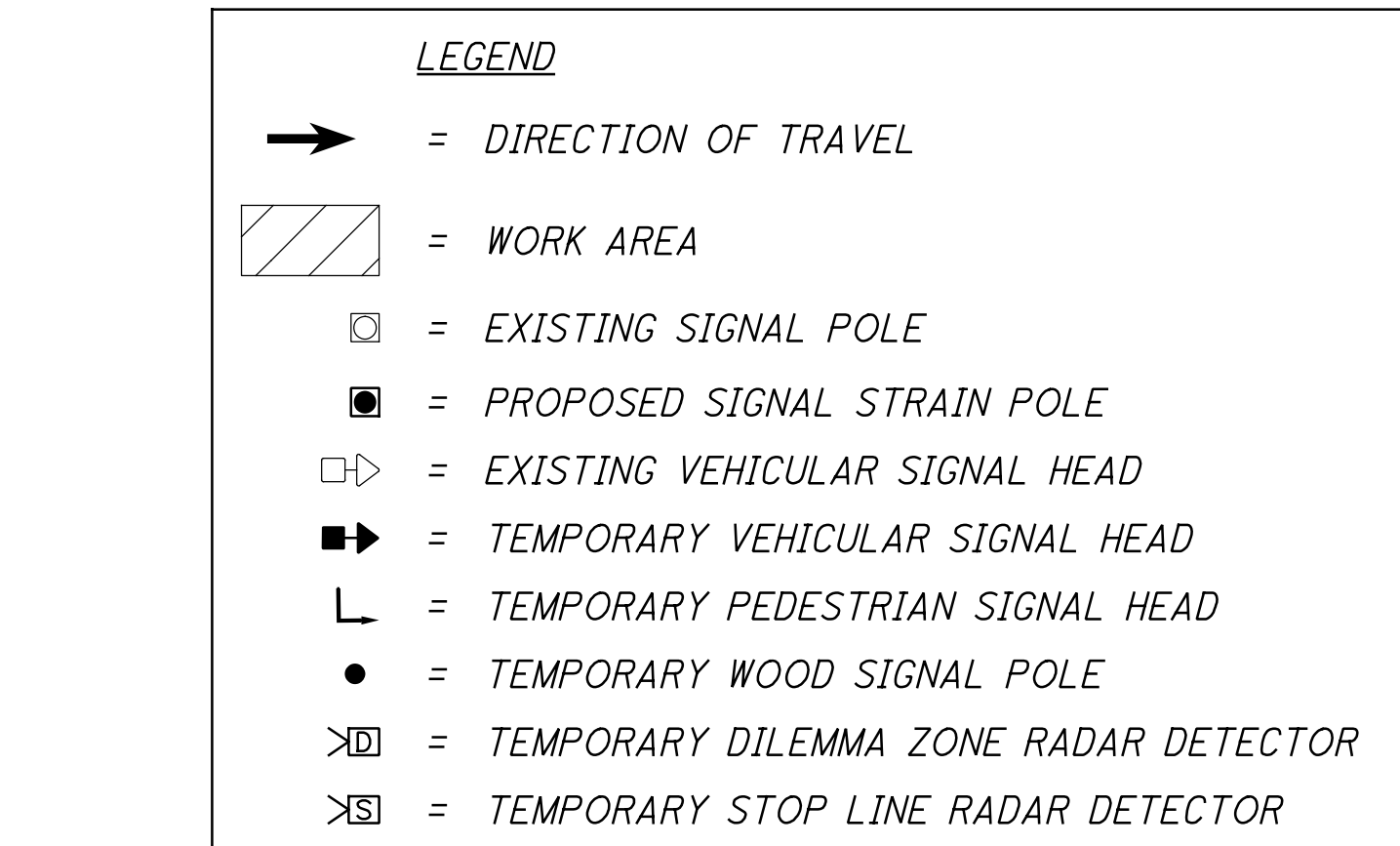
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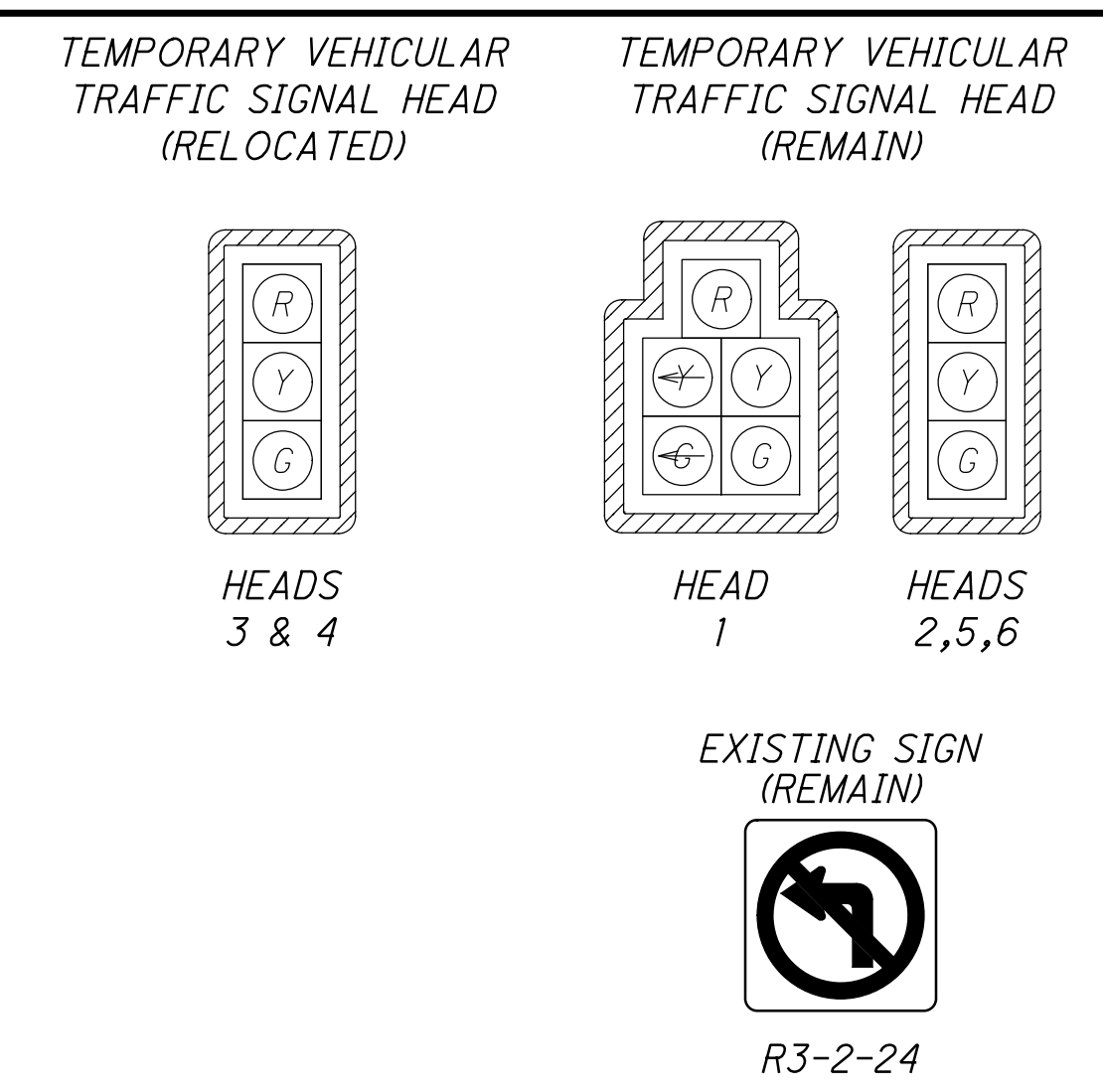
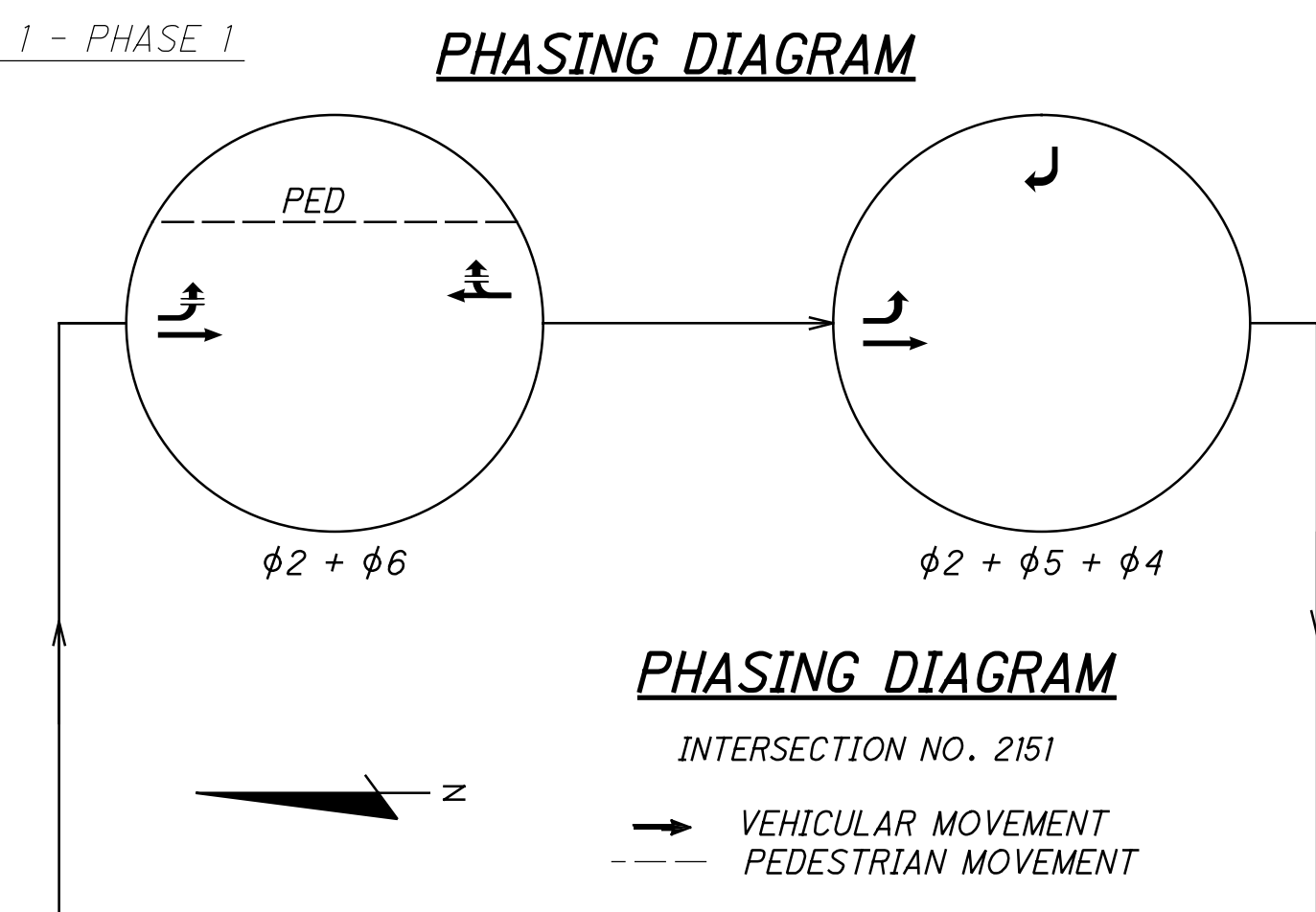
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**TIMING CHART**  
 TIMING SHALL BE PER THE PERMANENT SIGNAL



**DETECTION CHART**  
 (DETECTION SHALL BE AS SHOWN ON SHEET 116)



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INTERCONNECT

PATCH CABLES

THE OPTICAL PATCH CORDS FURNISHED UNDER THIS CONTRACT SHALL BE CONSTRUCTED OF DUPLEX SINGLE FIBER, JACKETED, CABLE EQUIPPED WITH FACTORY ASSEMBLED OPTICAL CONNECTORS AT BOTH ENDS (LC/UPC DUPLEX).

ALL PATCH CABLES SHALL HAVE UNIQUE IDENTIFICATION LABELS ON EACH END.

THE NON-ARMORED DUPLEX CABLE SHALL USE DIFFERENT COLORS FOR STRAIN RELIEF BOOTS ON EITHER SIDE OF THE CABLE, WITH LIKE COLORS ON EITHER END OF THE SAME FIBER (I.E. FIBER #1 STRAIN RELIEF BOOT IS BLUE ON BOTH ENDS OF PATCH CABLE, FIBER #2 STRAIN RELIEF BOOT IS WHITE ON BOTH SIDES OF CABLE).

NON-ARMORED PATCH CABLES SHALL BE CORNING PART NUMBER (CHOOSE ONE OR MORE AS APPLICABLE: 040402R5120001M (1 M LENGTH), 040402H5220002M (2 M LENGTH), 040402R5120003M (3 M LENGTH), 040402R5120010M (10 M LENGTH), 040402R5120015M (15 M LENGTH), OR 040402R5120020M (20 M LENGTH)).

PATCH CABLES INSTALLED AT COMMUNICATIONS NODE SITES SHALL BE CONSTRUCTED USING FLEXIBLE INTERLOCKING COILED STAINLESS STEEL ARMOR UNDER THE CABLE JACKETING.

ARMORED PATCH CABLES SHALL BE FIBER CONNECTIONS LIGHT ARMORED PATCH CORDS PART NUMBER (CHOOSE ONE OR MORE AS APPLICABLE: VP2LPLPT-1-0 (1 M LENGTH), VP2LPLPT-2-0 (2 M LENGTH), VP2LPLPT-3-0 (3 M LENGTH), OR VP2LPLPT-5-0 (5 M LENGTH)).

PATCH CABLES SHALL BE CONSIDERED INCIDENTAL TO ITEM 632 INTERCONNECT, MISC: TERMINATION PANEL, 24 FIBER, ITEM 633 CONTROLLER ITEM, MISC.: FIBER OPTIC ETHERNET TRANSCEIVER, SHORT RANGE, AND ITEM 633 INTERCONNECT MISC.: LAYER 2 SWITCH.

ITEM 625 - CONDUIT, MISC.: ENCASED INTERCONNECT CONDUIT BANK, (4)-3" & (1)-1.5", TC-2, SCH 40

IN ADDITION TO THE REQUIREMENTS OF 625.12,

ANY CONDUIT WITHOUT A SPACER ABOVE IT (I.E. ANY TOP ROW CONDUIT) SHALL BE WIRE-WRAPPED TO THE SPACER BENEATH IT IN ORDER TO BE HELD IN PLACE.

A NUMBER 10 GAUGE, STRANDED COPPER, POLYESTER OR CROSS LINKED POLYETHYLENE (XLPE) INSULATED TRACING WIRE SHALL BE INSTALLED IN THE 1-1/2" CONDUIT. THE WIRE INSULATION SHALL BE RESISTANT TO MOISTURE ABSORPTION AND ABRASIVE ACTIONS. THE TRACING WIRE JACKET SHALL BE ORANGE; NO OTHER JACKET COLOR IS ALLOWED. THE TRACING WIRE SHALL ENTER A PULLBOX THROUGH THE 1-1/2" CONDUIT AND SHALL BE ROUTED AROUND THE INSIDE PERIMETER OF THE PULLBOX TO THE OTHER SIDE AND THEN EXIT THE OPPOSING 1-1/2" CONDUIT. THE TRACING WIRE SHALL BE CONTINUOUSLY RUN BETWEEN PULLBOXES (ABSOLUTELY NO SPLICES EXCEPT IN A PULLBOX). CONDUIT THAT BRANCHES OFF THE MAIN CONDUIT RUN SHALL HAVE ITS TRACING WIRE TERMINATED IN A PULLBOX OR CONTROLLER CABINET. THE WIRE SHALL BE TAGGED AS "TRACING WIRE", COILED (3 FEET IN LENGTH) AND LEFT DISCONNECTED AT EACH END (OPEN CIRCUIT).

ENCASED CONDUIT BANK SHALL BE ORIENTED AS REPRESENTED IN THE PLANS AND INSTALLED AS SHOWN IN SCD 4001.

THE COST FOR THE TRACING WIRE AND ITS INSTALLATION SHALL BE INCIDENTAL TO THE COST OF THIS PAY ITEM.

5/17/16

ITEM 625 - CONDUIT, MISC.: 3" CONDUIT, FIBERGLASS REINFORCED, ATTACHED TO STRUCTURE

IN ADDITION TO THE REQUIREMENTS OF 625.12,

THIS CONDUIT IS INTENDED FOR ATTACHMENT TO BRIDGES OR STRUCTURE AS INDICATED IN THE PLANS.

THE CONDUIT SHALL BE IRON PIPE SIZE (IPS) REINFORCED THERMOSETTING RESIN CONDUIT (RTRC), LISTED BY UNDERWRITERS LABORATORIES, UL, STANDARD UL 1684, AND SHALL COMPLY WITH NEMA STANDARD NUMBER TC 14-2002. THE CONDUIT SHALL HAVE A NOMINAL WALL THICKNESS OF 0.070 INCHES AND SHALL BE GRAY IN COLOR. THE CONDUIT INSTALLED SHALL BE THREADED, TWENTY (20)-FOOT SECTIONS. EPOXY ADHESIVE SHALL BE APPLIED TO THE CONDUIT ENDS WHEN JOINING SECTIONS OF CONDUIT. CONDUIT EXPANSION JOINTS AND OTHER CONDUIT FITTINGS SHALL BE INSTALLED AS PER THE CONDUIT MANUFACTURER'S RECOMMENDATIONS.

THE CONDUIT SHALL BE ATTACHED BENEATH THE BRIDGE DECK, ATTACHED TO THE CROSS FRAMES, OR ATTACHED TO VERTICAL SURFACES BEHIND THE WALLS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. STANDARD CLAMP TYPE CONDUIT HANGERS SHALL BE USED. STRAP HANGERS ARE NOT ACCEPTABLE. BRIDGE ATTACHMENT HARDWARE AND SUPPORT SPACING USED SHALL CONFORM TO THE CONDUIT MANUFACTURER'S RECOMMENDATIONS. ALL HANGERS AND HANGER HARDWARE SHALL BE GALVANIZED AND ON THE ODOT QPL. ALL HANGER COMPONENT SURFACES IN CONTACT WITH THE CONDUIT SHALL BE MADE FROM FIBERGLASS. 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.

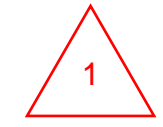
REFER TO ODOT SCD HL-30.32 FOR EXPANSION/DEFLECTION FITTINGS AT THE END OF THE BRIDGE ABUTMENT. EXPANSION/DEFLECTION FITTINGS USED SHALL CONFORM TO THE CONDUIT MANUFACTURER'S RECOMMENDATIONS AND SHALL BE APPROVED BY THE ENGINEER.

THE CONTRACTOR SHALL INSTALL NON-ORGANIC FIBERGLASS PULL TAPE WITH A MINIMUM 1800 FT./LBS. TENSION STRENGTH IN THE CONDUIT. THE COST FOR THE PULL TAPE AND ITS INSTALLATION SHALL BE INCIDENTAL TO THE COST OF THIS PAY ITEM.

FLEXIBLE METAL CONDUIT AND FITTINGS AS MANUFACTURED BY LIQUATITE, DELIKON, OR APPROVED EQUAL SHALL BE USED WHEN DIRECTED BY THE ENGINEER TO CONNECT THE STANDARD FIBERGLASS REINFORCED CONDUIT TO THE STANDARD CONDUIT. THE FLEXIBLE METAL CONDUIT SHALL BE WATERPROOF AND GRAY IN COLOR. THE FLEXIBLE METAL CONDUIT AND FITTINGS SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM.

THE WORK AS DESCRIBED WILL BE MEASURED AS THE NUMBER OF LINEAR FEET OF CONDUIT FURNISHED AND INSTALLED FROM END TO END, AND SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND INCIDENTALS, INCLUDING ALL JOINTS, COUPLINGS, FITTINGS, HANGERS, ATTACHMENT HARDWARE, AND ACCESSORIES, NECESSARY TO COMPLETE THE WORK SPECIFIED.

9/23/15



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TRAFFIC SIGNAL GENERAL NOTES

FRA-70-21.33

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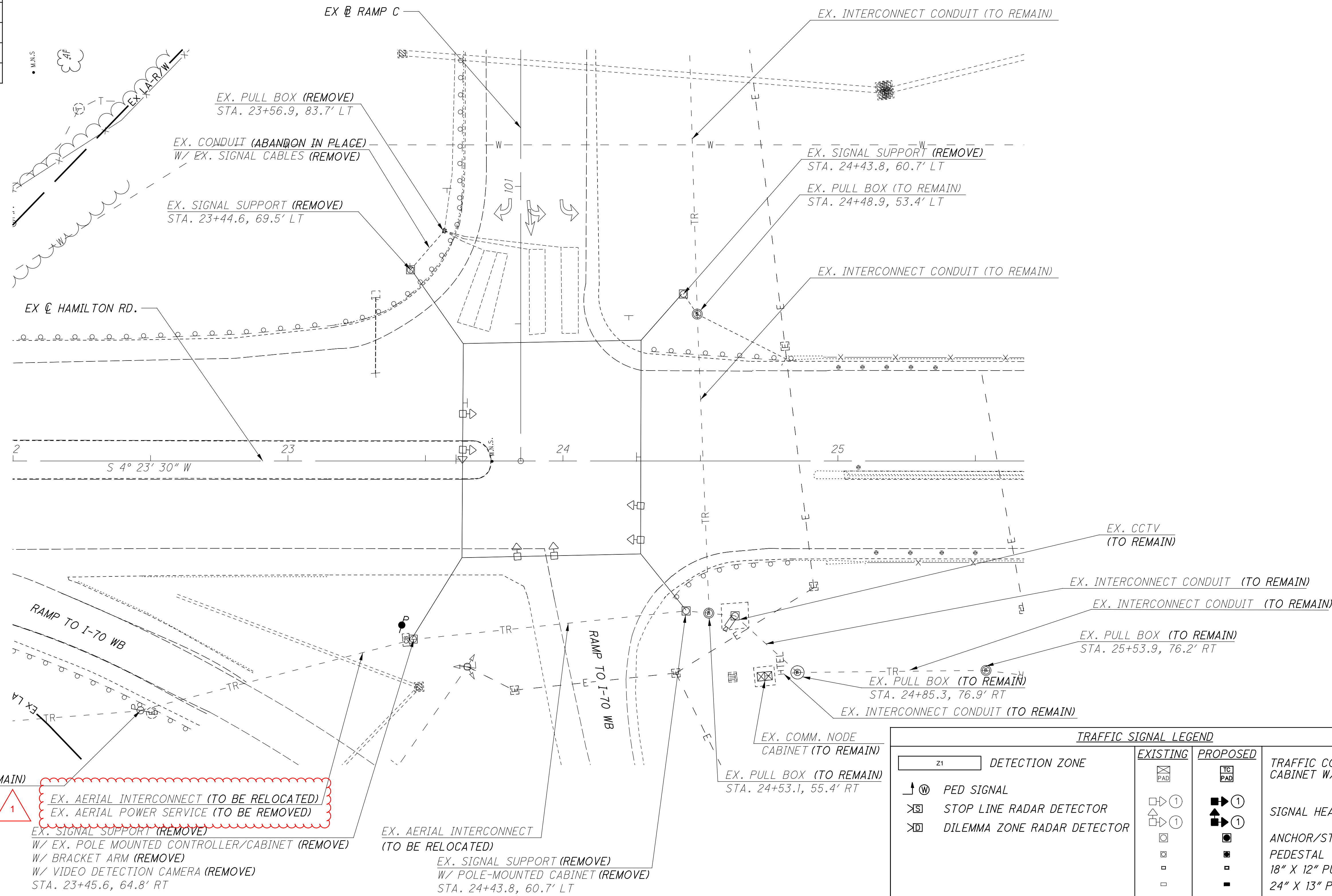
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HAMILTON RD AT I-70 WB RAMPS	HAMILTON RD AT I-70 EB RAMPS	INTERCONNECT	ITEM	ESTIMATED QUANTITY	UNIT	DESCRIPTION	SEE SHEET
						TRAFFIC SIGNAL	
	1		614	1	EACH	SPECIAL - WORK ZONE TRAFFIC SIGNAL	
383	190		625	573	FT	NO. 4 AWG 600 VOLT DISTRIBUTION CABLE, AS PER PLAN	138
		115	625	115	FT	CONDUIT, 1-1/2", 725.051	
142	162	115	625	419	FT	CONDUIT, 2", 725.051	
18	14		625	32	FT	CONDUIT, 3", 725.051	
15	178	10	625	203	FT	CONDUIT, CONCRETE ENCASED, 2"	
		820	625	820	FT	CONDUIT CLEANED AND CABLES REMOVED	
		1532	625	1532	FT	CONDUIT, MISC.: ENCASED INTERCONNECT CONDUIT BANK, (4)-3" & (1)-1.5", TC-2, SCH 40	142
		406	625	406	FT	CONDUIT, MISC.: 3" CONDUIT, FIBERGLASS REINFORCED, ATTACHED TO STRUCTURE	142
86	183	1549	625	1818	FT	TRENCH, AS PER PLAN	138
	76	103	625	179	FT	TRENCH IN PAVED AREA, TYPE B, AS PER PLAN	138
2	1		625	3	EACH	PULL BOX, MISC.: 27" ROUND CONCRETE, 725.08	139
1		7	625	8	EACH	PULL BOX, MISC.: 32" ROUND CONCRETE, 725.08	139
	1		625	1	EACH	PULL BOX, MISC.: 48" ROUND CONCRETE, 725.08, TYPE 1	139
1	3		625	4	EACH	PULL BOX, MISC.: CITY OF COLUMBUS, 12"X18", TRAFFIC, 725.06	139
10	10		625	20	EACH	GROUND ROD (SIGNALS)	
86	259	1652	625	1997	FT	UNDERGROUND WARNING/MARKING TAPE	
2	2		630	4	EACH	SIGN HANGER ASSEMBLY, SPAN WIRE	
8	6		630	14	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN	
52.8	28.8		630	81.6	SF	SIGN, FLAT SHEET	
2	2		630	4	EACH	SIGN, STREET NAME	
1	1		630	2	EACH	SIGNING, MISC.: TRAFFIC SIGNAL SIGNS	121
8	7		632	15	EACH	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN	139
1	1		632	2	EACH	VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN	139
2	2		632	4	EACH	PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN	
9	8		632	17	EACH	COVERING OF VEHICULAR SIGNAL HEAD	
2	2		632	4	EACH	COVERING OF PEDESTRIAN SIGNAL HEAD	
		196	632	196	FT	MESSENGER WIRE, 7 STRAND, 1/4" DIAMETER WITH ACCESSORIES, AS PER PLAN	143
320	342		632	662	FT	MESSENGER WIRE, 7 STRAND, 3/8" DIAMETER WITH ACCESSORIES	
320	342		632	662	FT	TETHER WIRE, WITH ACCESSORIES	
1107	625		632	1732	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
620	650		632	1270	FT	SIGNAL CABLE, 9 CONDUCTOR, NO. 14 AWG	
	565		632	565	FT	SIGNAL CABLE, 10 CONDUCTOR, NO. 14 AWG	
		285	632	285	FT	INTERCONNECT CABLE, MISC.: CAT 5E CABLE, OUTDOOR RATED	144
		268	632	268	FT	INTERCONNECT CABLE, MISC.: RELOCATE EXISTING INTERCONNECT CABLE	144
		1	632	1	EACH	INTERCONNECT, MISC.: FIBER OPTIC SPLICE ENCLOSURE, CLAMSHELL, 288 SPLICE	143
		1	632	1	EACH	INTERCONNECT, MISC.: TERMINATION PANEL, 24 FIBER	145
			632	LS		INTERCONNECT, MISC.: REMOVAL OF EXISTING AND TEMPORARY INTERCONNECT CABLE	144
4	4		632	8	EACH	STRAIN POLE FOUNDATION, AS PER PLAN	140
2	2		632	4	EACH	PEDESTAL FOUNDATION	
23	31		632	54	FT	POWER CABLE, 2 CONDUCTOR, NO. 6 AWG	
63	229		632	292	FT	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG	
86			632	86	FT	SERVICE CABLE, 3 CONDUCTOR, NO. 6 AWG	
1	1		632	2	EACH	POWER SERVICE, AS PER PLAN	138
1	1		632	2	EACH	CONDUIT RISER, 2" DIAMETER	
1	1		632	2	EACH	SIGNAL SUPPORT, MISC.: CITY OF COLUMBUS SCD 4170 - DESIGN 6	140
1	1		632	1	EACH	SIGNAL SUPPORT, MISC.: CITY OF COLUMBUS SCD 4170 - DESIGN 7	140
2	2		632	4	EACH	SIGNAL SUPPORT, MISC.: CITY OF COLUMBUS SCD 4170 - DESIGN 8	140
1			632	1	EACH	SIGNAL SUPPORT, MISC.: CITY OF COLUMBUS SCD 4170 - DESIGN 9	140
1			632	1	EACH	WOOD POLE	
1			632	1	EACH	DOWN GUY	
1	1		632	2	EACH	PEDESTAL, MISC.: 10.7' PEDESTAL	140
1	1		632	2	EACH	PEDESTAL, MISC.: 17.5' PEDESTAL	140
1	1		632	2	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	138
1	1		632	2	EACH	SIGNALIZATION, MISC.: POWER METER CABINET TYPE II, BASE MOUNT, WITH FOUNDATION	140
1	1		632	2	EACH	SIGNALIZATION, MISC.: STOP LINE RADAR DETECTION SYSTEM	139
1	1		632	2	EACH	SIGNALIZATION, MISC.: DILEMMA ZONE RADAR DETECTION SYSTEM	139
1	1		633	2	EACH	CABINET FOUNDATION	
1	1		633	2	EACH	CONTROLLER WORK PAD	
1	1		633	2	EACH	CONTROLLER ITEM, MISC.: CONTROLLER UNIT, TS2/A2, W/CABINET, 16 CH, SIZE 6, GROUND MOUNTED	141
		2	633	2	EACH	CONTROLLER ITEM, MISC.: FIBER OPTIC ETHERNET TRANSCEIVER, SHORT RANGE	145
		1	633	1	EACH	CONTROLLER ITEM, MISC.: REUSE LAYER 2 ETHERNET SWITCH	145
		3237	804 (COC 1620)	3237	FT	FIBER OPTIC CABLE, 144 FIBER FIBER OPTIC CABLE, 144 STRAND	
		147	804 (COC 1620)	147	EACH	DROP CABLE, 24 FIBER FIBER OPTIC CABLE, 24 STRAND	
		456	804 (COC 1620)	456	EACH	FUSION SPLICE FIBER OPTIC FUSION SPLICE	

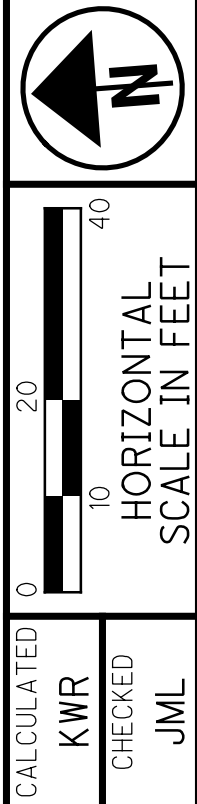
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<b>TRAFFIC SIGNAL INSTALLATION</b>	
<b>SUB-SUMMARY</b>	
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146	188

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TRAFFIC SIGNAL INSTALLATION REMOVAL CHART		DELIVERED TO 1820 E. 17TH AVE.	DISPOSED OF BY PROJECT	REFUSED IN PROPOSED SIGNAL
QUANTITY	REMOVED ITEM DESCRIPTION			
2	POLE MOUNTED CABINETS	X		
LUMP	SIGNAL CABLE AND MESSENGER WIRE		X	
6	VEHICULAR SIGNAL HEAD	X		
4	ANCHOR BASE POLE	X		
1	PULL BOX (POLY-CONCRETE)		X	
2	SPAN MOUNTED SIGNS	X		
4	POLE FOUNDATION		X	
1	LAYER 2 SWITCH			X
1	VIDEO DETECTION SYSTEM	X		
1	BRACKET ARM	X		



TRAFFIC SIGNAL LEGEND		
EXISTING	PROPOSED	
		DETECTION ZONE
		PED SIGNAL
		STOP LINE RADAR DETECTOR
		DILEMMA ZONE RADAR DETECTOR
		TRAFFIC CONTROLLER CABINET W/PAD
		SIGNAL HEADS
		ANCHOR/STRAIN POLE PEDESTAL
		18" X 12" PULL BOX
		24" X 13" PULL BOX
		27" ROUND PULL BOX
		32" ROUND PULL BOX
		48" ROUND PULL BOX



TRAFFIC SIGNAL REMOVAL PLAN  
HAMILTON ROAD AT I-70 WB RAMP

FRA-70-21.33

- THE CONTRACTOR SHALL ENSURE THAT ALL PROPOSED SIDEWALKS/ PATHWAYS MEET ADA GUIDELINES PER CITY SPECIFICATIONS.
- THE CONTRACTOR SHALL ENSURE THAT ALL EXISTING SIDEWALKS/ PATHWAYS WITHIN THE PROJECT WORK LIMITS MEET ADA GUIDELINES PER CITY SPECIFICATIONS.
- ALL CABLES, UNLESS SPECIFIED IN THE PLANS, ARE TO BE ROUTED INSIDE THE ANCHOR BASE SIGNAL SUPPORT POLE OR PEDESTAL. CABLES NOT SERVING A GIVEN POLE OR PEDESTAL SHALL NOT BE ROUTED THROUGH THE POLE.
- POWER, SERVICE AND INTERCONNECT CABLE SHALL BE CONTINUOUS WITH NO SPLICES, EXCEPT AS NOTED.
- FOR SIGNING AND PAVEMENT MARKINGS, SEE SHEETS 127 - 135
- N/A.
- FOR POLE BASE FOUNDATIONS NOT WITHIN SIDEWALK AREA, THE TOP OF THE POLE BASE FOUNDATION SHALL BE EDGED USING A 1/2" SIDEWALK EDGER INSTEAD OF BEING CHAMFERED.
- THE CITY OF COLUMBUS SHALL APPROVE BOLT ALIGNMENT, POLE/PEDESTAL FOUNDATION LOCATION, AND ELEVATION PRIOR TO THE CONTRACTOR INSTALLING THE FOUNDATION.
- TAGGING OF CABLE IN THE PULL BOX IMMEDIATELY ADJACENT TO THE CONTROL CABINET IS NOT REQUIRED EXCEPT FOR TAGGING OF CERTAIN CABLE AS DIRECTED BY THE PROJECT ENGINEER, OR AS PER PLAN.
- DO NOT ENCASE THE GROUND ROD, THE GROUNDING WIRE, OR THE EMT CONDUIT ENDS IN CONCRETE THAT FALL OUTSIDE OF THE FOUNDATION. FULL ACCESS TO THESE ITEMS MUST BE MAINTAINED AT ALL TIMES. PERMANENTLY MARK THE TOP OF FOUNDATION CONCRETE, WITH A MARKER OR SYMBOL SO THE ROD LOCATION CAN BE IDENTIFIED BY OTHERS.
- ANY SIGNAL POLE BASE FOUNDATION ADJACENT TO A SIDEWALK AREA SHALL BE FLUSH WITH THE TOP OF THE SIDEWALK UNLESS OTHERWISE STATED. SIGNAL POLE FOUNDATIONS WITHIN SIDEWALK AREA SHALL BE PER STD DWG 4161.

- THE CONTRACTOR SHALL NOT INSTALL POLE FOUNDATIONS UNTIL THE POLE LOCATION AREA IS AT FINISHED GRADE.
- UNDERGROUND CONDUIT AND TRENCH THAT ARE UNDER PROPOSED SIDEWALK OR ROADWAY AREAS SHALL BE INSTALLED PRIOR TO THE PLACEMENT OF SIDEWALKS OR ANY ASPHALT OR CONCRETE ROADWAY COURSE.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL POWER CABLE/CONDUIT FROM THE TRAFFIC SIGNAL CONTROLLER CABINET, THROUGH THE POWER METER CABINET (WHEN APPLICABLE), AND TO THE POWER/WOOD POLE AT STA 21+47.5, 98.7' RT. COIL ENOUGH CABLE AT THE BOTTOM OF THE POWER POLE TO REACH THE POWER HOOK-UP POINT ON THE POLE.
- N/A.
- SEE INTERCONNECT SCHEMATIC SHEETS 157-159 FOR INTERCONNECT ITEMS.
- FOR CONTINUATION OF CONDUIT, SEE SHEET 157.

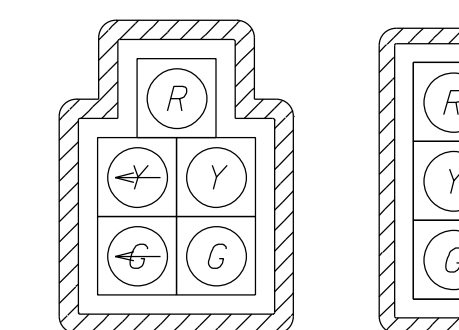
- THE CONTROL CABINET DOOR SHALL BE LOCATED ON THE WEST SIDE OF THE CABINET.
- THE CABINET FOUNDATION SHALL BE PLACED ADJACENT TO THE BACK OF THE SIDEWALK. THE TOP SURFACE OF A CABINET FOUNDATION LOCATED NEXT TO SIDEWALK AREAS SHALL BE 4" ABOVE THE SURROUNDING WALK. EXPANSION MATERIAL SHALL BE USED BETWEEN ALL FOUNDATIONS AND ADJACENT SIDEWALKS. WORK PAD SIZE SHALL BE 48" W X 36" D X 4" H.
- USE A SEPARATE CONDUIT FOR EACH GROUPING OF CABLES UNLESS OTHERWISE INDICATED: ONE CONDUIT FOR 120VAC SIGNAL CABLE (3/C, 7/C, 9/C); ONE CONDUIT FOR POWER; ONE CONDUIT FOR 2 CONDUCTOR CABLE (LOOP & PUSHBUTTON); AND ONE CONDUIT FOR INTERCONNECT/COMMUNICATIONS CABLE (TWISTED PAIR, FIBER OPTICS OR COAX). ANY OTHER LOW VOLTAGE CABLE NOT SPECIFIED ABOVE CAN BE PLACED IN THE 2 CONDUCTOR CABLE CONDUIT. POWER CABLE MUST BE PLACED IN ITS OWN CONDUIT.
- UNLESS OTHERWISE SPECIFIED THE FOLLOWING SHALL APPLY. A PREFORMED PVC CONDUIT ELBOW SHALL BE USED TO CHANGE THE PVC CONDUIT DIRECTION BEYOND WHAT ITS NATURAL BENDING FLEX WOULD YIELD. RIGID METAL CONDUIT CAN BE BENT TO FORM AN ELBOW OR ANY OTHER BENDING ANGLE REQUIRED ONLY IF A PROPER CONDUIT BENDING MACHINE IS USED. THE ELBOW RADIUS FOR ANY NON-INTERCONNECT CONDUIT SHALL BE 24" OR LARGER WHEN USED IN A HORIZONTAL OR VERTICAL MANNER. ANY TYPE OF ELBOW USED FOR INTERCONNECT CONDUIT SHALL HAVE A RADIUS OF 36" OR LARGER WHEN USED IN A HORIZONTAL DIRECTION OR IN A VERTICAL DIRECTION WHEN THE TRENCH IS 36" OR DEEPER. IF THE TRENCH IS LESS THAN 36" THEN THE VERTICAL ELBOW RADIUS SHALL BE 24".
- ALL CLAMPS AND BANDING MATERIAL SHALL BE PAINTED TO MATCH THE SIGNAL SUPPORTS.
- N/A.
- N/A.
- INCREASE THE HEIGHT OF THE AUXILIARY SIGNAL HEAD ON POLE S/E-1, AS NEEDED, TO PROVIDE A VIEW UNOBSTRUCTED BY THE BRIDGE VANDAL FENCE FOR NB TRAFFIC.

PEDESTRIAN SIGNAL HEAD CONFIGURATION



TRAFFIC SIGNAL CONFIGURATION

TETHERED 12" LENSES



1  
2,3,4,5  
6,7,8,9

BACKPLATES IN ACCORDANCE WITH CMSC 732.22



R6-2L-24  
SPAN MTD.

(A)



R9-3-24  
POLE MTD.

(C)



R6-2R-24  
SPAN MTD.

(B)



W23-H2b-30  
SPAN MTD.

(D)

s Hamilton RD  
D3-1 (18" x VAR.)  
POLE MTD.  
(E)

POLE N/W-1 STRAIN POLE  
W/(1)-DILEMMA ZONE RADAR DETECTOR (SB)  
W/(1)-VEHICULAR SIGNAL HEAD  
W/(1)-2" CONDUIT RISER, 725.053 (POWER)  
W/(1)-2/C 6 AWG POWER & (1)-GND  
STA. 23+42.2, 52.2' RT

POLE N/E-2 PEDESTRIAN PEDESTAL, 17.5'  
W/(1)-VEHICULAR SIGNAL HEAD  
W/(1)-PEDESTRIAN SIGNAL HEAD  
STA. 23+52.0, 64.9' LT

(1)-2" CONDUIT W/(1)-9/C, (1)-7/C & (1)-GND  
(1)-2" CONDUIT EMPTY  
IN TRENCH = 30'

PULL BOX, 27"  
STA. 23+25.1, 58.9' LT

(1)-2" CONDUIT W/(1)-9/C, (1)-7/C & (2)-GND  
(1)-2" CONDUIT EMPTY  
IN TRENCH = 5'

POLE N/E-1 STRAIN POLE  
STA. 23+22.0, 55.0' LT

POLE S/E-2 PEDESTRIAN PEDESTAL, 10.7'  
W/(1)-PEDESTRIAN SIGNAL HEAD  
STA. 24+21.1, 53.8' LT

(1)-2" CONDUIT W/(1)-9/C & (1)-GND  
(1)-2" CONDUIT EMPTY  
IN TRENCH = 11'

PULL BOX, 27"  
STA. 24+32.0, 52.9' LT

(1)-2" CONDUIT W/(1)-9/C & (2)-GND  
(1)-2" CONDUIT EMPTY  
IN TRENCH = 13'

POLE S/E-1 STRAIN POLE  
W/(1)-DILEMMA ZONE RADAR DETECTOR (NB)  
W/(1)-STOP LINE RADAR DETECTOR (WB)  
W/(1)-VEHICULAR SIGNAL HEAD (SEE NOTE 25)  
STA. 24+40.6, 42.7' LT

POLE S/W-1 STRAIN POLE  
W/(1)-STOP LINE RADAR DETECTOR (NB)  
STA. 24+59.8, 48.3' RT

EX. INTERCONNECT CONDUIT (TO REMAIN)  
(SEE INTERCONNECT PLANS)

EX. PULL BOX (TO REMAIN)  
STA. 25+53.9, 76.2' RT

EX. CTSS 144-STRAND FOC, AERIAL (RELOCATED)  
(SEE INTERCONNECT PLANS)

EXISTING WOOD POLE (TO REMAIN)  
STA. 22+46.3, 90.7' RT

EX. CTSS 144-STRAND FOC, AERIAL (TO REMIAN)  
(SEE INTERCONNECT PLANS)

PR. POWER SERVICE W/PR. AEP TRANSFORMER ON PR. AEP POLE  
STA. 22+68.7, 105.0' RT

(1)-3/C 6 AWG SERVICE CABLE  
AERIAL = 86'

PR. WOOD POLE  
W/(1)-2" RISER, 725.051 (POWER)  
W/(1)-DOWN GUY  
STA. 23+41.4, 59.7' RT

(1)-2" CONDUIT  
W/(1)-3/C 6 AWG POWER  
ENCASED IN TRENCH = 5'

PULL BOX (12" X 18")  
STA. 23+46.4, 59.7' RT

(1)-3" CONDUIT W/(2)-9/C, (5)-7/C, & (1)-GND  
(1)-2" CONDUIT W/(4)-RADAR  
(1)-2" CONDUIT W/INTERCONNECT CABLE  
(SEE INTERCONNECT PLANS)  
IN TRENCH = 6'

GROUND MOUNTED CONTROLLER  
STA. 23+54.4, 53.8' RT

(1)-2" CONDUIT W/(1)-2/C 6 AWG POWER & (1)-GND  
ENCASED IN TRENCH = 6'

POWER METER CABINET  
STA. 23+54.4, 59.7' RT

(1)-3" CONDUIT W/(2)-9/C, (5)-7/C, & (2)-GND  
(1)-3" CONDUIT W/(4)-RADAR  
(1)-2" CONDUIT W/INTERCONNECT CABLES  
(1)-2" CONDUIT EMPTY  
IN TRENCH = 6'

(1)-2" CONDUIT W/(1)-3/C 6 AWG POWER  
ENCASED IN TRENCH = 8'

PULL BOX, 32"  
STA. 23+48.3, 53.0' RT

TRAFFIC SIGNAL LEGEND

		EXISTING	PROPOSED	TRAFFIC CONTROLLER CABINET W/PAD
z1	DETECTION ZONE			
	PED SIGNAL			SIGNAL HEADS
	STOP LINE RADAR DETECTOR			ANCHOR/STRAIN POLE PEDESTAL
	DILEMMA ZONE RADAR DETECTOR			18" X 12" PULL BOX
				24" X 13" PULL BOX
				27" ROUND PULL BOX
				32" ROUND PULL BOX
				48" ROUND PULL BOX

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TRAFFIC SIGNAL INSTALLATION PLAN  
HAMILTON ROAD AT I-70 WB RAMPS

FRA-70-21.33

148  
188

**FIELD WIRING HOOK-UP CHART**

SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH
1 (NBLT)	R	φ6 R	R
	Y	φ6 Y	
	G	φ6 G	
	<-Y--	φ1 Y	
2,8 (NB)	R	φ6 R	R
	Y	φ6 Y	
	G	φ6 G	
3,4,9 (SB)	R	φ2 R	R
	Y	φ2 Y	
5,6,7 (WB)	R	φ4 R	R
	Y	φ4 Y	
E (EAST)	WALK	G (φ6) - W	OFF
	DON'T WALK	R (φ6) - DW	

**TIMING CHART**

PHASE	1	2	3	4	5	6	7	8
MOVEMENT	NBLT	SB	-	WB	-	NB	-	-
MIN INITIAL	7	20	-	10	-	20	-	-
WALK	-	-	-	-	-	7	-	-
PED CHANGE	-	-	-	-	-	12	-	-
PASS / EXT	3.7	1	-	3.7	-	-	-	-
YELLOW	4.3	5.3	-	3.1	-	5.3	-	-
RED CLR	1.8	1.0	-	2.3	-	1.0	-	-
MAX GRN 1	30	60	-	30	-	60	-	-
MAX GRN 2	30	60	-	30	-	60	-	-
PED RECALL	-	-	-	-	-	ON	-	-
VEH RECALL	OFF	MIN	-	OFF	-	MIN	-	-
MEMORY	OFF	ON	-	OFF	-	ON	-	-

**DETECTION CHART**

DETECTION ZONE (#)	RADAR DETECTOR (#)	PHASE	DETECTION ZONE SIZE (W' x L')	PRESENCE	PURPOSE	DELAY DATA	
						DELAY (SEC.)	INHIBIT DELAY DURING GREEN (PHASE)
-	1	6	2 LANES X 600'	X	DILEMMA ZONE	-	-
Z4a	2	4	6' x 40'	X	CALL/EXTEND	0	4
Z4b	2	4	6' x 40'	X	CALL/EXTEND	0	4
Z4c	2	4	6' x 40'	X	CALL/EXTEND	12	4
Z1	3	1	5.5' x 25'	X	CALL/EXTEND	3	1
-	4	2	2 LANES X 600'	X	DILEMMA ZONE	-	-

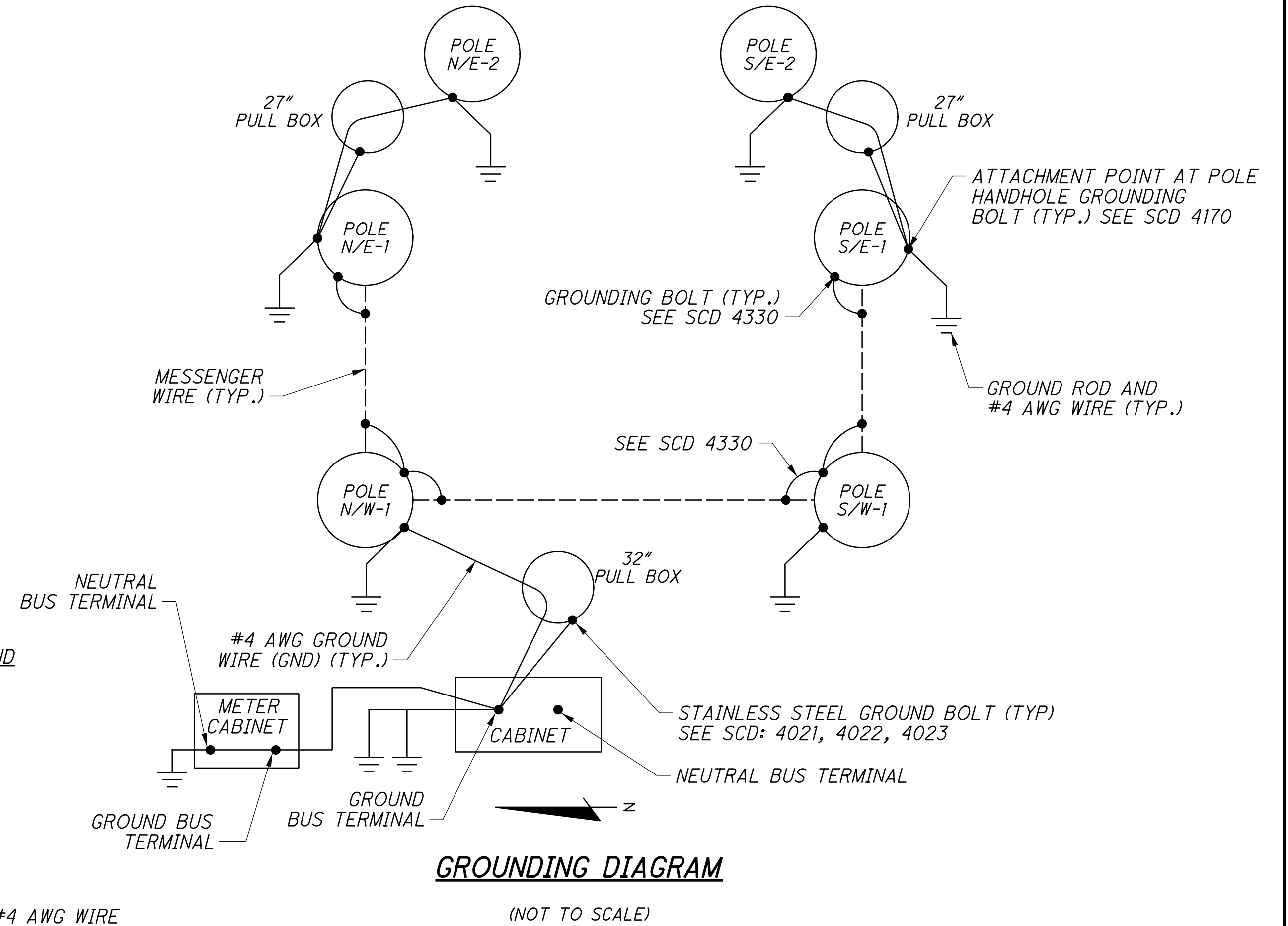
DILEMMA ZONE SPEED THRESHOLD: >35 MPH

NOTES:  
15. N/A.

NOTES:

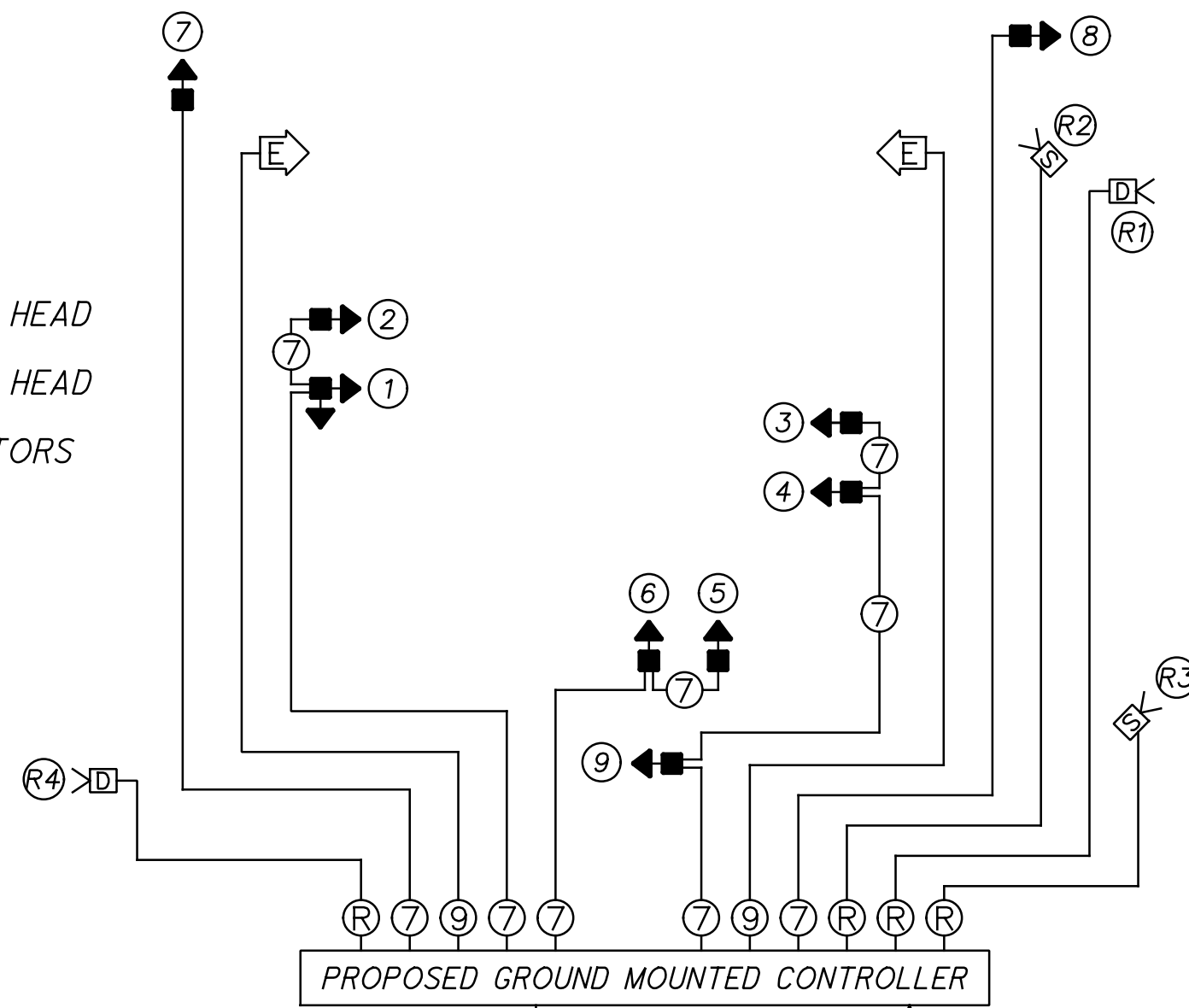
- SET CONFLICT MONITOR FOR 10 SEC FLASH.
- N/A.
- N/A.
- N/A.
- BACK PANEL WIRING (FRONT SIDE JUMPERS ONLY)
- HARD WIRE 'PED RECYCLE' TO GROUND.
- INSTALL A DIODE BETWEEN TERMINALS. φ2 'PHASE ON' OUTPUT AND φ1 'OMIT' INPUT, SO THE LEFT TURN PHASE (φ1) IS OMITTED DURING THE THROUGH PHASE (φ2).
- N/A.
- N/A.
- INTERCONNECT CABLE SHALL BE CONTINUOUSLY RUN BETWEEN CONTROLLER CABINETS. NO SPLICES ARE PERMITTED EXCEPT WHERE NOTED.
- N/A.
- N/A.
- N/A.

- CONTROLLER SOFTWARE PROGRAMMING
- INITIALIZE IN φ2 & φ6 GREEN
- ENABLE ACTUATED REST-IN-WALK. ACTIVATE PHASE φ6.
- ENABLE SIMULTANEOUS GAP OUT. ACTIVATE φ2, φ4 & φ6.
- N/A.
- N/A.
- INTERCONNECT CABLE SHALL BE CONTINUOUSLY RUN BETWEEN CONTROLLER CABINETS. NO SPLICES ARE PERMITTED EXCEPT WHERE NOTED.
- N/A.
- N/A.
- N/A.



**WIRING DIAGRAM LEGEND**

- 6P(2) 2/C #6 AWG (POWER)
- 6P(3) 3/C #6 AWG (POWER)
- PEDESTRIAN SIGNAL HEAD
- 5-SECTION VEHICULAR SIGNAL HEAD
- 3-SECTION VEHICULAR SIGNAL HEAD
- SIGNAL CABLE, # OF CONDUCTORS
- RADAR DETECTION CABLE
- STOP LINE RADAR UNIT
- DILEMMA ZONE RADAR UNIT

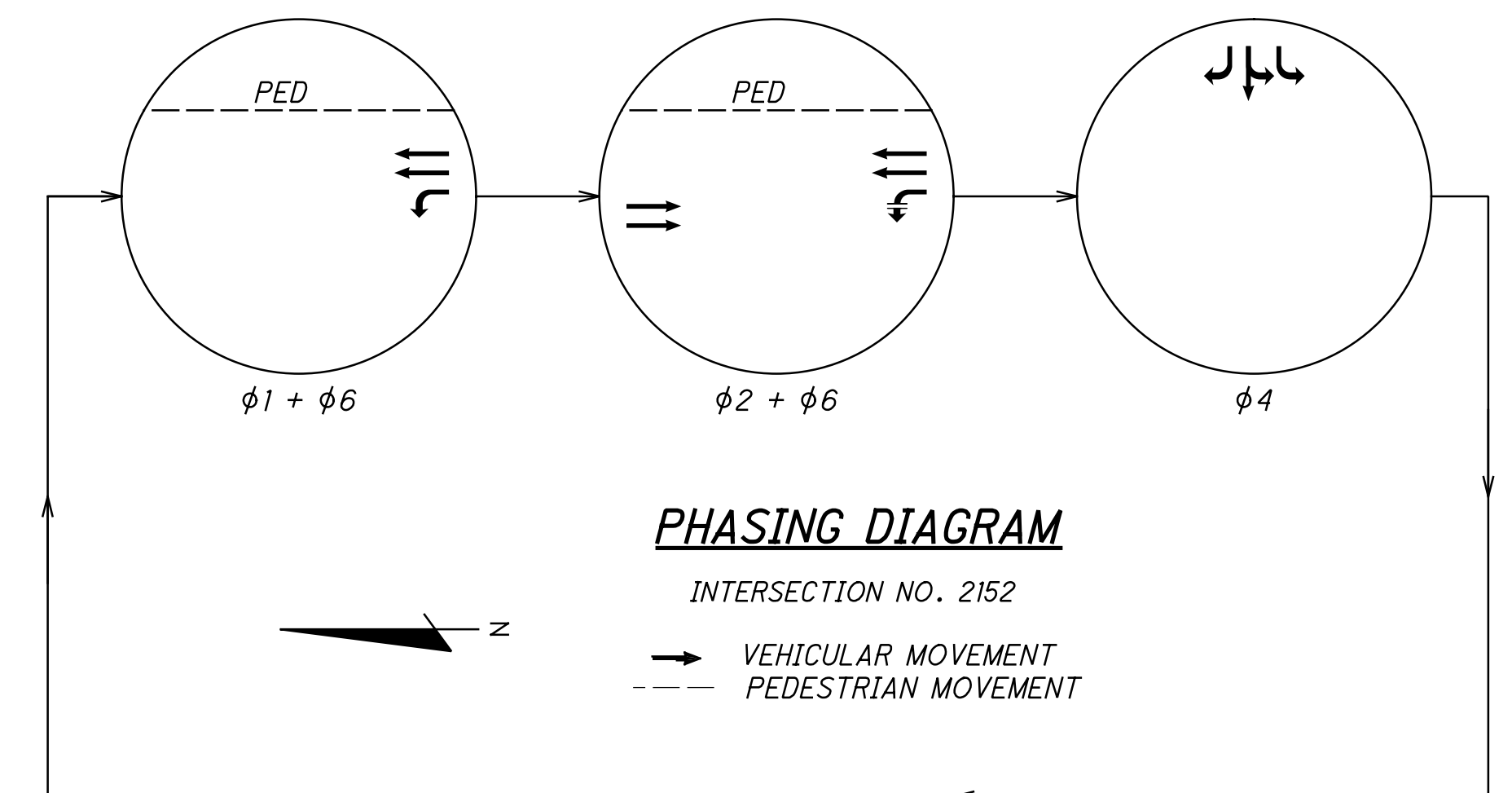


**GROUNDING & BONDING DIAGRAM LEGEND**

- PULL BOX
- SIGNAL POLE
- GROUND ROD & #4 AWG WIRE
- ATTACHMENT POINT
- CONTROLLER CABINET
- CABINET GROUND TERMINAL
- GROUND CLAMP WITH #4 AWG WIRE
- POWER METER CABINET

**GROUNDING DIAGRAM**

(NOT TO SCALE)



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TRAFFIC SIGNAL PLAN DETAILS HAMILTON RD & I-70 WB

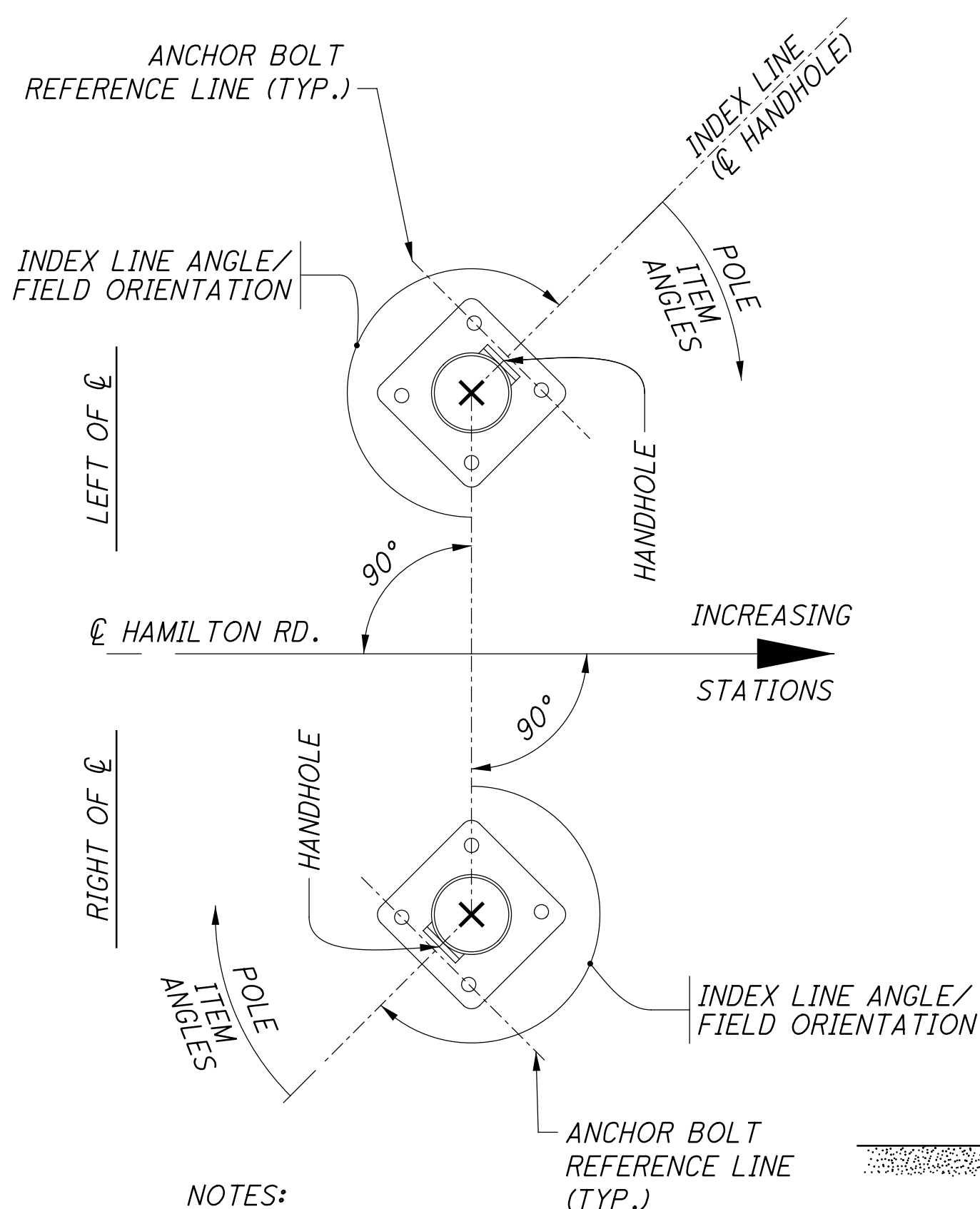
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**POLE FABRICATION AND ORIENTATION DATA CHART**

INTERSECTION	SHEET NO.	POLE SIZES & ATTACHMENT HEIGHTS							POLE FABRICATION DATA CLOCKWISE FROM HANDHOLE AT 0 DEGREES						FIELD ORIENTATION				
		POLE DESIGNATION	POLE COLOR/ FEDERAL STANDARD 595B	POLE DESIGN NO. (STD DWG 4170)	POLE HT. (FT.)	SPAN ATTACHMENT HT. (FT.)  N = NORTH SPAN S = SOUTH SPAN W = WEST SPAN	INTERCONNECT ATTACHMENT HT. (FT.)	AUX. SIGNAL HEAD ATTACHMENT HT. (FT.)	RADAR DETECTOR (FT.)	ANCHOR BOLT REF. LINE	2" BHC ANGLE-HT. DEG.-FT.	3" BHC ANGLE-HT. DEG.-FT.	VEHICULAR SIGNAL HEAD	PED. SIGNALS	STREET NAME SIGN	INDEX LINE ANGLE (HANDHOLE)	ANCHOR BOLT REF. LINE	CAPPED FOUNDN. CONDUIT ELL 2-2" DIA.	FOUNDATION ELEVATION
HAMILTON RD. AT I-70 WB RAMPS	148	N/E-1	27038 (SEMI-GLOSS BLACK)	8	31'	28.0'	-	-	-	90	180 - 29.5'	-	-	-	169	79	-	778.01	
		N/E-2	27038 (SEMI-GLOSS BLACK)	PEDESTAL	17.5'	-	-	-	-	90	-	-	240	69	-	306	216	-	SEE SHEET 107
		N/W-1	27038 (SEMI-GLOSS BLACK)	9	32'	27.0' (N) / 28.5' (W)	31.0'	15'	18'	90	-	180 - 30.5'	66	-	234	216	126	-	778.78
		S/W-1	27038 (SEMI-GLOSS BLACK)	8	29'	24.0' (W) / 26.0' (S)	28.0'	-	18'	90	180 - 27.5'	-	-	-	-	125	35	-	783.26
		S/E-1	27038 (SEMI-GLOSS BLACK)	6	30'	26.5'	-	**	18'	90	180 - 28'	-	101	-	101	168	78	-	782.72
		S/E-2	27038 (SEMI-GLOSS BLACK)	PEDESTAL	10.7'	-	-	-	-	-	90	-	-	-	-	296	-	-	SEE SHEET 107

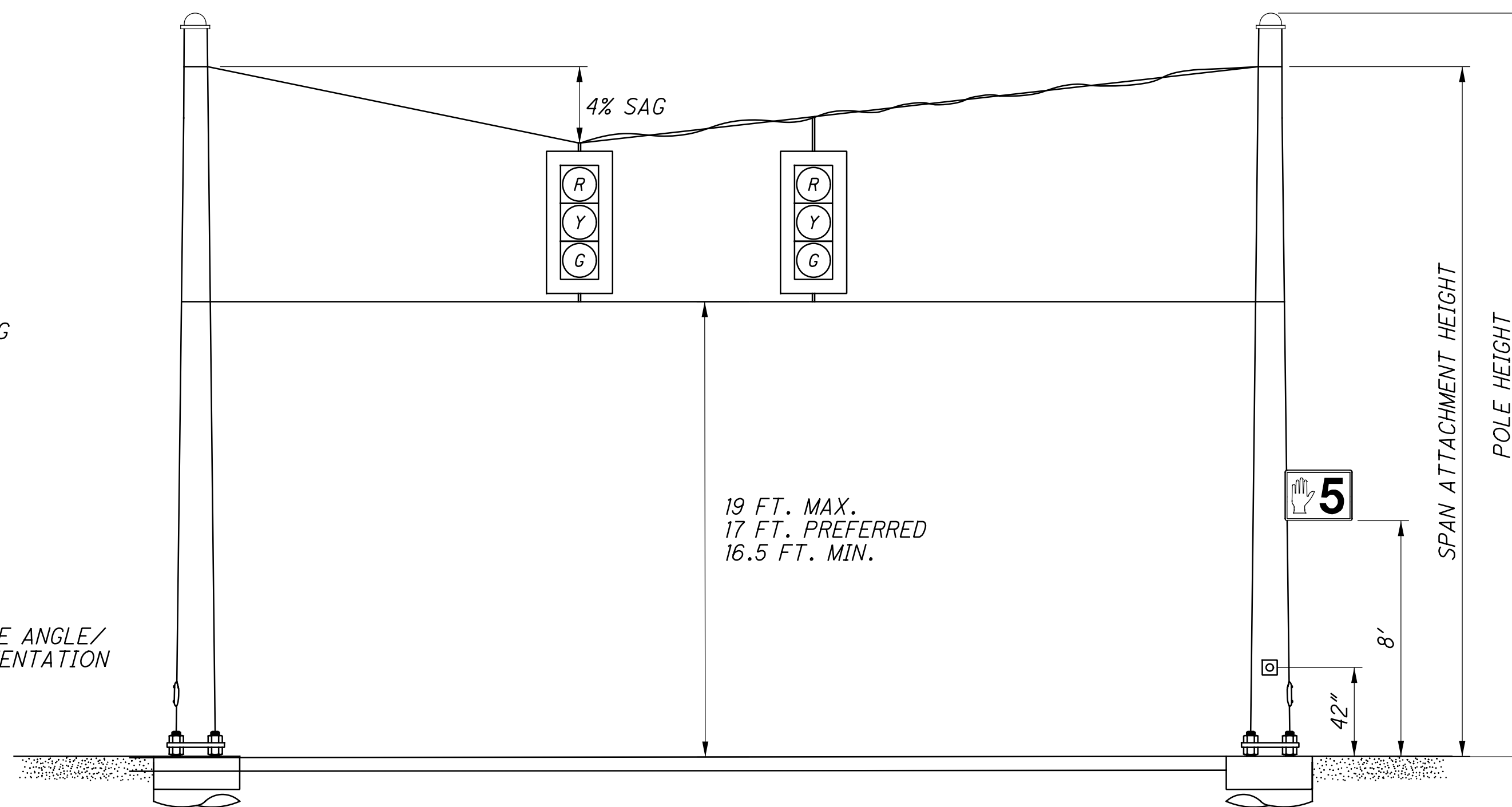
\*\* CONTRACTOR SHALL ADJUST MOUNTING HEIGHT TO PROVIDE MAXIMUM VISIBILITY TO SIGNAL HEAD OVER THE VANDAL FENCE FOR THE NORTHBOUND APPROACH.

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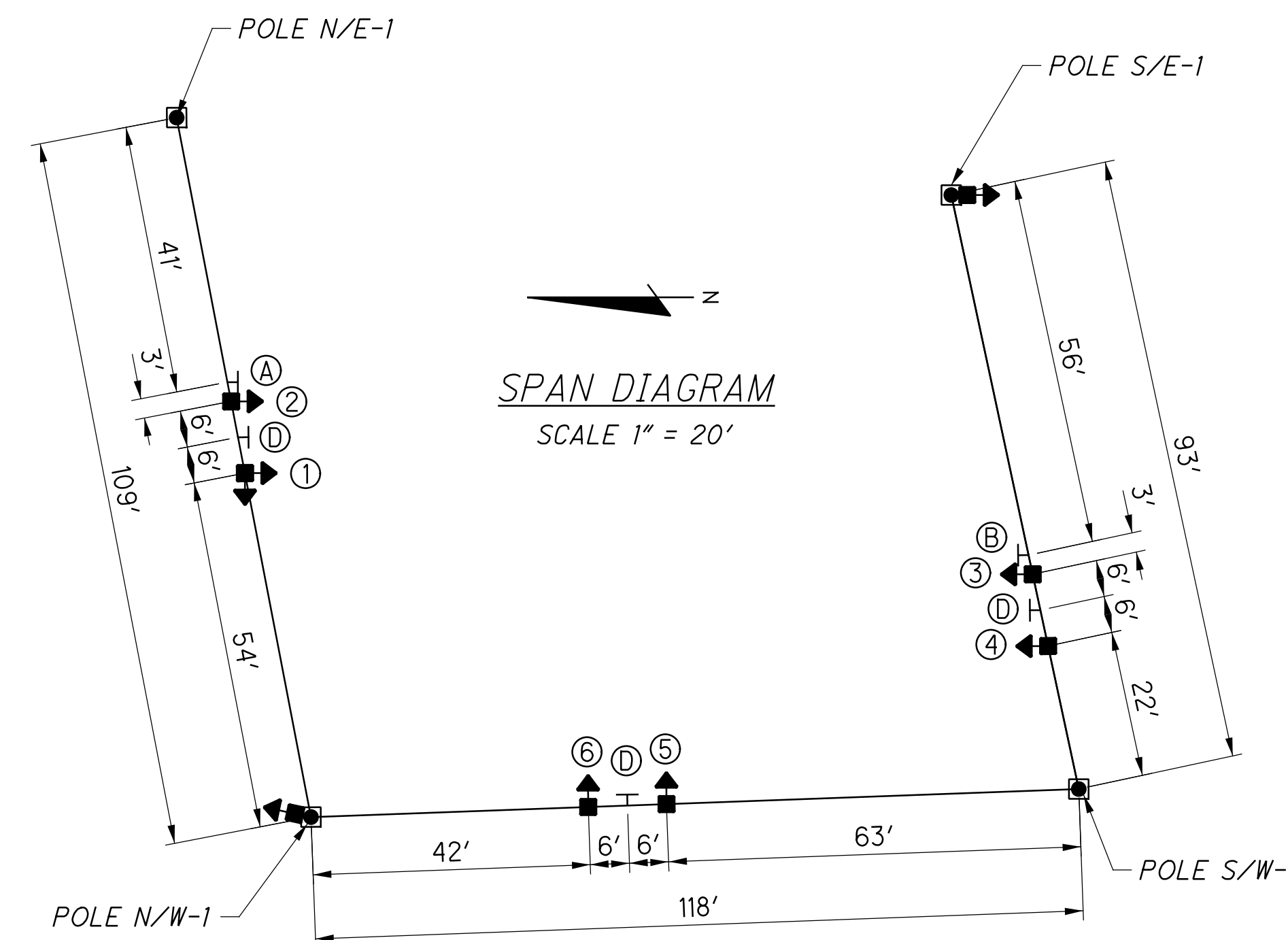


- NOTES:
- ALL ANGLES ARE MEASURED CLOCKWISE.
  - THE INDEX LINE GOES THROUGH THE CENTER OF THE HANDHOLE.

**POLE & PEDESTAL DIAGRAM**



**TYPICAL SIGNAL ELEVATION**  
NOT TO SCALE



- NOTES:
1. THE LOWEST SIGNAL HEAD HEIGHT IN EACH DIRECTION SHALL BE SET AT 16.5'. ADJUST THE SPAN ACCORDINGLY.
  2. THE DIMENSIONS SHOWN ON THE SPAN DIAGRAM ARE ESTIMATES. FINAL HEAD POSITIONS SHALL BE ON THE LANE LINE, CHANNEL LINE OR ON THE LANE CENTERLINE. THE DISTANCE BETWEEN THE HEADS SHALL BE AS INDICATED.

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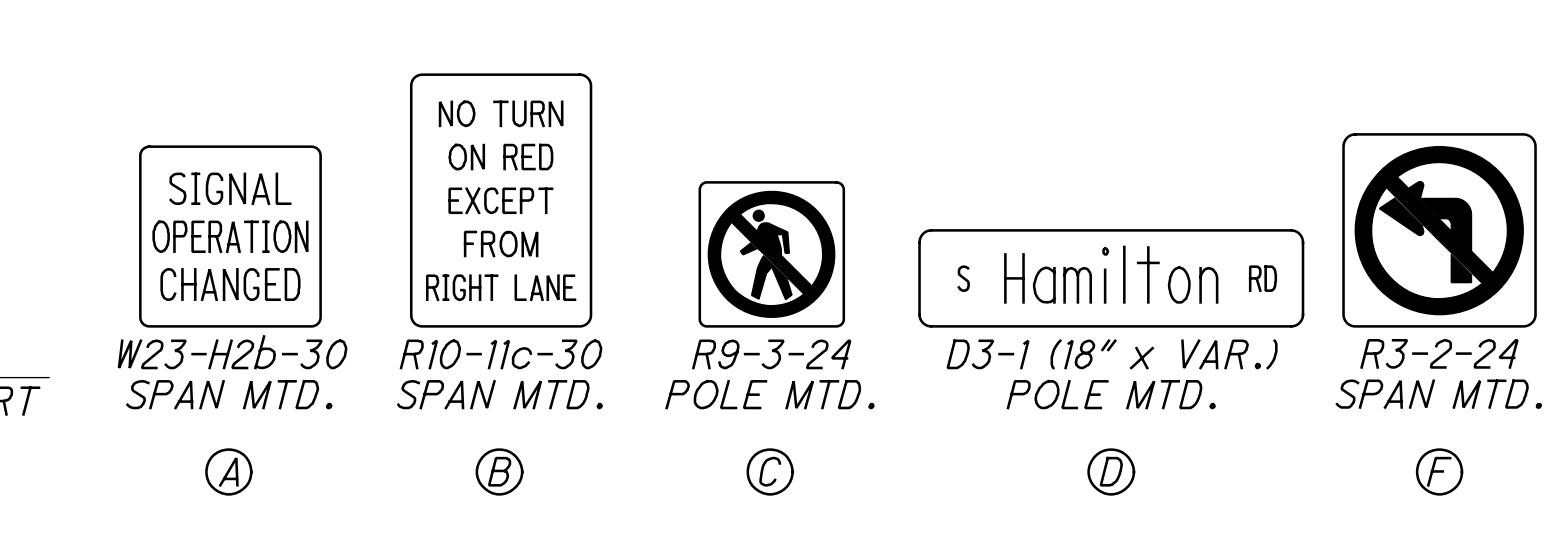
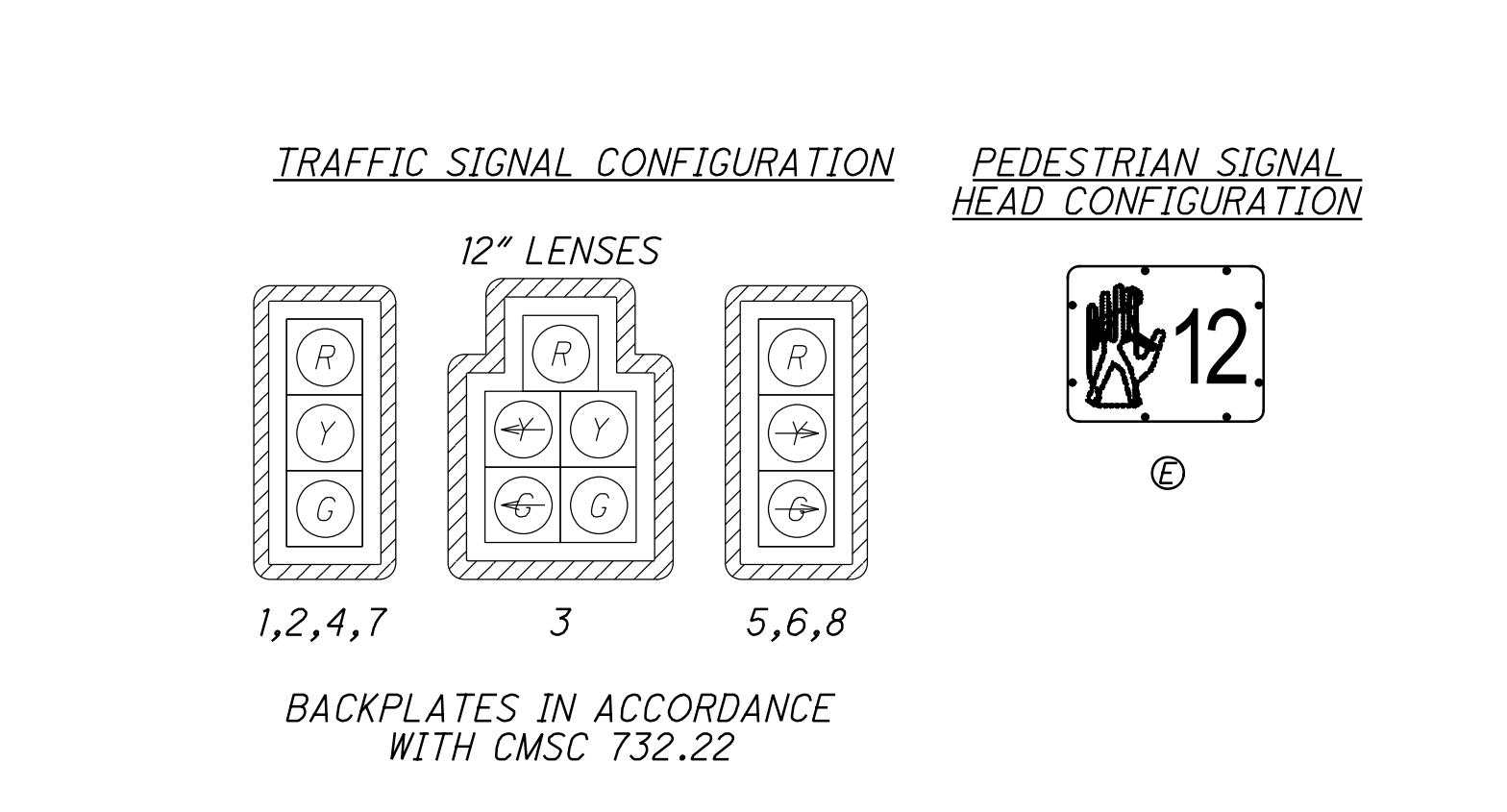
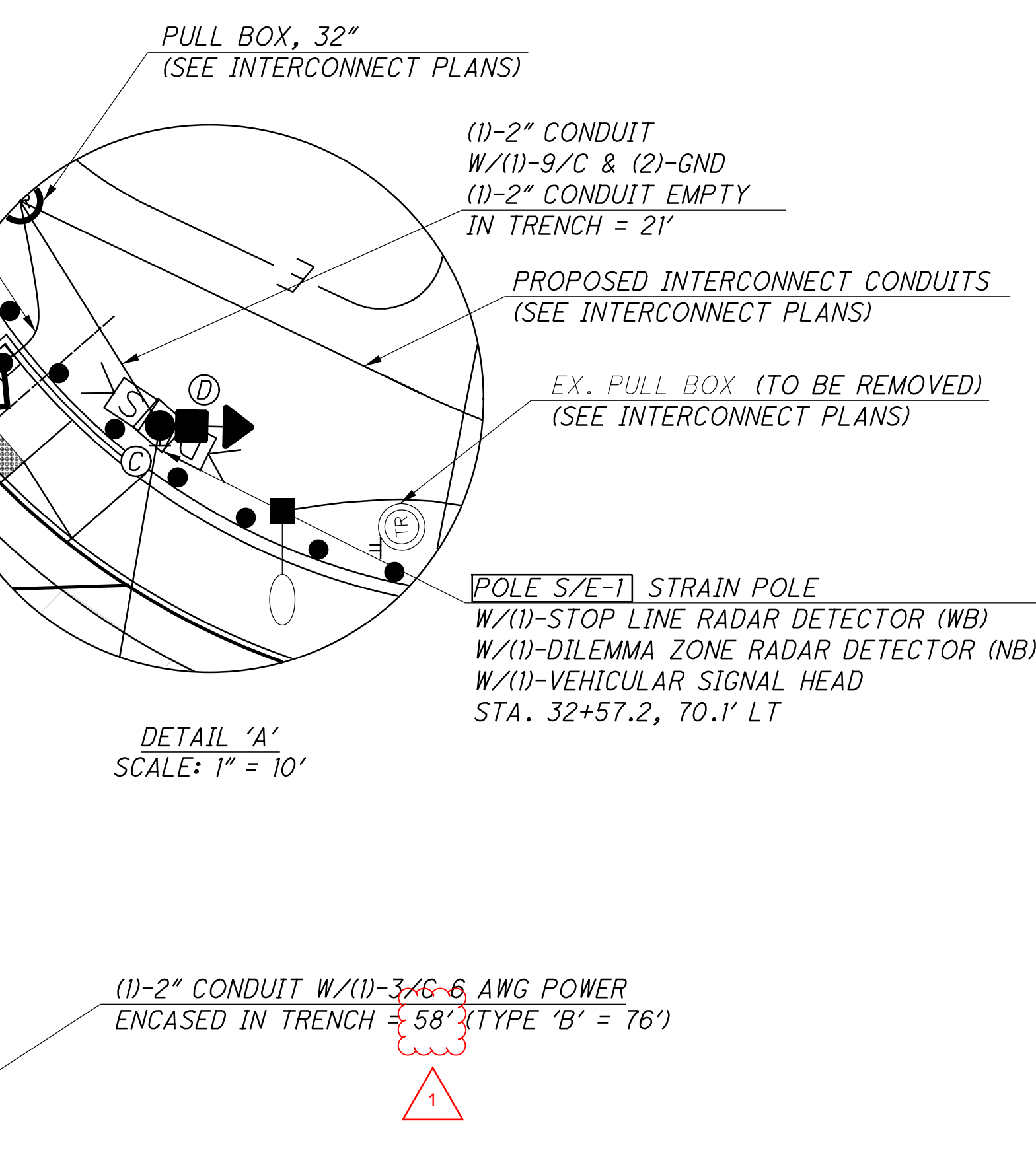
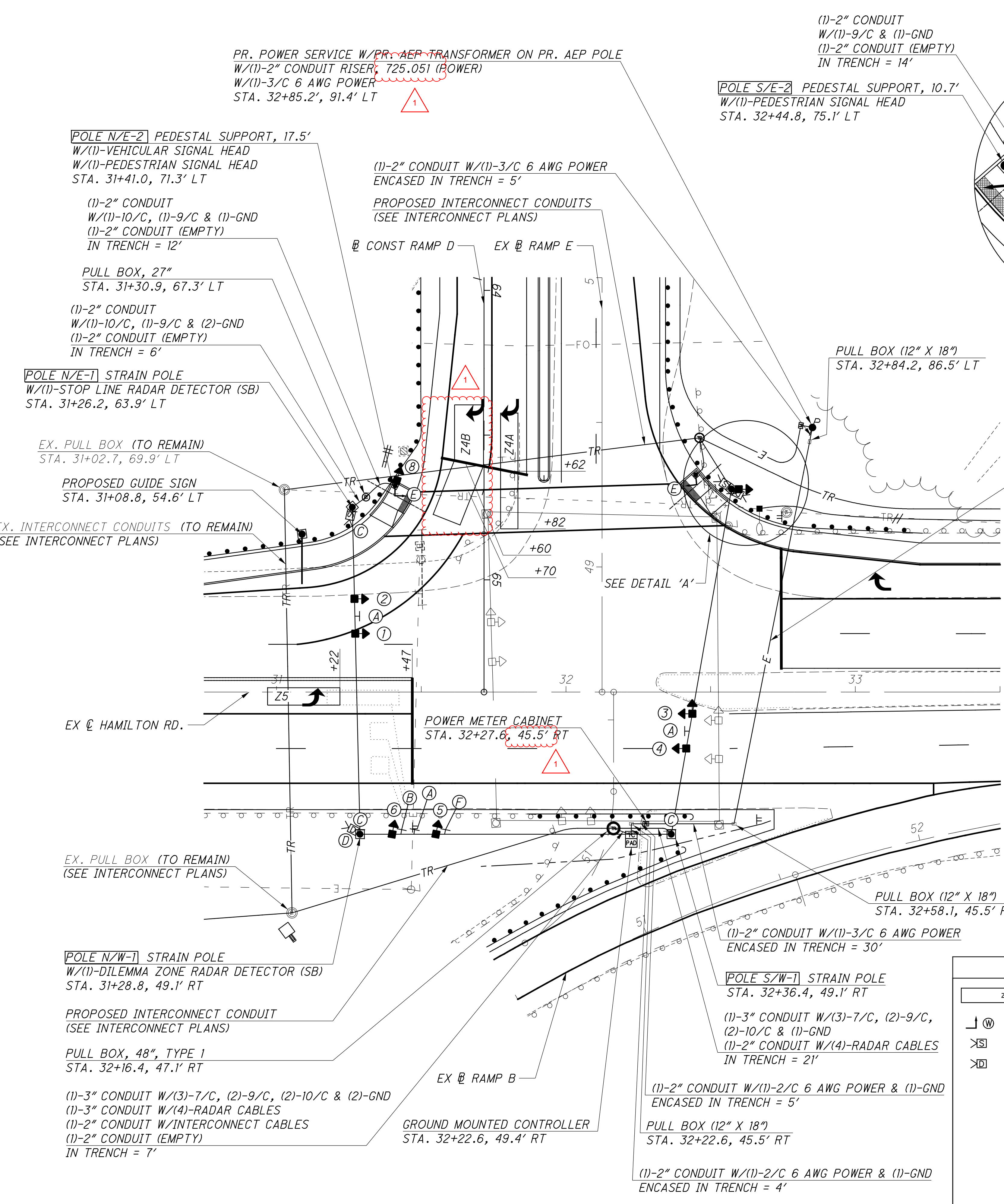
**TRAFFIC SIGNAL PLAN DETAILS HAMILTON RD & I-70 WB**

**FRA-70-21.33**



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1. THE CONTRACTOR SHALL ENSURE THAT ALL PROPOSED SIDEWALKS/ PATHWAYS MEET ADA GUIDELINES PER CITY SPECIFICATIONS.
2. THE CONTRACTOR SHALL ENSURE THAT ALL EXISTING SIDEWALKS/ PATHWAYS WITHIN THE PROJECT WORK LIMITS MEET ADA GUIDELINES PER CITY SPECIFICATIONS.
3. ALL CABLES, UNLESS SPECIFIED IN THE PLANS, ARE TO BE ROUTED INSIDE THE ANCHOR BASE SIGNAL SUPPORT POLE OR PEDESTAL. CABLES NOT SERVING A GIVEN POLE OR PEDESTAL SHALL NOT BE ROUTED THROUGH THE POLE.
4. POWER, SERVICE AND INTERCONNECT CABLE SHALL BE CONTINUOUS WITH NO SPLICES, EXCEPT AS NOTED.
5. FOR SIGNING AND PAVEMENT MARKINGS, SEE SHEETS 127 - 135
6. N/A.
7. FOR POLE BASE FOUNDATIONS NOT WITHIN SIDEWALK AREA, THE TOP OF THE POLE BASE FOUNDATION SHALL BE EDGED USING A 1/2" SIDEWALK EDGER INSTEAD OF BEING CHAMFERED.
8. THE CITY OF COLUMBUS SHALL APPROVE BOLT ALIGNMENT, POLE/PEDESTAL FOUNDATION LOCATION, AND ELEVATION PRIOR TO THE CONTRACTOR INSTALLING THE FOUNDATION.
9. TAGGING OF CABLE IN THE PULL BOX IMMEDIATELY ADJACENT TO THE CONTROL CABINET IS NOT REQUIRED EXCEPT FOR TAGGING OF CERTAIN CABLE AS DIRECTED BY THE PROJECT ENGINEER, OR AS PER PLAN.
10. DO NOT ENCASE THE GROUND ROD, THE GROUNDING WIRE, OR THE EMT CONDUIT ENDS IN CONCRETE THAT FALL OUTSIDE OF THE FOUNDATION. FULL ACCESS TO THESE ITEMS MUST BE MAINTAINED AT ALL TIMES. PERMANENTLY MARK THE TOP OF FOUNDATION CONCRETE, WITH A MARKER OR SYMBOL SO THE ROD LOCATION CAN BE IDENTIFIED BY OTHERS.
11. ANY SIGNAL POLE BASE FOUNDATION ADJACENT TO A SIDEWALK AREA SHALL BE FLUSH WITH THE TOP OF THE SIDEWALK UNLESS OTHERWISE STATED. SIGNAL POLE FOUNDATIONS WITHIN SIDEWALK AREA SHALL BE PER STD DWG 4161.
12. THE CONTRACTOR SHALL NOT INSTALL POLE FOUNDATIONS UNTIL THE POLE LOCATION AREA IS AT FINISHED GRADE.
13. UNDERGROUND CONDUIT AND TRENCH THAT ARE UNDER PROPOSED SIDEWALK OR ROADWAY AREAS SHALL BE INSTALLED PRIOR TO THE PLACEMENT OF SIDEWALKS OR ANY ASPHALT OR CONCRETE ROADWAY COURSE.
14. THE CONTRACTOR SHALL PROVIDE AND INSTALL POWER CABLE/CONDUIT FROM THE TRAFFIC SIGNAL CONTROLLER CABINET, THROUGH THE POWER METER CABINET (WHEN APPLICABLE), AND TO THE POWER/WOOD POLE AT STA 32+85.2', 91.4' LT. COIL ENOUGH CABLE AT THE BOTTOM OF THE POWER POLE TO REACH THE POWER HOOK-UP POINT ON THE POLE.
15. N/A.
16. SEE INTERCONNECT SCHEMATIC SHEETS 157-159 FOR INTERCONNECT ITEMS.
17. FOR CONTINUATION OF CONDUIT, SEE SHEET 158.
18. THE CONTROL CABINET DOOR SHALL BE LOCATED ON THE WEST SIDE OF THE CABINET.
19. THE CABINET FOUNDATION SHALL BE PLACED ADJACENT TO THE BACK OF THE SIDEWALK. THE TOP SURFACE OF A CABINET FOUNDATION LOCATED NEXT TO SIDEWALK AREAS SHALL BE 4" ABOVE THE SURROUNDING WALK. EXPANSION MATERIAL SHALL BE USED BETWEEN ALL FOUNDATIONS AND ADJACENT SIDEWALKS. WORK PAD SIZE SHALL BE 48" W X 36" D X 4" H.
20. USE A SEPARATE CONDUIT FOR EACH GROUPING OF CABLES UNLESS OTHERWISE INDICATED: ONE CONDUIT FOR 120VAC SIGNAL CABLE (3/C, 7/C, 9/C); ONE CONDUIT FOR POWER; ONE CONDUIT FOR 2 CONDUCTOR CABLE (LOOP & PUSHBUTTON); AND ONE CONDUIT FOR INTERCONNECT/COMMUNICATIONS CABLE (TWISTED PAIR, FIBER OPTICS OR COAX). ANY OTHER LOW VOLTAGE CABLE NOT SPECIFIED ABOVE CAN BE PLACED IN THE 2 CONDUCTOR CABLE CONDUIT. POWER CABLE MUST BE PLACED IN ITS OWN CONDUIT.
21. UNLESS OTHERWISE SPECIFIED THE FOLLOWING SHALL APPLY. A PREFORMED PVC CONDUIT ELBOW SHALL BE USED TO CHANGE THE PVC CONDUIT DIRECTION BEYOND WHAT ITS NATURAL BENDING FLEX WOULD YIELD. RIGID METAL CONDUIT CAN BE BENT TO FORM AN ELBOW OR ANY OTHER BENDING ANGLE REQUIRED ONLY IF A PROPER CONDUIT BENDING MACHINE IS USED. THE ELBOW RADIUS FOR ANY NON-INTERCONNECT CONDUIT SHALL BE 24" OR LARGER WHEN USED IN A HORIZONTAL OR VERTICAL MANNER. ANY TYPE OF ELBOW USED FOR INTERCONNECT CONDUIT SHALL HAVE A RADIUS OF 36" OR LARGER WHEN USED IN A HORIZONTAL DIRECTION OR IN A VERTICAL DIRECTION WHEN THE TRENCH IS 36" OR DEEPER. IF THE TRENCH IS LESS THAN 36" THEN THE VERTICAL ELBOW RADIUS SHALL BE 24".
22. ALL CLAMPS AND BANDING MATERIAL SHALL BE PAINTED TO MATCH THE SIGNAL SUPPORTS.
23. N/A.
24. N/A.



	EXISTING	PROPOSED	TRAFFIC CONTROLLER CABINET W/PAD
TRAFFIC SIGNAL CONFIGURATION	⊗	⊗	
PEDESTRIAN SIGNAL HEAD CONFIGURATION	⊗	⊗	
ANCHOR/STRAIN POLE	□	□	
PEDESTAL	□	□	
18" X 12" PULL BOX	□	□	
24" X 13" PULL BOX	□	□	
27" ROUND PULL BOX	⊙	⊙	
32" ROUND PULL BOX	⊙	⊙	
48" ROUND PULL BOX	⊙	⊙	

**FIELD WIRING HOOK-UP CHART**

SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH
1,2,7 (NB)	R	φ6 R	R
	Y	φ6 Y	
	G	φ6 G	
3 (SBLT)	R	φ2 R	R
	Y	φ2 Y	
	G	φ2 G	
	<-Y--	φ5 Y	
	<-G--	φ5 G	
4 (SB)	R	φ2 R	R
	Y	φ2 Y	
	G	φ2 G	
5,6,8 (WB)	R	φ4 R	R
	--Y->	φ4 Y	
	--G->	φ4 G	
E (EAST)	WALK	G (φ6) - W	OFF
	DON'T WALK	R (φ6) - DW	

**TIMING CHART**

PHASE	1	2	3	4	5	6	7	8
MOVEMENT	-	SB	-	WB	SBLT	NB	-	-
MIN INITIAL	-	29	-	10	10	29	-	-
WALK	-	-	-	-	-	7	-	-
PED CHANGE	-	-	-	-	-	22	-	-
PASS / EXT	-	3.7	-	3.7	1	-	-	-
YELLOW	-	4.9	-	3.8	3.7	4.9	-	-
RED CLR	-	1.0	-	1.0	1.7	1.0	-	-
MAX GRN 1	-	60	-	60	30	60	-	-
MAX GRN 2	-	60	-	60	30	60	-	-
PED RECALL	-	-	-	-	-	ON	-	-
VEH RECALL	-	MIN	-	OFF	OFF	MIN	-	-
MEMORY	-	ON	-	OFF	OFF	ON	-	-

**DETECTION CHART**

DETECTION ZONE (#)	RADAR DETECTOR (#)	PHASE	DETECTION ZONE SIZE (W' x L')	PRESENCE	PURPOSE	DELAY DATA	
						DELAY (SEC.)	INHIBIT DELAY DURING GREEN (PHASE)
-	1	6	2 LANES X 600'	X	DILEMMA ZONE	-	-
-	4	5	1 LANE X 600'	X	DILEMMA ZONE	-	-
Z4a	2	4	6' x 40'	X	CALL/EXTEND	0	4
Z4b	2	4	10' x 30'	X	CALL/EXTEND	12	4
Z5	3	5	6' x 25'	X	CALL/EXTEND	3	5

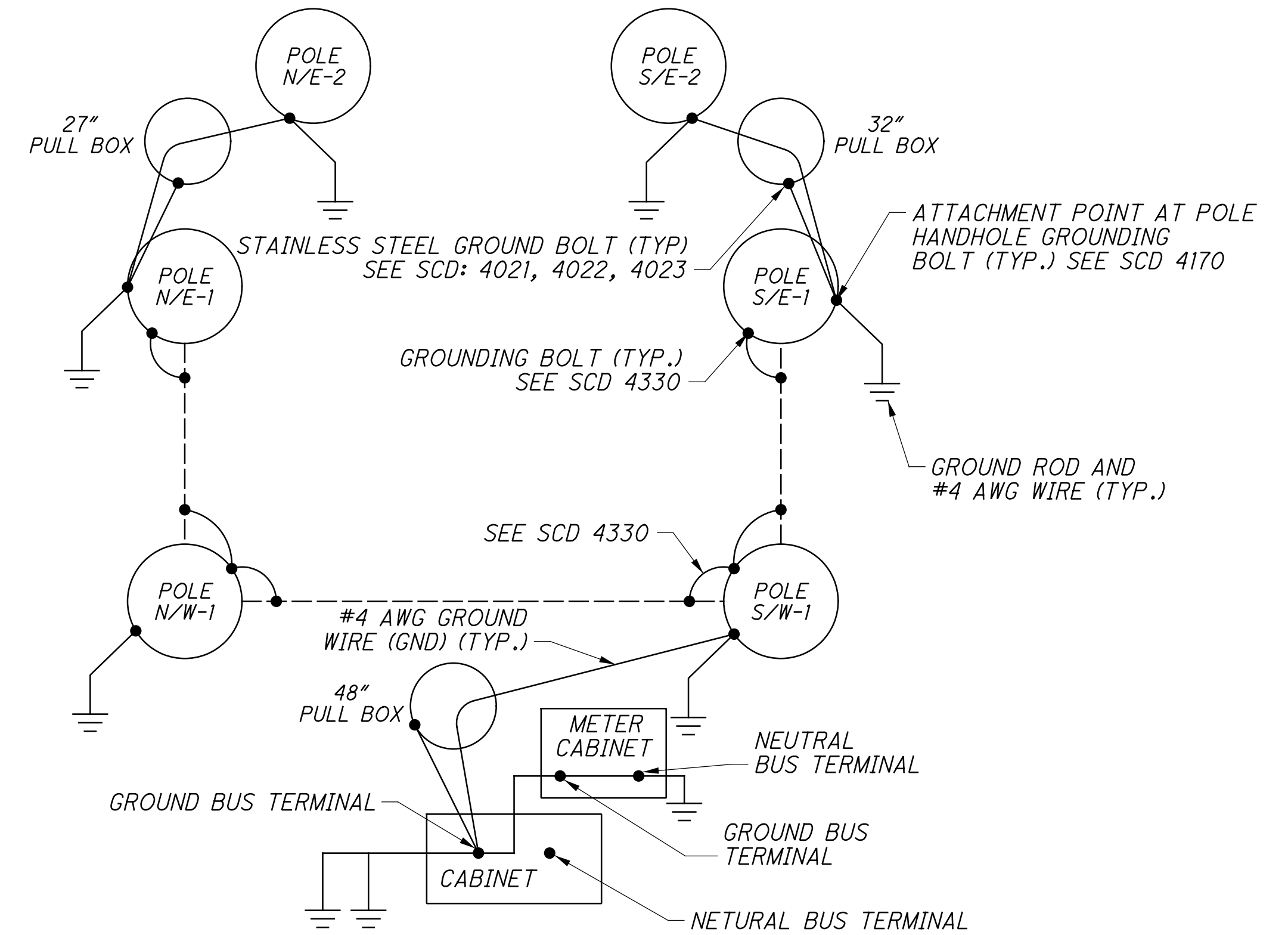
DILEMMA ZONE SPEED THRESHOLD: >35 MPH

NOTES:

15. N/A.

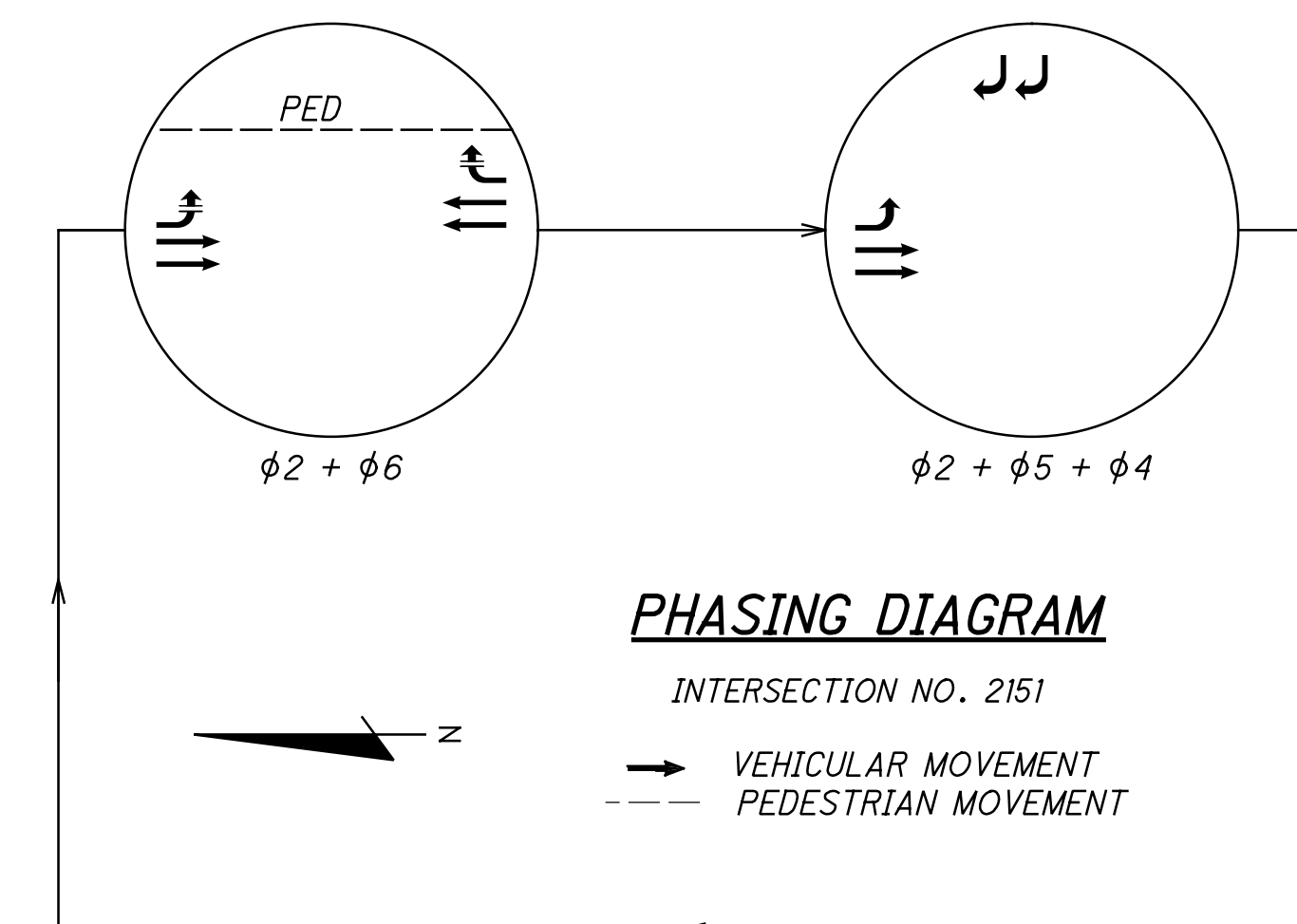
NOTES:

1. SET CONFLICT MONITOR FOR 10 SEC FLASH.
2. N/A.
3. N/A.
4. N/A.
5. BACK PANEL WIRING (FRONT SIDE JUMPERS ONLY)
6. CONTROLLER SOFTWARE PROGRAMMING
7. N/A.
8. N/A.
9. INTERCONNECT CABLE SHALL BE CONTINUOUSLY RUN BETWEEN CONTROLLER CABINETS. NO SPLICES ARE PERMITTED EXCEPT WHERE NOTED.
10. N/A.
11. N/A.
12. N/A.



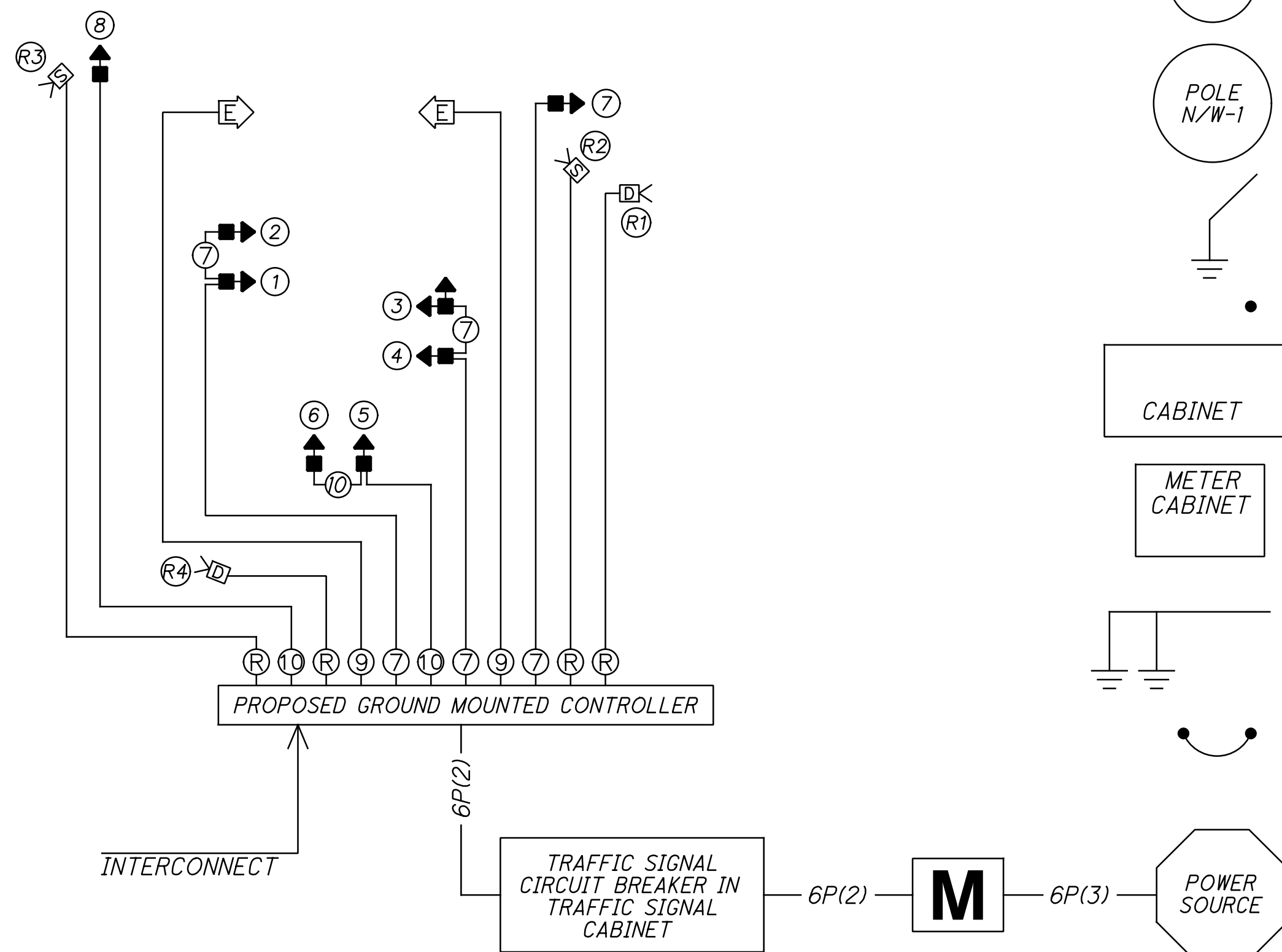
**GROUNDING DIAGRAM**

(NOT TO SCALE)



**WIRING DIAGRAM LEGEND**

- 6P(2) 2/C #6 AWG (POWER)
- 6P(3) 3/C #6 AWG (POWER)
- PEDESTRIAN SIGNAL HEAD
- 5-SECTION VEHICULAR SIGNAL HEAD
- 3-SECTION VEHICULAR SIGNAL HEAD
- SIGNAL CABLE, # OF CONDUCTORS
- RADAR DETECTION CABLE
- STOP LINE RADAR UNIT
- DILEMMA ZONE RADAR UNIT



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TRAFFIC SIGNAL PLAN DETAILS HAMILTON RD & I-70 EB

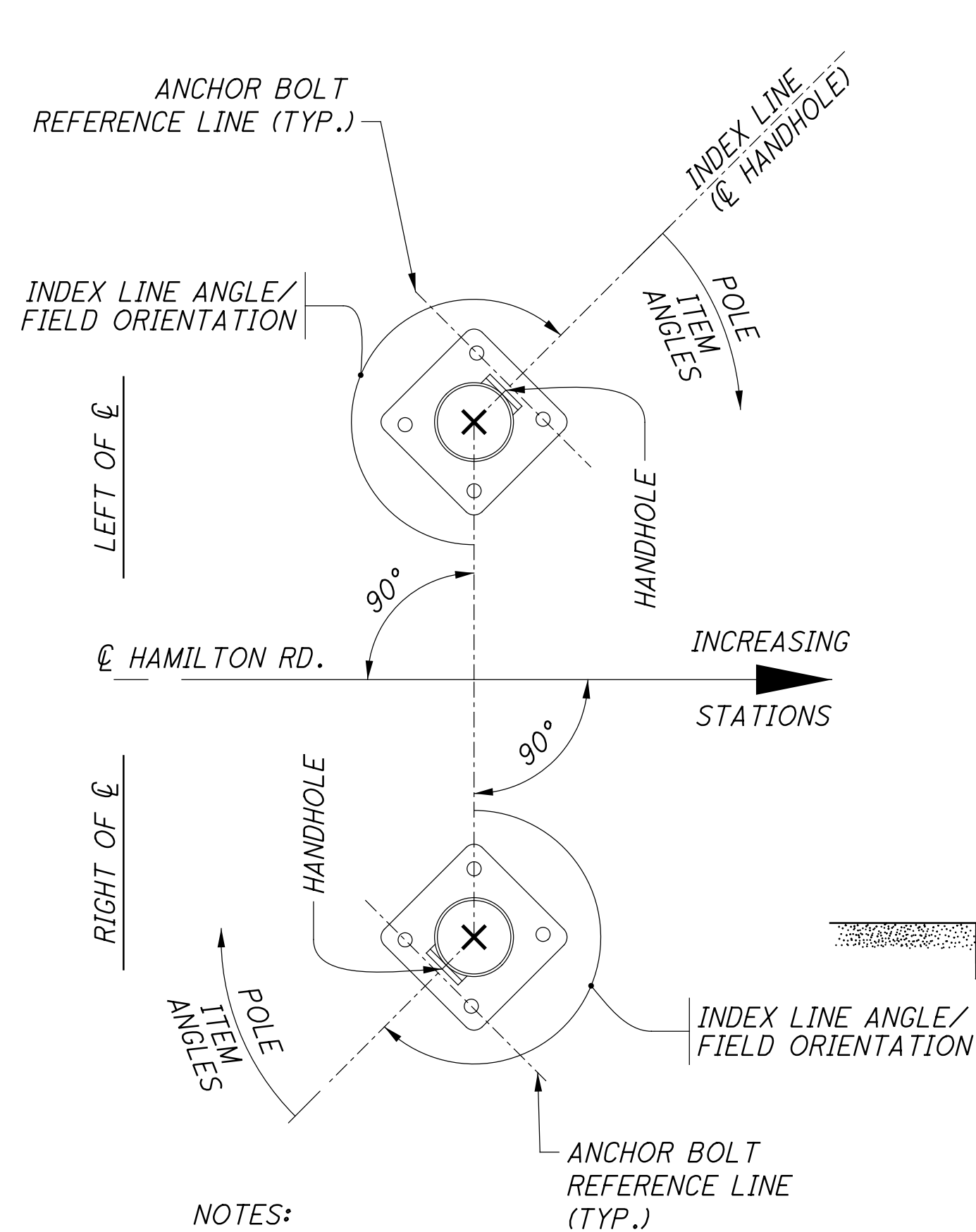
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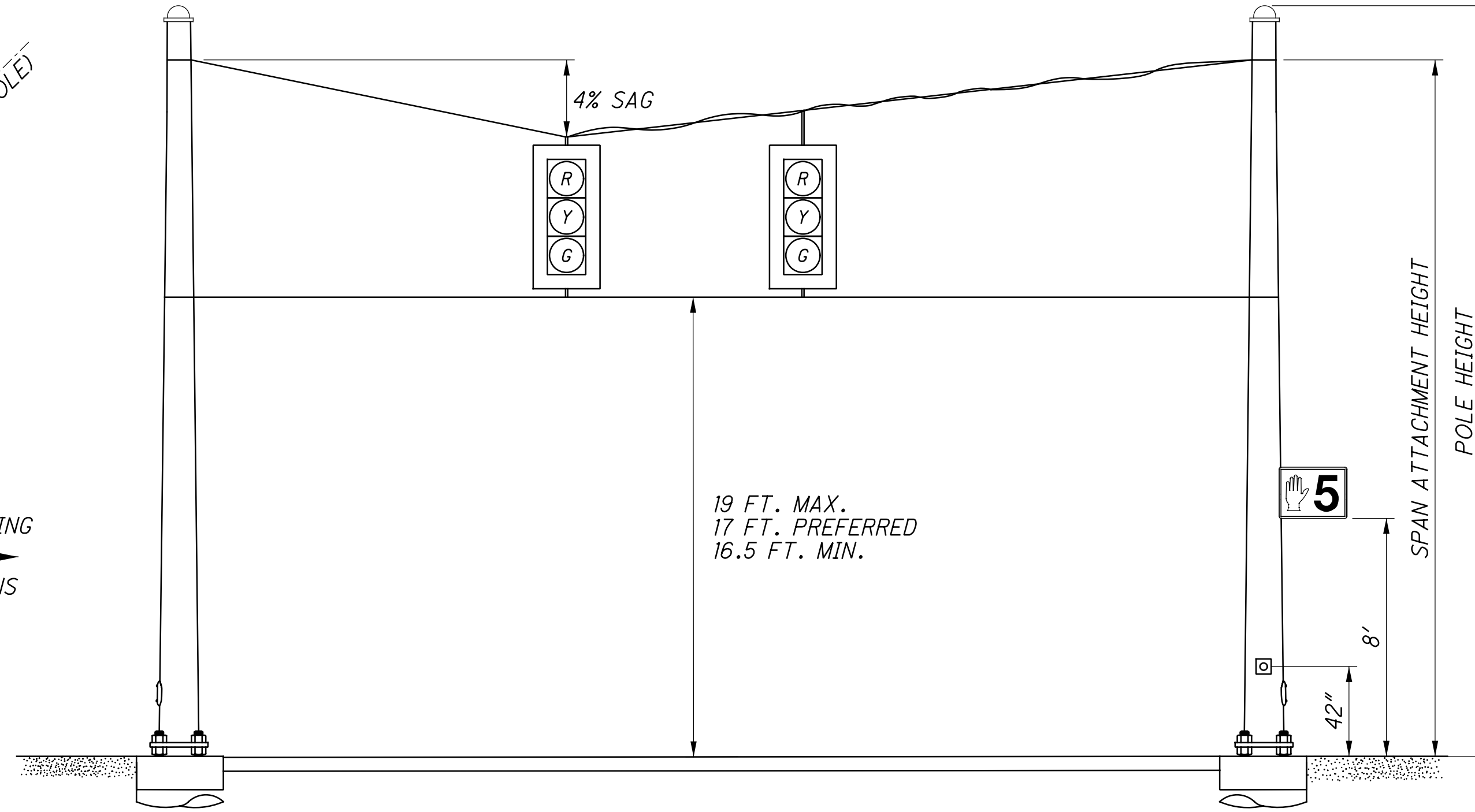
**POLE FABRICATION AND ORIENTATION DATA CHART**

INTERSECTION	SHEET NO.	POLE SIZES & ATTACHMENT HEIGHTS						POLE FABRICATION DATA CLOCKWISE FROM HANDHOLE AT 0 DEGREES						FIELD ORIENTATION				
		POLE DESIGNATION	POLE COLOR/ FEDERAL STANDARD 595B	POLE DESIGN NO. (STD DWG 4170)	POLE HT. (FT.)	SPAN ATTACHMENT HT. (FT.) N = NORTH SPAN W = WEST SPAN S = SOUTH SPAN	AUX. SIGNAL HEAD ATTACHMENT HT. (FT.)	RADAR DETECTOR (FT.)	ANCHOR BOLT REF. LINE	2" BHC ANGLE-HT. DEG.-FT.	3" BHC ANGLE-HT. DEG.-FT.	VEHICULAR SIGNAL HEAD	PED. SIGNALS	STREET NAME SIGN	INDEX LINE ANGLE (HANDHOLE)	ANCHOR BOLT REF. LINE	CAPPED FOUNDN. CONDUIT ELL 2-2" DIA.	FOUNDATION ELEVATION
HAMILTON RD. AT I-70 EB RAMPS	152	N/E-1	27038 (SEMI-GLOSS BLACK)	6	31'	27.0'	-	18'	90	180 - 29'	-	-	-	179	89	-	798.14	
		N/E-2	27038 (SEMI-GLOSS BLACK)	PEDESTAL	17.5'	-	-	-	90	-	-	169	333	-	28	118	-	SEE SHEET 108
		N/W-1	27038 (SEMI-GLOSS BLACK)	8	31'	28.0' (N) / 28.5' (W)	-	18'	90	180 - 30'	-	-	-	54	216	126	90	797.49
		S/W-1	27038 (SEMI-GLOSS BLACK)	8	31'	26.0' (W) / 27.5' (S)	-	-	90	-	180 - 29'	-	-	-	158	68	-	799.51
		S/E-1	27038 (SEMI-GLOSS BLACK)	7	32'	28.5'	15'	18'	90	180 - 30'	-	81	-	80	190	100	-	798.72
		S/E-2	27038 (SEMI-GLOSS BLACK)	PEDESTAL	10.7'	-	-	-	-	90	-	-	305.5	-	49	139	-	SEE SHEET 108

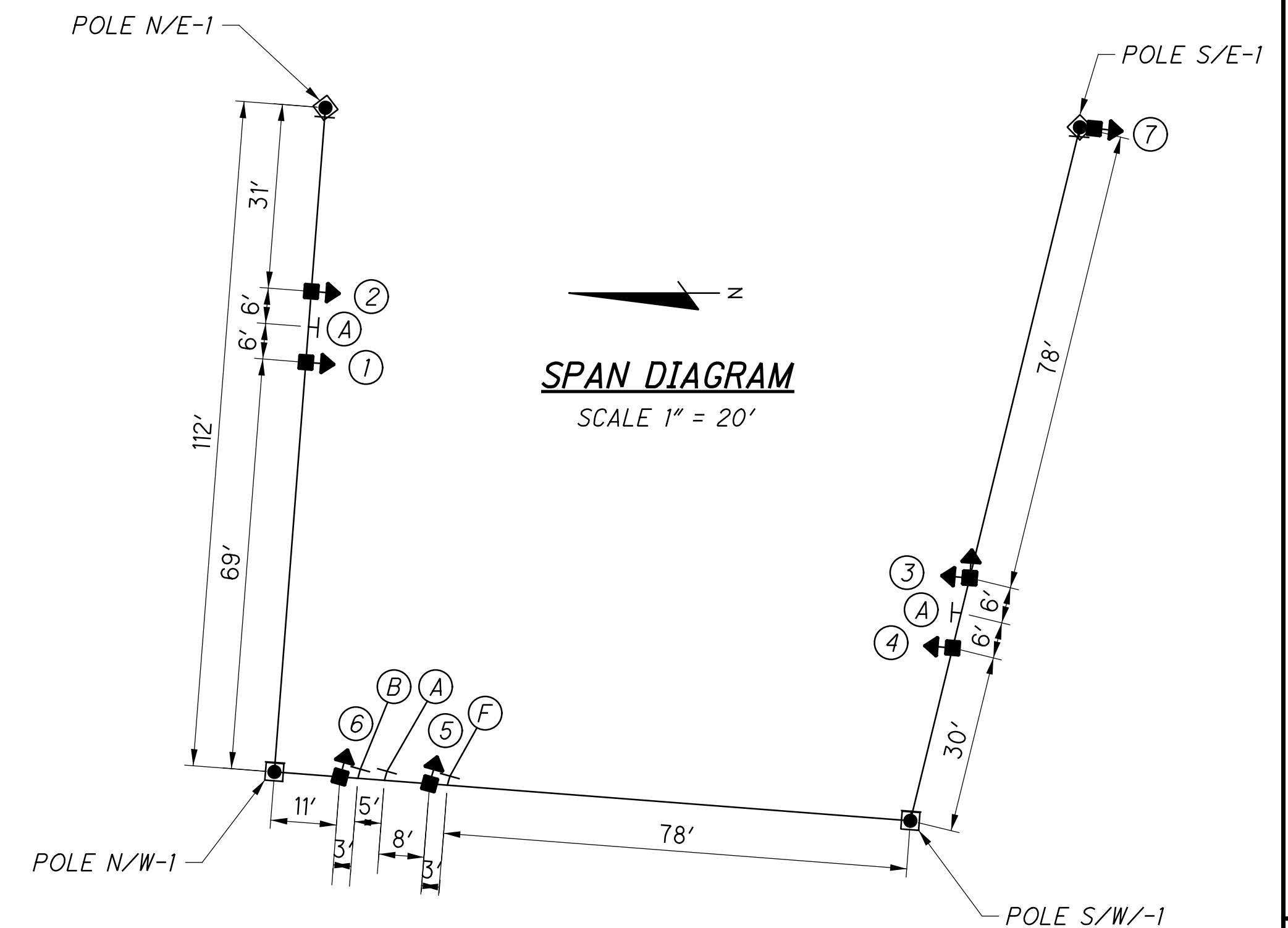


- NOTES:
- ALL ANGLES ARE MEASURED CLOCKWISE.
  - THE INDEX LINE GOES THROUGH THE CENTER OF THE HANDHOLE.

**POLE & PEDESTAL DIAGRAM**



**TYPICAL SIGNAL ELEVATION**  
NOT TO SCALE



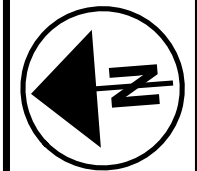
- NOTES:
- THE LOWEST SIGNAL HEAD HEIGHT IN EACH DIRECTION SHALL BE SET AT 16.5'. ADJUST THE SPAN ACCORDINGLY.
  - THE DIMENSIONS SHOWN ON THE SPAN DIAGRAM ARE ESTIMATES. FINAL HEAD POSITIONS SHALL BE ON THE LANE LINE, CHANNEL LINE OR ON THE LANE CENTERLINE. THE DISTANCE BETWEEN THE HEADS SHALL BE AS INDICATED.

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**TRAFFIC SIGNAL PLAN DETAILS HAMILTON RD & I-70 EB**

**FRA-70-21.33**



0 20 40 60  
HORIZONTAL  
SCALE IN FEET

CALCULATED  
JML  
CHECKED  
JAR

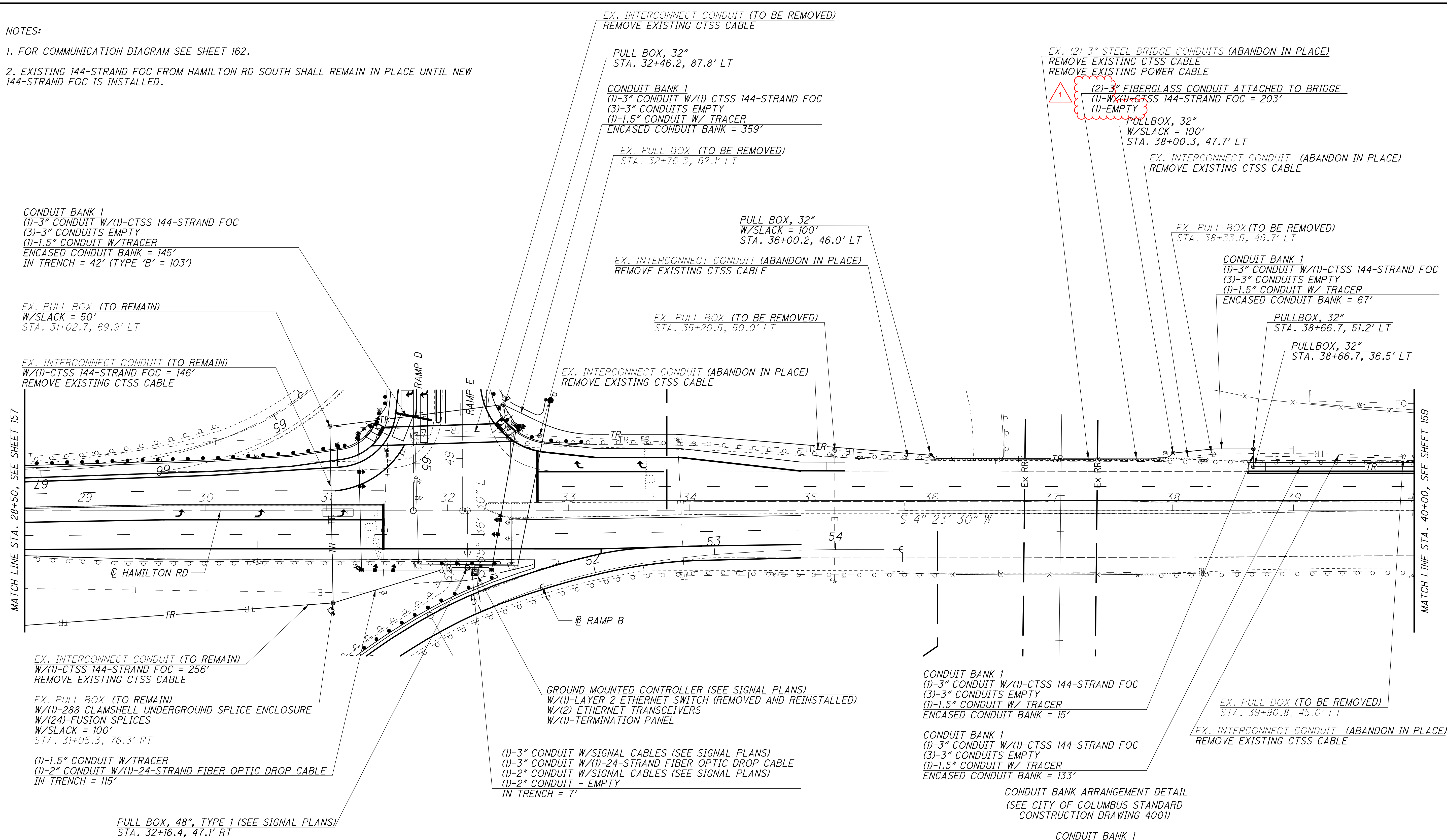
TRAFFIC SIGNAL INTERCONNECT PLAN  
HAMILTON RD. STA. 28+50 TO STA. 40+00

FRA-70-21.33

158  
188

NOTES:

- FOR COMMUNICATION DIAGRAM SEE SHEET 162.
- EXISTING 144-STRAND FOC FROM HAMILTON RD SOUTH SHALL REMAIN IN PLACE UNTIL NEW 144-STRAND FOC IS INSTALLED.



CONDUIT BANK 1  
(1)-3" CONDUIT W/(1)-CTSS 144-STRAND FOC  
(3)-3" CONDUITS EMPTY  
(1)-1.5" CONDUIT W/TRACER  
ENCASED CONDUIT BANK = 145'  
IN TRENCH = 42' (TYPE 'B' = 103')

EX. PULL BOX (TO REMAIN)  
W/SLACK = 50'  
STA. 31+02.7, 69.9' LT

EX. INTERCONNECT CONDUIT (TO REMAIN)  
W/(1)-CTSS 144-STRAND FOC = 146'  
REMOVE EXISTING CTSS CABLE

EX. INTERCONNECT CONDUIT (TO REMAIN)  
W/(1)-CTSS 144-STRAND FOC = 256'  
REMOVE EXISTING CTSS CABLE

EX. PULL BOX (TO REMAIN)  
W/(1)-288 CLAMSHELL UNDERGROUND SPLICE ENCLOSURE  
W/(24)-FUSION SPLICES  
W/SLACK = 100'  
STA. 31+05.3, 76.3' RT

(1)-1.5" CONDUIT W/TRACER  
(1)-2" CONDUIT W/(1)-24-STRAND FIBER OPTIC DROP CABLE  
IN TRENCH = 115'

PULL BOX, 48", TYPE 1 (SEE SIGNAL PLANS)  
STA. 32+16.4, 47.1' RT

EX. INTERCONNECT CONDUIT (TO BE REMOVED)  
REMOVE EXISTING CTSS CABLE

PULL BOX, 32"  
STA. 32+46.2, 87.8' LT

CONDUIT BANK 1  
(1)-3" CONDUIT W/(1) CTSS 144-STRAND FOC  
(3)-3" CONDUITS EMPTY  
(1)-1.5" CONDUIT W/ TRACER  
ENCASED CONDUIT BANK = 359'

EX. PULL BOX (TO BE REMOVED)  
STA. 32+76.3, 62.1' LT

PULL BOX, 32"  
W/SLACK = 100'  
STA. 36+00.2, 46.0' LT

EX. INTERCONNECT CONDUIT (ABANDON IN PLACE)  
REMOVE EXISTING CTSS CABLE

EX. PULL BOX (TO BE REMOVED)  
STA. 35+20.5, 50.0' LT

EX. INTERCONNECT CONDUIT (ABANDON IN PLACE)  
REMOVE EXISTING CTSS CABLE

GROUND MOUNTED CONTROLLER (SEE SIGNAL PLANS)  
W/(1)-LAYER 2 ETHERNET SWITCH (REMOVED AND REINSTALLED)  
W/(2)-ETHERNET TRANSCEIVERS  
W/(1)-TERMINATION PANEL

(1)-3" CONDUIT W/SIGNAL CABLES (SEE SIGNAL PLANS)  
(1)-3" CONDUIT W/(1)-24-STRAND FIBER OPTIC DROP CABLE  
(1)-2" CONDUIT W/SIGNAL CABLES (SEE SIGNAL PLANS)  
(1)-2" CONDUIT - EMPTY  
IN TRENCH = 7'

EX. (2)-3" STEEL BRIDGE CONDUITS (ABANDON IN PLACE)  
REMOVE EXISTING CTSS CABLE  
REMOVE EXISTING POWER CABLE

(2)-3" FIBERGLASS CONDUIT ATTACHED TO BRIDGE  
(1)-W/CTSS 144-STRAND FOC = 203'  
(1)-EMPTY

PULLBOX, 32"  
W/SLACK = 100'  
STA. 38+00.3, 47.7' LT

EX. INTERCONNECT CONDUIT (ABANDON IN PLACE)  
REMOVE EXISTING CTSS CABLE

EX. PULL BOX (TO BE REMOVED)  
STA. 38+33.5, 46.7' LT

CONDUIT BANK 1  
(1)-3" CONDUIT W/(1)-CTSS 144-STRAND FOC  
(3)-3" CONDUITS EMPTY  
(1)-1.5" CONDUIT W/ TRACER  
ENCASED CONDUIT BANK = 67'

PULLBOX, 32"  
STA. 38+66.7, 51.2' LT

PULLBOX, 32"  
STA. 38+66.7, 36.5' LT

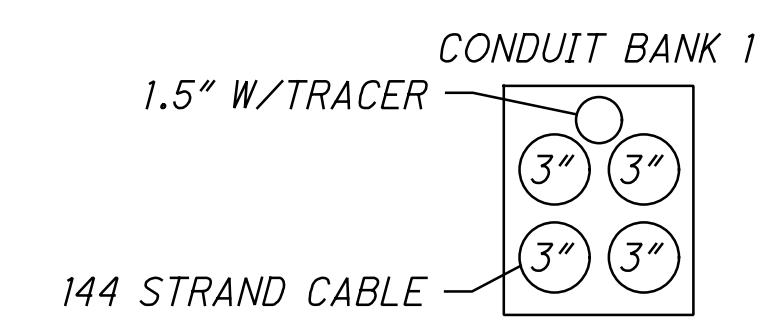
CONDUIT BANK 1  
(1)-3" CONDUIT W/(1)-CTSS 144-STRAND FOC  
(3)-3" CONDUITS EMPTY  
(1)-1.5" CONDUIT W/ TRACER  
ENCASED CONDUIT BANK = 15'

CONDUIT BANK 1  
(1)-3" CONDUIT W/(1)-CTSS 144-STRAND FOC  
(3)-3" CONDUITS EMPTY  
(1)-1.5" CONDUIT W/ TRACER  
ENCASED CONDUIT BANK = 133'

EX. PULL BOX (TO BE REMOVED)  
STA. 39+90.8, 45.0' LT

EX. INTERCONNECT CONDUIT (ABANDON IN PLACE)  
REMOVE EXISTING CTSS CABLE

CONDUIT BANK ARRANGEMENT DETAIL  
(SEE CITY OF COLUMBUS STANDARD  
CONSTRUCTION DRAWING 4001)



VIEW LOOKING SOUTH  
STA. 31+02.7 TO STA. 36+00.2  
STA. 38+00.3 TO STA. 38+66.7  
STA. 38+66.7 TO STA. 38+40.0  
VIEW LOOKING WEST  
STA. 38+66.7 TO STA. 38+66.7

NOTE:  
1. 3" CONDUITS ARE  
EMPTY EXCEPT AS  
NOTED ABOVE.

SIGNAL INTERCONNECT LEGEND		
EXISTING	PROPOSED	
		TRAFFIC CONTROLLER CABINET W/PAD
		ANCHOR/STRAIN POLE PEDESTAL
		27" ROUND PULL BOX
		32" ROUND PULL BOX
		48" ROUND PULL BOX
		WOOD TRAFFIC POLE
		EMBEDDED TRAFFIC POLE

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