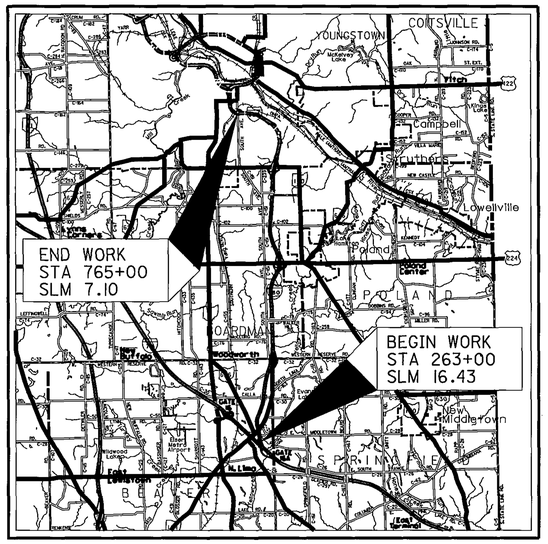

LOCATION MAP

LATITUDE: N41°01'26" LONGITUDE: W80°37'36"

SCALE IN MILES

0 1 2 3 4

N

INTERSTATE & DIVIDED HIGHWAY
UNDIVIDED STATE & FEDERAL ROUTES
OTHER ROADS

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

MAH-680-7.10

MAHONING COUNTY

CITY OF YOUNGSTOWN
BOARDMAN TOWNSHIP

INDEX OF SHEETS:

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PROJECT DESCRIPTION

UPGRADING OF OVERHEAD MOUNTED SIGNS ON THE MAINLINE, THE RAMPS AND CROSS ROADS.

EARTH DISTURBED AREAS

1. PROJECT EARTH DISTURBED AREA	N/A (MAINTENANCE PROJECT)
2. ESTIMATED CONTRACTOR EARTH DISTURBED AREA	N/A (MAINTENANCE PROJECT)
3. NOTICE OF INTENT EARTH DISTURBED AREA	N/A (MAINTENANCE PROJECT)

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.

2002 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.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

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:

URS
564 White Pond Drive
Akron, Ohio 44320-1100
330-836-9111

ENGINEERS SEAL:

STATE OF OHIO
KEVIN R. WESTBROOKS
68-69607
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: Kevin Westbrooks
DATE: 5/21/04

STANDARD CONSTRUCTION DRAWINGS

GR-1.1	04-18-03	TC-22.20	01-19-01	MT-98.14	04-19-02	
GR-2.1	01-16-04	TC-31.21	04-20-01	MT-98.17	10-18-02	
GR-3.1	04-18-03	TC-41.10	01-19-01	MT-98.18	10-18-02	
GR-4.1	04-18-03	TC-42.10	01-19-01	MT-105.10	10-18-02	
		TC-51.11	04-20-01	MT-105.11	10-18-02	
HL-30.21	04-19-02	TC-51.12	04-20-01			
HL-30.22	04-19-02	TC-83.10	05-01-00			
TC-7.65	07-18-03	MT-35.10	04-20-01			
TC-9.10	01-19-01	MT-95.30	04-19-02			
TC-12.30	01-19-01	MT-95.31	04-19-02			
TC-18.24	01-18-02	MT-95.32	04-19-02			
TC-21.10	01-19-01	MT-97.10	04-19-02			
TC-21.20	01-19-01	MT-98.12	04-19-02			
TC-22.10	01-19-01	MT-98.13	04-19-02			

SUPPLEMENTAL SPECIFICATIONS

832	04-17-04
833	02-12-03

SPECIAL PROVISIONS

APPROVED MSL
DATE 6.9.04 DISTRICT DEPUTY DIRECTOR

APPROVED Gordon Proctor
DATE 7-15-04 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. NONE

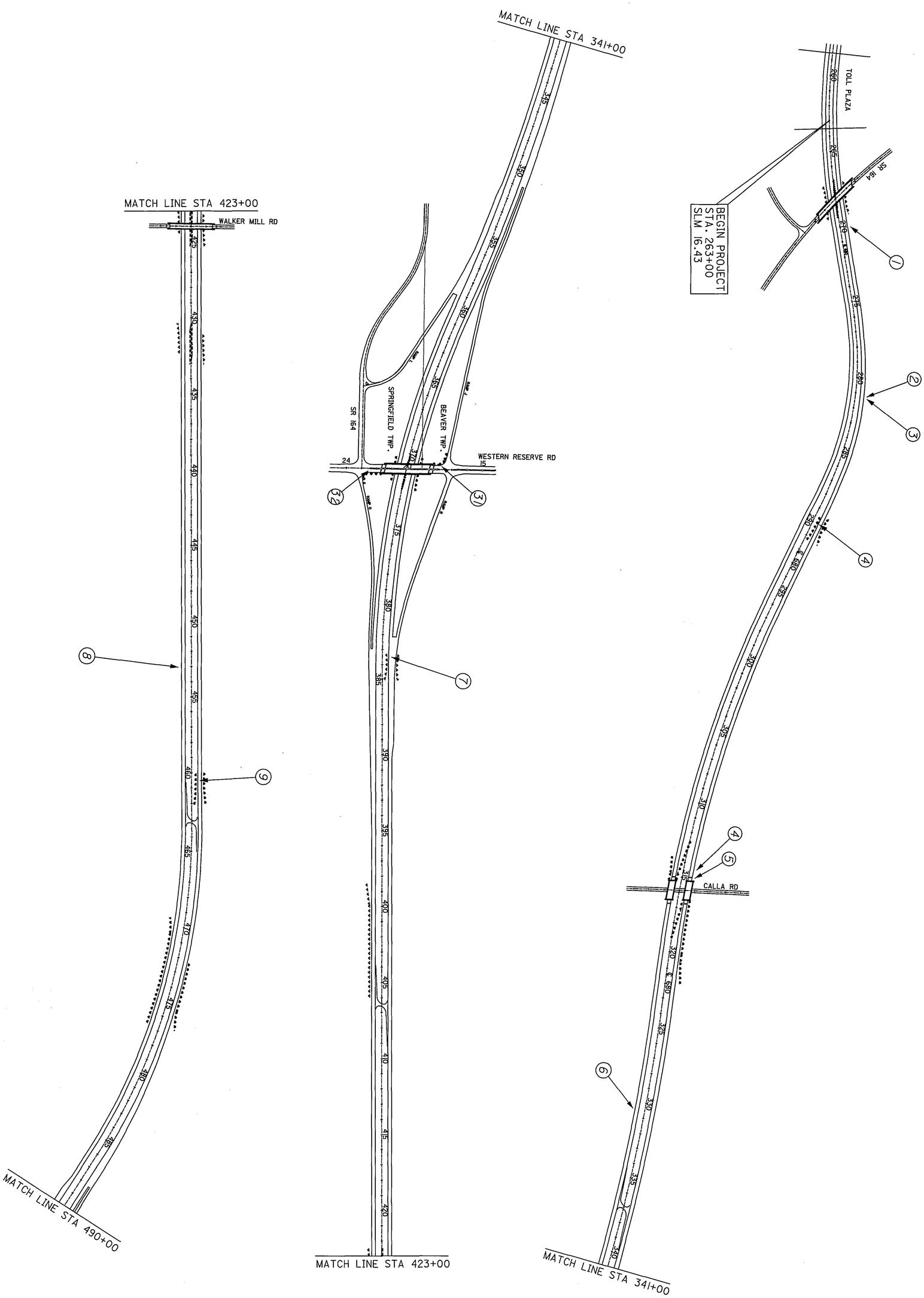
PID NO. 24457

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

MAH-680-7.10

MAH - IR 680-7.10
040551 PID - 24457
Dist 4 10/20/2004

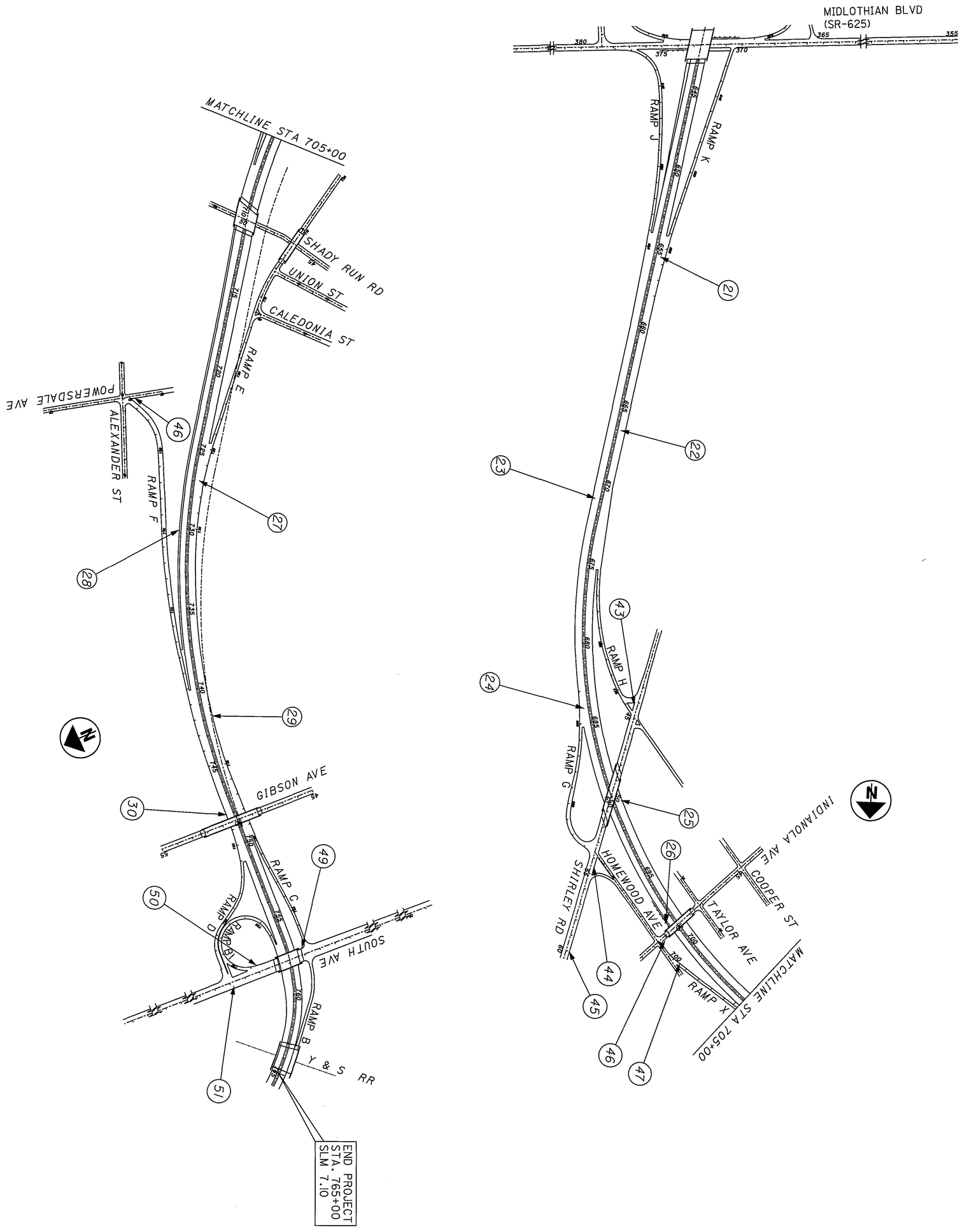


2/32	MAH-680-7.10	SCHEMATIC PLAN

0 150 300 600
HORIZONTAL SCALE IN FEET

SCHEMATIC PLAN

MAH-680-7.10



4 / 32	MAH-680-7.10	SCHEMATIC PLAN

0 300 150 600
HORIZONTAL SCALE IN FEET

SIGN PLACEMENT

THE EXACT LOCATION OF SIGNS ARE TO BE STAKED. THE LOCATIONS SHALL BE CHECKED BY THE ENGINEER PRIOR TO PLACEMENT TO INSURE CLEARANCE OF DRIVES, ROADWAYS AND OTHER OBSTACLES. IF THERE ARE ANY CONFLICTS, THEY ARE TO BE ADJUSTED BY THE ENGINEER.

UTILITIES

BECAUSE OF THE NATURE OF THIS PROJECT THE CONTRACTOR SHALL USE THE FOLLOWING PROCEDURE AT EACH LOCATION WHERE WORK IS PERFORMED IN ACCORDANCE WITH SECTIONS 105.06 AND 107.17 IN THE CONSTRUCTION SPECIFICATIONS:

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, THE OHIO UTILITIES PROTECTION SERVICE (OUPS), THE OIL AND GAS PRODUCERS UNDERGROUND PROTECTION SERVICE (OGPUPS), NON-MEMBER UTILITY OWNERS AND THE OHIO DEPARTMENT OF TRANSPORTATION (ODOT) DISTRICT 4 HEADQUARTERS AT LEAST TWO (2) WORKING DAYS PRIOR TO BEGINNING WORK AT ANY LOCATION.

- OUPS: 1-800-362-2764 (CONTACT NON-MEMBERS DIRECTLY)
- OGPUPS: 1-800-925-0988
- ODOT, DISTRICT 4: 1-330-786-3145 (HIGHWAY LIGHTING)

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE NOT SHOWN ON THE PLANS, BUT CAN BE OBTAINED FROM THE OWNERS OF THE UTILITIES.

MAINTENANCE OF TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS AND RAMPS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS AND THE FOLLOWING:

1. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (330) 786-2209 EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

2. CONES SHALL NOT BE ACCEPTABLE TRAFFIC CONTROL DEVICES FOR LANE RESTRICTIONS OR LANE REDUCTIONS THAT ARE IN OPERATION ONE-HALF HOUR AFTER SUNSET OR ONE HALF-HOUR BEFORE SUNRISE. ALL NIGHTTIME LANE RESTRICTIONS SHALL REQUIRE DRUMS OR BARRICADES AT A MAXIMUM SPACING OF FIFTY (50) FEET. WEIGHTED CHANNELIZERS MAY BE USED IN ACCORDANCE WITH THE ADDITIONAL NOTE PROVIDED HEREIN.

3. LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

4. THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE ALL FLAGS, BARRICADES, SIGNS, SIGN SUPPORTS AND FURNISH AND MAINTAIN ALL FLAGGERS, WATCHERS AND INCIDENTALS RELATED THERETO.

5. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BE PERMITTED TO HAVE SUCCESSIVE WORK ZONES UNLESS THE DISTANCE BETWEEN THE DRUMS, BARRICADES OR CONES EXCEEDS ONE [1] MILE URBAN.

6. PRIOR TO OPENING TO TRAFFIC EACH LANE SHALL BE IN A SAFE, PASSABLE CONDITION.

METHOD OF PAYMENT

PAYMENT FOR THE MAINTENANCE OF TRAFFIC ITEMS, UNLESS SPECIFIED SEPARATELY, SHALL BE AT THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT AND INCIDENTALS TO COMPLETE THE WORK AS DETAILED IN THE PLANS.

LANE CLOSURES FOR THIS PROJECT SHALL BE AS PER THE CURRENT PERMITTED LANE CLOSURE CHART. THE PERMITTED LANE CLOSURE CHART SHALL BE AS OF THE DATE THIS PROJECT SELLS. THE CHART CAN BE FOUND AT:

https://dotaw100.dot.state.oh.us/plcm/plcm_web.jsp

ITEM 630 - SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN

SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN SHALL BE FURNISHED AND INSTALLED AS DETAILED ON SHEET NO. 32

ALL TOOLS, MATERIALS, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO PERFORM THE REQUIRED WORK SHALL BE INCLUDED IN THE CONTRACT BID PRICE PER EACH ITEM 630-SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN.

ITEM 630 - SIGN ERECTED, EXTRUSHEET, AS PER PLAN

SIGNS AND FLASHER PANELS SHALL BE FURNISHED BY THE OHIO TURNPIKE COMMISSION. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR PICK UP AT THE

CANFIELD MAINTENANCE BUILDING
6896 TIPPECANOE ROAD
CANFIELD, OHIO 44406
PHONE: 330-533-5113

THE CONTRACTOR SHALL ATTACH THE EXISTING FLASHING BEACONS TO THE SUPPLIED SIGN PANELS AND REWIRE THEM.

ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, SIGN BACKING ASSEMBLIES, WIRE, AND INCIDENTALS NECESSARY TO PERFORM THE REQUIRED WORK SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR SQUARE FOOT OF ITEM 630-SIGN ERECTED, EXTRUSHEET, AS PER PLAN IN PLACE, TESTED, AND ACCEPTED.

ITEM 632 - REMOVAL OF MISCELLANEOUS TRAFFIC SIGNAL ITEM, 8" FLASHING BEACON

THE EXISTING 8" FLASHING BEACON SHALL BE REMOVED AND REERECTED AS SHOWN IN THE PLANS.

ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND INCIDENTALS NECESSARY TO PERFORM THE REQUIRED WORK SHALL BE INCLUDED IN THE CONTRACT BID PRICE PER EACH ITEM 632-REMOVAL OF MISCELLANEOUS TRAFFIC SIGNAL ITEM, 8" FLASHING BEACON.

ITEM 631-MERCURY VAPOR LUMINAIRE, MISC.: TYPE TC-31.21, WITH 175 WATT LAMP, INSTALLATION ONLY
ITEM 631-BALLAST, MISC.: TYPE CMRI-175-480, INTEGRAL, INSTALLATION ONLY

MERCURY VAPOR LUMINAIRES AND BALLAST SHALL BE FURNISHED BY THE OHIO DEPARTMENT OF TRANSPORTATION. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR PICK UP AT DISTRICT 4 IN RAVENNA, OHIO. PHONE: 330-786-3145

CALCULATED E.W.K. CHECKED K.P.W.

GENERAL NOTES

MAH-680-7.10

ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, 2 CLASS I CHANGEABLE MESSAGE SIGNS, ON SITE, FOR THE DURATION OF THE PROJECT. EACH SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR (OFFICE OF MATERIALS MANAGEMENT). THIS LIST IS AVAILABLE ON THE ODOT WEBSITE AT HTTP://WWW.DOT.STATE.OH.US/TESTLAB/APPLISTS/MISC/PCMS.HTM. THE CLASS I UNITS SHALL HAVE A MINIMUM LEGIBILITY DISTANCE OF 1250 FEET.

EACH SIGN SHALL BE TRAILER MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. PCMS TRAILERS SHOULD BE DELINEATED ON A PERMANENT BASIS BY AFFIXING RETROREFLECTIVE MATERIAL, IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE THE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED, FACING AWAY FROM ALL TRAFFIC, AND SHALL DISPLAY ONE OR MORE HIGH-INTENSITY YELLOW REFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT AND TO REVISE SIGN MESSAGES, IF NECESSARY.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE CONTRACTOR. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE ENGINEER AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE TWO DIFFERENT MEMORIES (PROM AND RAM) AND CAPABILITY TO STORE UP TO 99 MESSAGES IN EACH MEMORY. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. IN ORDER TO CONVEY A MAXIMUM OF INFORMATION AT A SINGLE GLANCE, ONLY THREE-LINE PRESENTATION FORMATS WITH A MAXIMUM OF SIX MESSAGE PHASES WILL BE PERMITTED. A MAXIMUM OF THREE MESSAGE PHASES SHOULD BE EMPLOYED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST ONCE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR AREAS) ALLOW REMOTE SIGN ACTIVATION, DEACTIVATION, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF CMS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE TO THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES. THE REQUIREMENT TO FURNISH, INSTALL, MAINTAIN AND REMOVE A PCMS UNIT ON THIS PROJECT SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES AS OUTLINED IN 614.02.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN
12 SIGN MONTH

CO-OPERATION BETWEEN CONTRACTORS

THE CONTRACTOR SHALL BE ADVISED THAT OTHER PROJECTS MAY BE ONGOING IN AREAS IMMEDIATELY ADJACENT TO AND WITHIN THE PROJECT LIMITS OF THIS PROJECT. THE CONTRACTOR SHALL SCHEDULE HIS WORK SO AS TO CAUSE A MINIMUM OF DELAY OR CONFLICT WITH THE OTHER PROJECT(S), IN ACCORDANCE WITH 105.08.

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR

IN ADDITION TO THE REQUIREMENTS OF 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER AND OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS SHALL 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.

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

LAW ENFORCEMENT OFFICERS (LEO'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 CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE.

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH:

OHIO STATE HIGHWAY PATROL
CANFIELD PATROL POST
500 SOUTH BROAD ST
CANFIELD, OH 44406
330-533-6866

IF AFTER CONTACTING THE OHIO HIGHWAY PATROL, IT IS DETERMINED THAT THEY CANNOT SUPPLY THE LEO, THEN AN AUTHORIZED MUNICIPAL OR COUNTY POLICE OFFICER WITH A MARKED AND FLASHER-LIGHT EQUIPPED OFFICIAL POLICE OR PATROL CAR SHALL BE PROVIDED.

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 QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR 120 HOURS

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

IF THE CONTRACTOR WISHES TO UTILIZE LEO'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 CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614 MAINTAINING TRAFFIC.

STOPPAGE OF MAINLINE TRAFFIC

ANY TIME TRAFFIC MUST BE COMPLETELY STOPPED ON A FREEWAY OR INTERSTATE, IT SHALL BE DONE IN THE FOLLOWING MANNER: THE COMPLETE TRAFFIC STOPPAGE ON ALL LANES OF ANY DIRECTIONAL ROADWAY SHALL BE NO MORE THAN 10 MINUTES IN ANY ONE CONSECUTIVE 30 MINUTE PERIOD.

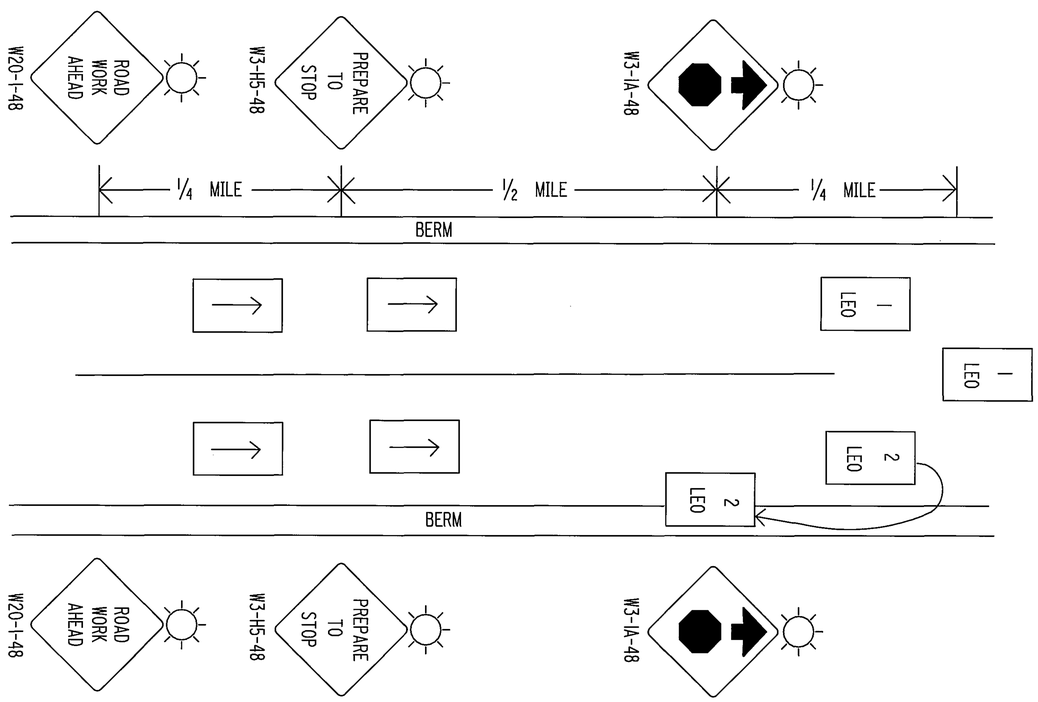
A MINIMUM OF TWO (2) LAW ENFORCEMENT OFFICERS (LEO) WITH PATROL CARS SHALL BE USED TO PACE MOTORISTS TO A STOP. THERE SHALL BE ONE LEO FOR EACH LANE ON THE FREEWAY.

AFTER TRAFFIC HAS BEEN SLOWED, ONE (1) PATROL CAR SHALL TRAVEL ALONG THE ROADWAY SHOULDER 500 FEET BEHIND THE BACKUP OF STOPPED VEHICLES. WHERE STOPPAGE OCCURS IN THE VICINITY OF FREEWAY ENTRANCES, THE CONTRACTOR SHALL PLACE FLAGGERS ON THE RAMPS TO STOP TRAFFIC. PATROL CARS SHALL HAVE FLASHING BEACONS TO PROVIDE ADEQUATE VISIBILITY TO APPROACHING MOTORISTS.

THE CONTRACTOR/PERMITEE SHALL ERECT AND MAINTAIN "ROAD WORK AHEAD" (W20-1-48), "PREPARE TO STOP" (W3-H5-48), AND "STOP AHEAD" (W3-1A-48) SIGNS. EACH SIGN SHALL BE EQUIPPED WITH A TYPE B FLASHING BARRICADE WARNING LIGHT IN ACCORDANCE WITH SECTION 6F.72 OF THE OMUTCD. PATROL CARS AND SIGNS SHALL BE LOCATED IN ACCORDANCE WITH THE DETAIL BELOW.

A PORTABLE CHANGEABLE MESSAGE SIGN, TYPE TO BE ON ODOT'S PRE-APPROVED LIST, SHALL BE PLACED 1.5 TO 2 MILES IN ADVANCE OF THE CLOSURE OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL NOTIFY THE ENGINEER/PERMIT OFFICE AND THE ODOT PUBLIC INFORMATION OFFICE, 330-786-2211, THREE (3) DAYS PRIOR TO ANY MAINLINE TRAFFIC STOPPAGE.



FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING THE NIGHT TIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO INSURE 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. PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC.

CONTRACTORS EQUIPMENT - OPERATION AND STORAGE

THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAFFIC. A QUALIFIED FLAGGER SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE FLASHING LIGHT.
EQUIPMENT SHALL BE STORED AT A STORAGE AREA OUTSIDE THE L/A, THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. WHEN PARKING ALONG THE HIGHWAY THE EQUIPMENT SHALL BE PLACED AND DELINEATED AS PER 614.03. NO EQUIPMENT SHALL BE PARKED IN THE MEDIAN OF THE HIGHWAY. ADEQUATE BARRICADES AND LIGHTS SHALL BE PLACED ON THE PAVEMENT SIDE OF THE EQUIPMENT TO IDENTIFY THE LIMITS OF THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA. NO EQUIPMENT SHALL BE PARKED ON PRIVATE PROPERTY UNLESS PRIOR APPROVAL OF THE OWNER AND THE PROJECT ENGINEER/SUPERVISOR HAS BEEN GRANTED.

WEIGHTED CHANNELIZERS

THE WEIGHTED CHANNELIZER SHALL BE PREDOMINATELY ORANGE IN COLOR AND SHALL BE MADE OF A LIGHTWEIGHT, FLEXIBLE, AND DEFORMABLE MATERIAL. THEY SHALL BE AT LEAST 42 INCHES IN HEIGHT WITH A WEIGHTED BASE. THEY MAY HAVE A "HANDLE" OR LIFTING DEVICE WHICH EXTENDS ABOVE THE 42" MINIMUM HEIGHT.

THE MARKINGS ON THE WEIGHTED CHANNELIZER SHALL BE HORIZONTAL, CIRCUMFERENTIAL, ALTERNATING ORANGE AND WHITE RETROREFLECTIVE STRIPES 6 INCHES WIDE. EACH WEIGHTED CHANNELIZER SHALL HAVE A MINIMUM OF TWO ORANGE AND TWO WHITE STRIPES. ANY NON-RETROREFLECTIVE SPACES BETWEEN THE HORIZONTAL ORANGE AND WHITE STRIPES SHALL NOT EXCEED 2 INCHES WIDE. THE WEIGHTED CHANNELIZER SHALL HAVE A 4-INCH MINIMUM WIDTH, REGARDLESS OF ORIENTATION.

ON FREEWAYS AND MULTILANE HIGHWAYS:
- USE OF WEIGHTED CHANNELIZERS ON FREEWAYS AND MULTILANE HIGHWAYS SHALL BE LIMITED TO SHORT-TERM OPERATION, GENERALLY TWELVE HOURS OR LESS, FOR EITHER DAY OR NIGHT. UPON COMPLETION OF WORK WITHIN THE ABOVE NOTED TIME PERIOD, THE WEIGHTED CHANNELIZERS SHALL BE REMOVED. THE WEIGHTED CHANNELIZERS MAY AGAIN BE PLACED ON THE HIGHWAY WHEN THE WORK IS TO RESUME ON THE FOLLOWING DAY OR NIGHT. ANY LANE CLOSURE USING CHANNELIZATION DEVICES, EXPECTED TO REMAIN FOR MORE THAN TWELVE HOURS, SHALL REQUIRE THE USE OF DRUMS OR BARRIERS.

- WHEN USED AT NIGHT, WEIGHTED CHANNELIZERS SHALL ONLY BE PLACED IN THE "TANGENT AREA". THE "TANGENT AREA" IS DEFINED AS THE AREA AFTER THE TRANSITION TAPER WHERE THE WORK TAKES PLACE. DRUMS SHALL BE USED IN THE TRANSITION TAPERS FOR NIGHT OPERATIONS.

ON OTHER HIGHWAYS:
- THERE ARE NO DURATIONS OF WORK RESTRICTIONS FOR USE OF WEIGHTED CHANNELIZERS ON ALL OTHER TYPES OF HIGHWAYS, DAY OR NIGHT. ON THESE ROADWAYS THE WEIGHTED CHANNELIZER MAY BE USED IN THE TRANSITION TAPERS AS WELL AS IN THE TANGENT AREAS, DAY OR NIGHT.

MAXIMUM SPACING OF THE WEIGHTED CHANNELIZER SHALL BE 40 FEET.

STEPS SHOULD BE TAKEN TO ENSURE THAT THE WEIGHTED CHANNELIZERS WILL NOT BE BLOWN OVER OR DISPLACED BY WIND OR MOVING TRAFFIC. BALLASTS SHOULD NOT PRESENT A HAZARD IF THE WEIGHTED CHANNELIZERS ARE INADVERTENTLY STRUCK, NOR SHOULD THEY AFFECT THE VISIBILITY OF THE WEIGHTED CHANNELIZERS. ALL BALLASTS USED SHOULD BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

CALCULATED E.W.K.
CHECKED K.P.W.

GENERAL NOTES

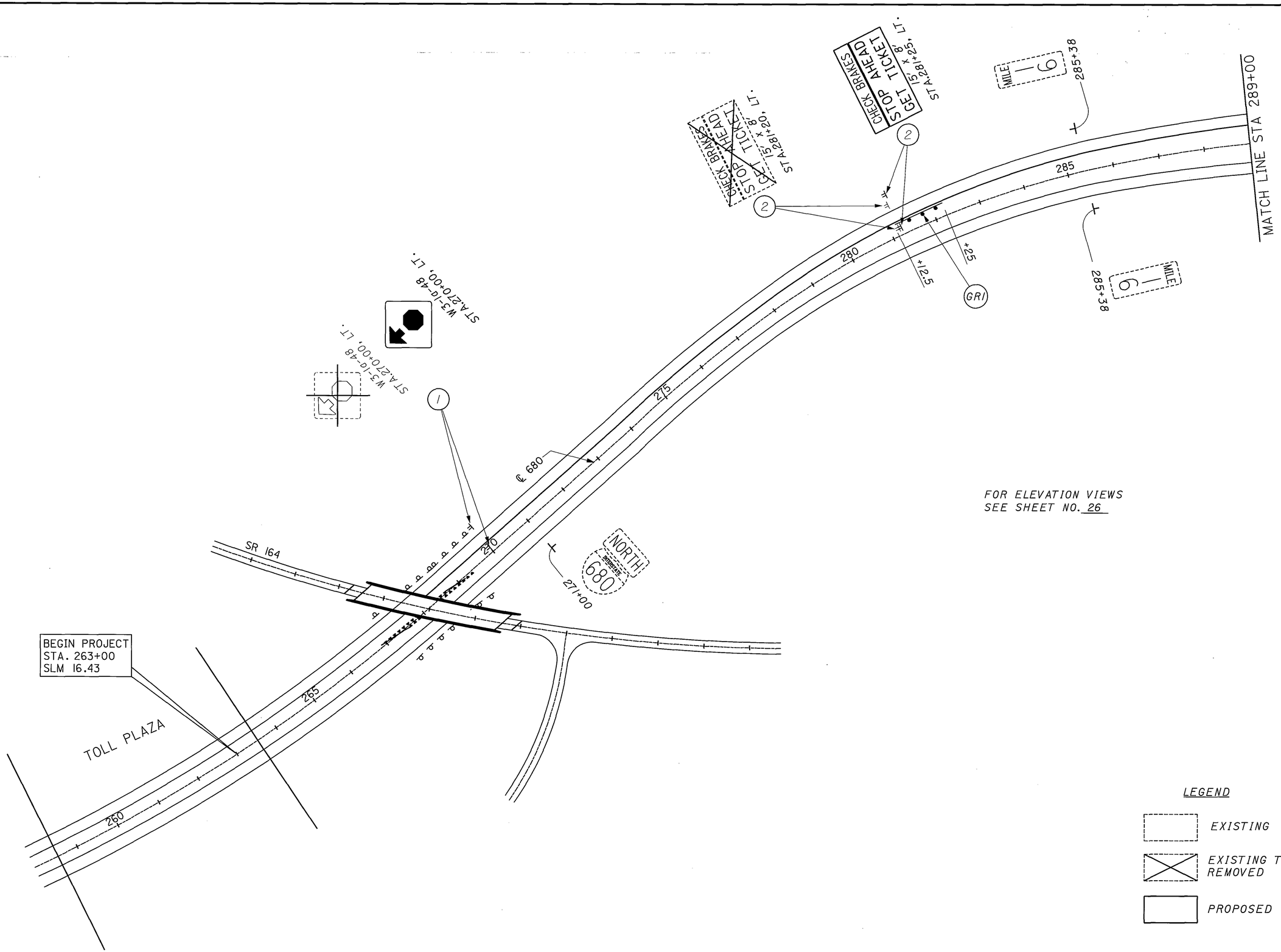
MAH-680-7.10

SHEET NUMBER								PARTICIPATION			ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	5	6			29	30	31									
							250				606	13000	250	FOOT	GUARDRAIL, TYPE 5	
							2				606	22010	2	EACH	ANCHOR ASSEMBLY, TYPE E-98	
							1				606	35000	1	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
		120									614	11100	120	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	
		12									614	18511	12	MONTH	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	6
					3	4					625	32000	7	EACH	GROUND ROD	
							6				626	00100	6	EACH	BARRIER REFLECTOR, TYPE A	
					64						630	03100	64	FOOT	GROUND MOUNTED SUPPORT, NO. 3 POST	
					45						630	07000	45	FOOT	GROUND MOUNTED SUPPORT, W8 x 18 BEAM	
					142						630	07500	142	FOOT	GROUND MOUNTED SUPPORT, W10 x 22 BEAM	
					118						630	08000	118	FOOT	GROUND MOUNTED SUPPORT, W12 x 30 BEAM	
					4						630	09000	4	EACH	BREAKAWAY BEAM CONNECTION	
						2					630	20200	2	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 2	
						1					630	20800	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 8	
					1						630	21000	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 10	
						1					630	31200	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-9.10, DESIGN 2	
					1						630	45500	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8	
					65	66	26				630	75000	157	EACH	SIGN ATTACHMENT ASSEMBLY	
					1						630	79501	1	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN	5
					39						630	80100	39	SQ. FT.	SIGN, FLAT SHEET	
					376						630	80200	376	SQ. FT.	SIGN, GROUND MOUNTED EXTRUSHEET	
					4111.5	3682.5	712				630	80224	8506	SQ. FT.	SIGN, OVERHEAD EXTRUSHEET	
					639.5						630	81201	640	SQ. FT.	SIGN ERECTED, EXTRUSHEET, AS PER PLAN	5
					12						630	84500	12	EACH	GROUND MOUNTED BEAM SUPPORT FOUNDATION	
					3	4					630	84510	7	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
					2	8					630	84900	10	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
					3	1					630	85400	4	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	
					4						630	86002	4	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
					6	2					630	86102	8	EACH	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	
					2	4					630	86310	6	EACH	REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL	
					39	37	13				630	87400	89	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	
					1						630	89802	1	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-7.65	
					1	3					630	89806	4	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-18.24	
					1						631	84300	1	EACH	SIGN WIRED	
					2						631	87400	2	EACH	BALLAST MISC.: TYPE CMRI-175-480, INTEGRAL, INSTALLATION ONLY	
					2						631	89500	2	EACH	MERCURY VAPOR LUMINAIRE, MISC.: TYPE TC-31.21 WITH 175 WATT LAMP, INSTALLATION ONLY	
					53	54	13				631	94200	120	EACH	REMOVAL OF LUMINAIRE AND DISPOSAL	
					12	20	9				631	94304	41	EACH	REMOVAL OF DISCONNECT SWITCH AND DISPOSAL	
					55	54	13				631	94404	122	EACH	REMOVAL OF BALLAST AND DISPOSAL	
					24	28	13				631	94406	65	EACH	REMOVAL OF SIGNS WIRED	
					4						632	90020	4	EACH	REMOVAL OF MISCELLANEOUS TRAFFIC SIGNAL ITEM, 8" FLASHING BEACON	5
					4						632	90200	4	EACH	REUSE OF VEHICULAR SIGNAL HEAD	
	LUMP										614	11000	LUMP	-	MAINTAINING TRAFFIC	
											619	16000	2	MONTH	FIELD OFFICE, TYPE A	
											623	10000	LUMP	-	CONSTRUCTION LAYOUT STAKES	
											624	10000	LUMP	-	MOBILIZATION	

CALCULATED T.K.I.
CHECKED K.P.W.

GENERAL SUMMARY

MAH-680-7.10



FOR ELEVATION VIEWS
SEE SHEET NO. 26

LEGEND

EXISTING

EXISTING TO BE REMOVED

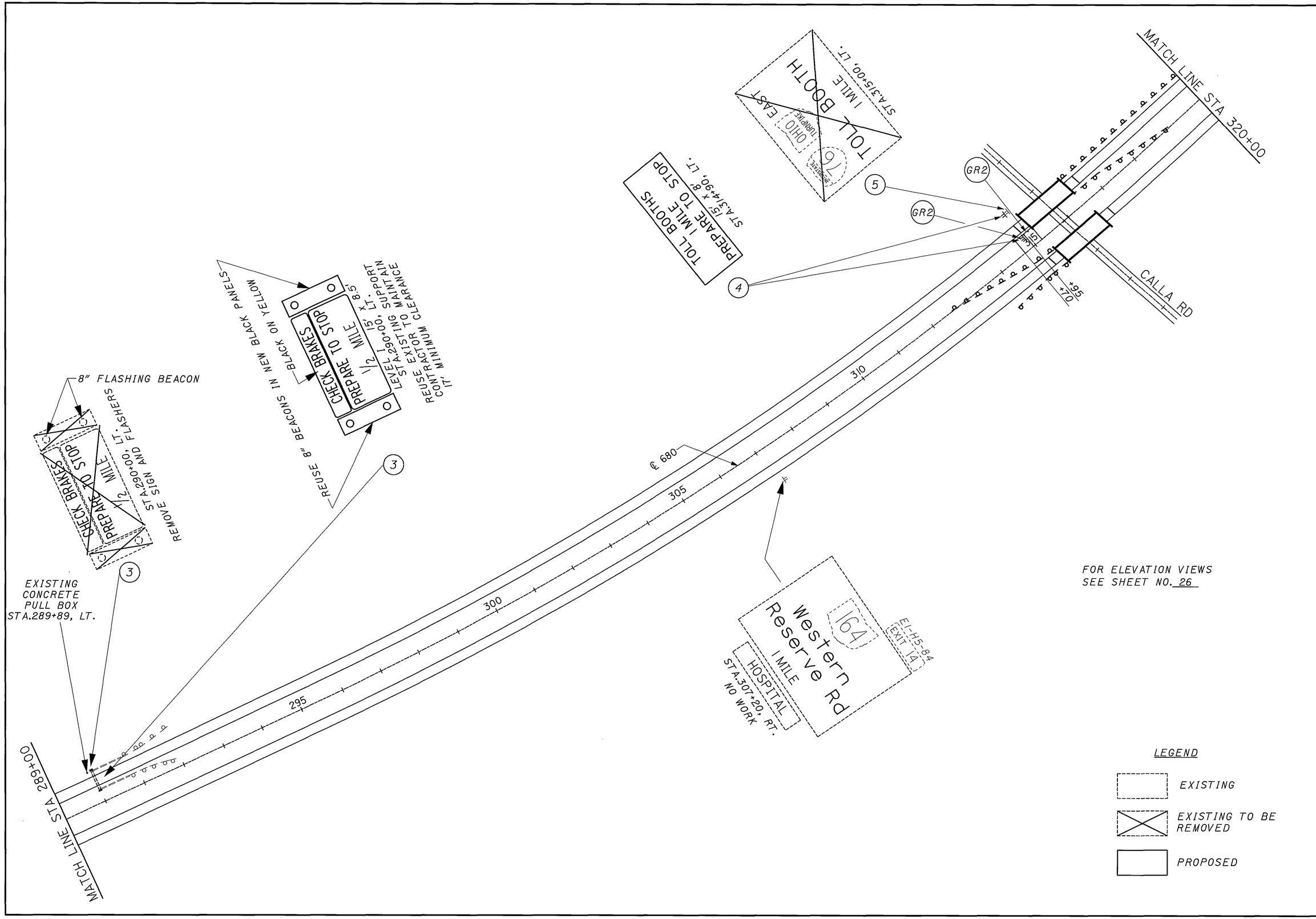
PROPOSED

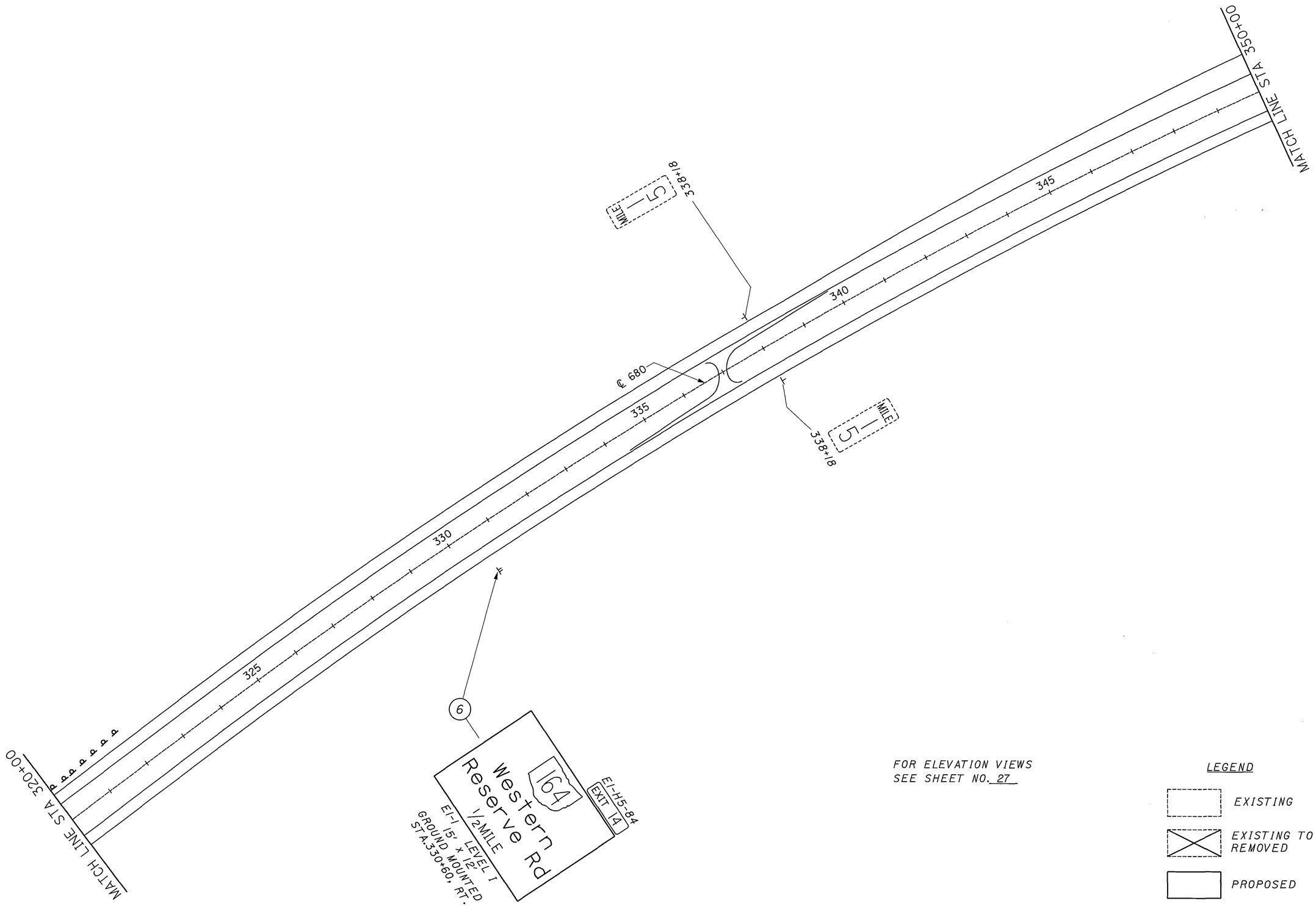
0 50 100 200
HORIZONTAL SCALE IN FEET

CALCULATED T.K.I.
CHECKED E.W.K.

SIGNING PLAN SHEET
STA 263+00 TO STA.289+00

MAH-680-7.10


MATCH LINE STA 320+00
CALLA RD
GR2
GR2
5
4
TOLL BOOTH
1 MILE
ST A.315+00, LT.
76
INTERSTATE
OHIO
TURNPIKE
EAST
TOLL BOOTHS
PREPARE TO STOP
1 MILE
ST A.314+90, LT.
15' x 8'
+95
+70
310
℄ 680
305
300
295
164
Western Rd
Reserve
1 MILE
HOSPITAL
ST A.307+20, RT.
NO WORK
EI-H5-84
EXIT 14
8" FLASHING BEACON
CHECK BRAKES
PREPARE TO STOP
1/2 MILE
ST A.290+00, LT.
SIGN AND FLASHERS
REMOVE
3
EXISTING
CONCRETE
PULL BOX
STA.289+89, LT.
8" BEACONS IN NEW BLACK PANELS
BLACK ON YELLOW
REUSE
CHECK BRAKES
PREPARE TO STOP
1/2 MILE
8.5'
15' x LT. SUPPORT
LEVEL 1 290+00, SUPPORT
ST A.290+00, MAINTAIN
EXISTING
REUSE EXISTING
CONTRACTOR TO CLEARANCE
17' MINIMUM CLEARANCE
3
MATCH LINE STA 289+00
FOR ELEVATION VIEWS
SEE SHEET NO. 26
LEGEND
EXISTING
EXISTING TO BE REMOVED
PROPOSED
HORIZONTAL
SCALE IN FEET
0
50
100
200
CALCULATED
T.K.I.
CHECKED
E.W.K.
SIGNING PLAN SHEET
STA 289+00 TO STA 320+00
MAH-680-7.10
10
32



FOR ELEVATION VIEWS
SEE SHEET NO. 27

LEGEND

EXISTING

EXISTING TO BE REMOVED

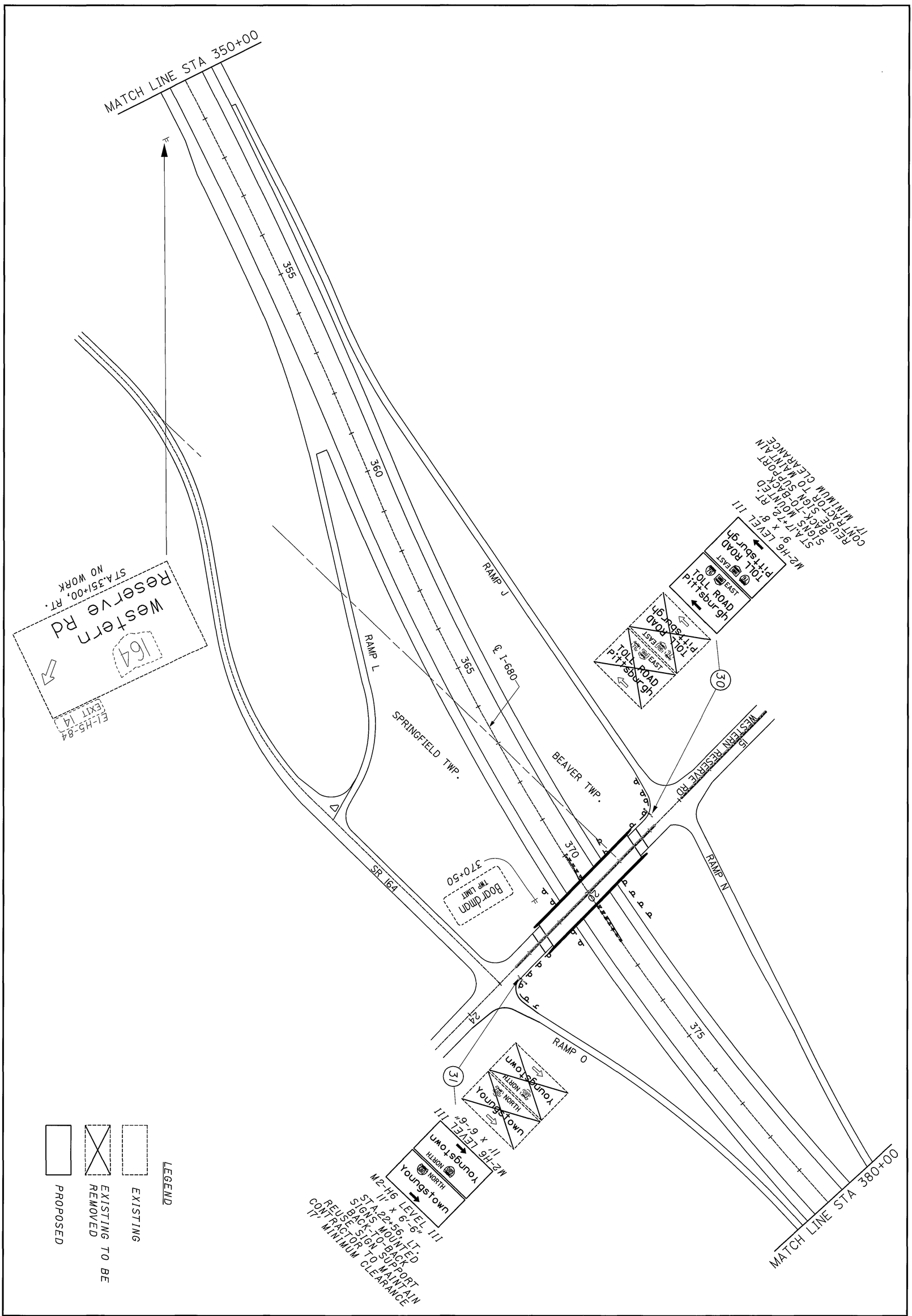
PROPOSED

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED T.K.I.
CHECKED E.W.K.

SIGNING PLAN SHEET
STA 320+00 TO STA 350+00

MAH-680-7.10



12/32	MAH-680-7.10	SIGNING PLAN SHEET STA 350+00 TO STA 380+00	CALCULATED T.K.I. CHECKED E.W.K.	0 100 50 200 HORIZONTAL SCALE IN FEET

LEGEND

EXISTING

EXISTING TO BE REMOVED

PROPOSED

CALCULATED T.K.I.

CHECKED E.W.K.

0 50 100 200
HORIZONTAL SCALE IN FEET

SIGNING PLAN SHEET
STA 380+00 TO STA 410+00

MAH-680-7.10

LEGEND

EXISTING

EXISTING TO BE REMOVED

PROPOSED

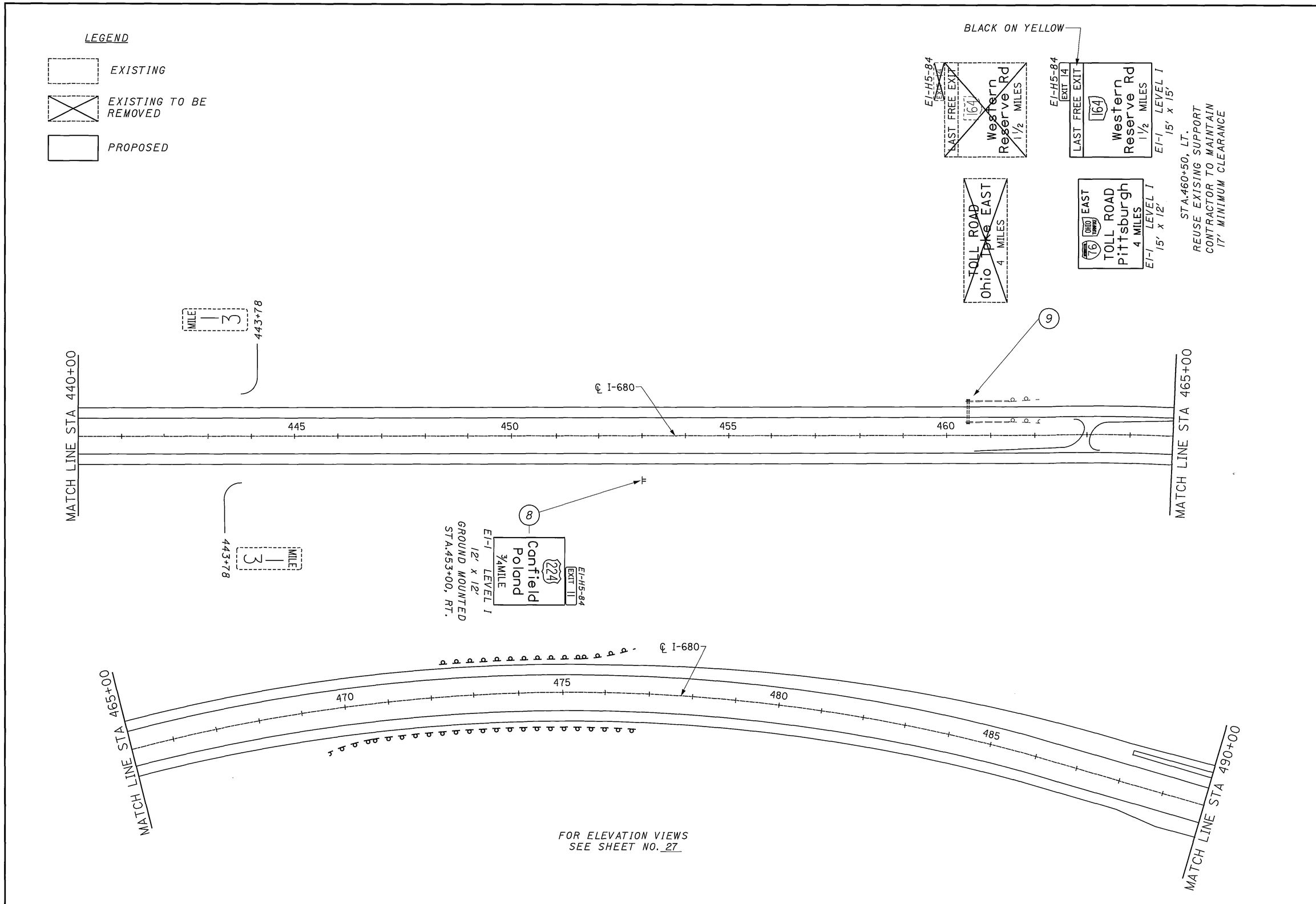
N

0 50 100 200
HORIZONTAL SCALE IN FEET

CALCULATED T.K.I.
CHECKED E.W.K.

SIGNING PLAN SHEET
STA 410+00 TO STA 440+00

MAH-680-7.10


LEGEND
EXISTING
EXISTING TO BE REMOVED
PROPOSED
BLACK ON YELLOW
EI-H5-84
EXIT 14
LAST FREE EXIT
164
Western Reserve Rd
1½ MILES
EI-1 LEVEL I
15' x 15'
STA.460+50, LT.
REUSE EXISING SUPPORT
CONTRACTOR TO MAINTAIN
17' MINIMUM CLEARANCE
TOLL ROAD
Ohio Pike EAST
4 MILES
76
OHIO TURNPIKE
EAST
TOLL ROAD
Pittsburgh
4 MILES
EI-1 LEVEL I
15' x 12'
MILE 13
443+78
9
℄ I-680
MATCH LINE STA 440+00
445
450
455
460
MATCH LINE STA 465+00
8
224
Canfield Poland
¾ MILE
EI-1 LEVEL I
12' x 12'
GROUND MOUNTED
STA.453+00, RT.
EI-H5-84
EXIT 11
470
475
480
485
MATCH LINE STA 465+00
MATCH LINE STA 490+00
FOR ELEVATION VIEWS
SEE SHEET NO. 27
N
HORIZONTAL SCALE IN FEET
0 50 100 200
CALCULATED T.K.I.
CHECKED E.W.K.
SIGNING PLAN SHEET
STA 440+00 TO STA 490+00
MAH-680-7.10
15
32

LEGEND

EXISTING

EXISTING TO BE REMOVED

PROPOSED

HORIZONTAL SCALE IN FEET

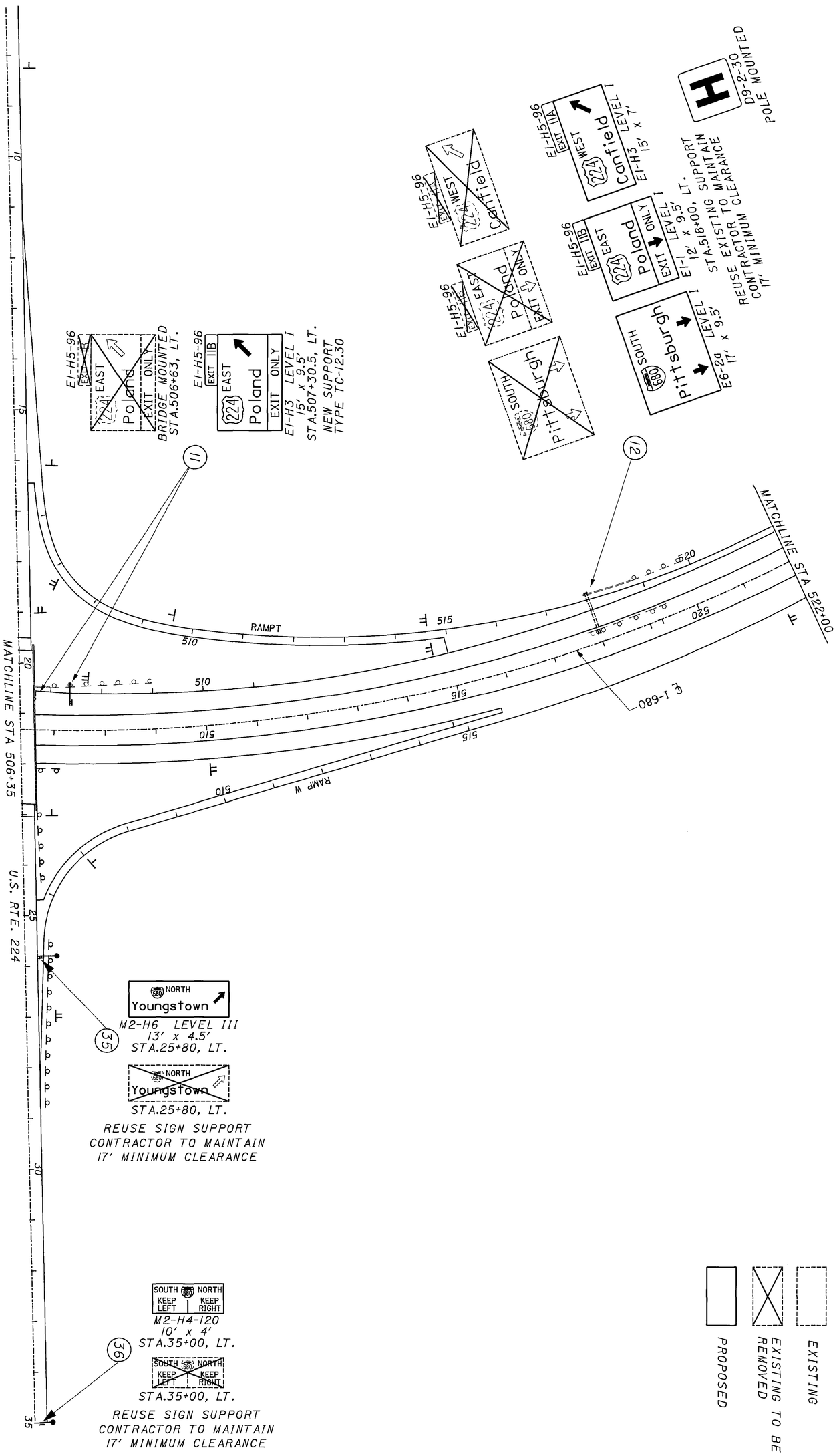
0 50 100 200

CALCULATED T.K.I.

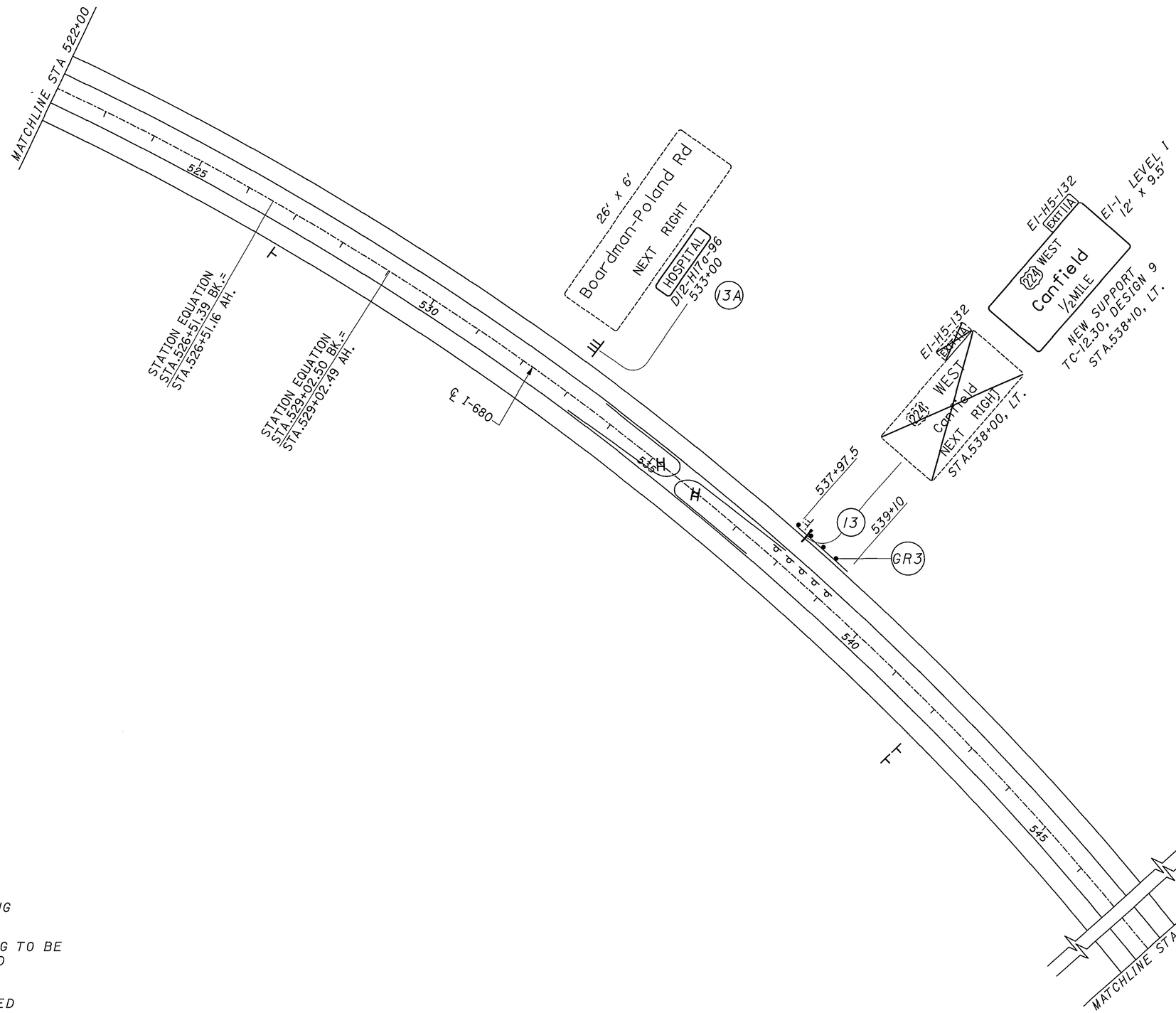
CHECKED E.W.K.

SIGNING PLAN SHEET
STA 490+00 TO STA 506+35

MAH-680-7.10



17/32	MAH-680-7.10	SIGNING PLAN SHEET STA 506+35 TO STA 522+00	CALCULATED T.K.I. CHECKED E.W.K.	0 50 100 200 HORIZONTAL SCALE IN FEET



LEGEND

EXISTING

EXISTING TO BE REMOVED

PROPOSED

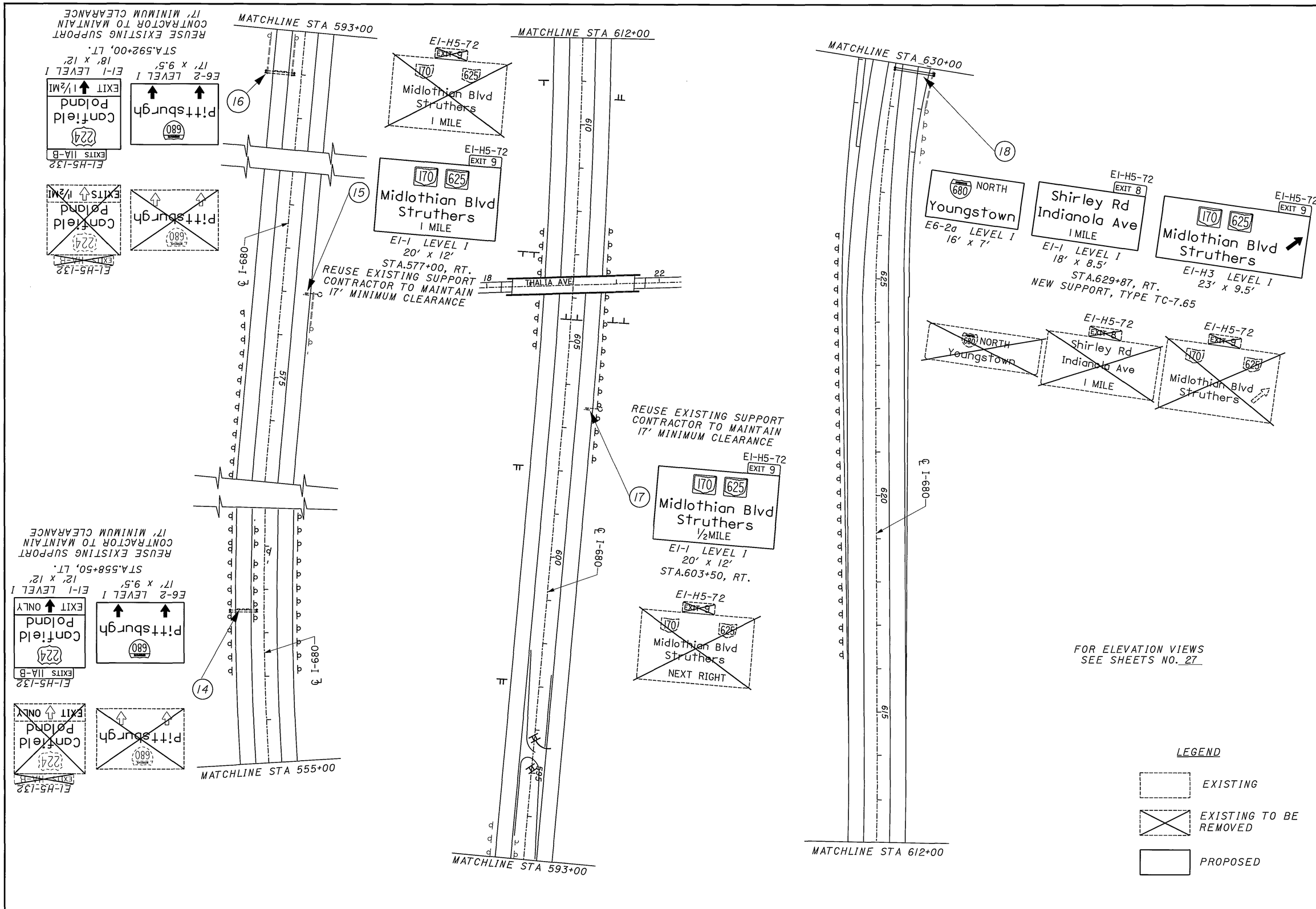
FOR ELEVATION VIEWS SEE SHEET NO. 27

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED T.K.I.
CHECKED E.W.K.

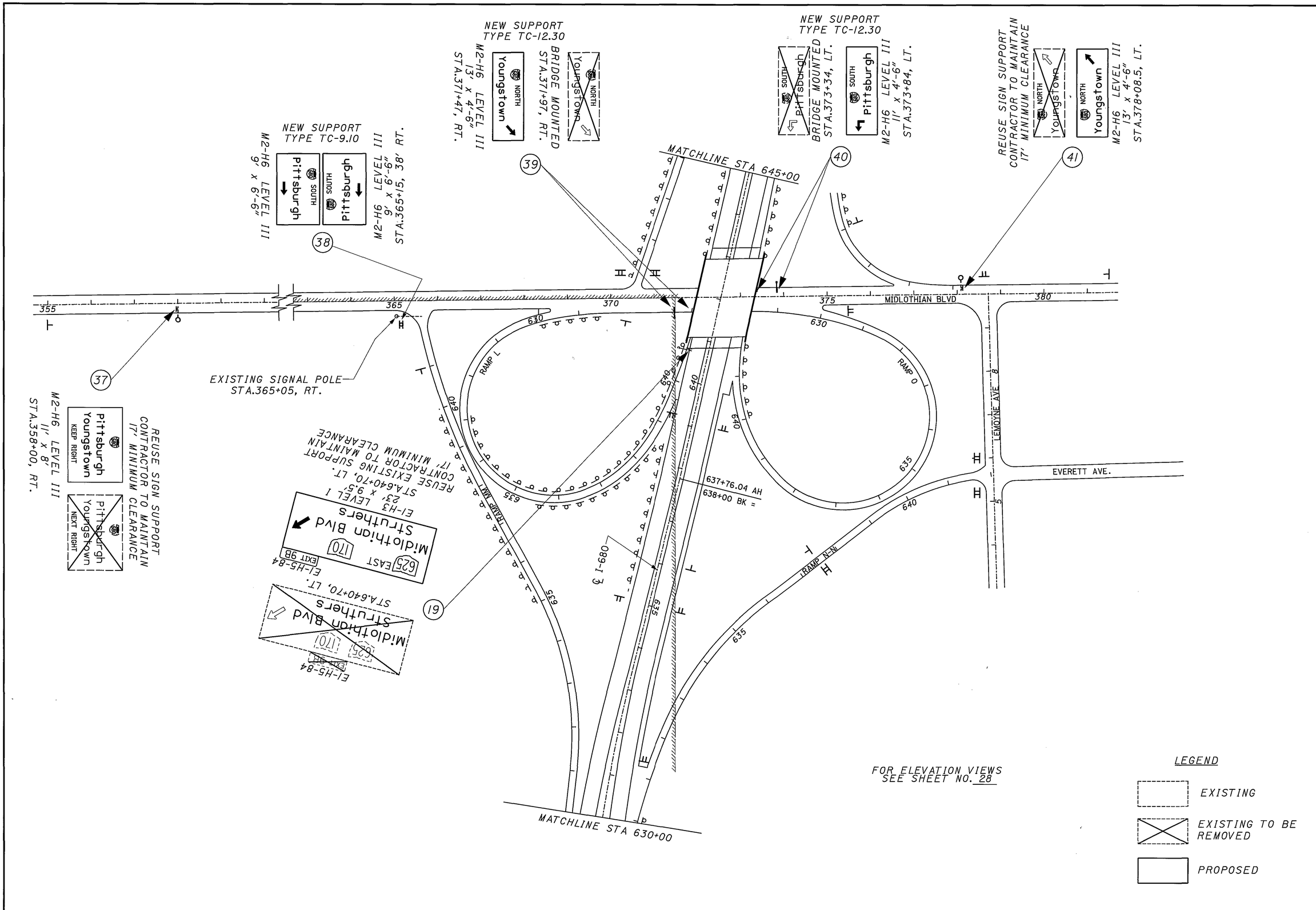
SIGNING PLAN SHEET
STA 522+00 TO STA 555+00

MAH-680-7.10



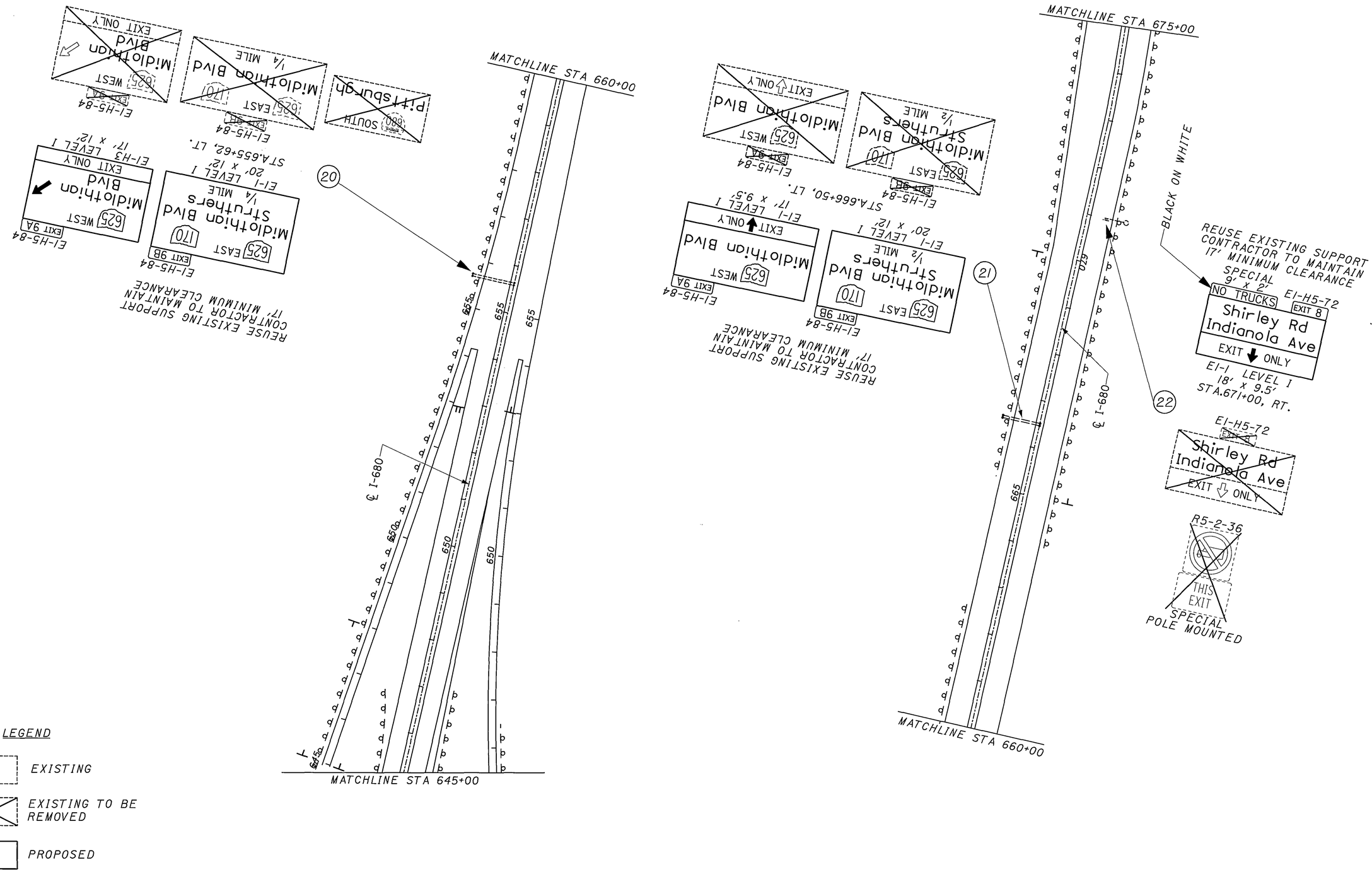
SIGNING PLAN SHEET
STA 555+00 TO STA 630+00

MAH-680-7.10



SIGNING PLAN SHEET
STA 630+00 TO STA 645+00

MAH-680-7.10



LEGEND

EXISTING

EXISTING TO BE REMOVED

PROPOSED

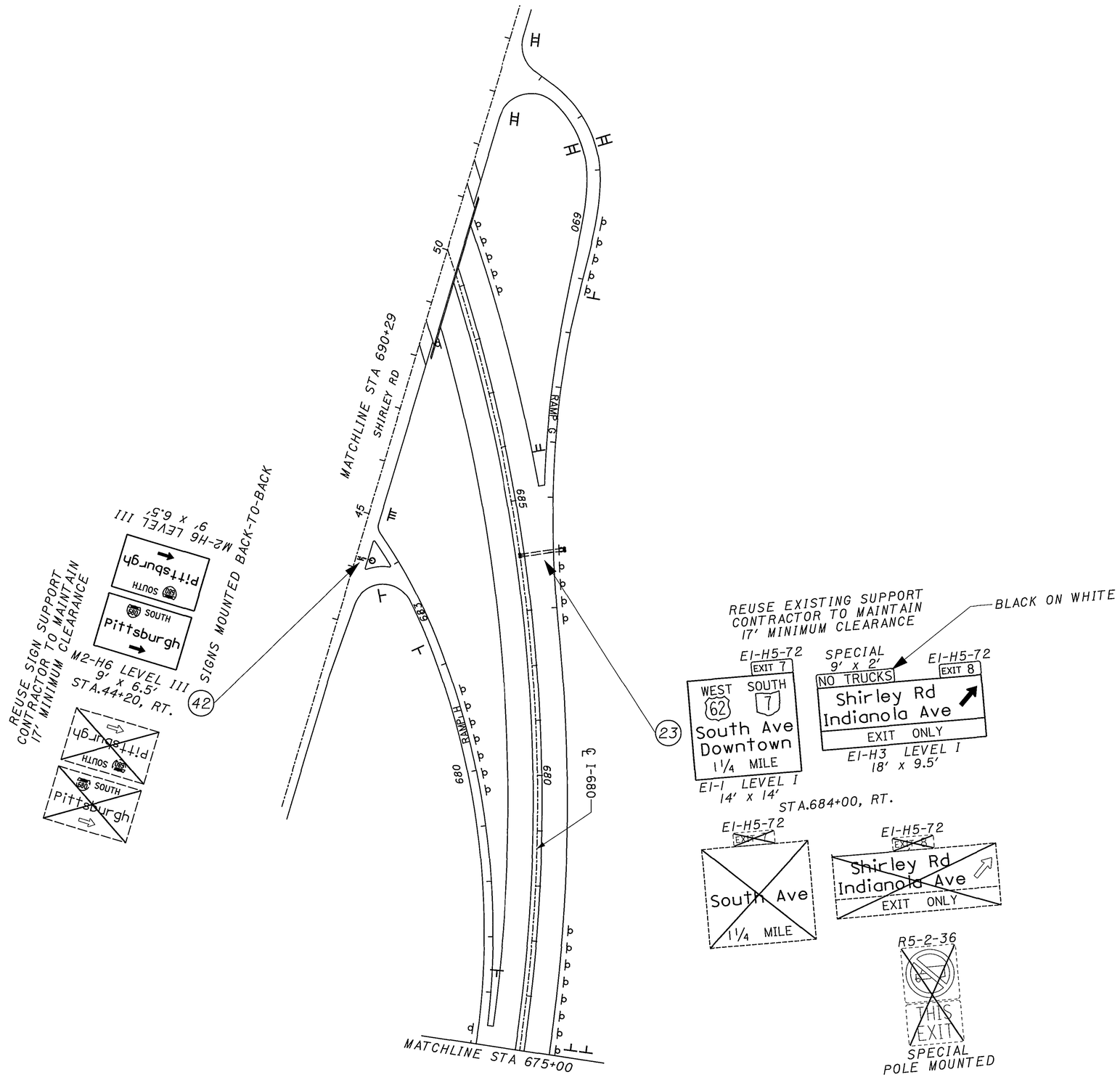
HORIZONTAL SCALE IN FEET 0 50 100 200

CALCULATED T.K.I.

CHECKED E.W.K.

SIGNING PLAN SHEET
STA 645+00 TO STA 675+00

MAH-680-7.10

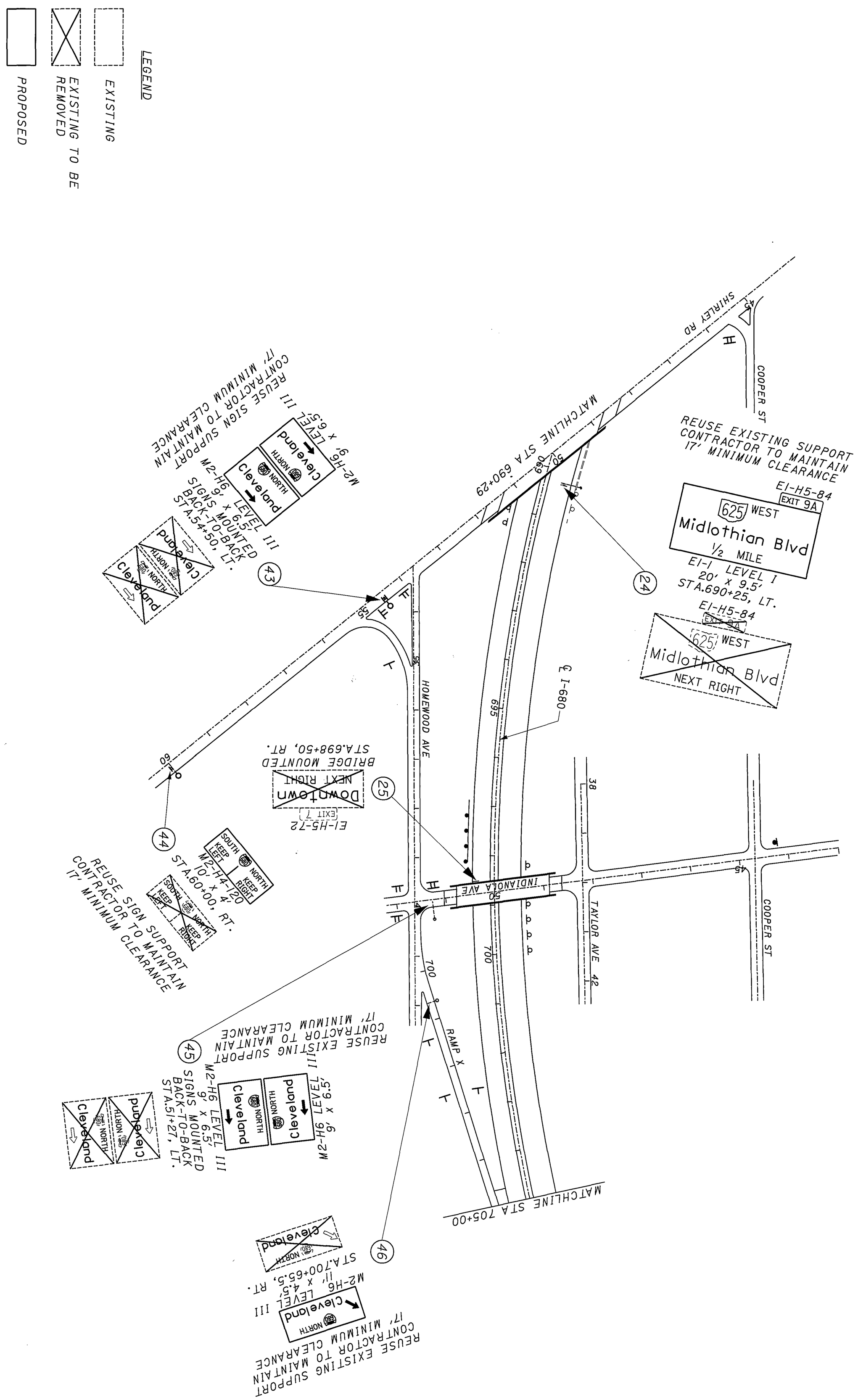


HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED T.K.I.
CHECKED E.W.K.

SIGNING PLAN SHEET
STA 675+00 TO STA 690+29

MAH-680-7.10



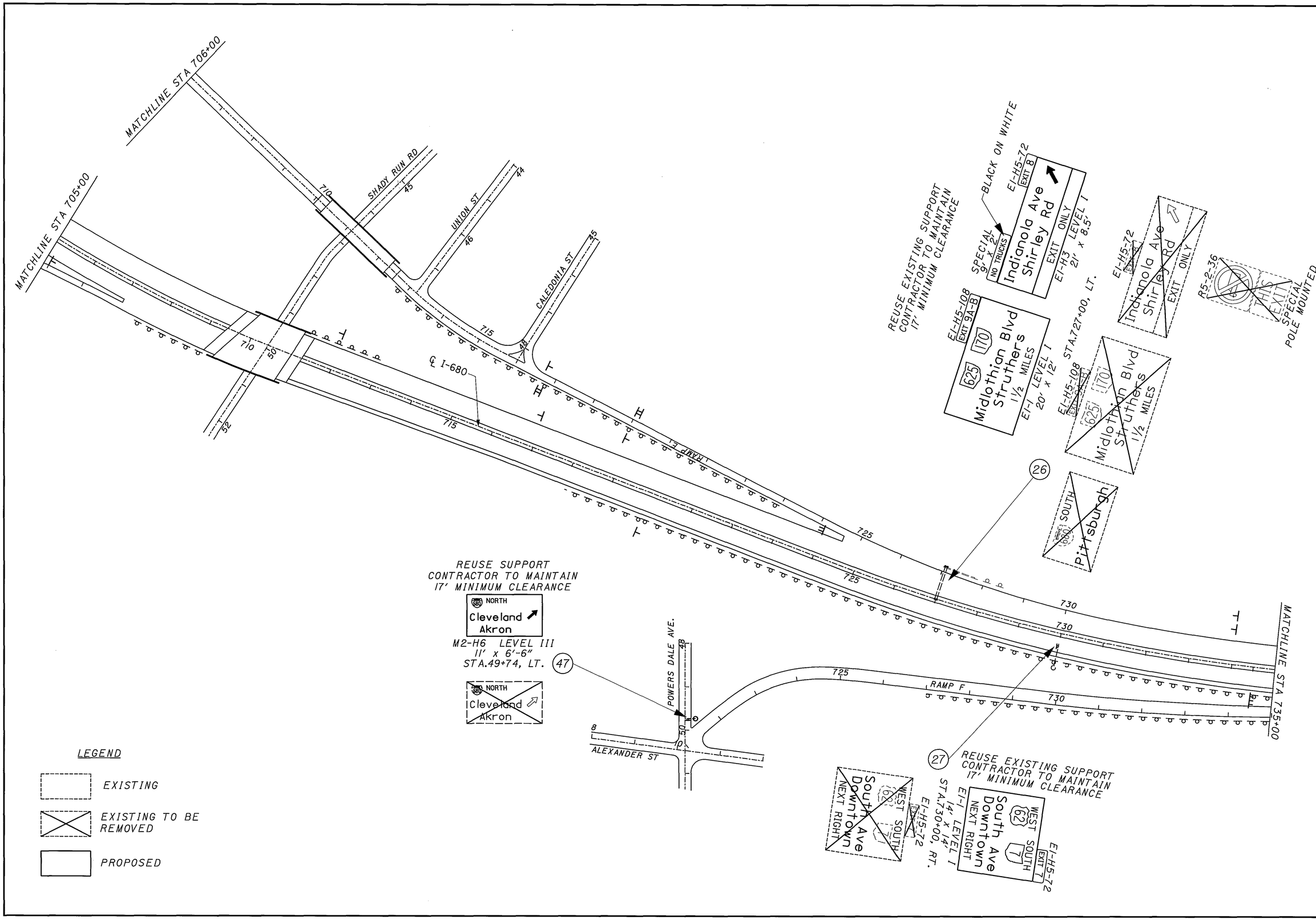
23/32

MAH-680-7.10

SIGNING PLAN SHEET
STA 690+29 TO STA 705+00

CALCULATED T.K.I.
CHECKED E.W.K.

0 50 100 200
HORIZONTAL SCALE IN FEET

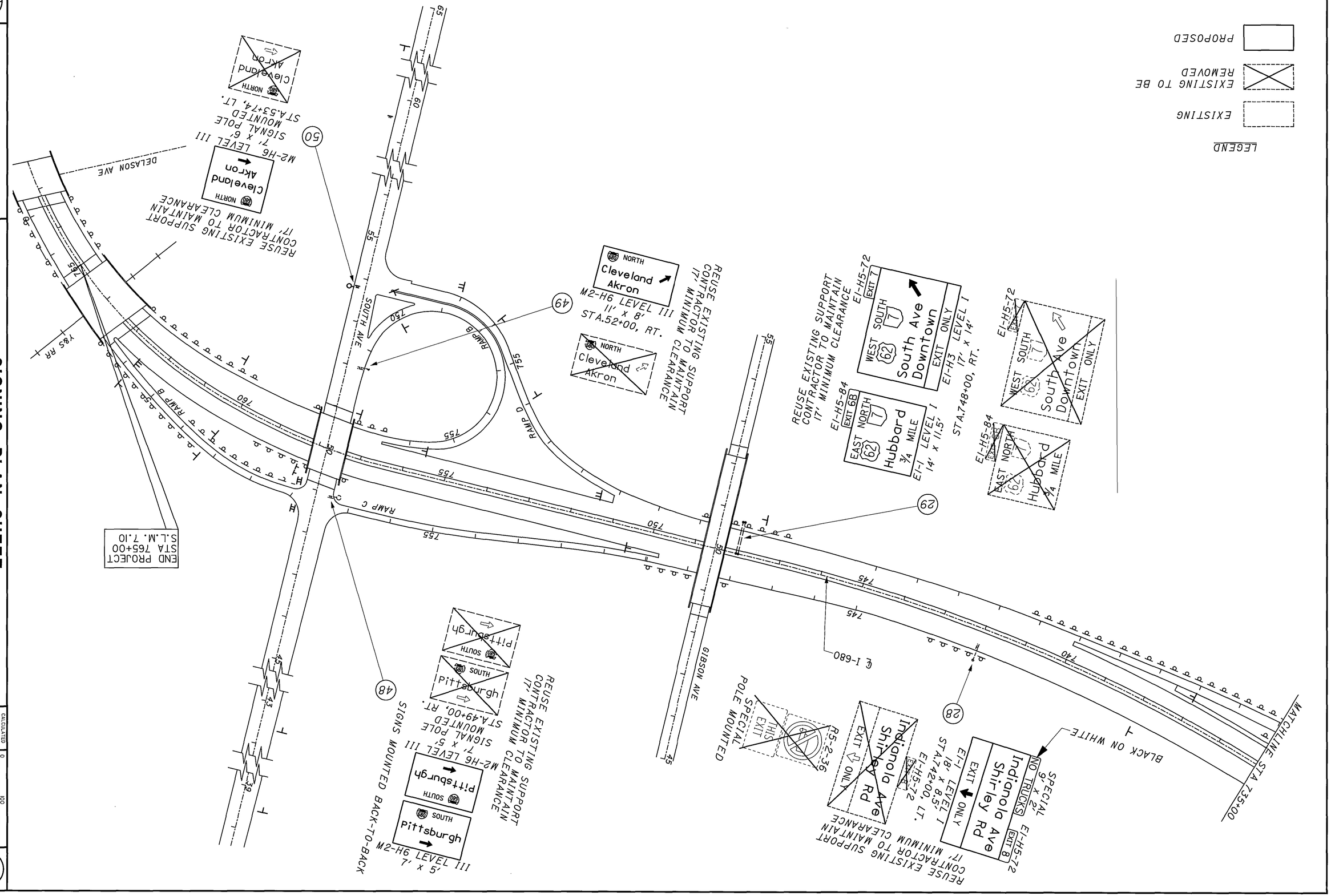


SIGNING PLAN SHEET
STA 705+00 TO STA 735+00

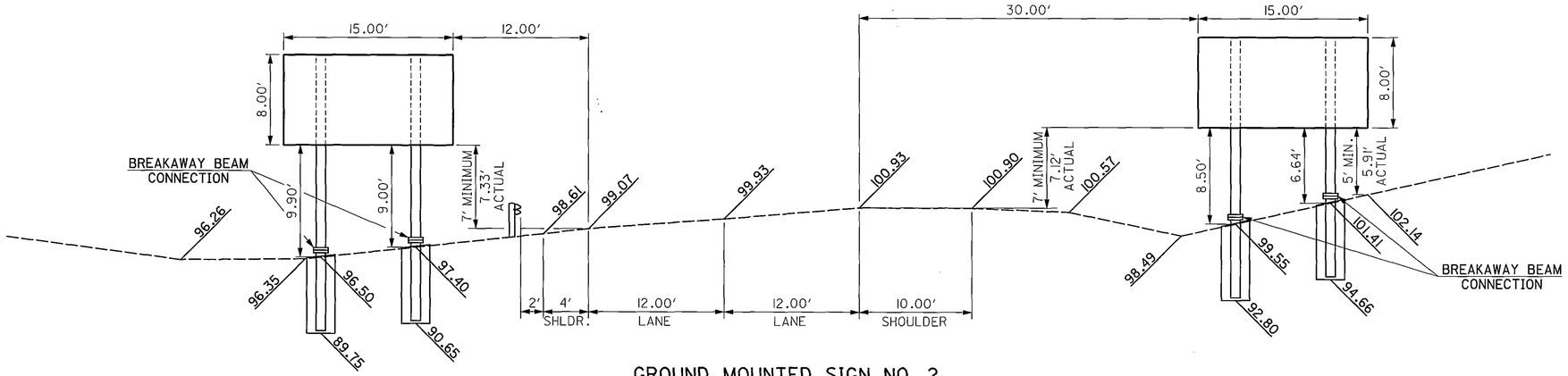
MAH-680-7.10

MAH-680-7.10

SIGNING PLAN SHEET
STA 735+00 TO SOUTH AVENUE



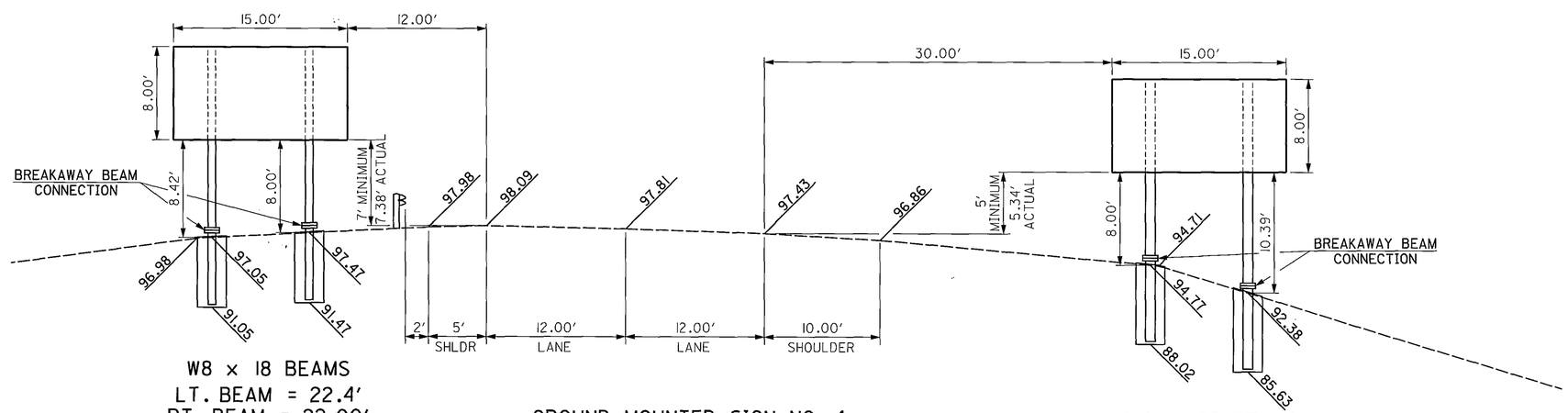
CALCULATED T.K.I.
CHECKED E.W.K.
HORIZONTAL SCALE IN FEET 0 50 100 200
N



LT. BEAM = 24.7'
RT. BEAM = 23.8'

GROUND MOUNTED SIGN NO. 2
STA.281+25, LT. (SOUTHBOUND)
W10 x 22 BEAMS

LT. BEAM = 23.3'
RT. BEAM = 21.4'



W8 x 18 BEAMS
LT. BEAM = 22.4'
RT. BEAM = 22.00'

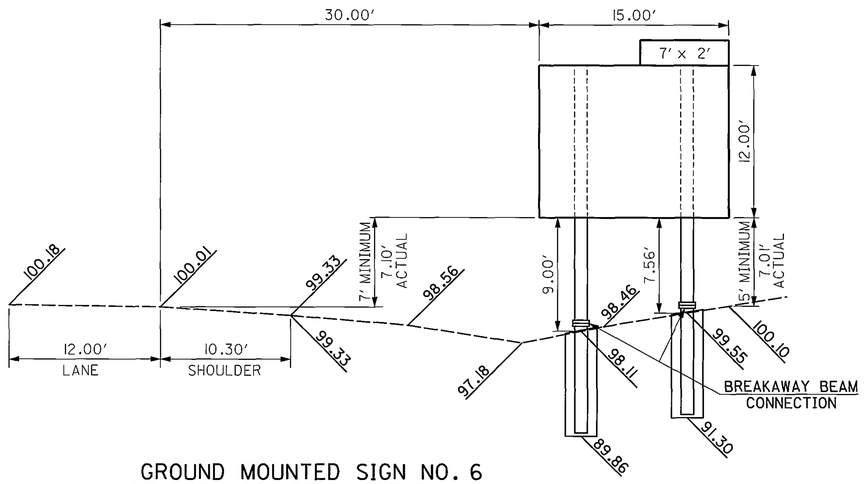
GROUND MOUNTED SIGN NO. 4
STA.314+90, LT. (SOUTHBOUND)

W10 x 22 BEAMS
LT. BEAM = 22.8'
RT. BEAM = 25.1'

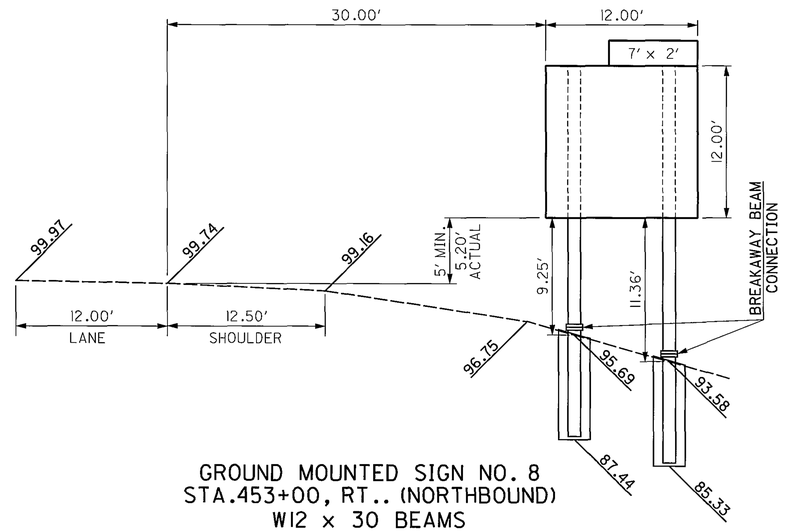
CALCULATED T.K.I.
CHECKED K.P.W.

SIGN ELEVATION VIEWS

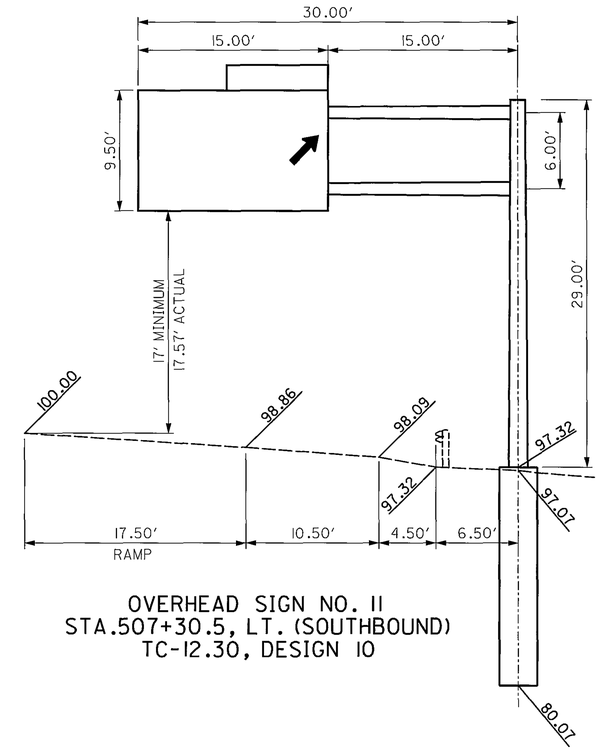
MAH-680-7.10



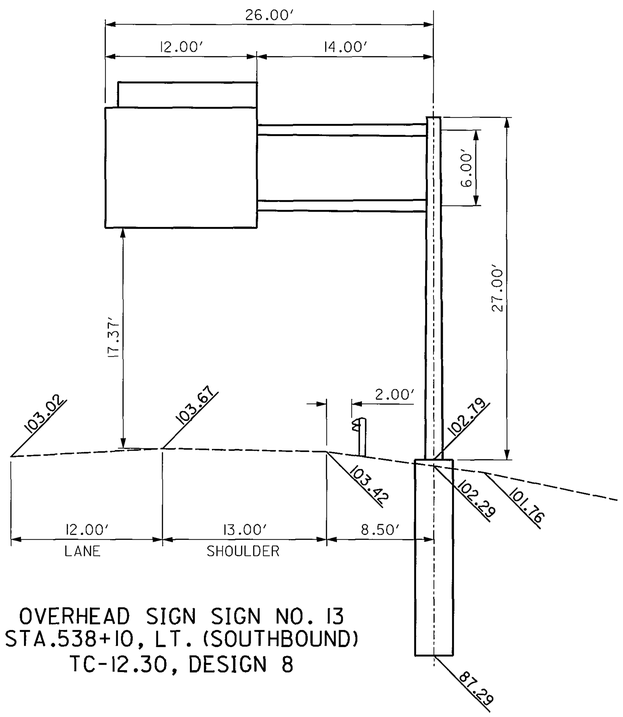
GROUND MOUNTED SIGN NO. 6
STA.330+60, RT. (NORTHBOUND)
W12 x 30 BEAMS
LT. BEAM = 29.3'
RT. BEAM = 27.8'



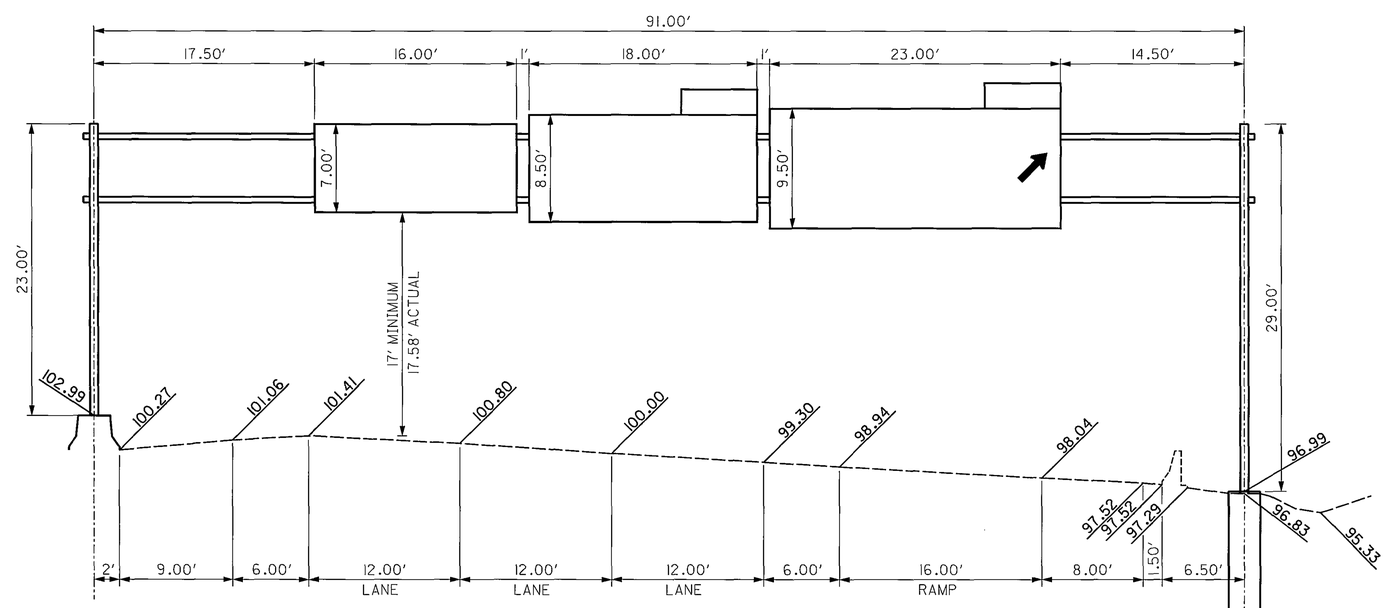
GROUND MOUNTED SIGN NO. 8
STA.453+00, RT.. (NORTHBOUND)
W12 x 30 BEAMS
LT. BEAM = 29.5'
RT. BEAM = 31.6'



OVERHEAD SIGN NO. 11
STA.507+30.5, LT. (SOUTHBOUND)
TC-12.30, DESIGN 10



OVERHEAD SIGN SIGN NO. 13
STA.538+10, LT. (SOUTHBOUND)
TC-12.30, DESIGN 8

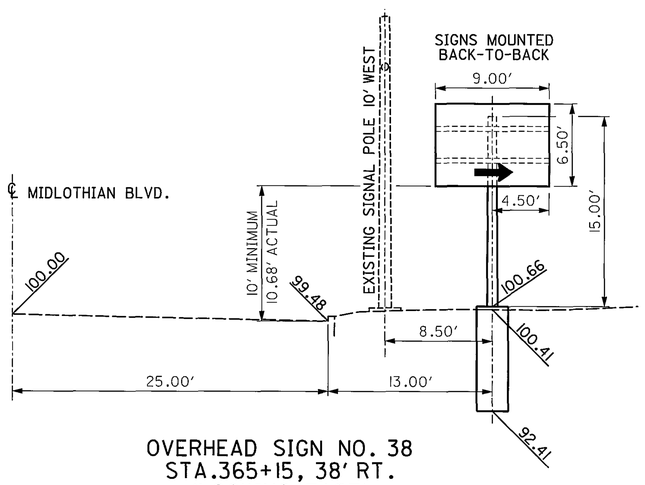


OVERHEAD SIGN NO. 18
STA.629+87, RT. (NORTHBOUND)
TC-7.65, DESIGN 8
5' BOX

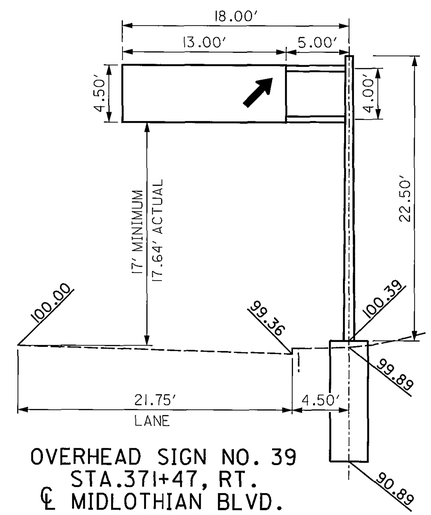
CALCULATED T.K.I.
CHECKED K.P.W.

SIGN ELEVATION VIEWS

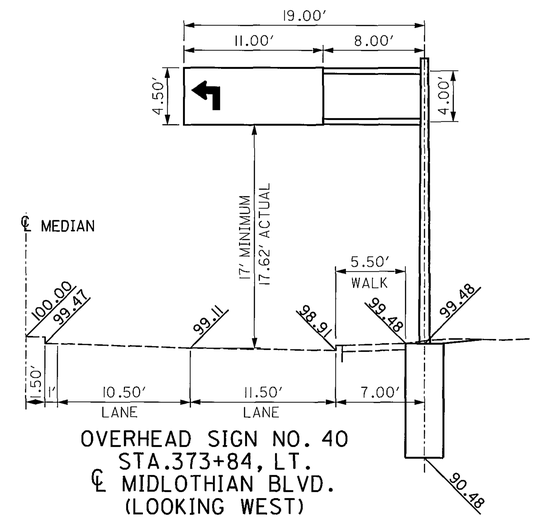
MAH-680-7.10



OVERHEAD SIGN NO. 38
STA.365+15, 38′ RT.
(LOOKING EAST)
TC-9.10, DESIGN 2



OVERHEAD SIGN NO. 39
STA.371+47, RT.
℄ MIDLOTHIAN BLVD.
(LOOKING EAST)
TC-12.30, DESIGN 2



OVERHEAD SIGN NO. 40
STA.373+84, LT.
℄ MIDLOTHIAN BLVD.
(LOOKING WEST)
TC-12.30, DESIGN 2

CALCULATED T.K.I.
CHECKED K.P.W.

SIGN ELEVATION VIEWS

MAH-680-7.10

SHEET NO.	REFERENCE NO.	*BALLAST, MISC.: TYPE CMRI-175-480, **MERCURY VAPOR LUMINAIRE, MISC.: LOCATION	STATION	SIDE	CODE	SIZE (FEET)	625 GROUND ROD (EACH)	630 GROUND MOUNTED BEAM SUPPORT FOUNDATION (EACH)	630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION (EACH)	630 GROUND MOUNTED SUPPORT, NO. 3 POST (FT.)	630 GROUND MOUNTED SUPPORT, W8 x 18 BEAM (FT.)	630 GROUND MOUNTED SUPPORT, W10 x 22 BEAM (FT.)	630 GROUND MOUNTED SUPPORT, W12 x 30 BEAM (FT.)	630 BREAKAWAY BEAM CONNECTION (EACH)	630 OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8 (EACH)	630 OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 10 (EACH)	630 SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN (EACH)	630 SIGN ATTACHMENT ASSEMBLY (EACH)	630 SIGN, FLAT SHEET (S.F.)	630 SIGN, GROUND MOUNTED EXTRUSHEET (S.F.)	630 SIGN, OVERHEAD EXTRUSHEET (S.F.)	630 SIGN ERECTED, EXTRUSHEET, AS PER PLAN (S.F.)	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL (EACH)	630 REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL (EACH)	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL (EACH)	630 REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL (EACH)	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL (EACH)	630 REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL (EACH)	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-18.24 (EACH)	630 REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-7.65 (EACH)	631 SIGN WIRED * INTEGRAL, INSTALL. ONLY (EA)	631 **TYPE TC-31.21 W/175W LAMP, INSTALLATION ONLY (EA)	631 REMOVAL OF LUMINAIRE AND DISPOSAL (EACH)	631 REMOVAL OF BALLAST AND DISPOSAL (EACH)	631 REMOVAL OF DISCONNECT SWITCH AND DISPOSAL (EACH)	631 REMOVAL OF SIGNS WIRED (EACH)	632 REMOVAL OF MISC TRF SIGNAL ITEM (EA)	632 REUSE OF VEH SIGNAL HEAD (EA)
9	1	I-680 SOUTHBOUND	STA.270+00	LT.	W3-1a-48	4' x 4' (x2)				32/32									32				2		4														
9	2	I-680 SOUTHBOUND	STA.281+25	LT.	SPECIAL	15' x 8'		2				24.7/23.8										120		1		2													
9	2	I-680 SOUTHBOUND	STA.281+25	LT.	SPECIAL	15' x 8'		2				23.3/21.4										120		1		2													
10	3	I-680 SOUTHBOUND	STA.290+00	LT.	SPECIAL	15' x 8.5'												3				127.5					1				1	2	2	2	2		1		
	3	I-680 SOUTHBOUND	STA.290+00	LT.	FLASHER	2' x 8' (x2)												4				32					2											4	4
10	4	I-680 SOUTHBOUND	STA.314+90	LT.	SPECIAL	15' x 8'		2			22.4/22.0											120																	
	4	I-680 SOUTHBOUND	STA.314+90	LT.	SPECIAL	15' x 8'		2				22.8/25.1										120																	
10	5	I-680 SOUTHBOUND	STA.315+00	LT.	SPECIAL	-																		1		2													
11	6	I-680 NORTHBOUND	STA.330+60	RT.	E1-1	15' x 12'		2					29.3/27.8	2						180																			
	6	I-680 NORTHBOUND	STA.330+60	RT.	E1-H5-84	7' x 2'														14																			
13	7	I-680 SOUTHBOUND	STA.383+79	LT.	E1-1	15' x 12'												3			180						1							2	2	1	1		
	7	I-680 SOUTHBOUND	STA.383+79	LT.	E1-H3	18' x 12'												3			216						1							3	3		1		
	7	I-680 SOUTHBOUND	STA.383+79	LT.	E1-H5-84	7' x 2'															14						1												
15	8	I-680 NORTHBOUND	STA.453+00	RT.	E1-1	12' x 12'		2					29.5/31.6	2						144																			
	8	I-680 NORTHBOUND	STA.453+00	RT.	E1-H5-84	7' x 2'														14																			
15	9	I-680 SOUTHBOUND	STA.460+50	LT.	E1-1	15' x 12'												3			180						1							3	3	1	1		
	9	I-680 SOUTHBOUND	STA.460+50	LT.	E1-1	15' x 15'												3			225						1							3	3		1		
	9	I-680 SOUTHBOUND	STA.460+50	LT.	E1-H5-84	7' x 2'															14						1												
16	10	I-680 NORTHBOUND	STA.494+36	RT.	E6-2a	16' x 7'												3			112						1							2	2	1	1		
	10	I-680 NORTHBOUND	STA.494+36	RT.	E1-H3	15' x 9.5'												3			142.5						1							2	2		1		
	10	I-680 NORTHBOUND	STA.494+36	RT.	E1-H5-84	7' x 2'															14						1												
17	11	I-680 SOUTHBOUND	STA.507+30.5	LT.	E1-H3	15' x 9.5'	1		1							1					142.5							1	1					2	2	1	1		
	11	I-680 SOUTHBOUND	STA.507+30.5	LT.	E1-H5-96	8' x 2'															16							1											
17	12	I-680 SOUTHBOUND	STA.518+00	LT.	E6-2a	17' x 9.5'												3			161.5						1							2	2	1	1		
	12	I-680 SOUTHBOUND	STA.518+00	LT.	E1-1	12' x 9.5'												3			114						1							2	2		1		
	12	I-680 SOUTHBOUND	STA.518+00	LT.	E1-H5-96	8' x 2'															16						1												
	12	I-680 SOUTHBOUND	STA.518+00	LT.	E1-H3	15' x 7'												3			105						1							2	2		1		
	12	I-680 SOUTHBOUND	STA.518+00	LT.	E1-H5-96	8' x 2'															16						1												
	12	I-680 SOUTHBOUND	STA.518+00	LT.	D9-2-30	2.5' x 2.5'											1		6.3																				
18	13	SEE SHEET NO. 30																																					
18	13A	I-680 SOUTHBOUND	STA.533+00	LT.	D12-H17a-96	8' x 3'														24																			
19	14	I-680 SOUTHBOUND	STA.558+50	LT.	E6-2	17' x 9.5'												3			161.5						1							2	2	1	1		
	14	I-680 SOUTHBOUND	STA.558+50	LT.	E1-1	12' x 12'												3			144						1							2	2		1		
	14	I-680 SOUTHBOUND	STA.558+50	LT.	E1-H5-132	11' x 2'															22						1												
19	15	I-680 NORTHBOUND	STA.577+00	RT.	E1-1	20' x 12'												4			240						1								2	1	1		
	15	I-680 NORTHBOUND	STA.577+00	RT.	E1-H5-72	6' x 2'															12						1												
19	16	I-680 SOUTHBOUND	STA.592+00	LT.	E6-2	17' x 9.5'												3			161.5						1							2	2	1	1		
	16	I-680 SOUTHBOUND	STA.592+00	LT.	E1-1	18' x 12'												3			216						1							2	2		1		
	16	I-680 SOUTHBOUND	STA.592+00	LT.	E1-H5-132	11' x 2'															22						1												
19	17	I-680 NORTHBOUND	STA.603+50	RT.	E1-1	20' x 12'												4			240						1							3	3	1	1		
	17	I-680 NORTHBOUND	STA.603+50	RT.	E1-H5-72	6' x 2'															12						1												
19	18	I-680 NORTHBOUND	STA.629+87	RT.	E6-2a	16' x 7'	2		2						1						112						1			1				2	2	1	1		
	18	I-680 NORTHBOUND	STA.629+87	RT.	E1-1	18' x 8.5'															153						1							2	2		1		
	18	I-680 NORTHBOUND	STA.629+87	RT.	E1-H5-72	6' x 2'															12						1												
	18	I-680 NORTHBOUND	STA.629+87	RT.	E1-H3	23' x 9.5'															218.5						1							3	3		1		
	18	I-680 NORTHBOUND	STA.629+87	RT.	E1-H5-72	6' x 2'															12						1												
20	19	I-680 SOUTHBOUND	STA.640+70	LT.	E1-H3	23' x 9.5'												4			218.5						1							3	3	1	1		
	19	I-680 SOUTHBOUND	STA.640+70	LT.	E1-H5-84	7' x 2'															14						1												
21	20	I-680 SOUTHBOUND	STA.655+62	LT.	E6-2a																						1							2	2		1		
	20	I-680 SOUTHBOUND	STA.655+62	LT.	E1-1	20' x 12'												4			240						1							3	3	1	1		
	20	I-680 SOUTHBOUND	STA.655+62	LT.	E1-H5-84	7' x 2'															14						1												
	20	I-680 SOUTHBOUND	STA.655+62	LT.	E1-H3	17' x 12'												3			204						1							2	2		1		
	20	I-680 SOUTHBOUND	STA.655+62	LT.	E1-H5-84	7' x 2'															14						1												
TOTALS CARRIED TO GENERAL SUMMARY							3	12	3	64	45	142	118	4	1	1	1	65	39	376	4111.5	639.5	2	3	4	6	39	2	1	1	1	2	2	53	55	12	24	4	4

CALCULATED T.K.I.
CHECKED K.P.W.

SIGNING SUBSUMMARY

MAH-680-7.10

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (FEET)	625 GROUND ROD EACH		630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-9.10, DESIGN 2 FT.	630 OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 2 EACH	630 OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 8 EACH	630 SIGN ATTACHMENT ASSEMBLY EACH		630 SIGN, OVERHEAD EXTRUSHEET S.F.	630 REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF OVHD SIGN SUPRT AND DISPOSAL, TYPE TC-18.24 EACH	630 REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL EACH	631 REMOVAL OF LUMINAIRE AND DISPOSAL EACH	631 REMOVAL OF BALLAST AND DISPOSAL EACH	631 REMOVAL OF DISCONNECT SWITCH AND DISPOSAL EACH	631 REMOVAL OF SIGNS WIRED EACH
21	21	I-680 SOUTHBOUND	STA.666+50	LT.	EI-I	20′ x 12′							4		240			1				3	3	1	1
	21	I-680 SOUTHBOUND	STA.666+50	LT.	EI-H5-84	7′ x 2′									14			1							
	21	I-680 SOUTHBOUND	STA.666+50	LT.	EI-I	17′ x 9.5′							3		161.5			1				3	3		1
	21	I-680 SOUTHBOUND	STA.666+50	LT.	EI-H5-84	7′ x 2′									14			1							
21	22	I-680 NORTHBOUND	STA.671+00	RT.	EI-I	18′ x 9.5′							3		171			1				2	2	1	1
	22	I-680 NORTHBOUND	STA.671+00	RT.	EI-H5-72	6′ x 2′									12			1							
	22	I-680 NORTHBOUND	STA.671+00	RT.	SPECIAL	9′ x 2′									18										
	22	I-680 NORTHBOUND	STA.671+00	RT.	R5-2-36	3′ x 3′											2								
22	23	I-680 NORTHBOUND	STA.684+00	RT.	EI-I	14′ x 14′							3		196			1				2	2	1	1
	23	I-680 NORTHBOUND	STA.684+00	RT.	EI-H5-72	6′ x 2′									12			1							
	23	I-680 NORTHBOUND	STA.684+00	RT.	EI-H3	18′ x 9.5′							3		171			1				3	3		1
	23	I-680 NORTHBOUND	STA.684+00	RT.	EI-H5-72	6′ x 2′									12			1							
	23	I-680 NORTHBOUND	STA.684+00	RT.	SPECIAL	9′ x 2′									18										
	23	I-680 NORTHBOUND	STA.684+00	RT.	R5-2-36	3′ x 3′											2								
23	24	I-680 SOUTHBOUND	STA.690+25	LT.	EI-I	20′ x 9.5′							4		190			1				3	3	1	1
	24	I-680 SOUTHBOUND	STA.690+25	LT.	EI-H5-84	7′ x 2′									14			1							
23	25	I-680 NORTHBOUND	STA.698+50	RT.	EI-I	13′ x 6′													1	1		2	2	1	1
	25	I-680 NORTHBOUND	STA.698+50	RT.	EI-H5-72	6′ x 2′													1						
24	26	I-680 SOUTHBOUND	STA.727+00	LT.	E6-2a	17′ x 9.5′												1				2	2	1	1
	26	I-680 SOUTHBOUND	STA.727+00	LT.	EI-I	20′ x 12′							4		240			1				3	3		1
	26	I-680 SOUTHBOUND	STA.727+00	LT.	EI-H5-108	9′ x 2′									18			1							
	26	I-680 SOUTHBOUND	STA.727+00	LT.	EI-H3	21′ x 8.5′							4		178.5			1				3	3		1
	26	I-680 SOUTHBOUND	STA.727+00	LT.	EI-H5-72	6′ x 2′									12			1							
	26	I-680 SOUTHBOUND	STA.727+00	LT.	SPECIAL	9′ x 2′									18										
	26	I-680 SOUTHBOUND	STA.727+00	LT.	R5-2-36	3′ x 3′											2								
24	27	I-680 NORTHBOUND	STA.730+00	RT.	EI-I	14′ x 14′							3		196			1				2	2	1	1
	27	I-680 NORTHBOUND	STA.730+00	RT.	EI-H5-72	6′ x 2′									12			1							
25	28	I-680 SOUTHBOUND	STA.742+00	LT.	EI-I	18′ x 8.5′							3		153			1				2	2	1	1
	28	I-680 SOUTHBOUND	STA.742+00	LT.	EI-H5-72	6′ x 2′									12			1							
	28	I-680 SOUTHBOUND	STA.742+00	LT.	SPECIAL	9′ x 2′									18										
	28	I-680 SOUTHBOUND	STA.742+00	LT.	R5-2-36	3′ x 3′											2								
25	29	I-680 NORTHBOUND	STA.748+00	RT.	EI-I	14′ x 11.5′							3		161			1				2	2	1	1
	29	I-680 NORTHBOUND	STA.748+00	RT.	EI-H5-84	7′ x 2′									14			1							
	29	I-680 NORTHBOUND	STA.748+00	RT.	EI-H3	17′ x 14′							3		238			1				2	2		1
	29	I-680 NORTHBOUND	STA.748+00	RT.	EI-H5-72	6′ x 2′									12			1							
12	30	WESTERN RESERVE RD	STA.17+72	RT.	M2-H6	9′ x 8′							2		72			1				1	1	1	1
	30	WESTERN RESERVE RD	STA.17+72	RT.	M2-H6	9′ x 8′							2		72			1				1	1		1
12	31	WESTERN RESERVE RD	STA.22+56	LT.	M2-H6	11′ x 6.5′							2		71.5			1				1	1	1	1
	31	WESTERN RESERVE RD	STA.22+56	LT.	M2-H6	11′ x 6.5′							2		71.5			1				1	1		1
16	32	U.S. 224	STA.8+30	RT.	M2-H6	11′ x 8′							2		88			1				2	2	1	1
16	33	U.S. 224	STA.15+25	RT.	M2-H6	9′ x 6.5′							2		58.5			1				2	2	1	1
	33	U.S. 224	STA.15+25	RT.	M2-H6	9′ x 6.5′							2		58.5			1				2	2		1
16	34	U.S. 224	STA.23+00	RT.	M2-H6	13′ x 4.5′							3		58.5			1				2	2	1	1
17	35	U.S. 224	STA.25+80	LT.	M2-H6	13′ x 4.5′							3		58.5			1				2	2	1	1
17	36	U.S. 224	STA.35+00	LT.	M2-H4-120	10′ x 4′							2		40			1				2	2	1	1
20	37	MIDLOTHIAN BLVD	STA.358+00	RT.	M2-H6	11′ x 8′							2		88			1				1	1	1	1
20	38	MIDLOTHIAN BLVD	STA.365+15	RT.	M2-H6	9′ x 6.5′	1		1	1					58.5										
	38	MIDLOTHIAN BLVD	STA.365+15	RT.	M2-H6	9′ x 6.5′									58.5										
20	39	MIDLOTHIAN BLVD	STA.371+47	RT.	M2-H6	13′ x 4.5′	1		1		1				58.5				1	1		1	1	1	1
20	40	MIDLOTHIAN BLVD	STA.373+84	LT.	M2-H6	11′ x 4.5′	1		1		1				49.5				1	1		1	1	1	1
20	41	MIDLOTHIAN BLVD	STA.378+08.5	LT.	M2-H6	13′ x 4.5′							2		58.5			1				1	1	1	1
18	13	I-680 SOUTHBOUND	STA.538+10	LT.	EI-I	12′ x 9.5′	1		1			1			114	1					2				
	13	I-680 SOUTHBOUND	STA.538+10	LT.	EI-H5-132	11′ x 2′									22										
TOTALS CARRIED TO GENERAL SUMMARY							4		4	1	2	1	66		3682.5	1	8	37	4	3	2	54	54	20	28

CALCULATED T.K.I. CHECKED K.P.W.

SIGNING SUBSUMMARY

MAH-680-7.10

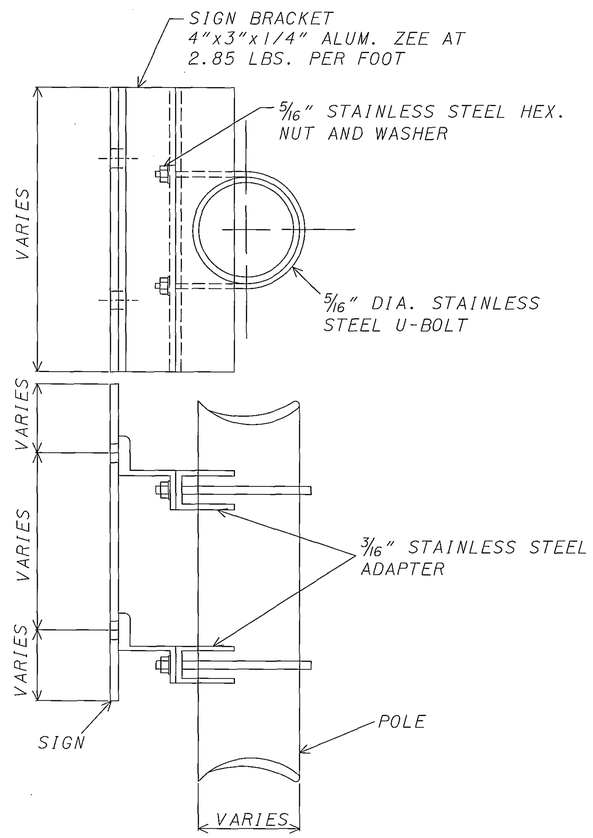
SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (FEET)	606 GUARDRAIL, TYPE 5	606 ANCHOR ASSEMBLY, TYPE E	606 BRIDGE TERMINAL ASSEMBLY, TYPE I		626 BARRIER REFLECTOR, TYPE A		630 SIGN ATTACHMENT ASSEMBLY		630 SIGN, OVERHEAD EXTRUSHEET		630 REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL		631 REMOVAL OF LUMINAIRE AND DISPOSAL	631 REMOVAL OF BALLAST AND DISPOSAL	631 REMOVAL OF DISCONNECT SWITCH AND DISPOSAL	631 REMOVAL OF SIGNS WIRED
							FOOT	EACH	EACH		EACH		EACH		S.F.		EACH		EACH	EACH	EACH	EACH
23	42	SHIRLEY ROAD	STA.44+20	RT.	M2-H6	9′ x 6.5′							2		58.5		1		1	1	1	1
23	42	SHIRLEY ROAD	STA.44+20	RT.	M2-H6	9′ x 6.5′							2		58.5		1		1	1		1
23	43	SHIRLEY ROAD	STA.54+50	LT.	M2-H6	9′ x 6.5′							2		58.5		1		1	1	1	1
23	43	SHIRLEY ROAD	STA.54+50	LT.	M2-H6	9′ x 6.5′							2		58.5		1		1	1		1
23	44	SHIRLEY ROAD	STA.60+00	LT.	M2-H4-120	10′ x 4′							2		40		1		1	1	1	1
23	45	INDIANOLA AVE	STA.51+27	LT.	M2-H6	9′ x 6.5′							2		58.5		1		1	1	1	1
	45	INDIANOLA AVE	STA.51+27	LT.	M2-H6	9′ x 6.5′							2		58.5		1		1	1		1
23	46	I-680 RAMP X	STA.700+65.5	RT.	M2-H6	11′ x 4.5′							2		49.5		1		1	1	1	1
24	47	POWERS DALE AVE	STA.49+74	LT.	M2-H6	11′ x 6.5′							2		71.5		1		1	1	1	1
25	48	SOUTH AVE	STA.49+00	RT.	M2-H6	7′ x 5′							2		35		1		1	1	1	1
	48	SOUTH AVE	STA.49+00	RT.	M2-H6	7′ x 5′							2		35		1		1	1		1
25	49	SOUTH AVE	STA.52+00	RT.	M2-H6	11′ x 8′							2		88		1		1	1	1	1
25	50	SOUTH AVE	STA.53+74	LT.	M2-H6	7′ x 6′							2		42		1		1	1	1	1
9	GR1	I-680 SOUTHBOUND	281+12.5 TO 282+25	LT.			112.5	1			2											
10	GR2	I-680 SOUTHBOUND	314+70 TO 314+95	LT.			25		1		2											
18	GR3	I-680 SOUTHBOUND	537+97.5 TO 539+10	LT.			112.5	1			2											
TOTALS CARRIED TO GENERAL SUMMARY							250	2	1		6		26		712		13		13	13	9	13

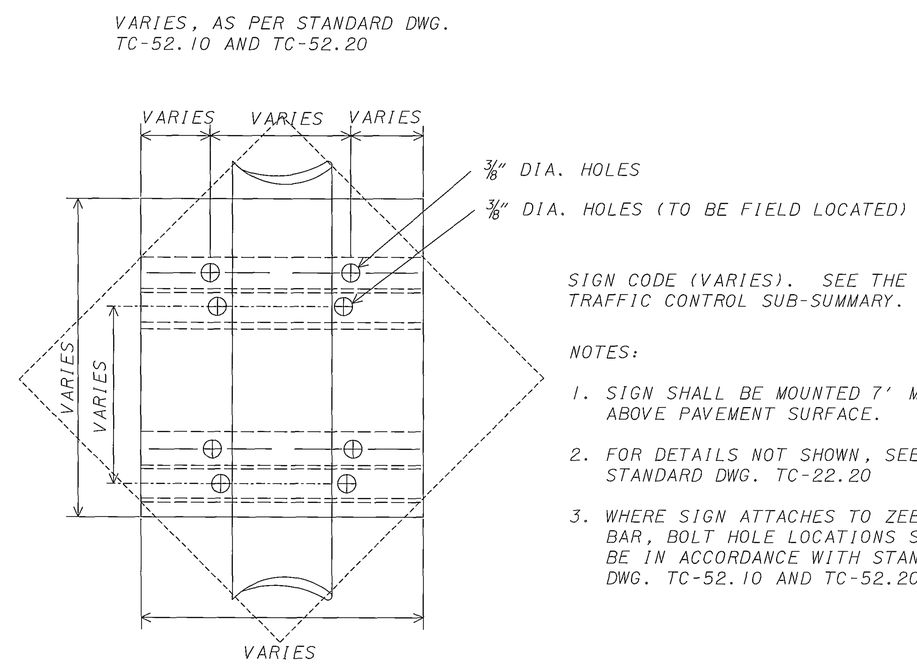
CALCULATED T.K.I.
CHECKED K.P.W.

SIGNING AND ROADWAY SUBSUMMARY

MAH-680-7.10

ITEM 630-SIGN SUPPORT ASSEMBLY, POLE MOUNTED, AS PER PLAN





SIGN CODE (VARIES). SEE THE TRAFFIC CONTROL SUB-SUMMARY.

NOTES:

1. SIGN SHALL BE MOUNTED 7' MIN. ABOVE PAVEMENT SURFACE.
2. FOR DETAILS NOT SHOWN, SEE STANDARD DWG. TC-22.20
3. WHERE SIGN ATTACHES TO ZEE BAR, BOLT HOLE LOCATIONS SHALL BE IN ACCORDANCE WITH STANDARD DWG. TC-52.10 AND TC-52.20

CALCULATED

CHECKED

TRAFFIC CONTROL DETAILS

MAH-680-7.10