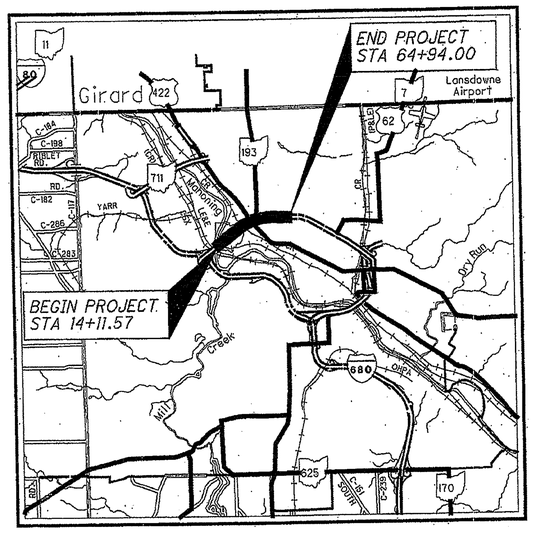


LOCATION MAP

LATITUDE: 41 °06'25" LONGITUDE: 80 °40'26"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED

INTERSTATE & DIVIDED HIGHWAY

UNDIVIDED STATE & FEDERAL ROUTES

OTHER ROADS

DESIGN DESIGNATION

	SR 193	US 422	Y-TOWN EXPWY	WIRT NB
CURRENT ADT (2010)	30,070	24,080	19,000	720
DESIGN YEAR ADT (2030)	32,040	25,530	19,000	730
DESIGN HOURLY VOLUME (2030)	3204	2553	1900	73
DIRECTIONAL DISTRIBUTION	0.60	0.60	0.60	1.00
TRUCKS (24 HOUR B&C)	5%	5%	5%	4%
DESIGN SPEED	50 MPH	50 MPH	50 MPH	40 MPH
LEGAL SPEED	50 MPH	50 MPH	50 MPH	35 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	OTHER FREEWAY & EXPRESSWAY			MINOR ARTERIAL

NHS PROJECT NO

DESIGN EXCEPTIONS

WIRT STREET, SOUTHBOUND ROADWAY

DESIGN FEATURE	APPROVAL DATES	SHEET NUMBERS
HORIZONTAL ALIGNMENT (DEGREE OF CURVE)	10/07/2008	92
STOPPING SIGHT DISTANCE	10/07/2008	

MLK JR. BLVD
VERTICAL CLEARANCE 10/09/08 215

PLAN PREPARED BY:

GLAUS PYLE SCHOMER BURNS & DEHAVEN, INC

GPD GROUP

520 South Main Street, Suite 2531, Akron, Ohio 44311
330-572-2100 , Fax 330-572-2101

ENGINEERS SEAL:

FOR ENTIRE PLAN EXCEPT MOT AND TRAFFIC

STATE OF OHIO EDWARD ALLAN FRANKS 41968 REGISTERED PROFESSIONAL ENGINEER

SIGNED: Edward A. Franks
DATE: 7/8/2009

ENGINEERS SEAL:

FOR MOT AND TRAFFIC:

STATE OF OHIO MICHAEL A. HOBBS E-68713 REGISTERED PROFESSIONAL ENGINEER

SIGNED: Michael A. Hobbs
DATE: 7/8/2009

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

MAH-193/422-0.46/1.85

CITY OF YOUNGSTOWN
MAHONING COUNTY

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STANDARD CONSTRUCTION DRAWINGS

BP-2.1	7/18/08	CB-1.1	7/15/05	HL-10.13	1/17/03	MT-35.10	4/20/01	A-1-69	7/19/02
BP-2.2	7/18/08	CB-2.2	7/15/05	HL-20.11	1/19/07	MT-95.30	9/5/06	AS-1-81	7/19/02
BP-2.3	7/16/04	HW-2.1	4/21/06	HL-20.13	1/19/07	MT-95.31	9/5/06	BR-1	7/19/02
BP-2.5	7/18/08	T-1.2	7/15/05	HL-20.14	1/21/05	MT-95.32	9/5/06	EXJ-4-87	7/19/02
BP-3.1	10/19/07	MH-1.1	7/19/02	HL-30.33	1/21/05	MT-98.29	10/19/07	GSD-1-96	7/19/02
BP-5.1	7/28/00	MH-1.2	1/20/06	HL-60.11	1/19/07	MT-100.00	4/19/02	SICD-1-96	7/19/02
BP-6.1	7/28/00			HL-60.12	10/19/07	MT-101.60	9/5/06	PBC-91	7/19/02
BP-7.1	1/19/07	DM-1.1	4/21/06			MT-101.70	10/18/02		
BP-8.1	7/18/08	DM-1.2	10/21/05	TC-65.10	1/21/05	MT-102.30	9/5/06		
GR-1.1	7/16/04	DM-1.4	4/21/06	TC-65.11	1/21/05	MT-105.10	10/18/02		
GR-2.1	1/16/04			TC-71.10	1/16/09	MT-105.11	10/18/02		
GR-3.1	1/19/07	RM-4.1	10/20/06	TC-72.20	1/21/05				
GR-3.2	1/19/07			TC-73.10	1/19/01				
GR-4.2	1/19/07			TC-21.10	1/19/07				
GR-5.1	4/18/03								
GR-6.1	4/18/03								

SUPPLEMENTAL SPECIFICATIONS

832	5/05/09
800-2008	7/17/09
802	1/16/09
843	4/18/03
848	4/15/05

SPECIAL PROVISIONS

PROJECT DESCRIPTION

THIS PROJECT IS FOR THE REHABILITATION OF FOUR BRIDGES, THE RESURFACING OF THE MAINLINE AND RAMP PAVEMENTS BY REMOVAL AND REPLACEMENT OF ASPHALT, THE REMOVAL AND REPLACEMENT OF GUARDRAIL AND THE RECONSTRUCTION OF WIRT STREET. THE PROJECT LENGTH IS 0.96 MILES.

PROJECT EARTH DISTURBED AREA: N/A (MAINTENANCE PROJECT)

ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A (MAINTENANCE PROJECT)

NOTICE OF INTENT EARTH DISTURBED AREA: N/A (MAINTENANCE PROJECT)

LIMITED ACCESS

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

2008 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF STATE ROUTE 193/US 422. CLOSURES OF SR 193 RAMPS WILL BE REQUIRED AS SHOWN ON SHEETS 31 TO 35A, AND PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS PROTECTIVE SERVICE CALL: **1-800-925-0988**

APPROVED Erin M. Cotts
DATE 7-10-09 DISTRICT DEPUTY DIRECTOR

APPROVED Jolene M. Molitoris
DATE 7-24-09 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E032109

PID NO. 25235

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT

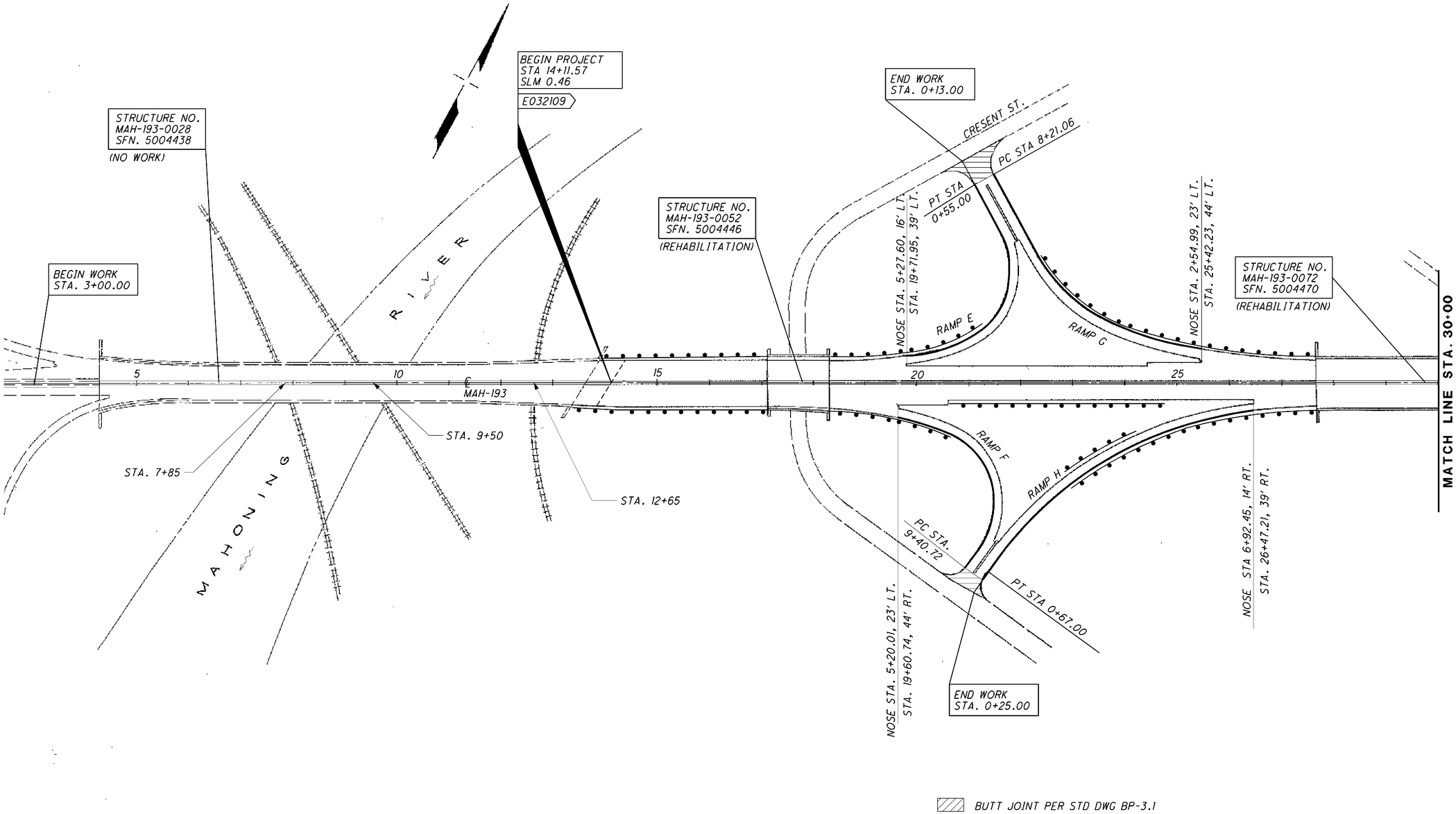
OHIO CENTRAL

MAH-193/422-0.46/1.85

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MAH - SR-193/422-0.46/1.85
090500 PID - 25235
Dist 4 11/18/2009

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HAMMER



SCHEMATIC PLAN

MAH-193-0.46
MAH-422-1.85

SCHEMATIC PLAN

HORIZONTAL SCALE IN FEET
0 100 200

MAH-193-0.46
MAH-422-1.85

MATCH LINE STA. 30+00

STRUCTURE NO. MAH-193-0072 SFN. 5004470 (REHABILITATION)

STRUCTURE NO. MAH-422-0185 SFN. 5005132 (REHABILITATION)

STRUCTURE NO. MAH-193-0105 SFN. 5004500 (REHABILITATION)

END WORK STA. 0+24.50

BEGIN WORK STA. 0+36.50

END WORK STA. 7+42.25

BEGIN WORK STA. 0+36.50

END WORK STA. 8+10.20

MAH-193

MAH-422

RAMP K

RAMP J

RAMP L

RAMP M

ACCESS RAMP

OTIS ST

WIRT ST.

RAYEN AVE.

WESTLAKE AVE.

MADISON AVE.

GRIFFITH ST.

HAYMAN ST.

MARTIN LUTHER KING JR. BLVD.

NOSE STA. 5+82.87, 14' LT.
℄ STA. 35+61.10, 39' LT.

NOSE STA. 2+54.99, 23' LT.
℄ STA. 36+07.72, 44' RT.

NOSE STA 4+92.33

NOSE STA 0+92.00

PC STA 1+14.00

PT STA 1+39.79

PC STA 8+19.69

PC STA 7+63.99

PT STA 3+29.48

T.S. STA. 39+24.06

S.C. STA. 43+24.06

C.S. STA. 45+24.63

S.T. STA. 49+24.63

NOSE STA 0+00.00

NOSE STA. 2+75.03, 23' LT.
℄ STA. 52+32.27, 44' LT.

NOSE STA. 7+56.12, 14' LT
℄ STA. 52+25.38

P.C. STA. 52+88.40

STA 34+54.72, ℄ SR 193

STA. 41+42.47 ℄ MAH-193=
STA. 65+41.90 ℄ MLK BLVD.

STA. 67+26.65 ℄ MLK BLVD.=
STA. 0+00.00, ℄ WIRT ST.

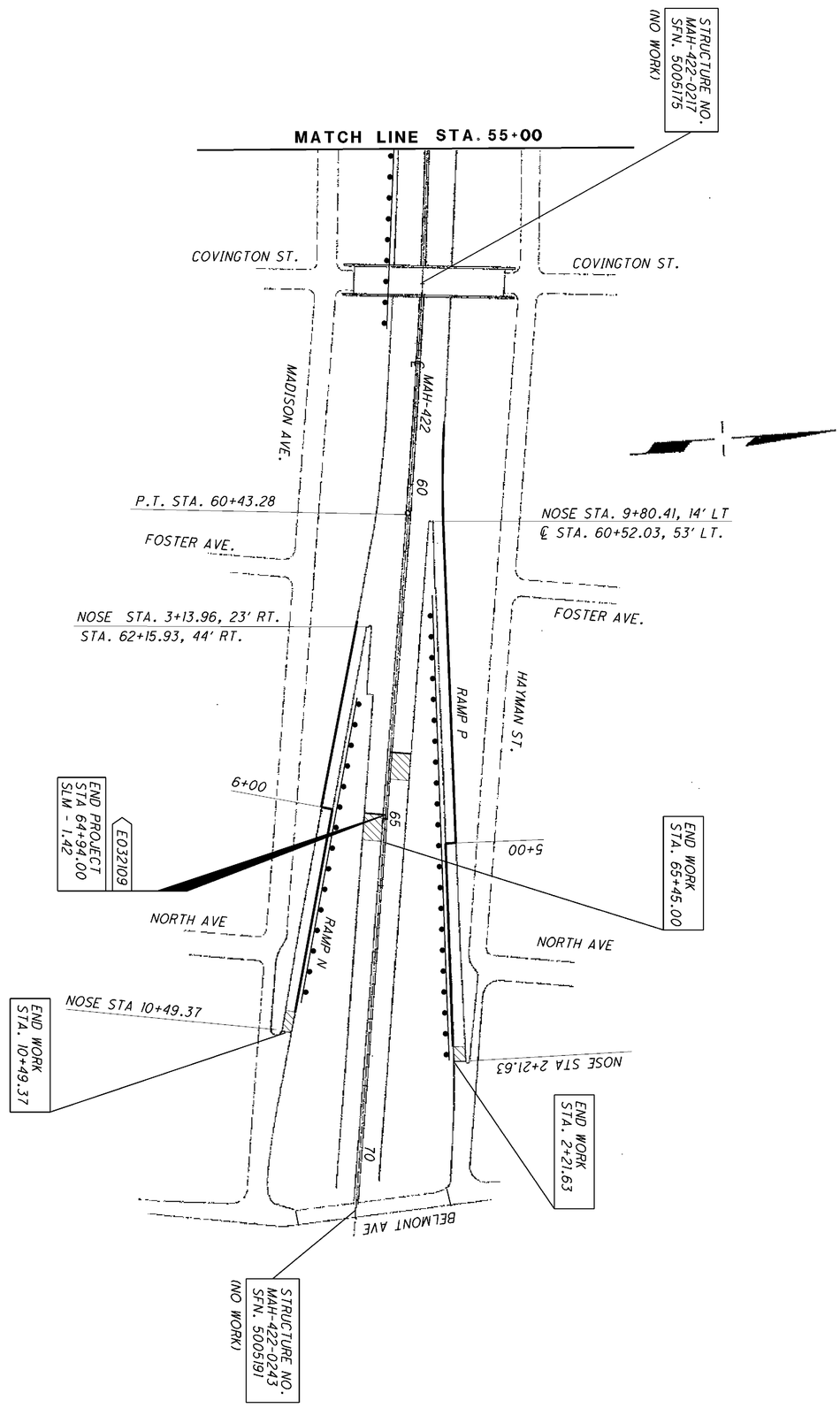
MATCH LINE STA. 55+00

35 40 45 50

BUTT JOINT PER STD DWG BP-3.1

RECONSTRUCT WIRT STREET NB & SB SEE SHEETS

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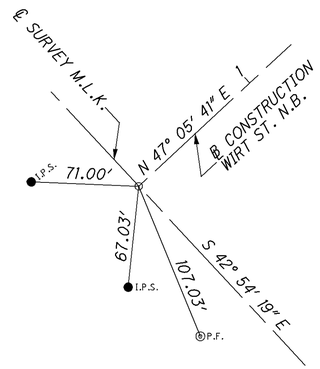
BUTT JOINT PER STD DWG BP-3.1

MAH-193-0.46
MAH-422-1.85

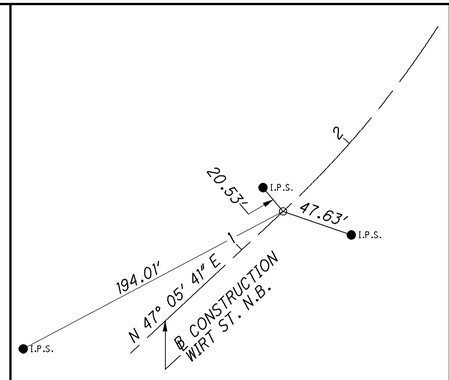
SCHEMATIC PLAN

0 100 200
HORIZONTAL SCALE IN FEET

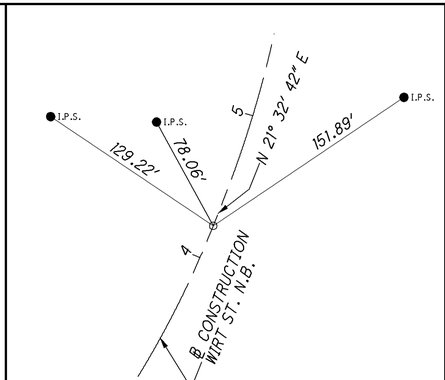
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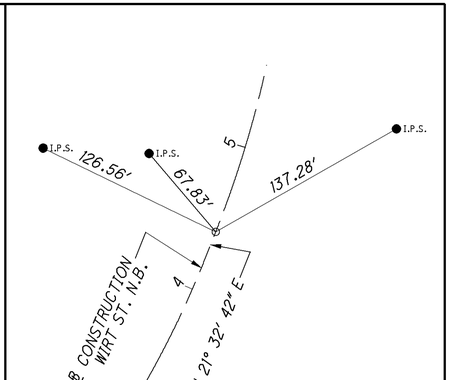
P.O.T. STA. 0+00.00, N.B. WIRT ST.



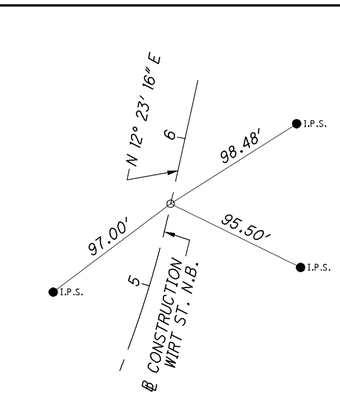
PC STA. 1+37.31, N.B. WIRT ST.



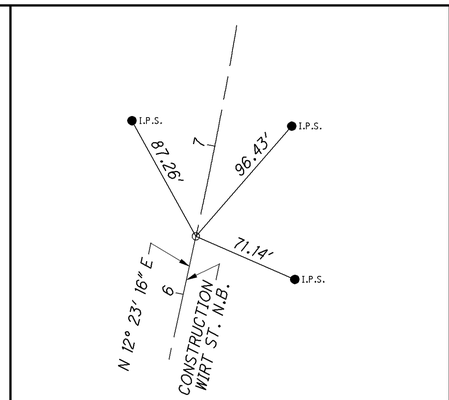
PT STA. 4+22.70, N.B. WIRT ST.



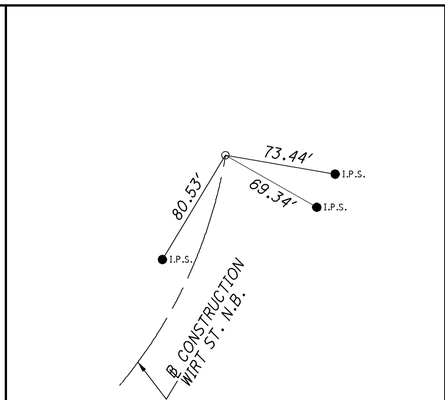
PC STA. 4+40.89, N.B. WIRT ST.



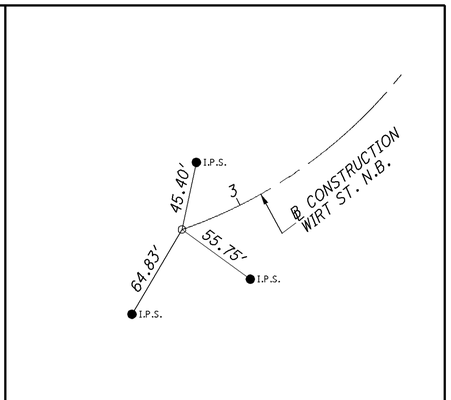
PT STA. 5+56.01, N.B. WIRT ST.



PC STA. 6+39.12, N.B. WIRT ST.



PC STA. 0+00.00, S.B. WIRT ST.



PT STA. 3+41.54, S.B. WIRT ST.

CENTERLINE REFERENCES

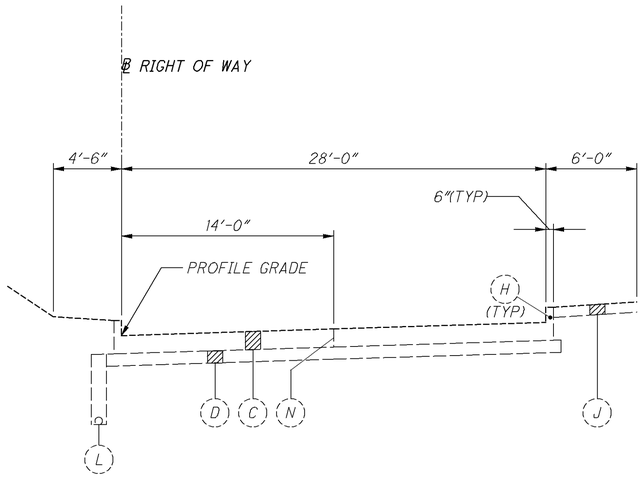
HORIZONTAL SCALE IN FEET
0 25 50 100

MISCELLANEOUS DETAIL
HORIZONTAL CONTROL

MAH-193-0.46
MAH-422-1.85

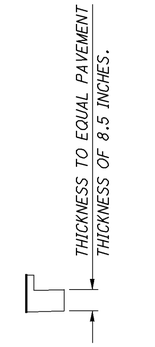
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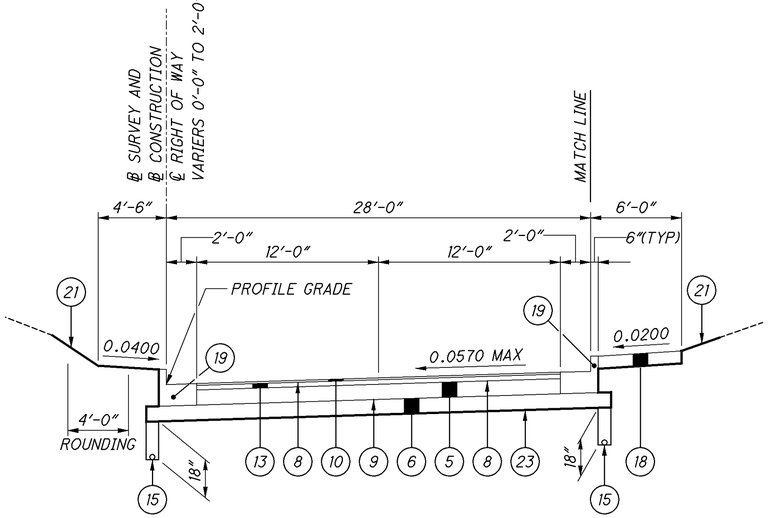


EXISTING WIRT STREET SECTION

STA 0+36.50 TO STA 7+41.10 = 704.60'
STA. 0+41.16 TO STA 2+46.67 = 205.41'
TOTAL = 910.01'



GUTTER DETAIL

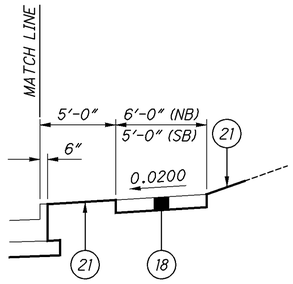


WIRT STREET NORTHBOUND SUPERELEVATED SECTION
WIRT STREET SOUTHBOUND SUPERELEVATED SECTION (OPPISITE HAND)

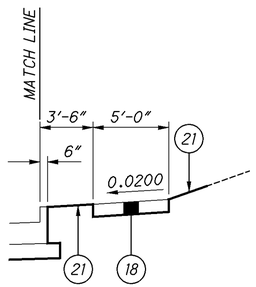
STA 0+36.50 TO STA 7+42.25 = 705.75'
STA. 0+37.91 TO STA 2+46.67 = 208.76'
TOTAL = 914.51'

EXISTING LEGEND

- (A) 10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
- (B) 10" PLAIN CONCRETE PAVEMENT
- (C) 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
- (D) 6" SUBBASE
- (E) 6" WATERPROOFED BASE COURSE
- (F) AGGREGATE BASE COURSE (VARIABLE DEPTH)
- (G) 3" WATERPROOFED AGGREGATE BASE
- (H) CURB, TYPE 2A
- (I) CONCRETE BARRIER, TYPE B50
- (J) 5" CONCRETE SIDEWALK
- (K) 1" ASPHALT CONCRETE OVERLAY (VARIES 1" TO 3")
- (L) 6" PIPE, UNDERDRAIN
- (M) EXISTING GUARDRAIL
- (N) STANDARD LONGITUDINAL JOINT



SECTION APPLIES
NB STA. 0+36.50 TO STA. 1+65.60
SB STA. 0+37.91 TO STA. 2+46.67



SECTION APPLIES
NB STA. 6+20 TO STA. 7+42.25

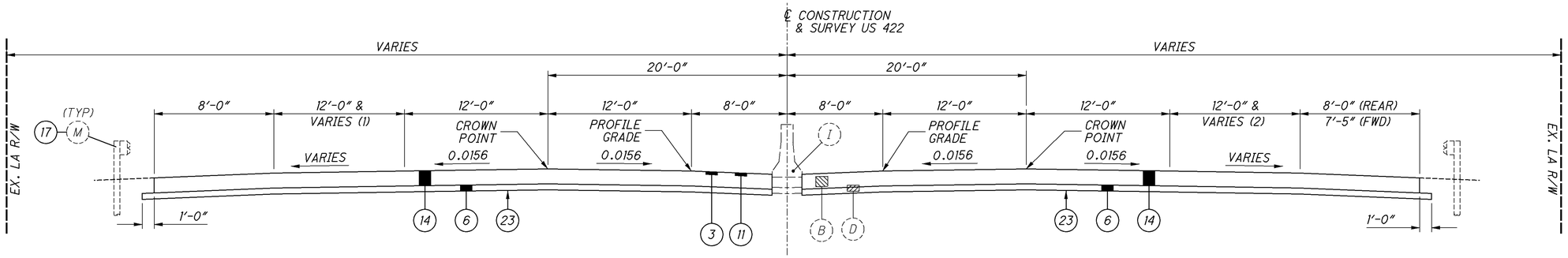
PROPOSED LEGEND

1. ITEM 202 WEARING COURSE REMOVED (VARIES 1" TO 3")
2. ITEM 251, PARTIAL DEPTH PAVEMENT REPAIR
3. ITEM 254, PAVEMENT PLANING: ASPHALT CONCRETE (VARIES 1" TO 3")
4. ITEM 255, FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT
5. ITEM 302, 6" ASPHALT CONCRETE BASE, PG 64-22
6. ITEM 304, 6" AGGREGATE BASE, AS PER PLAN
7. ITEM 407, TACK COAT (0.075 GAL./SQ.YD.)
8. ITEM 407, TACK COAT FOR INTERMEDIATE COURSE (0.04 GAL./SQ.YD.)
9. ITEM 408, PRIME COAT (0.4 GAL./SQ.YD.)
10. ITEM 424, ¾" FINE GRADED POLYMER ASHPALT CONCRETE, TYPE A
11. ITEM 442, 1½" ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE B (446), AS PER PLAN
12. ITEM 442, 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, TYPE B (446), AS PER PLAN
13. ITEM 448, 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22
14. ITEM 526, REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN
15. ITEM 605, 4" BASE PIPE UNDERDRAIN, WITH FABRIC WRAP, 707.31 OR 707.41
16. ITEM 605, 18" PREFABRICATED EDGE UNDERDRAIN
17. ITEM 606, GUARDRAIL, TYPE 5
18. ITEM 608, 5" CONCRETE WALK
19. ITEM 609, COMBINATION CURB AND GUTTER, TYPE 2, AS PER PLAN
20. ITEM 622, CONCRETE BARRIER, TYPE B1, AS PER PLAN
21. ITEM 659, SEEDING AND MULCHING
22. ITEM 617, COMPACTED AGGREGATE, AS PER PLAN
23. ITEM 204, SUBGRADE COMPACTION

TYPICAL SECTIONS

MAH-193-0.46
MAH-422-1.85

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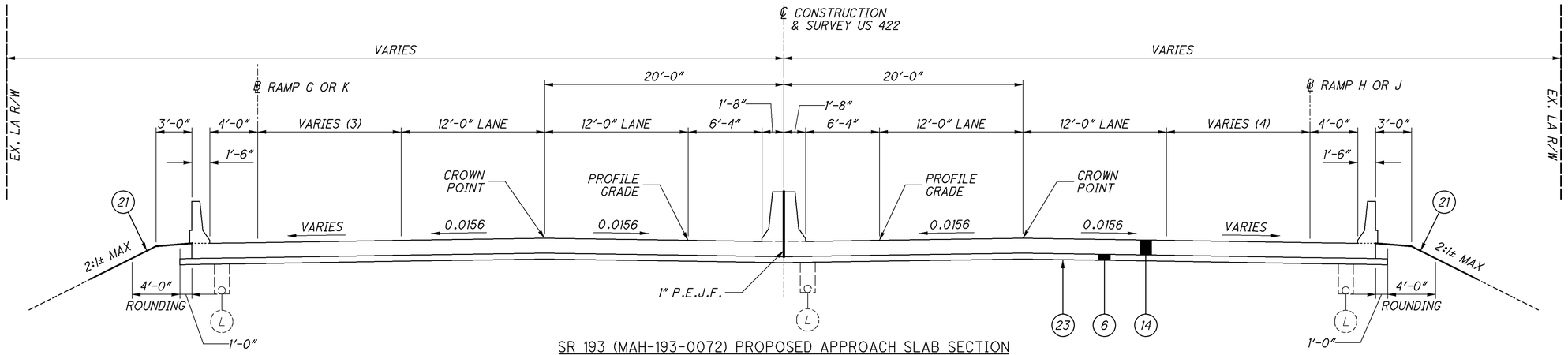
SR 193 (MAH-193-0052) PROPOSED APPROACH SLAB SECTION

VARIES (1)
STA 18+31.92 TO STA 18+56.92 = 12.16' TO 12.74'

STA 16+88.42 TO STA 17+13.42 = 25.00'
STA 18+31.92 TO STA 18+56.92 = 25.00'
TOTAL = 50.00'

VARIES (2)
STA 17+03.02 TO STA 17+13.42 = 12.00' TO 12.04'
STA 18+31.92 TO STA 18+56.92 = 17.81' TO 20.29'

PROPOSED BRIDGE LIMITS STA 17+13.42 TO STA 18+31.92 = 118.50'



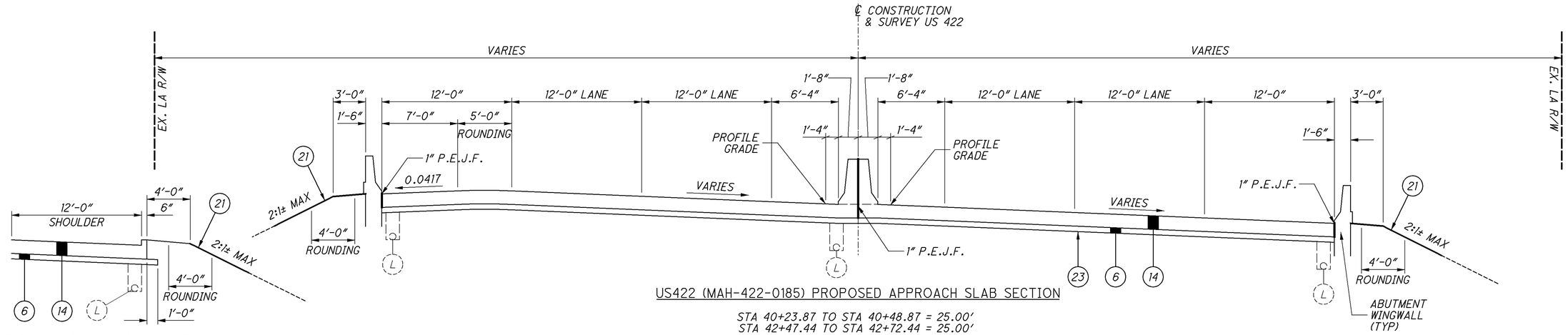
SR 193 (MAH-193-0072) PROPOSED APPROACH SLAB SECTION

VARIES (3)
12.39' TO 13.18' (REAR APPROACH SLAB)
19.16' TO 21.76' (FORWARD APPROACH SLAB)

STA 27+41.79 TO STA 27+66.79 = 25.00'
STA 35+55.37 TO STA 35+80.37 = 25.00'
TOTAL = 50.00'

VARIES (4)
12.60' TO 13.55' (REAR APPROACH SLAB)
28.64' TO 32.86' FORWARD APPROACH SLAB)

PROPOSED BRIDGE LIMITS STA 27+66.79 TO STA 35+55.37 = 788.58'



US422 (MAH-422-0185) PROPOSED APPROACH SLAB SECTION

STA 40+20.02 TO STA 40+24.59 LT = 4.57'
STA 40+27.81 TO STA 40+33.28 RT = 5.47'

STA 40+23.87 TO STA 40+48.87 = 25.00'
STA 42+47.44 TO STA 42+72.44 = 25.00'
TOTAL = 50.00'

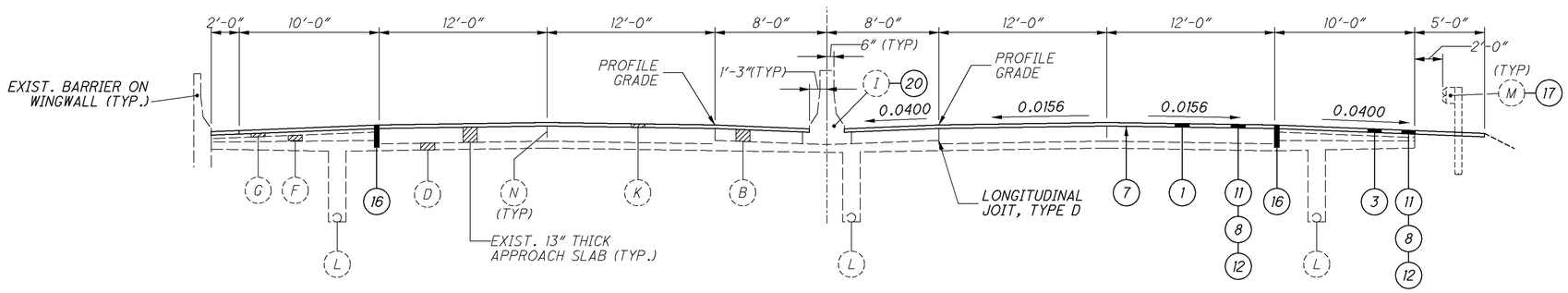
PROPOSED BRIDGE LIMITS STA 40+48.87 TO STA 42+47.44 = 198.57'

FOR LEGEND SEE SHEET 6.

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TYPICAL SECTIONS

MAH-193-0.46
MAH-422-1.85



S.R. 193 (MAH-193-0105) EXISTING APPROACH SLAB

STA. 44+54.98 TO STA. 44+79.98 = 25.00'
STA. 46+35.84 TO STA. 46+60.84 = 25.00'
PROPOSED BRIDGE LIMITS STA. 44+79.98 TO STA. 46+35.84 = 155.86'

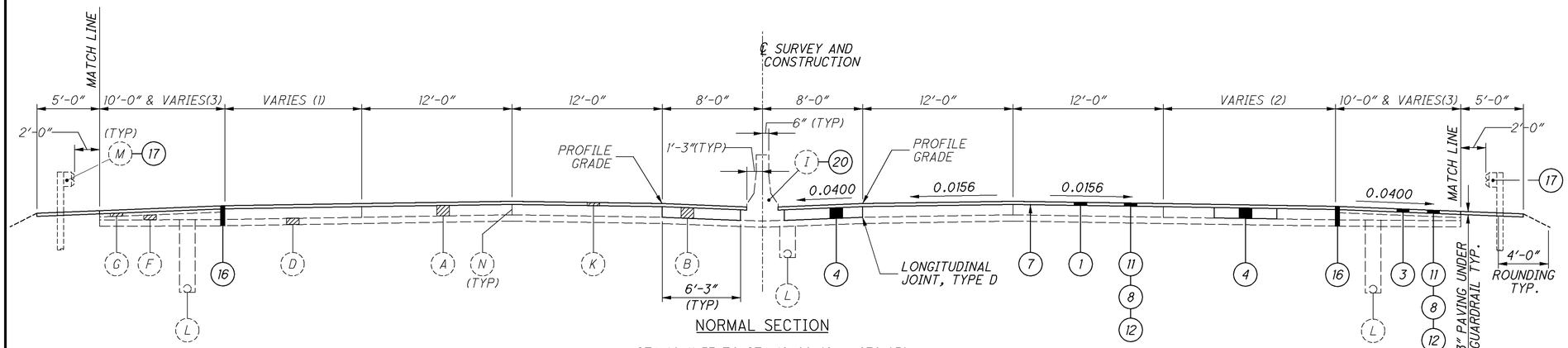
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TYPICAL SECTIONS

MAH-193-0.46
MAH-422-1.85

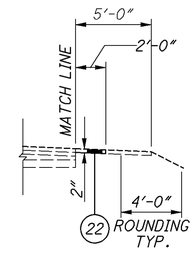
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NORMAL SECTION

STA 14+11.57 TO STA 16+88.42 = 276.85'
STA 18+56.92 TO STA 27+41.79 = 884.87'
STA 35+80.37 TO STA 37+65.74 = 185.37'
STA 50+82.95 TO STA 65+00± = 1417.05'

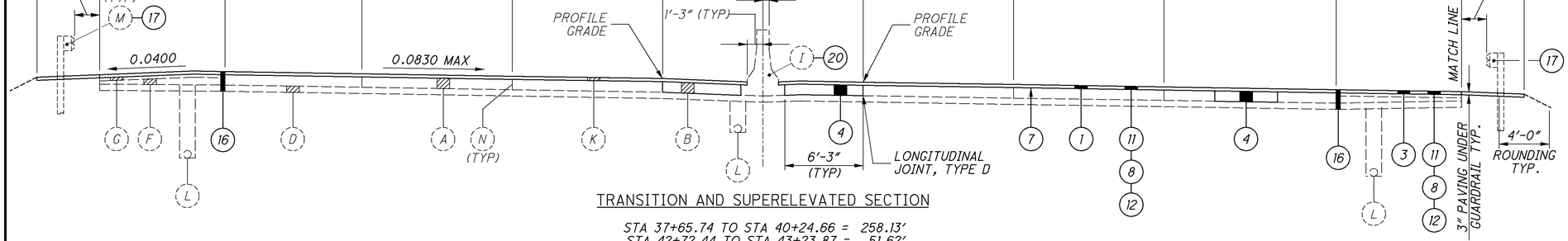


SHOULDER WIHTOUT GUARDRAIL

* SEE LIMITING STATIONS BELOW

*STA. 20+60 TO STA. 24+40 (LT)
*STA. 36+70 TO STA. 37+22 (LT)
*STA. 47+80 TO STA. 51+30 (LT)
*STA. 52+32 TO STA. 60+52 (LT)
*STA. 62+10 TO STA. 64+00 (LT)

*STA. 24+50 TO STA. 25+60 (RT)
*STA. 50+23 TO STA. 51+10 (RT)
*STA. 52+25 TO STA. 55+75 (RT)
*STA. 57+25 TO STA. 62+16 (RT)
*STA. 63+16 TO STA. 64+00 (RT)



TRANSITION AND SUPERELEVATED SECTION

STA 37+65.74 TO STA 40+24.66 = 258.13'
STA 42+72.44 TO STA 43+23.87 = 51.62'
FULL SUPERELEVATION STA 43+24.06 TO STA 44+54.88 = 130.82'
STA 46+60.84 TO STA 50+82.95 = 422.11'

REF NO.	BEGIN STATION	END STATION	BEGIN WIDTH	END WIDTH
(1)	14+11.57	14+75.00	10.36'	12.00'
(1)	14+75.00	16+88.42	12.00'	12.00'
(1)	18+56.92	19+71.95	12.50'	21.00'
(1)	19+71.95	25+42.28	0.00'	0.00'
(1)	25+42.28	27+41.79	35.00'	13.00'
(1)	35+80.37	40+24.66	0.00'	0.00'
(1)	42+73.33	44+54.98	0.00'	0.00'
(1)	46+60.84	52+32.27	0.00'	0.00'
(1)	52+32.27	55+08.88	35.00'	12.00'
(1)	55+08.88	59+00.00	12.00'	12.00'
(1)	59+00.00	60+52.03	12.00'	21.00'
(1)	60+52.03	65+00.00	0.00'	0.00'

REF NO.	BEGIN STATION	END STATION	BEGIN WIDTH	END WIDTH
(2)	14+11.57	14+38.73	10.94'	12.00'
(2)	14+38.73	16+88.42	12.00'	12.00'
(2)	18+56.92	19+60.74	26.75'	35.00'
(2)	19+60.74	26+47.21	0.00'	0.00'
(2)	26+47.21	27+41.79	21.00	14.50'
(2)	35+80.37	36+07.72	33.75'	35.00'
(2)	36+07.72	40+24.66	0.00'	0.00'
(2)	42+73.33	44+54.98	0.00'	0.00'
(2)	46+60.84	52+25.38	0.00'	0.00'
(2)	52+25.38	53+95.66	21.00'	12.00'
(2)	53+95.66	59+00.00	12.00'	12.00'
(2)	59+00.00	62+15.93	12.00'	35.00'
(2)	62+15.93	65+00.00	0.00'	0.00'

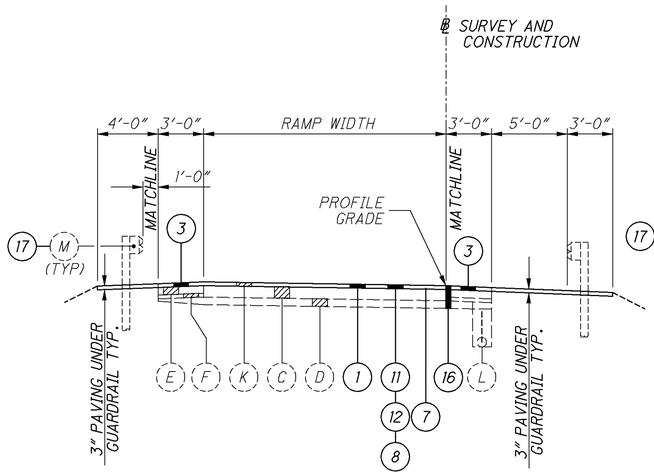
REF NO.	BEGIN STATION	END STATION	BEGIN WIDTH	END WIDTH	SIDE
(3)	14+11.57	17+13.42	8.00'	8.00'	LT. & RT.
(3)	18+59.92	19+71.95	6.83'	5.00'	LT. & RT.

FOR LEGEND SEE SHEET 6.

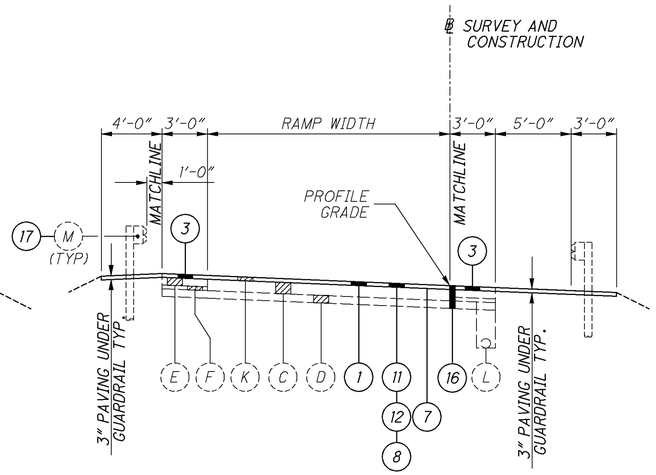
TYPICAL SECTIONS

MAH-193-0.46
MAH-422-1.85

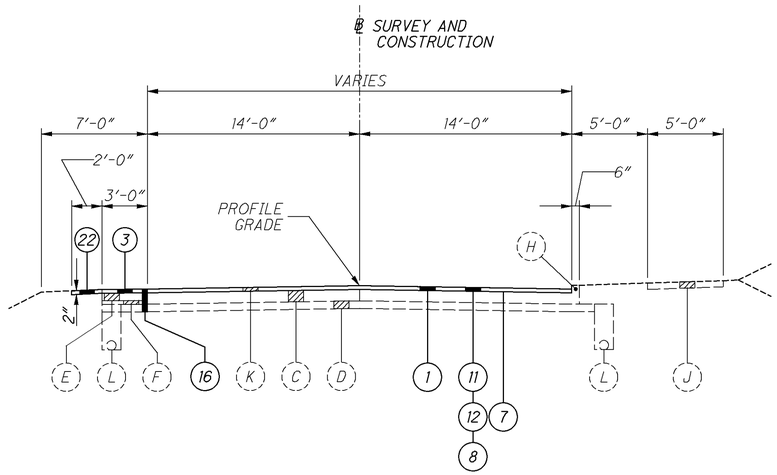
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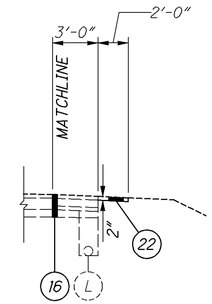
NORMAL RAMP SECTION



SUPERELEVATED RAMP SECTION



NORMAL ACCESS ROAD SECTION



RAMP SHOULDER WIHTOUT GUARDRAIL

REF	BEGIN STATION	END STATION	LENGTH	BEGIN WIDTH	END WIDTH
RAMP "E"	5+27.60	4+27.60	100.00'	14.00'	18.00'
RAMP "E"	4+27.60	2+43.50	184.10'	18.00'	18.00'
RAMP "E"	2+43.50	0+55.00	188.50'	18.00'	18.00'
RAMP "F"	5+20.01	6+20.01	100.00'	21.00'	18.00'
RAMP "F"	6+20.01	8+11.00	190.99'	18.00'	18+00'
RAMP "F"	8+11.00	8+91.47	80.47'	18.00'	18.00'
RAMP "F"	8+91.47	9+35.72	44.25'	21.00'	21.00'
RAMP "G"	2+54.99	3+54.99	100.00'	18.00'	16.00'
RAMP "G"	3+54.99	6+28.50	273.51	16.00'	16.00'
RAMP "G"	6+28.50	6+77.62	49.12'	16.00'	16.00'
RAMP "G"	6+77.62	8+21.60	143.98'	19.00'	19.00'
RAMP "H"	6+92.47	5+92.47	100.00'	14.00'	16.00'
RAMP "H"	5+92.47	4+92.47	100.00'	14.00'	16.00'
RAMP "H"	4+92.47	1+82.00	310.47'	16.00'	16.00'
RAMP "H"	1+82.00	0+50.00	132.00'	16.00'	16.00'
RAMP "J"	2+54.99	6+31.59	376.60'	18.00'	36.00'
RAMP "J"	6+31.59	7+63.99	132.40'	36.00'	36.00'
RAMP "K"	5+71.00	4+82.87	88.13'	14.00'	16.00'
RAMP "K"	4+82.87	3+82.87	100.00'	14.00'	16.00'
RAMP "K"	3+82.87	3+21.92	60.95'	16.00'	16.00'
RAMP "K"	3+21.92	1+39.79	182.13'	16.00'	24.00'
RAMP "L"	7+56.21	6+56.21	100.00'	14.00'	16.00'
RAMP "L"	6+56.21	5+56.21	100.00'	14.00'	16.00'
RAMP "L"	5+56.21	3+50.00	206.21'	16.00'	16.00'
RAMP "L"	3+50.00	2+08.26	141.74'	16.00'	18.00'
RAMP "L"	2+08.26	0+00.00	208.26'	38.00'	16.00'
	LENGTH SUBTOTAL A = 3793.41'				

REF	BEGIN STATION	END STATION	LENGTH	BEGIN WIDTH	END WIDTH
RAMP "M"	2+75.03	3+28.48	53.45'	18.00'	18.00'
RAMP "M"	3+24.48	6+33.82	309.34'	18.00'	24.00'
RAMP "M"	6+33.82	8+19.69	185.87'	24.00'	24.00'
RAMP "N"	3+13.96	4+13.96	100.00'	18.00'	16.00'
RAMP "N"	4+13.96	9+00.00	486.04'	16.00'	16.00'
RAMP "N"	9+00.00	10+55.71	155.71'	16.00'	18.00'
RAMP "N"	10+55.71	11+77.41	121.70'	20.02'	15.00'
RAMP "P"	9+80.41	8+80.41	100.00'	14.00'	16.00'
RAMP "P"	8+80.41	7+80.41	100.00'	14.00'	16.00'
RAMP "P"	7+80.41	4+25.00	355.41'	16.00'	16.00'
RAMP "P"	4+25.00	2+21.63	203.37'	16.00'	18.00'
RAMP "P"	2+21.63	0+00.00	221.63'	18.00'	X
ACCESS RD	0+19.92	0+92.00	72.08'	18.00'	18.00'
ACCESS RD	0+92.00	2+01.80	109.80'	X	28.00'
ACCESS RD	2+01.80	4+08.39	206.59'	28.00'	28.00'
ACCESS RD	4+08.39	4+92.33	83.94'	28.00'	46.00'
ACCESS RD	4+92.33	5+28.61	36.28'	28.00'	28.00'
	LENGTH SUBTOTAL B = 2901.21'				
	LENGTH SUBTOTAL A = 3793.41'				
	LENGTH GRAND TOTAL = 6694.62'				

** SEE LIMITING STATIONS BELOW

RAMP E
- **STA. 0+55 TO STA. 3+56 (RT)
- **STA. 2+44 TO STA. 3+28 (LT)

RAMP F
- **STA. 6+53 TO STA. 9+31 (RT)
- **STA. 6+20 TO STA. 8+11 (LT)

RAMP G
- **STA. 6+03 TO STA. 8+22 (RT)
- **STA. 3+55 TO STA. 6+28 (LT)

RAMP H
- **STA. 0+67 TO STA. 3+52 (RT)
- **STA. 1+82 TO STA. 3+50 (LT)
- **STA. 4+75 TO STA. 4+92 (LT)

RAMP J
- **STA. 7+27 TO STA. 7+64 (RT)
- **STA. 3+55 TO STA. 7+83 (LT)

RAMP K
- **STA. 1+14 TO STA. 1+71 (RT)
- **STA. 0+48 TO STA. 3+83 (LT)

RAMP L
- **STA. 3+50 TO STA. 7+56 (RT)
- **STA. 3+50 TO STA. 5+56 (LT)

RAMP M
- **STA. 2+75 TO STA. 2+90 (RT)
- **STA. 3+75 TO STA. 8+72 (LT)

RAMP N
- **STA. 3+14 TO STA. 4+75 (RT)
- **STA. 4+41 TO STA. 4+50 (LT)
- **STA. 8+75 TO STA. 10+49 (LT)

RAMP P
- **STA. 9+35 TO STA. 9+80 (RT)
- **STA. 7+38 TO STA. 7+80 (LT)

ACCESS ROAD
- **STA. 0+20 TO STA. 1+32 (LT)
- **STA. 4+75 TO STA. 5+29 (RT)

FOR LEGEND SEE SHEET 6.

TYPICAL SECTIONS

MAH-193-0.46
MAH-422-1.85

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GENERAL

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

UTILITIES

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

DOMINION EAST OHIO
ATTN: GEORGE TURNER, JR.
320 SPRINGSIDE DRIVE, SUITE 320
AKRON, OHIO 44333
(216) 736-6884

CITY OF YOUNGSTOWN, WATER DEPT.
ATTN: RANDALL COLLA
P.O. BOX 6219
YOUNGSTOWN, OH 44501
(330) 742-8765

A T& T
ATTN: HAROLD MAYNARD
2933 SALT SPRING ROAD
YOUNGSTOWN, OHIO 44509
(330) 270-8816

OHIO EDISON
ATTN: BILL SPEECE
730 SOUTH AVE.
YOUNGSTOWN, OH 44502
(330) 740- 7635

BOCOR HOLDINGS
ATTN: MARK YOUNG
6616 PROMWAY AVE. N.W.
NORTH CANTON, OH 44720
(330) 494-1221

SANITARY SEWERS
ATTN: R. CODNER
26 S. PHELPS ST. 5th FLOOR
YOUNGSTOWN, OH 44503
(330). 742 8800

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

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 8:00 PM AND 7:00 AM. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

ELEVATION DATUM

ALL ELEVATIONS ARE ORTHOMETRIC HEIGHTS USING THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AND THE GEOID03 GEOID. HORIZONTAL POSITIONS ARE BASED ON THE OHIO STATE PLANE NORTH ZONE (3401), A LAMBERT CONFORMAL CONIC MAP PROJECTION, THE NORTH AMERICAN DATUM OF 1983 ADJUSTED TO THE CONTINOUSLY OPERATING REFRENCE STATIONS OF 1996 (NAD 83(CORS 96)), AND THE GRS80 ELLIPSOID.

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.

ITEM 204 - PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.

ITEM 204 - PROOF ROLLING 3 HOUR.

AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS

THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PUBLIC USE AIRPORT OR HELIPORT. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF 320 FT. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, FURTHER COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), AND ODOT OFFICE OF AVIATION, WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT FORM 7460-1 TO THE FAA. A COPY OF THE SUBMISSION AND TWO COPIES OF FORM 7460-1 SHALL BE FORWARDED TO THE ODOT OFFICE OF AVIATION. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT, UNTIL A COPY OF THE FAA APPROVAL AND ODOT OFFICE OF AVIATION PERMIT HAS BEEN FURNISHED TO THE PROJECT ENGINEER.

EXPRESS PROCESSING CENTER
THE FEDERAL AVIATION ADMINISTRATION
SOUTHWEST REGIONAL
AIR TRAFFIC AIRSPACE BRANCH ASW-520
2601 MEACHAN BLVD.
FORT WORTH, TX 76137-4298

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OFFICE OF AVIATION
2829 WEST DUBLIN-GRANVILLE ROAD
COLUMBUS, OHIO 43235
614-387-2346

ENVIRONMENTAL

BEST MANAGEMENT PRACTICES FOR SOIL EROSION AND SEDIMENTATION CONTROL:

WATER COLUMN AND SEDIMENTATION IMPACTS SHALL BE KEPT TO A MINIMUM THROUGH THE USE OF BEST MANAGEMENT PRACTICES FOR SOIL EROSION AND SEDIMENTATION CONTROL. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY EXCAVATION, GRADING OR FILLING OPERATIONS AND INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES. THEY SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED AND THE AREA IS STABILIZED AS ACCEPTED BY THE ENGINEER. THESE SHALL COMPLY WITH ODOT'S HANDBOOK FOR SEDIMENT AND EROSION CONTROL, WHICH MAY BE FOUND AT: http://www.dot.state.oh.us/drrc/.

ROADWAY

ITEM 209 - RESHAPING UNDER GUARDRAIL

TREATED SHOULDER WIDTH BEYOND THE LIMITS OF THE COMPACTED AGGREGATE SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE INTO THE DITCH AND SHALL BE PERFORMED ONLY IN THE AREAS NECESSARY. RESHAPING SHALL BE ACCOMPLISHED BY THE REMOVAL OF, OR ADDITION OF MATERIAL TO PROVIDE A 0.08 SLOPE TO THE DITCH BREAK POINT. EXCESS MATERIAL SHALL BE WINDROWED ON THE SHOULDER. THE RESHAPED AREAS SHALL BE COMPACTED TO A SUFFICIENT DENSITY TO PREVENT EROSION UNTIL SEEDING AND MULCHING AS PER 659 IS PERFORMED. ALL EXCESS MATERIAL SHALL BE REMOVED FROM THE BERMS AND NOT ALLOWED TO ENTER THE DITCH LINE AND SHALL BE DISPOSED OF OFF THE PROJECT BY THE CONTRACTOR.

THE METHOD OF MEASUREMENT OF ITEM 209 RESHAPING UNDER GUARDRAIL SHALL BE STATIONS, WITH ONE STATION EQUAL TO 100 LINEAR FEET. THE DISTANCE SHALL BE MEASURED ALONG EACH EDGE OF PAVEMENT. ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 209 RESHAPING UNDER GUARDRAIL. IN AREAS WHERE GRADING IS NOT REQUIRED BEYOND THE 617 LIMIT, RESHAPING UNDER GUARDRAIL WILL BE NON-PERFORMED AS DIRECTED BY THE ENGINEER.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

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

ITEM 606 - ANCHOR ASSEMBLY, TYPE E-98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS, OR AN APPROVED EQUAL AS LISTED ON ROADWAY ENGINEERING5/32S WEB PAGE AT WWW.DOT.STATE.OH.US/DRRC/ UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS:

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

THE LENGTH OF THE ET-2000 (1997) SYSTEM IS CONSIDERED TO BE 50'-0", INCLUSIVE OF TWO 25'-0" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER5/32S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG #	DRAWING NAME	DWG./ REV. DATE	ODOT APPROVAL DATE
SS265M	ET-2000 (1997) PLAN, ELEVATION & SECTIONS	6/20/97	3/6/98
SS142	ET2000 PLUS 50'-0" PLAN, ELEVATION & SECTION 25'-0" RAIL, SLEEVE W/PL POSTS 1-4	4/12/00	7/31/00
SS141	ET2000 PLUS PLAN, ELEVATION & SECTION 25'-0" RAIL, HBA POSTS 1-4	2/29/00	7/31/00
SS158	ET2000 PLUS 50'-0" WITH 12'-6" PANELS & HBA POSTS 1-4 PLAN, ELEVATION & SECTION	5/22/00	7/31/00

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

THE LENGTH OF THE SKT-350 SYSTEM IS CONSIDERED TO BE 50'-0", INCLUSIVE OF FOUR 12'-6" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER5/32S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG #	DRAWING NAME	DWG./ REV. DATE	ODOT APPROVAL DATE
SKT-4M	SEQUENTIAL KINKING TERMINAL (SKT- 350) ASSEMBLY WITH 4 FOUNDATION TUBES	12/11/97	3/6/98

THE FACE OF THE TYPE E-98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 18" X 18", OR 12" X 18" IF APPLIED TO A RECTANGULAR ET-2000 1/32PLUS9/32 EXTRUDER HEAD.

REFER TO THE MANUFACTURER5/32S INSTRUCTION REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4-INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27-3/4-INCHES FROM THE EDGE OF THE SHOULDER.

CALCULATED GJB
CHECKED EAF

GENERAL NOTES

MAH-193-0.46
MAH-422-1.85

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ITEM 606 - ANCHOR ASSEMBLY, TYPE E-98 (CONT.)

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

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

ITEM 622, CONCRETE BARRIER, TYPE B1, AS PER PLAN

ALL REQUIREMENTS OF CMS 622 APPLY. BUILD CONCRETE BARRIER WITH 10 INCH THICK CONCRETE FOUNDATION INSTEAD OF THE 9 INCH THICK FOUNDATION AS SHOWN ON THE PLAN INSERT SHEET NEW JERSEY SHAPE CONCRETE BARRIER PAGE 2 OF 2 IN ORDER TO MATCH THE THICKNESS OF THE ADJACENT NON-REINFORCED CONCRETE SHOULDER.

ITEM SPECIAL - MISC.: 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. THIS WORK SHALL BE PERFORMED AT THE FOLLOWING STRUCTURES:

MAH-193-0052
MAH-193-0072
MAH-422-0185
MAH-193-0105
MAH-422-0217

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

SPECIAL - MISC.: VERTICAL CLEARANCE 5 EACH

EROSION CONTROL

SEEDING AND MULCHING

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.

DRAINAGE

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT. IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

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

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.

ITEM SPECIAL- MISCELLANEOUS METAL

EXISTING 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 QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

SPECIAL, MISCELLANEOUS METAL 2000 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.

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.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE ABOVE NOTED WORK:

SPECIAL, PIPE CLEANOUT 600 FT.

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.

PAVEMENT

PROFILE AND ALIGNMENT

PLACE THE PROPOSED PAVEMENT TO FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. PREVIOUS CONSTRUCTION PLANS, PROJECT NO. U-1124(3) AND U-522(26), SHOWING THE ORIGINAL ALIGNMENT AND PROFILE, ARE AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 4 OFFICE. PLACE THE PROPOSED ASPHALT CONCRETE OVERLAY AS SHOWN ON THE TYPICAL SECTIONS.

ITEM 209 - LINEAR GRADING

SHOULDER WIDTH BEYOND THE LIMITS OF THE COMPACTED AGGREGATE SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE INTO THE DITCH AND SHALL BE PERFORMED ONLY IN THE AREAS NECESSARY. RE-GRADING SHALL BE ACCOMPLISHED BY THE REMOVAL OF, OR ADDITION OF MATERIAL TO PROVIDE A 0.08 SLOPE TO THE DITCH BREAK POINT. EXCESS MATERIAL SHALL BE WINDROWED ON THE SHOULDER. THE RE-GRADED AREAS SHALL BE COMPACTED TO A SUFFICIENT DENSITY TO PREVENT EROSION UNTIL SEEDING AND MULCHING AS PER 659 IS PERFORMED. ALL EXCESS MATERIAL SHALL BE REMOVED FROM THE BERMS AND NOT ALLOWED TO ENTER THE DITCH LINE AND SHALL BE DISPOSED OF OFF THE PROJECT BY THE CONTRACTOR.

THE METHOD OF MEASUREMENT OF ITEM 209 LINEAR GRADING SHALL BE STATIONS, WITH ONE STATION EQUAL TO 100 LINEAR FEET. THE DISTANCE SHALL BE MEASURED ALONG EACH EDGE OF PAVEMENT.

ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 209 LINEAR GRADING. IN AREAS WHERE GRADING IS NOT REQUIRED BEYOND THE 617 LIMIT, LINEAR GRADING WILL BE NON-PERFORMED AS DIRECTED BY THE ENGINEER.

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR

A QUANTITY OF THIS ITEM SHALL BE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER. THE ITEM SHALL CONSIST OF REPAIRING EXISTING LOCATIONS EXHIBITING SURFACE DETERIORATION AND PLACING ITEM 448 ASPHALT CONCRETE, TYPE 2. THE ASPHALT CONCRETE SHALL BE COMPACTED WITH A TYPE I PNEUMATIC TIRE ROLLER AND A STEEL WHEEL ROLLER AS PER 401.13. IT IS NOT THE INTENT TO REPAIR EVERY DETERIORATED AREA WITHIN THE PROJECT. THE ENGINEER SHALL DETERMINE WHICH AREAS ARE TO BE REPAIRED. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THIS ITEM SHALL BE PERFORMED AFTER THE COMPLETION OF MAINLINE PAVEMENT PLANING. ALSO, THIS ITEM SHALL COMMENCE WITHIN 7 DAYS OF THE COMPLETION OF MAINLINE PAVEMENT PLANING. PAYMENT SHALL BE BASED ON THE ACTUAL NUMBER OF SQUARE YARDS OF PAVEMENT REPAIR. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY: ITEM 251, PARTIAL DEPTH PAVEMENT REPAIR, 1,000 SQ. YD.

ITEM 255, FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT

ALL REQUIREMENTS OF ITEM 255 APPLY. THE FOLLOWING ESTIMATED QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE MADE FOR THE UNIT BID PRICE FOR THE ACTUAL AMOUNT OF THIS ITEM REQUESTED AND APPROVED BY THE ENGINEER.

ITEM 255, FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT - 1,500 SQ. YD.

ITEM 255, FULL DEPTH PAVEMENT SAWING - 300 FT.

ITEM 304 AGGREGATE BASE, AS PER PLAN

GRANULATED SLAG (GS) SHALL NOT BE PERMITTED FOR THIS ITEM. ALL OTHER REQUIREMENTS OF SECTIONS 304 AND 703.17 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS SHALL STILL BE APPLICABLE.

ITEM 408 - PRIME COAT, AS PER PLAN

THE CONTRACTOR WILL APPLY "MC-70" AT A RATE OF 0.4 GALLONS PER SQUARE YARD, OR AS DETERMINED BY THE ENGINEER, TO THE COMPLETED COMPACTED AGGREGATE SHOULDER. THE CONTRACTOR SHALL PROVIDE A SHIELD TO PREVENT THE SPRAYING OR DRIFTING OF LIQUID PRIME COAT MATERIAL ONTO THE EDGE OF THE PAVEMENT OR EDGE LINE. CARE ALSO SHALL BE TAKEN TO AVOID SPRAYING LIQUID PRIME COAT MATERIAL ONTO DRIVEWAY APRONS, MAILBOX APPROACHES OR ANY PEDESTRIAN AREAS. THE ATTENTION OF THE CONTRACTOR IS DIRECTED TO 107.10 OF THE SPECIFICATIONS.

CALCULATED GJB
CHECKED EAF

GENERAL NOTES

MAH-193-0.46
MAH-422-1.85

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ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE B (446), AS PER PLAN
ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 19mm, 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. ALSO SEE SHEET NO. 121 FOR ADDITIONAL REQUIREMENTS.

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD WIRT STREET OF 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 609, COMBINATION CURB AND GUTTER, TYPE 2, AS PER PLAN

ALL REQUIREMENTS OF CMS 609 APPLY. BUILD COMBINATION CURB AND GUTTER WITH PAN CROSS SLOPE MATCHING THE PROPOSED PAVEMENT CROSS SLOPE AND NOT THE 12:1 SLOPE SHOWN ON STANDARD CONSTRUCTION DRAWING BP-5.1. ALSO THE PAN THICKNESS IS TO EQUAL PAVEMENT THICKNESS OF 8.5 INCHES AND NOT THE 9 INCHES SHOWN ON SCD BP-5.1.

ITEM 617 COMPACTED AGGREGATE, AS PER PLAN

IN LOW SHOULDER AREAS EXCEEDING 1", OR AS DIRECTED BY THE ENGINEER, RECYCLED ASPHALT PAVEMENT (RAP) SHALL BE USED IN AREAS ADJACENT TO THE PAVED BERM. THE RAP SHALL HAVE A MINIMUM PG CONTENT OF 4.5% AND MEET THE FOLLOWING GRADATION. ONCE THE STOCKPILE MEETS THE GRADATION, THE PG CONTENT OF THE RAP SHALL BE DETERMINED PER 441.03. THE RAP ANALYSIS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL 2 WEEKS PRIOR TO USE. METHOD OF MEASUREMENT SHALL BE AS PER 617.06. PLACEMENT AND COMPACTION SHALL MEET THE REQUIREMENTS OF ITEM 617. ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 617 COMPACTED AGGREGATE, AS PER PLAN.

MODIFIED GRADATION SHALL APPLY:

SIEVE	TOTAL PERCENT PASSING
1-½"	100
¾"	50-100
NO. 4	35-70
NO. 30	9-33
NO. 200	0-13

PAVING UNDER GUARDRAIL

THIS OPERATION SHALL INCLUDE PREPARATION OF THE GRADED SHOULDER USING 209, LINEAR GRADING, AND PAVING UNDER THE GUARDRAIL USING 448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG 64-22, UNDER GUARDRAIL, AS PER PLAN.

ITEM 209, LINEAR GRADING, SHALL CONSIST OF EXCAVATING EXISTING MATERIAL, PLACING GRANULAR MATERIAL AND APPLYING HERBICIDE AS SPECIFIED IN THE PLANS AND IN ACCORDANCE WITH THE FOLLOWING:

ALL COLLECTED DEBRIS, ASPHALT AND TOPSOIL, INCLUDING RHIZOMES, ROOTS AND OTHER VEGETATIVE PLANT MATERIAL SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED IN 105.17.

THE REMOVED MATERIAL SHALL BE REPLACED WITH COMPACTABLE GRANULAR MATERIAL CONFORMING TO 703.16 PLACED TO GRADE AS DETAILED ON THE TYPICAL SECTION OR AS APPROVED BY THE ENGINEER.

HERBICIDE SHALL BE EPA APPROVED FOR PAVING UNDER GUARDRAIL. IT SHALL BE APPLIED TO THE PREPARED AREA AFTER FINAL LEVELING AND GRADING HAS BEEN COMPLETED. THE APPLICATION SHALL BE JUST PRIOR TO PAVING AND SHALL STRICTLY ADHERE TO THE MANUFACTURER'S INSTRUCTIONS.

EACH SUCCESSFUL BIDDER MUST BE LICENSED BY THE OHIO DEPARTMENT OF AGRICULTURE AS A COMMERCIAL APPLICATOR AND ALL PERSONS INVOLVED IN THE ACTUAL SPRAYING SHALL BE LICENSED AS COMMERCIAL OPERATORS IN THE APPROPRIATE SPRAY CATEGORY.

HERBICIDE LABEL, MATERIAL SAFETY DATA SHEET AND COPY OF APPLICATORS LICENSES SHALL BE SUBMITTED TO THE ENGINEER FOR VERIFICATION PRIOR TO COMMENCING WORK.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 209, LINEAR GRADING, AS PER PLAN.

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 448 TO THE DEPTH SPECIFIED. PAVING MAY BE PLACED UNDER EXISTING OR PROPOSED GUARDRAIL USING ONE OF THE FOLLOWING METHODS:

METHOD A:
1) SET GUARDRAIL POSTS
2) PLACE ITEM 448

METHOD B:
1) PLACE ITEM 448
2) BORE ASPHALT AT POST LOCATIONS (MAY BE OMITTED IF STEEL POSTS ARE USED)
3) SET GUARDRAIL POSTS
4) PATCH AROUND POSTS. THE MATERIALS USED FOR PATCHING SHALL BE AN ASPHALT CONCRETE APPROVED BY THE ENGINEER. PATCHED AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 448, ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 1, PG 64-22, UNDER GUARDRAIL, AS PER PLAN.

CALCULATED GJB
CHECKED EAF

GENERAL NOTES

MAH-193-0.46
MAH-422-1.85

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NOTIFICATION AND CONTACTS

THE CONTRACTOR SHALL NOTIFY THE FOLLOWING ENITIES IN WRITING AND VIA TELEPHONE AT LEAST EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION ACTIVITIES. INCLUDED IN THE NOTIFICATION SHALL BE PROJECTED DATES AND THE TIME FRAMES OF ANY ROAD CLOSURES.

1. ODOT DISTRICT 4
   2088 S. ARLINGTON ROAD
   AKRON, OHIO 44306
   PHONE: 330-786-3100

2. YOUNGSTOWN TRAFFIC ENGINEERING
   26 SOUTH PHELPS STREET
   YOUNGSTOWN, OH 44502
   PHONE: 330.742.8815

3. YOUNGSTOWN ENGINEERING DEPARTMENT
   26 SOUTH PHELPS STREET
   YOUNGSTOWN, OH 44503
   PHONE: 330.742.8788

4. YOUNGSTOWN POLICE DEPARTMENT
   116 WEST BOARDMAN ST
   YOUNGSTOWN, OHIO 44503
   PHONE: (330)742-8900

5. YOUNGSTOWN FIRE DEPARTMENT
   420 MARTIN LUTHER KING, JR. BLVD
   YOUNGSTOWN, OH 44502
   PHONE: 330.747.7403

6. YOUNGSTOWN CITY SCHOOL BOARD
   IRENE L. WARD BUILDING
   20 W. WOOD ST
   YOUNGSTOWN, OHIO 44503
   PHONE: 330-744-6900

7. OHIO STATE HIGHWAY PATROL
   CANFIELD PATROL POST
   500 SOUTH BROAD STREET
   CANFIELD, OH 44406
   PHONE: (330) 533-6866

8. MAHONING COUNTY SHERIFF'S OFFICE
   110 FIFTH AVENUE
   YOUNGSTOWN, OHIO 44503
   PHONE: 330-480-5000

SHOULD ANY OF THE PROJECTED DATES AND TIME FRAMES OF THE START AND END OF THE ROAD CLOSURES CHANGE THROUGHOUT THE DURATION OF THE PROJECT, THE AGENCIES LISTED ABOVE MUST BE NOTIFIED IMMEDIATELY OF SUCH CHANGES.

TRAFFIC RATED CATCH BASIN GRATES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR SWITCHING THE GRATES OF ANY CURB CATCH BASIN WHICH NEED TO BE SWITCHED FOR TRAFFIC LOADING THROUGHOUT THE DURATION OF THE PROJECT. THE CONTRACTOR SHALL INCLUDE THE COSTS FOR SWITCHING GRATES UNDER ITEM 614, MAINTAINING TRAFFIC.

SEQUENCE OF CONSTRUCTION

PHASE 1:

THE CONTRACTOR SHALL CONSTRUCT THE CROSSOVER PAIRS AS SHOWN IN THE GEOMETRIC PLANS. THE CONTRACTOR SHALL ERECT ALL PHASE 1 DETOUR SIGNAGE. FOLLOWING THE ERECTION OF THE DETOUR SIGNAGE, THE CONTRACTOR SHALL SHIFT EASTBOUND TRAFFIC ONTO THE WESTBOUND SIDE OF SR 193. THE CONTRACTOR SHALL COMPLETE ALL ASSOCIATED ROADWAY AND BRIDGE IMPROVEMENTS ON THE EASTBOUND SIDE OF SR 193 FROM STA. 16+75 TO STA. 48+00. THE FOLLOWING RAMPS SHALL BE CLOSED DURING THIS PHASE OF CONSTRUCTION

RAMP F (SR 193 EB TO CRESCENT ST)
RAMP H (CRESCENT ST TO SR 193 EB)
RAMP J (SR 193 EB TO US ROUTE 422)

PHASE 1A:

THE CONTRACTOR SHALL CLOSE THE NORTHBOUND RIGHT LANE OF US ROUTE 422 (MARTIN LUTHER KING BLVD.) AS SHOWN IN THE DETAILED PHASING PLANS. THE CONTRACTOR SHALL CLOSE THE LEFT LANES OF WIRT STREET TO TRAFFIC. THE CONTRACTOR SHALL CONSTRUCT WIRT STREET FROM STA. 0+35 TO STA. 7+42. FOLLOWING THE COMPLETION OF PHASE 1A CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL PROCEED TO PHASE 1B.

PHASE 1B:

THE CONTRACTOR SHALL SHIFT RAMP M TRAFFIC TO THE RIGHT LANE. RAMP M SHALL BE CLOSED TO TRAFFIC AT WIRT STREET. THE CONTRACTOR SHALL COMPLETE THE IMPROVEMENTS AT THE RAMP M / WIRT ST. INTERSECTION AS SHOWN IN THE DETAILED PHASING PLAN. FOLLOWING THE COMPLETION OF PHASE 1B CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL PROCEED TO PHASE 1C.

PHASE 1C:

THE CONTRACTOR SHALL SHIFT WIRT TRAFFIC TO THE NEWLY CONSTRUCTED LEFT LANES AND CLOSE THE RIGHT LANE. ACCESS TO MADISON AVE. SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL COMPLETE THE WIRT STREET IMPROVEMENTS AS SHOWN IN THE DETAILED PHASING PLANS. FOLLOWING THE COMPLETION OF PHASE 1C CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL PROCEED TO PHASE 1D.

PHASE 1D:

THE CONTRACTOR SHALL SHIFT THE MADISON AVE. ACCESS POINT FROM WIRT ST AS SHOWN IN THE DETAILED PHASING PLANS. THE CONTRACTOR SHALL COMPLETE THE PROPOSED IMPROVEMENTS FROM STA. 2+10 TO STA. 2+90. FOLLOWING THE COMPLETION OF PHASE 1D CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL PROCEED TO PHASE 1E.

PHASE 1E:

THE CONTRACTOR SHALL CLOSE RAMP M TO TRAFFIC. THE REMAINING WORK AT THE RAMP M / WIRT ST. INTERSECTION SHALL BE COMPLETED.

FOLLOWING THE COMPLETION OF ALL PHASE 1 CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL REMOVE THE POSTED DETOURS AND PROCEED TO PHASE 2.

SEQUENCE OF CONSTRUCTION (CONT.)

PHASE 2:

THE CONTRACTOR SHALL ERECT THE PHASE 2 DETOUR SIGNAGE. THE CONTRACTOR SHALL SHIFT TRAFFIC TO THE NEWLY CONSTRUCTED EASTBOUND SIDE OF SR 193. THE CONTRACTOR SHALL CONSTRUCT ALL PROPOSED ROADWAY AND BRIDGE IMPROVEMENTS ON THE WESTBOUND SIDE OF SR 193 FROM STA. 16+75 TO STA. 48+00. THE FOLLOWING RAMPS SHALL BE CLOSED DURING THIS PHASE OF CONSTRUCTION

RAMP E (CRESCENT ST TO SR 193 WB)
RAMP G (SR 193 WB TO CRESCENT ST)
RAMP K (US ROUTE 422 TO SR 193 WB)

FOLLOWING THE COMPLETION OF ALL PHASE 2 CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL REMOVE THE POSTED DETOURS AND PROCEED TO PHASE 3

PHASE 3:

THE CONTRACTOR SHALL COMPLETE THE REMAINING ROADWAY IMPROVEMENTS (INCLUDING PAVEMENT SURFACE COURSE AND FINAL PAVEMENT MARKINGS) ON SR 193 FROM THE BEGIN WORK STATION TO STA. 16+75 AND STA. 48+00 TO END OF WORK STATION BY CLOSING A SINGLE LANE PER THE STANDARD CONSTRUCTION DRAWING MT-95.30. ALL RAMPS MUST BE MAINTAINED DURING THIS PHASE. THE CONTRACTOR SHALL CONSTRUCT THE PROPOSED RAMP N AND RAMP P IMPROVEMENTS AT NIGHT WHILE MAINTAINING.

RESTRICTIONS

THE FOLLOWING RESTRICTIONS ARE PLACED ON THE CONTRACTOR IN THE EVENT THAT AN ALTERNATE MAINTENANCE OF TRAFFIC METHOD IS SELECTED, ANY APPROVED ALTERNATE MUST INCLUDE THESE RESTRICTIONS:

1. RAMPS P AND N MUST REMAIN OPEN AT ALL TIMES (BELMONT AVE).

2. TWO LANES (ONE LANE IN EACH DIRECTION) MUST BE MAINTAINED ON SR 193 / US 422 AT ALL TIMES.

3. DUE TO THE DETOURS ASSOCIATED WITH THE NEARBY MAH-680-0.00 PROJECT, THE CONTRACTOR SHALL NOT PERFORM THE 2 WEEK CLOSURE OF WIRT STREET UNTIL AFTER JULY 4, 2010.

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, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

MAINTENANCE OF TRAFFIC (CONT.)

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. WEIGHTED CHANNELIZERS MAY BE USED IN ACCORDANCE WITH THE ADDITIONAL NOTE HEREIN.

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

5. NO FULL DEPTH BRIDGE REPAIR SHALL BE PERFORMED OVER AN OPEN LANE. A SAFETY NET OR PLATFORM SHALL BE REQUIRED TO PROTECT THE ROADWAY, RAILROAD OR STREAM DURING THE REMOVAL OF THE EXISTING CONCRETE PARAPET AND DECK. THE CONTRACTOR SHALL PROVIDE A SAFETY NETOR 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.

6. 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 PHASE.

7. IN ADDITION TO THE REQUIREMENTS OF 614.11 WORK ZONE PAVEMENT MARKINGS, AT THE END OF EACH DAY OF WORK, THE CONTRACTOR SHALL REPLACE (WITH WORK ZONE MARKINGS) ALL LANE, CENTER, 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.

8. 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.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIAL SHALL BE INCLUDED IN THE LUMP SUM CONTACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

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

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED IN THIS NOTE WILL NOT GENERALLY BE PERMITTED AT PROJECT COST UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FROM THE ENGINEER. LEOS SHOULD NOT BE USED WHERE THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING
TASKS:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED. IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

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

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

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

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A LIST OF THE APPROPRIATE LAW ENFORCEMENT AGENCY(S), INCLUDING ADDRESS AND TELEPHONE NUMBER.

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

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

LAW ENFORCEMENT OFFICERS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR). THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR 150 HOURS

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

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

WORK ZONE INCREASED PENALTIES SIGN (R11-H5a)

R11-H5A-48 SIGNS SHALL BE FURNISHED, ERECTED, AND MAINTAINED IN GOOD CONDITION AND/OR REPLACED AS NECESSARY AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. SIGNS SHALL BE MOUNTED AT THE APPROPRIATE OFFSETS AND ELEVATIONS AS PRESCRIBED BY THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THEY SHALL BE MAINTAINED ON SUPPORTS MEETING CURRENT SAFETY CRITERIA.

THE SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER. TEMPORARY SIGN COVERING AND UNCOVERING DUE TO TEMPORARY LANE RESTORATIONS SHALL BE GUIDED BY THE FOUR-HOUR LIMITATIONS STATED ABOVE. SUCH LANE RESTORATIONS SHOULD BE EXPECTED TO REMAIN IN EFFECT FOR 30 OR MORE CONSECUTIVE CALENDAR DAYS, SUCH AS DURING WINTER SHUT-DOWNS.

(THE SIGNS ON THE MAINLINE SHALL BE DUAL MOUNTED UNLESS NOT PHYSICALLY POSSIBLE. THE FIRST SIGN SHALL BE PLACED BETWEEN THE ROAD WORK AHEAD (W20-1) SIGN AND THE NEXT SIGN IN THE SEQUENCE. SIGNS SHALL BE ERECTED ON EACH ENTRANCE RAMP AND EVERY 2 MILES (3 KILOMETERS) THROUGH THE CONSTRUCTION WORK LIMITS. SIGNS ON THE MAINLINE SHALL BE R11-H5A-48. SIGNS USED ON THE RAMPS SHALL BE R11-H5A-24. R11-H5A-24 SIGNS MAY BE USED IN THE MEDIAN IN LIEU OF R11-H5A-48 SIGNS IF IT IS NOT PHYSICALLY POSSIBLE TO PROVIDE R11-H5A-48 SIGNS IN THE MEDIAN.)

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED, BUT GOOD, CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF CMS 730.19.

WORK ZONE INCREASED PENALTIES SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION AS DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE, IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK, AND REMOVAL OF THE SIGN AND SUPPORT.

ITEM 614, WORK ZONE INCREASED PENALTIES SIGN 3 EACH

DETOUR SIGNING, AS PER PLAN

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-786-3148) AND YOUNGSTOWN ENGINEERING DEPARTMENT (330-742-8788) EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. ALL WORK ZONE DEVICES REQUIRED SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. PAYMENT FOR ALL WORK ASSOCIATED WITH THE DETOUR SHALL BE INCLUDED UNDER THE LUMP SUM BID FOR ITEM 614, DETOUR SIGNING, AS PER PLAN.

ITEM 622 - PORTABLE CONCRETE BARRIER, 50" (1270 MM), AS PER PLAN

THIS WORK SHALL CONSIST OF FURNISHING, MAINTAINING, AND SUBSEQUENTLY REMOVING A 50-INCH (1270 MILLIMETER) PORTABLE CONCRETE BARRIER (PCB) AT THE LOCATIONS SHOWN ON THE PLANS. FOR DETAILS, SEE SCD RM-4.1. PLEASE NOTE THAT SCD RM-4.1 WAS UPDATED 10-20-06 TO PROVIDE A PCB WHICH IS COMPATIBLE WITH NCHRP 350 CRITERIA. PORTABLE CONCRETE BARRIER, 32 INCHES (813 MILLIMETERS) HIGH WITH AN 18-INCH (457-MILLIMETER) MINIMUM HEIGHT GLARE SCREEN MAY BE USED AT THE OPTION OF THE CONTRACTOR. THE GLARE SCREEN SHALL BE CONSTRUCTED USING ONE OF THE SCREENS PROVIDED ON THE APPROVED LIST, AVAILABLE ON THE OFFICE OF MATERIAL MANAGEMENT WEB PAGE AT HTTP://WWW.DOT.STATE.OH.US/TESTLAB/APPLISTS/MISC/GLARESCREEN.HTM.
PADDLE OR INTERMITTENT TYPE GLARE SCREENS SHALL BE DESIGNED USING A 20 DEGREE CUT-OFF ANGLE BASED ON TANGENT ALIGNMENT. THAT SPACING SHALL BE USED THROUGHOUT THE BARRIER LENGTH WITHOUT REGARD TO BARRIER CURVATURE. THE GLARE SCREEN SYSTEM SHALL BE SECURELY FASTENED TO THE 32-INCH (813-MILLIMETER) PORTABLE CONCRETE BARRIER USING THE HARDWARE AND PROCEDURES SPECIFIED BY THE MANUFACTURER. FOR DIRECTIONS ON HOW TO INSTALL THE GLARE SCREEN AND THE BARRIER, SEE THE MANUFACTURER'S INSTRUCTIONS. PAYMENT SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO PERFORM THE WORK AND SHALL BE PAID FOR AT THE CONTRACT PRICE PER FOOT (METER) FOR ITEM 622, PORTABLE CONCRETE BARRIER, 50 INCH (1270 MILLIMETER), AS PER PLAN.

ITEM 614 - BARRIER REFLECTORS AND/OR OBJECT MARKERS

BARRIER REFLECTORS AND/OR 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 THAT THE SPACING SHALL BE 50 FEET (15 METERS). QUANTITIES FOR ITEM 614 - BARRIER REFLECTORS TYPE B, ITEM 614 - OBJECT MARKER, ONE-WAY, AND ITEM 614- OBJECT MARKER, TWO WAY HAVE BEEN PROVIDED IN THE MAINTENANCE OF TRAFFIC SUBSUMMARY SHEETS.

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WEIGHTED CHANNELIZERS

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

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

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

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

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

MAXIMUM SPACING OF THE WEIGHTED CHANNELIZER SHALL BE 40 FEET.

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

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.

THE FOLLOWING BID ITEMS ARE INCLUDED IN THE GENERAL SUMMARY:

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

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 614 - WORK ZONE RAISED PAVEMENT MARKERS ON CONCRETE SURFACES

RAISED PAVEMENT MARKERS IN WORK ZONES, INSTALLED ON TO CONCRETE SURFACES, SHALL BE ITEM 614 - WORK ZONE RAISED PAVEMENT MARKERS. WZRPMS ARE INTENDED FOR USE ONLY DURING THE NON-SNOW-PLOWING SEASON. WZRPMS SHALL NOT BE PROVIDED DURING THE SNOW-PLOWING SEASONS.

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

WHERE A TEMPORARY ALIGNMENT WILL REMAIN IN USE THROUGH THE WINTER, THE WZRPMS SHALL BE REMOVED PRIOR TO THE BEGINNING OF THE SNOW-PLOWING SEASON AND REPLACED APPROXIMATELY APRIL 1, OR AS OTHERWISE DETERMINED BY THE ENGINEER.

THIS ITEM SHALL INCLUDE PURCHASE, INSTALLATION AND REMOVAL OF ITEM 614 WORK ZONE RAISED PAVEMENT MARKERS.

QUANTITIES FOR ITEM 614 - WORK ZONE RAISED PAVEMENT MARKER HAS BEEN PROVIDED IN THE MAINTENANCE OF TRAFFIC SUBSUMMARY SHEETS.

ITEM 614 - DETOUR SIGNING, AS PER PLAN

THE CONTRACTOR SHALL PROVIDE, ERECT, MAINTAIN, COVER WHEN NOT IN USE AND REMOVE ALL DETOUR SIGNS ASSOCIATED WITH THE PROPOSED ROAD CLOSURES AND DETOURS. IN ADDITION THIS ITEM SHALL ALSO INCLUDE ALL COSTS ASSOCIATED WITH THE PRODUCTION, ERECTION AND REMOVAL OF THE TEMPORARY OVERLAY SIGNS. PAYMENT SHALL BE MADE UNDER THE LUMP SUM PRICE FOR ITEM 614 - DETOUR SIGNING, AS PER PLAN.

ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

THIS ITEM SHALL BE IN ACCORDANCE WITH ITEM 615 AND IS MODIFIED AS FOLLOWS. THE CONTRACTOR SHALL PLACE FULL DEPTH TEMPORARY CONCRETE PAVEMENT INCLUDING FOOTERS FOR THE REPLACEMENT MEDIAN BARRIER NOT INCLUDING THE DOWEL BARS FOR CONNECTION OF THE BARRIER TO THE FOOTER. THIS PAVEMENT WILL REMAIN IN PLACE AND FUNCTION AS THE FOOTER FOR THE REPLACMENT MEDIAN BARRIER. THE DOWEL BARS WILL BE INSTALLED AFTER THE CROSSOVER IS NO LONGER IN USE AND TRAFFIC IS RETURNED TO ITS NORMAL PATTERN. PAYMENT FOR THIS ITEM SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY TO INSTALL THE TEMPORARY PAVEMENT AND BARRIER FOOTERS AS WELL AS THE INSTALLATION OF THE DOWEL BARS FOR JOINING THE MEDIAN BARRIER TO THE NEW FOOTER AND SHALL BE MADE AT THE UNIT BID PRICE FOR ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN.

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ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR
24" WIDE HAZARDS, (UNDIRECTIONAL OR BIDIRECTIONAL)

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

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

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS ARE DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG NO.	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 SYSTEM BACKUP ASSEMBLY, CZ, QG,	7/30/99 REV. F	8/27/99
354051Z	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 CRASHING 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 NO.	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SS450	CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATIONS & SECTIONS	3/12/99 REV. 1	8/27/99
SS455	TRACC TRANSITION TO W-BEAM MEDIAN BARRIER PLAN, ELEVATIONS & SECTIONS	2/18/99	8/27/99
SS461	TRACC TRANSITION TO CONCRETE SAFETY SHAPE BARRIER PLAN, ELEVATIONS & 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

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR
24" WIDE HAZARDS, (UNDIRECTIONAL OR BIDIRECTIONAL) (CONT.)

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

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG NO.	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SYSTEM CAPACITY	UNIVERSAL TAU-II CRASH CUSHION SYSTEM CONFIGURATION CHART	1/06/04 V5	10/16/04
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 (REFRENCED 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

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 - WORK ZONE CROSSOVER LIGHTING SYSTEM

THIS WORK SHALL CONSIST OF FURNISHING, ERECTING, OPERATING, MAINTAINING AND REMOVING A WORK ZONE LIGHTING SYSTEM FOR A SINGLE CROSSOVER, OR OVERLAPPING A PAIR OF CROSSOVERS. THE SYSTEM SHALL BE AS SHOWN ON SCD MT-100.00. THE CONTRACTOR SHALL ARRANGE FOR AND PAY FOR POWER. ALL MATERIALS AND CONSTRUCTION SHALL COMPLY WITH APPLICABLE PORTIONS OF 625 AND 725 EXCEPT: THE PERFORMANCE TEST OF 625.19F, AND CERTIFIED DRAWING REQUIREMENT OF 625.04, ARE WAIVED AND USED MATERIALS IN GOOD CONDITION ARE ACCEPTABLE.

POLES MAY BE LESS THAN 30 FT (9M) FROM THE EDGE OF PAVEMENT WHEN BEHIND GUARDRAIL. ADDITIONAL POLE LINES, CABLES AND APPURTENANCES NECESSARY TO FURNISH POWER TO THE LIGHTING SYSTEM SHALL BE INCLUDED IN THIS ITEM. SERVICE POLES SHALL BE POSITIONED WITH THE SAME CONSTRAINTS AS THE LIGHTING POLES AS A MINIMUM.

PAYMENT WILL BE MADE AT THE UNIT PRICE PER EACH ITEM 614 - WORK ZONE CROSSOVER LIGHTING SYSTEM THROUGHOUT ALL PHASES OF WORK WHEN THE CROSSOVER ROADWAYS ARE USED.

ITEM SPECIAL - LINEAR DELINEATION

3M TM SCOTCHLITE TM LINEAR DELINEATION SYSTEM (LDS) SHALL BE INSTALLED ON THE CONCRETE BARRIER, PERMANENT OR TEMPORARY, LOCATED WITHIN 5 FEET (1.5 METERS) OF THE EDGE OF THE TRAVEL LANE UNDER EITHER OF THE FOLLOWING CONDITIONS:

ALONG TAPERS AND TRANSISTION 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 SPACED EVENLY ALONG THE LENGTH OF THE RUN. THE PANELS SHALL BE MOUNTED SUCH THAT THE TOPS OF THE PANELS ARE 26 INCHES (660 MILLIMETERS) 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 FOR ITEM SPECIAL LINEAR DELINEATION HAS BEEN PROVIDED IN THE MAINTENANCE OF TRAFFIC SUBSUMMARY SHEETS. 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.

OVERLAYING OF SIGNS

WHERE THE PLANS CALL FOR 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 TOTAL OPAQUE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO A SIGN FACE IS STRICTLY PROHIBITED. THE OVERLAYS MAY BE RIVETED TO THE PERMANENT SIGN. THE CONTRACTOR SHALL PROVIDE ALL OF THE PLAQUES, SIGNS AND SIGN PANELS NECESSARY. THE COST FOR THESE ITEMS OF WORK SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614 - DETOUR SIGNING, AS PER PLAN.

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ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN, ON SITE, FOR THE DURATION OF THE PROJECT. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR (OFFICE OF MATERIALS MANAGEMENT). THIS LIST IS AVAILABLE ON THE ODOT WEBSITE AT HTTP://WWW.DOT.STATE.OH.US/TESTLAB/APPLISTS/MISC/PCMS%20%20NTPEP-BASED.HTM. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 475 FT. AND 650 FT. RESPECTIVELY.

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

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

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

(THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGEABLE MESSAGES WILL BE IMPLEMENTED WITHIN ___ HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.)

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER.THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

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

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN

(THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR PHONE AREAS) ALLOW REMOTE SIGN ACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES. ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM OR EQUIVALENT) SHALL BE FURNISHED FOR USE BY THE DISTRICT TRAFFIC ENGINEER, OR EQUIVALENT, AND SHALL BE INSURED AGAINST THEFT.)

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

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION
THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

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

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 24 SIGN-MONTH

RAMPS F & J DETOUR ROUTE (PHASE 1)

PCMS 1:

MESSAGE	TEXT	DURATION
MESSAGE PHRASE 1	RAMP TO SR 193 CLOSED	3.0 SEC
MESSAGE PHRASE 2	RAMP TO CRESCENT CLOSED	3.0 SEC
MESSAGE PHRASE 3	FOLLOW POSTED DETOUR	3.0 SEC

*EACH COMPLETE MESSAGE WILL BE FOLLOWED BY A BLANK SCREEN LASTING 0.3 SECONDS.

RAMP M DETOUR ROUTE (PHASE 1D)

PCMS 2:

MESSAGE	TEXT	DURATION
MESSAGE PHRASE 1	RAMP TO US 422 CLOSED	3.0 SEC
MESSAGE PHRASE 2	RAMP TO SR 193 CLOSED	3.0 SEC
MESSAGE PHRASE 3	FOLLOW POSTED DETOUR	3.0 SEC

*EACH COMPLETE MESSAGE WILL BE FOLLOWED BY A BLANK SCREEN LASTING 0.3 SECONDS.

RAMP G TO CRESCENT STREET DETOUR ROUTE (PHASE 2)

PCMS 3:

MESSAGE	TEXT	DURATION
MESSAGE PHRASE 1	RAMP TO CRESCENT CLOSED	3.0 SEC
MESSAGE PHRASE 2	FOLLOW POSTED DETOUR	3.0 SEC

*EACH COMPLETE MESSAGE WILL BE FOLLOWED BY A BLANK SCREEN LASTING 0.3 SECONDS.

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MAINTENANCE OF TRAFFIC NOTES

MAH-193/422-0.46/1.85

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SHEET NUMBER												PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
14		16	17	19	20	21	22	23	24	25	26								
150														614	11100	150	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	
				1	3		2	1			1			614	12336	8	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
														614	12421	LUMP		DETOUR SIGNING, AS PER PLAN	15
3														614	12484	3	EACH	WORK ZONE INCREASED PENALTIES SIGN	
		2												614	12756	2	EACH	WORK ZONE CROSSOVER LIGHTING SYSTEM	
				68						112	12			614	12800	192	EACH	WORK ZONE RAISED PAVEMENT MARKER	
				150						88	94			614	12801	332	EACH	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	16
				1566						951	816			SPECIAL	61413170	3333	FT	LINEAR DELINEATION	
				220	21	3	24	2	3	96	66			614	13300	435	EACH	BARRIER REFLECTOR, TYPE B	
				74	21	3	24	2	3	6	8			614	13350	141	EACH	OBJECT MARKER, ONE WAY	
				73						45	29			614	13360	147	EACH	OBJECT MARKER, TWO WAY	
			24											614	18601	24	SIGN MNTH	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	17
							0.05			0.17	0.06			614	20100	0.28	MILE	WORK ZONE LANE LINE, CLASS I, 642 PAINT	
				2.74	0.59	0.03	0.36	0.04	0.13	1.18	0.78			614	22100	5.85	MILE	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	
										1.01	0.35			614	22200	1.36	MILE	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I	
				300		305				849				614	23200	1454	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	
					62		24	100						614	24200	186	FT	WORK ZONE DOTTED LINE, CLASS I, 642 PAINT	
										134				614	25200	134	FT.	WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, 642 PAINT	
														615	10000	LUMP		ROADS FOR MAINTAINING TRAFFIC	
					341		18							615	20000	359	SQ YD	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
				115										615	20001	115	SQ YD	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN	15
				7300	930	110	810	80	110	2494	2416			622	40031	14250	FT	PORTABLE CONCRETE BARRIER, 50", AS PER PLAN	14

CALCULATED DAT
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SUMMARY OF TRAFFIC GENERAL MAINTENANCE

MAH-193/422-0.46/1.85

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 WORK ZONE RAISED PAVEMENT MARKER EACH	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN EACH	614 SPECIAL - LINEAR DELINEATION FT	614 BARRIER REFLECTOR, TYPE B EACH	614 OBJECT MARKER, ONE WAY EACH	614 OBJECT MARKER, TWO WAY EACH	614 WORK ZONE LANE LINE, CLASS I, 642 PAINT FT	614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT, WHITE FT	614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT, YELLOW FT	614 WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I, WHITE FT	614 WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I, YELLOW FT	614 WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT FT	614 WORK ZONE DOTTED LINE, CLASS I, 642 PAINT FT	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, 642 PAINT FT.	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A SQ YD	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SQ YD	622 PORTABLE CONCRETE BARRIER, 50", AS PER PLAN FT		
48	Y-1	SR 193	5+00	9+50	RT.										450											
48		SR 193	9+00	9+50	RT.			6																		
49	Y-2	SR 193	9+50	22+50	LT.&RT.										1300											
49	Y-3	SR 193	14+00	22+50	LT.										850											
49	W-1	SR 193	12+00	22+50	LT.&RT.									1050												
49	PCB-1	SR 193	12+67	22+50	LT.&RT.	1				20	20														983	
49	PCB-2	SR 193	14+66	22+50	LT.&RT.					32		16													784	
49		SR 193	9+50	19+75	LT.&RT.		56	48																		
49		SR 193	14+66	16+58	CEN.																		54			
49		SR 193	11+00	18+50	LT.&RT.				750																	
49		SR 193	14+66	18+50	LT.&RT.				384																	
50	Y-4	SR 193	22+50	36+50	LT.										1400											
50	Y-5	SR 193	22+50	36+50	LT.										1400											
50	W-2	SR 193	22+50	36+50	LT.									1400												
50	PCB-3	SR 193	22+50	36+50	LT.					28	28														1400	
50	PCB-4	SR 193	22+50	36+50	LT.					56		28													1400	
51	Y-6	SR 193	36+50	49+50	LT.										1300											
51	Y-7	SR 193	36+50	49+50	LT.										1300											
51	W-3	SR 193	36+50	49+50	LT.									1300												
51	PCB-5	SR 193	36+50	49+37	LT.					26	26														1287	
51	PCB-6	SR 193	36+50	49+50	LT.					52		26													1300	
51		SR 193	48+85	49+50	CEN.																		19			
51		SR 193	45+50	49+50	LT.		12	28																		
51		SR 193	48+50	49+40	LT.&RT.				90																	
51		SR 193	47+50	49+50	LT.&RT.				200																	
52	Y-8	SR 193	49+50	54+15	LT.&RT.										465											
52	Y-9	SR 193	49+50	63+00	LT.										1350											
52	W-4	SR 193	49+50	53+15	LT.&RT.									365												
52	PCB-7	SR 193	49+50	50+96	LT.					6		3													146	
52		SR 193	49+50	50+98	CEN.																		42			
52		SR 193	49+50	56+15	LT.&RT.			68																		
52		SR 193	49+50	50+92	LT.&RT.				142																	
52	CL-1	SR 193	53+15	56+15	RT.																	300				
53	Y-10	SR 193	63+00	68+00	LT.										500											
TOTALS CARRIED TO MAINTENANCE OF TRAFFIC GENERAL SUMMARY						1	68	150	1566	220	74	73		4115	10315			300				115	7300		
MILE															2.74											

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MAINTENANCE OF TRAFFIC SUBSUMMARY - PHASE 1 (SHEET 1 OF 1)

MAH-193/422-0.46/1.85

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 WORK ZONE RAISED PAVEMENT MARKER EACH	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN EACH	614 SPECIAL - LINEAR DELINEATION FT	614 BARRIER REFLECTOR, TYPE B EACH	614 OBJECT MARKER, ONE WAY EACH	614 OBJECT MARKER, TWO WAY EACH	614 WORK ZONE LANE LINE, CLASS I, 642 PAINT FT	614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT, WHITE FT	614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT, YELLOW FT	614 WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I, WHITE FT	614 WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I, YELLOW FT	614 WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT FT	614 WORK ZONE DOTTED LINE, CLASS I, 642 PAINT FT	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, 642 PAINT FT.	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A SQ YD	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SQ YD	622 PORTABLE CONCRETE BARRIER, 50", AS PER PLAN FT		
56	W-8	WIRT ST	0+64	1+63	RT.									99												
56	W-9	WIRT ST	2+25	4+50	RT.									225												
56	Y-11	WIRT ST	0+37	4+50	RT.										413											
56	DL-1	WIRT ST	1+63	2+25	RT.															62						
56	PCB-8	WIRT ST	0+43	4+50	RT.	1				9	9														407	
56		WIRT ST	0+60	1+63	RT.																		27			
56		WIRT ST	2+25	4+50	RT.																		86			
57	Y-12	WIRT/ACCESS RAMP	4+50	0+21	CEN&RT										128											
57	Y-13	WIRT/ACCESS RAMP	0+00	7+42	RT.										186											
57	Y-14	WIRT ST	7+42	8+65	RT.										138											
57	Y-15	WIRT ST	7+42	8+65	LT.										139											
57	Y-16	WIRT ST	9+20	9+50	RT.										30											
57	Y-17	WIRT ST	9+20	9+50	LT.										30											
57	Y-18	WIRT/ACCESS RAMP	3+00	7+42	LT.&RT.										442											
57	W-9	WIRT ST	4+50	5+56	RT.									106												
57	W-10	WIRT ST	6+24	7+42	RT.									118												
57	W-11	WIRT ST	7+42	8+65	RT.									123												
57	W-12	WIRT/ACCESS RAMP	3+00	8+50	LT.									365												
57	PCB-9	WIRT ST	4+50	5+33	RT.					2	2														83	
57	PCB-10	WIRT ST	6+40	8+00	RT.	1				4	4														160	
57	PCB-11	WIRT/ACCESS RAMP	2+50	8+00	LT.	1				6	6														280	
57		WIRT ST	4+50	5+56	RT.																		42			
57		WIRT ST	6+24	8+84	RT.																		97			
57		WIRT/ACCESS RAMP	3+00	8+50	LT.&RT.																		88			
58	Y-19	WIRT ST	9+50	10+50	RT.										100											
58	Y-20	WIRT ST	9+50	13+86	LT.										436											
TOTALS CARRIED TO MAINTENANCE OF TRAFFIC GENERAL SUMMARY						3				21	21			1036	2042				62		341		930			
MILE														0.59												

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MAINTENANCE OF TRAFFIC SUBSUMMARY - PHASE 1A (SHEET 1 OF 1)

MAH-193/422-0.46/1.85

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 WORK ZONE RAISED PAVEMENT MARKER EACH	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN EACH	614 SPECIAL - LINEAR DELINEATION FT	614 BARRIER REFLECTOR, TYPE B EACH	614 OBJECT MARKER, ONE WAY EACH	614 OBJECT MARKER, TWO WAY EACH	614 WORK ZONE LANE LINE, CLASS I, 642 PAINT FT	614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT, WHITE FT	614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT, YELLOW FT	614 WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I, WHITE FT	614 WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I, YELLOW FT	614 WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT FT	614 WORK ZONE DOTTED LINE, CLASS I, 642 PAINT FT	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, 642 PAINT FT.	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A SQ YD	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SQ YD	622 PORTABLE CONCRETE BARRIER, 50", AS PER PLAN FT		
60	CL-2	RAMP M	4+00	7+05	RT.													305								
61	W-13	WIRT ST	5+56	5+77	RT.									24												
61	Y-21	WIRT ST	5+30	6+40	RT.										110											
61	PCB-12	WIRT ST	5+30	6+40	RT.					3	3														110	
TOTALS CARRIED TO MAINTENANCE OF TRAFFIC GENERAL SUMMARY										3	3			24	110			305					110			
MILE														0.03												

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MAINTENANCE OF TRAFFIC SUBSUMMARY - PHASE 1B (SHEET 1 OF 1)

MAH-193/422-0.46/1.85

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 WORK ZONE RAISED PAVEMENT MARKER EACH	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN EACH	614 SPECIAL - LINEAR DELINEATION FT	614 BARRIER REFLECTOR, TYPE B EACH	614 OBJECT MARKER, ONE WAY EACH	614 OBJECT MARKER, TWO WAY EACH	614 WORK ZONE LANE LINE, CLASS I, 642 PAINT FT	614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT, WHITE FT	614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT, YELLOW FT	614 WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I, WHITE FT	614 WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I, YELLOW FT	614 WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT FT	614 WORK ZONE DOTTED LINE, CLASS I, 642 PAINT FT	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, 642 PAINT FT.	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A SQ YD	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SQ YD	622 PORTABLE CONCRETE BARRIER, 50", AS PER PLAN FT		
62	W-15	MLK BLVD / WIRT	67+00	0+37	LT.&RT.									32												
62	W-16	WIRT ST	2+35	4+50	RT.									405												
62	W-38	WIRT ST	0+45	2+11	RT.									166												
62	W-39	WIRT/ MADISON	2+11	2+57	RT.									62												
62	W-40	WIRT/ MADISON	2+35	2+50	RT.									33												
62	DL-2	WIRT ST	2+11	2+35	RT.															24						
62	PCB-13	WIRT ST	2+90	4+50	RT.	1				4	4													160		
62	PCB-26	WIRT ST	0+61	2+11	RT.	1				3	3													150		
62		WIRT ST	2+27	2+52	RT.																		18			
63	W-17	WIRT ST / RAMP M	4+50	8+70	LT.&RT.									115												
63	W-18	WIRT ST / RAMP M	8+30	8+00	LT.&RT.									256												
63	W-19	WIRT / ACCESS RAMP	2+50	8+68	LT.									370												
63	W-20	WIRT ST	8+97	9+50	LT.									94												
63	LL-1	WIRT ST	8+00	9+50	RT.								150													
63	PCB-14	WIRT ST	4+50	5+31	RT.					2	2													90		
63	PCB-16	WIRT ST	6+40	7+50	RT.					3	3													110		
63	PCB-17	WIRT / ACCESS RAMP	2+50	8+20	LT.					12	12													300		
64	W-21	WIRT ST	9+50	12+93	LT.									343												
64	LL-2	WIRT ST	9+50	10+50	RT.								100													
TOTALS CARRIED TO MAINTENANCE OF TRAFFIC GENERAL SUMMARY						2				24	24		250	1876					24		18		810		
MILE													0.05	0.36												

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MAINTENANCE OF TRAFFIC SUBSUMMARY - PHASE 1C (SHEET 1 OF 1)

MAH-193/422-0.46/1.85

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 WORK ZONE RAISED PAVEMENT MARKER EACH	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN EACH	614 SPECIAL - LINEAR DELINEATION FT	614 BARRIER REFLECTOR, TYPE B EACH	614 OBJECT MARKER, ONE WAY EACH	614 OBJECT MARKER, TWO WAY EACH	614 WORK ZONE LANE LINE, CLASS I, 642 PAINT FT	614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT, WHITE FT	614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT, YELLOW FT	614 WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I, WHITE FT	614 WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I, YELLOW FT	614 WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT FT	614 WORK ZONE DOTTED LINE, CLASS I, 642 PAINT FT	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, 642 PAINT FT.	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A SQ YD	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SQ YD	622 PORTABLE CONCRETE BARRIER, 50", AS PER PLAN FT		
66	Y-21A	WIRT ST	1+50	1+95	RT.										45											
66	Y-21B	WIRT ST	1+95	2+58	RT.										64											
66	W-44	WIRT ST	1+50	2+35	RT.									85												
66	DL-3	WIRT ST	+50	1+50	RT.															100						
66	PCB-27	WIRT ST	2+10	2+90	RT.	1				2	2														80	
TOTALS CARRIED TO MAINTENANCE OF TRAFFIC GENERAL SUMMARY						1				2	2			85	109					100				80		
MILE															0.04											

MAINTENANCE OF TRAFFIC SUBSUMMARY - PHASE 1D (SHEET 1 OF 1)

CALCULATED DAT
CHECKED MAH

MAH-193/422-0.46/1.85

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 WORK ZONE RAISED PAVEMENT MARKER EACH	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN EACH	614 SPECIAL - LINEAR DELINEATION FT	614 BARRIER REFLECTOR, TYPE B EACH	614 OBJECT MARKER, ONE WAY EACH	614 OBJECT MARKER, TWO WAY EACH	614 WORK ZONE LANE LINE, CLASS I, 642 PAINT FT	614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT, WHITE FT	614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT, YELLOW FT	614 WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I, WHITE FT	614 WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I, YELLOW FT	614 WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT FT	614 WORK ZONE DOTTED LINE, CLASS I, 642 PAINT FT	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, 642 PAINT FT.	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A SQ YD	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SQ YD	622 PORTABLE CONCRETE BARRIER, 50", AS PER PLAN FT		
67	W-22	WIRT ST	5+49	6+22	RT.									73												
67	PCB-18	WIRT ST	5+30	6+40	RT.					3	3													110		
68	W-23	SR 193	53+50	59+50	LT.									600												
TOTALS CARRIED TO MAINTENANCE OF TRAFFIC GENERAL SUMMARY										3	3			673										110		
MILE														0.13												

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CALCULATED DAT
CHECKED MAH

MAINTENANCE OF TRAFFIC SUBSUMMARY - PHASE 1E (SHEET 1 OF 1)

MAH-193/422-0.46/1.85

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 WORK ZONE RAISED PAVEMENT MARKER EACH	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN EACH	614 SPECIAL - LINEAR DELINEATION FT	614 BARRIER REFLECTOR, TYPE B EACH	614 OBJECT MARKER, ONE WAY EACH	614 OBJECT MARKER, TWO WAY EACH	614 WORK ZONE LANE LINE, CLASS I, 642 PAINT FT	614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT, WHITE FT	614 WORK ZONE EDGE LINE, CLASS I, 642 PAINT, YELLOW FT	614 WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I, WHITE FT	614 WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I, YELLOW FT	614 WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT FT	614 WORK ZONE DOTTED LINE, CLASS I, 642 PAINT FT	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, 642 PAINT FT.	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A SQ YD	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SQ YD	622 PORTABLE CONCRETE BARRIER, 50", AS PER PLAN FT		
70	Y-22	SR 193	11+00	16+75	LT.&RT.										575											
70	Y-23	SR 193	11+98	16+75	RT.												477									
70	Y-24	SR 193	16+75	18+55	RT.										180											
70	Y-25	SR 193	18+55	22+50	RT.										395											
70	Y-26	SR 193	16+75	18+55	RT.												180									
70	Y-27	SR 193	18+55	22+50	RT.										395											
70	W-24	SR 193	12+00	16+75	LT.&RT.									475												
70	W-25	SR 193	16+75	18+55	RT.											180										
70	W-26	SR 193	18+55	22+50	RT.									395												
70	PCB-19	SR 193	13+98	16+58	LT.&RT.					6	6														260	
70	PCB-20	SR 193	14+16	22+50	LT.&RT.					34		17													834	
70	LL-3	SR 193	16+00	18+06	RT.								206													
70	CL-3	SR 193	18+06	19+62	RT.														156							
70	CL-4	SR 193	18+06	19+62	RT.														156							
70	TWL-1	SR 193	18+06	19+62	RT.																70					
70	W-27A	SR 193/RAMP F	18+06	9+75	LT.&RT.		56	44						612												
70	Y-27A	RAMP F	5+16	9+35	LT.				419						419											
70	W-27B	SR 193	19+62	22+00	RT.									238												
70		SR 193	10+00	20+00	LT.&RT.		56	44																		
70		SR 193	13+98	16+75	LT.&RT.				277																	
70		SR 193	14+20	16+75	LT.&RT.				255																	
71	Y-28	SR 193	22+50	27+42	RT.										492											
71	Y-29	SR 193	27+42	35+86	RT.												844									
71	Y-30	SR 193	35+86	36+50	RT.										64											
71	Y-31	SR 193	22+50	27+42	RT.										492											
71	Y-32	SR 193	27+42	35+86	RT.												844									
71	Y-33	SR 193	35+86	36+50	RT.										64											
71	W-27	SR 193	22+50	27+42	RT.									492												
71	W-28	SR 193	27+42	35+81	RT.											839										
71	W-29	SR 193	35+81	36+50	RT.									69												
71	PCB-21	SR 193	22+50	36+50	RT.					56		28													1400	
71	W-30	SR 193	22+50	27+29	RT.											479										
71	W-31	RAMP H/ S.R. 193	0+32	27+29	RT.											578										
71	Y-34	RAMP H/ S.R. 193	0+50	25+64	RT.										560											
71	CL-5	SR 193	25+64	27+29	RT.														165							
71	LL-4	SR 193	27+29	34+20	RT.								691													
71	W-32	SR 193	27+29	36+06	RT.											877										
71	CL-6	SR 193	34+20	36+06	RT.														186							
71	CL-7	SR 193	34+20	36+06	RT.														186							
71	TLW-2	SR 193	34+20	36+06	RT.																64					
71	Y-34A	RAMP J	36+06	4+00	RT.&LT.										142											
71	W-32A	RAMP J	36+06	4+00	RT.&LT.									147												
TOTALS CARRIED TO MAINTENANCE OF TRAFFIC GENERAL SUMMARY							112	88	951	96	6	45	897	2428	3778	2953	2345	849		134			2494		
MILE													0.17	1.18		1.01										

MAINTENANCE OF TRAFFIC SUBSUMMARY - PHASE 2 (SHEET 1 OF 2)

CALCULATED DAT
CHECKED MAH

MAH-193/422-0.46/1.85

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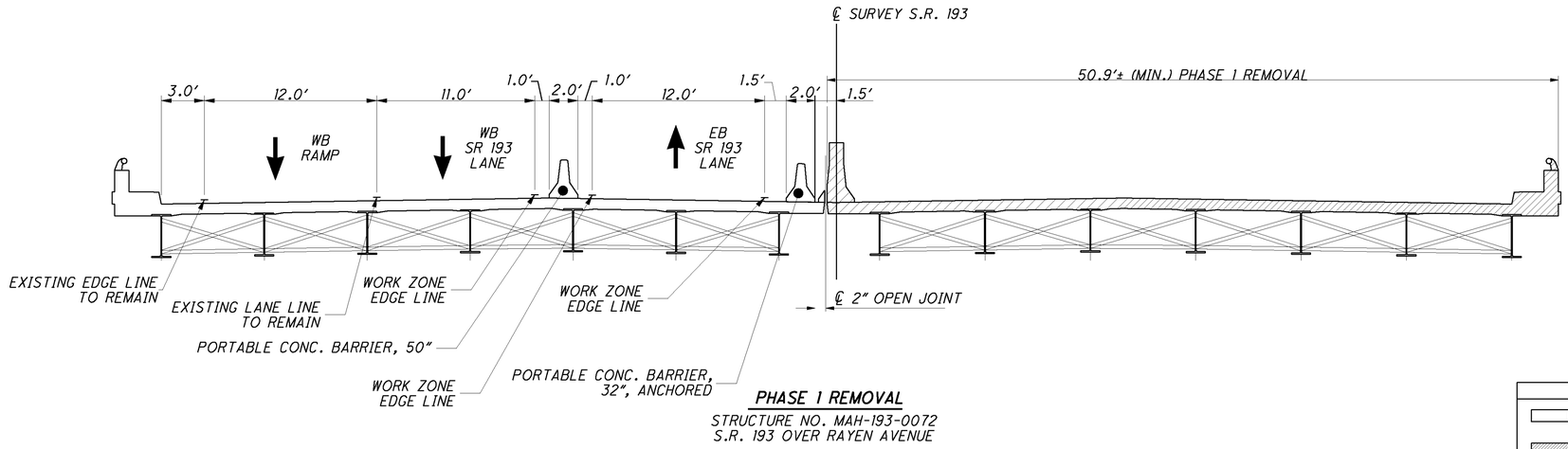
SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 WORK ZONE RAISED PAVEMENT MARKER EACH	614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN EACH	614 SPECIAL - LINEAR DELINEATION FT	614 BARRIER REFLECTOR, TYPE B EACH	614 OBJECT MARKER, ONE WAY EACH	614 OBJECT MARKER, TWO WAY EACH	614 WORK ZONE LANE LINE, CLASS 1, 642 PAINT FT	614 WORK ZONE EDGE LINE, CLASS 1, 642 PAINT, WHITE FT	614 WORK ZONE EDGE LINE, CLASS 1, 642 PAINT, YELLOW FT	614 WORK ZONE EDGE LINE, CLASS 1, 740.06, TYPE 1, WHITE FT	614 WORK ZONE EDGE LINE, CLASS 1, 740.06, TYPE 1, YELLOW FT	614 WORK ZONE CHANNELIZING LINE, CLASS 1, 642 PAINT FT	614 WORK ZONE DOTTED LINE, CLASS 1, 642 PAINT FT	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS 1, 642 PAINT FT.	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A SQ YD	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SQ YD	622 PORTABLE CONCRETE BARRIER, 50", AS PER PLAN FT		
72	Y-35	SR 193	36+50	40+25	RT.										375											
72	Y-36	SR 193	40+25	42+75	RT.												250									
72	Y-37	SR 193	42+75	44+50	RT.										175											
72	Y-38	SR 193	44+50	46+60	RT.												210									
72	Y-39	SR 193	46+60	49+50	RT.										290											
72	Y-40	SR 193	36+50	40+25	RT.										375											
72	Y-41	SR 193	40+25	42+75	RT.												250									
72	Y-42	SR 193	42+75	44+50	RT.										175											
72	Y-43	SR 193	44+50	46+60	RT.												210									
72	Y-44	SR 193	46+60	49+50	RT.										290											
72	W-33	SR 193	36+50	40+25	RT.									375												
72	W-34	SR 193	40+25	42+75	RT.											250										
72	W-35	SR 193	42+75	44+50	RT.									175												
72	W-36	SR 193	44+50	46+60	RT.											210										
72	W-37	SR 193	46+60	49+50	RT.									290												
72	W-38	SR 193	46+60	49+50	RT.									290												
72	PCB-22	SR 193	36+50	49+50	RT.					52		26													1300	
72	PCB-23	SR 193	48+80	49+50	LT.&RT.					2	2														700	
72	W-39	SR 193	36+50	40+25	RT.									375												
72	W-39A	SR 193	40+25	42+75	RT.											250										
72	W-39B	SR 193	42+75	44+50	RT.									175												
72	W-39C	SR 193	44+50	46+60	RT.											210										
72		SR 193	45+50	49+50	RT.		12	28																		
72		SR 193	47+50	49+50	LT.&RT.				200																	
72		SR 193	47+50	49+50	LT.&RT.				200																	
73	Y-45	SR 193	49+50	51+50	RT.										200											
73	Y-46	SR 193	49+50	53+21	LT.&RT.										371											
73	W-40	SR 193	49+50	51+00	RT.									150												
73	LL-5	SR 193	51+50	54+15	RT.								265													
73	PCB-24	SR 193	49+50	50+96	RT.					6		3													146	
73	PCB-25	SR 193	49+50	52+20	LT.	1				6	6														270	
73		SR 193	49+50	56+00	LT.			66																		
73		SR 193	49+50	50+96	LT.&RT.				146																	
73		SR 193	49+50	52+20	LT.				270																	
TOTALS CARRIED TO MAINTENANCE OF TRAFFIC GENERAL SUMMARY						1	12	94	816	66	8	29	265	1830	2251	920	920							2416		
MILE													0.06	0.78		0.35										

MAINTENANCE OF TRAFFIC SUBSUMMARY - PHASE 2 (SHEET 2 OF 2)

CALCULATED DAT
CHECKED MAH

MAH-193/422-0.46/1.85

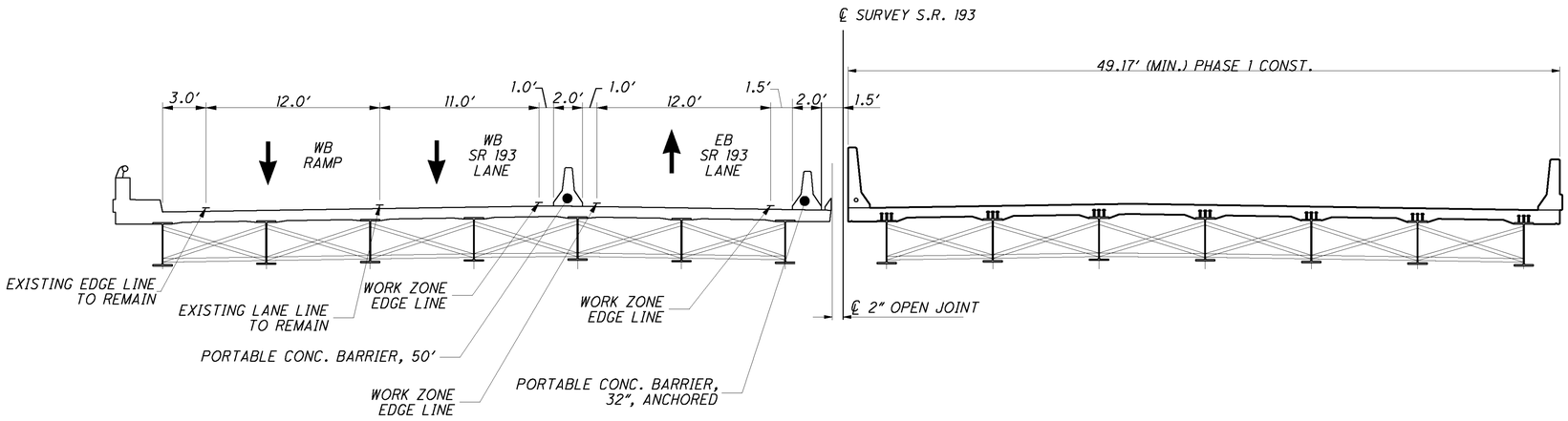
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PHASE 1 REMOVAL

STRUCTURE NO. MAH-193-0072
S.R. 193 OVER RAYEN AVENUE

LEGEND
EXISTING STRUCTURE
EXISTING STRUCTURE TO BE REMOVED
PROPOSED CONSTRUCTION BY PHASE



PHASE 1 CONSTRUCTION

STRUCTURE NO. MAH-193-0072
S.R. 193 OVER RAYEN AVENUE

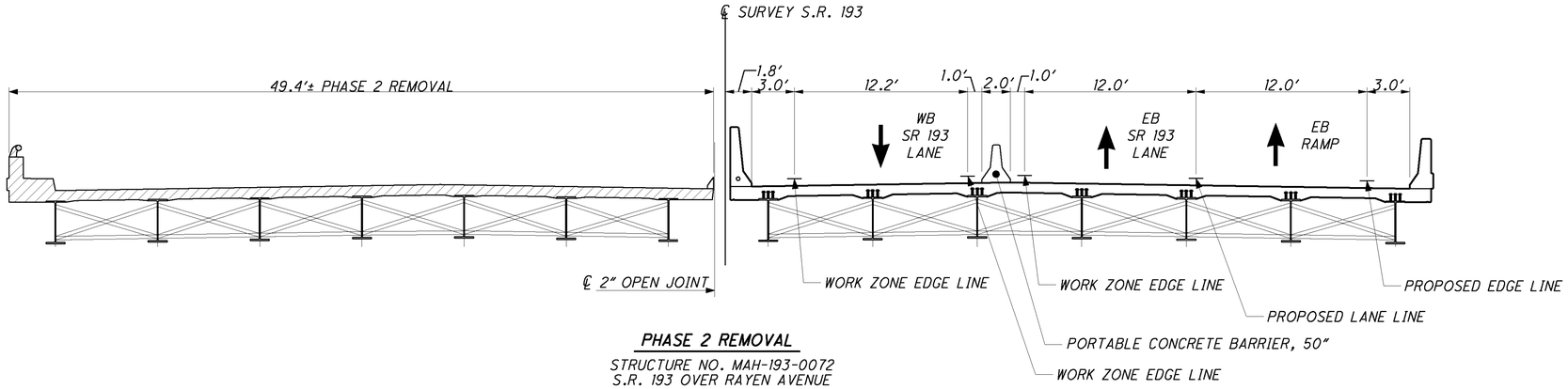
HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED DAT
CHECKED MAH

MAINTENANCE OF TRAFFIC - TRANSVERSE SECTIONS
PHASE 1 - S.R. 193 BRIDGE OVER RAYEN AVE.

MAH-193/422-0.46/1.85

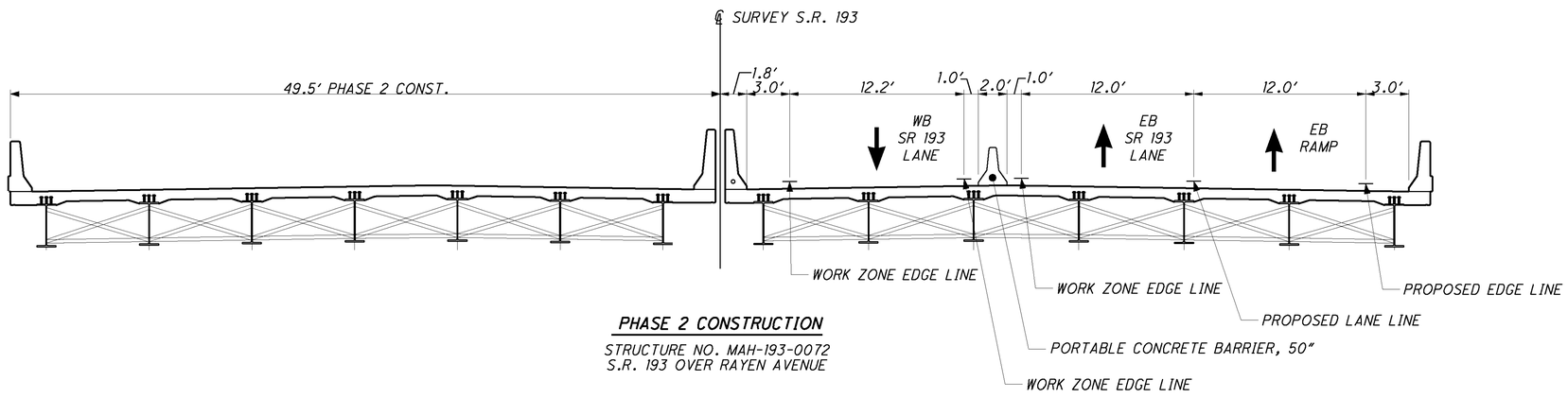
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PHASE 2 REMOVAL

STRUCTURE NO. MAH-193-0072
S.R. 193 OVER RAYEN AVENUE

LEGEND
EXISTING STRUCTURE
EXISTING STRUCTURE TO BE REMOVED
PROPOSED CONSTRUCTION BY PHASE



PHASE 2 CONSTRUCTION

STRUCTURE NO. MAH-193-0072
S.R. 193 OVER RAYEN AVENUE

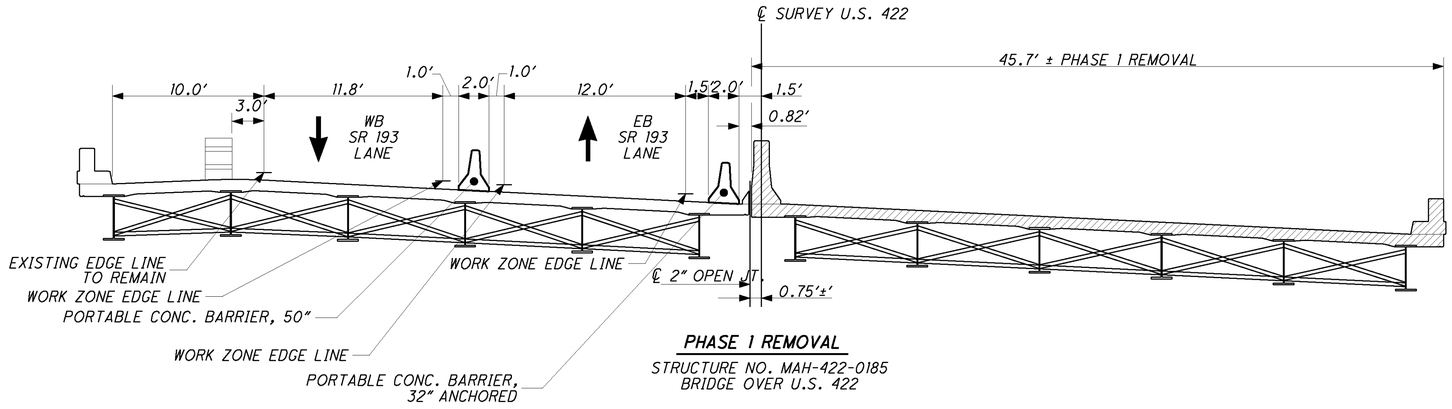
HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED DAT
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MAINTENANCE OF TRAFFIC - TRANSVERSE SECTIONS
PHASE 2 - S.R. 193 BRIDGE OVER RAYEN AVE.

MAH-193/422-0.46/1.85

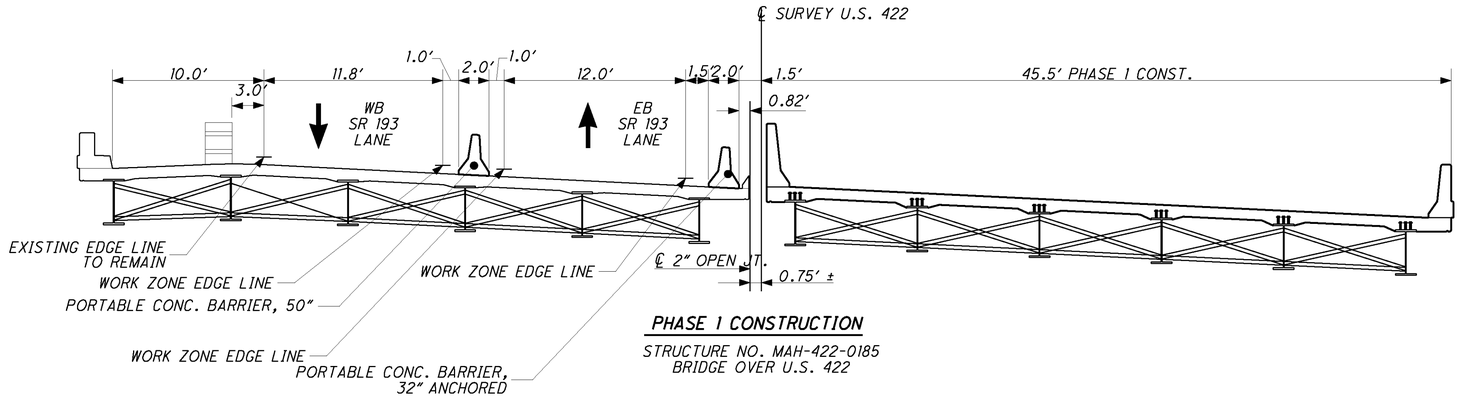
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PHASE 1 REMOVAL

STRUCTURE NO. MAH-422-0185
BRIDGE OVER U.S. 422

LEGEND
EXISTING STRUCTURE
EXISTING STRUCTURE TO BE REMOVED
PROPOSED CONSTRUCTION BY PHASE



PHASE 1 CONSTRUCTION

STRUCTURE NO. MAH-422-0185
BRIDGE OVER U.S. 422

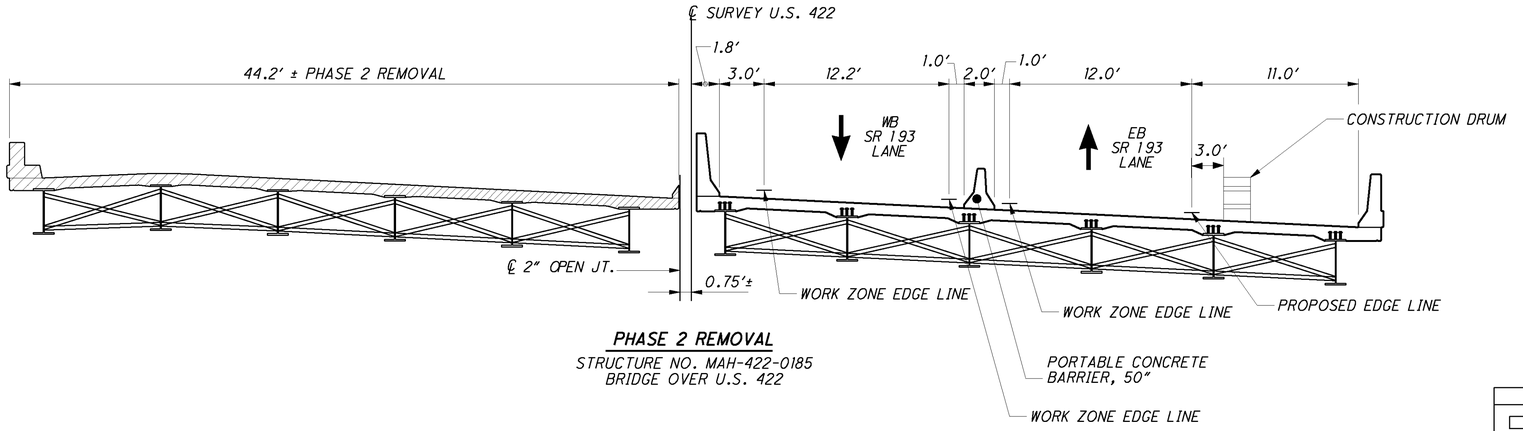
HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED DAT
CHECKED MAH

MAINTENANCE OF TRAFFIC - TRANSVERSE SECTIONS
PHASE 1 - S.R. 193 BRIDGE OVER U.S.R. 422

MAH-193/422-0.46/1.85

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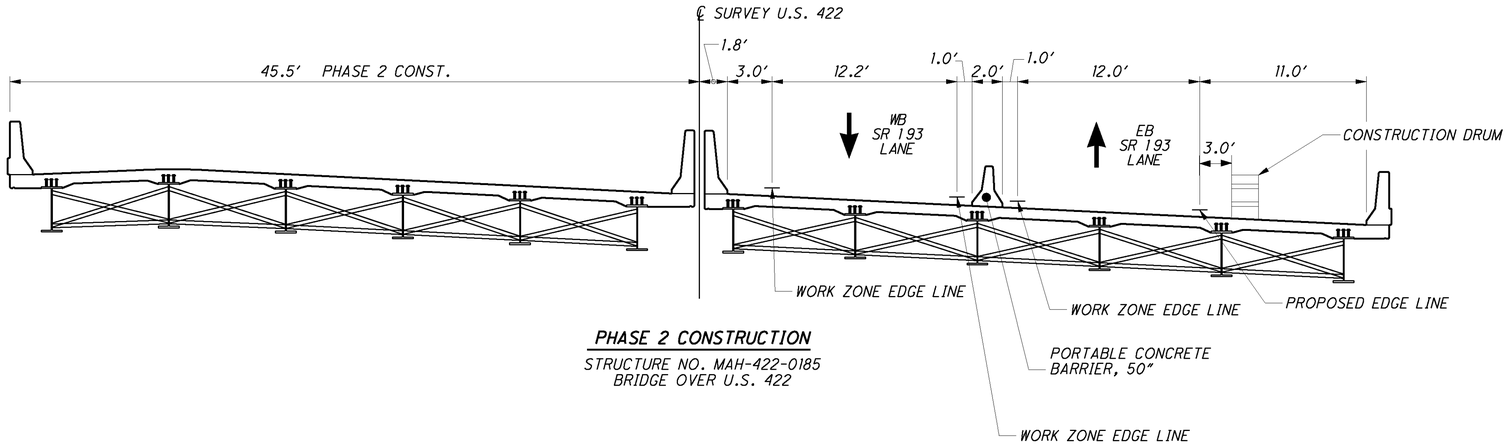


PHASE 2 REMOVAL

STRUCTURE NO. MAH-422-0185
BRIDGE OVER U.S. 422

LEGEND

- EXISTING STRUCTURE
- EXISTING STRUCTURE TO BE REMOVED
- PROPOSED CONSTRUCTION BY PHASE



PHASE 2 CONSTRUCTION

STRUCTURE NO. MAH-422-0185
BRIDGE OVER U.S. 422

HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED DAT
CHECKED MAH

MAINTENANCE OF TRAFFIC - TRANSVERSE SECTIONS
PHASE 2 - S.R. 193 BRIDGE OVER U.S.R. 422

MAH-193/422-0.46/1.85

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ROAD WORK AHEAD
W20-1-36
①

DETOUR AHEAD
W20-2-36
②

ROAD CLOSED AHEAD
W20-3-36
③

ROAD CLOSED
R11-2-48
MOUNTED ON TYPE III BARRICADE WITH TWO TYPE B FLASHING WARNING LIGHTS
(ACCORDING TO MT-101.60)
④

ROAD CLOSED
XX MILES AHEAD
LOCAL TRAFFIC ONLY
DETOUR
R11-3a-60
M4-10L-48
MOUNTED ON TYPE III BARRICADE WITH TWO TYPE B FLASHING WARNING LIGHTS
(ACCORDING TO MT-101.60)
⑤

422
M1-4-30-3
⑥

193
M1-5-30-3
⑦

289
M1-5-30-3
⑧

DETOUR
M4-8-30
⑨

END DETOUR
M4-8a-24
⑩

M5-1R-24
⑪

M5-1L-24
⑫

M5-2R-24
⑬

M6-1R-24
⑭

M6-1L-24
⑮

M6-2R-24
⑯

M6-3-24
⑰

M5-2L-24
⑱

CRESCENT ST
D3-1-60
⑲

M6-2L-24
⑳

CLOSED
SPECIAL
㉑

WIRT ST
D3-1-36
㉒

PORTABLE CHANGEABLE MESSAGE SIGN.
SEE SHEET 17 FOR MESSAGE DETAILS.
㉔

Ⓐ
WEST NORTH
422 193 289
M.L. King Jr. Blvd
EXIT MILE
CLOSED

Crescent
CLOSED

Ⓑ
422 EAST
Campbell
New Castle

WEST NORTH
422 193 289
M.L. King Jr. Blvd
EXIT ¼ MILE
CLOSED

Ⓒ
Belmont Ave
Fifth Ave
Downtown
EXIT ½ MILE

WEST NORTH
422 289
M.L. King Jr. Blvd
CLOSED

Ⓓ
SOUTH TO
193 680
Pittsburg
Cleveland

WEST NORTH
422 193
Warren
EXIT ¾ MILE

Fifth Ave
Belmont Ave
Downtown

Ⓔ
WEST NORTH
422 193
Warren
NEXT RIGHT

Ⓕ
SOUTH TO
193 680
Pittsburg
Cleveland

WEST NORTH
422 193
Warren
EXIT ONLY

Ⓖ
Crescent St
½ MILE

Ⓗ
Crescent St
NEXT RIGHT

Ⓘ
Crescent St

Ⓙ
Wirt St
M.L. King Jr. Blvd
NEXT RIGHT

NOTE: △ TYPE III BARRICADE SHALL BE PLACED ADJACENT TO THE ROADWAY FACING ONCOMING TRAFFIC.

MAP LEGEND
- SIGN
- TYPE III BARRICADE
- WORK AREA
- DETOUR ROUTE

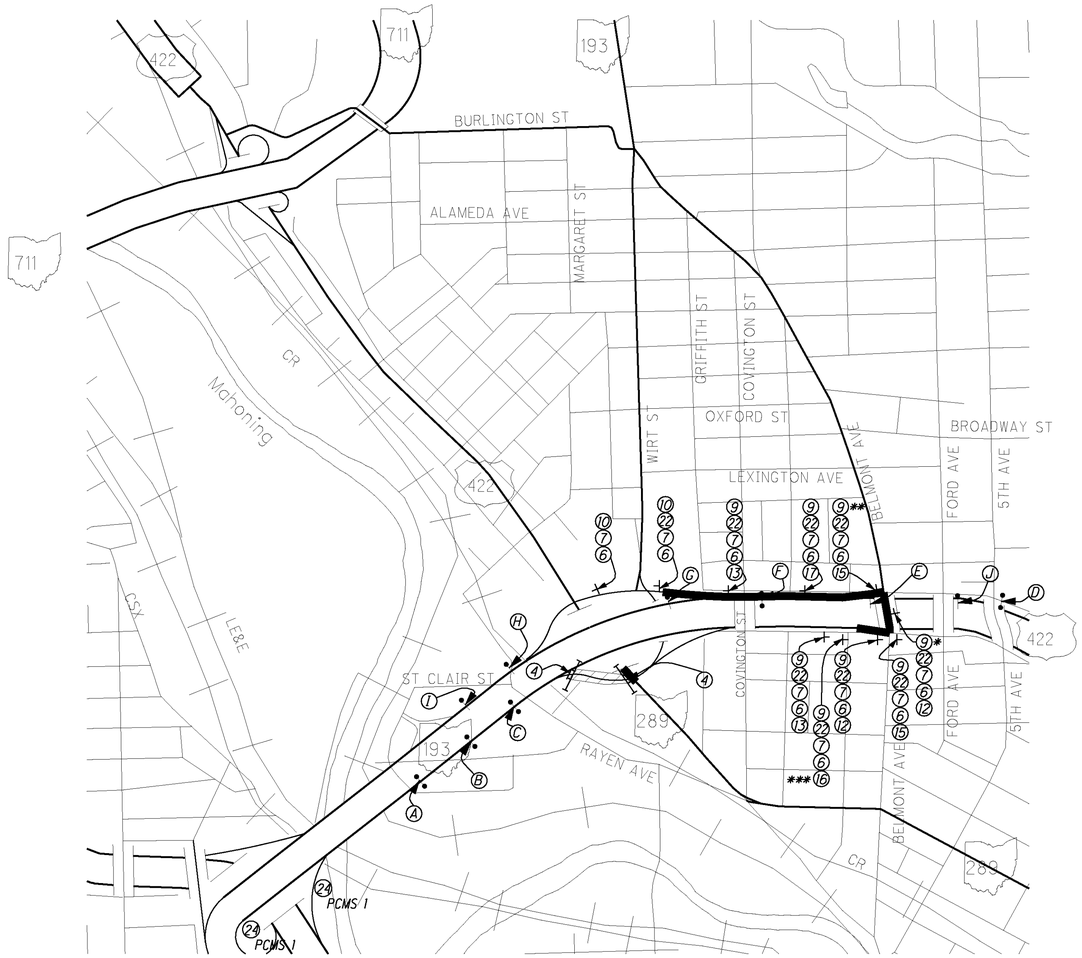
HORIZONTAL SCALE IN FEET
0 375 750 1500

CALCULATED SWC
CHECKED MAH

DETOUR MAP - CONSTRUCTION PHASE 1
S.R. 193 RAMPS TO/FROM CRESCENT ST.CLOSURE

MAH-193/422-0.46/1.85

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W20-1-36
①



W20-2-36
②



W20-3-36
③



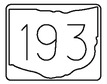
R11-2-48
MOUNTED ON TYPE III BARRICADE WITH TWO TYPE B FLASHING WARNING LIGHTS
(ACCORDING TO MT-101.60)
④



R11-3a-60
M4-10L-48
MOUNTED ON TYPE III BARRICADE WITH TWO TYPE B FLASHING WARNING LIGHTS
(ACCORDING TO MT-101.60)
⑤



M1-4-30-3
⑥



M1-5-30-3
⑦



M1-5-30-3
⑧



M4-8-30
⑨



M4-8a-24
⑩



M5-1R-24
⑪



M5-1L-24
⑫



M5-2R-24
⑬



M6-1R-24
⑭



M6-1L-24
⑮



M6-2R-24
⑯



M6-3-24
⑰



M5-2L-24
⑱



D3-1-60
⑲



M6-2L-24
⑳



SPECIAL
㉑



D3-1-36
㉒

NOTES: * DURING PHASE ID CONSTRUCTION THE SIGNS INDICATED SHALL BE MODIFIED TO DIRECT TRAFFIC NORTHBOUND TO FOLLOW THE DETOUR ROUTE THAT HAS BEEN PROVIDED FOR THE RAMP M CLOSURE USED IN PHASE ID CONSTRUCTION. THE CONTRACTOR SHALL OVERLAY THE M5-1L-24 SIGN WITH A M6-3-24 SIGN FOR THE ENTIRE DURATION OF THE RAMP M CLOSURE.

** THE CONTRACTOR SHALL COVER THIS SIGN ASSEMBLY FOR THE ENTIRE DURATION OF THE RAMP M CLOSURE. THE COVERING SHALL BE REMOVED ONCE THE RAMP M CONSTRUCTION ACTIVITIES ARE COMPLETED.

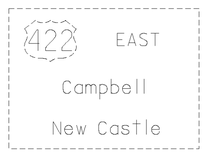
*** TO BE BE PLACED AT RAMP GORE

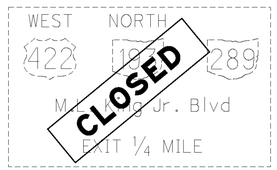
PORTABLE CHANGEABLE MESSAGE SIGN.
SEE SHEET 17 FOR MESSAGE DETAILS.
㉔



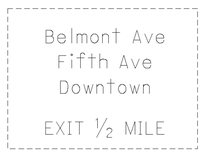
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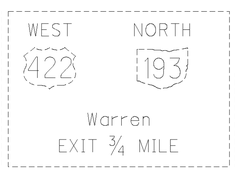
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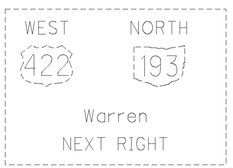
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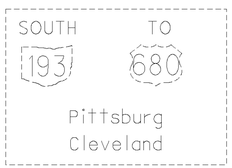


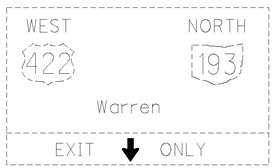


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NOTE: △ TYPE III BARRICADE SHALL BE PLACED ADJACENT TO THE ROADWAY FACING ONCOMING TRAFFIC.

MAP LEGEND
- SIGN
- TYPE III BARRICADE
- WORK AREA
- DETOUR ROUTE

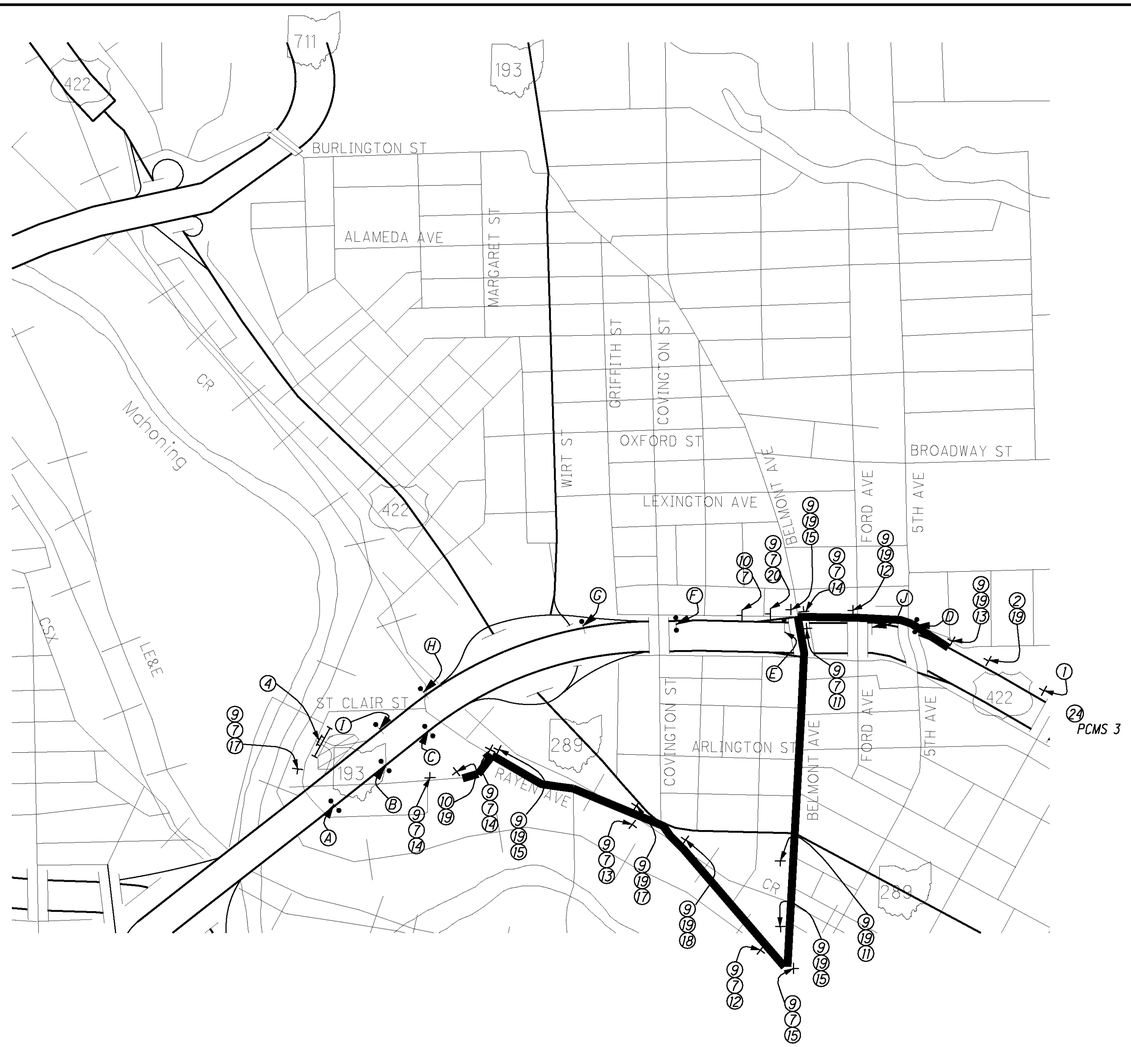
HORIZONTAL SCALE IN FEET
0 375 750 1500

CALCULATED SWC
CHECKED MAH

DETOUR MAP - CONSTRUCTION PHASE 1 RAMP J CLOSURE

MAH-193/422-0.46/1.85

\\AKRNAS1\DATA\CIVIL\2007013\MAH\25235\MOT\SHEETS\25235MD002.DGN
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DTROYER





W20-1-36
①



W20-2-36
②



W20-3-36
③



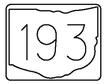
R11-2-48
MOUNTED ON TYPE III BARRICADE WITH TWO TYPE B FLASHING WARNING LIGHTS
(ACCORDING TO MT-101.60)
④



R11-3a-60
M4-10L-48
MOUNTED ON TYPE III BARRICADE WITH TWO TYPE B FLASHING WARNING LIGHTS
(ACCORDING TO MT-101.60)
⑤



M1-4-30-3
⑥



M1-5-30-3
⑦



M1-5-30-3
⑧



M4-8-30
⑨



M4-8a-24
⑩



M5-1R-24
⑪



M5-1L-24
⑫



M5-2R-24
⑬



M6-1R-24
⑭



M6-1L-24
⑮



M6-2R-24
⑯



M6-3-24
⑰



M5-2L-24
⑱



D3-1-60
⑲



M6-2L-24
⑳

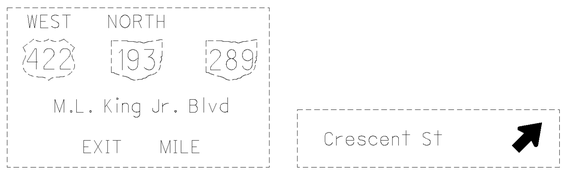


SPECIAL
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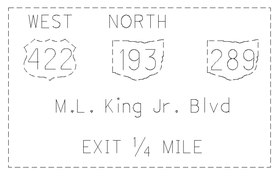
D3-1-36
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PORTABLE CHANGEABLE MESSAGE SIGN.
SEE SHEET 17 FOR MESSAGE DETAILS.
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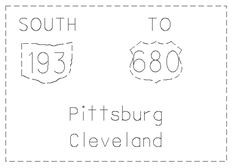


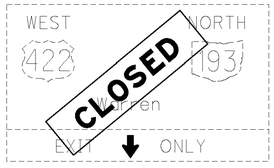
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NOTE: △ TYPE III BARRICADE SHALL BE PLACED ADJACENT TO THE ROADWAY FACING ONCOMING TRAFFIC.

MAP LEGEND

- SIGN
- TYPE III BARRICADE
- WORK AREA
- DETOUR ROUTE

N

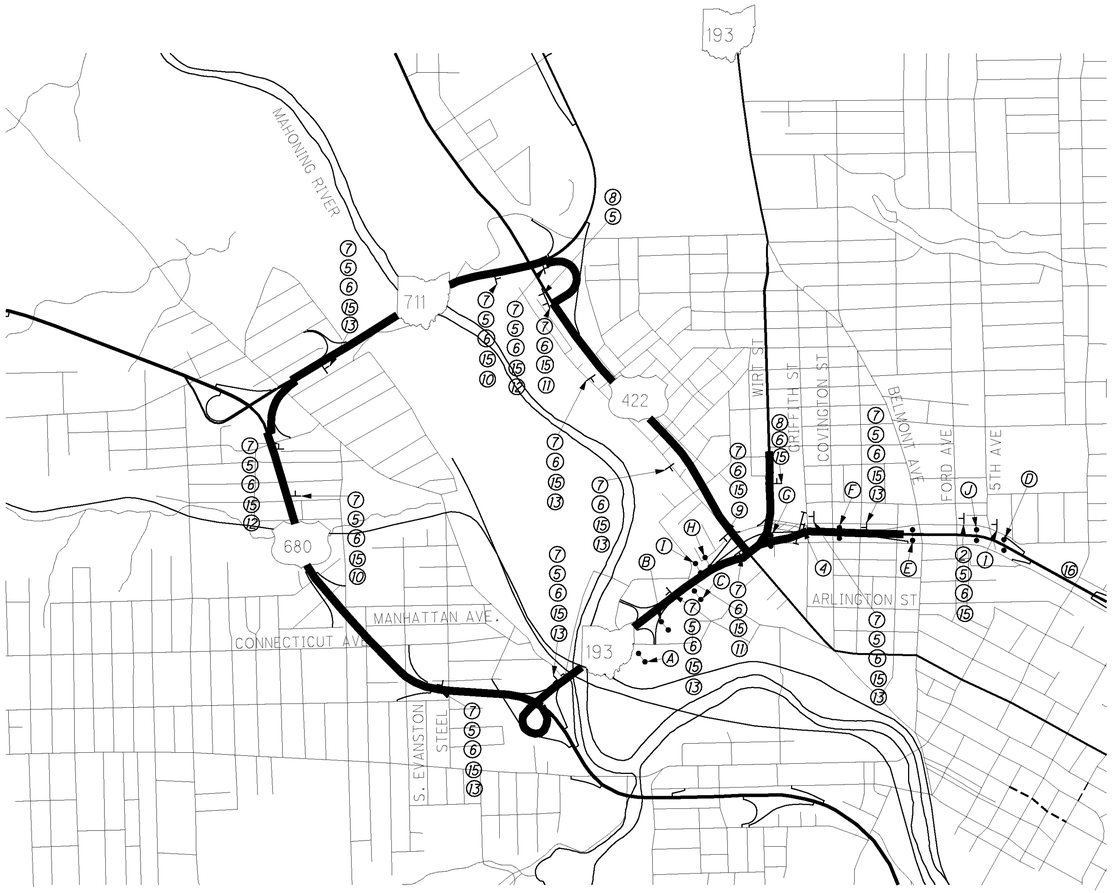
HORIZONTAL SCALE IN FEET
0 500 1000 2000

CALCULATED SWC
CHECKED MAH

DETOUR MAP - CONSTRUCTION PHASE 2
S.R. 193 RAMPS TO/FROM CRESCENT ST. CLOSURE

MAH-193/422-0.46/1.85

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W20-1-36
①



W20-2-36
②



W20-3-36
③



R11-2-48
MOUNTED ON TYPE III BARRICADE WITH TWO TYPE B FLASHING WARNING LIGHTS
(ACCORDING TO MT-101.60)
④



M1-4-30-3
⑤



M1-5-30-3
⑥



M4-8-30
⑦



M4-8a-24
⑧



M5-1L-24
⑨



M5-2R-24
⑩



M6-1L-24
⑪



M6-2R-24
⑫



M6-3-24
⑬



SPECIAL
⑭



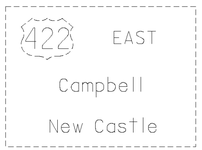
D3-1-36
⑮

PORTABLE CHANGEABLE MESSAGE SIGN.
SEE SHEET 17 FOR MESSAGE DETAILS.
⑯





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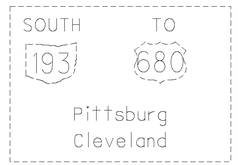




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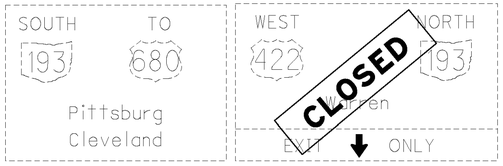




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NOTE: △ TYPE III BARRICADE SHALL BE PLACED ADJACENT TO THE ROADWAY FACING ONCOMING TRAFFIC.

MAP LEGEND

- OVERHEAD SIGN
- SIGN
- TYPE III BARRICADE
- WORK AREA
- DETOUR ROUTE

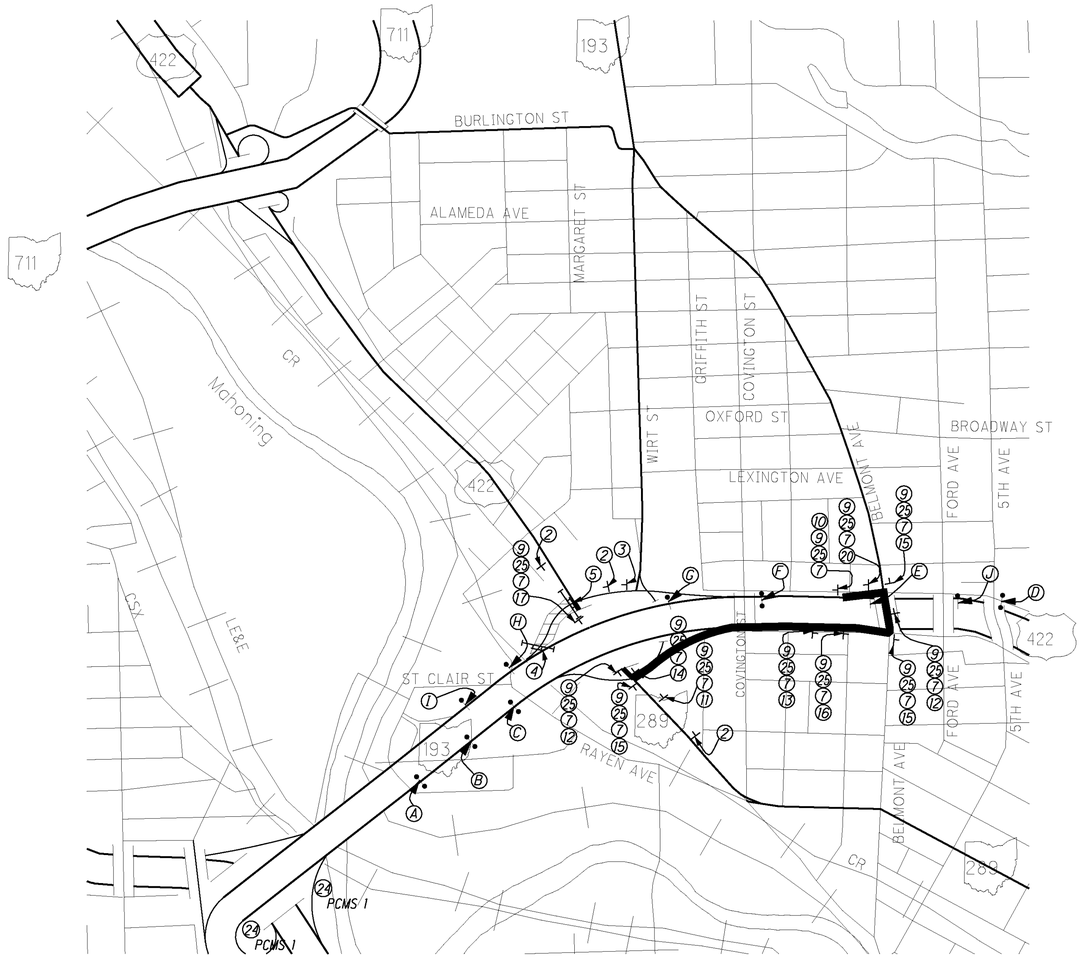
HORIZONTAL SCALE IN FEET
0 375 750 1500

CALCULATED ALF
CHECKED DAT

DETOUR MAP - CONSTRUCTION PHASE 1E
RAMP M CLOSURE

MAH-193/422-0.46/1.85

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W20-1-36
①



W20-2-36
②



W20-3-36
③



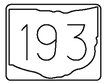
R11-2-48
MOUNTED ON TYPE III BARRICADE WITH TWO TYPE B FLASHING WARNING LIGHTS
(ACCORDING TO MT-101.60)
④



R11-3a-60
M4-10L-48
MOUNTED ON TYPE III BARRICADE WITH TWO TYPE B FLASHING WARNING LIGHTS
(ACCORDING TO MT-101.60)
⑤



M1-4-30-3
⑥



M1-5-30-3
⑦



M1-5-30-3
⑧



M4-8-30
⑨



M4-8a-24
⑩



M5-1R-24
⑪



M5-1L-24
⑫



M5-2R-24
⑬



M6-1R-24
⑭



M6-1L-24
⑮



M6-2R-24
⑯



M6-3-24
⑰



M5-2L-24
⑱



D3-1-60
⑲

M6-2L-24
⑳



SPECIAL
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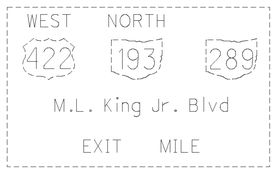


D3-1-36
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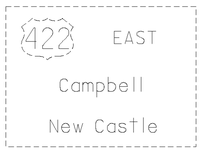
M3-4-30
㉕

PORTABLE CHANGEABLE MESSAGE SIGN.
SEE SHEET 17 FOR MESSAGE DETAILS.
㉔

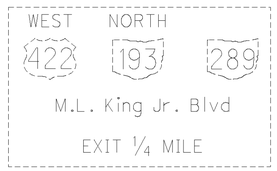


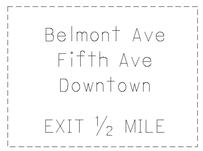
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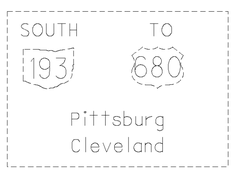
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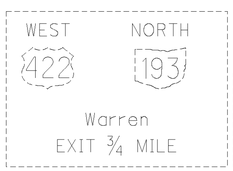






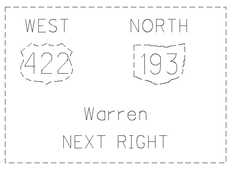
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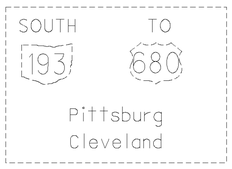


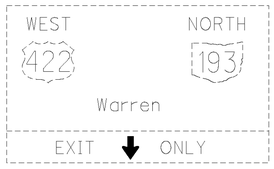


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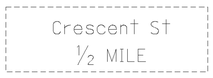


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NOTE: △ TYPE III BARRICADE SHALL BE PLACED ADJACENT TO THE ROADWAY FACING ONCOMING TRAFFIC.

MAP LEGEND

- SIGN
- TYPE III BARRICADE
- WORK AREA
- DETOUR ROUTE

N

HORIZONTAL SCALE IN FEET
0 375 750 1500

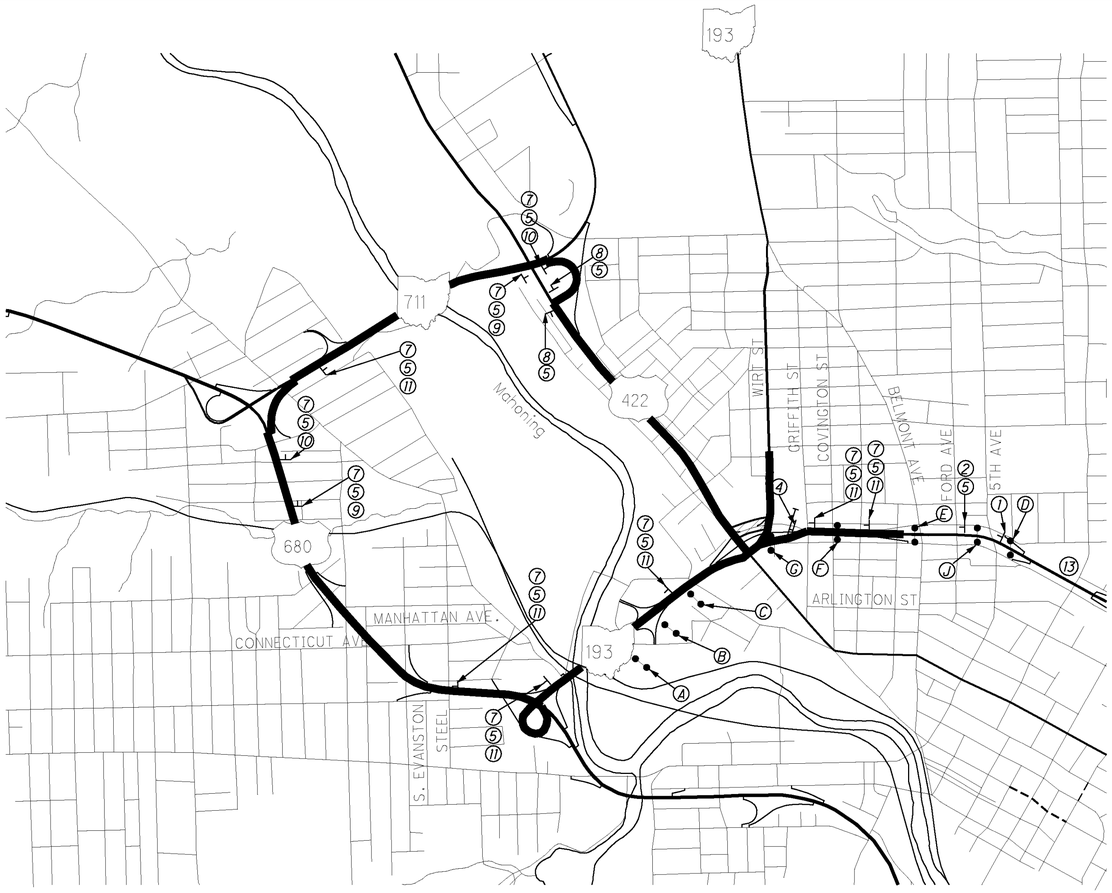
CALCULATED DAT
CHECKED DAR

DETOUR MAP - CONSTRUCTION PHASE 2
RAMP K CLOSURE

MAH-193/422-0.46/1.85

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ROAD WORK AHEAD
W20-1-36
①

DETOUR AHEAD
W20-2-36
②

ROAD CLOSED AHEAD
W20-3-36
③

ROAD CLOSED
R11-2-48
MOUNTED ON TYPE III BARRICADE WITH TWO TYPE B FLASHING WARNING LIGHTS (ACCORDING TO MT-101.60)
④

422
M1-4-30-3
⑤

193
M1-5-30-3
⑥

DETOUR
M4-8-30
⑦

END DETOUR
M4-8a-24
⑧

M5-2R-24
⑨

M6-2R-24
⑩

M6-3-24
⑪

CLOSED
SPECIAL
⑫

PORTABLE CHANGEABLE MESSAGE SIGN.
SEE SHEET 17 FOR MESSAGE DETAILS.
⑬

WEST NORTH
422 193 289
M.L. King Jr. Blvd
EXIT MILE

Crescent St

422 EAST
Campbell
New Castle

WEST NORTH
422 193 289
M.L. King Jr. Blvd
EXIT ¼ MILE

Belmont Ave
Fifth Ave
Downtown
EXIT ½ MILE

WEST NORTH
422 193 289
M.L. King Jr. Blvd

SOUTH TO
193 680
Pittsburg
Cleveland

* NORTH
193
Warren
EXIT ONLY

Fifth Ave
Belmont Ave
Downtown

Ⓐ Ⓑ Ⓒ Ⓓ

* NORTH
193
Warren
NEXT RIGHT

SOUTH TO
193 680
Pittsburg
Cleveland

Ⓔ Ⓕ

Wirt St *
NEXT RIGHT

Ⓙ

NOTE: △ TYPE III BARRICADE SHALL BE PLACED ADJACENT TO THE ROADWAY FACING ONCOMING TRAFFIC.

LEGEND
- OVERHEAD SIGN
- SIGN
- TYPE III BARRICADE
- WORK AREA
- DETOUR ROUTE
- METAL SHEETING

* THE CONTRACTOR SHALL PROVIDE OVERLAY TO COVER ALL EXIT SIGNAGE FOR US 422 WEST, M.L. KING BLVD. FROM THE EAST AS DEPICTED ON THIS SHEET. THE COST FOR COVERING THE 3 SIGNS SHALL BE INCLUDED IN ITEM 614 - DETOUR SIGNING, AS PER PLAN

HORIZONTAL SCALE IN FEET
0 375 750 1500

CALCULATED ALF
CHECKED MAH

DETOUR MAP - CONSTRUCTION PHASE 1B
RAMP M CLOSURE

MAH-193/422-0.46/1.85

35A
260

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3/23/2009
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DTROTER



NO BORDER, ORANGE PANEL;
"CLOSED" BLACK E MOD;
TABLE OF WIDTHS AND SPACES.

	C		L		O		S		E		D	
13.24	9.56	2.48	8.91	2.47	10.04	2.47	9.56	3.08	8.91	2.48	9.56	13.24

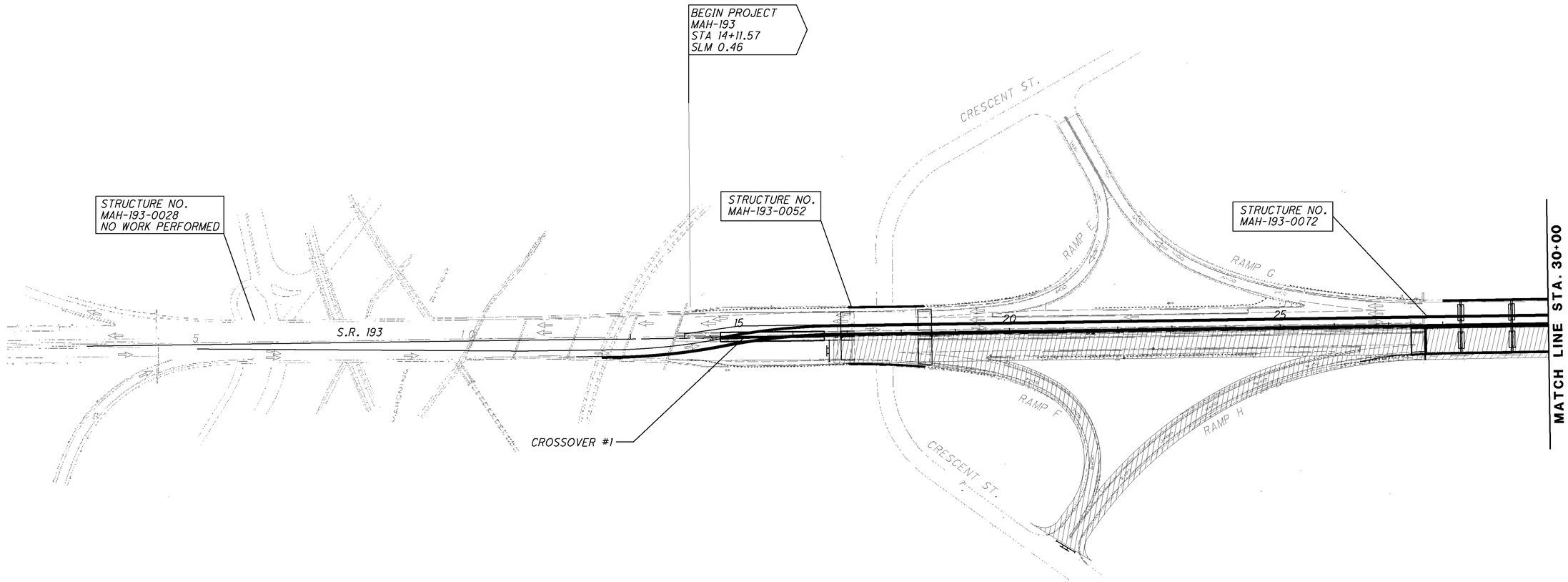
NOTE: ALL DIMENSIONS IN INCHES.

CALCULATED SWC
CHECKED MAH

MAINTENANCE OF TRAFFIC DETAIL

MAH-193/422-0.46/1.85

\\KRN01\DATA\CIVIL\2007013\MAH\25235\MOT\SHEETS\25235MM001.DGN
3/23/2009
2:14:23 PM
DIHOTER



NOTES: 1. PLAN CREATED FROM REFERENCED IMAGE FILES.

2. FOR PHASE 1 MAINTENANCE OF TRAFFIC PLANS, SEE SHEETS 48 TO 53.

LEGEND

- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- WORK AREA
- CROSSOVER LOCATION
- TYPE 3 BARRICADE
- FLOW ARROW

HORIZONTAL SCALE IN FEET
0 50 100 200

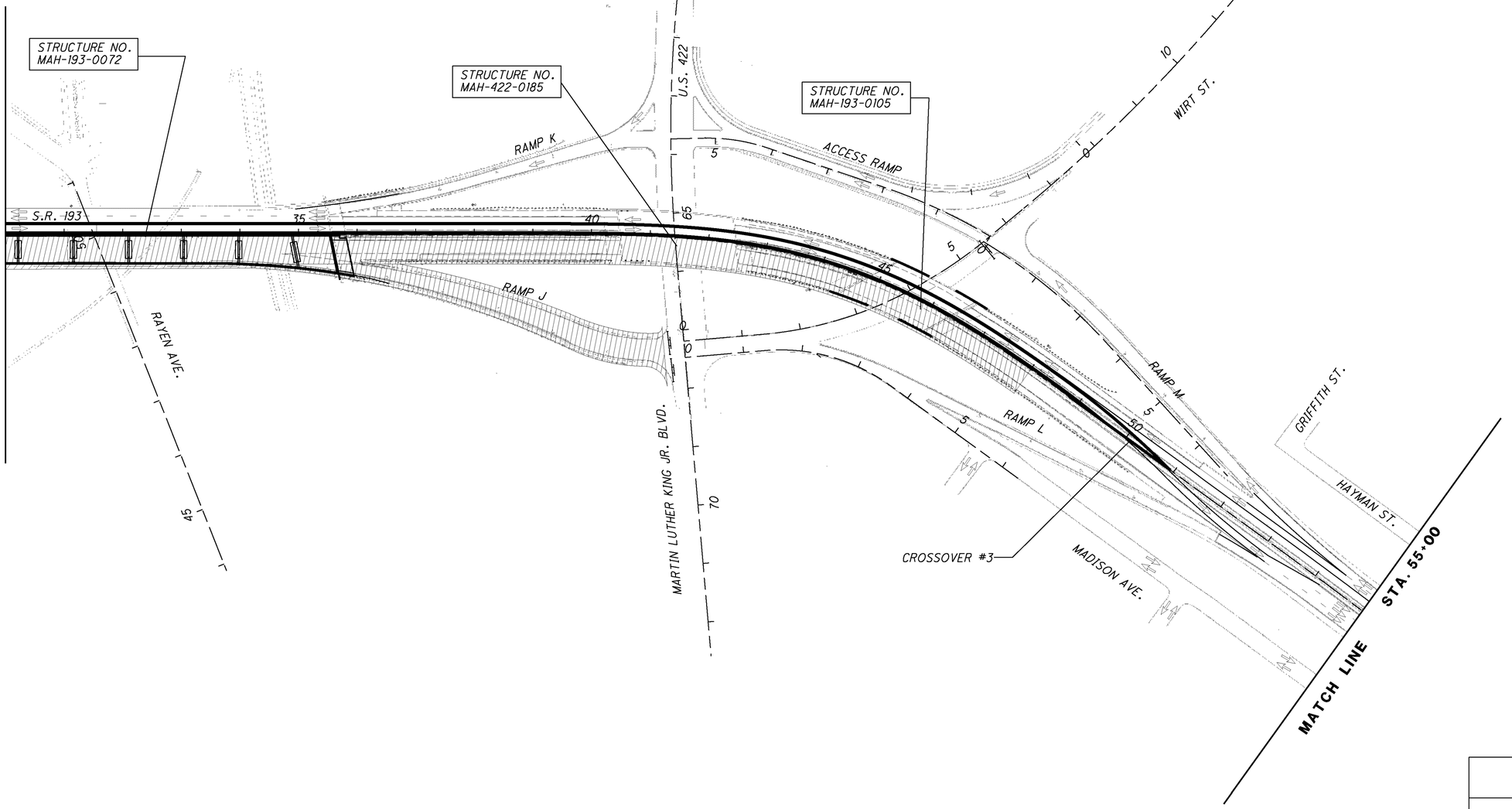
CALCULATED D.A.T
CHECKED MAH

MAINTENANCE OF TRAFFIC SCHEMATIC PLAN CONSTRUCTION PHASE 1

MAH-193/422-0.46/1.85

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260

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3/23/2009
2:17:53 PM
DTROYER



LEGEND

- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- WORK AREA
- CROSSOVER LOCATION
- TYPE 3 BARRICADE
- FLOW ARROW

NOTES: 1. PLAN CREATED FROM REFERENCED IMAGE FILES.

2. FOR PHASE 1 MAINTENANCE OF TRAFFIC PLANS, SEE SHEETS 48 TO 53.

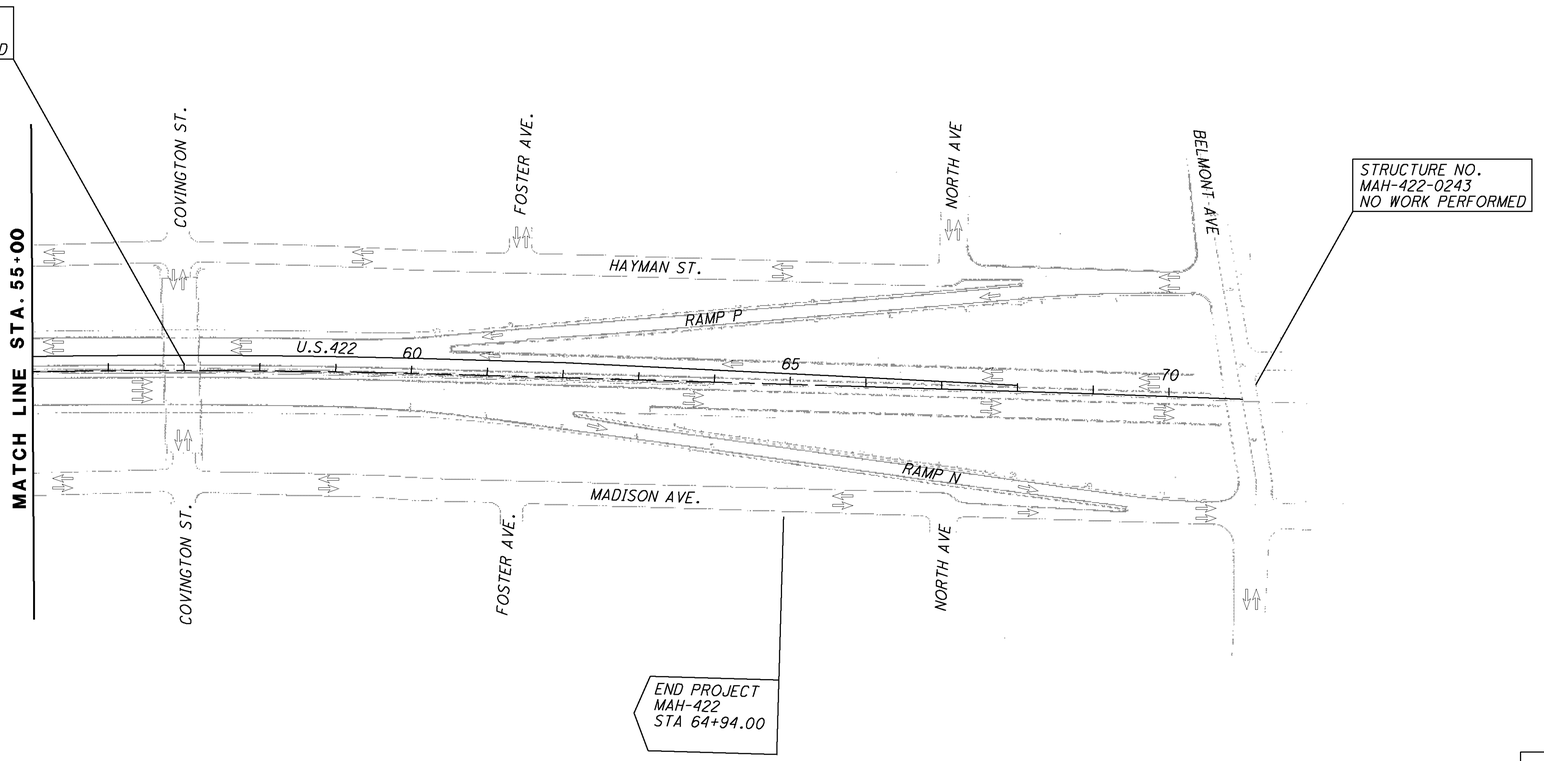
HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED DAT
CHECKED MAH

MAINTENANCE OF TRAFFIC SCHEMATIC PLAN CONSTRUCTION PHASE 1

MAH-193/422-0.46/1.85

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DTROTER



NOTES: 1. PLAN CREATED FROM REFERENCED IMAGE FILES.

2. FOR PHASE I MAINTENANCE OF TRAFFIC PLANS, SEE SHEETS 48 TO 53.

LEGEND

- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- WORK AREA
- CROSSOVER LOCATION
- TYPE 3 BARRICADE
- FLOW ARROW

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED DAT
CHECKED MAH

MAINTENANCE OF TRAFFIC SCHEMATIC PLAN CONSTRUCTION PHASE 1

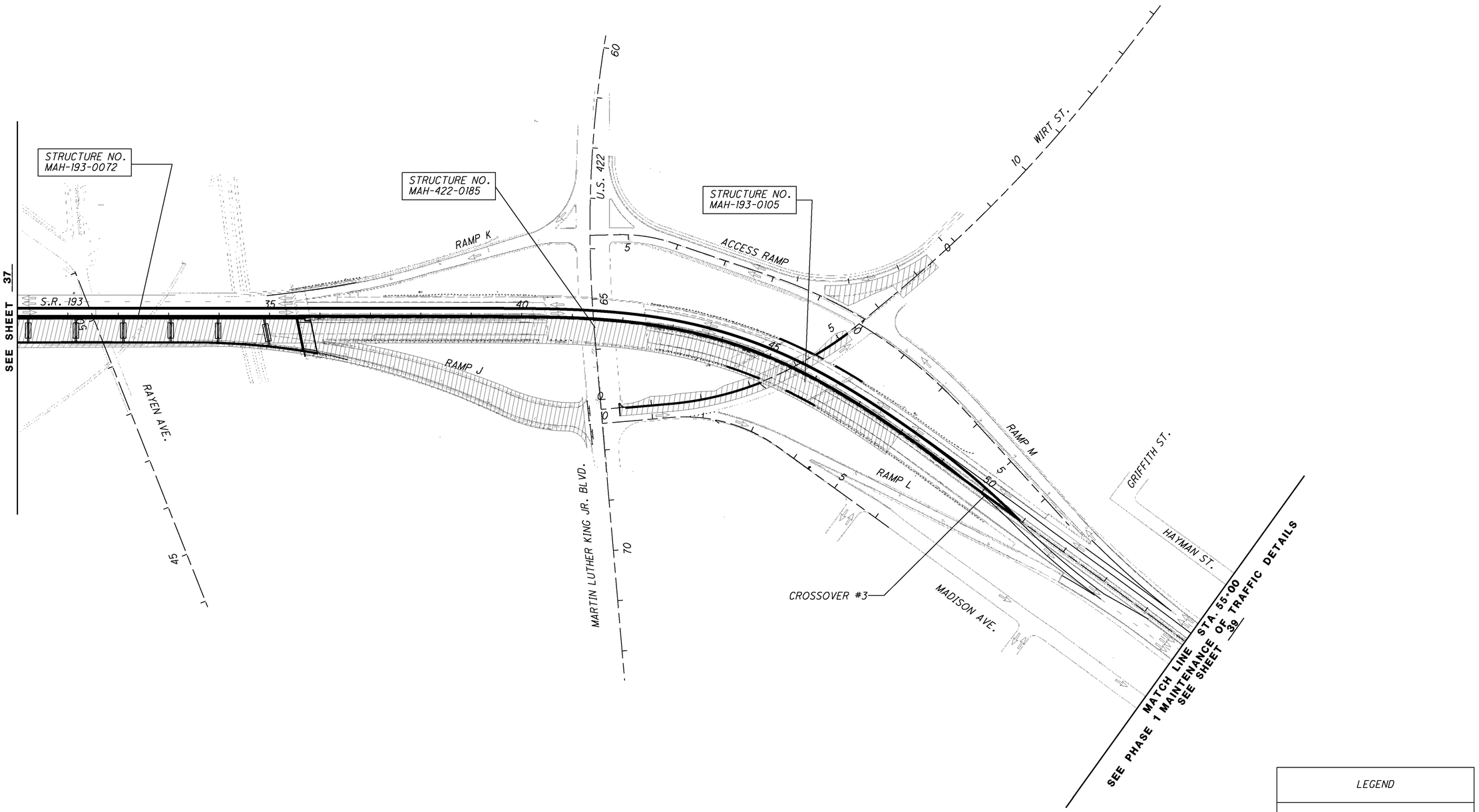
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MAINTENANCE OF TRAFFIC SCHEMATIC PLAN
CONSTRUCTION PHASE 1 & 1A

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED LOB
CHECKED MAH



LEGEND

- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- WORK AREA
- CROSSOVER LOCATION
- TYPE 3 BARRICADE
- FLOW ARROW

NOTES: 1. PLAN CREATED FROM REFERENCED IMAGE FILES.

2. FOR PHASE 1 MAINTENANCE OF TRAFFIC PLANS, SEE SHEETS 48 TO 53.

MAH-193/422-0.46/1.85

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DTROTER

SEE PHASE 1 MAINTENANCE OF TRAFFIC DETAILS
MATCH LINE STA. 30+00
SEE SHEET 37

STRUCTURE NO. MAH-193-0072

STRUCTURE NO. MAH-422-0185

STRUCTURE NO. MAH-193-0105

S.R. 193

RAYEN AVE.

RAMP K

RAMP J

RAMP L

RAMP M

ACCESS RAMP

U.S. 422

MARTIN LUTHER KING JR. BLVD.

WIRT ST.

GRIFFITH ST.

HAYMAN ST.

MADISON AVE.

CROSSOVER #3

SEE PHASE 1 MAINTENANCE OF TRAFFIC DETAILS
MATCH LINE STA. 55+00
SEE SHEET 39

LEGEND

- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- WORK AREA
- CROSSOVER LOCATION
- TYPE 3 BARRICADE
- FLOW ARROW

NOTES: 1. PLAN CREATED FROM REFERENCED IMAGE FILES.

2. FOR PHASE 1 MAINTENANCE OF TRAFFIC PLANS, SEE SHEETS 48 TO 53.

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED LOB
CHECKED MAH

MAINTENANCE OF TRAFFIC SCHEMATIC PLAN
CONSTRUCTION PHASE 1 & 1B

MAH-193/422-0.46/1.85

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DTROTER

SEE PHASE 1 MAINTENANCE OF TRAFFIC DETAILS
MATCH LINE STA. 30+00
SEE SHEET 37

STRUCTURE NO. MAH-193-0072

STRUCTURE NO. MAH-422-0185

STRUCTURE NO. MAH-193-0105

S.R 193

RAMP K

RAMP J

RAMP L

RAMP M

ACCESS RAMP

U.S. 422

MARTIN LUTHER KING JR. BLVD.

RAYEN AVE.

WIRT ST.

GRIFFITH ST.

HAYMAN ST.

MADISON AVE.

CROSSOVER #3

60 70 65 45 50 40 35 10 5

SEE PHASE 1 MAINTENANCE OF TRAFFIC DETAILS
MATCH LINE STA. 55+00
SEE SHEET 39

LEGEND

- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- WORK AREA
- CROSSOVER LOCATION
- TYPE 3 BARRICADE
- FLOW ARROW

NOTES: 1. PLAN CREATED FROM REFERENCED IMAGE FILES.

2. FOR PHASE I MAINTENANCE OF TRAFFIC PLANS, SEE SHEETS 48 TO 53.

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED LOB
CHECKED MAH

MAINTENANCE OF TRAFFIC SCHEMATIC PLAN
CONSTRUCTION PHASE 1 & 1C

MAH-193/422-0.46/1.85

42
260

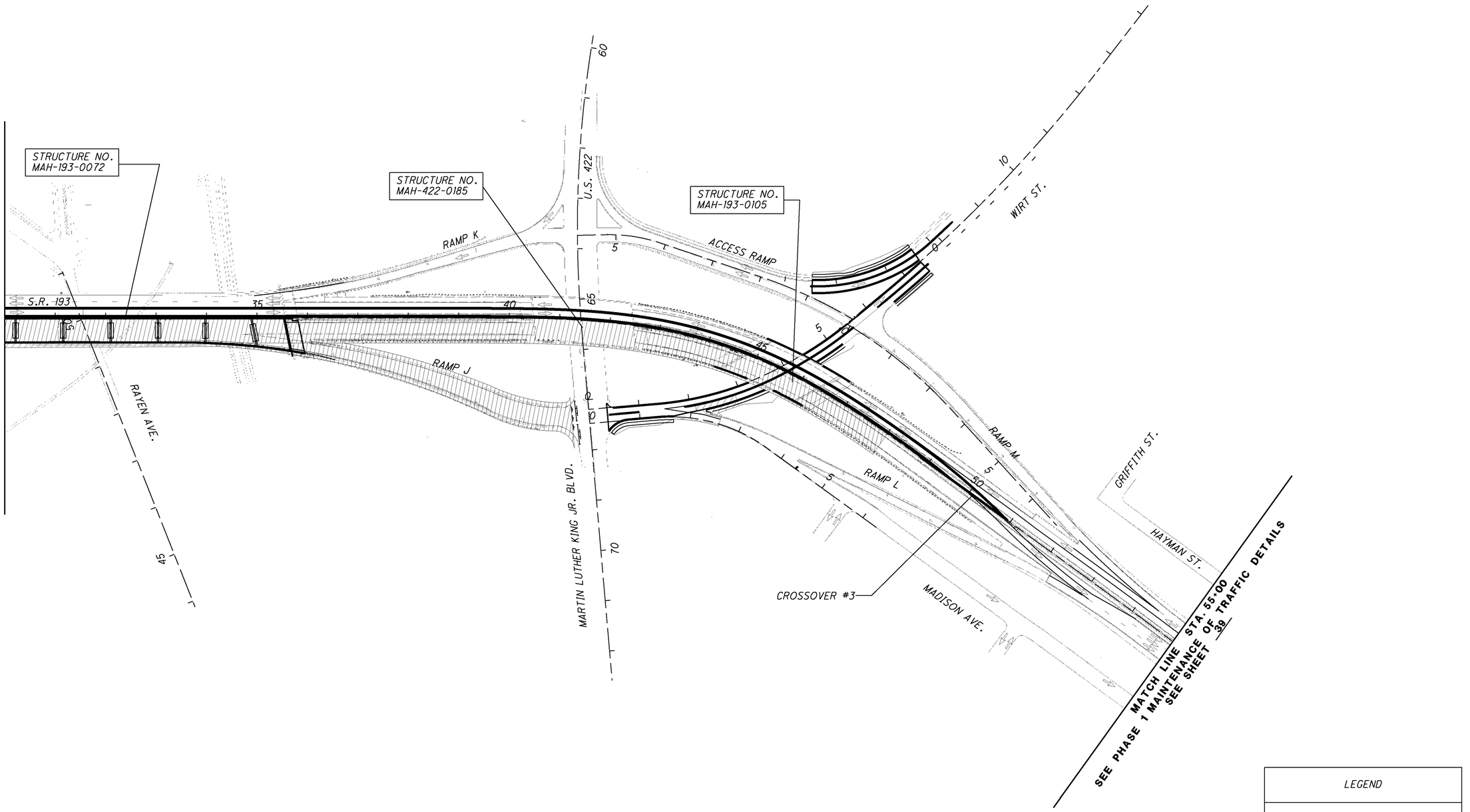
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DTROTER

MAINTENANCE OF TRAFFIC SCHEMATIC PLAN
CONSTRUCTION PHASE 1D

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED LOB
CHECKED MAH

MAH-193/422-0.46/1.85



LEGEND

- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- WORK AREA
- CROSSOVER LOCATION
- TYPE 3 BARRICADE
- FLOW ARROW

NOTES: 1. PLAN CREATED FROM REFERENCED IMAGE FILES.

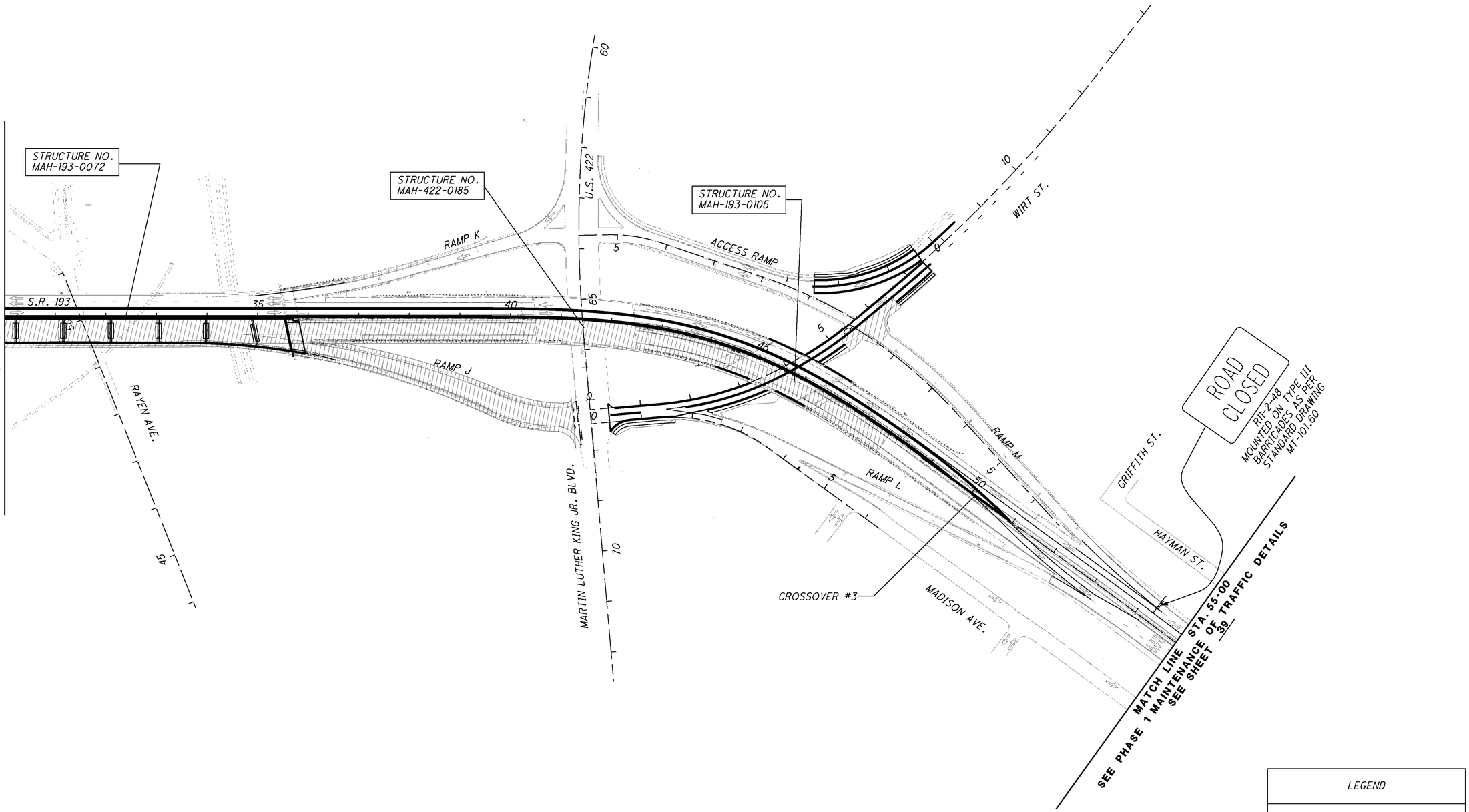
2. FOR PHASE 1 MAINTENANCE OF TRAFFIC PLANS, SEE SHEETS 48 TO 53.

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MAINTENANCE OF TRAFFIC SCHEMATIC PLAN
CONSTRUCTION PHASE 1 & 1E

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED LOB
CHECKED MAH



LEGEND

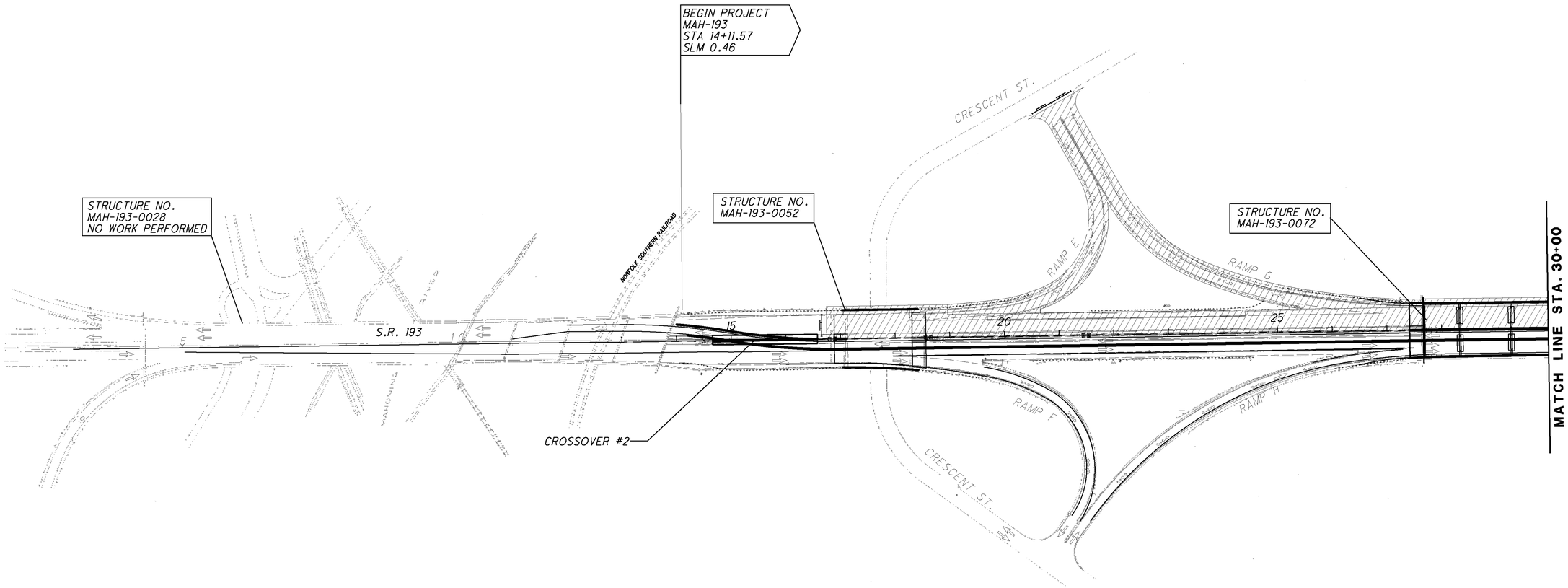
- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- WORK AREA
- CROSSOVER LOCATION
- TYPE 3 BARRICADE
- FLOW ARROW

NOTES: 1. PLAN CREATED FROM REFERENCED IMAGE FILES.

2. FOR PHASE 1 MAINTENANCE OF TRAFFIC PLANS, SEE SHEETS 48 TO 53.

MAH-193/422-0.46/1.85

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DIRUTER



NOTES: 1. PLAN CREATED FROM REFERENCED IMAGE FILES.

2. FOR PHASE 2 MAINTENANCE OF TRAFFIC PLANS, SEE SHEETS 69 TO 74.

LEGEND

- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- WORK AREA
- CROSSOVER LOCATION
- TYPE 3 BARRICADE
- FLOW ARROW

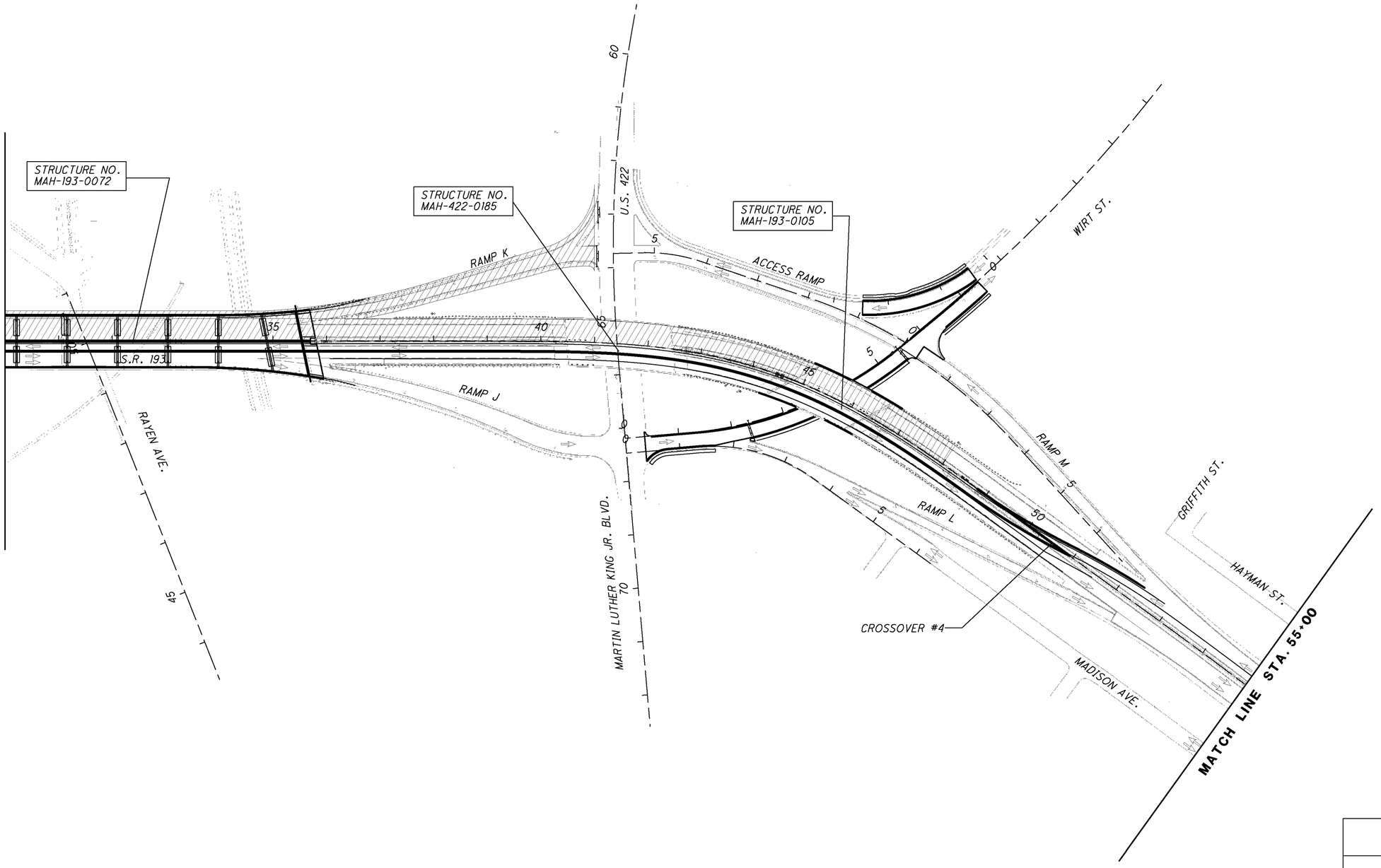
HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED D.A.T
CHECKED MAH

MAINTENANCE OF TRAFFIC SCHEMATIC PLAN CONSTRUCTION PHASE 2

MAH-193/422-0.46/1.85

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LEGEND

- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- WORK AREA
- CROSSOVER LOCATION
- TYPE 3 BARRICADE
- FLOW ARROW

NOTES: 1. PLAN CREATED FROM REFERENCED IMAGE FILES.

2. FOR PHASE 2 MAINTENANCE OF TRAFFIC PLANS, SEE SHEETS 69 TO 74.

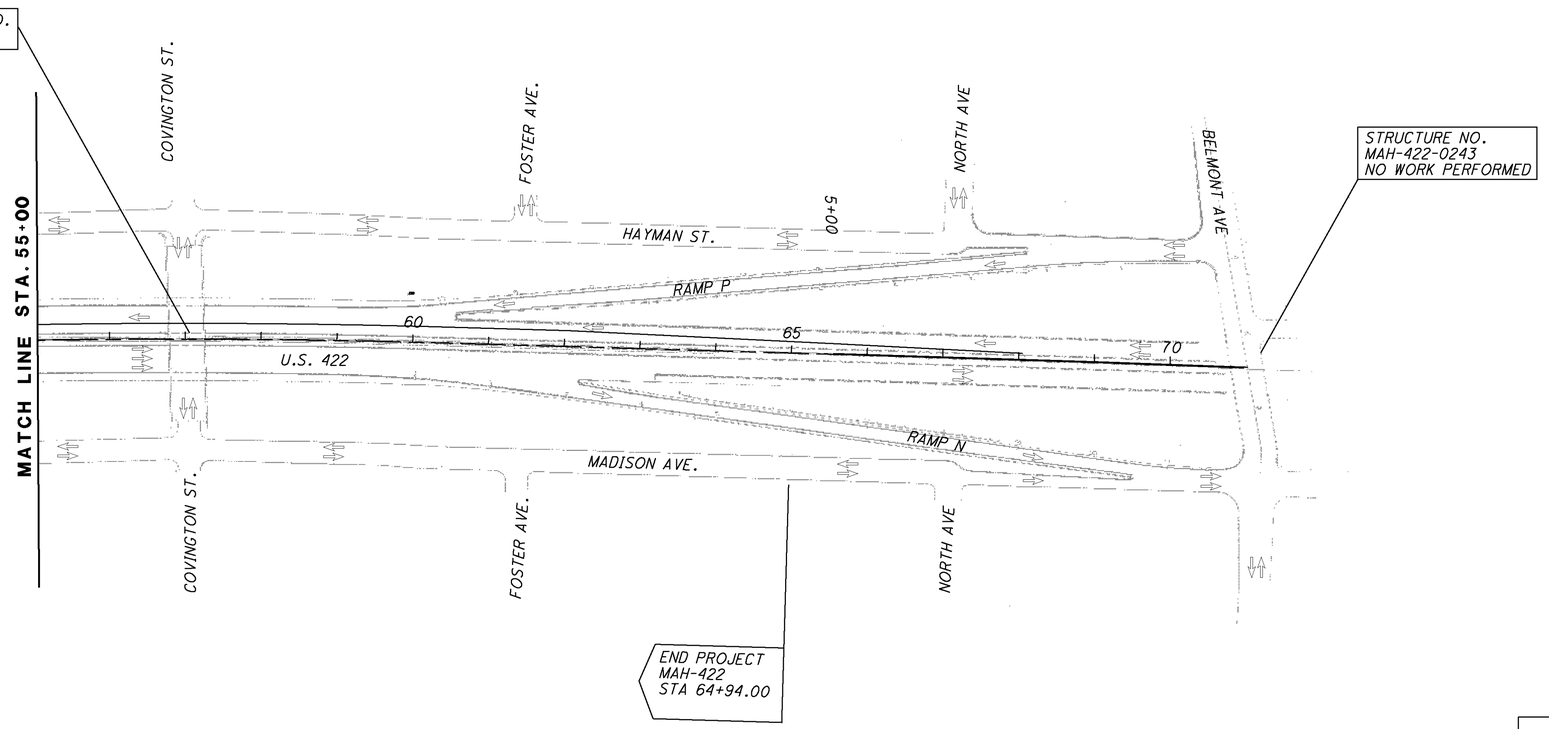
HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED D.A.T
CHECKED MAH

MAINTENANCE OF TRAFFIC SCHEMATIC PLAN CONSTRUCTION PHASE 2

MAH-193/422-0.46/1.85

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DTROYER



NOTES: 1. PLAN CREATED FROM REFERENCED IMAGE FILES.

2. FOR PHASE 2 MAINTENANCE OF TRAFFIC PLANS, SEE SHEETS 69 TO 74.

LEGEND

- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- WORK AREA
- CROSSOVER LOCATION
- TYPE 3 BARRICADE
- FLOW ARROW

N

0 50 100 200
HORIZONTAL SCALE IN FEET

CALCULATED D.A.T
CHECKED M.A.H

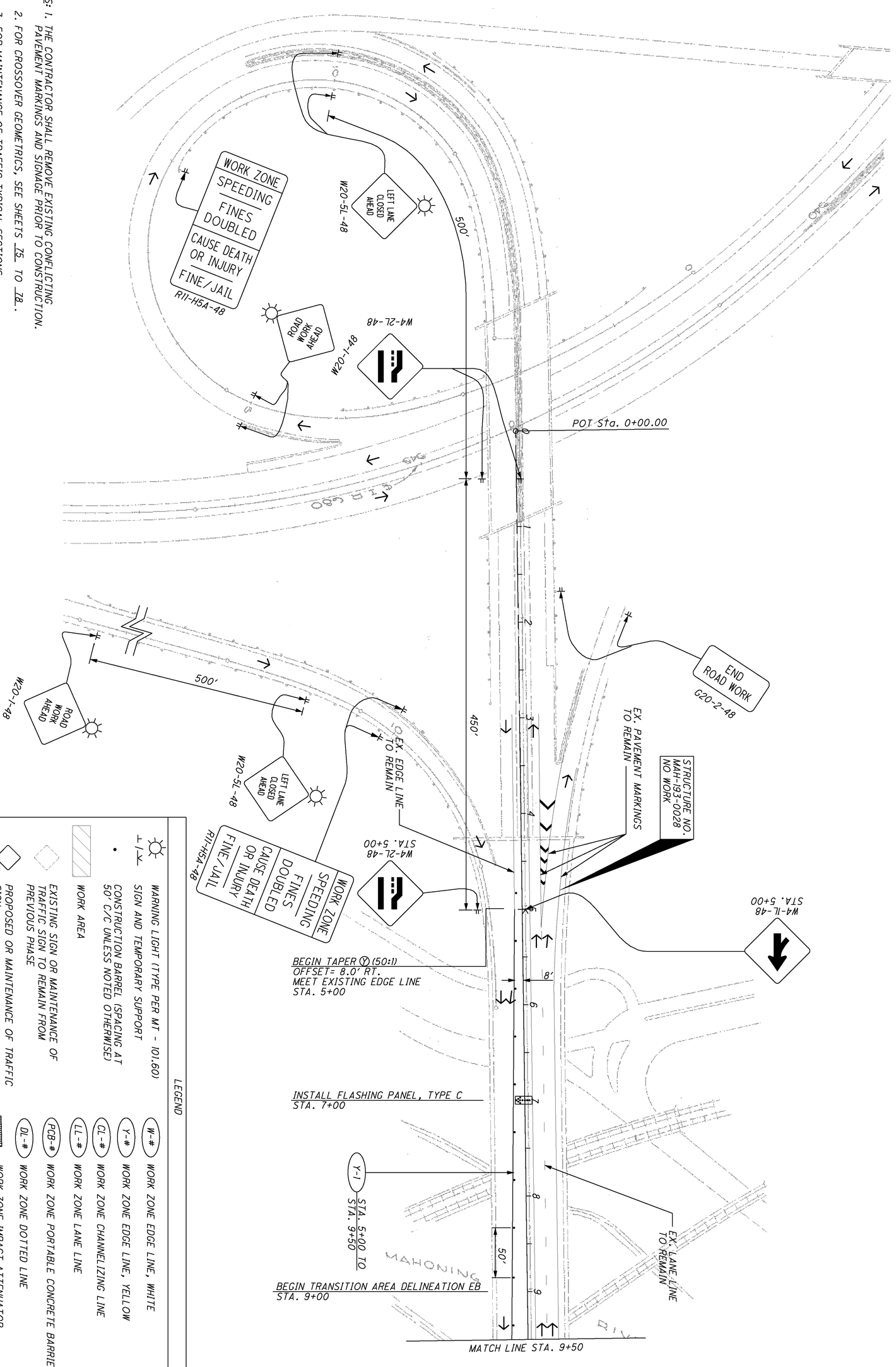
MAINTENANCE OF TRAFFIC SCHEMATIC PLAN CONSTRUCTION PHASE 2

MAH-193/422-0.46/1.85

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DTROYER

NOTES:
1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.
2. FOR CROSSOVER GEOMETRICS, SEE SHEETS 25 TO 28.
3. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEETS 27 TO 30.
4. PLAN CREATED FROM REFERENCED IMAGE FILES.



MAH-193/422-0.46/1.85

MAINTENANCE OF TRAFFIC PLAN - PHASE 1

S.R. 193, BEGIN TO STA. 9+50

CALCULATED LOB
CHECKED MAH

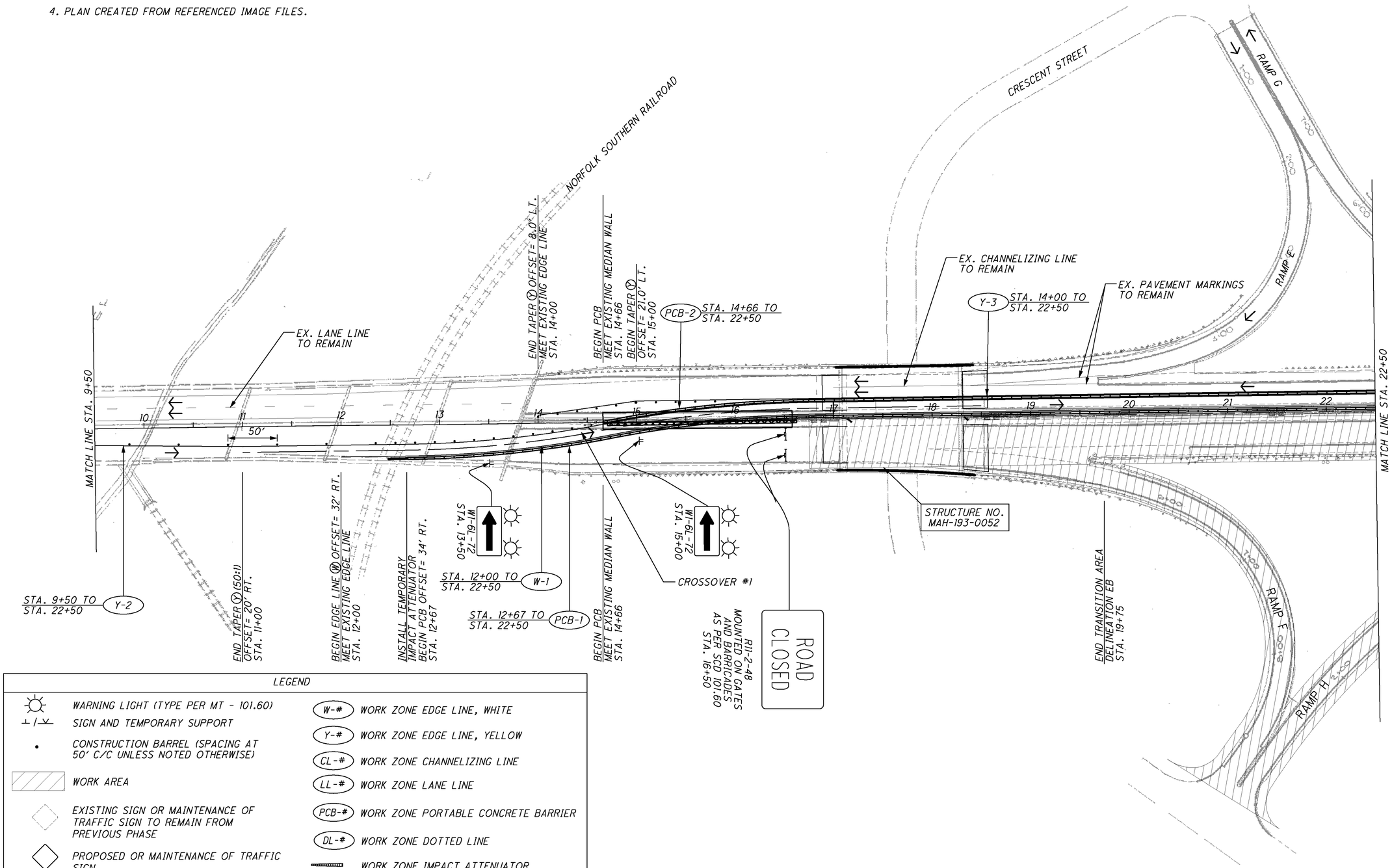
0 50 100
25
HORIZONTAL SCALE IN FEET

NOTES: 1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.

2. FOR CROSSOVER GEOMETRICS, SEE SHEETS 75 TO 78.

3. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEETS 27 TO 30.

4. PLAN CREATED FROM REFERENCED IMAGE FILES.



LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 50' C/C UNLESS NOTED OTHERWISE)
- WORK AREA
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN
- FLASHING ARROW PANEL (TYPE PER MT-35.10)
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LL-# WORK ZONE LANE LINE
- PCB-# WORK ZONE PORTABLE CONCRETE BARRIER
- DL-# WORK ZONE DOTTED LINE
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW

HORIZONTAL SCALE IN FEET: 0, 25, 50, 100

CALCULATED LOB | CHECKED MAH

MAINTENANCE OF TRAFFIC PLAN - PHASE 1
S.R. 193, STA. 9+50 TO STA. 22+50

MAH-193/422-0.46/1.85

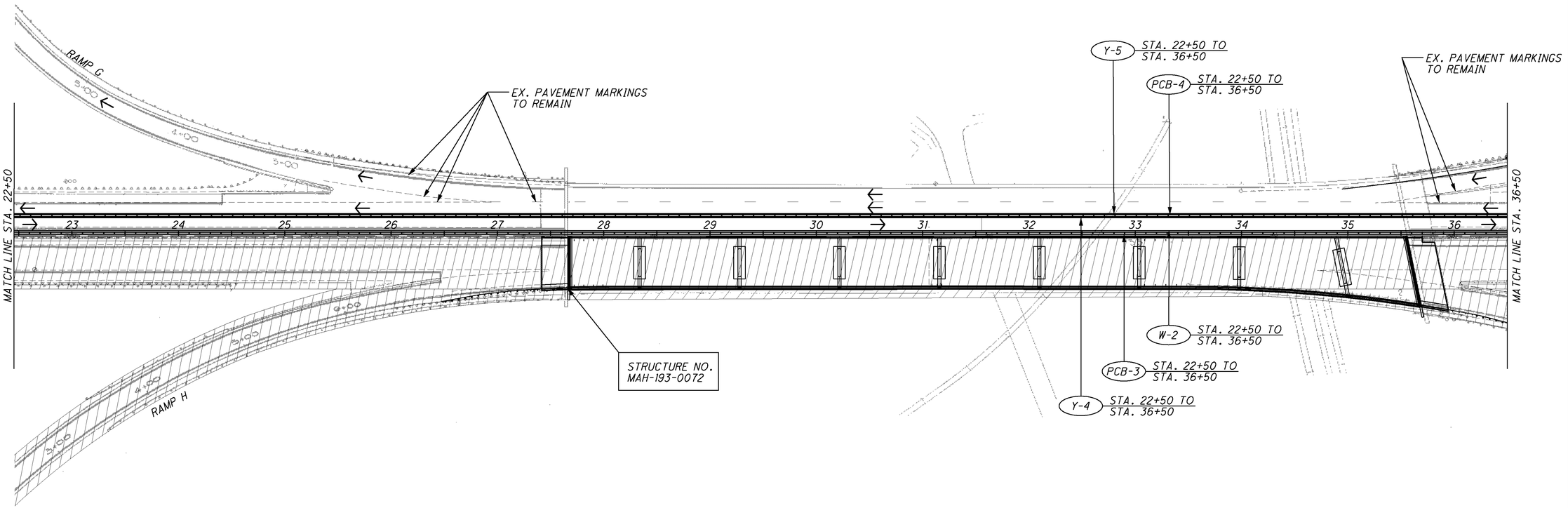
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DTROYER

NOTES: 1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.

2. FOR CROSSOVER GEOMETRICS, SEE SHEETS 75 TO 78 .

3. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEETS 27 TO 30 .

4. PLAN CREATED FROM REFERENCED IMAGE FILES.



LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 50' C/C UNLESS NOTED OTHERWISE)
- WORK AREA
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN
- FLASHING ARROW PANEL (TYPE PER MT-35.10)
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LL-# WORK ZONE LANE LINE
- PCB-# WORK ZONE PORTABLE CONCRETE BARRIER
- DL-# WORK ZONE DOTTED LINE
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LOB
CHECKED MAH

MAINTENANCE OF TRAFFIC PLAN - PHASE 1
S.R. 193, STA. 22+50 TO STA. 36+50

MAH-193/422-0.46/1.85

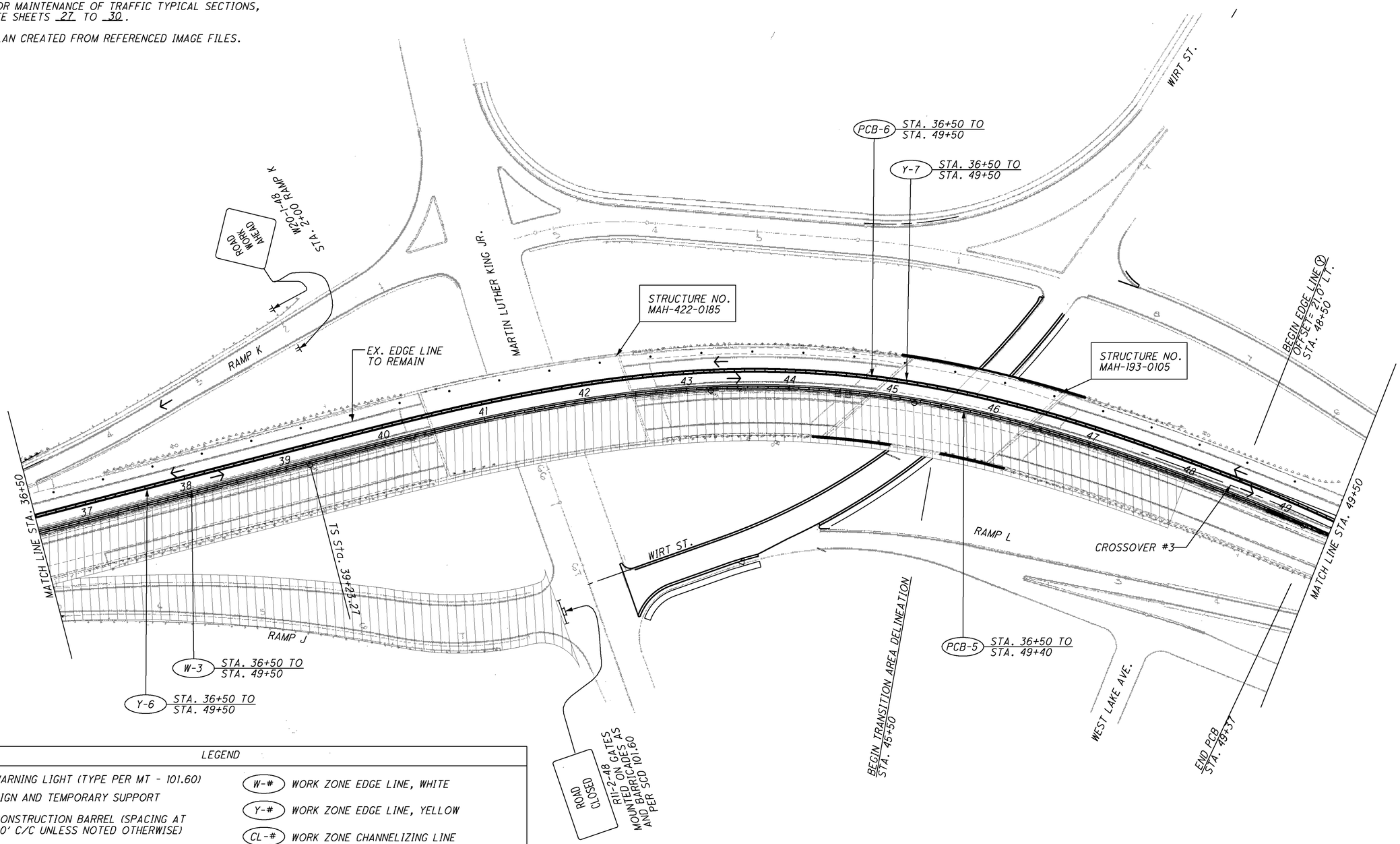
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DTROTER

NOTES: 1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.

2. FOR CROSSOVER GEOMETRICS, SEE SHEETS 75 TO 78 .

3. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEETS 27 TO 30 .

4. PLAN CREATED FROM REFERENCED IMAGE FILES.



LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 50' C/C UNLESS NOTED OTHERWISE)
- WORK AREA
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN
- FLASHING ARROW PANEL (TYPE PER MT-35.10)
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LL-#) WORK ZONE LANE LINE
- (PCB-#) WORK ZONE PORTABLE CONCRETE BARRIER
- (DL-#) WORK ZONE DOTTED LINE
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW

HORIZONTAL SCALE IN FEET 0 25 50 100

CALCULATED LOB CHECKED MAH

MAINTENANCE OF TRAFFIC PLAN - PHASE 1

S.R. 193, STA. 36+50 TO STA. 49+50

MAH-193/422-0.46/1.85

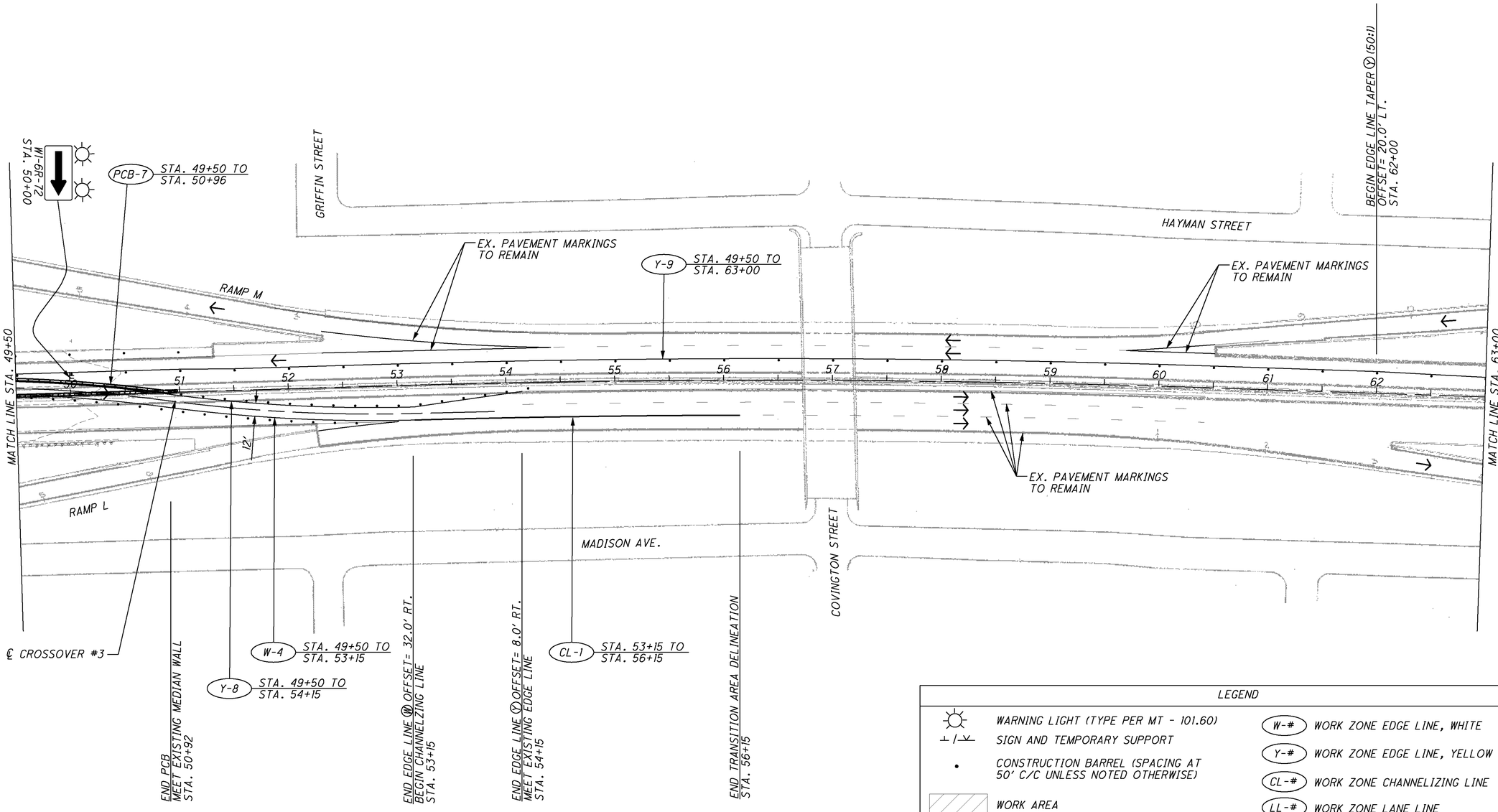
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DTROYER

NOTES: 1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.

2. FOR CROSSOVER GEOMETRICS, SEE SHEETS 75 TO 78 .

3. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEETS 27 TO 30 .

4. PLAN CREATED FROM REFERENCED IMAGE FILES.



LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 50' C/C UNLESS NOTED OTHERWISE)
- WORK AREA
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN
- FLASHING ARROW PANEL (TYPE PER MT-35.10)
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LL-# WORK ZONE LANE LINE
- PCB-# WORK ZONE PORTABLE CONCRETE BARRIER
- DL-# WORK ZONE DOTTED LINE
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LOB
CHECKED MAH

MAINTENANCE OF TRAFFIC PLAN - PHASE 1
S.R. 422, STA. 49+50 TO STA. 63+00

MAH-193/422-0.46/1.85

52
260

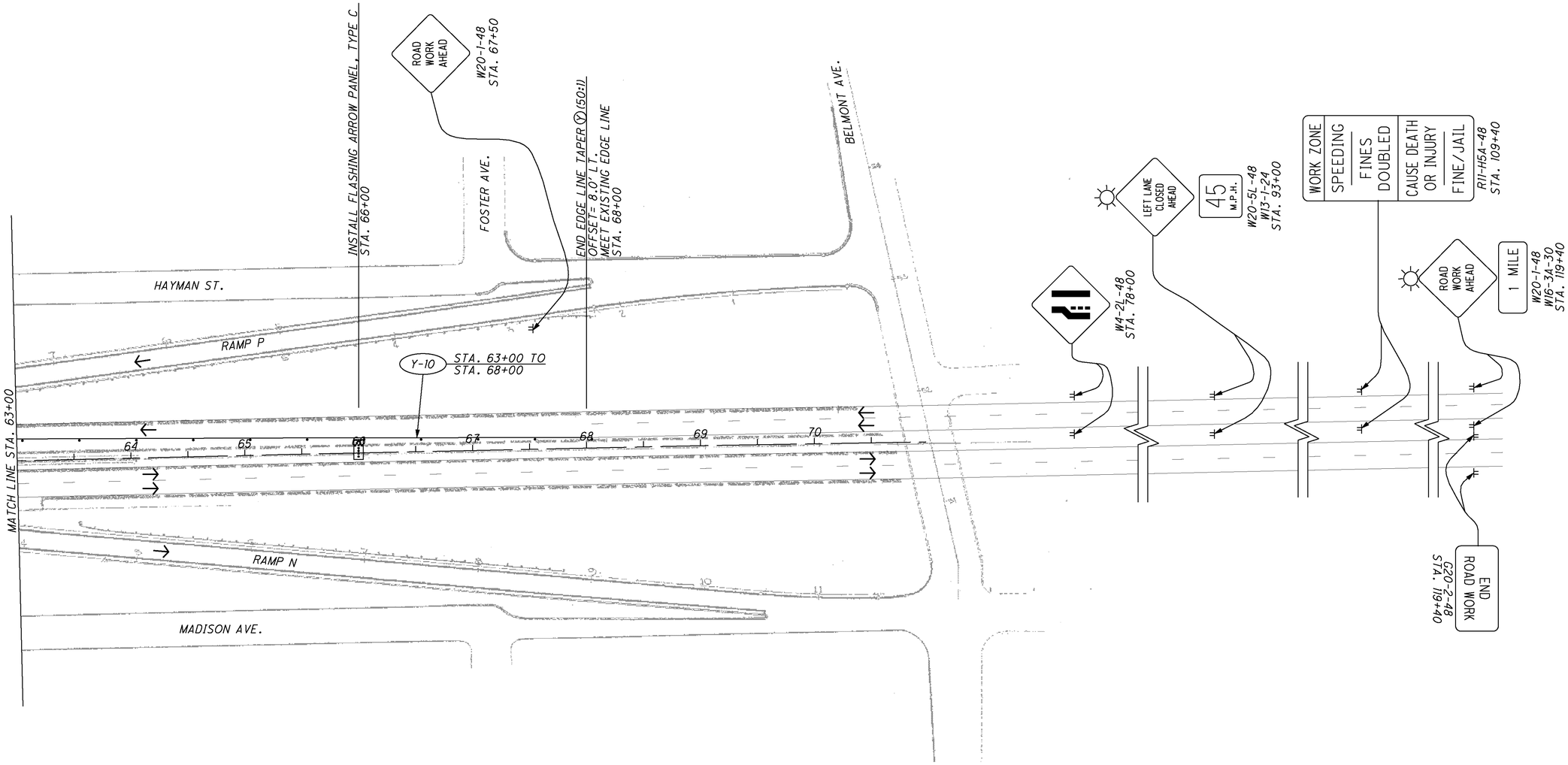
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DTROTER

NOTES: 1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.

2. FOR CROSSOVER GEOMETRICS, SEE SHEETS 75 TO 78.

3. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEETS 27 TO 30.

4. PLAN CREATED FROM REFERENCED IMAGE FILES.



LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 50' C/C UNLESS NOTED OTHERWISE)
- WORK AREA
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN
- FLASHING ARROW PANEL (TYPE PER MT-35.10)
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LL-#) WORK ZONE LANE LINE
- (PCB-#) WORK ZONE PORTABLE CONCRETE BARRIER
- (DL-#) WORK ZONE DOTTED LINE
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW

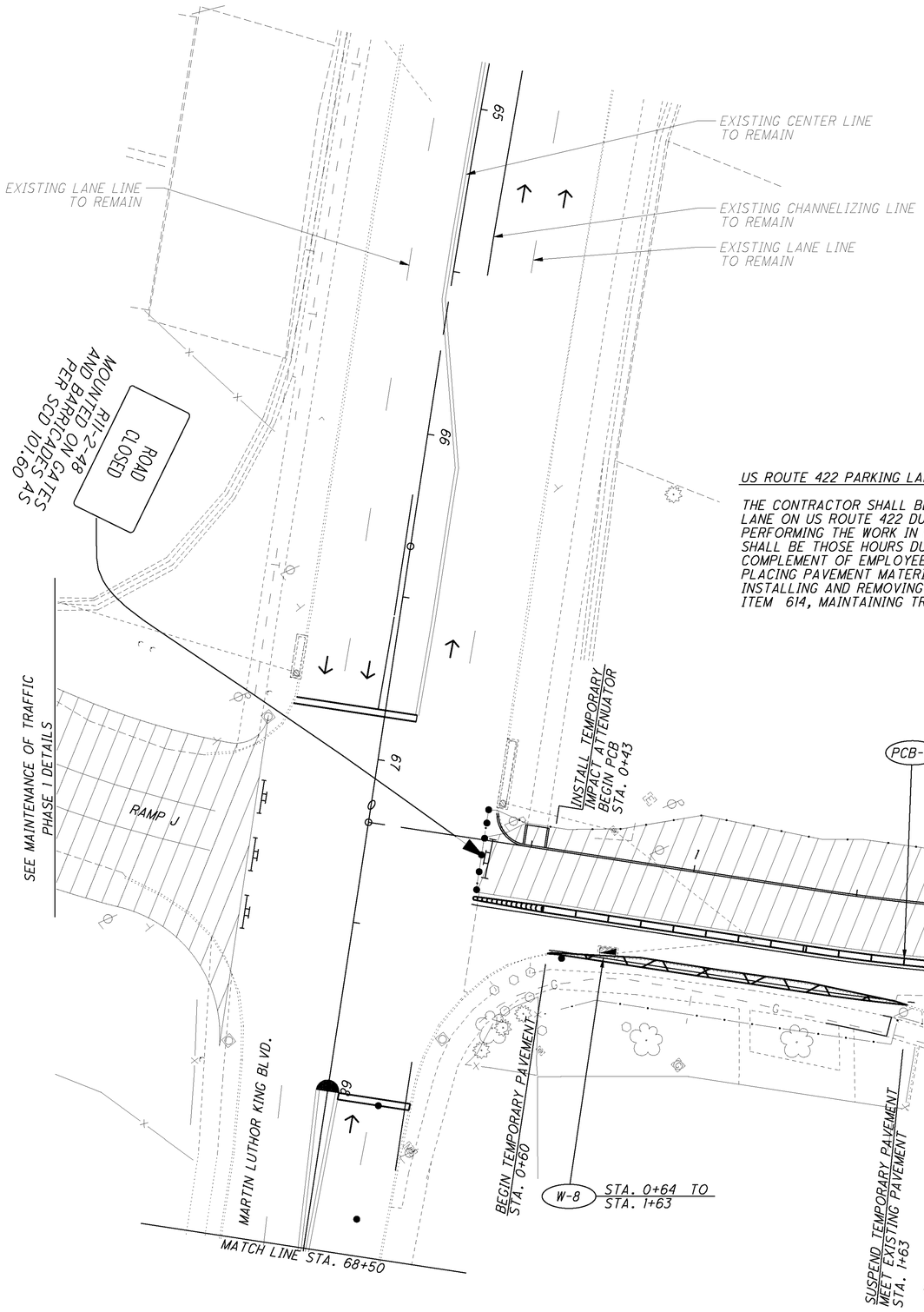
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LOB
CHECKED MAH

MAINTENANCE OF TRAFFIC PLAN - PHASE 1
S.R. 193, STA. 63+00 TO END

MAH-193/422-0.46/1.85

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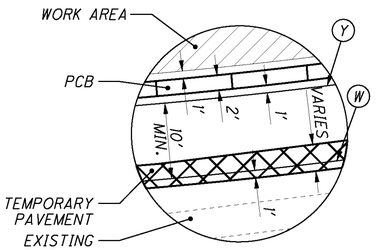
LEGEND

WARNING LIGHT (TYPE PER MT - 101.60)	W-# WORK ZONE EDGE LINE, WHITE
SIGN AND TEMPORARY SUPPORT	Y-# WORK ZONE EDGE LINE, YELLOW
CONSTRUCTION BARREL (SPACING AT 50' C/C UNLESS NOTED OTHERWISE)	CL-# WORK ZONE CHANNELIZING LINE
WORK AREA	LL-# WORK ZONE LANE LINE
EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE	PCB-# WORK ZONE PORTABLE CONCRETE BARRIER
PROPOSED OR MAINTENANCE OF TRAFFIC SIGN	DL-# WORK ZONE DOTTED LINE
FLASHING ARROW PANEL (TYPE PER MT-35.10)	WORK ZONE IMPACT ATTENUATOR
	TRAFFIC FLOW ARROW

NOTES:
1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.
2. PLAN CREATED FROM A COMBINATION OF SURVEY AND REFERENCED IMAGE FILES.
3. TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVEABLE TYPE 740.06.
4. THE CONTRACTOR SHALL PLACE THE MLK BLVD / RAMP J / WIRT ST SIGNAL IN FLASH MODE DURING PHASE 1.

US ROUTE 422 PARKING LANE CLOSURE

THE CONTRACTOR SHALL BE PERMITTED TO CLOSE THE PARKING LANE ON US ROUTE 422 DURING NORMAL WORKING HOURS WHILE PERFORMING THE WORK IN PHASES IA AND IC. 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. ALL WORK, EQUIPMENT, AND LABOR, FOR INSTALLING AND REMOVING THE LANE CLOSURE SHALL BE INCLUDED IN ITEM 614, MAINTAINING TRAFFIC.



DETAIL "A"
N.T.S.

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED LOB
CHECKED MAH

MAINTENANCE OF TRAFFIC PLAN - PHASE 1A
WIRT STREET, MARTIN LUTHER KING BLVD. TO STA. 4+50

MAH-193/422-0.46/1.85

56
260

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NOTES: 1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.

2. PLAN CREATED FROM A COMBINATION OF SURVEY AND REFERENCED IMAGE FILES.

3. TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVEABLE TYPE 740.06.

4. THE CONTRACTOR SHALL BE RESONSIBLE FOR ALL COSTS INVOLVED IN RELOCATING THE UTILITY POLES. THE POLES SHALL BE RELOCATED SUCH THAT A 36" CLEAR PATH IN MAINTAINED FOR ADA ACCESSIBILITY ON THE WALK. THE CONTRACTOR SHALL INCLUDE ALL COSTS REQUIRED TO MOVE THE POLE AND RESTORE ANY DAMAGE DONE TO THE SIDEWALK OR SURROUNDINGS UNDER ITEM 614, MAINTAINING TRAFFIC.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 50' C/C UNLESS NOTED OTHERWISE)
- WORK AREA
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN
- FLASHING ARROW PANEL (TYPE PER MT-35.10)
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LL-# WORK ZONE LANE LINE
- PCB-# WORK ZONE PORTABLE CONCRETE BARRIER
- DL-# WORK ZONE DOTTED LINE
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED LOB CHECKED MAH

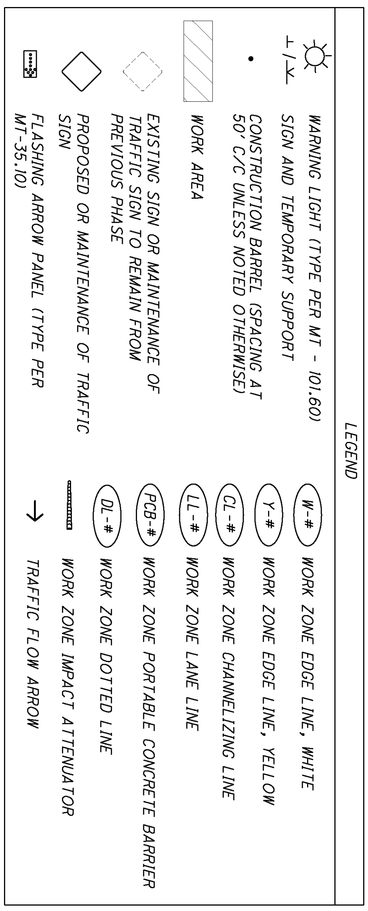
MAINTENANCE OF TRAFFIC PLAN - PHASE 1A
WIRT STREET, STA. 4+50 TO STA. 9+50

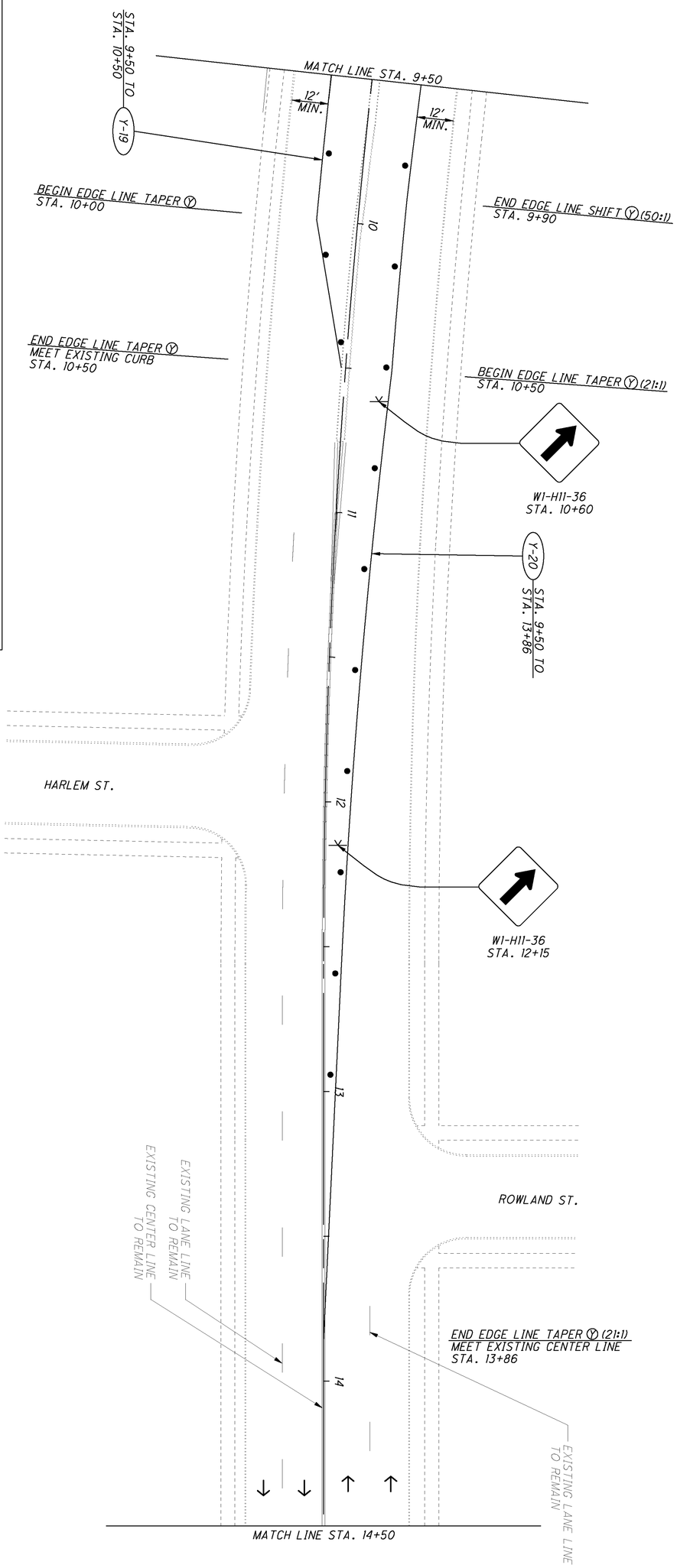
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57
260

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SVARRECCHIA





NOTES: 1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.

2. PLAN CREATED FROM A COMBINATION OF SURVEY AND REFERENCED IMAGE FILES.

3. TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVEABLE TYPE 740.06.

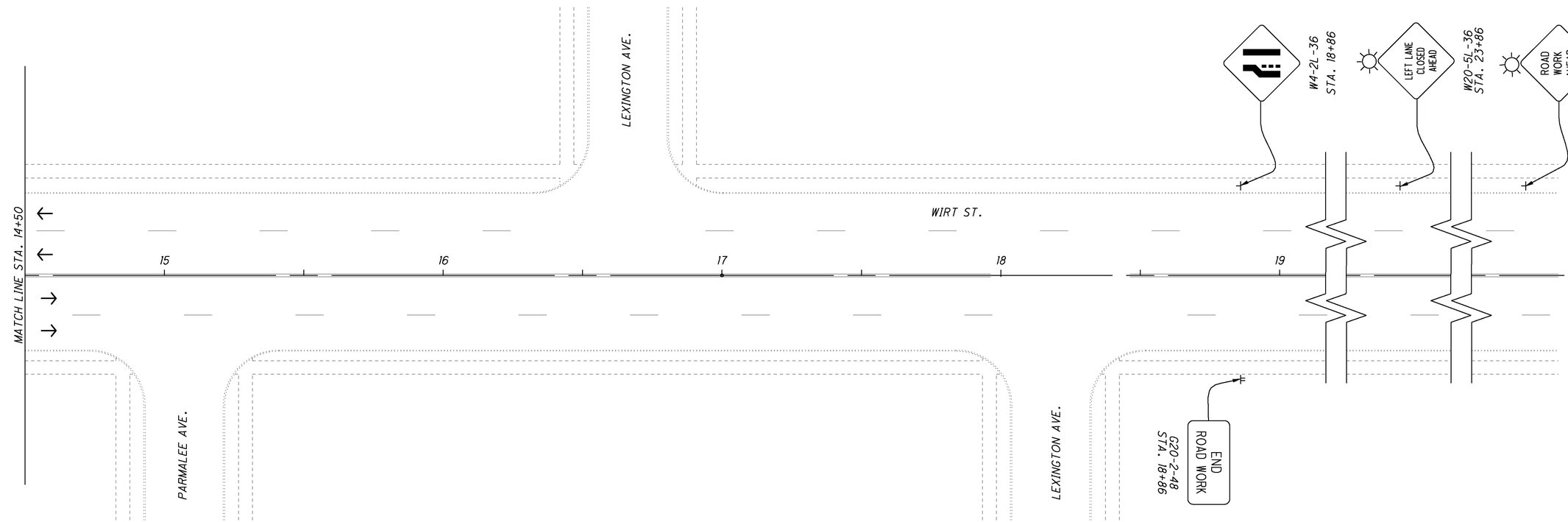
MAH-193/422-0.46/1.85

MAINTENANCE OF TRAFFIC PLAN - PHASE 1A
WIRT STREET, STA. 9+50 TO STA 14+50

CALCULATED LOB
CHECKED MAH

0 10 20 40
HORIZONTAL SCALE IN FEET

N



LEGEND	
WARNING LIGHT (TYPE PER MT - 101.60)	W-# WORK ZONE EDGE LINE, WHITE
SIGN AND TEMPORARY SUPPORT	Y-# WORK ZONE EDGE LINE, YELLOW
CONSTRUCTION BARREL (SPACING AT 50' C/C UNLESS NOTED OTHERWISE)	CL-# WORK ZONE CHANNELIZING LINE
WORK AREA	LL-# WORK ZONE LANE LINE
EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE	PCB-# WORK ZONE PORTABLE CONCRETE BARRIER
PROPOSED OR MAINTENANCE OF TRAFFIC SIGN	DL-# WORK ZONE DOTTED LINE
FLASHING ARROW PANEL (TYPE PER MT-35.10)	WORK ZONE IMPACT ATTENUATOR
	TRAFFIC FLOW ARROW

NOTES:
1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.
2. PLAN CREATED FROM A COMBINATION OF SURVEY AND REFERENCED IMAGE FILES.
3. TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVEABLE TYPE 740.06.

HORIZONTAL SCALE IN FEET
0 10 20 40

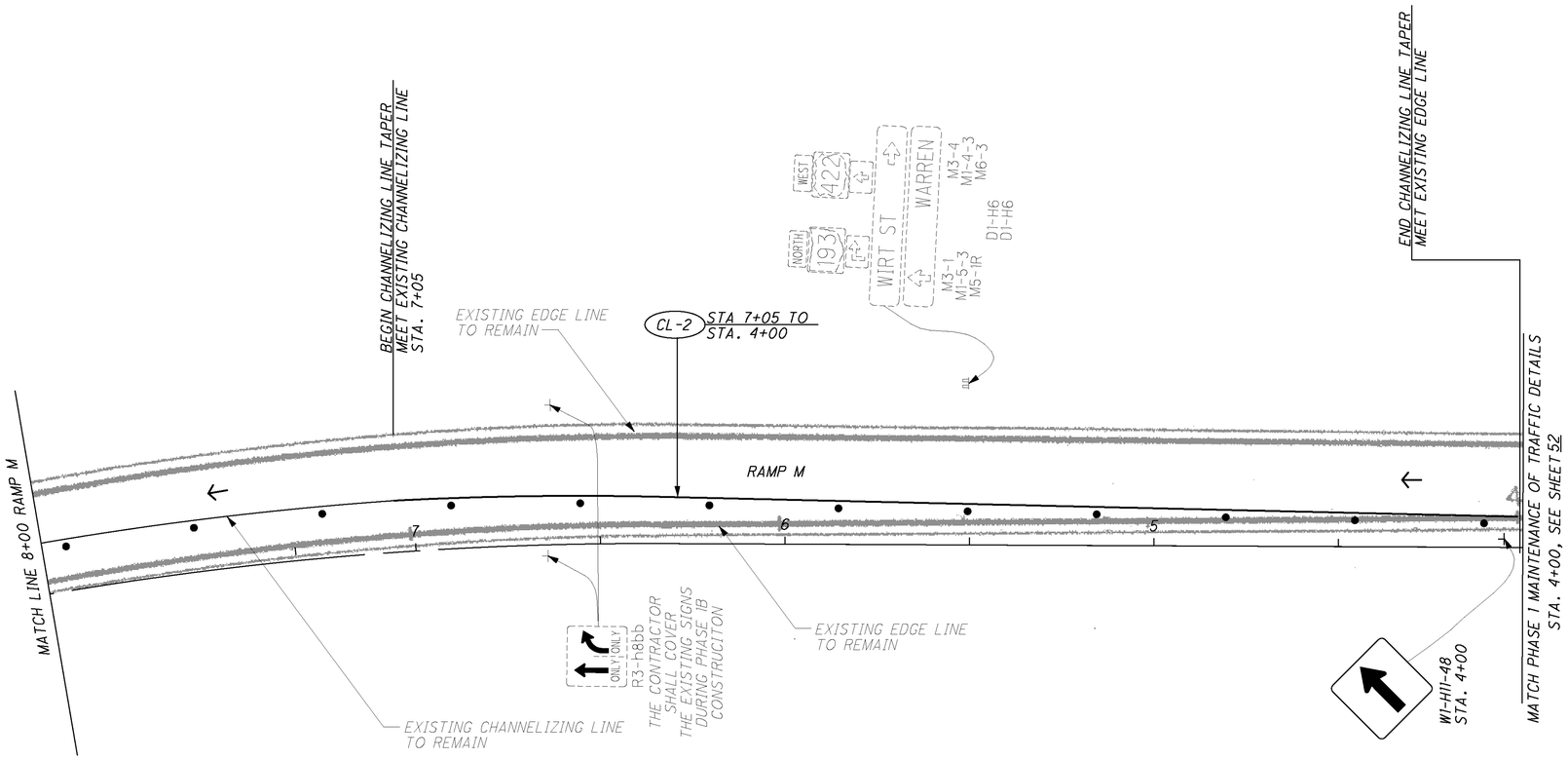
CALCULATED LOB
CHECKED MAH

MAINTENANCE OF TRAFFIC PLAN - PHASE 1A
WIRT STREET, STA. 14+50 TO END

MAH-193/422-0.46/1.85

59
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LEGEND			
	WARNING LIGHT (TYPE PER MT - 101.60)	W-#	WORK ZONE EDGE LINE, WHITE
	SIGN AND TEMPORARY SUPPORT	Y-#	WORK ZONE EDGE LINE, YELLOW
	CONSTRUCTION BARREL (SPACING AT 50' C/C UNLESS NOTED OTHERWISE)	CL-#	WORK ZONE CHANNELIZING LINE
	WORK AREA	LL-#	WORK ZONE LANE LINE
	EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE	PCB-#	WORK ZONE PORTABLE CONCRETE BARRIER
	PROPOSED OR MAINTENANCE OF TRAFFIC SIGN	DL-#	WORK ZONE DOTTED LINE
	FLASHING ARROW PANEL (TYPE PER MT-35.10)		WORK ZONE IMPACT ATTENUATOR
			TRAFFIC FLOW ARROW

NOTES: 1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.

2. PLAN CREATED FROM A COMBINATION OF SURVEY AND REFERENCED IMAGE FILES.

3. TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVEABLE TYPE 740.06.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED LOB
CHECKED MAH

MAINTENANCE OF TRAFFIC PLAN - PHASE 1B
RAMP M, STA. 8+00 TO STA. 4+00

MAH-193/422-0.46/1.85

60
260

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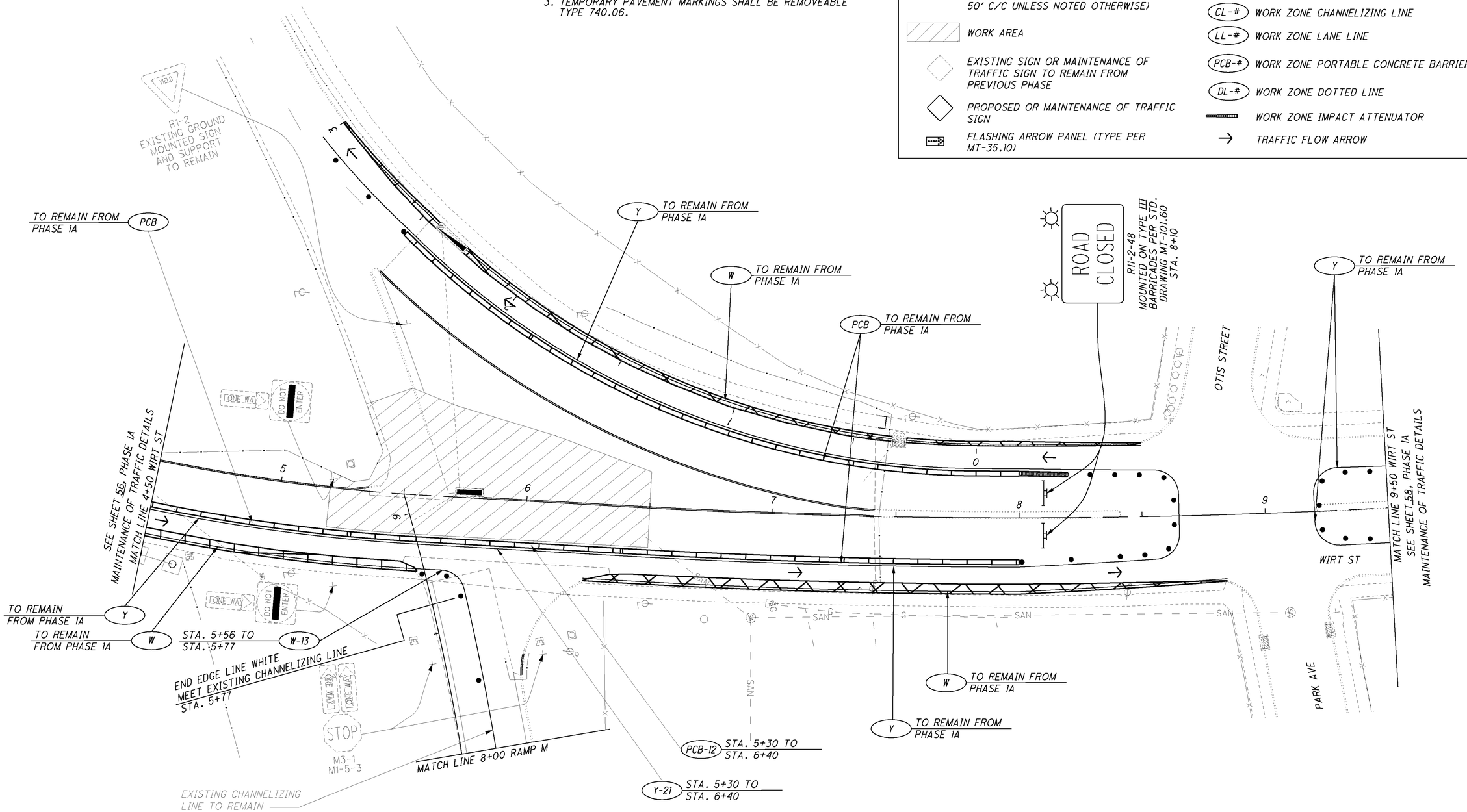
NOTES: 1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.

2. PLAN CREATED FROM A COMBINATION OF SURVEY AND REFERENCED IMAGE FILES.

3. TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVEABLE TYPE 740.06.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 50' C/C UNLESS NOTED OTHERWISE)
- WORK AREA
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN
- FLASHING ARROW PANEL (TYPE PER MT-35.10)
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LL-# WORK ZONE LANE LINE
- PCB-# WORK ZONE PORTABLE CONCRETE BARRIER
- DL-# WORK ZONE DOTTED LINE
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW



HORIZONTAL SCALE IN FEET
0 10 20 40

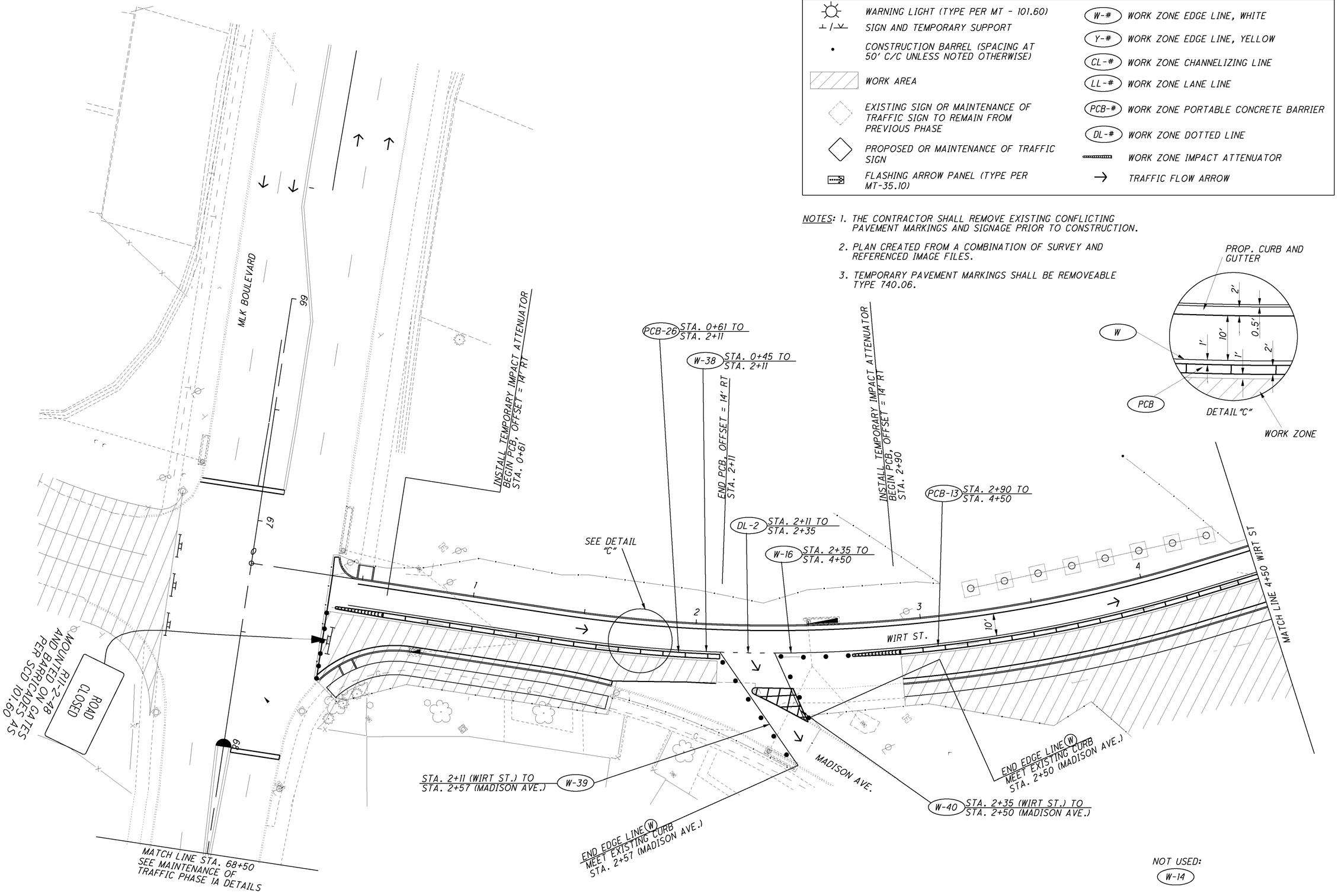
CALCULATED LOB
CHECKED MAH

MAINTENANCE OF TRAFFIC PLAN - PHASE 1B
WIRT STREET, STA. 4+50 TO STA. 9+50

MAH-193/422-0.46/1.85

61
260

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LEGEND

WARNING LIGHT (TYPE PER MT - 101.60)	W-# WORK ZONE EDGE LINE, WHITE
SIGN AND TEMPORARY SUPPORT	Y-# WORK ZONE EDGE LINE, YELLOW
CONSTRUCTION BARREL (SPACING AT 50' C/C UNLESS NOTED OTHERWISE)	CL-# WORK ZONE CHANNELIZING LINE
WORK AREA	LL-# WORK ZONE LANE LINE
EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE	PCB-# WORK ZONE PORTABLE CONCRETE BARRIER
PROPOSED OR MAINTENANCE OF TRAFFIC SIGN	DL-# WORK ZONE DOTTED LINE
FLASHING ARROW PANEL (TYPE PER MT-35.10)	WORK ZONE IMPACT ATTENUATOR
	TRAFFIC FLOW ARROW

NOTES:
1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.
2. PLAN CREATED FROM A COMBINATION OF SURVEY AND REFERENCED IMAGE FILES.
3. TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVEABLE TYPE 740.06.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED LOB CHECKED MAH

MAINTENANCE OF TRAFFIC PLAN - PHASE 1C
WIRT STREET, MARTIN LUTHER KING BLVD. TO STA. 4+50

MAH-193/422-0.46/1.85

62
260

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NOTES: 1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.

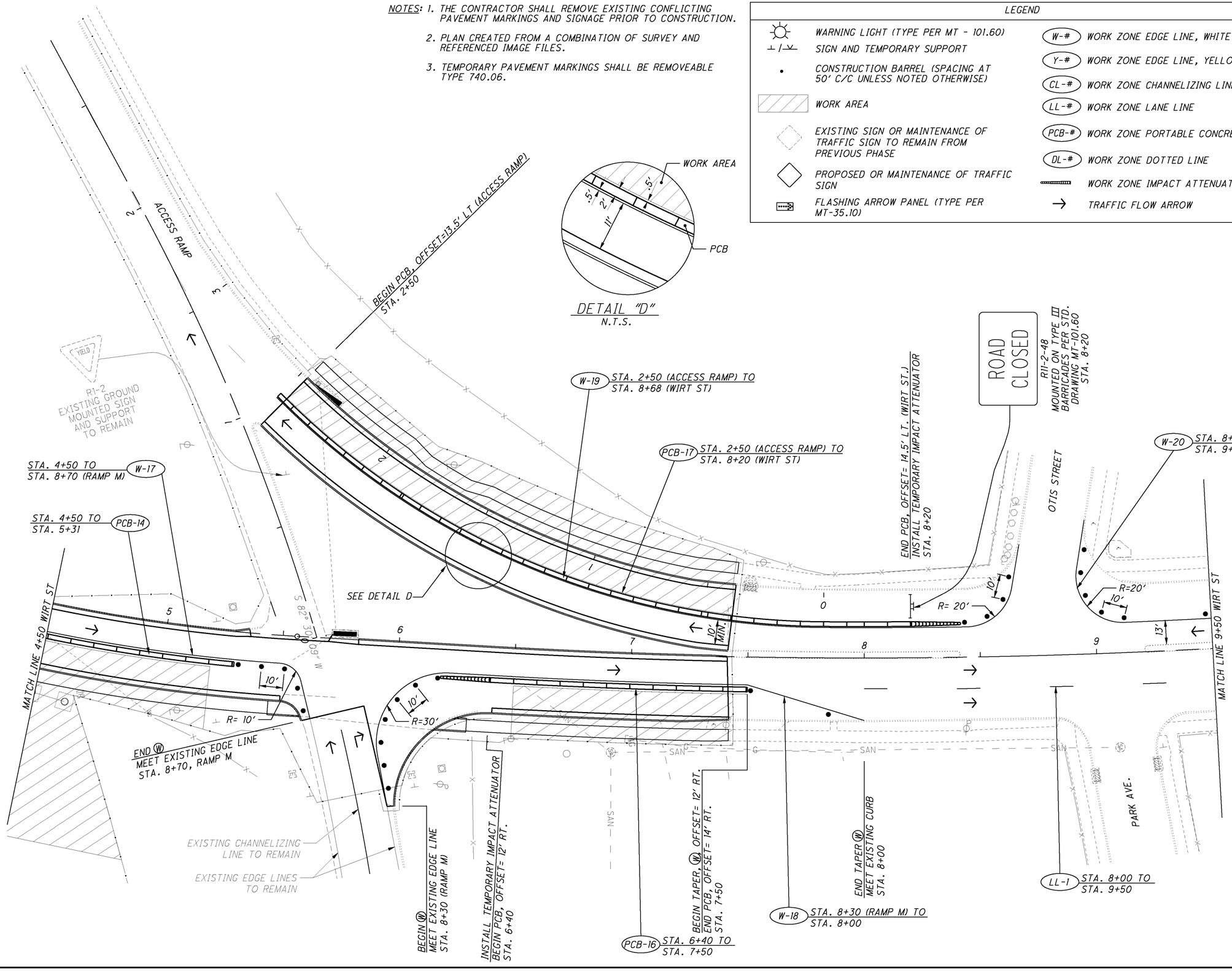
2. PLAN CREATED FROM A COMBINATION OF SURVEY AND REFERENCED IMAGE FILES.

3. TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVEABLE TYPE 740.06.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 50' C/C UNLESS NOTED OTHERWISE)
- WORK AREA
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN
- FLASHING ARROW PANEL (TYPE PER MT-35.10)
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LL-# WORK ZONE LANE LINE
- PCB-# WORK ZONE PORTABLE CONCRETE BARRIER
- DL-# WORK ZONE DOTTED LINE
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW

DETAIL "D"
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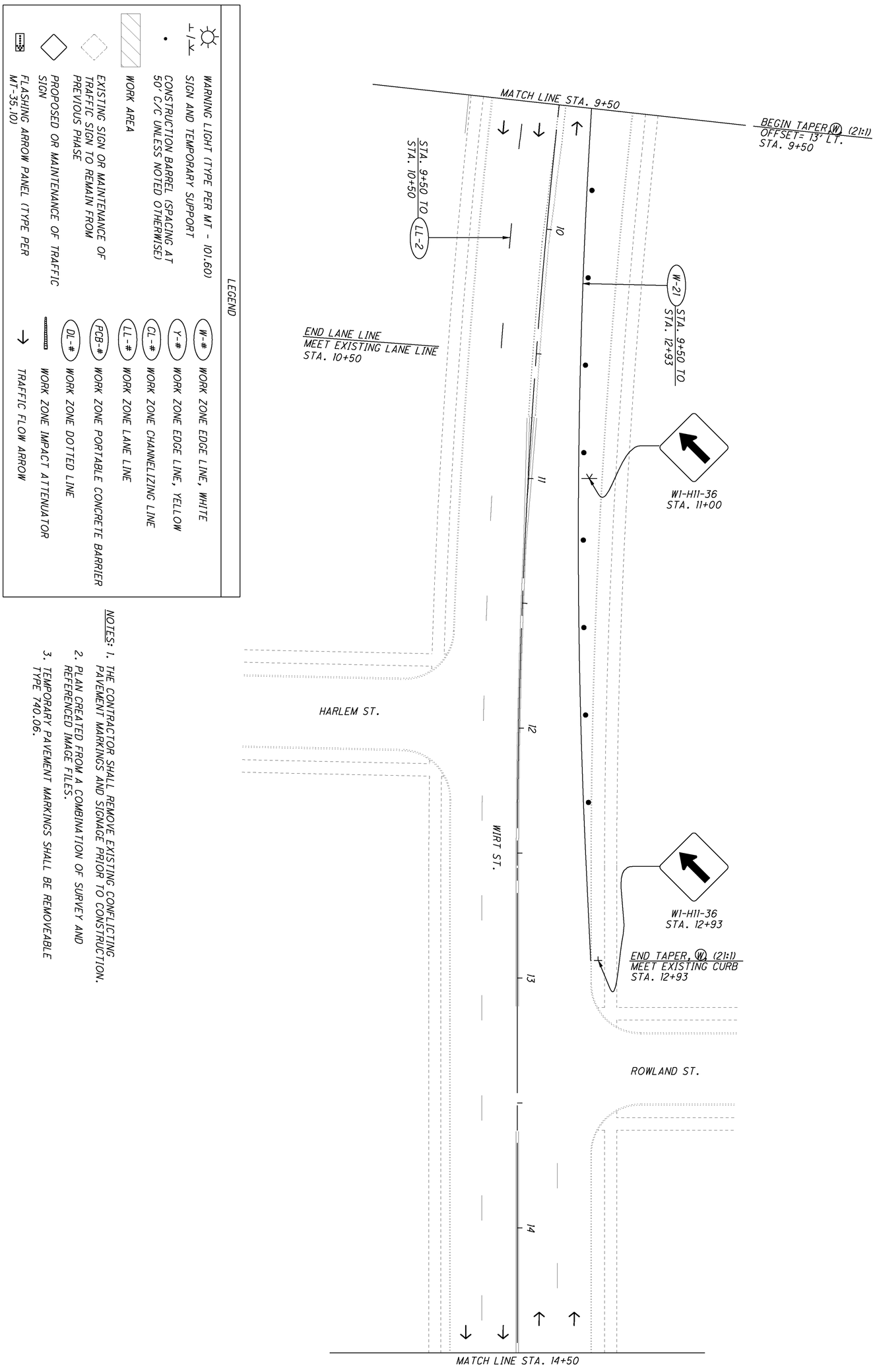
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED LOB
CHECKED MAH

MAINTENANCE OF TRAFFIC PLAN - PHASE 1C
WIRT STREET, STA. 4+50 TO STA. 9+50

MAH-193/422-0.46/1.85

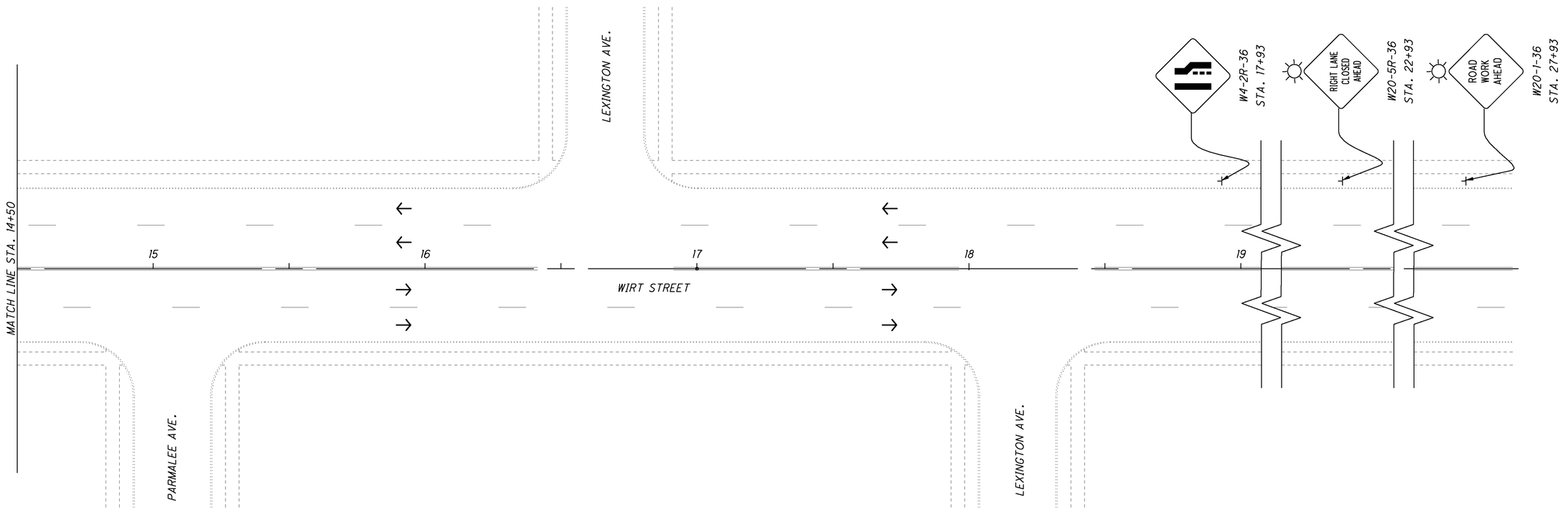
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NOTES:
1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.
2. PLAN CREATED FROM A COMBINATION OF SURVEY AND REFERENCED IMAGE FILES.
3. TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVEABLE TYPE 740.06.

MAINTENANCE OF TRAFFIC PLAN - PHASE 1C
WIRT STREET, STA. 9+50 TO STA 14+50

CALCULATED LOB
CHECKED MAH
0 10 20 40
HORIZONTAL SCALE IN FEET
N



LEGEND	
WARNING LIGHT (TYPE PER MT - 101.60)	W-# WORK ZONE EDGE LINE, WHITE
SIGN AND TEMPORARY SUPPORT	Y-# WORK ZONE EDGE LINE, YELLOW
CONSTRUCTION BARREL (SPACING AT 50' C/C UNLESS NOTED OTHERWISE)	CL-# WORK ZONE CHANNELIZING LINE
WORK AREA	LL-# WORK ZONE LANE LINE
EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE	PCB-# WORK ZONE PORTABLE CONCRETE BARRIER
PROPOSED OR MAINTENANCE OF TRAFFIC SIGN	DL-# WORK ZONE DOTTED LINE
FLASHING ARROW PANEL (TYPE PER MT-35.10)	WORK ZONE IMPACT ATTENUATOR
	TRAFFIC FLOW ARROW

NOTES: 1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.

2. PLAN CREATED FROM A COMBINATION OF SURVEY AND REFERENCED IMAGE FILES.

3. TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVEABLE TYPE 740.06.

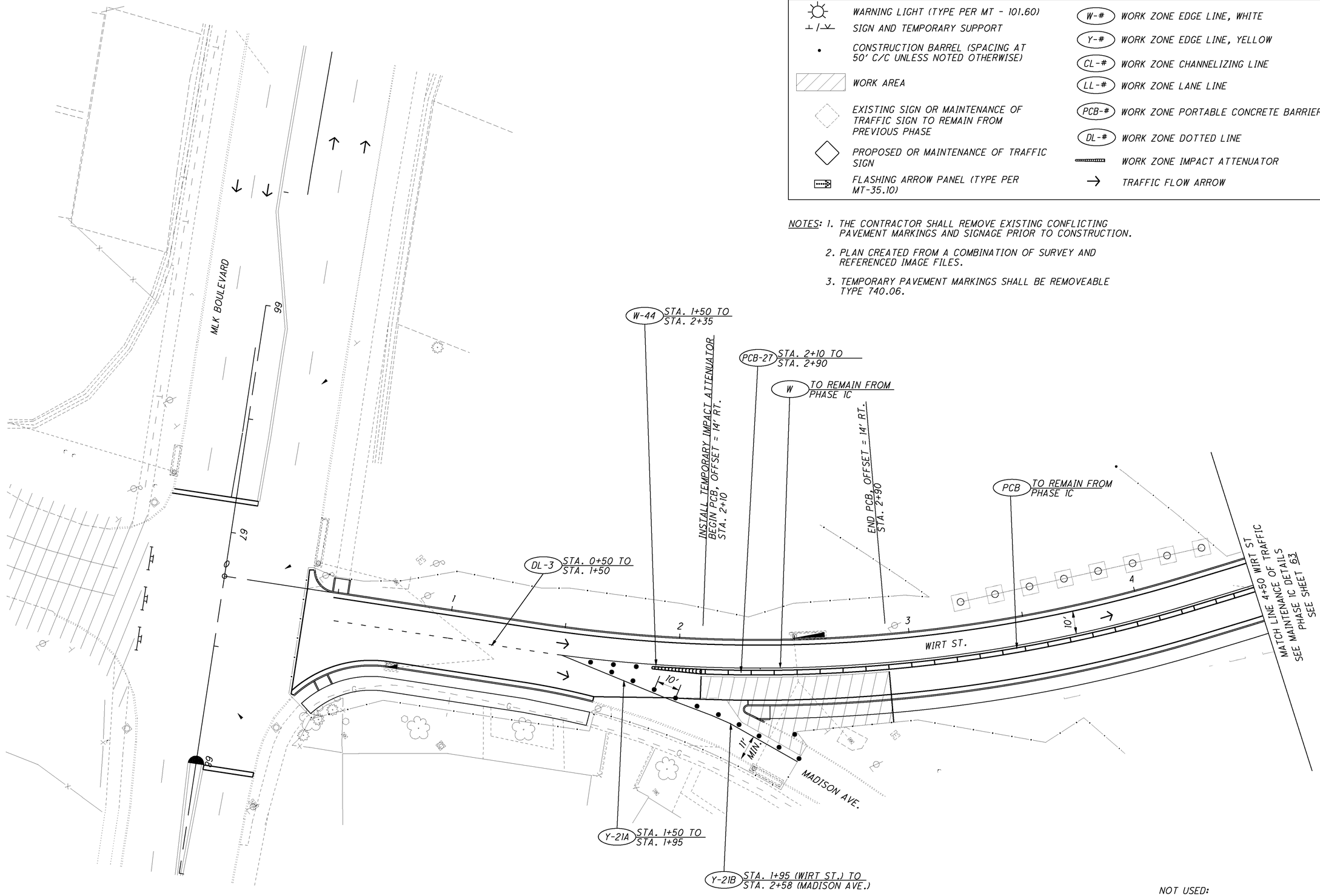
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED LOB
CHECKED MAH

MAINTENANCE OF TRAFFIC PLAN - PHASE 1C
WIRT STREET, STA. 14+50 TO END

MAH-193/422-0.46/1.85

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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED LOB
CHECKED MAH

MAINTENANCE OF TRAFFIC PLAN - PHASE 1D

WIRT STREET, MARTIN LUTHER KING BLVD. TO STA. 4+50

MAH-193/422-0.46/1.85

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260

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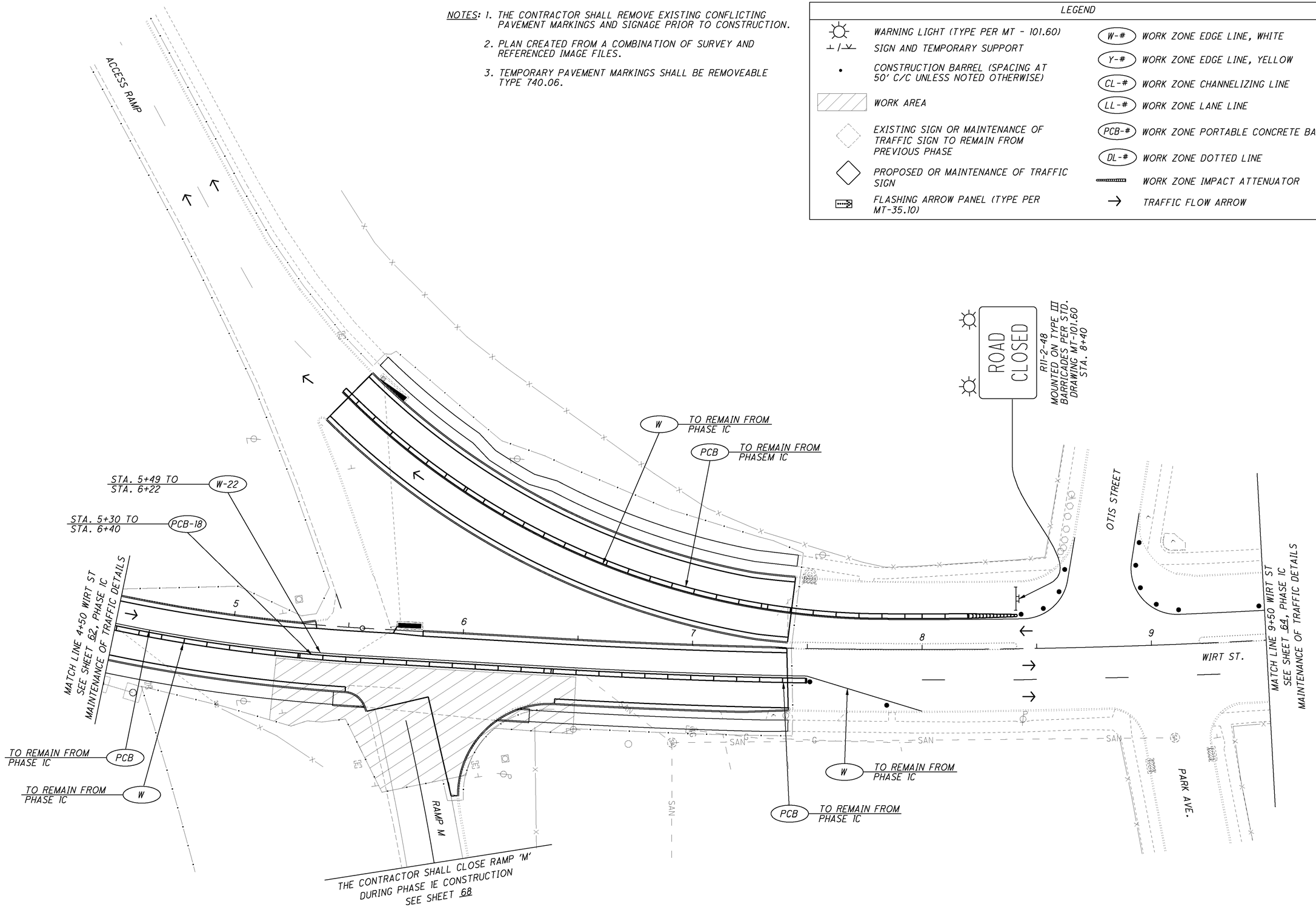
NOTES: 1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.

2. PLAN CREATED FROM A COMBINATION OF SURVEY AND REFERENCED IMAGE FILES.

3. TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVEABLE TYPE 740.06.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 50' C/C UNLESS NOTED OTHERWISE)
- WORK AREA
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN
- FLASHING ARROW PANEL (TYPE PER MT-35.10)
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LL-# WORK ZONE LANE LINE
- PCB-# WORK ZONE PORTABLE CONCRETE BARRIER
- DL-# WORK ZONE DOTTED LINE
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED LOB
CHECKED MAH

MAINTENANCE OF TRAFFIC PLAN - PHASE 1E
WIRT STREET, STA. 4+50 TO STA. 9+50

MAH-193/422-0.46/1.85

67
260

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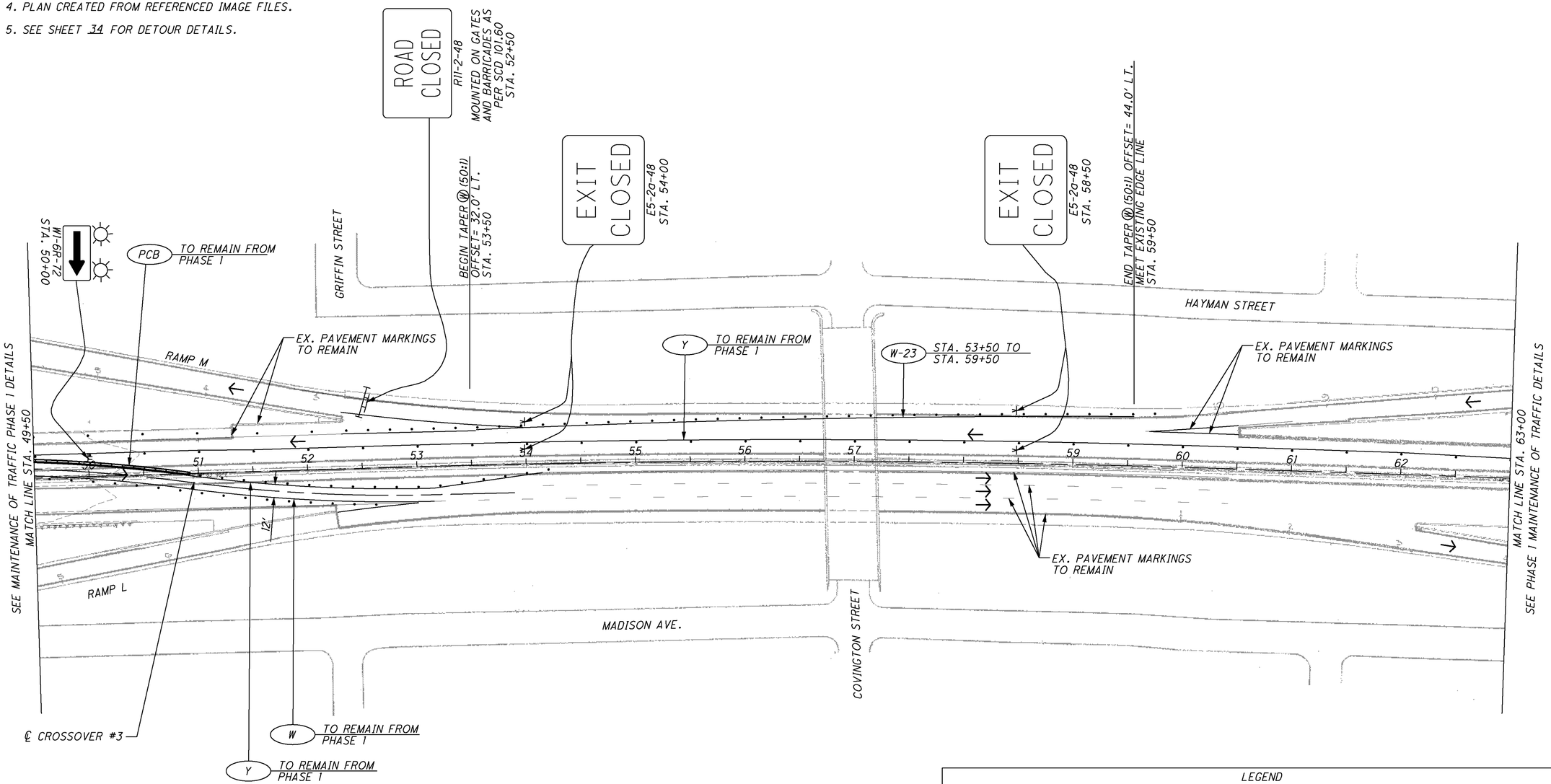
NOTES: 1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.

2. FOR CROSSOVER GEOMETRICS, SEE SHEETS 75 TO 78 .

3. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEETS 27 TO 30 .

4. PLAN CREATED FROM REFERENCED IMAGE FILES.

5. SEE SHEET 34 FOR DETOUR DETAILS.



LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 50' C/C UNLESS NOTED OTHERWISE)
- WORK AREA
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN
- FLASHING ARROW PANEL (TYPE PER MT-35.10)
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LL-# WORK ZONE LANE LINE
- PCB-# WORK ZONE PORTABLE CONCRETE BARRIER
- DL-# WORK ZONE DOTTED LINE
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW

HORIZONTAL SCALE IN FEET
0 25 50 100

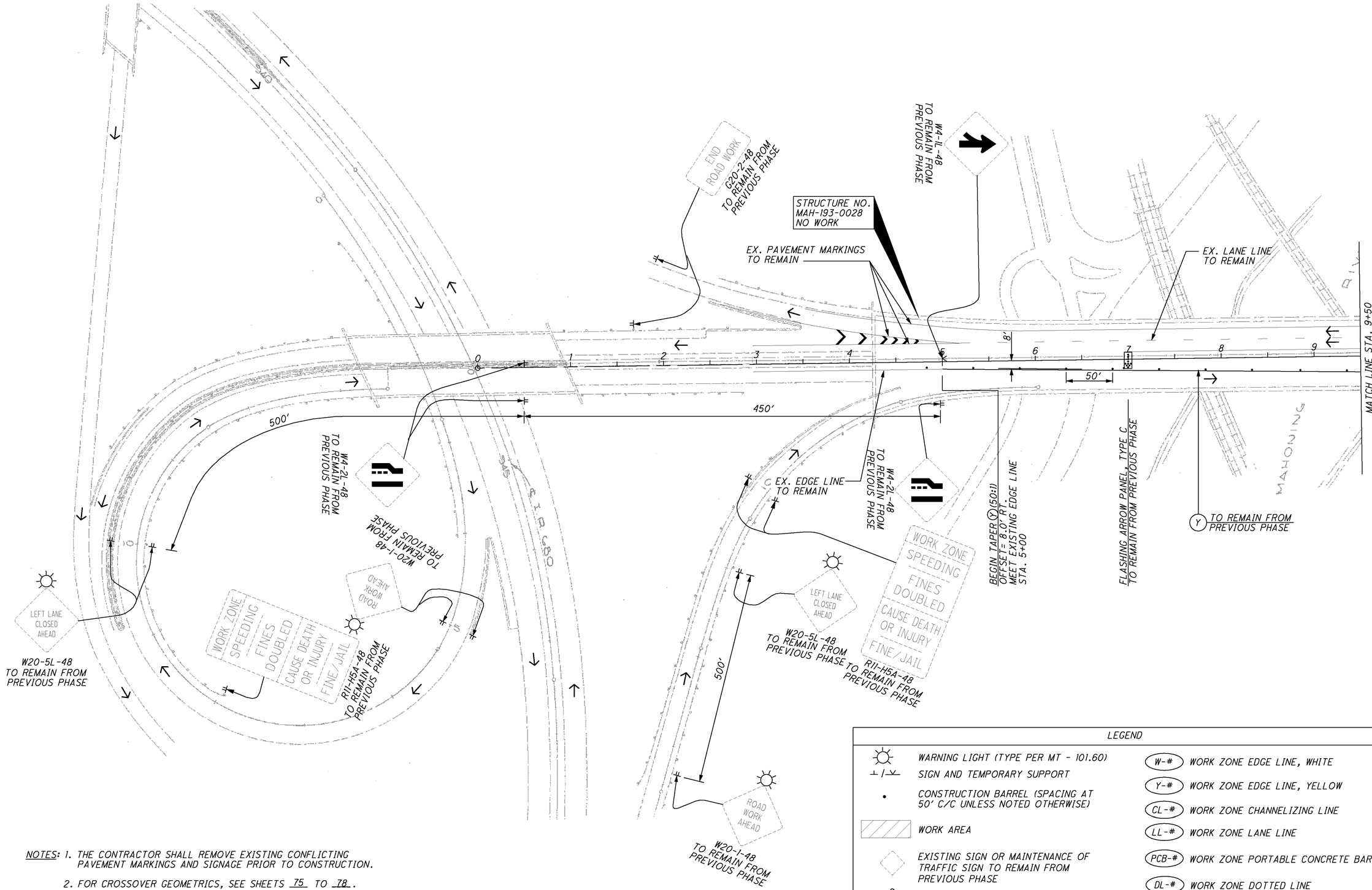
CALCULATED LOB
CHECKED MAH

MAINTENANCE OF TRAFFIC PLAN - PHASE 1E
U.S. 422, STA. 49+50 TO STA. 63+00

MAH-193/422-0.46/1.85

68
260

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NOTES: 1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.

2. FOR CROSSOVER GEOMETRICS, SEE SHEETS 75 TO 78.

3. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEETS 27 TO 30.

4. PLAN CREATED FROM REFERENCED IMAGE FILES.

LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 50' C/C UNLESS NOTED OTHERWISE)
- WORK AREA
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN
- FLASHING ARROW PANEL (TYPE PER MT-35.10)
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LL-#) WORK ZONE LANE LINE
- (PCB-#) WORK ZONE PORTABLE CONCRETE BARRIER
- (DL-#) WORK ZONE DOTTED LINE
- WORK ZONE IMPACT ATTENUATOR
- TRAFFIC FLOW ARROW

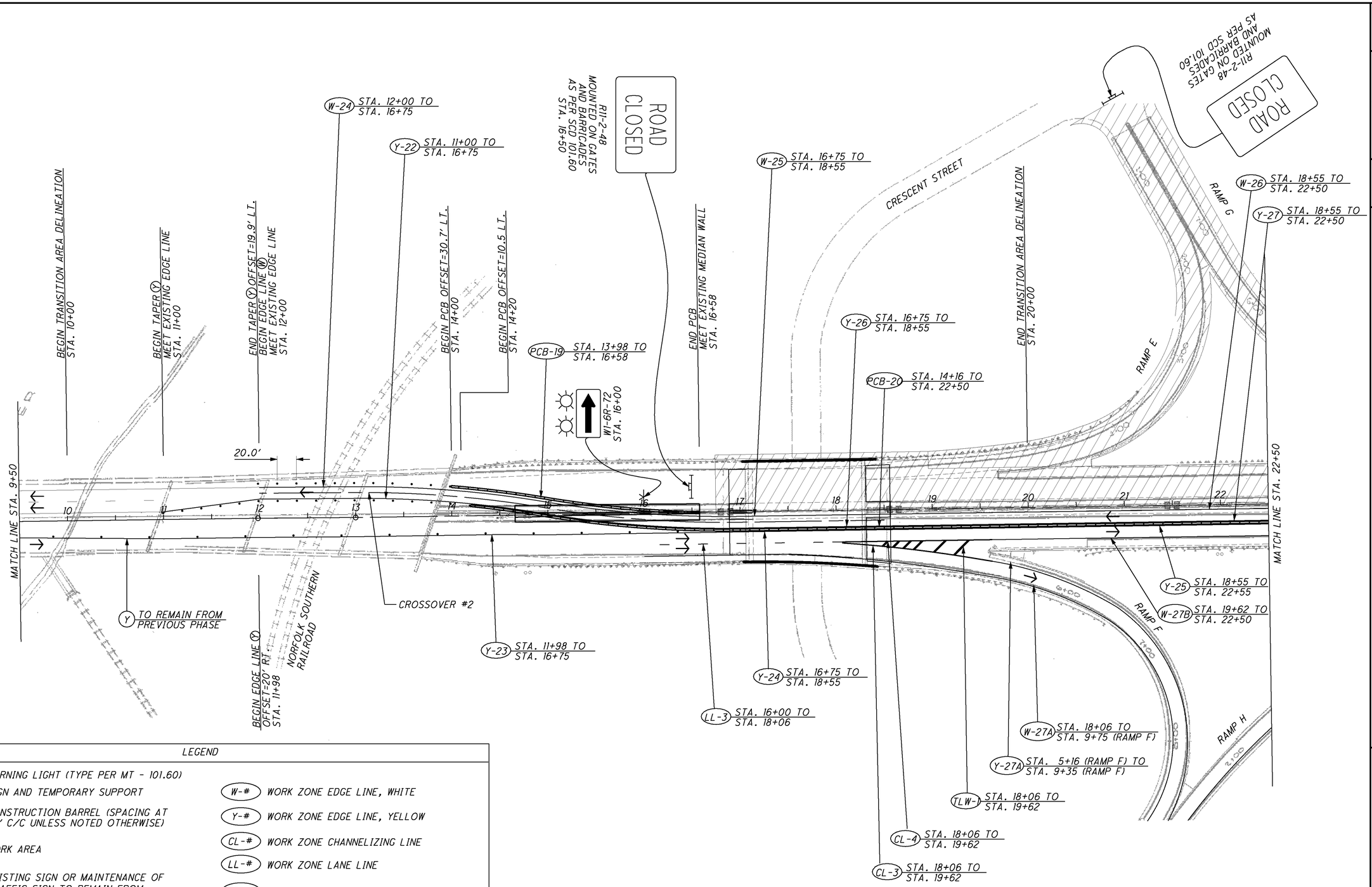
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LOB
CHECKED MAH

TRAFFIC PLAN - PHASE 2
MAINTENANCE OF TRAFFIC
S.R. 193, BEGIN TO STA. 9+50

MAH-193/422-0.46/1.85

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LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 50' C/C UNLESS NOTED OTHERWISE)
- WORK AREA
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN
- FLASHING ARROW PANEL (TYPE PER MT-35.10)
- WORK ZONE IMPACT ATTENUATOR
- (W-#) WORK ZONE EDGE LINE, WHITE
- (Y-#) WORK ZONE EDGE LINE, YELLOW
- (CL-#) WORK ZONE CHANNELIZING LINE
- (LL-#) WORK ZONE LANE LINE
- (PCB-#) WORK ZONE PORTABLE CONCRETE BARRIER
- (DL-#) WORK ZONE DOTTED LINE
- (TLW-#) WORK ZONE TRANSVERSE LINE (WHITE)
- TRAFFIC FLOW ARROW

NOTES: 1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.

2. FOR CROSSOVER GEOMETRICS, SEE SHEETS 75 TO 78.

3. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEETS 27 TO 30.

4. PLAN CREATED FROM REFERENCED IMAGE FILES.

HORIZONTAL SCALE IN FEET
0 25 50 100

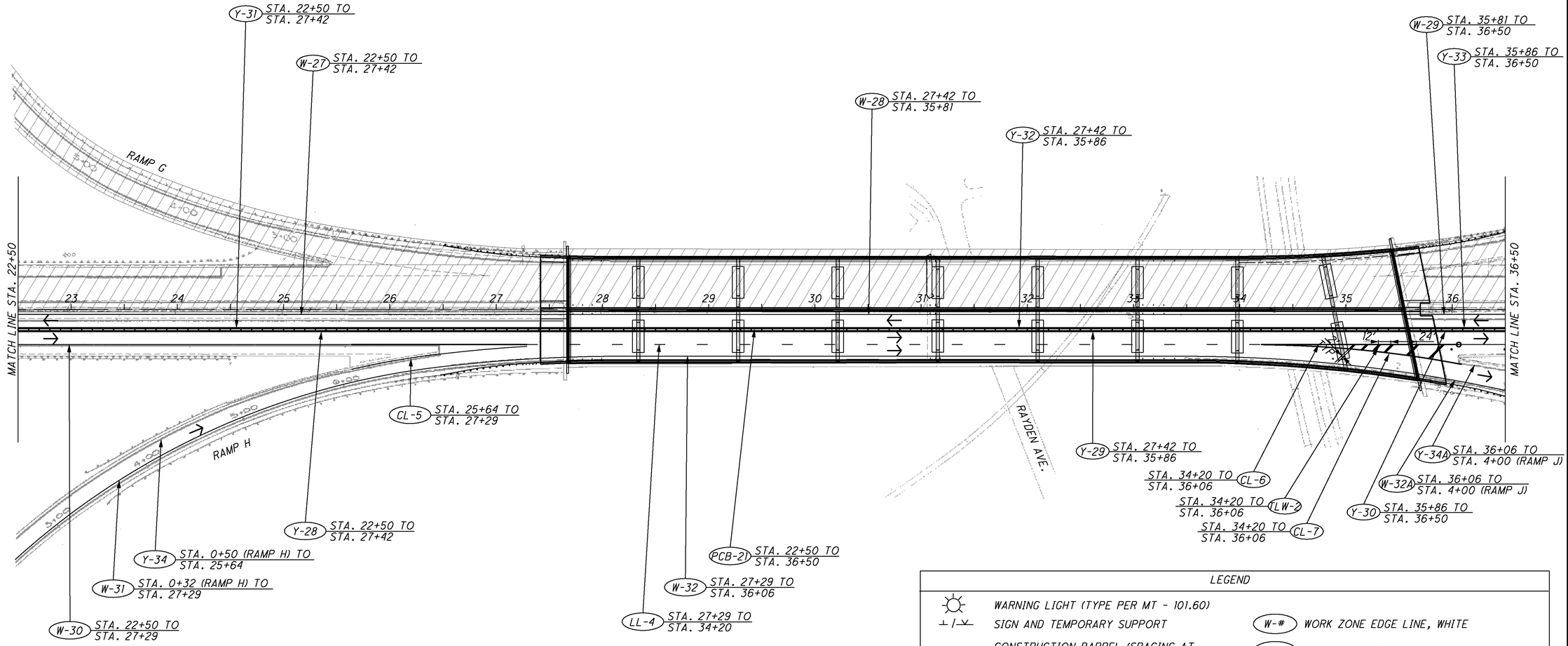
CALCULATED LOB
CHECKED MAH

MAINTENANCE OF TRAFFIC PLAN - PHASE 2
S.R. 193, STA. 9+50 TO STA. 22+50

MAH-193/422-0.46/1.85

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LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 50' C/C UNLESS NOTED OTHERWISE)
- WORK AREA
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN
- FLASHING ARROW PANEL (TYPE PER MT-35.10)
- WORK ZONE IMPACT ATTENUATOR
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LL-# WORK ZONE LANE LINE
- PCB-# WORK ZONE PORTABLE CONCRETE BARRIER
- DL-# WORK ZONE DOTTED LINE
- TLW-# WORK ZONE TRANSVERSE LINE (WHITE)
- TRAFFIC FLOW ARROW

NOTES: 1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.

2. FOR CROSSOVER GEOMETRICS, SEE SHEETS 75 TO 78.

3. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEETS 27 TO 30.

4. PLAN CREATED FROM REFERENCED IMAGE FILES.

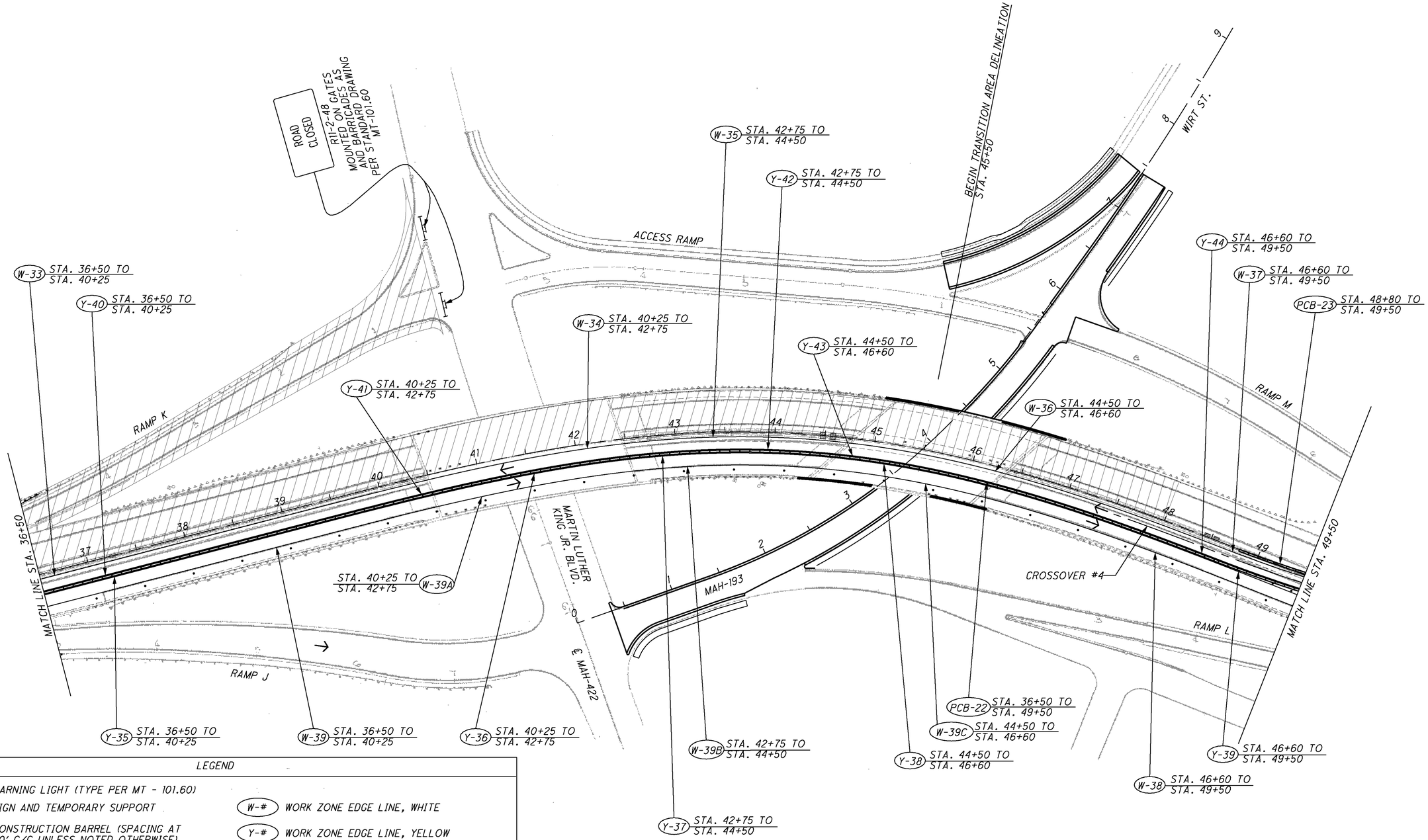
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LOB
CHECKED MAH

MAINTENANCE OF TRAFFIC PLAN - PHASE 2
S.R. 193, STA. 22+50 TO STA. 36+50

MAH-193/422-0.46/1.85

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SVARECCHIA



LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 50' C/C UNLESS NOTED OTHERWISE)
- WORK AREA
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN
- FLASHING ARROW PANEL (TYPE PER MT-35.10)
- WORK ZONE IMPACT ATTENUATOR
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LL-# WORK ZONE LANE LINE
- PCB-# WORK ZONE PORTABLE CONCRETE BARRIER
- DL-# WORK ZONE DOTTED LINE
- TLW-# WORK ZONE TRANSVERSE LINE (WHITE)
- TRAFFIC FLOW ARROW

NOTES:
1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.
2. FOR CROSSOVER GEOMETRICS, SEE SHEETS T5 TO T8 .
3. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEETS 27 TO 30 .
4. PLAN CREATED FROM REFERENCED IMAGE FILES.

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LOB
CHECKED MAH

MAINTENANCE OF TRAFFIC PLAN - PHASE 2
S.R. 193, STA. 36+50 TO STA. 49+50

MAH-193/422-0.46/1.85

72
260

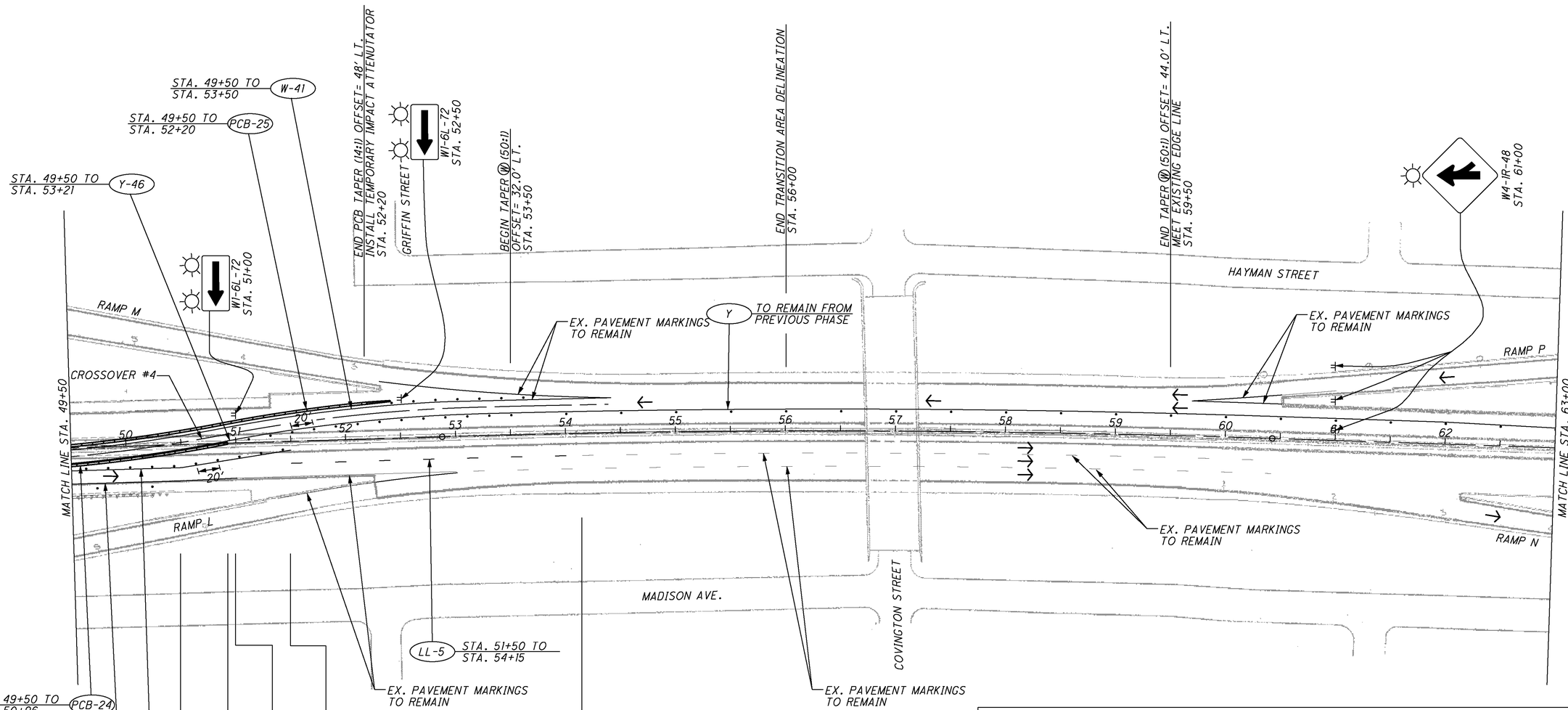
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SWARECHIA

NOTES: 1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.

2. FOR CROSSOVER GEOMETRICS, SEE SHEETS 75 TO 78 .

3. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEETS 27 TO 30 .

4. PLAN CREATED FROM REFERENCED IMAGE FILES.



LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 50' C/C UNLESS NOTED OTHERWISE)
- WORK AREA
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN
- FLASHING ARROW PANEL (TYPE PER MT-35.10)
- WORK ZONE IMPACT ATTENUATOR
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LL-# WORK ZONE LANE LINE
- PCB-# WORK ZONE PORTABLE CONCRETE BARRIER
- DL-# WORK ZONE DOTTED LINE
- TLW-# WORK ZONE TRANSVERSE LINE (WHITE)
- TRAFFIC FLOW ARROW

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED LOB
CHECKED MAH

MAINTENANCE OF TRAFFIC PLAN - PHASE 2
U.S. 422, STA. 49+50 TO STA. 63+00

MAH-193/422-0.46/1.85

73
260

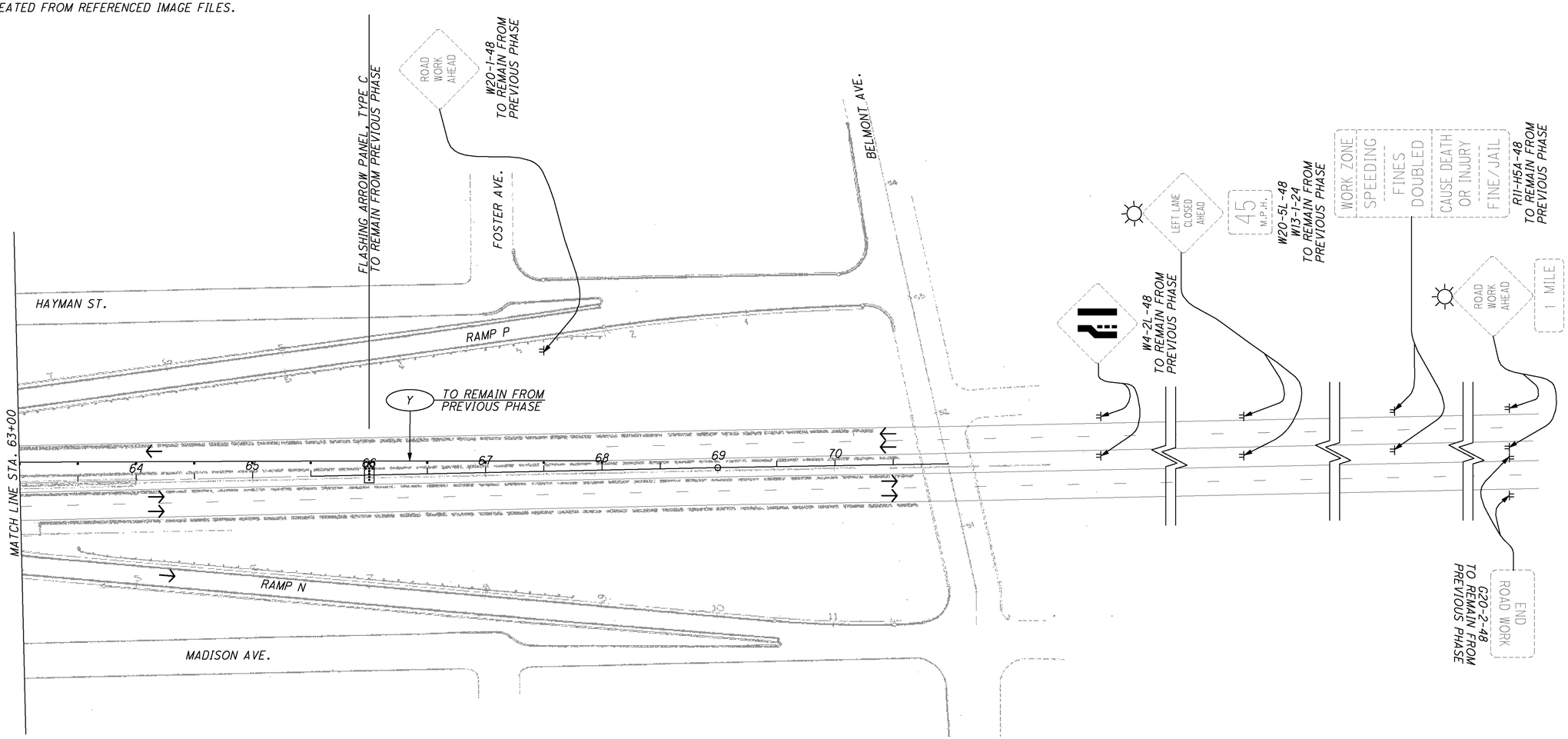
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SWARECCHIA

NOTES: 1. THE CONTRACTOR SHALL REMOVE EXISTING CONFLICTING PAVEMENT MARKINGS AND SIGNAGE PRIOR TO CONSTRUCTION.

2. FOR CROSSOVER GEOMETRICS, SEE SHEETS 75 TO 78 .

3. FOR MAINTENANCE OF TRAFFIC TYPICAL SECTIONS, SEE SHEETS 27 TO 30 .

4. PLAN CREATED FROM REFERENCED IMAGE FILES.



LEGEND

- WARNING LIGHT (TYPE PER MT - 101.60)
- SIGN AND TEMPORARY SUPPORT
- CONSTRUCTION BARREL (SPACING AT 50' C/C UNLESS NOTED OTHERWISE)
- WORK AREA
- EXISTING SIGN OR MAINTENANCE OF TRAFFIC SIGN TO REMAIN FROM PREVIOUS PHASE
- PROPOSED OR MAINTENANCE OF TRAFFIC SIGN
- FLASHING ARROW PANEL (TYPE PER MT-35.10)
- WORK ZONE IMPACT ATTENUATOR
- W-# WORK ZONE EDGE LINE, WHITE
- Y-# WORK ZONE EDGE LINE, YELLOW
- CL-# WORK ZONE CHANNELIZING LINE
- LL-# WORK ZONE LANE LINE
- PCB-# WORK ZONE PORTABLE CONCRETE BARRIER
- DL-# WORK ZONE DOTTED LINE
- TLW-# WORK ZONE TRANSVERSE LINE (WHITE)
- TRAFFIC FLOW ARROW

HORIZONTAL SCALE IN FEET
0 25 50 100

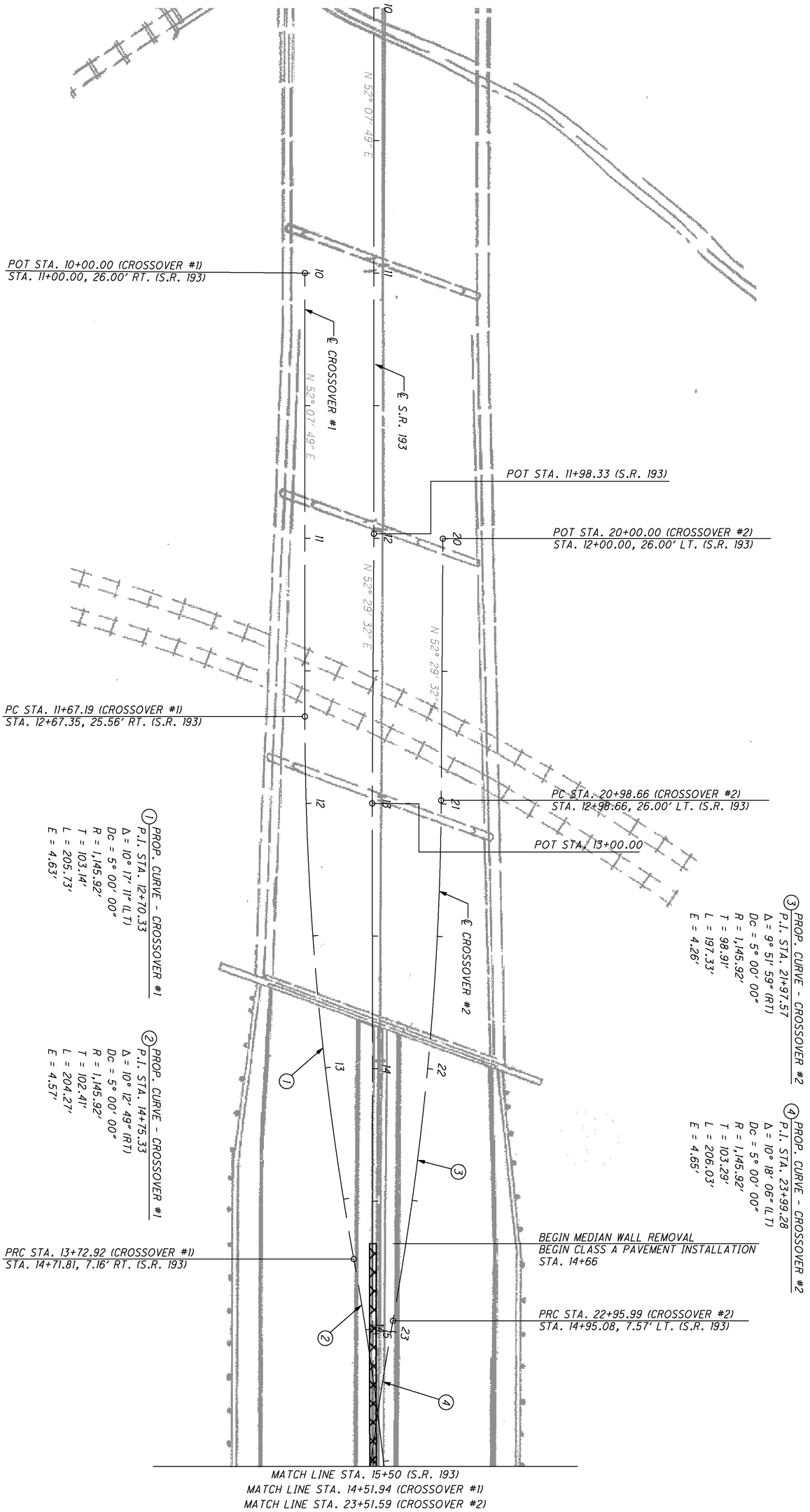
CALCULATED LOB
CHECKED MAH

MAINTENANCE OF TRAFFIC PLAN - PHASE 2
U.S. 422, STA. 63+00 TO END

MAH-193/422-0.46/1.85

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LEGEND

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

MAH-193/422-0.46/1.85

GEOMETRIC PLAN - CROSSOVERS #1 & #2

S.R. 193, STA. 10+00 TO STA. 15+50

CALCULATED LOB
CHECKED MAH

0 10 20 40
HORIZONTAL SCALE IN FEET

② PROP. CURVE - CROSSOVER #1
P.I. STA. 14+75.33
Δ = 10° 12′ 49″ (RT)
Dc = 5° 00′ 00″
R = 1,145.92′
T = 102.41′
L = 204.27′
E = 4.57′

END MEDIAN WALL REMOVAL
END CLASS A PAVEMENT INSTALLATION
STA. 16+58

PT STA. 15+77.19 (CROSSOVER #1)
STA. 16+75.00, 11.00′ LT. (S.R. 193)

CRESCENT STREET

STRUCTURE NO.
MAH-193-0052

POT Sta. 17+52.19 (CROSSOVER #1)
STA. 18+50.00, 11.00′ LT. (S.R. 193)

RAMP E

℄ CROSSOVER #1

N 52° 03′ 26″ E

℄ S.R. 193

N 52° 03′ 26″ E

N 52° 03′ 26″ E

℄ CROSSOVER #2

RAMP F

MATCH LINE STA. 15+50 (S.R. 193)
MATCH LINE STA. 14+51.94 (CROSSOVER #1)
MATCH LINE STA. 23+51.59 (CROSSOVER #2)

PT STA. 25+02.02 (CROSSOVER #2)
STA. 17+00.00, 10.90′ RT. (S.R. 193)

POT STA. 26+52.02 (CROSSOVER #2)
STA. 18+50.00, 10.90′ RT. (S.R. 193)

④ PROP. CURVE - CROSSOVER #2
P.I. STA. 23+99.28
Δ = 10° 18′ 06″ (LT)
Dc = 5° 00′ 00″
R = 1,145.92′
T = 103.29′
L = 206.03′
E = 4.65′

LEGEND

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

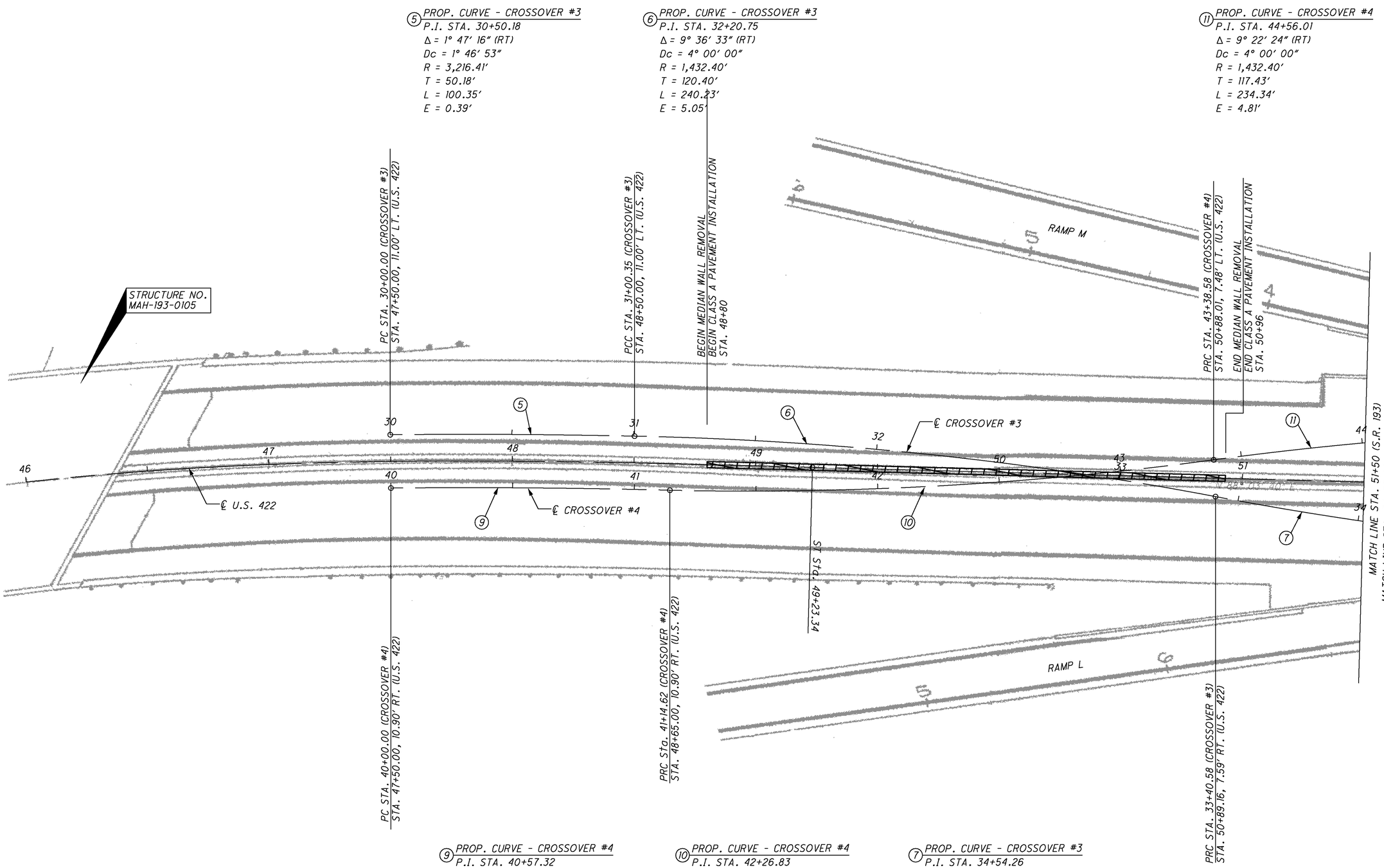
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED LOB
CHECKED MAH

GEOMETRIC PLAN - CROSSOVERS #1 & #2
S.R. 193, STA. 15+50 TO STA. 20+50

MAH-193/422-0.46/1.85

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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED LOB
CHECKED MAH

GEOMETRIC PLAN - CROSSOVERS #3 & #4
U.S. 422, STA. 46+00 TO STA. 51+50

MAH-193/422-0.46/1.85

77
260

⑪ PROP. CURVE - CROSSOVER #4
P.I. STA. 44+56.01
Δ = 9° 22′ 24″ (RT)
Dc = 4° 00′ 00″
R = 1,432.40′
T = 117.43′
L = 234.34′
E = 4.81′

⑫ PROP. CURVE - CROSSOVER #4
P.I. STA. 46+62.46
Δ = 0° 51′ 10″ (RT)
Dc = 0° 28′ 34″
R = 12,033.96′
T = 89.55′
L = 179.10′
E = 0.33′

⑦ PROP. CURVE - CROSSOVER #3
P.I. STA. 34+54.26
Δ = 9° 04′ 31″ (LT)
Dc = 4° 00′ 00″
R = 1,432.40′
T = 113.68′
L = 226.88′
E = 4.50′

⑧ PROP. CURVE - CROSSOVER #3
P.I. STA. 36+59.71
Δ = 0° 52′ 56″ (RT)
Dc = 0° 28′ 41″
R = 11,981.96′
T = 92.24′
L = 184.49′
E = 0.36′

LEGEND

PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

N

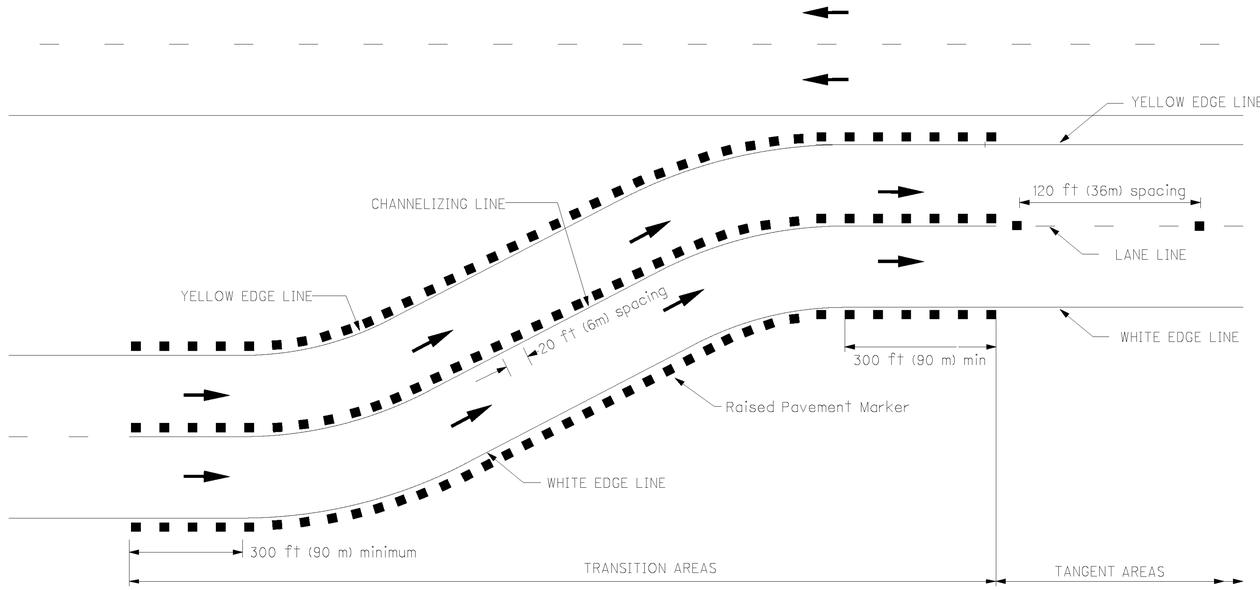
0 10 20 40 HORIZONTAL SCALE IN FEET

CALCULATED LOB
CHECKED MAH

GEOMETRIC PLAN - CROSSOVERS #3 & #4
U.S. 422, STA. 46+00 TO STA. 51+50

MAH-193/422-0.46/1.85

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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 feet (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 oncoming 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. of the intermediate course of the proposed pavement.
10. Holes resulting from removal of 621 RPMs shall be filledas per 621.08. 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

OFFICE OF TRAFFIC ENGINEERING

DESIGNED LAM | REVIEWED

REVISION DATE 7/20/07 | CHECKED

PID NUMBER 209930

PLAN INSERT SHEET

WORK ZONE DELINEATION ON ASPHALT SURFACES

1 / 1

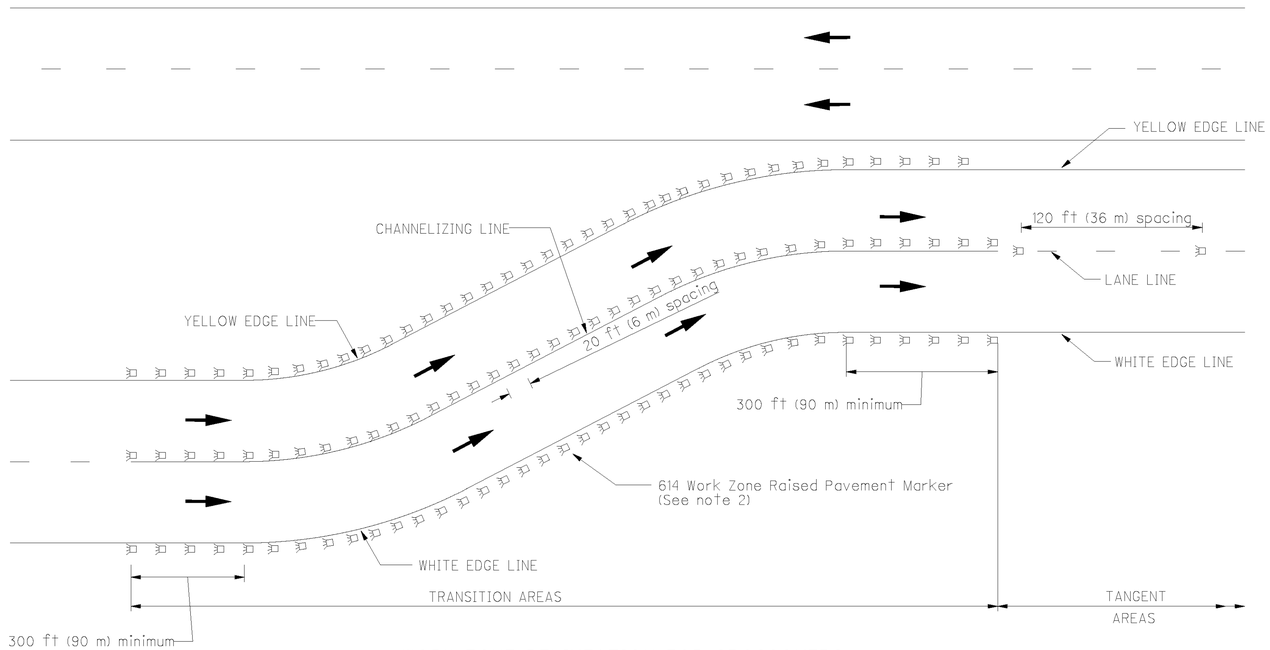
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PLAN INSERT SHEET

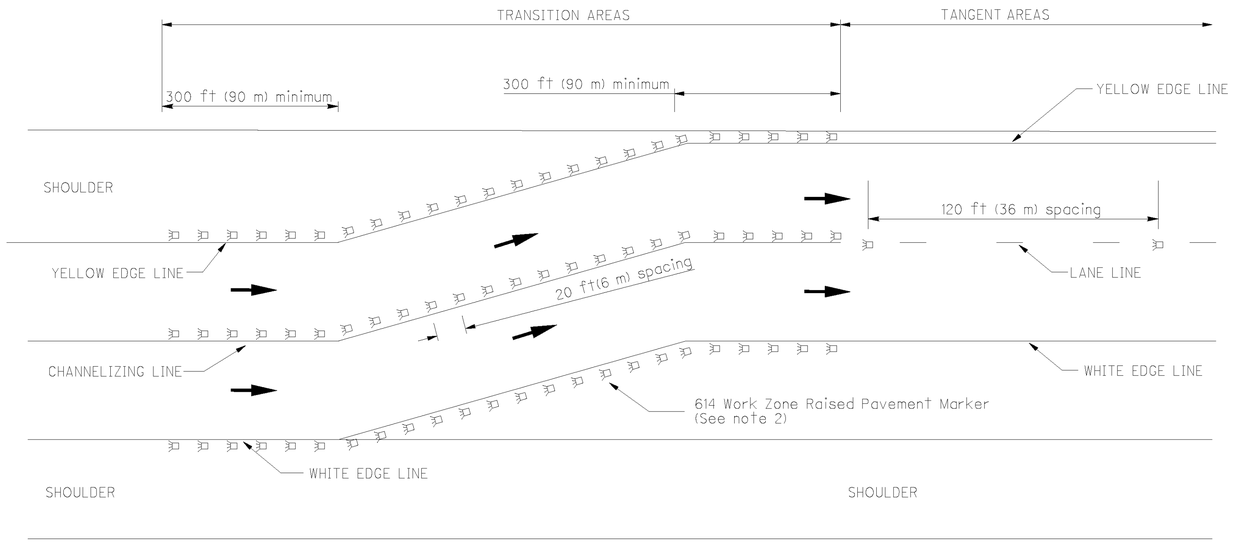
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WORK ZONE DELINEATION FOR CROSSOVERS



WORK ZONE DELINEATION FOR LANE SHIFTS

NOTES

1. This drawing presents delineation procedures for freeways and expressways on concrete 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 feet (1.2 m) shall be as per the tangent area delineation.
2. The Work Zone Raised Pavement Markers (WZRPMs) shown on this drawing are intended for use only during the non-snow-plowing season. WZRPMs shall not be provided during the snow-plowing season. The snow-plowing season shall be from October 16 through March 31 or as otherwise specified in the plans. Where a temporary alignment will remain in use through the winter, the WZRPMs shall be removed prior the beginning of snow-plowing season and replaced approximately April 1, or as otherwise determined by the Engineer
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 WZRPMs shall be at 20 feet (6 m) center-to-center for all long-line marking within transition areas. Within tangent areas WZRPMs shall be provided only along the lane lines, spaced at 120 feet (36 m) center-to-center.
7. The WZRPMs shall be 1-way, facing oncoming traffic, and shall be white or yellow to match the color of the associated line marking.
8. Along the edge lines, the WZRPMs shall be offset a maximum of 4 inches (100 mm) to the outside of the lines. Along the channelizing lines, the WZRPMs shall be offset to the left of the lines by no more than 1 inch (25 mm). Along the lane lines the WZRPMs shall be centered between dashes.
9. The WZRPMs shall be removed when they are no longer appropriate.

LEGEND

- WORK ZONE RPM, TYPE A
- DIRECTION OF TRAVEL

OFFICE OF TRAFFIC ENGINEERING

DESIGNED | REVIEWED LAM

REVISION DATE 07/20/07 | CHECKED

PID NUMBER 209931

PLAN INSERT SHEET

WORK ZONE DELINEATION ON CONCRETE SURFACES

1 / 1

CALCULATED | CHECKED

PLAN INSERT SHEET

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SHEET NUMBERS									PARTICIPATION							
	10 - 12	81-87A	88	89A	90	116	117	121	PROJECT	EASTGATE PAVING	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	REF.
															ROADWAY	
		2775							2775		202	23000	2775	SQ YD	PAVEMENT REMOVED	
		58234							58234		202	23500	58234	SQ YD	WEARING COURSE REMOVED	
		4341								4341	202	30000	4341	SQ FT	WALK REMOVED	
		522							522		202	30700	522	FT	CONCRETE BARRIER REMOVED	
		1736							86	1650	202	32000	1736	FT	CURB REMOVED	
					5851				5851		202	38000	5851	FT	GUARDRAIL REMOVED	
				1						1	202	58200	1	EACH	INLET REMOVED	
	600								600		SPECIAL	20270100	600	FT	PIPE CLEANOUT	11
			346							346	203	10000	346	CU YD	EXCAVATION	
			51							51	203	20000	51	CU YD	EMBANKMENT	
		4715							1737	2978	204	10000	4715	SQ YD	SUBGRADE COMPACTION	
	3								3		204	45000	3	HOUR	PROOF ROLLING	
					58				58		209	15000	58	STATION	RESHAPING UNDER GUARDRAIL	
		73							73		209	60200	73	STATION	LINEAR GRADING	
					4843				4843		606	13000	4843	FT	GUARDRAIL, TYPE 5	
					10				10		606	22010	10	EACH	ANCHOR ASSEMBLY, TYPE E-98	
					9				9		606	26500	9	EACH	ANCHOR ASSEMBLY, TYPE T	
					8				8		606	35000	8	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
					7				7		606	35100	7	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2	
		4323								4323	608	12000	4323	SQ FT	5" CONCRETE WALK	
			5							5	608	52020	5	SQ FT	CURB RAMP, TYPE A2	
		408							408		622	23405	408	FT	CONCRETE BARRIER, TYPE B1, AS PER PLAN	11
					300				300		622	24000	300	FT	CONCRETE BARRIER, TYPE D	
	5								5		SPECIAL	69098000	5	EACH	MISC.: VERTICAL CLEARANCE	11
															EROSION CONTROL	
									2		659	00100	2	EACH	SOIL ANALYSIS TEST	
			15507						14222	1285	659	10000	15507	SQ YD	SEEDING AND MULCHING	
			775						711	64	659	14000	775	SQ YD	REPAIR SEEDING AND MULCHING	
			775						711	64	659	15000	775	SQ YD	INTER-SEEDING	
			2.16						1.98	0.18	659	20000	2.16	TON	COMMERCIAL FERTILIZER	
			3						3		659	31000	3	ACRE	LIME	
			86						79	7	659	35000	86	M GAL	WATER	
			35						32	3	659	40000	35	M SQ FT	MOWING	
									180000		832	30000	180000	EACH	EROSION CONTROL	
															DRAINAGE	
				22					22		601	21050	22	SQ YD	TIED CONCRETE BLOCK MAT, TYPE 1	
						0.30			0.30		602	20000	0.30	CU YD	CONCRETE MASONRY	
				58						58	603	00100	58	FT	4" CONDUIT, TYPE B	
				27						27	603	00410	27	FT	4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET	
				568					568		603	00510	568	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
							115		115		603	04600	115	FT	12" CONDUIT, TYPE C	
						44			44		603	05900	44	FT	15" CONDUIT, TYPE B	
						73			73		603	06700	73	FT	15" CONDUIT, TYPE F	
						1			1		604	00800	1	EACH	CATCH BASIN, NO. 3A	
							2		2		604	04500	2	EACH	CATCH BASIN, NO. 2-2B	
						1			1		604	15150	1	EACH	INLET, NO. 3D, TYPE B1	
				1						1	604	18300	1	EACH	INLET, NO. 2-A-10	
				3					3		604	20800	3	EACH	INLET RECONSTRUCTED TO GRADE	
							1		1		604	31500	1	EACH	MANHOLE, NO. 3	
				6						6	604	34500	6	EACH	MANHOLE ADJUSTED TO GRADE	

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GENERAL SUMMARY

MAH-193-0.46
MAH-422-1.85

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SHEET NUMBERS									PARTICIPATION							
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				11					11		604	36600	11	EACH	PRECAST REINFORCED CONCRETE OUTLET	
	2000								2000		SPECIAL	60450000	2000	POUND	MISCELLANEOUS METAL	11
				24						24	605	05210	24	FT	4" UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP	
				1347						1347	605	06020	1347	FT	4" BASE PIPE UNDERDRAINS WITH FABRIC WRAP	
				525					525		605	11100	525	FT	6" SHALLOW PIPE UNDERDRAINS, 707.32 TYPE CP OR 707.41	
				122						122	605	13410	122	FT	6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP	
		13247							13247		605	31050	13247	FT	18 " PREFABRICATED EDGE UNDERDRAINS	
															PAVEMENT	
	1000								1000		251	01000	1000	SQ YD	PARTIAL DEPTH PAVEMENT REPAIR	
		12357							12357		254	01000	12357	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
	1500	1231							2731		255	10150	2731	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS	
	300	75							375		255	20000	375	FT	FULL DEPTH PAVEMENT SAWING	
		412								412	302	46000	412	CU YD	ASPHALT CONCRETE BASE, PG64-22	
		806							288	518	304	20001	806	CU YD	AGGREGATE BASE, AS PER PLAN	11
		5287							5287		407	10000	5287	GALLON	TACK COAT	
		3018							2820	198	407	14000	3018	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
		990								990	408	10000	990	GALLON	PRIME COAT	
		650							650		408	10001	650	GALLON	PRIME COAT, AS PER PLAN	11
		52								52	424	10000	52	CU YD	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE A	
		2937							2937		442	10051	2937	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN	12
		3427						500	3927		442	10151	3927	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE B (446), AS PER PLAN	12
		120								120	448	46050	120	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	
					300				300		448	46061	300	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG64-22, AS PER PLAN	10
		513							513		SPECIAL	45130000	513	FT	PRESSURE RELIEF JOINT, TYPE A	
		1647								1647	609	12001	1647	FT	COMBINATION CURB AND GUTTER, TYPE 2, AS PER PLAN	11
		86							86		609	14000	86	FT	CURB, TYPE 2-A	
		90							90		617	10101	90	CU YD	COMPACTED AGGREGATE, AS PER PLAN	10
															LIGHTING	
															FOR LIGHTING GENERAL SUMMARY SEE SHEET NO. 141	
															TRAFFIC CONTROL	
															FOR TRAFFIC CONTROL GENERAL SUMMARY SEE SHEET NO. 129	
															STRUCTURES (OVER 20')	
															FOR STRUCTURE NO. MAH-193-0052 SEE SHEET NO. 150	
															FOR STRUCTURE NO. MAH-193-0072 SEE SHEET NO. 167	
															FOR STRUCTURE NO. MAH-422-0185 SEE SHEET NO. 217	
															FOR STRUCTURE NO. MAH-193-0105 SEE SHEET NO. 251	
															MAINTENANCE OF TRAFFIC	
															FOR MAINTENANCE OF TRAFFIC SEE SHEET NO. 18	
															MISCELLANEOUS	
									LUMP		SPECIAL	10810000	LUMP		CPM PROGRESS SCHEDULE	
									LUMP		614	11000	LUMP		MAINTAINING TRAFFIC	
									24		619	16020	24	MONTH	FIELD OFFICE, TYPE C	
									LUMP		623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
									LUMP		624	10000	LUMP		MOBILIZATION	

CALCULATED GJB
CHECKED EAF

GENERAL SUMMARY

MAH-193-0.46
MAH-422-1.85

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ITEM 202 PAVEMENT REMOVED

WIRT STREET SOUTHBOUND

STATION 0+37.91, BL TO STATION 2+46.67, BL (246.67 - 37.91 FT) (29.00 FT) (1/9)	=	672.67	SQ YD
Sub-Total: Use		672.67	SQ YD

WIRT STREET NORTHBOUND

STATION 0+36.50, BL TO STATION 0+76.50, BL (157.22 RECORD PLAN AREA) (1/9)	=	17.47	SQ YD
STATION 0+76.50, BL TO STATION 1+35.85, BL (135.85 - 76.50 FT) (29.00 FT) (1/9)	=	191.24	SQ YD
STATION 1+35.85, BL TO STATION 2+26.70, BL (226.70 - 135.85 FT) (26.50 FT) (1/9)	=	267.50	SQ YD
STATION 2+26.70, BL TO STATION 5+33.92, BL (533.92 - 226.70 FT) (29.00 FT) (1/9)	=	989.93	SQ YD
STATION 5+33.92, BL TO STATION 5+50.13, BL (550.13 - 533.92 FT) (26.50 FT) (1/9)	=	47.73	SQ YD
STATION 5+50.13, BL TO STATION 5+69.16, BL (569.16 - 550.13 FT) (24.00 FT) (1/9)	=	50.75	SQ YD
STATION 5+69.16, BL TO STATION 6+41.53, BL (641.53 - 569.16 FT) (26.50 FT) (1/9)	=	213.09	SQ YD
STATION 6+41.53, BL TO STATION 7+42.25, BL (742.25 - 641.53 FT) (29.00 FT) (1/9)	=	324.54	SQ YD
Sub-Total: Use		2,102.25	SQ YD
ITEM TOTAL: USE		2,775	SQ YD

ITEM 202 WEARING COURSE REMOVED

MAH-193/422 MAINLINE

STATION 14+11.57, LT TO STATION 14+75.00, LT (1,475.00 - 1,411.57 FT) ((41.11+42.75) / 2 FT) (1/9)	=	295.51	SQ YD
STATION 14+75.00, LT TO STATION 16+88.42, LT (1,688.42 - 1,475.00 FT) (42.75 FT) (1/9)	=	1,013.75	SQ YD
STATION 14+11.57, RT TO STATION 14+38.73, RT (1,438.73 - 1,411.57 FT) ((41.69+42.75) / 2 FT) (1/9)	=	127.41	SQ YD
STATION 14+38.73, RT TO STATION 16+88.42, RT (1,688.42 - 1,438.73 FT) (42.75 FT) (1/9)	=	1,186.03	SQ YD
STATION 18+56.92, LT TO STATION 19+71.75, LT (1,971.75 - 1,856.92 FT) ((43.25+51.75) / 2 FT) (1/9)	=	606.05	SQ YD
STATION 19+71.75, LT TO STATION 24+42.28, LT (2,442.28 - 1,971.75 FT) (30.75 FT) (1/9)	=	1,607.64	SQ YD
STATION 24+42.28, LT TO STATION 25+42.28, LT (2,542.28 - 2,442.28 FT) (40.75 FT) (1/9)	=	452.78	SQ YD
STATION 25+42.28, LT TO STATION 27+41.79, LT (2,741.79 - 2,542.28 FT) ((65.75+43.76) / 2 FT) (1/9)	=	1,213.76	SQ YD
STATION 18+56.92, RT TO STATION 19+60.74, RT (1,960.74 - 1,856.92 FT) ((50.75+65.75) / 2 FT) (1/9)	=	671.95	SQ YD
STATION 19+60.74, RT TO STATION 20+60.74, RT (2,060.74 - 1,960.74 FT) (40.75 FT) (1/9)	=	452.78	SQ YD
STATION 20+60.74, RT TO STATION 26+47.21, RT (2,647.21 - 2,060.74 FT) (30.75 FT) (1/9)	=	2,003.77	SQ YD
STATION 26+47.21, RT TO STATION 27+41.79, RT (2,741.79 - 2,647.21 FT) ((51.75+45.25) / 2 FT) (1/9)	=	509.68	SQ YD
STATION 35+80.37, LT TO STATION 37+65.74, LT (3,765.74 - 3,580.37 FT) (30.50 FT) (1/9)	=	628.20	SQ YD
STATION 35+80.37, RT TO STATION 36+07.72, RT (3,607.72 - 3,580.37 FT) ((57.75+59.00) / 2 FT) (1/9)	=	177.40	SQ YD
STATION 36+07.72, RT TO STATION 37+07.72, RT (3,707.72 - 3,607.72 FT) (40.75 FT) (1/9)	=	452.78	SQ YD
STATION 37+07.72, RT TO STATION 37+65.74, RT (3,765.74 - 3,707.72 FT) (30.75 FT) (1/9)	=	198.24	SQ YD
STATION 37+65.74, LT TO STATION 40+23.87, LT (4,023.87 - 3,765.74 FT) (30.75 FT) (1/9)	=	881.94	SQ YD
STATION 37+65.74, RT TO STATION 40+23.87, RT (4,023.87 - 3,765.74 FT) (30.75 FT) (1/9)	=	881.94	SQ YD
STATION 42+72.44, LT TO STATION 43+24.06, LT (4,324.06 - 4,272.44 FT) (30.75 FT) (1/9)	=	176.37	SQ YD
STATION 42+72.44, RT TO STATION 43+24.06, RT (4,324.06 - 4,272.44 FT) (30.75 FT) (1/9)	=	176.37	SQ YD
STATION 43+24.06, LT TO STATION 44+54.88, LT (4,454.88 - 4,324.06 FT) (30.75 FT) (1/9)	=	446.97	SQ YD
STATION 43+24.06, RT TO STATION 44+54.88, RT (4,454.88 - 4,324.06 FT) (30.75 FT) (1/9)	=	446.97	SQ YD
STATION 44+54.88, LT TO STATION 44+79.88, LT (4,479.88 - 4,454.88 FT) (40.75 FT) (1/9)	=	113.19	SQ YD
STATION 44+54.88, RT TO STATION 44+79.88, RT (4,479.88 - 4,454.88 FT) (40.75 FT) (1/9)	=	113.19	SQ YD
STATION 46+35.84, LT TO STATION 46+60.84, LT (4,660.84 - 4,635.84 FT) (40.75 FT) (1/9)	=	113.19	SQ YD
STATION 46+35.84, RT TO STATION 46+60.84, RT (4,660.84 - 4,635.84 FT) (40.75 FT) (1/9)	=	113.19	SQ YD
STATION 46+60.84, LT TO STATION 50+82.95, LT (5,082.95 - 4,660.84 FT) (30.75 FT) (1/9)	=	1,442.21	SQ YD
STATION 46+60.84, RT TO STATION 50+82.95, RT (5,082.95 - 4,660.84 FT) (30.75 FT) (1/9)	=	1,442.21	SQ YD
STATION 50+82.95, LT TO STATION 51+32.27, LT (5,132.27 - 5,082.95 FT) (30.75 FT) (1/9)	=	168.51	SQ YD
STATION 51+32.27, LT TO STATION 52+32.27, LT (5,232.27 - 5,132.27 FT) (40.75 FT) (1/9)	=	452.78	SQ YD
STATION 52+32.27, LT TO STATION 55+08.88, LT (5,508.88 - 5,232.27 FT) ((65.76+42.75) / 2 FT) (1/9)	=	1,667.45	SQ YD
STATION 55+08.88, LT TO STATION 59+00.00, LT (5,900.00 - 5,508.88 FT) ((42.75+42.75) / 2 FT) (1/9)	=	1,857.82	SQ YD
STATION 59+00.00, LY TO STATION 60+52.03, LT (6,052.03 - 5,900.00 FT) ((42.75+48.75) / 2 FT) (1/9)	=	772.82	SQ YD
STATION 60+52.03, LT TO STATION 65+00.00, LT (6,500.00 - 6,052.03 FT) (30.75 FT) (1/9)	=	1,530.56	SQ YD
STATION 50+82.95, RT TO STATION 52+25.38, RT (5,225.38 - 5,082.95 FT) (30.75 FT) (1/9)	=	486.64	SQ YD
STATION 52+25.38, RT TO STATION 53+95.66, RT (5,395.66 - 5,225.38 FT) ((51.75+42.75) / 2 FT) (1/9)	=	893.97	SQ YD
STATION 53+95.66, RT TO STATION 59+00.00, RT (5,900.00 - 5,395.66 FT) ((42.75+42.75) / 2 FT) (1/9)	=	2,395.62	SQ YD
STATION 59+00.00, RT TO STATION 62+15.93, RT (6,215.93 - 5,900.00 FT) ((42.75+65.75) / 2 FT) (1/9)	=	1,904.36	SQ YD
STATION 62+15.93, RT TO STATION 63+15.93, RT (6,315.93 - 6,215.93 FT) (40.75 FT) (1/9)	=	452.78	SQ YD
STATION 63+15.93, RT TO STATION 65+00.00, RT (6,500.00 - 6,315.93) (30.75 FT) (1/9)	=	628.91	SQ YD
Sub-Total: Use		31,157.69	SQ YD

RAMP E

STATION 0+55.00, BL TO STATION 3+27.60, BL (327.60 - 55.00 FT) (18.00 FT) (1/9)	=	545.20	SQ YD
STATION 3+27.60, BL TO STATION 4+27.60, BL (427.60 - 327.60 FT) ((18.00+16.00) / 2 FT) (1/9)	=	188.89	SQ YD
STATION 4+27.60, BL TO STATION 5+27.60, BL (527.60 - 427.60 FT) ((18.00+14.00) / 2 FT)	=	1,600.00	SQ YD
Sub-Total: Use		2,334.09	SQ YD

RAMP F

STATION 5+20.01, BL TO STATION 6+20.01, BL (620.01 - 520.01 FT) (18.00 FT) (1/9)	=	200.00	SQ YD
STATION 6+20.01, BL TO STATION 8+91.47, BL (891.47 - 620.01 FT) (18.00 FT) (1/9)	=	542.92	SQ YD
STATION 8+91.47, BL TO STATION 9+35.72, BL (935.72 - 891.47 FT) (21.00 FT) (1/9)	=	103.25	SQ YD
STATION 9+35.72, BL TO STATION 9+60.50, BL (87.83 SQ YD - RECORD PLAN AREA)	=	87.83	SQ YD
Sub-Total: Use		934.00	SQ YD

RAMP G

STATION 2+54.99, BL TO STATION 3+54.99, BL (354.99 - 254.99 FT) ((18.00+16.00) / 2 FT) (1/9)	=	188.89	SQ YD
STATION 3+54.99, BL TO STATION 6+77.62, BL (677.62 - 354.99 FT) (16.00 FT) (1/9)	=	573.56	SQ YD
STATION 6+77.62, BL TO STATION 8+21.60, BL (821.60 - 677.62 FT) (19.00 FT) (1/9)	=	303.96	SQ YD
Sub-Total: Use		1,066.41	SQ YD

RAMP H

STATION 0+25.00, BL TO STATION 0+50.00, BL (99.19 SQ YD - RECORD PLAN AREA)	=	99.19	SQ YD
STATION 0+50.00, BL TO STATION 4+92.47, BL (492.47 - 50.00 FT) (16.00 FT) (1/9)	=	786.61	SQ YD
STATION 4+92.47, BL TO STATION 5+92.47, BL (592.47 - 492.47 FT) ((16.00+14.00) / 2 FT) (1/9)	=	166.67	SQ YD
STATION 5+92.47, BL TO STATION 6+92.47, BL (692.47 - 592.47 FT) ((16.00+14.00) / 2 FT) (1/9)	=	166.67	SQ YD
Sub-Total: Use		1,119.95	SQ YD

RAMP J

STATION 2+54.99, BL TO STATION 6+31.59, BL (631.59 - 254.99 FT) ((18.00+36.00) / 2 FT) (1/9)	=	1,129.80	SQ YD
STATION 6+31.59, BL TO STATION 7+00.00, BL (700.00 - 631.59 FT) (36.00 FT) (1/9)	=	273.64	SQ YD
STATION 7+00.00, BL TO STATION 8+10.20, BL (558.45 SQ YD - RECORD PLAN AREA)	=	558.45	SQ YD
Sub-Total: Use		1,961.89	SQ YD

RAMP K

STATION 0+24.50, BL TO STATION 1+25.00, BL (571.62 SQ YD - RECORD PLAN AREA)	=	571.62	SQ YD
STATION 1+25.00, BL TO STATION 3+21.92, BL (321.92 - 125.00 FT) ((24.00+16.00) / 2 FT) (1/9)	=	437.60	SQ YD
STATION 3+21.92, BL TO STATION 3+82.87, BL (382.87 - 321.92 FT) (16.00 FT) (1/9)	=	108.36	SQ YD
STATION 3+82.87, BL TO STATION 4+82.87, BL (482.87 - 382.87 FT) ((16.00+14.00) / 2 FT) (1/9)	=	166.67	SQ YD
STATION 4+82.87, BL TO STATION 5+71.00, BL (571.00 - 482.87 FT) ((16.00+14.00) / 2 FT) (1/9)	=	146.88	SQ YD
Sub-Total: Use		1,431.13	SQ YD

RAMP L

STATION 0+00.00, BL TO STATION 2+08.26, BL (208.26 - 0.00 FT) ((16.00+38.00) / 2 FT) (1/9)	=	624.78	SQ YD
STATION 2+08.26, BL TO STATION 3+50.00, BL (350.00 - 208.26 FT) ((18.00+16.00) / 2 FT) (1/9)	=	267.73	SQ YD
STATION 3+50.00, BL TO STATION 5+56.21, BL (556.21 - 350.00 FT) (16.00 FT) (1/9)	=	366.60	SQ YD
STATION 5+56.21, BL TO STATION 6+56.21, BL (656.21 - 556.21 FT) ((16.00+14.00) / 2 FT) (1/9)	=	166.67	SQ YD
STATION 6+56.21, BL TO STATION 7+56.21, BL (756.21 - 656.21 FT) ((16.00+14.00) / 2 FT) (1/9)	=	166.67	SQ YD
Sub-Total: Use		1,592.45	SQ YD

RAMP M

STATION 2+75.03, BL TO STATION 3+28.48, BL (328.48 - 275.03 FT) (18.00 FT) (1/9)	=	106.90	SQ YD
STATION 3+28.48, BL TO STATION 6+33.82, BL (633.82 - 328.48 FT) ((18.00+24.00) / 2 FT) (1/9)	=	712.46	SQ YD
STATION 6+33.82, BL TO STATION 8+19.69, BL (819.69 - 633.82 FT) (24.00 FT) (1/9)	=	495.65	SQ YD
STATION 8+19.69, BL TO STATION 8+83.75, BL (270.68 SQ YD - RECORD PLAN AREA)	=	270.68	SQ YD
Sub-Total: Use		1,585.69	SQ YD

RAMP N

STATION 3+13.96, BL TO STATION 4+13.96, BL (413.96 - 313.96 FT) ((18.00+16.00) / 2 FT) (1/9)	=	188.89	SQ YD
STATION 4+13.96, BL TO STATION 9+00.00, BL (900.00 - 413.96 FT) (16.00 FT) (1/9)	=	864.07	SQ YD
STATION 9+00.00, BL TO STATION 10+55.71, BL (1,055.71 - 900.00 FT) ((16.00+18.00) / 2 FT) (1/9)	=	294.12	SQ YD
STATION 10+55.71, BL TO STATION 11+77.41, BL (1,177.41 - 1,055.71 FT) ((20.02+15.00) / 2 FT) (1/9)	=	236.77	SQ YD
Sub-Total: Use		1,583.85	SQ YD

RAMP P

STATION 2+21.63, BL TO STATION 4+25.00, BL (425.00 - 221.63 FT) ((18.00+16.00) / 2 FT) (1/9)	=	384.14	SQ YD
STATION 4+25.00, BL TO STATION 7+80.41, BL (780.41 - 425.00 FT) (16.00 FT) (1/9)	=	631.84	SQ YD
STATION 7+80.41, BL TO STATION 8+80.41, BL (880.41 - 780.41 FT) ((16.00+14.00) / 2 FT) (1/9)	=	166.67	SQ YD
STATION 8+80.41, BL TO STATION 9+80.41, BL (980.41 - 880.41 FT) ((16.00+14.00) / 2 FT) (1/9)	=	166.67	SQ YD
Sub-Total: Use		1,349.32	SQ YD

CALCULATED GJB
CHECKED EAF

CALCULATIONS

MAH-193-0.46
MAH-422-1.85

ITEM 202 WEARING COURSE REMOVED (CONTINUED)

ACCESS RAMP

STATION 0+00.00, BL TO STATION 0+19.92, BL (19.92 - 0.00 FT) (20 FT - AVG) (1/9)	=	44.27	SQ YD
STATION 0+19.92, BL TO STATION 0+92.00, BL (92.00 - 19.92 FT) (18.00 FT) (1/9)	=	144.16	SQ YD
STATION 0+92.00, BL TO STATION 2+01.80, BL (201.80 - 92.00 FT) ((20.00+28.00) / 2 FT) (1/9)	=	292.80	SQ YD
STATION 2+01.80, BL TO STATION 4+08.39, BL (408.39 - 201.80 FT) (28.00 FT) (1/9)	=	642.72	SQ YD
STATION 4+08.39, RT TO STATION 4+92.33, RT (359.07 SQ YD - RECORD PLAN AREA)	=	359.07	SQ YD
STATION 4+92.33, BL TO STATION 5+40.71, BL (376.26 SQ YD - RECORD PLAN AREA) (28.00 FT)	=	10,535.28	SQ YD
Sub-Total: Use		12,018.30	SQ YD
ITEM TOTAL: USE		58,234	SQ YD

ITEM 202 WALK REMOVED

WIRT STREET SOUTHBOUND

STATION 0+37.91, RT TO STATION 2+46.67, RT (246.67 - 37.91 FT) (5.0 FT)	=	1,043.80	SQ FT
Sub-Total: Use		1,043.80	SQ FT

WIRT STREET NORTHBOUND

STATION 0+36.50, RT TO STATION 0+76.50, RT (45.00 FT) (6.0 FT)	=	270.00	SQ FT
STATION 0+36.50, LT TO STATION 0+55.00, LT (48.00 SQ FT - CURB RAMP)	=	48.00	SQ FT
STATION 0+76.50, RT TO STATION 1+35.93, RT (135.93 - 76.50 FT) (6.0 FT)	=	356.58	SQ FT
STATION 1+35.93, RT TO STATION 1+65.60, RT (165.60 - 135.93 FT) (6.0 FT)	=	178.02	SQ FT
STATION 2+26.70, RT TO STATION 5+60.00, RT (560.00 - 226.70 FT) (5.5 FT)	=	1,833.15	SQ FT
STATION 6+20.00, RT TO STATION 7+42.25, RT (742.25 - 620.00 FT) (5.0 FT)	=	611.25	SQ FT
Sub-Total: Use		3,297.00	SQ FT
ITEM TOTAL: USE		4,341	SQ FT

ITEM 202 CONCRETE BARRIER REMOVED

MAH-193/422 MAINLINE

STATION 14+66.00, CL TO STATION 16+58.00, CL (1,658.00 - 1,466.00 FT)	=	192.00	FT
STATION 27+41.79, CL TO STATION 27+66.79, CL (2,766.79 - 2,741.79 FT)	=	25.00	FT
STATION 35+55.37, CL TO STATION 35+69.97, CL (3,569.97 - 3,555.37 FT)	=	14.60	FT
STATION 39+85.00, CL TO STATION 40+48.87, CL (4,048.87 - 3,985.00 FT)	=	63.87	FT
STATION 42+47.44, CL TO STATION 42+57.59, CL (4,257.59 - 4,247.44 FT)	=	10.15	FT
STATION 48+80.00, CL TO STATION 50+96.00, CL (5,096.00 - 4,880.00 FT)	=	216.00	FT
ITEM TOTAL: USE		522	FT

ITEM 202 CURB REMOVED

WIRT STREET SOUTHBOUND

STATION 0+37.91, LT RT TO STATION 2+46.67, LT RT (246.67 - 37.91 FT) (2 SIDES)	=	417.52	FT
Sub-Total: Use		417.52	FT

WIRT STREET NORTHBOUND

STATION 0+36.50, RT TO STATION 0+76.50, RT (45.00 FT - MEASURED LENGTH INTERSECTION)	=	45.00	FT
STATION 0+36.50, LT TO STATION 0+48.50, LT (16.00 FT - MEASURED LENGTH INTERSECTION)	=	16.00	FT
STATION 0+48.50, LT TO STATION 1+19.11, LT (119.11 - 48.50 FT)	=	70.61	FT
STATION 1+19.11, LT TO STATION 2+26.70, LT (226.70 - 119.11 FT)	=	107.59	FT
STATION 0+76.50, RT TO STATION 1+35.83, RT (135.83 - 76.50 FT)	=	59.33	FT
STATION 1+35.83, RT TO STATION 1+65.60, RT (165.60 - 135.83 FT)	=	29.77	FT
STATION 2+26.70, LT TO STATION 5+33.92, LT (533.92 - 226.70 FT)	=	307.22	FT
STATION 2+26.70, RT TO STATION 5+50.13, RT (550.13 - 226.70 FT)	=	323.43	FT
STATION 5+69.16, LT TO STATION 7+42.25, LT (742.25 - 569.16 FT)	=	173.09	FT
STATION 6+41.53, RT TO STATION 7+42.25, RT (742.25 - 641.53 FT)	=	100.72	FT
Sub-Total: Use		1,232.76	FT
SUBTOTAL WIRT STREET Sub-Total: Use		1,650.28	FT

RAMP M

STATION 8+19.69, RT TO STATION 8+83.73, BL (73.00 FT)	=	73.00	FT
STATION 8+72.36, LT TO STATION 8+83.73, BL (13.00 FT)	=	13.00	FT
Sub-Total: Use		86.00	FT
ITEM TOTAL: USE		1,736	FT

ITEM 204 SUBGRADE COMPACTION

MAH-193/422 MAINLINE

STATION 16+88.43, CL TO STATION 17+13.42, CL (1,713.42 - 1,688.43 FT) (103.67 FT) (1/9)	=	287.87	SQ YD
STATION 18+31.92, CL TO STATION 18+56.92, CL (1,856.92 - 1,831.92 FT) ((109.07+112.12) / 2 FT) (1/9)	=	307.21	SQ YD
STATION 27+41.79, CL TO STATION 27+66.79, CL (2,766.79 - 2,741.79 FT) ((102.99+104.73) / 2 FT) (1/9)	=	288.50	SQ YD
STATION 35+55.37, CL TO STATION 35+80.37, CL (3,580.37 - 3,555.37 FT) ((125.80+132.62) / 2 FT) (1/9)	=	358.92	SQ YD
STATION 40+23.87, CL TO STATION 40+48.87, CL (4,048.87 - 4,023.87 FT) ((92.0+88.0) / 2 FT) (1/9)	=	250.00	SQ YD
STATION 42+47.44, CL TO STATION 42+72.44, CL (4,272.44 - 4,247.44 FT) (88.0 FT) (1/9)	=	244.44	SQ YD
Sub-Total: Use		1,736.94	SQ YD

WIRT STREET SOUTHBOUND

STATION 0+37.91, BL TO STATION 2+46.67, BL (246.67 - 37.91 FT) (29.0 FT) (1/9)	=	672.67	SQ YD
Sub-Total: Use		672.67	SQ YD

WIRT STREET NORTHBOUND

STATION 0+36.50, BL TO STATION 0+76.50, BL (1,562.88 SQ FT - INTERSECTION CADD AREA) (1/9)	=	173.65	SQ YD
STATION 0+76.50, BL TO STATION 1+35.83, BL (135.83 - 76.50 FT) (29.0 FT) (1/9)	=	191.17	SQ YD
STATION 1+35.83, BL TO STATION 2+30.00, BL (2,862.73 SQ FT - INTERSECTION CADD AREA) (1/9)	=	318.08	SQ YD
STATION 2+30.00, BL TO STATION 5+29.10, BL (529.10 - 230.00 FT) (29.0 FT) (1/9)	=	963.77	SQ YD
STATION 5+29.10, BL TO STATION 6+41.53, BL (3,010.62 SQ FT - INTERSECTION CADD AREA) (1/9)	=	334.51	SQ YD
STATION 6+41.53, BL TO STATION 7+42.25, BL (742.25 - 641.53 FT) (29.0 FT) (1/9)	=	324.54	SQ YD
Sub-Total: Use		2,305.72	SQ YD
SUBTOTAL WIRT STREET Sub-Total: Use		2,978.39	SQ YD
ITEM TOTAL: USE		4,715	SQ YD

ITEM 209 LINEAR GRADING

MAH-193/422 MAINLINE

STATION 20+60.00, LT TO STATION 24+40.00, LT (2,440.00 - 2,060.00 FT) (1/100)	=	3.80	STATION
STATION 36+70.00, LT TO STATION 37+22.00, LT (3,722.00 - 3,670.00 FT) (1/100)	=	0.52	STATION
STATION 47+80.00, LT TO STATION 51+30.00, LT (5,130.00 - 4,780.00 FT) (1/100)	=	3.50	STATION
STATION 52+32.00, LT TO STATION 60+52.00, LT (6,052.00 - 5,232.00 FT) (1/100)	=	8.20	STATION
STATION 62+10.00, LT TO STATION 64+00.00, LT (6,400.00 - 6,210.00 FT) (1/100)	=	1.90	STATION
STATION 24+50.00, RT TO STATION 25+60.00, RT (2,560.00 - 2,450.00 FT) (1/100)	=	1.10	STATION
STATION 50+23.00, RT TO STATION 51+10.00, RT (5,110.00 - 5,023.00 FT) (1/100)	=	0.87	STATION
STATION 52+25.00, RT TO STATION 55+75.00, RT (5,575.00 - 5,225.00 FT) (1/100)	=	3.50	STATION
STATION 57+25.00, RT TO STATION 62+16.00, RT (6,216.00 - 5,725.00 FT) (1/100)	=	4.91	STATION
STATION 63+16.00, RT TO STATION 64+00.00, RT (6,400.00 - 6,316.00 FT) (1/100)	=	0.84	STATION
Sub-Total: Use		29.14	STATION

RAMP E

STATION 0+55.00, RT TO STATION 3+56.00, RT (356.00 - 55.00 FT) (1/100)	=	3.01	STATION
STATION 2+44.00, LT TO STATION 3+28.00, LT (328.00 - 244.00 FT) (1/100)	=	0.84	STATION
Sub-Total: Use		3.85	STATION

RAMP F

STATION 6+53.00, RT TO STATION 9+31.00, RT (931.00 - 653.00 FT) (1/100)	=	2.78	STATION
STATION 6+20.00, LT TO STATION 8+11.00, LT (811.00 - 620.00 FT) (1/100)	=	1.91	STATION
Sub-Total: Use		4.69	STATION

RAMP G

STATION 6+05.00, RT TO STATION 8+22.00, RT (822.00 - 605.00 FT) (1/100)	=	2.17	STATION
STATION 3+55.00, LT TO STATION 6+28.00, LT (628.00 - 355.00 FT) (1/100)	=	2.73	STATION
Sub-Total: Use		4.90	STATION

RAMP H

STATION 0+67.00, RT TO STATION 3+52.00, RT (352.00 - 67.00 FT) (1/100)	=	2.85	STATION
STATION 1+82.00, LT TO STATION 3+50.00, LT (350.00 - 182.00 FT) (1/100)	=	1.68	STATION
STATION 4+75.00, LT TO STATION 4+92.00, LT (492.00 - 475.00 FT) (1/100)	=	0.17	STATION
Sub-Total: Use		4.70	STATION

RAMP J

STATION 7+27.00, RT TO STATION 7+64.00, RT (764.00 - 727.00 FT) (1/100)	=	0.37	STATION
STATION 3+55.00, LT TO STATION 7+83.00, LT (783.00 - 355.00 FT) (1/100)	=	4.28	STATION
Sub-Total: Use		4.65	STATION

RAMP K

STATION 1+14.00, RT TO STATION 1+71.00, RT (171.00 - 114.00 FT) (1/100)	=	0.57	STATION
STATION 0+48.00, LT TO STATION 3+83.00, LT (383.00 - 48.00 FT) (1/100)	=	3.35	STATION
Sub-Total: Use		3.92	STATION

RAMP L

STATION 3+50.00, RT TO STATION 7+56.00, RT (756.00 - 350.00 FT) (1/100)	=	4.06	STATION
STATION 3+50.00, LT TO STATION 5+56.00, LT (556.00 - 350.00 FT) (1/100)	=	2.06	STATION
Sub-Total: Use		6.12	STATION

RAMP M

STATION 2+75.00, RT TO STATION 2+90.00, RT (290.00 - 275.00 FT) (1/100)	=	0.15	STATION
STATION 3+75.00, LT TO STATION 8+72.00, LT (872.00 - 375.00 FT) (1/100)	=	4.97	STATION
Sub-Total: Use		5.12	STATION

CALCULATED GJB
CHECKED EAF

CALCULATIONS

MAH-193-0.46
MAH-422-1.85

ITEM 209 LINEAR GRADING (CONTINUED)

RAMP N

STATION 3+14.00, RT TO STATION 4+75.00, RT (475.00 - 314.00 FT) (1/100)	=	1.61	STATION
STATION 4+41.00, LT TO STATION 4+50.00, LT (450.00 - 441.00 FT) (1/100)	=	0.09	STATION
STATION 8+75.00, LT TO STATION 10+49.00, LT (1,049.00 - 875.00 FT) (1/100)	=	1.74	STATION
Sub-Total: Use		3.44	STATION

RAMP P

STATION 9+35.00, RT TO STATION 9+80.00, RT (980.00 - 935.00 FT) (1/100)	=	0.45	STATION
STATION 7+38.00, LT TO STATION 7+80.00, LT (780.00 - 738.00 FT) (1/100)	=	0.42	STATION
Sub-Total: Use		0.87	STATION

ACCESS RAMP

STATION 0+20.00, LT TO STATION 1+32.00, LT (132.00 - 20.00 FT) (1/100)	=	1.12	STATION
STATION 4+75.00, RT TO STATION 5+29.00, RT (529.00 - 475.00 FT) (1/100)	=	0.54	STATION
Sub-Total: Use		1.66	STATION
ITEM TOTAL: USE		73	STATION

ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE

MAH-193/422 MAINLINE

STATION 14+11.57, LT TO STATION 16+88.42, LT (1,688.42 - 1,411.57 FT) (8.00 FT) (1/9)	=	246.09	SQ YD
STATION 14+11.57, RT TO STATION 16+88.42, RT (1,688.42 - 1,411.57 FT) (8.00 FT) (1/9)	=	246.09	SQ YD
STATION 18+56.92, LT TO STATION 19+71.95, LT (1,971.95 - 1,856.92 FT) ((6.83+5.00) / 2 FT) (1/9)	=	75.60	SQ YD
STATION 19+71.95, LT TO STATION 20+60.74, LT (2,060.74 - 1,971.95 FT) ((6.00+20.00) / 2 FT) (1/9)	=	128.25	SQ YD
STATION 20+60.74, LT TO STATION 24+42.28, LT (2,442.28 - 2,060.74 FT) (10.00 FT) (1/9)	=	423.93	SQ YD
STATION 25+42.28, LT TO STATION 27+41.79, LT (2,741.79 - 2,542.28 FT) ((5.00+6.42) / 2 FT) (1/9)	=	126.58	SQ YD
STATION 18+56.92, RT TO STATION 19+60.74, RT (1,960.74 - 1,856.92 FT) ((6.83+5.00) / 2 FT) (1/9)	=	68.23	SQ YD
STATION 20+60.74, RT TO STATION 25+58.00, RT (2,558.00 - 2,060.74 FT) (10.00 FT) (1/9)	=	552.51	SQ YD
STATION 25+58.00, RT TO STATION 26+47.21, RT (2,647.21 - 2,558.00 FT) ((20.00+6.00) / 2 FT) (1/9)	=	128.86	SQ YD
STATION 26+47.21, RT TO STATION 27+41.79, RT (2,741.79 - 2,647.21 FT) ((5.50+6.42) / 2 FT) (1/9)	=	62.63	SQ YD
STATION 35+72.00, LT TO STATION 36+70.00, LT (3,670.00 - 3,572.00 FT) ((7.00+20.00) / 2 FT) (1/9)	=	147.00	SQ YD
STATION 36+70.00, LT TO STATION 40+23.87, LT (4,023.87 - 3,670.00 FT) (10.00 FT) (1/9)	=	393.19	SQ YD
STATION 37+07.00, RT TO STATION 40+23.87, RT (4,023.87 - 3,707.00 FT) (10.00 FT) (1/9)	=	352.08	SQ YD
STATION 42+72.44, LT TO STATION 44+79.88, LT (4,479.88 - 4,272.44 FT) (10.00 FT) (1/9)	=	230.49	SQ YD
STATION 42+72.44, RT TO STATION 44+79.88, RT (4,479.88 - 4,272.44 FT) (10.00 FT) (1/9)	=	230.49	SQ YD
STATION 46+35.84, LT TO STATION 51+32.27, LT (5,132.27 - 4,635.84 FT) (10.00 FT) (1/9)	=	551.59	SQ YD
STATION 46+35.84, RT TO STATION 51+07.38, RT (5,107.38 - 4,635.84 FT) (10.00 FT) (1/9)	=	523.93	SQ YD
STATION 51+07.38, RT TO STATION 52+25.38, RT (5,225.38 - 5,107.38 FT) ((20.00+7.00) / 2 FT) (1/9)	=	177.00	SQ YD
STATION 52+32.27, LT TO STATION 55+08.88, LT (5,508.88 - 5,232.27 FT) ((4.50+10.00) / 2 FT) (1/9)	=	222.82	SQ YD
STATION 55+08.88, LT TO STATION 59+00.00, LT (5,900.00 - 5,508.88 FT) (10.00 FT) (1/9)	=	434.58	SQ YD
STATION 59+00.00, LT TO STATION 60+52.03, LT (6,052.03 - 5,900.00 FT) ((10.00+7.00) / 2 FT) (1/9)	=	143.58	SQ YD
STATION 52+25.38, RT TO STATION 53+95.66, RT (5,395.66 - 5,225.38 FT) (10.00 FT) (1/9)	=	189.20	SQ YD
STATION 53+95.66, RT TO STATION 59+00.00, RT (5,900.00 - 5,395.66 FT) (10.00 FT) (1/9)	=	560.38	SQ YD
STATION 59+00.00, RT TO STATION 62+15.93, RT (6,215.93 - 5,900.00 FT) ((10.00+4.50) / 2 FT) (1/9)	=	254.50	SQ YD
STATION 60+52.03, LT TO STATION 62+05.03, LT (6,205.03 - 6,052.03 FT) ((7.00+20.00) / 2 FT) (1/9)	=	229.50	SQ YD
STATION 62+05.03, LT TO STATION 65+00.00, LT (6,500.00 - 6,205.03 FT) (10.00 FT) (1/9)	=	327.74	SQ YD
STATION 63+15.93, RT TO STATION 65+00.00, RT (6,500.00 - 6,315.93 FT) (10.00 FT) (1/9)	=	204.52	SQ YD
Sub-Total: Use		7,231.36	SQ YD

RAMP E

STATION 0+55.00, RT TO STATION 3+27.60, RT (327.60 - 55.00 FT) (3.00 FT) (1/9)	=	90.87	SQ YD
STATION 2+43.50, LT TO STATION 3+27.60, LT (327.60 - 243.50 FT) (3.00 FT) (1/9)	=	28.03	SQ YD
STATION 3+27.60, RT TO STATION 5+27.60, RT (527.60 - 327.60 FT) ((5.00+3.00) / 2 FT) (1/9)	=	88.89	SQ YD
STATION 3+27.60, LT TO STATION 4+27.60, LT (427.60 - 327.60 FT) ((3.00+2.00) / 2 FT) (1/9)	=	27.78	SQ YD
Sub-Total: Use		235.57	SQ YD

RAMP F

STATION 5+20.01, LT RT TO STATION 6+20.01, LT RT (620.01 - 520.01 FT) ((8.00+6.00) / 2 FT) (1/9)	=	77.78	SQ YD
STATION 6+20.01, LT RT TO STATION 8+91.47, LT RT (891.47 - 620.01 FT) (6.00 FT) (1/9)	=	180.97	SQ YD
STATION 8+91.47, RT TO STATION 9+30.72, RT (930.72 - 891.47 FT) (3.00 FT) (1/9)	=	13.08	SQ YD
Sub-Total: Use		271.83	SQ YD

RAMP G

STATION 2+54.99, LT RT TO STATION 3+54.99, LT RT (354.99 - 254.99 FT) ((8.00+6.00) / 2 FT) (1/9)	=	77.78	SQ YD
STATION 3+54.99, LT RT TO STATION 6+77.62, LT RT (677.62 - 354.99 FT) (6.00 FT) (1/9)	=	215.09	SQ YD
STATION 6+77.62, RT TO STATION 8+21.60, RT (821.60 - 677.62 FT) (3.00 FT) (1/9)	=	47.99	SQ YD
Sub-Total: Use		340.86	SQ YD

RAMP H

STATION 0+67.00, RT TO STATION 1+82.00, RT (182.00 - 67.00 FT) (3.00 FT) (1/9)	=	38.33	SQ YD
STATION 1+82.00, LT RT TO STATION 4+92.47, LT RT (492.47 - 182.00 FT) (6.00 FT) (1/9)	=	206.98	SQ YD
STATION 4+92.47, LT TO STATION 5+92.47, LT (592.47 - 492.47 FT) ((3.00+2.00) / 2 FT) (1/9)	=	27.78	SQ YD
STATION 4+92.47, RT TO STATION 6+92.47, RT (692.47 - 492.47 FT) ((3.00+3.50) / 2 FT) (1/9)	=	72.22	SQ YD
Sub-Total: Use		345.31	SQ YD

RAMP J

STATION 2+54.99, LT RT TO STATION 3+54.99, LT RT (354.99 - 254.99 FT) ((8.00+6.00) / 2 FT) (1/9)	=	77.78	SQ YD
STATION 3+54.99, LT TO STATION 7+83.11, LT (783.11 - 354.99 FT) (3.00 FT) (1/9)	=	142.71	SQ YD
STATION 3+54.99, RT TO STATION 7+63.99, RT (763.99 - 354.99 FT) (6.00 FT) (1/9)	=	272.67	SQ YD
Sub-Total: Use		493.16	SQ YD

RAMP K

STATION 1+14.00, RT TO STATION 3+82.87, RT (382.87 - 114.00 FT) (3.00 FT) (1/9)	=	89.62	SQ YD
STATION 3+82.87, RT TO STATION 5+71.00, RT (571.00 - 382.87 FT) ((3.00+6.83) / 2 FT) (1/9)	=	102.74	SQ YD
STATION 0+47.57, LT TO STATION 3+82.87, LT (382.87 - 47.57 FT) (3.00 FT) (1/9)	=	111.77	SQ YD
STATION 3+82.87, LT TO STATION 4+82.87, LT (482.87 - 382.87 FT) ((3.00+2.00) / 2 FT) (1/9)	=	27.78	SQ YD
Sub-Total: Use		331.91	SQ YD

RAMP L

STATION 3+50.00, LT RT TO STATION 5+56.21, LT RT (556.21 - 350.00 FT) (6.00 FT) (1/9)	=	137.47	SQ YD
STATION 5+56.21, LT TO STATION 6+56.21, LT (656.21 - 556.21 FT) ((3.00+2.00) / 2 FT)	=	250.00	SQ YD
STATION 5+56.21, RT TO STATION 7+56.21, RT (756.21 - 556.21 FT) ((3.00+7.00) / 2 FT)	=	1,000.00	SQ YD
Sub-Total: Use		1,387.47	SQ YD

RAMP M

STATION 2+75.03, LT RT TO STATION 3+75.03, LT RT (375.03 - 275.03 FT) ((7.50+6.00) / 2 FT) (1/9)	=	75.00	SQ YD
STATION 3+75.03, LT RT TO STATION 8+19.69, LT RT (819.69 - 375.03 FT) (6.00 FT) (1/9)	=	296.44	SQ YD
STATION 8+19.69, LT TO STATION 8+72.36, LT (872.36 - 819.69 FT) (3.00 FT) (1/9)	=	17.56	SQ YD
Sub-Total: Use		389.00	SQ YD

RAMP N

STATION 3+13.96, LT RT TO STATION 4+13.96, LT RT (413.96 - 313.96 FT) ((4.50+3.00) / 2 FT) (1/9)	=	41.67	SQ YD
STATION 4+13.96, LT RT TO STATION 10+55.71, LT RT (1,055.71 - 413.96 FT) (6.00 FT) (1/9)	=	427.83	SQ YD
STATION 10+55.71, LT TO STATION 11+51.59, LT (1,151.59 - 1,055.71 FT) (3.00 FT) (1/9)	=	31.96	SQ YD
Sub-Total: Use		501.46	SQ YD

RAMP P

STATION 0+00.00, LT TO STATION 2+21.89, LT (221.89 - 0.00 FT) (6.00 FT) (1/9)	=	147.93	SQ YD
STATION 2+21.89, LT RT TO STATION 7+80.41, LT RT (780.41 - 221.89 FT) (6.00 FT) (1/9)	=	372.35	SQ YD
STATION 7+80.41, LT TO STATION 8+80.41, LT (880.41 - 780.41 FT) ((3.00+2.00) / 2 FT) (1/9)	=	27.78	SQ YD
STATION 7+80.41, RT TO STATION 9+80.41, RT (980.41 - 780.41 FT) ((3.00+7.00) / 2 FT) (1/9)	=	111.11	SQ YD
Sub-Total: Use		659.17	SQ YD

ACCESS RAMP

STATION 0+19.92, CL TO STATION 5+28.61, CL (528.61 - 19.92 FT) (3.00 FT) (1/9)	=	169.56	SQ YD
Sub-Total: Use		169.56	SQ YD
ITEM TOTAL: USE		12,357	SQ YD

ITEM 255 FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS

RAMP M

STATION 8+19.69, BL TO STATION 8+83.73, BL (11,077.00 SQ FT - INTERSECTION CADD AREA) (1/9)	=	1,230.78	SQ YD
ITEM TOTAL: USE		1,231	SQ YD

ITEM 255 FULL DEPTH PAVEMENT SAWING

RAMP M

STATION 8+19.69, BL TO STATION 8+83.73, BL (75.00 FT - (MEASURED LENGTH))	=	75.00	FT
ITEM TOTAL: USE		75	FT

ITEM 302 ASPHALT CONCRETE BASE, PG64-22

WIRT STREET SOUTHBOUND

STATION 0+37.91, BL TO STATION 2+46.67, BL (246.67 - 37.91 FT) (24.0 FT) (6.0 IN) (1/12) (1/27)	=	92.78	CU YD
Sub-Total: Use		92.78	CU YD

WIRT STREET NORTHBOUND

STATION 0+36.50, BL TO STATION 0+76.50, BL (1,214.99 SQ FT - INTERSECTION CADD AREA) (6.0 IN) (1/12) (1/27)	=	22.50	CU YD
STATION 0+76.50, BL TO STATION 1+35.83, BL (135.83 - 76.50 FT) (24.0 FT) (6.0 IN) (1/12) (1/27)	=	26.37	CU YD
STATION 1+35.83, BL TO STATION 2+30.00, BL (2,364.89 SQ FT - INTERSECTION CADD AREA) (6.0 IN) (1/12) (1/27)	=	43.79	CU YD
STATION 2+30.00, BL TO STATION 5+29.10, BL (529.10 - 230.00 FT) (24.0 FT) (6.0 IN) (1/12) (1/27)	=	132.93	CU YD
STATION 5+29.10, BL TO STATION 6+41.53, BL (2,660.33 SQ FT - INTERSECTION CADD AREA) (6.0 IN) (1/12) (1/27)	=	49.27	CU YD
STATION 6+41.53, BL TO STATION 7+42.25, BL (742.25 - 641.53 FT) (24.0 FT) (6.0 IN) (1/12) (1/27)	=	44.76	CU YD
Sub-Total: Use		319.62	CU YD
ITEM TOTAL: USE		412	CU YD

CALCULATED GJB CHECKED EAF

CALCULATIONS

MAH-193-0.46
MAH-422-1.85

ITEM 304 AGGREGATE BASE, AS PER PLAN

MAH-193/422 MAINLINE (APPROACH SLABS)

STATION 16+88.43, CL TO STATION 17+13.42, CL
(1,713.42 - 1,688.43 FT) (102.67 FT) (6.0 IN) (1/12) (1/27) = 47.52 CU YD

STATION 18+31.92, CL TO STATION 18+56.92, CL
(1,856.92 - 1,831.92 FT) ((108.07+111.12) / 2 FT) (6.0 IN) (1/12) (1/27)= 50.74 CU YD

STATION 27+41.79, CL TO STATION 27+66.79, CL
(2,766.79 - 2,741.79 FT) ((101.99+103.73) / 2 FT) (6.0 IN) (1/12) (1/27) 47.62 CU YD

STATION 35+55.37, CL TO STATION 35+80.37, CL
(3,580.37 - 3,555.37 FT) ((124.80+132.62) / 2 FT) (6.0 IN) (1/12) (1/27) 59.59 CU YD

STATION 40+23.87, CL TO STATION 40+48.87, CL
(4,048.87 - 4,023.87 FT) ((91.0+88.0) / 2 FT) (6.0 IN) (1/12) (1/27) = 41.44 CU YD

STATION 42+47.44, CL TO STATION 42+72.44, CL
(4,272.44 - 4,247.44 FT) (88.0 FT) (6.0 IN) (1/12) (1/27) = 40.74 CU YD

Sub-Total: Use 287.65 CU YD

WIRT STREET SOUTHBOUND

STATION 0+37.91, BL TO STATION 2+46.67, BL
(246.67 - 37.91 FT) (31.0 FT) (6.0 IN) (1/12) (1/27) = 119.84 CU YD

Sub-Total: Use 119.84 CU YD

WIRT STREET NORTHBOUND

STATION 0+36.50, BL TO STATION 0+76.50, BL
(1,521.79 SQ FT - INTERSECTION CADD AREA) (6.0 IN) (1/12) (1/27) = 28.18 CU YD

STATION 0+76.50, BL TO STATION 1+35.83, BL
(135.83 - 76.50 FT) (31.0 FT) (6.0 IN) (1/12) (1/27) = 34.06 CU YD

STATION 1+35.83, BL TO STATION 2+30.00, BL
(2,800.47 SQ FT - INTERSECTION CADD AREA) (6.0 IN) (1/12) (1/27) = 51.86 CU YD

STATION 2+30.00, BL TO STATION 5+29.10, BL
(529.10 - 230.00 FT) (31.0 FT) (6.0 IN) (1/12) (1/27) = 171.71 CU YD

STATION 5+29.10, BL TO STATION 6+41.53, BL
(2,967.33 SQ FT - INTERSECTION CADD AREA) (6.0 IN) (1/12) (1/27) = 54.95 CU YD

STATION 6+41.53, BL TO STATION 7+42.25, BL
(742.25 - 641.53 FT) (31.0 FT) (6.0 IN) (1/12) (1/27) = 57.82 CU YD

Sub-Total: Use 398.58 CU YD

SUBTOTAL WIRT STREET Sub-Total: Use 518.42 CU YD

ITEM TOTAL: USE 806 CU YD

ITEM 407 TACK COAT

MAH-193/422 MAINLINE LANES

STATION 14+11.57, TO STATION 65+00.00,
(31,157.69 SQ YD FROM ITEM 202) (0.075 GAL) = 2,336.83 GALLON

Sub-Total: Use 2,336.83 GALLON

MAINLINE SHOULDERS

STATION 14+11.57, TO STATION 65+00.00,
(7,231.36 SQ YD FROM ITEM 254) (0.075 GAL) = 542.35 GALLON

Sub-Total: Use 542.35 GALLON

RAMP E LANE

STATION 0+55.00 TO STATION 5+27.60
(2,334.09 SQ YD FROM ITEM 202) (0.075 GAL) = 175.06 GALLON

Sub-Total: Use 175.06 GALLON

RAMP E SHOULDERS

STATION 0+55.00 TO STATION 5+27.60
(235.57 SQ YD FROM ITEM 254) (0.075 GAL) = 17.67 GALLON

Sub-Total: Use 17.67 GALLON

RAMP F LANE

STATION 5+20.01 TO STATION 9+60.50
(934.00 SQ YD FROM ITEM 202) (0.075 GAL) = 70.05 GALLON

Sub-Total: Use 70.05 GALLON

RAMP F SHOULDERS

STATION 5+20.01 TO STATION 9+60.50
(271.83 SQ YD FROM ITEM 254) (0.075 GAL) = 20.39 GALLON

Sub-Total: Use 20.39 GALLON

RAMP G LANE

STATION 2+54.99 TO STATION 8+21.60
(1,066.41 SQ YD FROM ITEM 202) (0.075 GAL) = 79.98 GALLON

Sub-Total: Use 79.98 GALLON

RAMP G SHOULDERS

STATION 2+54.99 TO STATION 8+21.60
(340.86 SQ YD FROM ITEM 254) (0.075 GAL) = 25.56 GALLON

Sub-Total: Use 25.56 GALLON

RAMP H LANE

STATION 0+25.00 TO STATION 6+92.47
(1,119.95 SQ YD FROM ITEM 202) (0.075 GAL) = 84.00 GALLON

Sub-Total: Use 84.00 GALLON

RAMP H SHOULDERS

STATION 0+67.00 TO STATION 6+92.47
(345.31 SQ YD FROM ITEM 254) (0.075 GAL) = 25.90 GALLON

Sub-Total: Use 25.90 GALLON

RAMP J LANE

STATION 2+54.99 TO STATION 8+10.20
(1,961.89 SQ YD FROM ITEM 202) (0.075 GAL) = 147.14 GALLON

Sub-Total: Use 147.14 GALLON

RAMP J SHOULDERS

STATION 2+54.99 TO STATION 7+63.99
(493.16 SQ YD FROM ITEM 254) (0.075 GAL) = 36.99 GALLON

Sub-Total: Use 36.99 GALLON

RAMP K LANE

STATION 0+24.50 TO STATION 5+71.00
(1,431.13 SQ YD FROM ITEM 202) (0.075 GAL) = 107.33 GALLON

Sub-Total: Use 107.33 GALLON

RAMP K SHOULDERS

STATION 1+14.00 TO STATION 4+82.87
(331.91 SQ YD FROM ITEM 254) (0.075 GAL) = 24.89 GALLON

Sub-Total: Use 24.89 GALLON

RAMP L LANE

STATION 0+00.00 TO STATION 7+56.21
(1,592.45 SQ YD FROM ITEM 202) (0.075 GAL) = 119.43 GALLON

Sub-Total: Use 119.43 GALLON

RAMP L SHOULDERS

STATION 3+50.00 TO STATION 7+56.21
(1,387.47 SQ YD FROM ITEM 254) (0.075 GAL) = 104.06 GALLON

Sub-Total: Use 104.06 GALLON

RAMP M LANE

STATION 2+75.03 TO STATION 8+83.75
(1,585.69 SQ YD FROM ITEM 202) (0.075 GAL) = 118.93 GALLON

Sub-Total: Use 118.93 GALLON

RAMP M SHOULDERS

STATION 2+75.03 TO STATION 8+72.36
(389.00 SQ YD FROM ITEM 254) (0.075 GAL) = 29.18 GALLON

Sub-Total: Use 29.18 GALLON

RAMP N LANE

STATION 3+13.96 TO STATION 11+77.41
(1,583.85 SQ YD FROM ITEM 202) (0.075 GAL) = 118.79 GALLON

Sub-Total: Use 118.79 GALLON

RAMP N SHOULDERS

STATION 3+13.96 TO STATION 11+77.41
(501.46 SQ YD FROM ITEM 254) (0.075 GAL) = 37.61 GALLON

Sub-Total: Use 37.61 GALLON

RAMP P LANE

STATION 2+21.63 TO STATION 9+80.41
(1,349.32 SQ YD FROM ITEM 202) (0.075 GAL) = 101.20 GALLON

Sub-Total: Use 101.20 GALLON

RAMP P SHOULDERS

STATION 0+00.00 TO STATION 9+80.41
(659.17 SQ YD FROM ITEM 254) (0.075 GAL) = 49.44 GALLON

Sub-Total: Use 49.44 GALLON

ACCESS RAMP LANES

STATION 0+00.00 TO STATION 5+40.71
(12,018.30 SQ YD FROM ITEM 202) (0.075 GAL) = 901.37 GALLON

Sub-Total: Use 901.37 GALLON

ACCESS RAMP SHOULDER

STATION 0+19.92 TO STATION 5+28.61
(169.56 SQ YD FROM ITEM 254) (0.075 GAL) = 12.72 GALLON

Sub-Total: Use 12.72 GALLON

ITEM TOTAL: USE 5,287 GALLON

ITEM 407 TACK COAT FOR INTERMEDIATE COURSE

MAH-193/422 MAINLINE LANES

STATION 14+11.57, TO STATION 65+00.00,
(31,157.69 SQ YD FROM ITEM 202) (0.04 GAL) = 1,246.31 GALLON

Sub-Total: Use 1,246.31 GALLON

MAINLINE SHOULDERS

STATION 14+11.57, TO STATION 65+00.00,
(7,231.36 SQ YD FROM ITEM 254) (0.04 GAL) = 289.25 GALLON

Sub-Total: Use 289.25 GALLON

RAMP E LANE

STATION 0+55.00 TO STATION 5+27.60
(2,334.09 SQ YD FROM ITEM 202) (0.04 GAL) = 93.36 GALLON

Sub-Total: Use 93.36 GALLON

RAMP E SHOULDERS

STATION 0+55.00 TO STATION 5+27.60
(235.57 SQ YD FROM ITEM 254) (0.04 GAL) = 9.42 GALLON

Sub-Total: Use 9.42 GALLON

RAMP F LANE

STATION 5+20.01 TO STATION 9+60.50
(934.00 SQ YD FROM ITEM 202) (0.04 GAL) = 37.36 GALLON

Sub-Total: Use 37.36 GALLON

RAMP F SHOULDERS

STATION 5+20.01 TO STATION 9+60.50
(271.83 SQ YD FROM ITEM 254) (0.04 GAL) = 10.87 GALLON

Sub-Total: Use 10.87 GALLON

RAMP G LANE

STATION 2+54.99 TO STATION 8+21.60
(1,066.41 SQ YD FROM ITEM 202) (0.04 GAL) = 42.66 GALLON

Sub-Total: Use 42.66 GALLON

RAMP G SHOULDERS

STATION 2+54.99 TO STATION 8+21.60
(340.86 SQ YD FROM ITEM 254) (0.04 GAL) = 13.63 GALLON

Sub-Total: Use 13.63 GALLON

RAMP H LANE

STATION 0+25.00 TO STATION 6+92.47
(1,119.95 SQ YD FROM ITEM 202) (0.04 GAL) = 44.80 GALLON

Sub-Total: Use 44.80 GALLON

RAMP H SHOULDERS

STATION 0+67.00 TO STATION 6+92.47
(345.31 SQ YD FROM ITEM 254) (0.04 GAL) = 13.81 GALLON

Sub-Total: Use 13.81 GALLON

RAMP J LANE

STATION 2+54.99 TO STATION 8+10.20
(1,961.89 SQ YD FROM ITEM 202) (0.04 GAL) = 78.48 GALLON

Sub-Total: Use 78.48 GALLON

RAMP J SHOULDERS

STATION 2+54.99 TO STATION 7+63.99
(493.16 SQ YD FROM ITEM 254) (0.04 GAL) = 19.73 GALLON

Sub-Total: Use 19.73 GALLON

RAMP K LANE

STATION 0+24.50 TO STATION 5+71.00
(1,431.13 SQ YD FROM ITEM 202) (0.04 GAL) = 57.25 GALLON

Sub-Total: Use 57.25 GALLON

RAMP K SHOULDERS

STATION 1+14.00 TO STATION 4+82.87
(331.91 SQ YD FROM ITEM 254) (0.04 GAL) = 13.28 GALLON

Sub-Total: Use 13.28 GALLON

RAMP L LANE

STATION 0+00.00 TO STATION 7+56.21
(1,592.45 SQ YD FROM ITEM 202) (0.04 GAL) = 63.70 GALLON

Sub-Total: Use 63.70 GALLON

RAMP L SHOULDERS

STATION 3+50.00 TO STATION 7+56.21
(1,387.47 SQ YD FROM ITEM 254) (0.04 GAL) = 55.50 GALLON

Sub-Total: Use 55.50 GALLON

CALCULATED GJB
CHECKED EAF

CALCULATIONS

MAH-193-0.46
MAH-422-1.85

ITEM 407 TACK COAT FOR INTERMEDIATE COURSE (CONTINUED)

RAMP M LANE
STATION 2+75.03 TO STATION 8+83.75
(1,585.69 SQ YD FROM ITEM 202) (0.04 GAL) = 63.43 GALLON
Sub-Total: Use 63.43 GALLON

RAMP M SHOULDERS
STATION 2+75.03 TO STATION 8+72.36
(389.00 SQ YD FROM ITEM 254) (0.04 GAL) = 15.56 GALLON
Sub-Total: Use 15.56 GALLON

RAMP N LANE
STATION 3+13.96 TO STATION 11+77.41
(1,583.85 SQ YD FROM ITEM 202) (0.04 GAL) = 63.35 GALLON
Sub-Total: Use 63.35 GALLON

RAMP N SHOULDERS
STATION 3+13.96 TO STATION 11+77.41
(501.46 SQ YD FROM ITEM 254) (0.04 GAL) = 20.06 GALLON
Sub-Total: Use 20.06 GALLON

RAMP P LANE
STATION 2+21.63 TO STATION 9+80.41
(1,349.32 SQ YD FROM ITEM 202) (0.04 GAL) = 53.97 GALLON
Sub-Total: Use 53.97 GALLON

RAMP P SHOULDERS
STATION 0+00.00 TO STATION 9+80.41
(659.17 SQ YD FROM ITEM 254) (0.04 GAL) = 26.37 GALLON
Sub-Total: Use 26.37 GALLON

ACCESS RAMP LANES
STATION 0+00.00 TO STATION 5+40.71
(12,018.30 SQ YD FROM ITEM 202) (0.04 GAL) = 480.73 GALLON
Sub-Total: Use 480.73 GALLON

ACCESS RAMP SHOULDER
STATION 0+19.92 TO STATION 5+28.61
(169.56 SQ YD FROM ITEM 254) (0.04 GAL) = 6.78 GALLON
Sub-Total: Use 6.78 GALLON

WIRT STREET SOUTHBOUND
STATION 0+37.91, BL TO STATION 2+46.67, BL
(246.67 - 37.91 FT) (24.0 FT) (0.04 GAL) (2 APPLS.) (1/9) = 44.54 GALLON
Sub-Total: Use 44.54 GALLON

WIRT STREET NORTHBOUND
STATION 0+36.50, BL TO STATION 0+76.50, BL
(1,214.99 SQ FT - INTER. CADD AREA) (0.04 GAL) (2 APPLS.) (1/9) = 10.80 GALLON
STATION 0+76.50, BL TO STATION 1+35.83, BL
(135.83 - 76.50 FT) (24.0 FT) (0.04 GAL) (2 APPLS.) (1/9) = 12.66 GALLON
STATION 1+35.83, BL TO STATION 2+30.00, BL
(2,364.89 SQ FT - INTER. CADD AREA) (0.04 GAL) (2 APPLS.) (1/9) = 21.02 GALLON
STATION 2+30.00, BL TO STATION 5+29.10, BL
(529.10 - 230.00 FT) (24.0 FT) (0.04 GAL) (2 APPLS.) (1/9) = 63.81 GALLON
STATION 5+29.10, BL TO STATION 6+41.53, BL
(2,660.33 SQ FT - INTER. CADD AREA) (0.04 GAL) (2 APPLS.) (1/9) = 23.65 GALLON
STATION 6+41.53, BL TO STATION 7+42.25, BL
(742.25 - 641.53 FT) (24.0 FT) (0.04 GAL) (2 APPLS.) (1/9) = 21.49 GALLON
Sub-Total: Use 153.43 GALLON
WIRT STREET SUBTOTAL Sub-Total: Use 197.97 GALLON

ITEM TOTAL: USE 3,018 GALLON

ITEM 408 PRIME COAT

WIRT STREET SOUTHBOUND
STATION 0+37.91, BL TO STATION 2+46.67, BL
(246.67 - 37.91 FT) (24.0 FT) (0.4 GAL) (1/9) = 222.68 GALLON
Sub-Total: Use 222.68 GALLON

WIRT STREET NORTHBOUND
STATION 0+36.50, BL TO STATION 0+76.50, BL
(1,214.99 SQ FT - INTERSECTION CADD AREA) (0.4 GAL) (1/9) = 54.00 GALLON
STATION 0+76.50, BL TO STATION 1+35.83, BL
(135.83 - 76.50 FT) (24.0 FT) (0.4 GAL) (1/9) = 63.29 GALLON
STATION 1+35.83, BL TO STATION 2+30.00, BL
(2,364.89 SQ FT - INTERSECTION CADD AREA) (0.4 GAL) (1/9) = 105.11 GALLON
STATION 2+30.00, BL TO STATION 5+29.10, BL
(529.10 - 230.00 FT) (24.0 FT) (0.4 GAL) (1/9) = 319.04 GALLON
STATION 5+29.10, BL TO STATION 6+41.53, BL
(2,660.33 SQ FT - INTERSECTION CADD AREA) (0.4 GAL) (1/9) = 118.24 GALLON
STATION 6+41.53, BL TO STATION 7+42.25, BL
(742.25 - 641.53 FT) (24.0 FT) (0.4 GAL) (1/9) = 107.43 GALLON
Sub-Total: Use 767.11 GALLON

ITEM TOTAL: USE 990 GALLON

ITEM 408 PRIME COAT, AS PER PLAN

MAH-193/422 MAINLINE
STATION 20+60.00, LT TO STATION 24+40.00, LT
(2,440.00 - 2,060.00 FT) (2 FT) (0.4 GAL) (1/9) = 33.78 GALLON
STATION 36+70.00, LT TO STATION 37+22.00, LT
(3,722.00 - 3,670.00 FT) (2 FT) (0.4 GAL) (1/9) = 4.62 GALLON
STATION 47+80.00, LT TO STATION 51+30.00, LT
(5,130.00 - 4,780.00 FT) (2 FT) (0.4 GAL) (1/9) = 31.11 GALLON
STATION 52+32.00, LT TO STATION 60+52.00, LT
(6,052.00 - 5,232.00 FT) (2 FT) (0.4 GAL) (1/9) = 72.89 GALLON
STATION 62+10.00, LT TO STATION 64+00.00, LT
(6,400.00 - 6,210.00 FT) (2 FT) (0.4 GAL) (1/9) = 16.89 GALLON
STATION 24+50.00, RT TO STATION 25+60.00, RT
(2,560.00 - 2,450.00 FT) (2 FT) (0.4 GAL) (1/9) = 9.78 GALLON
STATION 50+23.00, RT TO STATION 51+10.00, RT
(5,110.00 - 5,023.00 FT) (2 FT) (0.4 GAL) (1/9) = 7.73 GALLON
STATION 52+25.00, RT TO STATION 55+75.00, RT
(5,575.00 - 5,225.00 FT) (2 FT) (0.4 GAL) (1/9) = 31.11 GALLON
STATION 57+25.00, RT TO STATION 62+16.00, RT
(6,216.00 - 5,725.00 FT) (2 FT) (0.4 GAL) (1/9) = 43.64 GALLON
STATION 63+16.00, RT TO STATION 64+00.00, RT
(6,400.00 - 6,316.00 FT) (2 FT) (0.4 GAL) (1/9) = 7.47 GALLON
Sub-Total: Use 259.02 GALLON

RAMP E
STATION 0+55.00, RT TO STATION 3+56.00, RT
(356.00 - 55.00 FT) (2 FT) (0.4 GAL) (1/9) = 26.76 GALLON
STATION 2+44.00, LT TO STATION 3+28.00, LT
(328.00 - 244.00 FT) (2 FT) (0.4 GAL) (1/9) = 7.47 GALLON
Sub-Total: Use 34.23 GALLON

RAMP F
STATION 6+53.00, RT TO STATION 9+31.00, RT
(931.00 - 653.00 FT) (2 FT) (0.4 GAL) (1/9) = 24.71 GALLON
STATION 6+20.00, LT TO STATION 8+11.00, LT
(811.00 - 620.00 FT) (2 FT) (0.4 GAL) (1/9) = 16.98 GALLON
Sub-Total: Use 41.69 GALLON

RAMP G
STATION 6+03.00, RT TO STATION 8+22.00, RT
(822.00 - 603.00 FT) (2 FT) (0.4 GAL) (1/9) = 19.47 GALLON
STATION 3+55.00, LT TO STATION 6+28.00, LT
(628.00 - 355.00 FT) (2 FT) (0.4 GAL) (1/9) = 24.27 GALLON
Sub-Total: Use 43.74 GALLON

RAMP H
STATION 0+67.00, RT TO STATION 3+52.00, RT
(352.00 - 67.00 FT) (2 FT) (0.4 GAL) (1/9) = 25.33 GALLON
STATION 1+82.00, LT TO STATION 3+50.00, LT
(350.00 - 182.00 FT) (2 FT) (0.4 GAL) (1/9) = 14.93 GALLON
STATION 4+75.00, LT TO STATION 4+92.00, LT
(492.00 - 475.00 FT) (2 FT) (0.4 GAL) (1/9) = 1.51 GALLON
Sub-Total: Use 41.77 GALLON

RAMP J
STATION 7+27.00, RT TO STATION 7+64.00, RT
(764.00 - 727.00 FT) (2 FT) (0.4 GAL) (1/9) = 3.29 GALLON
STATION 3+55.00, LT TO STATION 7+83.00, LT
(783.00 - 355.00 FT) (2 FT) (0.4 GAL) (1/9) = 38.04 GALLON
Sub-Total: Use 41.33 GALLON

RAMP K
STATION 1+14.00, RT TO STATION 1+71.00, RT
(171.00 - 114.00 FT) (2 FT) (0.4 GAL) (1/9) = 5.07 GALLON
STATION 0+48.00, LT TO STATION 3+83.00, LT
(383.00 - 48.00 FT) (2 FT) (0.4 GAL) (1/9) = 29.78 GALLON
Sub-Total: Use 34.85 GALLON

RAMP L
STATION 3+50.00, RT TO STATION 7+56.00, RT
(756.00 - 350.00 FT) (2 FT) (0.4 GAL) (1/9) = 36.09 GALLON
STATION 3+50.00, LT TO STATION 5+56.00, LT
(556.00 - 350.00 FT) (2 FT) (0.4 GAL) (1/9) = 18.31 GALLON
Sub-Total: Use 54.40 GALLON

RAMP M
STATION 2+75.00, RT TO STATION 2+90.00, RT
(290.00 - 275.00 FT) (2 FT) (0.4 GAL) (1/9) = 1.33 GALLON
STATION 3+75.00, LT TO STATION 8+72.00, LT
(872.00 - 375.00 FT) (2 FT) (0.4 GAL) (1/9) = 44.18 GALLON
Sub-Total: Use 45.51 GALLON

RAMP N
STATION 3+14.00, RT TO STATION 4+75.00, RT
(475.00 - 314.00 FT) (2 FT) (0.4 GAL) (1/9) = 14.31 GALLON
STATION 4+41.00, LT TO STATION 4+50.00, LT
(450.00 - 441.00 FT) (2 FT) (0.4 GAL) (1/9) = 0.80 GALLON
STATION 8+75.00, LT TO STATION 10+49.00, LT
(1,049.00 - 875.00 FT) (2 FT) (0.4 GAL) (1/9) = 15.47 GALLON
Sub-Total: Use 30.58 GALLON

RAMP P
STATION 9+35.00, RT TO STATION 9+80.00, RT
(980.00 - 935.00 FT) (2 FT) (0.4 GAL) (1/9) = 4.00 GALLON
STATION 7+38.00, LT TO STATION 7+80.00, LT
(780.00 - 738.00 FT) (2 FT) (0.4 GAL) (1/9) = 3.73 GALLON
Sub-Total: Use 7.73 GALLON

ACCESS RAMP
STATION 0+20.00, LT TO STATION 1+32.00, LT
(132.00 - 20.00 FT) (2 FT) (0.4 GAL) (1/9) = 9.96 GALLON
STATION 4+75.00, RT TO STATION 5+29.00, RT
(529.00 - 475.00 FT) (2 FT) (0.4 GAL) (1/9) = 4.80 GALLON
Sub-Total: Use 14.76 GALLON

ITEM TOTAL: USE 650 GALLON

ITEM 424 FINE GRADED POLYMER ASPHALT CONCRETE, TYPE A

WIRT STREET SOUTHBOUND
STATION 0+37.91, BL TO STATION 2+46.67, BL
(246.67 - 37.91 FT) (24.0 FT) (0.75 IN) (1/12) (1/27) = 11.60 CU YD
Sub-Total: Use 11.60 CU YD

WIRT STREET NORTHBOUND
STATION 0+36.50, BL TO STATION 0+76.50, BL
(1,214.99 SQ FT - INTERSECTION CADD AREA) (0.75 IN) (1/12) (1/27) = 2.81 CU YD
STATION 0+76.50, BL TO STATION 1+35.83, BL
(135.83 - 76.50 FT) (24.0 FT) (0.75 IN) (1/12) (1/27) = 3.30 CU YD
STATION 1+35.83, BL TO STATION 2+30.00, BL
(2,364.89 SQ FT - INTERSECTION CADD AREA) (0.75 IN) (1/12) (1/27) = 5.47 CU YD
STATION 2+30.00, BL TO STATION 5+29.10, BL
(529.10 - 230.00 FT) (24.0 FT) (0.75 IN) (1/12) (1/27) = 16.62 CU YD
STATION 5+29.10, BL TO STATION 6+41.53, BL
(2,660.33 SQ FT - INTERSECTION CADD AREA) (0.75 IN) (1/12) (1/27) = 6.16 CU YD
STATION 6+41.53, BL TO STATION 7+42.25, BL
(742.25 - 641.53 FT) (24.0 FT) (0.75 IN) (1/12) (1/27) = 5.60 CU YD
Sub-Total: Use 39.96 CU YD

ITEM TOTAL: USE 52 CU YD

CALCULATED GJB
CHECKED EAF

CALCULATIONS

MAH-193-0.46
MAH-422-1.85

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

MAH-193/422 MAINLINE LANES
STATION 14+11.57, TO STATION 65+00.00,
(31,157.69 SQ YD FROM ITEM 202) (1.5 IN) (1/36) = 1,298.24 CU YD
Sub-Total: Use 1,298.24 CU YD

MAINLINE SHOULDERS
STATION 14+11.57, TO STATION 65+00.00,
(7,231.36 SQ YD FROM ITEM 254) (1.5 IN) (1/36) = 301.31 CU YD
Sub-Total: Use 301.31 CU YD

RAMP E LANE
STATION 0+55.00 TO STATION 5+27.60
(2,334.09 SQ YD FROM ITEM 202) (1.5 IN) (1/36) = 97.25 CU YD
Sub-Total: Use 97.25 CU YD

RAMP E SHOULDERS
STATION 0+55.00 TO STATION 5+27.60
(235.57 SQ YD FROM ITEM 254) (1.5 IN) (1/36) = 9.82 CU YD
Sub-Total: Use 9.82 CU YD

RAMP F LANE
STATION 5+20.01 TO STATION 9+60.50
(934.00 SQ YD FROM ITEM 202) (1.5 IN) (1/36) = 38.92 CU YD
Sub-Total: Use 38.92 CU YD

RAMP F SHOULDERS
STATION 5+20.01 TO STATION 9+60.50
(271.83 SQ YD FROM ITEM 254) (1.5 IN) (1/36) = 11.33 CU YD
Sub-Total: Use 11.33 CU YD

RAMP G LANE
STATION 2+54.99 TO STATION 8+21.60
(1,066.41 SQ YD FROM ITEM 202) (1.5 IN) (1/36) = 44.43 CU YD
Sub-Total: Use 44.43 CU YD

RAMP G SHOULDERS
STATION 2+54.99 TO STATION 8+21.60
(340.86 SQ YD FROM ITEM 254) (1.5 IN) (1/36) = 14.20 CU YD
Sub-Total: Use 14.20 CU YD

RAMP H LANE
STATION 0+25.00 TO STATION 6+92.47
(1,119.95 SQ YD FROM ITEM 202) (1.5 IN) (1/36) = 46.66 CU YD
Sub-Total: Use 46.66 CU YD

RAMP H SHOULDERS
STATION 0+67.00 TO STATION 6+92.47
(345.31 SQ YD FROM ITEM 254) (1.5 IN) (1/36) = 14.39 CU YD
Sub-Total: Use 14.39 CU YD

RAMP J LANE
STATION 2+54.99 TO STATION 8+10.20
(1,961.89 SQ YD FROM ITEM 202) (1.5 IN) (1/36) = 81.75 CU YD
Sub-Total: Use 81.75 CU YD

RAMP J SHOULDERS
STATION 2+54.99 TO STATION 7+63.99
(493.16 SQ YD FROM ITEM 254) (1.5 IN) (1/36) = 20.55 CU YD
Sub-Total: Use 20.55 CU YD

RAMP K LANE
STATION 0+24.50 TO STATION 5+71.00
(1,431.13 SQ YD FROM ITEM 202) (1.5 IN) (1/36) = 59.63 CU YD
Sub-Total: Use 59.63 CU YD

RAMP K SHOULDERS
STATION 1+14.00 TO STATION 4+82.87
(331.91 SQ YD FROM ITEM 254) (1.5 IN) (1/36) = 13.83 CU YD
Sub-Total: Use 13.83 CU YD

RAMP L LANE
STATION 0+00.00 TO STATION 7+56.21
(1,592.45 SQ YD FROM ITEM 202) (1.5 IN) (1/36) = 66.35 CU YD
Sub-Total: Use 66.35 CU YD

RAMP L SHOULDERS
STATION 3+50.00 TO STATION 7+56.21
(1,387.47 SQ YD FROM ITEM 254) (1.5 IN) (1/36) = 57.81 CU YD
Sub-Total: Use 57.81 CU YD

RAMP M LANE
STATION 2+75.03 TO STATION 8+83.75
(1,585.69 SQ YD FROM ITEM 202) (1.5 IN) (1/36) = 66.07 CU YD
Sub-Total: Use 66.07 CU YD

RAMP M SHOULDERS
STATION 2+75.03 TO STATION 8+72.36
(389.00 SQ YD FROM ITEM 254) (1.5 IN) (1/36) = 16.21 CU YD
Sub-Total: Use 16.21 CU YD

RAMP N LANE
STATION 3+13.96 TO STATION 11+77.41
(1,583.85 SQ YD FROM ITEM 202) (1.5 IN) (1/36) = 65.99 CU YD
Sub-Total: Use 65.99 CU YD

RAMP N SHOULDERS
STATION 3+13.96 TO STATION 11+77.41
(501.46 SQ YD FROM ITEM 254) (1.5 IN) (1/36) = 20.89 CU YD
Sub-Total: Use 20.89 CU YD

RAMP P LANE
STATION 2+21.63 TO STATION 9+80.41
(1,349.32 SQ YD FROM ITEM 202) (1.5 IN) (1/36) = 56.22 CU YD
Sub-Total: Use 56.22 CU YD

RAMP P SHOULDERS
STATION 0+00.00 TO STATION 9+80.41
(659.17 SQ YD FROM ITEM 254) (1.5 IN) (1/36) = 27.47 CU YD
Sub-Total: Use 27.47 CU YD

ACCESS RAMP LANES
STATION 0+00.00 TO STATION 5+40.71
(12,018.30 SQ YD FROM ITEM 202) (1.5 IN) (1/36) = 500.76 CU YD
Sub-Total: Use 500.76 CU YD

ACCESS RAMP SHOULDER
STATION 0+19.92 TO STATION 5+28.61
(169.56 SQ YD FROM ITEM 254) (1.5 IN) (1/36) = 7.07 CU YD
Sub-Total: Use 7.07 CU YD

ITEM TOTAL: USE 2,937 CU YD

ITEM 442 ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE B (446), AS PER PLAN

MAH-193/422 MAINLINE LANES
STATION 14+11.57, TO STATION 65+00.00,
(31,157.69 SQ YD FROM ITEM 202) (1.75 IN) (1/36) = 1,514.61 CU YD
Sub-Total: Use 1,514.61 CU YD

MAINLINE SHOULDERS
STATION 14+11.57, TO STATION 65+00.00,
(7,231.36 SQ YD FROM ITEM 254) (1.75 IN) (1/36) = 351.52 CU YD
Sub-Total: Use 351.52 CU YD

RAMP E LANE
STATION 0+55.00 TO STATION 5+27.60
(2,334.09 SQ YD FROM ITEM 202) (1.75 IN) (1/36) = 113.46 CU YD
Sub-Total: Use 113.46 CU YD

RAMP E SHOULDERS
STATION 0+55.00 TO STATION 5+27.60
(235.57 SQ YD FROM ITEM 254) (1.75 IN) (1/36) = 11.45 CU YD
Sub-Total: Use 11.45 CU YD

RAMP F LANE
STATION 5+20.01 TO STATION 9+60.50
(934.00 SQ YD FROM ITEM 202) (1.75 IN) (1/36) = 45.40 CU YD
Sub-Total: Use 45.40 CU YD

RAMP F SHOULDERS
STATION 5+20.01 TO STATION 9+60.50
(271.83 SQ YD FROM ITEM 254) (1.75 IN) (1/36) = 13.21 CU YD
Sub-Total: Use 13.21 CU YD

RAMP G LANE
STATION 2+54.99 TO STATION 8+21.60
(1,066.41 SQ YD FROM ITEM 202) (1.75 IN) (1/36) = 51.84 CU YD
Sub-Total: Use 51.84 CU YD

RAMP G SHOULDERS
STATION 2+54.99 TO STATION 8+21.60
(340.86 SQ YD FROM ITEM 254) (1.75 IN) (1/36) = 16.57 CU YD
Sub-Total: Use 16.57 CU YD

RAMP H LANE
STATION 0+25.00 TO STATION 6+92.47
(1,119.95 SQ YD FROM ITEM 202) (1.75 IN) (1/36) = 54.44 CU YD
Sub-Total: Use 54.44 CU YD

RAMP H SHOULDERS
STATION 0+67.00 TO STATION 6+92.47
(345.31 SQ YD FROM ITEM 254) (1.75 IN) (1/36) = 16.79 CU YD
Sub-Total: Use 16.79 CU YD

RAMP J LANE
STATION 2+54.99 TO STATION 8+10.20
(1,961.89 SQ YD FROM ITEM 202) (1.75 IN) (1/36) = 95.37 CU YD
Sub-Total: Use 95.37 CU YD

RAMP J SHOULDERS
STATION 2+54.99 TO STATION 7+63.99
(493.16 SQ YD FROM ITEM 254) (1.75 IN) (1/36) = 23.97 CU YD
Sub-Total: Use 23.97 CU YD

RAMP K LANE
STATION 0+24.50 TO STATION 5+71.00
(1,431.13 SQ YD FROM ITEM 202) (1.75 IN) (1/36) = 69.57 CU YD
Sub-Total: Use 69.57 CU YD

RAMP K SHOULDERS
STATION 1+14.00 TO STATION 4+82.87
(331.91 SQ YD FROM ITEM 254) (1.75 IN) (1/36) = 16.13 CU YD
Sub-Total: Use 16.13 CU YD

RAMP L LANE
STATION 0+00.00 TO STATION 7+56.21
(1,592.45 SQ YD FROM ITEM 202) (1.75 IN) (1/36) = 77.41 CU YD
Sub-Total: Use 77.41 CU YD

RAMP L SHOULDERS
STATION 3+50.00 TO STATION 7+56.21
(1,387.47 SQ YD FROM ITEM 254) (1.75 IN) (1/36) = 67.45 CU YD
Sub-Total: Use 67.45 CU YD

RAMP M LANE
STATION 2+75.03 TO STATION 8+83.75
(1,585.69 SQ YD FROM ITEM 202) (1.75 IN) (1/36) = 77.08 CU YD
Sub-Total: Use 77.08 CU YD

RAMP M SHOULDERS
STATION 2+75.03 TO STATION 8+72.36
(389.00 SQ YD FROM ITEM 254) (1.75 IN) (1/36) = 18.91 CU YD
Sub-Total: Use 18.91 CU YD

RAMP N LANE
STATION 3+13.96 TO STATION 11+77.41
(1,583.85 SQ YD FROM ITEM 202) (1.75 IN) (1/36) = 76.99 CU YD
Sub-Total: Use 76.99 CU YD

RAMP N SHOULDERS
STATION 3+13.96 TO STATION 11+77.41
(501.46 SQ YD FROM ITEM 254) (1.75 IN) (1/36) = 24.38 CU YD
Sub-Total: Use 24.38 CU YD

RAMP P LANE
STATION 2+21.63 TO STATION 9+80.41
(1,349.32 SQ YD FROM ITEM 202) (1.75 IN) (1/36) = 65.59 CU YD
Sub-Total: Use 65.59 CU YD

RAMP P SHOULDERS
STATION 0+00.00 TO STATION 9+80.41
(659.17 SQ YD FROM ITEM 254) (1.75 IN) (1/36) = 32.04 CU YD
Sub-Total: Use 32.04 CU YD

ACCESS RAMP LANES
STATION 0+00.00 TO STATION 5+40.71
(12,018.30 SQ YD FROM ITEM 202) (1.75 IN) (1/36) = 584.22 CU YD
Sub-Total: Use 584.22 CU YD

ACCESS RAMP SHOULDER
STATION 0+19.92 TO STATION 5+28.61
(169.56 SQ YD FROM ITEM 254) (1.75 IN) (1/36) = 8.24 CU YD
Sub-Total: Use 8.24 CU YD

ITEM TOTAL: USE 3,427 CU YD

ITEM 448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22

WIRT STREET SOUTHBOUND
STATION 0+37.91, BL TO STATION 2+46.67, BL
(246.67 - 37.91 FT) (24.0 FT) (1.75 IN) (1/12) (1/27) = 27.06 CU YD
Sub-Total: Use 27.06 CU YD

WIRT STREET NORTHBOUND
STATION 0+36.50, BL TO STATION 0+76.50, BL
(1,214.99 SQ FT - INTERSECTION CADD AREA) (1.75 IN) (1/12) (1/27) = 6.56 CU YD
STATION 0+76.50, BL TO STATION 1+35.83, BL
(135.83 - 76.50 FT) (24.0 FT) (1.75 IN) (1/12) (1/27) = 7.69 CU YD
STATION 1+35.83, BL TO STATION 2+30.00, BL
(2,364.89 SQ FT - INTERSECTION CADD AREA) (1.75 IN) (1/12) (1/27) = 12.77 CU YD
STATION 2+30.00, BL TO STATION 5+29.10, BL
(529.10 - 230.00 FT) (24.0 FT) (1.75 IN) (1/12) (1/27) = 38.77 CU YD
STATION 5+29.10, BL TO STATION 6+41.53, BL
(2,660.33 SQ FT - INTERSECTION CADD AREA) (1.75 IN) (1/12) (1/27) = 14.37 CU YD
STATION 6+41.53, BL TO STATION 7+42.25, BL
(742.25 - 641.53 FT) (24.0 FT) (1.75 IN) (1/12) (1/27) = 13.06 CU YD
Sub-Total: Use 93.22 CU YD

ITEM TOTAL: USE 120 CU YD

CALCULATED GJB
CHECKED EAF

CALCULATIONS

MAH-193-0.46
MAH-422-1.85

ITEM 451 - SPECIAL PRESSURE RELIEF JOINT, TYPE A

MAH-193/422 MAINLINE

STATION 16+71.42, CL TO STATION 16+88.42, CL (88.00 FT)	=	88.00	FT
STATION 18+57, CL TO STATION 18+74, CL (96 FT)	=	96.00	FT
STATION 27+25, CL TO STATION 27+42, CL (91 FT)	=	91.00	FT
STATION 35+97.62, CL TO STATION 36+12.00, CL (112.00 FT)	=	112.00	FT
STATION 40+05.00, CL TO STATION 40+23.87, CL (65.00 FT)	=	65.00	FT
STATION 42+72.44, CL TO STATION 42+96.00, CL (61.00 FT)	=	61.00	FT
ITEM TOTAL: USE		513	FT

ITEM 605 18 " PREFABRICATED EDGE UNDERDRAINS

MAH-193/422 MAINLINE

STATION 14+11.57, LT TO STATION 16+88.42, LT (1,688.42 - 1,411.57 FT)	=	276.85	FT
STATION 14+11.57, RT TO STATION 16+88.42, RT (1,688.42 - 1,411.57 FT)	=	276.85	FT
STATION 18+56.92, LT TO STATION 19+71.95, LT (1,971.95 - 1,856.92 FT)	=	115.03	FT
STATION 19+71.95, LT TO STATION 24+42.28, LT (2,442.28 - 1,971.95 FT)	=	470.33	FT
STATION 25+42.28, LT TO STATION 27+41.79, LT (2,741.79 - 2,542.28 FT - CONNECTS TO RAMP G EDGE DRAIN)	=	199.51	FT
STATION 18+56.92, RT TO STATION 19+60.74, RT (1,960.74 - 1,856.92 FT)	=	103.82	FT
STATION 20+60.74, RT TO STATION 26+47.21, RT (2,647.21 - 2,060.74 FT)	=	586.47	FT
STATION 26+47.21, RT TO STATION 27+41.79, RT (2,741.79 - 2,647.21 FT - CONNECTS TO RAMP H EDGE DRAIN)	=	94.58	FT
STATION 35+72.00, LT TO STATION 40+23.87, LT (4,023.87 - 3,572.00 FT)	=	451.87	FT
STATION 37+07.00, RT TO STATION 40+23.87, RT (4,023.87 - 3,707.00 FT)	=	316.87	FT
STATION 42+62.68, LT TO STATION 45+05.00, LT (4,505.00 - 4,262.68 FT)	=	242.32	FT
STATION 42+86.46, RT TO STATION 44+50.00, RT (4,450.00 - 4,286.46 FT)	=	163.54	FT
STATION 46+35.84, LT TO STATION 51+32.27, LT (5,132.27 - 4,635.84 FT)	=	496.43	FT
STATION 46+35.84, RT TO STATION 52+25.38, RT (5,225.38 - 4,635.84 FT)	=	589.54	FT
STATION 52+32.27, LT TO STATION 60+52.03, LT (6,052.03 - 5,232.27 FT)	=	819.76	FT
STATION 52+25.38, RT TO STATION 62+15.93, RT (6,215.93 - 5,225.38 FT)	=	990.55	FT
STATION 60+55.00, LT TO STATION 65+00.00, LT (6,500.00 - 6,055.00 FT)	=	445.00	FT
STATION 63+15.93, RT TO STATION 65+00.00, RT (6,500.00 - 6,315.93 FT)	=	184.07	FT
Sub-Total: Use		6,823.39	FT

RAMP E

STATION 0+55.00, RT TO STATION 5+27.60, RT (527.60 - 55.00 FT)	=	472.60	FT

RAMP F

STATION 5+20.01, RT TO STATION 9+30.72, RT (930.72 - 520.01 FT)	=	410.71	FT

RAMP G

STATION 2+54.99, RT TO STATION 8+21.60, RT (821.60 - 254.99 FT)	=	566.61	FT

RAMP H

STATION 0+67.00, RT TO STATION 6+92.47, RT (692.47 - 67.00 FT)	=	625.47	FT

RAMP J

STATION 2+54.99, RT TO STATION 7+63.99, RT (763.99 - 254.99 FT)	=	509.00	FT

RAMP K

STATION 1+14.00, RT TO STATION 5+71.00, RT (571.00 - 114.00 FT)	=	457.00	FT
STATION 0+47.57, LT TO STATION 1+00.00, LT (100.00 - 47.57 FT)	=	52.43	FT
Sub-Total: Use		509.43	FT

RAMP L

STATION 3+50.00, RT TO STATION 7+56.21, RT (756.21 - 350.00 FT)	=	406.21	FT

RAMP M

STATION 2+75.03, RT TO STATION 5+50.00, RT (550.00 - 275.03 FT)	=	274.97	FT
STATION 5+50.00, LT TO STATION 8+72.36, LT (872.36 - 550.00 FT)	=	322.36	FT
Sub-Total: Use		597.33	FT

RAMP N

STATION 3+13.96, RT TO STATION 6+50.00, RT (650.00 - 313.96 FT)	=	336.04	FT
STATION 6+50.00, LT TO STATION 11+51.59, LT (1,151.59 - 650.00 FT)	=	501.59	FT
Sub-Total: Use		837.63	FT

RAMP P

STATION 0+00.00, LT TO STATION 5+00.00, LT (500.00 - 0.00 FT)	=	500.00	FT
STATION 5+00.00, RT TO STATION 9+80.41, RT (980.41 - 500.00 FT)	=	480.41	FT
Sub-Total: Use		980.41	FT

ACCESS RAMP

STATION 0+19.92, CL TO STATION 5+28.61, CL (528.61 - 19.92 FT)	=	508.69	FT
ITEM TOTAL: USE		13,247	FT

ITEM 608 5" CONCRETE WALK

WIRT STREET SOUTHBOUND

STATION 0+37.91, RT TO STATION 2+46.67, RT (246.67 - 37.91 FT) (5.0 FT)	=	1,043.80	SQ FT
Sub-Total: Use		1,043.80	SQ FT

WIRT STREET NORTHBOUND

STATION 0+36.50, RT TO STATION 0+76.50, RT (37.40 FT - CALC. ALONG ARC) (6.0 FT)	=	224.40	SQ FT
STATION 0+48.00, RT TO STATION 0+54.00, RT (28.00 SQ FT - CURB RAMP BY CALC.)	=	28.00	SQ FT
STATION 0+48.00, LT TO STATION 0+54.00, LT (48.00 SQ FT - CURB RAMP BY CALC.)	=	48.00	SQ FT
STATION 0+76.50, RT TO STATION 1+35.93, RT (135.93 - 76.50 FT) (6.0 FT)	=	356.58	SQ FT
STATION 1+35.93, RT TO STATION 1+65.60, RT (165.60 - 135.93 FT) (6.0 FT)	=	178.02	SQ FT
STATION 2+26.70, RT TO STATION 5+60.00, RT (560.00 - 226.70 FT) (5.5 FT)	=	1,833.15	SQ FT
STATION 6+20.00, RT TO STATION 7+42.25, RT (742.25 - 620.00 FT) (5.0 FT)	=	611.25	SQ FT
Sub-Total: Use		3,279.40	SQ FT
ITEM TOTAL: USE		4,323	SQ FT

ITEM 609 COMBINATION CURB AND GUTTER, TYPE 2, AS PER PLAN

WIRT STREET SOUTHBOUND

STATION 0+37.91, LT RT TO STATION 2+46.67, LT RT (246.67 - 37.91 FT) (2 SIDES)	=	417.52	FT
Sub-Total: Use		417.52	FT

WIRT STREET NORTHBOUND

STATION 0+36.50, RT TO STATION 0+76.50, RT (45.00 FT - MEASURED LENGTH INTERSECTION)	=	45.00	FT
STATION 0+38.15, LT TO STATION 0+48.50, LT (15.71 FT - CALC. LENGTH INTERSECTION)	=	15.71	FT
STATION 0+48.50, LT TO STATION 1+19.11, LT (119.11 - 48.50 FT)	=	70.61	FT
STATION 1+19.11, LT TO STATION 2+26.70, LT (226.70 - 119.11 FT)	=	107.59	FT
STATION 0+76.50, RT TO STATION 1+35.83, RT (135.83 - 76.50 FT)	=	59.33	FT
STATION 1+35.83, RT TO STATION 1+65.60, RT (165.60 - 135.83 FT)	=	29.77	FT
STATION 2+26.70, LT TO STATION 5+33.92, LT (533.92 - 226.70 FT)	=	307.22	FT
STATION 2+30.00, RT TO STATION 5+50.13, RT (550.13 - 230.00 FT)	=	320.13	FT
STATION 5+69.16, LT TO STATION 7+42.25, LT (742.25 - 569.16 FT)	=	173.09	FT
STATION 6+41.53, RT TO STATION 7+42.25, RT (742.25 - 641.53 FT)	=	100.72	FT
Sub-Total: Use		1,229.17	FT
ITEM TOTAL: USE		1,647	FT

ITEM 609 CURB, TYPE 2-A

RAMP M

STATION 8+19.69, RT TO STATION 8+83.73, BL (73.00 FT)	=	73.00	FT
STATION 8+72.36, LT TO STATION 8+83.73, BL (13.00 FT)	=	13.00	FT
ITEM TOTAL: USE		86	FT

ITEM 617 COMPACTED AGGREGATE, AS PER PLAN

MAH-193/422 MAINLINE

STATION 20+60.00, LT TO STATION 24+40.00, LT (2,440.00 - 2,060.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	4.69	CU YD
STATION 36+70.00, LT TO STATION 37+22.00, LT (3,722.00 - 3,670.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	0.64	CU YD
STATION 47+80.00, LT TO STATION 51+30.00, LT (5,130.00 - 4,780.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	4.32	CU YD
STATION 52+32.00, LT TO STATION 60+52.00, LT (6,052.00 - 5,232.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	10.12	CU YD
STATION 62+10.00, LT TO STATION 64+00.00, LT (6,400.00 - 6,210.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	2.35	CU YD
STATION 24+50.00, RT TO STATION 25+60.00, RT (2,560.00 - 2,450.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	1.36	CU YD
STATION 50+23.00, RT TO STATION 51+10.00, RT (5,110.00 - 5,023.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	1.07	CU YD
STATION 52+25.00, RT TO STATION 55+75.00, RT (5,575.00 - 5,225.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	4.32	CU YD
STATION 57+25.00, RT TO STATION 62+16.00, RT (6,216.00 - 5,725.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	6.06	CU YD
STATION 63+16.00, RT TO STATION 64+00.00, RT (6,400.00 - 6,316.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	1.04	CU YD
Sub-Total: Use		22.12	CU YD

RAMP E

STATION 0+55.00, RT TO STATION 3+56.00, RT (356.00 - 55.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	3.72	CU YD
STATION 2+44.00, LT TO STATION 3+28.00, LT (328.00 - 244.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	1.04	CU YD
Sub-Total: Use		4.76	CU YD

RAMP F

STATION 6+53.00, RT TO STATION 9+31.00, RT (931.00 - 653.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	3.43	CU YD
STATION 6+20.00, LT TO STATION 8+11.00, LT (811.00 - 620.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	2.36	CU YD
Sub-Total: Use		5.79	CU YD

CALCULATED GJB
CHECKED EAF

CALCULATIONS

MAH-193-0.46
MAH-422-1.85

ITEM 617 COMPACTED AGGREGATE, AS PER PLAN (CONTINUED)

RAMP G				
STATION 6+03.00, RT TO STATION 8+22.00, RT (822.00 - 603.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	2.70	CU YD	
STATION 3+55.00, LT TO STATION 6+28.00, LT (628.00 - 355.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	3.37	CU YD	
	Sub-Total: Use	6.07	CU YD	
RAMP H				
STATION 0+67.00, RT TO STATION 3+52.00, RT (352.00 - 67.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	3.52	CU YD	
STATION 1+82.00, LT TO STATION 3+50.00, LT (350.00 - 182.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	2.07	CU YD	
STATION 4+75.00, LT TO STATION 4+92.00, LT (492.00 - 475.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	0.21	CU YD	
	Sub-Total: Use	5.80	CU YD	
RAMP J				
STATION 7+27.00, RT TO STATION 7+64.00, RT (764.00 - 727.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	0.46	CU YD	
STATION 3+55.00, LT TO STATION 7+83.00, LT (783.00 - 355.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	5.28	CU YD	
	Sub-Total: Use	5.74	CU YD	
RAMP K				
STATION 1+14.00, RT TO STATION 1+71.00, RT (171.00 - 114.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	0.70	CU YD	
STATION 0+48.00, LT TO STATION 3+83.00, LT (383.00 - 48.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	4.14	CU YD	
	Sub-Total: Use	4.84	CU YD	
RAMP L				
STATION 3+50.00, RT TO STATION 7+56.00, RT (756.00 - 350.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	5.01	CU YD	
STATION 3+50.00, LT TO STATION 5+56.00, LT (556.00 - 350.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	2.54	CU YD	
	Sub-Total: Use	7.55	CU YD	
RAMP M				
STATION 2+75.00, RT TO STATION 2+90.00, RT (290.00 - 275.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	0.19	CU YD	
STATION 3+75.00, LT TO STATION 8+72.00, LT (872.00 - 375.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	6.14	CU YD	
	Sub-Total: Use	6.33	CU YD	
RAMP N				
STATION 3+14.00, RT TO STATION 4+75.00, RT (475.00 - 314.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	1.99	CU YD	
STATION 4+41.00, LT TO STATION 4+50.00, LT (450.00 - 441.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	0.11	CU YD	
STATION 8+75.00, LT TO STATION 10+49.00, LT (1,049.00 - 875.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	2.15	CU YD	
	Sub-Total: Use	4.25	CU YD	
RAMP P				
STATION 9+35.00, RT TO STATION 9+80.00, RT (980.00 - 935.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	0.56	CU YD	
STATION 7+38.00, LT TO STATION 7+80.00, LT (780.00 - 738.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	0.52	CU YD	
	Sub-Total: Use	1.08	CU YD	
ACCESS RAMP				
STATION 0+20.00, LT TO STATION 1+32.00, LT (132.00 - 20.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	1.38	CU YD	
STATION 4+75.00, RT TO STATION 5+29.00, RT (529.00 - 475.00 FT) (2 FT) (2 IN) (1/12) (1/27)	=	0.67	CU YD	
	Sub-Total: Use	2.05	CU YD	
	ITEM TOTAL: USE	90	CU YD	

ITEM 622 CONCRETE BARRIER, TYPE BI, AS PER PLAN

MAH-193/422 MAINLINE				
STATION 14+66.00, CL TO STATION 16+58.00, CL (1,658.00 - 1,466.00 FT)	=	192.00	FT	
STATION 48+80.00, CL TO STATION 50+96.00, CL (5,096.00 - 4,880.00 FT)	=	216.00	FT	
	ITEM TOTAL: USE	408	FT	

ITEM 659 SEEDING AND MULCHING

MAH-193/422 MAINLINE

(73 STA FROM LINEAR GRADING) (10 FT AVG.) (100) (1/9)	=	8,111.11	SQ YD	
(55 STA FROM GUARDRAIL GRADING) (10 FT AVG.) (100) (1/9)	=	6,111.11	SQ YD	
	ITEM TOTAL: USE	14,222	SQ YD	

(ITEM 659 QUANTITY CARRIED TO SHEET 88)

CALCULATED GJB
CHECKED EAF

CALCULATIONS

MAH-193-0.46
MAH-422-1.85

SHEET NUMBER	REFERENCE NUMBER	STATION OR BALLOON No's. FROM	TO	SIDE UNITS	ITEM No. ===> ----->		203 EXCAVATION CU YD	203 EMBANKMENT CU YD		659 SEEDING AND MULCHING SQ YD	659 REPAIR SEEDING AND MULCHING SQ YD	659 INTER-SEEDING SQ YD	659 COMMERCIAL FERTILIZER TON	659 LIME ACRE	659 WATER M GAL	659 MOWING M SQ FT				608 CURB RAMP, TYPE A2 EACH									
WIRT STREET NORTHBOUND																												
47	CR-1																			1								
47	CR-2																			1								
47	CR-3																			1								
48	CR-1																			1								
48	CR-2																			1								
EARTHWORK, SEEDING AND MULCHING																												
94							7			5	0	0	0.001	0.001	0.028	0.011												
95							28	2		76	4	4	0.011	0.016	0.421	0.171												
96							24	2		117	6	6	0.016	0.024	0.648	0.263												
97							29	1		134	7	7	0.019	0.028	0.742	0.302												
98							33	1		131	7	7	0.018	0.027	0.725	0.295												
99							57			178	9	9	0.025	0.037	0.985	0.401												
100							23	6		67	3	3	0.009	0.014	0.371	0.151												
101							10	3		46	2	2	0.006	0.010	0.255	0.104												
102							7			7	0	0	0.001	0.001	0.039	0.016												
103							17	1		34	2	2	0.005	0.007	0.188	0.077												
104							18	1		52	3	3	0.007	0.011	0.288	0.117												
105							23	1		49	2	2	0.007	0.010	0.271	0.110												
106							16	1		23	1	1	0.003	0.005	0.127	0.052												
108							4			7	0	0	0.001	0.001	0.039	0.016												
109							32	6		172	9	9	0.024	0.036	0.952	0.387												
110							11	11		100	5	5	0.014	0.021	0.554	0.225												
111							7	15		87	4	4	0.012	0.018	0.482	0.196												
					SUBTOTAL WIRT STREET		346	51		1285	64	64	0.179	0.265	7.112	2.891				5									
MAINLINE FROM CALCS										14222	711	711	1.984	2.938	78.719	32.000												
					TOTALS CARRIED TO GENERAL SUMMARY		346	51		15507	775	775	2.16	3	86	35				5									

CALCULATED CJB
CHECKED EAF

ROADWAY SUBSUMMARY

MAH-193-0.46
MAH-422-1.85

SHEET NUMBER	REFERENCE NUMBER	STATION OR BALLOON No's. FROM	TO	ITEM No. ===> SIDE UNITS	----->	TYPE OF FACILITY	EXISTING WINDOW ELEVATION	PROPOSED CASTING OR WINDOW ELEVATION	INVERT	SIZE OF THE LARGEST CONDUIT	202 INLET REMOVED EACH	601 TIED CONCRETE BLOCK MAT, TYPE 1 SQ YD	603 4" CONDUIT, TYPE B FT	603 4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET FT	603 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS FT	604 PRECAST REINFORCED CONCRETE OUTLET EACH	604 INLET RECONSTRUCTED TO GRADE EACH	604 MANHOLE ADJUSTED TO GRADE EACH	604 INLET, NO. 2-A-10 EACH	605 4" UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP FT	605 4" BASE PIPE UNDERDRAINS WITH FABRIC WRAP FT	605 6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP FT	605 6" SHALLOW PIPE UNDERDRAINS, 707.32 TYPE CP OR 707.41 FT	4" WYE, TEE, PLUG OR BEND INFO	6" WYE, TEE, PLUG OR BEND INFO
MAH-193/422																									
		16+85	INFO ONLY	CL		INLET	884.81		880.77	12															
		18+60	INFO ONLY	CL		INLET	883.57		878.20	12															
		21+50	INFO ONLY	CL		INLET	889.19		884.46	12															
		35+81	INFO ONLY	CL		INLET	921.40		916.36	12															
		42+75	INFO ONLY	LT	1.25	INLET	943.52		938.63	12															
		44+53	INFO ONLY	LT	1.25	INLET	944.09		939.33	12															
		48+50	INFO ONLY	LT	1.25	INLET	939.85		935.37	12															
		50+75	INFO ONLY	CL		INLET	937.24		933.83	12															
		16+81		LT		OUTLET TO EXIST. UD									12										
		16+85		RT		OUTLET TO EXIST. UD									12										
		18+60		LT		OUTLET TO EXIST. UD									12										
		18+56		RT		OUTLET TO EXIST. UD									12										
		19+75		LT		OUTLET TO EXIST. CB									10										
		20+62		RT		OUTLET TO SLOPE						2			24	1									
		35+73		LT		OUTLET TO EXIST. CB									10										
		37+12		RT		OUTLET TO SLOPE						2			24	1									
		42+58		LT		OUTLET TO EXIST. UD									12										
		42+80		RT		OUTLET TO EXIST. UD									12										
		49+96		RT		OUTLET TO EXIST. UD									12										
		51+22		LT		OUTLET TO SLOPE						2			24	1									
		52+25		RT		OUTLET TO EXIST. UD									12										
		52+60		RT		OUTLET TO EXIST. UD									12										
		60+55		LT		OUTLET TO EXIST. CB									10										
		63+23		RT		OUTLET TO SLOPE						2			24	1									
		16+71.42		CL		PRESSURE RELIEF JOINT UD & OUTLET TO SLOPE						2			24	1								90	
		18+74.00		CL		PRESSURE RELIEF JOINT UD & OUTLET TO SLOPE						2			24	1								98	
		27+25.00		CL		PRESSURE RELIEF JOINT UD & OUTLET TO SLOPE						2			24	1								93	
		36+12.00		CL		PRESSURE RELIEF JOINT UD & OUTLET TO SLOPE						2			24	1								114	
		40+05.00		CL		PRESSURE RELIEF JOINT UD & OUTLET TO SLOPE						2			24	1								67	
		42+96.00		CL		PRESSURE RELIEF JOINT UD & OUTLET TO SLOPE						2			24	1								63	
RAMP E																									
		0+75		RT		OUTLET TO EXIST. CB									24										
RAMP F																									
		9+00		RT		OUTLET TO EXIST. CB									12										
RAMP G																									
		8+00		RT		OUTLET TO EXIST. CB									12										
RAMP H																									
		0+75		RT		OUTLET TO EXIST. CB									12										
RAMP J																									
		7+64		RT		OUTLET TO EXIST. UD									12										
RAMP K																									
		1+00		LT		OUTLET TO EXIST. UD									12										
		5+71		RT		OUTLET TO SLOPE						2			18	1									
RAMP L																									
		4+00		RT		OUTLET TO EXIST. UD									10										
RAMP M																									
		5+50		RT		OUTLET TO EXIST. UD									12										
		8+60		RT		OUTLET TO EXIST. UD									12										
RAMP N																									
		6+50		LT		OUTLET TO EXIST. UD									12										
RAMP P																									
		5+00		LT		OUTLET TO EXIST. UD									12										
ACCESS RAMP																									
		5+00		LT		OUTLET TO EXIST. CB									10										
TOTALS CARRIED TO SHEET 89A											- 0 -	22	- 0 -	- 0 -	548	11	- 0 -	- 0 -	- 0 -	- 0 -	- 0 -	- 0 -	525	X	X

DRAINAGE SUBSUMMARY

CALCULATED CJB
CHECKED EAF

MAH-193-0.46
MAH-422-1.85

SHEET NUMBER	REFERENCE NUMBER	STATION OR BALLOON No's. FROM	TO	SIDE UNITS	-----	TYPE OF FACILITY	EXISTING WINDOW ELEVATION FT	PROPOSED CASTING OR WINDOW ELEVATION FT	INVERT FT	SIZE OF THE LARGEST CONDUIT INCH	202 INLET REMOVED EACH	601 TIED CONCRETE BLOCK MAT, TYPE 1 SQ YD	603 4" CONDUIT, TYPE B FT	603 4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET FT	603 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS FT		604 PRECAST REINFORCED CONCRETE OUTLET EACH			604 INLET RECONSTRUCTED TO GRADE EACH	604 MANHOLE ADJUSTED TO GRADE EACH	604 INLET, NO. 2-A-10 EACH	605 4" UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP FT	605 4" BASE PIPE UNDERDRAINS WITH FABRIC WRAP FT	605 6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP FT	605 6" SHALLOW PIPE UNDERDRAINS, 707.32 TYPE CP OR 707.41 FT		4" WYE, TEE, PLUG OR BEND INFO	6" WYE, TEE, PLUG OR BEND INFO
WIRT STREET																												
91	D-1	0+76		RT		INLET				12										1								
91	D-2	1+21		RT		MH				36											1							
91	D-3	2+55		LT		INLET				12										1								
91	D-4	2+50		RT		MH				36											1							
91	D-5	4+41		RT		MH				36											1							
92	D-1	5+54		RT		MH				36											1							
92	D-2	5+77		LT		INLET				12	1											1						
92	D-3	6+48		RT		MH				36											1							
92	D-4	2+40		RT		INLET				12										1								
92	D-5	0+45		LT		MH				36											1							
91	U-1	0+36.50	0+78.00	LT												28								42			2	
91	U-2	0+78.00	2+45.00	LT																				167			1	
91	U-3	2+55.00	4+50.00	LT										10										185				
91	U-4	0+36.50	0+76.00	RT																					44			1
91	U-5	0+77.84	1+65.60	RT											10										78			
91	U-6	2+33.00	2+50.00	RT									10										17				2	
91	U-7	2+50.00	4+50.00	RT																				200				
92	U-1	4+50.00	5+33.00	LT																				83			1	
92	U-2	5+77.00	7+15.00	LT											10									128			1	
92	U-3	4+50.00	5+51.00	RT																				101			1	
92	U-4A	6+41.36	6+48.00	RT																			7				1	
92	U-4	6+48.00	7+42.00	RT									18											94			2	
92	U-5	0+82.00	2+40.00	LT	SB								30											158			2	
92	U-5A	2+47.00	2+40.00	LT	SB																			7				
92	U-6	0+38.00	2+40.00	RT	SB									10										182			1	
92	U-7	2+47.00	2+40.00	RT	SB									7														
SUBTOTAL WIRT STREET													58	27	20	28				1	2		24	1347	122			
TOTALS THIS SHEET CARRIED BELOW											1	- 0 -	58	27	20			- 0 -		3	6	1	24	1347	122	- 0 -	X	X
TOTALS BROUGHT FORWARD FROM THIS SHEET AND PRECEDING PLAN & PROFILE QUANTITY SUB-SUMMARY SHEETS																												
SHEET NUMBERS				89							- 0 -	22	- 0 -	- 0 -	548			11		- 0 -	- 0 -	- 0 -	- 0 -	- 0 -	- 0 -	525	X	X
				89A							1	- 0 -	58	27	20			- 0 -		3	6	1	24	1347	122	- 0 -	X	X
GRAND TOTALS CARRIED TO THE GENERAL SUMMARY SHEETS											1	22	58	27	568			11		3	6	1	24	1347	122	525	X	X

CALCULATED GJB
CHECKED EAF

DRAINAGE SUBSUMMARY

MAH-193-0.46
MAH-422-1.85

RAMP (NAME) OR MAINLINE (ML)	REFERENCE NUMBER	STATION OR BALLOON No's. FROM	TO	ITEM No. ===> SIDE	LENGTH	202 REMOVAL MISC.: BARRIER REFLECTOR	202 GUARDRAIL REMOVED	209 RESHAPING UNDER GUARDRAIL	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I, UNDER GUARDRAIL, PG64-22, AS PER PLAN	606 GUARDRAIL, TYPE 5	606 ANCHOR ASSEMBLY, TYPE E-98	606 ANCHOR ASSEMBLY, TYPE T	606 BRIDGE TERMINAL ASSEMBLY, TYPE 1	606 BRIDGE TERMINAL ASSEMBLY, TYPE 2	622 CONCRETE BARRIER, TYPE D	626 BARRIER REFLECTOR TYPE A	626 BARRIER REFLECTOR TYPE B
				UNITS	----->	EACH	FT	STATION	CU YD	FT	EACH	EACH	EACH	EACH	FT	EACH	EACH
ML	R-1	16+00.00	17+00.69	RT	100.69	QUANTITIES CARRIED TO TRAFFIC CONTROL GENERAL SUMMARY	101									QUANTITIES CARRIED TO TRAFFIC CONTROL GENERAL SUMMARY	QUANTITIES CARRIED TO TRAFFIC CONTROL GENERAL SUMMARY
ML	R-2	18+45.00	19+61.00	RT	116.00		116										
F	R-2	5+20.01	6+54.27	RT	134.26		134										
ML	R-3	20+62.50	24+50.00	RT	387.50		388										
H	R-4	3+50.00	4+75.00	LT	125.00		125										
H	R-5	3+50.00	6+92.47	RT	342.47		342										
ML	R-5	26+47.00	27+66.75	RT	119.75		120										
ML	R-6	35+70.00	36+07.00	RT	37.00		37										
J	R-6	2+54.27	7+29.77	RT	475.50		476										
ML	R-7	37+11.50	40+36.50	RT	325.00		325										
ML	R-8	42+77.00	44+22.50	RT	145.50		146										
ML	R-9	46+22.00	50+22.00	RT	400.00		400										
ML	R-10	55+75.00	57+25.00	RT	150.00		150										
N	R-11	4+50.00	8+75.00	LT	425.00		425										
ML	R-12	16+00.00	17+03.00	LT	103.00		103										
ML	R-13	18+45.00	19+72.00	LT	127.00		127										
E	R-13	3+54.55	5+27.55	RT	173.00		173										
G	R-14	2+54.56	6+04.56	RT	350.00		350										
ML	R-14	25+42.00	27+66.75	LT	224.75		225										
ML	R-15	35+45.00	35+61.00	LT	16.00		16										
K	R-15	1+73.97	5+82.87	RT	408.90		409										
ML	R-16	37+28.00	40+28.00	LT	300.00		300										
ML	R-17	42+55.00	45+05.00	LT	250.00		250										
ML	R-18	46+80.00	47+80.00	LT	100.00		100										
P	R-19	2+25.00	7+37.50	LT	512.50		513										
ML	GR-1	16+00.00	17+01.77	RT	101.77			2.7	12.60	101.77			1			4	
ML	GR-2	18+43.70	19+61.00	RT	117.30			1.2	5.43	117.30				1		3	
F	GR-2	5+20.01	6+52.71	RT	132.70			1.3	9.83	120.20		1				3	
ML	GR-3	20+62.50	24+50.00	RT	387.50			3.9	17.94	325.00	1	1				5	
H	GR-4	3+50.00	4+75.00	LT	125.00			1.2	4.63	62.50	1	1				3	
H	GR-5	3+51.85	6+92.47	RT	340.62			3.4	15.77	290.62	1					5	
ML	GR-5	26+47.00	27+43.88	RT	96.88			1.0	4.48	96.88			1			3	
ML	GR-6	35+92.21	36+07.00	RT	14.79			0.1	0.68	14.79				1		1	
J	GR-6	2+54.27	7+26.98	RT	472.71			4.7	35.02	460.21		1				5	
ML	GR-7	37+08.24	40+33.24	RT	325.00			3.2	15.05	275.00	1		1			4	
ML	GR-8	42+78.11	44+27.25	RT	149.14			1.5	6.90	149.14			1	1		3	
ML	GR-9	46+23.18	50+23.18	RT	400.00			4.0	18.52	387.50		1		1		5	
ML	GR-10	55+75.00	57+25.00	RT	150.00			1.5	6.94	87.50	1	1				3	
N	GR-11	4+50.00	8+75.00	LT	425.00			4.2	15.74	362.50	1	1				6	
ML	GR-12	16+00.00	17+04.77	LT	104.77			2.6	12.07	104.77				1		4	
ML	GR-13	18+43.60	19+72.00	LT	128.40			1.3	5.94	128.40			1			3	
E	GR-13	3+55.95	5+27.55	RT	171.60			1.7	12.71	121.60	1					3	
G	GR-14	2+54.56	6+02.69	RT	348.13			3.5	25.00	335.63		1				5	
ML	GR-14	25+42.00	27+43.87	LT	201.87			2.2	9.89	201.87				1		4	
K	GR-15	1+70.84	5+70.84	RT	400.00			4.0	29.63	350.00	1		1			5	
ML	GR-16	37+22.42	40+22.42	LT	300.00										300		4
ML	GR-17	42+54.33	45+04.14	LT	249.81			2.5	11.56	249.81			1	1		4	
ML	GR-18	46+80.22	47+80.22	LT	100.00			1.0	4.63	50.00	1		1			3	
P	GR-19	2+25.00	7+37.50	LT	512.50			5.1	18.98	450.00	1	1				6	
ML		14+11.57	41+42.47	MD	2730.90	56											56
ML		41+42.47	49+24.63	MD	782.16	34											34
ML		49+24.63	64+94.00	MD	1569.37	34											34
ML		17+00.00	18+40.00	LT/RT	140.00	6											6
ML		27+41.79	35+80.37	LT/RT	838.58	20											20
ML		40+23.87	42+72.44	LT/RT	248.57	8											8
ML		44+54.88	46+60.84	LT/RT	205.96	8											8
TOTALS CARRIED TO GENERAL SUMMARY						166	5851	57.8	300	4842.99	10	9	8	7	300	90	170

CALCULATED GJB
CHECKED EAF

GUARDRAIL SUBSUMMARY

MAH-193-0.46
MAH-422-1.85

(1) P.I. STA. 2+82.42
Δ = 25° 32′ 59″ (LT)
Dc = 8° 57′ 09″
R = 640.00′
T = 145.11′
L = 285.39′
E = 16.24′

(2) P.I. STA. 4+98.57
Δ = 9° 09′ 25″ (LT)
Dc = 7° 57′ 18″
R = 720.25′
T = 57.68′
L = 115.11′
E = 2.31′

(3) R/W
P.I. STA. 3+44.18
Δ = 34° 42′ 25″ (LT)
Dc = 7° 57′ 18″
R = 720.25′
T = 225.07′
L = 436.29′
E = 34.35′

(4) P.I. STA. 2+54.71
Δ = 40° 57′ 33″ (RT)
Dc = 18° 00′ 00″
R = 318.31′
T = 118.88′
L = 227.55′
E = 21.48′

(5) P.I. STA. 44+35.56
Δ = 36° 00′ 14″ (RT)
Dc = 6° 00′ 00″
R = 954.93′
Ls = 400.00′
θs = 12° 00′ 00″
LT = 267.28′
ST = 133.89′
x = 398.25′
y = 27.84′
k = 199.71′
p = 6.97′
Δc = 12° 00′ 14″ (RT)
Lc = 200.06′
Ts = 512.28′
Es = 56.48′

*U-X BASE PIPE UNDERDRAIN
#U-X UNCLASSIFIED UNDERDRAIN

REFERENCES

CROSS SECTIONS, SEE SHEETS 94 TO 100
DRAINAGE QUANTITIES, SEE SHEETS 89 TO 89A
UNDERDRAIN QUANTITIES, SEE SHEETS 89 TO 89A

STA 0+00.00, ℄ CONST WIRT ST=
STA 0+00.00, ℄ R/W WIRT ST=
STA 67+26.65, ℄ SURVEY MLK BLVD

℄ M.L.K. BLVD.
E.O.I.
STA 0+36.50 BEGIN WORK
N47°05'41"E
S42°54'19"E
℄ 4" 910.50 PLUG
℄ 4" 910.00 +78, TEE
PC Sta. 1+19.11, ℄ R/W
PC Sta. 1+37.31, ℄ CONST.
CONST. LIMITS
℄ CONSTRUCTION WIRT ST NB
℄ RIGHT OF WAY WIRT ST NB
O.H. SIGN
4" PLUG, +45
6" PLUG, +76
+30 BEGIN CURB
4" PLUG, +33, ℄ 4" 914.3
(END)
EX L/A-R/W
EX R/W
EX 36"
6" PROP. WALK
CONNECT TO EX. 6" UNDERDRAIN ℄ 906.7±
STA 0+00.00, ℄ MADISON= STA 67+54.65, ℄ SURVEY MLK BLVD
PC Sta. 1+35.83 ℄ MADISON
+65.60 END CURB CONNECT TO EX. 6" UNDERDRAIN ℄ 910.1±
CONST. LIMITS
4"X4"X4" TEE 2+50, ℄ 4" 914.0
℄ MADISON
BUTT JOINT AS PER STD DWG BP-3.1
STRUCTURE MAH-193-0105
PT Sta. 4+22.70, ℄ CONST
PC Sta. 4+40.89, ℄ CONST= STA 4+40.29, ℄ R/W
CS Sta. 45+23.32
N21°32'42"E
MATCH LINE 4+50 WIRT ST
24'-0"
2'-0"
FOR EXISTING AND PROPOSED STRUCTURE BLOCK, SEE SHEET 84.

D-2
STA 1+21.28, 17.95′ RT
EX MH RIM 913.15
(ADJUST TO GRADE)
PROP RIM 913.09
EX 12" ℄ (W) 908.80
EX 12" ℄ (SW) 908.59
EX 36" ℄ (SW&NE) 901.03

D-4
STA 2+50.57, 20.09′ RT
EX MH RIM 916.46
(ADJUST TO GRADE)
PROP RIM 916.56
EX 12" ℄ (S&E) 911.46
EX 20" ℄ (SE) 905.56
EX 36" ℄ (SW&NE) 904.39
℄ 4" 913.80

D-5
STA 4+41.18, 9.54′ RT
EX MH RIM 923.08
(ADJUST TO GRADE)
PROP RIM 923.17
EX 12" ℄ (NE) 919.00
EX 36" ℄ (SW&N) 911.76

MEET EXISTING ELEV. = 913.01 STA 0+36.50
V.P.C. STA 0+50.00 ELEV = 912.79
P.V.I. STA 0+75.00, ELEV = 912.39' 50.00' VC
V.P.T. STA 1+00.00 ELEV = 912.92
V.P.I. STA 1+60.00 ELEV. = 914.20' NO CURVE
V.P.C. STA 2+75.00 ELEV = 916.78
P.V.I. STA 4+60.00, ELEV = 920.92' 370.00' VC SSD = 305'
-1.61 %
+2.13 %
+2.13 %
+2.24 %
+2.24 %
PROPOSED GRADE AT ℄ CONSTRUCTION
4" UNDERDRAIN (LEFT)
4" UNDERDRAIN LT & RT
EXIST. 6" UNDERDRAIN ALONG MADISON (RIGHT)
6" UNCLASSIFIED UNDERDRAIN (RIGHT)
MIN VERT CLEARANCE
ACTUAL VERT CREARANCE
MATCH LINE STA 4+50 WIRT ST

912.79 912.62 912.92 913.45 913.99 914.54 915.10 915.66 916.22 916.78 917.39 918.09 918.90 919.81 920.81 921.91 923.11
912.86 913.01 914.02 915.01 916.15 917.34 918.83 920.73 923.02
935 930 925 920 915 910 905 900 895
0 1+00 2+00 3+00 4+00

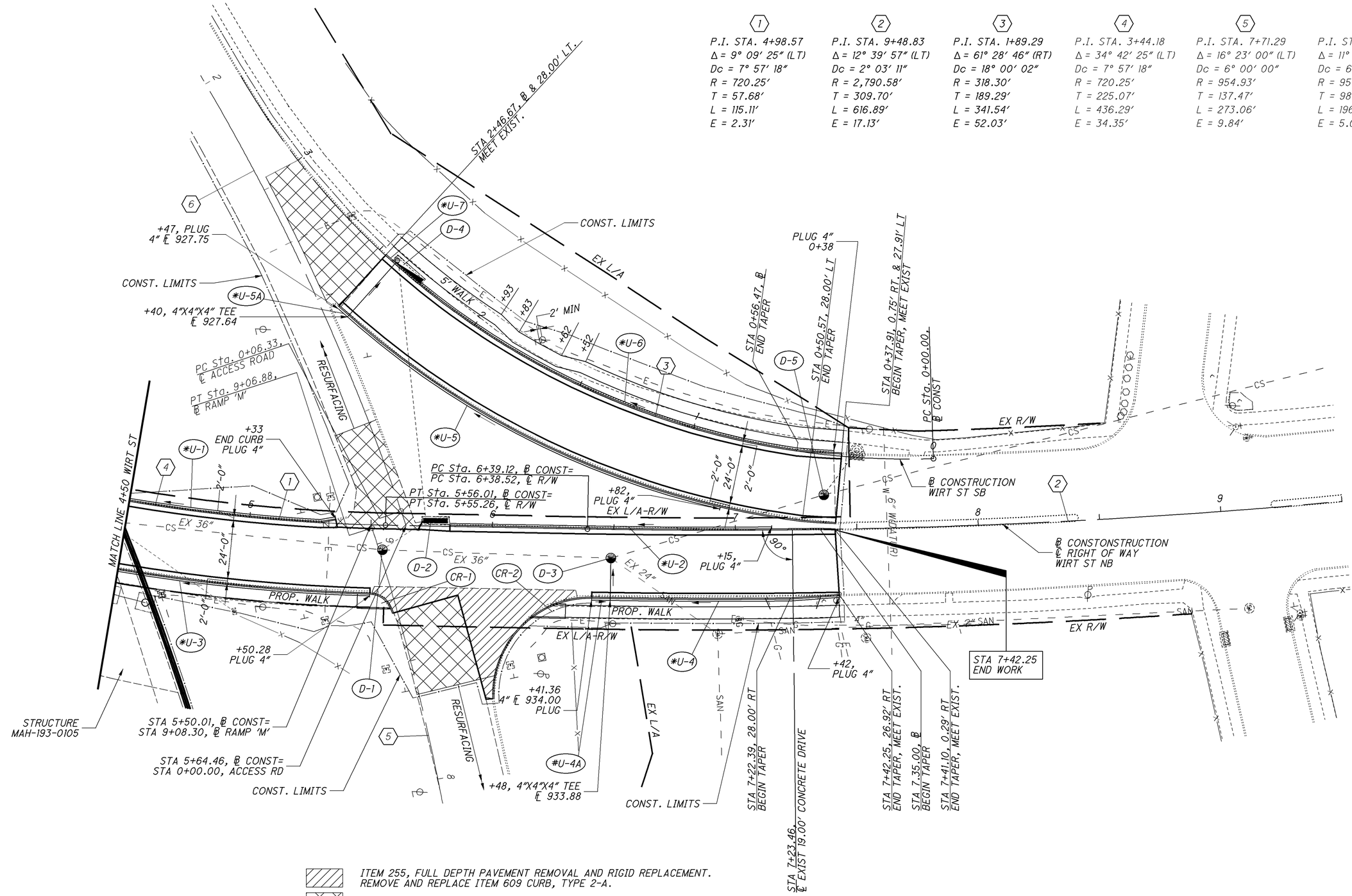
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KRGLLAND

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED RDW
CHECKED GJB

PLAN AND PROFILE WIRT ST NORTHBOUND
STA 0+00.00 TO STA 4+50.00
MAH-193-0.46
MAH-422-1.85

91
260

1	2	3	4	5	6
P.I. STA. 4+98.57	P.I. STA. 9+48.83	P.I. STA. 1+89.29	P.I. STA. 3+44.18	P.I. STA. 7+71.29	P.I. STA. 1+04.94
Δ = 9° 09′ 25″ (LT)	Δ = 12° 39′ 57″ (LT)	Δ = 61° 28′ 46″ (RT)	Δ = 34° 42′ 25″ (LT)	Δ = 16° 23′ 00″ (LT)	Δ = 11° 47′ 29″ (LT)
Dc = 7° 57′ 18″	Dc = 2° 03′ 11″	Dc = 18° 00′ 02″	Dc = 7° 57′ 18″	Dc = 6° 00′ 00″	Dc = 6° 00′ 00″
R = 720.25′	R = 2,790.58′	R = 318.30′	R = 720.25′	R = 954.93′	R = 954.93′
T = 57.68′	T = 309.70′	T = 189.29′	T = 225.07′	T = 137.47′	T = 98.61′
L = 115.11′	L = 616.89′	L = 341.54′	L = 436.29′	L = 273.06′	L = 196.52′
E = 2.31′	E = 17.13′	E = 52.03′	E = 34.35′	E = 9.84′	E = 5.08′



ITEM 255, FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT. REMOVE AND REPLACE ITEM 609 CURB, TYPE 2-A.

BUTT JOINT AS PER STD DWG BP-3.1

*U-X 4″ BASE PIPE UNDERDRAIN

#U-X UNCLASSIFIED BASE PIPE UNDERDRAIN

FOR EXISTING AND PROPOSED STRUCTURE BLOCKS, SEE SHEET 84.

REFERENCES

CROSS SECTIONS, SEE SHEETS 100 TO 112
DRAINAGE QUANTITIES, SEE SHEETS 89 TO 89A
UNDERDRAIN QUANTITIES, SEE SHEETS 89 TO 89A

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RDW
CHECKED GJB

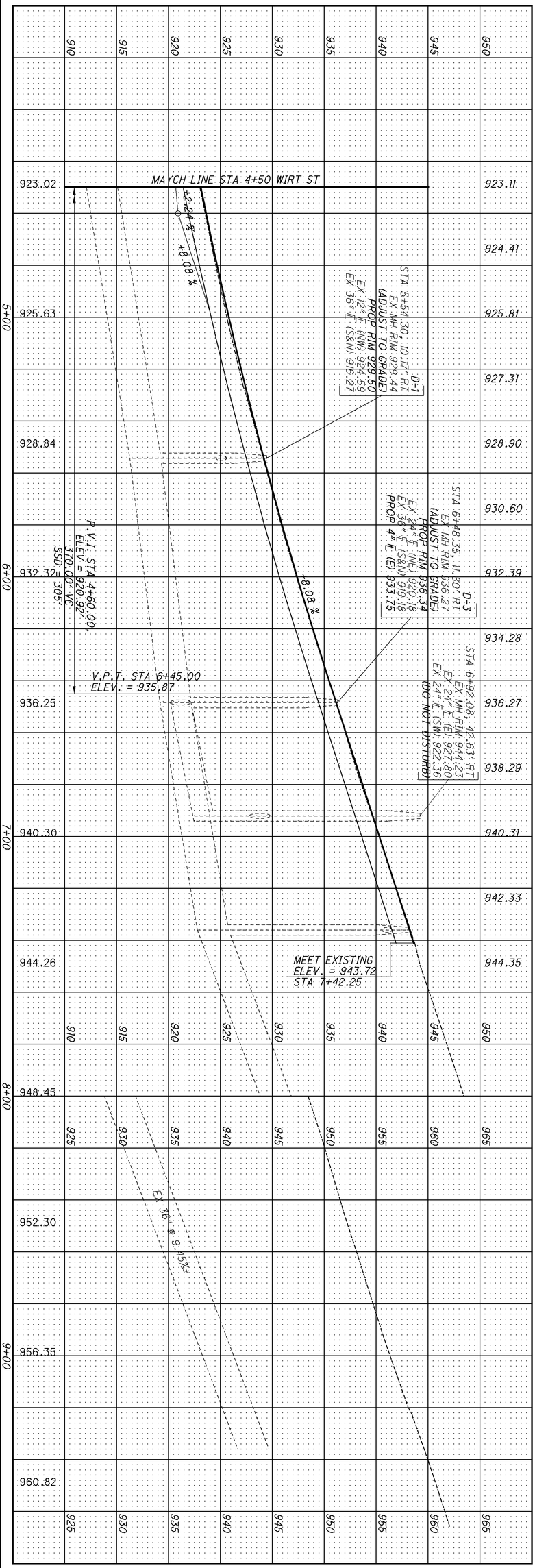
PLAN WIRT ST NORTHBOUND & SOUTHBOUND
STA 4+50 TO STA 9+50 & STA 0+00 TO STA 3+41.54

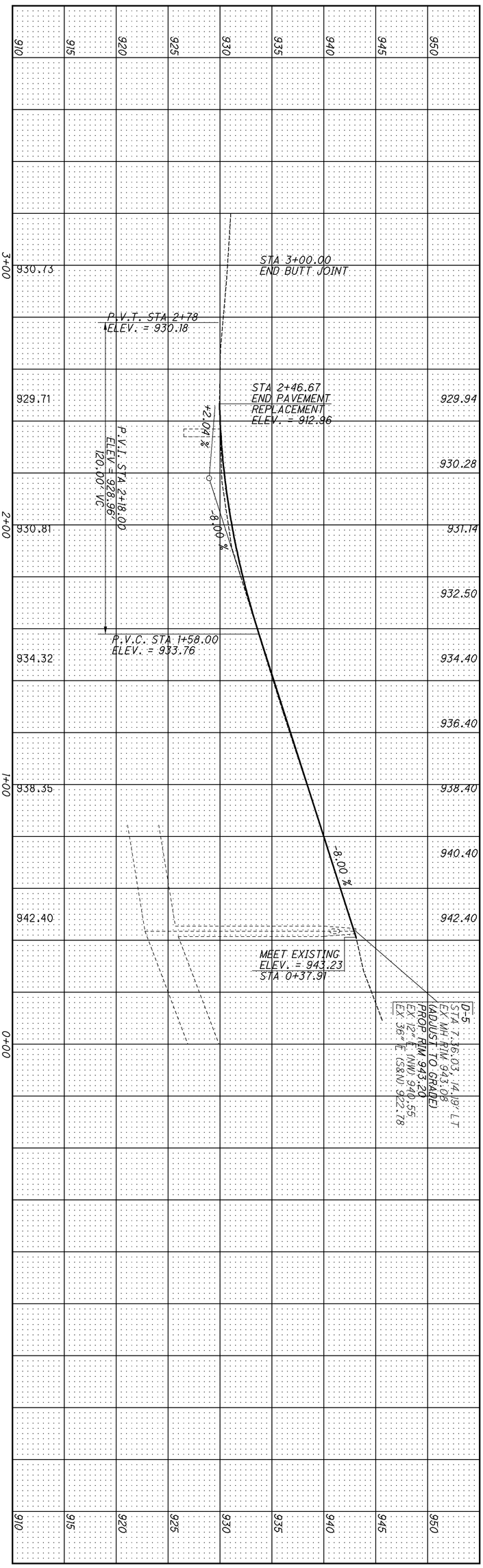
MAH-193-0.46
MAH-422-1.85

92
260

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KROLLAND

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AROLLAND





93 / 260	**MAH-193-0.46** **MAH-422-1.85**	**PROFILE WIRT ST NORTH BOUND & SOUTHBOUND** **STA 4+50 TO STA 9+50 & STA 0+00 TO STA 3+41.54**	CALCULATED RDW CHECKED GJB

SEEDING	
END WIDTH	SQ. YDS.
6	
	5
0	
	5

END AREA	
CUT	FILL
13	1
AHD 14	0
BK 0	0

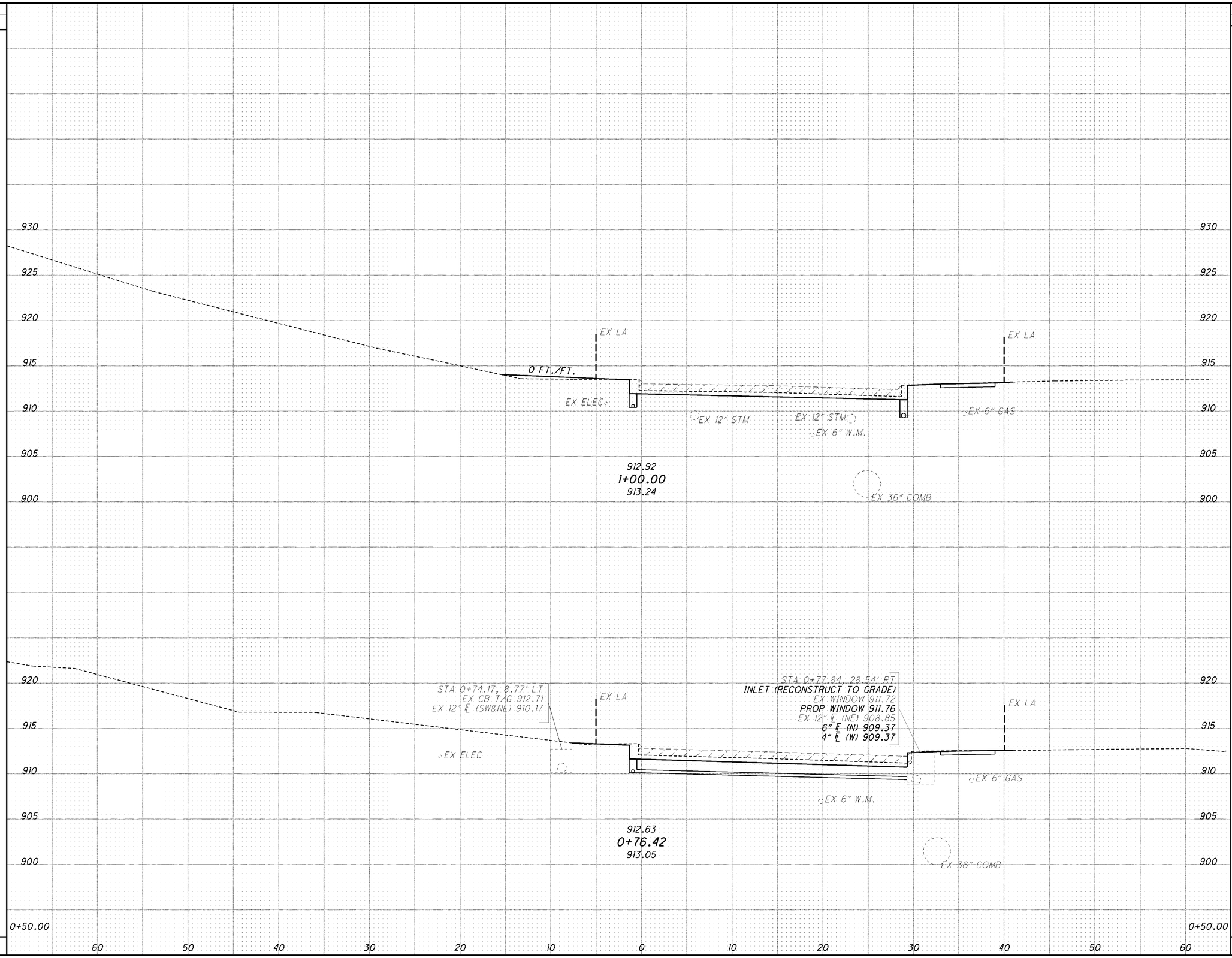
VOLUME	
CUT	FILL
7	0
7	0

CALCULATED RDW
CHECKED GJB

CROSS SECTIONS WIRT ST NORTHBOUND
STA 0+36.50 TO STA 0+50.00

MAH-193-0.46
MAH-422-1.85

SEEDING		END AREA		VOLUME		CALCULATED	CHECKED
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	RDW	GJB
22		15	2				
	47			14	1		
14		16	1				
	29			14	1		
6		13	1				
	76			28	2		



CROSS SECTIONS WIRT ST NORTHBOUND
STA 0+76.42 TO STA 1+00.00

MAH-193-0.46
MAH-422-1.85

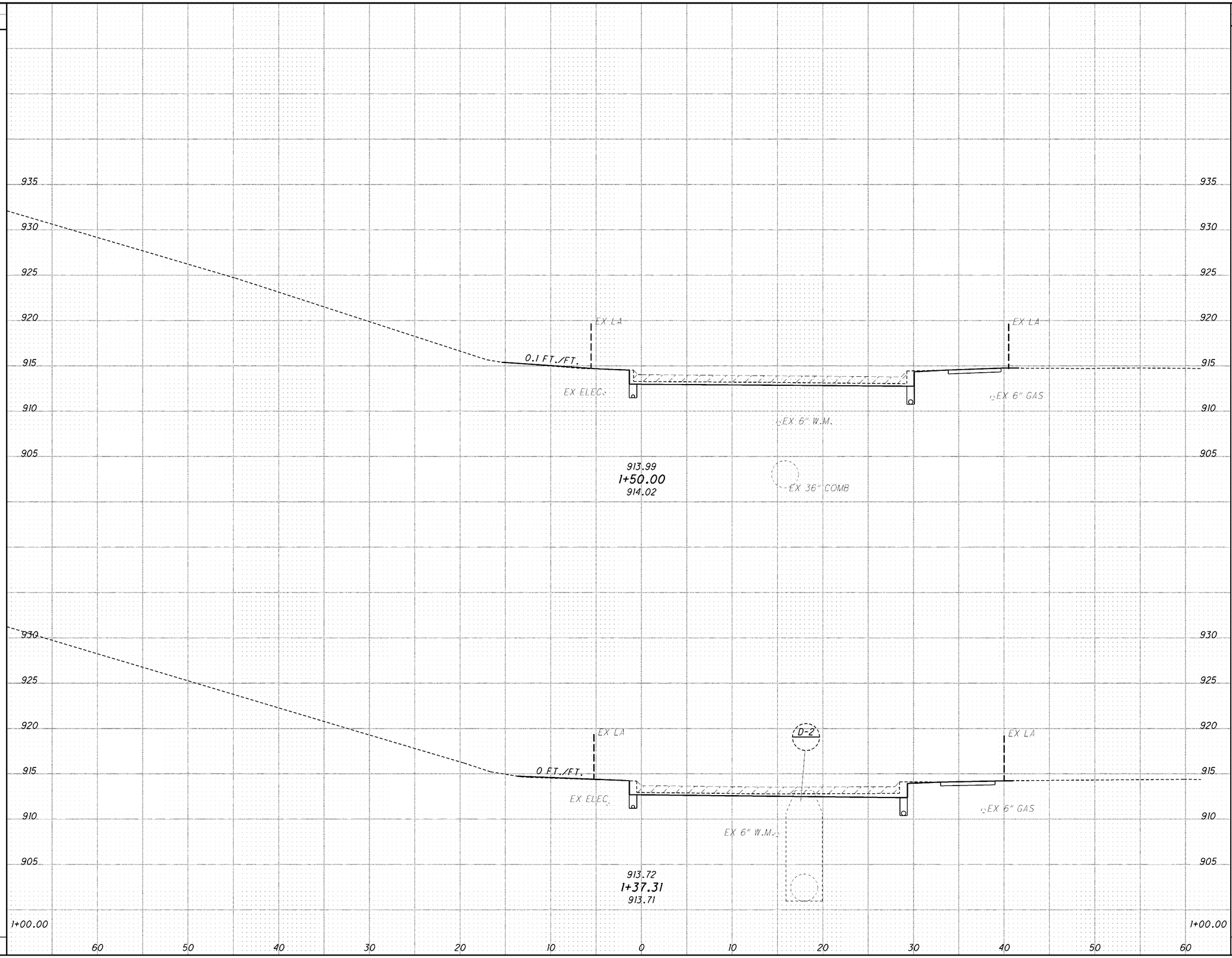
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
22		11	0		
	30			5	0
20		12	1		
	87			19	2
22		15	2		
	117			24	2

CALCULATED RDW
CHECKED GJB

CROSS SECTIONS WIRT ST NORTHBOUND
STA 1+37.31 TO STA 1+50.00

MAH-193-0.46
MAH-422-1.85

96
260



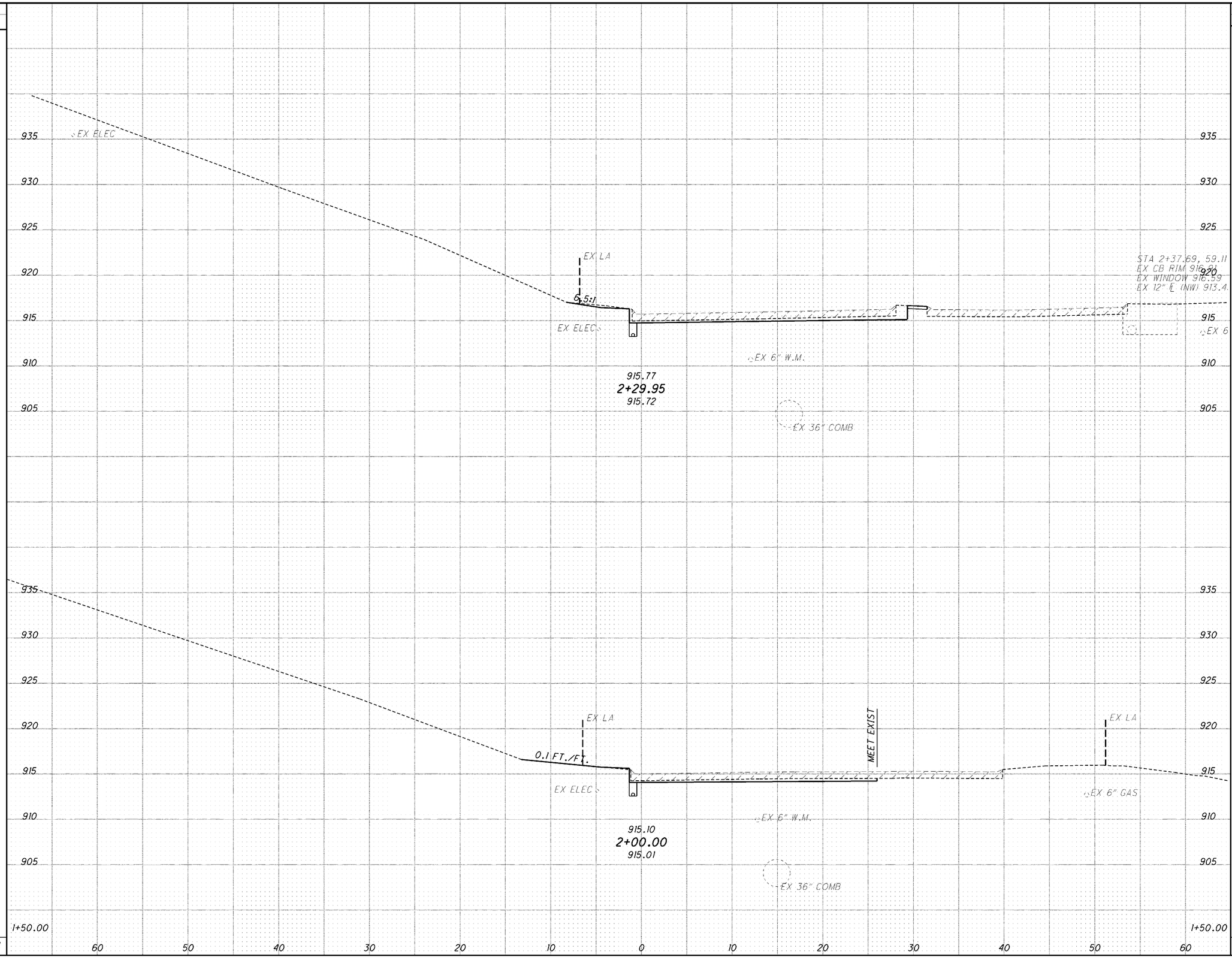
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
9		12	0		
13	37	8	0	11	0
22	97	11	0	18	0
	134			29	0

CALCULATED RDW
CHECKED GJB

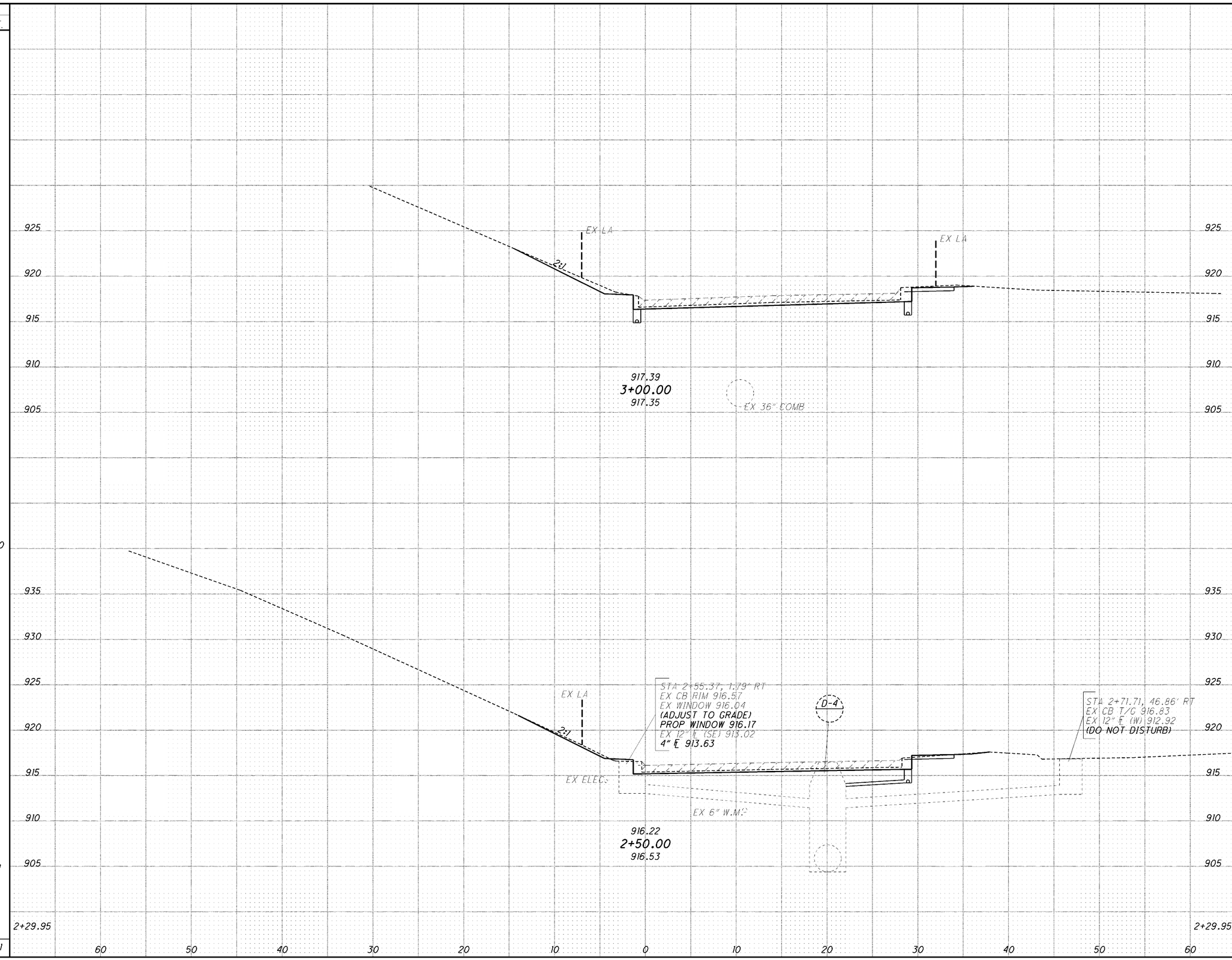
CROSS SECTIONS WIRT ST NORTHBOUND
STA 2+00.00 TO STA 2+29.95

MAH-193-0.46
MAH-422-1.85

97
260



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
17		15	0		
	100			24	1
19	31	11	1	9	0
9		12	0		
	131			33	1



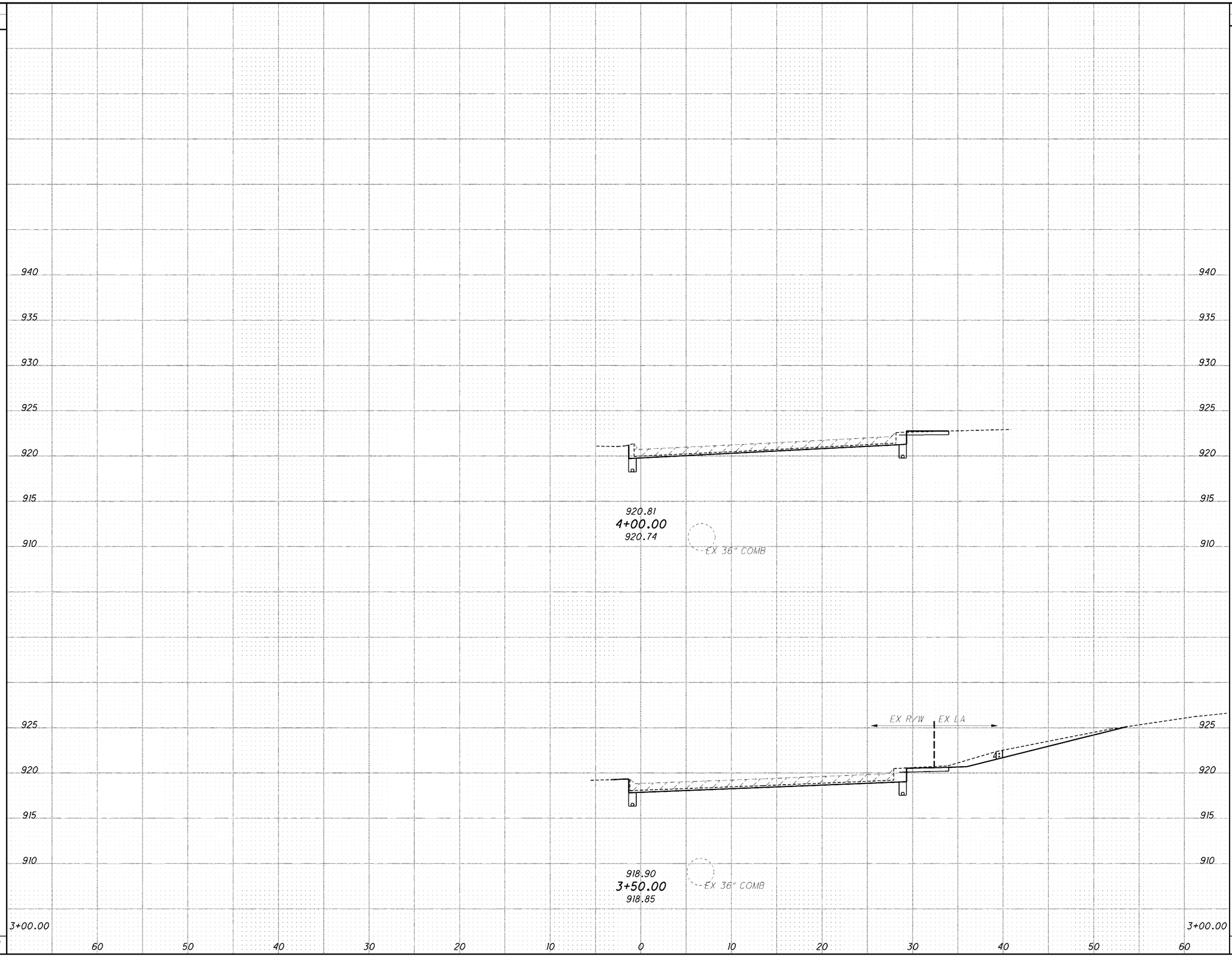
CALCULATED RDW
CHECKED GJB

CROSS SECTIONS WIRT ST NORTHBOUND
STA 2+50.00 TO STA 3+00.00

MAH-193-0.46
MAH-422-1.85

98
260

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
1		8	0		
	67			25	0
23		19	0		
	111			32	0
17		15	0		
	178			57	0



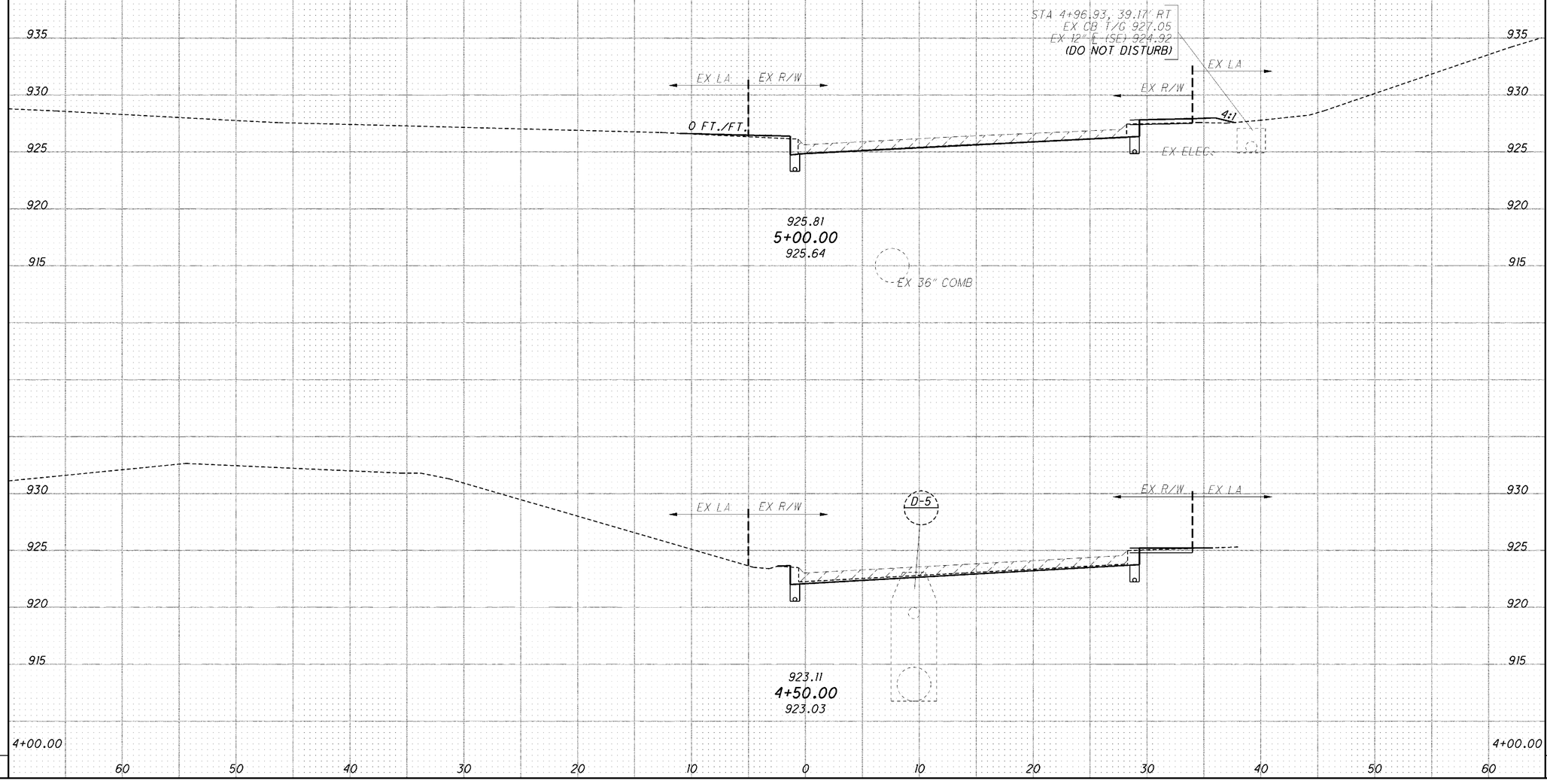
CALCULATED RDW
CHECKED GJB

CROSS SECTIONS WIRT ST NORTHBOUND
STA 3+50.00 TO STA 4+00.00

MAH-193-0.46
MAH-422-1.85

99
260

SEEDING		END AREA		VOLUME		CALCULATED	CHECKED
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	RDW	GJB
15	53	3	4	9	5		
4	14	7	1	14	1		
1	67	8	0	23	6		

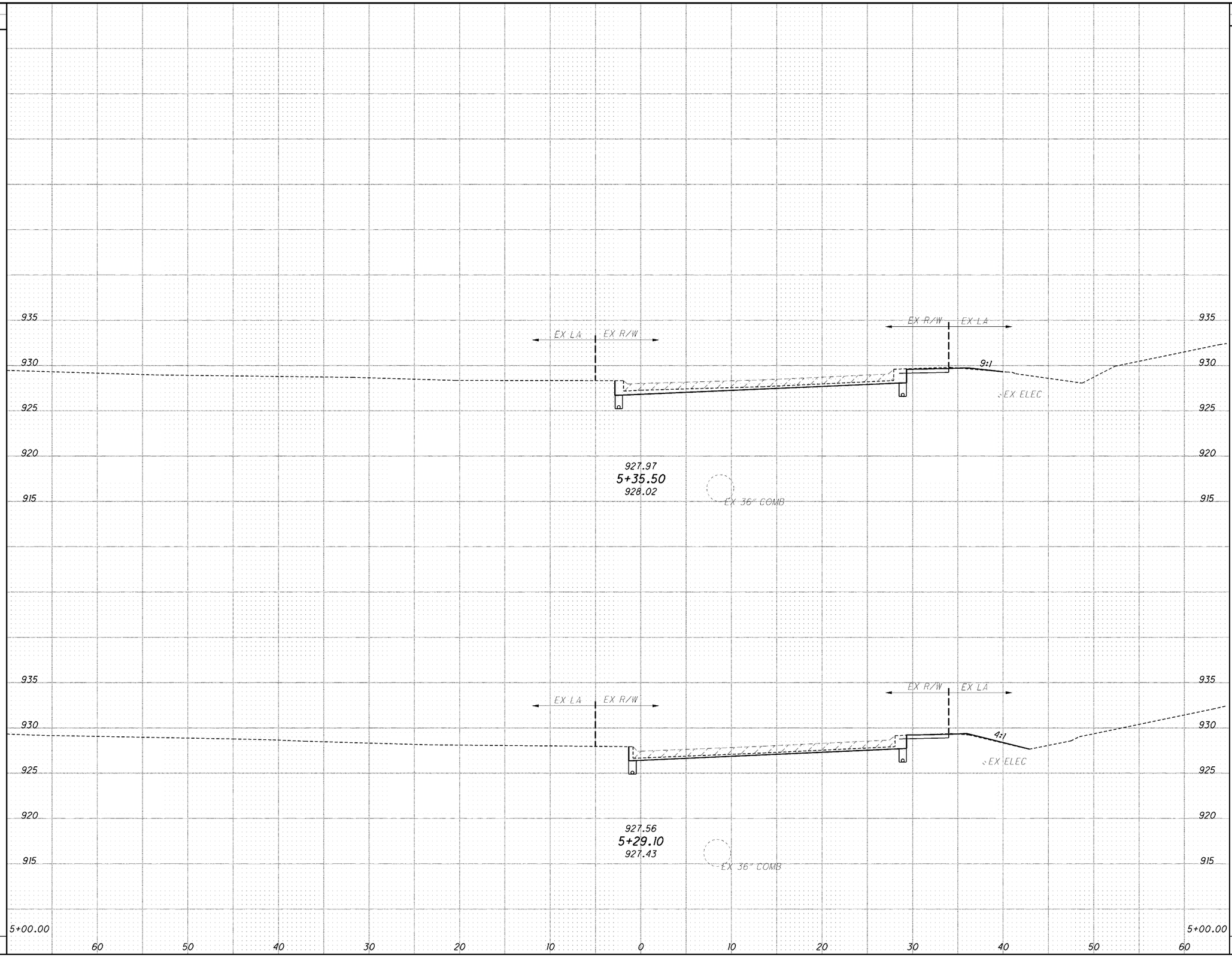


CROSS SECTIONS WIRT ST NORTHBOUND
STA 4+50.00 TO STA 5+00.00

MAH-193-0.46
MAH-422-1.85

100
260

SEEDING		END AREA		VOLUME		CALCULATED RDW	CHECKED GJB
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL		
7		14	0				
	6			3	0		
10		10	1				
	40			7	3		
15		3	4				
	46			10	3		



CROSS SECTIONS WIRT ST NORTHBOUND
STA 5+29.10 TO STA 5+35.50

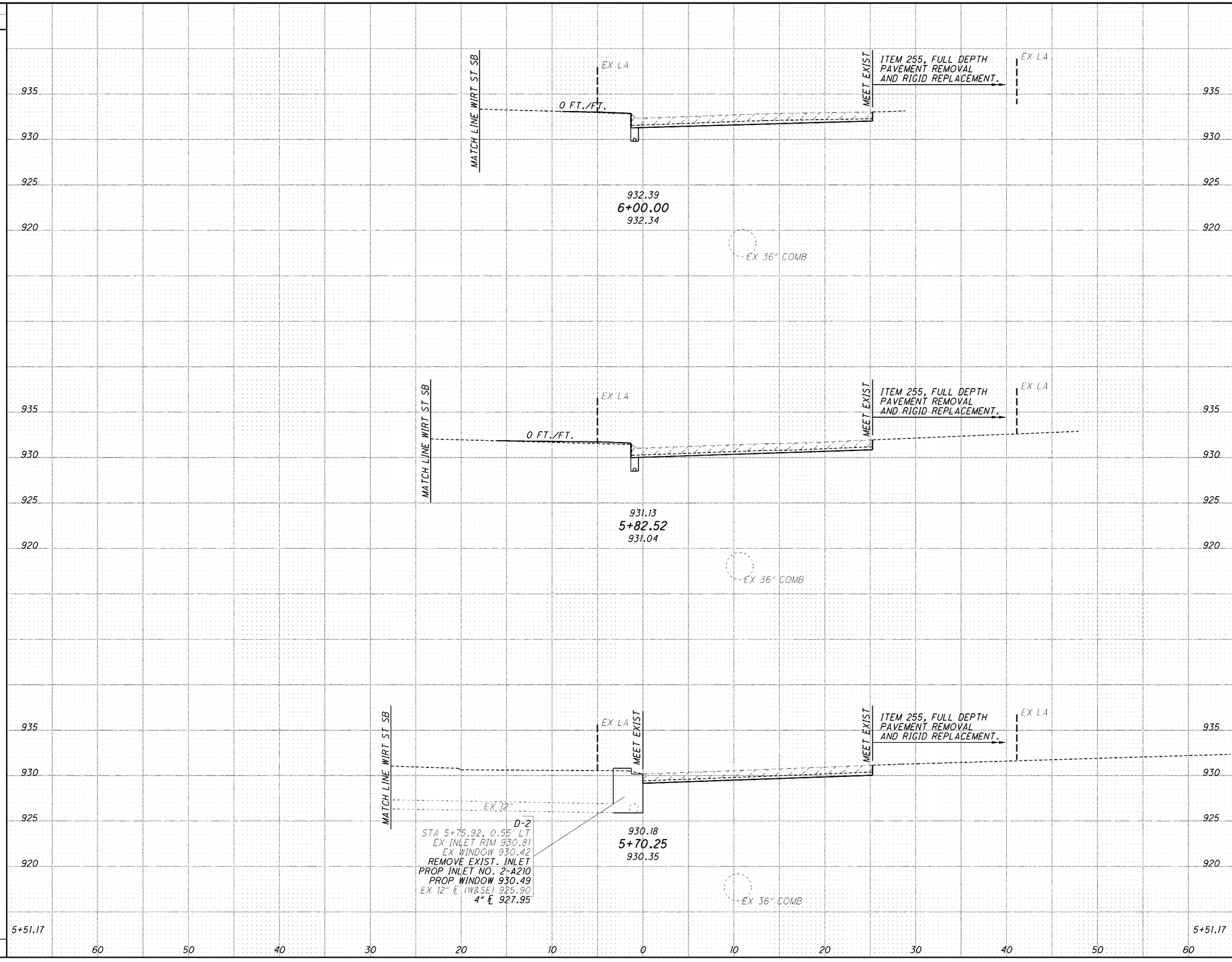
MAH-193-0.46
MAH-422-1.85

SEEDING		END AREA		VOLUME		
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	
						CALCULATED RDW
						CHECKED GJB
0		12	0			
	3			4	0	
6		11	0			
	4			3	0	
7		14	0			
	7			7	0	

CROSS SECTIONS WIRT ST NORTHBOUND
STA 5+41.55 TO STA 5+51.17

MAH-193-0.46
MAH-422-1.85

SEEDING END WIDTH	SEEDING SQ. YDS.
8	23
16	11
0	0
0	34



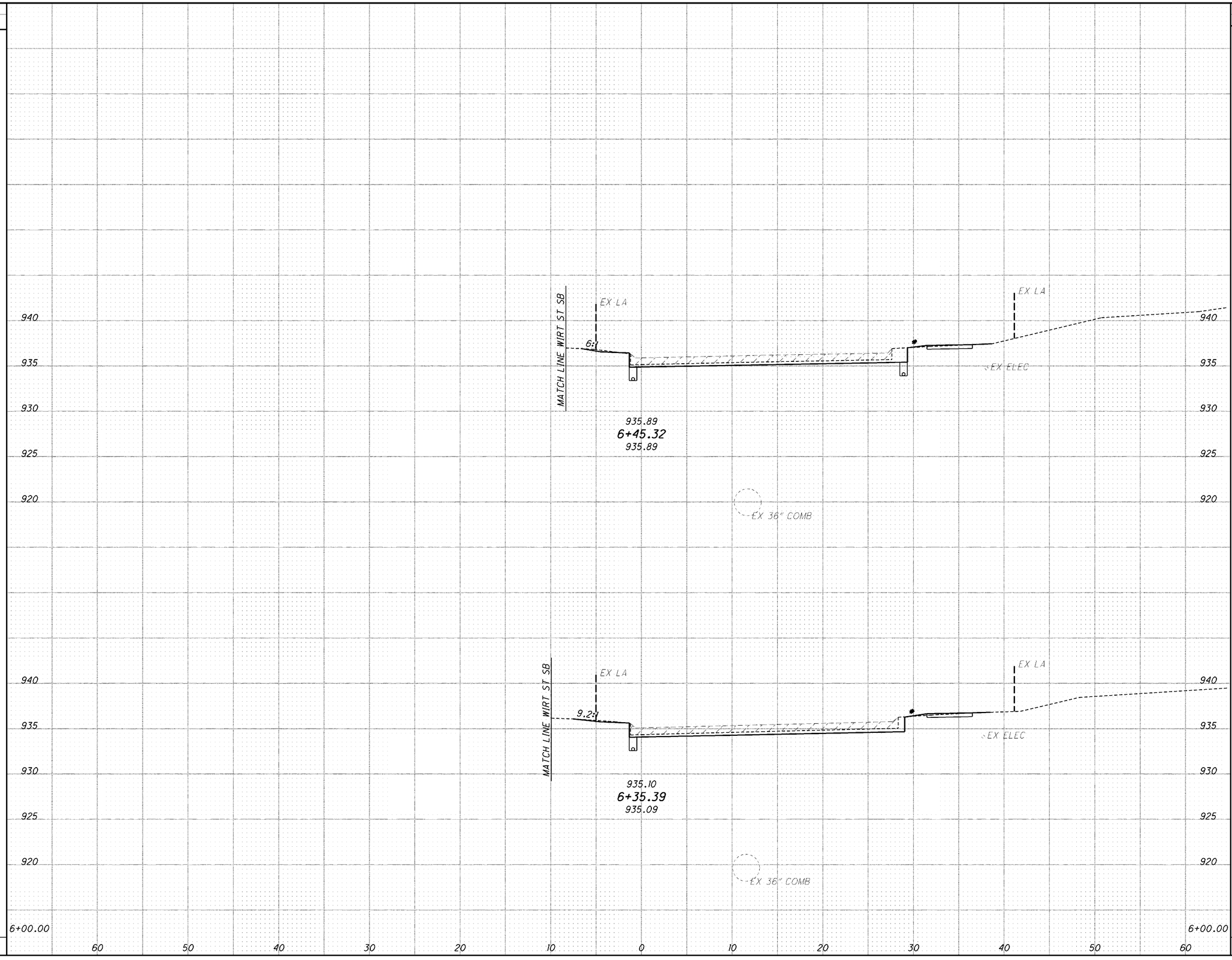
END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
9	0		
		6	1
8	2		
		4	0
8	0		
		7	0
12	0		
		17	1

CALCULATED RDW
CHECKED GJB

CROSS SECTIONS WIRT ST NORTHBOUND
STA 5+70.26 TO STA 6+00.00

MAH-193-0.46
MAH-422-1.85

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
11	13	12	1	4	0
12	39			14	1
8	52	9	0	18	1



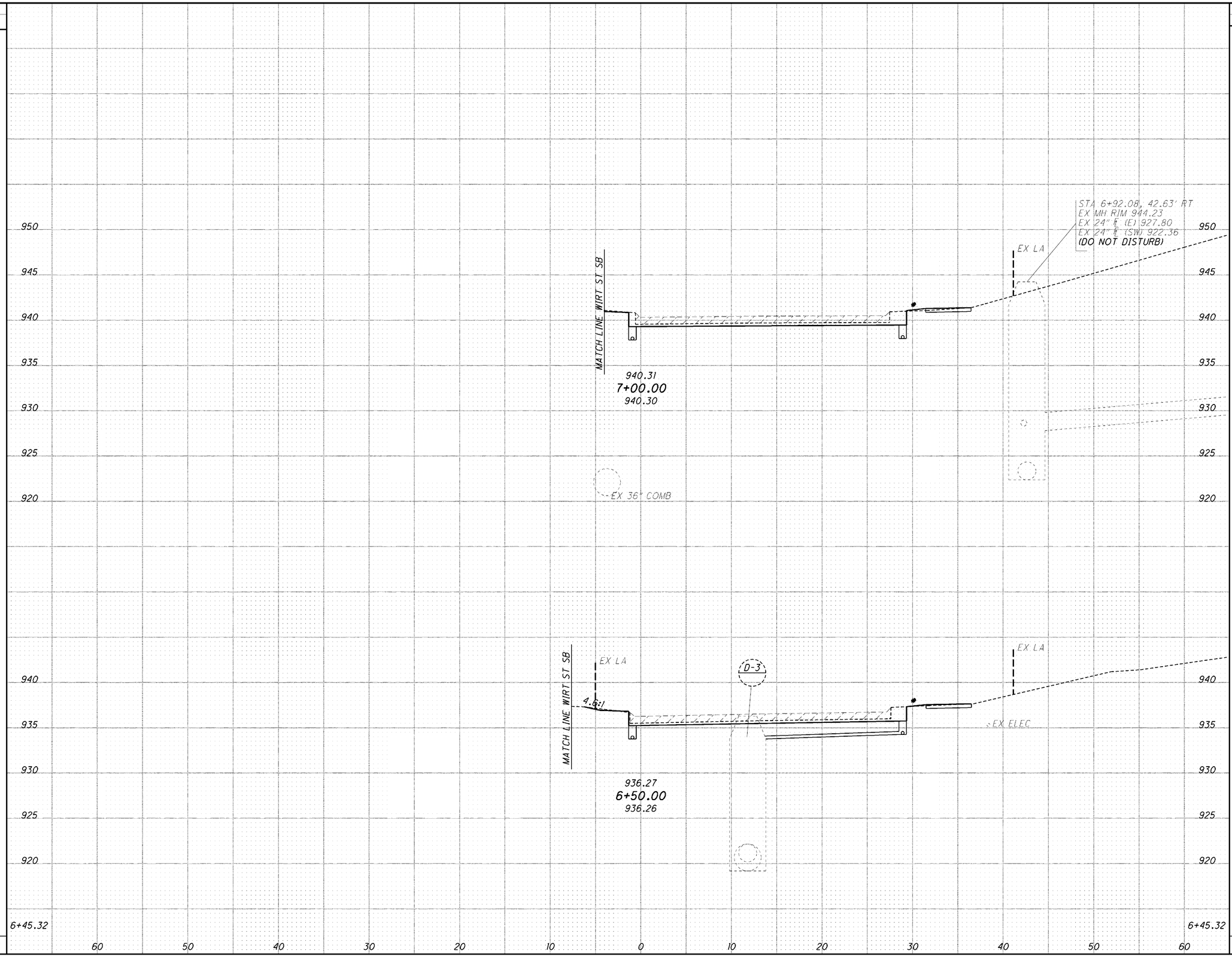
CALCULATED RDW
CHECKED GJB

CROSS SECTIONS WIRT ST NORTHBOUND
STA 6+36.39 TO STA 6+45.32

MAH-193-0.46
MAH-422-1.85

104
260

SEEDING		END AREA		VOLUME		CALCULATED	CHECKED
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	RDW	GJB
7	44	12	1	21	1		
9	5	11	0	2	0		
11	49	12	1	23	1		

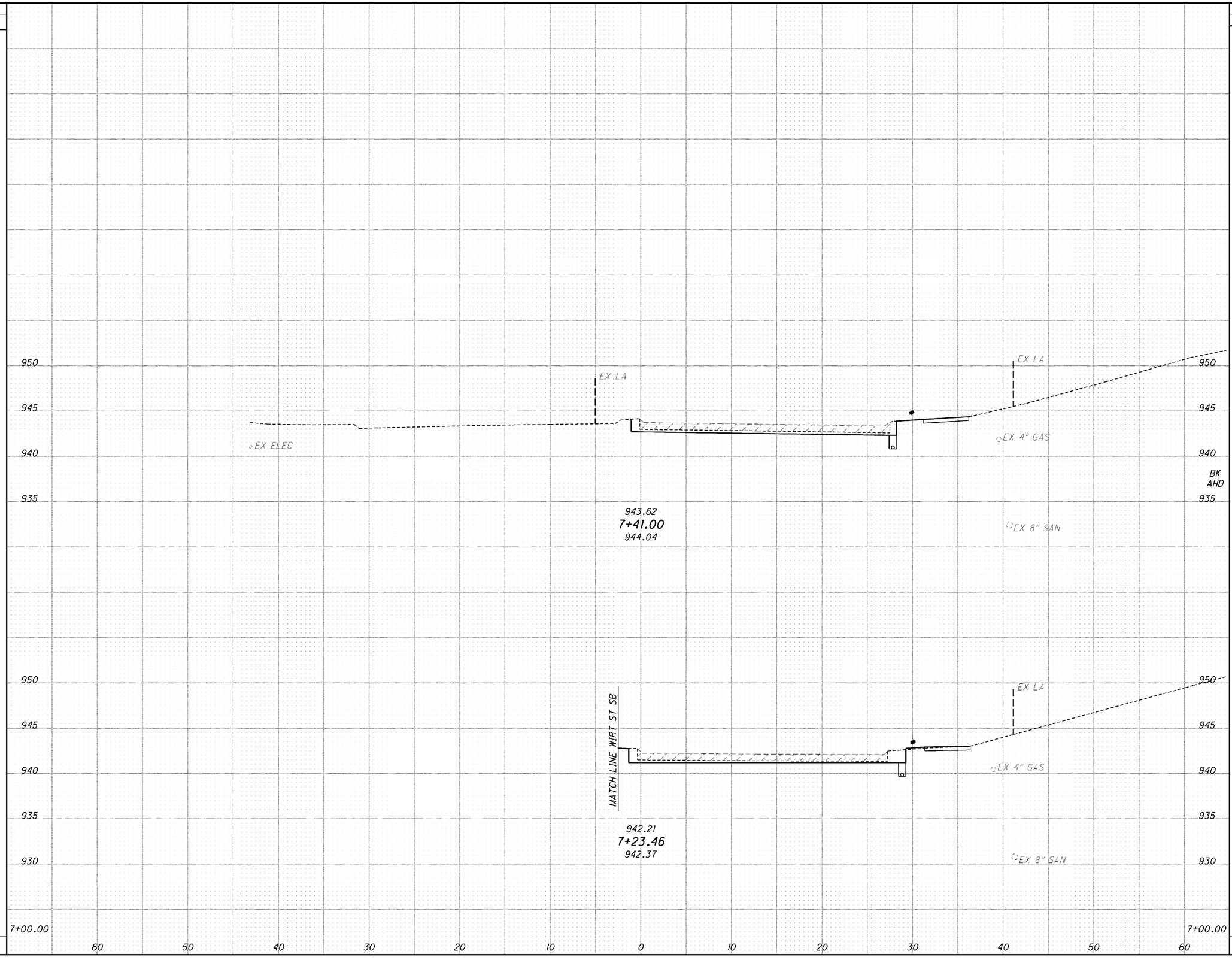


CROSS SECTIONS WIRT ST NORTHBOUND
STA 6+50.00 TO STA 7+00.00

MAH-193-0.46
MAH-422-1.85

105
260

SEEDING	
END WIDTH	SQ. YDS.
2	7
	16
7	
	23



END AREA		VOLUME	
CUT	FILL	CUT	FILL
BK 0	0		
AHD 10	0		
10	1		
12	1		
		6	0
		10	1
		16	1

CALCULATED RDW
CHECKED GJB

CROSS SECTIONS WIRT ST NORTHBOUND
STA 7+23.46 TO STA 7+41.00

MAH-193-0.46
MAH-422-1.85

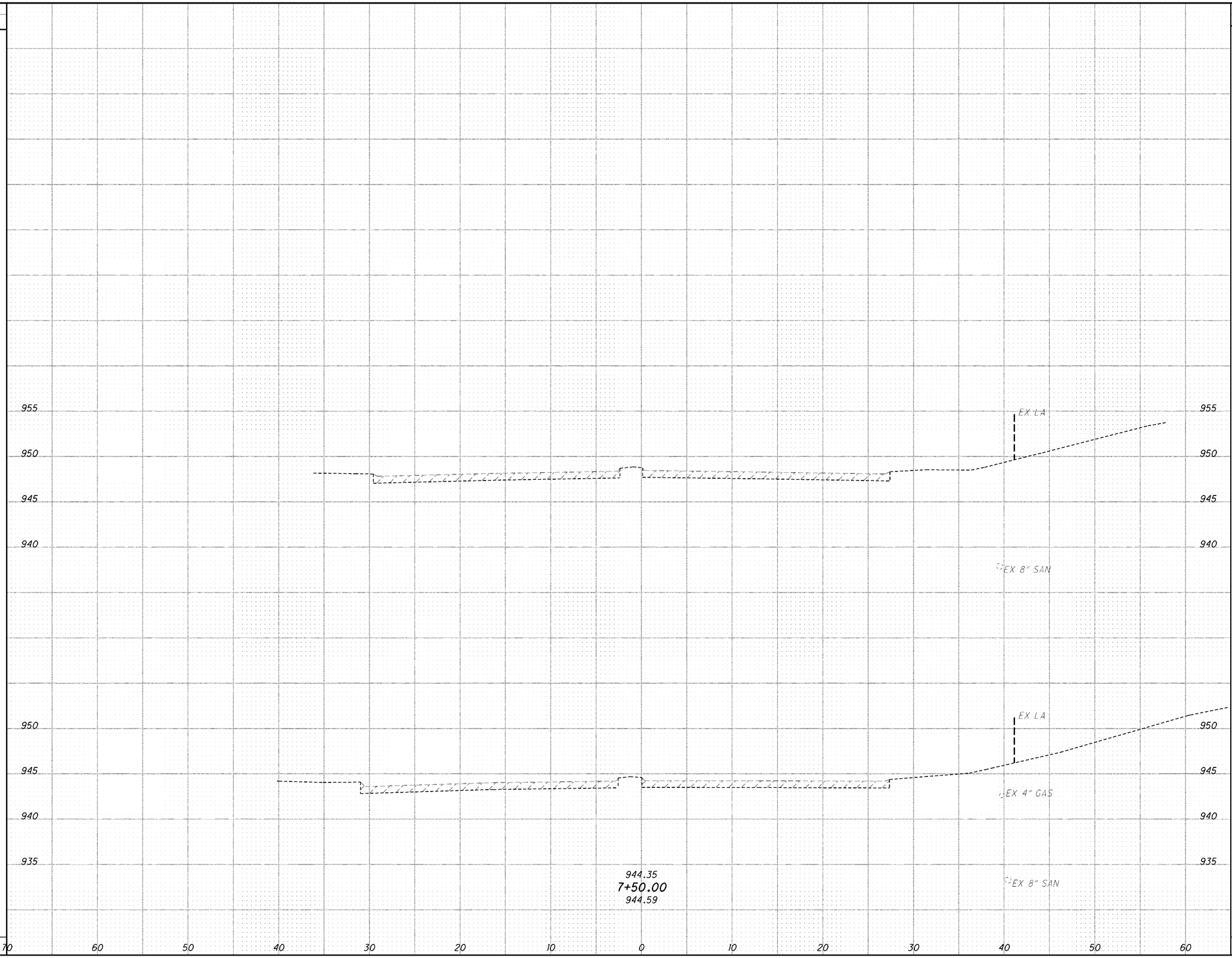
SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED RDW

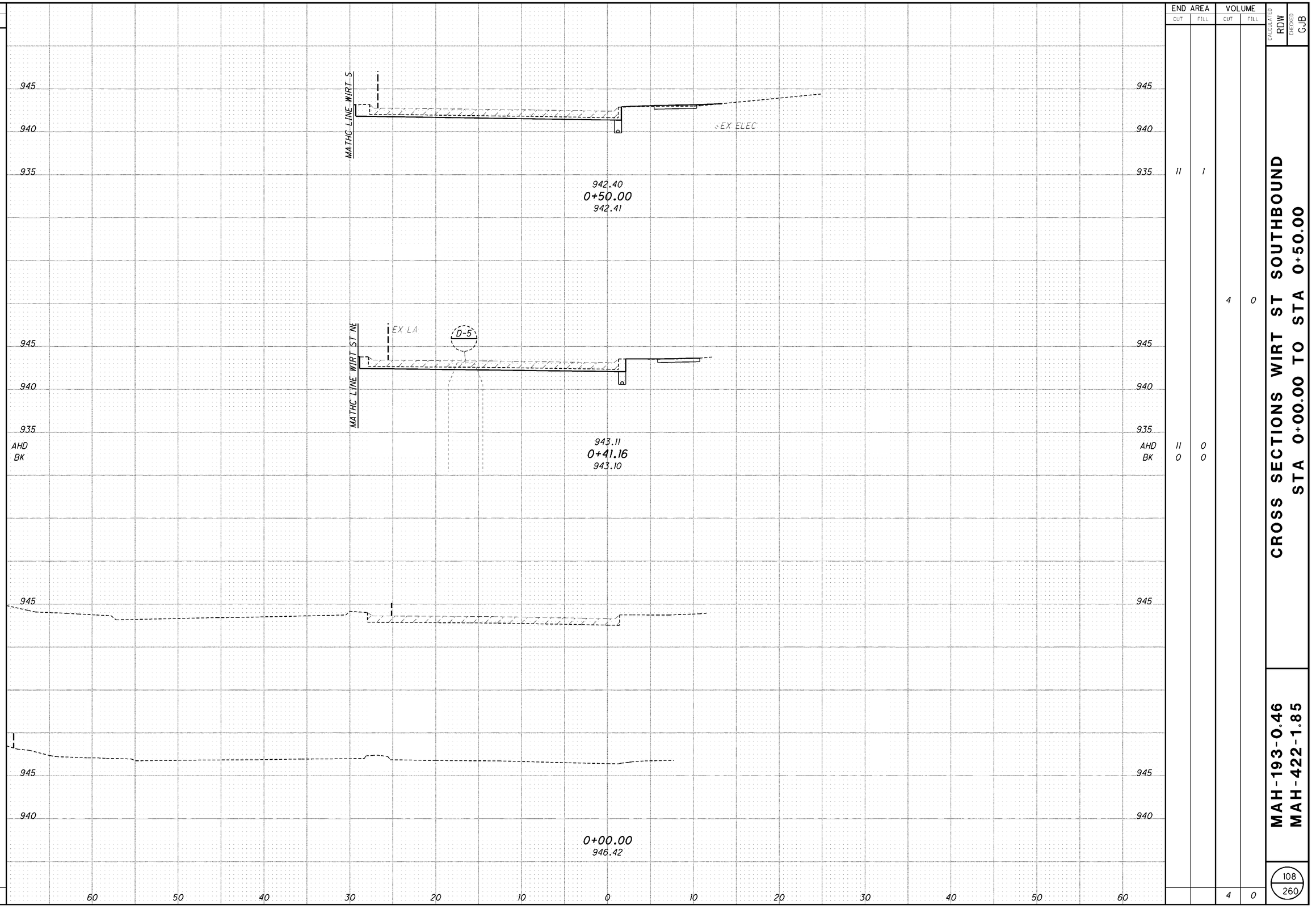
CHECKED GJB



CROSS SECTIONS WIRT ST NORTHBOUND
STA 7+50.00 TO STA 8+00.00

MAH-193-0.46
MAH-422-1.85

SEEDING END WIDTH	SEEDING SQ. YDS.
9	
	7
6 0	
	7



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
11	1		
		4	0
11 0	0 0		
		4	0

CALCULATED RDW
CHECKED GJB

CROSS SECTIONS WIRT ST SOUTHBOUND STA 0+00.00 TO STA 0+50.00

MAH-193-0.46
MAH-422-1.85

SEEDING	
END WIDTH	SQ. YDS.
19	100
17	65
10	7
9	
	172

940
935
930
925

MATHC LINE WIRT ST NB

6:1

6:1

EX ELEC

934.40
1+50.00
934.33

940
935
930

MATHC LINE WIRT ST

8:1

EX ELEC

938.40
1+00.00
938.35

945
940
935

MATHC LINE WIRT S

EX ELEC

941.86
0+56.74
941.88

940
935
930
925

0+50.00

60 50 40 30 20 10 0 10 20 30 40 50 60

END AREA	
CUT	FILL
9	3
7	1
10	1
11	1

VOLUME	
CUT	FILL
15	4
14	2
3	0
32	6

CALCULATED RDW
CHECKED GJB

CROSS SECTIONS WIRT ST SOUTHBOUND
STA 0+56.74 TO STA 1+50.00

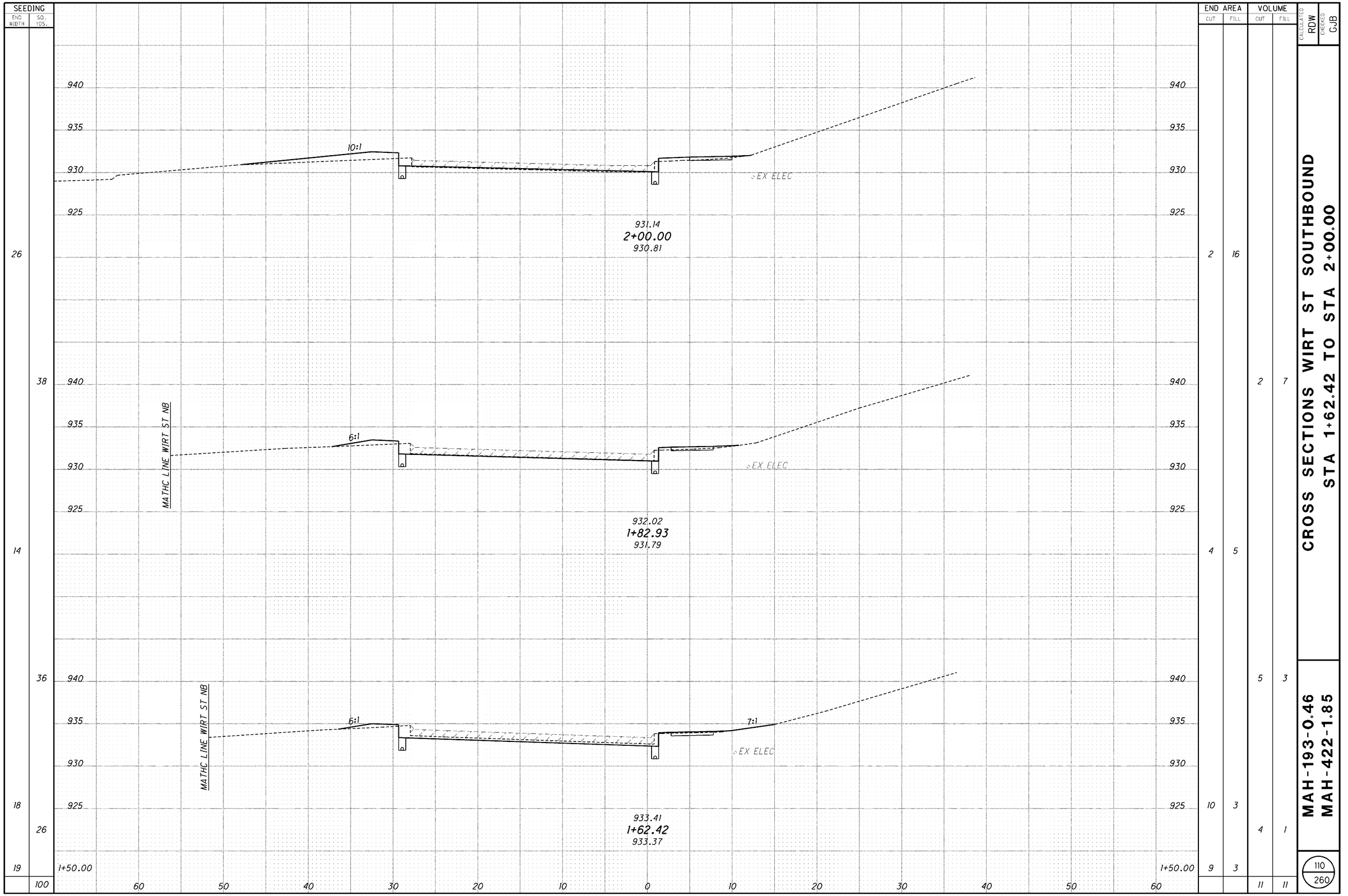
MAH-193-0.46
MAH-422-1.85

CROSS SECTIONS WIRT ST SOUTHBOUND
STA 1+62.42 TO STA 2+00.00

CALCULATED: RDW
CHECKED: GJB

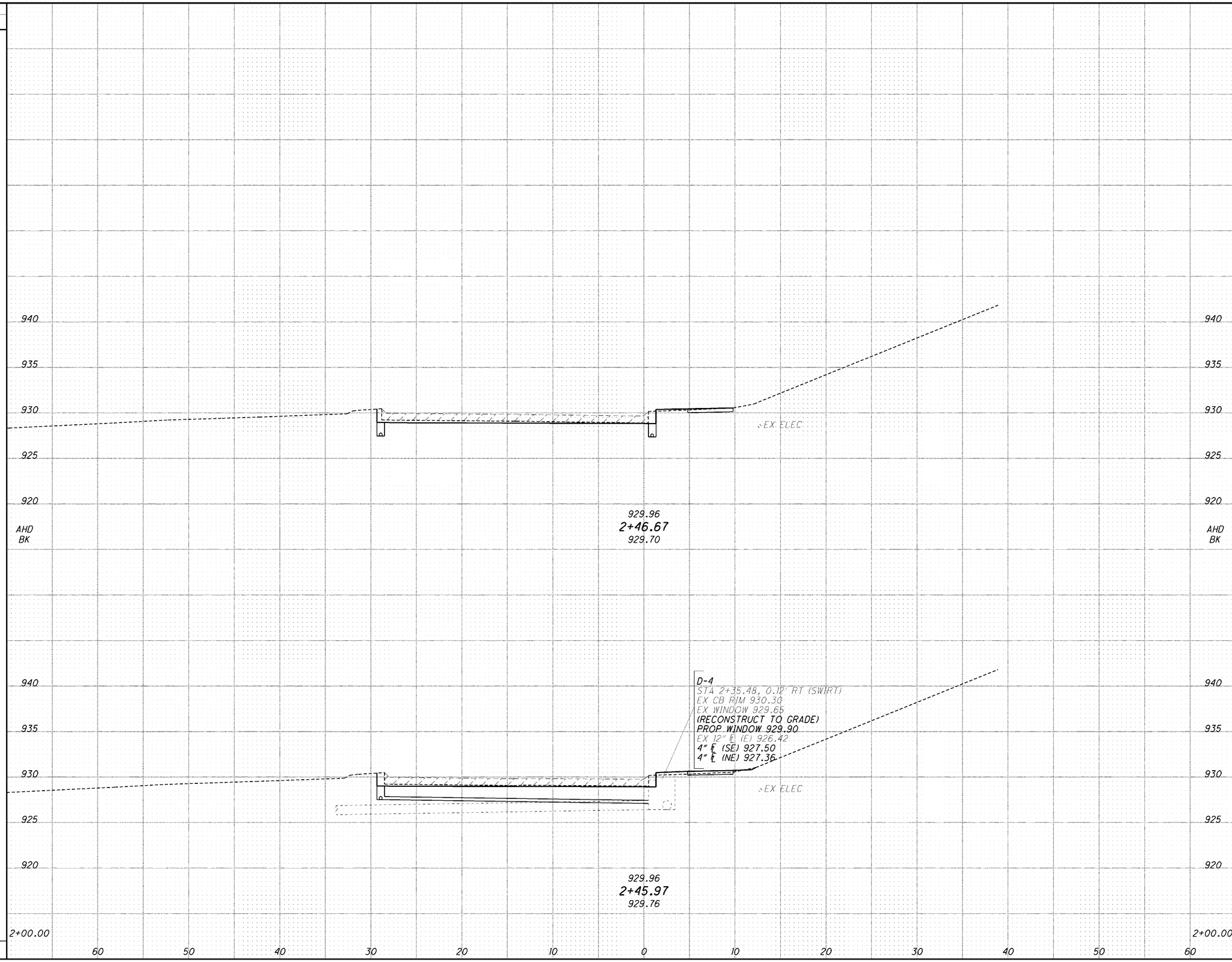
MAH-193-0.46
MAH-422-1.85

110
260



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
26	38	2	16	2	7
14	36	4	5	5	3
18	26	10	3	4	1
19	100	9	3	11	11

SEEDING		END AREA		VOLUME		CALCULATED	CHECKED
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	RDW	GJB



0 5						0	0
	0						
8				6	2		
	87					7	15
26				2	16		
	87			7	15		

CROSS SECTIONS WIRT ST SOUTHBOUND
STA 2+45.97 TO STA 2+46.67

MAH-193-0.46
MAH-422-1.85

SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL

VOLUME	
CUT	FILL

CALCULATED RDW

CHECKED GJB

940
935
930
925

3+00.00
930.73

EX ELEC

2+50.00
929.71

920

60 50 40 30 20 10 0 10 20 30 40 50 60

CROSS SECTIONS WIRT ST SOUTHBOUND
STA 2+50.00 TO STA 3+00.00

MAH-193-0.46
MAH-422-1.85

SUPERELEVATION TABLE

WIRT STREET NORTHBOUND

LEFT SIDE					BASELINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
					1+00.00	912.85	28.00	-0.0225	-0.63		912.22	INT
					1+25.00	913.45	28.00	-0.0150	-0.42		913.03	INT
					1+50.00	913.99	28.00	-0.0075	-0.21		913.78	INT
					1+75.00	914.54	28.00	0.0000	0.00		914.54	FLAT
					2+00.00	915.10	28.00	0.0057	0.16		915.26	INT
					2+25.00	915.66	28.00	0.0114	0.32		915.98	INT
					2+50.00	916.22	28.00	0.0171	0.48		916.69	
					2+75.00	916.78	28.00	0.0228	0.64		917.41	
					3+00.00	917.39	28.00	0.0285	0.80		918.19	
					3+25.00	918.09	28.00	0.0342	0.96		919.05	
					3+50.00	918.90	28.00	0.0399	1.12		920.02	
					3+75.00	918.81	28.00	0.0456	1.28		920.09	
					4+00.00	920.81	28.00	0.0513	1.44		922.25	
					4+25.00	921.91	28.00	0.0570	1.60		923.51	FULL SUPER
					4+50.00	923.11	28.00	0.0570	1.60		924.71	FULL SUPER
					4+75.00	924.41	28.00	0.0570	1.60		926.01	FULL SUPER
					5+00.00	925.81	28.00	0.0513	1.44		927.25	
					5+25.00	927.31	28.00	0.0456	1.28		928.59	
					5+50.00	928.90	28.00	0.0399	1.12		930.02	
					5+75.00	930.60	28.00	0.0342	0.96		931.56	INT
					6+00.00	932.39	28.00	0.0285	0.80		933.19	INT
					6+25.00	934.28	28.00	0.0228	0.64		934.92	INT
					6+50.00	936.27	28.00	0.0171	0.48		936.75	
					6+75.00	938.29	28.00	0.0114	0.32		938.61	
					7+00.00	940.31	28.00	0.0057	0.16		940.47	
					7+25.00	942.33	28.00	0.0000	0.00		942.33	FLAT
					7+41.10	943.54	28.00	0.0000	0.00		X	MEET EX

SUPERELEVATION TABLE

WIRT STREET SOUTHBOUND

LEFT SIDE					BASELINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
X		0.00	X	28.00	0+41.46	943.11						MEET EX
942.09		0.49	0.0176	28.00	0+60.00	941.60						
940.65		0.65	0.0232	28.00	0+80.00	940.00						
939.21		0.81	0.0288	28.00	1+00.00	938.40						
937.76		0.96	0.0344	28.00	1+20.00	936.80						
936.20		1.12	0.0400	28.00	1+40.00	935.20						
934.56		0.96	0.0344	28.00	1+60.00	933.60						
933.01		0.81	0.0288	28.00	1+80.00	932.20						
931.79		0.65	0.0232	28.00	2+00.00	931.14						
930.90		0.49	0.0176	28.00	2+20.00	930.41						
930.35		0.34	0.0120	28.00	2+40.00	930.01						
930.00		0.04	0.0014	28.00	2+46.67	929.96						MEET EX

CALCULATED RDW
CHECKED GJB

SUPERELEVATION TABLE
WIRT ST NORTHBOUND & SOUTHBOUND

MAH-193-0.46
MAH-422-1.85

\\AKRNB1\DATA\CIVIL\2007013\MAH\25235\ROADWAY\SHEETS\25235SE001.DGN
7/6/2009
3:17:59 PM
ARULLAND

(1)
P.I. STA. 2+82.42
Δ = 25° 32′ 59″ (LT)
Dc = 8° 57′ 09″
R = 640.00′
T = 145.11′
L = 285.39′
E = 16.24′

(2)
P.I. STA. 3+44.18
Δ = 34° 42′ 25″ (LT)
Dc = 7° 57′ 18″
R = 720.25′
T = 225.07′
L = 436.29′
E = 34.35′

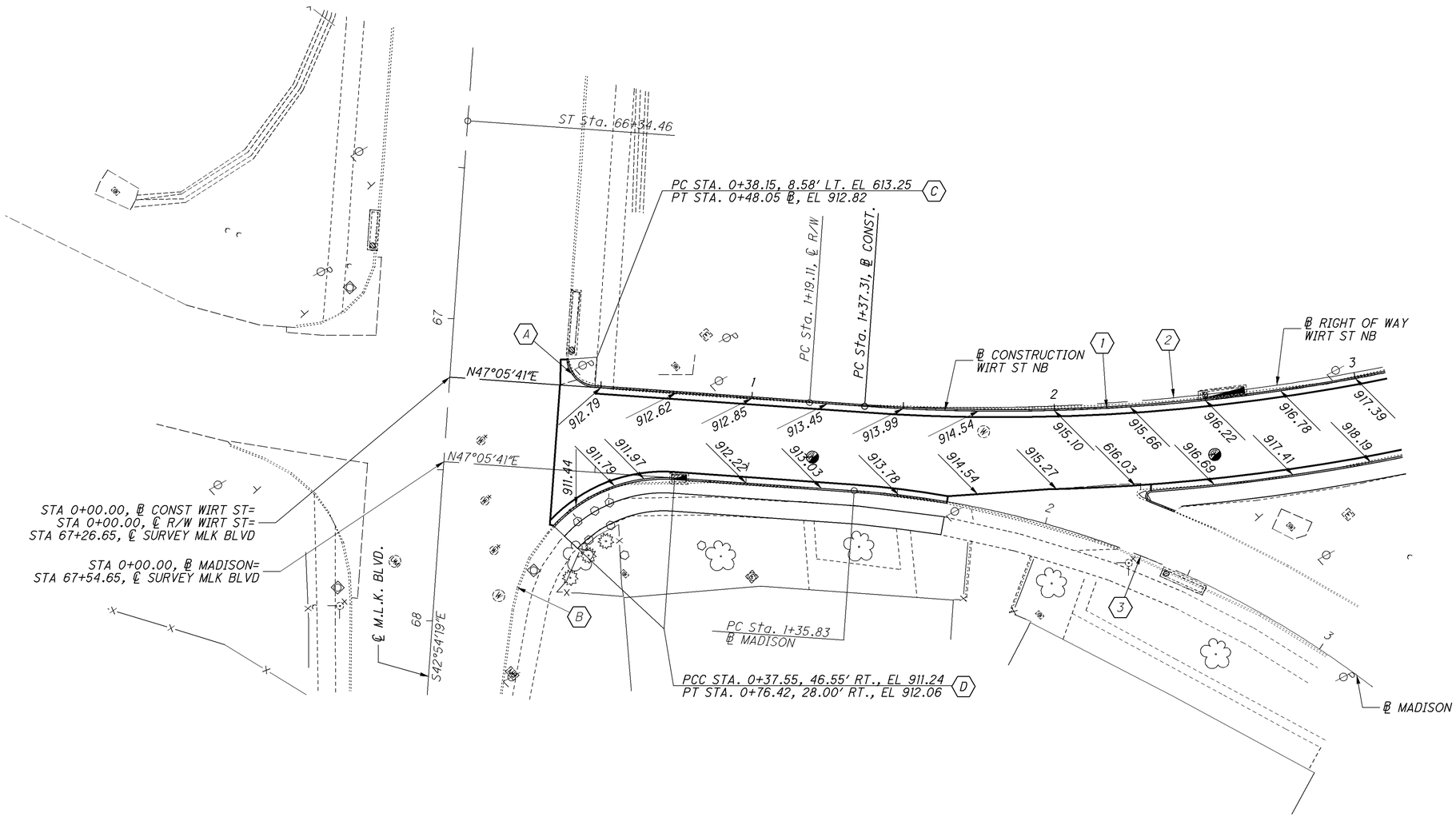
(3)
P.I. STA. 2+54.71
Δ = 40° 57′ 33″ (RT)
Dc = 18° 00′ 00″
R = 318.31′
T = 118.88′
L = 227.55′
E = 21.48′

(A)
Δ = 90° 00′ 00″
R = 10.00′
T = 10.00′
L = 15.71′

(B)
Δ = 86° 20′ 20″
R = 50.00′
T = 46.90′
L = 75.34′

(C)
Δ = 81° 49′ 06″
R = 10.00′
T = 8.67′
L = 14.28′

(D)
Δ = 51° 01′ 39″
R = 50.00′
T = 23.06′
L = 44.53′



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RDW
CHECKED GJB

PAVEMENT DETAIL WIRT ST
NORTHBOUND STA 0+00 TO STA 3+00

MAH-193-0.46
MAH-422-1.85

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KHOLLAND

(1)
P.I. STA. 4+98.57
Δ = 9° 09′ 25″ (LT)
Dc = 7° 57′ 18″
R = 720.25′
T = 57.68′
L = 115.11′
E = 2.31′

(2)
P.I. STA. 9+48.83
Δ = 12° 39′ 57″ (LT)
Dc = 2° 03′ 11″
R = 2,790.58′
T = 309.70′
L = 616.89′
E = 17.13′

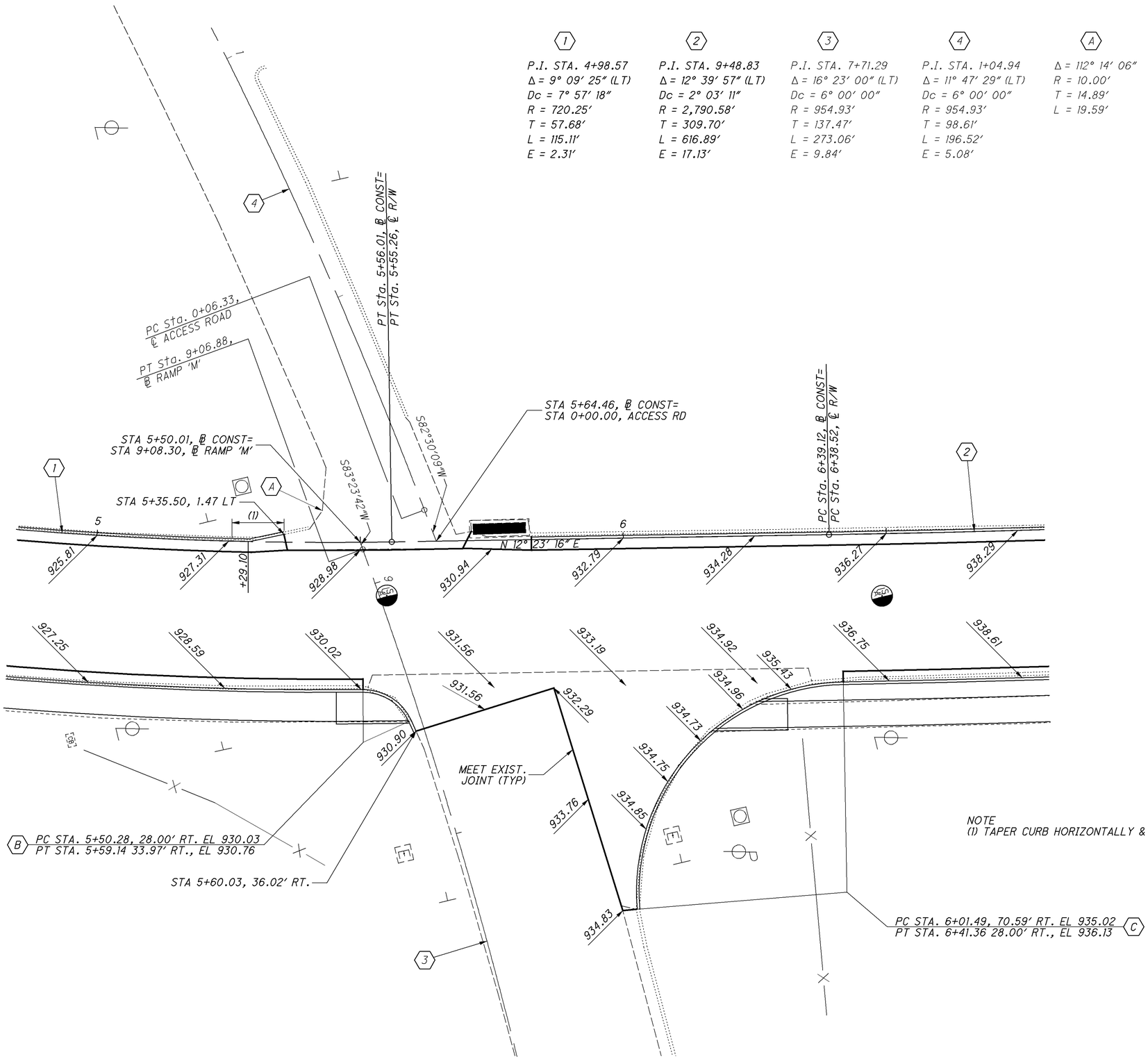
(3)
P.I. STA. 7+71.29
Δ = 16° 23′ 00″ (LT)
Dc = 6° 00′ 00″
R = 954.93′
T = 137.47′
L = 273.06′
E = 9.84′

(4)
P.I. STA. 1+04.94
Δ = 11° 47′ 29″ (LT)
Dc = 6° 00′ 00″
R = 954.93′
T = 98.61′
L = 196.52′
E = 5.08′

(A)
Δ = 112° 14′ 06″
R = 10.00′
T = 14.89′
L = 19.59′

(B)
Δ = 65° 57′ 19″
R = 10.00′
T = 6.49′
L = 11.51′

(C)
Δ = 93° 40′ 09″
R = 40.00′
T = 42.65′
L = 65.39′



NOTE
(1) TAPER CURB HORIZONTALLY & VERTICALLY TO MEET EXISTING IN 10′-0″.

HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED RDW
CHECKED GJB

PAVEMENT DETAIL WIRT ST
NORTHBOUND STA 5+00 TO STA 7+00

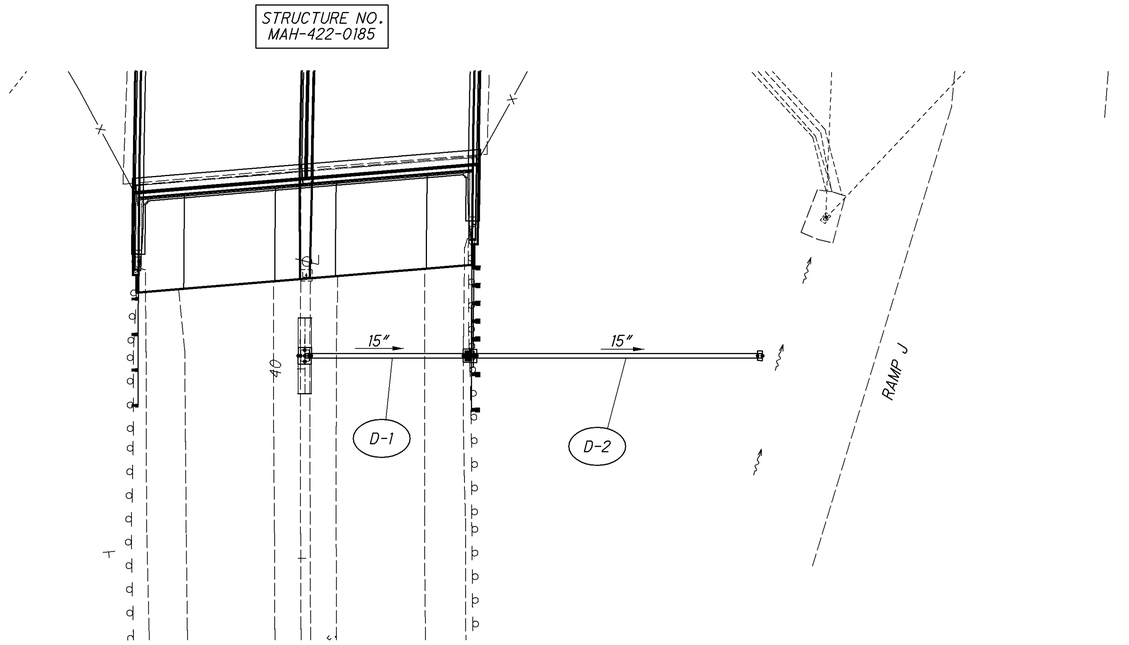
MAH-193-0.46
MAH-422-1.85

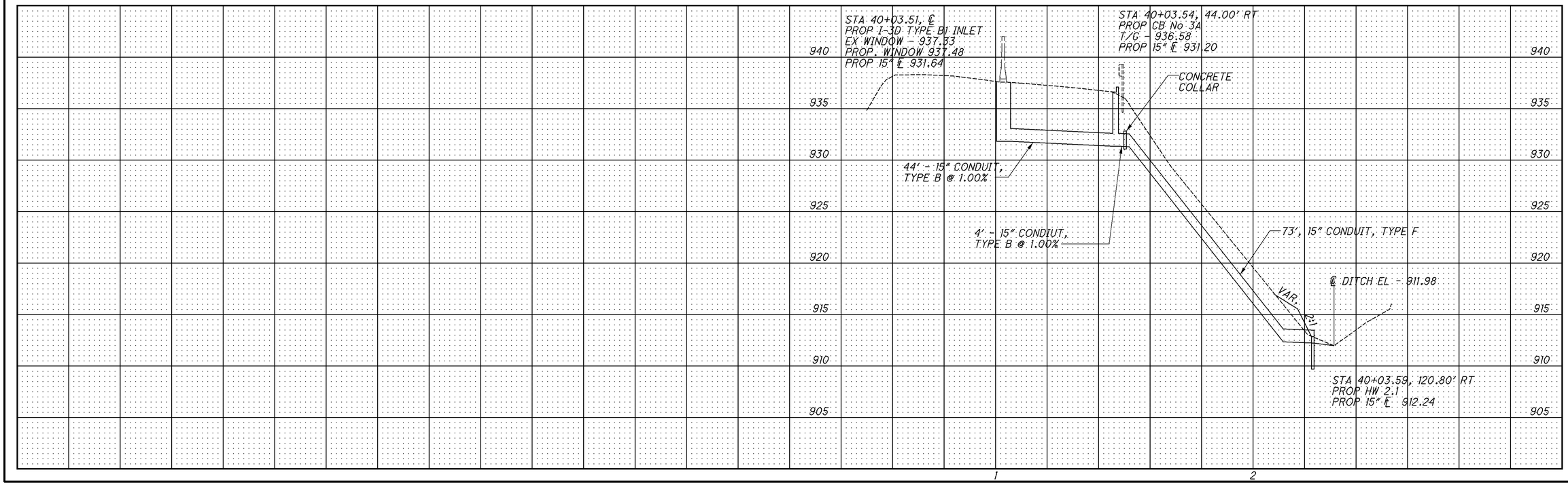
115
260

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7/6/2009
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KROLLAND

REF NO.	STATION	602 CONCRETE MASONRY	603 15" CONDUIT, TYPE B	603 15" CONDUIT, TYPE F	604 CATCH BASIN NO. 3A	604 INLET NO. 3D, TYPE B1
		CU YD	FT	FT	EACH	EACH
D-1	40+03.51		44			1
D-2	40+03.51	0.27		73	1	
TOTALS		0.27	44	73	1	1

QUANTITIES CARRIED TO GENERAL SUMMARY.





HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED GJB
CHECKED EAF

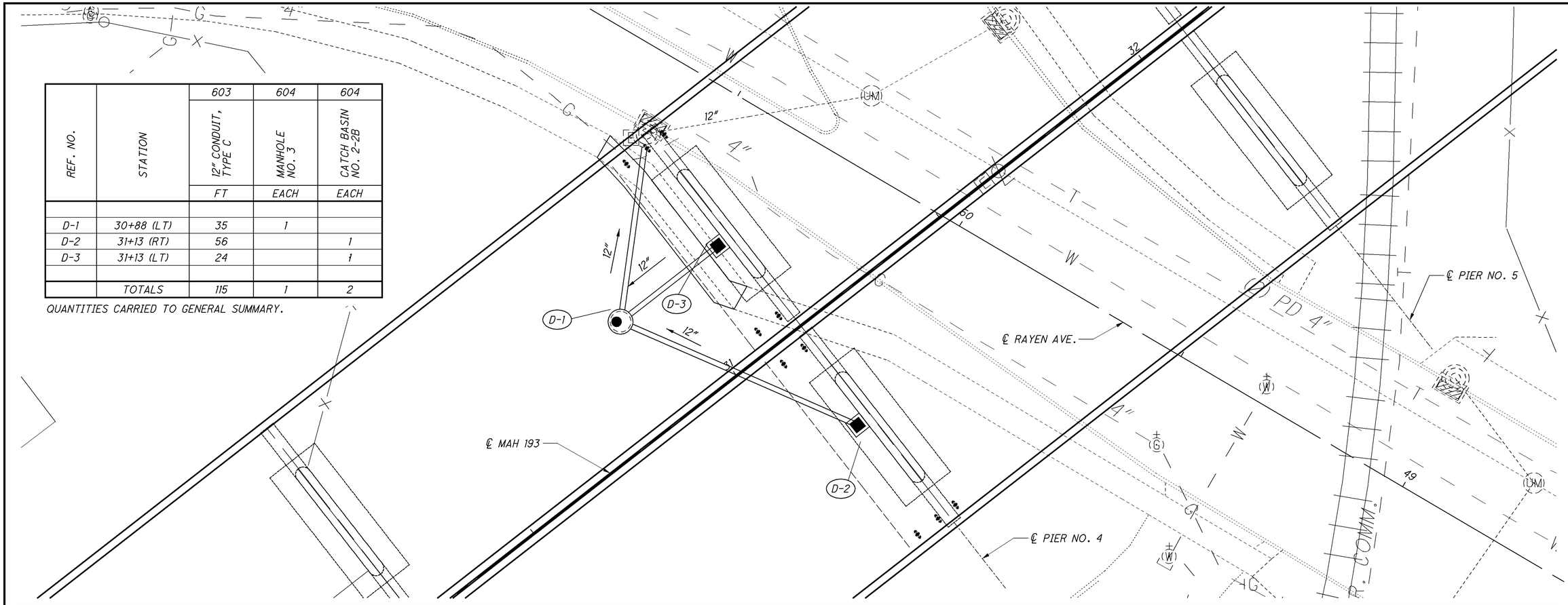
DRAINAGE PLAN AND PROFILE

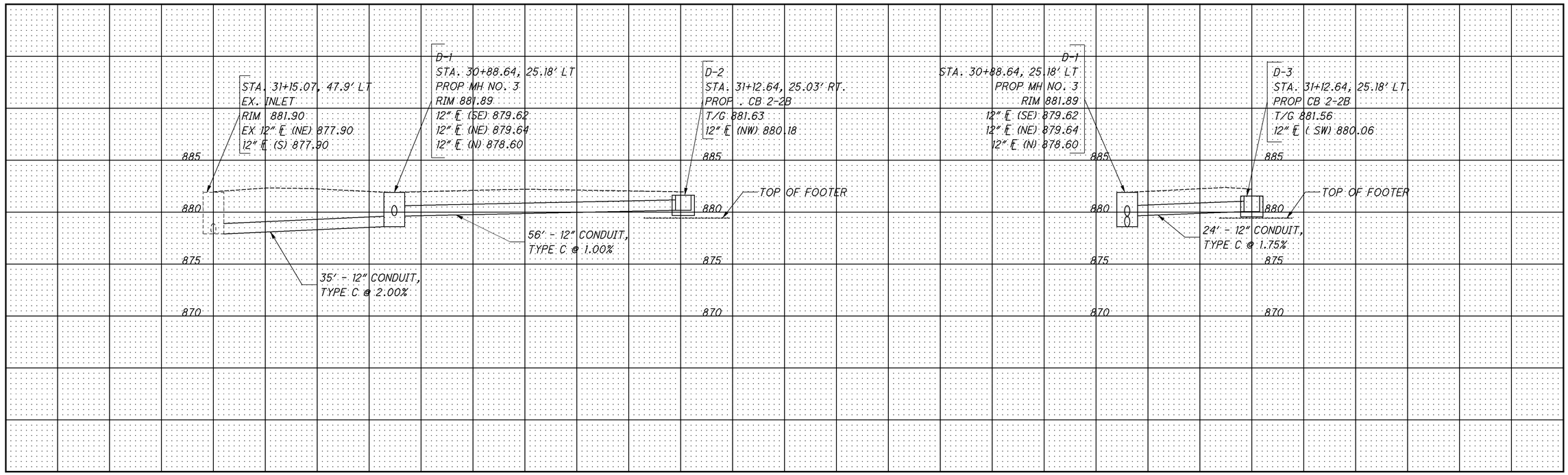
MAH-193-0.46
MAH-422-1.85

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KROLLAND

REF. NO.	STATION	603 12" CONDUIT, TYPE C	604 MANHOLE NO. 3	604 CATCH BASIN NO. 2-2B
		FT	EACH	EACH
D-1	30+88 (LT)	35	1	
D-2	31+13 (RT)	56		1
D-3	31+13 (LT)	24		1
	TOTALS	115	1	2

QUANTITIES CARRIED TO GENERAL SUMMARY.





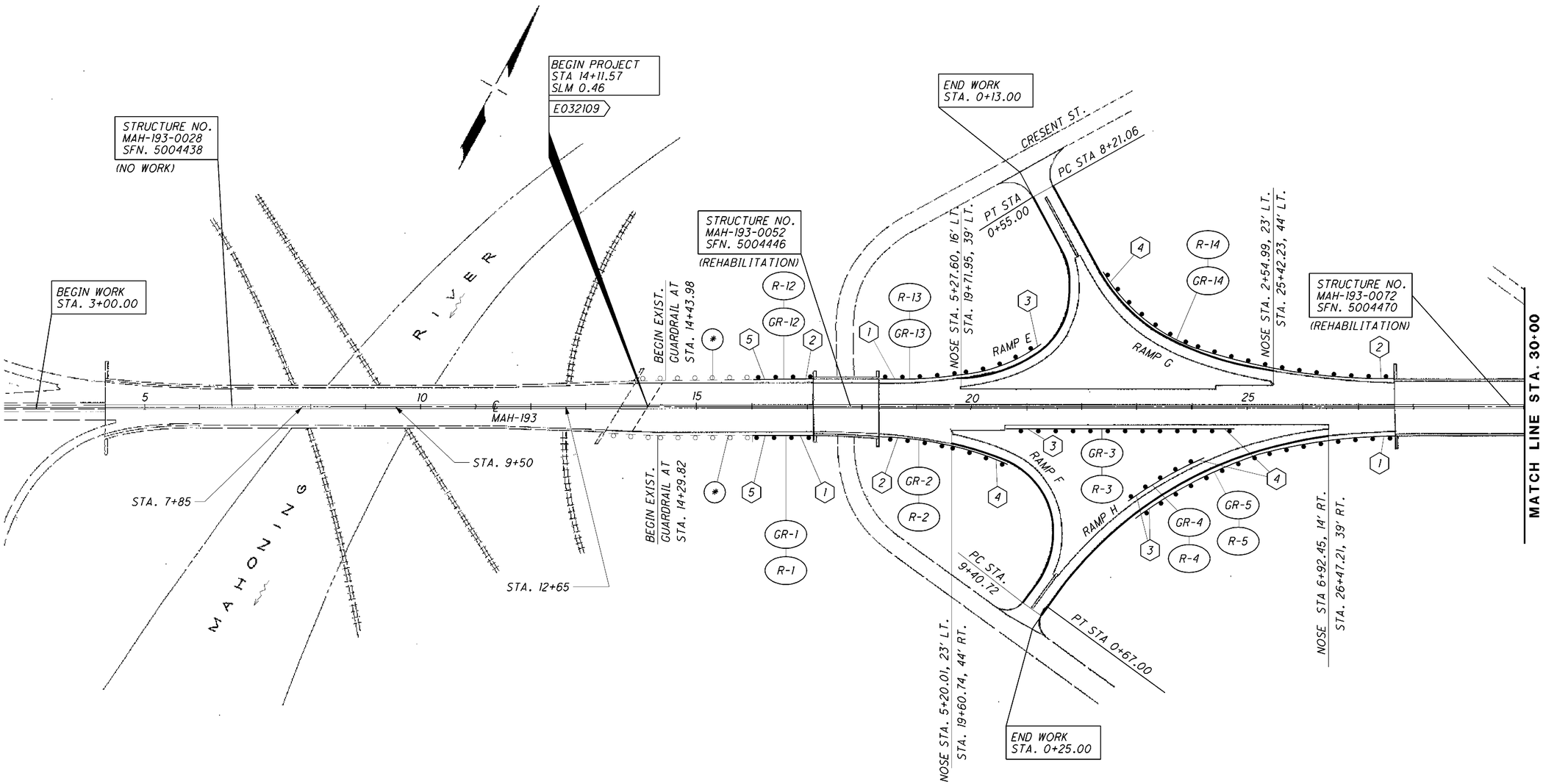
HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED GJB
CHECKED EAF

DRAINAGE PLAN AND PROFILE

MAH-193-0.46
MAH-422-1.85

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KARLLAHD



LEGEND

1. BRIDGE TERMINAL ASSEMBLY, TYPE 1
2. BRIDGE TERMINAL ASSEMBLY, TYPE 2
3. ANCHOR ASSEMBLY, TYPE E-98
4. ANCHOR ASSEMBLY, TYPE T
5. SPLICE TO EXISTING GUARDRAIL

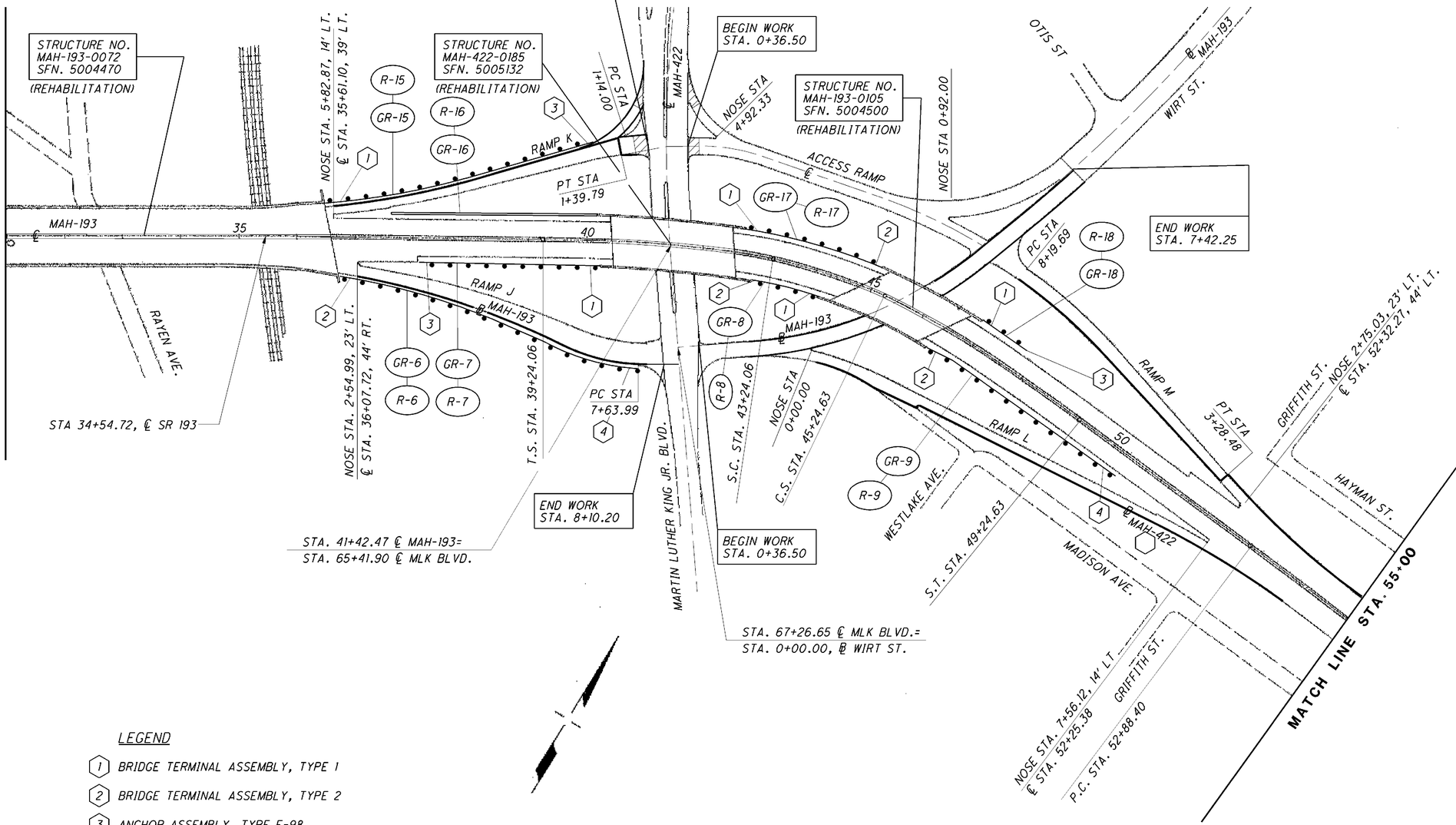
GR-X GUARDRAIL, TYPE 5

* QUANTITIES FOR RESHAPING UNDER GUARDRAIL AND PAVING UNDER GUARDRAIL BEGIN AT THE APPROACH SLAB FOR STRUCTURE MAH-193-0028 AND ARE INCLUDED UNDER REFERENCES GR-1 AND GR-12, FIELD ENGINEER TO ADJUST WORK LIMITS AS NEEDED. MEET EXISTING GUARDRAIL AT STA. 16+00.

HORIZONTAL SCALE IN FEET
0 100 200

MISCELLANEOUS DETAILS: GUARDRAIL

MAH-193-0.46
MAH-422-1.85



LEGEND

1. BRIDGE TERMINAL ASSEMBLY, TYPE 1
2. BRIDGE TERMINAL ASSEMBLY, TYPE 2
3. ANCHOR ASSEMBLY, TYPE E-98
4. ANCHOR ASSEMBLY, TYPE T
5. SPLICE TO EXISTING GUARDRAIL

GR-X GUARDRAIL, TYPE 5

HORIZONTAL SCALE IN FEET
0 100 200

MISCELLANEOUS DETAILS: GUARDRAIL

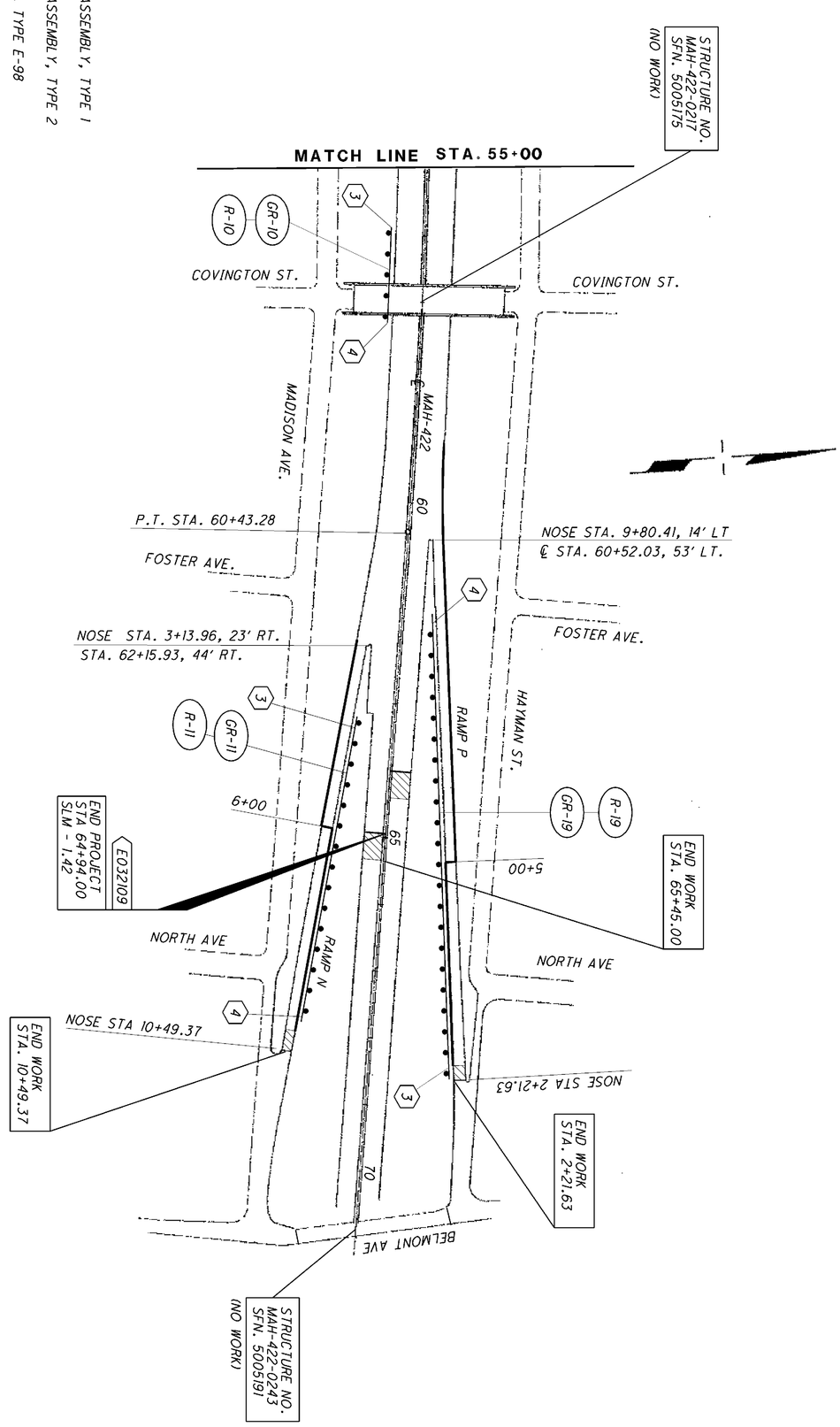
MAH-193-0.46
MAH-422-1.85

LEGEND

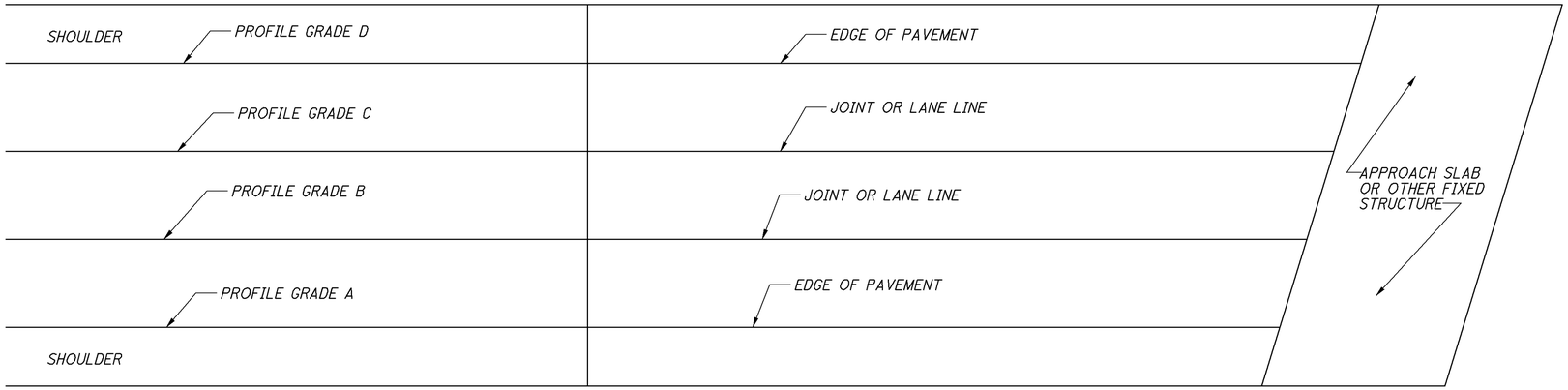
1. BRIDGE TERMINAL ASSEMBLY, TYPE 1
2. BRIDGE TERMINAL ASSEMBLY, TYPE 2
3. ANCHOR ASSEMBLY, TYPE E-98
4. ANCHOR ASSEMBLY, TYPE T
5. SPLICE TO EXISTING GUARDRAIL

(GR-X) GUARDRAIL, TYPE 5

▨ BUTT JOINT PER STD DWG BP-3.1



120 / 260	MAH-193-0.46 MAH-422-1.85	MISCELANEOUS DETAILS: GUARDRAIL	0 100 200 HORIZONTAL SCALE IN FEET

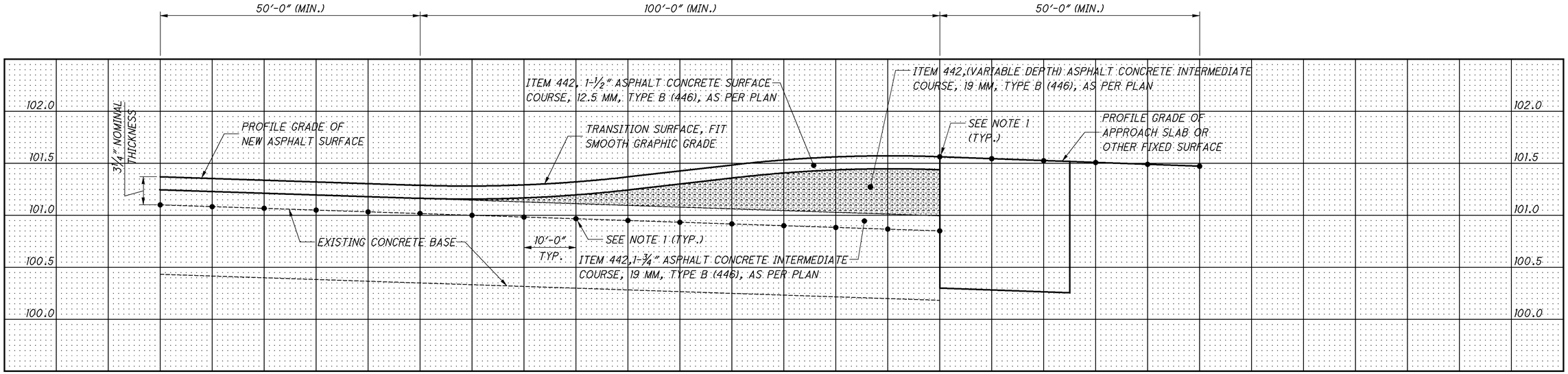


PROCEDURE

AFTER EXISTING ASPHALT SURFACE HAS BEEN REMOVED TO EXISTING SURFACE OF CONCRETE BASE AND AFTER APPROACH SLAB AND BRIDGE DECK ARE CONSTRUCTED.

1. SURVEY ELEVATIONS OF SURFACE OF EXPOSED CONCRETE BASE AT 10'-0" INTERVALS AT JOINT LINES AS SHOWN HEREIN. ALSO SURVEY SURFACE OF NEWLY CONSTRUCTED APPROACH SLAB AND DECK.
2. PLOT EACH EXISTING PROFILE OF SURFACE ELEVATIONS FROM (1) ABOVE AT EXAGGERATED VERTICAL SCALE.
3. SKETCH PROPOSED SURFACE OF NEW ASPHALT USING 3¼" NOMINAL DEPTH AS SHOWN.
4. SKETCH A PROPOSED GRAPHIC GRADE FOR A SMOOTH TRANSITION BETWEEN ASPHALT OVERLAY AND APPROACH SLAB.
5. ENGINEER TO REVIEW AND APPROVE GRAPHIC GRADES PRIOR TO PAVING.
6. READ PROPOSED ELEVATIONS FROM GRAPHIC GRADE AT EACH SURVEY POINT. USE FOR FINAL SURFACE PROFILE AND DEPTH OF ASPHALT.
7. REPEAT SURVEYS AND PLOTS AS NEEDED FOR INTERMEDIATE COURSES.
8. THE COST OF SURVEY, DEVELOPMENT OF PROFILE SKETCHES AND REVIEW AND ANY ANY INCIDENTAL WORK FOR THIS PROCEDURE IS CONSIDERED INCIDENTAL TO THE 442 ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE B (446), AS PER PLAN AND NO ADDITIONAL PAYMENTS WILL BE MADE.
9. THE FOLLOWING ESTIMATED CONTINGENGY QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER BASED ON THE APPROVED PROFILE SKETCHES AS REQUIRED IN THE ABOVE PROCEDURE:

   ITEM 422 ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE B (446), AS PER PLAN. - 500 CU. YD.



PROFILE GRADE A SHOWN (OTHERS SIMILAR)

DETAIL OF PAVEMENT TRANSITION

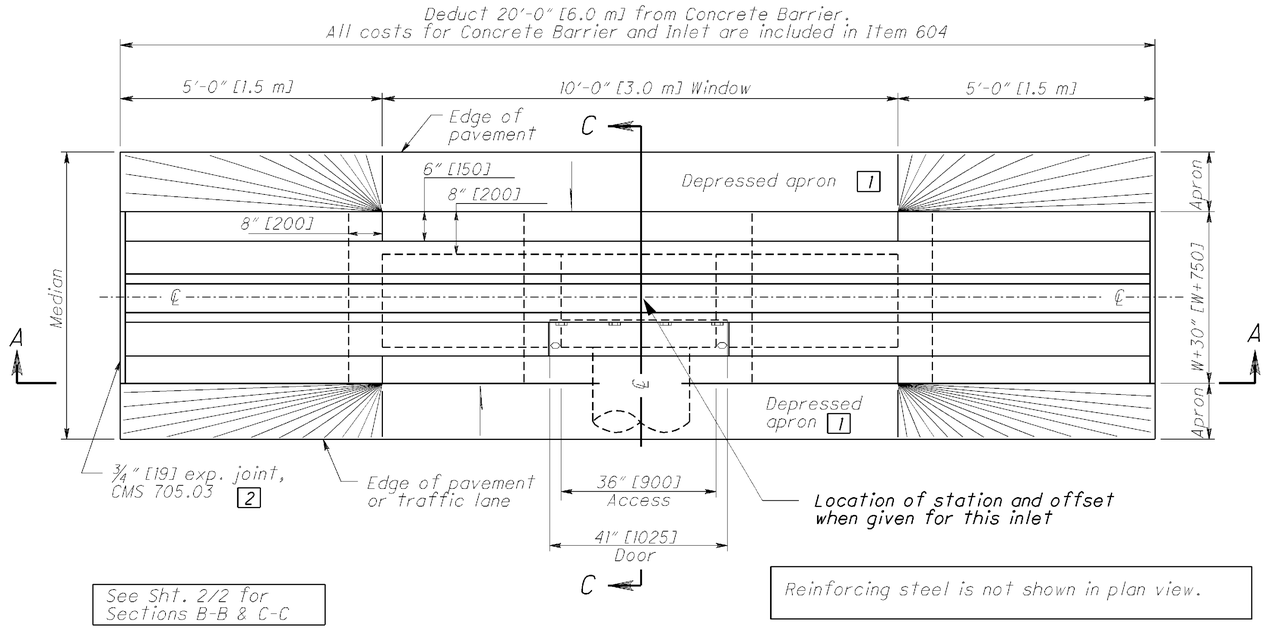
HORIZONTAL SCALE IN FEET
0 10 20

CALCULATED GJB
CHECKED EAF

MISCELLANEOUS DETAIL: PAVEMENT TRANSITION

MAH-193-0.46
MAH-422-1.85

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HAGLLAND



NOTES

GENERAL: For details of concrete barriers, see **SCD RM-4.3.**

WALLS: The walls between the bottom slab and the upper permissible construction joint may be built of brick, concrete block or cast-in-place concrete, 8" [200] nominal thickness for depths of 12' [3.5 m] or less. Precast walls shall have a minimum thickness of 6" [150] and be reinforced sufficiently to permit shipping and handling without damage.

HEIGHT: When placed in 50" [1270] high barrier the 30" [763] height shall be made 48" [1220].

CONCRETE: Cast-in-place concrete is to be Class C. All precast concrete shall meet the requirements of CMS 706.13. Required markings shall include the inlet number. Exposed concrete surfaces of the barrier shall be sealed with an approved sealer.

REINFORCING STEEL: Reinforcing steel shall be epoxy coated in accordance with CMS 509.09.

STEPS: Steps shall be in accordance with **SCD MH-1.1.**

INLETS OVER 12 FEET [3.5 m] IN DEPTH: Such inlets shall be precast or cast-in-place concrete; reinforced with #4 [#13M] bars on 12" [300] centers both vertically and horizontally with 2" [50] clearance from the inside wall face.

OPENINGS: Pipe openings shall be the outside diameter of the pipe being supplied plus 2" [50] when fabricated or field cut. The interstitial space shall be filled with grout per CMS 601.

ACCESS DOOR: The steel door, frame and all inserts, shall be galvanized. The hex head bolts shall be stainless steel. (See ACCESS DOOR DETAIL, Sht. 2/2).

PCJ: Permissible Construction Joint.

STANDARD INLET NUMBERS

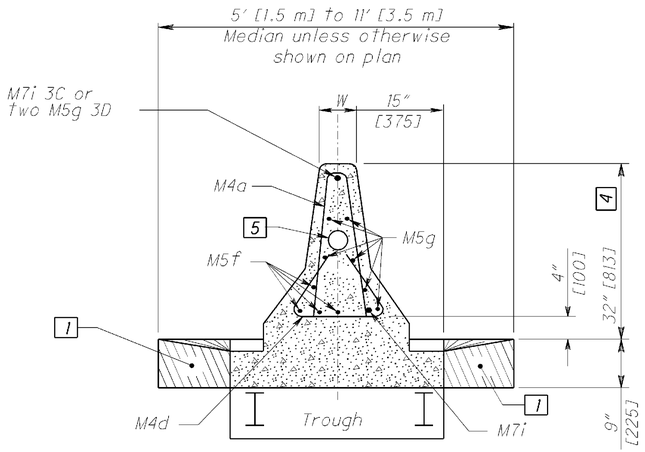
I-3C Type A	(32" [813] Barrier with W=6" [150])
I-3C Type A1	(50" [1270] Barrier with W=6" [150])
I-3D Type B	(32" [813] Barrier with W=12" [300])
I-3D Type B1	(50" [1270] Barrier with W=12" [300])

LEGEND

1. Aprons on both sides of the inlet shall be sloped toward windows and filled with Class C concrete. On superelevated sections, the aprons shall be sloped as shown in SECTION C-C on Sht. 2/2. Cost of any pavement removal and material is included in Item 604.
2. A 1½" [38] minimum exp. joint shall be provided in concrete pavement or concrete shoulders.
3. Inlet top profile shall match the adjacent concrete median barrier profile by constructing the top surface of the base to match the median barrier profile.
4. Barrier height equals either 32" [813] or 50" [1270].
5. 4" [100] Lighting raceway, if required else where by the plans. (Only when W=12" [300].)

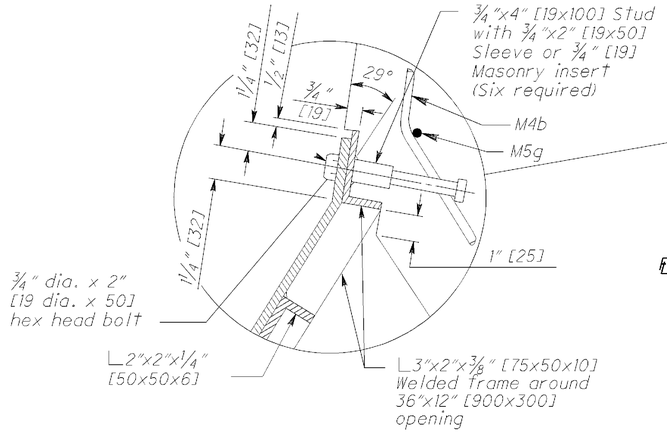
OHIO DEPARTMENT OF TRANSPORTATION
ENGINEER OF BRIDGES
OFFICE OF STRUCTURAL ENGINEERING
DESIGNED
REVIEWED
REVISION DATE 7-19-02
CHECKED
DATE 7-20-01 7-19-02
HYDRAULIC ENGINEER D. Gruver
All metric dimensions (in brackets [ ]) are in millimeters unless otherwise noted.
OFFICE OF STRUCTURAL ENGINEERING
STANDARD HYDRAULIC CONSTRUCTION DRAWING
BARRIER MEDIAN INLETS 3C & 3D
NUMBER I-2.2
1 / 2

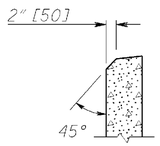
PLAN INSERT SHEET
MEDIAN INLETS 3C & 3D
BARRIER
MAH-193-0.46
MAH-422-1.85
1 / 2
122
260



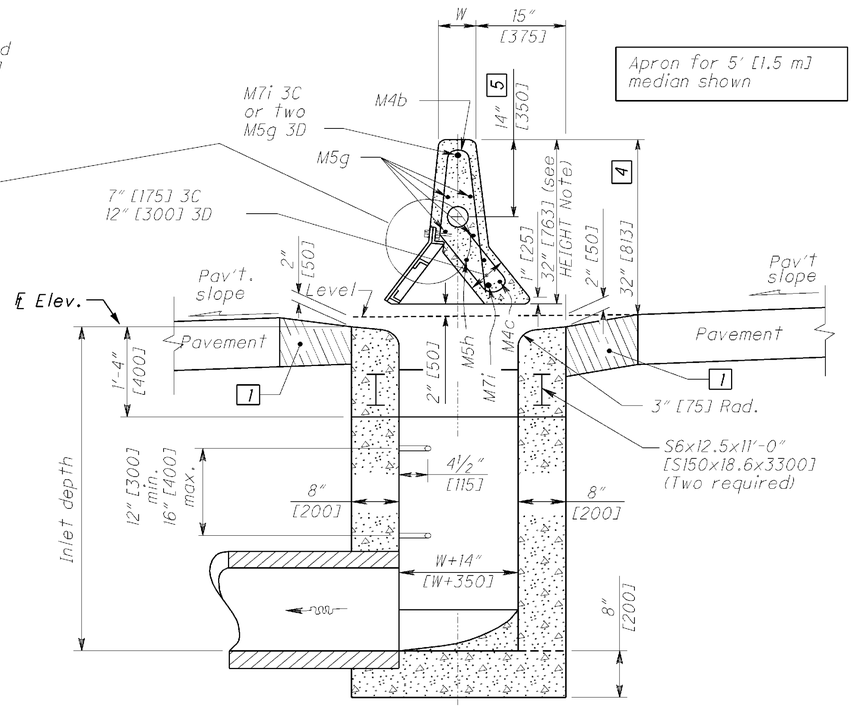
SECTION B-B
(See Sht. 1/2)

See Sheet 1 of 2 for NOTES and LEGEND

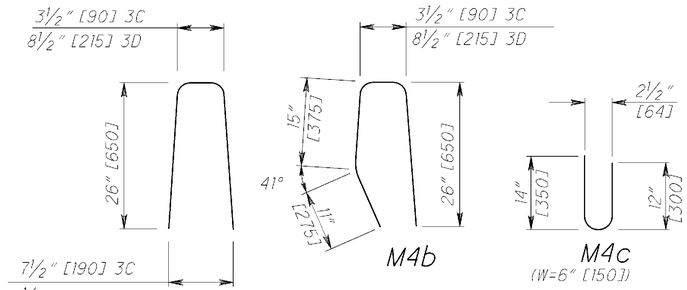


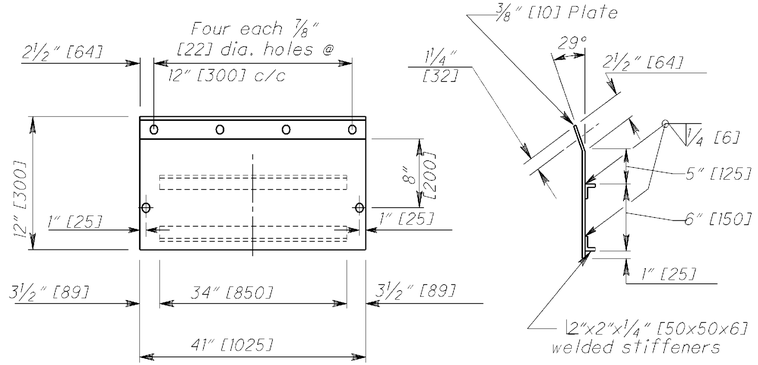


ALTERNATE SPILLWAY SHAPE

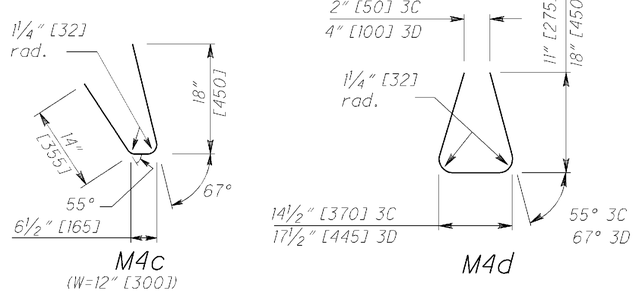


SECTION C-C
(See Sht. 1/2)





ACCESS DOOR DETAIL



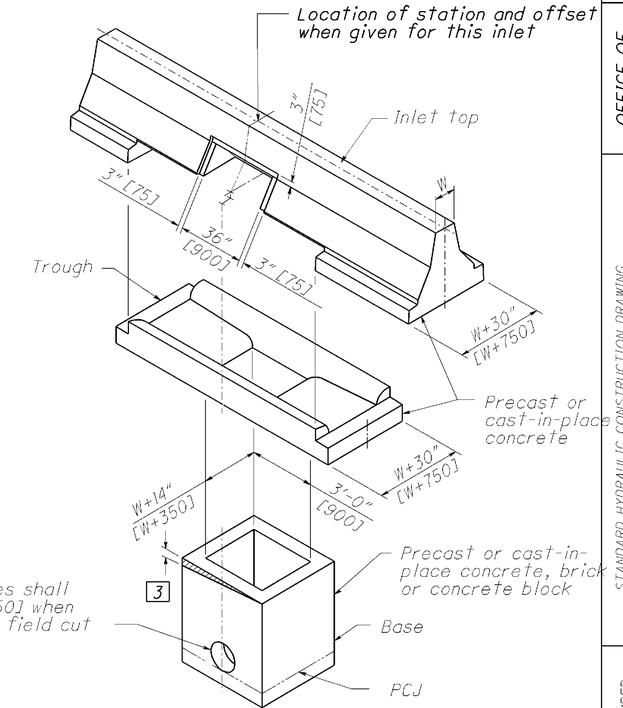
BENDING DIAGRAMS

REINFORCING STEEL LIST

SIZE	BAR	I-3C W=6″ [W=150] Ea.	I-3C W=6″ [W=150] Length	I-3D W=12″ [W=300] Ea.	I-3D W=12″ [W=300] Length
#4 [#13M]	M4a	10	4′-6″ [1370]	10	5′-0″ [1525]
	M4b	5	4′-6″ [1370]	5	5′-0″ [1525]
	M4c	5	2′-4″ [710]	5	3′-2″ [965]
	M4d	10	3′-1″ [940]	10	4′-6″ [1370]
	M4e	2	2′-0″ [610]	2	2′-0″ [610]
#5 [#16M]	M5f	8	8′-2″ [2490]	8	8′-2″ [2490]
	M5g	6	19′-8″ [5995]	8	19′-8″ [5995]
	M5h	1	5′-0″ [1525]	1	5′-0″ [1525]
#7 [#22M]	M7i	2	19′-8″ [5995]	1	19′-8″ [5995]
S6x12.5 [S150x18.6]		2	11′-0″ [3300]	2	11′-0″ [3300]

Included for estimating purposes only. The cost of furnishing and placing all reinforcing steel shall be included in Item 604 for payment.

Openings for pipes shall be O.D. plus 2″ [50] when prefabricated or field cut



PICTORIAL VIEW

OHIO DEPARTMENT OF TRANSPORTATION
ENGINEER OF BRIDGES

OFFICE OF STRUCTURAL ENGINEERING

DESIGNED
REVIEWED
REVISION DATE 7-19-02
CHECKED

DATE
7-20-01
7-19-02

HYDRAULIC ENGINEER
D. Gruver

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

OFFICE OF STRUCTURAL ENGINEERING

STANDARD HYDRAULIC CONSTRUCTION DRAWING
BARRIER MEDIAN INLETS 3C & 3D

NUMBER
I-2.2

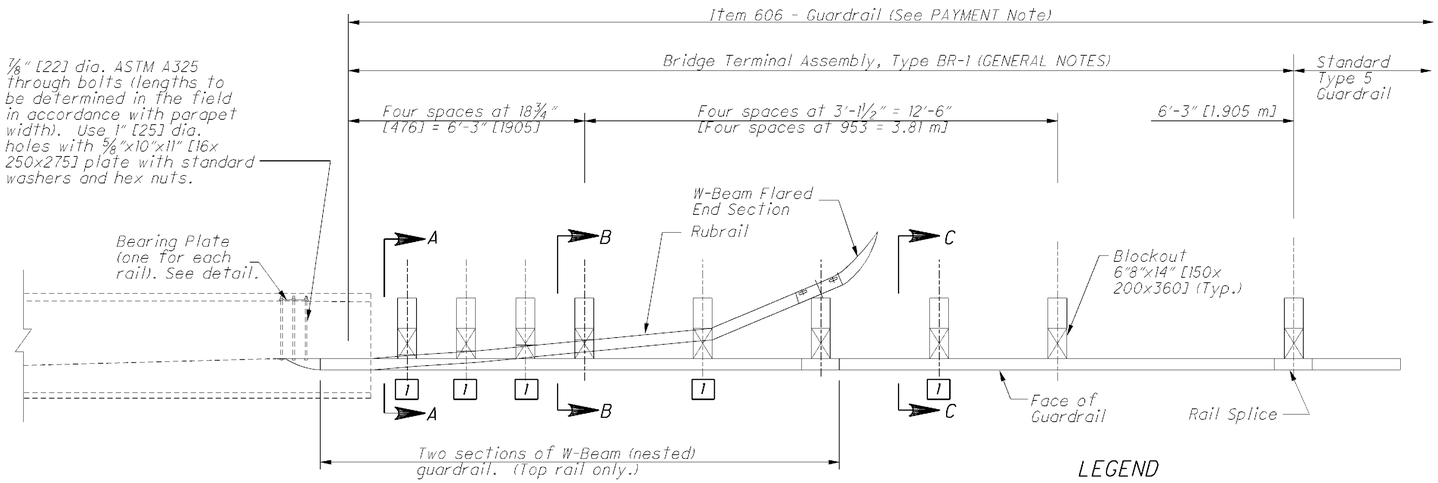
2 / 2

PLAN INSERT SHEET
BARRIER MEDIAN INLETS 3C & 3D

MAH-193-0.46
MAH-422-1.85

2 / 2

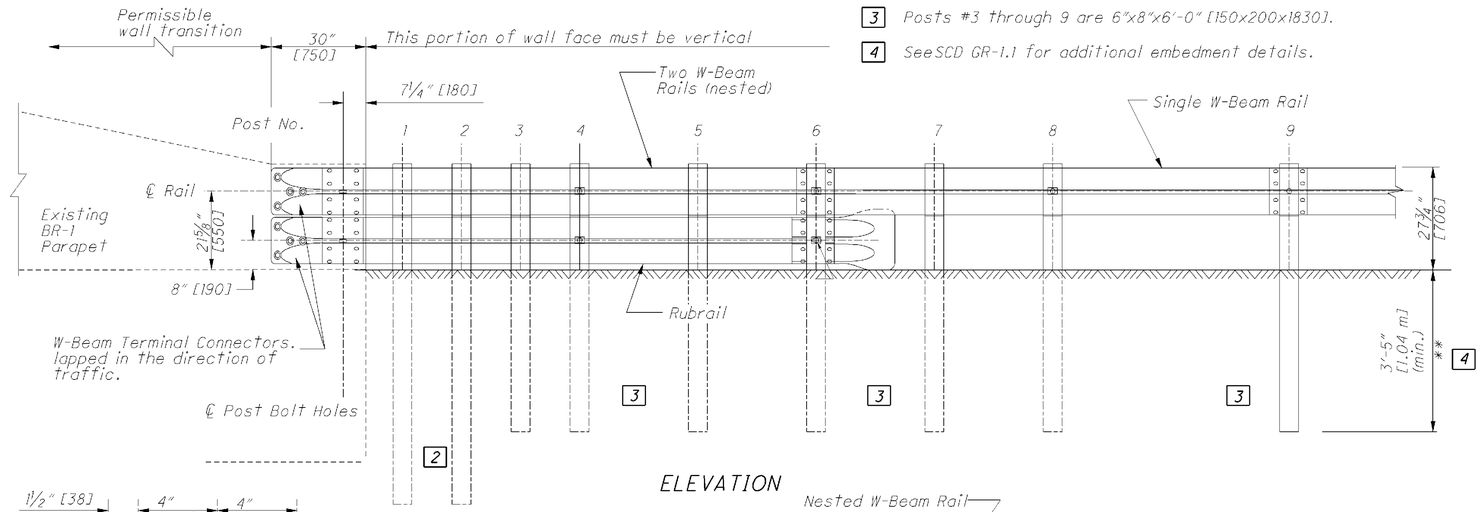
123
260



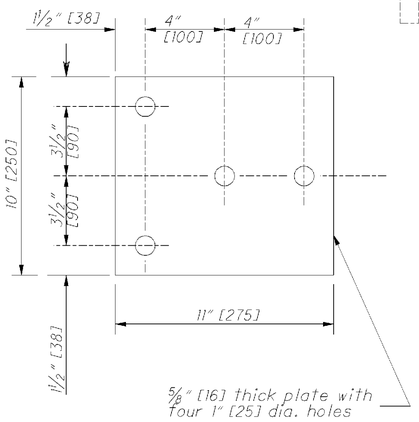
PLAN

LEGEND

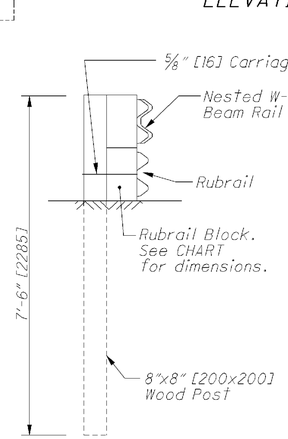
1. Guardrail not attached to Posts. Blockout fastened to Post with Standard Post Bolt.
2. Posts #1 and 2 are 8"x8"x7'-6" [150x200x2300].
3. Posts #3 through 9 are 6"x8"x6'-0" [150x200x1830].
4. SeeSCD GR-1.1 for additional embedment details.



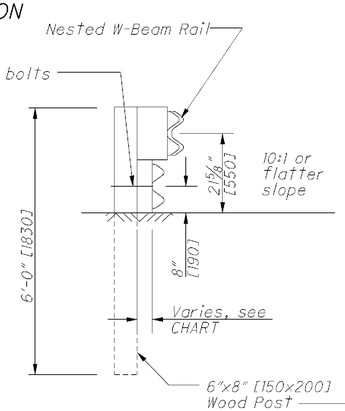
ELEVATION



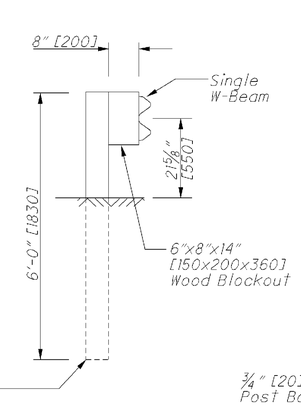
BEARING PLATE
2 required



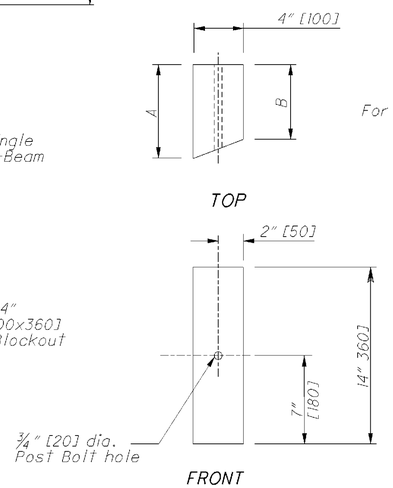
SECTION A-A



SECTION B-B



SECTION C-C



WOOD BLOCK FOR RUBRAIL

For A and B dimensions see CHART.

RUBRAIL BLOCK CHART		
POST	A	B
1	6½" [164]	6¼" [158]
2	5⅛" [131]	4⅞" [125]
3	3⅞" [99]	3⅝" [93]
4	2⅝" [67]	2⅜" [61]
5	No Block	No Block

NOTES

GENERAL: This design is intended to be used to upgrade bridge terminal assemblies utilizing 27" [786] BR-1 Bridge parapets in effect from 1979 to 1989. This assembly design is approved to NCHRP Report 350, Test Level 3.

This guardrail transition is only appropriate for connection to a vertical concrete end; it should not be connected directly to a concrete safety shape or single slope shape. If attached to a vertical concrete wall (other than a parapet), the wall must be adequately reinforced to resist the lateral and longitudinal forces transmitted through the terminal connectors. If the height of the vertical connection is 32" [813], use Bridge Terminal Assembly, Type 1 (SCD GR-3.1).

This design utilizes a lower rail (rubrail), and it cannot be used if there is a curb present.

RUBRAIL: The rubrail is a 12'-6" [3.81 m] standard 12 ga. W-Beam rail element. The last 3' [1 m] of the rubrail may be shop bent to facilitate field installation. Field drill rubrail hole at Post 6.

POST ATTACHMENTS: Posts No. 1, 2, 3, 4 and 6 require an additional 1" [25] dia. hole to attach the lower block and/or rubrail.

Do not bolt nested W-Beam or Rubrail to Posts and Blockouts on Posts No. 1, 2, 3, 5 and 7. Bolt blockouts directly to posts at those locations.

Center drill wood block for rubrails to sit squarely on Posts 1 through 4. Secure blocks to Posts No. 1, 2, & 3 with ⅝" [16] carriage bolts. See WOOD BLOCK FOR RUBRAIL Detail.

Use Wood posts only. Steel or plastic blockouts are not permitted. Use of rectangular plate washers is optional.

GUARDRAIL CONNECTION: At least one 12'-6" [3.81 m] section of Standard W-Beam Guardrail must be present before attaching any End Anchors. See SCD GR-2.1 for standard guardrail details.

PAYMENT: Item 606 - Bridge Terminal Assembly, Type BR-1, Each, includes the cost of the extra components, in excess of normal guardrail, for additional and different sizes of posts and block-outs, nested rail and rubrail, Bearing Plates, End Section and Connectors, and other hardware.

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

OFFICE OF ROADWAY ENGINEERING

DESIGNED
REVIEWED
REVISION DATE 10-20-06
CHECKED

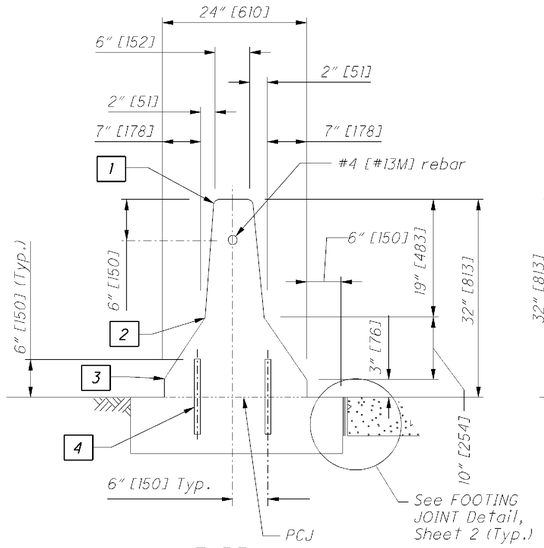
PLAN INSERT SHEET

BRIDGE TERMINAL ASSEMBLY, TYPE BR-1

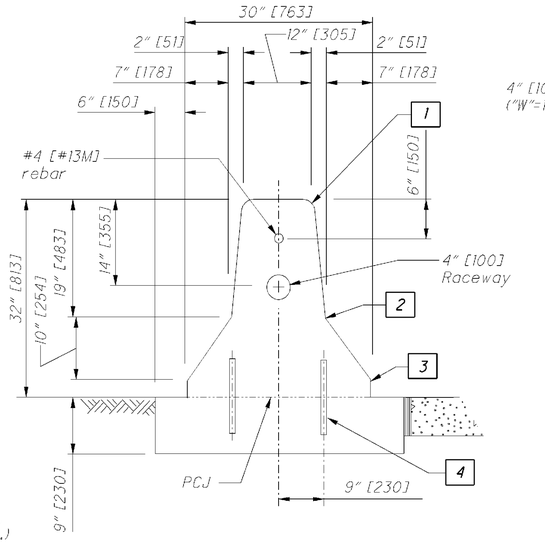
MAH-193-0.46
MAH-422-1.85

1 / 1

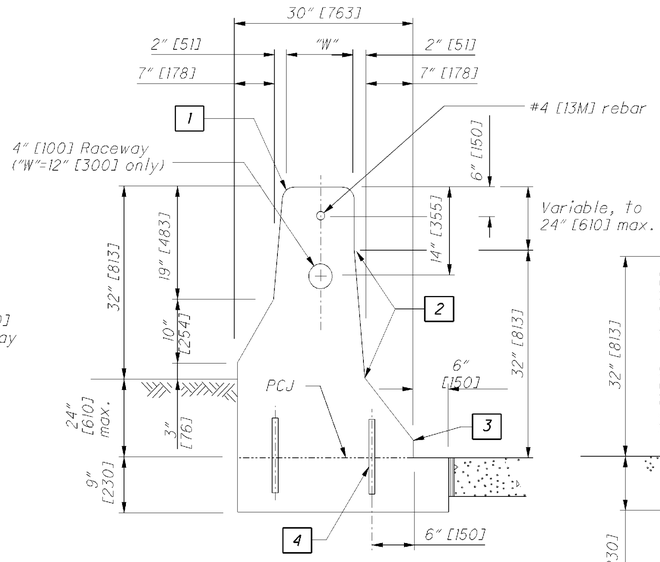
124
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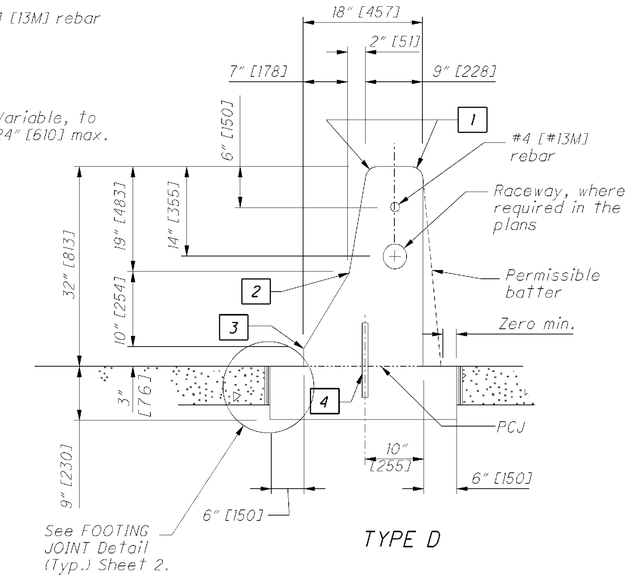
TYPE A



TYPE B



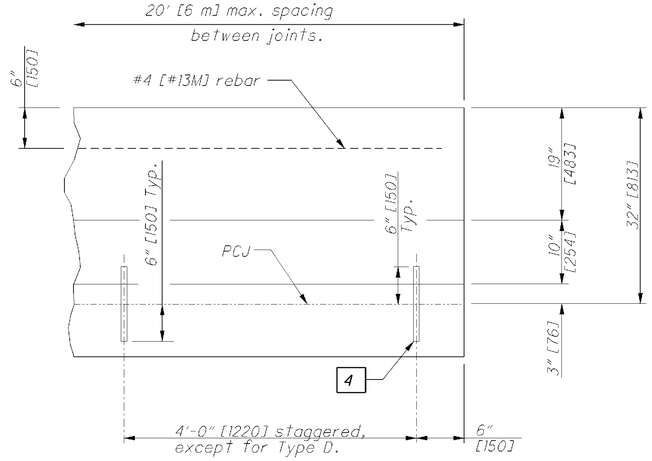
TYPE C



TYPE D

NORMAL 32 INCH SECTIONS

"W" = 6" [152] or 12" [305] barrier width, as specified in the plans.



32" [813-mm] BARRIER
BARRIER ELEVATION

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

NOTES

JOINTS: Unsealed contraction joints spaced at 20' [6 m] maximum shall be constructed throughout the run of Concrete Barrier except that expansion joints shall be used at the center line of and around each bridge pier column and on either side of overhead sign supports, inlets and light pole foundations. If the inlet top is slip formed, the expansion joints adjacent to it may be omitted.

Contraction joints may be constructed with metal inserts inside the forms, preformed full width joint filler, a grooving tool, or by sawing. Inserts, tooled joints, and sawed joints shall have a 3" [75] minimum depth. All joints shall be constructed for the full height of the barrier including the footing. Sawing shall be done as soon as curing will allow, to prevent spalling.

FOOTING JOINTS: The vertical walls between the barrier footing and a concrete pavement or concrete base shall be provided with a sealed joint as shown on Sheet 2. Sealing material shall conform to CMS 705.04.

PCJ = Permissible Construction Joint

MEASUREMENT: Item 622, Concrete Barrier, including transitions and pier sections as detailed on the New Jersey Shape Barrier Transition drawing, is paid for in linear feet (meters) as one of the four types (A, B, C or D) or as Type A1 and B1, (for 50" [1270] high barrier), with appropriate deductions for other items such as:

Item 604 - I-3 Median Inlet	20 Lin Ft. [6 Meters].
Item 625 - Light Pole Foundation or Pullbox	2.5 Lin. Ft. [1 Meter].
Item 630 - Overhead Sign Support Foundation	10 Lin. Ft. [3 Meters].
Item 630 - Barrier Wall Assembly	10 Lin. Ft. [3 Meters].

TRANSITIONS: Linear transitions between the different types of barrier detailed on this Standard Drawing shall occur between contraction joints spaced no closer than 10' [3 m].

RACEWAY: The contractor shall ensure that the electrical raceway is clear of internal obstructions. Cost of the 4" [100] polyvinyl chloride raceway and No. 10 AWG copper-clad or aluminum-clad wire if needed for future installation of circuits shall be included in the unit cost per Linear Foot [Meter] for Item 622 - Concrete Barrier, Type ____ .

STATION MARKING: The Station marking shall be impressed in the "green" concrete on both sides at the top of the barrier if specified in the plans. The cost shall be incidental to the unit cost per Linear Foot [Meter] bid for Item 622 - Concrete Barrier, Type ____ .

REFLECTORIZATION: Barrier reflectorization shall be installed in accordance with CMS 626.

LEGEND

1. 1" [25] radius or 3/4" [19] chamfer.
2. Permissible 10" [250] radius.
3. Permissible 1" [25] radius.
4. #8 [#25M] epoxy coated Deformed Steel Bars, 1'-0" [305] long, spaced 4'-0" [1220] between successive Bars on a staggered pattern except in Type D. Omit Dowels when the top is constructed integrally with the Base.

OFFICE OF ROADWAY ENGINEERING

DESIGNED | REVIEWED

REVISION DATE 10-20-06 | CHECKED

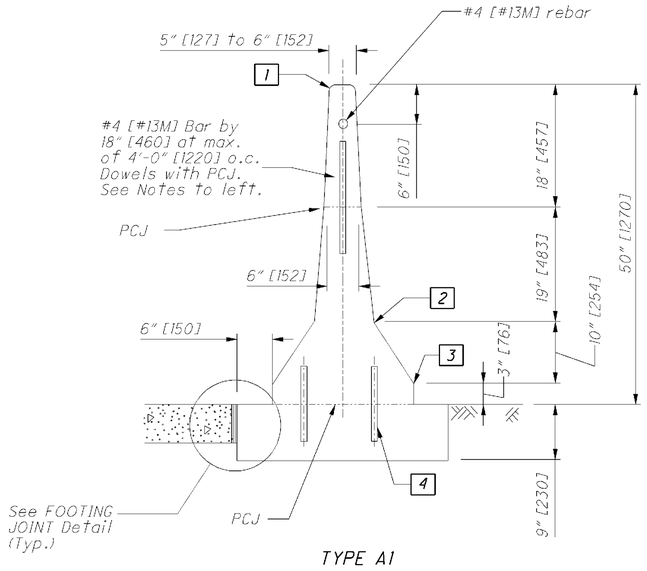
PLAN INSERT SHEET

NEW JERSEY SHAPE CONCRETE BARRIER

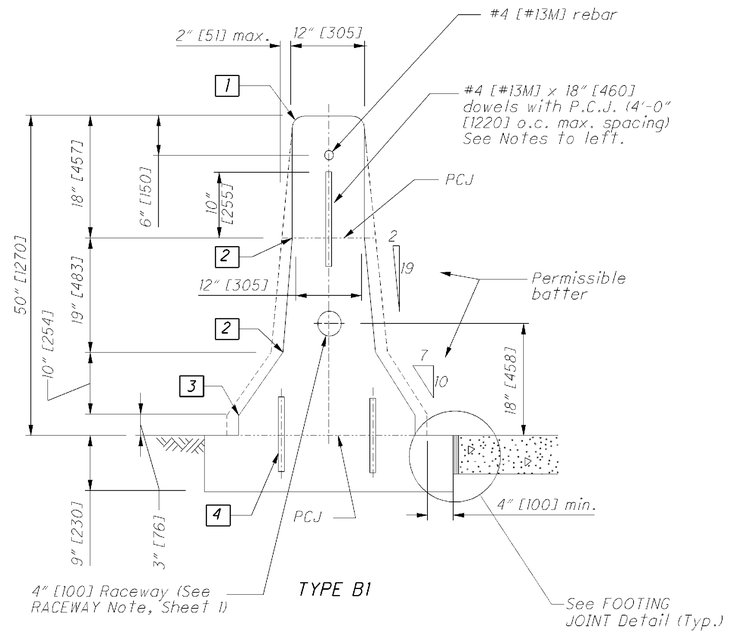
MAH-193-0.46
MAH-422-1.85

1 / 2

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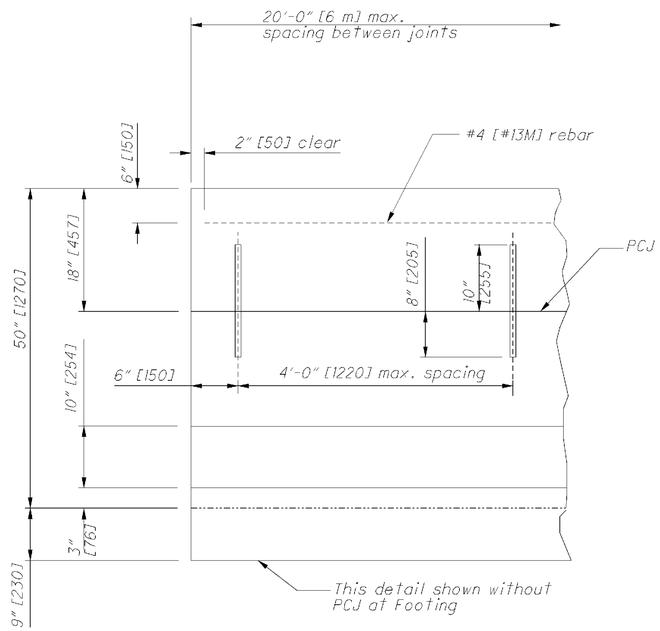
TYPE A1



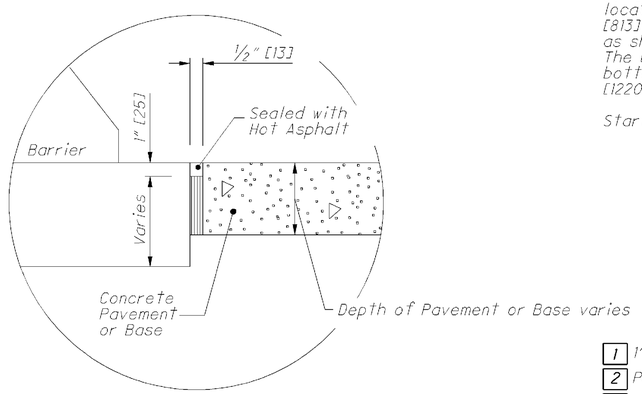
TYPE B1

50" [1270-mm] BARRIERS - TYPICAL SECTIONS

See Type A and Type B Normal Section Details (Sheet 1) for dimensions that are not shown.



50" [1270-mm] BARRIER
BARRIER ELEVATION



FOOTING JOINT DETAIL
See FOOTING NOTE on Sheet 1.

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

NOTES

50" [1270-mm] BARRIER: High barrier shall be built in locations specified in the plans. Construct the lower 32" [813] of the barrier base using the same dimensions as as shown in the corresponding Normal Section on Sheet 1. The upper 18" [457] may be constructed integrally with the bottom, or separately with #4 [#13M] rebar dowels at 4'-0" [1220] maximum spacing.

Start and end dowels 6" [150] from barrier contraction joints.

LEGEND

1. 1" [25] radius or 3/4" [19] chamfer.
2. Permissible 10" [250] radius.
3. Permissible 1" [25] radius.
4. #8 [#25M] epoxy coated deformed Steel Bars, 1'-0" [305] long, spaced 4'-0" [1220] between successive Bars on a staggered pattern except in Type D. Omit Dowels when the top is constructed integrally with the Base.

OFFICE OF ROADWAY ENGINEERING

DESIGNED | REVIEWED

REVISION DATE 10-20-06 | CHECKED

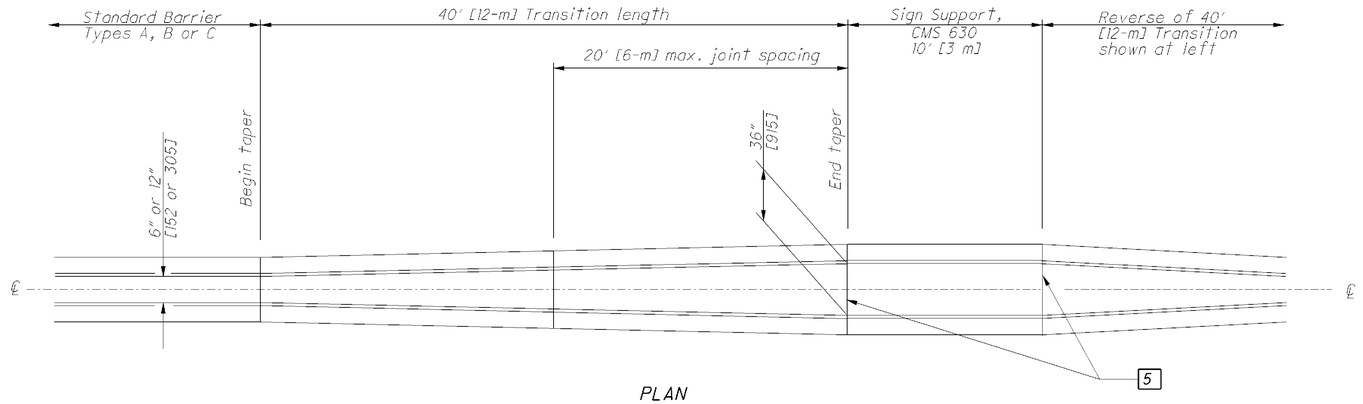
PLAN INSERT SHEET

NEW JERSEY SHAPE CONCRETE BARRIER

MAH-193-0.46
MAH-422-1.85

2 / 2

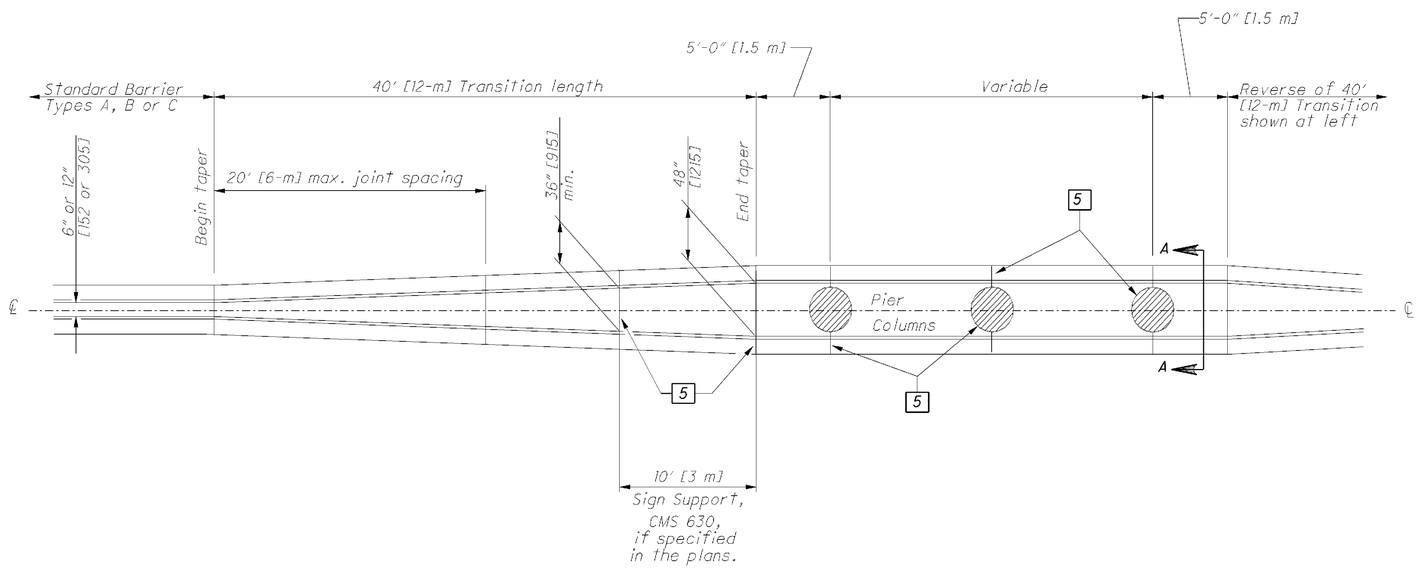
126 / 260



PLAN

SIGN SUPPORT TRANSITION

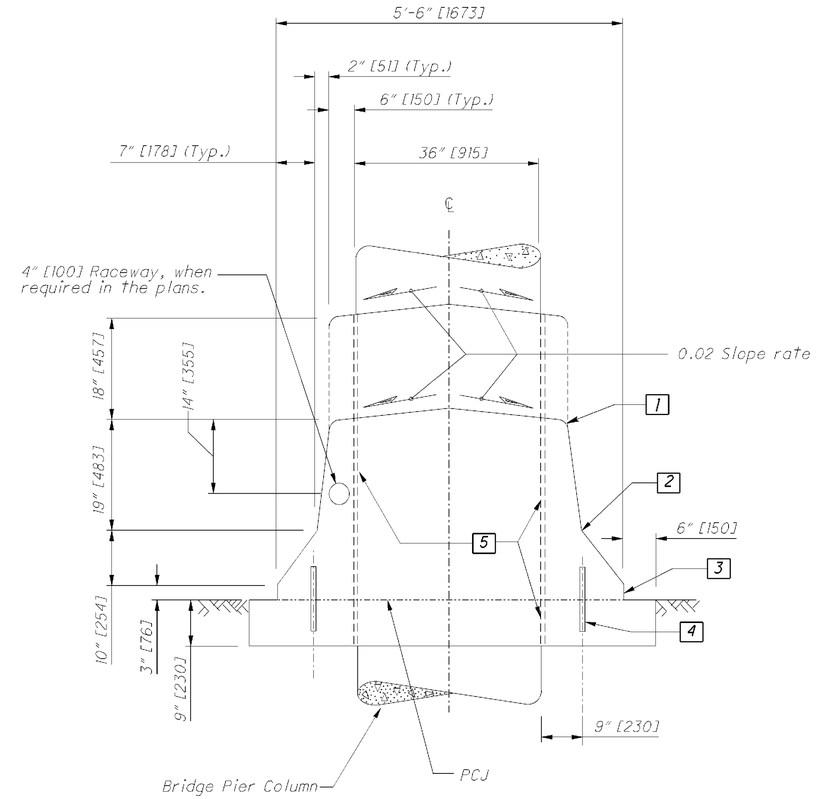
(For 50" [1270] Barriers, the upper 18" [457] varies from 6" or 12" [152 or 305] to 36" [915] in width.)



PLAN

BRIDGE PIER TRANSITION

(With Sign Support)



SECTION A-A

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

NOTES

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

LEGEND

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

OFFICE OF ROADWAY ENGINEERING

DESIGNED | REVIEWED

REVISION DATE 10-20-06 | CHECKED

PLAN INSERT SHEET

NEW JERSEY SHAPE BARRIER TRANSITIONS

MAH-193-0.46
MAH-422-1.85

1 / 1

127
260

OVERHEAD SIGN REMOVAL AND REERECTION NOTES

THE CONTRACTOR SHALL REMOVE THE EXISTING OVERHEAD SIGN SUPPORT, TRUSS STRUCTURE AND ALL ASSOCIATED SIGNS. THE REMOVED STRUCTURE AND SIGNS ARE TO BE SAFELY STORED ON-SITE.

AFTER REPLACEMENT OF THE BARRIER MEDIAN WALL, THE CONTRACTOR SHALL REERECT THE OVERHEAD SIGN SUPPORT, TRUSS STRUCTURE AND ALL ASSOCIATED SIGNS AT STA. 14+63.

THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED FOR THIS WORK:

ITEM 630 - RIGID OVERHEAD SIGN SUPPORT FOUNDATION, AS PER PLAN	2	EACH
ITEM 630 - REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION	2	EACH
ITEM 630 - REMOVAL OF OVERHEAD SIGN SUPPORT AND REERECTION, TYPE TC-7.65	1	EACH

QUANTITIES ASSOCIATED WITH THE REMOVAL AND REERECTION OF THE OVERHEAD SIGN STRUCTURE AND SIGNS HAVE BEEN INCLUDED AND CARRIED TO THE TRAFFIC CONTROL GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

RIGID OVERHEAD SIGN SUPPORT FOUNDATION, AS PER PLAN

BEFORE REMOVAL OF THE EXISTING STRUCTURE, THE CONTRACTOR SHALL VERIFY THE ELEVATION OF THE EXISTING MEDIAN BARRIER WALL ELEVATION AT THE OVERHEAD SIGN SUPPORT. THE CONTRACTOR SHALL ALSO VERIFY THE OVERHEAD SIGN SUPPORT FOUNDATION ELEVATION.

THE ELEVATION OF THE NEW OVERHEAD SIGN SUPPORT FOUNDATION AT STA. 14+63 SHALL BE ESTABLISHED SO THAT THE ELEVATION DIFFERENCE BETWEEN THE PROPOSED GROUND FOUNDATION AND MEDIAN BARRIER FOUNDATION MATCHES THE ELEVATION DIFFERENCE THAT WAS TO BE VERIFIED PRIOR TO THE REMOVAL OF THE EXISTING OVERHEAD SIGN SUPPORT STRUCTURE.

THE CONTRACTOR SHALL BE REPONSIBLE FOR ENSURING THAT THE NEW FOUNDATION IS CONSTRUCTED TO FIT THE EXISTING SUPPORT'S BOLT CIRCLES.

STRUCTURE IDENTIFICATION SIGNS

STRUCTURE IDENTIFICATION SIGNS (I-H25a) 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. THE SIGNS WILL HAVE A NON-REFLECTIVE WHITE SHEETING BACKGROUND.

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' LENGTH.

INSTALL SIGNS FOR THE FOLLOWING STRUCTURES:

OLD DESIGNATION	NEW DESIGNATION
MAH-193-0052	MAH-193-0055
MAH-193-0072	MAH-193-0073
MAH-422-0185	MAH-422-0186
MAH-193-0105	MAH-193-0106

NOTE THAT THE BRIDGE NUMBERS HAVE CHANGED SLIGHTLY FOR THIS PROJECT AND THAT THE NEW STRUCTURE NAMES SHALL BE USED FOR THE NEW STRUCTURE IDENTIFICATION SIGNS. THE BRIDGE PLANS REFER TO ALL OF THE BRIDGES USING THE OLD STRUCTURE IDENTIFICATION NUMBER.

EACH STRUCTURE HAS TWO (2) APPROACHES

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR EACH APPROACH:
ITEM 630 - SIGN, FLAT SHEET, 730.20, 1 SQ FT.
ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST, 7.5 FT.
ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL, 1 EACH
ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, 1 EACH

THESE QUANTITIES HAVE BEEN CARRIED TO THE TRAFFIC CONTROL GENERAL SUMMARY.

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TRAFFIC CONTROL NOTES

MAH-193/422-0.46/1.85

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SHEET NUMBER													ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
		90		128	129A	129B	129C	130	131	132	133							
		166											202	98100	166	EACH	REMOVAL MISC.: BARRIER REFLECTOR	
						160	134						621	00100	294	EACH	RPM	
					231	63							621	54000	294	EACH	RAISED PAVEMENT MARKER REMOVED	
		260											626	00100	260	EACH	BARRIER REFLECTOR	
				60									630	02100	60	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
				8									630	80100	8	SF	SIGN, FLAT SHEET	
				2									630	84511	2	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION, AS PER PLAN	128
				8									630	84900	8	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
				8									630	86002	8	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
				2									630	87100	2	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION	
				1									630	89400	1	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND REERECTION, TYPE TC-7.65	
								2.31	1.20	2.18	2.15		646	10000	7.84	MILE	EDGE LINE	
								0.82	0.81	0.75	0.92		646	10100	3.30	MILE	LANE LINE	
								483	1084	619	1016		646	10300	3202	FT	CHANNELIZING LINE	
								36		102			646	10400	138	FT	STOP LINE	
										453			646	10500	453	FT	CROSSWALK LINE	
								65	131		173		646	10600	369	FT	TRANSVERSE / DIAGONAL LINE	
										10			646	20300	10	EACH	LANE ARROW	

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TRAFFIC CONTROL GENERAL SUMMARY

MAH-193/422-0.46/1.85

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RPM REPLACEMENT / REMOVAL

STANDARD CONSTRUCTION DRAWING

TC-65.10	01/21/05	TC-65.11	01/21/05

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CHECKED MAH

LOCATION				ITEM 621	ITEM 621				
COUNTY	ROUTE	CENTER LINE LOG MILES		RAISED PAVEMENT MARKER REMOVED	RPM WITH YELLOW/YELLOW REFLECTOR	RPM WITH WHITE/RED REFLECTOR	RPM WITH ONE-WAY WHITE REFLECTOR	RPM WITH YELLOW/RED REFLECTOR	REMARKS
		FROM	TO						
MAHONING	S.R. 193 SB	0.28	0.29	3					CHANNELIZING LINE
MAHONING	S.R. 193 SB	0.29	1.14	37					LANE LINE
MAHONING	S.R. 193 NB	0.31	1.14	37					LANE LINE
MAHONING	S.R. 193 SB	0.53	0.56	5					CHANNELIZING LINE
MAHONING	S.R. 193 SB	0.53	0.56	4					CHANNELIZING LINE
MAHONING	RAMP F			5					EDGE LINE
MAHONING	RAMP H			7					EDGE LINE
MAHONING	S.R. 193 NB/ RAMP E	0.57		3					CHANNELIZING LINE
MAHONING	RAMP E			5					EDGE LINE
MAHONING	RAMP G			7					EDGE LINE
MAHONING	S.R. 193 SB	0.68	0.71	5					CHANNELIZING LINE
MAHONING	S.R. 193 SB	0.71	0.84	6					LANE LINE
MAHONING	S.R. 193 SB	0.84	0.88	4					CHANNELIZING LINE
MAHONING	S.R. 193 SB	0.84	0.88	5					CHANNELIZING LINE
MAHONING	S.R. 193 SB/RAMP J	0.88		2					EDGE LINE
MAHONING	S.R. 193 NB	0.67	0.71	4					CHANNELIZING LINE
MAHONING	S.R. 193 NB	0.67	0.71	5					CHANNELIZING LINE
MAHONING	S.R. 193 NB	0.65	0.85	6					LANE LINE
MAHONING	S.R. 193 NB	0.85	0.89	5					CHANNELIZING LINE
MAHONING	S.R. 193 SB/ RAMP K	0.89		1					EDGE LINE
MAHONING	RAMP J			4					EDGE LINE
MAHONING	RAMP J			8					CHANNELIZING LINE
MAHONING	WIRT ST.			6					LANE LINE
MAHONING	WIRT ST./RAMP L			6					EDGE LINE
MAHONING	RAMP K			4					EDGE LINE
MAHONING	ACCESS RAMP			3					CHANNELIZING LINE
MAHONING	ACCESS RAMP/WIRT ST.			5					CHANNELIZING LINE
MAHONING	RAMP M			6					CHANNELIZING LINE
MAHONING	RAMP M			5					EDGE LINE
MAHONING	RAMP L/U.S. 422 EB		1.18	3					EDGE LINE
MAHONING	U.S. 422 EB	1.18	1.19	3					CHANNELIZING LINE
MAHONING	U.S. 422 EB	1.14	1.37	10					LANE LINE
MAHONING	U.S. 422 EB	1.19	1.33	6					LANE LINE
MAHONING	U.S. 422 EB	1.33	1.37	6					CHANNELIZING LINE
SUBTOTAL				231					
TOTALS CARRIED TO TRAFFIC CONTROL GENERAL SUMMARY				231					

RAISED PAVEMENT MARKER REMOVAL SUBSUMMARY

MAH-193/422-0.46/1.85

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RPM REPLACEMENT / REMOVAL

STANDARD CONSTRUCTION DRAWING

TC-65.10	01/21/05	TC-65.11	01/21/05

CALCULATED ALF CHECKED MAH

LOCATION				ITEM 621	ITEM 621				
COUNTY	ROUTE	CENTER LINE LOG MILES		RAISED PAVEMENT MARKER REMOVED	RPM WITH YELLOW/YELLOW REFLECTOR	RPM WITH WHITE/RED REFLECTOR	RPM WITH ONE-WAY WHITE REFLECTOR	RPM WITH YELLOW/RED REFLECTOR	REMARKS
		FROM	TO						
MAHONING	U.S. 422 EB	1.33	1.37	5					CHANNELIZING LINE
MAHONING	RAMP M/U.S. 422 WB		1.18	2					EDGE LINE
MAHONING	U.S. 422 WB	1.18	1.22	5					CHANNELIZING LINE
MAHONING	U.S. 422 WB	1.18	1.22	6					CHANNELIZING LINE
MAHONING	U.S. 422 WB	1.14	1.37	11					LANE LINE
MAHONING	U.S. 422 WB	1.22	1.32	4					LANE LINE
MAHONING	U.S. 422 WB	1.32	1.34	3					CHANNELIZING LINE
MAHONING	U.S. 422 WB/RAMP P	1.34		2					EDGE LINE
MAHONING	U.S. 422 EB	1.34	1.48	5					LANE LINE
MAHONING	RAMP N			8					EDGE LINE
MAHONING	U.S. 422 WB	1.34	1.48	5					LANE LINE
MAHONING	RAMP P			7					EDGE LINE
MAHONING	S.R. 193 SB	0.28	0.29			3			CHANNELIZING LINE
MAHONING	S.R. 193 SB	0.29	1.14				37		LANE LINE
MAHONING	S.R. 193 NB	0.31	1.14				37		LANE LINE
MAHONING	S.R. 193 SB	0.53	0.56			5			CHANNELIZING LINE
MAHONING	S.R. 193 SB	0.53	0.56			4			CHANNELIZING LINE
MAHONING	RAMP F							5	EDGE LINE
MAHONING	RAMP H							7	EDGE LINE
MAHONING	S.R. 193 NB/ RAMP E	0.57				3			CHANNELIZING LINE
MAHONING	RAMP E							5	EDGE LINE
MAHONING	RAMP G							7	EDGE LINE
MAHONING	S.R. 193 SB	0.68	0.71			5			CHANNELIZING LINE
MAHONING	S.R. 193 SB	0.71	0.84				6		LANE LINE
MAHONING	S.R. 193 SB	0.84	0.88			4			CHANNELIZING LINE
MAHONING	S.R. 193 SB	0.84	0.88			5			CHANNELIZING LINE
MAHONING	S.R. 193 SB/RAMP J	0.88						2	EDGE LINE
MAHONING	S.R. 193 NB	0.67	0.71			4			CHANNELIZING LINE
MAHONING	S.R. 193 NB	0.67	0.71			5			CHANNELIZING LINE
MAHONING	S.R. 193 NB	0.65	0.85				6		LANE LINE
MAHONING	S.R. 193 NB	0.85	0.89			5			CHANNELIZING LINE
MAHONING	S.R. 193 SB/ RAMP K	0.89						1	EDGE LINE
MAHONING	RAMP J							4	EDGE LINE
SUBTOTAL				63		43	86	31	
TOTALS CARRIED TO TRAFFIC CONTROL GENERAL SUMMARY				63	160				

RAISED PAVEMENT MARKER REMOVAL SUBSUMMARY

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RPM REPLACEMENT / REMOVAL

STANDARD CONSTRUCTION DRAWING

TC-65.10	01/21/05	TC-65.11	01/21/05

CALCULATED ALF
CHECKED MAH

LOCATION				ITEM 621	ITEM 621				
COUNTY	ROUTE	CENTER LINE LOG MILES		RAISED PAVEMENT MARKER REMOVED	RPM WITH YELLOW/YELLOW REFLECTOR	RPM WITH WHITE/RED REFLECTOR	RPM WITH ONE-WAY WHITE REFLECTOR	RPM WITH YELLOW/RED REFLECTOR	REMARKS
		FROM	TO						
MAHONING	RAMP J					4			CHANNELIZING LINE
MAHONING	RAMP J					4			CHANNELIZING LINE
MAHONING	WIRT ST.						6		LANE LINE
MAHONING	WIRT ST./RAMP L							6	EDGE LINE
MAHONING	RAMP K							4	EDGE LINE
MAHONING	ACCESS RAMP						3		CHANNELIZING LINE
MAHONING	ACCESS RAMP/WIRT ST.						5		CHANNELIZING LINE
MAHONING	RAMP M					6			CHANNELIZING LINE
MAHONING	RAMP M							5	EDGE LINE
MAHONING	RAMP L/U.S. 422 EB		1.18					3	EDGE LINE
MAHONING	U.S. 422 EB	1.18	1.19			3			CHANNELIZING LINE
MAHONING	U.S. 422 EB	1.14	1.37				10		LANE LINE
MAHONING	U.S. 422 EB	1.19	1.33				6		LANE LINE
MAHONING	U.S. 422 EB	1.33	1.37			6			CHANNELIZING LINE
MAHONING	U.S. 422 EB	1.33	1.37			5			CHANNELIZING LINE
MAHONING	RAMP M/U.S. 422 WB		1.18					2	EDGE LINE
MAHONING	U.S. 422 WB	1.18	1.22			5			CHANNELIZING LINE
MAHONING	U.S. 422 WB	1.18	1.22			6			CHANNELIZING LINE
MAHONING	U.S. 422 WB	1.14	1.37				11		LANE LINE
MAHONING	U.S. 422 WB	1.22	1.32				4		LANE LINE
MAHONING	U.S. 422 WB	1.32	1.34			3			CHANNELIZING LINE
MAHONING	U.S. 422 WB/RAMP P	1.34						2	EDGE LINE
MAHONING	U.S. 422 EB	1.34	1.48				5		LANE LINE
MAHONING	RAMP N							8	EDGE LINE
MAHONING	U.S. 422 WB	1.34	1.48				5		LANE LINE
MAHONING	RAMP P							7	EDGE LINE
SUBTOTAL						42	55	37	
TOTALS CARRIED TO TRAFFIC CONTROL GENERAL SUMMARY					134				

RAISED PAVEMENT MARKER REMOVAL SUBSUMMARY

MAH-193/422-0.46/1.85

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PAVEMENT MARKING SUBSUMMARY - 1 OF 4

CALCULATED LOB
CHECKED MAH

MAH-193/422-0.46/1.85

130
260

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	646 EDGE LINE, WHITE FT	646 EDGE LINE, YELLOW FT	646 LANE LINE FT	646 CHANNELIZING LINE FT	646 STOP LINE FT	646 CROSSWALK LINE FT	646 TRANSVERSE / DIAGONAL LINE FT	646 LANE ARROW EACH
134	ELW-1	S.R. 193 SB	3+00	5+27	RT.	227							
134	CL-1	S.R. 193 SB	4+55	5+27	RT.				72				
134	ELW-2	S.R. 193 SB	4+55	12+50	RT.	795							
134	ELY-1	S.R. 193 SB	3+00	12+50	RT.		950						
134	LL-1	S.R. 193 SB	5+27	12+50	RT.			723					
134	ELY-2	S.R. 193 NB	6+00	12+50	LT.		650						
134	LL-2	S.R. 193 NB	6+00	12+50	LT.			650					
134	ELW-3	S.R. 193 NB	6+00	12+50	LT.	650							
135	ELY-3	S.R. 193 SB	12+50	25+00	RT.		1250						
135	LL-3	S.R. 193 SB	12+50	25+00	RT.			1250					
135	LL-4	S.R. 193 SB	16+00	18+06	RT.			206					
135	ELW-5	S.R. 193 SB	12+50	18+06	RT.	556							
135	CL-2	S.R. 193 SB	18+06	19+62	RT.				156				
135	CL-3	S.R. 193 SB	18+06	19+62	RT.				156				
135	TLW-1	S.R. 193 SB	18+06	19+62	RT.							65	
135	ELW-8	S.R. 193 SB	19+62	25+00	RT.	538							
135	ELW-6	RAMP F	9+75	18+06	CEN.	612							
135	ELY-4	RAMP F	5+16	9+35	LT.		419						
135	SL-1	RAMP F	9+30		LT.					20			
135	ELY-5	RAMP H	0+50	5+50	LT.		500						
135	ELW-7	RAMP H	0+32	5+50	CEN.	518							
135	ELY-6	S.R. 193 NB	12+50	25+00	LT.		1250						
135	LL-5	S.R. 193 NB	12+50	25+00	LT.			1250					
135	ELW-9	S.R. 193 NB	12+50	19+68	LT.	718							
135	LL-6	S.R. 193 NB	17+25	19+68	LT.			243					
135	ELW-12	S.R. 193 NB	19+68	25+00	LT.	532							
135	CL-4	S.R. 193 NB / RAMP E	19+68	4+40	CEN&LT				99				
135	ELW-10	S.R. 193 NB / RAMP E	19+68	0+13	CEN.	531							
135	ELY-7	RAMP E	0+55	4+40	LT.		385						
135	SL-1	RAMP G	8+22		LT.					16			
135	ELW-11	RAMP G	3+00	8+60	CEN.	560							
135	ELY-8	RAMP G	3+00	8+20	LT.		520						
				SUBTOTAL									
TOTALS CARRIED TO TRAFFIC CONTROL GENERAL SUMMARY						6237	5924	4322	483	36		65	
MILE						2.31		0.82					

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	646 EDGE LINE, WHITE FT	646 EDGE LINE, YELLOW FT	646 LANE LINE FT	646 CHANNELIZING LINE FT	646 STOP LINE FT	646 CROSSWALK LINE FT	646 TRANSVERSE / DIAGONAL LINE FT	646 LANE ARROW EACH
136	ELY-9	S.R. 193 / RAMP H	5+50	25+64	LT.		62						
136	ELW-12	RAMP H	5+50	27+29	RT.	223							
136	ELW-47	S.R. 193 SB	25+00	27+29	RT.	229							
136	CL-5	S.R. 193 SB	25+64	27+29	RT.				165				
136	LL-7	S.R. 193 SB	25+00	37+50	RT.			1250					
136	LL-8	S.R. 193 SB	27+29	34+20	RT.			691					
136	ELY-10	S.R. 193 SB	25+00	37+50	CEN.		1250						
136	ELW-13	S.R. 193 SB	27+29	36+06	RT.	877							
136	CL-6	S.R. 193 SB	34+20	36+06	RT.				186				
136	CL-7	S.R. 193 SB	34+20	36+06	RT.				186				
136	TLW-2	S.R. 193 SB	34+20	36+06	RT.							63	
136	ELW-15	S.R. 193 SB	36+06	37+50	RT.	144							
136	ELW-14	S.R. 193 SB / RAMP J	36+06	4+00	RT.	147							
136	ELY-11	S.R. 193 SB / RAMP J	36+06	4+00	RT.		147						
136	ELW-16	RAMP G / S.R. 193 NB	3+00	27+24	LT.	225							
136	ELY-12	RAMP G / S.R. 193 NB	3+00	25+28	LT.		41						
136	ELW-17	S.R. 193 NB	25+00	25+38	LT.	38							
136	TLW-3	S.R. 193 NB	25+38	27+24	LT.							68	
136	CL-8	S.R. 193 NB	25+38	27+24	LT.				186				
136	CL-9	S.R. 193 NB	25+38	27+24	LT.				186				
136	ELW-18	S.R. 193 NB	24+24	34+85	LT.	1061							
136	LL-9	S.R. 193 NB	24+24	34+85	LT.			1061					
136	LL-10	S.R. 193 NB	25+00	37+50	LT.			1250					
136	ELY-13	S.R. 193 NB	25+00	37+50	LT.		1250						
136	CL-10	S.R. 193 NB	34+85	36+60	LT.				175				
136	ELW-20	S.R. 193 NB	34+85	37+50	LT.	265							
136	ELW-19	S.R. 193 NB / RAMP K	34+85	4+00	LT.	259							
136	ELY-14	S.R. 193 NB / RAMP K	36+60	4+00	LT.		86						
				SUBTOTAL									
TOTALS CARRIED TO TRAFFIC CONTROL GENERAL SUMMARY						3468	2836	4252	1084			131	
MILE						1.20		0.81					

CALCULATED LOB
CHECKED MAH

PAVEMENT MARKING SUBSUMMARY - 2 OF 4

MAH-193/422-0.46/1.85

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	646 EDGE LINE, WHITE FT	646 EDGE LINE, YELLOW FT	646 LANE LINE FT	646 CHANNELIZING LINE FT	646 STOP LINE FT	646 CROSSWALK LINE FT	646 TRANSVERSE / DIAGONAL LINE FT	646 LANE ARROW EACH
137	ELY-15	S.R. 193 SB	37+50	50+00	RT.		1250						
137	LL-11	S.R. 193 SB	37+50	50+00	RT.			1250					
137	ELW-21	S.R. 193 SB	37+50	50+00	RT.	1250							
137	ELY-16	S.R. 193 NB	37+50	50+00	LT.		1250						
137	LL-12	S.R. 193 NB	37+50	50+00	LT.			1250					
137	ELW-22	S.R. 193 NB	37+50	50+00	LT.	1250							
137	ELW-23	RAMP J	4+00	8+23	CEN.	423							
137	ELY-17	RAMP J	4+00	7+90	LT.		390						
137	CL-11	RAMP J	6+55	7+84	LT.				129				
137	CL-12	RAMP J	6+55	7+84	LT.				129				
137	LA-1	RAMP J	7+06		LT.								1
137	LA-2	RAMP J	7+06		LT.								1
137	LA-3	RAMP J	7+74		LT.								1
137	LA-4	RAMP J	7+74		LT.								1
137	SL-3	RAMP J	7+86		LT.&RT.					43			
137	CWL-1	RAMP J	7+98		LT.&RT.						109		
137	CWL-2	WIRT STREET	0+45		RT.						78		
137	ELW-24	WIRT STREET	0+27	2+15	RT.	188							
137	LL-13	WIRT STREET	0+53	8+47	RT.			794					
137	ELY-18	WIRT STREET	0+53	5+32	LT.		479						
137	ELW-26	WIRT STREET	2+15	5+55	RT.	340							
137	ELW-25	WIRT ST. / RAMP L	2+15	2+11	RT.	206							
137	ELY-19	WIRT ST. / RAMP L	2+15	5+00	RT.		285						
137	ELW-32	RAMP L	2+11	5+00	RT.	297							
137	ELW-27	RAMP K	0+32	4+00	LT.	453							
137	ELY-20	RAMP K	0+32	4+00	LT.		385						
137	CWL-3	RAMP K	0+43		LT.						44		
137	CWL-4	RAMP K	0+48		LT.						55		
137	CWL-5	ACCESS RAMP	5+25		LT.&RT.						54		
137	SL-4	ACCESS RAMP	5+13		LT.&RT.					26			
137	CWL-6	ACCESS RAMP	5+14		RT.						30		
137	LA-5	ACCESS RAMP	5+00		LT.								1
137	CL-13	ACCESS RAMP	4+00	5+11	LT.&RT.				111				
137	LA-6	ACCESS RAMP	4+32		LT.								1
137	ELY-21	ACCESS RAMP	0+12	5+38	LT.		526						
137	ELW-28	ACCESS RAMP	0+00	1+03	RT.	103							
137	ELY-22	ACCESS RAMP/WIRT	1+03	8+47	LT.&RT.		345						
137	LL-14	ACCESS RAMP/WIRT	4+00	8+47	LT.&RT.			638					
137	ELW-29	ACCESS RAMP/WIRT	5+44	8+47	LT.&RT.	849							
137	ELW-30	WIRT STREET	6+36	8+47	RT.	211							
137	ELY-23	WIRT STREET	5+67	8+47	RT.		280						
137	CWL-7	RAMP M	8+60		LT.&RT.						83		
137	SL-5	RAMP M	8+48		LT.&RT.					33			
137	LA-7	RAMP M	8+38		RT.								1
137	ELW-31	RAMP M	5+00	8+59	RT.	359							
137	LA-8	RAMP M	7+70		RT.								1
137	LA-9	RAMP M	7+02		RT.								1
137	LA-10	RAMP M	6+34		RT.								1
137	CL-14	RAMP M	6+00	8+50	RT.				250				
137	ELY-24	RAMP M	5+00	8+87			387						
TOTALS CARRIED TO TRAFFIC CONTROL GENERAL SUMMARY						5929	5577	3932	619	102	453		10
MILE						2.18		0.75					

CALCULATED LOB
CHECKED MAH

PAVEMENT MARKING SUBSUMMARY - 3 OF 4

MAH-193/422-0.46/1.85

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	646 EDGE LINE, WHITE FT	646 EDGE LINE, YELLOW FT	646 LANE LINE FT	646 CHANNELIZING LINE FT	646 STOP LINE FT	646 CROSSWALK LINE FT	646 TRANSVERSE / DIAGONAL LINE FT	646 LANE ARROW EACH
138	ELW-33	RAMP L / U.S. 422 EB	5+00	53+00	CEN&RT	332							
138	ELY-25	RAMP L / U.S. 422 EB	5+00	52+26	LT.		260						
138	ELW-34	U.S. 422 EB	50+00	53+00	RT.	300							
138	CL-15	U.S. 422 EB	52+26	53+00	RT.				74				
138	LL-15	U.S. 422 EB	50+00	62+50	RT.			1250					
138	LL-16	U.S. 422 EB	53+00	59+94	RT.			694					
138	ELY-26	U.S. 422 EB	50+00	62+50	RT.		1250						
138	ELW-35	U.S. 422 EB	53+00	59+94	RT.	694							
138	CL-16	U.S. 422 EB	59+94	62+14	RT.				220				
138	CL-17	U.S. 422 EB	59+94	62+14	RT.				220				
138	TLW-4	U.S. 422 EB	59+64	62+14	RT.							87	
138	ELW-36	U.S. 422 EB / RAMP N	59+94	3+50	RT.	257							
138	ELW-37	U.S. 422 EB	62+14	62+50	RT.	36							
138	ELY-27	U.S. 422 EB / RAMP N	62+14	3+50	RT.		38						
138	ELW-38	U.S. 422 WB	50+00	52+35	LT.	235							
138	ELY-28	RAMP M / U.S. 422 WB	3+00	52+35	LT.		227						
138	ELW-39	RAMP M / U.S. 422 WB	3+00	54+45	LT.	436							
138	CL-18	U.S. 422 WB	52+35	54+45	LT.				210				
138	TLW-5	U.S. 422 WB	52+35	54+45	LT.							86	
138	CL-19	U.S. 422 WB	52+35	54+45	LT.				210				
138	ELY-29	U.S. 422 WB	50+00	62+50	LT.		1250						
138	LL-17	U.S. 422 WB	50+00	62+50	LT.			1250					
138	LL-18	U.S. 422 WB	54+45	59+70	LT.			525					
138	ELW-40	U.S. 422 WB	54+45	59+70	LT.	525							
138	CL-20	U.S. 422 WB	59+70	60+52	LT.				82				
138	ELW-41	U.S. 422 WB / RAMP P	59+70	8+00	LT.	269							
138	ELY-30	U.S. 422 WB / RAMP P	60+52	8+00	LT.		181						
138	ELW-42	U.S. 422 WB	59+70	62+50	LT.	280							
139	LL-19	U.S. 422 EB	62+50	68+00	RT.			550					
139	ELW-43	U.S. 422 EB	62+50	68+00	RT.	550							
139	ELY-31	U.S. 422 EB	62+50	68+00	RT.		550						
139	ELW-44	RAMP N	3+50	10+54	CEN.	704							
139	ELY-32	RAMP N	3+50	10+54	RT.		704						
139	ELW-45	U.S. 422 WB	62+50	68+00	LT.	550							
139	LL-20	U.S. 422 WB	62+50	68+00	LT.			550					
139	ELY-33	U.S. 422 WB	62+50	68+00	LT.		550						
139	ELW-46	RAMP P	2+25	8+00	LT.	575							
139	ELY-34	RAMP P	2+25	8+00	RT.		575						
				SUBTOTAL									
TOTALS CARRIED TO TRAFFIC CONTROL GENERAL SUMMARY						5743	5585	4819	1016			173	
MILE						2.15		0.92					

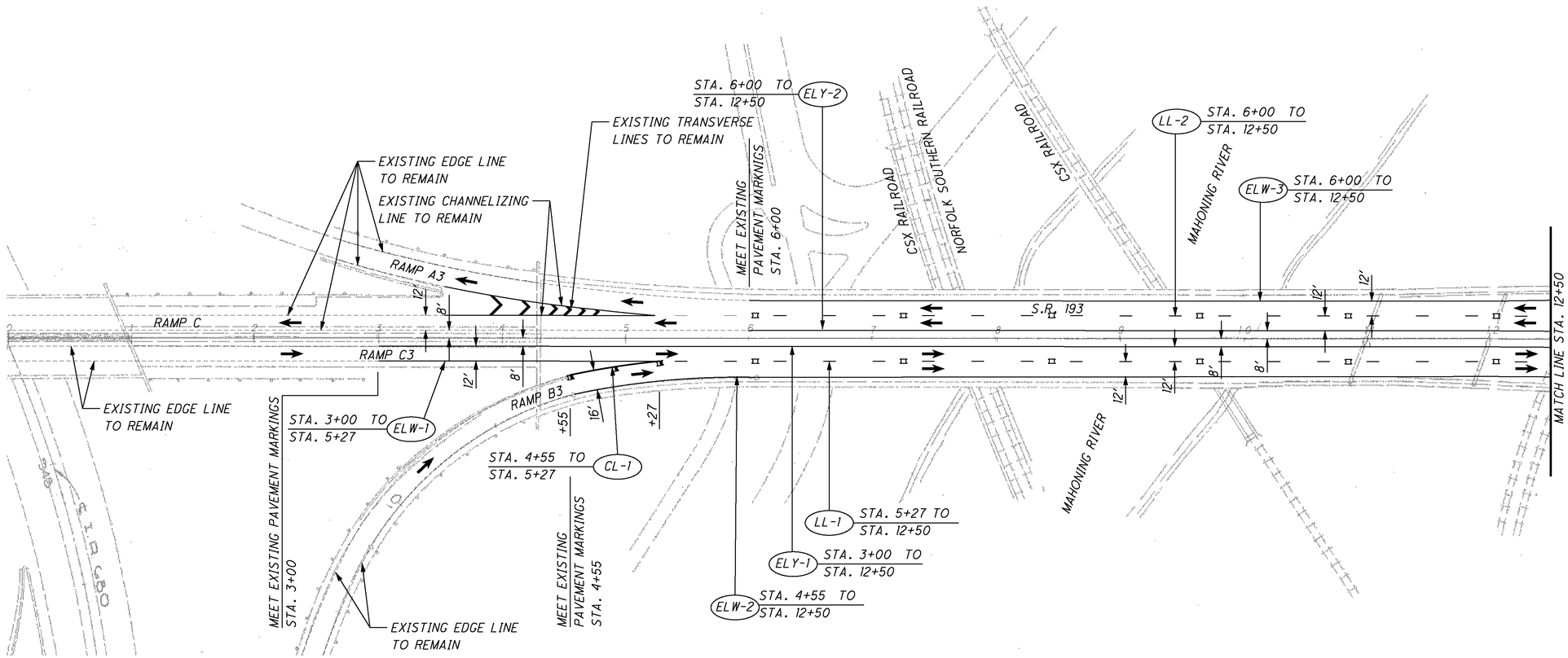
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PAVEMENT MARKING SUBSUMMARY - 4 OF 4

MAH-193/422-0.46/1.85

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LEGEND			
ELW-#	EDGE LINE, WHITE	CWL-#	CROSSWALK LINE
ELY-#	EDGE LINE, YELLOW	LA-#	LANE ARROW
LL-#	LANE LINE		RPM, TWO WAY
CL-#	CHANNELIZING LINE		RPM, ONE WAY
TLW-#	TRANSVERSE LINE, WHITE		TRAFFIC FLOW
SL-#	STOP LINE		EXIST. OVERHEAD TRUSS STRUCTURE
OSS-#	PROPOSED OVERHEAD SIGN AND STRUCTURE		PROP. OVERHEAD TRUSS STRUCTURE

HORIZONTAL SCALE IN FEET
0 25 50 100

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PAVEMENT MARKING PLAN
S.R. 193 - BEGIN TO STA. 12+50

MAH-193/422-0.46/1.85

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STA. 8+22 (RAMP G) SL-2

CRESENT ST.

MEET EXISTING PAVEMENT MARKINGS

8+00

MEET EXISTING PAVEMENT MARKINGS

ELY-8 STA. 3+00 (RAMP G) TO STA. 8+20 (RAMP G)

RAMP G

ELW-11 STA. 3+00 (RAMP G) TO STA. 8+60 (RAMP G)

STA. 0+55 (RAMP E) TO STA. 4+40 (RAMP E) ELY-7

STA. 0+13 (RAMP E) TO STA. 19+68 ELW-10

16'

RAMP E

NORFOLK SOUTHERN RAILROAD

STA. 12+50 TO STA. 25+00 ELY-6

LL-5 STA. 12+50 TO STA. 25+00

ELW-9 STA. 12+50 TO STA. 19+68

STA. 17+25 TO STA. 19+68 LL-6

+25

S.R. 193

STA. 19+68 TO STA. 4+40 (RAMP E) CL-4

+68

+40

ELW-12 STA. 19+68 TO STA. 25+00

MATCH LINE STA. 3+00

MATCH LINE STA. 12+50

MATCH LINE STA. 25+00

STA. 12+50 TO STA. 25+00 ELY-3

STA. 12+50 TO STA. 25+00 LL-3

+06

+62

TWL-1 STA. 18+06 TO STA. 19+62

CL-2 STA. 18+06 TO STA. 19+62

CL-3 STA. 18+06 TO STA. 19+62

RAMP F

ELW-8 STA. 19+62 TO STA. 25+00

MATCH LINE STA. 5+50

RAMP H

STA. 18+06 TO STA. 9+75 (RAMP F) ELW-6

ELW-7 STA. 0+32 (RAMP H) TO STA. 5+50 (RAMP H)

STA. 5+16 (RAMP F) TO STA. 9+35 (RAMP F) ELY-4

ELY-5 STA. 0+50 (RAMP H) TO STA. 5+50 (RAMP H)

ELW-5 STA. 12+50 TO STA. 18+06

LL-4 STA. 16+00 TO STA. 18+06

CRESENT ST.

MEET EXISTING PAVEMENT MARKINGS

9+00

MEET EXISTING PAVEMENT MARKINGS

STA. 9+30 (RAMP F) SL-1

WEST NORTH
422 193 289
M.L. King Jr. Blvd
EXIT MILE

STA. 14+63
SEE NOTE 1

Crescent St

EXISTING OVERHEAD SIGNS AND SUPPORT TO BE REMOVED
STA. 14+78
SEE NOTE 1

NOTES:

1. FOR OVERHEAD SIGN REMOVAL NOTES, INSTALLATION NOTES AND QUANTITES, SEE SHEET 128.

LEGEND			
ELW-#	EDGE LINE, WHITE	CWL-#	CROSSWALK LINE
ELY-#	EDGE LINE, YELLOW	LA-#	LANE ARROW
LL-#	LANE LINE		RPM, TWO WAY
CL-#	CHANNELIZING LINE		RPM, ONE WAY
TLW-#	TRANSVERSE LINE, WHITE		TRAFFIC FLOW
SL-#	STOP LINE		EXIST. OVERHEAD TRUSS STRUCTURE
OSS-#	PROPOSED OVERHEAD SIGN AND STRUCTURE		PROP. OVERHEAD TRUSS STRUCTURE

HORIZONTAL SCALE IN FEET
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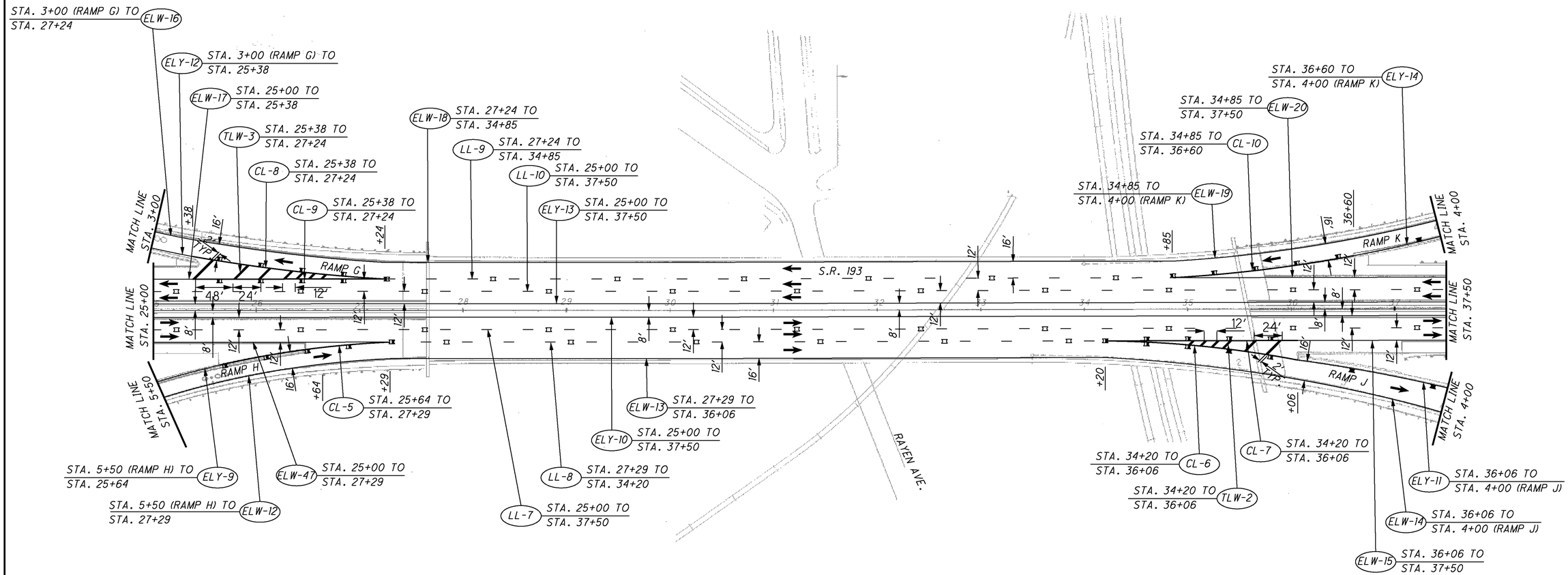
PAVEMENT MARKING PLAN

S.R. 193 - STA. 12+50 TO STA. 25+00, RAMP E - BEGIN TO END
RAMP F - BEGIN TO END. RAMP G - STA. 3+00 TO END, RAMP H - BEGIN TO STA. 5+50

MAH-193/422-0.46/1.85

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LEGEND			
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ELY-#	EDGE LINE, YELLOW	LA-#	LANE ARROW
LL-#	LANE LINE		RPM, TWO WAY
CL-#	CHANNELIZING LINE		RPM, ONE WAY
TLW-#	TRANSVERSE LINE, WHITE		TRAFFIC FLOW
SL-#	STOP LINE		EXIST. OVERHEAD TRUSS STRUCTURE
OSS-#	PROPOSED OVERHEAD SIGN AND STRUCTURE		PROP. OVERHEAD TRUSS STRUCTURE

HORIZONTAL SCALE IN FEET
0 25 50 100

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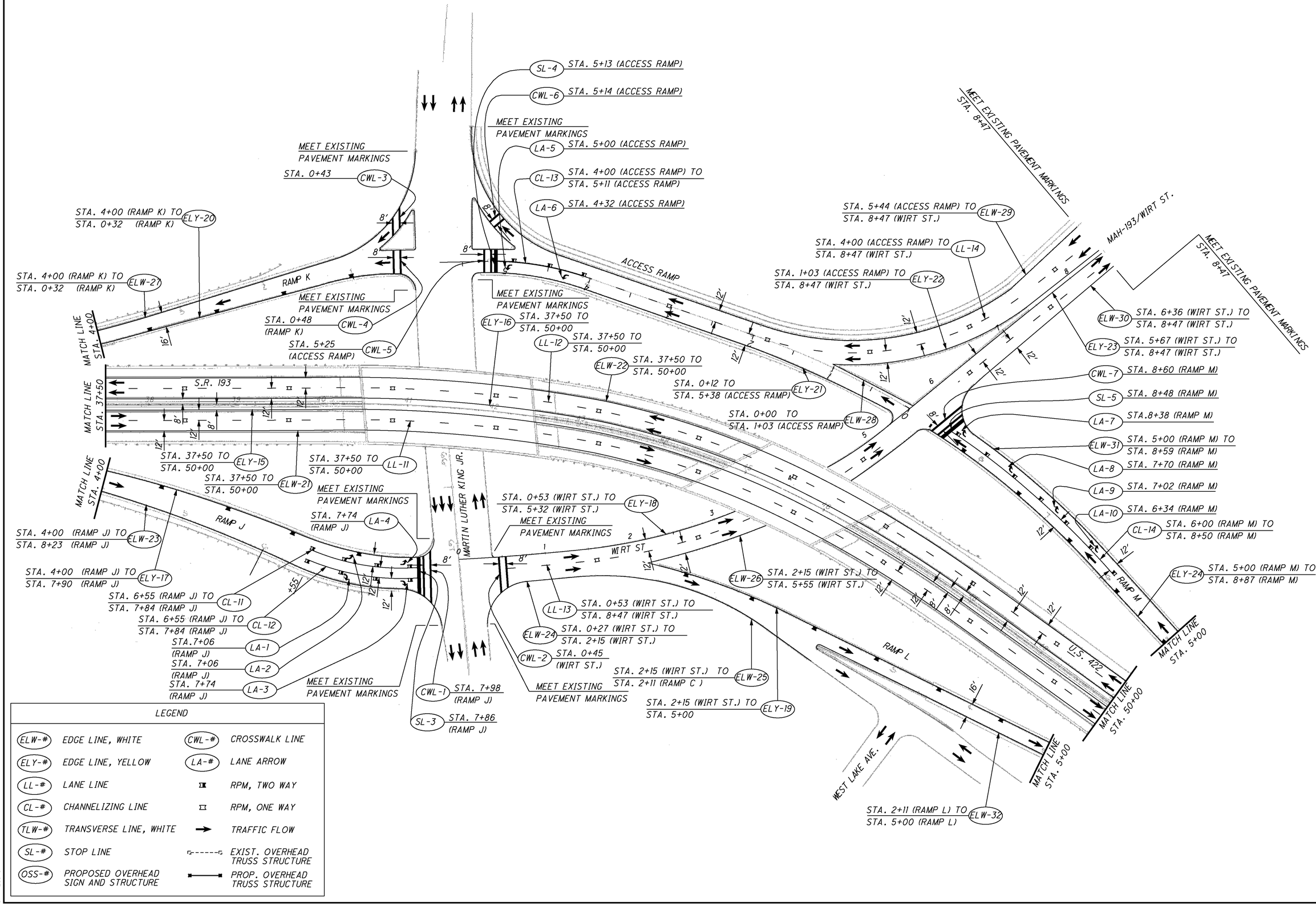
PAVEMENT MARKING PLAN

S.R. 193 - STA. 25+00 TO STA. 37+50, RAMP G - BEGIN TO STA 3+00
RAMP H - STA. 5+50 TO END, RAMP F - BEGIN TO STA. 4+00
RAMP K - STA. 4+00 TO END. RAMP F - BEGIN TO STA. 4+00

MAH-193/422-0.46/1.85

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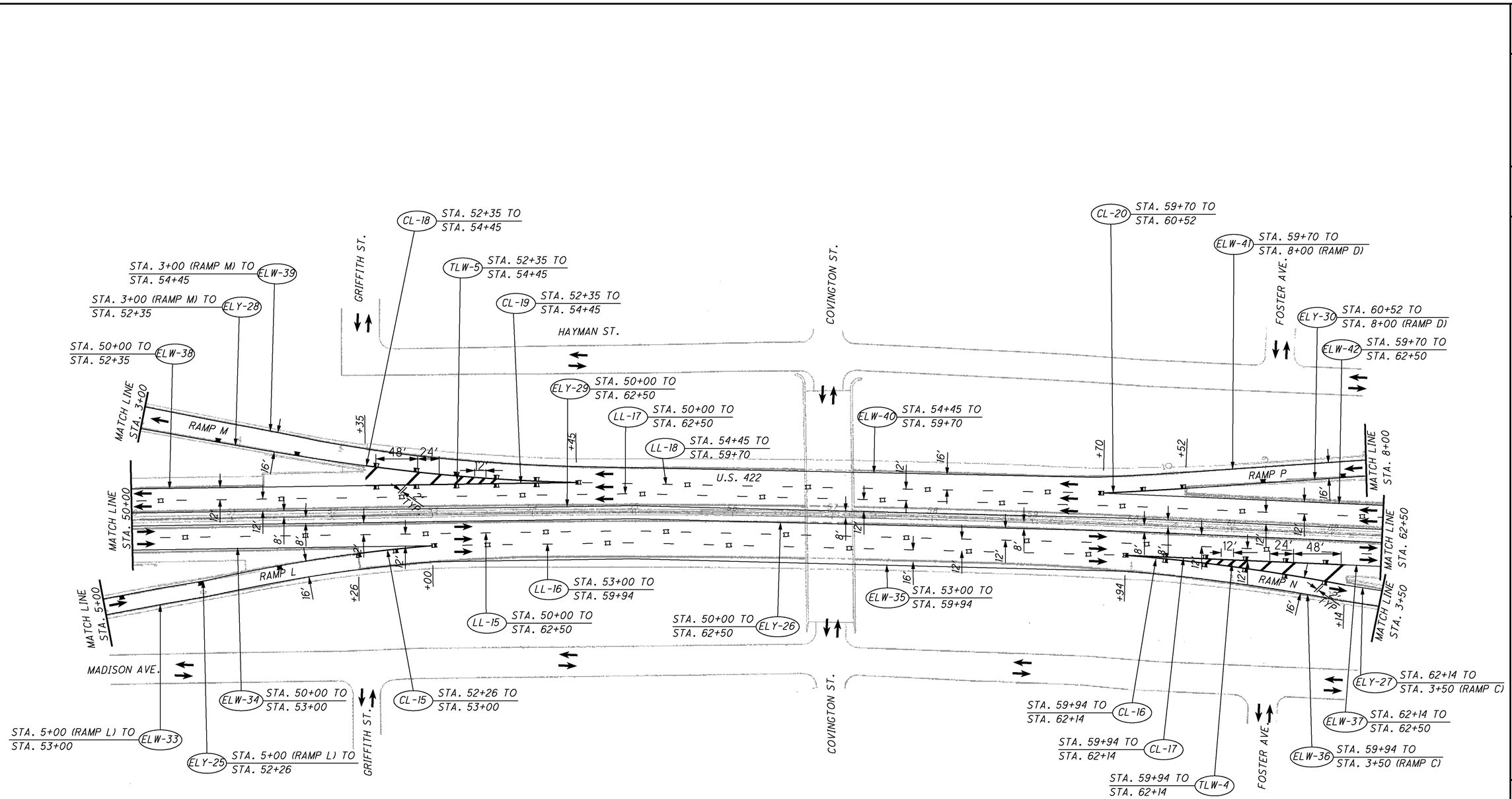
HORIZONTAL SCALE IN FEET
0 25 50 100

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PAVEMENT MARKING PLAN
S.R. 193/ S.R. 422 - STA. 37+50 TO STA. 50+00, RAMP K - BEGIN TO STA. 4+00
RAMP J - STA. 4+00 TO END, RAMP L - BEGIN TO STA. 5+00
RAMP M - STA. 5+00 TO END, RAMP M - BEGIN TO STA. 5+00

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LEGEND			
ELW-#	EDGE LINE, WHITE	CWL-#	CROSSWALK LINE
ELY-#	EDGE LINE, YELLOW	LA-#	LANE ARROW
LL-#	LANE LINE		RPM, TWO WAY
CL-#	CHANNELIZING LINE		RPM, ONE WAY
TLW-#	TRANSVERSE LINE, WHITE		TRAFFIC FLOW
SL-#	STOP LINE		EXIST. OVERHEAD TRUSS STRUCTURE
OSS-#	PROPOSED OVERHEAD SIGN AND STRUCTURE		PROP. OVERHEAD TRUSS STRUCTURE

HORIZONTAL SCALE IN FEET
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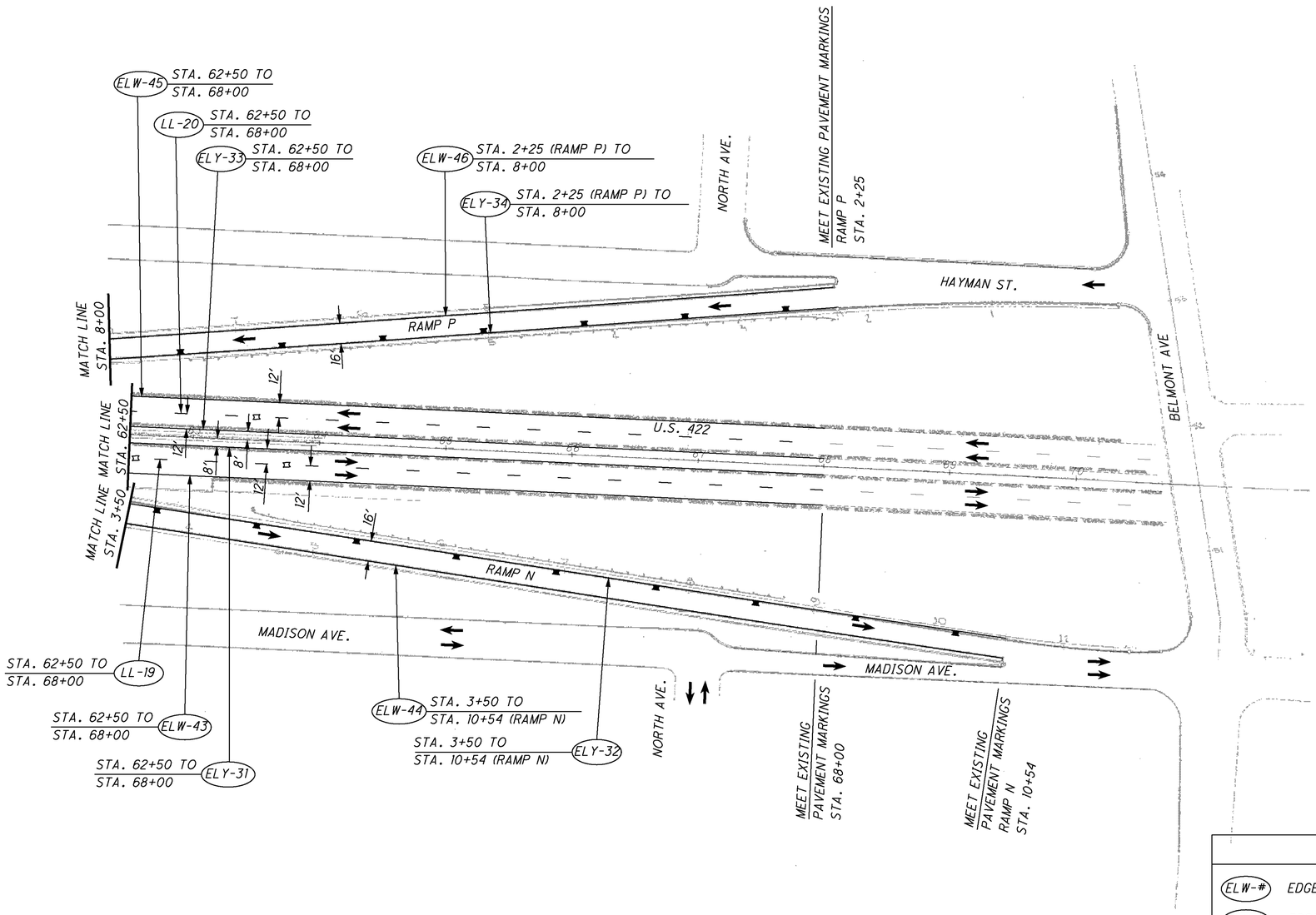
PAVEMENT MARKING PLAN

S.R. 422 - STA. 50+00 TO STA. 62+50, RAMP L - BEGIN TO END.
RAMP D - STA. 8+00 TO STA. END. RAMP M - BEGIN TO STA. 3+50

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LEGEND			
ELW-#	EDGE LINE, WHITE	CWL-#	CROSSWALK LINE
ELY-#	EDGE LINE, YELLOW	LA-#	LANE ARROW
LL-#	LANE LINE		RPM, TWO WAY
CL-#	CHANNELIZING LINE		RPM, ONE WAY
TLW-#	TRANSVERSE LINE, WHITE		TRAFFIC FLOW
SL-#	STOP LINE		EXIST. OVERHEAD TRUSS STRUCTURE
OSS-#	PROPOSED OVERHEAD SIGN AND STRUCTURE		PROP. OVERHEAD TRUSS STRUCTURE

HORIZONTAL SCALE IN FEET
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CALCULATED DAT
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PAVEMENT MARKING PLAN
S.R. 422 - STA. 62+50 TO END
RAMP D - BEGIN TO STA. 8+00, RAMP C - STA. 3+50 TO END

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LIGHTING PLAN NOTES

ITEM 625 LUMINAIRE REMOVED

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AN EXISTING LUMINAIRE. THE LUMINAIRE SHALL BECOME 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, 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.

ITEM 625 LUMINAIRE REMOVED FOR REUSE

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AN EXISTING LUMINAIRE AND PROPERLY STORING IT ON THE PROJECT SITE FOR RE-ERECTION.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, LUMINAIRE REMOVED FOR REUSE FOR EACH LUMINAIRE REMOVED AND STORED 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 REMOVED FOR STORAGE

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AN EXISTING LIGHT POLE INCLUDING THE BRACKET ARM(S), TRANSFORMER BASE (IF ANY) AND PROPERLY STORING THIS ASSEMBLY ON THE PROJECT SITE UNTIL RE-ERECTED.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, LIGHT POLE REMOVED FOR STORAGE, FOR EACH POLE REMOVED AND STORED 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 REMOVED

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AN EXISTING LIGHT POLE FOUNDATION TO A MINIMUM OF 1 FOOT (0.3 METER) 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 625, 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 SPECIAL 625 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 HEREIN.

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 EXISTING LIGHTING SHALL BE MADE BY ODOT'S REPRESENTATIVE. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL LUMINAIRES WHICH ARE NOT IN WORKING ORDER, INDIVIDUAL POLES WHICH ARE NOT STANDING, AND INDIVIDUAL CIRCUITS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED 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 EXISTING 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 DOWNED 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.

BETTERMENTS SHALL BE COVERED IN ITEMS OF WORK PERTAINING TO THE 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 FOOTCANDLES (13 LUX) 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 INSTALLATION 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" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO MAINTAIN THE EXISTING LIGHTING AS SPECIFIED HEREIN.

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

ITEM 625 MEDIAN LIGHT POLE FOUNDATION, 10' DEEP, AS PER PLAN

ALL REQUIREMENTS OF ITEM 625 APPLY. IN ADDITION ENSURE THAT ANCHOR BOLTS AND ANCHOR BOLT TEMPLATE ARE COMPATIBLE WITH RE-USED LIGHT POLE SUPPORT. PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR EACH ITEM 625 MEDIAN LIGHT POLE FOUNDATION, 10' DEEP, AS PER PLAN COMPLETED TO THE SATISFACTION OF THE ENGINEER.

ITEM 625 CONNECTOR KIT, TYPE II, AS PER PLAN

ALL REQUIREMENTS OF ITEM 625 APPLY. IN ADDITION ENSURE THAT THE PORTION OF THE OLD CONNECTOR KIT ON THE END OF THE EXISTING POLE AND BRACKET CABLE IS REMOVED PRIOR TO INSTALLING THE NEW CONNECTOR KIT. PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR EACH ITEM 625 CONNECTOR KIT, TYPE II, AS PER PLAN COMPLETED TO THE SATISFACTION OF THE ENGINEER.

ITEM 625 JUNCTION BOX, AS PER PLAN

ALL REQUIREMENT OF ITEM 625 APPLY EXCEPT THE JUNCTION BOX DETAILED ON STANDARD CONSTRUCTION DRAWING HL-20.14 SHALL NOT EXCEED AN INSIDE LENGTH OF 12 INCHES, INSIDE WIDTH OF 10 INCHES AND AN INSIDE DEPTH OF 6 INCHES. PAYMENT WILL BE MADE PER EACH ITEM 625 JUNCTION BOX, AS PER PLAN COMPLETED AND INSTALLED TO THE SATISFACTION OF THE ENGINEER.

ITEM 625 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 BID PRICE UNDER CMS ITEM 625, 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.

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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 TN 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 3/4 INCH 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 WILLBE 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	NO. 1 WALK
2	WHITE	AC NEUTRAL	AC NEUTRAL
3	RED	RED BALL	NO. 1 DW/FDW
4	GREEN	EQUIPMENT GROUND	EQUIPMENT GROUND
5	ORANGE	YELLOW BALL	NO. 2 DW/FDW
6	BLUE	GREEN ARROW	NO. 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.

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SHEET NUMBERS	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	REF.
142						
					LIGHTING	
12	625	00500	12	EACH	CONNECTOR KIT, TYPE II	
6	625	00501	6	EACH	CONNECTOR KIT, TYPE II, AS PER PLAN	140
10	625	00950	10	EACH	CONNECTOR KIT, TYPE VII	
2	625	01500	2	EACH	CABLE SPLICING KIT	
12	625	10600	12	EACH	LIGHT POLE ANCHOR L-BOLTS	
12	625	10614	12	EACH	LIGHT POLE ANCHOR BOLTS ON STRUCTURE	
3	625	14307	3	EACH	MEDIAN LIGHT POLE FOUNDATION, 10' DEEP, AS PER PLAN	140
3701	625	23200	3701	FT	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	
816	625	23400	816	FT	NO. 10 AWG POLE AND BRACKET CABLE	
1080	625	25402	1080	FT	CONDUIT, 2", 725.05	
77	625	25602	77	FT	CONDUIT, 4", 725.05	
14	625	27500	14	EACH	LUMINAIRE, UNDERPASS, 100 WATT H.P.S.	
6	625	29901	6	EACH	JUNCTION BOX, AS PER PLAN	140
4	625	29910	4	EACH	TRANSITION JUNCTION BOX	
3	625	32000	3	EACH	GROUND ROD	
6	625	35000	6	EACH	REERECT EXISTING LIGHT POLE	
12	625	35100	12	EACH	REERECT EXISTING LUMINAIRE	
3	625	37100	3	EACH	SERVICE TO UNDERPASS LIGHTING	
	SPECIAL	62540000	LUMP		MAINTAIN EXISTING LIGHTING	140
6	625	75402	6	EACH	LIGHT POLE REMOVED FOR STORAGE	
3	625	75500	3	EACH	LIGHT POLE FOUNDATION REMOVED	
13	625	75506	13	EACH	LUMINAIRE REMOVED	
12	625	75508	12	EACH	LUMINAIRE REMOVED FOR REUSE	
1662	625	75550	1662	FT	DISTRIBUTION CABLE REMOVED	
7	625	75801	7	EACH	DISCONNECT CIRCUIT, AS PER PLAN	140

CALCULATED GJB
CHECKED EAF

LIGHTING GENERAL SUMMARY

MAH-193-0.46
MAH-422-1.85

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SHEET NUMBER	REFERENCE NUMBER	STATION OR BALLOON No's. FROM	TO	SIDE UNITS	625 CONNECTOR KIT, TYPE II EACH	625 CONNECTOR KIT, TYPE II, AS PER PLAN EACH	625 CONNECTOR KIT, TYPE VII EACH	625 CABLE SPLICING KIT EACH	625 LIGHT POLE ANCHOR L-BOLTS EACH	625 LIGHT POLE ANCHOR BOLTS ON STRUCTURE EACH	625 MEDIAN LIGHT POLE FOUNDATION, 10' DEEP, AS PER PLAN EACH	625 NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE FT	625 NO. 10 AWG POLE AND BRACKET CABLE FT	625 CONDUIT, 2", 725.05 FT	625 CONDUIT, 4", 725.05 FT	625 LUMINAIRE, UNDERPASS EACH	625 JUNCTION BOX, AS PER PLAN EACH	625 TRANSITION JUNCTION BOX EACH	625 GROUND ROD EACH	625 RE-ERECT EXISTING LIGHT POLE EACH	625 RE-ERECT EXISTING LUMINAIRE EACH	625 SERVICE TO UNDERPASS LIGHTING EACH	625 LIGHT POLE REMOVED FOR STORAGE EACH	625 LIGHT POLE FOUNDATION REMOVED EACH	625 LUMINAIRE REMOVED EACH	625 LUMINAIRE REMOVED FOR REUSE EACH	625 DISTRIBUTION CABLE REMOVED FT	625 DISCONNECT CIRCUIT, AS PER PLAN EACH
CIRCUIT 1CN																												
144	1 - 4	14+58.00	16+10.00	MD																								152	
144	1	14+58.00		MD		2																							1
144	1 -5	14+58.00	16+10.00	MD								334																	
144	4	16+10.00		MD																				1	1		2		
144	5	16+15.00		MD	2				4		1		136						1	1	2								
144	4 - 6	16+10.00	19+10.00	MD																								300	
144	5 - 6	16+15.00	19+10.00	MD								610																	
144	6	19+10.00		MD		2																							1
CIRCUIT 2CS																													
144	7	17+58.00	17+55.00	RT			2							4				2											
144	7 - 8	17+58.00	18+46.00	RT			2					196		88									1						
144	8	18+46.00		RT																									1
CIRCUIT 1CS																													
145	9	27+25.00		MD			4																						1
145	9 - 10	27+25.00	28+47.25	MD	2					4		265	136	80	24		1	1		1	2		1			2	122	
145	10 - 11	28+47.25	31+64.00	MD	2					4		654	136	317			1			1	2		1			2	317	
145	11 - 14	31+64.00	34+32.67	MD	2					4		557	136	269			1			1	2		1			2	269	
145	14 - 15	34+32.67	36+15.00	MD								385		123	13			1									182	
145	15	36+15.00		MD			2																						1
CIRCUIT RA																													
145	12	31+85.00		CL																							3		1
145	13	32+08.00		CL												4						1							
CIRCUIT 2WN																													
146	16 - 19	40+20.00	43+40.00	MD	2				4		1	660	136	199	40			2	1	1	2								
146	17 - 19	40+30.00	43+40.00	MD																				1	1		2	310	
146	19	43+40.00		MD		2																							1
147	20 - 22	49+70.00	49+80.00	MD																				1	1		2	10	
147	21 - 22	49+60.00	49+70.00	MD	2				4		1	40	136						1	1	2								
147	22	49+70.00		MD				2									1												
CIRCUIT 2WS																													
146	18	41+09.00	41+86.00	CL												10						1				10			
TOTALS TO LIGHTING GENERAL SUMMARY					12	6	10	2	12	12	3	3701	816	1080	77	14	6	4	3	6	12	3	6	3	13	12	1662	7

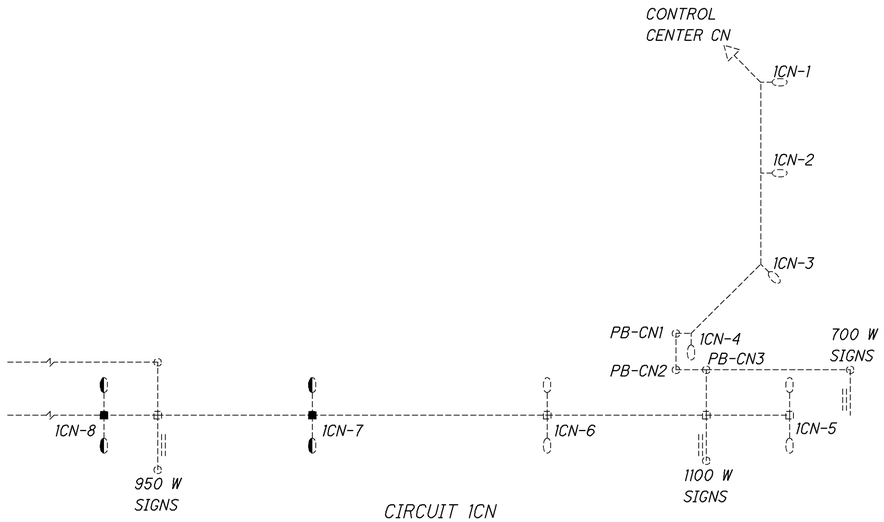
CALCULATED GJB
CHECKED EAF

LIGHTING SUB-SUMMARY

MAH-193-0.46
MAH-422-1.85

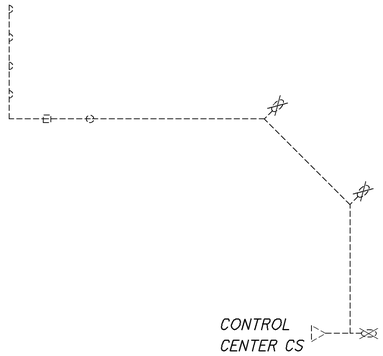
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MAINTAINING AGENCY: THE OHIO DEPARTMENT OF TRANSPORTATION



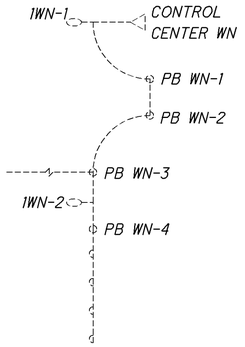
CIRCUIT 1CN

12-30 WATT LUMINAIRES @ 0.80 AMPS = 9.60 AMPS
4-200 WATT LUMINAIRES @ 0.53 AMPS = 2.12 AMPS
2-700 WATT SIGNS @ 1.46 AMPS = 2.92 AMPS
1-950 WATT SIGN @ 1.98 AMPS = 1.98 AMPS
1-1100 WATT SIGN @ 2.29 AMPS = 2.29 AMPS
TOTAL CIRCUIT LOAD = 18.91 AMPS
TOTAL LOAD ON CONTROL CENTER = 18.91 AMPS
= 9.03 KVA



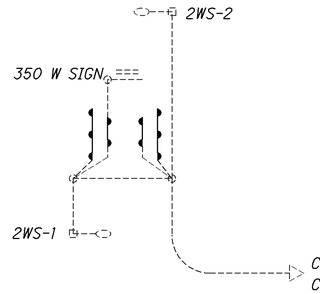
CIRCUIT 2CS

4-100 WATT U.P. LUMINAIRES @ 0.31 AMPS = 1.24 AMPS
TOTAL CIRCUIT LOAD = 1.24 AMPS
TOTAL LOAD ON CONTROL CENTER = 18.83 AMPS
= 9.08 KVA



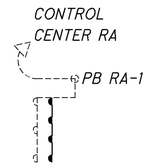
CIRCUIT 1WN

8-200 WATT LUMINAIRES @ 0.53 AMPS = 4.24 AMPS
4-100 WATT U.P. LUMINAIRES @ 0.31 AMPS = 1.24 AMPS
TOTAL CIRCUIT LOAD = 5.48 AMPS
TOTAL LOAD ON CONTROL CENTER = 15.91 AMPS
= 5.01 KVA



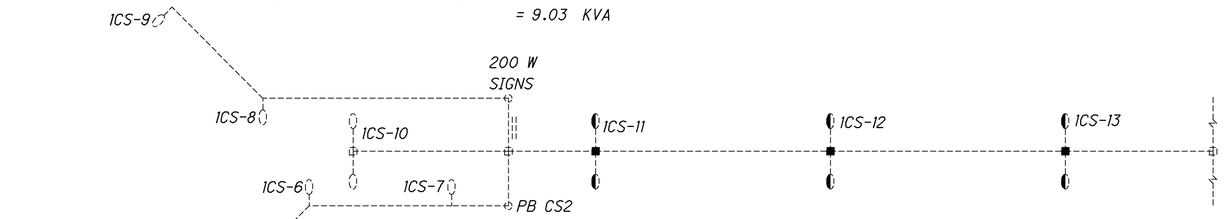
CIRCUIT 2WS

2-200 WATT LUMINAIRES @ 0.53 AMPS = 1.26 AMPS
10-100 WATT U.P. LUMINAIRES @ 0.31 AMPS = 3.10 AMPS
1-350 WATT SIGN @ 0.73 AMPS = 0.73 AMPS
TOTAL CIRCUIT LOAD = 4.89 AMPS
TOTAL LOAD ON CONTROL CENTER = 12.72 AMPS
= 12.35 KVA



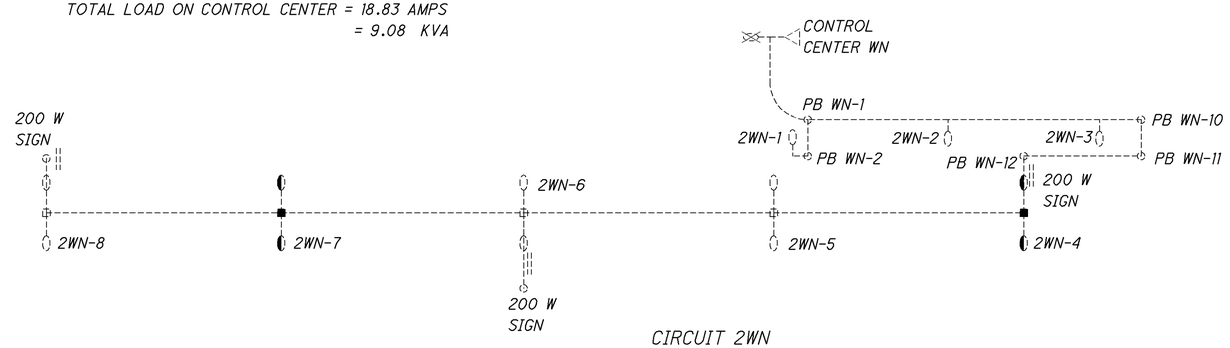
CIRCUIT RA

3-100 WATT LUMINAIRES @ 0.31 AMPS = 0.93 AMPS
TOTAL LOAD ON CONTROL CENTER = 0.45 KVA



CIRCUIT 1CS

8-310 WATT LUMINAIRES @ 0.80 AMPS = 6.40 AMPS
16-200 WATT LUMINAIRES @ 0.53 AMPS = 8.48 AMPS
1-200WATT SIGN @ 0.42 AMPS = 0.42 AMPS
1-1100 WATT SIGN @ 2.29 AMPS = 2.29 AMPS
TOTAL CIRCUIT LOAD = 17.59 AMPS
TOTAL LOAD ON CONTROL CENTER = 18.83 AMPS
= 9.08 KVA



CIRCUIT 2WN

10-310 WATT LUMINAIRES @ 0.80 AMPS = 8.00 AMPS
3-200 WATT LUMINAIRES @ 0.53 AMPS = 1.50 AMPS
2-200 WATT SIGN @ 0.42 AMPS = 0.84 AMPS
TOTAL CIRCUIT LOAD = 1043 AMPS
TOTAL LOAD ON CONTROL CENTER = 15.914 AMPS
= 5.01 KVA

LIGHTING LEGEND

REERECT LIGHT POLE, BRACKET ARMS AND LUMINAIRES, 310 WATT H.P.S., I.E.S. TYPE II, MEDIUM SEMI-CUTOFF, 50' MOUNTING HIEGHT ON NEW MEDIAN BARRIER FOUNDATION (50")

EXISTING LIGHT POLE, BRACKET ARMS, AND LUMINAIRES TO BE REMOVED, STORED AND REERECTED ON NEW PARAPET AND ANCHOR BOLTS. STRUCTURE LIGHT POLE AND LUMINAIRE, 310 WATT, H.P.S., I.E.S. TYPE II, MEDIUM SEMI-CUTOFF, 50' MOUNTING.

II-8-1CS-11 — POLE IDENTIFICATION, II - DISTRIBUTION, 8 - BRACKET ARM LENGTH, ICS - CIRCUIT NUMBER, 11 - UNIT NUMBER

NEW JUNCTION BOX

2-#4 AWG CABLES, NEW

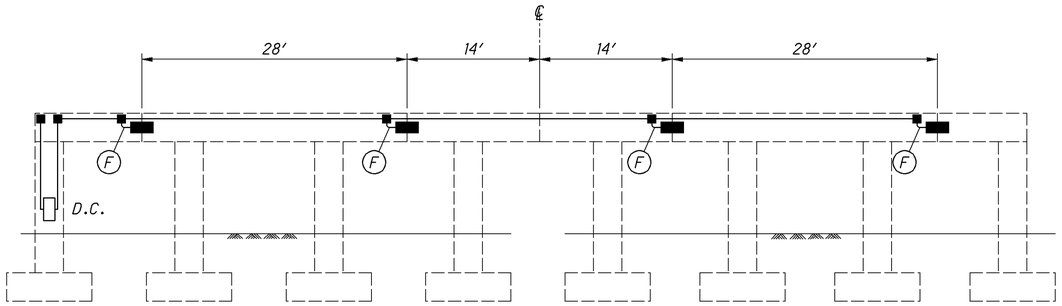
EXISTING UNDERPASS LUMINAIRES AND SERVICE

NEW UNDERPASS LUMINAIRE, 100 WATT H.P.S. AND SERVICE

LIGHTING CIRCUIT DIAGRAMS

MAH-193-0.46
MAH-422-1.85

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REEERECT LIGHT POLE, BRACKET ARMS AND LUMINAIRES, 310 WATT H.P.S., I.E.S. TYPE II, MEDIUM SEMI-CUTOFF, 50′ MOUNTING HIEGHT ON NEW MEDIAN BARRIER FOUNDATION (50″)

EXISTING LIGHT POLE, BRACKET ARMS, AND LUMINAIRES TO BE REMOVED, STORED AND REERECTED ON NEW PARAPET AND ANCHOR BOLTS. STRUCTURE LIGHT POLE AND LUMINAIRE, 310 WATT, H.P.S., I.E.S. TYPE II, MEDIUM SEMI-CUTOFF, 50′ MOUNTING.

II-8-1CS-11 — POLE IDENTIFICATION, II - DISTRIBUTION, 8 - BRACKET ARM LENGTH, 1CS - CIRCUIT NUMBER, 11 - UNIT NUMBER

NEW JUNCTION BOX

2-#4 AWG CABLES, NEW

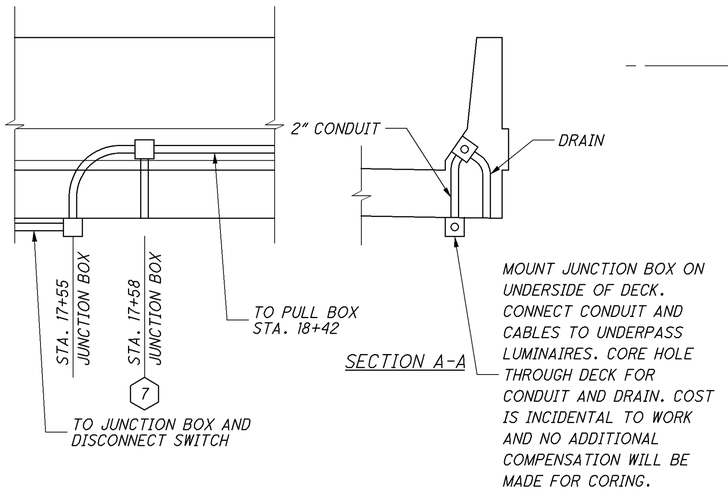
EXISTING UNDERPASS LUMINAIRES AND SERVICE

NEW UNDERPASS LUMINAIRE, 100 WATT H.P.S. AND SERVICE

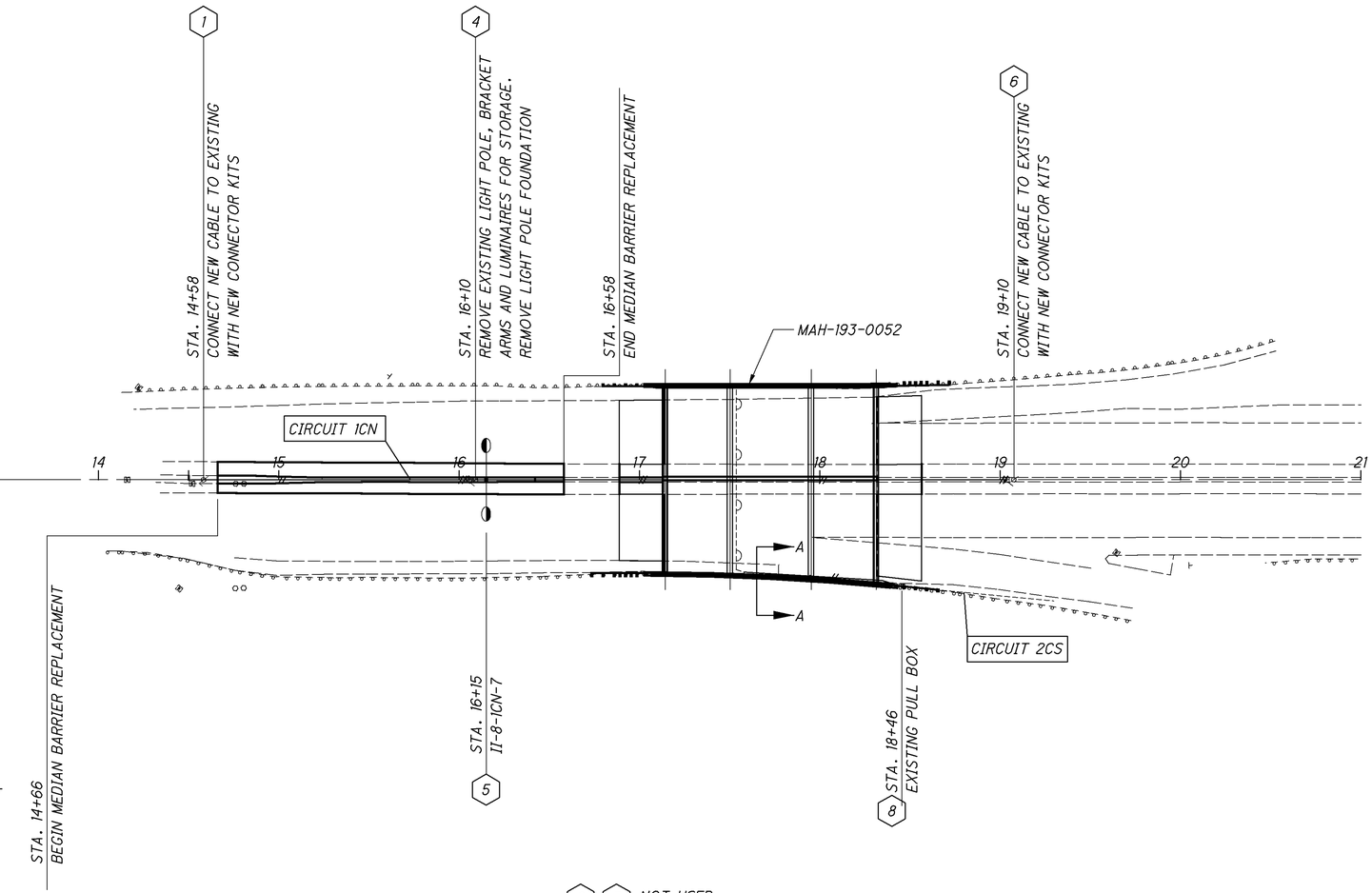
HORIZONTAL SCALE IN FEET
0 20 40 80

UNDERPASS LEGEND

- JUNCTION BOX
- D.C. DISCONNECT SWITCH
- UNDERPASS LUMINAIRE
- (F) FLEXIBLE STEEL CONDUIT



SERVICE TO UNDERPASS LIGHTING DETAIL
N.T.S.

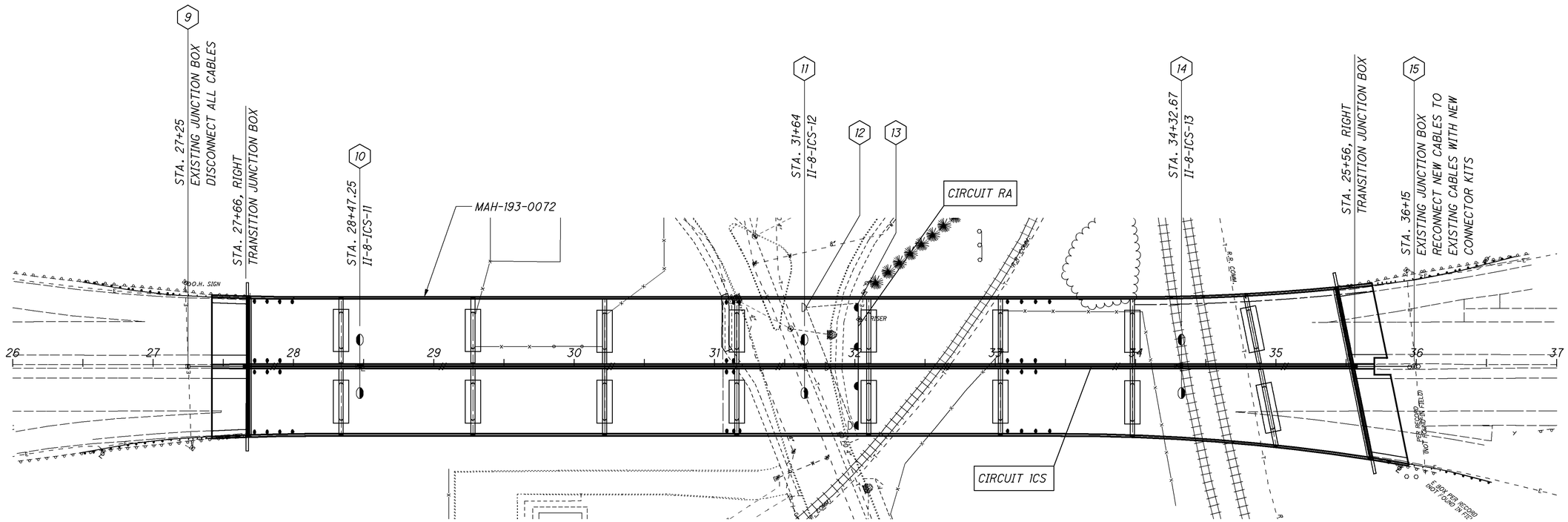


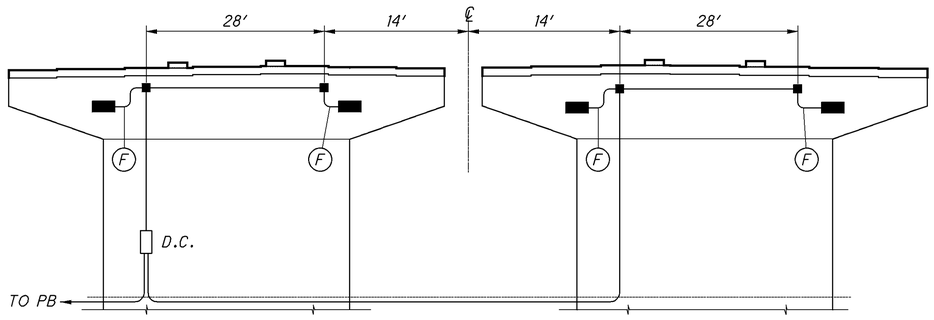
2 3 NOT USED

LIGHTING PLAN

MAH-193-0.46
MAH-422-1.85

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UNDERPASS LEGEND

- JUNCTION BOX
- D.C. DISCONNECT SWITCH
- UNDERPASS LUMINAIRE
- (F) FLEXIBLE STEEL CONDUIT

LIGHTING LEGEND

- REERECT LIGHT POLE, BRACKET ARMS AND LUMINAIRES, 310 WATT H.P.S., I.E.S. TYPE II, MEDIUM SEMI-CUTOFF, 50′ MOUNTING HIEGHT ON NEW MEDIAN BARRIER FOUNDATION (50″)
- EXISTING LIGHT POLE, BRACKET ARMS, AND LUMINAIRES TO BE REMOVED, STORED AND REERECTED ON NEW PARAPET AND ANCHOR BOLTS. STRUCTURE LIGHT POLE AND LUMINAIRE, 310 WATT, H.P.S., I.E.S. TYPE II, MEDIUM SEMI-CUTOFF, 50′ MOUNTING.
- II-8-ICS-11 — POLE IDENTIFICATION, II - DISTRIBUTION, 8 - BRACKET ARM LENGTH, ICS - CIRCUIT NUMBER, 11 - UNIT NUMBER
- NEW JUNCTION BOX
- 2-#4 AWG CABLES, NEW
- EXISTING UNDERPASS LUMINAIRES AND SERVICE
- NEW UNDERPASS LUMINAIRE, 100 WATT H.P.S. AND SERVICE

HORIZONTAL SCALE IN FEET
0 20 40 80

LIGHTING PLAN

MAH-193-0.46
MAH-422-1.85

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LIGHTING LEGEND

REERECT LIGHT POLE, BRACKET ARMS AND LUMINAIRES, 310 WATT H.P.S., I.E.S. TYPE II, MEDIUM SEMI-CUTOFF, 50′ MOUNTING HIEGHT ON NEW MEDIAN BARRIER FOUNDATION (50″)

EXISTING LIGHT POLE, BRACKET ARMS, AND LUMINAIRES TO BE REMOVED, STORED AND REERECTED ON NEW PARAPET AND ANCHOR BOLTS. STRUCTURE LIGHT POLE AND LUMINAIRE, 310 WATT, H.P.S., I.E.S. TYPE II, MEDIUM SEMI-CUTOFF, 50′ MOUNTING.

II-8-1CS-11 — POLE IDENTIFICATION, II - DISTRIBUTION, 8 - BRACKET ARM LENGTH, ICS - CIRCUIT NUMBER, 11 - UNIT NUMBER

NEW JUNCTION BOX

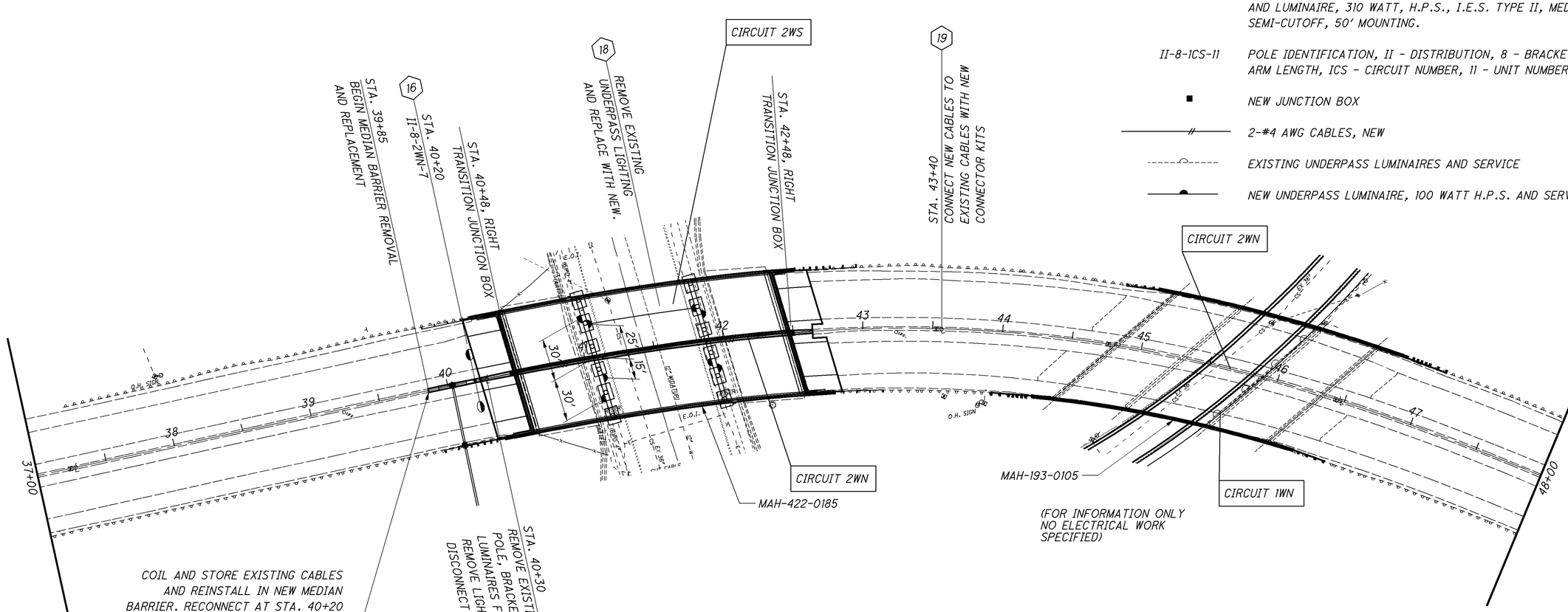
2-#4 AWG CABLES, NEW

EXISTING UNDERPASS LUMINAIRES AND SERVICE

NEW UNDERPASS LUMINAIRE, 100 WATT H.P.S. AND SERVICE

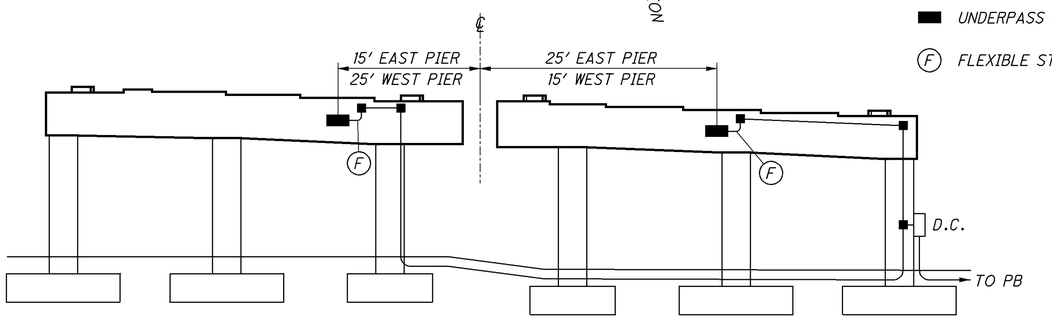
HORIZONTAL SCALE IN FEET
0 20 40 80

LIGHTING PLAN

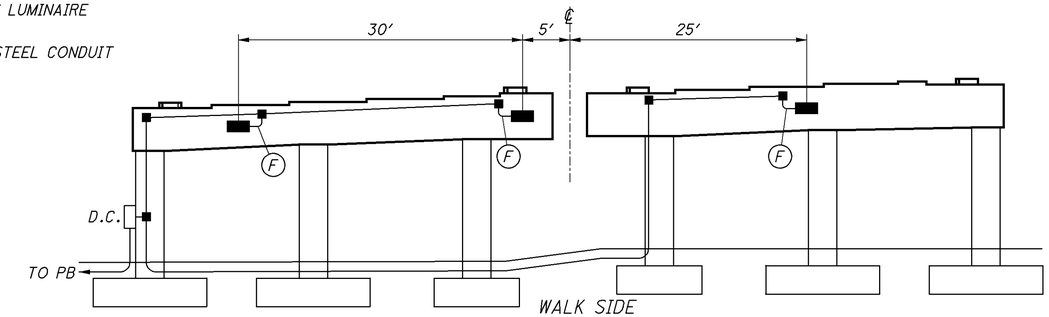


UNDERPASS LEGEND

- JUNCTION BOX
- D.C. DISCONNECT SWITCH
- UNDERPASS LUMINAIRE
- (F) FLEXIBLE STEEL CONDUIT



ROAD SIDE

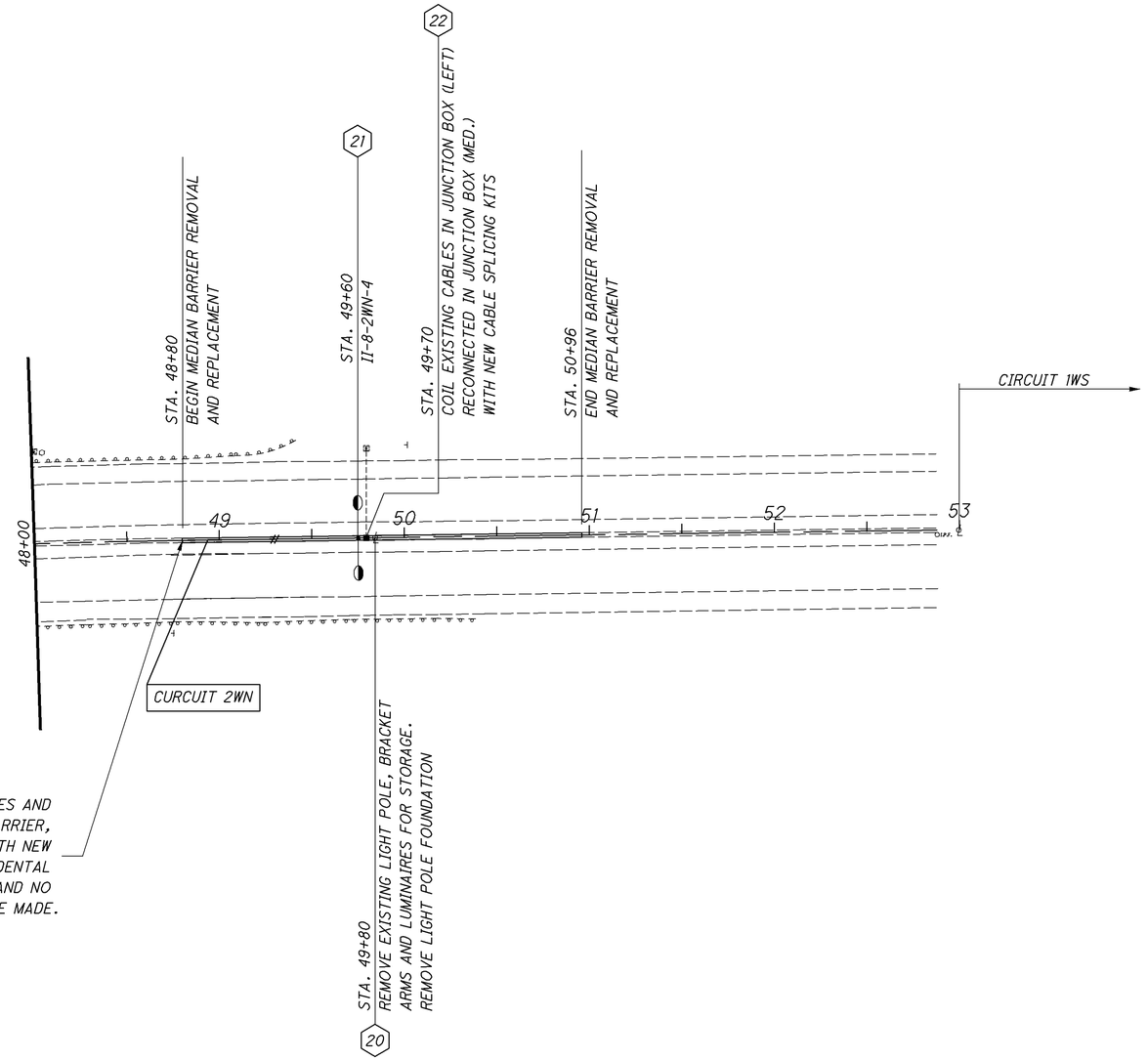


WALK SIDE
EAST PIER SHOWN
WEST PIER SIMILAR

MAH-193-0.46
MAH-422-1.85

146
260

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COIL AND STORE EXISTING CABLES AND REINSTALL IN NEW MEDIAN BARRIER, RECONNECT AT STA. 49+60 WITH NEW CONNECTOR KITS. THIS WORK IS INCIDENTAL TO THE LIGHTING WORK AND NO ADDITIONAL PATMENT WILL BE MADE.

LIGHTING LEGEND

REERECT LIGHT POLE, BRACKET ARMS AND LUMINAIRES, 310 WATT H.P.S., I.E.S. TYPE II, MEDIUM SEMI-CUTOFF, 50' MOUNTING HIEGHT ON NEW MEDIAN BARRIER FOUNDATION (50')

EXISTING LIGHT POLE, BRACKET ARMS, AND LUMINAIRES TO BE REMOVED, STORED AND REERECTED ON NEW PARAPET AND ANCHOR BOLTS. STRUCTURE LIGHT POLE AND LUMINAIRE, 310 WATT, H.P.S., I.E.S. TYPE II, MEDIUM SEMI-CUTOFF, 50' MOUNTING.

II-8-ICS-11 — POLE IDENTIFICATION, II - DISTRIBUTION, 8 - BRACKET ARM LENGTH, ICS - CIRCUIT NUMBER, 11 - UNIT NUMBER

NEW JUNCTION BOX

2-#4 AWG CABLES, NEW

EXISTING UNDERPASS LUMINAIRES AND SERVICE

NEW UNDERPASS LUMINAIRE, 100 WATT H.P.S. AND SERVICE

N

0 20 40 80
HORIZONTAL SCALE IN FEET

LIGHTING PLAN

MAH-193-0.46
MAH-422-1.85

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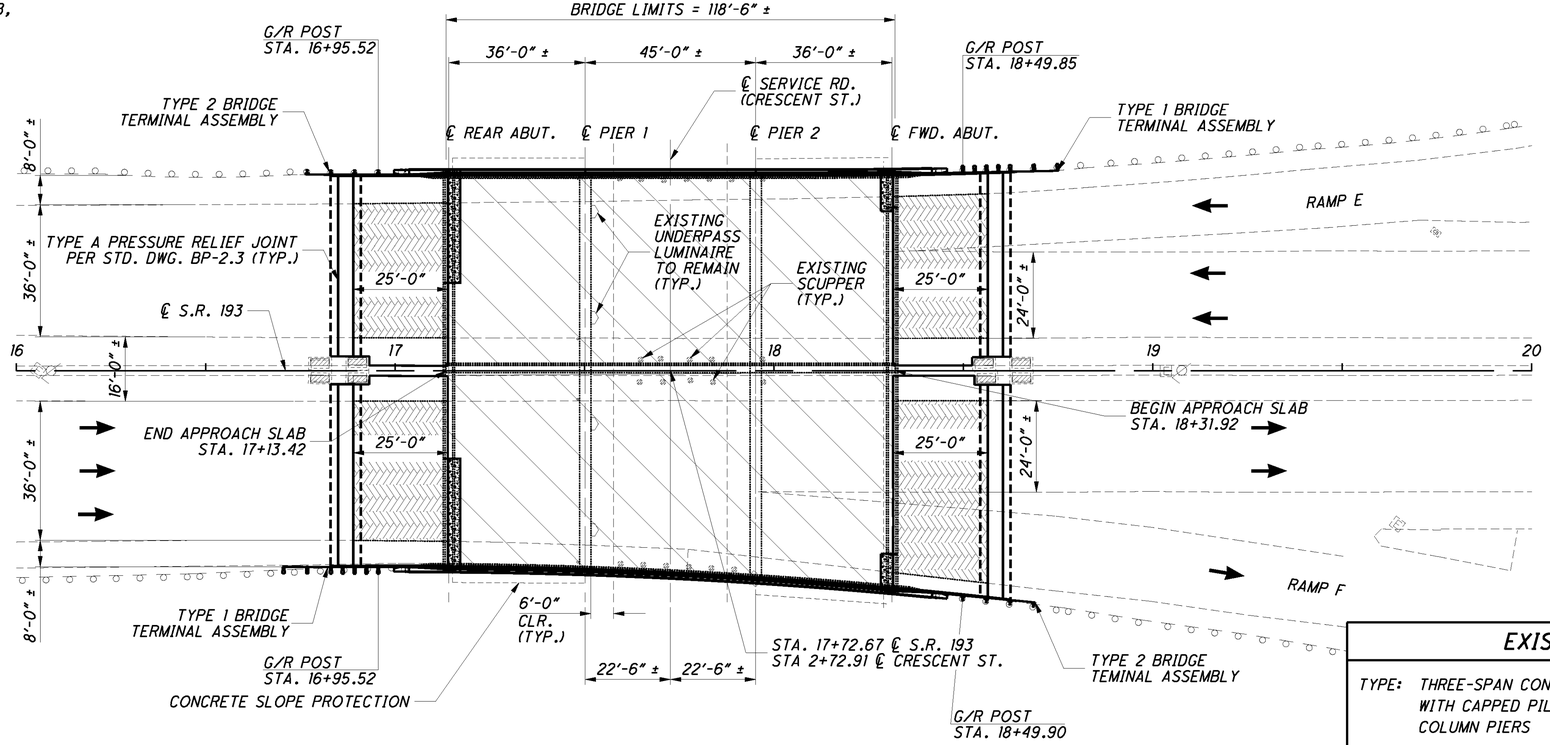
LEGEND:

WEARING COURSE REMOVED, 4" THICKNESS

EXIST. CONCRETE APPROACH SLAB, TO BE REMOVED

PORTION OF DECK TO BE REMOVED AND REPLACED

NOTE: FOR LIGHTING PLAN, SEE SHEET 144.



GENERAL PLAN

MIN. VERTICAL CLEARANCE PER EXISTING PLANS - 14.50'
ACTUAL VERTICAL CLEARANCE (FIELD MEASURED) - 14.38'
PROPOSED VERTICAL CLEARANCE - 14.38'

PROPOSED WORK INCLUDES:

1. BRIDGE DECK MILLING TO REMOVE EXISTING ASPHALT AND CONCRETE OVERLAY, VARIABLE DEPTH AND FULL DEPTH REPAIRS PER SS 848. PROVIDE NEW SDC OVERLAY TO MATCH THE ROADWAY PROFILE AND SEALING.
2. REMOVAL OF EXISTING PARAPET AND REPLACING IT WITH 42" JERSEY SHAPED PARAPET ON THE OUTER SHOULDERS TO MATCH THE EXISTING ROADWAY MEDIAN BARRIER. PROVIDE APPROPRIATE PARAPET TRANSITIONS, BRIDGE TERMINAL ASSEMBLIES AND NECESSARY APPROACH GUARDRAIL.
3. PERFORM PATCHING REPAIRS TO SUBSTRUCTURE PER CMS ITEM 519 AND SS 843. REPAIR UNDERSIDE OF DECK SLAB BY REMOVING LOOSE CONCRETE AND SEALING.
4. RECONSTRUCT PORTIONS OF ABUTMENT BACKWALL. REPLACE EXISTING APPROACH SLABS WITH NEW FULL-WIDTH APPROACH SLABS AND PROVIDE PRESSURE RELIEF JOINTS.
5. THE SHORING DETAILS SHOWN ON SHEETS 4/15, 5/15 AND 6/15 IS ONE CONCEPTUAL WAY TO SUPPORT THE DECK SLAB DURING CONSTRUCTION. THE DESIGN LOAD ON THE SUPPORT BEAM IS 4 KIPS PER FOOT. AT THE CONTRACTOR'S OPTION, A DIFFERENT SHORING SYSTEM CAN BE USED, PROVIDED IT IS DESIGNED BY A PROFESSIONAL ENGINEER.
6. REMOVE AND REPLACE EXISTING CONCRETE SLOPE PROTECTION.
7. REPLACE VISIBLE PORTIONS OF EXISTING DRAINAGE SYSTEM, AND ADJUST EXISTING SCUPPERS TO GRADE.

EXISTING STRUCTURE

TYPE: THREE-SPAN CONTINUOUS CONCRETE SLAB BRIDGE WITH CAPPED PILE ABUTMENTS AND CAP AND COLUMN PIERS

SPANS: 36'-0" ±, 45'-0" ±, 36'-0" ± c/c ASSUMED BEARING
ROADWAY: 49'-7" LT., 49'-7" MIN. RT. F/SAFETY CURB T/PARAPET
LOADING: CF-2000 ADEQUATE FOR AASHTO ALTERNATE LOADING
SKEW: 0°
APPROACH SLABS: AS-1-54, 25' LONG
ALIGNMENT: TANGENT
CROWN: 0.016
WEARING SURFACE: 2" ASPH. OVERLAY OVER 2" CONC. OVERLAY
STRUCTURAL FILE NUMBER: 5004446
DATE BUILT: 1966
DISPOSITION: TO BE REHABILITATED

PROPOSED STRUCTURE

PROPOSED WORK: BRIDGE DECK REPAIR USING SDC OVERLAY, NEW CONCRETE PARAPETS, PATCHING AND REPAIR OF EXISTING SUBSTRUCTURE, AND DRAINAGE WORK

SPANS: 36'-0" ±, 45'-0" ±, 36'-0" ± c/c ASSUMED BEARING
ROADWAY: 50'-3" LT., 50'-3" MIN., RT. TOE/TOE PARAPET
LOADING: HS20 AND ALTERNATE MILITARY
SKEW: 0°
APPROACH SLABS: 25'-0" LONG (AS-1-81)
ALIGNMENT: TANGENT
CROWN: 0.016
WEARING SURFACE: 3" SDC OVERLAY
COORDINATES: LATITUDE 41° 06' 30" N
LONGITUDE 80° 40' 30" W

DESIGN AGENCY
RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
AJS	AJS	SSK	03/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		5004446	

GENERAL PLAN
BRIDGE No. MAH-193-0052
S.R. 193 OVER SERVICE ROAD (CRESCENT ST.)

MAH-193/422-0.46/1.85
PID No. 25235

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-81	DATED (REVISED)	07-19-02
BR-1	DATED (REVISED)	07-19-02
PCB-91	DATED (REVISED)	07-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

843	DATED	04-18-03
848	DATED	04-15-05

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING:

HS20 AND THE ALTERNATE MILITARY LOADING.

FUTURE WEARING SURFACE (FWS) OF 60 LBS/FT^2

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

QUICK SETTING CONCRETE MORTAR, TYPE 1 OR2, 705.21

DECK PROTECTION METHOD:

2½" CONCRETE COVER

SUPERPLASTICIZED DENSE CONCRETE OVERLAY

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

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN

DESCRIPTION:

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO NE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. PERFORM ALL WORK IN MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

REMOVAL METHODS:

THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS.

MEASUREMENT & 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.

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 DOWELL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED 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 CLEAN 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 [16 KILOGRAMS] FOR REMOVAL WITHIN 18 INCHES [450 MM] OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH [450 MM] LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS [41 KILOGRAMS] 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.

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, AND 105.02.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID 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.

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

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

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 DAMAGE TO THE EPOXY COATING, AS A RESULT OF THIS WORK, ACCORDING TO 709.00.

ITEM 511 - CLASS HP CONCRETE, AS PER PLAN

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

MIX OPTIONS:
ALL SUPERSTRUCTURE, BRIDGE DECK, SIDEWALK, APPROACH SLABS AND PARAPET CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN). 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 CEMENT-ITIOUS RATIO	AIR CONTENT ± 2%
GRAVEL	1370	650	790	2810	440	190	30	0.42	6
LIME-STONE	1370	655	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

BASIS OF PAYMENT:

PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT PRICE BID FOR:

ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN	15 CU. YD.
ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN	41 CU. YD.

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

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING 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 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. THE DEPARTMENT WILL NOT PAY FOR REQUIRED REPAIRS.

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 526 - REINFORCED CONCRETE APPROACH SLABS, AS PER PLAN

THE PROVISIONS OF CMS 526 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

ASBESTOS NOTIFICATION

AN ASBESTOS SURVEY OF THE SR 193 BRIDGE OVER CRESCENT STREET (STRUCTURE NO. MAH-193-0052, SFN 5004446), SCHEDULED FOR REHABILITATION WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT APPROXIMATELY 40 SQUARE FEET OF CATEGORY II NONFRIABLE ASBESTOS WAS IDENTIFIED IN CAULKING MATERIAL ASSOCIATED WITH THE PARAPET RAILING. THE REMOVAL AND DISPOSAL OF THE ASBESTOS CONTAINING MATERIAL MUST COMPLY WITH THE OHIO ADMINISTRATIVE CODE, THE OCCUPATION SAFETY & HEALTH ADMINISTRATIVE (OSHA) REGULATIONS AND THE NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHAP) STANDARD FOR ASBESTOS. THIS ASBESTOS CONTAINING MATERIAL WILL BE REMOVED BY THE CONTRACTOR DURING CONSTRUCTION.
A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORMS, 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
345 OAK HILL AVENUE, SUITE 200
YOUNGSTOWN, OHIO 44502
NEIL H. ALTMAN
(330) 743-3333
FAX: (330) 743-3960

THE CONTRACTOR SHALL PROVIDE AN INDIVIDUAL TRAINED IN THE PROVISIONS OF THE NESHAP ON SITE, TO DIRECT THE REMOVAL OF THE ASBESTOS CONTAINING MATERIAL.

AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF THE DEMOLITION OF THE BRIDGES. THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER. INFORMATION REQUIRED ON THE FORM WILL INCLUDE:

(1) THE CONTRACTORS NAME AND ADDRESS
(2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL
(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 RD., AKRON, OHIO 44306.
(4) THE DATES AND HOURS OF OPERATION FOR THE ASBESTOS REMOVAL
(5) A DESCRIPTION OF THE PLANNED RENOVATION WORK AND THE METHOD(S) TO BE USED
(6) A DESCRIPTION OF WORK PRACTICES AND ENGINEERING CONTROLS TO BE USED TO PREVENT EMISSIONS OF ASBESTOS AT THE SITE
(7) THE NAME AND ADDRESSES OF WASTE TRANSPORTERS TO BE USED ON THE PROJECT
(8) THE NAME AND ADDRESS OF WASTE DISPOSAL FACILITY TO BE USED
(9) A DESCRIPTION OF PROCEDURES TO BE FOLLOWED IN THE EVENT THAT UNEXPECTED ASBESTOS IS FOUND OR PREVIOUSLY NON-FRIABLE ASBESTOS MATERIAL BECOMES CRUMBLED, PULVERIZED OR REDUCED TO POWDER

BASIS FOR PAYMENT- THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. THIS ITEM WILL INCLUDE REMOVAL OF ANY/ALL ASBESTOS CONTAINING MATERIAL (ACM). PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202-PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

DESIGN AGENCY
RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
AJS	AJS	SSK	08/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		5004446	

STRUCTURE GENERAL NOTES
BRIDGE No. MAH-193-0052
OVER SERVICE ROAD

MAH-193/422-0.46/1.85
PID N . 25235

ESTIMATED QUANTITIES

CALC'D BY : JLM DATE: 03/12/09
CHECKED BY : NCK DATE: 07/02/09

ITEM	EXT.	TOTAL	UNIT	ITEM DESCRIPTION	ABUTMENTS	PIERS	SUPERSTR.	GENERAL	AS PER PLAN SHEET No.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					2
202	22900	436	SQ. YD.	APPROACH SLAB REMOVED				436	
503	21100	137	CU. YD.	UNCLASSIFIED EXCAVATION	137				
509	10001	8932	LB.	EPOXY COATED REINFORCING STEEL, AS PER PLAN	2418		6514		2
509	20001	4000	LB.	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				4000	2
510	10000	680	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	112		568		
511	50001	15	CU. YD.	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN			15		2
511	50101	41	CU. YD.	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN			41		2
511	44100	13	CU. YD.	CLASS C CONCRETE, ABUTMENT NOT INCLUDING FOOTING	13				
512	10100	752	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	26	376	350		
512	10101	40	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN			40		9
516	10901	119	FT	ELASTOMERIC COMPRESSION SEAL, AS PER PLAN			119		9
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN					2
518	12801	23	EACH	SCUPPER MODIFICATION, AS PER PLAN			23		10
518	21200	22	CU. YD.	POROUS BACKFILL WITH FILTER FABRIC	22				
518	40000	206	FT.	6" PERFORATED CORRUGATED PLASTIC PIPE	206				
518	40010	96	FT.	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	96				
518	43300	100	FT.	6" PIPE DOWNSPOUT, INCLUDING SPECIALS				100	
526	25001	573	SQ. YD.	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN				573	2,14
601	11001	963	SQ. YD.	RIPRAP USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN				963	11
843	50000	120	SQ. FT.	PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR	36	84			
848	10200	1340	SQ. YD.	SUPERPLASTICIZED DENSE CONCRETE OVERLAY USING HYDRODEMOLITION, 3 IN THICK			1340		
848	20000	1311	SQ. YD.	SURFACE PREPARATION USING HYDRODEMOLITION			1311		
848	30200	44	CU. YD.	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY			44		
848	50000	40	SQ. YD.	HAND CHIPPING			40		
848	50100	LUMP		TEST SLAB					
848	50200	4	CU. YD.	FULL-DEPTH REPAIR			4		
848	50300	1322	SQ. YD.	WEARING COURSE REMOVED, ASPHALT			1322		
848	50320	1322	SQ. YD.	EXISTING CONCRETE OVERLAY REMOVED, 2" NOMINAL THICKNESS			1322		
848	50340	395	SQ. YD	REMOVAL OF DEBONDED OR DETERIORATED EXISTING VARIABLE THICKNESS CONCRETE OVERLAY			395		

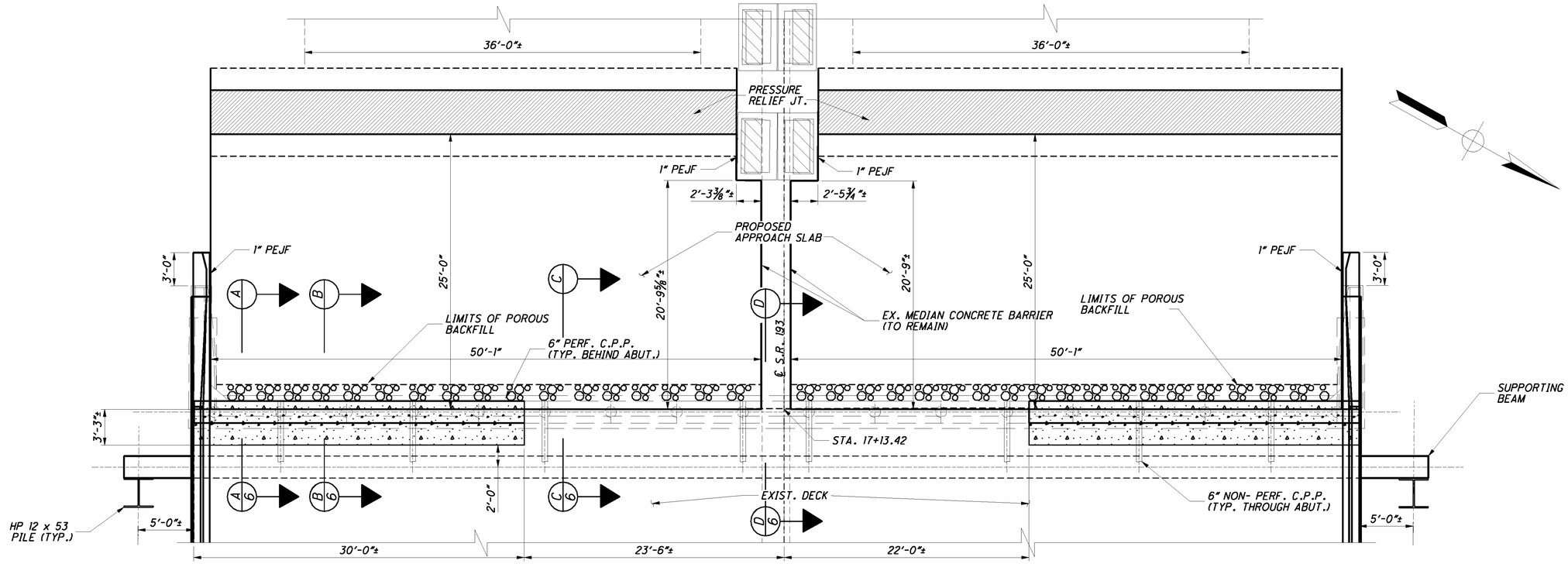
DESIGN AGENCY
RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED JLM | DRAWN JLM | REVIEWED SSK | DATE 07/09
CHECKED NCK | REVISED | STRUCTURE FILE NUMBER 5004446

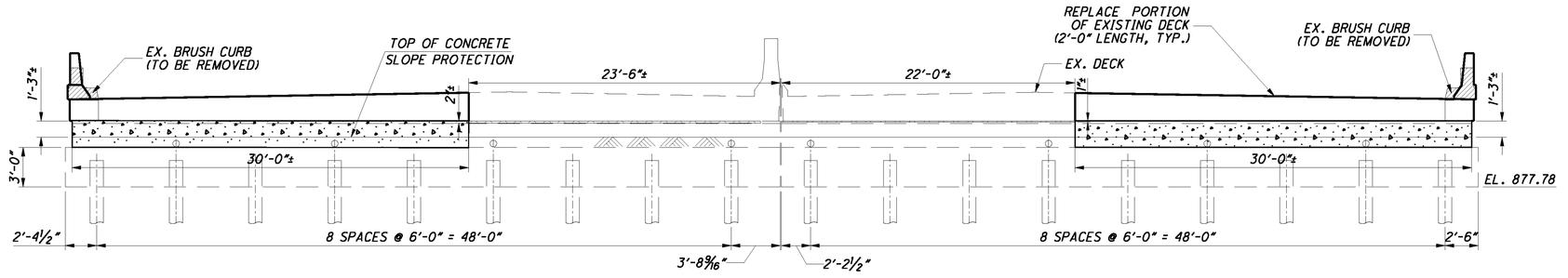
STRUCTURE ESTIMATED QUANTITIES
BRIDGE No. MAH-193-0052
OVER SERVICE ROAD

MAH-193/422-
0.46/1.85
PID No. 25235

150/260



ABUTMENT PLAN - REAR



ABUTMENT ELEVATION - REAR

LOCATION	ITEM 843
	PATCHING CONCRETE WITH TROWELABLE MORTAR SQ. FT.
ABUTMENTS	6
200% EXPANSION FACTOR	12
TOTAL	* 18

* THESE QUANTITIES ARE CARRIED TO THE STRUCTURE SUMMARY SHEET 3/15 .

= ITEM 843, PATCHING CONCRETE WITH TROWELABLE MORTAR

= ABUTMENT BACKWALL AND DECK RECONSTRUCTION

NOTE

1. FOR PIER PATCHING DETAILS, SEE SHEETS 7/15 AND 8/15 .
2. FOR SECTIONS A, B, C, AND D SEE SHEET 6/15 .

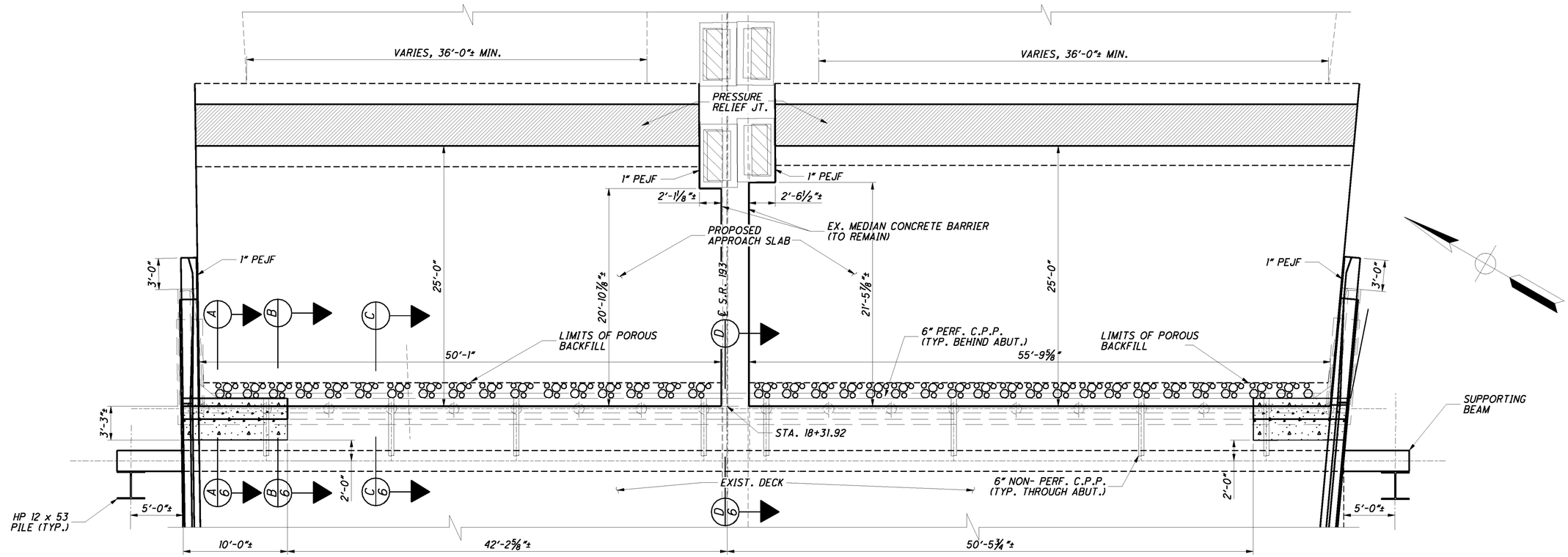
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RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JLM	JLM	SSK	03/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		5004446	

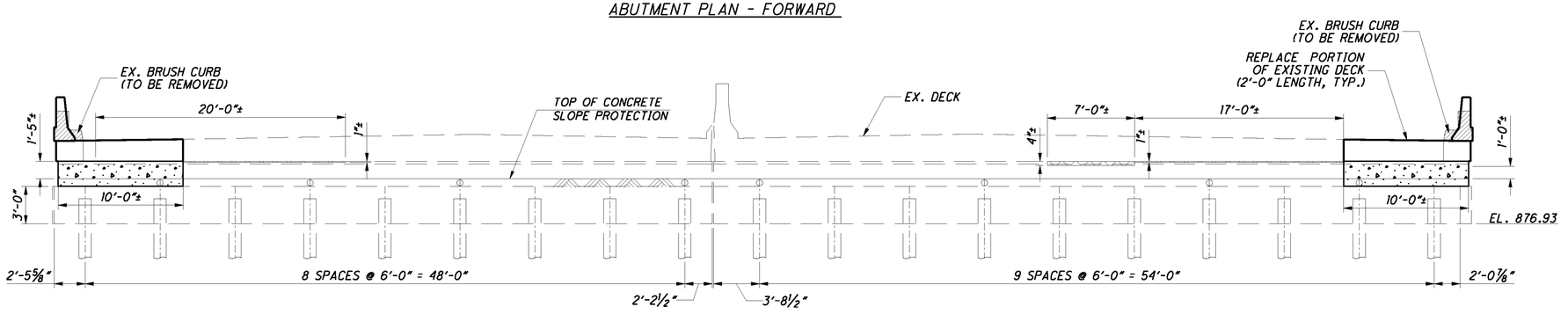
REAR ABUTMENT PATCHING DETAILS

STRUCTURE NO. MAH-193-0052
SR 193 OVER SERVICE ROAD

MAH-193/422-0.46/1.85
PID No. 25235



ABUTMENT PLAN - FORWARD



ABUTMENT ELEVATION - FORWARD

LOCATION	ITEM 843
	PATCHING CONCRETE WITH TROWELABLE MORTAR SQ. FT.
ABUTMENTS	6
200% EXPANSION FACTOR	12
TOTAL	* 18

* THESE QUANTITIES ARE CARRIED TO THE STRUCTURE SUMMARY SHEET 3/15 .

= ITEM 843, PATCHING CONCRETE WITH TROWELABLE MORTAR

= ABUTMENT BACKWALL AND DECK RECONSTRUCTION

NOTE

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2. FOR SECTIONS A, B, C AND D, SEE SHEET 6/15 .

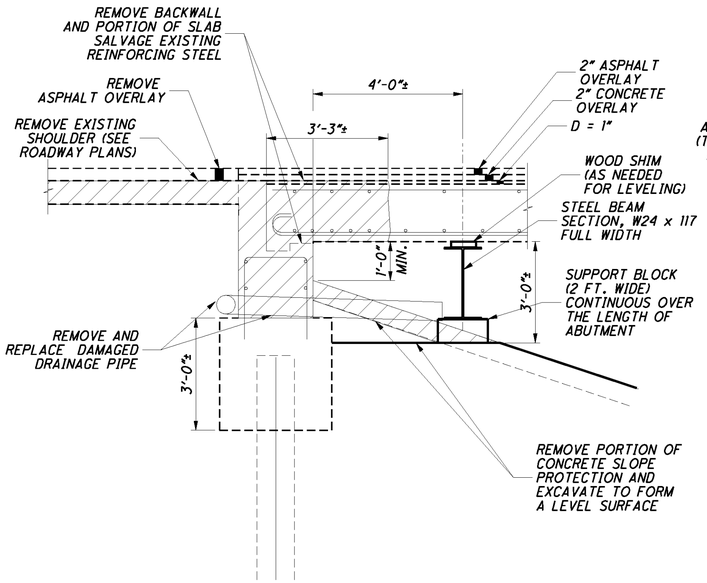
DESIGN AGENCY
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COLUMBUS, OHIO 43231
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DESIGNED	DRAWN	REVIEWED	DATE
JLM	JLM	SSK	03/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		5004446	

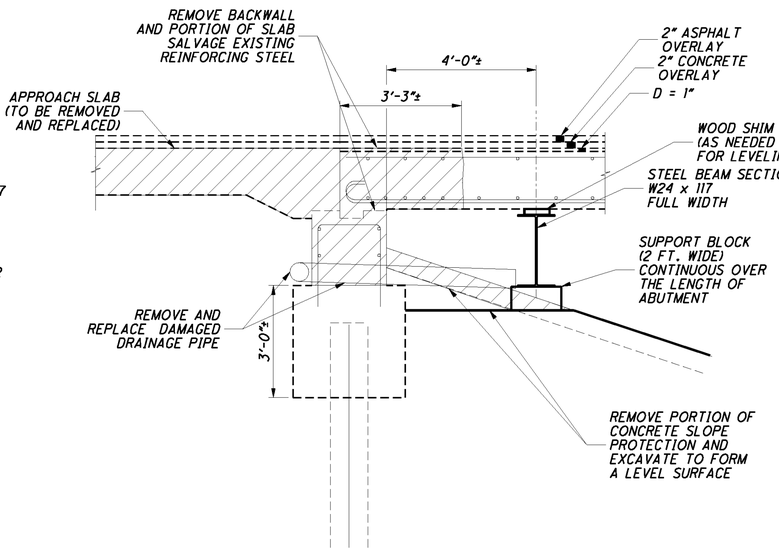
FORWARD ABUTMENT PATCHING DETAILS

STRUCTURE NO. MAH-193-0052
SR 193 OVER SERVICE ROAD

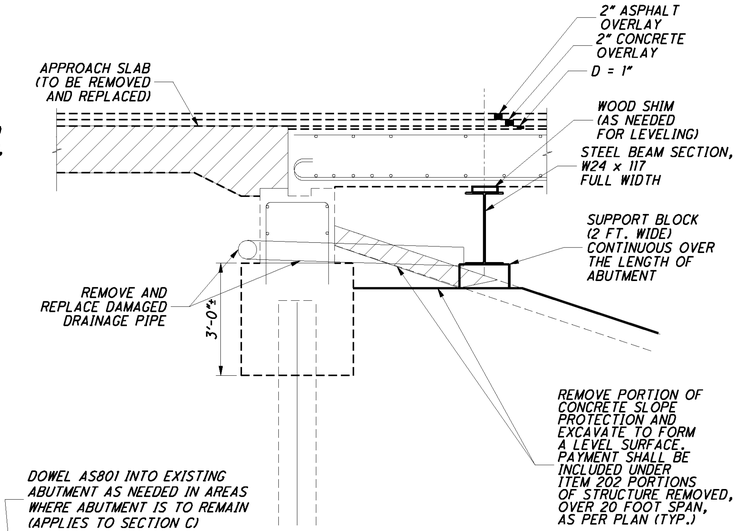
MAH-193/422-0.46/1.85
PID No. 25235



SECTION A



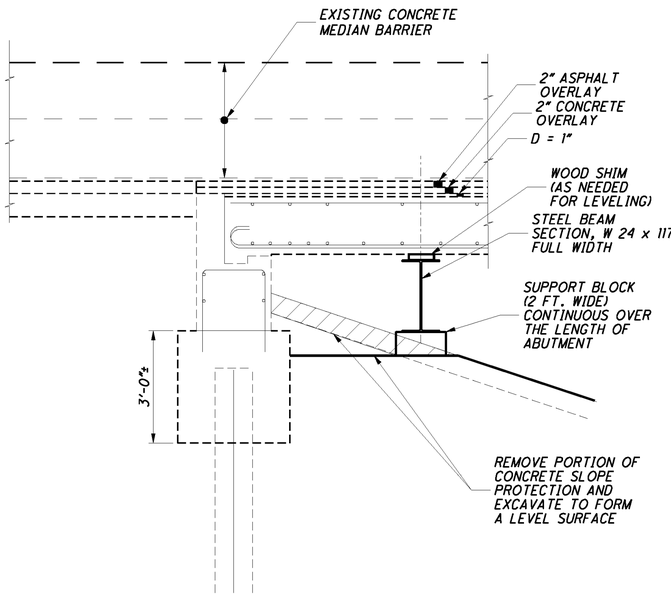
SECTION B



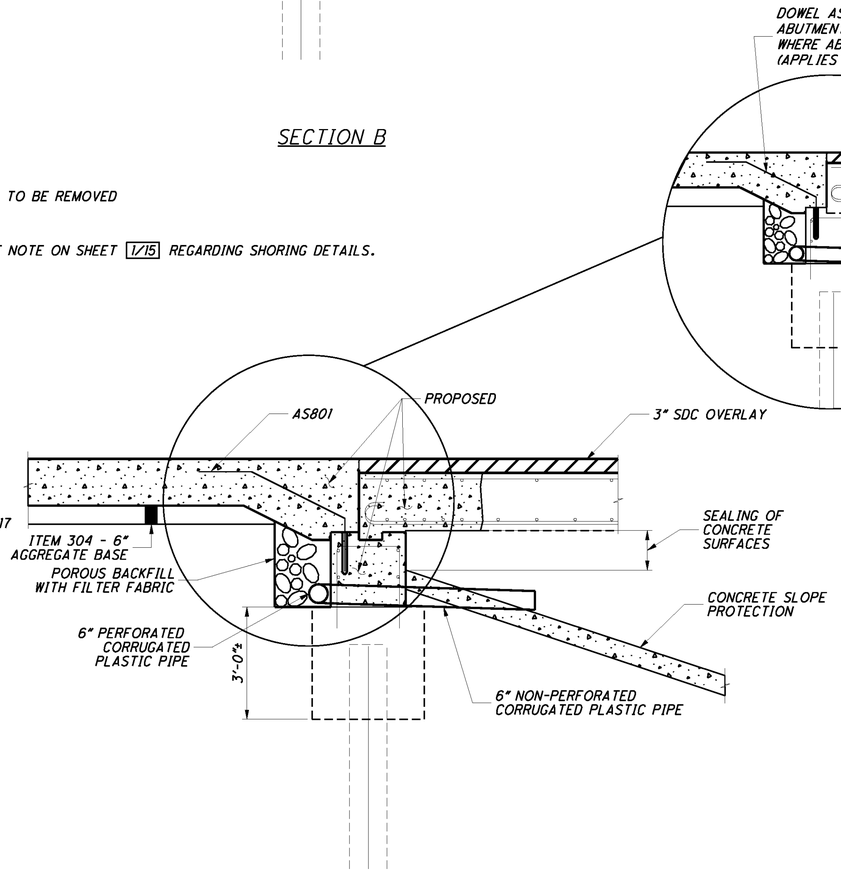
SECTION C

- AREA TO BE REMOVED

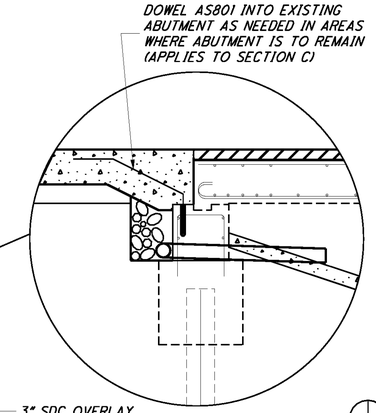
NOTE:
1. SEE NOTE ON SHEET 1/15 REGARDING SHORING DETAILS.

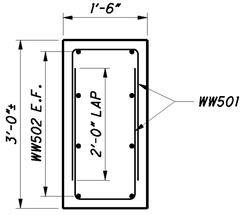


SECTION D

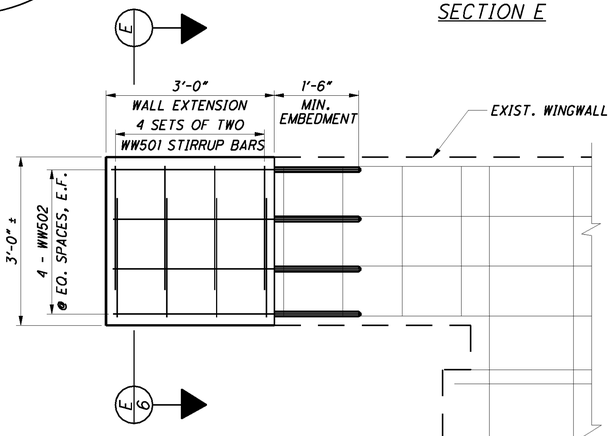


COMPLETED SECTION





SECTION E



TYPICAL WINGWALL EXTENSION DETAIL

PARAPET NOT SHOWN

DESIGN AGENCY
RESOURCE INTERNATIONAL INC.
6360 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

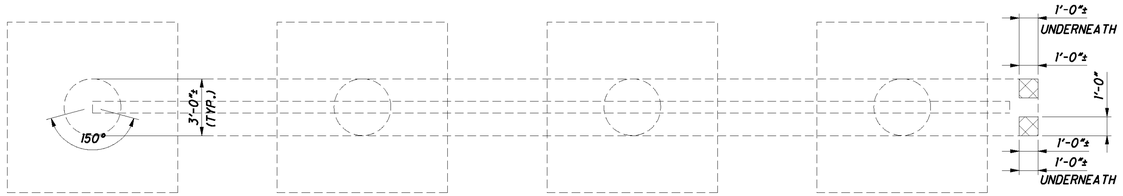
DESIGNED	DRAWN	REVIEWED	DATE
AJS	AJS	SSK	07/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		5004446	

ABUTMENT REPAIR DETAILS
STRUCTURE NO. MAH-193-0052
SR 193 OVER SERVICE ROAD

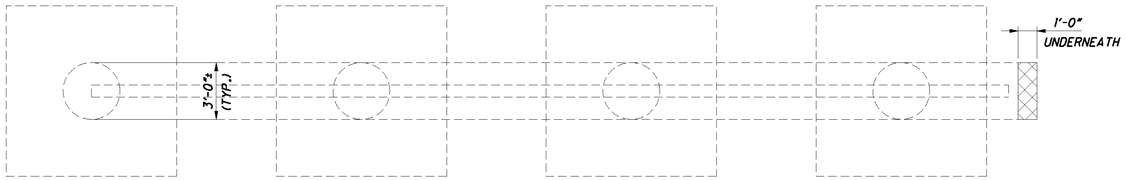
MAH-193/422-0.46/1.85
PID No. 25235

6 / 15

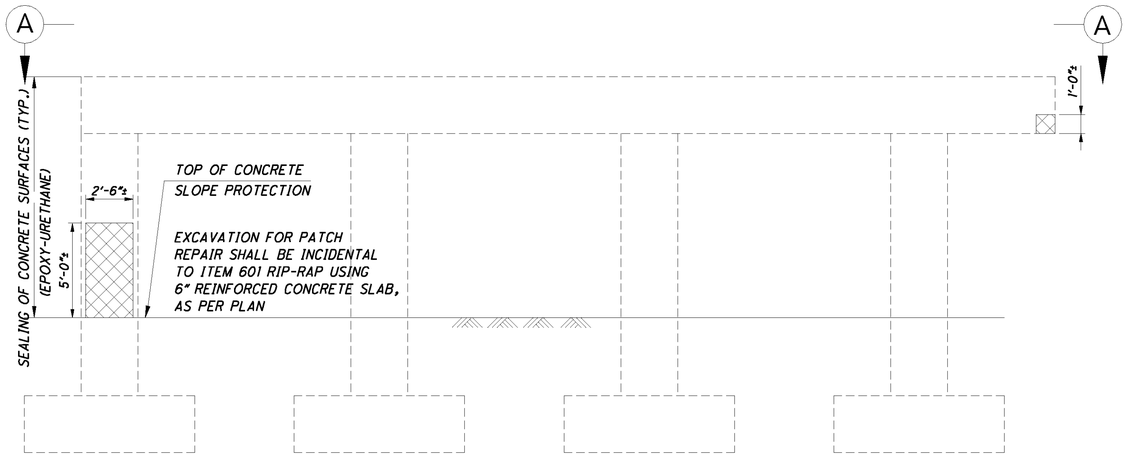
153
260



VIEW A-A



VIEW B-B



PIER 1, LEFT BRIDGE
LOOKING EAST

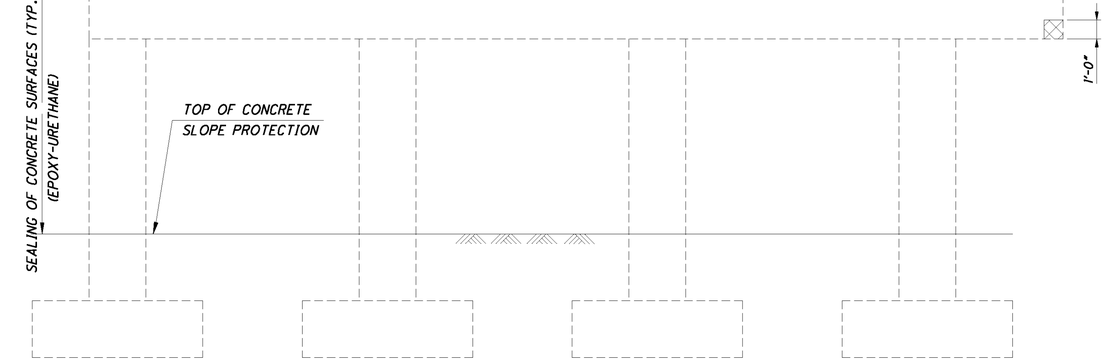
LOCATION	ITEM 843
	PATCHING CONCRETE WITH TROWELABLE MORTAR SQ. FT.
PIERS	20
200% EXPANSION FACTOR	40
TOTAL	* 60

* THESE QUANTITIES ARE CARRIED TO THE STRUCTURE SUMMARY, SHEET 3/15 .

NOTE:

1. FOR ABUTMENT PATCHING DETAILS, SEE SHEETS 4/15 AND 5/15.

= ITEM 843, PATCHING CONCRETE WITH TROWELABLE MORTAR



PIER 2, LEFT BRIDGE
LOOKING EAST

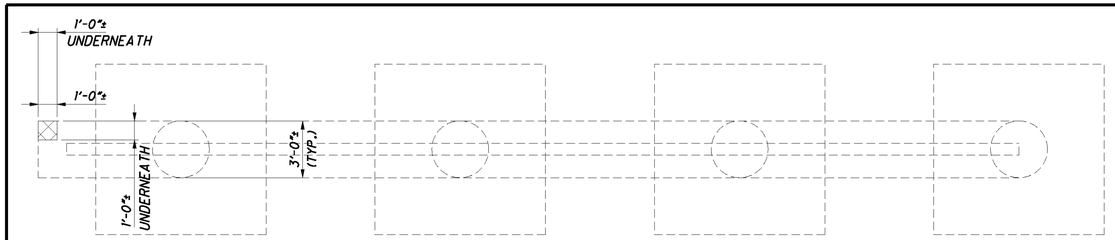
DESIGN AGENCY
RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JLM	JLM	SSK	03/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK	X	5004446	

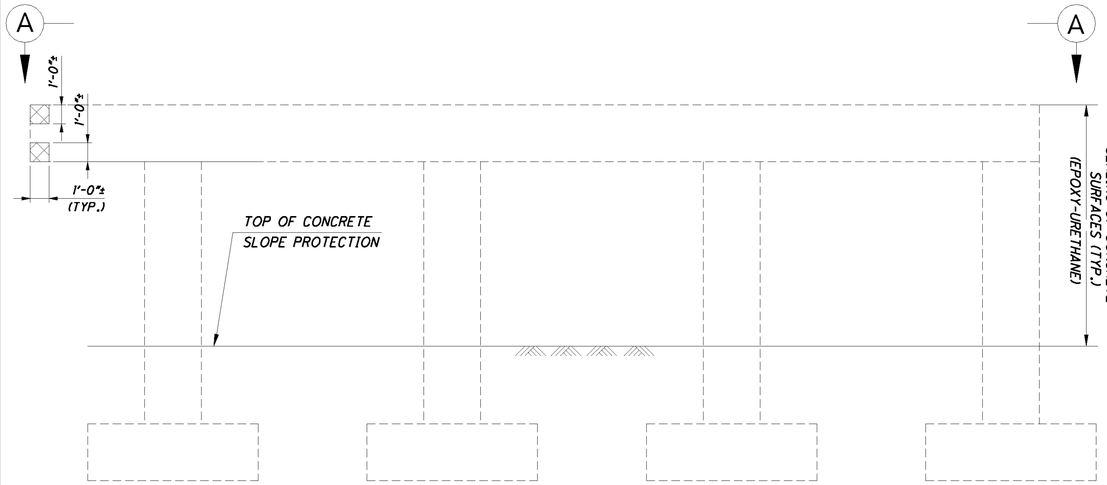
PIER 1,2 PATCHING DETAILS LEFT

STRUCTURE NO. MAH-193-0052
SR 193 OVER SERVICE ROAD

MAH-193/422-0.46/1.85
PID No. 25235



VIEW A-A



PIER 1, RIGHT BRIDGE
LOOKING EAST

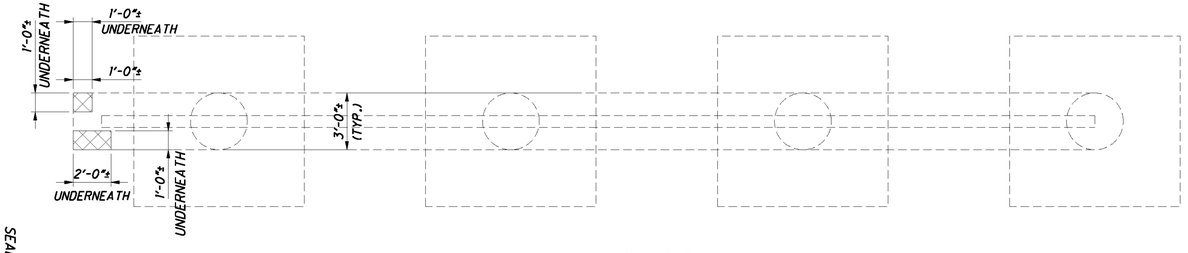
LOCATION	ITEM 843
	PATCHING CONCRETE WITH TROWELABLE MORTAR SQ. FT.
PIERS	8
200% EXPANSION FACTOR	16
TOTAL	* 24

* THESE QUANTITIES ARE CARRIED TO THE STRUCTURE SUMMARY SHEET 3/15.

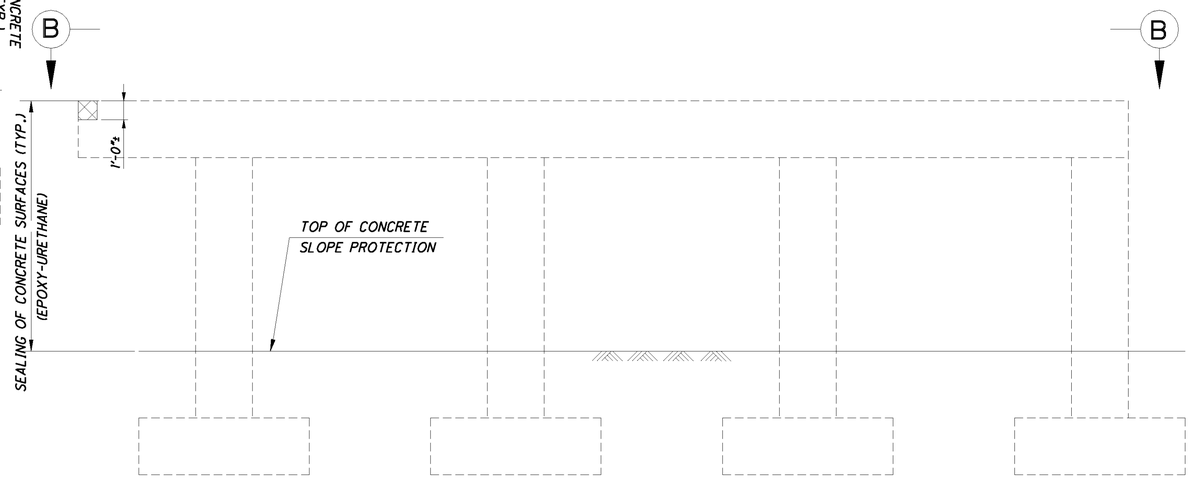
NOTE:

1. FOR ABUTMENT PATCHING DETAILS, SEE SHEETS 4/15 AND 5/15.

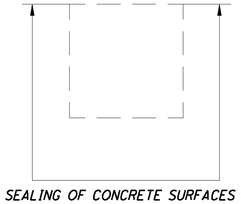
= ITEM 843, PATCHING CONCRETE WITH TROWELABLE MORTAR



VIEW B-B



PIER 2, RIGHT BRIDGE
LOOKING EAST



PIER CAP SEALING DETAIL
(TYPICAL FOR ALL PIERS)

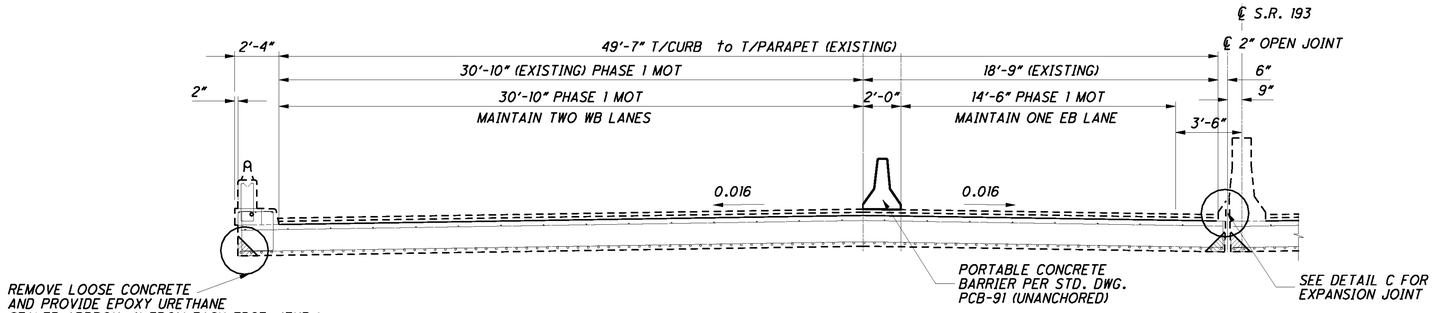
DESIGN AGENCY
RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JLM	JLM	SSK	03/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK	X	5004446	

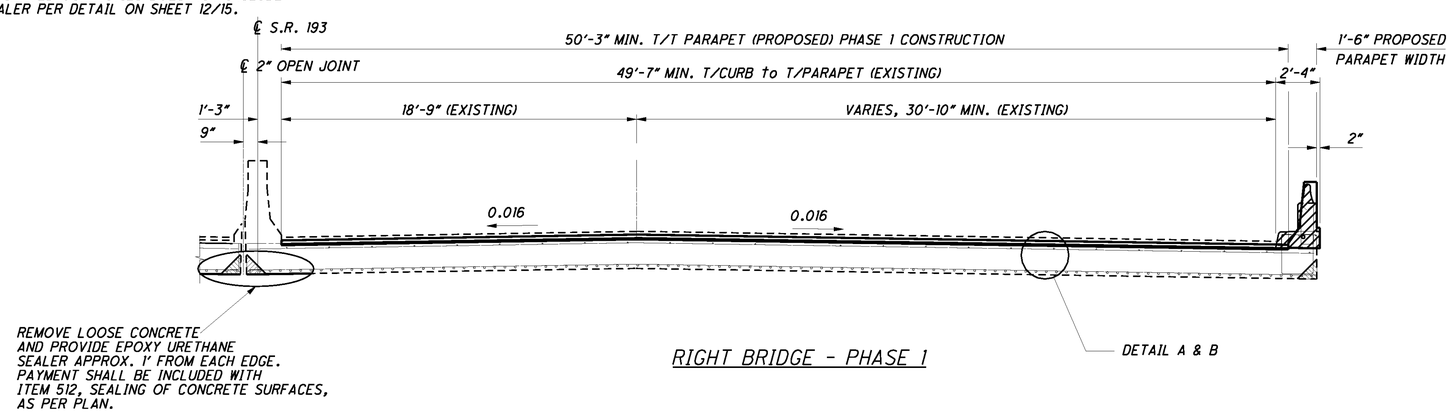
PIER 1,2 PATCHING DETAILS RIGHT

STRUCTURE NO. MAH-193-0052
SR 193 OVER SERVICE ROAD

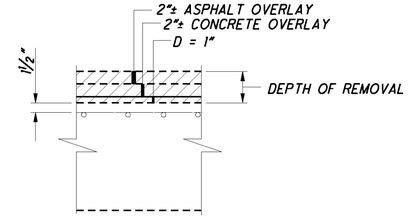
MAH-193/422-.46/1.85
PID No. 25235



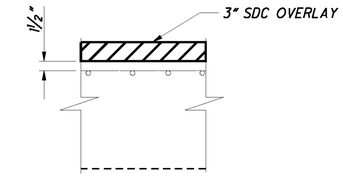
LEFT BRIDGE - PHASE 1



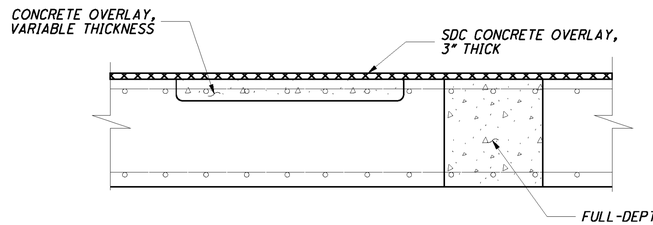
RIGHT BRIDGE - PHASE 1



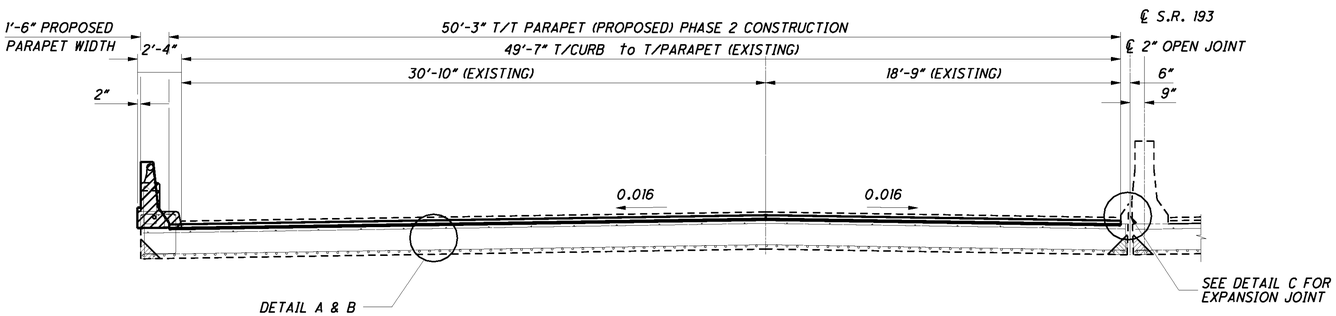
DETAIL A



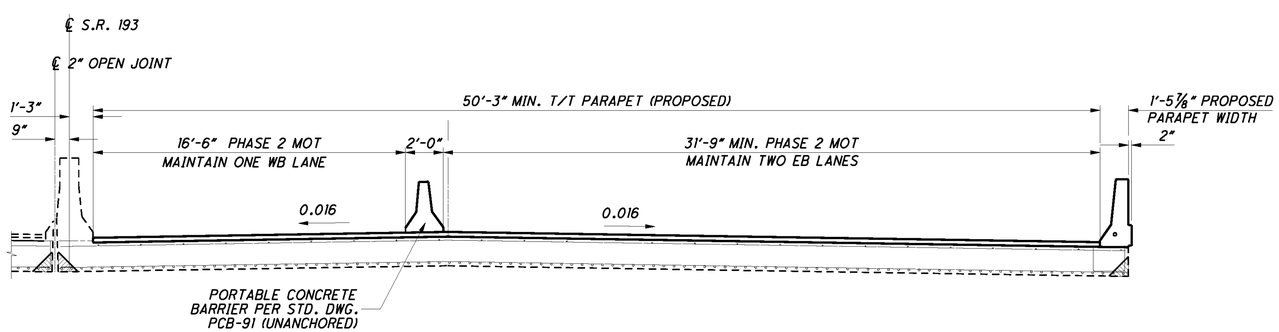
DETAIL B



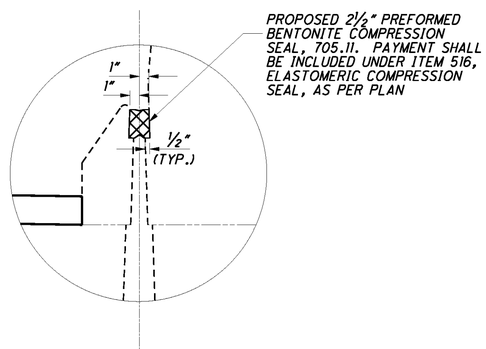
DECK REPAIR PER SS 848



LEFT BRIDGE - PHASE 2



RIGHT BRIDGE - PHASE 2



DETAIL C

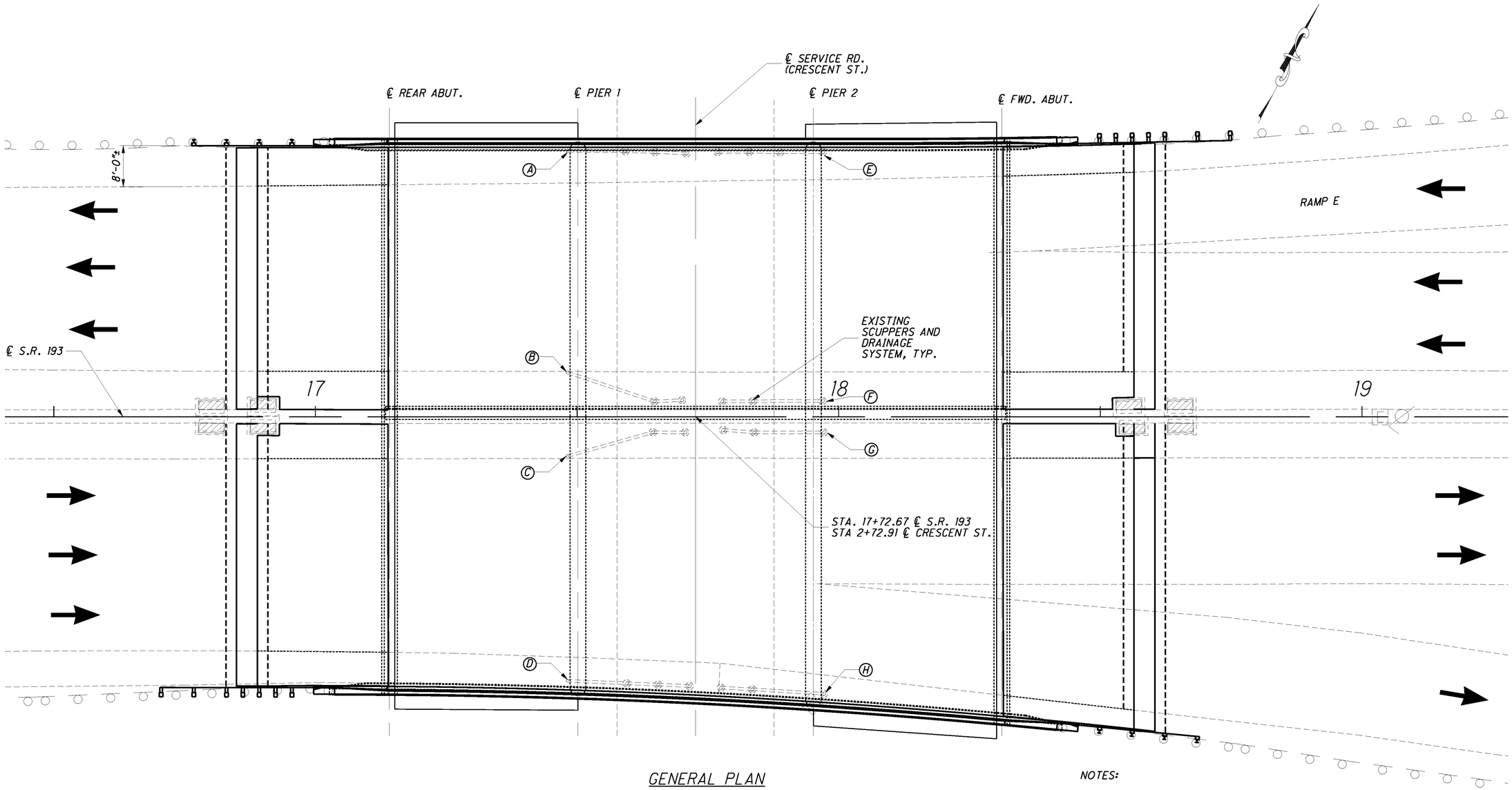
DESIGN AGENCY
RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
AJS	AJS	SSK	07/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		5004446	

TRANSVERSE DECK SECTION

BRIDGE No. MAH-193-0052
OVER SERVICE ROAD

MAH-193/422-0.46/1.85
PID No. 25235

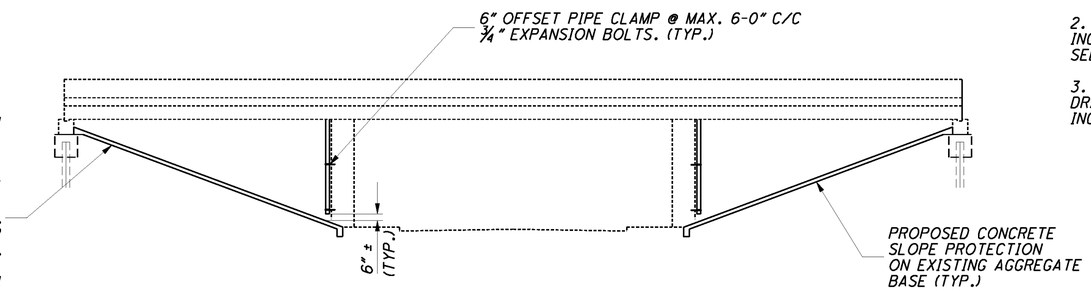


GENERAL PLAN

Ⓐ - DOWNSPOUT LOCATION (TYP.)
(SEE TABLE FOR BOTTOM ELEVATION)

REMOVE EXISTING CONCRETE SLOPE PROTECTION. REGRADE THE EXISTING AGGREGATE BASE TO CONFORM TO ORIGINAL GRADE AND CONSTRUCT A 6" PAD UNDER THE BRIDGE FROM THE FACE OF THE ABUTMENT DOWN TO THE TOE OF SLOPE. THE COST OF THIS WORK AND ANY OTHER RELATED ITEMS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 601 - RIPRAP USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN. ANY ADDITIONAL AGGREGATE BASE NECESSARY FOR THE CONSTRUCTION OF THIS ITEM SHALL BE INCIDENTAL.

ANY EXISTING 6" NON-PERFORATED C.M.P. WHICH TERMINATES AT THE FRONT SLOPE SHALL BE REPLACED AND EXTENDED THROUGH THE PROPOSED CONCRETE AS PER DETAILS SHOWN ON SHEET 6/15.



ELEVATION VIEW

NOTES:

1. REPLACE VISIBLE PORTIONS OF EXISTING DRAINAGE SYSTEM. DOWNSPOUTS SHALL BE 6" GALVANIZED STEEL PIPE PER ITEM 518. PROPOSED CONDUIT SHALL BE WELDED TO EXISTING CONDUIT. OUTLETS OF PROPOSED DOWNSPOUTS SHALL MATCH EXISTING ELEVATIONS.

2. ADJUST EXISTING SCUPPERS TO GRADE. PAYMENT IS TO BE INCLUDED IN ITEM 518 SCUPPER MODIFICATION, AS PER PLAN. SEE DETAIL SHEET 11/15.

3. FLUSH OUT SCUPPERS AND ALL PORTIONS OF EXISTING DRAINAGE SYSTEM THAT ARE TO REMAIN. PAYMENT IS TO BE INCLUDED IN VARIOUS 518 ITEMS.

LOC.	ELEV. OF BOTTOM OF DOWNSPOUT
A	869.28
B	868.56
C	868.37
D	868.07
E	869.20
F	868.48
G	868.23
H	867.97

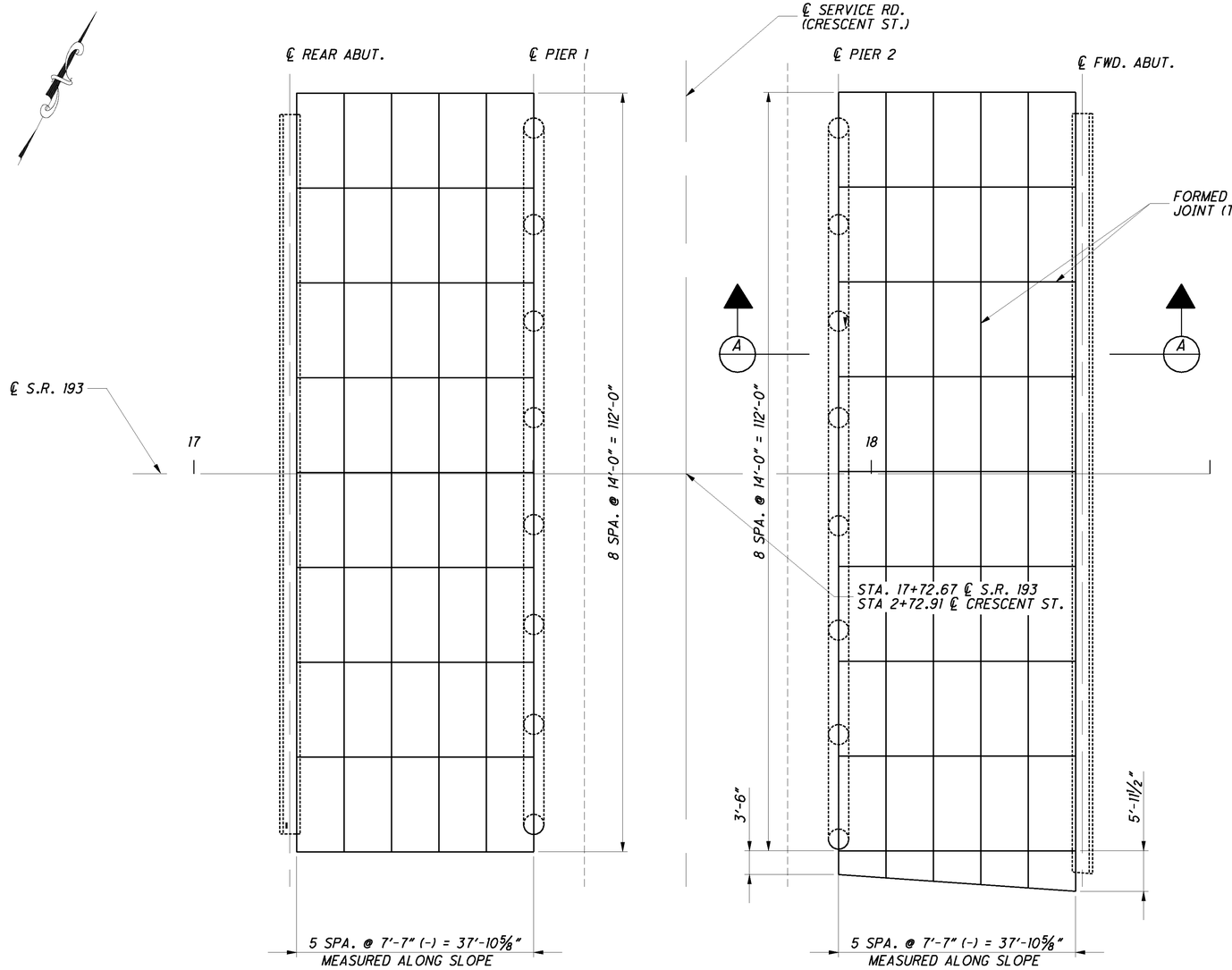
DESIGN AGENCY
RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED JLM | DRAWN JLM | REVIEWED SSK | DATE 07/09
CHECKED NCK | REVISED | STRUCTURE FILE NUMBER 5004446

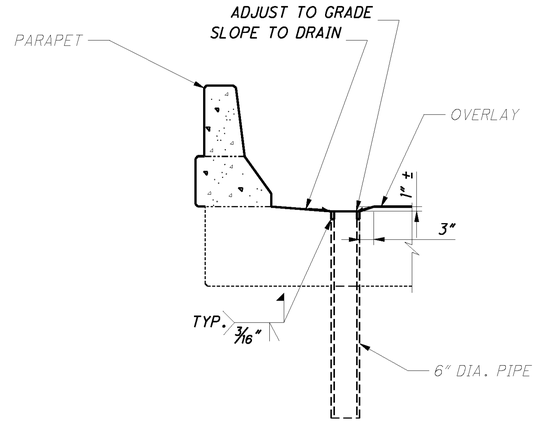
DRAINAGE PLAN

BRIDGE No. MAH-193-0052
S.R. 193 OVER SERVICE ROAD (CRESCENT ST.)

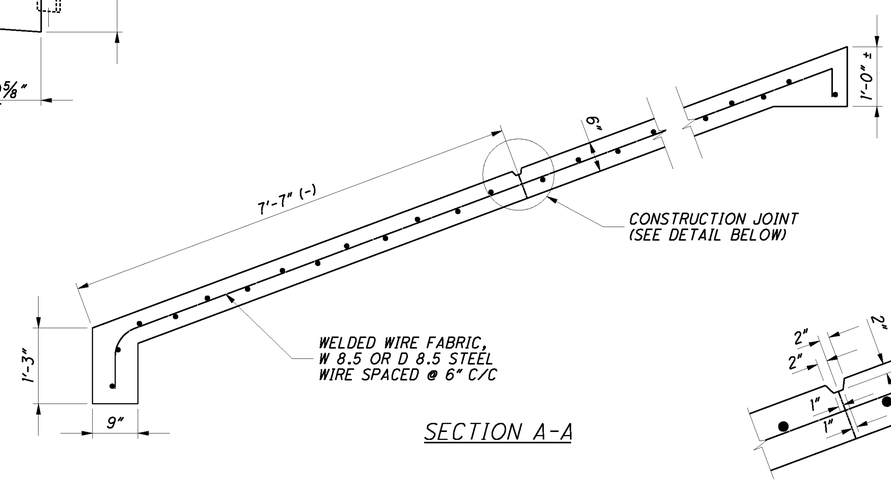
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PID No. 25235



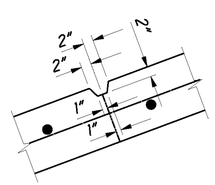
PLAN VIEW



SCUPPER DETAIL



SECTION A-A



CONSTRUCTION JOINT DETAIL

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6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JLM	JLM	SSK	07/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		5004446	

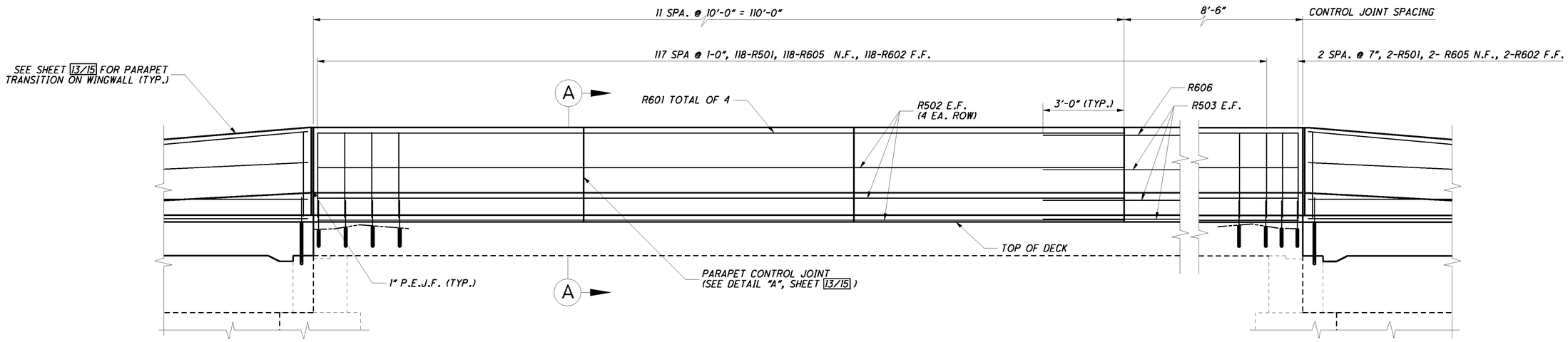
SLOPE PROTECTION DETAILS
BRIDGE No. MAH-193-0052
S.R. 193 OVER SERVICE ROAD (CRESCENT ST.)

MAH-193/422-0.46/1.85
PID No. 25235

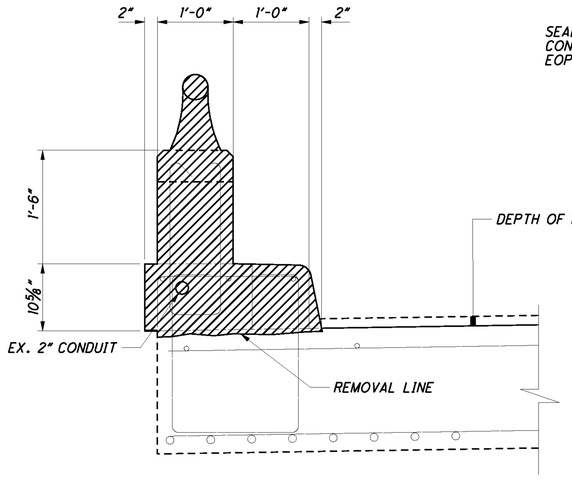
11 / 15

158
260

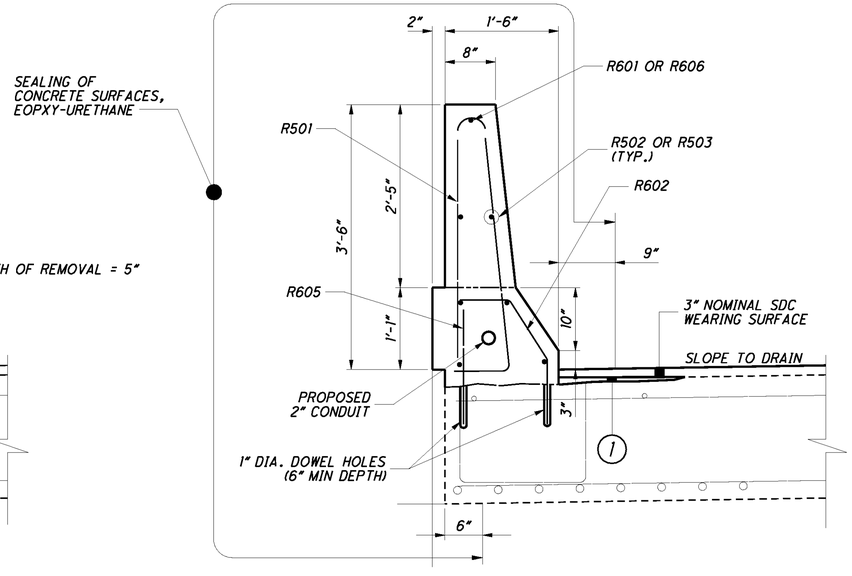
LEGEND: N.F.=NEAR FACE
F.F.=FAR FACE
E.F. = EACH FACE



PARAPET ELEVATION

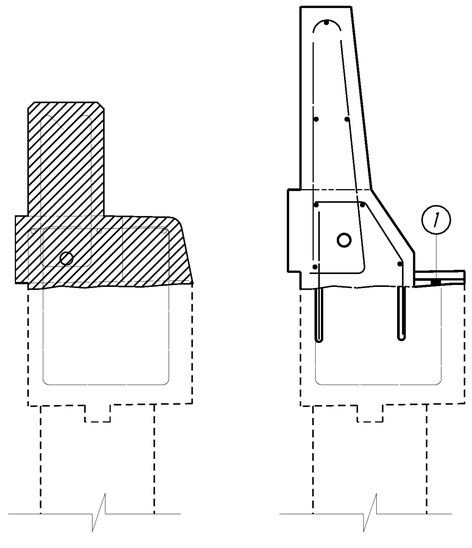


REMOVAL DETAIL



(1) PATCHING CONCRETE STRUCTURES (VARIABLE DEPTH)

SECTION A-A



REMOVAL DETAIL PROPOSED WORK

SECTION AT WINGWALL

DESIGN AGENCY
RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

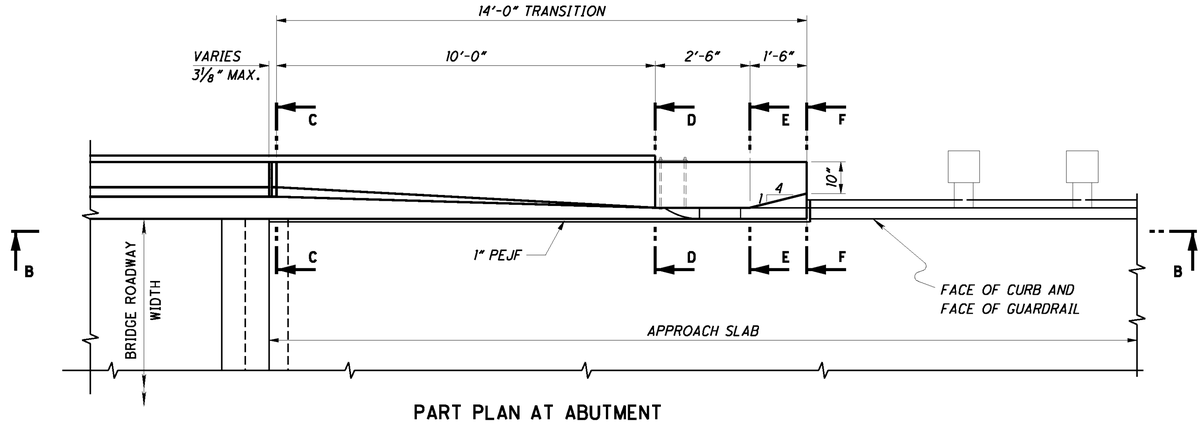
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JLM	JLM	SSK	03/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		5004446	

PARAPET DETAILS
BRIDGE No. MAH-193-0052
OVER SERVICE ROAD

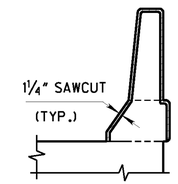
MAH-193/422-0.46/1.85
PID No. 25235

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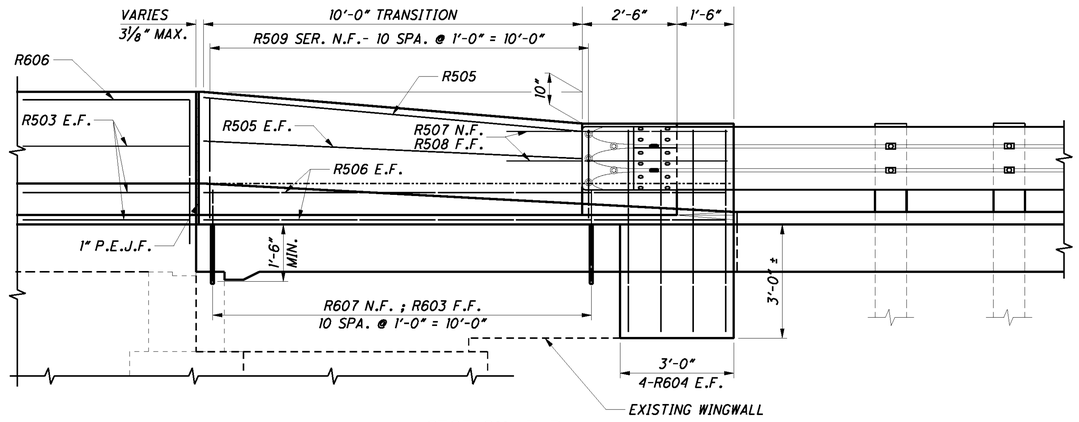
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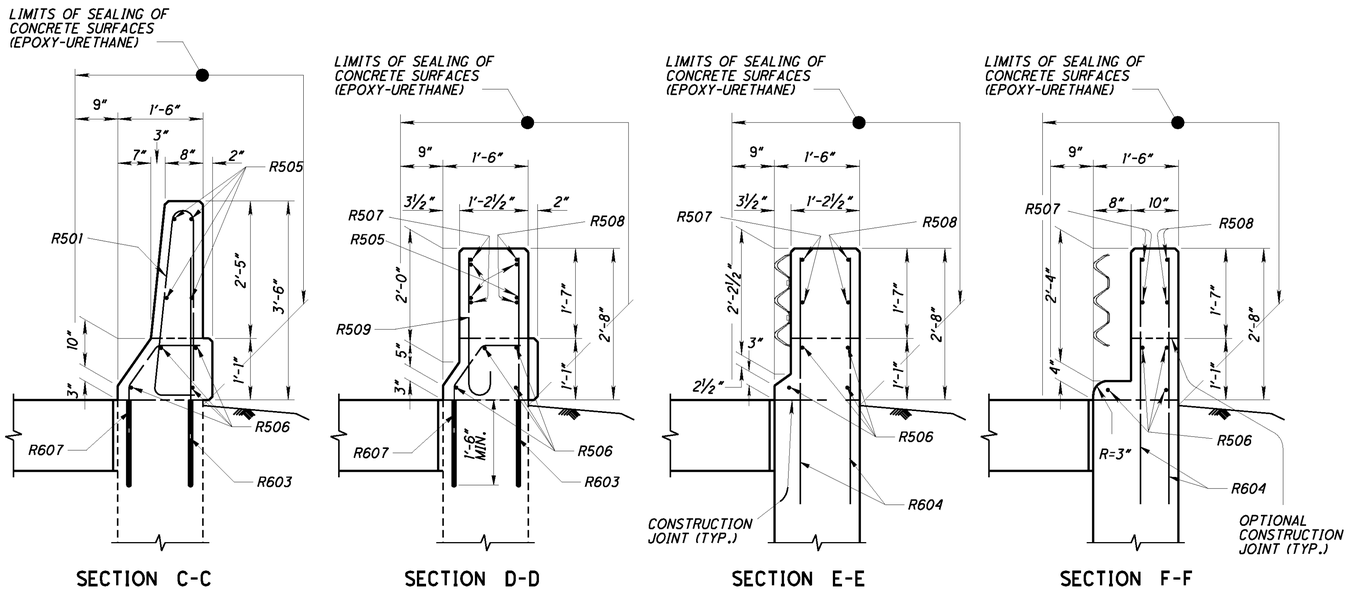
PART PLAN AT ABUTMENT



DETAIL A
(section through sawcut)
Sawcut Perimeter= 8'-1"



SECTION B-B



CONTROL JOINT FOR CONCRETE PARAPETS

SAWCUT 1¼ INCH DEEP CONTROL JOINTS AS SOON AS THE SAW CAN BE OPERATED WITHOUT DAMAGING THE CONCRETE.

USE AND EDGE GUIDE, FENCE OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE PAARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF ¼ INCH.

PLACE CONTROL JOINTS AT A MINIMUM OF 6'-0" AND A MAXIMUM OF 10'-0" CENTERS.

SEAL THE PERIMETER OF THE CONTROL JOINT TO A MINIMUM DEPTH OF ONE INCH WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. LEAVE THE BOTTOM ONE-HALF INCH OF BOTH THE INSIDE AND OUTSIDE FACES OF THE PARAPET UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.

FOR BRIDGE TERMINAL ASSEMBLY SEE STANDARD CONSTRUCTION DRAWING GR-3.1 AND GR-3.2.

DESIGN AGENCY
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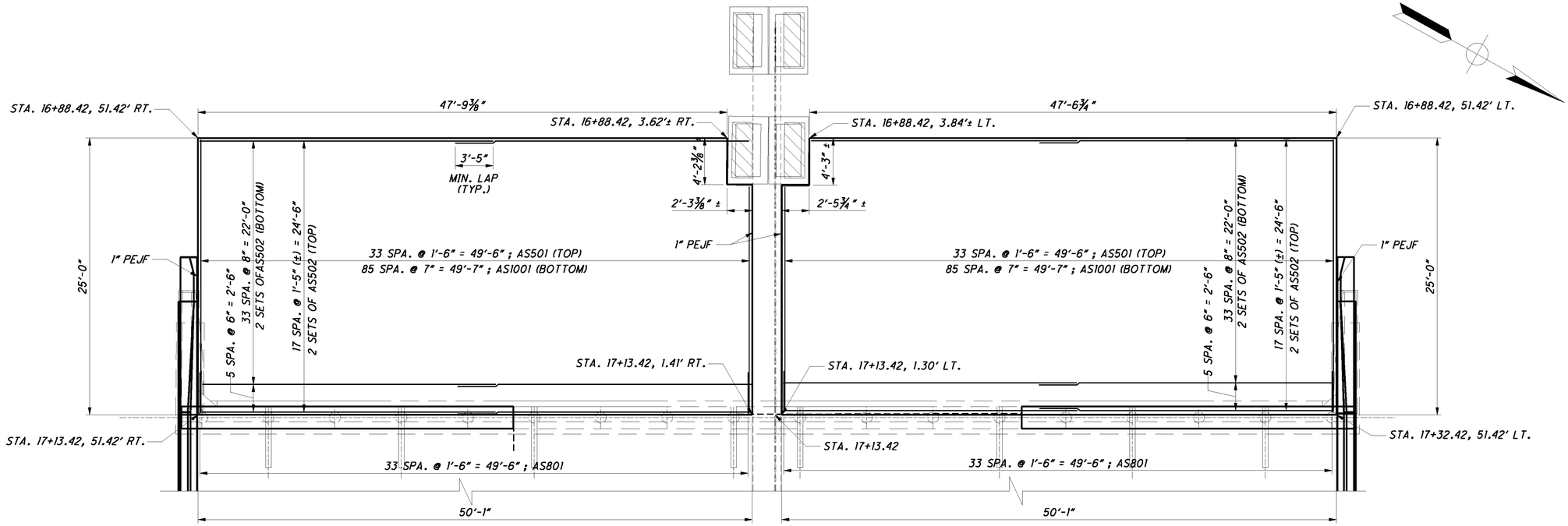
DESIGNED	DRAWN	REVIEWED	DATE
AJS	AJS	SSK	03/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		5004446	

PARAPET DETAILS
BRIDGE No. MAH-193-0052
OVER SERVICE ROAD

MAH-193/422-0.46/1.85
PID No. 25235

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160
260

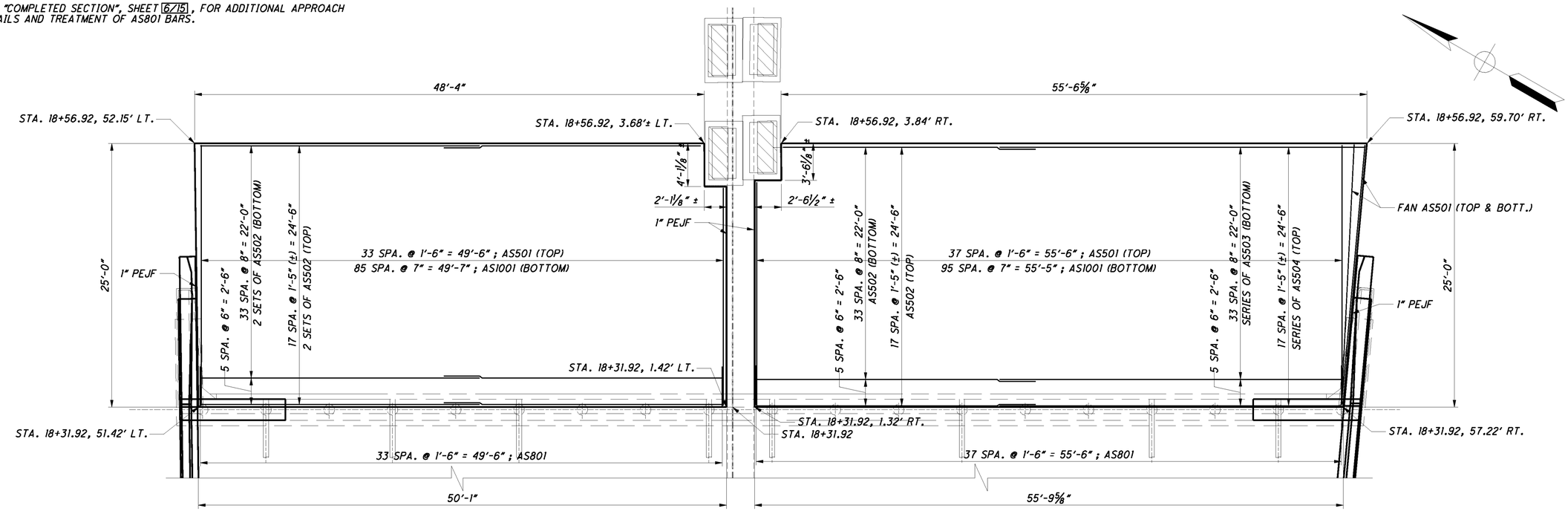


APPROACH PLAN - REAR

NOTES:

1. CONTRACTOR TO DETERMINE DIMENSIONS OF EXISTING CATCH BASIN BOX OUT AFTER REMOVAL OF EXISTING PAVEMENT. PROPOSED APPROACH SLAB BARS MAY BE CUT TO ACCOMODATE BOX OUT. COST OF CUTTING BARS TO BE INCLUDED WITH ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN.

2. REFER TO "COMPLETED SECTION", SHEET 6/15, FOR ADDITIONAL APPROACH SLAB DETAILS AND TREATMENT OF AS801 BARS.



APPROACH PLAN - FORWARD

DESIGN AGENCY
RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
AJS	AJS	SSK	03/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		5004446	

APPROACH SLAB DETAILS

STRUCTURE NO. MAH-193-0052
SR 193 OVER SERVICE ROAD

MAH-193/422-0.46/1.85
PID No. 25235

14 / 15

161
260

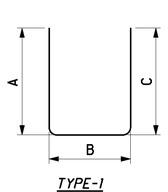
MARK	NUMBER				TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
									A	B	C	D	E	R	INC
ABUTMENTS															
	REAR	FORWARD													
AS801	68	72			140	5'-7"	2087	2	1'-5"	1'-3"	2'-6"	1'-5"			
SUB-TOTAL							2087								
WINGWALLS															
	WING 1	WING 2	WING 3	WING 4											
WW501	8	8	8	8	32	4'-4"	145	STR.							
WW502	8	8	8	8	32	5'-7"	186	1	2'-4"	1'-2"	2'4"				
SUB-TOTAL							331								
APPROACH SLABS *															
	REAR	FORWARD													
AS501	68	72		140	24'-8"		3602	STR.							
AS502	228	171		399	26'-5"		10993	STR.							
AS503		1 SER. OF 34		1 SER. OF 34	32'-8" TO 34'-8"		1194	STR.							3/4"
AS504		1 SER. OF 18		1 SER. OF 18	32'-8" TO 34'-8"		632	STR.							1 1/2"
AS1001	172	182		354	25'-5"		38716	5	24'-8"	5"					
SUB-TOTAL							55137								

MARK	NUMBER				TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
									A	B	C	D	E	R	INC
PIERS															
SUB-TOTAL															
SUPERSTRUCTURE - DECK															
SUB-TOTAL															
SUPERSTRUCTURE - PARAPETS															
	LEFT	RIGHT													
R501	120	120			240	7'-1"	1773	4	8"	3'-3"	3'-0"			1 1/2"	
R502	24	24			48	30'-0"	1502	STR.							
R503	6	6			12	10'-2"	127	STR.							
R504	NOT	USED													
R505	8	8			16	10'-0'	167	STR.							
R506	8	8			16	13'-8"	228	STR.							
R507	4	4			8	5'-8'	47	3							
R508	4	4			8	5'-8"	47	STR.							
R509	2 SER. OF 11	2 SER. OF 11			4 SER.OF 11	3'-0" TO 3'-10"	157	5	2'-5" TO 3'-3"	3"				2-1/4"	29/32"
R601	4	4			8	30'-0"	360	STR.							
R602	120	120			240	2'-6"	901	2	9"	8 1/2"	6"	9"			
R603	2 SER. OF 11	2 SER. OF 11			4 SER. OF 11	4'-0" TO 4'-10"	292	STR.							29/32"
R604	16	16			32	4'-6"	216	STR.							
R605	120	120			240	1'-3"	451	STR.							
R606	1	1			2	10'-2"	31	STR.							
R607	22	22			44	3'-3"	215	2	1'-9"	8 1/2"	6"	8"			
SUB-TOTAL							6514								
TOTAL							8932								

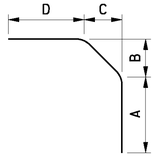
NOTES:

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 ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A501 IS A No. 5 BAR.
2. BAR DIMENSIONS ARE OUT TO OUT UNLESS OTHERWISE NOTED. "R" INDICATES THE INSIDE RADIUS, UNLESS OTHERWISE NOTED.
3. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
4. "STR" IN THE TYPE COLUMN INDICATES A STRAIGHT BAR.
5. ALL REINFORCING STEEL CLEARANCES ARE 2" UNLESS OTHERWISE NOTED.

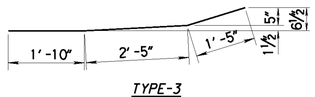
* APPROACH SLAB REINFORCING IS INCLUDED WITH ITEM 526 FOR PAYMENT. BARS LISTED FOR INFORMATION ONLY.



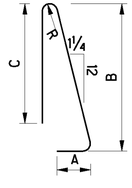
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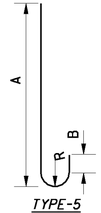
TYPE-2



TYPE-3



TYPE-4



TYPE-5

DESIGN AGENCY
RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

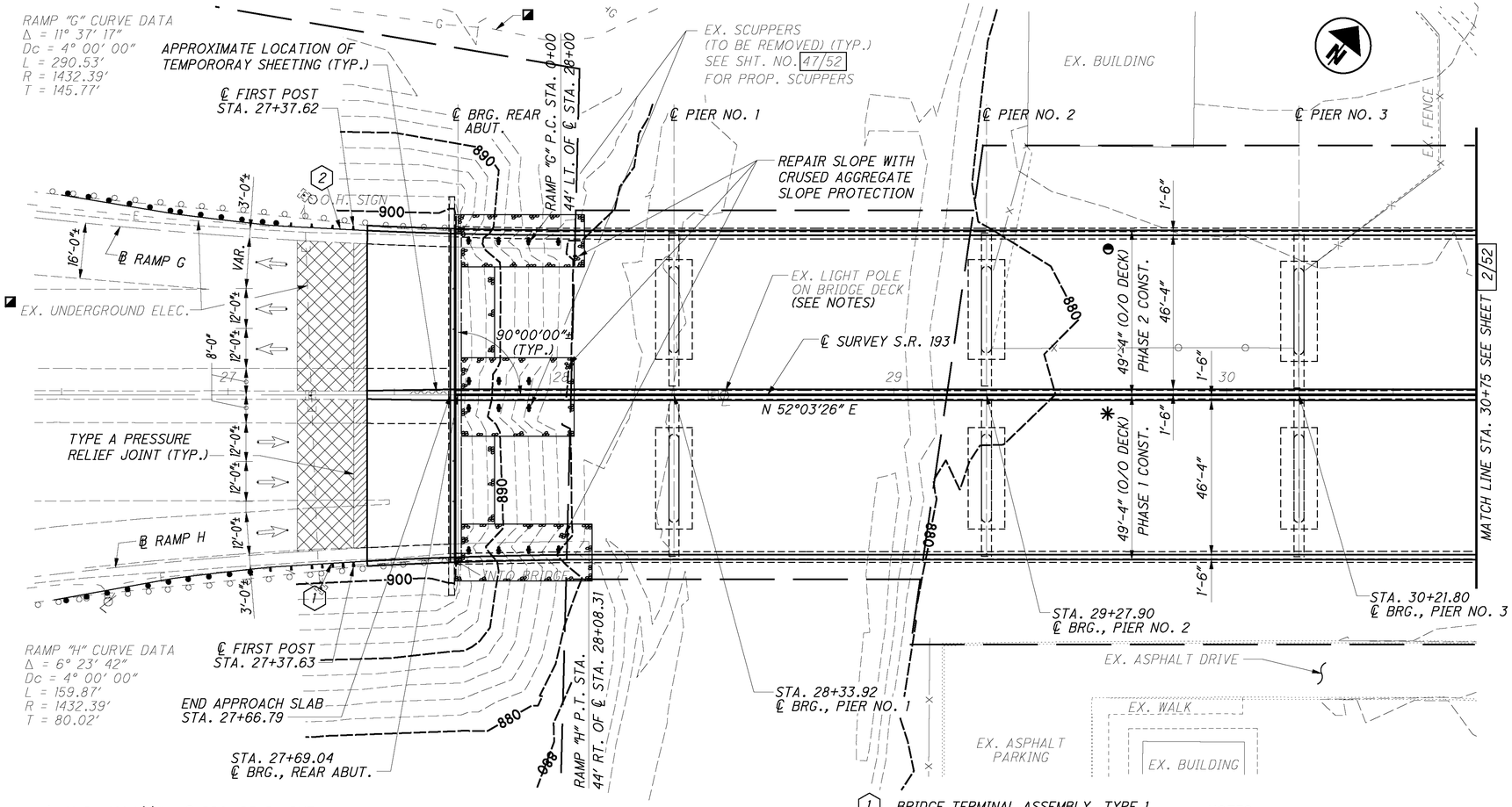
DESIGNED JLM | DRAWN JLM | REVIEWED SSK | DATE 03/09
CHECKED AJS | REVISED | STRUCTURE FILE NUMBER 5004446

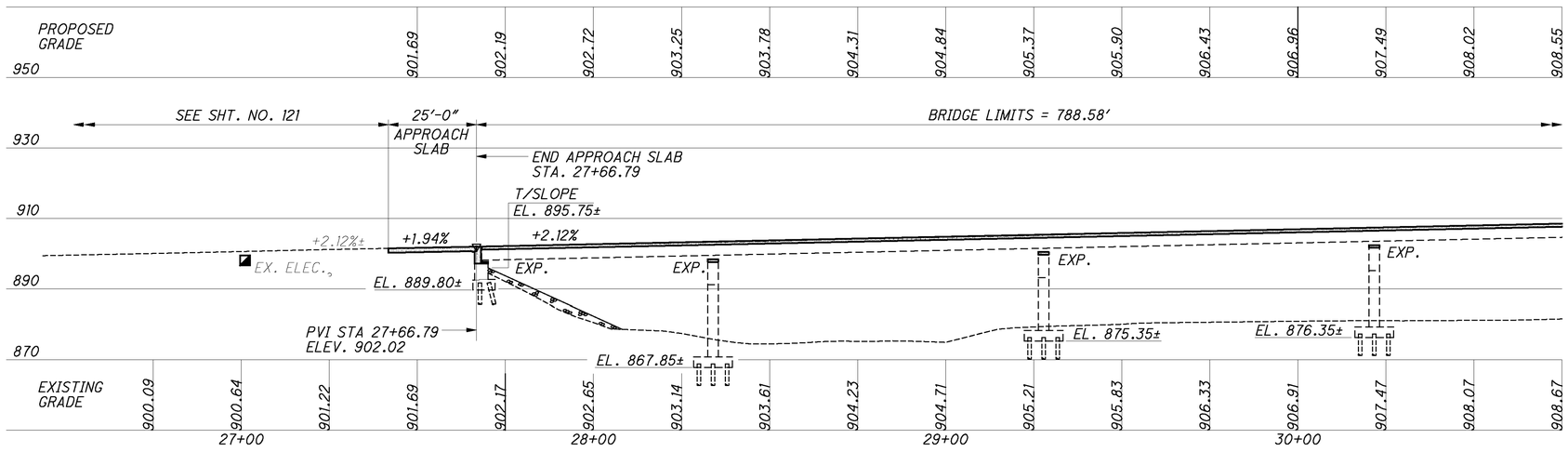
REINFORCING SCHEDULE
BRIDGE NO. MAH-193-0052
OVER SERVICE ROAD

MAH-193/ 422-
0.46/ 1.85
PID No. 25235

15 / 15

162
260





S.R. 193 PROFILE (NORTHBOUND AND SOUTHBOUND)

BENCHMARK DATA

TBM #3 (T65) ODOT CAPPED REBAR STA 31+01.65, 157.18' LT. ELEV. - 884.13	TBM #4 (SV501) MAG SET IN CONCRETE WALK STA 29+81.43, 94.19' RT. ELEV. - 881.605

DESIGN TRAFFIC:
2010 ADT = 30.070 2010 ADTT = 1,504
2030 ADT = 32,040 2030 ADTT = 1,602
RAILROAD TRAFFIC (SPAN 6):
TRAINS PER DAY: 2±
MAXIMUM AUTHORIZED SPEED: 20 MPH±

EXISTING STRUCTURE

TYPE: LEFT AND RIGHT STRUCTURES WITH CONTINUOUS STEEL BEAM (INCLUDING INTERMEDIATE HINGE JOINT) WITH NON-COMPOSITE REINFORCED CONCRETE DECK SUPPORTED ON T-TYPE PIERS AND SPILL-THRU ABUTMENTS FOUNDED ON CAST-IN-PLACE REINFORCED CONCRETE PILES.

SPANS: 64'-10 9/16"±, 93'-11¾"±, 93'-10 13/16"±, 93'-10 7/16"±, 93'-11⅞"±, 94'-0⅜"±, 93'-11⅜"±, 91'-0"±, 64'-5 5/16"± C/C BEARINGS

ROADWAY: 45'-9"± & VARIES TOE OF MEDIAN BARRIER TO FACE OF SAFETY CURB

LOADING: CF 2000 (57)

SKEW: REAR ABUTMENT & PIERS 1-7: NONE.
PIER 8 & FORWARD ABUTMENT: 11°30'16"± RIGHT FORWARD

APPROACH SLABS: 25' LONG

WEARING SURFACE: CONCRETE OVERLAY, 1"± THICK

ALIGNMENT: TANGENT

CROWN: 0.0156 AND VARIES AT RAMPS

STRUCTURAL FILE NUMBER: 5004470

DATE BUILT: 1967

DISPOSITION: TO REMAIN

PROPOSED STRUCTURE

PROPOSED WORK: REPLACE DECK SLAB, REMOVE INTERMEDIATE HINGE, RETROFIT ENDS OF WELDED COVER PLATES ON BEAMS, INSTALL SHEAR CONNECTORS, REPLACE BEARINGS, RAISE PIER & ABUTMENT BEAMS SEATS, REPLACE BACKWALLS, INSTALL NEW EXPANSION JOINTS, REPLACE APPROACH SLABS, AND PAINT STEEL. REPAIR CRUSHED AGGREGATE PROTECTION.

TYPE: LEFT AND RIGHT STRUCTURES WITH CONTINUOUS STEEL BEAM WITH COMPOSITE REINFORCED CONCRETE DECK SUPPORTED ON T-TYPE PIERS AND SPILL-THRU ABUTMENTS FOUNDED ON CAST-IN-PLACE REINFORCED CONCRETE PILES.

SPANS: 64'-10 9/16"±, 93'-11¾"±, 93'-10 13/16"±, 93'-10 7/16"±, 93'-11⅞"±, 94'-0⅜"±, 93'-11⅜"±, 91'-0"±, 64'-5 5/16"± C/C BEARINGS

ROADWAY: 46'-4" & VARIES TOE OF MEDIAN BARRIER TO TOE OF PARAPET

LOADING: HS25 CASE II AND ALTERNATE MILITARY LOADING FOR SUPERSTRUCTURE
HS20 AND ALTERNATE MILITARY LOADING FOR SUBSTRUCTURE
60 PSF FWS

SKEW: REAR ABUTMENT & PIERS 1-7: NONE.
PIER 8 & FORWARD ABUTMENT: 11°30'16"± RIGHT FORWARD

APPROACH SLABS: 25' LONG, FULL-WIDTH (AS-1-81)

WEARING SURFACE: MONOLITHIC CONCRETE

ALIGNMENT: TANGENT

CROWN: 0.0156 AND VARIES AT RAMPS

COORDINATES: LATITUDE N 41°06'36"
LONGITUDE W 80°40'12"

DESIGN AGENCY
GLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
GPD ASSOCIATES
537 South Main Street, Suite 201, Findlay, Ohio 45840
330-372-2100 . Fax 330-372-2101

DESIGNED TJW | DRAWN DPC | REVIEWED GGN | DATE 9-26-08
CHECKED EAF | REVISED | STRUCTURE FILE NUMBER 5004470

MAHONING COUNTY
STA. 27+66.79
STA. 35+55.37

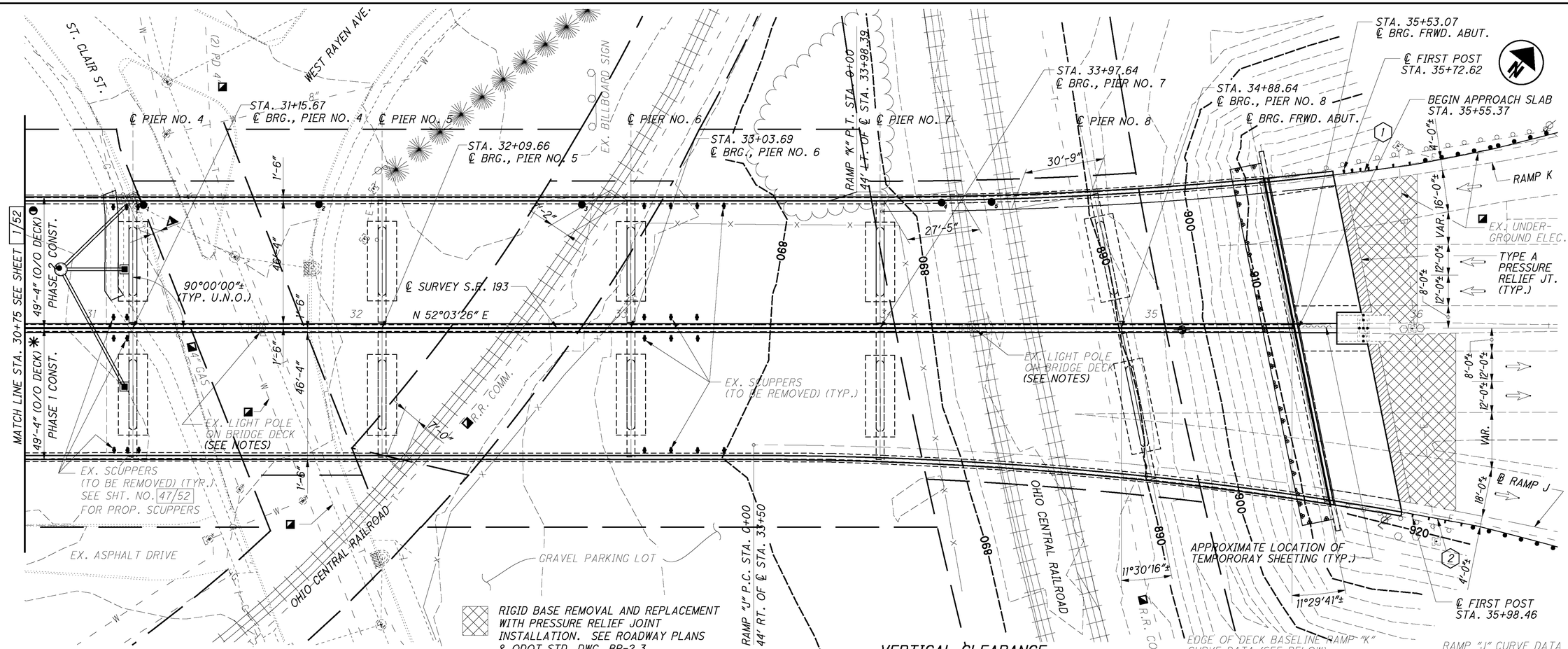
SITE PLAN
BRIDGE NO. MAH-193-0072 MAHONING W. FEDERAL
EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

1 / 52

163
260

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S.R. 193 PROFILE (NORTHBOUND AND SOUTHBOUND)

SITE PLAN 2

BRIDGE NO. MAH-193-0072 MAHONING W. FEDERAL
EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAHONING COUNTY
STA. 27+66.79
STA. 35+55.37

MAH-193/422
-0.46/1.85
PID No. 25235

2 / 52

164 / 260

DESIGN AGENCY
GPD ASSOCIATES
GLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
330-572-2100 Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
TJW	RPR	GGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
EAF		5004470	

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DESIGN SPECIFICATIONS

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, AND THE ODOT BRIDGE DESIGN MANUAL.

STANDARD DRAWINGS

REFER TO THE FOLLOWING ODOT STANDARD BRIDGE DRAWINGS:

A-1-69	REVISED: 7-19-02
AS-1-81	REVISED: 7-19-02
BR-1	REVISED: 7-19-02
EXJ-4-87	REVISED: 7-19-02
GSD-1-96	REVISED: 7-19-02
SICD-1-96	REVISED: 7-19-02

DESIGN LOADING

DESIGN LOADING: HS25, CASE II AND THE ALTERNATE MILITARY LOADING FOR SUPERSTRUCTURE
HS20 AND ALTERNATE MILITARY LOADING FOR SUBSTRUCTURE

FUTURE WEARING SURFACE (FWS) OF 60 POUNDS PER SQUARE FOOT

DESIGN STRESSES

CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

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

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

EXISTING STRUCTURAL STEEL - ASTM A36 GRADE 36 - YIELD STRENGTH 36,000 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.

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

DESCRIPTION: THIS WORK CONSISTS OF THE REMOVAL OF THE CONCRETE DECK INCLUDING PARAPETS, RAILINGS, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (SCUPPERS ETC.), STEEL BEAM HINGES, END CROSSFRAMES AND PORTIONS OF THE ABUTMENTS AND WINGWALLS AS INDICATED IN THE PLANS AND ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES THAT ARE NOT LISTED SEPARATELY FOR PAYMENT. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVAL TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE AND IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESEREVED. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAT THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REIFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. 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 THE 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 (STEEL BEAMS), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN (CONT.)

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE 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 STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL 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.

EXISTING WELDED ATTACHMENTS: REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO 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 EXPOSED 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 CLEAN 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.THIS WORK ALSO INCLUDES REMOVAL OF ALL LOOSE AND DISINTEGRATED CONCRETE AT THE ABUTMENT BEAM SEAT AND BREASTWALL SURFACES WHICH ARE TO BE ENCAPSULATED WITH NEW CONCRETE UNDER ITEM 511. CLEAN EXISTING REINFORCING STEEL EXPOSED AFTER REMOVAL OF DISINTEGRATED CONCRETE BY HIGH-PRESSURE WATER BLASTING OR OTHER METHOD ACCEPTABLE TO THE ENGINEER.

DEMOLITION OVER RAILROADS: THE CONTRACTOR SHALL SUBMIT PLANS AND PROCEDURES FOR THE PROPOSED DEMOLITION OF STRUCTURES OVER RAILROAD PROPERTIES AS PER CMS 501.05. THIS SUBMITTAL SHALL INCLUDE THE METHOD FOR PROTECTING THE TRACK FROM ACCIDENTAL DROPPING OF CONCRETE. CONCRETE SHALL NOT BE ALLOWED TO INTENTIONALLY FALL OR DROP ONTO THE RAILWAY PROPERTY.

A TEMPORARY VERTICAL CLEARANCE OF 20 FEET FROM THE TOP OF RAIL AND A TEMPORARY HORIZONTAL CLEARANCE OF 12 FEET FROM THE CENTERLINE OF THE TRACK MUST BE MAINTAINED AT ALL TIMES TO ANY FORM WORK, FALSE WORK OR OTHER TEMPORARY OBSTRUCTION DURING CONSTRUCTION OF THIS BRIDGE.

MEASUREMENT & 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.

EXISTING STRUCTURE VERIFICATION

EXISTING STRUCTURE VERIFCATION: 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.

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

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

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

AT A MINIMUM, A JACKING OPERATION SHALL LIFT ALL BEAMS AT ANY ONE ABUTMENT OR PIER SIMULTANEOUSLY. THE ONLY EXCEPTION IS THE SITUATION WHERE WORK INVOLVES REPLACING INDIVIDUAL BEARINGS AND THE HEIGHT OF THE LIFT SHALL NOT EXCEED ¼ INCH. THE MAXIMUM DIFFERENTIAL JACKING HEIGHT BETWEEN ANY ADJACENT ABUTMENTS OR PIERS SHALL BE 1 INCH OR LESS. IF THIS 1 INCH IS TO BE EXCEEDED, PROVIDE CALCULATIONS SHOWING THAT THE SUPERSTRUCTURE COMPONENTS WILL NOT BE TEMPORARILY STRESSED BEYOND ALLOWABLE STRESSES AND THAT NO PERMANENT STRESSES WILL BE INDUCED IN THE COMPONENTS AFTER THEY OBTAIN THEIR FINAL POSITION.

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN (CONT.)

IF, DURING THE JACKING OPERATIONS, 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. THE DEPARTMENT WILL NOT PAY FOR THE COST OF 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 BEARINGS.

THE DEPARTMENT WILL PAY FOR 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 511 - CLASS HP CONCRETE, AS PER PLAN

THE PROVISIONS OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW

MIX OPTIONS:
ALL SUPERSTRUCTURE, BRIDGE DECK, APPROACH SLABS AND PARAPET CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN). 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 + MOCROSILICA)

AGG TYPE	FINE AGG (LB)	#8 COURSE AGG (LB) *	#57 COURSE 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	655	800	2820	440	190	30	0.42	6
SLAG	1370	570	695	2635	440	190	30	0.42	6

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

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, SUBSTRUCTURE, AS PER PLAN, CU YD
ITEM 511 - CLASS HP CONCRETE, TEST SLAB, LUMP

CONCRETE PARAPETS

CONCRETE PARAPETS: AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, SAWCUT 1¼" DEEP CONTROL JOINTS INTO THE PERIMETER OF THE CONCRETE PARAPET STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. PLACE THE SAWCUTS AS SPECIFIED IN THE PLANS. USE AN EDGE GUIDE, FENCE OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF ¼ INCH. SEAL THE PERIMETER OF THE DEFLECTION CONTROL JOINT TO A MINIMUM DEPTH OF 1 INCH WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. LEAVE THE BOTTOM ½ INCH OF THE INSIDE AND OUTSIDE FACE UNSEALED TO ALLOW WATER TO ESCAPE.

ITEM 601 - SLOPE PROTECTION MISC.: CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN

THIS ITEM SHALL INCLUDE THE FURNISHING AND PLACING OF ADDITIONAL CRUSHED AGGREGATE SLOPE PROTECTION TO SUPPLEMENT THE EXISTING CRUSHED AGGREGATE SLOPE PROTECTION, IN AREAS AS REQUIRED TO MEET FINAL GROUND LINE AND NEW CRUSHED AGGREGATE SLOPE PROTECTION BENEATH WIDENED AREAS. PLACEMENT SHALL BE MADE AS DIRECTED BY THE ENGINEER. CRUSHED AGGREGATE SLOPE PROTECTION AT TERMINATION OF THE 6" NON-PERFORATED DRAINAGE PIPES AT THE ABUTMENTS IS ALSO INCLUDED WITH THIS ITEM. THIS ITEM SHALL ALSO INCLUDE THE REMOVAL OF ALL BRUSH AND DEBRIS BELOW THE STRUCTURE AND TO 10 FEET FROM EACH SIDE OF THE STRUCTURE.

ITEM 526 - REINFORCED CONCRETE APPROACH SLABS, AS PER PLAN

THE PROVISIONS OF CMS 526 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. PARAPETS AND BARRIERS MOUNTED TO APPROACH SLABS, INCLUDING ALL ASSOCIATED REINFORCING STEEL, SHALL BE INCLUDED FOR PAYMENT WITH ITEM 526.

DESIGN AGENCY
GPD ASSOCIATES
GRAEF-PYE-SCHNORR-BURNS & ERHAVEN INC.
339 South Main Street, Suite 251, Akron, Ohio 44311
330.972.2100, Fax 330.972.2101

DESIGNED	DRAWN	REVIEWED	DATE
RHC	RHC	GCN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		5004470	

THE OHIO CENTRAL RR

STRUCTURE GENERAL NOTES
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

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ITEM SPECIAL - STRUCTURE MISC.: COMPOSITE FIBER WRAP SYSTEM

DESCRIPTION: THIS WORK SHALL CONSIST OF PROVIDING AND INSTALLING A FIBER WRAP MEMBER PREPARATION, WRAPPING THE CONCRETE MEMBER, AND ALL INCIDENTALS NECESSARY TO COMPLETE. THE INSTALLATION SHALL BE PER THE MANUFACTURER'S REQUIREMENTS.

MATERIALS: SUPPLIERS SHALL HAVE A MINIMUM OF 10 INSTALLATIONS AND FURNISH CERTIFIED TEST REPORTS INCLUDING 1000 HOUR TESTS FOR 140° WATER, SALT WATER ALKALINE SOIL, OZONE, AND EFFERVESCENCE IN ADDITION TO THE REQUIREMENTS LISTED BELOW.

THE FABRIC FOR THE COMPOSITE CASING SHALL BE CONTINUOUS FILAMENT WOVEN FABRIC. PRIMARY FIBERS FOR THE FABRIC SHALL BE (E) ELECTRICAL GLASS FIBERS. THE FIBER SHALL HAVE A MINIMUM NOMINAL THICHNESS OF 0.05 INCHES. THE MINIMUM WEIGHT OF THE FABRIC SHALL BE 27.0 OUNCES PER SQUARE YARD.

THE EPOXY SHALL BE AS SUPPLIED BY THE MANUFACTURER TO MEET THE COMPOSITE STRENGTH GIVEN BELOW. POLYESTER RESIN SHALL NOT BE ALLOWED AS A SUBSTITUTE FOR EPOXY RESIN.

THE COMPOSITE OF THE FIBER WRAPPED MEMBER CASING SYSTEM SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

PROPERTY	REQUIREMENTS	ASTM TEST METHOD
ULTIMATE TENSILE STRENGTH, PSI MIN. IN PRIMARY FIBER DIRECTION.	60,000 PSI	D3039, AVERAGE OF 7, 1" BY 10" NORMALIZED TO 0.80" THICK 0.01" PER MINUTE TESTING SPEED.
ULTIMATE TENSILE STRENGTH, PSI MIN. IN PRIMARY FIBER DIRECTION.	3,000 PSI	D3039, AVERAGE OF 7, 1" BY 10" NORMALIZED TO 0.80" THICK 0.01" PER MINUTE TESTING SPEED.
TENSILE STRENGTH (MIN. AFTER TEST) 1000 HOURS EXPOSURE TO 100% HUMIDITY.	60,000 PSI	C581
TENSILE STRENGTH (MIN. AFTER TEST) 1000 HOURS EXPOSURE TO OZONE.	60,000 PSI	D1149 EXPERTS NOT UNDER STRESS DURING OZONE EXPOSURE.
TENSILE STRENGTH (MIN. AFTER TEST) 1000 HOURS EXPOSURE TO ALKALI.	60,000 PSI	D3083 USING SOIL BURIAL - WATER CONTENT OF 73% ± 3%.
TENSILE STRENGTH (MIN. AFTER TEST) 1000 HOURS EXPOSURE TO SALT WATER.	60,000 PSI	C581 AND D1141 OMITTING ADDITION OF HEAVY METAL REAGANTS.
TENSILE STRENGTH (MIN. AFTER TEST) 1000 HOURS EXPOSURE AT 140°F.	60,000 PSI	D3045
TENSILE STRENGTH (MIN. AFTER TEST) ULTRAVIOLET (UV) EXPOSURE.	60,000 PSI	G154 USING FS40 UV-B BULBS FOR A MIN. 40 CYCLES. THE CYCLE SHALL BE 4 HOURS OF CONDENSATE EXPOSURE AT 40°C.
ELONGATION: PERCENT, MIN. PERCENT, MAX.	 1.7% 5.0%	
TENSILE MODULUS, PSI MIN. OF PRIMARY FIBERS	3,000,000	D3039
VISUAL DEFECTS	ACCEPTANCE LEVEL III	D2563
COEFFICIENT OF THERMAL EXPANSION IN THE PRIMARY DIRECTION.	4,300,000 PPM/DEG. F (+15%)	D696

SURFACE PREPARATION: THE SURFACE TO RECEIVE THE COMPOSITE WRAP SHALL BE FREE FROM FINS, SHARP EDGES, AND PROTRUSIONS THAT WILL CAUSE VOIDS BEHIND THE CASING OR THAT, IN THE OPINION OF THE ENGINEER, WILL DAMAGE THE FIBER. IF FIBERS ARE TO WRAP AROUND CORNERS OF RECTANGULAR CROSS-SECTIONS, THE CORNERS SHALL BE ROUNDED TO A ½ INCH RADIUS. THIS WILL HELP PREVENT STRESS CONCENTRATIONS IN THE FIBER WRAP AND VOIDS BETWEEN THE FIBER WRAP AND THE CONCRETE. IN ADDITION, THE SURFACE SHALL BE SMOOTH AND FREE OF VOIDS OR UNDULATIONS THAT WOULD PREVENT FULL CONTACT BETWEEN THE CONCRETE AND THE FIBER WRAP.

ADDITIONALLY, THERE ARE CONDUITS AND/OR DOWNSPOUTS ATTACHED TO THE COLUMNS TO RECEIVE FIBER WRAP. THE CONTRACTOR MUST MAINTAIN THE SAME SERVICE PROVIDED WHILE DISCONNECTING THE CONDUIT FROM THE COLUMN ONLY. RECONNECT THE CONDUIT AFTER THE APPLICATION OF THE ACRYLIC FINISH COAT.

COMPOSITE APPLICATION: THE AMBIENT TEMPERATURE AND THE TEMPERATURE OF THE EPOXY RESIN COMPONENTS SHALL BE BETWEEN 55°F AND 95°F AT THE TIME OF MIXING. THE COMPOSITE SHALL BE APPLIED WHEN THE RELATIVE HUMIDITY IS LESS THAN 85% AND THE SURFACE TEMPERATURE IS MORE THAN 5°F ABOVE THE DEW POINT. APPLICATION SHALL BEGIN WITHIN ONE HOUR AFTER THE BATCH HAS BEEN MIXED.

THE COMPONENTS OF THE EPOXY RESIN SHALL BE MIXED WITH A MECHANICAL MIXER AND APPLIED UNIFORMLY TO THE FIBER AT A RATE THAT SHALL INSURE COMPLETE SATURATION OF THE FABRIC.

THE FABRIC /EPOXY COMPOSITE SHALL BE APPLIED TO THE SURFACE OF THE MEMBER BY WRAPPING USING METHODS THAT PRODUCE A UNIFORM FORCE THAT IS DISTRIBUTED ACROSS THE ENTIRE WIDTH OF THE FABRIC. THE PRIMARY FIBERS OF THE FABRIC SHALL NOT DEVIATE FROM A HORIZONTAL LINE MORE THAN ½ INCH PER FOOT. ENTRAPPED AIR SHALL BE RELEASED OR ROLLED OUT BEFORE THE EPOXY SETS.

SUCCESSIVE LAYERS OF COMPOSITE MATERIALS SHALL BE PLACED BEFORE POLYMERIZATION OF THE PREVIOUS LAYER OF EPOXY IS TOO DRY TO ACHIEVE ADEQUATE BONDING BETWEEN LAYERS. IF POLYMERIZATION DOES OCCUR BETWEEN LAYERS THE SURFACE MUST BE ROUGHENED USING A LIGHT ABRASIVE THAT WILL NOT DAMAGE THE FIBER.

THE FINAL LAYER OF EPOXY SHALL BE APPLIED TO THE FINAL LAYER OF FABRIC, WITH CARE TAKEN TO INSURE COATING OF ALL EDGES AND SEAMS. SPACES BETWEEN THE BANDS OF FABRIC SHALL BE FILLED WITH EPOXY THICKENED AS DIRECTED BY THE MANUFACTURER.

A FINAL INSPECTION SHALL BE PERFORMED ON ALL FIBER WRAPPED MEMBERS AFTER THE EPOXY SETS YET PRIOR TO THE APPLICATION OF THE ACRYLIC FINISH COAT. ALL DEFECTS (INCLUDEING BUBBLES, DELAMINATIONS, AND FABRIC TEARS) MORE THAN 1 SQUARE INCH OF THE SURFACE AREA, OR AS SPECIFIED BY THE PROJECT ENGINEER, SHALL BE REPAIRED AS SUCH:

1) SMALL DEFECTS (ON THE ORDER OF 6" DIAMETER) SHALL BE INJECTED OR BACK FILLED WITH EPOXY.

2) BUBBLES LESS THE 12" IN DIAMETER SHALL BE REPAIRED BY INJECTING WITH EPOXY. TWO HOLES SHALL BE DRILLED INTO THE BUBBLES TO ALLOW INJECTION OF THE EPOXY AND ESCAPE OF ENTRAPPED AIR.

3) BUBBLES, DELAMINATIONS AND FABRIC TEARS GREATER THAN 12" IN DIAMETER SHALL BE REPAIRED BY REMOVING AND REAPPLYING THE REQUIRED NUMBER OF LAYERS OF THE COMPOSITE AND THE REQUIRED FINISH COATINGS. ALL REPAIRS SHALL BE APPROVED BY THE PROJECT ENGINEER.

COATING SYSTEM APPLICATION: A FINAL ACRYLIC COATING IS REQUIRED TO PROTECT THE FIBERS FROM THE ELEMENTS, SPECIFICALLY UV RADIATION AND TO GIVE THE FINAL AESTHETIC EFFECT.

AFTER 96 HOURS FROM FINAL APPLICATION OF EPOXY, IF THE FINAL EPOXY POLYMERIZED, THE EXTERIOR SURFACES OF THE COMPOSITE WRAP SHALL BE CLEANED AND ROUGHENED BY A LIGHT ABRASIVE. CARE SHOULD BE TAKEN DURING THE ROUGHENING PROCESS SO THAT THE FIBERS ARE NOT DAMAGED. ALL CLEANED AND ROUGHENED SURFACES SHALL BE DRY BEFORE APPLYING THE ACRYLIC COATING.

MEASUREMENT AND PAYMENT: THE BID PRICE SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO PROVIDE AND INSTALL A FIBER WRAP MEMBER CASING SYSTEM USING HIGH STRENGTH, HYBRID FIBER/EPOXY COMPOSITES FIELD APPLIED TO THE MEMBER, INCLUDING ERECTION OF SCAFFOLDING, CLEANING, SURFACE PREPARATION, WRAPPING THE MEMBER, AND ALL INCIDENTALS NECESSARY TO COMPLETE THE INSTALLATION PER THE MANUFACTURER'S REQUIREMENTS.

PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES OF FINISHED SURFACE AREA WRAPPED WILL BE MADE AT THE CONTRACT BID PRICE FOR:
ITEM SPECIAL STRUCTURE MISC: COMPOSITE FIBER WRAP SYSTEM, 2 LAYER GLASS FIBER, SQ FT
ITEM SPECIAL STRUCTURE MISC: COMPOSITE FIBER WRAP SYSTEM, 4 LAYER GLASS FIBER, SQ FT

THE ACRYLIC FINISH COAT WILL BE PAID FOR UNDER A SEPARATE PAY ITEM.

ITEM SPECIAL - SEALING MISC.: ACRYLIC FINISH COAT

THIS WORK SHALL CONSIST OF THE APPLICATION OF A 100% ACRYLIC EXTERIOR COATING MATERIAL OVER THE COMPOSITE FIBER WRAP SYSTEM APPLIED TO PIER CANTILEVERS PER THE NOTE "ITEM SPECIAL - STRUCTURE MISC.: COMPOSITE WRAP SYSTEM". THE COLOR OF THE FINISH COAT SHALL BE FEDERAL COLOR STANDARD NO. 17778 (LIGHT NEUTRAL) TO MATCH THE FINAL COLOR OF ADJACENT CONCRETE SURFACES TO BE SEALED UNDER ITEM 512. THE ACRYLIC FINISH COAT MATERIAL SHALL BE SPECIFICALLY RECOMMENDED BY THE MANUFACTURER OF THE COMPOSITE FIBER WRAP SYSTEM, BE INSTALLED IN ACCORDANCE WITH THE COATING MANUFACTURER'S REQUIREMENTS AND MEET FEDERAL PERFORMANCE SPECIFICATION TT-P-19 AND TT-P-55.

ITEM 514 - FIELD PAINTING EXISTING STRUCTURAL STEEL, PRIME COAT
ITEM 514 - FIELD PAINTING, STRUCTURAL STEEL, ITERMEDIATE COAT
ITEM 514 - FIELD PAINTING, STRUCTURAL STEEL, FINISH COAT, AS PER PLAN
ITEM 514 - FINAL INSPECTION REPAIR

FIELD PAINTING TO BE INCLUDED IN THESE ITEMS ARE FOR PAINTING STEEL BEAMS AND CROSSFRAMES. AT EXPOSED PORTIONS OF FASCIA BEAMS, THE FINISH COAT COLOR SHALL BE RED, FEDERAL STANDARD NO. 11105. THE INSIDE OF THE FASCIA BEAMS AND ALL CROSSFRAMES SHALL HAVE A FINISH COAT COLOR OF BROWN, FEDERAL STANDARD NO. 10324. THE PERCENTAGE USED TO ACCOUNT FOR THE AREA OF INCIDENTALS IS 15%.

ASBESTOS NOTIFICATION:

AN ASBESTOS SURVEY OF THE S.R. 193 BRIDGE OVER RAYEN AVENUE AND RAILROAD TRACKS (STRUCTURE NO. MAH-193-0072, SFN 5004470), SCHEDULED FOR REHABILITATION WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT APPROXIMATELY 408 LINEAR FEET (34 SQUARE FEET) OF CATEGORY II NONFRIABLE ASBESTOS WAS IDENTIFIED IN CAULKING MATERIAL ASSOCIATED WITH THE PARAPET RAILING. THE REMOVAL AND DISPOSAL OF THE ASBESTOS CONTAINING MATERIAL MUST COMPLY WITH THE OHIO ADMINISTRATIVE CODE, THE OCCUPATION SAFETY & HEALTH ADMINISTRATIVE (OSHA) REGULATIONS AND THE NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHAP) STANDARD FOR ASBESTOS. THIS ASBESTOS CONTAINING MATERIAL WILL BE REMOVED BY THE CONTRACTOR DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE AN INDIVIDUAL TRAINED IN THE PROVISIONS OF THE NESHAP ON SITE, TO DIRECT THE REMOVAL OF THE ASBESTOS CONTAINING MATERIAL.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF THE 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
345 OAK HILL AVENUE, SUITE 200
YOUNGSTOWN, OHIO 44502
NEIL H. ALTMAN
(330) 743-3333
FAX (330) 743-3960

AT LEAST TEN (10) WORKING DAYS PRIOR TO START OF THE DEMOLITION OF THE BRIDGES. 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 RENOVATION, (3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED, (4) THE DATES AND HOURS OF OPERATION FOR THE ASBESTOS REMOVAL, (5) A DESCRIPTION OF THE PLANNED RENOVATION WORK AND THE METHOD(S) TO BE USED, (6) A DESCRIPTION OF WORK PRACTICES AND ENGINEERING CONTROLS TO BE USED TO PREVENT EMISSIONS OF ASBESTOS AT THE SITE, (7) THE NAME AND ADDRESSES OF WASTE TRANSPORTERS TO BE USED ON THE PROJECT, (8) THE NAME AND ADDRESS OF WASTE DISPOSAL FACILITY TO BE USED AND (9) A DESCRIPTION OF PROCEDURES TO BE FOLLOWED IN THE EVENT THAT UNEXPECTED ASBESTOS IS FOUND OR PREVIOUSLY NON-FRIABLE ASBESTOS MATERIAL BECOMES CRUMBLED, PULVERISED OR REDUCED TO POWDER. A COPY OF THE OEPA FORM IS AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 4 OFFICE, 2088 SOUTH ARLINGTON RD., AKRON, OHIO 44306

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

⚠1 GPD 7-31-09

DESIGN AGENCY
GLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
GPD ASSOCIATES
330 Main Street, Suite 200 Akron, Ohio 44311
330-572-2100 Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
GGN	DJP	GGN	3-20-09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		5004470	

STRUCTURE GENERAL NOTES
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

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ESTIMATED QUANTITIES

CALCULATED: TJW DATE: 9-29-08
CHECKED: DJC DATE: 2-20-09

	ITEM	EXT.	TOTAL	UNITS	DESCRIPTION	ABUT	PIER	SUPER	GENERAL	A.P.P. REFERENCE SHT. NO.
	202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	3
	202	22900	477	SQ YD	APPROACH SLAB REMOVED				477	
	503	11100	LUMP		COFFERDAMS, CRIBS AND SHEETING				LUMP	
	503	21300	LUMP		UNCLASSIFIED EXCAVATION	LUMP				
	509	10000	754612	POUND	EPOXY COATED REINFORCING STEEL	20734	30617	703261		
	510	10000	2568	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	1330	1238			
	511	50001	2304	CU YD	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN			2304		3
	511	50101	428	CU YD	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN	2		426		3
	511	50201	212	CU YD	CLASS HP CONCRETE, SUBSTRUCTURE, AS PER PLAN	132	80			3
	511	52000	LUMP		CLASS HP CONCRETE, TEST SLAB				LUMP	
	512	10100	5344	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	251	2003	2938	152	
	512	33000	4	SQ YD	TYPE 2 WATERPROOFING	4				
	SPECIAL	51275500	657	SQ YD	SPECIAL - SEALING, MISC.: ACRYLIC FINISH COAT		657			4
	513	10241	235510	POUND	STRUCTURAL STEEL MEMBERS, LEVEL 2, AS PER PLAN			235510		24
	513	20000	27984	EACH	WELDED STUD SHEAR CONNECTORS			27984		
*	513	21000	30	EACH	TRIMMING OF BEAM END			30		
	513	21500	3950	POUND	REPLACEMENT OF DETERIORATED END CROSSFRAMES			3950		
	514	00050	125600	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			125600		
	514	00056	126500	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			126500		
	514	00060	126500	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			126500		
	514	00067	126500	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			126500		4
	514	00504	188	MAN HR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			188		
	514	10000	110	EACH	FINAL INSPECTION REPAIR			110		
	516	11210	223	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			223		
	516	13600	285	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	25			260	
	516	13900	12	SQ FT	2" PREFORMED EXPANSION JOINT FILLER			9	3	
	516	44101	14	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (1'-0" x 1'-9" x 2.31" THICK), AS PER PLAN		14			22, 23
	516	44101	28	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (1'-2" x 1'-9" x 3.76" THICK), AS PER PLAN					22, 23
	516	46900	30	EACH	BEARING DEVICE MISC.: ELASTOMERIC BEARING WITH INTERNAL LAMINATES, LOAD PLATE AND PTFE (NEOPRENE) (9" x 1'-1" x 2.44" THICK)	30				22, 23
	516	46900	71	EACH	BEARING DEVICE MISC.: ELASTOMERIC BEARING WITH INTERNAL LAMINATES, LOAD PLATE AND PTFE (NEOPRENE) (1'-2" x 1'-9" x 3.58" THICK)		71			22, 23
	516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LUMP	3
	518	12201	16	EACH	SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN			16		48, 49
	518	21230	LUMP		POROUS BACKFILL WITH FILTER FABRIC					
	518	40000	266	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	266				
	518	40010	51	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	51				
	518	51100	138	FT	8" PIPE DOWNSPOUT, INCLUDING SPECIALS		138			
	519	11101	4	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN		4			5
	526	25001	627	SQ YD	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN				627	3, 42-46
	SPECIAL	53000600	3860	SQ FT	STRUCTURE MISC.: COMPOSITE FIBER WRAP SYSTEM, 2 LAYER GLASS FIBER		3860			4
	SPECIAL	53000600	2050	SQ FT	STRUCTURE MISC.: COMPOSITE FIBER WRAP SYSTEM, 4 LAYER GLASS FIBER		2050			4
	601	20001	510	SQ YD	CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN				510	3

* AS DIRECTED

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, ABRASIVES BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

PROPOSED WORK

1. REMOVE ENTIRE EXISTING DECK ABOVE THE BEAMS, INCLUDING WEARING SURFACE, EXPANSION JOINTS AND SCUPPERS,
2. REMOVE EXISTING APPROACH SLABS.
3. PROVIDE TEMPORARY SUPPORT FOR EXISTING BEAMS, REMOVE EXISTING BEARINGS AND PORTIONS OF STEEL SUPERSTRUCTURE (HINGES) AS INDICATED IN THE PLANS.
4. REMOVE EXISTING ABUTMENT BACKWALL AND PORTIONS OF WINGWALLS AS INDICATED IN THE PLANS.
5. BUILD UP THE EXISTING PIER CAPS AND ABUTMENT BEAM SEATS
6. CONSTRUCT NEW PORTIONS OF STEELSUPERSTRUCTURE TO REPLACE EXISTING HINGES, INSTALL MOMENT PLATE RETROFIT SPLICE PLATES AND PLACE COMPOSITE FIBER WRAP ON EXISTING PIER CAPS AS INDICATED IN THE PLANS.
7. SET NEW LAMINATED ELASTOMERIC BEARINGS AT THE ABUTMENTS AND PIERS AND PLACE BEAMS ON THE NEW BEARINGS.
8. WELD SHEAR CONNECTORS TO EXISTING BEAMS.
9. INSTALL NEW EXPANSION JOINT, SCUPPERS AND CONSTRUCT DECK AND SUPERSTRUCTURE DRAINAGE SYSTEM AS INDICATED IN THE PLANS.
10. RECONSTRUCT ABUTMENT BACKWALLS AND PORTIONS OF WINGWALLS AS INDICATED IN THE PLANS AND INSTALL NEW ABUTMENT DRAINGE SYSTEM WHILE BACKFILLING.
11. CONSTRUCT APPROACH SLABS.
12. SEAL CONCRETE SURFACES AS INDICATED IN THE PLANS.
13. PAINT THE EXISTING STEEL.

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ABBREVIATIONS

ABUT.	ABUTMENT
BRG.	BEARING
B.S.	BOTH SIDES
N.S.	NEAR SIDE
F.S.	FAR SIDE
SER.	SERIES
TYP.	TYPICAL
EQ.	EQUAL
DIM.	DIMENSION
SPA.	SPACES
EA.	EACH
P.E.J.F.	PREFORMED EXPANSION JOINT FILLER
MIN.	MINIMUM
NO.	NUMBER
ADDIT.	ADDITIONAL
FRWD.	FORWARD
SPL.	SPLICE
CLR.	CLEAR
CONC.	CONCRETE
CONST.	CONSTRUCTION
C.I.P.	CAST IN PLACE
JT.	JOINT
BTWN.	BETWEEN
SHLD.	SHOULDER
V.P.F.	VANDAL PROTECTION FENCE
P.C.P.P.	PERFORATED CORRUGATED PLASTIC PIPE
N.P.C.P.P.	NON-PERFORATED CORRUGATED PLASTIC PIPE

⚠ GPD 7-31-09

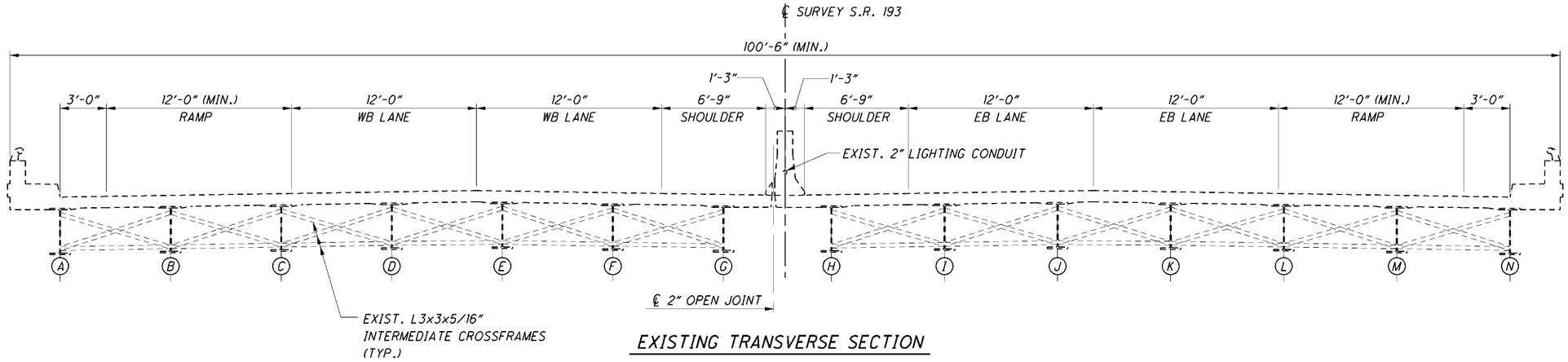
DESIGN AGENCY
GLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
GPD ASSOCIATES
333 Mill Run (Phase 3, Ste. 201) Vestry, Ohio 44131
330-572-2100 - Fax 330-572-2101

DESIGNED TJW | DRAWN RHC | REVIEWED GGN | DATE 3-20-09 | STRUCTURE FILE NUMBER 5004470
CHECKED DJC | REVISED

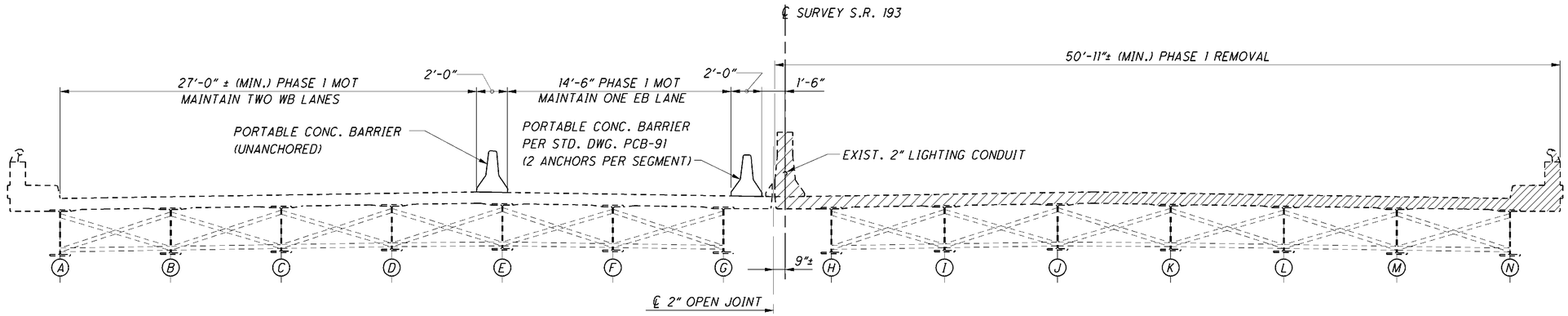
ESTIMATED QUANTITIES & STRUCTURAL GENERAL NOTES
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

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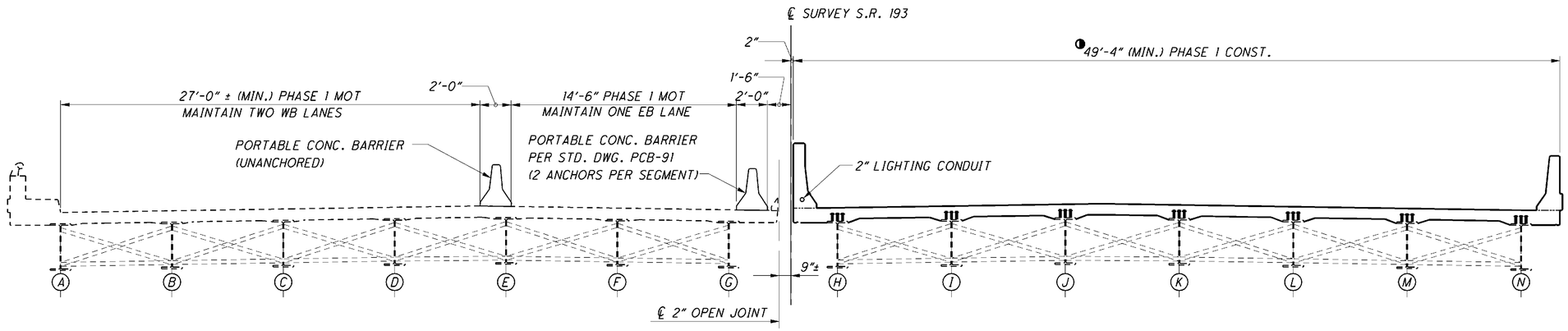


EXISTING TRANSVERSE SECTION



PHASE 1 REMOVAL

INDICATES REMOVAL LIMITS



PHASE 1 CONSTRUCTION

◑ SEE SHT. NO. 32/52 FOR DETAILS OF PHASE 1 CONST. DIMENSIONS

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3/19/2009
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RHOLCITZKY

DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
330 South Main Street, Suite 251, Akron, Ohio 44311
330-972-2100, Fax 330-972-2101

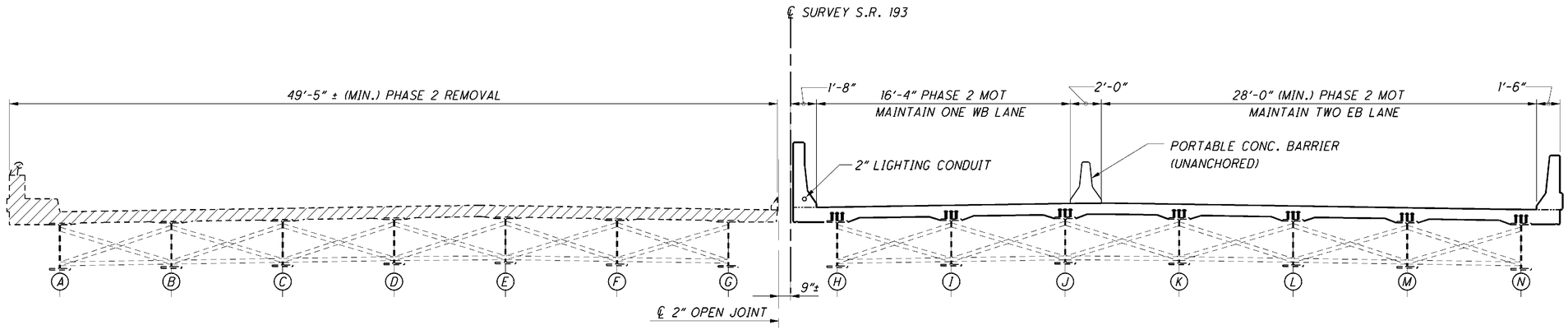
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RPR	RPR	GCN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		5004470	

PHASE CONSTRUCTION DETAILS
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAVEN AVE. & THE OHIO CENTRAL RR

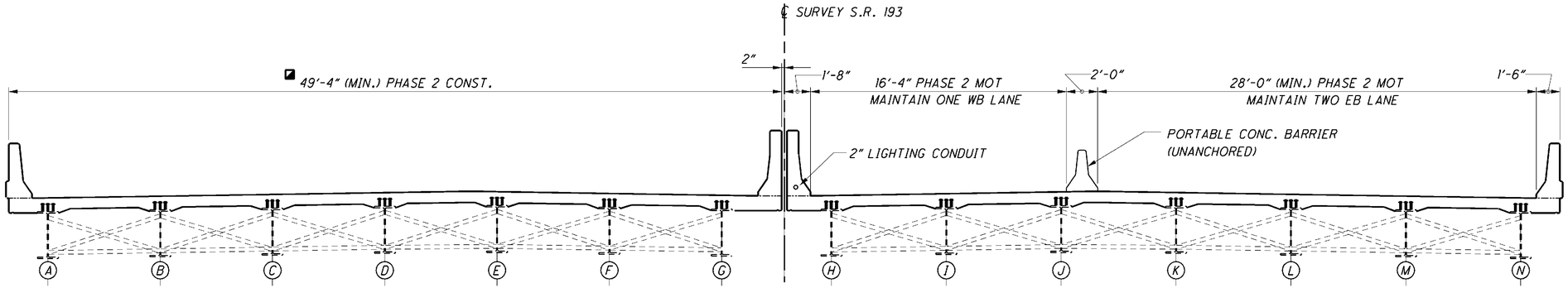
MAH-193/422
-0.46/1.85
PID No. 25235

6 / 52

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PHASE 2 REMOVAL



PHASE 2 CONSTRUCTION

◪ SEE SHT. NO. 33/52 FOR DETAILS OF PHASE 2 CONST. DIMENSIONS

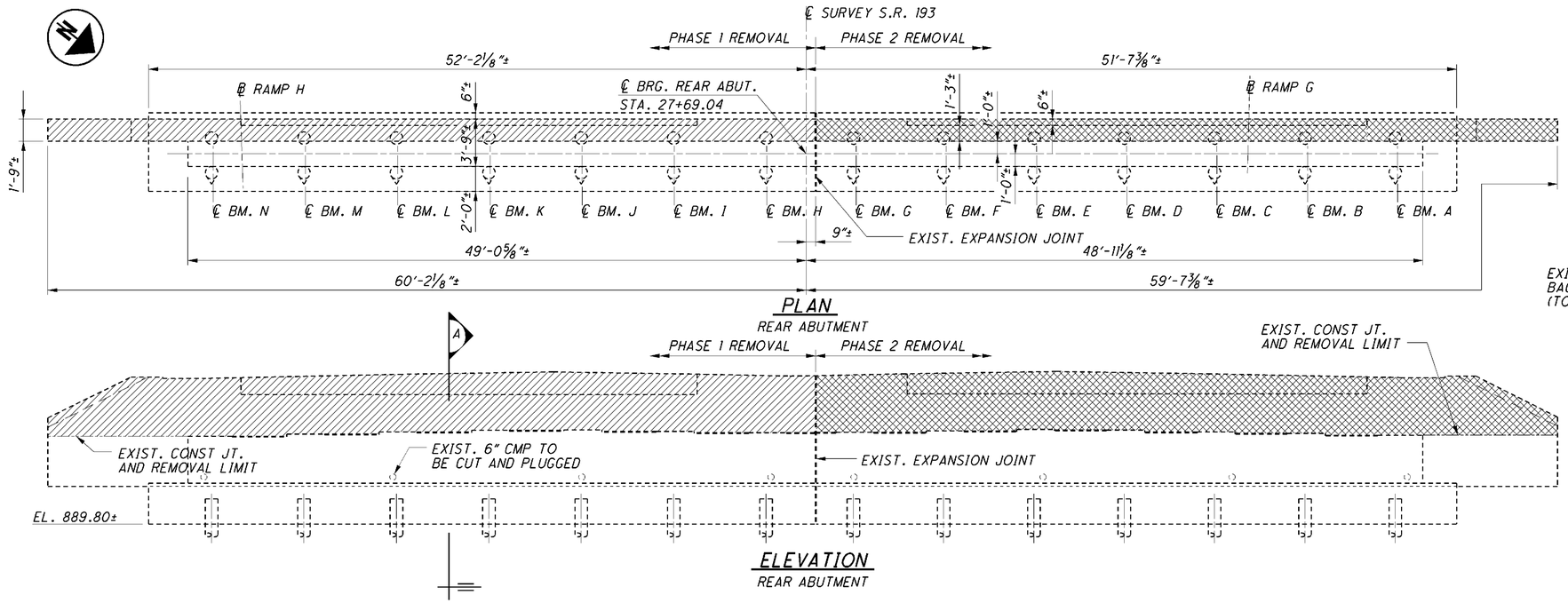
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3/19/2009
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RHOYCLIFFKY

DESIGN AGENCY
CLAUS PYLE SCHENCK BURNS & DEHAVEN INC.
GPD ASSOCIATES
330 South Main Street, Suite 253 | Akron, Ohio 44311
330-972-2100 , Fax 330-972-2161

DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	GCN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		5004470	

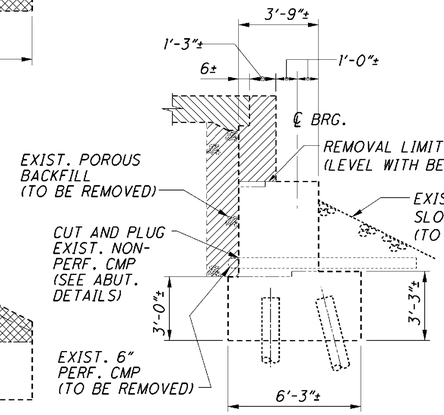
PHASE CONSTRUCTION DETAILS
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

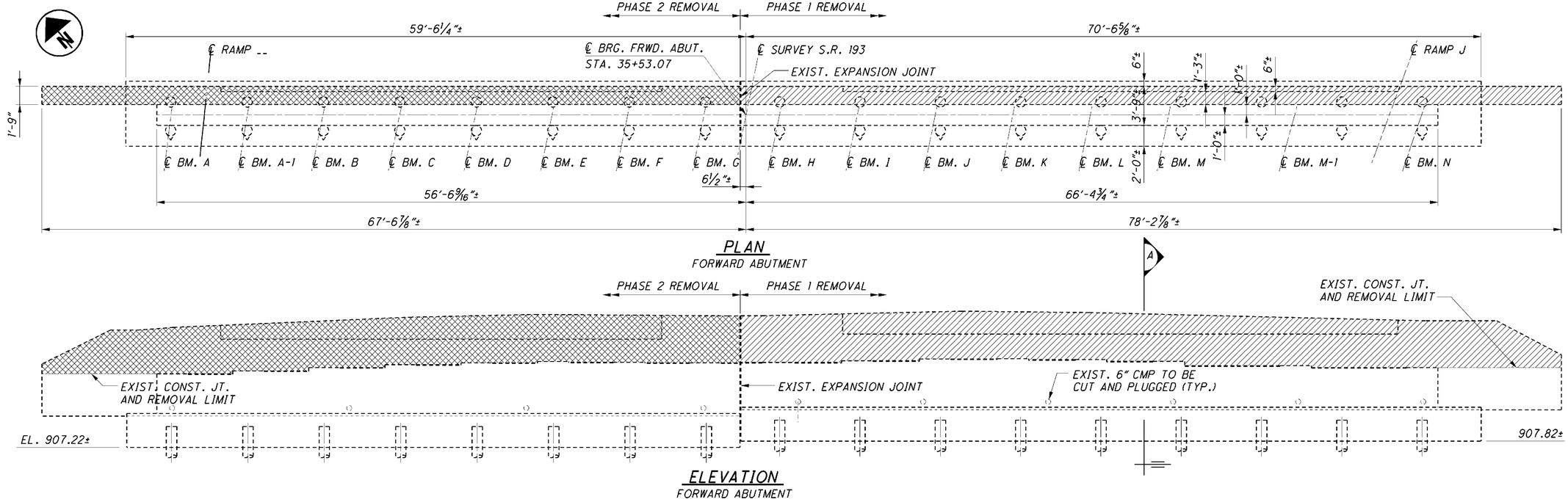


PLAN
REAR ABUTMENT

ELEVATION
REAR ABUTMENT



SECTION A
PHASE 1 SHOWN, PHASE 2 IS SIMILAR



PLAN
FORWARD ABUTMENT

ELEVATION
FORWARD ABUTMENT

INDICATES LIMITS OF ITEM 202, APPROACH SLAB REMOVED

INDICATES REMOVAL LIMIITS (PHASE 1) ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FT. SPAN, AS PER PLAN

INDICATES REMOVAL LIMIITS (PHASE 2) ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FT. SPAN, AS PER PLAN

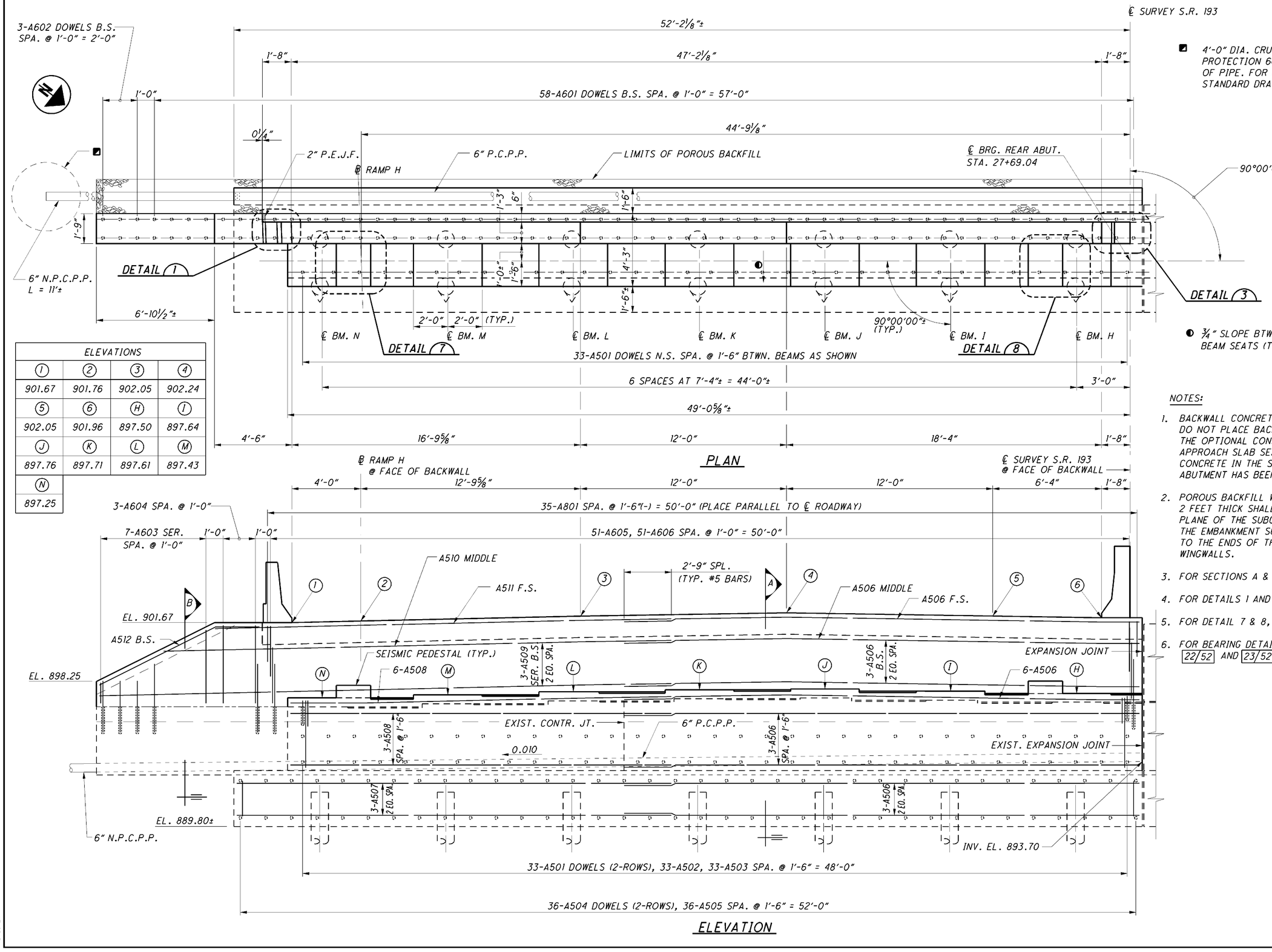
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3/19/2009
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rhorvitzky

DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
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330-572-2100, Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5004470	

ABUTMENT REMOVAL DETAILS
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235



ELEVATIONS			
(1)	(2)	(3)	(4)
901.67	901.76	902.05	902.24
(5)	(6)	(H)	(I)
902.05	901.96	897.50	897.64
(J)	(K)	(L)	(M)
897.76	897.71	897.61	897.43
(N)			
897.25			

◪ 4'-0" DIA. CRUSHED AGGREGATE SLOPE PROTECTION 601.06 1'-0" THICK AT END OF PIPE. FOR ADDITIONAL DETAILS SEE STANDARD DRAWING NO. SICD-1-96.

◐ ¾" SLOPE BTWN. BEAM SEATS (TYP.)

NOTES:

1. BACKWALL CONCRETE: IN ADDITION TO 511.10 DO NOT PLACE BACKWALL CONCRETE ABOVE THE OPTIONAL CONSTRUCTION JOINT AT THE APPROACH SLAB SEAT UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT THE ABUTMENT HAS BEEN PLACED.
2. POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
3. FOR SECTIONS A & B, SEE SHT. NO. 13/52.
4. FOR DETAILS 1 AND 3, SEE SHT. NO. 14/52.
5. FOR DETAIL 7 & 8, SEE SHT. NO. 13/52.
6. FOR BEARING DETAILS, SEE SHT. NOS. 22/52 AND 23/52.

DESIGN AGENCY
GPD ASSOCIATES
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330-972-2100, Fax 330-972-2101

DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	CGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5004470	

REAR ABUTMENT - EASTBOUND (PHASE 1)
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

9 / 52

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◑ ¾" SLOPE BTWN. BEAM SEATS (TYP.)

◪ 4'-0" DIA. CRUSHED AGGREGATE SLOPE PROTECTION 601.06 1'-0" THICK AT END OF PIPE. FOR ADDITIONAL DETAILS SEE STANDARD DRAWING NO. SICD-1-96.

70'-6⅝"±

2'-2¼" | 18'-8¼" | 12'-3" | 33'-8⅝" | 1'-9⅜"

℄ BRG. FRWD. ABUT. STA. 35+53.07

76-A601 DOWELS SPA. @ 1'-0" = 75'-0"

3-A602 DOWELS B.S. SPA. @ 1'-0" = 2'-0"

1'-0"

61'-8⅞"

SEE BELOW FOR CONTINUATION

℄ SURVEY S.R. 193

DETAIL 6

78°30'19"

6" P.C.P.P.

LIMITS OF POROUS BACKFILL

℄ RAMP J

2¼"

DETAIL 5

1'-6" | 1'-3" | 6" | 4'-3" | 1'-6"± | 1'-0½" | 1'-6"

2'-0" 2'-0" (TYP. U.N.O.)

3'-0" | 3'-0"

℄ BM. H | ℄ BM. I | ℄ BM. J | ℄ BM. K | ℄ BM. L | ℄ BM. M | ℄ BM. M-1 | ℄ BM. N

DETAIL 9

DETAIL 10

44-A501 DOWELS N.S. SPA. @ 1'-6 BTWN. BEAMS AS SHOWN

3'-0¾"± | 5 SPACES @ 7'-5¹³⁄₁₆"± = 37'-5¹⁄₁₆"± | 12'-1¹³⁄₁₆"± | 12'-1¹³⁄₁₆"±

66'-4¾"±

6" N.P.C.P.P. L = 19'±

1'-10⅞" | 18'-8½" | 12'-3" | 33'-6⅛" | 4'-9¼" | 7'-1⅛"±

PLAN

℄ SURVEY S.R. 193 @ FACE OF BACKWALL

℄ RAMP J @ FACE OF BACKWALL 4'-3⅛"

1'-8½" | 6'-5½" | 12'-3" | 12'-3" | 29'-3"

47-A802 SPA. @ 1'-6"(-)= 68'-0" (PLACE PARALLEL TO ℄ ROADWAY)

69-A605, 69-A606 SPA. @ 1'-0" = 68'-0"

3-A604 SPA. @ 1'-0"

1'-0" | 1'-0" | 7-A603 SER. SPA. @ 1'-0"

2'-9" SPL. (TYP. # 5 BARS)

A506 MIDDLE | A506 F.S. | A506 MIDDLE | A506 F.S. | A522 MIDDLE | A521 F.S.

⑦ ⑧ ⑨ ⑩ Ⓐ ⑪ ⑫ Ⓑ

EL. 916.40

EL. 919.77

A512 B.S.

EXPANSION JOINT

Ⓗ 6-A506 Ⓘ Ⓙ Ⓚ Ⓛ Ⓜ 6-A519 Ⓜ-Ⓘ Ⓝ

3-A506 B.S. 2 EQ. SPA.

3-A520 SER. B.S. 2 EQ. SPA.

SEISMIC PEDESTAL (TYP.)

EXIST. EXPANSION JOINT

3-A506 SPA. @ 1'-6"

0.010

EXIST. CONTR. JT.

6" P.C.P.P.

3-A519 SPA. @ 1'-6"

INV. EL. 911.75

3-A506 2 EQ. SPA.

3-A518 2 EQ. SPA.

EL. 907.82±

6" N.P.C.P.P. PAST END OF WINGWALL

45-A501 DOWELS (2-ROWS), 45-A502, 45-A503 SPA. @ 1'-6" = 66'-0"

48-A504 DOWELS (2-ROWS), 48-A505 SPA. @ 1'-6"(-) = 70'-0"

ELEVATION

ELEVATIONS													
⑦	⑧	⑨	⑩	⑪	⑫	Ⓗ	Ⓘ	Ⓙ	Ⓚ	Ⓛ	Ⓜ	Ⓜ-Ⓘ	Ⓝ
920.42	920.57	920.85	920.75	919.90	917.77	915.89	916.08	916.25	916.27	916.20	916.02	915.71	915.39

NOTES:

1. FOR LOCATION OF SECTION A & B, AND DETAIL 9 & 10, SEE SHT. NO. 13/52.
2. FOR DETAILS 5 AND 6, SEE SHT. NO. 14/52.
3. FOR ADDTIONAL NOTES, SEE SHT. NO. 9/52.

DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYE SCHOMER BURNS & DeNAVEN INC.
320 South Main Street, Suite 251, Akron, Ohio 44311
330.972.2100, Fax 330.972.2101

DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	GCN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5004470	

FORWARD ABUTMENT - EASTBOUND (PHASE 1)
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

10 / 52

172 / 260

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3/23/2009
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℄ SURVEY S.R. 193

51'-7 3/8"±

1'-8" | 46'-10" | 1'-8"

56-A601 DOWELS B.S. SPA. @ 1'-0" = 55'-0"

1'-0" | 3-A602 DOWELS B.S. SPA. @ 1'-0" = 2'-0"

℄ BRG. REAR ABUT. STA. 27+69.04

44'-5 1/4"

DETAIL 3

90°00'00"±

6" P.C.P.P.

LIMITS OF POROUS BACKFILL

℄ RAMP G

0 1/8"

DETAIL 2

1'-3" | 6" | 1'-6" | 1'-0"± | 1'-6" | 4'-3" | 1'-6"±

1'-9"

EXPANSION JOINT

2" P.E.J.F.

6" N.P.C.P.P. L = 11'±

6'-7 3/4"±

2'-0" | 2'-0" (TYP.)

℄ BM. G | ℄ BM. F | ℄ BM. E | ℄ BM. D | ℄ BM. C | ℄ BM. B | ℄ BM. A

DETAIL 7 | DETAIL 8

33-A501 DOWELS N.S. SPA. @ 1'-6" BTWN. BEAMS AS SHOWN

4'-0"± | 6 SPACES @ 7'-2"± = 43'-0"±

48'-11 1/8"±

1'-8" | 18'-4" | 12'-0" | 16'-5 5/8" | 4'-6"

PLAN

℄ SURVEY S.R. 193 @ FACE OF BACKWALL

℄ RAMP G @ FACE OF BACKWALL

1'-8" | 6'-4" | 12'-0" | 12'-0" | 12'-5 5/8" | 4'-0"

33-A801 SPA. @ 1'-6" = 48'-0" (PLACE PARALLEL TO ℄ ROADWAY)

50-A605, 50-A606 SPA. @ 1'-0" = 49'-0"

1'-0" | 1'-0" | 7-A603 SER. SPA. @ 1'-0"

2-A604 SPA. @ 1'-6"

CONST. JT.

⑦ ⑧ ⑨ ⑩ ⑪ ⑫

A506 MIDDLE | A506 F.S. | 2'-9" SPL. (TYP. #5 BARS) | A516 MIDDLE | A517 F.S.

A | B

EL. 901.65

A512 B.S.

Ⓒ Ⓖ Ⓕ Ⓔ Ⓓ Ⓒ Ⓑ Ⓐ

3-A506 B.S. 2 EQ. SPA. | 6-A506 | 3-A515 SER. B.S. 2 EQ. SPA. | SEISMIC PEDESTAL (TYP.) | 6-A514

EL. 898.35

Ⓒ | Ⓓ

6" P.C.P.P. | EXIST. CONTR. JT.

EXIST. EXPANSION JOINT

3-A506 SPA. @ 1'-6" | 0.010 | 3-A514 SPA. @ 1'-6"

6" N.P.C.P.P.

3-A506 2 EQ. SPA. | 3-A513 2 EQ. SPA.

EL. 889.80±

INV. EL. 893.70

32-A501 DOWELS (2-ROWS), 32-A502, 32-A503 SPA. @ 1'-6" = 46'-6"

34-A504 DOWELS (2-ROWS), 34-A505 SPA. @ 1'-6" = 49'-6"

ELEVATION

¾" SLOPE BTWN. BEAMS SEATS (TYP.)

4'-0" DIA. CRUSHED AGGREGATE SLOPE PROTECTION 601.06 1'-0" THICK AT END OF PIPE. FOR ADDITIONAL DETAILS SEE STANDARD DRAWING NO. SICD-1-96.

ELEVATIONS			
⑦	⑧	⑨	⑩
901.96	902.05	902.24	902.05
⑪	⑫	Ⓐ	Ⓑ
901.75	901.65	897.32	897.47
Ⓒ	Ⓓ	Ⓔ	Ⓕ
897.61	897.73	897.80	897.66
Ⓖ			
897.53			

NOTES:

1. FOR OF SECTION A & B, SEE SHT. NO. 13/52 .
2. FOR DETAILS 2 AND 3 AND SECTIONS C & D, SEE SHT. NO. 14/52 .
3. FOR DETAIL 7 & 8, SEE SHT. NO. 13/52.
4. FOR ADDITIONAL NOTES, SEE SHT. NO. 9/52.

DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
330 South Main Street, Suite 251, Akron, Ohio 44311
330-572-2100, Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	CGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5004470	

REAR ABUTMENT - WESTBOUND (PHASE 2)
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

11 / 52

173 / 260

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3/23/2009
11:31:45 AM
RHOMILTZKY

■ 4'-0" DIA. CRUSHED AGGREGATE SLOPE PROTECTION 601.06 1'-0" THICK AT END OF PIPE. FOR ADDITIONAL DETAILS SEE STANDARD DRAWING NO. SICD-1-96.

◑ ¾" SLOPE BTWN. BEAM SEATS (TYP.)

59'-6¼"±

25'-3" | 12'-3" | 18'-8¼" | 1'-3¼"

3-A602 DOWELS B.S. SPA. @ 1'-0" = 2'-0" | 1'-0" | 64-A601 DOWELS B.S. SPA. @ 1'-0" = 63'-0"

51'-11⅞"

0⅝" | ℄ RAMP -- | 6" P.C.P.P. | LIMITS OF POROUS BACKFILL | ℄ BRG. FRWD. ABUT. STA. 35+53.07 | ℄ SURVEY S.R. 193

78°30'19"

6" N.P.C.P.P. L = 10'±

DETAIL 4 | DETAIL 6 | DETAIL 9 | DETAIL 11

1'-6" | 1'-3" | 6" | 4'-3" | 1'-0±" | 1'-6" | 1'-6"±

7'-0⅞"±

2'-0" 2'-0" (TYP.)

℄ BM. A | ℄ BM. A-1 | ℄ BM. B | ℄ BM. C | ℄ BM. D | ℄ BM. E | ℄ BM. F | ℄ BM. G

38-A501 DOWELS N.S. SPA. @ 1'-6" BTWN. BEAMS AS SHOWN

2 SPACES @ 7'-3½"± = 14'-7"± | 5 SPACES @ 7'-3¾"± = 36'-6⅞"± | 4'-1"±

56'-6⅝"±

ELEVATIONS			
(1)	(2)	(3)	(4)
919.19	919.38	920.28	920.56
(5)	(6)	(A)	(A-1)
920.45	920.40	914.79	915.09
(B)	(C)	(D)	(E)
915.39	915.69	915.87	915.98
(F)	(G)		
915.92	915.85		

4'-7⅛" | 23'-5½" | 12'-3" | 18'-8⅜" | 1'-6"

PLAN

℄ RAMP K @ FACE OF BACKWALL | ℄ SURVEY S.R. 193 @ FACE OF BACKWALL

4'-0¼" | 19'-5¼" | 12'-3" | 12'-3" | 6'-5½" | 1'-8½"

3-A604 SPA. @ 1'-0" | 38-A802 SPA. @ 1'-6" (PLACE PARALLEL TO ℄ OF ROADWAY)

7-A603 SER. SPA. @ 1'-0" | 1'-0" | 1'-0" | 57-A605, 57-A606 SPA. @ 1'-0" = 56'-0"

2'-9" SPL. (TYP. #5 BARS) | CONST. JT.

A528 MIDDLE | A527 F.S. | A506 MIDDLE | A506 F.S.

EL. 919.19 | A512 B.S. | EXPANSION JOINT

EL. 915.80 | 3-A526 SER. 2 EQ. SPA. | SEISMIC PEDESTAL (TYP.) | 3-A506 B.S. 2 EQ. SPA. | 6-A525 | 3-A506 B.S. 2 EQ. SPA. | 6-A506

EXIST. CONTR. JT. | 6" P.C.P.P. | 0.010" | EXIST. EXPANSION JOINT

3-A525 SPA. @ 1'-6" | 3-A506 SPA. @ 1'-6"

6" N.P.C.P.P. | EL. 907.22±

3-A524 2 EQ. SPA. | 3-A506 2 EQ. SPA.

INV. EL. 911.75

20-A501 DOWELS (2-ROWS), 20-A502, 20-A503 SPA. @ 1-6"(-) = 28'-3" | 1'-6" | 18-A501 (3-ROWS), 18-A523, 18-A503 SPA, @ 1'-6"(-) = 24'-10"

40-A504 DOWELS (2-ROWS), 40-A505 SPA. @ 1'-6"(-) = 58'-0"

ELEVATION

NOTES:

1. FOR LOCATION OF SECTION A AND B, AND DETAIL 9 & 11, SEE SHT. NO. 13/52 .
2. FOR DETAILS 4 AND 6 AND SECTIONS C & D, SEE SHT. NO. 14/52 .
3. FOR ADDITIONAL NOTES, SEE SHT NO. 9/52.

DESIGN AGENCY
GPD ASSOCIATES
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5004470	

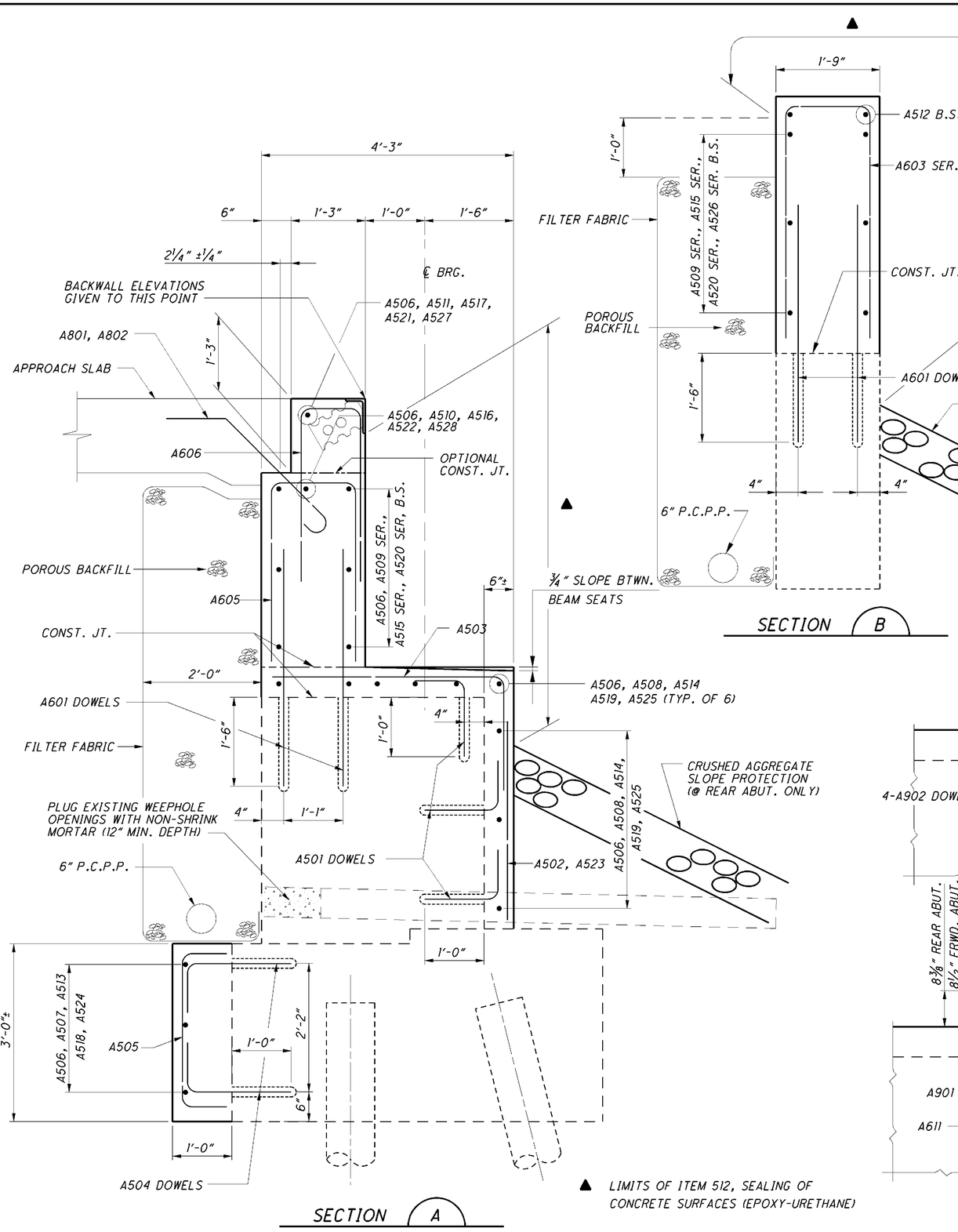
FORWARD ABUTMENT - WESTBOUND (PHASE 2)
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

12 / 52

174 / 260

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3/23/2009
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HADICI12KY



NOTE:

1. FOR THE LOCATIONS OF SECTIONS A AND B, SEE SHT. NOS. 9/52 THRU 12/52 .

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3/23/2009
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DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHLOSSER BURNUS & DRAKAVIN INC.
330 South Main Street, Suite 251, Akron, Ohio 44311
330-972-2100, Fax 330-972-2101

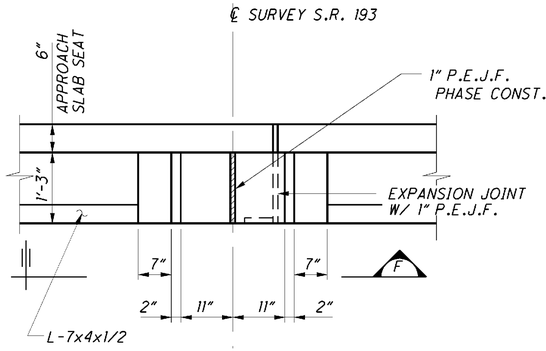
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RPR	RPR	GCN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5004470	

ABUTMENT DETAILS
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

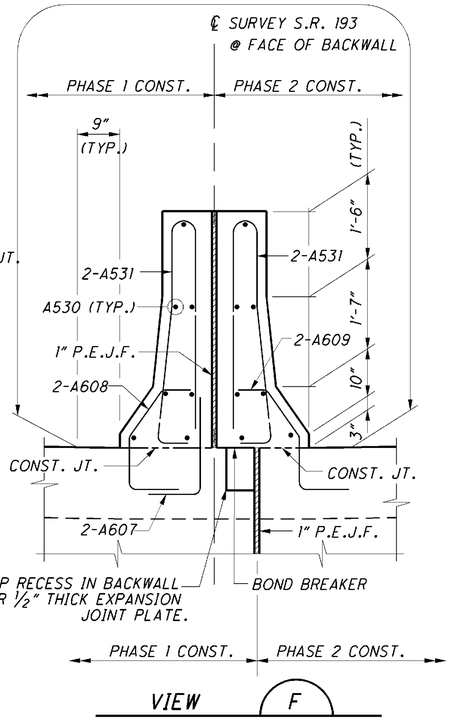
MAH-193/422
-0.46/1.85
PID No. 25235

13 / 52

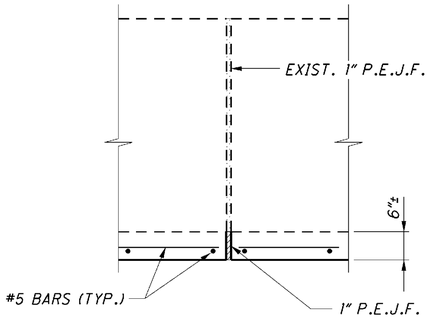
175 / 260



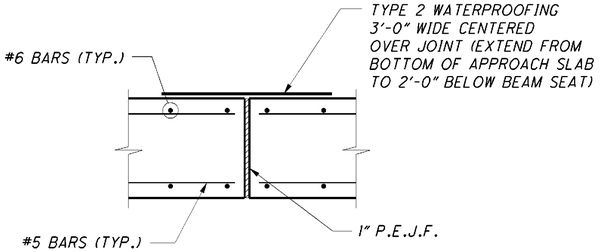
DETAIL 3
REAR ABUTMENT



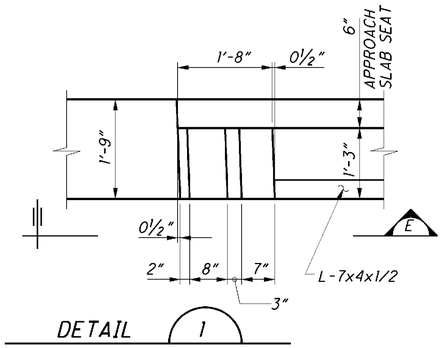
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SECTION D
EXPANSION JOINT DETAIL

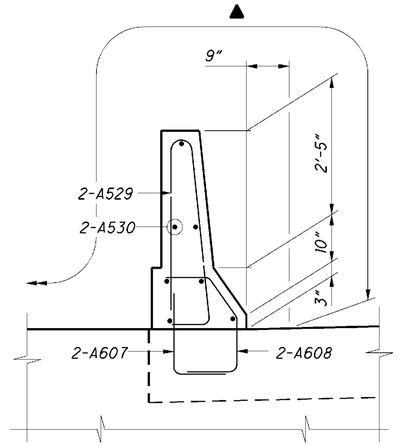


SECTION C
EXPANSION JOINT DETAIL

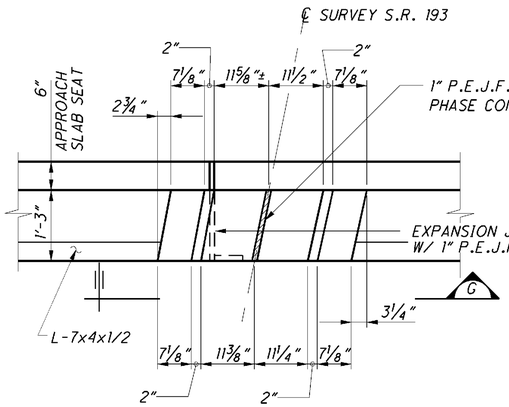


DETAIL 1

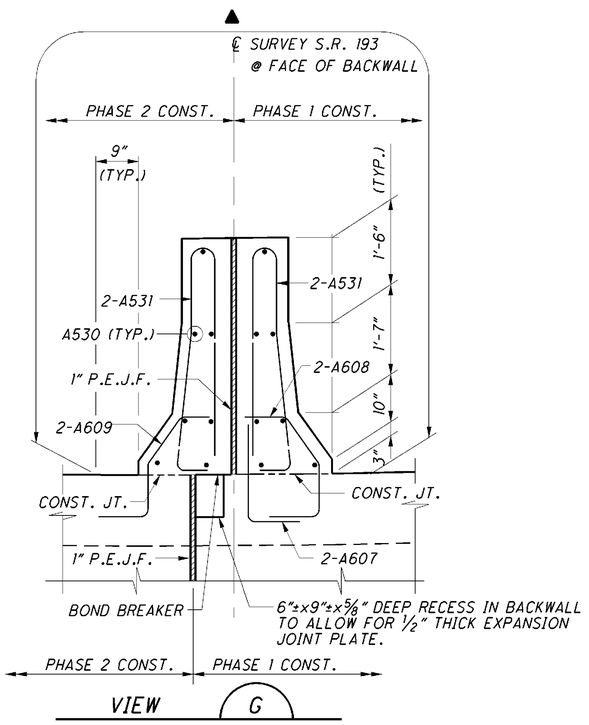
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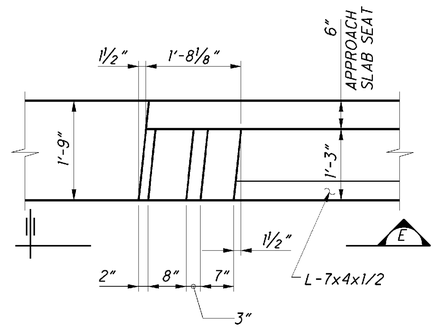
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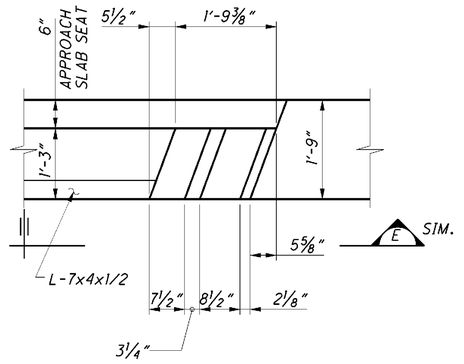
DETAIL 6
FRWD. ABUTMENT



VIEW G



DETAIL 4
FRWD. ABUTMENT



DETAIL 5
FRWD. ABUTMENT

NOTE:
FOR ADDITIONAL EXPANSION JOINT DETAILS, SEE SHT. NO. 31A/52 AND ODOT STD. DWG. EXJ-4-87.

▲ LIMITS OF ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

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3/23/2009
11:31:25 AM
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DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHENDER BURGES & DERAVEN INC.
330 South Main Street, Suite 251, Akron, Ohio 44311
330-972-2100, Fax 330-972-2101

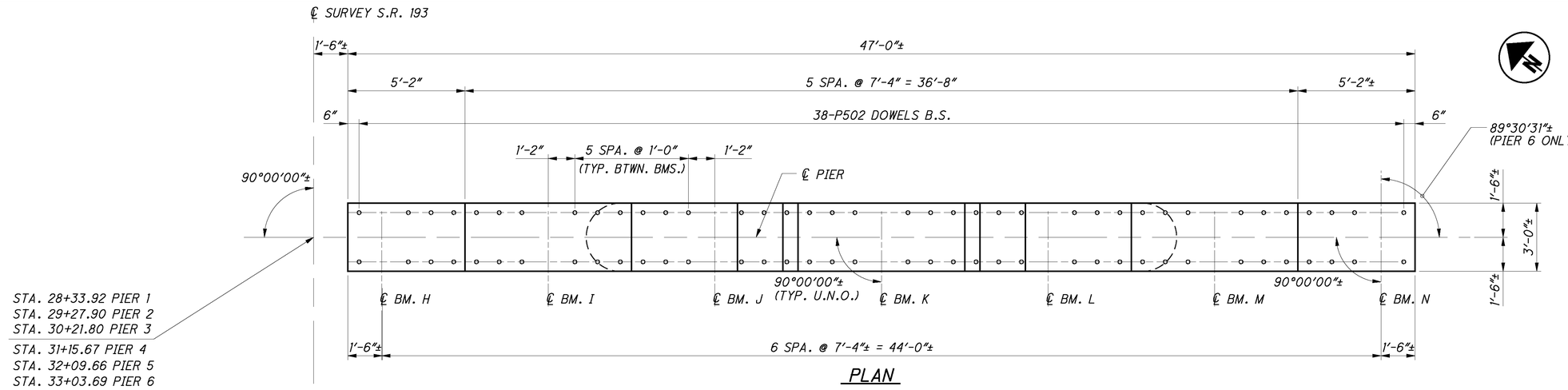
DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	GCN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5004470	

ABUTMENT DETAILS
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

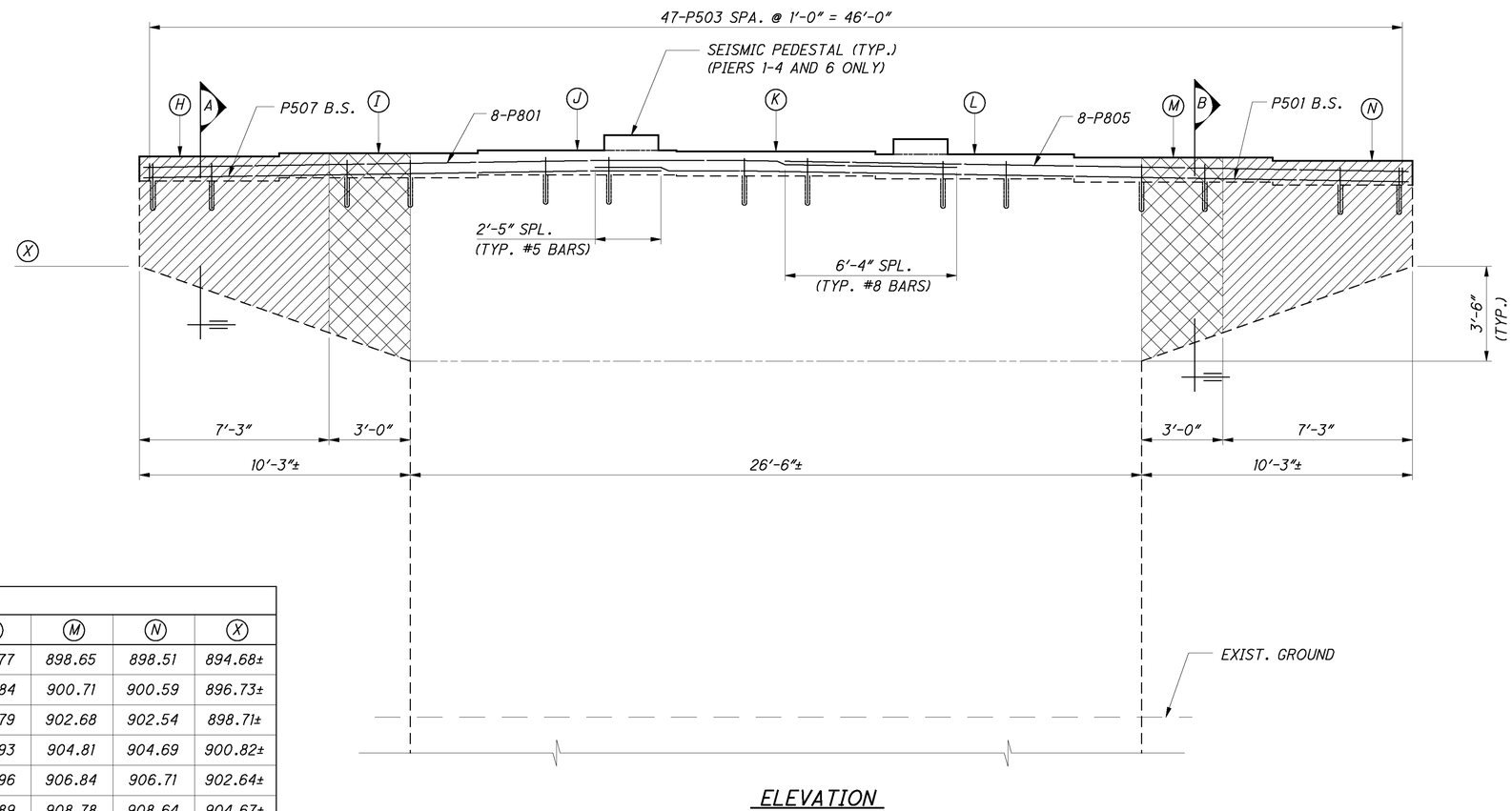
MAH-193/422
-0.46/1.85
PID No. 25235

14 / 52

176
260



PLAN



ELEVATION

LEGEND:

ITEM SPECIAL - STRUCTURE MISC: COMPOSITE FIBER WRAP SYSTEM, 2 LAYER GLASS FIBER. 2 LAYERS OF TYFO SEH-51A OR EQUIVALENT (PRIMARY GLASS FIBER, UNIDIRECTIONAL)

ITEM SPECIAL - STRUCTURE MISC: COMPOSITE FIBER WRAP SYSTEM, 4 LAYER GLASS FIBER. 4 LAYERS OF TYFO SEH-51A OR EQUIVALENT (PRIMARY GLASS FIBER, UNIDIRECTIONAL). OR AT CONTRACTOR'S OPTION AND AT NO ADDITIONAL COST TO THE DEPARTMENT, PROVIDE 2 LAYERS OF PRIMARY CARBON FIBER, UNIDIRECTIONAL, AS ALTERNATE TO 4 LAYER OF GLASS FIBER.

ELEVATIONS								
PIER NO.	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(X)
1	898.66	898.82	898.91	898.87	898.77	898.65	898.51	894.68±
2	900.72	900.86	900.98	900.96	900.84	900.71	900.59	896.73±
3	902.69	902.85	902.95	902.92	902.79	902.68	902.54	898.71±
4	904.84	904.98	905.10	905.05	904.93	904.81	904.69	900.82±
5	906.88	907.00	907.14	907.07	906.96	906.84	906.71	902.64±
6	908.82	908.94	909.05	909.02	908.89	908.78	908.64	904.67±

NOTES:

1. FOR SECTIONS A & B, SEE SHT. NO. 21/52 .
2. FOR SEISMIC PEDESTAL DETAILS, SEE SHT. NO. 20/52 .
3. FOR ADDITIONAL NOTES, SEE SHT. NO. 4/52 .

DESIGN AGENCY
GLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
GPD ASSOCIATES
333 Sixth Street, Suite 231 Kelly, Ohio 44511
330-372-2100 , Fax 330-372-2101

DESIGNED	DRAWN	REVIEWED	DATE
GGN	RPR	DJC	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		5004470	

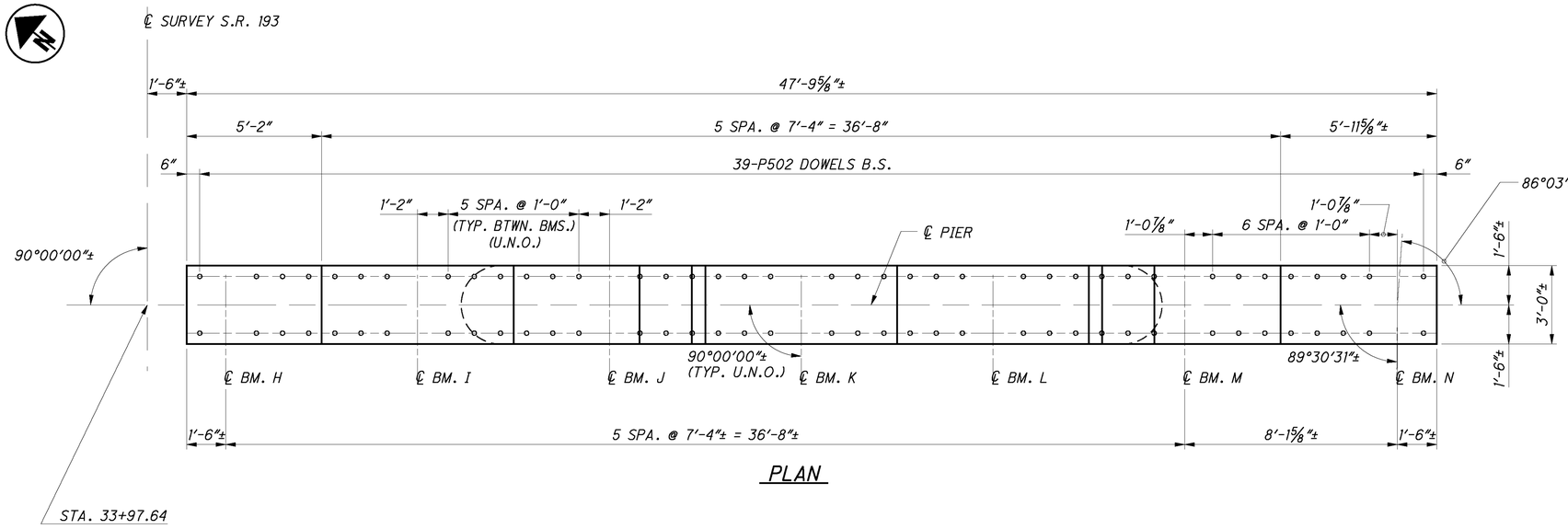
PIERS 1 THRU 6 - EASTBOUND (PHASE 1)
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

15/52

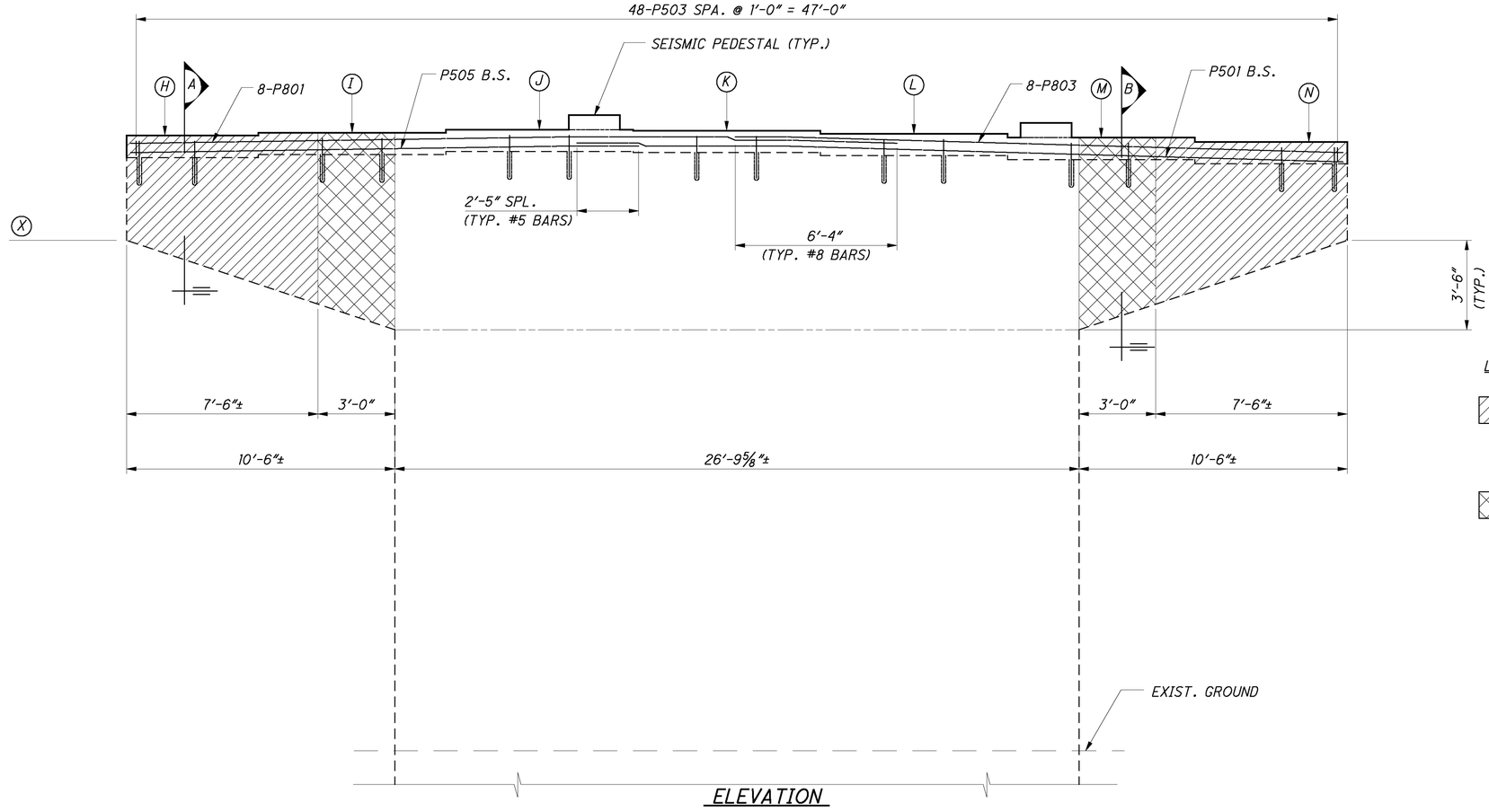
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7/7/2009
10:19:48 AM
RATHER



PLAN

ELEVATIONS			
(H)	(I)	(J)	(K)
910.80	910.93	911.06	911.00
(L)	(M)	(N)	(X)
910.88	910.73	910.53	906.72±



ELEVATION

LEGEND:

ITEM SPECIAL - STRUCTURE MISC: COMPOSITE FIBER WRAP SYSTEM, 2 LAYER GLASS FIBER. 2 LAYERS OF TYFO SEH-51A OR EQUIVALENT (PRIMARY GLASS FIBER, UNIDIRECTIONAL)

ITEM SPECIAL - STRUCTURE MISC: COMPOSITE FIBER WRAP SYSTEM, 4 LAYER GLASS FIBER. 4 LAYERS OF TYFO SEH-51A OR EQUIVALENT (PRIMARY GLASS FIBER, UNIDIRECTIONAL). OR AT CONTRACTOR'S OPTION AND AT NO ADDITIONAL COST TO THE DEPARTMENT, PROVIDE 2 LAYERS OF PRIMARY CARBON FIBER, UNIDIRECTIONAL, AS ALTERNATE TO 4 LAYER OF GLASS FIBER.

NOTES:

1. FOR SECTIONS A & B, SEE SHT. NO. 21/52 .
2. FOR SEISMIC PEDESTAL DETAILS, SEE SHT. NO. 20/52 .
3. FOR ADDITIONAL NOTES, SEE SHT. NO. 15/52 .

DESIGN AGENCY
GLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
GPD ASSOCIATES
537 South Main Street, Suite 231, Akron, Ohio 44311
330-572-2100 . Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
GGN	RPR	DJC	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		5004470	

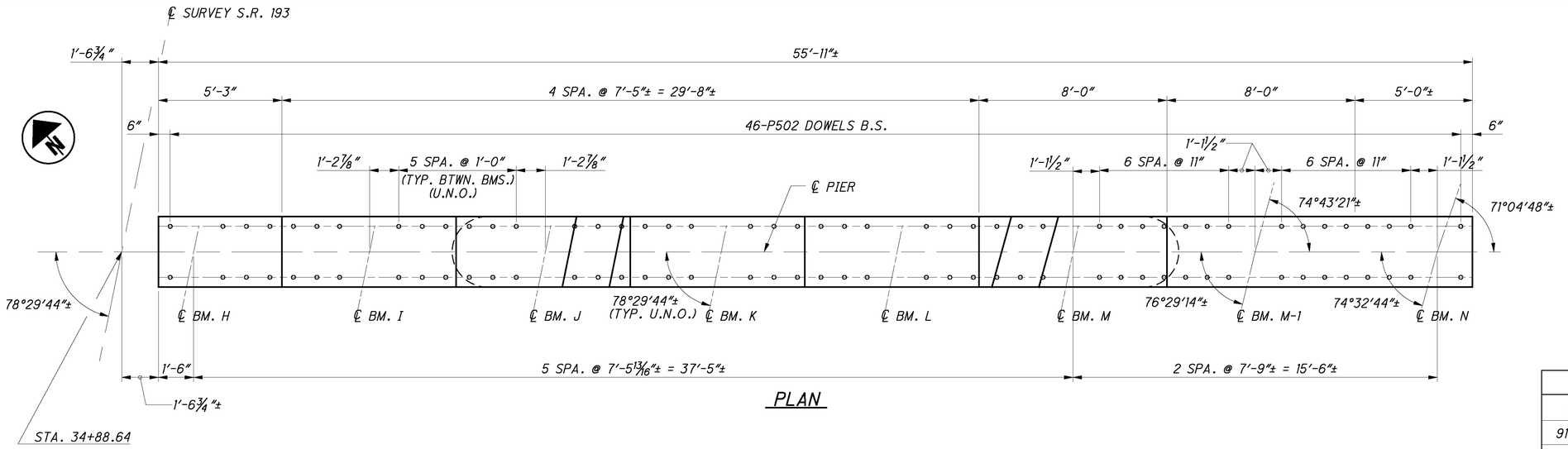
PIER 7 - EASTBOUND (PHASE 1)
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

16 / 52

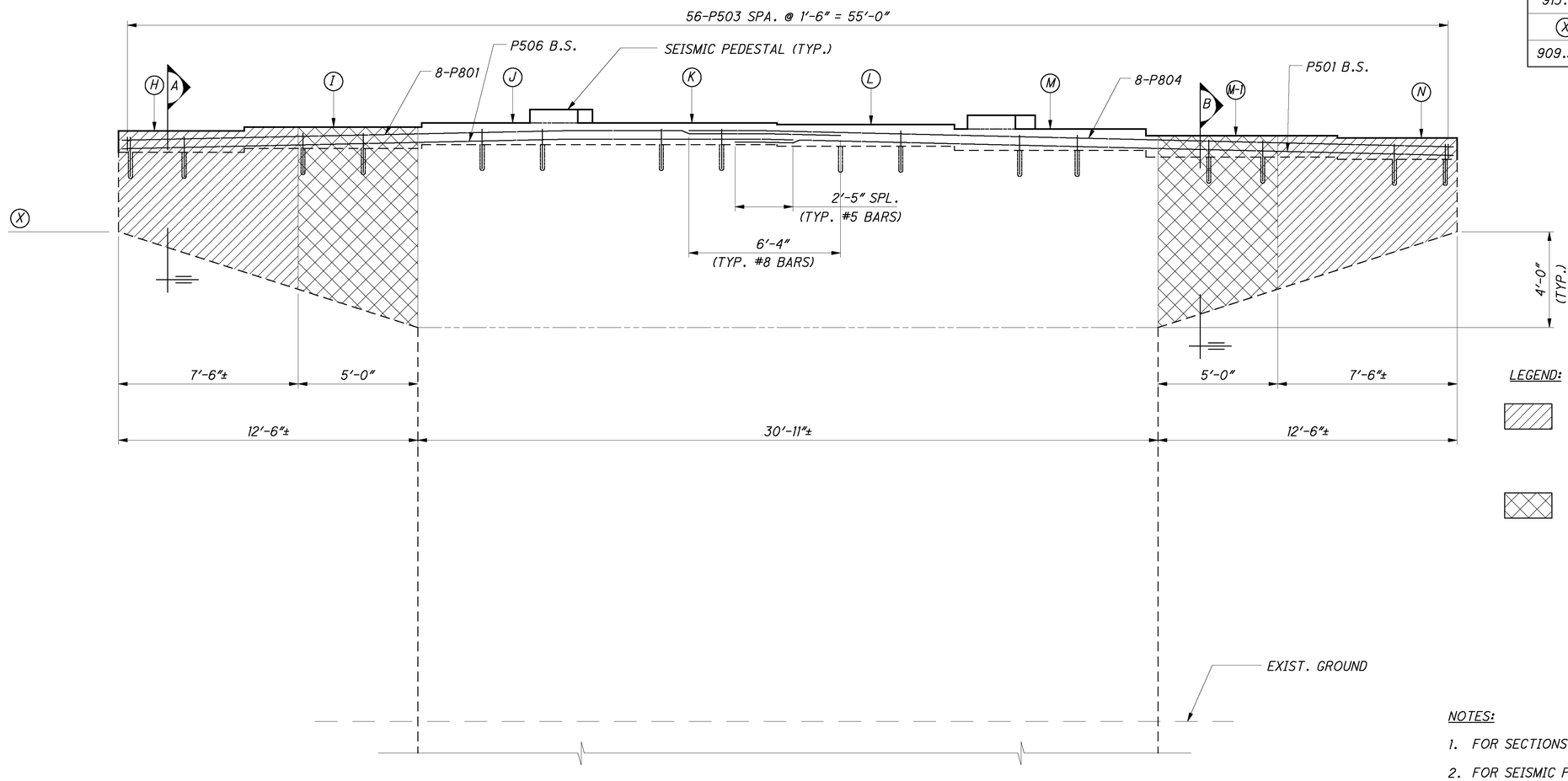
178
260

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7/7/2009
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HAYMER



PLAN

ELEVATIONS			
(H)	(I)	(J)	(K)
913.52	913.72	913.90	913.92
(L)	(M)	(M-1)	(N)
913.83	913.67	913.43	913.23
(X)			
909.38±			



ELEVATION

LEGEND:

ITEM SPECIAL - STRUCTURE MISC: COMPOSITE FIBER WRAP SYSTEM, 2 LAYER GLASS FIBER. 2 LAYERS OF TYFO SEH-51A OR EQUIVALENT (PRIMARY GLASS FIBER, UNIDIRECTIONAL)

ITEM SPECIAL - STRUCTURE MISC: COMPOSITE FIBER WRAP SYSTEM, 4 LAYER GLASS FIBER. 4 LAYERS OF TYFO SEH-51A OR EQUIVALENT (PRIMARY GLASS FIBER, UNIDIRECTIONAL). OR AT CONTRACTOR'S OPTION AND AT NO ADDITIONAL COST TO THE DEPARTMENT, PROVIDE 2 LAYERS OF PRIMARY CARBON FIBER, UNIDIRECTIONAL, AS ALTERNATE TO 4 LAYER OF GLASS FIBER.

NOTES:

1. FOR SECTIONS A & B, SEE SHT. NO. 21/52 .
2. FOR SEISMIC PEDESTAL DETAILS, SEE SHT. NO. 20/52 .
3. FOR ADDITIONAL NOTES, SEE SHT. NO. 15/52.

DESIGN AGENCY
GPD ASSOCIATES
GLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
537 South Main Street, Suite 201, Findlay, Ohio 44871
330-372-2100 , Fax 330-372-2101

DESIGNED	DRAWN	REVIEWED	DATE
GGN	RPR	DJC	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		5004470	

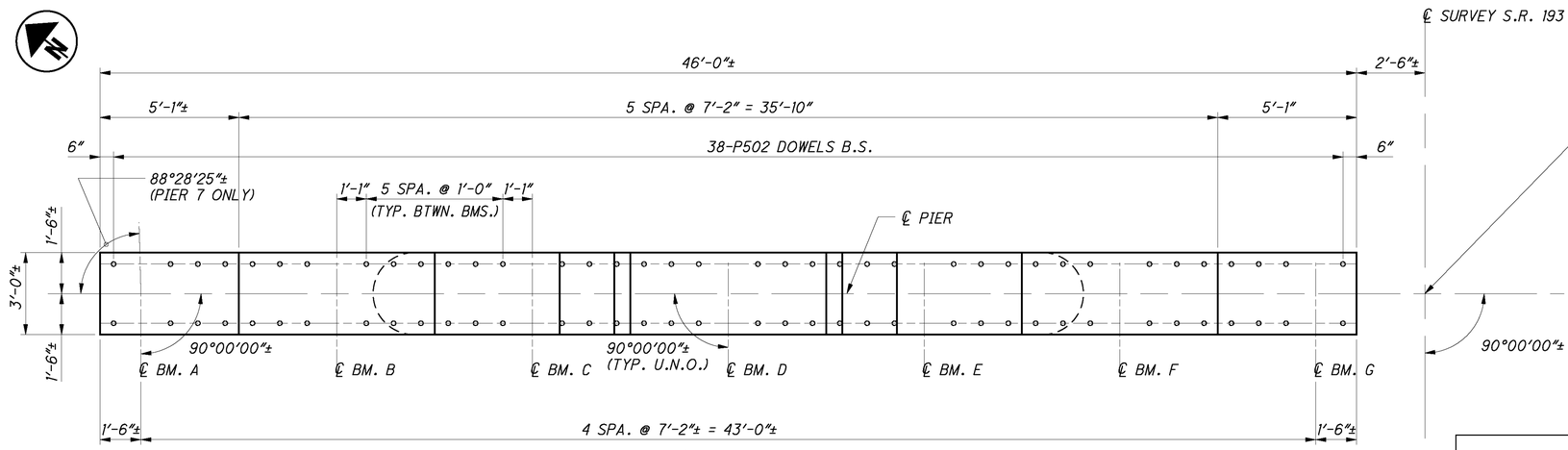
PIER 8 - EASTBOUND (PHASE 1)
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

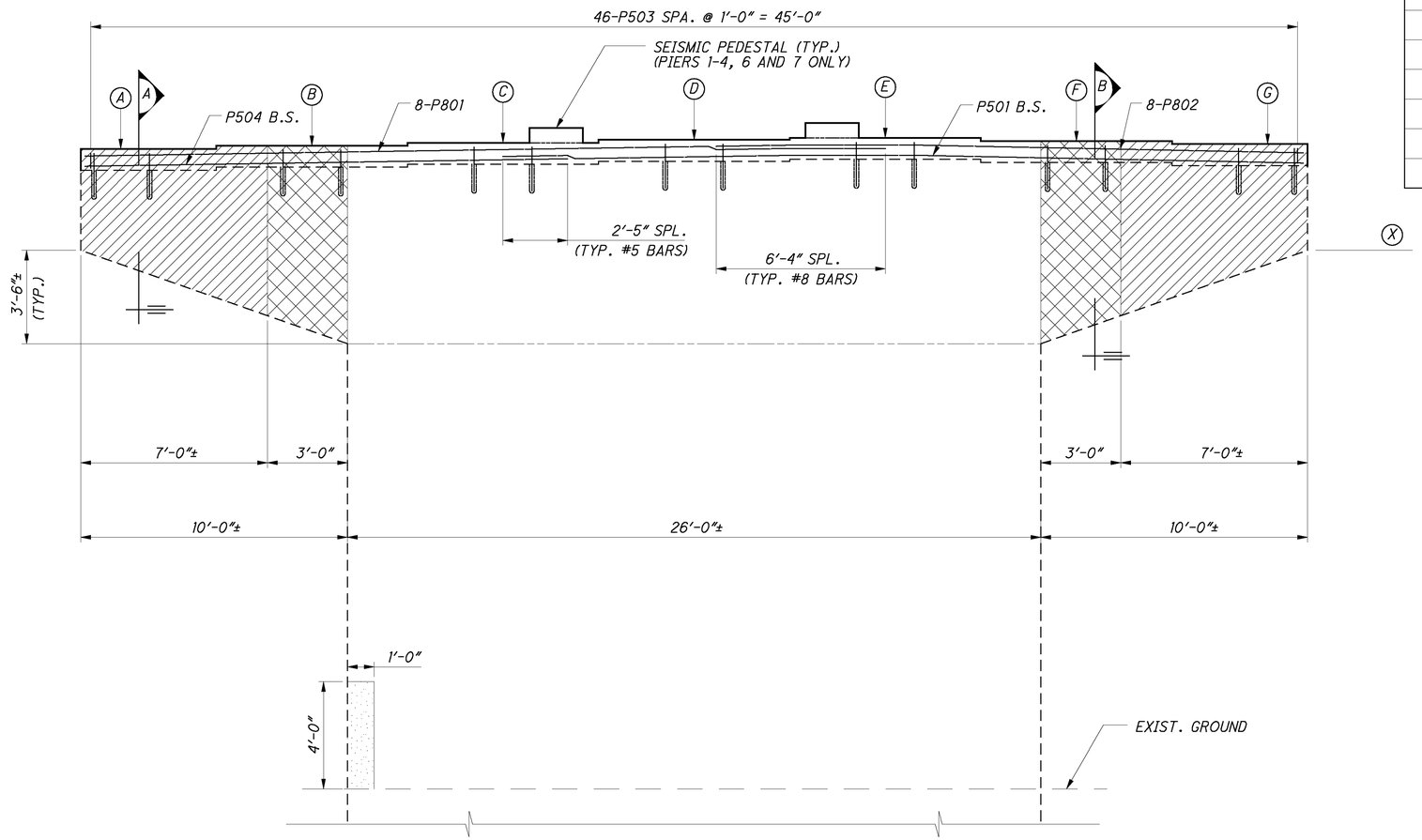
17/52

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RAYMER



PLAN



ELEVATION

ELEVATIONS								
PIER NO.	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(X)
1	898.50	898.62	898.74	898.86	898.94	898.80	898.70	894.68±
2	900.57	900.71	900.82	900.93	900.99	900.89	900.76	896.73±
3	902.55	902.68	902.78	902.91	902.97	902.84	902.74	898.74±
4	904.67	904.81	904.92	905.04	905.10	904.98	904.86	900.77±
5	906.74	906.87	906.98	907.10	907.15	907.03	906.90	902.67±
6	908.64	908.77	908.88	908.99	909.07	908.96	908.85	904.64±
7	910.64	910.77	910.88	910.98	911.06	910.94	910.83	906.81±

LEGEND:

ITEM SPECIAL - STRUCTURE MISC:
COMPOSITE FIBER WRAP SYSTEM, 2 LAYER GLASS FIBER. 2 LAYERS OF TYFO SEH-51A OR EQUIVALENT (PRIMARY GLASS FIBER, UNIDIRECTIONAL)

ITEM SPECIAL - STRUCTURE MISC:
COMPOSITE FIBER WRAP SYSTEM, 4 LAYER GLASS FIBER. 4 LAYERS OF TYFO SEH-51A OR EQUIVALENT (PRIMARY GLASS FIBER, UNIDIRECTIONAL). OR AT CONTRACTOR'S OPTION AND AT NO ADDITIONAL COST TO THE DEPARTMENT, PROVIDE 2 LAYERS OF PRIMARY CARBON FIBER, UNIDIRECTIONAL, AS ALTERNATE TO 4 LAYER OF GLASS FIBER.

INDICATES AREA TO BE PATCHED PER ITEM 519, PATCHING CONCRETE STRUCTURE (@ PIER 4 ONLY)

NOTES:

1. FOR SECTIONS A & B, SEE SHT. NO. 21/52 .
2. FOR SEISMIC PEDESTAL DETAILS, SEE SHT. NO. 20/52 .
3. FOR ADDITIONAL NOTES, SEE SHT. NO. 15/52.

DESIGN AGENCY
GPD ASSOCIATES
GLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
337 South Main Street, Suite 233 Akron, Ohio 44311
330-572-2100 . Fax 330-572-2101

DRAWN RPR | DESIGNED GGN | CHECKED TJW | REVIEWED DJC | DATE 9-26-08 | REVISED | STRUCTURE FILE NUMBER 5004470

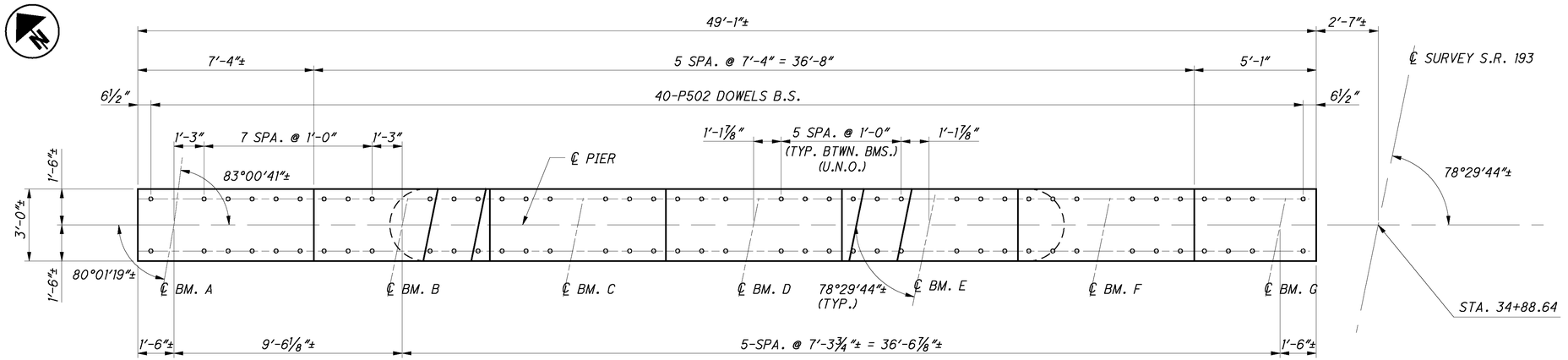
PIERS 1 THRU 7 - WESTBOUND (PHASE 2)
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

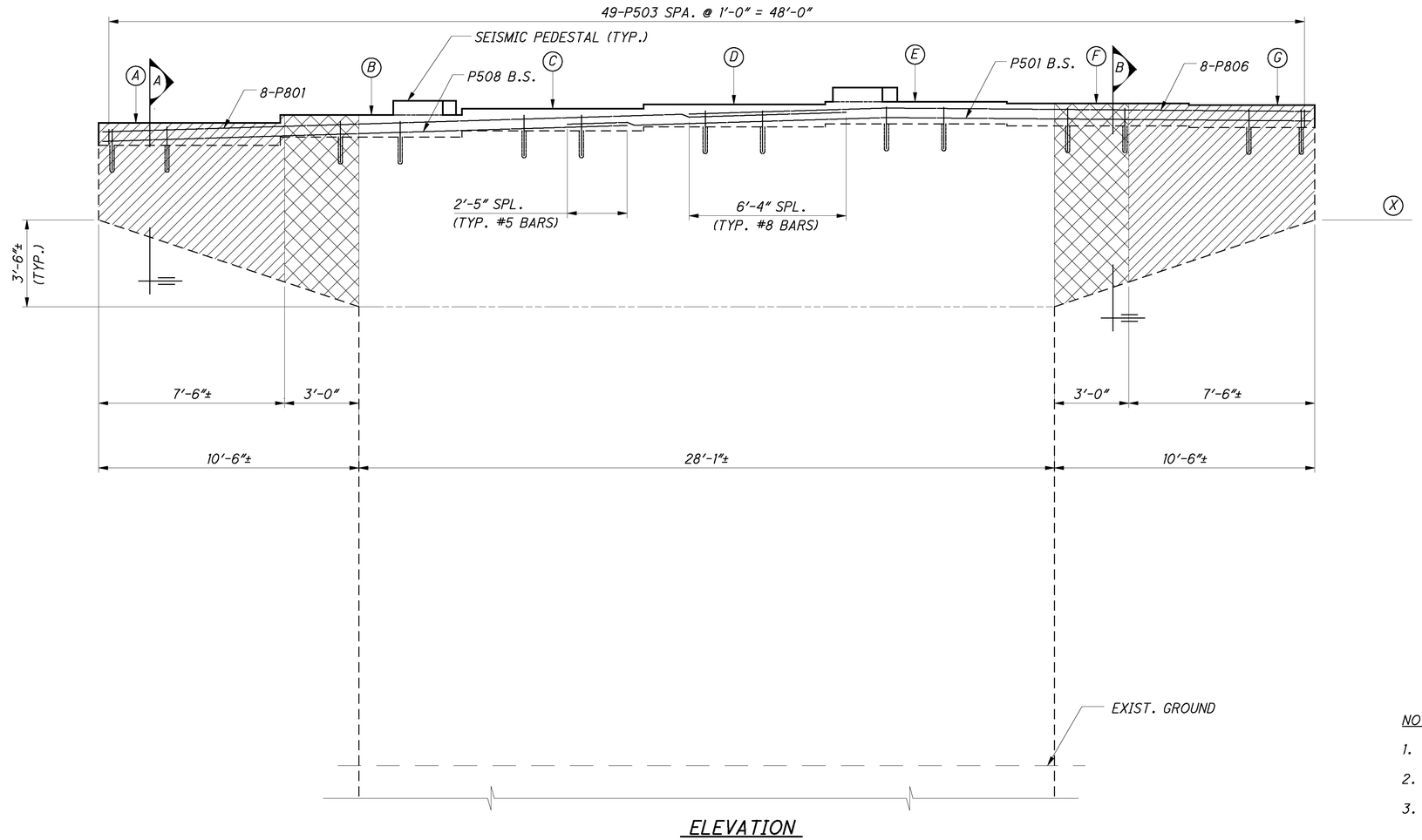
18 / 52

180
260

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7/7/2005
10:20:28 AM
KRYMER



PLAN



ELEVATION

ELEVATIONS			
A	B	C	D
912.75	913.15	913.40	913.58
E	F	G	X
913.71	913.63	913.54	908.94±

LEGEND:

ITEM SPECIAL - STRUCTURE MISC: COMPOSITE FIBER WRAP SYSTEM, 2 LAYER GLASS FIBER. 2 LAYERS OF TYFO SEH-51A OR EQUIVALENT (PRIMARY GLASS FIBER, UNIDIRECTIONAL)

ITEM SPECIAL - STRUCTURE MISC: COMPOSITE FIBER WRAP SYSTEM, 4 LAYER GLASS FIBER. 4 LAYERS OF TYFO SEH-51A OR EQUIVALENT (PRIMARY GLASS FIBER, UNIDIRECTIONAL). OR AT CONTRACTOR'S OPTION AND AT NO ADDITIONAL COST TO THE DEPARTMENT, PROVIDE 2 LAYERS OF PRIMARY CARBON FIBER, UNIDIRECTIONAL, AS ALTERNATE TO 4 LAYER OF GLASS FIBER.

NOTES:

1. FOR SECTIONS A & B, SEE SHT. NO. 21/52 .
2. FOR SEISMIC PEDESTAL DETAILS, SEE SHT. NO. 20/52 .
3. FOR ADDITIONAL NOTES, SEE SHT. NO. 15/52.

DESIGN AGENCY
GLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
GPD ASSOCIATES
330-572-2100 Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
GGN	RPR	DJC	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		5004470	

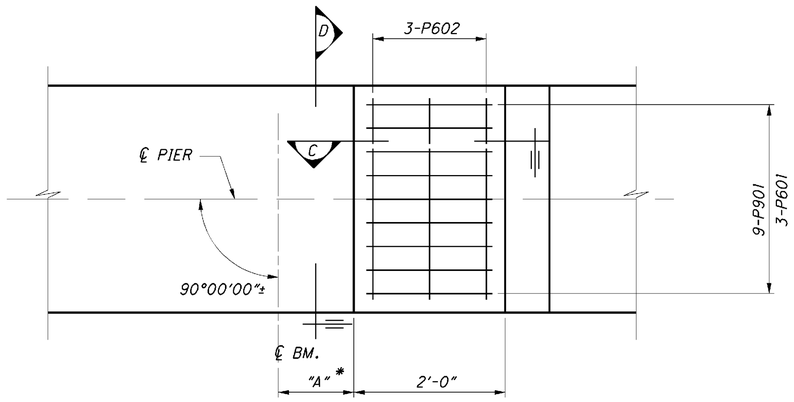
PIER 8 - WESTBOUND (PHASE 2)
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

19/52

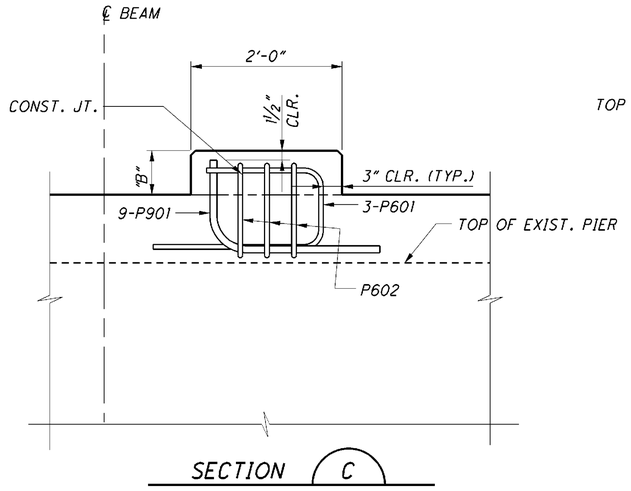
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HAYMER

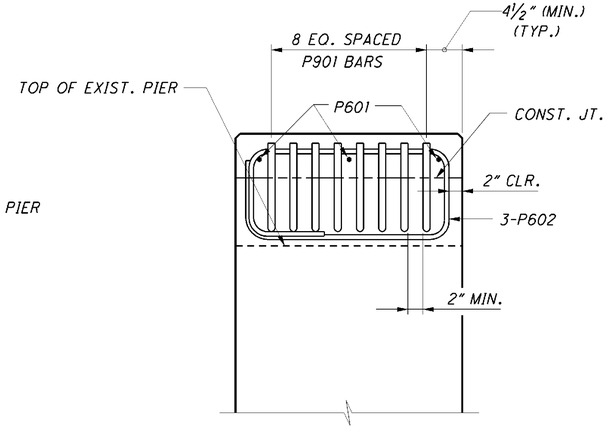


SEISMIC PEDESTAL DETAIL PIERS 1-7

LEFT PEDESTAL ON PIER SHOWN, RIGHT PEDESTAL SIMILAR

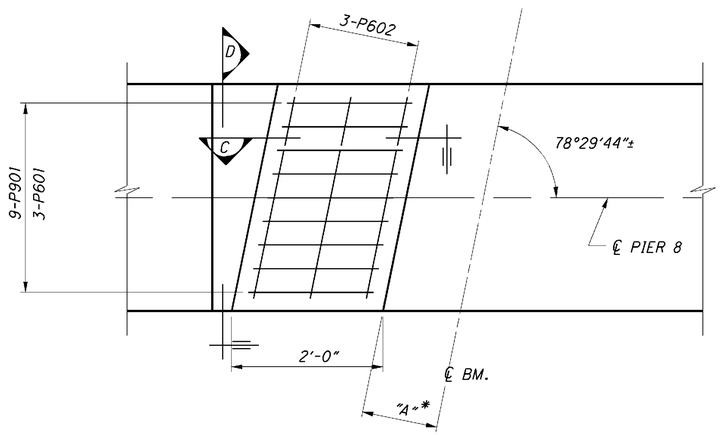


SECTION C



SECTION D

SEISMIC PEDESTAL DIMENSIONS			
PIER	BEAM	DIM. A	DIM. B
1 THRU 3	C	1'-1⅞"	10"
	E		
	J		
	L		
4 & 6	C	1'-0"	8⅝"
	E		
	J		
	L		
7	C	1'-1⅞"	10⅛"
	E		
	J		
	M		
8	B	1'-1⅞"	10⅛"
	E		
	J		
	M		



SEISMIC PEDESTAL DETAIL PIER 8

RIGHT PEDESTAL ON PIER SHOWN, LEFT PEDESTAL SIMILAR

* SEISMIC PEDESTALS SHALL BE PLACED 1" CLEAR OF BEARING LOAD PLATES

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DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYE SCHOMER BURNS & DeHAVEN INC.
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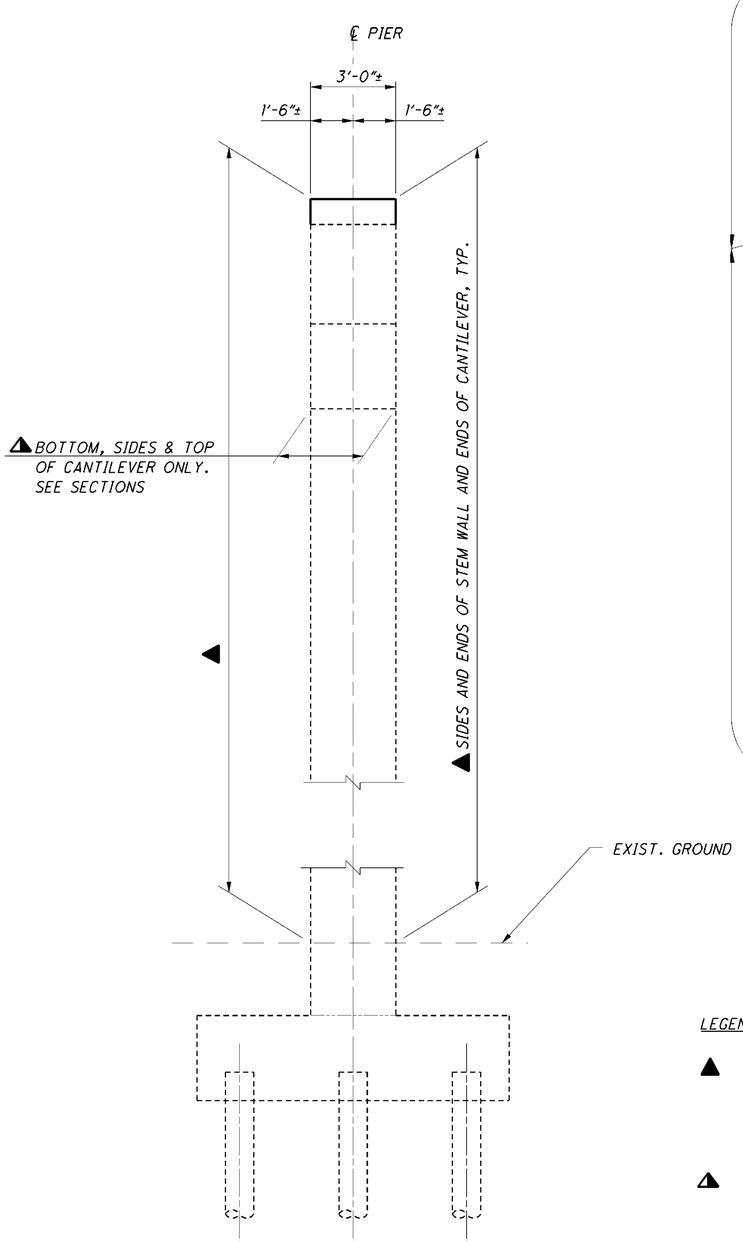
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TJW	RPR	GGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DJC		5004470	

PIER SEISMIC PEDESTAL DETAILS

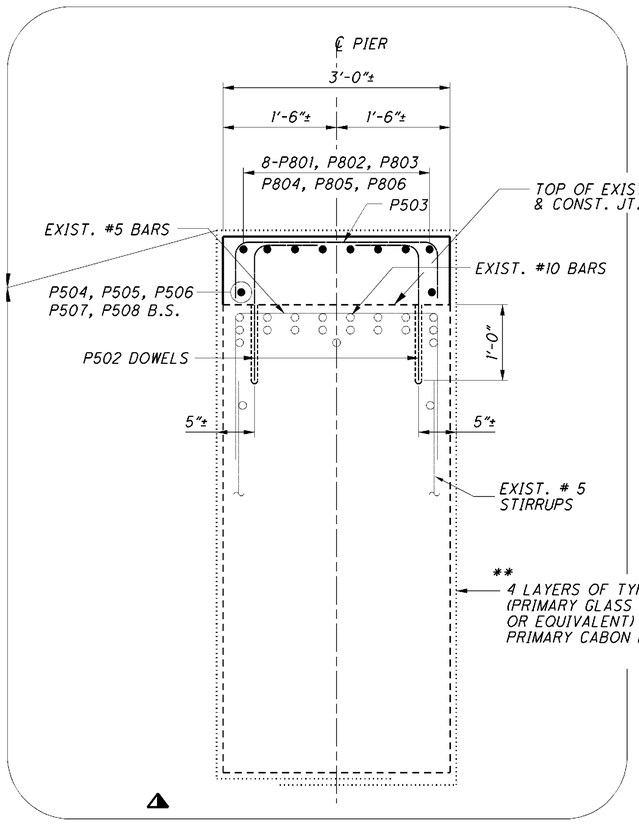
BRIDGE NO. MAH-193-0072

MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

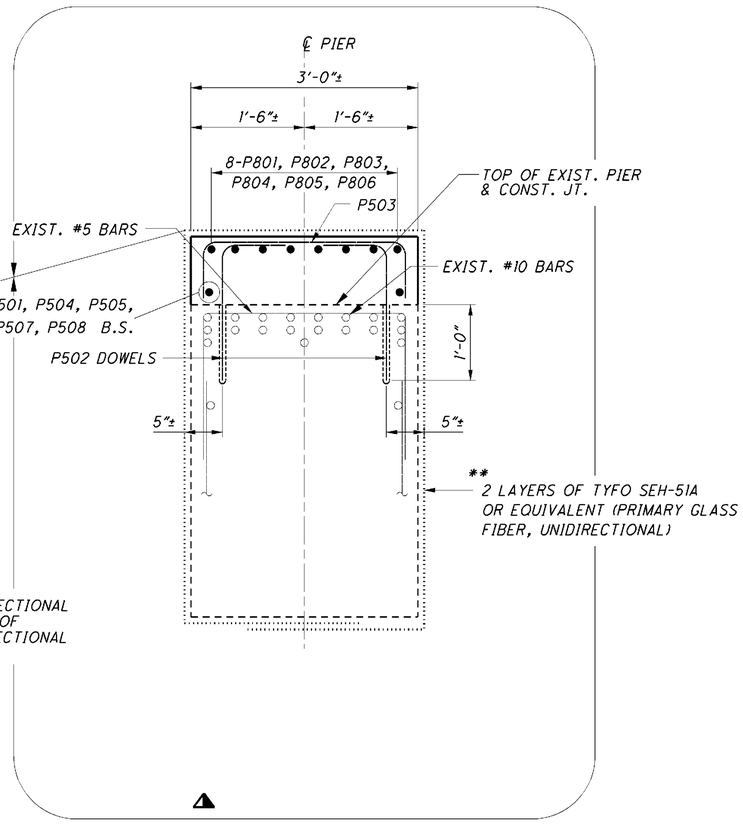
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-0.46/1.85
PID No. 25235



TYPICAL END VIEW



SECTION B



SECTION A

LEGEND:

▲ INDICATES LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE). THIS MATERIAL SHALL NOT BE APPLIED TO THE SURFACE OF THE COMPOSITE FIBER WRAP SYSTEM.

⚠ INDICATES LIMITS OF ITEM SPECIAL - SEALING, MISC.: ACRYLIC FINISH COAT. THIS MATERIAL IS INTENDED TO COLOR AND PROTECT THE SURFACE OF THE COMPOSITE FIBER WRAP SYSTEM.

** COMPOSITE FIBER WRAP SYSTEM TO BE TRIMMED CLEAR OF BEARING LOCATION AT THE TOP OF CANTILEVER ARM.

NOTE:

FOR ADDITIONAL NOTES ON ACRYLIC FINISH COAT AND COMPOSITE FIBER WRAP SYSTEM, SEE SHT. NO. 4/52.

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DESIGNED	DRAWN	REVIEWED	DATE
CGN	RPR	DJC	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		5004470	

PIER DETAILS
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

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NOTES:

1. 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.

2. WELDING: CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300° F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

3. BEARING REPOSITIONING: IF STEEL IS ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80° F OR LOWER THAN 40° F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60° F (±) 10° F, THE GIRDERS SHALL BE RAISED TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60° F (±) 10° F.

4. GRADE 50 STEEL SHALL BE USED FOR ALL STEEL PLATES. THE LOAD PLATE SHALL BE VULCANIZED BONDED TO THE LAMINATED ELASTOMERIC PAD DURING THE MOLDING PROCESS.

5. FIXED BEARING ANCHOR RODS SHALL BE GALVANIZED AS PER CMS 711.02. ANCHOR RODS SHALL EXTEND 1 INCH ABOVE THE LOAD OR MASONRY PLATE.

6. PROVIDE SHOP DRAWINGS CONFORMING TO 501.04.

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

PTFE AND STAINLESS STEEL SLIDING SURFACES

(ABUTMENTS, PIER NOS. 1 TO 3 & PIER NOS. 7 & 8)

PTFE SURFACE:

8. FINISHED UNFILLED DIMPLED LUBRICATED PTFE SHEETS SHALL BE MADE FROM 100 PERCENT VIRGIN PTFE RESIN AND SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

TENSILE STENGTH ASTM D4894 - 2800 SPI (MINIMUM).
ELONGATION ASTM D4894 - 200 PERCENT (MINIMUM).
SPECIFIC GRAVITY ASTM D792 - 2.13 (MINIMUM).
MELTING POINT - ASTM D4894 - 623° F (±2° F)

THE SHEET SHALL BE RECESSED AND EPOXY BONDED INTO THE STEEL SUBSTRATE. THE SHOULDERS OF THE RECESS SHALL BE SHARP AND SQUARE AND THE DEPTH SHALL BE EQUAL TO ONE-HALF OF THE PTFE THICKNESS.

PTFE SHEET SHALL BE COMMERCIALLY ETCHED ON ITS BONDING SIDE.

THE BONDING SURFACE OF THE SUBSTRATE PLATE SHALL BE CLEANED OF RUST, SCALE, OIL AND GREASE BY BLAST CLEANING AND THEN WIPED CLEAN WITH A CLEANING SOLVENT. BLAST CLEANING SHALL BE PERFORMED WITHIN A MAXIMUM OF FOUR HOURS PRIOR TO BONDING.

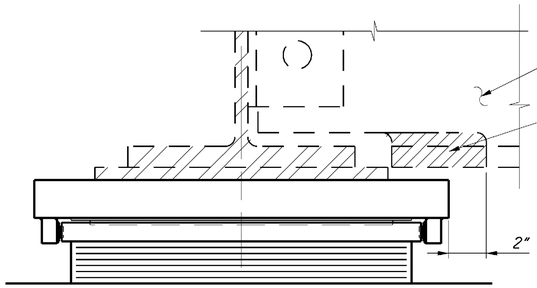
THE ADHESIVE MATERIAL, THE BONDING PROCEDURES TO BE USED, AND SURFACE PREPARATION SHALL CONFORM TO THE REQUIREMENTS OF FEDERAL SPECIFICATION MMM-A-134 AND THE MANUFACTURER'S RECOMMENDATIONS. THE ADHESION BETWEEN THE PTFE AND STEEL SUBSTRATE SHALL BE TESTED IN ACCORDANCE WITH ASTM D429, METHOD B. THE MINIMUM PEEL STRENGTH SHALL BE 25 PER INCH.

AFTER COMPETION OF THE BONDING OPERATION, THE PTFE SURFACE SHALL BE FREE FROM BUBBLES.

9. STAINLESS STEEL PLATES:
THE STAINLESS STEEL SHEET SURFACE SHALL CONFORM TO ASTM A167 OR A240 TYPE 304 AND SHALL HAVE A #8 MIRROR FINISH OR BETTER.

STAINLESS STEEL SHALL BE ATTACHED TO THE LOAD PLATE BY A CONTINUOUS SEAL WELD AROUND ITS ENTIRE PERIMETER. WELDS SHALL BE PREQUALIFIED BY TEST WELDS PREPARED. WELDED AND TESTED IN ACCORDANCE WITH 6.7 OF ANSI / AWS D1.3, STRUCTURAL WELDING CODE - SHEET STEEL. AFTER WELDING, THE STAINLESS STEEL SHEET SHALL BE FLAT, FREE FROM WRINKLES AND IN CONTINUOUS CONTACT WITH ITS BACKING PLATE. NO ROUGHNESS FROM THE WELD PROTRUDING ABOVE THE SURFACE OF THE STAINLESS STEEL WILL BE PERMITTED.

10. LUBRICANT:
LUBRICANTS SHALL BE SILICONE GREASE WHICH SATISFIES MILITARY SPECIFICATION MIL-S-8660.



EXIST. HEADER BEAM MODIFICATION DETAIL

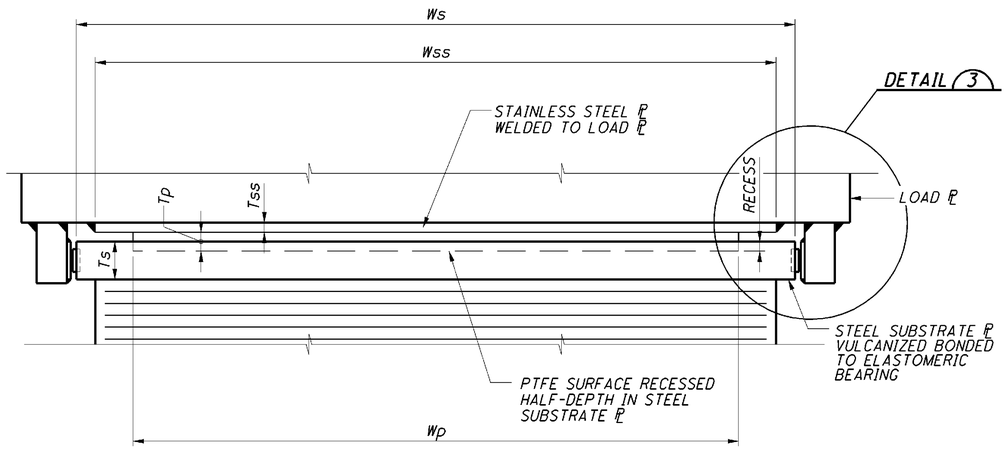
11. TESTING OF SLIDING SURFACES: IN ADDITION TO THE TESTS REQUIRED FOR METHOD A DESIGN. A MATERIAL FRICTION TEST FOR THE SLIDING SURFACES SHALL BE PERFORMED PER DIVISION II, SECTION 18.7.2.2 AND 18.7.4.2 OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

12. INSTALLATION OF SLIDING BEARINGS:
A REPRESENTATIVE FROM THE BEARING MANUFACTURER SHALL BE PRESENT ON SITE FOR A SUFFICIENT PERIOD OF TIME TO ENSURE THAT THE CONTRACTOR IS INSTALLING THE BEARINGS PROPERLY.

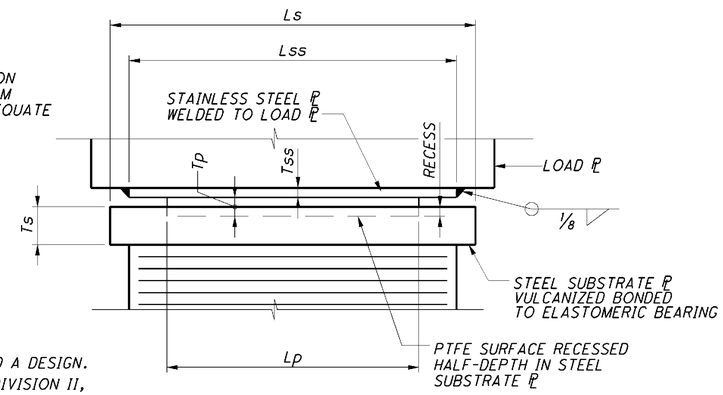
13. ALL STEEL SURFACES EXPOSED TO THE ATMOSPHERE, EXCEPT STAINLESS STEEL SURFACES, SHALL BE METALIZED. THE THICKNESS OF THE COATING SHALL BE 12 TO 14 MILS. THE WIRE USED FOR THE METALIZING SHALL CONSIST OF 100% ZINC. SURFACE PREPARATION AND APPLICATION SHALL CONFORM TO SSPC COATING SYSTEM GUIDE 23.00 "GUIDE FOR THERMAL SPRAY METALLIC COATING SYSTEMS". FIELD REPAIR DAMAGED METALIZED COATING IN ACCORDANCE WITH ASTM A780, TYPE A1 OR A3 IN SUCH A MANNER THAT WILL NOT DAMAGE THE ELASTOMERIC BEARING OR PTFE SURFACE.

14. THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, TESTING, SUBSTRATE PLATES, STAINLESS STEEL PLATES, PTFE SURFACES, LUBRICANT, COATINGS AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL THE SLIDING PLATES. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, BEARING DEVICE MISC.: ELASTOMERIC BEARING WITH INTERNAL LAMINATES, LOAD PLATE AND PTFE (NEOPRENE), AS PER PLAN

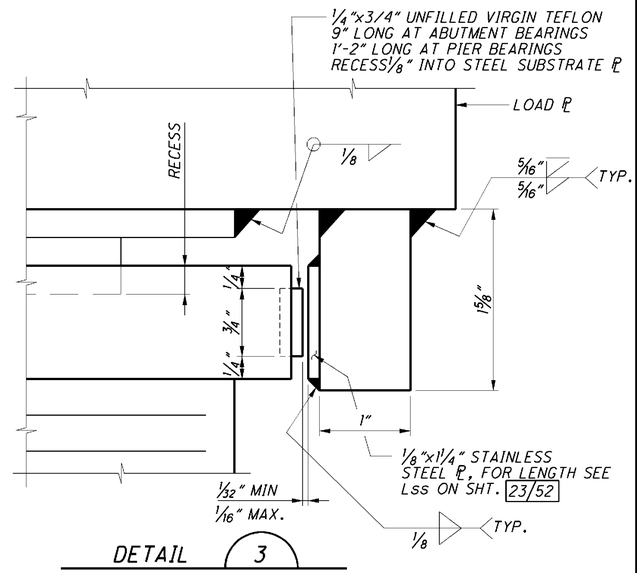
15. AT THE CONTRACTOR'S OPTION, POT BEARINGS MAY BE USED AS AN ALTERNATE TO THE SPECIFIED ELASTOMERIC BEARINGS WITH PTFE SLIDING SURFACES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FULL COST OF ALL MODIFICATIONS TO THE PROPOSED STRUCTURE REQUIRED BY THE ALTERNATE POT BEARING INCLUDING, BUT NOT LIMITED TO, BEARING SEAT ELEVATION ADJUSTMENTS, REINFORCING STEEL ADJUSTMENTS, ADDITIONAL ANCHOR BOLTS, DOWEL HOLES. POT BEARINGS SHALL CONFORM TO NOTE AN-6 "ITEM SPECIAL - STEEL POT BEARINGS" CONTAINED WITHIN THE APPENDIX OF THE 2004 ODOT BRIDGE DESIGN MANUAL. REFERENCES TO SUPPLEMENTAL SPECIFICATION 863 WITHIN NOTE AN-6 SHALL BE TAKEN TO MEAN ITEM 513 IN THE LATEST CMS.



DETAIL 1



DETAIL 2



DETAIL 3

DESIGN AGENCY
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DESIGNED	DRAWN	REVIEWED	DATE
CGN	RHC	TJW	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DJC		5004470	

BEARING AND MISC. DETAILS
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

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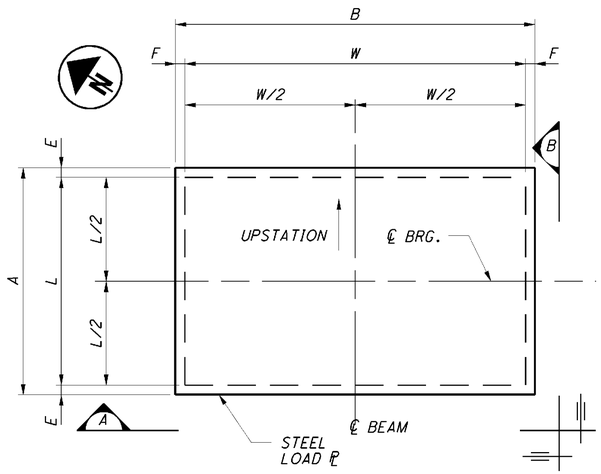
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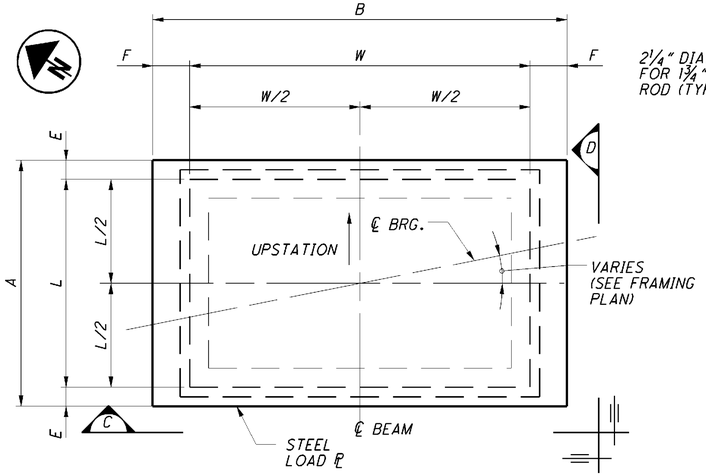
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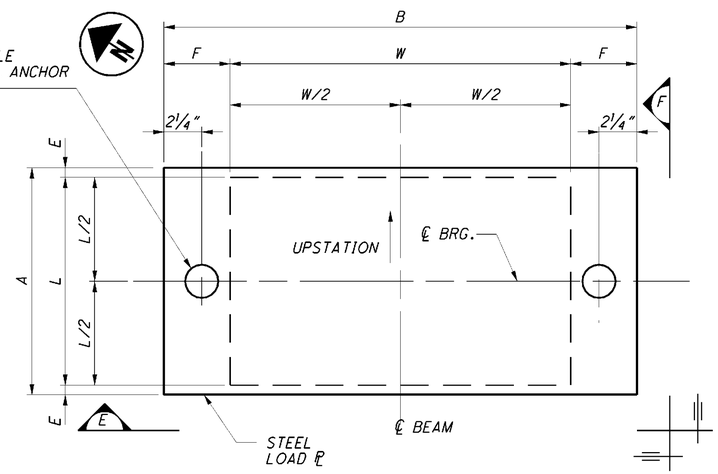
	LOAD PLATE						ELASTOMERIC PAD						STEEL LAMINATES		STAINLESS STEEL PLATE			STEEL SUBSTRATE PLATE			PTFE SURFACE			TYPE	DEAD LOAD (K)	LIVE * LOAD (K)	TOTAL LOAD (K)	DESIGN ONE-WAY MOVEMENT
	A	B	E @ 60° F	F	G	H	L	W	T	NO. OF INTER. LAYERS	ti	te	NO.	THICK.	Lss	Wss	Tss	Ls	Ws	Ts	Lp	Wp	Tp					
REAR. ABUT.	1'-5 1/4"	1'-5 5/8"	4 1/8"	2 5/16"	1 1/2"	1 7/8"	9"	1'-1"	2.44"	6	0.26"	0.18"	7	0.0747"	1'-4 1/4"	1'-2"	1/8"	10"	1'-2"	1 1/4"	9"	1'-1"	1/4"	EXP.	35.9	55.4	112.6	3.10"
PIER 1	1'-9 1/4"	2'-1 5/8"	3 5/8"	2 5/16"	2"	2 7/16"	1'-2"	1'-9"	3.58"	6	0.42"	0.27"	7	0.0747"	1'-8 1/4"	1'-10"	1/8"	1'-3"	1'-10"	1 1/4"	1'-2"	1'-9"	1/4"	EXP.	159.8	69.9	229.7	2.64"
PIER 2	1'-8"	2'-1 5/8"	3"	2 5/16"	2"	2 7/16"	1'-2"	1'-9"	3.58"	6	0.42"	0.27"	7	0.0747"	1'-7"	1'-10"	1/8"	1'-3"	1'-10"	1 1/4"	1'-2"	1'-9"	1/4"	EXP.	175.9	75.7	251.6	1.98"
PIER 3	1'-6 3/4"	2'-1 5/8"	2 3/8"	2 5/16"	2"	2 3/8"	1'-2"	1'-9"	3.58"	6	0.42"	0.27"	7	0.0747"	1'-5 3/4"	1'-10"	1/8"	1'-3"	1'-10"	1 1/4"	1'-2"	1'-9"	1/4"	EXP.	173.8	76.6	250.4	1.32"
PIER 4	1'-3"	1'-10"	1/2"	1/2"	2"	2 5/16"	1'-2"	1'-9"	3.76"	6	0.44"	0.30"	7	0.0747"	-	-	-	-	-	-	-	-	-	EXP.	174.1	76.8	250.9	0.66"
PIER 5	1'-1"	2'-6"	1/2"	4 1/2"	2"	2 1/4"	1'-0"	1'-9"	2.31"	4	0.36"	0.25"	5	0.0747"	-	-	-	-	-	-	-	-	-	FIX.	175.6	77.2	252.8	0
PIER 6	1'-3"	1'-10"	1/2"	1/2"	2"	2 5/16"	1'-2"	1'-9"	3.76"	6	0.44"	0.30"	7	0.0747"	-	-	-	-	-	-	-	-	-	EXP.	171.7	76.3	248.0	0.66"
PIER 7	1'-6 3/4"	2'-1 5/8"	2 3/8"	2 5/16"	2"	2 1/2"	1'-2"	1'-9"	3.58"	6	0.42"	0.27"	7	0.0747"	1'-5 3/4"	1'-10"	1/8"	1'-3"	1'-10"	1 1/4"	1'-2"	1'-9"	1/4"	EXP.	188.8	80.0	268.0	1.32"
PIER 8	1'-8"	2'-1 5/8"	3"	2 5/16"	2"	2 5/8"	1'-2"	1'-9"	3.58"	6	0.42"	0.27"	7	0.0747"	1'-7"	1'-10"	1/8"	1'-3"	1'-10"	1 1/4"	1'-2"	1'-9"	1/4"	EXP.	190.7	88.1	278.8	2.04"
FRWD. ABUT.	1'-4"	1'-5 5/8"	3 1/2"	2 5/16"	1 1/2"	2"	9"	1'-1"	2.44"	6	0.26"	0.18"	7	0.0747"	1'-3"	1'-2"	1/8"	10"	1'-2"	1 1/4"	9"	1'-1"	1/4"	EXP.	41.1	71.5	112.3	2.51"



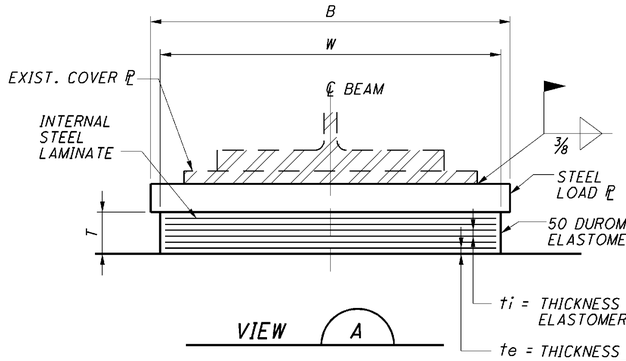
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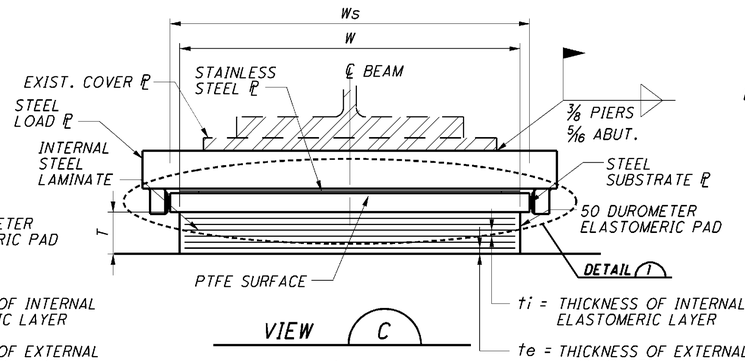


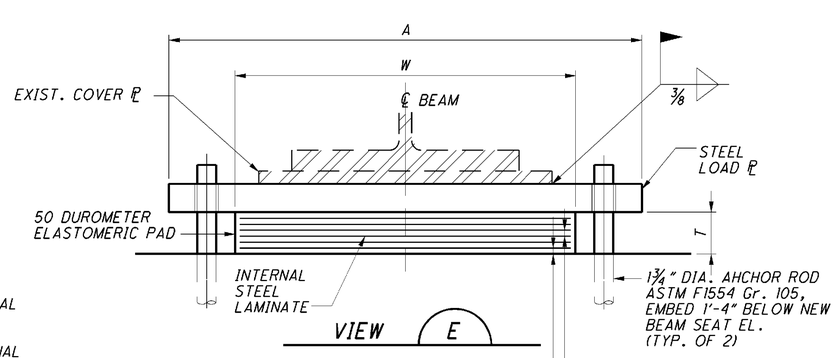
PLAN



PLAN







NOTES:

1. FOR ADDITION NOTES AND DETAILS 1 & 2, SEE SHT. NO. 22/52 .
2. THE DESIGN ONE-WAY MOVEMENT VALUES SHOWN IN THE BEARING SCHEDULE REPRESENT THE MAXIMUM MOVEMENT FOR A 90 DEGREE TEMPERATURE DROP FROM 60 DEGREES F TO -30 DEGREES F. THESE VALUES WERE USED TO SET THE REQUIRED Lss DIMENSION.

EXPANSION BEARING DETAIL

PIER NOS. 4 & 6

EXPANSION BEARING WITH SLIDING PLATES DETAIL

REAR & FRWD. ABUTMENTS AND PIER NOS. 1 TO 3, 7 & 8

FIXED BEARING DETAIL

PIER NO. 5

DESIGN AGENCY
GPD ASSOCIATES
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330-572-2100, Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
CGN	RHC	TJW	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DJC		5004470	

BEARING AND MISC. DETAILS

BRIDGE NO. MAH-193-0072

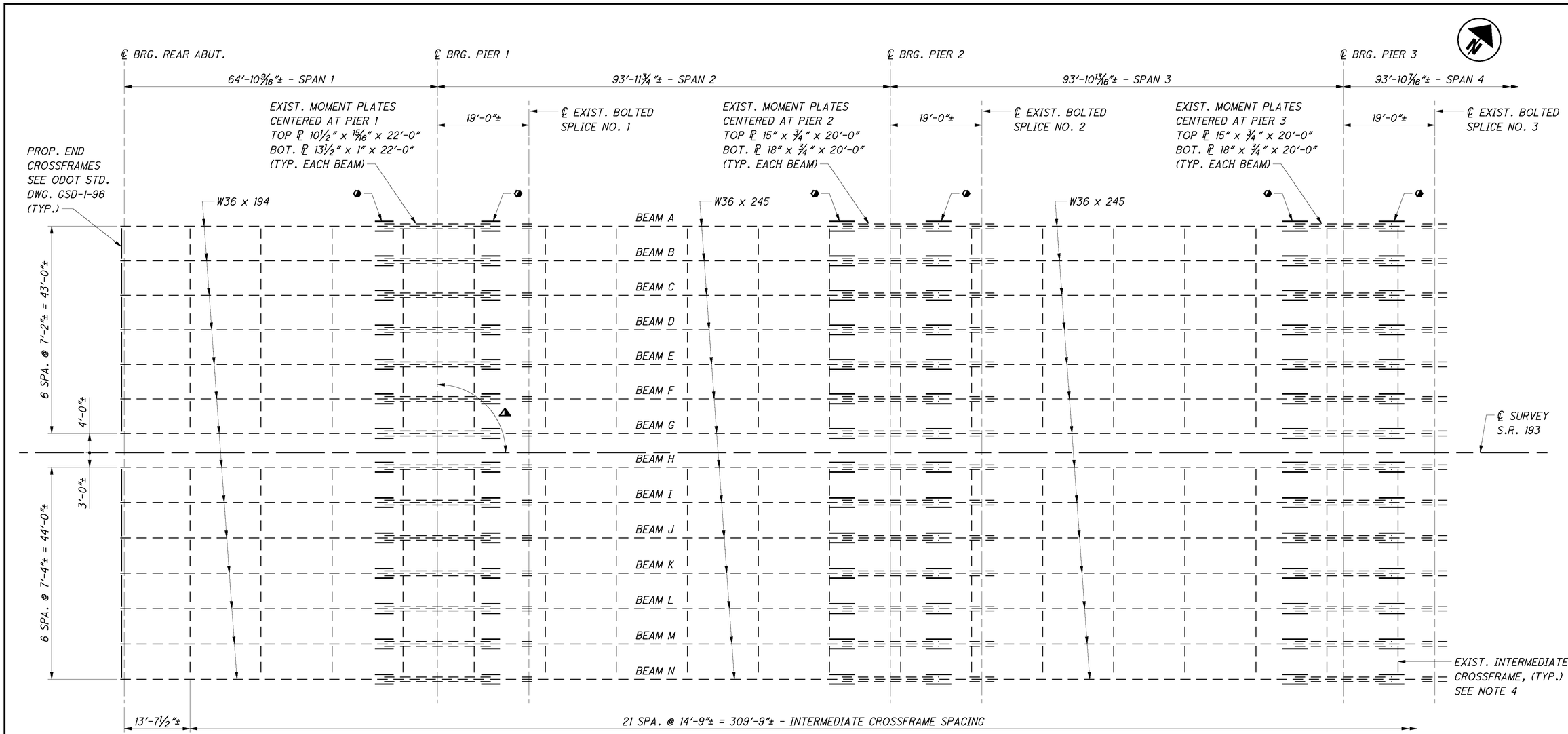
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

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-0.46/1.85
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PARTIAL FRAMING PLAN

LEGEND

- ● PROP. MOMENT PLATE RETROFIT - SEE DETAIL & TABLE SHEET 28/52
- ▲ 90°00'00" (TYP. U.N.O.)

NOTES:

1. ALL PROPOSED STRUCTURAL STEEL SHALL BE ASTM A709, GRADE 50.
2. INTERMEDIATE CROSSFRAMES ARE NORMAL TO THE CENTERLINE SURVEY S.R. 193.
3. FOR MOMENT RETROFIT DETAILS, SEE SHEET 28/52 .
4. THE CONTRACTOR SHALL RELOCATE EXISTING INTERMEDIATE CROSSFRAME ANGLES THAT INTERFERE WITH THE PLACEMENT OF THE INSIDE PLATES AND BOLTS FOR THE PROPOSED MOMENT PLATE RETROFIT. THE CONFLICTING ANGLE(S) SHALL BE CUT LOOSE FROM THE WEB, RELOCATED AND RE-WELDED TO THE WEB, AS DIRECTED BY THE ENGINEER. WELD MATERIAL REMAINING ON THE BEAM FROM THE ORIGINAL ANGLE LOCATION SHALL BE GROUND SMOOTH AND FLUSH WITH THE WEB. 83 CROSSFRAME LOCATIONS HAVE BEEN ESTIMATED AS BEING IN CONFLICT. THE FULL COST OF THIS WORK SHALL BE INCLUDED WITH THE INSTALLATION OF THE PROPOSED MOMENT PLATE RETROFIT UNDER ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 2, AS PER PLAN.

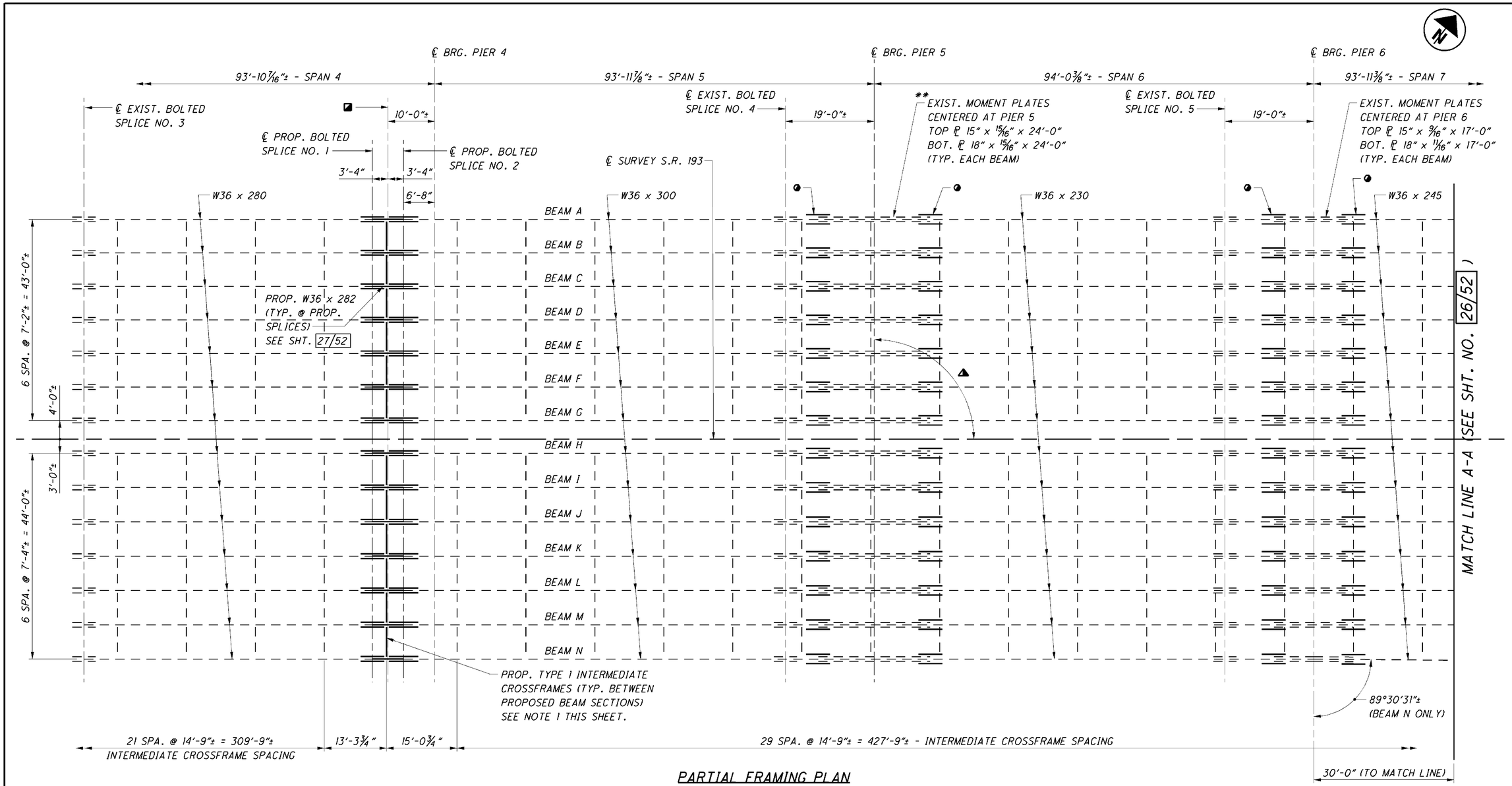
DESIGN AGENCY
GLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
GPD ASSOCIATES
330 Main Place, Suite 201, Niles, Ohio 44473
330-372-2100 , Fax 330-372-2101

DESIGNED	DRAWN	REVIEWED	DATE
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DJC		5004470	

PARTIAL FRAMING PLAN
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

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PARTIAL FRAMING PLAN

LEGEND

- ◪ ℄ EXIST. INTERMEDIATE HINGE (TO BE REMOVED)
- ◕ PROP. MOMENT PLATE RETROFIT - SEE DETAIL & TABLE SHEET 28/52
- ◭ 90°00'00" (TYP. U.N.O.)
- ** CONTRACTOR TO VERIFY IF TOP PLATE THICKNESS IS 15/16" OR 13/16"

NOTES:

1. PROPOSED INTERMEDIATE CROSSFRAMES AT THE LOCATION OF THE NEW BEAM SECTION AS SHOWN IN THE PLAN SHALL BE TYPE 1 ACCORDING TO ODOT STD. DWG. GSD-1-96.
2. FOR PROPOSED BOLTED SPLICE DETAILS, SEE SHEET 27/52 .
3. FOR ADDITIONAL NOTES, SEE SHEET 24/52 .

DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
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330-972-2100, Fax 330-972-2101

DESIGNED	DRAWN	REVIEWED	DATE
TJW	DJC	GGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DJC		5004470	

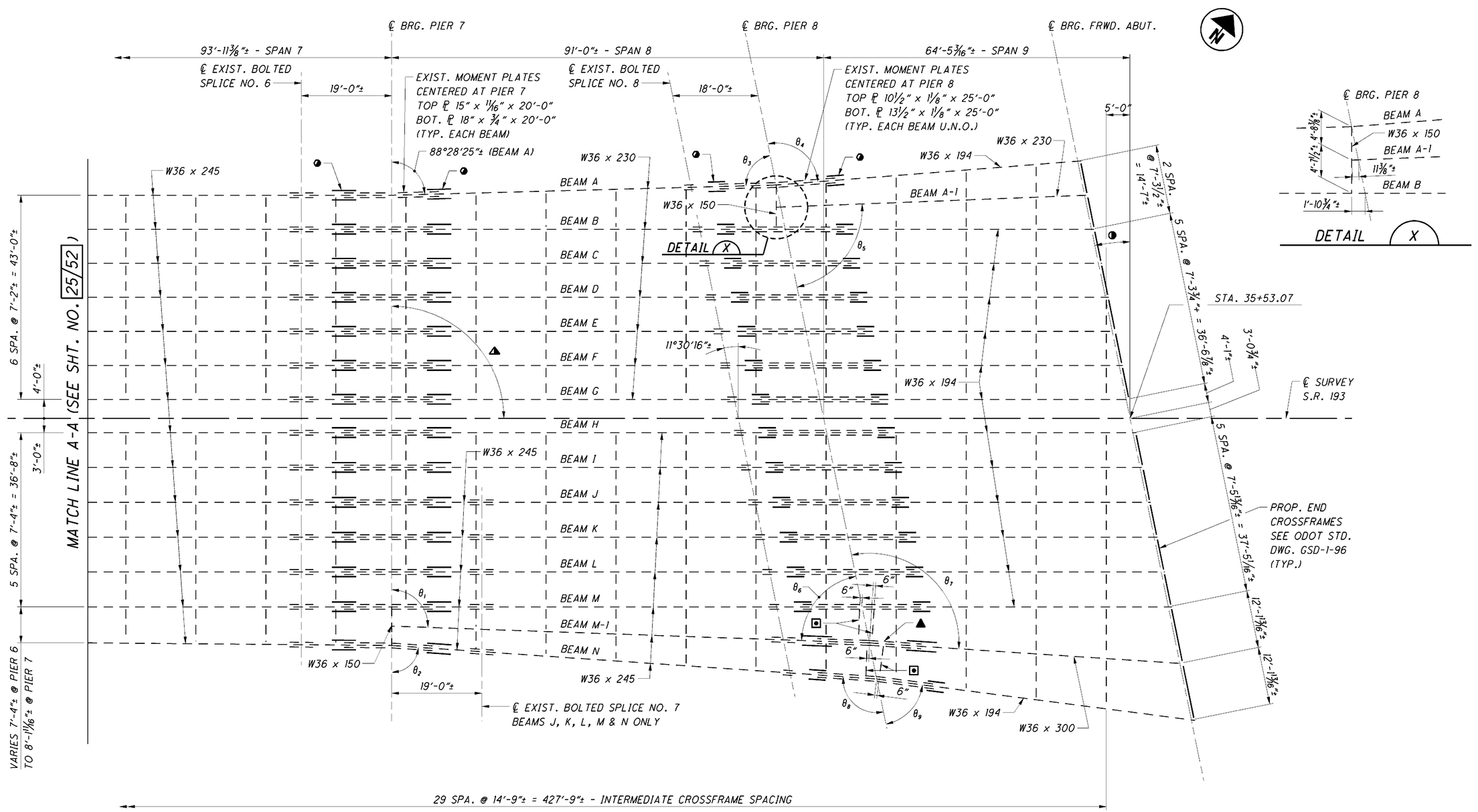
PARTIAL FRAMING PLAN
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

25/52

187/260

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PARTIAL FRAMING PLAN

TABLE OF EXISTING BEAM ANGLES			
LOCATION	BEAM	SPAN	DEFLECTION ANGLE
PIER 7	M-1	8	θ_1 = 92°00'30"±
PIER 7	N	8	θ_2 = 86°03'00"±
PIER 8	A	8	θ_3 = 80°01'19"±
PIER 8	A	9	θ_4 = 96°59'19"±
PIER 8	A-1	9	θ_5 = 80°44'00"±
PIER 8	M-1	8	θ_6 = 76°29'14"±
PIER 8	M-1	9	θ_7 = 105°16'39"±
PIER 8	N	8	θ_8 = 105°27'16"±
PIER 8	N	9	θ_9 = 71°04'48"±

LEGEND

▲ 90°00'00" (TYP. U.N.O.)

◖ PROP. MOMENT PLATE RETROFIT - SEE DETAIL & TABLE SHEET 28/52

◑ 11°30'16"± SKEW (TYP. @ PIER 8 & FRWD. ABUT.)

▲ EXIST. MOMENT PLATES CENTERED AT PIER 8
TOP PL 15" x 15⁄16" x 22'-0"
BOT. PL 18" x ⅞" x 22'-0"
(BEAM M-1 ONLY) - CONTRACTOR TO VERIFY IF TOP PLATE THICKNESS IS 15⁄16" OR 13⁄16" PRIOR TO SPLICE PLATE FABRICATION

⊡ 4-Ls 3½" x 3½" x ⅜" @ LOCATIONS SHOWN ONLY

NOTES:

1. FOR ADDITIONAL NOTES, SEE SHEET 24/52.

DESIGN AGENCY
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330-572-2100, Fax 330-572-2101

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TJW	DJC	GGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DJC		5004470	

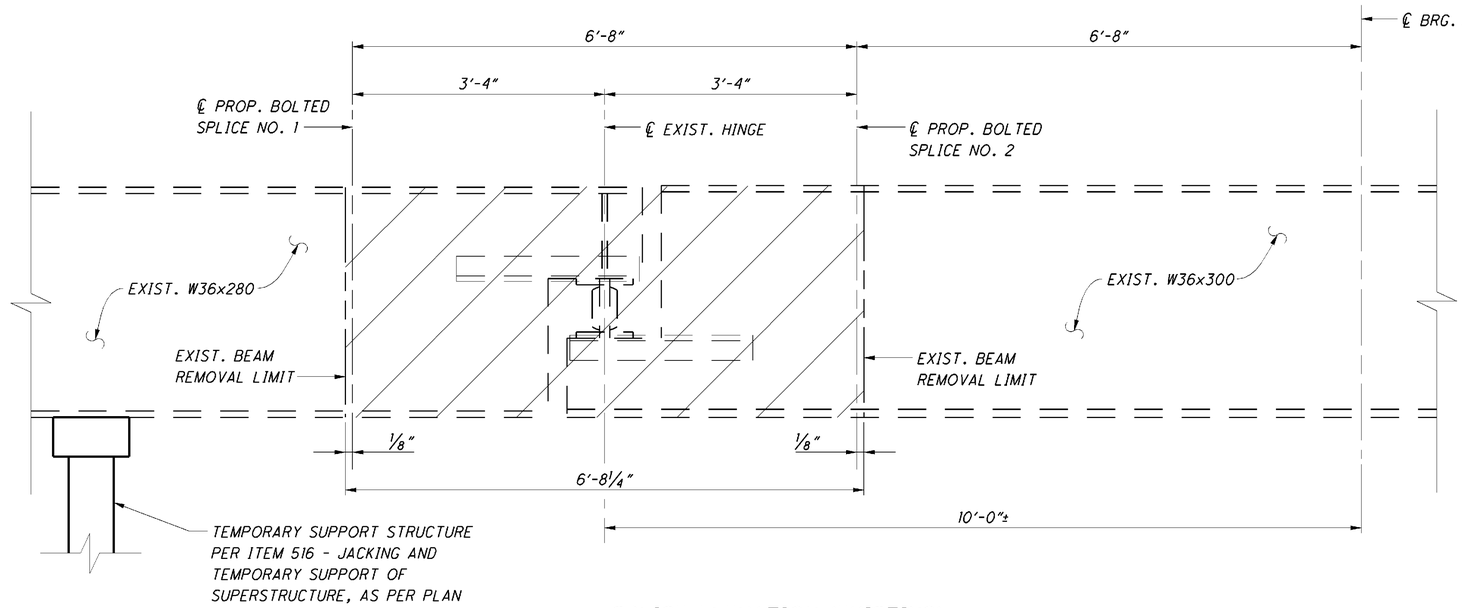
PARTIAL FRAMING PLAN
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

26/52

188/260

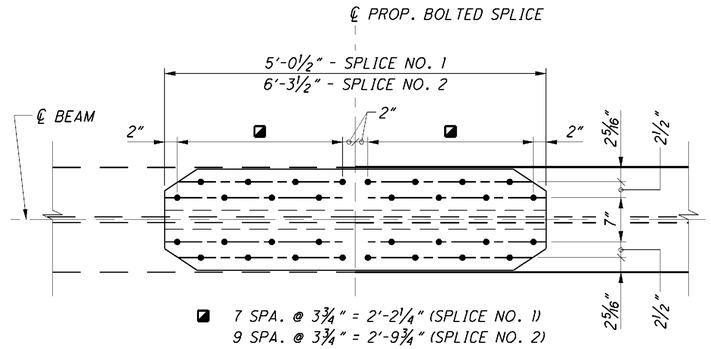
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SPLICE ELEVATION (EXISTING)

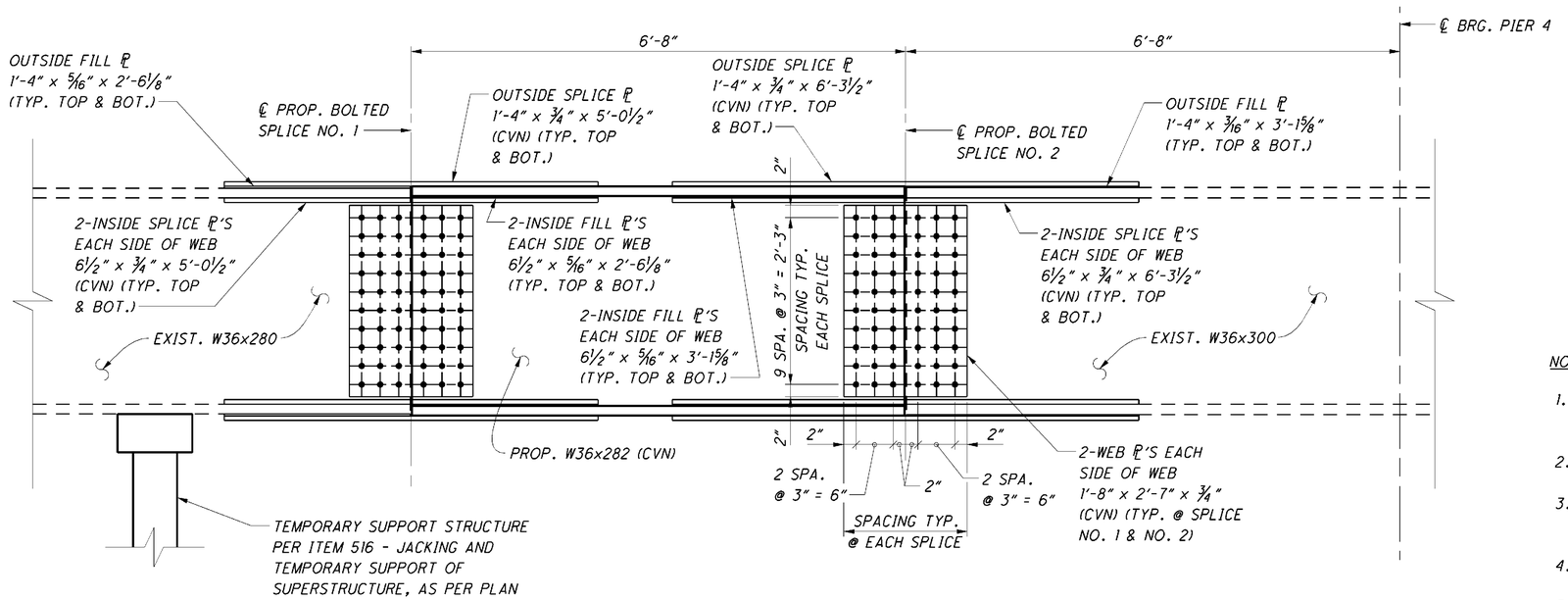
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PORTIONS OF STRUCTURE REMOVED

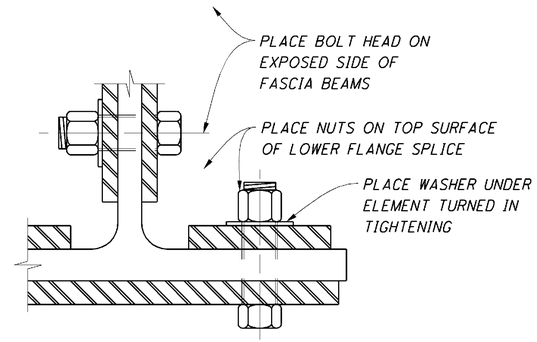


FLANGE SPLICE PLATE

(TYP. TOP & BOTTOM)



SPLICE ELEVATION (PROPOSED)



PARTIAL SECTION

AT ℄ OF BEAM SPLICE

NOTES:

1. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
2. HIGH STRENGTH BOLTS SHALL BE 1" DIAMETER A325 UNLESS OTHERWISE NOTED.
3. ALL BOLT HOLES FOR 1" DIAMETER HIGH STRENGTH BOLTS SHALL BE 1 1/16" DIAMETER.
4. ALL PROPOSED STRUCTURAL STEEL SHALL BE ASTM A709, GRADE 50.
5. FOR FRAMING PLAN, SEE SHEET NO. 25/52.

DESIGN AGENCY
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330-572-2100, Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
TJW	DJC	GGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DJC		5004470	

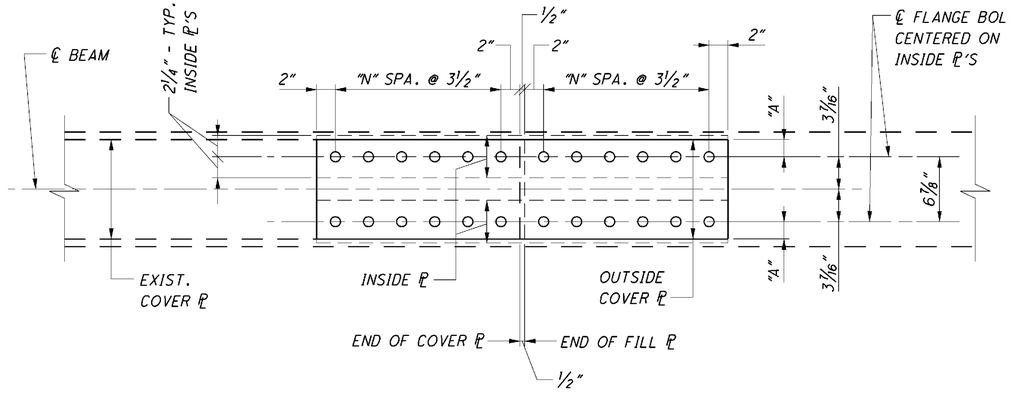
PROPOSED FIELD SPLICE DETAILS
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

27/52

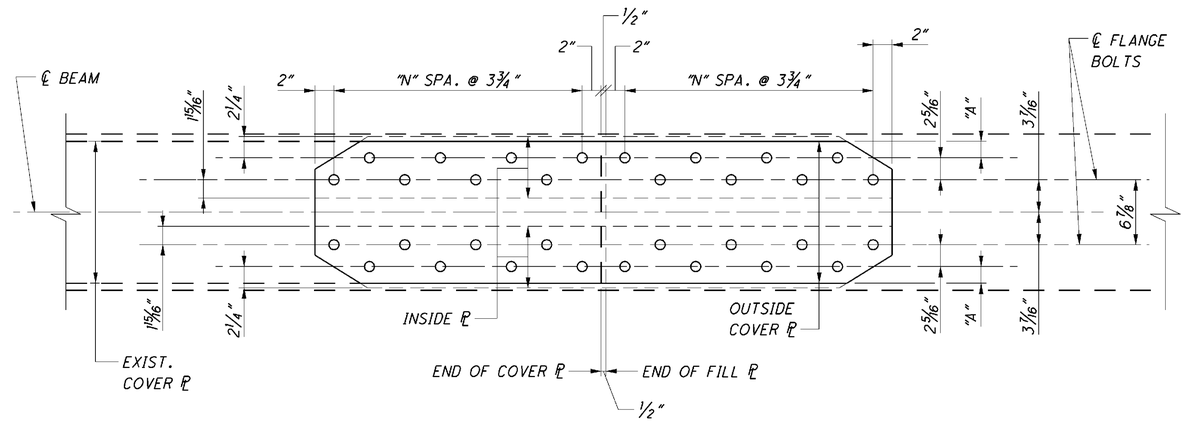
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COVER PLATE RETROFIT FOR NOMINAL 12" WIDE FLANGE

TOP FLANGE SHOWN, BOTTOM FLANGE SIMILAR - SEE TABLE THIS SHEET



COVER PLATE RETROFIT FOR NOMINAL 16" WIDE FLANGE

TOP FLANGE SHOWN, BOTTOM FLANGE SIMILAR - SEE TABLE THIS SHEET

COVER PLATE RETROFIT PLATE SCHEDULE

PIER	BEAM	NOM. FLANGE WIDTH	TOP FLANGE					BOTTOM FLANGE				
			"N" SPA.	OUTSIDE PLATE			INSIDE PLATES	"N" SPA.	OUTSIDE PLATE			INSIDE PLATES
				SPLICE PLATE	FILL PLATE	DIM "A"			SPLICE PLATE	FILL PLATE	DIM "A"	
1	A THRU N	12"	5	10½" x 9/16" x 3'-7½"	10½" x 15/16" x 1'-9½"	1 3/16"	4½" x 5/8" x 3'-7½"	7	12" x 9/16" x 4'-9½"	12" x 1" x 2'-4½"	2 9/16"	4½" x 5/8" x 4'-9½"
2 & 3	A THRU N	16"	7	15" x 9/16" x 5'-1"	15" x ¾" x 2'-6¼"	1¾"	6½" x 5/8" x 5'-1"	9	16" x ½" x 6'-4"	16" x ¾" x 3'-1¾"	2¼"	6½" x 9/16" x 6'-4"
5	A THRU N	16"	7	15" x ½" x 5'-1"	15" x 13/16" x 2'-6¼" ** 15" x ⅛" x 2'-6¼"	1¾"	6½" x 9/16" x 5'-1"	9	16" x ½" x 6'-4"	16" x 15/16" x 3'-1¾"	2¼"	6½" x 9/16" x 6'-4"
6	A THRU N	16"	7	15" x 9/16" x 5'-1"	15" x 9/16" x 2'-6¼"	1¾"	6½" x 11/16" x 5'-1"	9	16" x ½" x 6'-4"	16" x 11/16" x 3'-1¾"	2¼"	6½" x 9/16" x 6'-4"
7 LT	A THRU G	16"	7	15" x ½" x 5'-1"	15" x 11/16" x 2'-6¼"	1¾"	6½" x 9/16" x 5'-1"	9	16" x ½" x 6'-4"	16" x ¾" x 3'-1¾"	2¼"	6½" x 9/16" x 6'-4"
7 RT	H THRU M, N	16"	7	15" x 9/16" x 5'-1"	15" x 11/16" x 2'-6¼"	1¾"	6½" x 5/8" x 5'-1"	9	16" x ½" x 6'-4"	16" x ¾" x 3'-1¾"	2¼"	6½" x 9/16" x 6'-4"
8	A, B THRU M, N	12"	5	10½" x 9/16" x 3'-7½"	10½" x 1⅛" x 1'-9½"	1 3/16"	4½" x 5/8" x 3'-7½"	7	12" x 5/8" x 4'-9½"	12" x 1⅛" x 2'-4½"	2 9/16"	4½" x ¾" x 4'-9½"
8	M-1	16"	9	15" x ¾" x 6'-4"	15" x 13/16" x 3'-1¾" ** 15" x ⅛" x 3'-1¾"	1¾"	6½" x 11/16" x 6'-4"	11	16" x 9/16" x 7'-7"	16" x ⅞" x 3'-9¼"	2¼"	6½" x ¾" x 7'-7"

** CONTRACTOR SHALL VERIFY THE EXISTING TOP FLANGE COVER PLATE THICKNESS AND PROVIDE THE SUPPLEMENTAL ⅛" FILL PLATE AS NECESSARY.

NOTES:

1. THE PROPOSED INSIDE AND OUTSIDE PLATES FOR THE MOMENT PLATE RETROFITS SHALL BE DESIGNATED "CVN".
2. ALL BOLTS FOR THE MOMENT RETROFITS SHALL BE 1" DIAMETER, A325 HIGH STRENGTH BOLTS.
3. FOR FRAMING PLAN, SEE SHEET NOS. 24/52 THRU 26/52.
4. FOR ADDITIONAL NOTES, SEE SHEET NO. 27/52.

DESIGN AGENCY
CLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
GPD ASSOCIATES
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DESIGNED	DRAWN	REVIEWED	DATE
TJW	DJC	GGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DJC		5004470	

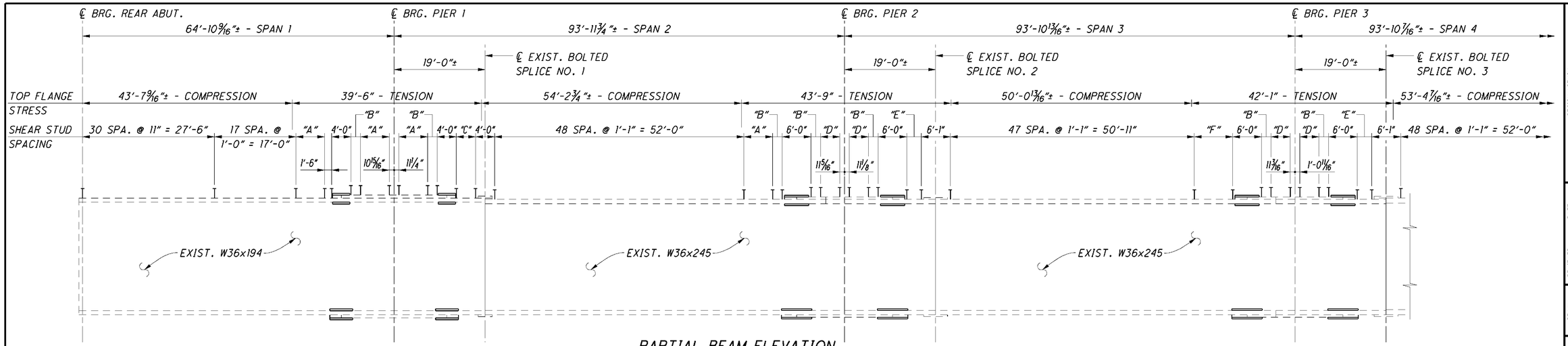
MISCELLANEOUS SUPERSTRUCTURE DETAILS
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

28/52

190/260

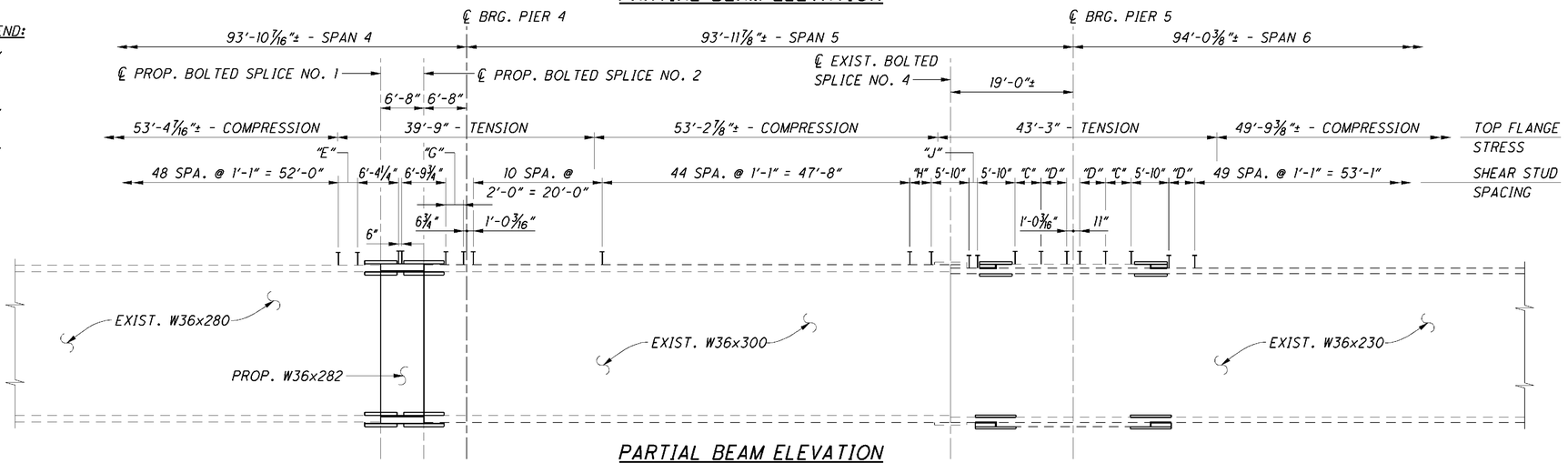
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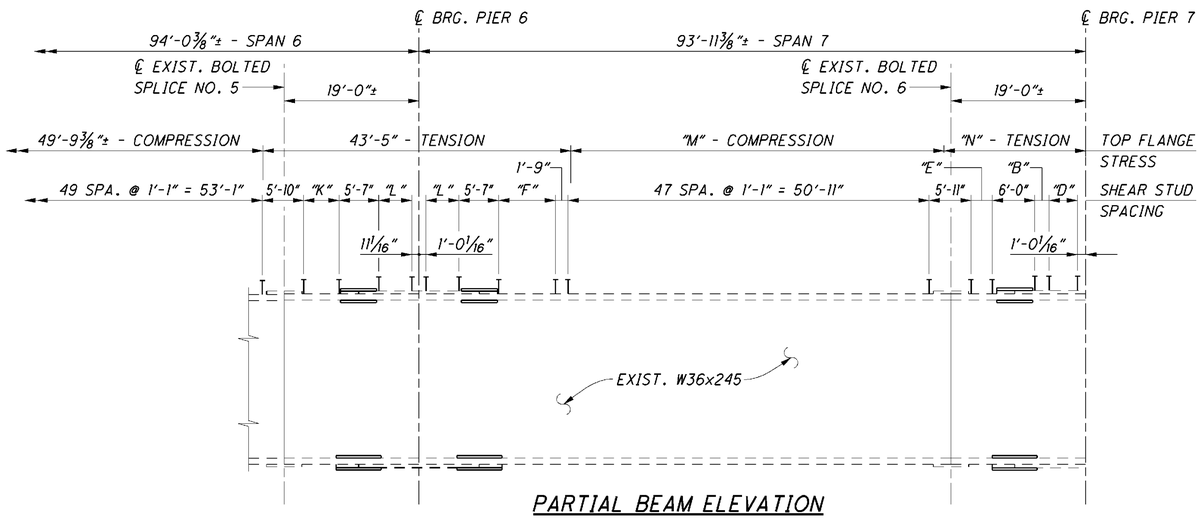
PARTIAL BEAM ELEVATION

SHEAR STUD DIMENSION LEGEND:

"A" = 3 SPA. @ 2'-0" = 6'-0"
"B" = 2 SPA. @ 1'-0" = 2'-0"
"C" = 4 SPA. @ 1'-0" = 4'-0"
"D" = 2 SPA. @ 2'-0" = 4'-0"
"E" = 4 SPA. @ 9" = 3'-0"
"F" = 4 SPA. @ 2'-0" = 8'-0"
"G" = 3 SPA. @ 11" = 2'-9"
"H" = 5 SPA. @ 8" = 3'-4"
"J" = 2 SPA. @ 8" = 1'-4"
"K" = 5 SPA. @ 1'-0" = 5'-0"
"L" = 4 SPA. @ 1'-2" = 4'-8"



PARTIAL BEAM ELEVATION



PARTIAL BEAM ELEVATION

FOR DIMENSIONS "M" & "N", SEE TABLE THIS SHEET

TABLE OF SPAN 7 TOP FLANGE STRESS DIMENSIONS		
BEAM	DIM "M"	DIM "N"
A	53'-5 3/8"±	19'-1"
B	52'-5 3/8"±	20'-1"
C	52'-10 3/8"±	19'-8"
D	52'-11 3/8"±	19'-7"
E	52'-9 3/8"±	19'-9"
F	52'-1 3/8"±	20'-5"
G	51'-8 3/8"±	20'-10"
H	51'-0 3/8"±	21'-6"
I	50'-7 3/8"±	21'-11"
J	50'-2 3/8"±	22'-4"
K	49'-9 3/8"±	22'-9"
L	49'-4 3/8"±	23'-2"
M	50'-6 3/8"±	22'-0"
N	50'-10 3/8"±	21'-8"

NOTES:

1. WELD ATTACHMENTS OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF 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 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER THAN 3/4" THICK.
2. EXISTING AND PROPOSED WEB SPLICE PLATES NOT SHOWN.
3. FOR BEAM ELEVATIONS FOR SPANS 8 & 9, SEE SHEETS 30/52 THRU 31/52 .
4. FOR DETAILS OF PROPOSED BOLTED SPLICES NO. 1 & NO. 2, SEE SHEET 27/52 .
5. FOR EXISTING MOMENT PLATE RETROFIT DETAILS, SEE SHEET 28/52 .

DESIGN AGENCY
GPD ASSOCIATES
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330-572-2100, Fax 330-572-2101

DESIGNED TJW | DRAWN DJC | REVIEWED GGN | DATE 9-26-08
CHECKED DJC | REVISED | STRUCTURE FILE NUMBER 5004470

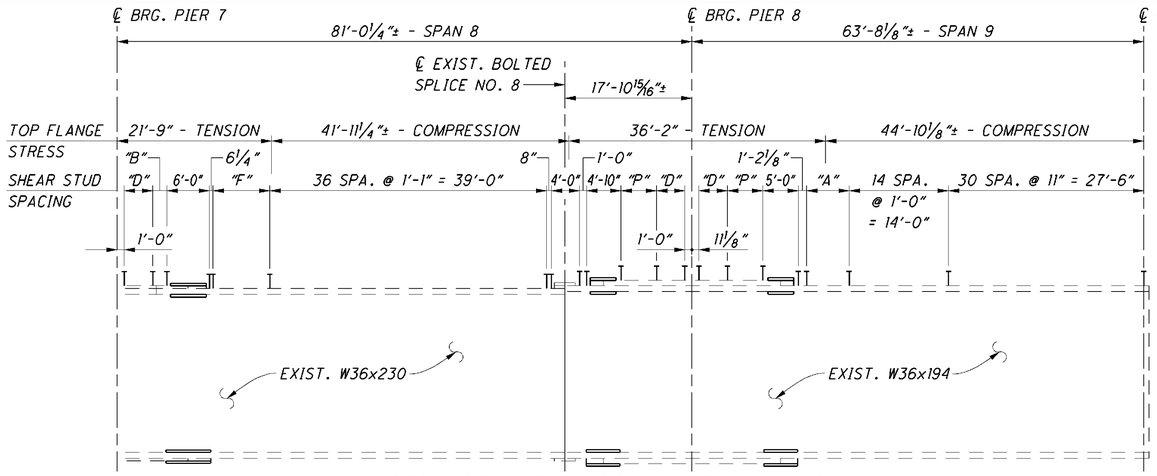
BEAM ELEVATIONS
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

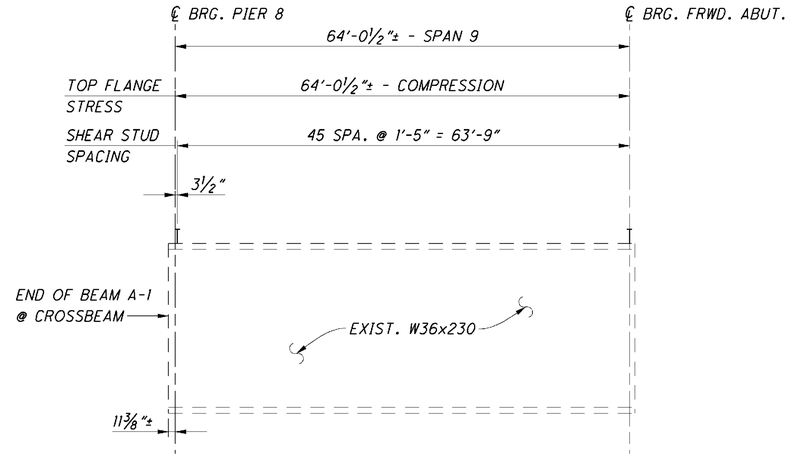
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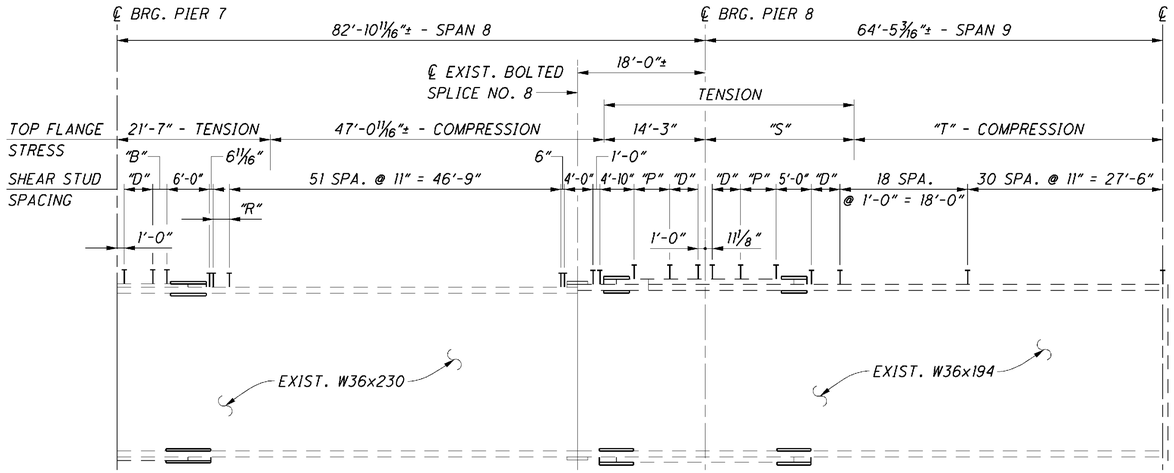
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PARTIAL BEAM ELEVATION - BEAM A - SPANS 8 & 9



BEAM ELEVATION - BEAM A-1 - SPAN 9



PARTIAL BEAM ELEVATION - BEAM B - SPAN 8 & BEAM B THRU M - SPAN 9

FOR DIMENSIONS "S" & "T", SEE TABLE 1 THIS SHEET

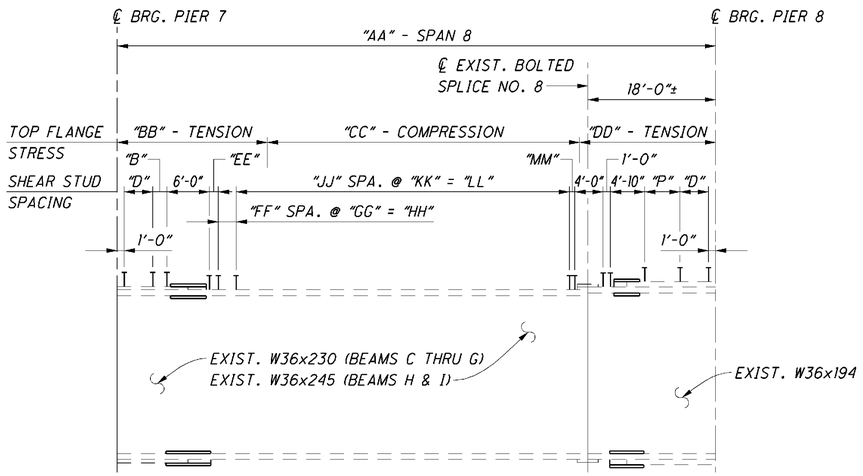
TABLE 1

TABLE OF SPAN 8 & 9
TOP FLANGE STRESS DIMENSIONS

BEAM	DIM "S"	DIM "T"
B	19'-8"	44'-9³⁄₁₆"±
C	19'-5"	45'-0³⁄₁₆"±
D	19'-0"	45'-5³⁄₁₆"±
E	19'-2"	45'-3³⁄₁₆"±
F	20'-1"	44'-4³⁄₁₆"±
G	20'-7"	43'-10³⁄₁₆"±
H	20'-11"	43'-6³⁄₁₆"±
I	21'-6"	42'-11³⁄₁₆"±
J	22'-0"	42'-5³⁄₁₆"±
K	22'-6"	41'-11³⁄₁₆"±
L	23'-1"	41'-4³⁄₁₆"±
M	20'-5"	44'-0³⁄₁₆"±

SHEAR STUD DIMENSION LEGEND:

"A" = 3 SPA. @ 2'-0" = 6'-0"
"B" = 2 SPA. @ 1'-0" = 2'-0"
"D" = 2 SPA. @ 2'-0" = 4'-0"
"F" = 4 SPA. @ 2'-0" = 8'-0"
"P" = 4 SPA. @ 1'-3" = 5'-0"
"R" = 3 SPA. @ 9" = 2'-3"



PARTIAL BEAM ELEVATION - BEAM C THRU I - SPAN 8

FOR DIMENSIONS & SHEAR STUD SPACINGS "AA" THRU "MM", SEE TABLE 2 THIS SHEET

TABLE 2

TABLE OF DIMENSIONS & SHEAR STUD SPACINGS
BEAM C THRU I - SPAN 8

BEAM	"AA"	"BB"	"CC"	"DD"	"EE"	"FF"	"GG"	"HH"	"JJ"	"KK"	"LL"	"MM"
C	84'-4³⁄₁₆"±	21'-2"	44'-0³⁄₁₆"±	19'-2"	1'-3³⁄₁₆"	3	10"	2'-6"	47	1'-0"	47'-0"	9"
D	85'-9¾"±	21'-8"	45'-0¾"±	19'-1"	1'-7¾"	2	1'-4"	2'-8"	48	1'-0"	48'-0"	8"
E	87'-3¼"±	21'-8"	45'-6¼"±	20'-1"	1'-0¼"	2	2'-0"	4'-0"	45	1'-1"	48'-9"	8"
F	88'-8¾"±	21'-7"	48'-5¾"±	18'-8"	1'-6¾"	3	2'-0"	6'-0"	44	1'-1"	47'-8"	8"
G	90'-2¼"±	21'-6"	49'-11¼"±	18'-9"	1'-11¼"	3	2'-0"	6'-0"	45	1'-1"	48'-9"	8"
H	91'-7⁵⁄₁₆"±	21'-6"	51'-7⁵⁄₁₆"±	18'-6"	1'-4⁵⁄₁₆"	4	2'-0"	8'-0"	45	1'-1"	48'-9"	8"
I	93'-1¼"±	21'-6"	53'-0¼"±	18'-7"	8¼"	4	2'-0"	8'-0"	47	1'-1"	50'-11"	8"

FOR ADDITIONAL NOTES, SEE SHEET 29/52 .

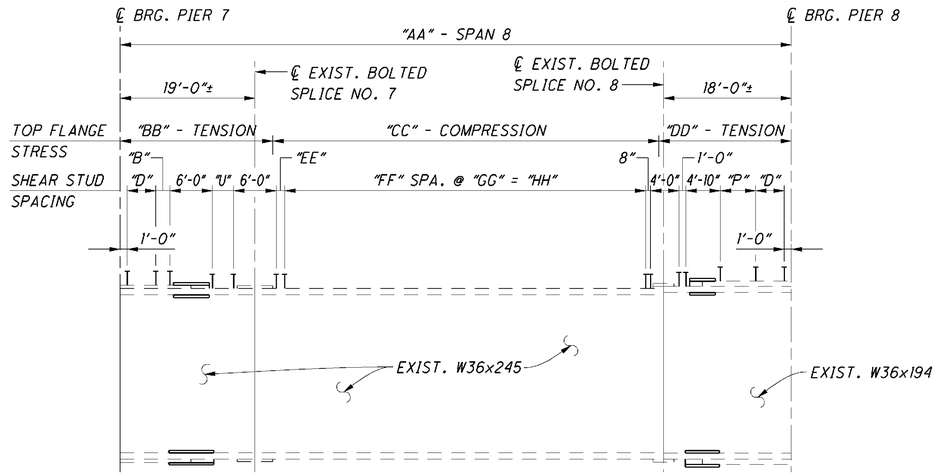
DESIGN AGENCY
CLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
GPD ASSOCIATES
330 South Main Street, Suite 251, Akron, Ohio 44311
330-972-2100, Fax 330-972-2101

DESIGNED	DRAWN	REVIEWED	DATE
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DJC		5004470	

BEAM ELEVATIONS
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MAH-193/422
-0.46/1.85
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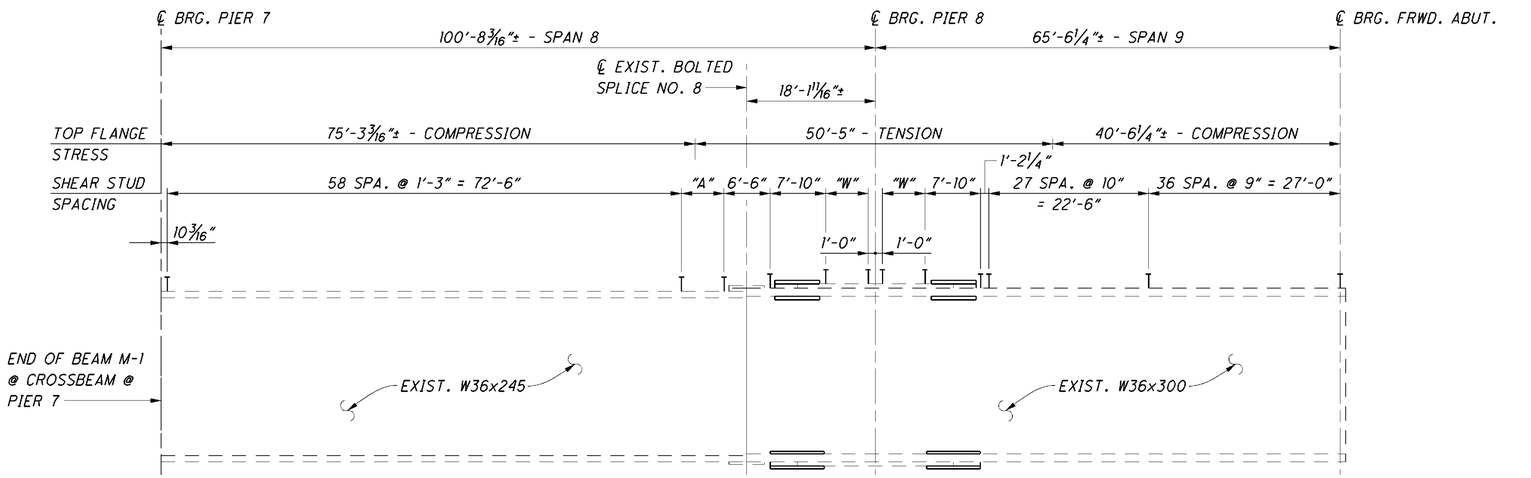
PARTIAL BEAM ELEVATION - BEAM J THRU M - SPAN 8

FOR DIMENSIONS & SHEAR STUD SPACINGS "AA" THRU "HH", SEE TABLE 3 THIS SHEET

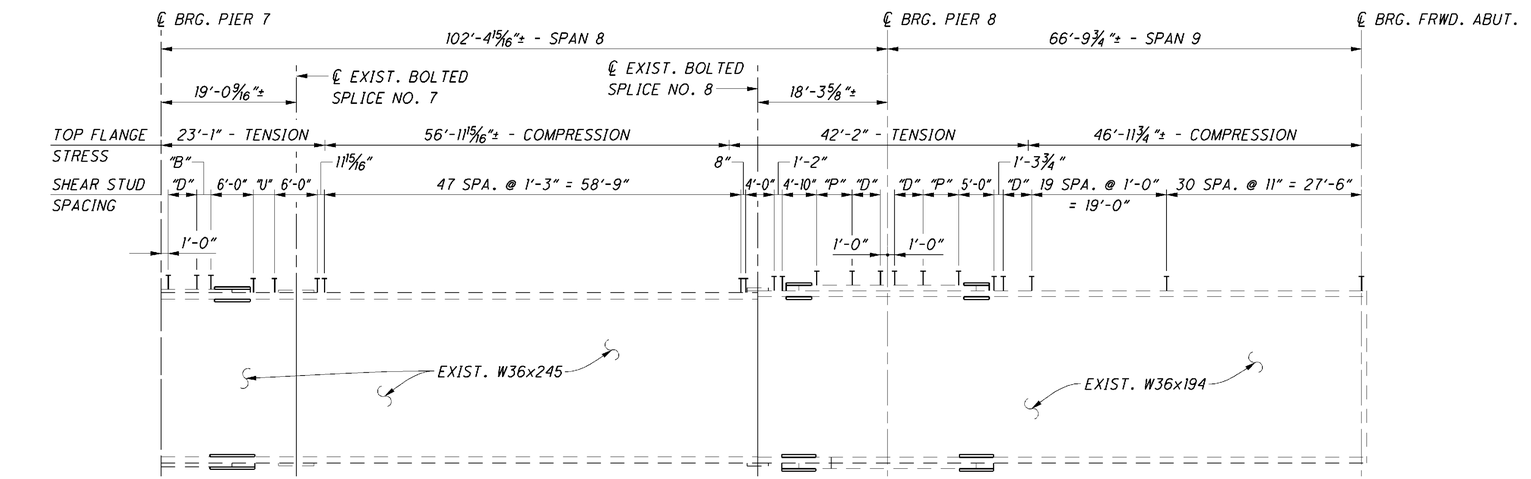
TABLE 3

TABLE OF DIMENSIONS & SHEAR STUD SPACINGS
BEAM J THRU M - SPAN 8

BEAM	"AA"	"BB"	"CC"	"DD"	"EE"	"FF"	"GG"	"HH"
J	94'-7 1/8"±	21'-6"	54'-5 1/8"±	18'-8"	1'-2 1/8"	47	1'-1"	50'-11"
K	96'-1 1/16"±	21'-7"	55'-8 1/16"±	18'-10"	1'-7 1/16"	48	1'-1"	52'-0"
L	97'-7"±	21'-7"	57'-2"±	18'-10"	11"	50	1'-1"	54'-2"
M	99'-0 7/8"±	22'-7"	55'-10 7/8"±	20'-7"	1'-3 7/8"	51	1'-1"	55'-3"



PARTIAL BEAM ELEVATION - BEAM M-1 - SPANS 8 & 9



PARTIAL BEAM ELEVATION - BEAM N - SPANS 8 & 9

SHEAR STUD DIMENSION LEGEND:

"A" = 3 SPA. @ 2'-0" = 6'-0"
"B" = 2 SPA. @ 1'-0" = 2'-0"
"D" = 2 SPA. @ 2'-0" = 4'-0"
"P" = 4 SPA. @ 1'-3" = 5'-0"
"U" = 2 SPA. @ 1'-6" = 3'-0"
"W" = 6 SPA. @ 1'-0" = 6'-0"

FOR ADDITIONAL NOTES, SEE SHEET 29/52 .

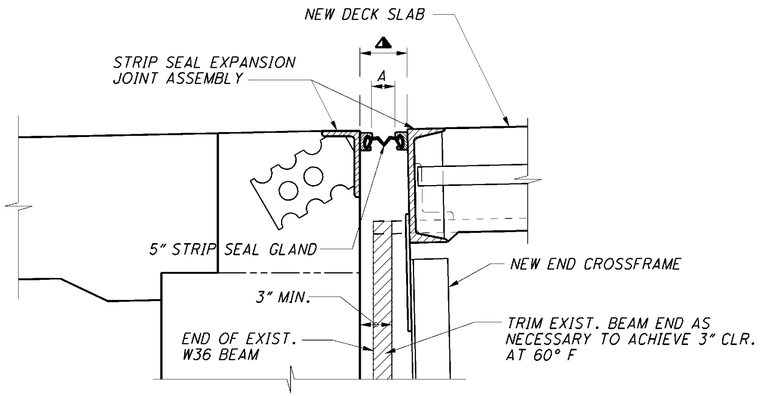
DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
330 South Main Street, Suite 251, Akron, Ohio 44311
330-572-2100, Fax 330-572-2101

DESIGNED TJW | DRAWN DJC | REVIEWED GGN | DATE 9-26-08
CHECKED DJC | REVISED | STRUCTURE FILE NUMBER 5004470

BEAM ELEVATIONS
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

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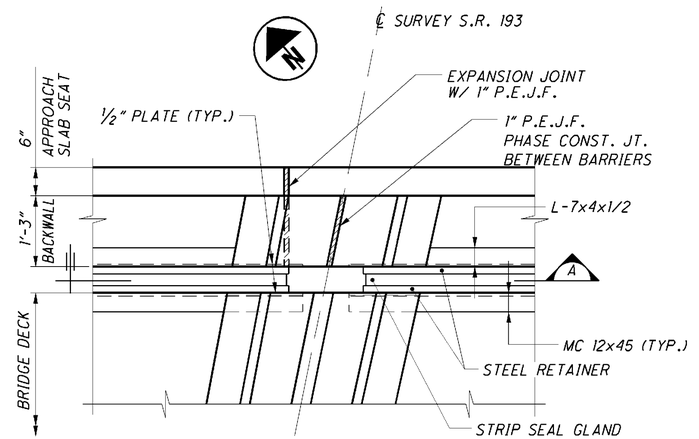
EXPANSION JOINT DETAIL

▲ THIS DIMENSION IS 2 x STEEL RETAINER WIDTH PLUS DIMENSION "A"

TEMPERATURE (°F)	REAR ABUT.	FRWD. ABUT.
30	3 1/4"	3 1/8"
40	2 15/16"	2 7/8"
50	2 9/16"	2 5/8"
60	2 1/4"	2 3/8"
70	1 7/8"	2 1/16"
80	1 9/16"	1 13/16"
90	* 1 3/16"	1 1/2"

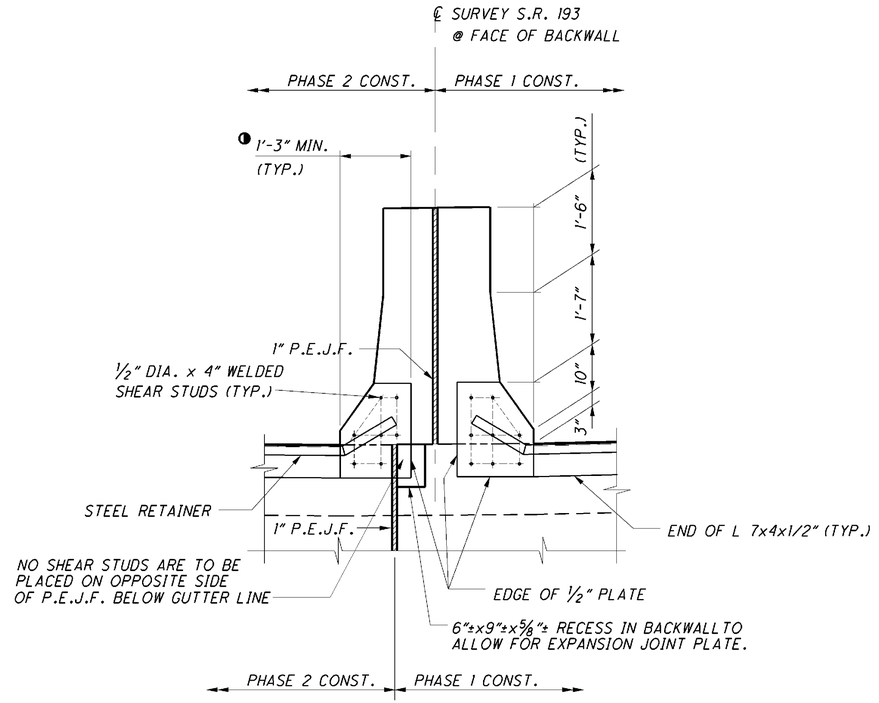
* MINIMUM JOINT OPENING (DIM "A") AT TIME OF SEAL GLAND INSTALLATION SHALL NOT BE LESS THAN 1 1/2". IF THE JOINT OPENING IS LESS, INSTALLATION SHALL BE POSTPONED UNTIL THE TEMPERATURE DROPS A SUFFICIENT AMOUNT TO ALLOW THE MINIMUM 1 1/2" OPENING.

TABLE OF REQUIRED EXPANSION JOINT OPENINGS (DIM "A")



EXPANSION JOINT MEDIAN PLAN

FORWARD ABUTMENT SHOWN, REAR ABUTMENT SIMILAR



VIEW A

◑ MEASURED PERPENDICULAR TO BARRIER

NOTE:

FOR EXPANSION JOINT DETAILS NOT SHOWN, SEE ODOT STD. DWG. EXJ-4-87.

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DESIGN AGENCY
CLAUS PYLE SCHONER BURGS & DEHAVEN INC.
GPD ASSOCIATES
330 South Main Street, Suite 251, Akron, Ohio 44311
330-572-2100, Fax 330-572-2101

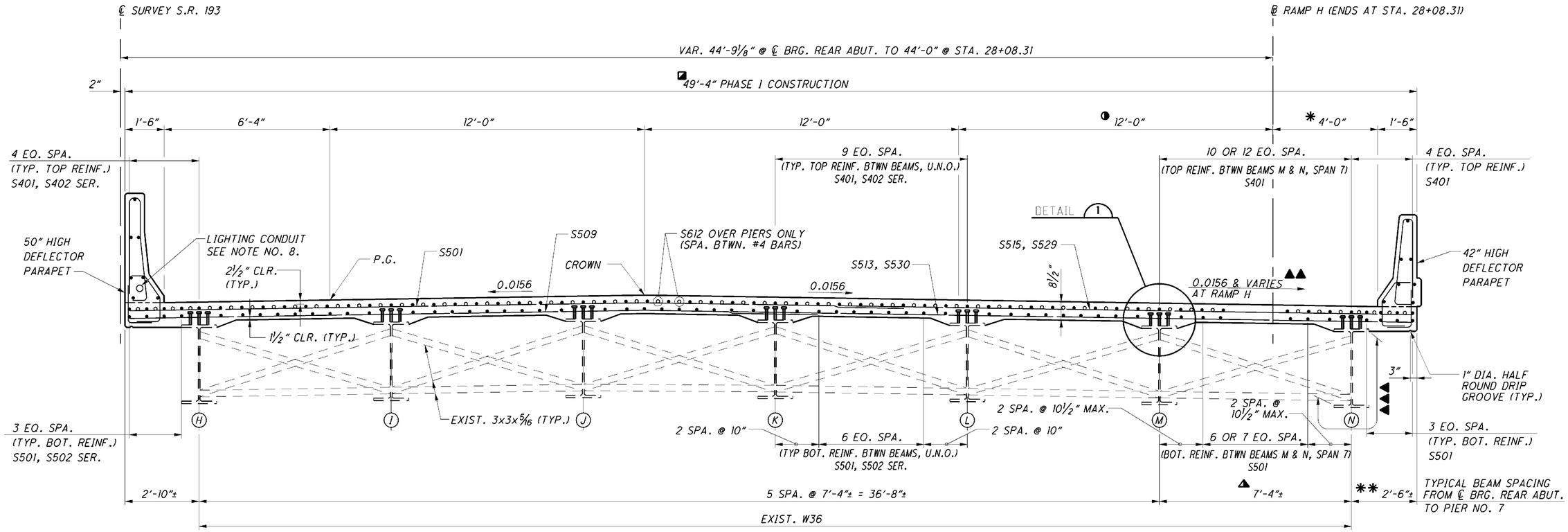
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RPR	RPR	GGN	2-20-09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		5004470	

EXPANSION JOINT DETAILS
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

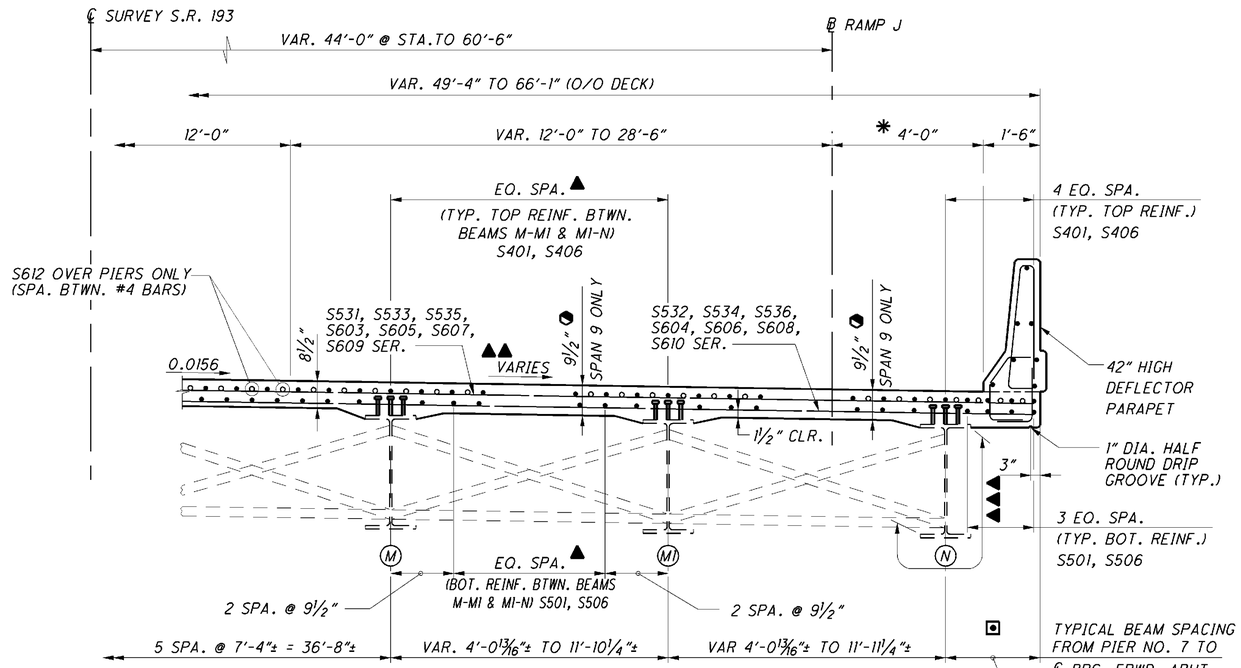
31A/52

193A
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TRANSVERSE SECTION - EASTBOUND LANES

℄ BRG. REAR ABUT TO STA. 33+50.00 (U.N.O.)



PARTIAL TRANSVERSE SECTION - EASTBOUND LANES

STA. 33+50.00 TO ℄ BRG. FRWD. ABUT. (U.N.O.)

LEGEND:

- * INDICATES MEASURED NORMAL TO RAMP ℄
- ◐ VAR. 12'-9 1/8" @ ℄ BRG. REAR ABUT. TO 12'-0" @ STA. 28+08.31
- ◪ VAR. 50'-1 1/4" @ ℄ BRG. REAR ABUT. TO 49'-4" @ STA. 28+08.31
- ▲ VAR. 7'-4" @ PIER NO. 6 TO 8'-2"± @ PIER NO. 7
- ** VAR. 3'-2 3/4"± ℄ BRG. REAR ABUT. TO 2'-6"± @ STA. 28+08.31
- ◘ 2'-0"± @ STA. 33+50.00
- ◑ DECK THICKNESS 9 1/2" WITHIN SPAN 9, BETWEEN BEAMS M & N (1" MIN. HAUNCH REQUIRED)
- ▲ SEE DETAIL 3 ON SHT. NO. 35A/52 FOR BAR SPACING DETAILS
- ▲▲ FOR VARIABLE CROSS-SLOPE DETAILS, SEE SHT. NO. 39/52
- ▲▲▲ LIMITS OF FASCIA BEAM TO BE PAINTED RED. REMAINDER OF STRUCTURAL STEEL AT EASTBOUND LANES TO BE PAINTED BROWN. SEE STRUCTURAL GENERAL NOTES FOR ADDITIONAL INFORMATION.

NOTES:

1. ALL STATIONS ARE REFRENCED TO ℄ SURVEY S.R. 193.
2. FOR DECK SLAB PLAN, SEE SHT. NOS. 34/52 & 35/52.
3. FOR PARAPET DETAILS, SEE SHT. NOS. 36/52 THRU 38/52.
4. 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 A CONSTANT HAUNCH THICKNESS OF 2 INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE OF 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 INCHES.

   THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF THE EMBEDDED TOP FLANGE HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.
5. MIN. LAP LENGTHS SHALL BE AS FOLLOWS:

   #5 (TOP TRANSVERSE) = 2'-6"
   #5 (BOT. TRANSVERSE) = 3'-3"
   #6 (TOP TRANSVERSE) = 3'-0"
   #6 (BOT. TRANSVERSE) = 4'-0"
6. FOR DETAIL 1, SEE SHT. NO. 33/52.
7. FOR SCUPPER DETAILS, SEE SHT. NOS. 47/52 THRU 49/52.
8. TRANSITION THE LIGHTING CONDUIT LOCATION TO MEET THE LOCATION OF THE TRANSITION JUNCTION BOX ON THE APPROACH SLAB BARRIER. LIGHTING CONDUIT IS INCLUDED FOR PAYMENT WITH LIGHTING PAY ITEMS. FOR LIGHTING PLANS SEE SHEETS 140 -147.

DESIGN AGENCY
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330-972-2100, Fax 330-972-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJP	DJP	GCN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DJC		5004470	

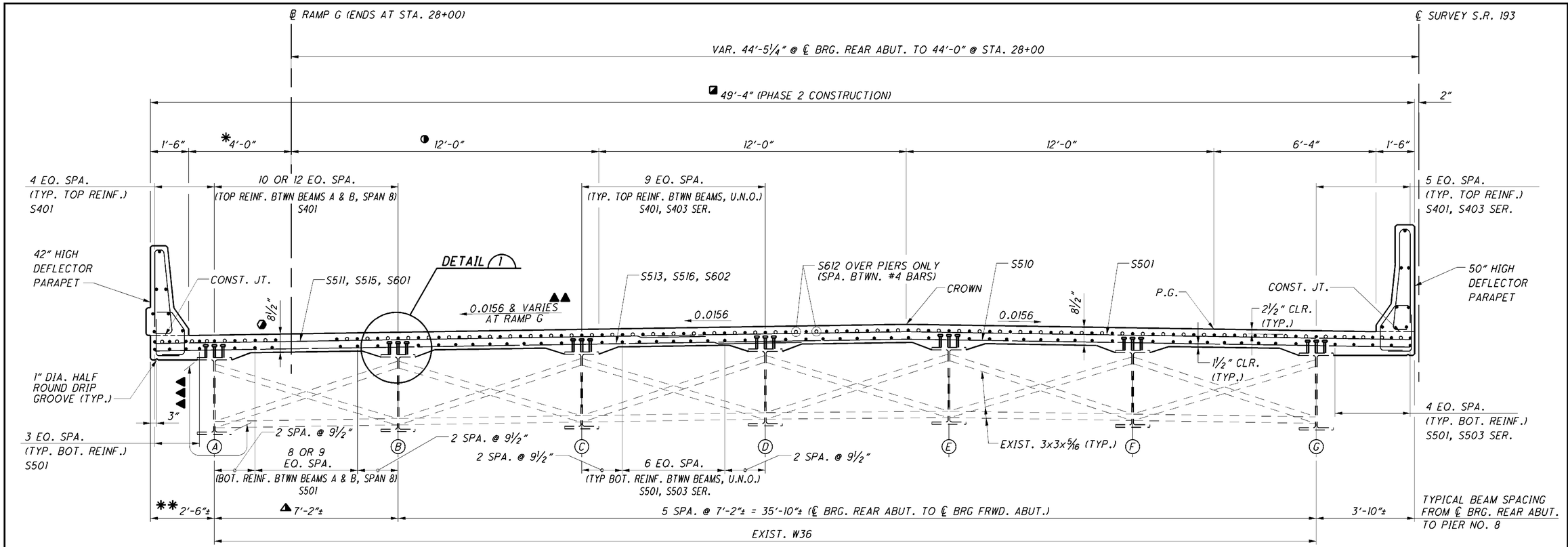
TRANSVERSE SECTION - EASTBOUND LANES (PHASE 1)
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

32/52

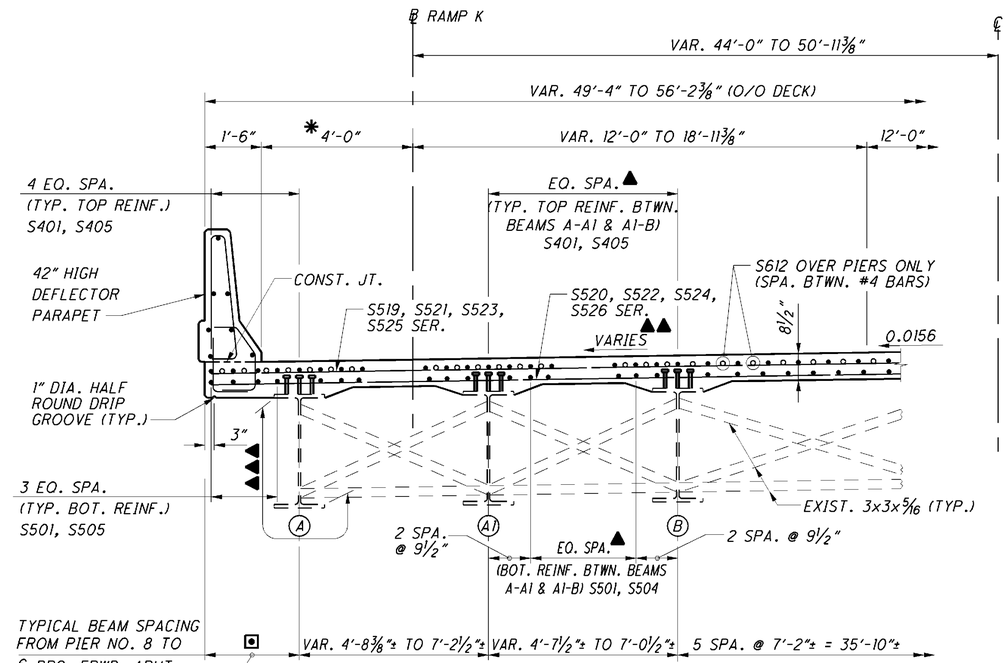
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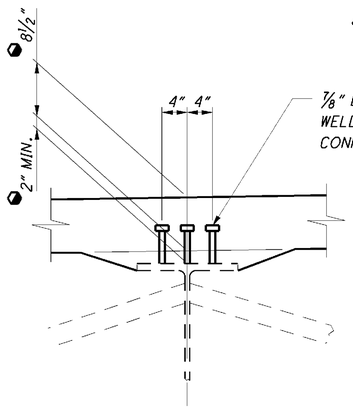
TRANSVERSE SECTION - WESTBOUND LANES

℄ BRG. REAR ABUT. TO STA. 33+98.39 (U.N.O.)



PARTIAL TRANSVERSE SECTION - WESTBOUND LANES

STA. 33+98.39 TO ℄ BRG. FRWD. ABUT. (U.N.O.)



DETAIL 1

THE HAUNCH DEPTHS SHALL BE CALCULATED AS THE DIFFERENCE BETWEEN THE FIELD MEASURED TOP OF BEAMS AND THE SCREED ELEVATIONS MINUS THE DECK THICKNESS.

LEGEND:

* INDICATES MEASURED NORMAL TO RAMP ℄
◑ VAR. 12'-5¼" @ ℄ BRG. REAR ABUT. TO 12'-0" @ STA. 28+00.00
◪ VAR. 49'-9¼" @ ℄ BRG. REAR ABUT. TO 49'-4" @ STA. 28+00.00
▲ VAR. 7'-2"± @ PIER NO. 7 TO 9'-3½"± @ PIER NO. 8
** VAR. 2'-11¼"± @ ℄ BRG. REAR ABUT. TO 2'-6"± @ STA. 28+00.00
◘ 2'-5¾"± @ STA. 33+98.39
◑ DECK THICKNESS 8¾" WITHIN SPAN 8 ONLY, BETWEEN BEAMS A & B (1¾" MIN. HAUNCH REQUIRED)
▲ SEE DETAIL 4 ON SHT. NO. 35A/52 FOR BAR SPACING DETAILS
▲▲ FOR VARIABLE CROSS-SLOPE DETAILS, SEE SHT. NO. 39/52
▲▲▲ LIMITS OF FASCIA BEAM TO BE PAINTED RED. REMAINDER OF STRUCTURAL STEEL AT WESTBOUND LANES TO BE PAINTED BROWN. SEE STRUCTURAL GENERAL NOTES FOR ADDITIONAL INFORMATION.

NOTES:

1. ALL STATIONS ARE REFRENCED TO ℄ SURVEY S.R. 193.
2. FOR ADDITIONAL NOTES, SEE SHT. NO. 32/52 .
3. MINIMUM LAP LENGTH SHALL BE AS FOLLOWS:

   #5 (TOP TRANSVERSE) = 2'-6"
   #5 (BOT. TRANSVERSE) = 3'-3"
   #6 (TOP TRANSVERSE) = 3'-0"
   #6 (BOT. TRANSVERSE) = 4'-0"

DESIGN AGENCY
GPD ASSOCIATES
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330-572-2100 , Fax 330-572-2101

DESIGNED DJP | DRAWN DJP | REVIEWED GCN | DATE 9-26-08
CHECKED DJC | REVISED | STRUCTURE FILE NUMBER 5004470

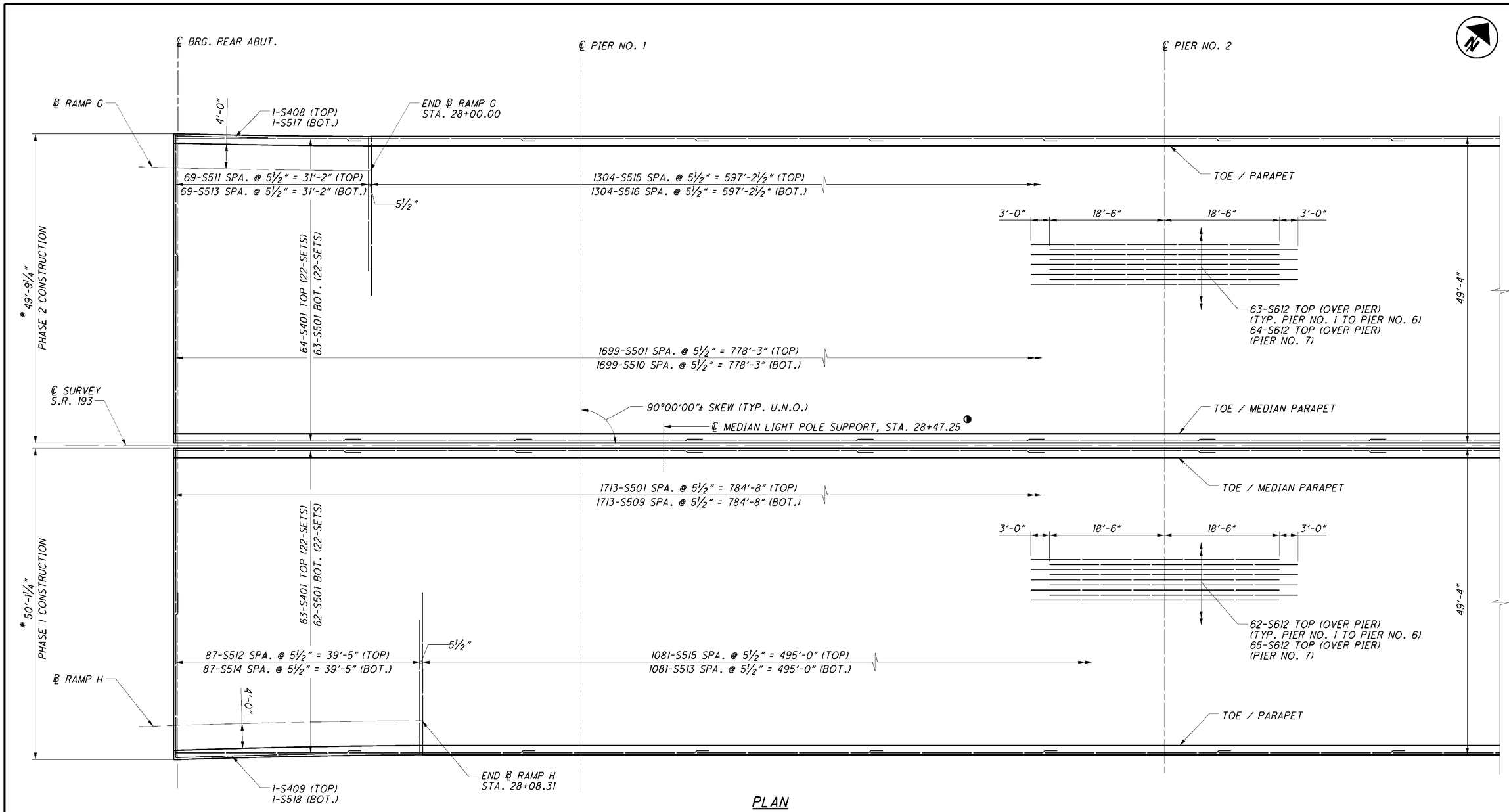
TRANSVERSE SECTION - WESTBOUND LANES (PHASE 2)
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

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PLAN

BOTH W.B. AND E.B. DECKS SHOWN

LEGEND:

◑ ℄ MEDIAN LIGHT POLE SUPPORT, STA. 31+64.00 (NOT SHOWN FOR CLARITY)

* INDICATES MEASURED ALONG ℄ BRG. REAR ABUT.

NOTES:

1. MINIMUM LAP LENGTH SHALL BE AS FOLLOWS:

   #4 BARS (LONGITUDINAL) = 2'-0"
   #5 BARS (LONGITUDINAL) = 2'-6"
   #5 BARS (TOP TRANSVERSE) = 2'-6"
   #5 BARS (BOT. TRANSVERSE) = 3'-3"
   #6 BARS (TOP TRANSVERSE) = 3'-0"
   #6 BARS (BOT. TRANSVERSE) = 4'-0"

2. FOR W.B. & E.B. TRANSVERSE SECTIONS, SEE SHEET NOS. 32/52 & 33/52 .

3. FOR PARAPET DETAILS, SEE SHT. NOS. 36/52 THRU 38/52 .

4. FOR SCREED ELEVATIONS, SEE SHT. NOS. 39/52 THRU 41/52 .

5. FOR LOCATIONS OF PROPOSED SCUPPERS, SHEE SHT. NO. 47/52 .

DESIGN AGENCY
CLAUS PYLE SCHNORR BURNS & DRAKVIN INC.
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DESIGNED DJP | DRAWN DJP | REVIEWED GGN | DATE 9-26-08
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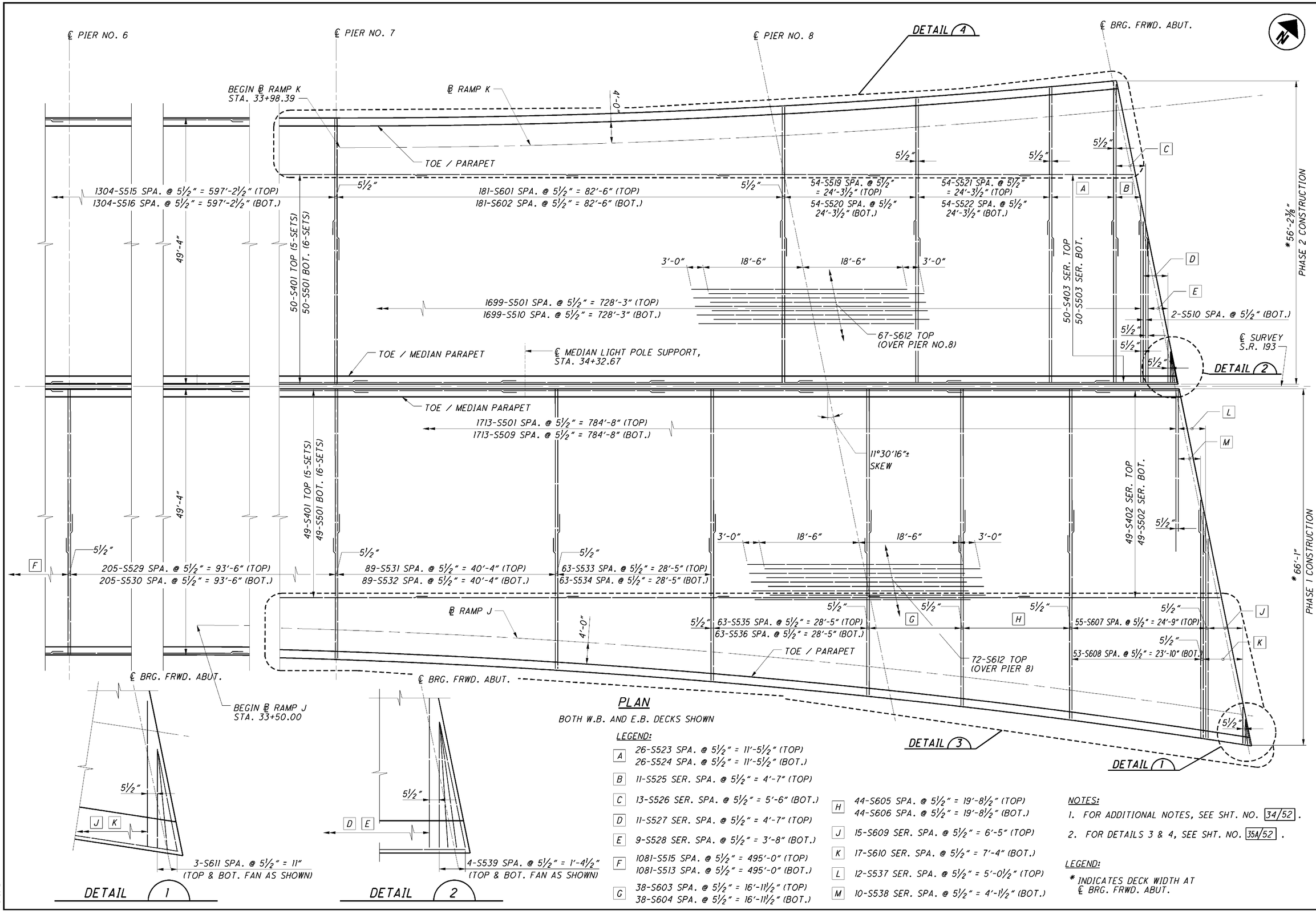
DECK SLAB PLAN
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

34 / 52

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PLAN

BOTH W.B. AND E.B. DECKS SHOWN

LEGEND:

- A — 26-S523 SPA. @ 5½" = 11'-5½" (TOP); 26-S524 SPA. @ 5½" = 11'-5½" (BOT.)
- B — 11-S525 SER. SPA. @ 5½" = 4'-7" (TOP)
- C — 13-S526 SER. SPA. @ 5½" = 5'-6" (BOT.)
- D — 11-S527 SER. SPA. @ 5½" = 4'-7" (TOP)
- E — 9-S528 SER. SPA. @ 5½" = 3'-8" (BOT.)
- F — 1081-S515 SPA. @ 5½" = 495'-0" (TOP); 1081-S513 SPA. @ 5½" = 495'-0" (BOT.)
- G — 38-S603 SPA. @ 5½" = 16'-11½" (TOP); 38-S604 SPA. @ 5½" = 16'-11½" (BOT.)
- H — 44-S605 SPA. @ 5½" = 19'-8½" (TOP); 44-S606 SPA. @ 5½" = 19'-8½" (BOT.)
- J — 15-S609 SER. SPA. @ 5½" = 6'-5" (TOP)
- K — 17-S610 SER. SPA. @ 5½" = 7'-4" (BOT.)
- L — 12-S537 SER. SPA. @ 5½" = 5'-0½" (TOP)
- M — 10-S538 SER. SPA. @ 5½" = 4'-1½" (BOT.)

NOTES:

1. FOR ADDITIONAL NOTES, SEE SHT. NO. 34/52 .
2. FOR DETAILS 3 & 4, SEE SHT. NO. 35A/52 .

LEGEND:

* INDICATES DECK WIDTH AT ℄ BRG. FRWD. ABUT.

DESIGN AGENCY
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DESIGNED	DRAWN	REVIEWED	DATE
DJP	DJP	GGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DJC		5004470	

DECK SLAB PLAN
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

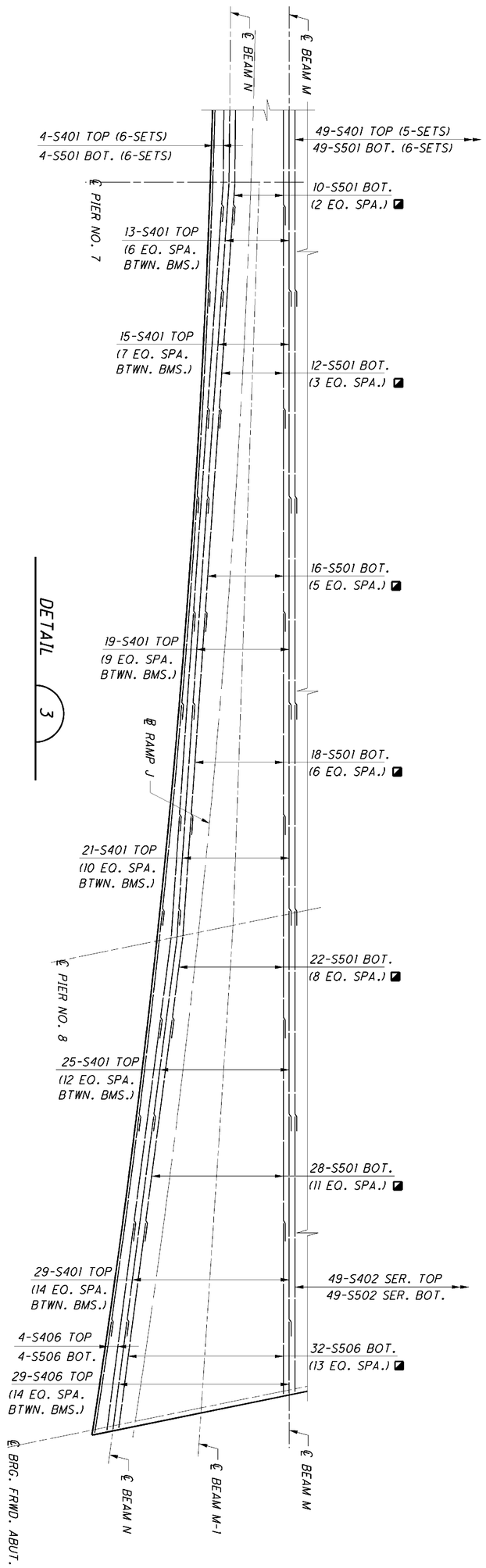
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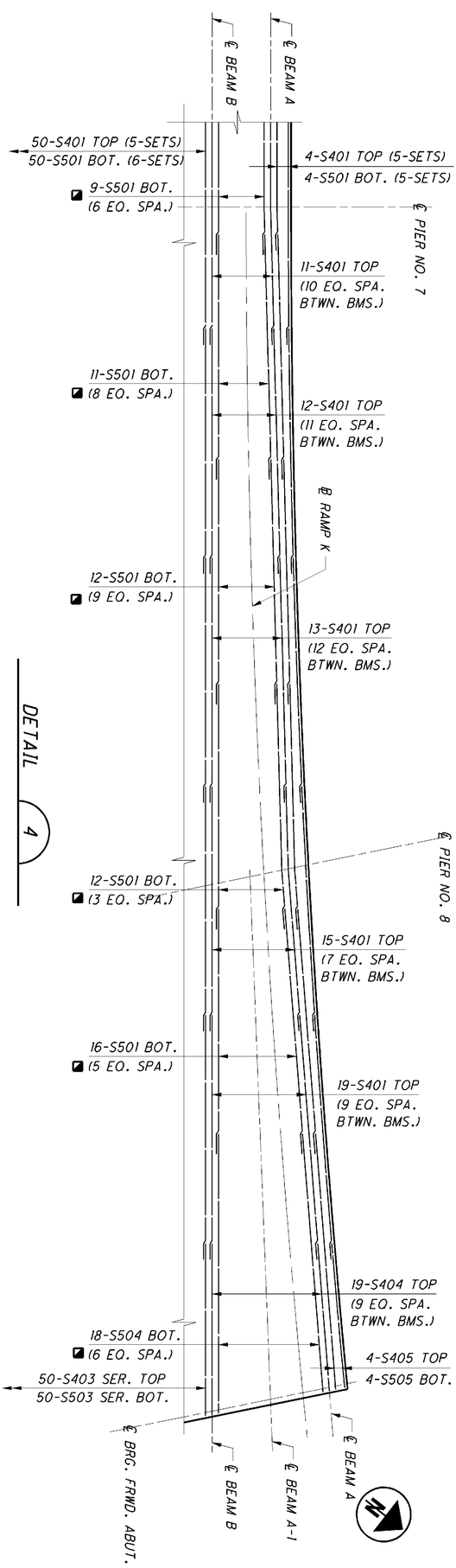
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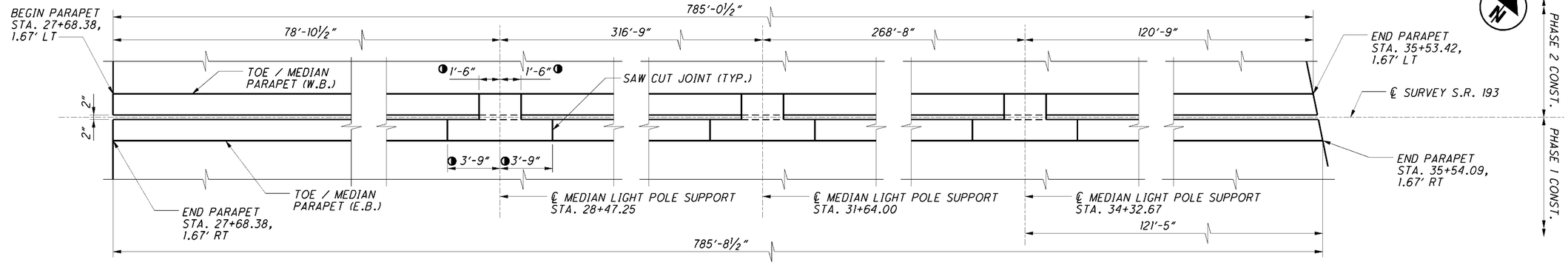
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◪ INDICATES SPACING INSIDE OF 9½" SPACING BETWEEN BEAMS, SEE TRANSVERSE SECTIONS ON SHT. NOS. 32/52 & 33/52.

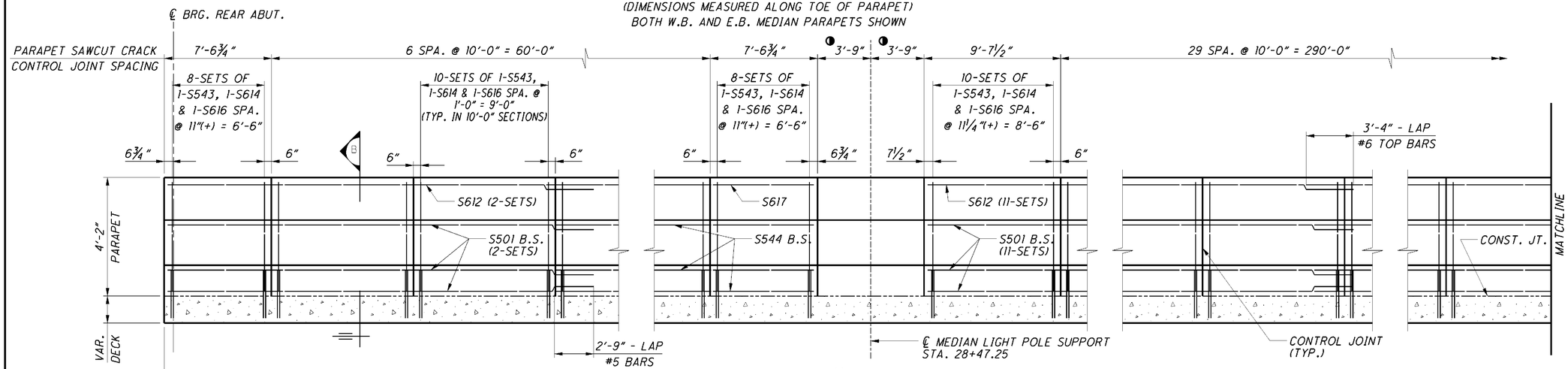


197A / 260	35A/52	MAH-193/422 -0.46/1.85 PID No. 25235	DECK SLAB PLAN DETAILS BRIDGE NO. MAH-193-0072 MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR	DESIGNED RPR	DRAWN RPR	REVIEWED GGN	DATE 9-26-08	DESIGN AGENCY GLAUS PYLE SCHOMER BURNS & DEHAVEN INC. GPD ASSOCIATES 520 South Main Street, Suite 2531 Akron, Ohio 44311 330-572-2100 , Fax 330-572-2101
				CHECKED DJC	REVISED	STRUCTURE FILE NUMBER 5004470		



MEDIAN PARAPET PLAN

(DIMENSIONS MEASURED ALONG TOE OF PARAPET)
BOTH W.B. AND E.B. MEDIAN PARAPETS SHOWN



LEGEND:

◑ DIMENSION TYPICAL AT ℄ MEDIAN LIGHT POLE SUPPORT.
SEE MEDIAN LIGHT POLE SUPPORT ON SHT. NO. 37/52 .

[A] 6-SETS OF 1-S537, 1-S616 & 1-S617 SPA. @ 11"(-) = 4'-6"

EASTBOUND MEDIAN PARAPET ELEVATION

(DIMENSIONS MEASURED ALONG TOE OF PARAPET)

NOTES:

1. FOR MEDIAN LIGHT SUPPORT DETAILS, SEE SHT. NO. 37/52.
2. FOR SECTION B, SEE SHT. NO. 37/52 .
3. FOR EASTBOUND MEDIAN PARAPET DETAILS, SEE SHT. NO. 37/52.
4. FOR 42" PARAPET DETAILS, SEE SHT. NO. 38/52 .

DESIGN AGENCY
GPD ASSOCIATES
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DESIGNED	DRAWN	REVIEWED	DATE
DJP	DJP	GGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		5004470	

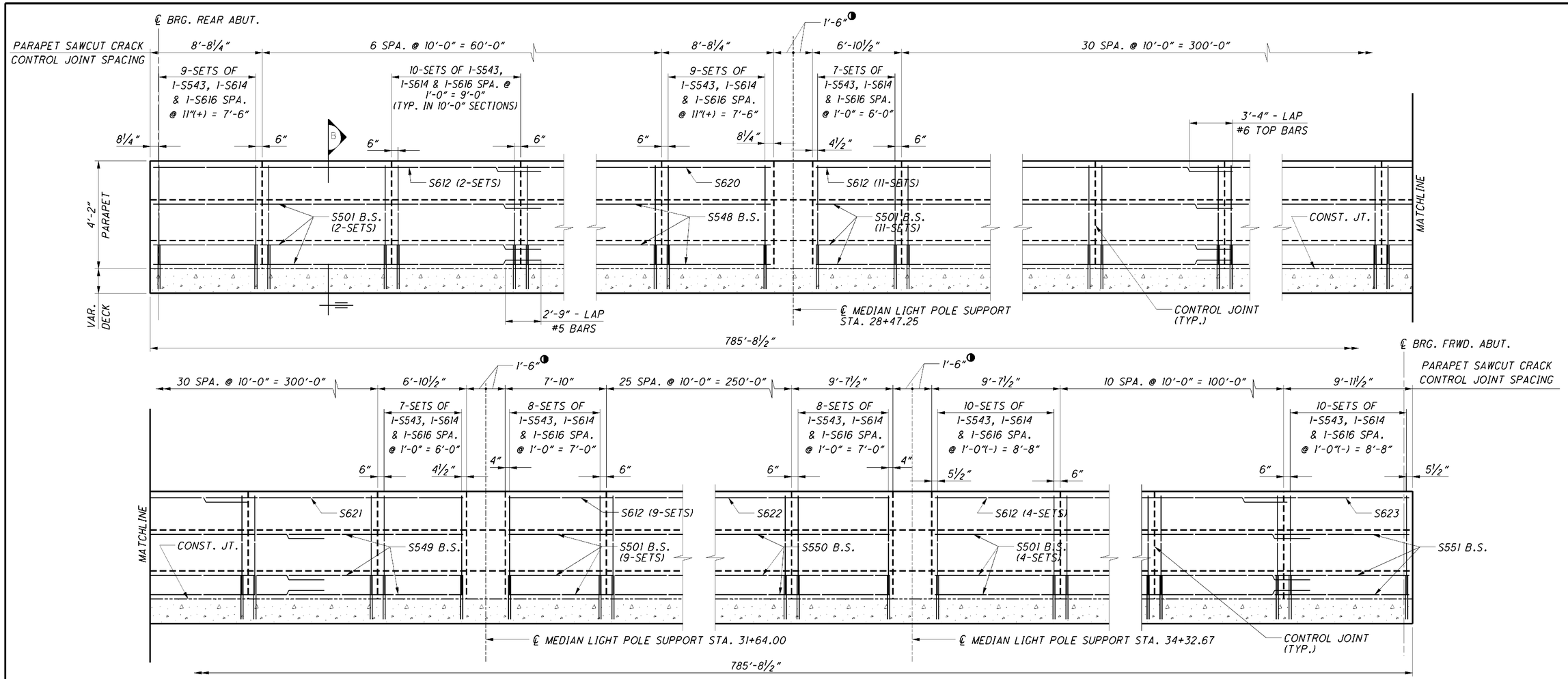
MEDIAN PARAPET DETAILS
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
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PID No. 25235

36/52

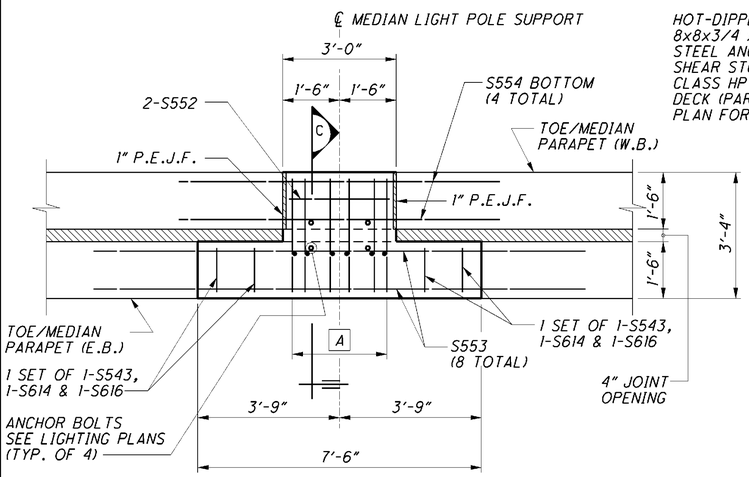
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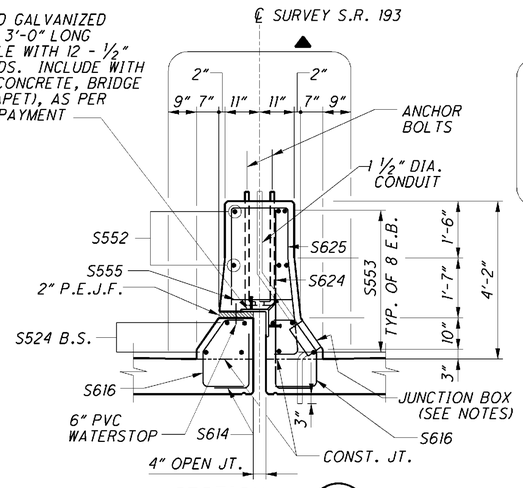
WESTBOUND MEDIAN PARAPET ELEVATION

(DIMENSIONS MEASURED ALONG TOE OF PARAPET)



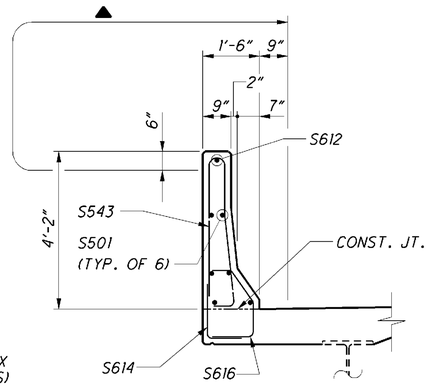
MEDIAN LIGHT POLE SUPPORT DETAIL

TYP. AT STA. 28+47.25, 31+64.00, & 34+32.67



SECTION C

DECK SLAB REINFORCING NOT SHOWN FOR CLARITY



SECTION B

DECK SLAB REINFORCING NOT SHOWN FOR CLARITY

LEGEND:

◑ DIMENSION TYPICAL AT ℄ MEDIAN LIGHT POLE SUPPORT. SEE MEDIAN LIGHT POLE SUPPORT DETAIL THIS SHEET.

[A] 6-SETS OF I-S616, I-S624, I-S625 SPA. @ 6" = 5'-0" (E.B.)
6-SETS OF I-S614 & I-S616 SPA. @ 6" = 5'-0" (W.B.)

▲ LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

NOTES:

1. FOR 42" PARAPET DETAILS, SEE SHT. NO. [38/52] .
2. FOR WESTBOUND MEDIAN PARAPET DETAILS, SEE SHT. NO. [36/52] .
3. ANCHOR BOLTS FOR THE MEDIAN LIGHT POLE ARE TENTATIVE. THE CONTRACTOR SHALL VERIFY THE EXISTING LIGHT POLE TO BE REMOVED AND REPLACE WITH A SIMILAR POLE BASE PLATE AND ANCHOR BOLTS. PAYMENT FOR LIGHTING JUNCTION BOXES, CONDUIT, ANCHOR BOLTS, ETC. IS INCLUDED WITH THE LIGHTING PLANS, SEE SHEETS 140 - 147. THE JUNCTION BOX SHALL HAVE MAXIMUM INSIDE DIMENSIONS AS FOLLOWS:

LENGTH = 12"
WIDTH = 10"
DEPTH = 6"

DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHINDLER BURGESS & DERAVEIN INC.
330 South Main Street, Suite 251, Akron, Ohio 44311
330-972-2100 - Fax 330-972-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJP	DJP	GCN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		5004470	

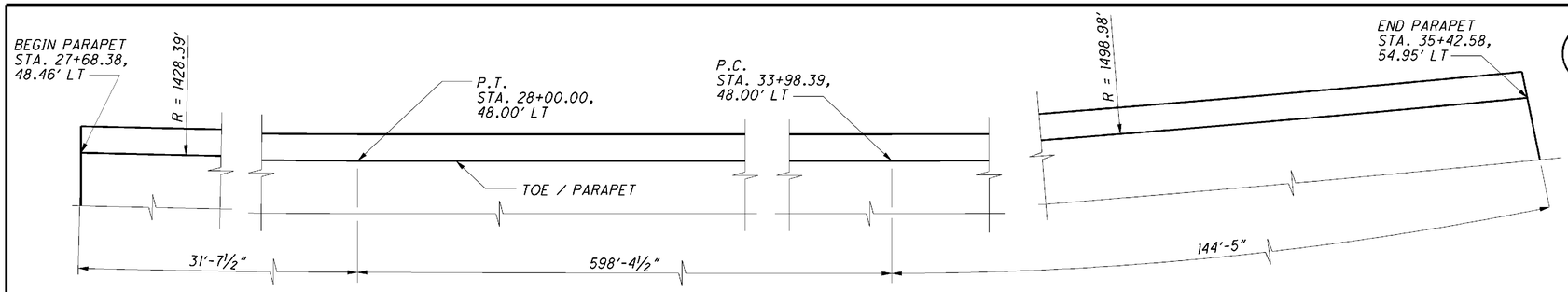
MEDIAN PARAPET DETAILS
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

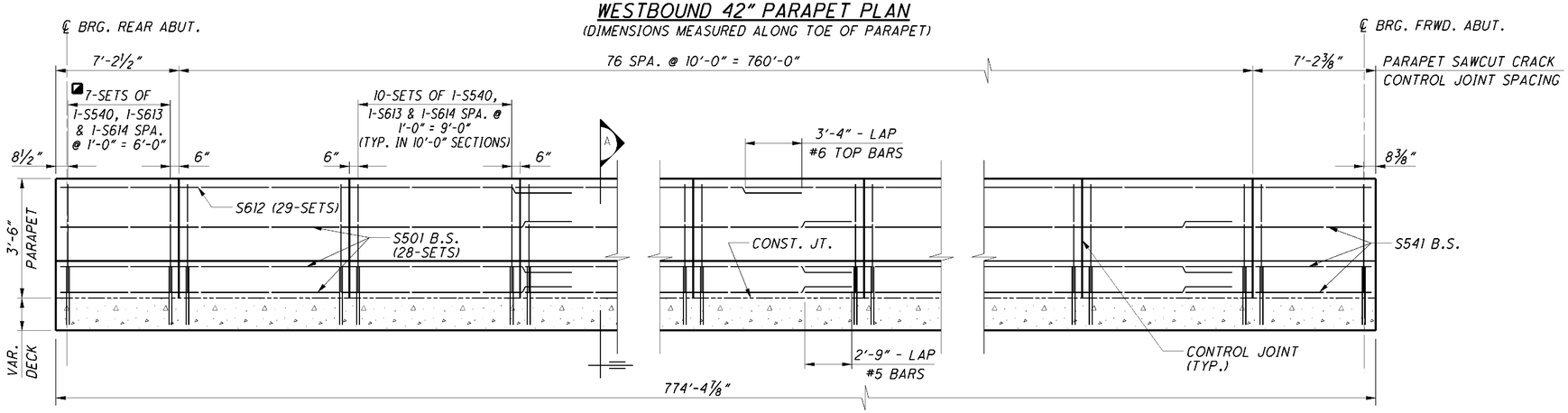
37/52

199/260

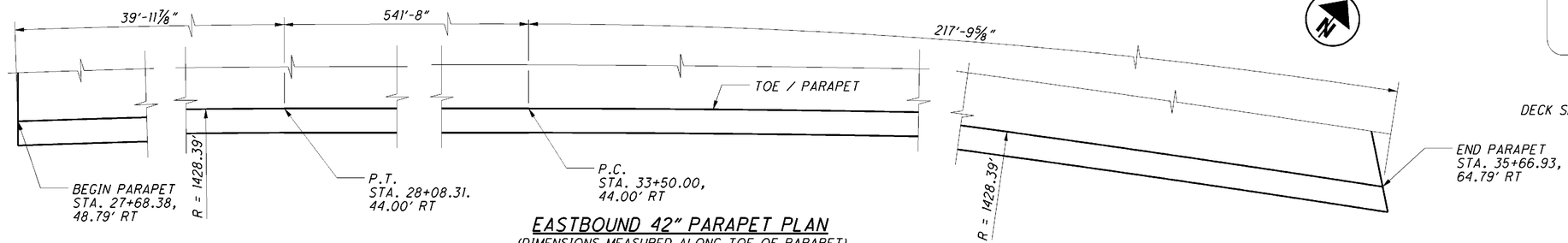
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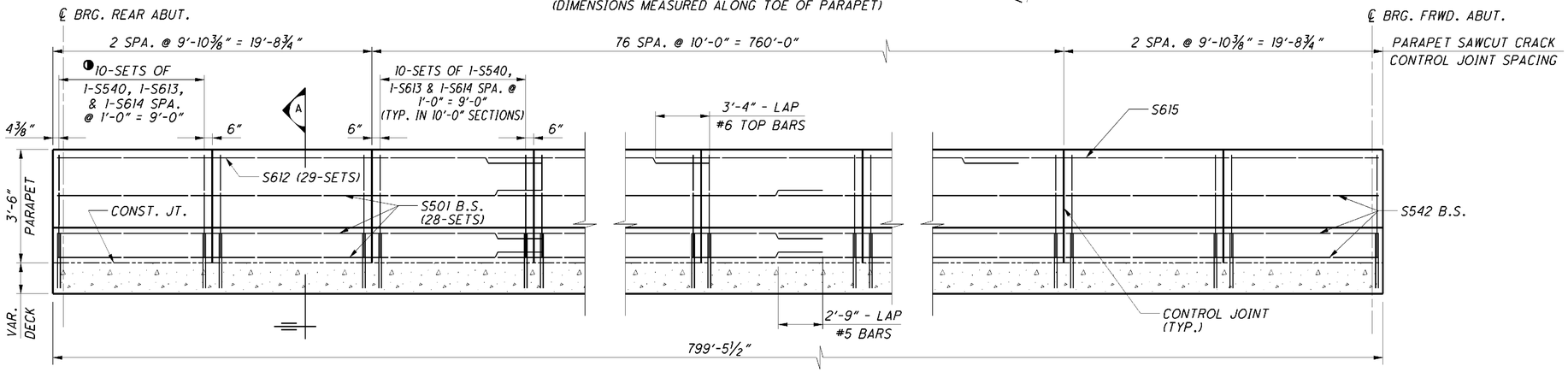
WESTBOUND 42" PARAPET PLAN
(DIMENSIONS MEASURED ALONG TOE OF PARAPET)



WESTBOUND 42" PARAPET ELEVATION
(DIMENSIONS MEASURED ALONG TOE OF PARAPET)



EASTBOUND 42" PARAPET PLAN
(DIMENSIONS MEASURED ALONG TOE OF PARAPET)



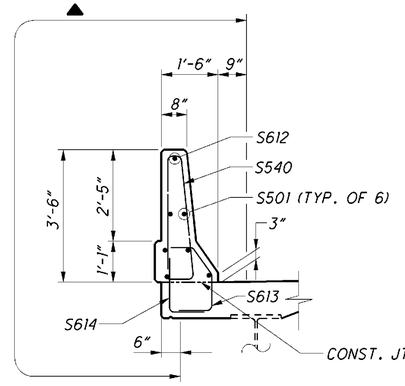
EASTBOUND 42" PARAPET ELEVATION
(DIMENSIONS MEASURED ALONG TOE OF PARAPET)

NOTES:

1. MIN. CLEAR TO REINFORCING STEEL IS 2 INCHES.
2. FOR PARAPET DETAILS NOT SHOWN, SEE STD. DWG. BR-1 FOR 42" PARAPET.
3. FOR SAWCUT CRACK CONTROL JOINT DETAILS SEE STD. DWG. BR-1.
4. FOR MEDIAN PARAPET DETAILS, SEE SHT. NOS. 36/52 & 37/52 .
5. ALL STATIONS AND OFFSETS ARE REFERENCED TO ℄ SURVEY S.R. 193.

LEGEND:

- ◪ TYPICAL EACH END SECTION
- ◑ TYPICAL EACH 9'-10⅜" SECTION
- ▲ LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)



SECTION A

DECK SLAB REINFORCING NOT SHOWN FOR CLARITY

DESIGN AGENCY
GPD ASSOCIATES
CLAUS-PYLE SCHOMER BURNS & DEHAVEN INC.
330 South Main Street, Suite 251) Akron, Ohio 44311
330-572-2100, Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJP	DJP	GCN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		5004470	

PARAPET DETAILS
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

38/52

200/260

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◐ VARIABLE CROSS SLOPE

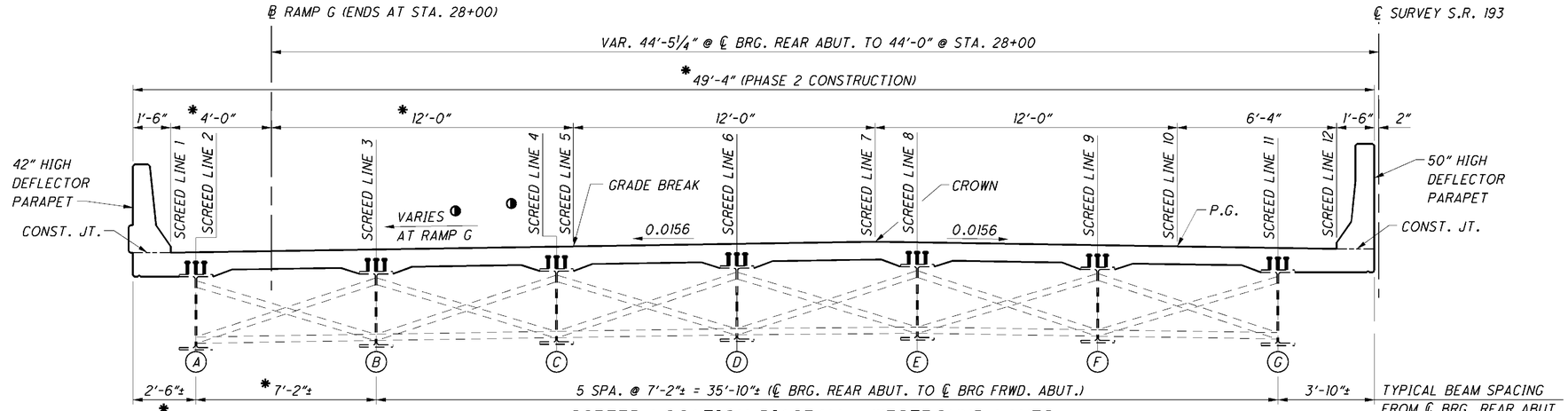
STA.	X-SLOPE
27+69.04	0.0241
28+00.00	0.0156
34+00.00	0.0156
35+46.57	0.0405

◪ VARIABLE CROSS SLOPE

STA.	X-SLOPE
27+69.04	0.0225
28+08.31	0.0156
33+50.00	0.0156
35+66.23	0.0374

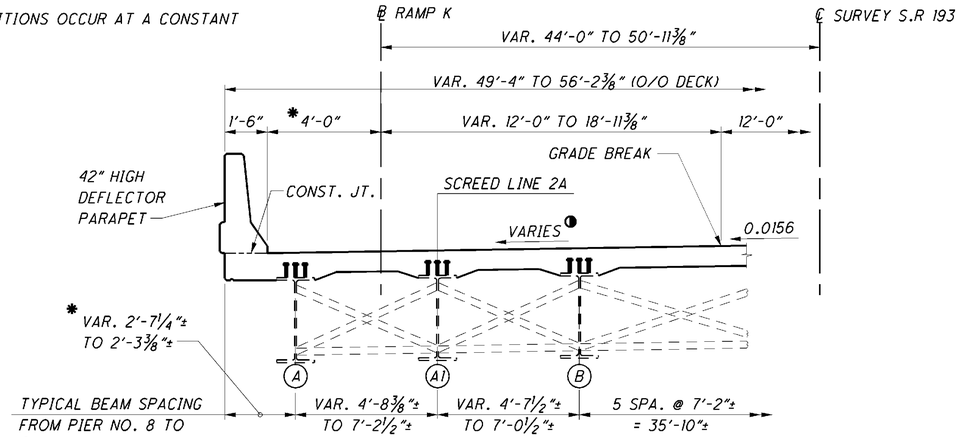
NOTES:

1. FOR SCREED ELEVATIONS, SEE SHEETS 40/52 & 41/52.
2. ALL CROSS-SLOPES ARE GIVEN PERPENDICULAR TO THE CENTERLINE OF CONSTRUCTION S.R. 193
3. CROSS-SLOPE TRANSITIONS OCCUR AT A CONSTANT RATE OF CHANGE.



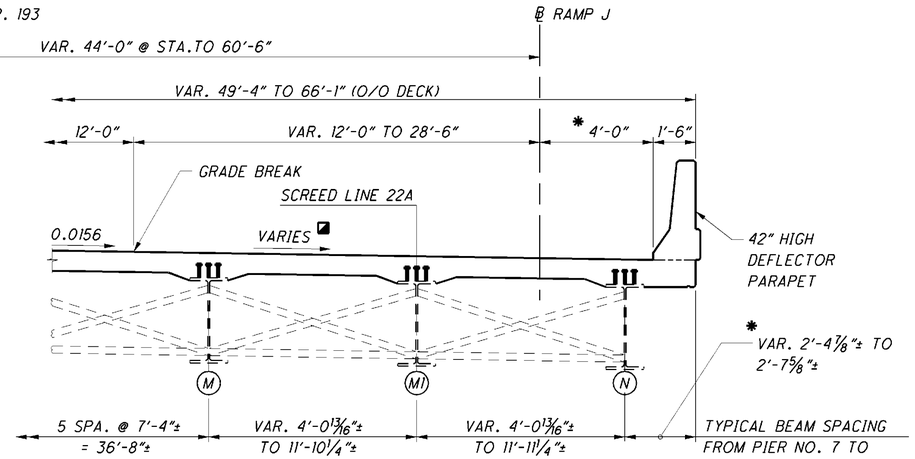
SCREED LOCATION DIAGRAM - WESTBOUND LANES

℄ BRG. REAR ABUT TO STA. 33+98.39 (U.N.O.)



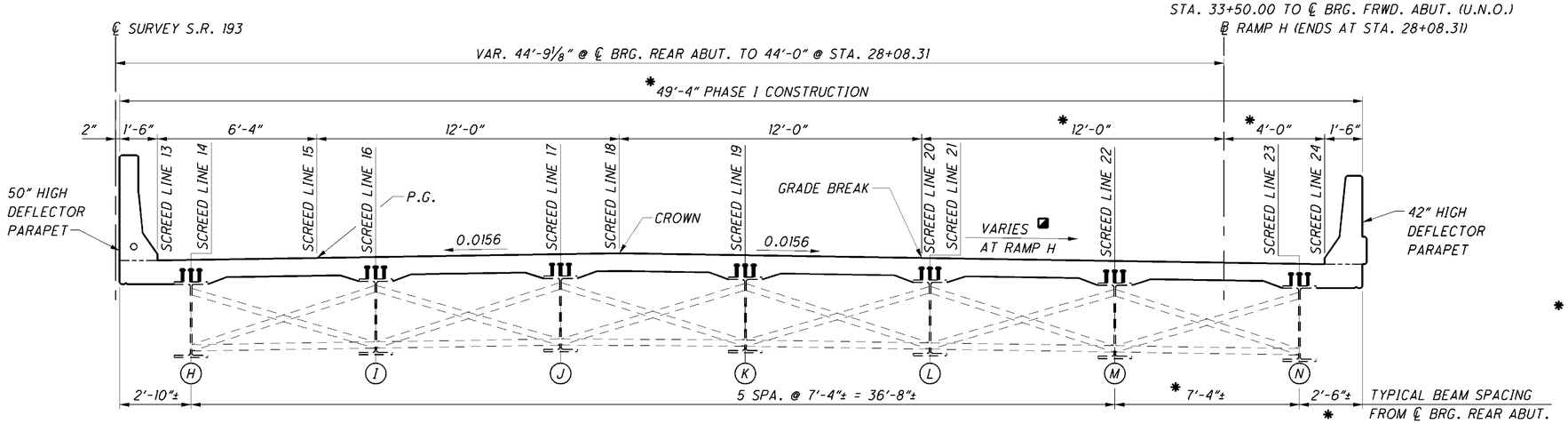
PARTIAL SCREED LOCATION DIAGRAM - WESTBOUND LANES

STA. 33+98.39 TO ℄ BRG. FRWD. ABUT. (U.N.O.)



PARTIAL SCREED LOCATION DIAGRAM - EASTBOUND LANES

STA. 33+50.00 TO ℄ BRG. FRWD. ABUT. (U.N.O.)



SCREED LOCATION DIAGRAM - EASTBOUND LANES

℄ BRG. REAR ABUT TO STA. 33+50.00 (U.N.O.)

* SEE TRANSVERSE SECTIONS SHEETS 32/52 & 33/52 FOR DIMENSIONS & STATION LIMITATIONS.

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DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHINDLER BURGESS & DERAVEIN INC.
330 South Main Street, Suite 251, Akron, Ohio 44311
330-972-2100, Fax 330-972-2101

DESIGNED	DRAWN	REVIEWED	DATE
TJW	DJC	GCN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DJC		5004470	

SCREED LOCATION DIAGRAMS
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

39/52

201/260

SCREED ELEVATIONS TABLE - WESTBOUND

LOCATION	SCREED LINE 1		SCREED LINE 2		SCREED LINE 2A		SCREED LINE 3		SCREED LINE 4		SCREED LINE 5		SCREED LINE 6		SCREED LINE 7		SCREED LINE 8		SCREED LINE 9		SCREED LINE 10		SCREED LINE 11		SCREED LINE 12	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BRG. R.A.	27+69.04	901.68	27+69.04	901.71			27+69.04	901.89	27+69.04	902.06	27+69.04	902.07	27+69.04	902.18	27+69.04	902.26	27+69.04	902.24	27+69.04	902.12	27+69.04	902.07	27+69.04	902.01	27+69.04	901.98
¼ SPAN 1	27+85.26	902.12	27+85.26	902.15			27+85.26	902.29	27+85.26	902.43	27+85.26	902.44	27+85.26	902.54	27+85.26	902.63	27+85.26	902.60	27+85.26	902.49	27+85.26	902.44	27+85.26	902.38	27+85.26	902.35
½ SPAN 1	28+01.48	902.54	28+01.48	902.55			28+01.48	902.66	28+01.48	902.77	28+01.48	902.79	28+01.48	902.89	28+01.48	902.97	28+01.48	902.95	28+01.48	902.83	28+01.48	902.79	28+01.48	902.73	28+01.48	902.69
¾ SPAN 1	28+17.70	902.86	28+17.70	902.88			28+17.70	902.99	28+17.70	903.10	28+17.70	903.11	28+17.70	903.21	28+17.70	903.30	28+17.70	903.27	28+17.70	903.16	28+17.70	903.11	28+17.70	903.05	28+17.70	903.02
℄ BRG. PIER 1	28+33.92	903.20	28+33.92	903.22			28+33.92	903.33	28+33.92	903.44	28+33.92	903.45	28+33.92	903.55	28+33.92	903.64	28+33.92	903.61	28+33.92	903.50	28+33.92	903.45	28+33.92	903.39	28+33.92	903.35
EXIST. SPLICE 1			28+52.72	903.64			28+52.72	903.75	28+52.72	903.87			28+52.72	903.98			28+52.72	904.04	28+52.72	903.93			28+52.72	903.82		
¼ SPAN 2	28+57.42	903.73	28+57.42	903.75			28+57.42	903.86	28+57.42	903.97			28+57.42	904.09	28+57.42	904.17	28+57.42	904.15	28+57.42	904.03	28+57.42	903.99	28+57.42	903.93	28+57.42	903.89
½ SPAN 2	28+80.91	904.26	28+80.91	904.27			28+80.91	904.38	28+80.91	904.50			28+80.91	904.61	28+80.91	904.69	28+80.91	904.67	28+80.91	904.56	28+80.91	904.51	28+80.91	904.45	28+80.91	904.42
¾ SPAN 2	29+04.41	904.73	29+04.41	904.74			29+04.41	904.85	29+04.41	904.97			29+04.41	905.08	29+04.41	905.16	29+04.41	905.14	29+04.41	905.03	29+04.41	904.98	29+04.41	904.92	29+04.41	904.88
℄ BRG. PIER 2	29+27.90	905.19	29+27.90	905.21			29+27.90	905.32	29+27.90	905.43			29+27.90	905.54	29+27.90	905.63	29+27.90	905.60	29+27.90	905.49	29+27.90	905.44	29+27.90	905.38	29+27.90	905.34
EXIST. SPLICE 2			29+46.68	905.62			29+46.68	905.73	29+46.68	905.85			29+46.68	905.96			29+46.68	906.02	29+46.68	905.91			29+46.68	905.80		
¼ SPAN 3	29+51.38	905.71	29+51.38	905.73			29+51.38	905.84	29+51.38	905.95			29+51.38	906.06	29+51.38	906.15	29+51.38	906.12	29+51.38	906.01	29+51.38	905.97	29+51.38	905.92	29+51.38	905.88
½ SPAN 3	29+74.85	906.23	29+74.85	906.25			29+74.85	906.36	29+74.85	906.47			29+74.85	906.58	29+74.85	906.67	29+74.85	906.64	29+74.85	906.53	29+74.85	906.50	29+74.85	906.45	29+74.85	906.41
¾ SPAN 3	29+98.33	906.71	29+98.33	906.73			29+98.33	906.84	29+98.33	906.95			29+98.33	907.06	29+98.33	907.15	29+98.33	907.12	29+98.33	907.01	29+98.33	906.97	29+98.33	906.91	29+98.33	906.87
℄ BRG. PIER 3	30+21.80	907.18	30+21.80	907.20			30+21.80	907.31	30+21.80	907.42			30+21.80	907.53	30+21.80	907.62	30+21.80	907.59	30+21.80	907.48	30+21.80	907.43	30+21.80	907.37	30+21.80	907.33
EXIST. SPLICE 3			30+40.57	907.62			30+40.57	907.73	30+40.57	907.84			30+40.57	907.95			30+40.57	908.01	30+40.57	907.90			30+40.57	907.79		
¼ SPAN 4	30+45.27	907.71	30+45.27	907.72			30+45.27	907.84	30+45.27	907.95			30+45.27	908.06	30+45.27	908.14	30+45.27	908.12	30+45.27	908.01	30+45.27	907.96	30+45.27	907.90	30+45.27	907.86
½ SPAN 4	30+68.74	908.23	30+68.74	908.24			30+68.74	908.35	30+68.74	908.47			30+68.74	908.58	30+68.74	908.66	30+68.74	908.64	30+68.74	908.53	30+68.74	908.48	30+68.74	908.42	30+68.74	908.39
¾ SPAN 4	30+92.20	908.70	30+92.20	908.72			30+92.20	908.83	30+92.20	908.94			30+92.20	909.06	30+92.20	909.14	30+92.20	909.11	30+92.20	909.00	30+92.20	908.96	30+92.20	908.90	30+92.20	908.86
PROP. SPLICE 1			31+02.53	908.92			31+02.53	909.03	31+02.53	909.15			31+02.53	909.26			31+02.53	909.32	31+02.53	909.21			31+02.53	909.10		
PROP. SPLICE 2			31+09.10	909.05			31+09.10	909.17	31+09.10	909.28			31+09.10	909.39			31+09.10	909.45	31+09.10	909.34			31+09.10	909.23		
℄ BRG. PIER 4	31+15.67	909.17	31+15.67	909.19			31+15.67	909.30	31+15.67	909.41			31+15.67	909.52	31+15.67	909.61	31+15.67	909.58	31+15.67	909.47	31+15.67	909.42	31+15.67	909.36	31+15.67	909.32
¼ SPAN 5	31+39.17	909.70	31+39.17	909.71			31+39.17	909.82	31+39.17	909.94			31+39.17	910.05	31+39.17	910.13	31+39.17	910.11	31+39.17	910.00	31+39.17	909.95	31+39.17	909.89	31+39.17	909.85
½ SPAN 5	31+62.67	910.21	31+62.67	910.23			31+62.67	910.34	31+62.67	910.45			31+62.67	910.56	31+62.67	910.65	31+62.67	910.62	31+62.67	910.51	31+62.67	910.47	31+62.67	910.41	31+62.67	910.37
¾ SPAN 5	31+86.16	910.69	31+86.16	910.71			31+86.16	910.82	31+86.16	910.93			31+86.16	911.04	31+86.16	911.13	31+86.16	911.10	31+86.16	910.99	31+86.16	910.94	31+86.16	910.88	31+86.16	910.85
EXIST. SPLICE 4			31+90.86	910.80			31+90.86	910.91	31+90.86	911.02			31+90.86	911.13			31+90.86	911.19	31+90.86	911.08			31+90.86	910.97		
℄ BRG. PIER 5	32+09.66	911.17	32+09.66	911.18			32+09.66	911.29	32+09.66	911.41			32+09.66	911.52	32+09.66	911.60	32+09.66	911.58	32+09.66	911.47	32+09.66	911.42	32+09.66	911.35	32+09.66	911.32
¼ SPAN 6	32+33.17	911.69	32+33.17	911.71			32+33.17	911.82	32+33.17	911.93			32+33.17	912.04	32+33.17	912.13	32+33.17	912.10	32+33.17	911.99	32+33.17	911.94	32+33.17	911.88	32+33.17	911.85
½ SPAN 6	32+56.68	912.21	32+56.68	912.23			32+56.68	912.34	32+56.68	912.45			32+56.68	912.56	32+56.68	912.65	32+56.68	912.62	32+56.68	912.51	32+56.68	912.47	32+56.68	912.41	32+56.68	912.38
¾ SPAN 6	32+80.18	912.69	32+80.18	912.70			32+80.18	912.82	32+80.18	912.93			32+80.18	913.04	32+80.18	913.12	32+80.18	913.10	32+80.18	912.99	32+80.18	912.94	32+80.18	912.88	32+80.18	912.85
EXIST. SPLICE 5			32+84.88	912.79			32+84.88	912.91	32+84.88	913.02			32+84.88	913.13			32+84.88	913.19	32+84.88	913.08			32+84.88	912.97		
℄ BRG. PIER 6	33+03.69	913.16	33+03.69	913.18			33+03.69	913.29	33+03.69	913.40			33+03.69	913.51	33+03.69	913.60	33+03.69	913.57	33+03.69	913.46	33+03.69	913.41	33+03.69	913.35	33+03.69	913.31
¼ SPAN 7	33+27.18	913.68	33+27.18	913.70			33+27.18	913.81	33+27.18	913.92			33+27.18	914.03	33+27.18	914.12	33+27.18	914.09	33+27.18	913.98	33+27.18	913.93	33+27.18	913.87	33+27.18	913.83
½ SPAN 7	33+50.67	914.24	33+50.67	914.25			33+50.67	914.36	33+50.67	914.47			33+50.67	914.59	33+50.67	914.67	33+50.67	914.65	33+50.67	914.53	33+50.67	914.49	33+50.67	914.43	33+50.67	914.39
¾ SPAN 7	33+74.15	914.78	33+74.15	914.80			33+74.15	914.91	33+74.15	915.02			33+74.15	915.13	33+74.15	915.21	33+74.15	915.19	33+74.15	915.08	33+74.15	915.03	33+74.15	914.97	33+74.15	914.93
EXIST. SPLICE 6			33+78.85	914.90			33+78.85	915.01	33+78.85	915.13			33+78.85	915.24			33+78.85	915.30	33+78.85	915.19			33+78.85	915.07		
℄ BRG. PIER 7	33+97.64	915.35	33+97.64	915.36			33+97.64	915.47	33+97.64	915.59	33+97.64	915.60	33+97.64	915.70	33+97.64	915.78	33+97.64	915.76	33+97.64	915.65	33+97.64	915.60	33+97.64	915.53	33+97.64	915.50
EXIST. SPLICE 7																										
¼ SPAN 8	34+17.89	915.85	34+17.90	915.87			34+18.37	916.02	34+18.73	916.17	34+18.77	916.18	34+19.10	916.29	34+19.37	916.39	34+19.46	916.37	34+19.83	916.27	34+19.98	916.23	34+20.19	916.17	34+20.30	916.14
½ SPAN 8	34+38.13	916.38	34+38.15	916.39			34+39.10	916.60	34+39.82	916.78	34+39.88	916.80	34+40.55	916.92	34+41.11	917.03	34+41.28	917.01	34+42.01	916.92	34+42.33	916.89	34+42.75	916.85	34+42.97	916.82
¾ SPAN 8	34+58.37	916.89	34+58.40	916.91			34+59.82	917.18	34+60.91	917.39	34+61.00	917.41	34+62.00	917.55	34+62.84	917.66	34+63.11	917.64	34+64.20	917.57	34+64.67	917.54	34+65.30	917.50	34+65.64	917.47
EXIST. SPLICE 8			34+60.75	916.97			34+62.55	917.25	34+63.99	917.49			34+65.46	917.65			34+66.93	917.76	34+68.39	917.69			34+69.86	917.63		
** ℄ BRG. PIER 8	34+78.43	917.41	34+78.65	917.45	34+78.64	917.59	34+80.54	917.77	34+81.99	918.03	34+82.12	918.05	34+83.46	918.20	34+84.57	918.32	34+84.93	918.30	34+86.39	918.24	34+87.01	918.21	34+87.86	918.18	34+88.30	918.15
¼ SPAN 9	34+94.46	917.86	34+94.51	917.88	34+94.87	918.09	34+96.67	918.28	34+98.12	918.56	34+98.24	918.59	34+99.58	918.73	35+00.68	918.85	35+01.04	918.84	35+02.50	918.77	35+03.12	918.75	35+03.96	918.71	35+04.41	918.69
½ SPAN 9	35+10.32	918.31	35+10.36	918.33	35+11.09	918.59	35+12.78	918.81	35+14.23	919.11	35+14.35	919.14	35+15.68	919.29	35+16.79	919.41	35+17.15	919.39	35+18.60	919.33	35+19.23	919.30	35+20.07	919.27	35+20.52	919.25
¾ SPAN 9	35+26.16	918.74	35+26.22	918.77	35+27.31	919.07	35+28.88	919.34	35+30.34	919.66	35+30.46	919.69	35+31.79	919.84	35+32.90	919.96	35+33.25	919.95	35+34.71	919.89	35+35.34	919.86	35+36.17	919.83	35+36.63	919.81
℄ BRG. F.A.	35+41.91	919.16	35+42.08	919.20	35+43.54	919.53	35+44.98	919.87	35+46.45	920.21	35+46.57	920.24	35+47.90	920.39	35+49.01	920.51	35+49.36	920.50	35+50.81	920.44	35+51.45	920.41	35+52.27	920.38	35+52.74	920.36

NO GRADE BREAK

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

** THE LOCATION FOR BEAM A-1 (SCREED LINE 2A) IS AT THE CENTERLINE OF THE EXISTING W36x150 CROSS BEAM, LOCATED DIRECTLY TO THE WEST OF THE ℄ BRG. PIER 8

NOTES:

1. FOR SCREED LOCATIONS DIAGRAM, SEE SHEET 39/52 .

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DESIGN AGENCY
GPD ASSOCIATES
CLAUS-PYLE SCHONER BURGS & DEHAVEN INC.
330 South Main Street, Suite 251, Akron, Ohio 44311
330-572-2100 - Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
TJW	DJC	GCN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
DJC		5004470	

SCREED ELEVATIONS - WESTBOUND LANES
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

SCREED ELEVATIONS TABLE - EASTBOUND

LOCATION	SCREED LINE 13		SCREED LINE 14		SCREED LINE 15		SCREED LINE 16		SCREED LINE 17		SCREED LINE 18		SCREED LINE 19		SCREED LINE 20		SCREED LINE 21		SCREED LINE 22		SCREED LINE 22A		SCREED LINE 23		SCREED LINE 24	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BRG. R.A.	27+69.04	901.98	27+69.04	902.00	27+69.04	902.07	27+69.04	902.11	27+69.04	902.23	27+69.04	902.26	27+69.04	902.18			27+69.04	902.07	27+69.04	901.90			27+69.04	901.74	27+69.04	901.70
¼ SPAN 1	27+85.26	902.35	27+85.26	902.37	27+85.26	902.44	27+85.26	902.48	27+85.26	902.59	27+85.26	902.63	27+85.26	902.55			27+85.26	902.43	27+85.26	902.29			27+85.26	902.15	27+85.26	902.12
½ SPAN 1	28+01.48	902.69	28+01.48	902.71	28+01.48	902.79	28+01.48	902.82	28+01.48	902.94	28+01.48	902.97	28+01.48	902.89			28+01.48	902.78	28+01.48	902.66			28+01.48	902.53	28+01.48	902.52
¾ SPAN 1	28+17.70	903.02	28+17.70	903.04	28+17.70	903.11	28+17.70	903.15	28+17.70	903.26	28+17.70	903.30	28+17.70	903.22			28+17.70	903.11	28+17.70	902.99			28+17.70	902.88	28+17.70	902.86
℄ BRG. PIER 1	28+33.92	903.35	28+33.92	903.37	28+33.92	903.45	28+33.92	903.49	28+33.92	903.60	28+33.92	903.64	28+33.92	903.56			28+33.92	903.45	28+33.92	903.33			28+33.92	903.22	28+33.92	903.20
EXIST. SPLICE 1			28+52.72	903.81			28+52.72	903.91	28+52.72	904.03			28+52.72	903.99			28+52.72	903.87	28+52.72	903.76			28+52.72	903.64		
¼ SPAN 2	28+57.42	903.90	28+57.42	903.92	28+57.42	903.99	28+57.42	904.02	28+57.42	904.14	28+57.42	904.17	28+57.42	904.09			28+57.42	903.98	28+57.42	903.87			28+57.42	903.75	28+57.42	903.73
½ SPAN 2	28+80.91	904.43	28+80.91	904.45	28+80.91	904.51	28+80.91	904.54	28+80.91	904.66	28+80.91	904.69	28+80.91	904.62			28+80.91	904.50	28+80.91	904.39			28+80.91	904.27	28+80.91	904.26
¾ SPAN 2	29+04.41	904.89	29+04.41	904.91	29+04.41	904.98	29+04.41	905.01	29+04.41	905.13	29+04.41	905.16	29+04.41	905.09			29+04.41	904.97	29+04.41	904.86			29+04.41	904.74	29+04.41	904.73
℄ BRG. PIER 2	29+27.90	905.34	29+27.90	905.36	29+27.90	905.44	29+27.90	905.48	29+27.90	905.59	29+27.90	905.63	29+27.90	905.55			29+27.90	905.44	29+27.90	905.32			29+27.90	905.21	29+27.90	905.19
EXIST. SPLICE 2			29+46.68	905.78			29+46.68	905.89	29+46.68	906.01			29+46.68	905.97			29+46.68	905.85	29+46.68	905.74			29+46.68	905.62		
¼ SPAN 3	29+51.38	905.87	29+51.38	905.89	29+51.38	905.97	29+51.38	906.00	29+51.38	906.11	29+51.38	906.15	29+51.38	906.07			29+51.38	905.96	29+51.38	905.84			29+51.38	905.73	29+51.38	905.71
½ SPAN 3	29+74.85	906.40	29+74.85	906.42	29+74.85	906.49	29+74.85	906.52	29+74.85	906.63	29+74.85	906.67	29+74.85	906.59			29+74.85	906.48	29+74.85	906.36			29+74.85	906.25	29+74.85	906.23
¾ SPAN 3	29+98.33	906.87	29+98.33	906.89	29+98.33	906.96	29+98.33	907.00	29+98.33	907.11	29+98.33	907.15	29+98.33	907.07			29+98.33	906.96	29+98.33	906.84			29+98.33	906.83	29+98.33	906.71
℄ BRG. PIER 3	30+21.80	907.33	30+21.80	907.36	30+21.80	907.43	30+21.80	907.47	30+21.80	907.58	30+21.80	907.62	30+21.80	907.54	NO GRADE BREAK		30+21.80	907.43	30+21.80	907.31			30+21.80	907.20	30+21.80	907.18
EXIST. SPLICE 3			30+40.57	907.78			30+40.57	907.89	30+40.57	908.00			30+40.57	907.96			30+40.57	907.85	30+40.57	907.73			30+40.57	907.62		
¼ SPAN 4	30+45.27	907.87	30+45.27	907.89	30+45.27	907.96	30+45.27	907.99	30+45.27	908.11	30+45.27	908.15	30+45.27	908.07			30+45.27	907.95	30+45.27	907.84			30+45.27	907.72	30+45.27	907.71
½ SPAN 4	30+68.74	908.39	30+68.74	908.42	30+68.74	908.48	30+68.74	908.51	30+68.74	908.63	30+68.74	908.67	30+68.74	908.59			30+68.74	908.47	30+68.74	908.36			30+68.74	908.24	30+68.74	908.23
¾ SPAN 4	30+92.20	908.86	30+92.20	908.89	30+92.20	908.96	30+92.20	908.99	30+92.20	909.11	30+92.20	909.14	30+92.20	909.06			30+92.20	908.95	30+92.20	908.83			30+92.20	908.72	30+92.20	908.70
PROP. SPLICE 1			31+02.53	909.08			31+02.53	909.19	31+02.53	909.31			31+02.53	909.27			31+02.53	909.15	31+02.53	909.04			31+02.53	908.92		
PROP. SPLICE 2			31+09.10	909.21			31+09.10	909.32	31+09.10	909.44			31+09.10	909.40			31+09.10	909.28	31+09.10	909.17			31+09.10	909.06		
℄ BRG. PIER 4	31+15.67	909.32	31+15.67	909.35	31+15.67	909.42	31+15.67	909.46	31+15.67	909.57	31+15.67	909.61	31+15.67	909.53			31+15.67	909.42	31+15.67	909.30			31+15.67	909.19	31+15.67	909.17
¼ SPAN 5	31+39.17	909.85	31+39.17	909.87	31+39.17	909.95	31+39.17	909.98	31+39.17	910.10	31+39.17	910.13	31+39.17	910.06			31+39.17	909.94	31+39.17	909.83			31+39.17	909.71	31+39.17	909.70
½ SPAN 5	31+62.67	910.38	31+62.67	910.40	31+62.67	910.47	31+62.67	910.50	31+62.67	910.61	31+62.67	910.65	31+62.67	910.57			31+62.67	910.46	31+62.67	910.34			31+62.67	910.23	31+62.67	910.21
¾ SPAN 5	31+86.16	910.85	31+86.16	910.87	31+86.16	910.94	31+86.16	910.98	31+86.16	911.09	31+86.16	911.13	31+86.16	911.05			31+86.16	910.93	31+86.16	910.82			31+86.16	910.71	31+86.16	910.69
EXIST. SPLICE 4			31+90.86	910.96			31+90.86	911.07	31+90.86	911.18			31+90.86	911.14			31+90.86	911.03	31+90.86	910.91			31+90.86	910.80		
℄ BRG. PIER 5	32+09.66	911.32	32+09.66	911.34	32+09.66	911.42	32+09.66	911.45	32+09.66	911.57	32+09.66	911.60	32+09.66	911.53			32+09.66	911.41	32+09.66	911.30			32+09.66	911.18	32+09.66	911.17
¼ SPAN 6	32+33.17	911.86	32+33.17	911.88	32+33.17	911.95	32+33.17	911.98	32+33.17	912.09	32+33.17	912.13	32+33.17	912.05			32+33.17	911.94	32+33.17	911.82			32+33.17	911.71	32+33.17	911.69
½ SPAN 6	32+56.68	912.39	32+56.68	912.41	32+56.68	912.47	32+56.68	912.50	32+56.68	912.62	32+56.68	912.65	32+56.68	912.58			32+56.68	912.46	32+56.68	912.35			32+56.68	912.23	32+56.68	912.22
¾ SPAN 6	32+80.18	912.86	32+80.18	912.88	32+80.18	912.95	32+80.18	912.98	32+80.18	913.09	32+80.18	913.13	32+80.18	913.05			32+80.18	912.94	32+80.18	912.82			32+80.18	912.71	32+80.18	912.69
EXIST. SPLICE 5			32+84.88	912.97			32+84.88	913.07	32+84.88	913.18			32+84.88	913.14			32+84.88	913.03	32+84.88	912.91			32+84.88	912.80		
℄ BRG. PIER 6	33+03.69	913.31	33+03.69	913.33	33+03.69	913.41	33+03.69	913.45	33+03.69	913.56	33+03.69	913.60	33+03.69	913.52	33+03.69	913.41	33+03.69	913.40	33+03.69	913.29			33+03.69	913.18	33+03.69	913.16
¼ SPAN 7	33+27.18	913.83	33+27.18	913.85	33+27.18	913.93	33+27.18	913.96	33+27.18	914.08	33+27.18	914.11	33+27.18	914.03	33+27.18	913.92	33+27.18	913.92	33+27.18	913.81			33+27.19	913.68	33+27.18	913.67
½ SPAN 7	33+50.67	914.38	33+50.67	914.40	33+50.67	914.48	33+50.67	914.51	33+50.67	914.63	33+50.67	914.66	33+50.67	914.58	33+50.67	914.47	33+50.67	914.47	33+50.67	914.36			33+50.69	914.23	33+50.67	914.23
¾ SPAN 7	33+74.15	914.92	33+74.15	914.94	33+74.15	915.02	33+74.15	915.06	33+74.15	915.17	33+74.15	915.21	33+74.15	915.13	33+74.15	915.02	33+74.15	915.01	33+74.15	914.88			33+74.19	914.74	33+74.15	914.73
EXIST. SPLICE 6			33+78.85	915.05			33+78.85	915.17	33+78.85	915.28			33+78.85	915.24			33+78.85	915.12	33+78.85	914.99			33+78.62	914.83		
℄ BRG. PIER 7	33+97.64	915.50	33+97.64	915.52	33+97.64	915.60	33+97.64	915.63	33+97.64	915.75	33+97.64	915.78	33+97.64	915.71	33+97.64	915.60	33+97.64	915.59	33+97.64	915.44	33+97.64	915.36	33+97.62	915.27	33+97.64	915.25
EXIST. SPLICE 7									34+16.63	916.28			34+16.63	916.24			34+16.63	916.13	34+16.63	915.96			34+16.62	915.74		
¼ SPAN 8	34+20.47	916.15	34+20.55	916.17	34+20.80	916.25	34+20.92	916.29	34+21.29	916.42	34+21.40	916.46	34+21.66	916.39	34+22.01	916.30	34+22.03	916.29	34+22.41	916.13	34+22.79	916.10	34+23.23	915.91	34+23.22	915.91
½ SPAN 8	34+43.31	916.82	34+43.46	916.85	34+43.96	916.94	34+44.20	916.99	34+44.95	917.13	34+45.18	917.17	34+45.70	917.11	34+46.40	917.03	34+46.44	917.03	34+47.19	916.85	34+47.95	916.79	34+48.78	916.58	34+48.77	916.58
¾ SPAN 8	34+66.15	917.49	34+66.37	917.51	34+67.12	917.62	34+67.48	917.66	34+68.60	917.82	34+68.95	917.86	34+69.73	917.81	34+70.78	917.74	34+70.84	917.74	34+71.97	917.55	34+73.12	917.43	34+74.32	917.24	34+74.29	917.23
EXIST. SPLICE 8			34+71.28	917.66			34+72.77	917.82	34+74.26	917.98			34+75.77	917.99			34+77.25	917.92	34+78.75	917.75	34+80.15	917.61	34+81.60	917.42		
℄ BRG. PIER 8	34+88.98	918.18	34+89.28	918.21	34+90.27	918.32	34+90.76	918.37	34+92.26	918.53	34+92.72	918.58	34+93.77	918.54	34+95.17	918.47	34+95.25	918.47	34+96.75	918.29	34+98.28	918.11	34+99.86	917.92	35+00.07	917.90
¼ SPAN 9	35+05.09	918.71	35+05.39	918.74	35+06.38	918.85	35+06.87	918.90	35+08.36	919.07	35+08.82	919.12	35+09.86	919.07	35+11.26	919.01	35+11.35	919.00	35+12.84	918.83	35+14.60	918.59	35+16.39	918.39	35+16.31	918.36
½ SPAN 9	35+21.20	919.27	35+21.50	919.30	35+22.49	919.41	35+22.98	919.47	35+24.47	919.63	35+24.93	919.68	35+25.97	919.64	35+27.37	919.58	35+27.45	919.57	35+28.95	919.39	35+30.92	919.11	35+32.93	918.86	35+32.84	918.84
¾ SPAN 9	35+37.31	919.83	35+37.61	919.86	35+38.59	919.97	35+39.09	920.03	35+40.58	920.19	35+41.03	920.25	35+42.07	920.20	35+43.47	920.14	35+43.56	920.14	35+45.05	919.94	35+47.25	919.62	35+49.46	919.33	35+49.35	919.29
℄ BRG. F.A.	35+53.41	920.39	35+53.71	920.42	35+54.70	920.53	35+55.20	920.59	35+56.69	920.76	35+57.14	920.81	35+58.18	920.77	35+59.58	920.71	35+59.66	920.70	35+61.16	920.49	35+63.57	920.13	35+66.00	919.77	35+66.23	919.74

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

NOTES:

1. FOR SCREED LOCATIONS DIAGRAM, SEE SHEET 39/52 .

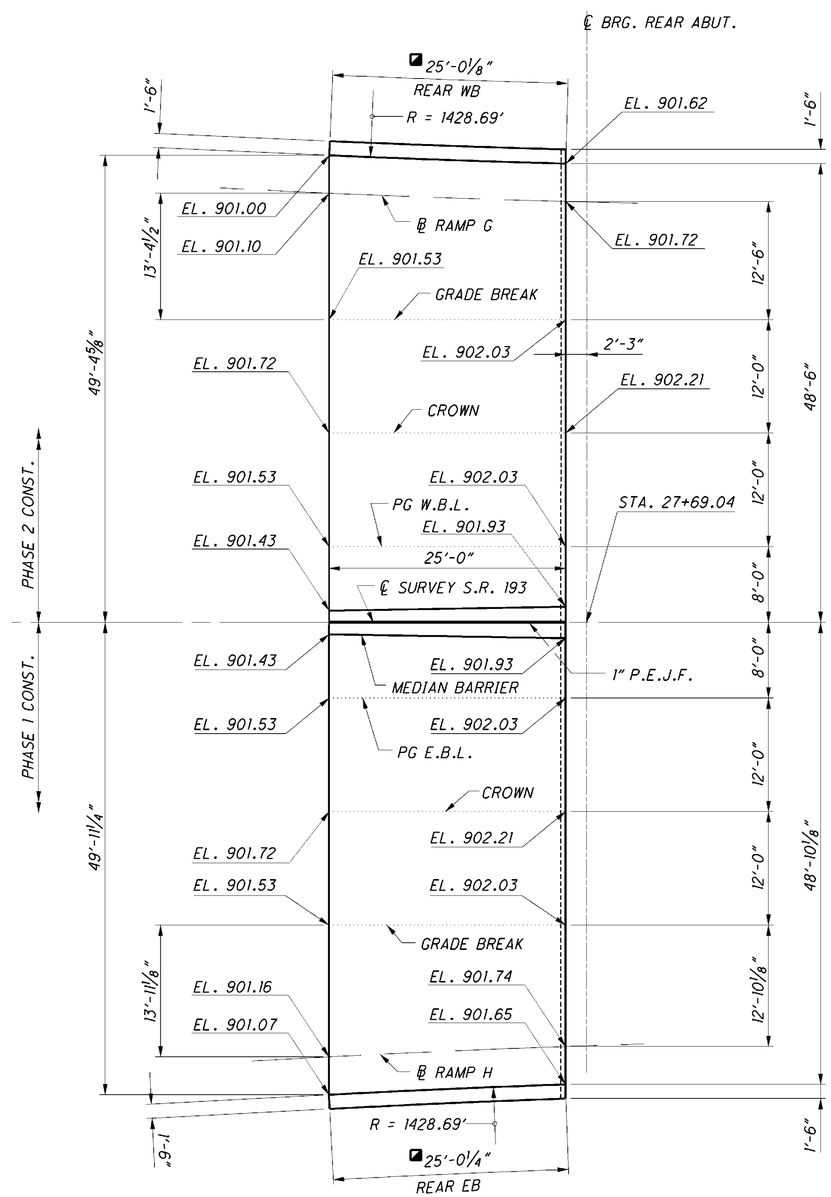
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DESIGN AGENCY
CLAUS-PYLE SCHOMER BURNS & DEHAVEN INC.
GPD ASSOCIATES
320 South Main Street, Suite 251, Akron, Ohio 44311
330-972-2100, Fax 330-972-2101

DESIGNED TJW | DRAWN DJC | REVIEWED GCN | DATE 9-26-08
CHECKED DJC | REVISED | STRUCTURE FILE NUMBER 5004470

SCREED ELEVATIONS - EASTBOUND LANES
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235





NOTES:

1. FOR APPROACH SLAB REINFORCING, SEE SHT. NO. 43/52 .
2. FOR PARAPET DETAILS, SEE SHT. NO. 44/52 .
3. FOR MEDIAN BARIER DETAILS, SEE SHT. NO. 45/52 .
4. FOR DETAILS NOT SHOWN, SEE STD. DWG. NO. AS-1-81.

◪ INDICATES MEASURED ALONG TOE OF PARAPET

◑ CONTRACTOR TO DETERMINE DIMENSIONS OF EXIST. CATCH BASIN BOX OUT AFTER REMOVAL OF EXISTING PAVEMENT. PROPOSED APPROACH SLAB BARS SHALL BE CUT TO ACCOMADATE BOX OUT. COST OF CUTTING BARS TO BE INCLUDED WITH ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T-15"), AS PER PLAN.

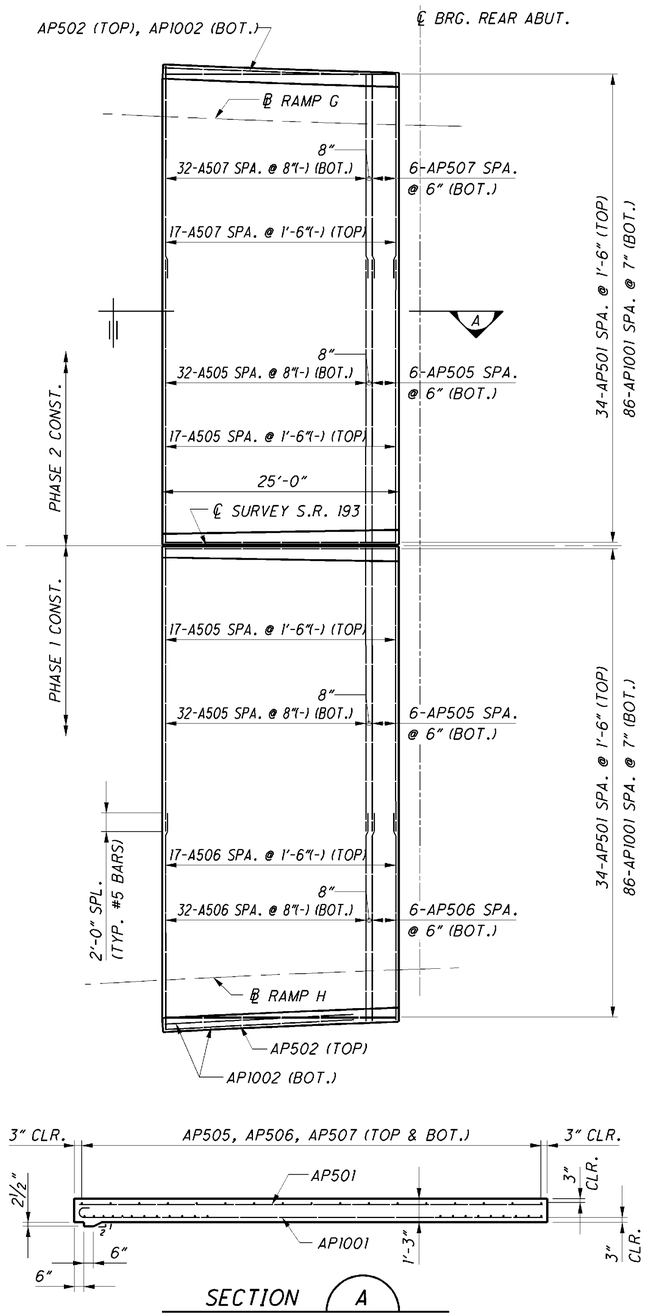
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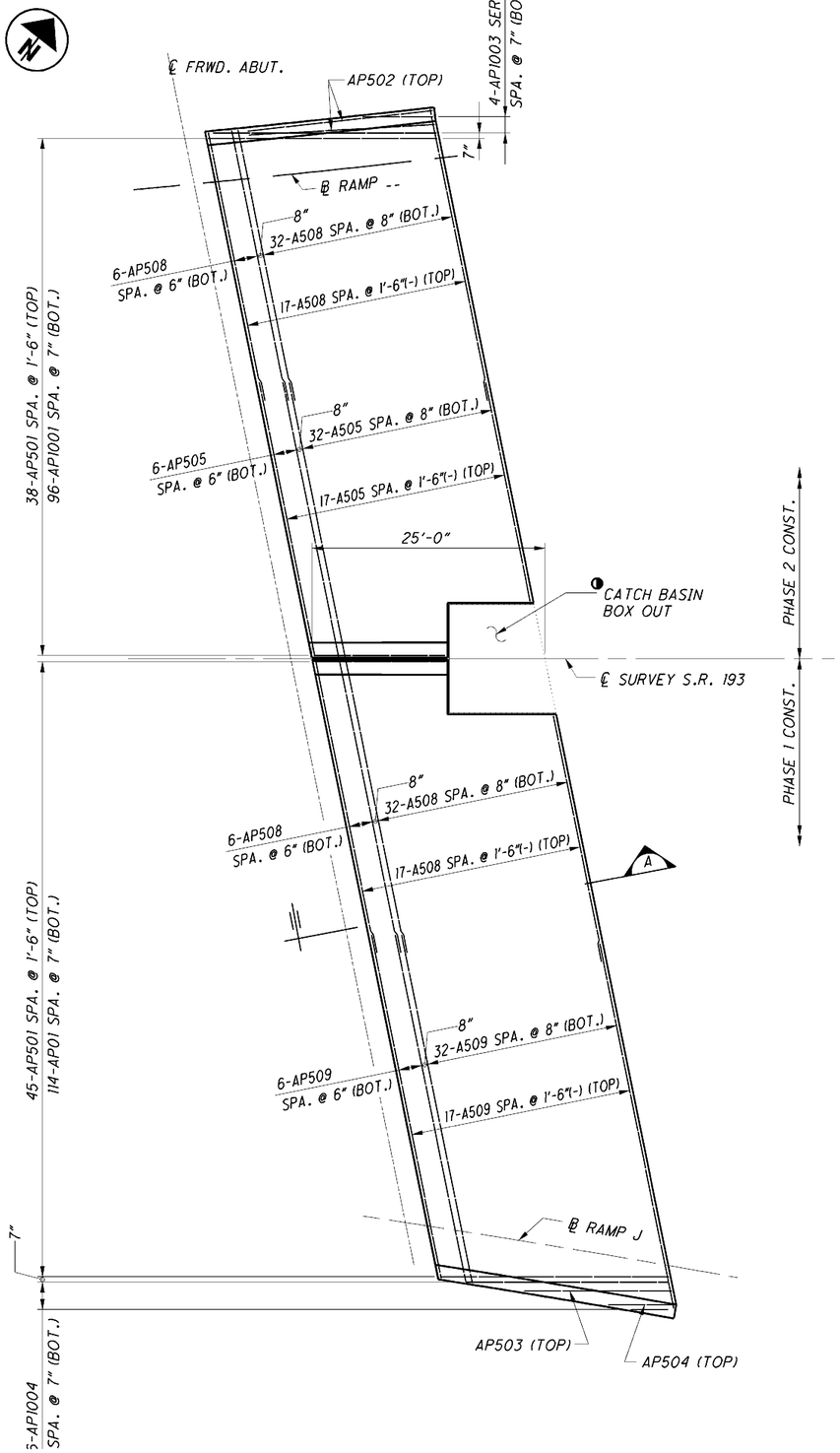
DESIGN AGENCY
CLAUS PYE SCHOMER BURNS & DeNAVEN INC.
GPD ASSOCIATES
330 South Main Street, Suite 251 | Akron, Ohio 44311
330.972.2100 | Fax 330.972.2101

DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	GGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5004470	

APPROACH SLAB GEOMETRY DETAILS
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235





CONTRACTOR TO DETERMINE DIMENSIONS OF EXIST. CATCH BASIN BOX OUT AFTER REMOVAL OF EXISTING PAVEMENT. PROPOSED APPROACH SLAB BARS SHALL BE CUT TO ACCOMADATE BOX OUT. COST OF CUTTING BARS TO BE INCLUDED WITH ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T-15"), AS PER PLAN.

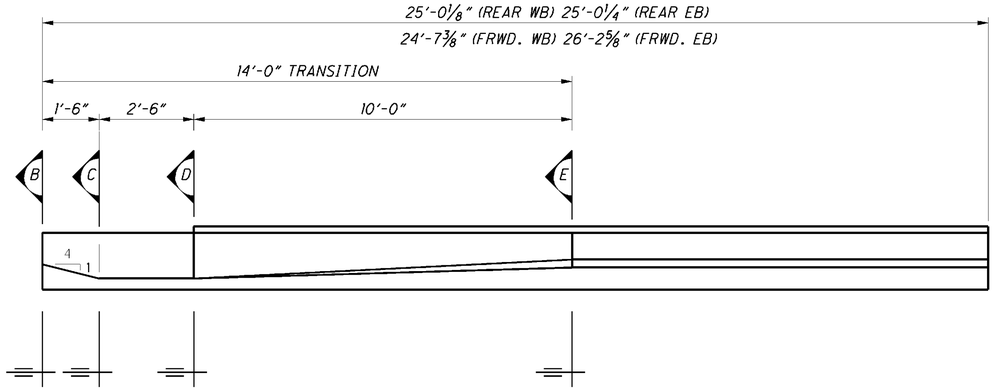
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DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
330 South Main Street, Suite 251, Akron, Ohio 44311
330-972-2100, Fax 330-972-2101

DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	GGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5004470	

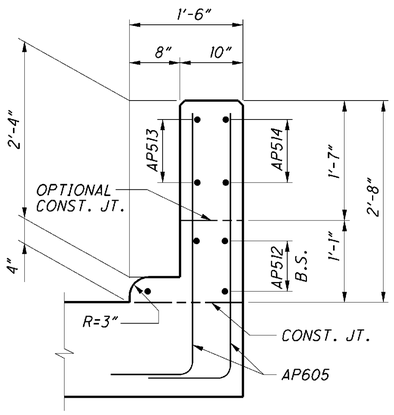
APPROACH SLAB REINFORCING
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235



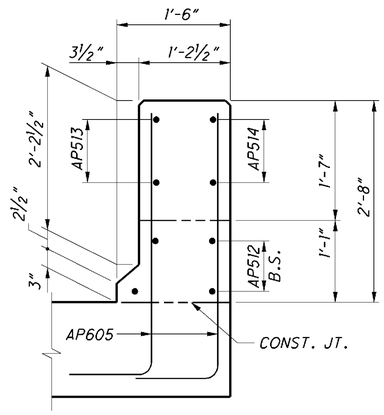
PARAPET PLAN

REAR WB AND FRWD. EB SHOWN
REAR EB AND FRWD. WB SIMILAR BUT OPPOSITE



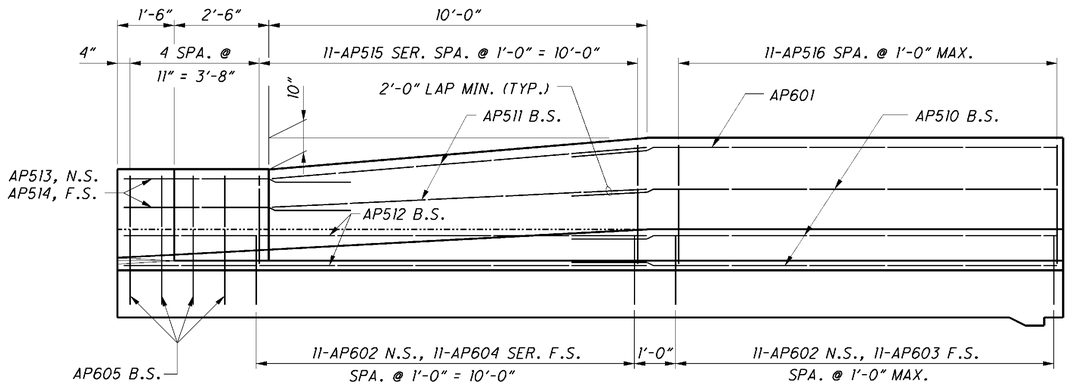
SECTION B

SLAB REINFORCING NOT
SHOWN FOR CLARITY

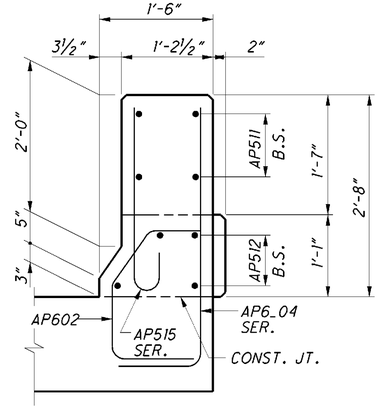


SECTION C

SLAB REINFORCING NOT
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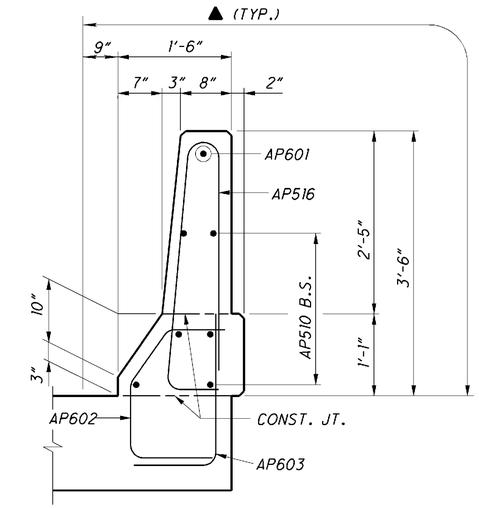


PARAPET ELEVATION



SECTION D

SLAB REINFORCING NOT
SHOWN FOR CLARITY



SECTION E

SLAB REINFORCING NOT
SHOWN FOR CLARITY

LEGEND

▲ LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

NOTE:

PARAPETS MOUNTED TO APPROACH SLABS, INCLUDING ALL ASSOCIATED REINFORCING STEEL, SHALL BE INCLUDED FOR PAYMENT WITH ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN.

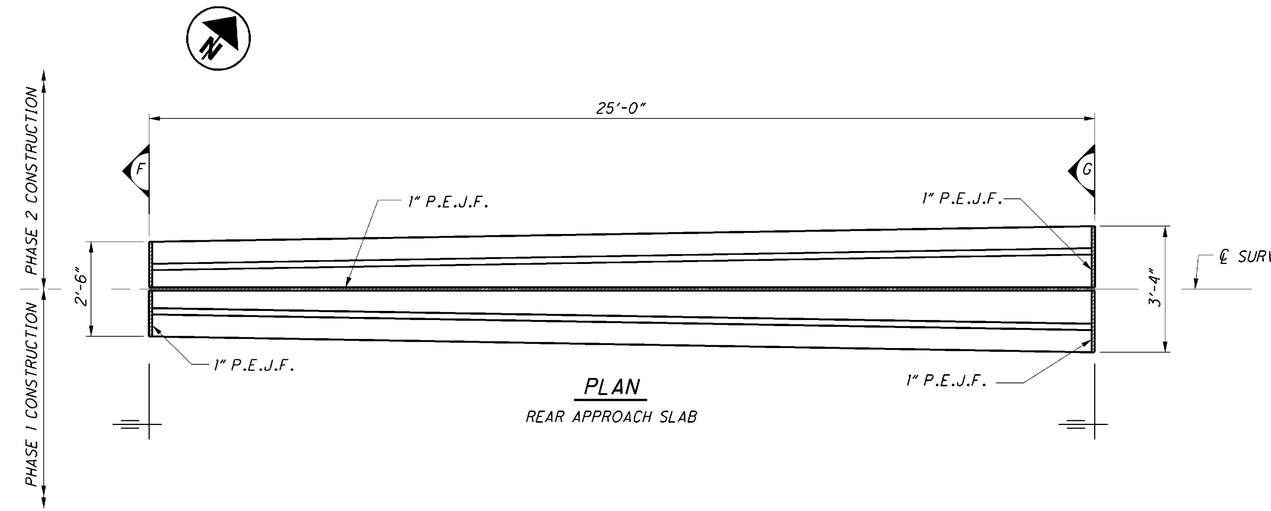
DESIGN AGENCY
CLAUS PYLE SCHINDLER BURGESS & DENAVEN INC.
GPD ASSOCIATES
330 South Main Street, Suite 251, Akron, Ohio 44311
330-972-2100, Fax 330-972-2101

DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	GCN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5004470	

APPROACH SLAB PARAPET DETAILS
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

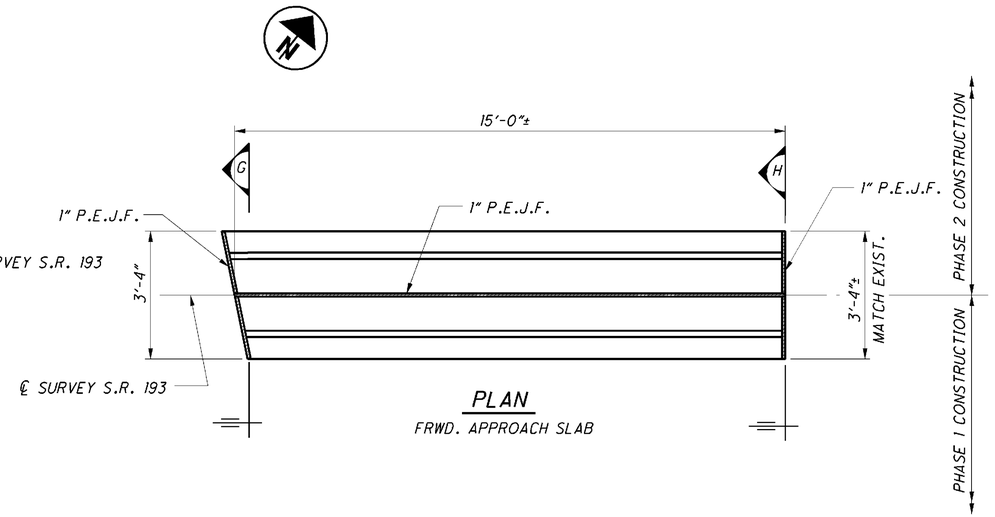
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PID No. 25235

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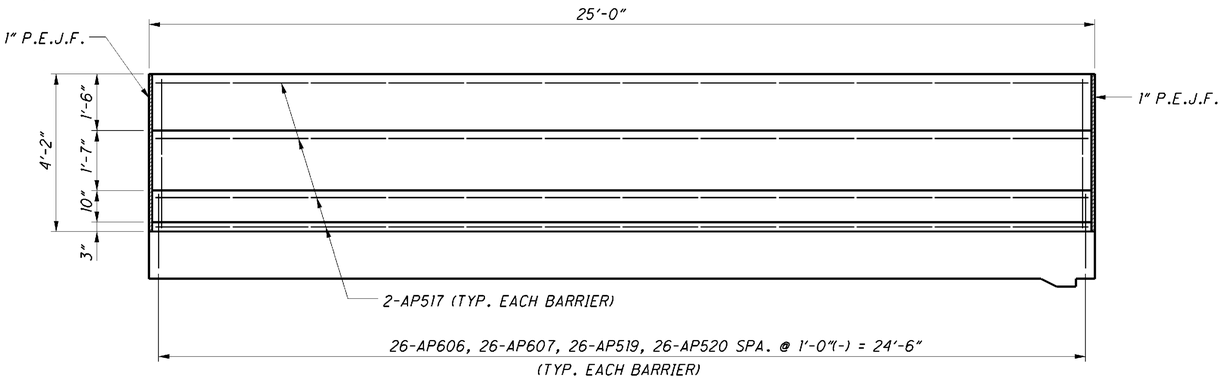
PLAN

REAR APPROACH SLAB

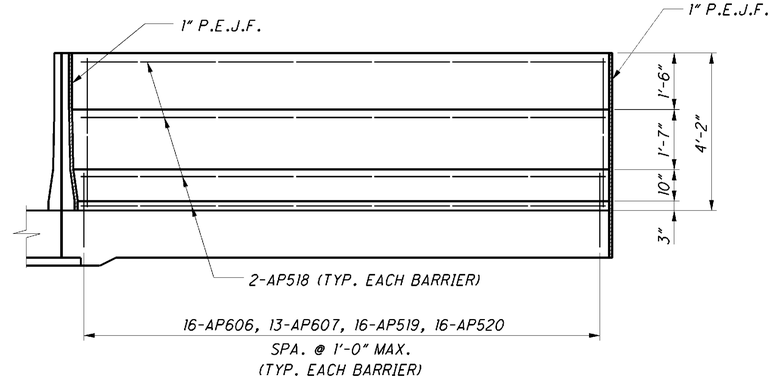


PLAN

FRWD. APPROACH SLAB



ELEVATION



ELEVATION

NOTES:

1. FOR SECTIONS F, G, AND H, SEE SHT. NO. 46/52 .
2. MEDIAN BARRIER MOUNTED TO APPROACH SLABS, INCLUDING ALL ASSOCIATED REINFORCING STEEL, SHALL BE INCLUDED FOR PAYMENT WITH ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN.

DESIGN AGENCY
CLAUS PYLE SCHONER BURGS & DEHAVEN INC.
GPD ASSOCIATES
330 South Main Street, Suite 251, Akron, Ohio 44311
330-972-2100, Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	CGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5004470	

APPROACH SLAB MEDIAN BARRIER DETAILS

BRIDGE NO. MAH-193-0072

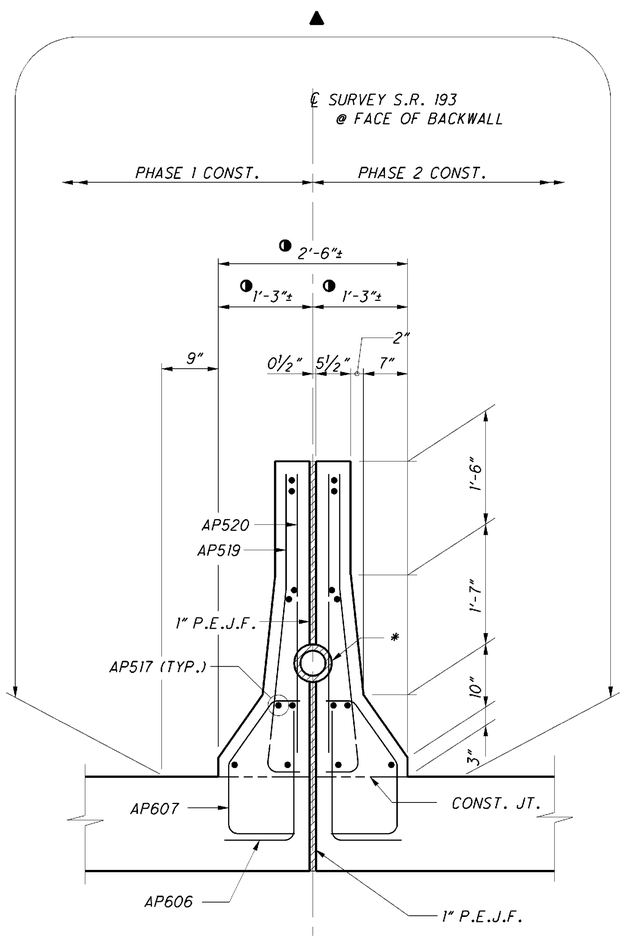
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

45/52

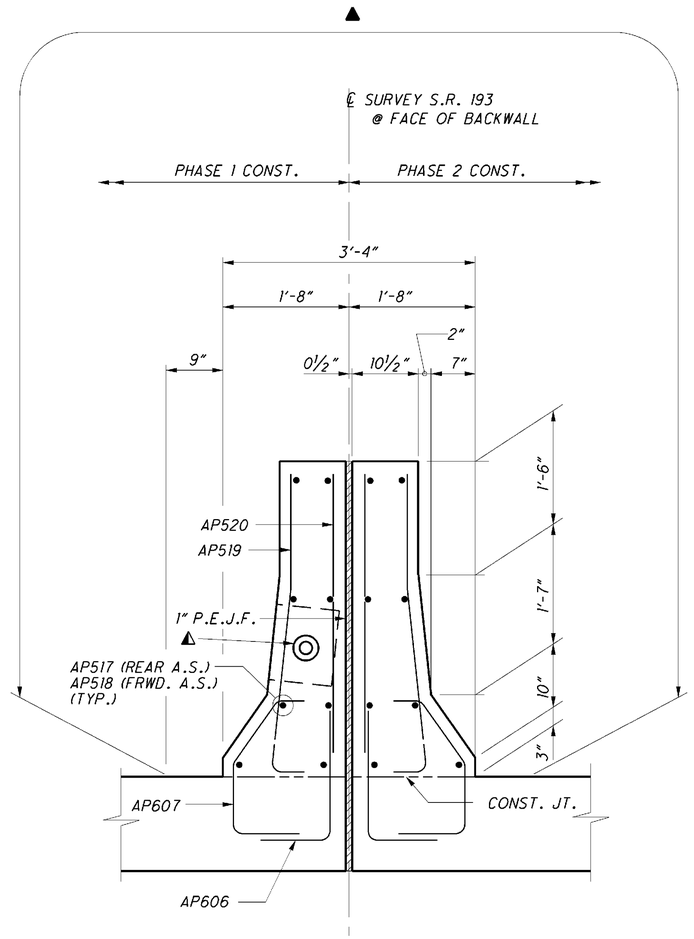
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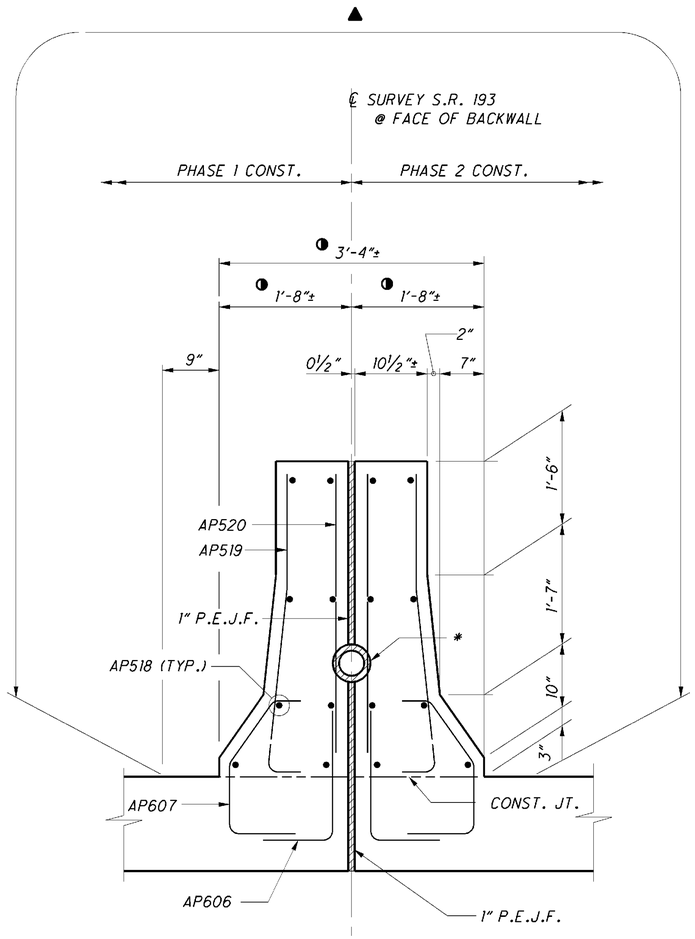
SECTION F

ALL CALLOUTS AND DIMESIONS ARE SYMETRICAL ABOUT ℄



SECTION G

ALL CALLOUTS AND DIMESIONS ARE SYMETRICAL ABOUT ℄



SECTION H

ALL CALLOUTS AND DIMESIONS ARE SYMETRICAL ABOUT ℄

* 4" RACEWAY WITHIN PROPOSED APPROACH SLAB BARRIER MATCHING EXISTING MEDIAN BARRIER RACEWAY. WRAP 4" PVC RACEWAY CONDUIT WITH 1" SPONGE RUBBER EXPANSION MATERIAL WHEN ANY PORTION OF THE 4" CONDUIT IS LOCATED WITHIN THE JOINT BETWEEN THE EASTBOUND & WESTBOUND APPROACH SLAB BARRIERS. INCLUDE FLEXIBLE SPONGE RUBBER EXPANSION MATERIAL WITH 1" P.E.J.F. FOR PAYMENT.

▲ LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

◑ MATCH EXSTING BARRIER

◭ 2" LIGHTING CONDUIT AND TRANSITION JUNCTION BOX WITHIN APPROACH SLAB BARRIER.

NOTES

1. FOR LOCATIONS OF SECTIONS F, G, & H, SEE SHEET 45/52
2. ALL LIGHTING CONDUIT, RACEWAYS AND JUNCTION BOXES WITHIN THE APPROACH SLAB BARRIER SHALL BE INCLUDED FOR PAYMENT WITH THE LIGHTING ITEMS. FOR LIGHTING PLANS, SEE SHEETS 140 - 147.

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DESIGN AGENCY
CLAUS PYLE SCHENDER BURGIS & DEHAVEN INC.
GPD ASSOCIATES
330 South Main Street, Suite 2511, Akron, Ohio 44311
330-972-2100, Fax 330-972-2101

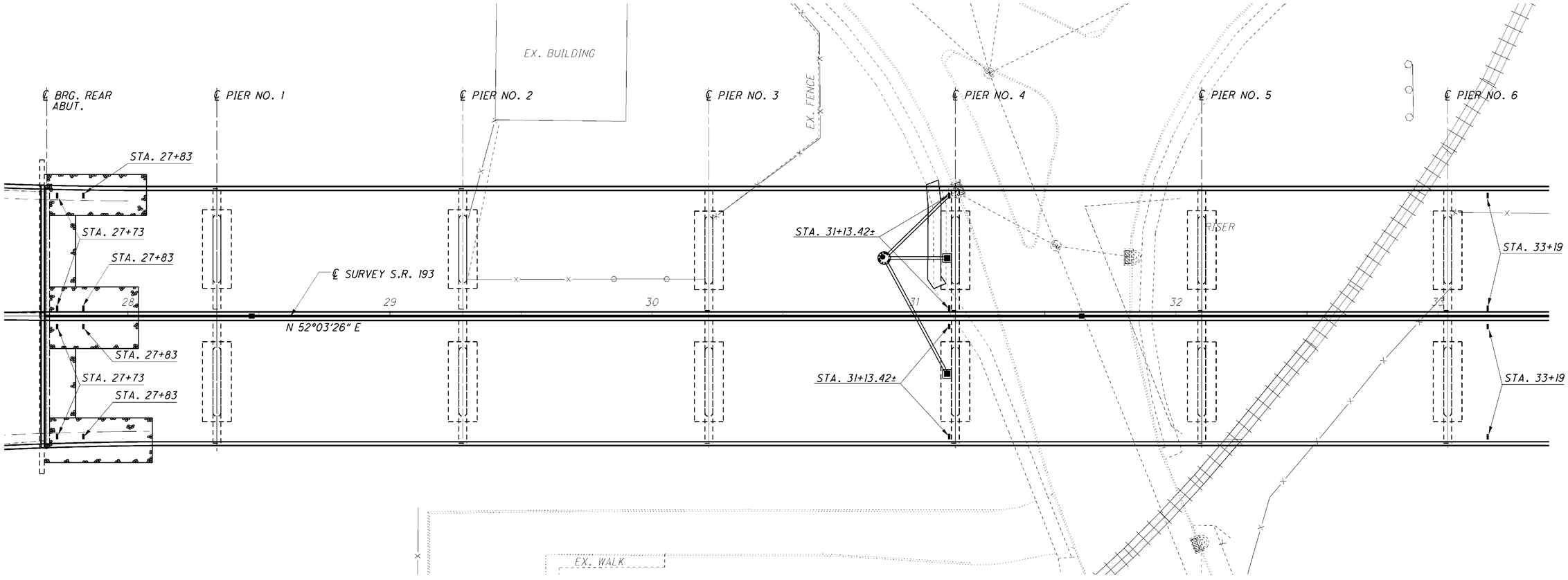
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RPR	RPR	GCN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5004470	

APPROACH SLAB MEDIAN BARRIER SECTIONS
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

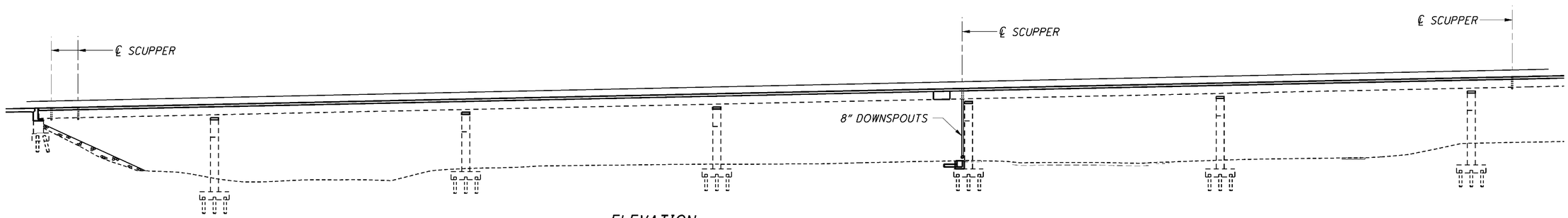
46/52

208/260



PLAN

NOTE: SEE SHEET 117 FOR CATCH BASIN, MANHOLE AND STORM SEWER DETAILS.



ELEVATION

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3/19/2009
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RHOVCITZKY

DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHEMER BURNS & DEHAVEN INC.
330 South Main Street, Suite 253 | Akron, Ohio 44311
330-972-2100 | Fax 330-972-2101

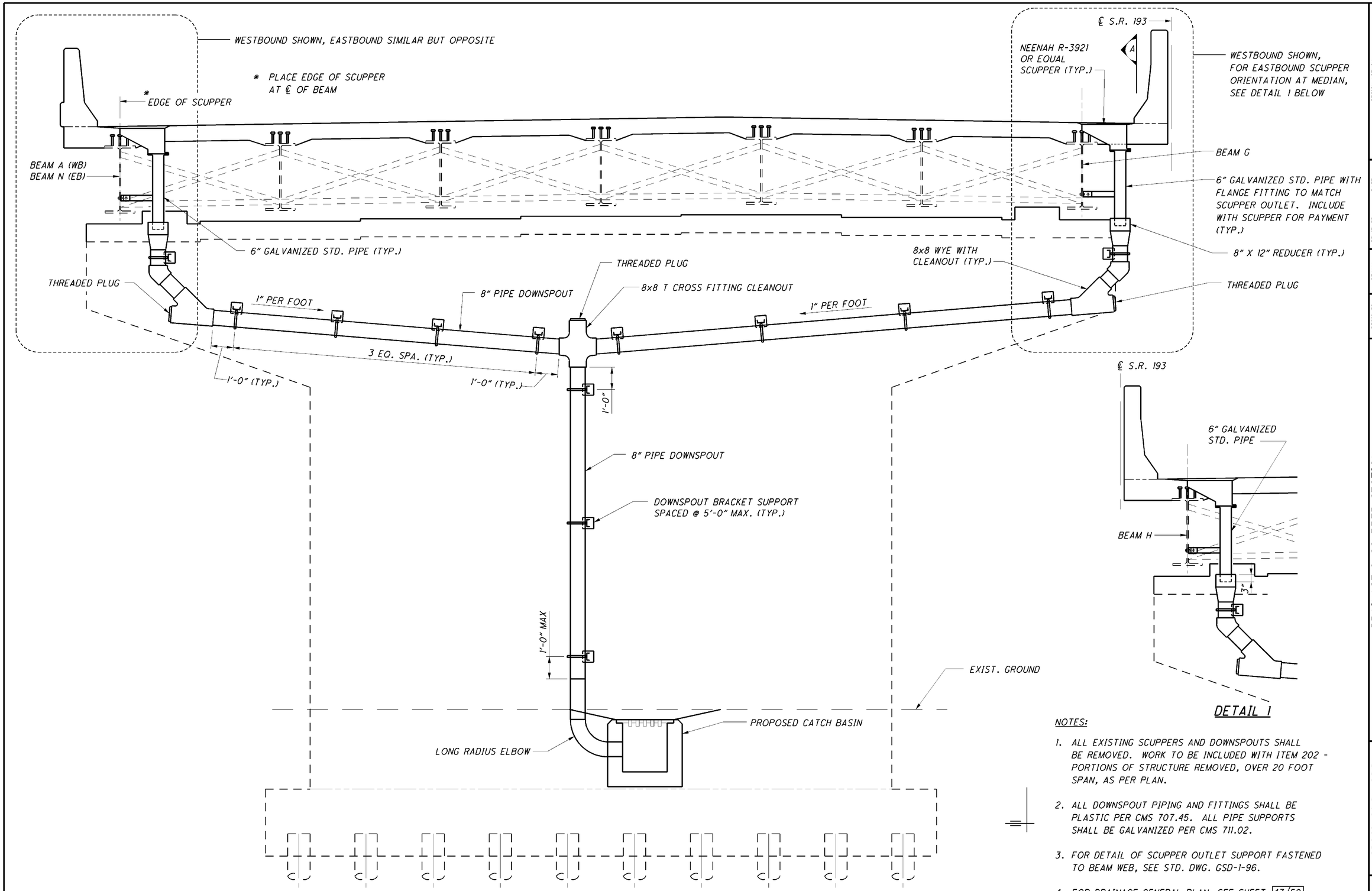
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RPR	RPR	CGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		5004470	

DRAINAGE GENERAL PLAN
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

47 / 52

209
260



ELEVATION PIER 4
WESTBOUND SHOWN

DETAIL 1

NOTES:

1. ALL EXISTING SCUPPERS AND DOWNSPOUTS SHALL BE REMOVED. WORK TO BE INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.
2. ALL DOWNSPOUT PIPING AND FITTINGS SHALL BE PLASTIC PER CMS 707.45. ALL PIPE SUPPORTS SHALL BE GALVANIZED PER CMS 711.02.
3. FOR DETAIL OF SCUPPER OUTLET SUPPORT FASTENED TO BEAM WEB, SEE STD. DWG. GSD-1-96.
4. FOR DRAINAGE GENERAL PLAN, SEE SHEET 47/52.
5. FOR SECTION A AND ADDITIONAL DETAILS, SEE SHEET 49/52.

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DESIGN AGENCY
GPD ASSOCIATES
CLAUS-PYLE SCHONER BURGS & DENAVEN INC.
330 South Main Street, Suite 251, Akron, Ohio 44311
330-572-2100, Fax 330-572-2101

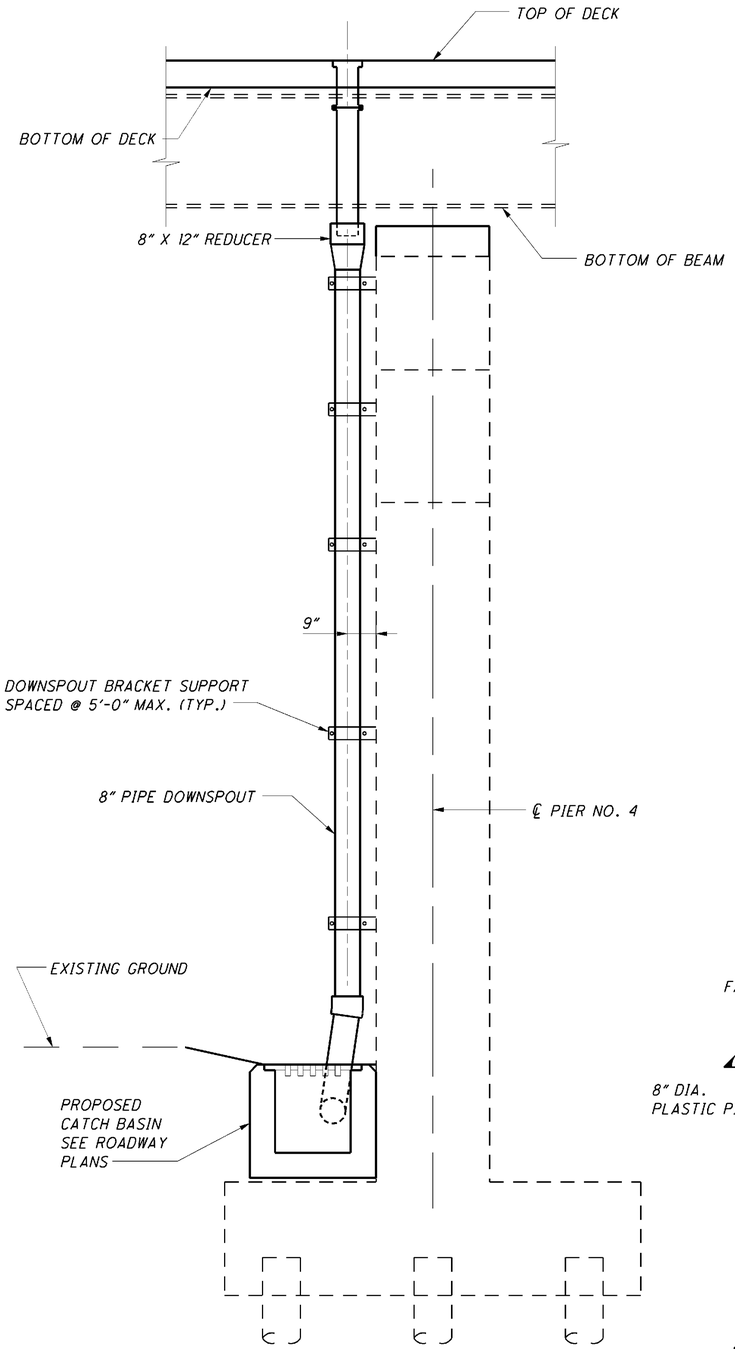
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RPR	RPR	GCN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		5004470	

DRAINAGE & SCUPPER SECTION
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

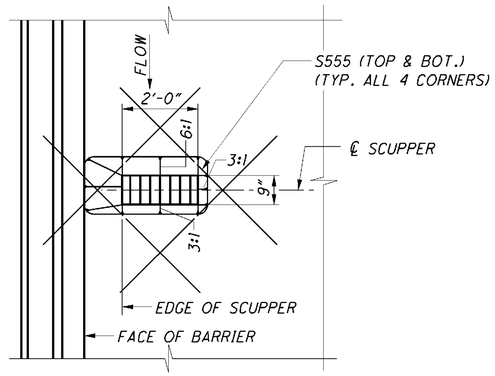
MAH-193/422
-0.46/1.85
PID No. 25235

48/52

210
260

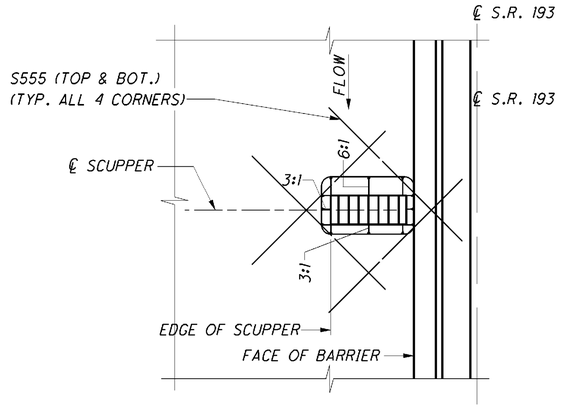


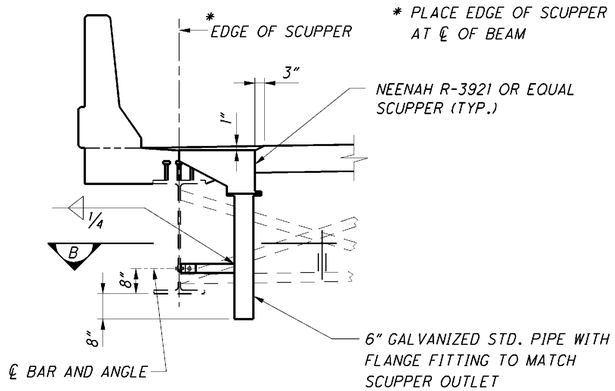
SECTION A



TYPICAL SCUPPER PLAN

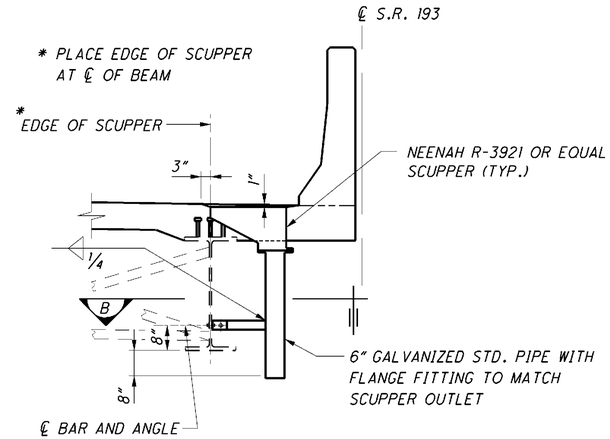
DETAIL AT OUTSIDE PARAPET SHOWN, DETAIL AT EASTBOUND MEDIAN BARRIER SIMILAR





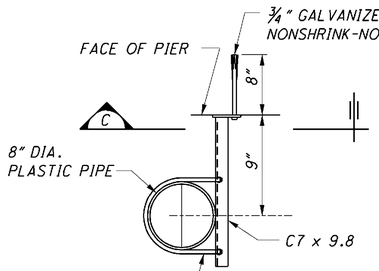
TYPICAL SCUPPER DETAIL

DETAIL AT OUTSIDE PARAPET SHOWN, DETAIL AT EASTBOUND MEDIAN BARRIER SIMILAR



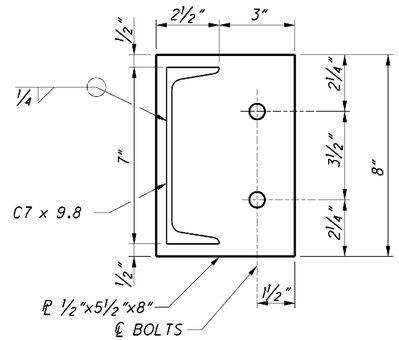
TYPICAL SCUPPER DETAIL

AT WESTBOUND MEDIAN BARRIER

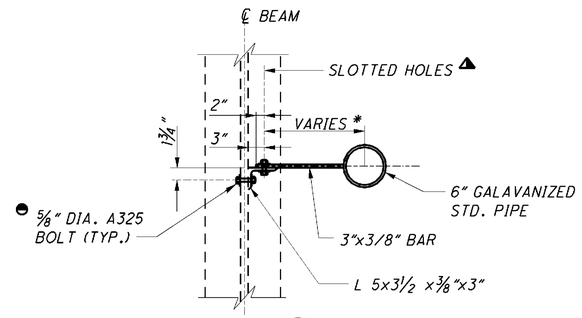


DOWNSPOUT BRACKET SUPPORT AT PIER NO. 4

(SPACED AT 5'-0" CENTERS MAX.)



SECTION C



SECTION B

▲ SEE FASTENER NOTE NO. 1 ON SDT. DWG. GSD-1-96.

● SEE FASTENER NOTE NO. 2 ON SDT. DWG. GSD-1-96.

* CONTRACTOR SHALL VERIFY THE LENGTH OF THE BAR PRIOR TO FABRICATION

NOTE: SEE SHEET 48/52 FOR ADDITIONAL NOTES.

DESIGN AGENCY
CLAUS PYLE SCHENKER BURNS & DEHAVEN INC.
GPD ASSOCIATES
330 South Main Street, Suite 251) Akron, Ohio 44311
330-972-2100, Fax 330-972-2101

DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
DJC		5004470	

DRAINAGE DETAILS
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

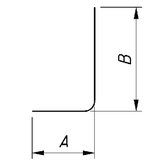
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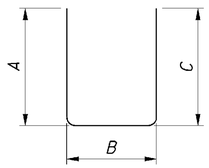
MARK	NUMBER REAR	NUMBER FORWARD	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC.
ABUTMENTS													
A501	196	266	462	2'- 0"	964	1	10"	1'-4"					
A502	65	65	130	3'- 10"	520	STR							
A503	65	83	148	5'- 7"	862	1	2'-0"	3'-9"					
A504	140	176	316	2'- 6"	824	1	10"	1'-10"					
A505	70	88	158	3'- 10"	632	2	9"	2'-7"	9"				
A506	40	57	97	30'- 0"	3035	STR							
A507	3		3	25'- 6"	80	STR							
A508	9		9	22'- 3"	209	STR							
A509	2 SR OF 3		2 SR OF 3	29'- 8" TO 34'- 11"	202	STR							2'-7 ½"
A510	1		1	24'- 6"	26	STR							
A511	1		1	26'- 8"	28	STR							
A512	4	4	8	10'- 0"	83	19	7'-6"	2'-3"	1'-2"				
A513	3		3	23'- 3"	73	STR							
A514	9		9	20'- 7"	193	STR							
A515	2 SR OF 3		2 SR OF 3	27'- 9" TO 32'- 11"	190	STR							2'-7"
A516	1		1	23'- 0"	24	STR							
A517	1		1	25'- 2"	26	STR							
A518		3	3	16'- 3"	51	STR							
A519		9	9	39'- 4"	369	STR							
A520		2 SR OF 3	2 SR OF 3	2'- 0" TO 25'- 9"	87	STR							11'-10 ½"
A521		1	1	17'- 0"	18	STR							
A522		1	1	15'- 6"	16	STR							
A523		18	18	4'- 5"	83	STR							
A524		3	3	31'- 4"	98	STR							
A525		9	9	28'- 5"	267	STR							
A526		2 SR OF 3	2 SR OF 3	8'- 10" TO 14'- 6"	73	STR							2'-10"
A527		1	1	32'- 5"	34	STR							
A528		1	1	30'- 3"	32	STR							
A529	4	4	8	7'- 1"	59	61							
A530	28	28	56	1'- 5"	83	STR							
A531	4	4	8	7'- 11"	66	60							
A601	228	280	508	4'- 0"	3052	STR							
A602	12	12	24	3'- 0"	108	STR							
A603	2 SR OF 7	2 SR OF 7	4 SR OF 7	3'- 7" TO 9'- 7"	277	2	1'-3" TO 4'-3"	1'-5"	1'-3" TO 4'-3"				1'-0"
A604	6	6	12	10'- 1"	182	2	4'-6"	1'-5"	4'-6"				
A605	101	126	227	7'- 7"	2586	2	3'-3"	1'-5"	3'-3"				
A606	101	126	227	6'- 7"	2245	2	3'-0"	11"	3'-0"				
A607	12	12	24	2'- 7"	93	1	11"	1'-10"					
A608	12	12	24	3'- 4"	120	14	10 ½"	1'-1"	8 ½"	6"	9"		
A609	2	2	4	3'- 4"	20	90							
A610	2	2	4	3'- 11"	94	1	1'-8"	2'-5"					
A611	8	8	16	6'- 9"	324	2	11"	3'-9"	2'-5"				
A801	68		68	4'- 9"	862	18	2'-7"	1'-0"	1'-0"				
A802		85	85	4'- 10"	1097	18	2'-8"	1'-0"	1'-0"				

MARK	NUMBER REAR	NUMBER FORWARD	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC.
ABUTMENTS - CONT'D													
A901	2	2	4	3'- 10"	104	1	1'-8"	2'-5"					
A902	8	8	16	2'- 5"	263	STR							
					TOTAL	20,734							

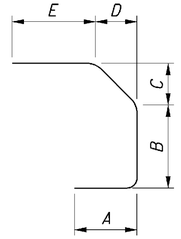
STANDARD BAR TYPES



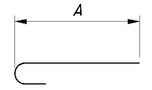
TYPE-1



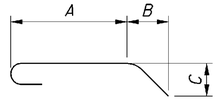
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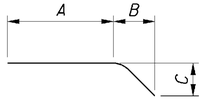
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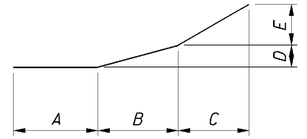
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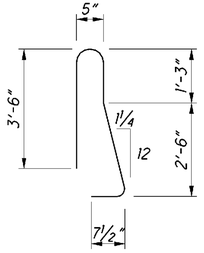
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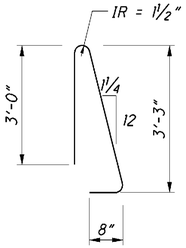
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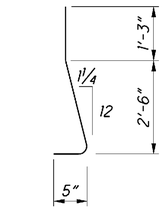
TYPE-25



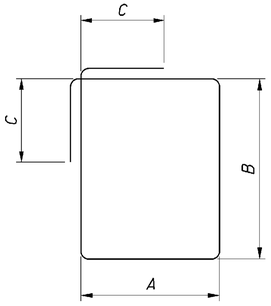
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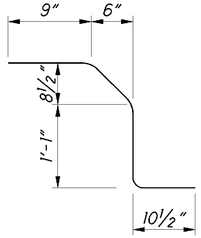
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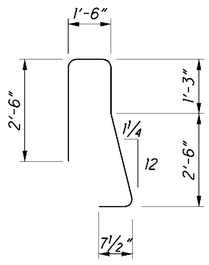
TYPE-63



TYPE-64



TYPE-90



TYPE-91

NOTES:

1. BAR DIMENSIONS ARE OUT TO OUT UNLESS NOTED OTHERWISE.
2. ALL BARS ARE EPOXY COATED.
3. WHEN NO BAR LEG DIMENSIONS ARE SHOWN, IT INDICATES STANDARD BEND.
4. BAR SIZE AND LOCATION ARE INDICATED IN THE BAR MARK. THE FIRST ALPHABETICAL LETTER INDICATES LOCATION. THE NEXT DIGIT OF THE THREE DIGIT SERIES AND THE NEXT TWO DIGITS OF THE FOUR DIGIT SERIES INDICATE BAR SIZE NUMBER.

EXAMPLES:

S 501 — NO. 5 SIZE BAR, SLAB

A 801 — NO. 8 SIZE BAR, ABUTMENT

DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHONER BURGS & DEHAVEN INC.
330 South Main Street, Suite 251, Akron, Ohio 44311
330-972-2100, Fax 330-972-2101

DESIGNED RPR | DRAWN RPR | CHECKED RHC | REVIEWED GGN | DATE 5-07-08 | REVISED | STRUCTURE FILE NUMBER 5004470

REINFORCING STEEL LIST

BRIDGE NO. MAH-193-0072

MAHONING W. FEDERAL EXPRESSWAY OVER W. REYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

50 / 52

212 / 260

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MARK	NUMBER									LENGTH	WEIGHT	TYPE	DIMENSIONS						INC.
	PIER 1	PIER 2	PIER 3	PIER 4	PIER 5	PIER 6	PIER 7	PIER 8	TOTAL				A	B	C	D	E	R	
PIERS																			
P501	4	4	4	4	4	4	4	4	32	30'- 0"	1001	STR							
P502	152	152	152	152	152	152	154	172	1238	2'- 4"	3013	1	10"	1'-8"					
P503	93	93	93	93	93	93	94	105	757	3'- 8"	2961	2	7½"	2'-8"	7½"				
P504	2	2	2	2	2	2	2		14	18'- 1"	264	STR							
P505							2		2	20'- 0"	42	STR							
P506								2	2	28'- 0"	58	STR							
P507	2	2	2	2	2	2			12	19'- 1"	239	STR							
P508								2	2	21'- 3"	44	STR							
P601	12	12	12	12		12	12	12	84	4'- 11"	620	2	1'-6"	1'-3"	2'-6"				
P602	12	12	12	12		12	12	12	84	9'- 2"	1157	64	2'-8"	1'-4"	1'-0"				
P801	16	16	16	16	16	16	16	16	128	30'- 0"	10253	STR							
P802	8	8	8	8	8	8	8		56	22'- 0"	3289	STR							
P803							8		8	23'- 10"	509	STR							
P804								8	8	32'- 0"	684	STR							
P805	8	8	8	8	8	8			48	23'- 0"	2948	STR							
P806								8	8	25'- 1"	536	STR							
P901	36	36	36	36		36	36	36	252	3'- 6"	2999	1	1'-3 ½"	2'-6"					
										TOTAL	30,617								

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						INC.
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	
APPROACH SLABS													
AP501	68	83	151	24'- 6"	3859	STR							
AP502	2	2	4	20'- 0"	83	STR							
AP503		1	1	15'- 10"	17	STR							
AP504		1	1	7'- 2"	7	STR							
AP505	110	55	165	30'- 0"	5163	STR							
AP506	55		55	23'- 0"	1319	STR							
AP507	55		55	22'- 6"	1291	STR							
AP508		110	110	32'- 0"	3671	STR							
AP509		55	55	40'- 0"	2295	STR							
AP510	12	12	24	12'- 0"	300	STR							
AP511	8	8	16	10'- 0"	167	STR							
AP512	8	8	16	13'- 10"	231	STR							
AP513	4	4	8	5'- 9"	48	25	1'-10"	2'-5"	1'-5"	1 ½"	5"		
AP514	4	4	8	5'- 8"	47	STR							
AP515	2 SR OF 11	2 SR OF 11	4 SR OF 11	3'- 0" TO 3'- 10"	157	16	2'-5" TO 3'-3"						1"
AP516	22	22	44	7'- 1"	325	61							
AP517	16		16	24'- 6"	409	STR							
AP518		16	16	14'- 6"	242	STR							
AP519	52	32	84	4'- 1"	358	63							
AP520	52	32	84	3'- 11"	343	STR							
AP601	2	2	4	12'- 0"	72	STR							
AP602	44	44	88	3'- 2"	419	14	10 ½"	11"	8 ½"	6"	9"		
AP603	22	22	44	2'- 5"	160	1	11"	1'-8"					
AP604	2 SR OF 11	2 SR OF 11	4 SR OF 11	4'- 0" TO 4'- 10"	292	1	11"	3'-3" TO 4'-1"					1"
AP605	16	16	32	3'- 3"	156	1	0'-11"	2'-6"					
AP606	52	32	84	2'- 6"	315	1	0'-11"	1'-9"					
AP607	52	32	84	3'- 5"	431	14	0'-10 ½"	1'-2"	8 ½"	6"	9"		

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						INC.
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	
APPROACH SLABS - CONT'D													
AP1001	172	210	382	25'- 11"	42600	16	24'-6"						
AP1002	3		3	24'- 6"	316	STR							
AP1003		1 SR OF 4	1 SR OF 4	7'- 6" TO 24'- 0"	271	STR							5'-6"
AP1004		1 SR OF 6	1 SR OF 6	4'- 1" TO 21'- 9"	333	STR							3'-6 ½"
				TOTAL(SEE NOTES)	65,697								

NOTES:

1. FOR STANDARD BAR TYPES AND ADDITIONAL NOTES, SEE SHT. NO. 50/52 .

2. APPROACH SLAB REINFORCING IS INCLUDED WITH ITEM 526 FOR PAYMENT.

DESIGN AGENCY
GPD ASSOCIATES
CLAUS-PYLE SCHOMER BURNS & DEHAVEN INC.
330 South Main Street, Suite 251, Akron, Ohio 44311
330-972-2100, Fax 330-972-2101

DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	GCN	5-07-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5004470	

REINFORCING STEEL LIST
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

51/52

213/260

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MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						INC.
	EASTBOUND	WESTBOUND	TOTAL				A	B	C	D	E	R	
SLAB													
S401	1777	1748	3525	30'- 0"	70641	STR							
S402	1 SR OF 49		1 SR OF 49	31'- 0" TO 39'- 0"	1146	STR							2"
S403		1 SR OF 50	1 SR OF 50	23'- 0" TO 31'- 0"	902	STR							2"
S404		19	19	21'- 6"	273	STR							
S405		4	4	18'- 6"	49	STR							
S406	33		33	15'- 2"	334	STR							
S407				NOT USED									
S408		1	1	15'- 0"	10	STR							
S409	2		2	25'- 0"	33	STR							
S501	3825	3789	7614	30'- 0"	238242	STR							
S502	1 SR OF 49		1 SR OF 49	17'- 0" TO 25'- 0"	1073	STR							2"
S503		1 SR OF 50	1 SR OF 50	9'- 0" TO 17'- 0"	678	STR							2"
S504		18	18	34'- 9"	652	STR							
S505		4	4	32'- 0"	134	STR							
S506	36		36	29'- 0"	1089	STR							
S507				NOT USED									
S508				NOT USED									
S509	1713		1713	26'- 3"	47606	STR							
S510		1701	1701	26'- 10"	47634	STR							
S511		69	69	22'- 0"	1583	STR							
S512	87		87	22'- 2"	2011	STR							
S513	1081	69	1150	26'- 0"	31186	STR							
S514	87		87	26'- 8"	2420	STR							
S515	1081	1304	2385	21'- 5"	53275	STR							
S516		1304	1304	25'- 6"	34682	STR							
S517		1	1	15'- 0"	16	STR							
S518	1		1	25'- 0"	26	STR							
S519		54	54	25'- 3"	1422	STR							
S520		54	54	29'- 3"	1647	STR							
S521		54	54	27'- 3"	1535	STR							
S522		54	54	31'- 3"	1760	STR							
S523		26	26	28'- 3"	766	STR							
S524		26	26	32'- 3"	875	STR							
S525		1 SR OF 11	1 SR OF 11	5'- 5" TO 27'- 11"	191	STR							2'-3"
S526		1 SR OF 13	1 SR OF 13	5'- 0" TO 27'- 11"	223	STR							1'-11"
S527		1 SR OF 11	1 SR OF 11	8'- 2" TO 29'- 10"	218	STR							2'-2"
S528		1 SR OF 9	1 SR OF 9	8'- 2" TO 26'- 2"	161	STR							2'-3"
S529	205		205	22'- 4"	4775	STR							
S530	205		205	26'- 10"	5737	STR							
S531	89		89	24'- 3"	2251	STR							
S532	89		89	28'- 9"	2669	STR							
S533	63		63	26'- 5"	1736	STR							

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						INC.
	EASTBOUND	WESTBOUND	TOTAL				A	B	C	D	E	R	
SLAB													
S534	63		63	30'- 11"	2032	STR							
S535	63		63	29'- 1"	1911	STR							
S536	63		63	33'- 7"	2207	STR							
S537	1 SR OF 12		1 SR OF 12	5'- 1" TO 26'- 2"	196	STR							1'-11"
S538	1 SR OF 10		1 SR OF 10	5'- 10" TO 26'- 2"	167	STR							2'-3"
S539		8	8	5'- 10"	49	STR							
S540	800	774	1574	7'- 1"	11629	61							
S541		6	6	26'- 0"	163	STR							
S542	6		6	38'- 0"	238	STR							
S543	766	778	1544	7'- 11"	12749	60							
S544	6		6	20'- 6"	128	STR							
S545	6		6	10'- 9"	67	STR							
S546	6		6	16'- 9"	105	STR							
S547	6		6	8'- 6"	53	STR							
S548		6	6	22'- 6"	141	STR							
S549		6	6	15'- 0"	94	STR							
S550		6	6	21'- 3"	133	STR							
S551		6	6	10'- 3"	64	STR							
S552		6	6	2'- 6"	16	STR							
S553	24		24	10'- 0"	250	STR							
S554		12	12	8'- 5"	105	STR							
S555	3		3	9'- 5"	29	64	1'-6"	2'-8"	10"				
S601		181	181	24'- 3"	6593	STR							
S602		181	181	28'- 6"	7748	STR							
S603	38		38	31'- 7"	1803	STR							
S604	38		38	36'- 3"	2069	STR							
S605	44		44	34'- 0"	2247	STR							
S606	44		44	38'- 9"	2561	STR							
S607	55		55	37'- 5"	3091	STR							
S608	53		53	42'- 3"	3363	STR							
S609	1 SR OF 15		1 SR OF 15	6'- 9" TO 37'- 0"	493	STR							2'-2"
S610	1 SR OF 17		1 SR OF 17	6'- 9" TO 41'- 10"	620	STR							2'-2 ¼"
S611	6		6	4'- 7"	41	STR							
S612	564	564	1128	30'- 0"	50828	STR							
S613	800	774	1574	2'- 11"	6895	14	10 ½"	8"	8 ½"	6"	9"		
S614	1572	1552	3124	2'- 2"	10167	1	11"	1'-5"					
S615	1		1	31'- 0"	47	STR							
S616	778	1552	2330	2'- 10"	9916	14	10 ½"	8"	8 ½"	6"	8"		
S617	2		2	22'- 0"	66	STR							
S618	1		1	17'- 0"	26	STR							
S619	1		1	11'- 0"	17	STR							
S620		1	1	23'- 8"	36	STR							
S621		1	1	21'- 3"	32	STR							
S622		1	1	26'- 5"	40	STR							
S623		1	1	12'- 6"	19	STR							
S624	18		18	5'- 2"	140	1	11"	4'-5"					
S625	18		18	8'- 0"	216	91							
				TOTAL	703,261								

NOTE:
FOR STANDARD BAR TYPES AND ADDITIONAL NOTES, SEE SHT. NO. 50/52 .

DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHOMER BURNS & DEWAVEN INC.
330 South Main Street, Suite 251, Akron, Ohio 44311
330-972-2100, Fax 330-972-2101

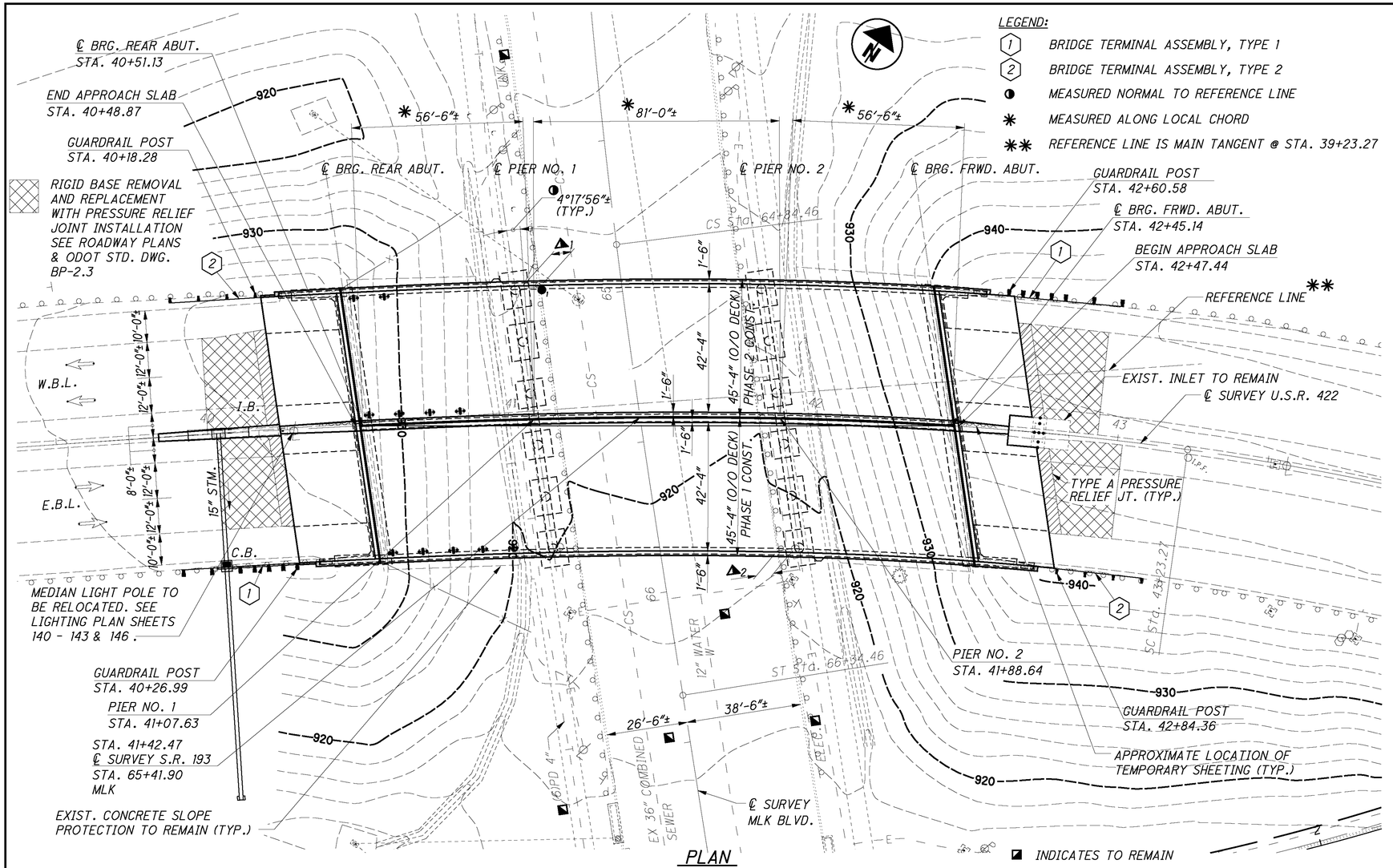
DESIGNED RPR | DRAWN RPR | CHECKED RHC | REVIEWED GGN | DATE 5-07-08 | REVISED | STRUCTURE FILE NUMBER 5004470

REINFORCING STEEL LIST

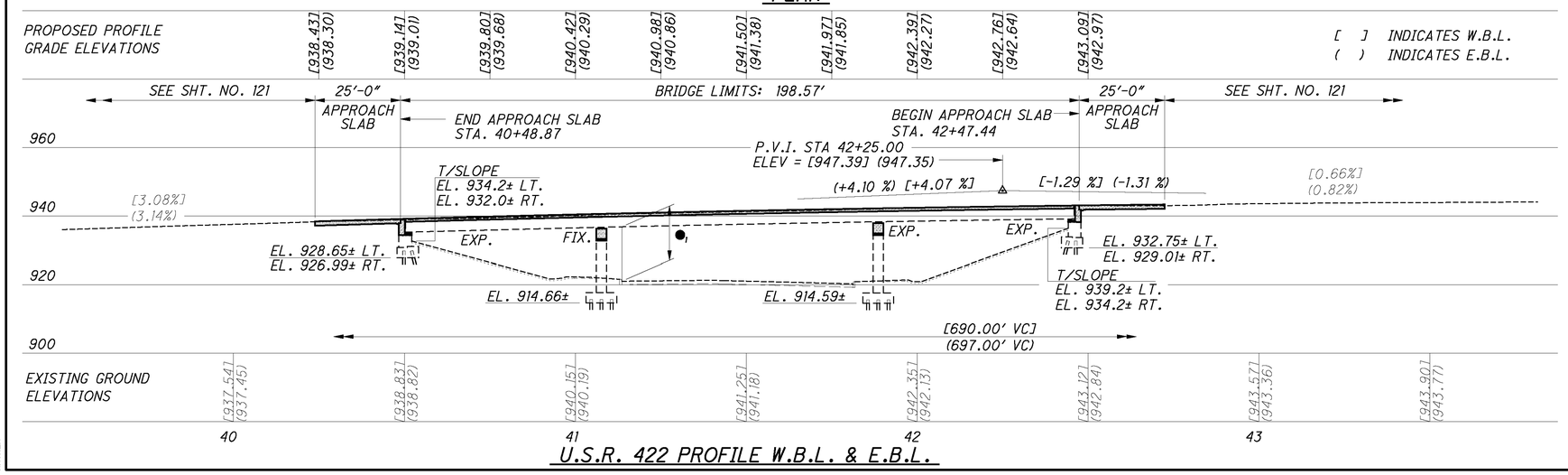
BRIDGE NO. MAH-193-0072
MAHONING W. FEDERAL EXPRESSWAY OVER W. RAYEN AVE. & THE OHIO CENTRAL RR

MAH-193/422
-0.46/1.85
PID No. 25235

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PLAN



U.S.R. 422 PROFILE W.B.L. & E.B.L.

BENCHMARK DATA

TBM #7 TOP NE BOLT ON BILLBOARD BASE STA. 40+40±, 250'± LT. ELEV. - 932.90	TBM #5 NW CORNER BOTTOM STEP @ WESTLAKE TERRACE UNITS 62 & 61 STA. 42+70±, 270'± RT. ELEV. - 910.64

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

VERTICAL CLEARANCE:

● 14.50' EXISTING 14.56' PROPOSED

HORIZONTAL CLEARANCE (EDGE OF LANE TO FACE OF PIER):

▲1 7.79 EXISTING 6.50' REQUIRED W/TYPE 5 GUARDRAIL BARRIER

▲2 6.79 EXISTING 6.50' REQUIRED W/TYPE 5 GUARDRAIL BARRIER

DESIGN TRAFFIC:

2010 ADT = 19,000 2010 ADTT = 950

2030 ADT = 19,000 2030 ADTT = 950

EXISTING STRUCTURE

TYPE:	TWIN STRUCTURES WITH CONTINUOUS STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS:	56'-6"±, 81'-0"±, 56'-6"± C/C BRGS. *
ROADWAY:	39'-10"± F/F CURB W.B. LANES 39'-10"± F/F CURB E.B. LANES
LOADING:	CF 2000 (57)
SKEW:	4°17'56"± L.F. TO REFERENCE LINE
APPROACH SLABS:	25'-0"
ALIGNMENT:	SPIRAL (RIGHT)
SUPERELEVATION:	VARIES
WEARING COURSE:	SUPERPLASTICIZED DENSE CONCRETE (SDC) OVERLAY, 3"± THICK
STRUCTURE FILE NUMBER:	5005132
DATE BUILT:	1967

PROPOSED STRUCTURE

PROPOSED WORK:	REPLACE DECK SLAB, RAISE EXISING BEAMS, REPLACE PIER CAP, INSTALL SHEAR CONNECTORS, REPLACE BEARINGS, MODIFY BACKWALLS & WINGWALLS, INSTALL NEW EXPANSION JOINTS AND PAINT STRUCTURAL STEEL
TYPE:	TWIN STRUCTURES WITH CONTINUOUS COMPOSITE STEEL BEAMS WITH REINFORCED CONCRETE DECK AND CONCRETE SUBSTRUCTURE
SPANS:	56'-6"±, 81'-0"±, 56'-6"± C/C BRGS. *
ROADWAY:	42'-4" F/F PARAPETS W.B. LANES 42'-4" F/F PARAPETS E.B. LANES
LOADING:	HS25 CASE II AND ALT. MILITARY LOADING FOR SUPERSTRUCTURE HS20 AND ALTERNATE MILITARY LOADING FOR SUBSTRUCTURE FWS 60 PSF
SKEW:	4°17'56"± L.F. TO REFERENCE LINE
APPROACH SLABS:	25'-0" (AS-1-81)
ALIGNMENT:	SPIRAL (RIGHT)
SUPERELEVATION:	VARIES
WEARING COURSE:	1" MONOLITHIC CONCRETE
COORDINATES:	LATITUDE N 41°06'41" LONGITUDE W 80°39'57"

DESIGN AGENCY
GPD ASSOCIATES
GLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
537 East Pete Rose Way, Suite 250 | Kelly, Ohio 44413
330-372-2100 | Fax 330-372-2101

DATE 9-26-08
REVIEWED DJC
DRAWN RPR
DESIGNED GGN
CHECKED TJW
REVISED
STRUCTURE FILE NUMBER 5005132

MAHONING COUNTY
STA. 40+48.87
STA. 42+47.44

SITE PLAN
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

MAH-193/422 -0.46/1.85
PID No. 25235

1 / 34

215 / 260

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7/8/2009
7:32:00 AM
RATHER

DESIGN SPECIFICATIONS

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, AND THE ODOT BRIDGE DESIGN MANUAL.

STANDARD DRAWINGS

REFER TO THE FOLLOWING ODOT STANDARD BRIDGE DRAWINGS:

A-1-69	REVISED: 7-19-02
AS-1-81	REVISED: 7-19-02
BR-1	REVISED: 7-19-02
EXJ-4-87	REVISED: 7-19-02
GSD-1-96	REVISED: 7-19-02
SICD-1-96	REVISED: 7-19-02

DESIGN LOADING

DESIGN LOADING: HS25, CASE II AND THE ALTERNATE MILITARY LOADING FOR SUPERSTRUCTURE
HS20 AND ALTERNATE MILITARY LOADING FOR SUBSTRUCTURE

FUTURE WEARING SURFACE (FWS) OF 60 POUNDS PER SQUARE FOOT

DESIGN STRESSES

CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

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

EXISTING STRUCTURAL STEEL - ASTM A36 GRADE 36 - YIELD STRENGTH 36,000 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.

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

DESCRIPTION: THIS WORK CONSISTS OF THE REMOVAL OF THE CONCRETE DECK INCLUDING PARAPETS, RAILINGS, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (SCUPPERS ETC.), PIER CAPS, PORTIONS OF THE ABUTMENTS AND WINGWALLS AS INDICATED IN THE PLANS AND ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES THAT ARE NOT LISTED SEPARATELY FOR PAYMENT. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVAL TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE AND IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESEREVED. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAT THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REIFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. 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 THE 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 (STEEL BEAMS), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN (CONT.)

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE 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 STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL 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.

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

EXISTING STRUCTURE VERIFICATION

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.

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

⚠ GPD 7-31-09

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

SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

AT A MINIMUM, A JACKING OPERATION SHALL LIFT ALL BEAMS AT ANY ONE ABUTMENT OR PIER SIMULTANEOUSLY. THE ONLY EXCEPTION IS THE SITUATION WHERE WORK INVOLVES REPLACING INDIVIDUAL BEARINGS AND THE HEIGHT OF THE LIFT SHALL NOT EXCEED ¼ INCH. THE MAXIMUM DIFFERENTIAL JACKING HEIGHT BETWEEN ANY ADJACENT ABUTMENTS OR PIERS SHALL BE 1 INCH OR LESS. IF THIS 1 INCH IS TO BE EXCEEDED, PROVIDE CALCULATIONS SHOWING THAT THE SUPERSTRUCTURE COMPONENTS WILL NOT BE TEMPORARILY STRESSED BEYOND ALLOWABLE STRESSES AND THAT NO PERMANENT STRESSES WILL BE INDUCED IN THE COMPONENTS AFTER THEY OBTAIN THEIR FINAL POSITION.

IF, DURING THE JACKING OPERATIONS, 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. THE DEPARTMENT WILL NOT PAY FOR THE COST OF 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 BEARINGS.

THE DEPARTMENT WILL PAY FOR 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 526 - REINFORCED CONCRETE APPROACH SLABS, AS PER PLAN

THE PROVISIONS OF CMS 526 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.

ITEM 511 - CLASS HP CONCRETE, AS PER PLAN

THE PROVISIONS OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW

MIX OPTIONS:
ALL SUPERSTRUCTURE, BRIDGE DECK, APPORACH SLABS AND PARAPET CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN). 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 + MOCROSILICA)

AGG TYPE	FINE AGG (LB)	#8 COURSE AGG (LB) *	#57 COURSE 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	655	800	2820	440	190	30	0.42	6
SLAG	1370	570	695	2635	440	190	30	0.42	6

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

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, SUBSTRUCTURE, AS PER PLAN, CU YD
ITEM 511 - CLASS HP CONCRETE, TEST SLAB, LUMP

ITEM 514 - FIELD PAINTING EXISTING STRUCTURAL STEEL, PRIME COAT
ITEM 514 - FIELD PAINTING, STRUCTURAL STEEL, ITERMEDIATE COAT
ITEM 514 - FIELD PAINTING, STRUCTURAL STEEL, FINISH COAT, AS PER PLAN
ITEM 514 - FINAL INSPECTION REPAIR

FIELD PAINTING TO BE INCLUDED IN THESE ITEMS ARE FOR PAINTING STEEL BEAMS AND CROSSFRAMES. AT EXPOSED PORTIONS OF FASCIA BEAMS, THE FINISH COAT COLOR SHALL BE RED, FEDERAL STANDARD NO. 11105. THE INSIDE OF THE FASCIA BEAMS AND ALL CROSSFRAMES SHALL HAVE A FINISH COAT COLOR OF BROWN, FEDERAL STANDARD NO. 10324. THE PERCENTAGE USED TO ACCOUNT FOR THE AREA OF INCIDENTALS IS 15%.

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, ABRASIVES BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

⚠

ASBESTOS NOTIFICATION:

AN ASBESTOS SURVEY OF THE U.S. 422 BRIDGE OVER W. FEDERAL ST. (STRUCTURE NO. MAH-193-0185, SFN 5005132), SCHEDULED FOR REHABILITATION WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT APPROXIMATELY 128 LINEAR FEET (10 SQUARE FEET) OF CATEGORY II NONFRIABLE ASBESTOS WAS IDENTIFIED ON THE STRUCTURE AS CAULKING MATERIAL ASSOCIATED WITH THE PARAPET RAILING AND 199 LINEAR FEET OF CATEGORY II NONFRIABLE ASBESTOS WAS IDENTIFIED ON THE STRUCTURE AS UTILITY WIRE WRAP. THE REMOVAL AND DISPOSAL OF THE ASBESTOS CONTAINING MATERIAL MUST COMPLY WITH THE OHIO ADMINISTRATIVE CODE, THE OCCUPATION SAFETY & HEALTH ADMINISTRATION (OSHA) REGULATIONS AND THE NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHAP) STANDARD FOR ASBESTOS. THIS ASBESTOS CONTAINING MATERIAL WILL BE REMOVED BY THE CONTRACTOR DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE AN INDIVIDUAL TRAINED IN THE PROVISIONS OF THE NESHAP ON SITE, TO DIRECT THE REMOVAL OF THE ASBESTOS CONTAINING MATERIAL.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF THE 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
345 OAK HILL AVENUE, SUITE 200
YOUNGSTOWN, OHIO 44502
NEIL H. ALTMAN
(330) 743-3333
FAX (330) 743-3960

AT LEAST TEN (10) WORKING DAYS PRIOR TO 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 RENOVATION, (3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED, (4) THE DATES AND HOURS OF OPERATION FOR THE ASBESTOS REMOVAL, (5) A DESCRIPTION OF THE PLANNED RENOVATION WORK AND THE METHOD(S) TO BE USED, (6) A DESCRIPTION OF WORK PRACTICES AND ENGINEERING CONTROLS TO BE USED TO PREVENT EMISSIONS OF ASBESTOS AT THE SITE, (7) THE NAME AND ADDRESSES OF WASTE TRANSPORTERS TO BE USED ON THE PROJECT, (8) THE NAME AND ADDRESS OF WASTE DISPOSAL FACILTIY TO BE USED AND (9) A DESCRIPTION OF PROCEDURES TO BE FOLLOWED IN THE EVENT THAT UNEXPECTED ASBESTOS IS FOUND OR PREVIOUSLY NON-FRIABLE ASBESTOS MATERIAL BECOMES CRUMBLED, PULVERIZED OR REDUCED TO POWDER. 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. THIS ITEM WILL INCLUDE REMOVAL OF ANY/ALL ASBESTOS CONTAINING MATERIAL (ACM). PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

DESIGN AGENCY
CLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
GPD ASSOCIATES
537 South Main Street, Suite 201, Findlay, Ohio 45840
330-372-2100 , Fax 330-372-2101

DESIGNED RHC | DRAWN RHC | CHECKED TJW | REVIEWED GGN | DATE 9-26-08 | REVISED | STRUCTURE FILE NUMBER 5005132

STRUCTURAL GENERAL NOTES
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

MAH-193/422
-0.46/1.85
PID No. 25235

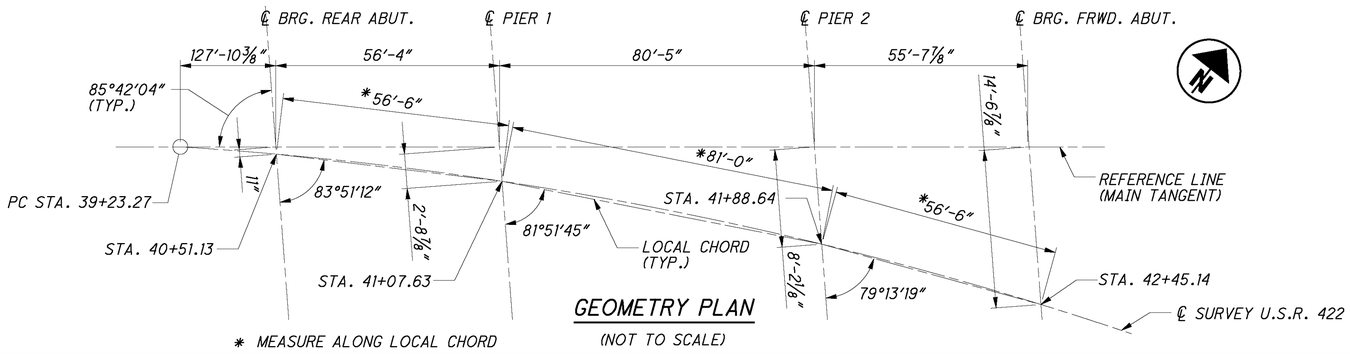
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ESTIMATED QUANTITIES

CALCULATED: TJW DATE: 9-29-08
CHECKED: DJC DATE: 2-20-09

ITEM	EXT.	TOTAL	UNITS	DESCRIPTION	ABUT	PIER	SUPER	GENERAL	A.P.P. REFERENCE SHT. NO.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	2
202	22900	267	SQ YD	APPROACH SLAB REMOVED				267	
503	11100	LUMP		COFFERDAMS, CRIBS AND SHEETING				LUMP	
503	21300	LUMP		UNCLASSIFIED EXCAVATION	LUMP				
509	10000	221636	POUND	EPOXY COATED REINFORCING STEEL	13381	20216	188039		
510	10000	434	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	434				
511	50001	523	CU YD	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN			523		2
511	50101	118	CU YD	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN	12		106		2
511	50201	166	CU YD	CLASS HP CONCRETE, SUBSTRUCTURE, AS PER PLAN	73	93			2
511	52000	LUMP		CLASS HP CONCRETE, TEST SLAB				LUMP	
512	10100	1442	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	264	393	731	54	
512	33000	5	SQ YD	TYPE 2 WATERPROOFING	5				
513	10221	19540	POUND	STRUCTURAL STEEL MEMBERS, LEVEL 1, AS PER PLAN			19540		21
513	20000	6264	EACH	WELDED STUD SHEAR CONNECTORS			6264		
514	00050	26600	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			26600		
514	00056	26600	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			26600		
514	00060	26600	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			26600		
514	00067	26600	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			26600		2
514	10000	24	EACH	FINAL INSPECTION REPAIR			24		
514	00504	39	MAN HR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			39		
516	11211	182	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN			182		
516	13600	382	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	25			357	22, 22A
516	44101	24	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (9" x 1'-0" x 2.85" THICK), AS PER PLAN	24				20
516	44101	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (11" x 1'-6" x 2.01" THICK), AS PER PLAN		12			20
516	44101	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (1'-0" x 1'-6" x 2.46" THICK), AS PER PLAN		12			20
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN			LUMP		2
518	21230	LUMP		POROUS BACKFILL WITH FILTER FABRIC	LUMP				
518	40000	210	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	210				
518	40010	135	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	135				
519	11101	30	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	30				2
526	25001	485	SQ YD	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN				485	2, 30-32
* 601	21100	10	SQ YD	SLOPE PROTECTION, MISC.: CONCRETE SLOPE PROTECTION REMOVED AND REPLACED				10	3

* AS DIRECTED



GEOMETRY PLAN

(NOT TO SCALE)

* MEASURE ALONG LOCAL CHORD

CONCRETE PARAPETS

CONCRETE PARAPETS: AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, SAWCUT 1¼" DEEP CONTROL JOINTS INTO THE PERIMETER OF THE CONCRETE PARAPET STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. PLACE THE SAWCUTS AS SPECIFIED IN THE PLANS. USE AN EDGE GUIDE, FENCE OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF ¼ INCH. SEAL THE PERIMETER OF THE DEFLECTION CONTROL JOINT TO A MINIMUM DEPTH OF 1 INCH WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. LEAVE THE BOTTOM ½ INCH OF THE INSIDE AND OUTSIDE FACE UNSEALED TO ALLOW WATER TO ESCAPE.

ITEM 601 SLOPE PROTECTION, MISC.: CONCRETE SLOPE PROTECTION REMOVED AND REPLACED

THIS WORK SHALL BE PERFORMED ONLY AS DIRECTED BY THE ENGINEER AT AREAS WHERE ABUTMENT BREASTWALL CONCRETE PATCHING REPAIRS MUST BE EXTENDED BELOW THE EXISTING CONCRETE SLOPE PROTECTION. THE WORK SHALL CONSIST OF SAWCUTTING AND REMOVING PORTIONS OF EXISTING CONCRETE SLOPE PROTECTION, EXCAVATION TO A DEPTH NOT EXCEEDING THE TOP OF ABUTMENT FOOTING ELEVATION, BACKFILLING EXCAVATED AREAS AND REPLACEMENT OF CONCRETE SLOPE PROTECTION. ALL WORK SHALL CONFORM TO CMS ITEMS 202, 503 AND 601.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE CONCRETE SLOPE PROTECTION BY THE SQUARE YARD OF FINISHED SURFACE COMPLETED AND ACCEPTED IN PLACE, IRRESPECTIVE OF THE DEPTH OF EXCAVATION BELOW THE SURFACE. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 601 SLOPE PROTECTION MISC.: CONCRETE SLOPE PROTECTION REMOVED AND REPLACED.

PROPOSED WORK

1. REMOVE ENTIRE EXISTING DECK ABOVE THE BEAMS, INCLUDING WEARING SURFACE, EXPANSION JOINTS AND SCUPPERS,
2. REMOVE EXISTING APPROACH SLABS.
3. REMOVE EXISTING ABUTMENT BACKWALL AND PORTIONS OF WINGWALLS AS INDICATED IN THE PLANS.
4. RAISE EXISTING BEAMS, REMOVE EXISTING BEARINGS AND PIER CAPS AS INDICATED IN THE PLANS.
5. CONSTRUCT NEW PIER CAPS AND INSTALL MOMENT PLATE RETROFIT SPLICE PLATES.
6. SET NEW LAMINATED ELASTOMERIC BEARINGS AT THE ABUTMENTS AND PIERS AND PLACE BEAMS ON THE NEW BEARINGS.
7. WELD SHEAR CONNECTORS TO EXISTING BEAMS.
8. INSTALL NEW EXPANSION JOINTS AND CONSTRUCT DECK AS INDICATED IN THE PLANS.
9. RECONSTRUCT ABUTMENT BACKWALLS AND PORTIONS OF WINGWALLS AS INDICATED IN THE PLANS AND INSTALL NEW ABUTMENT DRAINGE SYSTEM WHILE BACKFILLING.
10. PATCH PORTIONS OF ABUTMENTS AND PIER COLUMNS AS INDICATED IN THE PLANS.
11. CONSTRUCT APPROACH SLABS.
12. SEAL CONCRETE SURFACES AS INDICATED IN THE PLANS.
13. PAINT THE EXISTING STEEL.

ABBREVIATIONS

ABUT.	ABUTMENT	P.E.J.F.	PREFORMED EXPANSION JOINT FILLER
BRG.	BEARING	MIN.	MINIMUM
B.S.	BOTH SIDES	NO.	NUMBER
N.S.	NEAR SIDE	ADDIT.	ADDITIONAL
F.S.	FAR SIDE	FRWD.	FORWARD
SER.	SERIES	SPL.	SPLICE
TYP.	TYPICAL	CLR.	CLEAR
EQ.	EQUAL	CONC.	CONCRETE
DIM.	DIMENSION	CONST.	CONSTRUCTION
SPA.	SPACES	C.I.P.	CAST IN PLACE
EA.	EACH	JT.	JOINT
		BTWN.	BETWEEN
		SHLD.	SHOULDER
		V.P.F.	VANDAL PROTECTION FENCE
		P.C.P.P.	PERFORATED CORRUGATED PLASTIC PIPE
		N.P.C.P.P.	NON-PERFORATED CORRUGATED PLASTIC PIPE

DESIGN AGENCY
GLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
CPD ASSOCIATES
339 South Main Street, Suite 201, Kent, Ohio 44240
330-672-2100 Fax 330-672-2101

DESIGNED DJC | DRAWN RHC | CHECKED TJW | REVIEWED GGN | DATE 3-20-09 | REVISED | STRUCTURE FILE NUMBER 5005132

GENERAL NOTES

ESTIMATED QUANTITIES AND STRUCTURAL GENERAL NOTES

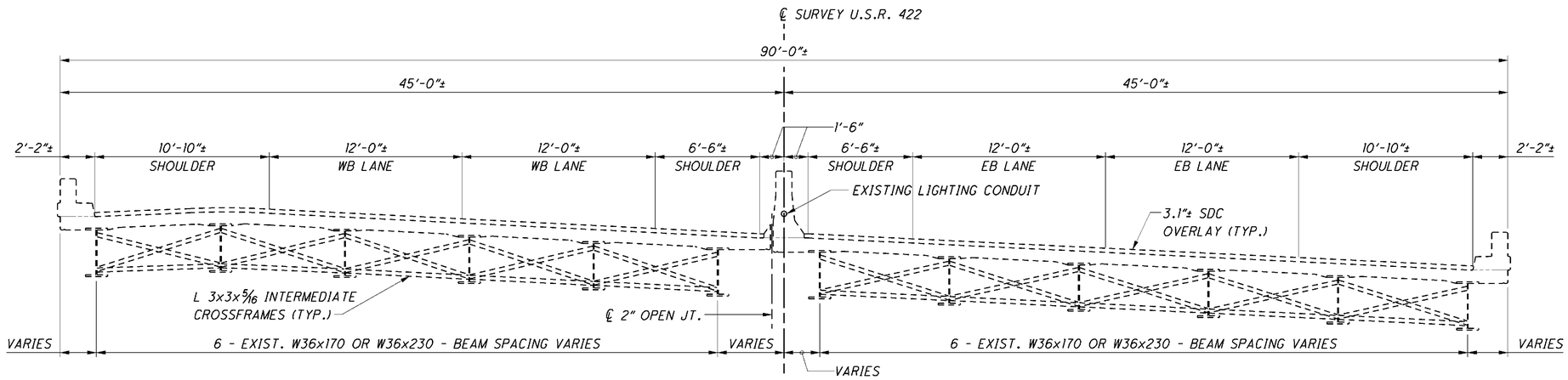
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

MAH-193/422
-0.46/1.85
PID No. 25235

3 / 34

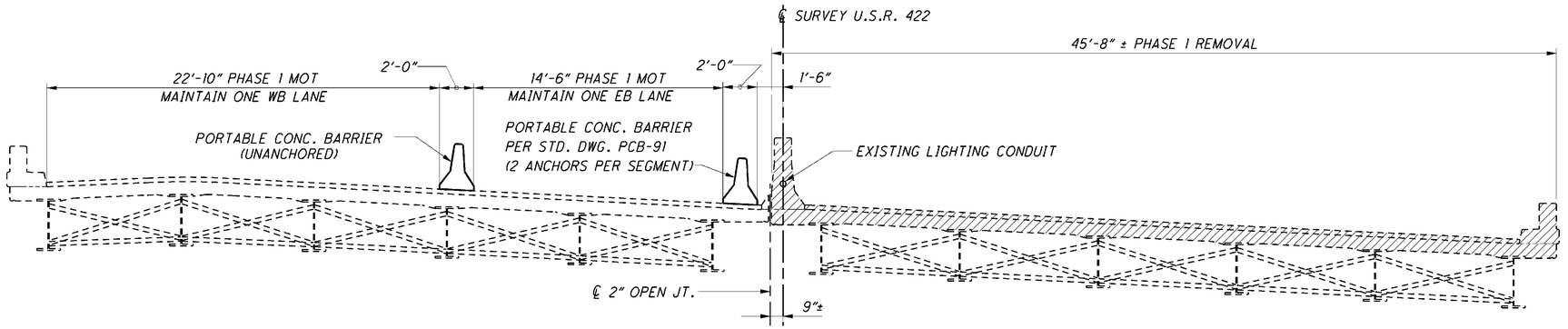
217 / 260

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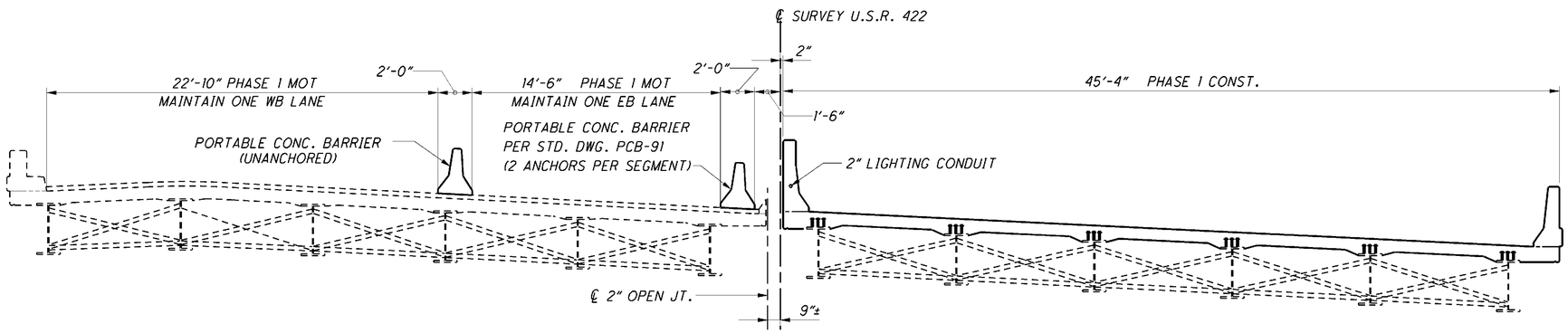


EXISTING TRANSVERSE SECTION

INDICATES REMOVAL LIMITS



PHASE 1 REMOVAL



PHASE 1 CONSTRUCTION

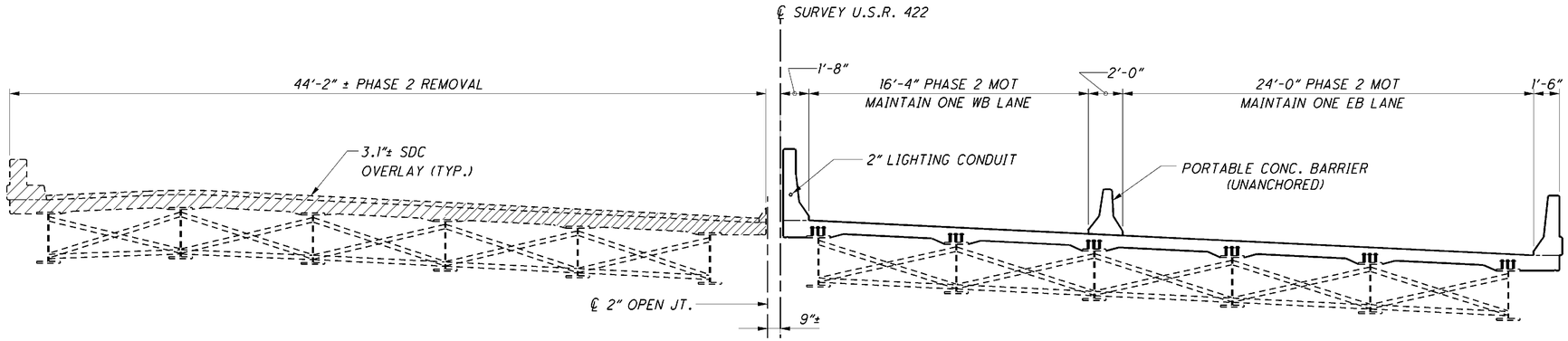
DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHINDLER BURGESS & DENAVEN INC.
330 South Main Street, Suite 251, Akron, Ohio 44311
330-572-2100, Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
DJC	RPR	GGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5005132	

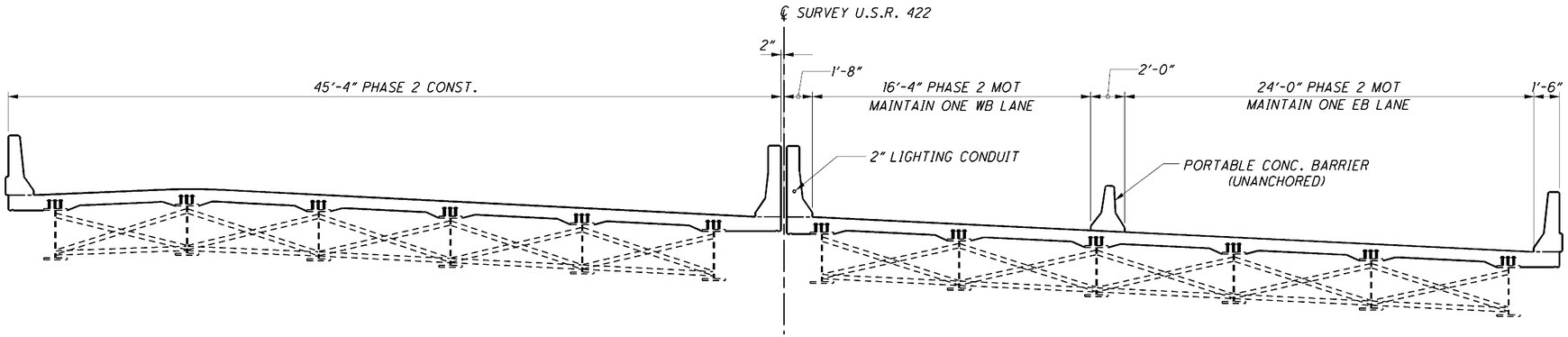
PHASE CONSTRUCTION DETAILS
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FED

MAH-193/422
-0.46/1.85
PID No. 25235

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PHASE 2 REMOVAL



PHASE 2 CONSTRUCTION

DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHINDER BURGES & DEHAVEN INC.
330 South Main Street, Suite 2511, Akron, Ohio 44311
330-972-2100, Fax 330-972-2101

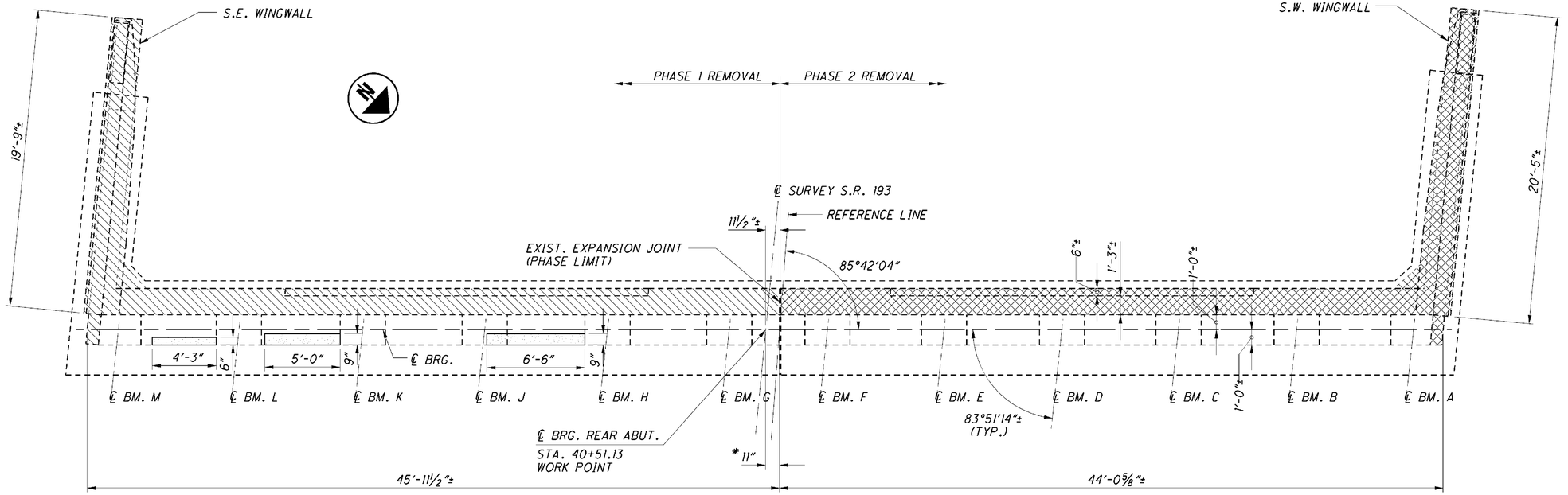
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DJC	RPR	GCN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
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PHASE CONSTRUCTION DETAILS

BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

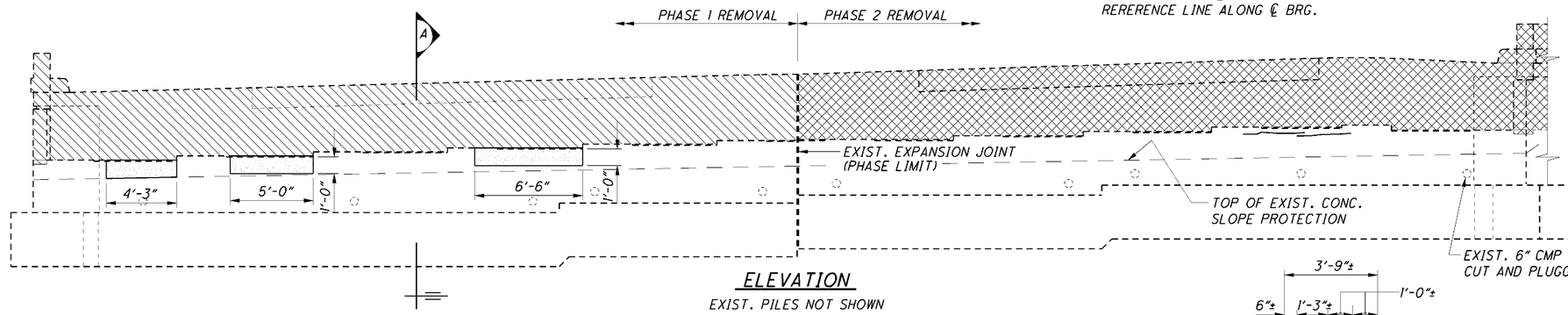
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PID No. 25235

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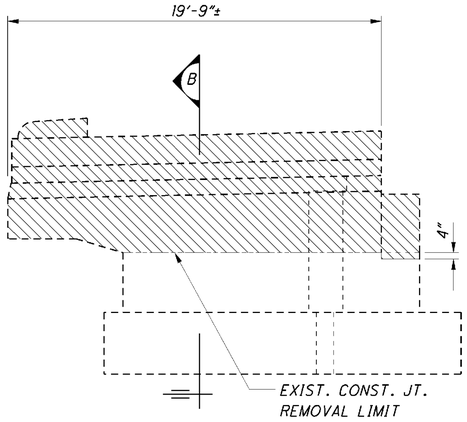
PLAN

* DISTANCE FROM ℄ SURVEY U.S.R. 422 TO RERERENCE LINE ALONG ℄ BRG.



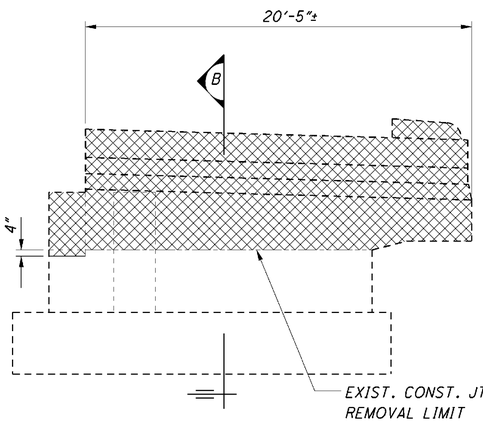
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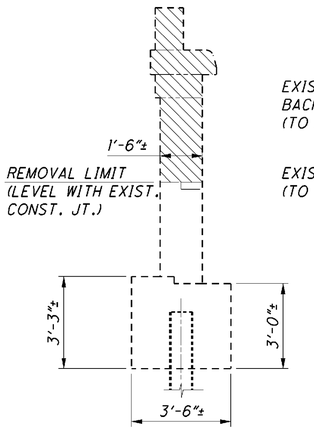
ELEVATION - S.E. WINGWALL

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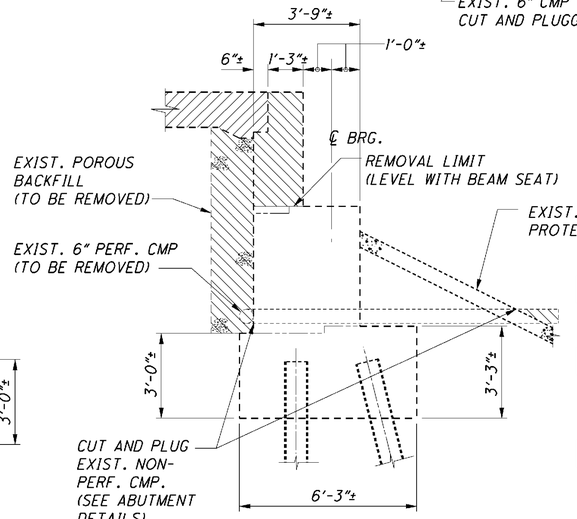
ELEVATION - S.W. WINGWALL

EXIST. PILES NOT SHOWN



SECTION B

PHASE 1 SHOWN, PHASE 2 IS SIMILAR



SECTION A

PHASE 1 SHOWN, PHASE 2 IS SIMILAR

INDICATES LIMITS OF ITEM 202, APPROACH SLAB REMOVED

INDICATES REMOVAL LIMIITS (PHASE 1) ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FT. SPAN, AS PER PLAN

INDICATES REMOVAL LIMIITS (PHASE 2) ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FT. SPAN, AS PER PLAN

INDICATES AREA TO BE PATCHED PER ITEM 519, PATCHING CONCRETE STRUCTURE

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DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
330 South Main Street, Suite 2511, Akron, Ohio 44311
330-972-2100, Fax 330-972-2101

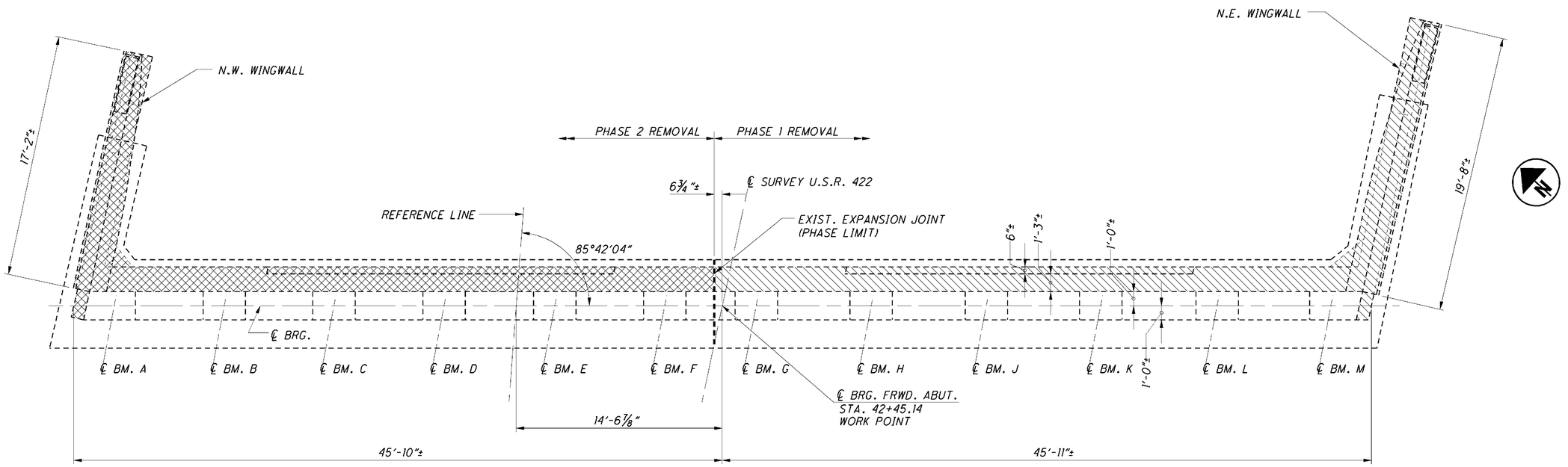
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RPR	RPR	GGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		5005132	

REMOVAL AND PATCHING PLAN - REAR ABUTMENT
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

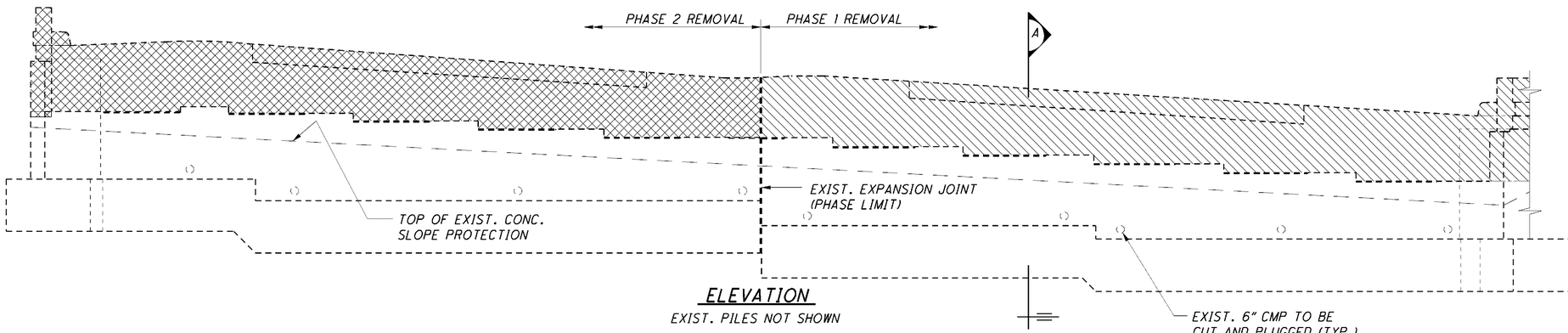
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PID No. 25235

6 / 34

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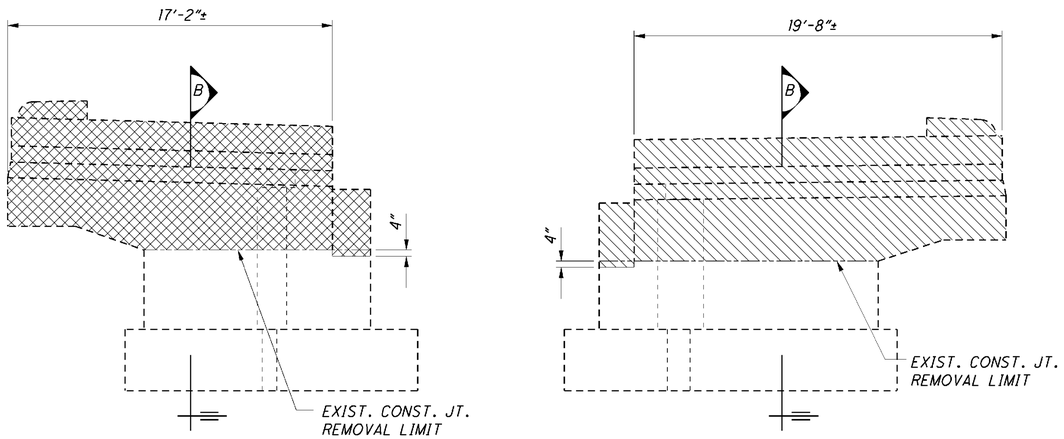


PLAN



ELEVATION

EXIST. PILES NOT SHOWN



ELEVATION - N.W. WINGWALL

EXIST. PILES NOT SHOWN

ELEVATION - N.E. WINGWALL

EXIST. PILES NOT SHOWN

INDICATES REMOVAL LIMIITS (PHASE 1)
ITEM 202, PORTIONS OF STRUCTURE
REMOVED, OVER 20 FT. SPAN,
AS PER PLAN

INDICATES REMOVAL LIMIITS (PHASE 2)
ITEM 202, PORTIONS OF STRUCTURE
REMOVED, OVER 20 FT. SPAN,
AS PER PLAN

NOTE:

FOR SECTIONS A & B, SEE SHEET NO. 6/34.

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DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHONER BURGS & DEHAVEN INC.
330 South Main Street, Suite 251 | Akron, Ohio 44311
330-972-2100 | Fax 330-972-2101

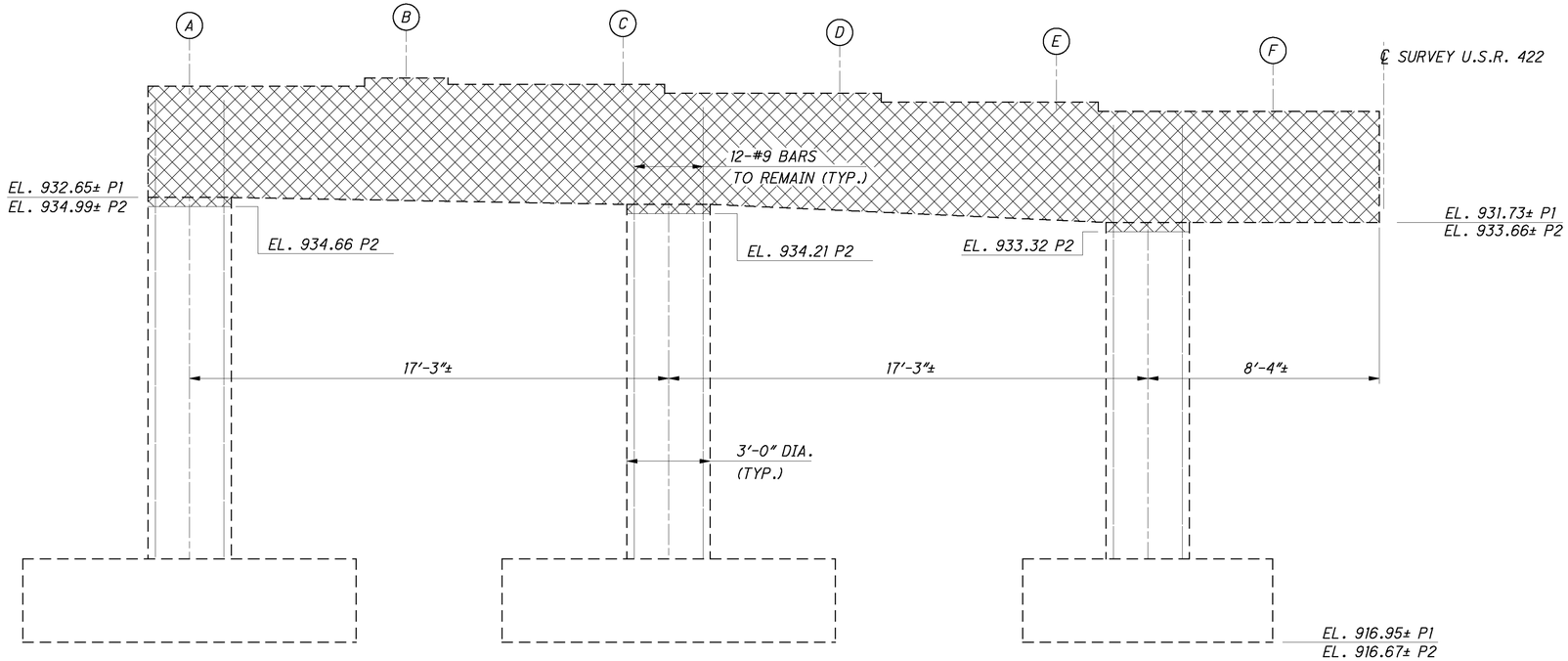
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RPR	RPR	CGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		5005132	

REMOVAL AND PATCHING PLAN - FORWARD ABUTMENT
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

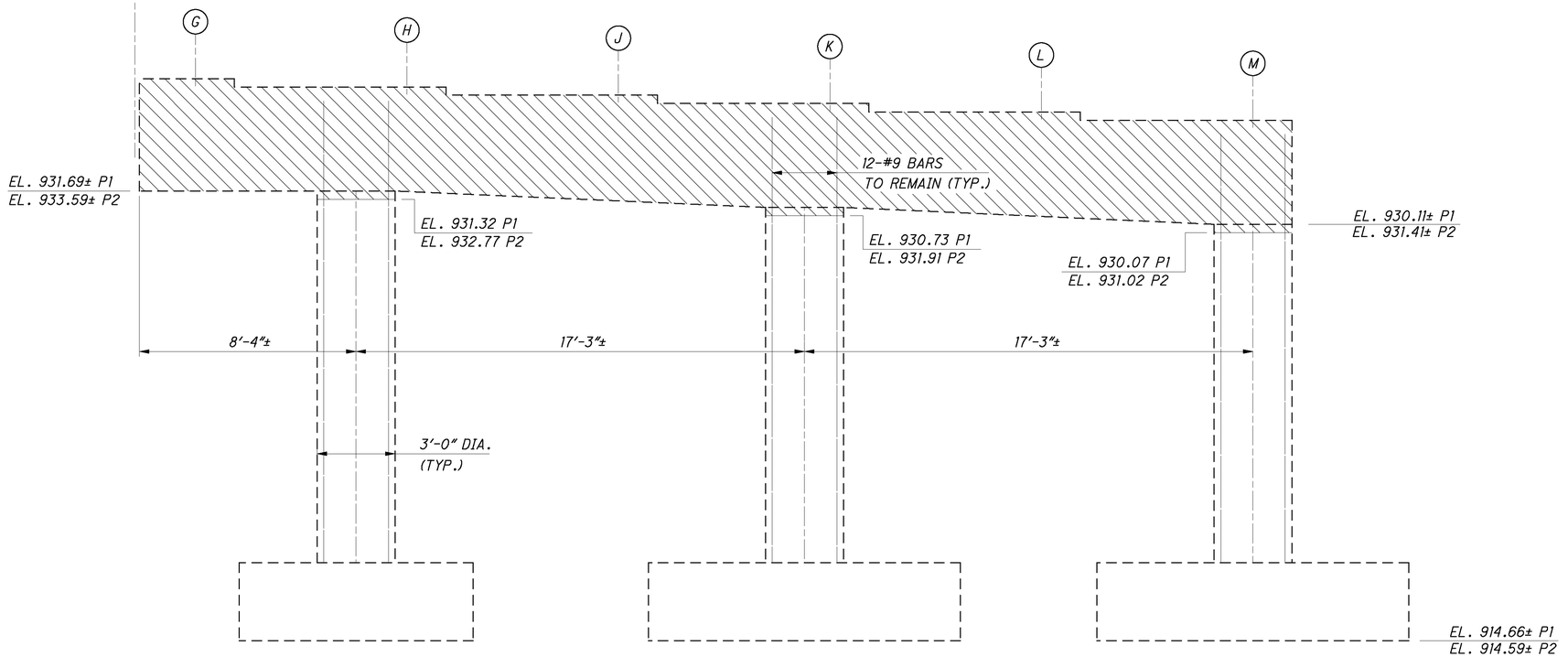
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-0.46/1.85
PID No. 25235

7/34

221
260



ELEVATION - WESTBOUND



ELEVATION - EASTBOUND

INDICATES REMOVAL LIMIITS (PHASE 1)
ITEM 202, PORTIONS OF STRUCTURE
REMOVED, OVER 20 FT. SPAN,
AS PER PLAN

INDICATES REMOVAL LIMIITS (PHASE 2)
ITEM 202, PORTIONS OF STRUCTURE
REMOVED, OVER 20 FT. SPAN,
AS PER PLAN

NOTE:

1. EXIST. PILES IN FOOTING NOT SHOWN.
2. THE #9 VERTICAL COLUMN BARS, DESIGNATED TO REMAIN, MAY REQUIRE STRAIGHTENING, INCLUDE THIS WORK WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FT. SPAN, AS PER PLAN

DESIGN AGENCY
GLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
GPD ASSOCIATES
537 South Main Street, Suite 201, Akron, Ohio 44311
330-572-2100 Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	GGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		5005132	

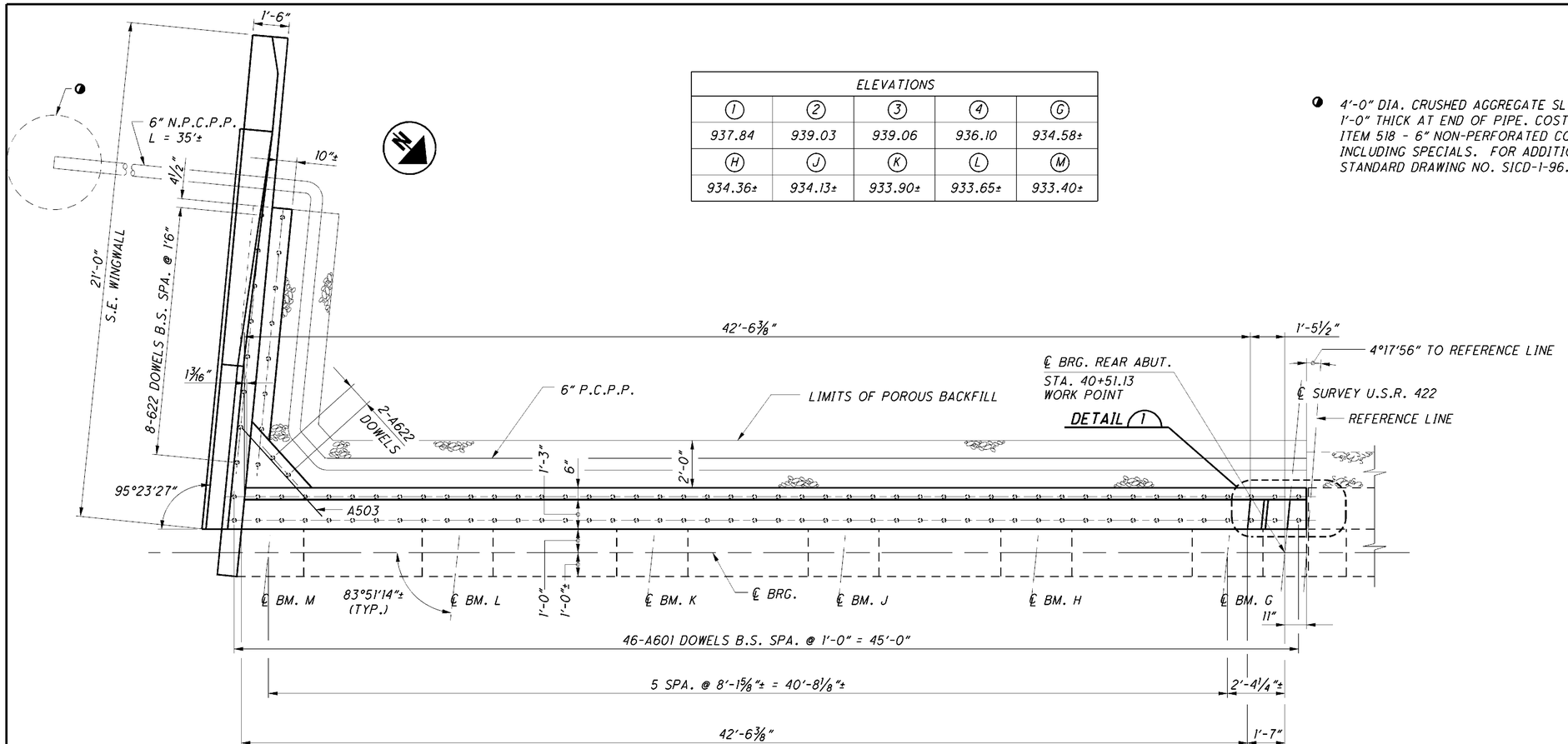
PIER REMOVAL DETAILS
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

MAH-193/422
-0.46/1.85
PID No. 25235

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ELEVATIONS				
(1)	(2)	(3)	(4)	(G)
937.84	939.03	939.06	936.10	934.58±
(H)	(J)	(K)	(L)	(M)
934.36±	934.13±	933.90±	933.65±	933.40±

◐ 4'-0" DIA. CRUSHED AGGREGATE SLOPE PROTECTION 601.06 1'-0" THICK AT END OF PIPE. COST TO BE INCLUDED WITH ITEM 518 - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS. FOR ADDITIONAL DETAILS SEE STANDARD DRAWING NO. SICD-1-96.



NOTES:

1. BACKWALL CONCRETE: IN ADDITION TO 511.10 DO NOT PLACE BACKWALL CONCRETE ABOVE THE OPTIONAL CONSTRUCTION JOINT AT THE APPROACH SLAB SEAT UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT THE ABUTMENT HAS BEEN PLACED.
2. POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1 FOOT BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALL FOOTINGS.
3. FOR LOCATION OF SECTION A, SEE SHT. NO. 14/34.
4. FOR SOUTHEAST WINGWALL DETAILS, SEE SHT. NO. 13/34.
5. FOR DETAILS 1 AND 2, SEE SHT. NO. 16/34.
6. FOR BEARING AND MASONRY ℄ DETAILS, SEE SHT. NO. 20/34.

DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYE SCHNOOR BURNS & DRAVOVIN INC.
330 South Main Street, Suite 2551 Akron, Ohio 44311
330-972-2100, Fax 330-372-2101

DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	GGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5005132	

REAR ABUTMENT DETAILS - EASTBOUND (PHASE 1)
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

MAH-193/422
-0.46/1.85
PID No. 25235

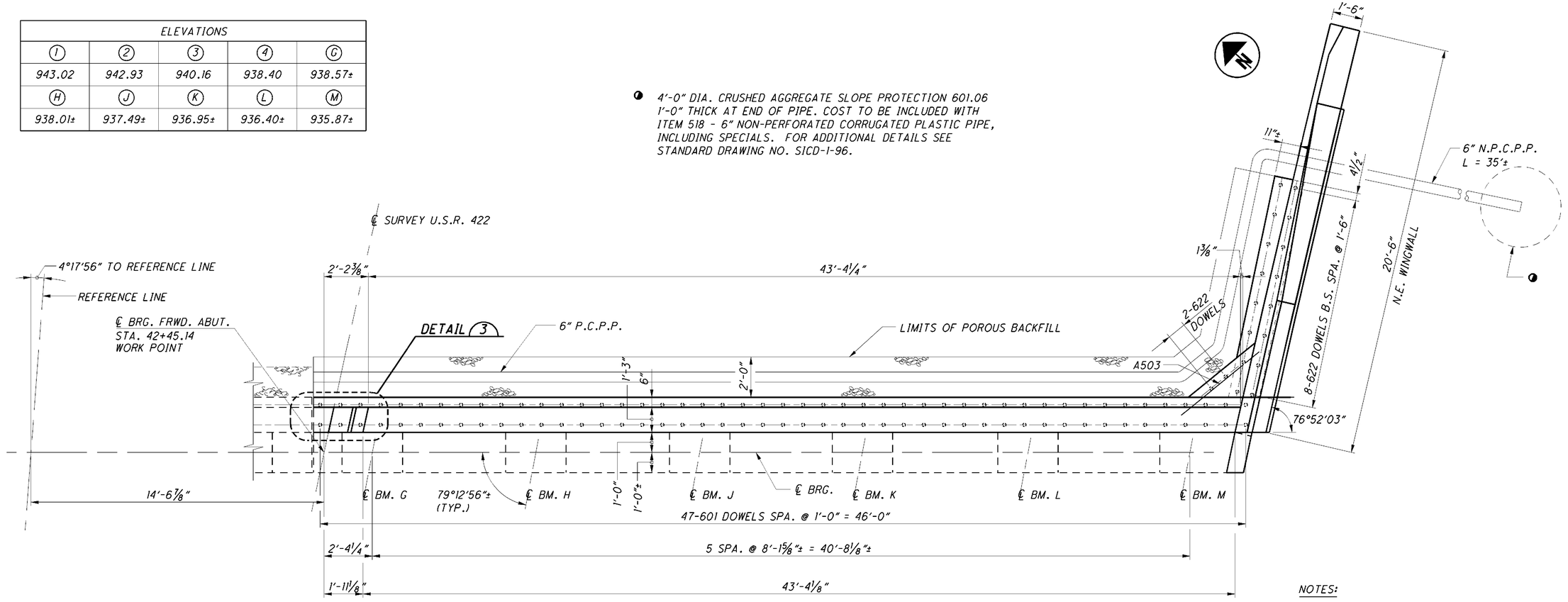
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ELEVATIONS				
①	②	③	④	⑥
943.02	942.93	940.16	938.40	938.57±
⑪	⑫	⑬	⑭	⑮
938.01±	937.49±	936.95±	936.40±	935.87±

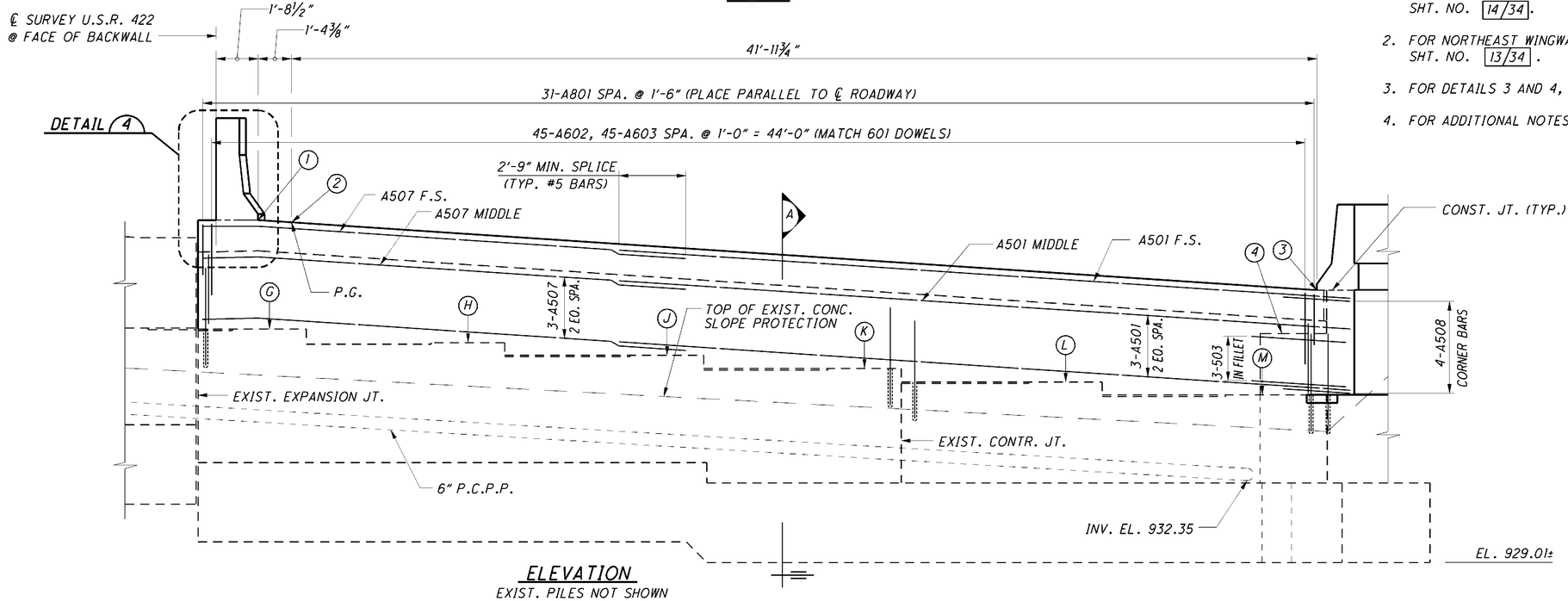
◐ 4'-0" DIA. CRUSHED AGGREGATE SLOPE PROTECTION 601.06 1'-0" THICK AT END OF PIPE. COST TO BE INCLUDED WITH ITEM 518 - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS. FOR ADDITIONAL DETAILS SEE STANDARD DRAWING NO. SICD-1-96.



PLAN

NOTES:

1. FOR LOCATION OF SECTION A, SEE SHT. NO. 14/34.
2. FOR NORTHEAST WINGWALL DETAILS, SEE SHT. NO. 13/34.
3. FOR DETAILS 3 AND 4, SEE SHT. NO. 16/34.
4. FOR ADDITIONAL NOTES, SEE SHT. NO. 9/34.



ELEVATION

EXIST. PILES NOT SHOWN

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3/19/2009
1:26:08 PM
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DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYE SCHOMER BURNS & DRAVVIN INC.
330 South Main Street, Suite 2551 Akron, Ohio 44311
330-572-2100, Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	GCN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5005132	

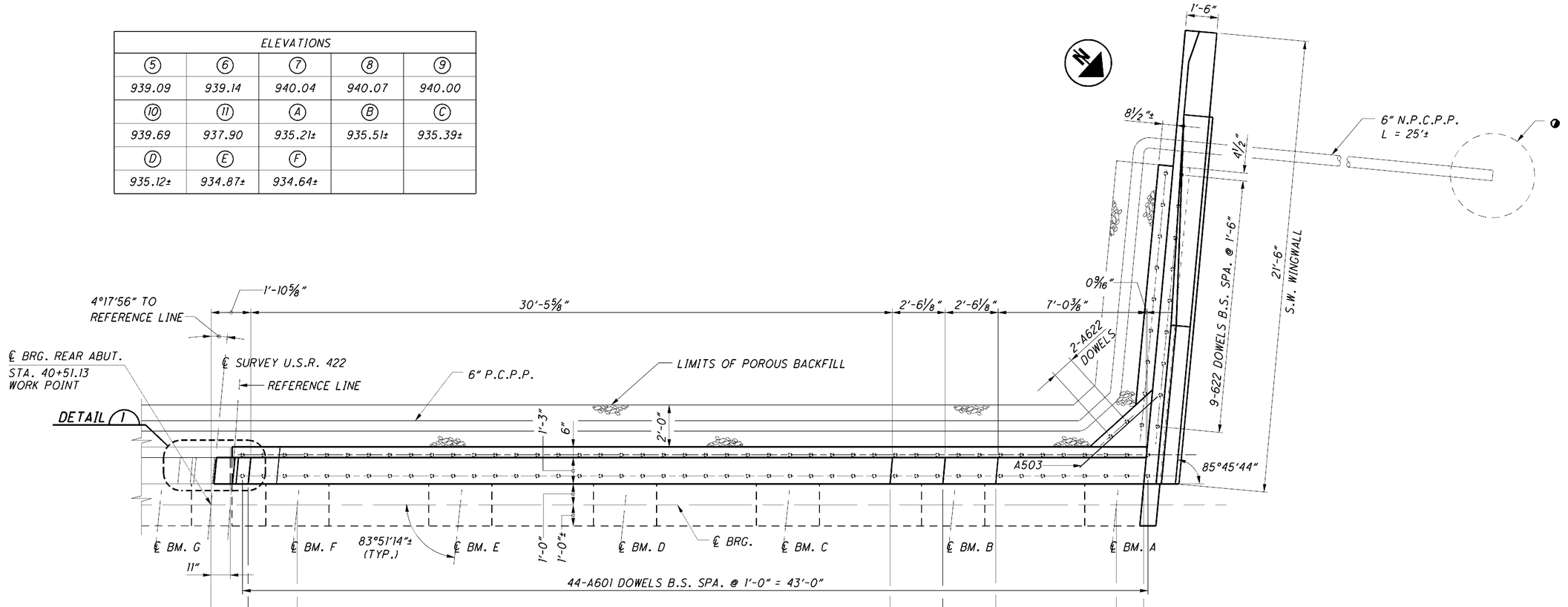
FORWARD ABUTMENT DETAILS - EASTBOUND (PHASE 1)
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

MAH-193/422
-0.46/1.85
PID No. 25235

10/34

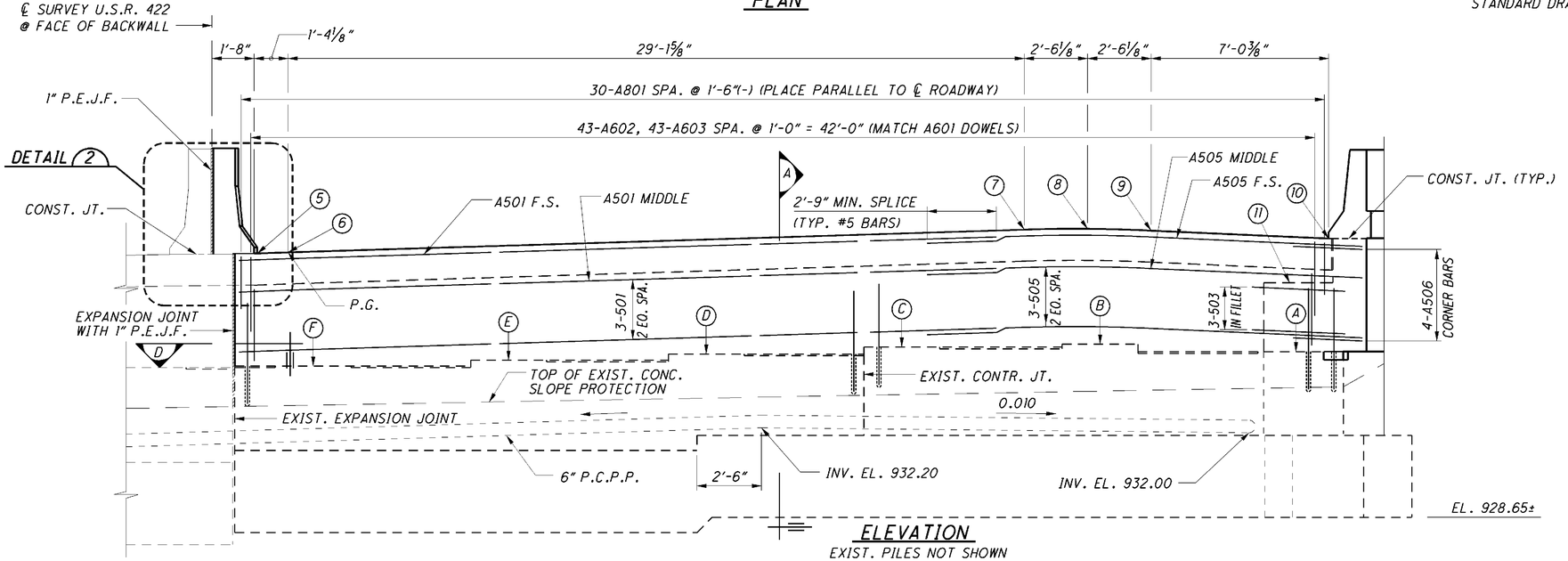
224/260

ELEVATIONS				
⑤	⑥	⑦	⑧	⑨
939.09	939.14	940.04	940.07	940.00
⑩	⑪	Ⓐ	Ⓑ	Ⓒ
939.69	937.90	935.21±	935.51±	935.39±
Ⓓ	Ⓔ	Ⓕ		
935.12±	934.87±	934.64±		



PLAN

◕ 4'-0" DIA. CRUSHED AGGREGATE SLOPE PROTECTION 601.06 1'-0" THICK AT END OF PIPE. COST TO BE INCLUDED WITH ITEM 518 - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS. FOR ADDITIONAL DETAILS SEE STANDARD DRAWING NO. SICD-1-96.



ELEVATION

EXIST. PILES NOT SHOWN

NOTES:

1. FOR LOCATION OF SECTION A, SEE SHT. NO. 14/34.
2. FOR SOUTHWEST WINGWALL DETAILS, SEE SHT. NO. 13/34.
3. FOR DETAILS 1, 2 & SECTION D, SEE SHT. NO. 16/34.
4. FOR ADDITIONAL NOTES, SEE SHT. NO. 9/34.

DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
330 South Main Street, Suite 251, Akron, Ohio 44311
330-572-2100, Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	GGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5005132	

REAR ABUTMENT DETAILS - WESTBOUND (PHASE 2)
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

MAH-193/422
-0.46/1.85
PID No. 25235

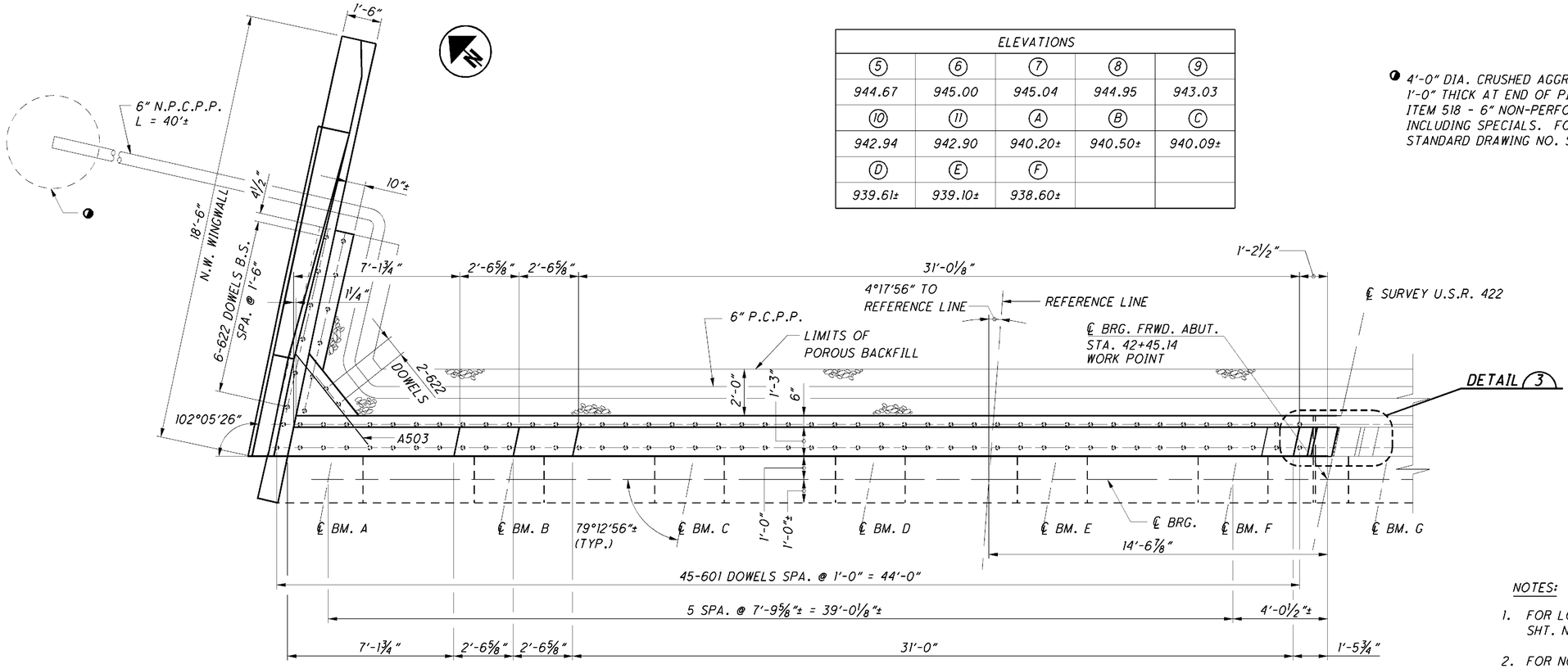
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ELEVATIONS				
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(10)	(11)	(A)	(B)	(C)
942.94	942.90	940.20±	940.50±	940.09±
(D)	(E)	(F)		
939.61±	939.10±	938.60±		

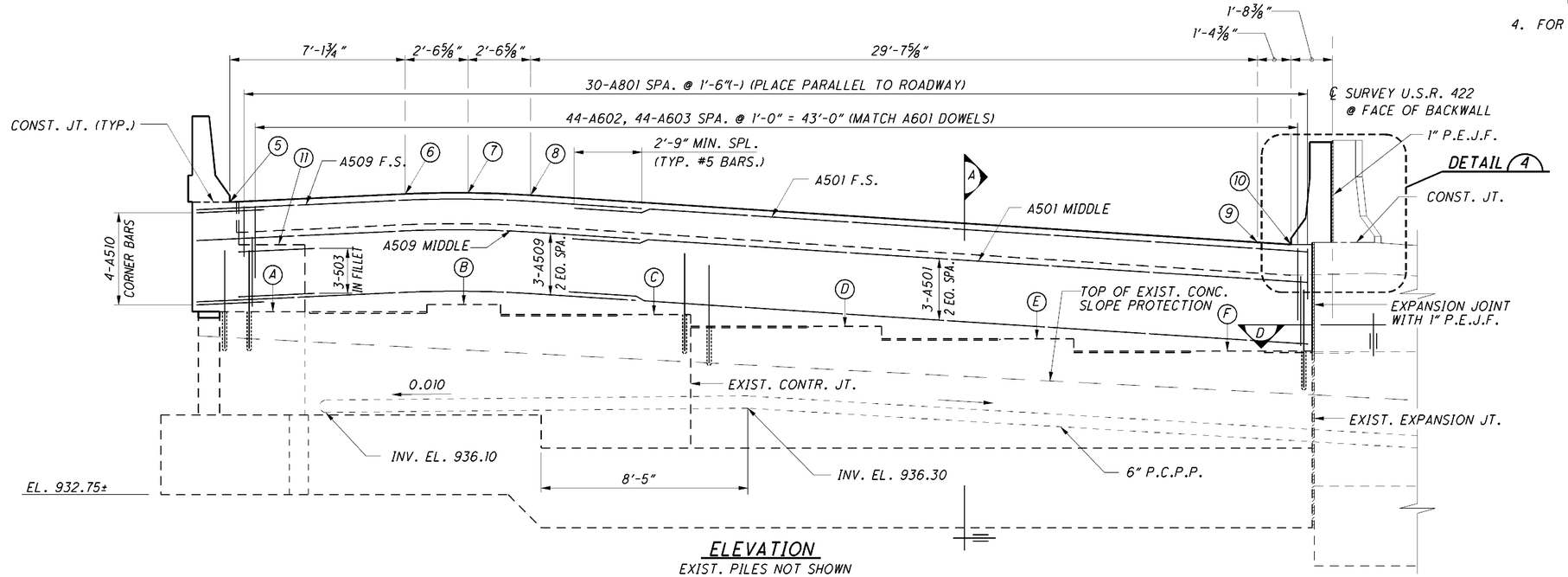
● 4'-0" DIA. CRUSHED AGGREGATE SLOPE PROTECTION 601.06 1'-0" THICK AT END OF PIPE. COST TO BE INCLUDED WITH ITEM 518 - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS. FOR ADDITIONAL DETAILS SEE STANDARD DRAWING NO. SICD-1-96.



PLAN

NOTES:

1. FOR LOCATION OF SECTION A, SEE SHT. NO. 14/34.
2. FOR NORTHWEST WINGWALL DETAILS, SEE SHT. NO. 13/34.
3. FOR DETAILS 3, 4 & SECTION D, SEE SHT. NO. 16/34.
4. FOR ADDITIONAL NOTES, SEE SHT. NO. 9/34.



ELEVATION

EXIST. PILES NOT SHOWN

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3/19/2009
1:26:30 PM
HAGHCITZKY

DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
330 South Main Street, Suite 251, Akron, Ohio 44311
330-572-2100, Fax 330-572-2101

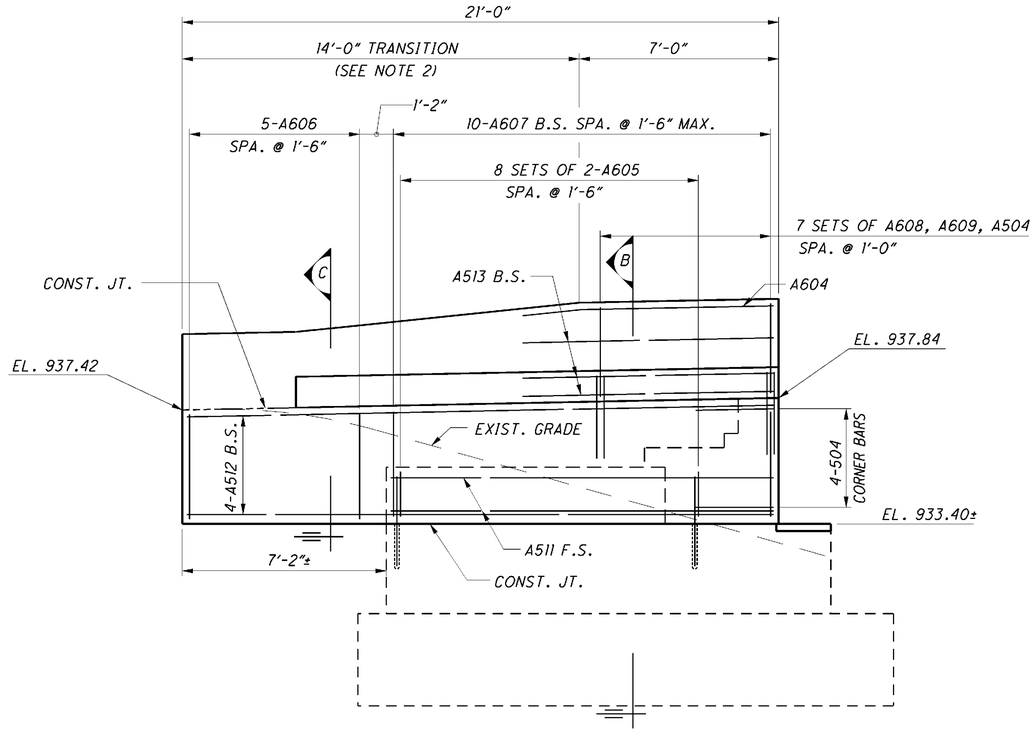
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RPR	RPR	GCN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5005132	

FORWARD ABUTMENT DETAILS - WESTBOUND (PHASE 2)
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

MAH-193/422
-0.46/1.85
PID No. 25235

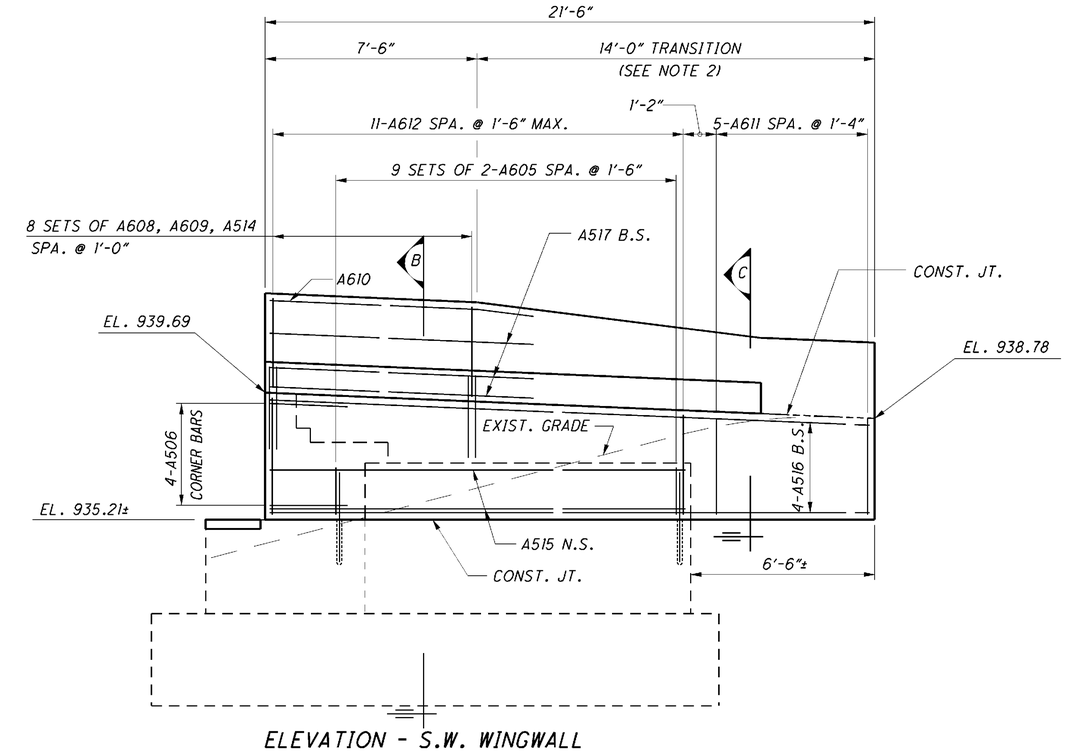
12 / 34

226
260



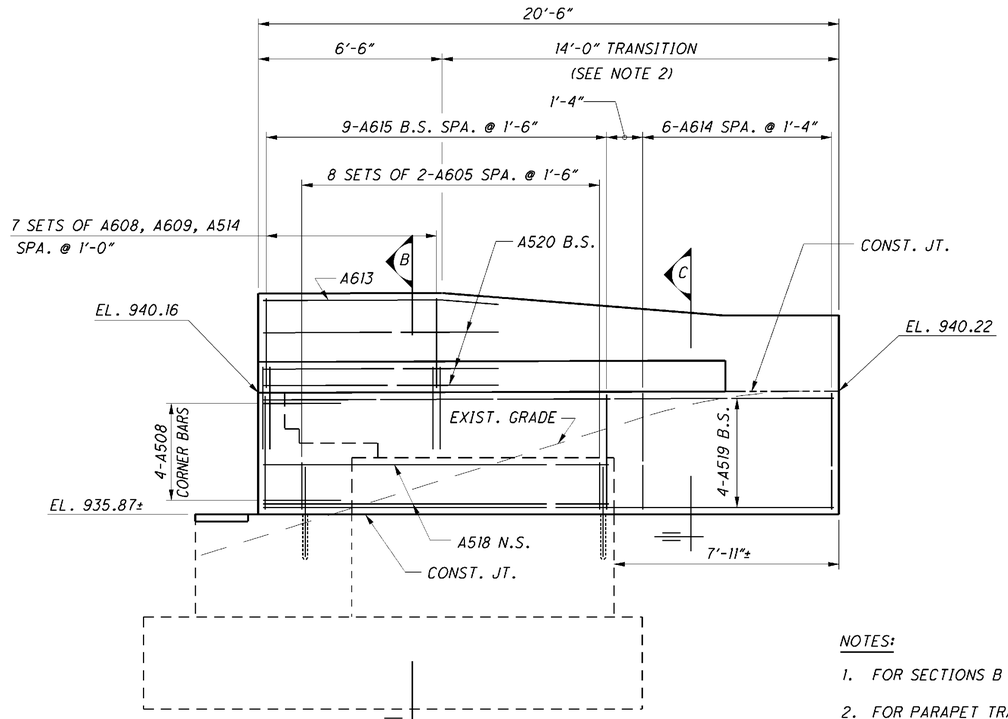
ELEVATION - S.E. WINGWALL

EXIST. PILES NOT SHOWN



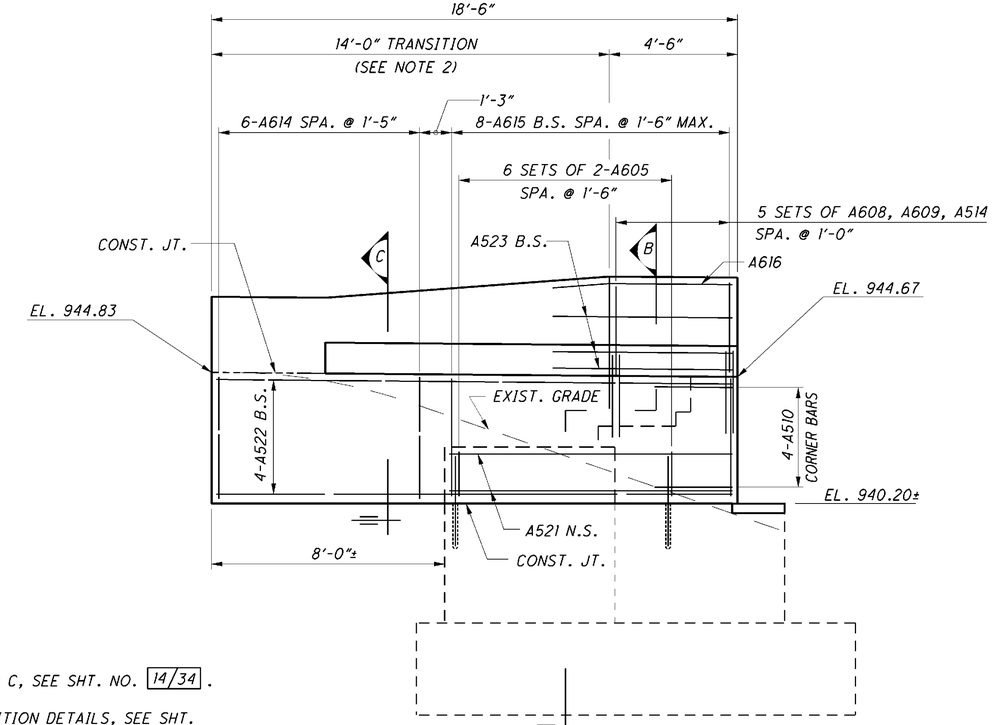
ELEVATION - S.W. WINGWALL

EXIST. PILES NOT SHOWN



ELEVATION - N.E. WINGWALL

EXIST. PILES NOT SHOWN



ELEVATION - N.W. WINGWALL

EXIST. PILES NOT SHOWN

NOTES:

1. FOR SECTIONS B AND C, SEE SHT. NO. 14/34 .
2. FOR PARAPET TRANSITION DETAILS, SEE SHT. NO. 15/34 .

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DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
330 South Main Street, Suite 251, Akron, Ohio 44311
330-972-2100, Fax 330-972-2101

DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	CGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5005132	

WINGWALL DETAILS

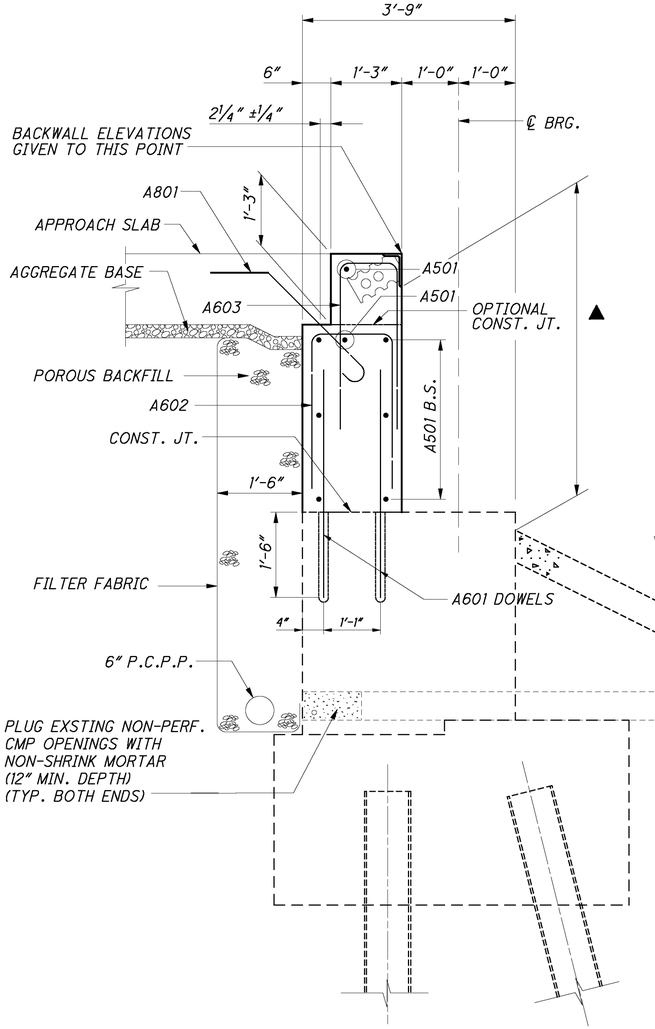
BRIDGE NO. MAH-422-0185

MAHONING W. FEDERAL EXPRESSWAY OVER W. FE

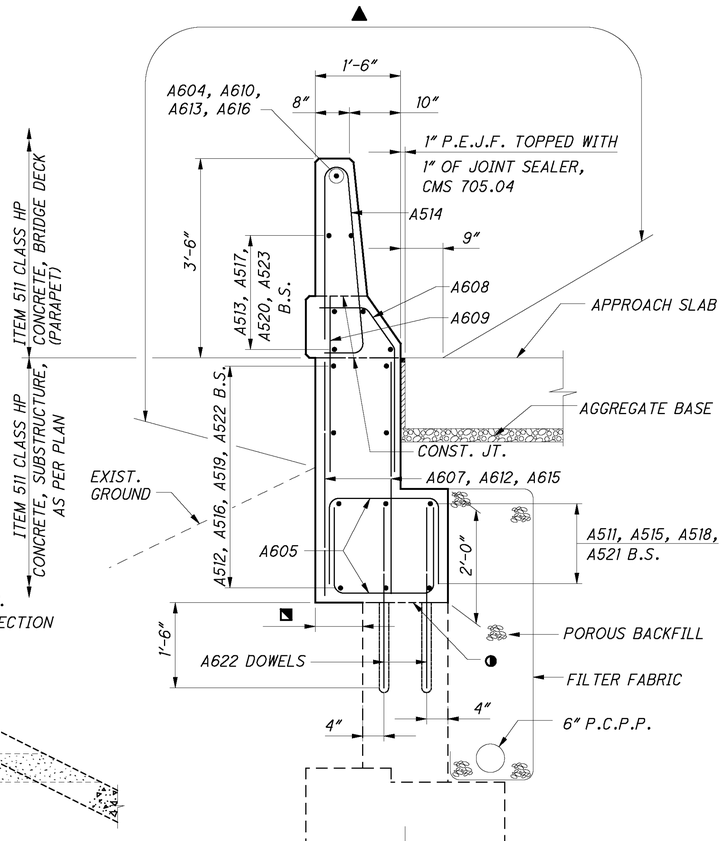
MAH-193/422
-0.46/1.85
PID No. 25235

13/34

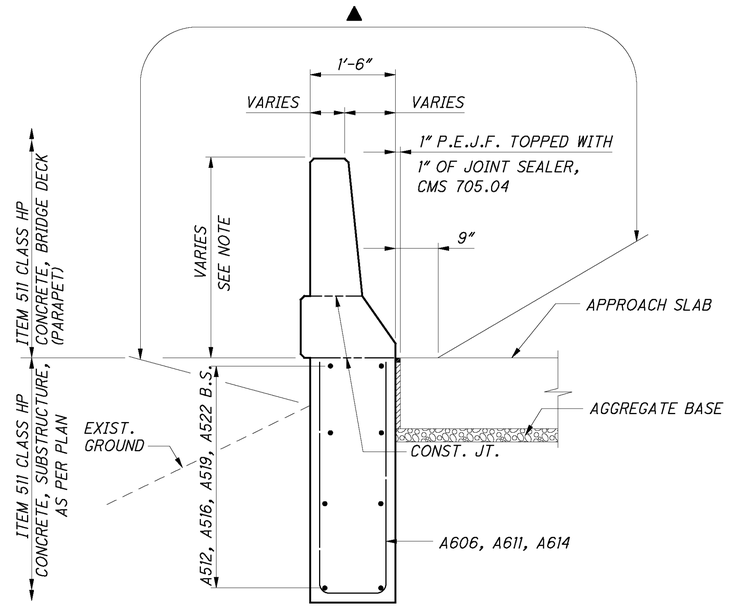
227/260



SECTION A



SECTION B



SECTION C

LEGEND:

- ◑ *EXISTING & PROPOSED CONST. JT. LEVEL WITH ADJACENT BEAM SEAT ELEVATION.*
- ◹ *10"± S.E. WINGWALL*
  8½"± S.W. WINGWALL
  11"± N.E. WINGWALL
  10"± N.W. WINGWALL
- ▲ *LIMITS OF ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)*

NOTES:

1. *FOR PARAPET TRANSITION DETAILS, SEE SHT. NO.* 15/34 .
2. *PLACE AND COMPACT BACKFILL MATERIAL ALONG WINGWALLS AND BELOW THE APPROACH SLAB ACCORDING TO CMS 503.08.*

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7/8/2009
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DESIGN AGENCY
GLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
GPD ASSOCIATES
330-572-2100 Fax 330-572-2101

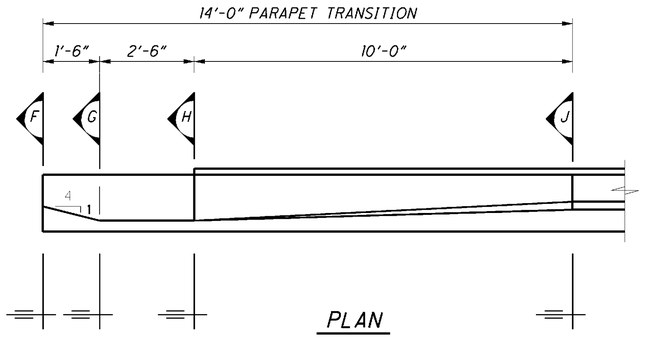
DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	GGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5005132	

ABUTMENT AND WINGWALL DETAILS
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

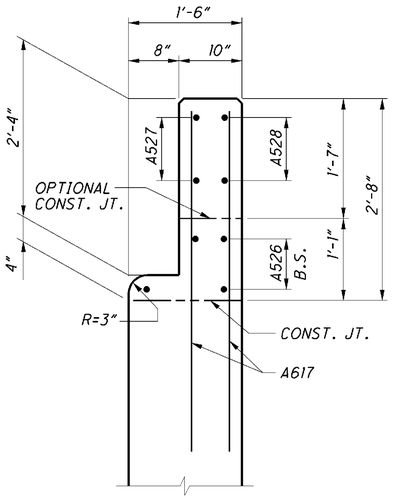
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PID No. 25235

14/34

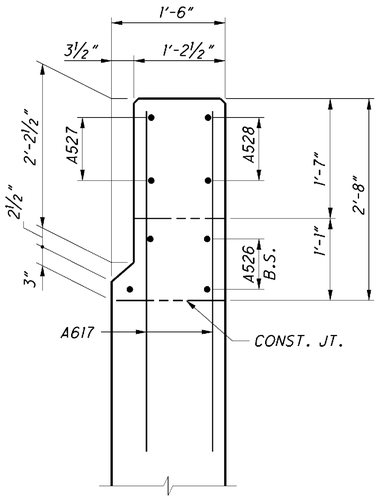
228/260



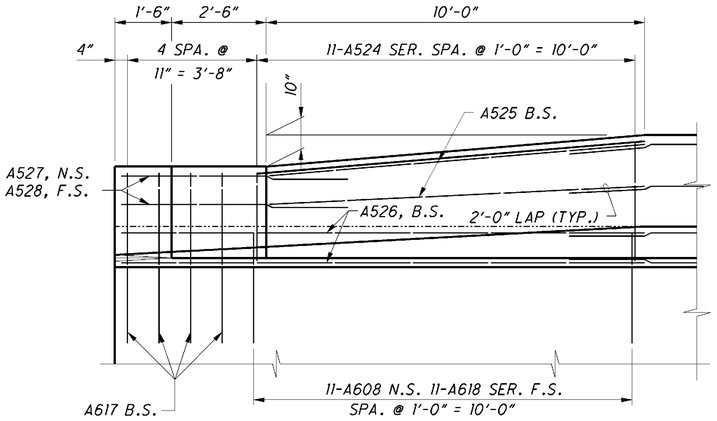
PLAN



SECTION F



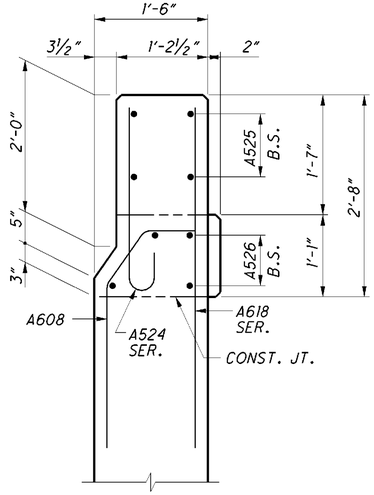
SECTION G



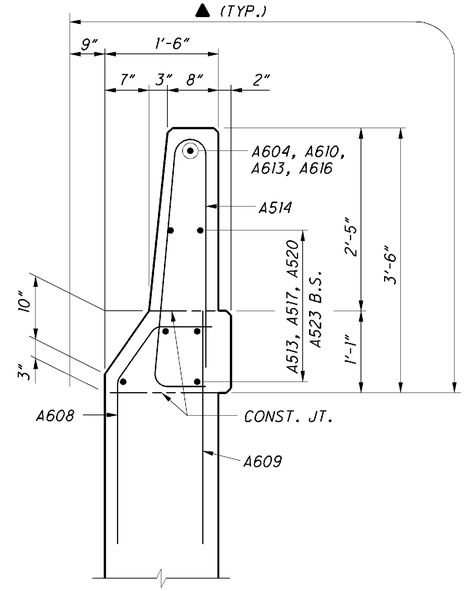
ELEVATION

LEGEND

▲ LIMITS OF ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).



SECTION H



SECTION J

DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
330 South Main Street, Suite 251, Akron, Ohio 44311
330.972.2100, Fax 330.972.2101

DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	GGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5005132	

ABUTMENT PARAPET TRANSITION DETAILS

BRIDGE NO. MAH-422-0185

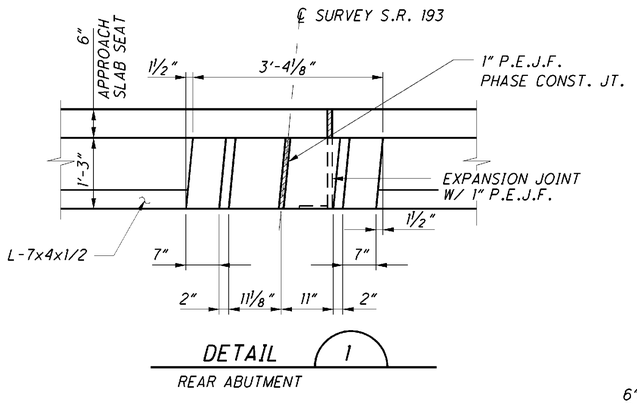
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

MAH-193/422
-0.46/1.85
PID No. 25235

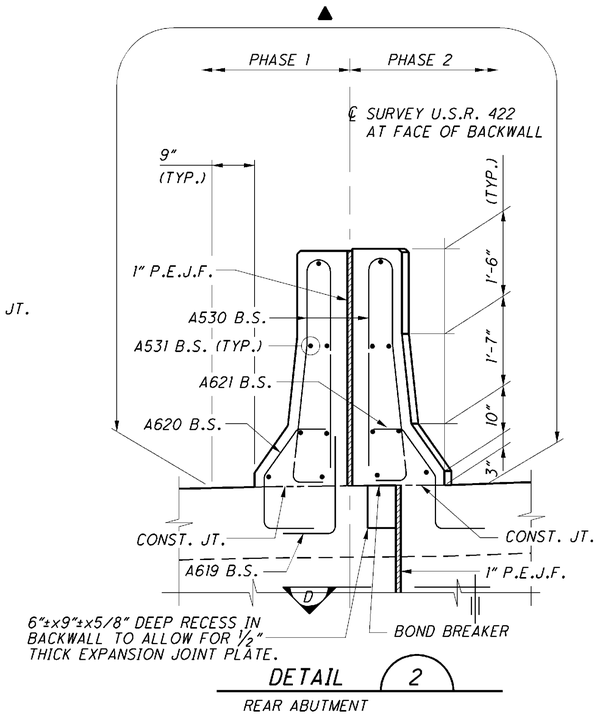
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229
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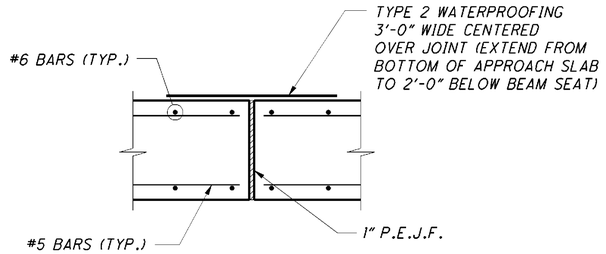
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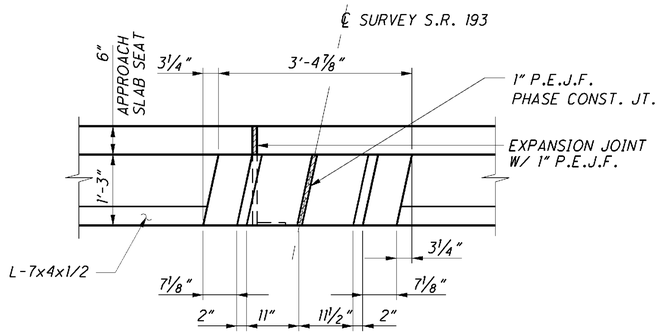
DETAIL 1
REAR ABUTMENT



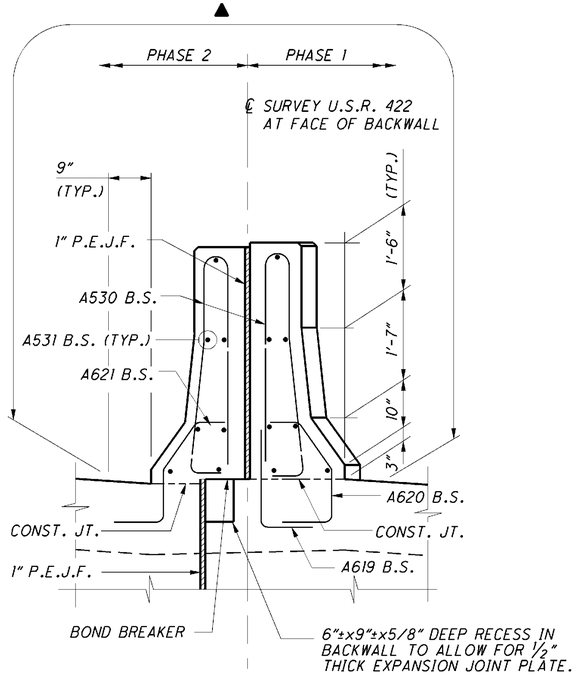
DETAIL 2
REAR ABUTMENT



SECTION D
EXPANSION JOINT DETAIL



DETAIL 3
FRWD. ABUTMENT



DETAIL 4
FRWD. ABUTMENT

LEGEND:

▲ LIMITS OF ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-ERETHANE)

NOTE:
FOR EXPANSION JOINT DETAILS, SEE STD. DWG. EXJ-1-87 AND DETAILS ON SHT. NO. 22/34 & 22A/34.

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DESIGN AGENCY
CLAUS-PYLE SCHONER BURGS & DEHAVEN INC.
GPD ASSOCIATES
330 South Main Street, Suite 2511, Akron, Ohio 44311
330-972-2100, Fax 330-972-2101

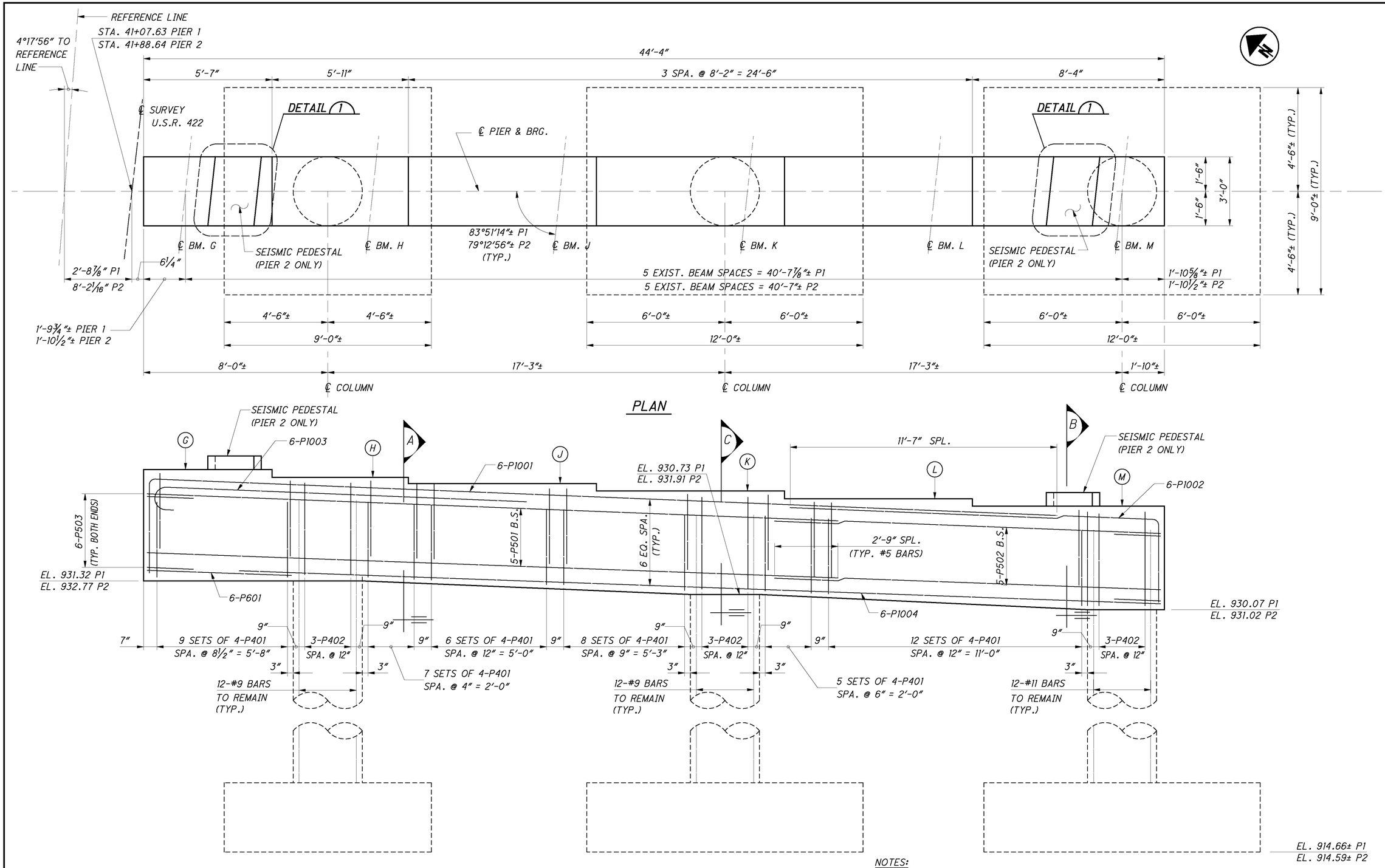
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RPR	RPR	GGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5005132	

ABUTMENT MEDIAN BARRIER DETAILS
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

MAH-193/422
-0.46/1.85
PID No. 25235

16 / 34

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260



PLAN

ELEVATION

	G	H	J	K	L	M
PIER 1	EL. 936.16	EL. 935.82	EL. 935.55	EL. 935.23	EL. 934.89	EL. 934.57
PIER 2	EL. 937.69	EL. 937.27	EL. 936.84	EL. 936.41	EL. 935.96	EL. 935.52

NOTES:

1. EXIST. PILES IN FOOTING NOT SHOWN.
2. TEMPORARY SUPPORT OF THE BEAMS SHALL BE PROVIDED AFTER SUPERSTRUCTURE DECK REMOVAL UNDER ITEM 516 JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.
3. FOR SECTIONS A, B, C AND DETAIL 1 SEE SHT. NO. 19/34.
4. FOR SEALING LIMITS, SEE SHT. NO. 19/34.

DESIGN AGENCY
GLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
GPD ASSOCIATES
330-572-2100, Fax 330-572-2101

DATE 9-26-08
REVIEWED GGN
DRAWN RPR
DESIGNED TJW
CHECKED RHC
REVISED
STRUCTURE FILE NUMBER 5005132

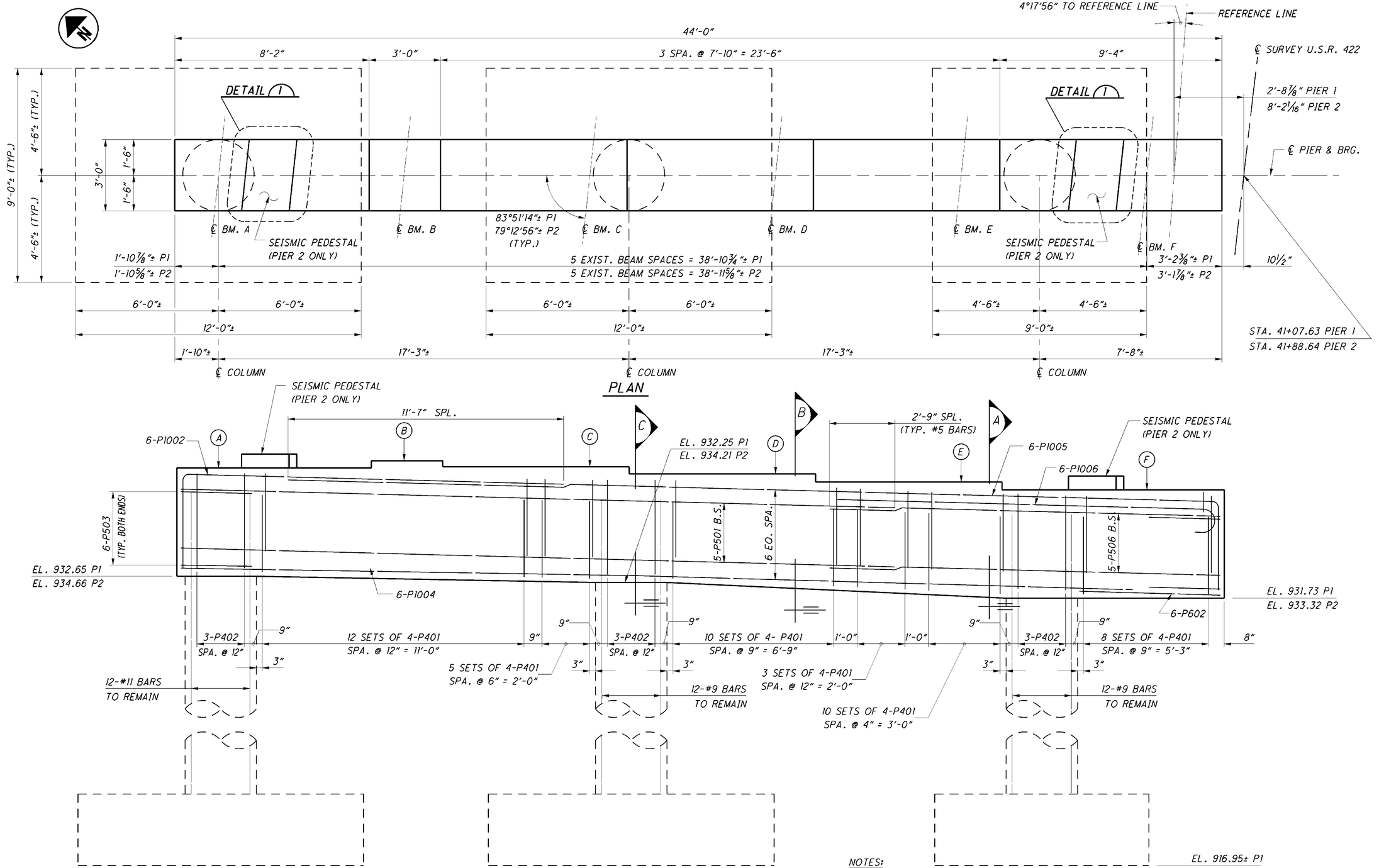
PIER DETAILS - EASTBOUND (PHASE 1)
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

MAH-193/422
-0.46/1.85
PID No. 25235

17 / 34

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	A	B	C	D	E	F
PIER 1	EL. 937.20	EL. 937.50	EL. 937.25	EL. 936.95	EL. 936.61	EL. 936.28
PIER 2	EL. 939.16	EL. 939.46	EL. 939.13	EL. 938.71	EL. 938.27	EL. 937.82

ELEVATION

NOTES:

1. EXIST. PILES IN FOOTING NOT SHOWN.
2. FOR SECTIONS A, B, C AND DETAIL 1 SEE SHT. NO. 19/34 .
3. FOR SEALING LIMITS, SEE SHT. NO. 19/34 .
4. FOR ADDITIONAL NOTES SEE SHT. NO. 17/34 .

DESIGN AGENCY
GPD ASSOCIATES
CLAUS-PYLE SCHINDLER BURGIS & DEHAVEN INC.
330 South Main Street, Suite 251, Akron, Ohio 44311
330.972.2100 , Fax 330.572.2101

DESIGNED	DRAWN	REVIEWED	DATE
TJW	RPR	GCN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5005132	

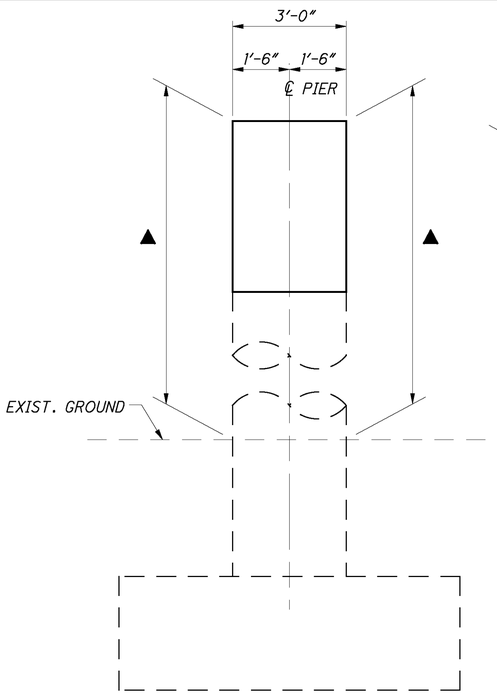
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BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

MAH-193/422
-0.46/1.85
PID No. 25235

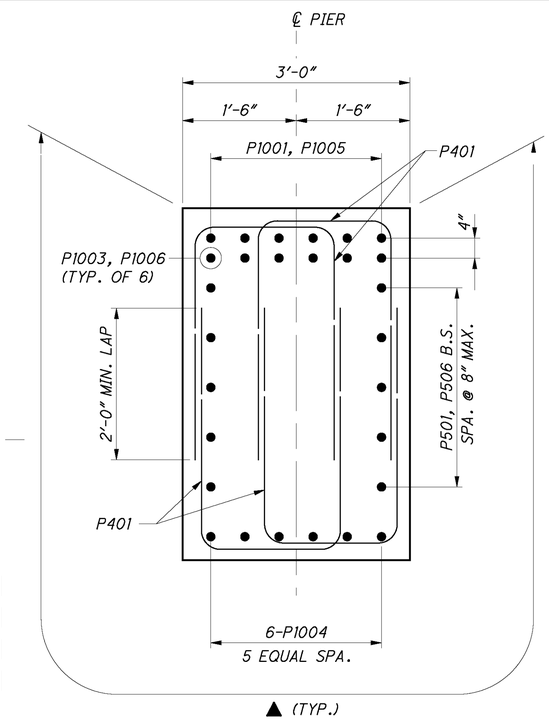
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232 / 260

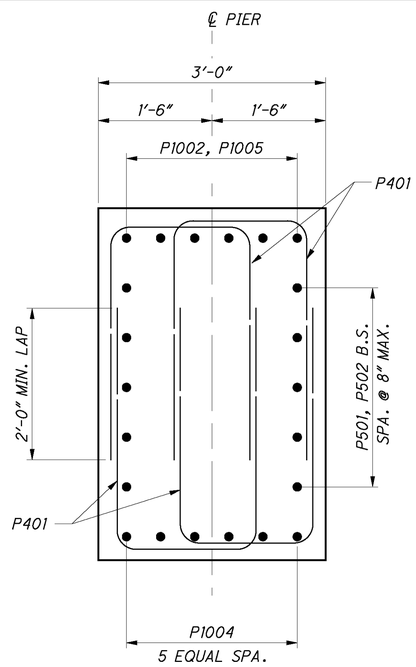
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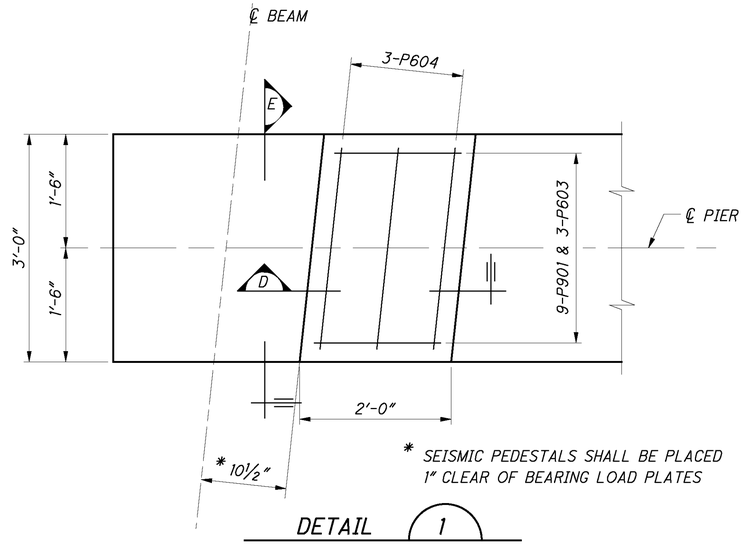
TYPICAL END VIEW



SECTION A



SECTION B

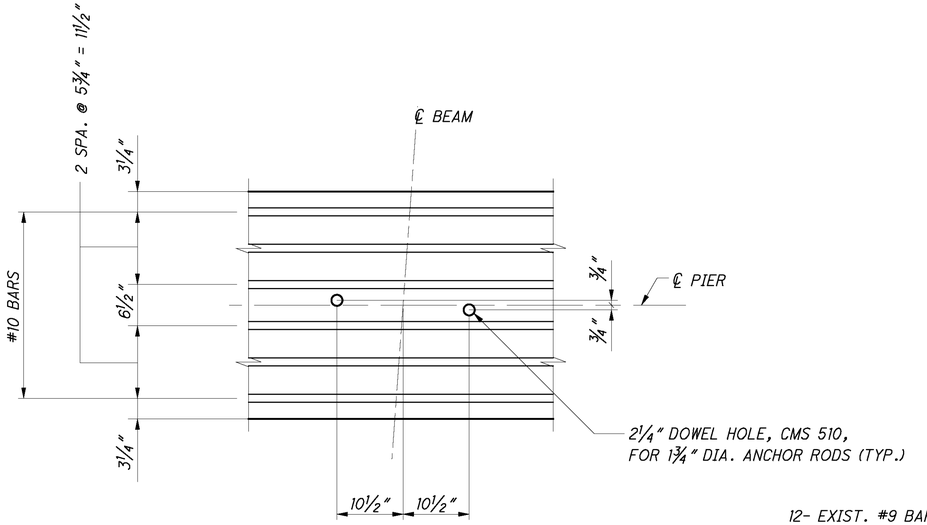


* SEISMIC PEDESTALS SHALL BE PLACED 1" CLEAR OF BEARING LOAD PLATES

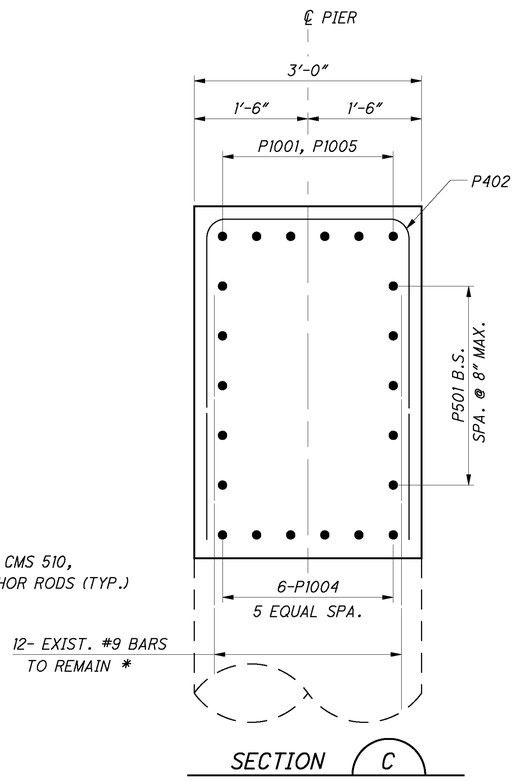
DETAIL 1

LEFT END OF PIER CAP SHOWN
RIGHT END SIMILAR BUT OPPOSITE

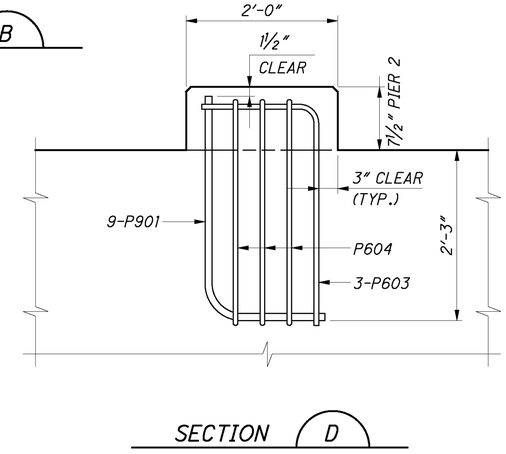
▲ INDICATES LIMITS OF "ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)



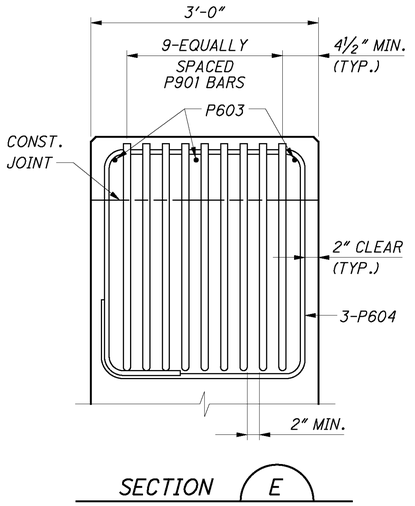
ANCHOR ROD LAYOUT



SECTION C



SECTION D



SECTION E

* #9 BARS MAY REQUIRE STRAIGHTENING, INCLUDE THIS WORK WITH ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FT. SPAN, AS PER PLAN.

DESIGN AGENCY
GLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
GPD ASSOCIATES
537 South Main Street, Suite 201, Akron, Ohio 44311
330-572-2100 Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
TJW	RPR	GGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5005132	

PIER SECTION DETAILS
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

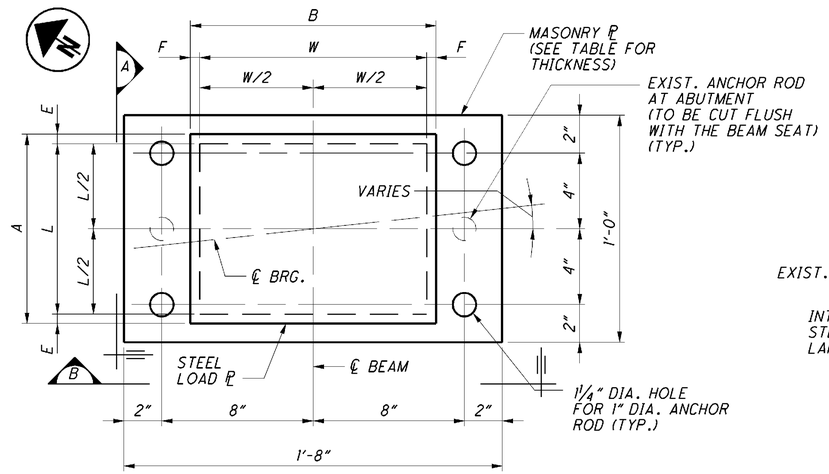
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-0.46/1.85
PID No. 25235

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7/8/2009
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HAYMER

BEARING SCHEDULE

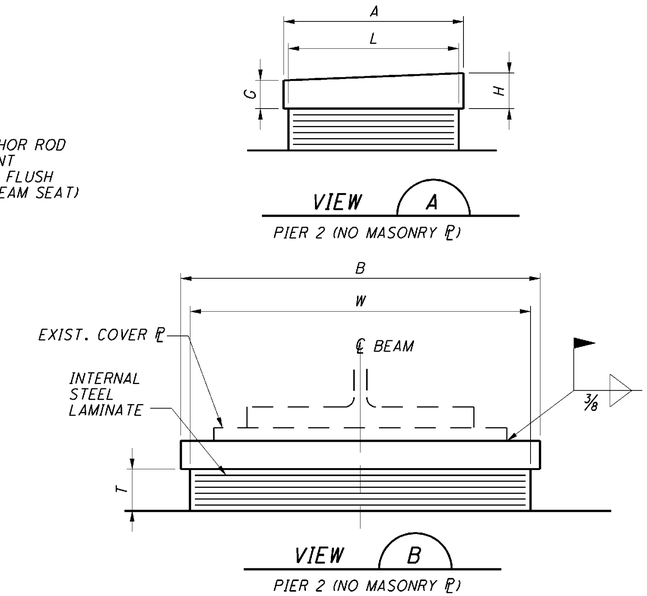
* WITHOUT IMPACT

	LOAD PLATE						ELASTOMERIC PAD						STEEL LAMINATES		TYPE	DEAD LOAD (K)	LIVE * LOAD (K)	TOTAL LOAD (K)
	A	B	E	F	G	H	L	W	T	NO. OF INTER. LAYERS	ti	te	NO.	THICK.				
REAR. ABUT.	10"	1'-1"	½"	½"	1½"	1¾"	9"	1'-0"	2.85"	7	0.27"	0.18"	8	0.0747"	EXP.	32.7	58.6	91.3
PIER 1	1'-0"	2'-3"	½"	3½"	2"	2¼"	11"	1'-6"	2.01"	4	0.32"	0.18"	5	0.0747"	FIX.	135.7	72.0	207.7
PIER 2	1'-1"	1'-7"	½"	½"	2"	2⅜"	1'-0"	1'-6"	2.46"	5	0.33"	0.18"	6	0.0747"	EXP.	135.7	72.0	207.7
FRWD. ABUT.	10"	1'-1"	½"	½"	1½"	1⅝"	9"	1'-0"	2.85"	7	0.27"	0.18"	8	0.0747"	EXP.	32.7	58.6	91.3

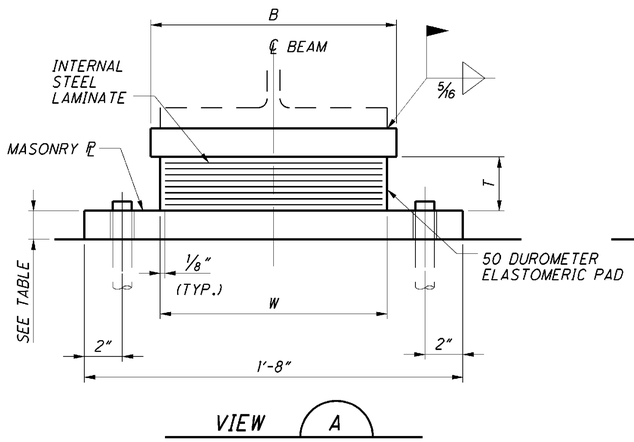


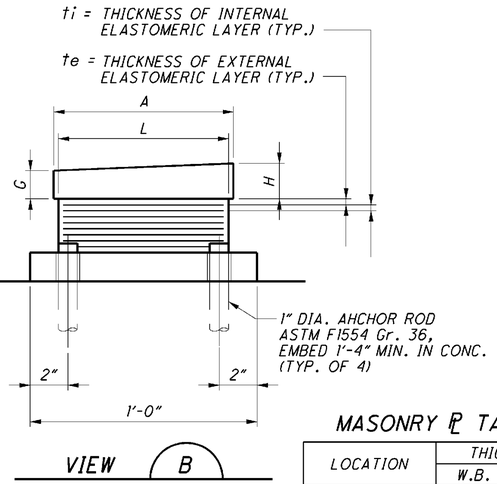
PLAN

EXPANSION BEARING
(MASONRY ℄ PRESENT ONLY AT ABUTMENTS)



PIER 2 EXPANSION BEARING DETAIL

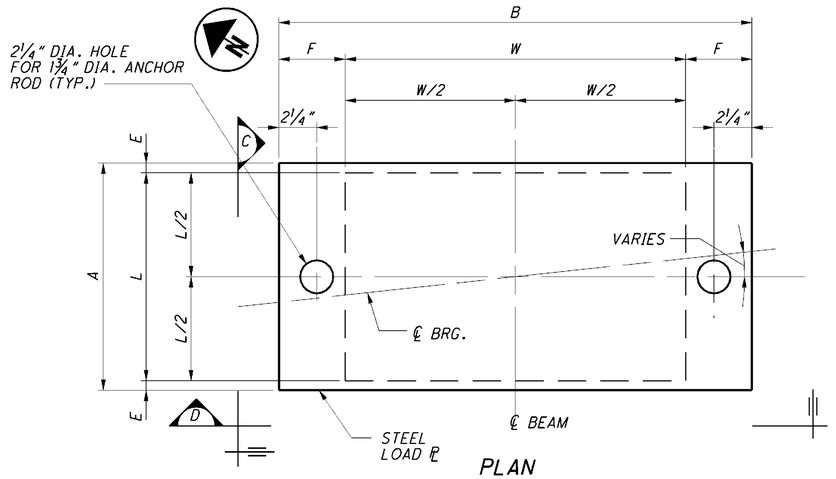




ABUTMENT EXPANSION BEARING DETAIL

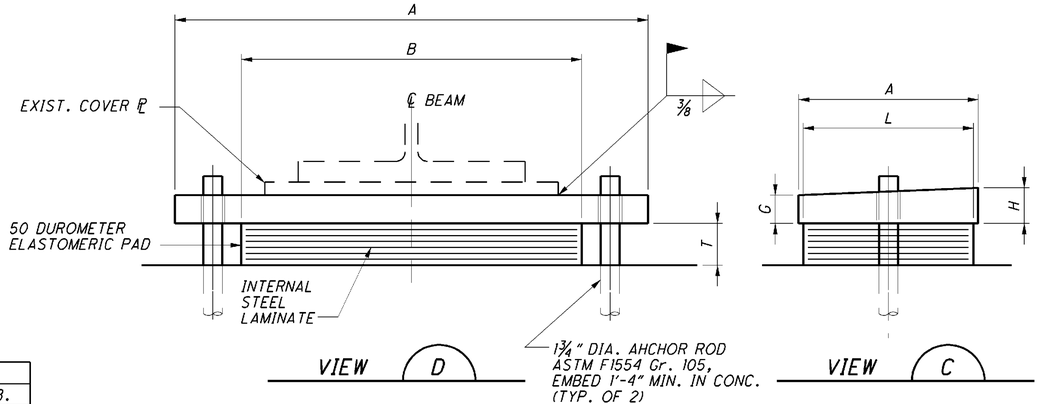
MASONRY ℄ TABLE

LOCATION	THICKNESS	
	W.B.	E.B.
REAR. ABUT.	3"	2"
FRWD. ABUT.	2½"	1½"



PLAN

FIXED BEARING



FIXED BEARING DETAIL

PIER NO. 1

NOTES:

1. 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.
2. WELDING: CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300° F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.
3. BEARING REPOSITIONING: IF STEEL IS ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80° F OR LOWER THAN 40° F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60° F (±) 10° F, THE GIRDERS SHALL BE RAISED TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60° F (±) 10° F.
4. GRADE 50 STEEL LOAD PLATES AND MASONRY PLATES SHALL BE USED FOR ALL BEARINGS. THE LOAD PLATE AND MASONRY PLATE SHALL BE VULCANIZED BONDED TO THE LAMINATED ELASTOMERIC PAD DURING THE MOLDING PROCESS.
5. ANCHOR RODS SHALL BE GALVANIZED AS PER CMS 711.02. ANCHOR RODS SHALL EXTEND 1 INCH ABOVE THE LOAD OR MASONRY PLATE.
6. BASIS OF PAYMENT: THE UNIT PRICE BID SHALL INCLUDE ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL THE LAMINATED ELASTOMERIC BEARINGS, STEEL LOAD PLATES AND MASONRY PLATES. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516 - ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.

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DESIGNED GTP | DRAWN GTP | REVIEWED GGN | DATE 9-26-08
CHECKED RHC | REVISED | STRUCTURE FILE NUMBER 5005132

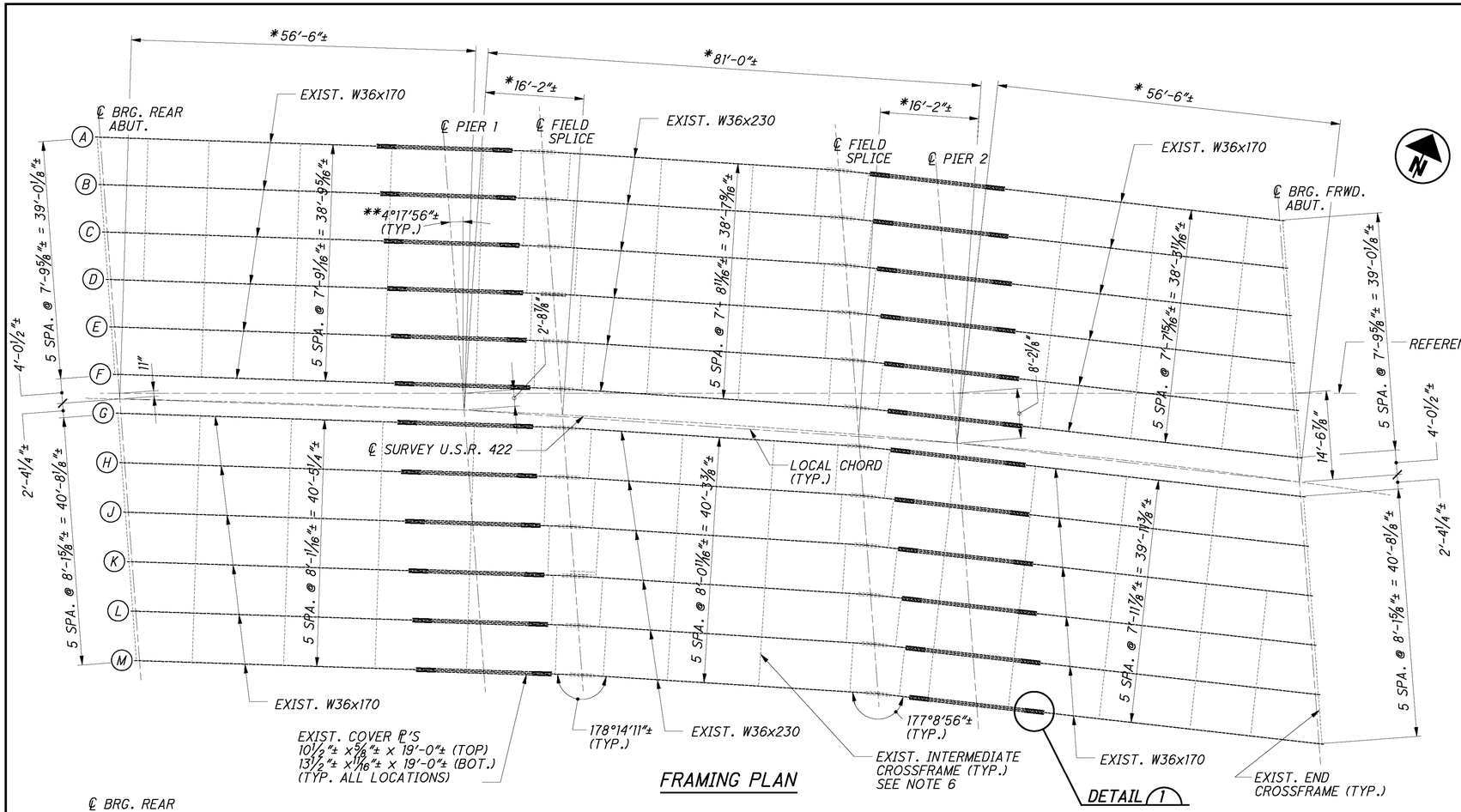
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MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

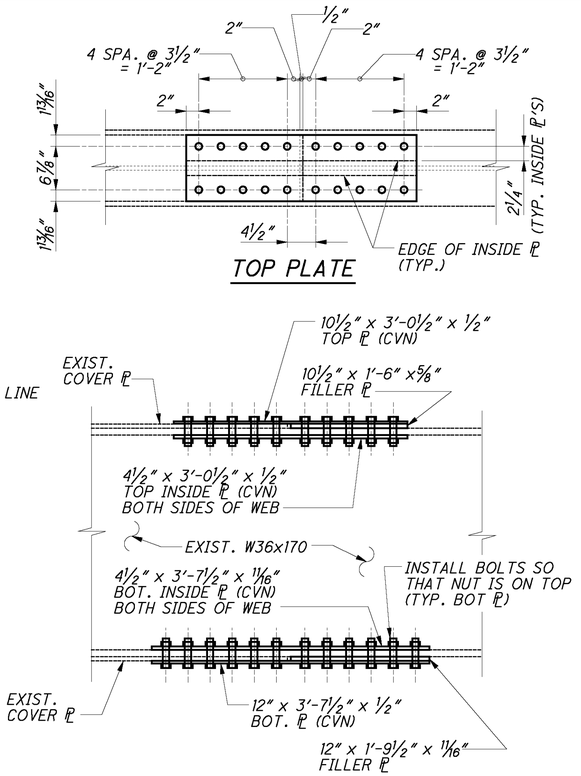
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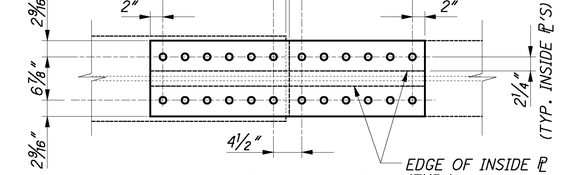
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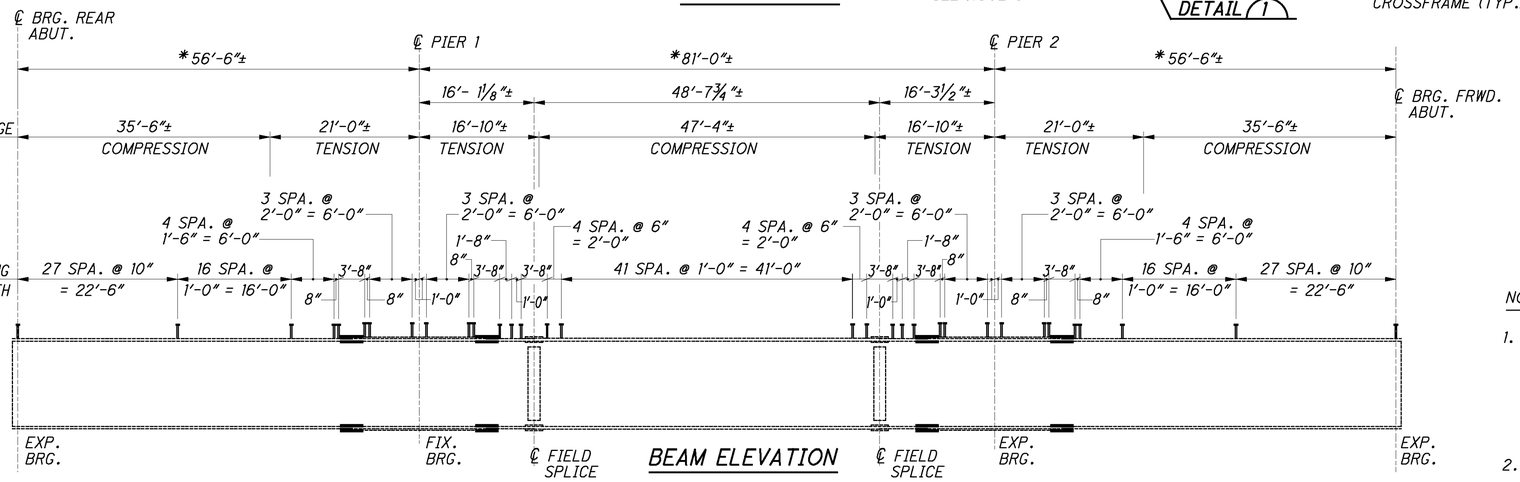
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* MEASURED ALONG LOCAL CHORD

** MEASURED NORMAL TO REFERENCE LINE

NOTES CONT'D

6. THE CONTRACTOR SHALL RELOCATE EXISTING INTERMEDIATE CROSSFRAME ANGLES THAT INTERFERE WITH THE PLACEMENT OF THE INSIDE PLATES AND BOLTS FOR THE PROPOSED MOMENT PLATE RETROFIT. THE CONFLICTING ANGLE(S) SHALL BE CUT LOOSE FROM THE WEB, RELOCATED AND RE-WELDED TO THE WEB, AS DIRECTED BY THE ENGINEER. WELD MATERIAL REMAINING ON THE BEAM FROM THE ORIGINAL ANGLE LOCATION SHALL BE GROUND SMOOTH AND FLUSH WITH THE WEB. 29 CROSSFRAME LOCATIONS HAVE BEEN ESTIMATED AS BEING IN CONFLICT. THE FULL COST OF THIS WORK SHALL BE INCLUDED WITH THE INSTALLATION OF THE PROPOSED MOMENT PLATE RETROFIT UNDER ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 1, AS PER PLAN.

DETAIL 1

COVER PLATE RETROFIT DETAIL

NOTES

1. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASICA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENT 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 5/16" THICK.
2. REMOVE SUPPORTS FOR SCUPPERS ATTACHED BY WELDED CONNECTION TO THE TOP FLANGES OF THE EXISTING BEAMS AND GRIND THE FLANGE AREAS SMOOTH. CAREFULLY GRIND PARALLE TO THE FLANGES.
3. WHERE A PLATE IS DESIGNATED (CVN) ITS MATERIAL SHALL MEET SPECIFIED MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01 OF CMS.
4. ALL FASTENERS SHALL BE 1" DIAMETER, A325 TYPE I BOLTS.
5. ALL BOLT HOLES SHALL BE 1 1/16" DIA.

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DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5005132	

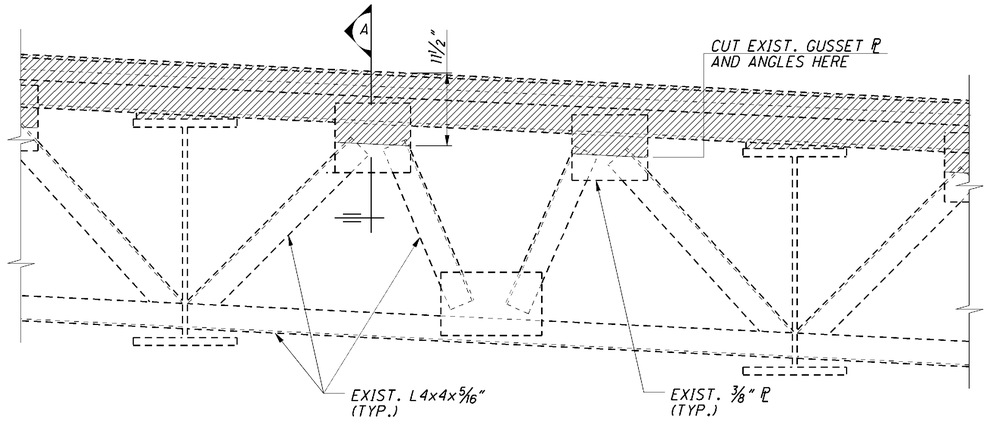
FRAMING PLAN & BEAM DETAILS

BRIDGE NO. MAH-422-0185

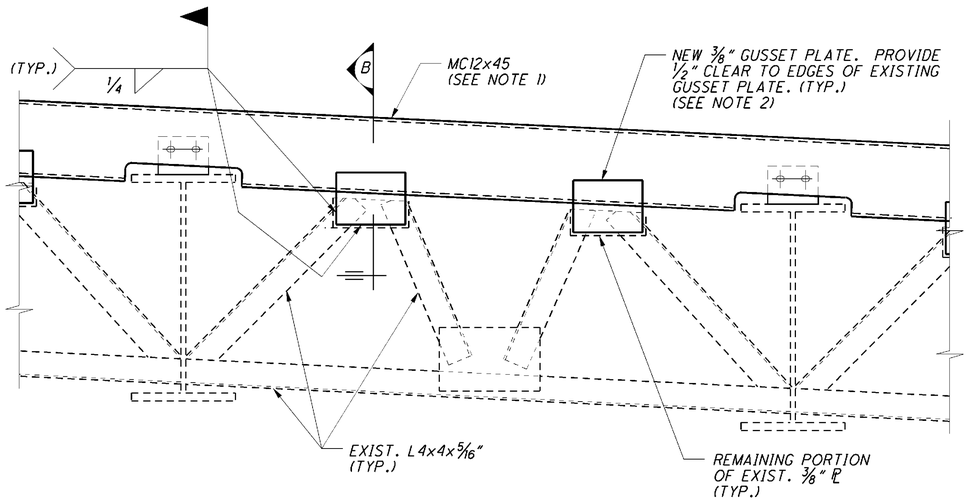
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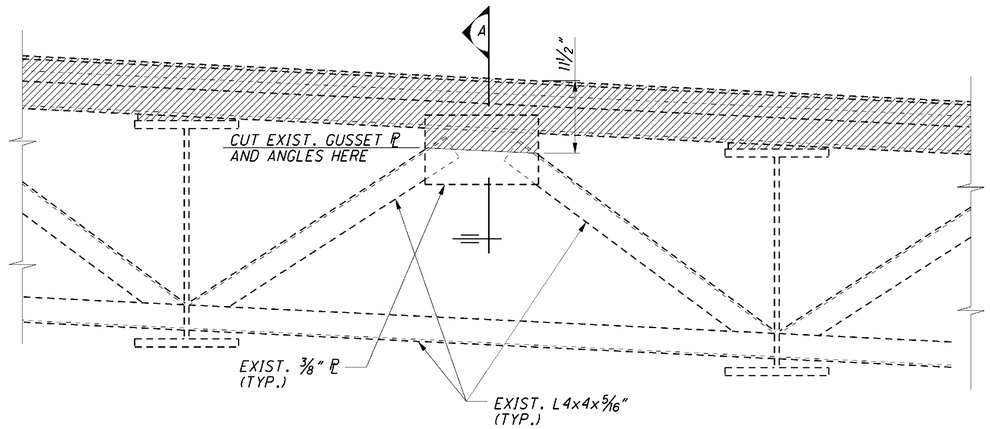
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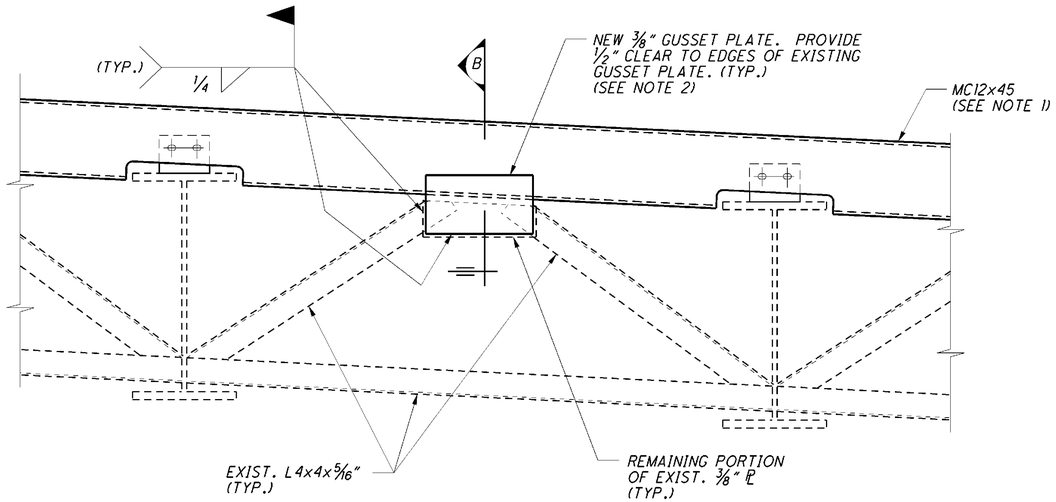
EXPANSION JOINT REMOVAL DETAIL - WESTBOUND



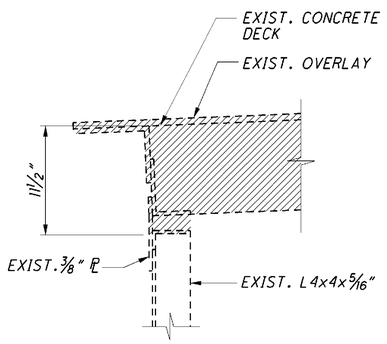
PROPOSED EXPANSION JOINT DETAIL - WESTBOUND



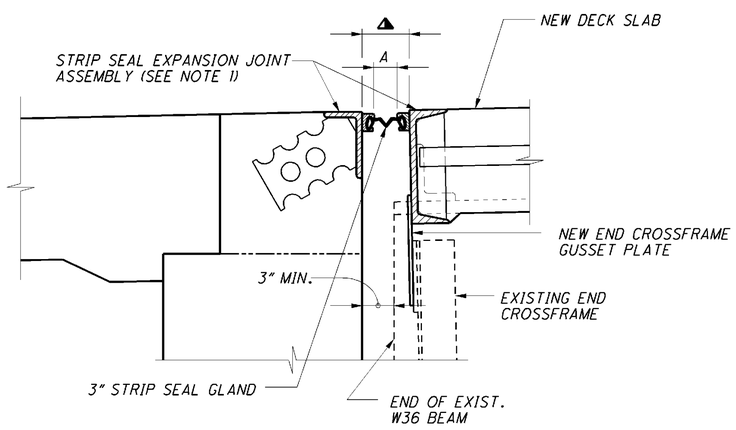
EXPANSION JOINT REMOVAL DETAIL - EASTBOUND



PROPOSED EXPANSION JOINT DETAIL - EASTBOUND



SECTION A



SECTION B

JOINT INSTALLATION TABLE

AMBIENT TEMP. AT JOINT INSTALLATION (F)	DIMENSION "A"	
	REAR ABUT.	FRWD. ABUT.
90°	1 9/16"	1 1/4"
80°	1 5/8"	1 3/8"
70°	1 5/8"	1 1/2"
60°	1 11/16"	1 5/8"
50°	1 3/4"	1 11/16"
40°	1 3/4"	1 13/16"
30°	1 13/16"	1 15/16"

▲ THIS DIMENSION IS 2 x STEEL RETAINER WIDTH PLUS DIMENSION "A"

INDICATES REMOVAL LIMITS

NOTES:

1. FOR EXPANSION JOINT DETAILS NOT SHOWN, SEE STD. DWG. EXJ-4-87.
2. THE COST OF THE NEW GUSSET PLATE AND PARTIAL REMOVAL OF THE EXISTING GUSSET PLATE IS TO BE INCLUDED WITH THE EXPANSION JOINT. INSTALL NEW GUSSET PLATE AS PER STD. DWG. GSD-1-96

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RHC	RHC	GGN	9-26-08
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DJC		5005132	

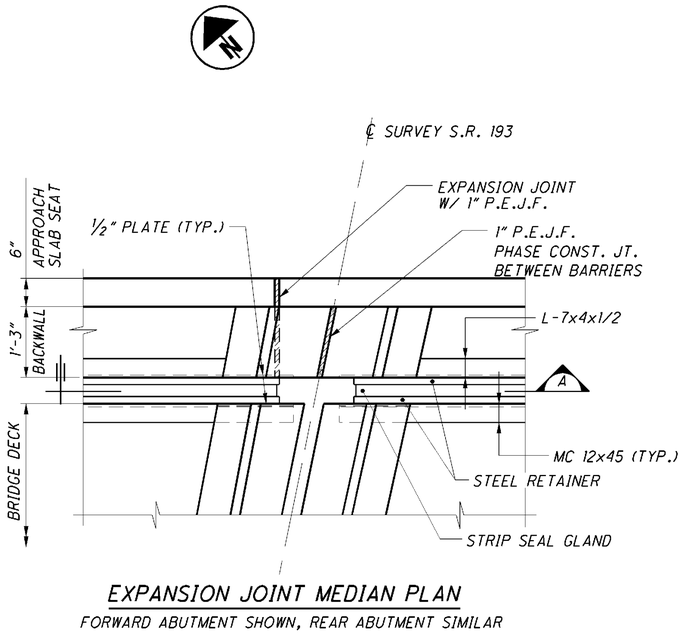
EXPANSION JOINT DETAILS
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

MAH-193/422 -0.46/1.85
PID No. 25235

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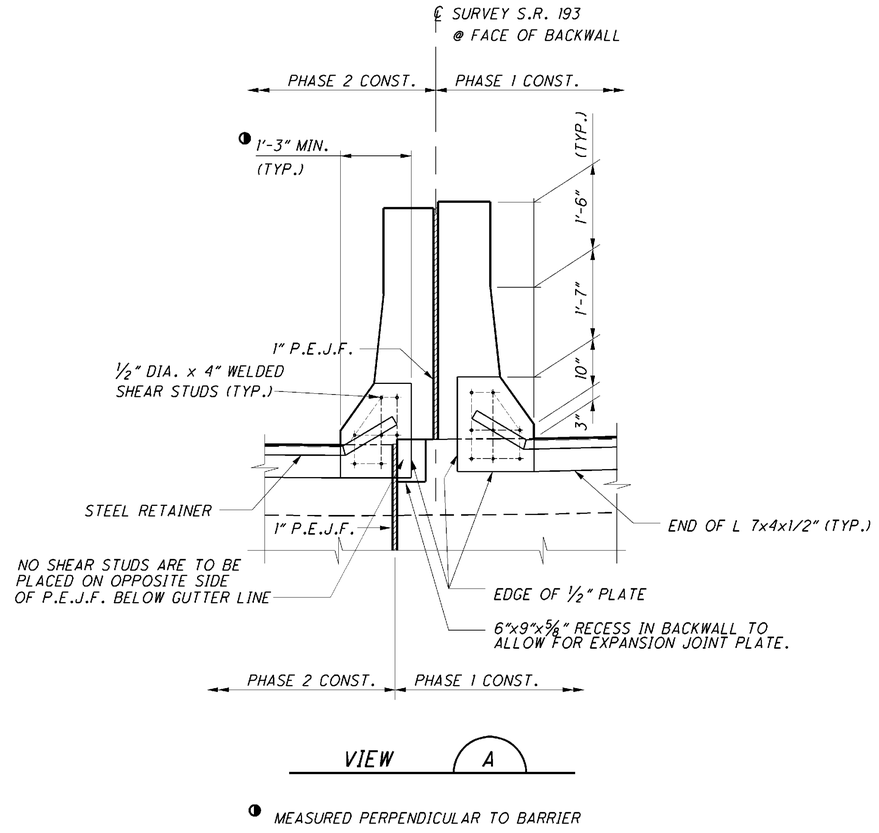
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EXPANSION JOINT MEDIAN PLAN

FORWARD ABUTMENT SHOWN, REAR ABUTMENT SIMILAR



VIEW A

◑ MEASURED PERPENDICULAR TO BARRIER

NOTE:

FOR EXPANSION JOINT DETAILS NOT SHOWN, SEE ODOT STD. DWG. EXJ-4-87.

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DESIGN AGENCY
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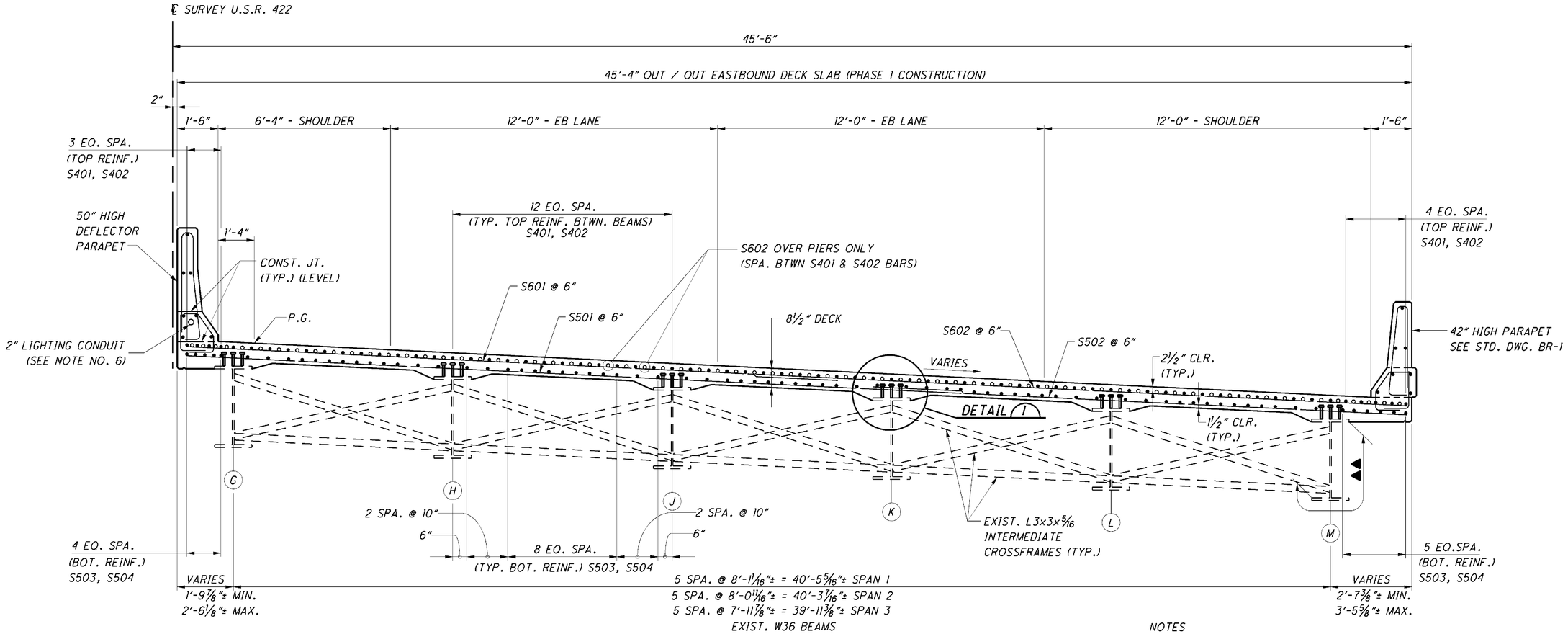
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EXPANSION JOINT DETAILS
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

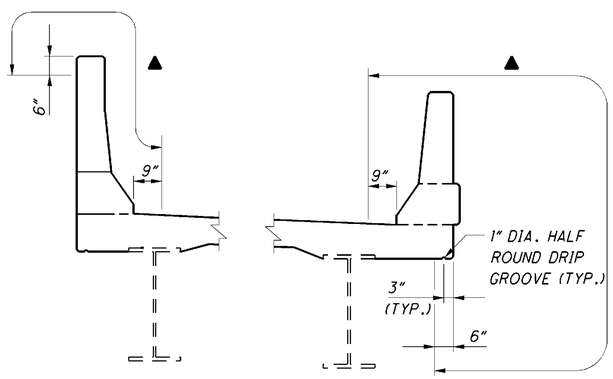
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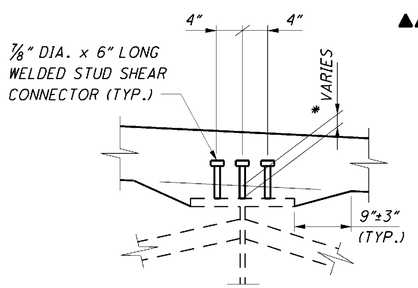


TRANSVERSE SECTION



LIMITS OF SEALING OF CONCRETE SURFACES

▲ LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)



* VARIES (2" MIN.)

DETAIL 1

* THE HAUNCH DEPTHS SHALL BE CALCULATED AS THE DIFFERENCE BETWEEN THE FIELD MEASURED TOP OF BEAMS AND AND THE SCREED ELEVATIONS MINUS THE 8½" DECK THICKNESS.

▲▲ LIMITS OF FASCIA BEAM TO BE PAINTED RED. REMAINDER OF STRUCTURAL STEEL AT EASTBOUND LANES TO BE PAINTED BROWN. SEE STRUCTURAL GENERAL NOTES FOR ADDITIONAL INFORMATION.

MIN. LAP SPLICES:
#6 (TOP TRANSVERSE) = 3'-0"
#5 (BOT. TRANSVERSE) = 3'-3"

NOTES

1. FOR DECK SLAB PLAN, SEE SHT. NO. 25/34 .
2. DECK SLAB 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 GIRDER HAUNCH. THE ESTIMATE ASSUMES AN AVERAGE HAUNCH THICKNESS OF 2.5 INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH GIRDER 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 GIRDER FLANGE IS ±3 INCHES.

   THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF THE EMBEDDED TOP FLANGE HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF THE TEMPORARY BRACING TO PREVENT THE EXTERIOR BEAMS FROM WARPING. INSTALL TEMPORARY BRACES PRIOR TO INSTALLING THE FORMWORK FOR THE OVERHANG DECK POUR. SUBMIT THE DESIGN AND PLAN ACCORDING TO 501.05. INCLUDE THE COST OF TEMPORARY BRACING WITH ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL 1, FOR PAYMENT.
4. FOR PARAPET & REINFORCING DETAILS, SEE SHEET NO. 26/34 .
5. FOR SUPERELEVATION TRANSITION DIAGRAM, SEE SHEET NO. 29/34 .
6. TRANSITION THE LIGHTING CONDUIT LOCATION TO MEET THE LOCATION OF THE TRANSITION JUNCTION BOX ON THE APPROACH SLAB BARRIER. LIGHTING CONDUIT IS INCLUDED FOR PAYMENT WITH THE LIGHTING PAY ITEMS. FOR LIGHTING PLANS SEE SHEETS 140 - 147 .

DESIGN AGENCY
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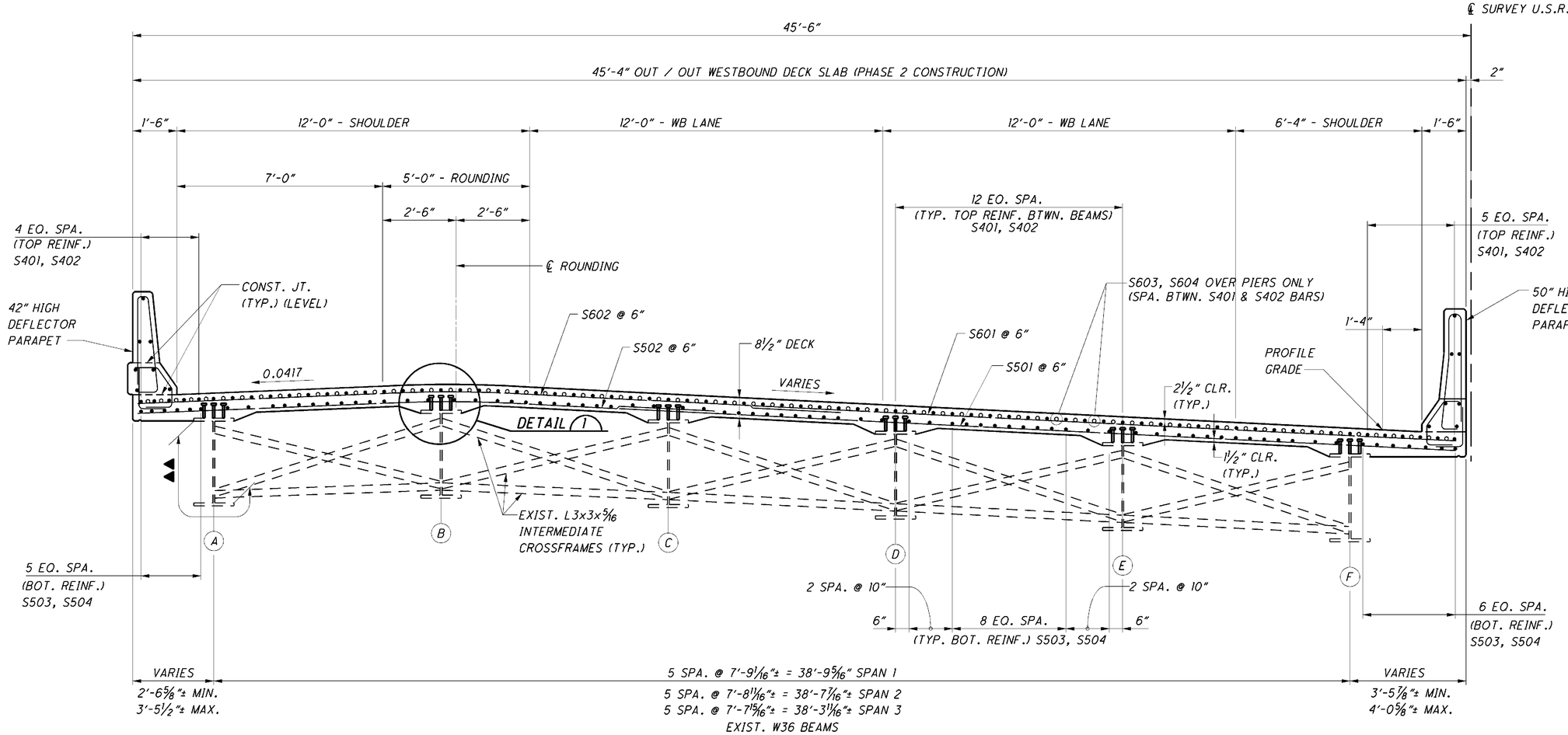
TRANSVERSE SECTION - EASTBOUND (PHASE 1)
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

MAH-193/422
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TRANSVERSE SECTION

MIN. LAP SPLICES:
#6 (TOP TRANSVERSE) = 3'-0"
#5 (BOT. TRANSVERSE) = 3'-3"

▲▲ LIMITS OF FASCIA BEAM TO BE PAINTED RED. REMAINDER OF STRUCTURAL STEEL AT WESTBOUND LANES TO BE PAINTED BROWN. SEE STRUCTURAL GENERAL NOTES FOR ADDITIONAL INFORMATION.

NOTE:

FOR ADDITIONAL NOTES AND DETAILS, SEE SHT. NO. 23/34.

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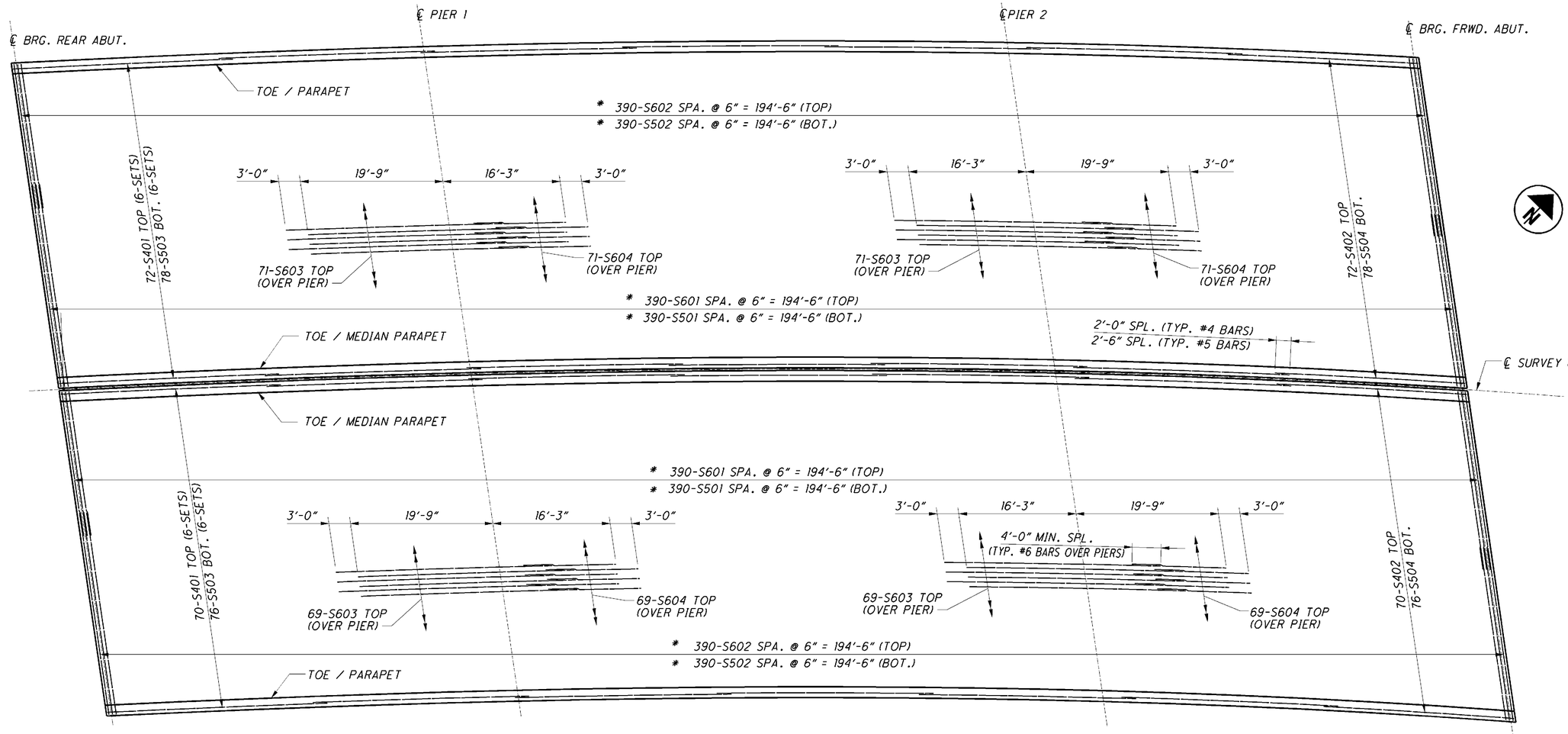
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BRIDGE NO. MAH-422-0185
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PLAN

BOTH WESTBOUND AND EASTBOUND DECKS SHOWN

LEGEND:

* SPACED ALONG CHORD BETWEEN ABUTMENT BEARINGS @ ℄ SURVEY

NOTES:

1. FOR W.B. & E.B. TRANSVERSE SECTIONS, SEE SHT. NOS. 23/34 & 24/34 .
2. FOR PARAPET DETAILS, SEE SHT. NO. 26/34 .
3. FOR SCREED ELEVATIONS, SEE SHT. NO. 27/34 .
4. FOR EXPANSION JOINT DETAILS, SEE SHT. NO. 22/34 .

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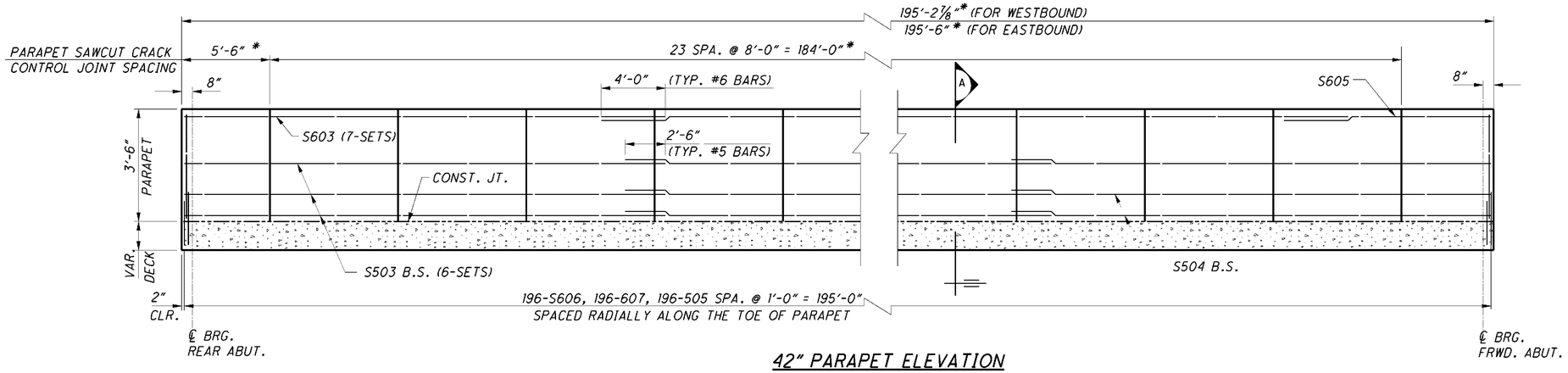
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DECK SLAB PLAN
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FED

MAH-193/422
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PID No. 25235

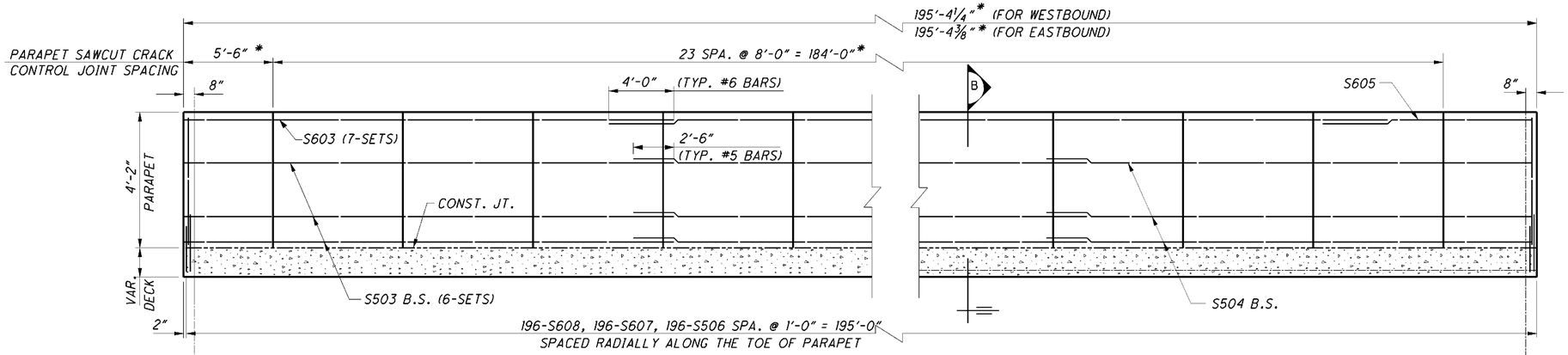
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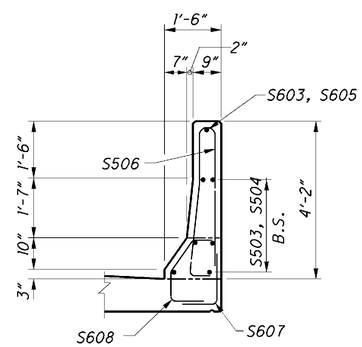
42" PARAPET ELEVATION

(WESTBOUND PARAPET SHOWN. EASTBOUND SIMILAR)



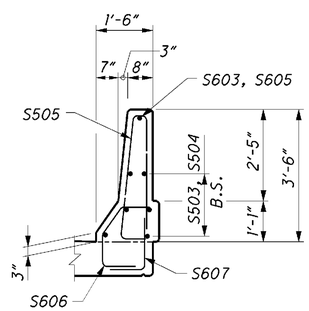
50" DEFLECTOR PARAPET ELEVATION

(WESTBOUND PARAPET SHOWN. EASTBOUND SIMILAR)



SECTION B

(DECK SLAB REINFORCING NOT SHOWN FOR CLARITY)



SECTION A

(DECK SLAB REINFORCING NOT SHOWN FOR CLARITY)

* MEASURED ALONG THE TOE OF PARAPET

NOTE:

FOR PARAPET DETAILS NOT SHOWN, SEE STD. DWG. BR-1.

\\VKRNB1\DATA\CIVIL\20070[3\MAH-25235\STRUCTURES\MAH422.0185C\SHEETS\422.0185CSD001.DGN
3/19/2009
11:34:18 PM
GUICITZKY

DESIGN AGENCY
CLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
GPD ASSOCIATES
320 South Main Street, Suite 251 | Akron, Ohio 44311
330-572-2100 | Fax 330-572-2101

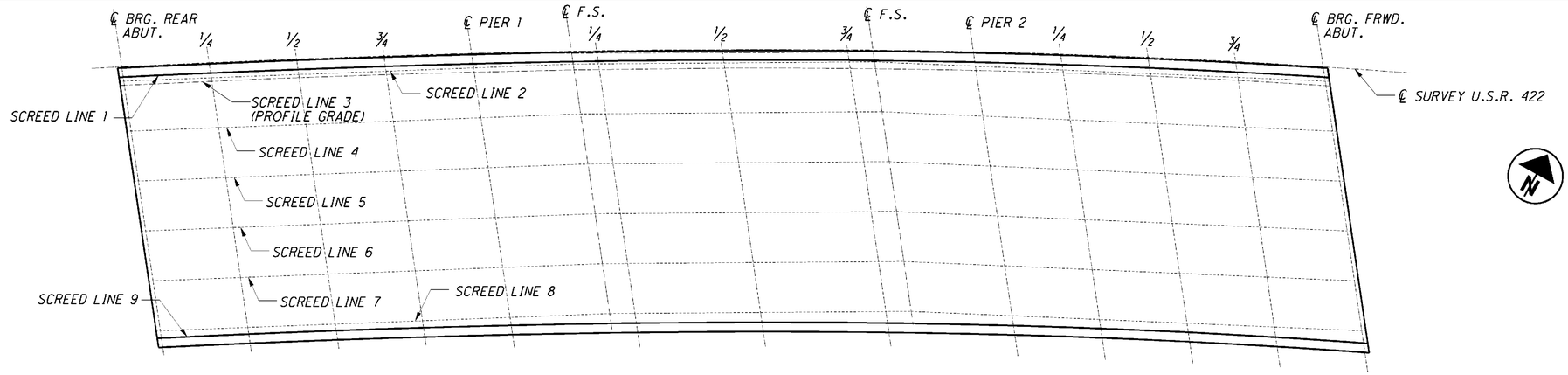
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GTP	GTP	GGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5005132	

PARAPET DETAILS
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

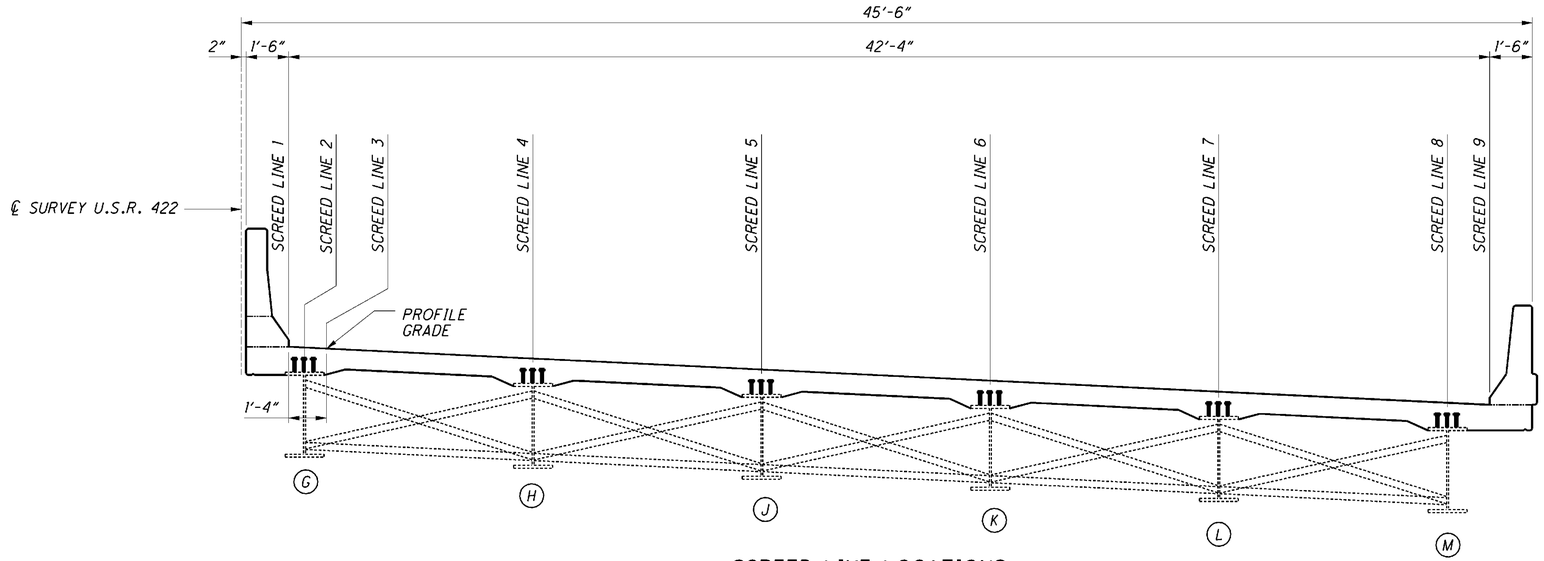
MAH-193/422
-0.46/1.85
PID No. 25235

26 / 34

240
260



PLAN - SCREED LINE LOCATIONS



SCREED LINE LOCATIONS

LOCATION	SCREED LINE 1		SCREED LINE 2		SCREED LINE 3		SCREED LINE 4		SCREED LINE 5		SCREED LINE 6		SCREED LINE 7		SCREED LINE 8		SCREED LINE 9	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BRG. R.A.	40+51.29	939.08	40+51.37	939.06	40+51.42	939.05	40+52.15	938.83	40+52.94	938.60	40+53.73	938.37	40+54.54	938.13	40+55.33	937.89	40+55.45	937.86
1/4 SPAN 1	40+65.42	939.48	40+65.50	939.45	40+65.55	939.44	40+66.32	939.21	40+67.16	938.95	40+67.99	938.70	40+68.84	938.43	40+69.68	938.17	40+69.80	938.14
1/2 SPAN 1	40+79.54	939.85	40+79.64	939.82	40+79.69	939.81	40+80.51	939.55	40+81.39	939.27	40+82.27	939.00	40+83.17	938.71	40+84.05	938.43	40+84.18	938.39
3/4 SPAN 1	40+93.68	940.19	40+93.77	940.16	40+93.84	940.14	40+94.69	939.87	40+95.63	939.57	40+96.56	939.27	40+97.51	938.97	40+98.45	938.66	40+98.59	938.62
℄ BRG. PIER 1	41+07.83	940.52	41+07.91	940.50	41+07.99	940.47	41+08.88	940.18	41+09.87	939.86	41+10.86	939.54	41+11.86	939.22	41+12.87	938.89	41+13.03	938.83
F.S. 1	41+23.97	940.91	41+24.02	940.89	41+24.14	940.85	41+25.07	940.55	41+26.12	940.21	41+27.18	939.86	41+28.24	939.51	41+29.33	939.16	41+29.54	939.09
1/4 SPAN 2	41+28.06	941.00	41+28.11	940.98	41+28.23	940.95	41+29.18	940.64	41+30.24	940.29	41+31.32	939.94	41+32.41	939.58	41+33.51	939.22	41+33.72	939.15
1/2 SPAN 2	41+48.31	941.44	41+48.38	941.42	41+48.50	941.38	41+49.54	941.05	41+50.70	940.67	41+51.87	940.29	41+53.05	939.90	41+54.26	939.51	41+54.49	939.43
3/4 SPAN 2	41+68.59	941.82	41+68.66	941.80	41+68.80	941.75	41+69.91	941.40	41+71.17	940.99	41+72.45	940.57	41+73.74	940.16	41+75.05	939.73	41+75.35	939.63
F.S. 1	41+72.70	941.89	41+72.75	941.87	41+72.91	941.82	41+74.02	941.47	41+75.31	941.05	41+76.61	940.63	41+77.91	940.20	41+79.25	939.77	41+79.58	939.67
℄ BRG. PIER 2	41+88.93	942.16	41+89.04	942.12	41+89.15	942.09	41+90.41	941.68	41+91.78	941.24	41+93.18	940.79	41+94.59	940.34	41+96.02	939.89	41+96.31	939.79
1/4 SPAN 3	42+03.03	942.40	42+03.19	942.34	42+03.27	942.32	42+04.64	941.88	42+06.10	941.42	42+07.58	940.95	42+09.08	940.48	42+10.60	940.00	42+10.88	939.91
1/2 SPAN 3	42+17.15	942.63	42+17.34	942.57	42+17.41	942.55	42+18.88	942.08	42+20.43	941.60	42+22.00	941.11	42+23.60	940.61	42+25.20	940.11	42+25.50	940.02
3/4 SPAN 3	42+31.31	942.83	42+31.49	942.77	42+31.58	942.74	42+33.12	942.27	42+34.76	941.76	42+36.42	941.25	42+38.13	940.73	42+39.83	940.21	42+40.18	940.10
℄ BRG. F.A.	42+45.50	943.00	42+45.64	942.95	42+45.78	942.91	42+47.36	942.43	42+49.11	941.90	42+50.86	941.37	42+52.68	940.82	42+54.47	940.28	42+54.93	940.15

NOTE:

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

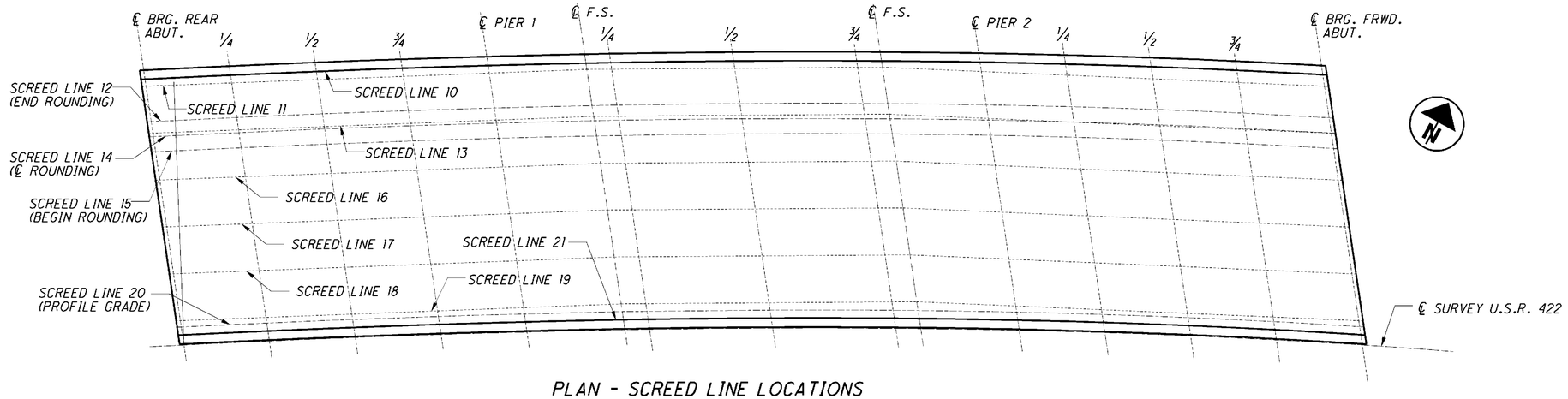
DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
320 South Main Street, Suite 251, Akron, Ohio 44311
330.972.2100, Fax 330.972.2101

DESIGNED	DRAWN	REVIEWED	DATE
TJW	RHC	GGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5005132	

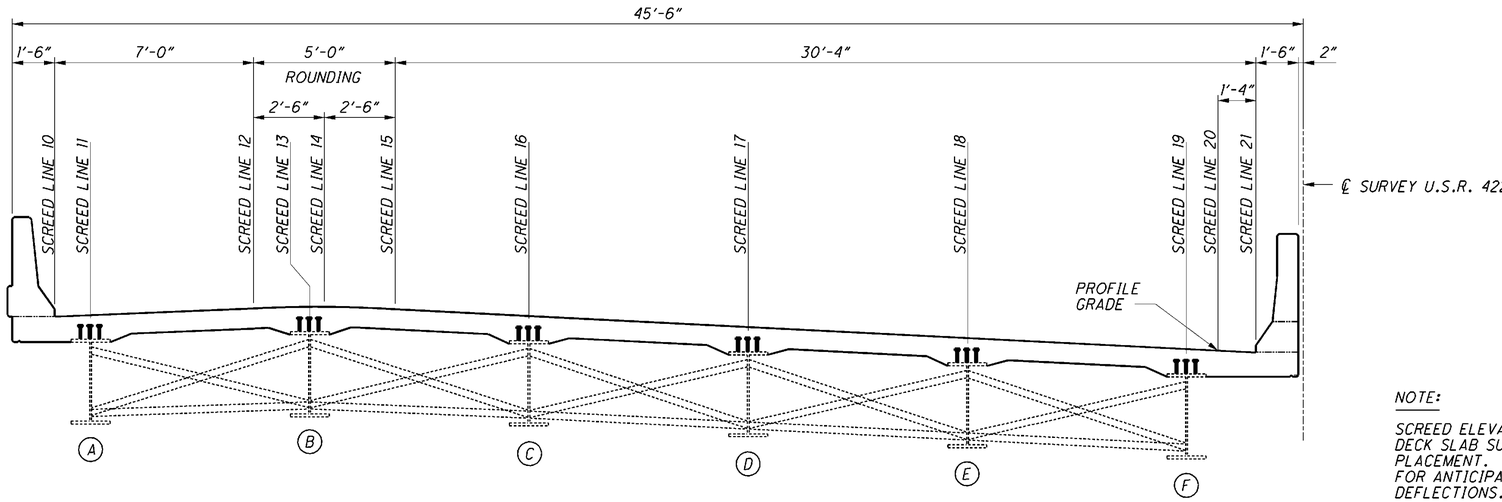
SCREED ELEVATIONS - EASTBOUND (PHASE 1)
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

MAH-193/422
-0.46/1.85
PID No. 25235

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PLAN - SCREED LINE LOCATIONS



NOTE:

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

SCREED LINE LOCATIONS

LOCATION	SCREED LINE 10		SCREED LINE 11		SCREED LINE 12		SCREED LINE 13		SCREED LINE 14		SCREED LINE 15		SCREED LINE 16		SCREED LINE 17		SCREED LINE 18		SCREED LINE 19		SCREED LINE 20		SCREED LINE 21	
	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.	STATION	ELEV.
℄ BRG. R.A.	40+46.94	939.72	40+47.05	939.77	40+47.60	940.04	40+47.78	940.09	40+47.83	940.10	40+48.07	940.07	40+48.52	939.93	40+49.25	939.69	40+50.00	939.44	40+50.74	939.20	40+50.84	939.16	40+50.97	939.12
1/4 SPAN 1	40+60.84	940.21	40+60.97	940.27	40+61.53	940.52	40+61.74	940.58	40+61.78	940.57	40+62.03	940.55	40+62.51	940.39	40+63.28	940.12	40+64.06	939.86	40+64.84	939.59	40+64.94	939.56	40+65.08	939.51
1/2 SPAN 1	40+74.73	940.66	40+74.87	940.73	40+75.45	940.98	40+75.68	941.04	40+75.71	941.04	40+75.97	941.00	40+76.49	940.82	40+77.30	940.53	40+78.13	940.24	40+78.95	939.96	40+79.04	939.92	40+79.19	939.87
3/4 SPAN 1	40+88.60	941.09	40+88.75	941.15	40+89.37	941.40	40+89.60	941.46	40+89.64	941.45	40+89.92	941.42	40+90.46	941.22	40+91.31	940.92	40+92.18	940.61	40+93.05	940.30	40+93.15	940.26	40+93.31	940.20
℄ BRG. PIER 1	41+02.46	941.49	41+02.61	941.55	41+03.27	941.81	41+03.51	941.86	41+03.56	941.87	41+03.85	941.81	41+04.41	941.61	41+05.31	941.29	41+06.23	940.96	41+07.15	940.63	41+07.27	940.59	41+07.43	940.53
F.S. 1	41+18.24	941.96	41+18.37	942.01	41+19.10	942.28	41+19.33	942.33	41+19.41	942.33	41+19.72	942.28	41+20.29	942.07	41+21.26	941.73	41+22.23	941.38	41+23.21	941.03	41+23.37	940.97	41+23.54	940.91
1/4 SPAN 2	41+22.22	942.07	41+22.37	942.13	41+23.10	942.39	41+23.34	942.44	41+23.42	942.45	41+23.73	942.39	41+24.32	942.18	41+25.30	941.83	41+26.29	941.48	41+27.29	941.12	41+27.45	941.07	41+27.62	941.01
1/2 SPAN 2	41+41.97	942.62	41+42.14	942.67	41+42.92	942.94	41+43.19	942.99	41+43.26	942.99	41+43.60	942.93	41+44.25	942.70	41+45.32	942.32	41+46.40	941.94	41+47.48	941.57	41+47.64	941.51	41+47.83	941.44
3/4 SPAN 2	41+61.71	943.09	41+61.87	943.14	41+62.74	943.41	41+63.01	943.46	41+63.11	943.47	41+63.48	943.40	41+64.16	943.16	41+65.32	942.76	41+66.49	942.35	41+67.67	941.94	41+67.87	941.87	41+68.08	941.80
F.S. 1	41+65.69	943.18	41+65.85	943.23	41+66.74	943.50	41+67.01	943.55	41+67.12	943.55	41+67.49	943.48	41+68.18	943.25	41+69.35	942.84	41+70.54	942.43	41+71.74	942.02	41+71.96	941.94	41+72.17	941.87
℄ BRG. PIER 2	41+81.44	943.53	41+81.69	943.60	41+82.55	943.85	41+82.93	943.90	41+82.96	943.90	41+83.36	943.82	41+84.17	943.55	41+85.42	943.12	41+86.69	942.69	41+87.97	942.25	41+88.14	942.20	41+88.36	942.12
1/4 SPAN 3	41+95.09	943.84	41+95.41	943.93	41+96.27	944.16	41+96.71	944.20	41+96.70	944.21	41+97.13	944.13	41+98.02	943.82	41+99.35	943.38	42+00.70	942.93	42+02.01	942.49	42+02.19	942.43	42+02.43	942.35
1/2 SPAN 3	42+08.75	944.14	42+09.11	944.24	42+10.00	944.46	42+10.49	944.50	42+10.45	944.51	42+10.90	944.42	42+11.87	944.10	42+13.28	943.63	42+14.70	943.17	42+16.14	942.69	42+16.27	942.65	42+16.52	942.57
3/4 SPAN 3	42+22.41	944.42	42+22.79	944.51	42+23.73	944.73	42+24.25	944.78	42+24.21	944.78	42+24.68	944.69	42+25.71	944.36	42+27.19	943.87	42+28.70	943.39	42+30.22	942.90	42+30.37	942.85	42+30.64	942.77
℄ BRG. F.A.	42+36.07	944.66	42+36.46	944.75	42+37.48	944.98	42+37.99	945.02	42+37.97	945.02	42+38.48	944.93	42+39.53	944.60	42+41.10	944.10	42+42.69	943.59	42+44.29	943.08	42+44.50	943.02	42+44.79	942.93

DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
330 South Main Street, Suite 251, Akron, Ohio 44311
330-972-2100, Fax 330-972-2101

DESIGNED	DRAWN	REVIEWED	DATE
TJW	RHC	GGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5005132	

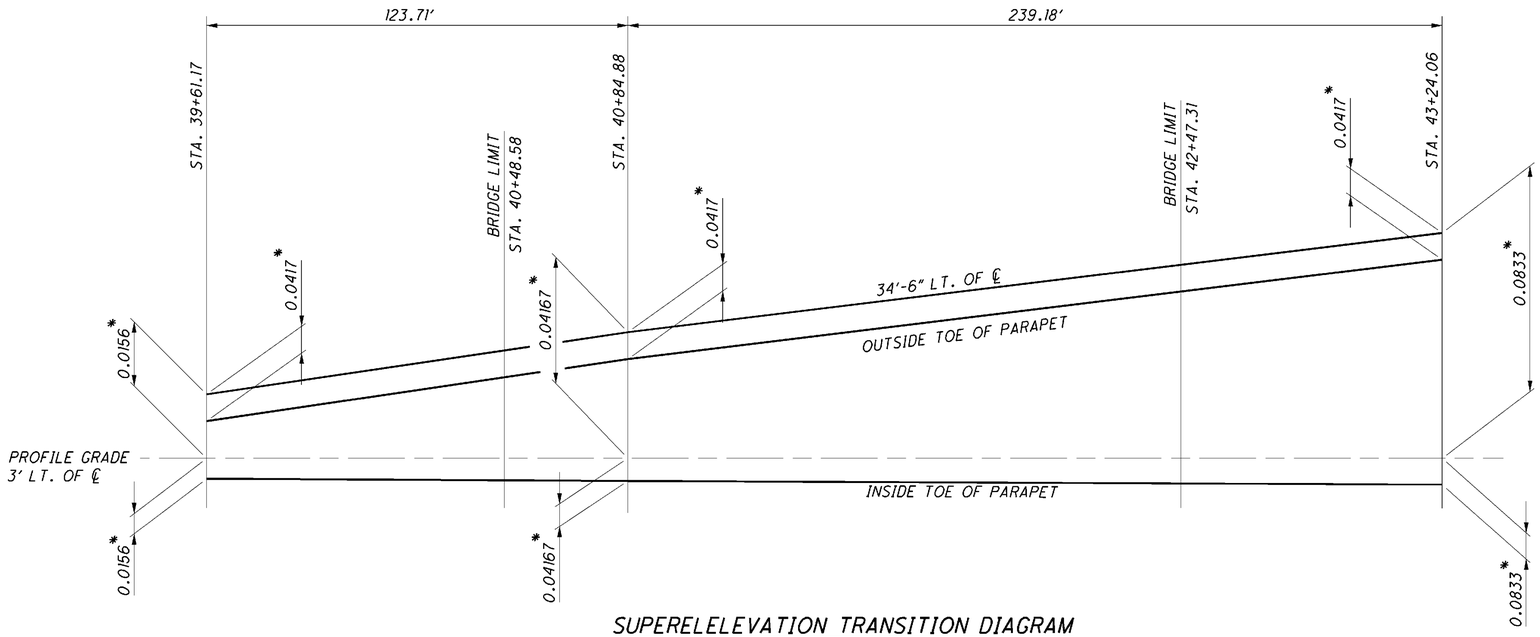
SCREED ELEVATIONS - WESTBOUND (PHASE 2)
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

MAH-193/422
-0.46/1.85
PID No. 25235

28/34

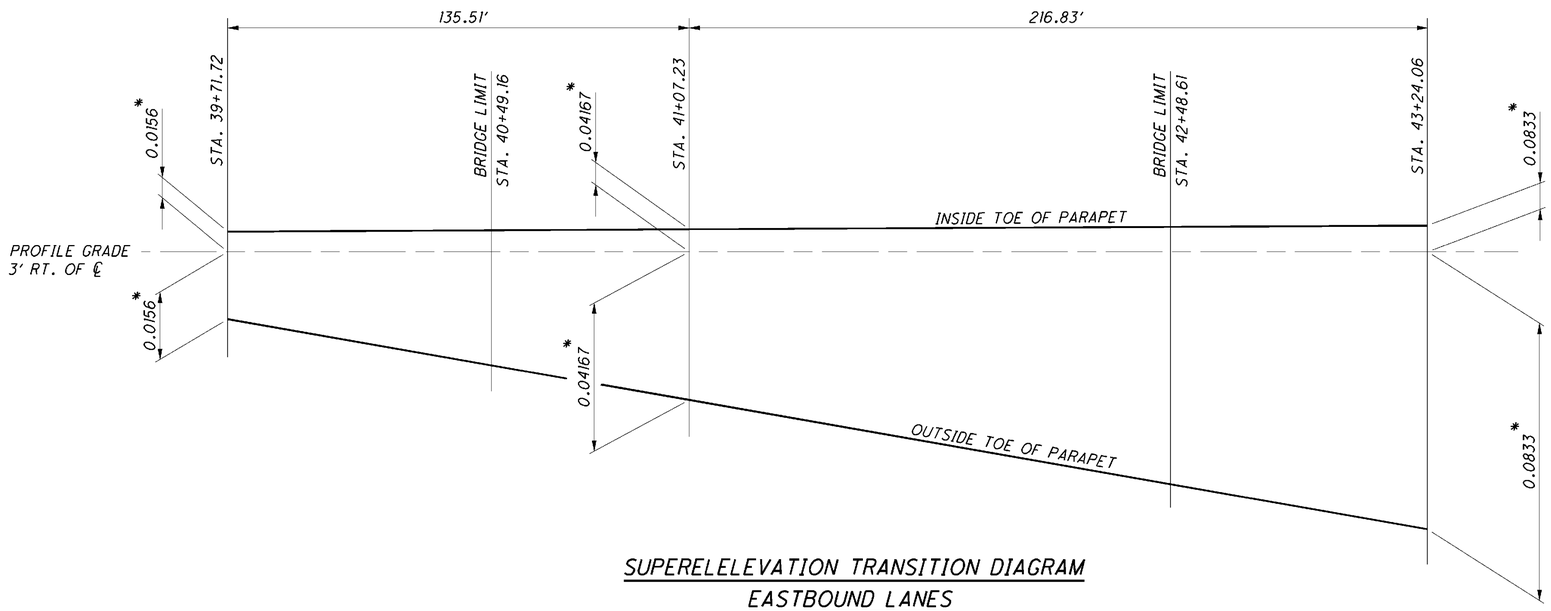
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* INDICATES CROSS-SLOPES

SUPERELELEVATION TRANSITION DIAGRAM
WESTBOUND LANES



SUPERELELEVATION TRANSITION DIAGRAM
EASTBOUND LANES

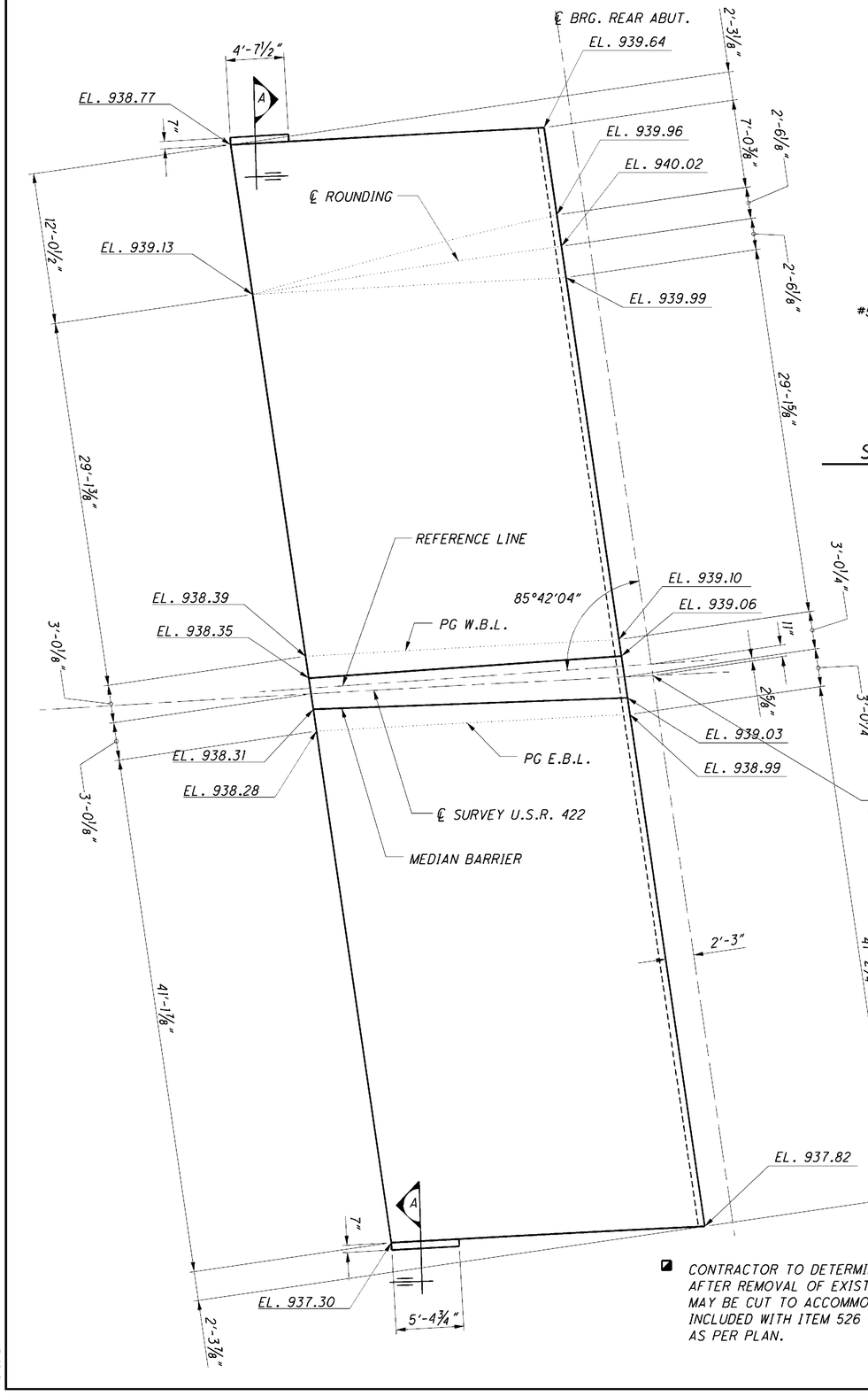
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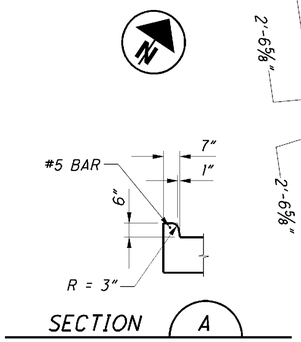
DESIGN AGENCY
CLAUS PYLE SCHENDER BURGIS & DEHAVEN INC.
GPD ASSOCIATES
330 South Main Street, Suite 251 | Akron, Ohio 44311
330-972-2100 | Fax 330-572-2101

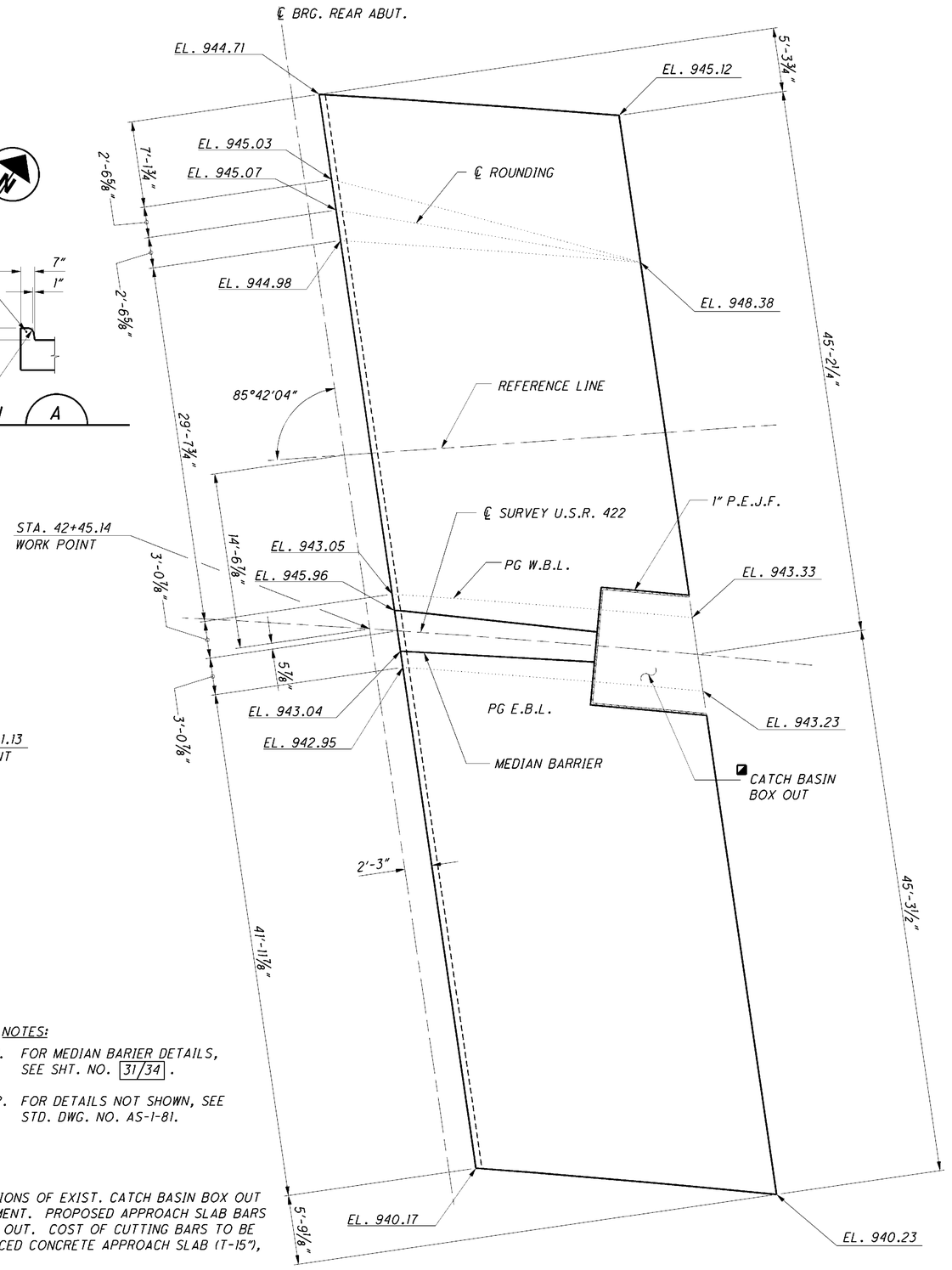
DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	GCN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RHC		5005132	

SUPERELEVATION TRANSITION DIAGRAMS
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FED

MAH-193/422
-0.46/1.85
PID No. 25235







NOTES:

1. FOR MEDIAN BARIER DETAILS, SEE SHT. NO. 31/34 .
2. FOR DETAILS NOT SHOWN, SEE STD. DWG. NO. AS-1-81.

◪ CONTRACTOR TO DETERMINE DIMENSIONS OF EXIST. CATCH BASIN BOX OUT AFTER REMOVAL OF EXISTING PAVEMENT. PROPOSED APPROACH SLAB BARS MAY BE CUT TO ACCOMMODATE BOX OUT. COST OF CUTTING BARS TO BE INCLUDED WITH ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T-15"), AS PER PLAN.

\\WKRN01\DATA\CIVIL\2007013\MAH\25235\STRUCTURES\MAH422_0185\SHEETS\422_0185CHD002.DGN
3/19/2009
1:30:32 PM
HADICITZKY

DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
330 South Main Street, Suite 251, Akron, Ohio 44311
330-572-2100, Fax 330-572-2101

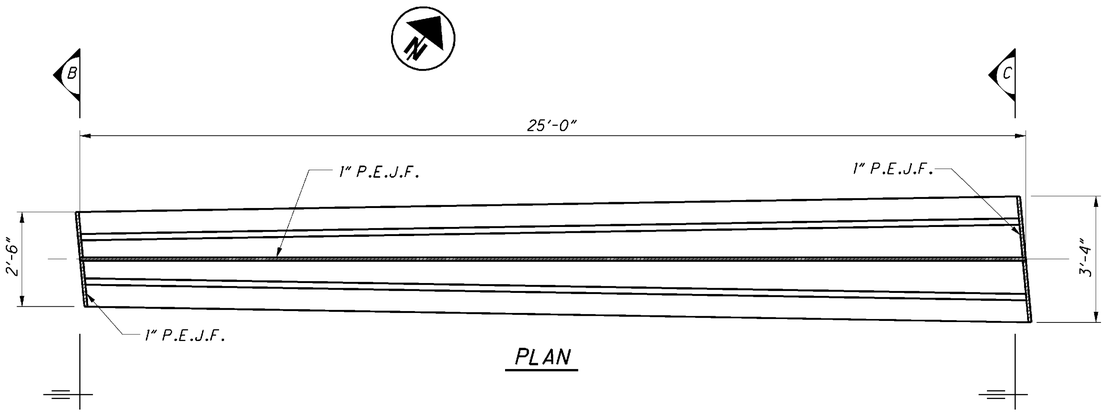
DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	GGN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		5005132	

APPROACH SLAB DETAILS
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

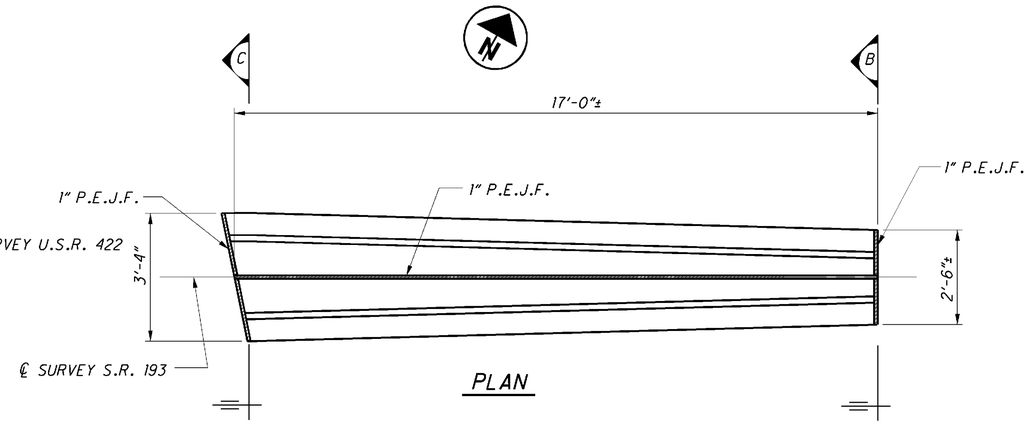
MAH-193/422
-0.46/1.85
PID No. 25235

30 / 34

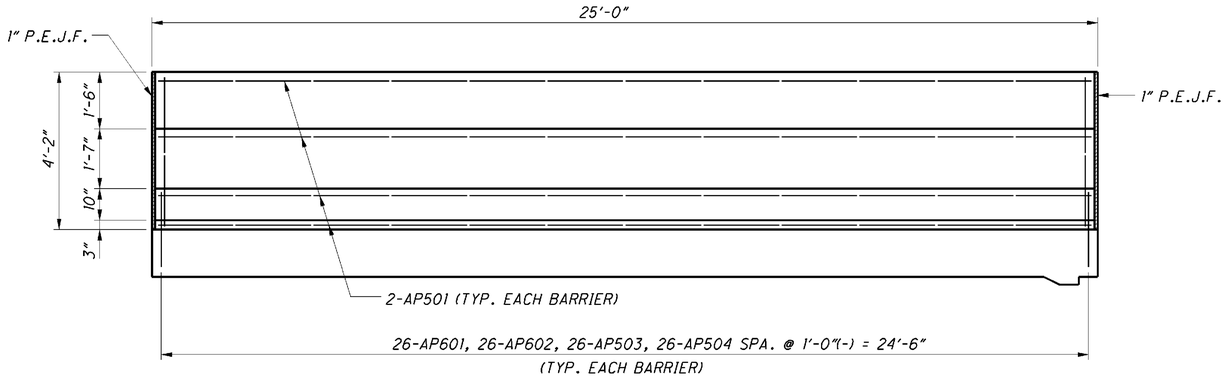
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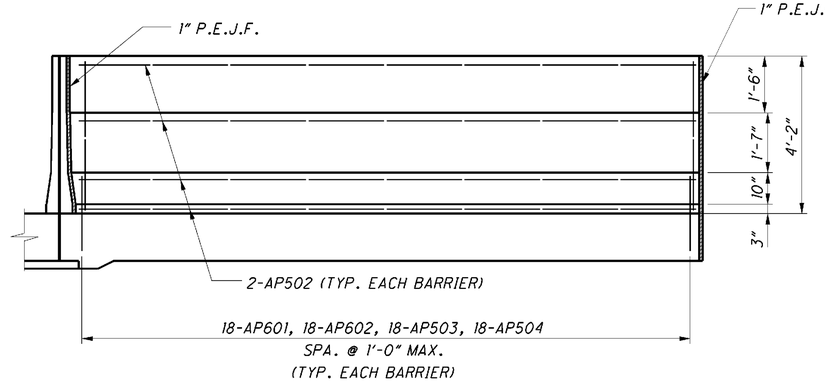
PLAN



PLAN



ELEVATION



ELEVATION

NOTES:

1. FOR SECTIONS B & C, SEE SHT. NO. 32/34 .

2 MEDIAN BARRIER MOUNTED TO APPROACH SLABS, INCLUDING ALL REINFORCING STEEL, SHALL BE INCLUDED FOR PAYMENT WITH ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN.

DESIGN AGENCY
CLAUS PYLE SCHERMER BURNS & DEHAVEN INC.
GPD ASSOCIATES
320 South Main Street, Suite 2531 Akron, Ohio 44311
330-972-2100, Fax 330-972-2101

DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	GCN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		5005132	

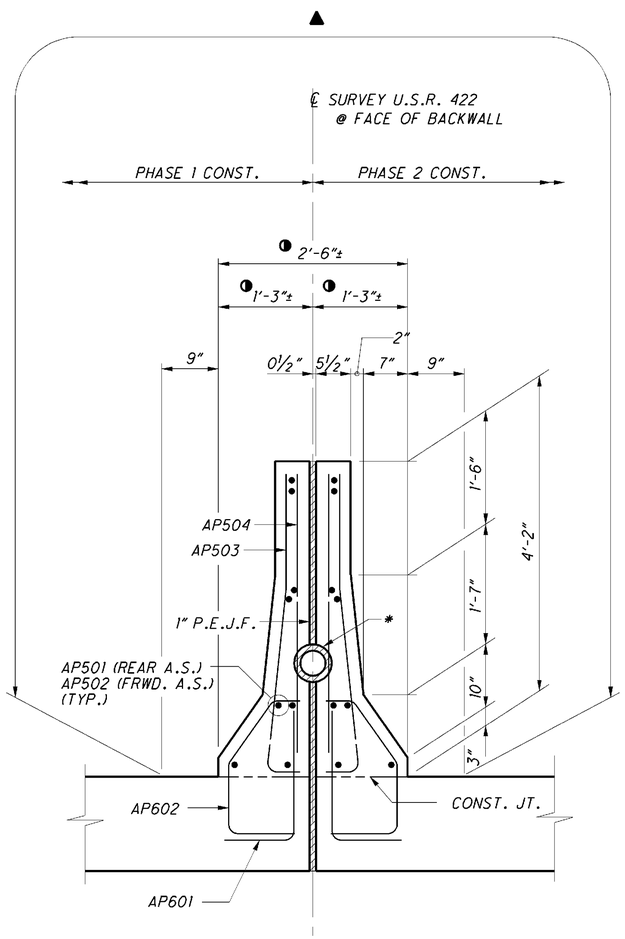
APPROACH SLAB DETAILS
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

MAH-193/422
-0.46/1.85
PID No. 25235

31 / 34

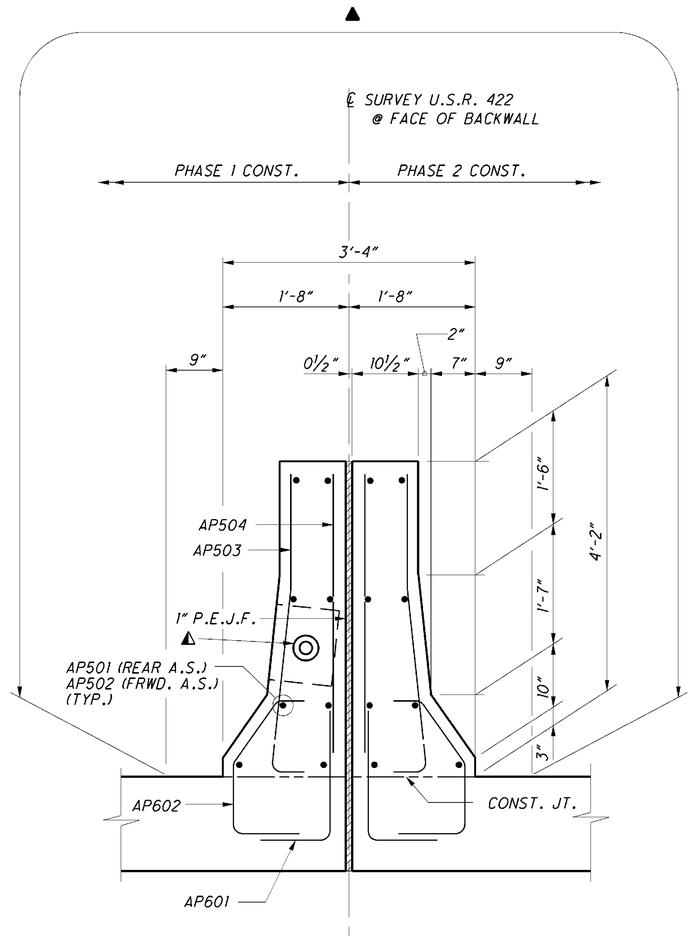
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SECTION B

ALL CALLOUTS AND DIMESIONS ARE SYMMETRICAL ABOUT ℄



SECTION C

ALL CALLOUTS AND DIMESIONS ARE SYMMETRICAL ABOUT ℄

* 4" RACEWAY WITHIN PROPOSED APPROACH SLAB BARRIER MATCHING EXISTING MEDIAN BARRIER RACEWAY. WRAP 4" PVC RACEWAY CONDUIT WITH 1" SPONGE RUBBER EXPANSION MATERIAL WHEN ANY PORTION OF THE 4" CONDUIT IS LOCATED WITHIN THE JOINT BETWEEN THE EASTBOUND & WESTBOUND APPROACH SLAB BARRIERS. INCLUDE FLEXIBLE SPONGE RUBBER EXPANSION MATERIAL WITH 1" P.E.J.F. FOR PAYMENT.

▲ LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

◑ MATCH EXSTING BARRIER

◭ 2" LIGHTING CONDUIT AND TRANSITION JUNCTION BOX WITHIN APPROACH SLAB BARRIER.

NOTES

1. FOR LOCATIONS OF SECTIONS B & C, SEE SHEET 31/34
2. ALL LIGHTING CONDUIT, RACEWAYS AND JUNCTION BOXES WITHIN THE APPROACH SLAB BARRIER SHALL BE INCLUDED FOR PAYMENT WITH THE LIGHTING ITEMS. FOR LIGHTING PLANS, SEE SHEETS 140 - 147.

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DESIGN AGENCY
GPD ASSOCIATES
CLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
330 South Main Street, Suite 251 | Akron, Ohio 44311
330-972-2100 | Fax 330-972-2101

DESIGNED	DRAWN	REVIEWED	DATE
RPR	RPR	GCN	9-26-08
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJW		5005132	

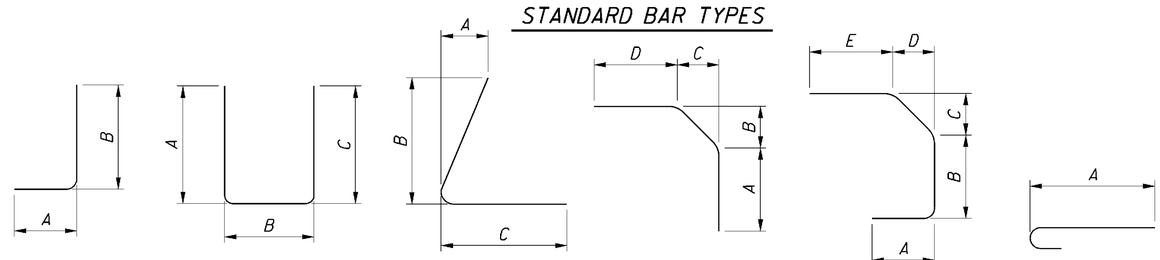
APPROACH SLAB DETAILS
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

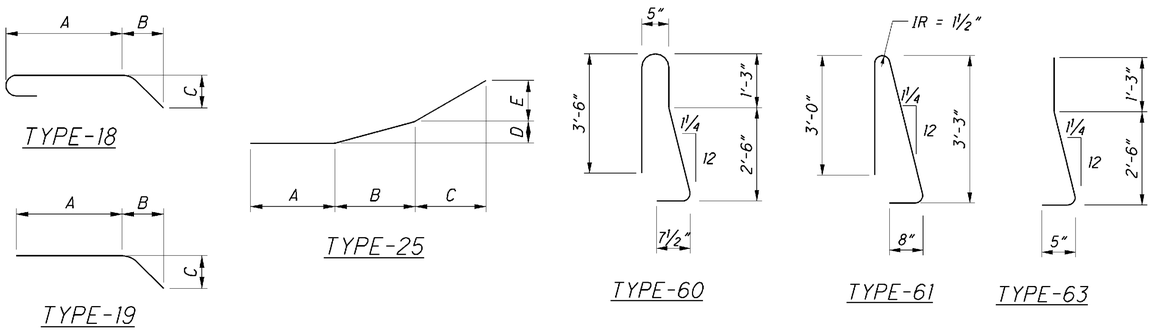
MAH-193/422
-0.46/1.85
PID No. 25235

MARK	NUMBER REAR	NUMBER FORWARD	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC.
ABUTMENTS													
A501	16	16	32	30'- 0"	1001	STR							
A502	8		8	19'- 0"	159	STR							
A503	6	6	12	5'- 0"	63	STR							
A504	4		4	5'- 4"	22	11	3"	2'-9"	2'-9"				
A505	8		8	17'- 5"	145	STR							
A506	4		4	5'- 5"	23	19	2'-9"	3"	2'-9"				
A507		8	8	20'- 2"	168	STR							
A508		4	4	5'- 6"	23	19	2'-9"	7"	2'-9"				
A509		8	8	18'- 1"	151	STR							
A510		4	4	5'- 3"	22	11	7"	2'-8"	2'-9"				
A511	2		2	13'- 3"	28	STR							
A512	8		8	20'- 6"	171	STR							
A513	6		6	8'- 10"	55	STR							
A514	15	12	27	7'- 1"	199	61							
A515	2		2	14'- 8"	31	STR							
A516	8		8	21'- 2"	177	STR							
A517	6		6	9'- 4"	58	STR							
A518		2	2	12'- 2"	25	STR							
A519		8	8	20'- 1"	168	STR							
A520		6	6	8'- 4"	52	STR							
A521		2	2	9'- 6"	20	STR							
A522		8	8	17'- 10"	149	STR							
A523		6	6	6'- 4"	40	STR							
A524	2 SR OF 11	2 SR OF 11	4 SR OF 11	3'- 0" TO 3'- 10"	157	16	2'-5" TO 3'-3"						1"
A525	8	8	16	10'- 0"	167	STR							
A526	8	8	16	13'- 10"	231	STR							
A527	4	4	8	5'- 9"	48	25	1'-10"	2'-5"	1'-5"	1 1/2"	5"		
A528	4	4	8	5'- 8"	47	STR							
A529		NOT USED											
A530	4	4	8	7'-11"	66	60							
A531	14	14	28	11"	27	STR							
A601	180	184	364	4'- 0"	2187	STR							
A602	88	89	177	6'- 9"	1795	2	2'-10"	1'-5"	2'-10"				
A603	88	89	177	6'- 7"	1750	2	3'-0"	11"	3'-0"				
A604	1		1	8'- 10"	13	STR							
A605	34	28	62	4'- 8"	435	2	1'-7"	1'-10"	1'-7"				
A606	5		5	8'- 6"	64	2	3'-10"	1'-2"	3'-10"				
A607	20		20	3'- 11"	118	STR							
A608	15	12	27	3'- 9"	152	13	2'-3"	8 1/2"	6"	8"			
A609	15	12	27	2'- 10"	115	STR							
A610	1		1	9'- 4"	14	STR							
A611	5		5	7'- 8"	58	2	3'-5"	1'-2"	3'-5"				
A612	22		22	3'- 7"	118	STR							
A613		1	1	8'- 4"	13	STR							
A614		12	12	9'- 2"	165	2	4'-2"	1'-2"	4'-2"				
A615		34	34	4'- 0"	204	STR							
A616		1	1	6'- 4"	10	STR							
A617	16	16	32	4'- 6"	216	STR							
A618	2 SR OF 11	2 SR OF 11	4 SR OF 11	4'- 6" TO 5'- 4"	325	STR							1"

MARK	NUMBER REAR	NUMBER FORWARD	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC.
ABUTMENTS - CONT'D													
A619	2	2	4	2'- 7"	16	1	11"	1'-10"					
A620	2	2	4	3'- 4"	20	14	10 1/2"	1'-1"	8 1/2"	6"	9"		
A621	2	2	4	3'- 4"	20	90							
A622	38	32	70	3'- 2"	333	STR							
A801	61	61	122	4'- 9"	1547	18	2'-7"	1'-0"	1'-0"				
				TOTAL	13,381								

STANDARD BAR TYPES





NOTES:

1. BAR DIMENSIONS ARE OUT TO OUT UNLESS NOTED OTHERWISE.
2. ALL BARS ARE EPOXY COATED.
3. WHEN NO BAR LEG DIMENSIONS ARE SHOWN, IT INDICATES STANDARD BEND.
4. BAR SIZE AND LOCATION ARE INDICATED IN THE BAR MARK. THE FIRST ALPHABETICAL LETTER INDICATES LOCATION. THE NEXT DIGIT OF THE THREE DIGIT SERIES AND THE NEXT TWO DIGITS OF THE FOUR DIGIT SERIES INDICATE BAR SIZE NUMBER.

EXAMPLES:

S 501 — NO. 5 SIZE BAR, SLAB

A 801 — NO. 8 SIZE BAR, ABUTMENT

DESIGN AGENCY
GPD ASSOCIATES
CLAUS-PYLE SCHOMER BURNS & DEHAVEN INC.
330 South Main Street, Suite 251) Akron, Ohio 44311
330-572-2100 , Fax 330-572-2101

DESIGNED RPR | DRAWN RPR | CHECKED DJC | REVIEWED GGN | DATE 9-26-08 | REVISED | STRUCTURE FILE NUMBER 5005132

REINFORCING STEEL LIST

BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

MAH-193/422
-0.46/1.85
PID No. 25235

33/34

247/260

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MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						INC.
	EASTBOUND	WESTBOUND	TOTAL				A	B	C	D	E	R	
PIERS													
P401	376	384	760	8'- 2"	4140	2	3'-3"	1'-10"	3'-3"				
P402	18	18	36	10'- 6"	253	2	4'-0"	2'-8"	4'-0"				
P501	20	20	40	30'- 0"	1252	STR							
P502	20		20	16'- 9"	350	STR							
P503	24	24	48	8'- 5"	422	2	3'-0"	2'-8"	3'-0"				
P504		NOT USED											
P505		NOT USED											
P506		20	20	16'- 5"	342	STR							
P601	12		12	6'- 3"	113	STR							
P602		12	12	5'- 11"	107	STR							
A603	6	6	12	4'- 1"	74	1	1'-6"	2'-9"					
P604	6	6	12	12'-0"	216	64	2'-8"	2'-9"	1'-0"				
P901	18	18	36	4'- 0"	490	1	1'-6"	2'-9"					
P1001	12		12	43'- 3"	2233	1	4'-1"	39'-6"					
P1002	12	12	24	19'- 5"	2005	1	3'-9"	16'-0"					
P1003	12		12	17'- 7"	908	16	16'-2"						
P1004	12	12	24	40'- 10"	4217	STR							
P1005		12	12	42'- 8"	2203	1	3'-10"	39'-2"					
P1006		12	12	17'- 3"	891	16	15'-10"						
				TOTAL	20,216								

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						INC.
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	
APPROACH SLABS													
AP501	16		16	24'- 6"	409	STR							
AP502		16	16	16'- 6"	275	STR							
AP503	52	36	88	4'-1"	375	63							
AP504	52	36	88	3'- 11"	359	STR							
AP601	52	36	88	2'- 6"	330	1	11"	1'-9"					
AP602	52	36	88	3'- 5"	451	14	10 ½"	1'-2"	8 ½"	6"	9"		
				TOTAL (SEE NOTES)	2,199								

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						INC.
					A	B	C	D	E	R	
SLAB											
S402	852	30'- 0"	17074	STR							
S402	142	28'- 0"	2656	STR							
S501	780	28'- 5"	23118	STR							
S502	780	20'- 11"	17016	STR							
S503	1068	30'- 0"	33418	STR							
S504	178	31'- 0"	5755	STR							
S505	392	7'- 1"	2896	61							
S506	392	7'-11"	3237	60							
S601	780	24'- 4"	28508	STR							
S602	780	24'- 9"	28996	STR							
S603	308	30'- 0"	13878	STR							
S604	280	13'- 0"	5467	STR							
S605	4	14'- 0"	84	STR							
S606	392	2'- 11"	1717	14	10 ½"	8"	8 ½"	6"	9"		
S607	784	2'- 2"	2551	1	11"	1'-5"					
S608	392	2'- 10"	1668	14	10 ½"	8"	8 ½"	6"	8"		
		TOTAL	188,039								

NOTES

1. FOR STANDARD BAR TYPES AND ADDITIONAL NOTES SEE SHT. NO. 33/34.
2. APPROACH SLAB REINFORCING IS INCLUDED WITH ITEM 526 FOR PAYMENT.

DESIGN AGENCY
CLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
GPD ASSOCIATES
330 South Main Street, Suite 251, Akron, Ohio 44311
330-972-2100, Fax 330-972-2101

DESIGNED RPR | DRAWN RPR | REVIEWED GGN | DATE 9-26-08
CHECKED RHC | REVISED | STRUCTURE FILE NUMBER 5005132

REINFORCING STEEL LIST

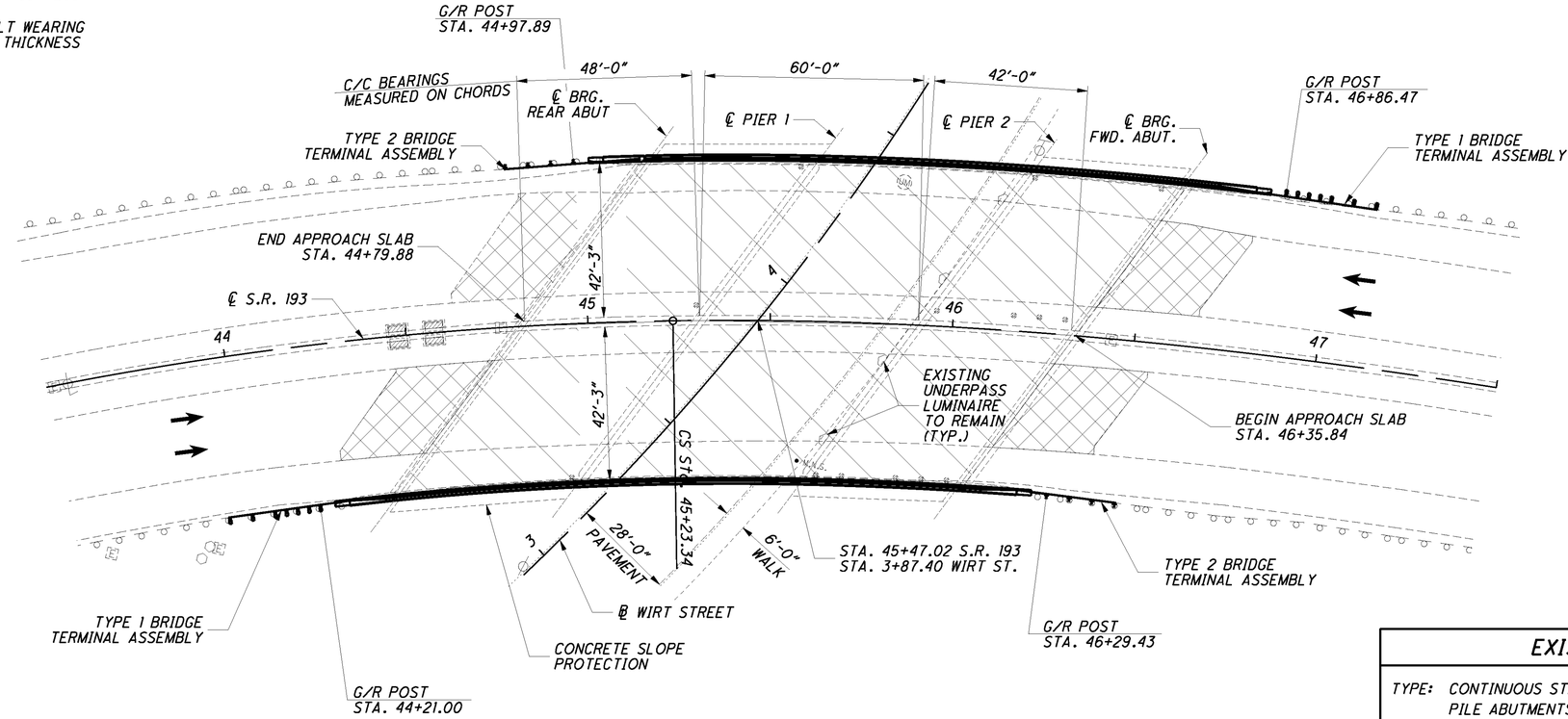
BRIDGE NO. MAH-422-0185
MAHONING W. FEDERAL EXPRESSWAY OVER W. FEDERAL ST.

MAH-193/422
-0.46/1.85
PID No. 25235

LEGEND:

BRIDGE DECK CONCRETE WEARING COURSE REMOVED, 1½" THICKNESS

APPROACH SLAB ASPHALT WEARING COURSE REMOVED, 1½" THICKNESS



GENERAL PLAN

MIN. VERTICAL CLEARANCE PER EXISTING PLANS - 15.49'
ACTUAL VERTICAL CLEARANCE (FIELD MEASURED) - 15.40'
PROPOSED VERTICAL CLEARANCE - 15.40'

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM BRIDGE WITH CAPPED PILE ABUTMENTS AND CAP AND COLUMN PIERS
SPANS: 48'-0", 60'-0", 42'-0" CHORDS c/c BEARINGS
ROADWAY: 41'-7" F/F SAFETY CURB, LT. AND RT.
LOADING: CF 2000 (57) ADEQUATE FOR AASHTO ALT. LOADING
SKEW: 38°16'18" L.F. (SUBSTR. 25°33'33" TO REF. LINE)
APPROACH SLABS: 25'-0" LONG (AS-1-54)
ALIGNMENT: SPIRAL TRANSITION, RIGHT
CROWN: SUPERELEVATION VARIES
WEARING SURFACE: 1½"± CONCRETE OVERLAY
STRUCTURAL FILE NUMBER: 5004500
DATE BUILT: 1967
DISPOSITION: TO BE REHABILITATED

PROPOSED STRUCTURE

PROPOSED WORK: BRIDGE DECK REPAIR USING SDC OVERLAY, NEW CONCRETE PARAPETS, PATCHING AND REPAIR OF EXISTING SUBSTRUCTURE, AND DRAINAGE WORK
SPANS: 48'-0", 60'-0", 42'-0" CHORDS c/c BEARINGS
ROADWAY: 42'-3" TOE/TOE PARAPET, LT. AND RT.
LOADING: HS20 CASE II AND ALTERNATE MILITARY
SKEW: 38°16'18" L.F. (SUBSTR. 25°33'33" TO REF. LINE)
APPROACH SLABS: 25'-0" LONG (AS-1-54)
ALIGNMENT: SPIRAL TRANSITION, RIGHT
CROWN: SUPERELEVATION VARIES
WEARING SURFACE: 2½" SDC OVERLAY
COORDINATES: LATITUDE 41° 06' 45" N
LONGITUDE 80° 40' 00" W

PROPOSED WORK:

IN GENERAL, THE PROPOSED WORK INCLUDES:

1. BRIDGE DECK MILLING TO REMOVE EXISTING CONCRTE OVERLAY, VARIABLE DEPTH REPAIRS PER SS 848. PROVIDE NEW SDC OVERLAY TO MATCH THE ROADWAY PROFILE AND SEALING.
2. REMOVAL OF THE EXISTING APPROACH SLAB ASPHALT WEARING SURFACE AND PROVIDING A NEW SDC OVERLAY TO MATCH THE BRIDGE DECK.
3. REMOVAL OF EXISTING PARAPET AND REPLACING IT WITH 42" JERSEY SHAPED PARAPET ON THE OUTER SHOULDERS TO MATCH THE EXISTING ROADWAY MEDIAN BARRIER. PROVIDE EXPANSION JOINT MODIFICATIONS, APPROPRIATE PARAPET TRANSITIONS, BRIDGE TERMINAL ASSEMBLIES AND NECESSARY APPROACH GUARDRAIL.
4. PERFORM PATCHING REPAIRS TO SUBSTRUCTURE PER CMS ITEM 519 AND SS 843. REPAIR UNDERSIDE OF DECK SLAB BY REMOVING LOOSE CONCRETE AND SEALING.
5. REPAIR EXISTING CONCRETE SLOPE PROTECTION.
6. REPLACE VISIBLE PORTIONS OF EXISTING DRAINAGE SYSTEM (I.E. DOWNSPOUTS) AS SHOWN IN THE PLANS.
7. REFURBISH ABUTMENT BEARINGS PER ITEM 516, AS DIRECTED BY THE ENGINEER.
8. REPAIR PAINTING OF STRUCTURAL STEEL .

DESIGN AGENCY
RESOURCE INTERNATIONAL INC.
8550 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
AJS	AJS	SSK	03/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		5004500	

GENERAL PLAN
BRIDGE No. MAH-193-0105
OVER WIRT STREET

MAH-193/422-
0.46/1.85
PID No. 25235

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

PCB-91 DATED (REVISED) 07-19-02

BR-1 DATED (REVISED) 07-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

843 DATED 04-18-03

848 DATED 04-15-05

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING:
HS20, CASE II AND THE ALTERNATE MILITARY LOADING.

FUTURE WEARING SURFACE (FWS) OF 60 LBS/FT2

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

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

EXISTING STRUCTURAL STEEL
ASTM A36 - YIELD STRENGTH 36,000 PSI

QUICK SETTING CONCRETE MORTAR, TYPE I OR2, 705.21

DECK PROTECTION METHOD:

2½" CONCRETE COVER

SUPERPLASTICIZED DENSE CONCRETE OVERLAY

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

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

DESCRIPTION:

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO NE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. PERFORM ALL WORK IN MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

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, THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED 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 STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL 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 DIRECTORS APPROVAL BEFORE PERFORMING REPAIR.

MEASUREMENT & 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.

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 EXPOSED 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 CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

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.

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

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

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 DAMAGE TO THE EPOXY COATING, AS A RESULT OF THIS WORK, ACCORDING TO 709.00.

ITEM 514 - FIELD PAINTING, MISC; REPAIR PAINTING

ALL PAINTED AREAS THAT ARE DAMAGED OR RUSTED SHALL BE CLEANED AND PAINTED AS FOLLOWS.

CMS 514.07 THROUGH 514.09 APPLY. REMOVE EXISTING PAINT COATING FROM THE AREA OF THE DAMAGED PAINT ACCORDING TO SSPC-SP3, POWER AND HAND TOOL CLEANING, AS SHOWN ON THE PICTORAL SURFACE PREPARATION STANDARDS FOR PAINTING STEEL SURFACES SHOWN IN SSPC-VIS 3. THE ENGINEER WILL USE THE SSPC-VIS 3 TO DETERMINE THE ACCEPTANCE FOR THE POWER TOOL CLEANING. CONTAIN AND DISPOSE OF WASTE GENERATED BY THE CLEANING ACCORDING TO CMS 514.13D.

APPLY THE THREE-COAT PAINT SYSTEM, CMS 708.02, ACCORDING TO CMS 514.14 THROUGH 514.17. TINT THE FINISH COAT TO APPROXIMATELY THE SAME COLOR AS THE EXISTING FINISH COLOR. THE ENGINEER WILL DETERMINE THE PRIME COAT THICKNESS; PRIME AND INTERMEDIATE COAT THICKNESS; AND PRIME, INTERMEDIATE AND FINISH COAT THICKNESS USING A TYPE 2 MAGNETIC GAGE AT SPOT LOCATIONS. EACH COAT OF PAINT SHALL MEET THE MINIMUM DRY FILM THICKNESS REQUIREMENTS OF CMS 514.20.

THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH ALL NECESSARY EQUIPMENT TO INSPECT THIS WORK.

ITEM 516 - REFURBISHING BEARING DEVICES, AS PER PLAN:

THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY ALIGN BRIDGE BEARINGS AS WELL AS THEIR CLEANING AND PAINTING. INCLUDED SHALL BE THE DISASSEMBLY OF THE BEARINGS, HAND TOOL CLEANING (GRINDING IF NECESSARY), PAINTING ACCORDING TO ITEM 514, REPLACEMENT OF ANY DAMAGED SHEET LEAD WITH PERFORMED BEARING PADS (711.21), INSTALLATION OF ANY NECESSARY STEEL SHIMS OF THE SAME SIZE AS THE BEARINGS TO PROVIDE A SNUG FIT, REALIGNMENT OF THE UPPER BEARING PLATE BY REMOVING EXISTING WELDS AND REWELDING SO THAT THE BEARINGS ARE VERTICALLY ALIGNED AT 60 F, LUBRICATING SLIDING SURFACES, AND REASSEMBLY OF THE BEARINGS. ASSURE ALL BEARINGS ARE SHIMMED ADEQUATELY AND THAT NO BEAMS AND/OR BEARING DEVICES ARE "FLOATING". AT NO ADDITIONAL COST TO THE STATE, THE CONTRACTOR MAY INSTALL NEW BEARINGS OF THE SAME TYPE AS THE EXISTING IN PLACE OF REFURBISHING THE BEARINGS. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR ALL OF THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516 - REFURBISH BEARING DEVICES, AS PER PLAN.

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

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING 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 SATSFACTION 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 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 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.

ITEM 511 - CLASS HP CONCRETE, AS PER PLAN

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

MIX OPTIONS:
ALL SUPERSTRUCTURE, BRIDGE DECK, SIDEWALK, APPROACH SLABS AND PARAPET CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN). 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
LIME-STONE	1370	655	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

BASIS OF PAYMENT:

PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT PRICE BID FOR:

ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN — 53 CU. YD.

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

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 IN SUPPLEMENTAL 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: CURB PLATES AND BAR ANCHORS.

DESIGN AGENCY
RESOURCE INTERNATIONAL INC.
8350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED AJS | DRAWN AJS | REVIEWED SSK | DATE 03/09
CHECKED NCK | REVISED | STRUCTURE FILE NUMBER 5004500

STRUCTURE GENERAL NOTES
BRIDGE No. MAH-193-0105
OVER WIRT STREET

MAH-193/422-0.46/1.85
PID No. 25235

2 / 12

250
260

ESTIMATED QUANTITIES

CALC'D BY : JLM DATE: 3/12/09
CHECKED BY : NCK DATE: 7/02/09

ITEM	EXT.	TOTAL	UNIT	ITEM DESCRIPTION	ABUTMENTS	PIERS	SUPERSTR.	GENERAL	AS PER PLAN SHEET No.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					2, 3
509	10001	8883	LB.	EPOXY COATED REINFORCING STEEL, AS PER PLAN	83	359	8441		2
509	20001	750	LB.	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				750	2
510	10000	768	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	8		760		
511	50101	53	CU. YD.	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN			53		2
511	44100	1	CU. YD.	CLASS C CONCRETE, ABUTMENT NOT INCLUDING FOOTING	1				
511	71100	4	CU. YD.	CONCRETE, MISC: PIER ENCASEMENT		4			
512	10100	856	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		417	439		
512	10101	48	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN			48		8
513	10201	300	LB.	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN			300		2
514	27800	LUMP		FIELD PAINTING, MISC: REPAIR PAINTING					
516	10901	152	FT.	ELASTOMERIC COMPRESSION SEAL, AS PER PLAN			152		8
516	45305	24	EACH	REFURBISH BEARING DEVICE, AS PER PLAN				24	2
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN					2
518	43300	86	FT.	6" PIPE DOWNSOUT, INCLUDING SPECIALS			86		
518	51300	3	EACH	DOWNSPOUT MODIFICATION, 10"			3		
519	11101	189	SQ. FT.	PATCHING CONCRETE STRUCTURE, AS PER PLAN		189			2
SPECIAL	53000200	LUMP		STRUCTURE, MISC.: REPAIR OF CONCRETE SLOPE PROTECTION					6
843	50000	375	SQ. FT.	PATCHING CONCRETE STRUCTURES WITH TROWELABLE MORTAR	222	153			
848	10200	1728	SQ. YD.	SUPERPLASTICIZED DENSE CONCRETE OVERLAY USING HYDRODEMOLITION, 2½" THICK			1728		
848	20000	1728	SQ. YD.	SURFACE PREPARATION USING HYDRODEMOLITION			1728		
848	30200	28	CU. YD.	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY			28		
848	50000	29	SQ. YD.	HAND CHIPPING			29		
848	50300	298	SQ. YD.	WEARING COURSE REMOVED, ASPHALT			298		
848	50320	1407	SQ. YD.	EXISTING CONCRETE OVERLAY REMOVED, 1½" THICKNESS			1407		
848	50340	291	SQ. YD.	REMOVAL OF DEBONDED OR DETERIORATED EXISTING VARIABLE THICKNESS CONCRETE OVERLAY			291		

ASBESTOS NOTIFICATION

AN ASBESTOS SURVEY OF THE SR 193 BRIDGE OVER WIRT ST. (STRUCTURE NO. MAH-193-0105, SFN 5004500), SCHEDULED FOR REHABILITATION WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT APPROXIMATELY 40 SQUARE FEET OF CATEGORY II NONFRIABLE ASBESTOS WAS IDENTIFIED IN CAULKING MATERIAL ASSOCIATED WITH THE GUARDRAIL SUPPORTS. THE REMOVAL AND DISPOSAL OF THE ASBESTOS CONTAINING MATERIAL MUST COMPLY WITH THE OHIO ADMINISTRATIVE CODE, THE OCCUPATION SAFETY & HEALTH ADMINISTRATIVE (OSHA) REGULATIONS AND THE NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHAP) STANDARD FOR ASBESTOS. THIS ASBESTOS CONTAINING MATERIAL WILL BE REMOVED BY THE CONTRACTOR DURING CONSTRUCTION.
A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORMS, 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
345 OAK HILL AVENUE, SUITE 200
YOUNGSTOWN, OHIO 44502
NEIL H. ALTMAN
(330) 743-3333
FAX: (330) 743-3960

THE CONTRACTOR SHALL PROVIDE AN INDIVIDUAL TRAINED IN THE PROVISIONS OF THE NESHAP ON SITE, TO DIRECT THE REMOVAL OF THE ASBESTOS CONTAINING MATERIAL.

AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF THE DEMOLITION OF THE BRIDGES. THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER. INFORMATION REQUIRED ON THE FORM WILL INCLUDE:

(1) THE CONTRACTORS NAME AND ADDRESS
(2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL
(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 RD., AKRON, OHIO 44306.
(4) THE DATES AND HOURS OF OPERATION FOR THE ASBESTOS REMOVAL
(5) A DESCRIPTION OF THE PLANNED RENOVATION WORK AND THE METHOD(S) TO BE USED
(6) A DESCRIPTION OF WORK PRACTICES AND ENGINEERING CONTROLS TO BE USED TO PREVENT EMISSIONS OF ASBESTOS AT THE SITE
(7) THE NAME AND ADDRESSES OF WASTE TRANSPORTERS TO BE USED ON THE PROJECT
(8) THE NAME AND ADDRESS OF WASTE DISPOSAL FACILITY TO BE USED
(9) A DESCRIPTION OF PROCEDURES TO BE FOLLOWED IN THE EVENT THAT UNEXPECTED ASBESTOS IS FOUND OR PREVIOUSLY NON-FRIABLE ASBESTOS MATERIAL BECOMES CRUMBLED, PULVERIZED OR REDUCED TO POWDER

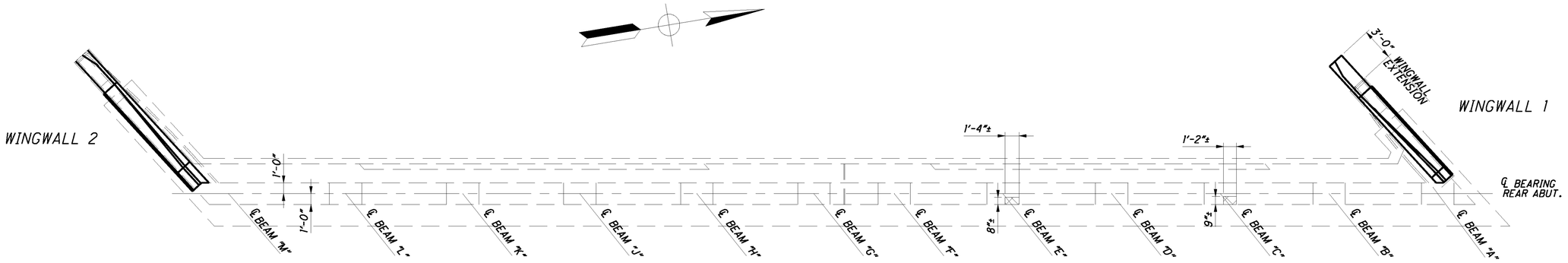
BASIS FOR PAYMENT- THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. THIS ITEM WILL INCLUDE REMOVAL OF ANY/ALL ASBESTOS CONTAINING MATERIAL (ACM). PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202-PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

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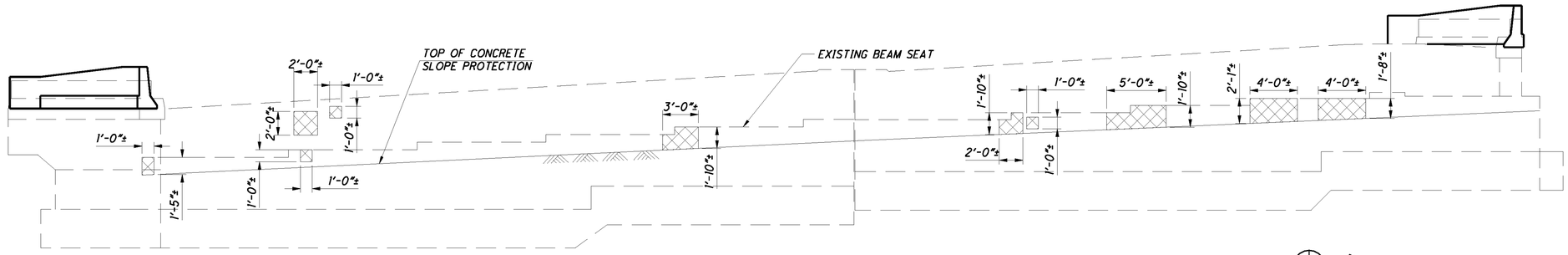
DESIGNED JLM | DRAWN JLM | REVIEWED SSK | DATE 08/09
CHECKED NCK | REVISED | STRUCTURE FILE NUMBER 5004500

STRUCTURE ESTIMATED QUANTITIES
BRIDGE No. MAH-193-0105
OVER WIRT STREET

MAH-193/422-0.46/1.85
PID N . 25235



ABUTMENT PLAN - REAR



ABUTMENT ELEVATION - REAR

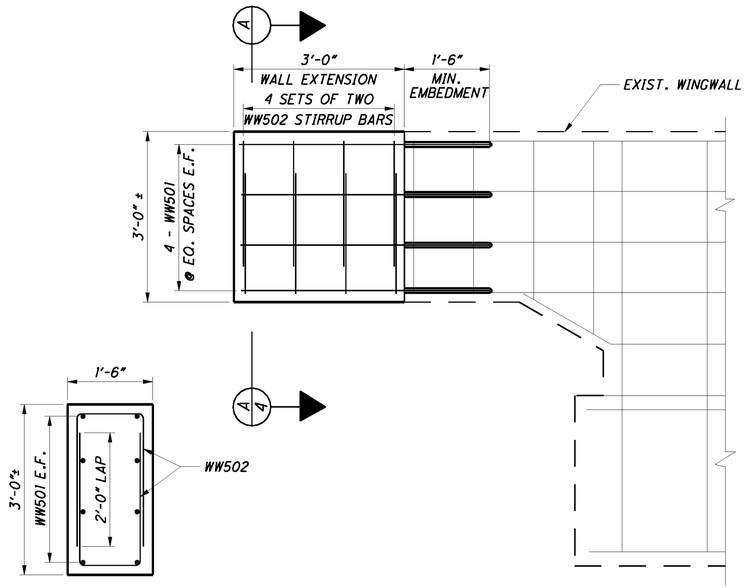
LOCATION	ITEM 843 PATCHING CONCRETE WITH TROWELABLE MORTAR SQ. FT.
ABUTMENTS	42
200% EXPANSION FACTOR	84
TOTAL	*126

* THESE QUANTITIES ARE CARRIED TO THE STRUCTURE SUMMARY SHEET

= ITEM 843, PATCHING CONCRETE WITH TROWELABLE MORTAR

NOTE

1. FOR PIER PATCHING DETAILS, SEE SHEETS 6/12 AND 7/12 .



SECTION A

WINGWALL 1 EXTENSION DETAIL
PARAPET NOT SHOWN

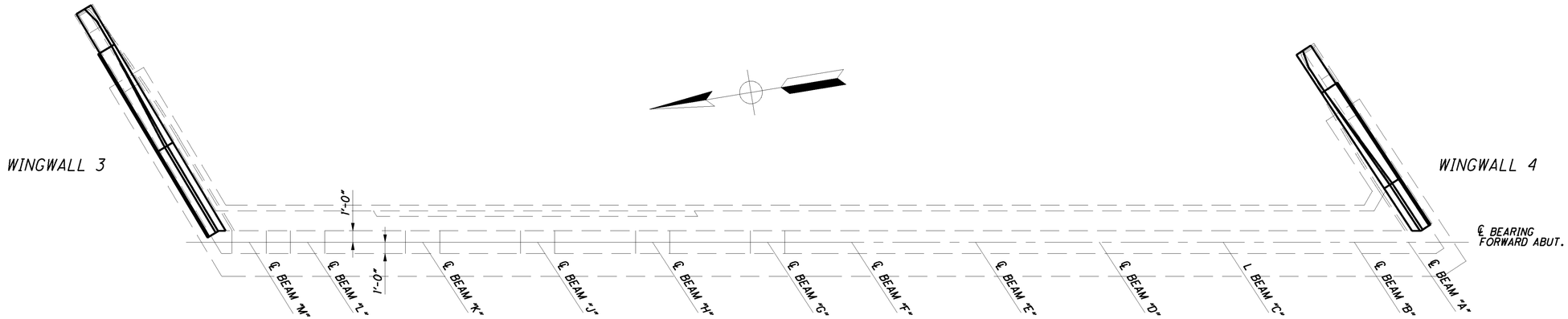
DESIGN AGENCY
RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
JLM	JLM	SSK	03/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK	X	5004500	

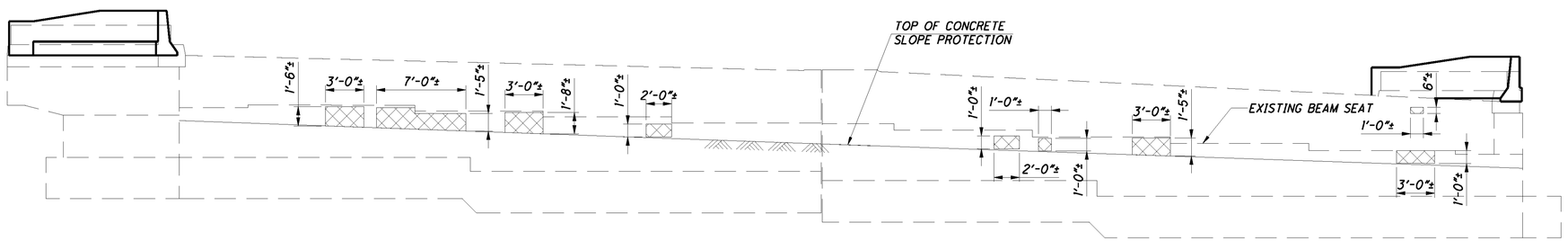
REAR ABUTMENT PATCHING DETAILS

STRUCTURE NO. MAH-193-0105 R
SR 193 OVER WIRT STREET

MAH-193/422-
.46/1.85
PID No. 25235



ABUTMENT PLAN - FORWARD



ABUTMENT ELEVATION - FORWARD

LOCATION	ITEM 843
	PATCHING CONCRETE WITH TROWELABLE MORTAR SQ. FT.
ABUTMENTS	32
200% EXPANSION FACTOR	64
TOTAL	* 96

* THESE QUANTITIES ARE CARRIED TO THE STRUCTURE SUMMARY SHEET

= ITEM 843, PATCHING CONCRETE WITH TROWELABLE MORTAR

NOTE

1. FOR PIER PATCHING DETAILS, SEE SHEETS 6/12 AND 7/12 .

DESIGN AGENCY
RESOURCE INTERNATIONAL INC.
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REVIEWED	DATE	STRUCTURE FILE NUMBER
SSK	03/09	5004500

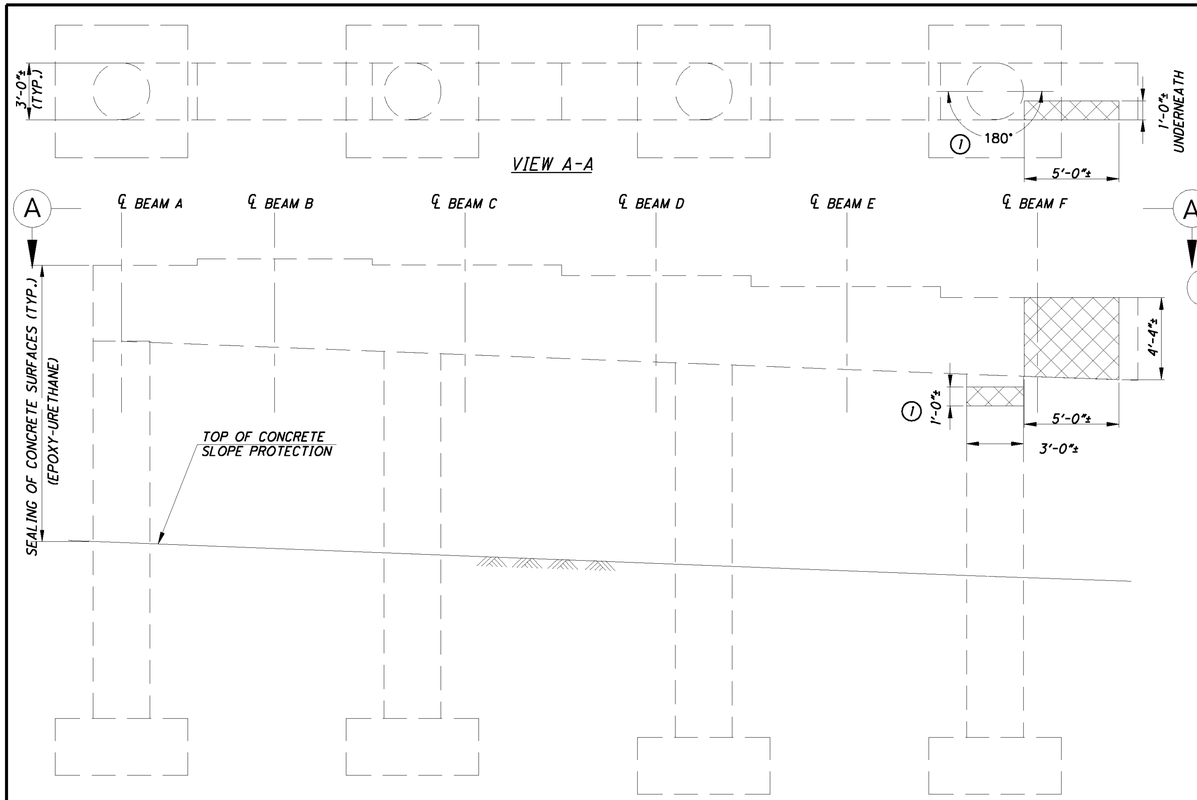
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JLM	X

DESIGNED	CHECKED
JLM	NCK

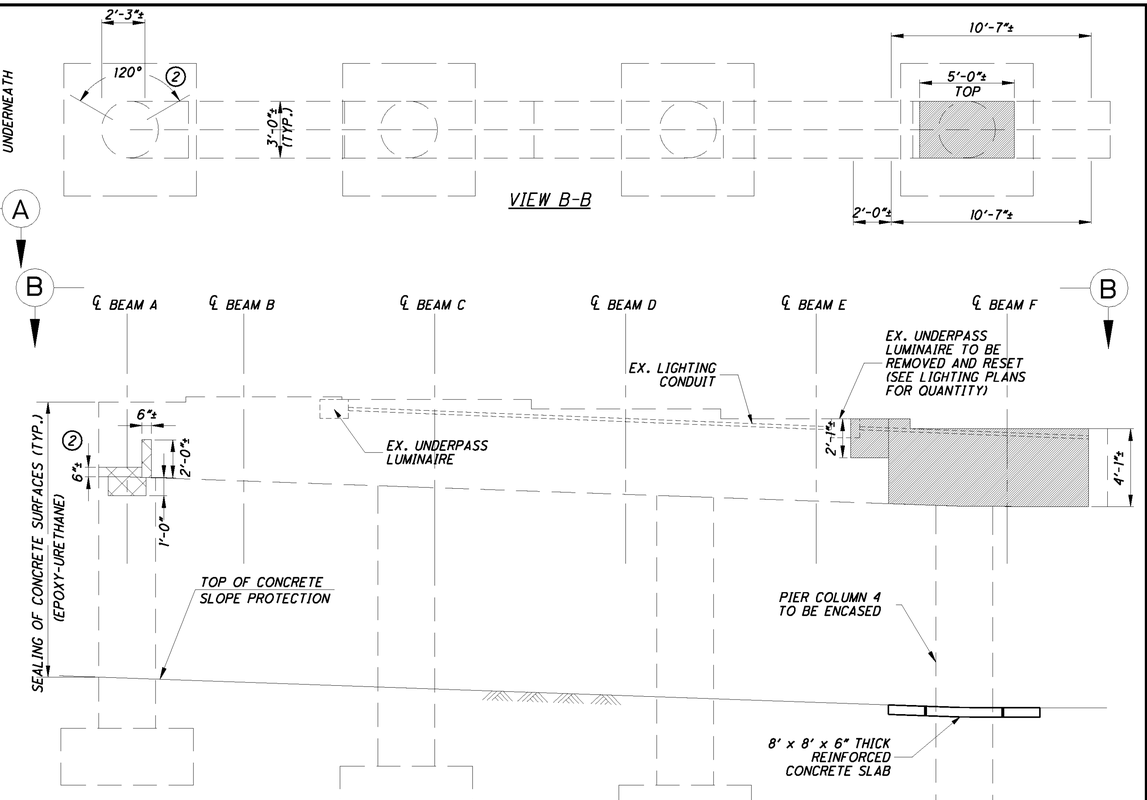
FORWARD ABUTMENT PATCHING DETAILS

STRUCTURE NO. MAH-193-0105 R
SR 193 OVER WIRT STREET

MAH-193/422-.46/1.85
PID No. 25235



PIER 1, LEFT BRIDGE
LOOKING EAST



PIER 2, LEFT BRIDGE
LOOKING EAST

LOCATION	ITEM 843	ITEM 519
	PATCHING CONCRETE WITH TROWELABLE MORTAR SQ. FT.	PATCHING CONCRETE STRUCTURE, AS PER PLAN SQ. FT.
PIERS	34	63
200% EXPANSION FACTOR	68	126
TOTAL	* 102	* 189

* THESE QUANTITIES ARE CARRIED TO THE STRUCTURE SUMMARY SHEET

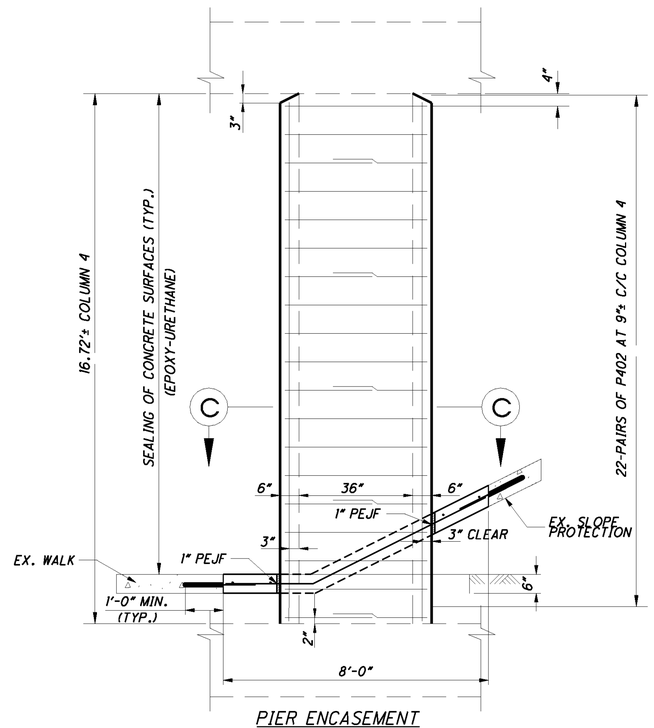
NOTE:

1. FOR ABUTMENT PATCHING DETAILS, SEE SHEETS 4/12 AND 5/12 .

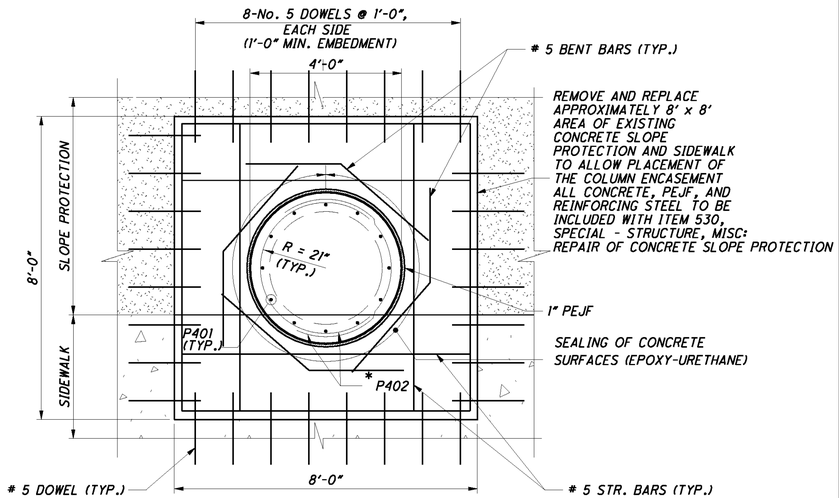
① = PORTION OF CIRCUMFERENCE REQUIRING PATCHING

= ITEM 843, PATCHING CONCRETE WITH TROWELABLE MORTAR

= ITEM 519, PATCHING CONCRETE STRUCTURE, AS PER PLAN



PIER ENCASEMENT
PARTIAL ELEVATION



SECTION C-C

*STAGGER LAPS AROUND COLUMNS

SLOPE PROTECTION REINFORCING BARS:
8 - No. 5 BARS , STRAIGHT @ 7'-10" LENGTH
4 - No. 5 BARS, BENT @ 5'-6" MIN LENGTH
32- No. 5 DOWELS @ 1'-6" LENGTH

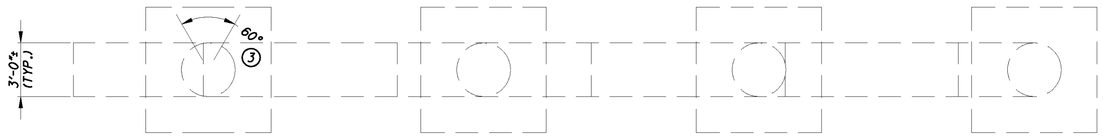
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6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
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DESIGNED	DRAWN	REVIEWED	DATE
JLM	JLM	SSK	03/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK	X	5004500	

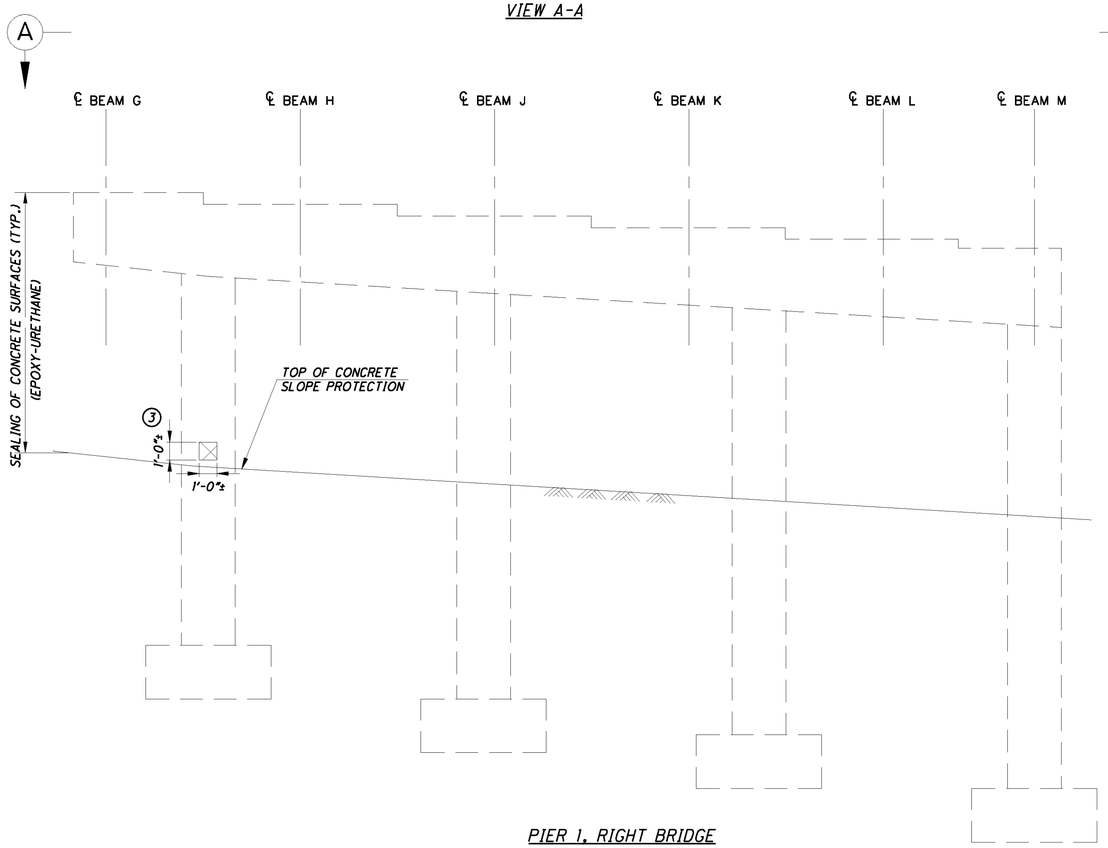
PIER 1,2 PATCHING DETAILS LEFT

STRUCTURE NO. MAH-193-0105 R
SR 193 OVER WIRT STREET

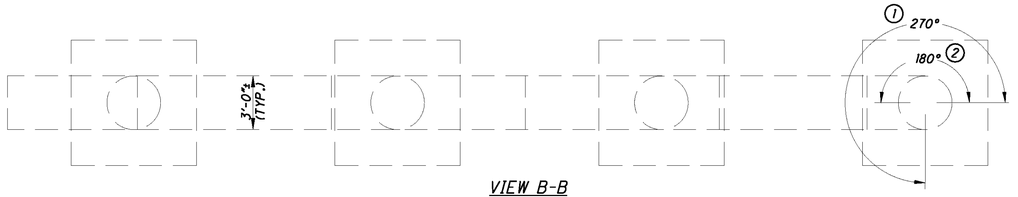
MAH-193/422-.46/1.85
PID No. 25235



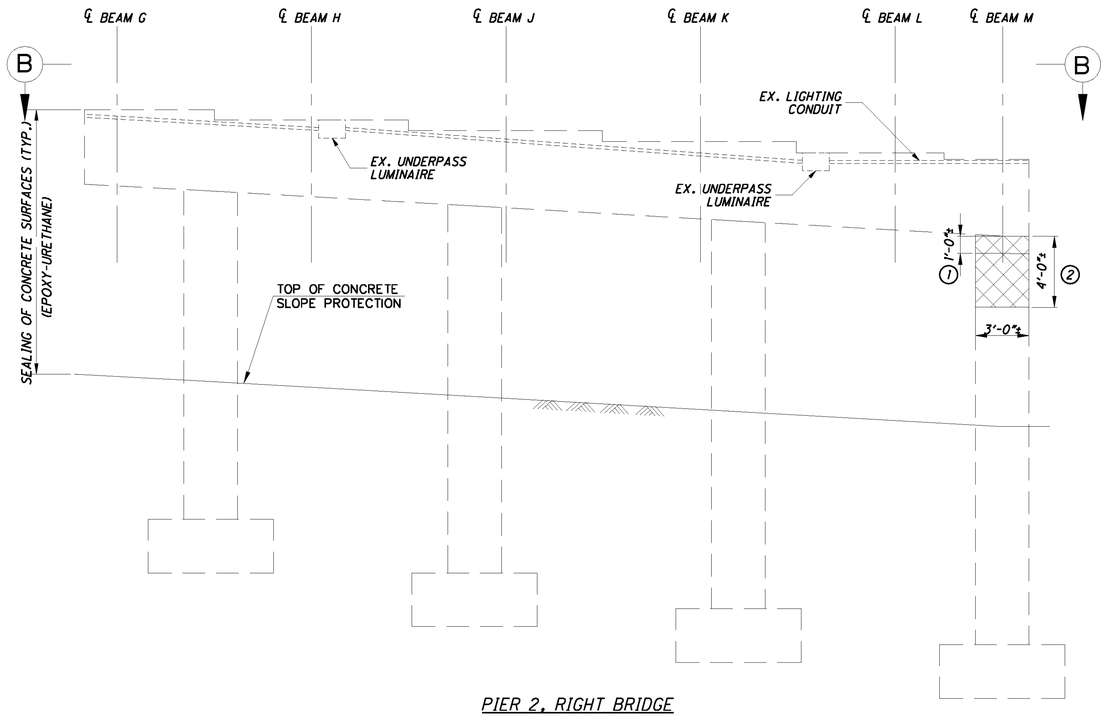
VIEW A-A



PIER 1, RIGHT BRIDGE
LOOKING EAST



VIEW B-B



PIER 2, RIGHT BRIDGE
LOOKING EAST

LOCATION	ITEM 843
	PATCHING CONCRETE WITH TROWELABLE MORTAR SQ. FT.
PIERS	17
200% EXPANSION FACTOR	34
TOTAL	* 51

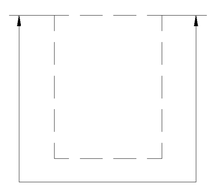
* THESE QUANTITIES ARE CARRIED TO THE STRUCTURE SUMMARY SHEET

= ITEM 843, PATCHING CONCRETE WITH TROWELABLE MORTAR

(1) = PORTION OF CIRCUMFERENCE REQUIRING PATCHING

NOTE:

1. FOR ABUTMENT PATCHING DETAILS, SEE SHEETS 4/12 AND 5/12.



SEALING OF CONCRETE SURFACES (TYP.)
(EPOXY-URETHANE)

PIER CAP SEALING DETAIL
(TYPICAL FOR ALL PIERS)

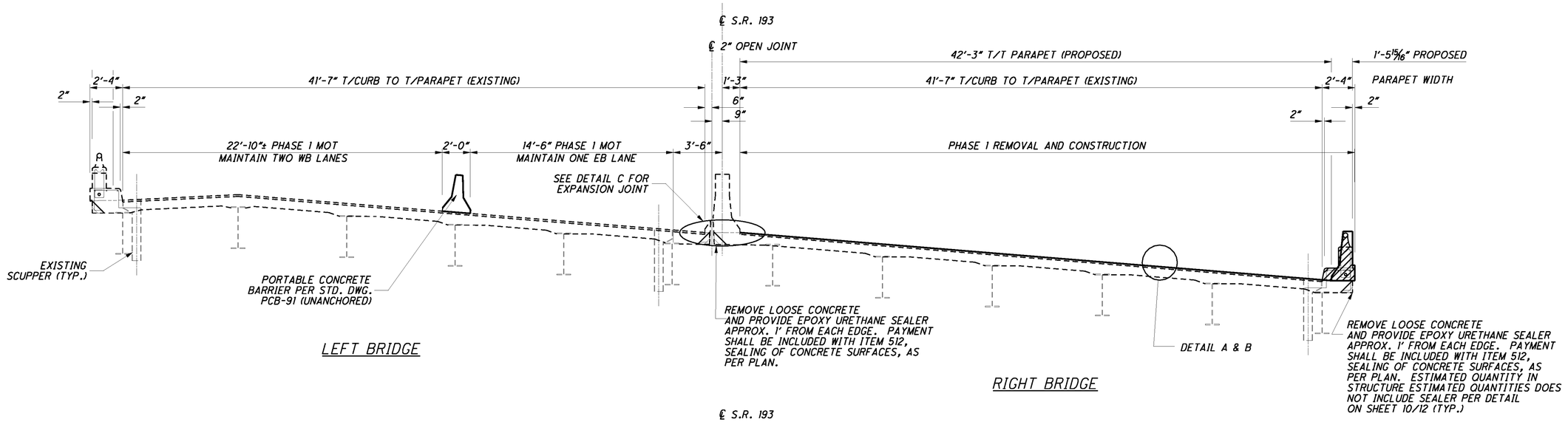
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DESIGNED	DRAWN	REVIEWED	DATE
JLM	JLM	SSK	03/09
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NCK	X	5004500	

PIER 1,2 PATCHING DETAILS RIGHT

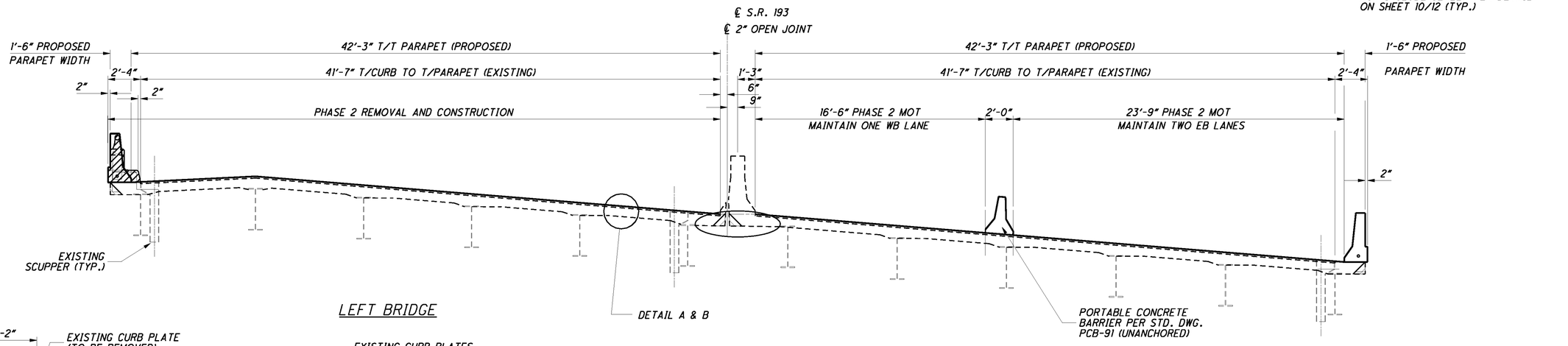
STRUCTURE NO. MAH-193-0105 R
SR 193 OVER WIRT STREET

MAH-193/422-.46/1.85
PID No. 25235



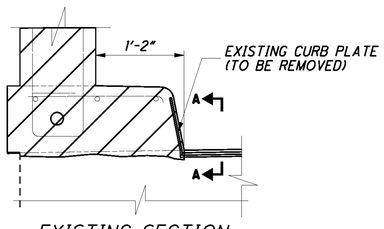
LEFT BRIDGE

RIGHT BRIDGE

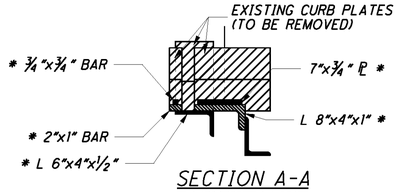


LEFT BRIDGE

RIGHT BRIDGE



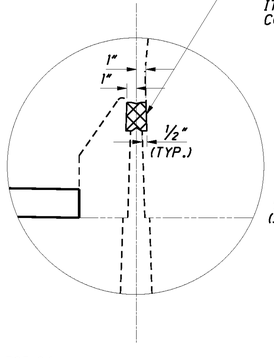
EXISTING SECTION

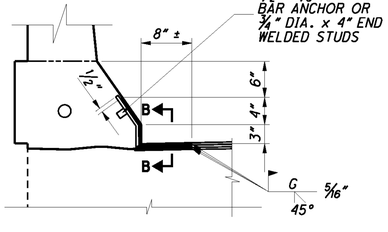


SECTION A-A

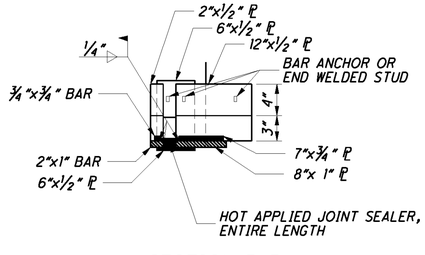
REMOVAL DETAIL

* - TO REMAIN

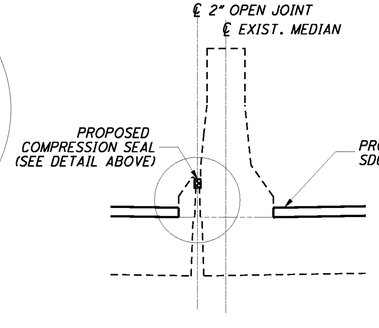




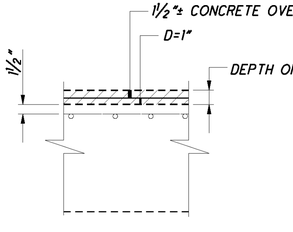
PROPOSED SECTION



SECTION B-B

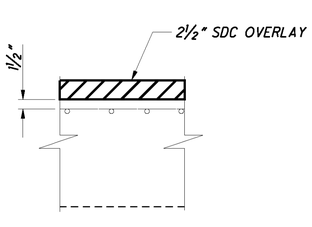


DETAIL C



DETAIL A

REMOVAL DETAIL



DETAIL B

CURB PLATE DETAILS

DESIGN AGENCY
RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
AJS	AJS	SSK	07/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		5004500	

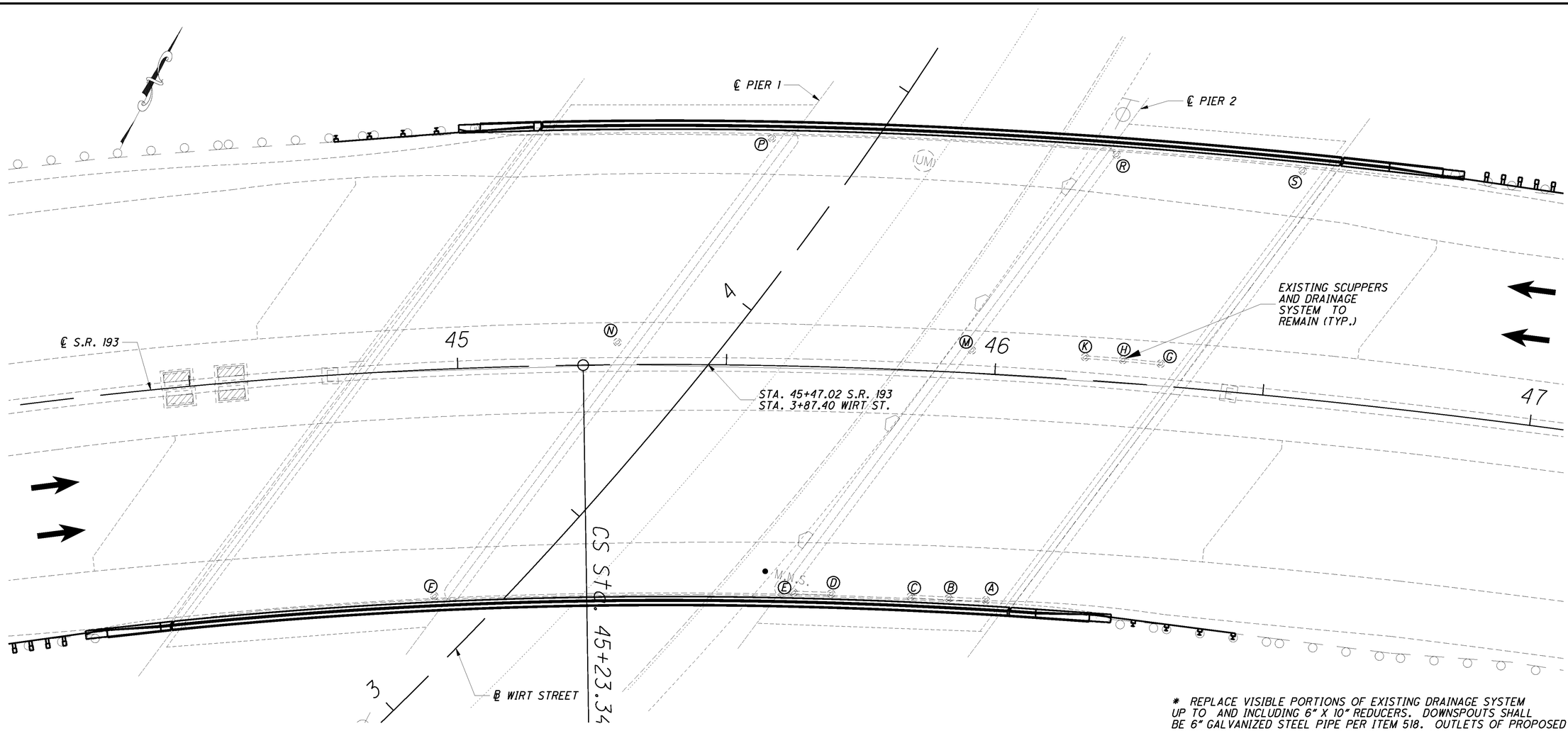
TRANSVERSE DECK SECTION

BRIDGE No. MAH-193-0105

OVER WIRT STREET

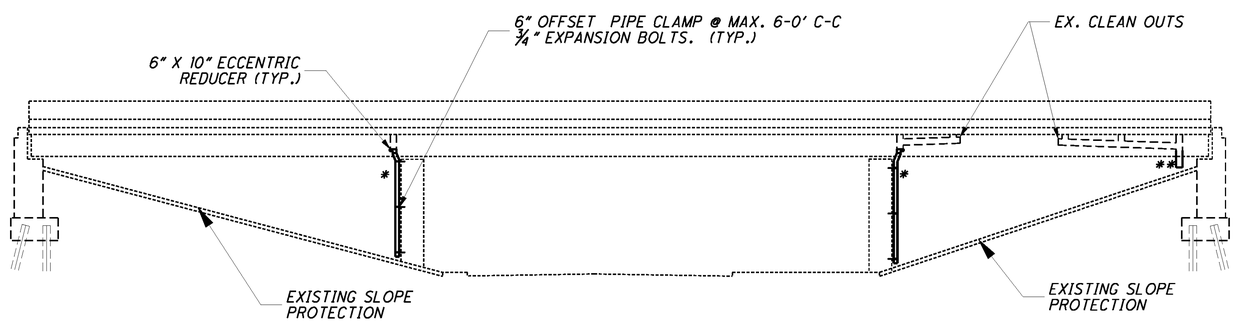
MAH-193/422-0.46/1.85

PID No. 25235



GENERAL PLAN

Ⓐ - SCUPPER/DOWNSPOUT LOCATION (TYP.)
(SEE TABLE FOR BOTTOM ELEVATION)



ELEVATION

* REPLACE VISIBLE PORTIONS OF EXISTING DRAINAGE SYSTEM UP TO AND INCLUDING 6" X 10" REDUCERS. DOWNSPOUTS SHALL BE 6" GALVANIZED STEEL PIPE PER ITEM 518. OUTLETS OF PROPOSED DOWNSPOUTS SHALL MATCH EXISTING ELEVATIONS.

** REPLACE PORTION OF DOWNSPOUT AS SHOWN ON PLANS WITH 10" STEEL PIPE PER ITEM 518. PROPOSED CONDUIT SHALL BE WELDED TO EXISTING CONDUIT. OUTLETS OF PROPOSED DOWNSPOUTS SHALL MATCH EXISTING ELEVATIONS.

NOTE:

1.) FLUSH OUT ALL SCUPPERS AND PORTIONS OF EXISTING DRAINAGE SYSTEM THAT ARE TO REMAIN. PAYMENT IS TO BE INCLUDED IN VARIOUS 518 ITEMS.

LOC.	ELEV. OF BOTTOM OF DOWNSPOUT
A	934.73
E	922.46
F	921.82
G	937.54
M	925.25
N	925.95
P	927.87
R	928.34
S	938.38

DESIGN AGENCY
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(614) 823-4949

DESIGNED JLM | DRAWN JLM | REVIEWED SSK | DATE 07/09
CHECKED NCK | REVISED | STRUCTURE FILE NUMBER 5004500

DRAINAGE PLAN

BRIDGE No. MAH-193-0105
OVER WIRT STREET

MAH-193/422-0.46/1.85
PID No. 25235

LEGEND: N.F.= NEAR FACE
F.F.= FAR FACE
E.F.= EACH FACE

15 SPA @ 10'-0" = 150'-0" RIGHT (SOUTH) PARAPET
14 SPA @ 10'-0" = 140'-0" LEFT (NORTH) PARAPET

5'-10⅜" RIGHT (SOUTH)
8'-10¾" LEFT (NORTH)

CONTROL JOINT SPACING

155 SPA @ 1-0", 156 -R501, 156-R610 N.F., 156-R609 F.F. RIGHT (SOUTH) PARAPET
148 SPA @ 1'-0", 149-R501, 149-R610 N.F., 149-R609 F.F. , LEFT (NORTH) PARAPET

1 SPA. @ 7½", 1-R501, 1-R610, 1-R609

FOR PARAPET TRANSITION, SEE SHEET 11/12

R601 TOTAL OF 5

R504 E.F. (5 PER ROW)

R611*

R503 E.F.*

6" (MIN.)

PARAPET CONTROL JOINT (SEE DETAIL "A", SHEET 11/12).

3'-0 (TYP.)

* - CUT TO FIT OR INCREASE LAP LENGTHS ON LEFT (NORTH) PARAPET

PARAPET ELEVATION

1'-6"
8"
2"

TOE OF PARAPET

EXISTING SCUPPER

VIEW B-B

SEALING OF CONCRETE SURFACES, EOPXY-URETHANE

2" 1'-0" 1'-0" 2"

1'-6"

10⅝"

EXISTING 2" CONDUIT

EX. 5" x 3½" x 13.0 BULB ANGLE (TO BE REMOVED)

DEPTH OF REMOVAL = 2½"

SAWCUT AT EX. CONSTR. JT.

REMOVAL LINE

REMOVAL DETAIL

B 1'-6" B

2" 8"

R501

2'-5"

9"

R609

PROPOSED 2" CONDUIT

R610

1'-1"

10"

3"

2½" SUPERPLASTICIZED DENSE CONCRETE WEARING SURFACE

6"

1" DIA. DOWEL HOLES (6" MIN. DEPTH)

SLOPE TO DRAIN (TYP. AT EXISTING SCUPPER LOCATIONS)

SECTION A-A

① PATCHING CONCRETE STRUCTURES (VARIABLE DEPTH)

SAWCUT AT EX. CONSTR. JT.

REMOVAL DETAIL

①

PROPOSED WORK

SECTION AT WINGWALL

DESIGN AGENCY
RESOURCE INTERNATIONAL INC.
8350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

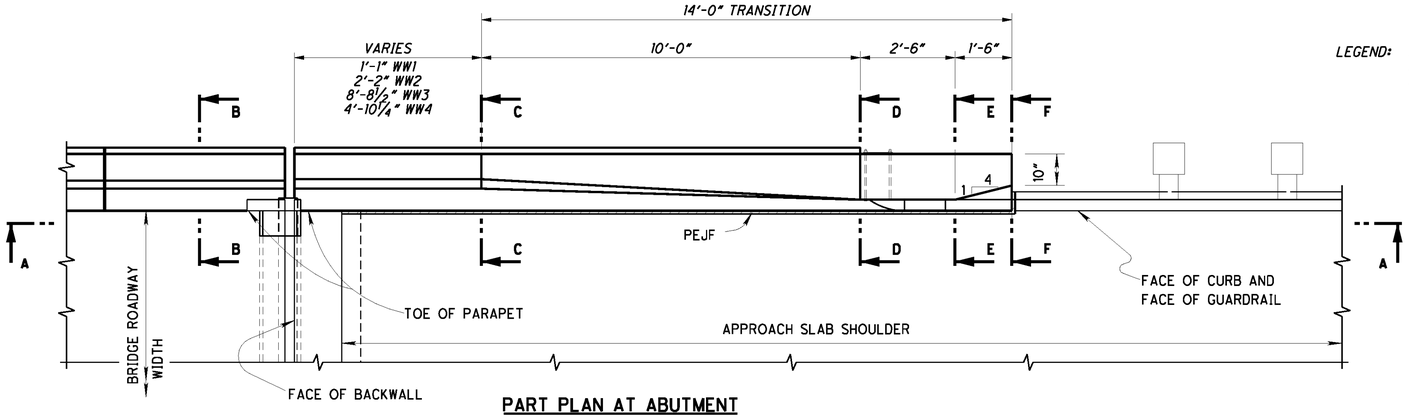
DESIGNED JLM | DRAWN JLM | CHECKED NCK | REVIEWED SSK | DATE 07/09 | REVISED | STRUCTURE FILE NUMBER 5004500

PARAPET DETAILS
BRIDGE No. MAH-193-0105
OVER WIRT STREET

MAH-193/422-0.46/1.85
PID No. 25235

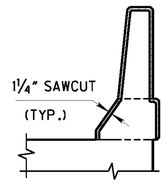
10 / 12

258
260



PART PLAN AT ABUTMENT

LEGEND: N.F.= NEAR FACE
F.F.= FAR FACE
E.F.= EACH FACE



DETAIL A
(section through sawcut)
Sawcut Perimeter= 8'-1"

CONTROL JOINT FOR CONCRETE PARAPETS

SAWCUT 1¼INCH DEEP CONTROL JOINTS AS SOON AS THE SAW CAN BE OPERATED WITHOUT DAMAGING THE CONCRETE.

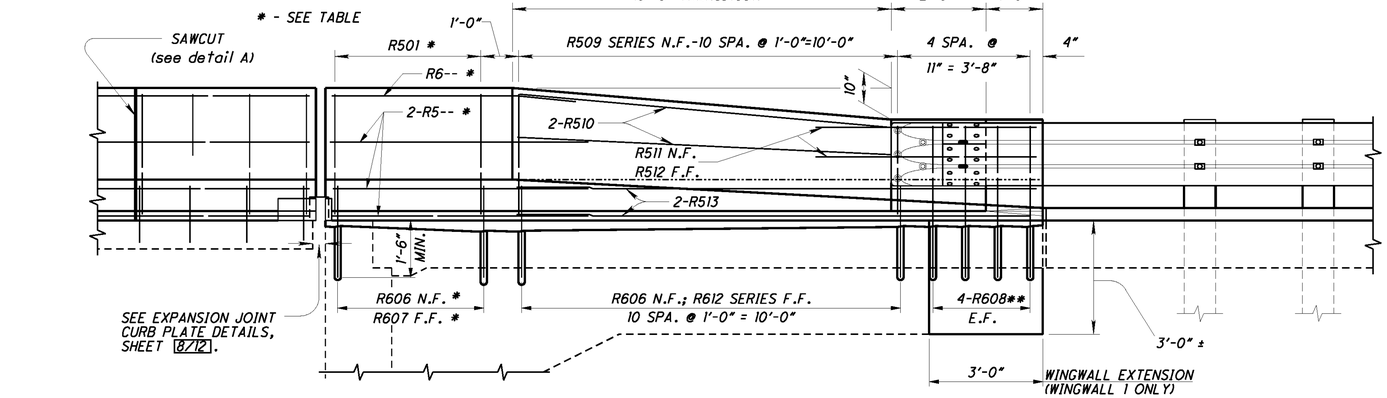
USE AND EDGE GUIDE, FENCE OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE PAARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF¼INCH.

PLACE CONTROL JOINTS AT A MINIMUM OF 6'-0" AND A MAXIMUM OF 10'-0" CENTERS.

SEAL THE PERIMETER OF THE CONTROL JOINT TO A MINIMUM DEPTH OF ONE INCH WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. LEAVE THE BOTTOM ONE-HALF INCH OF BOTH THE INSIDE AND OUTSIDE FACES OF THE PARAPET UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.

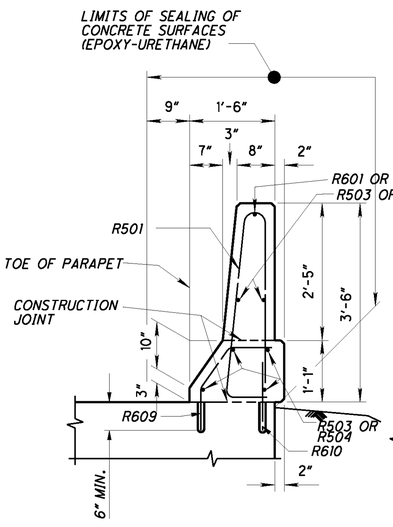
FOR BRIDGE TERMINAL ASSEMBLY SEE STANDARD CONSTRUCTION DRAWING GR-3.1 AND GR-3.2.

WINGWALL PARAPET REINFORCING			
WINGWALL No.	R5-- BAR	R6-- BAR	No. OF R501, R606 & R607
WINGWALL 1	R505	R602	1 EACH
WINGWALL 2	R506	R603	2 EACH
WINGWALL 3	R507	R604	9 EACH
WINGWALL 4	R508	R605	5 EACH

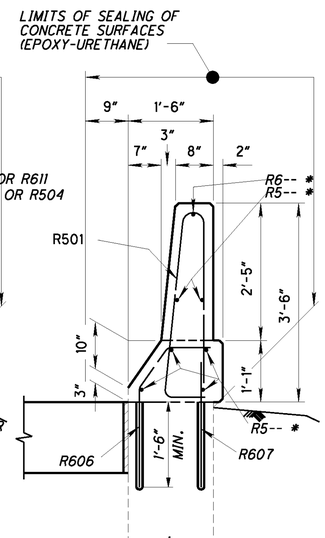


SECTION A-A

** R613-WINGWALL 1

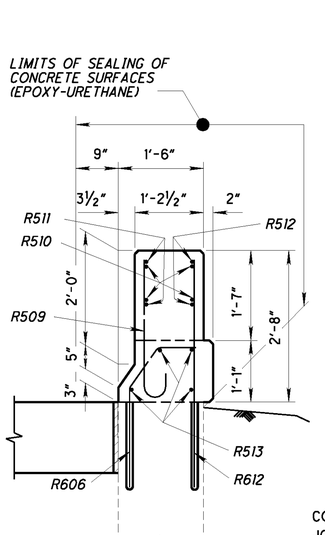


SECTION B-B

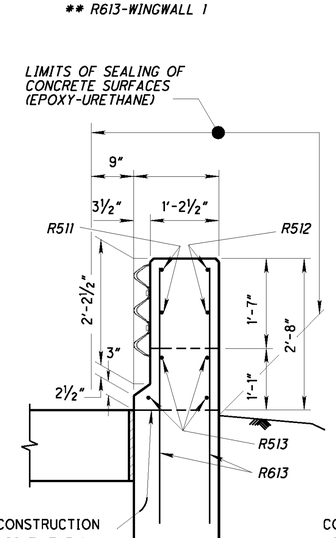


SECTION C-C

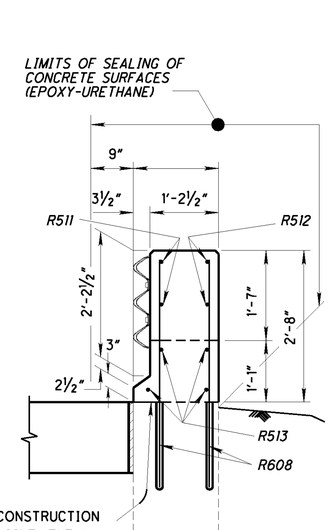
* - SEE TABLE



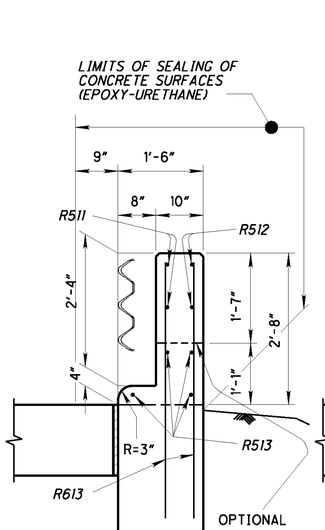
SECTION D-D



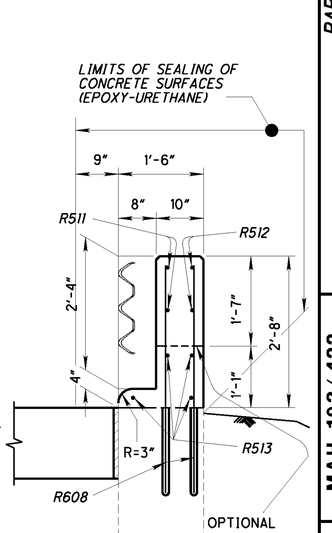
SECTION E-E
(WINGWALL 1)



SECTION E-E
(WINGWALLS 2,3,4)



SECTION F-F
(WINGWALL 1)



SECTION F-F
(WINGWALLS 2,3,4)

DESIGN AGENCY
RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED	DRAWN	REVIEWED	DATE
AJS	AJS	SSK	03/09
CHECKED	REVISED	STRUCTURE FILE NUMBER	
NCK		5004500	

PARAPET DETAILS

BRIDGE No. MAH-193-0105
OVER WIRT STREET

MAH-193/422-0.46/1.85
PID No. 25235

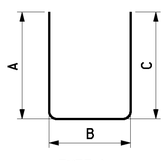
MARK	NUMBER				TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
									A	B	C	D	E	R	INC
ABUTMENTS															
	REAR	FORWARD													
SUB-TOTAL															
WINGWALLS															
	WING 1	WING 2	WING 3	WING 4											
WW501	8				8	4'-4"	36	STR.							
WW502	8				8	5'-7"	47	1	2'-4"	1'-2"	2'4"				
SUB-TOTAL							83								

MARK	NUMBER				TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
									A	B	C	D	E	R	INC
PIERS															
	PIER 1	PIER 2	PIER 3												
P401		12			12	16'-4"	131	STR.							
P402		44			44	7'-9"	228	6							
SUB-TOTAL							359								
SUPERSTRUCTURE - DECK															
SUB-TOTAL															
SUPERSTRUCTURE - PARAPETS															
	LEFT	RIGHT													
R501	167	157			324	7'-1"	2394	4	8"	3'-3"	3'-0"			1 1/2"	
R502	NOT USED														
R503	6	6			12	20'-6"	257	STR.							
R504	30	30			60	30'-0"	1877	STR.							
R505	6				6	2'-10'	18	STR.							
R506		6			6	3'-11"	25	STR.							
R507	6				6	10'-5"	65	STR.							
R508		6			6	6'-7"	41	STR.							
R509	2 SER OF. 11	2 SER OF. 11			4 SER OF. 11	3'-0" TO 3'-10"	157	5	2'-5" TO 3'-3"	3"				2-1/4"	29/32"
R510	8	8			16	10'-0"	167	STR.							
R511	4	4			8	5'-8"	47	3							
R512	4	4			8	5'-8"	47	STR.							
R513	8	8			16	13'-8"	228	STR.							
R601	5	5			10	30'-0"	451	STR.							
R602	1				1	2'-6"	4	STR*							
R603		1			1	3'-7"	5	STR*							
R604	1				1	10'-2"	15	STR*							
R605		1			1	6'-3"	9	STR*							
R606	32	29			61	3'-3"	298	2	1'-9"	8 1/2"	6"	8"			
R607	10	7			17	2'-2"	55	STR.							
R608	8	16			24	4'-0"	144	STR.							
R609	150	157			307	2'-6"	1153	2	9"	8 1/2"	6"	9"			
R610	150	157			307	1'-3"	576	STR.							
R611	1	1			2	20'-6"	62	STR.							
R612	2 SER OF 11	2 SER OF. 11			4 SER.OF 11	4'-0" TO 4-10"	292	STR.							
R613	8				8	4'-6"	54	STR.							
SUB-TOTAL							8441								
TOTAL							8883								

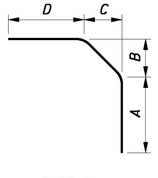
NOTES:

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 ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A501 IS A No. 5 BAR.
2. BAR DIMENSIONS ARE OUT TO OUT UNLESS OTHERWISE NOTED. "R" INDICATES THE INSIDE RADIUS, UNLESS OTHERWISE NOTED.
3. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
4. "STR" IN THE TYPE COLUMN INDICATES A STRAIGHT BAR.
5. ALL REINFORCING STEEL CLEARANCES ARE 2" UNLESS OTHERWISE NOTED.

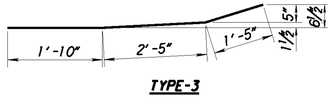
* FIELD BEND



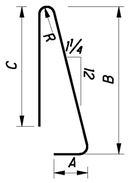
TYPE-1



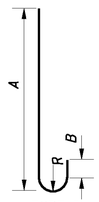
TYPE-2



TYPE-3



TYPE-4



TYPE-5



TYPE-6

DESIGN AGENCY
RESOURCE INTERNATIONAL INC.
6350 PRESIDENTIAL GATEWAY
COLUMBUS, OHIO 43231
(614) 823-4949

DESIGNED JLM | DRAWN JLM | REVIEWED SSK | DATE 03/09
CHECKED AJS | REVISED | STRUCTURE FILE NUMBER 5004446

REINFORCING SCHEDULE

BRIDGE NO. MAH-193-0105
SR 193 OVER WIRT STREET

MAH-193/ 422-
0.46/ 1.85
PID No. 25235

12 | 12

260
260