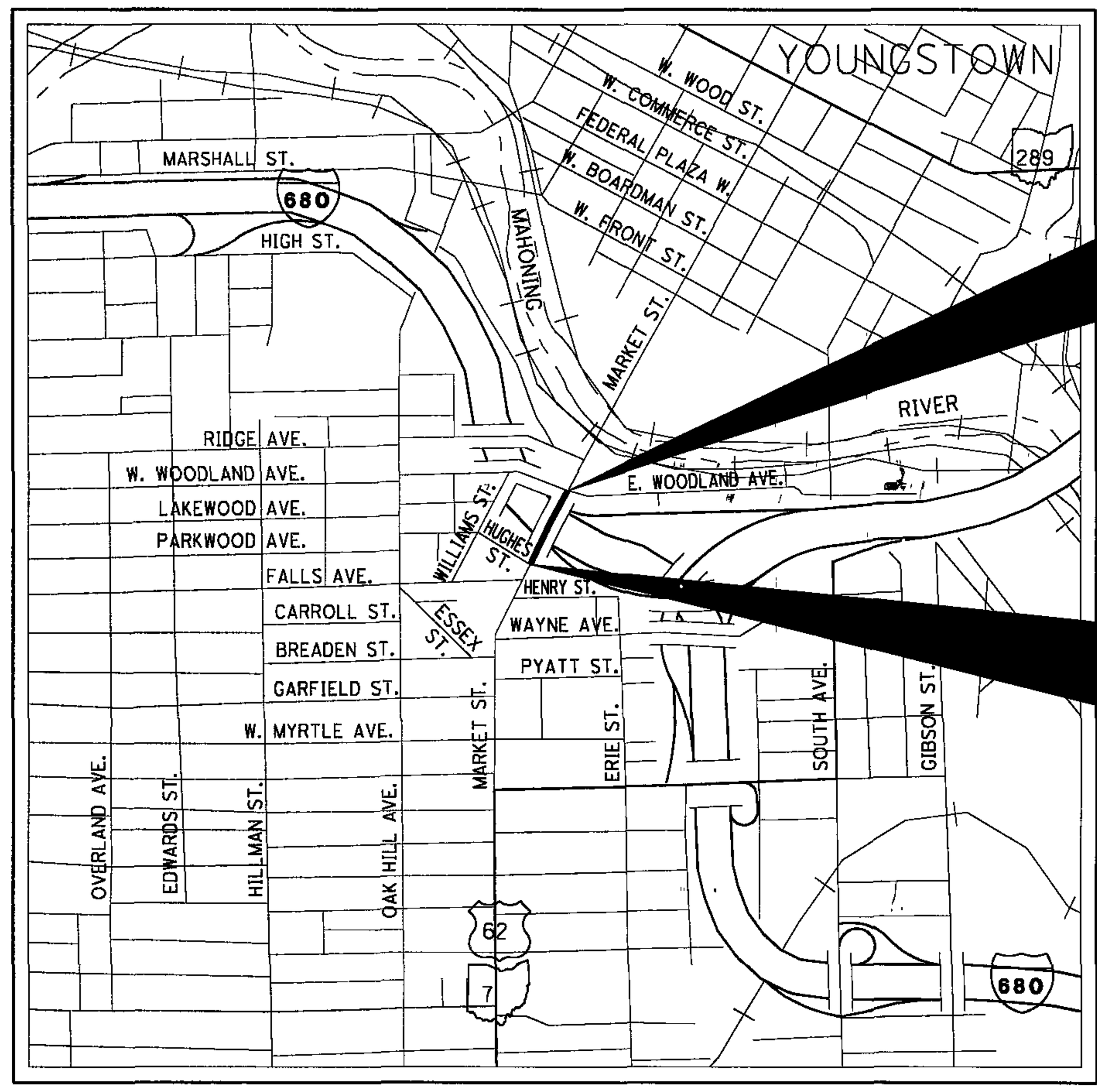
MAH - IR-680-6.03
080023 PID - 19916
Dist 4 1/9/2008



LOCATION MAP

LATITUDE: 41°05'34" LONGITUDE: 80°39'17"

SCALE IN MILES

0 1/4 1/2 3/4 1

N

PORTION TO BE IMPROVED
INTERSTATE & DIVIDED HIGHWAY
UNDIVIDED STATE & FEDERAL ROUTES
OTHER ROADS

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

MAH-680-6.03

CITY OF YOUNGSTOWN

MAHONING COUNTY

DESIGN DESIGNATION

	MARKET STREET	I-680
CURRENT ADT (2007)	18,900	39,800
DESIGN YEAR ADT (2027)	22,500	47,400
DESIGN HOURLY VOLUME (2027)	2,025	4,266
DIRECTIONAL DISTRIBUTION	0.60	0.60
TRUCKS (24 HOUR B&C)	0.03	0.13
DESIGN SPEED	35 MPH	50 MPH
LEGAL SPEED	35 MPH	50 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	URBAN ARTERIAL	URBAN INTERSTATE

DESIGN EXCEPTIONS	APPROVAL
HORIZONTAL CLEARANCE	08-07-06
SHOULDER WIDTH	08-07-06

INDEX OF SHEETS:

PROJECT DESCRIPTION

THE IMPROVEMENT OF 0.08 MILES OF MARKET STREET OVER INTERSTATE 680 IN THE CITY OF YOUNGSTOWN BY REPLACING THE BRIDGE DECK WITH COMPOSITE REINFORCED CONCRETE DECK, JACKING THE SUPER-STRUCTURE, RAISING AND REPLACING THE PIER CAPS, CONVERTING ABUTMENTS TO SEMI-INTEGRAL, REMOVING SCUPPERS, REPLACING BEARINGS, REPLACING THE APPROACH SLABS, ADDING UNDERPASS LIGHTING, IMPROVING MAINLINE AND RAMP DRAINAGE AND ASSOCIATED APPROACH WORK.

PROJECT EARTH DISTURBED AREA:	0.40 ACRES
ESTIMATED CONTRACTOR EARTH DISTRUBED AREA:	0.25 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	4.9 ACRES

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.

2005 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:

R.E. WARNER & ASSOCIATES, INC.
LA OFFICE PLAZA II
SUITE 200
25777 DETROIT ROAD
WESTLAKE, OHIO 44145
TELEPHONE (440) 835-9400

JOB NUMBER 34404

ENGINEERS SEAL:

STATE OF OHIO
JEFFREY R. SPANGLER
E-49104
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: Jeffrey R. Spangler
DATE: September 7, 2007

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS	
BP-2.3	07-16-04	MH-1.1	07-19-02	TC-65.11	01-21-05	MT-105.10	10-18-02			800	10-19-07
BP-3.1	07-16-04	MH-1.2	01-20-06	TC-71.10	01-19-07	MT-105.11	10-18-02			802	04-15-06
BP-4.1	07-16-04	MH-1.3	07-20-01	TC-72.20	01-21-05	MT-110.20	10-18-02	AS-1-81	7-19-02	832	04-25-06
BP-5.1	07-28-00			TC-82.10	04-19-02			BR-2-98	7-19-02	885	11-04-05
BP-7.1	01-19-07	DM-1.1	04-21-06	MT-35.10	04-20-01	HL-10.11	01-16-04	GSD-1-96	7-19-02		
CB-1.2	07-15-05	DM-1.2	10-21-05	MT-95.30	09-05-06	HL-20.11	01-19-07	VFP-1-90	7-19-02		
GR-1.1	07-16-04	DM-1.4	04-21-06	MT-95.31	09-05-06	HL-20.13	01-19-07				
GR-2.1	01-16-04	DM-4.3	07-19-02	MT-95.40	10-20-06	HL-30.11	01-21-05				
GR-3.1	01-19-07	DM-4.4	07-19-02	MT-95.61	04-19-02	HL-30.21	01-19-07				
GR-3.2	01-19-07			MT-98.17	10-18-02	HL-30.22	01-21-05			SPECIAL PROVISIONS	
RM-1.1	04-21-06	TC-22.20	01-19-01	MT-98.18	10-18-02	HL-30.31	01-21-05				
RM-4.2	10-20-06	TC-41.20	01-19-01	MT-99.20M	01-30-95	HL-30.32	04-19-02				
		TC-42.20	07-16-04	MT-101.20	10-18-02	HL-50.21	01-19-07				
I-1.2	07-15-05	TC-52.10	01-19-07	MT-101.70	10-18-02						
		TC-52.20	01-19-07	MT-102.10	10-20-06						
		TC-65.10	01-21-05	MT-102.20	09-05-06						

APPROVED Eric M. Gotti
DATE 10-9-07 DISTRICT DEPUTY DIRECTOR

APPROVED James G. Beasley
DATE 11-2-07 DIRECTOR, DEPARTMENT OF TRANSPORTATION

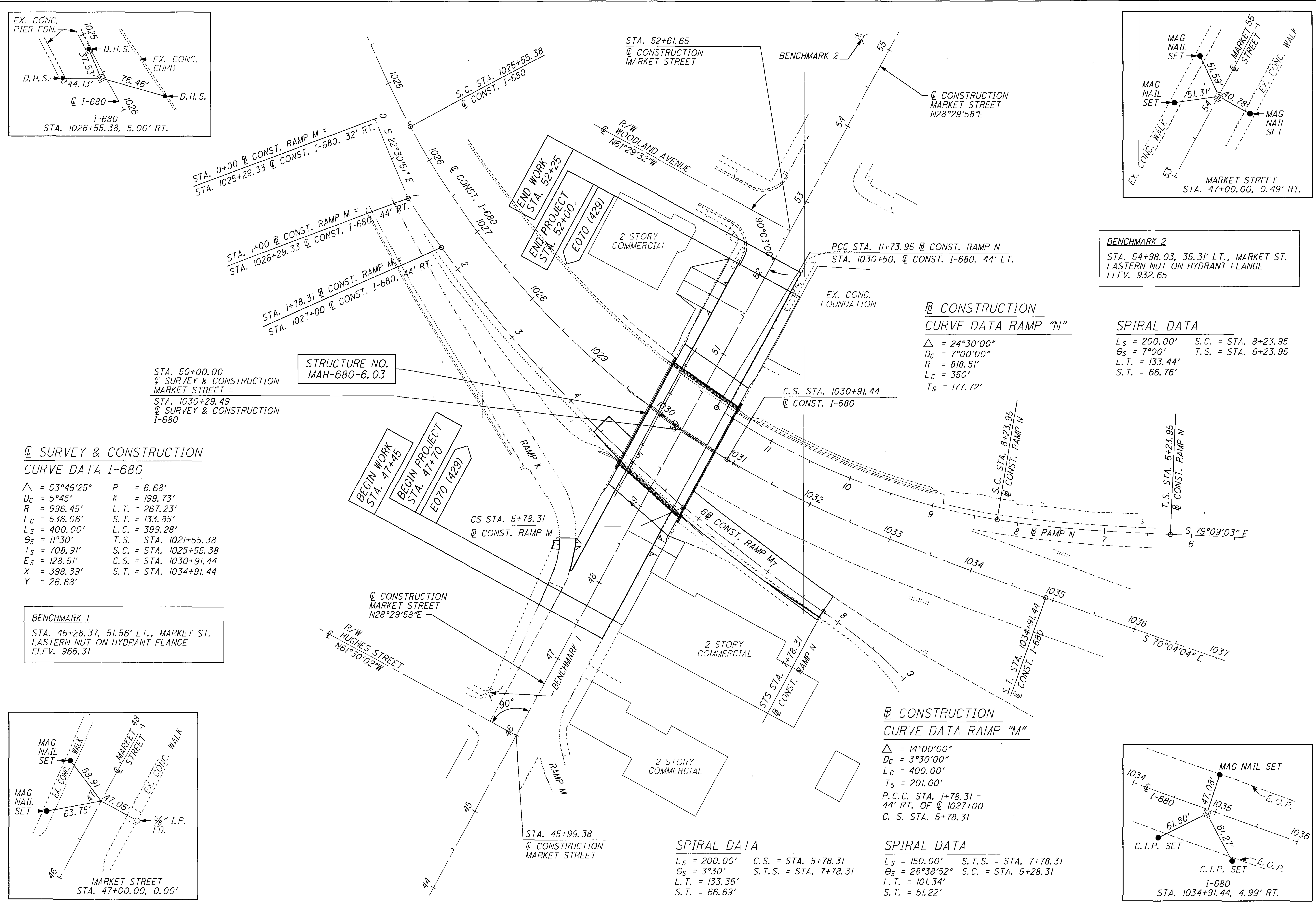
FEDERAL PROJECT NO. E070 (429)

PID NO. 19916

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

MAH-680-6.03



℄ SURVEY & CONSTRUCTION CURVE DATA I-680

Δ = 53°49'25"	P = 6.68'
D_C = 5°45'	K = 199.73'
R = 996.45'	L.T. = 267.23'
L_C = 536.06'	S.T. = 133.85'
L_S = 400.00'	L.C. = 399.28'
Θ_S = 11°30'	T.S. = STA. 1021+55.38
T_S = 708.91'	S.C. = STA. 1025+55.38
E_S = 128.51'	C.S. = STA. 1030+91.44
X = 398.39'	S.T. = STA. 1034+91.44
Y = 26.68'	

BENCHMARK 1

STA. 46+28.37, 51.56' LT., MARKET ST.
EASTERN NUT ON HYDRANT FLANGE
ELEV. 966.31

BENCHMARK 2

STA. 54+98.03, 35.31' LT., MARKET ST.
EASTERN NUT ON HYDRANT FLANGE
ELEV. 932.65

℄ CONSTRUCTION CURVE DATA RAMP "N"

Δ = 24°30'00"
D_C = 7°00'00"
R = 818.51'
L_C = 350'
T_S = 177.72'

SPIRAL DATA

L_S = 200.00'	S.C. = STA. 8+23.95
Θ_S = 7°00'	T.S. = STA. 6+23.95
L.T. = 133.44'	
S.T. = 66.76'	

℄ CONSTRUCTION CURVE DATA RAMP "M"

Δ = 14°00'00"
D_C = 3°30'00"
L_C = 400.00'
T_S = 201.00'
P.C.C. STA. 1+78.31 = 44' RT. OF ℄ 1027+00
C. S. STA. 5+78.31

SPIRAL DATA

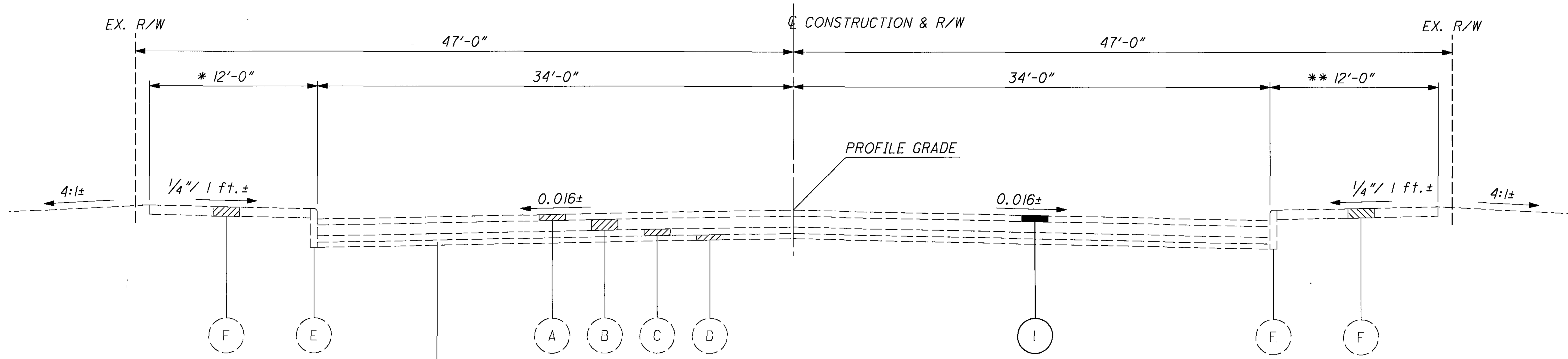
L_S = 200.00'	C.S. = STA. 5+78.31
Θ_S = 3°30'	S.T.S. = STA. 7+78.31
L.T. = 133.36'	
S.T. = 66.69'	

SPIRAL DATA

L_S = 150.00'	S.T.S. = STA. 7+78.31
Θ_S = 28°38'52"	S.C. = STA. 9+28.31
L.T. = 101.34'	
S.T. = 51.22'	

SCHEMATIC PLAN

MAH-680-6.03

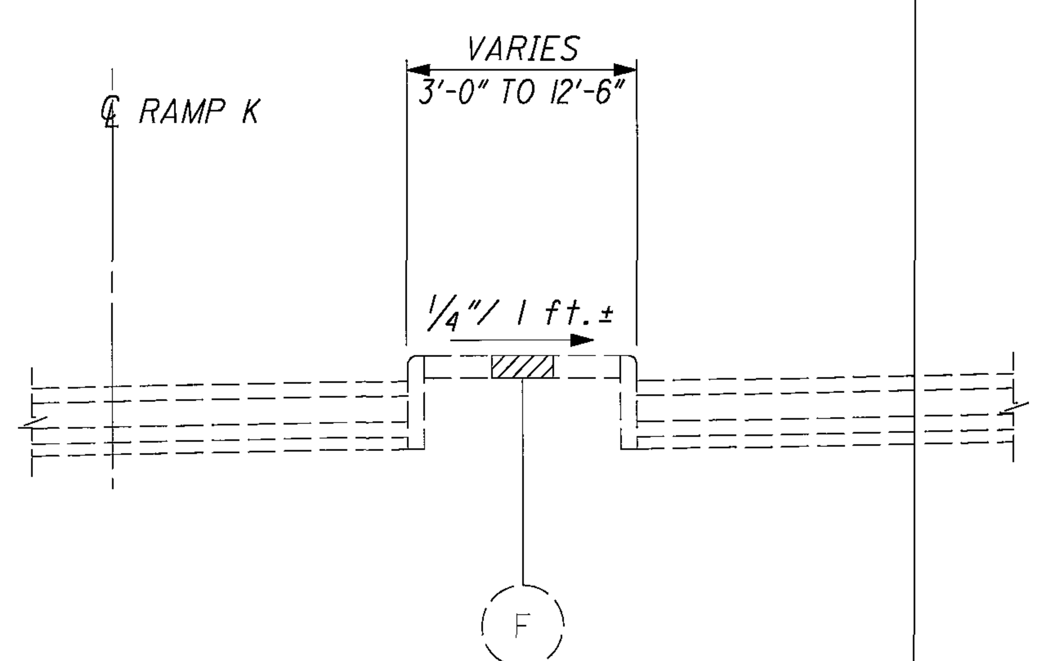


EXISTING NORMAL SECTION - MARKET STREET

* STA. 48+28.00 TO STA. 48+95.19

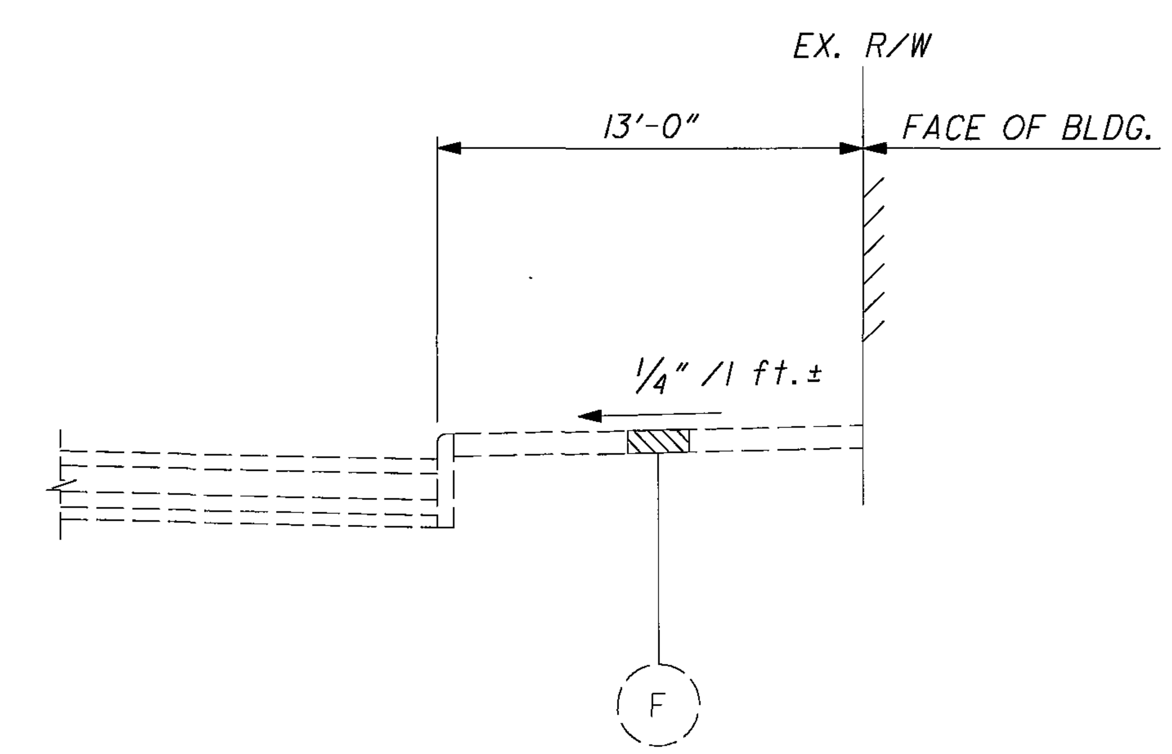
SECTION APPLIES: STA. 47+70.00 TO STA. 48+95.19 = 125.19 L.F.
STA. 50+84.01 TO STA. 52+00.00 = 115.99 L.F.
TOTAL LENGTH = 241.18 L.F.

** STA. 48+39.00 TO STA. 48+95.19
** STA. 50+84.01 TO STA. 51+20.40



EXISTING SECTION - MARKET STREET

STA. 47+96.75 TO STA. 48+28.00



EXISTING SECTION - MARKET STREET

STA. 47+70.00 TO STA. 48+39.00
STA. 51+20.40 TO STA. 52+00.00

LEGEND

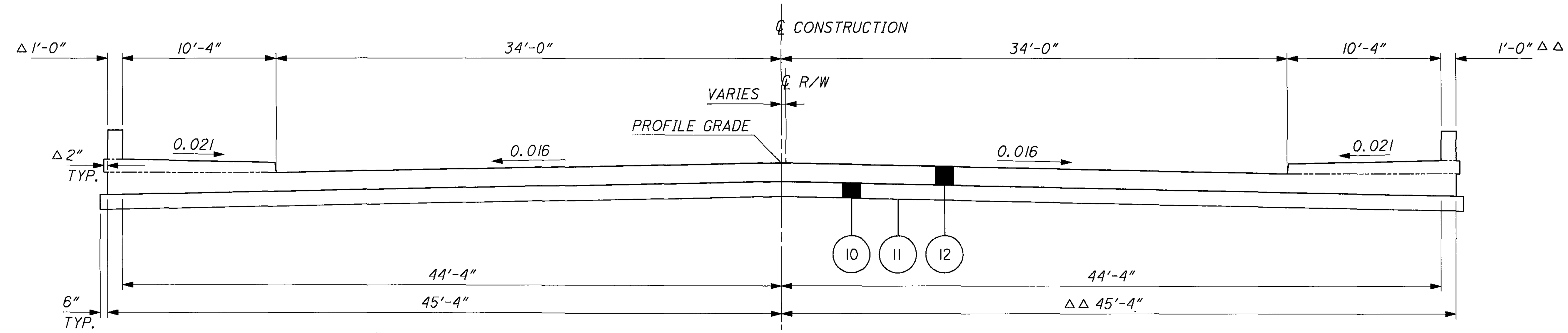
- (A) 3½"± ASPHALT SURFACE
- (B) 6¼"± REINFORCED CONCRETE
- (C) BRICK (9" to 16")
- (D) 3"± CEMENTED FINE AGGREGATE SLAG
- (E) STONE CURB
- (F) 4"± CONCRETE WALK
- (I) ITEM 254 - PAVEMENT PLANING

TYPICAL SECTIONS

MAH-680-6.03

LEGEND

- (A) 3½"± ASPHALT SURFACE
- (B) 6¼"± REINFORCED CONCRETE
- (C) BRICK
- (D) 3"± CEMENTED FINE AGGREGATE SLAG
- (E) STONE CURB
- (F) 4"± CONCRETE WALK
- (1) ITEM 424 - ¾" FINE GRADED POLYMER ASPHALT CONCRETE, TYPE A
- (2) ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE, 0.05 GAL/SY
- (3) ITEM 448 - 1¼" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 1, PG64-22
- (4) ITEM 407 - TACK COAT, 0.05 GAL/SY
- (5) ITEM 301 - VARIES 3" TO 1'-2" ASPHALT CONCRETE BASE, PG64-22
- (6) ITEM 407 - TACK COAT, 0.1 GAL/SY
- (7) ITEM 609 - CURB, TYPE 6
- (8) ITEM 608 - 4" CONCRETE WALK
- (9) ITEM 659 - SEEDING AND MULCHING
- (10) ITEM 304 - VARIES 12" TO 15" AGGREGATE BASE
- (11) ITEM 204 - SUBGRADE COMPACTION
- (12) ITEM 526 - REINFORCED CONCRETE APPROACH SLAB, T=15", AS PER PLAN (SEE BRIDGE PLANS)
- (13) ITEM 605 - 6" UNCLASSIFIED UNDERDRAINS WITH FABRIC WRAP
- (14) PREFORMED EXPANSION JOINT FILLER AS PER CMS 608

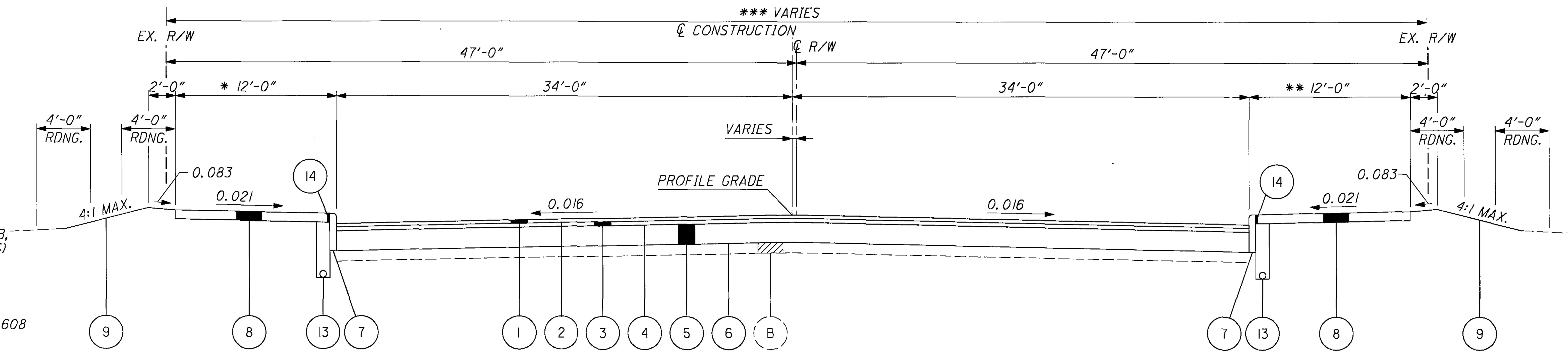


Δ STA. 49+24.70 TO STA. 49+29.99 AND STA. 50+64.13 TO STA. 50+69.98

ΔΔ STA. 49+04.19 TO STA. 49+10.23 AND STA. 50+54.07 TO STA. 50+59.55

NORMAL SECTION - APPROACH SLABS

SECTION APPLIES: STA. 48+95.19 TO STA. 49+20.19 = 25.00 FT. ALONG ℄
STA. 50+59.01 TO STA. 50+84.01 = 25.00 FT. ALONG ℄
TOTAL LENGTH = 50.00 FT.



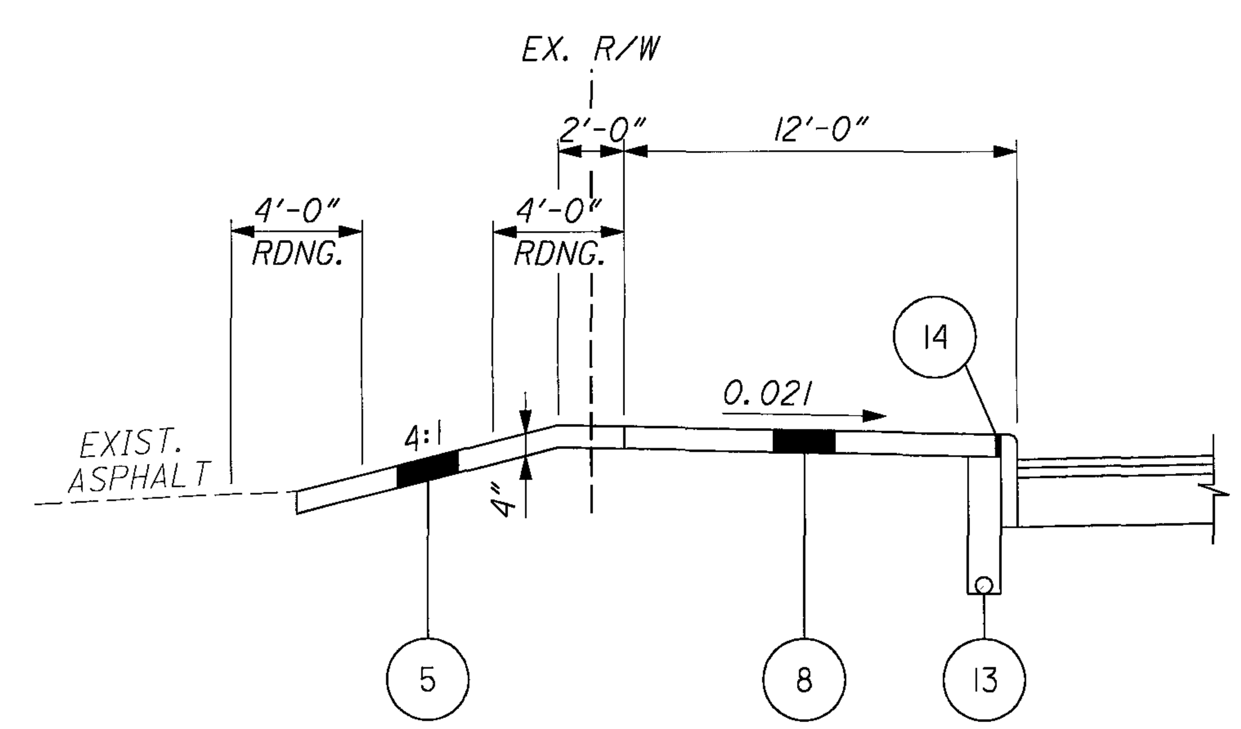
* STA. 48+31.75 TO STA. 48+95.19

NORMAL SECTION - MARKET STREET

SECTION APPLIES: STA. 47+70.00 TO STA. 48+95.19 = 125.19 FT.
STA. 50+84.01 TO STA. 52+00.00 = 115.99 FT.
TOTAL LENGTH = 241.18 FT.

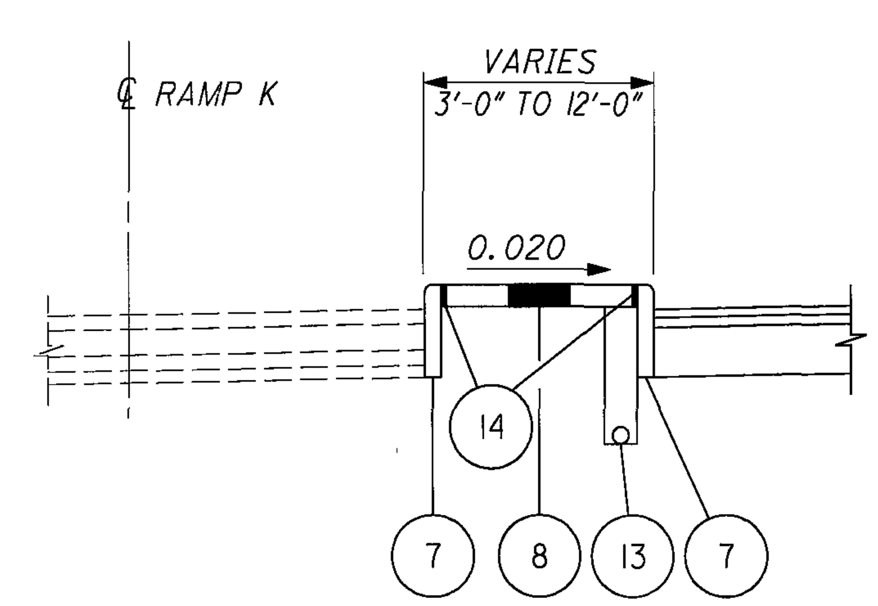
** STA. 48+39.00 TO STA. 48+95.19
** STA. 50+84.01 TO STA. 52+00

***STA. 47+70.00 TO STA. 48+95.19, VARIES 212.56' TO 89.25'
***STA. 50+84.01 TO STA. 52+00.00, VARIES 91.50' TO 93.29'



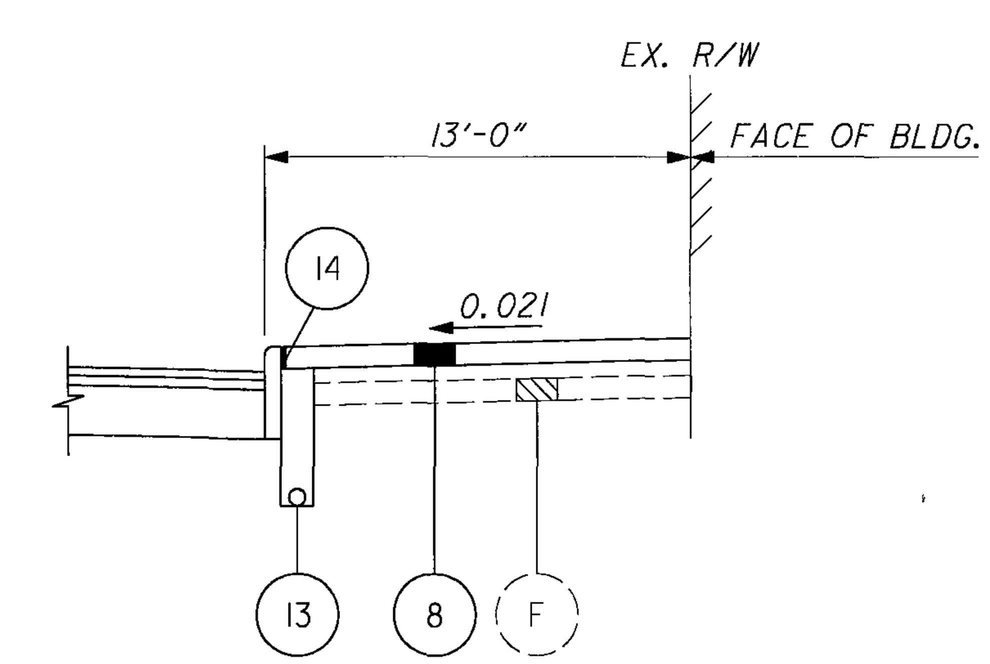
NORMAL SECTION - MARKET STREET

STA. 50+84.01 TO 52+00.00



NORMAL SECTION - MARKET STREET

STA. 47+96.75 TO 48+31.75



NORMAL SECTION - MARKET STREET

STA. 47+70.00 TO STA. 48+39.00

TYPICAL SECTIONS

MAH-680-6.03

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ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

UTILITIES

LISTED BELOW ARE UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

DOMINION EAST OHIO GAS
7015 FREEDOM AVE. NW
NORTH CANTON, OHIO 44720
GEORGE TURNER, JR. (330) 266-2041

CITY OF YOUNGSTOWN, WATER DEPT.
26 S. PHELPS ST.P.O. BOX 6219
YOUNGSTOWN, OHIO 44501
GENE LESON (330) 743-5339
RANDY COLLA (330) 742-8765

CITY OF YOUNGSTOWN, WASTEWATER TREATMENT PLANT
LARRY GURLEA (330) 742-8820

AT&T
5980 I WILCOX PLAZA
DUBLIN, OHIO 43016
TONY LYLE (614) 760-8320

SBC
50 WEST BOWERY STREET
AKRON, OHIO 44308
SABRENA LAMPLEY (330) 384-8057

SBC
2933 SALT SPRINGS ROAD
YOUNGSTOWN, OHIO 44509
HAROLD MAYNARD (330) 270-8816

OHIO EDISON
730 SOUTH AVENUE
YOUNGSTOWN, OHIO 44502
BILL SPEECE (330) 740-7635

TIME WARNER CABLE
4352 YOUNGSTOWN RD SE
WARREN, OH 44484
DON JUGENHEIMER (330) 369-7138

ACCESS
P.O. BOX 248
CANFIELD, OH 44406
TINA BRANDON (330) 270-7428

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

THE UNDERGROUND UTILITIES ON THIS PLAN HAVE BEEN LOCATED BY USING A SUBSURFACE UTILITY ENGINEERING COMPANY [SUE]. IF THERE ARE ANY DISCREPANCIES BETWEEN FIELD MARKINGS AND WHAT THE PLAN INDICATES, PLEASE CONTACT STEVE JONES, DISTRICT UTILITY COORDINATOR 330-786-4818, PRIOR TO ANY SUBSURFACE WORK BEING INITIATED.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. NAD83 DATUM.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

ITEM 204 - PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING. SEE PLAN SHEET NO. 11 FOR ADDITIONAL INFORMATION.

ITEM 204 - PROOF ROLLING 1 HOUR.

PROTECTION OF RIGHT-OF-WAY LANDSCAPING

PRIOR TO BEGINNING WORK, THE CONTRACTOR, THE PROJECT ENGINEER, AND A REPRESENTATIVE OF THE MAINTAINING AGENCY WILL REVIEW AND RECORD ALL LANDSCAPING ITEMS WITHIN THE RIGHT OF WAY (BOTH WITHIN AND OUTSIDE THE CONSTRUCTION LIMITS) A RECORD OF THIS REVIEW WILL BE KEPT IN THE PROJECT ENGINEER'S FILES. PRIOR TO FINAL ACCEPTANCE, A FINAL REVIEW OF LANDSCAPING ITEMS WILL BE MADE.

CONSTRICT ALL ACTIVITIES, EQUIPMENT STORAGE, AND STAGING TO WITHIN THE CONSTRUCTION LIMITS. UNLESS OTHERWISE IDENTIFIED IN THE PLANS OR PROPOSAL, THE CONSTRUCTION LIMITS ARE IDENTIFIED AS 30 FEET FROM THE EDGE OF PAVEMENT.

SUBMIT A WRITTEN REQUEST TO THE PROJECT ENGINEER TO USE ANY AREA OUTSIDE THESE LIMITS. THE DOCUMENT SUBMITTED MUST CLEARLY IDENTIFY THE AREA AND EXPLAIN THE PROPOSED USE AND RESTORATION OF THE AREA. EXCEPT AS INDICATED ON SHEET USE OF THESE AREAS FOR DISPOSAL OF WASTE MATERIAL AND CONSTRUCTION DEBRIS, EXCAVATION OF BORROW MATERIAL AND PLACEMENT OF PORTABLE PLANTS IS PROHIBITED. THE REQUEST MUST BE APPROVED, IN WRITING, BEFORE THE CONTRACTOR HAS PERMISSION TO USE THE AREA.
ANY ITEMS DAMAGED BEYOND THE CONSTRUCTION LIMITS AS DEFINED ABOVE WILL BE REPLACED IN KIND OR AS APPROVED BY THE PROJECT ENGINEER.

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

MEDIAN AND/OR CURBING ON APPROACH SLABS

WITHIN THE LIMITS OF THE APPROACH SLAB, TRANSITION THE SHAPE OF THE MEDIAN AND/OR CURBING ON APPROACH SLABS FROM THE STANDARD SECTION ON THE APPROACHES TO THE SECTION USED ON THE BRIDGE.

ITEM SPECIAL - MISCELLANEOUS METAL

EXISITNG CASTINGS MAY PROVE TO BE UNSUITABLE FOR REUSE, AS DETERMINED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CASTINGS OF THE REQUIRED TYPE, SIZE AND STRENGTH (HEAVY OR LIGHT DUTY) FOR THE PARTICULAR STRUCTURE IN QUESTION. ALL MATERIAL SHALL MEET ITEM 604 OF THE SPECIFICATIONS AND SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITIY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

SPECIAL, MISCELLANEOUS METAL 500 POUNDS

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE IN THE REMOVAL, STORAGE AND REPLACEMENT OF ALL EXISTING CASTINGS. CASTINGS DAMAGED BY THE NEGLIGENCE OF THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED WITH THE PROPER NEW CASTINGS AT THE EXPENSE OF THE CONTRACTOR.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, TOPSOIL	34 CU. YD.
659, REPAIR SEEDING AND MULCHING	15 SQ. YD.
659, COMMERCIAL FERTILIZER	0.04 TON
659, LIME	0.06 ACRES
659, WATER	0.8 M. GAL.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

MANHOLE ADJUSTED TO GRADE, AS PER PLAN

GRADE RINGS SHALL NOT BE USED TO ADJUST MANHOLES TO GRADE. ALL OTHER REQUIREMENTS SHALL STILL BE APPLICABLE.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

RESIDENTIAL AND COMMERCIAL DRAINAGE CONNECTIONS

EXISTING ROOF DRAINS, FOOTER DRAINS, OR YARD DRAINS, DISTURBED BY THE WORK, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS BY CONNECTING A CONDUIT THROUGH THE CURB OR INTO A DRAINAGE STRUCTURE. THE LOCATION, TYPE, SIZE AND GRADE OF THE NEW CONDUIT REQUIRED TO REPLACE OR EXTEND THE EXISTING DRAIN WILL BE DETERMINED BY THE ENGINEER.

THE FOLLOWING CONDUIT TYPES MAY BE USED: 707.33, 707.41 NON PERFORATED, 707.42, 707.43, 707.45, 707.46, 707.47, 707.51, 707.52 SDR35.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK NOTED ABOVE:

603, 12" CONDUIT, TYPE B, FOR DRAINAGE CONNECTION	50 FT.
603, 12" CONDUIT, TYPE C, FOR DRAINAGE CONNECTION	50 FT.
603, 6" CONDUIT, TYPE E, FOR DRAINAGE CONNECTION	50 FT.
603, 6" CONDUIT, TYPE F, FOR DRAINAGE CONNECTION	50 FT.

ASBESTOS NOTIFICATION

AN ASBESTOS SURVEY OF THE MARKET STREET BRIDGE OVER IR 680, WHICH IS SCHEDULED FOR REHABILITATION AND RECONSTRUCTION, WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE BRIDGE.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO:

MAHONING-TRUMBULL AIR POLLUTION CONTROL
OAK HILL/RENAISSANCE PLACE
SECOND FLOOR, ROOM 25
345 OAK HILL AVENUE
YOUNGSTOWN, OHIO 44502
LARRY HIMES, DIRECTOR
(330) 744-1928
FAX: (330) 744-1928

AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF THE DEMOLITION OF THE BRIDGE. THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER. INFORMATION REQUIRED ON THE FORM WILL INCLUDE: 1) THE CONTRACTOR'S NAME AND ADDRESS, 2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL AND 3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED. A COPY OF THE OEPA FORM IS AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 4 OFFICE, 2088 SOUTH ARLINGTON ROAD, AKRON, OHIO 44306.

BASIS FOR PAYMENT - THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

PETROLEUM CONTAMINATED SOILS

ENVIRONMENTAL STUDIES HAVE SHOWN THAT THERE IS A POTENTIAL FOR ENCOUNTERING PETROLEUM CONTAMINATED MATERIALS WITHIN THE EXCAVATION LIMITS FOR A FORMER GAS STATION AT 600 MARKET STREET, LOCATED AT STA. 51+25 LT. TO 52+25 RT., FOR POROUS BACKFILL REPLACEMENT AT THE BRIDGE FORWARD ABUTMENT. IN THE EVENT THESE MATERIALS ARE ENCOUNTERED WITHIN THE AFOREMENTIONED LIMITS, THE CONTRACTOR SHALL MANAGE THESE MATERIALS ACCORDING TO THE FOLLOWING NOTES. ALL EXCAVATIONS WITHIN THE AFOREMENTIONED LIMITS SHALL BE PAID FOR UNDER THE ORIGINAL PLAN BID ITEMS. THE ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS WORK.

ALL MATERIAL EXCAVATED BY THE CONTRACTOR WITHIN THESE LIMITS SHALL BE SUBJECT TO TESTING BY AN INSPECTOR PROVIDED BY THE ENGINEER. ALL MATERIAL EXCAVATED BY THE CONTRACTOR AT THIS LOCATION MAY BE STOCKPILED IN AN AREA PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. THE ENGINEER MAY PERMIT TEMPORARY STORAGE OF THE EXCAVATED MATERIAL IN A LINED AND COVERED ROLL-OFF BOX. THE ENGINEER MAY PERMIT TEMORARY STORAGE OF THE EXCAVATED MATERIAL IN AN IMPERMEABLE MEMBRANE. THE MEMBRANE SHALL BE SURROUNDED BY BALES OF STRAW TO PREVENT THE SUSPECT SOILS FROM COMING INTO CONTACT WITH THE ORIGINAL SOILS. THE ENGINEER MAY PERMIT THE CONTRACTOR TO DIRECT LOAD THE EXCAVATED CONTAMINATED MATERIAL INTO TRUCKS.

THIS MATERIAL SHALL BE PROPERLY TESTED, TRANSPORTED, AND DISPOSED OF IN A LICENSED (BY THE LOCAL HEALTH DEPARTMENT) AND PERMITTED (BY THE OHIO ENVIRONMENTAL PROTECTION AGENCY) SOLID WASTE FACILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS AND TO TRANSPORT THE MATERIAL TO A LICENSED AND PERMITTED SOLID WASTE DISPOSAL FACILITY. THE CONTRACTOR SHALL CONTACT THE FACILITY TO DETERMINE IF ANY ADDITIONAL TESTING IS REQUIRED FOR DISPOSAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUCTING ANY ADDITIONAL SAMPLING AND ANALYSIS OF THIS MATERIAL.

THE CONTRACTOR SHALL FURNISH ALL THE LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO PROPERLY HANDLE, STORE, TEST (FOR DISPOSAL), TRANSPORT, AND DISPOSE OF REGULATED MATERIALS, INCLUDING ANY REQUIRED PERMITS, APPROVALS, OR FEES WITHIN THE LIMITS IDENTIFIED ABOVE. PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT PRICE BID PER TON. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 690 SPECIAL - WORK INVOLVING SOLID WASTE 300 TON

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE B (446), AS PER PLAN

THE REQUIREMENTS OF 442 AND 446 SHALL APPLY; DEVIATIONS FROM THESE ARE AS FOLLOWS:

THE COMBINATION OF NEW AGGREGATES, NEW ASPHALT BINDER, AND RECLAIMED MATERIAL SHALL BE AS REQUIRED TO PRODUCE A COMPOSITION CONTAINING A MINIMUM OF 6.2% NEW ASPHALT BINDER RESULTING IN A MINIMUM TOTAL BINDER OF 6.9%. THE PERCENTAGE OF RECLAIMED MATERIAL PROPOSED FOR USE SHALL BE INCLUDED IN THE MIX DESIGN PROCESS TO ESTABLISH THE JOB MIX FORMULA (JMF) IN ACCORDANCE WITH 401.04.

MATERIALS: THE MATERIALS SHALL BE:
AGGREGATES 703.05*

*THE VIRGIN COURSE AGGREGATE PORTION OF THE MIXTURE SHALL BE AIR COOLED BLAST FURNACE SLAG AND MEET THE REQUIREMENTS OF 703.05. ONLY RECLAIMED PAVEMENT FROM THIS PROJECT OR AN APPROVED EQUAL DETERMINED BY THE DISTRICT ENGINEER OF TESTS WILL BE PERMITTED FOR USE IN THIS ITEM.

ITEM SPECIAL - PIPE CLEANOUT

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING DRAINAGE CONDUITS SPECIFIED IN THE PLANS. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 105.16 AND 105.17. ALL SEWERS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

CLEANOUT OF THE PIPE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL - PIPE CLEANOUT. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT.

FOR QUANTITY, SEE SHEET 37.

CALCULATED AWS CHECKED FLK

GENERAL NOTES

MAH-680-6.03

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. A MINIMUM OF ONE ELEVEN FOOT LANE IN EACH DIRECTION SHALL BE MAINTAINED ON THE EXISTING PAVEMENT (COMPLETED PAVEMENT AND TEMPORARY PAVEMENT) DURING CONSTRUCTION OF THE WORK.

2. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (330) 786-2211 EXT 209, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

3. 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.

4. LANE RESTRICTIONS OR LANE REDUCTIONS SHALL NOT BE PERMITTED AFTER NORMAL WORKING HOURS. NORMAL WORKING HOURS SHALL BE THOSE HOURS DURING WHICH THE CONTRACTOR HAS A FULL COMPLEMENT OF EMPLOYEES AND EQUIPMENT ACTIVELY REMOVING AND/OR PLACING PAVEMENT MATERIALS.

5. 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.

6. ALL FULL DEPTH PAVEMENT REMOVAL AND REPLACEMENT OPERATIONS SHALL BE COMPLETED THE SAME DAY THE EXCAVATION IS MADE. IF THE CONTRACTOR CANNOT COMPLETE THE WORK, THE EXCAVATION SHALL BE BACKFILLED OR PROTECTED AS SHOWN ON SHEET 11.

7. ESTIMATED QUANTITIES OF ITEM 622 PORTABLE CONCRETE BARRIER, 32", BRIDGE-MOUNTED, AND ITEM 622 PORTABLE CONCRETE BARRIER, 32" HAVE BEEN PROVIDED FOR THIS PROJECT. THE BARRIER SHALL BE PLACED AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLAN SHEETS WHEN WORK IS BEING DONE ON THE BRIDGE.

8. NO FULL DEPTH BRIDGE REPAIR SHALL BE PERFORMED OVER AN OPEN LANE. A SAFETY NET OR PLATFORM SHALL BE REQUIRED TO PROTECT THE ROADWAY, DURING THE REMOVAL OF THE EXISTING CONCRETE PARAPET AND DECK. THE CONTRACTOR SHALL PROVIDE A SAFETY NET OR PLATFORM OF SUITABLE STRENGTH ON THE UNDERSIDE OF THE DECK. THE DESIGN OF THE NET OR PLATFORM SHALL CONFORM WITH OSHA REQUIREMENTS AND THE APPROVAL OF THE ENGINEER AND SHALL REMAIN IN PLACE UNTIL THE WORK HAS BEEN COMPLETED AND ACCEPTED OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL SUBMIT A DEMOLITION PLAN AND SAFETY NET OR PLATFORM DESIGN 10 DAYS PRIOR TO COMMENCING ANY DEMOLITION FOR APPROVAL BY THE ENGINEER. THE SUBMITTAL SHALL BE IN WRITING TO THE DISTRICT CONSTRUCTION ENGINEER WITH A COPY TO THE PROJECT ENGINEER.

9. ONLY DURING OFF-PEAK PERIODS (IE. ANY PERIOD OTHER THAN 6-8AM AND 3-6PM) SHALL THE CONTRACTOR INSTALL AND SUBSEQUENTLY RESET ALL TRAFFIC CONTROL NECESSARY FOR THE WORK ZONE FOR EACH CONSTRUCTION STAGE.

10. IN ADDITION TO THE REQUIREMENTS OF 614 WORK ZONE PAVEMENT MARKINGS (614.11), AT THE END OF EACH DAY OF WORK, THE CONTRACTOR SHALL REPLACE (WITH WORK ZONE MARKINGS) ALL LANE, EDGE, STOP OR CHANNELIZING LINES THAT WERE REMOVED OR COVERED DURING THE PAVEMENT REMOVAL OR PLACEMENT OPERATIONS. QUANTITIES FOR SUCH PLACEMENT ARE CARRIED AS PART OF THE ITEMS LISTED UNDER 614 WORK ZONE PAVEMENT MARKINGS.

11. THE FOLLOWING ESTIMATED QUANTITY OF 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC SHALL BE PROVIDED FOR USE IN MAINTAINING PAVEMENT, SHOULDERS AND OTHER LOCATIONS PRIOR TO RESURFACING, AS DIRECTED BY THE ENGINEER.

    ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC 200 CU. YD.

12. PRIOR TO OPENING TO TRAFFIC EACH LANE SHALL BE IN A SAFE, PASSABLE CONDITION. ALL TRANSVERSE JOINTS SHALL EXTEND ACROSS THE FULL LANE AND SHOULDER WIDTH AND EACH LANE SHALL BE FREE FROM UNEVEN LONGITUDINAL JOINTS. THE CONTRACTOR SHALL PROVIDE ASPHALT WEDGES FOR TRANSVERSE JOINTS WHEREVER THERE ARE PAVEMENT ELEVATION DIFFERENCES.

13. A QUANTITY OF ITEM 614 WORK ZONE MARKING SIGN HAS BEEN INCLUDED IN THE PLAN. THIS QUANTITY SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING SIGNS: W8-1 [BUMP], W6-4 [TWO-WAY TRAFFIC], W8-H12a [NO EDGE LINES], R4-1 [DO NOT PASS], R4-2 [PASS WITH CARE], W8-11 [UNEVEN LANES SYMBOL]. THESE QUANTITIES SHALL BE AS PER 614.04.

QUANTITIES OF WORK ZONE PAVEMENT MARKINGS HAVE BEEN INCLUDED IN THE MAINTENANCE OF TRAFFIC SUBSUMMARY TO BE USED FOR THE MAINTENANCE OF TRAFFIC ON THIS PROJECT.

SEQUENCE OF CONSTRUCTION

IT IS THE INTENT OF THE FOLLOWING SEQUENCE OF CONSTRUCTION TO PROVIDE A WORK AREA FOR THE CONTRACTOR WHILE ALSO MAINTAINING TRAFFIC IN A MANNER WHICH IS SAFE FOR THE TRAVELING PUBLIC. THEREFORE, ALL STAGES SHALL HAVE STRICT ADHERENCE.

PHASE 1 - MARKET STREET

DURING PHASE 1 CONSTRUCTION, A MINIMUM OF ONE LANE NORTHBOUND AND ONE LANE SOUTHBOUND WILL BE MAINTAINED AND DIVERTED TO THE WEST SIDE OF MARKET STREET USING PORTABLE CONCRETE BARRIERS, BARRELS AND TEMPORARY PAVEMENT MARKINGS AND SIGNS AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLAN SHEETS.

PHASE 1A - MARKET STREET

DURING PHASE 1A, PORTABLE TRAFFIC BARRIER WILL BE PLACED ALONG THE SOUTHBOUND CURB LINE AS SHOWN IN THE MOT PHASE 1A PLANS. THE WEST PARAPET SHALL BE REMOVED AND A PEDESTRIAN DETOUR WILL BE IMPLEMENTED.

PHASE 1B - MARKET STREET

DURING PHASE 1B, ALL CONSTRUCTION OPERATIONS DESIGNATED AS PHASE 1 OPERATIONS ON THE BRIDGE PLANS SHALL BE PERFORMED INCLUDING THE SLEEPER SLABS UNDER THE PRESSURE RELIEF JOINTS AT THE ENDS OF THE APPROACH SLABS. THE ROADWAY WORK FOR PHASE 1B SHALL INCLUDE DRAINAGE IMPROVEMENTS AND APPROACH PAVEMENT AND SIDEWALK AT THE SOUTH END OF THE BRIDGE.

THE CONTRACTOR FOR AT&T WILL SIMULTANEOUSLY WORK ON THE WEST SIDEWALK TO EXPOSE THEIR DUCTS.

PHASE 1C - MARKET STREET

THE WORK FOR PHASE 1C SHALL INCLUDE THE APPROACH PAVEMENT AND SIDEWALK AT THE NORTH END OF THE BRIDGE. IN ORDER TO PERFORM THIS WORK, THE LEFT TURN BYPASS LANE AT THE INTERSECTION OF MARKET STREET AND WOODLAND AVENUE SHALL BE ELIMINATED BY REPOSITIONING THE PORTABLE CONCRETE BARRIER AND BARRELS AND PAVEMENT MARKINGS AS SHOWN ON THE PLAN SHEET.

PHASE 2 - MARKET STREET

DURING PHASE 2 CONSTRUCTION, A MINIMUM OF ONE LANE NORTHBOUND AND ONE LANE SOUTHBOUND WILL BE MAINTAINED AND DIVERTED TO THE EAST SIDE OF MARKET STREET USING PORTABLE CONCRETE BARRIERS, BARRELS AND TEMPORARY PAVEMENT MARKINGS AND SIGNS AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLAN SHEETS.

DURING PHASE 2, ALL CONSTRUCTION OPERATIONS DESIGNATED AS PHASE 2 OPERATIONS ON THE BRIDGE PLANS SHALL BE PERFORMED. THE ROADWAY WORK FOR PHASE 2 SHALL INCLUDE APPROACH PAVEMENT AND SIDEWALKS AT BOTH ENDS OF THE BRIDGE.

THE CONTRACTOR SHALL ADJUST THE SIGNAL HEAD LOCATIONS, PHASING AND THE TIMING OF THE TRAFFIC SIGNAL AT THE INTERSECTION OF MARKET STREET AND WOODLAND AVENUE AS DIRECTED BY THE ENGINEER TO ACCOMODATE THE BEST FLOW OF TRAFFIC ON MARKET STREET WHILE MAINTAINING TRAFFIC.

PHASE 1 AND PHASE 2 - MAINLINE I-680

ONE MAINTENANCE OF TRAFFIC SCHEME SHALL BE USED FOR ALL CONSTRUCTION OPERATIONS DESIGNATED AS PHASE 1 AND PHASE 2 IN THE BRIDGE PLANS, EXCEPT FOR THE PAINTING OF THE STRUCTURAL STEEL. A WORK ZONE AT EACH ABUTMENT AND THE PIER SHALL BE SET UP USING PORTABLE CONCRETE BARRIERS, BARRELS, TEMPORARY PAVEMENT MARKINGS AND SIGNS AS SHOWN IN THE PLANS. THIS SCHEME SHALL ALLOW FOR TWO LANES OF TRAFFIC IN EACH DIRECTION AND FOR THE ENTRANCE AND EXIT RAMPS TO REMAIN OPEN. ANY CONSTRUCTION OPERATIONS THAT REQUIRE WORK OVER THE ACTIVE LANES SHALL BE PERFORMED DURING NON RESTRICTED HOURS AND WILL BE CONSIDERED ROLLING OPERATIONS. ROLLING OPERATIONS REQUIRE THAT THE CONTRACTOR SUBMIT PLANS FOR TEMPORARY LANE OR RAMP CLOSURES.

THE WORK ZONES AT THE ABUTMENTS SHALL EXTEND UP THE ADJACENT RAMPS FAR ENOUGH TO ALLOW FOR CURB REMOVAL AND REPLACEMENT ALONG THE RAMPS.

PHASE 3 - MAINLINE I-680

PAINTING OF THE STRUCTURAL STEEL WILL BE ACCOMPLISHED IN THE FOLLOWING STEPS:

PHASES 3A AND 3B
TWO LANES OF TRAFFIC SHALL BE MAINTAINED IN THE EASTBOUND DIRECTION AT ALL TIMES. TRAFFIC SHALL BE MAINTAINED ON EXIT RAMP 6B. EASTBOUND THROUGH TRAFFIC WILL BE SHIFTED LEFT, REQUIRING THE LEFT LANE TRAFFIC TO DRIVE ON THE SHOULDER PAVEMENT. A WORK ZONE SHALL BE SET UP AS SHOWN IN THE PLANS, USING BARRELS, TEMPORARY PAVEMENT MARKINGS, AND SIGNS. WESTBOUND TRAFFIC WILL BE UNAFFECTED DURING THIS PHASE.

PHASE 3C
TWO LANES OF TRAFFIC SHALL BE MAINTAINED IN THE EASTBOUND DIRECTION DURING RESTRICTED HOURS, IN COMPLIANCE WITH ODOT'S "PERMITTED LANE CLOSURE CHART." OTHERWISE, ONE LANE OF TRAFFIC SHALL BE MAINTAINED THROUGH THE WORK ZONE. EASTBOUND THROUGH TRAFFIC WILL BE SHIFTED RIGHT, REQUIRING THE RIGHT LANE TRAFFIC TO DRIVE ON THE SHOULDER PAVEMENT. TRAFFIC ON EXIT RAMP 6B SHALL BE MAINTAINED FOR THIS PHASE.

TWO LANES OF TRAFFIC SHALL BE MAINTAINED IN THE WESTBOUND DIRECTION AT ALL TIMES. ENTRANCE RAMP "N" WILL BE CLOSED DURING THIS PHASE, AND TRAFFIC WILL BE DETOURED TO THE WOODLAND AVE. ENTRANCE RAMP.

PHASE 3D
TWO LANES OF TRAFFIC SHALL BE MAINTAINED IN THE WEST BOUND DIRECTION DURING RESTRICTED HOURS, IN COMPLIANCE WITH ODOT'S "PERMITTED LANE CLOSURE CHART." OTHERWISE, ONE LANE OF TRAFFIC SHALL BE MAINTAINED THROUGH THE WORK ZONE. WESTBOUND THROUGH TRAFFIC WILL BE SHIFTED RIGHT, REQUIRING THE RIGHT LANE TRAFFIC TO DRIVE ON THE SHOULDER PAVEMENT. ENTRANCE RAMP N SHALL BE CLOSED DURING THIS PHASE. TRAFFIC SHALL BE DETOURED TO THE WOODLAND AVE. ENTRANCE RAMP. EASTBOUND TRAFFIC WILL BE UNAFFECTED DURING THIS PHASE.

NOTIFICATION

THE CONTRACTOR SHALL NOTIFY IN WRITING THE FOLLOWING AGENCIES AT LEAST ONE WEEK PRIOR TO THE START OF CONSTRUCTION, AND AT LEAST 72 HOURS BEFORE IMPLEMENTING ANY SUBSTANTIAL CHANGE IN TRAFFIC PATTERN OR CLOSING ANY STREET TO TRAFFIC:

YOUNGSTOWN CITY SCHOOLS
BOARD OF EDUCATION
IRENE . WARD BUILDING
20 W. WOOD ST.
YOUNGSTOWN, OH 44503

YOUNGSTOWN POLICE
116 W. BOARDMAN ST.
YOUNGSTOWN, OH 44503

YOUNGSTOWN FIRE DEPARTMENT
420 MARTIN LUTHER KING JR. BLVD.
YOUNGSTOWN, OH 44502

WRTA (REGIONAL TRANSPORTATION)
604 MAHONING AVE.
YOUNGSTOWN, OH 44502

YOUNGSTOWN PUBLIC WORKS DEPT.
26 SOUTH PHELPS ST.
5th.FLOOR, CITY HALL
YOUNGSTOWN, OH 44503

PUBLIC INFORMATION OFFICE
2088 SOUTH ARLINGTON ST.
AKRON, OH 44306
ODOT DISTRICT 4
(330) 786-2209

DETOUR NOTIFICATION

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330) 786-3148, AND CITY OF YOUNGSTOWN (330) 744-3179 OR (330) 742-8788 EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE VEHICULAR DETOUR ROUTE SHOULD BE IN EFFECT. ALL WORK ZONE DEVICES REQUIRED SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR.

WINTER TRAFFIC LIMITATIONS

ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC BETWEEN NOVEMBER 15 AND APRIL 1. NOVEMBER 14 SHALL BE CONSIDERED TO CONSTITUTE AN INTERIM COMPLETION DATE AND LIQUIDATED DAMAGES AS SPECIFIED IN 108.07 SHALL BE ASSESSED FOR EACH CALENDAR DAY THAT THE ROADWAY REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT. THE CONTRACTOR MAY CLOSE LANES PRIOR TO APRIL 1 WITH WRITTEN APPROVAL FROM THE DISTRICT CONSTRUCTION ENGINEER.

INSTALLATION OF PAVEMENT MARKINGS

THE CONTRACTOR MAY REDUCE THE NUMBER OF THROUGH TRAFFIC LANES BY 50%, AS DIRECTED BY THE ENGINEER, IN ORDER TO REMOVE PAVEMENT MARKINGS, OR TO INSTALL TEMPORARY OR PERMANENT PAVEMENT MARKINGS. HE SHALL LIMIT THE AFOREMENTIONED CLOSURE TO BETWEEN THE HOURS OF 9:00 A.M. AND 4:00 P.M., UNLESS OTHERWISE APPROVED BY THE ENGINEER.

ALL TEMPORARY PAVEMENT MARKINGS AND SIGNS REQUIRED FOR A PARTICULAR LANE CLOSURE OR TRAFFIC PATTERN SHALL BE INSTALLED ON A SINGLE WORK DAY, AND THE CORRESPONDING TRAFFIC PATTERN, AS DETAILED ON THE PLANS, SHALL BE IMPLEMENTED IMMEDIATELY. SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE INSTALLED BEFORE PLACEMENT OF ANY CONTROL DEVICES AS TO NOT CREATE CONFUSION.

COMMERCIAL DRIVE ACCESS

FOR COMMERCIAL PROPERTIES, WHICH HAVE TWO DRIVES, ONE DRIVE SHALL BE MAINTAINED AT ALL TIMES. FOR COMMERCIAL PROPERTIES WITH ONE DRIVE, PERFORM PART-WIDTH CONSTRUCTION IN ORDER TO MAINTAIN ACCESS AT ALL TIMES. ITEM 410 SHALL BE USED TO PROVIDE ADDITIONAL DRIVE WIDTH, AS DIRECTED BY THE ENGINEER.

TEMPORARY RAMPING OF VERTICAL SURFACES

IN ORDER TO PROVIDE FOR LOCAL ACCESS, LONGITUDINAL VERTICAL FACES ABUTTING DRIVES SHALL BE TEMPORARILY RAMPED. TRANSVERSE VERTICAL FACES SHALL BE TEMPORARILY RAMPED A MINIMUM OF TEN (10) FEET IN LENGTH AND TRAFFIC SHALL BE WARNED WITH W8-1 "BUMP" SIGNS IN ADVANCE OF THE RAMPED AREAS.

ALL CASTINGS ENCOUNTERED SHALL BE SET TO GRADE AND PAID FOR UNDER VARIOUS ITEMS DESCRIBED ELSEWHERE IN THE GENERAL NOTES OR SPECIFICATIONS. THE CASTING ELEVATION DIFFERENTIAL SHALL NOT BE GREATER THAN ONE INCH WHEN EXPOSED TO TRAFFIC.

ALL TEMPORARY RAMPING SHALL BE INSTALLED, AT THE DIRECTION OF THE ENGINEER, USING ITEM 614-ASPHALT CONCRETE FOR MAINTAINING TRAFFIC OR ITEM 410-TRAFFIC COMPACTED SURFACE TYPE A, B OR C.

MAINTAINING TRAFFIC ESTIMATED QUANTITIES

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 410	TRAFFIC COMPACTED SURFACE, TYPE A OR B	14 CU. YD.
ITEM 410	TRAFFIC COMPACTED SURFACE, TYPE C	14 CU. YD.
ITEM 616	WATER	0.6 M. GAL.

TEMPORARY DRAINAGE

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ADEQUATE DRAINAGE OF THE TRAVELED ROADWAYS DURING ALL PHASES OF CONSTRUCTION BY USING EXISTING DRAINAGE FACILITIES, TEMPORARY DRAINAGE FACILITIES, AND PROPOSED DRAINAGE FACILITIES.

TRAFFIC CONTROL INSPECTOR

THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL OTHER THAN THE SUPERINTENDENT AND SUBJECT TO THE APPROVAL OF THE ENGINEER, TO CONTINUOUSLY INSPECT ALL TRAFFIC CONTROL DEVICES WHENEVER CONSTRUCTION WORK IS BEING PERFORMED WITHIN THE WORK LIMITS OF THE PROJECT. THE DESIGNATED INDIVIDUAL SHALL ALSO INSPECT ALL TRAFFIC DEVICES AT THE BEGINNING AND AT THE END OF EACH WORK DAY. THE DESIGNATED INDIVIDUAL OR A QUALIFIED REPRESENTATIVE SHALL ALSO BE AVAILABLE ON AN AROUND THE CLOCK BASIS TO REPAIR AND/OR REPLACE DAMAGED OR MISSING TRAFFIC CONTROL DEVICES. THESE INDIVIDUALS SHALL BE EQUIPPED WITH CELLULAR PHONES AND THEIR NAMES AND PHONE NUMBERS SHALL BE GIVEN TO THE PROJECT ENGINEER AT THE PRE-CONSTRUCTION MEETING. THE DESIGNATED INDIVIDUAL MAY HAVE OTHER CONSTRUCTION RELATED DUTIES AS LONG AS IMMEDIATE ATTENTION IS GIVEN TO TRAFFIC CONTROL. PAYMENT FOR THE SERVICES OF THE TRAFFIC CONTROL INSPECTOR SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER	1.2 M. GAL.

ITEM 614 - BARRIER REFLECTORS AND OBJECT MARKERS

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS626, EXCEPT THE SPACING SHALL BE 50 FEET. ESTIMATED QUANTITIES OF ITEM 614 BARRIER REFLECTOR, TYPE B AND ITEM 614 OBJECT MARKER, ONE-WAY, HAVE BEEN INCLUDED IN THE MAINTENANCE OF TRAFFIC SUBSUMMARY.

OPERATION OF WORK ZONE SIGNAL

THE WORK ZONE TRAFFIC SIGNAL CONTROL OPERATION REQUIRED FOR THE MARKET STREET AND WOODLAND AVENUE INTERSECTION, IS SHOWN ON THIS SHEET.
IN COOPERATION WITH THE CITY OF YOUNGSTOWN, THE CONTRACTOR SHALL MODIFY THE PHASING, TIMING AND SIGNAL HEAD PLACEMENT AS NECESSARY TO PROVIDE FOR EFFICIENT MOVEMENT OF TRAFFIC THROUGH THE WORK ZONE.

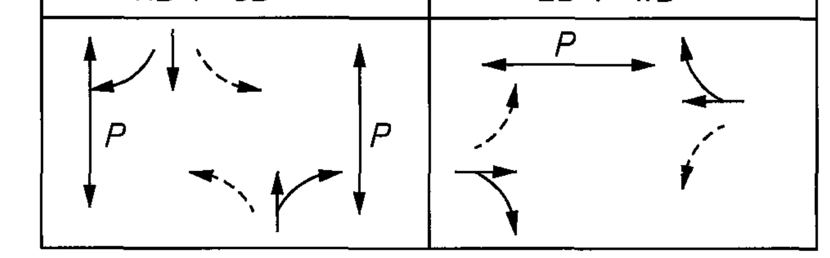
THE SIGNAL PHASING AND TIMING SHALL BE MODIFIED TO OPERATE AS AN ISOLATED PRE-TIMED TWO PHASE OPERATION AS INDICATED BELOW.

THE SIGNAL TIMING PLAN SHALL BE PERIODICALLY ADJUSTED TO BETTER ACCOMMODATE THE WORK ZONE TRAFFIC AS DIRECTED BY THE ENGINEER.

PAYMENT IS INCIDENTAL TO THE LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC.

PHASING DIAGRAM

NB / SB	EB / WB



SIGNAL TIMING PLAN (SECONDS)		
INTERVAL	A	B
NB / SB GREEN	60	40
NB / SB YELLOW	3.5	3.5
NB / SB ALL RED	3.0	3.0
EB / WB GREEN	32	22
EB / WB YELLOW	3.5	3.5
EB / WB ALL RED	3.0	3.0
TOTAL CYCLE LENGTH:	105 sec	75 sec

TIME OF DAY	SUN	MON	TUE	WED	THUR	FRI	SAT
MIDNIGHT - 7:00 A.M.	B	B	B	B	B	B	B
7:00 A.M. - 9:00 A.M.	B	A	A	A	A	A	B
9:00 A.M. - 4:00 P.M.	B	B	B	B	B	B	B
4:00 P.M. - 6:00 P.M.	B	A	A	A	A	A	A
6:00 P.M. - MIDNIGHT	B	B	B	B	B	B	B

CALCULATED AWS
CHECKED FLK

MAINTENANCE OF TRAFFIC GENERAL NOTES

MAH-680-6.03

COVERING OF SIGNS

WHERE THE PLANS CALL FOR A PERMANENT SIGN TO BE COVERED, THE CONTRACTOR SHALL DO SO IN SUCH A MANNER AS TO AVOID DAMAGING THE PERMANENT SIGN WHEN THE COVER IS REMOVED. THE COVER SHALL BE TOTALLY OPAQUE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO A SIGN FACE IS STRICTLY PROHIBITED. THE CONTRACTOR SHALL PROVIDE ALL OF THE "CLOSED" PLAQUES NECESSARY.

WHERE THE PLANS CALL FOR A PERMANENT SIGN TO BE OVERLAYED, THE CONTRACTOR SHALL DO SO IN SUCH A MANNER AS TO AVOID DAMAGING THE PERMANENT SIGN WHEN THE OVERLAY IS REMOVED. THE OVERLAY SHALL BE TOTALLY OPAQUE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO A SIGN FACE IS STRICTLY PROHIBITED. THE CONTRACTOR SHALL PROVIDE ALL OF THE PLAQUES, SIGNS AND SIGN PANELS NECESSARY.

MARKET STREET PARKING

NO PARKING SHALL BE PERMITTED DURING ANY LANE RESTRICTIONS ON MARKET STREET. ALL APPLICABLE PARKING SIGNS ON MARKET STREET WITHIN THE WORK ZONE SHALL BE COVERED DURING LANE RESTRICTIONS.

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

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 AMBER FLASHING LIGHT. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVING OPERATIONS ARE SCHEDULED TO CONTINUE WITHIN THE NEXT WORKDAY. OTHERWISE THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA OUTSIDE THE R/W, 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.

TRENCHING

TRENCH EXCAVATION 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 MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND THE EXCAVATION OPERATIONS. THE LENGTH OF TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

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 SHOULD BE PROVIDED FOR CONTROLLING TRAFFIC AS DIRECTED BY ENGINEER 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.

DURING A TRAFFIC SIGNAL INSTALLATION.

DURING PEAK TRAFFIC TIMES (6:00AM-10:00AM AND 4:00PM TO 8:00PM). DURING THIS TIME, THREE OFFICERS IN PATROL CARS, INCLUDING ONE SUPERVISOR, SHALL PATROL THE CONSTRUCTION AREA. THE ASSIGNMENT OF THESE OFFICERS WILL BE MADE EXCLUSIVELY BY THE POST COMMANDER.

LAW ENFORCEMENT OFFICERS (L.E.O.'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE.

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH:

CANFIELD PATROL POST
500 SOUTH BROAD STREET
CANFIELD, OHIO 44406
PHONE (330) 533-6866
FAX (330) 533-2872

YOUNGSTOWN POLICE DEPT.
116 WEST BOARDMAN STREET
YOUNGSTOWN, OHIO 44503
PHONE (330) 742-8926
FAX (330) 742-7452

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 AN HOURLY BASIS UNDER ITEM 614 LAW ENFORCEMENT OFFICER WITH PATROL CAR. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR 1000 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, HE MAY DO SO AT THIS OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614 MAINTAINING TRAFFIC.

EARTHWORK FOR MAINTAINING TRAFFIC

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

EXCAVATION FOR MAINTAINING TRAFFIC 100 CU. YD. (CU. METER)

EMBANKMENT FOR MAINTAINING TRAFFIC 100 CU. YD. (CU. METER)

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.

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MAINTENANCE OF TRAFFIC GENERAL NOTES

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MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION

BEFORE ANY WORK IS STARTED REPRESENTATIVES OF THE STATE, THE MAINTAINING AGENCY, AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING SIGNAL/FLASHER INSTALLATIONS TO BE MAINTAINED. DURING THIS INSPECTION A WRITTEN RECORD OF THE CONDITION OF THE EXISTING SIGNAL/FLASHER SHALL BE MADE BY THE STATE'S REPRESENTATIVE. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL ITEMS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED REPORT SHALL BE SIGNED BY THE REPRESENTATIVES OF THE STATE, THE MAINTAINING AGENCY, AND THE CONTRACTOR.

AFTER THE REPORT HAS BEEN SIGNED BY ALL PARTIES, THE SIGNAL INSTALLATION SHALL BE TURNED OVER TO THE CONTRACTOR, WHO SHALL THEN BE REQUIRED TO MAINTAIN THE TRAFFIC SIGNAL INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

EXISTING SIGNAL/FLASHER INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS INCLUDING DAMAGE DUE TO UTILITY RELOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION AT AN INTERSECTION FROM THE TIME THE INSTALLATION IS FIRST DISTURBED, WHETHER FROM UTILITY WORK OR FROM THE CONTRACTOR.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. AT THE PRE-CONSTRUCTION MEETING, THE CONTRACTOR SHALL PROVIDE THE MAINTAINING AGENCY AND THE PROJECT ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. THE CONTRACTOR SHALL HAVE THE MALFUNCTION CORRECTED AND/OR REPAIRED TO THE SATISFACTION OF THE ENGINEER WITHIN EIGHT HOURS OF THE NOTIFICATION OR LIQUIDATED DAMAGES OF $500 PER HOUR SHALL BE ASSESSED THE CONTRACTOR.

ALL LAMP OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE PROJECT ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN EIGHT HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGES.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE PROJECT ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN EIGHT HOURS AFTER THE CONTRACTOR IS NOTIFIED OF THE OUTAGE.

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

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

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY DAMAGES FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGES AS PER 107.15.

WHERE THE CONTRACTOR HAS FAILED TO OR CANNOT RESPOND TO AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE PROJECT ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE OR THE CITY OF YOUNGSTOWN FOR POLICE SERVICES AND MAINTENANCE SERVICES BY STATE OR CITY FORCES SHALL BE DEDUCTED FROM MONEYS DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15. IN ADDITION TO THESE BILLINGS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES OF $500/HOUR FOR EACH HOUR BEYOND THE ALLOWED EIGHT HOUR PERIOD THAT THE SIGNAL IS INOPERATIVE.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICES ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A MUTUALLY ACCEPTABLE AGREEMENT WITH THE LOCAL MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE.

THE CONTRACTOR SHALL INFORM THE PROJECT ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

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

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

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

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING: 1. TIME OF NOTIFICATION OF MALFUNCTION; 2. TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION; 3. ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED; 4. A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE; AND 5. TIME OF COMPLETION OF REPAIR AND SYSTEM RESTORED TO FULL SERVICE. A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

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

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.

SUSPENSION OF WORK

IF THE CONTRACTOR FAILS TO COMPLY WITH THE PROVISIONS FOR TRAFFIC CONTROL AS SET FORTH IN THESE PLANS OR WITH PROVISIONS OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, THE ENGINEER SHALL SUSPEND WORK UNTIL THE CONTRACTOR COMPLIES WITH THE NECESSARY REQUIREMENTS.

WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ONE OF THE FOLLOWING IMPACT ATTENUATORS:

1. THE QUADGUARD CZ, (24 INCHES WIDE SIX-BAY) WORK ZONE IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., 35 EAST WACKER DRIVE, CHICAGO, IL 60601 (TELEPHONE: 312-467-6750).

   THE LENGTH OF THE SIX-BAY QUADGUARD CZ IS 20'-9". INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
QSCZCVR-T4	QUADGUARD CZ SYSTEM FOR CONSTRUCTION ZONES	5/13/99 REV. J	8/27/99
35-40-10	QUADGUARD SYSTEM CONCRETE PAD, CZ, QG	11/19/97 REV. D	8/27/99
35-40-16	QUADGUARD SYSTEMS BACKUP ASSEMBLY, CZ, QG	7/30/99 REV. F	8/27/99
3540501z	QUADGUARD CZ SYSTEM NOSE ASSEMBLY, CZ, QG, 24, 30, 36	5/17/99	8/27/99
35-40-18	TRANSITION ASSEMBLY, 4 OFFSET, QG	6/25/99 REV. F	8/27/99
35400260	QUADGUARD SYSTEM PCMB ANCHOR ASSEMBLY	11/19/97 REV. C	8/27/99

2. THE TRACC (TRINITY ATTENUATING CRASH CUSHION) MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

THE TRACC IS 21'-0" LONG AND 2'-7" WIDE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SS450	CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATION & SECTIONS	3/12/99 REV. 1	8/27/99
SS455	TRACC TRANSITION TO W-BEAM MEDIAN BARRIER PLAN, ELEVATION & SECTIONS	2/18/99	8/27/99
SS461	TRACC TRANSITION TO CONCRETE SAFETY SHAPE BARRIER, PLAN, ELEVATION & SECTIONS	6/30/99 REV. 1	8/27/99
SS462	TRACC TRANSITION TO CONCRETE BARRIER SINGLE SLOPE PLAN, ELEVATION & SECTIONS	6/30/99	8/27/99

3. THE BARRIER SYSTEMS, INC. TAU-II IMPACT ATTENUATOR, DISTRIBUTED BY ROAD SYSTEMS INC., SALES SUPPORT, 2183 ELM TRACE, AUSTINTOWN, OH 44515, (TELEPHONE 330-799-9291)

   THE TAU-II FOR THIS NOTE IS A PARALLEL 8-BAY UNIT (24' LONG AND 35" WIDE). INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
A040416	UNIVERSAL TAU-II PARTS LIST	4/22/04	10/16/04
A040420	UNIVERSAL TAU-II FOUNDATION, FLUSH MOUNT BACKSTOP	4/28/04	10/16/04
A040105	UNIVERSAL TAU-II FOUNDATION, PCB BACKSTOP (REFERENCED ON A04020)	1/07/04	10/16/04
B040239	APPLICATION, FLUSH MOUNT BACKSTOP (TYPICAL FOR PARALLEL 60 MPH UNIT)	4/21/04	10/16/04

4. THE GREAT CZ IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC.

   THIS ATTENUATOR MAY BE USED UNTIL JANUARY 1, 2007 IF THE ITEM WAS PURCHASED BEFORE OCTOBER 1, 1998 AND IS IN THE CONTRACTOR'S INVENTORY.

THE CONTRACTOR SHALL PROVIDE A REPLACEMENT UNIT WHEN AN IMPACT IS SEVERE ENOUGH TO REQUIRE COMPLETE REPLACEMENT OF THE ATTENUATOR. THE CONTRACTOR SHALL HAVE A SPARE PARTS PACKAGE AVAILABLE ON THE PROJECT SITE AT ALL TIMES WHEN AN ATTENUATOR IS IN PLACE. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF ONE COMPLETE SPARE PARTS PACKAGE FOR EVERY ONE TO SIX UNITS INSTALLED ON THE PROJECT SITE. FOR EXAMPLE, FIVE INSTALLED UNITS REQUIRE ONE SPARE PARTS PACKAGE AND SEVEN INSTALLED UNITS REQUIRE TWO SPARE PARTS PACKAGES.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS. 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, MAINTAIN, REPAIR, REPLACE OR RELOCATE 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.

ITEM 614, MAINTAINING TRAFFIC
(LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS)

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF THE WEEK	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00N FRIDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00N FRIDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

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

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

ITEM 614, WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN

WORK ZONE RAISED PAVEMENT MARKERS, AS PER PLAN, AND THEIR INSTALLATION SHALL CONFORM TO CMS 614 OR CMS 621 AS SPECIFIED HEREIN.

- RAISED PAVEMENT MARKERS IN USE DURING THE SNOW PLOWING SEASON SHALL CONFORM TO 621.

- RAISED PAVEMENT MARKERS IN USE DURING THE NON-SNOW PLOW SEASON SHALL CONFORM TO EITHER 614 OR TO 621.

THE SNOW-PLOWING SEASON SHALL RUN FROM OCTOBER 15 THROUGH APRIL 1 .

IF PROJECT DELAYS, NOT THE FAULT OF ODOT, CAUSE THE WORK TO EXTEND INTO THE SNOW PLOWING SEASON, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WORK ZONE RAISED PAVEMENT MARKERS (WZRPMS) CONFORMING TO CMS 614, WITH RAISED PAVEMENT MARKERS CONFORMING TO 621, AS DETERMINED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

THIS ITEM SHALL INCLUDE PURCHASE, INSTALLATION AND REMOVAL OF ITEM 614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN, INCLUDING FILLING OF ANY DEPRESSIONS CREATED IN THE PAVEMENT AS PER CMS 202.10.

RESURFACING OF THE TRANSITION AREAS SHALL BE PERFORMED AT THE TIME THAT THE SURFACE COURSE IS BEING APPLIED TO THE ENTIRE PROJECT. PRIOR TO APPLICATION OF THE SURFACE COURSE ON THE PROJECT, THE SURFACE COURSE OF THE EXISTING PAVEMENT WITHIN THE TRANSITION AREA SHALL BE REMOVED TO A DEPTH EQUIVALENT TO THE DEPTH OF THE PROPOSED SURFACE COURSE, AS DETERMINED BY THE ENGINEER.

PAYMENT FOR RESURFACING WITHIN THE TRANSITION AREA SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEMS FOR THE WORK REQUIRED, AS PROVIDED FOR IN THE PLANS.

ITEM SPECIAL - LINEAR DELINEATION

3M(TM) SCOTCHLITE (TM) LINEAR DELINEATION SYSTEM (LDS) SHALL BE INSTALLED ON ALL CONCRETE BARRIER, PERMANENT OR TEMPORARY, LOCATED WITHIN 5 FEET OF THE EDGE OF THE TRAVEL LANE UNDER EITHER OF THE FOLLOWING CONDITIONS:

- ALONG TAPERS AND TRANSITION AREAS
- ALONG CURVES (OUTSIDE ONLY) WITH DEGREE OF CURVATURE GREATER THAN OR EQUAL TO 3 DEGREES

THE LDS SHALL CONSIST OF PANELS OF DELINEATION, APPROXIMATELY 34 INCHES LONG AND 6 INCHES WIDE. PANELS SHALL BE PROVIDED AT THE RATE OF ONE PER SECTION OF PORTABLE CONCRETE BARRIER OR ONE PANEL EVERY 10 FEET, SPACED EVENLY ALONG THE LENGTH OF THE RUN. THE PANELS SHALL BE MOUNTED SUCH THAT THE TOPS OF THE PANELS ARE 26 INCHES FROM THE BASE OF THE CONCRETE BARRIER.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING 3M(TM) SCOTCHLITE (TM) LINEAR DELINEATION SYSTEM (LDS).

AN ESTIMATED QUANTITY OF 660 LINEAR FEET OF ITEM SPECIAL - LINEAR DELINEATION HAS BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY. ALONG RUNS OF CONCRETE BARRIER WHERE THIS ITEM IS PROVIDED, THE QUANTITY SHALL BE MEASURED AS THE ENTIRE LENGTH OF THE RUN BEING DELINEATED, INCLUDING THE SPACES BETWEEN THE INDIVIDUAL PANELS.

CONCRETE BARRIER DELINEATION

OBJECT MARKERS SHALL BE INSTALLED ON ALL CONCRETE BARRIER, PERMANENT AND/OR TEMPORARY, 32 INCHES OR LESS IN HEIGHT, LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. OBJECT MARKER SPACING SHALL BE 50 FEET.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING,INSTALLING, MAINTAINING AND REMOVING OBJECT MARKERS.

GUARDRAIL DELINEATION

OBJECT MARKERS SHALL BE INSTALLED ON ALL GUARDRAIL LOACTED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. GUARDRAIL-MOUNTING OF OBJECT MARKERS SHALL BE MADE BY INSTALLING THE OBJECT MARKERS ON THE EXTENSION BLOCKS RATHER THEN DIRECTLY ONTO THE GUARDRAIL ITSELF. OBJECT MARKER SPACING SHALL BE APPROXIMATELY 50 EFET.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING OBJECT MARKERS.

AN ESTIMATED QUANTITY FOR ITEM 614 OBJECT MARKER, ONE-WAY HAS BEEN INCLUDED IN THE MAINTENANCE OF TRAFFIC SUBSUMMARY, SHEETS 31-31F.

614 - WORK ZONE PAVEMENT MARKINGS, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 614.11, ALL CLASS I EDGE LINES, LANE LINES, AND CENTER LINES SHALL BE 6 INCHES WIDE AND CHANNELIZING MARKINGS SHALL BE 8 INCHES WIDE. THE APPLICATION RATES FOR THESE LINES SHALL BE 1.5 TIMES THE RATES SPECIFIED FOR 4 INCH LINES IN TABLE 614.11-1 AND TABLE 614.11-2.

GENERAL NOTES

1. It is intended that this drawing be used for treatment of drop-offs that develop during construction operations, and that are not otherwise provided for in the construction plans. The suggested treatments are intended for high volume projects that will last at least seven days and have an active work zone 1 mile [1.6 km] or less in length. For guidance on the use of this sheet, see L&D Manual Volume One, Section 500. Where the plans do not provide specific items for labor, equipment, or materials to implement the drop-off treatments specified hereon, they shall be included for payment in the lump sum bid for Item 614 - Maintaining Traffic.

2. While the need for certain advisory signing is noted hereon, it is not intended that this be indicative of all signing that may be required to advise or warn motorists, and all requirements of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) must be fulfilled.

3. In urban or otherwise heavily developed areas where pedestrians and/or bicyclists may be present in significant numbers, additional signing and protective measures other than those shown hereon may be required.

4. The drop-off treatment selected for use at any given location shall be as appropriate for the prevailing conditions at the site.

5. Where concrete barrier is specified, it shall be in accordance with SCD RM-4.2 and Item 622.

6. When drums are specified for a drop-off condition, a minimum number of four drums shall be used. Spacing shall be as indicated in the plans or as specified in the OMUTCD.

7. When OW-151 (Low Shoulder) signs or OW-155 (Shoulder Drop-Off) signs or OW-171 (Uneven Lanes) signs are required, they shall be placed 750′ [230 m] in advance of the condition, on all intersecting entrance ramps within the limits of the condition and immediately beyond all inter secting roadways within the limits of the condition. When the drop-off condition extends more than 0.5 mile [800 m], additional signs should be erected at intervals of 1.0 mile [1600 m] or less.

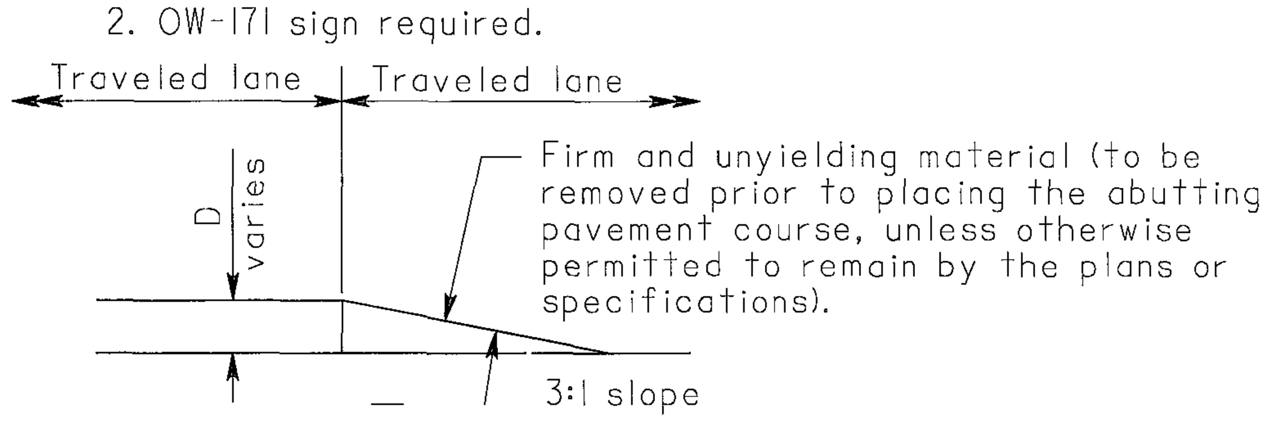
8. For locations, such as at ramps, lane shifts, lane closures, etc., where traffic is required to negotiate a difference in elevation between pavements, a 3:1 slope treatment similar to the Optional Wedge Treatment shall be provided.

9. Portable concrete barrier shall be placed on the same level as the traffic surface and shall not encroach on lane width(s) designated as the minimum required for traffic use. Where drums are used, and their presence would reduce traveled lane widths to less than 10′ [3.0 m], drums may be placed on the opposite level from that of traffic provided the dropoff depth does not exceed 5″ [125] and approval is granted by the Project Engineer.

10. Pavement Repairs (or similar work):
    a. Lengths greater than 60′ [18 m] - utilize appropriate treatment from Condition I.
    b. Lengths of 60′ [18 m] or less - repairs shall be effected in accordance with CMS 255.08. Drums may be used as a separtor adjacent to the traveled lane.

OPTIONAL WEDGE TREATMENT
(MILLING OR RESURFACING)

1. This treatment may be used when permitted for Condition I only.
2. OW-171 sign required.

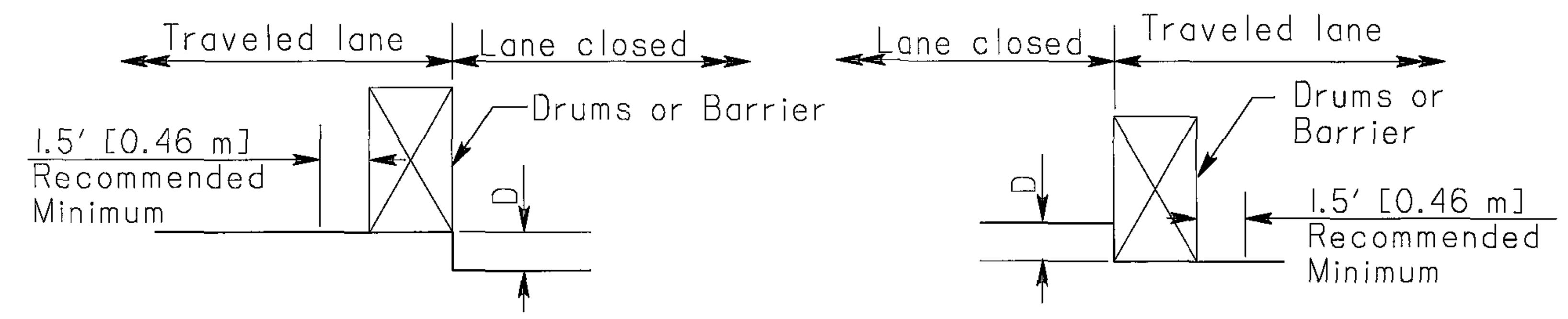


CONDITION I
DROP-OFFS BETWEEN TRAVELED LANES

1. These treatments are to be used for resurfacing, pavement planing, excavation, etc. between or within traveled lanes.

D	Treatment
≤1½″ [≤40]	Erect OW-171 sign.
1½″-3″ [40-75]	1) Lane closure utilizing drums* as shown below OR 2) Optional Wedge Treatment
>3″-5″ [>75-125]	Lane closure utilizing drums as shown below.
>5″ [>125]	Lane closure utilizing portable concrete barrier as shown below.

* Cones may be used for daytime only conditions.

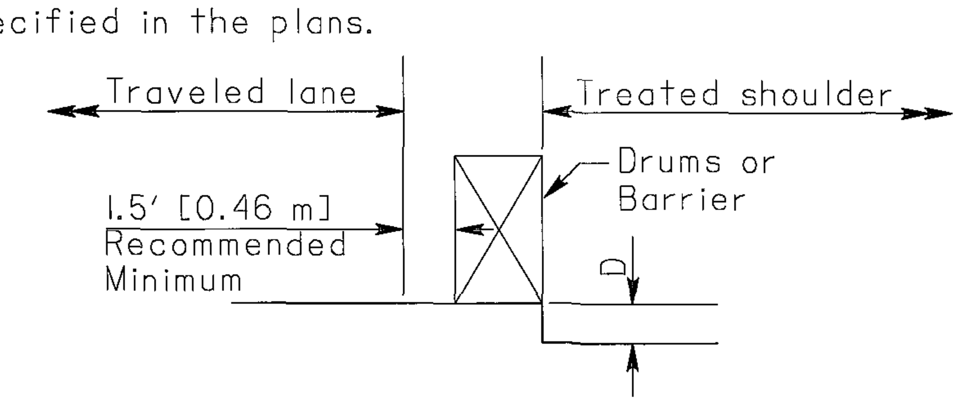


CONDITION II
DROP-OFFS WITHIN GRADED SHOULDER AREA

1. The treatments indicated below are for use in conjunction with resurfacing, planing, or excavations within the graded shoulder area.
2. The graded shoulder area is that flat or gradually sloping area between the edge of a normally traveled lane and the more steeply sloping ditch foreslope or embankment slope. Its surface may be soil or turf, and/or it may be inclusive of a "treated" area (improved with aggregates, asphaltic materials or concrete). For the purpose herein, its maximum width shall be considered to be 12′ [3.6 m].

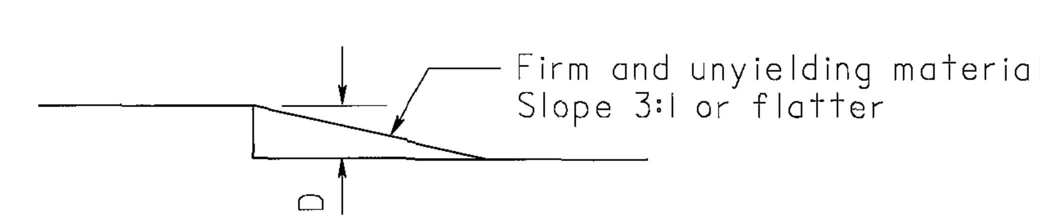
D	Treatment
≤1½″ [≤40]	1) Erect OW-155 signs.
>1½″-5″ [>40-125]	1) If minimum lane width requirements can be met, maintain lanes utilizing drums as shown below OR 2) If minimum. lane width requirements cannot be met, close adjacent lane utilizing drums OR 3) Optional Shoulder Treatment.
>5″-12″ [125-305] Daylight only	If minimum lane width requirements can be met, maintain lanes utilizing drums as shown below.
>5″-24″ [>125-610]	1) If minimum lane width requirements can be met, maintain lanes utilizing portable concrete barrier as shown below. OR 2) If minimum lane width requirements cannot be met, close adjacent lane utilizing drums.
>24″ [>610]	Lane closure utilizing portable concrete barrier as shown below.

* Minimum lane widths shall be 10′ [3.0 m] unless otherwise specified in the plans.



OPTIONAL SHOULDER TREATMENT

1. This treatment may not be used within a bitumunos shoulder where a hot longitudnal joint per CMS 401.15 is required.
2. OW-151 signs required.

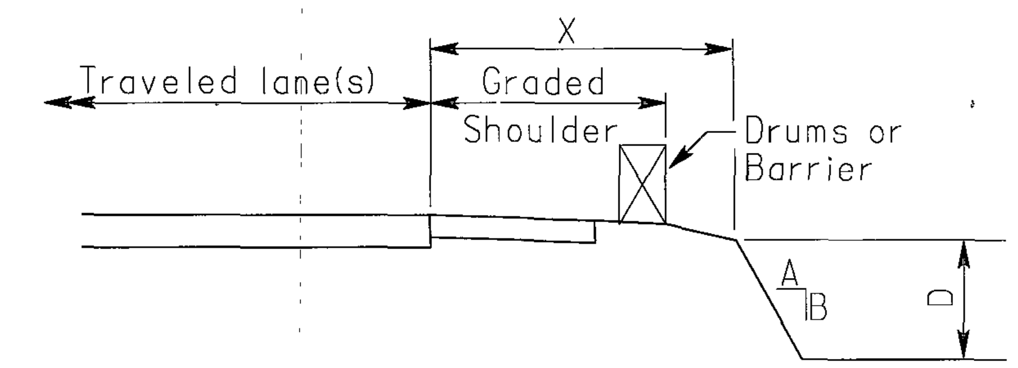


CONDITION III
DROP-OFFS BEYOND GRADED SHOULDER OR BACK OF CURB

1. See Note 2 under Condition II.
2. Use Chart A or B below, as applicable.

CHART A

USE FOR: 1. Uncurbed Facilities.
2. Curbed Facilities, where:
   a. Curbs are less than 6″ [150] in height.
   b. Curbs are 6″ [150] or greater in height and the legal speed is greater than 40 mph [70 km/h].

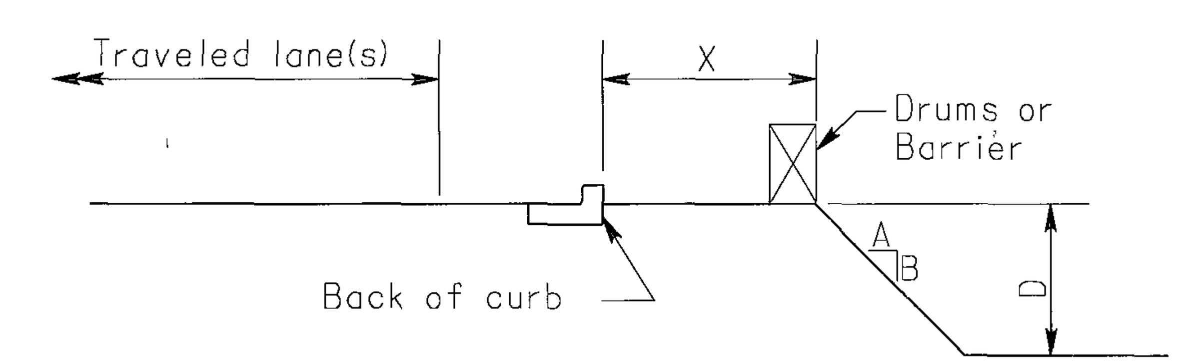


X	D	A/B	Treatment Required	
			Day	Night
0-4′ [0-1.2 m]	Any	Any	(a)	(a)
4′-30′ [1.2-9.1 m]	Any	3:1 or Flatter	None	None
4′-12′ [1.2-3.6 m]	≤3″ [≤75]	Steeper than 3:1	None	None
4′-12′ [1.2-3.6 m]	>3″-≤12″ [>75-≤305]	Steeper than 3:1	Drums	Drums
4′-12′ [1.2-3.6 m]	>12″ [>305]	Steeper than 3:1	Drums	Barrier
>12′-20′ [>3.6-6.1 m]	≤12″ [≤305]	Steeper than 3:1	None	None
>12′-20′ [>3.6-6.1 m]	>12″-≤24″ [>305-≤610]	Steeper than 3:1	Drums	Drums
>12′-20′ [>3.6-6.1 m]	>24″ [>610]	Steeper than 3:1	Drums	Barrier
>20′-30′ [>6.1-9.1 m]	≤24″ [≤610]	Steeper than 3:1	None	None
>20′-30′ [>6.1-9.1 m]	>24″ [>610]	Steeper than 3:1	Drums	Barrier
>30′ [>9.1 m]	Any	Any	None	None

(a) Use treatment specified under Condition II.

CHART B

USE FOR: Curbed facilities, where the curb is 6″ [150] or greater in height and the legal speed is 40 mph [70 km/h] or less.



X	D	A/B	Treatment Required	
			Day	Night
0-10′ [0-3.0 m]	≤12″ [≤305]	Any	None	Drums
0-10′ [0-3.0 m]	>12″ [>305]	Any	Drums	Drums
>10′ [>3.0 m]	Any	Any	None	None

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

08-07-01

DROPOFFS IN WORK ZONES

OFFICE OF TRAFFIC ENGINEERING

2010190

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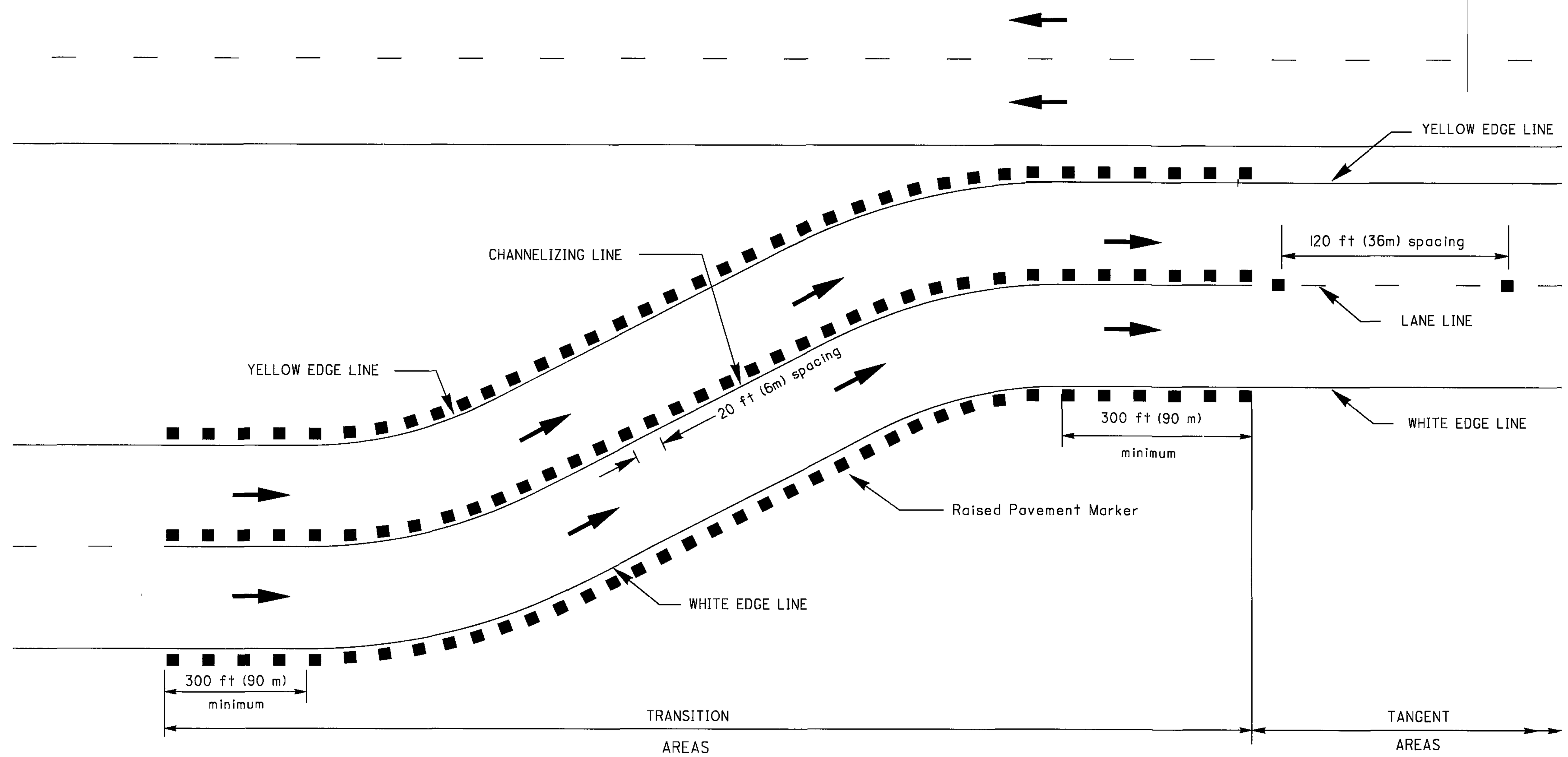
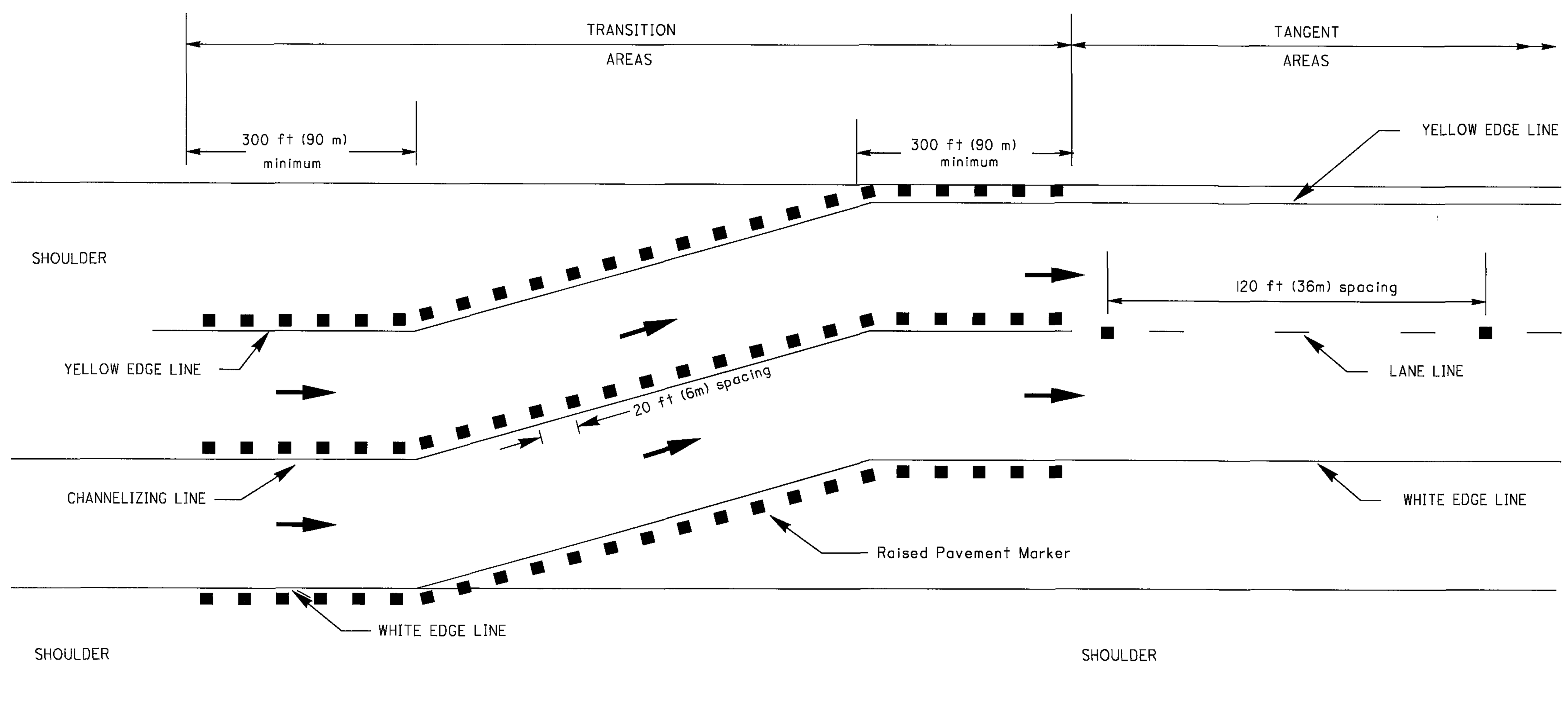


WORK ZONE DELINEATION FOR CROSSOVERS



WORK ZONE DELINEATION FOR LANE SHIFTS

LEGEND

■ RPM

→ DIRECTION OF TRAVEL

NOTES

1. This drawing presents delineation procedures for freeways and expressways on asphalt surfaces. Procedures are provided for transition areas and for tangent areas. The procedures for transition areas apply to crossovers and to lane shifts of 4 feet (1.2 m) or greater. Delineation of transition areas for shifts of less than 4 inches (1.2 m) shall be as per the tangent area delineation.

2. Raised Pavement Markers shall meet the following seasonal specifications:
   a) Raised Pavement Markers in place during the normal construction season may be either 621 Raised Pavement Markers or 614 Work Zone Raised Pavement Markers (WZRPMs). The normal construction season with regard to use of WZRPMs shall be the period from April 1 through October 15.
   b) At locations where it is intended that Raised Pavement Markers will winter over, 621 Raised Pavement Markers shall be provided.
   c) At locations where it is intended that work will continue beyond October 15 but will be completed prior to the beginning of snow-plowing season, 614 WZRPMs may remain in place until such time. Snow-plowing season shall be as specified in the plans. If snow-plowing season is not specified in the plans, it shall be assumed that snow-plowing season runs from October 16 through March 31. If project delays, not the fault of ODOT, cause work to extend into the snow-plowing season, the contractor shall be responsible for replacing WZRPMs with 621 Raised Pavement Markers, as determined by the Engineer, at the contrator's expense.

3. All material furnished shall be listed on the Department's Prequalified Lists.

4. The geometrics of the crossover shall be as shown in the plans. Additional details are provided in Standard Construction Drawing MT-95.70.

5. See Standard Construction Drawings MT-102.10 and MT-102.20 for more details concerning lane shifts.

6. Spacing of raised pavement markers (RPMs) shall be at 20 feet (6 m) center-to-center for all long-line marking within transition areas. Within tangent areas RPMs shall be provided only along the lane lines, spaced at 120 foot (36 m) center-to-center.

7. The RPMs shall be 1-way, facing oncomming traffic, and shall be white or yellow to match the color of the associated line marking.

8. Along the edge lines, the RPMs shall be offset a maximum of 4 inches (100 mm) to the outside of the lines. Along the channelizing lines, the RPMs shall be offset to the left of the lines by no more than 1 inch (25 mm). Along the lane lines the RPMs shall be centered between dashes.

9. The RPMs shall be removed when they are no longer appropriate.

10. Holes resulting from removal of 621 RPMs shall be filled as per 202.10. If removal of the 621 RPMs does not take place immediately after the highlighted alignment becomes invalid, the reflectors within the 621 RPMs shall be removed.

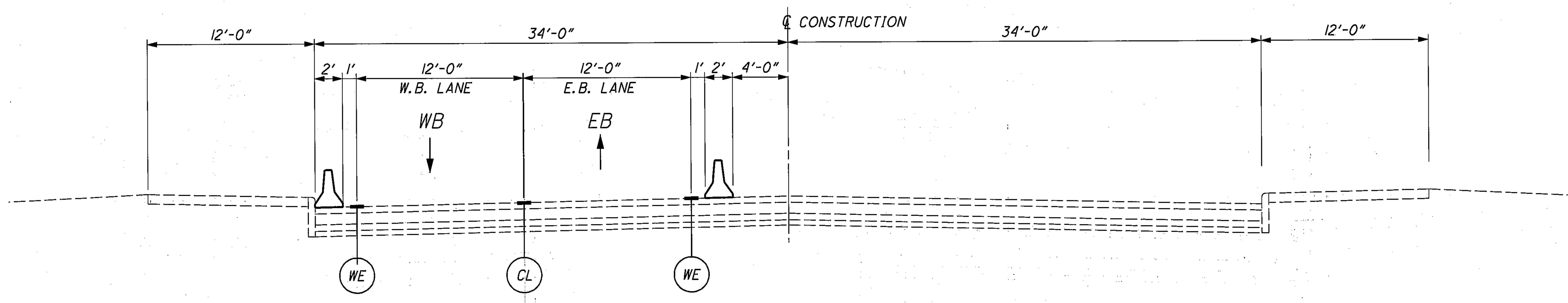
11. Following removal of 621 RPMs resurfacing of the transition shall be performed. The resurfacing shall be performed at the time the surface course is being applied. In preparation for resurfacing, the existing pavement shall be removed to a depth necessary to match the level of the intermediate course of the proposed pavement.

04-21-06

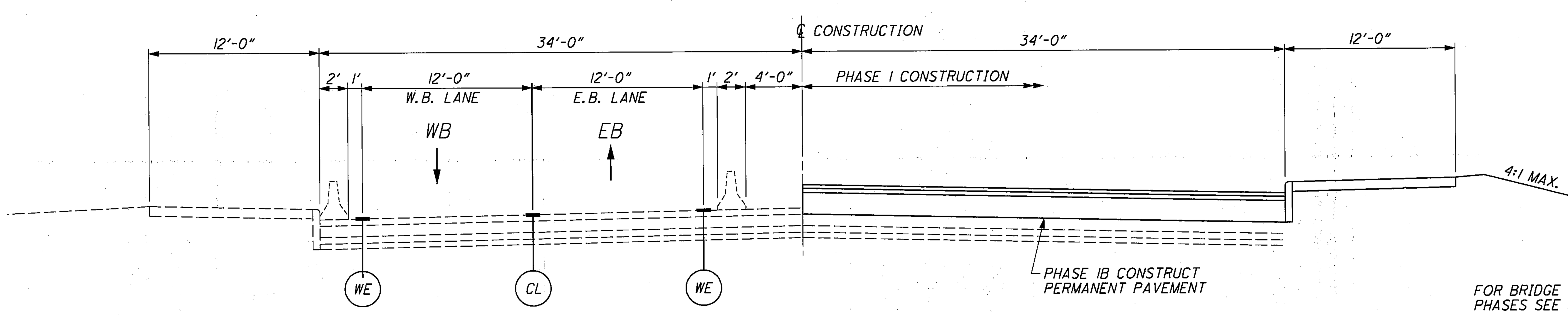
WORK ZONE DELINEATION ON ASPHALT SURFACES

OFFICE OF TRAFFIC ENGINEERING

209930



2 LANE SECTION - MARKET STREET
PHASE IA

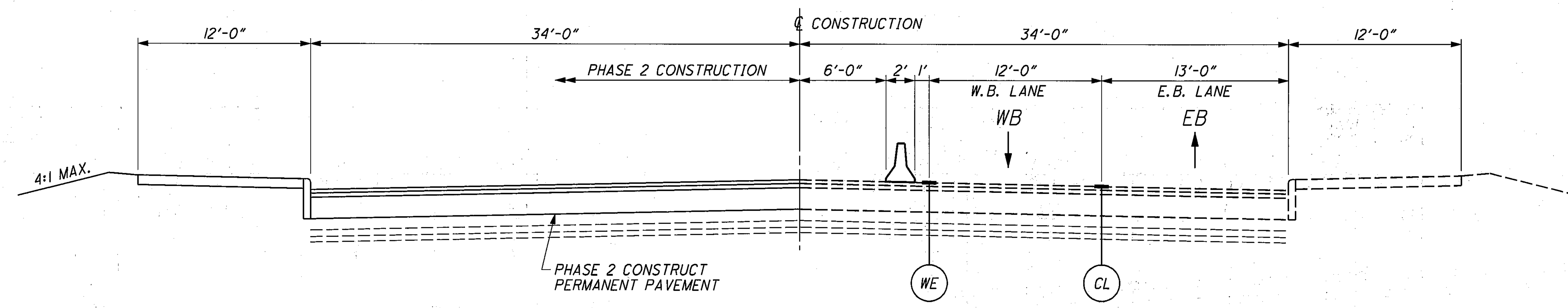


2 LANE SECTION - MARKET STREET
PHASE IB

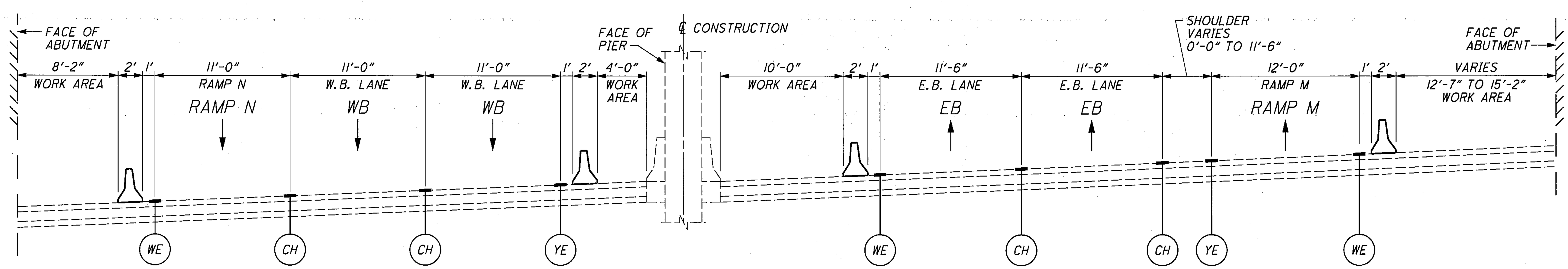
FOR BRIDGE CONSTRUCTION
PHASES SEE SHEET 68

MOT PHASES 1A AND 1B - TYPICAL SECTIONS

MAH-680-6.03



2 LANE SECTION - MARKET STREET
PHASE 2



6 LANE SECTION - I-680
PHASE 1 AND 2

MOT PHASES 1 AND 2 - TYPICAL SECTIONS

MAH-680-6.03

13A
85

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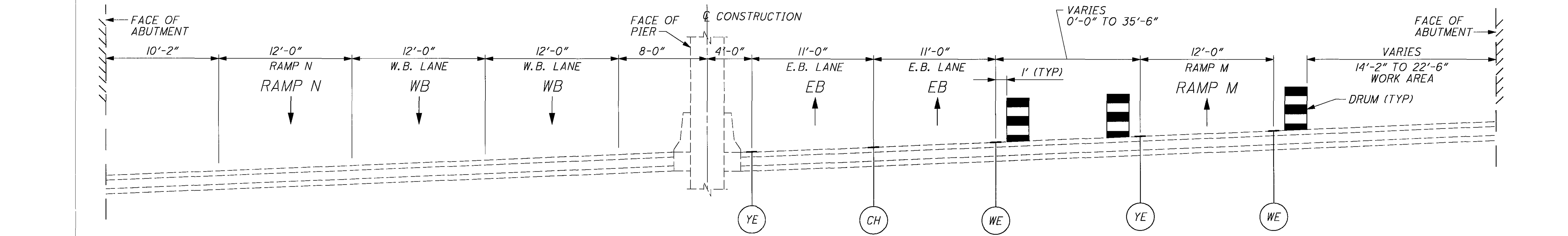
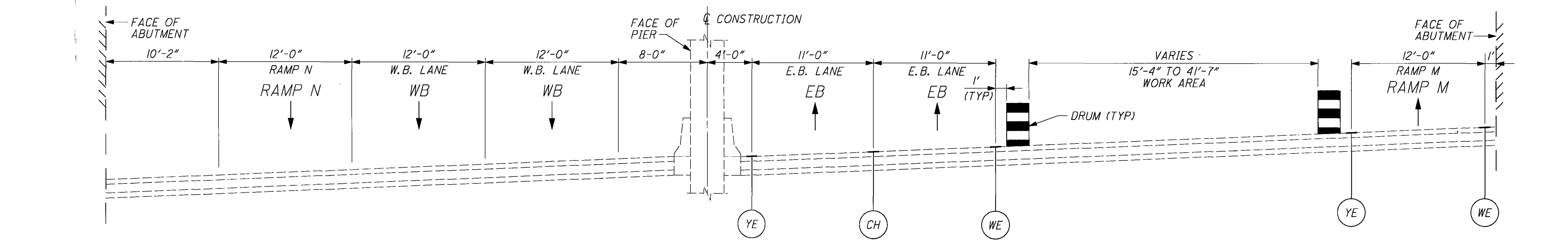
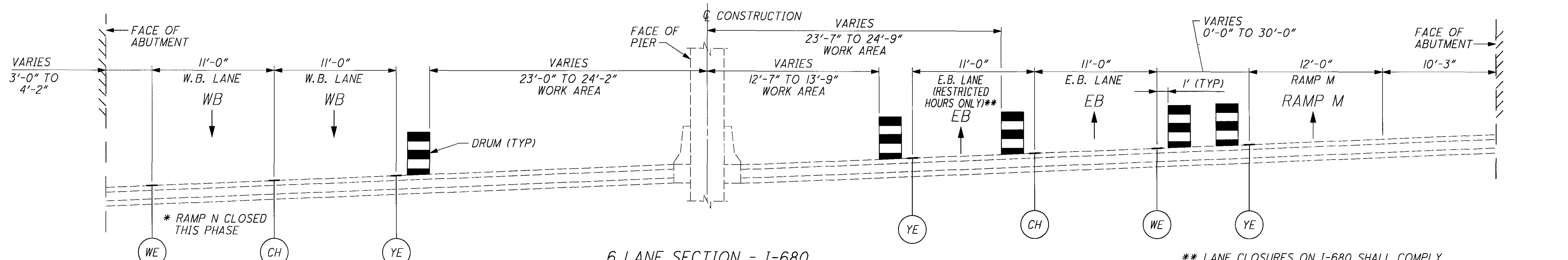


6 LANE SECTION - I-680
PHASE 3A

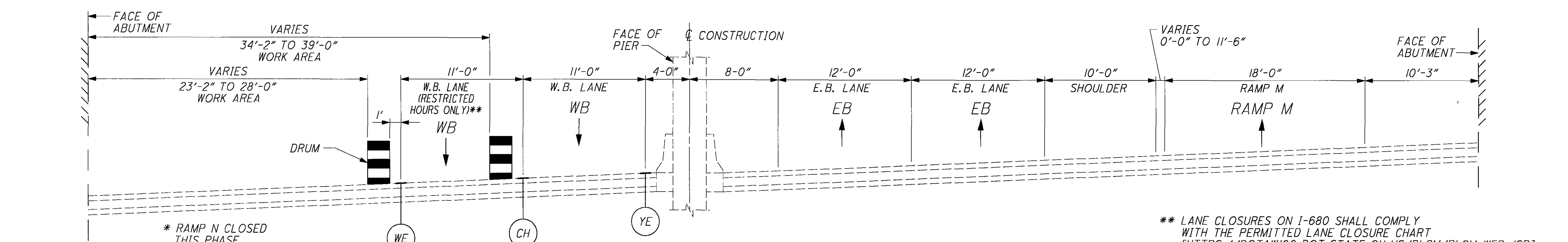


6 LANE SECTION - I-680
PHASE 3B



6 LANE SECTION - I-680
PHASE 3C

** LANE CLOSURES ON I-680 SHALL COMPLY WITH THE PERMITTED LANE CLOSURE CHART [HTTPS://DOTAWI00.DOT.STATE.OH.US/PLCM/PLCM_WEB.JSP]



6 LANE SECTION - I-680
PHASE 3D

** LANE CLOSURES ON I-680 SHALL COMPLY WITH THE PERMITTED LANE CLOSURE CHART [HTTPS://DOTAWI00.DOT.STATE.OH.US/PLCM/PLCM_WEB.JSP]

MOT PHASES 3A THROUGH 3D - TYPICAL SECTIONS

MAH-680-6.03

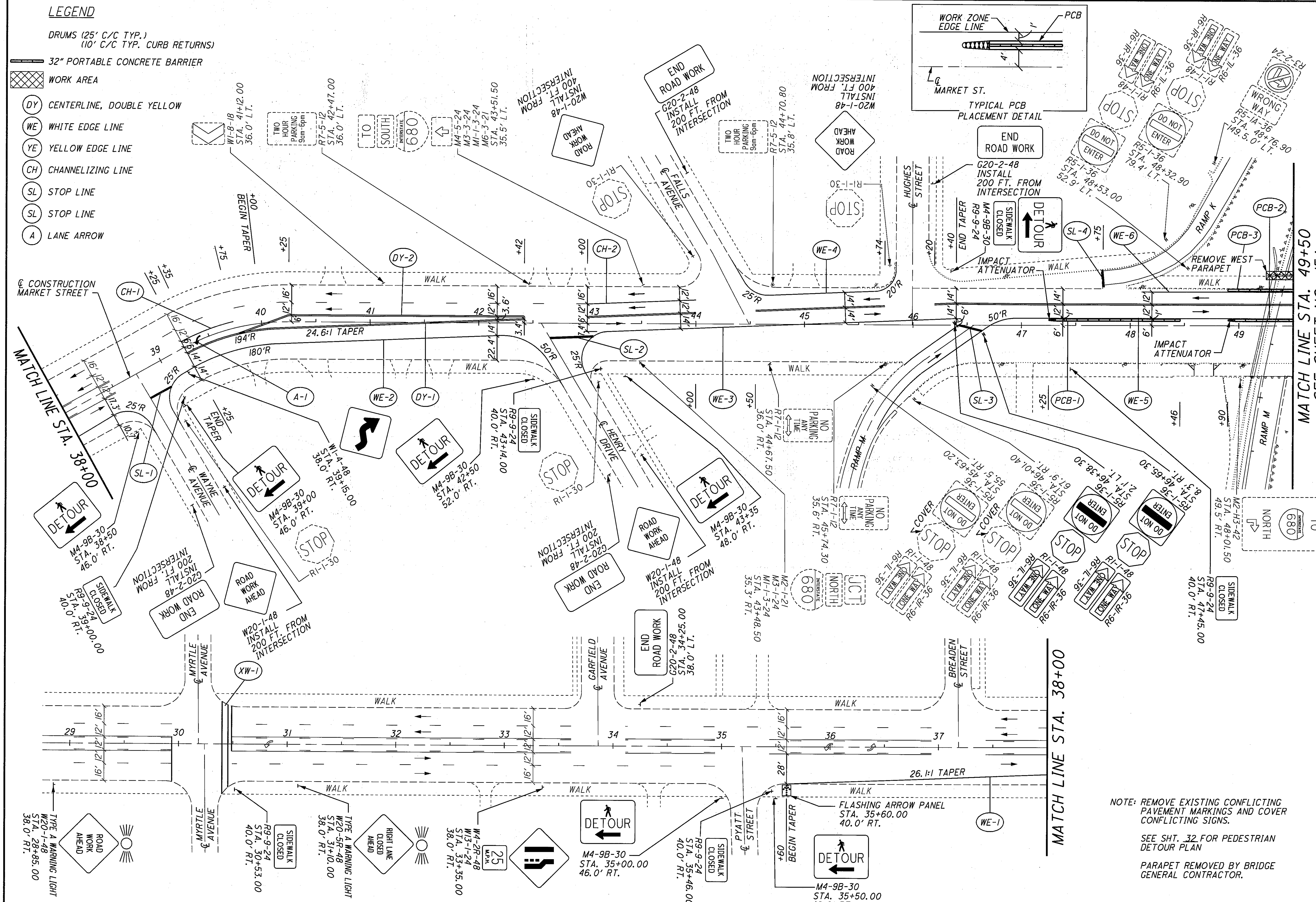
LEGEND

DRUMS (25' C/C TYP.) (10' C/C TYP. CURB RETURNS)

32" PORTABLE CONCRETE BARRIER

WORK AREA

- (DY) CENTERLINE, DOUBLE YELLOW
- (WE) WHITE EDGE LINE
- (YE) YELLOW EDGE LINE
- (CH) CHANNELIZING LINE
- (SL) STOP LINE
- (SL) STOP LINE
- (A) LANE ARROW



NOTE: REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND COVER CONFLICTING SIGNS.

SEE SHT. 32 FOR PEDESTRIAN DETOUR PLAN

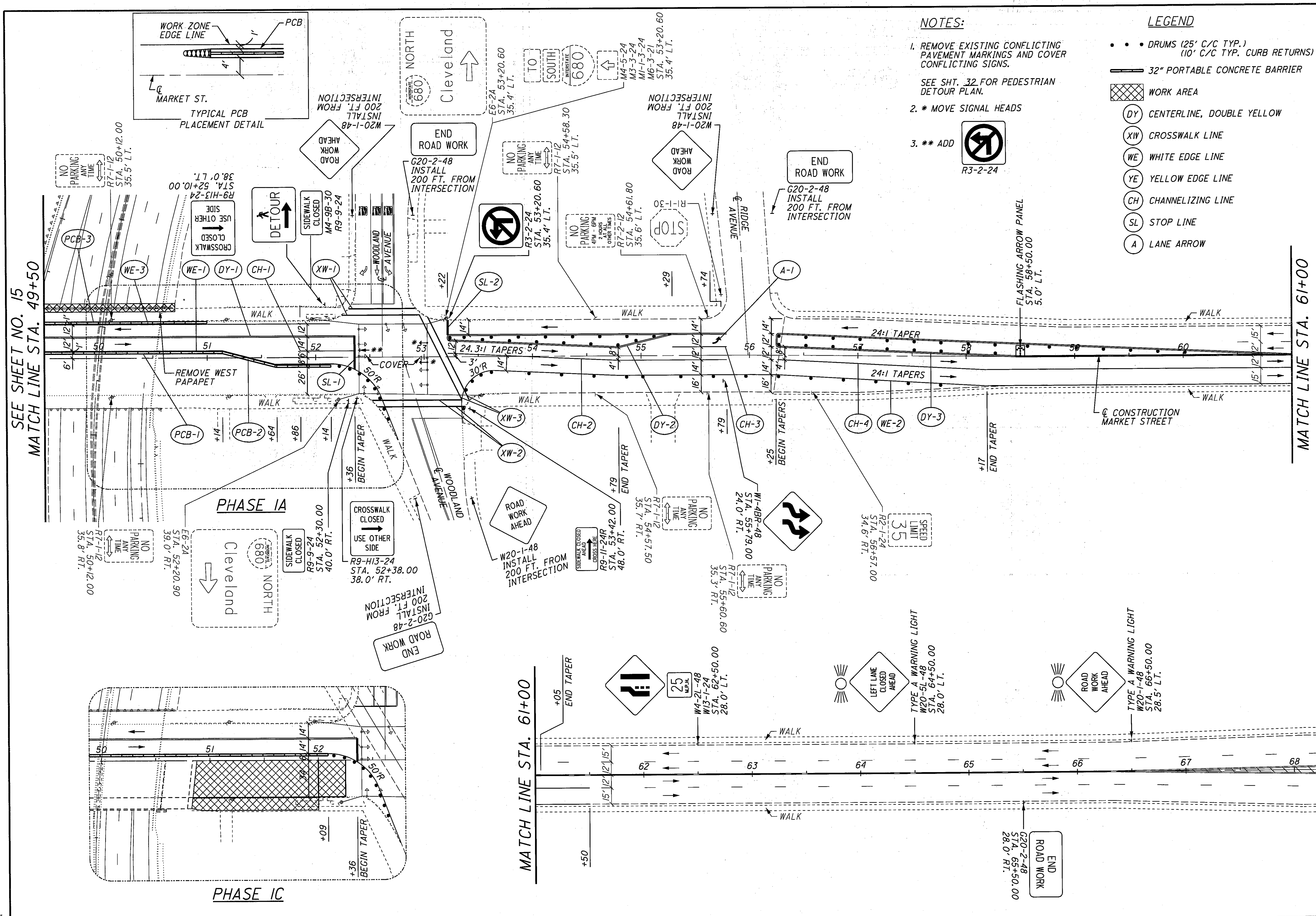
PARAPET REMOVED BY BRIDGE GENERAL CONTRACTOR.

MAINTENANCE OF TRAFFIC MARKET STREET - PHASE 1A

HORIZONTAL SCALE IN FEET 0 20 40 80

CALCULATED AWS CHECKED FLK

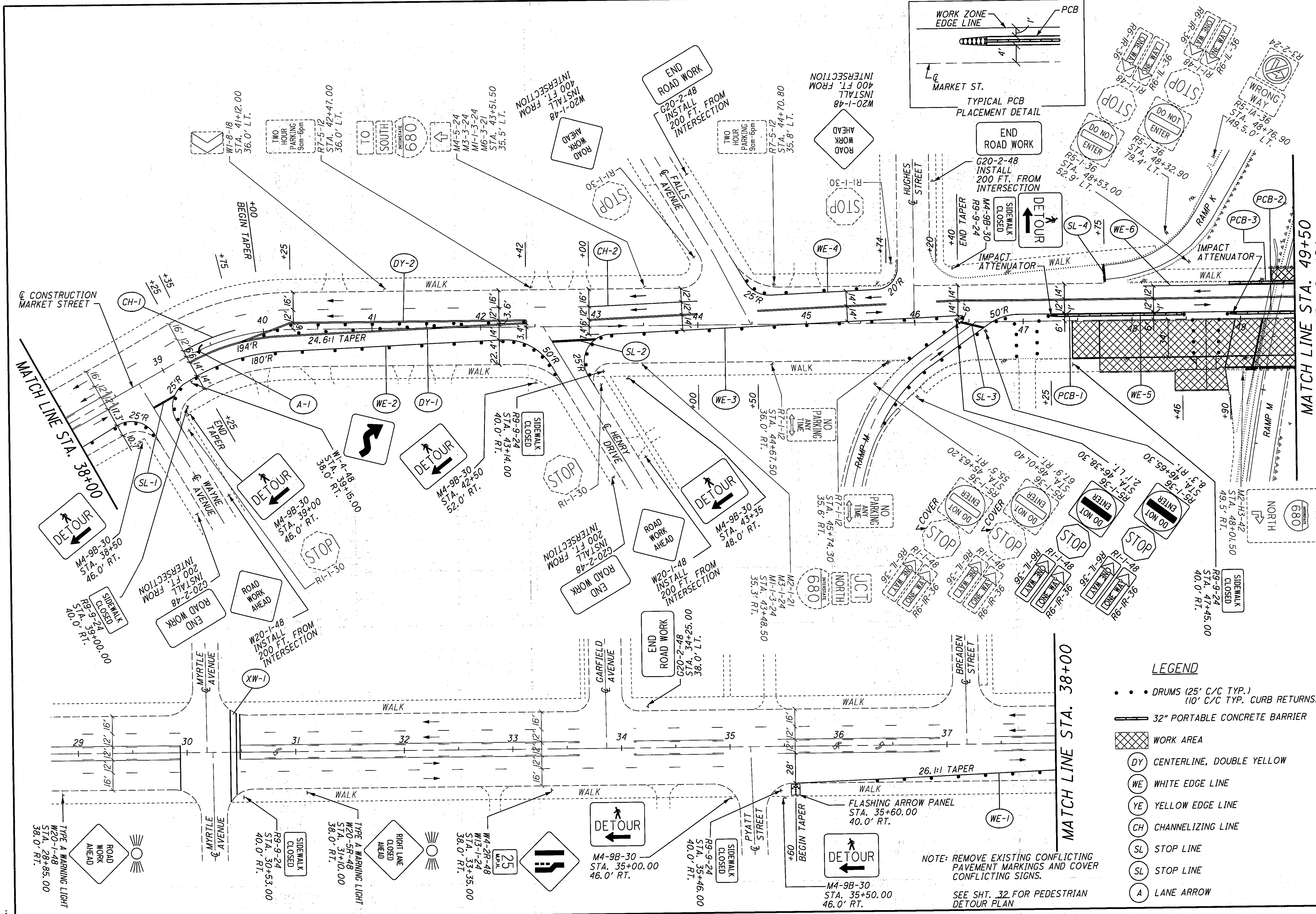
MAH-680-6.03



CALCULATED AWS
CHECKED FLK

MAINTENANCE OF TRAFFIC
MARKET STREET - PHASE 1A

MAH-680-6.03



LEGEND

- DRUMS (25' C/C TYP.) (10' C/C TYP. CURB RETURNS)
- 32" PORTABLE CONCRETE BARRIER
- WORK AREA
- (DY) CENTERLINE, DOUBLE YELLOW
- (WE) WHITE EDGE LINE
- (YE) YELLOW EDGE LINE
- (CH) CHANNELIZING LINE
- (SL) STOP LINE
- (SL) STOP LINE
- (A) LANE ARROW

NOTE: REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND COVER CONFLICTING SIGNS.

SEE SHT. 32 FOR PEDESTRIAN DETOUR PLAN

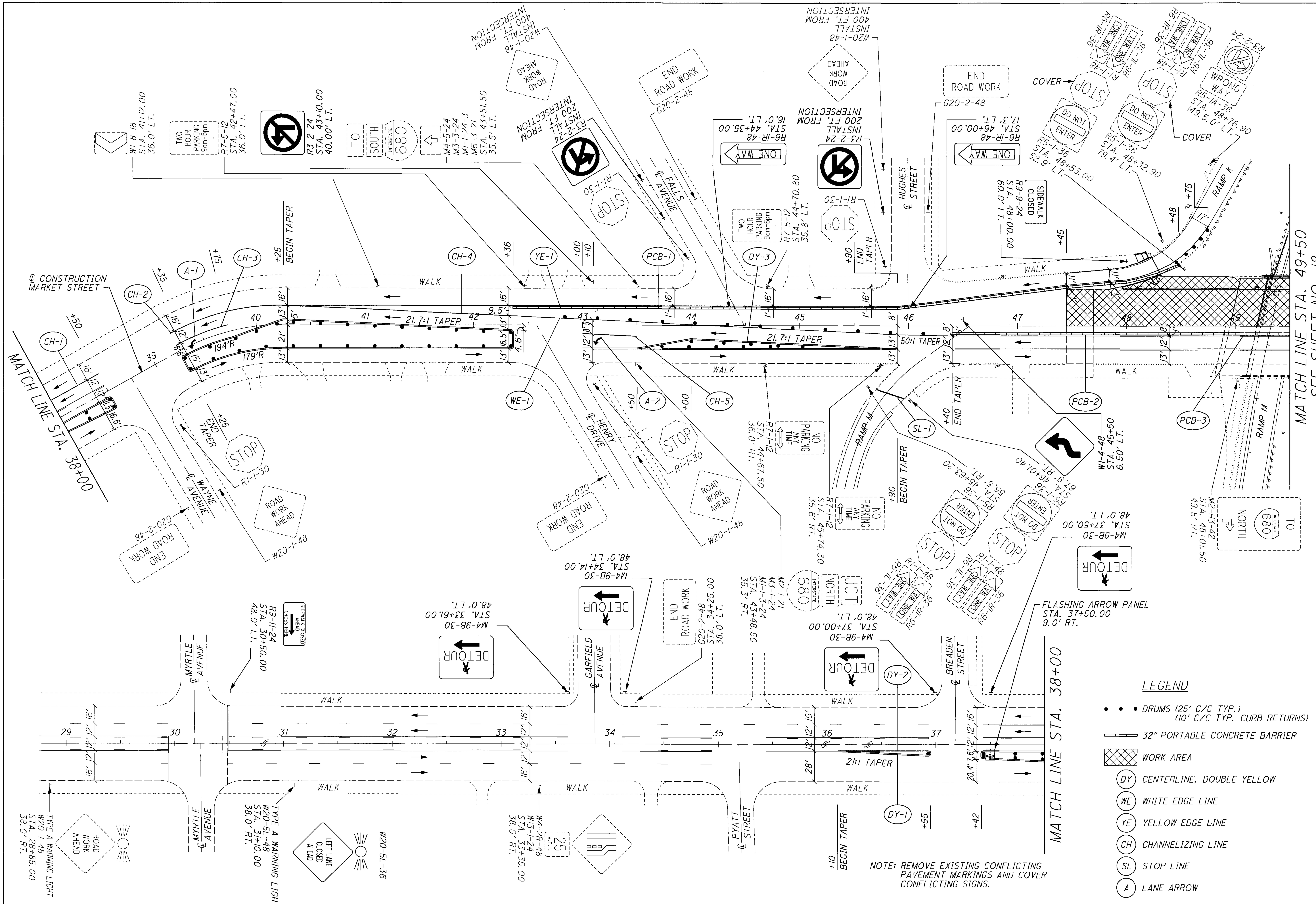
HORIZONTAL SCALE IN FEET: 0 20 40 80

CALCULATED AWS | CHECKED FLK

MAINTENANCE OF TRAFFIC MARKET STREET - PHASE 1B

MAH-680-6.03


NOTES:
1. REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND COVER CONFLICTING SIGNS.
SEE SHT. 32 FOR PEDESTRIAN DETOUR PLAN.
PARAPET REMOVED BY BRIDGE GENERAL CONTRACTOR.
2. * MOVE SIGNAL HEADS
3. ** ADD
R3-2-24
LEGEND
DRUMS (25' C/C TYP.) (10' C/C TYP. CURB RETURNS)
32" PORTABLE CONCRETE BARRIER
WORK AREA
DY CENTERLINE, DOUBLE YELLOW
XW CROSSWALK LINE
WE WHITE EDGE LINE
YE YELLOW EDGE LINE
CH CHANNELIZING LINE
SL STOP LINE
A LANE ARROW
HORIZONTAL SCALE IN FEET
CALCULATED AWS
CHECKED FLK
TYPICAL PCB PLACEMENT DETAIL
WORK ZONE EDGE LINE
PCB
MARKET ST.
SEE SHEET NO. 16
MATCH LINE STA. 49+50
MATCH LINE STA. 61+00
PHASE IB
PHASE IC
WOODLAND AVENUE
RIDGE AVENUE
C CONSTRUCTION MARKET STREET
FLASHING ARROW PANEL STA. 58+50.00 5.0' LT.
24.3:1 TAPERS
24:1 TAPER
24:1 TAPERS
BEGIN TAPER
END TAPER
BEGIN TAPERS
WALK
COVER
END ROAD WORK
ROAD WORK AHEAD
DETOUR
SIDEWALK CLOSED
CROSSWALK CLOSED USE OTHER SIDE
NO PARKING ANY TIME
STOP
SPEED LIMIT 35
LEFT LANE CLOSED AHEAD
TYPE A WARNING LIGHT W20-5L-48 STA. 64+50.00 28.0' LT.
TYPE A WARNING LIGHT W20-1-48 STA. 66+50.00 28.5' LT.
W4-2L-48 W13-1-24 STA. 62+50.00 28.0' LT.
G20-2-48 STA. 65+50.00 28.0' RT.
W20-1-48 INSTALL 200 FT. FROM INTERSECTION
G20-2-48 INSTALL 200 FT. FROM INTERSECTION
R9-H13-24 STA. 52+10.00 38.0' LT.
R9-H13-24 STA. 52+38.00 38.0' RT.
R9-9-24 STA. 52+30.00 40.0' RT.
M4-9B-30 R9-9-24
E6-2A STA. 52+20.90 39.0' RT.
E6-2A STA. 53+20.60 35.4' LT.
R7-1-12 STA. 50+12.00 35.5' LT.
R7-1-12 STA. 50+12.00 35.8' RT.
R3-2-24 STA. 53+20.60 35.4' LT.
M4-5-24 M3-3-24 M1-1-3-24 M6-3-21 STA. 53+20.60 35.4' LT.
R7-1-12 STA. 54+58.30 35.5' LT.
R7-2-12 STA. 54+61.80 35.6' LT.
R1-1-30
R7-1-12 STA. 54+57.50 35.7' RT.
R9-11-24R STA. 53+42.00 48.0' RT.
W1-4BR-48 STA. 55+79.00 24.0' RT.
R7-1-12 STA. 55+60.60 35.3' RT.
R2-1-24 STA. 56+57.00 34.6' RT.
NORTH 680 Cleveland
TO SOUTH 680
MAINTENANCE OF TRAFFIC
MARKET STREET - PHASE 1B &1C
MAH-680-6.03
16A
85



HORIZONTAL SCALE IN FEET

CALCULATED AWS
CHECKED FLK

MAINTENANCE OF TRAFFIC MARKET STREET - PHASE 2

MAH-680-6.03

MAINTENANCE OF TRAFFIC
MARKET STREET - PHASE 2

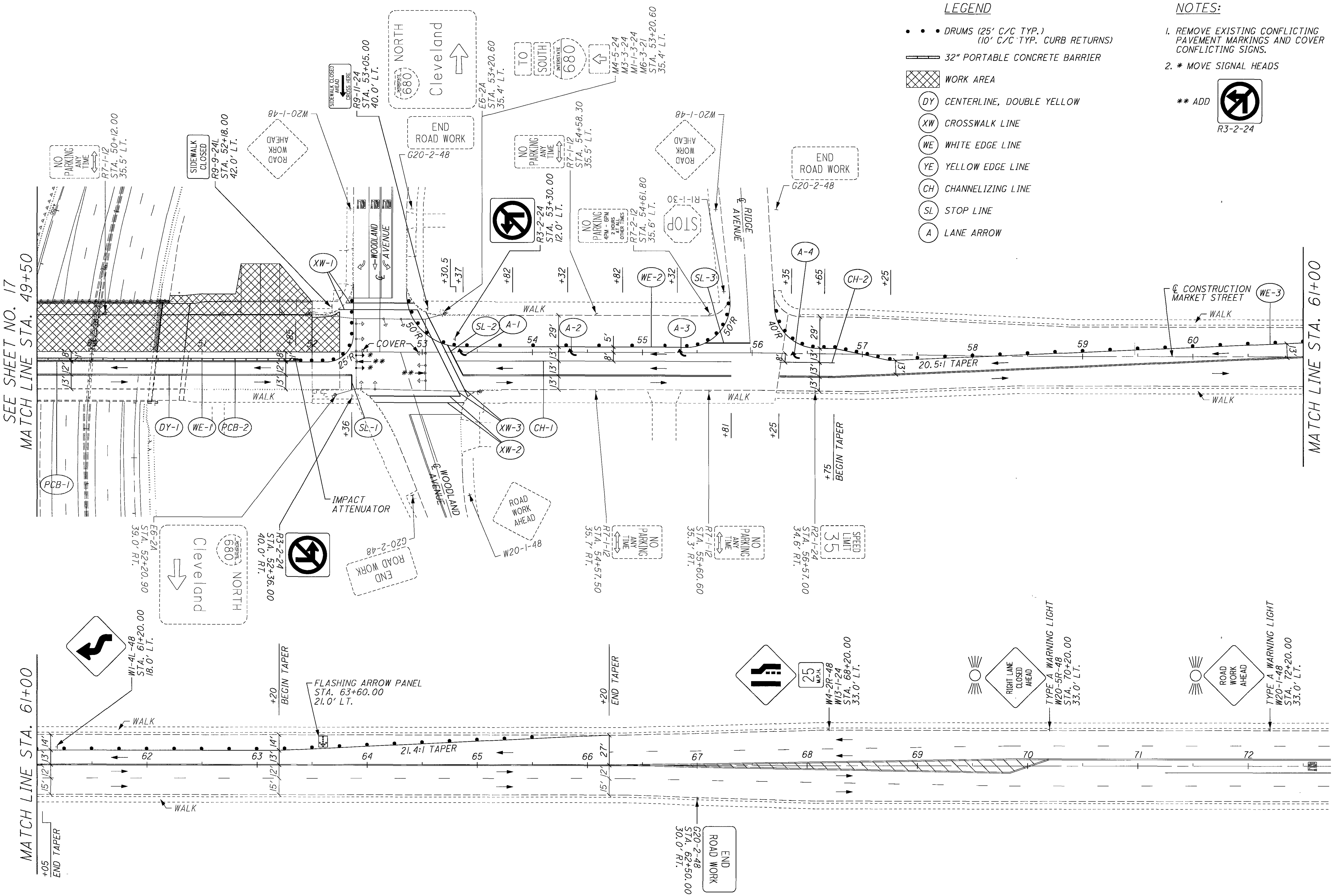
LEGEND

- • • • DRUMS (25' C/C TYP.) (10' C/C TYP. CURB RETURNS)
- 32" PORTABLE CONCRETE BARRIER
- WORK AREA
- (DY) CENTERLINE, DOUBLE YELLOW
- (XW) CROSSWALK LINE
- (WE) WHITE EDGE LINE
- (YE) YELLOW EDGE LINE
- (CH) CHANNELIZING LINE
- (SL) STOP LINE
- (A) LANE ARROW

NOTES:

1. REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND COVER CONFLICTING SIGNS.
2. * MOVE SIGNAL HEADS

** ADD R3-2-24

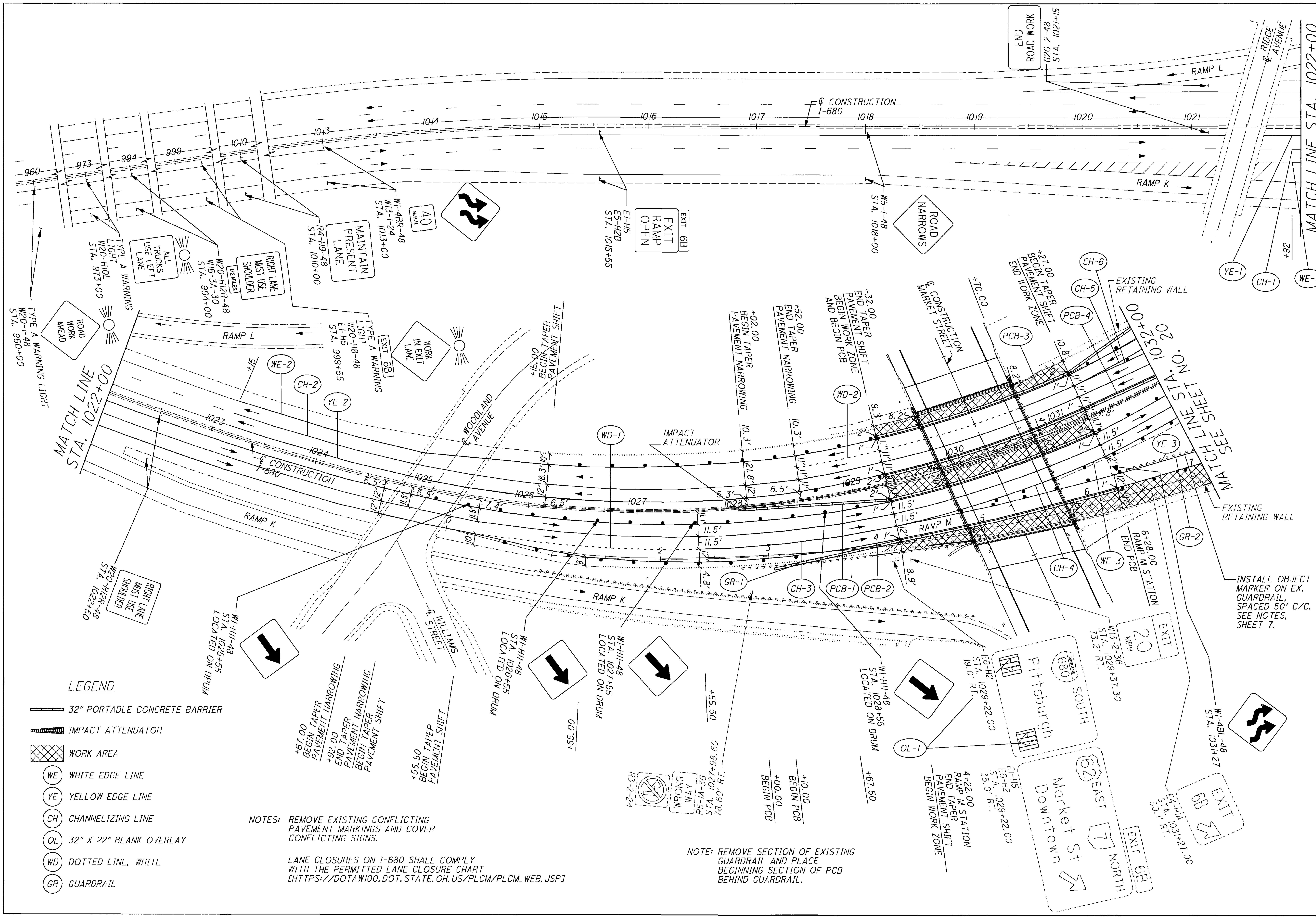


R3-2-24

HORIZONTAL SCALE IN FEET

CALCULATED AWS CHECKED FLK

MAH-680-6.03



LEGEND

- 32" PORTABLE CONCRETE BARRIER
- IMPACT ATTENUATOR
- WORK AREA
- (WE) WHITE EDGE LINE
- (YE) YELLOW EDGE LINE
- (CH) CHANNELIZING LINE
- (OL) 32" X 22" BLANK OVERLAY
- (WD) DOTTED LINE, WHITE
- (GR) GUARDRAIL

NOTES: REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND COVER CONFLICTING SIGNS.

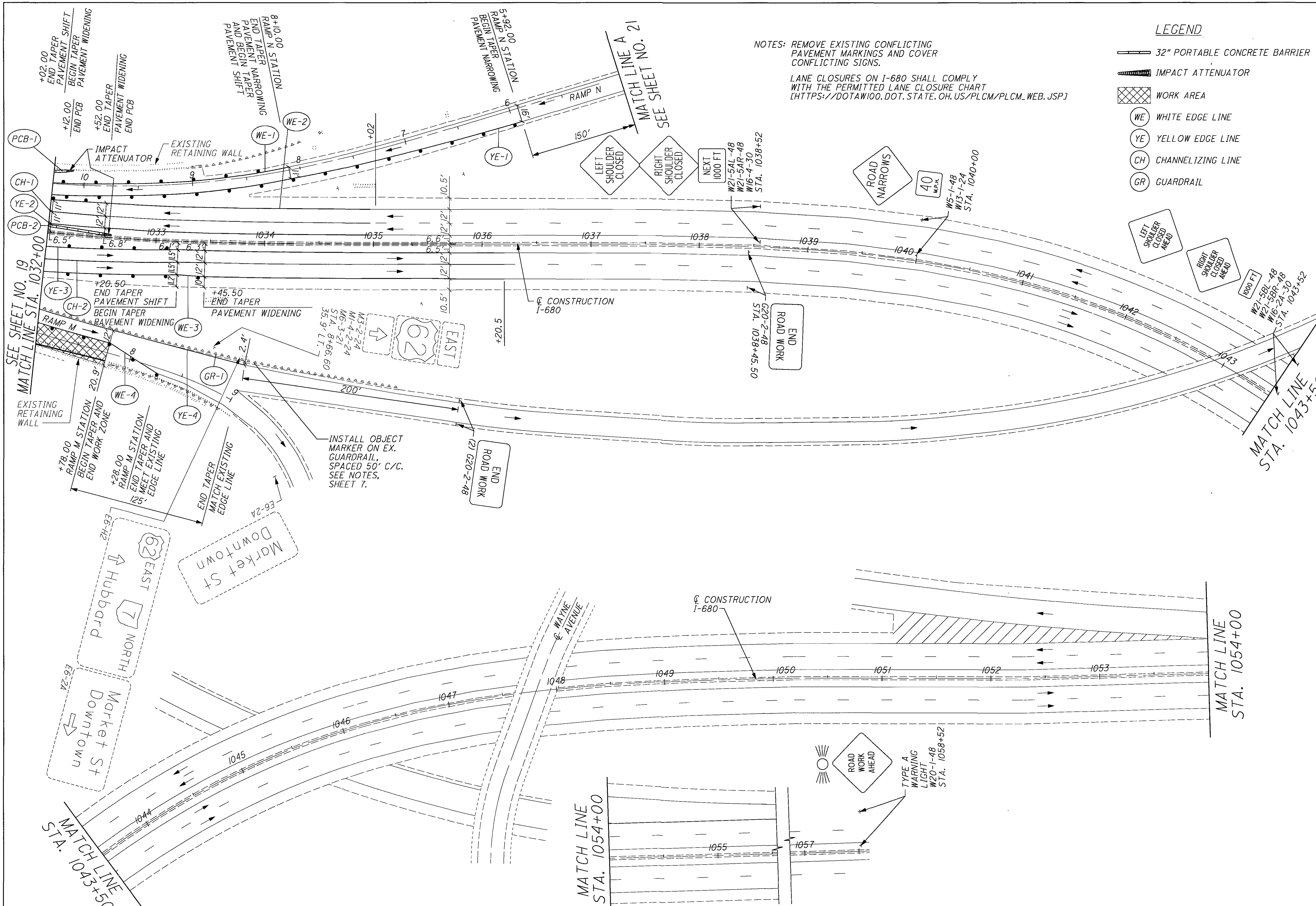
LANE CLOSURES ON I-680 SHALL COMPLY WITH THE PERMITTED LANE CLOSURE CHART [HTTPS://DOTAW100.DOT.STATE.OH.US/PLCM/PLCM_WEB.JSP]

NOTE: REMOVE SECTION OF EXISTING GUARDRAIL AND PLACE BEGINNING SECTION OF PCB BEHIND GUARDRAIL.

CALCULATED AWS CHECKED FLK

MAINTENANCE OF TRAFFIC I-680 PHASES 1 AND 2

MAH-680-6.03



MAINTENANCE OF TRAFFIC
I-680 PHASES 1 AND 2

MAH-680-6.03

HORIZONTAL SCALE IN FEET: 0 20 40 80

CALCULATED AWS
CHECKED FLK

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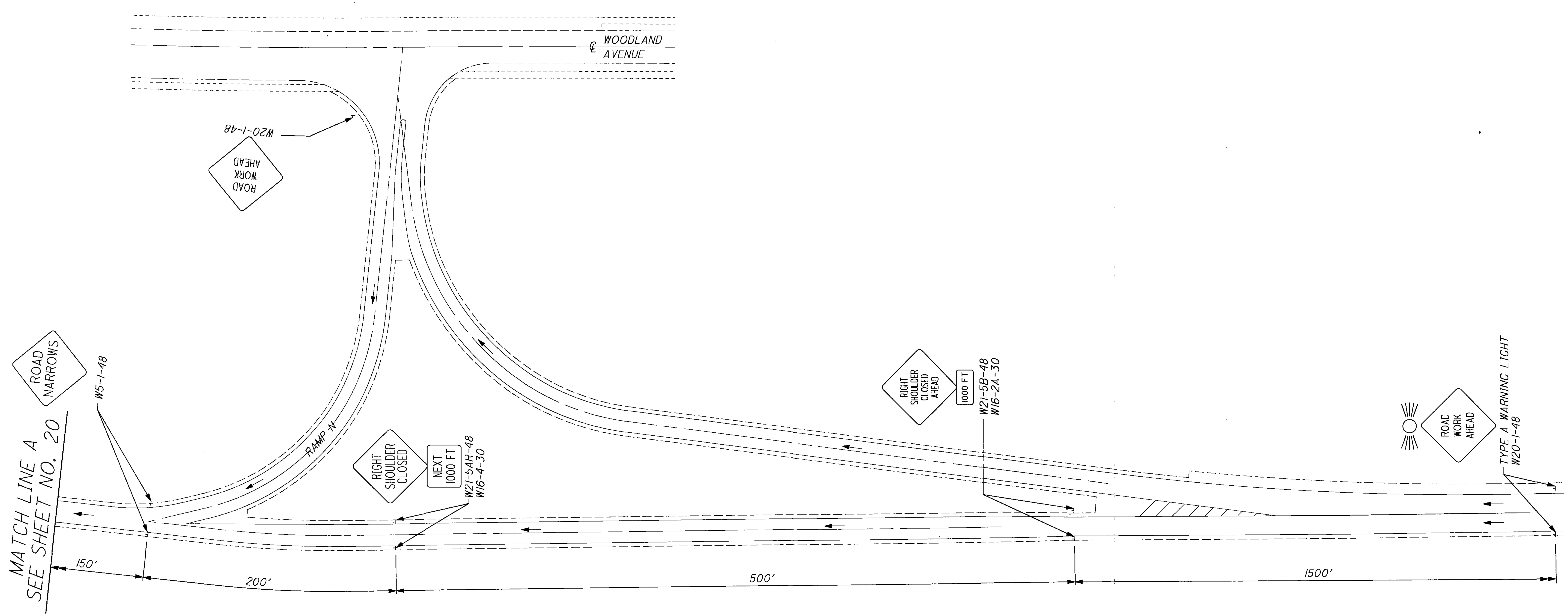

HORIZONTAL SCALE IN FEET

0 20 40 80

CALCULATED AWS

CHECKED FLK

MAINTENANCE OF TRAFFIC I-680 PHASES 1 AND 2

MAH-680-6.03

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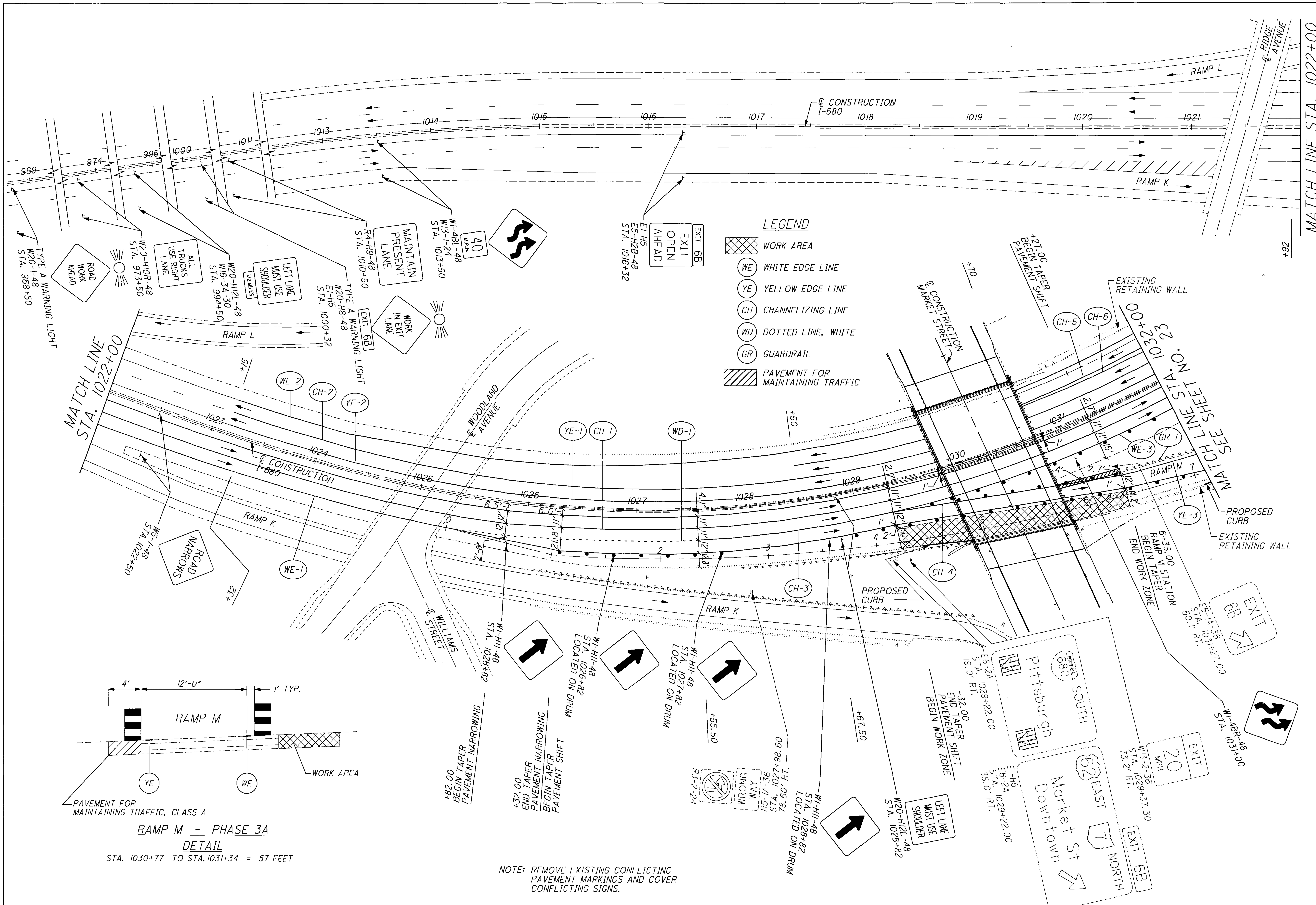
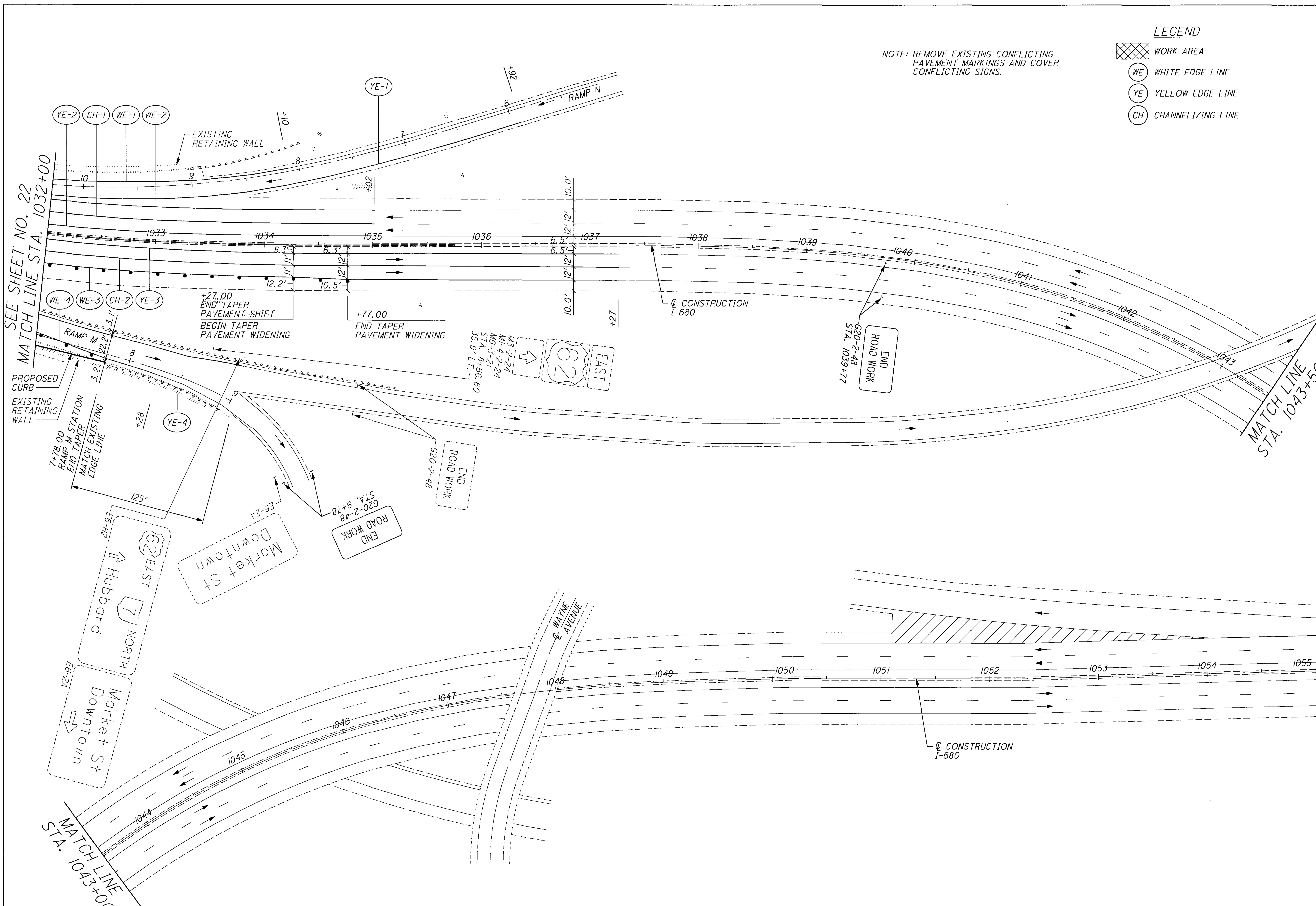


HORIZONTAL SCALE IN FEET 0 20 40 80

CALCULATED AWS
CHECKED FLK

MAINTENANCE OF TRAFFIC I-680 PHASE 3A

MAH-680-6.03

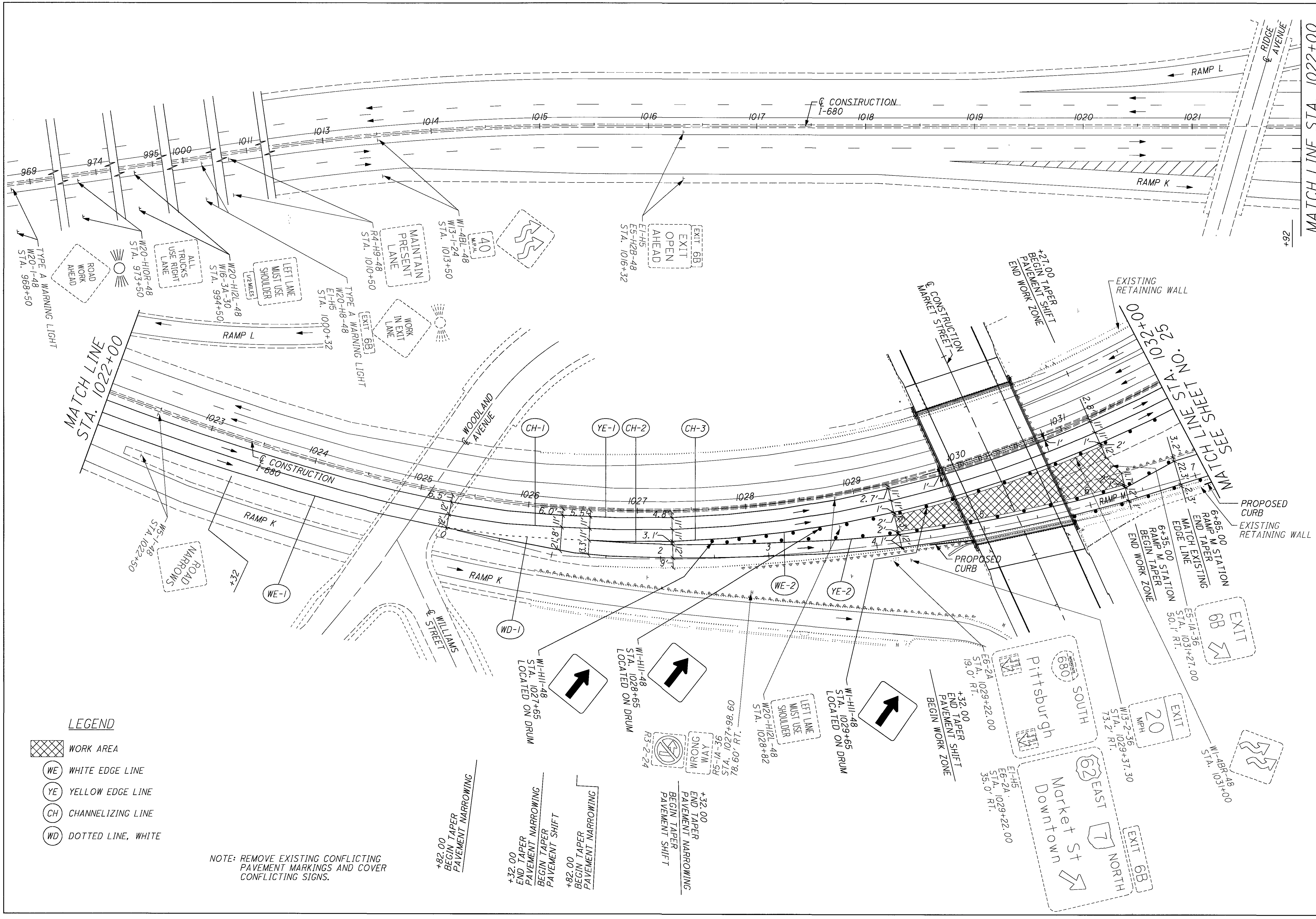


CALCULATED AWS
CHECKED FLK

HORIZONTAL SCALE IN FEET 0 20 40 80

MAINTENANCE OF TRAFFIC
I-680 PHASE 3A

MAH-680-6.03



LEGEND

- WORK AREA
- (WE) WHITE EDGE LINE
- (YE) YELLOW EDGE LINE
- (CH) CHANNELIZING LINE
- (WD) DOTTED LINE, WHITE

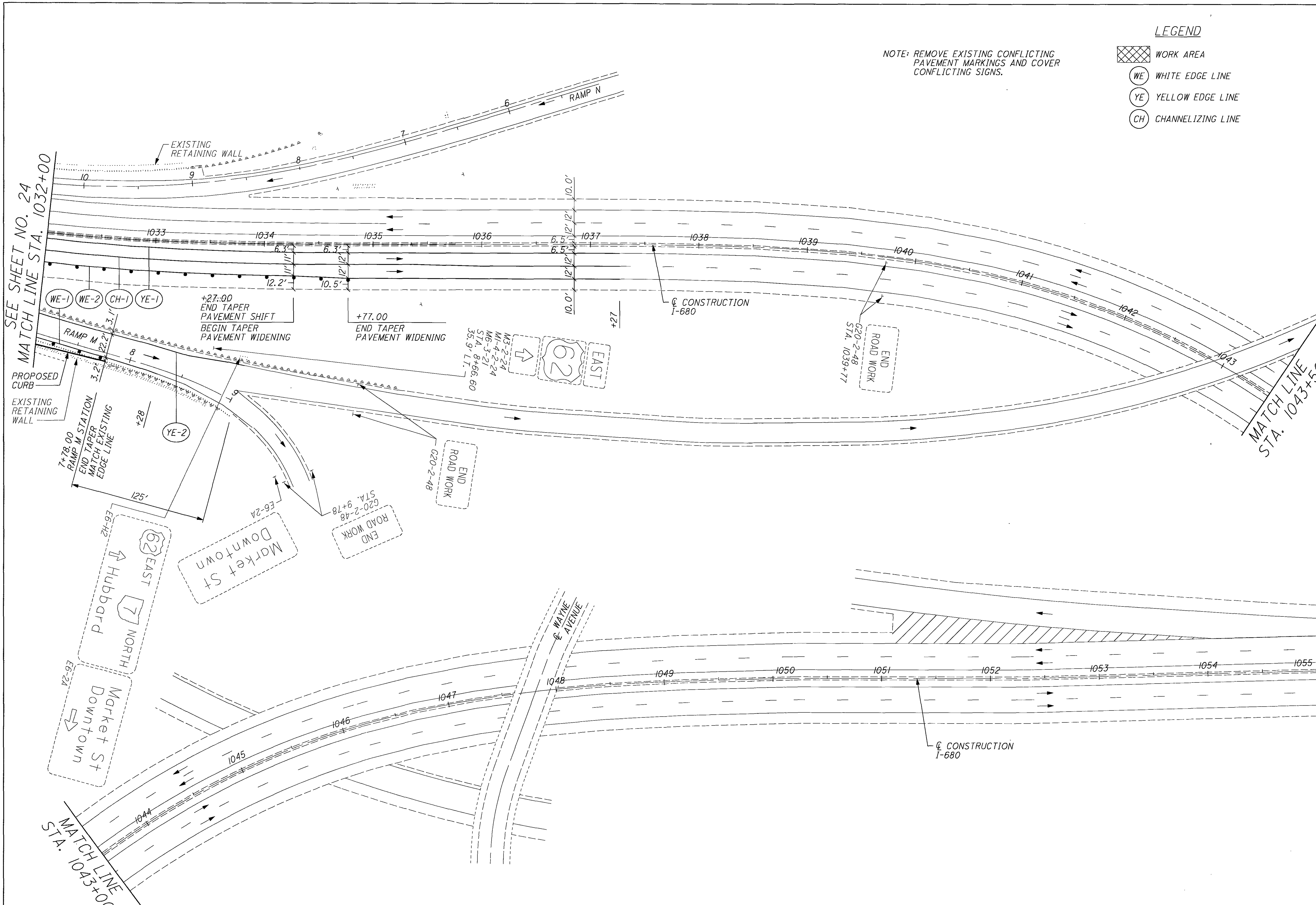
NOTE: REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND COVER CONFLICTING SIGNS.

HORIZONTAL SCALE IN FEET 0 20 40 80

CALCULATED AWS
CHECKED FLK

MAINTENANCE OF TRAFFIC I-680 PHASE 3B

MAH-680-6.03



CALCULATED AWS
CHECKED FLK

MAINTENANCE OF TRAFFIC I-680 PHASE 3B

MAH-680-6.03

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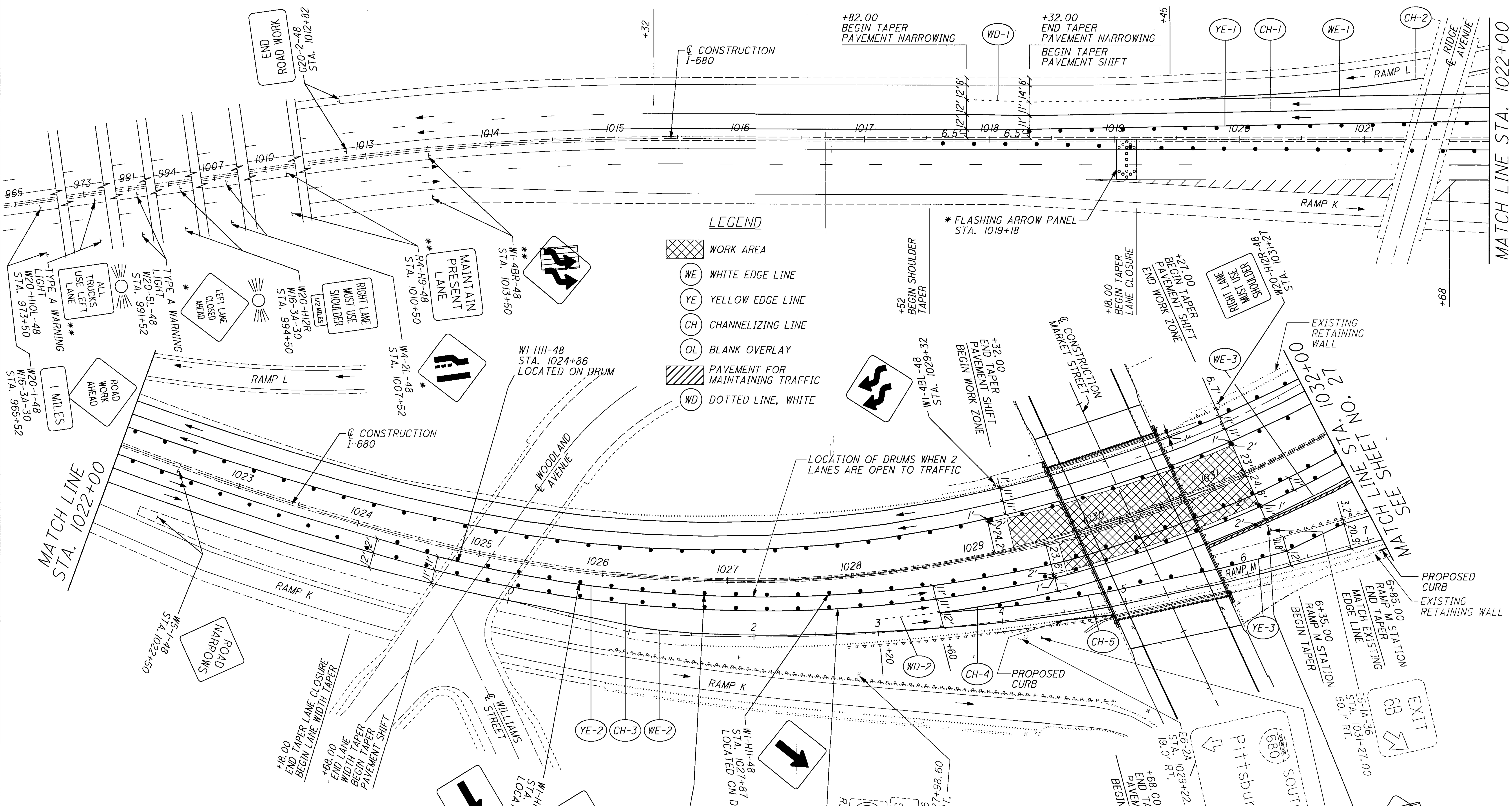
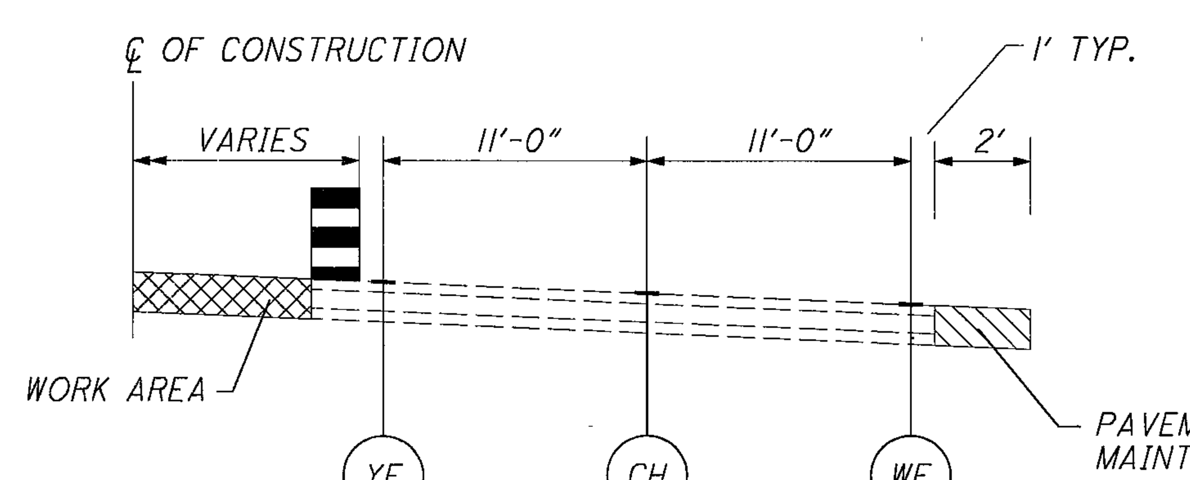


LEGEND

- WORK AREA
- (WE) WHITE EDGE LINE
- (YE) YELLOW EDGE LINE
- (CH) CHANNELIZING LINE
- (OL) BLANK OVERLAY
- PAVEMENT FOR MAINTAINING TRAFFIC
- (WD) DOTTED LINE, WHITE



I-680 - PHASE 3C

WESTBOUND DETAIL

STA. 1030+76 TO STA. 1032+00 = 124 FEET
STA. 1032+00 TO STA. 1032+70 = 70 FEET

NOTE: FOR EASTBOUND MAINTAINENANCE OF TRAFFIC DETAIL SEE SHEET 27 .

NOTES:

1. REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND COVER CONFLICTING SIGNS.
2. LANE CLOSURES ON I-680 SHALL COMPLY WITH THE PERMITTED LANE CLOSURE CHART [HTTPS://DOTAW100.DOT.STATE.OH.US/PLCM/PLCM_WEB.JSP]

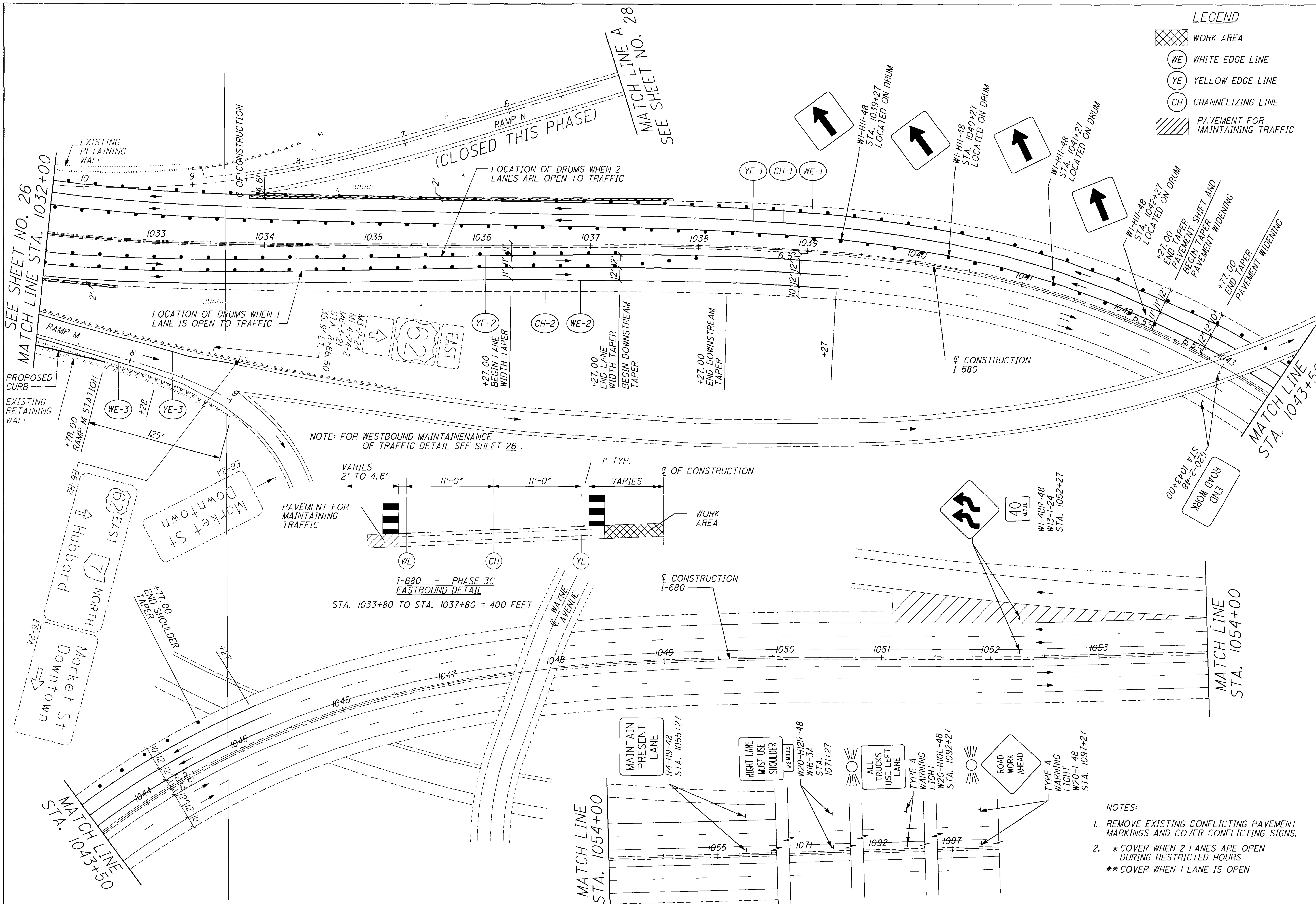
* COVER WHEN 2 LANES ARE OPEN DURING RESTRICTED HOURS
** COVER WHEN 1 LANE IS OPEN

CALCULATED AWS CHECKED FLK.

MAINTENANCE OF TRAFFIC I-680 PHASE 3C

MAH-680-6.03

109-06-07\19916MP130.dgn 09/06/2007 04:16:30 PM



LEGEND

- WORK AREA
- (WE) WHITE EDGE LINE
- (YE) YELLOW EDGE LINE
- (CH) CHANNELIZING LINE
- PAVEMENT FOR MAINTAINING TRAFFIC

NOTES:

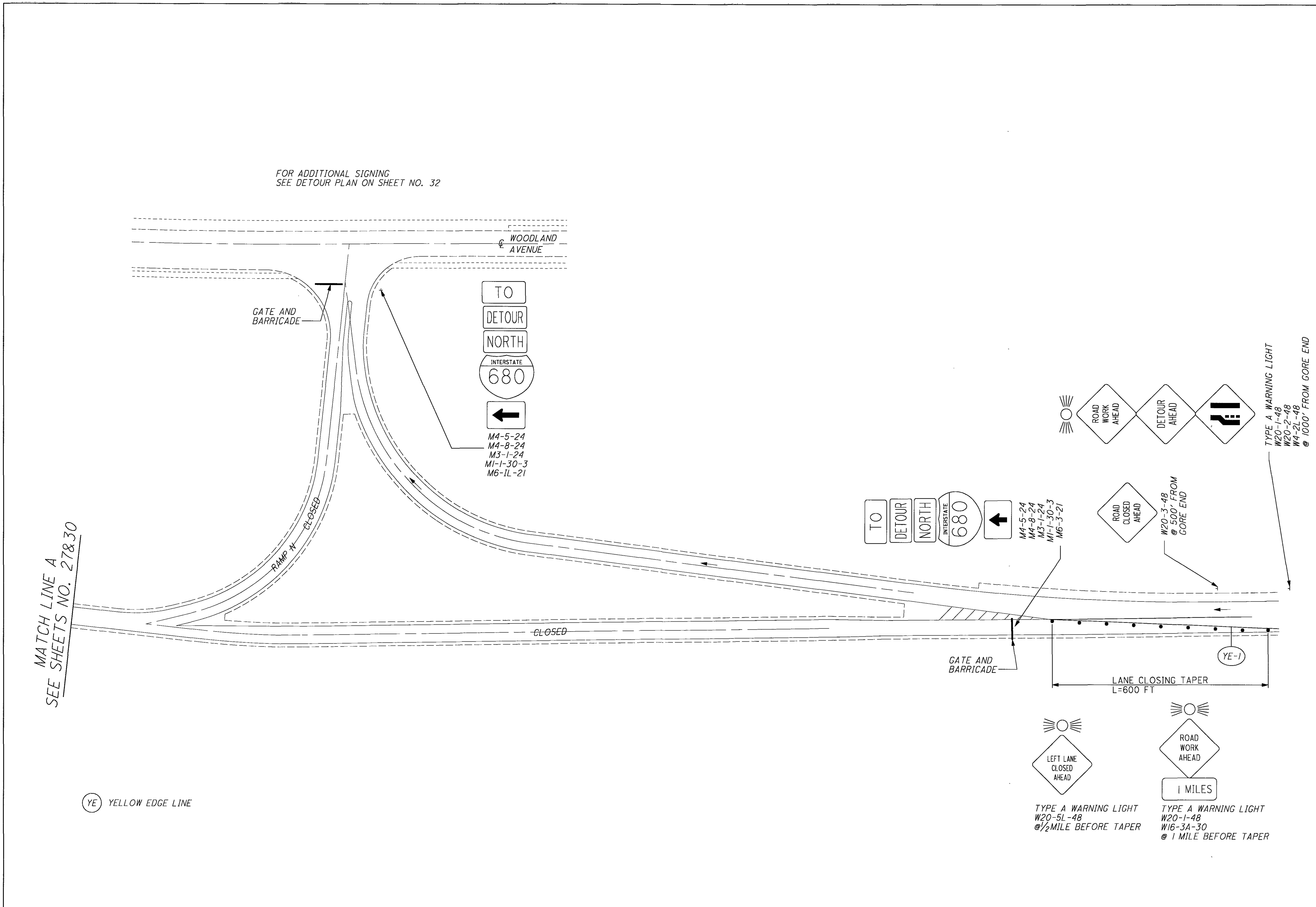
1. REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND COVER CONFLICTING SIGNS.
2. * COVER WHEN 2 LANES ARE OPEN DURING RESTRICTED HOURS
   ** COVER WHEN 1 LANE IS OPEN

HORIZONTAL SCALE IN FEET: 0 20 40 80

CALCULATED AWS
CHECKED FLK

MAINTENANCE OF TRAFFIC I-680 PHASE 3C

MAH-680-6.03



N

0 20 40 80
HORIZONTAL SCALE IN FEET

CALCULATED AWS
CHECKED FLK

MAINTENANCE OF TRAFFIC I-680 PHASE 3C & 3D

MAH-680-6.03

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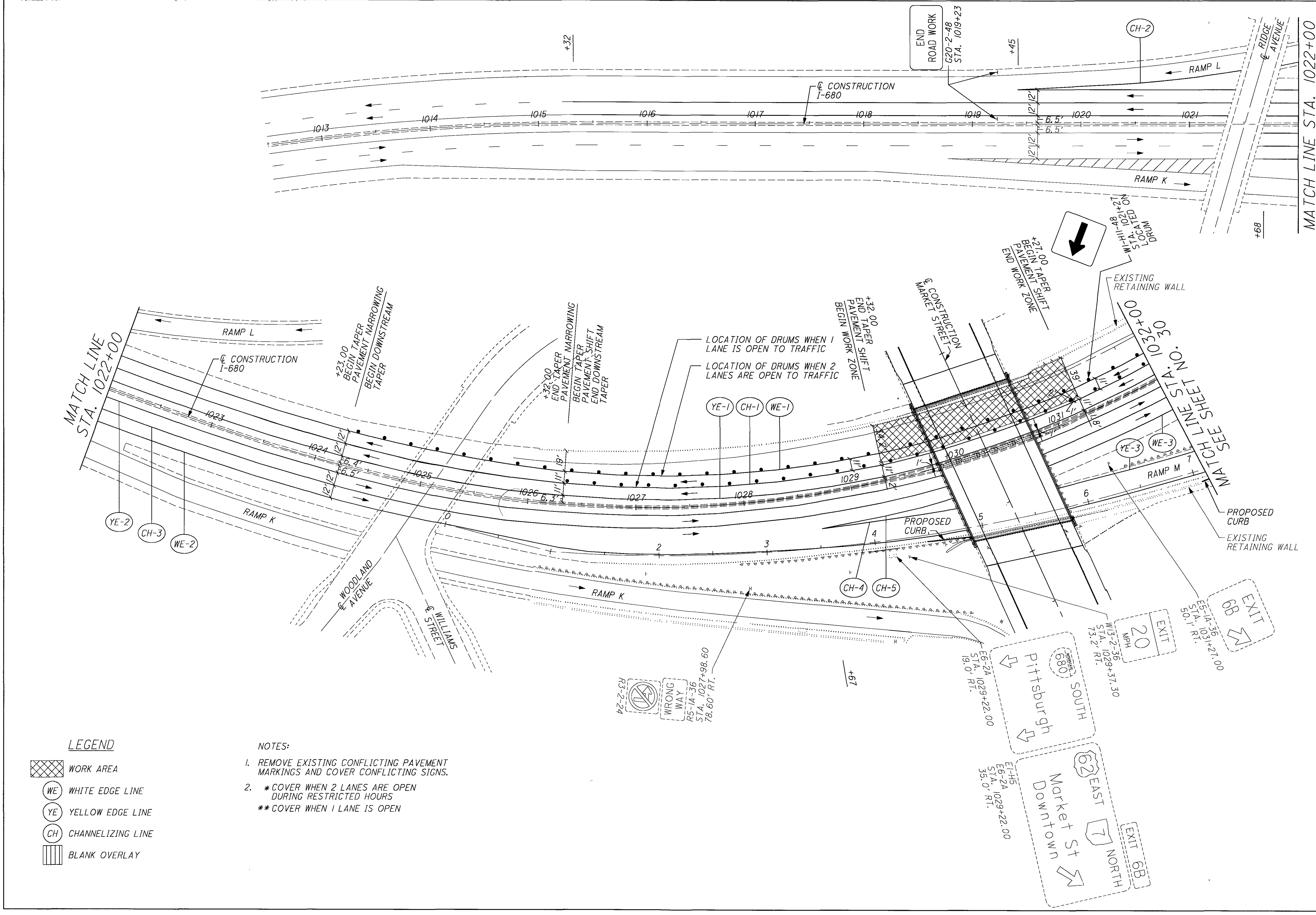


LEGEND

- WORK AREA
- (WE) WHITE EDGE LINE
- (YE) YELLOW EDGE LINE
- (CH) CHANNELIZING LINE
- BLANK OVERLAY

NOTES:

1. REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND COVER CONFLICTING SIGNS.
2. * COVER WHEN 2 LANES ARE OPEN DURING RESTRICTED HOURS
   ** COVER WHEN 1 LANE IS OPEN

HORIZONTAL SCALE IN FEET

CALCULATED AWS

CHECKED FLK

MAINTENANCE OF TRAFFIC I-680 PHASE 3D

MAH-680-6.03

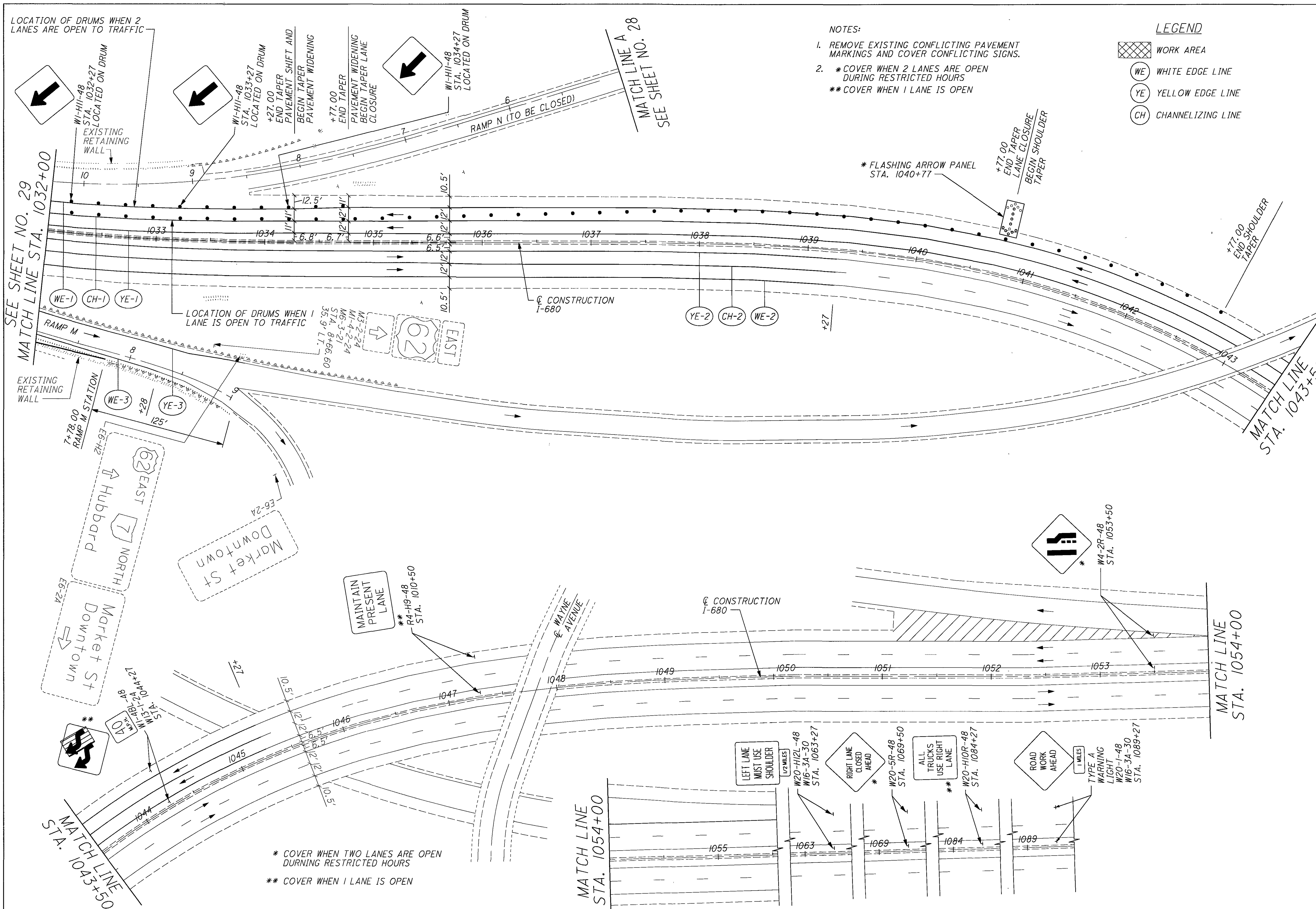
MAINTENANCE OF TRAFFIC I-680 PHASE 3D

NOTES:

1. REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND COVER CONFLICTING SIGNS.
2. * COVER WHEN 2 LANES ARE OPEN DURING RESTRICTED HOURS
   ** COVER WHEN 1 LANE IS OPEN

LEGEND

- WORK AREA
- (WE) WHITE EDGE LINE
- (YE) YELLOW EDGE LINE
- (CH) CHANNELIZING LINE



HORIZONTAL SCALE IN FEET 0 20 40 80

CALCULATED AWS CHECKED FLK

MAH-680-6.03

\09-06-07\19916MP141.dgn 09/06/2007 04:14:13 PM

REF. NO.	SHT. NO.	STATION FROM	STATION TO	PHASE	SIDE	202 GUARDRAIL REMOVED (FT)	606 GUARDRAIL REBUILT (FT)	614 WORK ZONE EDGE LINE, CLASS I (WHITE) (MILE)	614 WORK ZONE EDGE LINE, CLASS I (WHITE), AS PER PLAN (MILE)	614 WORK ZONE EDGE LINE, CLASS I (YELLOW) (MILE)	614 WORK ZONE EDGE LINE, CLASS I (YELLOW), AS PER PLAN (MILE)	614 WORK ZONE CENTER LINE, CLASS I (DOUBLE-SOLID) (MILE)	614 WORK ZONE STOP LINE, CLASS I (FT)	614 WORK ZONE LANE ARROW, CLASS I (EACH)	614 WORK ZONE CHANNELIZING LINE, CLASS I (FT)	614 WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN (FT)	614 WORK ZONE DOTTED LINE, CLASS I (FT)	614 WORK ZONE CROSSWALK LINE, CLASS I (FT)	614 OBJECT MARKER, ONE-WAY (EACH)	614 BARRIER REFLECTOR, TYPE B (EACH)	614 WORK ZONE IMPACT ATTENUATOR (EACH)	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN (EACH)	615 ROADS FOR MAINTAINING TRAFFIC (LUMP)	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A (SQ. YD.)	622 PORTABLE CONCRETE BARRIER, 32" (FT)	622 PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED (FT)	630 SIGN, TEMPORARY OVERLAY (SQ. FT.)	630 REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL (EACH)
WE-1	15	35+60	38+60	1	RT			0.07																				
WE-2	15	38+88	42+80	1	LT&RT			0.09																				
WE-3	15	42+95	46+40	1	LT&RT			0.10																				
WE-4	15	44+33	45+85	1	LT			0.04																				
WE-5	15	45+67	49+50	1	LT&RT			0.08																				
WE-6	15	48+10	49+50	1	LT			0.03																				
SL-1	15	WAYNE		1	RT								22															
SL-2	15	HENRY		1	RT								40															
SL-3	15	RAMP M		1	CEN								21															
SL-4	15	RAMP K		1	LT								16															
CH-1	15	39+25	39+75	1	LT										50													
CH-2	15	43+00	44+00	1	LT										100													
A-1	15	39+35		1	CEN									1														
DY-1	15	39+25	49+50	1	LT&RT							0.19																
DY-2	15	39+75	42+42	1	LT							0.05																
XW-1	15	30+20		1	LT&RT													165										
PCB-1	15	47+25	48+46	1	LT														3	3	1				120			
PCB-2	15	48+90	49+50	1	LT														2	2	1					60		
PCB-3	15	48+90	49+50	1	LT														2	2						60		
WE-1	15A	49+50	52+76	1	LT&RT			0.07																				
WE-2	15A	53+22	61+50	1	RT			0.18																				
WE-3	15A	49+50	51+00	1	LT			0.03																				
SL-1	15A	52+36		1	LT&RT								31															
SL-2	15A	53+22		1	LT								14															
CH-1	15A	51+86	52+36	1	LT										50													
CH-2	15A	53+22	55+79	1	LT&RT										257													
CH-3	15A	55+29	55+79	1	LT										50													
CH-4	15A	56+25	61+50	1	RT										525													
A-1	15A	55+74		1	LT									1														
DY-1	15A	49+50	61+50	1	LT							0.23																
DY-2	15A	53+22	55+29	1	LT							0.04																
DY-3	15A	56+25	61+05	1	LT							0.09																
XW-1	15A	WOODLAND W		1	LT													134										
XW-2	15A	WOODLAND E		1	RT													163										
XW-3	15A	53+22		1	LT&RT													173										
PCB-1	15A	49+50	50+90	1	LT														3	3						140		
PCB-2	15A	50+90	52+14	1	LT&RT														3	3					130			
PCB-3	15A	49+50	51+00	1	LT														4	4						150		
TOTAL PHASE 1 - MARKET STREET CARRIED TO SHEET 31F						0	0	0.69	0	0	0	0.60	144	2	1032	0	0	635	17	17	2	0	0	0	250	410	0	0

CALCULATED AWS
CHECKED FLK

MAINTENANCE OF TRAFFIC SUBSUMMARY

MAH-680-6.03

REF. NO.	SHT. NO.	STATION FROM	STATION TO	PHASE	SIDE	202 GUARDRAIL REMOVED	606 GUARDRAIL REBUILT	614 WORK ZONE EDGE LINE, CLASS I (WHITE)	614 WORK ZONE EDGE LINE, CLASS I (WHITE), AS PER PLAN	614 WORK ZONE EDGE LINE, CLASS I (YELLOW)	614 WORK ZONE EDGE LINE, CLASS I (YELLOW), AS PER PLAN	614 WORK ZONE CENTER LINE, CLASS I (DOUBLE-SOLID)	614 WORK ZONE STOP LINE, CLASS I	614 WORK ZONE LANE ARROW, CLASS I	614 WORK ZONE CHANNELIZING LINE, CLASS I	614 WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN	614 WORK ZONE DOTTED LINE, CLASS I	614 WORK ZONE CROSSWALK LINE, CLASS I	614 OBJECT MARKER, ONE-WAY	614 BARRIER REFLECTOR, TYPE B	614 WORK ZONE IMPACT ATTENUATOR	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	615 ROADS FOR MAINTAINING TRAFFIC	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	622 PORTABLE CONCRETE BARRIER, 32"	622 PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED	630 SIGN, TEMPORARY OVERLAY	630 REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL
						FT	FT	MILE	MILE	MILE	MILE	MILE	FT	EACH	FT	FT	FT	FT	EACH	EACH	EACH	EACH	LUMP	SQ. YD.	FT	FT	SQ. FT.	EACH
WE-1	17	42+36	49+50	2	LT&RT			0.14																				
YE-1	17	42+36	49+50	2	LT					0.14																		
SL-1	17	RAMP M		2	RT								26															
CH-1	17	37+42	38+50	2	LT										108													
CH-2	17	39+25	42+36	2	LT										311													
CH-3	17	39+25	39+75	2	LT										50													
CH-4	17	40+25	43+36	2	LT										311													
CH-5	17	43+00	43+50	2	RT										50													
A-1	17	39+35		2	CEN									1														
A-2	17	43+10		2	RT									1														
DY-1	17	36+10	49+50	2	RT							0.26																
DY-2	17	36+10	42+36	2	LT&RT							0.12																
DY-3	17	43+50	45+90	2	RT							0.05																
PCB-1	17	42+36	48+50	2	LT														13	13					620			
PCB-2	17	46+40	48+90	2	RT														5	5					250			
PCB-3	17	48+90	49+50	2	RT														2	2						60		
WE-1	18	49+50	52+36	2	LT&RT			0.08																				
WE-2	18	52+75	55+81	2	LT&RT			0.09																				
WE-3	18	56+25	66+20	2	LT&RT			0.20																				
SL-1	18	52+36		2	RT								13															
SL-2	18	53+37		2	LT&RT								31															
SL-3	18	RIDGE		2	LT								41															
CH-1	18	53+30	55+81	2	RT										251													
CH-2	18	56+25	56+75	2	RT										50													
A-1	18	53+37		2	CEN									1														
A-2	18	54+32		2	CEN									1														
A-3	18	55+32		2	CEN									1														
A-4	18	56+35		2	CEN									1														
DY-1	18	49+50	61+05	2	RT							0.22																
XW-1	18	WOODLAND W		2	LT													134										
XW-2	18	WOODLAND E		2	RT													163										
XW-3	18	53+30		2	LT&RT													173										
PCB-1	18	49+50	50+90	2	RT														3	3						140		
PCB-2	18	50+90	51+85	2	RT														2	2	1				100			
TOTAL PHASE 2 MARKET STREET CARRIED TO SHEET 31F						0	0	0.51	0	0.14	0	0.65	111	6	1131	0	0	470	25	25	1	0	0	0	970	200	0	0

CALCULATED AWS
CHECKED FLK

MAINTENANCE OF TRAFFIC SUBSUMMARY

MAH-680-6.03

REF. NO.	SHT. NO.	STATION FROM	STATION TO	PHASE	SIDE	202 GUARDRAIL REMOVED (FT)	606 GUARDRAIL REBUILT (FT)	614 WORK ZONE EDGE LINE, CLASS I (WHITE) (MILE)	614 WORK ZONE EDGE LINE, CLASS I (WHITE), AS PER PLAN (MILE)	614 WORK ZONE EDGE LINE, CLASS I (YELLOW) (MILE)	614 WORK ZONE EDGE LINE, CLASS I (YELLOW), AS PER PLAN (MILE)	614 WORK ZONE CENTER LINE, CLASS I (DOUBLE-SOLID) (MILE)	614 WORK ZONE STOP LINE, CLASS I (FT)	614 WORK ZONE LANE ARROW, CLASS I (EACH)	614 WORK ZONE CHANNELIZING LINE, CLASS I (FT)	614 WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN (FT)	614 WORK ZONE DOTTED LINE, CLASS I (FT)	614 WORK ZONE CROSSWALK LINE, CLASS I (FT)	614 OBJECT MARKER, ONE-WAY (EACH)	614 BARRIER REFLECTOR, TYPE B (EACH)	614 WORK ZONE IMPACT ATTENUATOR (EACH)	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN (EACH)	615 ROADS FOR MAINTAING TRAFFIC (LUMP)	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A (SQ. YD.)	622 PORTABLE CONCRETE BARRIER, 32" (FT)	622 PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED (FT)	630 SIGN, TEMPORARY OVERLAY (SQ. FT.)	630 REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL (EACH)
WE-1	19	1021+92	1032+00	1&2	RT				0.19																			
WE-2	19	1023+15	1032+00	1&2	LT				0.17																			
WE-3	19	1030+75	1032+00	1&2	RT				0.02																			
YE-1	19	1021+92	1032+00	1&2	RT						0.19																	
YE-2	19	1023+15	1032+00	1&2	LT						0.17																	
YE-3	19	1030+75	1032+00	1&2	RT						0.02																	
CH-1	19	1021+92	1032+00	1&2	RT											1008												
CH-2	19	1023+15	1032+00	1&2	LT											885												
CH-3	19	1027+55	1030+75	1&2	RT											320												
CH-4	19	1029+32	1030+75	1&2	RT											143												
CH-5	19	1030+70	1032+00	1&2	LT											130												
CH-6	19	1031+27	1032+00	1&2	LT											73												
WD-1	19	1025+55	1027+55	1&2	RT												200											
WD-2	19	1028+52	1030+70	1&2	LT												218											
GR-1	19	1028+00	1028+50	1&2	RT	50	50																					
GR-2	19	1031+34	1032+00	1&2	RT														3									
OL-1	19	1029+22		1&2	RT																						4.89	
RPM'S	19	1021+92	1032+00	1&2	RT																	156						
RPM'S	19	1023+15	1032+00	1&2	LT																	138						
PCB-1	19	1028+00	1031+27	1&2	RT														7	7	1				330			
PCB-2	19	1028+10	1031+27	1&2	RT														7	7					320			
PCB-3	19	1029+32	1032+00	1&2	LT														6	6					270			
PCB-4	19	1029+32	1032+00	1&2	LT														6	6					270			
WE-1	20	1032+00	1034+20	1&2	LT				0.04																			
WE-2	20	1032+00	1035+02	1&2	LT				0.06																			
WE-3	20	1032+00	1036+21	1&2	RT				0.08																			
WE-4	20	1032+00	1033+20	1&2	RT				0.02																			
YE-1	20	1032+00	1036+10	1&2	LT						0.08																	
YE-2	20	1032+00	1035+02	1&2	LT						0.06																	
YE-3	20	1032+00	1036+21	1&2	RT						0.08																	
YE-4	20	1032+00	1033+90	1&2	RT						0.04																	
CH-1	20	1032+00	1035+02	1&2	LT											302												
CH-2	20	1032+00	1036+21	1&2	RT											421												
GR-1	20	1032+00	1032+70	1&2	RT														2									
RPM'S	20	1032+00	1035+02	1&2	LT																	48						
RPM'S	20	1032+00	1036+21	1&2	RT																	66						
PCB-1	20	1032+00	1032+12	1&2	LT														1	1	1				20			
PCB-2	20	1032+00	1032+52	1&2	RT														2	2	1				60			
TOTAL PHASES 1&2, I-680 CARRIED TO SHEET 31F						50	50	0	0.58	0	0.64	0	0	0	0	3282	418	0	34	29	3	408	0	0	1270	0	5	0

CALCULATED AWS CHECKED FLK

MAINTENANCE OF TRAFFIC SUBSUMMARY

MAH-680-6.03

109-06-07\19916\MS003.dgn 09/06/2007 04:12:52 PM

CALCULATED AWS
CHECKED FLK

MAINTENANCE OF TRAFFIC SUBSUMMARY

REF. NO.	SHT. NO.	STATION FROM	STATION TO	PHASE	SIDE	202 GUARDRAIL REMOVED	606 GUARDRAIL REBUILT	614 WORK ZONE EDGE LINE, CLASS I (WHITE)	614 WORK ZONE EDGE LINE, CLASS I (WHITE), AS PER PLAN	614 WORK ZONE EDGE LINE, CLASS I (YELLOW)	614 WORK ZONE EDGE LINE, CLASS I (YELLOW), AS PER PLAN	614 WORK ZONE CENTER LINE, CLASS I (DOUBLE-SOLID)	614 WORK ZONE STOP LINE, CLASS I	614 WORK ZONE LANE ARROW, CLASS I	614 WORK ZONE CHANNELIZING LINE, CLASS I	614 WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN	614 WORK ZONE DOTTED LINE, CLASS I	614 WORK ZONE CROSSWALK LINE, CLASS I	614 OBJECT MARKER, ONE-WAY	614 BARRIER REFLECTOR, TYPE B	614 WORK ZONE IMPACT ATTENUATOR	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	615 ROADS FOR MAINTAINING TRAFFIC	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	622 PORTABLE CONCRETE BARRIER, 32"	622 PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED	630 SIGN, TEMPORARY OVERLAY	630 REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL
						FT	FT	MILE	MILE	MILE	MILE	MILE	FT	EACH	FT	FT	FT	FT	EACH	EACH	EACH	EACH	LUMP	SQ. YD.	FT	FT	SQ. FT.	EACH
WE-1	22	1021+92	1032+00	3A	RT				0.19																			
WE-2	22	1023+15	1032+00	3A	LT				0.17																			
WE-3	22	1030+75	1032+00	3A	RT				0.02																			
YE-1	22	1021+92	1032+00	3A	RT						0.19																	
YE-2	22	1023+15	1032+00	3A	LT						0.17																	
YE-3	22	1030+75	1032+00	3A	RT						0.02																	
CH-1	22	1021+92	1032+00	3A	RT											1008												
CH-2	22	1022+15	1032+00	3A	LT											985												
CH-3	22	1027+56	1030+75	3A	RT											320												
CH-4	22	1029+32	1030+75	3A	RT											143												
CH-5	22	1028+50	1032+00	3A	LT											350												
CH-6	22	1030+70	1032+00	3A	LT											130												
WD-1	22	1025+16	1027+56	3A	RT												240											
GR-1	22	1031+34	1032+00	3A	RT														3									
RPM'S	22	1021+92	1032+00	3A	RT																	155						
RPM'S	22	1023+15	1032+00	3A	LT																	136						
PVMT	22	1030+77	1031+34	3A	RT																		LUMP	25.33				
WE-1	23	1032+00	1034+20	3A	LT				0.04																			
WE-2	23	1032+00	1035+02	3A	LT				0.06																			
WE-3	23	1032+00	1037+27	3A	RT				0.10																			
WE-4	23	1032+00	1033+20	3A	RT				0.02																			
YE-1	23	1032+00	1036+37	3A	LT						0.08																	
YE-2	23	1032+00	1035+02	3A	LT						0.06																	
YE-3	23	1032+00	1037+27	3A	RT						0.10																	
YE-4	23	1032+00	1033+90	3A	RT						0.04																	
CH-1	23	1032+00	1035+02	3A	LT											302												
CH-2	23	1032+00	1037+27	3A	RT											527												
RPM'S	23	1032+00	1037+27	3A	RT																	81						
RPM'S	23	1032+00	1035+02	3A	LT																	47						
TOTAL PHASE 3A, I-680 CARRIED TO SHEET 31F						0	0	0	0.60	0	0.66	0	0	0	0	3765	240	0	3	0	0	419	LUMP	25	0	0	0	0

MAH-680-6.03

REF. NO.	SHT. NO.	STATION FROM	STATION TO	PHASE	SIDE	202 GUARDRAIL REMOVED (FT)	606 GUARDRAIL REBUILT (FT)	614 WORK ZONE EDGE LINE, CLASS I (WHITE) (MILE)	614 WORK ZONE EDGE LINE, CLASS I (WHITE), AS PER PLAN (MILE)	614 WORK ZONE EDGE LINE, CLASS I (YELLOW) (MILE)	614 WORK ZONE EDGE LINE, CLASS I (YELLOW), AS PER PLAN (MILE)	614 WORK ZONE CENTER LINE, CLASS I (DOUBLE-SOLID) (MILE)	614 WORK ZONE STOP LINE, CLASS I (FT)	614 WORK ZONE LANE ARROW, CLASS I (EACH)	614 WORK ZONE CHANNELIZING LINE, CLASS I (FT)	614 WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN (FT)	614 WORK ZONE DOTTED LINE, CLASS I (FT)	614 WORK ZONE CROSSWALK LINE, CLASS I (FT)	614 OBJECT MARKER, ONE-WAY (EACH)	614 BARRIER REFLECTOR, TYPE B (EACH)	614 WORK ZONE IMPACT ATTENUATOR (EACH)	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN (EACH)	615 ROADS FOR MAINTAINING TRAFFIC (LUMP)	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A (SQ. YD.)	622 PORTABLE CONCRETE BARRIER, 32" (FT)	622 PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED (FT)	630 SIGN, TEMPORARY OVERLAY (SQ. FT.)	630 REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL (EACH)
WE-1	24	1021+92	1032+00	3B	RT				0.19																			
WE-2	24	1028+27	1032+00	3B	RT				0.07																			
YE-1	24	1021+92	1032+00	3B	RT						0.19																	
YE-2	24	1028+27	1031+80	3B	RT						0.07																	
CH-1	24	1021+92	1032+00	3B	RT											1008												
CH-2	24	1026+60	1028+27	3B	RT											167												
CH-3	24	1026+60	1028+27	3B	RT											167												
WD-1	24	1025+30	1026+60	3B	RT												130											
RPM'S	24	1021+92	1032+00	3B	LT&RT																	155						
WE-1	25	1032+00	1033+20	3B	RT				0.02																			
WE-2	25	1032+00	1037+27	3B	RT				0.10																			
YE-1	25	1032+00	1037+27	3B	RT						0.10																	
YE-2	25	1032+00	1033+90	3B	RT						0.04																	
CH-1	25	1032+00	1037+27	3B	RT											527												
RPM'S	25	1032+00	1037+27	3B	RT																	81						
TOTAL PHASE 3B, I-680 CARRIED TO SHEET 31F						0	0	0	0.38	0	0.40	0	0	0	0	1869	130	0	0	0	0	236	0	0	0	0	0	0

CALCULATED AWS
CHECKED FLK

MAINTENANCE OF TRAFFIC SUBSUMMARY

MAH-680-6.03

REF. NO.	SHT. NO.	STATION FROM	STATION TO	PHASE	SIDE	202 GUARDRAIL REMOVED	606 GUARDRAIL REBUILT	614 WORK ZONE EDGE LINE, CLASS I (WHITE)	614 WORK ZONE EDGE LINE, CLASS I (WHITE), AS PER PLAN	614 WORK ZONE EDGE LINE, CLASS I (YELLOW)	614 WORK ZONE EDGE LINE, CLASS I (YELLOW), AS PER PLAN	614 WORK ZONE CENTER LINE, CLASS I (DOUBLE-SOLID)	614 WORK ZONE STOP LINE, CLASS I	614 WORK ZONE LANE ARROW, CLASS I	614 WORK ZONE CHANNELIZING LINE, CLASS I	614 WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN	614 WORK ZONE DOTTED LINE, CLASS I	614 WORK ZONE CROSSWALK LINE, CLASS I	614 OBJECT MARKER, ONE-WAY	614 BARRIER REFLECTOR, TYPE B	614 WORK ZONE IMPACT ATTENUATOR	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	615 ROADS FOR MAINTAING TRAFFIC	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	622 PORTABLE CONCRETE BARRIER, 32"	622 PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED	630 SIGN, TEMPORARY OVERLAY	630 REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL
						FT	FT	MILE	MILE	MILE	MILE	MILE	FT	EACH	FT	FT	FT	FT	EACH	EACH	EACH	EACH	LUMP	SQ. YD.	FT	FT	SQ. FT.	EACH
WE-1	26	1019+45	1032+00	3C	LT				0.24																			
WE-2	26	1021+68	1032+00	3C	RT				0.20																			
WE-3	26	1030+75	1032+00	3C	RT				0.02																			
YE-1	26	1015+32	1032+00	3C	LT						0.32																	
YE-2	26	1021+68	1032+00	3C	RT						0.20																	
YE-3	26	1030+75	1032+00	3C	RT						0.02																	
CH-1	26	1015+32	1032+00	3C	LT											1668												
CH-2	26	1019+45	1022+00	3C	LT											260												
CH-3	26	1021+68	1032+00	3C	RT											1032												
CH-4	26	1028+60	1030+75	3C	RT											215												
CH-5	26	1028+60	1030+75	3C	RT											215												
WD-1	26	1017+82	1019+50	3C	LT												168											
WD-2	26	1028+20	1028+60	3C	RT												40											
OL-1	26	1029+22		3C	RT																							2
RPM'S	26	1015+32	1032+00	3C	LT																	255						
RPM'S	26	1021+68	1032+00	3C	RT																	159						
PVMT	26	1030+76	1032+00	3C	RT																		LUMP	27.6				
WE-1	27	1032+00	1045+27	3C	LT				0.25																			
WE-2	27	1032+00	1039+27	3C	RT				0.14																			
WE-3	27	1032+00	1033+20	3C	RT				0.02																			
YE-1	27	1032+00	1045+27	3C	LT						0.25																	
YE-2	27	1032+00	1039+27	3C	RT						0.14																	
YE-3	27	1032+00	1033+90	3C	RT						0.04																	
CH-1	27	1032+00	1045+27	3C	LT											1327												
CH-2	27	1032+00	1039+27	3C	RT											727												
RPM'S	27	1032+00	1045+27	3C	LT																	201						
RPM'S	27	1032+00	1039+27	3C	RT																	111						
PVMT	27	1032+00	1032+70	3C	RT																		LUMP	15.6				
PVMT	27	1033+80	1037+80	3C	LT																		LUMP	88.9				
YE-1	28	RAMP N		3C&D							0.11																	
TOTAL PHASE 3C, I-680 CARRIED TO SHEET 31F						0	0	0	0.87	0	1.08	0	0	0	0	5444	208	0	0	0	0	726	LUMP	132	0	0	0	2

CALCULATED AWS
CHECKED FLK

MAINTENANCE OF TRAFFIC SUBSUMMARY

MAH-680-6.03

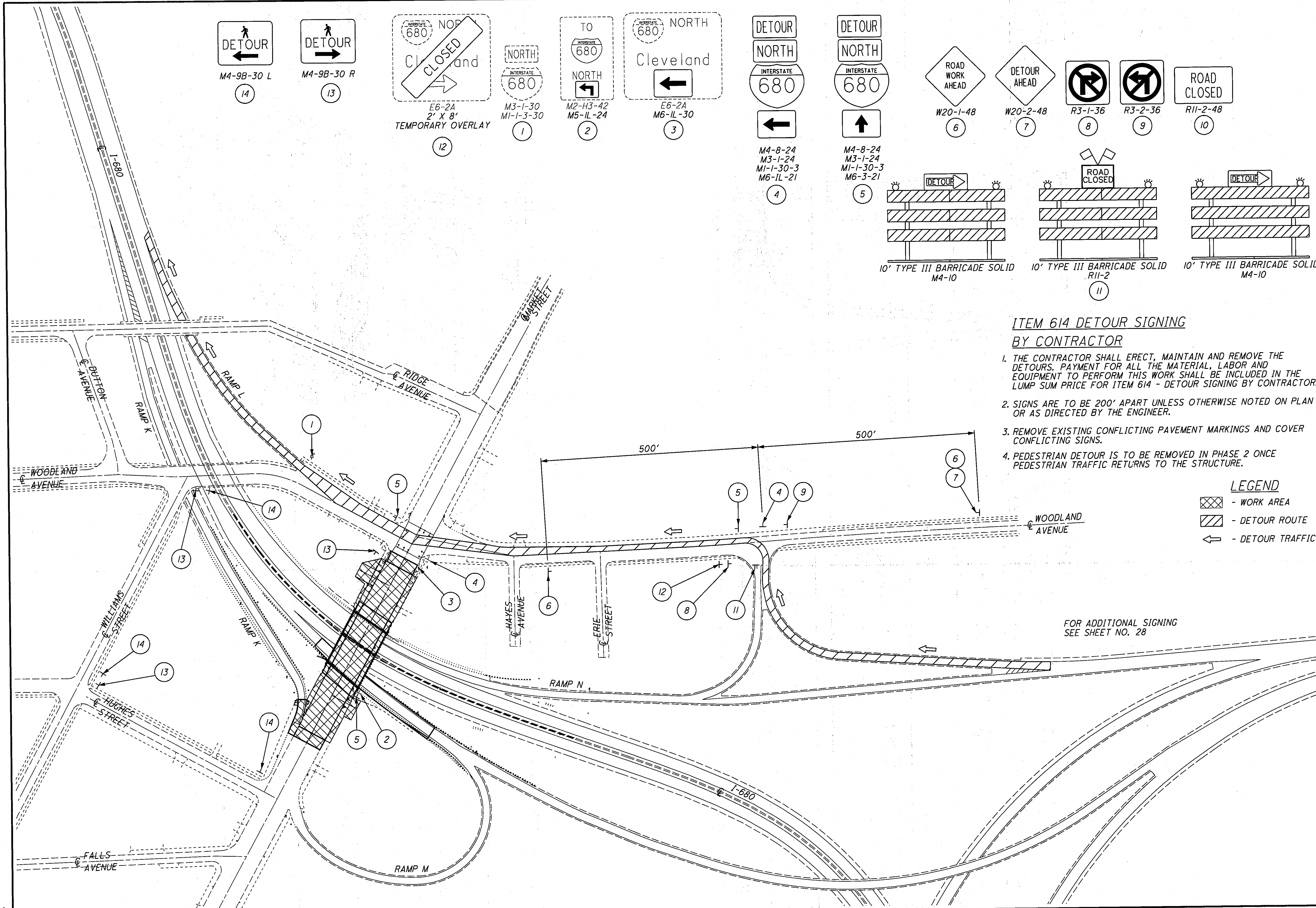
REF. NO.	SHT. NO.	STATION FROM	STATION TO	PHASE	SIDE	202 GUARDRAIL REMOVED (FT)	606 GUARDRAIL REBUILT (FT)	614 WORK ZONE EDGE LINE, CLASS I (WHITE) (MILE)	614 WORK ZONE EDGE LINE, CLASS I (WHITE), AS PER PLAN (MILE)	614 WORK ZONE EDGE LINE, CLASS I (YELLOW) (MILE)	614 WORK ZONE EDGE LINE, CLASS I (YELLOW), AS PER PLAN (MILE)	614 WORK ZONE CENTER LINE, CLASS I (DOUBLE-SOLID) (MILE)	614 WORK ZONE STOP LINE, CLASS I (FT)	614 WORK ZONE LANE ARROW, CLASS I (EACH)	614 WORK ZONE CHANNELIZING LINE, CLASS I (FT)	614 WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN (FT)	614 WORK ZONE DOTTED LINE, CLASS I (FT)	614 WORK ZONE CROSSWALK LINE, CLASS I (FT)	614 OBJECT MARKER, ONE-WAY (EACH)	614 BARRIER REFLECTOR, TYPE B (EACH)	614 WORK ZONE IMPACT ATTENUATOR (EACH)	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN (EACH)	615 ROADS FOR MAINTAINING TRAFFIC (LUMP)	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A (SQ. YD.)	622 PORTABLE CONCRETE BARRIER, 32" (FT)	622 PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED (FT)	630 SIGN, TEMPORARY OVERLAY (SQ. FT.)	630 REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL (EACH)
WE-1	29	1019+45	1032+00	3D	LT				0.24																			
WE-2	29	1021+68	1032+00	3D	RT				0.20																			
WE-3	29	1030+75	1032+00	3D	RT				0.02																			
YE-1	29	1015+32	1032+00	3D	LT						0.32																	
YE-2	29	1021+68	1032+00	3D	RT						0.20																	
YE-3	29	1030+75	1032+00	3D	RT						0.02																	
CH-1	29	1015+32	1032+00	3D	LT											1668												
CH-2	29	1019+45	1022+00	3D	LT											260												
CH-3	29	1021+68	1032+00	3D	RT											1032												
CH-4	29	1028+67	1030+75	3D	RT											208												
CH-5	29	1028+67	1030+75	3D	RT											208												
RPM'S	29	1015+32	1032+00	3D	LT																	257						
RPM'S	29	1021+68	1032+00	3D	RT																	159						
WE-1	30	1032+00	1045+27	3D	LT				0.25																			
WE-2	30	1032+00	1039+27	3D	RT				0.14																			
WE-3	30	1032+00	1033+20	3D	RT				0.02																			
YE-1	30	1032+00	1045+27	3D	LT						0.25																	
YE-2	30	1032+00	1039+27	3D	RT						0.14																	
YE-3	30	1032+00	1033+90	3D	RT						0.04																	
CH-1	30	1032+00	1045+27	3D	LT											1327												
CH-2	30	1032+00	1039+27	3D	RT											727												
RPM'S	30	1032+00	1045+27	3D	LT																	204						
RPM'S	30	1032+00	1039+27	3D	RT																	112						
TOTAL PHASE 3D, I-680						0	0	0	0.87	0	0.97	0	0	0	0	5430	0	0	0	0	0	732	0	0	0	0	0	0

SHT. NO.	PHASE	202 GUARDRAIL REMOVED (FT)	606 GUARDRAIL REBUILT (FT)	614 WORK ZONE EDGE LINE, CLASS I (WHITE) (MILE)	614 WORK ZONE EDGE LINE, CLASS I (YELLOW) (MILE)	614 WORK ZONE EDGE LINE, CLASS I (WHITE), AS PER PLAN (MILE)	614 WORK ZONE EDGE LINE, CLASS I (YELLOW), AS PER PLAN (MILE)	614 WORK ZONE CENTER LINE, CLASS I (DOUBLE-SOLID) (MILE)	614 WORK ZONE STOP LINE, CLASS I (FT)	614 WORK ZONE LANE ARROW, CLASS I (EACH)	614 WORK ZONE CHANNELIZING LINE, CLASS I (FT)	614 WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN (FT)	614 WORK ZONE DOTTED LINE, CLASS I (FT)	614 WORK ZONE CROSSWALK LINE, CLASS I (FT)	614 OBJECT MARKER, ONE-WAY (EACH)	614 BARRIER REFLECTOR, TYPE B (EACH)	614 WORK ZONE IMPACT ATTENUATOR (EACH)	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN (EACH)	615 ROADS FOR MAINTAING TRAFFIC (LUMP)	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A (SQ. YD.)	622 PORTABLE CONCRETE BARRIER, 32" (FT)	622 PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED (FT)	630 SIGN, TEMPORARY OVERLAY (SQ. FT.)	630 REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL (EACH)
31	PHASE 1, MARKET STREET	0	0	0.69	0	0	0	0.60	144	2	1032	0	0	635	17	17	2	0	0	0	250	410	0	0
31A	PHASE 2, MARKET STREET	0	0	0.51	0.14	0	0	0.65	111	6	1131	0	0	470	25	25	1	0	0	0	970	200	0	0
31B	PHASES 1 & 2, I-680	50	50	0	0	0.58	0.64	0	0	0	0	3282	418	0	34	29	3	408	0	0	1270	0	5	0
31C	PHASE 3A, I-680	0	0	0	0	0.60	0.66	0	0	0	0	3765	240	0	3	0	0	419	LUMP	25	0	0	0	0
31D	PHASE 3B, I-680	0	0	0	0	0.38	0.40	0	0	0	0	1869	130	0	0	0	0	236	0	0	0	0	0	0
31E	PHASE 3C, I-680	0	0	0	0	0.87	1.08	0	0	0	0	5444	208	0	0	0	0	726	LUMP	132	0	0	0	2
31F	PHASE 3D, I-680	0	0	0	0	0.87	0.97	0	0	0	0	5430	0	0	0	0	0	732	0	0	0	0	0	0
	SUBTOTALS	50	50	1.20	0.14	3.30	3.75	1.25	255	8	2163	19,790	996	1105	79	71	6	2521	LUMP	157	2490	610	5	2
TOTALS CARRIED TO GENERAL SUMMARY		50	50	1.34		7.05		1.25	255	8	2163	19,790	996	1105	79	71	6	2521	LUMP	157	2490	610	5	2

CALCULATED AWS
CHECKED FLK

MAINTENANCE OF TRAFFIC SUBSUMMARY

MAH-680-6.03



ITEM 614 DETOUR SIGNING BY CONTRACTOR

1. THE CONTRACTOR SHALL ERECT, MAINTAIN AND REMOVE THE DETOURS. PAYMENT FOR ALL THE MATERIAL, LABOR AND EQUIPMENT TO PERFORM THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR ITEM 614 - DETOUR SIGNING BY CONTRACTOR.
2. SIGNS ARE TO BE 200' APART UNLESS OTHERWISE NOTED ON PLAN OR AS DIRECTED BY THE ENGINEER.
3. REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND COVER CONFLICTING SIGNS.
4. PEDESTRIAN DETOUR IS TO BE REMOVED IN PHASE 2 ONCE PEDESTRIAN TRAFFIC RETURNS TO THE STRUCTURE.

LEGEND

- WORK AREA
- DETOUR ROUTE
- DETOUR TRAFFIC

N

0 50 100 200
HORIZONTAL SCALE IN FEET

CALCULATED AWS
CHECKED FLK

VEHICULAR AND PEDESTRIAN DETOUR PLAN

MAH-680-6.03

SHEET NUMBER 5	31F	37	38	38A	39	62	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
											ROADWAY	
							201	11000	LUMP		CLEARING AND GRUBBING	
					79		202	23000	79	SQ YD	PAVEMENT REMOVED	
					645		202	30000	645	SQ FT	WALK REMOVED	
					731		202	32000	731	FT	CURB REMOVED	
					291		202	32500	291	FT	CURB AND GUTTER REMOVED	
	50						202	38000	50	FT	GUARDRAIL REMOVED	
		133					SPECIAL	20270100	133	FT	PIPE CLEANOUT	5
		206					202	75000	206	FT	FENCE REMOVED	
						8	202	75400	8	EACH	LIGHT POLE REMOVED	
						6	202	75500	6	EACH	LIGHT POLE FOUNDATION REMOVED	
						8	202	75506	8	EACH	LUMINAIRE REMOVED	
						1	202	75801	1	EACH	DISCONNECT EXISTING CIRCUIT, AS PER PLAN	58
		1					202	98100	1	EACH	REMOVAL MISC.: SIGN W/LIGHT	
		2					202	98100	2	EACH	REMOVAL MISC.: BOLLARD	
		4					202	98100	4	EACH	REMOVAL MISC.: RAILROAD TIES	
		6					202	98100	6	EACH	REMOVAL MISC.: PARKING BLOCK	
		1					202	98100	1	EACH	REMOVAL MISC.: GATE	
		95					203	10000	95	CU YD	EXCAVATION	
		297					203	20000	297	CU YD	EMBANKMENT	
			186		205		204	10000	391	SQ YD	SUBGRADE COMPACTION	
1							204	45000	1	HOUR	PROOF ROLLING	
	50						606	16000	50	FT	GUARDRAIL REBUILT	
		206					607	20000	206	FT	FENCE, TYPE CL	
				5379			608	10000	5379	SQ FT	4" CONCRETE WALK	
			1				608	52010	1	EACH	CURB RAMP, TYPE A1	
			1				608	52040	1	EACH	CURB RAMP, TYPE B2	
300							SPECIAL	69065010	300	TON	WORK INVOLVING SOLID WASTE	5
											EROSION CONTROL	
34							659	00300	34	CU YD	TOPSOIL	
		305					659	10000	305	SQ YD	SEEDING AND MULCHING	
15							659	14000	15	SQ YD	REPAIR SEEDING AND MULCHING	
0.04							659	20000	0.04	TON	COMMERCIAL FERTILIZER	
0.06							659	31000	0.06	ACRE	LIME	
0.8							659	35000	0.8	M GAL	WATER	
							832	15000	LUMP		STORM WATER POLLUTION PREVENTION PLAN	
							832	30000	8600	EACH	EROSION CONTROL	
											DRAINAGE	
50							603	01400	50	FT	6" CONDUIT, TYPE E	
50		65					603	01500	115	FT	6" CONDUIT, TYPE F	
50		100					603	04400	150	FT	12" CONDUIT, TYPE B	
50							603	04600	50	FT	12" CONDUIT, TYPE C	
		114					603	05900	114	FT	15" CONDUIT, TYPE B	
		1					604	04500	1	EACH	CATCH BASIN, NO. 2-2B	
		4					604	09000	4	EACH	CATCH BASIN ADJUSTED TO GRADE	
		1					604	05300	1	EACH	CATCH BASIN, NO. 2-4	

CALCULATED AWS CHECKED FLK

GENERAL SUMMARY

MAH-680-6.03

SHEET NUMBER 5	37	38	38A	39	62	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	1					604	19900	1	EACH	INLET, NO. 2-A-18	
	1					604	20300	1	EACH	INLET, NO. 2-A-20	
	2					604	31500	2	EACH	MANHOLE, NO. 3	
	2					604	34500	2	EACH	MANHOLE ADJUSTED TO GRADE	
	3					604	35500	3	EACH	MANHOLE RECONSTRUCTED TO GRADE	
500						SPECIAL	604E50000	500	POUND	MISCELLANEOUS METAL	5
	390					605	13410	390	FT	6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP	
										PAVEMENT	
		1577	378			254	01000	1955	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
			458			301	46000	458	CU YD	ASPHALT CONCRETE BASE, PG64-22	
		61	166	28		304	20000	255	CU YD	AGGREGATE BASE	
		193	311			407	10000	504	GALLON	TACK COAT	
		94	91			407	14000	185	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
				50		408	10000	50	GALLON	PRIME COAT	
			52			424	10000	52	CU YD	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE A	
		80				442	10051	80	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN	5
		6				442	10150	6	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE B (446)	
		163				442	20250	163	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE B (448)	
			89			448	46020	89	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22	
				6		448	46024	6	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 (DRIVEWAYS)	
				5		448	48020	5	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (DRIVEWAYS)	
				79		452	12000	79	SQ YD	8" NON-REINFORCED CONCRETE PAVEMENT	
		157	499			609	26000	656	FT	CURB, TYPE 6	
										WATER WORK	
	2					638	10400	2	EACH	FIRE HYDRANT ADJUSTED TO GRADE	
	7					638	10800	7	EACH	VALVE BOX ADJUSTED TO GRADE	
										LIGHTING	
					7	603	00400	7	FT	4" CONDUIT, TYPE E	
					10	625	00500	10	EACH	CONNECTOR KIT, TYPE II	
					2	625	01500	2	EACH	CABLE SPLICING KIT	
					24	625	10601	24	EACH	LIGHT POLE ANCHOR L-BOLTS, AS PER PLAN	58
					6	625	14501	6	EACH	LIGHT POLE FOUNDATION, AS PER PLAN	58
					230	625	23200	230	FT	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	
					652	625	23306	652	FT	NO. 10 AWG 600 VOLT DISTRIBUTION CABLE	
					353	625	25200	353	FT	CONDUIT, 1-1/4", 725.04	
					27	625	25502	27	FT	CONDUIT, 3", 725.05	
					1	625	25910	1	FT	CONDUIT CLEANED AND CABLES REMOVED	
					6	625	27501	6	EACH	LUMINAIRE, UNDERPASS, AS PER PLAN	58

CALCULATED AWS
CHECKED FLK

GENERAL SUMMARY

MAH-680-6.03

SHEET NUMBER 6	7	8	10	31F	32	56	57	62						ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
								7						625	29600	7	FT	TRENCH IN PAVED AREA, TYPE B	
								6						625	29901	6	EACH	JUNCTION BOX, AS PER PLAN	58
								6						625	32000	6	EACH	GROUND ROD	
								1						625	33000	1	EACH	STRUCTURE GROUNDING SYSTEM	
								2						625	39520	2	EACH	PULL BOX CLEANED	
								7						SPECIAL	62536000	7	FT	PLASTIC CAUTION TAPE	
								LUMP						SPECIAL	62540000	LUMP		MAINTAIN EXISTING LIGHTING	
																		TRAFFIC CONTROL	
							196							630	03100	196	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
							34							630	04100	34	FT	GROUND MOUNTED SUPPORT, NO. 4 POST	
							92							630	80100	92	SQ FT	SIGN, FLAT SHEET	
							8							630	84900	8	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
							9							630	86002	9	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
						0.02								642	00100	0.02	MILE	EDGE LINE, TYPE I	
						1.01								642	00200	1.01	MILE	LANE LINE, TYPE I	
						416								642	00400	416	FT	CHANNELIZING LINE, TYPE I	
						97								642	00500	97	FT	STOP LINE, TYPE I	
						0.81								642	00300	0.81	MI	CENTERLINE, TYPE I	
						665								642	00600	665	FT	CROSSWALK LINE, TYPE I	
						35								642	00700	35	FT	TRANSVERSE/DIAGONAL LINE, TYPE I	
						66								642	00900	66	SQ FT	ISLAND MARKING, TYPE I	
						12								642	01300	12	EACH	LANE ARROW, TYPE I	
							1.66							646	10001	1.66	MILE	EDGE LINE, AS PER PLAN A	54
							0.89							646	10101	0.89	MILE	LANE LINE, AS PER PLAN A	54
							2244							646	10301	2244	FT	CHANNELIZING LINE, AS PER PLAN A	54
							275							646	10601	275	FT	TRANSVERSE/DIAGONAL LINE, AS PER PLAN A	54
							339							646	20501	339	FT	DOTTED LINE, 4", AS PER PLAN A	54
																		STRUCTURES (OVER 20') SEE SHEET 67	
																		MAINTENANCE OF TRAFFIC	
	14													410	12000	14	CU YD	TRAFFIC COMPACTED SURFACE, TYPE A OR B	
	14													410	13000	14	CU YD	TRAFFIC COMPACTED SURFACE, TYPE C	
		1000												614	11100	1000	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	
				6										614	12350	6	EACH	WORK ZONE IMPACT ATTENUATOR	
					LUMP									614	12420	LUMP		DETOUR SIGNING	
				2521										614	12801	2521	EACH	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	10
200														614	13000	200	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
			660											SPECIAL	61413170	660	FT	LINEAR DELINEATION	10
				71										614	13300	71	EACH	BARRIER REFLECTOR, TYPE B	
				79										614	13350	79	EACH	OBJECT MARKER, ONE WAY	
				1.25										614	21000	1.25	MILE	WORK ZONE CENTER LINE, CLASS I	
				1.34										614	22000	1.34	MILE	WORK ZONE EDGE LINE, CLASS I	

CALCULATED AWS
CHECKED FLK

GENERAL SUMMARY

MAH-680-6.03

7	8	10	31F	32	57	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
			7.05			614	22001	7.05	MILE	WORK ZONE EDGE LINE, CLASS I, AS PER PLAN	10
			2163			614	23000	2163	FT	WORK ZONE CHANNELIZING LINE, CLASS I	
			19,790			614	23001	19,790	FT	WORK ZONE CHANNELIZING LINE, CLASS I, AS PER PLAN	10
			996			614	24000	996	FT	WORK ZONE DOTTED LINE, CLASS I	
			255			614	26000	255	FT	WORK ZONE STOP LINE, CLASS I	
			1105			614	27000	1105	FT	WORK ZONE CROSSWALK LINE, CLASS I	
			8			614	30000	8	EACH	WORK ZONE LANE ARROW, CLASS I	
			LUMP			615	10000	LUMP		ROADS FOR MAINTAINING TRAFFIC	
			157			615	20000	157	SQ YD	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
1.8						616	10000	1.8	M GAL	WATER	
			2490			622	40020	2490	FT	PORTABLE CONCRETE BARRIER, 32"	
			610			622	40040	610	FT	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED	
			5	16		630	80300	26	SQ FT	SIGN, TEMPORARY OVERLAY	
			2	1		630	89894	3	EACH	REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL	
										MISCELLANEOUS	
						614	11000	LUMP		MAINTAINING TRAFFIC	
						619	16010	6	MONTH	FIELD OFFICE, TYPE B	
						623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
						624	10000	LUMP		MOBILIZATION	
										ALTERNATE BID ITEMS	
					1.66	646	10001	1.66	MILE	EDGE LINE, AS PER PLAN B	54
					0.89	646	10101	0.89	MILE	LANE LINE, AS PER PLAN B	54
					2244	646	10301	2244	FT	CHANNELIZING LINE, AS PER PLAN B	54
					275	646	10601	275	FT	TRANSVERSE/DIAGONAL LINE, AS PER PLAN B	54
					339	646	20501	339	FT	DOTTED LINE, 4", AS PER PLAN B	54

CALCULATED AWS
CHECKED FLK

GENERAL SUMMARY

MAH-680-6.03

ROADWAY SUBSUMMARY / WATER SUBSUMMARY

SHEET NO.	REF NO.	STATION FROM	STATION TO	SIDE	202 FENCE REMOVED (FT.)	202 REMOVAL MISC.: RAILROAD TIES (EACH)	202 REMOVAL MISC.: PARKING BLOCK REMOVED (EACH)	202 REMOVAL MISC.: BOLLARD REMOVED (EACH)	202 REMOVAL MISC.: GATE REMOVED (EACH)	202 REMOVAL MISC.: SIGN W/LIGHT (EACH)	607 FENCE, TYPE CL (FT.)		638 VALVE BOX ADJUSTED TO GRADE (EACH)	638 FIRE HYDRANT ADJUSTED TO GRADE (EACH)	
40	F-1	48+93	49+27	LT.	36						36				
40	F-2	49+04	49+06	RT.	10						10				
40	F-3	50+57	51+09	RT.	55						55				
40	F-4	50+69	50+70	LT.	10						10				
40	R-1	48+85	49+03	RT.		4									
40	R-2	50+69	51+28	LT.	95										
40	R-3	51+18	51+36	LT.			2								
40	R-4	51+28	51+31	LT.				2	1						
40	R-5	51+65	52+05	LT.			4								
40	R-6	51+85	51+86	LT.						1					
40	W-1	47+61	47+66	LT.									2		
40	W-2	47+89.5		RT.									1		
40	W-3	48+42	48+00	RT.									1	1	
40	W-4	51+01	51+11	RT.									2	1	
40	W-5	51+47	51+77	RT.									2		
TOTALS CARRIED TO GENERAL SUMMARY SHEET					206	4	6	2	1	1	206		7	2	

EARTHWORK SUBSUMMARY

SHEET NO.	203 EXCAVATION (CU YDS)	203 EMBANKMENT (CU YDS)	659 SEEDING AND MULCHING (SQ. YDS.)
42	0	50	34
43	0	113	157
44	0	97	75
45	0	37	39
47	68	0	0
49	27	0	0
TOTAL	95	297	305

TOTALS CARRIED TO GENERAL SUMMARY SHEET

EROSION CONTROL QUANTITIES

CARRIED TO GENERAL NOTES, SHEET 5

TOPSOIL: $\frac{\text{111 C.Y. TOPSOIL}}{\text{1000 S.Y. SEEDING}}$ X 305 S.Y. SEEDING	34 C.Y.
REPAIR SEEDING AND MULCHING: 5% OF 305 S.Y. SEEDING	15 S.Y.
FERTILIZER: $\frac{\text{1 TON FERTILIZER}}{\text{7410 S.Y. SEEDING}}$ X 305 S.Y. SEEDING	0.04 TON
LIME: 305 S.Y. SEEDING X $\frac{\text{1 AC. LIME}}{\text{4840 S.Y. SEEDING}}$	0.06 AC.
WATER: $\frac{\text{0.0027 M GAL}}{\text{S.Y.}}$ X 305 S.Y. SEEDING	0.8 MGAL

DRAINAGE SUBSUMMARY

SHEET NO.	REF NO.	STATION FROM	STATION TO	SIDE	202 PIPE CLEANOUT (FT.)	603 6" CONDUIT, TYPE F (FT.)	603 12" CONDUIT, TYPE B (FT.)	603 15" CONDUIT, TYPE B (FT.)	604 CATCH BASIN, NO. 2-2B (EACH)	604 CATCH BASIN, NO. 2-4 (EACH)	604 MANHOLE NO. 3 (EACH)	604 INLET, NO. 2-A-18 (EACH)	604 INLET, NO. 2-A-20 (EACH)	604 MANHOLE ADJUSTED TO GRADE (EACH)	604 MANHOLE RECONSTRUCTED TO GRADE (EACH)	604 CATCH BASIN ADJUSTED TO GRADE (EACH)	605 6" UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP (FT.)
40	D-1	47+55	47+75	RT.				10			1		1				
40	D-2	47+75	47+80	LT.												2	
40	D-3	47+75	48+39	RT.				105			1	1					
40	D-4	48+39	48+56	LT.										1			
40	D-5	48+69	48+81	RT.											2		
40	D-6	50+71	51+27	RT.										1	1		
40	UD-1	47+70	48+87.4	RT.		30											64
40	UD-2	47+98	49+03	LT.		25											105
40	UD-3	50+80	52+00	RT.													120
40	UD-4	50+89	52+00	LT.		10											101
47	D-1	5+69.73		RT.												1	
49	D-1	11+23.55		RT.	133											1	
49	D-2	8+85.00	9+86.05	RT.			100		1	1							
TOTALS CARRIED TO GENERAL SUMMARY SHEET					133	65	100	114	1	1	2	1	1	2	3	4	390

CALCULATED GZ
CHECKED AWS

ROADWAY & DRAINAGE SUBSUMMARIES

MAH-680-6.03

PAVEMENT SUBSUMMARY - I-680 & RAMPS

MAH-680-6.03

CALCULATED KAM CHECKED FLK

STATION	SIDE	LENGTH L	AVERAGE SURFACE WIDTH W	SURFACE AREA A A=LxW/9	CADD AREAS	204 SUBGRADE COMPACTION	254 PAVEMENT PLANING, ASPHALT CONCRETE 3" MINIMUM	304 AGGREGATE BASE 3" TO 24" THICK	407 TACK COAT 0.1 GAL/SY	407 TACK COAT FOR INTERMEDIATE COURSE, 0.05 GAL/SY	442 ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), (T = 1½"), AS PER PLAN	442 ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (448), AVG. THK. 3½"	442 ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446), AVG. THK. 2"	608 CURB RAMP, TYPE B2	608 CURB RAMP, TYPE A1	609 CURB, TYPE 6
		FT	FT	SQ YD	SQ FT	SQ YD	SQ YD	CU YD	GAL	GAL	CU YD	CU YD	CU YD	EACH	EACH	FT
RAMP K																
48+07.8 TO 48+20.7	LT				73.53										1	
48+26.5	LT													1		
47+85 TO 48+04.78	LT	19.78	18.25	40.11					4.01	2.00	1.67		2.23			
℄ MARKET (LT.)																
47+45 TO 47+85	LT	40.00	16.00	71.11					7.11	3.56	2.96		2.0			
48+04.78 TO 48+31.52	LT	26.74	17.00	50.51					5.10		2.10		1.4			
RAMP M																
4+48.00 TO 4+97.85	RT	49.85	2.25	12.46		12.46		5.19	1.25	0.62	0.52	1.21				
4+44.00 TO 4+97.85	RT & LT	53.85	25.50	146.59			146.59		14.66	7.33	6.11	14.25				
4+48.00 TO 4+88.00	RT	40.00														40.00
4+97.85 TO 5+78.00	RT	80.15	25.5	227.09			227.09		22.71	11.35	9.46	22.08				
4+97.85 TO 5+78.00	RT	80.15	3.66	32.59		32.59		13.58	3.26	1.63	1.36	3.17				
5+78.00 TO 7+05.80	RT	127.80	4.5	63.90		63.90		26.63	6.39	3.20	2.66	6.21				
5+78.00 TO 7+05.80	RT	127.80	28	397.60			397.60		39.76	19.88	16.57	33.13				
7+05.80 TO 7+79.00	RT	73.20	28	227.73			227.73		22.77	11.39	9.49	18.98				
7+05.80 TO 7+79.00	RT	73.20	3.25	26.43		26.43		11.01	2.64	1.32	1.10	2.57				
7+05.80 TO 7+79.00	RT	73.20														73.20
RAMP N																
8+88.36 TO 11+34	RT	245.64	12.00	327.52			327.52		32.75	16.38	13.65	31.84				
11+34.00 TO 11+73.95	RT	39.95	4.00	17.76			17.76		1.76	0.89	0.74	1.73				
11+34.00 TO 11+73.95	RT	39.95	3.00	13.32		13.32		1.29	1.33	0.66	0.55	1.29				
I-680																
1029+73.80 TO 1030+50	LT	76.20	3.00	25.40		25.40		2.47	2.54	1.27	1.06	2.37				
1029+30 TO 1029+73.80	LT	43.80	2.5	12.17		12.17		1.18	1.22	0.61	0.51	1.18				43.80
1029+30 TO 1030+50	LT	120.00	5.58	74.40			74.40		7.44	3.72	3.10	7.23				
1031+69 TO 1034+06	RT	237.00	6.00	158			158		15.8	7.9	6.58	15.36				
				ITEMS SUB-TOTAL		186.27	1576.69	61.35	192.50	93.71	80.19	162.60	5.63	1	1	157
TOTALS CARIED TO GENERAL SUMMARY						186	1577	61	193	94	80	163	6	1	1	157

STATION	SIDE	LENGTH L	AVERAGE SURFACE WIDTH W	SURFACE AREA A A=LxW/9	CADD AREAS	254 PAVEMENT PLANING, ASPHALT CONCRETE	301 ASPHALT CONCRETE BASE, PG64-22 (T =¾")	304 AGGREGATE BASE (T = 13.5" AVG.)	407 TACK COAT 0.1 GAL/SY	407 TACK COAT, 0.05 GAL/SY	407 TACK COAT FOR INTERMEDIATE COURSE, 0.05 GAL/SY	424 FINE GRADED POLYMER ASPHALT CONCRETE, TYPE A (T = 2" AVG.)	424 FINE GRADED POLYMER ASPHALT CONCRETE, TYPE A (T =¾")	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22 (T = 1-1/4")	608 4" CONCRETE WALK	609 CURB, TYPE 6
		FT	FT	SQ YD	SQ FT	SQ YD	CU YD	CU YD	GAL	GAL	GAL	CU YD	CU YD	CU YD	SQ FT	FT
MARKET STREET																
47+45 TO 47+70	LT & RT	25.00	68.00	188.89		188.89			18.89			10.49				
47+96.75 TO 48+31.75 (RAMP K)	LT	35.00	7.50	29.16											262.50	43.48
47+70 TO 48+95.19	LT & RT	125.19	68.00	945.88			223.33		94.59	47.29	47.29		19.71	45.98		223.63
48+31.75 TO 48+95.19	LT	63.44	12.00	84.59											761.28	
47+70 TO 48+39	RT	69.00	13.00	99.66											897.00	
48+39 TO 48+95.19	RT	56.19	12.00	74.92											674.28	
48+95.19 TO 49+17.69	LT & RT	22.50	88.67	221.68				83.13								
50+61.51 TO 50+84.01	LT & RT	22.50	88.67	221.68				83.13								
50+84.01 TO 52+00	LT & RT	115.99	68.00	876.37			206.92		87.64	43.82	43.82		18.26	42.60		231.98
50+84.01 TO 52+00	RT	115.99	12.00	154.65											1391.88	
50+84.01 TO 52+00	LT	115.99	12.00	154.65											1391.88	
50+84.01 TO 52+00 (PK. LOT)	LT & RT	115.99	9.03	116.37			27.48									
52+00 TO 52+25	LT & RT	25.00	68.00	188.89		188.89			18.89				3.94			
					ITEMS SUB-TOTAL	377.78	457.73	166.26	220.01	91.11	91.11	10.49	41.91	88.58	5378.82	499.09
TOTALS CARIED TO GENERAL SUMMARY						378	458	166	311		91	52		89	5379	499

CALCULATED KAM
CHECKED FLK

PAVEMENT SUBSUMMARY - MARKET STREET

MAH-680-6.03

PAVEMENT SUBSUMMARY

STATION	SIDE	LENGTH L	AVERAGE SURFACE WIDTH W	SURFACE AREA A A=LxW/9	CADD AREAS	202 WALK REMOVED	202 CURB AND GUTTER REMOVED	202 CURB REMOVED	202 PAVEMENT REMOVED	204 SUBGRADE COMPACTION	304 8" AGGREGATE BASE	408 PRIME COAT (0.4 GAL/SY)	448 ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, PG64-22 (DRIVEWAYS), 1½"	448 ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, PG64-22 (DRIVEWAYS), 1¾"	452 8" NON-REINFORCED CONCRETE PAVEMENT
		FT.	FT.	SQ. YD.	SQ. FT.	SQ. FT.	FT.	FT.	SQ. YD.	SQ. YD.	CU. YD.	GAL.	CU. YD.	CU. YD.	SQ. YD.
MARKET STREET															
48+68 (APRON)	RT.	12.0	21.43	28.57					28.57	28.57					28.57
48+68 (DRIVE)	RT.	19.0	47.85	101.02						101.02	22.45	40.40	4.2	4.92	
51+53 (APRON)	LT.	11.5	39.65	50.67					50.67	50.67					50.67
51+53 (PARKING LOT AND DRIVE)	LT.	115.99	1.94	25.00						25.0	5.56	10.0	0.83	1.21	
47+70.0 TO 48+59.0	RT.	89.0			116.9	116.9									
47+98.4 TO 49+31.1	LT.	132.7			151.3	151.3									
48+07.9 TO 48+22.9	LT.	15.0			8.6	8.6									
48+77.0 TO 49+13.3	RT.	36.3			42.4	42.4									
50+53.3 TO 52+00.0	RT.	146.7			192.7	192.7									
50+62.4 TO 51+35.5	LT.	73.1			92.8	92.8									
51+70.5 TO 52+00.0	LT.	29.5			39.7	39.7									
47+70.0 TO 49+13.3	RT.	143.3						143.3							
47+96.2 TO 49+28.6	LT.	132.4						132.4							
48+10.9 TO 48+22.9	LT.	12.0						12.0							
50+54.6 TO 52+00.0	RT.	145.4						145.4							
50+62.4 TO 52+00.0	LT.	137.6						137.6							
RAMP M															
4+88 TO 7+79	RT.	291.0					291.0								
RAMP N															
1029+30 TO 1030+50	LT.	120.0						120.0							
11+34 TO 11+73.95	RT.	40.0						40.0							
					SUBTOTAL	644.7	291.0	730.7	79.24	205.26	28.01	50.40	5.03	6.13	79.24
TOTALS CARRIED TO GENERAL SUMMARY SHEET						645	291	731	79	205	28	50	5	6	79

CALCULATED JAG
CHECKED FLK

MAH-680-6.03

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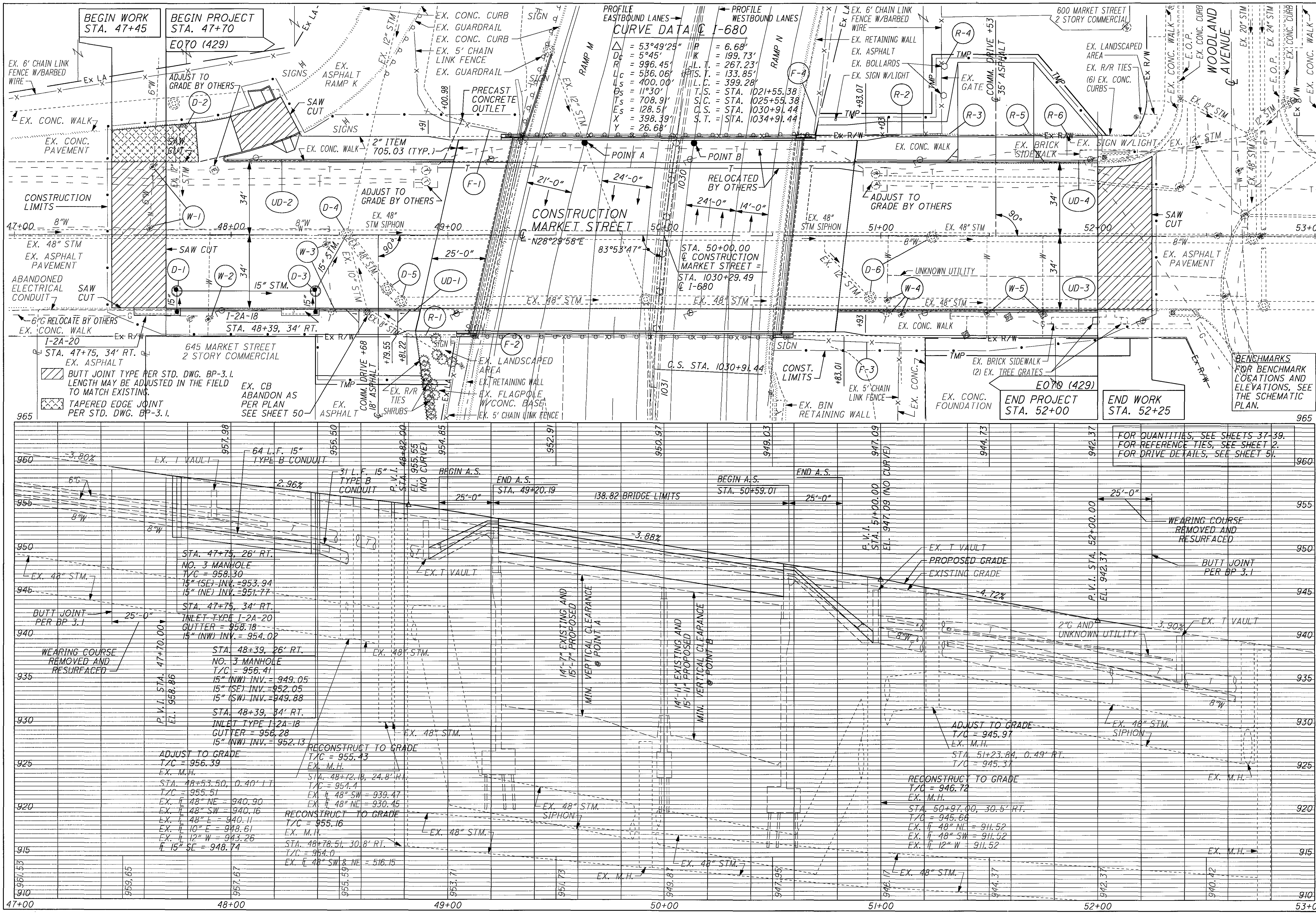

PLAN AND PROFILE STA. 47+00 TO STA. 53+00

MAH-680-6.03

CALCULATED KAM
CHECKED FLK

HORIZONTAL SCALE IN FEET 0 20 40

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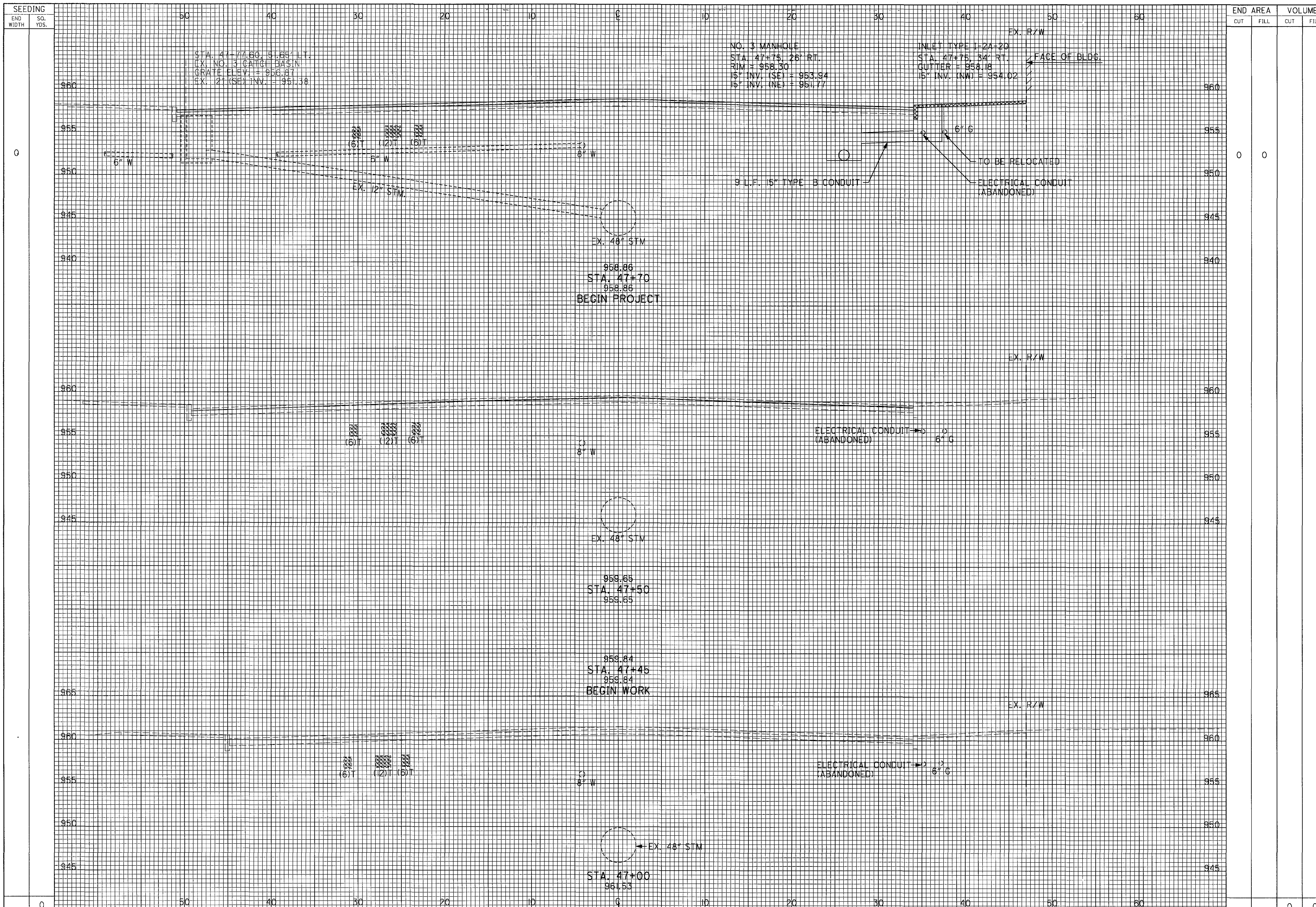

CROSS SECTIONS
STA. 47+00 TO STA. 47+70

MAH-680-6.03

CALCULATED GZ
CHECKED AWS

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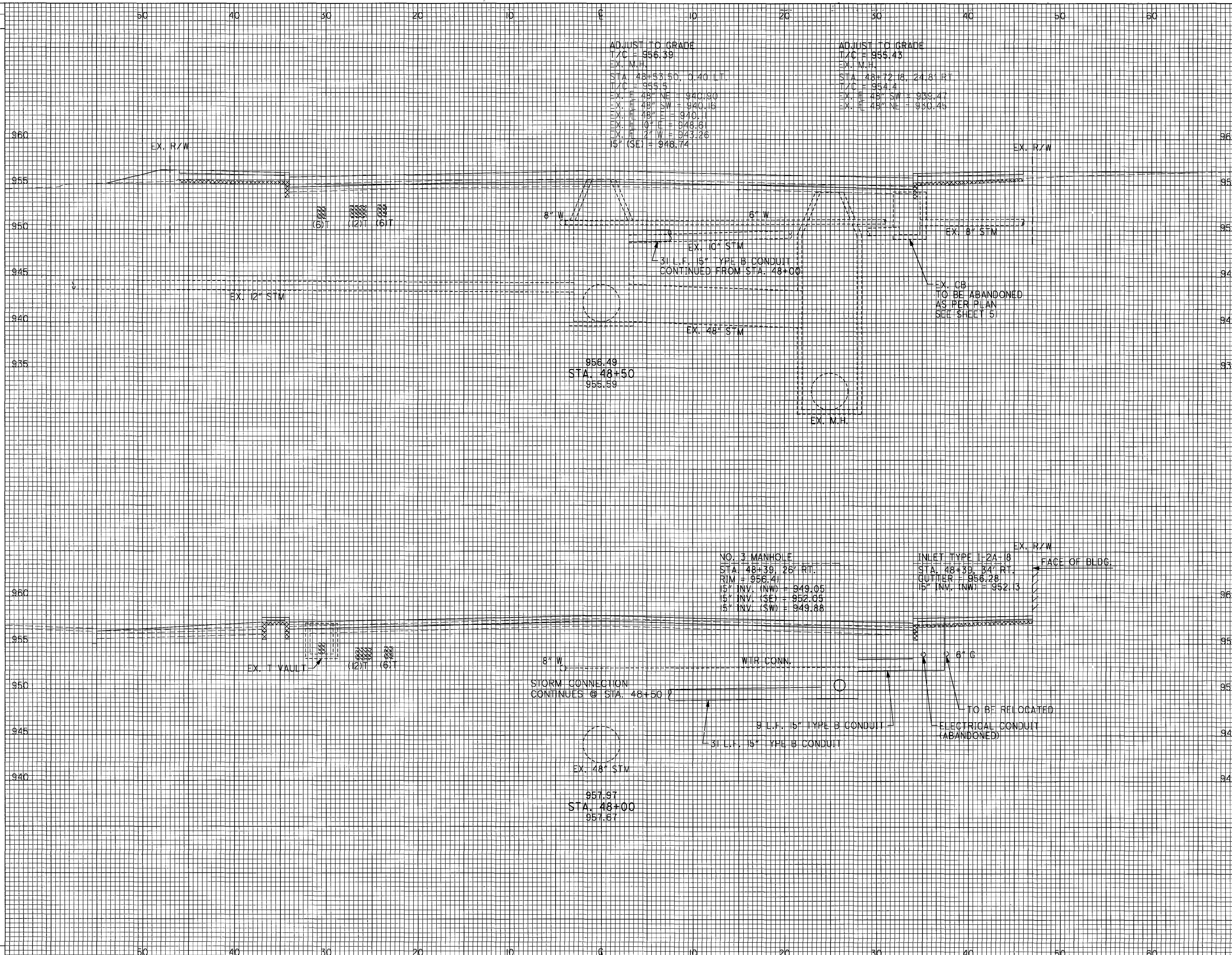
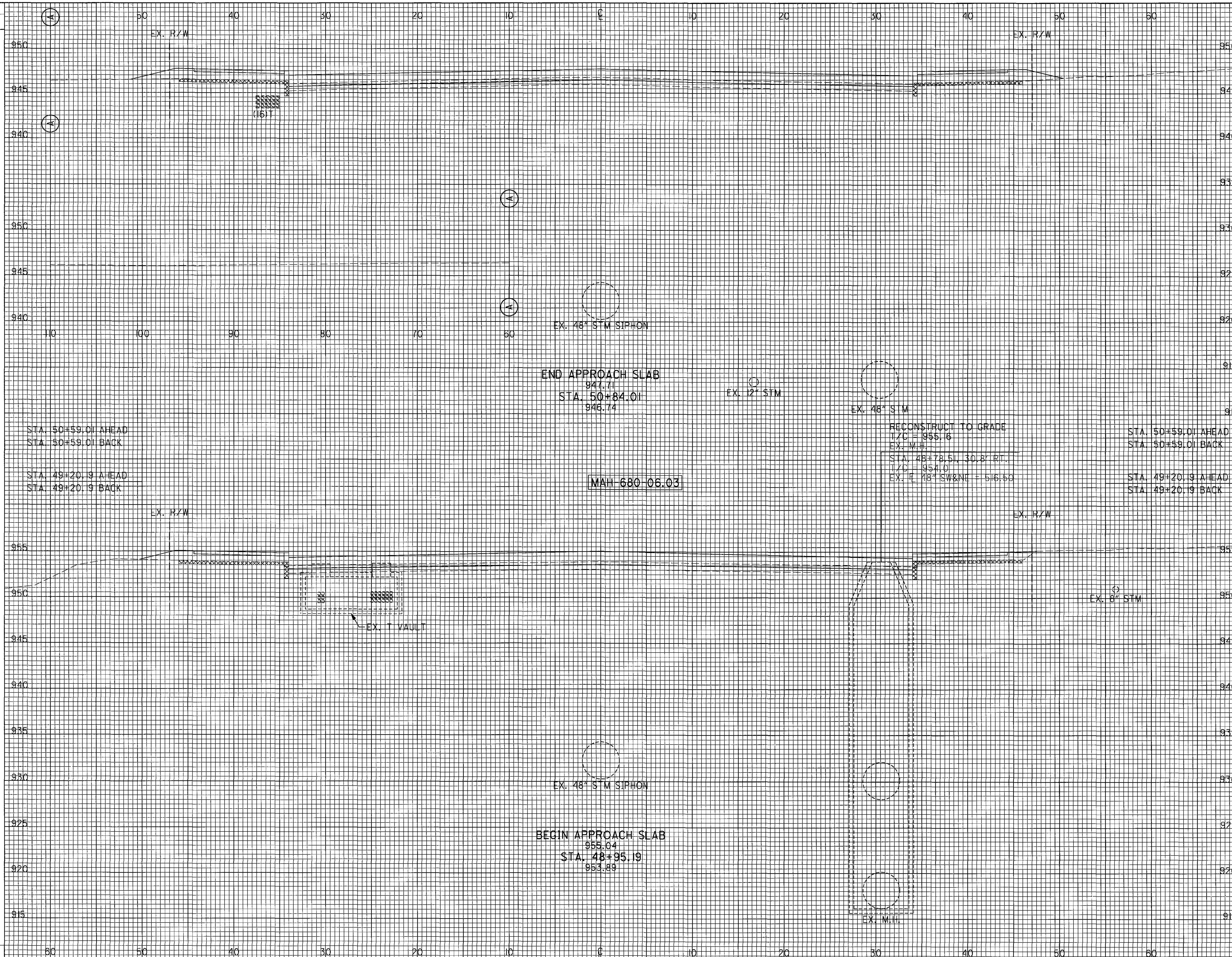
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
12		0	37		
	34			0	44
0		0	10		
	0			0	6
	34			0	50



CALCULATED GZ
CHECKED AWS

CROSS SECTIONS STA. 48+00 TO STA. 48+50

MAH-680-6.03



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
11		0	38		
	31			0	34
11		0	38		
0		0	0		
0		0	0		
18		0	27		
	50			0	25
18		0	27		
	76			0	54
	157			0	113

CALCULATED GZ
CHECKED AWS

CROSS SECTIONS
STA. 48+95.19 TO STA. 50+84.01

MAH-680-6.03

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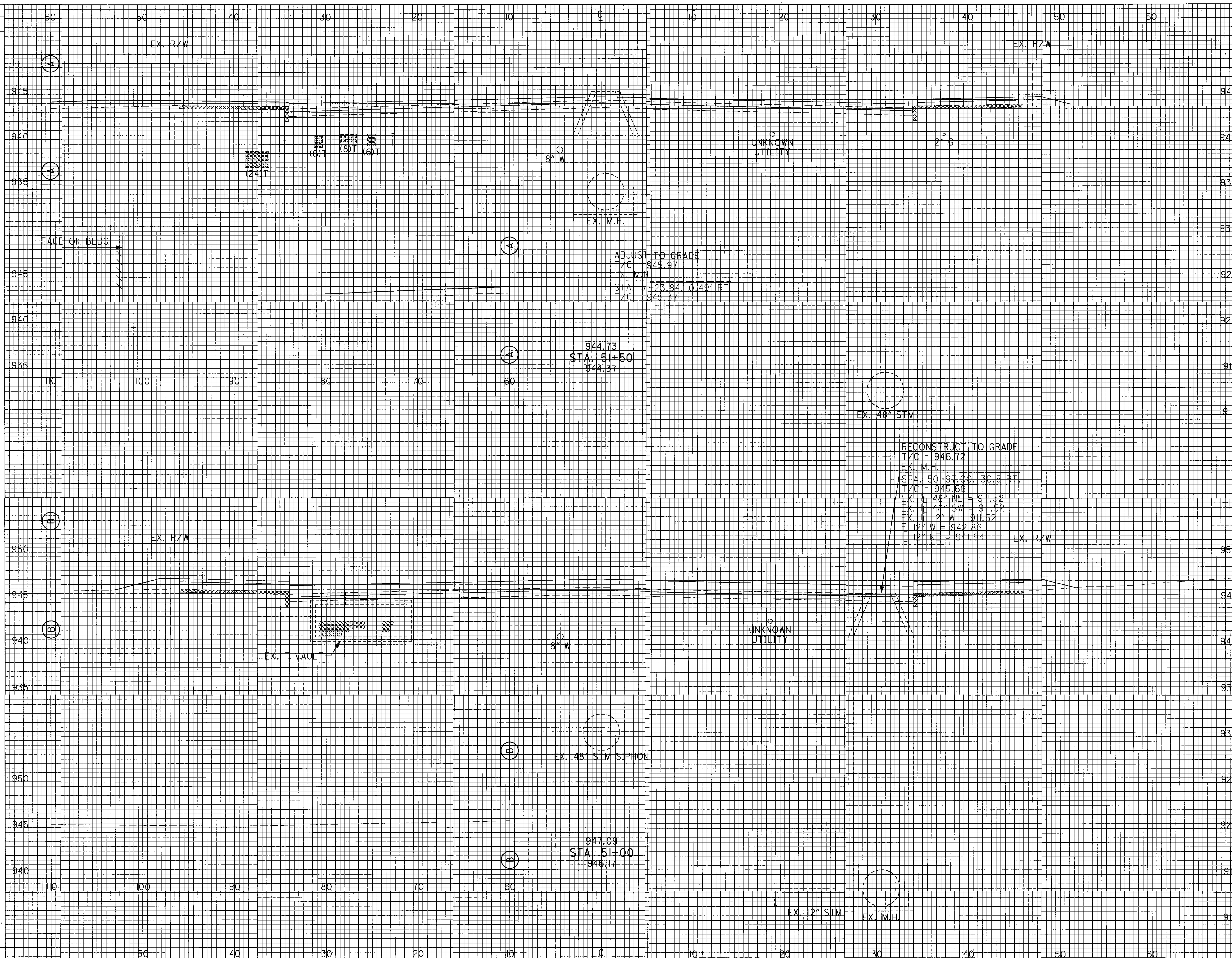


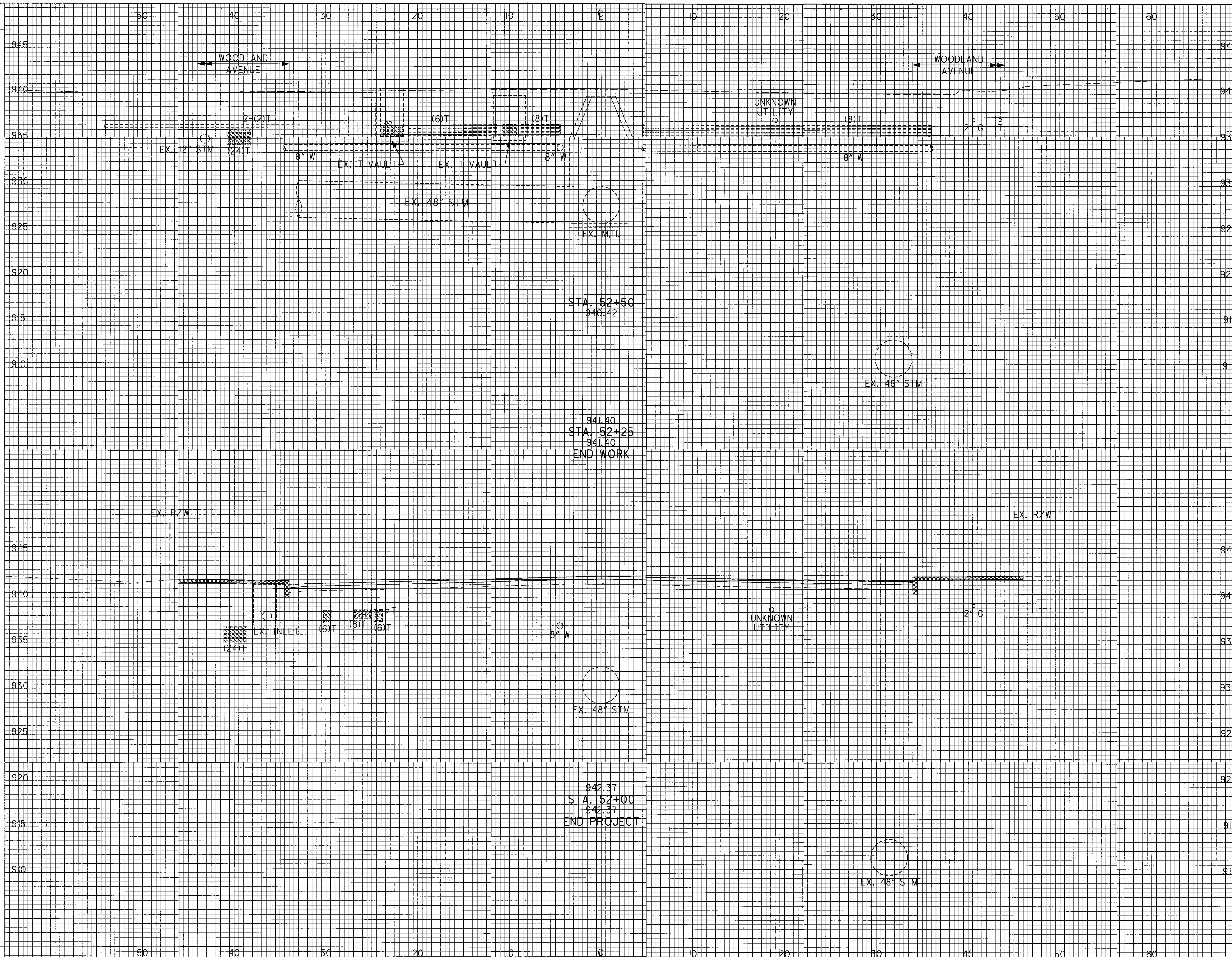
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
10		0	40		
	56			0	74
10		0	39		
	19			0	23
	75			0	97

CALCULATED GZ
CHECKED AWS

CROSS SECTIONS
STA. 51+00 TO STA. 51+50

MAH-680-6.03

44
85



SEEDING	
END WIDTH	SQ. YDS.
4	
	39
	39

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
		0	37
		0	37

CALCULATED GZ
CHECKED AWS

CROSS SECTIONS
STA. 52+00 TO STA. 52+50

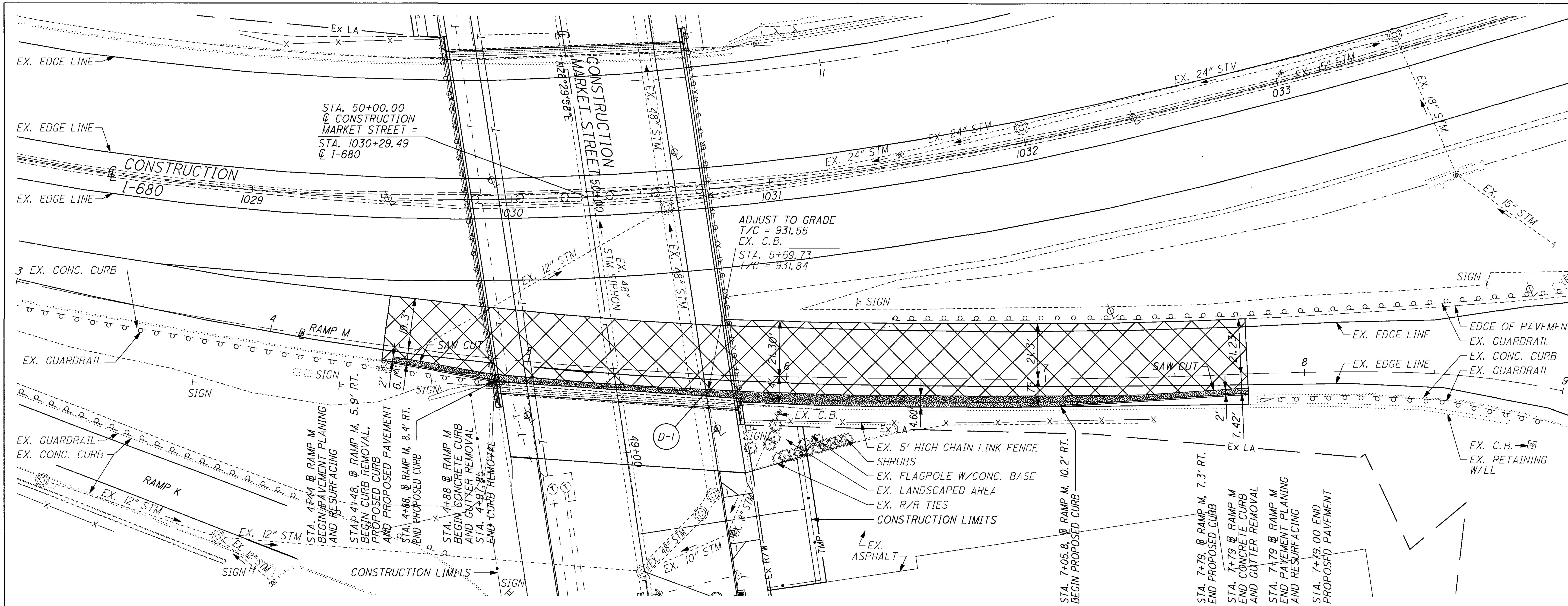
MAH-680-6.03

45 / 85

CALCULATED GZ
CHECKED AWS

DRIVEWAY PROFILES

MAH-680-6.03



PAVEMENT PLANING AND RESURFACING

PAVEMENT

FOR PAVEMENT DETAILS, SEE SHEET 48.
FOR QUANTITIES, SEE SHEETS 37-39.
FOR SURVEY CONTROL, SEE SHEET 2.

LEFT EDGE ELEVATION	LEFT OFFSET	CROSS SLOPE	ELEV. P.G.	STATION	CROSS SLOPE	RIGHT OFFSET	RIGHT EDGE ELEVATION	GUTTER WIDTH	GUTTER CROSS SLOPE	FACE OF CURB
933.08	19.23	-0.036	933.78	4+44.00	0.036	1.820	933.83	4.00	0.036	933.98
933.05	19.29	-0.035	933.72	4+50.00	0.035	1.990	933.79	4.00	0.032	933.92
932.56	19.33	-0.035	933.23	4+75.00	0.035	2.390	933.32	5.10	0.012	933.38
932.08	19.26	-0.035	932.75	5+00.00	0.035	2.270	932.83	6.25	0.000	932.83
931.57	19.14	-0.035	932.24	5+25.00	0.035	1.690	932.30	6.25	-0.004	932.27
931.27	19.03	-0.029	931.83	5+50.00	0.029	1.740	931.88	6.25	-0.009	931.82
931.20	19.08	-0.024	931.65	5+75.00	0.024	2.130	931.70	6.25	-0.013	931.62
931.32	21.31	-0.018	931.70	6+00.00	0.018	4.180	931.78	6.25	-0.018	931.67
931.71	21.18	-0.012	931.96	6+25.00	0.012	4.530	932.01	6.25	-0.022	931.88
932.30	21.2	-0.007	932.44	6+50.00	0.007	4.550	932.47	6.25	-0.026	932.30
933.10	21.33	-0.002	933.13	6+75.00	0.002	4.540	933.13	6.25	-0.031	932.94
934.61	21.27	0.003	934.53	7+00.00	-0.003	4.500	934.52	6.25	-0.035	934.30
935.32	21.11	0.008	935.14	7+25.00	-0.008	4.938	935.10	4.27	-0.035	934.95
936.62	21.22	0.014	936.33	7+50.00	-0.014	5.876	936.25	2.29	-0.035	936.17
937.83	21.24	0.019	937.44	7+75.00	-0.019	7.284	937.30	0.32	-0.035	937.29
937.82	21.23	0.027	937.51	7+79.00	-0.019	7.420	937.37	0.00	-0.035	937.37

RAMP M EXCAVATION

STATION		LENGTH	WIDTH	DEPTH	VOLUME
FROM	TO	FT.	FT.	FT.	CY.
4+48.00	4+97.85	49.85	2.25	1.5	6.23
4+97.85	5+78.00	80.15	3.66	1.5	16.30
5+78.00	7+05.80	127.80	4.5	1.5	31.95
7+05.80	7+79.00	73.20	3.25 (AVG.)	1.5	13.22
TOTAL EXCAVATION - CARRIED TO SUBSUMMARY, SHEET 37.					67.70

0 10 20 40
HORIZONTAL SCALE IN FEET

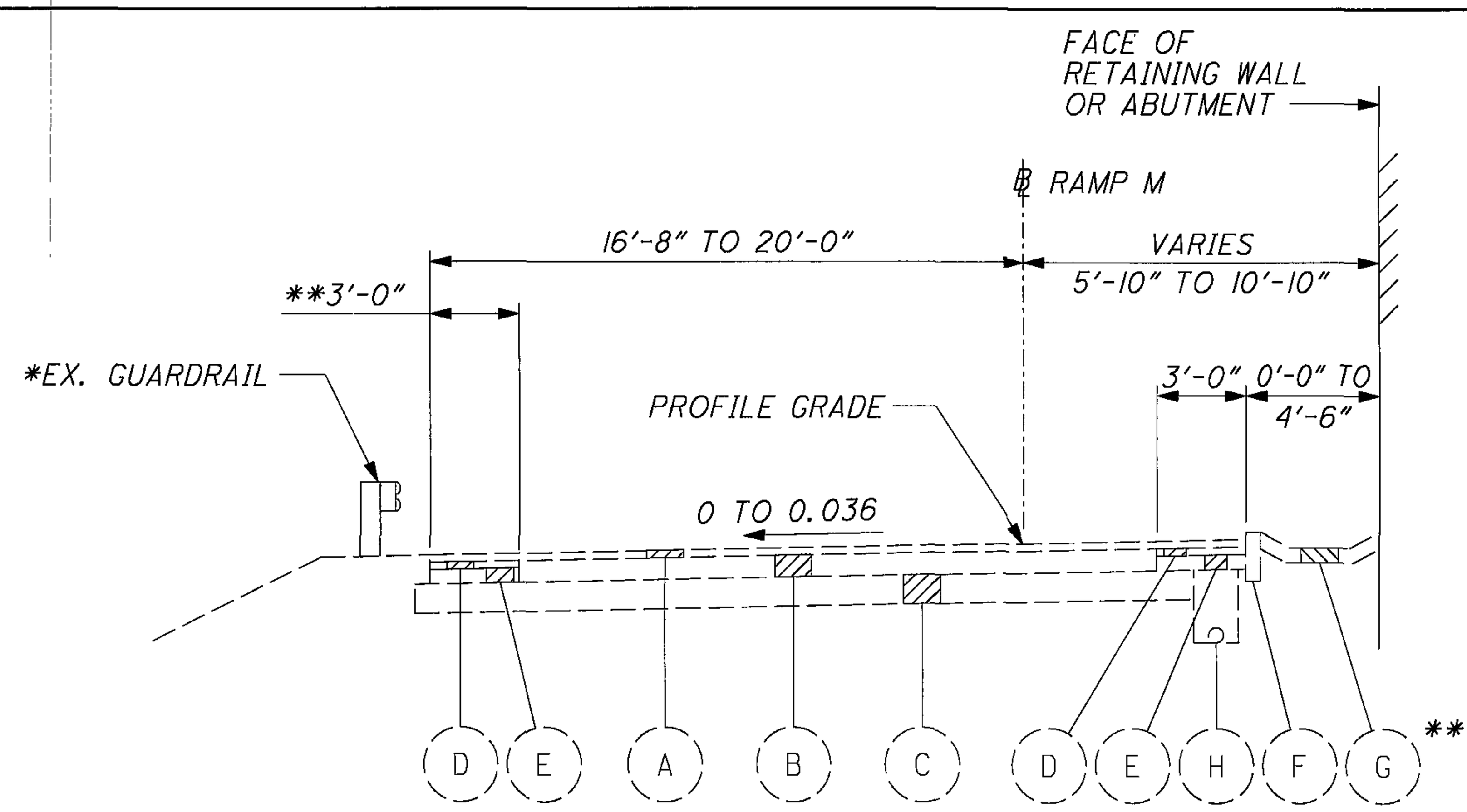
CALCULATED KAM
CHECKED FLK

RESURFACING DETAIL RAMP M

MAH-680-6.03

LEGEND

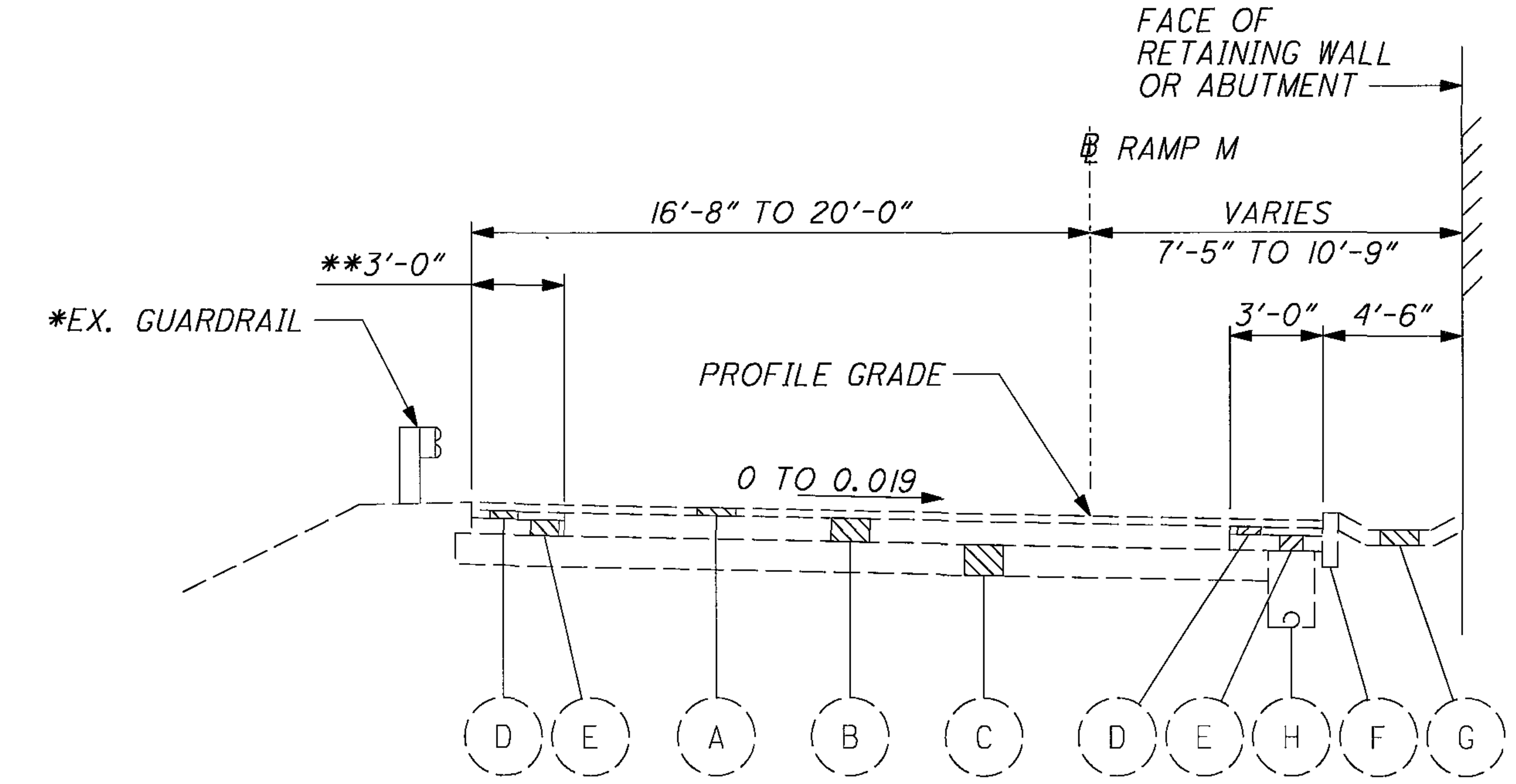
- (A) EXISTING ASPHALT PAVEMENT
- (B) 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
- (C) SUBBASE (VARIABLE DEPTH)
- (D) 3" WATERPROOFED AGGREGATE BASE COURSE
- (E) STABILIZED CRUSHED AGGREGATE
- (F) STANDARD TYPE 6 CURB
- (G) STANDARD TYPE I PAVED GUTTER
- (H) 6" UNDERDRAIN
- (1) ITEM 442 - 1½" ASPHALT CONCRETE SURFACE COURSE, 12.5mm TYPE B (446), AS PER PLAN
- (2) ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (0.05 GAL/SY)
- (3) ITEM 442 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, TYPE B (446)
- (4) ITEM 407 - TACK COAT (0.1 GAL SY)
- (7) ITEM 609 - CURB, TYPE 6
- (8) ITEM 254 - PAVEMENT PLANING BITUMINOUS 3¼" AVG. DEPTH
- (9) ITEM 442 - 1¾" TO 5" ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, TYPE B (448)
- (10) ITEM 204 - SUBGRADE COMPACTION
- (11) ITEM 304 - 6" - 24" AGGREGATE BASE



DETAIL - RAMP M

STA. 4+44.00 TO STA. 7+12.00

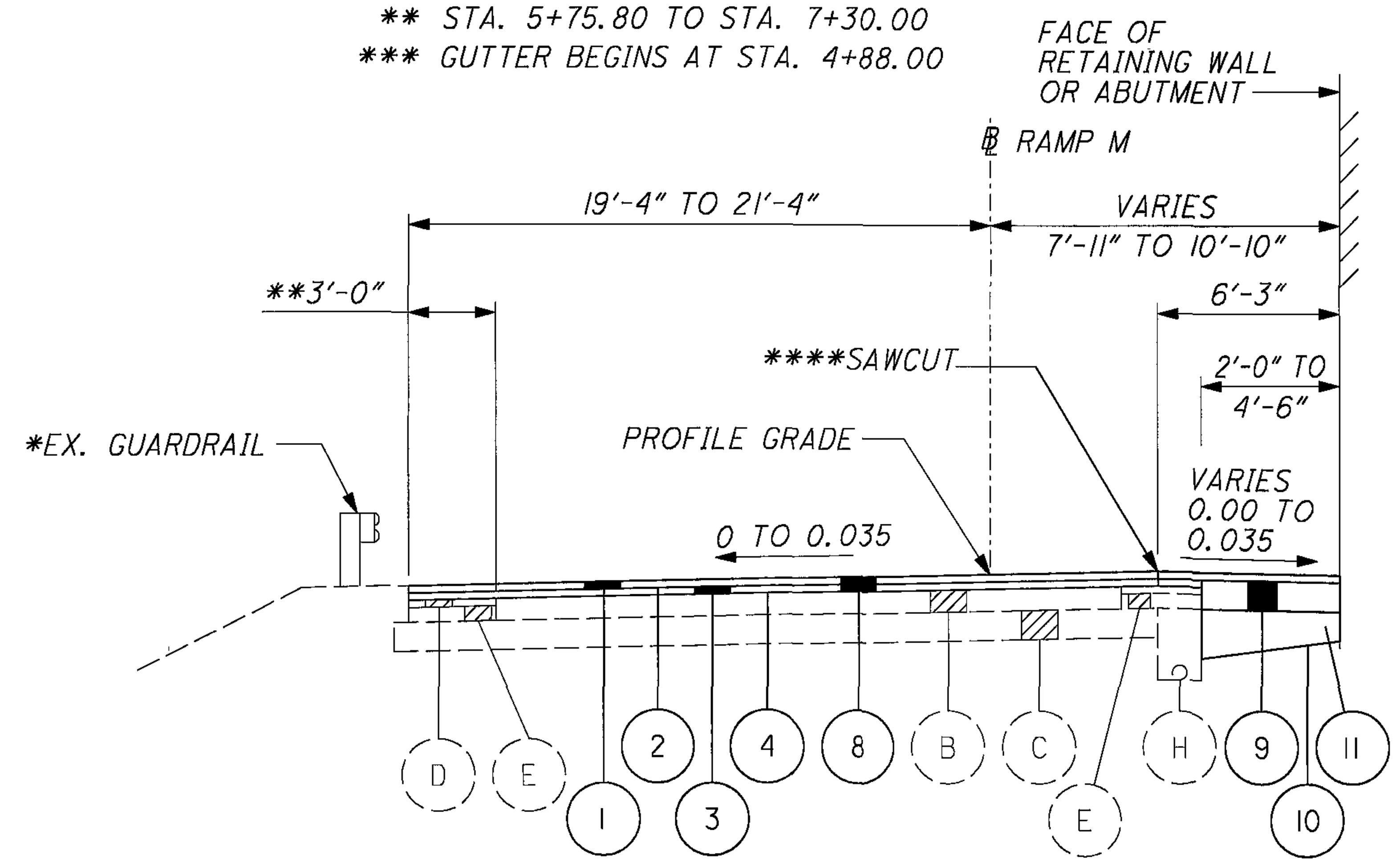
* STA. 6+40.85 TO STA. 7+30.00
** STA. 5+75.80 TO STA. 7+30.00
*** GUTTER BEGINS AT STA. 4+88.00



DETAIL - RAMP M

STA. 7+12.00 TO STA. 7+79.00

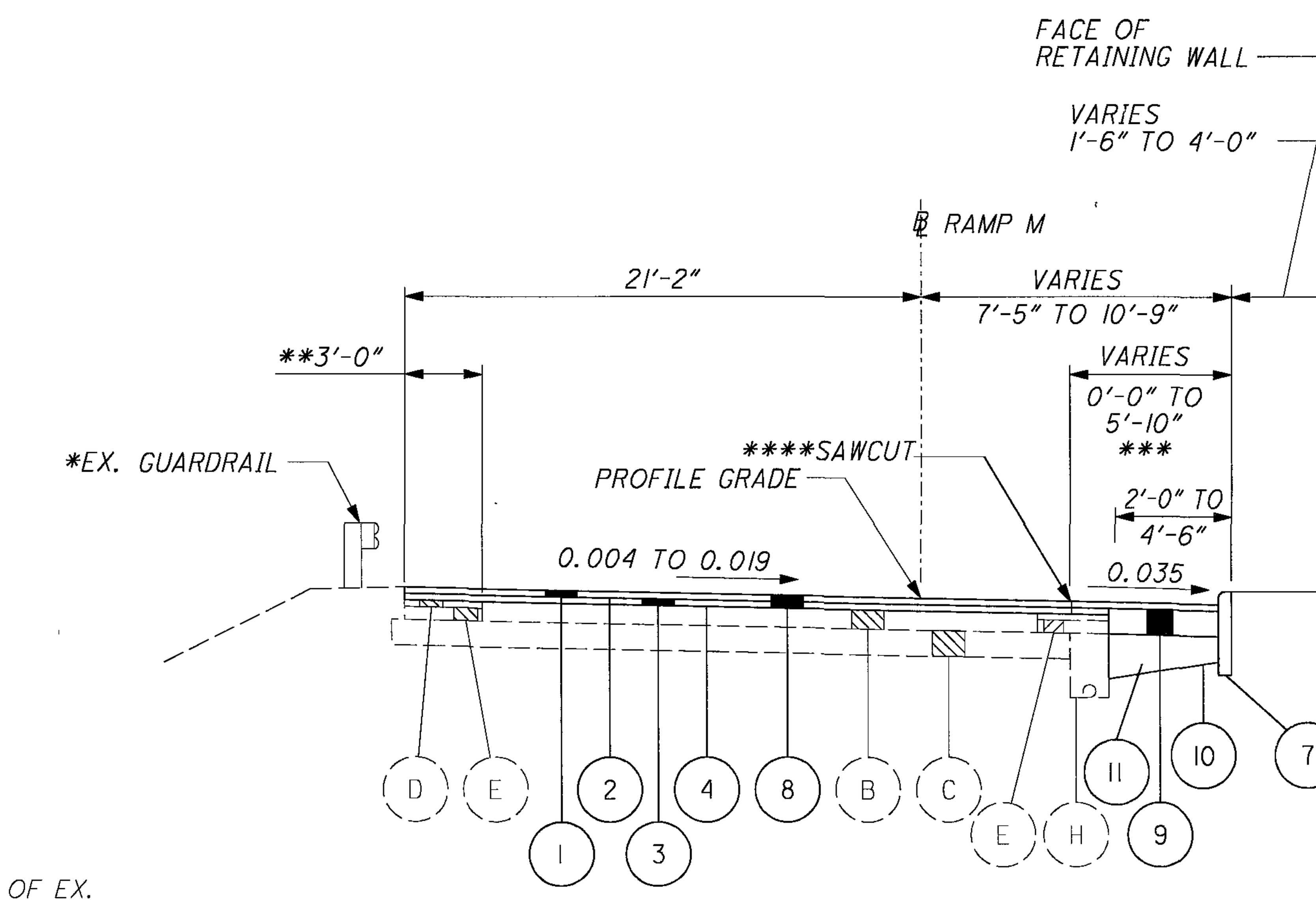
* STA. 7+30.00 TO STA. 7+79.00
** STA. 7+75.80 TO STA. 7+79.00



DETAIL - RAMP M

STA. 4+97.85 TO STA. 6+85

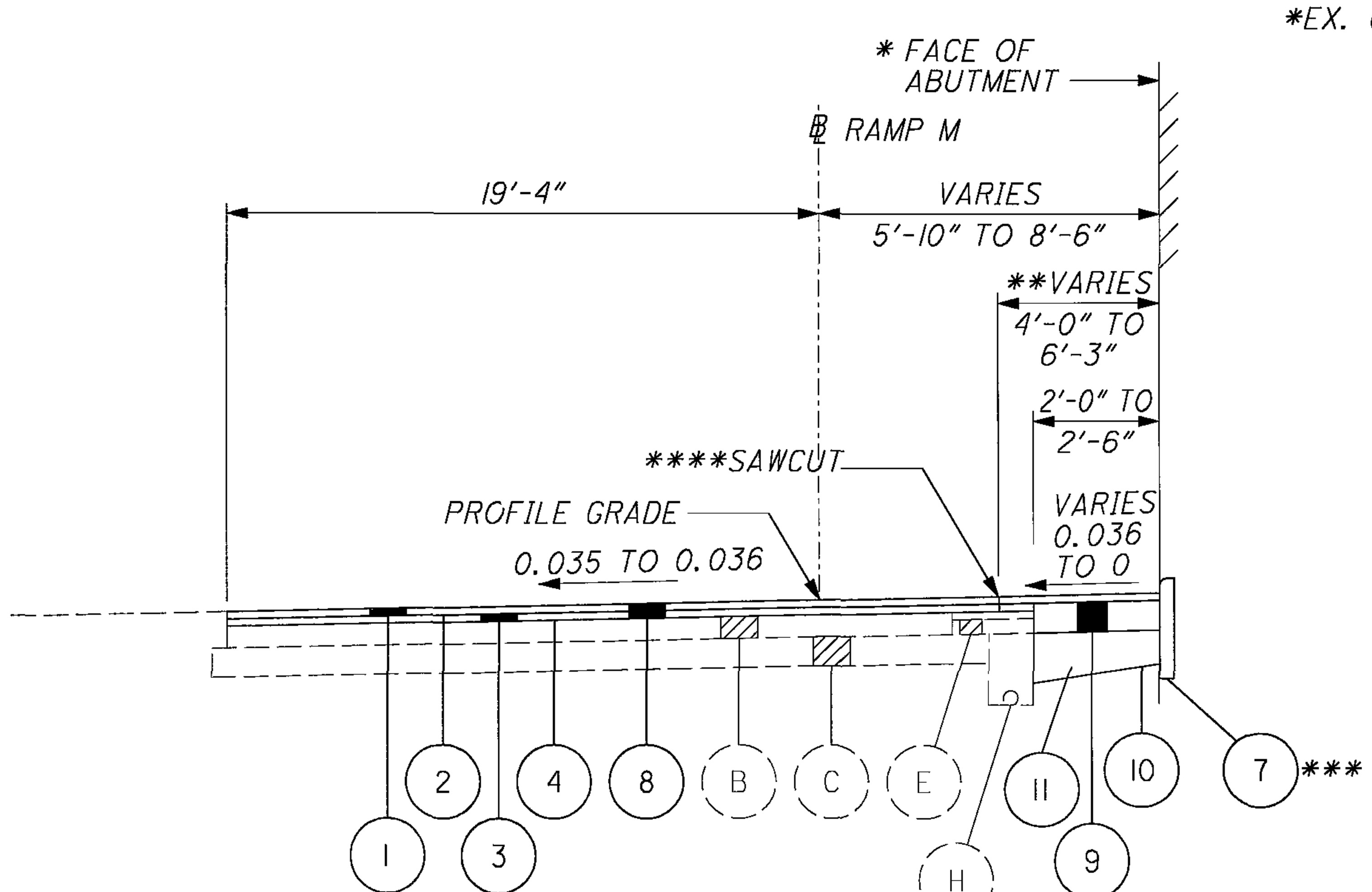
* STA. 6+40.85 TO STA. 7+79.00
** STA. 5+78.80 TO STA. 7+79.00



DETAIL - RAMP M

STA. 7+05.00 TO STA. 7+79.00

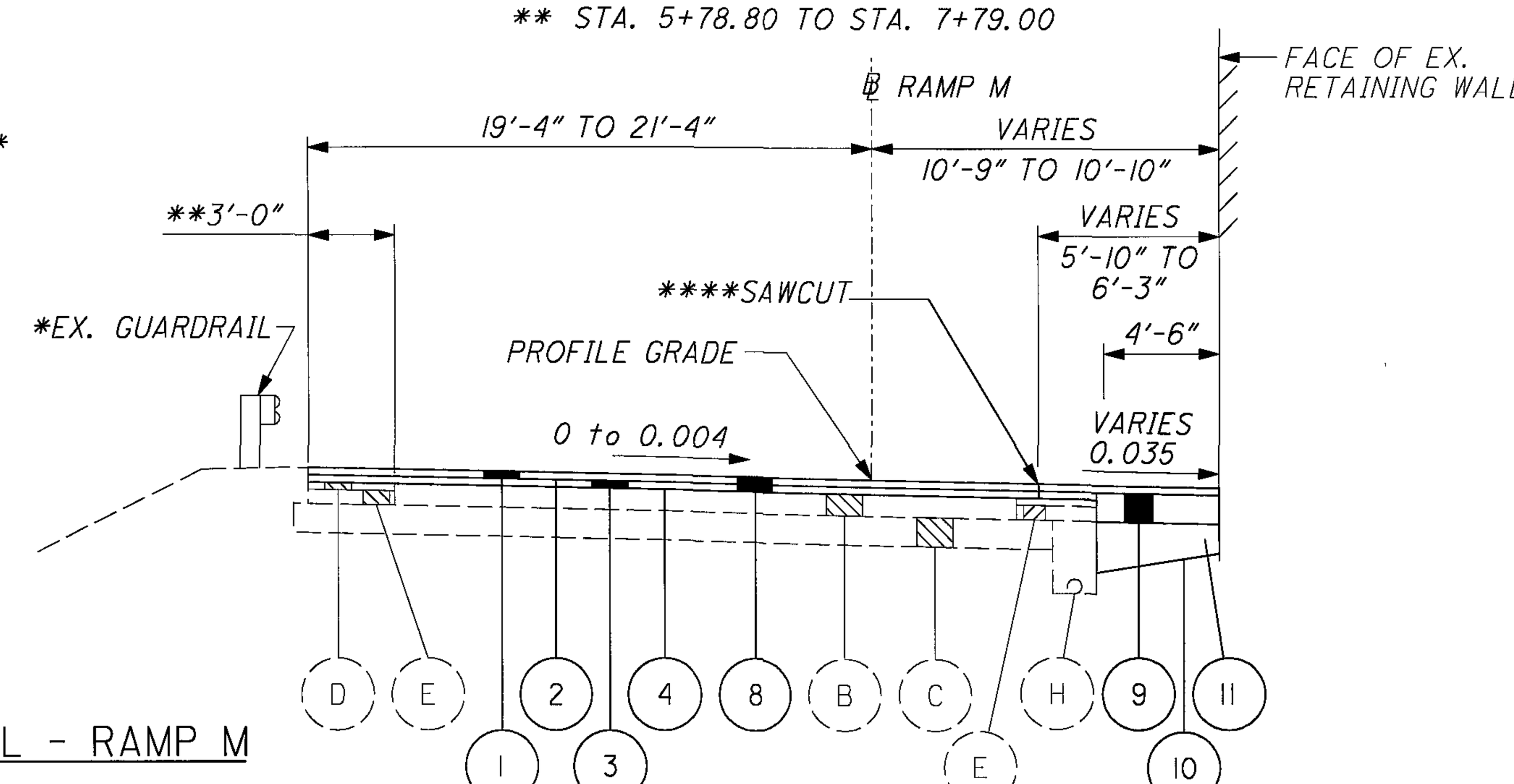
* STA. 6+40.85 TO STA. 7+79.00
** STA. 5+75.80 TO STA. 7+79.00
*** CURB TAPERS FROM STA. 7+05.80 TO STA. 7+79.00
**** STA. 7+05.80 TO STA. 7+79.00



DETAIL - RAMP M

STA. 4+44.00 TO STA. 4+97.85

* ABUTMENT FROM STA. 4+88.00 TO STA. 4+97.85
** CURB TAPERS FROM STA. 4+48.00 TO STA. 4+88.00
*** CURB ENDS STA. 4+88.00
**** STA. 4+48.00 TO STA. 4+88.00 (SEE NOTE)



DETAIL - RAMP M

STA. 6+85 TO STA. 7+05

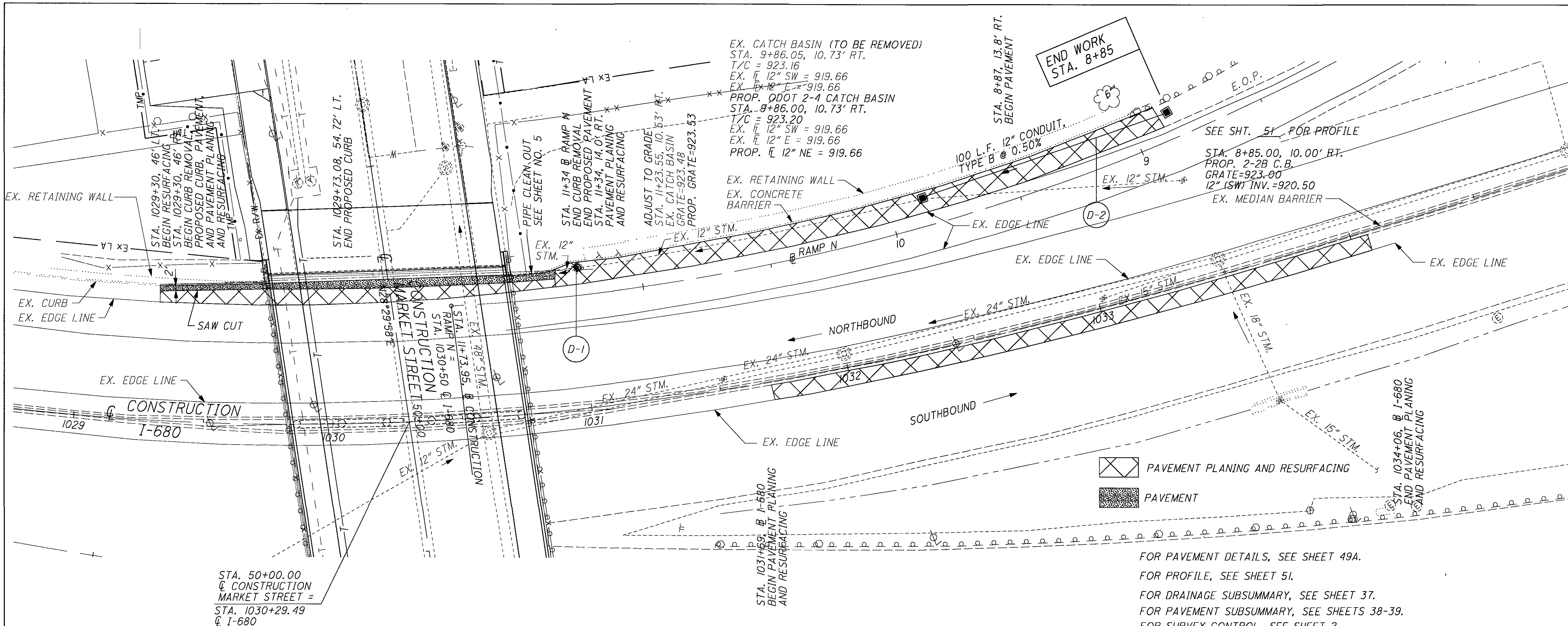
* STA. 6+40.85 TO STA. 7+79.00
** STA. 5+78.80 TO STA. 7+79.00

NOTE:

**** COST OF SAWCUT SHALL BE INCIDENTAL TO THE COST OF EXCAVATION.

RAMP M PAVEMENT DETAILS

MAH-680-6.03



FOR PAVEMENT DETAILS, SEE SHEET 49A.

FOR PROFILE, SEE SHEET 51.

FOR DRAINAGE SUBSUMMARY, SEE SHEET 37.

FOR PAVEMENT SUBSUMMARY, SEE SHEETS 38-39.

FOR SURVEY CONTROL, SEE SHEET 2

			GUTTER				EDGE OF SHOULDER				
RAMP N	OFFSET RIGHT	EXIST. & PROP. ELEV.	OFFSET RIGHT	PROP GUTTER ELEV.	WIDTH	GUTTER CROSS SLOPE	OFFSET RIGHT	WIDTH	CROSS SLOPE	EXIST ELEV.	PROP ELEV.
11+50.00	3.84	924.79					10.00	6.16	-7.30%	924.43	924.34
11+25.00	4.20	924.33	10.00	923.70	5.80	-10.00%	11.69	5.89	4.00%	923.49	923.76
11+00.00	4.86	924.19	11.21	923.62	6.35	-9.00%	11.80	5.45	4.00%	923.70	923.84
10+75.00	4.97	924.07	10.37	923.64	5.40	-8.00%	12.50	7.10	4.00%	923.67	923.92
10+50.00	5.15	924.02	10.55	923.56	5.40	-8.50%	12.50	7.10	4.00%	923.68	923.85
10+25.00	5.20	923.93	10.60	923.49	5.40	-8.20%	12.71	7.31	4.00%	923.41	923.78
10+00.00	5.23	923.82	10.63	923.43	5.40	-7.20%	12.80	7.40	4.00%	923.49	923.73
9+86.00	5.20	923.78	10.60	923.39	5.40	-7.20%	12.80	7.40	4.00%	923.35	923.69
9+75.00	5.20	923.76	10.60	923.43	5.40	-6.20%	13.00	7.60	4.00%	923.21	923.73
9+59.00	5.10	923.74					13.00	7.60	-4.80%	923.18	923.36
9+50.00	5.04	923.74					13.00	7.96	-5.10%	923.16	923.33
9+25.00	5.00	923.74					14.00	9.00	-5.70%	923.25	923.23
9+00.00	5.20	923.91					15.80	10.60	-7.00%	923.36	923.17
8+88.36	5.20	923.81					15.8	3.80	-7.83%	922.98	922.98

RAMP N EXCAVATION					
STATION		LENGTH FT.	WIDTH FT.	DEPTH FT.	VOLUME FT.
FROM	TO				
11+34.00	11+73.95	39.95	3.5	1.5	7.77
TOTAL EXCAVATION - CARRIED TO SUBSUMMARY, SHEET 37.					7.77

I-680 EXCAVATION					
STATION		LENGTH FT.	WIDTH FT.	DEPTH FT.	VOLUME FT.
FROM	TO				
1029+30.00	1029+73.80	43.80	2.5	1.5	6.08
1029+73.80	1030+50.00	76.20	3.0	1.5	12.70
TOTAL EXCAVATION - CARRIED TO SUBSUMMARY, SHEET 37.					18.78

BASELINE STATION	EDGE OF PAVEMENT		EDGE OF SHOULDER NORTHBOUND				
MAIN LINE	OFFSET LEFT	EXIST. & PROP. ELEV.	OFFSET LEFT	WIDTH	CROSS SLOPE	EXIST. ELEV.	PROP. ELEV.
1029+26.00	45.80	928.49	52.05	6.25	-8.64%	927.95	927.95
1029+52.00	46.10	927.88	53.10	7.00	-8.22%	927.38	927.30
1029+78.00	45.94	927.28	53.94	8.00	-8.04%	926.77	926.64
1030+00.00	46.36	926.60	55.36	9.00	-7.80%	926.12	925.90
1030+30.00	46.80	925.84	55.80	9.00	-7.80%	925.40	925.14
1030+50.00	47.01	925.31	51.92	8.00	-7.80%	924.93	924.73

BASELINE STATION	EDGE OF PAVEMENT		EDGE OF SHOULDER SOUTHBOUND				
MAIN LINE	OFFSET RIGHT	EXIST. & PROP. ELEV.	OFFSET RIGHT	WIDTH	CROSS SLOPE	EXIST. ELEV.	PROP. ELEV.
1031+69.00	7.19	927.14	1.31	5.88	8.50%	926.64	926.64
1031+75.00	7.22	927.07	1.33	5.89	8.10%	926.56	926.59
1032+00.00	7.27	926.88	1.35	5.92	7.70%	926.38	926.42
1032+25.00	7.32	926.75	1.38	5.94	7.30%	926.28	926.32
1032+50.00	7.27	926.65	1.48	5.79	6.90%	926.19	926.25
1032+75.00	7.39	926.59	1.33	6.06	6.60%	926.18	926.19
1033+00.00	7.51	926.58	1.34	6.17	6.81%	926.16	926.16
1033+25.00	7.53	926.60	1.40	6.13	6.20%	926.16	926.22
1033+50.00	7.59	926.68	1.32	6.27	6.00%	926.27	926.30
1033+75.00	7.69	926.80	1.32	6.37	5.81%	926.43	926.43
1034+00.00	7.66	927.12	1.37	6.29	6.20%	926.73	926.73
1034+06.00	7.67	927.20	1.40	6.27	6.38%	926.80	926.80

HORIZONTAL SCALE IN FEET

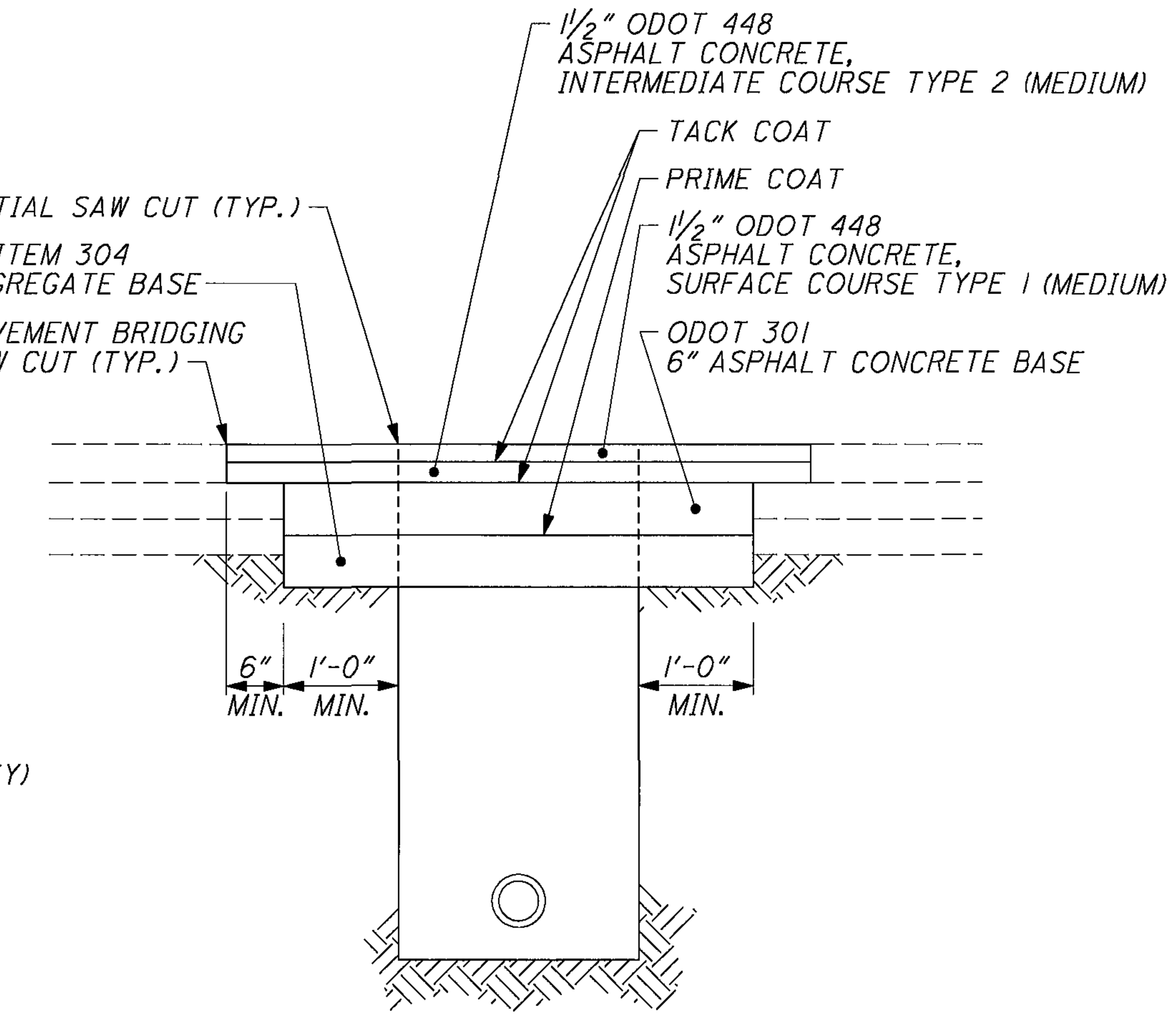
CALCULATED KAM
CHECKED FLK

RESURFACING DETAIL MAINLINE SHOULDERS & RAMP N

MAH-680-6.03

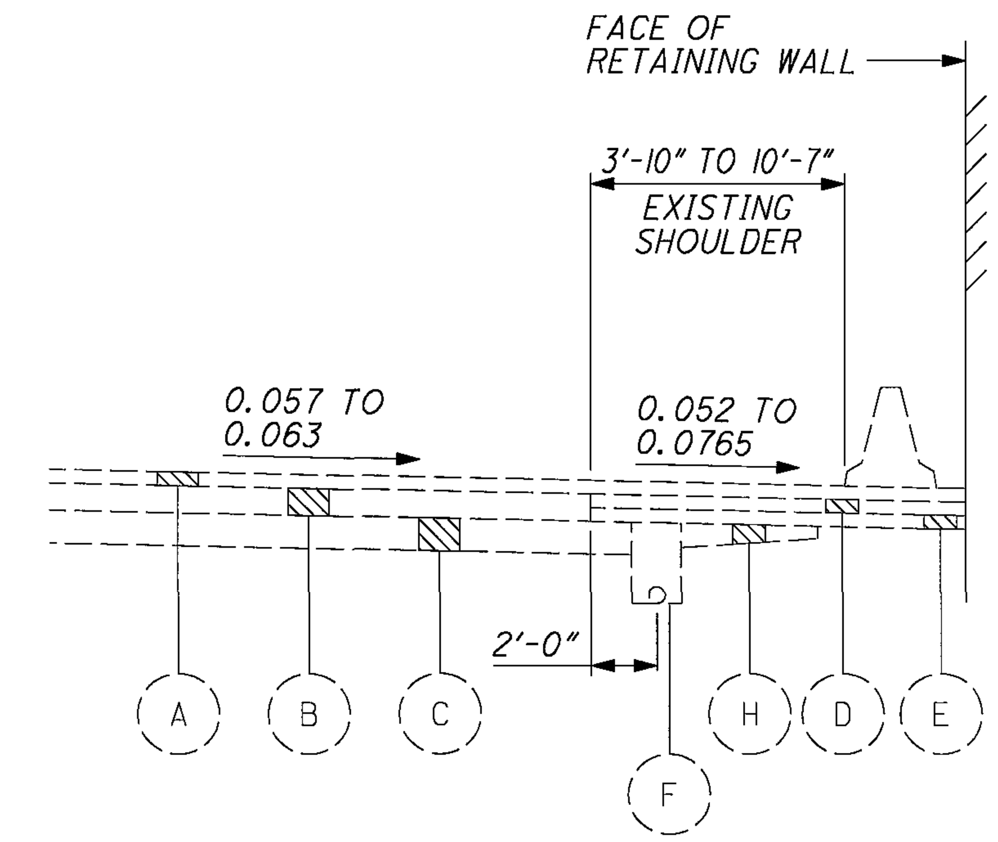
LEGEND

- (A) (3½" TO 5") ASPHALT CONCRETE
- (B) 10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
- (C) (7" TO 12") AGGREGATE BASE
- (D) 3" WATERPROOFED AGGREGATE BASE
- (E) 5" STABILIZED CRUSHED AGGREGATE
- (F) 6" UNDERDRAIN
- (G) STANDARD TYPE 6 CURB
- (H) (3" TO 3½") AGGREGATE BASE
- (1) ITEM 442 - 1½" ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE B (446), AS PER PLAN
- (2) ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (0.05 GAL/SY)
- (3) ITEM 442 - 1¾" TO 5" ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, TYPE B (448)
- (4) ITEM 407 - TACK COAT (0.1 GAL/SY)
- (5) ITEM 304 - 3" TO 4" AGGREGATE BASE
- (6) ITEM 204 - SUBGRADE COMPACTION
- (7) ITEM 609 - CURB, TYPE 6
- (8) ITEM 254 - PAVEMENT PLANING



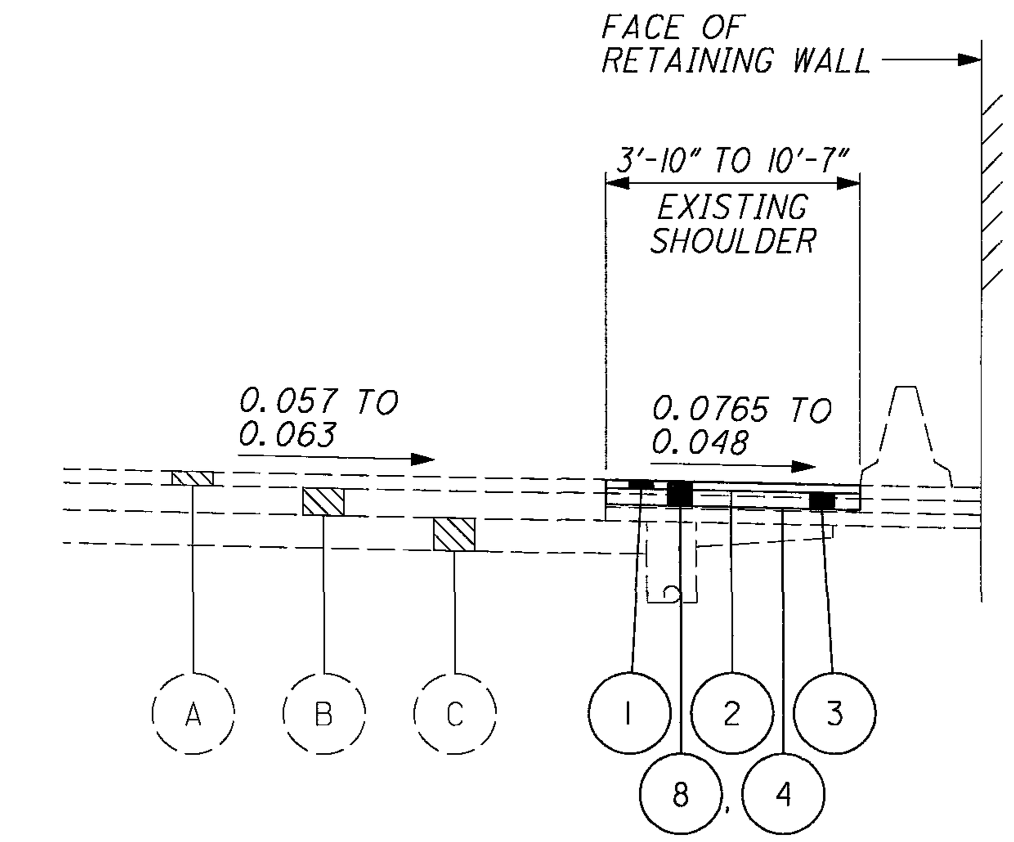
TRENCH REPAIR DETAIL

NO SCALE



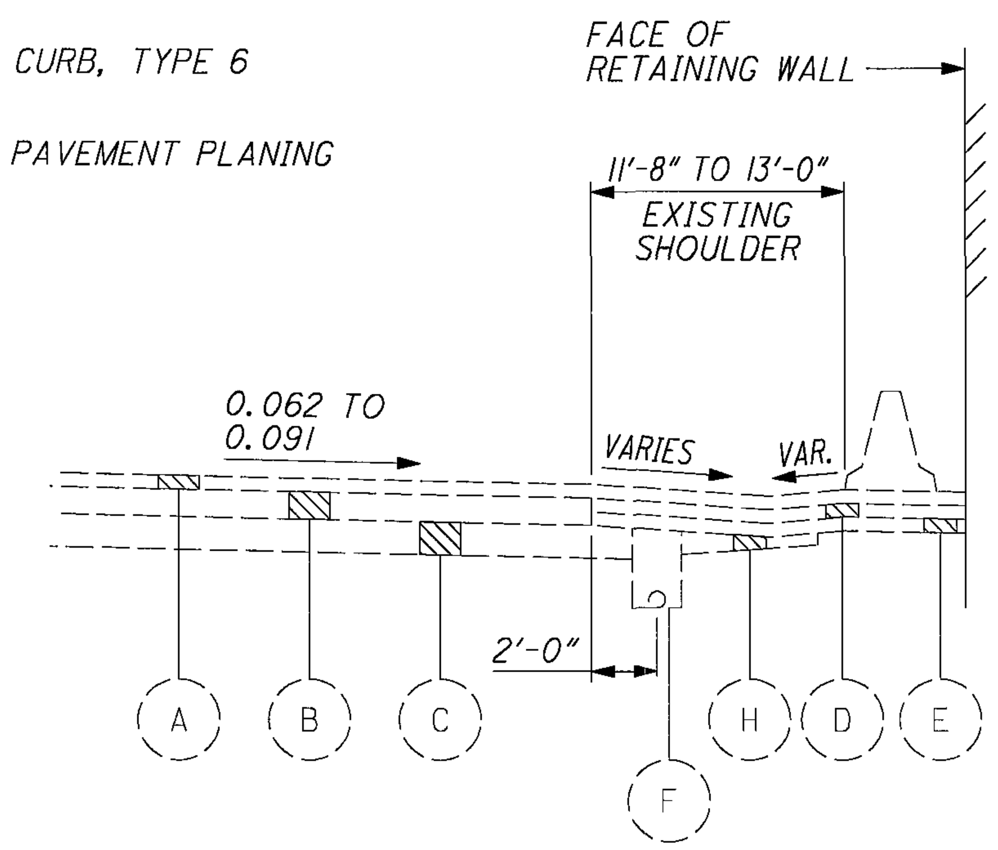
DETAIL - RAMP N

STA. 8+88 TO STA. 9+75



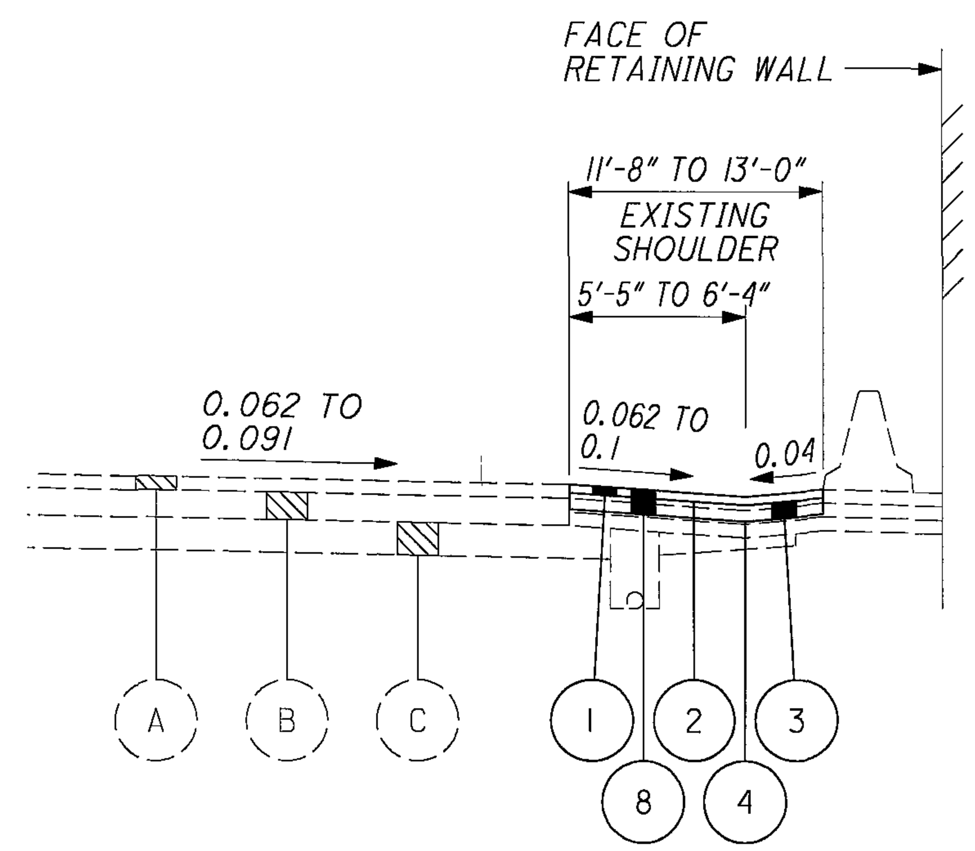
DETAIL - RAMP N

STA. 8+88 TO STA. 9+75



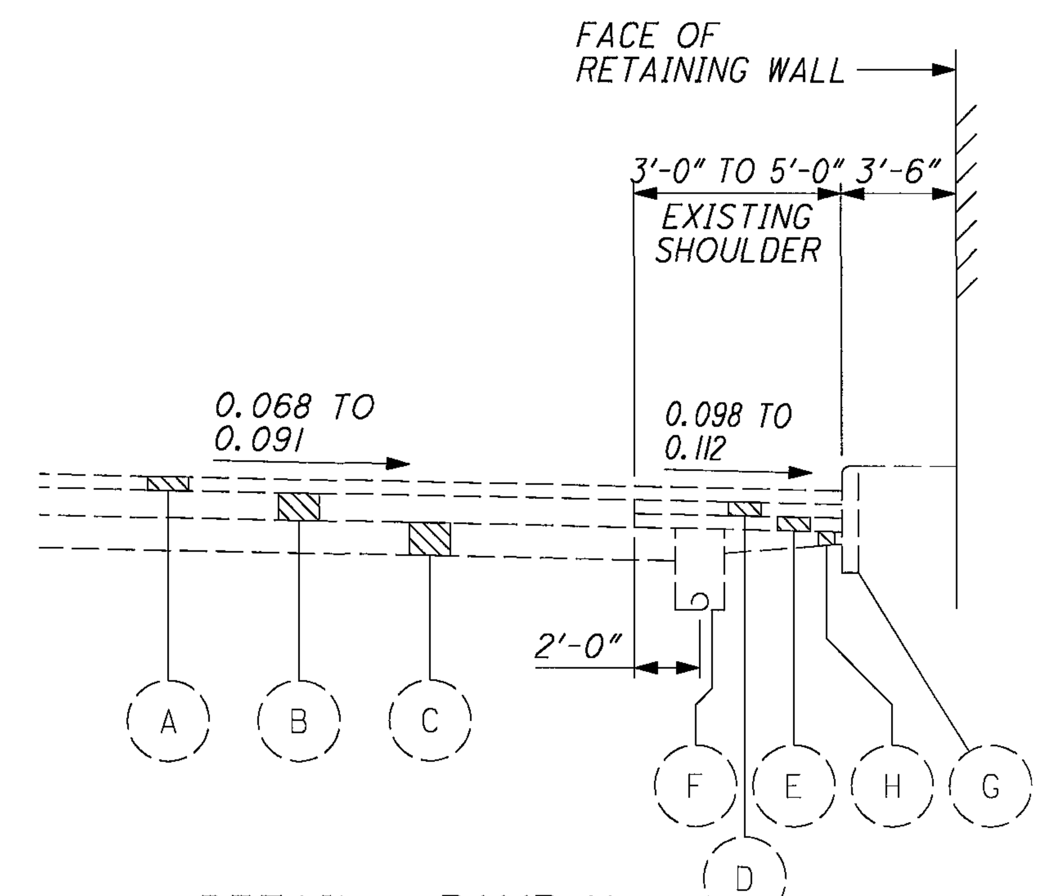
DETAIL - RAMP N

STA. 9+75 TO STA. 11+34



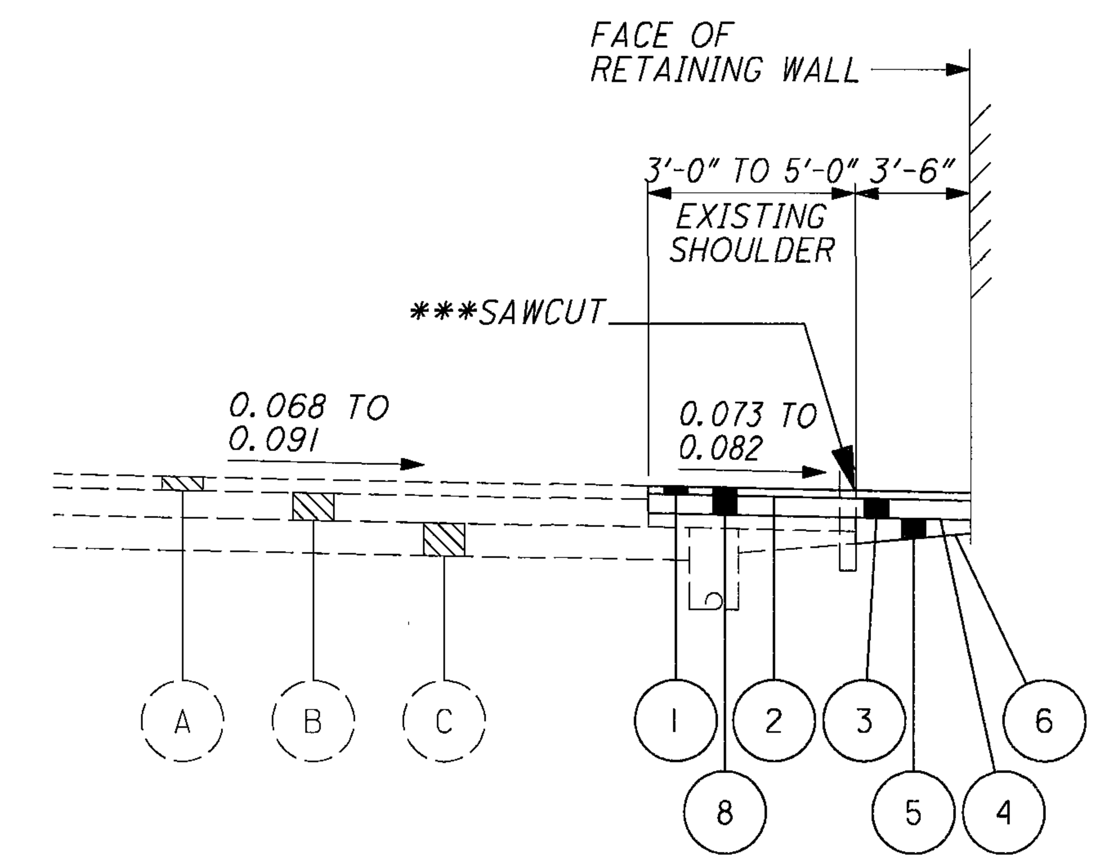
DETAIL - RAMP N

STA. 9+75 TO STA. 11+34



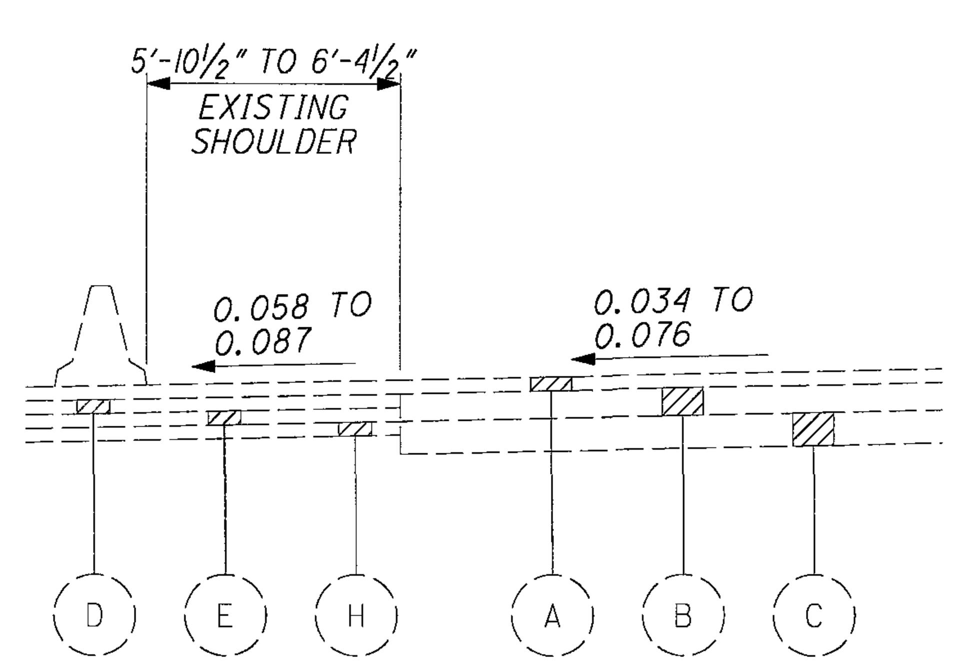
DETAIL - RAMP N

STA. 11+34.00 TO STA. 11+73.95



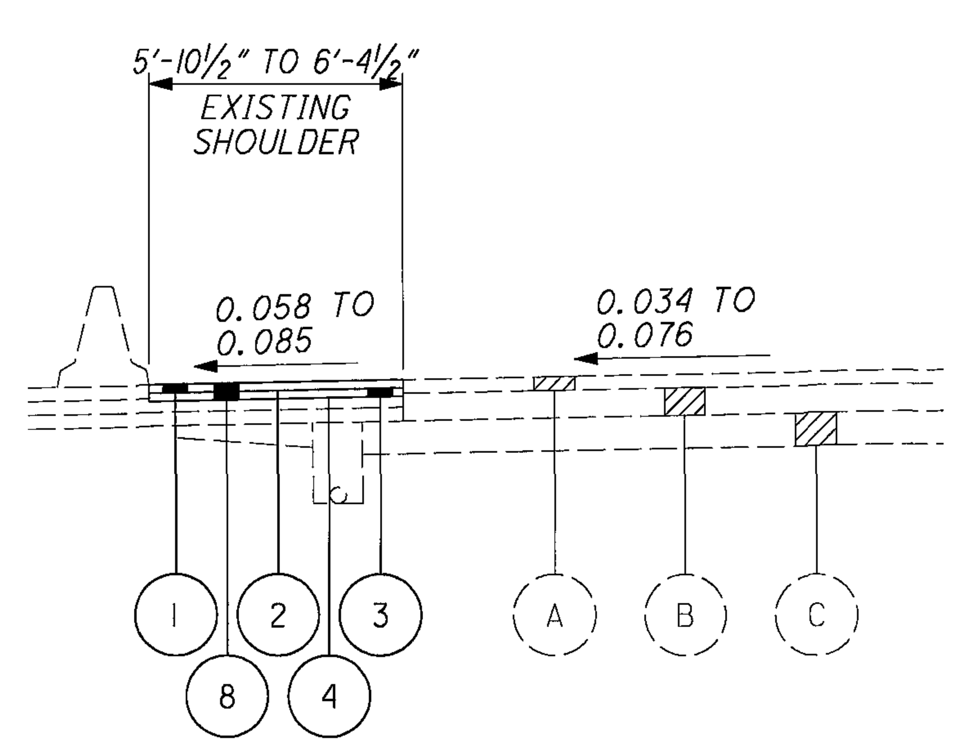
DETAIL - RAMP N

STA. 11+34.00 TO STA. 11+73.95



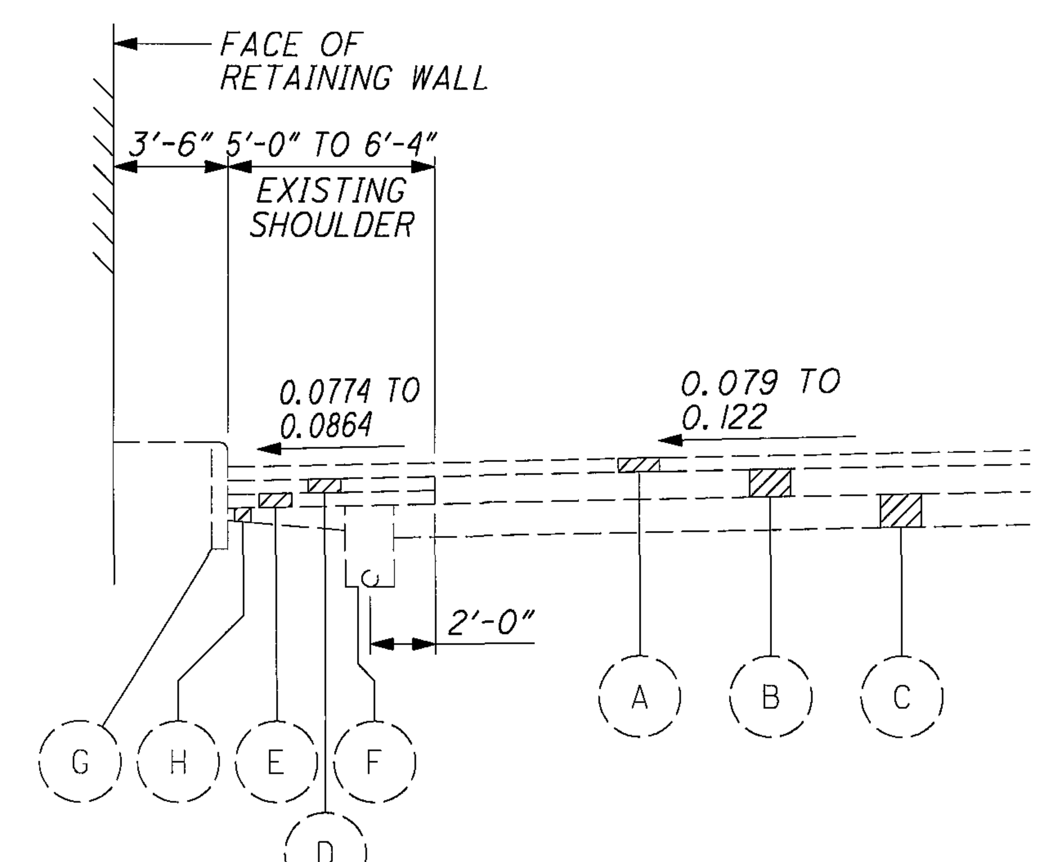
DETAIL I-680

STA. 1031+69 TO STA. 1034+06



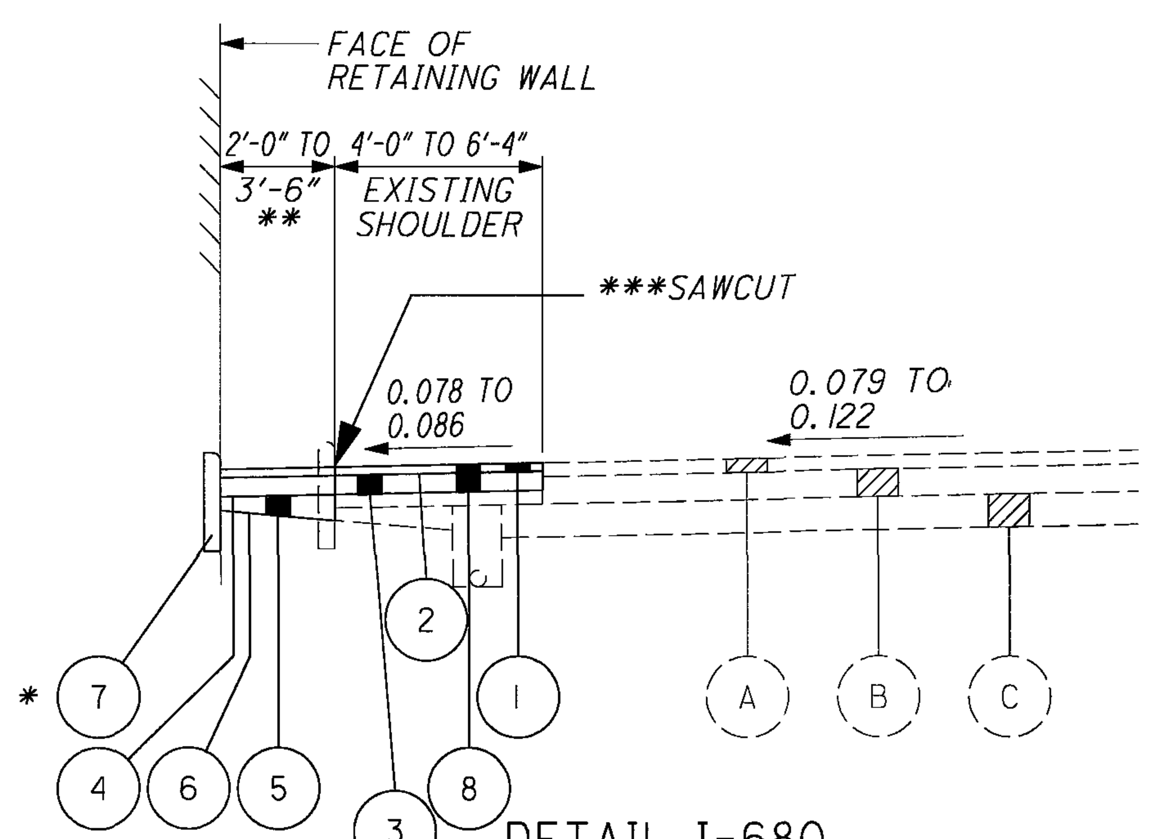
DETAIL I-680

STA. 1031+69 TO STA. 1034+06



DETAIL I-680

STA. 1029+30 TO STA. 1030+50



DETAIL I-680

STA. 1029+30 TO STA. 1030+50

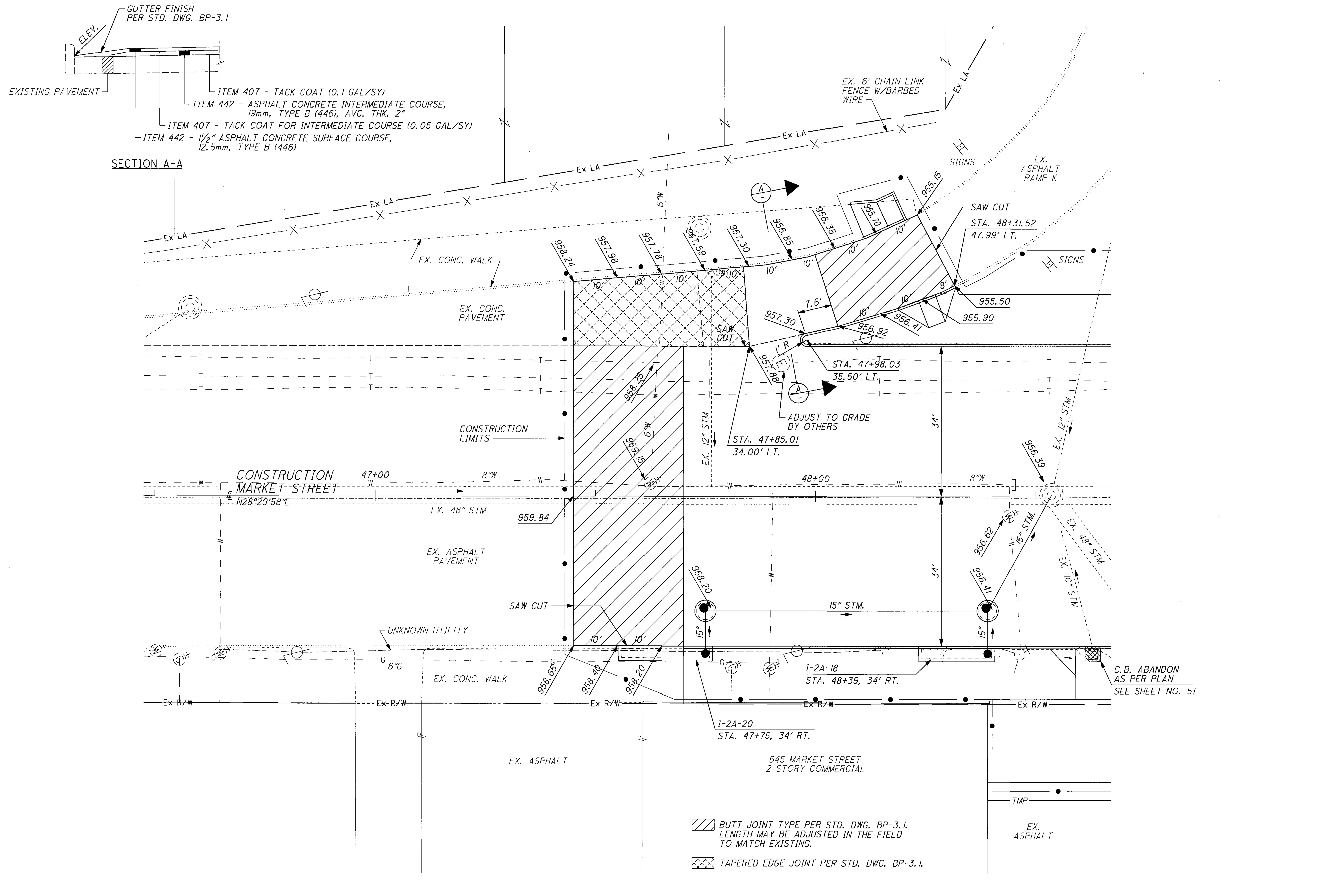
*PROPOSED CURB TAPERS FROM EXISTING LOCATION TO FACE OF RIGHT WALL BETWEEN STA. 1029+30 TO STA. 1029+73.08

**STA. 1029+30 TO STA. 1030+50

*** COST OF SAWCUT SHALL BE INCIDENTAL TO COST OF EXCAVATION

I-680 AND RAMP N PAVEMENT DETAILS

MAH-680-6.03

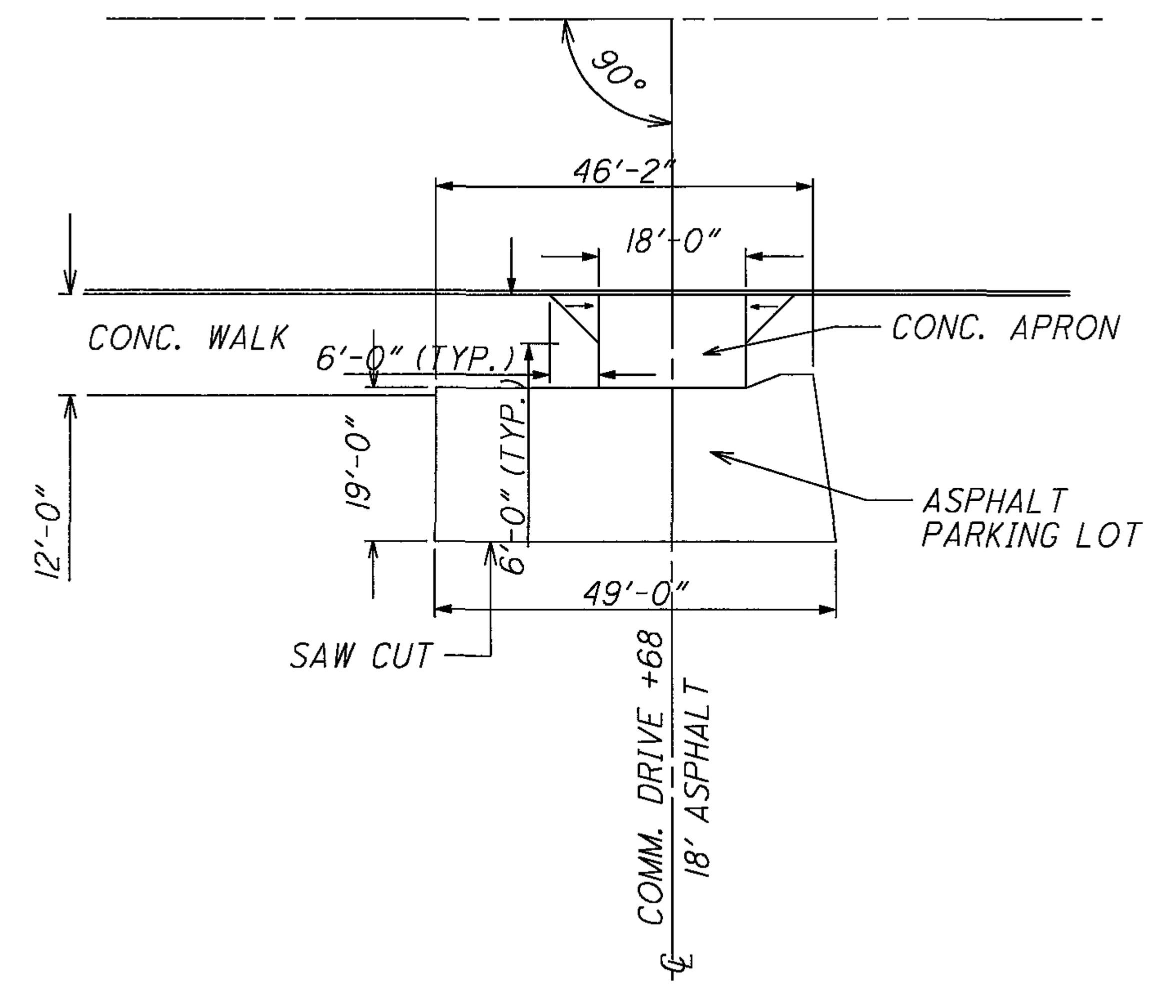


0 5 10 20
HORIZONTAL SCALE IN FEET

CALCULATED KAM
CHECKED FLK

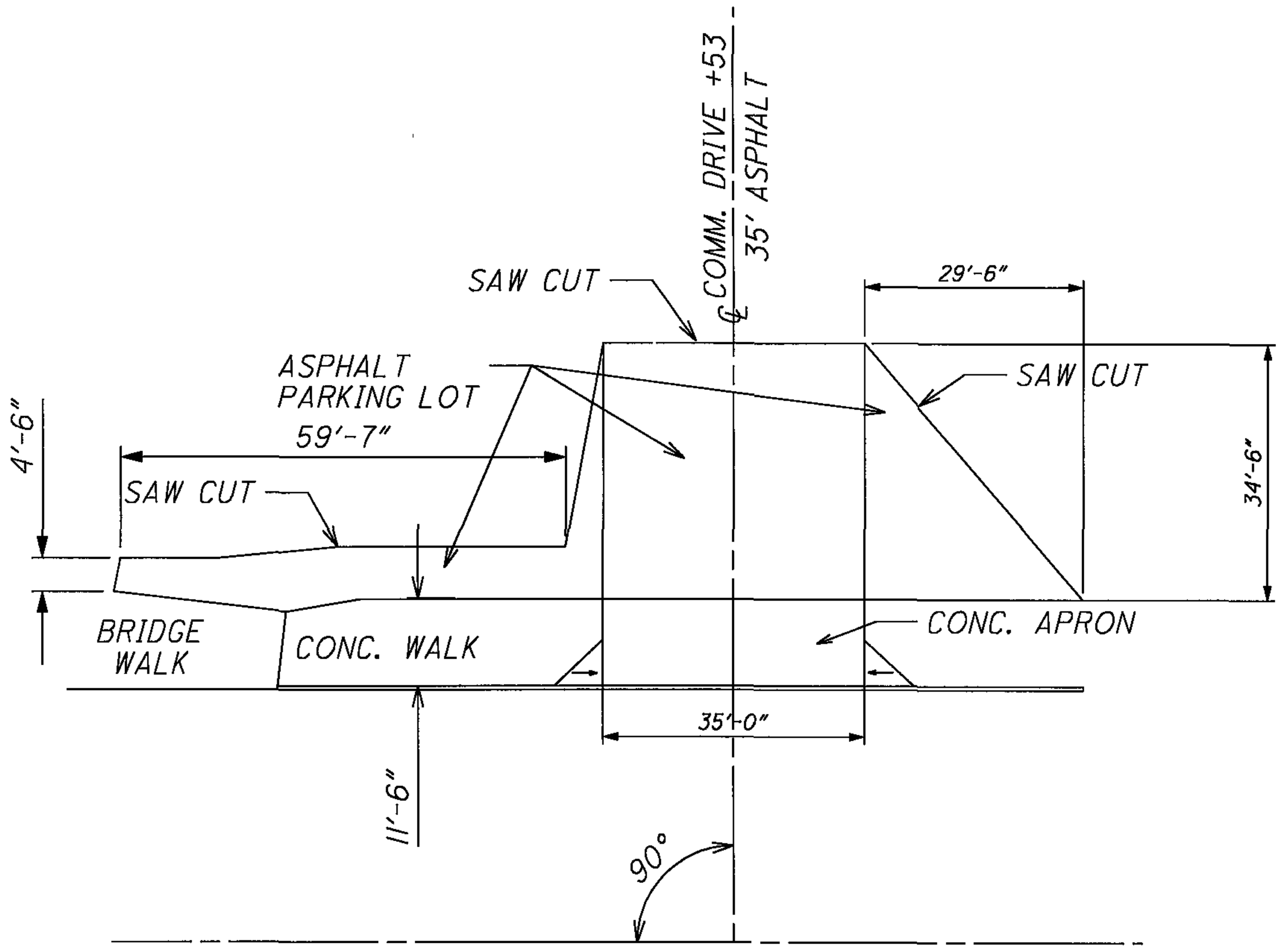
INTERCHANGE DETAIL MARKET STREET AND RAMP K

MAH-680-6.03



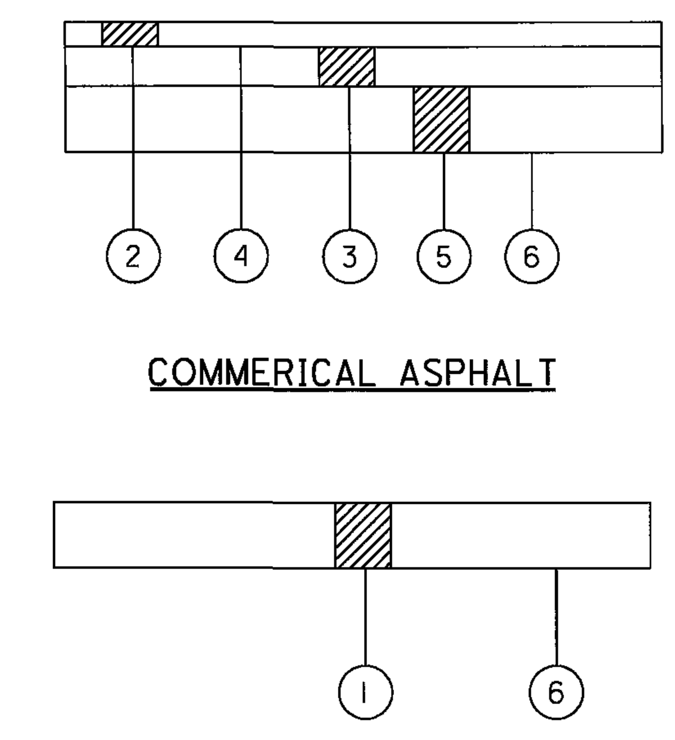
955.97
STA. 48+68 (MARKET STREET)
954.91

COMMERCIAL



944.59
STA. 51+53 (MARKET STREET)
944.25

COMMERCIAL



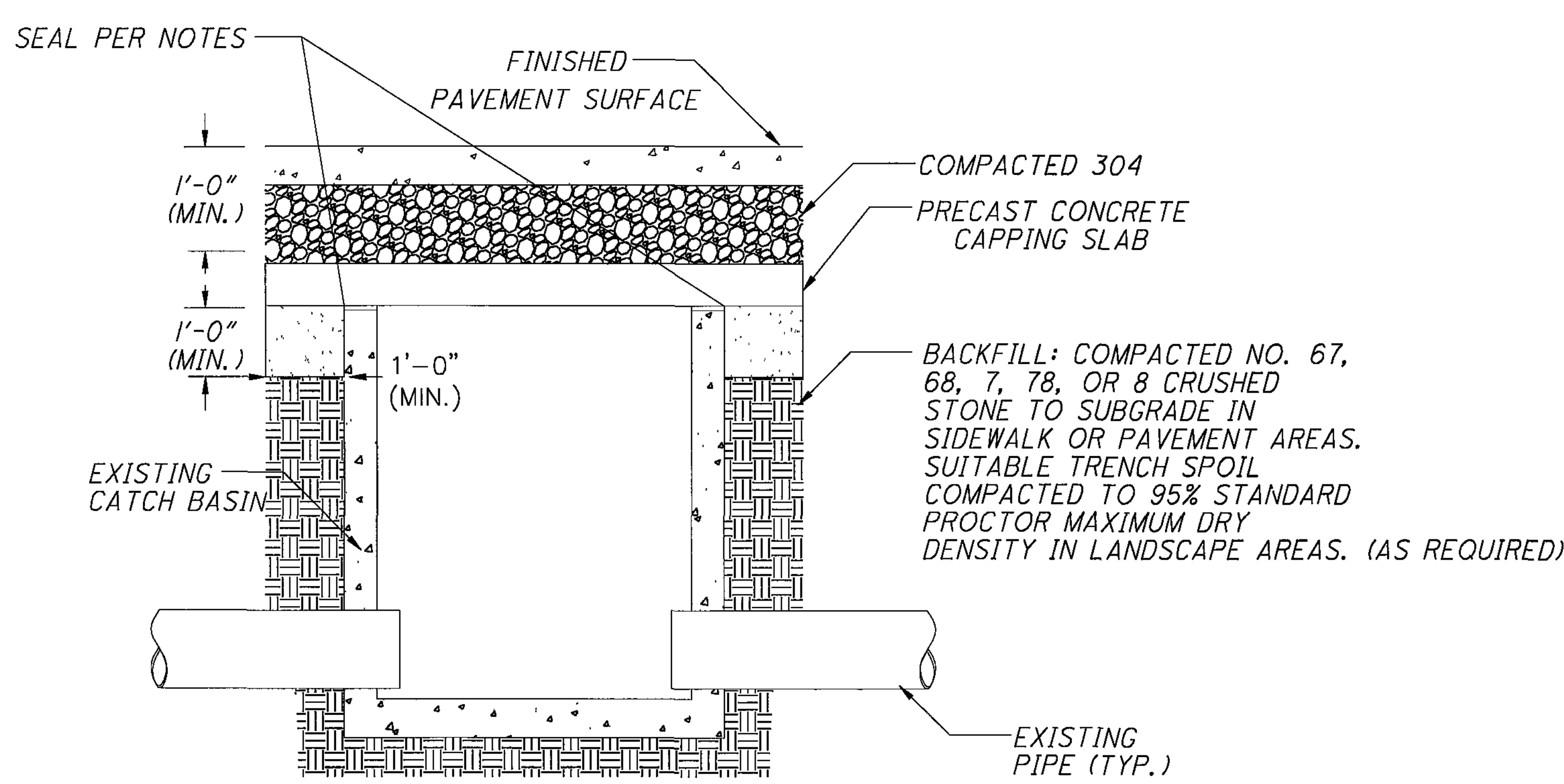
COMMERICAL ASPHALT

COMMERICAL CONCRETE

REFER TO APPROPRIATE TYPE SHOWN ON NEW STD DWG. BP-7.1 FOR APRON FLARES AT COMMERICAL DRIVES ON MARKET ST.

LEGEND

1. ITEM 452 - 8" NON-REINFORCED CONCRETE PAVEMENT
2. ITEM 448 - 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (DRIVEWAYS)
3. ITEM 448 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2 (DRIVEWAYS)
4. ITEM 408 - PRIME COAT (0.40 gal/sq. yd.)
5. ITEM 304 - 8" AGGREGATE BASE
6. ITEM 204 - SUBGRADE COMPACTION



FOR THE EXISTING CATCH BASIN TO REMAIN IN PLACE UNDER NEW PAVEMENT, CUT TOP OF CB TO MINIMUM SPACING AS NOTED. INSTALL NEW PRECAST CONCRETE TOP MEETING HS-20 LOADING TO EXTEND 1' (ONE) BEYOND EXISTING PRECAST WALLS OR BRICK STRUCTURE.

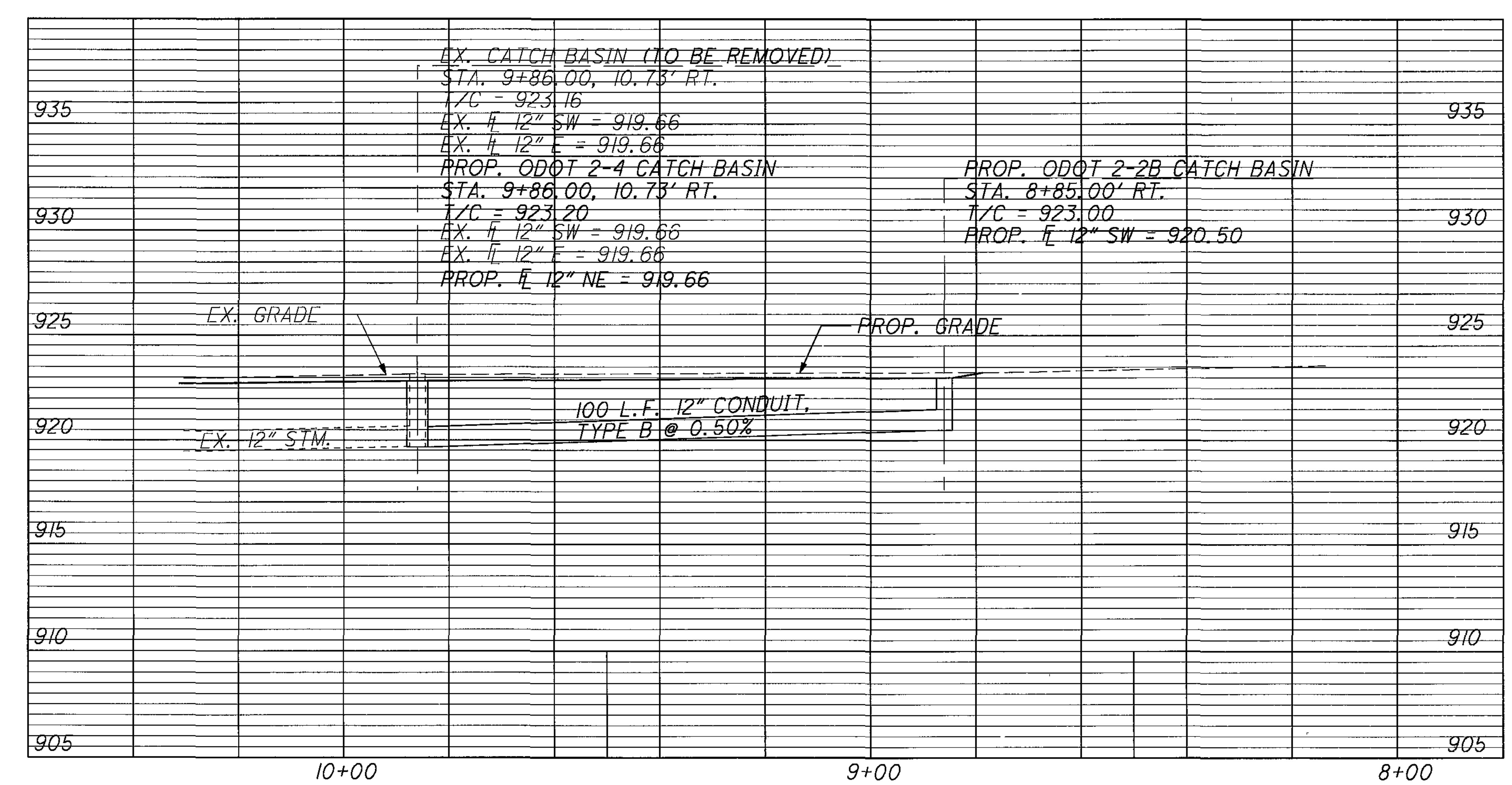
PROVIDE GROUTED OR ELASTOMERIC SEAL BETWEEN BOTTOM OF NEW CAPPING SLAB AND TOP OF EXISTING CB.

PROVIDE MINIMUM 1'-0" COMPACTED 304 STONE BETWEEN BOTTOM OF NEW PAVEMENT BASE AND TOP OF PRECAST CONCRETE CAPPING SLAB.

THE DESIGN ENGINEER IS NOT RESPONSIBLE FOR FUTURE CONDITION OF THE STRUCTURE OR EXISTING PIPES.

NOTE:
WORK AND MATERIAL TO CONFORM TO ODOT 604.

CATCH BASIN ABANDONED, AS PER PLAN



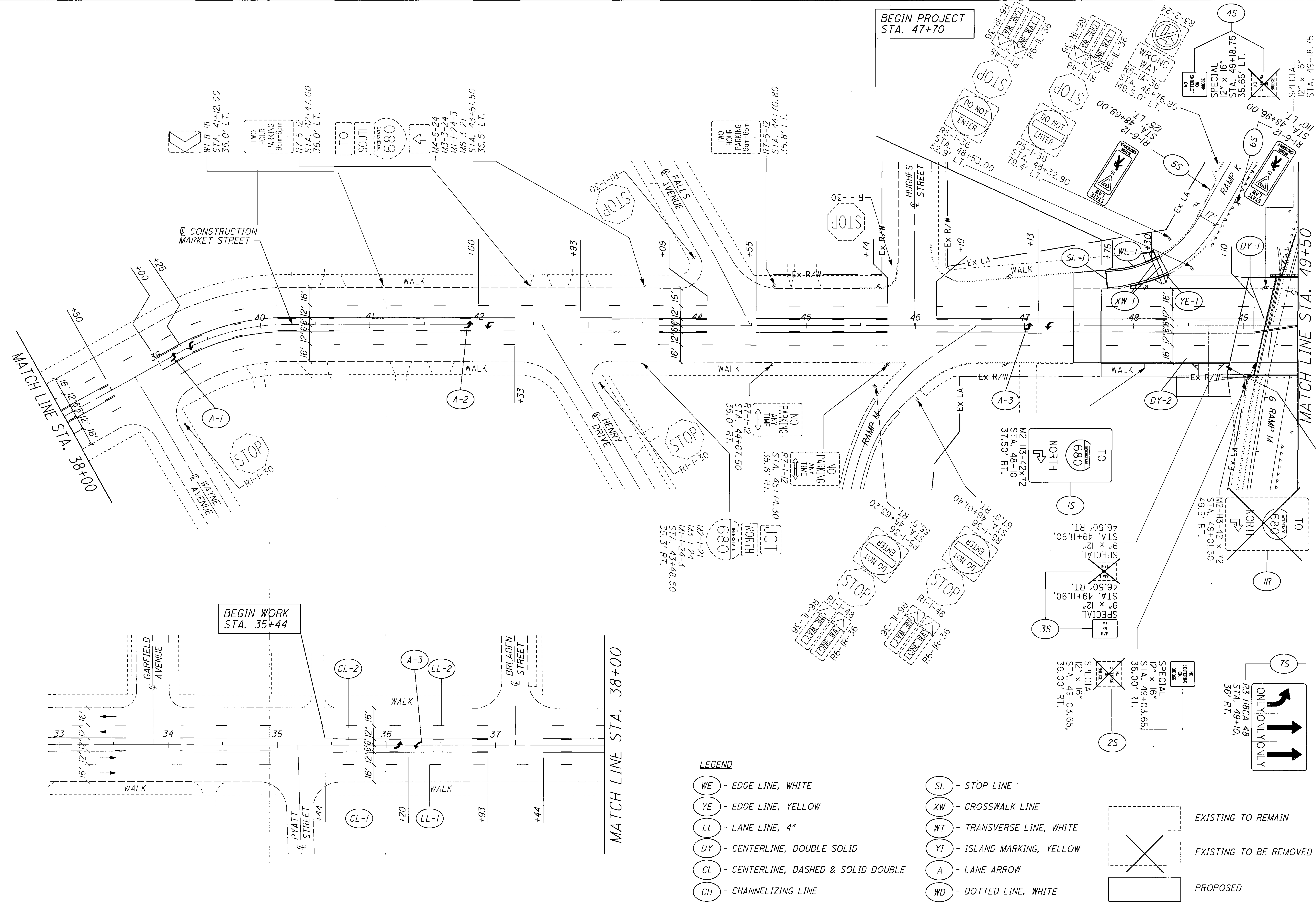
PROFILE FOR RAMP N
SCALE = 1"=20' HOR. - 1"=5' VER.
SEE SHT. 49 FOR PLAN

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED GZ
CHECKED FLK

MISCELLANEOUS DETAILS
PROFILE RAMP N

MAH-680-6.03

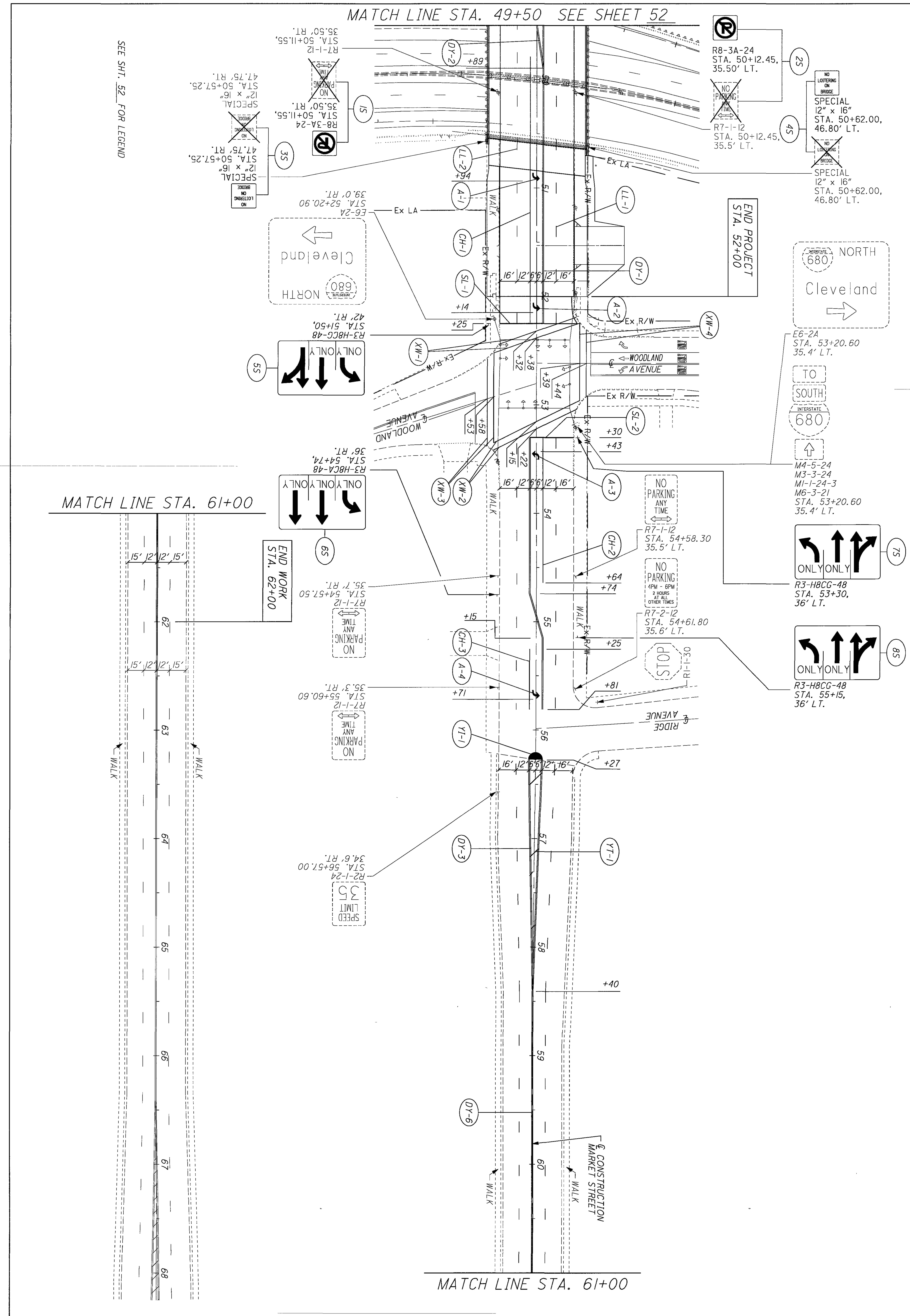


CALCULATED FLK
CHECKED PF

SIGNING AND PAVEMENT MARKING PLAN

MAH-680-6.03

109-06-07\19916TP001.dgn 09/06/2007 04:00:31 PM

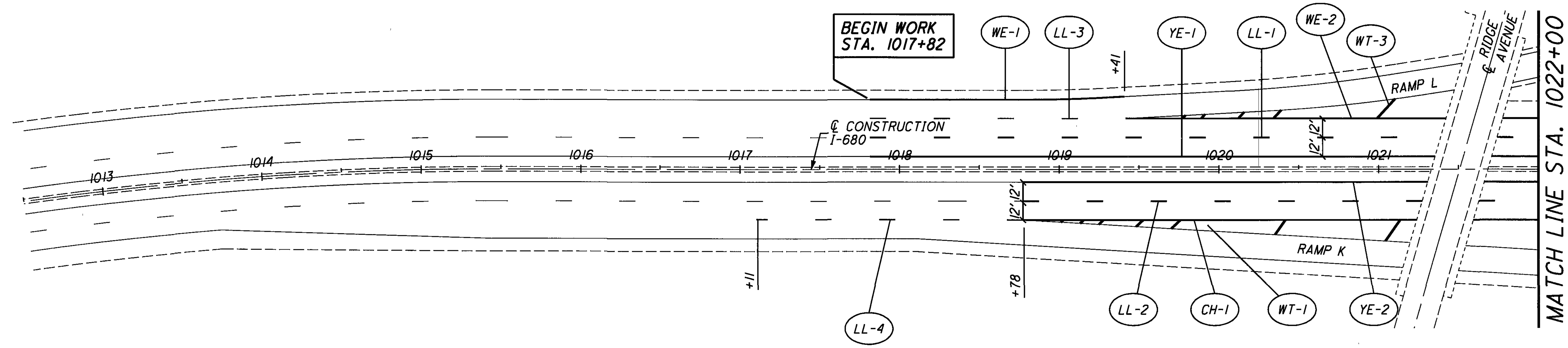


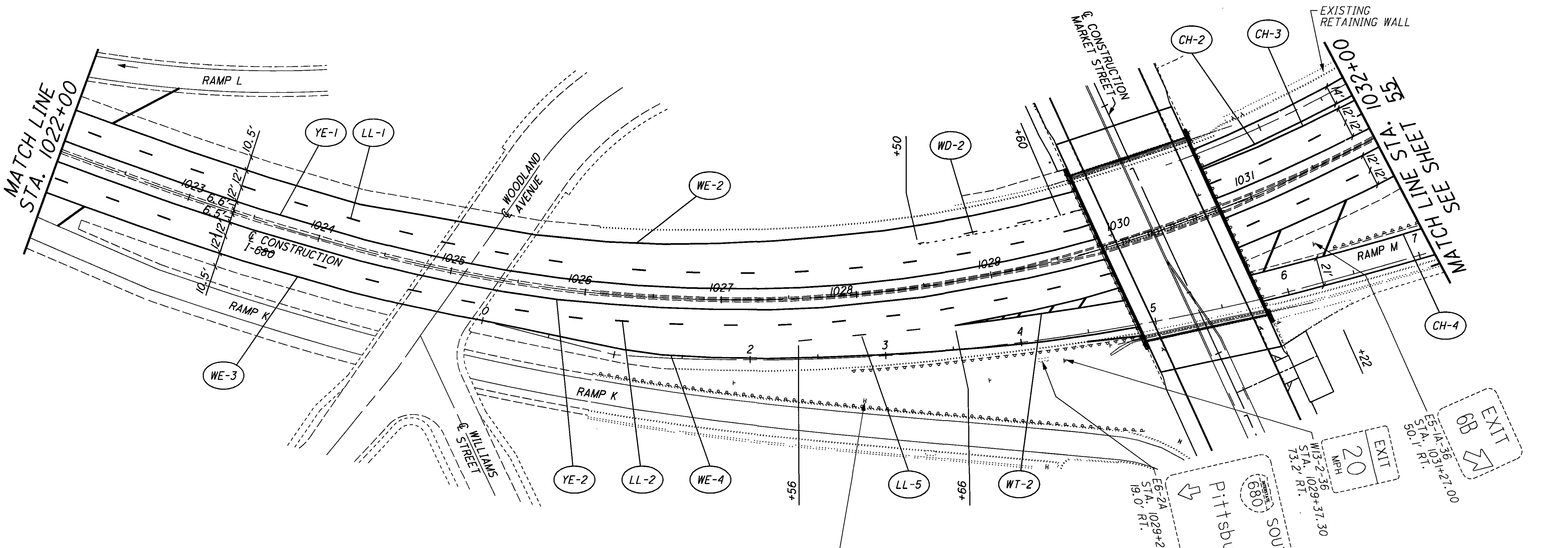
MAH-680-6.03

SIGNING AND PAVEMENT MARKING PLAN

CALCULATED FLK
CHECKED PF

HORIZONTAL SCALE IN FEET





SEE SHT. 52 FOR LEGEND

ITEM 646 - EPOXY PAVEMENT MARKINGS, AS PER PLAN A

THE EPOXY PAVEMENT MARKING MATERIAL FURNISHED UNDER THESE ITEMS SHALL BE EPOPLEX LS-60 AS FURNISHED BY EPOPLEX, MAPLE SHADE, NEW JERSEY.

ALTERNATE BID

ITEM 646 - EPOXY PAVEMENT MARKINGS, AS PER PLAN B

THE EPOXY PAVEMENT MARKING MATERIAL SHALL BE MARK 55.4 AS FURNISHED BY POLYCARB, CLEVELAND, OHIO.

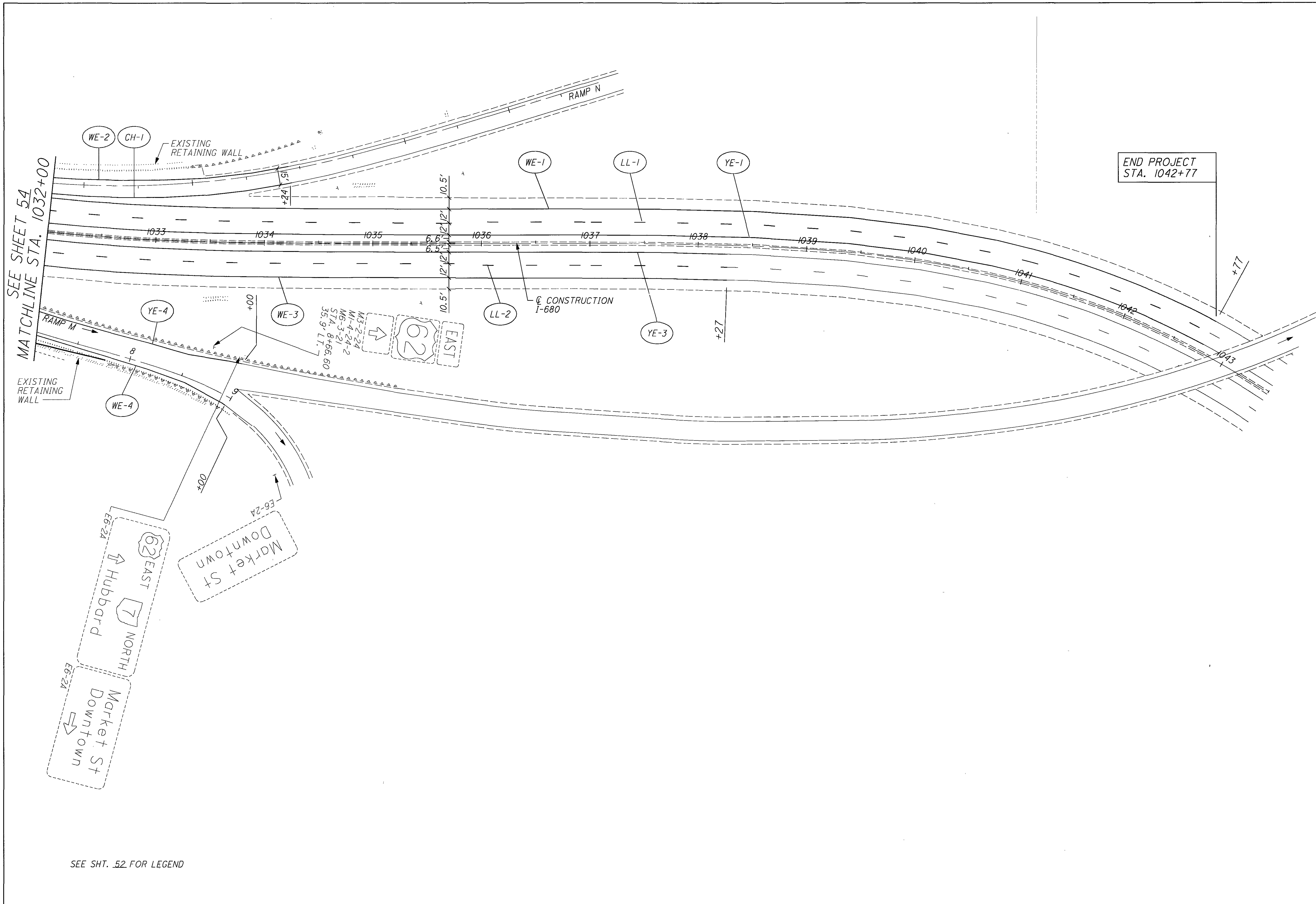
NOTE: TRANSVERSE LINES SHALL BE SPACED IN ACCORDANCE WITH ODOT STANDARD DRAWING TC-72.20.

0 20 40 80
HORIZONTAL SCALE IN FEET

CALCULATED FLK
CHECKED PF

SIGNING AND PAVEMENT MARKING PLAN

MAH-680-6.03



HORIZONTAL SCALE IN FEET

0 20 40 80

CALCULATED FLK

CHECKED PF

SIGNING AND PAVEMENT MARKING PLAN

MAH-680-6.03

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	642 LANE LINE, WHITE, 4" (FT.)	642 CENTER LINE, TYPE 1 (FT.)	642 CHANNELIZING LINE TYPE 1 (FT.)	642 CROSSWALK LINE, TYPE 1 (FT.)	642 STOP LINE, TYPE 1 (FT.)	642 LANE ARROW, TYPE 1 (EACH)	
52	LL-1	MARKET STREET	35+44	49+50	RT	1406						
52	LL-2	MARKET STREET	35+44	49+50	LT	1406						
53	LL-1	MARKET STREET	49+50	62+00	LT	1250						
53	LL-2	MARKET STREET	49+50	62+00	RT	1250						
52	A-1	MARKET STREET	39+25		CL						2	
52	A-2	MARKET STREET	42+00		CL						2	
52	A-3	MARKET STREET	47+13		CL						2	
53	A-1	MARKET STREET	49+94	49+94	CL						1	
53	A-2	MARKET STREET	52+14	52+14	CL						1	
53	A-3	MARKET STREET	53+43	53+43	CL						1	
53	A-4	MARKET STREET	55+71	55+71	CL						1	
52	CL-1	MARKET STREET	35+44	49+00	RT		1356					
52	CL-2	MARKET STREET	35+44	49+00	LT		1356					
52	SL-1	MARKET STREET	47+75	47+75	LT					17		
53	SL-1	MARKET STREET	52+25	52+25	RT					40		
53	SL-2	MARKET STREET	53+30	53+30	LT					40		
52	XW-1	MARKET STREET	48+30	48+30	LT				34			
53	XW-1	MARKET STREET	52+32	52+38	CL				160			
53	XW-2	MARKET STREET	53+15	53+22	CL				173			
53	XW-3	MARKET STREET	52+42	53+38	RT				163			
53	XW-4	MARKET STREET	52+25	52+97	LT				135			
53	CH-1	MARKET STREET	49+99	52+25	RT			226				
53	CH-2	MARKET STREET	53+30	54+64	LT			134				
53	CH-3	MARKET STREET	55+25	55+81	RT			56				
52	A-3	MARKET STREET	36+20		CL						2	
52	DY-1	MARKET STREET	49+00	49+50	LT		50					
52	DY-2	MARKET STREET	49+00	49+50	RT		50					
53	DY-1	MARKET STREET	49+50	62+00	LT		1250					
53	DY-2	MARKET STREET	49+50	49+89	RT		39					
53	DY-3	MARKET STREET	56+27	58+40	RT		213					
SUBTOTALS						5,312	4,314	416	665	97	12	
TOTALS CARRIED TO GENERAL SUMMARY						1.01 MI	0.81 MI	416	665	97	12	

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE		642 EDGE LINE, TYPE 1, YELLOW (FT.)	642 EDGE LINE, TYPE 1, WHITE (FT.)	642 TRANSVERSE/ DIAGONAL LINE, TYPE 1, (FT.)	642 ISLAND MARKING, TYPE 1, YELLOW (SQ.FT)	
52	YE-1	MARKET STREET	47+76	48+30	LT		54				
52	WE-1	MARKET STREET	47+76	48+30	LT			54			
53	YT-1	MARKET STREET	56+27	58+40	CL				35		
53	YI-1	MARKET STREET	56+27	56+27	CL					66	
SUBTOTALS							54	54	35	66	
TOTALS CARRIED TO GENERAL SUMMARY							108 FT. 0.02 MI		35	66	

CALCULATED AMC
CHECKED JAG

PAVEMENT MARKING SUBSUMMARY

MAH-680-6.03

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	CODE	SIZE (INCHES)	630 SIGN FLAT SHEET SQ. FT.	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT.	630 GROUND MOUNTED SUPPORT, NO. 4 POST FT.	630 REMOVAL OF GROUND MOUNTED SIGN & DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT & DISPOSAL EACH		646 LANE LINE, AS PER PLAN MILE	646 EDGE LINE, YELLOW, AS PER PLAN MILE	646 EDGE LINE, WHITE, AS PER PLAN MILE	646 TRANSVERSE/ DIAGONAL LINE, AS PER PLAN FT	646 DOTTED LINE, 4", AS PER PLAN FT	646 CHANNELIZING LINE, TYPE 1, AS PER PLAN FT		
52	1-S	MARKET STREET	48+10.00		RT.	M2-H3-42	42 X 72	21		17.0/17.0											
52	2-S	MARKET STREET	49+03.65		RT.	SPECIAL	12 X 16	1.33	12.0		1	1									
52	3-S	MARKET STREET	49+11.09		RT.	SPECIAL	9 X 12	0.75	12.0		1	1									
52	4-S	MARKET STREET	49+18.75		LT.	SPECIAL	12 X 16	1.33	12.0		1	1									
52	1-R	MARKET STREET	49+01.50		RT.	M2-H3-42	42 X 72				1	2									
52	5-S	MARKET STREET	48+69.00		LT.	R1-6-12	12 X 36	3	12.0												
52	6-S	MARKET STREET	48+96.00		LT.	R1-6-12	12 X 36	3	12.0												
52	7-S	MARKET STREET	49+10.00		RT.	R3-H8CA	48 X 30	10	13.0/13.0												
53	1-S	MARKET STREET	50+11.55		RT.	R8-3A-24	24 X 24	4	13.0		1	1									
53	2-S	MARKET STREET	50+12.45		LT.	R8-3A-24	24 X 24	4	13.0		1	1									
53	3-S	MARKET STREET	50+57.25		RT.	SPECIAL	12 X 16	1.33	12.0		1	1									
53	4-S	MARKET STREET	50+62.00		LT.	SPECIAL	12 X 16	1.33	12.0		1	1									
53	5-S	MARKET STREET	51+50.00		RT.	R3-H8CG	48 X 30	10	7.5/7.5												
53	6-S	MARKET STREET	54+74.00		RT.	R3-H8CA	48 X 30	10	7.5/7.5												
53	7-S	MARKET STREET	53+30.00		LT.	R3-H8CG	48 X 30	10	7.5/7.5												
53	8-S	MARKET STREET	55+15.00		LT.	R3-H8CG	48 X 30	10	7.5/7.5												
54	LL-1	I-680	1017+82	1032+00	LT.									0.27							
54	LL-2	I-680	1018+78	1032+00	RT.									0.25							
54	LL-5	I-680	1027+56	1028+66	RT.									0.02							
54	LL-3	I-680	1017+82	1019+41	LT.													159			
54	LL-3	I-680	1028+50	1030+30	LT.													180			
54	YE-1	I-680	1017+82	1032+00	LT.										0.27						
54	YE-2	I-680	1018+78	1032+00	RT.										0.25						
54	WE-1	I-680	1017+82	1019+41	LT.											0.03					
54	WE-2	I-680	1019+41	1032+00	LT.											0.24					
54	WE-4	RAMP M	0+00	7+10	RT.											0.13					
54	WT-1	I-680	1018+78	1022+00	RT.												75				
54	WT-2	I-680	1028+66	1031+22	RT.												108				
55	LL-1	I-680	1032+00	1042+77	LT.									0.20							
55	LL-2	I-680	1032+00	1038+27	RT.									0.12							
55	YE-1	I-680	1032+00	1042+77	LT.										0.20						
55	YE-3	I-680	1032+00	1038+27	RT.										0.12						
55	YE-4	RAMP M	7+10	9+00	LT.										0.03						
55	WE-1	I-680	1032+00	1042+77	LT.											0.20					
55	WE-2	I-680	1032+00	1034+24	LT.											0.04					
55	WE-3	I-680	1032+00	1038+27	RT.											0.12					
55	WE-4	RAMP M	7+10	9+00	RT.											0.03					
55	CH-1	I-680	1032+00	1034+24	LT.														224		
54	LL-4	I-680	1017+11	1018+78	RT.									0.03							
54	CH-1	I-680	1018+78	1032+00	RT.														1322		
54	CH-2	I-680	1030+30	1032+00	LT.														170		
																			170		
54	CH-3	I-680	1030+30	1032+00	LT.														358		
54	CH-4	RAMP M	3+52	7+10	LT.																
54	WT-3	I-680	1019+41	1022+50	LT.												92				
SUBTOTALS								91.1	196.0	34.0	8	9		0.89	0.87	0.79	275	339	2244		
TOTALS CARRIED TO GENERAL SUMMARY								92	196	34	8	9		0.89	1.66		275	339	2244		

CALCULATED AMC
CHECKED KAM

PAVEMENT MARKING & SIGNING SUBSUMMARY

MAH-680-6.03

LIGHTING WORK

THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF THE I-680 UNDERPASS LIGHTING SYSTEM AND LIGHT POLE FOUNDATIONS, GROUNDING ON MARKET STREET. FOR ADDITIONAL DETAILS, SEE THE LIGHTING PLANS ON SHEET NO. 60.

THE CITY OF YOUNGSTOWN IS RESPONSIBLE FOR THE MARKET STREET LIGHTING SYSTEM WORK, EXCLUDING LIGHT POLE FOUNDATIONS. THIS INCLUDES THE REMOVAL AND REPLACEMENT OF THE LIGHT POLES, LIGHT FIXTURES, LIGHT SYSTEM WIRING AND GROUNDING. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE OHIO EDISON WORK BY CONTACTING FRANK O'BRIEN. THE CONTRACTOR SHALL PROVIDE AMPLE TIME IN THE SCHEDULING OF THE WORK IN CONJUNCTION WITH THEIR WORK. HE SHALL ALSO COOPERATE WITH OHIO EDISON IN A REASONABLE MANNER.

ITEM 625 - POWER SERVICE

THE EXISTING 480V, 2 WIRE POWER SOURCE AT THE CONTROL CENTER AT STA. 1024+80, 137' RIGHT, I-680 IS TO CONTINUE TO BE UTILIZED FOR THIS PROJECT.

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:

POWER COMPANY: OHIO EDISON

ADDRESS: 730 SOUTH AVENUE
YOUNGSTOWN, OH
44502

PHONE NO.: (330) 740-7629

CONTACT NAME: FRANK O'BRIEN

ITEM 202 - LIGHTING POLE FOUNDATION REMOVED

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AN EXISTING LIGHT POLE FOUNDATION TO A MINIMUM OF ONE (1) FOOT BELOW FINISHED GRADE, OR REMOVING THE FOUNDATION COMPLETELY, BACKFILLING THE RESULTANT DEPRESSION WITH COMPACTED SOIL AND RESTORING THE DISTURBED AREA.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 202, "LIGHT POLE FOUNDATION REMOVED" FOR EACH FOUNDATION REMOVED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 202 - DISCONNECT EXISTING CIRCUIT, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF THE DISCONNECTION OF AN EXISTING LIGHT CIRCUIT AT A PULL BOX OR TRANSFORMER BASE.

DISCONNECTION AT A PULL BOX SHALL INVOLVE CUTTING THE EXISTING CIRCUIT AND REMOVING ALL SPLICE KITS. ANY CABLE THAT IS TO BE ABANDONED SHALL BE TERMINATED FROM THE PULL BOX SO THAT NO CABLE IS LEFT IN THE BOX.

DISCONNECTION AT A TRANSFORMER BASE SHALL INVOLVE CUTTING THE EXISTING CIRCUIT AND REMOVING ALL CONNECTOR KITS. ALL DUCT-CABLE NOT TO BE REUSED SHALL BE REMOVED FROM THE TRANSFORMER BASE AND THE EXISTING CONDUIT IN THE FOUNDATION SHALL BE CLEANED OF ALL CABLE AND DEBRIS SO THAT THE NEW DUCT-CABLE CAN BE INSTALLED. ALL EXISTING CABLE TO REMAIN ACTIVE SHALL BE CUT IN A MANNER SO THAT THERE IS SUFFICIENT CABLE LEFT FOR RE-CONNECTION.

THOSE WIRES THAT ARE TO REMAIN ON ACTIVE CIRCUITS SHALL HAVE A WATER-RESISTANT SEAL AT THE CUT END. THE WATER-RESISTANT SEAL SHALL BE ACCOMPLISHED BY PLUGGING THE DEACTIVATED PORT OF AN EXISTING CONNECTOR KIT OR BY INSTALLING A CABLE SPLICE KIT ON THE CUT END OF THE CABLE.

PAYMENT SHALL BE MADE AT THE UNIT PRICE UNDER CMS ITEM 202, "DISCONNECT EXISTING CIRCUIT, AS PER PLAN" AT EACH LOCATION WHERE DISCONNECTION IS REQUIRED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 202 - LIGHT POLE REMOVED

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AN EXISTING LIGHT POLE INCLUDING THE BRACKET ARM(S), TRANSFORMER BASE (IF ANY), AND GUY WIRES (IF ANY) AND REMOVING IT FROM THE PROJECT SITE.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 202, "LIGHT POLE REMOVED" FOR EACH POLE REMOVED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 202 - LUMINAIRE REMOVED

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AN EXISTING LUMINAIRE AND REMOVING IT FROM THE SITE.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 202, "LUMINAIRE REMOVED" FOR EACH LUMINAIRE REMOVED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

SPECIAL, MAINTAIN EXISTING LIGHTING

EXISTING ROADWAYS WHICH ARE TO REMAIN OPEN TO TRAFFIC DURING CONSTRUCTION OF THIS PROJECT AND WHICH ARE LIGHTED SHALL HAVE THE LIGHTING MAINTAINED AS DESCRIBED HERIN.

BEFORE ANY WORK IS STARTED IN THE IMMEDIATE VICINITY OF THE EXISTING LIGHTING CIRCUITS, REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING ROADWAY LIGHTING CIRCUITS TO BE MAINTAINED. DURING THIS INSPECTION, A WRITTEN RECORD OF THE CONDITION OF THE EXISTING LIGHTING SHALL BE MADE BY ODOT'S REPRESENTATIVE. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL LUMINARIES WHICH ARE NOT IN WORKING ORDER, INDIVIDUAL POLES WHICH ARE NOT STANDING, AND INDIVIDUAL CIRCUITS WHICH ARE NOT IN WORKING ORDER. THE COMPLETE REPORT SHALL BE SIGNED BY THE REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR.

IF, AS A RESULT OF THIS INSPECTION, IT IS DETERMINED THAT THE CONDITION OF THE EXISTING SYSTEM IS BELOW THAT REQUIRED FOR THE SAFETY OF THE TRAVELING PUBLIC, THEN THE MAINTAINING AGENCY SHALL MAKE THE REPAIRS NECESSARY TO RETURN THE SYSTEM TO AN ACCEPTABLE CONDITION. FOLLOWING THESE REPAIRS, THE SYSTEM SHALL AGAIN BE INSPECTED AND A REPORT SHALL BE MADE AND SIGNED AS OUTLINED HEREIN.

WHEN THE SYSTEM IS IN AN ACCEPTABLE CONDITION , IT SHALL BE TURNED OVER TO THE CONTRACTOR WHO SHALL THEN BE REQUIRED TO MAINTAIN THE EXISTING LIGHTING TO THE CONDITION OUTLINED IN THIS REPORT WITH THE EXCEPTION OF KNOCKDOWNS DUE TO TRAFFIC ACCIDENTS.

REPLACEMENT OF KNOCKED DOWN UNITS SHALL BE DONE ONLY WHEN THE ENGINEER HAS DETERMINED THAT THE REPLACEMENT OF THE KNOCKED DOWN UNIT IS NECESSARY AND SHALL BE PAID SEPARATELY ON A UNIT BASIS.

BETTERMENT SHALL BE COVERED IN ITEMS OF WORK PERTAINING TO CONSTRUCTION OF PERMANENT IMPROVEMENT.

WHEN THE SEQUENCE OF CONSTRUCTION ACTIVITIES REQUIRES, OR SHOULD THE CONTRACTOR DESIRE, THE REMOVAL OF THE EXISTING LIGHTING BEFORE THE NEW LIGHTING IS OPERATIONAL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY LIGHTING OF THIS PORTION OF THE ROADWAY.

PRIOR TO INSTALLING SUCH LIGHTING, THE CONTRACTOR SHALL PREPARE AND SUBMIT FOUR SETS OF THE TEMPORARY LIGHTING PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL.

THIS PLAN SHALL SHOW LOCATIONS OF POLES, LENGTHS OF BRACKET ARMS, STYLES OF LUMINAIRES, MOUNTING HEIGHTS, WIRING METHODS AND OTHER PERTINENT INFORMATION. THE TEMPORARY LIGHTING SHALL PROVIDE AN AVERAGE INITIAL INTENSITY OF 1.2 FOOT CANDLES WITH AN AVERAGE TO MINIMUM UNIFORMITY NOT TO EXCEED 3:1. MOUNTING HEIGHT OF TEMPORARY LUMINAIRES SHALL NOT BE LESS THAN 30 FEET (9 METERS), AND THE MINIMUM OVERHEAD CONDUCTOR CLEARANCE SHALL BE 20 FEET (6 METERS). TEMPORARY OVERHEAD CONSTRUCTION SHALL NOT BE LESS THAN GRADE "A" FOR STRENGTH REQUIREMENTS AS DEFINED BY THE NATIONAL ELECTRIC SAFETY CODE. WOOD POLES WITH OVERHEAD WIRING MAY BE USED. HOWEVER, TEMPORARY LIGHTING SHALL MEET FEDERAL AND STATE SAFETY CRITERIA. IF BREAKAWAY POLES ARE USED TO MEET THESE CRITERIA, THEN UNDERGROUND WIRING SHALL BE USED. RECONDITIONED OR USED MATERIALS MAY BE FURNISHED FOR TEMPORARY LIGHTING.

ALL MATERIALS NECESSARY TO COMPLETE THE TEMPORARY LIGHTING SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. WHEN NO LONGER NEEDED, THE TEMPORARY LIGHTING SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR.

THE MAINTAINING AGENCY WILL PAY FOR ELECTRICAL ENERGY CONSUMED BY EXISTING POWER SERVICES AND BY PROPOSED PERMANENT POWER SERVICES AFTER ACCEPTANCE OF THE LIGHTING WORK. THE CONTRACTOR WILL PAY FOR ELECTRICAL ENERGY, INSTALLATION, REMOVAL AND MAINTENANCE OF ANY TEMPORARY POWER SERVICES.

THE LUMP SUM PRICE BID FOR ITEM SPECIAL "MAINTAIN EXISTING LIGHTING UNIT" SHALL BE FULL PAYMENT FOR THE REPLACEMENT OF AN EXISTING LIGHTING UNIT WHICH HAS BEEN KNOCKED DOWN AFTER ABOVE FORE-MENTIONED INSPECTION AND SHALL INCLUDE ALL LABOR, MATERIALS, AND INCIDENTALS NECESSARY TO PROVIDE A REPLACEMENT FOR SUCH UNIT.

ITEM 625 - CONDUIT CLEANED AND CABLES REMOVED

THIS ITEM SHALL CONSIST OF CLEANING AN EXISTING CONDUIT BY REMOVING EXISTING CABLES, MUD AND DEBRIS SO THAT NEW CABLE CAN BE INSTALLED. INCIDENTAL TO THE CLEANING IS THE INSTALLATION OF BUSHINGS AND/OR COUPLINGS ON THE ENDS OF EXISTING CONDUIT AS REQUIRED. MATERIALS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR FOR PROPER DISPOSAL OFF OF THE PROJECT SITE. DISTURBED AREAS SHALL BE PROPERLY RESTORED.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, "CONDUIT CLEANED AND CABLES REMOVED" PER FOOT OF CONDUIT CLEANED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625 - LIGHT POLE FOUNDATION, AS PER PLAN

THE BOLT CIRCLE TEMPLATE SHALL BE COMPATIBLE WITH THE NEW POLES TO BE ERECTED BY OHIO EDISON.

NEW FOUNDATIONS FOR THE NEW LIGHT POLES SHALL INCLUDE NEW BOLTS AND BOLT ANCHORS.

PADLOCKS AND KEYS

PADLOCKS FURNISHED SHALL BE EITHER BRASS OR BRONZE, EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNAN 660A, AND SHALL BE KEYED IN ACCORDANCE WITH CMS 631.06. PAYMENT SHALL BE INCLUDED IN THE BID FOR THE ITEM(S) BEING LOCKED.

ITEM 625 - PULL BOX CLEANED

THIS ITEM OF WORK SHALL CONSIST OF CLEANING AN EXISTING PULL BOX BY REMOVING ANY EXISTING CABLES NOT BEING RECONNECTED, AND DEBRIS SO THAT NEW CABLES CAN BE INSTALLED. ANY UNUSED OPENING SHALL BE CLOSED. DISTURBED AREAS NEAR THE PULL BOX SHALL BE CLEARED OF WEEDS OR DEBRIS AND SHALL BE FULLY RESTORED. MATERIAL REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF OF THE PROJECT SITE.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, "PULL BOX CLEANED" FOR EACH PULL BOX CLEANED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORK-MANLIKE MANNER.

ITEM 625 - LUMINAIRE, UNDERPASS, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIALS SPECIFICATIONS, LUMINAIRES FOR UNDERPASS LIGHTING UNITS SHALL BE AS FOLLOWS:

LUMINAIRES FOR UNDERPASS LIGHTING UNITS SHALL BE AMERICAN ELECTRIC "SIDELIGHT SERIES 582" WITH PHOTOMETRIC DISTRIBUTION AE208IL, COOPER "WALL LIGHT" WITH PHOTOMETRIC DISTRIBUTION WPK15SXX, GENERAL ELECTRIC "VERSAFLOOD II WALLIGHTER" WITH PHOTOMETRIC DISTRIBUTION 8578, HOLOPHANE "WALLPACK II" TEST WITH PHOTOMETRIC 33263, OR EQUAL AS APPROVED BY THE ENGINEER.

LUMINAIRES FOR UNDERPASS LIGHTING UNIT WHICH ARE WALL MOUNTED SHALL BE FURNISHED WITH AN INTEGRAL FUSE HOLDER AND 10-AMPERE FUSES.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, "LUMINAIRE, UNDERPASS, AS PER PLAN" FOR EACH LUMINAIRE WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625 - ANCHOR BOLTS, AS PER PLAN

ANCHOR BOLTS FOR THE LIGHT POLES SHALL BE ALIGNED ALONG THE PROPOSED CURB LINE. SEE DETAIL A, SHEET 60.

CONTRACTOR TO COORDINATE WITH OHIO EDISON FOR THE PROPOSED LIGHT POLES.

DRAWN AML CHECKED FLK

GENERAL NOTES - LIGHTING

MAH-680-6.03

GROUNDING AND BONDING

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS) AND THE HL AND TC SERIES OF STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

1. ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.
a. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.
b. WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.
c. METALLIC CONDUIT CARRYING THE LOOP WIRES FROM IN THE PAVEMENT TO THE PULL BOX SPLICE LOCATION WILL ONLY BE BONDED AT THE PULL BOX END, AND WILL NOT CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR.
d. METAL PULL BOX LIDS SHALL BE BONDED BY ATTACHMENT OF THE EQUIPMENT GROUNDING CONDUCTOR TO THE FRAME DIAGONAL AS PROVIDED ON HL-30.11.
e. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.
f. IF AN EQUIPMENT GROUNDING CONDUCTOR IS NEEDED IN CONDUIT BETWEEN SIGNALIZED INTERSECTIONS FOR UNDERGROUND INTERCONNECT CABLE, THE GROUNDING SYSTEM FOR EACH SIGNALIZED INTERSECTION WILL BE SEPARATED ABOUT MIDWAY BETWEEN THE INTERSECTIONS.
g. THE MESSENGER WIRE AT SIGNALIZED INTERSECTIONS WILL BE USED AS THE CONDUCTIVE PATH FROM CORNER TO CORNER IF CONDUIT IS NOT PROVIDED UNDER THE ROADWAY. WHEN CONDUIT CONNECTS THE CORNERS OF AN INTERSECTION, AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE USED IN THE CONDUIT.

2. CONDUITS
a. THE 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.
b. THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.
c. BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
d. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

3. WIRE FOR GROUNDING AND BONDING
a. USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS:
i. USE 4 AWG BETWEEN THE POWER SERVICE AND SUPPORTS, POLES, PEDESTALS, CONTROLLER OR FLASHER CABINETS.
ii. USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.
iii. USE A MINIMUM 8 AWG BETWEEN THE "PREPARE TO STOP WHEN FLASHING" INSTALLATION (INCLUDING SUPPORT) AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.
iv. THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.
b. IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.

4. GROUND ROD
a. A ¾" SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.
b. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.

5. THE GREEN CONDUCTOR IN SIGNAL CABLES (CONDUCTOR #4) SHALL NOT BE USED TO SUPPLY POWER TO A SIGNAL INDICATION. IT WILL BE CONNECTED TO THE SIGNAL BODY AS AN EQUIPMENT GROUND IN ALUMINUM HEADS AND IT WILL BE UNUSED IN PLASTIC HEADS. UNUSED CONDUCTORS SHALL BE GROUNDED IN THE CABINET. TYPICAL USE OF CONDUCTORS IS AS FOLLOWS:

COND. NO.	COLOR	VEHICLE SIGNAL	PEDESTRIAN SIGNAL
1	BLACK	GREEN BALL	#1 WALK
2	WHITE	AC NEUTRAL	AC NEUTRAL
3	RED	RED BALL	#1 DW/FDW
4	GREEN	EQUIP. GROUND	EQUIP. GROUND
5	ORANGE	YELLOW BALL	#2 DW/FDW
6	BLUE	GREEN ARROW	#2 WALK
7	WHITE/BLACK STRIPE	YELLOW ARROW	NOT USED

6. POWER SERVICE AND DISCONNECT SWITCH
a. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPICE.
b. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.
i. NEMA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC-) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS-2, FIGURE 5-4.
ii. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.

7. STRUCTURE GROUNDING: HL-50.21 SHOWS A 1/0 AWG STRANDED COPPER CABLE USED FOR STRUCTURE GROUNDING. ADDITIONALLY, THIS SAME CABLE SHALL BE INSULATED AND ANY CONNECTIONS AND BARE COPPER STRANDS EXPOSED TO CONCRETE SHALL BE COVERED WITH MASTIC TO PREVENT CONTACT WITH THE CONCRETE.

8. PAYMENT
a. ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT.
b. WORK ON BRIDGES MAY BE INCLUDED IN THE BID ITEM FOR "ITEM 625, STRUCTURE GROUNDING".
c. IN A 3-WIRE HIGHWAY LIGHTING SYSTEM, THE THIRD CONDUCTOR OF THE DUCT CABLE OR DISTRIBUTION CABLE WILL BE USED AS THE EQUIPMENT GROUNDING CONDUCTOR AND MAY AS SUCH BE PART OF THE CABLE BID ITEM.

ITEM 625 - JUNCTION BOXES, AS PER PLAN

THE JUNCTION BOX SHALL HAVE AN EMBOSSMENT IN THE BACK OF THE BOX THAT SHALL BE DRILLED AND TAPPED FOR A 1/4" - 20 CAP SCREW FOR CONNECTION OF GROUNDS.

WHEN ENCASED IN CONCRETE, THE JUNCTION BOX SHALL HAVE INWARD FLANGED COVERS AND MAY HAVE IN LIEU OF BOSSED DRILLED AND TAPPED CONNECTIONS, SLIP HOLES FIELD DRILLED TO ACCOMMODATE THE CONDUITS ENTERING THE BOX SO LONG AS EACH METALLIC CONDUIT IS EQUIPPED WITH A GROUNDING BUSHING JUMPED TO THE BOX ITSELF.

WHEN SURFACE MOUNTED, THE JUNCTION MAY HAVE IN LIEU OF BOSSED DRILLED A TAPPED CONNECTIONS, FIELD INSTALLED HUBS TO ACCOMMODATE THE CONDUITS ENTERING THE BOX.

CONDUIT EXPANSION AND DEFLECTION

EXPANSION FITTINGS SHALL BE OZ TYPE AX, CROUSE HINDS TYPE XJG, APPLTON TYPE AX, OR EQUAL APPROVED BY THE ENGINEER. EACH EXPANSION FITTING SHALL PROVIDE EITHER 4" OR 8" TOTAL MOVEMENT AS SPECIFIED BY THE PLAN DETAILS AND SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS.

DEFLECTION COUPLINGS SHALL BE OZ TYPE DX, CROUSE HINDS TYPE XD, APPLTON TYPE DF, OR EQUAL APPROVED BY THE ENGINEER. EACH DEFLECTION COUPLING SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS.

HIGH VOLTAGE TEST WAIVED

THE HIGH VOLTAGE TEST SHALL NOT BE PERFORMED ON THE CIRCUITS CONSTRUCTED BY THIS PROJECT, SINCE THE TEST COULD DAMAGE THE PORTION OF THE COMPLETE CIRCUIT WHICH HAS BEEN IN SERVICE PRIOR TO THIS PROJECT.

TRENCH

VERIFY THAT THE TRENCH DID NOT DEVIATE MORE THAN 6 INCHES (150 MILLIMETERS) FROM THE LINE DESIGNATE UNLESS SUCH DEVIATION HAS BEEN APPROVED BY THE ENGINEER. VERIFY THAT THE SIDEWALLS AND BOTTOM OF THE TRENCH DO NOT HAVE ANY PROTRUDING SHARP ROCKS.

WHEN DUCT CABLE IS INSTALLED IN THE TRENCH, VERIFY THAT THE BACKFILL MATERIAL WITHIN 2 INCHES (50 MILLIMETERS) OF THE DUCT CABLE DOES NOT CONTAIN PIECES LARGER THAN ONE-HALF INCH (13 MILLIMETERS).

VERIFY THAT THE BACKFILL IS PLACED IN COMPACTED LAYERS NOT TO EXCEEDING 4 INCHES (100 MILLIMETERS) IN THICKNESS.

WHEN CAUTION TAPE IS SPECIFIED, VERIFY THAT THE TAPE IS INSTALLED 6 TO 8 INCHES (150 TO 200 MILLIMETERS) BELOW GRADE.

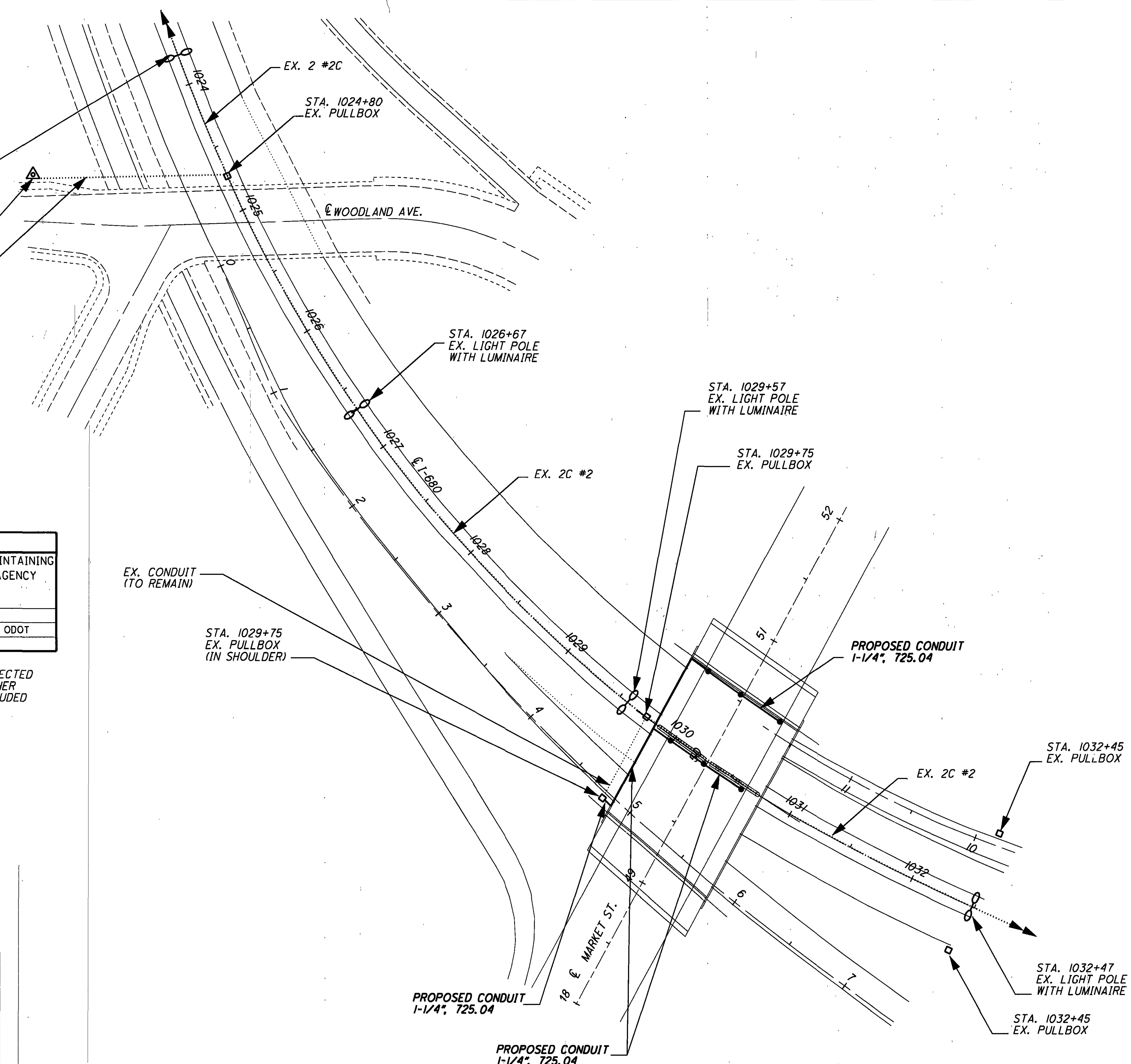
ITEM SPECIAL - PLASTIC CAUTION TAPE

ALL LOCATIONS OF UNDERGROUND DUCT CABLE OR NONMETALLIC CONDUIT SHALL BE MARKED BY THE USE OF A CONTINUOUS IDENTIFYING TAPE BURIED IN THE TRENCH ABOVE THE LINE. THE IDENTIFYING TAPE SHALL BE INERT MATERIAL, APPROXIMATELY 6 INCHES WIDE, COMPOSED OF POLYETHYLENE PLASTIC, HIGHLY RESISTANT TO ALKALIS, ACIDS AND OTHER CHEMICAL COMPOUNDS LIKELY TO BE ENCOUNTERED IN SOILS. THE TAPE SHALL BE BRIGHT RED WITH IDENTIFYING PRINTING "ELECTRIC" IN BLACK LETTERS, ONE SIDE ONLY. TAPE SHALL BE SUPPLIED IN CONTINUOUS ROLLS WITH THE IDENTIFYING LETTERING REPEATED CONTINUOUSLY THE FULL LENGTH OF THE TAPE. IDENTIFYING TAPE SHALL BE BURIED IN THE ELECTRIC LINE TRENCH WITH ONE STRIP PLACED APPROXIMATELY DOWN THE CENTERLINE AND LOCATED APPROXIMATELY 6 TO 10 INCHES BELOW THE FINAL FINISHED GRADE. THE TAPE SHALL BE PLACED IN THE TRENCH WITH THE PRINTED SIDE UP AND SHALL BE ESSENTIALLY PARALLEL WITH THE FINISHED SURFACE. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO INSURE THAT THE TAPE IS NOT PULLED, DISTORTED, OR OTHERWISE MISPLACED IN COMPLETING THE TRENCH BACKFILL. THE TAPE SHALL BE PAID FOR PER LINEAR FOOT OF "ITEM SPECIAL - PLASTIC CAUTION TAPE" COMPLETE AND IN PLACE.

DRAWN AML CHECKED FLK

GENERAL NOTES - LIGHTING

MAH-680-6.03



POWER SOURCE

CONTROL CENTER "WA", W/3P, 60A
LOCATED SOUTHWEST OF I-680, ON
WOODLAND AVE.

NOTE: POWER SOURCE SHOWN IS
AN APPROXIMATE LOCATION.

POWER SERVICE DATA					
POWER SERVICE	LINE VOLTAGE (VOLTS)	CIRCUIT NO.	CIRCUIT LOAD (AMPS)	CIRCUIT CABLE SIZE (AWG)	MAINTAINING AGENCY
PS-A	480	IWA	39.8	2	ODOT

* POWER SERVICE DATA SHOWN IS FOR THE AFFECTED CIRCUIT ONLY. POWER SERVICE DATA FOR OTHER CIRCUITS NOT AFFECTED HAVE NOT BEEN INCLUDED IN THE POWER SERVICE DATA.

LEGEND

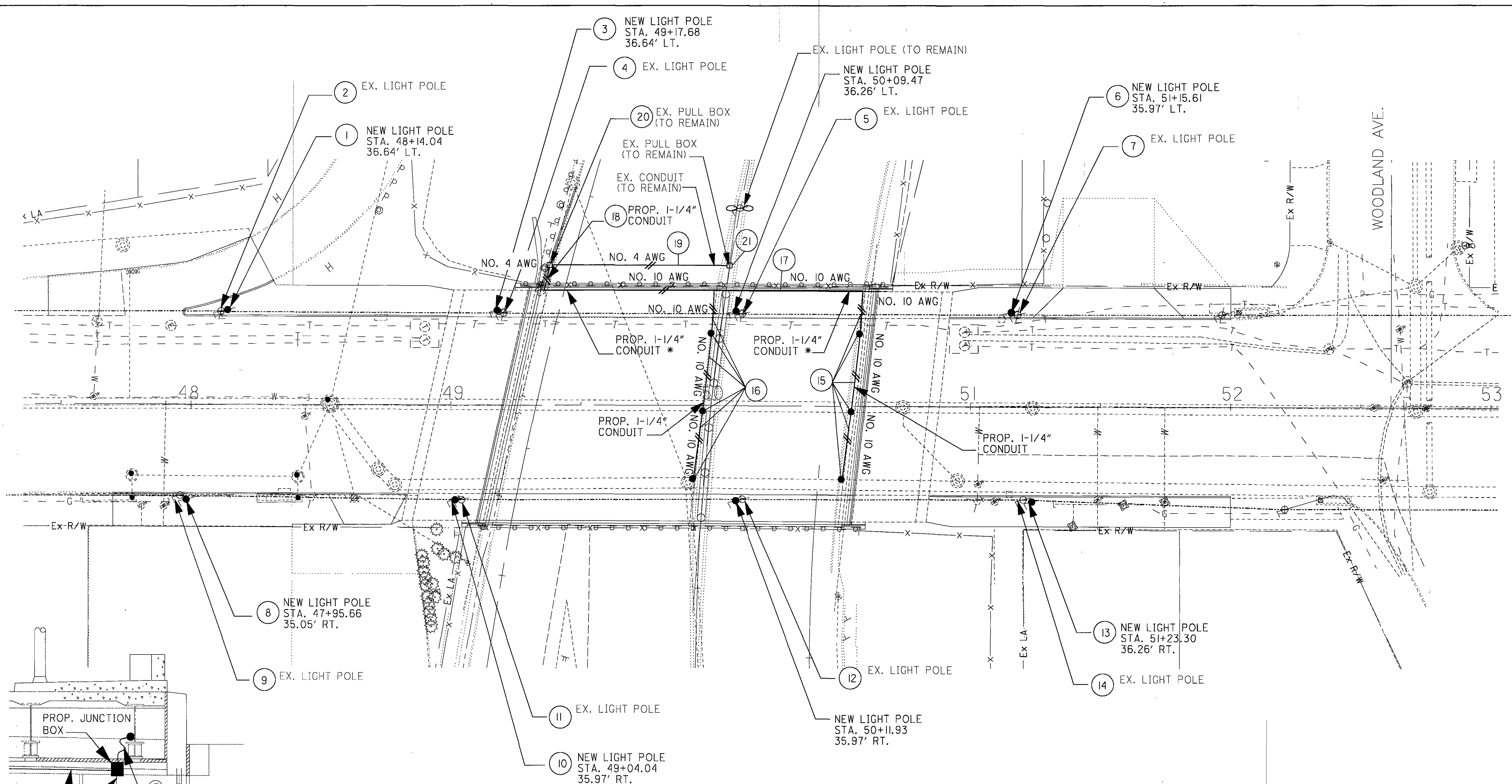
● PROP. UNDERPASS LUMINAIRE
— PROP. CONDUIT 1-1/4", 725.04
○-○ EX. TOWER LIGHT LUMINAIRIES

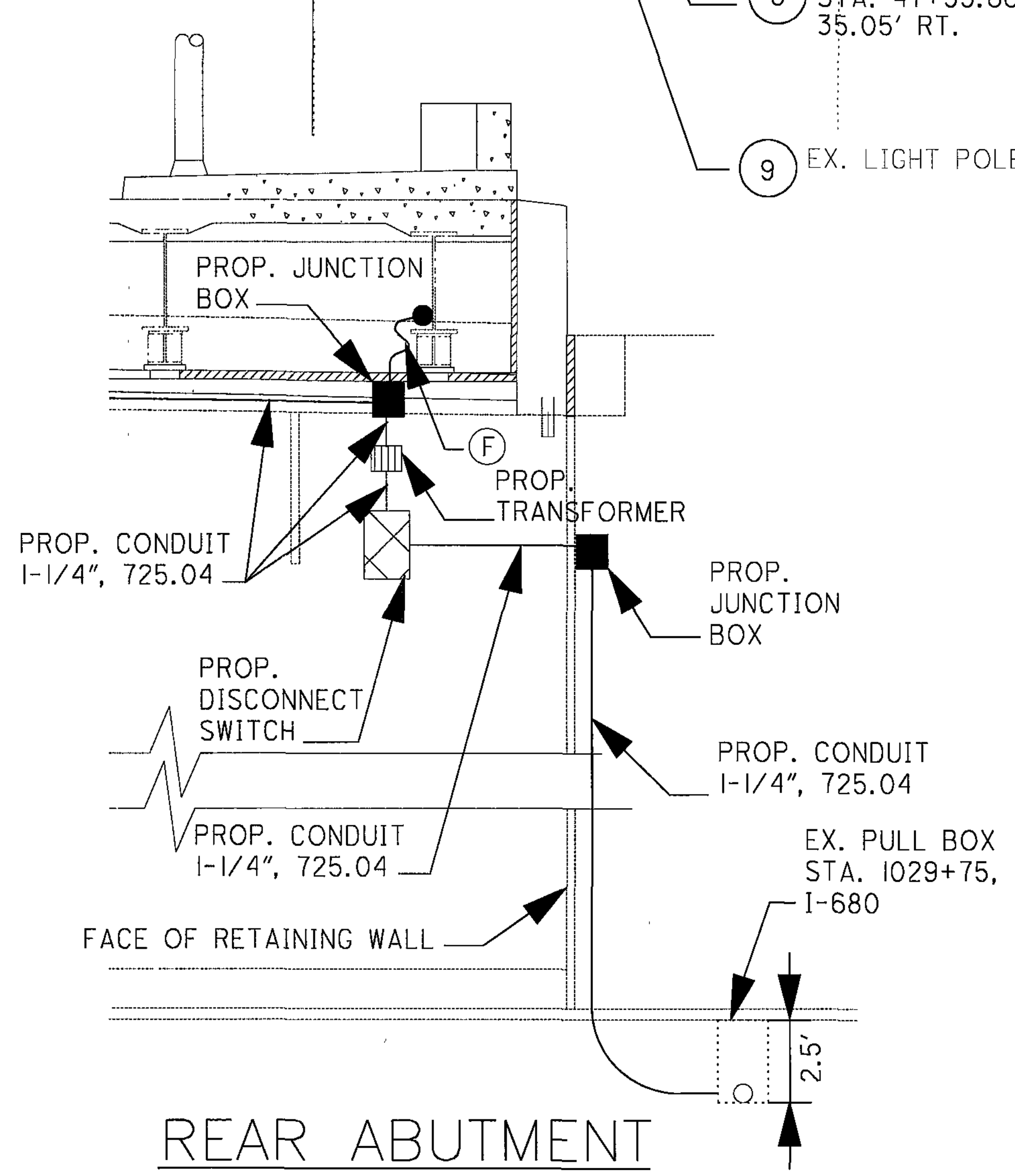
0 20 40 80
HORIZONTAL SCALE IN FEET

CALCULATED AML
CHECKED FLK

LIGHTING SCHEMATIC PLAN

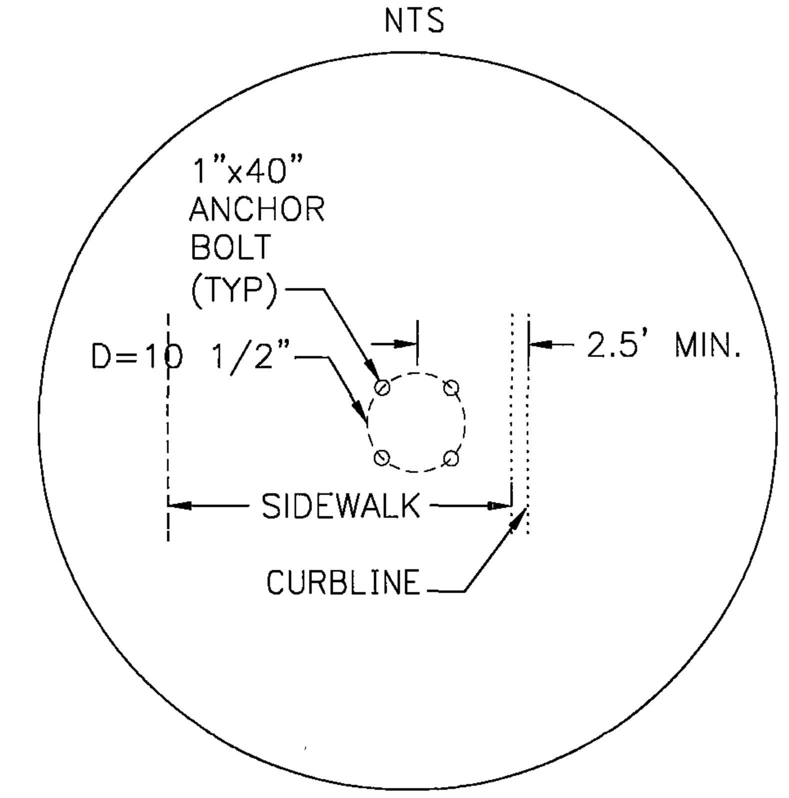
MAH-680-6.03





REAR ABUTMENT
Scale: NTS

DETAIL A
NTS



LEGEND

- ● PROPOSED UNDERPASS LUMINAIRE
- EXISTING CONDUIT
- PROPOSED CONDUIT 1-1/4", 725.04
- EX. ELECTRIC PULL BOX
- PROPOSED JUNCTION BOX
- PROPOSED PULL BOX
- EX. LIGHT POLE W/LUMINAIRE
- NEW LIGHT POLE W/LUMINAIRE
- EX. LIGHT POLES W/ LUMINAIRES ON I-680
- EX. AERIAL

LIGHTING

THE CONTRACTOR SHALL REMOVE THE EXISTING WIRING. THE PROPOSED WIRING AND CONTROL OF THE POWER SERVICE FOR THE MARKET STREET LIGHTING WORK IS THE RESPONSIBILITY OF THE CITY OF YOUNGSTOWN THROUGH OHIO EDISON. CONTACT BILL SPEECE (330) 740-7635.

NOTES:

SEE SHEET 59 FOR I-680 POWER SOURCE LOCATION.

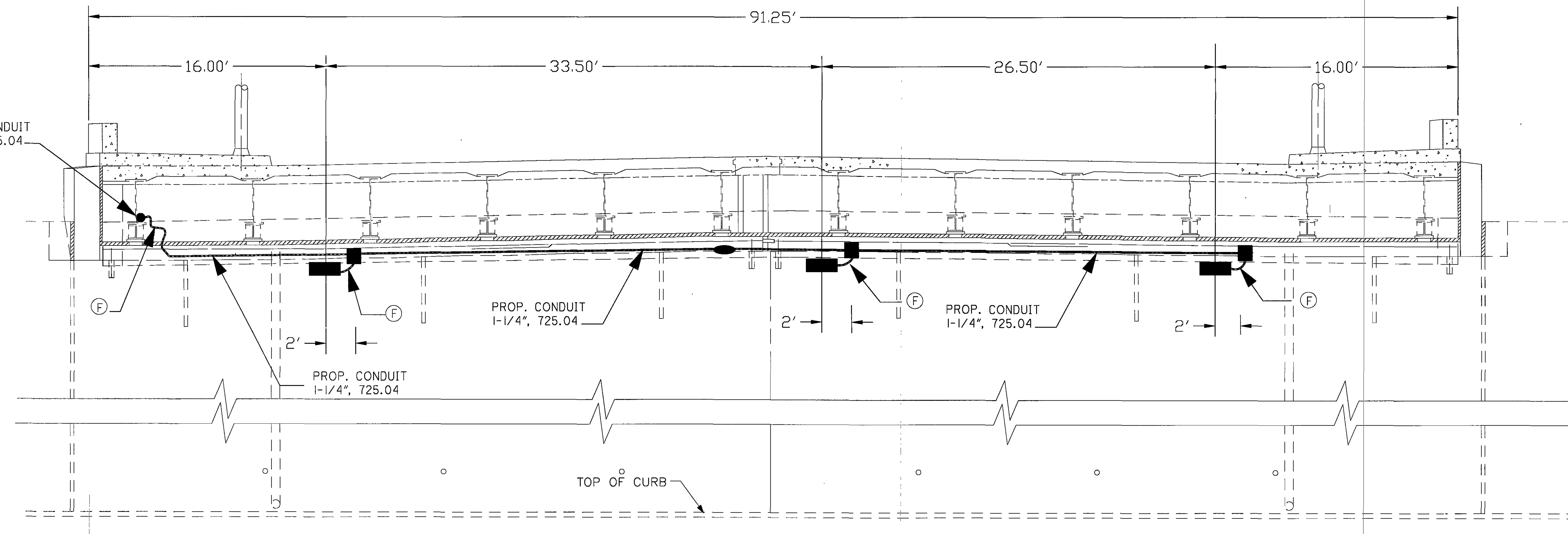
* PROPOSED CONDUIT MOUNTED ON BRIDGE BEAM.

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED AML
CHECKED FLK

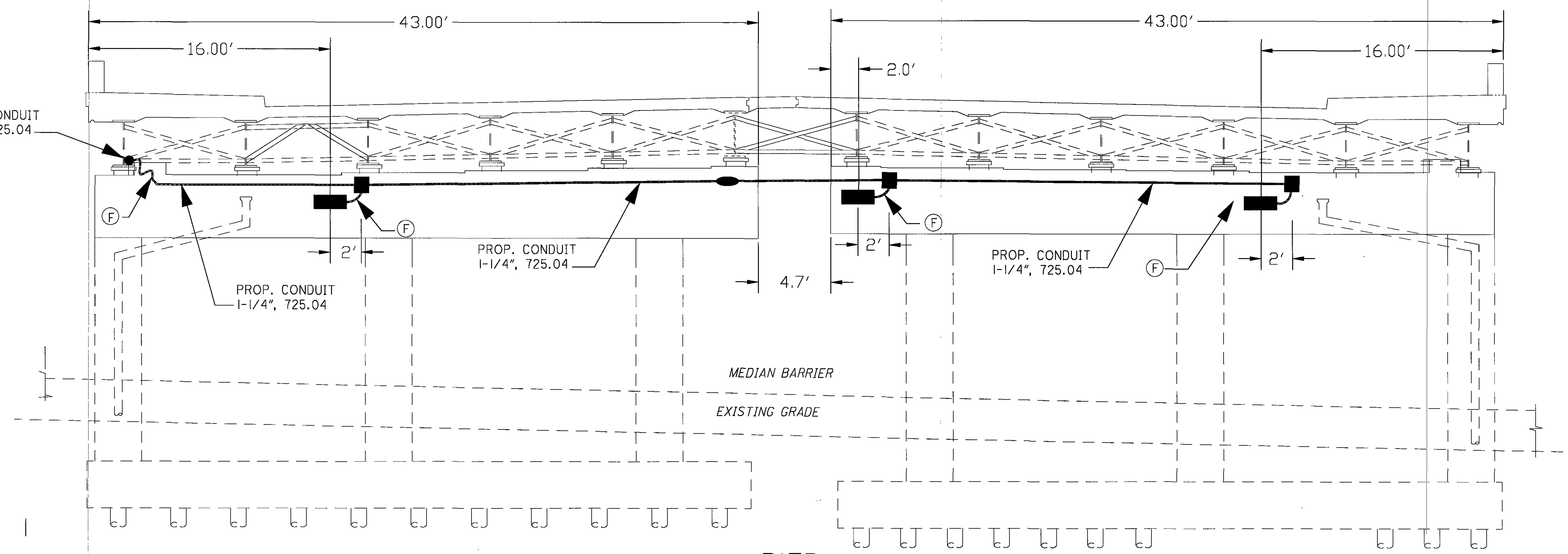
LIGHTING PLAN MARKET STREET AND I-680

MAH-680-6.03



FORWARD ABUTMENT

Scale: NTS



PIER

Scale: NTS

NOTE

CONDUIT, 725.04 CROSSING THE BRIDGE ON THE GIRDER FOR UNDERPASS LUMINAIRES.

LEGEND

EXPANSION/ DEFLECTION FITTING, PER HL-30.32

(F) PROP. FLEXIBLE STEEL CONDUIT, I-1/4"

PROP. CONDUIT I-1/4", 725.04

PROP. UNDERPASS LUMINARE

PROP. JUNCTION BOX

VERTICAL/ HORIZONTAL NTS

CALCULATED AML

CHECKED FLK

UNDERPASS LIGHTING PROFILES MARKET STREET

MAH-680-6.03

REFERENCE NO.	SIDE	ROADWAY	STATION TO STATION	202				603		625															SPECIAL	SPECIAL
				LIGHT POLE FOUNDATION REMOVED	DISCONNECT EXISTING CIRCUIT, AS PER PLAN	LIGHT POLE REMOVED	LUMINAIRE REMOVED	4" CONDUIT, TYPE E		1-1/4" CONDUIT, 725.04	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	NO. 10 AWG 600 VOLT DISTRIBUTION CABLE	CONNECTOR KIT, TYPE II	JUNCTION BOX, AS PER PLAN	GROUND ROD	STRUCTURE GROUNDING SYSTEM	PULL BOX CLEANED	CONDUITS CLEANED AND CABLES REMOVED	3" CONDUIT, 725.05	LIGHT POLE FOUNDATION, AS PER PLAN	ANCHOR BOLTS, AS PER PLAN	LUMINAIRE, UNDERPASS, AS PER PLAN	TRENCH IN PAVED AREA, TYPE B	CABLE SPLICING KIT	SPECIAL - MAINTAIN EXISTING LIGHTING	PLASTIC CAUTION TAPE
				EACH	EACH	EACH	EACH	FT.		FT.	FT.	FT.	EACH	EACH	EACH	EACH	EACH	EACH	FT.	EACH	EACH	EACH	FT.	EACH	LUMP	FT.
1	LT.	MARKET	STA. 48+14.04												1					1	4					
2	LT.	MARKET	STA. 48+11.66	1		1	1																			
3	LT.	MARKET	STA. 49+17.68												1					1	4					
4	LT.	MARKET	STA. 49+20.00	1		1	1																			
5	LT.	MARKET	STA. 50+11.79			1	1																			
6	LT.	MARKET	STA. 51+15.61												1					1	4					
7	LT.	MARKET	STA. 51+18.12	1		1	1																			
8	RT.	MARKET	STA. 47+95.66												1					1	4					
9	RT.	MARKET	STA. 47+95.62	1		1	1																			
10	RT.	MARKET	STA. 49+04.04												1					1	4					
11	RT.	MARKET	STA. 49+04.19	1		1	1																			
12	RT.	MARKET	STA. 50+14.75			1	1																			
13	RT.	MARKET	STA. 50+23.30												1					1	4					
14	RT.	MARKET	STA. 51+20.14	1		1	1																			
15		MARKET	FORWARD ABUTMENT							94		188	2	3								3				
16		MARKET	PIER							90		180	2	3								3				
17	LT.	MARKET	BRIDGE BEAM							142		284	2													
18	RT.	I-680	STA. 1029+75.00 TO STA. 1029+82.00					7		27	54		2						27				7			7
19	RT.	I-680	STA. 1029+75.00								176		2					1								
20	RT.	I-680	STA. 1029+75.00														1							2		
21	CL	I-680	STA. 1029+75.00		1											1	1								LUMP	
TOTALS CARRIED TO GENERAL SUMMARY				6	1	8	8	7		353	230	652	10	6	6	1	2	1	27	6	24	6	7	2	LUMP	7

CALCULATED AMC
CHECKED FLK

LIGHTING PLAN SUBSUMMARY

MAH-680-6.03

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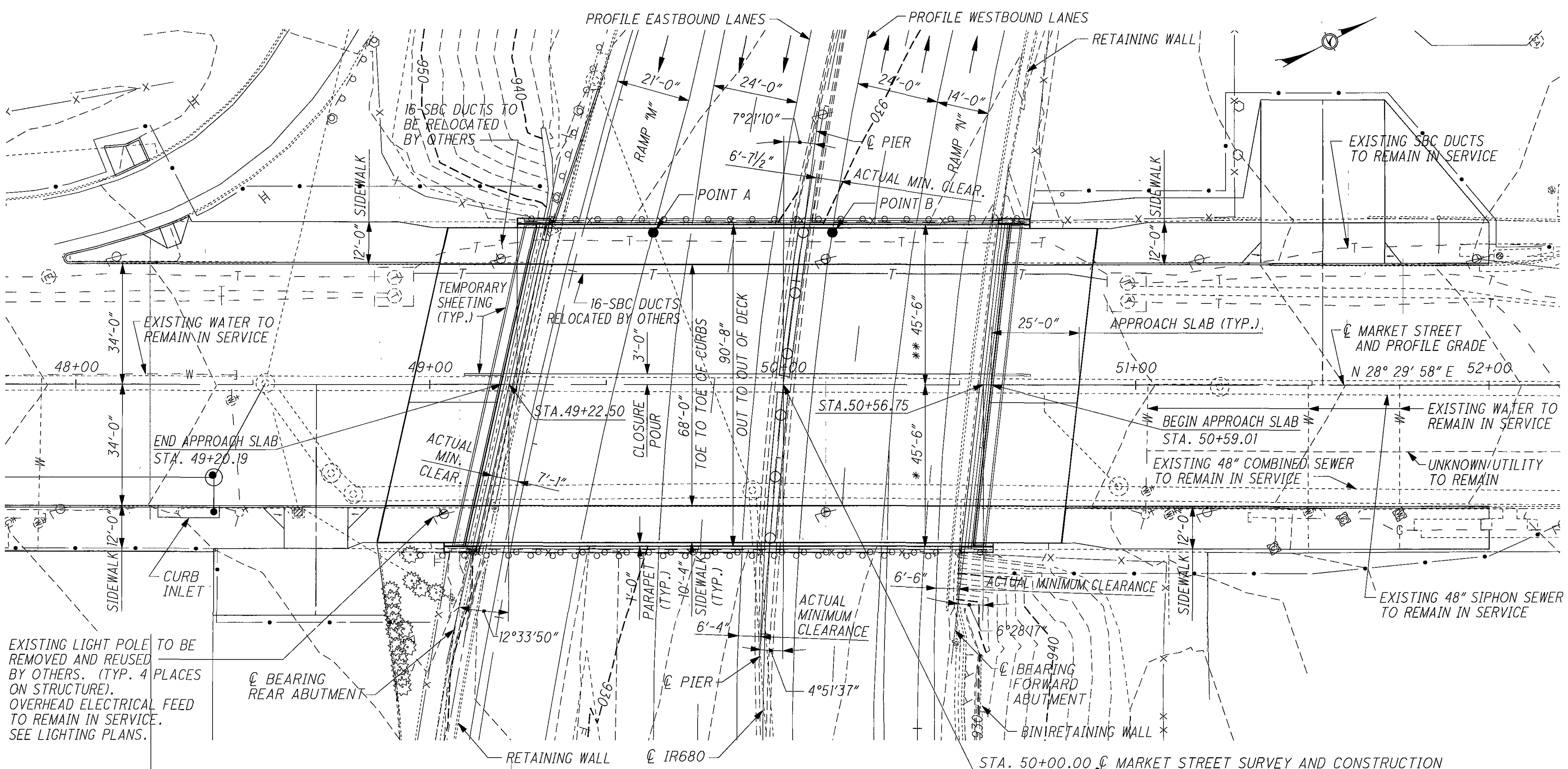
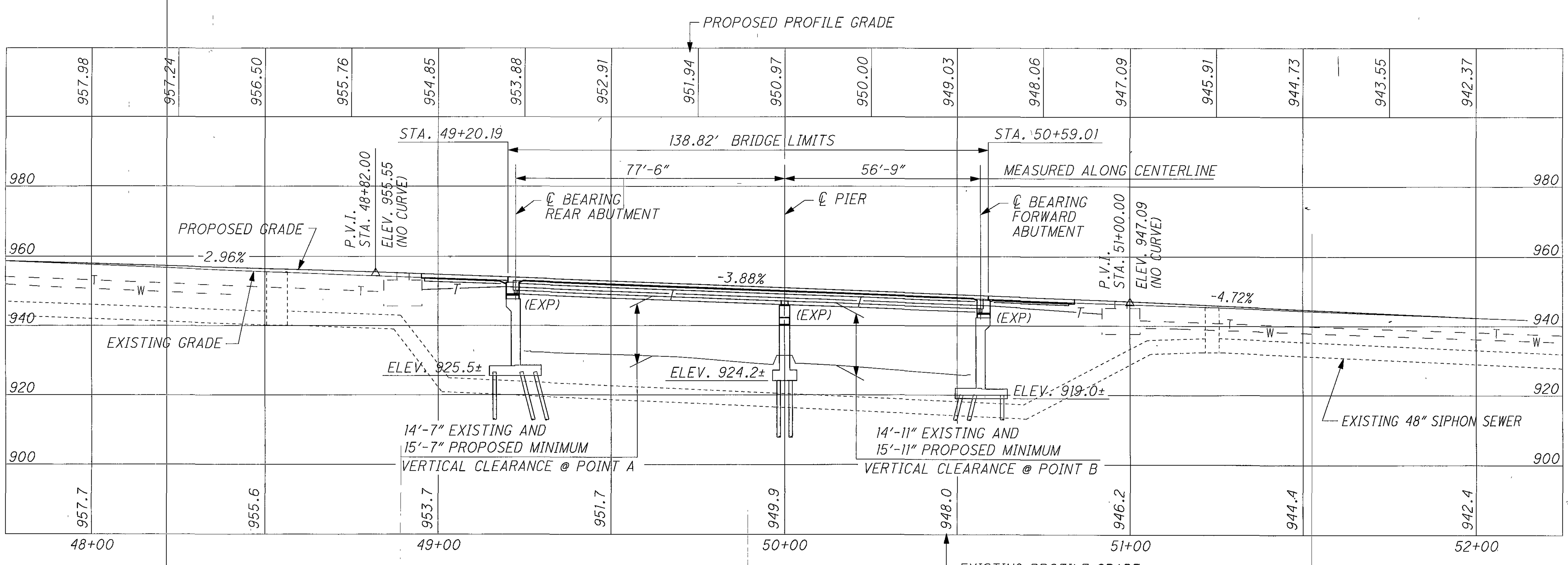


PLAN



PROFILE ALONG CENTERLINE

BENCHMARK DATA

BM #1	STA. 46+28.37 , ELEV. 966.31 , OFFSET 51.56 , LEFT EASTERN FLANGE NUT ON HYDRANT
BM #2	STA. 54+98.03 , ELEV. 932.65 , OFFSET 35.31 , LEFT EASTERN FLANGE NUT ON HYDRANT

NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

FOUNDATION DATA: EXISTING ABUTMENTS AND PIERS ARE FOUNDED ON 12" CAST IN PLACE, REINFORCED CONCRETE PILES DRIVEN TO A MINIMUM BEARING CAPACITY OF 40 TONS PER EXISTING PLANS.

DESIGN TRAFFIC:
2007 ADT = 18,900   2007 ADTT = 340
2027 ADT = 22,500   2027 ADTT = 405
DIRECTIONAL DISTRIBUTION, D = 0.60

LEGEND

- * - PHASE 1 CONSTRUCTION
- ** - PHASE 2 CONSTRUCTION
- ● POINT A: 15'-6" REQUIRED MINIMUM VERTICAL CLEARANCE 15'-7" ACTUAL MINIMUM VERTICAL CLEARANCE
- ● POINT B: 15'-6" REQUIRED MINIMUM VERTICAL CLEARANCE 15'-11" ACTUAL MINIMUM VERTICAL CLEARANCE

EXISTING STRUCTURE

TYPE: REINFORCED CONCRETE DECK SLAB ON TWO-SPAN CONTINUOUS STEEL BEAMS WITH REINFORCED CONCRETE CAP AND COLUMN PIER AND FULL-HEIGHT WALL ABUTMENTS
SPANS: 77'-6"± AND 56'-9"± C/C BEARINGS ALONG CENTERLINE
ROADWAY: 68'-0"± TOE/TOE CURBS
SIDEWALK: TWO, 12 FT. WIDE
LOADING: CF 2000 (57)
SKEW: VARIES LEFT FORWARD
APPROACH SLABS: 25'-0" LONG (AS1-54)
ALIGNMENT: TANGENT
CROWN: NORMAL 0.016 FT/FT
STRUCTURAL FILE NUMBER: 5001986
DATE BUILT: 1963

PROPOSED STRUCTURE

PROPOSED WORK: REPLACE CONCRETE DECK. JACK EXISTING BEAMS. CONVERT ABUTMENTS TO SEMI-INTEGRAL PAINT EXISTING STEEL. PATCH AND SEAL CONCRETE SURFACES.
TYPE: CONTINUOUS COMPOSITE REINFORCED CONCRETE DECK ON EXISTING ASTM A7, GRADE 33, STEEL BEAMS WITH REINFORCED CONCRETE SUBSTRUCTURE.
SPANS: 77'-6" AND 56'-9" C/C BEARINGS ALONG CENTERLINE
ROADWAY: 68'-0" TOE/TOE OF CURBS
SIDEWALK: TWO, 10'-4" WIDE
LOADING: HS25 CASE II AND ALTERNATE MILITARY
SKEW: VARIES, LEFT FORWARD
WEARING SURFACE: MONOLITHIC CONCRETE
FUTURE WEARING SURFACE: 60 LB./SQ. FT.
APPROACH SLABS: 25'-0" LONG (AS-1-81)
ALIGNMENT: TANGENT
CROWN: NORMAL, 0.016 FT/FT
COORDINATES: LATITUDE 41°05'34" N LONGITUDE 80°89'17" W

DESIGN AGENCY: R.E. WARNER & ASSOCIATES, INC.

DESIGNED GFH	DRAWN GFH	REVIEWED JRS	DATE 6-1-06
CHECKED YAZ	REVISED	STRUCTURE FILE NUMBER 5001986	

MAHONING COUNTY
STA. 49+20.19
STA. 50+59.01

SITE PLAN

BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

MAH-680-6.03
PID 19916

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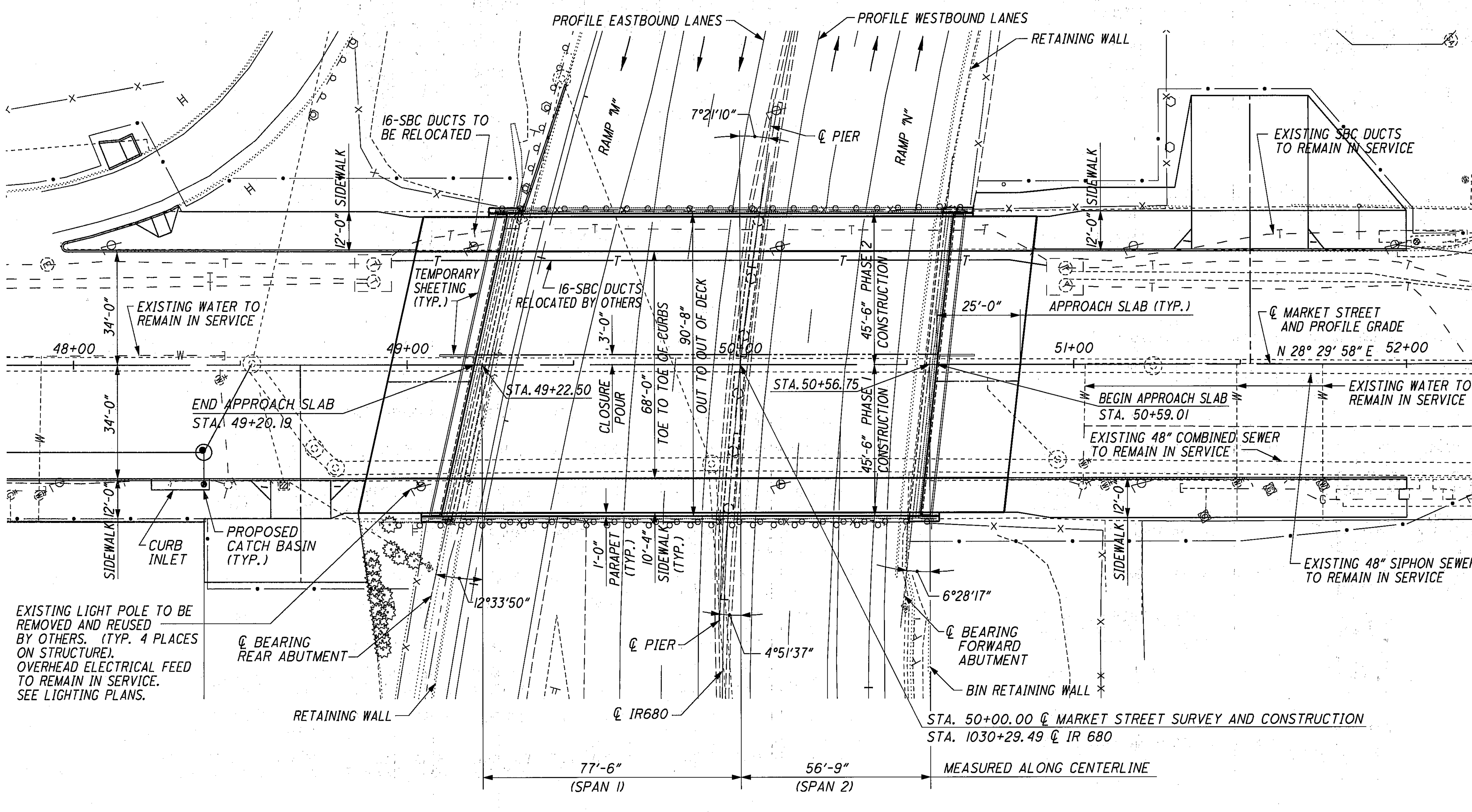

PLAN

PROJECT COMPLETION

ALL EXISTING LANES OF TRAFFIC SHALL BE OPEN TO TRAFFIC BY SEPTEMBER 30, 2008 ON BOTH MARKET STREET AND IR-680. AT THIS TIME ALL FINAL PAVEMENT MARKINGS AND TRAFFIC CONTROL DEVICES SHALL BE IN PLACE. LANES MAY BE TAKEN BEYOND THIS DATE ON IR-680 ACCORDING TO THE LANE CLOSURE CHART FOR PAINTING PURPOSED ONLY AND WITH THE APPROVAL OF THE ENGINEER. THIS DATE SHALL BE CONSIDERED TO CONSTITUTE AN INTERIM COMPLETION DATE AND A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF $1900 PER DAY THAT ALL LANES ARE NOT OPEN.

PROPOSED WORK

PHASE 1A/1B CONSTRUCTION:

1. REMOVE PORTIONS OF THE DECK, SIDEWALK AND PARAPET CONCRETE OUTSIDE OF BEAM A.
2. REMOVE EXISTING REINFORCED CONCRETE DECK, SCUPPERS, SIDEWALK, LAMP POSTS, PARAPET AND FENCE. REMOVE APPROACH SLABS.
3. INSTALL TEMPORARY SHEETING BEHIND ABUTMENTS ALONG CUT LINE. EXCAVATE TO EXISTING BRIDGE SEAT ELEVATION AND REMOVE EXISTING BACKWALLS AND WINGWALLS .
4. JACK EXISTING SUPERSTRUCTURE, INSTALL TEMPORARY SUPPORTS AND REMOVE END CROSSFRAMES.
5. REBUILD ABUTMENT SEATS AND WINGWALLS. PERFORM PIER MODIFICATIONS.
6. INSTALL NEW ELASTOMERIC BEARINGS. REMOVE TEMPORARY SUPPORTS AND LOWER SUPERSTRUCTURE INTO POSITION.
7. INSTALL SHEAR CONNECTORS TO TOP FLANGES OF EXISTING BEAMS.
8. PLACE REINFORCED CONCRETE END DIAPHRAGMS FOR SEMI-INTEGRAL ABUTMENTS. PLACE NEW REINFORCED CONCRETE DECK, SIDEWALK AND PARAPET.
9. INSTALL TEMPORARY SHEETING BEHIND ABUTMENTS. REPLACE POROUS BACKFILL AND INSTALL SEMI-INTEGRAL EXPANSION JOINT SEAL.
10. REMOVE TEMPORARY SHEETING FROM PHASE 1. INSTALL PRESSURE RELIEF JOINTS, APPROACH SLABS AND TEMPORARY SHEETING FOR PHASE 2 CONSTRUCTION.

PHASE 2 CONSTRUCTION:

1. UNLESS OTHERWISE INDICATED, WORK IS TO BE PERFORMED BY ODOT'S CONTRACTOR.

1.A. SBC WILL REMOVE CONCRETE FROM ABOVE AND AROUND EXISTING TELEPHONE DUCTS. AND PROVIDE TEMPORARY SUPPORT FOR THE DUCTS.
1.B. THE ODOT CONTRACTOR WILL REMOVE THE REMAINDER OF THE DECK BELOW THE DUCTS AND BETWEEN BEAMS B AND C.
1.C. REMOVE CROSSFRAME DIAGONALS BETWEEN BEAMS B AND C. INSTALL NEW TELEPHONE DUCT SUPPORTS.

2. EXCAVATE BEHIND THE ABUTMENTS TO THE EXISTING BRIDGE SEAT ELEVATION AND REMOVE THE EXISTING BACKWALLS AND WINGWALLS.

3.A. SBC WILL RELOCATE IT'S TELEPHONE DUCTS TO THE SUPPORT MEMBERS.
3.B. INSTALL NEW INTERMEDIATE CROSSFRAMES BETWEEN BEAMS B AND C. REMOVE THE REMAINDER OF THE DECK, SCUPPERS, SIDEWALK AND LAMP POSTS.

4. JACK EXISTING SUPERSTRUCTURE, INSTALL TEMPORARY SUPPORTS AND REMOVE END CROSSFRAMES.
5. REBUILD ABUTMENT SEATS AND WINGWALLS. PERFORM PIER MODIFICATIONS.
6. INSTALL NEW ELASTOMERIC BEARINGS. REMOVE TEMPORARY SUPPORTS AND LOWER SUPERSTRUCTURE INTO POSITION.
7. INSTALL SHEAR CONNECTORS TO TOP FLANGES OF EXISTING BEAMS.
8. PLACE REINFORCED CONCRETE END DIAPHRAGMS FOR SEMI-INTEGRAL ABUTMENTS. PLACE NEW REINFORCED CONCRETE DECK, SIDEWALK AND PARAPET.
9. INSTALL NEW INTERMEDIATE CROSSFRAMES BETWEEN BEAMS F AND G. PLACE CLOSURE POUR AT ABUTMENT DIAPHRAGMS AND BRIDGE DECK AND SEAL LONGITUDINAL DECK JOINTS.
10. INSTALL TEMPORARY SHEETING BEHIND ABUTMENTS. REPLACE POROUS BACKFILL AND INSTALL SEMI-INTEGRAL EXPANSION JOINT SEAL.
11. REMOVE TEMPORARY SHEETING. INSTALL PRESSURE RELIEF JOINTS AND APPROACH SLABS.
12. COMPLETELY REMOVE SCUPPER AND SIGN SUPPORTS AND GRIND BEAMS SMOOTH. PAINT EXISTING AND NEW STEEL.
13. PATCH SUBSTRUCTURE CONCRETE.
14. SEAL CONCRETE SURFACES AND INSTALL VANDAL PROTECTION FENCE.

DESIGNED	DRAWN	REVIEWED	DATE
GFH	GFH	JRS	6-1-06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
YAZ		5001986	

DESIGN AGENCY: R.E. WARNER & ASSOCIATES, INC. LA OFFICE PLAZA II, SUITE 200, 25777 DETROIT ROAD, WESTLAKE, OHIO 44145, TELEPHONE (440) 835-9400. JOB NUMBER 34404

GENERAL PLAN

BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

MAH-680-6.03
PID 19916

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GENERAL NOTES - STRUCTURES

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-81	REVISED 07-19-02	TC 41.20	REVISED 01-19-01
BR-2-98	REVISED 07-19-02	VFP-1-90	REVISED 07-19-02
GSD-1-96	REVISED 07-19-02		

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17th EDITION AND TO THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING

HS25, CASE II AND THE ALTERNATE MILITARY LOADING

FUTURE WEARING SURFACE (FWS) OF 60 PSF.

DESIGN DATA:

CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI
SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615

EXISTING STRUCTURAL STEEL - ASTM A7 GRADE 33 - YIELD STRENGTH 33,000 PSI

NEW STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50,000 PSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER

MONOLITHIC WEARING SURFACE:

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

PROPOSED WORK

THE WORK TO BE PERFORMED UNDER THIS CONTRACT IS AS SHOWN ON THE CONSTRUCTION PLANS AND IN GENERAL, INCLUDES THE FOLLOWING:

1. PHASE REMOVAL OF EXISTING CONCRETE DECKS, APPROACH SLABS AND PORTIONS OF THE ABUTMENTS AND PIER.
2. JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE.
3. MODIFY EXISTING SUBSTRUCTURE UNITS AND REPLACE EXISTING BEARINGS.
4. PHASE CONSTRUCTION OF NEW CONCRETE DECK, SIDEWALK AND PARAPETS.
5. CLEAN AND PAINT STRUCTURAL STEEL.
6. SEAL CONCRETE SURFACES.

A MORE DETAILED SUMMARY OF WORK ITEMS AND SUGGESTED CONSTRUCTION SEQUENCE IS SHOWN ON SHEET 2 OF 19. THE SEQUENCE OF CONSTRUCTION MAY BE MODIFIED AND WORK ITEMS NOT LISTED MAY BE PERFORMED ACCORDING TO THE CONTRACTOR'S TIMING IN ACCORDANCE WITH CONTRACT PROVISIONS AT NO EXTRA COST TO THE OWNER.

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

UTILITY LINES:

THE UTILITIES SHALL BEAR ALL EXPENSE INVOLVED IN TEMPORARY SUPPORT AND RELOCATION (INSTALLATION) OF THE AFFECTED UTILITY LINES INCLUDING PORTIONS OF STRUCTURE REMOVED, TEMPORARY AND PERMANENT SUPPORTS AND CROSSFRAME MODIFICATIONS REQUIRED FOR THE RELOCATION. THE CONTRACTOR AND UTILITIES ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM. FIBER OPTIC DUCTS (SBC) ARE TO REMAIN IN SERVICE DURING ALL PHASES OF CONSTRUCTION. CARE SHALL BE TAKEN DURING THE REMOVAL OF THE SIDEWALK CONCRETE TO AVOID DAMAGING THE DUCTS EMBEDED IN THE SIDEWALK. PORTIONS OF CONCRETE REMOVALS SHALL BE AT THE UTILITY'S EXPENSE. CROSSFRAME AND DIAPHRAGM REMOVALS REQUIRED FOR THE RELOCATION OF THE FIBER OPTIC DUCTS SHALL BE PAID FOR BY THE UTILITY COMPANY.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN A:

DESCRIPTION:
THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS INCLUDING SIDEWALKS, PARAPETS, RAILINGS, DECK JOINTS, DOWNSPOUTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, GIRDERS, CROSS FRAMES, ETC.). THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

PROTECTION OF STEEL SUPPORT SYSTEMS:
BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF THE DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS:
THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (PRESTRESSED BOX BEAM, I-BEAM, STEEL BEAM, STEEL GIRDER, ETC.), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVE BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (e.g., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.), TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRINGERS DAMAGED BY REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIRPLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR WORK.

EXISTING WELDED ATTACHMENTS:
REMOVE EXISTING WELDED ATTACHMENTS (e.g., FINISHING MACHINE AND FORM SUPPORTS; AND THE SUPPORT FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

CUT LINE CONSTRUCTION JOINT PREPARATION:
SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL:
REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

MEASUREMENT AND PAYMENT:
THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN A.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN B:

THE SBC CONTRACTOR AND THE ODOT CONTRACTOR SHALL COORDINATE THEIR WORK TO AVOID ANY DELAYS TO THE PROJECT SCHEDULE. ALL THE PROVISIONS OF ITEM 202 AND THE NOTES ABOVE SHALL APPLY TO THE SBC CONTRACTOR. IN GENERAL, THE SBC CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF THAT PORTION OF THE SIDEWALK ENCASING THE SBC DUCTS AND FOR THE SAFE RELOCATION OF THE DUCTS. REFER TO THE SBC DUCT BANK GENERAL NOTES AND SBC DUCT BANK PLANS FOR A MORE DETAILED DESCRIPTION OF THE WORK REQUIRED. ALL SBC UTILITIES ARE TO REMAIN IN SERVICE DURING DEMOLITION AND CONSTRUCTION OPERATIONS.

MAINTENANCE OF TRAFFIC:

VEHICULAR AND PEDESTRIAN TRAFFIC WILL BE MAINTAINED AT ALL TIMES IN BOTH DIRECTIONS ON MARKET STREET DURING PHASE CONSTRUCTION. TEMPORARY LANE CLOSURES ON THE MAINLINE AND RAMP BELOW WILL BE REQUIRED DURING SOME PHASES OF CONSTRUCTION.

CONSTRUCTION CLEARANCE:

A TEMPORARY MINIMUM VERTICAL CLEARANCE OF 14'-0" SHALL BE MAINTAINED DURING ALL PHASES OF DEMOLITION AND CONSTRUCTION.

ITEM 503 - COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN:

ITEM 504 - STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN:

INCLUDED IN THE PLANS IS A FEASIBLE DESIGN AND CONSTRUCTION PROCEDURE FOR TEMPORARY SHORING. AT THE CONTRACTOR'S OPTION, AN ALTERNATE DESIGN MAY BE SUBMITTED IN ACCORDANCE WITH CMS 501.05. A CANTILEVER SHEET PILE WALL SHOULD GENERALLY BE USED FOR EXCAVATIONS UP TO APPROXIMATELY 12 FEET IN HEIGHT. FOR CUTS GREATER THAN 12 FEET IN HEIGHT, ANCHORED OR BRACED WALLS WILL GENERALLY BE REQUIRED. THE HIGHWAY DESIGN LIVE LOADING SHOULD BE EQUAL TO TWO FEET OF EQUIVALENT SOIL HEIGHT AS A SURCHARGE. IN ADDITION TO THE REQUIREMENTS OF ITEM 503 AND ITEM 504, IT IS NECESSARY TO SUBMIT DESIGN COMPUTATIONS ALONG WITH THE FOLLOWING ITEMS ON THE DETAIL PLANS:

1) MINIMUM SECTION MODULUS OF SHEET PILING
2) TOP AND MINIMUM BOTTOM ELEVATION OF SHORING
3) LIMITS OF SHORING
4) SEQUENCE OF INSTALLATION AND/OR OPERATIONS
5) IF BRACING OR TIEBACKS ARE REQUIRED, ALL DETAILS, CONNECTIONS AND MEMBER SIZES SHALL BE DETAILED.

PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 503, COFFERDAMS , CRIBS AND SHEETING , AS PER PLAN AND ITEM 504, STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN.

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN:

IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR FIELD CUT THE REINFORCING STEEL DESIGNATED IN THE PLANS, AS NECESSARY IN ORDER TO MAINTAIN THE REQUIRED CLEARANCES AND BAR SPACINGS. REPAIR ALL DAMACE TO THE EPOXY COATING , AS A RESULT OF THIS WORK, ACCORDING TO 709.00.

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN:

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSEABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSEABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 510 - DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN:

DRILL DOWEL HOLES AT THE LOCATIONS AND TO THE DEPTH SHOWN IN THE PLANS. INSTALL REINFORCING STEEL ACCORDING TO ITEM 510 USING EPOXY GROUT, 705.20. PRIOR TO DRILLING DOWEL HOLES, LOCATE ALL EXISTING REINFORCING STEEL BARS IN THE AREA OF THE HOLE WITH THE AID OF A REINFORCING STEEL BAR LOCATOR (PACHOMETER). IF AN EXISTING BAR IS ENCOUNTERED AT THE SAME LOCATION AS A PROPOSED DOWEL HOLE, MOVE THE DOWEL HOLE TO EITHER SIDE OF THE EXISTING BAR. PAYMENT FOR DRILLING HOLES AND FURNISHING AND PLACING GROUT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 510, DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN.

DESIGN AGENCY: R.E. WARNER & ASSOCIATES, INC. JOB NUMBER 34404

DESIGNED	DRAWN	REVIEWED	DATE
GFH	GFH	JRS	6-1-06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
YAZ		5001896	

GENERAL NOTES - STRUCTURES
BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

MAH-680-6.03
PID 19916

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GENERAL NOTES - STRUCTURES

ITEM 511 - CLASS HP CONCRETE, AS PER PLAN

THE PROVISIONS OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW.

MIX OPTIONS:
MIX 4, AS PER PLAN, SHALL BE THE ONLY MIX OPTION FOR THESE ITEMS. THE FOLLOWING PROPORTIONS WILL BE USED AS A STARTING MIX DESIGN.

CONCRETE TABLE
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)
MIX 4, AS PER PLAN (GGBF SLAG + MICROSILICA)

AGG TYPE	FINE AGG (LB)	#8 COARSE AGG(LB) *	#57 COARSE AGG(LB) *	TOTAL (LB)	CEMENT CONTENT (LB)	GGBF SLAG (LB)	MICRO SILICA (LB)	MAX WATER TO CEMENTITIOUS RATIO	AIR CONTENT +/- 2%
GRAVEL	1370	650	790	2810	440	190	30	0.42	6
LIMESTONE	1370	665	800	2820	440	190	30	0.42	6
SLAG	1370	570	695	2635	440	190	30	0.42	6

* ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127

THE WEIGHTS SPECIFIED IN THE CONCRETE TABLE WERE CALCULATED FOR MATERIALS OF THE FOLLOWING BULK SPECIFIC GRAVITIES (SSD): NATURAL SAND AND GRAVEL 2.62, LIMESTONE SAND 2.68, LIMESTONE 2.65, SLAG 2.30, FLY ASH 2.65, GGBF SLAG 2.90, MICROSILICA SOLIDS 2.20, AND PORTLAND CEMENT 3.15. FOR AGGREGATES OF SPECIFIC GRAVITIES DIFFERING MORE THAN PLUS OR MINUS 0.02 FROM THESE, THE WEIGHTS IN THE TABLE WILL BE CORRECTED.

BASIS OF PAYMENT:
PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:
ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN, CU YD
ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN, CU YD
ITEM 511 - CLASS HP CONCRETE, SIDEWALK, AS PER PLAN, CU YD

INSPECTION OF EXISTING STRUCTURAL STEEL:

THE ENGINEER WILL VISUALLY INSPECT ALL EXISTING BUTT-WELDED SPLICES AND*OR TOP FLANGE COVER PLATE FILLET WELDS TO ENSURE THE WELDS, PLATES AND BEAMS OR GIRDERS ARE FREE OF DEFECTS AND CRACKS. IF NECESSARY, REMOVE ALL DECK SLAB HAUNCH FORMS IMMEDIATELY ADJACENT TO SUCH WELDS THAT MAY INTERFERE WITH THE ENGINEER'S INSPECTION. THE INSPECTION WILL NOT TAKE PLACE UNTIL THE TOP FLANGES ARE CLEANED ACCORDING TO 511.10, BUT IT WILL BE DONE BEFORE THE DECK SLAB REINFORCEMENT IS INSTALLED. THE DEPARTMENT WILL PAY FOR THE COST ASSOCIATED WITH THIS INSPECTION WITH ITEM 511, SUPERSTRUCTURE CONCRETE. THE ENGINEER WILL REPORT ALL CRACKS FOUND TO THE OFFICE OF CONSTRUCTION ADMINISTRATION, BRIDGE CONSTRUCTION SPECIALIST, ALONG WITH SPECIFIC INFORMATION ON THE LOCATION OF THE CRACKS, LENGTH AND DEPTH SO AN EVALUATION AND REPAIR OR REPLACEMENT RECOMMENDATION CAN BE MADE.

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN A:
ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN B:

ALL REQUIREMENTS OF 513 APPLY TO SHOP FABRICATED MEMBERS. PERFORM WORK FOR FIELD FABRICATED MEMBERS ACCORDING TO ITEM 513, EXCEPT AS MODIFIED HEREIN. THE DEPARTMENT WILL NOT REQUIRE THE CONTRACTOR PERFORMING FIELD FABRICATION TO BE PRE-QUALIFIED AS SPECIFIED IN SUPPLEMENT 1078. SUBMIT A WRITTEN LETTER OF MATERIAL ACCEPTANCE, 501.06, TO THE ENGINEER. PROVIDE SHOP DRAWINGS ACCORDING TO 513.04 OR SUPPLY THE ENGINEER WITH "AS BUILT" DRAWINGS MEETING 513.04 AFTER COMPLETION OF FIELD FABRICATION. THE ENGINEER WILL REVIEW THE SUBMITTED DRAWINGS FOR CONCURRENCE WITH THE FINAL AS BUILT CONDITION. IF NECESSARY, THE ENGINEER MAY CONTACT THE OFFICE OF STRUCTURAL ENGINEERING FOR TECHNICAL ASSISTANCE. IF THE ENGINEER IS SATISFIED WITH THE "AS BUILT" DRAWINGS AND THE DELIVERED MATERIALS, SUPPLY A COPY OF THE DRAWINGS, STAMPED AND DATED, ALONG WITH MICROFILM, TO THE STRUCTURAL, WELDING AND METALS SECTION OF THE OFFICE OF MATERIAL MANAGEMENT FOR RECORD PURPOSES.

THE FOLLOWING MEMBERS ARE INCLUDED IN THIS ITEM: INTERMEDIATE CROSSFRAMES, AND UTILITY SUPPORTS.

ITEM 516 - SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN:

INSTALL A 3 FOOT WIDE NEOPRENE SHEET AT LOCATIONS SHOWN IN THE PLANS. SECURE THE NEOPRENE SHEETING TO THE CONCRETE WITH 1 1/4" x #10 GAGE (LENGTH x SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKES THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. USE OF OTHER SIMILAR GALVANIZED DEVICES, WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE, WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 6 INCHES, +/-, FROM THE TOP OF THE NEOPRENE STRIP. FOR THE VERTICAL JOINTS, SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS STARTING AT 6 INCHES, +/-, FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF THE ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS AT 6 INCHES, CENTER TO CENTER, ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

THE VERTICAL NEOPRENE STRIPS SHALL COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAP LENGTHS OF THE HORIZONTAL STRIPS THAT ARE NOT VULCANIZED OR ADHESIVE BONDED SHALL BE AT LEAST 1 FOOT IN LENGTH OR 6 INCHES IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 3/32" THICK GENERAL PURPOSE, HEAVY DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003, BY E. I. DUPONT DE NEMOURS AND COMPANY, INC. "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, INCHES	D751	0.094 +/- 0.01
BREAKING STRENGTH, GRAB, LBS MINIMUM (LONG x TRANS.)	D751	700 x 700
ADHESIVE STRIP, 1" WIDE x 2" LONG LBS MINIMUM	D751	9
BURST STRENGTH, PSI MINIMUM	D751	1400
HEAT AGING, 70 HR, 212 °F, 180° BEND WITHOUT CRACKING	D2136	NO CRACKING OF COATING
LOW TEMP. BRITTLENESS, 1 HR, -40 °F BEND AROUND 1/4" MANDREL	D2136	NO CRACKING OF COATING

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE TOTAL LENGTH OF JOINT TO BE SEALED BY THE NUMBER OF FEET.

BASIS OF PAYMENT: THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN.

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN:

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING THE EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS.

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH CMS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON THE BEARINGS.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

ITEM 518 - POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN:

THE REPLACEMENT OF THE POROUS BACKFILL SHALL EXTEND FROM THE PLANE OF THE SUBGRADE TO THE DEPTH OF THE EXISTING/PROPOSED WEEP HOLES. THE WEEP HOLE LOCATIONS SHOWN IN THE PLANS ARE BASED ON ORIGINAL DESIGN DRAWINGS. WEEP HOLES ARE ASSUMED TO HAVE BEEN INSTALLED IN THE ORIGINAL SUBSTRUCTURES BEFORE THE CURRENT 4" FACING WAS APPLIED TO THE FACE OF THE ABUTMENTS. THESE WEEP HOLES ARE TO BE CLEANED, OPENED AND MADE FUNCTIONAL BY DRILLING FROM THE BACK SIDE OF THE ABUTMENTS. IF, AFTER EXCAVATING THE EXISTING POROUS BACKFILL, IT IS FOUND THAT THERE ARE NO EXISTING WEEP HOLES, THE CONTRACTOR SHALL DRILL NEW 4" ϕ WEEP HOLES FROM THE BACK OF THE ABUTMENT LOCATING THEM AT THE APPROXIMATE SPACING AND ELEVATION SHOWN ON THE PLANS WITH THE AID OF A REINFORCING STEEL BAR LOCATOR (PACHOMETER), TAKING CARE TO PROVIDE A MINIMUM CLEARANCE OF 2" BETWEEN THE WEEP HOLE AND THE MAIN VERTICAL REINFORCING ON THE BACK OF THE ABUTMENT. ANY SPALLS ON THE FRONT OF THE ABUTMENT CAUSED BY THE DRILLING PROCESS ARE TO BE PATCHED UNDER ITEM 519, PATCHING CONCRETE STRUCTURES, AS PER PLAN. PAYMENT FOR THE WEEP HOLES IS INCLUDED WITH ITEM 518, POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN.

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN:

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT OR VACUUM ABRASIVE BLASTING.

THE ESTIMATED QUANTITY FOR ITEM 519 IS A CONTINGENCY QUANTITY TO BE USED AS DIRECTED BY THE ENGINEER.

ITEM 526 - REINFORCED CONCRETE APPROACH SLABS, AS PER PLAN

THE PROVISIONS OF CMS 526 SHALL APPLY EXCEPT AS NOTED BELOW.

CLASS HP CONCRETE, MIX 4, AS PER PLAN, SHALL BE THE ONLY MIX DESIGN OPTION. THE PROPORTIONS FOR THE STARTING MIX DESIGN SHALL BE AS SHOWN FOR ITEM 511 - CLASS HP CONCRETE, AS PER PLAN.

VERTICAL CLEARANCE

AFTER ALL CONSTRUCTION HAS BEEN COMPLETED, A REGISTERED SURVEYOR WILL TAKE VERTICAL CLEARANCE MEASUREMENTS AT LOCATIONS INDICATED ON THE APPROVED ODOT FORM (AVAILABLE IN THE DISTRICT 4 STRUCTURES AND PAVEMENT OFFICE). THE FINAL MEASUREMENTS SHALL BE RECORDED ON THE FORM AND SUBMITTED TO THE PROJECT ENGINEER AND THE DISTRICT 4 STRUCTURES AND PAVEMENT ENGINEER. THE RECORD SHALL BEAR THE SEAL OF THE LICENSED SURVEYOR WHO HAS TAKEN THE MEASUREMENTS. PAYMENT FOR THIS WORK SHALL BE INCLUDED WITH ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN, FOR PAYMENT.

STRUCTURE IDENTIFICATION SIGNS

THE SIGNS WILL BE PLACED ON EACH APPROACH OFF THE RIGHT SHOULDER, FACING TRAFFIC, AND BEHIND THE GUARDRAIL IF APPLICABLE. A QUANTITY OF ONE SIGN PER APPROACH WILL BE INSTALLED.

STRUCTURE IDENTIFICATION SIGNS SHALL BE 12" X 12" ALUMINUM AND HAVE A NON-REFLECTIVE WHITE SHEETING BACKGROUND. LETTERS SHALL BE BLACK, 3" IN HEIGHT, SERIES C STROKE WIDTH AND SILK SCREENED AS PER 730.22. THE FIRST LINE WILL BE THE THREE LETTER COUNTY DESIGNATION, THE SECOND WILL BE THE ROUTE NUMBER, AND THE THIRD LINE WILL BE STRAIGHT LINE MILEAGE. SPACING BETWEEN LINES OF TEXT SHALL BE 3/4". SIGNS SHALL BE BOLTED USING TWO 5/16" ALUMINUM BOLTS, 2 1/2" IN LENGTH, AND TWO 5/16" NUTS. TWO 3/8" DIAMETER HOLES WILL BE DRILLED, ONE 3/8" FROM THE TOP AND ONE 3/8" FROM THE BOTTOM OF THE SIGN, AT THE VERTICAL CENTERLINE OF THE SIGN.

THE SIGNS WILL BE MOUNTED ON NEW NO. 2 POSTS AND WILL BE INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-41.20, MOST CURRENT REVISION. EACH POST WILL BE 7.5' IN LENGTH.

INSTALL SIGNS FOR THE FOLLOWING STRUCTURES: MAH-680-0603 (2 APPROACHES)

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR EACH APPROACH:
ITEM 630 - SIGN, FLAT SHEET, 1 SQ. FT.
ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST, 7.5 FT.

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN:

THE FINISH COAT SHALL BE FEDERAL PAINT COLOR 15450.

CALCULATED BY: GFH DATE: 11-3-05

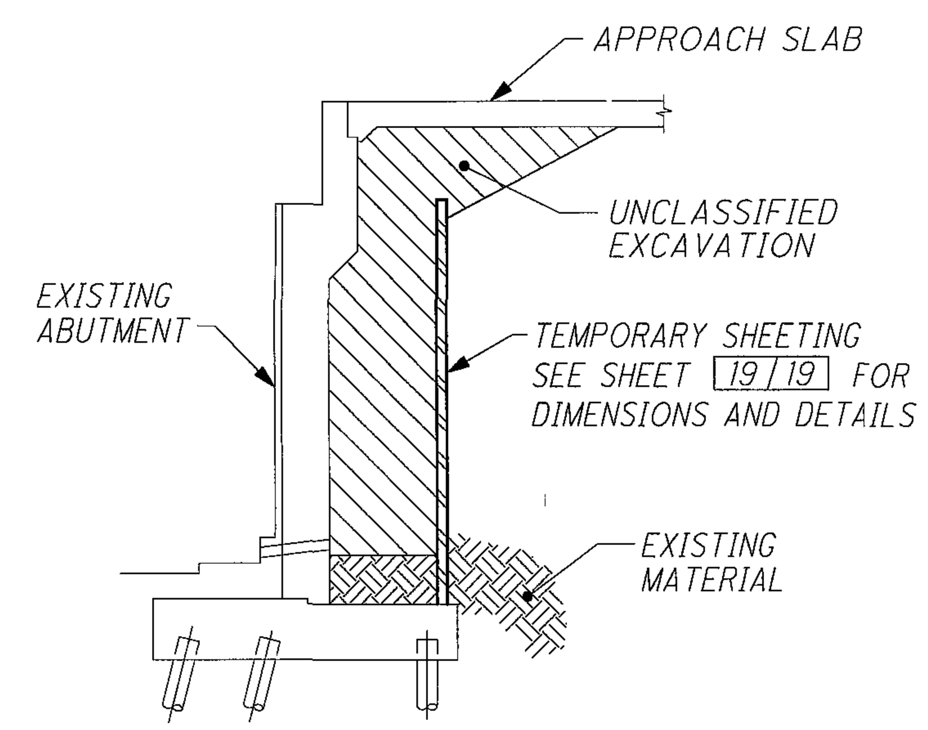
ESTIMATED QUANTITIES

CHECKED BY: YAZ DATE: 11-21-05

	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPER-STRUCTURE	GENERAL	AS PER PLAN SHEET NO.
	202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN A				LUMP	3/19 10/19 11/19 12/19
*	202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN B				LUMP	3/19 11/19
	202	22900	378	SQ. YD.	APPROACH SLAB REMOVED				378	
	503	11101	LUMP		COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN				LUMP	3/19 19/19
	503	21101	766	CU. YD.	UNCLASSIFIED EXCAVATION, AS PER PLAN				766	5/19
	504	11101	280	SQ. FT.	STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN				280	3/19 19/19
	509	10001	138,802	POUND	EPOXY COATED REINFORCING STEEL, AS PER PLAN	5,001	8,587	125,214		3/19
**	509	20001	200	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				200	3/19
	510	10001	270	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	270				3/19
	511	43200	42	CU. YD.	CLASS C CONCRETE, PIER		42			
	511	45700	33	CU. YD.	CLASS C CONCRETE, ABUTMENT	33				
	511	50001	468	CU. YD.	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN			468		4/19 15/19
	511	50101	28	CU. YD.	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN			28		4/19
	511	51501	92	CU. YD.	CLASS HP CONCRETE, SIDEWALK, AS PER PLAN			92		4/19
	511	52000	LUMP		CLASS HP CONCRETE, TEST SLAB				LUMP	
	512	10050	487	SQ. YD.	SEALING OF CONCRETE SURFACES (NON-EPOXY)			356	131	
	512	10100	1,054	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)	579	174	280	21	
	512	10300	143	SQ. YD.	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN			113	30	
	512	33000	9	SQ. YD.	TYPE 2 WATERPROOFING	4		5		
	513	10201	1,350	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN A			1,350		4/19
*	513	10201	3,750	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN B			3,750		4/19
	513	20000	4,234	EACH	WELDED STUD SHEAR CONNECTORS			4,234		
	516	13600	64	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER				64	
	516	13900	124	SQ. FT.	2" PREFORMED EXPANSION JOINT FILLER	94			30	
	516	14021	206	FT.	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN	206				4/19 9/19
	516	44200	12	EACH	3.12"x11"x11.5" ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND 1.92"x12"x13" LOAD PLATE (NEOPRENE)	12				
	516	44200	12	EACH	3.63"x11"x14" ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND 1.94"x12"x15" LOAD PLATE (NEOPRENE)	12				
	516	44300	12	EACH	4.49"x14.5"x17" ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND 2.56"x15.5"x19" LOAD PLATE (NEOPRENE)		12			
	516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LUMP	3/19 4/19
	518	21201	274	CU. YD	POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN	274				4/19
**	519	11101	200	SQ. FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN				200	4/19
	526	25001	495	SQ. YD	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN				495	17/19
	SPECIAL	60739930	297	FT.	VANDAL PROTECTION FENCE, 12' CURVED, COATED FABRIC			297		
	630	02100	15	FT.	GROUND MOUNTED SUPPORT, NO. 2 POST				15	
	630	80100	2	SQ. FT	SIGN, FLAT SHEET				2	
	514	00050	17,650	SQ. FT.	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			17,650		
	514	00056	17,650	SQ. FT.	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			17,650		
	514	00060	17,870	SQ. FT.	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			17,870		
	514	00067	17,870	SQ. FT.	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT,AS PER PLAN			17,870		4/19
	514	00504	26	MAN HOUR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			26		
*	514	00800	3,750	POUND	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			3,750		
*	514	00851	3,750	POUND	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			3,750		4/19
	514	10000	17	EACH	FINAL INSPECTION REPAIR			17		

* ITEMS TO BE PAID FOR 100% BY SBC COMMUNICATIONS

** CONTINGENCY QUANTITY TO BE USED AS DIRECTED BY THE ENGINEER



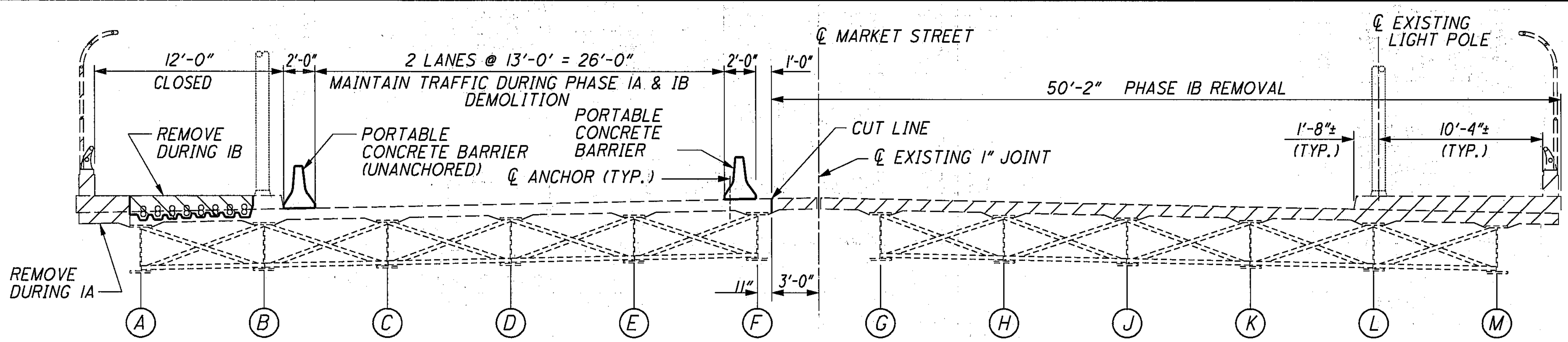
UNCLASSIFIED EXCAVATION

DESIGN AGENCY R.F. WARNER & ASSOCIATES, INC.

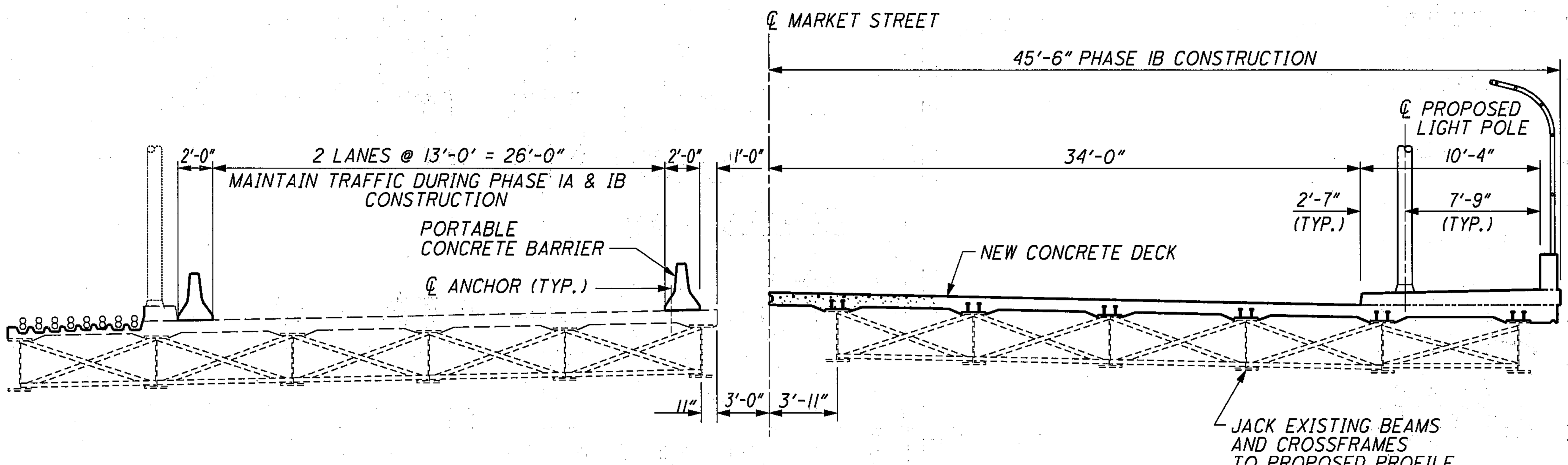
DESIGNED GFH | CHECKED YAZ | DRAWN GFH | REVISED | REVIEWED JRS | DATE 6-1-06 | STRUCTURE FILE NUMBER 5001986

ESTIMATED QUANTITIES
BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

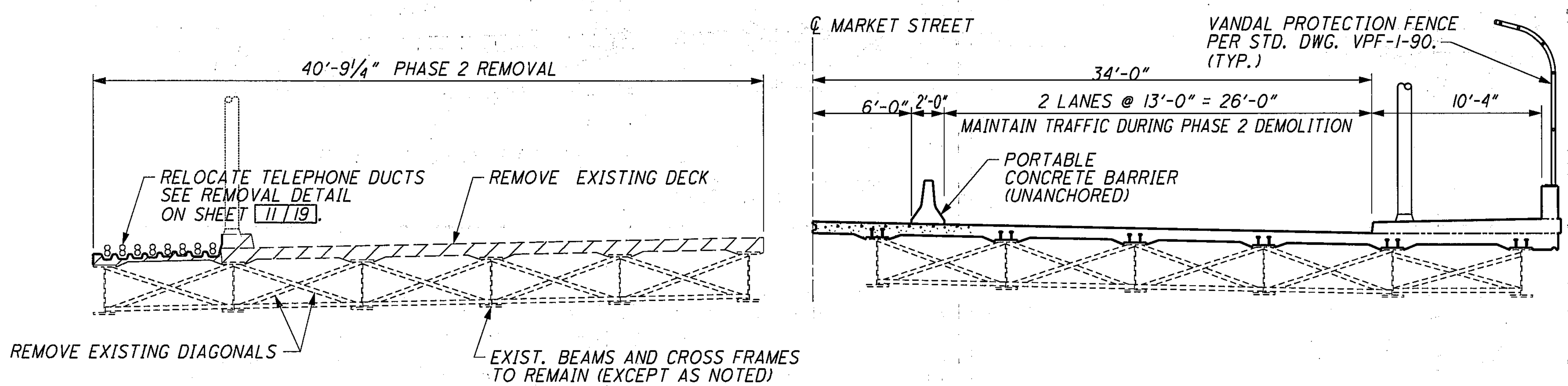
MAH-680-6.03
PID 19916



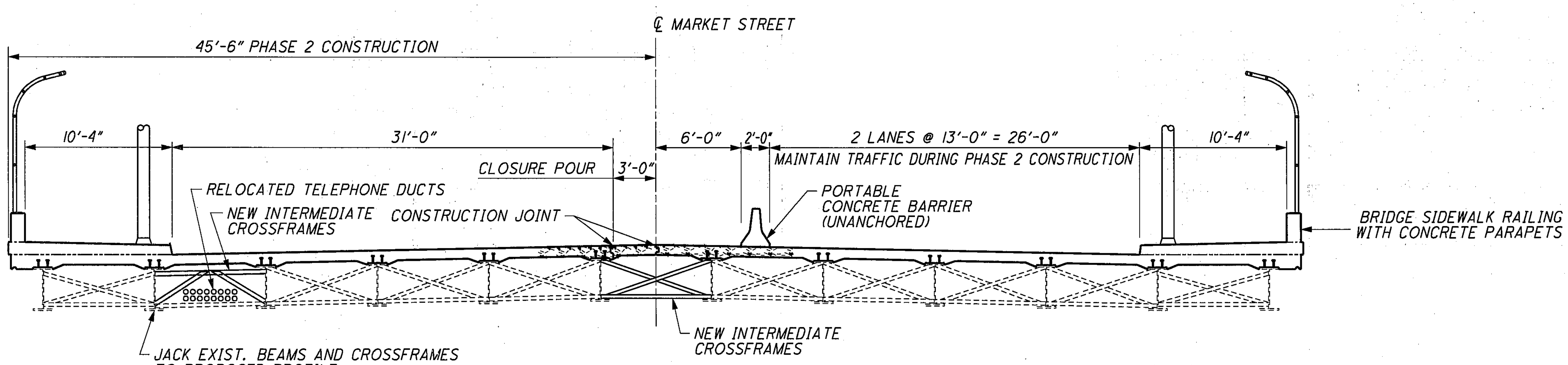
PHASE IA/IB DEMOLITION



PHASE IA/IB CONSTRUCTION



PHASE 2 DEMOLITION



PHASE 2 CONSTRUCTION

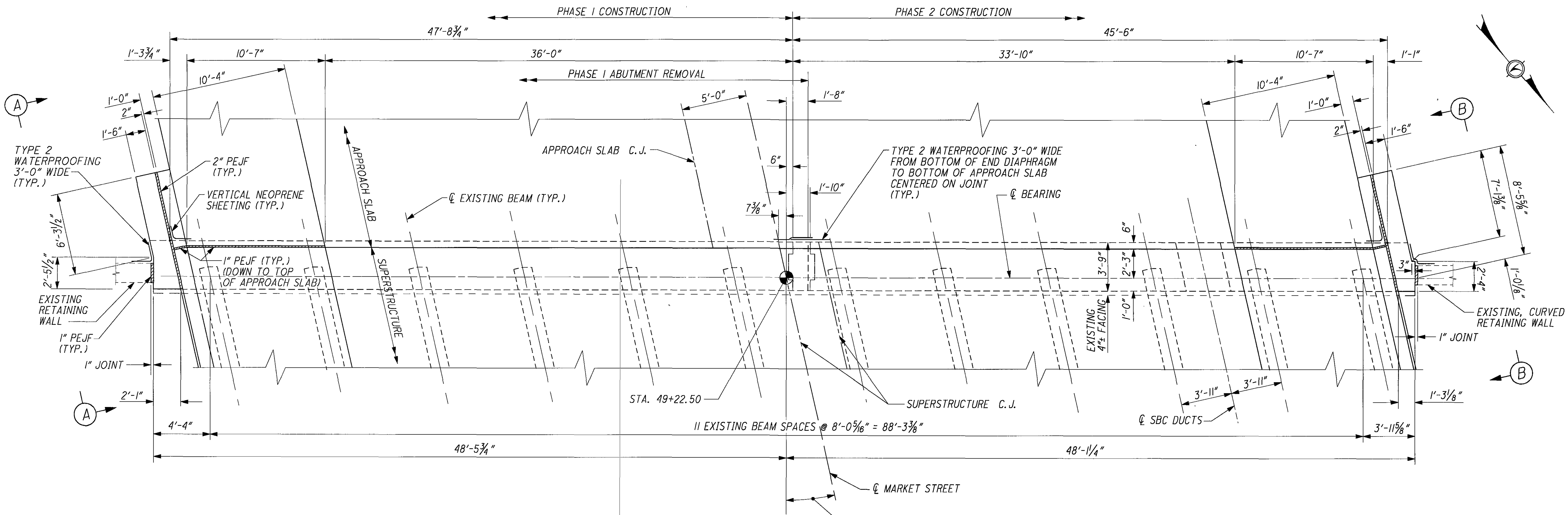
32" BRIDGE MOUNTED, PORTABLE CONCRETE BARRIER ANCHORS	
MOT PHASE	NO. OF ANCHORS / 10' BARRIER
1	2
2	0

DESIGN AGENCY
R.E. WARNER & ASSOCIATES, INC.
JOB NUMBER 34404
LA OFFICE PLAZA II SUITE 200 25777 DETROIT ROAD WESTLAKE, OHIO 44145 TELEPHONE (440) 835-9400

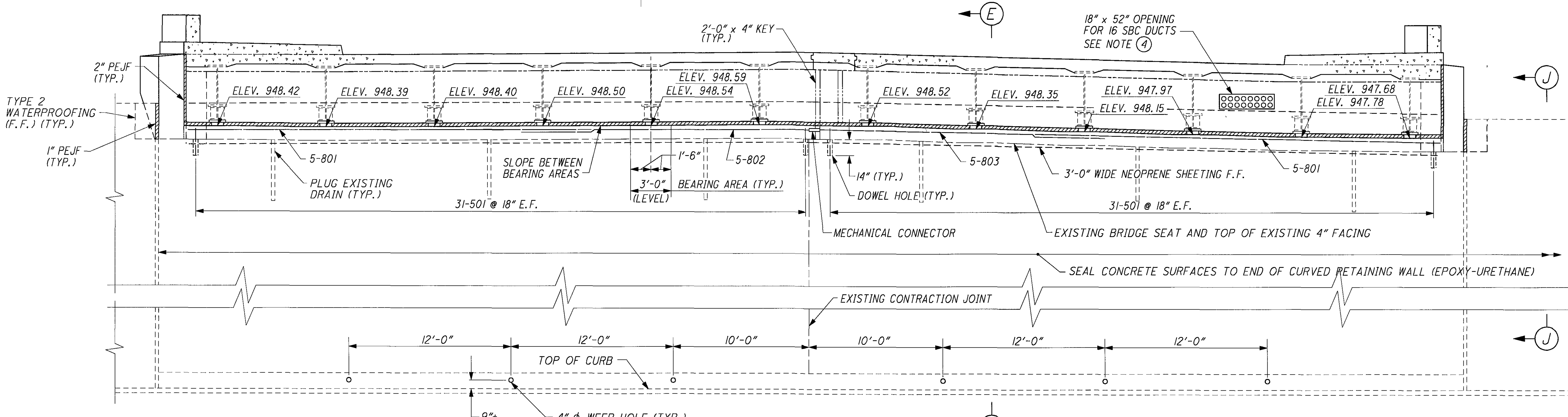
DESIGNED	DRAWN	REVIEWED	DATE
GFH	GFH	JRS	6-1-06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
YAZ		5001986	

PHASED CONSTRUCTION
BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

MAH-680-6.03
PID 19916



PLAN



ELEVATION

MINIMUM LAP LENGTH
NO. 5 BAR = 2'-0"
NO. 8 BAR = 5'-2"

NOTES:

1. FOR VIEWS A-A AND B-B AND FOR SECTIONS E-E AND J-J SEE SHEET 9/19.
2. FOR TOP OF PAVEMENT ELEVATIONS ALONG CENTERLINE OF BEARING SEE DECK SCREED ELEVATIONS ON SHEET 13/19.
3. FOR ADDITIONAL NOTES SEE SHEET 9/19.
4. FOR DUCT OPENING DETAILS SEE SHEET 14/19 AND SBC DRAWINGS.

DESIGN AGENCY
R.E. WARNER & ASSOCIATES, INC.
LA OFFICE PLAZA II
SUITE 200
25777 DETROIT ROAD
WESTLAKE, OHIO 44145
TELEPHONE (440) 835-9400
JOB NUMBER 34404

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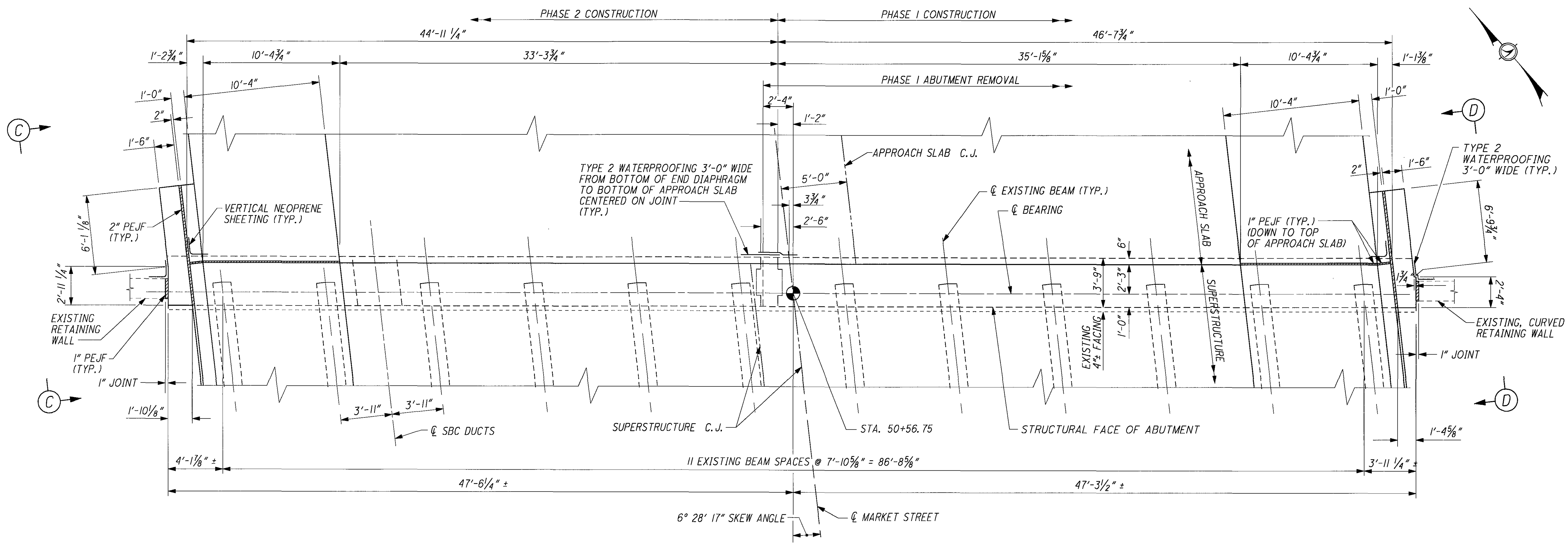
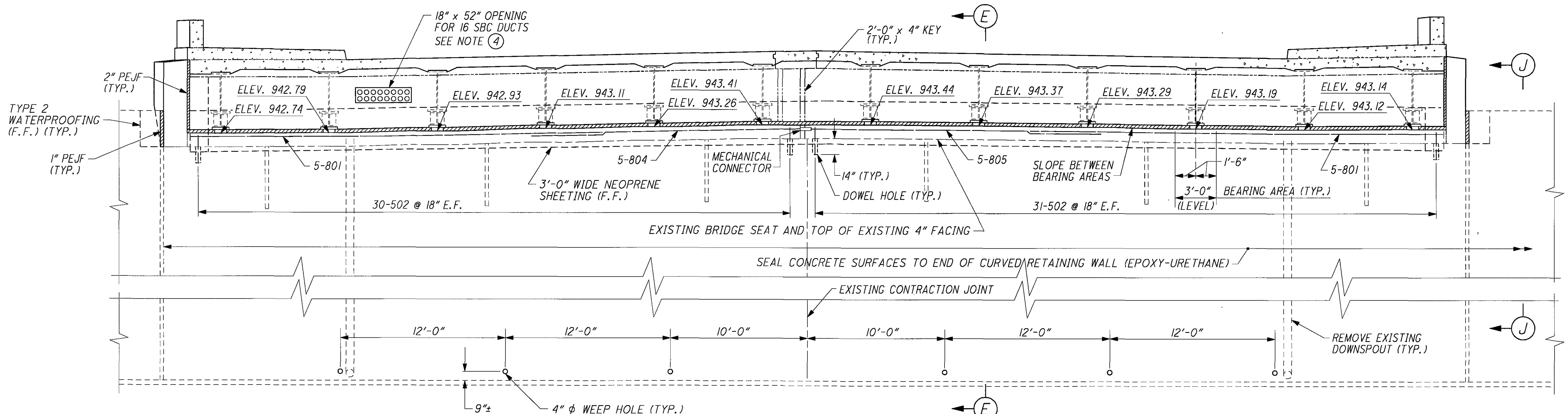
YAZ		5001986	

REAR ABUTMENT
BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

MAH-680-6.03
PID 19916



PLAN



ELEVATION

NOTES:

1. FOR VIEWS C-C AND D-D AND FOR SECTIONS E-E AND J-J SEE SHEET 9/19.
2. FOR TOP OF PAVEMENT ELEVATIONS ALONG CENTERLINE OF BEARING SEE DECK SCREED ELEVATIONS ON SHEET 13/19.
3. FOR ADDITIONAL NOTES SEE SHEET 9/19.
4. FOR DUCT OPENING DETAILS SEE SHEET 14/19 AND SBC DRAWINGS.

MINIMUM LAP LENGTH	
NO. 5 BAR =	2'-0"
NO. 8 BAR =	5'-2"

DESIGN AGENCY
R.E. WARNER & ASSOCIATES, INC.
JOB NUMBER 34404

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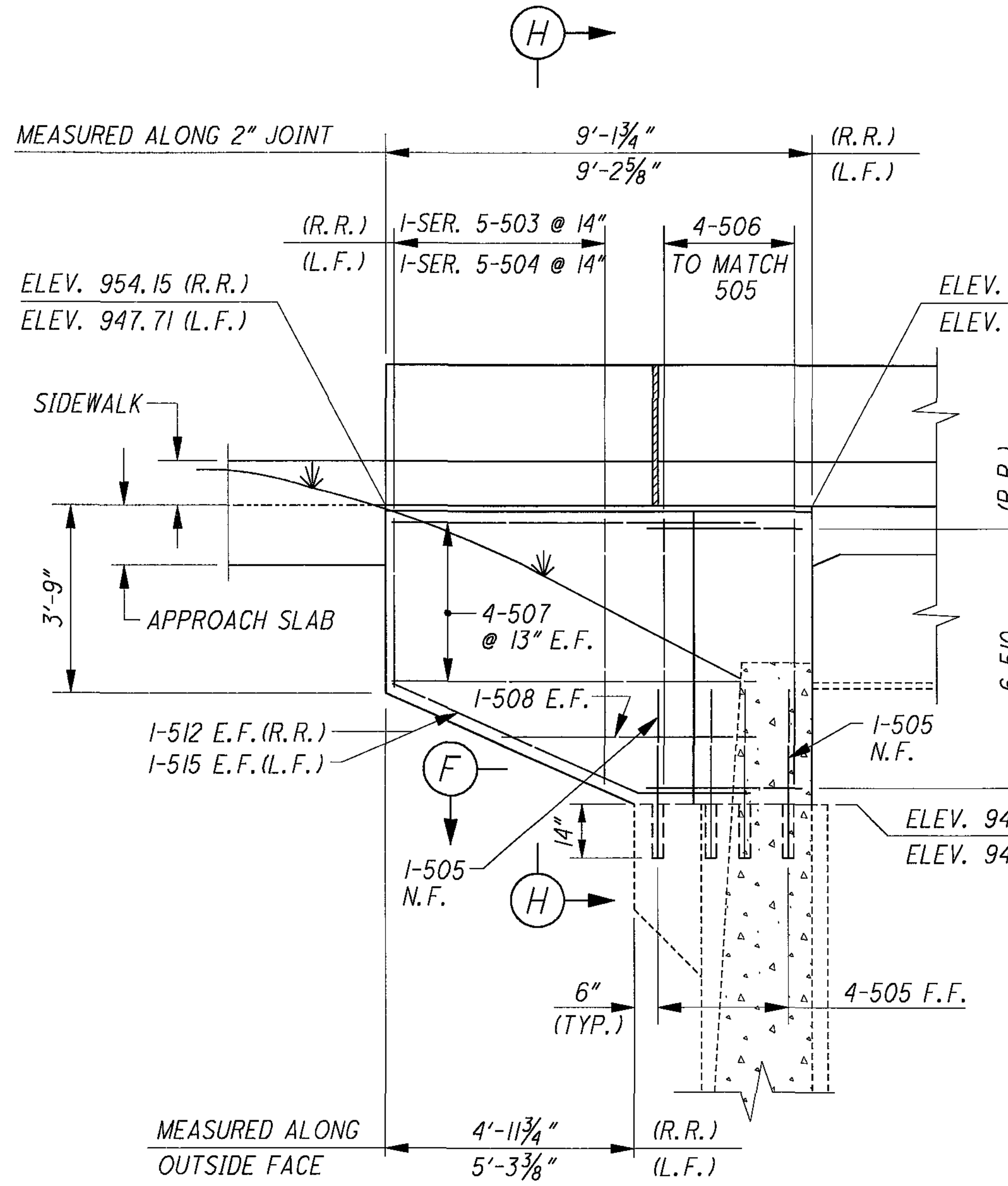
FORWARD ABUTMENT
BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

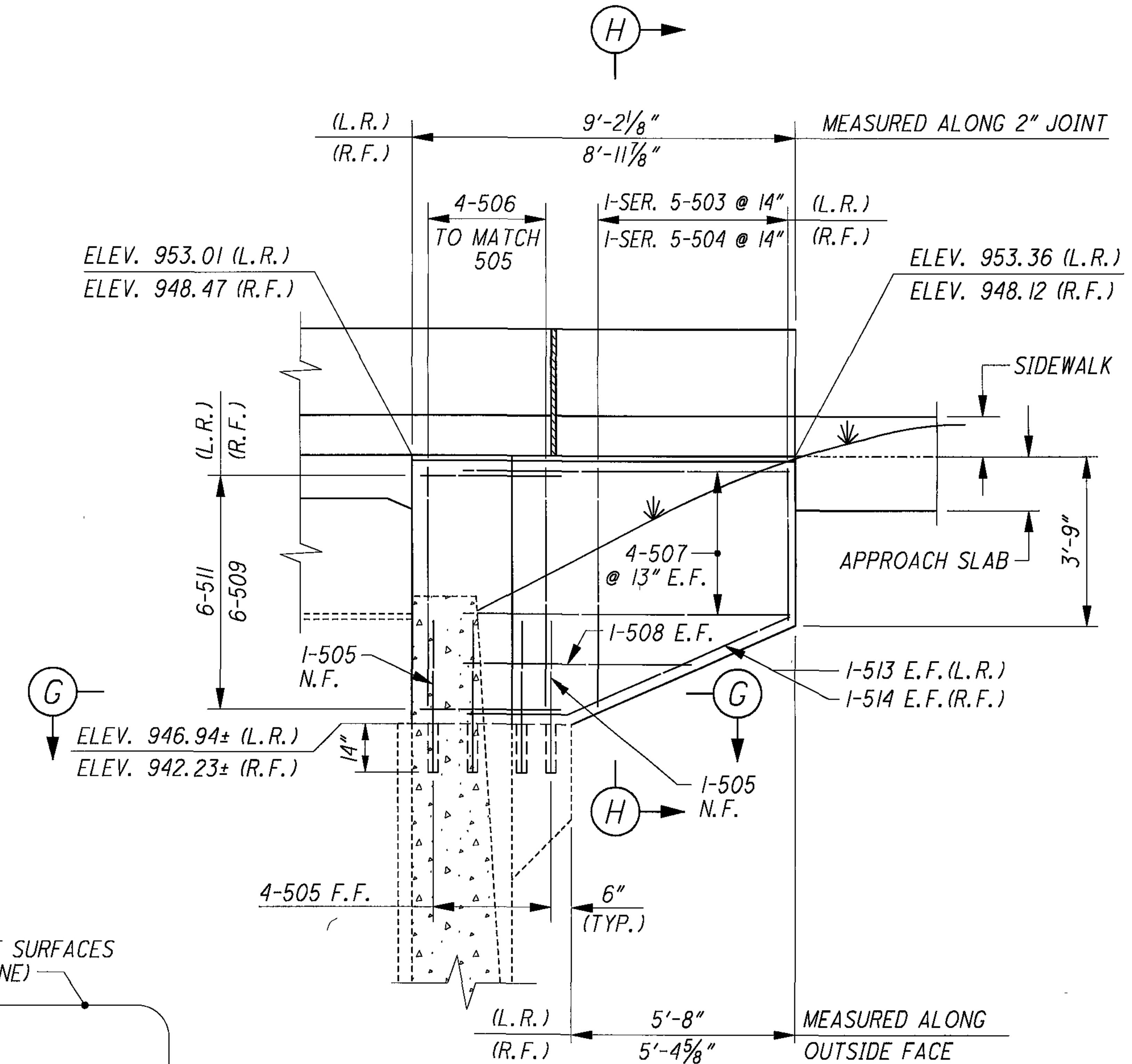
MAH-680-6.03
PID 19916

8 / 19

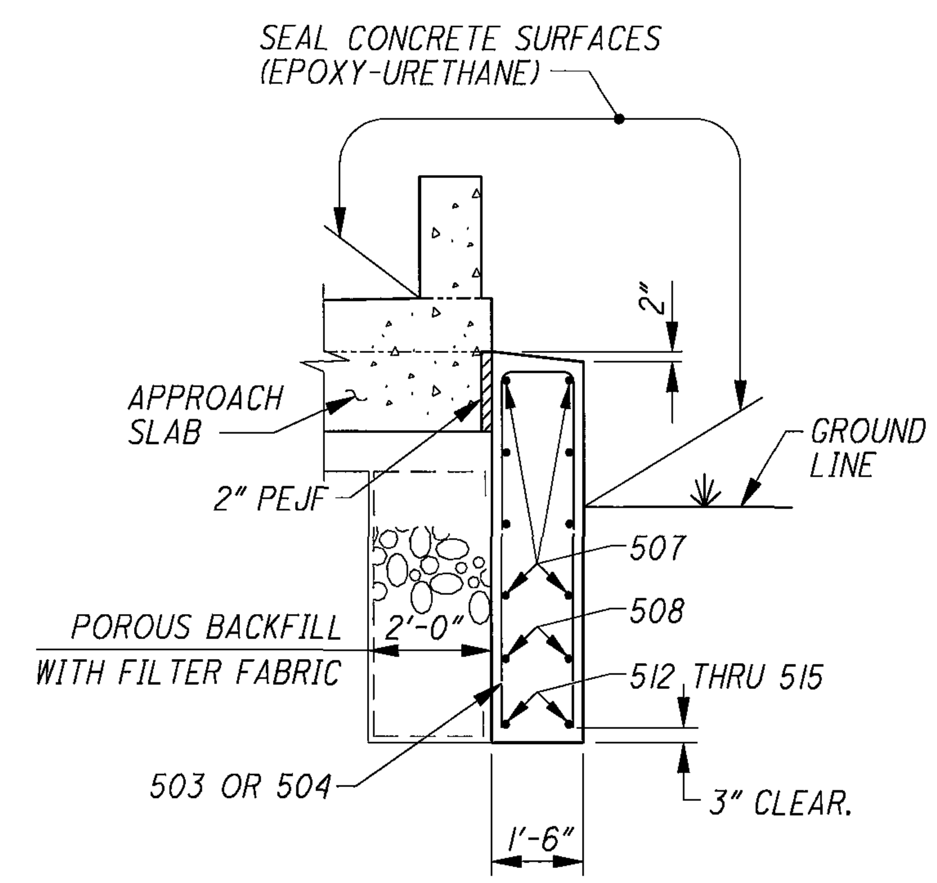
70 / 85



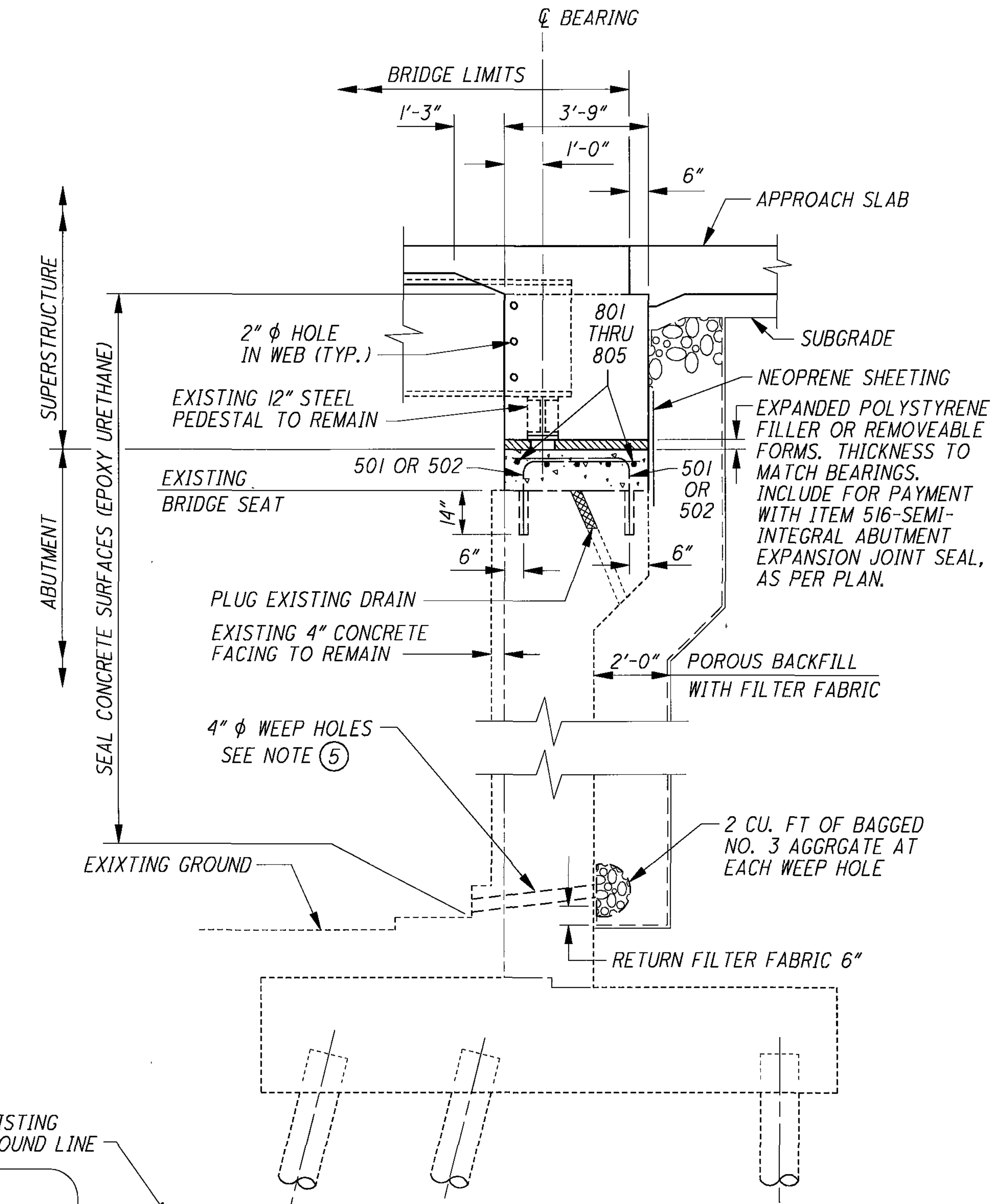
VIEW A-A -- RIGHT REAR (R.R.)
VIEW C-C -- LEFT FORWARD (L.F.)



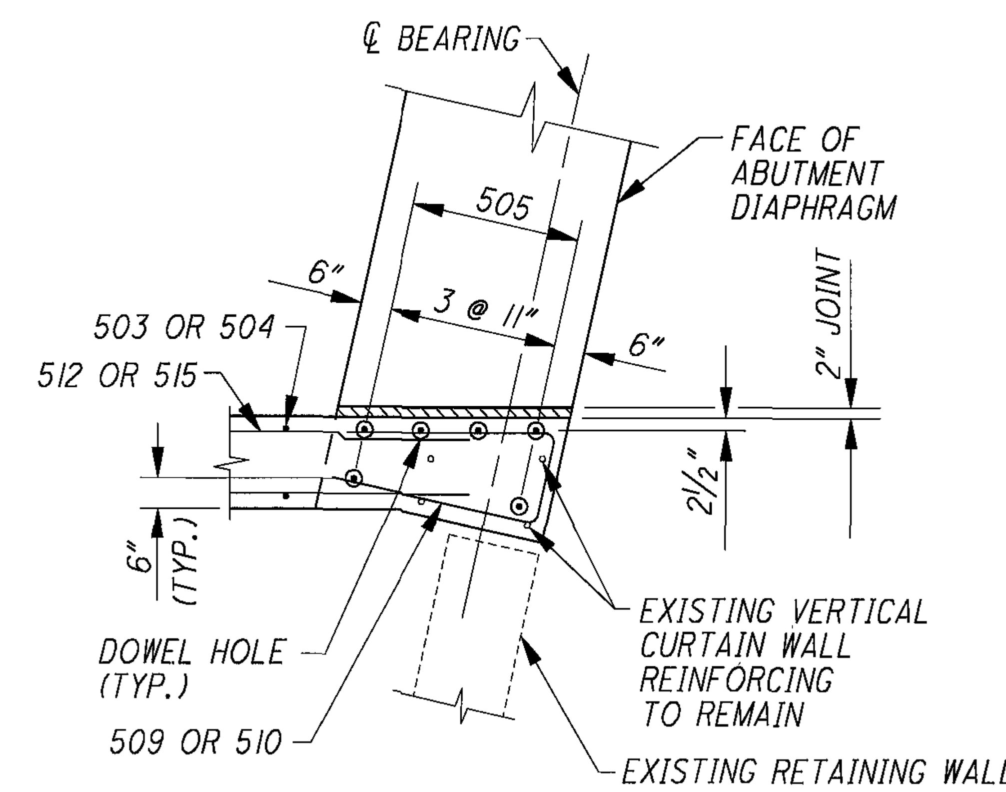
VIEW B-B -- LEFT REAR (L.R.)
VIEW D-D -- RIGHT FORWARD (R.F.)



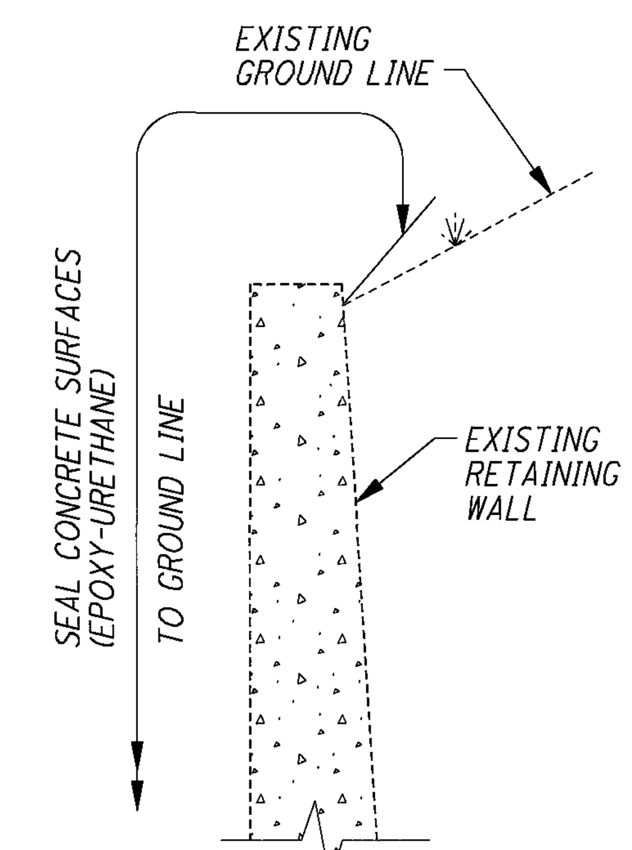
SECTION H-H



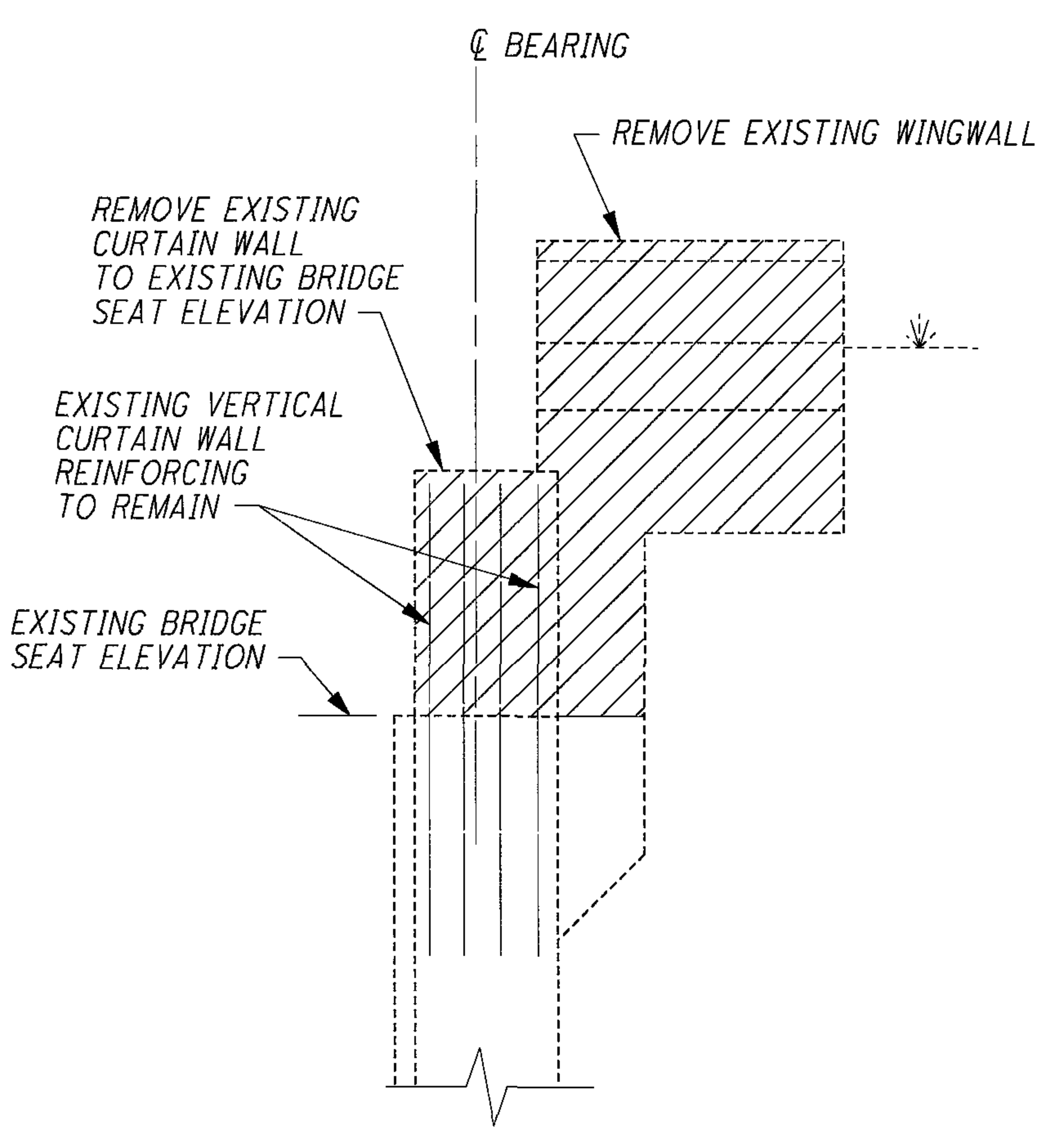
SECTION E-E



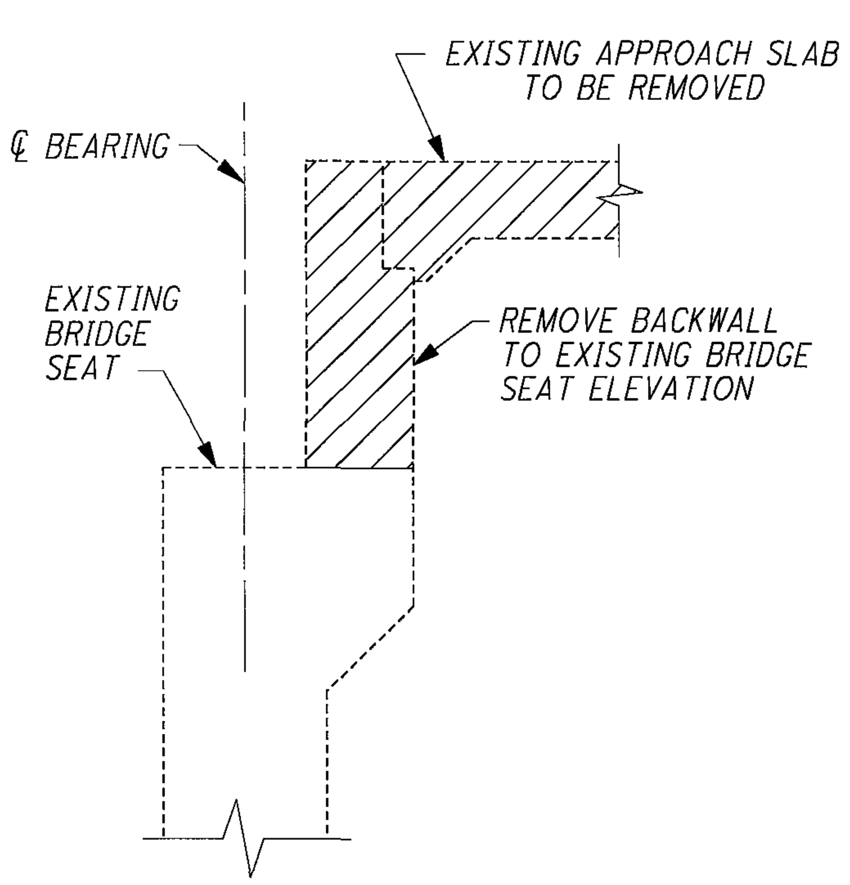
SECTION F-F (SHOWN)
SECTION G-G (SIMILAR)



SECTION J-J



WINGWALL REMOVAL



ABUTMENT BACKWALL REMOVAL

NOTES:

1. ALL REINFORCING STEEL BAR MARKS SHALL BE PREFIXED "A" (ABUTMENT). FOR REINFORCING SCHEDULE SEE SHEET 18/19.
2. CONCRETE ABOVE THE BRIDGE SEAT SHALL BE INCLUDED FOR PAYMENT WITH ITEM 511-CLASS HP CONCRETE BRIDGE DECK
3. POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE AND LATERALLY TO THE END OF THE WINGWALLS. PLACE 2 CUBIC FEET OF BAGGED No. 3 AGGREGATE AT EACH WEEP HOLE. THE DEPARTMENT WILL INCLUDE BAGGED AGGREGATE WITH POROUS BACKFILL FOR PAYMENT.
4. SCARIFY THE EXISTING BRIDGE SEAT CONCRETE ¼" DEEP PRIOR TO PLACING THE NEW BRIDGE SEAT CONCRETE.
5. PAYMENT FOR WEEP HOLE IS INCLUDED WITH ITEM 518 - POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN. SEE SHEET 4/19.
6. FOR THE LOCATION OF VIEWS A-A THRU D-D AND SECTIONS E-E AND J-J SEE SHEETS 7/19 AND 8/19.
7. THE FOLLOWING ABBREVIATIONS ARE USED:

PEJF	= PREFORMED EXPANSION JOINT FILLER		
C.J.	= CONSTRUCTION JOINT		
CLEAR.	= CLEARANCE		
ELEV.	= ELEVATION		
TYP.	= TYPICAL	R.R.	= RIGHT REAR
E.F.	= EACH FACE	L.R.	= LEFT REAR
N.F.	= NEAR FACE	R.F.	= RIGHT FORWARD
F.F.	= FAR FACE	L.F.	= LEFT FORWARD

DESIGN AGENCY
R.E. WARNER & ASSOCIATES, INC.
LA OFFICE PLAZA II, SUITE 200, 25777 DETROIT ROAD, WESTLAKE, OHIO 44145, TELEPHONE (440) 835-9400
JOB NUMBER 34404

DESIGNED	DRAWN	REVIEWED	DATE
GFH	GFH	JRS	6-1-06
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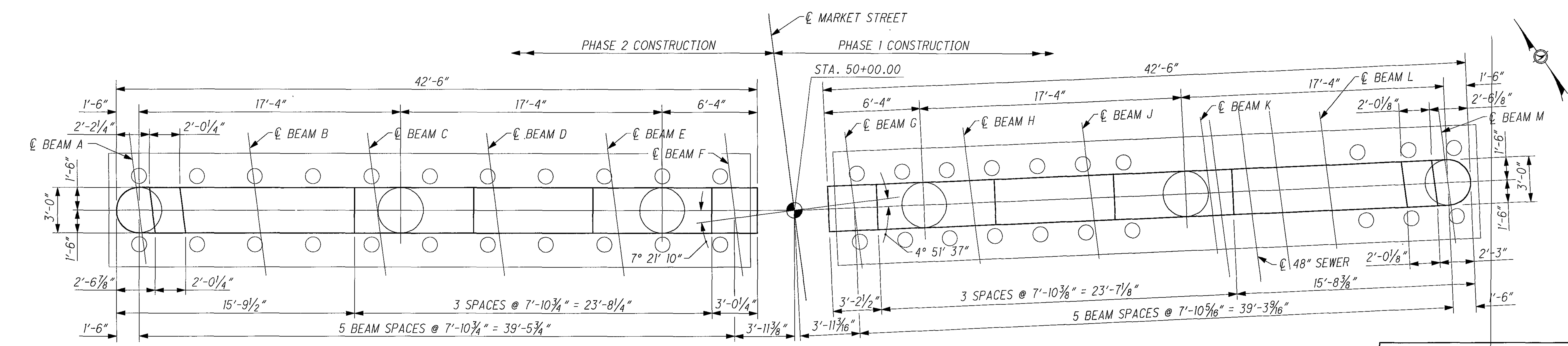
YAZ		5001986	

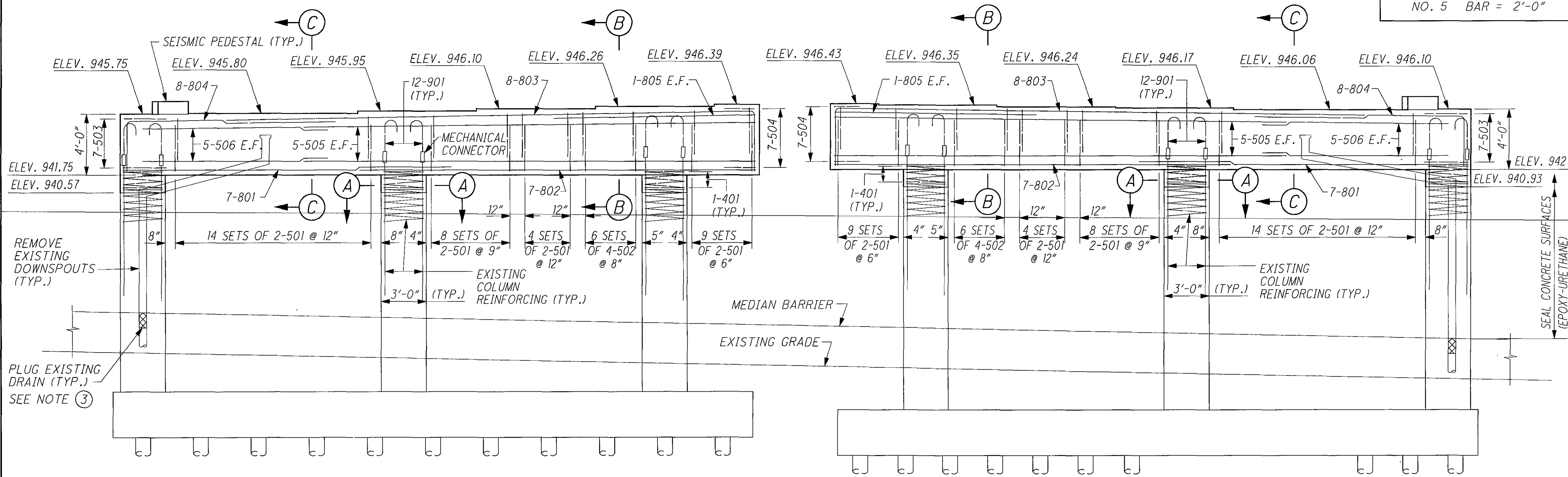
ABUTMENT DETAILS
BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

MAH-680-6.03
PID 19916

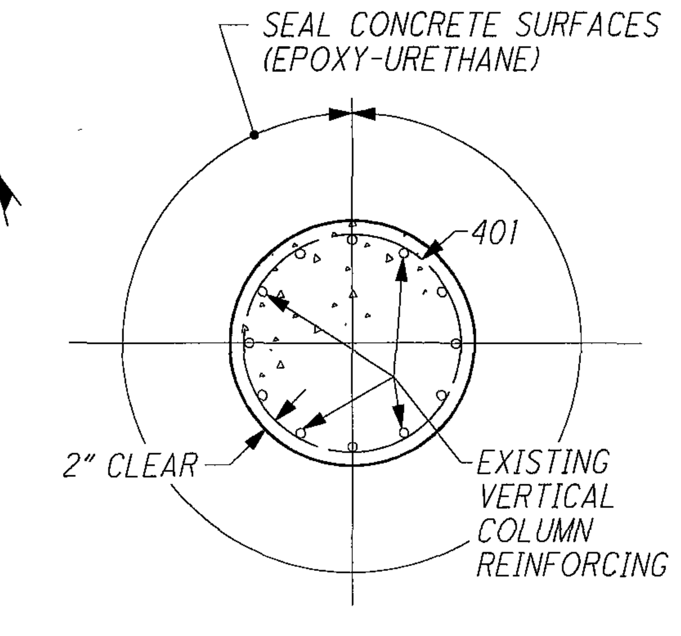


PLAN

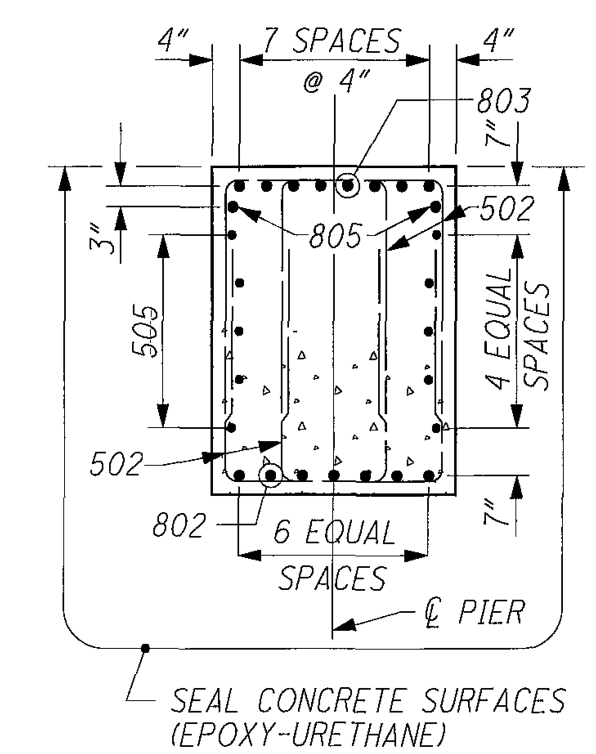
MINIMUM LAP LENGTH	
NO. 8	BAR = 6'-4"
NO. 5	BAR = 2'-0"



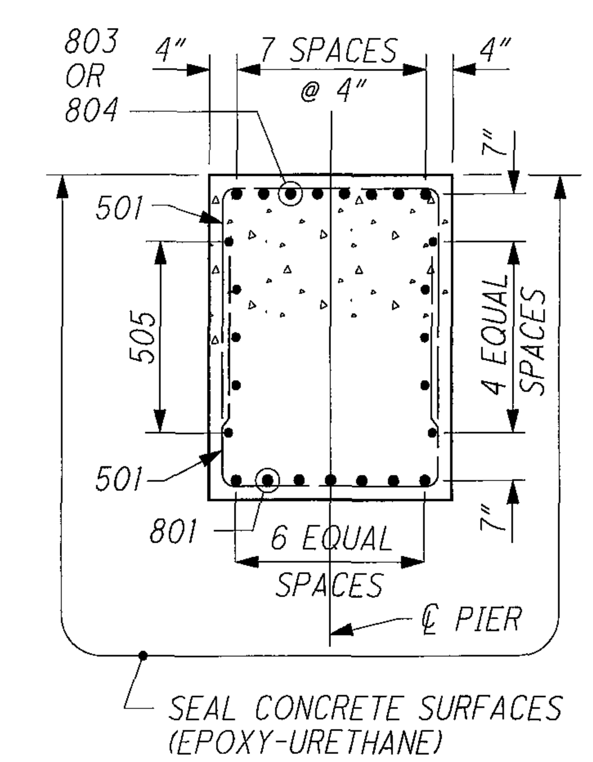
ELEVATION



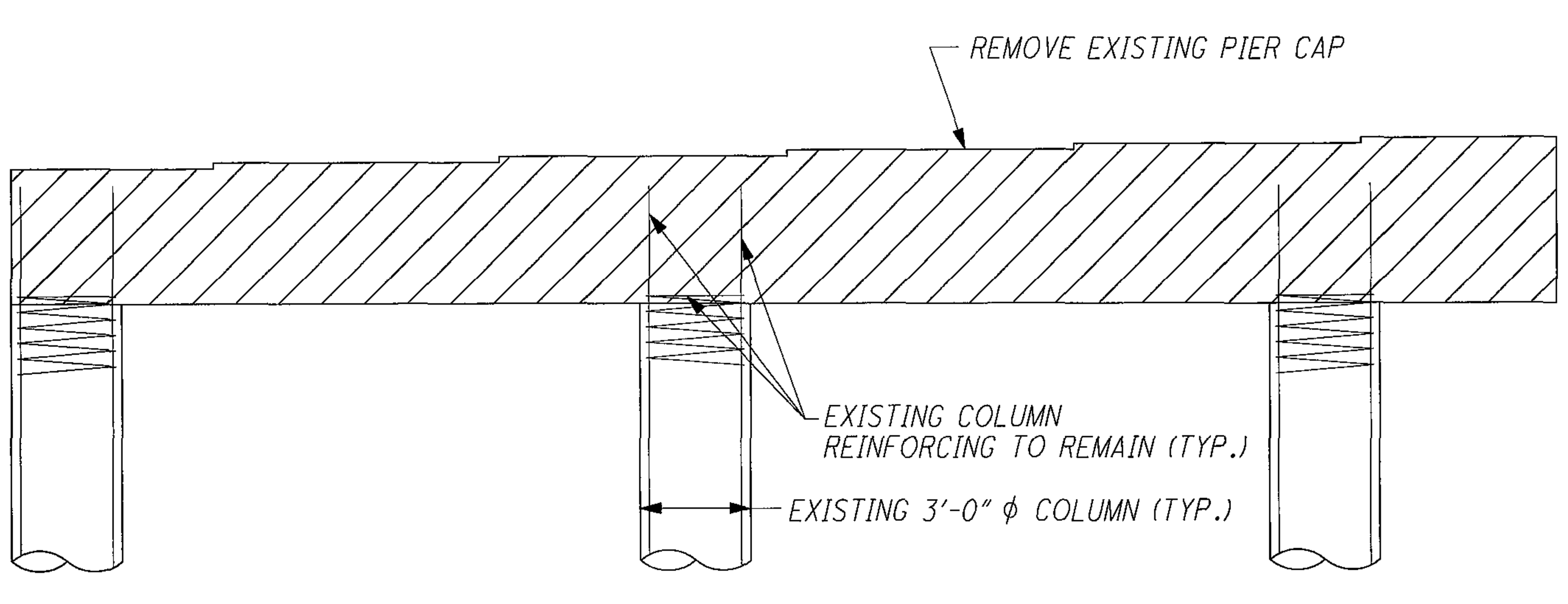
SECTION A-A



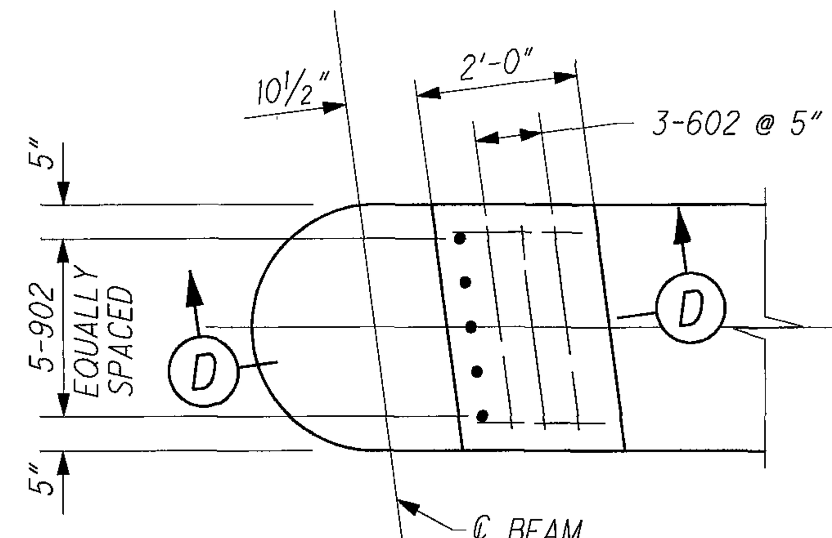
SECTION B-B



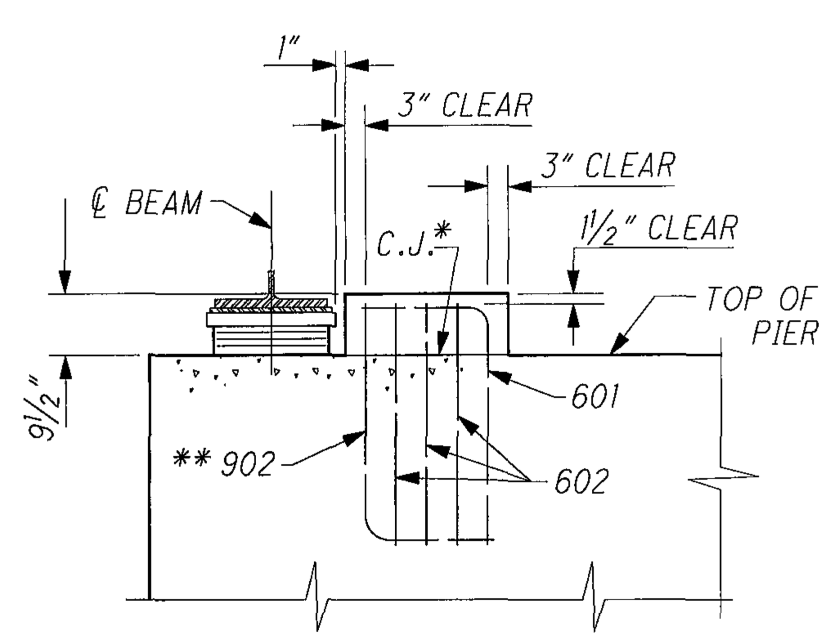
SECTION C-C



TYPICAL PIER REMOVAL



SEISMIC PEDESTAL



SECTION D-D

*THE TOP OF THE PIER IN THIS AREA SHALL BE FINISHED WITH A SERRATED TROWEL. THE SERRATIONS SHALL BE ¼" DEEP MINIMUM.

**THE LOCATION OF THE MAIN REINFORCEMENT IN THE TOP OF THE PIER MAY BE ADJUSTED HORIZONTALLY ±1" TO ACCOMODATE THE 902 BARS.

NOTE: CONCRETE COVER WILL BE 2" UNLESS OTHERWISE NOTED.

NOTES:

1. ALL REINFORCING STEEL BAR MARKS SHALL BE PREFIXED "P" (PIER). FOR REINFORCING SCHEDULE SEE SHEET 18/19.
2. COLUMN SPIRAL REINFORCEMENT SHALL BE EMBEDDED A MINIMUM OF 2" INTO PIER CAP CONCRETE. A LAP LENGTH OF 1'-6" IS REQUIRED BETWEEN THE EXISTING AND NEW SPIRAL STEEL.
3. BRIDGE SEAT ELEVATIONS HAVE BEEN ADJUSTED UPWARD ⅛ INCH AT THE PIER TO COMPENSATE FOR VERTICAL DEFORMATION OF THE BEARINGS.
4. PLUG EXISTING DRAINS WITH GROUT TO A DEPTH OF 1 FOOT. PAYMENT FOR PLUGGING DRAINS IS TO BE INCLUDED WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN A
5. THE FOLLOWING ABBREVIATIONS ARE USED:

C.J. = CONSTRUCTION JOINT
TYP. = TYPICAL
E.F. = EACH FACE

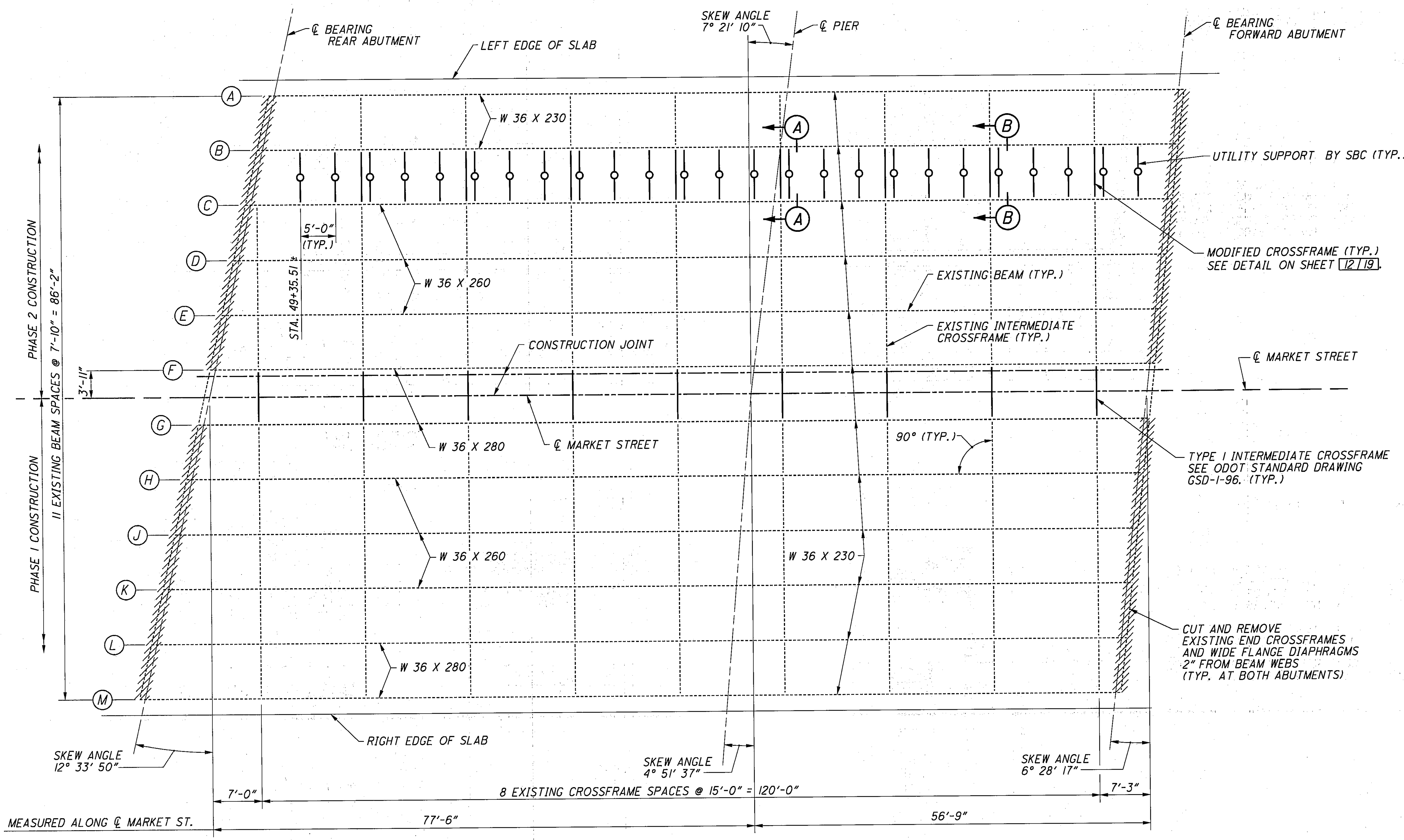
DESIGN AGENCY
LA OFFICE PLAZA II
SUITE 200
25777 DETROIT ROAD
WESTLAKE, OHIO 44145
TELEPHONE (440) 835-9400
R.E. WARNER & ASSOCIATES, INC.
JOB NUMBER 34404

DESIGNED	DRAWN	REVIEWED	DATE
YAZ	GFH	JRS	6-1-06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
GFH		5001986	

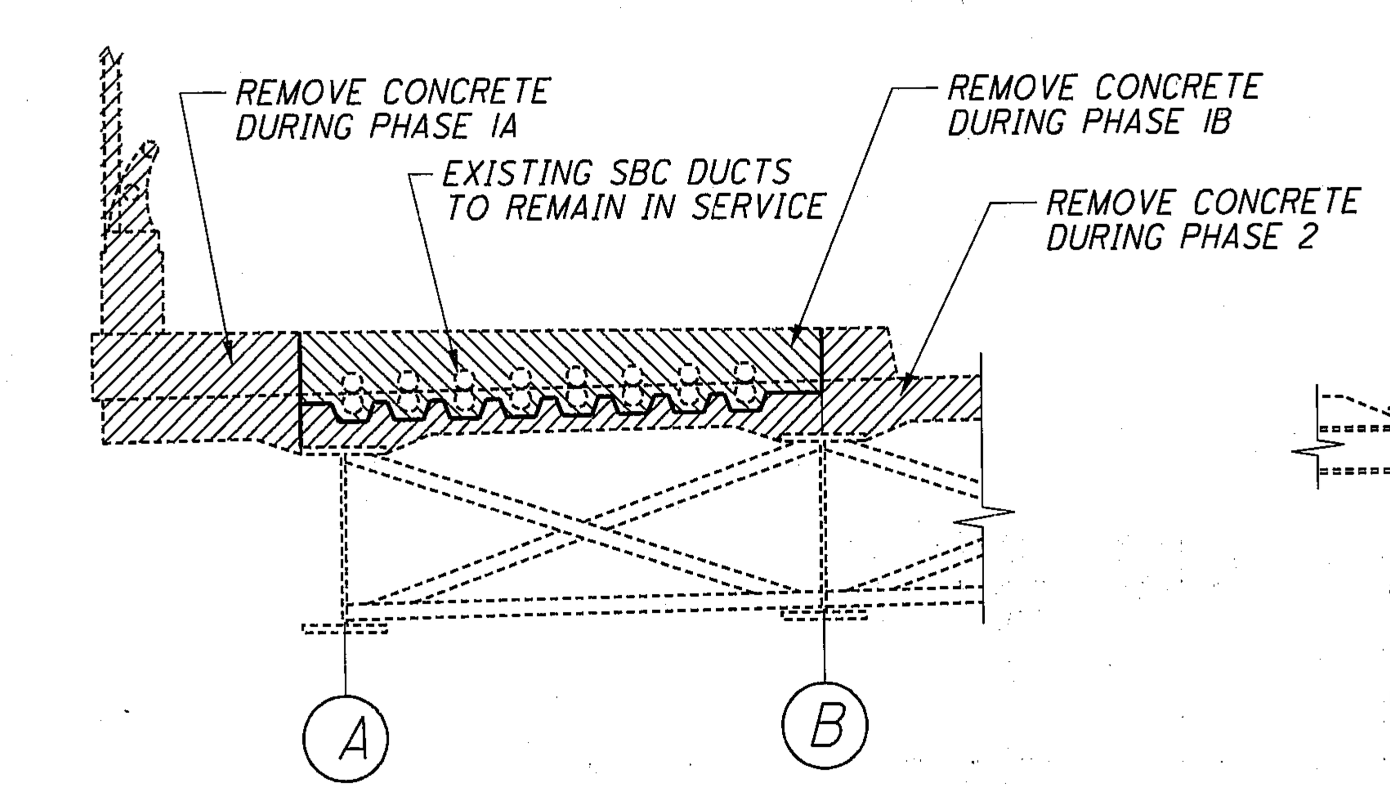
PIER

BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

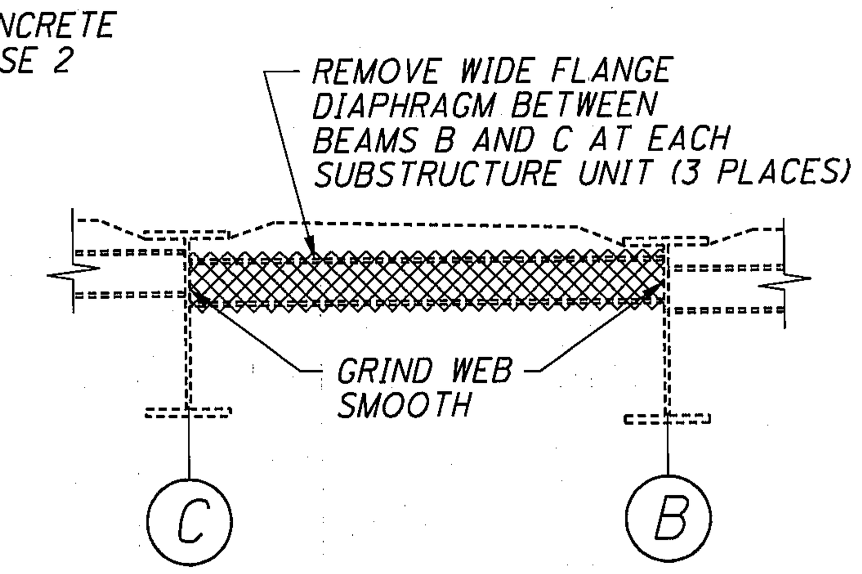
MAH-680-6.03
PID 19916



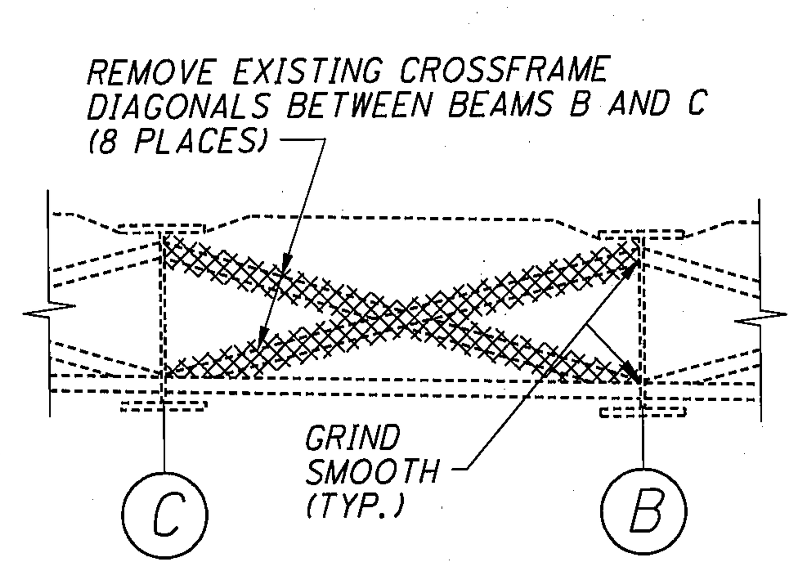
FRAMING PLAN



DECK AND SIDEWALK REMOVAL DETAIL



SECTION A-A



SECTION B-B

LEGEND:

- REMOVAL PERFORMED BY CONTRACTOR AND PAID FOR BY OWNER
- REMOVAL PERFORMED BY CONTRACTOR AND PAID FOR BY SBC
- REMOVAL PERFORMED AND PAID FOR BY SBC

NOTES:

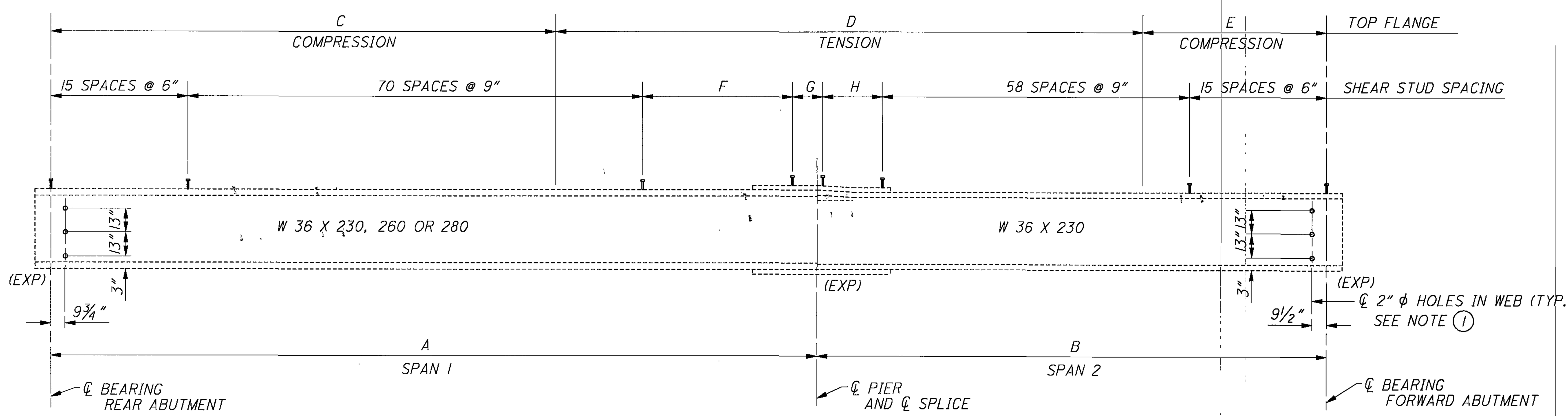
1. REMOVALS TO BE INCLUDED FOR PAYMENT WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN. FOR ADDITIONAL CONDUIT REMOVAL AND RELOCATION DETAILS SEE SBC DRAWINGS.
2. FOR TYPICAL BEAM ELEVATION AND ADDITIONAL NOTES AND DETAILS SEE SHEET 12/19.
3. SEE SHEET 2/19 FOR SUGGESTED SEQUENCE OF REMOVALS AND INSTALLATION OF UTILITY SUPPORTS AND CROSSFRAMES.

DESIGN AGENCY: R.E. WARNER & ASSOCIATES, INC. JOB NUMBER 34404

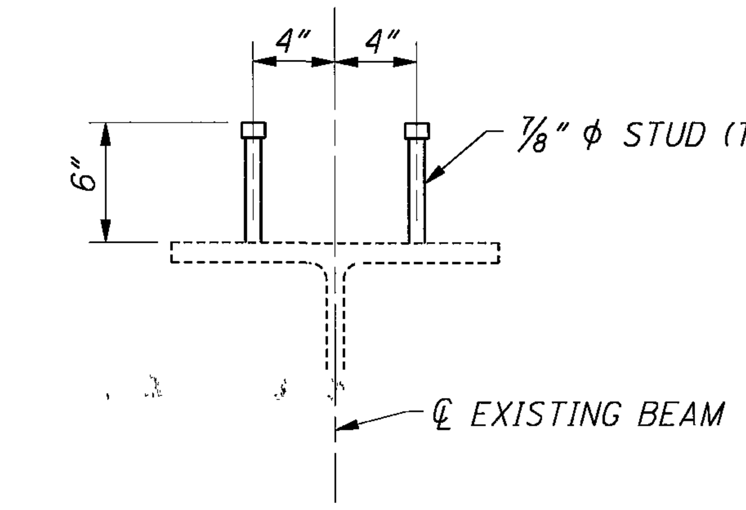
DESIGNED	DRAWN	REVIEWED	DATE
GFH	GFH	JRS	6-1-06
CHECKED	REVISED	STRUCTURE FILE NUMBER	
YAZ		5001986	

FRAMING PLAN
BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

MAH-680-6.03
PID 19916



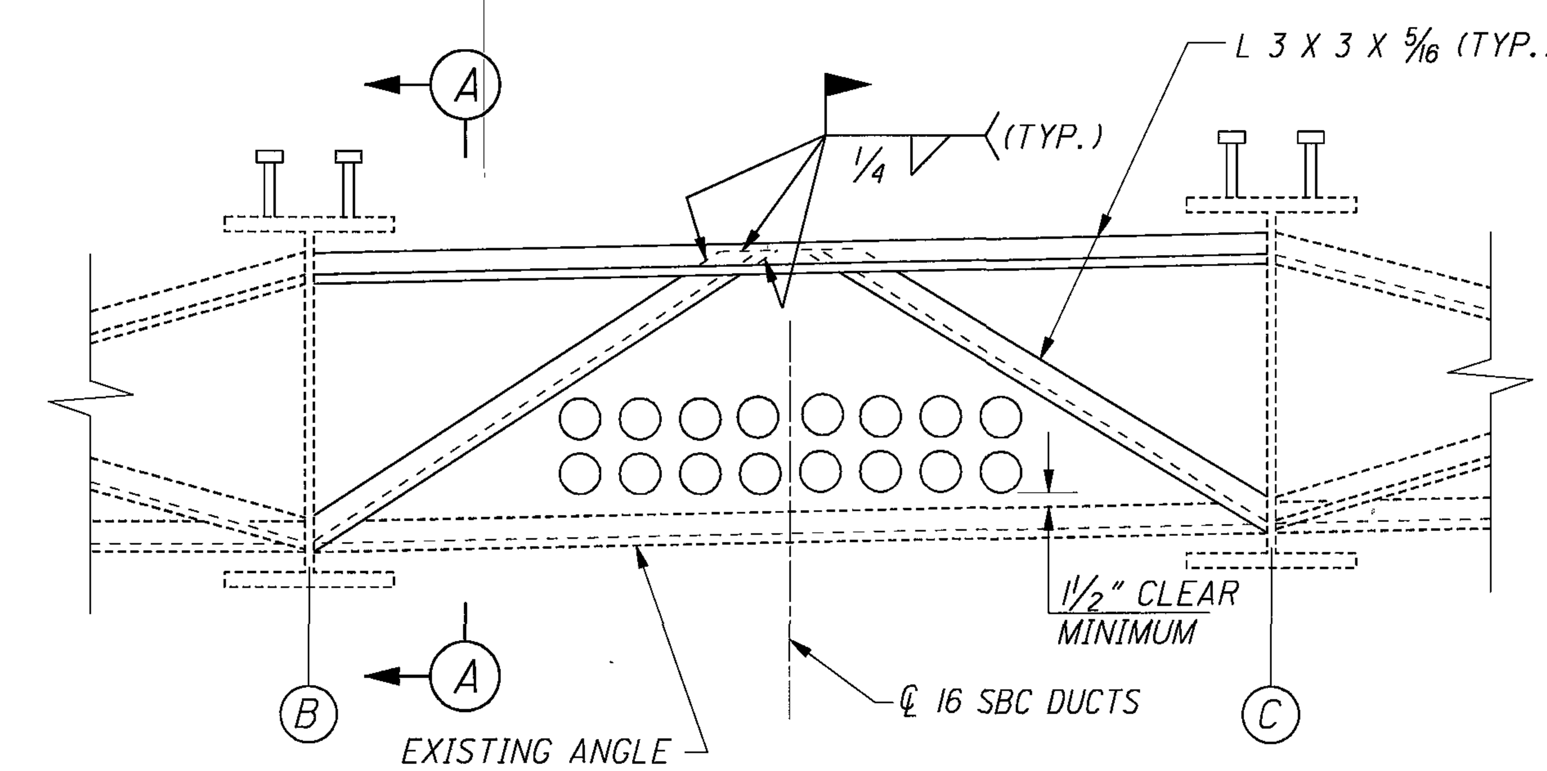
TYPICAL EXISTING BEAM ELEVATION



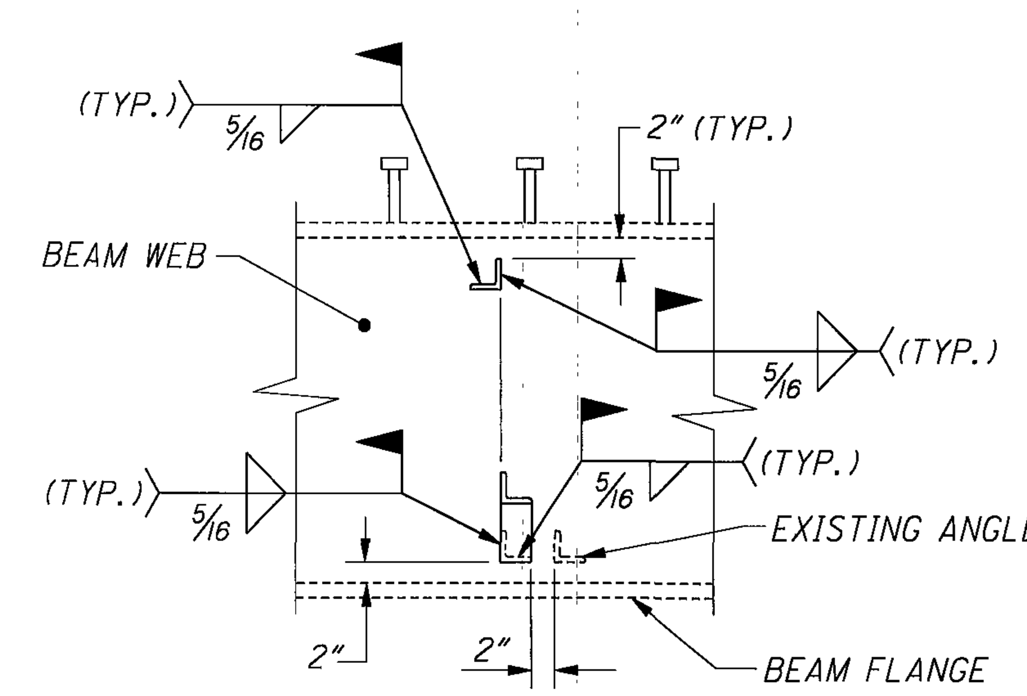
SHEAR CONNECTOR DETAIL

TABLE OF DIMENSIONS

	A	B	C	D	E	F	G	H
BEAM A	73'-5½" ±	56'-0⅞" ±	52'-3"	56'-9⅜"	20'-6"	8 SPACES @ 18"	1'-6⅜"	6 SPACES @ 10"
BEAM B	74'-2⅜" ±	56'-2⅜" ±	52'-3"	57'-7¾"	20'-6"	8 SPACES @ 21"	1'-2¾"	5 SPACES @ 10"
BEAM C	74'-11⅛" ±	56'-3⅞" ±	53'-3"	57'-2"	20'-10"	8 SPACES @ 20"	1'-5"	6 SPACES @ 11"
BEAM D	75'-8" ±	56'-5⅜" ±	54'-5"	53'-8⅜"	24'-0"	9 SPACES @ 19"	1'-4⅜"	6 SPACES @ 11"
BEAM E	76'-4¾" ±	56'-6¾" ±	54'-5"	54'-6½"	24'-0"	9 SPACES @ 20"	1'-1½"	7 SPACES @ 10"
BEAM F	77'-1⅝" ±	56'-8¼" ±	54'-6"	54'-10⅞"	24'-5"	10 SPACES @ 19"	1'-1⅞"	7 SPACES @ 10"
BEAM G	78'-0½" ±	56'-7⅝" ±	54'-6"	55'-9⅛"	24'-5"	10 SPACES @ 20"	1'-2⅛"	7 SPACES @ 10"
BEAM H	79'-1½" ±	56'-5" ±	57'-4"	60'-9½"	17'-5"	11 SPACES @ 19"	1'-7½"	6 SPACES @ 11"
BEAM J	80'-2⅜" ±	56'-2⅜" ±	57'-4"	61'-7¾"	17'-5"	12 SPACES @ 19"	1'-4¾"	6 SPACES @ 10"
BEAM K	81'-3⅜" ±	55'-11⅝" ±	57'-4"	62'-6"	17'-5"	12 SPACES @ 20"	1'-3"	6 SPACES @ 10"
BEAM L	82'-4¼" ±	55'-9" ±	61'-3"	57'-11¼"	18'-11"	14 SPACES @ 19"	1'-2¼"	5 SPACES @ 9"
BEAM M	83'-5¼" ±	55'-6⅜" ±	61'-3"	58'-9⅝"	18'-11"	14 SPACES @ 19"	1'-2⅝"	5 SPACES @ 11"



MODIFIED INTERMEDIATE CROSSFRAME
SEE NOTE 3



SECTION A-A

NOTES:

1. PAYMENT FOR FIELD DRILLING 2" φ HOLES IN WEB TO BE INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.
2. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG AND BE AT LEAST ¼" FOR THICKNESSES UP TO ¾" OR 5/16" FOR GREATER THAN ¾" THICK.
3. ALL MATERIAL AND LABOR REQUIRED FOR INSTALLATION OF MODIFIED CROSSFRAMES BETWEEN BEAMS B AND C SHALL BE PAID FOR 100% BY SBC COMMUNICATIONS UNDER ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF.
4. FOR BEARING DETAILS SEE SHEET 16/19.
5. THE FOLLOWING ABBREVIATIONS ARE USED:

   EXP = EXPANSION
   TYP. = TYPICAL

DESIGN AGENCY
R.E. WARNER & ASSOCIATES, INC.
LA OFFICE PLAZA II
SUITE 200
25777 DETROIT ROAD
WESTLAKE, OHIO 44145
TELEPHONE (440) 835-9400
JOB NUMBER 34404

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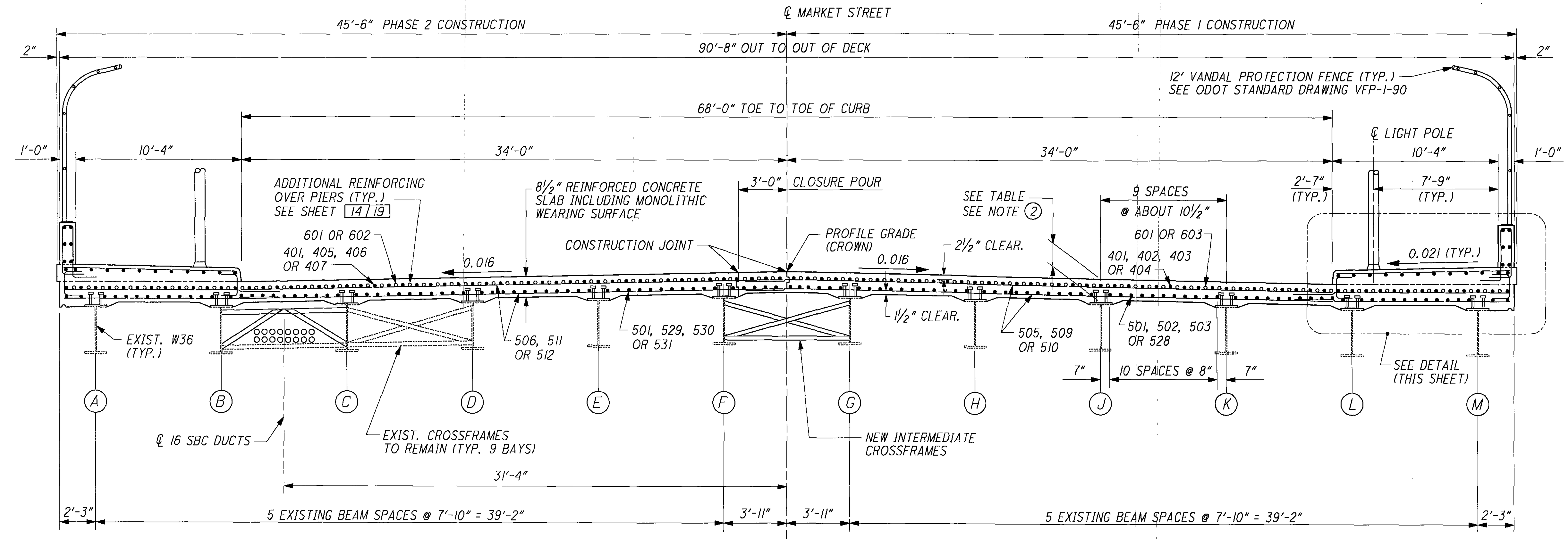
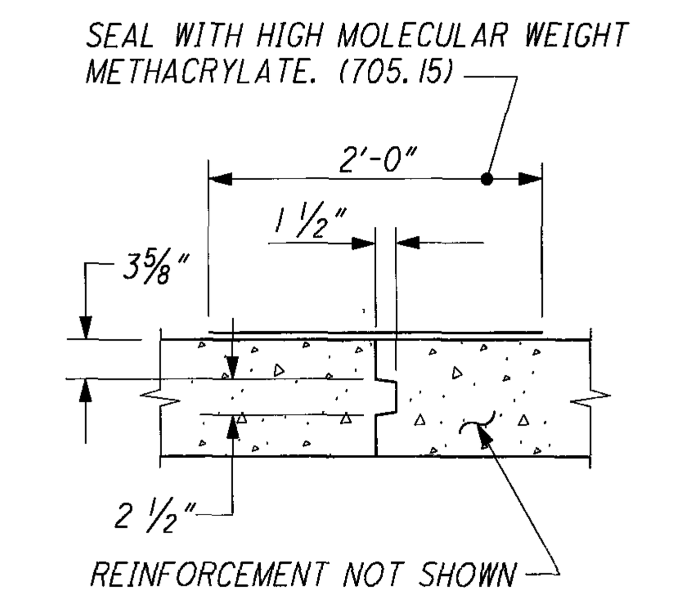
SUPERSTRUCTURE DETAILS
BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

MAH-680-6.03
PID 19916



TRANSVERSE SECTION



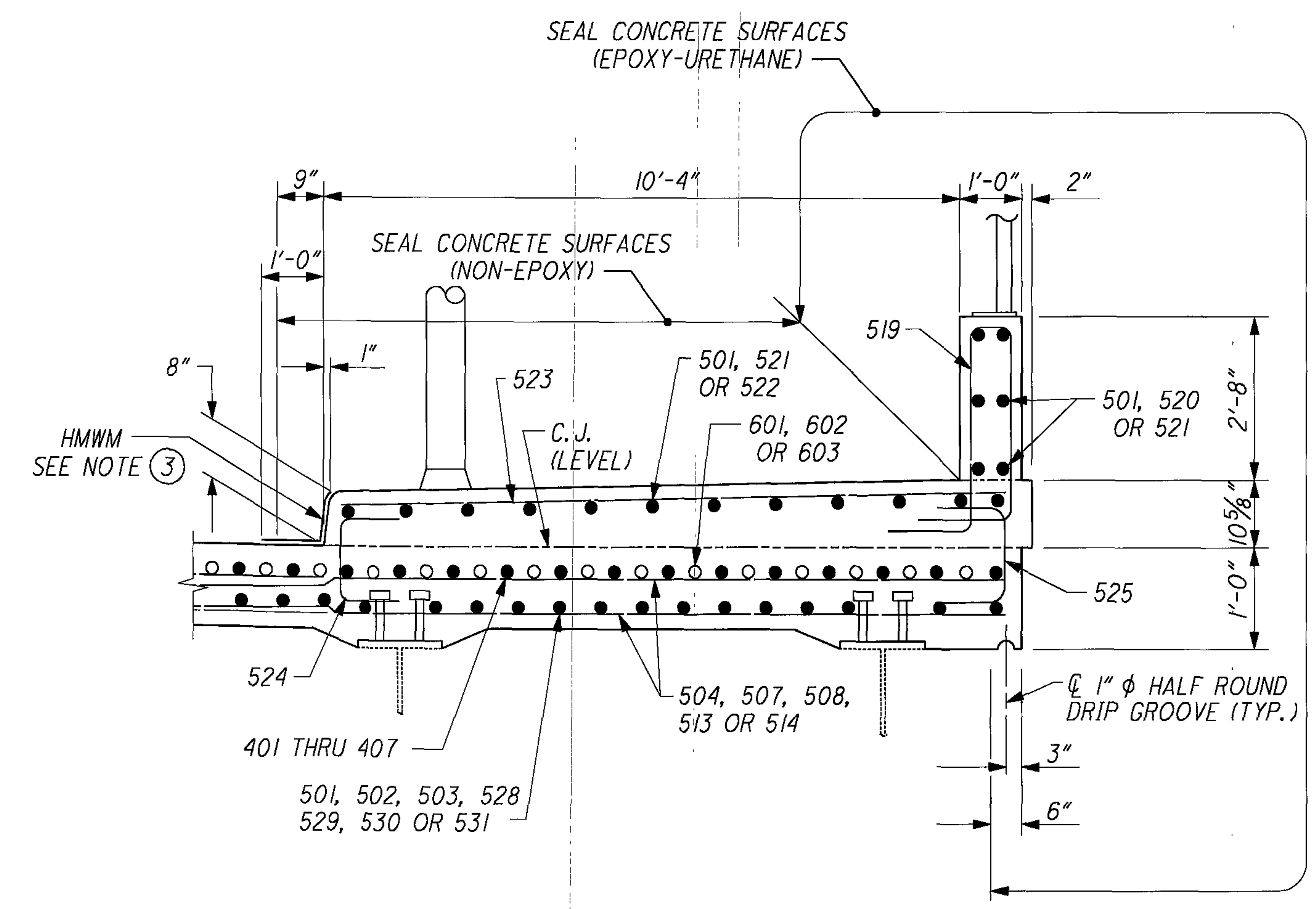
LONGITUDINAL CONSTRUCTION JOINT DETAIL

TABLE OF DECK SLAB DEPTH	℄ BRG. R.A.	℄ BRG. PIER	℄ BRG. F.A.
BEAM A	11 ½	10⅛	11
BEAM B	11	10	10¾
BEAM C	10⅜	9⅝	10¾
BEAM D	10½	9¾	10⅝
BEAM E	10⅜	9¾	10⅝
BEAM F	10⅜	9⅝	10⅝
BEAM G	10⅜	9½	10¾
BEAM H	10⅝	9¾	10⅝
BEAM J	10⅜	9⅞	10½
BEAM K	11	9⅝	10⅝
BEAM L	10⅜	9¾	10⅝
BEAM M	10⅞	9½	10¾

NOTE: SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

SCREED ELEVATIONS

		SPAN 1				SPAN 2			
		℄ BRG. R.A.	¼	½	¾	℄ BRG. PIER	¼	½	¾	℄ BRG. F.A.
BEAM A	STA.	49+32.10	49+50.47	49+68.83	49+87.20	50+05.56	50+19.58	50+33.60	50+47.62	50+61.64
	ELEV.	953.08	952.41	951.71	950.97	950.23	949.68	949.14	948.60	948.05
BEAM B	STA.	49+30.36	49+48.90	49+67.45	49+86.00	50+04.55	50+18.60	50+32.65	50+46.70	50+60.75
	ELEV.	953.14	952.48	951.77	951.02	950.26	949.72	949.18	948.64	948.08
LEFT CURB LINE	STA.	49+30.08	49+48.66	49+67.23	49+85.81	50+04.39	50+18.44	50+32.50	50+46.55	50+60.61
	ELEV.	953.15	952.49	951.78	951.03	950.27	949.72	949.18	948.64	948.09
BEAM C	STA.	49+28.61	49+47.34	49+66.07	49+84.81	50+03.54	50+17.62	50+31.70	50+45.78	50+59.86
	ELEV.	953.31	952.64	951.92	951.17	950.41	949.86	949.32	948.77	948.22
BEAM D	STA.	49+26.86	49+45.78	49+64.70	49+83.61	50+02.53	50+16.64	50+30.75	50+44.86	50+58.97
	ELEV.	953.50	952.82	952.10	951.34	950.57	950.02	949.48	948.93	948.38
BEAM E	STA.	49+25.12	49+44.22	49+63.32	49+82.42	50+01.52	50+15.66	50+29.80	50+43.94	50+58.08
	ELEV.	953.69	953.01	952.28	951.51	950.73	950.18	949.64	949.09	948.53
BEAM F	STA.	49+23.37	49+42.66	49+61.94	49+81.22	50+00.51	50+14.68	50+28.85	50+43.02	50+57.19
	ELEV.	953.88	953.19	952.45	951.67	950.89	950.34	949.80	949.25	948.69
CONST. JOINT	STA.	49+23.17	49+42.47	49+61.78	49+81.08	50+00.39	50+14.56	50+28.74	50+42.91	50+57.09
	ELEV.	953.91	953.21	952.47	951.69	950.91	950.36	949.81	949.27	948.71
℄ AND CROWN, CONST. JOINT	STA.	49+22.50	49+41.88	49+61.25	49+80.63	50+00.00	50+14.19	50+28.38	50+42.56	50+56.75
	ELEV.	953.98	953.28	952.54	951.76	950.97	950.42	949.87	949.33	948.77
BEAM G	STA.	49+21.63	49+41.14	49+60.65	49+80.16	49+99.67	50+13.83	50+27.99	50+42.15	50+56.31
	ELEV.	953.95	953.25	952.51	951.72	950.92	950.37	949.83	949.28	948.73
BEAM H	STA.	49+19.88	49+39.66	49+59.44	49+79.22	49+99.00	50+13.11	50+27.21	50+41.31	50+55.42
	ELEV.	953.90	953.19	952.44	951.64	950.83	950.27	949.73	949.19	948.64
BEAM J	STA.	49+18.14	49+38.19	49+58.24	49+78.29	49+98.34	50+12.38	50+26.43	50+40.48	50+54.53
	ELEV.	953.84	953.13	952.37	951.55	950.73	950.18	949.64	949.10	948.55
BEAM K	STA.	49+16.39	49+36.71	49+57.03	49+77.35	49+97.67	50+11.66	50+25.65	50+39.65	50+53.64
	ELEV.	953.79	953.07	952.30	951.47	950.63	950.08	949.55	949.01	948.46
RIGHT CURB LINE	STA.	49+14.92	49+35.47	49+56.02	49+76.56	49+97.11	50+11.06	50+25.00	50+38.95	50+52.89
	ELEV.	953.74	953.01	952.23	951.40	950.55	950.00	949.47	948.93	948.39
BEAM L	STA.	49+14.64	49+35.23	49+55.82	49+76.41	49+97.00	50+10.94	50+24.88	50+38.81	50+52.75
	ELEV.	953.75	953.02	952.24	951.41	950.56	950.01	949.47	948.94	948.39
BEAM M	STA.	49+12.90	49+33.76	49+54.62	49+75.48	49+96.34	50+10.22	50+24.10	50+37.98	50+51.86
	ELEV.	953.82	953.08	952.28	951.44	950.58	950.04	949.50	948.97	948.43



TYPICAL SIDEWALK AND PARAPET DETAIL

NOTES:

1. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM HAUNCH. THE ESTIMATE ASSUMES AN AVERAGE HAUNCH THICKNESS OF TWO (2) INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE IS ± 3".
2. THE DECK SLAB DEPTH IS MEASURED AT THE CENTERLINE OF THE BEAM, FROM THE SURFACE OF THE DECK TO THE TOP OF THE TOP FLANGE AT THE ABUTMENTS AND TO THE TOP OF THE COVER PLATE OVER THE DEEPER BEAM AT THE PIERS.
3. HMWM RESIN SHALL BE PLACED PER CMS 512.04 ON ALL CONSTRUCTION JOINTS IN THE DECK. THIS TREATMENT SHALL EXTEND 1'-0" ACROSS THE DECK ON EITHER SIDE OF THE JOINT, OR TO THE TOP OF THE CURB AND SHALL BE PLACED AFTER THE NON-EPOXY SEALER.
4. FOR THE DECK SLAB PLAN SEE SHEET 14/19
5. FOR THE SIDEWALK PLAN AND PARAPET DETAILS SEE SHEET 15/19
6. FOR MINIMUM LAP LENGTHS SEE SHEET 14/19
7. THE FOLLOWING ABBREVIATIONS ARE USED:

   BRG. = BEARING
   R.A. = REAR ABUTMENT
   F.A. = FORWARD ABUTMENT
   STA. = STATION
   ELEV. = ELEVATION
   TYP. = TYPICAL
   C.J. = CONSTRUCTION JOINT
   HMWM = HIGH MOLECULAR WEIGHT METHACRYLATE

DESIGN AGENCY
R.E. WARNER & ASSOCIATES, INC.
LA OFFICE PLAZA II SUITE 200 25777 DETROIT ROAD WESTLAKE, OHIO 44145 TELEPHONE (440) 835-9400
JOB NUMBER 34404

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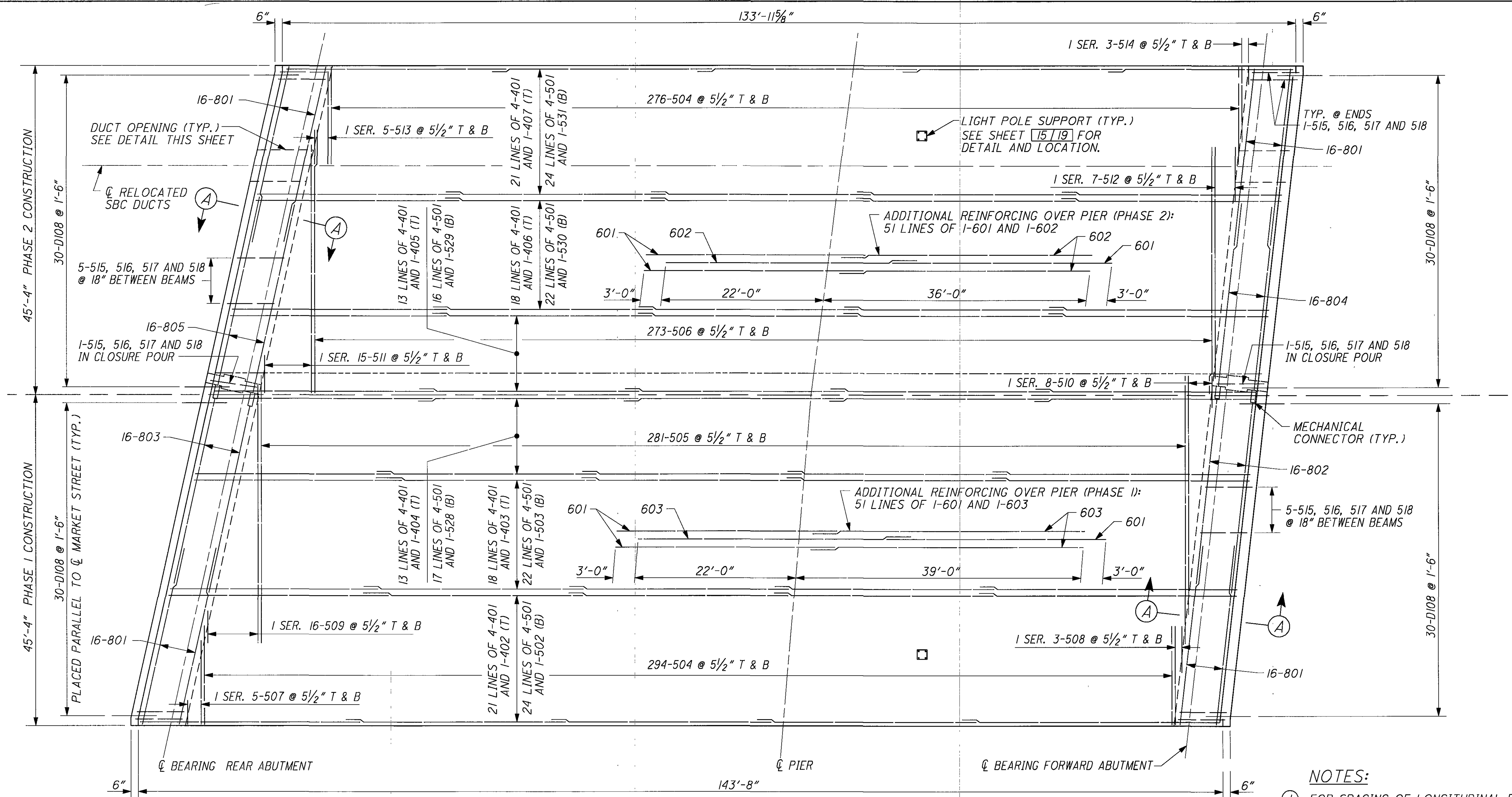
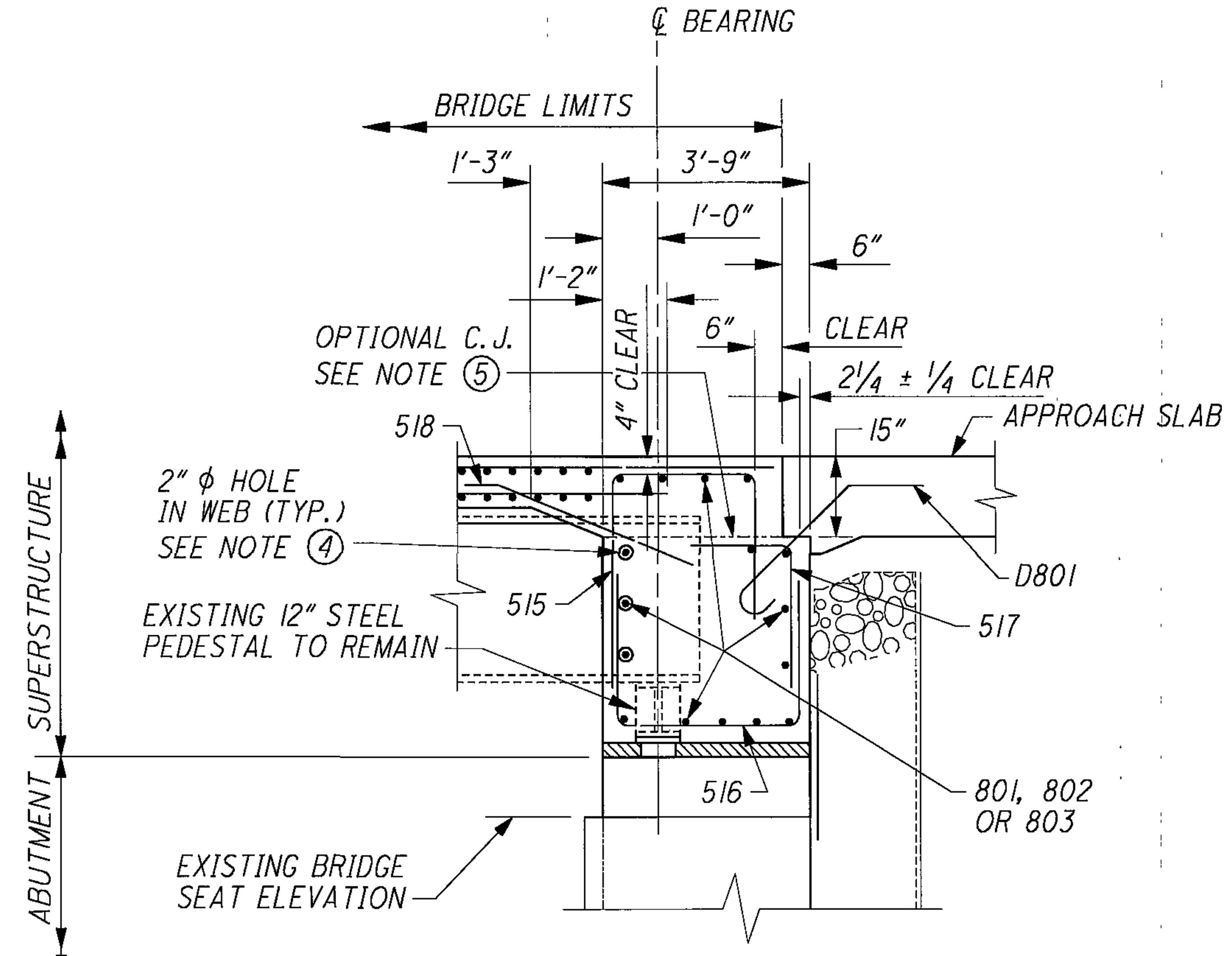
TRANSVERSE SECTION
BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

MAH-680-6.03
PID 19916

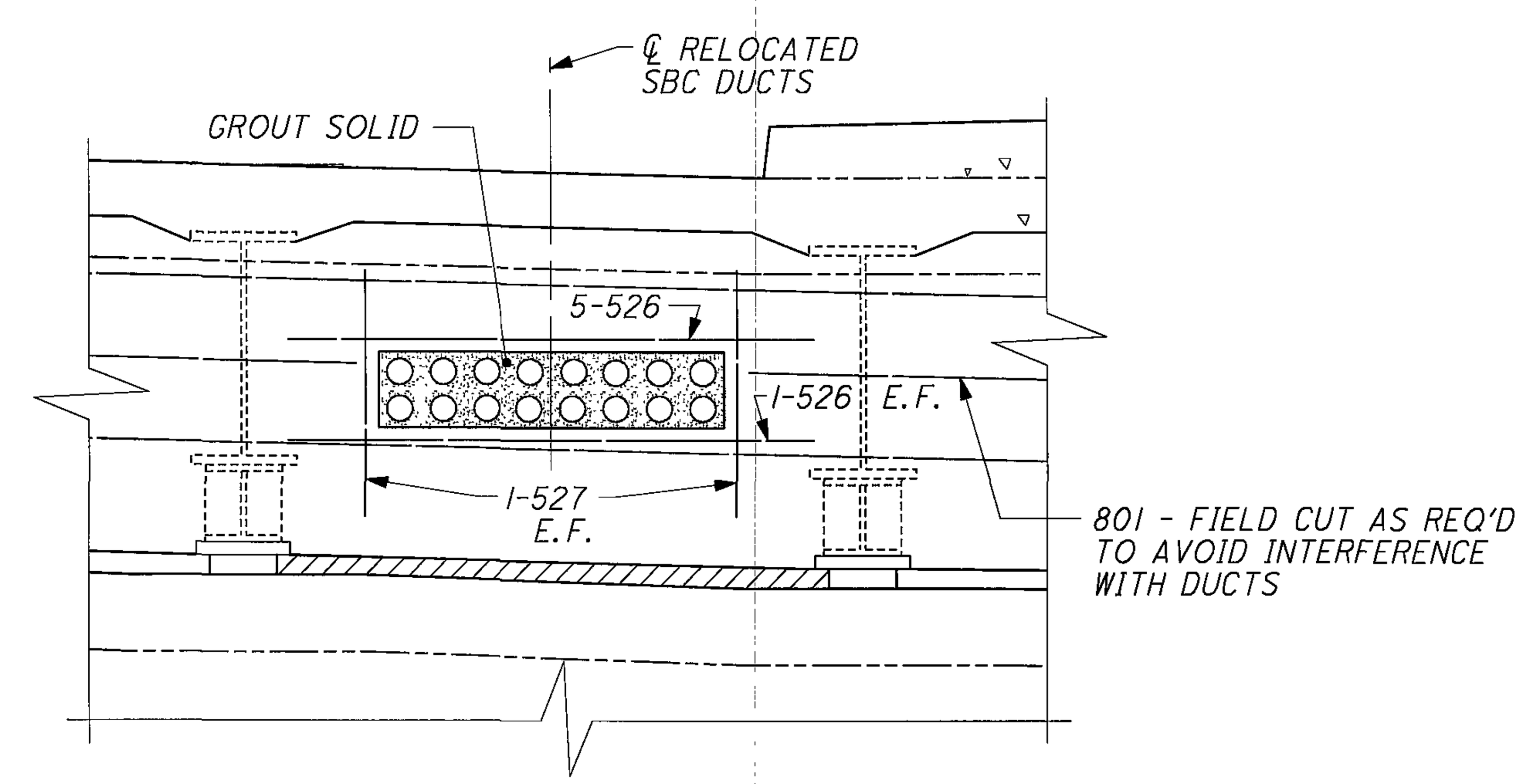


DECK SLAB PLAN

MINIMUM LAP LENGTH (UNLESS OTHERWISE NOTED)	
NO. 4	BAR = 1'-11"
NO. 5	BAR = 2'-5"
NO. 6	BAR = 3'-4"
NO. 8	BAR = 5'-2"



SECTION A-A



DUCT OPENING DETAIL
REAR ABUTMENT SHOWN
FORWARD ABUTMENT SIMILAR

NOTES:

1. FOR SPACING OF LONGITUDINAL REINFORCING STEEL IN THE SLAB SEE SHEET 13/19.
2. ALL REINFORCING STEEL BAR MARKS SHALL BE PREFIXED "S" (SUPERSTRUCTURE) UNLESS NOTED.
3. FOR REINFORCING SCHEDULE SEE SHEET 18/19.
4. FOR LOCATION OF HOLES IN BEAM WEB SEE SHEET 12/19.
5. ABUTMENT DIAPHRAGM CONCRETE, STEEL SUPERSTRUCTURE, PHASE CONSTRUCTION:
   PHASE 1: PLACE THE CONCRETE IN THE ABUTMENT DIAPHRAGM ENCASING STRUCTURAL STEEL MEMBERS OF PHASE 1 SEPERATELY OR WITH THE DECK CONCRETE. IF THE DIAPHRAGM CONCRETE IS PLACED SEPARATELY, ALLOW AT LEAST 48 HOURS OF SET TIME BEFORE PLACING THE DECK CONCRETE. LOCATE THE HORIZONTAL CONSTRUCTION JOINT BETWEEN THE DIAPHRAGM AND DECK CONCRETE AT THE APPROACH SLAB SEAT.
   PHASE 2: PLACE THE CONCRETE IN THE ABUTMENT DIAPHRAGM ENCASING STRUCTURAL STEEL MEMBERS OF PHASE 2 WITH THE DECK POUR TO ALLOW FOR EXPECTED DEAD LOAD ROTATION AT THE ABUTMENTS.
6. FOR SIDEWALK PLAN AND PARAPET ELEVATIONS SEE SHEET 15/19.
7. FOR APPROACH SLAB DETAILS SEE SHEET 17/19.
8. FOR ADDITIONAL DUCT OPENING DETAILS SEE SBC DRAWINGS.
9. THE FOLLOWING ABBREVIATIONS ARE USED:

T = TOP	TYP. = TYPICAL	E.F. = EACH FACE
B = BOTTOM	C.J. = CONSTRUCTION JOINT	

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R.E. WARNER & ASSOCIATES, INC.
LA OFFICE PLAZA II
SUITE 200
25777 DETROIT ROAD
WESTLAKE, OHIO 44145
TELEPHONE (440) 835-9400
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DECK SLAB PLAN
BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

MAH-680-6.03
PID 19916

14/19

76/85

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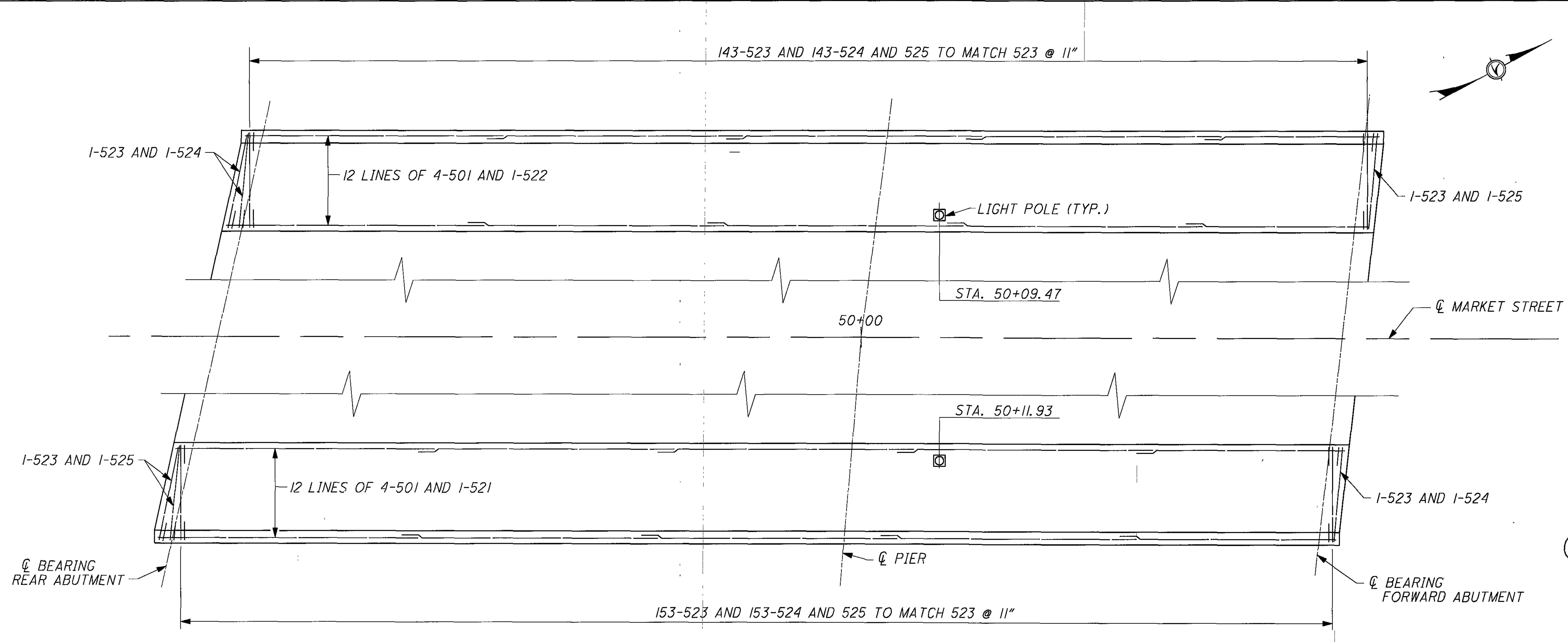
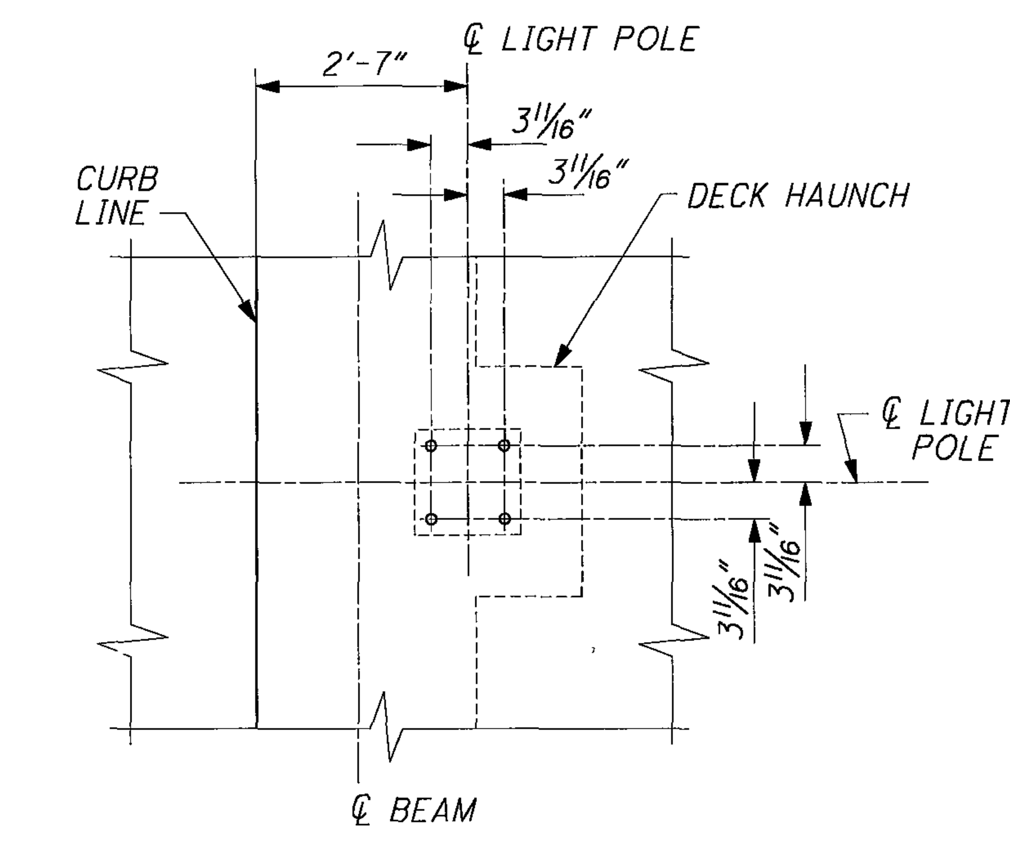
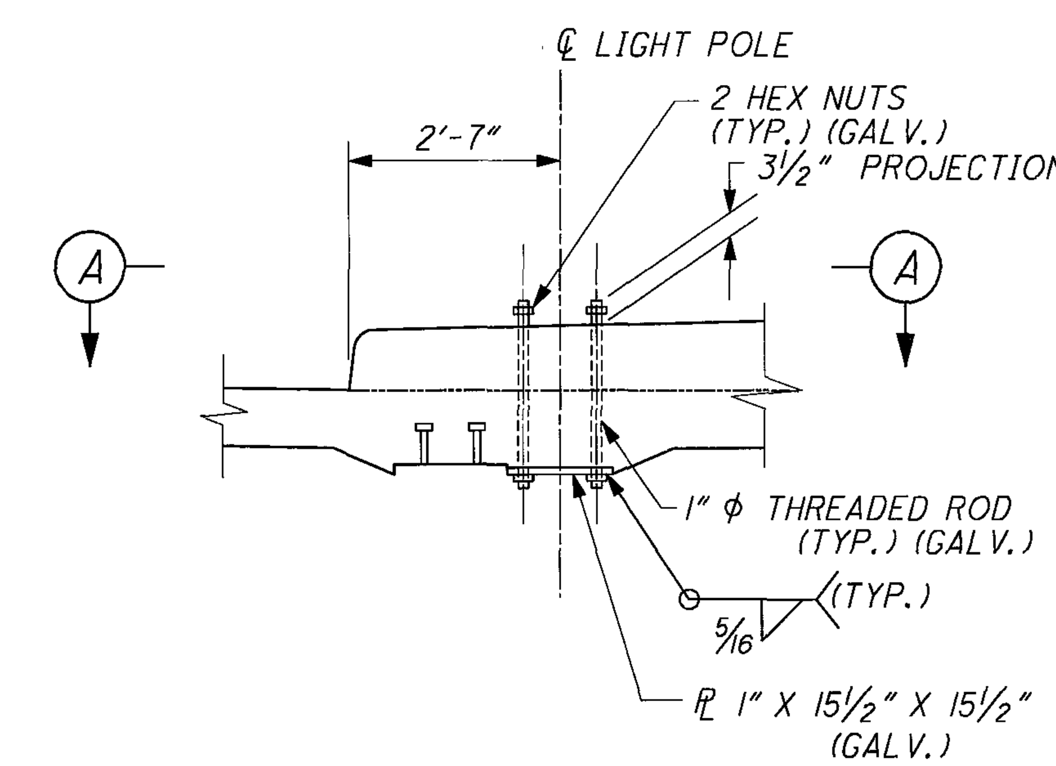


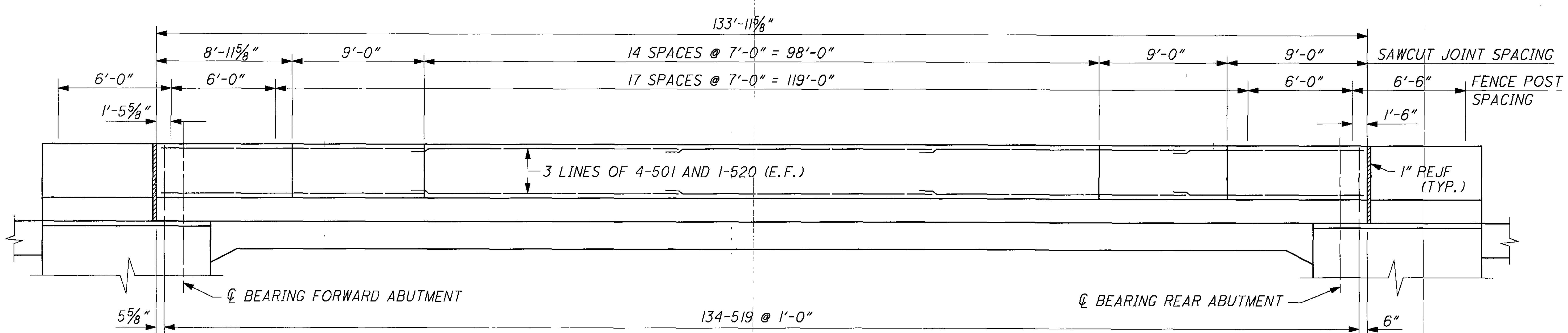
SIDEWALK PLAN



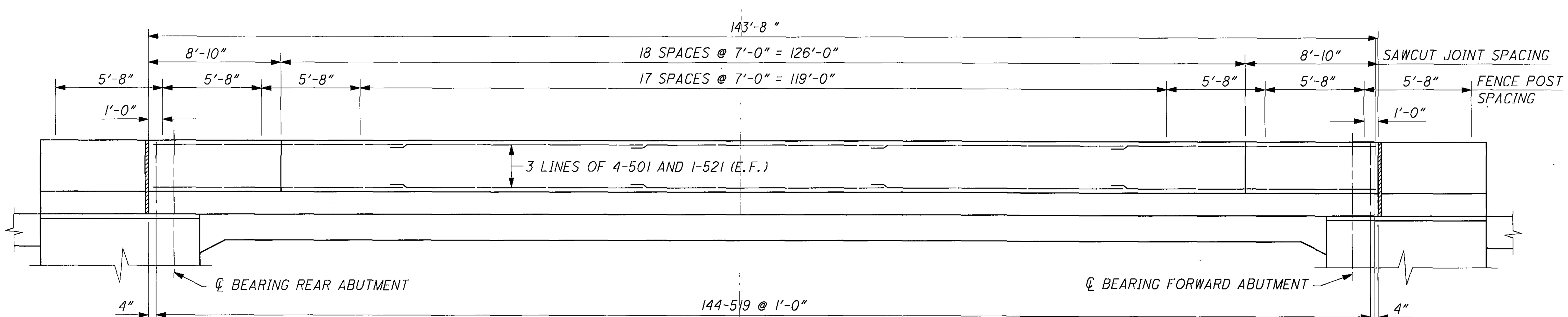
SECTION A-A



LIGHT POLE SUPPORT DETAIL



LEFT PARAPET ELEVATION



RIGHT PARAPET ELEVATION

MINIMUM LAP LENGTH (UNLESS OTHERWISE NOTED)	
NO. 5	BAR = 1'-11"
NO. 6	BAR = 3'-4"

NOTES:

1. FOR SPACING OF LONGITUDINAL REINFORCING STEEL IN THE SIDEWALK AND PARAPET SEE SHEET 13/19.
2. ALL REINFORCING STEEL BAR MARKS SHALL BE PREFIXED "S" (SUPERSTRUCTURE) UNLESS NOTED.
3. FOR REINFORCING SCHEDULE SEE SHEET 18/19.
4. REFER TO ODOT STANDARD DRAWING BR-2-98 FOR SAWCUT JOINT DETAIL AND NOTES.
5. REFER TO ODOT STANDARD DRAWING VPF-1-90 FOR FENCE DETAILS AND NOTES.
6. FOR LIGHT POLE DETAILS SEE LIGHTING PLANS. INCLUDE THREADED RODS AND PLATE WITH ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN, FOR PAYMENT.
7. THE FOLLOWING ABBREVEATIONS ARE USED:

E.F. = EACH FACE
TYP. = TYPICAL

DESIGN AGENCY
R.E. WARNER & ASSOCIATES, INC.
LA OFFICE PLAZA II SUITE 200 25777 DETROIT ROAD WESTLAKE, OHIO 44145 TELEPHONE (440) 835-9400
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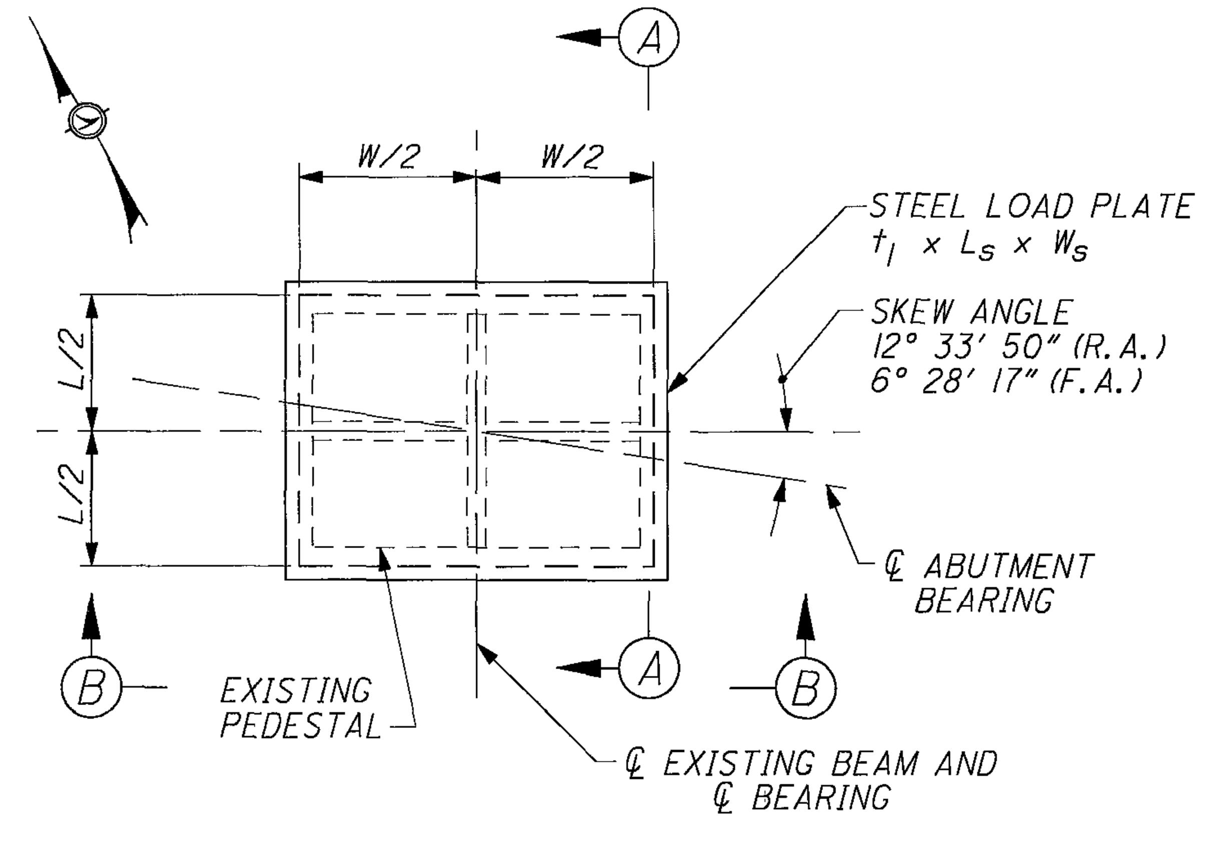
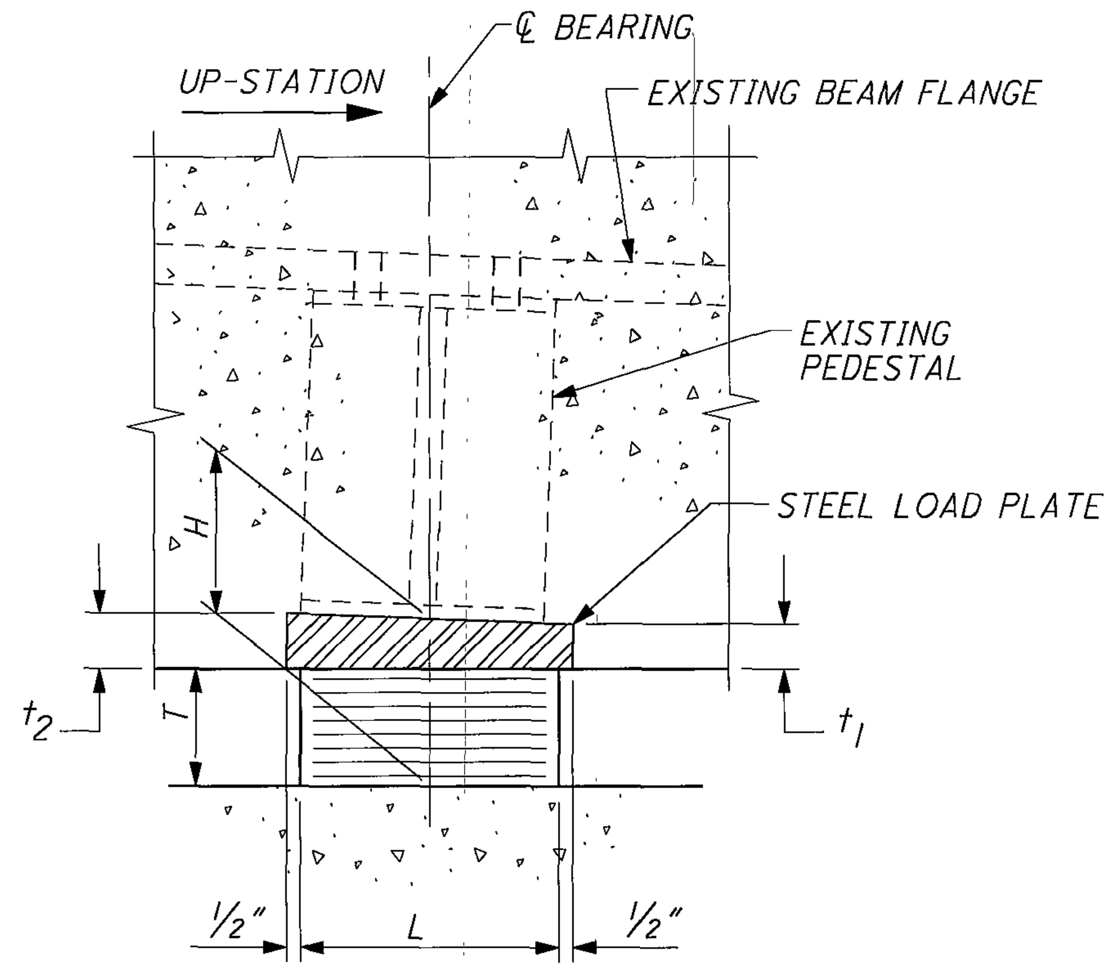
SIDEWALK PLAN AND PARAPET ELEVATIONS
BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

MAH-680-6.03
PID 19916

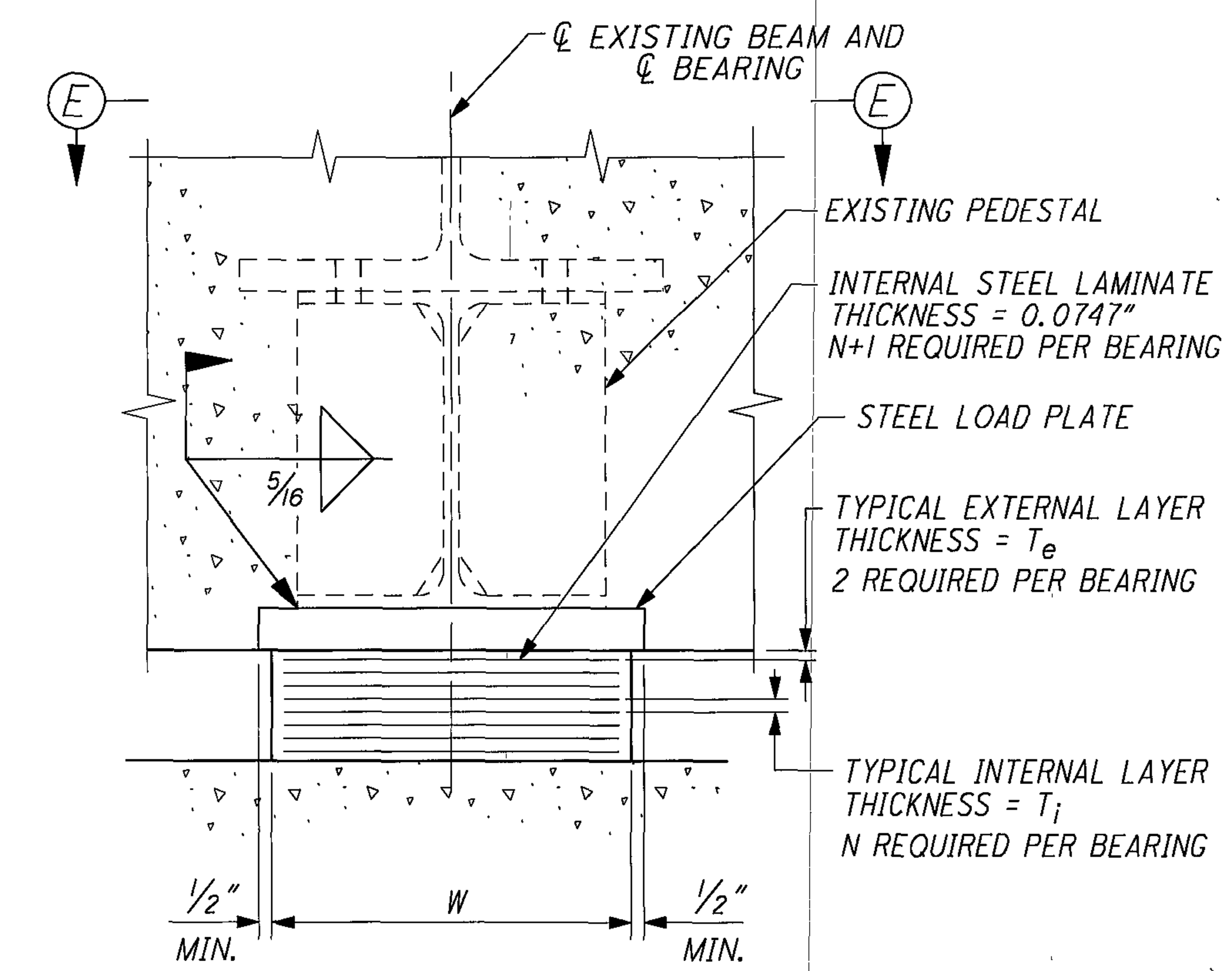
15 / 19



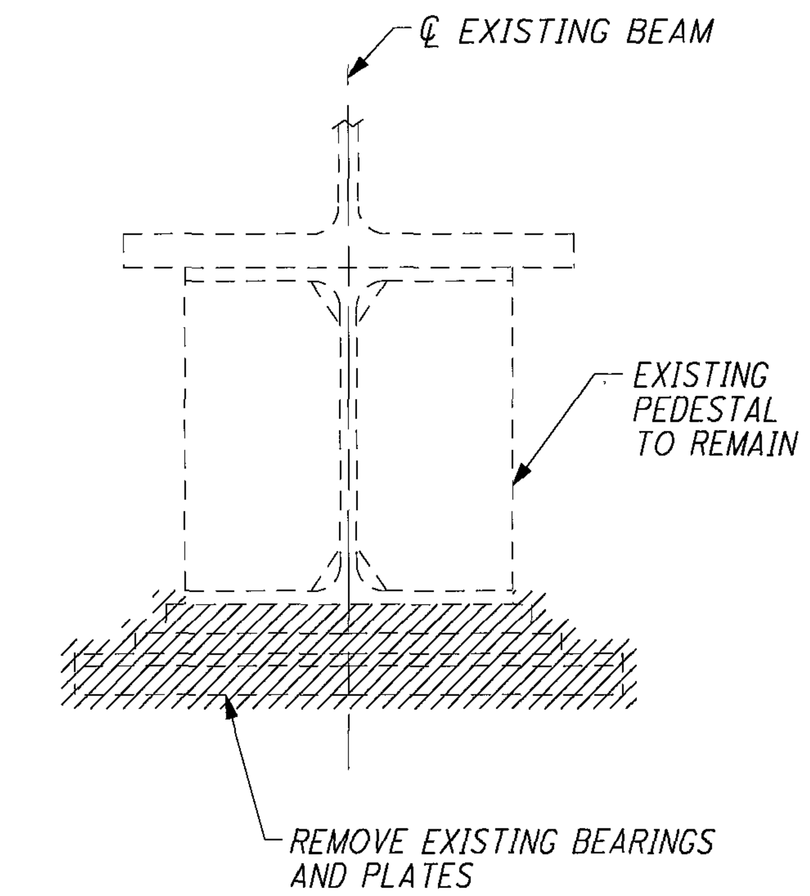
ABUTMENT BEARING



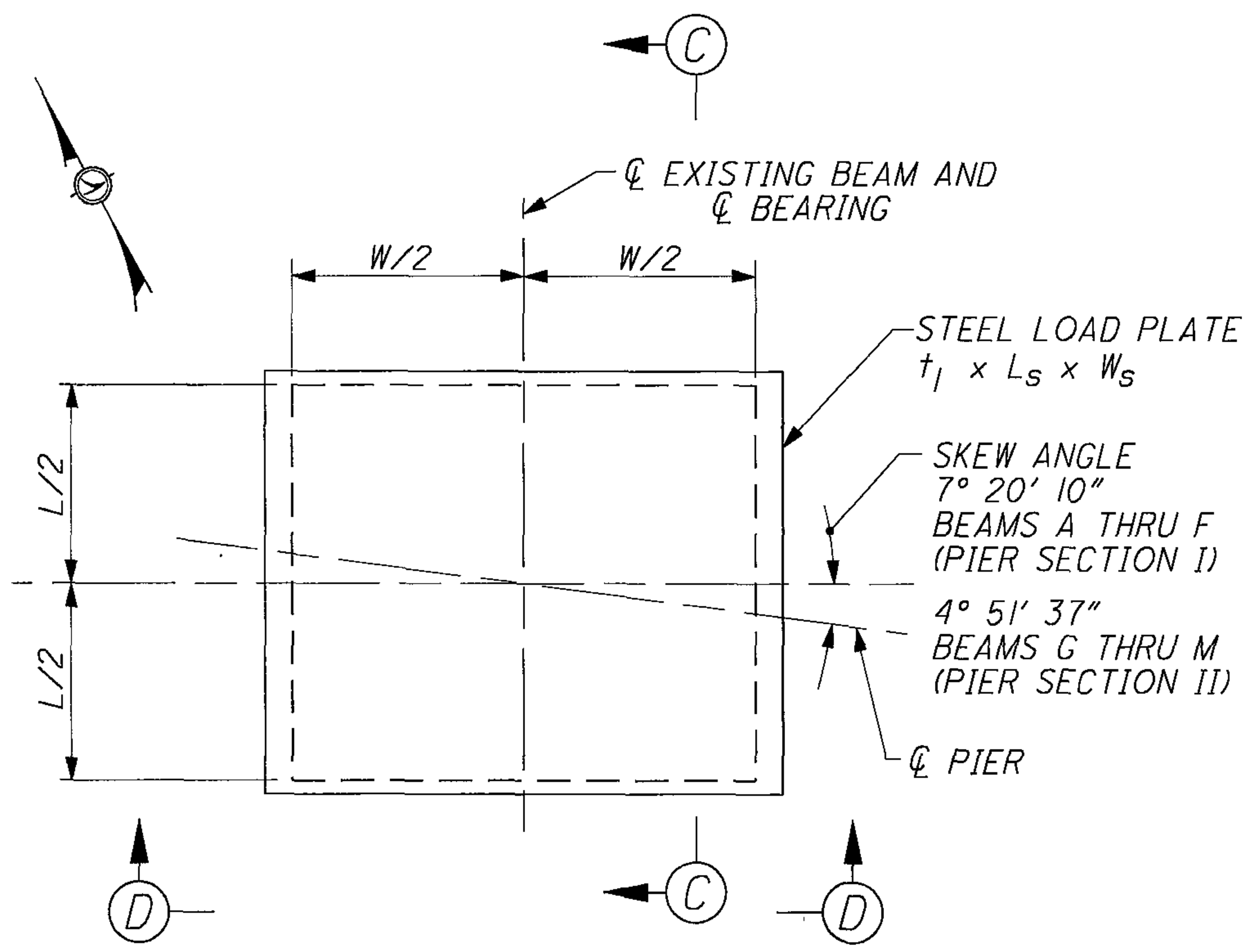
SECTION A-A



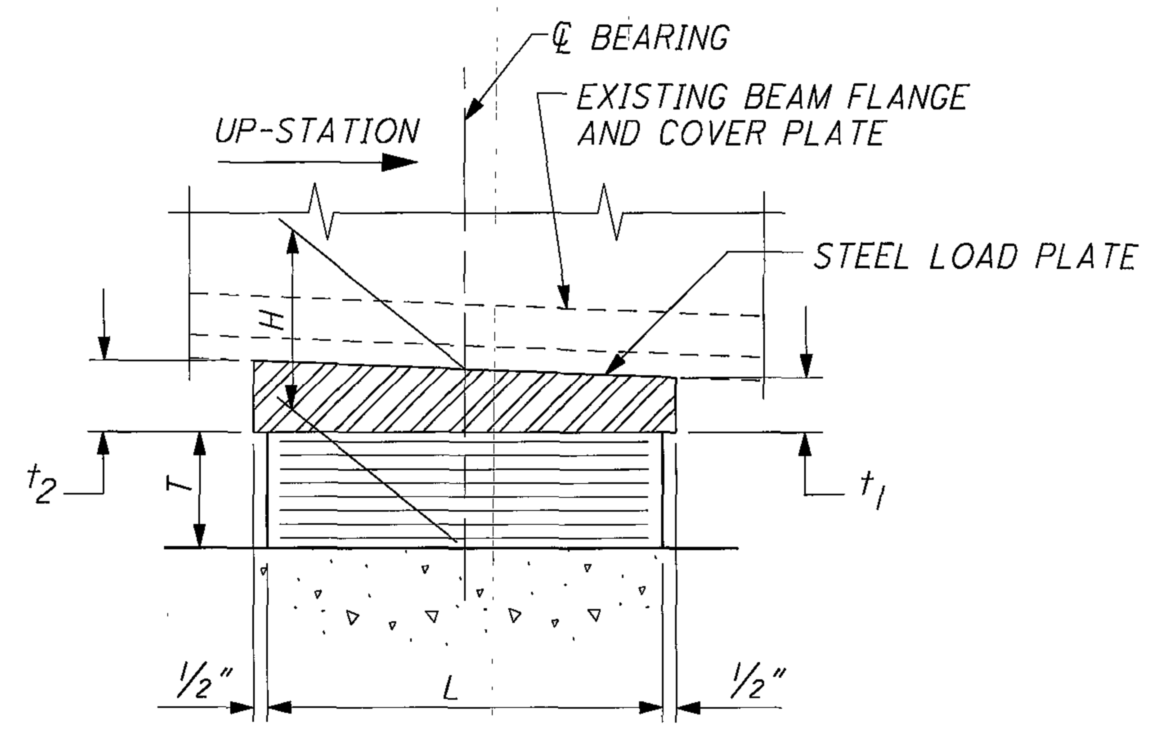
SECTION B-B



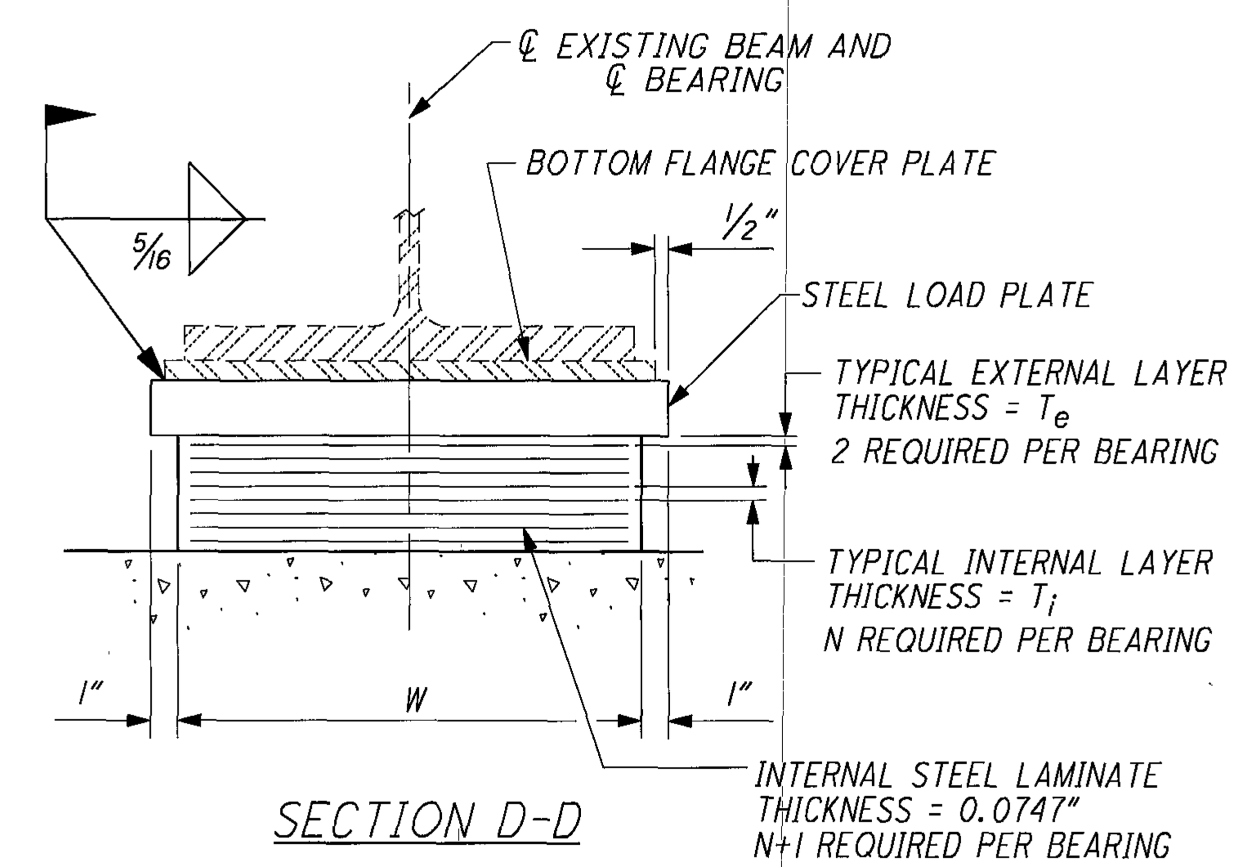
REMOVAL AT ABUTMENTS



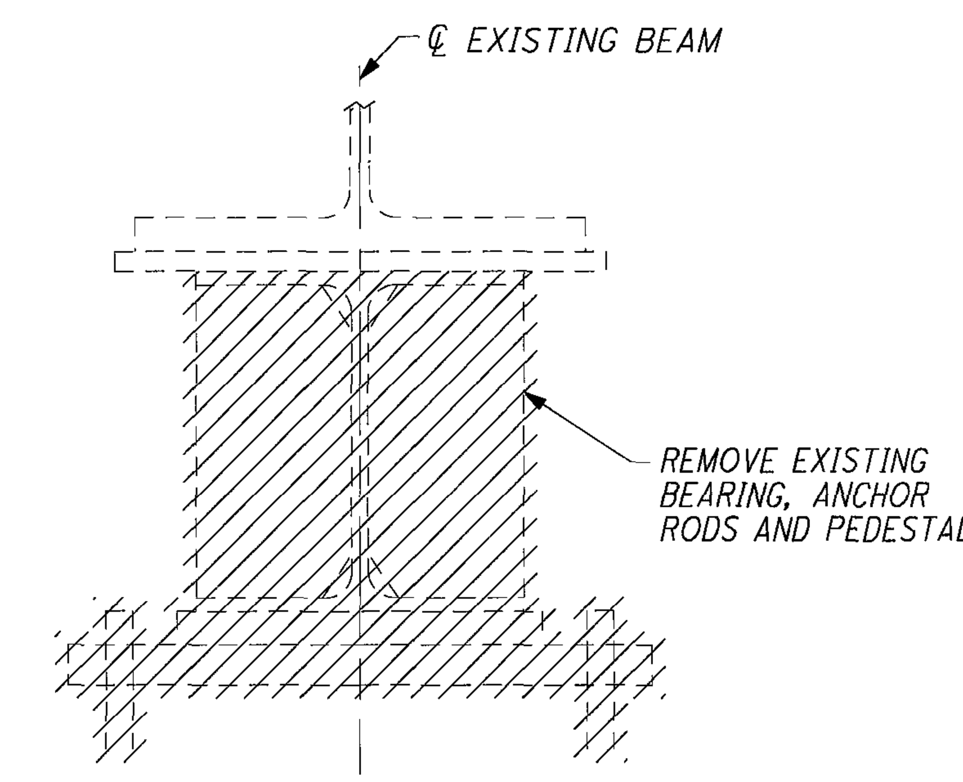
PIER BEARING



SECTION C-C

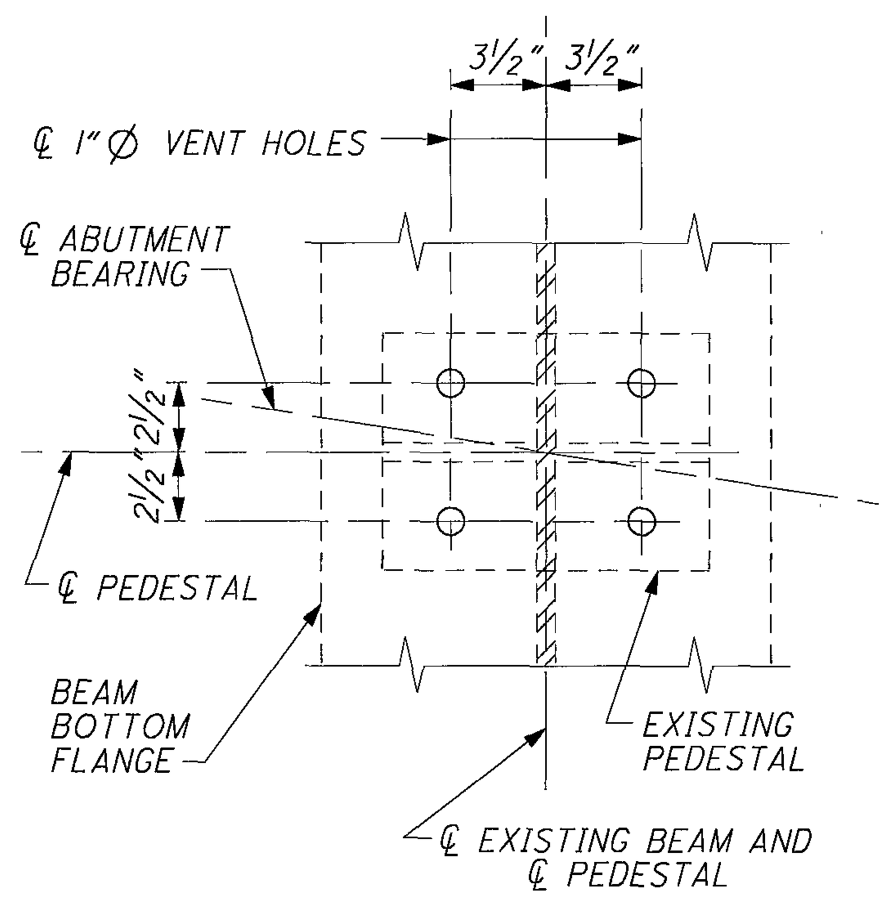


SECTION D-D



REMOVAL AT PIER

LAMINATED ELASTOMERIC BEARING DATA																	
LOCATION	TYPE	NO. REQ'D	BEARING							LOAD PLATE				SERVICE LOAD REACTIONS (KIPS)		
			L (in.)	W (in.)	T_i (in.)	T_e (in.)	N	T (in.)	H @ ℄ BRG. (in.)	t_l (in.)	t_2 (in.)	L_s (in.)	W_s (in.)	DEAD LOAD	LIVE LOAD (NO IMPACT)	TOTAL
REAR ABUTMENT	EXP.	12	11	14	0.31	0.20	8	3.63	5.35	1.50	1.94	12	15	73.4	64.4	137.8
PIER	EXP.	12	14.5	17	0.36	0.25	9	4.49	6.77	2.0	2.56	15.5	19	155.3	83.5	238.8
FORWARD ABUTMENT	EXP.	12	11	11.5	0.30	0.21	7	3.12	4.83	1.50	1.92	12	13	43.9	60.3	104.2



SECTION E-E

NOTES:

1. PAYMENT FOR THE REMOVAL OF BEARINGS, PEDESTALS, ANCHOR RODS AND THE FIELD DRILLING OF VENT HOLES IS INCLUDED WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

2. ELASTOMERIC BEARINGS:
THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

3. LOAD PLATE:
THE STEEL LOAD PLATE (ASTM A709, GRADE 36) SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS. WELDING OF THE LOAD PLATE TO THE STEEL SUPPORT POST OR SUPERSTRUCTURE SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE SHALL NOT EXCEED 300°F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.
THE TOP SURFACE OF EACH LOAD PLATE SHALL BE BEVELED IN THE DIRECTION OF THE ROADWAY ALIGNMENT AS SHOWN. THE UP-STATION FACE AND INTENDED LOCATION OF EACH BEARING SHALL BE CLEARLY AND INDELIBLY MARKED AS SUCH ON EACH BEARING LOAD PLATE. THESE MARKINGS MAY BE COVERED WITH THE FINISH COAT OF PAINT ONLY AFTER THE ENGINEER HAS CONFIRMED THAT EACH BEARING IS PROPERLY LOCATED AND ORIENTED.

4. BEARING REPOSITIONING:
IF THE STEEL IS ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS ONE-SIXTH OF THE BEARING HEIGHT AT 60°F PLUS OR MINUS 10°F, THE BEAMS SHALL BE RAISED TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F PLUS OR MINUS 10°F.

5. BASIS OF PAYMENT:
THE UNIT PRICE BID SHALL INCLUDE ALL MATERIALS, LABOR, TESTING, PAINTING AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR THE APPROPRIATE ITEM 516, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.

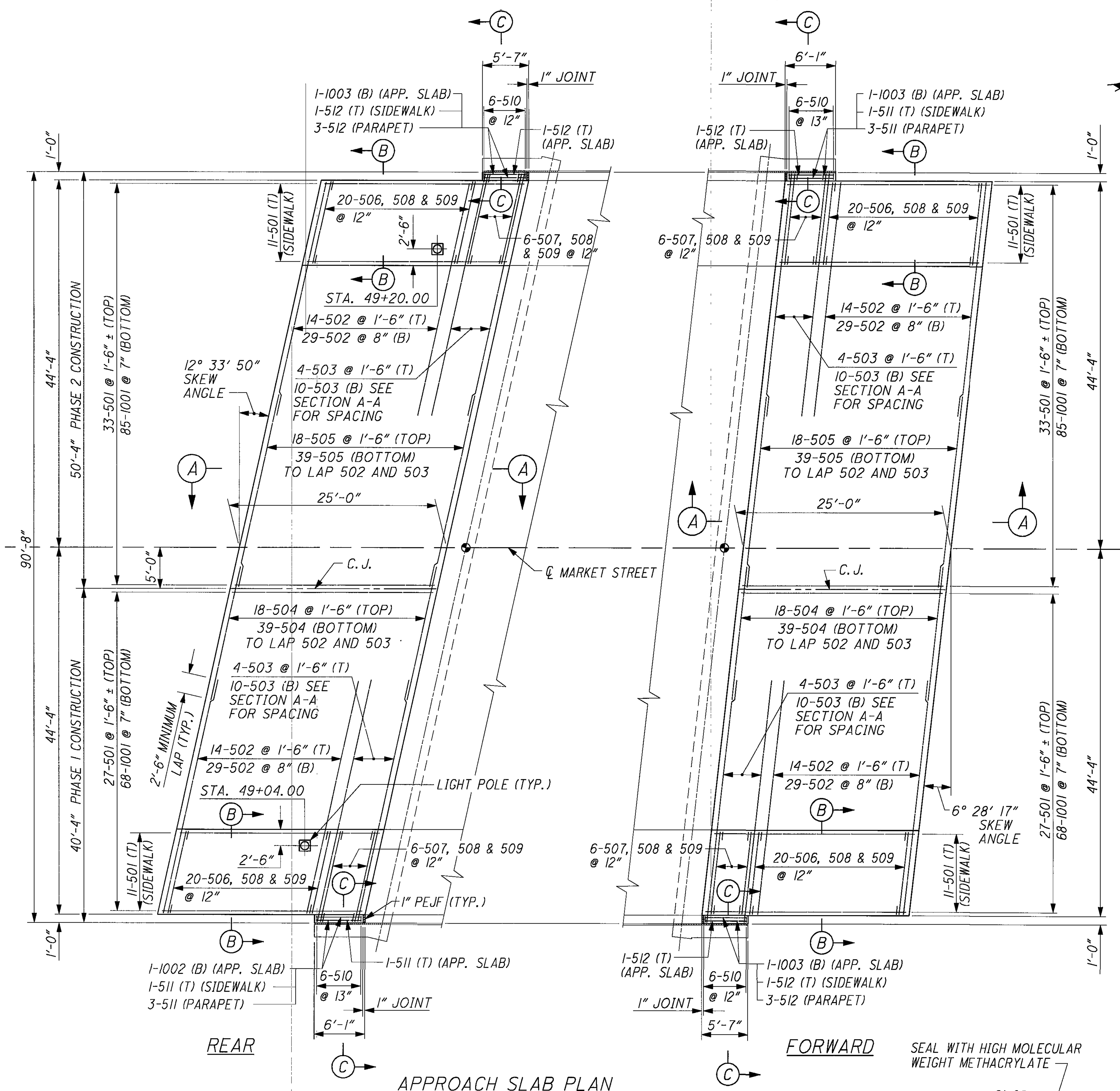
DESIGN AGENCY
R.E. WARNER & ASSOCIATES, INC.
LA OFFICE PLAZA II
SUITE 200
25777 DETROIT ROAD
WESTLAKE, OHIO 44145
TELEPHONE (440) 835-9400
JOB NUMBER 34404

DESIGNED GFH | CHECKED YAZ | DRAWN GFH | REVISED | REVIEWED JRS | DATE 6-1-06 | STRUCTURE FILE NUMBER 5001986

LAMINATED ELASTOMERIC BEARINGS
BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

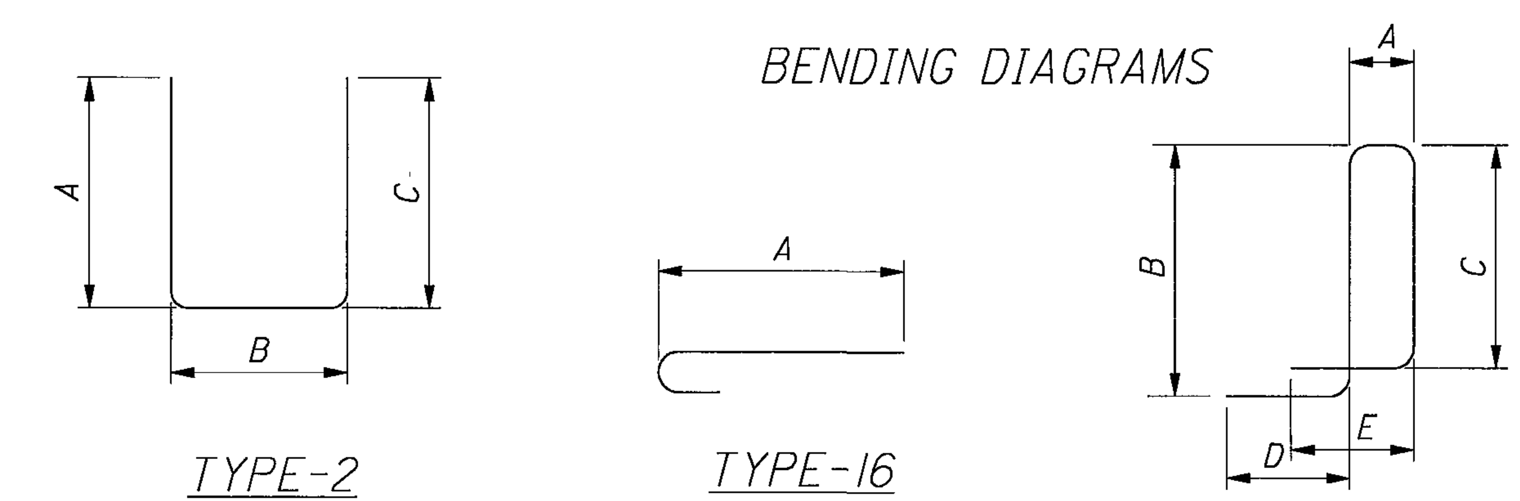
MAH-680-6.03
PID 19916

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FWD	TOTAL		(LBS.)		A	B	C	D	E	R	INC.
APPROACH SLABS													
AS501	82	82	164	24'-6"	4,191	STR							
AS502	86	86	172	29'-0"	5,202	STR							
AS503	28	28	56	30'-0"	1,752	STR							
AS504	57	57	114	16'-4"	1,942	STR							
AS505	57	57	114	23'-9"	2,824	STR							
AS506	40	40	80	10'-0"	834	STR							
AS507	12	12	24	11'-0"	275	STR							
AS508	52	52	104	3'-3"	353	2	1'-0"	1'-6"	1'-0"				
AS509	52	52	104	3'-5"	371	2	1'-0"	1'-8"	1'-0"				
AS510	12	12	24	9'-4"	234	28	8"	3'-2"	3'-0"	1'-6"	1'-6"		
AS511	9	9	18	5'-8"	106	STR							
AS512	9	9	18	5'-2"	97	STR							
AS1001	153	153	306	25'-11"	34,125	16	24'-6"						
AS1002	2	2	4	7'-0"	120	16	5'-7"						
AS1003	2	2	4	6'-6"	112	16	5'-1"						
				TOTAL	52,538								

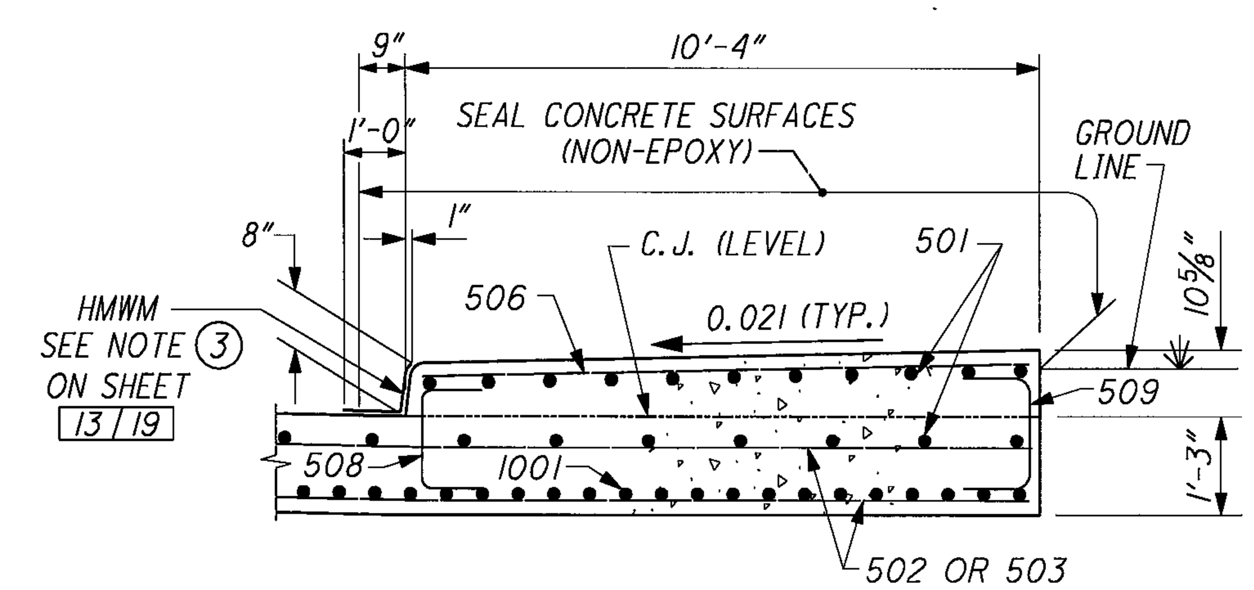


APPROACH SLAB PLAN

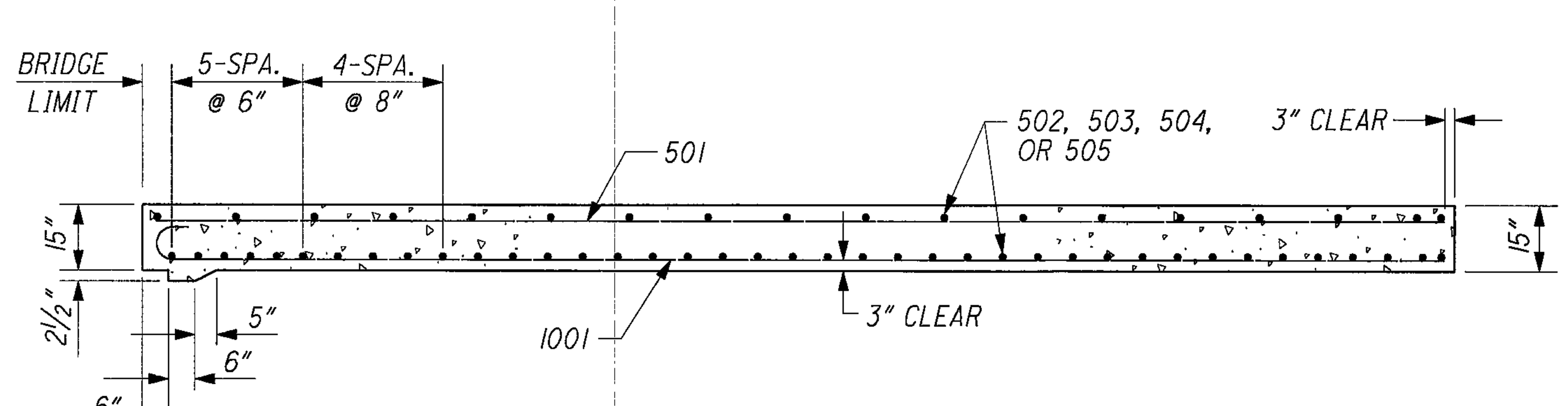
BENDING DIAGRAMS



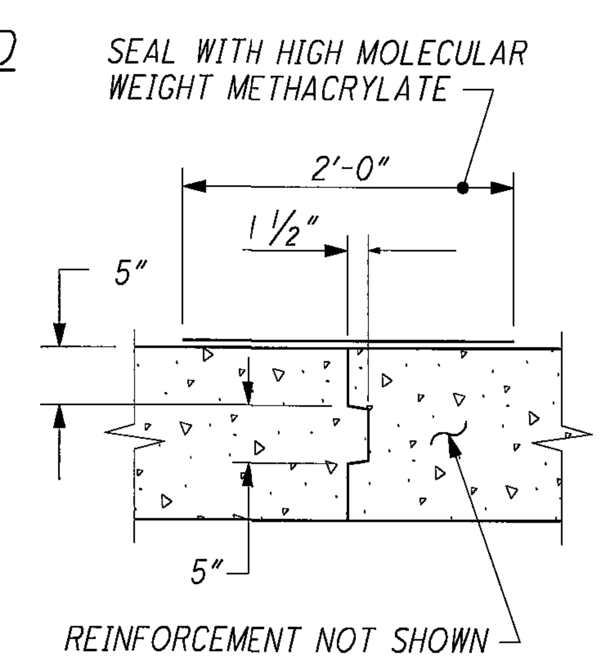
TYPE-2 TYPE-16 TYPE-28



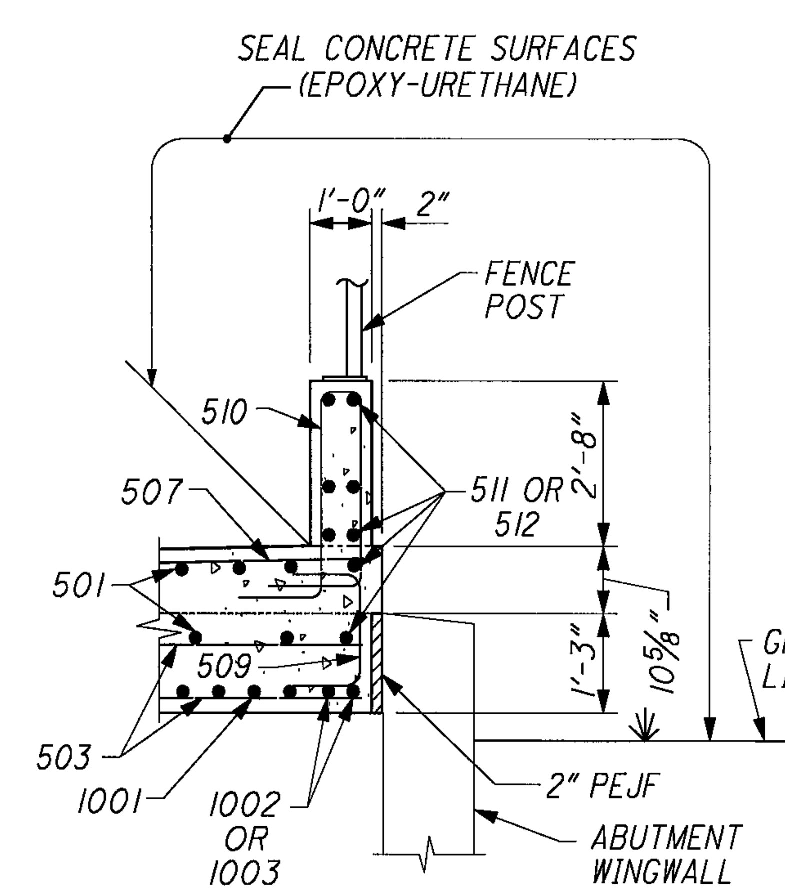
SECTION B-B



SECTION A-A



LONGITUDINAL CONSTRUCTION JOINT DETAIL



SECTION C-C

NOTES:

1. APPROACH SLAB, SIDEWALK AND PARAPET CONCRETE SHALL BE CLASS HP, AS PER PLAN.
2. REINFORCING STEEL WEIGHTS ARE GIVEN FOR INFORMATION ONLY. ALL REINFORCING STEEL BAR MARKS SHALL BE PREFIXED "AS" (APPROACH SLAB).
3. SIDEWALK CONCRETE, PARAPET CONCRETE AND REINFORCING STEEL SHALL BE INCLUDED FOR PAYMENT WITH ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN.
4. FOR THE LOCATIONS OF FENCE POSTS ON THE PARAPETS SEE SHEET 15/19.
5. FOR LIGHT POLE DETAILS SEE LIGHTING PLANS
6. FOR ADDITIONAL NOTES AND DETAILS SEE OHIO STANDARD DRAWING AS-1-81, SHEETS 1 AND 2 OF 3.
7. THE FOLLOWING ABBREVIATIONS ARE USED:

PEJF = PREFORMED EXPANSION JOINT FILLER
T = TOP
B = BOTTOM
APP. = APPROACH
TYP. = TYPICAL
C.J. = CONSTRUCTION JOINT
HMWM = HIGH MOLECULAR WEIGHT METHACRYLATE

DESIGN AGENCY R.E. WARNER & ASSOCIATES, INC.

DESIGNED GFH | CHECKED YAZ | DRAWN GFH | REVIEWED JRS | DATE 6-1-06 | STRUCTURE FILE NUMBER 5001986

APPROACH SLABS
BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

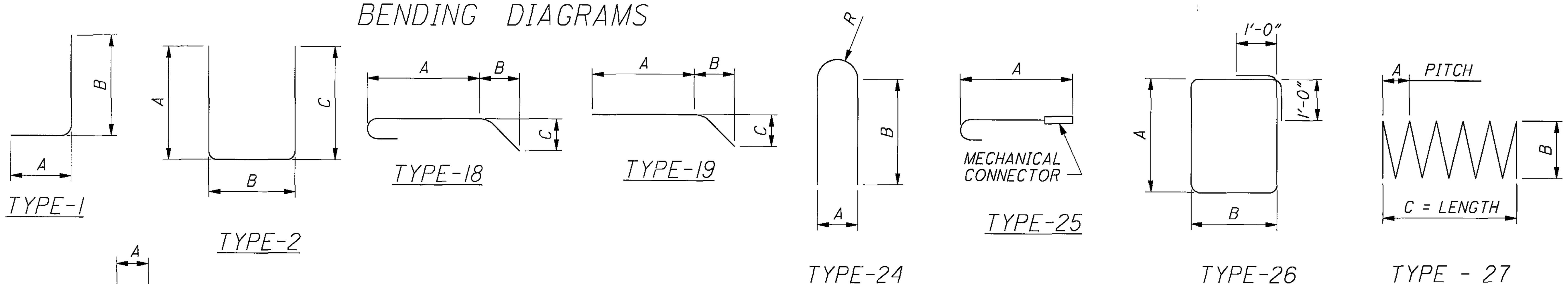
MAH-680-6.03
PID 19916

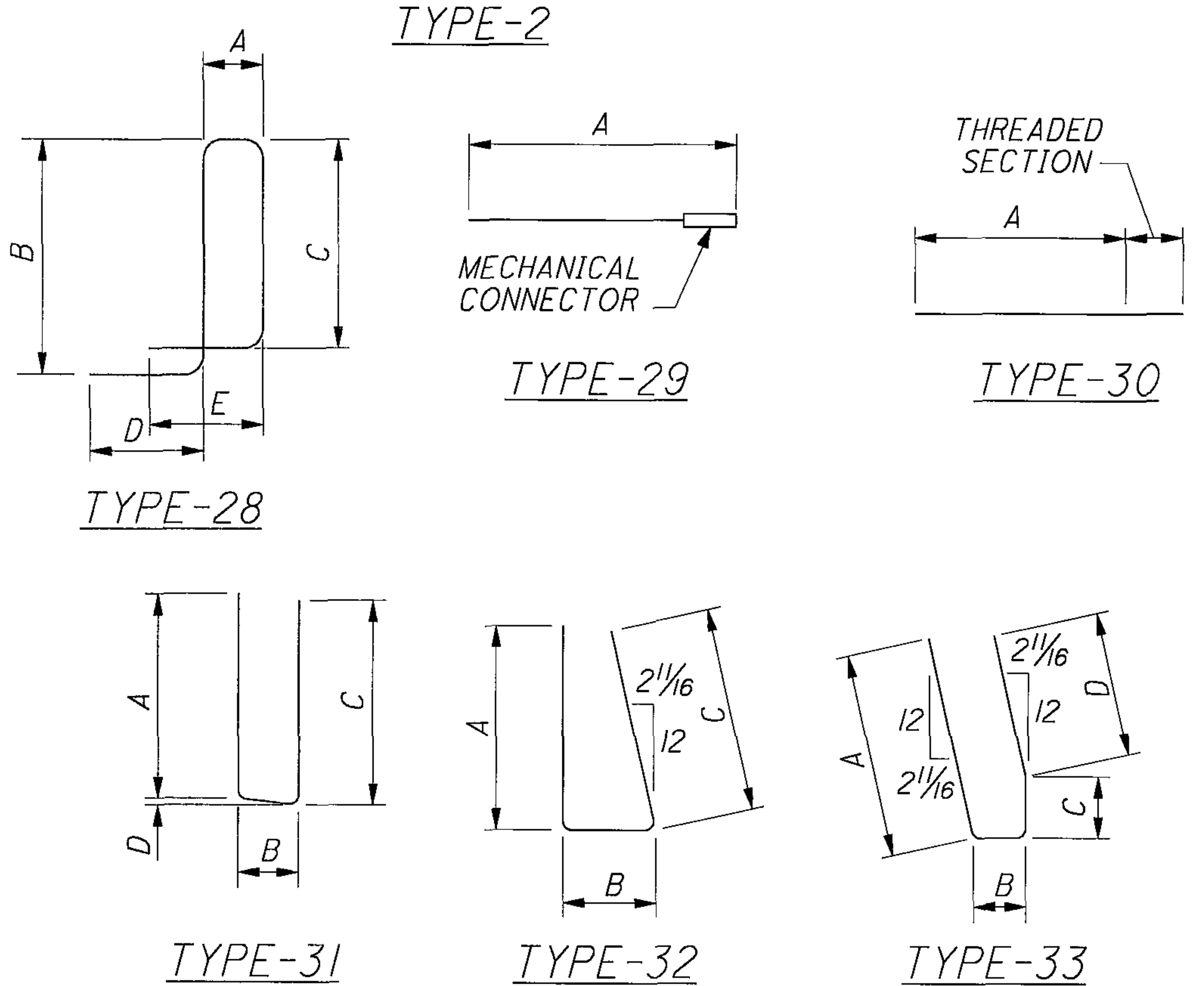
MARK	NUMBER REAR	FWD	TOTAL	LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS A	B	C	D	E	R	INC.
ABUTMENTS													
A501	124		124	4'-8"	604	1	1'-9"	3'-1"					
A502		122	122	4'-10"	615	1	1'-11"	3'-1"					
	2		2	7'-5"			3'-3"		3'-3"				
A503	SER		SER	TO	102	STR	TO	1'-2"	TO				7"
	5		5	12'-1"			5'-7"		5'-7"				
		2	2	7'-5"			3'-3"		3'-3"				
A504		SER	SER	TO	99	STR	TO	1'-2"	TO				6¼"
		5	5	11'-7"			5'-4"		5'-4"				
A505	12	12	24	3'-11"	98	STR							
A506	8	8	16	13'-9"	202	2	5'-7"	1'-2"	5'-7"				
A507	16	16	32	7'-6"	250	STR							
A508	4	4	8	5'-0"	42	STR							
A509		12	12	7'-7"	95	31	3'-5"	1'-0"	3'-5"	1⅜"			
A510	6		6	8'-2"	51	32	3'-5"	1'-7"	3'-5"				
A511	6		6	7'-5"	46	33	3'-5"	10"	1'-0"	2'-5"			
A512	2		2	7'-10"	16	19	5'-6"	2'-0"	1'-2"				
A513	2		2	8'-5"	18	19	6'-1"	2'-1"	1'-0"				
A514		2	2	7'-11"	17	19	5'-7"	2'-2"	10"				
A515		2	2	7'-10"	16	19	5'-6"	2'-2"	10"				
A801	10	10	20	30'-0"	1,602	STR							
A802	5		5	22'-6"	300	29	22'-6"						
A803	5		5	21'-1"	281	30	21'-1"						
A804		5	5	19'-3"	257	30	19'-3"						
A805		5	5	21'-9"	290	29	21'-9"						
				TOTAL	5,001								

MARK	NO.	LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS A	B	C	D	E	R	INC.
PIERS											
P401	6	1'-2"	202	27	4½"	2'-8"	1'-2"				
P501	140	8'-7"	1,253	2	3'-1"	2'-8"	3'-1"				
P502	48	7'-9"	388	2	3'-1"	1'-10"	3'-1"				
P503	14	8'-1"	118	24	2'-7"	2'-0"				1'-3½"	
P504	14	6'-4"	92	2	2'-0"	2'-7"	2'-0"				
P505	20	30'-0"	626	STR							
P506	20	12'-10"	268	STR							
P601	4	4'-4"	26	1	1'-7"	2'-11"					
P602	6	12'-5"	112	26	2'-11½"	2'-8"					
P801	14	21'-10"	816	STR							
P802	14	26'-8"	997	STR							
P803	16	39'-8"	1,695	1	4'-2"	35'-10"					
P804	16	17'-0"	726	1	3'-8"	13'-8"					
P805	4	13'-5"	143	STR							
P901	72	4'-0"	979	25	2'-9"						
P902	10	4'-3"	146	1	1'-7"	2'-11"					
		TOTAL	8,587								

MARK	NO.	LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS A	B	C	D	E	R	INC.
SUPERSTRUCTURE											
S401	408	30'-0"	8,176	STR							
S402	21	31'-0"	435	STR							
S403	18	29'-1"	350	STR							
S404	13	27'-5"	238	STR							
S405	13	26'-2"	227	STR							
S406	18	24'-11"	300	STR							
S407	21	23'-2"	325	STR							
S501	644	30'-0"	20,151	STR							
S502	24	29'-2"	730	STR							
S503	22	27'-3"	625	STR							
S504	1,140	13'-7"	16,151	STR							
S505	562	36'-8"	21,493	STR							
S506	546	33'-9"	19,220	STR							
	2	3'-7"									
S507	SER	TO	79	STR							2'-0"
	5	11'-7"									
	2	5'-7"									
S508	SER	TO	60	STR							4'-0"
	3	13'-7"									
	2	5'-4"									
S509	SER	TO	679	STR							2'-0"
	16	35'-4"									
	2	4'-8"									
S510	SER	TO	312	STR							4'-0"
	8	32'-8"									
	2	5'-11"									
S511	SER	TO	623	STR							2'-0"
	15	33'-11"									
	2	7'-8"									
S512	SER	TO	287	STR							4'-0"
	7	31'-8"									
	2	5'-0"									
S513	SER	TO	94	STR							2'-0"
	5	13'-0"									
	1	2'-5"									
S514	SER	TO	20	STR							4'-0"
	3	10'-5"									
S515	118	8'-7"	1,056	2	2'-5"	2'-8"	3'-9"				
S516	118	8'-9"	1,077	2	2'-9"	3'-6"	2'-9"				
S517	118	4'-6"	554	1	2'-0"	2'-8"					
S518	118	4'-9"	585	19	3'-10"	10"	5"				
S519	278	9'-4"	2,706	28	8"	3'-2"	3'-0"	1'-6"	1'-6"		
S520	6	21'-3"	133	STR							
S521	18	31'-0"	582	STR							
S522	12	22'-9"	285	STR							
S523	302	10'-10"	3,412	STR							
S524	299	2'-8"	832	2	1'-0"	10½"	1'-0"				
S525	299	2'-10"	884	2	1'-0"	1'-1"	1'-0"				
S526	14	7'-0"	102	STR							
S527	8	4'-2"	35	STR							
S528	17	25'-6"	452	STR							
S529	16	24'-3"	405	STR							
S530	22	22'-11"	526	STR							
S531	24	21'-3"	532	STR							
S601	102	30'-0"	4,596	STR							
S602	51	34'-4"	2,630	STR							
S603	51	37'-4"	2,860	STR							
S801	64	24'-9"	4,229	STR							
S802	16	27'-2"	1,161	29	27'-2"						
S803	16	28'-0"	1,196	29	28'-0"						
S804	16	25'-2"	1,075	30	25'-2"						
S805	16	26'-6"	1,132	30	26'-6"						
D801	120	5'-0"	1,602	18	2'-8"	1'-0"	1'-0"				
		TOTAL	125,214								

BENDING DIAGRAMS





NOTES:

1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, S601 IS A NO. 6 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.
2. ALL REINFORCING STEEL TO BE EPOXY COATED.
3. SPACERS
   CONCRETE SPACERS OR OTHER APPROVED NONCORROSIVE SPACING DEVICES SHALL BE USED AT SUFFICIENT INTERVALS (NEAR THE BOTTOM AND AT INTERVALS NOT EXCEEDING TEN FEET) TO INSURE CONCENTRIC SPACING FOR THE ENTIRE CAGE LENGTH. SPACERS SHALL BE CONSTRUCTED OF APPROVED MATERIAL EQUAL IN QUALITY AND DURABILITY TO THE CONCRETE SPECIFIED FOR THE SHAFT. THE SPACERS SHALL HAVE ADEQUATE DIMENSIONS TO INSURE A MINIMUM 3 INCH CLEAR SPACE BETWEEN THE OUTSIDE OF THE REINFORCING CAGE AND THE DESIGN DIMENSION OF THE COLUMN. CYLINDRICAL CONCRETE FEET (BOTTOM SUPPORTS) SHALL BE PROVIDED TO INSURE THAT THE BOTTOM OF THE CAGE IS MAINTAINED AT THE PROPER DISTANCE ABOVE THE BASE.

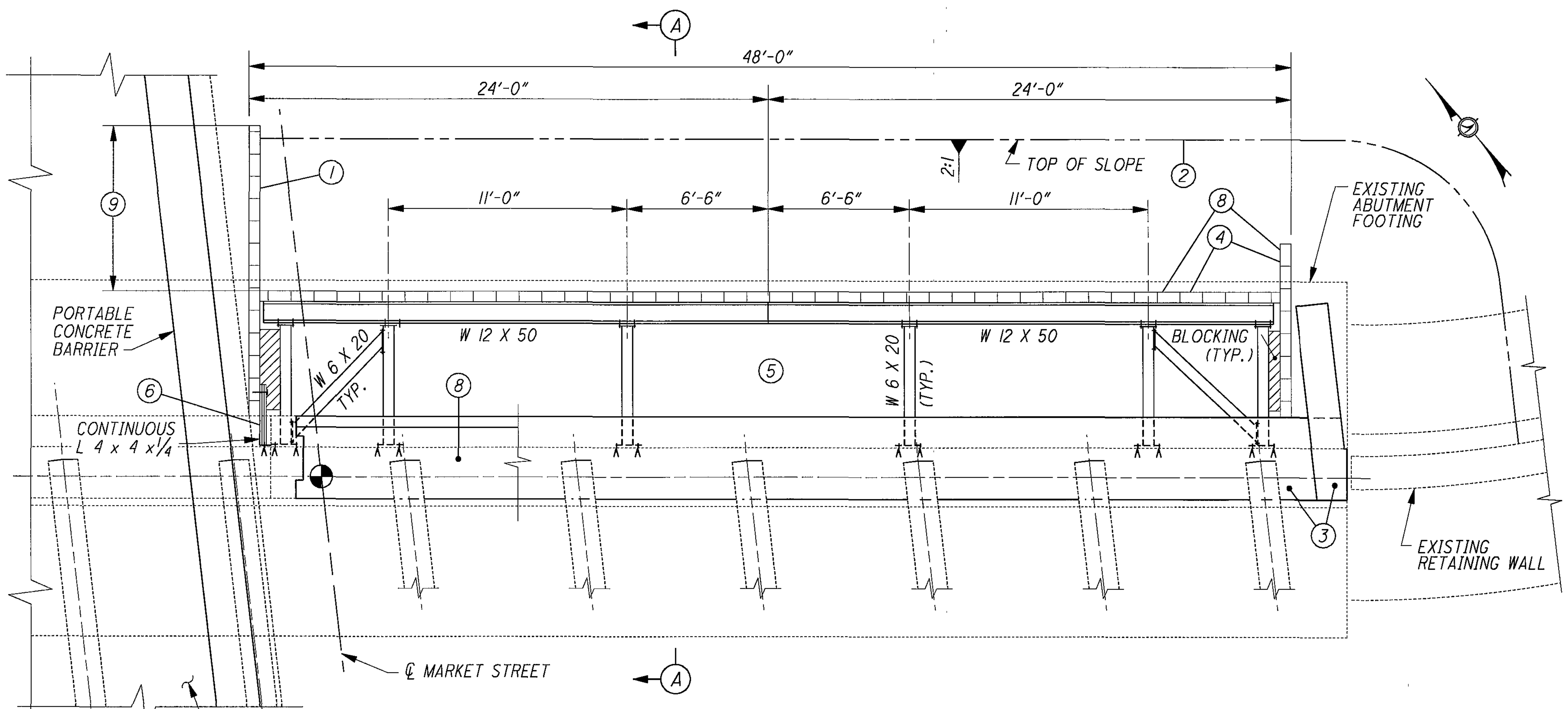
DESIGN AGENCY
R.E. WARNER & ASSOCIATES, INC.
DESIGNED GFH | CHECKED YAZ | DRAWN GFH | REVISED | REVIEWED JRS | DATE 6-1-06 | STRUCTURE FILE NUMBER 5001986

REINFORCING SCHEDULE
BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

MAH-680-6.03
PID 19916

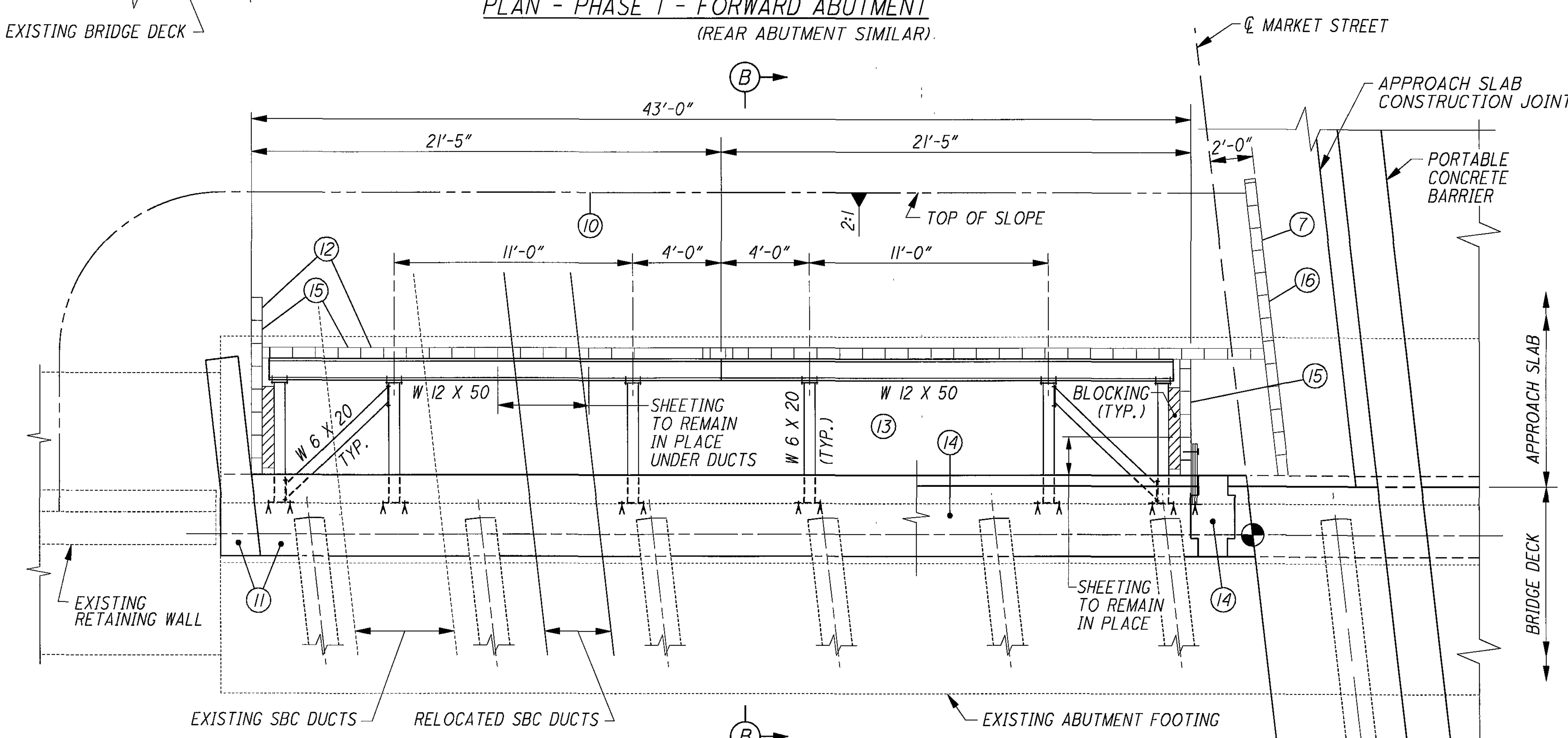
18 / 19

80 / 85



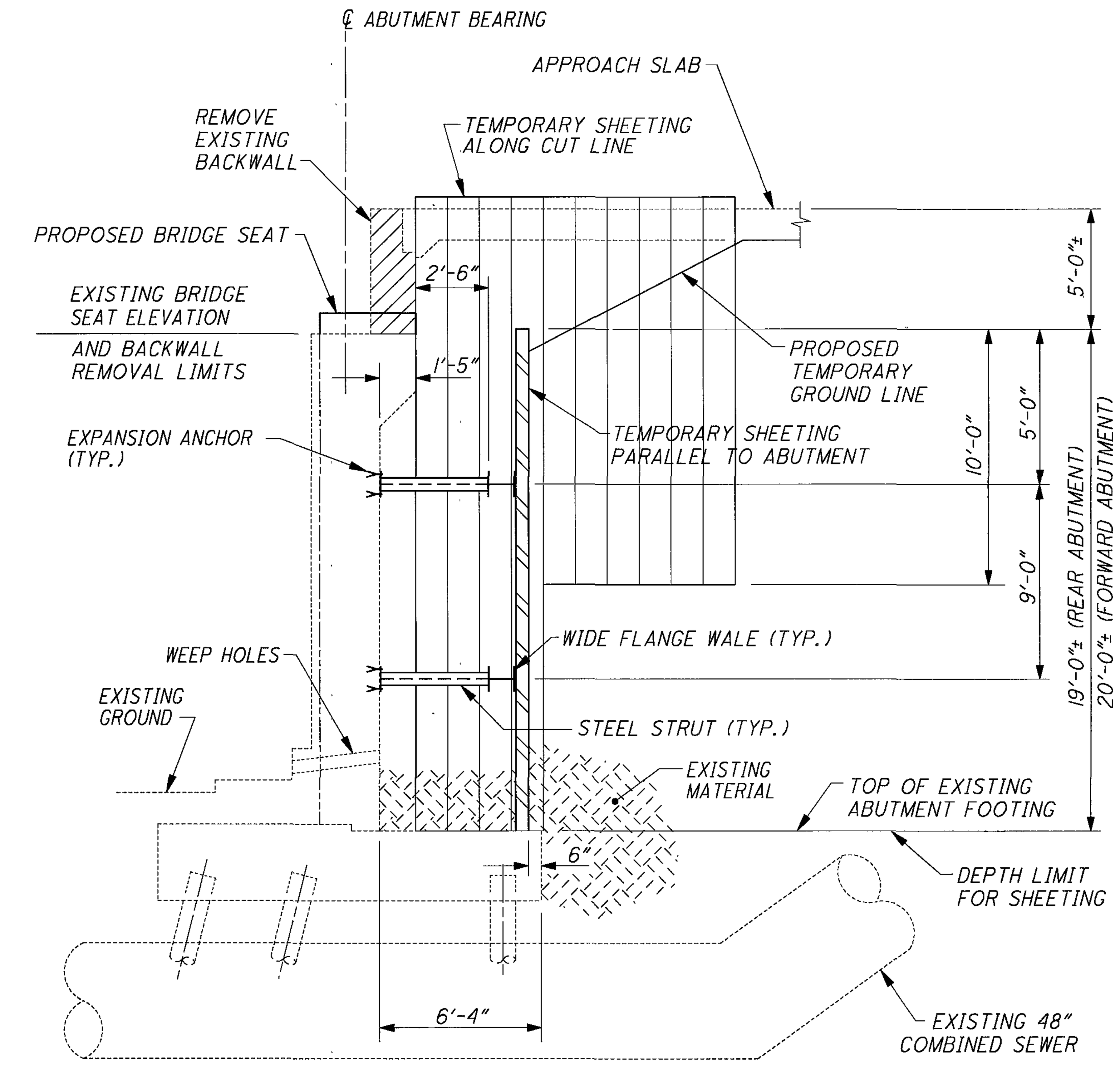
PLAN - PHASE 1 - FORWARD ABUTMENT

(REAR ABUTMENT SIMILAR)

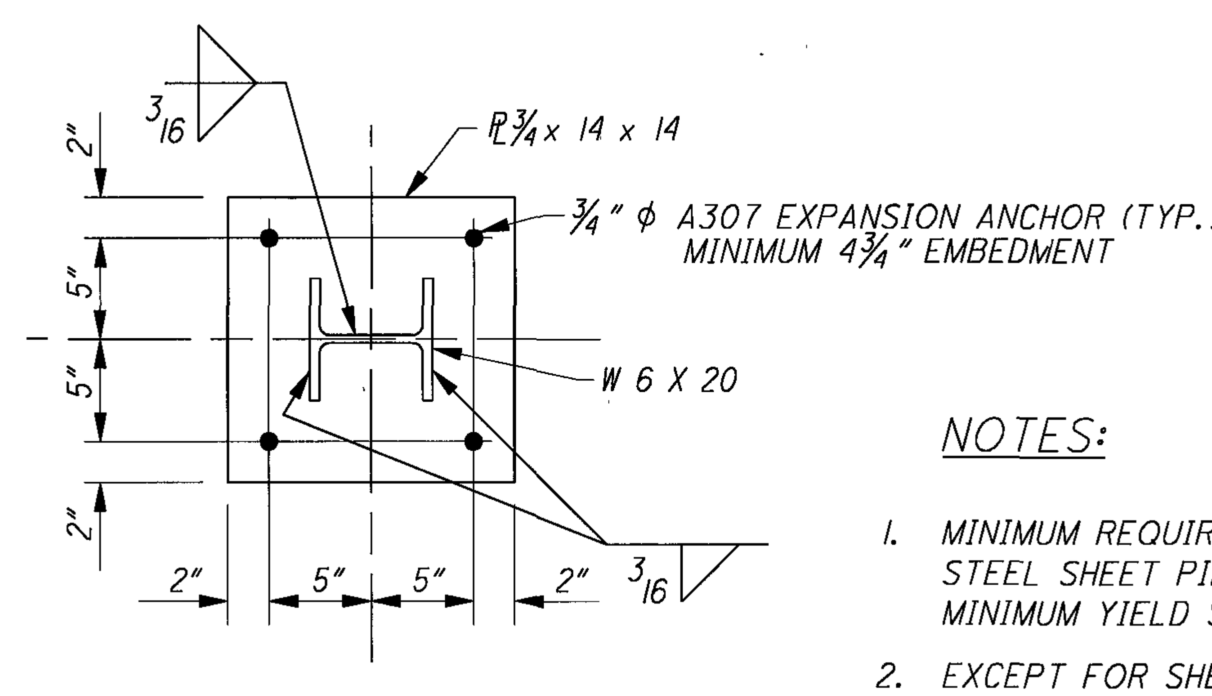


PLAN - PHASE 2 - FORWARD ABUTMENT

(REAR ABUTMENT SIMILAR)



SECTION A-A (SHOWN)
SECTION B-B (OPPOSITE HAND)



STRUT BASE PLATE DETAIL

NOTES:

1. MINIMUM REQUIRED SECTION MODULUS FOR THE STEEL SHEET PILING IS 8 IN^3 PER LINEAR FOOT. MINIMUM YIELD STRENGTH = 50,000 PSI
2. EXCEPT FOR SHEETING TO REMAIN IN PLACE, PAYMENT FOR ALL SHEETING, STRUTS, WALES, BRACING AND BLOCKING SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 503, COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN.

SUGGESTED CONSTRUCTION PROCEDURE:

(1) REMOVE EXISTING APPROACH SLAB AND INSTALL SHEETING AT CUT LINE.

(2) OPEN CUT EXCAVATION TO EXISTING BRIDGE SEAT ELEVATION.

(3) REMOVE EXISTING BACKWALL AND CONSTRUCT WINGWALL AND BRIDGE SEAT.

(4) INSTALL SHEETING AT THE WINGWALL AND PARALLEL TO THE ABUTMENT.

(5) EXCAVATE POROUS BACKFILL AND INSTALL WALES AND STRUTS AS EXCAVATION PROGRESSES. REPLACE POROUS BACKFILL TO EXISTING BRIDGE SEAT ELEVATION, REMOVING STRUTS AND WALES AS BACKFILL IS REPLACED.

(6) BLOCK OPENING AS BACKFILL IS REPLACED

(7) INSTALL SHEETING PARALLEL TO CENTERLINE.

(8) REMOVE SHEETING, CONSTRUCT ABUTMENT DIAPHRAGM AND FINISH BACKFILLING. CONSTRUCT APPROACH SLAB AFTER BRIDGE DECK HAS BEEN CONSTRUCTED.

(9) REMOVE SHEETING AFTER SHIFTING TRAFFIC PATTERN.

(10) OPEN CUT EXCAVATION TO EXISTING BRIDGE SEAT ELEVATION

(11) REMOVE EXISTING BACKWALL AND CONSTRUCT WINGWALL AND BRIDGE SEAT

(12) INSTALL SHEETING AT THE WINGWALL AND PARALLEL TO THE ABUTMENT. COORDINATE SHEETING INSTALLATION WITH RELOCATION OF UTILITIES.

(13) EXCAVATE POROUS BACKFILL AND INSTALL WALES AND STRUTS AS EXCAVATION PROGRESSES. REPLACE POROUS BACKFILL TO EXISTING BRIDGE SEAT ELEVATION, REMOVING STRUTS AND WALES AS BACKFILL IS REPLACED.

(14) CONSTRUCT ABUTMENT DIAPHRAGM AND PHASE 2 BRIDGE DECK INCLUDING THE CLOSURE POUR.

(15) REMOVE ALL SHEETING EXCEPT THAT DESIGNATED TO REMAIN IN PLACE AND THE SHEETING ALONG THE CENTERLINE OF MARKET ST.

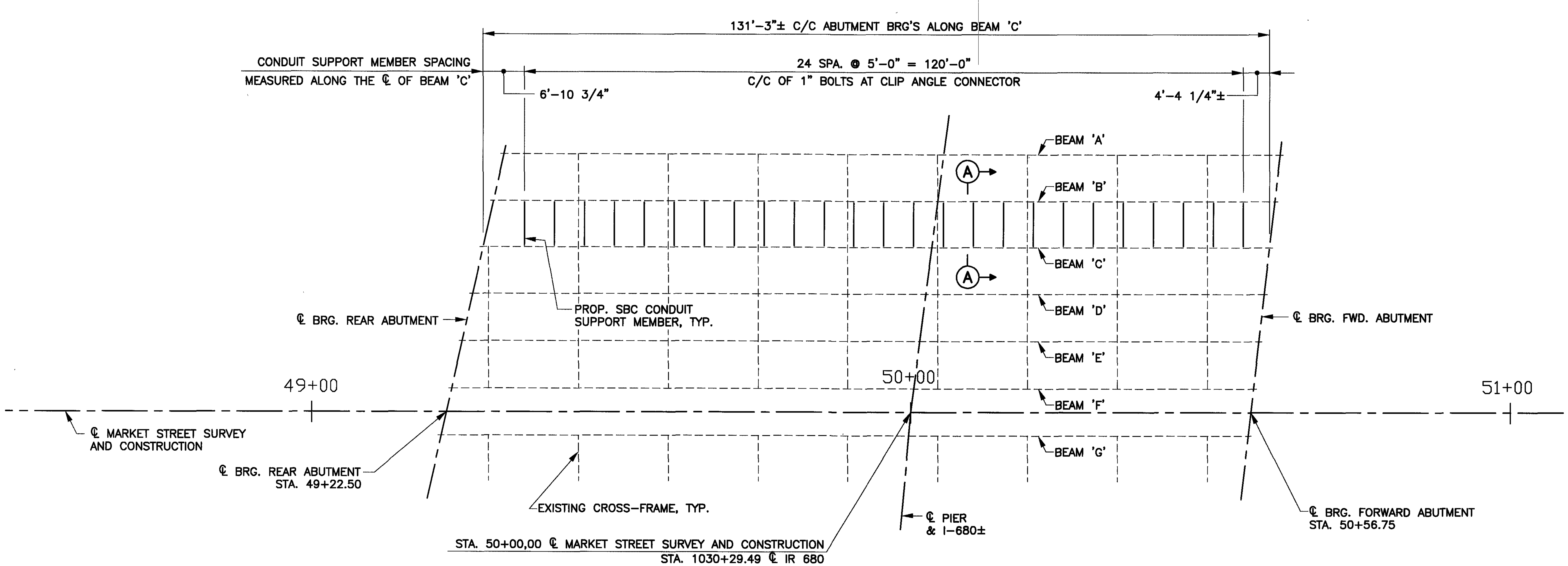
(16) FINISH BACKFILLING, REMOVE SHEETING PARALLEL TO ℄ MARKET STREET AND CONSTRUCT APPROACH SLAB.

DESIGN AGENCY R.E. WARNER & ASSOCIATES, INC.

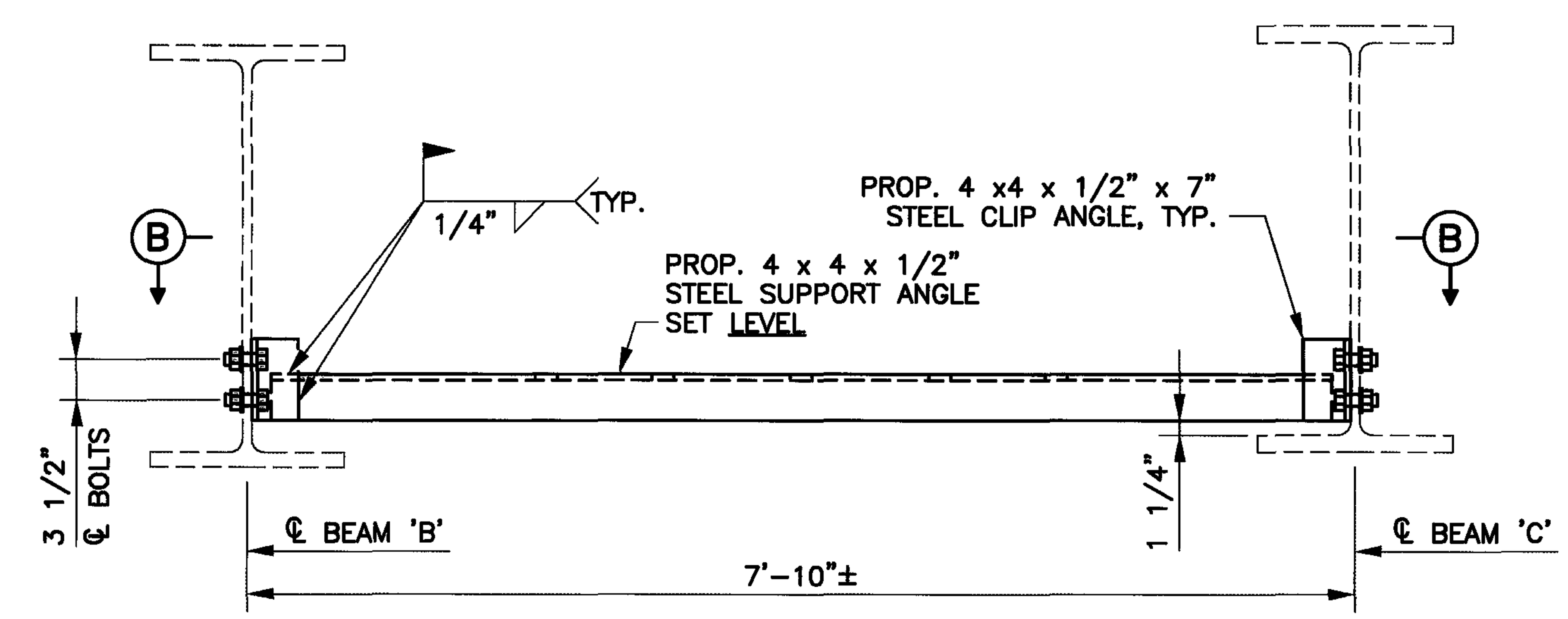
DESIGNED	DRAWN	REVIEWED	DATE
JRS	GFH	JRS	6-1-06
CHECKED YAZ	REVISED	STRUCTURE FILE NUMBER 5001986	

SHEETING DETAILS
BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

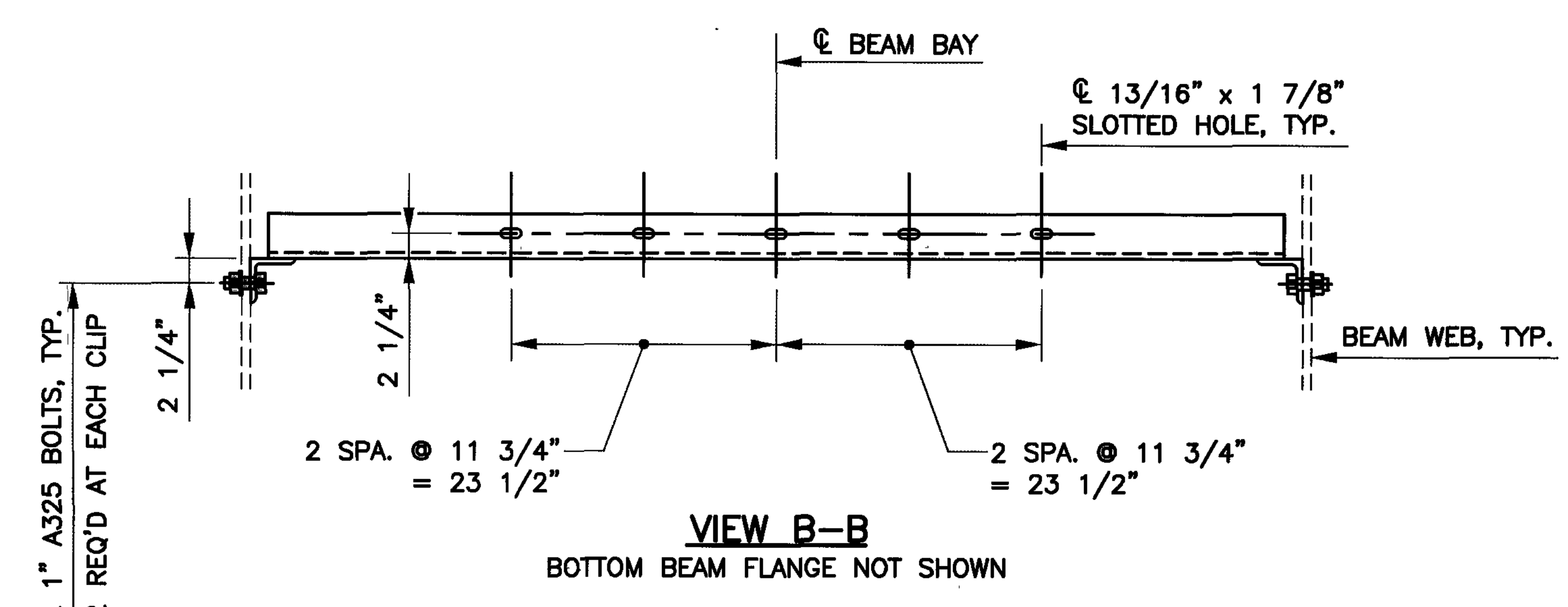
MAH-680-6.03
PID 19916



PARTIAL FRAMING PLAN



SECTION A-A
CROSS-FRAME MEMBERS NOT SHOWN



VIEW B-B
BOTTOM BEAM FLANGE NOT SHOWN

NOTES

1. ALL STRUCTURAL STEEL WORK RELATED TO INSTALLATION OF THE CLIP ANGLE CONNECTORS AND SUPPORT MEMBERS FOR THE SBC DUCT RELOCATION, INCLUDING DRILLING HOLES IN EXISTING BEAMS, SHALL CONFORM TO AND BE INCLUDED FOR PAYMENT WITH ITEM 513. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS RELATED TO THE EXISTING STRUCTURE PRIOR TO FABRICATION AND INSTALLATION OF THE SUPPORTS. IF ANY CONFLICTS EXIST BETWEEN FIELD CONDITIONS AND THESE DRAWINGS, CONSULT THE DEPARTMENT AND SBC REPRESENTATIVES FOR DIRECTION PRIOR TO PROCEEDING.

   THE FOLLOWING ESTIMATED QUANTITY OF STRUCTURAL STEEL WILL BE CARRIED TO THE BRIDGE QUANTITY SHEET:

   ITEM 513E10200 – 2900 POUNDS STRUCTURAL STEEL MEMBERS, LEVEL UF

2. ALL PAINTING OF STRUCTURAL STEEL WORK RELATED TO THE CLIP ANGLE CONNECTORS AND SUPPORT MEMBERS FOR THE SBC DUCT RELOCATION SHALL CONFORM TO ITEM 514. THE COLOR OF THE FINISH COAT SHALL MATCH THE COLOR OF THE FINISH COAT ON THE ADJACENT STEEL WORK.

   THE FOLLOWING ESTIMATED QUANTITIES OF STRUCTURAL STEEL PAINTING WILL BE CARRIED TO THE BRIDGE QUANTITY SHEET:

   ITEM 514E00800 – 2900 POUNDS FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT

   ITEM 514E00850 – 2900 POUNDS FIELD PAINTING STRUCTURAL STEEL, FINISH COAT

STATE OF OHIO
EDWARD ALLAN FRANKS
41968
REGISTERED
PROFESSIONAL ENGINEER

Edward A. Franks
5/31/07

DAYSTAMP
drawing scale : 1:1
plot scale : 1:1

REVISED 11/17/2006

acla
aikcha ciani lynn associates inc. consulting engineers
5595 transportation boulevard, cleveland, ohio 44125

DESIGNED	DRAWN	REVIEWED	DATE
TJW	TJW	---	---
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EAF		5001986	

PLAN INSERT SHEET – SBC DUCT BANK SUPPORT DETAILS
BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

MAH-680-6.03

19A/19

81A/85

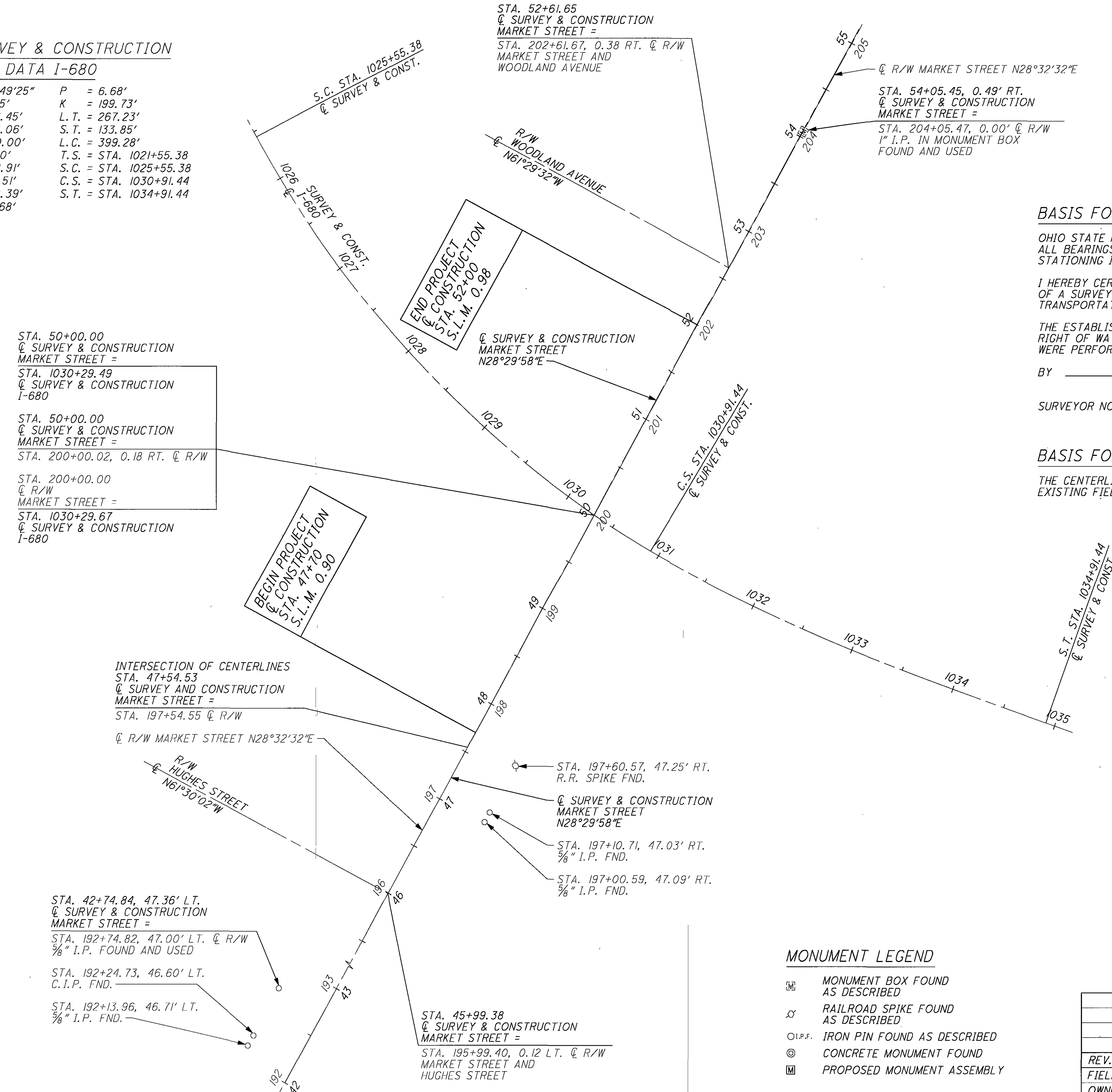
K:\DWG\02005\C205035-55\dwg\Work\REVISED Details 11-17-06.dwg, 5/31/2007 8:47:04 AM, 1:1

MAH-680-6.03

CITY OF YOUNGSTOWN
SECTION 22 AND SECTION 15
YOUNGSTOWN TOWNSHIP T2N, R2W
MAHONING COUNTY, OHIO

℄ SURVEY & CONSTRUCTION CURVE DATA I-680

Δ = 53°49'25"	P = 6.68'
D_C = 5°45'	K = 199.73'
R = 996.45'	L.T. = 267.23'
L_C = 536.06'	S.T. = 133.85'
L_S = 400.00'	L.C. = 399.28'
Θ_S = 11°30'	T.S. = STA. 1021+55.38
T_S = 708.91'	S.C. = STA. 1025+55.38
E_S = 128.51'	C.S. = STA. 1030+91.44
X = 398.39'	S.T. = STA. 1034+91.44
Y = 26.68'	



BASIS FOR BEARINGS

OHIO STATE PLANE COORDINATE SYSTEM NAD83.
ALL BEARINGS SHOWN ARE FOR PROJECT USE ONLY.
STATIONING IS ALONG CENTERLINE OF SURVEY UNLESS DENOTED.

I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT OF TRANSPORTATION IN FEBRUARY OF 2005.

THE ESTABLISHMENT OF THE PROPERTY LINES AND EXISTING RIGHT OF WAY LINES SHOWN ON THIS PLAN AS OF THIS DATE WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION.

BY ______________________
KATHLEEN A. MCGERVEY, P.S. 7971

SURVEYOR NO. 7971 DATE ____

BASIS FOR EXISTING CENTERLINE OF R/W LOCATION

THE CENTERLINE LOCATION WAS DETERMINED USING EXISTING FIELD MONUMENTATION.

MONUMENT LEGEND

M	MONUMENT BOX FOUND AS DESCRIBED
☼	RAILROAD SPIKE FOUND AS DESCRIBED
○I.P.F.	IRON PIN FOUND AS DESCRIBED
◎	CONCRETE MONUMENT FOUND
M	PROPOSED MONUMENT ASSEMBLY

REV. BY	DATE	DESCRIPTION
FIELD REVIEW BY		DATE
OWNERSHIP VERIFIED BY		DATE
DATE COMPLETED		

N

SCALE IN FEET 0 25 50 100

PID NO. 19916

R/W DESIGNER KAM
R/W REVIEWER FLK

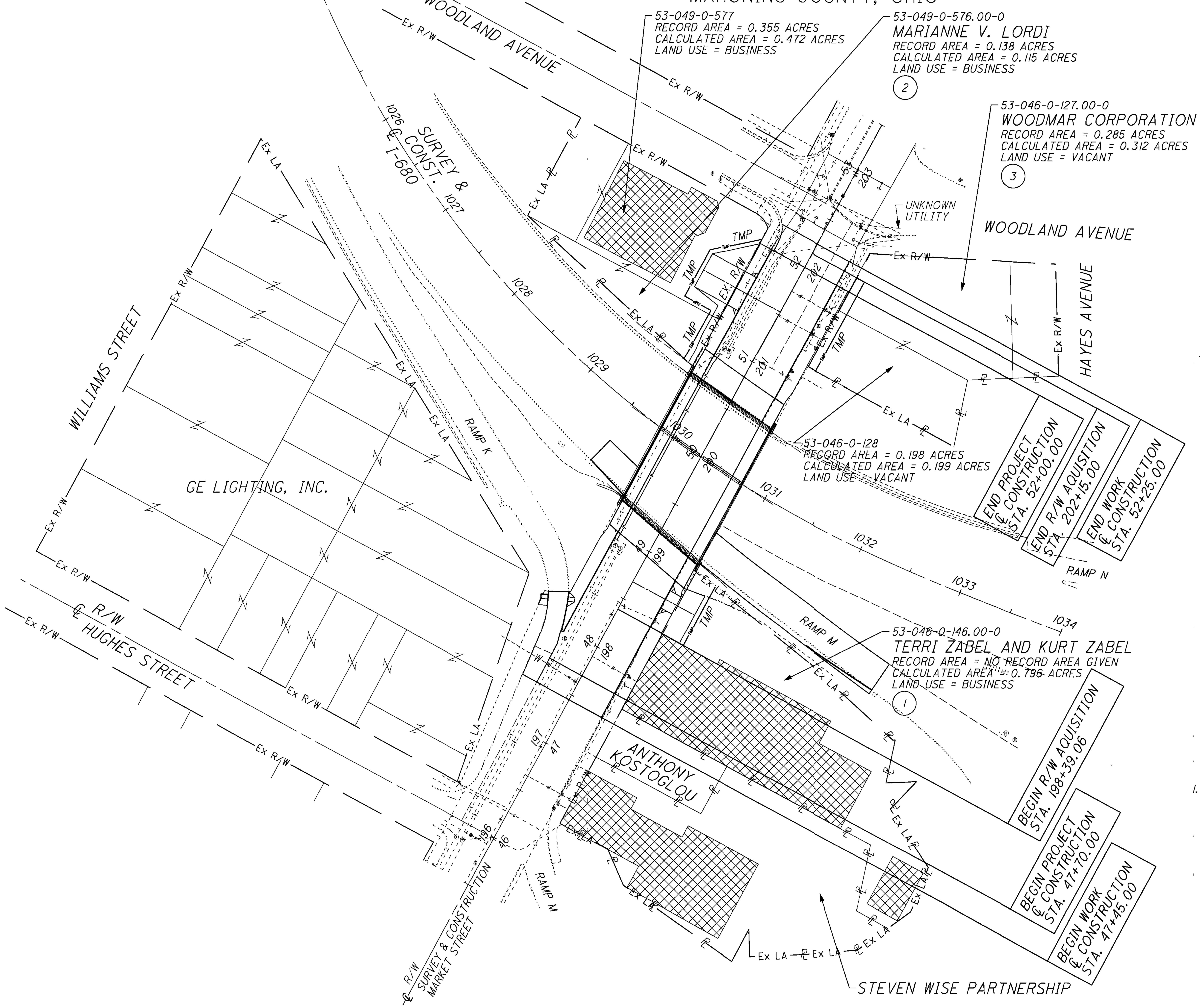
CENTERLINE PLAN

MAH-680-6.03

1 / 4

82 / 85

MAH-680-6.03
CITY OF YOUNGSTOWN
SECTION 22 AND SECTION 15
YOUNGSTOWN TOWNSHIP T2N, R2W
MAHONING COUNTY, OHIO



CONVENTIONAL SIGNS:

Construction Limits
Fence Line (existing) (proposed)
Center Line
Right of Way (only)
Existing Right of Way
Existing Limited Access
Temporary Easement
Sewer Easement
Property Line (in existing fence)
Existing Storm Sewer
Proposed Storm Sewer
Existing Sanitary Sewer
Proposed Sanitary Sewer
Existing Driveway
Proposed Driveway
Existing Roadway
Proposed Roadway
Existing Ditch & Creeks
Trees Stumps (to be removed)
Utility Poles: Telephone Power Light
Combination Utility Poles:
Catch Basin or Inlet (existing) (adjust to grade) (new)
Manhole (existing) (adjust to grade) (new)
Roadway Signs to be removed
Mailbox Paperbox

UTILITIES

DOMINION EAST OHIO
1165 WEST RAYEN AVE.
YOUNGSTOWN, OHIO 44502
RICHARD CROSS (330) 742-8143

CITY OF YOUNGSTOWN, WATER DEPT.
26 S. PHELPS ST., P.O. BOX 6219
YOUNGSTOWN, OHIO 44501
GENE LESON (330) 743-5339
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CITY OF YOUNGSTOWN
WASTEWATER TREATMENT PLANT
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DUBLIN, OHIO 43016
TONY LYLE (614) 760-8320

ELANTIC TELECOM
ALLEGHENY CENTER MALL
SUITE 108
PITTSBURGH, PA 15212
ERIC PATTON (412) 370-6786

MCI
120 RAVINE STREET
AKRON, OHIO 44303
AL GUEST (330) 253-8267

SBC
50 WEST BOWERY STREET
AKRON, OHIO 44308
SABRENA LAMPLEY (330) 384-8057

SBC
2933 SALT SPRINGS ROAD
YOUNGSTOWN, OHIO 44509
HAROLD MAYNARD (330) 270-8816

OHIO EDISON
730 SOUTH AVENUE
YOUNGSTOWN, OHIO 44502
FRANK O'BRIEN (330) 740-7629
AL WASHINGTON (330) 740-7606

QWEST
6155 ROCKSIDE ROAD
SUITE 303
INDEPENDENCE, OHIO 44131
TERRY MACGAN (419) 525-7425

STRUCTURE KEY

RESIDENTIAL BUILDINGS
COMMERCIAL BUILDINGS

NOTE

1. THE LOCATIONS FOR THE UNDERGROUND UTILILTIES SHOWN IN THE PLANS ARE AS REQUIRED BY SECTION 153.64 O.R.C. OBTAINED FROM THE OWNERS OF THE UTILITY.

REV. BY	DATE	DESCRIPTION

FIELD REVIEW BY DATE
OWNERSHIP VERIFIED BY DATE
DATE COMPLETED

N
SCALE IN FEET 0 25 50 100
PID NO. 19916
R/W DESIGNER KAM
R/W REVIEWER FLK
PROPERTY MAP
MAH-680-6.03
2/4
83/85

\09-08-07\19916rm001.dgn 09/07/2007 11:17:19 AM

TOTAL NUMBER OF:
3 OWNERSHIPS — 0 OWNERSHIPS WITH STRUCTURES INVOLVED
3 PARCELS — 0 OWNERSHIPS WITH "P" ITEMS
0 TOTAL TAKES

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

ALL AREAS IN ACRES

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
1-T	TERRI ZABEL AND KURT ZABEL	4	2031	307	53-046-0-146.00-0	***/0.796**		0.0317	0	0.0317	NONE			STATE	TO RECONSTRUCT DRIVE AND APRON, BUILDING ENCROACHES 0.17 TO 0.37 FEET, *REMOVE 38 L.F. OF EX. R/R TIES OF WHICH 18 L.F. ENCROACHES IN THE EX. R/W. TEMPORARY TO ODOT FOR GRADING		
			2031	304	53-046-0-146.00-0												
2-T	MARIANNE V. LORDI	4	4771	224	53-049-0-576.00-0	0.138/0.115**		0.0566	0	0.0566	NONE			STATE	*REMOVE 95 L.F. OF EX. CHAIN LINK FENCE W/BARBED WIRE OF WHICH 15 L.F. ENCROACHES IN THE EX. R/W. TEMPORARY TO ODOT FOR GRADING. REMOVE EXISTING BOLLARDS, GATE AND CONCRETE CURBS. *REMOVE EXISTING SIGN W/LIGHT WHICH ENCROACHES INTO THE EX. R/W.		
			INST. NO. 200000032471														
					53-049-0-577	0.355/0.472**		0.0112	0	0.0112	NONE			STATE			
							TOTAL:	0.0678		0.0678							
3-T	WOODMAR CORPORATION	4	3257	89	53-046-0-127.00-0	0.285/0.312**		0.0063	0	0.0063	NONE			STATE	TEMPORARY TO ODOT FOR GRADING		
			INST. NO. 9700017577		53-046-0-128	0.198/0.199**		0.0110	0	0.0110	NONE			STATE			
							TOTAL:	0.0173		0.0173							

NOTES:
1. ALL TEMPORARY PARCELS TO BE OF 18 MONTHS DURATION
2. UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.
3. ** AREA CALCULATED
4. *** NO RECORD AREA GIVEN

GRANTEE: ALL RIGHT OF WAY ACQUIRED IN THE NAME OF THE "STATE OF OHIO, DEPARTMENT OF TRANSPORTATION" UNLESS OTHERWISE SHOWN.

* - DENOTES R/W ENCROACHMENT

REV. BY	DATE	DESCRIPTION

FIELD REVIEW BY — DATE
OWNERSHIP VERIFIED BY — DATE
DATE COMPLETED

FEDERAL PROJECT NO.
PID NO. 19916
STATE JOB NO. 442380
R/W DESIGNER KAM
R/W REVIEWER FLK

SUMMARY OF ADDITIONAL RIGHT OF WAY

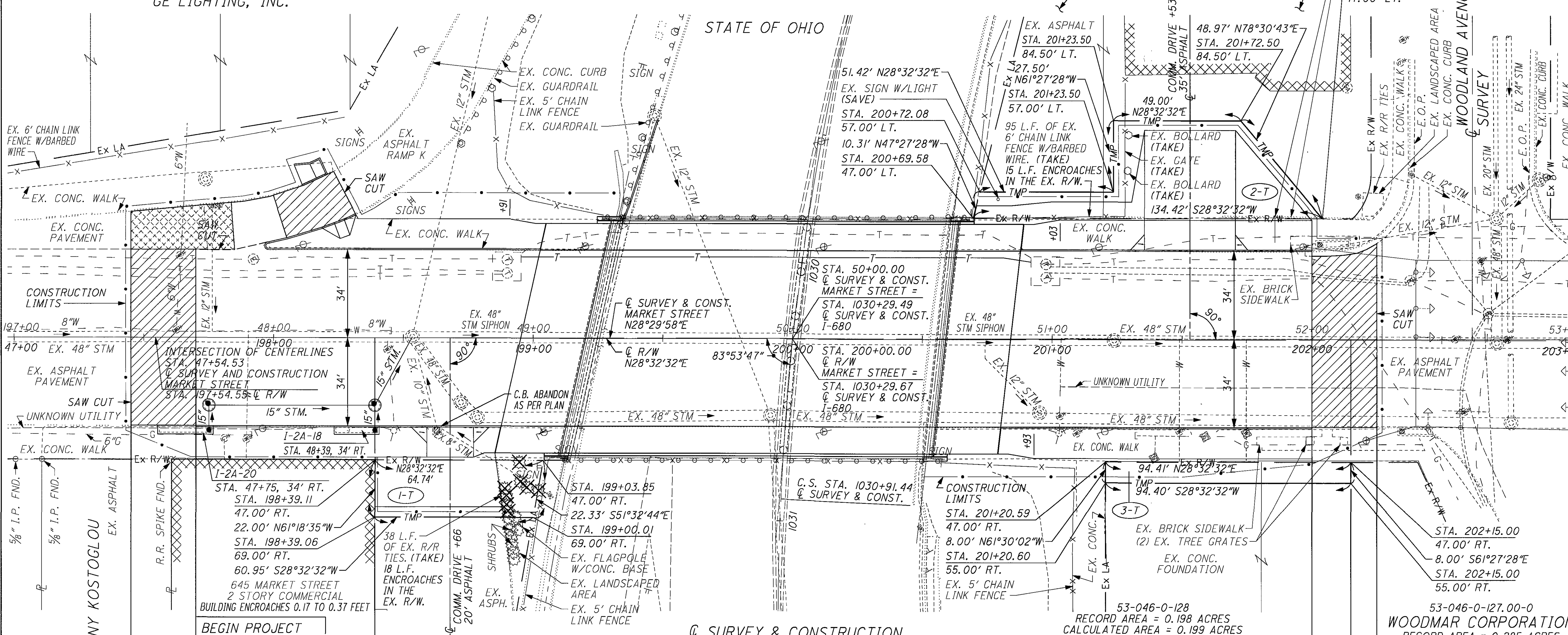
MAH-680-6.03

R/W MONUMENTS FOUND			
℄ OF RIGHT OF WAY MARKET STREET			DESCRIPTION
STATION	LEFT	RIGHT	
197+00.59		47.09	5/8" I.P. FND.
197+10.71		47.03	5/8" I.P. FND.
197+60.57		47.25	R.R. SPIKE FND.

MAH-680-6.03
CITY OF YOUNGSTOWN
SECTION 22 AND SECTION 15
YOUNGSTOWN TOWNSHIP T2N, R2W
MAHONING COUNTY, OHIO

53-049-0-576.00-0
MARIANNE V. LORDI
RECORD AREA = 0.138 ACRES
CALCULATED AREA = 0.115 ACRES
LAND USE = BUSINESS
(2)

53-049-0-577
RECORD AREA = 0.355 ACRES
CALCULATED AREA = 0.472 ACRES
LAND USE = BUSINESS



BEGIN PROJECT
℄ CONSTRUCTION
STA. 47+70.00

BEGIN WORK
℄ CONSTRUCTION
STA. 47+45.00

BEGIN R/W AQUISITION
STA. 198+39.06

53-046-0-146.00-0
TERRI ZABEL AND KURT ZABEL
RECORD AREA = NO RECORD AREA GIVEN
CALCULATED AREA = 0.796 ACRES
LAND USE = BUSINESS
(1)

53-046-0-128
RECORD AREA = 0.198 ACRES
CALCULATED AREA = 0.199 ACRES
LAND USE = VACANT

53-046-0-127.00-0
WOODMAR CORPORATION
RECORD AREA = 0.285 ACRES
CALCULATED AREA = 0.312 ACRES
LAND USE = VACANT
(3)

END PROJECT
℄ CONSTRUCTION
STA. 52+00.00

END R/W AQUISITION
STA. 202+15.00

END WORK
℄ CONSTRUCTION
STA. 52+25.00

℄ SURVEY & CONSTRUCTION
CURVE DATA I-680

Δ	= 53°49'25"	P	= 6.68'
D_c	= 5°45'	K	= 199.73'
R	= 996.45'	L. T.	= 267.23'
L_c	= 536.06'	S. T.	= 133.85'
L_s	= 400.00'	L. C.	= 399.28'
Θ_s	= 11°30'	T. S.	= STA. 1021+55.38
T_s	= 708.91'	S. C.	= STA. 1025+55.38
E_s	= 128.51'	C. S.	= STA. 1030+91.44
X	= 398.39'	S. T.	= STA. 1034+91.44
Y	= 26.68'		

BUTT JOINT TYPE PER STD. DWG. BP-3.1. LENGTH MAY BE ADJUSTED IN THE FIELD TO MATCH EXISTING.

TAPERED EDGE JOINT PER STD. DWG. BP-3.1.

BASIS FOR BEARINGS

OHIO STATE PLANE COORDINATE SYSTEM NAD83.
ALL BEARINGS SHOWN ARE FOR PROJECT USE ONLY.
STATIONING IS ALONG CENTERLINE OF SURVEY UNLESS DENOTED.

MONUMENT LEGEND

- M MONUMENT BOX FOUND AS DESCRIBED
- RAILROAD SPIKE FOUND AS DESCRIBED
- O I.P.F. IRON PIN FOUND AS DESCRIBED
- ◎ CONCRETE MONUMENT FOUND
- M PROPOSED MONUMENT ASSEMBLY

STRUCTURE KEY

- RESIDENTIAL BUILDINGS
- COMMERCIAL BUILDINGS

NOTES:

1. STATIONS AND OFFSETS ARE FROM THE CENTERLINE OF RIGHT OF WAY OF MARKET STREET UNLESS OTHERWISE NOTED.
2. EXISTING CENTERLINE OF SURVEY AND RIGHT OF WAY HAS BEEN DETERMINED FROM A COMBINATION OF FIELD MONUMENTS AND MAHONING COUNTY TAX MAPS.

REV. BY	DATE	DESCRIPTION
FIELD REVIEW BY		DATE
OWNERSHIP VERIFIED BY		DATE
DATE COMPLETED		

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 19916

R/W DESIGNER KAM
R/W REVIEWER FLK

RIGHT OF WAY PLAN
STA. 197+00 TO STA. 203+00

MAH-680-6.03

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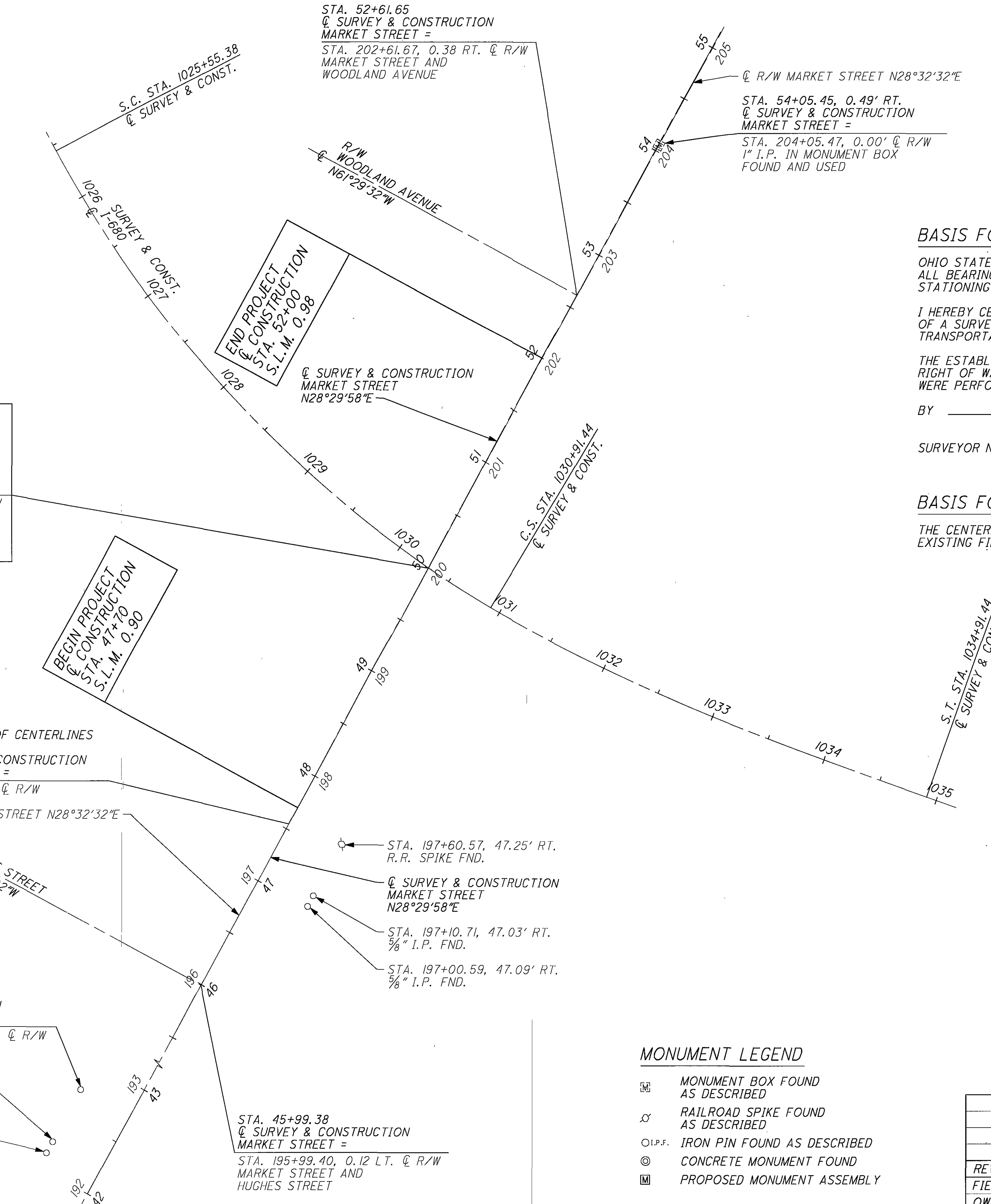
MAH-680-6.03

CITY OF YOUNGSTOWN
SECTION 22 AND SECTION 15
YOUNGSTOWN TOWNSHIP T2N, R2W
MAHONING COUNTY, OHIO

℄ SURVEY & CONSTRUCTION CURVE DATA I-680

Δ = 53°49'25"	P = 6.68'
D_c = 5°45'	K = 199.73'
R = 996.45'	L.T. = 267.23'
L_c = 536.06'	S.T. = 133.85'
L_s = 400.00'	L.C. = 399.28'
Θ_s = 11°30'	T.S. = STA. 1021+55.38
T_s = 708.91'	S.C. = STA. 1025+55.38
E_s = 128.51'	C.S. = STA. 1030+91.44
X = 398.39'	S.T. = STA. 1034+91.44
Y = 26.68'	



BASIS FOR BEARINGS

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I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT OF TRANSPORTATION IN FEBRUARY OF 2005.

THE ESTABLISHMENT OF THE PROPERTY LINES AND EXISTING RIGHT OF WAY LINES SHOWN ON THIS PLAN AS OF THIS DATE WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION.

BY ______________________
KATHLEEN A. MCGERVEY, P.S. 7971

SURVEYOR NO. 7971 DATE ____

BASIS FOR EXISTING CENTERLINE OF R/W LOCATION

THE CENTERLINE LOCATION WAS DETERMINED USING EXISTING FIELD MONUMENTATION.

MONUMENT LEGEND

- MONUMENT BOX FOUND AS DESCRIBED
- RAILROAD SPIKE FOUND AS DESCRIBED
- I.P.F. IRON PIN FOUND AS DESCRIBED
- CONCRETE MONUMENT FOUND
- PROPOSED MONUMENT ASSEMBLY

REV. BY	DATE	DESCRIPTION
FIELD REVIEW BY		DATE
OWNERSHIP VERIFIED BY		DATE
DATE COMPLETED		

N

SCALE IN FEET 0 25 50 100

PID NO. 19916

R/W DESIGNER KAM
R/W REVIEWER FLK

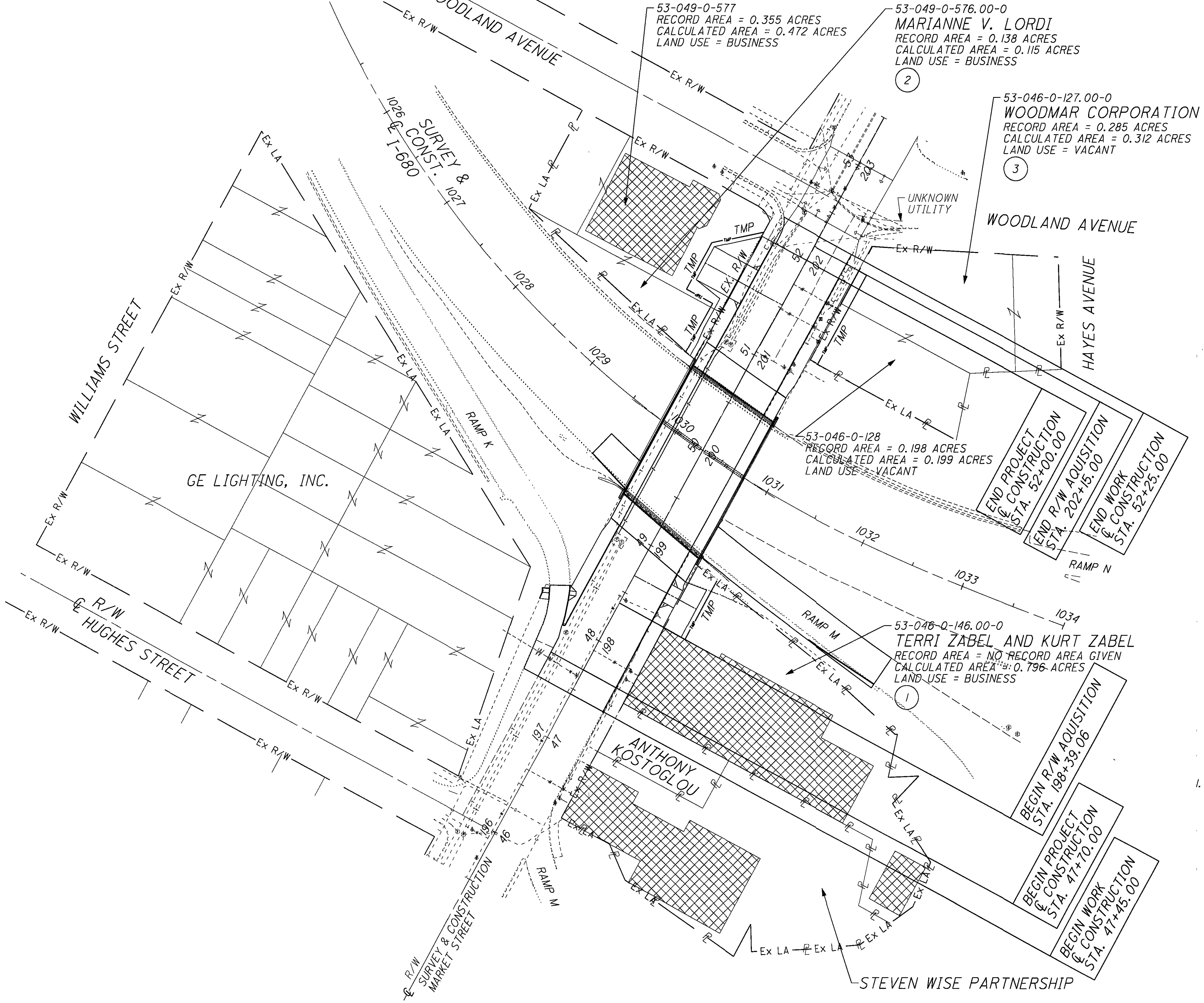
CENTERLINE PLAN

MAH-680-6.03

1 / 4

82 / 85

MAH-680-6.03
CITY OF YOUNGSTOWN
SECTION 22 AND SECTION 15
YOUNGSTOWN TOWNSHIP T2N, R2W
MAHONING COUNTY, OHIO



CONVENTIONAL SIGNS:

Construction Limits
Fence Line (existing) (proposed)
Center Line
Right of Way (only) R/W
Existing Right of Way Ex R/W
Existing Limited Access Ex LA
Temporary Easement TMP
Sewer Easement SW
Property Line (in existing fence)
Existing Storm Sewer 12" STM 30" STM
Proposed Storm Sewer 12" STM 30" STM
Existing Sanitary Sewer SAN
Proposed Sanitary Sewer 12" SAN 30" SAN
Existing Driveway
Proposed Driveway
Existing Roadway
Proposed Roadway
Existing Ditch & Creeks
Trees Stumps (to be removed)
Utility Poles: Telephone Power Light
Combination Utility Poles:
Catch Basin or Inlet (existing) (adjust to grade) (new)
Manhole (existing) (adjust to grade) (new)
Roadway Signs to be removed
Mailbox MB Paperbox PB

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STRUCTURE KEY

RESIDENTIAL BUILDINGS
COMMERCIAL BUILDINGS

NOTE

1. THE LOCATIONS FOR THE UNDERGROUND UTILILTIES SHOWN IN THE PLANS ARE AS REQUIRED BY SECTION 153.64 O.R.C. OBTAINED FROM THE OWNERS OF THE UTILITY.

REV. BY	DATE	DESCRIPTION

FIELD REVIEW BY DATE
OWNERSHIP VERIFIED BY DATE
DATE COMPLETED

N
0 25 50 100 SCALE IN FEET
PID NO. 19916
R/W DESIGNER KAM
R/W REVIEWER FLK

PROPERTY MAP

MAH-680-6.03

TOTAL NUMBER OF:
3 OWNERSHIPS — 0 OWNERSHIPS WITH STRUCTURES INVOLVED
3 PARCELS — 0 OWNERSHIPS WITH "P" ITEMS
0 TOTAL TAKES

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

ALL AREAS IN ACRES

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
1-T	TERRI ZABEL AND KURT ZABEL	4	2031	307	53-046-0-146.00-0	***/0.796**		0.0317	0	0.0317	NONE			STATE	TO RECONSTRUCT DRIVE AND APRON, BUILDING ENCROACHES 0.17 TO 0.37 FEET, *REMOVE 38 L.F. OF EX. R/R TIES OF WHICH 18 L.F. ENCROACHES IN THE EX. R/W. TEMPORARY TO ODOT FOR GRADING		
			2031	304	53-046-0-146.00-0												
2-T	MARIANNE V. LORDI	4	4771	224	53-049-0-576.00-0	0.138/0.115**		0.0566	0	0.0566	NONE			STATE	*REMOVE 95 L.F. OF EX. CHAIN LINK FENCE W/BARBED WIRE OF WHICH 15 L.F. ENCROACHES IN THE EX. R/W. TEMPORARY TO ODOT FOR GRADING. REMOVE EXISTING BOLLARDS, GATE AND CONCRETE CURBS. *REMOVE EXISTING SIGN W/LIGHT WHICH ENCROACHES INTO THE EX. R/W.		
			INST. NO. 200000032471														
					53-049-0-577	0.355/0.472**		0.0112	0	0.0112	NONE			STATE			
							TOTAL:	0.0678		0.0678							
3-T	WOODMAR CORPORATION	4	3257	89	53-046-0-127.00-0	0.285/0.312**		0.0063	0	0.0063	NONE			STATE	TEMPORARY TO ODOT FOR GRADING		
			INST. NO. 9700017577		53-046-0-128	0.198/0.199**		0.0110	0	0.0110	NONE			STATE			
							TOTAL:	0.0173		0.0173							

NOTES:
1. ALL TEMPORARY PARCELS TO BE OF 18 MONTHS DURATION
2. UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE.
3. ** AREA CALCULATED
4. *** NO RECORD AREA GIVEN

GRANTEE: ALL RIGHT OF WAY ACQUIRED IN THE NAME OF THE "STATE OF OHIO, DEPARTMENT OF TRANSPORTATION" UNLESS OTHERWISE SHOWN.

* - DENOTES R/W ENCROACHMENT

REV. BY	DATE	DESCRIPTION
FIELD REVIEW BY		DATE
OWNERSHIP VERIFIED BY		DATE
DATE COMPLETED		

FEDERAL PROJECT NO.

PID NO. 19916

STATE JOB NO. 442380

R/W DESIGNER KAM — R/W REVIEWER FLK

SUMMARY OF ADDITIONAL RIGHT OF WAY

MAH-680-6.03

R/W MONUMENTS FOUND

℄ OF RIGHT OF WAY MARKET STREET STATION	LEFT	RIGHT	DESCRIPTION
197+00.59		47.09	5/8" I.P. FND.
197+10.71		47.03	5/8" I.P. FND.
197+60.57		47.25	R.R. SPIKE FND.

MAH-680-6.03
CITY OF YOUNGSTOWN
SECTION 22 AND SECTION 15
YOUNGSTOWN TOWNSHIP T2N, R2W
MAHONING COUNTY, OHIO

53-049-0-576.00-0
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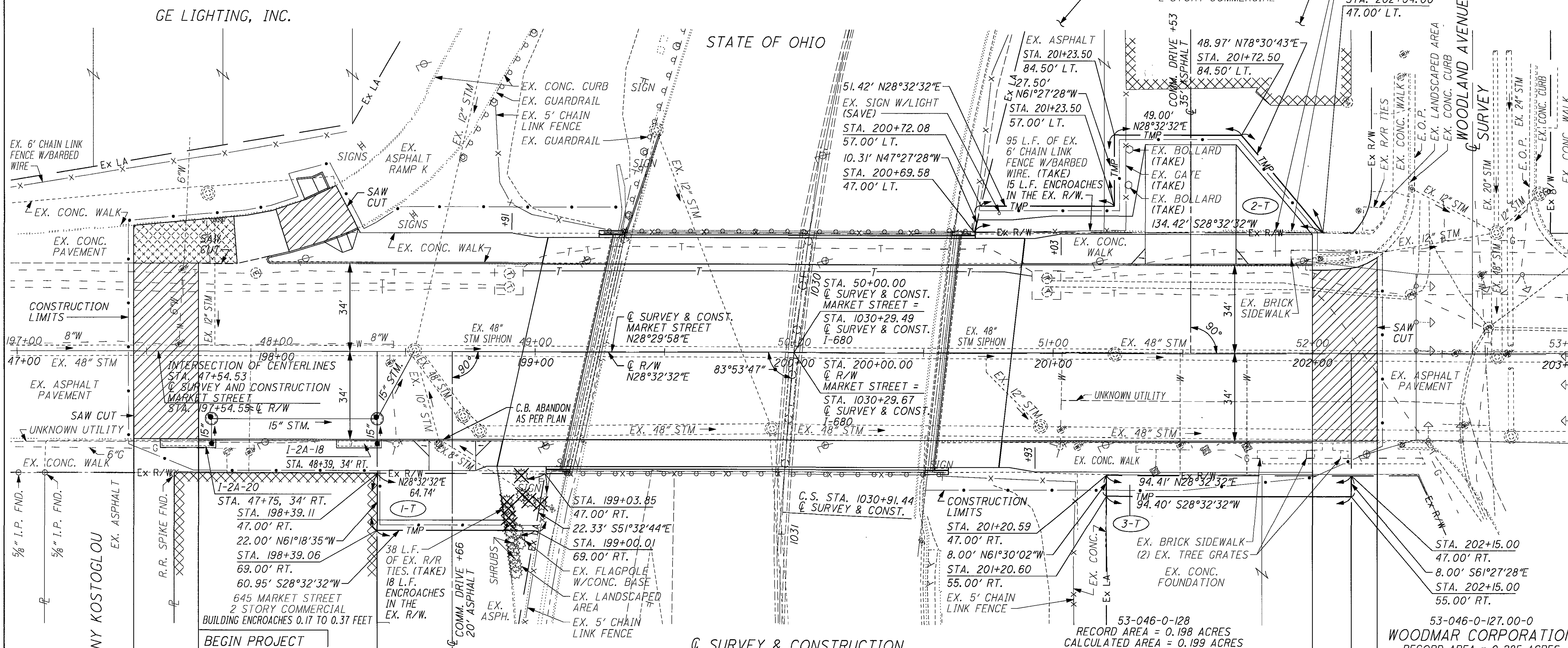
RECORD AREA = 0.138 ACRES
CALCULATED AREA = 0.115 ACRES
LAND USE = BUSINESS
(2)

53-049-0-577
RECORD AREA = 0.355 ACRES
CALCULATED AREA = 0.472 ACRES
LAND USE = BUSINESS



BEGIN PROJECT
℄ CONSTRUCTION
STA. 47+70.00

BEGIN WORK
℄ CONSTRUCTION
STA. 47+45.00

BEGIN R/W AQUISITION
STA. 198+39.06

53-046-0-146.00-0
TERRI ZABEL AND KURT ZABEL
RECORD AREA = NO RECORD AREA GIVEN
CALCULATED AREA = 0.796 ACRES
LAND USE = BUSINESS
(1)

℄ SURVEY & CONSTRUCTION
CURVE DATA I-680

Δ	= 53°49'25"	P	= 6.68'
D_c	= 5°45'	K	= 199.73'
R	= 996.45'	L.T.	= 267.23'
L_c	= 536.06'	S.T.	= 133.85'
L_s	= 400.00'	L.C.	= 399.28'
θ_s	= 11°30'	T.S.	= STA. 1021+55.38
T_s	= 708.91'	S.C.	= STA. 1025+55.38
E_s	= 128.51'	C.S.	= STA. 1030+91.44
X	= 398.39'	S.T.	= STA. 1034+91.44
Y	= 26.68'		

53-046-0-128
RECORD AREA = 0.198 ACRES
CALCULATED AREA = 0.199 ACRES
LAND USE = VACANT

53-046-0-127.00-0
WOODMAR CORPORATION
RECORD AREA = 0.285 ACRES
CALCULATED AREA = 0.312 ACRES
LAND USE = VACANT
(3)

END PROJECT
℄ CONSTRUCTION
STA. 52+00.00

END R/W AQUISITION
STA. 202+15.00

END WORK
℄ CONSTRUCTION
STA. 52+25.00

BUTT JOINT TYPE PER STD. DWG. BP-3.1. LENGTH MAY BE ADJUSTED IN THE FIELD TO MATCH EXISTING.

TAPERED EDGE JOINT PER STD. DWG. BP-3.1.

BASIS FOR BEARINGS

OHIO STATE PLANE COORDINATE SYSTEM NAD83.
ALL BEARINGS SHOWN ARE FOR PROJECT USE ONLY.
STATIONING IS ALONG CENTERLINE OF SURVEY UNLESS DENOTED.

MONUMENT LEGEND

- MONUMENT BOX FOUND AS DESCRIBED
- RAILROAD SPIKE FOUND AS DESCRIBED
- I.P.F. IRON PIN FOUND AS DESCRIBED
- CONCRETE MONUMENT FOUND
- PROPOSED MONUMENT ASSEMBLY

STRUCTURE KEY

- RESIDENTIAL BUILDINGS
- COMMERCIAL BUILDINGS

NOTES:

1. STATIONS AND OFFSETS ARE FROM THE CENTERLINE OF RIGHT OF WAY OF MARKET STREET UNLESS OTHERWISE NOTED.
2. EXISTING CENTERLINE OF SURVEY AND RIGHT OF WAY HAS BEEN DETERMINED FROM A COMBINATION OF FIELD MONUMENTS AND MAHONING COUNTY TAX MAPS.

REV. BY	DATE	DESCRIPTION

FIELD REVIEW BY — DATE
OWNERSHIP VERIFIED BY — DATE
DATE COMPLETED

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 19916

R/W DESIGNER KAM
R/W REVIEWER FLK

RIGHT OF WAY PLAN
STA. 197+00 TO STA. 203+00

MAH-680-6.03

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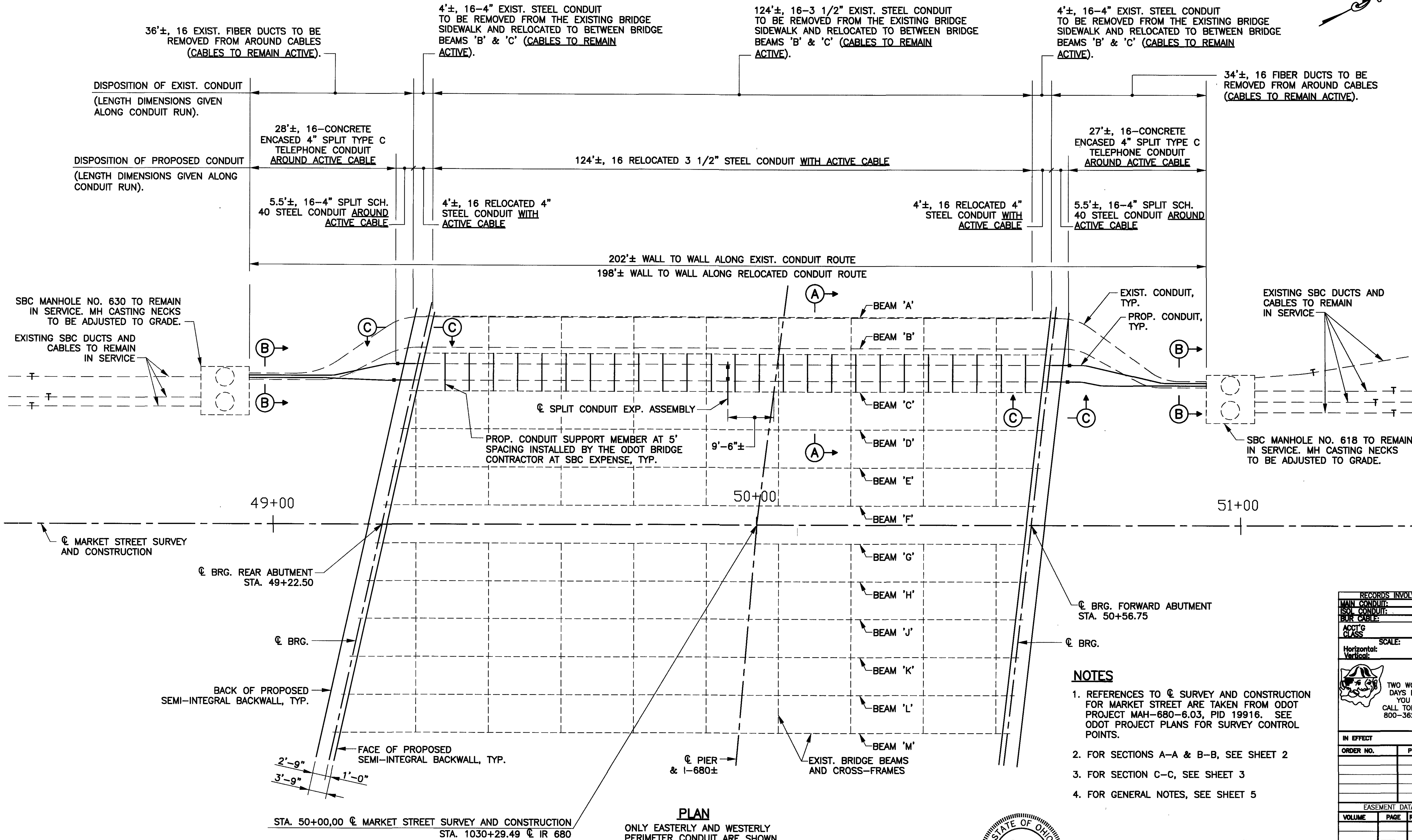

PLAN

ONLY EASTERLY AND WESTERLY PERIMETER CONDUIT ARE SHOWN

NOTES

1. REFERENCES TO ℄ SURVEY AND CONSTRUCTION FOR MARKET STREET ARE TAKEN FROM ODOT PROJECT MAH-680-6.03, PID 19916. SEE ODOT PROJECT PLANS FOR SURVEY CONTROL POINTS.
2. FOR SECTIONS A-A & B-B, SEE SHEET 2
3. FOR SECTION C-C, SEE SHEET 3
4. FOR GENERAL NOTES, SEE SHEET 5

STATE OF OHIO
EDWARD ALLAN FRANKS 41968
REGISTERED PROFESSIONAL ENGINEER

Edward A. Franks
5/31/07

REVISED 11/17/2006

RECORDS INVOLVED	
MAIN CONDUIT:	
ISOL CONDUIT:	
BUR CABLE:	
ACCT'G CLASS	
SCALE: Horizontal:	1"=10'
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PROJ. NO	ORDER NO. #######
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DATE / TOT.SHEETS	SHEET NO.
EXCHANGE	CENTRAL OFFICE
ROUTE	PLATE NO.

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SBC DUCT BANK RELOCATION PLAN
BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

MAH-680-6.03

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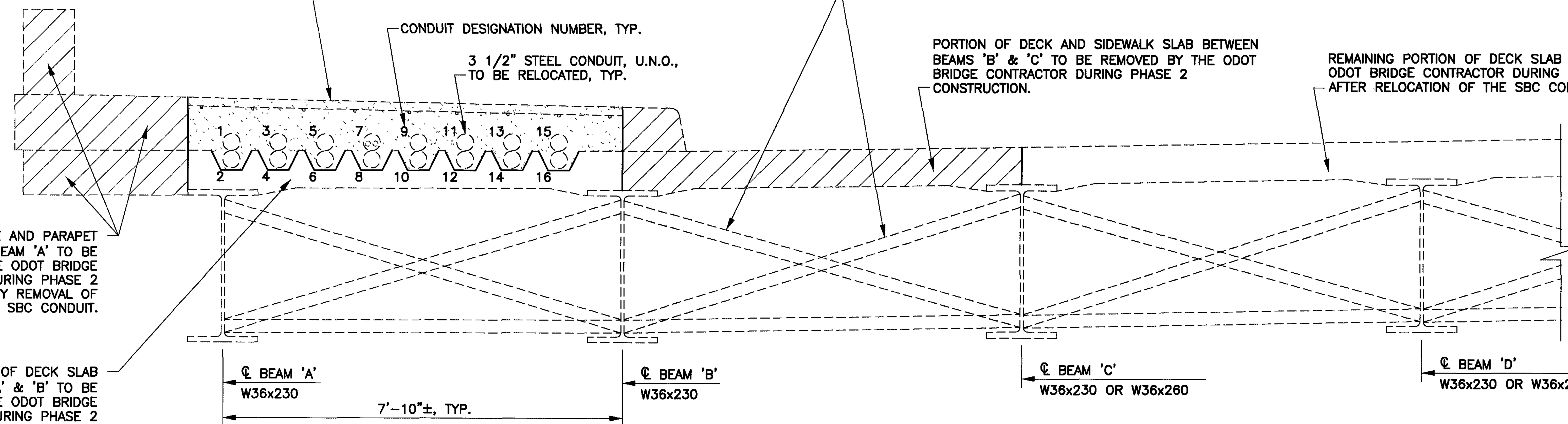
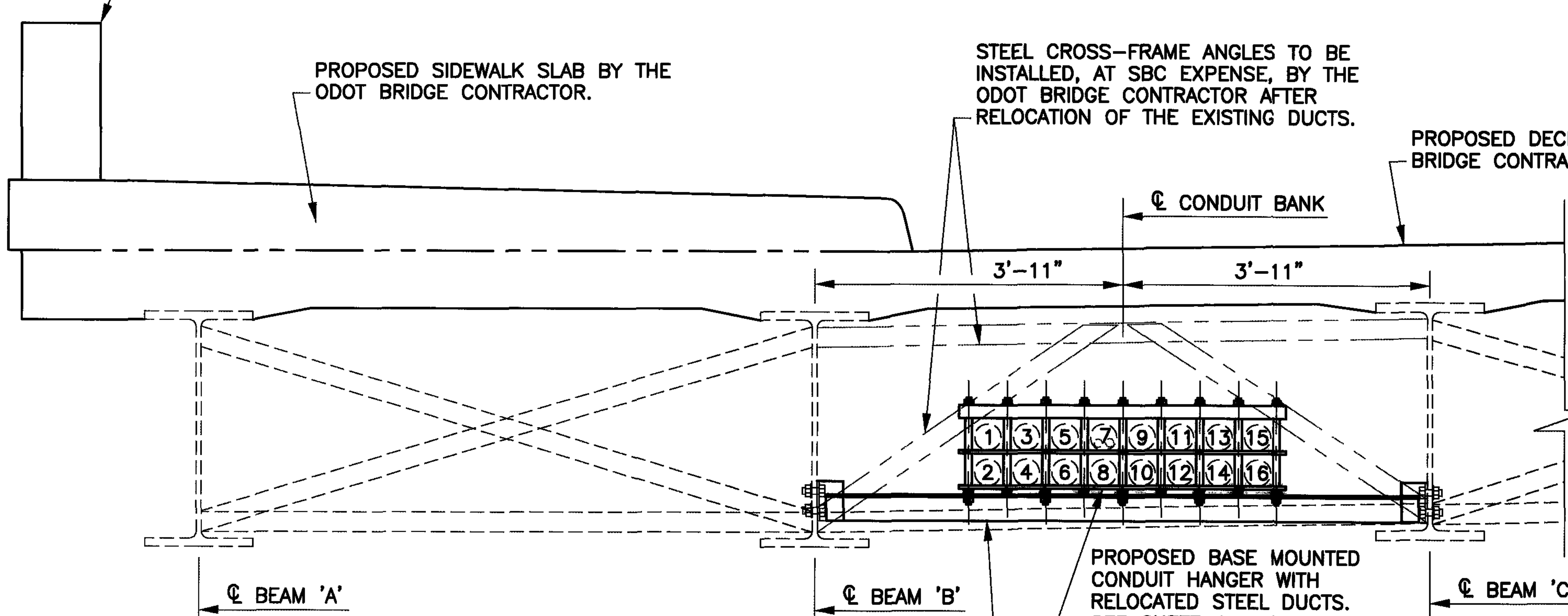


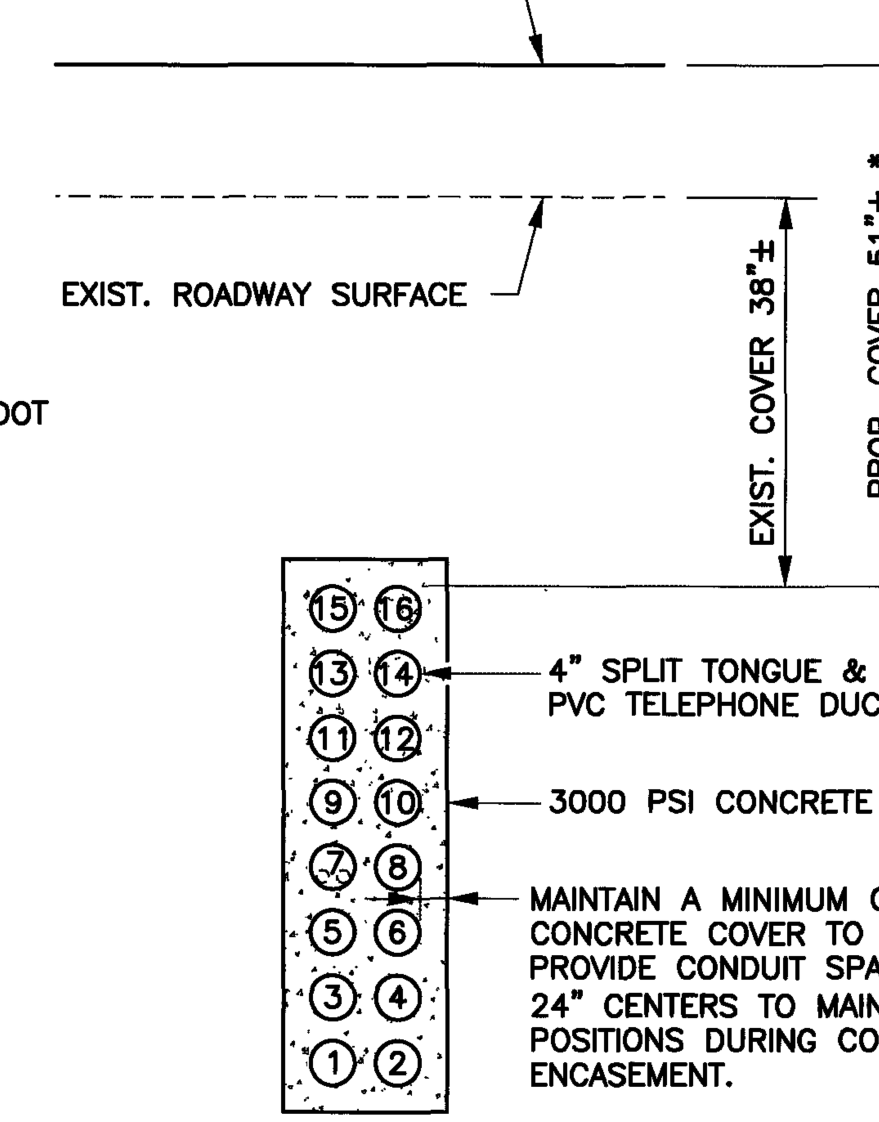
SECTION A-A (DEMOLITION)

EXISTING PIPE RAILING AND VANDAL PROTECTION FENCE AT THE EDGE OF DECK ARE NOT SHOWN.
REQUIRED FALSEWORK PROTECTION BETWEEN THE BEAMS AND AT THE DECK OVERHANG (NOT SHOWN) SHALL BE INSTALLED BY THE ODOT BRIDGE CONTRACTOR PRIOR TO ANY DEMOLITION WORK.



SECTION A-A (PROPOSED)

PROPOSED RELOCATED CONDUIT POSITIONS ON THE BRIDGE HANGERS ARE BASED ON THE CONDUIT POSITIONS OBTAINED FROM SBC RECORDS. PROPOSED CONDUIT POSITIONS MAY BE CHANGED IF APPROVED OR DIRECTED BY THE SBC CONDUIT INSPECTOR DURING CONSTRUCTION.



* PROPOSED COVER SUBJECT TO EXACT ROADWAY ELEVATIONS.

SECTION B-B (PROPOSED)

SHOWING CONDUIT POSITIONS ADJACENT TO EXISTING MANHOLES. MATCH EXISTING CONDUIT LOCATIONS AT CONNECTION TO MANHOLES.

SHOWN LOOKING AHEAD STATIONS.

BACKFILL ALL UTILITY EXCAVATIONS WITH COMPACTED ODOT 304 AGGREGATE BASE.

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RECORDS INVOLVED	
MAIN CONDUIT:	
ISOL CONDUIT:	
BUR CABLE:	
ACCT'G CLASS	
SCALE: Horizontal: Vertical:	VARIES

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SBC DUCT BANK DETAILS 1
BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

MAH-680-6.03

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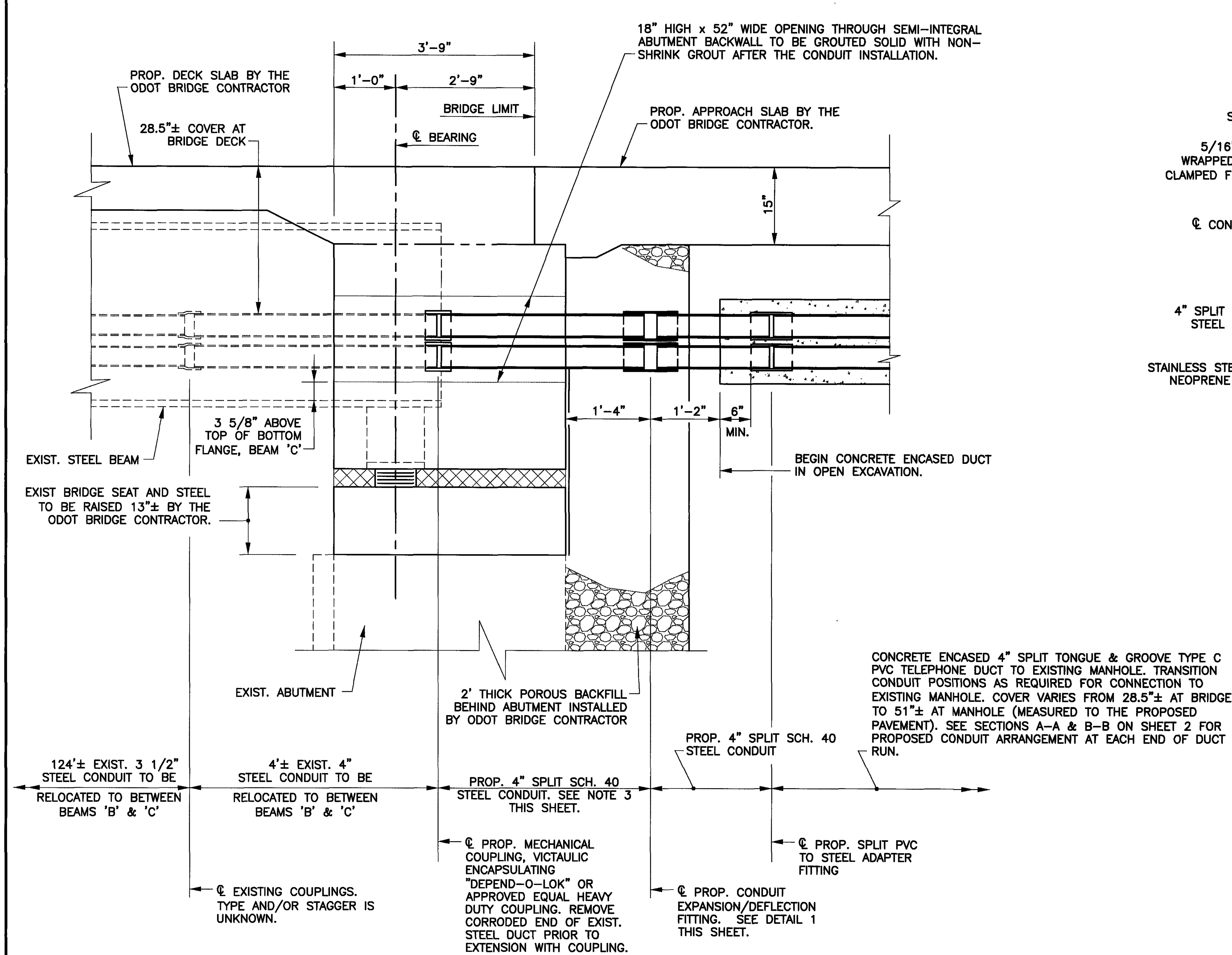
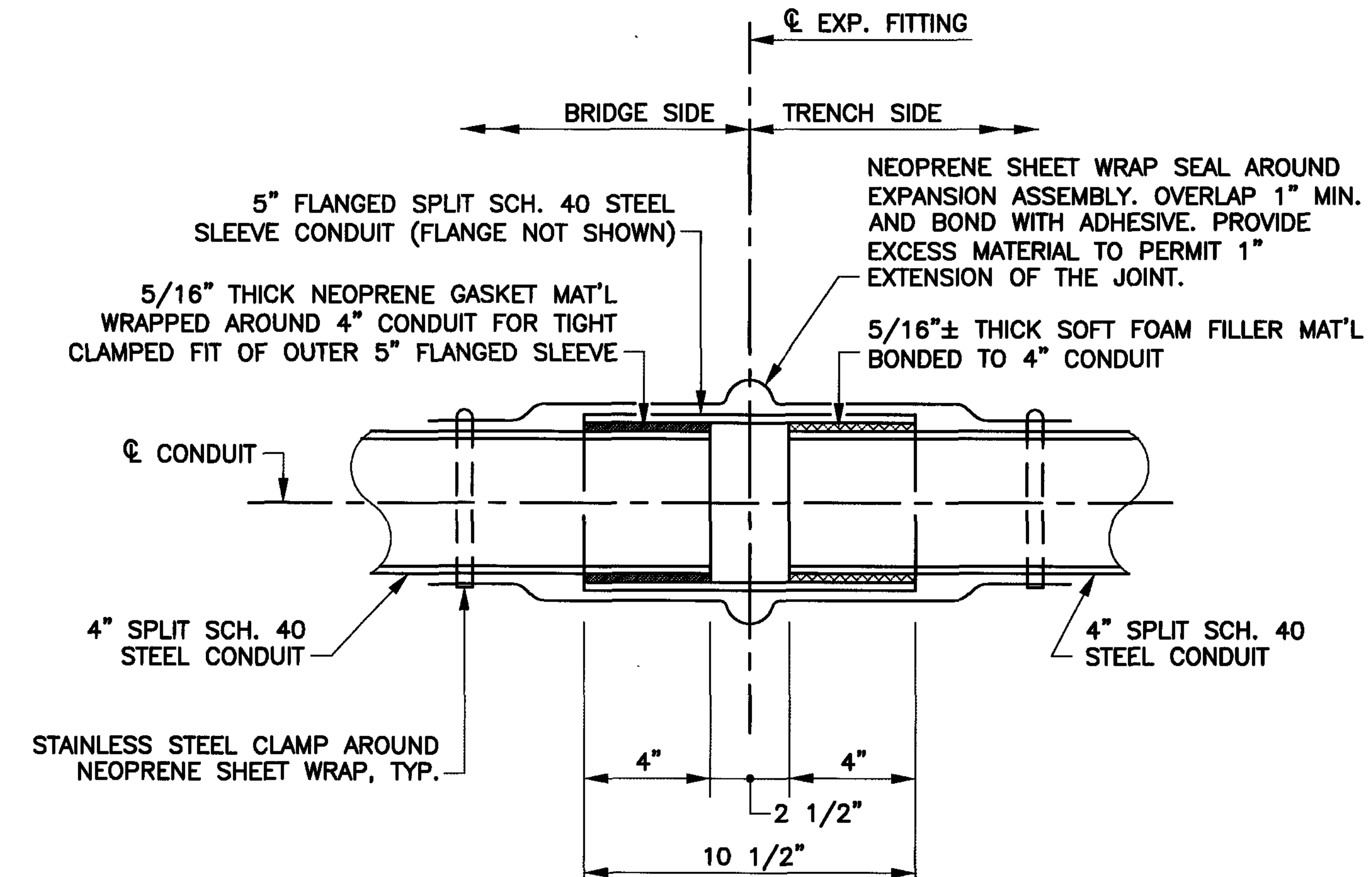


SECTION C–C (PROPOSED)

THE ENTIRE SEMI-INTEGRAL BRIDGE BACKWALL MOVES WITH THERMAL EXPANSION OR CONTRACTION OF THE BRIDGE STRUCTURE.

REINFORCING STEEL WITHIN BRIDGE COMPONENTS AND EXISTING FIBERDUCT TELEPHONE CONDUIT ARE NOT SHOWN.



DETAIL 1

CONDUIT EXPANSION/DEFLECTION FITTING. MAINTAIN TRUE CONDUIT ALIGNMENT THROUGH FITTING.

PROVIDE TWO FLANGE BOLTS ON EACH SIDE OF THE FITTING WITHIN THE 4" LAP REGION AT THE NEOPRENE GASKET.

NOTES

1. FOR GENERAL NOTES, SEE SHEET 5.
2. ALL STEEL CONDUIT AND ACCESSORIES SHALL BE HOT-DIPPED GALVANIZED, UNLESS NOTED OTHERWISE.
3. IF THE SBC CONDUIT INSPECTOR DEEMS THE STEEL BRIDGE CONDUIT UNSUITABLE FOR RE-USE AND THE CONTRACTOR IS DIRECTED TO INSTALL SPLIT FIBERGLASS CONDUIT ACROSS THE STRUCTURE, THE NEW SPLIT STEEL CONDUIT SHALL BE EXTENDED THROUGH THE BACKWALL INTO THE STEEL BEAM BAY AND CONNECTED TO THE NEW SPLIT FIBERGLASS CONDUIT USING A SPLIT THREADED ADAPTER COUPLING CEMENTED TO THE FIBERGLASS CONDUIT. ADDITIONAL STAINLESS STEEL SCREW CLAMPS SHALL ALSO BE INSTALLED OVER THE COUPLING AT EACH SIDE OF THE JOINT.

RECORDS INVOLVED
MAIN CONDUIT:
ISOL CONDUIT:
BUR CABLE:
ACCT'G CLASS
SCALE: Horizontal: Vertical: VARIES

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EXCHANGE — CENTRAL OFFICE
ROUTE — PLATE NO.

REVISED 11/17/2006

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SBC DUCT BANK DETAILS 2
BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

MAH-680-6.03

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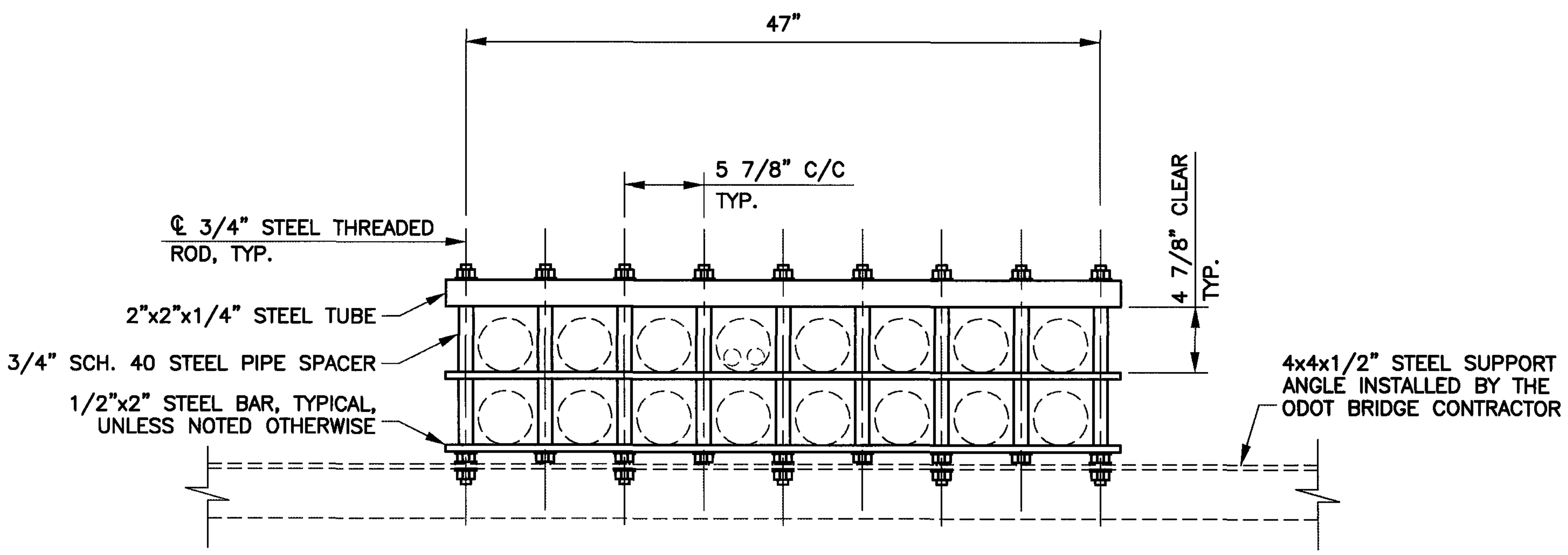

CONDUIT HANGER DETAIL

ALL STEEL HANGER PARTS SHALL BE HOT-DIPPED GALVANIZED, UNLESS NOTED OTHERWISE.

ALL THREADED RODS SHALL BE PROVIDED WITH NUTS, FLAT WASHERS AND LOCK WASHERS AT EACH END.

SEE GENERAL NOTES ON SHEET 5 FOR ALTERNATE HANGER MATERIAL USED WITH SPLIT FIBERGLASS CONDUIT REPLACEMENT.

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RECORDS INVOLVED
MAIN CONDUIT:
ISOL CONDUIT:
BUR CABLE:
ACCT'G CLASS
SCALE:
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SBC DUCT BANK DETAILS 3
BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

MAH-680-6.03

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GENERAL NOTES (SCOPE OF WORK)

THE SCOPE OF WORK FOR THIS PROJECT CONSISTS OF THE RELOCATION AND/OR REPLACEMENT OF SBC CONDUITS WHILE THE CABLES WITHIN THE CONDUITS REMAIN ACTIVE AT ALL TIMES. THE WORK FOR THIS PROJECT WILL BE PERFORMED CONCURRENTLY WITH THE ODOT BRIDGE REPAIR PROJECT MAH-680-6.03 PID #19916. THE SBC UTILITY CONTRACTOR (THE CONTRACTOR) WILL BE RESPONSIBLE FOR ALL COORDINATION AND SCHEDULING WITH THE ODOT BRIDGE CONTRACTOR. ALL SBC CONDUIT RELOCATION AND REPLACEMENT WORK WILL BE PERFORMED DURING PHASE 2 CONSTRUCTION OF THE ODOT PROJECT. THE CONTRACTOR SHALL OBTAIN A FULL SET OF PLANS FOR THE ODOT PROJECT AND BECOME FAMILIAR WITH ALL WORK TO BE PERFORMED AND THE PHASING OF SAID WORK. THE CONTRACTOR SHALL ALSO OBTAIN A COPY OF THE ORIGINAL CONSTRUCTION PLANS FOR THE BRIDGE AND BECOME FAMILIAR WITH SAID ORIGINAL CONSTRUCTION. THE CONDUIT DRAWINGS AND NOTES HEREIN DO NOT INDICATE ALL SPECIFICS AND DETAILS OF THE ODOT PROJECT.

THE BASE CONDUIT CONTRACT CONSISTS OF REUSING THE STEEL CONDUIT ON THE STRUCTURE WITH THE FOLLOWING SCOPE OF WORK:

1. REMOVE (FOR RELOCATION OR REPLACEMENT) APPROXIMATELY 132 LINEAR FEET OF STEEL CONDUIT BANK CONSISTING OF 124 LINEAR FEET OF 16 – 3 1/2" STEEL CONDUITS AND 8 LINEAR FEET OF 16 –4" STEEL CONDUITS FROM WITHIN THE EXISTING BRIDGE CONCRETE SIDEWALK, DECK SLAB AND ABUTMENT. FOLLOWING ODOT'S REMOVAL OF PORTIONS OF THE BRIDGE DECK, ABUTMENT BACKWALLS AND STEEL CROSS-FRAME MEMBERS IN THE VICINITY OF THE EXISTING AND RELOCATED CONDUITS, AS SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF REMAINING PORTIONS OF THE BRIDGE SIDEWALK, ABUTMENT BACKWALL SIDEWALK AND A MINIMUM AMOUNT OF CONCRETE SURROUNDING THE CONDUITS WITHIN THE BRIDGE DECK SLAB AND ABUTMENT BACKWALLS BELOW THE SIDEWALK. THE REMOVAL OPERATIONS SHALL BE PERFORMED IN A DELICATE MANNER SO AS NOT TO DAMAGE THE STEEL CONDUITS TO BE RELOCATED. THE CONTRACTOR MAY USE CHIPPING HAMMERS NOT EXCEEDING A NOMINAL 35 POUND CLASS AND/OR HYDRO-DEMOLITION METHODS ACCEPTABLE TO SBC AND ODOT. REGARDLESS OF THE METHOD OF CONCRETE REMOVAL, THE CONTRACTOR SHALL PROTECT AND NOT DAMAGE THE EXISTING SBC CONDUITS AND ACTIVE CABLES. THE CONTRACTOR'S PROPOSED METHOD OF REMOVAL SHALL BE SUBMITTED IN WRITING TO SBC AND ODOT FOR APPROVAL AT LEAST 2 WEEKS PRIOR TO ANY WORK. APPROVAL OF THE WRITTEN REMOVAL PROCESS SHALL NOT RELIEVE THE CONTRACTOR FROM LIABILITY REGARDING DAMAGE TO THE CONDUITS OR ACTIVE CABLES. SBC, ODOT OR ANY OTHER PARTY REVIEWING THE WRITTEN REMOVAL PROCESS SHALL NOT ASSUME ANY LIABILITY FOR THE CONTRACTOR'S REMOVAL PROCESSES AND PROCEDURES.

2. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF APPROXIMATELY 36 LINEAR FEET OF CONDUIT BANK CONSISTING OF 16-4" CONCRETE ENCASED FIBER-DUCT CONDUITS AT THE SOUTHERLY END OF THE BRIDGE AND APPROXIMATELY 34 LINEAR FEET OF CONDUIT BANK CONSISTING OF 16-4" CONCRETE ENCASED FIBER-DUCT CONDUITS AT THE NORTHERLY END OF THE BRIDGE. THESE CONDUITS EXIST BETWEEN THE BRIDGE AND EXISTING SBC MANHOLE NUMBERS 618 AND 630. DURING THE REMOVAL OF CONCRETE ENCASEMENT AND FIBER-DUCT CONDUITS, ALL CABLES WITHIN THE CONDUITS SHALL REMAIN ACTIVE AND NOT BE DAMAGED. THE CONTRACTOR'S PROPOSED METHOD OF REMOVAL SHALL BE SUBMITTED IN WRITING TO SBC FOR APPROVAL AT LEAST 2 WEEKS PRIOR TO ANY WORK. APPROVAL OF THE WRITTEN REMOVAL PROCESS SHALL NOT RELIEVE THE CONTRACTOR FROM LIABILITY REGARDING DAMAGE TO THE CONDUITS OR ACTIVE CABLES. SBC, ODOT OR ANY OTHER PARTY REVIEWING THE WRITTEN REMOVAL PROCESS SHALL NOT ASSUME ANY LIABILITY FOR THE CONTRACTOR'S REMOVAL PROCESSES AND PROCEDURES. ALL FEDERAL, STATE AND LOCAL REGULATIONS REGARDING DEMOLITION, REMOVAL AND DISPOSAL OF ASBESTOS CONTAINING FIBER-DUCT CONDUITS SHALL BE STRICTLY FOLLOWED BY THE CONTRACTOR, INCLUDING OBTAINING ANY AND ALL REQUIRED PERMITS AND FILING ALL REQUIRED NOTIFICATIONS.

3. THE CONTRACTOR SHALL FURNISH AND INSTALL 16-4" SPLIT PVC AND 16-4" SPLIT GALVANIZED STEEL CONDUITS TO REPLACE THE REMOVED CONDUITS, AS SHOWN ON THE DRAWINGS. THE INSTALLATION OF THE SPLIT CONDUIT SHALL CONFORM TO THE MANUFACTURER'S REQUIREMENTS AS WELL AS NORMALLY ACCEPTED INDUSTRY STANDARDS. DUE TO THE PROPOSED SEMI-INTEGRAL TYPE ABUTMENT MODIFICATION FOR THE BRIDGE, CONDUIT EXPANSION/DEFLECTION ASSEMBLIES SHALL BE INSTALLED OUTSIDE THE BRIDGE BACKWALL ON EACH CONDUIT, AS SHOWN ON THE DRAWINGS.

4. ODOT WILL INSTALL STEEL MEMBERS WITH PRE-DRILLED HOLES BETWEEN BEAMS 'B' & 'C' FOR SUPPORT OF THE RELOCATED CONDUIT BANK. THE CONTRACTOR SHALL FURNISH AND INSTALL HOT-DIPPED GALVANIZED STEEL BASE MOUNTED CONDUIT HANGERS ON THESE SUPPORTS, AS SHOWN ON THE DRAWINGS.

5. THE CONTRACTOR SHALL CAREFULLY RELOCATE THE EXISTING STEEL BRIDGE CONDUITS (CONTAINING ACTIVE CABLES) TO THE NEW BASE MOUNTED SUPPORT HANGERS BETWEEN BEAMS 'B' & 'C'. DURING THE RELOCATION PROCESS, THE CONDUITS SHALL BE SIMULTANEOUSLY SUPPORTED AT NO GREATER THAN 5' INTERVALS ALONG THE LENGTH OF THE CONDUITS. THE METHOD OF CONDUIT RELOCATION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR'S PROPOSED METHOD OF CONDUIT RELOCATION SHALL BE SUBMITTED IN WRITING TO SBC FOR APPROVAL AT LEAST 2 WEEKS PRIOR TO ANY WORK. APPROVAL OF THE WRITTEN RELOCATION PROCESS SHALL NOT RELIEVE THE CONTRACTOR FROM LIABILITY REGARDING DAMAGE TO THE CONDUITS OR ACTIVE CABLES. SBC, ODOT OR ANY OTHER PARTY REVIEWING THE WRITTEN REMOVAL PROCESS SHALL NOT ASSUME ANY LIABILITY FOR THE CONTRACTOR'S CONDUIT RELOCATION PROCESSES AND PROCEDURES.

6. THE CONTRACTOR SHALL REMOVE A MINIMUM 2" LENGTH OF EACH 3 1/2" STEEL CONDUIT AT THE LOCATION SHOWN ON THE DRAWINGS, NEAR THE CENTER OF THE BRIDGE, AND INSTALL A SPLIT CONDUIT EXPANSION ASSEMBLY. THE ASSEMBLY SHALL CONSIST OF 4" FLANGED SPLIT GALVANIZED STEEL CONDUIT HAVING AN INSIDE DIAMETER SLIGHTLY LARGER THAN THE OUTSIDE DIAMETER OF THE EXISTING 3 1/2" CONDUIT. THE 4" EXPANSION SLEEVE SHALL BE SHIMMED AS REQUIRED TO FIT SECURELY OVER THE 3 1/2" CONDUIT ON ONE SIDE OF THE JOINT WHILE PROVIDING A SLIGHT GAP BETWEEN THE INSIDE OF THE SLEEVE AND THE OUTSIDE OF THE 3 1/2" CONDUIT ON THE OPPOSITE SIDE OF THE JOINT.

7. DURING THE CONDUIT RELOCATION PROCESS, THE CONTRACTOR SHALL TRANSITION THE CONDUIT POSITIONS BOTH ON AND OFF THE STRUCTURE AS REQUIRED, AND AS SHOWN ON THE DRAWINGS, FOR PROPER CONNECTION TO THE EXISTING MANHOLES. RELOCATED CONDUIT POSITIONS SHOWN ON THE DRAWINGS ARE BASED ON SBC CONDUIT RECORDS. IF APPROVED BY THE SBC CONDUIT INSPECTOR, CONDUIT POSITIONS MAY BE ALTERED TO BETTER FIT EXISTING FIELD CONDITIONS.

8. DURING THE STEEL CONDUIT RELOCATION WORK, THE CONTRACTOR AND SBC'S CONDUIT INSPECTOR SHALL INSPECT THE PHYSICAL CONDITION OF THE CONDUIT TO BE RELOCATED. IF ISOLATED PORTIONS ARE CONSIDERED TO BE DETERIORATED AND/OR STRUCTURALLY DEFICIENT, THE CONTRACTOR SHALL INSTALL 4" FLANGED SPLIT GALVANIZED STEEL CONDUIT OVER THE DETERIORATED PORTION OF THE EXISTING 3 1/2" CONDUIT. EACH REPAIR SECTION SHALL BE AT LEAST 6' LONG AND SPAN ACROSS AT LEAST TWO HANGER SUPPORTS. A SEPARATE UNIT PRICE PER FOOT OF SPLIT REPAIR CONDUIT SHALL BE PROVIDED BY THE CONTRACTOR FOR SBC USE. REPAIR CONDUIT SHALL BE PLACED ONLY AT LOCATIONS DIRECTED BY THE SBC CONDUIT INSPECTOR.

9. AFTER ALL CONDUITS HAVE BEEN RELOCATED AND PRIOR TO ANY CONCRETE ENCASEMENT OF NEW SPLIT CONDUITS OFF THE BRIDGE BY THE CONTRACTOR, ODOT WILL INSTALL NEW CROSS-FRAME ANGLES BETWEEN BEAMS 'B' & 'C' AND REMOVE REMAINING PORTIONS OF THE BRIDGE DECK SLAB. THE EXISTING BRIDGE FRAMING, INCLUDING BRIDGE SUPPORTED CONDUIT, WILL THEN BE PERMANENTLY RAISED APPROXIMATELY 13". AFTER THE BRIDGE FRAMING HAS BEEN PERMANENTLY SET ON THE REBUILT SEATS, THE CONTRACTOR SHALL THEN COMPLETE THE FINAL CONCRETE ENCASEMENT OF THE SPLIT CONDUIT INSTALLED BETWEEN THE BRIDGE AND THE SBC MANHOLES.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE MANHOLE CASTINGS ON SBC MANHOLE NUMBERS 618 AND 630 TO THE GRADE AND CROSS-SLOPE OF THE PROPOSED ROADWAY PAVEMENT. ALL WORK SHALL CONFORM TO SBC STANDARDS AND SBC INSPECTION. THE CONTRACTOR SHALL COORDINATE WITH ODOT TO ESTABLISH THE EXACT FINISHED GRADE AND CROSS-SLOPE.

11. ALL REQUIRED CONDUIT MATERIALS AND ACCESSORIES FOR THIS PROJECT SHALL BE OBTAINED FROM THE SBC APPROVED SUPPLIER: R.C. CHILDS COMPANY, WESTLAKE, OHIO 44145 (440-835-3500). FOUR (4) COPIES OF ALL MATERIAL SHOP DRAWINGS SHALL BE SUBMITTED TO SBC FOR APPROVAL. ALLOW 10 WORKING DAYS FOR SBC PROCESSING AND REVIEW OF ALL SHOP DRAWINGS.

12. PAYMENT FOR THE ABOVE BASE CONDUIT CONTRACT SHALL BE MADE AT THE LUMP SUM PRICE BID AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, TOOLS AND INCIDENTALS TO COMPLETE THE ENTIRE PROJECT AS SPECIFIED AND SHOWN ON THE DRAWINGS. A SEPARATE UNIT PRICE PER LINEAR FOOT OF CONDUIT SHALL BE SUBMITTED FOR THE INSTALLATION OF 4" FLANGED SPLIT GALVANIZED STEEL REPAIR CONDUIT TO BE PLACED OVER ISOLATED LOCATIONS OF EXISTING DETERIORATED 3 1/2" STEEL CONDUIT. THE UNIT PRICE BID FOR REPAIR CONDUIT SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, TOOLS AND INCIDENTALS TO COMPLETE THE REPAIRS. REPAIR CONDUIT SHALL ONLY BE PLACED AS DIRECTED BY SBC DURING CONSTRUCTION.

IF SBC DETERMINES, AFTER EXPOSURE AND REMOVAL OF THE EXISTING STEEL CONDUITS FROM THE CONCRETE BRIDGE STRUCTURE, THAT SALVAGING THESE CONDUITS IS NOT FEASIBLE, THE CONTRACTOR WILL BE DIRECTED TO PERFORM THE FOLLOWING ADD-ALTERNATE WORK TASKS:

A.4. ODOT WILL INSTALL STEEL CROSS MEMBERS WITH PRE-DRILLED HOLES BETWEEN BEAMS 'B' & 'C' FOR SUPPORT OF THE RELOCATED CONDUIT BANK. THE CONTRACTOR SHALL FURNISH AND INSTALL FIBERGLASS (IN LIEU OF STEEL) BASE MOUNTED CONDUIT HANGERS ON THESE SUPPORTS. THREADED RODS, NUTS WASHERS AND LOCK WASHERS SHALL STILL BE HOT-DIPPED GALVANIZED STEEL. THE DIMENSIONS, TUBE SIZES AND BAR SIZES OF THE ALTERNATE FIBERGLASS CONDUIT HANGER ASSEMBLY SHALL BE THE SAME AS THOSE DETAILED ON THE DRAWINGS FOR THE STEEL HANGER ASSEMBLY.

A.5. THE CONTRACTOR SHALL CAREFULLY REMOVE AND DISPOSE OF ALL EXISTING STEEL CONDUIT WHILE THE CABLES REMAIN ACTIVE AND UNDAMAGED. THE CONTRACTOR SHALL USE APPROPRIATE METHODS TO CUT OPEN THE STEEL DUCT AND REMOVE THE ACTIVE CABLE. METHODS WHICH USE FLAME CUTTING OR CREATE HEAT, SPARKS OR OTHER CONDITIONS CONSIDERED DETRIMENTAL TO THE ACTIVE CABLES, AS DETERMINED BY SBC, WILL NOT BE ALLOWED. THE CABLE SHALL BE PLACED IN NEW 4" IPS SPLIT STANDARD WALL FIBERGLASS CONDUIT. THE SPLIT CONDUIT SHALL HAVE ONE SIDE WALL CUT THROUGH FOR THE ENTIRE LENGTH OF THE PIECE WHILE THE OPPOSITE SIDE IS CUT IN AN INTERMITTENT PATTERN WHICH CREATES A "HINGE". THE INTERMITTENT CUT WALL SHALL HAVE A 3" LONG SECTION LEFT INTACT AND SPACED AT NO MORE THAN 24" ON CENTER. AFTER THE CONDUIT IS CLOSED, FIBERGLASS "H" AND "T" STRIPS SHALL BE PLACED IN THE SIDEWALL CUTS OF THE CONDUIT. LARGE PLASTIC ZIP STRAPS (WIRE TIES), SPACED AT NO MORE THAN 20" ON CENTER, SHALL BE PLACED AROUND THE FINISHED CONDUIT AND DRAWN TIGHT. A PLASTIC STRAP SHALL BE PLACED WITHIN 2" OF EACH SUPPORT HANGER. THE NEW FIBERGLASS CONDUITS SHALL BE PLACED IN THE NEW FIBERGLASS BASE MOUNTED HANGERS BETWEEN BEAMS 'B' & 'C'. INSTALLATION OF THE FIBERGLASS CONDUIT SHALL CONFORM TO THE MANUFACTURER'S REQUIREMENTS.

A.6. THE CONTRACTOR SHALL INSTALL A 4" SPLIT FIBERGLASS SINGLE-ACTION EXPANSION JOINT SLEEVE AT THE LOCATION SHOWN ON THE DRAWINGS, NEAR THE CENTER OF THE BRIDGE. THE ASSEMBLY SHALL BE LOCATED BETWEEN SUPPORT HANGERS AND BE CEMENTED TO THE CONDUITS ON EACH SIDE OF THE JOINT. INSTALLATION OF THE EXPANSION SLEEVE SHALL CONFORM TO THE MANUFACTURER'S REQUIREMENTS.

A.12. PAYMENT FOR THE ADD-ALTERNATE WORK TASKS SHALL BE MADE AT THE LUMP SUM PRICE BID AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, TOOLS AND INCIDENTALS TO COMPLETE ALL ADDITIONAL ADD-ALTERNATE WORK ABOVE AND BEYOND THE BASE CONTRACT, AS SPECIFIED AND SHOWN ON THE DRAWINGS.

REVISED 11/17/2006

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SBC DUCT BANK GENERAL NOTES
BRIDGE NO. MAH-680-0603
MARKET STREET OVER IR680

MAH-680-6.03

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drawing scale :
plot scale : 1:1

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