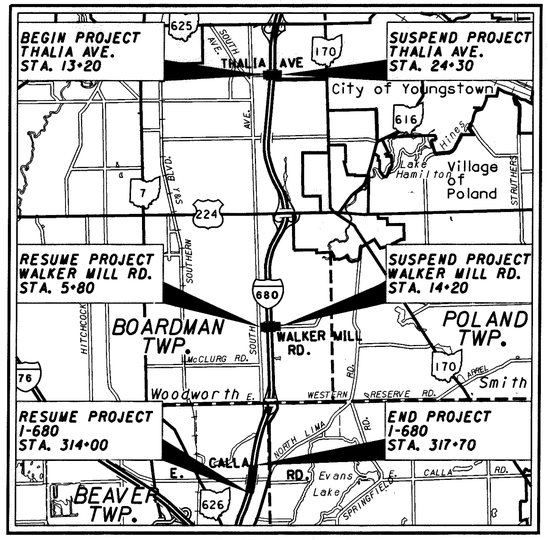

LOCATION MAP

THALIA AVE. - LATITUDE:N41°03'06" LONGITUDE:W 80°37'30"
WALKER MILL - LATITUDE:N41°00'13" LONGITUDE:W 80°37'30"
I-680/CALLA RD. - LATITUDE:N40°58'40" LONGITUDE:W 80°38'20"

SCALE IN MILES
0 1 2 3 4

N

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

DESIGN DESIGNATION	THALIA AVENUE	I-680 -9.92	WALKER MILL RD.	I-680 -13.38	I-680 -15.41	CALLA ROAD
CURRENT ADT (2001)	5040	39150	5830	21090	3070	1030
DESIGN YEAR ADT (2025)	5200	51270	6830	29720	3880	1300
DESIGN HOURLY VOLUME (2025)	286	2776	376	1609	210	86
DIRECTIONAL DISTRIBUTION	55%	57%	55%	57%	57%	55%
TRUCKS (24 HOUR B&C)	3%	10%	3%	11%	22.5%	3%
DESIGN SPEED	40MPH	70MPH	45MPH	70MPH	70MPH	40MPH
LEGAL SPEED	35MPH	65MPH	40MPH	65MPH	65MPH	35MPH
DESIGN FUNCTIONAL CLASSIFICATION	URBAN LOCAL	URBAN INTERSTATE	URBAN LOCAL	URBAN INTERSTATE	RURAL INTERSTATE	RURAL LOCAL

DESIGN EXCEPTIONS

	DATE:	SHEET #
SHOULDER WIDTH - WALKER MILL RD.	10/27/03	5

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

MAH-680-9.92/13.38/15.41
PART 1

MAHONING COUNTY
BOARDMAN TOWNSHIP
BEAVER TOWNSHIP
CITY OF YOUNGSTOWN

INDEX OF SHEETS:

PROJECT DESCRIPTION

BRIDGE REHABILITATION/DECK REPLACEMENT OF BRIDGE NO. MAH-680-9.95 THALIA AVENUE OVER I-680, BRIDGE NO. MAH-680-13.38 WALKER MILL ROAD OVER I-680 AND BRIDGE NO. MAH-680-15.41 I-680 OVER CALLA ROAD WITH MINIMAL AMOUNT OF ROADWAY APPROACH WORK AND DRAINAGE IMPROVEMENT.

LIMITED ACCESS

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

2002 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS NOTED ON SHEET 21&22, AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

PROJECT EDA	3.85 ACRES
CONTRACTOR EDA	0.25 ACRES
NOI EDA	4.9 ACRES

APPROVED _____
DATE 1-29-04 DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE 3-9-04 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E040(280)
PID NO. 23675
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
MAH-680-9.92/13.38/15.41
1/125

STANDARD CONSTRUCTION DRAWINGS PARTS 1 AND 2

										SUPPLEMENTAL SPECIFICATIONS	
BP-1.1	07-28-00	GR-5.1	04-18-03	MH-1.2	07-19-02	TC-51.12	04-20-01	MT-101.70	10-18-02	802	07-19-02
BP-1.2	07-28-00	GR-6.1	04-18-03	HL-10.12	04-19-02	TC-52.10	04-20-01	MT-102.10	10-18-02	832	2-12-03
BP-2.1	07-28-00	GR-6.2	04-18-03	DM-1.2	07-19-02	TC-52.20	04-20-01	MT-102.20	10-18-02	832	2-12-03
BP-2.2	07-28-00	RM-1.1	04-18-03	DM-1.4	07-19-02	TC-71.10	04-19-02	MT-105.10	10-18-02	864	07-11-00
BP-2.3	07-28-00	RM-4.2	04-18-03	DM-4.1	07-19-02	TC-73.10	01-19-01	MT-105.11	10-18-02	894	10-18-02
BP-2.5	07-28-00	RM-4.3	04-18-03	DM-4.3	07-19-02	HL-30.21	04-19-02	HL-50.21	04-19-02	908	04-18-03
BP-3.1	07-28-00	RM-4.5	04-18-03	DM-4.4	07-19-02	HL-20.14	01-17-03	AS-1-81	07-19-02	846	04-19-02
BP-4.1	07-28-00	F-1.1	07-28-00	HL-10.13	01-17-03	HL-30.11	04-19-02	BR-1	07-19-02	954	09-09-97
BP-5.1	07-28-00	CB-1.1	07-19-02	TC-12.30	01-19-01	HL-30.32	04-19-02	ICD-1-82	07-19-02	MT-98.13	04-19-02
GR-1.1	04-18-03	CB-2.1	07-19-02	TC-21.20	01-19-01	HL-30.31	01-17-03	PCB-91	07-19-02	MT-98.14	04-19-02
GR-1.2	04-18-03	CB-2.2	07-19-02	TC-22.10	01-19-01	MT-35.10	04-20-01	SICD-1-96	07-19-02	MT-98.16	04-19-02
GR-1.3	04-18-03	F-3.1	07-28-00	TC-22.20	01-19-01	MT-95.30	04-19-02	VPF-1-90	07-19-02	MT-99.20M	01-30-95
GR-2.1	04-18-03	HW-1.1	07-20-01	TC-41.10	01-19-01	MT-95.40	07-18-03	HL-60.11	07-20-01	TC-41.20	01-19-01
GR-3.1	04-18-03	HW-2.1	07-19-02	TC-42.10	01-19-01	MT-96.10	4-19-02	HL-60.12	07-20-01	TC-41.40	01-18-02
GR-4.2	10-17-03	HW-2.2	07-19-02	TC-42.20	04-20-01	MT-101.20	10-18-02	MT-97.11	04-19-02	TC-41.50	07-18-03
GR-4.5	04-18-03	HL-10.11	04-19-02	TC-51.10	04-20-01	MT-101.60	10-18-02	MT-98.12	04-19-02		

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

PLAN PREPARED BY:

PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVENUE
ROCKEFELLER BUILDING
SUITE 400
CLEVELAND, OHIO 44113

ENGINEERS SEAL:

STATE OF OHIO
ERIC B. SHERER
E-55409
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: Eric B. Sherer
DATE: 11/21/04

$TIME$

$DATE$

BEGIN WORK
THALIA AVENUE
STA. 12+70.00

BEGIN PROJECT
THALIA AVENUE
STA. 13+20.00
E040(280)

℄ CONSTRUCTION
THALIA AVENUE

60" CONC.

15+00

N 88° 15' 21" E

20+00

I-680 SB

N0° 13' 49"W

I-680 NB

P.I. Sta. 22+39.15
DEF ∠ = N0°03'45"E RT
CITY OF YOUNGSTOWN

SUSPEND WORK
THALIA AVENUE
STA. 25+00.00

SUSPEND PROJECT
THALIA AVENUE
STA. 24+80.00

N 88° 19' 06" E

25+00

CENTERLINE REFERENCES

R/W PIN
46.76'
℄ THALIA RD.
43.61'
MON
℄ 14+50.00
R/W PIN

IRON PIN
28.11'
℄ THALIA RD.
MON
℄ 22+00.16
74.36'
118.35'
R/W PIN
R/W PIN

605+00
N5° 09' 21"E

℄ CONSTRUCTION THALIA AVE.
STA. 20+00.10
℄ CONSTRUCTION I-680
STA. 606+30.02

BOARDMAN TWP.

THALIA AVE
P.I. Sta. = 22+39.15
Δ = 0° 3' 44.65" (RT)
NO CURVE

I-680
P.I. Sta = 608+65.97
D = 5° 23' 09" (LT)
Dc = 0° 28' 00"
R = 12,277.67'
T = 577.49'
L = 1,154.13'
E = 13.57'

RESUME WORK
WALKER MILL RD.
STA. 5+60.00

RESUME PROJECT
WALKER MILL RD.
STA. 5+80.00

PI Sta. 2+64.56
SOUTH AVENUE

5+00

℄ CONSTRUCTION
WALKER MILL ROAD

6" NP GAS

I-680 SB

425+00
N 26° 10' 25" W

I-680 NB

10+00

N 88° 37' 12" E

SUSPEND WORK
WALKER MILL RD.
STA. 15+20.00

SUSPEND PROJECT
WALKER MILL RD.
STA. 14+20.00

STOLE LANE

15+00

℄ CONST WALKER MILL RD.
STA. 10+00.09
℄ CONSTRUCTION I-680
STA. 423+86.29

BOARDMAN TWP.

CENTERLINE REFERENCES

SE CORNER
CONC. BASE
℄ WALKER
MILL ROAD
PKS
℄ 8+00.00
PKS
MAIL BOX

PKS
12" BIRCH
61.9'
PKS
℄ 12+00.00
℄ WALKER
MILL ROAD
22.21'
56.2'
IRON PIN
FENCE
POST

RESUME WORK
I-680
STA. 292+0.00

PC Sta. 310+99.99

310+00

℄ CONSTRUCTION
I-680

RESUME PROJECT
I-680
STA. 314+00.00

CALLA ROAD
N 89° 23' 42" E

END PROJECT
I-680.
STA. 317+70.00
E040(280)

315+00

N 10° 38' 51" E

N 4° 44' 02" E

20+00

P.I. Sta = 315+03.57
Δ = 5° 54' 50" (LT)
Dc = 0° 44' 00"
R = 7,813.06'
T = 403.57'
L = 806.43'
E = 10.42'
emax = 0.028

PT Sta. 319+06.42

I-680 SB

320+00

N 4° 44' 02" E

CENTERLINE REFERENCE

℄ CALLA RD.
POC STA.311+00
MON
℄ I.R.680
PT STA.319+03.22
471.47'
MON
℄ 320+00.00 CALLA-
℄ 315+84.71 I.R.680
PC MON
STA.323+35.10
DRILL
HOLE

END WORK
I-680.
STA. 339+70.00

I-680 NB

℄ CONST CALLA RD.
STA. 20+00.00
℄ CONSTRUCTION I-680
STA. 315+84.72

BEAVER TWP.

CALCULATED MTL
CHECKED SG

HORIZONTAL SCALE IN FEET
0 25 50 100

SCHEMATIC PLAN

MAH-680-9.92/13.38/15.41

2
125

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g:*projects*21467*FULLprf*GB001680.prf

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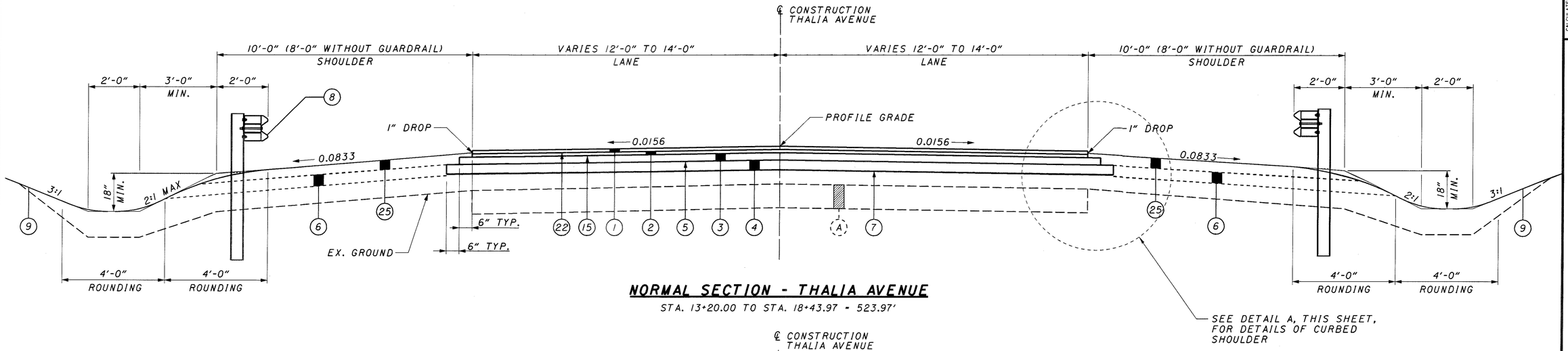
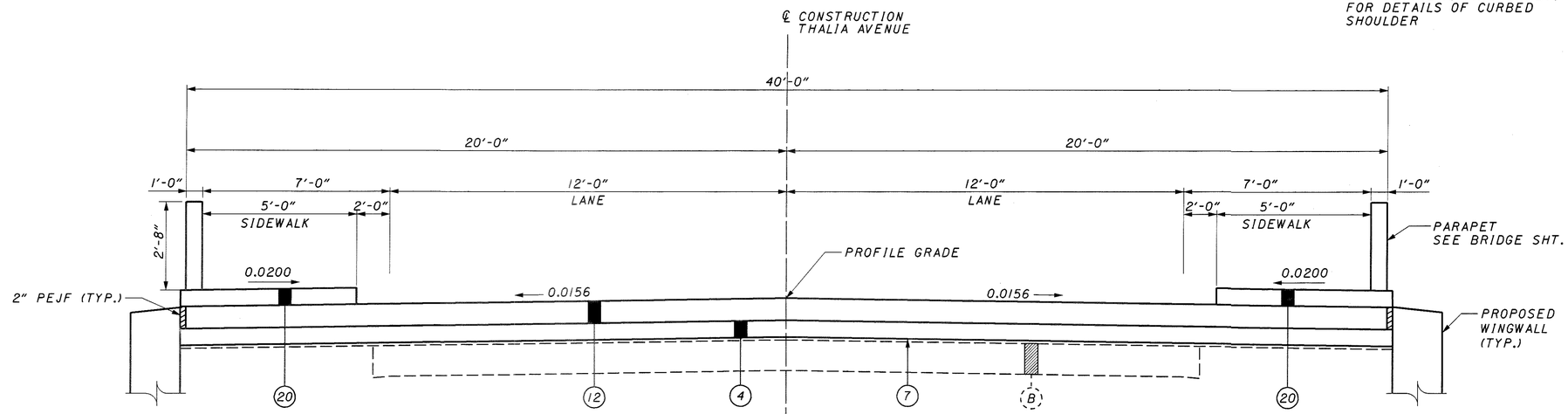


NORMAL SECTION - THALIA AVENUE

STA. 13+20.00 TO STA. 18+43.97 = 523.97'



APPROACH SLAB SECTION - THALIA AVENUE

STA. 18+43.97 TO STA. 18+58.97 = 15.00'
STA. 21+41.42 TO STA. 21+56.42 = 15.00'
TOTAL LENGTH = 30.00'

(1) ITEM 448 - 1¼" ASPHALT CONCRETE SURFACE COURSE TYPE I, PG 64-22

(1A) ITEM 448 - VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE TYPE I, PG 64-22

(2) ITEM 448 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG. 64-22

(2A) ITEM 448 - 1½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64-22

(3) ITEM 302 - 4" ASPHALT CONCRETE BASE, PG 64-22

(4) ITEM 304 - 6" AGGREGATE BASE

(5) ITEM 408 - PRIME COAT

(6) ITEM 605 - AGGREGATE DRAINS

(7) ITEM 204 - SUBGRADE COMPACTION

(8) ITEM 606 - GUARDRAIL, TYPE 5

(9) ITEM 659 - SEEDING AND MULCHING

(10) ITEM 609 - CURB, TYPE 6

(11) ITEM 608 - 4" CONCRETE WALK

(12) ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T = 12"), AS PER PLAN

(13) ITEM 254 - PAVEMENT PLANING, 2½" ASPHALT CONCRETE

(13A) ITEM 254 - PAVEMENT PLANING, 1" PORTLAND CEMENT CONCRETE

(14) ITEM 305 - 4" PORTLAND CEMENT CONCRETE BASE

(15) ITEM 407 - TACK COAT

(16) ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A

(17) STANDARD LONGITUDINAL JOINT PER BP-2.1

(18) NOT USED

(19) ITEM 451 - 8" REINFORCED CONCRETE PAVEMENT

(20) ITEM 608 - 8" CONCRETE WALK

(21) ITEM 254 - PAVEMENT PLANING, 1¼" ASPHALT CONCRETE FOR PHASE 2 CONSTRUCTION

(22) ITEM 407 - TACK COAT, FOR INTERMEDIATE COURSE

(23) ITEM 609 - COMBINATION CURB AND GUTTER, TYPE 2

(24) ITEM 605 - 6" DEEP PIPE UNDERDRAIN

(25) ITEM 411 - 6" STABILIZED CRUSHED AGGREGATE

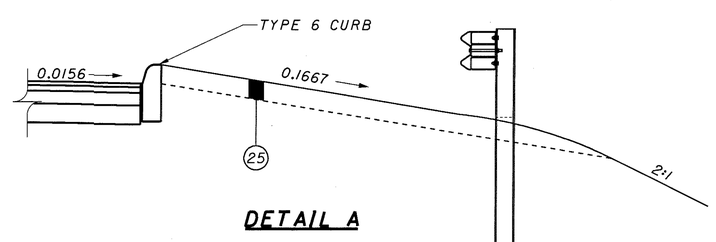
(A) 11"± EXISTING ASPHALT CONCRETE PAVEMENT

(B) APPROACH SLAB

(C) 8"± REINFORCED CONCRETE PAVEMENT

(D) EX. SIDEWALK

(E) EX. 11½"± COMPOSITE PAVEMENT



DETAIL A

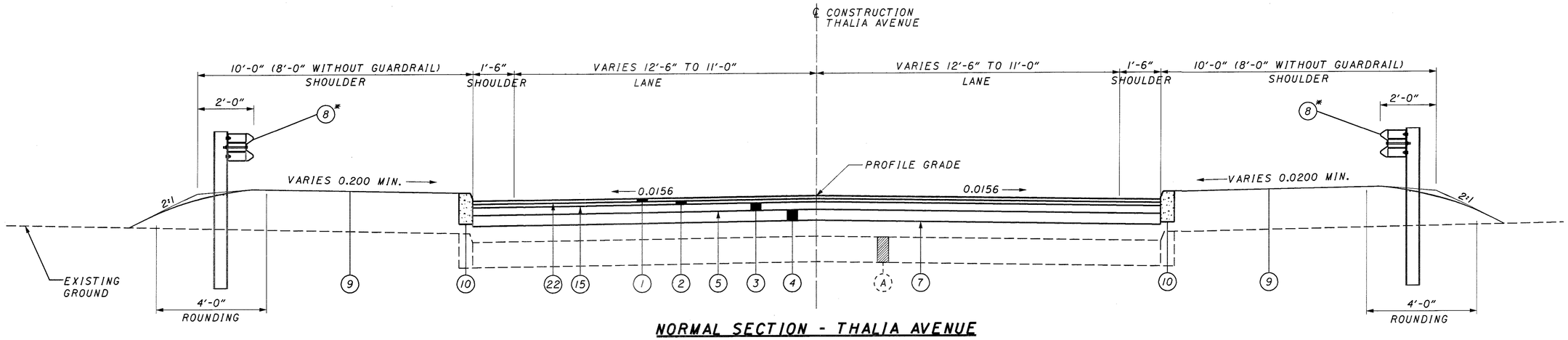
STA 18+06.27 TO STA. 18+43.97 LEFT
STA. 18+03.68 TO STA. 18+43.97 RIGHT

CALCULATED MTL
CHECKED SG

TYPICAL SECTIONS - THALIA AVE.

MAH-680-9.92/13.38/15.41

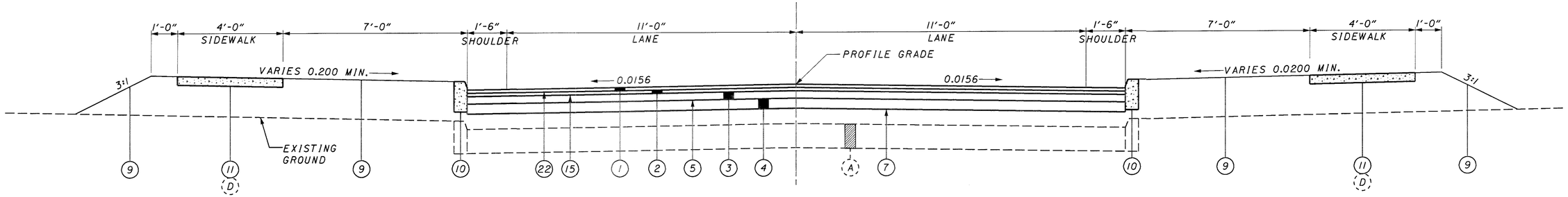
3
125



NORMAL SECTION - THALIA AVENUE

STA. 21+56.42 TO STA. 22+61.00 = 104.58'

* SEE SITE PLAN FOR LIMITS OF GUARDRAIL AND SIDEWALK



NORMAL SECTION - THALIA AVENUE

STA. 22+61.00 TO STA. 24+30.00 = 169.00'

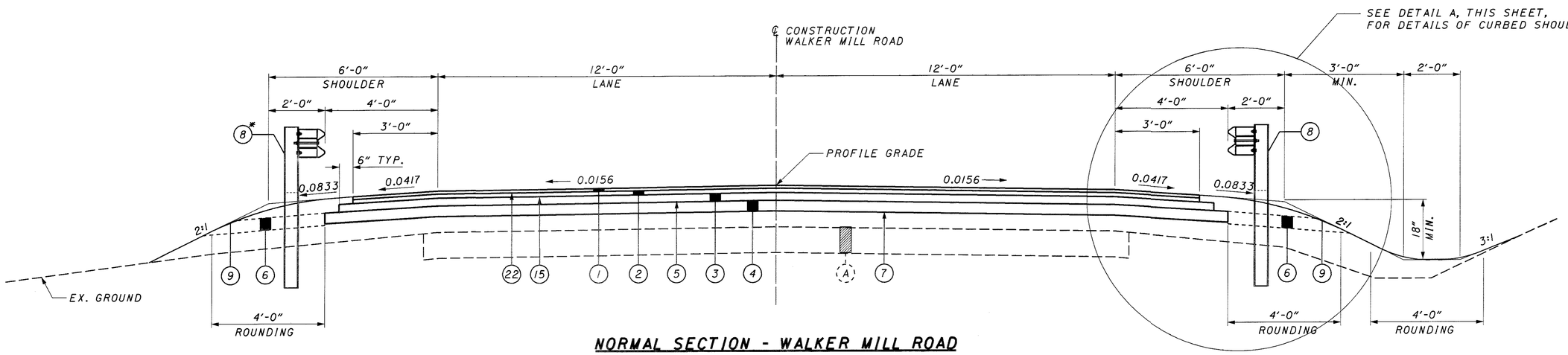
NOTE
FOR LEGEND, SEE SHEET 3.

CALCULATED MTL
CHECKED SG

TYPICAL SECTIONS - THALIA AVE.

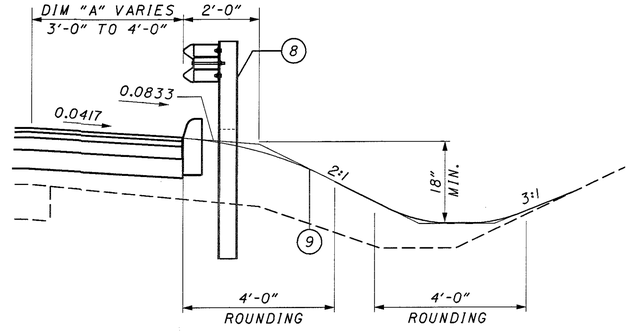
MAH-680-9.92/13.38/15.41

4
125



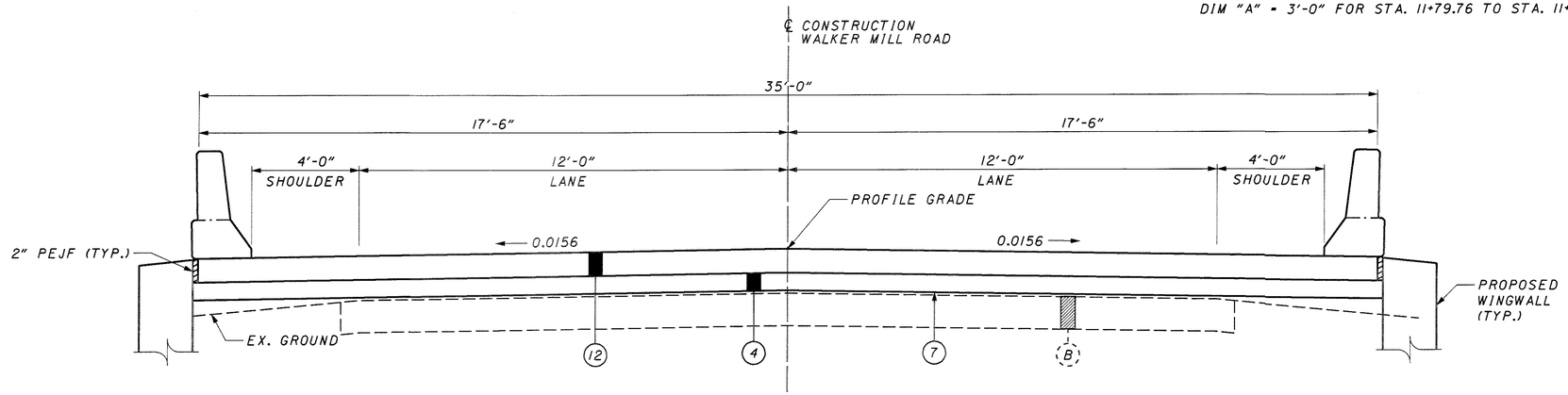
NORMAL SECTION - WALKER MILL ROAD

STA. 5+80.00 TO STA. 8+43.93 = 263.93'
STA. 11+56.37 TO STA. 14+20.00 = 263.63'
TOTAL LENGTH = 527.56'



DETAIL A

DIM "A" = 3'-0" FOR STA. 8+04.84 TO STA. 8+20.59
DIM "A" VARIES (3'-0" TO 4'-0") FOR STA. 8+20.59 TO STA. 8+43.93
DIM "A" VARIES (4'-0" TO 3'-0") FOR STA. 11+56.37 TO STA. 11+79.76
DIM "A" = 3'-0" FOR STA. 11+79.76 TO STA. 11+95.51



APPROACH SLAB NORMAL SECTION - WALKER MILL ROAD

STA. 8+43.93 TO STA. 8+58.93 = 15.00'
STA. 11+41.37 TO STA 11+56.37 = 15.00'
TOTAL LENGTH = 30.00'

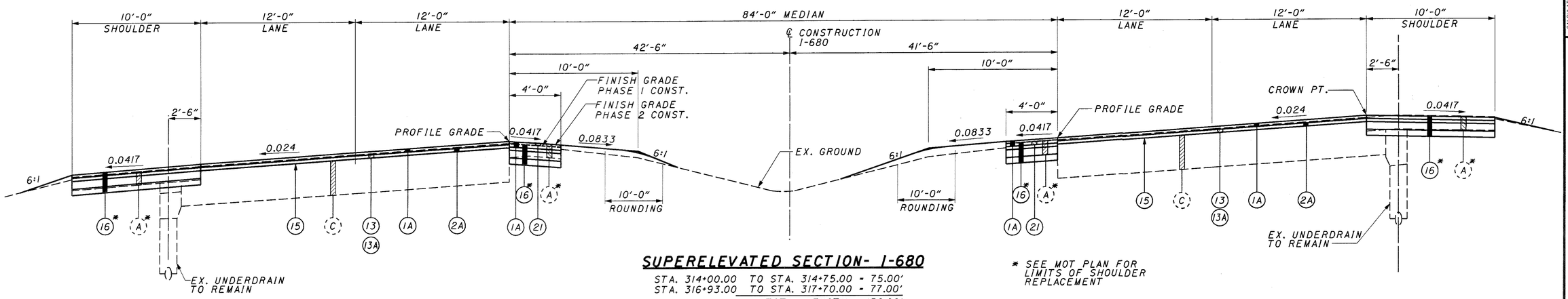
NOTE
FOR LEGEND, SEE SHEET 3.

CALCULATED MTL
CHECKED SG

TYPICAL SECTIONS - WALKER MILL ROAD

MAH-680-9.92/13.38/15.41

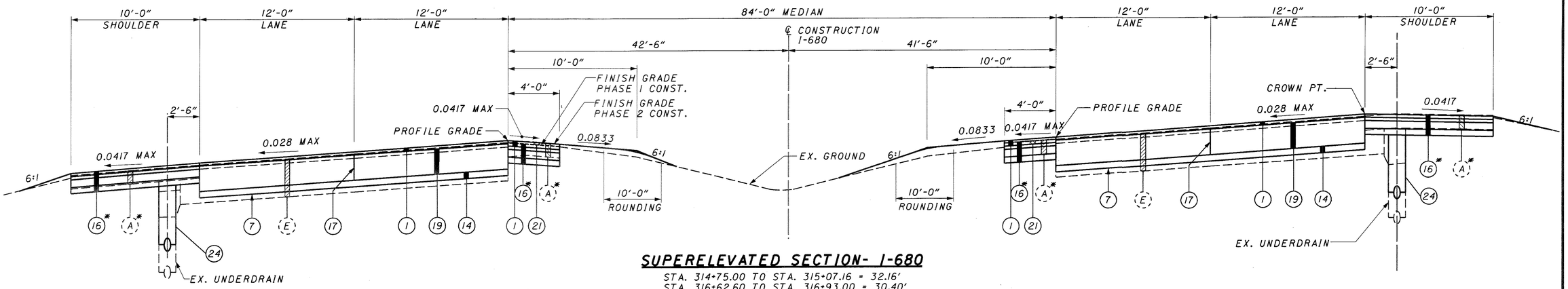
5
125



SUPERELEVATED SECTION- I-680

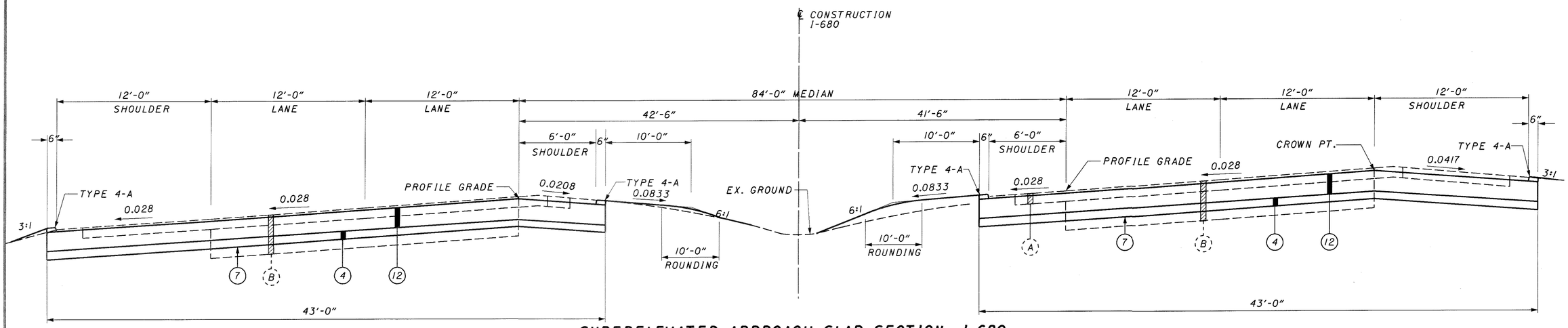
STA. 314+00.00 TO STA. 314+75.00 = 75.00'
STA. 316+93.00 TO STA. 317+70.00 = 77.00'
TOTAL LENGTH = 152.00'

* SEE MOT PLAN FOR LIMITS OF SHOULDER REPLACEMENT



SUPERELEVATED SECTION- I-680

STA. 314+75.00 TO STA. 315+07.16 = 32.16'
STA. 316+62.60 TO STA. 316+93.00 = 30.40'
TOTAL LENGTH = 62.56'



SUPERELEVATED APPROACH SLAB SECTION- I-680

STA. 315+07.06 TO STA. 315+22.16 = 15.00'
STA. 316+47.60 TO STA. 316+62.60 = 15.00'
TOTAL LENGTH = 30.00'

NOTE
(1) FOR SUPERELEVATION TRANSITION, SEE SUPER ELEVATION TABLE, SHEET 37
(2) FOR LEGEND, SEE SHEET 3.

CALCULATED MTL CHECKED SG

TYPICAL SECTIONS - I-680

MAH-680-9.92/13.38/15.41

g:*projects*21467*dgnroad*gy001680.dgn
g:*projects*21467*FULLprf*GY001680D.prf
Tue Jan 20 23:49:47 2004

ROUNDING

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

CLEARING AND GRUBBING

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	3	0	3

UTILITIES

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

MAH-680-9.92 (THALIA RD.)

Dominion East Ohio Gas
1165 W. Rayen Avenue
Youngstown, Ohio 44502
(330) 742-8138
Attn: James Sympson

City of Youngstown (Water)
26 S. Phelps St.
P.O. Box 6219
Youngstown, Ohio 44501
(330) 743-5338
Attn: Gene Leson

City of Youngstown (Sewer)
26 S. Phelps St.
Youngstown, Ohio 44503
(330) 726-8151
Attn: Carmen S. Conglose, Jr.

Ameritech
50 W. Bowery 4th Floor
Akron, Ohio 44308
(330) 650-8404
Attn: James McLaughlin

Armstrong Cable
9328 Woodworth Road
North Lima, Ohio 44452
(330) 758-6411
Attn: Paul Wachtel

MAH-680-13.38 (WALKER MILL RD.)

Dominion East Ohio Gas
1165 W. Rayen Avenue
Youngstown, Ohio 44502
(330) 742-8138
Attn: James Sympson

Ameritech
50 W. Bowery 4th Floor
Akron, Ohio 44308
(330) 650-8404
Attn: James McLaughlin

Mahoning County Sanitary Engineer
761 Industrial Road
Youngstown, Ohio 44509
(330) 793-5514
Attn: Joe Warino

Armstrong Cable
9328 Woodworth Road
North Lima, Ohio 44452
(330) 758-6411
Attn: Paul Wachtel

Sun Pipeline
Sunoco Pipeline LP
525 Fritztown Road
Sinking, PA 19608
(610) 670-3256
Attn: JoMarie Jenkins

Consumer Ohio Water Services
6650 South Avenue
Boardman, Ohio 44512
Attn: Tim Prince

MAH-680-15.41 (CALLA RD.)

Ameritech
50 W. Bowery 4th Floor
Akron, Ohio 44308
(330) 650-8404
Attn: James McLaughlin

Ohio Edison
730 South Avenue
Youngstown Ohio 44502
(330) 740-7635
Attn: William Speece

Columbia Gas
7080 Fryar Road
Middleburg, Ohio 44130
(440) 891-2428
Attn: Dan Suren

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

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM, NAD 83.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

MONUMENTS

MONUMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS AS SHOWN ON THE STANDARD CONSTRUCTION DRAWINGS AND AT THE LOCATIONS SHOWN ON SHEETS 29 AND 30 OF 125.

SEEDING AND MULCHING

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

	ITEM	UNIT	THALIA	WALKER MILL	I-680	TOTAL
659	SEEDING AND MULCHING (CARRIED FROM ESTIMATED QUANTITES)	SQ. YD.	4937	1393	510	6840
659	TOPSOIL (111 CU.YDS. PER 1000 SQ.YD. OF PERMANENT SEEDING)	CU.YD.	548	155	57	760
659	REPAIR SEEDING AND MULCHING (5% OF PERMANENT SEEDING)	SQ. YD.	247	70	26	343
659	INTER-SEEDING (5% OF PERMANENT SEEDING)	SQ. YD.	247	70	26	343
659	COMMERCIAL FERTILIZER (1 TON PER 7410 SQ. YD. PLUS 1 TON PER 11115 SQ.YD.)	TON	1.11	0.32	0.12	1.55
659	LIME (SQ. YD. / 4840)	ACRE	1.02	0.29	0.11	1.42
659	WATER (0.0054 M GAL. PER SQ. YD. PLUS 0.0027 M GAL. PER SQ.YD.)	M GAL	40	12	4	56
659	MOWING (25% OF PERMANENT SEEDED AREA)	M SF			1.2	1.2

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.

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.

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.

UNSUITABLE FOUNDATION SOILS

IF UNSUITABLE FOUNDATION SOILS ARE ENCOUNTERED IN THE AREAS OF THE PROPOSED ROADBED, THEY SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL MEETING THE REQUIREMENTS OF 203.02.R. THE LOCATIONS AND DIMENSIONS WILL BE AS DETERMINED BY THE ENGINEER.

THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER:

ITEM 203 100 CU. YDS. EMBANKMENT
ITEM 203 100 CU. YDS. EXCAVATION

ITEM SPECIAL - MAILBOX SUPPORT

THIS WORK SHALL CONSIST OF FURNISHING AND ERECTING MAILBOX SUPPORTS AND ANY ASSOCIATED MOUNTING HARDWARE IN ACCORDANCE WITH PLAN DETAILS, AND ATTACHING AN OWNER-SUPPLIED MAILBOX AT LOCATIONS SPECIFIED IN THE PLAN, OR OTHERWISE ESTABLISHED BY THE ENGINEER.

WOOD POSTS SHALL BE NOMINAL 4" BY 4" SQUARE OR 4½" DIAMETER ROUND, AND CONFORM TO 710.14.

STEEL POSTS SHALL BE NOMINAL PIPE SIZE 2" I.D., AND CONFORM TO AASHTO M 181.

HARDWARE (PLATES, SCREWS, BOLTS, ETC.) SHALL BE COMMERCIAL-GRADE GALVANIZED STEEL.

POSTS SHALL BE SET PER THE FIRST PARAGRAPH OF 606.03, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO BOXES MAY BE MOUNTED ON A SINGLE POST.

THE MAILBOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS, AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION.

IN THE ABSENCE OF A NEW BOX SUPPLIED BY THE OWNER, THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING ON HIS PART, AS JUDGED AND DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL POST MASTER REGARDING THE TIMING OF THE MOVEMENT OF ANY MAILBOX TO A NEW LOCATION.

PAYMENT UNDER THIS ITEM SHALL BE LIMITED TO FINAL PERMANENT INSTALLATIONS. TEMPORARY INSTALLATIONS SHALL BE IN ACCORDANCE WITH 107.10. HOWEVER, THE SAME MATERIAL AND SIZE LIMITATIONS AS FOR PERMANENT INSTALLATIONS SHALL APPLY.

MAILBOX SUPPORTS, COMPLETE IN PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH, FOR ITEM SPECIAL MAILBOX SUPPORT, SINGLE.

ITEM 606 - ANCHOR ASSEMBLY, TYPE E-98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS.

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 MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. NO.	DRAWING NAME	DWG./ REV. DATE	ODOT APPROVAL DATE
SSS265M	ET-2000 (1997) PLAN, ELEVATION AND SECTIONS	6/20/97	3/6/98
SS142	ET2000 PLUS 50'-0" PLAN, ELEVATION AND SECTION 25'-0" RAIL, SLEEVE W/PL POSTS 1-4	4/12/00	7/31/00
SS141	ET2000 PLUS PLAN, ELEVATION AND SECTION 25'-0" RAIL, HBA POSTS 1-4	2/29/00	7/31/00
SS158	ET2000 PLUS 50'-0" WITH 12'-6" PANELS AND HBA POSTS 1-4 PLAN, ELEVATION AND SECTION	5/22/00	7/31/00

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

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

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

CALCULATED MTL CHECKED SG

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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".

REFER TO THE MANUFACTURER'S INSTRUCTION REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4-INCHES 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.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4-INCHES 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.

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.

PART-WIDTH CONSTRUCTION

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

PROTECTION OF RIGHT-OF-WAY LANDSCAPING

THE CONTRACTOR SHALL CONSTRICT ALL OF HIS/HER ACTIVITIES, EQUIPMENT STORAGE, AND STAGING TO WITHIN THE CONSTRUCTION LIMITS. UNLESS OTHERWISE IDENTIFIED IN THE PLANS OR PROPOSAL, THE CONSTRUCTION LIMITS ARE AS SHOWN ON THE PLAN AND PROFILE SHEETS.

SHOULD THE CONTRACTOR WISH TO USE ANY AREA OUTSIDE THESE LIMITS, A REQUEST IN WRITING MUST BE SUBMITTED TO THE PROJECT ENGINEER. THE DOCUMENT SUBMITTED MUST CLEARLY IDENTIFY THE AREA THAT THE CONTRACTOR PLANS TO USE AND EXPLAIN THE PROPOSED USE AND RESTORATION OF THE AREA. THE REQUEST MUST BE APPROVED, IN WRITING, BEFORE THE CONTRACTOR HAS PERMISSION TO USE THE AREA.

PRIOR TO BEGINNING WORK, THE CONTRACTOR, SUPERINTENDENT OR HIS REPRESENTATIVE, THE PROJECT ENGINEER, AND A REPRESENTATIVE OF THE MAINTAINING AGENCY SHALL REVIEW AND RECORD ALL LANDSCAPING ITEMS WITHIN THE RIGHT-OF-WAY (BOTH WITHIN AND OUTSIDE THE CONSTRUCTION LIMITS). A RECORD OF THIS REVIEW WILL BE KEPT IN THE PROJECT ENGINEER'S FILES. PRIOR TO FINAL ACCEPTANCE, A FINAL REVIEW OF LANDSCAPING ITEMS WILL BE MADE. ANY ITEMS DAMAGED BEYOND THE CONSTRUCTION LIMITS AS DEFINED ABOVE WILL BE REPLACED IN KIND OR AS APPROVED BY THE PROJECT ENGINEER.

CONVERSION OF STANDARD CONSTRUCTION DRAWINGS

THE METRIC STANDARD DRAWINGS REFERENCED IN THIS PLAN SHALL BE CONVERTED TO ENGLISH UNITS USING THE SI (METRIC) TO ENGLISH CONVERSION FACTORS PROVIDED IN SECTION 109.02 OF THE 2002 CONSTRUCTION AND MATERIAL SPECIFICATIONS. CONVERSIONS SHALL BE APPROPRIATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE.

CONTRACTION JOINTS IN CONCRETE PAVEMENT OR BASE WIDENING

WHERE NEW CONCRETE IS PLACED ADJACENT TO EXISTING CONCRETE, CONTRACTION JOINTS SHALL BE PROVIDED IN THE NEW CONCRETE SO AS TO FORM CONTINUOUS JOINTS WITH THOSE IN THE EXISTING CONCRETE.

THE MAXIMUM DISTANCE BETWEEN THE JOINTS IN THE NEW CONCRETE SHALL BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2, IF NECESSARY, ADDITIONAL JOINTS SHALL BE PROVIDED IN THE NEW CONCRETE AT APPROXIMATELY EQUAL INTERVALS BETWEEN EXISTING JOINTS THAT EXCEED THE MAXIMUM SPACING.

ITEM 204 - PROOF ROLLING

AN ESTIMATED QUANTITY FOR THIS ITEM HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

204 PROOOF ROLLING 2 HOUR

ITEM 407 TACK COAT AND TACK COAT FOR INTERMEDIATE COURSE

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTEMENT AS DIRECTED BY THE ENGINEER. FOR ESTIMATING PURPOSE ONLY, THE PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF:

407 TACK COAT 0.075 GAL/SY
407 TACK COAT FOR INTERMEDIATE COURSE 0.075 GAL/SY

ITEM 408 PRIME COAT

THE RATE OF APPLICATION OF THE 408 PRIME COAT SHALL BE SUBJECT TO ADJUSTEMENT AS DIRECTED BY THE ENGINEER. FOR ESTIMATING PURPOSE ONLY, THE PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF:

408 PRIME COAT 0.40 GAL/SY

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. ALL OTHER SLOPED EMBANKMENT AREAS SHALL BE BENCHED AS SET FORTH IN 203.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF 203.05.

EXISTING PLANS

EXISTING PLANS ENTITLED MAH-680-9.32, MAH-680-12.16, MAH-680-14.76 MAY BE INSPECTED IN THE ODOT DISTRICT 4 OFFICE IN AKRON, OHIO.

ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=12"), AS PER PLAN

THE CONTRACTOR SHALL CONSTRUCT THE APPROACH SLABS PER DETAILS PROVIDED IN THE PLANS INCLUDING THE CONSTRUCTION OF THE PARAPET CONCRETE, ADDITIONAL REINFORCING, SIDEWALKS AND CURB. PAYMENT SHALL BE INCLUDED IN ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=12"), AS PER PLAN.

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. THE CONTRACTOR IS ADVISED THAT NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF 1266 FT AMSL. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, THE CONTRACTOR IS ADVISED THAT FURTHER COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA) WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO FILE A NEW FAA FORM 7460-1, ADVISING THE FAA THAT AERONAUTICAL STUDY NO. 2003-DOT-967-OE IS BEING RESUBMITTED AND THAT AN ALTERATION TO THE ORIGINAL SUBMISSION IS REQUESTED. COPIES OF THE ALTERATION AND FORM 7460-1 SHALL BE FORWARDED TO THE ODOT OFFICE OF AVIATION. THE CONTRACTOR IS ADVISED THAT NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT, UNTIL A COPY OF THE FAA APPROVAL AND ODOT OFFICE OF AVIATION PERMIT HAS BEEN FURNISHED TO THE PROJECT ENGINEER.

THE CONTRACTOR IS FURTHER ADVISED THAT THE FAA APPROVAL MAY TAKE UP TO 45 DAYS. ALL SUBMISSIONS SHALL BE DIRECTED TO THESE OFFICES:

THE FEDERAL AVIATION ADMINISTRATION
GREAT LAKES REGIONAL OFFICE
AIR TRAFFIC DIVISION AGL-530
2300 EAST DEVON AVENUE
DES PLAINES, ILLINOIS 60018
(847) 294-7566

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF AVIATION
2829 WEST DUBLIN-GRANVILLE ROAD
COLUMBUS, OHIO 43235
(614) 793-5046

CALCULATED MTL
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GENERAL NOTES

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ITEM 614 - MAINTAINING TRAFFIC

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

THE CONTRACTOR SHALL GIVE THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT FOUR, (330) 297-0801 EXT. 209, EIGHTEEN (18) DAYS NOTICE PRIOR TO RESTRICTING TRAFFIC.

ONLY DURING OFF-PEAK PERIODS (I.E. ANY PERIOD OTHER THAN 7-9 A.M. AND 4-6 P.M.) SHALL THE CONTRACTOR INSTALL AND SUBSEQUENTLY RESET ALL TRAFFIC CONTROL NECESSARY FOR MAINTAINING TRAFFIC EACH CONSTRUCTION PHASE.

A MINIMUM OF ONE ELEVEN FOOT LANE IN EACH DIRECTION SHALL BE MAINTAINED ON THE EXISTING PAVEMENT DURING CONSTRUCTION OF THE WORK. THROUGH TRAFFIC SHALL BE MAINTAINED IN EACH DIRECTION AT ALL TIMES ON I-680. LOCAL THROUGH TRAFFIC ON THALIA AVE. AND WALKERMILL ROAD SHALL BE MAINTAINED IN EACH DIRECTION UNTIL SUCH TIME THAT THEY SHALL BE CLOSED FOR THE DURATION OF THE REQUIRED WORK. FOR THE OVERPASS DETOUR ROUTE DETAILS, SEE SHEET NO. 21 AND 22.

IN ADDITION, THE FOLLOWING REQUIREMENTS SHALL APPLY:

THROUGH TRAFFIC SHALL BE MAINTAINED IN EACH DIRECTION AT ALL TIMES ON I-680 AND CALLA ROAD, WHILE THROUGH TRAFFIC FOR THALIA AVENUE AND WALKER-MILL ROAD SHALL BE DETOURED.

SEQUENCE OF CONSTRUCTION I-680 OVER CALLA ROAD

TO CONSTRUCT THE VARIOUS ITEMS AS DETAILED WITHIN THESE PLANS, THE WORK SHALL BE DIVIDED INTO THE FOLLOWING PHASES:

PHASE I-A

BEFORE STARTING ANY CONSTRUCTION WHICH REQUIRES CLOSING THE EXISTING PAVEMENT TO TRAFFIC, THE SIGNS, WORK ZONE PAVEMENT MARKINGS, PAVEMENT FOR MAINTAINING TRAFFIC, AND PORTABLE CONCRETE BARRIERS FOR PHASE I-B SHALL BE FURNISHED AND ERECTED. LEOS SHALL BE UTILIZED FOR THE PROTECTION OF VEHICULAR TRAFFIC UNTIL THE PLACEMENT OF PORTABLE CONCRETE BARRIER, PAVEMENT MARKINGS, AND SIGNS ARE COMPLETED. FOR ADDITIONAL DETAILS AND LANE TRANSITION SIGNING SEE ODOT STANDARD CONSTRUCTION DRAWING MT-95.30.

PHASE I-B

ONE LANE OF TRAFFIC SHALL BE MAINTAINED NORTHBOUND AND SOUTHBOUND ON I-680. TRAFFIC IS TO BE TRANSFERRED TO THE EXISTING INSIDE PAVED SHOULDER AS SHOWN IN THE PLANS.

WHILE TRAFFIC IS BEING MAINTAINED AS PER THE ABOVE, THE CONTRACTOR SHALL PERFORM THE FOLLOWING WORK.

A. REPLACE AND WIDEN OUTSIDE PORTIONS OF BRIDGE DECKS NORTHBOUND AND SOUTHBOUND I-680 OVER CALLA ROAD.
B. PERFORM GRADING, ROADWAY AND DRAINAGE WORK.
C. PERFORM PAVING ITEM 448 SURFACE COURSE.
D. REMOVE AND REPLACE EXISTING GUARDRAIL AS REQUIRED.
E. CONSTRUCT PAVEMENT FOR MAINTAINING TRAFFIC TO BE USED IN PHASE II.

FOR ADDITIONAL DETAILS AND LANE TRANSITION SIGNING SEE ODOT STANDARD CONSTRUCTION DRAWING MT-95.40.

PHASE II

AFTER COMPLETION OF PHASE I-B, NORTHBOUND AND SOUTHBOUND I-680 TRAFFIC IS TO BE TRANSFERRED TO THE NEW PAVEMENT AND WIDENED DECKS MAINTAINING ONE LANE OF TRAFFIC NORTHBOUND AND SOUTHBOUND. SEE SECTION ON PLAN SHEET No. 18 .

BEFORE STARTING ANY CONSTRUCTION WHICH REQUIRES CLOSING THE EXISTING PAVEMENT TO TRAFFIC, THE SIGNS, WORK ZONE PAVEMENT MARKINGS, AND PORTABLE CONCRETE BARRIERS FOR PHASE II SHALL BE FURNISHED AND ERECTED. LEOS SHALL BE UTILIZED FOR THE PROTECTION OF VEHICULAR TRAFFIC UNTIL THE PLACEMENT OF PORTABLE CONCRETE BARRIER, PAVEMENT MARKINGS, AND SIGNS ARE COMPLETED. FOR ADDITIONAL DETAILS AND LANE TRANSITION SIGNING SEE ODOT STANDARD CONSTRUCTION DRAWING MT-95.40.

WHILE TRAFFIC IS BEING MAINTAINED AS PER ABOVE, THE CONTRACTOR SHALL PERFORM THE FOLLOWING WORK ON THE EXISTING PAVEMENT AND INSIDE PAVED SHOULDER (4 FT. WIDE):

A. REPLACE BRIDGE DECKS NORTHBOUND AND SOUTHBOUND I-680 OVER CALLA ROAD.
B. PERFORM PAVEMENT MILLING OVER EXISTING PAVEMENT AND PAVED SHOULDERS.
C. PERFORM REMAINING GRADING, ROADWAY, AND SIGNING FOR PHASE II.
D. REMOVE AND REPLACE EXISTING GUARDRAIL.
E. RESURFACE EXISTING PAVEMENT AND INSIDE PAVED SHOULDER EXCEPT ITEM 448 SURFACE COURSE.

AFTER COMPLETION OF THE ABOVE SPECIFIED WORK, TRANSFER TRAFFIC TO ORIGINAL TRAFFIC PATTERN.

PHASE III

ITEM 448 SURFACE COURSE SHALL BE PLACED AFTER ALL PAVEMENT CONSTRUCTION ON THE MAINLINE HAS BEEN COMPLETED. IT SHALL BE PLACED FULL WIDTH USING TRAFFIC CONTROL AS SHOWN AS WELL AS ADDITIONAL DETAILS AS PER STANDARD CONSTRUCTION DRAWING MT-95.30.

FOR DETAILS OF MAINTENANCE OF THROUGH TRAFFIC FOR I-680, SEE SHEETS 12 THROUGH 20.

ITEM 614 - BARRIER REFLECTORS AND/OR OBJECT MARKERS

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO THE APPROPRIATE PROPOSAL NOTE AND ITEM 626 EXCEPT THAT THE SPACING SHALL BE 50 FEET. AN ESTIMATED QUANTITY OF ITEM 614 BARRIER REFLECTOR, TYPE B, AND OF ITEM 614 OBJECT MARKERS HAVE BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

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

THE COMPOSITION SHALL BE FLEXIBLE PER CMS 615.05 AND REMAIN IN PLACE AFTER CONSTRUCTION.

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

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

CALCULATED W.T. CHECKED W.S.

MAINTENANCE OF TRAFFIC GENERAL NOTES

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ITEM 614 - WORK ZONE IMPACT ATTENUATOR, (UNIDIRECTIONAL)

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

1) THE QUADGUARD CZ, (24" WIDE 6-BAY) WORK ZONE IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., ONE EAST WACKER DRIVE, CHICAGO, IL 60601 (TELEPHONE: 312-467-6750).

THE LENGTH OF THE 6-BAY QUADGUARD CZ IS 20'-9". INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. NO	DRAWING NAME	DWG./ REV. DATE	ODOT APPROVAL DATE
QSCZCVR-T	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
3540260	QUADGUARD SYSTEM PCMB ANCHOR ASSEMBLY	11/19/97 Rev. C	8/27/99

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

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

DWG. NO	DRAWING NAME	DWG./ REV. DATE	ODOT APPROVAL DATE
SS450	CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATION & SECTIONS	3/12/99 Rev. 1	8/27/99
SS455	TRACC TRANSITION TO W-BEAM MEDIAN BARRIER PLAN, ELEVATION & SECTIONS	2/18/99	8/27/99
SS461	TRACC TRANSITION TO CONCRETE SAFETY SHAPE BARRIER PLAN, ELEVATION & SECTIONS	6/30/99 Rev. 1	8/27/99
SS462	TRACC TRANSITION TO CONCRETE BARRIER SINGLE SLOPE PLAN, ELEVATION & SECTIONS	6/30/99	8/27/99

3) THE GREAT CZ IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS INC. THIS ATTENUATOR MAY BE USED UNTIL JANUARY 1, 2007 IF THE ITEM WAS PURCHASED BEFORE OCTOBER 1, 1998 AND IS IN THE CONTRACTOR'S INVENTORY.

THE CONTRACTOR SHALL PROVIDE A REPLACEMENT UNIT WHEN AN IMPACT IS SEVERE ENOUGH TO REQUIRE COMPLETE REPLACEMENT OF THE ATTENUATOR. THE CONTRACTOR SHALL HAVE A SPARE PARTS PACKAGE AVAILABLE ON THE PROJECT SITE AT ALL TIMES WHEN AN ATTENUATOR IS IN PLACE. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF ONE COMPLETE SPARE PARTS PACKAGE FOR EVERY 1 TO 6 UNITS INSTALLED ON THE PROJECT SITE. FOR EXAMPLE, 5 INSTALLED UNITS REQUIRE 1 SPARE PARTS PACKAGE AND 7 INSTALLED UNITS REQUIRE 2 SPARE PARTS PACKAGES.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 614, WORK ZONE IMPACT ATTENUATOR, (UNIDIRECTIONAL), EACH, 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.

CALCULATED W.T. CHECKED W.S.

MAINTENANCE OF TRAFFIC GENERAL NOTES

MAH-680-9.92/13.38/15.41

DATE: 19-Jan-04 13:23
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SCALE: 1" = 1E

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR

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

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

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

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH :

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

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

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR

50 HOURS

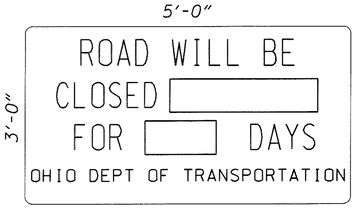
THE HOURS PAID SHALL INCLUDE MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

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

NOTICE OF CLOSURE SIGNS

THESE SIGNS SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE LOCATED IN THE FIELD SO AS NOT TO INTERFERE WITH ANY PERMANENT SIGNS ON ROADWAYS ON THIS PROJECT THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC AND SHALL INCLUDE FURNISHING, ERECTING, MAINTAINING AND REMOVING THE SIGNS SUPPORTS.



OC-60B

THE NOTICE OF CLOSURE SIGNS SHALL BE LOCATED AT THE FOLLOWING POINT OF CLOSURE LOCATIONS:

THALIA AVE. AND SOUTH AVE.
THALIA AVE. AND S.R. 170
WALKER MILL RD. AND NORTH LIMA RD.
WALKER MILL RD. AND SOUTH AVE.

WORK ZONE MARKINGS AND SIGNS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR TEMPORARY WORK ZONE PAVEMENT MARKING AND SIGNS PER THE REQUIREMENT OF THE STANDARD CONSTRUCTION DRAWINGS AND THESE PLANS:

ITEM 614 - WORK ZONE EDGE LINE, CLASS 1	3.97 MI.
ITEM 614 - WORK ZONE MARKING SIGNS	8 EA.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL, AS DIRECTED BY THE ENGINEER. THE FOLLOWING CONTINGENCY QUANTITY HAS BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER 2 M GALLONS

ITEM 622-PORTABLE CONCRETE BARRIER, 32"

IT IS ANTICIPATED THAT THE SAME BARRIER WILL BE USED IN VARIOUS PHASES OF CONSTRUCTION. MOVEMENT OF THE CONCRETE BARRIER BETWEEN PHASES SHALL BE ACCOMPLISHED IN ONE WORKING DAY. FLAGGERS SHALL BE UTILIZED FOR PROTECTION OF VEHICULAR TRAFFIC UNTIL MOVEMENT OF THE BARRIER IS COMPLETE.

MAINTENANCE OF INTERSTATE TRAFFIC-OVERPASS CLOSURES

TWO LANE TRAFFIC ON THE I-680 MAINLINE SHALL BE MAINTAINED AT ALL TIMES IN EACH DIRECTION DURING THE REHABILITATION OF THE EXISTING STRUCTURES OVER THE INTERSTATE EXCEPT DURING THE FOLLOWING OPERATIONS OR AS DIRECTED BY THE ENGINEER:

1) DEMOLITION PLATFORM AND SAFETY NET INSTALLATION & REMOVAL.

2) DEMOLITION OF THE EXISTING BRIDGE DECK AND PARAPETS.

3) DURING THE CONSTRUCTION OF THE PROPOSED SUPERSTRUCTURE OVER THE INTERSTATE WHERE THE ENGINEER BELIEVES TEMPORARY CLOSURE OF A TRAFFIC LANE IS WARRANTED.

4) FOR ADDITIONAL OPERATIONS ONLY AS APPROVED BY THE ENGINEER.

A DEMOLITION PLATFORM (W/ADDITIONAL SAFETY NETS AS APPROPRIATE) SHALL BE REQUIRED TO PROTECT THE ROADWAY BELOW DURING REMOVAL OF THE EXISTING BRIDGE DECK AND PARAPETS. THE DESIGN OF THE DEMOLITION PROTECTION SHALL CONFORM WITH ALL APPLICABLE OSHA REQUIREMENTS, SHALL HAVE APPROVAL FROM THE ODOT BUREAU OF BRIDGES AND STRUCTURAL DESIGN, AND SHALL REMAIN IN PLACE UNTIL WORK HAS BEEN COMPLETED. FURTHERMORE, THE DESIGN SHALL ENSURE THAT THE EXISTING VERTICAL CLEARANCE OVER PAVEMENT BE MAINTAINED AT ALL TIMES.

IN THE EVENT A LANE RESTRICTION IS NECESSARY ON I-680, A TEMPORARY LANE CLOSURE UTILIZING DRUMS WILL BE PERMITTED AS APPROVED BY THE ENGINEER. THE LENGTH AND NATURE OF CLOSURE SHALL BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO CLOSING THE LANE AND DURATION SHALL BE RESTRICTED TO OFF-PEAK HOURS UNLESS OTHERWISE DIRECTED BY THE ENGINEER. FOR DETAILS AND NOTES SEE STANDARD CONSTRUCTION DRAWING MT-95.30 (CLOSING RIGHT OR LEFT LANE OF A MULTI-LANE DIVIDED HIGHWAY WITH DRUMS). COST FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO AND SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

MAINTENANCE OF TRAFFIC-INTERSTATE OVER SIDE ROADS

A MINIMUM OF ONE (1) LANE TWO-WAY TRAFFIC SHALL BE MAINTAINED ON I-680 THROUGHOUT THE REHABILITATION OF THE EXISTING I-680 BRIDGES OVER CALLA ROAD. ADDITIONALLY, TWO-WAY TRAFFIC SHALL BE MAINTAINED ON CALLA RD. UNDER THE I-680 STRUCTURES DURING REHABILITATION EXCEPT DURING THE FOLLOWING OPERATIONS OR AS DIRECTED BY THE ENGINEER:

1) DEMOLITION PLATFORM AND SAFETY NET INSTALLATION & REMOVAL.

2) DEMOLITION OF THE EXISTING BRIDGE DECK AND PARAPETS.

3) DURING THE CONSTRUCTION OF THE PROPOSED SUPERSTRUCTURE OVER CALLA ROAD WHERE THE ENGINEER BELIEVES TEMPORARY CLOSURE OF A TRAFFIC LANE IS WARRANTED.

4) MISCELLANEOUS STRUCTURAL STEEL REPAIR PAINTING.

5) FOR ADDITIONAL OPERATIONS ONLY AS APPROVED BY THE ENGINEER.

A DEMOLITION PLATFORM (W/ADDITIONAL SAFETY NETS AS APPROPRIATE) SHALL BE REQUIRED TO PROTECT THE ROADWAY BELOW DURING REMOVAL OF THE EXISTING BRIDGE DECK AND PARAPETS. THE DESIGN OF THE DEMOLITION PROTECTION SHALL CONFORM WITH ALL APPLICABLE OSHA REQUIREMENTS, SHALL HAVE APPROVAL FROM THE ODOT BUREAU OF BRIDGES AND STRUCTURAL DESIGN, AND SHALL REMAIN IN PLACE UNTIL WORK HAS BEEN COMPLETED. FURTHERMORE, THE DESIGN SHALL ENSURE THAT THE EXISTING VERTICAL CLEARANCE OVER PAVEMENT BE MAINTAINED AT ALL TIMES.

IN THE EVENT A LANE RESTRICTION IS NECESSARY ON CALLA RD., A TEMPORARY LANE CLOSURE UTILIZING FLAGGERS WILL BE PERMITTED DURING NON-PEAK HOURS OR AS OTHERWISE DIRECTED BY THE ENGINEER AND ARE INTENDED FOR THE WORK LISTED ABOVE. FOR DETAILS AND NOTES SEE STANDARD CONSTRUCTION DRAWING MT-97.10 (FLAGGERS CLOSING 1 LANE OF A 2 LANE HIGHWAY STATIONARY OPERATION, DATED 4-19-02). COST FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO AND SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

CALCULATED W.T. CHECKED W.S.

MAINTENANCE OF TRAFFIC GENERAL NOTES

MAH-680-9.92/13.38/15.41

DATE: 19-Jan-04 13:22
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SCALE: 1 = 1E

MAINTENANCE OF TRAFFIC SUBSUMMARY

CALCULATED W.T. CHECKED W.S.

SHEET NO.	STATION TO STATION	SIDE	614 BARRIER REFLECTOR, TYPE B @ 50' C/C EACH YELLOW	614 BARRIER REFLECTOR, TYPE B @ 50' C/C EACH WHITE	614 OBJECT MARKER, ONE-WAY @ 50' C/C EACH YELLOW	614 OBJECT MARKER, ONE-WAY @ 50' C/C EACH WHITE	614 WORK ZONE EDGE LINE, CLASS 1 FT YELLOW	614 WORK ZONE EDGE LINE, CLASS 1 FT WHITE	614 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH		615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN SQ. YD.	622 PORTABLE CONCRETE BARRIER, 32" FT	622 PORTABLE CONCRETE BARRIER, 32" BRIDGE MOUNTED, (ANCHORED) FT
PHASE I-B													
13	311+85	RT							1				
13	311+85 - 315+20	RT		8		8						335	
13	315+20 - 316+50	RT		3		3							130
13	316+50 - 317+00	RT		1		1						50	
13	297+25 - 318+95	RT						2170					
13	297+25 - 318+95	RT					2170						
13	314+60 - 315+10	LT		2		2						50	
13	315+10 - 316+60	LT		3		3							150
13, 14	316+60 - 319+85	LT		7		7						325	
14	319+85	LT							1				
13 - 15	312+65 - 334+45	LT						2180					
13 - 15	312+65 - 334+45	LT					2180						
PHASE II													
16 - 18	292+20 - 322+85	RT						3065					
16 - 18	292+20 - 322+85	RT					3065						
17	310+70	RT							1				
17, 18	310+70 - 315+20	RT	10		10							450	
18	315+20 - 316+70	RT	3		3								150
18	316+70 - 317+00	RT	1		1							30	
17 - 20	308+75 - 339+50	LT						3075					
17 - 20	308+75 - 339+50	LT					3075						
18	314+60 - 315+10	LT	2		2							50	
18	315+10 - 316+40	LT	3		3								130
18	316+40 - 321+00	LT	10		10							460	
18	321+00	LT							1				
PHASE I-B	297+25 - 315+11 (4' WIDE)	RT									794		
	316+66 - 318+95 (4' WIDE)	RT									102		
	312+65 - 315+02 (4' WIDE)	LT									105		
	316+58 - 334+45 (4' WIDE)	LT									794		
PHASE II	297+20 - 315+16 (10' WIDE)	RT									2551		
	316+70 - 322+85 (10' WIDE)	RT									684		
	308+75 - 314+97 (10' WIDE)	LT									691		
	316+54 - 339+50 (10' WIDE)	LT									2551		
TOTALS THIS SHEET			29	24	29	24	10490	10490	4		8272	1750	560
TOTALS CARRIED TO GENERAL SUMMARY			53		53		20980 (3.97 MI.)		4		8272	1750	560

MAH-680-9.92/13.38/15.41

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SCALE: 1 = 1E

NOTES:

1. FOR QUANTITIES SEE SHEET 11.

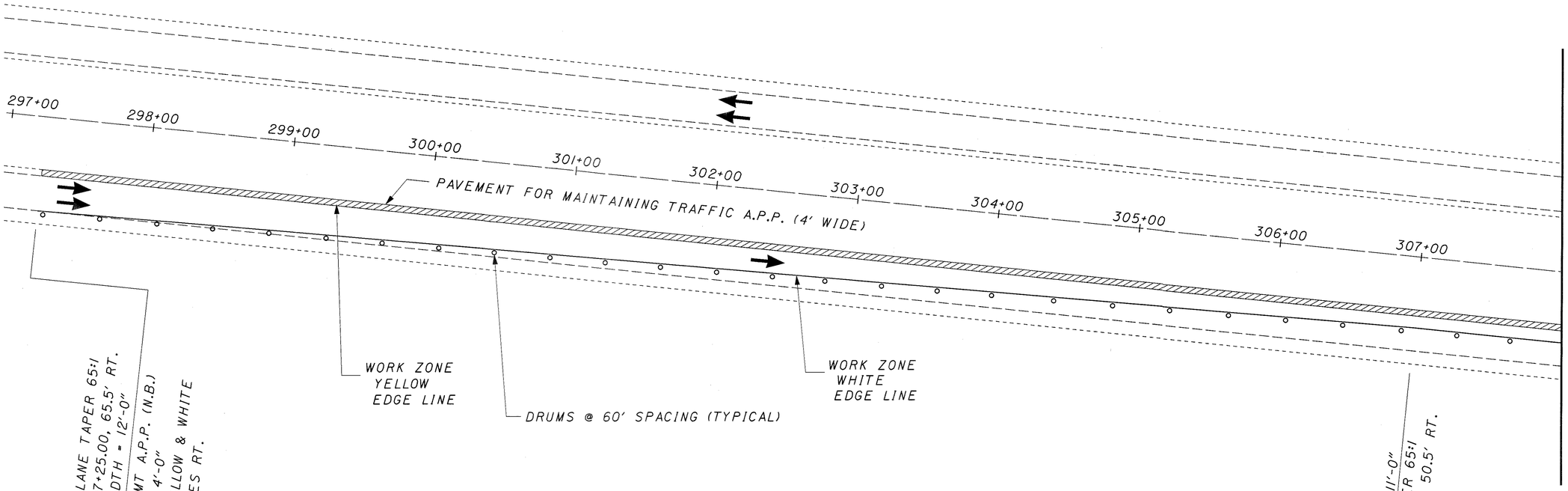
2. FOR ADDITIONAL DETAILS AND LANE TRANSITION SIGNING SEE ODOT STANDARD CONSTRUCTION DRAWING MT-95.40.

LEGEND

= PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, A.P.P.

= CONSTRUCTION AREA

PMT = PAVEMENT FOR MAINTAINING TRAFFIC



N

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED W.T.
CHECKED W.S.

PHASE I-B PLAN - I-680
STA. 297+00 TO STA. 308+00

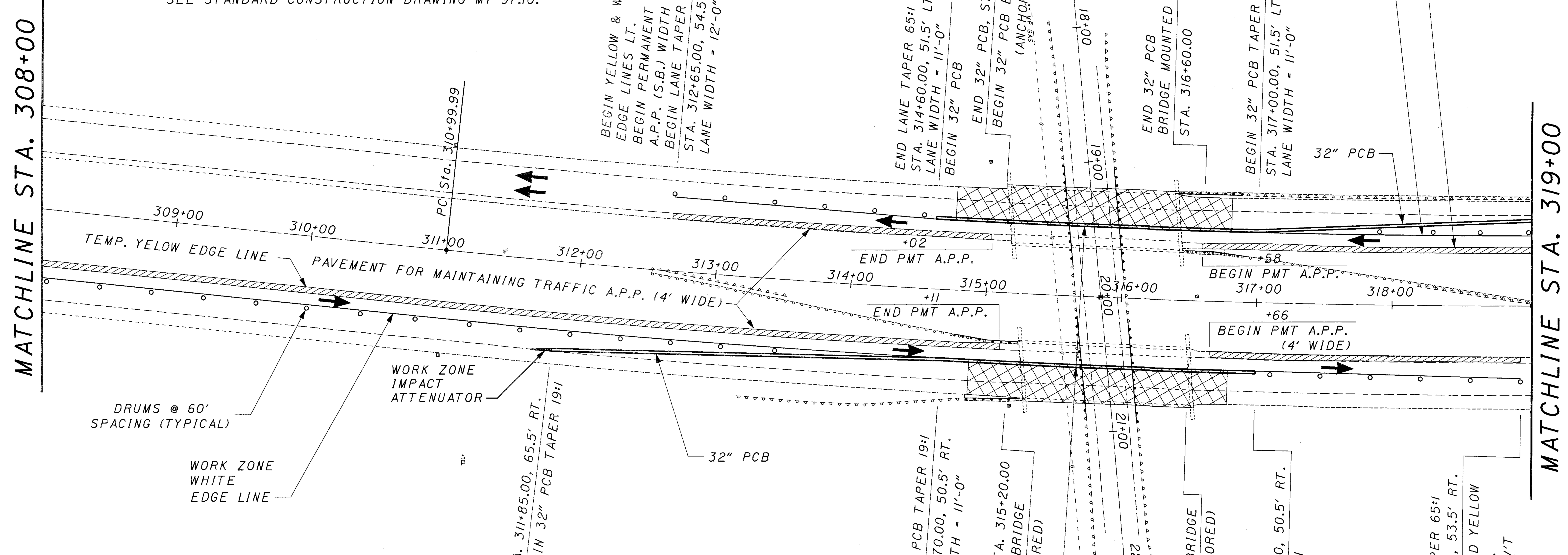
MAH-680-9.92/13.38/15.41

12
125

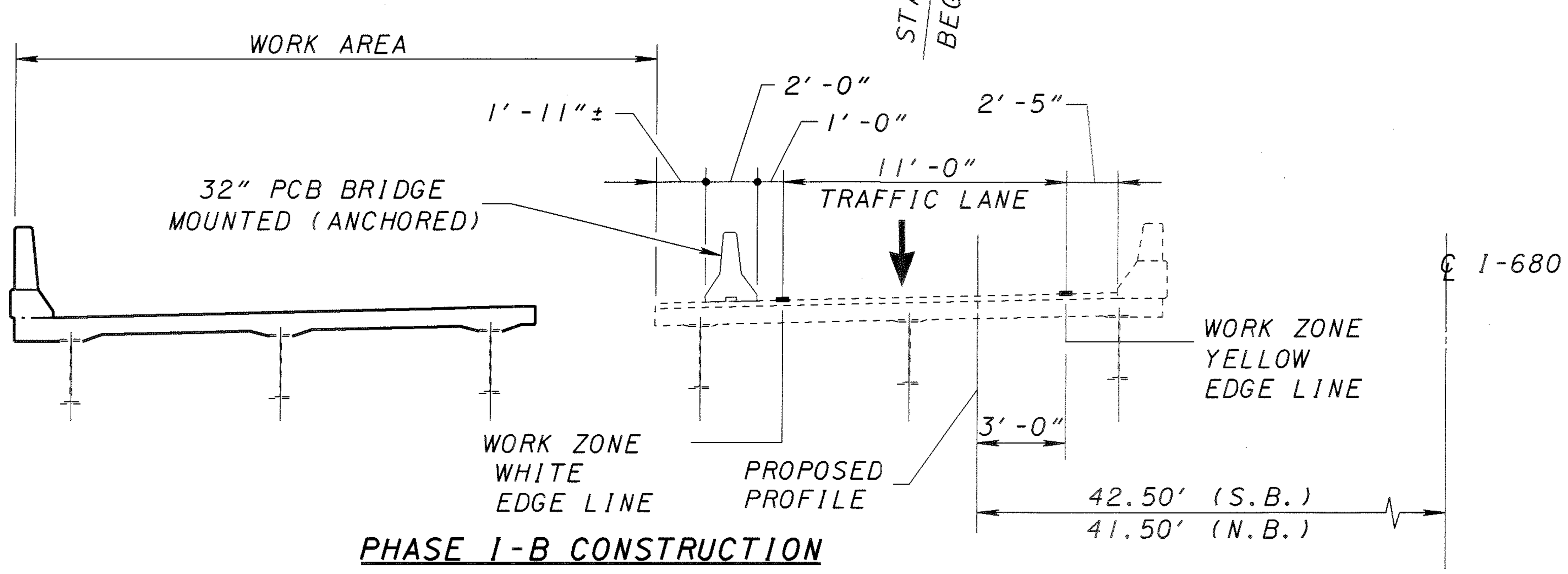
DATE: 19-Jan-04 13:20
FILE: J:\Job\6038C_ MAH-680-15.41\Plan_Sheets\05_Mot\02_Plan\MP001.dgn
SCALE: 1" = 40E

NOTES:

1. FOR ADDITIONAL DETAILS AND LANE TRANSITION SIGNING SEE ODOT STANDARD CONSTRUCTION DRAWING MT-95.40.
2. FOR QUANTITIES SEE SHEET 11.
3. FOR LEGEND SEE SHEET 12.
4. FOR FLAGGING OPERATIONS ON CALLA RD. SEE STANDARD CONSTRUCTION DRAWING MT-97.10.



MATCHLINE STA. 308+00
MATCHLINE STA. 319+00
PC Sta. 310+99.99
309+00
310+00
311+00
312+00
313+00
314+00
315+00
316+00
317+00
318+00
17+00
18+00
19+00
20+00
21+00
22+00
23+00
CALLA ROAD
TEMP. YELOW EDGE LINE
PAVEMENT FOR MAINTAINING TRAFFIC A.P.P. (4' WIDE)
DRUMS @ 60' SPACING (TYPICAL)
WORK ZONE WHITE EDGE LINE
WORK ZONE IMPACT ATTENUATOR
32" PCB
STA. 311+85.00, 65.5' RT. BEGIN 32" PCB TAPER 19:1
BEGIN YELLOW & WHITE EDGE LINES LT. BEGIN PERMANENT PAV'T. CLASS "A" A.P.P. (S.B.) WIDTH = 4'-0" BEGIN LANE TAPER 65:1
STA. 312+65.00, 54.5' LT. LANE WIDTH = 12'-0"
END LANE TAPER 65:1 STA. 314+60.00, 51.5' LT. LANE WIDTH = 11'-0" BEGIN 32" PCB
END 32" PCB, STA. 315+10.00 BEGIN 32" PCB BRIDGE MOUNTED (ANCHORED)
END 32" PCB BRIDGE MOUNTED (ANCHORED) STA. 316+60.00
BEGIN 32" PCB TAPER 19:1 STA. 317+00.00, 51.5' LT. LANE WIDTH = 11'-0"
WORK ZONE YELLOW EDGE LINE
WORK ZONE WHITE EDGE LINE
+02 END PMT A.P.P.
+11 END PMT A.P.P.
+58 BEGIN PMT A.P.P.
+66 BEGIN PMT A.P.P. (4' WIDE)
END 32" PCB TAPER 19:1 STA. 314+70.00, 50.5' RT. LANE WIDTH = 11'-0"
END 32" PCB STA. 315+20.00 BEGIN 32" PCB BRIDGE MOUNTED (ANCHORED)
32" PCB BRIDGE MOUNTED (ANCHORED)
STA. 316+50.00 END 32" PCB BRIDGE MOUNTED (ANCHORED) BEGIN 32" PCB
END PCB STA. 317+00.00, 50.5' RT. BEGIN LANE TAPER 65:1 LANE WIDTH = 11'-0"
END LANE TAPER 65:1 STA. 318+95.00, 53.5' RT. END WHITE AND YELLOW EDGE LINE RT. END TEMP. PAV'T



PHASE I-B CONSTRUCTION

(SB BRIDGE SHOWN, NB BRIDGE OPPOSITE HAND)

0 20 40 80 HORIZONTAL SCALE IN FEET

CALCULATED W.T. CHECKED W.S.

PHASE I-B PLAN - I-680
STA. 308+00 TO STA. 319+00

MAH-680-9.92/13.38/15.41

DATE: 19-Jan-04 13:20
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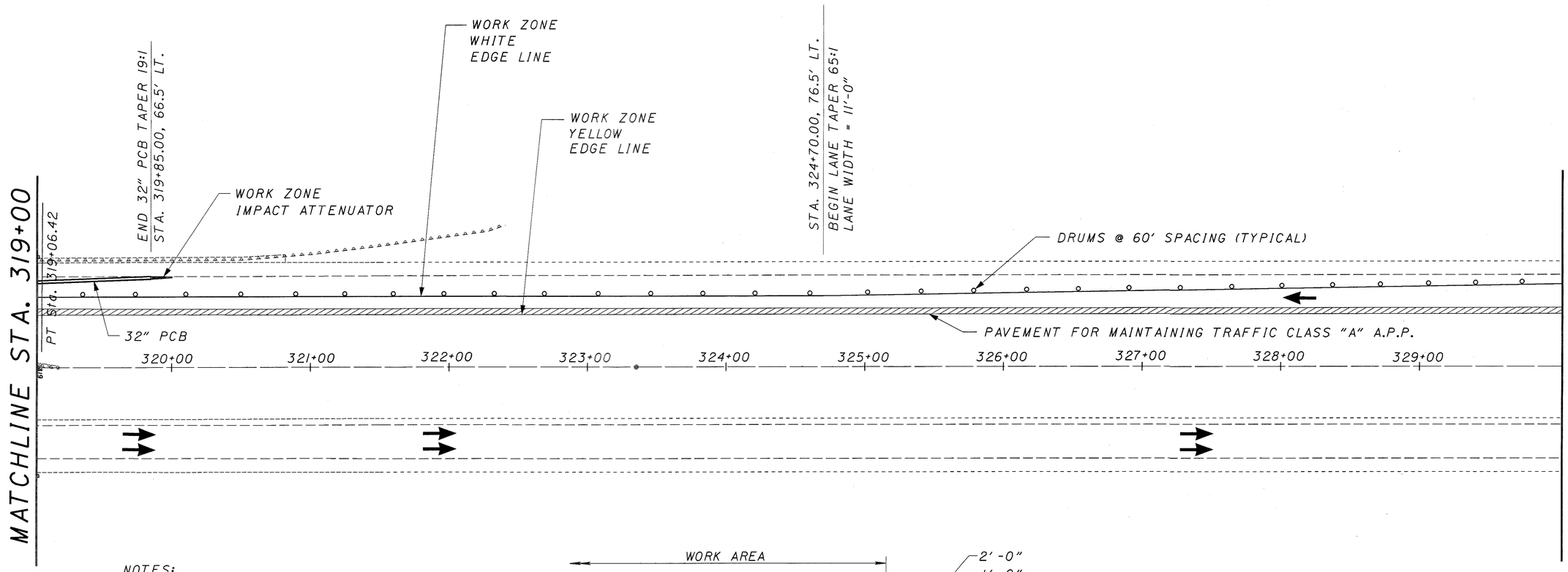
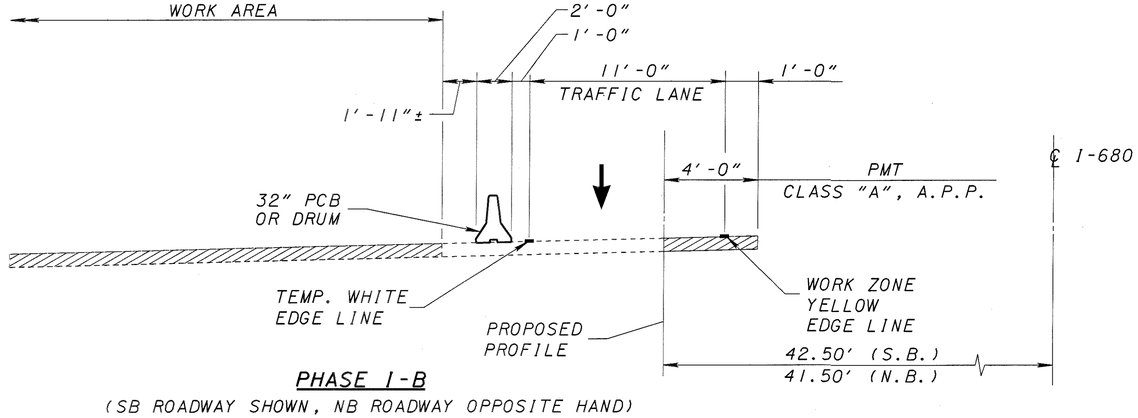


NOTES:

1. FOR ADDITIONAL DETAILS AND LANE TRANSITION SIGNING SEE ODOT STANDARD CONSTRUCTION DRAWING MT-95.40.
2. FOR QUANTITIES SEE SHEET 11.
3. FOR LEGEND SEE SHEET 12.



PHASE I-B

(SB ROADWAY SHOWN, NB ROADWAY OPPOSITE HAND)

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SCALE: 1" = 40E

CALCULATED W.T.
CHECKED W.S.

HORIZONTAL SCALE IN FEET
0 20 40 80

PHASE I-B PLAN - I-680
STA. 319+00 TO STA. 330+00

MAH-680-9.92/13.38/15.41

14
125

NOTES:

1. FOR ADDITIONAL DETAILS AND LANE TRANSITION SIGNING SEE ODOT STANDARD CONSTRUCTION DRAWING MT-95.40.
2. FOR QUANTITIES SEE SHEET 11.
3. FOR LEGEND SEE SHEET 12.

DATE: 19-Jan-04 14:23
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SCALE: 1 • 40E

CALCULATED W.T.
CHECKED W.S.

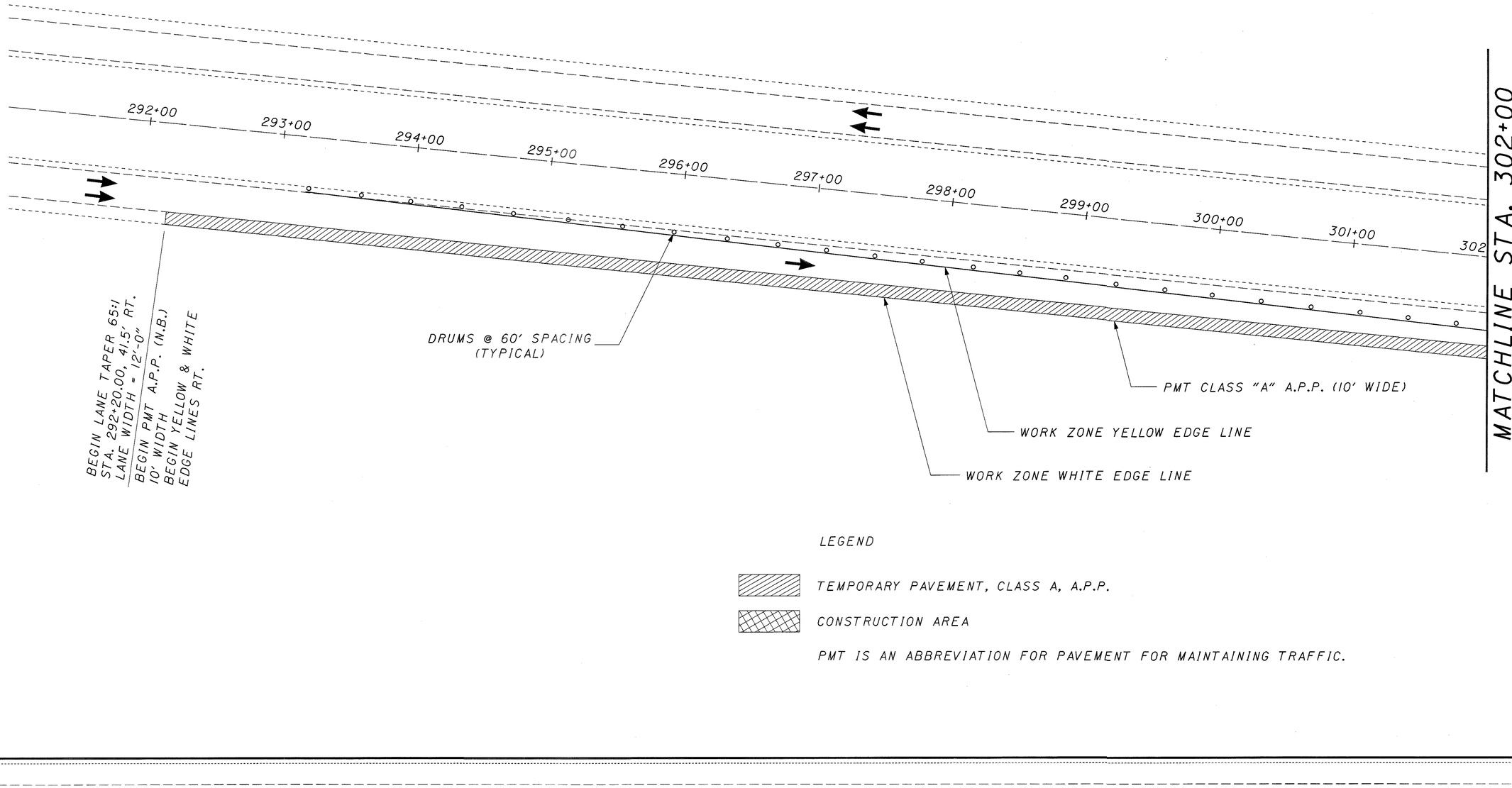
0 20 40 80
HORIZONTAL SCALE IN FEET

PHASE I-B PLAN - I-680
STA. 330+00 TO STA. 340+00

MAH-680-9.92/13.38/15.41

NOTES:

1. FOR QUANTITIES SEE SHEET II.
2. FOR ADDITIONAL DETAILS AND LANE TRANSITION SIGNING SEE ODOT STANDARD CONSTRUCTION DRAWING MT-95.40.



LEGEND

TEMPORARY PAVEMENT, CLASS A, A.P.P.

CONSTRUCTION AREA

PMT IS AN ABBREVIATION FOR PAVEMENT FOR MAINTAINING TRAFFIC.

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SCALE: 1 • 40E

N

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED W.T.
CHECKED W.S.

PHASE II PLAN - I-680
STA. 293+00 TO STA. 302+00

MAH-680-9.92/13.38/15.41

16
125

PHASE II

(SB ROADWAY SHOWN, NB ROADWAY OPPOSITE HAND)

NOTES:

1. FOR QUANTITIES SEE SHEET 11.
2. FOR ADDITIONAL DETAILS AND LANE TRANSITION SIGNING SEE ODOT STANDARD CONSTRUCTION DRAWING MT-95.40.
3. FOR LEGEND SEE SHEET 16.

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED W.T.
CHECKED W.S.

PHASE II PLAN - I-680
STA. 302+00 TO STA. 313+00

MAH-680-9.92/13.38/15.41

17
125

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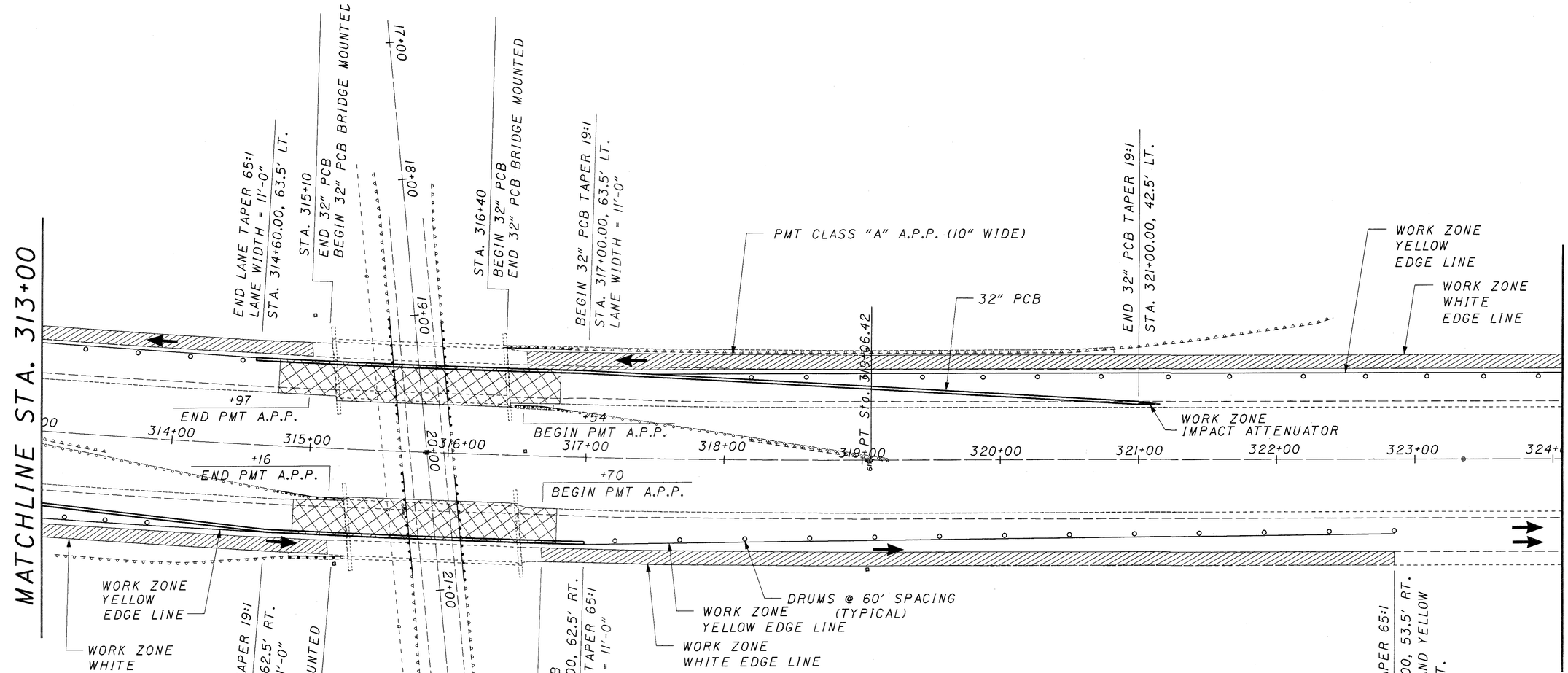

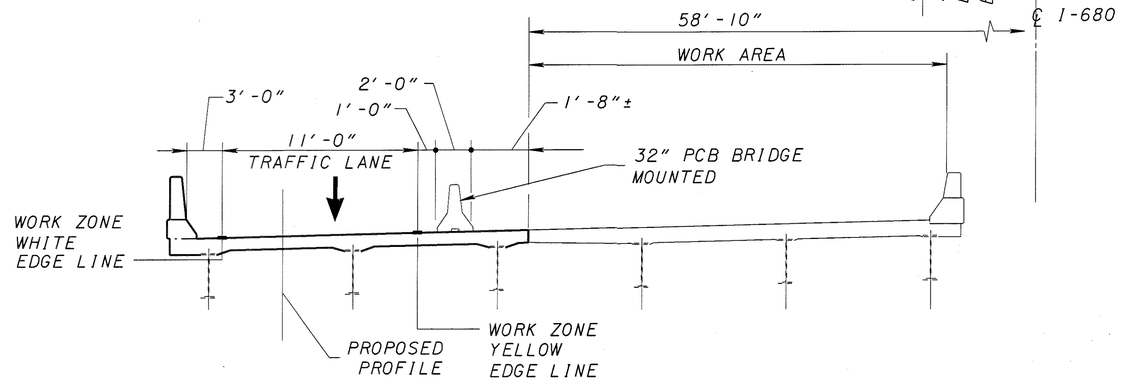

PHASE II CONSTRUCTION

(SB BRIDGE SHOWN, NB BRIDGE OPPOSITE HAND)

NOTES:

1. FOR QUANTITIES SEE SHEET 11.
2. FOR ADDITIONAL DETAILS AND LANE TRANSITION SIGNING SEE ODOT STANDARD CONSTRUCTION DRAWING MT-95.40.
3. FOR LEGEND SEE SHEET 16.

DATE: 19-Jan-04 13:21
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SCALE: 1 = 40E

CALCULATED W.T.
CHECKED W.S.

HORIZONTAL SCALE IN FEET
0 20 40 80

PHASE II PLAN - I-680
STA. 313+00 TO STA. 324+00

MAH-680-9.92/13.38/15.41

18
125

DATE: 19-Jan-04 13:21
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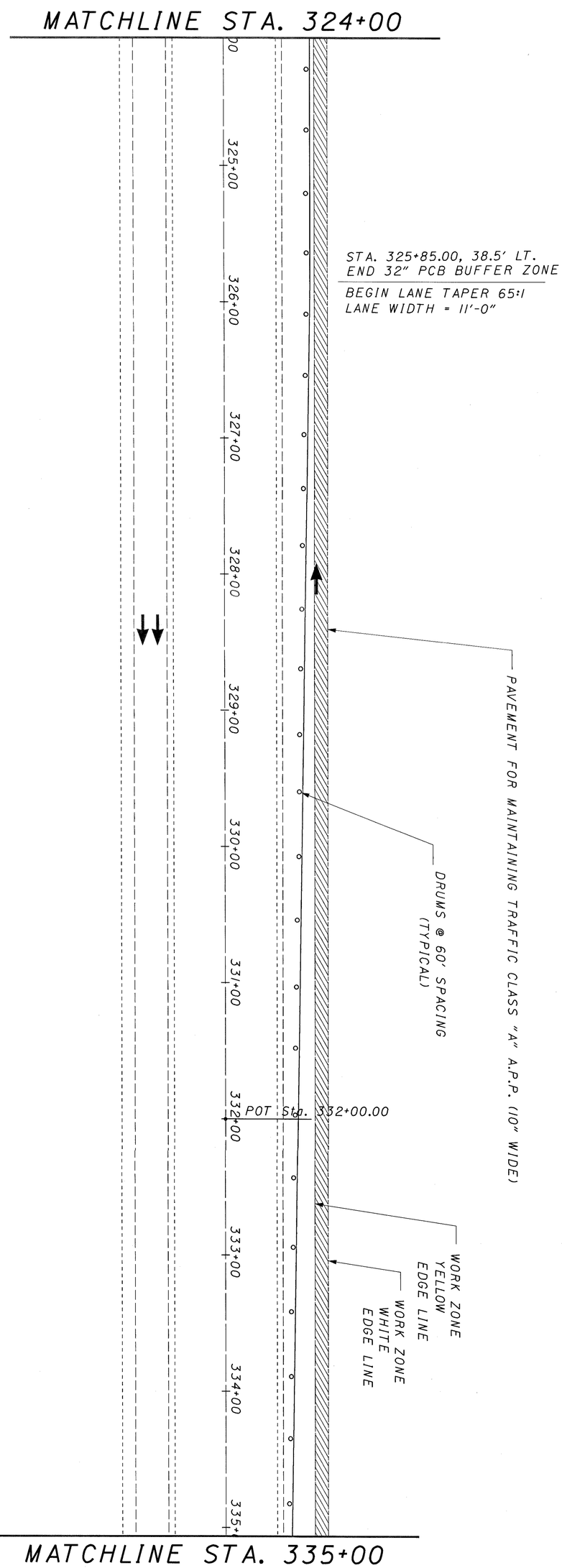


NOTES:

1. FOR QUANTITIES SEE SHEET 11.
2. FOR ADDITIONAL DETAILS AND LANE TRANSITION SIGNING SEE ODOT STANDARD CONSTRUCTION DRAWING MT-95.40.
3. FOR LEGEND SEE SHEET 16.

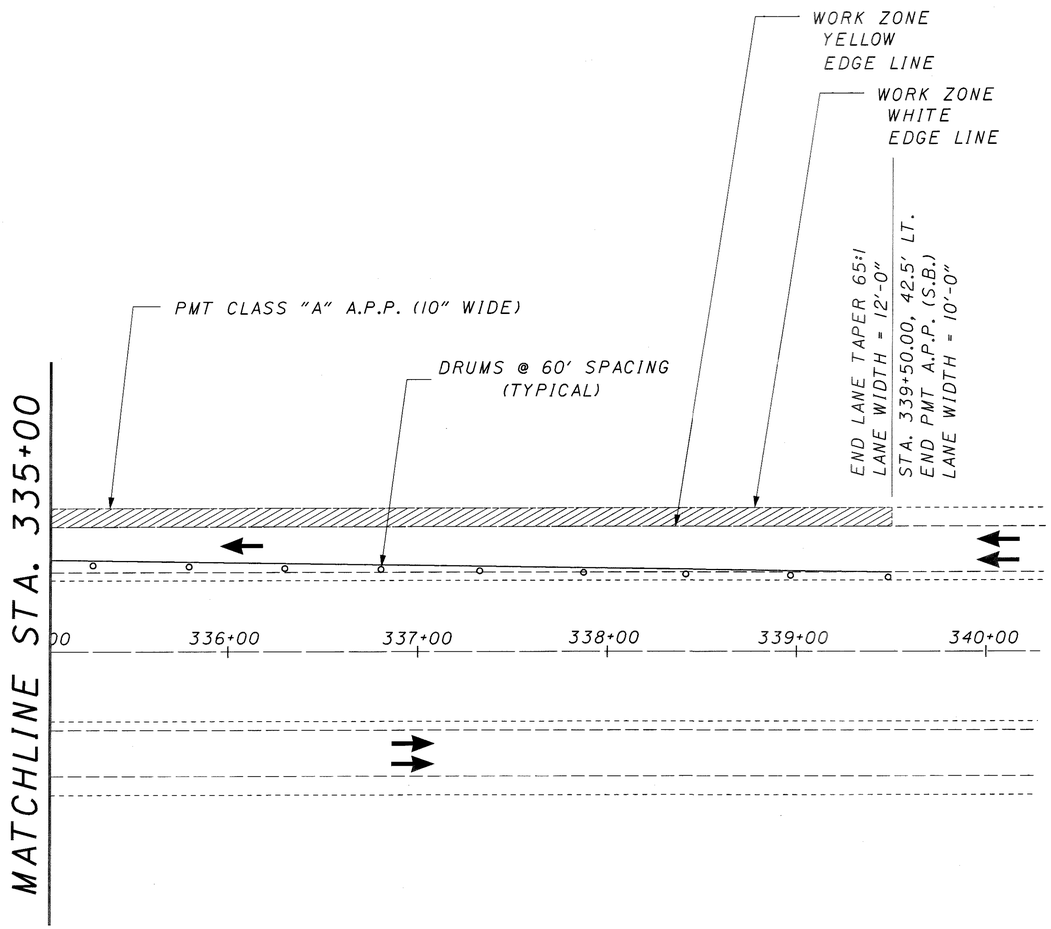
MAH-680-9.92/ 13.38/ 15.41

PHASE II PLAN - I-680
STA. 324+00 TO STA. 335+00

CALCULATED W.T.
CHECKED W.S.

0 40
20 80
HORIZONTAL SCALE IN FEET

N



NOTES:

1. FOR QUANTITIES SEE SHEET 11.
2. FOR ADDITIONAL DETAILS AND LANE TRANSITION SIGNING SEE ODOT STANDARD CONSTRUCTION DRAWING MT-95.40.
3. FOR LEGEND SEE SHEET 16.

N

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED W.T.
CHECKED W.S.

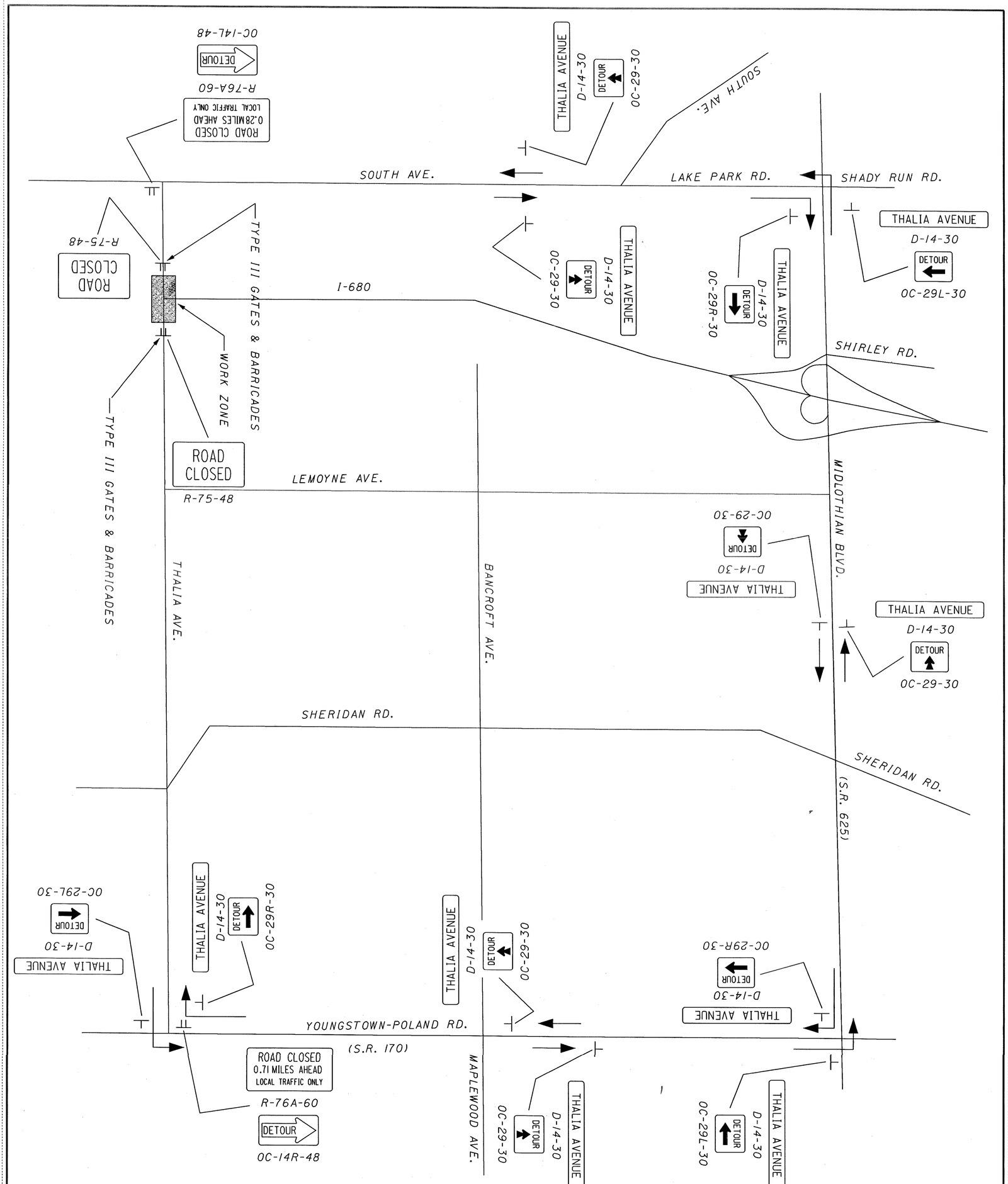
PHASE II PLAN - I-680
STA. 335+00 TO STA. 340+00

MAH-680-9.92/13.38/15.41

20
125

DATE: 19-Jan-04 13:22
FILE: J:\Job\60380_ MAH-680-15.41\Plan_Sheets\05_Mot\02_Plan\MP009.dgn
SCALE: 1 • 40E

DATE: 19-Jan-04 13:23
FILE: J:\Job\6038A_MAH-680-09.92\Plan_Sheets\05_Mot\02_Plan\ThaliaMTA.dgn
SCALE: 1 = 1E



MAINTENANCE OF TRAFFIC NOTES

614 - MAINTAINING TRAFFIC:

DETOUR LIMITATION AND INTERIM COMPLETION DATE:

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 120 CONSECUTIVE CALENDAR DAYS THROUGH TRAFFIC WILL BE DETOURED, AS SHOWN ON THIS SHEET.

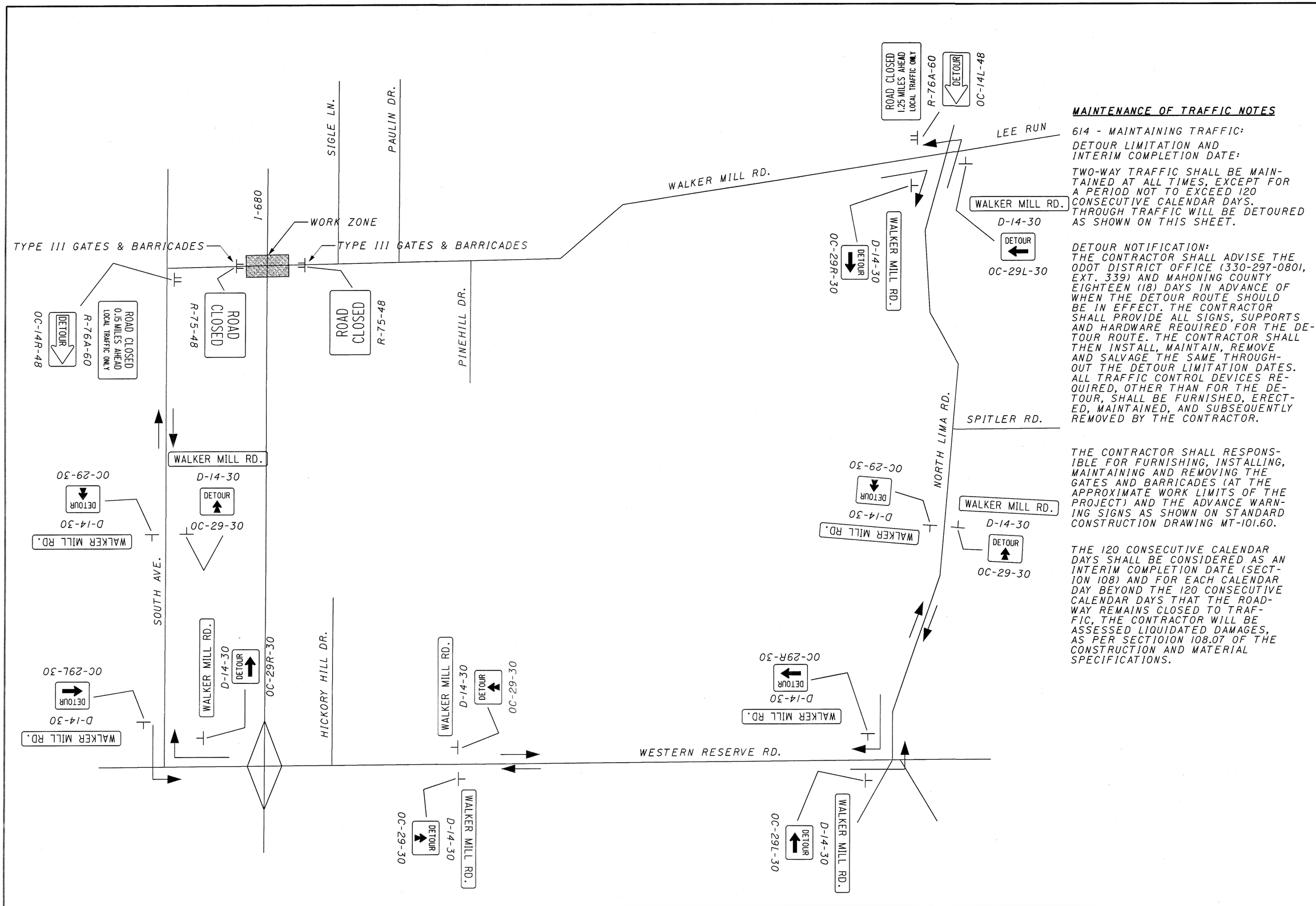
DETOUR NOTIFICATION:

THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-297-0801, EXT. 339) AND THE CITY OF YOUNGSTOWN EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. THE CONTRACTOR SHALL PROVIDE ALL SIGNS, SUPPORTS AND HARDWARE REQUIRED FOR THE DETOUR ROUTE. THE CONTRACTOR SHALL THEN INSTALL, MAINTAIN, REMOVE AND SALVAGE THE SAME THROUGH-OUT THE DETOUR LIMITATION DATES. ALL TRAFFIC CONTROL DEVICES REQUIRED, OTHER THAN FOR THE DETOUR, SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR.

THE CONTRACTOR SHALL RESPONSIBLE FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE GATES AND BARRICADES (AT THE APPROXIMATE WORK LIMITS OF THE PROJECT) AND THE ADVANCE WARNING SIGNS AS SHOWN ON STANDARD CONSTRUCTION DRAWING MT-101.60.

THE 120 CONSECUTIVE CALENDAR DAYS SHALL BE CONSIDERED AS AN INTERIM COMPLETION DATE (SECTION 108) AND FOR EACH CALENDAR DAY BEYOND THE 120 CONSECUTIVE CALENDAR DAYS THAT THE ROADWAY REMAINS CLOSED TO TRAFFIC, THE CONTRACTOR WILL BE ASSESSED LIQUIDATED DAMAGES, AS PER SECTIOION 108.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

21 / 125	MAH-680-09.92	MAINTENANCE OF TRAFFIC DETOUR PLAN	CALCULATED W.T. CHECKED W.S.	N



MAINTENANCE OF TRAFFIC NOTES

614 - MAINTAINING TRAFFIC:

DETOUR LIMITATION AND INTERIM COMPLETION DATE:

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 120 CONSECUTIVE CALENDAR DAYS. THROUGH TRAFFIC WILL BE DETOURED AS SHOWN ON THIS SHEET.

DETOUR NOTIFICATION:
THE CONTRACTOR SHALL ADVISE THE ODOT DISTRICT OFFICE (330-297-0801, EXT. 339) AND MAHONING COUNTY EIGHTEEN (18) DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. THE CONTRACTOR SHALL PROVIDE ALL SIGNS, SUPPORTS AND HARDWARE REQUIRED FOR THE DETOUR ROUTE. THE CONTRACTOR SHALL THEN INSTALL, MAINTAIN, REMOVE AND SALVAGE THE SAME THROUGHOUT THE DETOUR LIMITATION DATES. ALL TRAFFIC CONTROL DEVICES REQUIRED, OTHER THAN FOR THE DETOUR, SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR.

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THE 120 CONSECUTIVE CALENDAR DAYS SHALL BE CONSIDERED AS AN INTERIM COMPLETION DATE (SECTION 108) AND FOR EACH CALENDAR DAY BEYOND THE 120 CONSECUTIVE CALENDAR DAYS THAT THE ROADWAY REMAINS CLOSED TO TRAFFIC, THE CONTRACTOR WILL BE ASSESSED LIQUIDATED DAMAGES, AS PER SECTIOION 108.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

CALCULATED W.T. CHECKED W.S.

MAINTENANCE OF TRAFFIC DETOUR PLAN

MAH-680-13.38

22
125

DATE: 19-Jan-04 14:20
FILE: J:\Job\6038B_MAH-680-13.38\Plan_Sheets\05_Mot\02_Plan\WalkrMillMTA.dgn
SCALE: 1 = 1E

SHEET NUMBER																	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	7	8	9-11	25	26	27	28	28A	39													
																					ROADWAY	
	LUMP																201	11000	LUMP		CLEARING AND GRUBBING	
				1													202	20010	1	EACH	HEADWALL REMOVED	
				910													202	22900	910	SQ. YD.	APPROACH SLAB REMOVED	
									239								202	23000	239	SQ. YD.	PAVEMENT REMOVED	
				1601													202	30000	1601	SQ. FT.	WALK REMOVED	
				56													202	30700	56	FT.	CONCRETE BARRIER REMOVED	
				647													202	32000	647	FT.	CURB REMOVED	
				189													202	34900	189	FT.	PIPE REMOVED	
				6													202	35200	6	FT.	PIPE REMOVED, OVER 24"	
				1782													202	38000	1782	FT.	GUARDRAIL REMOVED	
				8													202	42206	8	EACH	ANCHOR ASSEMBLY REMOVED	
				16													202	47000	16	EACH	BRIDGE TERMINAL ASSEMBLY REMOVED	
	100					2156			64								203	10000	2320	CU.YD.	EXCAVATION	
	100					2700											203	20000	2800	CU.YD.	EMBANKMENT	
						4718											204	10000	4718	SQ. YD.	SUBGRADE COMPACTION (12" DEPTH OR, LESS)	
		2															204	45000	2	HOUR	PROOF ROLLING	
						537											526	10001	537	SQ. YD.	REINFORCED CONCRETE APPROACH SLABS (T=12"), AS PER PLAN	76,92,113
					1												604	40000	1	EACH	MONUMENT ASSEMBLY REMOVED AND RESET	
					1												604	39500	1	EACH	MONUMENT BOX ADJUSTED TO GRADE	
					1637.50												606	13000	1637.50	FT.	GUARDRAIL, TYPE 5	
					175.00												606	14000	175.00	FT.	GUARDRAIL, TYPE 8	
					2												606	17500	2	EACH	POST END ANCHOR (OR CONCRETE BLOCK END ANCHOR)	
					2												606	22010	2	EACH	ANCHOR ASSEMBLY, TYPE E-98	
					4												606	25000	4	EACH	ANCHOR ASSEMBLY, TYPE A	
					4												606	26500	4	EACH	ANCHOR ASSEMBLY, TYPE T	
					20												606	35000	20	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
					1601												608	10000	1601	SQ. FT.	4" CONCRETE WALK	
					903												609	26000	903	FT.	CURB TYPE 6	
					4												622	25010	4	EACH	CONCRETE BARRIER END SECTION, TYPE D, REINFORCED	
					336												625	25400	336	FT.	CONDUIT, 2", 725.04	
					12												625	30700	12	EACH	PULLBOX, 725.08, 18"	
					6												SPECIAL	69050100	6	EACH	SPECIAL - MAILBOX SUPPORT SYSTEM, SINGLE	7
																					EROSION CONTROL	
	760																659	00300	760	CU.YD.	TOPSOIL	
						6840											659	10000	6840	SQ. YD.	SEEDING AND MULCHING	
	343																659	14000	343	SQ. YD.	REPAIR SEEDING AND MULCHING	
	343																659	15000	343	SQ. YD.	INTER-SEEDING	
	1.55																659	20000	1.55	TON	COMMERCIAL FERTILIZER	
	1.42																659	31000	1.42	ACRE	LIME	
	56																659	35000	56	M GAL	WATER	
	1																659	40000	1	M SF	MOWING	
								3									832	10000	3	EACH	STORM WATER POLLUTION PREVENTION PLAN	
								LUMP									832	20000	LUMP		EROSION CONTROL	
																					PAVEMENT	
						1251											254	01000	1251	SQ. YD.	PAVEMENT PLANING, ASPHALT CONCRETE	
									22								301	48000	22	CU.YD.	ASPHALT CONCRETE BASE, PG64-22 (DRIVEWAYS)	
						449											302	46000	449	CU.YD.	ASPHALT CONCRETE BASE, PG64-22	

CALCULATED MTL
CHECKED SDG

GENERAL SUMMARY

MAH-680-9.92/13.38/15.41

g:\projects\21467\dgnroad\gg001680.dgn G:\PROJECTS\21467\fullprf\gg001680.prf Wed Jan 21 10:20:32 2004

SHEET NUMBER																		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	9-11	25	26	27	28	28A	29	32	39	64													
																						PAVEMENT CONTINUED	
				742														304	20000	742	CU.YD.	AGGREGATE BASE	
				270														305	17500	270	SQ. YD.	CONCRETE BASE, MISC.: 4"	6
				325														407	10000	325	GAL.	TACK COAT	
				359														407	14000	359	GAL.	TACK COAT FOR INTERMEDIATE COURSE	
				1619														408	10000	1619	GAL.	PRIME COAT	
				208														411	10000	208	CU. YD.	STABILIZED CRUSHED AGGREGATE	
				191														448	46020	191	CU. YD.	ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE I, PG64-22	
				29														448	46021	29	CU. YD.	ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE I, PG64-22, AS PER PLAN	3-6
				190														448	47020	190	CU. YD.	ASPHALT CONCRETE, SURFACE COURSE, TYPE I, PG64-22	
									8									448	48020	8	CU. YD.	ASPHALT CONCRETE, SURFACE COURSE, TYPE I, PG64-22 (DRIVEWAYS)	
				270														451	13000	270	SQ. YD.	8" REINFORCED CONCRETE PAVEMENT	
				104														SPECIAL	45130000	104	FT.	PRESSURE RELIEF JOINT, TYPE A	
									339									452	10000	339	SQ. YD.	6" NON-REINFORCED CONCRETE PAVEMENT	
																						DRAINAGE	
					13.5													602	20000	13.5	CU.YD.	CONCRETE MASONRY	
					103													603	01500	103	FT.	6" CONDUIT, TYPE F	
					296													603	04400	296	FT.	12" CONDUIT, TYPE B	
					129													603	04600	129	FT.	12" CONDUIT, TYPE C	
					196													603	04900	196	FT.	12" CONDUIT, TYPE D	
					49													603	05200	49	FT.	12" CONDUIT, TYPE F	
					6													603	23600	6	FT.	60" CONDUIT, TYPE A	
					2													604	00400	2	EACH	CATCH BASIN, NO 3	
					9													604	00800	9	EACH	CATCH BASIN, NO. 3A	
					1													604	02000	1	EACH	CATCH BASIN, NO. 6	
					6													604	02400	6	EACH	CATCH BASIN, NO. 7	
					6													604	04500	6	EACH	CATCH BASIN, NO. 2-2B	
					3													604	09000	3	EACH	CATCH BASIN ADJUSTED TO GRADE	
					1													604	34500	1	EACH	MANHOLE ADJUSTED TO GRADE	
					2													604	35500	2	EACH	MANHOLE RECONSTRUCTED TO GRADE	
					4													604	36600	4	EACH	PRECAST REINFORCED CONCRETE OUTLET	
					112													605	11100	112	FT.	6" SHALLOW PIPE UNDERDRAINS	
					104													605	12200	104	FT.	6" DEEP PIPE UNDERDRAINS	
							238	160										605	31101	398	FT.	AGGREGATE DRAINS, AS PER PLAN	29,32
																						TRAFFIC CONTROL	
										42								630	02100	42	FT.	GROUND MOUNTED SUPPORT, NO. 2 POST	
										27								630	03100	27	FT.	GROUND MOUNTED SUPPORT, NO. 3 POST	
										49								630	07500	49	FT.	GROUND MOUNTED SUPPORT, W10X22 BEAM	
										1								630	21001	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 10, AS PER PLAN	62
										20								630	80100	20	SQ FT	SIGN, FLAT SHEET	
										5								630	80101	5	SQ FT	SIGN, FLAT SHEET, AS PER PLAN	61
										388								630	80200	388	SQ FT	SIGN, GROUND MOUNTED EXTRUSHEET	
										2								630	84500	2	EACH	GROUND MOUNTED BEAM SUPPORT FOUNDATION	
										1								630	84510	1	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
										10								630	84900	10	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
										1								630	85100	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
										8								630	86002	8	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
										4								630	86310	4	EACH	REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL	
										3								631	94200	3	EACH	REMOVAL OF LUMINAIRE AND DISPOSAL	
										0.78								642	00090	0.78	MILE	EDGE LINE	
										0.40								642	00290	0.40	MILE	CENTER LINE	
										0.25								646	10000	0.25	MILE	EDGE LINE	
										0.13								646	10100	0.13	MILE	LANE LINE	

CALCULATED MTL
CHECKED SDG

GENERAL SUMMARY

MAH-680-9.92/13.38/15.41

g:*projects*21467*dgnroad*gg002680.dgn G:*PROJECTS*21467*fullprf*gg002680.prf Wed Jan 21 10:21:19 2004

SHEET NUMBER																		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
														9	10	11	25						
																						WATER WORKS	
																	181	638	00704	181	FT.	6" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, MECHANICAL JOINTS & FITTINGS	
																	58	638	04800	58	FT.	¾" COPPER SERVICE BRANCH	
																	2	638	07800	2	EACH	6" GATE VALVE AND VALVE BOX	
																	1	638	08704	1	EACH	6" CUTTING-IN SLEEVE	
																	1	638	10500	1	EACH	FIRE HYDRANT REMOVED AND RESET	
																	6	638	10800	6	EACH	VALVE BOX ADJUSTED TO GRADE	
																						STRUCTURES OVER 20'	
																						MAH-680-0992 UNDER THALIA AVENUE	67
																						MAH-680-1338 UNDER WALKER MILL ROAD	82
																						MAH-680-1541 L/R I-680 OVER CALLA ROAD	98
																						MAINTENANCE OF TRAFFIC	
														LUMP				614	11000	LUMP		MAINTAINING TRAFFIC	
															50			614	11100	50	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	
																4		614	12350	4	EACH	WORK ZONE IMPACT ATTENUATOR	
															8			614	12460	8	EACH	WORK ZONE MARKING SIGN	
																53		614	13300	53	EACH	BARRIER REFLECTOR, TYPE B	
																53		614	13350	53	EACH	OBJECT MARKER, ONE WAY	
															3.97	3.97		614	22000	7.94	MILE	WORK ZONE EDGE LINE, CLASS I	
																8272		615	20001	8272	SQ.YD.	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN	9
															2			616	10000	2	M GAL	WATER	
																1750		622	40020	1750	FT.	PORTABLE CONCRETE BARRIER, 32"	
																560		622	40040	560	FT.	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED	
																		619	16010	17	MONTH	FIELD OFFICE, TYPE B	
																		623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
																		624	10000	LUMP		MOBILIZATION	

CALCULATED MTL
CHECKED SDG

GENERAL SUMMARY

MAH-680-9.92/13.38/15.41

REMOVAL

SHEET NO.	REF NO.	STATION FROM	STATION TO	SIDE	202 HEADWALL REMOVED	202 APPROACH SLAB REMOVED	202 WALK REMOVED	202 CURB REMOVED	202 PIPE REMOVED	202 PIPE REMOVED, OVER 24"	202 GUARDRAIL REMOVED	202 ANCHOR ASSEMBLY REMOVED	202 BRIDGE TERMINAL ASSEMBLY REMOVED	202 CONCRETE BARRIER REMOVED
					EA	SY	SF	FT	FT	FT	LF	EACH	EACH	FT
30	R1	17+48	17+54	LT	1					6				
29	R2	13+58.00	13+84.00	LT					26					
29, 30	R3	15+33.00	18+46.00	LT							300	1	1	
29, 30	R4	15+07.00	18+42.00	LT							313	1	1	
30	R5	18+43.97	18+58.97	LT		111								
30	R6	21+41.42	21+56.42	RT		111								
30	R7	21+58.00	22+57.00	LT							75	1	1	
30	R8	21+55.00	22+57.00	RT							75	1	1	
30, 31	R9	22+61.00	24+55.00	LT			777							
30, 31	R10	22+59.00	24+64.00	RT			824							
30, 31	R11	21+58.00	24+80.00	LT				322						
30, 31	R12	21+55.00	24+80.00	RT				325						
30	R13	19+27.00		LT									1	14
30	R14	20+69.00		RT									1	14
	R15-R29	NOT USED												
SUBTOTAL THALIA AVE.					**1**	**222**	**1601**	**647**		**6**	**763**	**4**	**6**	**28**
33	R30	8+43.93	8+58.93	LT		100								
33	R31	11+41.37	11+56.37	RT		100								
33	R32	7+68.00	8+58.93	LT							66	1	1	
33	R33	7+30.00	8+58.93	RT							104	1	1	
33	R34	11+56.37	12+45.00	LT							64	1	1	
33	R35	11+56.37	12+45.00	RT							64	1	1	
33	R36	9+18.00		LT									1	14
33	R37	10+83.00		RT									1	14
32,33	R38	6+78	7+23	RT					45					
33	R39	7+29	7+69	LT					40					
33	R40	12+52	12+90	LT					38					
33	R41	12+47	12+87	RT					40					
	R42-R49	NOT USED												
SUBTOTAL WALKER MILL RD.						**200**			**163**		**298**	**4**	**6**	**28**
35	R50	315+07.06	315+22.16	LT		122								
35	R51	316+47.60	316+62.60	RT		122								
35	R52	316+43.48	316+93.48	LT							50		1	
35	R53	316+47.92	316+97.92	LT							50		1	
35	R54	314+72.20	315+20.20	RT							50		1	
35	R55	314+89.78	315+27.28	RT							50		1	
35	R56	18+64.75	21+28.05	LT							258			
35	R57	18+70.25	21+33.55	RT							263			
35	R58	315+07.06	315+22.16	LT		122								
35	R59	316+47.60	316+62.60	RT		122								
SUBTOTAL I-680 OVER CALLA RD.						**488**					**721**		**4**	
TOTALS CARRIED TO GENERAL SUMMARY					**1**	**910**	**1601**	**647**	**189**	**6**	**1782**	**8**	**16**	**56**

WATER WORKS

SHEET NO.	REF NO.	STATION FROM	STATION TO	SIDE	638 6" WATER MAIN DUCTILE IRON PIPE ANSI CLASS 53, MECHANICAL JOINTS AND FITTINGS	638 6" GATE VALVE AND VALVE BOX	638 6" CUTTING-IN SLEEVE	638 ¾" COPPER SERVICE BRANCH	638 FIRE HYDRANT REMOVED AND RESET	638 VALVE BOX ADJUSTED TO GRADE
					FT	EACH	EACH	FT	EACH	EACH
30	U1	22+85.00		RT	10	1			1	
30	U2	22+61.00	24+27.00	RT	171	1				
31	U3	23+24.00		RT				11		1
31	U4	23+84.00		RT				12		1
31	U5	24+26.00		RT				12		1
31	U6	24+15.00		LT				23		1
31	U7	23+16.00		RT						1
31	U8	23+64.00		RT						1
31	U9	24+27.00		RT			1			
	U10-U30	NOT USED								
SUBTOTAL THALIA AVE.					**181**	**2**	**1**	**58**	**1**	**6**
TOTALS CARRIED TO GENERAL SUMMARY					**181**	**2**	**1**	**58**	**1**	**6**

CALCULATED MTL CHECKED SDG

ESTIMATED QUANTITY

MAH-680-9.92/13.38/15.41

ROADWAY

SHEET NO.	REF NO.	STATION FROM	STATION TO	SIDE	604 MONUMENT BOX ADJUSTED TO GRADE	604 MONUMENT ASSEMBLY REMOVED AND RESET	606 GUARDRAIL, TYPE 5	606 GUARDRAIL, TYPE B	606 ANCHOR ASSEMBLY, TYPE T	606 ANCHOR ASSEMBLY, TYPE E-98	606 ANCHOR ASSEMBLY, TYPE A	606 BRIDGE TERMINAL ASSEMBLY, TYPE I	606 POST END ANCHOR (OR CONCRETE BLOCK END ANCHOR)	608 4" CONCRETE WALK	609 CURB TYPE 6	622 CONCRETE BARRIER END SECTION, TYPE D, REINFORCED	SPECIAL MAILBOX SUPPORT, SINGLE	625 CONDUIT, 2", 725.04	625 PULLBOX, 725.08, 18"
					EACH	EACH	FT	FT	EACH	EACH	EACH	EACH	EACH	SF	FT	EACH	EACH	FT	EACH
29	RD1	13+42.00		LT													1		
29	RD2	14+64.00		LT													1		
29	RD3	13+76.00		RT													1		
29,30	RD4	15+41.58	18+47.83	LT			306.25				1	1							
29,30	RD5	15+13.07	18+44.32	RT			331.25				1	1							
30	RD6	21+56.07	22+24.82	LT			68.75				1	1							
30	RD7	21+52.56	22+21.31	RT			68.75				1	1							
30	RD8	605+87.94	607+50.18	LT			62.50	87.50	1				1						
30	RD9	605+09.93	606+72.17	RT			62.50	87.50	1				1						
30,38	RD10	19+27.00		LT			31.25					1				1			
30,38	RD11	20+69.00		RT			31.25					1				1			
30, 31	RD12	22+61.00	24+55.17	LT										777					
30, 31	RD13	22+59.00	24+64.81	RT										824					
	RD14	NOT USED																	
	RD15	NOT USED																	
30, 31	RD16	21+57.71	24+80.00	LT											322.29				
30, 31	RD17	21+55.12	24+80.00	RT											324.88				
30	RD18	18+06.27	18+45.27	LT											33.50				
30	RD19	18+03.68	18+42.68	RT											33.50				
30	RD20	18+35.00	18+60.00	LT														28	1
30	RD21	18+32.00	18+57.00	RT														28	1
30	RD22	21+43.00	21+68.00	LT														28	1
30	RD23	21+40.00	21+65.00	RT														28	1
29	RD24	14+50.00		℄	1														
30	RD25	22+00.00		℄		1													
SUBTOTAL THALIA AVE.					1	1	962.50	175.00	2		4	6	2	1601	714.17	2	3	112	4
33	RD30	7+25.00		LT													1		
33	RD31	7+21.00		RT													1		
33	RD32	12+49.00		LT													1		
33	RD33	7+89.78	8+46.03	LT			56.25		1			1							
33	RD34	7+77.28	8+46.03	RT			68.75			1		1							
33	RD35	11+54.26	11+85.51	LT			31.25			1		1							
33	RD36	11+54.26	12+23.01	RT			68.75		1			1							
33,38	RD37	9+18.00		LT			31.25					1				1			
33,38	RD38	10+83.00		RT			31.25					1				1			
33	RD39	8+04.84	8+43.93	L&R											68				
33	RD40	11+56.37	11+95.51	L&R											68				
33	RD41	8+34.00	8+58.00	LT														28	1
33	RD42	8+34.00	8+58.00	RT														28	1
33	RD43	11+41.00	11+66.00	LT														28	1
33	RD44	11+41.00	11+66.00	RT														28	1
SUBTOTAL WALKER MILL RD.							287.50		2	2		6			136	2	3	112	4
35	RD50	316+37.23	316+93.48	LT			56.25					1							
35	RD51	316+41.67	316+97.92	LT			56.25					1							
35	RD52	314+72.20	315+28.45	RT			56.25					1							
35	RD53	314+89.78	315+33.53	RT			43.75					1							
35	RD54	19+06.40	20+86.40	LT															
35	RD55	19+11.90	20+91.90	RT															
35	RD56	18+64.75	19+08.50	LT			43.75					1							
35	RD57	20+84.30	21+28.05	LT			43.75					1							
35	RD58	18+70.25	19+14.00	RT			43.75					1							
35	RD59	20+89.80	21+33.55	RT			43.75					1							
35	RD60	314+68.26	314+12.48	LT											26				
35	RD61	315+05.68	31531.38	RT											26				
35	RD62	314+92.00	315+17.00	LT														28	1
35	RD63	315+02.00	315+27.00	RT														28	1
35	RD64	316+44.00	316+70.00	LT														28	1
35	RD65	316+52.00	316+76.00	RT														28	1
SUBTOTAL I-680 OVER CALLA RD.							387.50					8			52			112	4
TOTALS					1	1	1637.50	175.00	4	2	4	20	2	1601	902.17	4	6	336	12
TOTALS CARRIED TO GENERAL SUMMARY					1	1	1637.50	175.00	4	2	4	20	2	1601	903	4	6	336	12

CALCULATED MTL
CHECKED SDG

ESTIMATED QUANTITY

MAH-680-9.92/13.38/15.41

PAVEMENT

STATION TO STATION		SIDE	LENGTH L	AVERAGE WIDTH W	SURFACE AREA A A=LxW	AREAS MEASURED IN CADD	411	448	448	448	302	304	204	407	407	408	254	526	451	451	305
							6" STABILIZED CRUSHED AGGREGATE	1¼" ASPHALT CONCRETE SURFACE COURSE TYPE I, PG64-22	1¾" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I, PG64-22	1½" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I, PG64-22, AS PER PLAN	4" ASPHALT CONCRETE BASE, PG64-22 (DRIVEWAYS)	6" AGGREGATE BASE	SUBGRADE COMPACTION	TACK COAT @ 0.075 GAL./SY	TACK COAT FOR INTERMEDIATE COURSE @ 0.075 GAL./SY	PRIME COAT @ 0.40 GAL./SY	PAVEMENT PLANING, ASPHALT CONCRETE	REINFORCED CONCRETE APPROACH SLAB T-12", AS PER PLAN	SPECIAL-PRESSURE RELIEF JOINT TYPE A	8" REINFORCED CONCRETE PAVEMENT	4" NON-REINFORCED CONCRETE BASE
				FT	FT	SF	SF	CY	SY	SY	SY	SY	SY	GAL	GAL	GAL	SY	SY	LF	SY	SY
MILL & OVERLAY	13+00.00	13+20.00	L/R	20.00	22.75	455.00			1.76					3.79			50.56				
FULL DEPTH PAV'T	13+20.00	17+88.00	L/R	468.00	24.00	11232.00		208	43.33	60.67				93.60	93.60						
FULL DEPTH PAV'T	13+20.00	17+88.00	L/R	468.00	25.00	11700.00					144.44					520.00					
FULL DEPTH PAV'T	13+20.00	17+88.00	L/R	468.00	26.00	12168.00						225.33	1352.00								
FULL DEPTH PAV'T	17+88.00	18+43.97	L/R	55.97	24.00	1343.28			5.18	7.26				11.19	11.19						
FULL DEPTH PAV'T	17+88.00	18+43.97	L/R	55.97	25.00	1399.25					17.27					62.19					
FULL DEPTH PAV'T	17+88.00	18+43.97	L/R	55.97	26.00	1455.22						26.95	161.69								
APPROACH SLAB	18+43.97	18+58.97	L/R	15.00	40.00	600.00												66.67			
APPROACH SLAB	21+41.42	21+56.42	L/R	15.00	40.00	600.00												66.67			
FULL DEPTH PAV'T	21+56.37	22+00.00	L/R	43.63	26.50	1156.20			4.46	6.24	14.27	21.41	128.47	9.63	9.63	51.39					
FULL DEPTH PAV'T	22+00.00	22+61.00	L/R	61.00	25.00	1525.00			5.88	8.24	18.83	28.24	169.44	12.71	12.71	67.78					
FULL DEPTH PAV'T	22+61.00	24+30.00	L/R	169.00	25.00	4225.00			16.30	22.82	51.16	78.24	469.44	35.21	35.21	187.78					
MILL & OVERLAY	24+30.00	24+80.00	L/R	50.00	VAR.		1248		4.81					10.40			138.67				
SUBTOTAL THALIA AVE.								**208**	**81.72**	**105.23**	**0**	**245.97**	**380.17**	**2281.04**	**176.53**	**162.34**	**889.14**	**189.23**	**133.34**	**0**	**0**	**0**
FULL DEPTH PAV'T	5+80.00	8+20.59	L/R	240.59	30.00	7217.70			27.85	38.98				60.15	60.15						
FULL DEPTH PAV'T	5+80.00	8+20.59	L/R	240.59	31.00	7458.29					92.08					331.48					
FULL DEPTH PAV'T	5+80.00	8+20.59	L/R	240.59	32.00	7698.88						142.57	855.43								
FULL DEPTH PAV'T	8+20.59	8+43.93	L/R	23.34	31.00	723.54			2.79	3.91				6.03	6.03						
FULL DEPTH PAV'T	8+20.59	8+43.93	L/R	23.34	32.00	746.88					9.22					33.19					
FULL DEPTH PAV'T	8+20.59	8+43.93	L/R	23.34	33.00	770.22						14.26	85.58								
APPROACH SLAB	8+43.93	8+58.93	L/R	15.00	35.00	525.00												58.33			
APPROACH SLAB	11+41.37	11+56.37	L/R	15.00	35.00	525.00												58.33			
FULL DEPTH PAV'T	11+56.37	11+79.76	L/R	23.39	31.00	725.09			2.80	3.92				6.04	6.04						
FULL DEPTH PAV'T	11+56.37	11+79.76	L/R	23.39	32.00	748.48					9.24					33.27					
FULL DEPTH PAV'T	11+56.37	11+79.76	L/R	23.39	33.00	771.87						14.29	85.76								
FULL DEPTH PAV'T	11+79.76	14+20.00	L/R	240.24	30.00	7207.20			27.81	38.93				60.06	60.06						
FULL DEPTH PAV'T	11+79.76	14+20.00	L/R	240.24	31.00	7447.44					91.94					331.00					
FULL DEPTH PAV'T	11+79.76	14+20.00	L/R	240.24	32.00	7687.68						142.36	854.19								
MILL & OVERLAY	14+20.00	15+00.00	L/R	80.00	24.00	1920.00			7.40					16.00			213.33				
SUBTOTAL WALKER MILL RD.								**0**	**68.65**	**85.74**	**0**	**202.48**	**313.48**	**1880.96**	**148.28**	**132.28**	**728.94**	**213.33**	**116.66**	**0**	**0**	**0**
MILL & OVERLAY	314+00.00	314+75.00	LT.	75.00	24.00	1800.00			6.93		8.33				15		200				
FULL DEPTH PAV'T	314+75.00	315+07.16	LT.				604.8		2.33				67.20							67.20	67.20
PRESSURE RELIEF JOINT	315+07.16		LT.																26		
APPROACH SLAB	315+07.16	315+22.16	LT.	15.00	43.00	645.00						11.94	71.67					71.67			
APPROACH SLAB	316+47.60	316+62.60	LT.	15.00	43.00	645.00						11.94	71.67					71.67			
PRESSURE RELIEF JOINT	316+62.60		LT.																26		
FULL DEPTH PAV'T	316+62.60	316+82.00	LT.				596.0		2.30				66.22							66.22	66.22
MILL & OVERLAY	316+82.00	317+00.00	LT.	18.00	24.00	432.00			1.66		2.00				3.60		48.00				
MILL & OVERLAY	314+00.00	314+88.00	RT.	88.00	24.00	2112.00			8.14		9.78				17.60		234.67				
FULL DEPTH PAV'T	314+88.00	315+07.16	RT.				618.3		2.39				68.70							68.70	68.70
PRESSURE RELIEF JOINT	315+07.16		RT.																26		
APPROACH SLAB	315+07.16	315+22.16	RT.	15.00	43.00	645.00						11.94	71.67					71.67			
APPROACH SLAB	316+47.60	316+62.60	RT.	15.00	43.00	645.00						11.94	71.67					71.67			
PRESSURE RELIEF JOINT	316+62.60		RT.																26		
FULL DEPTH PAV'T	316+62.60	316+93.00	RT.				602.1		2.32				66.90							66.90	66.90
MILL & OVERLAY	316+93.00	317+70.00	RT.	77.00	24.00	1848.00			7.12		8.55				15.40		205.33				
TEMP SHOULDER	314+00.00	317+70.00	L/R	70.00	VAR.		1438		5.54						11.98		159.78				
SUBTOTAL I-680 OVER CALLA RD.								**0**	**38.73**	**0**	**28.66**	**0**	**47.76**	**555.7**	**0**	**63.58**	**0**	**847.78**	**286.68**	**104.00**	**269.02**	**269.02**
TOTALS								**208**	**189.10**	**190.97**	**28.66**	**448.45**	**741.41**	**4717.70**	**324.81**	**358.20**	**1618.08**	**1250.34**	**536.68**	**104.00**	**269.02**	**269.02**
TOTALS CARRIED TO GENERAL SUMMARY								**208**	**190**	**191**	**29**	**449**	**742**	**4718**	**325**	**359**	**1619**	**1251**	**537**	**104**	**270**	**270**

SEEDING & EARTHWORK

SHEET NO.	STATION	ITEM 659 SEEDING & MULCHING	ITEM 203 EXCAVATION	ITEM 203 EMBANKMENT
		SY	CY	CY
40	13+00 TO 14+00	194	67	36
41	14+50 TO 15+50	471	31	117
42	* 16+00 TO 17+00	663	112	313
43	* 17+50 TO 18+44	956	658	1146
44	18+59 TO 21+56	68	0	59
45	22+00 TO 22+50	348	0	236
46	23+00 TO 23+50	356	15	150
47	24+00 TO 24+65	291	82	79
50A	604+75 TO 605+50	367	40	0
50B	605+75 TO 606+25	428	98	5
50C	606+50 to 607+00	428	98	5
50D	607+25 to 607+75	367	40	0
SUB-TOTAL THALIA AVE.		**4937**	**1241**	**2146**
51	5+50 TO 5+80	0	0	0
52	6+00 TO 7+00	202	81	50
53	7+50 TO 8+44	328	7	362
54	8+59 TO 12+00	75	2	47
55	12+50 TO 13+50	374	80	56
56	14+00 TO 15+00	414	140	30
SUB-TOTAL WALKER MILL RD.		**1393**	**310**	**545**
58	314+00 TO 315+07	308	231	2
59	315+22 TO 317+00	135	262	7
60	317+50 TO 317+70	67	112	0
SUB-TOTAL I-680 OVER CALLA RD		**510**	**605**	**9**
TOTALS CARRIED TO GENERAL SUMMARY		**6840**	**2156**	**2700**

* EARTHWORK QUANTITIES INCLUDE BENCHING

BENCHING ON THALIA AVE.

SHEET NO.	STATION	LENGTH	END AREA	VOLUME
		LF	SF	CY
42	16+50.00		39	
42	17+00.00	50	82	112
43	17+50.00	50	225	284
43	18+00.00	50	62	266
43	18+43.97	43.97	70	108
TOTALS CARRIED TO EARTHWORK				770

CALCULATED MTL CHECKED SDG

ESTIMATED QUANTITY

MAH-680-9.92/13.38/15.41

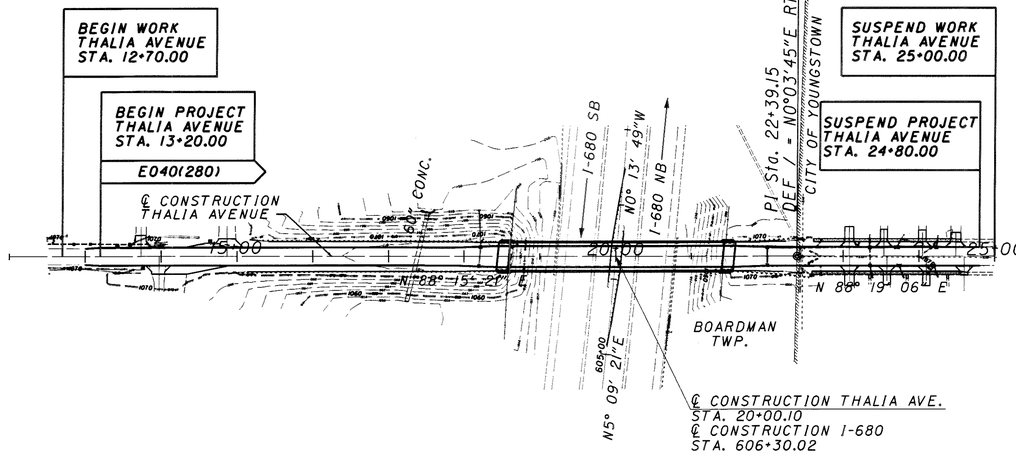
DRAINAGE

SHEET NO.	REF NO.	STATION		SIDE	602 CONCRETE MASONRY (CY)	603 6" CONDUIT, TYPE F (FT)	603 12" CONDUIT, TYPE D (FT)	603 12" CONDUIT, TYPE C (FT)	603 12" CONDUIT, TYPE B (FT)	603 12" CONDUIT, TYPE F (FT)	603 60" CONDUIT, TYPE A (FT)	604 CATCH BASIN, NO. 6 (EACH)	604 CATCH BASIN, NO. 7 (EACH)	604 CATCH BASIN, NO. 3 (EACH)	604 CATCH BASIN, NO. 3A (EACH)	604 MANHOLE RECONSTRUCTED TO GRADE (EACH)	604 MANHOLE ADJUSTED TO GRADE (EACH)	604 CATCH BASIN ADJUSTED TO GRADE (EACH)	604 PRECAST REINFORCED CONCRETE OUTLET (EACH)	605 6" SHALLOW PIPE UNDERDRAINS (FT)	605 6" DEEP PIPE UNDERDRAINS (FT)
29	D1	13+58.24		LT	0.21		29											1			
30	D2	17+52.00		LT	12.4						6										
30	D3	22+00.00		LT					44						1						
30	D4	22+43.54		LT												1					
30	D5	22+00.00		RT					25						1						
30	D6	22+46.39		RT												1					
31	D7	23+35.07		LT					36									1			
31	D8	23+71.00		LT					52					1							
31	D9	24+23.00		LT											1						
31	D10	23+35.00		LT				16.0					1								
31	D11	23+80.00		LT				18.4					1								
31	D12	24+25.00		LT				15.1					1								
31	D13	23+35.40		RT					38.6									1			
31	D14	23+74.00		RT					46					1							
31	D15	24+20.00		RT								1									
31	D16	23+39.00		RT				16.3					1								
31	D17	23+80.00		RT				17.1					1								
31	D18	24+25.00		RT				15.8					1								
30	D19	18+16.68		RT					26						1						
30	D20	18+19.27		LT	0.21					49					1						
SUBTOTAL THALIA AVE.					**12.82**		**29**	**99**	**268**	**49**	**6**	**1**	**6**	**2**	**5**	**2**		**3**			
33	D30	12+04.23		LT													1				
33	D31	8+17.84		LT					28						1						
33	D32	8+17.84		RT	0.21			16							1						
33	D33	11+79.76		LT	0.21			8							1						
33	D34	11+79.76		RT	0.21			6							1						
33	D35	7+27.00	7+69.00	LT			42														
32, 33	D36	6+78.00	7+23.00	RT			45														
33	D37	12+50.00	12+90.00	LT			40														
33	D38	12+47.00	12+87.00	RT			40														
SUBTOTAL WALKER MILL RD.					**0.63**		**167**	**30**	**28**						**4**		**1**				
35	D50	314+75 TO 314+99, 316+55 TO 316+85		LT																	52
35	D51	314+88 TO 315+16, 316+69 TO 316+95		RT																	52
35	D52	314+88.0	314+94.9	LT		29													1	28	
35	D53	316+60.2	316+65.2	LT		22													1	28	
35	D54	315+05.4	315+11.9	RT		28													1	28	
35	D55	316+73.4	316+78.3	RT		24													1	28	
SUBTOTAL I-680 OVER CALLA RD.						**103**															**104**
TOTALS CARRIED TO GENERAL SUMMARY					**13.5**	**103**	**196**	**129**	**296**	**49**	**6**	**1**	**6**	**2**	**9**	**2**	**1**	**3**	**4**	**112**	**104**

CALCULATED MTL
CHECKED SDG

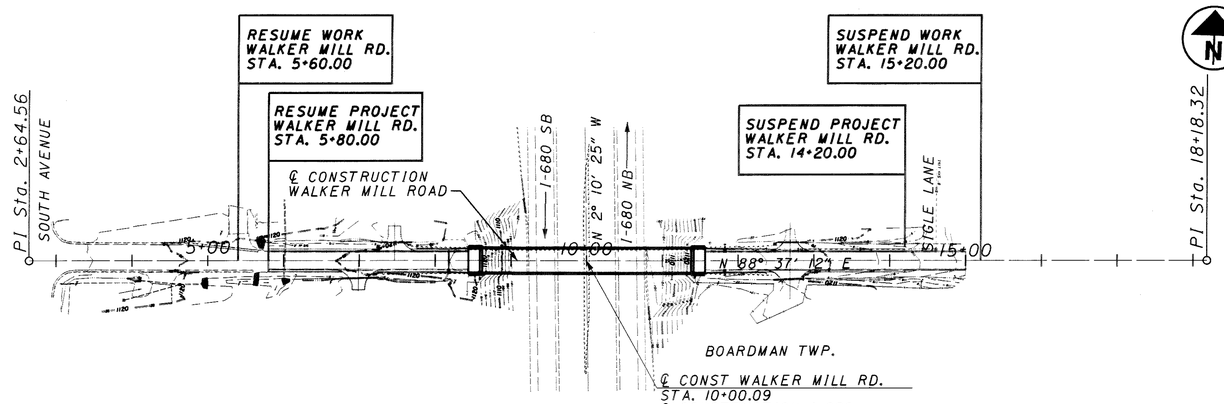
ESTIMATED QUANTITY

MAH-680-9.92/13.38/15.41



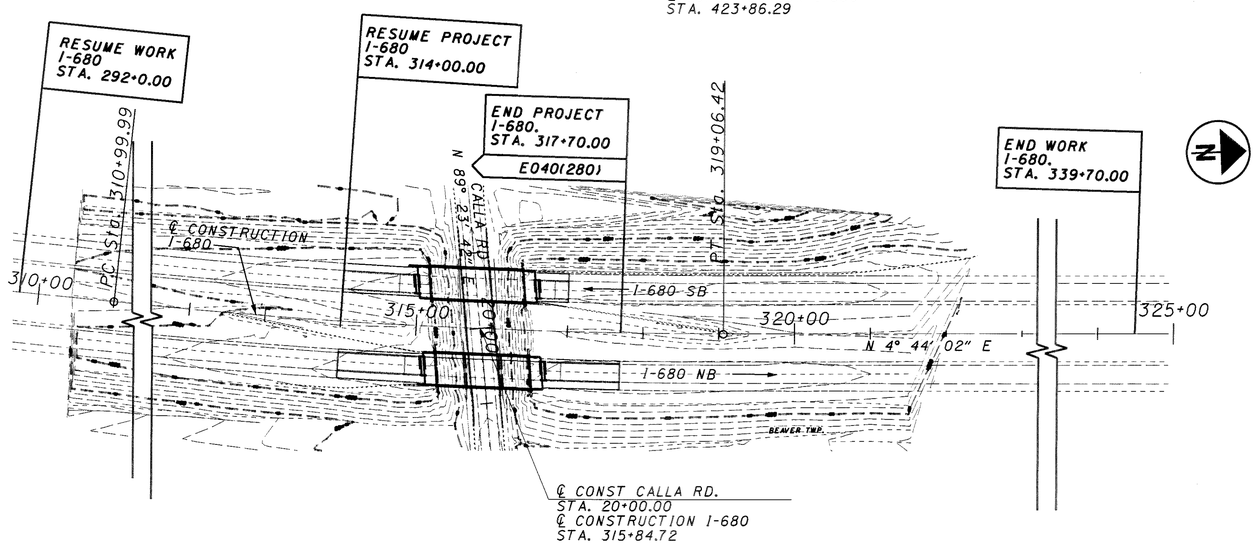
PROJECT DATA - THALIA RD.		
TOTAL AREA (RIGHT-OF-WAY):	3.00	ACRES
PROJECT EARTH DISTURBED AREA:	1.46	ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.25	ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	4.9	ACRES
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE:	0.76	ACRES
IMPERVIOUS (PAVED) AREA FOR POST CONSTRUCTION SITE:	0.86	ACRES
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE:	0.60	
RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE:	0.61	
SOIL AND WATER CONSERVATION MAPS:	N/A	
IMMEDIATE RECEIVING WATERS:	UNNAMED DITCHES	
SUBSEQUENT RECEIVING WATERS:	EVANS LAKE YELLOW CREEK MAHONING RIVER	

QUANTITIES CARRIED TO GENERAL SUMMARY:
ITEM 832 1 EACH STORM WATER POLLUTION PREVENTION PLAN
ITEM 832 LUMP EROSION CONTROL



PROJECT DATA - WALKER MILL RD.		
TOTAL AREA (RIGHT-OF-WAY):	1.60	ACRES
PROJECT EARTH DISTURBED AREA:	0.84	ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.25	ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	4.9	ACRES
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE:	0.60	ACRES
IMPERVIOUS (PAVED) AREA FOR POST CONSTRUCTION SITE:	0.70	ACRES
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE:	0.60	
RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE:	0.61	
SOIL AND WATER CONSERVATION MAPS:	N/A	
IMMEDIATE RECEIVING WATERS:	UNNAMED DITCHES	
SUBSEQUENT RECEIVING WATERS:	EVANS LAKE YELLOW CREEK MAHONING RIVER	

QUANTITIES CARRIED TO GENERAL SUMMARY:
ITEM 832 1 EACH STORM WATER POLLUTION PREVENTION PLAN
ITEM 832 LUMP EROSION CONTROL



PROJECT DATA - CALLA RD.		
TOTAL AREA (RIGHT-OF-WAY):	3.03	ACRES
PROJECT EARTH DISTURBED AREA:	1.55	ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.25	ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	4.9	ACRES
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE:	0.62	ACRES
IMPERVIOUS (PAVED) AREA FOR POST CONSTRUCTION SITE:	0.62	ACRES
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE:	0.58	
RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE:	0.58	
SOIL AND WATER CONSERVATION MAPS:	N/A	
IMMEDIATE RECEIVING WATERS:	UNNAMED DITCHES	
SUBSEQUENT RECEIVING WATERS:	EVANS LAKE YELLOW CREEK MAHONING RIVER	

QUANTITIES CARRIED TO GENERAL SUMMARY:
ITEM 832 1 EACH STORM WATER POLLUTION PREVENTION PLAN
ITEM 832 LUMP EROSION CONTROL

CALCULATED MTL
CHECKED SG

0 50 100 200
HORIZONTAL SCALE IN FEET

PROJECT SITE PLAN

MAH-680-9.92/13.38/15.41

28A
125

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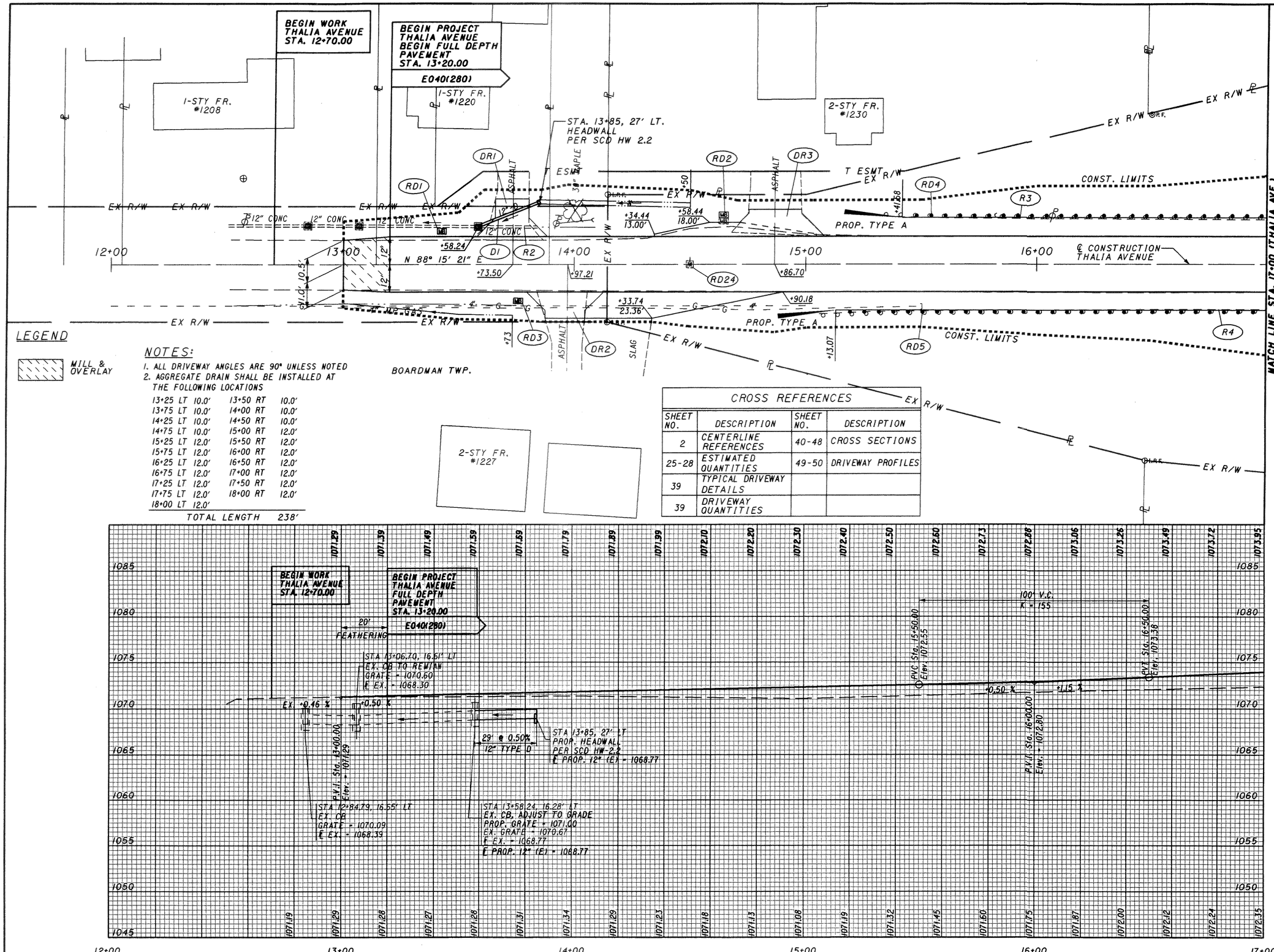

LEGEND

MILL & OVERLAY

NOTES:

1. ALL DRIVEWAY ANGLES ARE 90° UNLESS NOTED
2. AGGREGATE DRAIN SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS

13+25 LT	10.0'	
13+50 RT	10.0'	
13+75 LT	10.0'	
14+00 RT	10.0'	
14+25 LT	10.0'	
14+50 RT	10.0'	
14+75 LT	10.0'	
15+00 RT	12.0'	
15+25 LT	12.0'	
15+50 RT	12.0'	
15+75 LT	12.0'	
16+00 RT	12.0'	
16+25 LT	12.0'	
16+50 RT	12.0'	
16+75 LT	12.0'	
17+00 RT	12.0'	
17+25 LT	12.0'	
17+50 RT	12.0'	
17+75 LT	12.0'	
18+00 RT	12.0'	
TOTAL LENGTH	238'	

CROSS REFERENCES

SHEET NO.	DESCRIPTION	SHEET NO.	DESCRIPTION
2	CENTERLINE REFERENCES	40-48	CROSS SECTIONS
25-28	ESTIMATED QUANTITIES	49-50	DRIVEWAY PROFILES
39	TYPICAL DRIVEWAY DETAILS		
39	DRIVEWAY QUANTITIES		

PLAN AND PROFILE - THALIA AVENUE
STA. 12+00 TO STA. 17+00

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JRW
CHECKED EBS

MAH-680-9.92/13.38/15.41

29
125

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BM#1 CAPPED PIN T-3	BM#2 CAPPED PIN T-13
STA. 18+51.24 - 16.17' RT	STA. 22+21.48 - 18.31' LT
N: 509879.924	N: 509925.654
E: 2484419.065	E: 2484788.089
ELEV. 1073.812	ELEV. 1070.682

MATCH LINE STA. 17+00 (THALIA AVE.)

MATCH LINE STA. 23+00 (THALIA AVE.)

HW PER SCD HW-1.1

HW PER SCD HW-2.2

CONSTRUCTION LIMITS

PULL BOX, 725.08, 18" STA. 18+35, 24' LT.

10' CURB TRANSITION

PROP. CURB, TYPE-6

BEGIN CURB 18+06.27

BEGIN CURB 18+03.68

N 88° 15' 21" E

PULL BOX, 725.08, 18" STA. 18+32, 24' RT.

EX. TYPE-B

PROP. BRIDGE ASSEMBLY TYPE-1 GR-31.25'

BARRIER TRANSITION PER SHT. 38

607+02

+50.18 POST END ANCHOR ASS'Y

I-680 SB

I-680 NB

+72.17 PROP. TYPE-T

+87.94 PROP. TYPE-T

℄ CONSTRUCTION THALIA AVENUE

℄ CONSTRUCTION THALIA AVE. STA. 20+00.10

℄ CONSTRUCTION I-680 STA. 606+30.02

MEDIAN GR. AT PIER PER SCD GR-6.2 & DETAIL ON SHT. 39A

605+59

CONC. BARRIER TRANSITION PER SHT. 38

PROP. BRIDGE ASSEMBLY TYPE-1 GR-31.25'

EX. TYPE-B

+09.93 POST END ANCHOR ASS'Y

℄ I-680

EX R/W

EX LA-R/W

BRG ASSEMBLY TYPE-I 1ST GR POST STA. 18+38.01

BRG ASSEMBLY TYPE-I GUARDRAIL POST STA. 21+62.32

BRG ASSEMBLY TYPE-I GUARDRAIL POST STA. 21+58.81

PULL BOX, 725.08, 18" STA. 21+68, 24' LT.

PULL BOX, 725.08, 18" STA. 21+65, 24' RT.

JERSEY LANE (50')

Sta. 22+39.15 - N 0°03'45" E RT.

CITY OF YOUNGSTOWN

SANITARY

1 1/2-STY FR. #1504

1-STY FR. #1501

BOARDMAN TWP.

4" MP GAS

4" CONC. WALK

PROP. TYPE-A

CONC CURB 12"-B

PROP. 6" W

EX. CONC CURB

4" CONC. WALK

6" VALVE

8" PINE

4"LP GASLINE

+61.00 19.50' LT

+59.00 19.50' RT

+66.5' RT

+57.71 14.00 LT

+55.12 14.00 RT

+00 12.50 LT

+00 12.50 RT

+45.27 14.00 LT

+42.68 14.00 RT

+88.00 12.00 LT

+86.00 12.00 LT

+22.02

+19.43

CB-3A

CROSS REFERENCES			
SHEET NO.	DESCRIPTION	SHEET NO.	DESCRIPTION
2	CENTERLINE REFERENCES	39A	I-680 MEDIAN GRADING DETAILS
25-28	ESTIMATED QUANTITIES	50A-50D	I-680 MEDIAN CROSS SECTIONS
40-48	CROSS SECTIONS	29	AGGREGATE DRAIN LOCATIONS
39	I-680 GUARDRAIL TERMINAL REPLACE		

VERTICAL CLEARANCE
REQUIRED MINIMUM = 16'-6"
POINT A:
ACTUAL MINIMUM = 17'-3½"
STA. 19+44.3
OFFSET = 17.0' (RIGHT)
POINT B:
ACTUAL MINIMUM = 16'-8"
STA. 20+52.8
OFFSET = 17.0' (RIGHT)

CURVE DATA
P.I. Sta. = 22+39.15
Δ = 0° 3' 44.65" (RT)
NO CURVE

CURVE DATA
P.I. Sta = 608+65.97
D = 5° 23' 09" (LT)
Dc = 0° 28' 00"
R = 12,277.67'
T = 577.49'
L = 1,154.13'
E = 13.57'

STA 23+19.27, 13.1' RT
PROP. CB-3A
GRATE ELEV.=1075.13
℄ PROP. 12" (N)=1071.63

STA 23+16.68, 13.2' LT
PROP. CB-3A
GRATE ELEV.=1075.13
℄ PROP. 12" (S)=1071.13
℄ PROP. 12" (N)=1071.03

END APPROACH STA. 18+86.97

15.00'

282.45' BRIDGE LIMIT

-1.15 %

-2.40 %

P.V.I. Sta. 20+00.00
Elev. = 1077.40

BEGIN APPROACH STA. 21+41.42

15.00'

STA 22+00, 12.5' RT
PROP. CB-3A
GRATE ELEV=1072.23
℄ PROP.=1067.23 (N)

STA 22+00, 12.5' LT
PROP. CB-3A
GRATE ELEV 1072.23
℄ PROP = 10666.73 (S,E)
SEE SHEET 45

PVT Sta. 22+30.00
Elev. 1071.87

STA 22+43.54, 11.49' LT
EX. ST.MH. ADJUST TO GRADE
PROP RIM = 1071.38
EX. RIM = 1069.96
℄ EX. = 1060.86(18" E)
℄ EX. = 1059.86(24" S)
℄ EX. = 1059.66(30" N)
℄ PROP. = 1065.86 (12" W)

STA 22+46.39, 0.87' RT
EX.SAN. MH. ADJUST TO GRADE
PROP RIM = 1071.49
EX. RIM = 1070.29
℄ EX. = 1059.09(10" E)
℄ EX. = 1059.09(12" S)

13.5' @2.00%
12" TYPE B

℄ BRG. REAR ABUT.

℄ PIER 1

℄ PIER 2

℄ PIER 3

℄ BRG. FORWARD ABUT.

I-680 SB

I-680 NB

300'-0" V.C.
K = 84, SSD=337'
EXCEED DESIGN SPEED 40 MPH

PVC Sta. 18+50.00
Elev. 1075.87

PVT Sta. 21+50.00
Elev. 1073.79

1085 1080 1075 1070 1065 1060 1055 1050 1045

1074.18 1074.41 1074.64 1074.87 1075.10 1075.33 1075.56 1075.78 1075.97 1076.10 1076.19 1076.23 1076.22 1076.17 1076.07 1075.92 1075.72 1075.48 1075.19 1074.85 1074.46 1074.03 1073.55 1073.07 1072.59 1072.11 1071.64 1071.23 1070.88 1070.05

1072.52 1072.69 1072.86 1073.02 1073.18 1073.20 1073.31 1073.46 1073.49 1073.48 1073.46 1073.39 1073.32 1073.25 1073.15 1073.03 1072.87 1072.72 1072.56 1072.33 1072.09 1071.80 1071.59 1071.39 1071.02 1070.64 1070.35 1070.11 1069.90 1069.68

17+00 18+00 19+00 20+00 21+00 22+00 23+00

PLAN AND PROFILE - THALIA AVENUE STA. 17+00 TO STA. 23+00

CALCULATED JRW
CHECKED EBS

HORIZONTAL SCALE IN FEET 0 10 20 40

MAH-680-9.92/13.38/15.41

30/125

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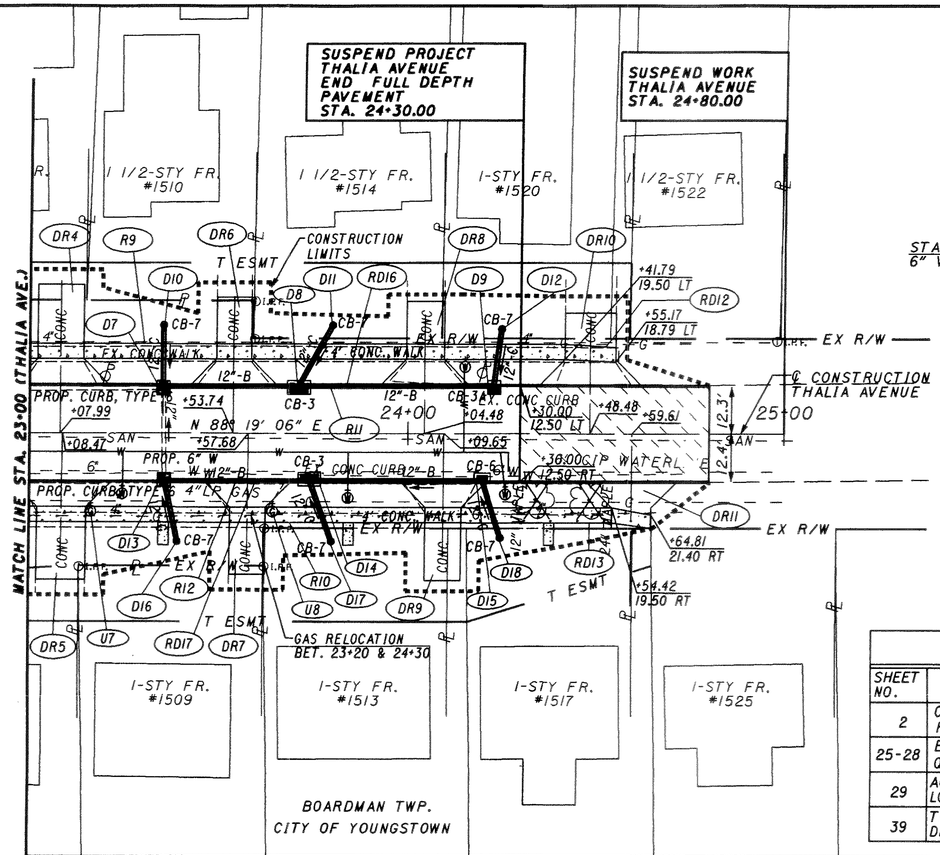
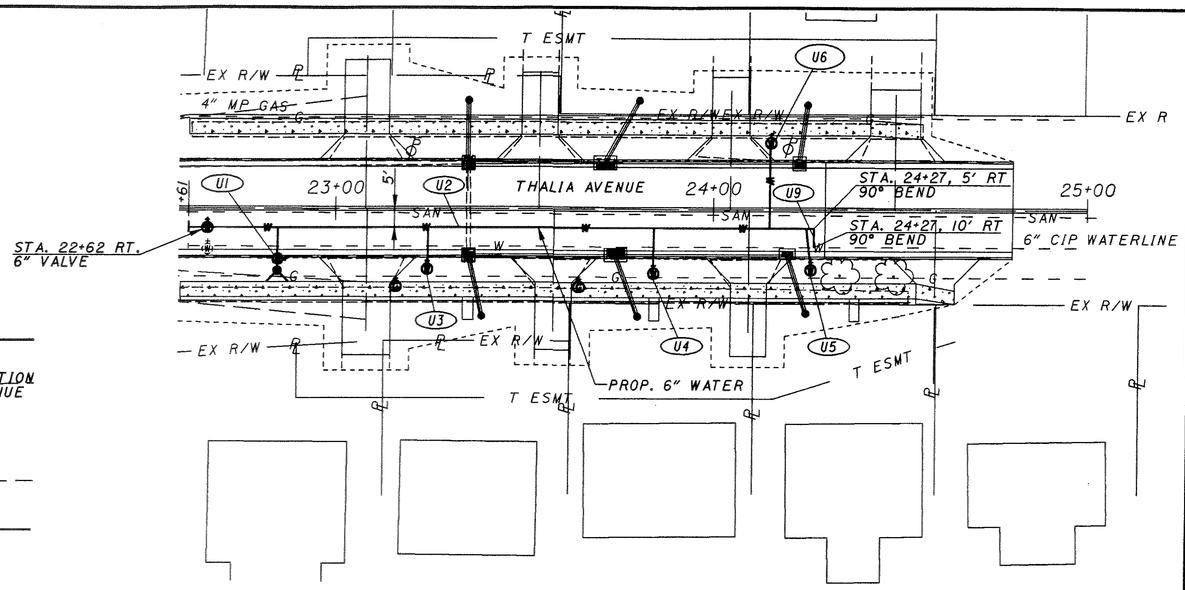
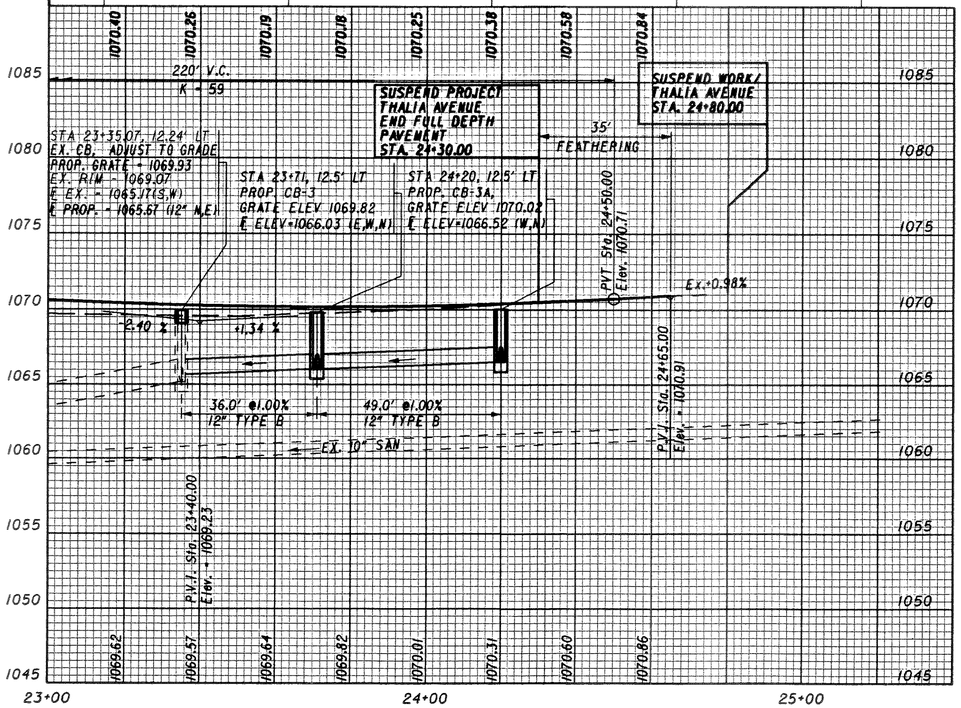
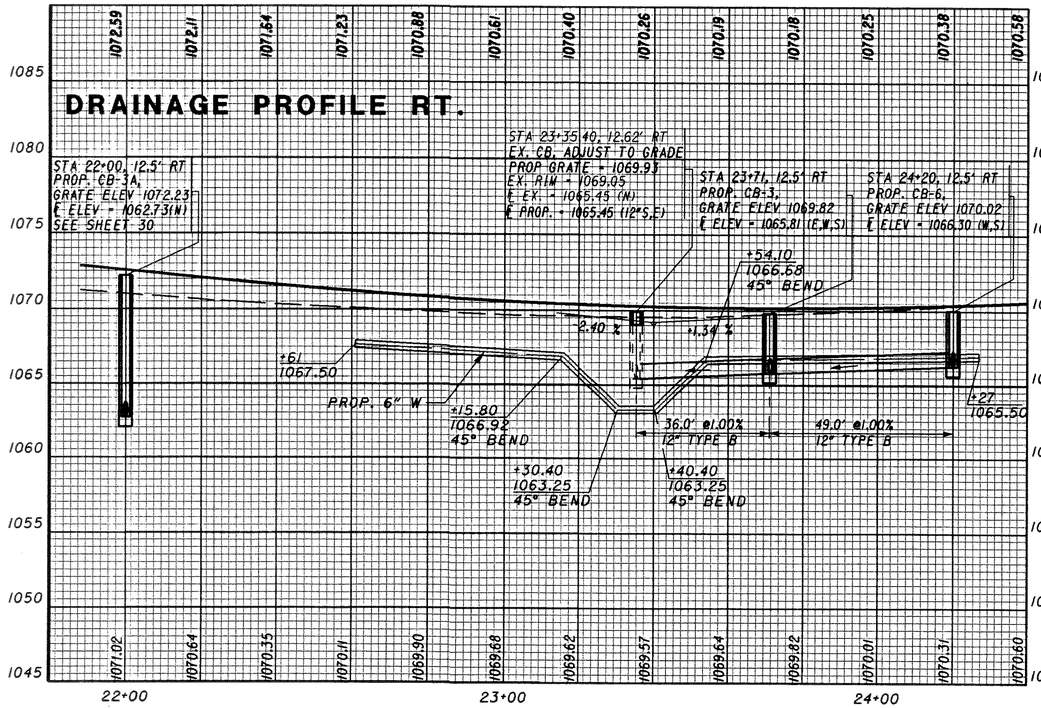




WATERLINE DETAIL

CROSS REFERENCES			
SHEET NO.	DESCRIPTION	SHEET NO.	DESCRIPTION
2	CENTERLINE REFERENCES	39	DRIVEWAY QUANTITIES
25-28	ESTIMATED QUANTITIES	40-48	CROSS SECTIONS
29	AGGREGATE DRAIN LOCATIONS	49-50	DRIVEWAY PROFILES
39	TYPICAL DRIVEWAY DETAIL		





HORIZONTAL SCALE IN FEET

CALCULATED JRW
CHECKED EBS

PLAN AND PROFILE - THALIA AVENUE STA. 23+00 TO STA. 25+00

MAH-680-9.92/13.38/15.41

31
125

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NOTES:

1. ALL DRIVEWAY ANGLES ARE 90°, RADIUS = 25' UNLESS NOTED
2. AGGREGATE DRAIN SHALL BE INSTALLED AT FOLLOWING LOCATIONS:

6+00 LT 8.0'	6+25 RT 8.0'
6+50 LT 8.0'	6+75 RT 8.0'
7+00 LT 8.0'	7+25 RT 8.0'
7+50 LT 8.0'	7+75 RT 8.0'
8+00 LT 8.0'	8+25 RT 8.0'
11+75 LT 8.0'	12+00 RT 8.0'
12+25 LT 8.0'	12+50 RT 8.0'
12+75 LT 8.0'	13+00 RT 8.0'
13+25 LT 8.0'	13+50 RT 8.0'
13+75 LT 8.0'	14+00 RT 8.0'

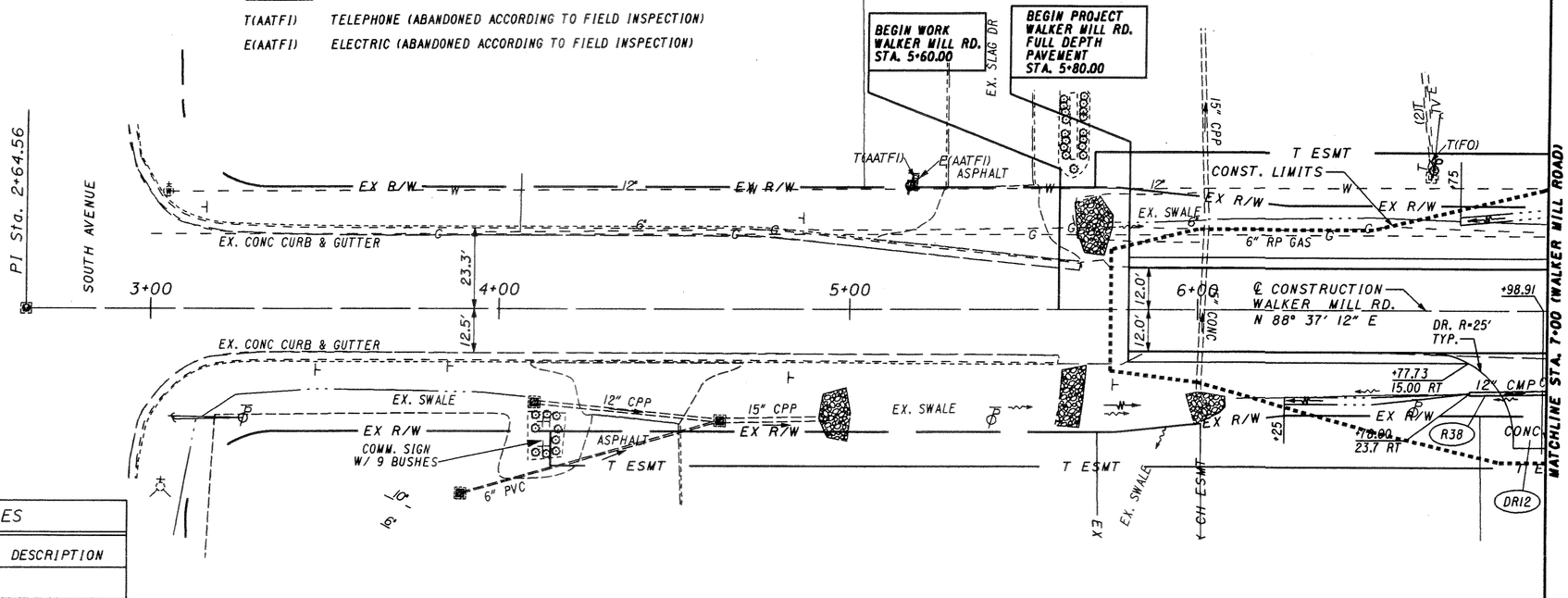
TOTAL LENGTH 160'

LEGEND

MILL & OVERLAY

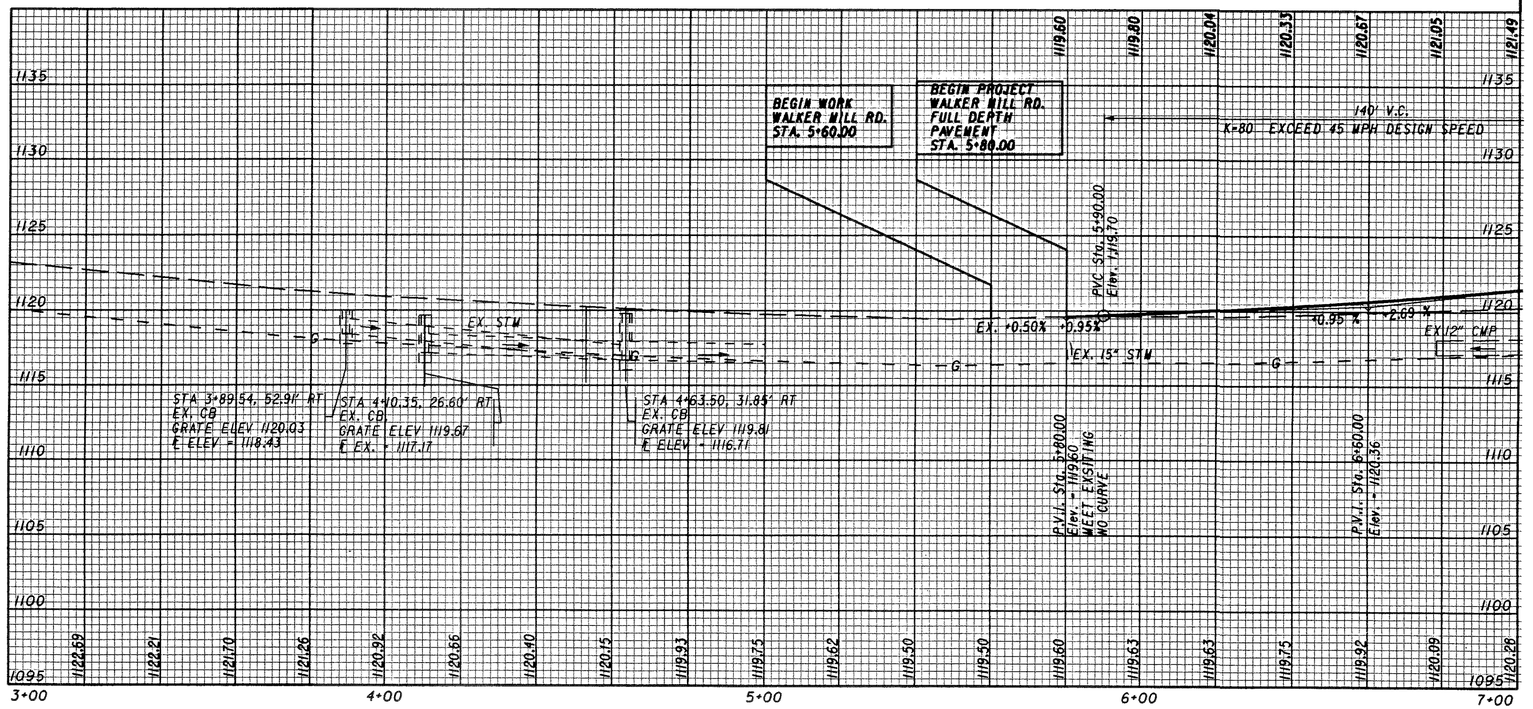
T(AATFI) TELEPHONE (ABANDONED ACCORDING TO FIELD INSPECTION)

E(AATFI) ELECTRIC (ABANDONED ACCORDING TO FIELD INSPECTION)



CROSS REFERENCES

SHEET NO.	DESCRIPTION	SHEET NO.	DESCRIPTION
2	CENTERLINE REFERENCES		
25-28	ESTIMATED QUANTITIES		
51-56	CROSS SECTIONS		



N

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JRW
CHECKED EBS

PLAN AND PROFILE - WALKER MILL ROAD
STA.3+00 TO STA. 7+00

MAH-680-9.92/13.38/15.41

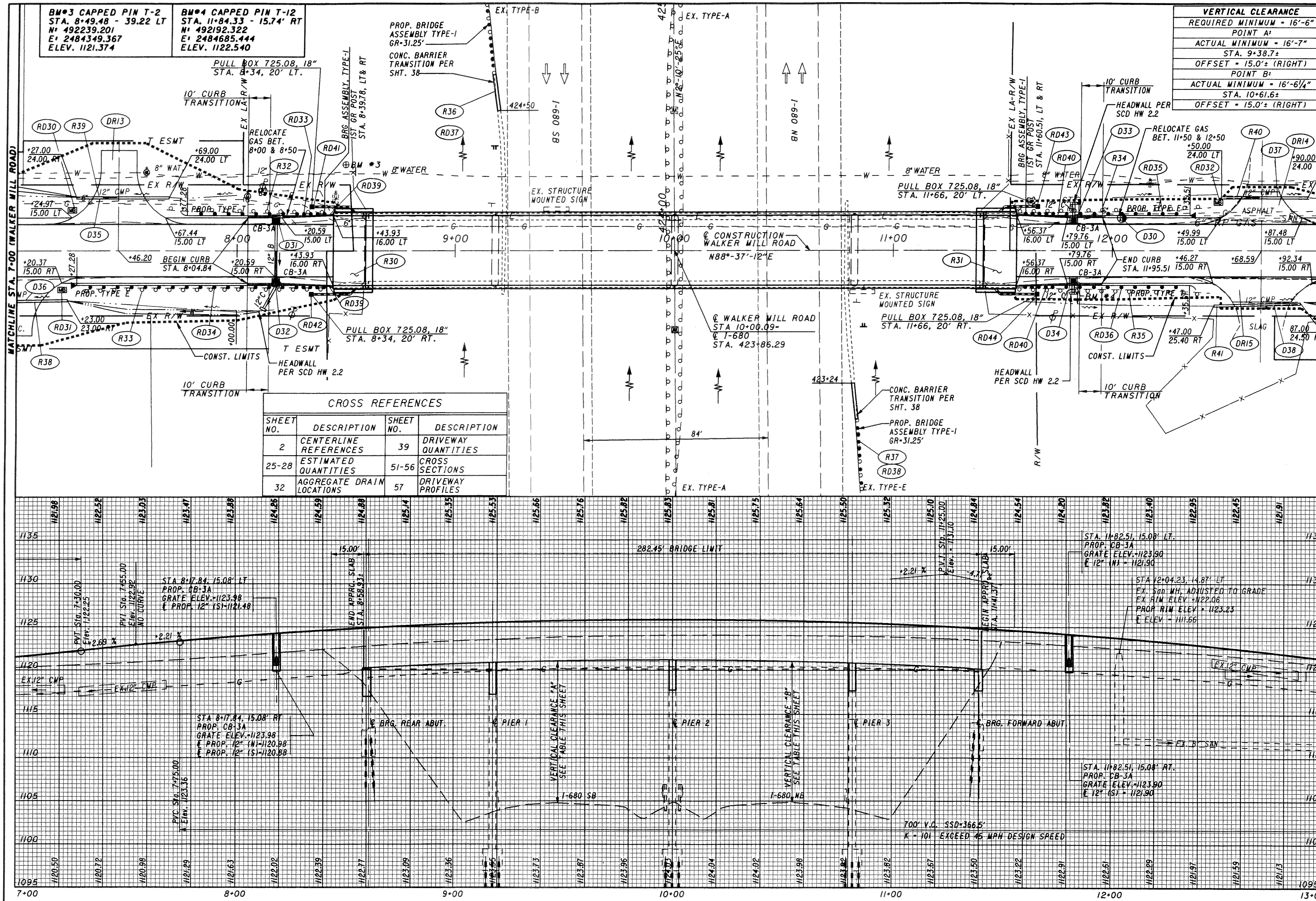
32
125

PLAN AND PROFILE - WALKER MILL ROAD
STA. 7+00 TO STA. 13+00

MAH-680-9.92/13.38/15.41

BM#3 CAPPED PIN T-2	BM#4 CAPPED PIN T-12
STA. 8+49.48 - 39.22' LT	STA. 11+84.33 - 15.74' RT
N: 492239.201	N: 492192.322
E: 2484349.367	E: 2484685.444
ELEV. 1121.374	ELEV. 1122.540

VERTICAL CLEARANCE
REQUIRED MINIMUM = 16'-6"
POINT A:
ACTUAL MINIMUM = 16'-7"
STA. 9+38.7±
OFFSET = 15.0'± (RIGHT)
POINT B:
ACTUAL MINIMUM = 16'-6¼"
STA. 10+61.6±
OFFSET = 15.0'± (RIGHT)

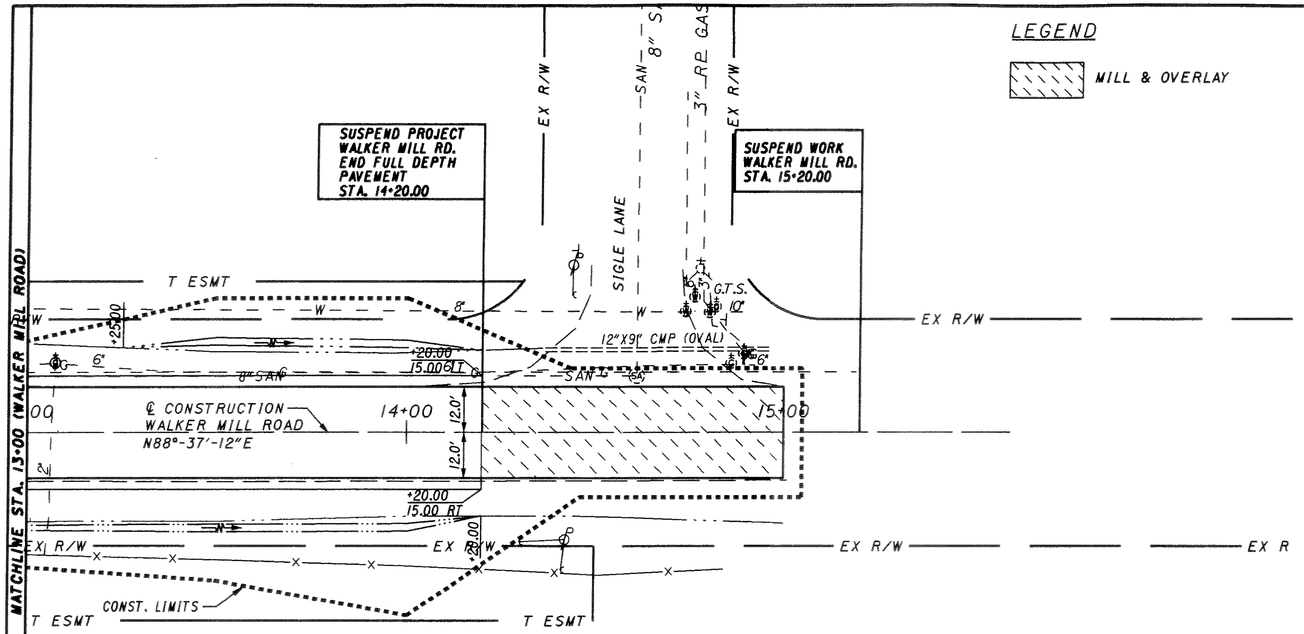


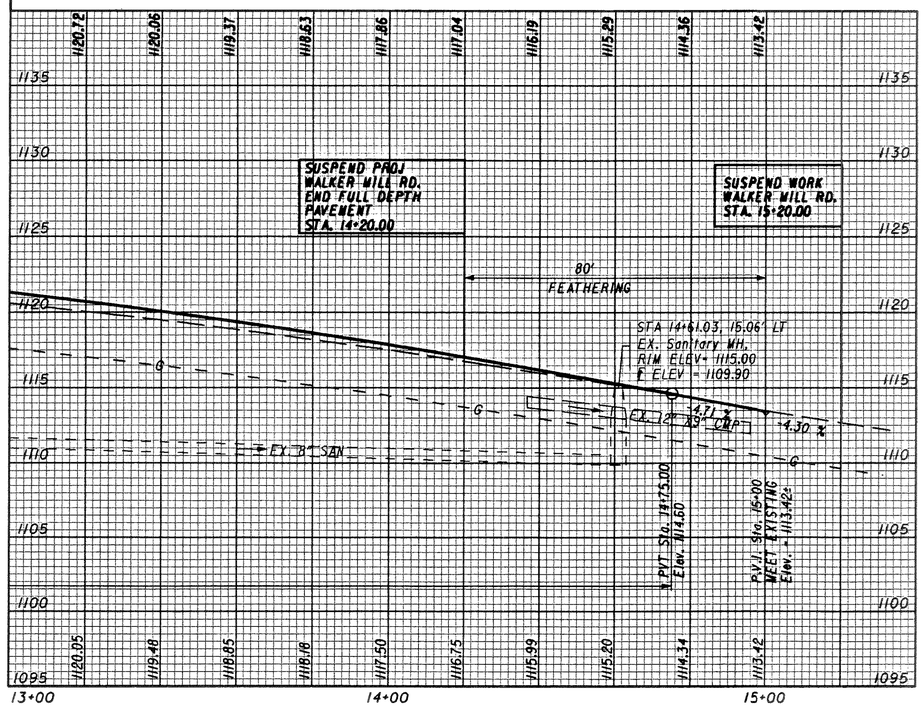
PROP. BRIDGE ASSEMBLY TYPE-1 GR=31.25'
CONC. BARRIER TRANSITION PER SHT. 38
PULL BOX 725.08, 18" STA. 8+34, 20' LT.
10' CURB TRANSITION
RELOCATE GAS BET. 8+00 & 8+50
BRG ASSEMBLY, TYPE-1 1ST GR POST STA. 8+39.78, LT & RT
BM #3
8" WATER
EX. STRUCTURE MOUNTED SIGN
I-680 SB
I-680 NB
℄ CONSTRUCTION WALKER MILL ROAD N88°-37'-12"E
BEGIN CURB STA. 8+04.84
CB-3A
T ESMT
EX R/W
PROP. TYPE E
CONST. LIMITS
HEADWALL PER SCD HW 2.2
PULL BOX 725.08, 18" STA. 8+34, 20' RT.
℄ WALKER MILL ROAD STA 10+00.09= ℄ I-680 STA. 423+86.29
84'
EX. TYPE-A
EX. TYPE-B
EX. TYPE-E
PULL BOX 725.08, 18" STA. 11+66, 20' LT.
PULL BOX 725.08, 18" STA. 11+66, 20' RT.
BRG ASSEMBLY, TYPE-1 1ST GR POST STA. 11+60.51, LT & RT
HEADWALL PER SCD HW 2.2
RELOCATE GAS BET. 11+50 & 12+50
END CURB STA. 11+95.51
MATCHLINE STA. 7+00 (WALKER MILL ROAD)
MATCHLINE STA. 13+00 (WALKER MILL ROAD)
282.45' BRIDGE LIMIT
STA 8+17.84, 15.08' LT PROP. CB-3A GRATE ELEV.=1123.98 ℄ PROP. 12" (S)=1121.48
STA 8+17.84, 15.08' RT PROP. CB-3A GRATE ELEV.=1123.98 ℄ PROP. 12" (N)=1120.98 ℄ PROP. 12" (S)=1120.88
STA. 11+82.51, 15.08' LT. PROP. CB-3A GRATE ELEV.=1123.90 ℄ 12" (N) = 1121.90
STA. 11+82.51, 15.08' RT. PROP. CB-3A GRATE ELEV.=1123.90 ℄ 12" (S) = 1121.90
STA 12+04.23, 14.87' LT EX. San MH, ADJUSTED TO GRADE EX RIM ELEV =1122.06 PROP RIM ELEV = 1123.23 ℄ ELEV = 1111.66
℄ BRG. REAR ABUT.
℄ PIER 1
℄ PIER 2
℄ PIER 3
℄ BRG. FORWARD ABUT.
VERTICAL CLEARANCE "A" SEE TABLE THIS SHEET
VERTICAL CLEARANCE "B" SEE TABLE THIS SHEET
700' V.C. SSD=366.5'
K = 101 EXCEED 45 MPH DESIGN SPEED
EX.12" CMP
EX. 8" SAN
7+00
8+00
9+00
10+00
11+00
12+00
13+00

CROSS REFERENCES			
SHEET NO.	DESCRIPTION	SHEET NO.	DESCRIPTION
2	CENTERLINE REFERENCES	39	DRIVEWAY QUANTITIES
25-28	ESTIMATED QUANTITIES	51-56	CROSS SECTIONS
32	AGGREGATE DRAIN LOCATIONS	57	DRIVEWAY PROFILES

HORIZONTAL SCALE IN FEET

CALCULATED JRW | CHECKED EBS





LEGEND

MILL & OVERLAY

CROSS REFERENCES			
SHEET NO.	DESCRIPTION	SHEET NO.	DESCRIPTION
2	CENTERLINE REFERENCES		
25-28	ESTIMATED QUANTITIES		
51-56	CROSS SECTIONS		

N

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JRW
CHECKED EBS

PLAN AND PROFILE - WALKER MILL ROAD STA. 13+00 TO STA. 15+20

MAH-680-9.92/13.38/15.41

34
125

BM#5 CONC. MONUMENT W/I.P.	BM#6 DRILL HOLE T-1
STA. 311+00.00 - 0.00'	STA. 315+68.80 - 38.57' RT
N: 481093.721	N: 481551.933
E: 2483250.930	E: 2483361.948
ELEV. 1196.697	ELEV. 1204.872

LEGEND

MILL & OVERLAY

NOTES:

1. FOR TEMPORARY PAVEMENT AND WORK LIMIT, SEE MOT SHEETS AND TYPICAL SECTIONS

Dc = 0° 44' 00"
P.I. Sta = 315+01.97
Δ = 5° 53' 25" (LT)
R = 7,813.06'
T = 401.97'
L = 803.22'
E = 10.33'
emax = 0.028

RESUME PROJECT
I-680
STA. 314+00.00

END PROJECT
I-680
STA. 317+70.00
E040(280)

EX LA-R/W

EX. TYPE-A

EX. TYPE-B

EX. UD

CONST. LIMIT

18+00

19+00

20+00

+00

314+00

315+00

316+00

317+00

318+00

319

STA. 314+88
96.25' LT.
℄ = 1200.68
6" U.D. OUTLET

WOOD STAKE

18+54.75

18+70.25

RD56

RD58

RD60

19+02.25
IST POST

19+06.40

19+07.75
IST POST

19+11.90

6" U.D. OUTLET
STA. 316+60
89.03' LT.
℄ = 1201.64

316+43.48
IST GR POST

316+93.48

RD50

R52

D50

R50

R58

D52

D53

RD51

R53

+75.00

+82.00

314+97.62
76.50 LT

316+54.63
76.50 LT

316+58.62
38.50 LT

P.G.

PRESSURE RELIEF JOINT,
PER BP-2.3 TYP.

STA. 314+95, 41.00' LT
℄ = 1202.19 (CAP END)

PULL BOX, 725.08, 18"
STA. 314+92, 34' LT.

RD62

315+02.37
38.50 LT

REPLACE W/ CONC. BARRIER
AND GUARD RAIL,
FOR PIER PROTECTION

CALLA RD

N 89°23'42"E

RD55

(AERIAL)

316+47.92
IST GR POST

316+97.92

RD64

STA. 316+65
41.00' LT
℄ = 1203.07 (CAP END)

PULL BOX, 725.08, 18"
STA. 316+70, 31.5' RT.

WOOD STAKE

84'

℄ CONSTRUCTION
I-680

℄ CONST. I-680
STA. 315+84.72±
℄ CONST CALLA RD.
STA. 20+00.00±

I-680 SB

I-680 NB

PULL BOX, 725.08, 18"
STA. 315+02, 32' RT.

RD52

RD54

RD63

314+72.20

315+20.20
IST GR POST

315+11.63
37.50 RT

RD54

RD65

PULL BOX, 725.08, 18"
STA. 316+76, 32.5' RT.

316+66.50
37.50 RT

STA. 316+73
41.00' RT
℄ = 1203.20

STA. 315+05
41.00' RT
℄ = 1202.19

INSTALL 50' GR TO CONNECT
BETWEEN NEW BRIDGE TERMINAL
ASSEMBLY & EX. GUARDRAIL

+88.00

+93.00

P.G.

D54

R51

D55

315+16.27
75.50 RT

RD61

BM #5

R59

316+70.26
75.50 RT

D51

CONST LIMIT

EX. TYPE-E

BEAVER TOWNSHIP

WOOD STAKE

314+89.78

315+27.28
IST GR POST

20+86.40
20+90.55
IST POST

20+91.90
20+96.05
IST POST

RD59

RD57

R57

R56

21+28.05

21+33.55

6" U.D. OUTLET
STA. 315+12
93.54' RT.
℄ = 1201.62

6" U.D. OUTLET
STA. 316+78
90.33' RT.
℄ = 1202.69

CROSS REFERENCES			
SHEET NO.	DESCRIPTION	SHEET NO.	DESCRIPTION
2	CENTERLINE REFERENCES	58-60	CROSS SECTIONS
25-28	ESTIMATED QUANTITIES		
39	TYP. DRIVEWAY DETAIL		
39	DRIVEWAY QUANTITIES		

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JRW
CHECKED EBS

PLAN - I-680
STA. 313+00 TO STA. 319+00

MAH-680-9.92/13.38/15.41

35
125

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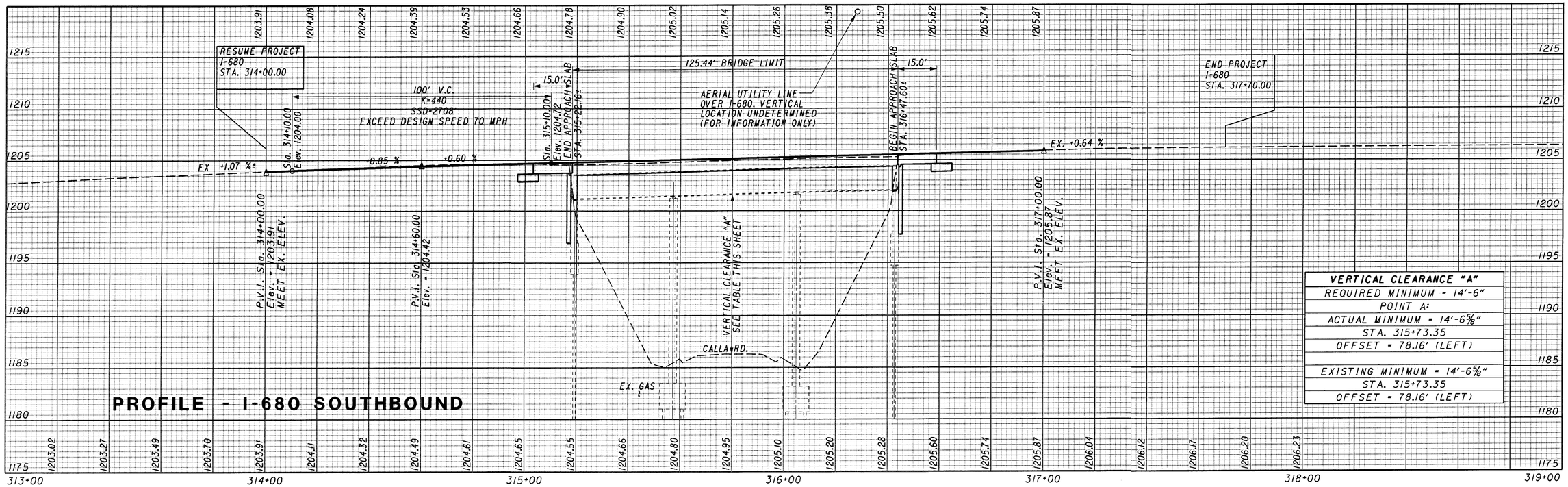
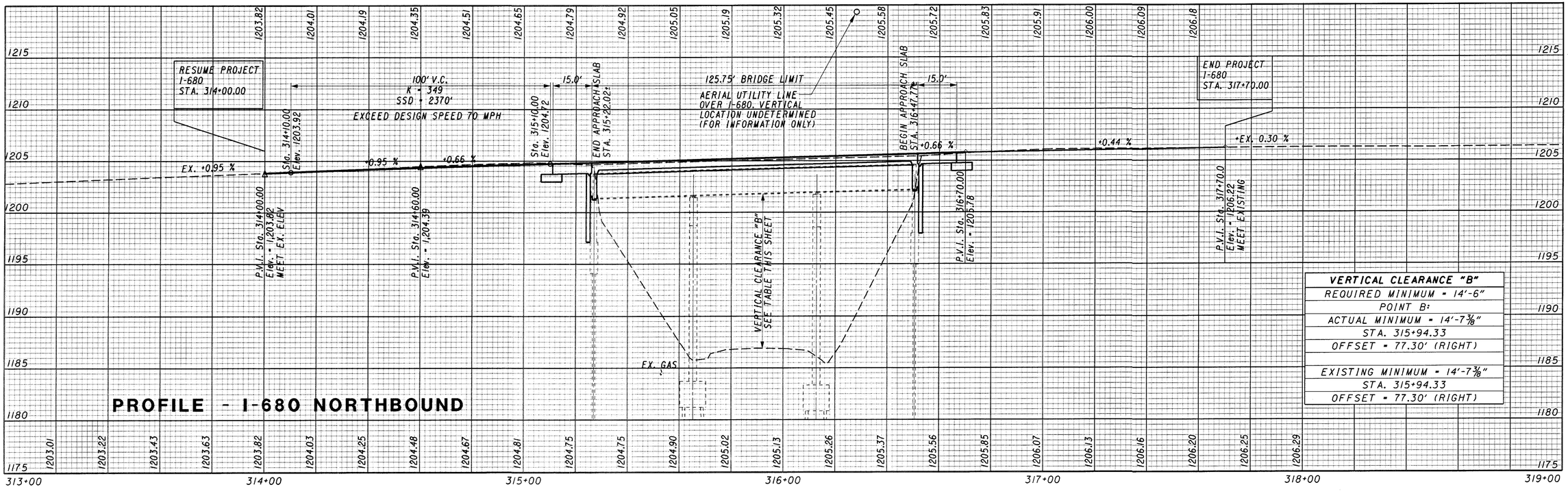


VERTICAL CLEARANCE "A"
REQUIRED MINIMUM - 14'-6"
POINT A:
ACTUAL MINIMUM - 14'-6⅝"
STA. 315+73.35
OFFSET - 78.16' (LEFT)
EXISTING MINIMUM - 14'-6⅝"
STA. 315+73.35
OFFSET - 78.16' (LEFT)



VERTICAL CLEARANCE "B"
REQUIRED MINIMUM - 14'-6"
POINT B:
ACTUAL MINIMUM - 14'-7⅜"
STA. 315+94.33
OFFSET - 77.30' (RIGHT)
EXISTING MINIMUM - 14'-7⅜"
STA. 315+94.33
OFFSET - 77.30' (RIGHT)

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JRW
CHECKED EBS

PROFILE - I-680 STA. 313+00 TO STA. 319+00

MAH-680-9.92/13.38/15.41

36
125

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SUPERELEVATION TABLE SOUTHBOUND I-680

PI = 315+01.97 Dc = 00°44'00"

LEFT SIDE										OUTER EDGE CONTROL		RIGHT SIDE					REMARKS
EDGE OF SHOULDER ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE OF PAVEMENT ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE FRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE OF SHOULDER ELEVATION	
1202.92		-0.42	-0.0417	10	1203.33		-0.58	-0.024	24	314+00	1203.91	4	-0.0417	-0.17		1203.74	
1203.13		-0.42	-0.0417	10	1203.54		-0.58	-0.024	24	314+25	1204.12	4	-0.0417	-0.17		1203.95	
1203.33		-0.42	-0.0417	10	1203.74		-0.58	-0.024	24	314+50	1204.32	4	-0.0417	-0.17		1204.15	
1203.41		-0.42	-0.0417	10	1203.82		-0.58	-0.024	24	314+62	1204.40	4	-0.0417	-0.17		1204.23	BEGIN TRANSITION LT SHOULDER
1203.53	250:1	-0.37	-0.0374	10	1203.90		-0.58	-0.024	24	314+73	1204.48	4	-0.0417	-0.17	287:1	1204.31	BEGIN TRANSITION EOP & RT SHOULDER
1203.55		-0.37	-0.0366	10	1203.91		-0.58	-0.024	24	314+75	1204.49	4	-0.0400	-0.16		1204.33	
1203.63		-0.34	-0.0280	12	1203.97	250:1	-0.67	-0.028	24	314+97	1204.64	6	-0.0208	-0.12		1204.52	APPROACH SLAB/END TRANSITION
1203.65		-0.34	-0.0280	12	1203.99		-0.67	-0.028	24	315+00	1204.66	6	-0.0208	-0.12		1204.54	
1203.80		-0.34	-0.0280	12	1204.14		-0.67	-0.028	24	315+25	1204.81	6	-0.0208	-0.12		1204.69	
1203.95		-0.34	-0.0280	12	1204.29		-0.67	-0.028	24	315+50	1204.96	6	-0.0208	-0.12		1204.84	
1204.10		-0.34	-0.0280	12	1204.44		-0.67	-0.028	24	315+75	1205.11	6	-0.0208	-0.12		1204.99	
1204.25		-0.34	-0.0280	12	1204.59		-0.67	-0.028	24	316+00	1205.26	6	-0.0208	-0.12		1205.14	
1204.40		-0.34	-0.0280	12	1204.74		-0.67	-0.028	24	316+25	1205.41	6	-0.0208	-0.12		1205.29	
1204.55		-0.34	-0.0280	12	1204.89		-0.67	-0.028	24	316+50	1205.56	6	-0.0208	-0.12		1205.44	
1204.60		-0.34	-0.0280	12	1204.94		-0.67	-0.028	24	316+59	1205.61	6	-0.0208	-0.12		1205.49	APPROACH SLAB/BEGIN TRANSITION
1204.77		-0.34	-0.0343	10	1205.11		-0.60	-0.025	24	316+75	1205.71	4	-0.0347	-0.14		1205.57	
1204.81	250:1	-0.37	-0.0374	10	1205.18	250:1	-0.58	-0.024	24	316+83	1205.76	4	-0.0417	-0.17	287:1	1205.59	END TRANSITION LT SHOULDER
1204.84		-0.42	-0.0417	10	1205.25		-0.58	-0.024	24	316+94	1205.83	4	-0.0417	-0.17		1205.66	END TRANSITION RT SHOULDER
1204.88		-0.42	-0.0417	10	1205.29		-0.58	-0.024	24	317+00	1205.87	4	-0.0417	-0.17		1205.70	

SUPERELEVATION TABLE NORTHBOUND I-680

PI = 315+01.97 Dc = 00°44'00"

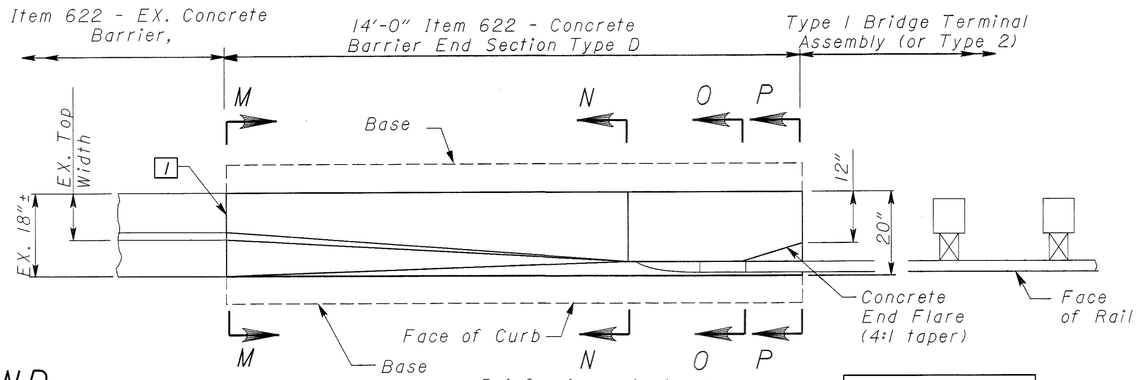
LEFT SIDE					INNER EDGE CONTROL		RIGHT SIDE										REMARKS
EDGE OF SHOULDER ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE FRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE OF PAVEMENT ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE OF SHOULDER ELEVATION	
1203.65		-0.17	-0.0417	4	314+00	1203.82	24	0.024	0.58		1204.40	10	-0.0417				
1203.88		-0.17	-0.0417	4	314+25	1204.05	24	0.024	0.58		1204.63	10	-0.0417				
1204.10		-0.17	-0.0417	4	314+50	1204.27	24	0.024	0.58		1204.85	10	-0.0417				
1204.30		-0.17	-0.0417	4	314+75	1204.47	24	0.024	0.58		1205.05	10	-0.0417				
1204.38		-0.17	-0.0417	4	314+86	1204.55	24	0.024	0.58		1205.13	10	-0.0417				BEGIN TRANSITION LT SHOULDER & EOP
1204.52	438:1	-0.13	-0.0337	4	315+00	1204.65	24	0.026	0.62	250:1	1205.27	10	-0.0417				
1204.55		-0.17	-0.0280	6	315+10	1204.72	24	0.028	0.67		1205.39	12	-0.0417		NO TRANSITION RT SHOULDER		APPROACH SLAB/END TRANSITION
1204.65		-0.17	-0.0280	6	315+25	1204.82	24	0.028	0.67		1205.49	12	-0.0417				
1204.82		-0.17	-0.0280	6	315+50	1204.99	24	0.028	0.67		1205.66	12	-0.0417				
1204.98		-0.17	-0.0280	6	315+75	1205.15	24	0.028	0.67		1205.82	12	-0.0417				
1205.15		-0.17	-0.0280	6	316+00	1205.32	24	0.028	0.67		1205.99	12	-0.0417				
1205.32		-0.17	-0.0280	6	316+25	1205.49	24	0.028	0.67		1206.16	12	-0.0417				
1205.48		-0.17	-0.0280	6	316+50	1205.65	24	0.028	0.67		1206.32	12	-0.0417				
1205.62		-0.17	-0.0280	6	316+71	1205.79	24	0.028	0.67		1206.46	12	-0.0417				APPROACH SLAB/BEGIN TRANSITION
1205.69	438:1	-0.12	-0.0303	4	316+75	1205.81	24	0.027	0.65	250:1	1206.46	10	-0.0417				
1205.72		-0.17	-0.0417	4	316+95	1205.89	24	0.024	0.58		1206.47	10	-0.0417				END TRANSITION LT SHOULDER & EOP
1205.74		-0.17	-0.0417	4	317+00	1205.91	24	0.024	0.58		1206.49	10	-0.0417				
1205.85		-0.17	-0.0417	4	317+25	1206.02	24	0.024	0.58		1206.60	10	-0.0417				
1205.96		-0.17	-0.0417	4	317+50	1206.13	24	0.024	0.58		1206.71	10	-0.0417				
1206.05		-0.17	-0.0417	4	317+70	1206.22	24	0.024	0.58		1206.80	10	-0.0417				

CALCULATED MTL CHECKED SG

SUPERELEVATION TABLE

MAH-680-9.92/13.38/15.41

37/125

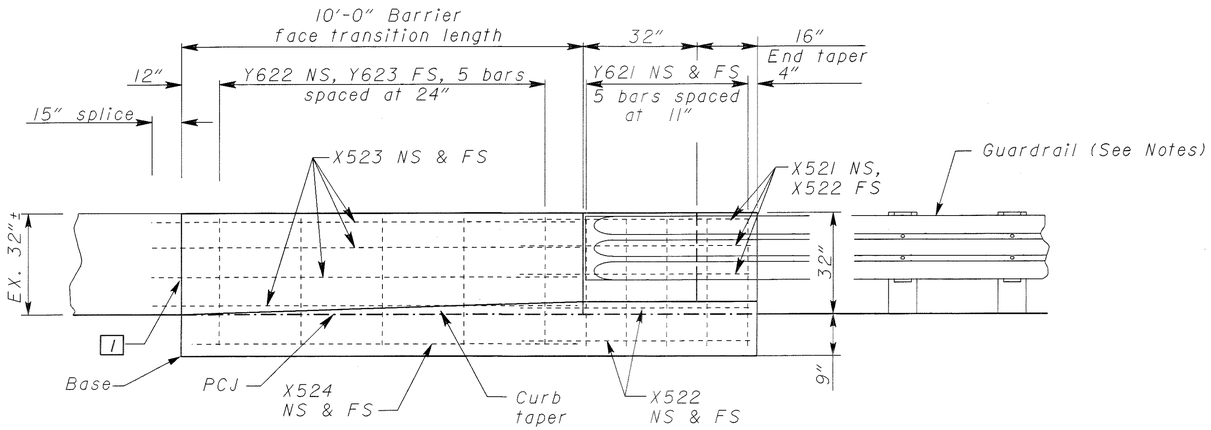


PLAN

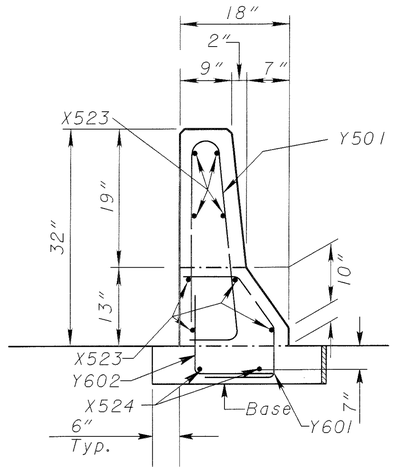
LEGEND

1 Contraction Joint. See NOTES on **SCD RM-4.3**, Provide rebar cover of 3½".

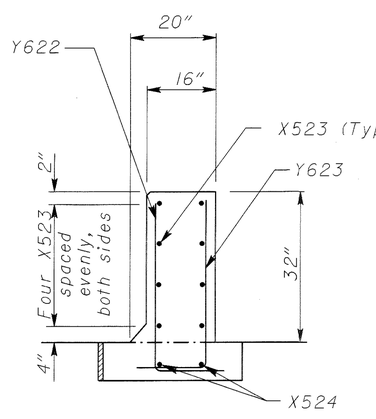
NS = Near Side
FS = Far Side



ELEVATION
BARRIER END SECTION TYPE D

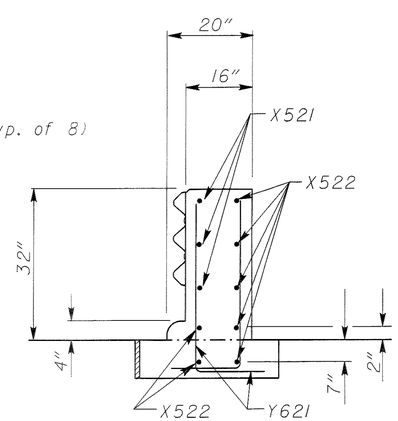


SECTION M-M



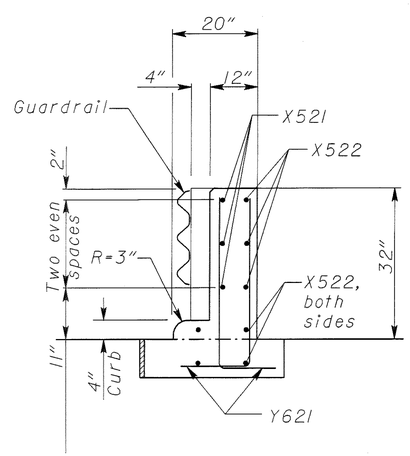
X521, X522 and Y621 not shown

SECTION N-N



See GUARDRAIL Note concerning connection

SECTION O-O



SECTION P-P

NOTES

GENERAL: This End Section is to be used in roadside applications when traffic is only on one side. This section attaches to a Single Slope Concrete Barrier, Type D, as shown on **SCD RM-4.5**. See **SCD RM-4.3** for Single Slope Barrier materials and other details. Provide 2" [50] concrete cover over rebar, except as noted.

GUARDRAIL: For Bridge Terminal Assembly and attachment details see **SCD GR-3.1** (or **GR-3.2**).

BARRIER FACE TRANSITION: To prevent vehicle snagging, a smooth transition from the vertical face to the single slope face are made over a 10' distance.

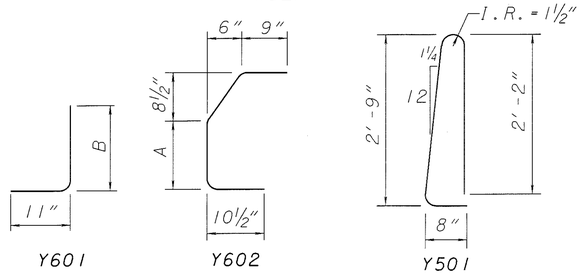
PCJ: Permissible Construction Joint.

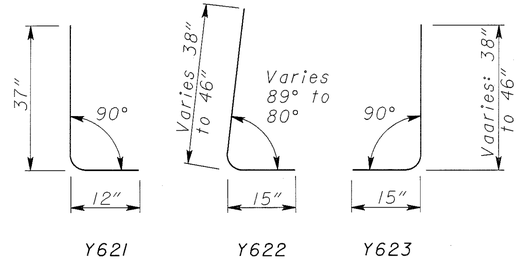
PAYMENT: Payment for the Concrete End Section shall be made at the unit price for **Item 622 - Concrete Barrier End Section, Type D, Reinforced, Each,** and shall include all materials, labor and reinforcing steel required to construct the barrier end as shown.

Type D STEEL LIST

Mark	Bar	Shape	No.	Length
X521	#5	Bent	3	5'-6"
X522	#5	Str.	7	5'-6"
X523	#5	Str.	8	11'-1"
X524	#5	Str.	2	9'-8"
Y621	#6	Bent	10	3'-11"
Y501	#5	Bent	1	6'-0"
Y601	#6	Bent	1	1'-10"
Y602	#6	Bent	1	2'-10"
Y622	#6	Bent	Series of 5	Varies: 4'-3" to 5'-3"
Y623	#6	Bent	Series of 5	Varies: 4'-3" to 5'-3"

X521





BENDING DIAGRAMS

CALCULATED MTL CHECKED SG

CONCRETE BARRIER END SECTIONS DETAIL

MAH-680-9.92/13.38/15.41

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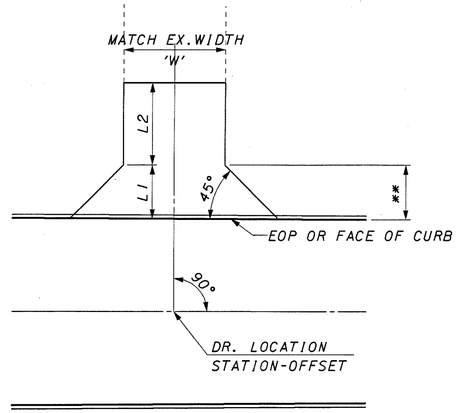
GUARDRAIL TERMINAL REPLACEMENT

	GUARD RAIL LOCATION		BRIDGE TERMINAL			GR END ASSEMBLY			GUARD RAIL HEIGHT	
	BEG. STATION	END STATION	STATION	EX. TYPE	PROP. TYPE	STATION	EX. TYPE	PROP. TYPE	EXISTING	REQUIRED
THALIA AVE										
PIER #1	605+98	608+92	607+18	TYPE-A (1)	TYPE-1	608+92	TYPE-B	TO REMAIN	2'-3" TO 2'-7"(4)	2'-3"
PIER #2	PROP LOCTION SEE PLAN									
PIER #3	601+41	606+22	605+43	TYPE-A (1)	TYPE-1	606+22	TYPE-B	TO REMAIN	2'-3" TO 2'-7"(4)	2'-3"
GUARDRAIL ON THALIA WILL BE REPLACED, SEE PLAN SHEETS 29-31										
WALKER MILL ROAD										
PIER #1	423+67	425+80	424+67	TYPE-A (1)	TYPE-1	425+80	TYPE-B	TO REMAIN	2'-3" TO 2'-7"(4)	2'-3"
PIER #2	422+38	425+38				422+38/425+38	TYPE-A (2)	TO REMAIN		
PIER #3	421+68	424+08	423+08	TYPE-A (1)	TYPE-1	424+08	TYPE-E	TO REMAIN	2'-3" TO 2'-7"(4)	2'-3"
GUARDRAIL ON WALKER MILL RD. WILL BE REPLACED, SEE PLAN SHEETS 32-34										
CALLA ROAD										
PIER #1	17+93(3)	21+96	19+06/20+86	NONE	TYPE-1	17+93/21+96	TYPE-A	TO REMAIN	2'-1" TO 2'-6"(4)	2'-3"
PIER #2	18+06(3)	22+02	19+12/20+92	NONE	TYPE-1	18+06/22+02	TYPE-A	TO REMAIN	2'-1" TO 2'-6"(4)	2'-3"
I-680 SB	316+40	322+40	316+40	TYPE-A (1)	TYPE-1	322+40	TYPE-B	TO REMAIN	2'-1" TO 2'-6"(4)	2'-3"
I-680 SB	316+44	319+19	316+44	TYPE-A (1)	TYPE-1	319+19	TYPE-A	TO REMAIN	2'-1" TO 2'-6"(4)	2'-3"
I-680 NB	312+52	315+26	315+26	TYPE-A (1)	TYPE-1	312+52	TYPE-A	TO REMAIN	2'-1" TO 2'-6"(4)	2'-3"
I-680 NB	313+22	315+32	315+32	TYPE-A (1)	TYPE-1	313+22	TYPE-E	TO REMAIN	2'-1" TO 2'-6"(4)	2'-3"

(1) REPLACED WITH TYPE-1 BRIDGE ASSEMBLY.
(2) CENTER PIER IS LOCATED OUTSIDE THE CLEAR ZONE, NO GUARDRAIL IS REQUIRED. EXISTING GUARDRAIL TO REMAIN.
(3) REPLACED WITH CONCRETE BARRIER AND BRIDGE ASSEMBLY TYPE-1. SET 6' OFF THE SHOULDER, SEE PLAN SHEETS 35 & 36.
(4) ALL GUARD RAIL NEED TO BE ADJUSTED OR REPLACED TO THE STANDARD HEIGHT 2'-3".

SHEET NO.	REFERENCE NO.	STATION	SIDE	DRIVE TYPE	APRON LENGTH "L1"	DRIVEWAY LENGTH "L2"	WIDTH "W"	R1 (LEFT SIDE RADII OF DRIVE LOOKING FROM ℄)	R2 (RIGHT SIDE RADII OF DRIVE LOOKING FROM ℄)	202 PAVEMENT REMOVED	203 EMBANKMENT	203 EXCAVATION	301 3¼" ASPHALT CONCRETE BASE, PG 64-22 (DRIVEWAYS)	448 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG 64-22 (DRIVEWAYS)	452 6" NON-REINFORCED CONCRETE PAVEMENT		
								FT.	FT.	SQ. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	SQ. YD.		
	DR1	13+73.50	LT	RES.	8.0	8.2	14.5	-	-			10.8	1.38	0.46			
	DR2	13+97.21	RT	RES.	8.0	3.4	17.2	-	-			8.2	0.68	0.23			
	DR3	14+86.70	LT	RES.	10.0	1.6	22.8	-	-			16.5	0.42	0.14			
	DR4	23+07.99	LT	RES.	10.5	15.7	11.8	-	-	36.5					40.1		
	DR5	23+08.47	RT	RES.	10.5	15.3	12.6	-	-	38.8					42.0		
	DR6	23+53.74	LT	RES.	10.5	12.4	9.3	-	-	27.3					29.3		
	DR7	23+57.68	RT	RES.	10.5	13.9	9.5	-	-	29.7					31.3		
	DR8	24+04.48	LT	RES.	10.5	11.4	10.1	-	-	27.0					30.3		
	DR9	24+09.65	RT	RES.	10.5	15.4	9.6	-	-	31.0					33.3		
	DR10	24+48.48	LT	RES.	10.5	8.2	13.4	-	-	29.9					33.9		
	DR11	24+59.61	RT	RES.	10.5	0.6	10.4	-	-	18.0					19.5		
	DR12	6+98.91	RT	RES.	25.0	2.1	16.3	25.0	25.0						78.9		
	DR13	7+46.20	LT	RES.	25.0	8.5	16.2	25.0	25.0				9.40	3.13			
	DR14	12+68.59	LT	RES.	14.8	-	15.6	25.0	25.0			13.1	4.86	1.62			
	DR15	12+68.59	RT	FIELD	11.5	-	27.2	25.0	25.0			15.2	5.27	1.76			
TOTALS (THIS SHEET)										238.2		63.8	22.01	7.34	338.6		
TOTALS CARRIED TO GENERAL SUMMARY										239		64	22	8	339		



** DRIVE WAY FLARE PORTION. 7' FROM THE FACE OF CURB OR 8' FROM THE EDGE OF PAVEMENT.

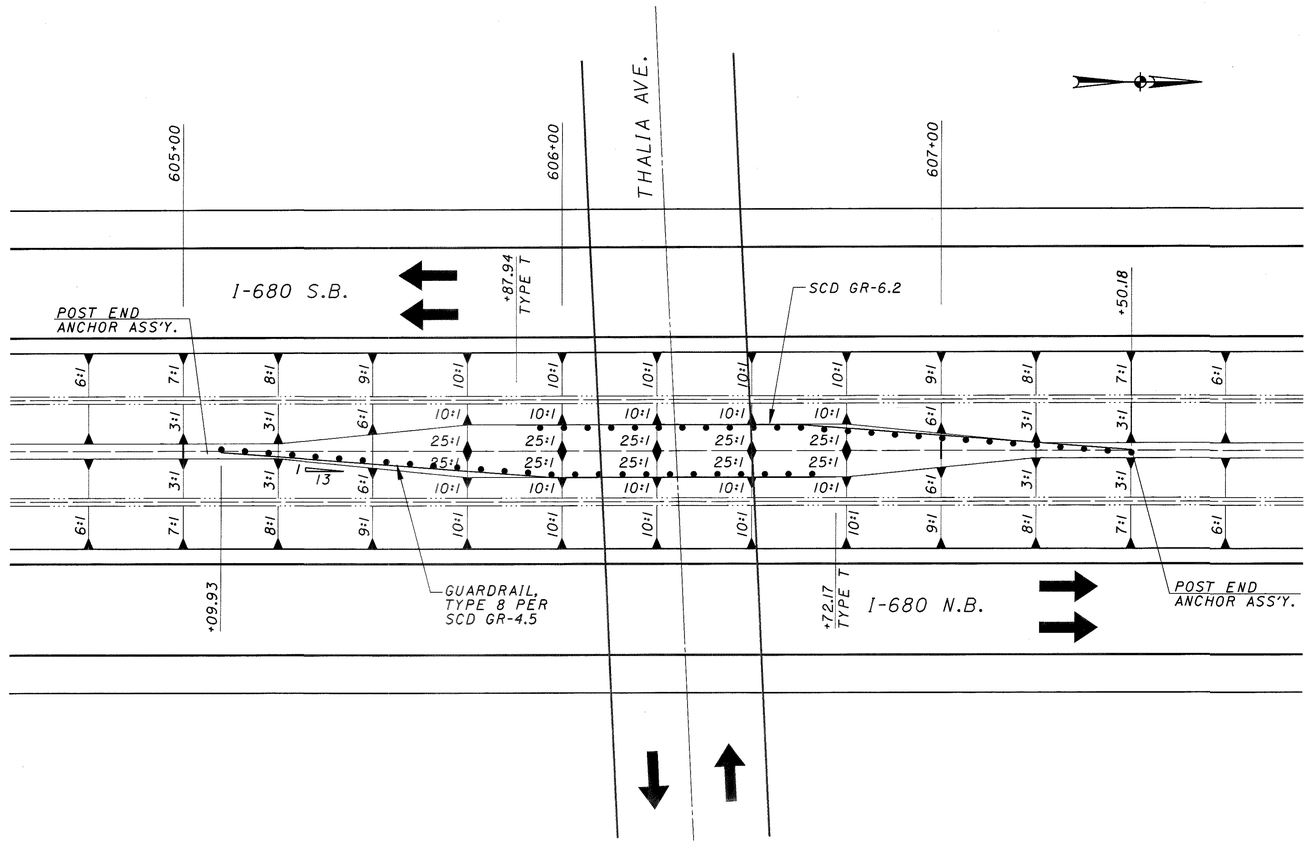
DRIVEWAY DETAIL

CALCULATED MTL
CHECKED SG

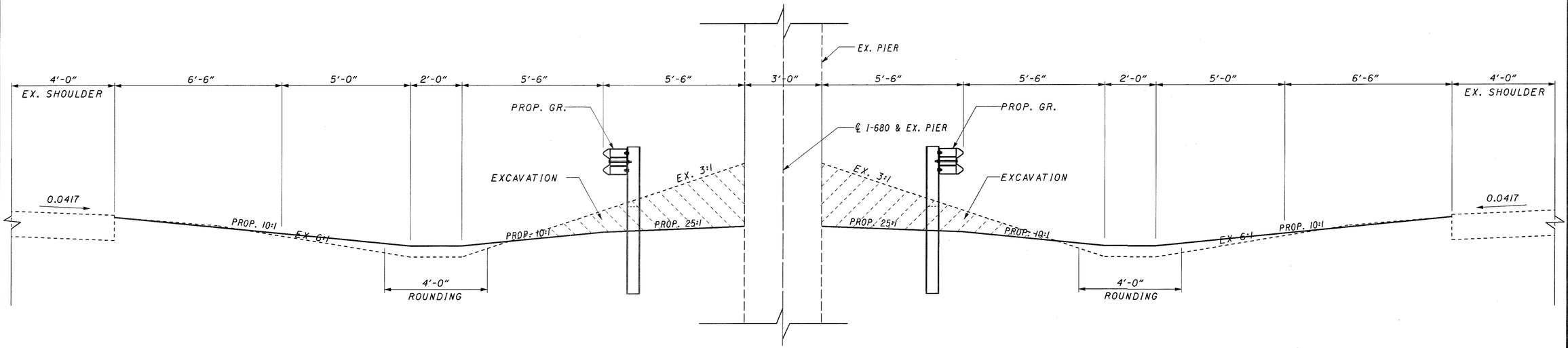
MISCELLANEOUS DETAILS

MAH-680-9.92/13.38/15.41

39
125



MEDIAN GRADING DETAIL



MEDIAN DETAIL I-680 UNDER THALIA AVE

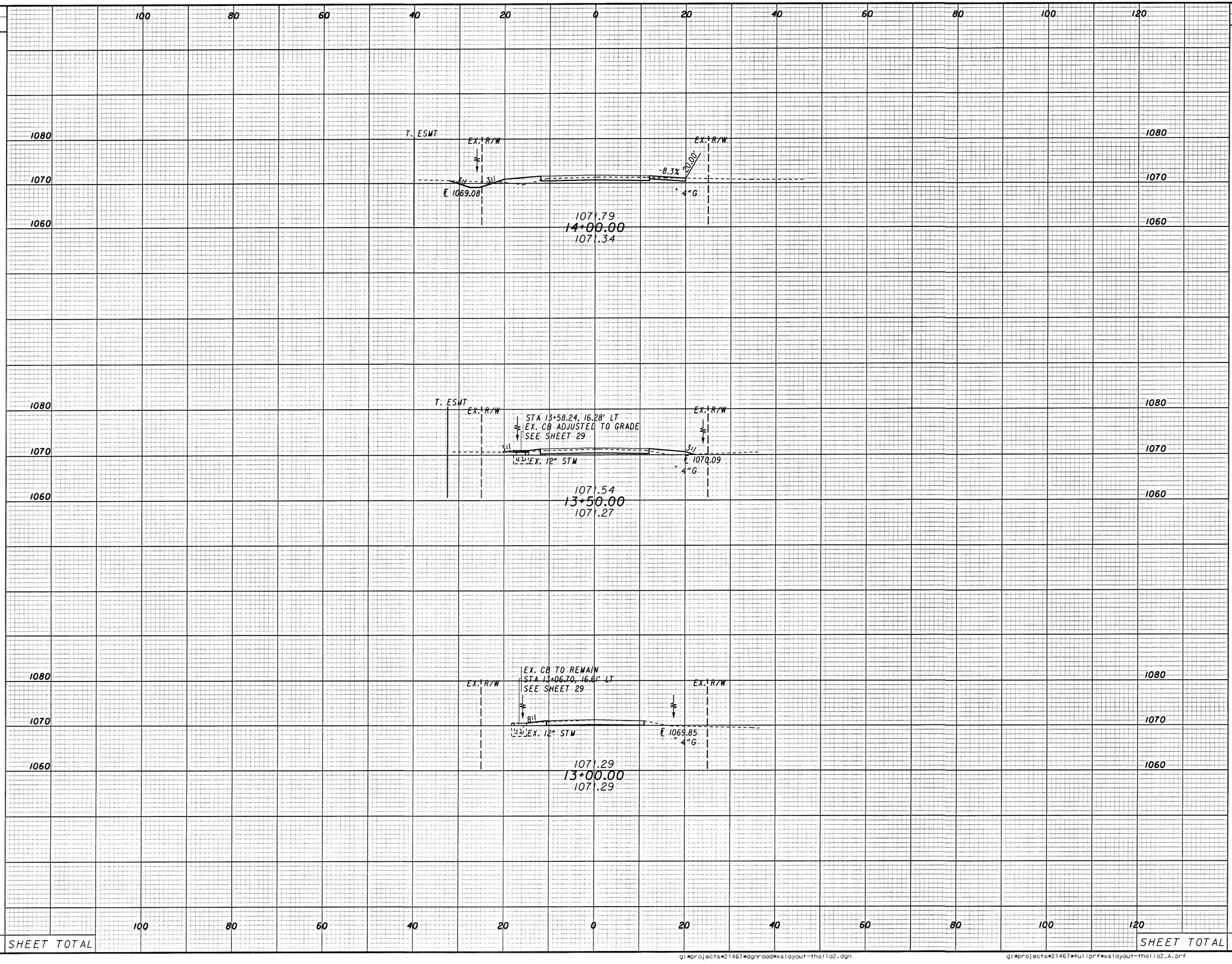
CALCULATED MTL
CHECKED SG

GRADING DETAILS - THALIA AVE.

MAH-680-9.92/13.38/15.41

39A
125

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	29	15	20		
	131			30	27
	18	18	9		
	64			37	9
	5	22	1		
	0			0	0
	194 SHEET TOTAL			67	36



CALCULATED MTL
CHECKED SG

CROSS SECTIONS - THALIA AVENUE
STA 13+00 TO STA 14+00

MAH-680-9.92/13.38/15.41

40
125

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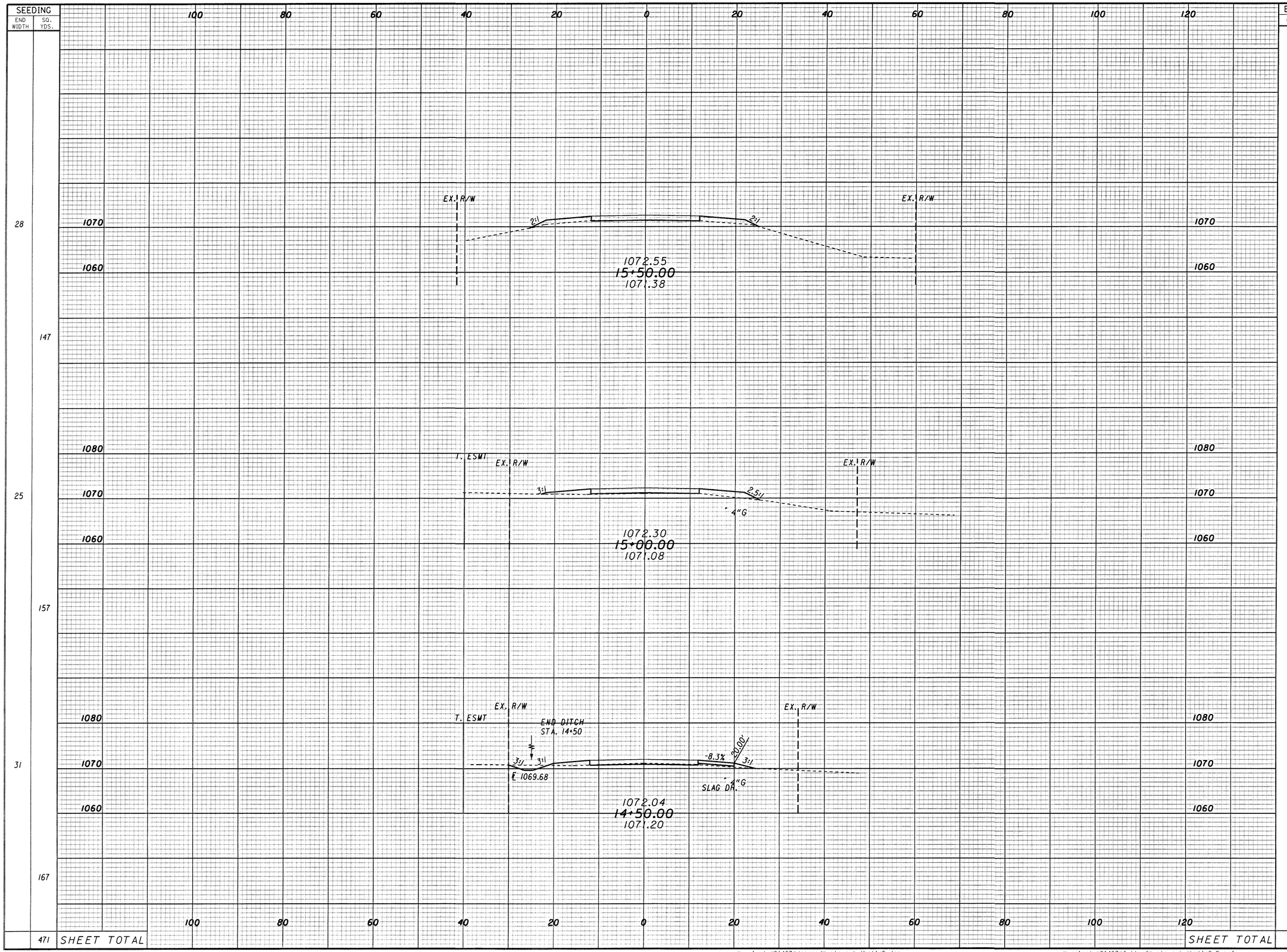
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
28	147	0	24	0	45
25	157	0	25	9	38
31	167	10	16	22	34
	471 SHEET TOTAL			31	117 SHEET TOTAL



CALCULATED MTL
CHECKED SG

CROSS SECTIONS - THALIA AVENUE
STA 14+50 TO STA 15+50

MAH-680-9.92/13.38/15.41

41
125

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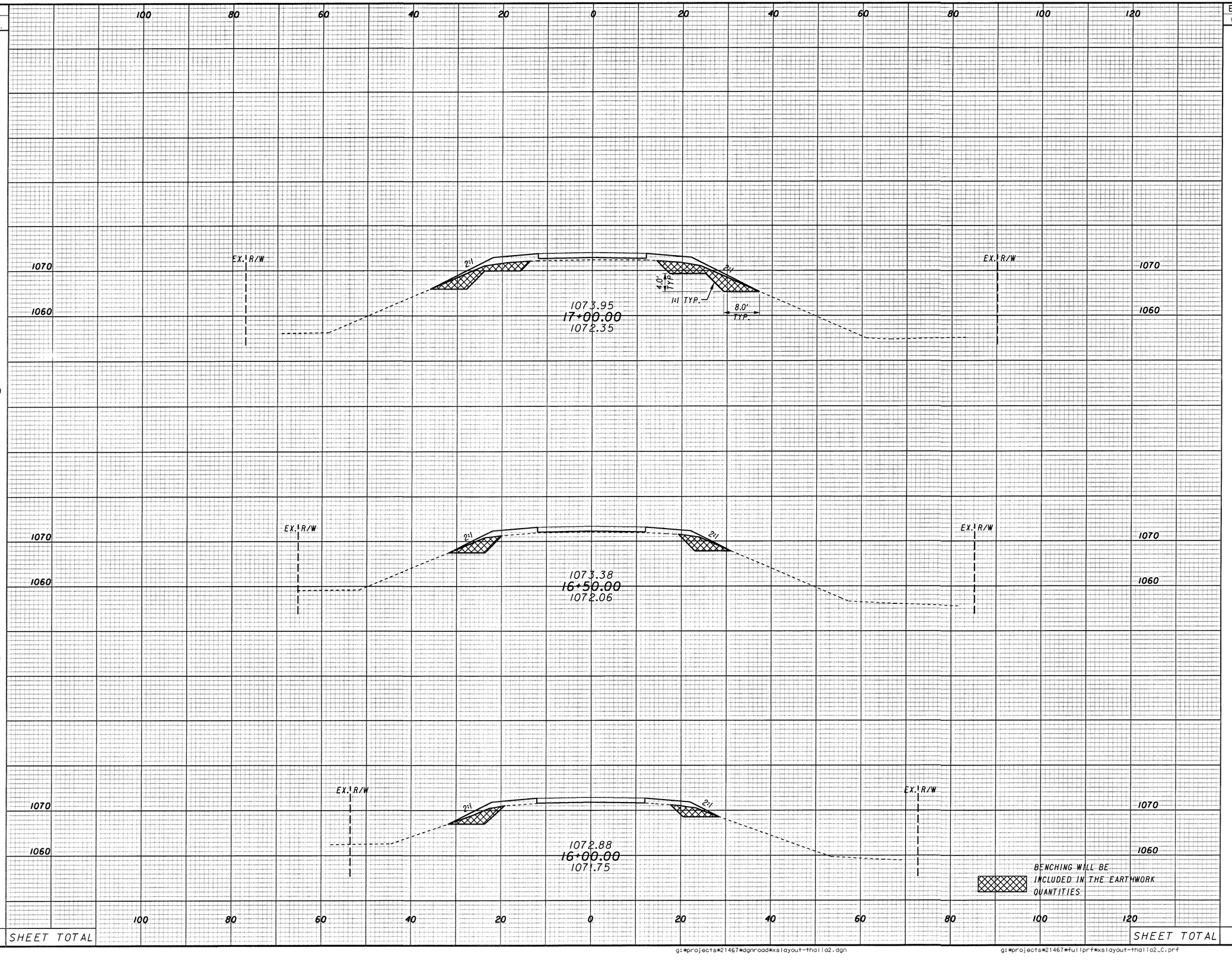
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
53	260	82	138	112	198
41	220	39	76	0	63
38	183	0	32	0	52
	663 SHEET TOTAL			112	313

CALCULATED MTL
CHECKED SG



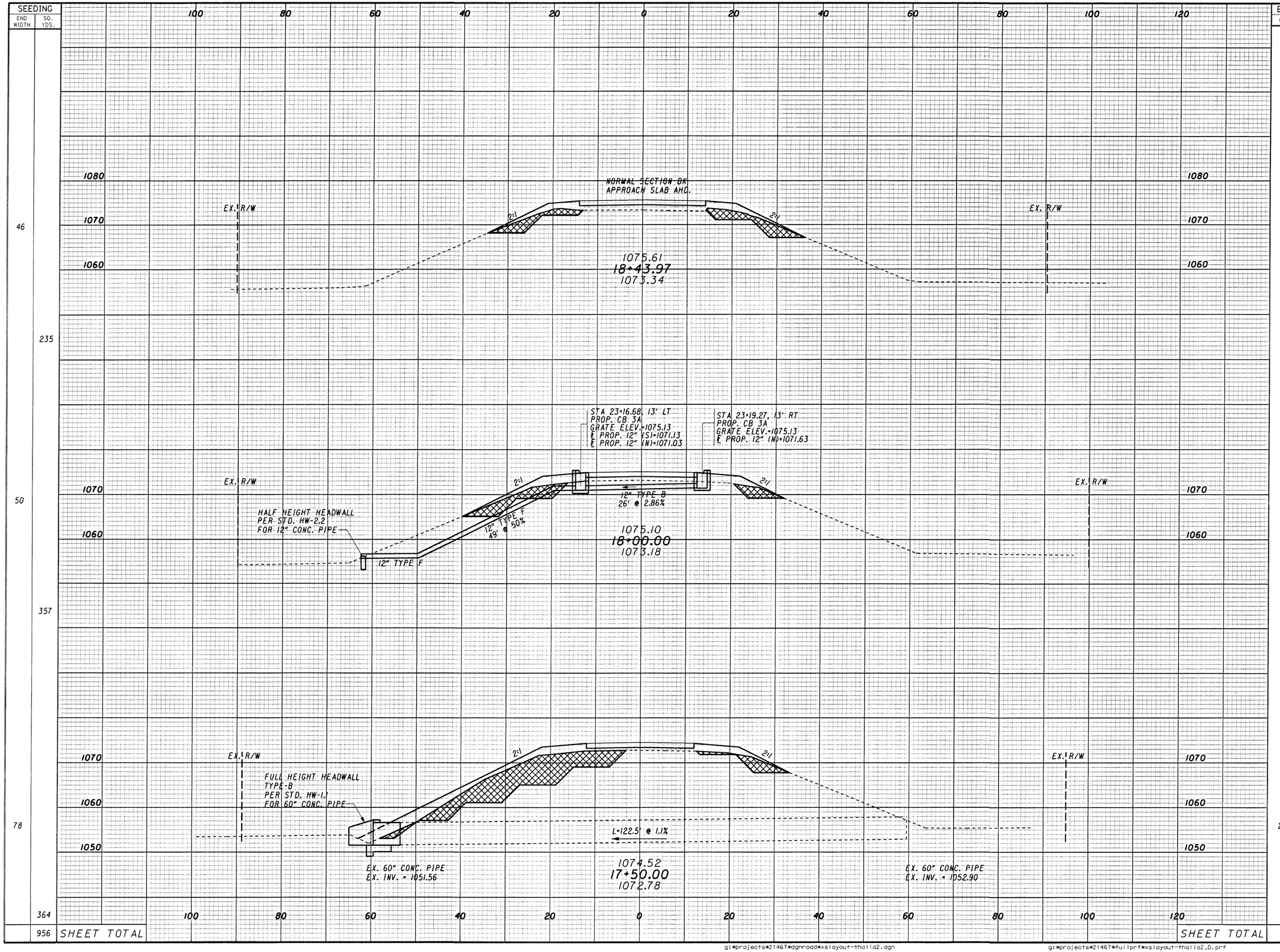
CROSS SECTIONS - THALIA AVENUE
STA 16+00 TO STA 17+00

MAH-680-9.92/13.38/15.41

g:*projects*21467*dgnroad*xslayout-thalia2.dgn
g:*projects*21467*fullprf*xslayout-thalia2_C.prf
Tue Jan 20 20:56:30 2004

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
46	235	70	146	108	233
50	357	62	141	266	458
78	364	225	353	284	455
	956 SHEET TOTAL			658	1146 SHEET TOTAL

CALCULATED MTL
CHECKED SG



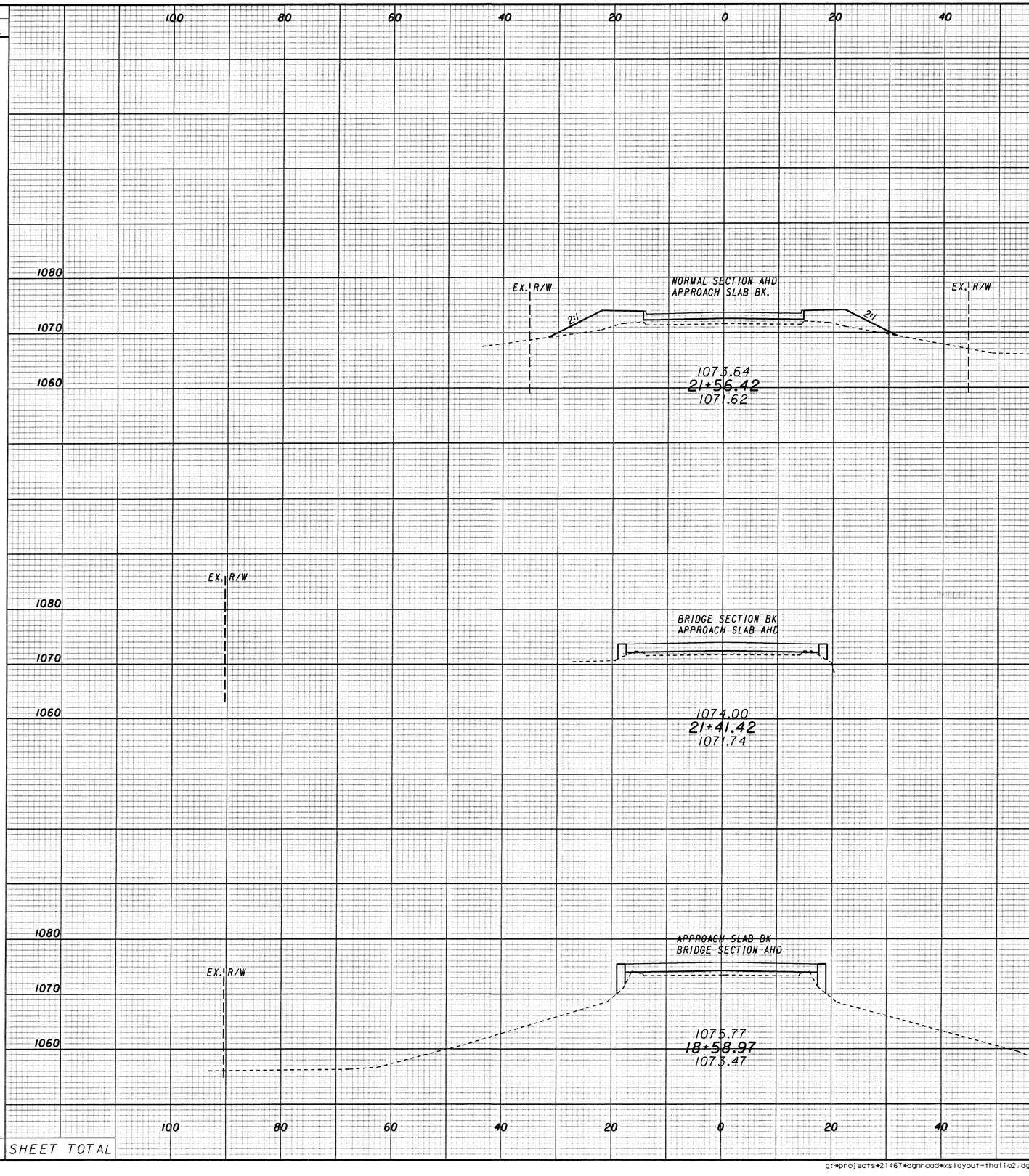
CROSS SECTIONS - THALIA AVENUE
STA 17+50 TO STA 18+44

MAH-680-9.92/13.38/15.41

43
125

g:*projects*21467*dgnroad*xslayout-thalia2.dgn
g:*projects*21467*fullprf*xslayout-thalia2_D.prf
Tue Jan 20 20:57:17 2004

SEEDING END WIDTH	SEEDING SQ. YDS.
37	
	30
0	
	0
0	
	38
	68



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	93		
		0	31
1	20		
		0	0
0	25		
		0	28
		0	59

CALCULATED MTL
CHECKED SG

CROSS SECTIONS - THALIA AVENUE
STA 18+59 TO STA 21+56

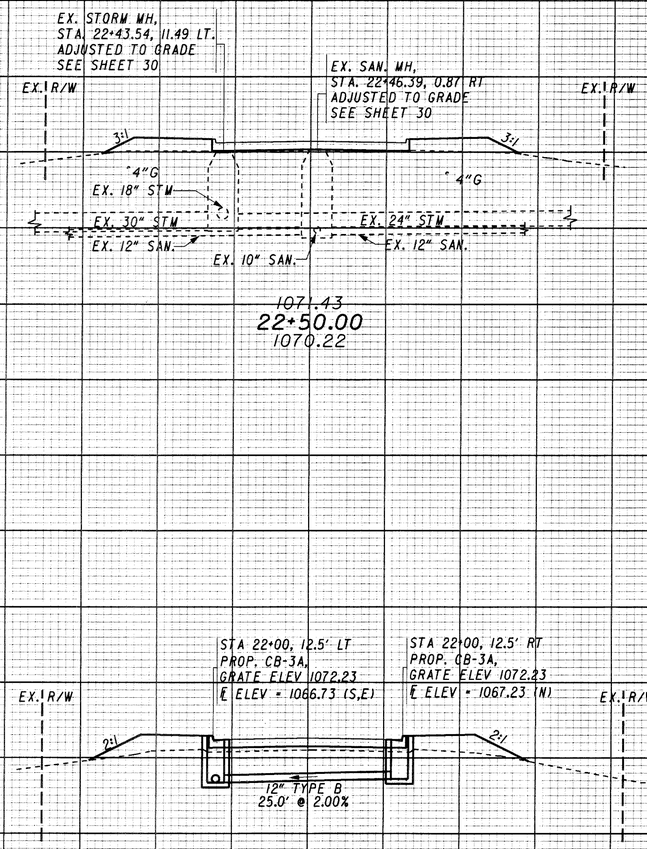
MAH-680-9.92/13.38/15.41

SHEET TOTAL

SHEET TOTAL

g:*projects*21467*dgnroad*xslayout-thalia2.dgn g:*projects*21467*fullprf*xslayout-thalia2_E.prf Tue Jan 20 20:58:01 2004

SEEDING		END AREA		VOLUME		CALCULATED MTL	CHECKED SG
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL		
30		0	47				
34		0	68				
	178			0	106		
	170			0	130		
	348 SHEET TOTAL			0	236		



CROSS SECTIONS - THALIA AVENUE
STA 22+00 TO STA 22+50

MAH-680-9.92/13.38/15.41

45
125

g:*projects*21467*dgnroad*xslayout-thalia2.dgn g:*projects*21467*fullprf*xslayout-thalia2_F.prf Tue Jan 20 20:58:46 2004

SEEDING	
END WIDTH	SQ. YDS.
31	
	179
33	
	177
	356

SHEET TOTAL

100 80 60 40 20 0 20 40 60 80 100 120

1090 1080 1070 1060 1050

STA 23+35.07, 12.24' LT
EX. CB ADJUSTED TO GRADE
PROP. GRATE ELEV = 1069.93
EX. RIM ELEV = 1069.07
℄ EX. = 1065.17 (S,W)
℄ PROP = 1065.67 (E)
℄ PROP = 1065.17 (N)

STA 23+35.40, 12.62' RT
EX. CB ADJUSTED TO GRADE
PROP. GRATE ELEV = 1069.93
EX. RIM ELEV = 1069.05
℄ EX. = 1065.45 (N)
℄ PROP. = 1065.45 (E)

T. ESMT EX. R/W EX. R/W T. ESMT

3:1 3:1 4"G EX. 12" STM 4"G
12" TYPE C 16.0' @1.00%
12" TYPE C 16.3' @1.00%
6"W EX. 10" San
STA 23+35, 28.5' LT PROP. CB-7 GRATE ELEV 1069.30 ℄ ELEV = 1065.33
STA 23+39, 28.5' RT PROP. CB-7, GRATE ELEV 1069.00 ℄ ELEV = 1065.61

1070.22
23+50.00
1069.54

T. ESMT EX. R/W EX. R/W T. ESMT

3:1 3:1 4"G EX. 18" STM 4"G 6"W EX. 10" San

1070.61
23+00.00
1069.68

REMOVAL OF EX. SIDE WALK, NOT INCLUDED IN THE EARTHWORK QUANTITIES

END AREA		VOLUME	
CUT	FILL	CUT	FILL
10	32		
		12	68
3	41		
		3	82
		15	150

SHEET TOTAL

CALCULATED MTL CHECKED SG

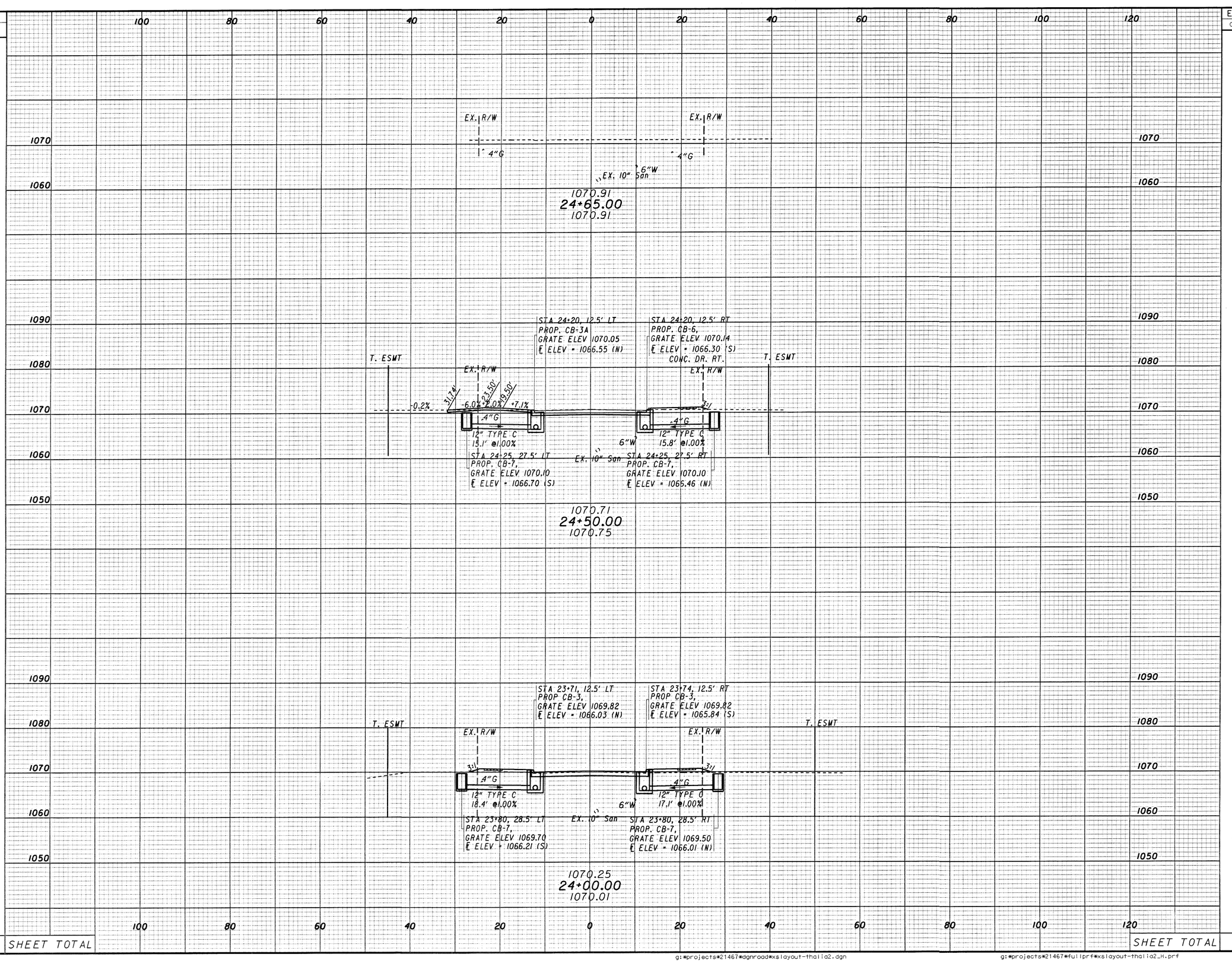
CROSS SECTIONS - THALIA AVENUE STA 23+00 TO STA 23+50

MAH-680-9.92/13.38/15.41

46/125

g:*projects*21467*dgnroad*xslayout-thalia2.dgn g:*projects*21467*fullprf*xslayout-thalia2_G.prf Tue Jan 20 20:59:29 2004

SEEDING END WIDTH	SEEDING SQ. YDS.
0	
	11
13	
	115
28	
165	291



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	0		
		8	3
29	10		
		46	28
20	20		
		28	48
		82	79

SHEET TOTAL

CALCULATED MTL CHECKED SG

CROSS SECTIONS - THALIA AVENUE
STA 24+00 TO STA 24+65

MAH-680-9.92/13.38/15.41

47
125

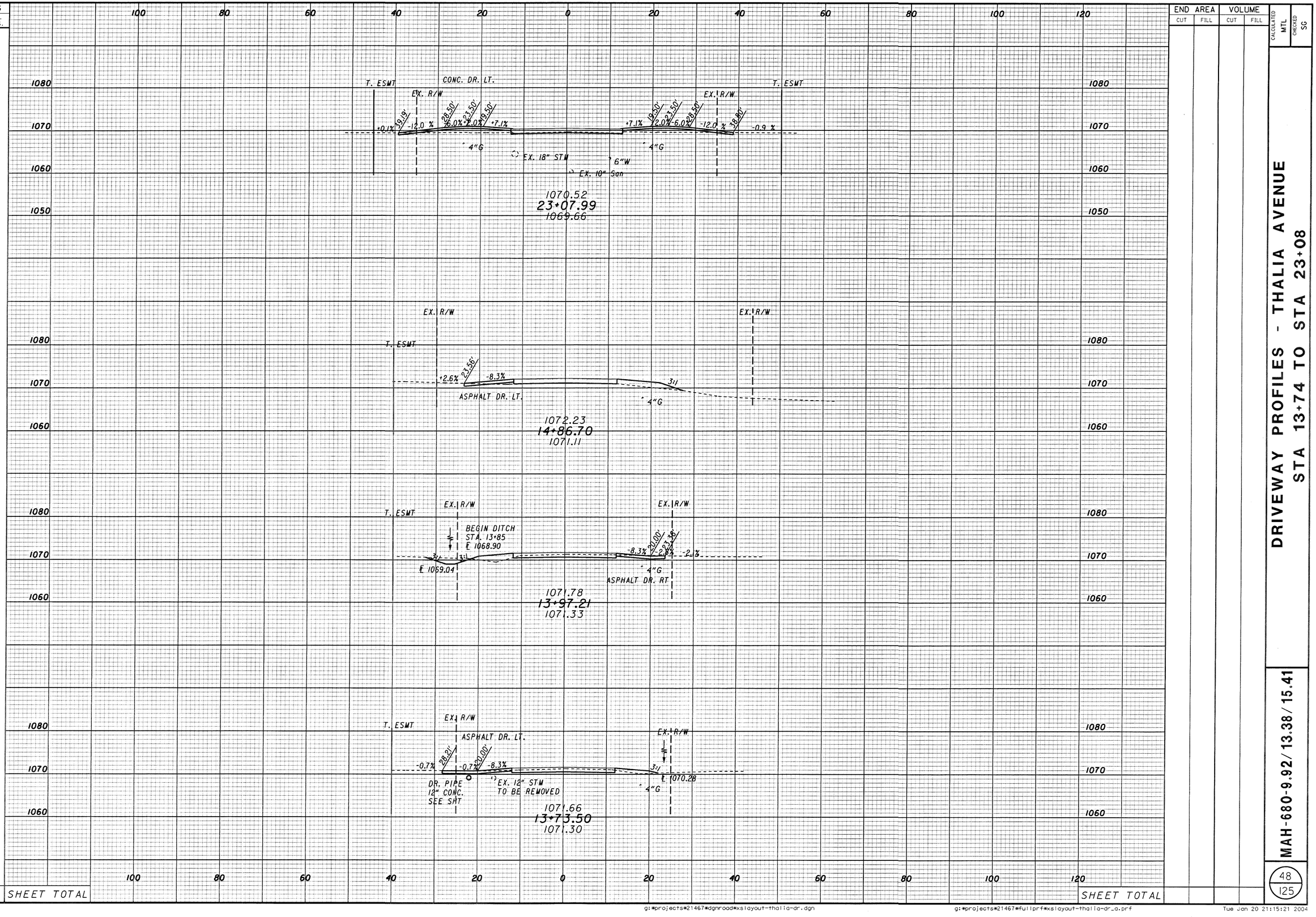
g:\projects\21467\dgnroad\xslayout-thalia2.dgn g:\projects\21467\fullprf\xslayout-thalia2_H.prf Tue Jan 20 21:00:15 2004

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED MTL
CHECKED SG

DRIVEWAY PROFILES - THALIA AVENUE
STA 13+74 TO STA 23+08



MAH-680-9.92/13.38/15.41

48
125

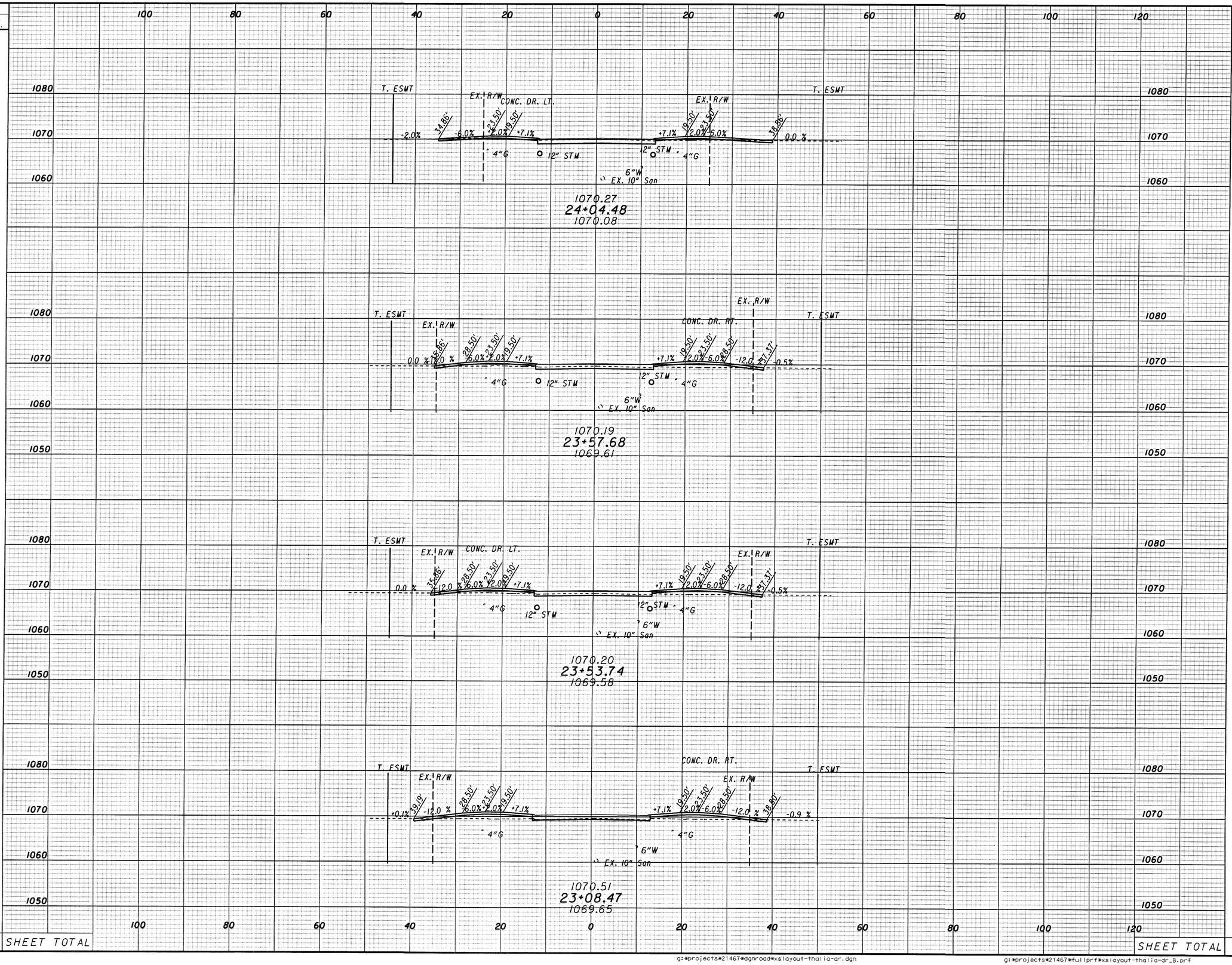
g:\projects\21467\dgnroad\xslayout-thalia-dr.dgn g:\projects\21467\fullprf\xslayout-thalia-dr_a.prf Tue Jan 20 21:15:21 2004

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED MTL

CHECKED SG



SHEET TOTAL

SHEET TOTAL

DRIVEWAY PROFILES - THALIA AVENUE
STA 23+08 TO STA 24+05

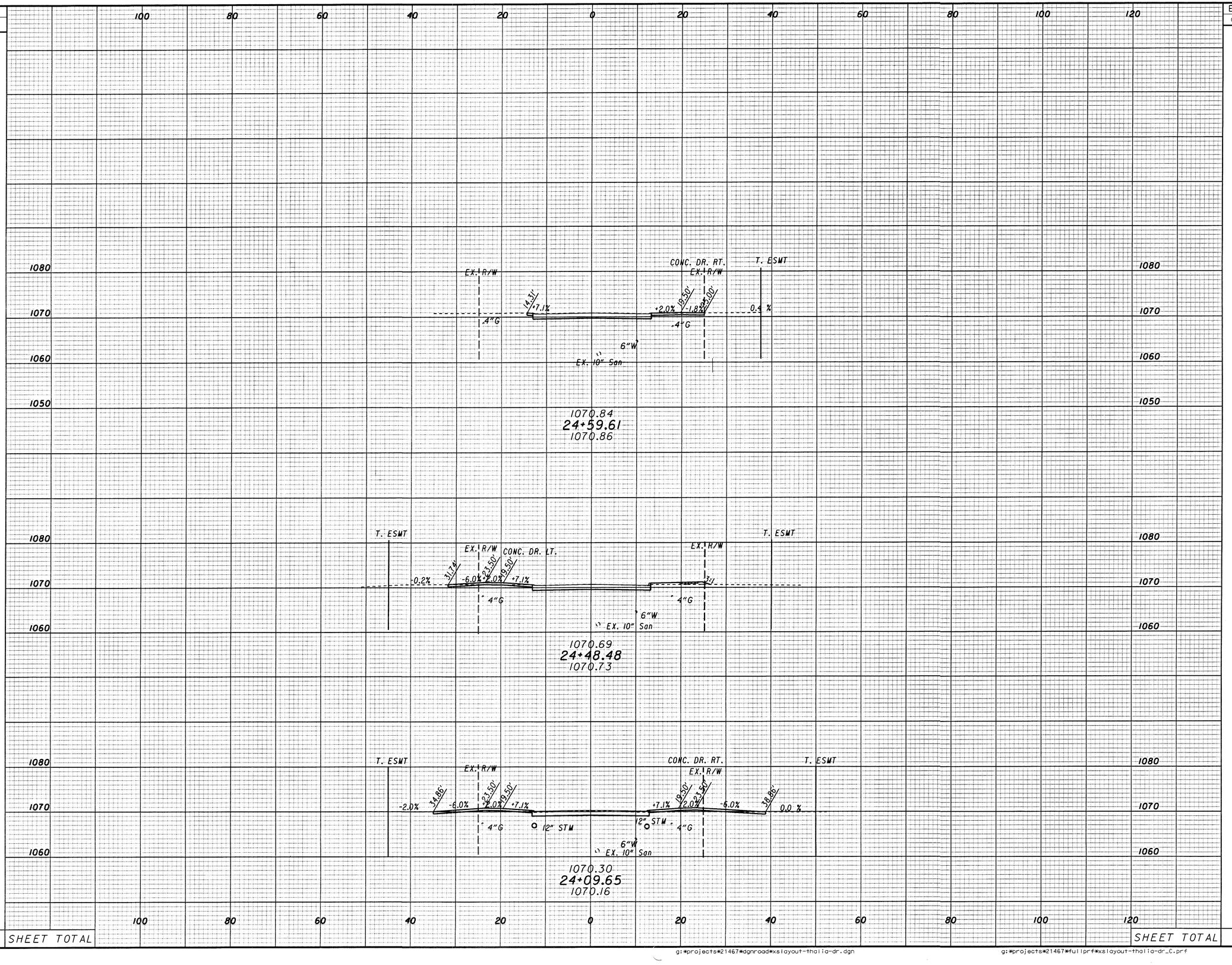
MAH-680-9.92/13.38/15.41

g:*projects*21467*dgnroad*xslayout-thalia-dr.dgn
g:*projects*21467*fullprf*xslayout-thalia-dr_B.prf
Tue Jan 20 20:53:26 2004

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED MTL
CHECKED SG



SHEET TOTAL

SHEET TOTAL

DRIVEWAY PROFILES - THALIA AVENUE
STA 24+09 TO STA 24+60

MAH-680-9.92/13.38/15.41

g:\projects\21467\dgnroad\xslayout-thalia-dr.dgn
g:\projects\21467\fullprf\xslayout-thalia-dr_C.prf
Tue Jan 20 20:54:13 2004

SEEDING END WIDTH	SEEDING SQ. YDS.		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		110 100 80 60 40 20 0 20 40 60 80 100 120				
52		1070 / 1060 / 1050 — 9:1, 6:1, 25:1, 25:1, 6:1, 9:1	34	1		
		1054.07 605+50.00 1054.07			20	0
53	146	1070 / 1060 / 1050 — 8:1, 3:1, 25:1, 3:1, 8:1	9	0		
		1054.31 605+25.00 1054.31			12	0
53	147	1070 / 1060 / 1050 — 7:1, 3:1, 25:1, 3:1, 7:1	17	0		
		1054.54 605+00.00 1054.54			8	0
0	74	1070 / 1060 / 1050	0	0		
		1053.85 604+75.00 1053.85				
		110 100 80 60 40 20 0 20 40 60 80 100 120				
	367	SHEET TOTAL			40	0

CALCULATED MTL
CHECKED SG

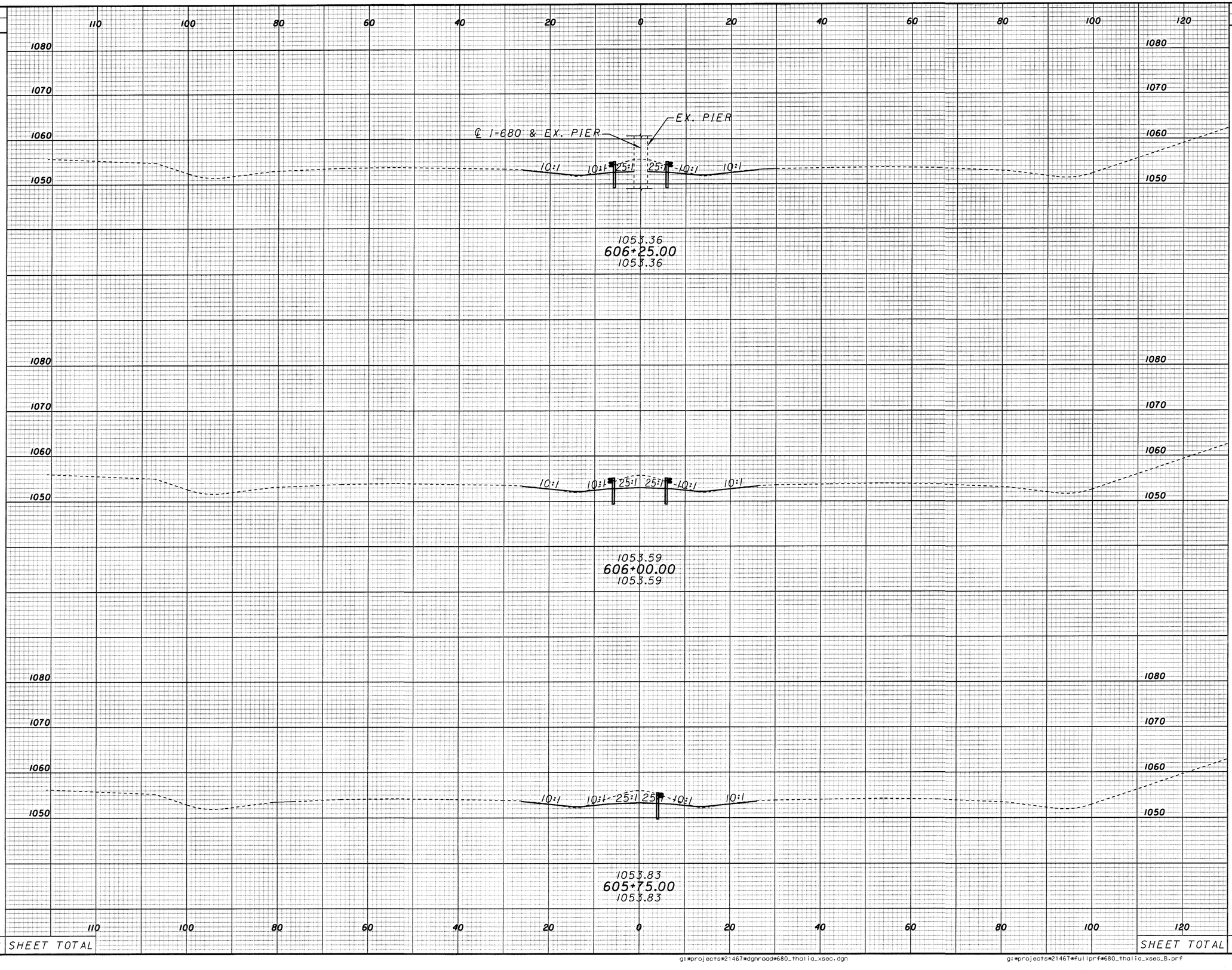
CROSS SECTIONS - I-680 UNDER THALIA AVENUE
STA. 604+75 TO STA. 605+50

MAH-680-9.92/13.38/15.41

50A / 125

g:\projects\21467\dgnroad\680_thalia_xsec.dgn g:\projects\21467\fullprf\680_thalia_xsec_A.prf Tue Jan 20 21:09:56 2004

SEEDING	
END WIDTH	SQ. YDS.
49	140
52	144
52	144
	428



END AREA		VOLUME	
CUT	FILL	CUT	FILL
29	2		
		31	2
37	2		
		34	2
37	2		
		33	1
		98	5

CALCULATED MTL
CHECKED SG

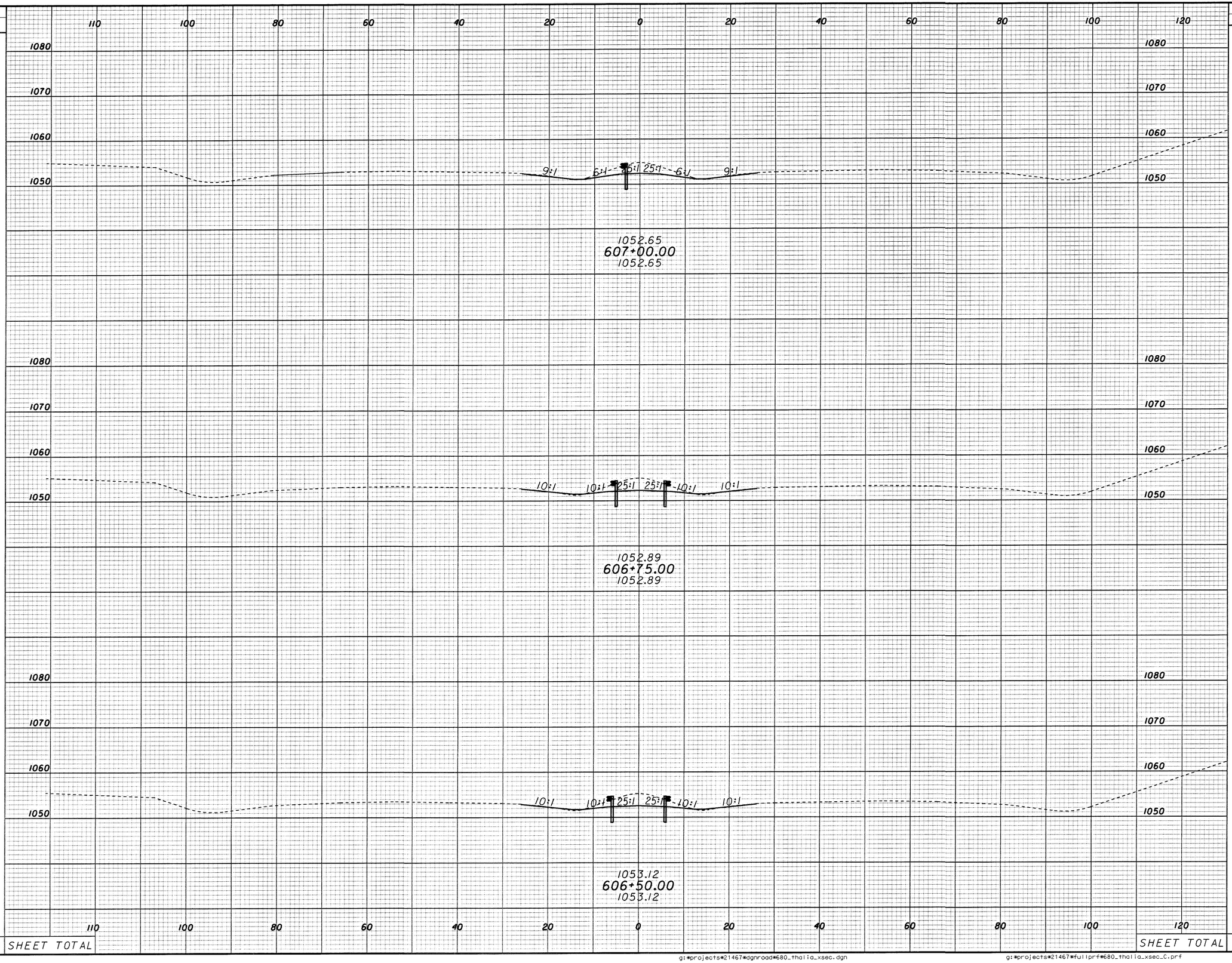
CROSS SECTIONS - I-680 UNDER THALIA AVENUE STA. 605+75 TO STA. 606+25

MAH-680-9.92/13.38/15.41

50B
125

g:\projects\21467\dgnroad\680_thalia_xsec.dgn g:\projects\21467\fullprf\680_thalia_xsec_B.prf Tue Jan 20 21:10:43 2004

SEEDING	
END WIDTH	SQ. YDS.
52	144
52	144
52	140
	428



END AREA		VOLUME	
CUT	FILL	CUT	FILL
34	1		
		33	1
37	2		
		34	2
37	2		
		31	2
		98	5

CALCULATED MTL
CHECKED SG

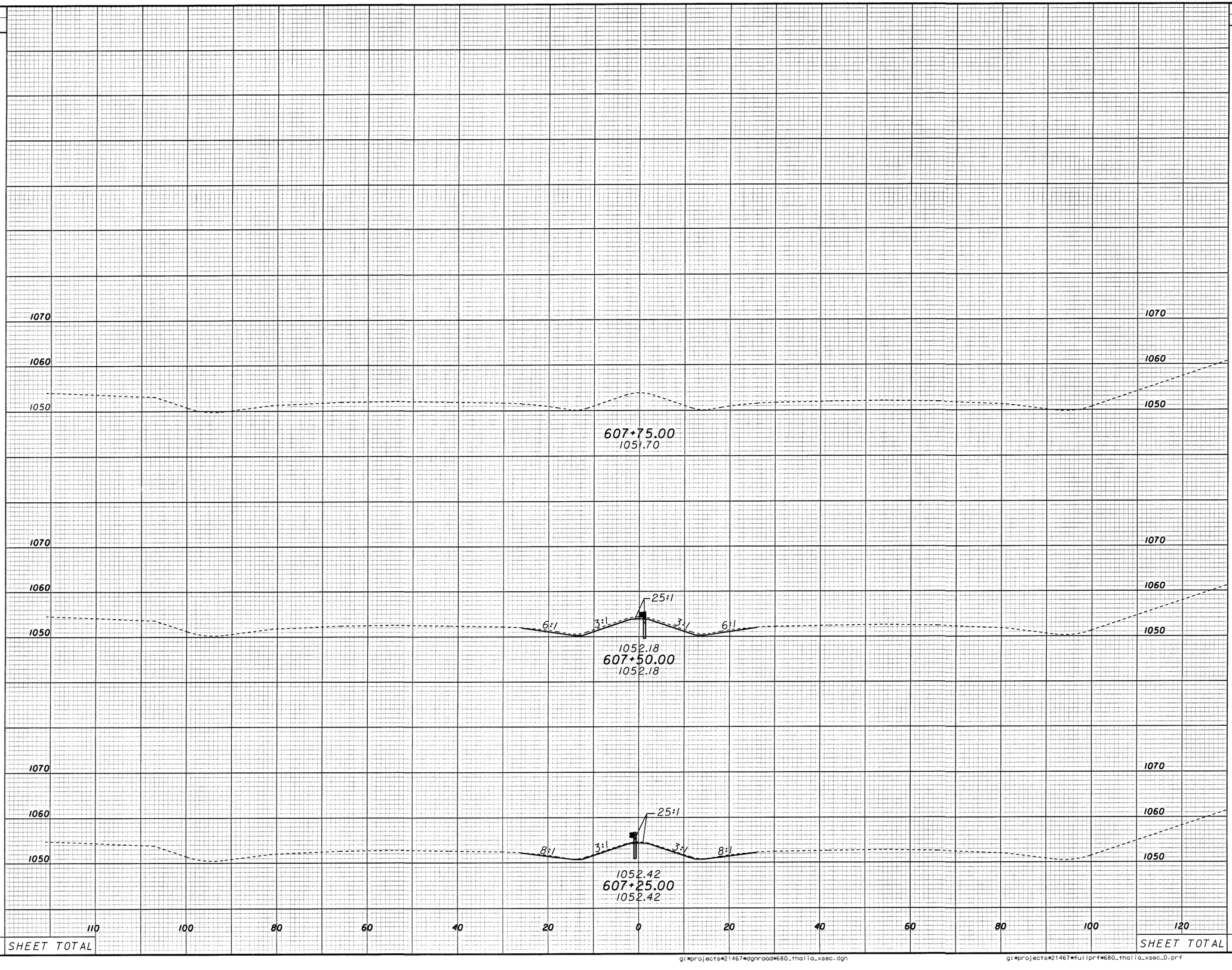
CROSS SECTIONS - I-680 UNDER THALIA AVENUE
STA. 606+50 TO STA. 607+00

MAH-680-9.92/13.38/15.41

50C
125

g:*projects*21467*dgnroad*680_thalia_xsec.dgn
g:*projects*21467*fullprf*680_thalia_xsec_C.prf
Tue Jan 20 21:11:27 2004

SEEDING		END AREA		VOLUME		CALCULATED MTL / CHECKED SG
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	
0		0	0			
	74			8	0	
53		17	0			
	147			12	0	
53		9	0			
	146			20	0	
	367 SHEET TOTAL			40	0	



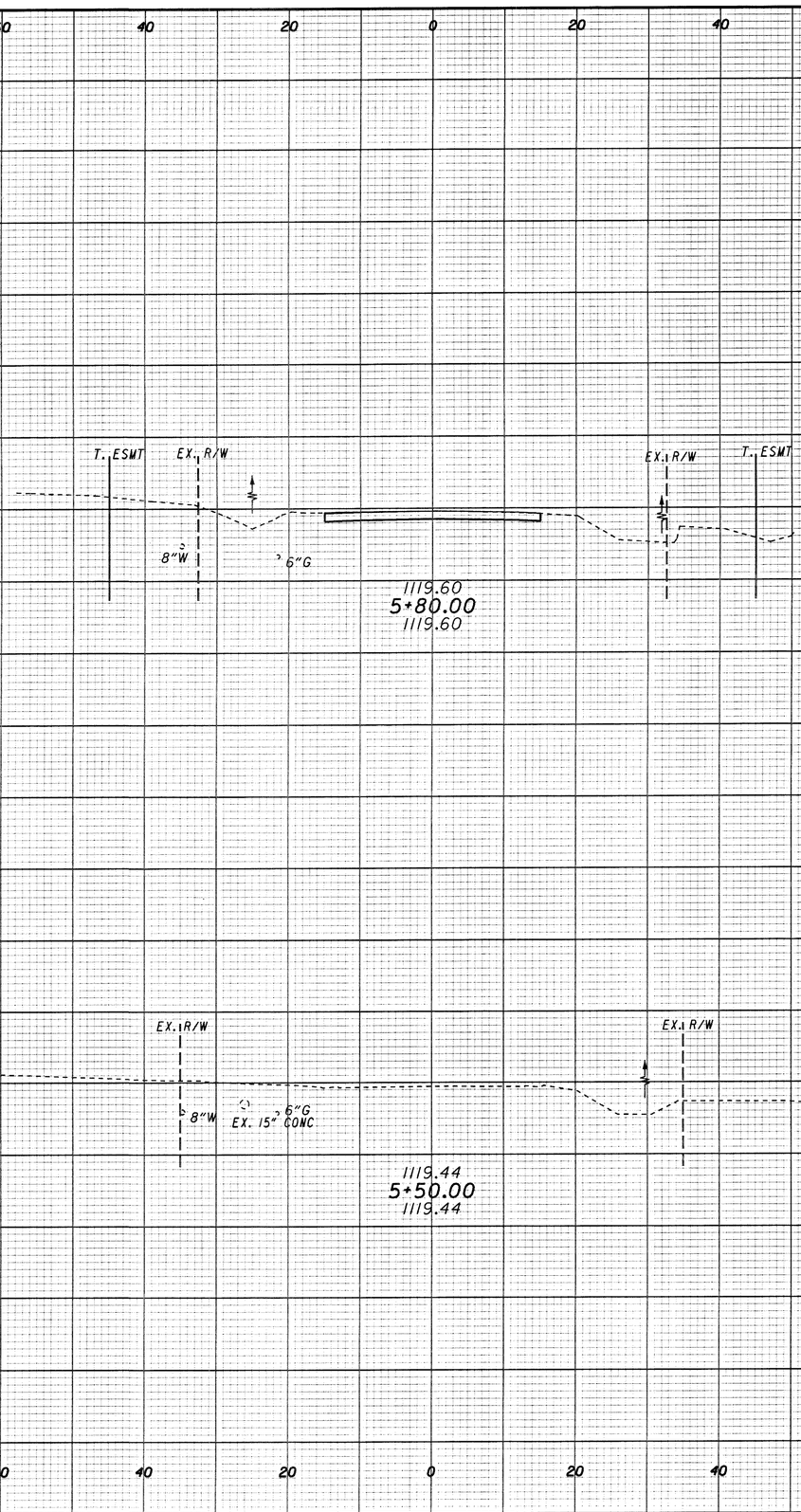
CROSS SECTIONS - I-680 UNDER THALIA AVENUE
STA. 607+25 TO STA. 607+75

MAH-680-9.92/13.38/15.41

50D
125

g:\projects\21467\dgnroad\680_thalia_xsec.dgn g:\projects\21467\fullprf\680_thalia_xsec_D.prf Tue Jan 20 21:12:13 2004

SEEDING	
END WIDTH	SQ. YDS.
	0
	0
	0
SHEET TOTAL	



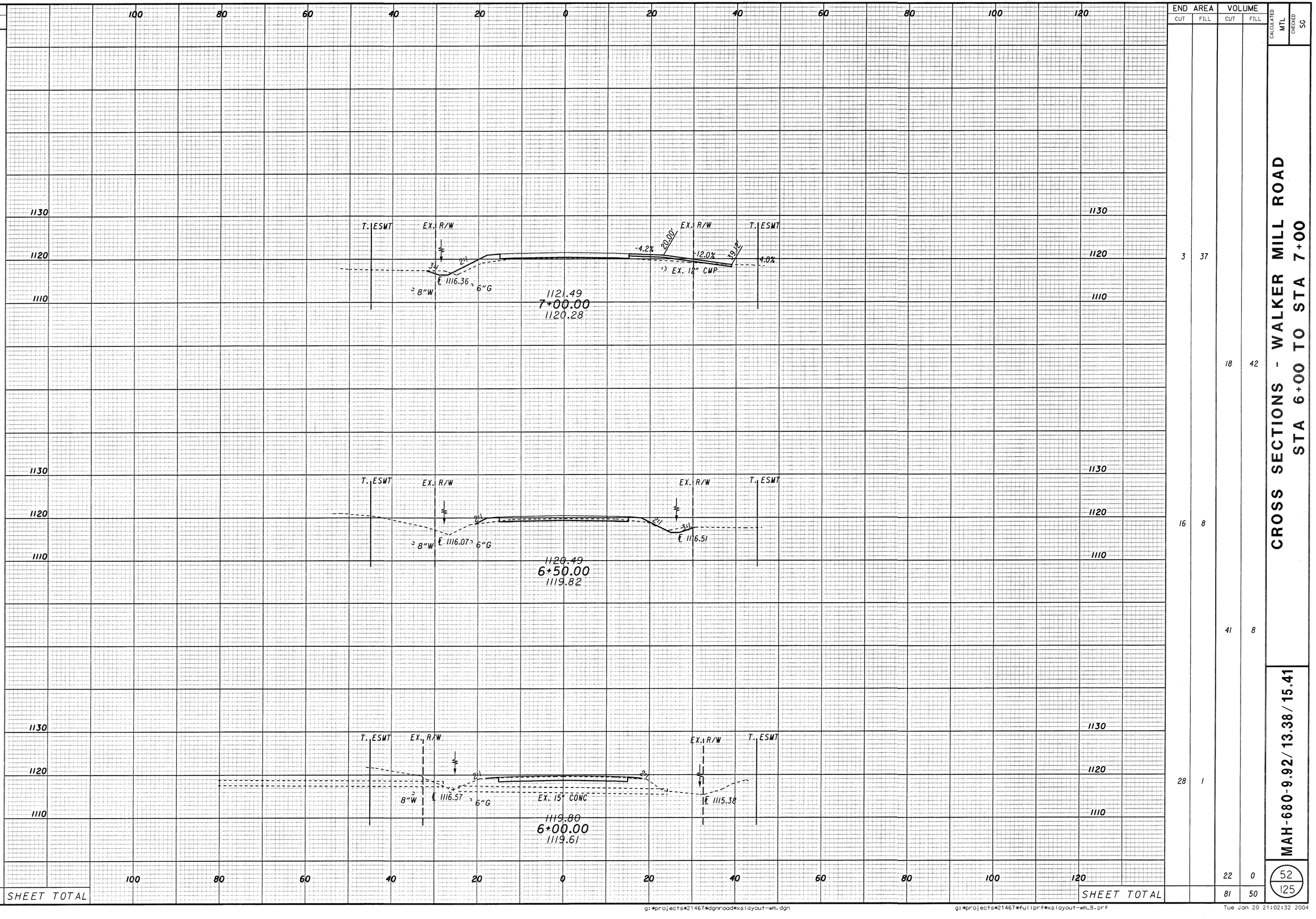
END AREA		VOLUME	
CUT	FILL	CUT	FILL
33	0		
		0	0
SHEET TOTAL		0	0

CALCULATED MTL
CHECKED SG

CROSS SECTIONS - WALKER MILL ROAD
STA 5+50 TO STA 5+80

MAH-680-9.92/13.38/15.41

SEEDING		END AREA		VOLUME		
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	
						CALCULATED MTL / CHECKED SG
18	114	3	37	18	42	
23	81	16	8	41	8	
6	7	28	1	22	0	
	202 SHEET TOTAL			81	50	



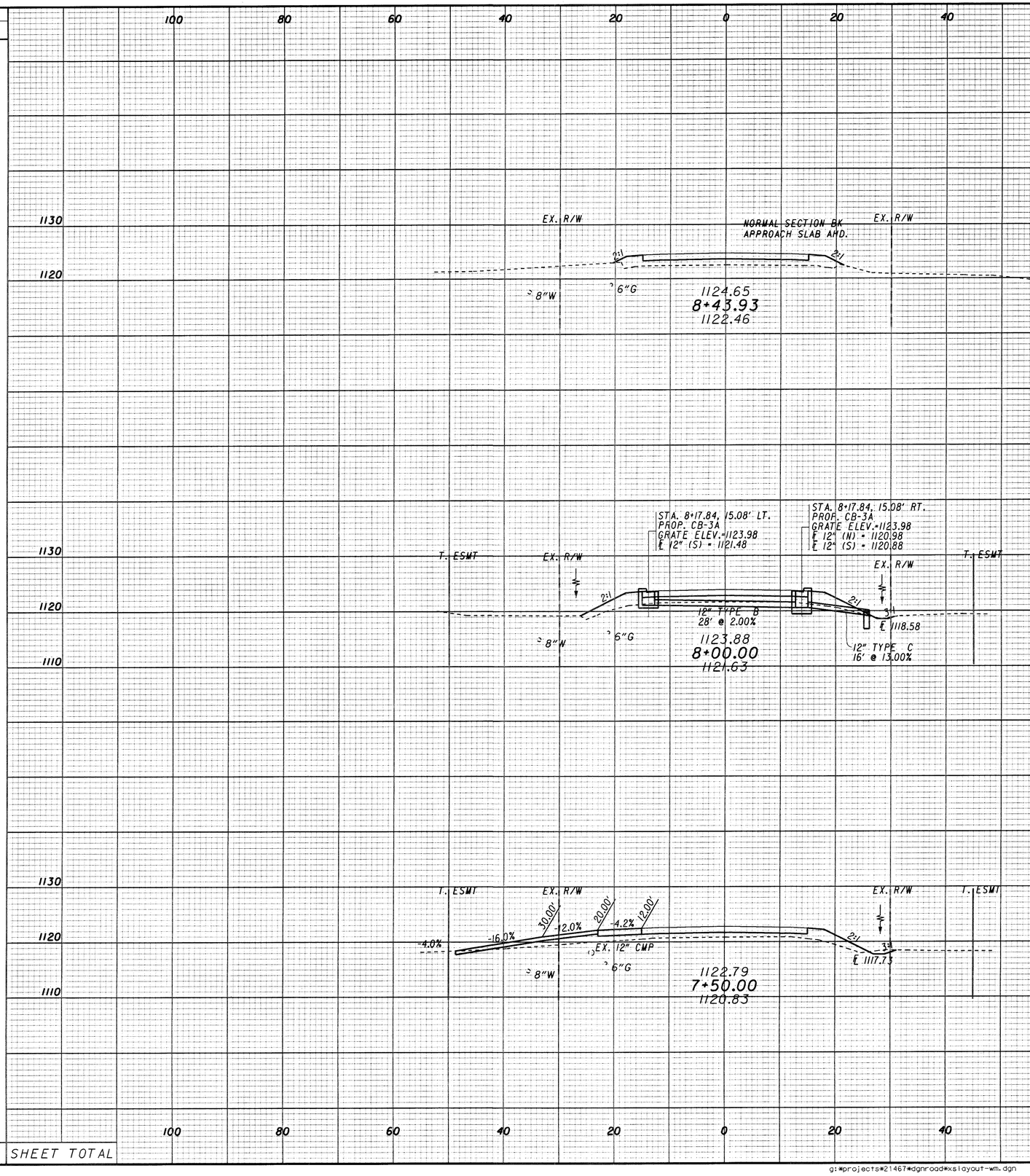
CROSS SECTIONS - WALKER MILL ROAD
STA 6+00 TO STA 7+00

MAH-680-9.92/13.38/15.41

52
125

g:*projects*21467*dgnroad*xslayout-wm.dgn g:*projects*21467*fullprf*xslayout-wm_B.prf Tue Jan 20 21:02:32 2004

SEEDING END WIDTH	SEEDING SQ. YDS.
13	101
29	128
17	99
	328 SHEET TOTAL



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	50		
		0	97
0	70		
		2	148
2	89		
		5	117
		7	362
	SHEET TOTAL		

CALCULATED MTL
CHECKED SG

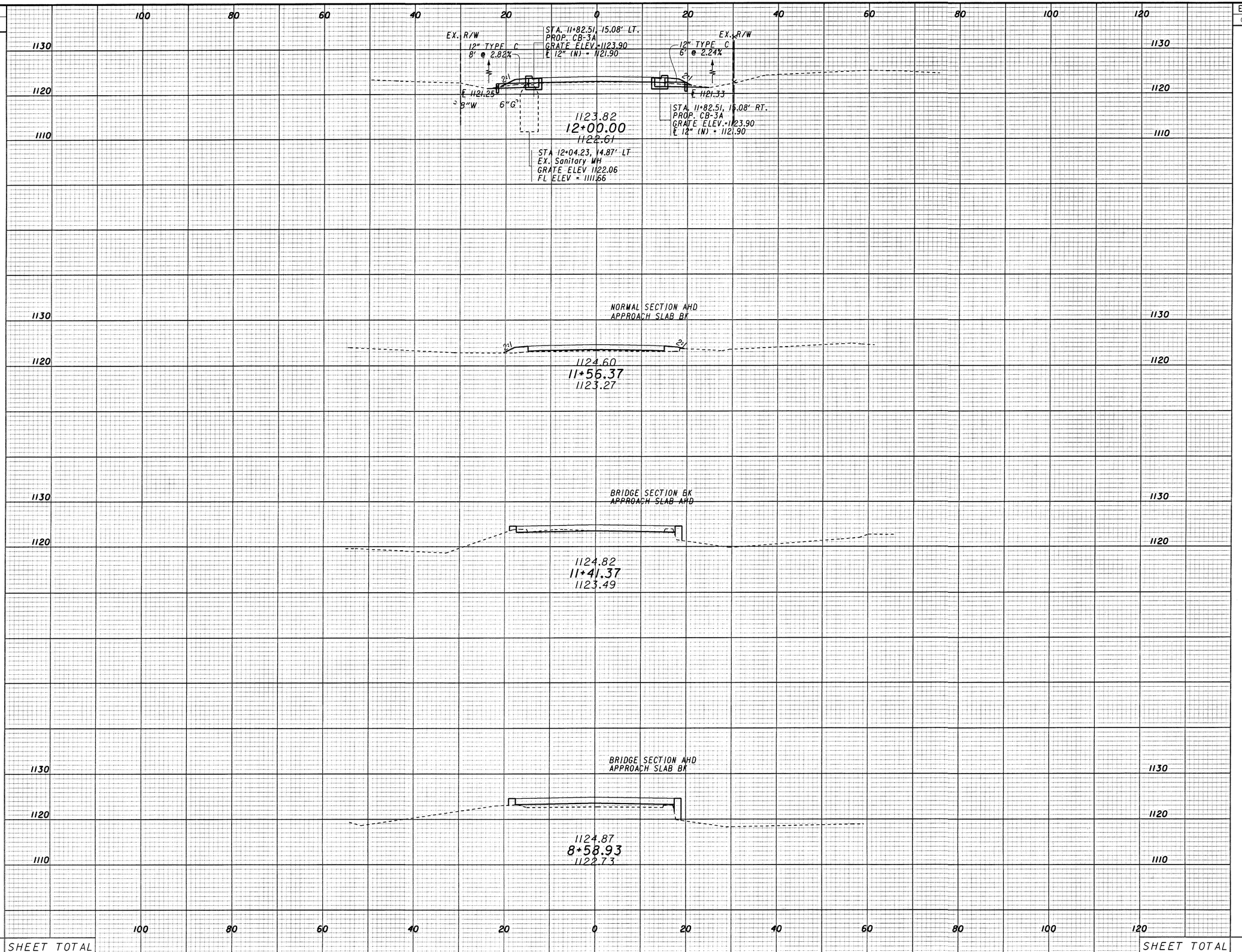
CROSS SECTIONS - WALKER MILL ROAD STA 7+50 TO STA 8+44

MAH-680-9.92/13.38/15.41

53
125

g:\projects\21467\dgnroad\xslayout-wm.dgn g:\projects\21467\fullprf\xslayout-wm_C.prf Tue Jan 20 21:03:16 2004

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
13		0	13		
	56			0	23
10		0	16		
	9			2	4
0		7	0		
	0			0	0
0		0	24		
	10			0	20
	75 SHEET TOTAL			2	47



CALCULATED MTL
CHECKED SG

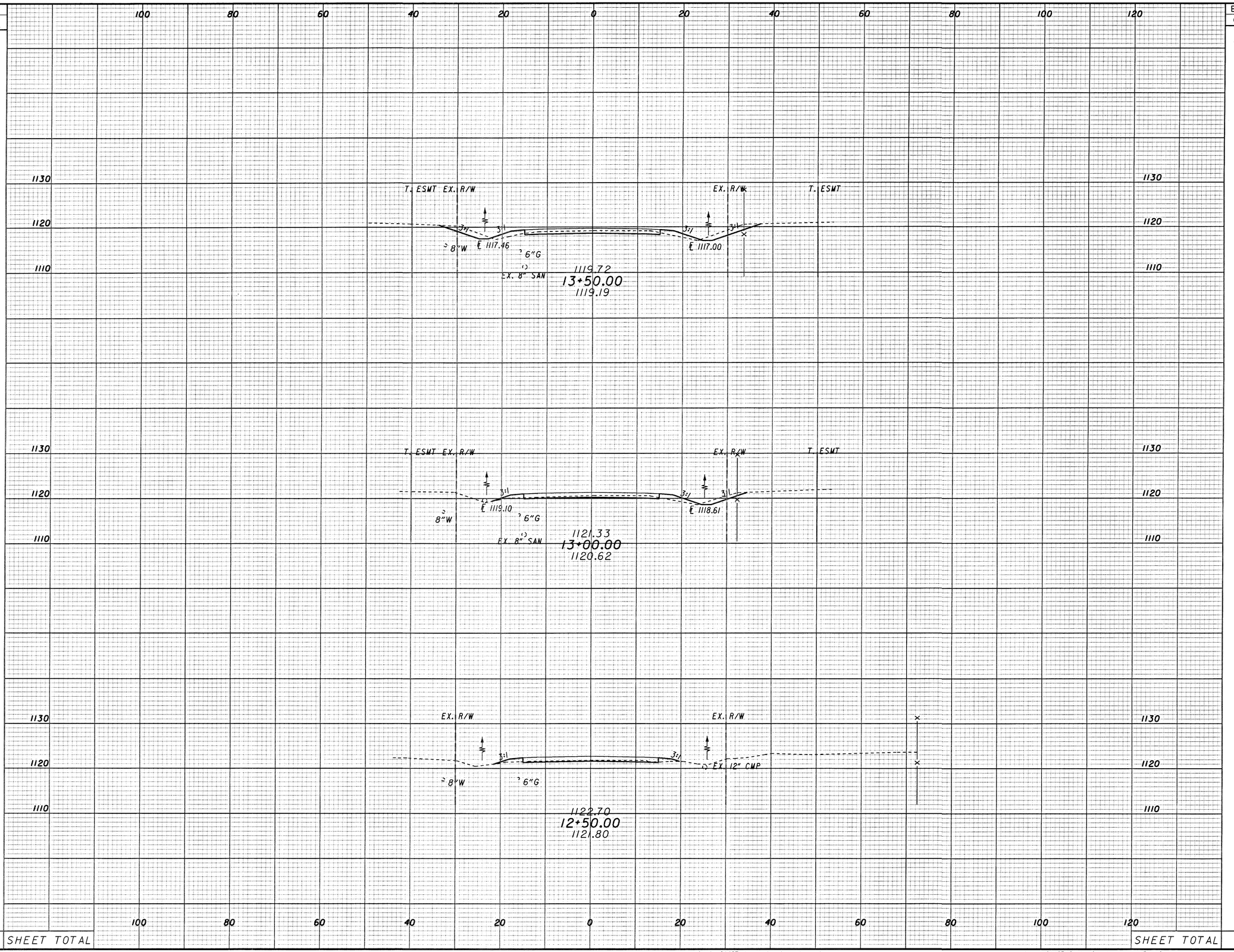
CROSS SECTIONS - WALKER MILL ROAD
STA 8+59 TO STA 12+00

MAH-680-9.92/13.38/15.41

54
125

g:*projects*21467*dgnroad*xslayout-wm.dgn g:*projects*21467*fullprf*xslayout-wm_D.prf Tue Jan 20 21:04:01 2004

SEEDING	
END WIDTH	SQ. YDS.
43	197
28	109
12	68
	374



END AREA		VOLUME	
CUT	FILL	CUT	FILL
39	13		
		52	22
17	11		
		22	16
6	6		
		6	18
		80	56

CALCULATED MTL
CHECKED SG

CROSS SECTIONS - WALKER MILL ROAD
STA 12+50 TO STA 13+50

MAH-680-9.92/13.38/15.41

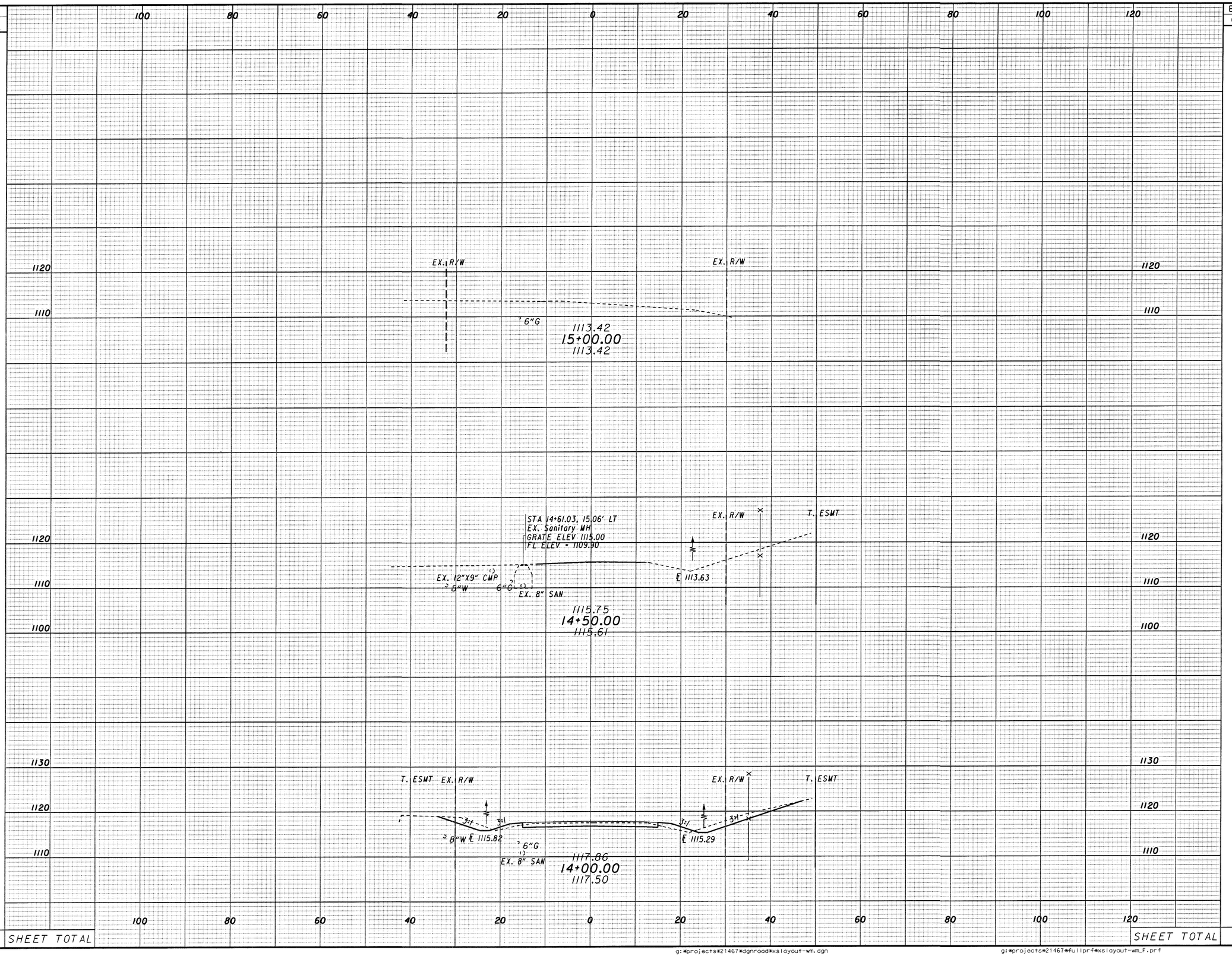
55
125

SEEDING	
END WIDTH	SQ. YDS.
0	
	147
53	
	267
	414

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
56	10	52	9
		88	21
		140	30

CALCULATED MTL

CHECKED SG



CROSS SECTIONS - WALKER MILL ROAD
STA 14+00 TO STA 15+00

MAH-680-9.92/13.38/15.41

g:*projects*21467*dgnroad*xslayout-wm.dgn

g:*projects*21467*fullprf*xslayout-wm_F.prf

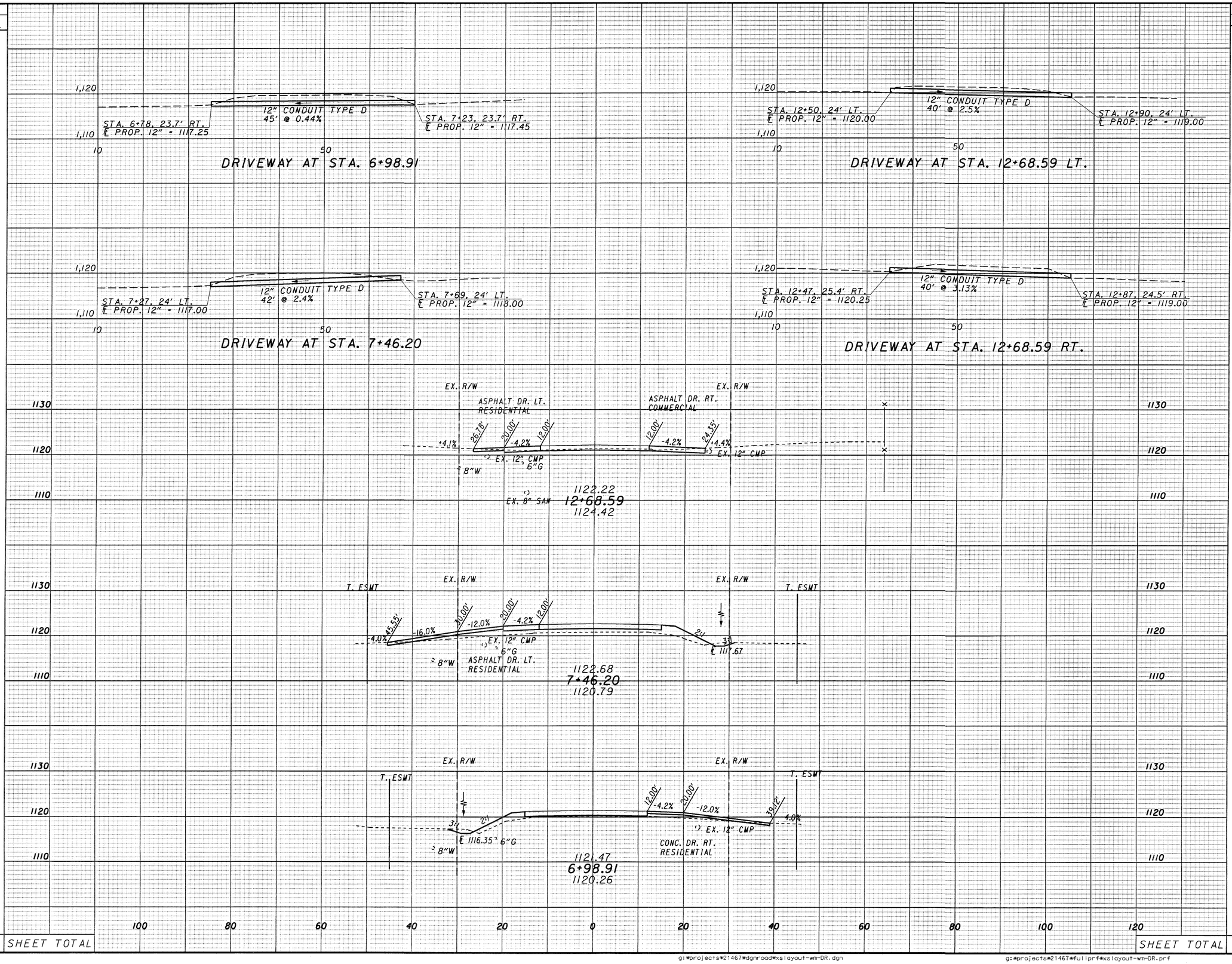
Tue Jan 20 21:05:32 2004

SEEDING	
END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED MTL

CHECKED SG



SHEET TOTAL

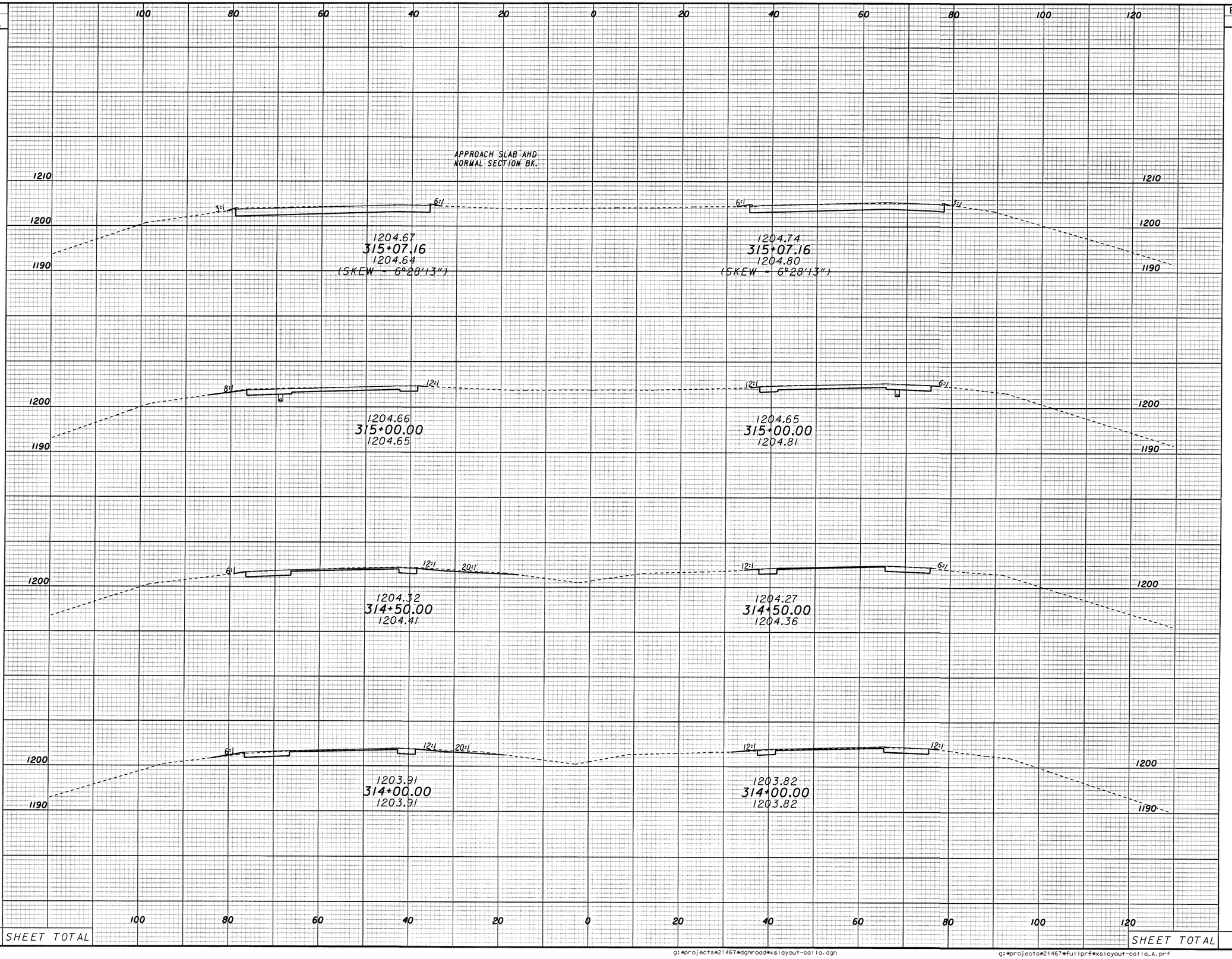
SHEET TOTAL

DRIVEWAY PROFILES - WALKER MILL ROAD
STA 6+98 TO STA 12+69

MAH-680-9.92/13.38/15.41

g:*projects*21467*dgnroad*xslayout-wm-DR.dgn
g:*projects*21467*fullprf*xslayout-wm-DR.prf
Tue Jan 20 21:00:58 2004

SEEDING END WIDTH	SEEDING SQ. YDS.
9	
	9
14	
	119
29	
	180
35	
	0
	308 SHEET TOTAL



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
132	2		
		27	0
73	0		
		115	0
51	0		
		89	2
45	2		
		0	0
		231	2

CALCULATED MTL
CHECKED SG

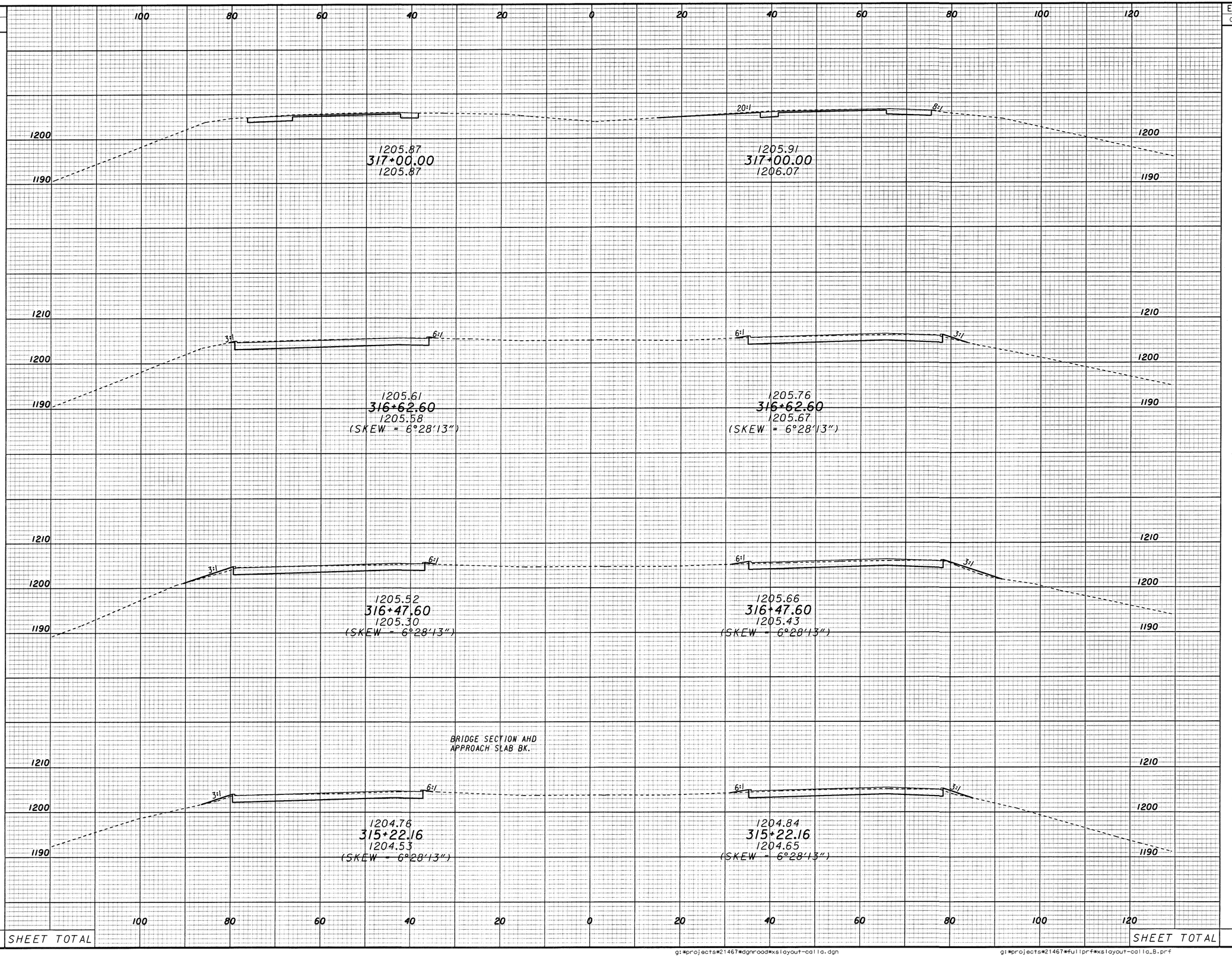
CROSS SECTIONS - I-680
STA 314+00 TO STA 315+08

MAH-680-9.92/13.38/15.41

58
125

g:\projects\21467\dgnroad\xslayout-calla.dgn
g:\projects\21467\fullprf\xslayout-calla_A.prf
Tue Jan 20 20:50:08 2004

SEEDING END WIDTH	SEEDING SQ. YDS.
24	74
12	36
32	0
21	25
	135



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
55	0		
		126	2
127	2		
		67	3
115	10		
		0	0
115	6		
		69	2
SHEET TOTAL		262	7

CALCULATED MTL
CHECKED SG

CROSS SECTIONS - I-680
STA 315+22 TO STA 317+70

MAH-680-9.92/13.38/15.41

59
125

g:\projects\21467\dgnroad\xslayout-calla.dgn g:\projects\21467\fullprf\xslayout-calla_B.prf Tue Jan 20 20:51:07 2004

SEEDING	
END WIDTH	SQ. YDS.
0	0
0	0
67	67

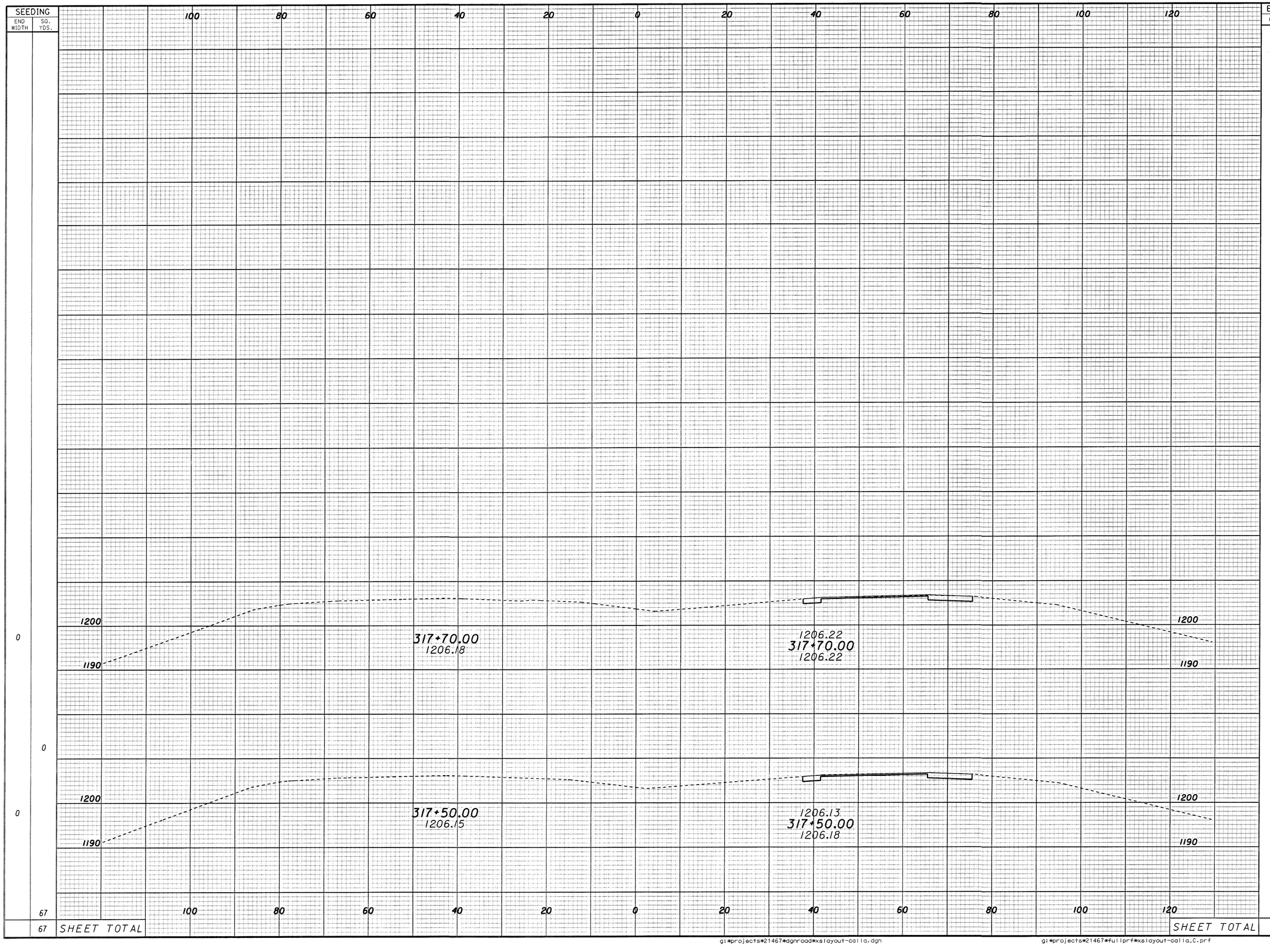
END AREA		VOLUME	
CUT	FILL	CUT	FILL
22	0		
		17	0
24	0		
		95	0
		112	0

CALCULATED MTL
CHECKED SG

CROSS SECTIONS - I-680
STA 315+22 TO STA 316+80

MAH-680-9.92/13.38/15.41

60
125

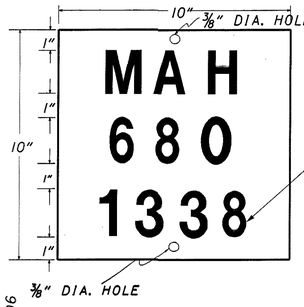


PAVEMENT MARKING LEGEND

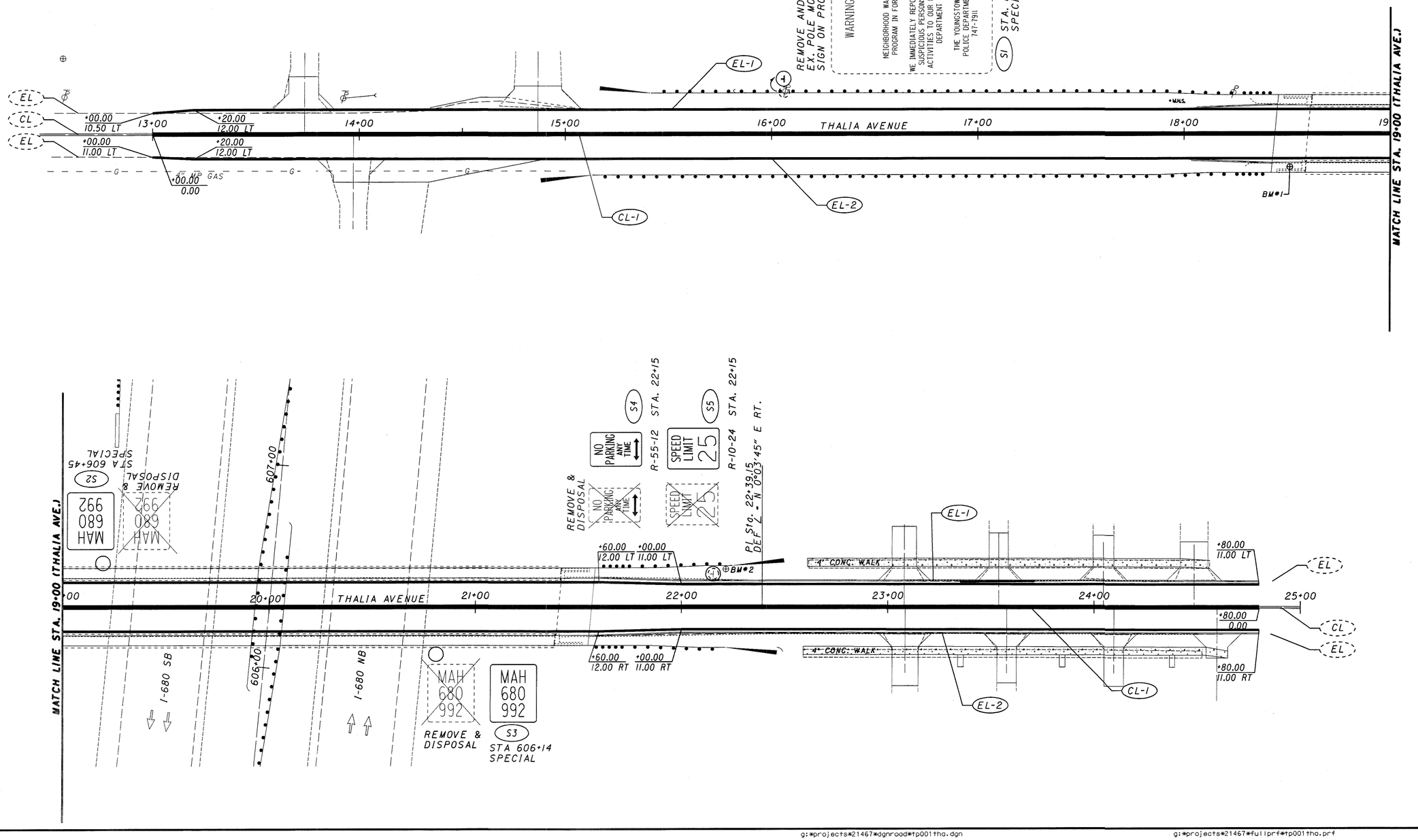
EXISTING	PROPOSED	
LL	LL	LANE LINE, WHITE
EL	EL	EDGE LINE, WHITE
TR	TR	TRANSVERSE LINE, WHITE
CL	CL	DOUBLE CENTER LINE, YELLOW
(T)	(T)	REMOVE & REPLACE EXISTING SIGN
	(P)	PROPOSED SIGN

ITEM 630 - SIGN, FLAT SHEET, AS PER PLAN
ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST

THESE ITEMS SHALL BE USED TO PLACE NEW STRUCTURE IDENTIFICATION SIGNS AT STRUCTURE MAH-680-9.92/13.38/15.41. SIGNS SHALL BE DIMENSIONED AS PER THE EXAMPLE. SIGNS SHALL BE ALUMINUM AND HAVE A NON-REFLECTIVE WHITE SHEETING BACKGROUND. LETTERS SHALL BE BLACK 2" HEIGHT, SERIES C STROKE WIDTH, AND SILK SCREENED AS PER 730.22. SIGNS SHALL BE BOLTED USING TWO 5/16" ALUMINUM BOLTS 2½" IN LENGTH, AND TWO 5/16" NUTS. NEW NO. 2 POSTS SHALL BE INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-41.20 MOST CURRENT REVISION. EACH POST WILL BE 7 LIN FT LONG.



STRUCTURE ID
THALIA AVE: 992
WALKER MILL RD: 1338
I-680 OVER CALLA RD SB: 1541L
I-680 OVER CALLA RD NB: 1541R



TRAFFIC CONTROL PLAN - THALIA AVE STA. 12+00 TO STA. 25+00

MAH-680-9.92/13.38/15.41

HORIZONTAL SCALE IN FEET
0 25 50

CALCULATED JRW
CHECKED EBS

61
125

$TIME$
$DATE$
$FILE$

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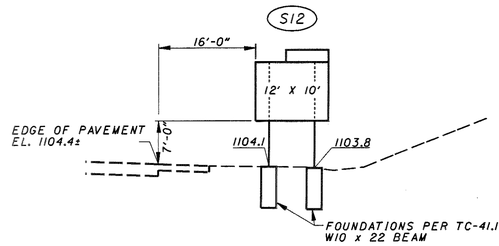
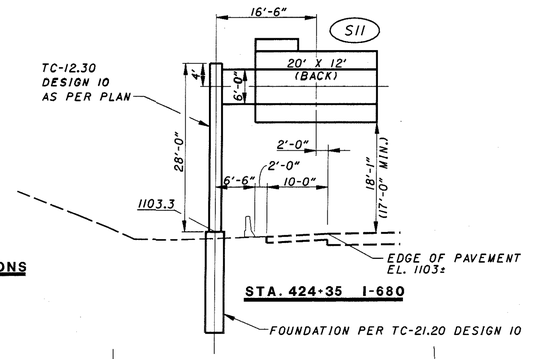
PAVEMENT MARKING LEGEND

EXISTING	PROPOSED	
LL	LL	LANE LINE, WHITE
EL	EL	EDGE LINE, WHITE
TR	TR	TRANSVERSE LINE, WHITE
CL	CL	DOUBLE CENTER LINE, YELLOW
	(F)	REMOVE & REPLACE EXISTING SIGN
	(F)	PROPOSED SIGN

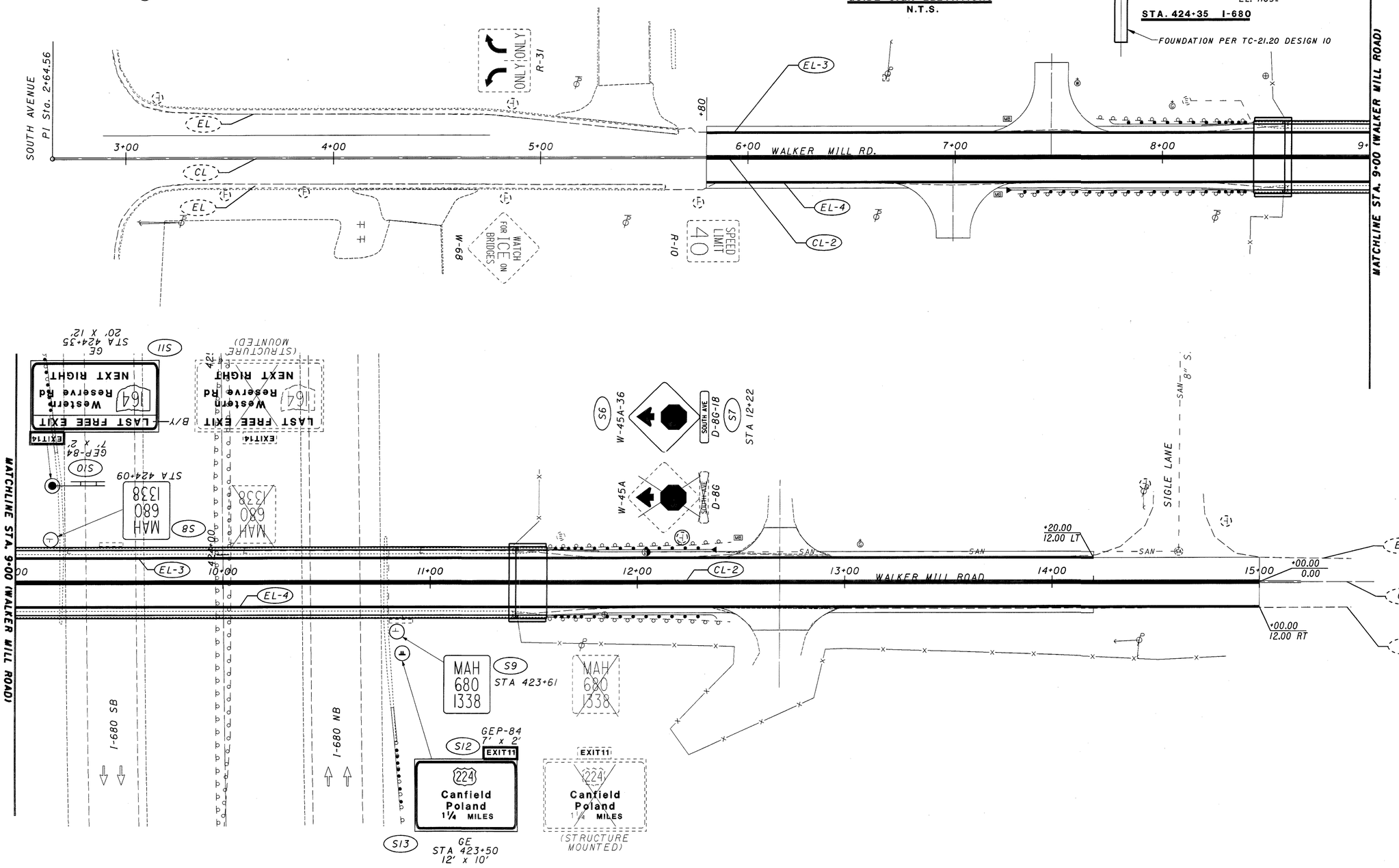


STA. 423+50 I-680



STA. 424+35 I-680

GUIDE SIGN ELEVATIONS
N.T.S.



HORIZONTAL SCALE IN FEET
0 25 50

CALCULATED JRW
CHECKED EBS

TRAFFIC CONTROL PLAN - WALKER MILL RD
STA. 3+00 TO STA. 15+00

MAH-680-9.92/13.38/15.41

62
125

$DATE$ $TIME$ $FILE$

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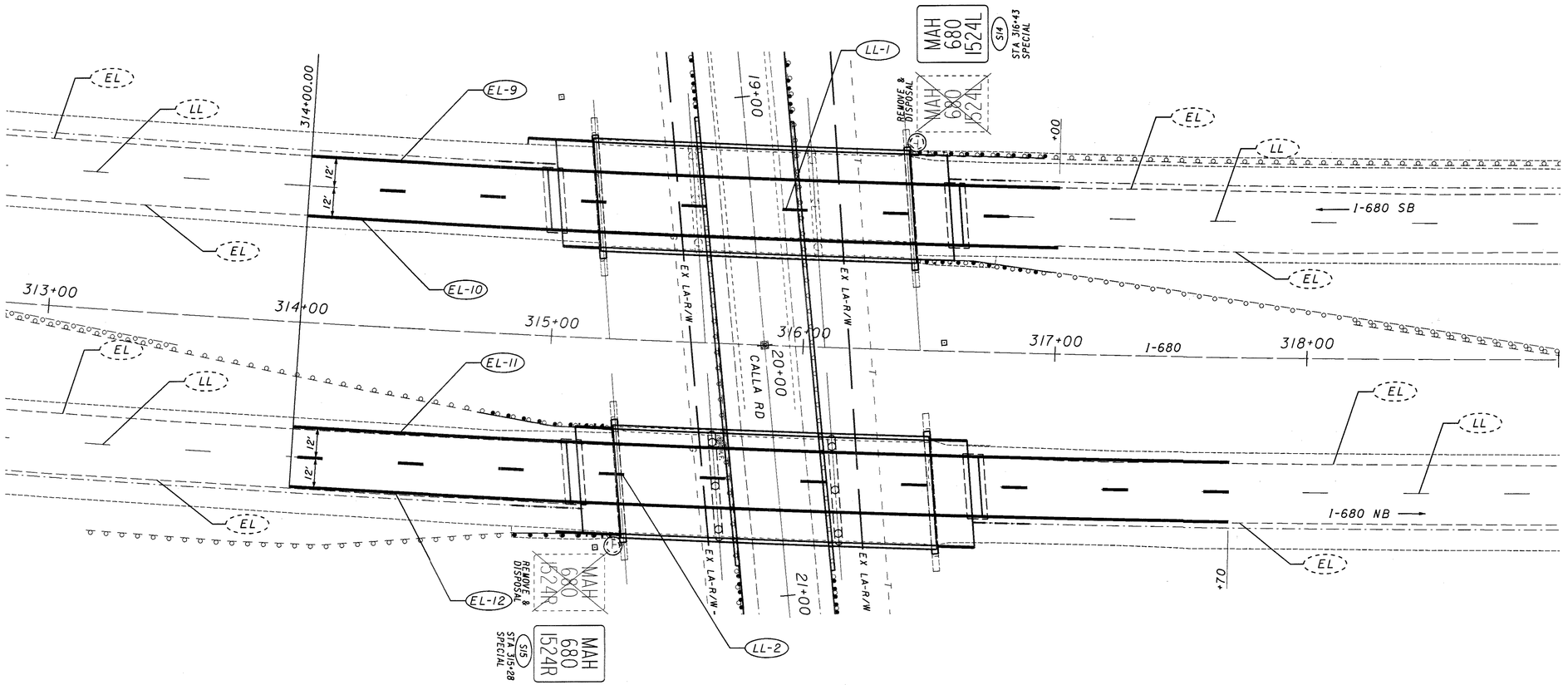
PAVEMENT MARKING LEGEND

EXISTING	PROPOSED	
LL	LL	LANE LINE, WHITE
EL	EL	EDGE LINE
TR	TR	TRANSVERSE LINE, WHITE
CL	CL	DOUBLE CENTER LINE, YELLOW
R-1	R-1	REMOVE & REPLACE EXISTING SIGN
	1	PROPOSED SIGN



N

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED JRW
CHECKED EBS

TRAFFIC CONTROL PLAN - I-680
STA. 313+00 TO STA. 319+00

MAH-680-9.92/13.38/15.41

63
125

$TIME$
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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	642 EDGE LINE, WHITE	642 CENTER LINE, DOUBLE YELLOW	646 EDGE LINE, WHITE	646 EDGE LINE, YELLOW	646 LANE LINE, WHITE	630 GROUND MOUNTED SUPPORT, W10X22 BEAM	630 GROUND MOUNTED BEAM SUPPORT FOUNDATION	630 SIGN, FLAT SHEET	630 SIGN, FLAT SHEET, AS PER PLAN	630 SIGN, GROUND MOUNTED EXTRUSHEET	630 GROUND MOUNTED SUPPORT, NO. 3 POST	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	630 REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL	630 GROUND MOUNTED SUPPORT, NO. 2 POST	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	630 OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 10	630 RIGID OVERHEAD SIGN SUPPORT FOUNDATION	631 REMOVAL OF LUMINAIRE AND DISPOSAL		
						FT.	FT.	FT.	FT.	FT.	FT.	EACH	SQ. FT	SQ. FT	SQ. FT	FT.	EACH	EACH	EACH	FT.	EACH	EACH	EACH	EACH		
PAVEMENT MARKING																										
	CL-1	THALIA AVE	13+00.00	24+80.00	C		1180																			
	EL-1	THALIA AVE	13+00.00	24+80.00	L	1180																				
	EL-2	THALIA AVE	13+00.00	24+80.00	R	1180																				
	THALIA AVE TOTAL					**2360**	**1180**																			
	CL-2	WALKER MILL RD.	5+80.00	15+00.00	C		920																			
	EL-3	WALKER MILL RD.	5+80.00	14+20.00	L	840																				
	EL4	WALKER MILL RD.	5+80.00	15+00.00	R	920																				
	WALKER MILL RD TOTAL					**1760**	**920**																			
	LL-1	I-680 OVER CALLA RD.	314+00.00	317+00.00	L					300																
	LL-2	I-680 OVER CALLA RD.	314+00.00	317+70.00	R					370																
	EL-9	I-680 OVER CALLA RD.	314+00.00	317+00.00	L			300																		
	EL-10	I-680 OVER CALLA RD.	314+00.00	317+00.00	L				300																	
	EL-11	I-680 OVER CALLA RD.	314+00.00	317+70.00	R				370																	
	EL-12	I-680 OVER CALLA RD.	314+00.00	317+70.00	R			370																		
	I-680 OVER CALLA RD TOTAL							**670**	**670**	**670**																
SIGNING																										
				CODE		SIZE (INCHES)																				
	S1	THALIA AVE.	16+06	SPECIAL	LT																	1				
	S2	THALIA AVE.	606+14	SPECIAL	RT	10x10								0.69			1	1		7.00						
	S3	THALIA AVE.	606+45	SPECIAL	LT	10x10								0.69			1	1		7.00						
	S4	THALIA AVE.	22+15	R-55-12	LT	12x18							1.50			12.50	1	1								
	S5	THALIA AVE.	22+15	R-10-24	LT	24x30							5.00				1									
	THALIA AVE TOTAL												**6.50**	**1.38**		**12.50**	**4**	**3**		**14.00**	**1**					
	S6	WALKER MILL RD.	12+22	W-45A-36	LT	36x36							9.00			14.00	1	1								
	S7	WALKER MILL RD.	12+22	D-8G-18	LT	18x36							4.50				1									
	S8	WALKER MILL RD.	424+09	SPECIAL	LT	10x10								0.69			1	1		7.00						
	S9	WALKER MILL RD.	423+61	SPECIAL	RT	10x10								0.69			1	1		7.00						
	S10	WALKER MILL RD.	424+35	GEP-84	LT	84x24									14.00				1							
	S11	WALKER MILL RD.	424+35	GE	LT	240x144									240.00				1				1	1	3	
	S12	WALKER MILL RD.	424+50	GEP-84	RT	84x24									14.00				1							
	S13	WALKER MILL RD.	424+50	GE	RT	144x120					24.2/24.4	2			120.00				1							
	WALKER MILL RD TOTAL										**48.6**	**2**	**13.50**	**1.38**	**388.00**	**14.00**	**4**	**3**	**4**	**14.00**		**1**	**1**	**3**		
	S14	I-680 OVER CALLA RD.	316+43	SPECIAL	LT	10x10								0.69			1	1		7.00						
	S15	I-680 OVER CALLA RD.	315+28	SPECIAL	RT	10x10								0.69			1	1		7.00						
	I-680 OVER CALLA RD TOTAL													**1.38**			**2**	**2**		**14.00**						
	TOTALS					4120	2100	670	670	670	48.6	2	20.00	4.14	388.00	26.50	10	8	4	42.00	1	1	1	3		
	TOTALS CARRIED TO GENERAL SUMMARY					0.78 MILES	0.40 MILES	0.25 MILES		0.13 MILES	49	2	20	5	388	27	10	8	4	42	1	1	1	3		

CALCULATED JRW
CHECKED EBS

PAVEMENT MARKING AND SIGNING SUBSUMMARY

MAH-680-9.92/13.38/15.41

64
125

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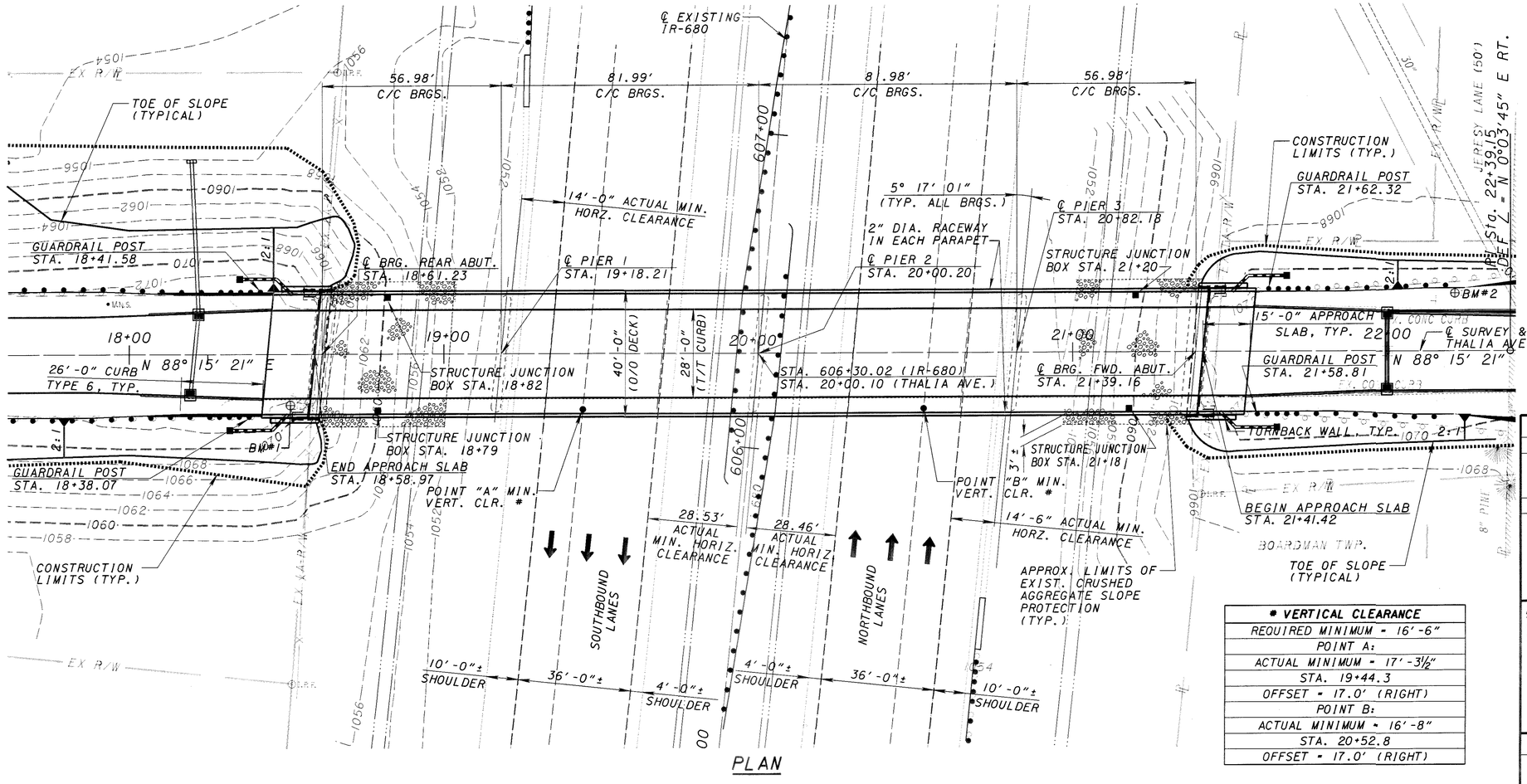
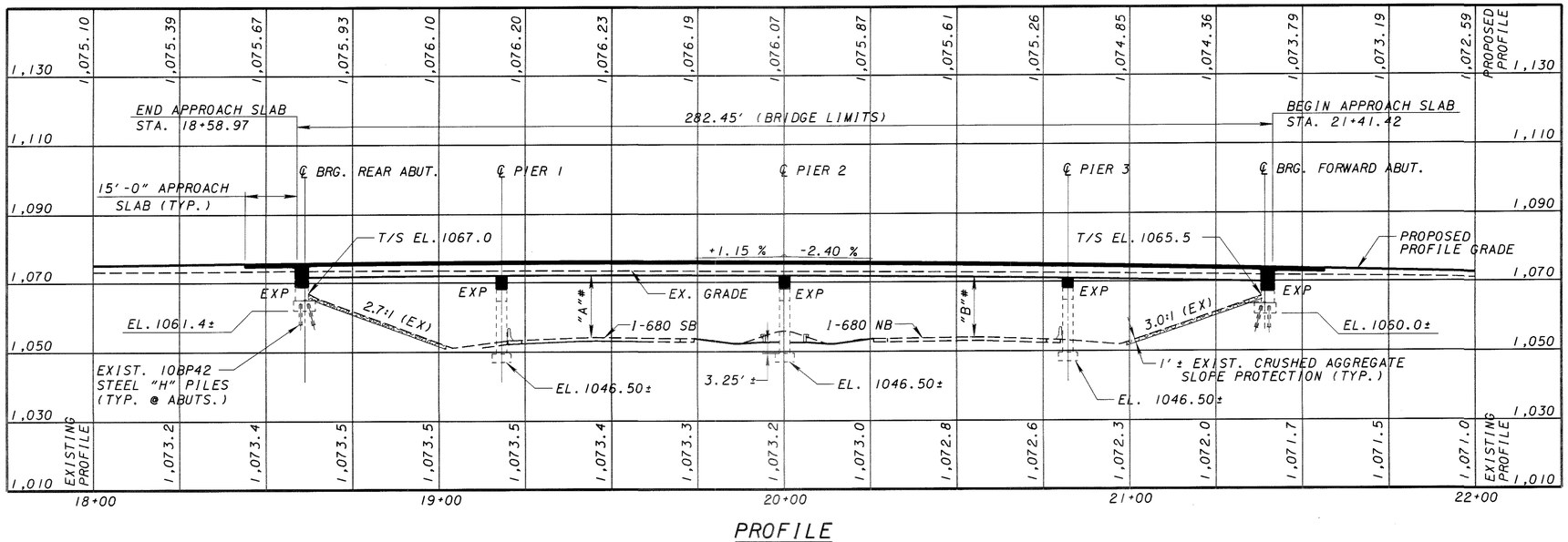


PLAN

* VERTICAL CLEARANCE
REQUIRED MINIMUM = 16'-6"
POINT A:
ACTUAL MINIMUM = 17'-3½"
STA. 19+44.3
OFFSET = 17.0' (RIGHT)
POINT B:
ACTUAL MINIMUM = 16'-8"
STA. 20+52.8
OFFSET = 17.0' (RIGHT)



PROFILE

ELEVATION DATUM: EXISTING FOOTING ELEVATIONS SHOWN REPRESENT ORIGINAL PLAN ELEVATIONS MINUS 0.55' TO APPROXIMATE EXISTING ELEVATIONS USING DATUM NAD83 (95).

BENCH MARK #1

TOP OF CAP ON IPINS AT
STA. 18+51.24 SET 16.17' RT.
ELEV. 1073.81'

BENCH MARK #2

TOP OF CAP ON IPINS AT
STA. 22+21.48 SET 18.31' LT.
ELEV. 1070.68'

CURVE DATA

HORIZONTAL

TANGENT

VERTICAL

P.V.I. STA. 20+00.00
P.V.I. EL.= 1077.40

+1.15% -2.40%
L=300'

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

TRAFFIC DATA
DESIGN ADT (2025) = 5200
DESIGN ADTT (2025) = 156
CURRENT ADT (2001) = 5040

EXISTING STRUCTURE

TYPE: CONTINUOUS 4-SPAN STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES.
SPANS: 57'±, 82', 82', 57' c/c BEARINGS, ALONG ℄ SURVEY THALIA RD.
ROADWAY WIDTH: 28'-0" TOE/TOE OF SIDEWALK
40'-0" OUT/OUT OF DECK
SKEW: 5°17'01"
WEARING SURFACE: 1½" ASPHALT CONRETE
LOADING: CF 130 (57)
ALIGNMENT: TANGENT
APPROACH SLABS: 25'-0"
SUPERELEVATION: NORMAL (3/16" / FT.)
DATE BUILT: 1972

PROPOSED STRUCTURE

PROPOSED WORK: NEW COMPOSITE REINFORCED CONCRETE DECK, SIDEWALK AND PARAPETS ON EXISTING (A36) STEEL BEAMS AND EXISTING REINFORCED CONCRETE SUBSTRUCTURES. NEW LAMINATED ELASTOMERIC BEARINGS AND CONVERSION TO SEMI-INTEGRAL ABUTMENTS.
SPANS: 56.98', 81.99', 81.98', 56.98' c/c BEARINGS, ALONG ℄ SURVEY THALIA RD.
ROADWAY WIDTH: 28'-0" TOE/TOE OF SIDEWALK
2-5'-0" SIDEWALKS
40'-0" OUT/OUT OF DECK
SKEW: 5°17'01" LF
WEARING SURFACE: 1" MONOLITHIC CONCRETE
LOADING (SUPERSTRUCURE): HS-25 CASE II AND ALTERNATE MILITARY LOADING
FUTURE W.S. = 60 PSF
ALIGNMENT: TANGENT
APPROACH SLABS: AS-1-81, 15'-0"
CROWN: NORMAL 0.0156
LATITUDE: 41°03'06" LONGITUDE: 80°37'30"

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
614 WEST SUPERIOR AVENUE
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
TJM	TJM	EBS	08/03
CHECKED	REVISED		STRUCTURE FILE NUMBER
BMG			5007615

MAHONING COUNTY
STA. 18+58.97
STA. 21+41.42

SITE PLAN
BRIDGE NO. MAH 680-0992
UNDER THALIA AVENUE

MAH-680-9.92/13.38/15.41

1 / 14

65 / 125

$FILE$
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Tue Jan 20 22:00:43 2004

STANDARD DRAWINGS

REFERENCE SHALL BE MADE TO THE FOLLOWING STANDARD DRAWINGS:

AS-1-81	REVISED	07-19-02
BR-2-98	REVISED	07-19-02
SICD-1-96	REVISED	07-19-02
VPF-1-90	REVISED	07-19-02

SUPPLEMENTAL SPECIFICATIONS

REFERENCE SHALL BE MADE TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

864 DATED 07-11-00

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

HS25, CASE II AND THE ALTERNATE MILITARY LOADING.
FUTURE WEARING SURFACE (FWS) OF 60 PSF

DESIGN DATA

CONCRETE CLASS HIGH PERFORMANCE (MIX TYPE 4)	-COMPRESSIVE STRENGTH 4,500 PSI FOR SUPERSTRUCTURE (LOAD FACTOR DESIGN)
CONCRETE CLASS C	-COMPRESSIVE STRENGTH 4,000 PSI FOR SUBSTRUCTURE (LOAD FACTOR DESIGN)
EXISTING STRUCTURAL STEEL	-ASTM A36 - YIELD STRESS 36,000 PSI
NEW STRUCTURAL STEEL	-ASTM A709 - YIELD STRESS 50,000 PSI
REINFORCING STEEL	-ASTM A615 OR A996 - GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER
SEALING OF CONCRETE SURFACES

MONOLITHIC WEARING COURSE

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

PROPOSED WORK:

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

1. REMOVAL OF EXISTING CONCRETE DECKS, APPROACH SLABS AND PORTIONS OF THE ABUTMENTS.
2. JACK AND TEMPORARILY SUPPORT SUPERSTRUCTURE
3. MODIFY AND REPAIR EXISTING ABUTMENTS, PIERS AND BEAMS
4. REPLACE EXISTING BEARINGS.
5. PLACE NEW CONCRETE DECKS,PARAPETS, FENCE AND POROUS BACKFILL.
6. SPOT PAINT EXISTING STRUCTURAL STEEL.
7. SEAL CONCRETE SURFACES.

ITEM 202, PORTIONS OF STRUCURE REMOVED, AS PER PLAN

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

PROTECTION OF TRAFFIC: PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR AT LEAST 30 DAYS BEFORE CONSTRUCTION BEGINS. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. MAINTAIN TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR.

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 DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE.

ITEM 202, PORTIONS OF STRUCURE REMOVED, AS PER PLAN (CONTINUED)

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 BRIDGE MEMBERS (STEEL BEAM, STEEL GIRDER, ETC), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER BRIDGE MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STEEL MEMBERS.

DECK REMOVALS: DUE TO THE POSSIBLE PRESENCE OF WELDED ATTACHMENTS TO EXISTING STRUCTURAL STEEL (FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.), PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRINGERS WHICH ARE TO REMAIN. REPLACE OR REPAIR STRINGERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. SUBMIT PROPOSED REPAIRS, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER, IN WRITING TO THE DIRECTOR AT LEAST 20 DAYS BEFORE PERFORMING REPAIR WORK.

EXTRANEOUS MEMBERS: REMOVE EXISTING EXTRANEOUS MEMBERS (I.E., FINISHING MACHINE AND FORM SUPPORTS, ETC., AND THE SUPPORT FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) ATTACHED BY WELDED CONNECTION TO THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

LOADING LIMITATIONS: NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF ALLOWABLE UNIT STRESSES AS DEFINED IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. SUBMIT STRUCTURAL ANALYSIS COMPUTATIONS, BY AN OHIO REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE REMOVAL METHODS OR EQUIPMENT TO THE DIRECTOR AT LEAST 20 DAYS BEFORE CONSTRUCTION BEGINS.

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, AS PER PLAN.

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN:

THE BACKFILL MATERIAL BEHIND THE ABUTMENT SHALL BE TYPE B GRANULAR MATERIAL, 703.16.C, PLACED AND COMPACTED IN 6 INCH LIFTS.

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 WHICH 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 THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 514, SURFACE PREPARATION OF EXISTING STEEL, PRESSURE WASHING, AS PER PLAN:

THIS WORK CONSISTS OF A PRESSURE WASHING OF THE ENTIRE EXISTING STEEL STRUCTURE IN ACCORDANCE WITH THE PROVISIONS LISTED IN 514.12 AND IS TO INCLUDE ALL LABOR AND MATERIALS TO COMPLETE THE WASHING. PRESSURE WASHING WILL OCCUR PRIOR TO ANY REQUIRED REPAIR PAINTING SURFACE PREPARATION AND REPAIR FIELD PAINTING. IT WILL BE THE CONTRACTORS RESPONSIBILITY TO SCHEDULE THE WASHING WITHIN THE GUIDELINES ESTABLISHED IN THE MAINTENANCE OF TRAFFIC PLAN UNLESS A SEPARATE SCHEDULE IS APPROVED BY THE ENGINEER.

ITEM 514, FIELD PAINTING OF EXISTING STRUCTURAL STEEL:

AN ESTIMATED QUANTITY OF FIELD PAINTING AND SURFACE PREPARATION HAS BEEN INCLUDED IN THE PLANS. THIS ITEM IS TO BE COMPLETED IN ACCORDANCE WITH THE PROVISIONS OF 514. THE ESTIMATED QUANTITY IS TO BE USED AS DIRECTED BY THE ENGINEER TO REPAIR DAMAGE TO THE EXISTING OZEU PAINT SYSTEM CAUSED BY CONSTRUCTION OR TO REPAIR EXISTING WORN AREAS ON THE EXISTING STEEL BEAMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SPECIFYING THE CORRECT FEDERAL COLOR NUMBER OF THE PAINT IN ORDER TO MATCH THE EXISTING PAINT.

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

INSTALL A 3 FOOT WIDE NEOPRENE SHEET AT LOCATIONS SHOWN IN THE PLANS. SECURE THE NEOPRENE SHEETING TO THE CONCRETE WITH 1¼" X #10 GAGE (LENGTH X SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKES THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. USE OF OTHER SIMILAR GALVANIZED DEVICES, WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

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

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

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

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

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

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

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 AT A MINIMUM OF 6'-0" AND A MAXIMUM OF 10'-0" CENTERS. USE AN EDGE GUIDE, FENCE, OR JIG TO INSURE 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.

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

REVIEWED	DATE
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STRUCTURE FILE NUMBER 5007615

DRAWN	REVISED
SJG	

DESIGNED	CHECKED
SDG	BMG

GENERAL NOTES
BRIDGE NO. MAH 680-0992
UNDER THALIA AVENUE

MAH-680-9.92/13.38/15.41

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DGN $DATE$

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

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

SUBMITTAL REQUIREMENTS: AN OHIO REGISTERED ENGINEER SHALL PREPARE, SEAL AND DATE PLANS FOR A JACKING SYSTEM, INCLUDING ANY TEMPORARY OR PERMANENT SUPPORTS, SUFFICIENT TO PERFORM THE WORK DESCRIBED IN THE PLANS. SUBMIT THREE SETS OF THESE PLANS TO THE DIRECTOR FOR APPROVAL AT LEAST THIRTY (30) DAYS BEFORE ACTUAL WORK IS TO BEGIN.

JACKING SUBMITTALS SHALL INCLUDE AT LEAST THE FOLLOWING:

1. THE SIGNATURE AND NUMBER, OR PROFESSIONAL SEAL, OF THE OHIO REGISTERED PROFESSIONAL ENGINEER WHO PREPARED THE SUBMITTAL.
2. CALCULATIONS AND ANALYSES OF THE STRUCTURE TO DETERMINE AND DEFINE THE ACTUAL LOADING APPLIED AT THE JACKING POINTS.
3. A DRAWING SHOWING THE PHYSICAL AND DIMENSIONAL POSITION OF THE JACKS WITH RESPECT TO THE STRUCTURE INCLUDING CLEARANCES AND CENTER OF LIFT.
4. A SCHEMATIC LAYOUT OF JACKS, CHECK VALVES, PUMPS WITH 3 WAY RETRACTOR VALVE, PRESSURE GAGES, FLOW CONTROL VALVES, ETC. IN ACCORDANCE WITH MANUFACTURER'S RECOM-MENDATIONS. ALL JACKS FOR EACH ABUTMENT OR PIER SHALL BE CONNECTED TOGETHER. ALL JACKS AT EACH ABUTMENT OR PIER SHALL BE THE SAME SIZE.
5. ANALYSIS AND CALCULATIONS OF THE STRESSES INDUCED OR CREATED IN THE STRUCTURE AND ANY TEMPORARY OR PERMANENT SUPPORTS. DESIGN CALCULATIONS FOR ANY TEMPORARY OR PERMANENT SUPPORTS.
6. PHYSICAL DIMENSIONS, MATERIALS, AND FABRICATION DETAILS OF ANY TEMPORARY OR PERMANENT SUPPORTS. HORIZONTAL AND VERTICAL MOVEMENT RESTRAINT SHALL BE PROVIDED.
7. A STEP BY STEP PROCEDURE DETAILING ALL STEPS IN THE JACKING OPERATION.
8. METHOD OF ATTACHMENT TO STRUCTURAL MEMBERS. WELDING TO TENSION AREAS WILL NOT BE PERMITTED.

JACKING SYSTEM REQUIREMENTS: THE ENTIRE SYSTEM INCLUDING JACKS SHALL HAVE 20% MORE CAPACITY THAN REQUIRED BASED ON CALCULATED LOADS. FOR LIFTS GREATER THAN 1 INCH, JACKS SHALL HAVE LOCKING NUTS TO POSITIVELY LOCK AND SUPPORT THE STRUCTURE DURING THE LIFT. JACKS SHALL HAVE A SWIVEL LOAD CAP, A DOMED PISTON HEAD OR SOME OTHER DEVICE TO PROTECT AGAINST THE EFFECTS OF SIDE LOAD ON THE JACK. DO NOT USE JACKS ALONE TO SUPPORT LOADS EXCEPT DURING THE ACTUAL JACKING OPERATION. USE TEMPORARY SUPPORTS, BLOCKING OR OTHER METHODS APPROVED BY THE DIRECTOR. DO NOT USE SINGLE ACTING RAMS WITH NO OVER-TRAVEL PROTECTION SYSTEM. HAVE SPARE EQUIPMENT AVAILABLE ON SITE IN ORDER TO PROCEED WITH THE JACKING IN THE EVENT OF BREAKDOWN. PROVIDE A LIST OF SPARE EQUIPMENT TO THE ENGINEER.

JACKING OPERATION REQUIREMENTS: AT A MINIMUM, A JACKING OPERATION SHALL LIFT ALL BEAMS AT ANY ONE ABUTMENT OR PIER SIMULTANEOUSLY. THE ONLY EXCEPTION IS THE SITUATION WHERE THE WORK INVOLVES REPLACING OR REHABILITATING INDIVIDUAL BEARINGS; NO PERMANENT SHIMMING IS REQUIRED AND THE HEIGHT OF THE LIFT SHALL NOT EXCEED 1/4 INCH. THE MAXIMUM DIFFERENTIAL JACKING HEIGHT BETWEEN ANY ADJACENT ABUTMENTS OR PIERS SHALL BE 1 INCH OR LESS. IF THIS 1 INCH LIMIT IS TO BE EXCEEDED, PROVIDE CALCULATIONS SHOWING THAT THE SUPER-STRUCTURE 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 PORTIONS THAT ARE TO REMAIN AFTER REHABILITATION IS COMPLETE 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.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

BASIS OF PAYMENT: 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.

INSPECTION OF EXISTING STRUCTURAL STEEL

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

ITEM 864 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE):

ALL SEALING OF CONCRETE SURFACES SHALL BE EPOXY-URETHANE AND THE COLOR OF THE URETHANE TOP COAT SHALL BE FEDERAL COLOR STANDARD NO. 37722 (BUFF). SEALING SHALL BE APPLIED TO THE SURFACES AS DETAILED IN THE PLANS.

UTILITIES

THE UTILITY(IES) SHALL BORE ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

DESIGN AGENCY
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CLEVELAND, OHIO 44113

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SDG	SJG	EBS	08/03
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BMG		5007615	

GENERAL NOTES
BRIDGE NO. MAH 680-0992
UNDER THALIA AVENUE

MAH-680-9.92/13.38/15.41

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MADE BY: MME	DATE: 08/03
CHECKED BY: EBS	DATE: 08/03

ESTIMATED QUANTITIES — THALIA AVENUE BRIDGE

ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPER-STRUCTURE	GENERAL	SEE SHEET NO.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	2|14 4|14
503	21301	LUMP		UNCLASSIFIED EXCAVATION, AS PER PLAN	LUMP				2|14 4|14
509	10000	155789	POUND	EPOXY COATED REINFORCING STEEL	5736	5340	144713		
509	20001	250	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				250	2|14
510	10000	312	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	180	132			
511	42500	42	CU YD	CLASS C CONCRETE, PIER CAP		42			
511	45700	66	CU YD	CLASS C CONCRETE, ABUTMENT	66				
511	50000	371	CU YD	CLASS HP CONCRETE, BRIDGE DECK			371		
511	50100	146	CU YD	CLASS HP CONCRETE, BRIDGE DECK (PARAPET)			146		
513	20000	4265	EACH	WELDED SHEAR STUD CONNECTORS			4265		
514	00050	1000	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			1000		
514	00056	1000	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			1000		
514	00060	1000	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			1000		
514	00066	1000	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			1000		
514	00101	LUMP		SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN			LUMP		2|14
516	13600	15	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	15				
516	13900	116	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	116				
516	14021	61	FT	SEMI-INTEGRAL EXPANSION JOINT SEAL, AS PER PLAN	61				2|14
516	44201	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (10"x14"x2.44") WITH 11"x15"x1½" LOAD PLATE	10				13|14
516	44201	15	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (14"x21"x1.88") WITH 11"x22"x2 " LOAD PLATE		15			13|14
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LUMP	2A|14
518	21200	67	CU YD	POROUS BACKFILL WITH FILTER FABRIC	67				
518	40000	82	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	82				
518	40010	39	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	39				
519	11101	24	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	24				2A|14
607	39930	560	FT	SPECIAL - VANDAL PROTECTION FENCE, 12' CURVED, COATED FABRIC			560		
625	25400	570	FT	CONDUIT, 2", 725.04			570		
625	29920	4	EACH	STRUCTURE JUNCTION BOX			4		
864	10100	1532	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	117	354	1061		

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ESTIMATED QUANTITIES
BRIDGE NO. MAH 680-0992
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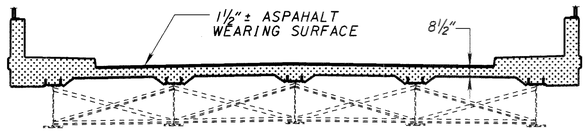

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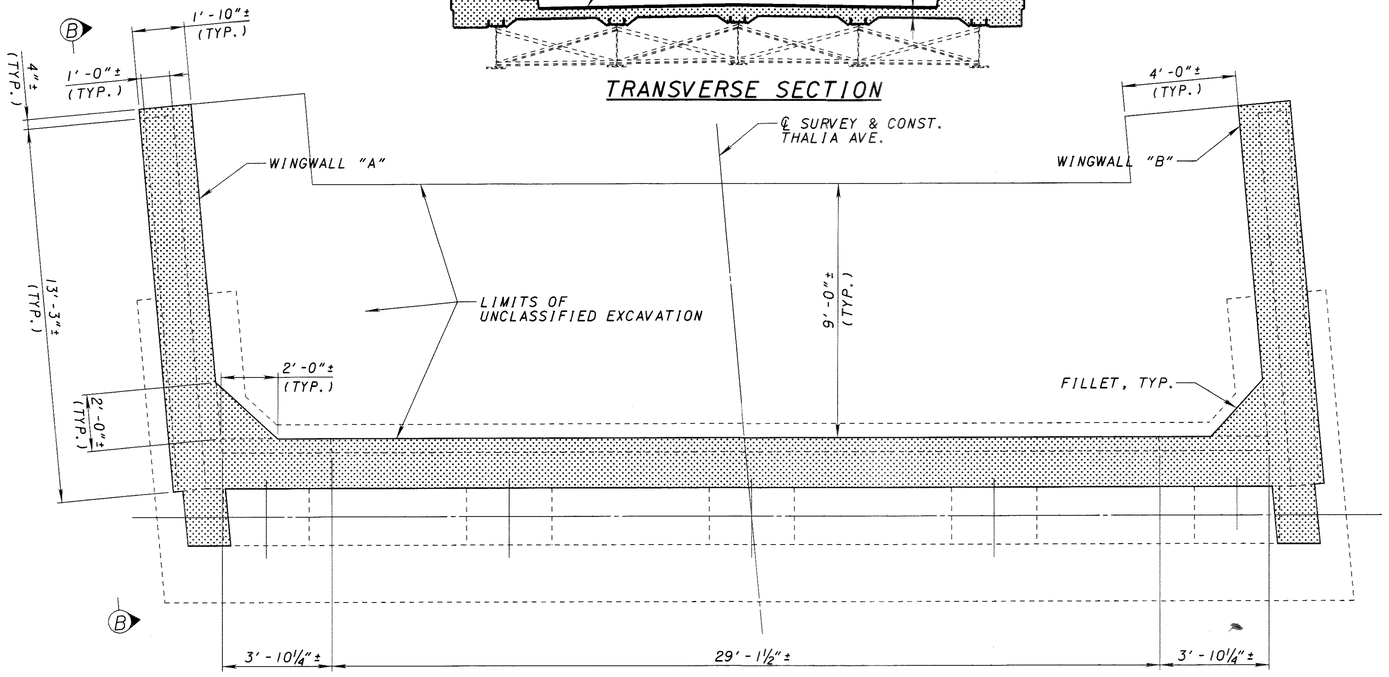
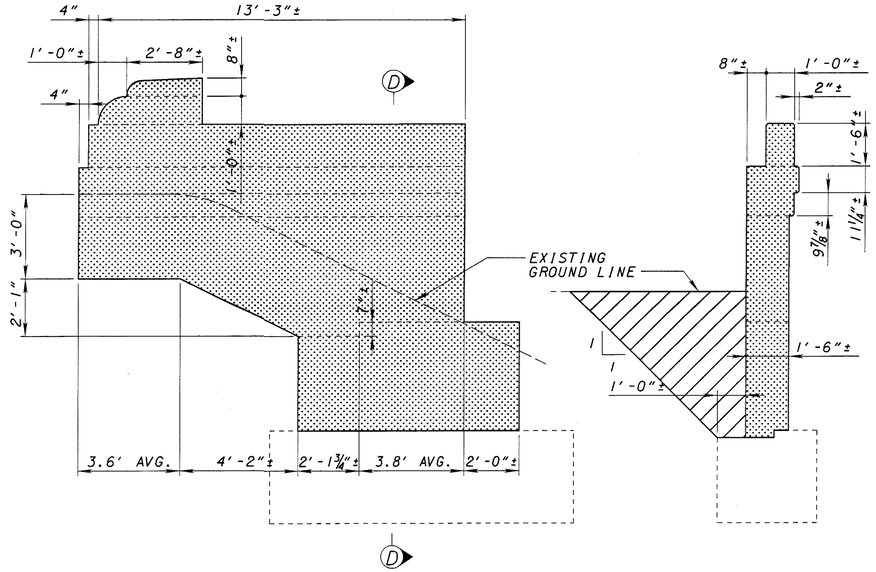


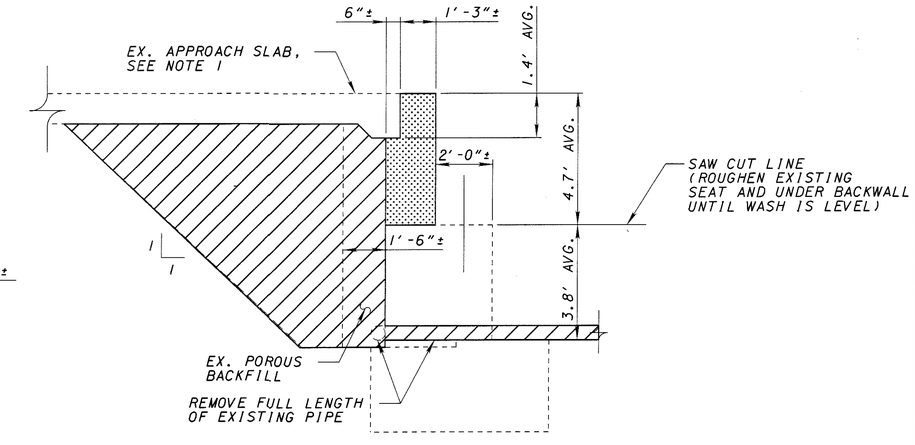
PLAN

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)

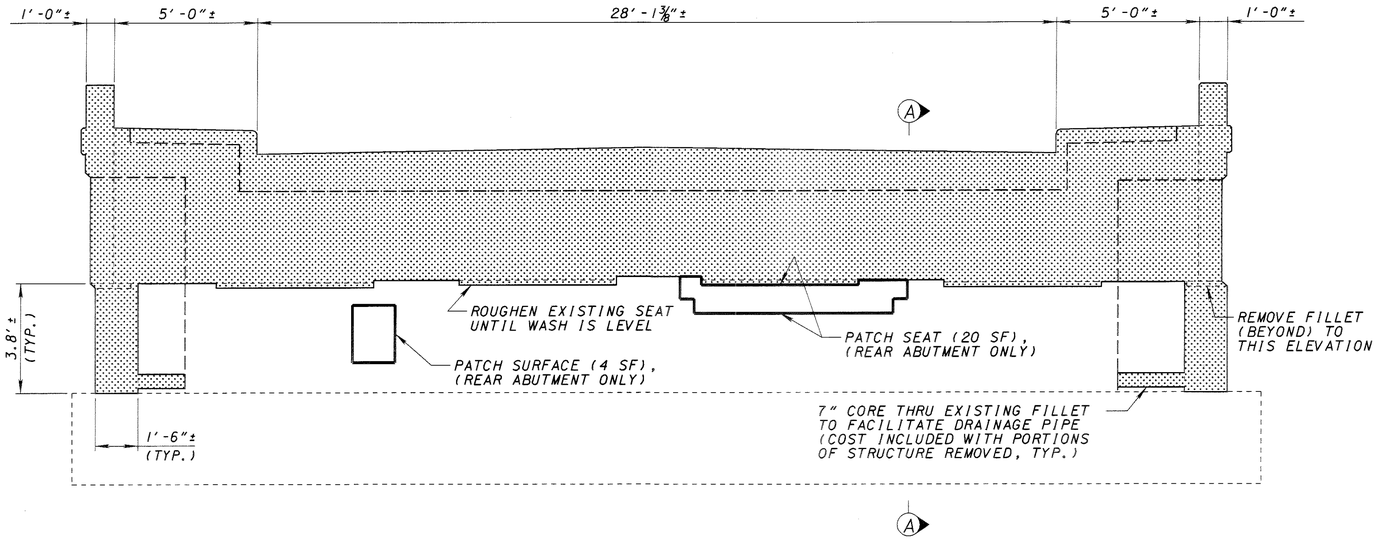


VIEW B-B

SECTION D-D



SECTION A-A



ELEVATION

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)

NOTES:

1. EXISTING APPROACH SLAB TO BE REMOVED, SEE ROADWAY PLANS.
2. REMOVE EXISTING DRAINAGE PIPES WITHIN 1'-0" OF ABUTMENT FACE.
3. REMOVE EXISTING SCUPPERS AND BEARINGS PER ITEM 202, PORTIONS OF STRUCTURES REMOVED. PAYMENT INCLUDED IN ITEM 202.
4. REMOVE EXISTING END FRAMES PER PER ITEM 202, PORTIONS OF STRUCTURES REMOVED. PAYMENT INCLUDED IN ITEM 202.

THE FOLLOWING ABBREVIATIONS ARE USED:

EX. = EXISTING
TYP. = TYPICAL
AVG. = AVERAGE
SF = SQUARE FEET

- INDICATES PORTIONS OF STRUCTURE REMOVED INCLUDED IN ITEM 202
- INDICATES UNCLASSIFIED EXCAVATION

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TJM	BMG

ABUT. REMOVAL, REPAIR & EXCAVATION DET.

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UNDER THALIA AVENUE

MAH-680-9.92/13.38/15.41

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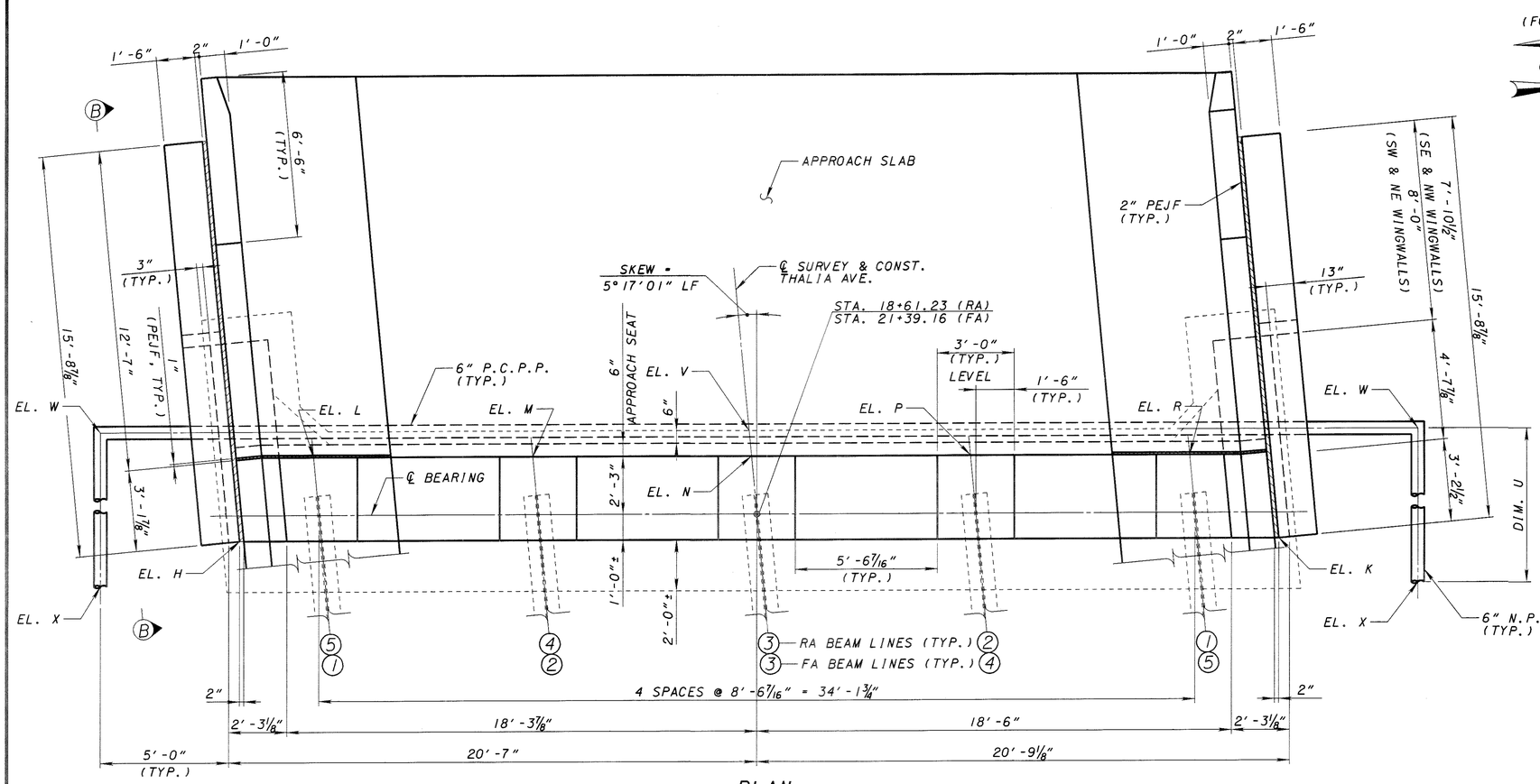
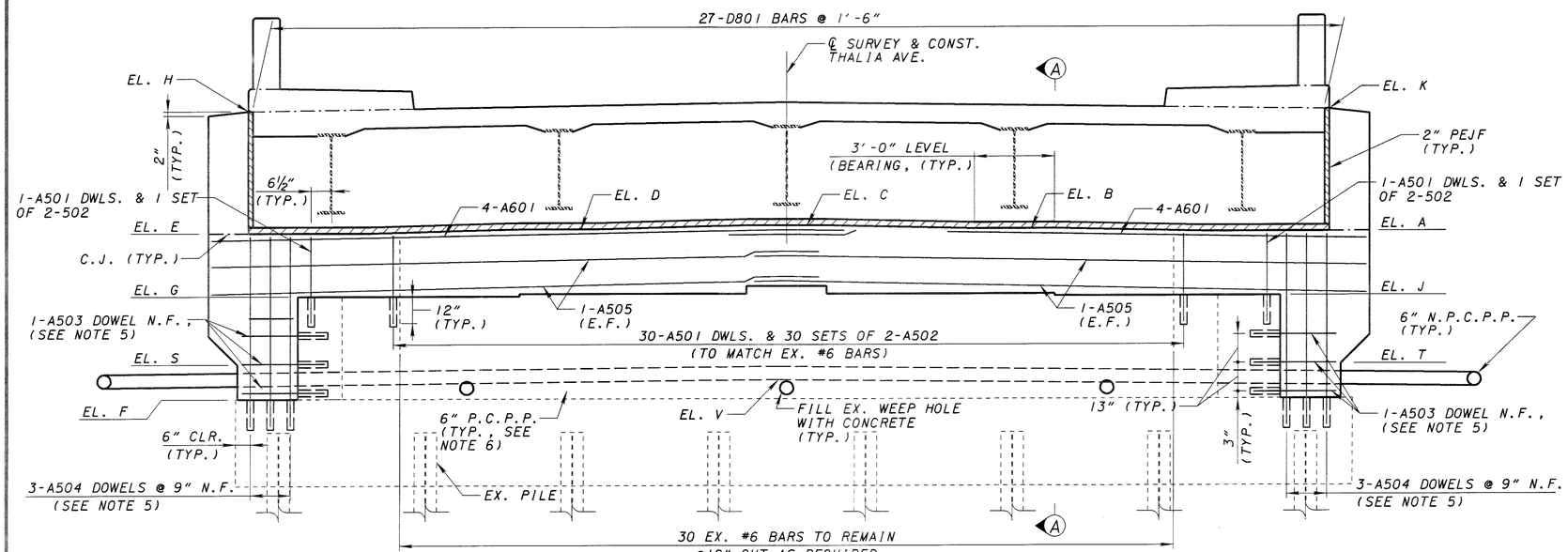


PLAN

(FORWARD ABUTMENT SHOWN, REAR ABUTMENT SIMILAR, PILES NOT SHOWN FOR CLARITY)



ELEVATION

(FORWARD ABUTMENT SHOWN, REAR ABUTMENT SIMILAR)

CONCRETE ELEVATIONS & DIMENSIONS

PROPOSED BEARING SEAT		
LOCATION	REAR ABUTMENT	FWD. ABUTMENT
EL. A	1070.96	1069.22
EL. B	1071.08	1069.29
EL. C	1071.21	1069.41
EL. D	1071.07	1069.27
EL. E	1070.93	1069.16
EXISTING BEARING SEAT		
EL. G	1068.48	1066.80
EL. J	1068.48	1066.87
TOP OF DECK AT BRIDGE LIMITS		
EL. L	1075.49	1073.69
EL. M	1075.63	1073.85
EL. N	1075.77	1074.00
EL. P	1075.65	1073.89
EL. R	1075.52	1073.76
ADDITIONAL ELEVATIONS/DIMENSIONS		
EL. F	1064.60	1063.20
EL. H	1075.47	1073.72
EL. K	1075.51	1073.79
EL. S	1066.00	1064.50
EL. T	1066.00	1064.50
DIM. U	8'-0"	10'-6"
EL. V	1063.93	1065.33
EL. W	1063.67	1065.06
EL. X	1063.59	1064.96

MINIMUM LAP LENGTH (UNLESS NOTED OTHERWISE)
#5 BAR = 2'-5"
#6 BAR = 4'-4"

NOTES:

1. FOR APPROACH SLAB NOTES AND DETAILS, SEE ROADWAY PLANS, AS-1-81 AND SHEET 12/14.
2. FOR ADDITIONAL SEMI-INTEGRAL ABUTMENT NOTES AND DETAILS, SEE STANDARD DRAWING SICD-1-96.
3. ALL STEEL CLEARANCES SHALL BE 2" UNLESS OTHERWISE NOTED.
4. FOR SECTION A-A AND VIEW B-B, SEE SHEET 6/14 .
5. DOWEL HOLES SHALL BE PLACED 6" FROM NEAR FACE & SHALL BE EMBEDDED 12".
6. ALL DRAINAGE PIPES SHALL HAVE A SLOPE OF ⅛" / FT. AND A HIGH POINT AT THE CENTER OF THE ABUTMENT.

THE FOLLOWING ABBREVIATIONS ARE USED:

TYP.	= TYPICAL	C.J.	= CONSTRUCTION JOINT
CLR.	= CLEAR COVER	MIN.	= MINIMUM
T	= TOP	B	= BOTTOM
EL.	= ELEVATION	FT.	= FOOT
RA	= REAR ABUTMENT	FA	= FORWARD ABUTMENT
PEJF	= PREFORMED EXPANSION JOINT FILLER		

DESIGN AGENCY: PARSONS BRINCKERHOFF OHIO, INC. 614 W. SUPERIOR AVE., SUITE 400 CLEVELAND, OHIO 44113

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ABUTMENT MODIFICATION DETAILS
BRIDGE NO. MAH 680-0992
UNDER THALIA AVENUE

MAH-680-9.92/13.38/15.41

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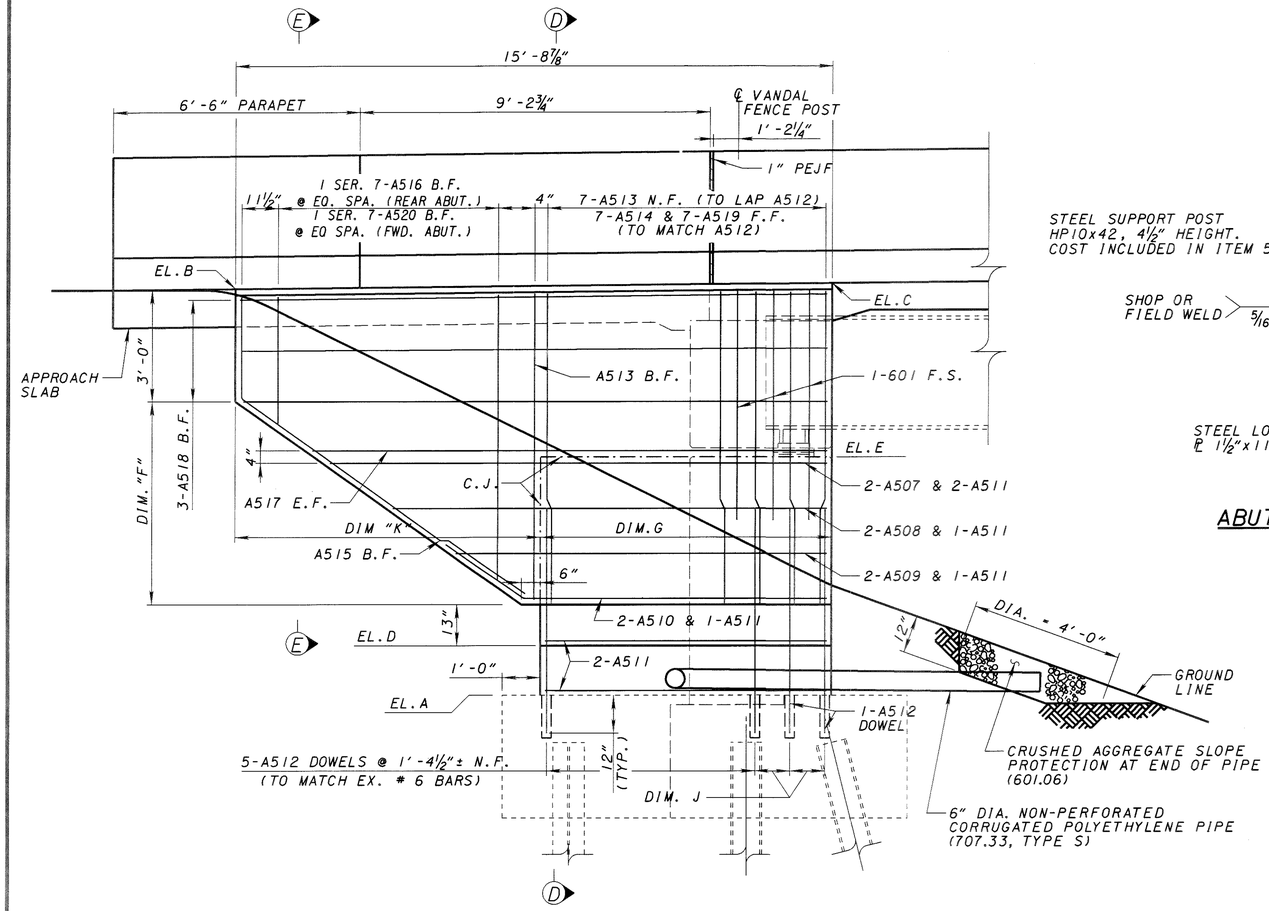
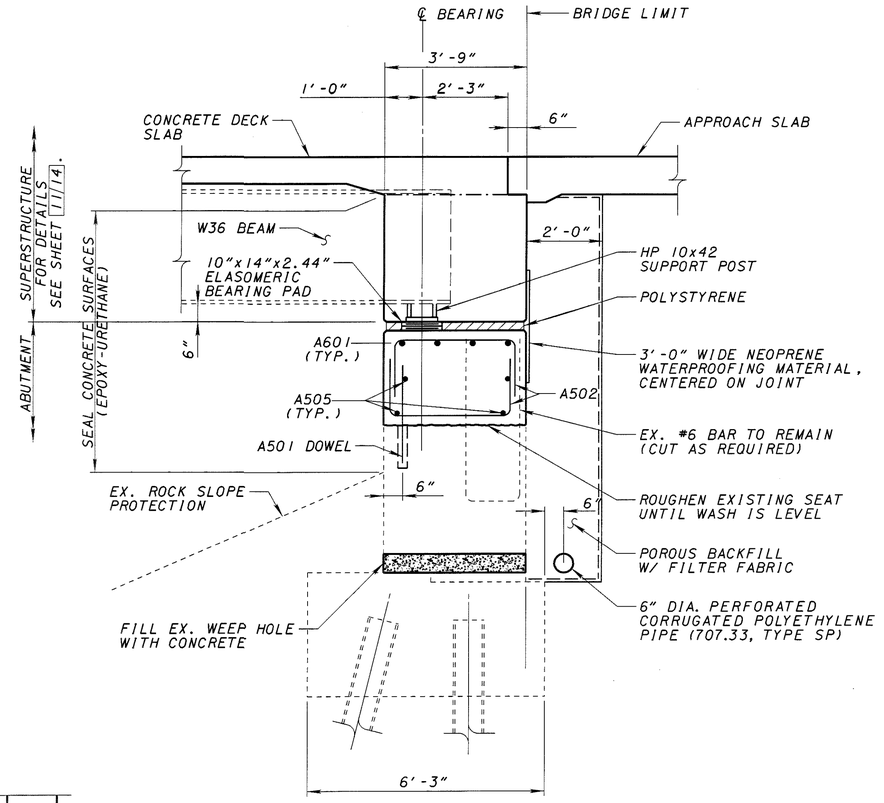
CONCRETE ELEVATIONS & DIMENSIONS

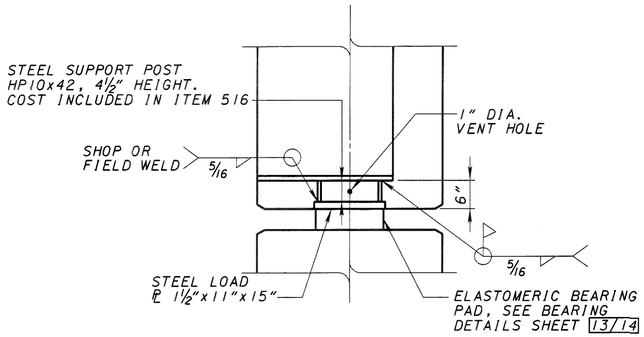
LOCATION	EL. A	EL. B	EL. C	EL. D	EL. E	DIM. F	DIM. G	DIM. K	DIM. J
NW TURNBACK WALL	1064.60	1075.44	1075.51	1066.00	1070.96	5'-4 3/8"	7'-10 3/8"	7'-10 1/2"	11 7/8"
SW TURNBACK WALL	1064.60	1075.29	1075.47	1066.00	1070.93	5'-2 5/8"	7'-8 7/8"	8'-0"	11 1/8"
NE TURNBACK WALL	1063.20	1073.35	1073.72	1064.50	1069.16	4'-9 1/4"	7'-8 7/8"	8'-0"	11 1/8"
SE TURNBACK WALL	1063.20	1073.42	1073.79	1064.50	1069.22	4'-10 1/8"	7'-10 3/8"	7'-10 1/2"	11 7/8"



VIEW B-B



SECTION A-A



ABUTMENT BEARING DETAIL

NOTES:

1. FOR LOCATION OF SECTION A-A AND VIEW B-B SEE SHEET 5/14.
2. FOR PARAPET TRANSITION DETAILS, SEE SHEET 12/14.
3. FOR APPROACH SLAB DETAILS, SEE ROADWAY DRAWINGS, AS-1-81 AND SHEET 12/14.
4. POROUS BACKFILL WITH FILTER FABRIC, 2'-0" THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1'-0" BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
5. ABUTMENT DIAPHRAGM CONCRETE: PLACE THE CONCRETE ECASING THE STRUCTURAL STEEL MEMBERS WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE.
6. FOR SECTION D-D AND E-E SEE SHEET 7/14.

THE FOLLOWING ABBREVIATIONS ARE USED:

NW	- NORTHWEST	NE	- NORTHEAST
SW	- SOUTHWEST	SE	- SOUTHEAST
EX.	- EXISTING	EL.	- ELEVATION
C.J.	- CONSTRUCTION JOINT	DIM.	- DIMENSION
PROP.	- PROPOSED	OPT.	- OPTIONAL
PEJF	- PREFORMED EXPANSION JOINT FILLER		

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CHECKED	REVISED	STRUCTURE FILE NUMBER
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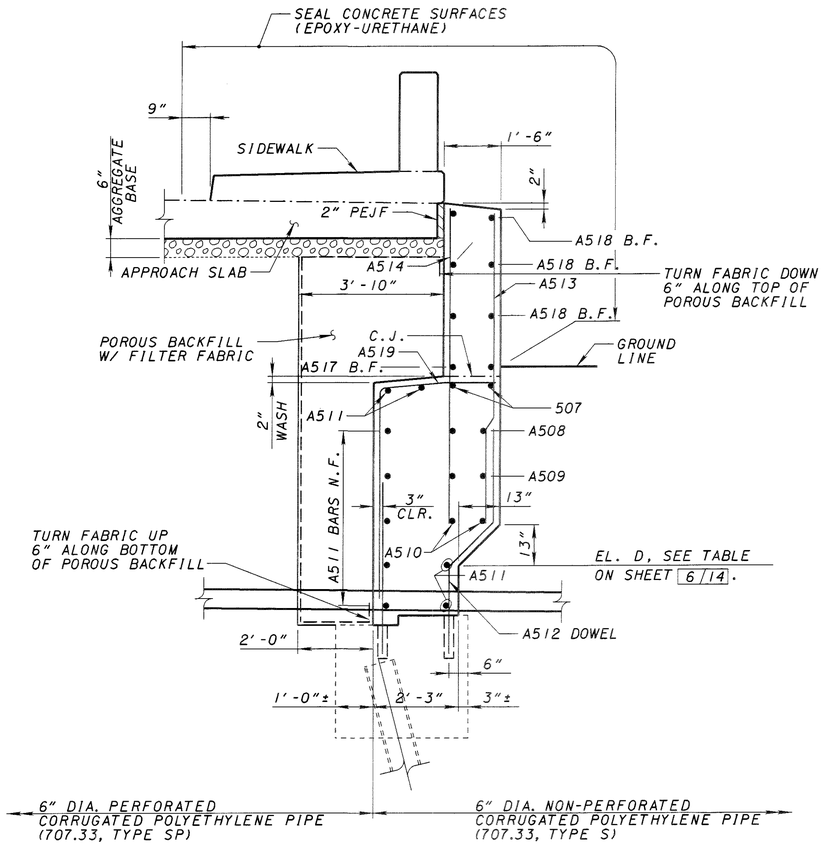
ABUTMENT SECTIONS
BRIDGE NO. MAH 680-0992
UNDER THALIA AVENUE

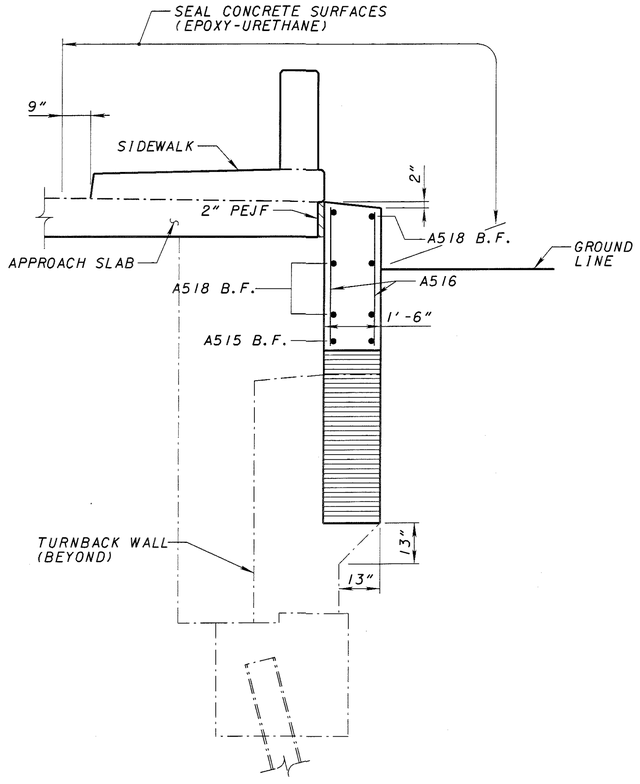
MAH-680-9.92/13.38/15.41

6/14

70/125



SECTION D-D



SECTION E-E

NOTES:

1. FOR LOCATION OF SECTIONS D-D & E-E, SEE SHEET 6/14.
2. POROUS BACKFILL WITH FILTER FABRIC, 2'-0" THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1'-0" BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.

THE FOLLOWING ABBREVIATIONS ARE USED:

NW	- NORTHWEST	NE	- NORTHEAST
SW	- SOUTHWEST	SE	- SOUTHEAST
EX.	- EXISTING	EL.	- ELEVATION
C.J.	- CONSTRUCTION JOINT	DIM.	- DIMENSION
PROP.	- PROPOSED	OPT.	- OPTIONAL
PEJF	- PREFORMED EXPANSION JOINT FILLER		
B.F.	- BOTH FACES	N.F.	- NEAR FACE

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ABUTMENT SECTIONS & MISC. DETAILS
BRIDGE NO. MAH 680-0992
UNDER THALIA AVENUE

MAH-680-9.92/13.38/15.41

7/14

71/125

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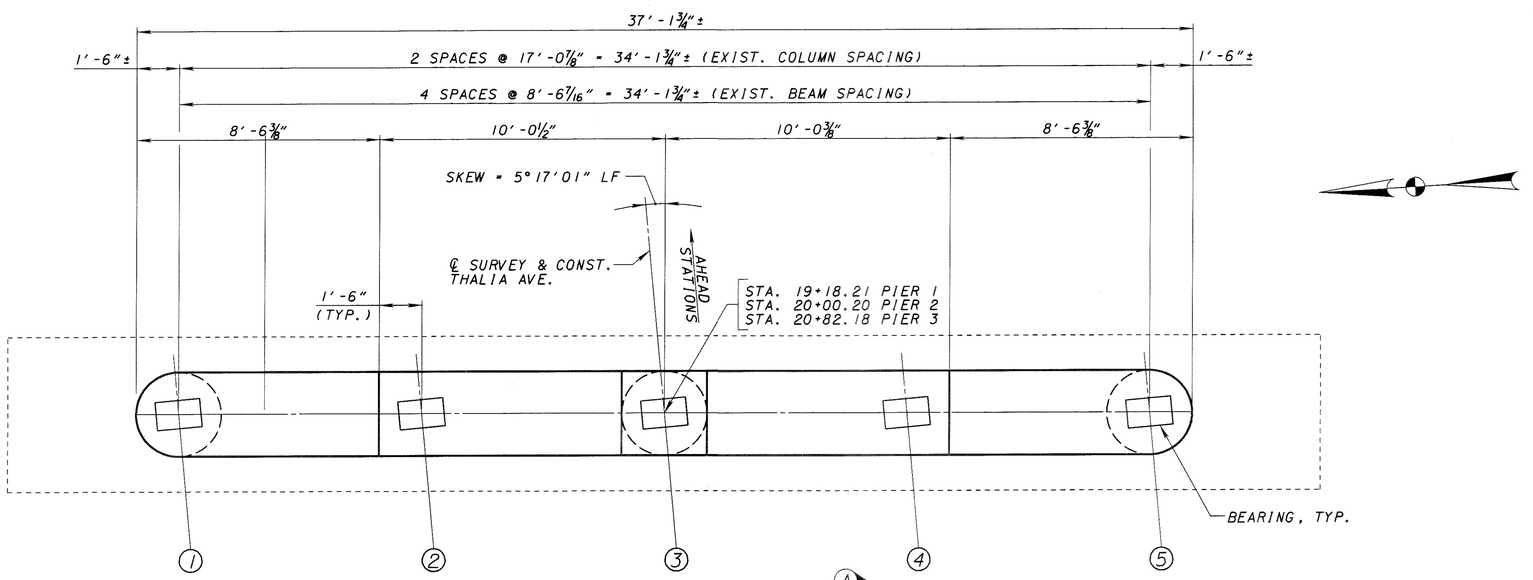
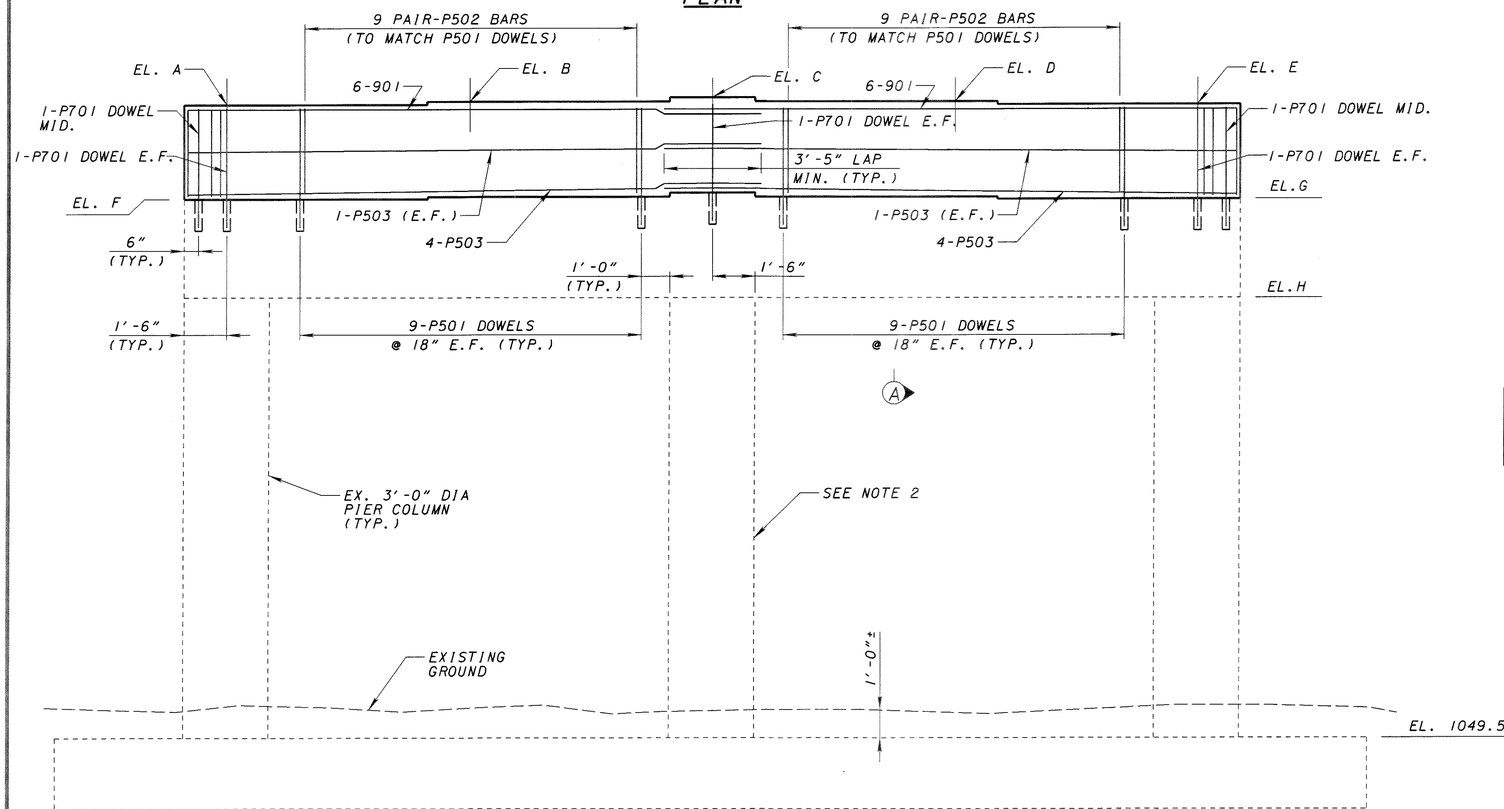
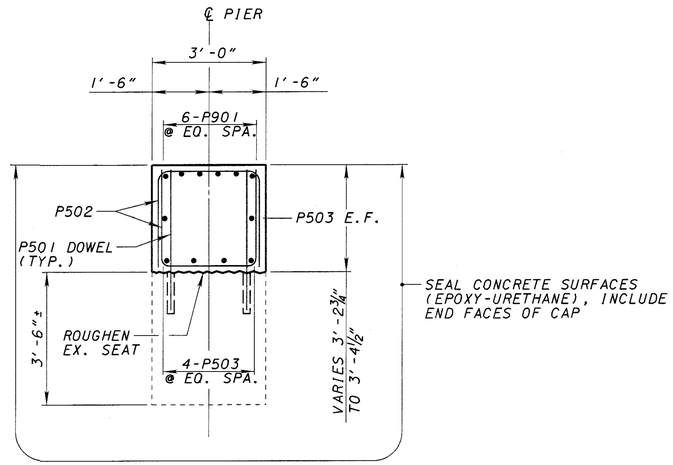


PLAN



PIER ELEVATION

(SEE TABLE A FOR PIER ELEVATIONS, PIER 1 REPAIR DETAILS SHOWN)



SECTION A-A

LOCATION	EL.A	EL.B	EL.C	EL.D	EL.E	EL.F	EL.G
PIER 1	1071.22	1071.33	1071.48	1071.33	1071.24	1067.91	1067.91
PIER 2	1070.95	1071.02	1071.16	1071.03	1070.95	1067.62	1067.61
PIER 3	1070.20	1070.27	1070.41	1070.30	1070.22	1066.97	1066.99

NOTES:

1. FOR BEARING DETAILS, SEE SHEET 13/14.
2. SEAL CONCRETE COLUMN SURFACES ABOVE GROUND LINE WITH EPOXY-URETHANE.
3. 501 DOWEL EMBED 14"
4. 701 DOWEL EMBED 21"

PIER MODIFICATION DETAILS

BRIDGE NO. MAH 680-0992
UNDER THALIA AVENUE

MAH-680-9.92/13.38/15.41

8/14

72/125

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BMC		5007615	

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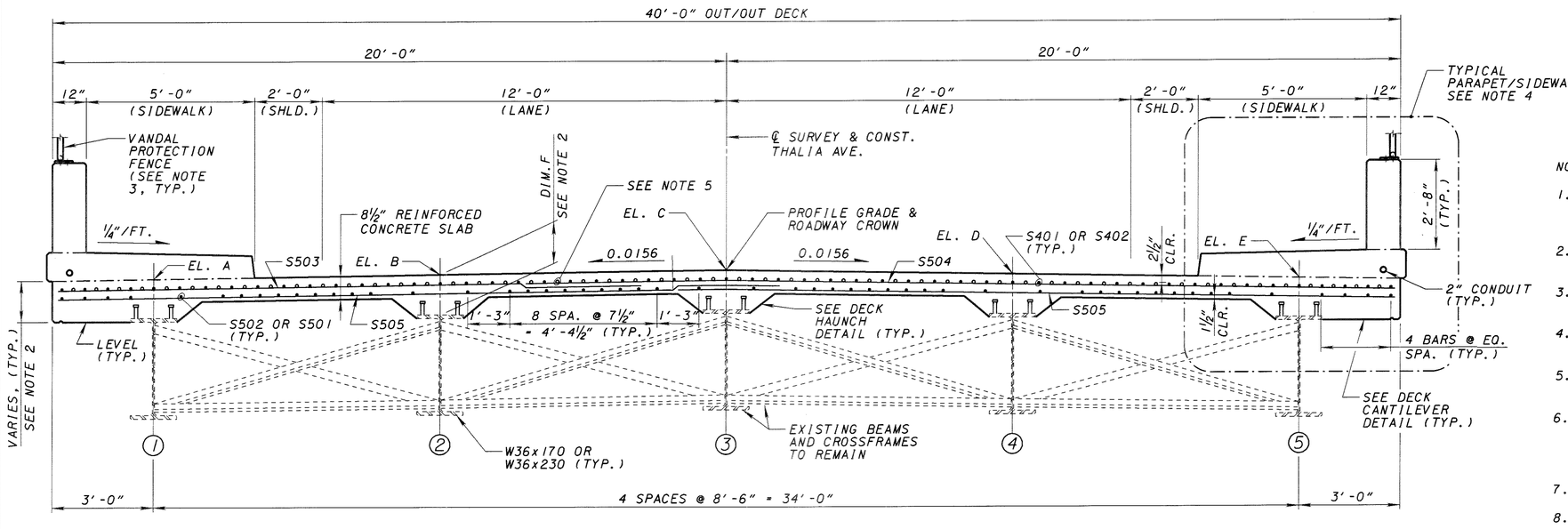
DECK SCREED ELEVATION TABLE

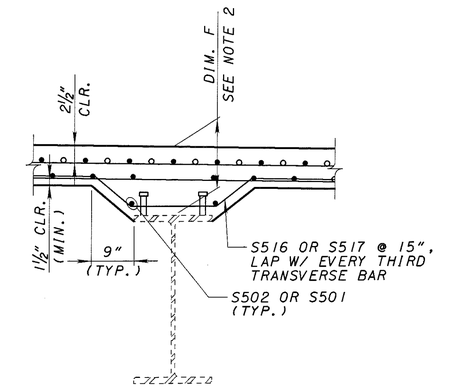
		SPAN 1				SPAN 2				SPAN 3				SPAN 4				
		℄ BRG. REAR ABUT.	.25	.5	.75	℄ BRG. PIER 1	.25	.5	.75	℄ BRG. PIER 2	.25	.5	.75	℄ BRG. PIER 3	.25	.5	.75	℄ BRG. FORWARD ABUT.
BEAM 1	STATION	18+62.80	18+77.05	18+91.29	19+05.54	19+19.78	19+40.28	19+60.78	19+81.27	20+01.77	20+22.27	20+42.76	20+63.26	20+83.75	20+98.00	21+12.24	21+26.49	21+40.73
	TOP OF SLAB ELEVATION	1075.55	1075.68	1075.78	1075.87	1075.92	1075.97	1075.96	1075.90	1075.79	1075.64	1075.43	1075.17	1074.87	1074.62	1074.36	1074.07	1073.75
	DEFLECTION	0.00	0.02	0.02	0.01	0.00	0.03	0.05	0.02	0.00	0.02	0.05	0.03	0.00	0.01	0.02	0.02	0.00
	SCREED ELEVATION	1075.55	1075.70	1075.80	1075.88	1075.92	1076.00	1076.01	1075.92	1075.79	1075.66	1075.48	1075.20	1074.87	1074.63	1074.38	1074.09	1073.75
LEFT TOE OF CURB	STATION	18+62.52	18+76.77	18+91.01	19+05.26	19+19.50	19+40.00	19+60.50	19+80.99	20+01.49	20+21.99	20+42.48	20+62.98	20+83.47	20+97.72	21+11.96	21+26.21	21+40.45
	TOP OF SLAB ELEVATION	1075.59	1075.72	1075.83	1075.91	1075.97	1076.01	1076.00	1075.95	1075.84	1075.68	1075.48	1075.22	1074.92	1074.67	1074.41	1074.12	1073.81
	DEFLECTION	0.00	0.02	0.02	0.01	0.00	0.03	0.05	0.02	0.00	0.02	0.05	0.03	0.00	0.01	0.02	0.02	0.00
	SCREED ELEVATION	1075.59	1075.74	1075.85	1075.92	1075.97	1076.04	1076.05	1075.97	1075.84	1075.70	1075.53	1075.25	1074.92	1074.68	1074.43	1074.14	1073.81
BEAM 2	STATION	18+62.02	18+76.27	18+90.51	19+04.76	19+19.00	19+39.50	19+60.00	19+80.49	20+00.99	20+21.49	20+41.98	20+62.48	20+82.97	20+97.22	21+11.46	21+25.71	21+39.95
	TOP OF SLAB ELEVATION	1075.67	1075.80	1075.91	1075.99	1076.05	1076.10	1076.09	1076.04	1075.93	1075.77	1075.57	1075.31	1075.01	1074.77	1074.50	1074.22	1073.90
	DEFLECTION	0.00	0.02	0.02	0.01	0.00	0.03	0.05	0.02	0.00	0.02	0.05	0.03	0.00	0.01	0.02	0.02	0.00
	SCREED ELEVATION	1075.67	1075.82	1075.93	1076.00	1076.05	1076.13	1076.14	1076.06	1075.93	1075.79	1075.62	1075.34	1075.01	1074.78	1074.52	1074.24	1073.90
BEAM 3/ CROWN	STATION	18+61.23	18+75.48	18+89.72	19+03.97	19+18.21	19+38.71	19+59.21	19+79.70	20+00.20	20+20.70	20+41.19	20+61.69	20+82.18	20+96.43	21+10.67	21+24.92	21+39.16
	TOP OF SLAB ELEVATION	1075.80	1075.93	1076.04	1076.12	1076.18	1076.23	1076.23	1076.17	1076.07	1075.91	1075.71	1075.46	1075.16	1074.92	1074.65	1074.36	1074.05
	DEFLECTION	0.00	0.02	0.02	0.01	0.00	0.03	0.05	0.02	0.00	0.02	0.05	0.03	0.00	0.01	0.02	0.02	0.00
	SCREED ELEVATION	1075.80	1075.95	1076.06	1076.13	1076.18	1076.26	1076.28	1076.19	1076.07	1075.93	1075.76	1075.49	1075.16	1074.93	1074.67	1074.38	1074.05
BEAM 4	STATION	18+60.44	18+74.69	18+88.93	19+03.18	19+17.42	19+37.92	19+58.42	19+78.91	19+99.41	20+19.91	20+40.40	20+60.90	20+81.39	20+95.64	21+09.88	21+24.13	21+38.37
	TOP OF SLAB ELEVATION	1075.66	1075.79	1075.90	1075.99	1076.05	1076.10	1076.09	1076.04	1075.94	1075.79	1075.59	1075.34	1075.04	1074.80	1074.54	1074.25	1073.94
	DEFLECTION	0.00	0.02	0.02	0.01	0.00	0.03	0.05	0.02	0.00	0.02	0.05	0.03	0.00	0.01	0.02	0.02	0.00
	SCREED ELEVATION	1075.66	1075.81	1075.92	1076.00	1076.05	1076.13	1076.14	1076.06	1075.94	1075.81	1075.64	1075.37	1075.04	1074.81	1074.56	1074.27	1073.94
RIGHT TOE OF CURB	STATION	18+59.94	18+74.19	18+88.43	19+02.68	19+16.92	19+37.42	19+57.92	19+78.41	19+98.91	20+19.41	20+39.90	20+60.40	20+80.89	20+95.14	21+09.38	21+23.63	21+37.87
	TOP OF SLAB ELEVATION	1075.57	1075.70	1075.81	1075.90	1075.96	1076.01	1076.01	1075.96	1075.86	1075.71	1075.51	1075.26	1074.96	1074.72	1074.46	1074.17	1073.86
	DEFLECTION	0.00	0.02	0.02	0.01	0.00	0.03	0.05	0.02	0.00	0.02	0.05	0.03	0.00	0.01	0.02	0.02	0.00
	SCREED ELEVATION	1075.57	1075.72	1075.83	1075.91	1075.96	1076.04	1076.06	1075.98	1075.86	1075.73	1075.56	1075.29	1074.96	1074.73	1074.48	1074.19	1073.86
BEAM 5	STATION	18+59.66	18+73.91	18+88.15	19+02.40	19+16.64	19+37.14	19+57.64	19+78.13	19+98.63	20+19.13	20+39.62	20+60.12	20+80.61	20+94.86	21+09.10	21+23.35	21+37.59
	TOP OF SLAB ELEVATION	1075.52	1075.65	1075.76	1075.85	1075.91	1075.96	1075.96	1075.91	1075.81	1075.66	1075.46	1075.21	1074.92	1074.68	1074.42	1074.13	1073.82
	DEFLECTION	0.00	0.02	0.02	0.01	0.00	0.03	0.05	0.02	0.00	0.02	0.05	0.03	0.00	0.01	0.02	0.02	0.00
	SCREED ELEVATION	1075.52	1075.67	1075.78	1075.86	1075.91	1075.99	1076.01	1075.93	1075.81	1075.68	1075.51	1075.24	1074.92	1074.69	1074.44	1074.15	1073.82



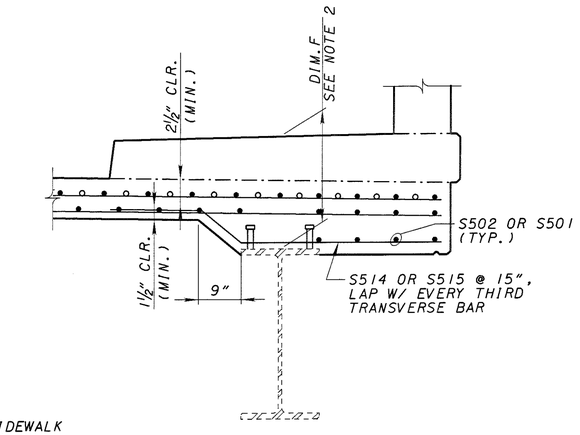
TRANSVERSE SECTION

(HAUNCH, SIDEWALK & PARAPET REINFORCEMENT NOT SHOWN)

*DECK SLAB DEPTH:
THE QUANTITY OF DECK SLAB CONCRETE TO BE PAID FOR SHALL BE BASED ON THE MINIMUM REQUIRED DECK SLAB THICKNESS OF 8½". THE QUANTITY OF CONCRETE REQUIRED SHALL BE BASED ON AN AVERAGE DESIGN HAUNCH OF 6⅝ INCHES, EVEN THOUGH DEVIATION FROM THAT DEPTH MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE EXISTING BEAMS MAY NOT BE PARALLEL TO THE FINISHED GRADE. ACTUAL HAUNCH DEPTHS MAY VARY FROM A 2 INCH MINIMUM TO A 9¾ INCH MAXIMUM.



DECK HAUNCH DETAIL



DECK CANTILEVER DETAIL

MINIMUM LAP LENGTH (UNLESS NOTED OTHERWISE)
TOP BARS - 41"
BOTTOM BARS - 32"

NOTES:

1. FOR TRANSVERSE REINFORCING, PARAPET REINFORCING, AND ADDITIONAL SUPERSTRUCTURE REINFORCING, SEE SHEETS 10/14 & 11/14.
2. ANTICIPATED DECK SLAB THICKNESS VARIES FROM 10½" TO 1'-6¼", SEE TABLE ON SHEET 11/14.
3. FOR VANDAL PROTECTION FENCE DETAILS, SEE SHEET 10/14 AND VPF-1-90.
4. FOR TYPICAL PARAPET/SIDEWALK DETAIL, SEE SHEET 11/14.
5. FOR ADDITIONAL REINFORCEMENT OVER PIERS DETAILS, SEE SHEET 10/14.
6. SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.
7. FOR SHEAR STUD DETAIL SEE SHEET 11/14
8. QUANTITIES OF CONCRETE FOR SIDEWALK ARE INCLUDED WITH ITEM 511, CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN FOR PAYMENT.

THE FOLLOWING ABBREVIATIONS ARE USED:

TYP.	- TYPICAL	CONST.	- CONSTRUCTION
EL.	- ELEVATION	C.J.	- CONSTRUCTION JOINT
F.S.	- FIELD SPLICE	BRG.	- BEARING
ABUT.	- ABUTMENT	SHLD.	- SHOULDER
FT.	- FEET	DIA.	- DIAMETER

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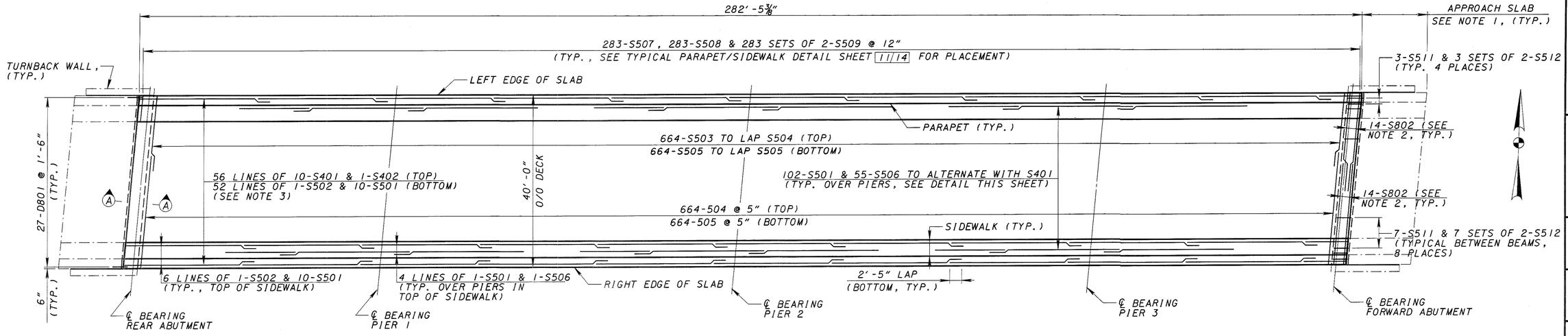
TRANSVERSE SECTION
BRIDGE NO. MAH 680-0992
UNDER THALIA AVENUE

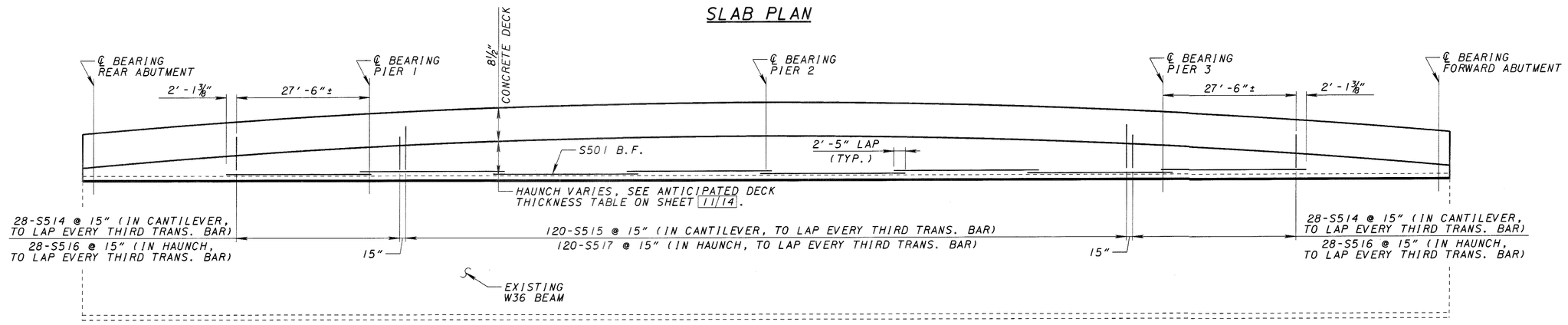
MAH-680-9.92/13.38/15.41

9/14

73/125

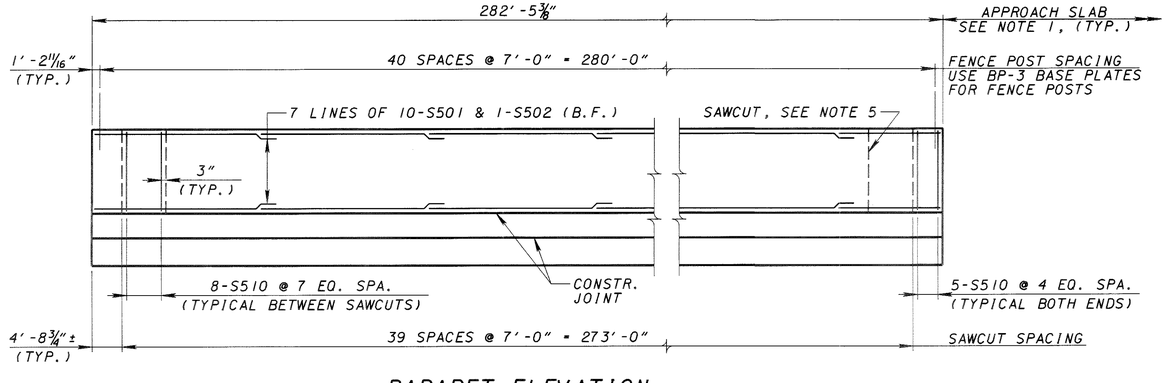


SLAB PLAN

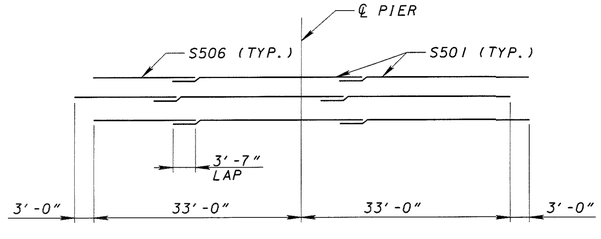


SECTION B-B

(TYPICAL AT ALL BEAM LOCATION, SEE NOTE 4)



PARAPET ELEVATION



ADDITIONAL REINFORCEMENT OVER PIERS

MINIMUM LAP LENGTH (UNLESS NOTED OTHERWISE)
#4 BAR = 2'-9"
#5 BAR = 3'-5"
#8 BAR = 6'-4"

NOTES:

1. FOR APPROACH SLAB DETAILS, SEE SHEET 12/14 AND AS-1-81.
2. FOR SECTION A-A SEE SHEET 11/14.
3. FOR PLACEMENT SEE TRANSVERSE SECTION ON SHEET 9/14.
4. FOR PLACEMENT OF STIRRUP REINFORCING, SEE DECK HAUNCH/CANTILEVER DETAILS ON SHEET 9/14.
5. FOR SAWCUT DETAIL SEE DETAIL A ON SHEET 11/14.

THE FOLLOWING ABBREVIATIONS ARE USED:

TYP.	= TYPICAL	CLR.	= CLEAR COVER
EL.	= ELEVATION	ABUT.	= ABUTMENT
F.S.	= FIELD SPLICE	BRG.	= BEARING
C.J.	= CONSTRUCTION JOINT		

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SLAB PLAN & PARAPET ELEVATIONS

BRIDGE NO. MAH 680-0992
OVER THALIA AVENUE

MAH-680-9.92/13.38/15.41

10/14

74
125

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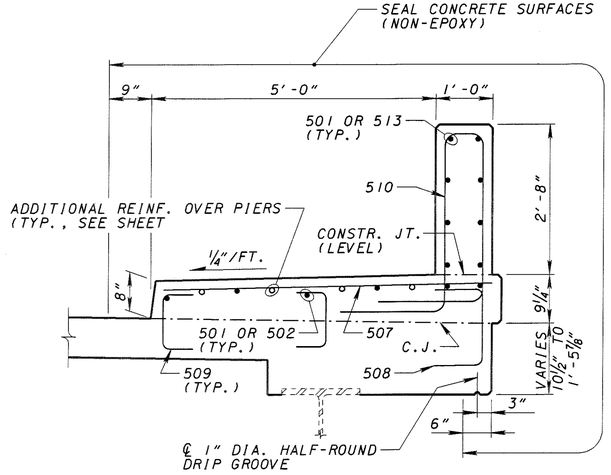
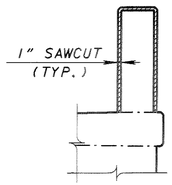
SLAB THICKNESS TABLE - DIMENSION F					
LOCATION	℄ BRG. REAR ABUT.	℄ BRG. PIER 1	℄ BRG. PIER 2	℄ BRG. PIER 3	℄ BRG. FORWARD ABUT.
BEAM A	10½"	1'-3½"	1'-5⅝"	1'-3⅛"	10½"
BEAM B	10½"	1'-3⅛"	1'-6½"	1'-4"	11"
BEAM C	10½"	1'-3⅝"	1'-6⅝"	1'-4"	11⅛"
BEAM D	10½"	1'-3¾"	1'-6½"	1'-4"	11¼"
BEAM E	10½"	1'-3¼"	1'-5⅞"	1'-3⅞"	10⅝"



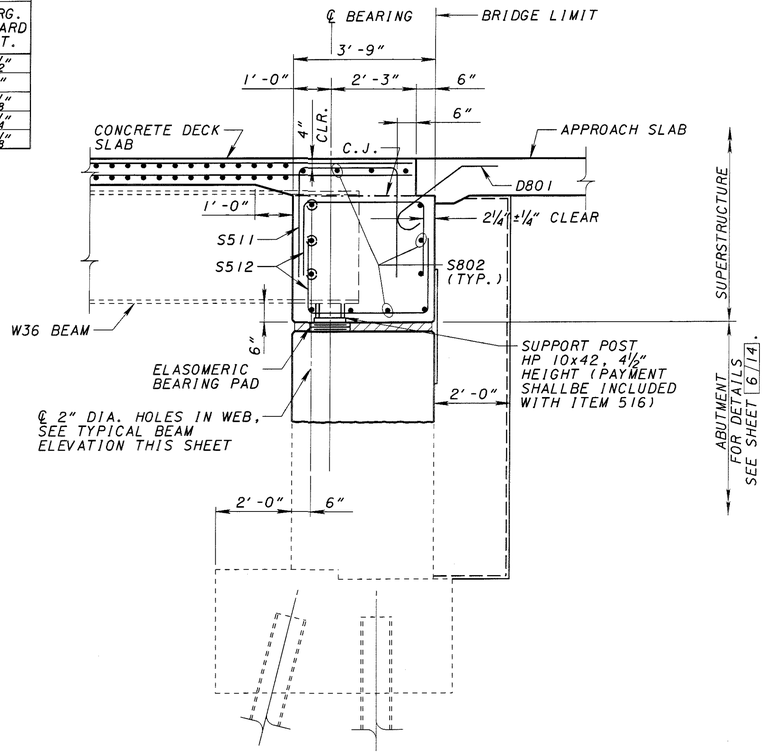
TYPICAL PARAPET/SIDEWALK DETAIL

(SLAB REINFORCEMENT NOT SHOWN)

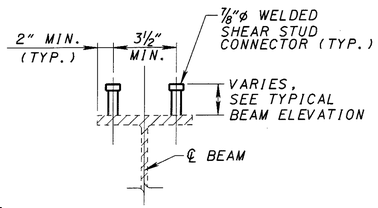


DETAIL A

(SECTION THROUGH SAWCUT)



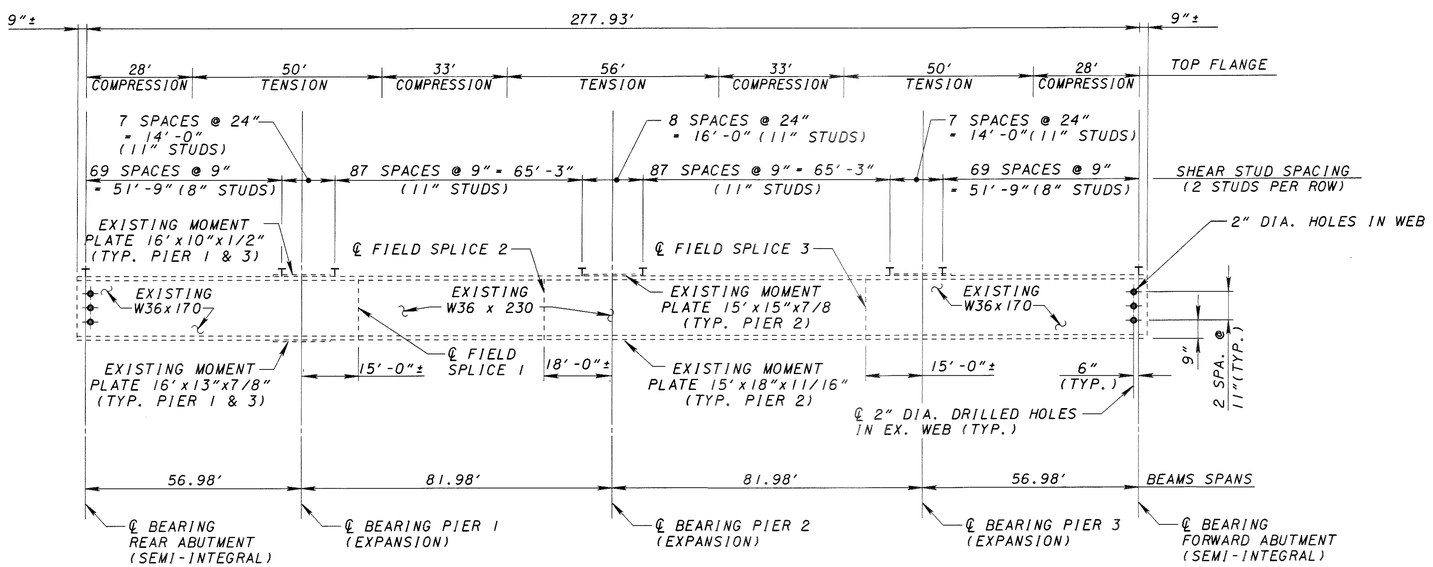
SECTION A-A



NOTE:

STUD PLACEMENT ON FLANGE SPLICE AND MOMENT PLATES SHALL BE ADJUSTED AS REQUIRED TO AVOID INTERFERENCE WITH CONNECTION BOLTS

SHEAR STUD DETAIL



TYPICAL BEAM ELEVATION

NOTES:

1. WELDED ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE MAY BE MADE TO AREAS OF THE FACIA STRINGER FLANGES DESIGNATED "COMPRESSION". ATTACHMENTS SHALL NOT BE MADE TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE NOT CLOSER THAN 1" FROM EDGE OF FLANGE, BE NOT MORE THAN 2" LONG, AND BE NOT SMALLER THAN ¼" FOR THICKNESS UP TO ¾" AND ⅝" FOR GREATER THAN ¾" THICK.
2. FOR LOCATION OF DIMENSION F SEE SHEET 10/14.
3. FOR LOCATION OF SECTION A-A SEE SHEET 9/14.

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BMG		5007615	

BEAM ELEVATIONS AND SUPERSTRUCTURE DET.
BRIDGE NO. MAH 680-0992
OVER THALIA AVENUE

MAH-680-9.92/13.38/15.41

11/14

75/125

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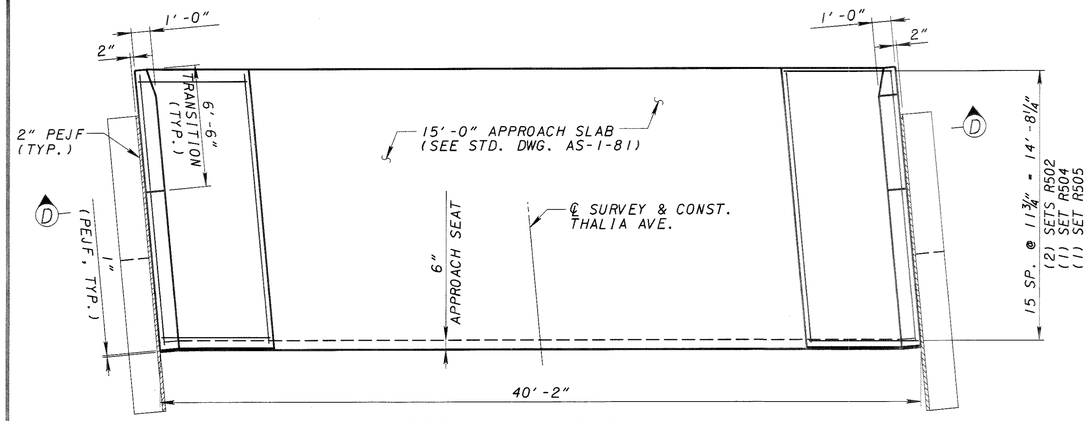
g:*projects*21467*bridge*clejan20*thalia*MH680SD2.dgn

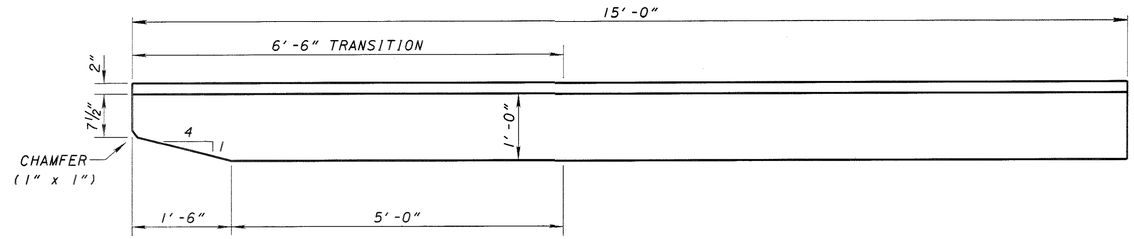
g:*projects*21467*fullprf*MH680SD2.prf

Tue Jan 20 21:56:25 2004

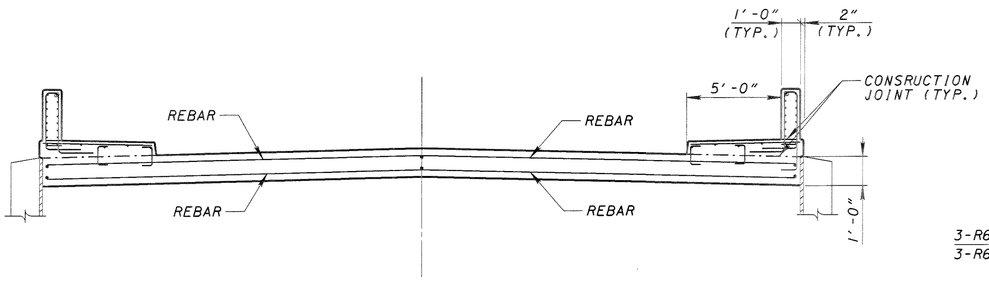


APPROACH SLAB PLAN

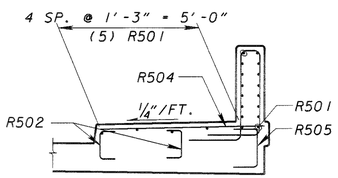
(FORWARD APPROACH SLAB SHOWN, REAR APPROACH SLAB SIMILAR)



PLAN

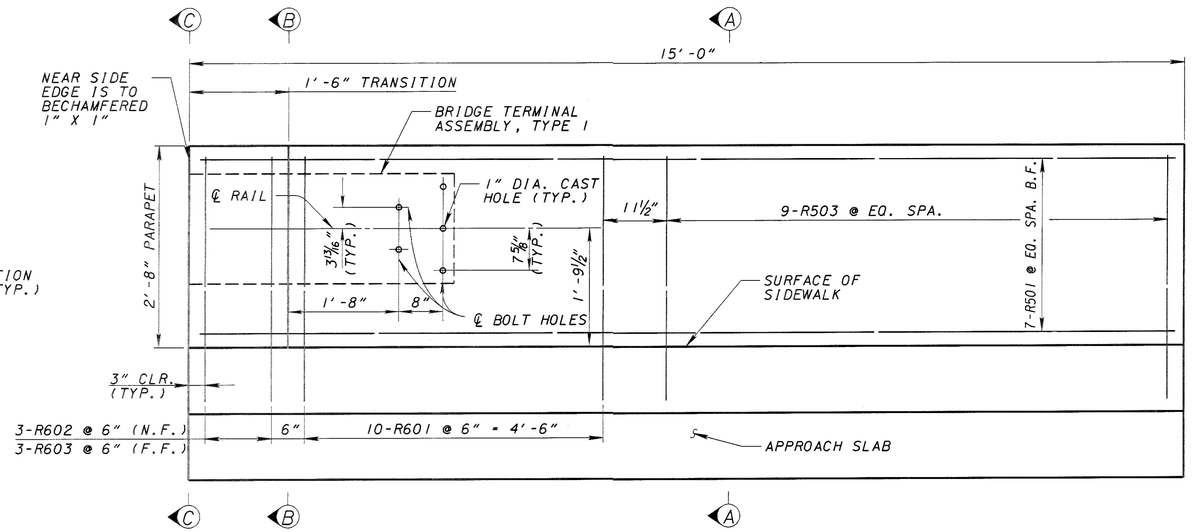


APPROACH SLAB SECTION D-D



TYPICAL PARAPET/SIDEWALK DETAIL

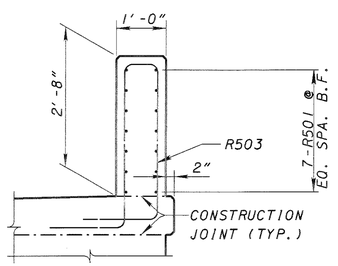
(SLAB REINFORCEMENT NOT SHOWN)



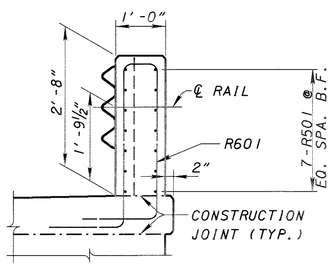
ELEVATION

BRIDGE SIDEWALK PARAPET TRANSITION

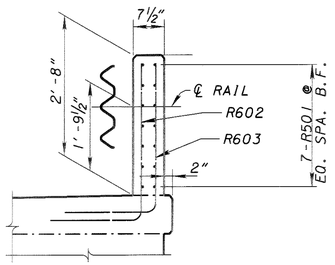
FOR PAYMENT SEE ROADWAY PLANS



SECTION A-A



SECTION B-B



SECTION C-C

PARAPET AND SIDEWALK REINFORCING SCHEDULE

MARK	NO.	LENGTH	TYPE	MASS	A	B	C	D
R501	80	14'-6"	STR.	1210				
R502	128	2'-3"	2	300	10"	10"	10"	
R503	28	10'-0"	28	292	1'-10"	3'-0"	8"	3'-2"
R504	64	5'-8"	STR	378				
R505	64	2'-7"	2	172	10"	1'-2"	10"	
R601	40	9'-10"	28	410	1'-10"	3'-0"	8"	3'-2"
R602	12	4'-10"	1	60	1'-10"	3'-2"		
R603	12	4'-8"	1	58	1'-10"	3'-0"		
			TOTAL	2880 LB				

SEE SHEET 14/14 FOR BAR BENDING DIAGRAM

NOTES:

1. FOR DETAILS NOT SHOWN, SEE SHEET 11/14 AND STANDARD DRAWINGS AS-1-81 & BR2-98.

B.F. - BOTH FACES
N.S. - NEAR SIDE
F.S. - FAR SIDE

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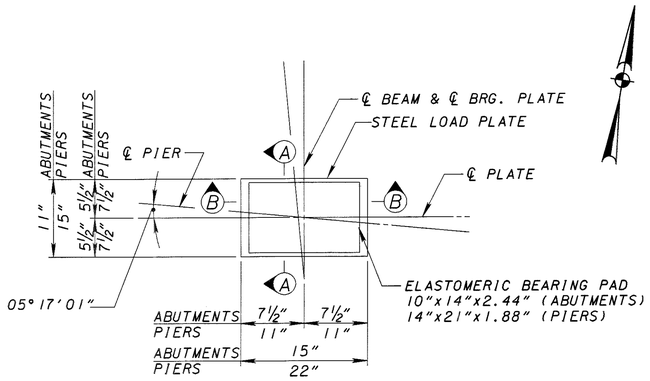
APPROACH SLAB DETAILS
BRIDGE NO. MAH 680-0992
OVER THALIA AVENUE

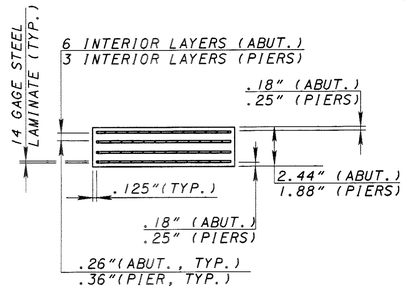
MAH-680-9.92/13.38/15.41

12/14

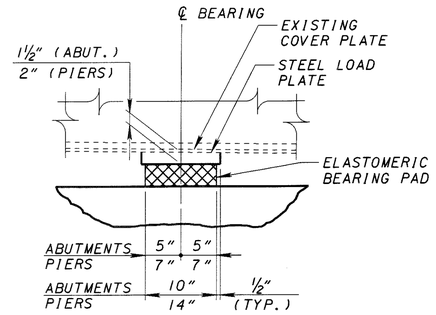
76/125



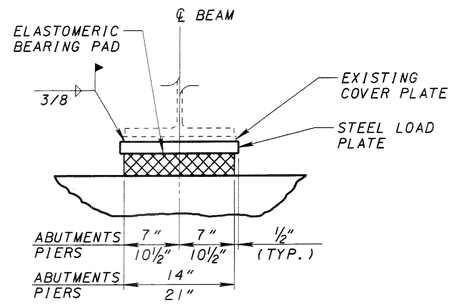
EXPANSION BEARING



ELASTOMERIC BEARING PAD



SECTION A-A



SECTION B-B

NOTE:

EXISTING ROCKER BEARING LOAD ℄'S TO BE REMOVED AND WELD GROUND SMOOTH, COVER ℄ TO REMAIN (COST INCLUDED WITH ITEM 516)

BEARING DETAILS

(PIERS SHOWN, ABUTMENTS SIMILAR)

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.

THE FOLLOWING ABBREVIATIONS ARE USED:

TYP.	- TYPICAL	DWG.	- DRAWING
SPA.	- SPACE	EX.	- EXISTING
DIA.	- DIAMETER	ABUT.	- ABUTMENT

BEARING NOTES:

DESIGN LOADS: SERVICE LOAD REACTIONS (KIPS)

	DEAD LOAD	LIVE LOAD WITHOUT IMPACT	TOTAL
ABUTMENTS	57.6	79.6	137.2
PIERS 1 & 3	160.9	97.1	258.0
PIER 2	182.5	103.1	285.6

THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS WELDING SHALL BE CONTROLLED, SO THAT THE PLATE TEMERATURE AT THE ELASTOMERR BONDED SURFACE DOES NOT EXCEED 300°F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

BASIS OF PAYMENT: THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, TESTING, HP SHAPES, BEARING RETAINERS, ANCHOR BOLTS, AND INCIDENTALS NECESSARY TO FURNISH LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARINGS WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (10"x14"x2.44") (ABUTMENTS), 14"x21"x1.88") (PIERS).

FOR ADDITIONAL ABUTMENT BEARING DETAILS, SEE ODOT STANDARD DRAWINGS SICD-1-96.

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BEARING DETAILS
BRIDGE NO. MAH 680-0992
UNDER THALIA AVENUE

MAH-680-9.92/13.38/15.41

13/14

77/125

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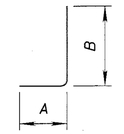
REINFORCEMENT SCHEDULE

MARK	NUMBER OF BARS TOTAL	ABUTMENTS REAR	ABUTMENTS FWD.	LENGTH	WEIGHT	TYPE	A	B	C	D	RADIUS	INCRE.	REMARK
ABUTMENTS													
A501	128	64	64	2'-11"	390	STR.							
A502	128	64	64	6'-11"	924	2	1'-11"	3'-4"	1'-11"				
A503	12	6	6	3'-2"	40	STR.							
A504	12	6	6	6'-10"	86	STR.							
A505	16	8	8	23'-9"	396	STR.							
A507	8	4	4	13'-2"	110	STR.							
A508	8	4	4	11'-5"	95	STR.							
A509	8	4	4	9'-9"	81	STR.							
A510	8	4	4	12'-7"	105	19	8'-2"	2'-7"	3'-8"				
A511	36	18	18	7'-6"	282	STR.							
A512	28	14	14	7'-2"	210	30	2'-5'	1'-2'	3'-2"	1'-2"			
A513	36	18	18	7'-6"	282	STR.							
A514	28	14	14	8'-4"	243	STR.							
A515	8	4	4	11'-5"	95	19	2'-10"	4'-8"	7'-3"				
		4		3'-3"									
A516	28	SER. OF		TO	156	STR.						8 3/8"	
		7		7'-5"									
A517	8	4	4	13'-8"	114	STR.							
A518	24	12	12	15'-5"	386	STR.							
A519	28	14	14	8'-5"	246	1	3'-0"	5'-6"					
			4	3'-3"									
A520	28		SER. OF	TO	150	STR.						7½"	
			7	7'-0"									
A521	28	14	14	4'-6"	132	STR.							
A601	12	6	6	6'-3"	113	STR.							
A801	16	8	8	25'-9"	1100	1	2'-2"	23'-9"					
			TOTAL WEIGHT =		5736	LBS.							
PIERS													
P501	108			4'-3"	479	STR.							
P502	108			8'-3"	930	2	2'-11"	2'-8"	2'-11"				
P503	36			20'-2"	757	STR.							
P701	24			4'-10"	237	STR.							
P901	36			22'-10"	2795	1	20'-2"	2'-11"					
P1001	12			2'-9"	142	STR.							
			TOTAL WEIGHT =		5340	LBS.							
SUPERSTRUCTURE													
S401	560			30'-0"	11222	STR.							
S402	56			9'-8"	362	STR.							
S501	1274			30'-0"	39864	STR.							
S502	108			25'-4"	2854	STR.							
S503	665			17'-4"	12022	STR.							
S504	664			25'-10"	17891	STR.							
S505	1328			21'-5"	29665	STR.							
S506	189			16'-2"	3187	STR.							
S507	502			5'-8"	2967	STR.							
S508	502			2'-7"	1353	2	0'-10"	1'-2"	0'-10"				
S509	1004			2'-3"	2356	2	0'-10"	0'-10"	0'-10"				
S510	672			10'-0"	7009	28	1'-10"	3'-0"	8"	3'-2"			
S511	68			7'-10"	556	2	2'-9"	2'-7"	2'-9"				
S512	136			9'-8"	1372	2	3'-3"	3'-5"	3'-3"				
S514	112			7'-5"	867	30	3'-6"	8"	3'-2"				
S515	240			7'-6"	1878	30	3'-6"	10"	3'-2"				
S516	168			9'-3"	1621	21	1'-5"	9"	3'-2"	9"			
S517	360			9'-6"	3567	21	1'-5"	9"	3'-2"	11"			
D801	54	27	27	4'-7"	661	31							
S802	56			23'-0"	3439	STR.							
			TOTAL WEIGHT =		144713	LBS.							

BAR BENDING DIAGRAMS



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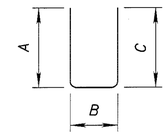

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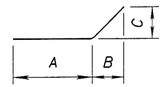

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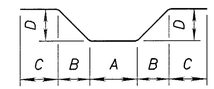

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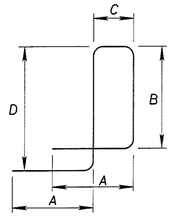

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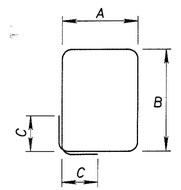

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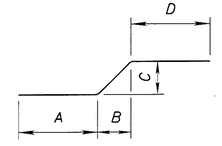

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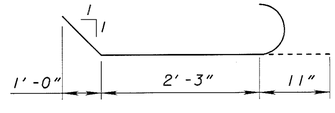

TYPE-31

DESIGN AGENCY
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TJM	

DESIGNED	CHECKED
TJM	BMG

REINFORCEMENT SCHEDULE
BRIDGE NO. MAH 680-0992
UNDER THALIA AVENUE

MAH-680-9.92/13.38/15.41

14/14

78
125

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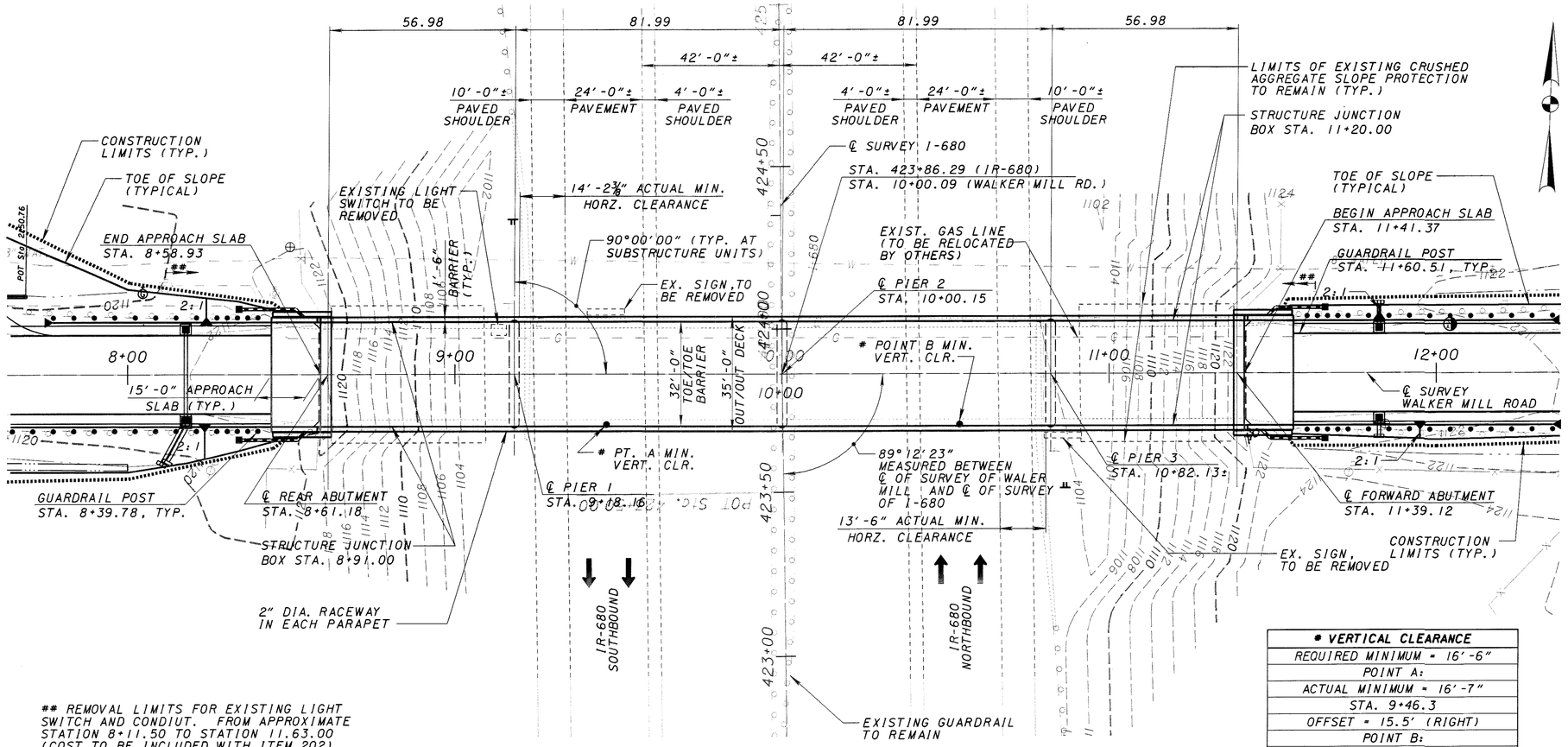
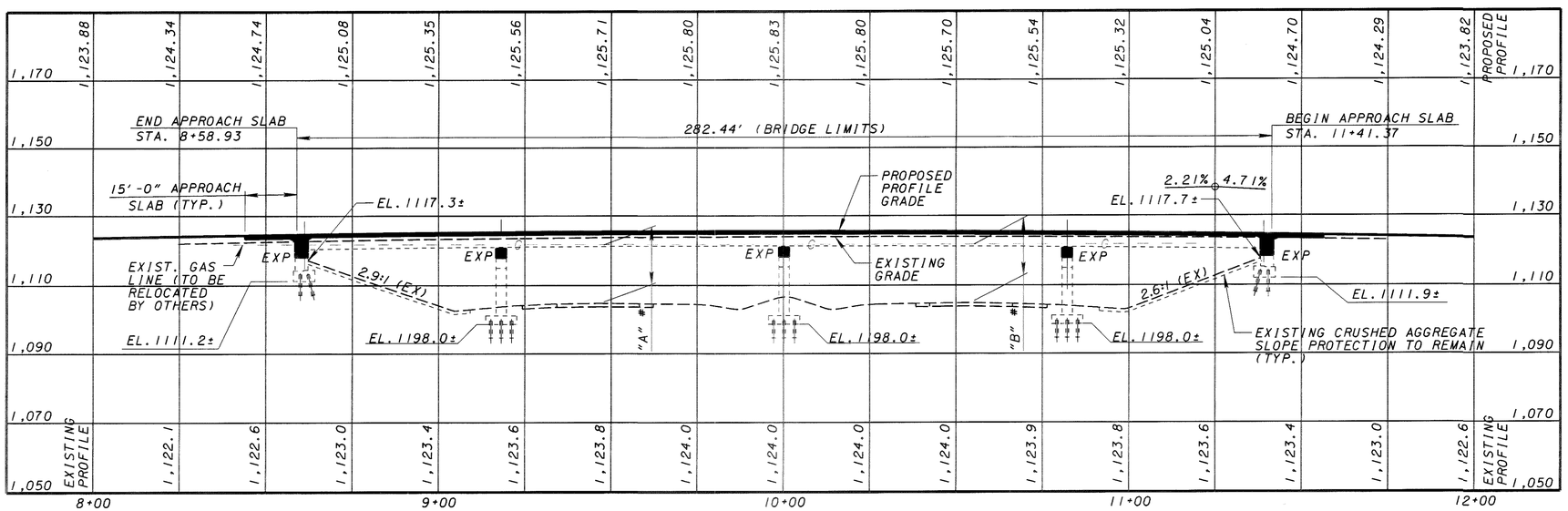


PLAN

** REMOVAL LIMITS FOR EXISTING LIGHT SWITCH AND CONDIUT. FROM APPROXIMATE STATION 8+11.50 TO STATION 11.63.00 (COST TO BE INCLUDED WITH ITEM 202)

ELEVATION DATUM:
EXISTING FOOTING ELEVATIONS SHOWN REPRESENT ORIGINAL PLAN ELEVATIONS MINUS 0.55' TO APPROXIMATE EXISTING ELEVATIONS USING NAD83(95) DATUM.



PROFILE

* VERTICAL CLEARANCE
REQUIRED MINIMUM = 16'-6"
POINT A:
ACTUAL MINIMUM = 16'-7"
STA. 9+46.3
OFFSET = 15.5' (RIGHT)
POINT B:
ACTUAL MINIMUM = 16'-6¼"
STA. 10+54.3
OFFSET = 15.5' (RIGHT)

BENCH MARK #1
TOP OF CAP ON IPINS AT STA. 8+49.48 SET 39.22' LT. ELEV. 1121.37'
BENCH MARK #2
TOP OF CAP ON IPINS AT STA. 11+84.33 SET 15.74' RT. ELEV. 1122.54'

CURVE DATA

HORIZONTAL

TANGENT

VERTICAL

P.V.I. STA. 11+25.00
P.V.I. EL. = 1131.10

+2.21% -4.71%
L=700'

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

TRAFFIC DATA
CURRENT ADT (2001) = 5830
DESIGN ADT (2024) = 6830
DESIGN ADTT (2024) = 205

EXISTING STRUCTURE

TYPE: CONTINUOUS 4 SPAN STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES.
SPANS: 57'±, 82'±, 82'±, 57'± c/c BEARINGS, ALONG ℄ SURVEY WALKER MILL RD.
ROADWAY WIDTH: 30'-0" TOE/TOE OF BARRIER
SKEW: NONE
WEARING SURFACE: 1½" ASHPHALT CONRETE
LOADING: CF 130 (57)
ALIGNMENT: TANGENT
APPROACH SLABS: 20'-0"
CROWN: NORMAL (3/16" / FT.)
DATE BUILT: 1974

PROPOSED STRUCTURE

PROPOSED WORK: RAISE SUPERSTRUCTURE, REPLACE EXISTING CONCRETE DECK WITH COMPOSITE DECK, MAKE COMPOSITE, MODIFY, REPAIR, SEAL EXISTING SUBSTRUCTURE UNITS, AND REPLACE BEARINGS.

SPANS: 56.98', 81.99', 81.99', 56.98' c/c BEARINGS, ALONG ℄ SURVEY WALKER MILL RD.
ROADWAY WIDTH: 32'-0" TOE/TOE OF BARRIER
SKEW: NONE
WEARING SURFACE: 1" MONOLITHIC CONCRETE
LOADING (SS ONLY): HS-25 CASE II AND ALTERNATE MILITARY LOADING
FUTURE W.S. = 60 PSF
ALIGNMENT: TANGENT
APPROACH SLABS: AS-1-81, 15'-0"
CROWN: NORMAL 0.0156
LATITUDE: 41°00'13" LONGITUDE: 80°37'30"

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MAHONING COUNTY
STA. 8+58.93
STA. 11+41.37

SITE PLAN
BRIDGE NO. MAH 680-1338
UNDER WALKER MILL ROAD

MAH-680-9.92/13.38/15.41

1 / 15

79 / 125

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STANDARD DRAWINGS

REFERENCE SHALL BE MADE TO THE FOLLOWING STANDARD DRAWINGS:

AS-1-81	REVISED	07-19-02
BR-1	REVISED	07-19-02
SICD-1-96	REVISED	07-19-02
VPF-1-90	REVISED	07-19-02

SUPPLEMENTAL SPECIFICATIONS

REFERENCE SHALL BE MADE TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

864 DATED 07-11-00

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

HS25, CASE II AND THE ALTERNATE MILITARY LOADING.
FUTURE WEARING SURFACE (FWS) OF 60 PSF

DESIGN DATA

CONCRETE CLASS HIGH PERFORMANCE (MIX TYPE 4)	-COMPRESSIVE STRENGTH 4,500 PSI FOR SUPERSTRUCTURE (LOAD FACTOR DESIGN)
CONCRETE CLASS C	-COMPRESSIVE STRENGTH 4,000 PSI FOR SUBSTRUCTURE (LOAD FACTOR DESIGN)
EXISTING STRUCTURAL STEEL	-ASTM A36 - YIELD STRESS 36,000 PSI
NEW STRUCTURAL STEEL	-ASTM A709 - YIELD STRESS 50,000 PSI
REINFORCING STEEL	-ASTM A615 OR A996 - GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER
SEALING OF CONCRETE SURFACES

MONOLITHIC WEARING COURSE

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

PROPOSED WORK:

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

1. REMOVAL OF EXISTING CONCRETE DECKS, APPROACH SLABS AND PORTIONS OF THE ABUTMENTS.
2. JACK AND TEMPORARILY SUPPORT SUPERSTRUCTURE
3. MODIFY AND REPAIR EXISTING ABUTMENTS, PIERS AND BEAMS
4. REPLACE EXISTING BEARINGS.
5. PLACE NEW CONCRETE DECKS,PARAPETS, FENCE AND POROUS BACKFILL.
6. SPOT PAINT EXISTING STRUCTURAL STEEL.
7. SEAL CONCRETE SURFACES.

ITEM 202, PORTIONS OF STRUCURE REMOVED, AS PER PLAN

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

PROTECTION OF TRAFFIC: PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR AT LEAST 30 DAYS BEFORE CONSTRUCTION BEGINS. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. MAINTAIN TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR.

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 DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE.

ITEM 202, PORTIONS OF STRUCURE REMOVED, AS PER PLAN (CONTINUED)

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 BRIDGE MEMBERS (STEEL BEAM, STEEL GIRDER, ETC), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER BRIDGE MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STEEL MEMBERS.

DECK REMOVALS: DUE TO THE POSSIBLE PRESENCE OF WELDED ATTACHMENTS TO EXISTING STRUCTURAL STEEL (FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.), PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRINGERS WHICH ARE TO REMAIN. REPLACE OR REPAIR STRINGERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. SUBMIT PROPOSED REPAIRS, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER, IN WRITING TO THE DIRECTOR AT LEAST 20 DAYS BEFORE PERFORMING REPAIR WORK.

EXTRANEOUS MEMBERS: REMOVE EXISTING EXTRANEOUS MEMBERS (I.E., FINISHING MACHINE AND FORM SUPPORTS, ETC., AND THE SUPPORT FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) ATTACHED BY WELDED CONNECTION TO THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

LOADING LIMITATIONS: NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF ALLOWABLE UNIT STRESSES AS DEFINED IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. SUBMIT STRUCTURAL ANALYSIS COMPUTATIONS, BY AN OHIO REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE REMOVAL METHODS OR EQUIPMENT TO THE DIRECTOR AT LEAST 20 DAYS BEFORE CONSTRUCTION BEGINS.

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, AS PER PLAN.

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN:

THE BACKFILL MATERIAL BEHIND THE ABUTMENT SHALL BE TYPE B GRANULAR MATERIAL, 703.16.C, PLACED AND COMPACTED IN 6 INCH LIFTS.

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 WHICH 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 THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 514, SURFACE PREPARATION OF EXISTING STEEL, PRESSURE WASHING, AS PER PLAN:

THIS WORK CONSISTS OF A PRESSURE WASHING OF THE ENTIRE EXISTING STEEL STRUCTURE IN ACCORDANCE WITH THE PROVISIONS LISTED IN 514.12 AND IS TO INCLUDE ALL LABOR AND MATERIALS TO COMPLETE THE WASHING. PRESSURE WASHING WILL OCCUR PRIOR TO ANY REQUIRED REPAIR PAINTING SURFACE PREPARATION AND REPAIR FIELD PAINTING. IT WILL BE THE CONTRACTORS RESPONSIBILITY TO SCHEDULE THE WASHING WITHIN THE GUIDELINES ESTABLISHED IN THE MAINTENANCE OF TRAFFIC PLAN UNLESS A SEPARATE SCHEDULE IS APPROVED BY THE ENGINEER.

ITEM 514, FIELD PAINTING OF EXISTING STRUCTURAL STEEL:

AN ESTIMATED QUANTITY OF FIELD PAINTING AND SURFACE PREPARATION HAS BEEN INCLUDED IN THE PLANS. THIS ITEM IS TO BE COMPLETED IN ACCORDANCE WITH THE PROVISIONS OF 514. THE ESTIMATED QUANTITY IS TO BE USED AS DIRECTED BY THE ENGINEER TO REPAIR DAMAGE TO THE EXISTING OZEU PAINT SYSTEM CAUSED BY CONSTRUCTION OR TO REPAIR EXISTING WORN AREAS ON THE EXISTING STEEL BEAMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SPECIFYING THE CORRECT FEDERAL COLOR NUMBER OF THE PAINT IN ORDER TO MATCH THE EXISTING PAINT.

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

INSTALL A 3 FOOT WIDE NEOPRENE SHEET AT LOCATIONS SHOWN IN THE PLANS. SECURE THE NEOPRENE SHEETING TO THE CONCRETE WITH 1¼" X #10 GAGE (LENGTH X SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKES THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. USE OF OTHER SIMILAR GALVANIZED DEVICES, WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

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

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

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

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, INCHES	D751	0.094 ± 0.01
BREAKING STRENGTH, GRAB, LBS, MINIMUM (LONG. X TRANS.)	D751	700 X 700
ADHESIVE STRIP, 1" WIDE X 2" LONG, LBS MINIMUM	D751	9
BURST STRENGTH, PSI MINIMUM	D751	1400
HEAT AGING, 70 HR, 212 DEGREES F, 180 DEGREES BEND WITHOUT CRACKING	D2136	NO CRACKING OF COATING
LOW TEMP. BRITTLENESS, 1 HR, 40 DEGREES F, BEND AROUND¼" MANDREL	D2136	NO CRACKING OF COATING

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

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

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 AT A MINIMUM OF 6'-0" AND A MAXIMUM OF 10'-0" CENTERS. USE AN EDGE GUIDE, FENCE, OR JIG TO INSURE 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.

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
SDG	SJG	EBS	08/03

CHECKED BMG | REVISED | STRUCTURE FILE NUMBER 5007828

GENERAL NOTES
BRIDGE NO. MAH 680-1338
UNDER WALKER MILL ROAD

MAH-680-9.92/13.38/15.41

2/15

80/125

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

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

SUBMITTAL REQUIREMENTS: AN OHIO REGISTERED ENGINEER SHALL PREPARE, SEAL AND DATE PLANS FOR A JACKING SYSTEM, INCLUDING ANY TEMPORARY OR PERMANENT SUPPORTS, SUFFICIENT TO PERFORM THE WORK DESCRIBED IN THE PLANS. SUBMIT THREE SETS OF THESE PLANS TO THE DIRECTOR FOR APPROVAL AT LEAST THIRTY (30) DAYS BEFORE ACTUAL WORK IS TO BEGIN.

JACKING SUBMITTALS SHALL INCLUDE AT LEAST THE FOLLOWING:

1. THE SIGNATURE AND NUMBER, OR PROFESSIONAL SEAL, OF THE OHIO REGISTERED PROFESSIONAL ENGINEER WHO PREPARED THE SUBMITTAL.
2. CALCULATIONS AND ANALYSES OF THE STRUCTURE TO DETERMINE AND DEFINE THE ACTUAL LOADING APPLIED AT THE JACKING POINTS.
3. A DRAWING SHOWING THE PHYSICAL AND DIMENSIONAL POSITION OF THE JACKS WITH RESPECT TO THE STRUCTURE INCLUDING CLEARANCES AND CENTER OF LIFT.
4. A SCHEMATIC LAYOUT OF JACKS, CHECK VALVES, PUMPS WITH 3 WAY RETRACTOR VALVE, PRESSURE GAGES, FLOW CONTROL VALVES, ETC. IN ACCORDANCE WITH MANUFACTURER'S RECOM-MENDATIONS. ALL JACKS FOR EACH ABUTMENT OR PIER SHALL BE CONNECTED TOGETHER. ALL JACKS AT EACH ABUTMENT OR PIER SHALL BE THE SAME SIZE.
5. ANALYSIS AND CALCULATIONS OF THE STRESSES INDUCED OR CREATED IN THE STRUCTURE AND ANY TEMPORARY OR PERMANENT SUPPORTS. DESIGN CALCULATIONS FOR ANY TEMPORARY OR PERMANENT SUPPORTS.
6. PHYSICAL DIMENSIONS, MATERIALS, AND FABRICATION DETAILS OF ANY TEMPORARY OR PERMANENT SUPPORTS. HORIZONTAL AND VERTICAL MOVEMENT RESTRAINT SHALL BE PROVIDED.
7. A STEP BY STEP PROCEDURE DETAILING ALL STEPS IN THE JACKING OPERATION.
8. METHOD OF ATTACHMENT TO STRUCTURAL MEMBERS. WELDING TO TENSION AREAS WILL NOT BE PERMITTED.

JACKING SYSTEM REQUIREMENTS: THE ENTIRE SYSTEM INCLUDING JACKS SHALL HAVE 20% MORE CAPACITY THAN REQUIRED BASED ON CALCULATED LOADS. FOR LIFTS GREATER THAN 1 INCH, JACKS SHALL HAVE LOCKING NUTS TO POSITIVELY LOCK AND SUPPORT THE STRUCTURE DURING THE LIFT. JACKS SHALL HAVE A SWIVEL LOAD CAP, A DOMED PISTON HEAD OR SOME OTHER DEVICE TO PROTECT AGAINST THE EFFECTS OF SIDE LOAD ON THE JACK. DO NOT USE JACKS ALONE TO SUPPORT LOADS EXCEPT DURING THE ACTUAL JACKING OPERATION. USE TEMPORARY SUPPORTS, BLOCKING OR OTHER METHODS APPROVED BY THE DIRECTOR. DO NOT USE SINGLE ACTING RAMS WITH NO OVER-TRAVEL PROTECTION SYSTEM. HAVE SPARE EQUIPMENT AVAILABLE ON SITE IN ORDER TO PROCEED WITH THE JACKING IN THE EVENT OF BREAKDOWN. PROVIDE A LIST OF SPARE EQUIPMENT TO THE ENGINEER.

JACKING OPERATION REQUIREMENTS: AT A MINIMUM, A JACKING OPERATION SHALL LIFT ALL BEAMS AT ANY ONE ABUTMENT OR PIER SIMULTANEOUSLY. THE ONLY EXCEPTION IS THE SITUATION WHERE THE WORK INVOLVES REPLACING OR REHABILITATING INDIVIDUAL BEARINGS; NO PERMANENT SHIMMING IS REQUIRED 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 LIMIT IS TO BE EXCEEDED, PROVIDE CALCULATIONS SHOWING THAT THE SUPER-STRUCTURE 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 PORTIONS THAT ARE TO REMAIN AFTER REHABILITATION IS COMPLETE 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.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

BASIS OF PAYMENT: 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.

INSPECTION OF EXISTING STRUCTURAL STEEL

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

ITEM 864 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE):

ALL SEALING OF CONCRETE SURFACES SHALL BE EPOXY-URETHANE AND THE COLOR OF THE URETHANE TOP COAT SHALL BE FEDERAL COLOR STANDARD NO. 37722 (BUFF). SEALING SHALL BE APPLIED TO THE SURFACES AS DETAILED IN THE PLANS.

UTILITIES

THE UTILITY(IES) SHALL BORE ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
SDG	SJG	EBS	08/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BMG		5007828	

GENERAL NOTES
BRIDGE NO. MAH 680-1338
UNDER WALKER MILL ROAD

MAH-680-9.92/13.38/15.41

3/15

81/125

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MADE BY: TJM	DATE: 01/03
CHECKED BY: SAL	DATE: 06/03

ESTIMATED QUANTITIES

WALKER MILL RD. BRIDGE

	ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPER-STRUCTURE	GENERAL	SEE SHEET NO.
	202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	2/15
	503	21301	LUMP		UNCLASSIFIED EXCAVATION, AS PER PLAN	LUMP				2/15
	509	10000	106833	POUND	EPOXY COATED REINFORCING STEEL	5846	2883	98104		
	509	20001	250	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				250	2/15
	510	10000	362	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	236	126			
	511	42500	33	CU YD	CLASS C CONCRETE, PIER CAP		33			
	511	45700	58	CU YD	CLASS C CONCRETE, ABUTMENT	58				
	511	50000	315	CU YD	CLASS HP CONCRETE, BRIDGE DECK			315		
	511	50100	73	CU YD	CLASS HP CONCRETE, BRIDGE DECK (PARAPET)			65		
*	513	19000	LUMP		SPECIAL - HEAT STRAIGHTENING OF DAMAGED STRUCTURAL STEEL			LUMP		12/15 & PROPOSAL NOTE
	513	20000	3130	EACH	WELDED SHEAR STUD CONNECTORS			3130		
	514	00051	1000	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN			1000		
	514	00056	1000	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			1000		
	514	00060	1000	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			1000		
	514	00066	1000	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			1000		
	514	00101	LUMP		SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN			LUMP		3/15
	516	13600	13	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	13				
	516	13900	120	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	120				
	516	14021	70	FT	SEMI-INTEGRAL EXPANSION JOINT SEAL, AS PER PLAN	70				2/15
	516	44101	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (9.5"X13"X2.85" WITH 10.5"X15"X1.5" LOAD PLATE)	10				
	516	44001	15	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (12"X19"X1.85" WITH 13"X21"X1.5" LOAD PLATE)		15			
	516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LUMP	2/15
	518	21200	49	CU YD	POROUS BACKFILL WITH FILTER FABRIC	49				
	518	40000	100	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	100				
	518	40010	72	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	72				
**	519	11101	97	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	17	80			3/15
	607	39900	551	FT	SPECIAL - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC			551		
	625	25400	566	FT	CONDIUT, 2", 725.04	566				
	625	29920	4	EACH	STRUCTURE JUNCTION BOX	4				
	864	10100	1004	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	88	288	628		

(*) INDICATES SEE PROPOSAL NOTE
(**) THE QUANTITY FOR ITEM 519 HAS BEEN INCREASED BY 50% TO ACCOUNT FOR FIELD UNCERTANTIES.

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

REVIEWED	DATE
EBS	08/03

STRUCTURE FILE NUMBER 5007615

DRAWN	REVISED
TJM	

DESIGNED	CHECKED
TJM	BMG

ESTIMATED QUANTITIES
BRIDGE NO. MAH 680-1338
UNDER WALKER MILL ROAD

MAH-680-9.92/13.38/15.41

4/15

82/125

$FILE$
$DATE$ $TIME$
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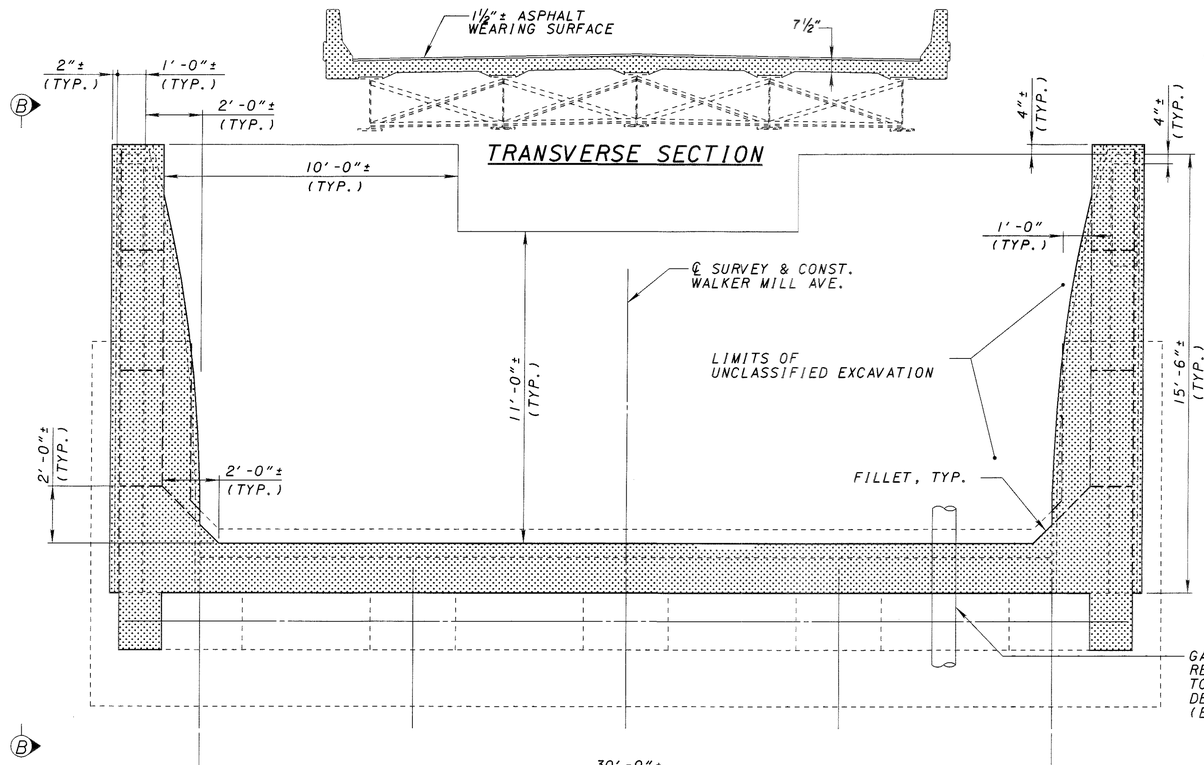
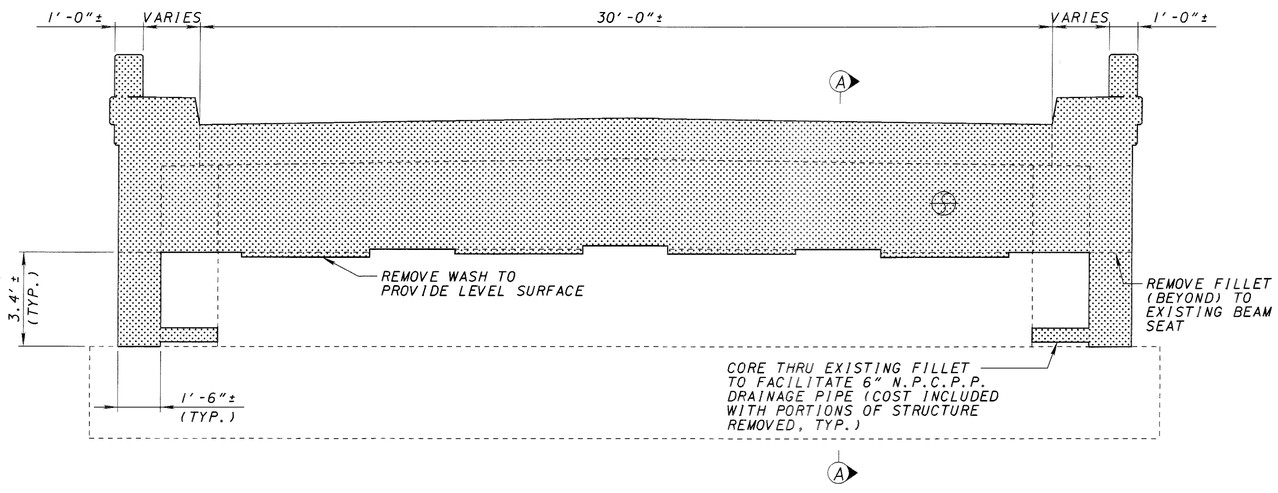


TRANSVERSE SECTION

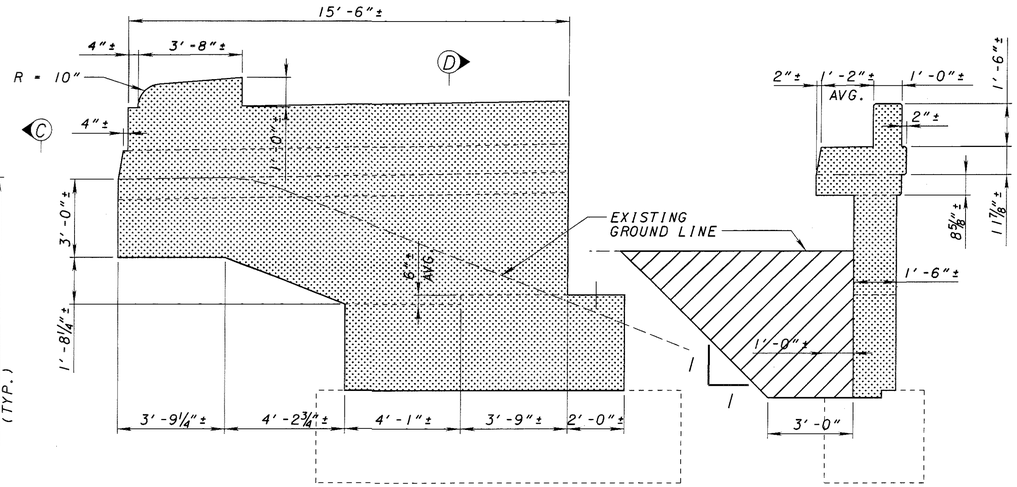
PLAN

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)



ELEVATION

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)



VIEW B-B

(VIEW B-B SHOWN, VIEW C-C OPPOSITE HAND)

SECTION D-D

SECTION A-A

- INDICATES REMOVAL
- INDICATES UNCLASSIFIED EXCAVATION

NOTES:

1. EXISTING APPROACH SLAB TO BE REMOVED, SEE ROADWAY PLANS.
2. REMOVE EXISTING DRAINAGE PIPES WITHIN 1'-0" OF ABUTMENT FACE.
3. EXISTING LIGHT SWITCH AND CONDIUT ON NORTH WEST CORNER OF PIER 1 TO BE REMOVED. SEE SITE PLAN FOR LIMITS OF REMOVAL. THE COST SHALL BE INCLUDED IN ITEM 202.
4. REMOVE EXISTING SCUPPERS PER ITEM 202, PORTIONS OF STRUCTURES REMOVED, AS PER PLAN.
5. ALL BEARINGS TO BE REMOVED AND REPLACED.
6. REMOVE EXISTING END FRAMES PER ITEM 202, PORTIONS OF STRUCTURES REMOVED. PAYMENT INCLUDED IN ITEM 202.

THE FOLLOWING ABBREVIATIONS ARE USED:

EX. = EXISTING
TYP. = TYPICAL
AVG. = AVERAGE
R = RADIUS

DESIGN AGENCY
PB PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

REVIEWED	DATE
EBS	08/03
STRUCTURE FILE NUMBER	
5007828	
DRAWN	REVISED
TJM	
DESIGNED	CHECKED
TJM	BMG

ABUTMENT DEMOLITION AND EXCAVATION DET.

BRIDGE NO. MAH 680-1338
UNDER WALKER MILL ROAD

MAH-680-9.92/13.38/15.41

5/15

83/125

$FILE$ $DATE$ $TIME$

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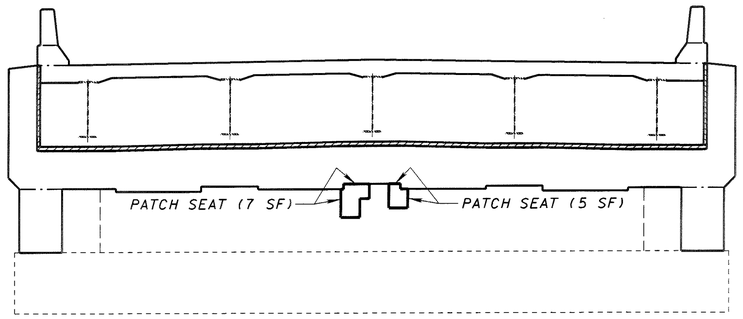
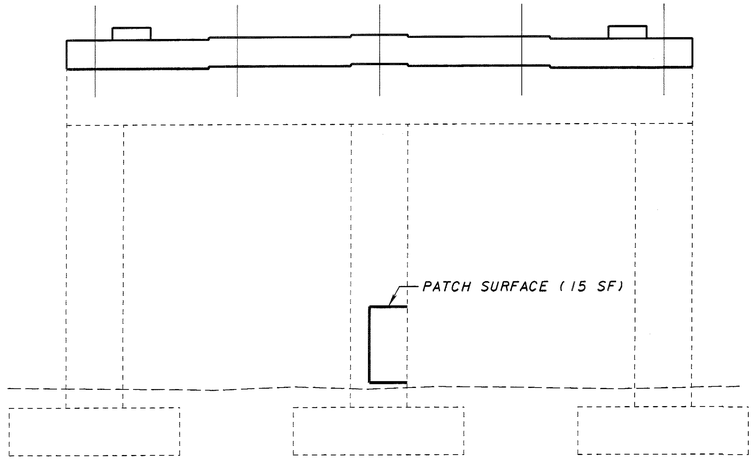
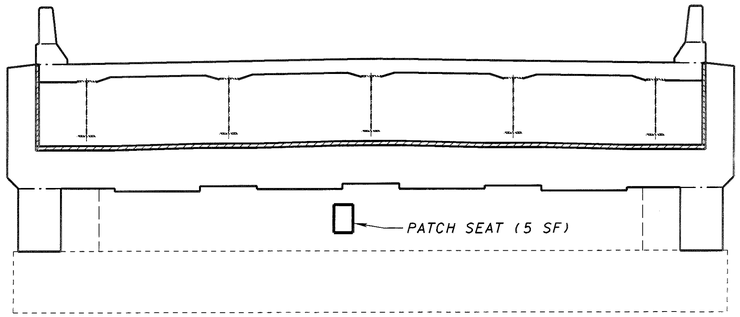
Tue Jan 20 21:49:49 2004



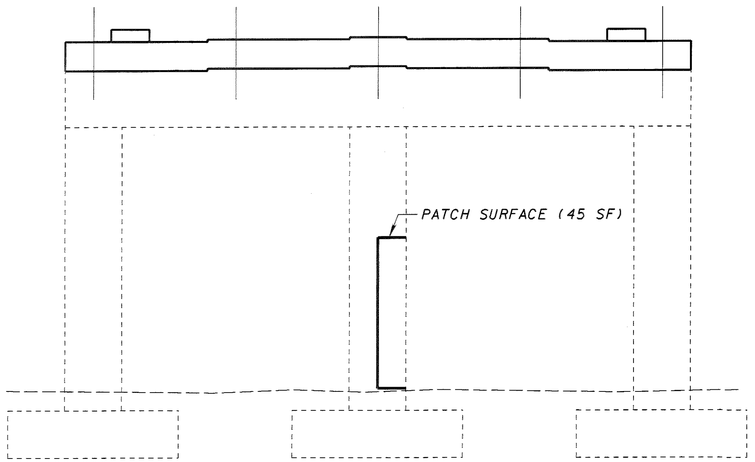
REAR ABUTMENT ELEVATION
(LOOKING WEST)



PIER 1 ELEVATION
(LOOKING WEST)



FORWARD ABUTMENT ELEVATION
(LOOKING EAST)



PIER 2 ELEVATION
(LOOKING EAST)

NOTES:

1. PATCHING QUANTITIES HAVE BEEN INCREASED BY 50% TO ACCOUNT FOR FILED UNCERTANTIES.

DESIGN AGENCY
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DESIGNED	DRAWN	REVIEWED	DATE
TJM	TJM	EBS	08/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BMG		5007828	

ABUTMENT & PIER REPAIR DETAILS
BRIDGE NO. MAH 680-1338
UNDER WALKER MILL ROAD

MAH-680-9.92/13.38/15.41

6/15

84/125

$FILE$
$DATE$ $TIME$
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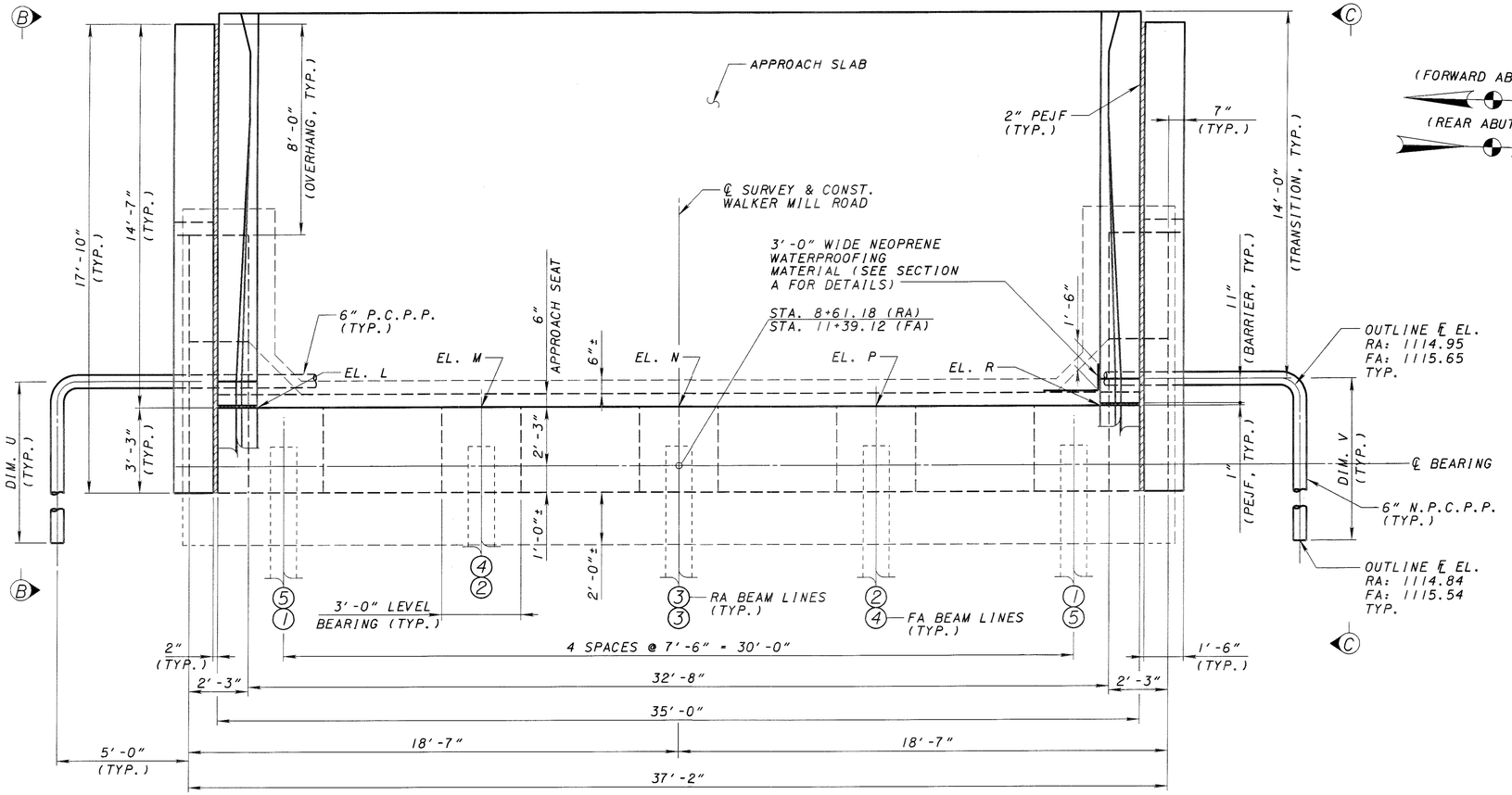
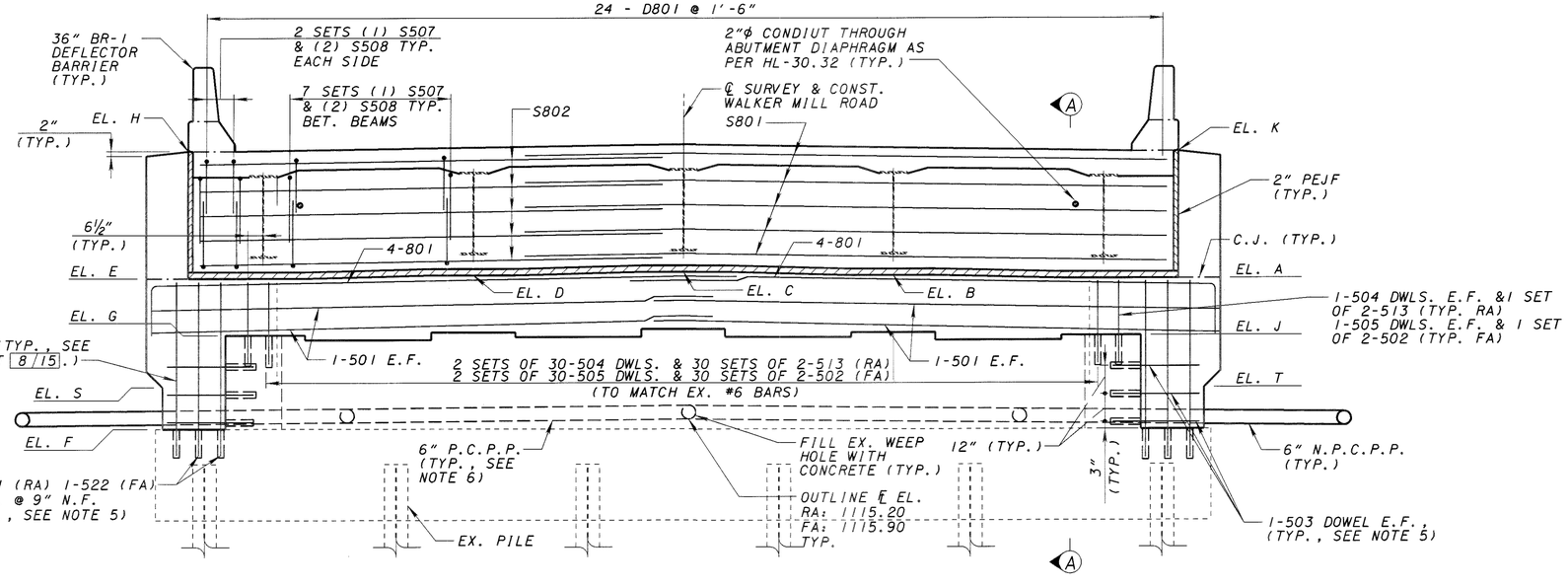


PLAN

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)



ELEVATION

(REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR)

(FORWARD ABUTMENT)

(REAR ABUTMENT)

CONCRETE ELEVATIONS		
LOCATION	REAR ABUTMENT	FORW. ABUTMENT
EL. A	1120.00	1119.96
EL. B	1120.14	1120.10
EL. C	1120.28	1120.24
EL. D	1120.14	1120.10
EL. E	1120.00	1119.96
EL. F	1114.4±	1115.1±
EL. G	1117.8±	1118.5±
EL. H	1124.54	1124.50
EL. J	1117.8±	1118.5±
EL. K	1124.54	1124.50
EL. L -	1124.58	1124.54
EL. M	1124.73	1124.68
EL. N	1124.87	1124.82
EL. P	1124.73	1124.68
EL. R	1124.58	1124.54
EL. S	1116.00	1116.70
EL. T	1116.00	1116.70
DIM. U	11'-0"	10'-0"
DIM. V	11'-0"	10'-0"

MINIMUM LAP LENGTH (UNLESS NOTED OTHERWISE)
#5 BAR = 2'-5"
#6 BAR = 2'-11"
#8 BAR = 4'-11"

NOTES:

1. FOR APPROACH SLAB NOTES AND DETAILS, SEE SHEET 14/15.
2. FOR ADDITIONAL SEMI-INTEGRAL ABUTMENT NOTES AND DETAILS, SEE STANDARD DRAWING SICD-1-96.
3. ALL STEEL CLEARANCES SHALL BE 2" UNLESS OTHERWISE NOTED.
4. FOR SECTION A-A, VIEW B-B, AND VIEW C-C, SEE SHEET 8/15.
5. DRILL AND EPOXY BARS 6" FROM THE FACE. BARS SHALL BE EMBEDDED 12".
6. ALL DRAINAGE PIPES SHALL HAVE A SLOPE OF ⅛" / FT. AND A HIGH POINT AT THE CENTER OF THE ABUTMENT.
7. REINFORCING SHALL BE PREFIXED "A" (ABUTMENT) UNLESS NOTED OTHERWISE.

THE FOLLOWING ABBREVIATIONS ARE USED:

TYP.	= TYPICAL	C.J.	= CONSTRUCTION JOINT
CLR.	= CLEAR COVER	MIN.	= MINIMUM
T	= TOP	B	= BOTTOM
EL.	= ELEVATION	FT.	= FOOT
RA	= REAR ABUTMENT	FA	= FORWARD ABUTMENT
PEJF	= PREFORMED EXPANSION JOINT FILLER		

DESIGN AGENCY
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DESIGNED	DRAWN	REVIEWED	DATE
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CHECKED	REVISED	STRUCTURE FILE NUMBER	
BMC		5007828	

ABUTMENT MODIFICATION DETAILS

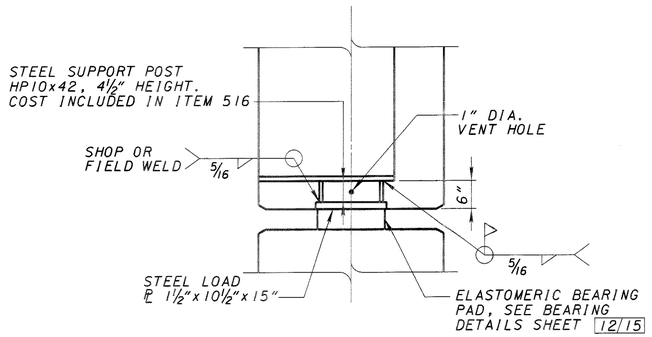
BRIDGE NO. MAH 680-1338
UNDER WALKER MILL ROAD

MAH-680-9.92/13.38/15.41

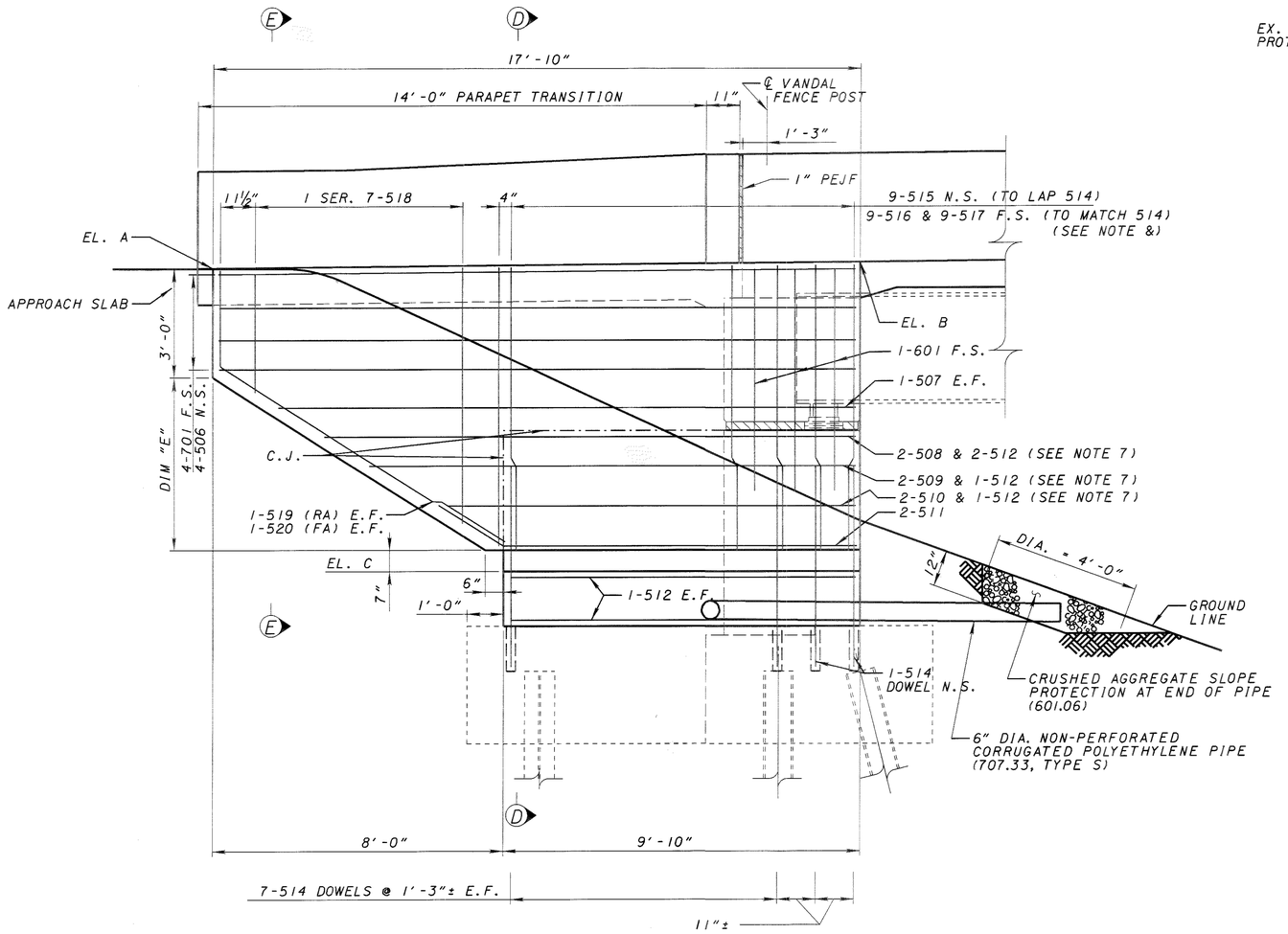
7/15

85/125

LOCATION	EL. A	EL. B	EL. C	DIM E
NW TURNBACK WALL	1124.33	1124.58	1116.00	4'-9"
SW TURNBACK WALL	1124.33	1124.58	1116.00	4'-9"
NE TURNBACK WALL	1124.28	1124.54	1116.70	4'-0"
SE TURNBACK WALL	1124.28	1124.54	1116.70	4'-0"

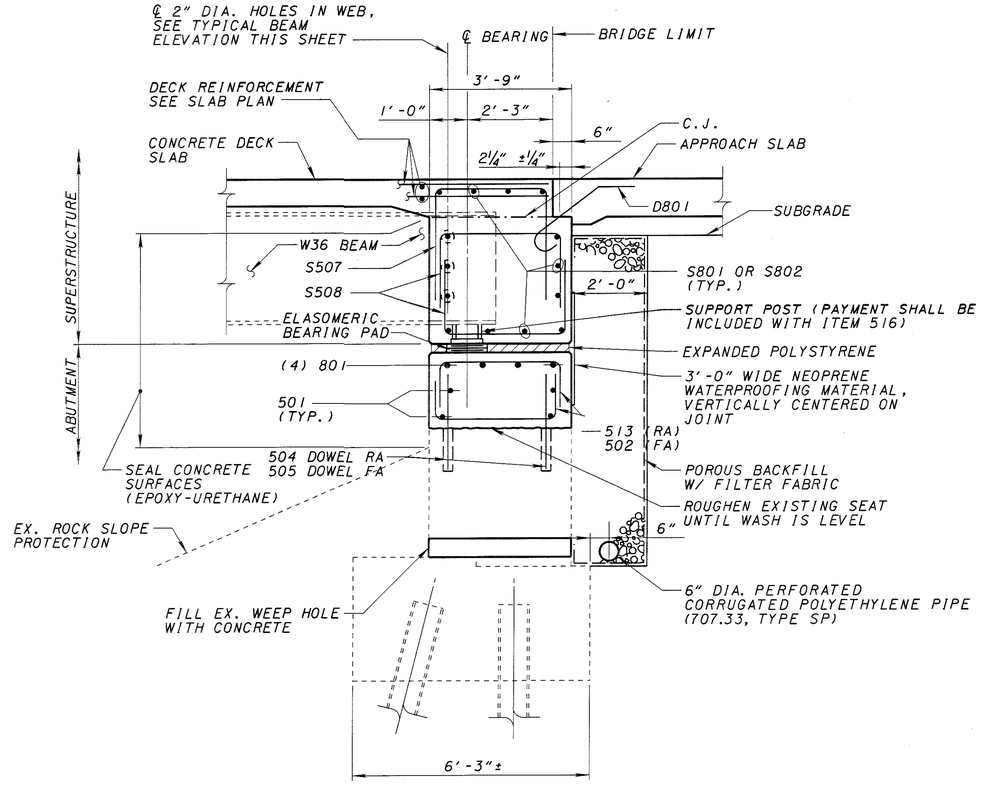


ABUTMENT BEARING DETAIL



VIEW B-B

(VIEW B-B SHOWN, VIEW C-C SIMILAR)



SECTION A-A

NOTES:

1. FOR LOCATION OF SECTION A-A, VIEW B-B & VIEW C-C, SEE SHEET 7/15.
2. FOR PAPAPET TRANSITION DETAILS, SEE 14/15.
3. FOR APPROACH SLAB DETAILS, SEE STD. DWG. AS-1-81.
4. POROUS BACKFILL WITH FILTER FABRIC, 2'-0" THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1'-0" BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
5. DRILL AND EPOXY BARS 6" FROM THE FACE. BARS SHALL BE EMBEDDED 12"
6. ALL REINFORCING SHALL BE PREFIXED "A" (ABUTMENT) UNLESS NOTED OTHERWISE.
7. FOR PLACEMENT, SEE SECTION D-D ON SHEET 9/15

THE FOLLOWING ABBREVIATIONS ARE USED:

PEJF	-	PREFORMED EXPANSION JOINT FILLER
NW	-	NORTHWEST
SW	-	SOUTHWEST
NE	-	NORTHEAST
SE	-	SOUTHEAST
EX.	-	EXISTING
C.J.	-	CONSTRUCTION JOINT
EL.	-	ELEVATION
F.S.	-	FAR SIDE
N.S.	-	NEAR SIDE
E.F.	-	EACH FACE

DESIGN AGENCY
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CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
TJM	TJM	EBS	08/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BMG		5007828	

ABUTMENT SECTIONS
BRIDGE NO. MAH 680-1338
UNDER WALKER MILL ROAD

MAH-680-9.92/13.38/15.41

8/15

86/125

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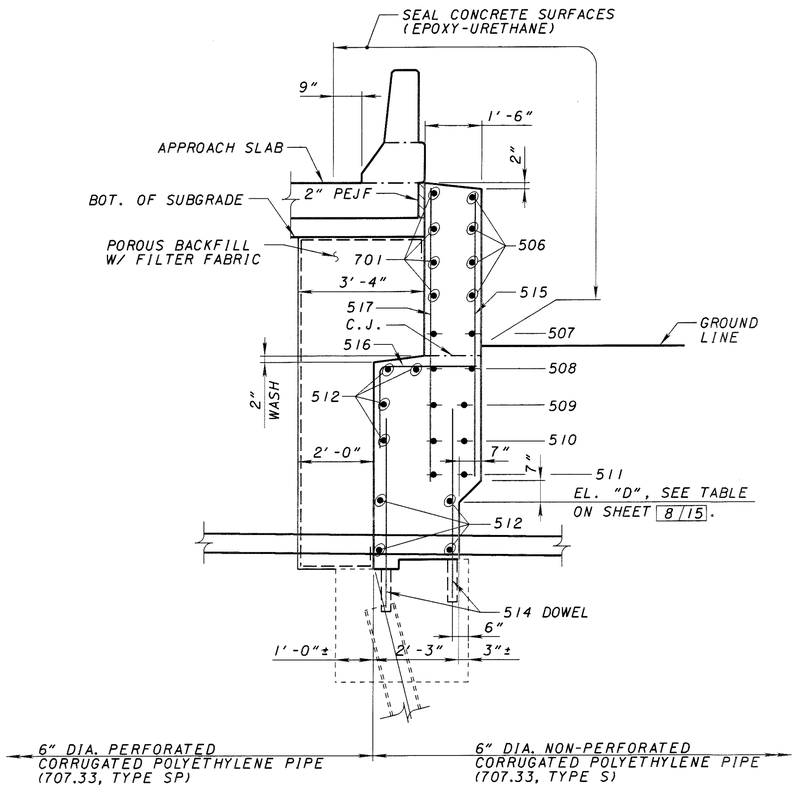
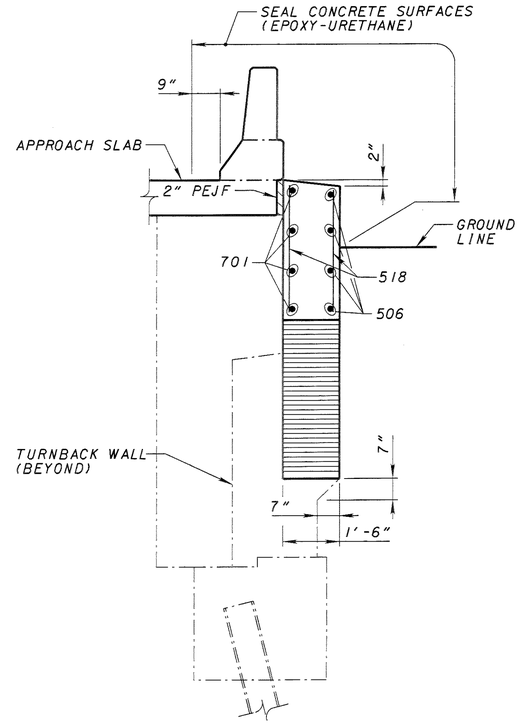


SECTION D-D



SECTION E-E

NOTES:

1. FOR LOCATION OF SECTIONS D-D & E-E, SEE SHEET 8/15.
2. POROUS BACKFILL WITH FILTER FABRIC, 2'-0" THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1'-0" BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
3. ALL REINFORCING SHALL BE PREFIXED "A" (ABUTMENT) U.N.O.

THE FOLLOWING ABBREVIATIONS ARE USED:

PEJF	-	PREFORMED EXPANSION JOINT FILLER
NW	-	NORTHWEST
SW	-	SOUTHWEST
NE	-	NORTHEAST
SE	-	SOUTHEAST
EX.	-	EXISTING
C.J.	-	CONSTRUCTION JOINT
EL.	-	ELEVATION
DIM	-	DIMENSION

DESIGN AGENCY
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614 W. SUPERIOR AVE., SUITE 400
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DESIGNED	DRAWN	REVIEWED	DATE
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BMG		5007828	

ABUTMENT SECTIONS
BRIDGE NO. MAH 680-1338
UNDER WALKER MILL ROAD

MAH-680-9.92/13.38/15.41

9/15

87
125

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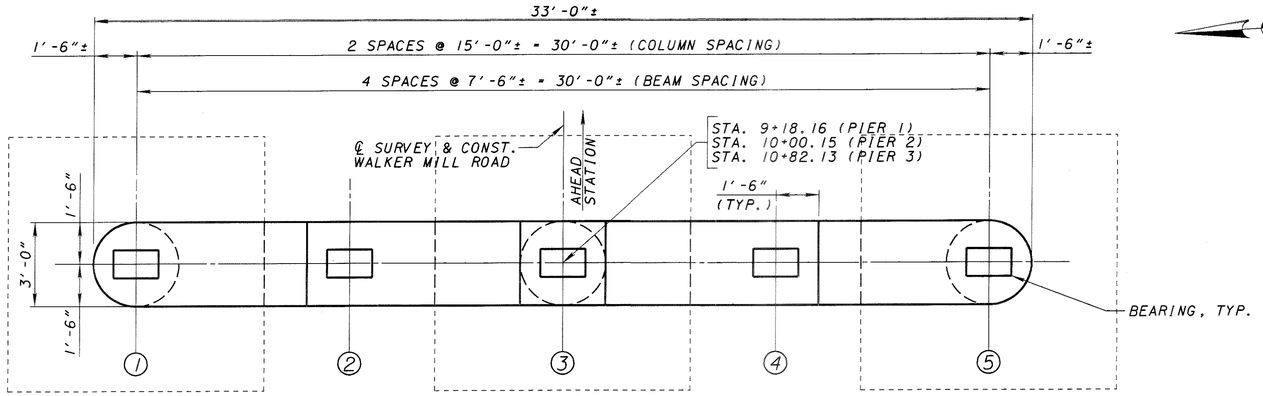
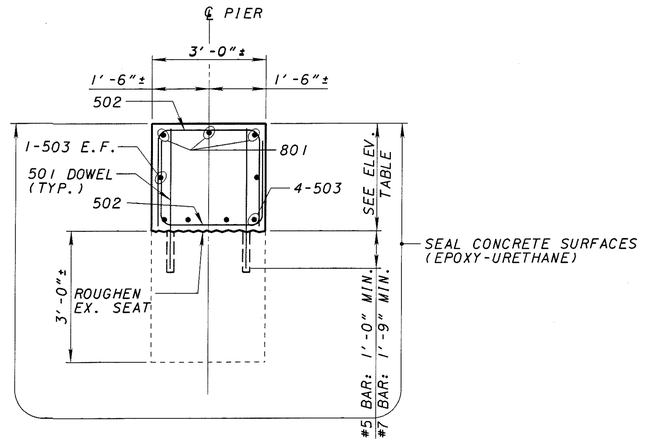
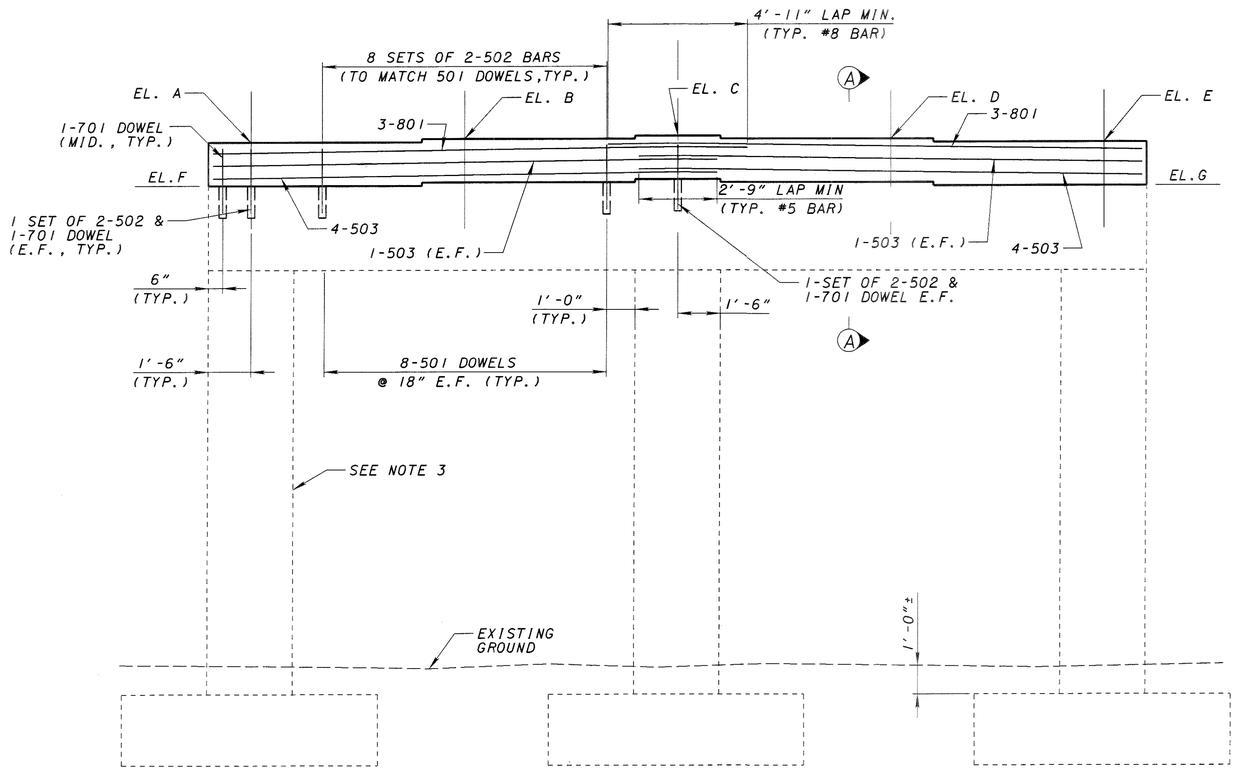


PLAN (PIER 1, 2 & 3)



SECTION A-A



PIER ELEVATION

(SEE TABLE A FOR PIER ELEVATIONS, PIER 3 REPAIR DETAILS SHOWN)

ELEVATIONS

LOCATION	EL. A	EL. B	EL. C	EL. D	EL. E	EL. F	EL. G
PIER 1	1120.96	1121.10	1121.24	1121.10	1120.96	1118.1±	1118.1±
PIER 2	1121.31	1121.45	1121.59	1121.45	1121.31	1118.6±	1118.6±
PIER 3	1120.94	1121.08	1121.22	1121.08	1120.94	1118.5±	1118.5±

NOTES:

1. FOR BEARING DETAILS, SEE SHEET 12/15.
2. FOR PIER REPAIR DETAILS, SEE SHEET 6/15.
3. SEAL CONCRETE COLUMN SURFACES ABOVE GROUND LINE WITH EPOXY-URETHANE.
4. ALL REINFORCING SHALL BE PREFIXED "P" (PIER) UNLESS NOTED OTHERWISE

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BMG		5007828

PIER MODIFICATION DETAILS
BRIDGE NO. MAH 680-1338
UNDER WALKER MILL ROAD

MAH-680-9.92/13.38/15.41

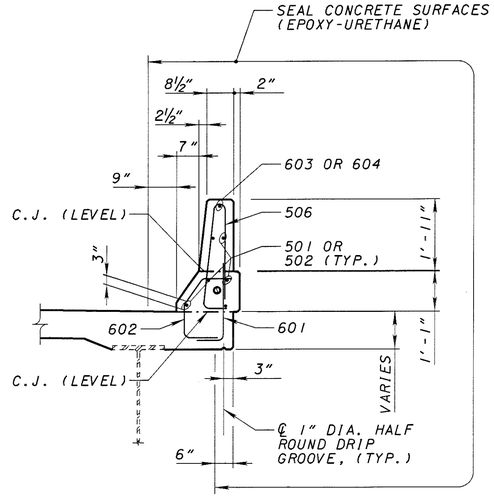
10/15

88/125

DECK SCREED ELEVATION TABLE

		SPAN 1					SPAN 2				SPAN 3				SPAN 4			
		℄ BRG. REAR ABUT.	1/4	1/2	3/4	℄ BRG. PIER 1	1/4	1/2	3/4	℄ BRG. PIER 2	1/4	1/2	3/4	℄ BRG. PIER 3	1/4	1/2	3/4	℄ BRG. FORWARD ABUT.
LEFT CURB LINE	STATION	8+61.18	8+75.43	8+89.67	9+03.92	9+18.16	9+38.66	9+59.16	9+79.65	10+00.15	10+20.65	10+41.14	10+61.64	10+82.13	10+96.38	11+10.63	11+24.87	11+39.12
	FINAL TOP OF DECK ELEV.	1124.57	1124.75	1124.92	1125.06	1125.18	1125.32	1125.43	1125.48	1125.50	1125.48	1125.41	1125.31	1125.16	1125.03	1124.88	1124.71	1124.53
	ADJUSTED DEFLECTION	0.00	0.02	0.02	0.01	0.00	0.03	0.05	0.03	0.00	0.03	0.05	0.03	0.00	0.01	0.02	0.02	0.00
	SCREED ELEVATION	1124.57	1124.77	1124.94	1125.07	1125.18	1125.36	1125.48	1125.51	1125.50	1125.50	1125.46	1125.34	1125.16	1125.04	1124.90	1124.73	1124.53
BEAM 1	STATION	8+61.18	8+75.43	8+89.67	9+03.92	9+18.16	9+38.66	9+59.16	9+79.65	10+00.15	10+20.65	10+41.14	10+61.64	10+82.13	10+96.38	11+10.63	11+24.87	11+39.12
	FINAL TOP OF DECK ELEV.	1124.62	1124.80	1124.96	1125.11	1125.23	1125.37	1125.47	1125.53	1125.55	1125.52	1125.46	1125.35	1125.20	1125.08	1124.93	1124.76	1124.57
	ADJUSTED DEFLECTION	0.00	0.02	0.02	0.01	0.00	0.03	0.05	0.03	0.00	0.03	0.05	0.03	0.00	0.01	0.02	0.02	0.00
	SCREED ELEVATION	1124.62	1124.82	1124.99	1125.11	1125.23	1125.40	1125.52	1125.56	1125.55	1125.55	1125.51	1125.38	1125.20	1125.08	1124.95	1124.78	1124.57
BEAM 2	STATION	8+61.18	8+75.43	8+89.67	9+03.92	9+18.16	9+38.66	9+59.16	9+79.65	10+00.15	10+20.65	10+41.14	10+61.64	10+82.13	10+96.38	11+10.63	11+24.87	11+39.12
	FINAL TOP OF DECK ELEV.	1124.76	1124.94	1125.10	1125.25	1125.37	1125.51	1125.61	1125.67	1125.69	1125.67	1125.60	1125.49	1125.34	1125.22	1125.07	1124.90	1124.71
	ADJUSTED DEFLECTION	0.00	0.02	0.02	0.01	0.00	0.03	0.05	0.03	0.00	0.03	0.05	0.03	0.00	0.01	0.02	0.02	0.00
	SCREED ELEVATION	1124.76	1124.96	1125.13	1125.25	1125.37	1125.54	1125.66	1125.70	1125.69	1125.69	1125.65	1125.52	1125.34	1125.22	1125.09	1124.92	1124.71
BEAM 3 (PROFILE GRADE)	STATION	8+61.18	8+75.43	8+89.67	9+03.92	9+18.16	9+38.66	9+59.16	9+79.65	10+00.15	10+20.65	10+41.14	10+61.64	10+82.13	10+96.38	11+10.63	11+24.87	11+39.12
	FINAL TOP OF DECK ELEV.	1124.90	1125.08	1125.24	1125.39	1125.51	1125.65	1125.75	1125.81	1125.83	1125.81	1125.74	1125.63	1125.49	1125.36	1125.21	1125.04	1124.85
	ADJUSTED DEFLECTION	0.00	0.02	0.02	0.01	0.00	0.03	0.05	0.03	0.00	0.03	0.05	0.03	0.00	0.01	0.02	0.02	0.00
	SCREED ELEVATION	1124.90	1125.10	1125.27	1125.40	1125.51	1125.68	1125.80	1125.84	1125.83	1125.83	1125.79	1125.66	1125.49	1125.36	1125.23	1125.06	1124.85
BEAM 4	STATION	8+61.18	8+75.43	8+89.67	9+03.92	9+18.16	9+38.66	9+59.16	9+79.65	10+00.15	10+20.65	10+41.14	10+61.64	10+82.13	10+96.38	11+10.63	11+24.87	11+39.12
	FINAL TOP OF DECK ELEV.	1124.76	1124.94	1125.10	1125.25	1125.37	1125.51	1125.61	1125.67	1125.69	1125.67	1125.60	1125.49	1125.34	1125.22	1125.07	1124.90	1124.71
	ADJUSTED DEFLECTION	0.00	0.02	0.02	0.01	0.00	0.03	0.05	0.03	0.00	0.03	0.05	0.03	0.00	0.01	0.02	0.02	0.00
	SCREED ELEVATION	1124.76	1124.96	1125.13	1125.25	1125.37	1125.54	1125.66	1125.70	1125.69	1125.69	1125.65	1125.52	1125.34	1125.22	1125.09	1124.92	1124.71
BEAM 5	STATION	8+61.18	8+75.43	8+89.67	9+03.92	9+18.16	9+38.66	9+59.16	9+79.65	10+00.15	10+20.65	10+41.14	10+61.64	10+82.13	10+96.38	11+10.63	11+24.87	11+39.12
	FINAL TOP OF DECK ELEV.	1124.62	1124.80	1124.96	1125.11	1125.23	1125.37	1125.47	1125.53	1125.55	1125.52	1125.46	1125.35	1125.20	1125.08	1124.93	1124.76	1124.57
	ADJUSTED DEFLECTION	0.00	0.02	0.02	0.01	0.00	0.03	0.05	0.03	0.00	0.03	0.05	0.03	0.00	0.01	0.02	0.02	0.00
	SCREED ELEVATION	1124.62	1124.82	1124.99	1125.11	1125.23	1125.40	1125.52	1125.56	1125.55	1125.55	1125.51	1125.38	1125.20	1125.08	1124.95	1124.78	1124.57
RIGHT CURB LINE	STATION	8+61.18	8+75.43	8+89.67	9+03.92	9+18.16	9+38.66	9+59.16	9+79.65	10+00.15	10+20.65	10+41.14	10+61.64	10+82.13	10+96.38	11+10.63	11+24.87	11+39.12
	FINAL TOP OF DECK ELEV.	1124.57	1124.75	1124.92	1125.06	1125.18	1125.32	1125.43	1125.48	1125.50	1125.48	1125.41	1125.31	1125.16	1125.03	1124.88	1124.71	1124.53
	ADJUSTED DEFLECTION	0.00	0.02	0.02	0.01	0.00	0.03	0.05	0.03	0.00	0.03	0.05	0.03	0.00	0.01	0.02	0.02	0.00
	SCREED ELEVATION	1124.57	1124.77	1124.94	1125.07	1125.18	1125.36	1125.48	1125.51	1125.50	1125.50	1125.46	1125.34	1125.16	1125.04	1124.90	1124.73	1124.53

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

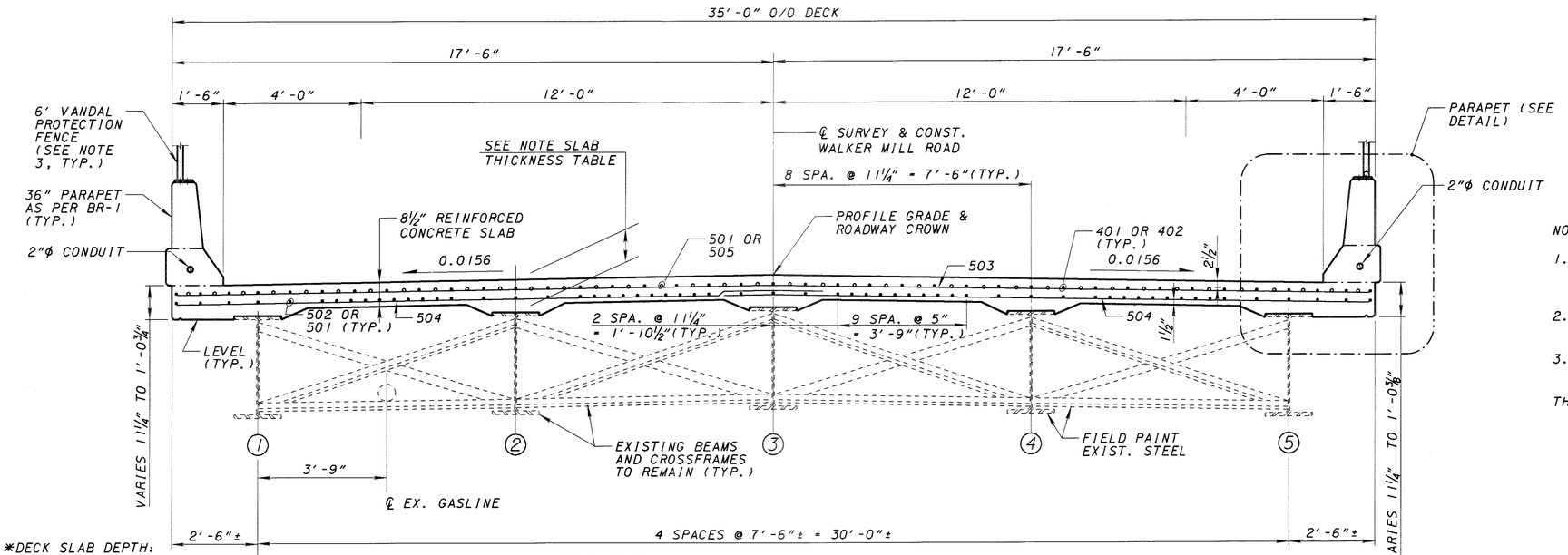


TYPICAL PARAPET DETAIL

(SLAB REINFORCEMENT NOT SHOWN)

SLAB THICKNESS TABLE

LOCATION	℄ BRG. REAR ABUT.	℄ BRG. PIER 1	℄ BRG. PIER 2	℄ BRG. PIER 3	℄ BRG. FWD. ABUT.
BEAM 1 THRU BEAM 5	11"	11 3/8"	11"	11 3/8"	11"



TRANSVERSE SECTION

*DECK SLAB DEPTH:
THE QUANTITY OF DECK SLAB CONCRETE TO BE PAID FOR SHALL BE BASED ON THE MINIMUM REQUIRED DECK SLAB THICKNESS OF 8½". THE QUANTITY OF CONCRETE REQUIRED SHALL BE BASED ON THE DESIGN HAUNCH OF 2⅜ INCHES, EVEN THOUGH DEVIATION FROM THAT DEPTH MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE EXISTING BEAMS MAY NOT BE PARALLEL TO THE FINISHED GRADE. ACTUAL HAUNCH DEPTHS MAY VARY FROM A 1½ INCH MINIMUM TO A 3 INCH MAXIMUM. THE ESTIMATE ASSUMES A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE OF 9 INCHES. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE IS ±3 INCHES.

NOTES:

1. FOR TRANSVERSE REINFORCING AND ADDITIONAL SUPERSTRUCTURE REINFORCING, SEE SHEET 13/15.
2. ALL REINFORCING SHALL BE PREFIXED "S" (SUPERSTRUCTURE)", UNLESS NOTED OTHERWISE.
3. FOR VANDAL PROTECTION FENCE DETAILS, SEE STD. DWG. VPF-1-90.

THE FOLLOWING ABBREVIATIONS ARE USED:

TYP.	- TYPICAL	CLR.	- CLEAR COVER
EL.	- ELEVATION	C.J.	- CONSTRUCTION JOINT
F.S.	- FIELD SPLICE	BRG.	- BEARING
ABUT.	- ABUTMENT		

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
TJM	TJM	EBS	08/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BMG		5007828	

TRANSVERSE SECTION
BRIDGE NO. MAH 680-1338
UNDER WALKER MILL ROAD

MAH-680-9.92/13.38/15.41

11/15

89/125

$FILE$
$DATE$ $TIME$
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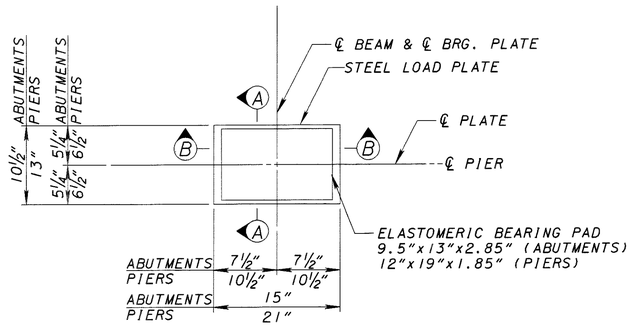
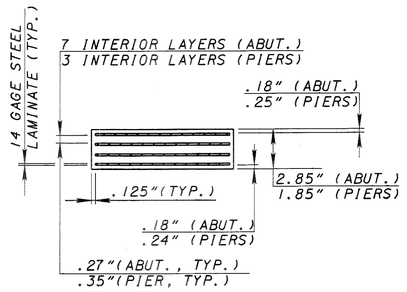
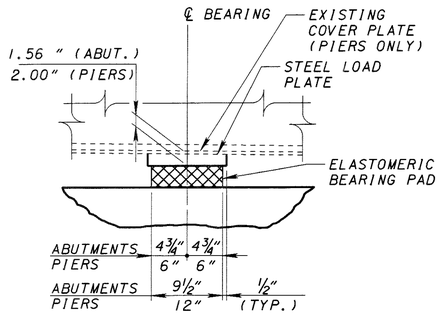
g:*projects*21467*fullprf*MH680TS2.prf
Tue Jan 20 22:04:22 2004



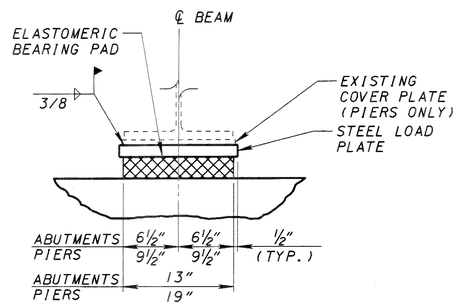
ELASTOMERIC BEARING PAD PLAN



ELASTOMERIC BEARING PAD ELEVATION



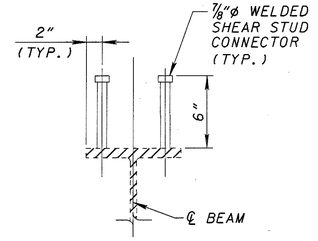
SECTION A-A



SECTION B-B

NOTE:

EXISTING ROCKER BEARING LOAD ℄'S TO BE REMOVED AND WELD GROUND SMOOTH, COVER ℄ TO REMAIN (COST INCLUDED WITH ITEM 516)



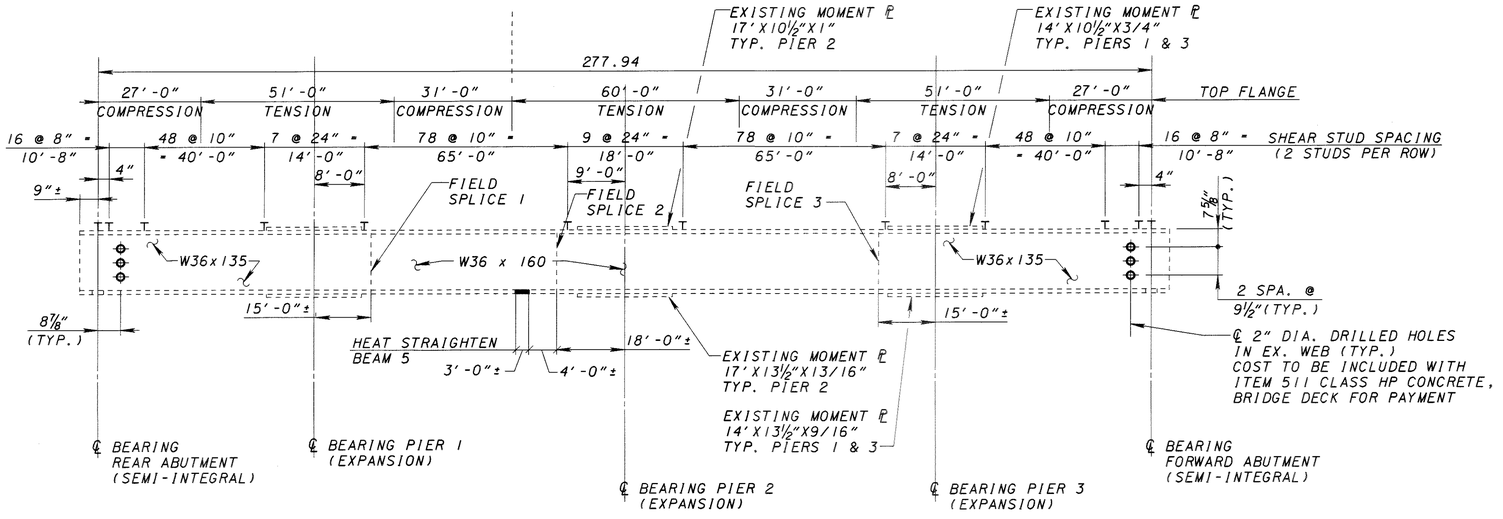
SHEAR STUD DETAIL

SCALE: NTS

*NOTE: STUD PLACEMENT ON FLANGE SPLICE PLATES SHALL BE ADJUSTED AS REQUIRED TO AVOID INTERFERENCE WITH CONNECTION BOLTS

BEARING DETAILS

(PIERS SHOWN, ABUTMENTS SIMILAR)



TYPICAL BEAM ELEVATION

BEARING NOTES:

DESIGN LOADS: SERVICE LOAD REACTIONS (KIPS)

	DEAD LOAD	LIVE LOAD WITHOUT IMPACT	TOTAL
ABUTMENTS	31.4	70.4	101.8
PIERS 1 & 3	122.4	80.8	203.2
PIER 2	138.8	85.6	224.4

1. CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300° F AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.
2. 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.

NOTES:

1. WELDED ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE MAY BE MADE TO AREAS OF THE FACIA STRINGER FLANGES DESIGNATED "COMPRESSION". ATTACHMENTS SHALL NOT BE MADE TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE NOT CLOSER THAN 1" FROM EDGE OF FLANGE, BE NOT MORE THAN 2" LONG, AND BE NOT SMALLER THAN ¼" FOR THICKNESS UP TO ¾" AND ⅝" FOR GREATER THAN ¾" THICK.
2. THE CONTRACTOR SHALL SUBMIT A DETAILED HEAT STRAIGHTENING PROCEDURE FOR REVIEW AND APPROVAL BY THE ENGINEER PRIOR TO COMMENCEMENT OF WORK. (SEE PROPOSAL NOTE 528)

THE FOLLOWING ABBREVIATIONS ARE USED:

TYP.	- TYPICAL	DWG.	- DRAWING
SPA.	- SPACE	EX.	- EXISTING
DIA.	- DIAMETER	ABUT.	- ABUTMENT

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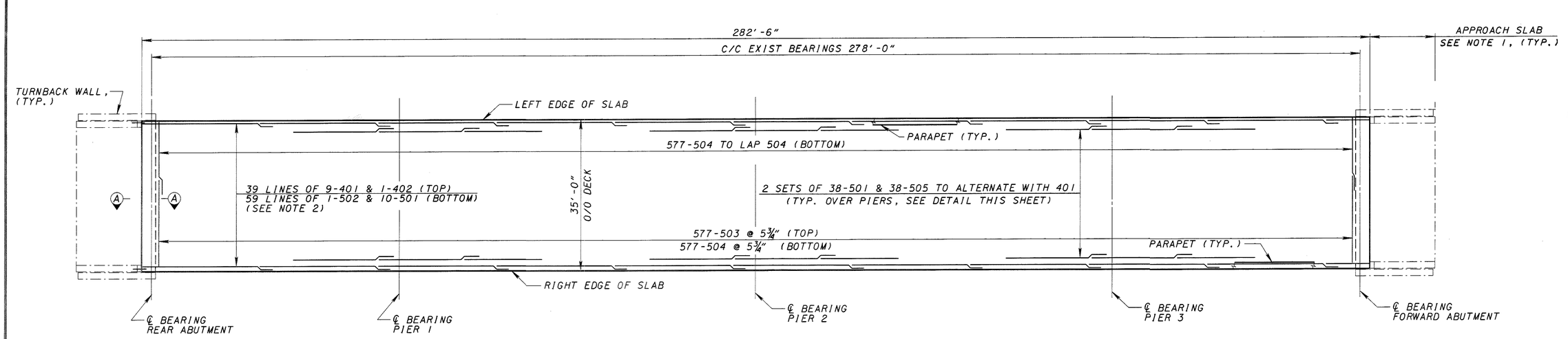
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BMC		5007615	

TYPICAL BEAM ELEVATION & BEARING DETAILS
BRIDGE NO. MAH 680-1338
UNDER WALKER MILLROAD

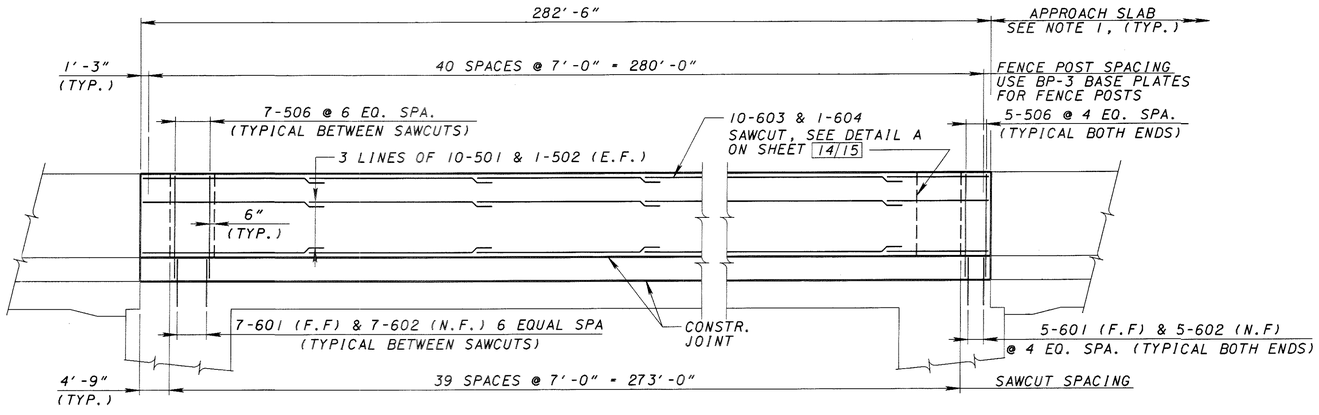
MAH-680-9.92/13.38/15.41

12/15

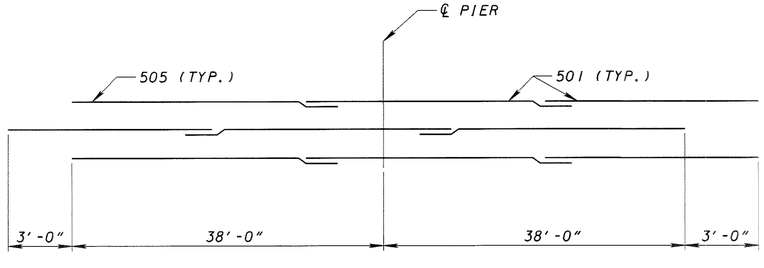
90/125



SLAB PLAN



PARAPET ELEVATION



ADDITIONAL REINFORCEMENT OVER PIERS

MINIMUM LAP LENGTH (UNLESS NOTED OTHERWISE)
#4 BAR = 1'-11"
#5 BAR = 2'-5"
#6 BAR = 4'-1"

NOTES:

1. FOR APPROACH SLAB DETAILS, SEE STD. DWG. AS-1-81
2. FOR PLACEMENT SEE TRANSVERSE SECTION ON SHEET 11/15.
3. ALL REINFORCING STEEL SHALL BE PREFIXED "S", (SUPERSTRUCTURE), UNLESS NOTED OTHERWISE.
4. FOR SECITON A-A, SEE SHEET 8/15.

THE FOLLOWING ABBREVIATIONS ARE USED:

TYP. - TYPICAL	CLR. - CLEAR COVER
EL. - ELEVATION	ABUT. - ABUTMENT
F.S. - FIELD SPLICE	BRG. - BEARING
C.J. - CONSTRUCTION JOINT	
N.F. - NEAR FACE	F.F - FAR FACE

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

REVIEWED	DATE
EBS	08/03

STRUCTURE FILE NUMBER 5007615

DRAWN	REVISED
TJM	

DESIGNED	CHECKED
TJM	BMG

SLAB PLAN & PARAPET ELEVATIONS
BRIDGE NO. MAH 680-13.38
UNDER WALKER MILL ROAD

MAH-680-9.92/13.38/15.41

13/15

91/125

$FILE$
$DATE$ $TIME$
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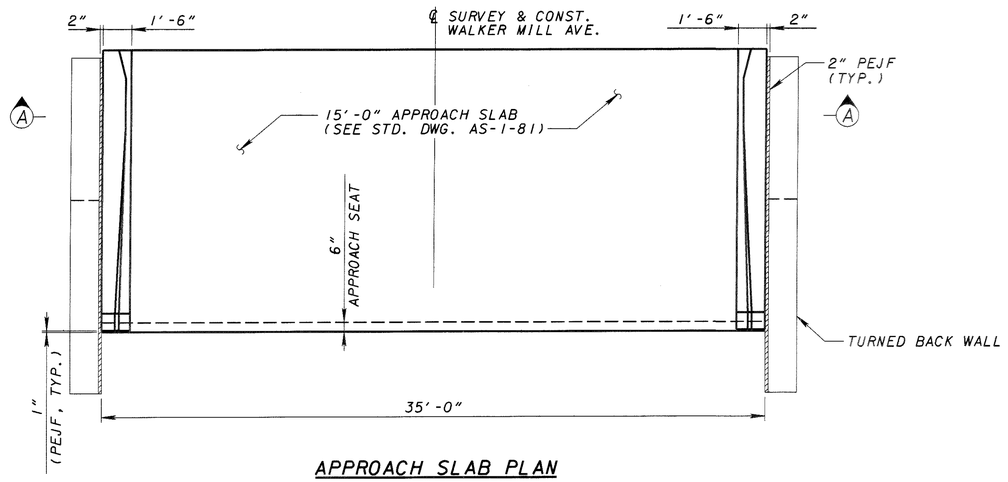
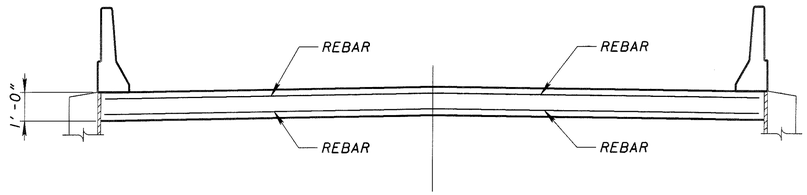
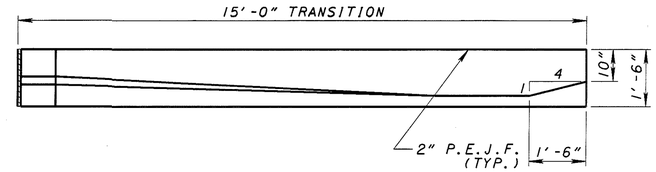


APPROACH SLAB PLAN

(FORWARD APPROACH SLAB SHOWN, REAR APPROACH SLAB SIMILAR)

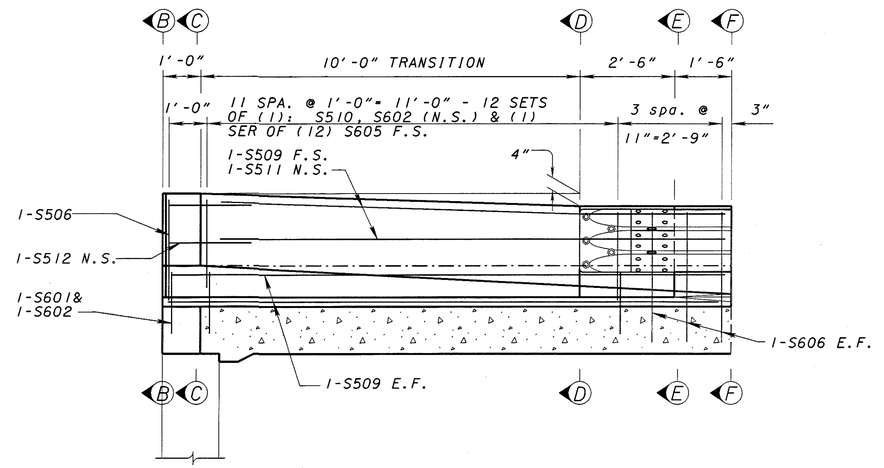


APPROACH SLAB SECTION A-A



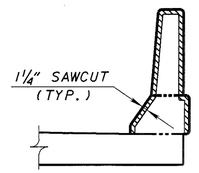
PARAPET TRANSITION PLAN

(TURNED BACK WALL NOT SHOWN)



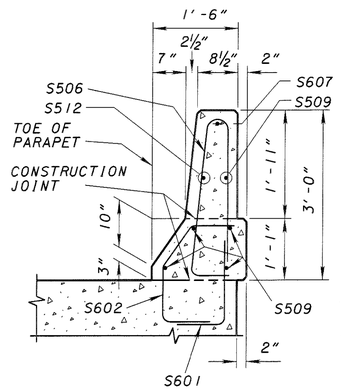
PARAPET TRANSITION ELEVATION

FOR PAYMENT SEE ROADWAY PLANS

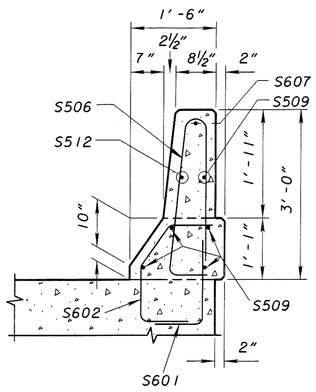


DETAIL A

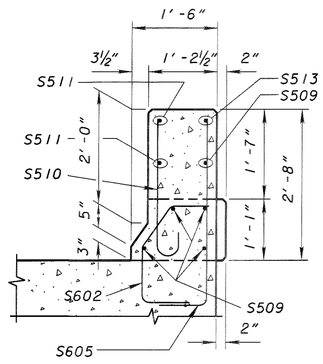
(SECTION THROUGH SAWCUT)
SAWCUT PERIMETER = 8'-1"



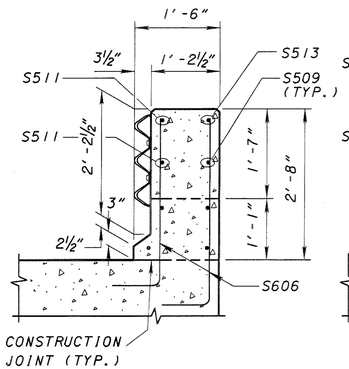
SECTION B-B



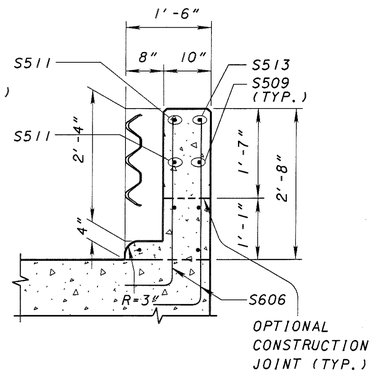
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

NOTE:

FOR ADDITIONAL NOTES AND DETAILS, SEE STANDARD DRAWING AS-1-81.

THE FOLLOWING ABBREVIATIONS ARE USED:

N.S. - NEAR SIDE
F.S. - FAR SIDE

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
BMG	SJG	EBS	08/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LJF		5007828	

APPROACH SLAB DETAILS
BRIDGE NO. MAH 680-1338
UNDER WALKER MILL ROAD

MAH-680-9.92/13.38/15.41

14/15

92
125

$FILE$
$DATE$ $TIME$
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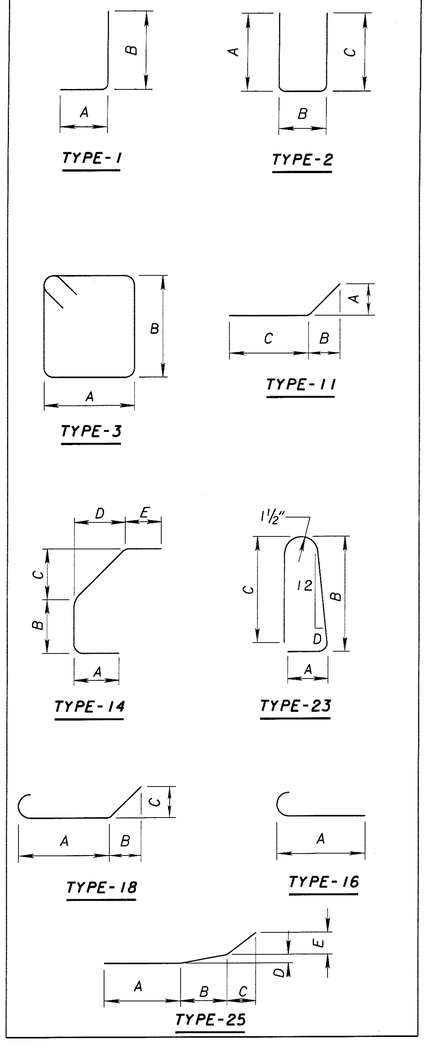
Tue Jan 20 21:30:42 2004

REINFORCEMENT SCHEDULE

MARK	NUMBER OF BARS TOTAL	ABUT. REAR	ABUT. FWD.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	INCRE. OR RADIUS	REMARK
ABUTMENTS - EPOXY COATED BARS													
A501	16	8	8	20'-2"	337	STR.							
A502	64	0	64	5'-4"	356	2	1'-1"	3'-5"	1'-1"				
A503	24	12	12	3'-0"	75	STR.							
A504	64	64	0	2'-11"	195	STR.							
A505	64	0	64	2'-0"	134	STR.							
A506	16	8	8	17'-0"	284	STR.							
A507	8	4	4	15'-9"	131	STR.							
A508	8	4	4	14'-6"	121	STR.							
A509	8	4	4	13'-3"	111	STR.							
A510	8	4	4	11'-3"	94	STR.							
A511	8	4	4	11'-10"	99	11	1'-1"	1'-9"	9'-11"				
A512	32	16	16	9'-6"	317	STR.							
A513	64	64	0	7'-0"	467	2	1'-11"	3'-5"	1'-11"				
A514	64	32	32	5'-6"	367	STR.							
A515	36	18	18	6'-10"	257	STR.							
A516	36	18	18	4'-7"	172	1	2'-6"	2'-2"					
A517	36	18	18	6'-10"	257	STR.							
	8	4	4	3'-2"									
A518	SER.	SER.	SER.	TO	297	STR.						7 5/8"	
	7	7	7	7'-0"									
A519	4	4	0	11'-9"	49	11	4'-8"	7'-11"	2'-8"				
A520	4	0	4	11'-4"	47	11	3'-11"	7'-11"	2'-8"				
A521	4	4	0	6'-0"	25	STR.							
A522	4	0	4	5'-4"	22	STR.							
A601	12	6	6	6'-3"	113	STR.							
A701	16	8	8	17'-0"	556	STR.							
A801	16	8	8	22'-7"	965	1	1'-3"	21'-6"					
				TOTAL WEIGHT = 5846		LBS.							
PIERS - EPOXY COATED BARS													
P501	96		96	3'-0"	300	STR.							
P502	114		108	6'-3"	704	2	1'-11"	2'-8"	1'-11"				
P503	36		36	17'-9"	666	STR.							
P701	24		24	3'-9"	184	STR.							
P801	18		18	20'-7"	989	1	18'-10"	1'-11"					
			TOTAL WEIGHT = 2883			LBS.							
SUPERSTRUCTURE - EPOXY COATED BARS													
S401	351		351	30'-0"	7034	STR.							
S402	39		39	29'-5"	766	STR.							
S501	938		938	30'-0"	29350	STR.							
S502	71		71	6'-4"	469	STR.							
S503	577		577	34'-8"	20863	STR.							
S504	1154		1154	18'-7"	22367	STR.							
S505	114		114	21'-5"	2546	STR.							
S506	570		570	5'-11"	3518	23	8"	2'-9"	2'-6"	1 1/4"		1 1/2"	
S507	64		64	7'-8"	512	2	2'-6"	2'-11"	2'-6"				
S508	128		128	7'-2"	957	2	2'-0"	3'-5"	2'-0"				
S509	40		40	14'-8"	612	STR.							
S510	48		48	4'-0"	200	1	11"	3'-2"					
S511	8		8	13'-10"	115	25	10'-0"	2'-5"	1'-4 1/4"	1 1/2"	5"		
S512	4		4	3'-5"	14	STR.							
S513	4		4	13'-8"	57	STR.							
S601	570		570	1'-4"	1142	1	11"	7"					
S602	618		618	3'-0"	2785	14	10 1/2"	9"	8 1/2"	6"	9"		
S603	20		20	30'-0"	901	STR.							
S604	2		2	23'-0"	69	STR.							
	4		4	4'-4"				3'-6"					
S605	SER.		SER.	TO	275	1	1'-0"	TO				3/8"	
	11		11	4'-0"				3'-2"					
S607	4		4	2'-6"	15	11	10"	2'-5"	1"				
S801	28		28	23'-7"	1763	STR.							
S802	28		28	16'-0"	1196	STR.							
D801	48		48	4'-6"	577	18	2'-3"	1'-0"	1'-0"				
			TOTAL WEIGHT = 98104			LBS.							

BAR BENDING DIAGRAMS



DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

REVIEWED	DATE
EBS	08/03
DESIGNED	DRAWN
TJM	TJM
CHECKED	REVISED
BMG	

STRUCTURE FILE NUMBER
5007615

REINFORCEMENT SCHEDULE
BRIDGE NO. MAH 680-1338
UNDER WALKER MILL ROAD

MAH-680-9.92/13.38/15.41

15/15

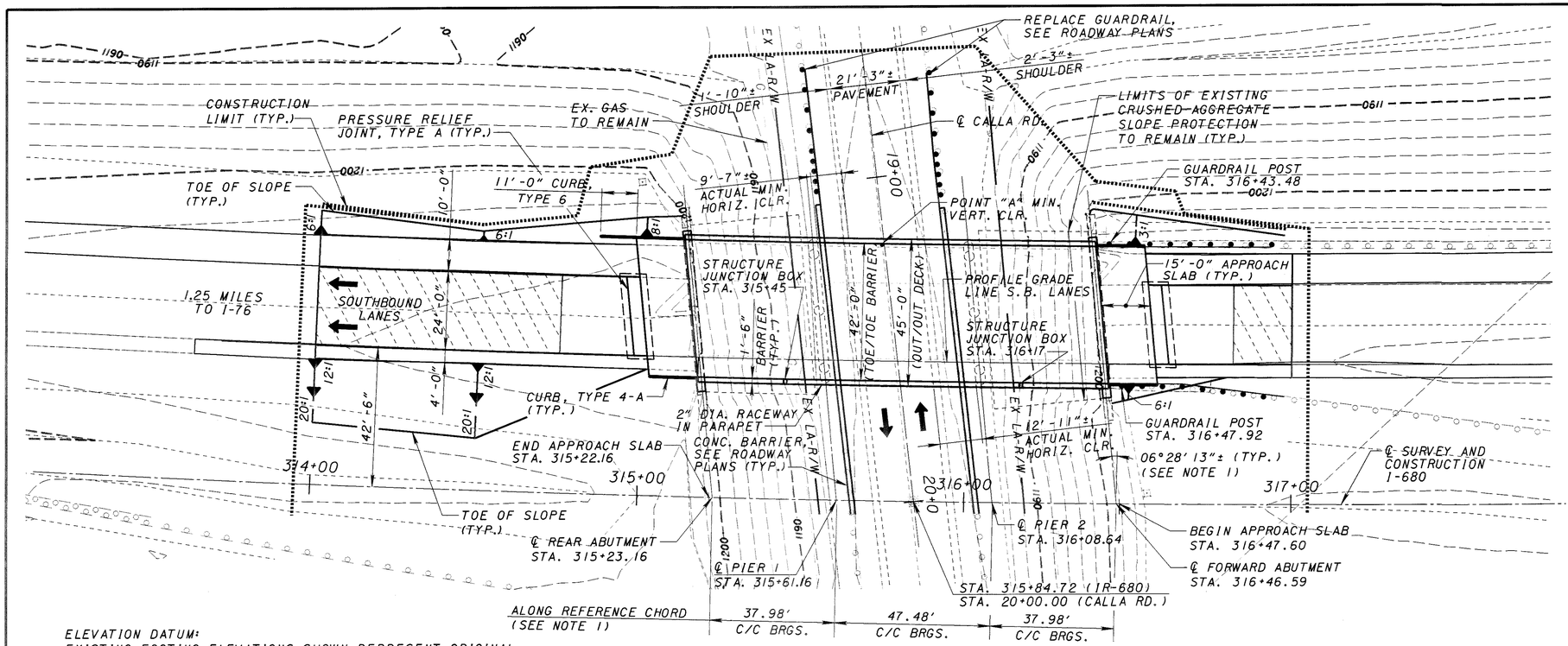
93/125

$FILE$ $DATE$ $TIME$

g:*projects*21467*bridge*clejan20*walkermill*MH680RL2.dgn

g:*projects*21467*full prf*MH680RL2.prf

Tue Jan 20 21:54:13 2004



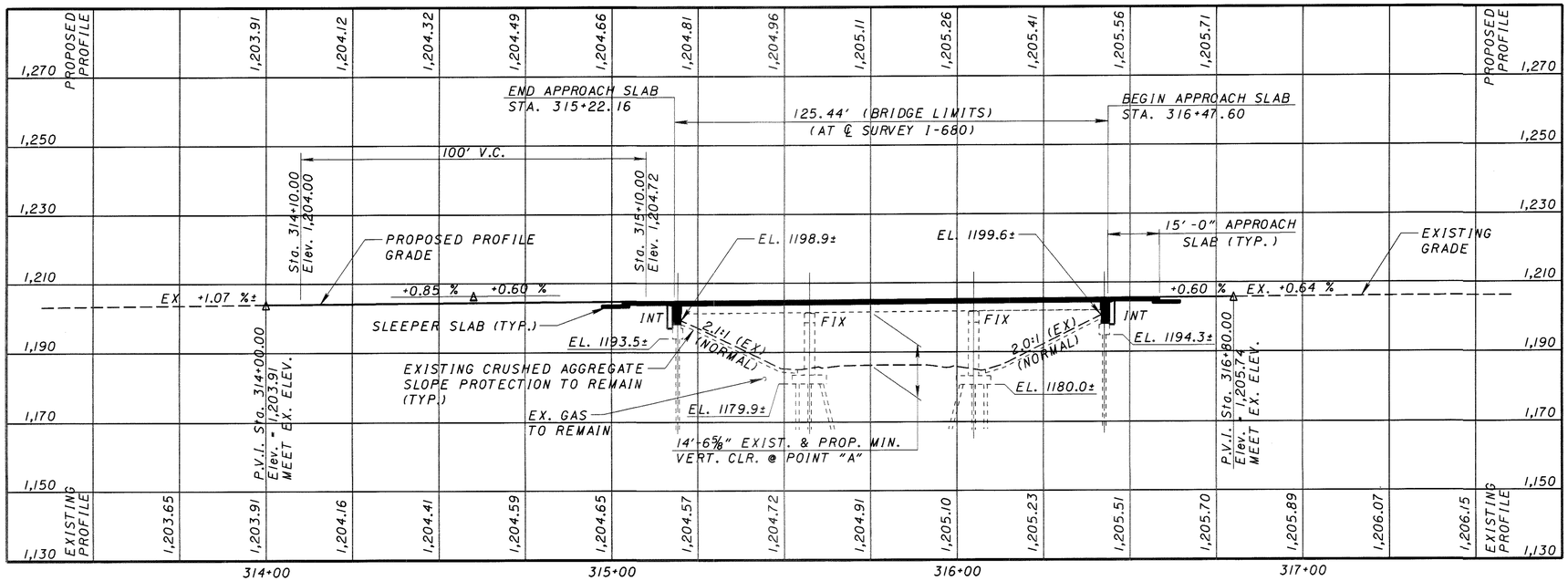
PLAN

ELEVATION DATUM:
EXISTING FOOTING ELEVATIONS SHOWN REPRESENT ORIGINAL PLAN ELEVATIONS MINUS 0.55' TO APPROXIMATE EXISTING ELEVATIONS USING NAD83(95) DATUM.

POINT "A"
EXISTING & PROPOSED MINIMUM VERTICAL CLEARANCE = 14'-6⅝" AT STA 315+73.35, 78.16' LEFT

NOTE 1:
MEASURED PERPENDICULAR TO REFERENCE CHORD, SEE SHEET 4/21.

MILL & OVERLAY PAVEMENT SEE ROADWAY PLANS



PROFILE

BENCH MARK #1
MONUMENT BOX AT STA. 311+00 SET ON ℄ OF I-680 ELEV. 1196.70'
BENCH MARK #2
DRILL HOLE IN NB BRIDGE DECK STA. 315+70 SET 38.6' RT. ELEV. 1204.87'

CURVE DATA

HORIZONTAL

P.I. Sta = 315+01.97±
D = 5° 53' 25"± (LT)
Dc = 0° 44' 00"±
R = 7,813.06'±
T = 401.97'±
L = 803.22'±
E = 10.33'±

VERTICAL

P.V.I. STA. 314+60.00
P.V.I. EL. = 1204.42

+0.85% +0.60%
L=100'

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

TRAFFIC DATA
CURRENT ADT (2001) = 3070
DESIGN ADT (2024) = 3880
DESIGN ADTT (2024) = 873

EXISTING STRUCTURE

TYPE: CONTINUOUS NON-COMPOSITE STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE WITH INTEGRAL ABUTMENTS.
SPANS: 38'±, 47.5'±, 38'± c/c BEARINGS (MEASURED ALONG REFERENCE CHORD)
ROADWAY WIDTH: 40'-6"± TOE/TOE PARAPETS
SKEW: 6° 28' 13"± RT. FWD. (TO REFERENCE CHORD)
WEARING SURFACE: 2 ½" ASPHALT CONCRETE
LOADING: HS-20-44 AND INTERSTATE ALTERNATE
ALIGNMENT: 0° 44'± CURVE LEFT
APPROACH SLABS: AS-1-67 (25'-0" LONG)
SUPERELEVATION: .024± FT./FT.
DATE BUILT: 1974

PROPOSED STRUCTURE

PROPOSED WORK: CONTINUOUS 3-SPAN STEEL BEAMS WITH COMPOSITE REINFORCED CONCRETE DECK, REINFORCED CONCRETE DEFLECTOR PARAPETS ON EXISTING BEAMS, BEARINGS AND REINFORCED CONCRETE SUBSTRUCTURE WITH INTEGRAL ABUTMENTS.
SPANS: 37.98', 47.48', 37.98' c/c BEARINGS (MEASURED ALONG REFERENCE CHORD)
ROADWAY WIDTH: 42'-0" TOE/TOE PARAPETS
SKEW: 6° 28' 13"± RT. FWD. (TO REFERENCE CHORD)
WEARING SURFACE: 1" MONOLITHIC CONCRETE
LOADING (SUPERSTRUCTURE ONLY): HS-25-44, CASE I AND ALTERNATE MILITARY LOADING
FUTURE W.S. = 60 PSF
ALIGNMENT: 0° 44'± CURVE LEFT
APPROACH SLABS: AS-1-81 (15'-0" LONG)
SUPERELEVATION: 0.028 FT./FT.
LATITUDE: 40°58'40" LONGITUDE: 80°38'20"

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
614 WEST SUPERIOR AVENUE
CLEVELAND, OHIO 44113

REVIEWED EBS 08/03
STRUCTURE FILE NUMBER 5007860
DESIGNED BMG
REVISED
DRAWN BMG
CHECKED TJM

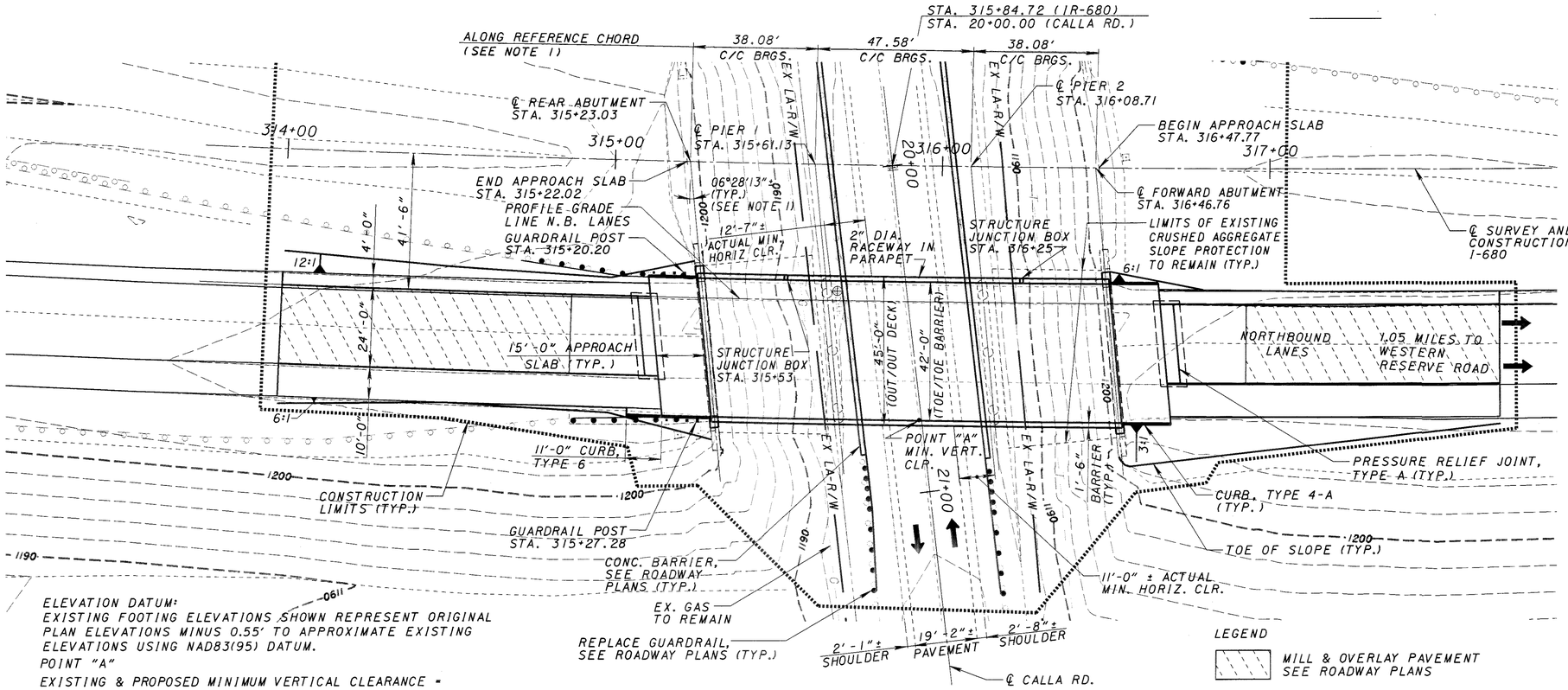
MAHONING COUNTY
STA. 315+22.16
STA. 316+47.60

SITE PLAN I (SB BRIDGE)
MAH-680-1541L
I-680 OVER CALLA ROAD

MAH-680-9.92/13.38/15.41

1/21

94/125



PLAN

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EXISTING FOOTING ELEVATIONS SHOWN REPRESENT ORIGINAL PLAN ELEVATIONS MINUS 0.55' TO APPROXIMATE EXISTING ELEVATIONS USING NAD83(95) DATUM.

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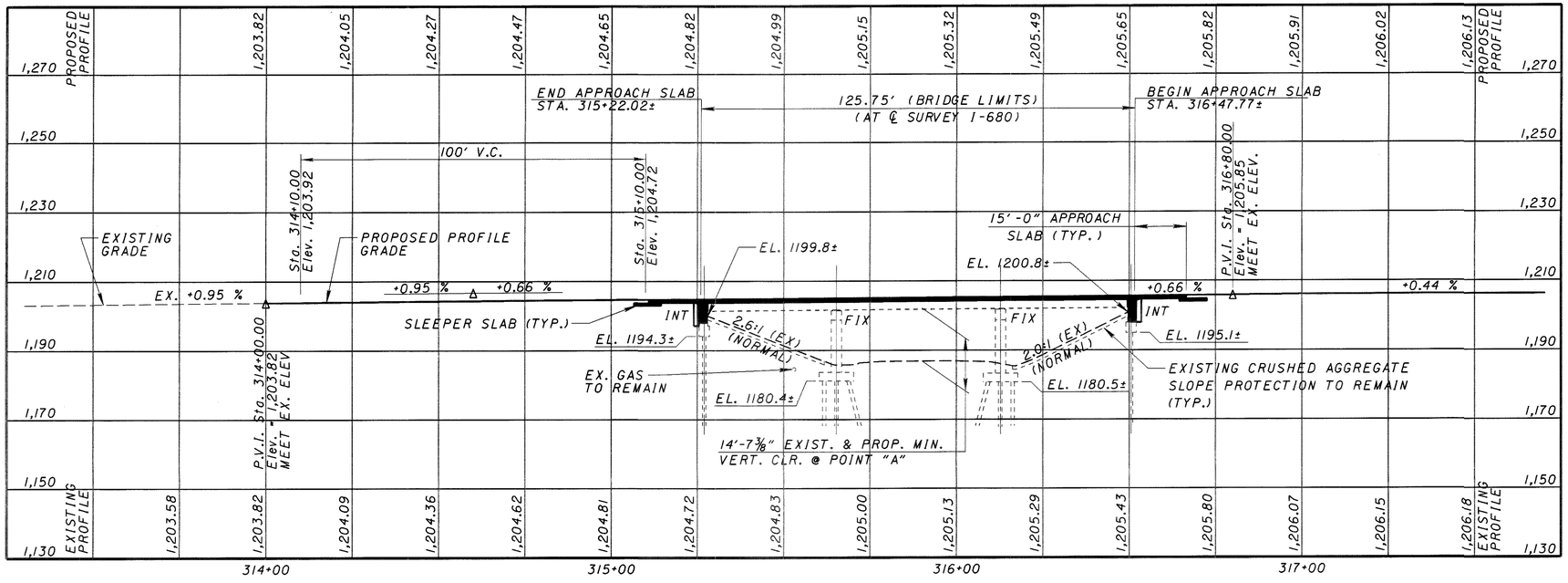
EXISTING & PROPOSED MINIMUM VERTICAL CLEARANCE =
14'-7⅜" AT STA. 315+94.33, 77.30' RIGHT

NOTE 1:
MEASURED PERPENDICULAR TO REFERENCE CHORD, SEE SHEET 4/21 .



PROFILE

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MONUMENT BOX AT STA. 311+00 SET ON ℄ OF I-680 ELEV. 1196.70'
BENCH MARK #2
DRILL HOLE IN NB BRIDGE DECK STA. 315+70 SET 38.6' RT. ELEV. 1204.87'

CURVE DATA

HORIZONTAL

P.I. Sta = 315+01.97±
D = 5° 53' 25"± (LT)
Dc = 0° 44' 00"±
R = 7,813.06'±
T = 401.97'±
L = 803.22'±
E = 10.33'±

VERTICAL

P.V.I. STA. 314+60.00
P.V.I. EL. = 1204.39

+0.95% ○ +0.66%
L = 100'

NOTES:
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TRAFFIC DATA
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SUPERELEVATION: .024± FT./FT.
DATE BUILT: 1974

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SUPERELEVATION: 0.028 FT./FT.
LATITUDE: 40°58'40" LONGITUDE: 80°38'20"

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
614 WEST SUPERIOR AVENUE
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
BMG	BMG	EBS	08/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJM		5007879	

MAHONING COUNTY
STA. 315+22.02
STA. 316+47.77

SITE PLAN II (NB BRIDGE)
MAH-680-1541R
I-680 OVER CALLA ROAD

MAH-680-9.92/13.38/15.41

2/21

95/125

$FILE$ $DATE$ $TIME$

g:*projects*21467*bridge*clejan20*calla*MH680SP4.DGN g:*projects*21467*fullprf*MH680SP4.prf Tue Jan 20 22:02:55 2004

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

HS25, CASE I AND THE ALTERNATE MILITARY LOADING.
FUTURE WEARING SURFACE (FWS) OF 60 PSF

DESIGN STRESSES

CONCRETE CLASS HIGH PERFORMANCE SS894	-COMPRESSIVE STRENGTH 4,500 PSI FOR SUPERSTRUCTURE (LOAD FACTOR DESIGN)
CONCRETE CLASS C	-COMPRESSIVE STRENGTH 4,000 PSI FOR SUBSTRUCTURE (LOAD FACTOR DESIGN)
EXISTING STRUCTURAL STEEL	-ASTM A36 - YIELD STRESS 36,000 PSI
NEW STRUCTURAL STEEL	-ASTM A709 - YIELD STRESS 50,000 PSI
REINFORCING STEEL	-ASTM A615 OR A996 - GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI
DECK PROTECTIVE METHOD	-EPOXY COATED REINFORCING STEEL, 2½" CONCRETE COVER AND SEALING OF CONCRETE SURFACES
MONOLITHIC WEARING SURFACE	-FOR DESIGN PURPOSES, MONOLITHIC WEARING SURFACE IS ASSUMED TO BE 1" THICK

STANDARD DRAWINGS

REFERENCE SHALL BE MADE TO THE FOLLOWING STANDARD DRAWINGS:

AS-1-81	REVISED	07-19-02
BR-1	REVISED	07-19-02
ICD-1-82	REVISED	07-19-02
PCB-91	REVISED	07-19-02

SUPPLEMENTAL SPECIFICATIONS

REFERENCE SHALL BE MADE TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

846	DATED	04-19-02
864	DATED	07-11-00
894	DATED	10-18-02
954	DATED	09-09-97

PROPOSED WORK:

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

1. REMOVAL OF EXISTING CONCRETE DECKS, APPROACH SLABS AND PORTIONS OF THE ABUTMENTS IN A 2 PHASE CONSTRUCTION SEQUENCE.
2. JACK AND TEMPORARILY SUPPORT SUPERSTRUCTURE
3. MODIFY AND REPAIR EXISTING ABUTMENTS AND BEAMS
4. REUSE EXISTING BEARINGS AND PIERS.
5. PLACE NEW CONCRETE DECKS, PARAPETS AND POROUS BACKFILL.
6. SPOT PAINT EXISTING STRUCTURAL STEEL.
7. SEAL CONCRETE SURFACES.

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 AT A MINIMUM OF 6'-0" AND A MAXIMUM OF 10'-0" CENTERS. USE AN EDGE GUIDE, FENCE, OR JIG TO INSURE 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.

SEALING CONCRETE SURFACES:

EPOXY-ERUTHANE SHALL BE "BUFF" COLOR MEETING FEDERAL COLOR STANDARD NO. 37722 AS PER THE DETAILS IN THE PLANS.

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN:

THE BACKFILL MATERIAL BEHIND THE ABUTMENT SHALL BE TYPE B GRANULAR MATERIAL, 703.16.C, PLACED AND COMPACTED IN 6 INCH LIFTS.

ITEM 202, PORTIONS OF STRUCURE REMOVED, AS PER PLAN

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

PROTECTION OF TRAFFIC: PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR AT LEAST 30 DAYS BEFORE CONSTRUCTION BEGINS. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. MAINTAIN TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR.

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 DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE.

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 BRIDGE MEMBERS (STEEL BEAM, STEEL GIRDER, ETC), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER BRIDGE MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STEEL MEMBERS.

DECK REMOVALS: DUE TO THE POSSIBLE PRESENCE OF WELDED ATTACHMENTS TO EXISTING STRUCTURAL STEEL (FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.), PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRINGERS WHICH ARE TO REMAIN. REPLACE OR REPAIR STRINGERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. SUBMIT PROPOSED REPAIRS, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER, IN WRITING TO THE DIRECTOR AT LEAST 20 DAYS BEFORE PERFORMING REPAIR WORK.

EXTRANEOUS MEMBERS: REMOVE EXISTING EXTRANEOUS MEMBERS (I.E., FINISHING MACHINE AND FORM SUPPORTS, ETC., AND THE SUPPORT FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) ATTACHED BY WELDED CONNECTION TO THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

LOADING LIMITATIONS: NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF ALLOWABLE UNIT STRESSES AS DEFINED IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. SUBMIT STRUCTURAL ANALYSIS COMPUTATIONS, BY AN OHIO REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE REMOVAL METHODS OR EQUIPMENT TO THE DIRECTOR AT LEAST 20 DAYS BEFORE CONSTRUCTION BEGINS.

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, AS PER PLAN.

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 THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 514, SURFACE PREPARATION OF EXISTING STEEL, PRESSURE WASHING, AS PER PLAN:

THIS WORK CONSISTS OF A PRESSURE WASHING OF THE ENTIRE EXISTING STEEL STRUCTURE IN ACCORDANCE WITH THE PROVISIONS LISTED IN 514.12 AND IS TO INCLUDE ALL LABOR AND MATERIALS TO COMPLETE THE WASHING. PRESSURE WASHING WILL OCCUR PRIOR TO ANY REQUIRED REPAIR PAINTING SURFACE PREPARATION AND REPAIR FIELD PAINTING. IT WILL BE THE CONTRACTORS RESPONSIBILITY TO SCHEDULE THE WASHING WITHIN THE GUIDELINES ESTABLISHED IN THE MAINTENANCE OF TRAFFIC PLAN UNLESS A SEPARATE SCHEDULE IS APPROVED BY THE ENGINEER.

ITEM 514, FIELD PAINTING OF EXISTING STRUCTURAL STEEL:

AN ESTIMATED QUANTITY OF FIELD PAINTING AND SURFACE PREPARATION HAS BEEN INCLUDED IN THE PLANS. THIS ITEM IS TO BE COMPLETED IN ACCORDANCE WITH THE PROVISIONS OF 514. THE ESTIMATED QUANTITY IS TO BE USED AS DIRECTED BY THE ENGINEER TO REPAIR DAMAGE TO THE EXISTING OZEU PAINT SYSTEM CAUSED BY CONSTRUCTION OR TO REPAIR EXISTING WORN AREAS ON THE EXISTING STEEL BEAMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SPECIFYING THE CORRECT FEDERAL COLOR NUMBER OF THE PAINT IN ORDER TO MATCH THE EXISTING BEAMS.

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

INSTALL A 3 FOOT WIDE NEOPRENE SHEET AT LOCATIONS SHOWN IN THE PLANS. SECURE THE NEOPRENE SHEETING TO THE CONCRETE WITH 1¼" X #10 GAGE (LENGTH X SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKES THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. USE OF OTHER SIMILAR GALVANIZED DEVICES, WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OR THE CONCRETE WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

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

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

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

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, INCHES	D751	0.094 ± 0.01
BREAKING STRENGTH, GRAB, LBS, MINIMUM (LONG. X TRANS.)	D751	700 X 700
ADHESIVE STRIP, 1" WIDE X 2" LONG, LBS MINIMUM	D751	9
BURST STRENGTH, PSI MINIMUM	D751	1400
HEAT AGING, 70 HR, 212 DEGREES F, 180 DEGREES BEND WITHOUT CRACKING	D2136	NO CRACKING OF COATING
LOW TEMP. BRITTLENESS, 1 HR, 40 DEGREES F, BEND AROUND ¼" MANDREL	D2136	NO CRACKING OF COATING

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

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

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
SDG	SJG	EBS	08/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BMG		5007860/5007879	

GENERAL NOTES
BRIDGE NO. MAH 680-1541 L/R
OVER CALLA ROAD

MAH-680-9.92/13.38/15.41

3/21

96/125

$FILE$ $DATE$ $TIME$

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

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

SUBMITTAL REQUIREMENTS: AN OHIO REGISTERED ENGINEER SHALL PREPARE, SEAL AND DATE PLANS FOR A JACKING SYSTEM, INCLUDING ANY TEMPORARY OR PERMANENT SUPPORTS, SUFFICIENT TO PERFORM THE WORK DESCRIBED IN THE PLANS. SUBMIT THREE SETS OF THESE PLANS TO THE DIRECTOR FOR APPROVAL AT LEAST THIRTY (30) DAYS BEFORE ACTUAL WORK IS TO BEGIN.

JACKING SUBMITTALS SHALL INCLUDE AT LEAST THE FOLLOWING:

1. THE SIGNATURE AND NUMBER, OR PROFESSIONAL SEAL, OF THE OHIO REGISTERED PROFESSIONAL ENGINEER WHO PREPARED THE SUBMITTAL.
2. CALCULATIONS AND ANALYSES OF THE STRUCTURE TO DETERMINE AND DEFINE THE ACTUAL LOADING APPLIED AT THE JACKING POINTS.
3. A DRAWING SHOWING THE PHYSICAL AND DIMENSIONAL POSITION OF THE JACKS WITH RESPECT TO THE STRUCTURE INCLUDING CLEARANCES AND CENTER OF LIFT.
4. A SCHEMATIC LAYOUT OF JACKS, CHECK VALVES, PUMPS WITH 3 WAY RETRACTOR VALVE, PRESSURE GAGES, FLOW CONTROL VALVES, ETC. IN ACCORDANCE WITH MANUFACTURER'S RECOM-MENDATIONS. ALL JACKS FOR EACH ABUTMENT OR PIER SHALL BE CONNECTED TOGETHER. ALL JACKS AT EACH ABUTMENT OR PIER SHALL BE THE SAME SIZE.
5. ANALYSIS AND CALCULATIONS OF THE STRESSES INDUCED OR CREATED IN THE STRUCTURE AND ANY TEMPORARY OR PERMANENT SUPPORTS. DESIGN CALCULATIONS FOR ANY TEMPORARY OR PERMANENT SUPPORTS.
6. PHYSICAL DIMENSIONS, MATERIALS, AND FABRICATION DETAILS OF ANY TEMPORARY OR PERMANENT SUPPORTS. HORIZONTAL AND VERTICAL MOVEMENT RESTRAINT SHALL BE PROVIDED.
7. A STEP BY STEP PROCEDURE DETAILING ALL STEPS IN THE JACKING OPERATION.
8. METHOD OF ATTACHMENT TO STRUCTURAL MEMBERS. WELDING TO TENSION AREAS WILL NOT BE PERMITTED.

JACKING SYSTEM REQUIREMENTS: THE ENTIRE SYSTEM INCLUDING JACKS SHALL HAVE 20% MORE CAPACITY THAN REQUIRED BASED ON CALCULATED LOADS. FOR LIFTS GREATER THAN 1 INCH, JACKS SHALL HAVE LOCKING NUTS TO POSITIVELY LOCK AND SUPPORT THE STRUCTURE DURING THE LIFT. JACKS SHALL HAVE A SWIVEL LOAD CAP, A DOMED PISTON HEAD OR SOME OTHER DEVICE TO PROTECT AGAINST THE EFFECTS OF SIDE LOAD ON THE JACK. DO NOT USE JACKS ALONE TO SUPPORT LOADS EXCEPT DURING THE ACTUAL JACKING OPERATION. USE TEMPORARY SUPPORTS, BLOCKING OR OTHER METHODS APPROVED BY THE DIRECTOR. DO NOT USE SINGLE ACTING RAMS WITH NO OVER-TRAVEL PROTECTION SYSTEM. HAVE SPARE EQUIPMENT AVAILABLE ON SITE IN ORDER TO PROCEED WITH THE JACKING IN THE EVENT OF BREAKDOWN. PROVIDE A LIST OF SPARE EQUIPMENT TO THE ENGINEER.

JACKING OPERATION REQUIREMENTS: AT A MINIMUM, A JACKING OPERATION SHALL LIFT ALL BEAMS AT ANY ONE ABUTMENT OR PIER SIMULTANEOUSLY. THE ONLY EXCEPTION IS THE SITUATION WHERE THE WORK INVOLVES REPLACING OR REHABILITATING INDIVIDUAL BEARINGS; NO PERMANENT SHIMMING IS REQUIRED AND THE HEIGHT OF THE LIFT SHALL NOT EXCEED 1/4 INCH. THE MAXIMUM DIFFERENTIAL JACKING HEIGHT BETWEEN ANY ADJACENT ABUTMENTS OR PIERS SHALL BE 1 INCH OR LESS. IF THIS 1 INCH LIMIT IS TO BE EXCEEDED, PROVIDE CALCULATIONS SHOWING THAT THE SUPER-STRUCTURE 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 PORTIONS THAT ARE TO REMAIN AFTER REHABILITATION IS COMPLETE 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.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

BASIS OF PAYMENT: 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 894, HIGH PERFORMANCE CONCRETE FOR BRIDGE DECK WITH WARRANTY, AS PER PLAN:

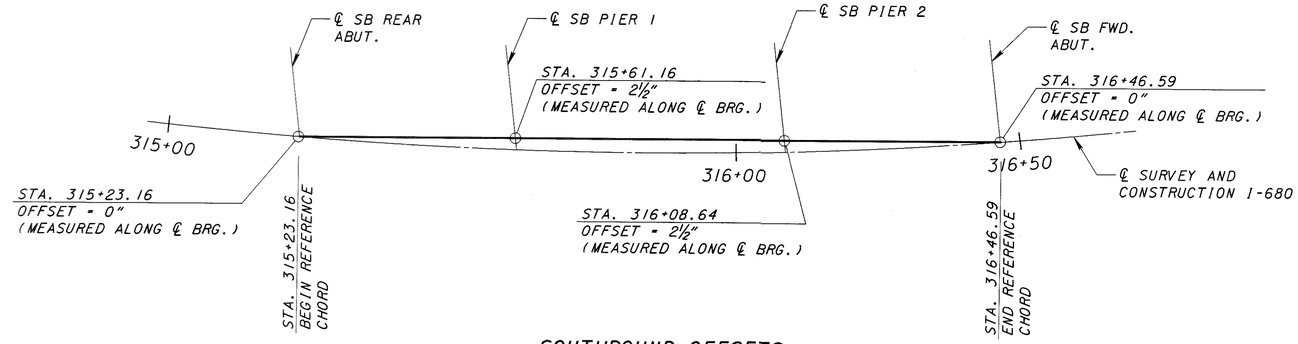
IN ADDITION TO THE REQUIREMENTS OF SS894, THE DECK CONCRETE SHALL BE MIX TYPE 4.

INSPECTION OF EXISTING STRUCTURAL STEEL

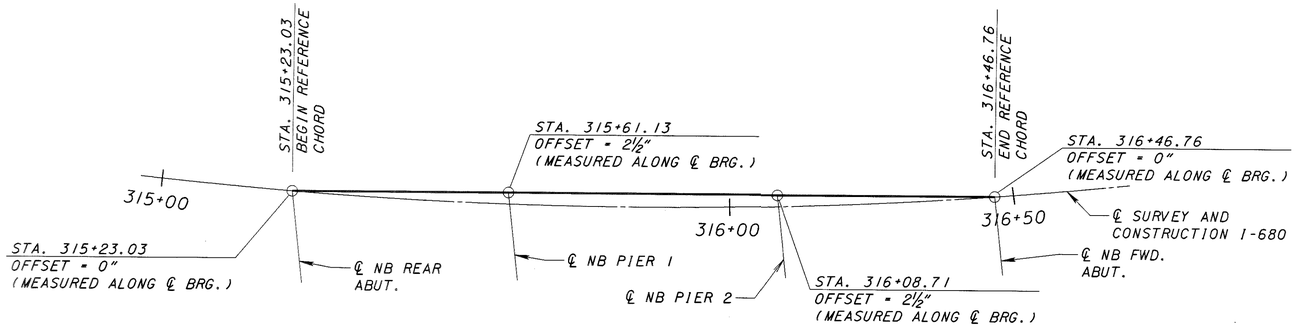
THE ENGINEER WILL VISUALLY INSPECT ALL EXISTING BUTT-WELDED SPLICES AND/OR TOP FLANGE COVER PLATE FILLET WELDS TO ENSURE THE WELDS, PLATES AND BEAMS OR GIRDERS ARE FREE OF DEFECTS AND CRACKS. IF NECESSARY, REMOVE ALL DECK SLAB HAUNCH FORMS IMMEDIATELY ADJACENT TO SUCH WELDS THAT MAY INTERFERE WITH THE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

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 WHICH HAVE BEEN VERIFIED IN THE FIELD.



SOUTHBOUND OFFSETS



NORTHBOUND OFFSETS

REFERENCE CHORDS

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
SDC	SJG	EBS	08/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BMG		5007860/5007879	

GENERAL NOTES
BRIDGE NO. MAH 680-154 I L/R
OVER CALLA ROAD

MAH-680-9.92/13.38/15.41

$FILE$
$DATE$ $TIME$

ESTIMATED QUANTITIES — LEFT

CALLA RD. SB BRIDGE — SFN: 5007860

MADE BY: BMG | DATE: 08/03
CHECKED BY: LJF | DATE: 08/03

ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPER-STRUCTURE	GENERAL	SEE SHEET NO.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	3/21
503	11100	LUMP		COFFERDAMS, CRIBS AND SHEETING				LUMP	
503	21301	LUMP		UNCLASSIFIED EXCAVATION, AS PER PLAN	LUMP				3/21
509	10000	50893	POUND	EPOXY COATED REINFORCING STEEL	3327		47566		
509	20001	250	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				250	3/21
510	10000	212	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	212				
511	45700	12	CU YD	CLASS C CONCRETE, ABUTMENT	12				
513	20000	2844	EACH	WELDED SHEAR STUD CONNECTORS			2844		
514	00051	500	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN			500		
514	00056	500	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			500		
514	00060	500	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			500		
514	00066	500	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			500		
514	00101	LUMP		SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN			LUMP		3/21
516	13200	93	SQ FT	½" PREFORMED EXPANSION JOINT FILLER	93				
516	13600	109	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	109				
516	14015	126	FT	INTEGRAL EXPANSION JOINT SEAL, AS PER PLAN	126				3/21
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LUMP	4/21
518	21200	55	CU YD	POROUS BACKFILL WITH FILTER FABRIC	55				
518	40000	127	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	127				
518	40010	16	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	16				
* 519	11101	10	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN				10	4/21
625	25400	126	FT	CONDIUT, 2", 725.04			126		
625	29920	2	EACH	STRUCTURE JUNCTION BOX			2		
846	73000	28	SQ YD	TREATING CONCRETE BRIDGE DECKS WITH HMWM RESIN			28		
864	10100	364	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	79		285		
894	10001	233	CU YD	HIGH PERFORMANCE CONCRETE FOR NEW BRIDGE DECKS WITH WARRANTY, AS PER PLAN			233		4/21

*THE QUANTITY FOR ITEM 519 HAS BEEN ADDED FOR CONTINGENCY PURPOSES AND IS NOT SHOWN IN THE PLANS.

ESTIMATED QUANTITIES — RIGHT

CALLA RD. NB BRIDGE — SFN: 5007879

MADE BY: BMG | DATE: 08/03
CHECKED BY: LJF | DATE: 08/03

ITEM	ITEM EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPER-STRUCTURE	GENERAL	SEE SHEET NO.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	3/21
503	11100	LUMP		COFFERDAMS, CRIBS AND SHEETING				LUMP	
503	21301	LUMP		UNCLASSIFIED EXCAVATION, AS PER PLAN	LUMP				3/21
509	10000	52942	POUND	EPOXY COATED REINFORCING STEEL	3336		49606		
509	20001	250	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				250	3/21
510	10000	213	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	213				
511	45700	12	CU YD	CLASS C CONCRETE, ABUTMENT	12				
513	20000	2844	EACH	WELDED SHEAR STUD CONNECTORS			2844		
514	00051	500	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN			500		
514	00056	500	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			500		
514	00060	500	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			500		
514	00066	500	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			500		
514	00101	LUMP		SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN			LUMP		3/21
516	13200	93	SQ FT	½" PREFORMED EXPANSION JOINT FILLER	93				
516	13600	106	SQ FT	1" PREFORMED EXPANSION JOINT FILLER	106				
516	14015	124	FT	INTEGRAL EXPANSION JOINT SEAL, AS PER PLAN	124				3/21
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LUMP	4/21
518	21200	54	CU YD	POROUS BACKFILL WITH FILTER FABRIC	54				
518	40000	127	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	127				
518	40010	22	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	22				
* 519	11101	10	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN				10	4/21
625	25400	126	FT	CONDIUT, 2", 725.04			126		
625	29920	2	EACH	STRUCTURE JUNCTION BOX			2		
846	73000	28	SQ YD	TREATING CONCRETE BRIDGE DECKS WITH HMWM RESIN			28		
864	10100	369	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	78		291		
894	10001	242	CU YD	HIGH PERFORMANCE CONCRETE FOR NEW BRIDGE DECKS WITH WARRANTY, AS PER PLAN			242		4/21

*THE QUANTITY FOR ITEM 519 HAS BEEN ADDED FOR CONTINGENCY PURPOSES AND IS NOT SHOWN IN THE PLANS.

PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

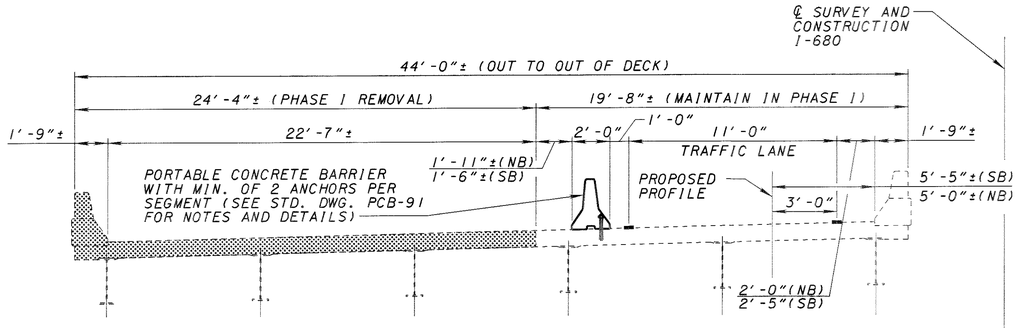
REVIEWED EBS | DATE 08/03 | STRUCTURE FILE NUMBER 5007860/5007879
DRAWN BMG | REVISED
DESIGNED BMG | CHECKED TJM

ESTIMATED QUANTITIES
BRIDGE NO. MAH 680-1541 L/R
I-680 OVER CALLA ROAD

MAH-680-9.92/13.38/15.41

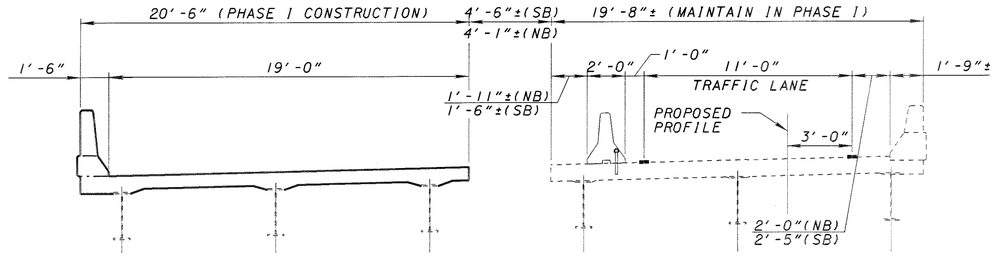
5/21

98/125



PHASE I REMOVAL

(SB BRIDGE SHOWN, NB BRIDGE OPPOSITE HAND)



PHASE I CONSTRUCTION

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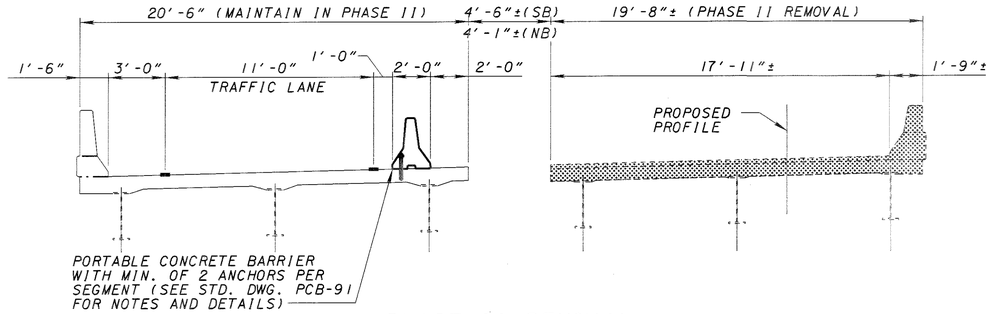

PHASE II REMOVAL

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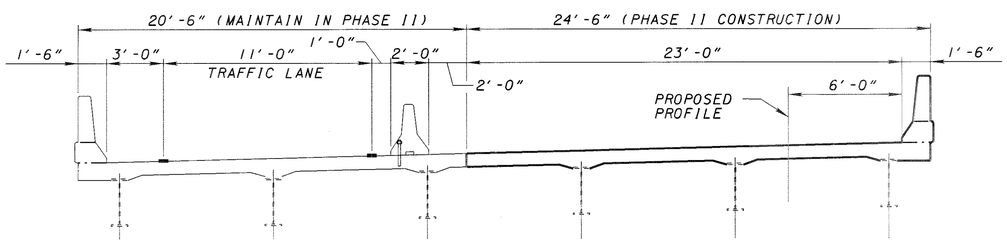

PHASE II CONSTRUCTION

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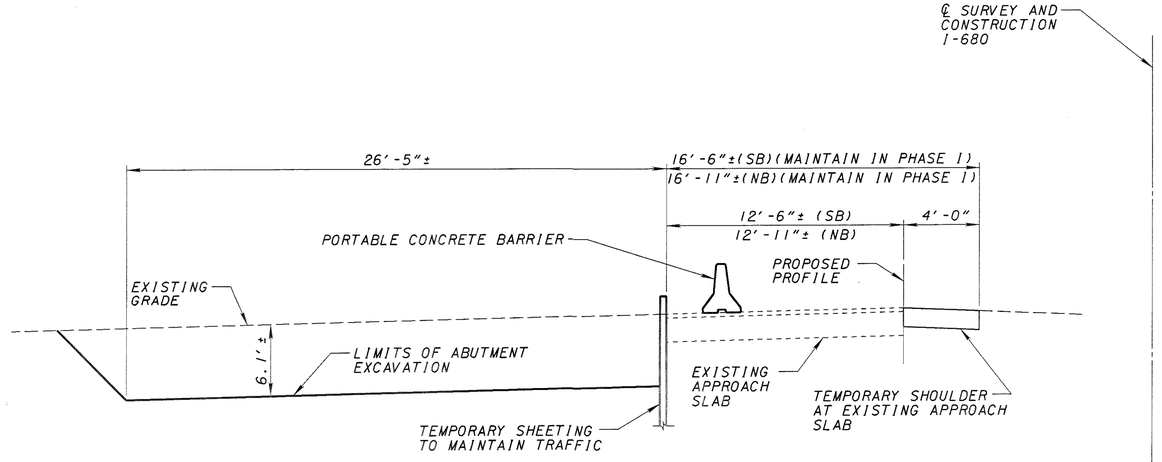
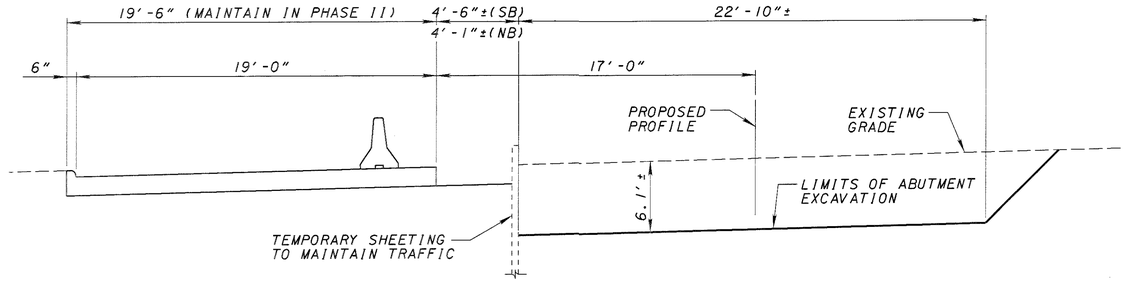


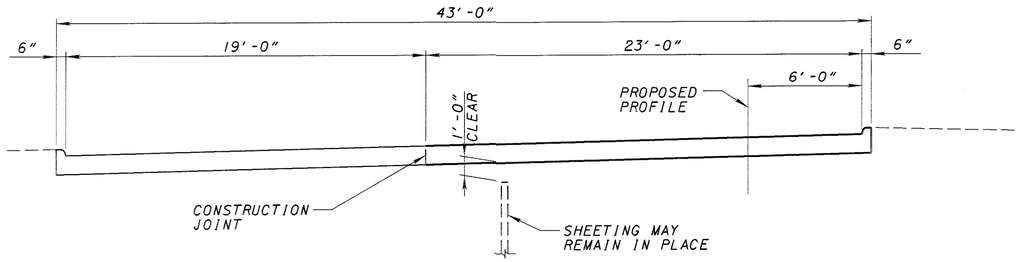
APPROACH SLAB PHASE I CONSTRUCTION

(SB LANES SHOWN, NB LANES OPPOSITE HAND)



APPROACH SLAB PHASE II CONSTRUCTION

(SB LANES SHOWN, NB LANES OPPOSITE HAND)



APPROACH SLAB PHASE II CONSTRUCTION

(SB LANES SHOWN, NB LANES OPPOSITE HAND)

▒ - INDICATES CONCRETE REMOVAL

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
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DESIGNED	DRAWN	REVIEWED	DATE
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TJM		5007860/5007879	

PHASED CONSTRUCTION DETAILS
BRIDGE NO. MAH 680-1541 L/R
OVER CALLA ROAD

MAH-680-9.92/13.38/15.41

6/21

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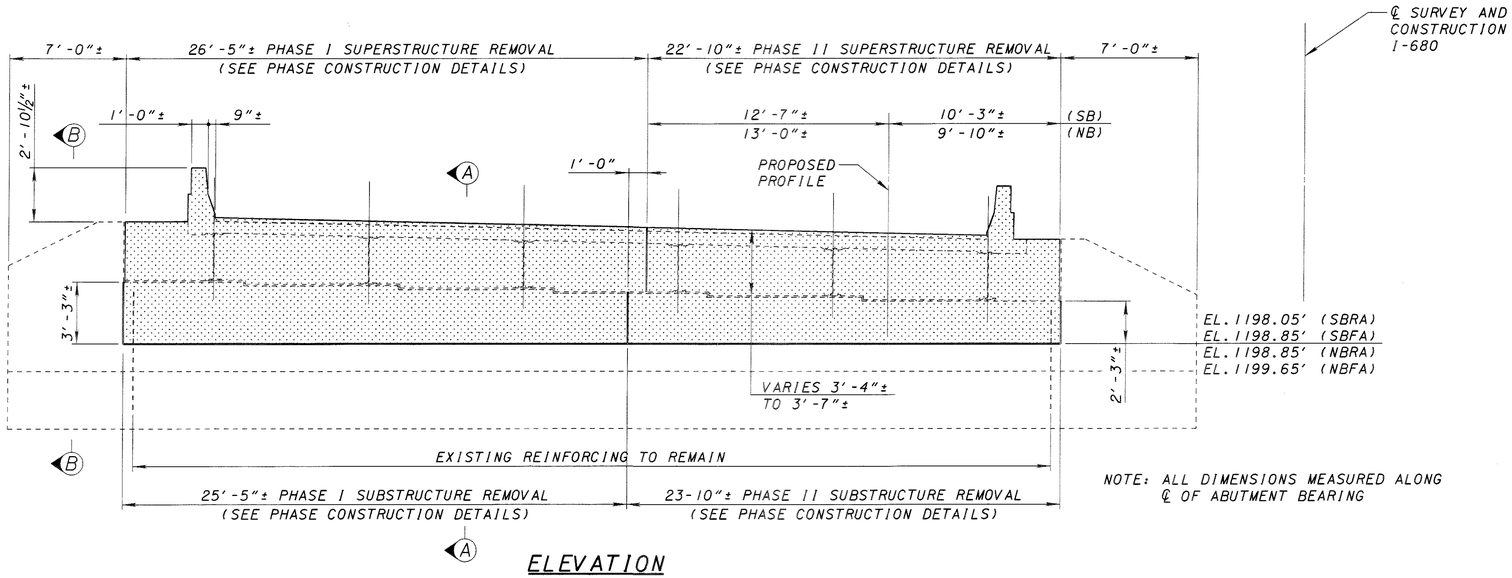
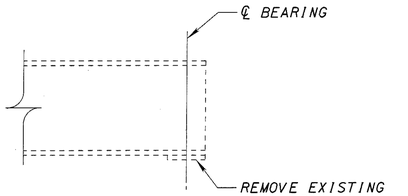


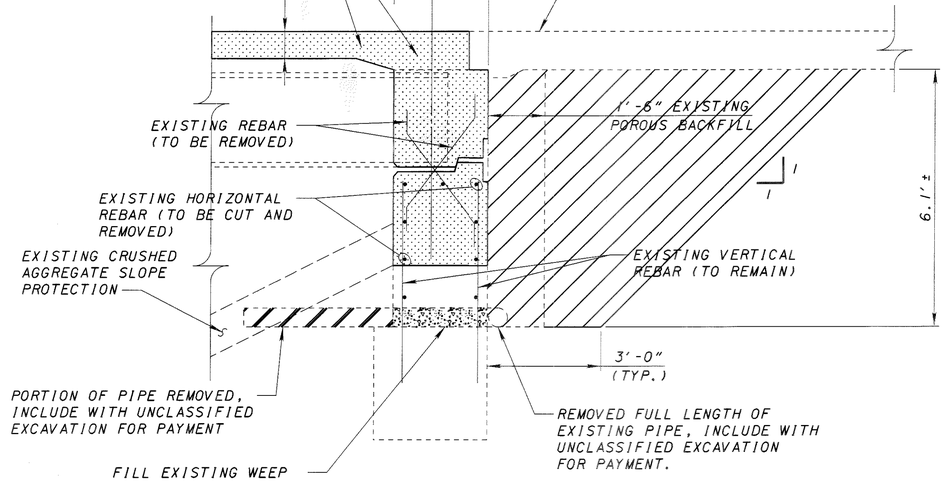
NOTE: ALL DIMENSIONS MEASURED ALONG ℄ OF ABUTMENT BEARING

ELEVATION

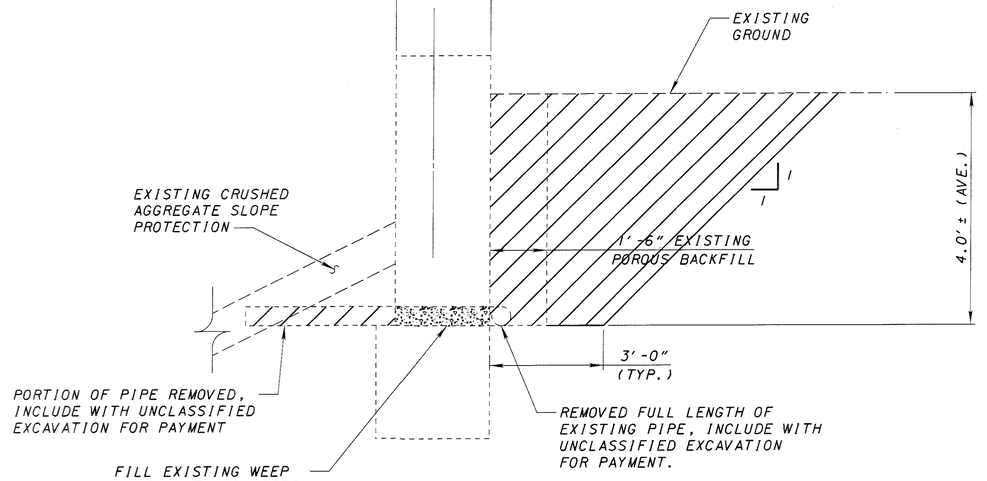
(SB FORWARD AND NB REAR ABUTMENT SHOWN, SB REAR AND NB FORWARD ABUTMENT OPPOSITE HAND AND SIMILAR)



BEAM ELEVATION



SECTION A-A



SECTION B-B

- INDICATES CONCRETE REMOVAL
- INDICATES UNCLASSIFIED EXCAVATION

NOTES:

1. EXISTING SCUPPERS TO BE REMOVED PER ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
2. EXISTING APPROACH SLAB TO BE REMOVED, SEE ROADWAY PLANS.

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
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DESIGNED	DRAWN	REVIEWED	DATE
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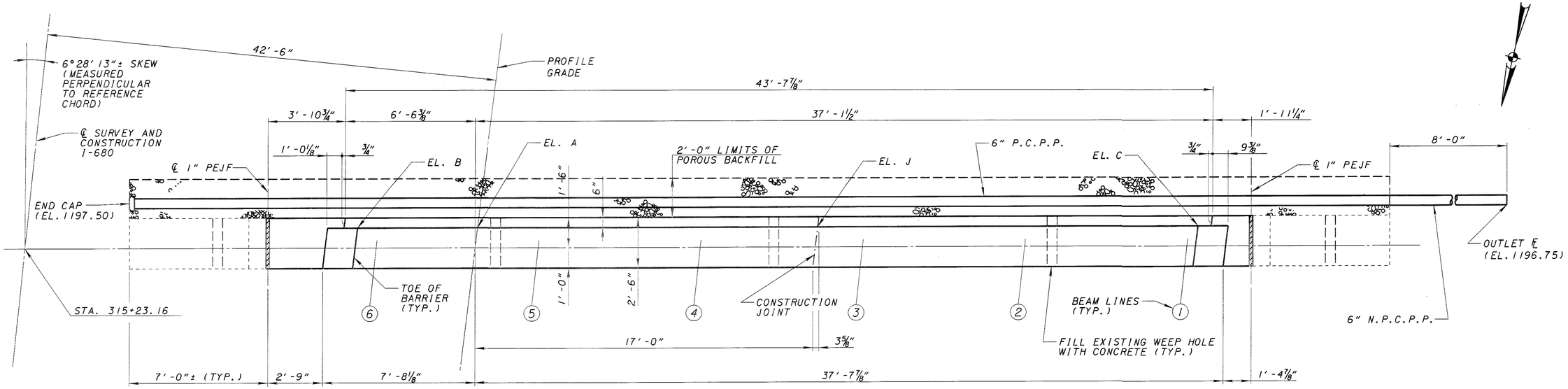
TJM		5007860/5007879	

DEMOLITION AND EXCAVATION DETAILS
BRIDGE NO. MAH 680-1541 L/R
OVER CALLA ROAD

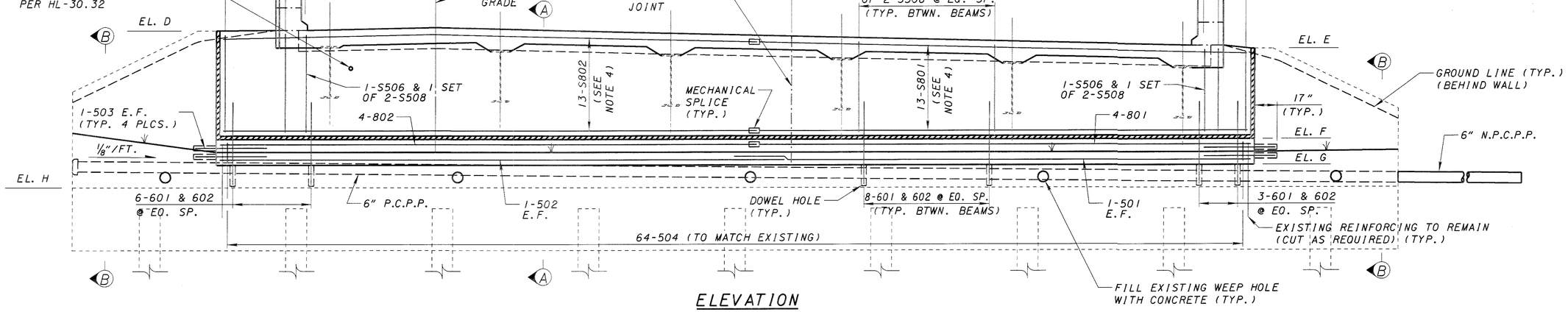
MAH-680-9.92/13.38/15.41

7/21

100/125



PLAN



ELEVATION

(SEE TABLE FOR ABUTMENT ELEVATIONS)

CONCRETE ELEVATIONS	
LOCATION	ELEVATION
EL. A	1204.76
EL. B	1204.64
EL. C	1203.73
EL. D	1204.6±
EL. E	1203.7±
EL. F	1199.30
EL. G	1198.05
EL. H	1196.5±
EL. J	1204.27

MINIMUM LAP LENGTH (UNLESS NOTED OTHERWISE)
#5 BAR - 2'-5" (VERT. BARS)
#5 BAR - 3'-7" (HORIZ. BARS)
#6 BAR - 4'-1"
#8 BAR - MECHANICAL SPLICE

NOTES:

1. POROUS BACKFILL WITH FILTER FABRIC, 2'-0" THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1'-0" BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
2. FOR ADDITIONAL INTEGRAL ABUTMENT NOTES AND DETAILS, SEE STANDARD DRAWING ICD-1-82.
3. ALL STEEL CLEARANCES SHALL BE 2" UNLESS OTHERWISE NOTED.
4. FOR REINFORCING PLACEMENT, SEE SECTION A-A ON SEE SHEET 12/21.
5. FOR SECTION A-A AND SECTION B-B, SEE SHEET 12/21.
6. FOR APPROACH SLAB NOTES AND DETAILS, SEE SHEET 20/21.
7. ALL REINFORCING STEEL SHALL BE PREFIXED "A" (ABUTMENT), UNLESS NOTED OTHERWISE

THE FOLLOWING ABBREVIATIONS ARE USED:

TYP. - TYPICAL	P.C.P.P. - PERFORATED CORRUGATED PLASTIC PIPE
MIN. - MINIMUM	N.P.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE
EL. - ELEVATION	PEJF - PREFORMED EXPANSION JOINT FILLER
BTWN - BETWEEN	E.F. - EACH FACE

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

DESIGNED BMG | DRAWN BMG | CHECKED TJM | REVIEWED EBS | DATE 08/03 | REVISED | STRUCTURE FILE NUMBER 5007860/5007879

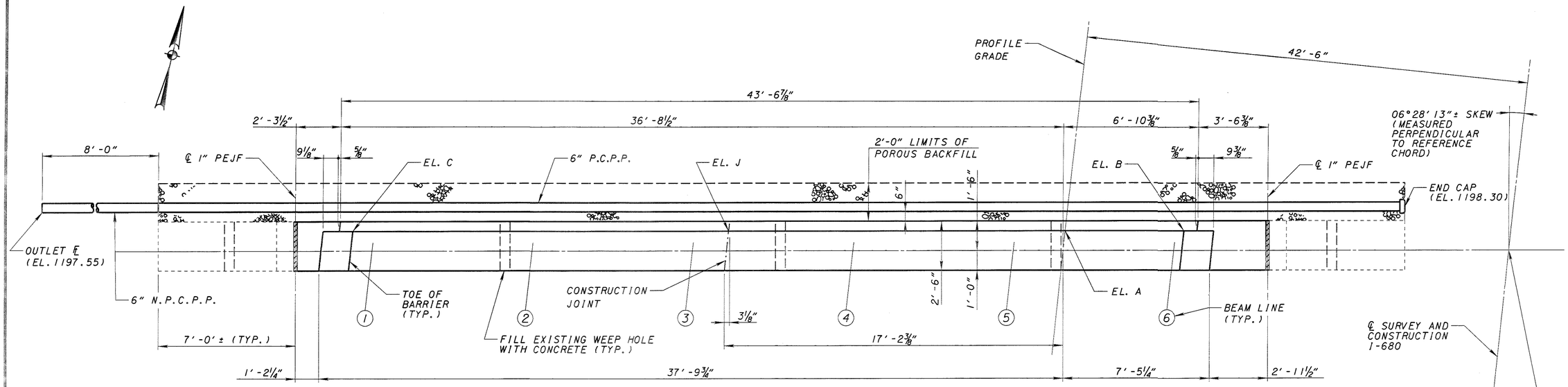
SB REAR ABUTMENT
BRIDGE NO. MAH 680-15.41 L/R
OVER CALLA ROAD

MAH-680-9.92/13.38/15.41

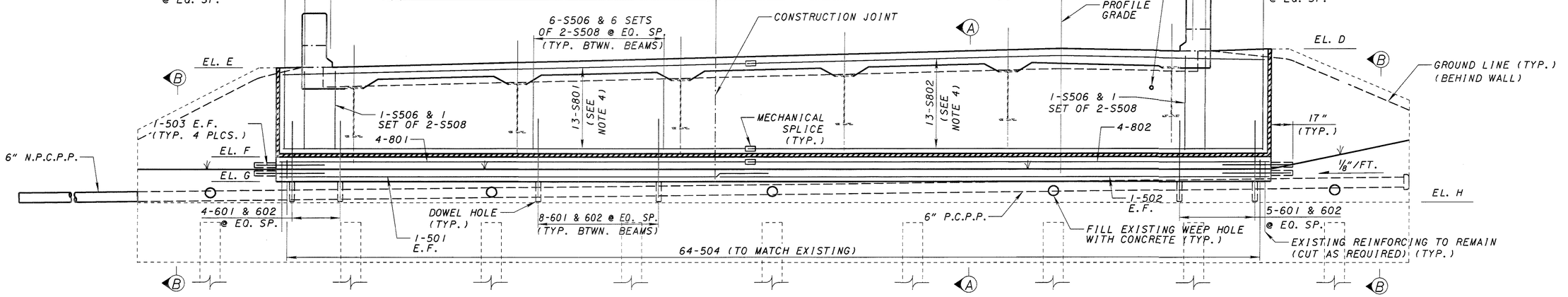
8/21

101/125

$FILE$ $DATE$ $TIME$



PLAN



ELEVATION

(SEE TABLE FOR ABUTMENT ELEVATIONS)

CONCRETE ELEVATIONS	
LOCATION	ELEVATION
EL. A	1205.52
EL. B	1205.40
EL. C	1204.49
EL. D	1205.5±
EL. E	1204.6±
EL. F	1200.10
EL. G	1198.85
EL. H	1197.3±
EL. J	1205.03

MINIMUM LAP LENGTH (UNLESS NOTED OTHERWISE)
#5 BAR - 2'-5" (VERT. BARS)
#5 BAR - 3'-7" (HORIZ. BARS)
#6 BAR - 4'-1"
#8 BAR - MECHANICAL SPLICE

NOTES:

1. POROUS BACKFILL WITH FILTER FABRIC, 2'-0" THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1'-0" BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
2. FOR ADDITIONAL INTEGRAL ABUTMENT NOTES AND DETAILS, SEE STANDARD DRAWING ICD-1-82.
3. ALL STEEL CLEARANCES SHALL BE 2" UNLESS OTHERWISE NOTED.
4. FOR REINFORCING PLACEMENT, SEE SECTION A-A ON SEE SHEET 12/21.
5. FOR SECTION A-A AND SECTION B-B, SEE SHEET 12/21.
6. FOR APPROACH SLAB NOTES AND DETAILS, SEE SEE SHEET 20/21.
7. ALL REINFORCING STEEL SHALL BE PREFIXED "A" (ABUTMENT), UNLESS NOTED OTHERWISE.

THE FOLLOWING ABBREVIATIONS ARE USED:

TYP. - TYPICAL	P.C.P.P. - PERFORATED CORRUGATED PLASTIC PIPE
MIN. - MINIMUM	N.P.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE
EL. - ELEVATION	PEJF - PREFORMED EXPANSION JOINT FILLER
BTWN - BETWEEN	E.F. - EACH FACE

PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

DESIGNED BMG | DRAWN BMG | REVIEWED EBS | DATE 08/03
CHECKED TJM | REVISED | STRUCTURE FILE NUMBER 5007860/5007879

SB FORWARD ABUTMENT
BRIDGE NO. MAH 680-1541 L/R
OVER CALLA ROAD

MAH-680-9.92/13.38/15.41

9/21

102/125

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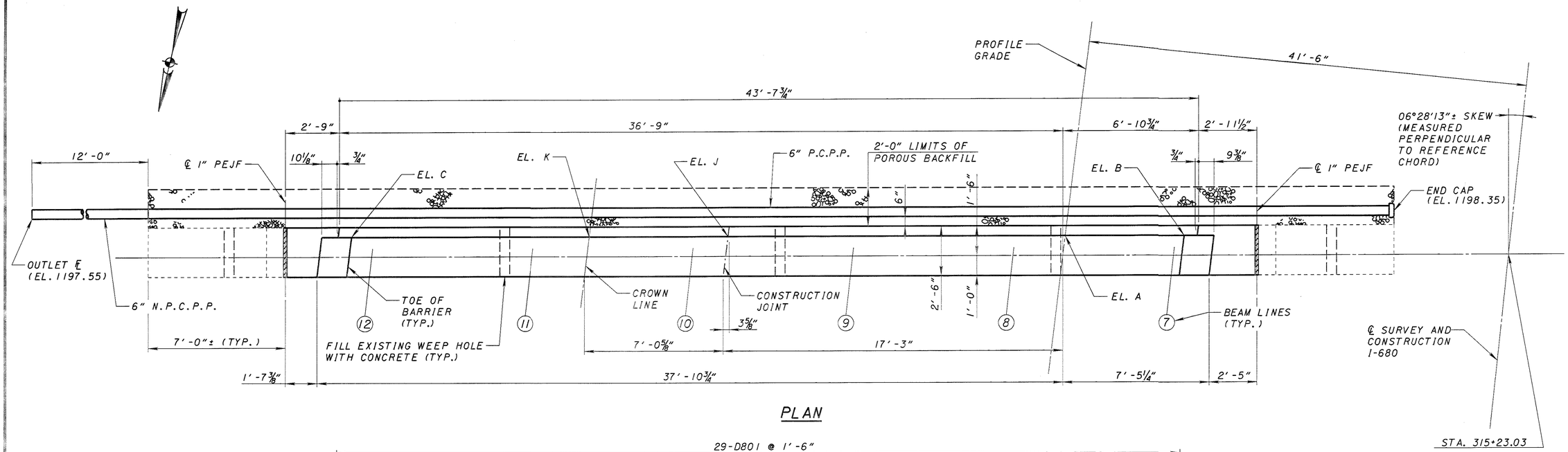

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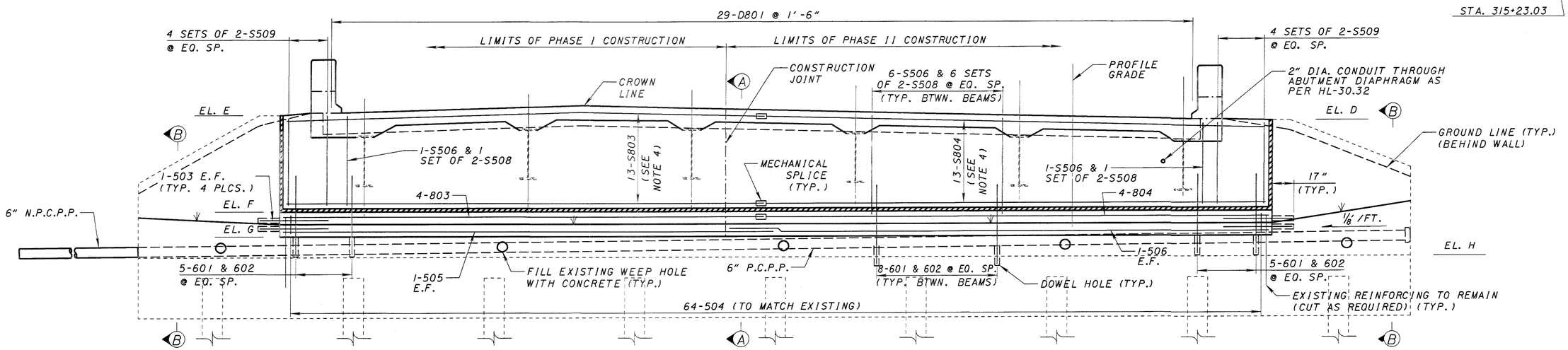

ELEVATION

(SEE TABLE FOR ABUTMENT ELEVATIONS)

CONCRETE ELEVATIONS	
LOCATION	ELEVATION
EL. A	1204.83
EL. B	1204.66
EL. C	1205.03
EL. D	1204.6±
EL. E	1204.9±
EL. F	1200.10
EL. G	1198.85
EL. H	1197.3±
EL. J	1205.32
EL. K	1205.52

MINIMUM LAP LENGTH (UNLESS NOTED OTHERWISE)
#5 BAR - 2'-5" (VERT. BARS)
#5 BAR - 3'-7" (HORIZ. BARS)
#6 BAR - 4'-1"
#8 BAR - MECHANICAL SPLICE

NOTES:

1. POROUS BACKFILL WITH FILTER FABRIC, 2'-0" THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1'-0" BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
2. FOR ADDITIONAL INTEGRAL ABUTMENT NOTES AND DETAILS, SEE STANDARD DRAWING ICD-1-82.
3. ALL STEEL CLEARANCES SHALL BE 2" UNLESS OTHERWISE NOTED.
4. FOR REINFORCING PLACEMENT, SEE SECTION A-A ON SEE SHEET 12/21.
5. FOR SECTION A-A AND SECTION B-B, SEE SHEET 12/21.
6. FOR APPROACH SLAB NOTES AND DETAILS, SEE SHEET 20/21.
7. ALL REINFORCING STEEL SHALL BE PREFIXED "A" (ABUTMENT), UNLESS NOTED OTHERWISE

THE FOLLOWING ABBREVIATIONS ARE USED:

TYP. = TYPICAL
MIN. = MINIMUM
EL. = ELEVATION
BTWN = BETWEEN
P.C.P.P. = PERFORATED CORRUGATED PLASTIC PIPE
N.P.C.P.P. = NON-PERFORATED CORRUGATED PLASTIC PIPE
PEJF = PREFORMED EXPANSION JOINT FILLER
E.F. = EACH FACE

DESIGN AGENCY
PB PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	CHECKED	REVISED
BMG	BMG	TJM	

REVIEWED	DATE
EBS	08/03

STRUCTURE FILE NUMBER 5007860/5007879

NB REAR ABUTMENT
BRIDGE NO. MAH 680-15.41 L/R
OVER CALLA ROAD

MAH-680-9.92/13.38/15.41

10/21

103/125

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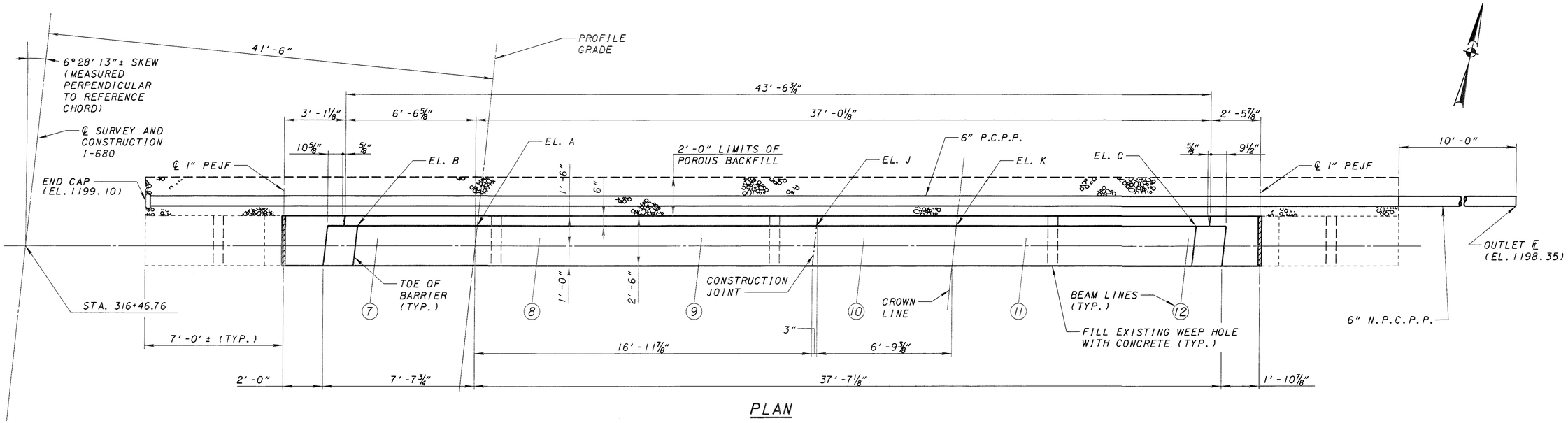

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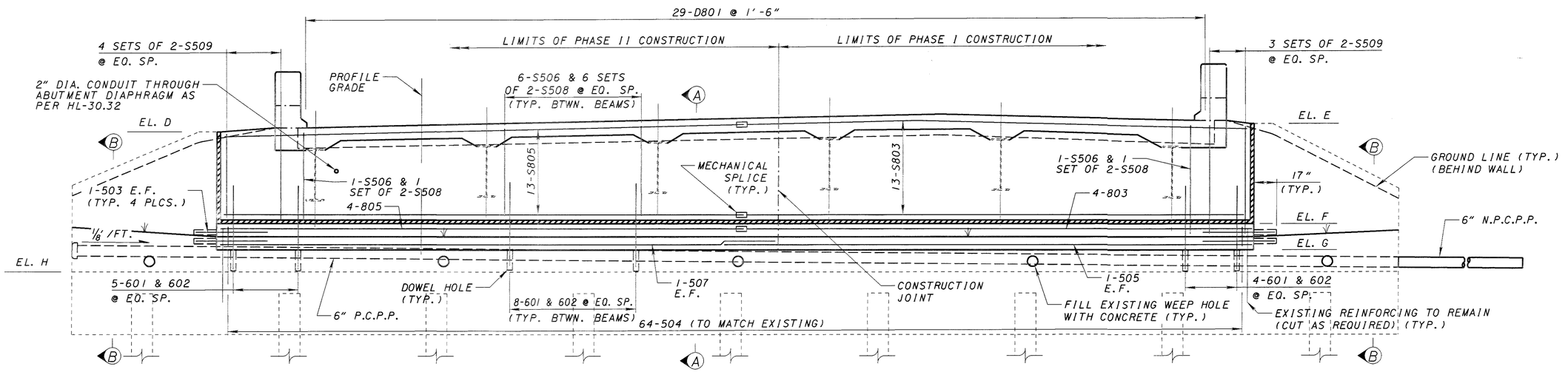


ELEVATION

(SEE TABLE FOR ABUTMENT ELEVATIONS)

CONCRETE ELEVATIONS	
LOCATION	ELEVATION
EL. A	1205.66
EL. B	1205.49
EL. C	1205.85
EL. D	1205.3±
EL. E	1205.7±
EL. F	1200.90
EL. G	1199.65
EL. H	1198.1±
EL. J	1206.14
EL. K	1206.35

MINIMUM LAP LENGTH (UNLESS NOTED OTHERWISE)
#5 BAR = 2'-5" (VERT. BARS)
#5 BAR = 3'-7" (HORIZ. BARS)
#6 BAR = 4'-1"
#8 BAR = MECHANICAL SPLICE

NOTES:

1. POROUS BACKFILL WITH FILTER FABRIC, 2'-0" THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 1'-0" BELOW THE EMBANKMENT SURFACE, AND LATERALLY TO THE ENDS OF THE WINGWALLS.
2. FOR ADDITIONAL INTEGRAL ABUTMENT NOTES AND DETAILS, SEE STANDARD DRAWING ICD-1-82.
3. ALL STEEL CLEARANCES SHALL BE 2" UNLESS OTHERWISE NOTED.
4. FOR REINFORCING PLACEMENT, SEE SECTION A-A ON SEE SHEET 12/21.
5. FOR SECTION A-A AND SECTION B-B, SEE SHEET 12/21.
6. FOR APPROACH SLAB NOTES AND DETAILS, SEE SEE SHEET 20/21.
7. ALL REINFORCING STEEL SHALL BE PREFIXED "A" (ABUTMENT), UNLESS NOTED OTHERWISE.

THE FOLLOWING ABBREVIATIONS ARE USED:

TYP. - TYPICAL	P.C.P.P. - PERFORATED CORRUGATED PLASTIC PIPE
MIN. - MINIMUM	N.P.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE
EL. - ELEVATION	PEJF - PREFORMED EXPANSION JOINT FILLER
BTWN - BETWEEN	E.F. - EACH FACE

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	CHECKED	REVIEWED	DATE
BMG	BMG	TJM	EBS	08/03

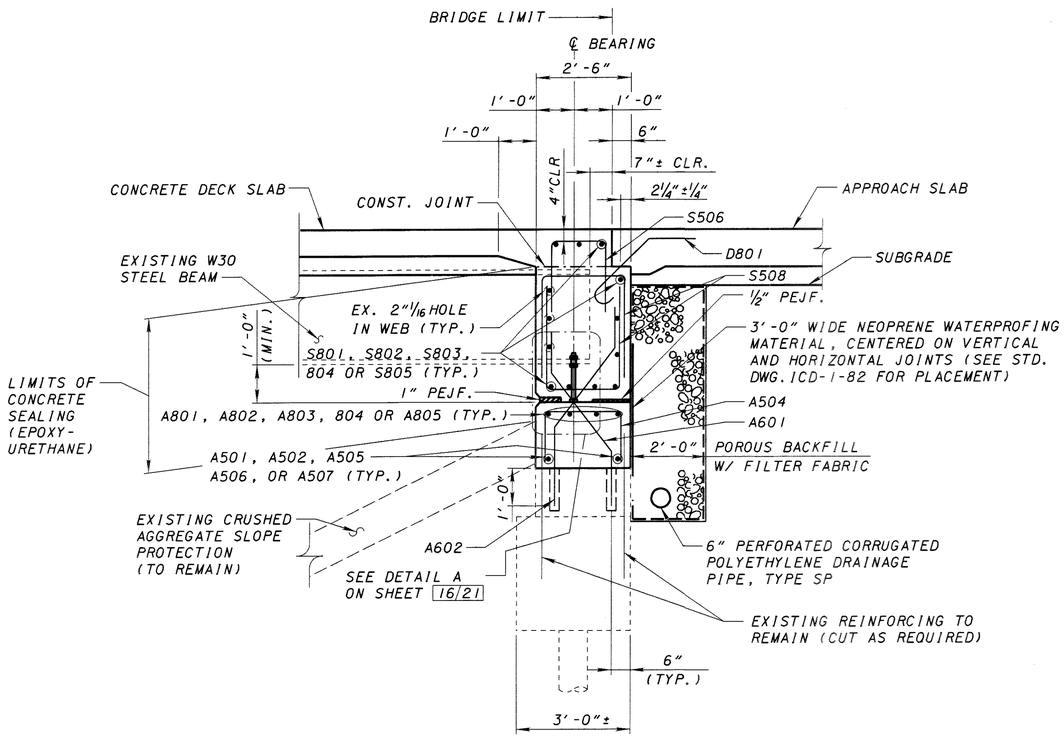
REVISED | STRUCTURE FILE NUMBER 5007860/5007879

NB FORWARD ABUTMENT
BRIDGE NO. MAH 680-1541 L/R
OVER CALLA ROAD

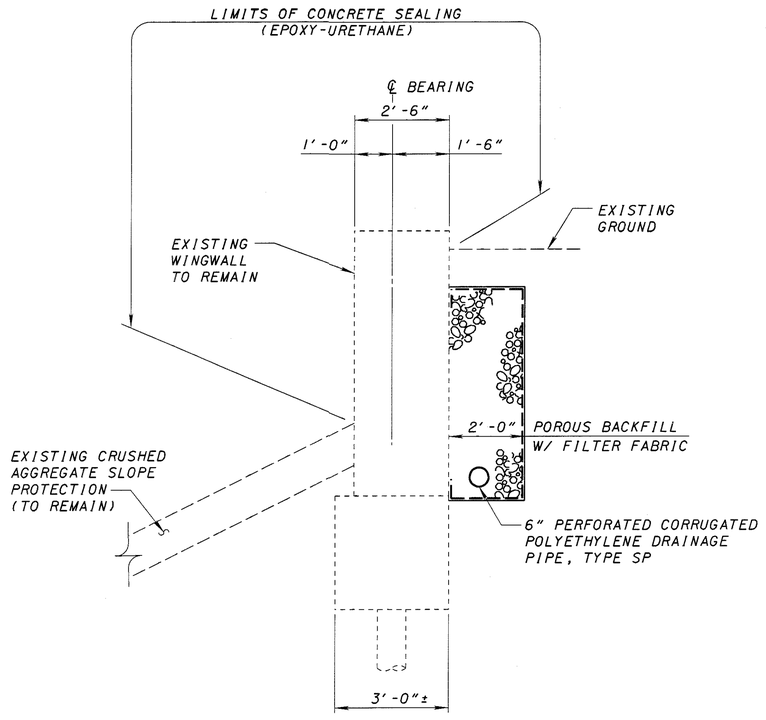
MAH-680-9.92/13.38/15.41

11/21

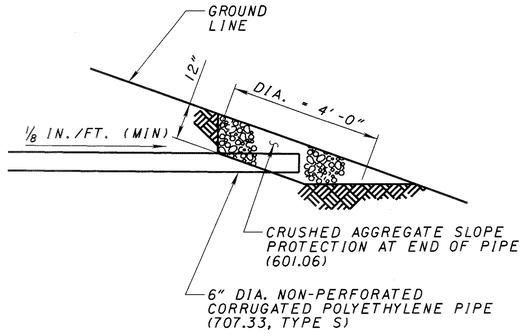
104/125



SECTION A-A



SECTION B-B



TERMINATION OF 6" NON-PERFORATED CORRUGATED POLYETHYLENE PIPE (NPCPP)

NOTES:

1. FOR LOCATION OF SECTION A-A & SECTION B-B, SEE SHEETS 8/21 THRU 11/21.
2. FOR APPROACH SLAB DETAILS, SEE SHEET 20/21.
3. POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK SHALL EXTEND UP TO THE PLANE OF SUBGRADE TO 1 FOOT BELOW THE EMBANKMENT SURFACE AND LATERALLY TO THE ENDS OF THE WINGWALLS.
4. SEAL ENDS OF EACH WINGWALL WITH EPOXY-URETHANE SEALER.
5. PLACE THE CONCRETE IN THE ABUTMENT DIAPHRAGM ENCASING STRUCTURAL STEEL MEMBERS OF AN INDIVIDUAL PHASE WITH THE DECK POUR TO ALLOW FOR EXPECTED DEAD LOAD ROTATION AT THE ABUTMENTS.

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
BMG	BMG	EBS	08/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJM		5007860/5007879	

ABUTMENT DETAILS
BRIDGE NO. MAH 680-1541 L/R
OVER CALLA ROAD

MAH-680-9.92/13.38/15.41

12/21

105
125

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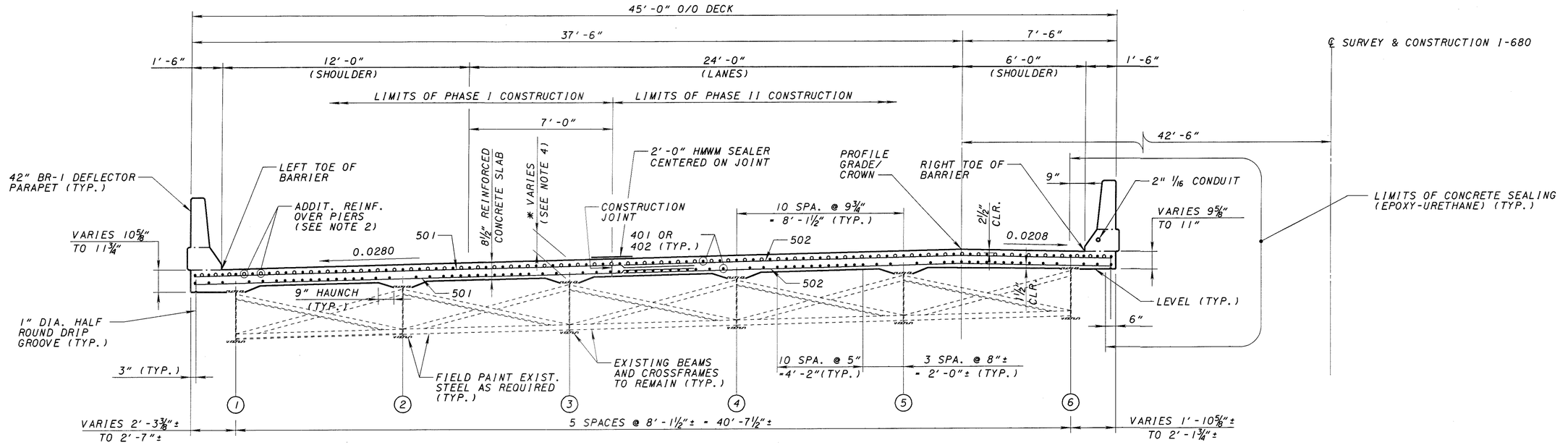
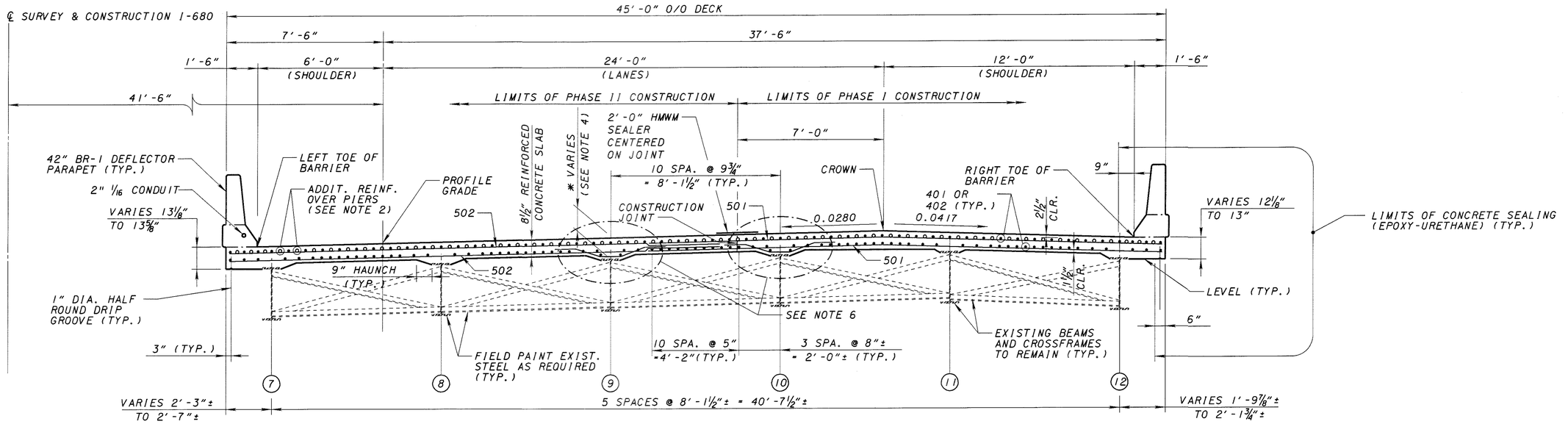


TRANSVERSE SECTION (SB BRIDGE)

*SOUTHBOUND DECK SLAB DEPTH:
THE QUANTITY OF DECK SLAB CONCRETE TO BE PAID FOR SHALL BE BASED ON THE MINIMUM REQUIRED DECK SLAB THICKNESS OF 8½". THE QUANTITY OF CONCRETE REQUIRED SHALL BE BASED ON THE DESIGN HAUNCH OF 2½", EVEN THOUGH DEVIATION FROM THAT DEPTH MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE EXISTING BEAMS MAY NOT BE PARALLEL TO THE FINISHED GRADE. ACTUAL HAUNCH DEPTHS MAY VARY FROM A ½" MINIMUM TO A 4⅝" MAXIMUM. THE ESTIMATE ASSUMES A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE OF 9 INCHES. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE IS ±3 INCHES.

MINIMUM LAP LENGTH (UNLESS NOTED OTHERWISE)
#4 BAR = 2'-11"
#5 BAR = 3'-7"



TRANSVERSE SECTION (NB BRIDGE)

*NORTHBOUND DECK SLAB DEPTH:
THE QUANTITY OF DECK SLAB CONCRETE TO BE PAID FOR SHALL BE BASED ON THE MINIMUM REQUIRED DECK SLAB THICKNESS OF 8½". THE QUANTITY OF CONCRETE REQUIRED SHALL BE BASED ON THE DESIGN HAUNCH OF 4⅜ INCHES, EVEN THOUGH DEVIATION FROM THAT DEPTH MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE EXISTING BEAMS MAY NOT BE PARALLEL TO THE FINISHED GRADE. ACTUAL HAUNCH DEPTHS MAY VARY FROM A ⅜ INCH MINIMUM TO A 5⅝ INCH MAXIMUM. THE ESTIMATE ASSUMES A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE OF 9 INCHES. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE IS ±3 INCHES.

NOTES:
1. FOR DECK SCREED ELEVATIONS AND ADDITIONAL NOTES, SEE SHEETS 14/21 AND 15/21.
2. FOR PARAPET REINFORCING, AND ADDITIONAL SUPERSTRUCTURE REINFORCING, SEE SHEETS 17/21 THRU 19/21.
3. FOR FIELD PAINTING OF EXISTING STEEL NOTES, SEE SHEET 3/21.
4. FOR ANTICIPATED DECK SLAB THICKNESS TABLES, SEE SHEET 18/21.
5. ALL REINFORCING STEEL SHALL BE PREFIXED "S" (SUPERSTRUCTURE), UNLESS NOTED OTHERWISE.
6. FOR ADDITIONAL HAUNCH REINFORCING AT BEAMS 9 AND 10, SEE SHEET 18/21.
7. THE PLACEMENT OF THE DECK CONCRETE SHALL NOT PROCEED UNTIL THE CONCRETE ABUTMENT DIAPHRAMS WITHIN THE CONSTRUCTION PHASE HAVE BEEN INSTALLED. THE CONCRETE DIAPHRAMS SHALL BE COMPLETED AT LEAST 48 HOURS BEFORE DECK PLACEMENT BEGINS.

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
BMG	BMG	EBS	08/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJM		5007860/5007879	

TRANSVERSE SECTION
BRIDGE NO. MAH 680-1541 L/R
OVER CALLA ROAD

MAH-680-9.92/13.38/15.41

13/21

106/125

$FILE$ $DATE$ $TIME$

SOUTHBOUND DECK SCREED ELEVATION TABLE

		SPAN 1				SPAN 2				SPAN 3			
		℄ BRG. REAR ABUT.	1/4	1/2	3/4	℄ BRG. PIER 1	1/4	1/2	3/4	℄ BRG. PIER 2	1/4	1/2	3/4	℄ BRG. FORWARD ABUT.
LEFT CURB LINE	STATION	315+13.56	315+23.20	315+32.84	315+42.47	315+52.09	315+64.09	315+76.08	315+88.08	316+00.08	316+09.67	316+19.21	316+28.74	316+38.29
	FINAL TOP OF DECK ELEV.	1203.73	1203.79	1203.85	1203.91	1203.96	1204.04	1204.11	1204.18	1204.25	1204.31	1204.37	1204.42	1204.48
	ADJUSTED DEFLECTION	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00
	SCREED ELEVATION	1203.73	1203.80	1203.86	1203.91	1203.96	1204.05	1204.12	1204.19	1204.25	1204.31	1204.38	1204.43	1204.48
BEAM 1	STATION	315+13.68	315+23.31	315+32.94	315+42.57	315+52.18	315+64.18	315+76.17	315+88.17	316+00.17	316+09.76	316+19.31	316+28.85	316+38.40
	FINAL TOP OF DECK ELEV.	1203.76	1203.82	1203.87	1203.93	1203.99	1204.06	1204.13	1204.20	1204.28	1204.34	1204.39	1204.45	1204.51
	ADJUSTED DEFLECTION	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00
	SCREED ELEVATION	1203.76	1203.83	1203.88	1203.93	1203.99	1204.07	1204.14	1204.21	1204.28	1204.34	1204.40	1204.46	1204.51
BEAM 2	STATION	315+14.68	315+24.30	315+33.93	315+43.55	315+53.15	315+65.13	315+77.11	315+89.10	316+01.08	316+10.66	316+20.19	316+29.73	316+39.26
	FINAL TOP OF DECK ELEV.	1203.99	1204.05	1204.11	1204.16	1204.22	1204.29	1204.36	1204.44	1204.51	1204.57	1204.63	1204.69	1204.74
	ADJUSTED DEFLECTION	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00
	SCREED ELEVATION	1203.99	1204.06	1204.12	1204.16	1204.22	1204.30	1204.37	1204.45	1204.51	1204.57	1204.64	1204.70	1204.74
BEAM 3	STATION	315+15.68	315+25.29	315+34.91	315+44.52	315+54.11	315+66.08	315+78.05	315+90.02	316+01.99	316+11.55	316+21.08	316+30.60	316+40.12
	FINAL TOP OF DECK ELEV.	1204.23	1204.28	1204.34	1204.40	1204.45	1204.52	1204.60	1204.67	1204.74	1204.80	1204.86	1204.92	1204.98
	ADJUSTED DEFLECTION	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00
	SCREED ELEVATION	1204.23	1204.29	1204.35	1204.40	1204.45	1204.53	1204.61	1204.68	1204.74	1204.80	1204.87	1204.93	1204.98
CONSTR. JOINT	STATION	315+15.90	315+25.52	315+35.13	315+44.75	315+54.34	315+66.31	315+78.28	315+90.24	316+02.21	316+11.76	316+21.28	316+30.79	316+40.31
	FINAL TOP OF DECK ELEV.	1204.28	1204.34	1204.39	1204.45	1204.51	1204.58	1204.65	1204.73	1204.80	1204.85	1204.91	1204.97	1205.03
	ADJUSTED DEFLECTION	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00
	SCREED ELEVATION	1204.28	1204.35	1204.40	1204.45	1204.51	1204.59	1204.66	1204.74	1204.80	1204.85	1204.92	1204.98	1205.03
BEAM 4	STATION	315+16.68	315+26.28	315+35.88	315+45.48	315+55.07	315+67.02	315+78.98	315+90.94	316+02.90	316+12.45	316+21.96	316+31.47	316+40.99
	FINAL TOP OF DECK ELEV.	1204.46	1204.52	1204.57	1204.63	1204.69	1204.76	1204.83	1204.90	1204.97	1205.03	1205.09	1205.15	1205.21
	ADJUSTED DEFLECTION	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00
	SCREED ELEVATION	1204.46	1204.53	1204.58	1204.63	1204.69	1204.77	1204.84	1204.91	1204.97	1205.03	1205.10	1205.16	1205.21
BEAM 5	STATION	315+17.68	315+27.27	315+36.86	315+46.45	315+56.03	315+67.97	315+79.91	315+91.86	316+03.80	316+13.34	316+22.84	316+32.34	316+41.85
	FINAL TOP OF DECK ELEV.	1204.70	1204.75	1204.81	1204.86	1204.92	1204.99	1205.06	1205.13	1205.21	1205.26	1205.32	1205.38	1205.44
	ADJUSTED DEFLECTION	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00
	SCREED ELEVATION	1204.70	1204.76	1204.82	1204.86	1204.92	1205.00	1205.07	1205.14	1205.21	1205.26	1205.33	1205.39	1205.44
PROFILE GRADE	STATION	315+17.99	315+28.58	315+37.18	315+46.77	315+56.35	315+68.29	315+80.23	315+92.17	316+04.11	316+13.63	316+23.13	316+32.62	316+42.11
	FINAL TOP OF DECK ELEV.	1204.77	1204.83	1204.88	1204.94	1205.00	1205.07	1205.14	1205.21	1205.28	1205.34	1205.40	1205.46	1205.51
	ADJUSTED DEFLECTION	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00
	SCREED ELEVATION	1204.77	1204.84	1204.89	1204.94	1205.00	1205.08	1205.15	1205.22	1205.28	1205.34	1205.41	1205.47	1205.51
BEAM 6	STATION	315+18.67	315+28.25	315+37.83	315+47.41	315+56.98	315+68.91	315+80.84	315+92.78	316+04.71	316+14.23	316+23.72	316+33.21	316+42.70
	FINAL TOP OF DECK ELEV.	1204.66	1204.71	1204.77	1204.83	1204.89	1204.96	1205.03	1205.11	1205.18	1205.23	1205.29	1205.34	1205.40
	ADJUSTED DEFLECTION	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00
	SCREED ELEVATION	1204.66	1204.72	1204.78	1204.83	1204.89	1204.97	1205.04	1205.12	1205.18	1205.23	1205.30	1205.35	1205.40
RIGHT CURB LINE	STATION	315+18.72	315+28.31	315+37.89	315+47.48	315+57.05	315+68.98	315+80.91	315+92.85	316+04.78	316+14.29	316+23.78	316+33.26	316+42.74
	FINAL TOP OF DECK ELEV.	1204.65	1204.71	1204.76	1204.82	1204.88	1204.95	1205.02	1205.09	1205.16	1205.22	1205.28	1205.33	1205.39
	ADJUSTED DEFLECTION	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00
	SCREED ELEVATION	1204.65	1204.72	1204.77	1204.82	1204.88	1204.96	1205.03	1205.10	1205.16	1205.22	1205.29	1205.34	1205.39

NOTE:

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

NOTES:

2. FOR ADDITIONAL NOTES AND TRANSVERSE SECTION, SEE SHEET 13/21.
3. FOR ANTICIPATED DECK SLAB THICKNESS TABLE, SEE SHEET 18/21.
4. FOR PHASE CONSTRUCTION DETAILS, SEE SHEET 6/21.

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

DESIGNED BMG | DRAWN BMG | REVIEWED EBS | DATE 08/03
CHECKED TJM | REVISED | STRUCTURE FILE NUMBER 5007860/5007879

SOUTHBOUND DECK SCREED ELEVATION TABLE
BRIDGE NO. MAH 680-1541 L/R
OVER CALLA ROAD

MAH-680-9.92/13.38/15.41

14/21

107
125

$FILE$
$DATE$ $TIME$

NORTHBOUND DECK SCREED ELEVATION TABLE

		SPAN 1				SPAN 2				SPAN 3				
		℄ BRG. REAR ABUT.	1/4	1/2	3/4	℄ BRG. PIER 1	1/4	1/2	3/4	℄ BRG. PIER 2	1/4	1/2	3/4	℄ BRG. FORWARD ABUT.
LEFT CURB LINE	STATION	315+27.34	315+36.87	315+46.39	315+55.93	315+65.44	315+77.27	315+89.09	316+00.90	316+12.72	316+22.06	316+31.50	316+40.94	316+50.38
	ADJUSTED DEFLECTION	1204.67	1204.73	1204.79	1204.86	1204.92	1205.00	1205.07	1205.15	1205.23	1205.29	1205.35	1205.42	1205.48
	FINAL TOP OF DECK ELEV.	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00
	SCREED ELEVATION	1204.67	1204.74	1204.80	1204.86	1204.92	1205.00	1205.08	1205.16	1205.23	1205.29	1205.36	1205.42	1205.48
BEAM 7	STATION	315+27.45	315+36.97	315+46.49	315+56.02	315+65.53	315+77.35	315+89.17	316+00.99	316+12.81	316+22.15	316+31.60	316+41.04	316+50.49
	ADJUSTED DEFLECTION	1204.69	1204.75	1204.82	1204.88	1204.94	1205.02	1205.10	1205.17	1205.25	1205.32	1205.38	1205.44	1205.51
	FINAL TOP OF DECK ELEV.	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00
	SCREED ELEVATION	1204.69	1204.76	1204.83	1204.88	1204.94	1205.03	1205.11	1205.18	1205.25	1205.32	1205.39	1205.45	1205.51
PROFILE GRADE	STATION	315+28.06	315+37.58	315+47.11	315+56.63	315+66.13	315+77.95	315+89.76	316+01.57	316+13.38	316+22.69	316+32.12	316+41.56	316+50.99
	ADJUSTED DEFLECTION	1204.84	1204.90	1204.96	1205.03	1205.09	1205.17	1205.25	1205.32	1205.40	1205.46	1205.53	1205.59	1205.65
	FINAL TOP OF DECK ELEV.	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00
	SCREED ELEVATION	1204.84	1204.91	1204.97	1205.03	1205.09	1205.18	1205.26	1205.33	1205.40	1205.47	1205.54	1205.60	1205.65
BEAM 8	STATION	315+28.42	315+37.94	315+47.45	315+56.97	315+66.46	315+78.27	315+90.08	316+01.89	316+13.70	316+23.00	316+32.44	316+41.88	316+51.31
	ADJUSTED DEFLECTION	1204.93	1204.99	1205.05	1205.11	1205.17	1205.25	1205.33	1205.41	1205.49	1205.55	1205.61	1205.68	1205.74
	FINAL TOP OF DECK ELEV.	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00
	SCREED ELEVATION	1204.93	1205.00	1205.06	1205.11	1205.17	1205.26	1205.34	1205.42	1205.49	1205.55	1205.62	1205.69	1205.74
BEAM 9	STATION	315+29.40	315+38.91	315+48.41	315+57.91	315+67.40	315+79.19	315+90.99	316+02.79	316+14.58	316+23.85	316+33.28	316+42.71	316+52.13
	ADJUSTED DEFLECTION	1205.16	1205.22	1205.28	1205.35	1205.41	1205.48	1205.56	1205.64	1205.72	1205.78	1205.85	1205.91	1205.98
	FINAL TOP OF DECK ELEV.	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00
	SCREED ELEVATION	1205.16	1205.23	1205.29	1205.35	1205.41	1205.49	1205.57	1205.65	1205.72	1205.78	1205.86	1205.92	1205.98
CONSTR. JOINT	STATION	315+30.10	315+39.61	315+49.11	315+58.61	315+68.09	315+79.88	315+91.66	316+03.45	316+15.23	316+24.47	316+33.88	316+43.30	316+52.71
	ADJUSTED DEFLECTION	1205.33	1205.39	1205.45	1205.52	1205.58	1205.66	1205.73	1205.81	1205.89	1205.95	1206.01	1206.08	1206.14
	FINAL TOP OF DECK ELEV.	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00
	SCREED ELEVATION	1205.33	1205.40	1205.46	1205.52	1205.58	1205.67	1205.74	1205.82	1205.89	1205.95	1206.02	1206.09	1206.14
BEAM 10	STATION	315+30.38	315+39.87	315+49.37	315+58.86	315+68.33	315+80.11	315+91.90	316+03.68	316+15.47	316+24.70	316+34.12	316+43.54	316+52.95
	ADJUSTED DEFLECTION	1205.39	1205.46	1205.52	1205.58	1205.64	1205.72	1205.80	1205.87	1205.95	1206.02	1206.08	1206.14	1206.21
	FINAL TOP OF DECK ELEV.	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00
	SCREED ELEVATION	1205.39	1205.47	1205.53	1205.58	1205.64	1205.73	1205.81	1205.88	1205.95	1206.02	1206.09	1206.15	1206.21
CROWN	STATION	315+30.94	315+40.44	315+49.93	315+59.42	315+68.89	315+80.67	315+92.44	316+04.22	316+15.99	316+25.20	316+34.61	316+44.01	316+53.41
	ADJUSTED DEFLECTION	1205.53	1205.59	1205.66	1205.72	1205.78	1205.86	1205.94	1206.01	1206.09	1206.15	1206.21	1206.28	1206.34
	FINAL TOP OF DECK ELEV.	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00
	SCREED ELEVATION	1205.53	1205.60	1205.67	1205.72	1205.78	1205.87	1205.95	1206.02	1206.09	1206.15	1206.22	1206.29	1206.34
BEAM 11	STATION	315+31.35	315+40.83	315+50.32	315+59.80	315+69.26	315+81.03	315+92.80	316+04.58	316+16.35	316+25.55	316+34.96	316+44.36	316+53.77
	ADJUSTED DEFLECTION	1205.39	1205.46	1205.52	1205.58	1205.65	1205.73	1205.80	1205.88	1205.96	1206.02	1206.07	1206.13	1206.19
	FINAL TOP OF DECK ELEV.	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00
	SCREED ELEVATION	1205.39	1205.47	1205.53	1205.58	1205.65	1205.74	1205.81	1205.89	1205.96	1206.02	1206.08	1206.14	1206.19
BEAM 12	STATION	315+32.32	315+41.80	315+51.27	315+60.75	315+70.19	315+81.95	315+93.71	316+05.47	316+17.23	316+26.40	316+35.78	316+45.19	316+54.59
	ADJUSTED DEFLECTION	1205.06	1205.12	1205.19	1205.25	1205.32	1205.39	1205.47	1205.55	1205.62	1205.68	1205.75	1205.80	1205.86
	FINAL TOP OF DECK ELEV.	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00
	SCREED ELEVATION	1205.06	1205.13	1205.20	1205.25	1205.32	1205.40	1205.48	1205.56	1205.62	1205.68	1205.76	1205.81	1205.86
RIGHT CURB LINE	STATION	315+32.38	315+41.86	315+51.34	315+60.82	315+70.26	315+82.02	315+93.78	316+05.54	316+17.29	316+26.46	316+35.84	316+45.23	316+54.62
	ADJUSTED DEFLECTION	1205.04	1205.10	1205.16	1205.23	1205.29	1205.37	1205.44	1205.52	1205.60	1205.66	1205.72	1205.78	1205.85
	FINAL TOP OF DECK ELEV.	0.0000	0.0100	0.0100	0.0000	0.0000	0.0100	0.0100	0.0100	0.0000	0.0000	0.0100	0.0100	0.0000
	SCREED ELEVATION	1205.04	1205.11	1205.17	1205.23	1205.29	1205.38	1205.45	1205.53	1205.60	1205.66	1205.73	1205.79	1205.85

NOTE:

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

NOTES:

2. FOR ADDITIONAL NOTES AND TRANSVERSE SECTION, SEE SHEET 13/21.
3. FOR ANTICIPATED DECK SLAB THICKNESS TABLE, SEE SHEET 18/21.
4. FOR PHASE CONSTRUCTION DETAILS, SEE SHEET 6/21.

$FILE$
$DATE$ $TIME$

DESIGN AGENCY
PB PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

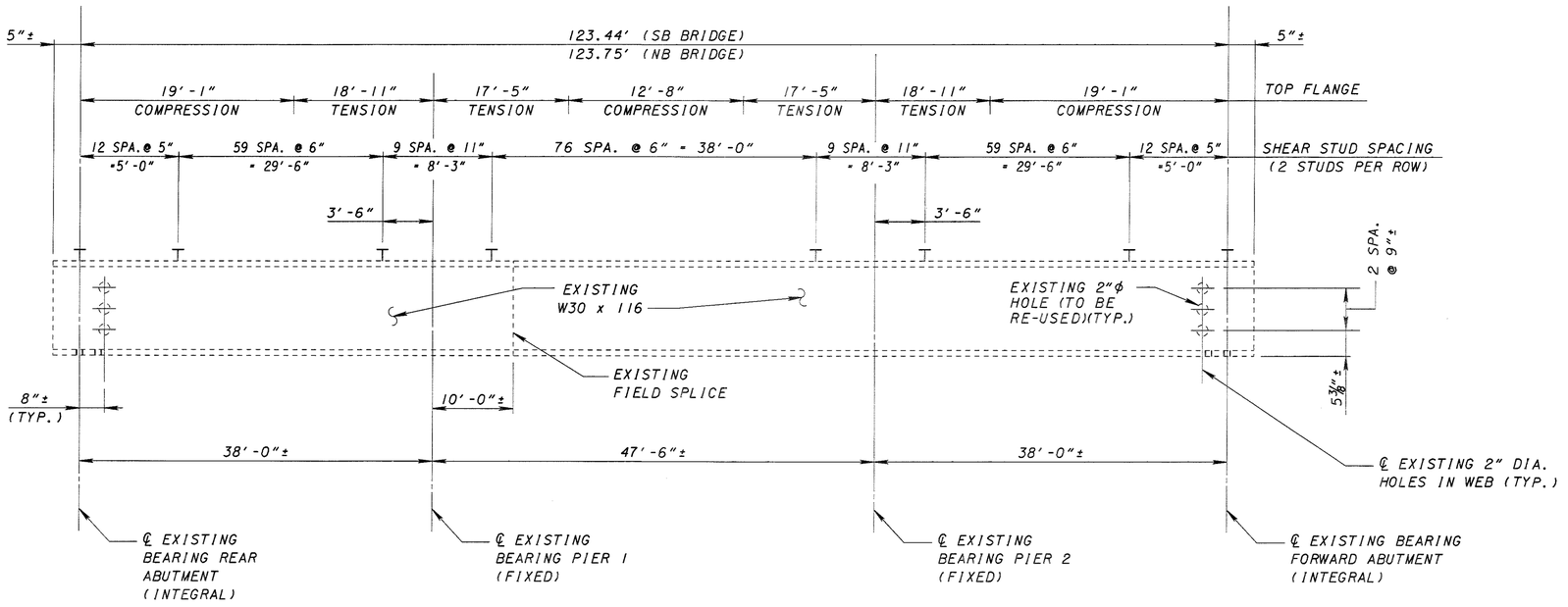
DESIGNED BMG | DRAWN BMG | REVIEWED EBS | DATE 08/03
CHECKED TJM | REVISED | STRUCTURE FILE NUMBER 5007860/5007879

NORTHBOUND DECK SCREED ELEVATION TABLE
BRIDGE NO. MAH 680-1541 L/R
OVER CALLA ROAD

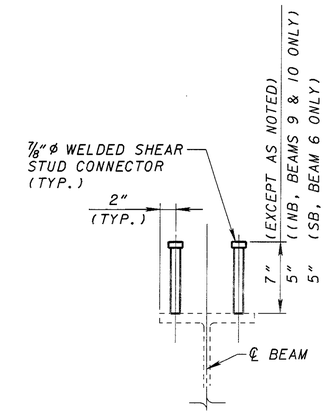
MAH-680-9.92/13.38/15.41

15/21

108
125



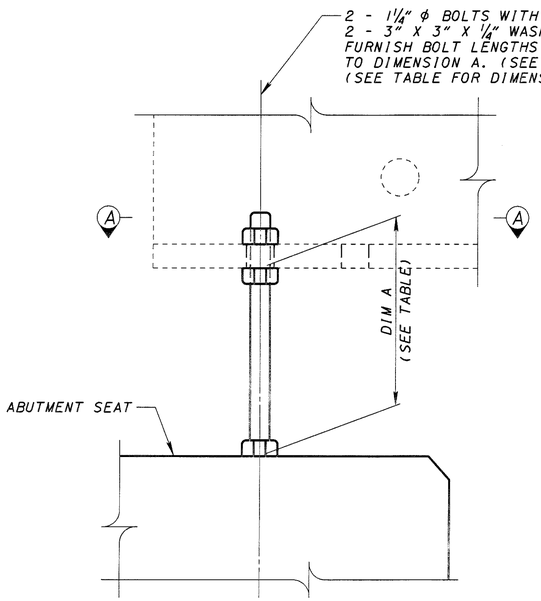
TYPICAL BEAM ELEVATION



SHEAR STUD DETAIL

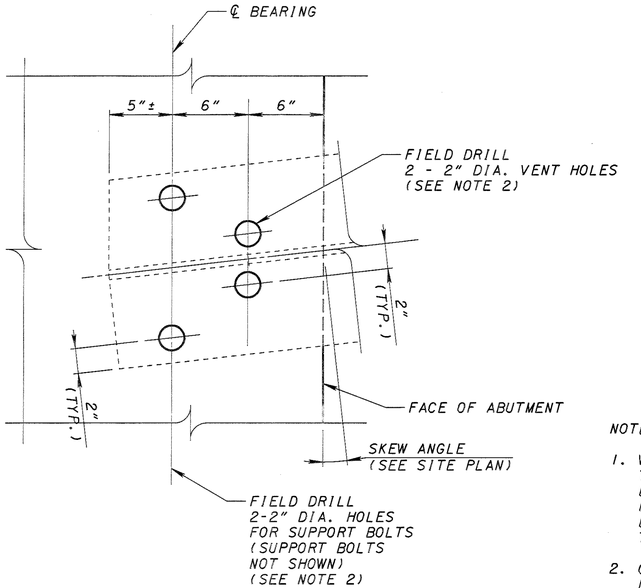
SCALE: NTS

NOTE: STUD PLACEMENT ON FLANGE SPLICE PLATES SHALL BE ADJUSTED AS REQUIRED TO AVOID INTERFERENCE WITH CONNECTION BOLTS



DETAIL A

DIMENSION A (INCHES)		
SOUTHBOUND BRIDGE		
BEAM	R.A.	F.A.
1	12 1/4"	12 1/4"
2	14 3/4"	15"
3	17 1/16"	17 3/8"
4	19 3/16"	19 9/16"
5	21 5/8"	21 15/16"
6	24"	24 1/4"
NORTHBOUND BRIDGE		
BEAM	R.A.	F.A.
7	12 1/4"	12 1/8"
8	14 1/2"	14 3/4"
9	17 1/4"	17 1/16"
10	19 9/16"	19 9/16"
11	21 1/8"	20 7/8"
12	17 3/16"	17 1/4"



SECTION A-A

NOTES:

1. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FACIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS MADE TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE AT LEAST 2" LONG, AND BE AT LEAST ¼" FOR THICKNESS UP TO ¾" OR 5/16" FOR GREATER THAN ¾" THICK.
2. COST ASSOCIATED WITH 1¼"/16 BOLTS, NUTS, WASHERS AND FIELD DRILLING IS CONSIDERED INCIDENTAL TO CONSTRUCTION AND WILL BE PAID FOR UNDER ITEM 511- CLASS C CONCRETE, ABUTMENT.
3. FOR ADDITIONAL INTEGRAL ABUTMENT NOTES AND DETAILS, SEE STANDARD DRAWING ICD-1-82.

THE FOLLOWING ABBREVIATIONS ARE USED:

TYP. - TYPICAL SPA. - SPACES

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
TJM	TJM	EBS	08/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BMG		5007615	

SUPERSTRUCTURE DETAILS
BRIDGE NO. MAH 680-1541 L/R
OVER CALLA RD.

MAH-680-9.92/13.38/15.41

16/21

109
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$FILE$ $DATE$ $TIME$

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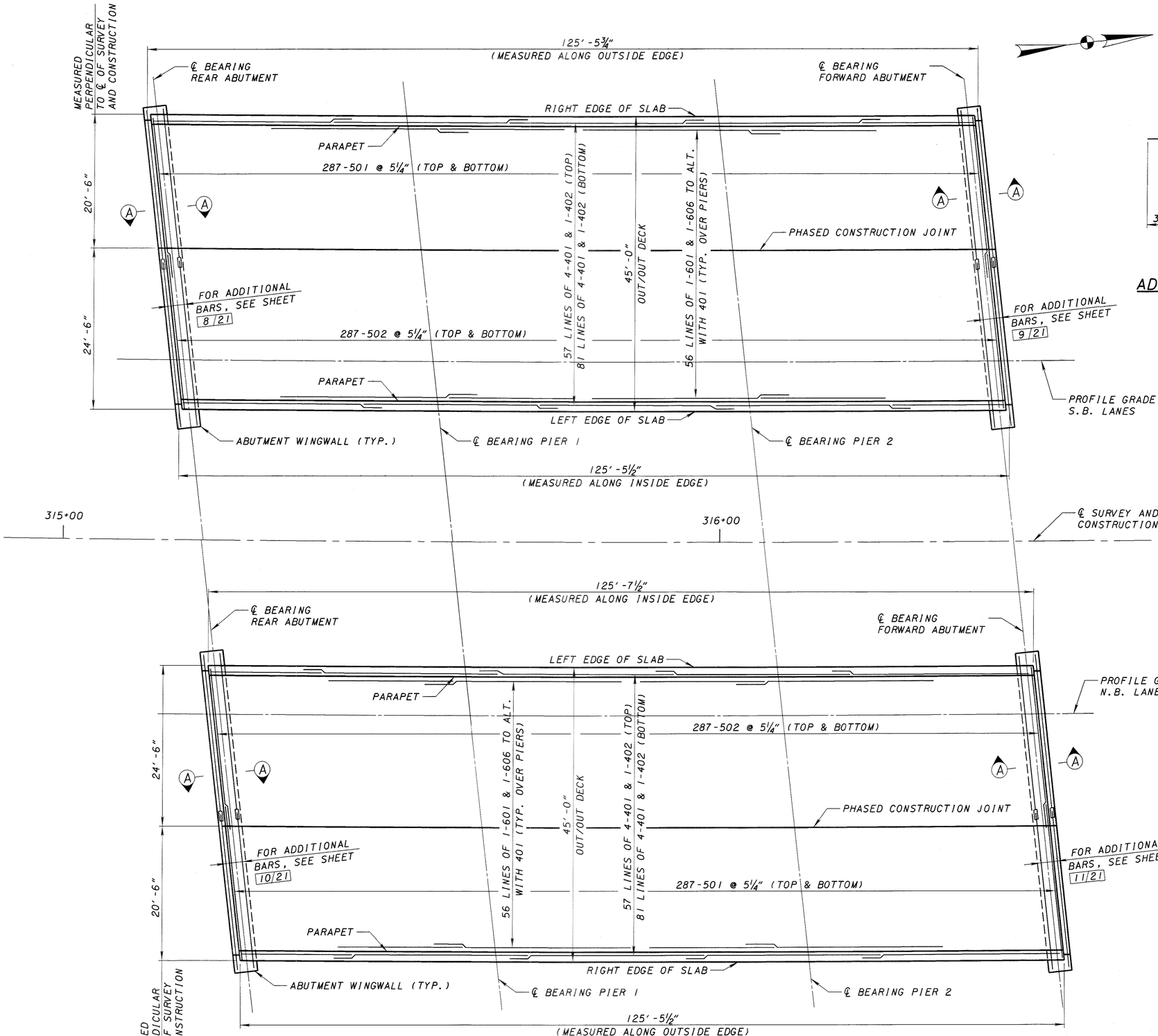

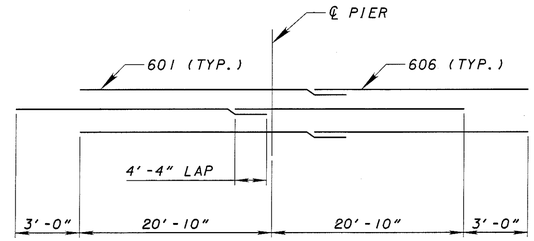

ADDITIONAL REINFORCEMENT OVER PIERS

MINIMUM LAP LENGTH (UNLESS NOTED OTHERWISE)
#4 BAR = 2'-11"
#5 BAR = 3'-7"

NOTES:

1. FOR SECTION A-A, SEE SHEET 12/21.
2. ALL REINFORCING STEEL SHALL BE PREFIXED "S" (SUPERSTRUCTURE), UNLESS NOTED OTHERWISE.
3. FOR HAUNCH REINFORCING DETAILS, SEE SHEET 18/21.

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
BMG	BMG	EBS	08/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJM		5007860/5007879	

SLAB PLAN
BRIDGE NO. MAH 680-1541 L/R
OVER CALLA ROAD

MAH-680-9.92/13.38/15.41

17/21

110/125

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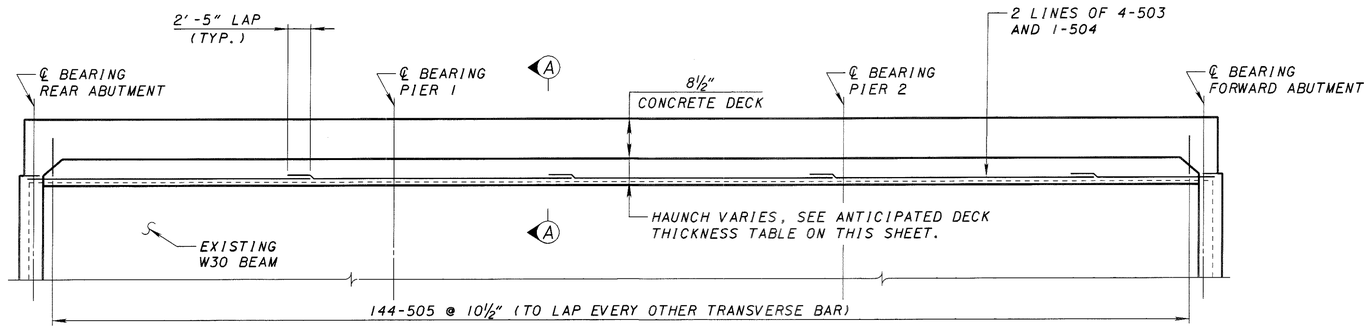
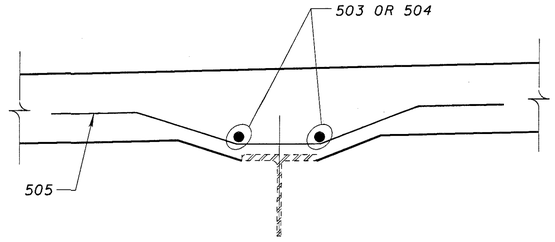
$DATE$ $TIME$



HUANCH REINFORCING DETAIL

(TYPICAL AT NB BRIDGE, BEAMS 9 AND 10 ONLY)



SECTION A-A

(TYPICAL DECK REINFORCING NOT SHOWN FOR CLARITY)

ANTICIPATED DECK THICKNESS TABLE (SOUTHBOUND BRIDGE)

	SPAN 1					SPAN 2				SPAN 3				
	℄ BRG. REAR ABUT.	¼	½	¾	℄ BRG. PIER 1	¼	½	¾	℄ BRG. PIER 2	¼	½	¾	℄ BRG. FORWARD ABUT.
BEAM 1	11.29	11.14	10.99	10.84	10.94	10.53	10.32	10.11	10.09	10.05	10.27	10.48	10.70
BEAM 2	11.57	11.46	11.50	11.48	11.46	11.20	10.94	10.70	10.48	10.53	10.58	10.59	10.73
BEAM 3	12.09	11.88	11.81	11.68	11.56	11.40	11.24	11.11	10.99	11.01	11.03	11.00	11.11
BEAM 4	12.74	12.40	12.20	11.96	11.71	11.61	11.52	11.44	11.38	11.46	11.54	11.57	11.73
BEAM 5	13.14	12.89	12.79	12.62	12.47	12.26	12.06	11.88	11.71	11.80	11.90	11.94	12.12
BEAM 6	10.25	10.03	9.93	9.76	9.59	9.44	9.28	9.12	8.94	9.06	9.16	9.20	9.35

ANTICIPATED DECK THICKNESS TABLE (NORTHBOUND BRIDGE)

	SPAN 1					SPAN 2				SPAN 3				
	℄ BRG. REAR ABUT.	¼	½	¾	℄ BRG. PIER 1	¼	½	¾	℄ BRG. PIER 2	¼	½	¾	℄ BRG. FORWARD ABUT.
BEAM 7	12.87	12.72	12.70	12.61	12.53	12.52	12.52	12.51	12.52	12.68	12.85	12.95	13.18
BEAM 8	13.39	13.21	13.17	13.08	12.99	12.94	12.89	12.87	12.85	12.96	13.08	13.14	13.34
BEAM 9	13.44	13.33	13.37	13.35	13.34	13.30	13.27	13.25	13.25	13.39	13.53	13.62	13.85
BEAM 10	13.97	13.81	13.80	13.74	13.68	13.68	13.70	13.73	13.77	13.85	13.93	13.96	14.12
BEAM 11	12.36	12.27	12.32	12.29	12.26	12.20	12.14	12.07	12.00	12.16	12.31	12.40	12.62
BEAM 12	12.34	12.16	12.10	11.96	11.82	11.78	11.74	11.68	11.61	11.78	11.99	12.02	12.23

NOTES:

1. FOR TRANSVERSE SECTION, SEE SHEET 13/21.
2. ALL REINFORCING STEEL SHALL BE PREFIXED "S" (SUPERSTRUCTURE), UNLESS NOTED OTHERWISE.

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
BMG	BMG	EBS	08/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TJM		5007860/5007879	

SLAB DETAILS
BRIDGE NO. MAH 680-1541 L/R
OVER CALLA ROAD

MAH-680-9.92/13.38/15.41

18/21

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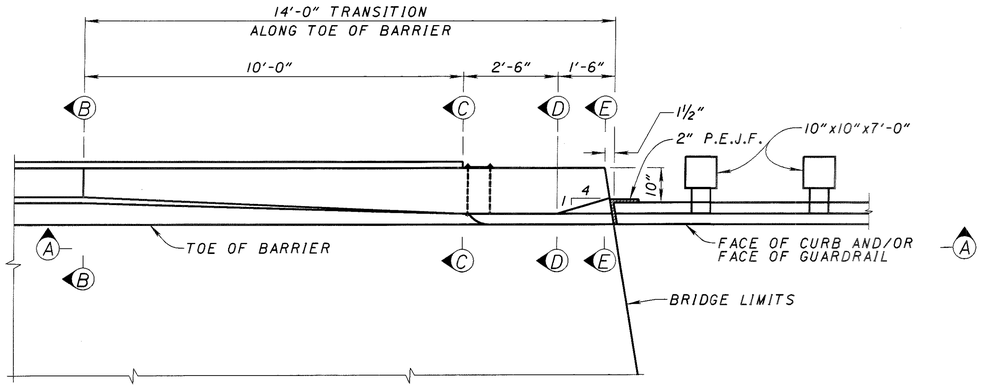
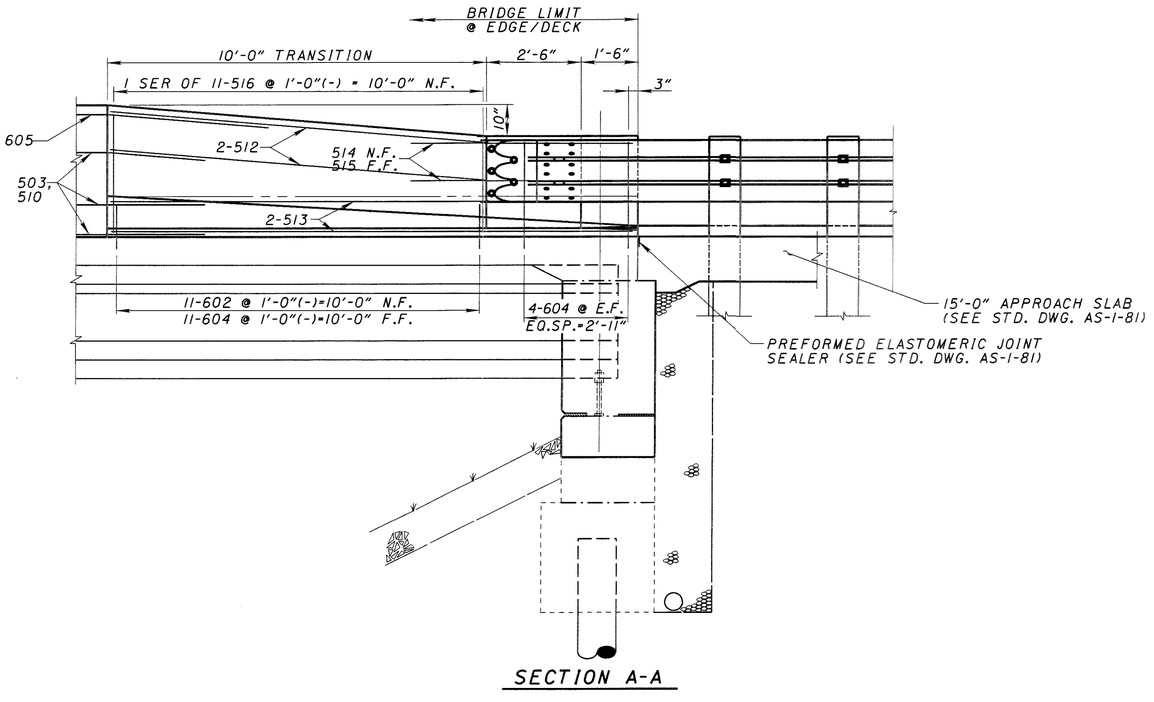
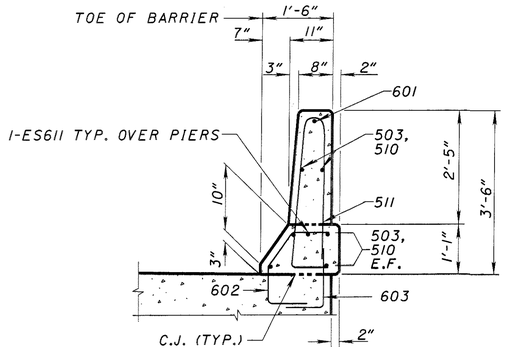
$FILE$
$DATE$ $TIME$



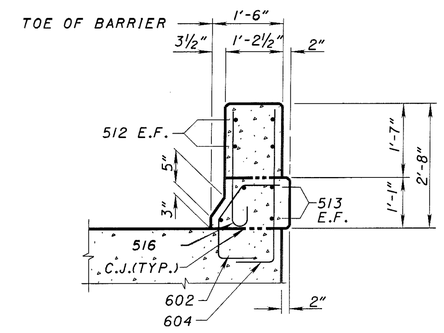
TRANSITION PARAPET



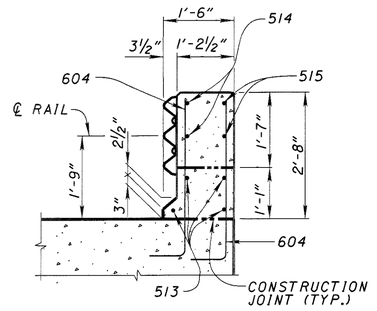
SECTION A-A



SECTION B-B



SECTION C-C



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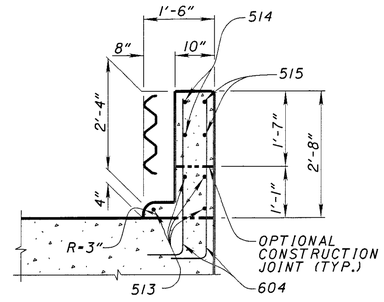
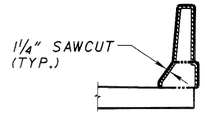


SECTION E-E

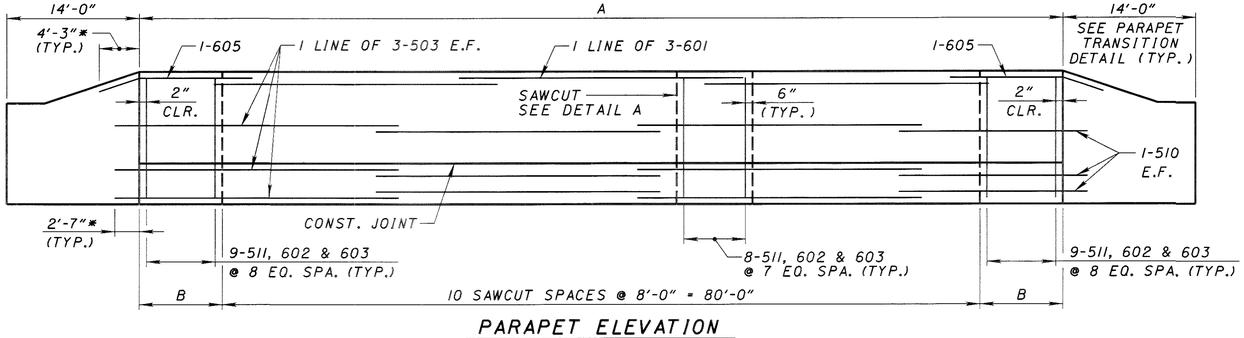


DETAIL A

(SECTION THROUGH SAWCUT)
SAWCUT PERIMETER = 8'-1"

MINIMUM LAP LENGTH (UNLESS NOTED OTHERWISE)
#5 BAR = 2'-5"
#6 BAR = 4'-1"

DIMENSION TABLE			
BRIDGE	SIDE	SYMBOL	LENGTH
SB	WEST	A	97'-5¾"
		B	8'-8⅞"
SB	EAST	A	97'-5½"
		B	8'-8¾"
NB	WEST	A	97'-7½"
		B	8'-9¾"
NB	EAST	A	97'-5½"
		B	8'-8¾"



PARAPET ELEVATION

(SEE DIMENSION TABLE)

*LAP WITH HORIZONTAL REINFORCEMENT IN TRANSITION PARAPET

NOTE:

1. ALL REINFORCING STEEL SHALL BE PREFIXED "S" (SUPERSTRUCTURE), UNLESS NOTED OTHERWISE.
2. FOR ADDITIONAL SUPERSTRUCTURE REINFORCING DETAILS, SEE SHEETS 13/21 AND 18/21.

THE FOLLOWING ABBREVIATIONS ARE USED:

E.F. = EACH FACE	EQ. = EQUAL
N.F. = NEAR FACE	SPA. = SPACES
F.F. = FAR FACE	TYP. = TYPICAL

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
BMG	SJG	EBS	08/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BMG		5007860/5007879	

PARAPET DETAILS

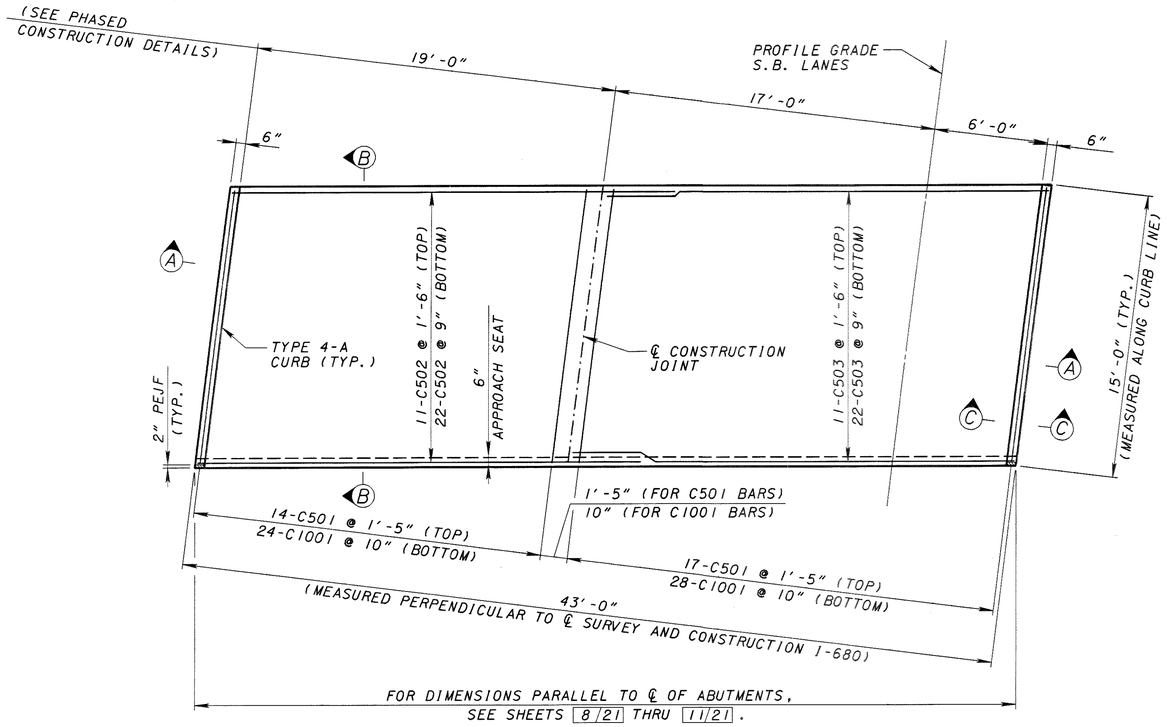
BRIDGE NO. MAH 680-1541 L/R
OVER CALLA ROAD

MAH-680-9.92/13.38/15.41

19/21

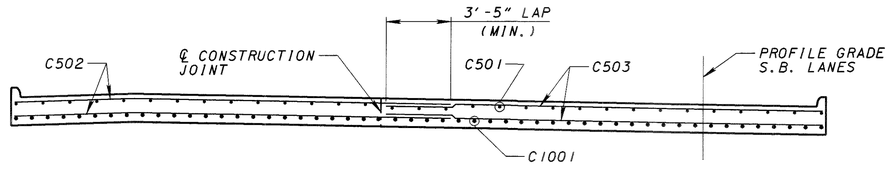
112/125

$FILE$ $DATE$ $TIME$

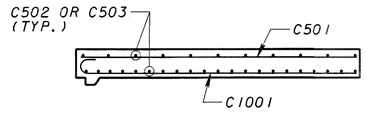


APPROACH SLAB PLAN

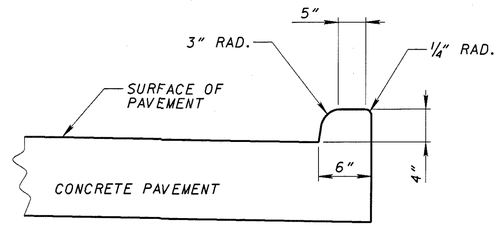
(SB FORWARD APPROACH SLAB SHOWN, REAR AND WB APPROACH SLABS SIMILAR)



SECTION A-A



SECTION B-B



SECTION C-C

(TYPE 4-A CURB)

NOTES:

1. FOR ADDITIONAL NOTES AND DETAILS SEE STD. CONSTRUCTION DWG. AS-1-81.
2. FOR PAYMENT OF APPROACH SLAB, SEE ROADWAY PLANS.

PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
BMG	SJG	EBS	08/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
LJF		5007860	

APPROACH SLAB DETAILS
BRIDGE NO. MAH 680-1541
OVER CALLA ROAD

MAH-680-9.92/13.38/15.41

20/21

113/125

$FILE$ $DATE$ $TIME$

g:\projects\21467\bridge\clejan20\calla\MH680AS3.dgn g:\projects\21467\fullprf\MH680AS3.prf Tue Jan 20 21:31:26 2004

REINFORCEMENT SCHEDULE

MARK	NUMBER OF BARS TOTAL	S.B. ABUT. REAR	S.B. ABUT. FWD.	N.B. ABUT. REAR	N.B. ABUT. FWD.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	RADIUS	INCRE.	REMARK
ABUTMENTS - EPOXY COATED BARS																
A501	4	2	2			25'-8"	107	STR.								
A502	4	2	2			27'-2"	113	STR.								
A503	32	8	8	8	8	5'-2"	172	STR.								
A504	256	64	64	64	64	3'-11"	1046	2	1'-0"	2'-2"	1'-0"					
A505	4			2	2	26'-2"	109	STR.								
A506	2			2		26'-6"	55	STR.								
A507	2				2	26'-4"	55	STR.								
A601	197	49	49	50	49	4'-8"	1381	25	1'-3"	1'-10"	0'-10"	1'-10"	0'-0"			
A602	197	49	49	50	49	5'-2"	1529	25	1'-9"	1'-10"	0'-10"	1'-10"	0'-0"			
A801	8	4	4			24'-0"	513	32								
A802	8	4	4			25'-2"	538	33								
A803	8			4	4	24'-6"	523	32								
A804	4			4		24'-7"	263	33								
A805	4				4	24'-4"	260	33								
					TOTAL WEIGHT		**6664**									

REINFORCEMENT SCHEDULE

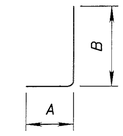
MARK	NUMBER OF BARS TOTAL	S.B. ABUT. REAR	S.B. ABUT. FWD.	N.B. ABUT. REAR	N.B. ABUT. FWD.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	RADIUS	INCRE.	REMARK
***APPROACH SLABS - EPOXY COATED BARS**																
C501	124	31	31	31	31	14'-6"	1876	STR.								
C502	132	33	33	33	33	22'-11"	3155	STR.								
C503	132	33	33	33	33	23'-4"	3212	STR.								
C1001	208	52	52	52	52	15'-11"	14246	16	14'-6"							
							TOTAL WEIGHT	**22489**								

* TO BE PAID FOR WITH ROADWAY PLANS

REINFORCEMENT SCHEDULE

MARK	NUMBER OF BARS TOTAL	S.B. BRIDGE	N.B. BRIDGE	LENGTH	WEIGHT	TYPE	A	B	C	D	E	RADIUS	INCRE.	REMARK
SUPERSTRUCTURE - EPOXY COATED BARS														
S401	1104	552	552	30'-0"	22124	STR.								
S402	276	138	138	17'-0"	3134	STR.								
S501	574	287	287	24'-3"	14518	STR.								
S502	574	287	287	24'-0"	14368	STR.								
S503	88	36	52	30'-0"	2754	STR.								
S504	4		4	15'-0"	63	STR.								HAUNCH
S505	288		288	5'-0"	1502	21	0'-10½"	1'-1½"	0'-10"	0'-8½"				HAUNCH
S506	128	64	64	5'-9"	768	2	2'-2"	1'-8"	2'-2"					
S507	30	30		9'-5"	295	2	3'-9"	2'-2"	3'-9"					
S508	256	128	128	8'-5"	2247	2	3'-3"	2'-2"	3'-3"					
S509	30		30	8'-11"	279	2	3'-6"	2'-2"	3'-6"					
S510	24	12	12	20'-1"	503	STR.								PARAPET
S511	392	196	196	6'-11"	2828	23	0'-8"	3'-3"	3'-0"	0'-1¼"		0'-1 1/2"		PARAPET
S512	32	16	16	10'-0"	334	STR.								PARAPET
S513	32	16	16	13'-8"	456	STR.								PARAPET
S514	16	8	8	5'-8"	95	25	1'-10"	2'-5"	1'-4¼"	0'-1½"	0'-5"			PARAPET
S515	16	8	8	5'-8"	95	STR.								PARAPET
	8	4	4	3'-10"			3'-3"							
S516	SER.	SER.	SER.	TO	314	16	TO						0'-1"	PARAPET
	11	11	11	3'-0"			2'-5"							
S601	236	118	118	30'-0"	10634	STR.								
S602	480	240	240	3'-0"	2163	14	0'-10½"	0'-9½"	0'-8½"	0'-6"	0'-9"			PARAPET
S603	392	196	196	3'-6"	2061	1	2'-9"	0'-11"						PARAPET
S604	152	76	76	3'-10"	875	1	3'-1"	0'-11"						PARAPET
S605	8	4	4	16'-3"	195	19	12'-0"	4'-3"	0'-4¼"					PARAPET
S606	224	112	112	19'-0"	6393	STR.								
S801	26	26		24'-0"	1666	32								
S802	26	26		24'-11"	1730	33								
S803	26		26	24'-6"	1701	32								
S804	13		13	24'-5"	848	33								
S805	13		13	24'-2"	839	33								
D801	116	58	58	4'-6"	1394	18	2'-3"	1'-0"	1'-0"					APPROACH SLAB
					TOTAL WEIGHT	**97172**								

BAR BENDING DIAGRAMS



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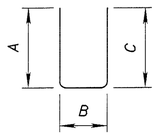

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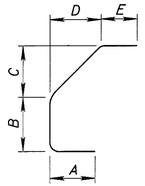

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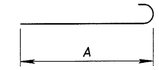

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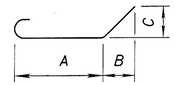

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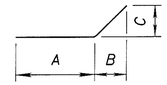

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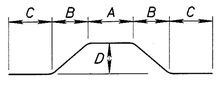

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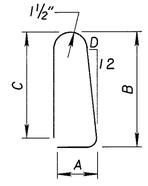

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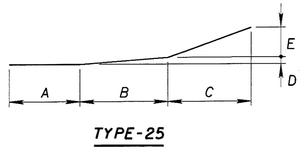

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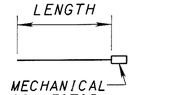

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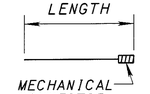


TYPE-33

DESIGN AGENCY
PARSONS BRINCKERHOFF OHIO, INC.
614 W. SUPERIOR AVE., SUITE 400
CLEVELAND, OHIO 44113

DESIGNED	DRAWN	REVIEWED	DATE
SDG	MRC	EBS	08/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BMG		5007860/5007879	

REINFORCEMENT SCHEDULE
BRIDGE NO. MAH 680-0992
OVER CALLA ROAD

MAH-680-9.92/13.38/15.41

21/21

114
125

$FILE$ $DATE$ $TIME$

CONVENTIONAL SIGNS

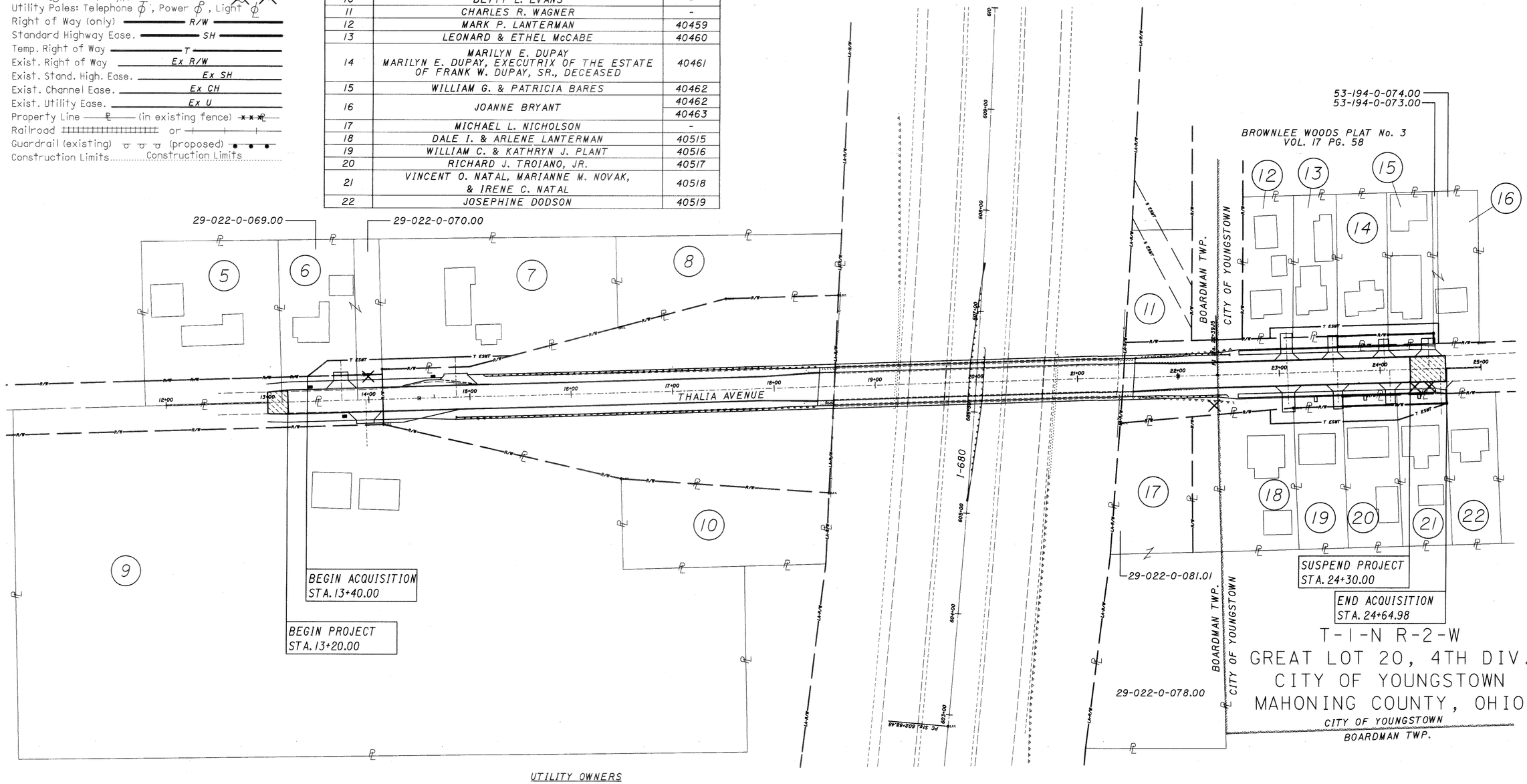
County Line
Township Line
Section Line
Corporation Line or
Fence Line (existing) – (proposed)
Center Line
Trees ,Stumps (to be removed)
Utility Poles: Telephone, Power, Light
Right of Way (only) R/W
Standard Highway Ease. SH
Temp. Right of Way T
Exist. Right of Way Ex R/W
Exist. Stand. High. Ease. Ex SH
Exist. Channel Ease. Ex CH
Exist. Utility Ease. Ex U
Property Line (in existing fence)
Railroad or
Guardrail (existing) (proposed)
Construction Limits Construction Limits

PARCEL NUMBER	OWNER	CITY LOT NUMBER
1-4	NUMBER NOT USED	-
5	SCOTT A. & REBECCA L. SCHMIDT	-
6	JAMES IRA & ELEANOR MARIE HENNEMAN	-
7	RONALD F. SR. & RENEE M. CENTRELLO	-
8	CHARLES R. WAGNER	-
9	HARRY DEELEY JR., HARRY DEELEY, III, AND JAMES E DEELEY	-
10	BETTY L. EVANS	-
11	CHARLES R. WAGNER	-
12	MARK P. LANTERMAN	40459
13	LEONARD & ETHEL McCABE	40460
14	MARILYN E. DUPAY MARILYN E. DUPAY, EXECUTRIX OF THE ESTATE OF FRANK W. DUPAY, SR., DECEASED	40461
15	WILLIAM G. & PATRICIA BARES	40462
16	JOANNE BRYANT	40462 40463
17	MICHAEL L. NICHOLSON	-
18	DALE I. & ARLENE LANTERMAN	40515
19	WILLIAM C. & KATHRYN J. PLANT	40516
20	RICHARD J. TROIANO, JR.	40517
21	VINCENT O. NATAL, MARIANNE M. NOVAK, & IRENE C. NATAL	40518
22	JOSEPHINE DODSON	40519

T-1-N R-2-W
GREAT LOT 20, 4TH DIV.
BOARDMAN TOWNSHIP
MAHONING COUNTY, OHIO

STRUCTURE KEY

RESIDENTIAL
COMMERCIAL
OUT-BUILDING



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

REFERENCE POINT INFORMATION IS CONTAINED IN THE CONSTRUCTION PLAN.

UTILITY OWNERS

(DG) DOMINION EAST OHIO GAS
1165 W. RAYEN AVENUE
YOUNGSTOWN, OH 44502
(330) 742-8138
ATTN: MR. JAMES SYMPSON

(CW) CITY OF YOUNGSTOWN (WATER)
26 S. PHELPS STREET
YOUNGSTOWN, OH 44503
(330) 743-5338
ATTN: MR. GENE LESON

(CS) CITY OF YOUNGSTOWN (SEWER)
26 S. PHELPS STREET
YOUNGSTOWN, OH 44503
(330) 742-8800
ATTN: MR. CARMEN S. CONGLOSE, JR.

(AM) SBC
50 WEST BOWERY ST.
4TH FLOOR
AKRON, OH 44308
(330) 384-8057
ATTN: MR. RICK DELAGRANGE

(OE) OHIO EDISON
730 SOUTH AVENUE
YOUNGSTOWN, OH 44502
(330) 740-7635
ATTN: MR. WILLIAM SPEECE

(AC) ARMSTRONG CABLE
9328 WOODWORTH ROAD
NORTH LIMA, OHIO 44452
(330) 758-6411
ATTN: MR. PAUL WACHTEL

REV. BY	DATE	DESCRIPTION

DATE COMPLETED: 03/06/03

SCALE IN FEET 0 25 50 100

PID NO. 23675

R/W DESIGNER JPS
R/W REVIEWER WJS

PROPERTY MAP - THALIA AVE.

MAH-680-09.92/13.38

1 / 11

115
125

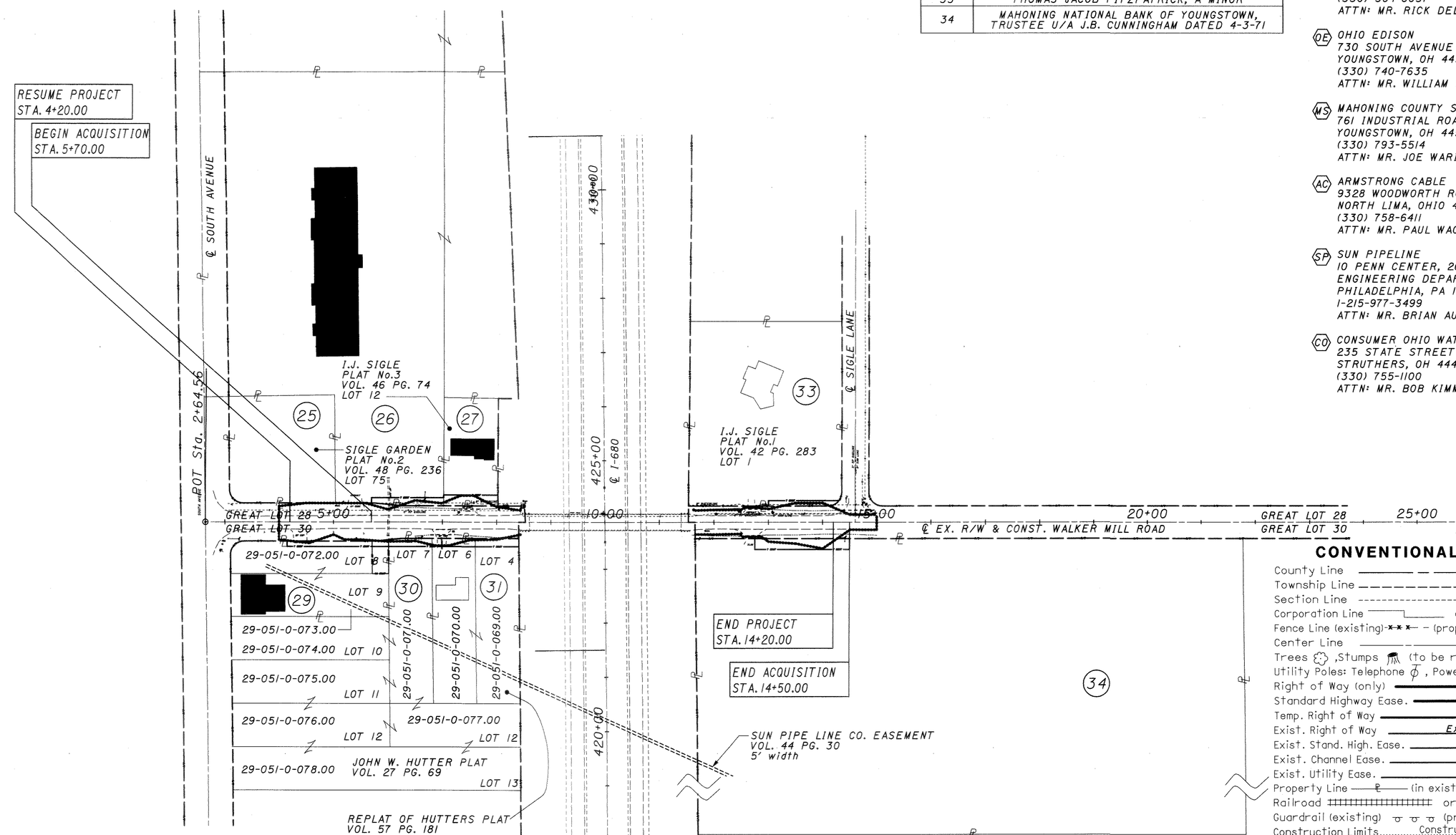
DATE: 05-Mar-03 10:27
FILE: J:\Job\6038A_MAH-680-09.92\Plan_Sheets\24_Right_of_Way\03_PR_Map\RM100.dgn
SCALE: 1 = 50E

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

T-1-N R-2-W
GREAT LOT 28, 4TH DIV.
BOARDMAN TOWNSHIP
MAHONING COUNTY, OHIO

PARCEL NUMBER	OWNER
23-24	NUMBER NOT USED
25	BOARDMAN TOWNSHIP TRUSTEES
26	C.T.W. DEVELOPMENT CORPORATION
27	DAGGA, LTD. (AN OHIO LIMITED LIABILITY PARTNERSHIP)
28	NUMBER NOT USED
29	B.C. VETERINARY SERVICES, INC.
30	MICHAEL A. MIKE, JR. & CHARLOTTE G. MIKE
31	THOMAS E. WILLIAMS, JR. & PAULINE S. WILLIAMS
32	NUMBER NOT USED
33	THOMAS JACOB FITZPATRICK, A MINOR
34	MAHONING NATIONAL BANK OF YOUNGSTOWN, TRUSTEE U/A J.B. CUNNINGHAM DATED 4-3-71



REPLAT HUTTERS PLAT
VOL. 57 PG. 181

UTILITY OWNERS

(DG) DOMINION EAST OHIO GAS
1165 W. RAYEN AVENUE
YOUNGSTOWN, OH 44502
(330) 742-8138
ATTN: MR. JAMES SYMPSON

(AM) SBC
50 WEST BOWERY ST.
4TH FLOOR
AKRON, OH 44308
(330) 384-8057
ATTN: MR. RICK DELAGRANGE

(OE) OHIO EDISON
730 SOUTH AVENUE
YOUNGSTOWN, OH 44502
(330) 740-7635
ATTN: MR. WILLIAM SPEECE

(MS) MAHONING COUNTY SANITARY ENGINEER
761 INDUSTRIAL ROAD
YOUNGSTOWN, OH 44509
(330) 793-5514
ATTN: MR. JOE WARINO

(AC) ARMSTRONG CABLE
9328 WOODWORTH ROAD
NORTH LIMA, OHIO 44452
(330) 758-6411
ATTN: MR. PAUL WACHTEL

(SP) SUN PIPELINE
10 PENN CENTER, 26TH FLOOR
ENGINEERING DEPARTMENT
PHILADELPHIA, PA 19103-1669
1-215-977-3499
ATTN: MR. BRIAN AUGUST

(CO) CONSUMER OHIO WATER SERVICES
235 STATE STREET
STRUTHERS, OH 44471
(330) 755-1100
ATTN: MR. BOB KIMMEL

CONVENTIONAL SIGNS

County Line
Township Line
Section Line
Corporation Line ... or ...
Fence Line (existing) ... (proposed) ...
Center Line
Trees, Stumps (to be removed)
Utility Poles: Telephone, Power, Light
Right of Way (only) R/W
Standard Highway Ease. SH
Temp. Right of Way T
Exist. Right of Way Ex R/W
Exist. Stand. High. Ease. Ex SH
Exist. Channel Ease. Ex CH
Exist. Utility Ease. Ex U
Property Line ... (in existing fence) ...
Railroad ... or ...
Guardrail (existing) ... (proposed) ...
Construction Limits Construction Limits

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

REFERENCE POINT INFORMATION IS CONTAINED IN THE CONSTRUCTION PLAN.

T-1-N R-2-W
GREAT LOT 30, 4TH DIV.
BOARDMAN TOWNSHIP
MAHONING COUNTY, OHIO

REV. BY	DATE	DESCRIPTION

DATE COMPLETED: 03/06/03

SCALE IN FEET: 0, 50, 100, 200

PID NO. 23675

R/W DESIGNER JPS
R/W REVIEWER WJS

WALKER MILL RD.

PROPERTY MAP

MAH-680-09.92/13.38

2 / 11

116 / 125

DATE: 10-Mar-03 08:42
FILE: J:\Job\6038_MAH-680-13.38\Plan_Sheets\24_Right_of_Way\03_PR_Map\RM101.dgn
SCALE: 1" = 100'

TOTAL NUMBER OF :

11 OWNERSHIPS
15 PARCELS
0 TOTAL TAKES
0 OWNERSHIPS WITH STRUCTURES INVOLVED
0 OWNERSHIPS WITH "P" ITEMS

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

ALL AREAS IN ACRES

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

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
	MAH-680-9.92																
1-4	NUMBER NOT USED																
5	SCOTT A. SCHMIDT &	6	OR 5176	815	29-022-0-068.00	0.498									NO TAKE		
	REBECCA L. SCHMIDT																
6-T	JAMES IRA HENNEMAN &	6	980	666	29-022-0-069.00	0.232	0.043	0.014	0	0.014					GRADING & DRIVE CONSTRUCTION		
	ELEANOR MARIE HENNEMAN				29-022-0-070.00	0.077	0.014	0.008	0	0.008							
					GRAND TOTAL	0.309	0.057	0.022	0	0.022							
7-T	RONALD F. CENTRELLO SR. &	6	OR 2180	291	29-022-0-071.00	0.593	0	0.025	0	0.025					GRADING & DRIVE CONSTRUCTION		
	RENEE M. CENTRELLO		1511	251													
8	CHARLES R. WAGNER	6-7	OR 1419	106	* 29-022-0-072.00	0.426									NO TAKE		
															SAME OWNER AS PARCEL 11		
9	HARRY DEELEY JR.	6	OR 699	346	29-022-0-082.00	4.610									NO TAKE		
	HARRY DEELEY III																
	JAMES E. DEELEY																
10	BETTY L. EVANS	6-7	OR 5261	221	29-022-0-081.00	0.434									NO TAKE		
11	CHARLES R. WAGNER	7-8	OR 1419	106	* 29-022-0-072.00	0.426									NO TAKE		
															SAME OWNER AS PARCEL 8		
12-T	MARK P. LANTERMAN	8	OR 5194	275	53-194-0-069.00	0.172	0	0.005	0	0.005					GRADING & DRIVE CONSTRUCTION		
			OR 4459	277													
13-T	LEONARD McCABE &	8	1316	649	53-194-0-070.00	0.155	0	0.010	0	0.010					GRADING & DRIVE CONSTRUCTION		
	ETHEL McCABE																
14-T	MARILYN E. DUPAY, EXECUTRIX	8	OR 4074	162	53-194-0-071.00	0.172	0	0.022	0	0.022					GRADING & DRIVE CONSTRUCTION		
	OF THE ESTATE OF FRANK DUPAY,		OR 572	336													
	SR., DECEASED		1200	292													
15-T	WILLIAM G. BARES &	8	1242	320	53-194-0-072.00	0.155	0	0.020	0	0.020					GRADING & DRIVE CONSTRUCTION		
	PATRICIA BARES																
16-T	JOANNE BRYANT	8	1069	60	53-194-0-073.00	0.017	0	0.002	0	0.002					GRADING & DRIVE CONSTRUCTION		
					53-194-0-074.00	0.138	0	0	0	0							
					GRAND TOTAL	0.155	0	0.002	0	0.002							
17	MICHAEL L. NICHOLSON	7-8	OR 3736	293	29-022-078.00	0.441									NO TAKE		
					29-022-081.01	0.296											
					GRAND TOTAL	0.737											

TYPE FUND: STATE 100%

NOTE: ALL TEMPORARY PARCELS TO BE OF 24 MONTH DURATION.

NOTE: UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE. UPON COMPLETION OF THE WORK REQUIRED FOR SUCH REMOVAL AND SUBSEQUENT RECLAMATION, THE EASEMENT SHALL BE VACATED IMMEDIATELY.

* NOTE: AUDITOR COMBINED PARCEL NUMBER AND AREA FOR OWNER NO. 8 AND 11.

REV. BY	DATE	DESCRIPTION
JM	5/14/03	Rev. take area - 14T, 15T
JM	5/14/03	Delete 14 WDV, 15WDV

FIELD REVIEW BY: CRK DATE: 03/06/03
OWNERSHIP VERIFIED BY: JF DATE: 03/06/03
DATE COMPLETED: 03/06/03

FEDERAL PROJECT NO. TE 21 (0)
PID NO. 23675
STATE JOB NO. 446800
R/W DESIGNER JPS
R/W REVIEWER WJS

SUMMARY OF ADDITIONAL RIGHT OF WAY

MAH-680-09.92/13.38

DATE: 05-Mar-03 12:52
FILE: J:\Job\6038A_MAH-680-09.92\Plan_Sheets\24_Right_of_Way\04_Summary\RS100.dgn
SCALE: 1 = 1E

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

ALL AREAS IN ACRES

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

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
18-T	DALE I. LANTERMAN &	8	OR 2707	180	53-194-0-068.00	0.179	0	0.008	0	0.008					GRADING & DRIVE CONSTRUCTION		
	ARLENE LANTERMAN		1417	775													
			1417	478													
19-T	WILLIAM C. PLANT &	8	1447	477	53-194-0-067.00	0.169	0	0.017	0	0.017					GRADING & DRIVE CONSTRUCTION		
	KATHRYN J. PLANT																
20-T	RICHARD J. TROIANO JR.	8	OR 5212	776	53-194-0-066.00	0.186	0	0.038	0	0.038					GRADING & DRIVE CONSTRUCTION		
21-T	VINCENT O. NATAL,	8	OR 2726	193	53-194-0-065.00	0.169	0	0.019	0	0.019					GRADING & DRIVE CONSTRUCTION		
	MARIANNE M. NOVAK,																
	IRENE C. NATAL																
22	JOSEPHINE DODSON	8	OR 1242	140	53-194-0-064.00	0.169									NO TAKE		

100% STATE

NOTE: ALL TEMPORARY PARCELS TO BE OF 24 MONTH DURATION.

NOTE: UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE. UPON COMPLETION OF THE WORK REQUIRED FOR SUCH REMOVAL AND SUBSEQUENT RECLAMATION, THE EASEMENT SHALL BE VACATED IMMEDIATELY.

REV. BY	DATE	DESCRIPTION
JM	5/14/03	Rev. take area - 20T, 21T
JM	5/14/03	Del. pcl's - 20 WDV, 21 WDV

FIELD REVIEW BY: CRK DATE: 03/06/03
OWNERSHIP VERIFIED BY: JF DATE: 03/06/03
DATE COMPLETED: 03/06/03

FEDERAL PROJECT NO. TE 21 (0)
PID NO. 23675
STATE JOB NO. 446800
R/W DESIGNER JPS
R/W REVIEWER WJS

SUMMARY OF ADDITIONAL RIGHT OF WAY

MAH-680-09.92/13.38

DATE: 05-Mar-03 10:27
FILE: J:\Job\6038A_MAH-680-09.92\Plan_Sheets\24_Right_of_Way\04_Summary\RS101.dgn
SCALE: 1= IE

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

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

ALL AREAS IN ACRES

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
	MAH-680-13.38																
23-24	NUMBERS NOT USED																
25	BOARDMAN TOWNSHIP TRUSTEES	9	951	528	29-051-0-006.00	0.918									NO TAKE		
26-T	C.T.W. DEVELOPMENT CORPORATION	9	OR 4460	172	29-051-0-005.10	7.852	0	0.042	0	0.042					GRADING		
27-T	DAGGA, LTD. (AN OHIO LIMITED LIABILITY PARTNERSHIP)	9-10	OR 4384	223	29-051-0-007.00	0.459	0	0.046	0	0.046					GRADING & DRIVE CONSTRUCTION		
28	NUMBER NOT USED																
29-T	B.C. VETERINARY SERVICES, INC.	9	1459	586	29-051-0-072.00	0.485(C)	0	0.044	0	0.044					GRADING		
					29-051-0-073.00	0.615(C)	0	0	0	0							
					GRAND TOTAL	1.100	0	0.044	0	0.044							
30-T	MICHAEL A. MIKE, JR. &	9	OR 1459	197	29-051-0-0-071.00	0.558(C)	0	0.027	0	0.027					GRADING		
	CHARLOTTE G. MIKE				29-051-0-0-074.00	0.533(C)	0	0	0	0							
					29-051-0-0-075.00	0.533(C)	0	0	0	0							
					29-051-0-0-076.00	0.533(C)	0	0	0	0							
					29-051-0-0-077.00	0.440	0	0	0	0							
					29-051-0-0-078.00	0.974(C)	0	0	0	0							
					GRAND TOTAL	3.571	0	0.027	0	0.027							
31-T	THOMAS E. WILLIAMS, JR. &	9-10	1332	875	29-051-0-069.00	0.615	0	0.0275	0	0.0275					GRADING & DRIVE CONSTRUCTION		
	PAULINE S. WILLIAMS		1133	69	29-051-0-070.00	0.615	0	0.0275	0	0.0275							
					GRAND TOTAL	1.230	0	0.055	0	0.055							
32	NUMBER NOT USED																
33-T	THOMAS JACOB FITZPATRICK, A MINOR	10-11	OR 3795	186	29-051-0-010.00	2.208	0	0.029	0	0.029					GRADING		
34-T	MAHONING NATIONAL BANK OF YOUNGSTOWN, TRUSTEE U/A J.B. CUNNINGHAM DATED 4-3-71	10-11	1479	124	29-051-0-066.00	45.000	0	0.080	0	0.080					GRADING		
			1008	244											WIRE FENCE		

TYPE FUND: 100% STATE

NOTE: UNDER NO CIRCUMSTANCES ARE TEMPORARY EASEMENTS TO BE USED FOR STORAGE OF MATERIAL OR EQUIPMENT BY THE CONTRACTOR UNLESS NOTED OTHERWISE. UPON COMPLETION OF THE WORK REQUIRED FOR SUCH REMOVAL AND SUBSEQUENT RECLAMATION, THE EASEMENT SHALL BE VACATED IMMEDIATELY.

NOTE: ALL TEMPORARY PARCELS TO BE OF 12 MONTH DURATION.

(C) AUDITOR'S TAX CARD DOES NOT INDICATE RECORD AREA FOR THIS PARCEL. CAD GENERATED AREA IS USED TO DENOTE THE RECORD AREA

REV. BY	DATE	DESCRIPTION
FIELD REVIEW BY: CRK		DATE: 03/06/03
OWNERSHIP VERIFIED BY: JF		DATE: 03/06/03
DATE COMPLETED: 03/06/03		

DATE: 10-Mar-03 08:44
FILE: j:\Job\6038B_MAH-680-13.38\Plan_Sheets\24_Right_of_Way\04_Summary\RS102.dgn
SCALE: 1= IE

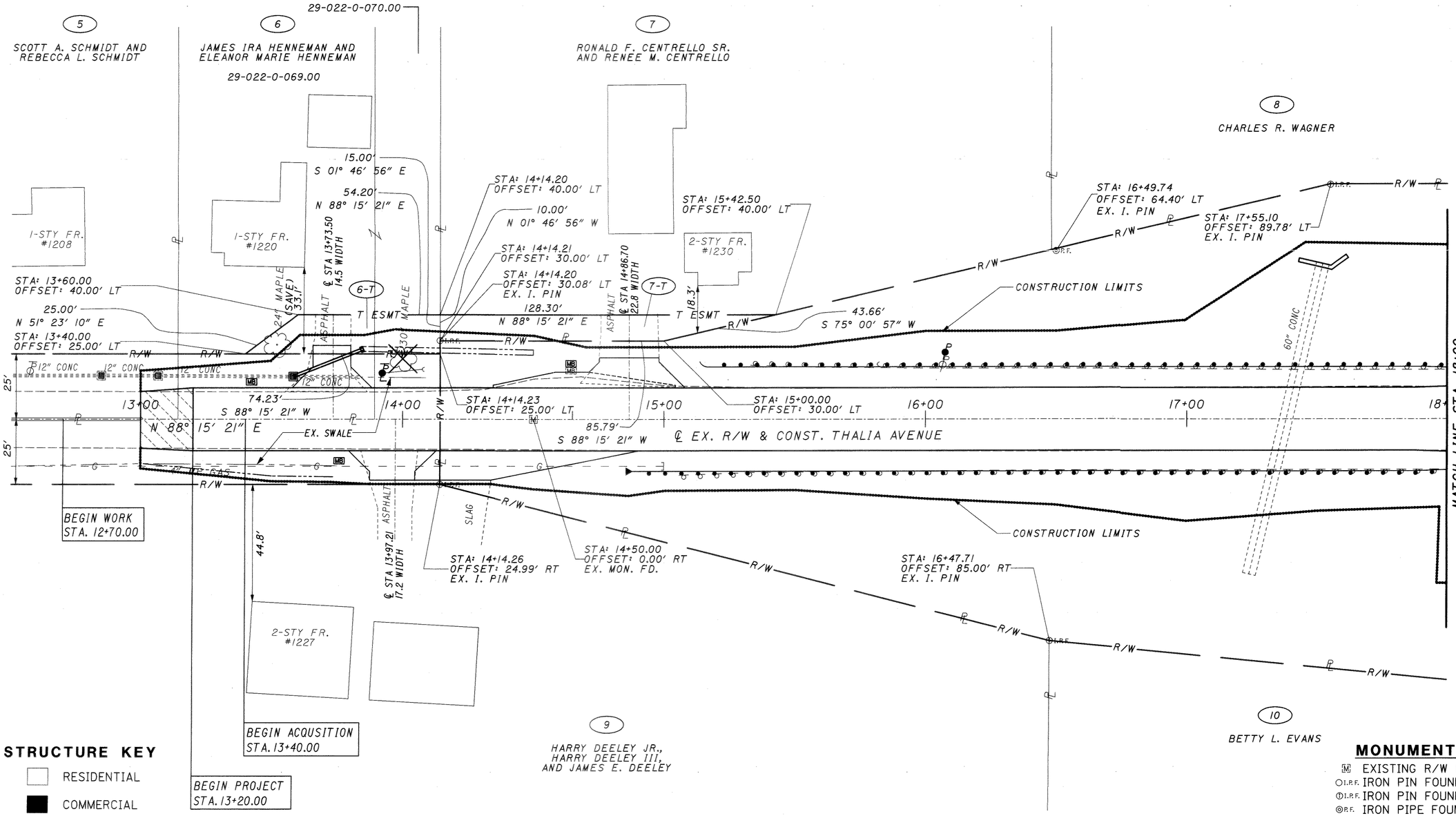
FEDERAL PROJECT NO. TE 21 (0)
PID NO. 23675
STATE JOB NO. 446800
R/W DESIGNER JPS
R/W REVIEWER WJS

SUMMARY OF ADDITIONAL RIGHT OF WAY

MAH-680-09.92/13.38

T-I-N , R-2-W
GREAT LOT 20, 4TH DIV
BOARDMAN TOWNSHIP
MAHONING COUNTY, OHIO

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:
RECORD PLATS
MAHONING COUNTY RECORD DEEDS
MAHONING COUNTY TAX MAPS
PLATE 22 - BOARDMAN TOWNSHIP
PLATE 194 - CITY OF YOUNGSTOWN
EXISTING PROPERTY PINS



STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

MONUMENT LEGEND

- M EXISTING R/W MONUMENT BOX
- O I.R.F. IRON PIN FOUND
- ⊙ I.R.F. IRON PIN FOUND W/ ID CAP
- ◎ R.F. IRON PIPE FOUND
- ● ¾" x 30" IRON PIN SET WITH I.D. CAP STAMPED "FOK S-4896"

BASIS FOR BEARINGS:

THE BASIS OF BEARING IS BASED UPON THE OHIO NORTH ZONE STATE PLANE COORDINATES NAD83(95) DATUM. THE BEARINGS SHOWN ARE FOR PROJECT USE ONLY.

REV. BY	DATE	DESCRIPTION

DATE COMPLETED: 03/06/03

SCALE IN FEET: 0, 10, 20, 40

PID NO. 23675

R/W DESIGNER JPS
R/W REVIEWER WJS

RIGHT OF WAY PLAN - THALIA AVE.
STA. 12+50 TO STA. 18+00

MAH-680-9.92/13.38

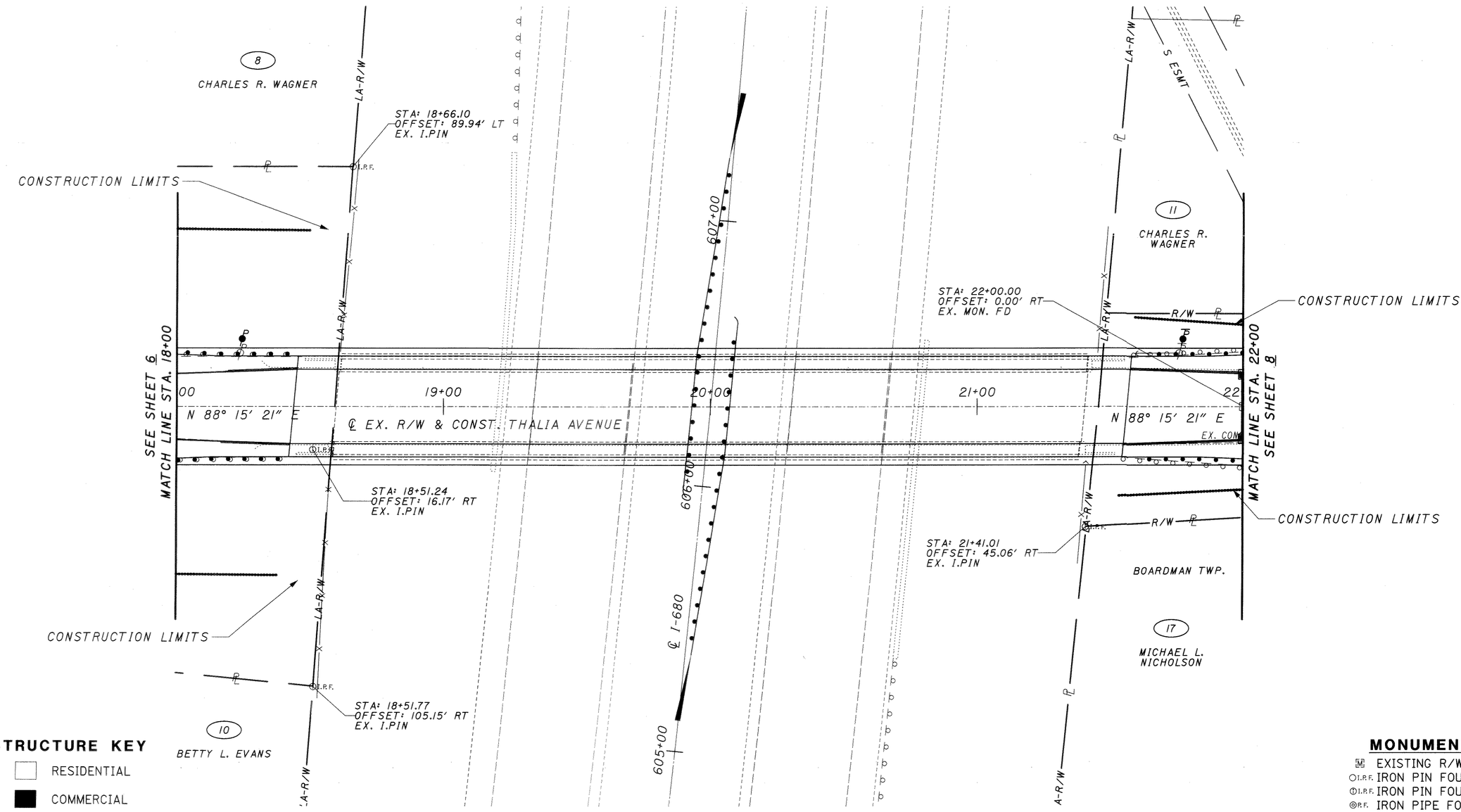
6 / 11

120 / 125

DATE: 05-Mar-03 10:28
FILE: J:\Job\6038A_MAH-680-09.92\Plan_Sheets\24_Right_of_Way\05_Plan_Sheets\RP100.dgn
SCALE: 1= 20E

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:
RECORD PLATS
MAHONING COUNTY RECORD DEEDS
MAHONING COUNTY TAX MAPS
PLATE 22 - BOARDMAN TOWNSHIP
PLATE 194 - CITY OF YOUNGSTOWN
EXISTING PROPERTY PINS

T-1-N, R-2-W
GREAT LOT 20, 4TH DIV.
BOARDMAN TOWNSHIP
MAHONING COUNTY, OHIO



STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

MONUMENT LEGEND

- M EXISTING R/W MONUMENT BOX
- ○I.P.F. IRON PIN FOUND
- ⊙I.P.F. IRON PIN FOUND W/ ID CAP
- ◎P.F. IRON PIPE FOUND
- ● 3/4" x 30" IRON PIN SET WITH I.D. CAP STAMPED "FOK S-4896"

BASIS FOR BEARINGS:

THE BASIS OF BEARING IS BASED UPON THE OHIO NORTH ZONE STATE PLANE COORDINATES NAD83(95) DATUM. THE BEARINGS SHOWN ARE FOR PROJECT USE ONLY.

REV. BY	DATE	DESCRIPTION

DATE COMPLETED: 03/06/03

SCALE IN FEET: 0, 10, 20, 40

PID NO. 23675

R/W DESIGNER JPS
R/W REVIEWER WJS

RIGHT OF WAY PLAN - THALIA AVE.
STA. 18+00 TO STA. 22+00

MAH-680-9.92/13.38

7 / 11

121
125

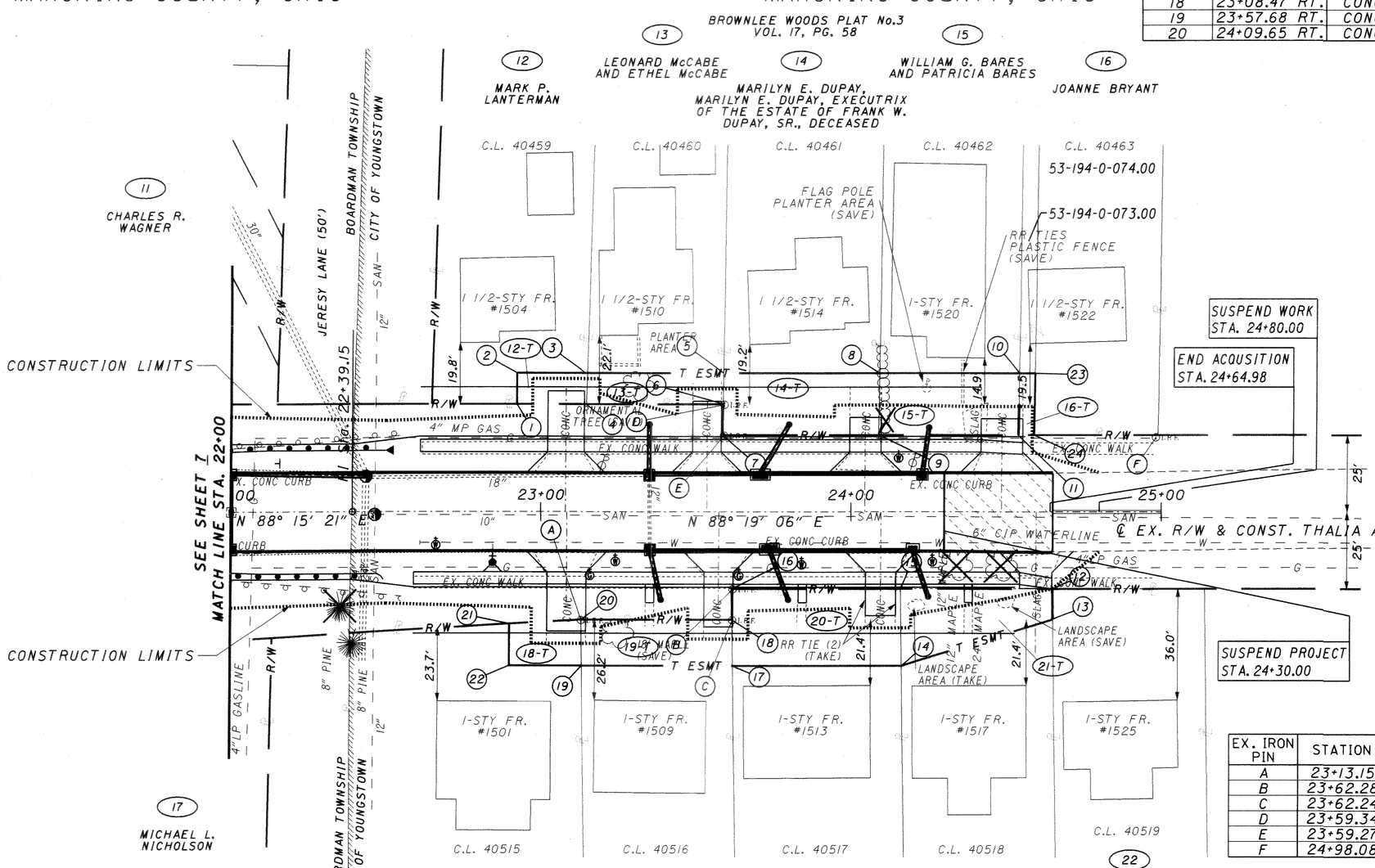
DATE: 05-Mar-03 10:28
FILE: J:\Job\6038A_MAH-680-09.92\Plan_Sheets\24_Right_of_Way\05_Plan_Sheets\RP101.dgn
SCALE: 1= 20E

T-1-N, R-2-W
GREAT LOT 20, 4TH DIV.
BOARDMAN TOWNSHIP
MAHONING COUNTY, OHIO

T-1-N, R-2-W
GREAT LOT 20, 4TH DIV.
CITY OF YOUNGSTOWN
MAHONING COUNTY, OHIO

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:
RECORD PLATS
MAHONING COUNTY RECORD DEEDS
MAHONING COUNTY TAX MAPS
PLATE 22 - BOARDMAN TOWNSHIP
PLATE 194 - CITY OF YOUNGSTOWN
EXISTING PROPERTY PINS

DRIVE PARCEL	DRIVE STATION	DRIVE TYPE	DRIVE WIDTH
12	23+07.99 LT.	CONC.	11.8
13	23+53.74 LT.	CONC.	9.3
14	24+04.48 LT.	CONC.	10.1
15	24+48.48 LT.	CONC.	13.4
18	23+08.47 RT.	CONC.	12.6
19	23+57.68 RT.	CONC.	9.5
20	24+09.65 RT.	CONC.	9.6



PARCEL	COURSE	BEARING	DISTANCE
12-T	1-2	N 01°40'55" W	10.00'
	2-3	N 88°19'06" E	22.87'
	3-4	S 00°00'00" W	10.00'
	4-1	S 88°19'06" W	22.57'
13-T	4-3	N 00°00'00" E	10.00'
	3-5	N 88°19'06" E	44.21'
	5-6	S 00°51'32" E	10.00'
	6-4	S 88°19'06" W	44.36'
14-T	7-5	N 00°51'32" W	20.00'
	5-8	N 88°19'06" E	50.00'
	8-9	S 00°51'32" E	20.00'
	9-7	S 88°19'06" W	50.00'
15-T	9-8	N 00°51'32" W	20.00'
	8-10	N 88°19'06" E	45.00'
	10-11	S 00°51'32" E	20.00'
	11-9	S 88°19'06" W	45.00'
16-T	11-10	N 00°51'32" W	20.00'
	10-23	N 88°19'06" E	5.00'
	23-24	S 00°51'32" E	20.00'
	24-11	S 88°19'06" W	5.00'
18-T	21-20	N 84°58'13" E	23.18'
	20-19	S 02°36'23" E	15.00'
	19-22	S 88°19'06" W	23.38'
	22-21	N 01°40'54" W	13.65'
19-T	20-18	N 88°19'06" E	49.00'
	18-17	S 02°36'23" E	15.00'
	17-19	S 88°19'06" W	49.00'
	19-20	N 02°36'23" W	15.00'
20-T	16-15	N 88°19'06" E	54.00'
	15-14	S 02°36'23" E	25.00'
	14-17	S 88°19'06" W	54.00'
	17-16	N 02°36'23" W	25.00'
21-T	15-12	N 88°19'06" E	49.00'
	12-13	S 02°36'23" E	10.00'
	13-14	S 71°05'50" W	51.04'
	14-15	N 02°36'23" W	25.00'

EX. IRON PIN	STATION	OFFSET
A	23+13.15	35.23'RT.
B	23+62.28	25.11'RT.
C	23+62.24	35.17'RT.
D	23+59.34	34.83'LT.
E	23+59.27	24.83'LT.
F	24+98.08	24.33'LT.

POINT	STATION	OFFSET	POINT	STATION	OFFSET
1	22+92.00	35.00'LT.	15	24+15.98	25.00'RT.
2	22+92.00	45.00'LT.	16	23+61.99	25.00'RT.
3	23+14.87	45.00'LT.	17	23+62.38	50.00'RT.
4	23+14.57	35.00'LT.	18	23+62.14	35.00'RT.
5	23+59.07	45.00'LT.	19	23+13.38	50.00'RT.
6	23+58.93	35.00'LT.	20	23+13.14	35.00'RT.
7	23+58.79	25.00'RT.	21	22+90.00	36.35'RT.
8	24+09.07	45.00'LT.	22	22+90.00	50.00'RT.
9	24+08.79	25.00'LT.	23	24+59.07	45.00'LT.
10	24+54.07	45.00'LT.	24	24+58.79	25.00'LT.
11	24+53.79	25.00'LT.			
12	24+64.98	25.00'RT.			
13	24+64.14	35.00'RT.			
14	24+16.38	50.00'RT.			

STRUCTURE KEY
- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

MONUMENT LEGEND
- Ⓜ EXISTING R/W MONUMENT BOX
- ○I.P.F. IRON PIN FOUND
- ⊙I.P.F. IRON PIN FOUND W/ ID CAP
- ◎P.F. IRON PIPE FOUND
- ● ¾" × 30" IRON PIN SET WITH I.D. CAP STAMPED "FOK S-4896"

BASIS FOR BEARINGS:

THE BASIS OF BEARING IS BASED UPON THE OHIO NORTH ZONE STATE PLANE COORDINATES NAD83(95) DATUM. THE BEARINGS SHOWN ARE FOR PROJECT USE ONLY.

REV. BY	DATE	DESCRIPTION
JM	5/14/03	Add Topo - Pcl's 13, 15, 19, 20, 21
JM	5/14/03	Delete 14WDV, 15WDV, 20WDV, 21WDV.

DATE COMPLETED: 03/06/03

SCALE IN FEET (0, 10, 20, 40)

PID NO. 23675

R/W DESIGNER JPS
R/W REVIEWER WJS

RIGHT OF WAY PLAN - THALIA AVE.
STA. 22+00 TO STA. 26+00

MAH-680-9.92/13.38

8 / 11

122
125

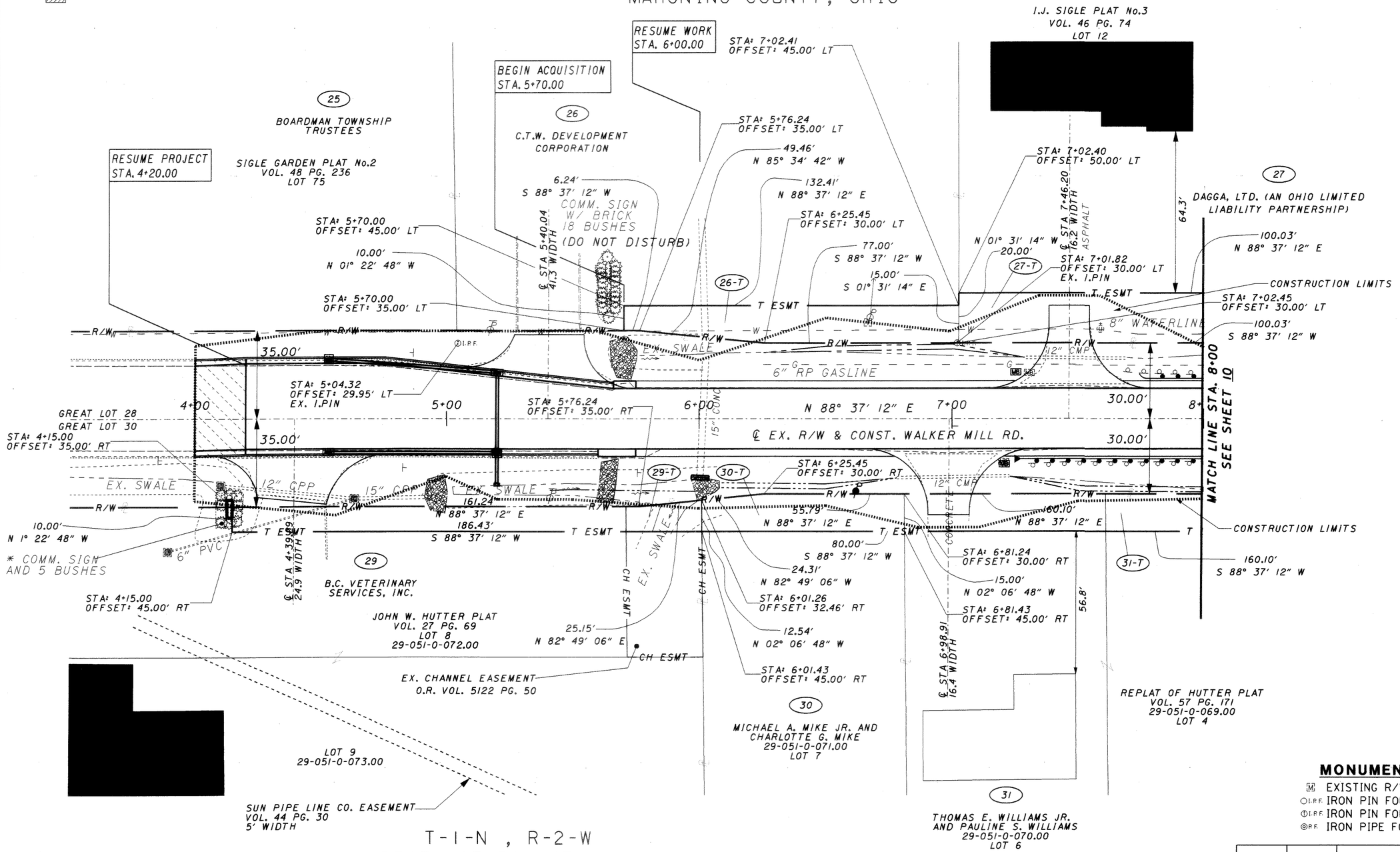
DATE: 05-Mar-03 10:28
FILE: J:\Job\6038A_MAH-680-09.92\Plan_Sheets\24_Right_of_Way\05_Plan_Sheets\RPI02.dgn
SCALE: 1" = 20'

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:
RECORD PLATS
MAHONING COUNTY RECORD DEEDS
MAHONING COUNTY TAX MAPS
PLATE 51 - BOARDMAN TOWNSHIP
EXISTING PROPERTY PINS

T-1-N , R-2-W
GREAT LOT 28. 4TH DIV.
BOARDMAN TOWNSHIP
MAHONING COUNTY, OHIO



MONUMENT LEGEND

- ▣ EXISTING R/W MONUMENT BOX
- ○I.P.F. IRON PIN FOUND
- ⊙I.P.F. IRON PIN FOUND W/ ID CAP
- ◎P.F. IRON PIPE FOUND

BASIS FOR BEARINGS:

THE BASIS OF BEARING IS BASED UPON THE OHIO NORTH ZONE STATE PLANE COORDINATES NAD83(95) DATUM. THE BEARINGS SHOWN ARE FOR PROJECT USE ONLY.

T-1-N , R-2-W
GREAT LOT 30. 4TH DIV.
BOARDMAN TOWNSHIP
MAHONING COUNTY, OHIO

PARCEL NUMBER	REQUIRED	TOTAL AREA	AREA OF OVERLAP EXISTING		
			SEWER	CHANNEL	TEMP.
29-T	TEMP.	0.0080	———	0.0076	———

REV. BY	DATE	DESCRIPTION
JM	4/2/03	Pcl. 29 - Sign & bush encroachment

DATE COMPLETED: 03/06/03

SCALE IN FEET: 0, 10, 20, 40

PID NO. 23675

R/W DESIGNER: JPS
R/W REVIEWER: WJS

RIGHT OF WAY PLAN - WALKER MILL RD.
STA. 3+50 TO STA. 8+00

MAH-680-9.92/13.38

9 / 11

123
125

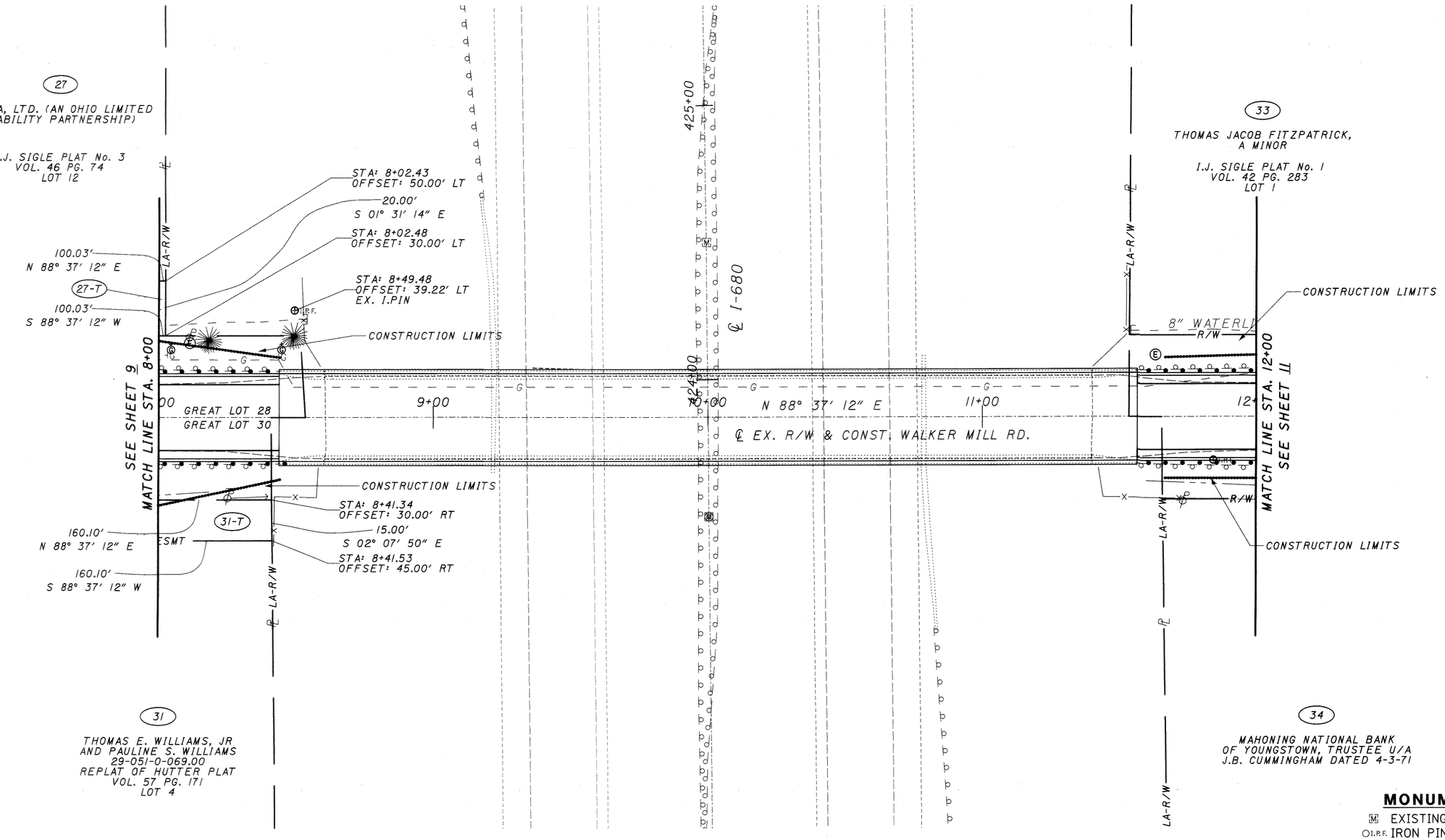
DATE: 05-Mar-03 10:25
FILE: J:\Job\60388_MAH-680-13.38\Plan_Sheets\24_Right_of_Way\05_Plan_Sheets\RP103.dgn
SCALE: 1" = 20E

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:
RECORD PLATS
MAHONING COUNTY RECORD DEEDS
MAHONING COUNTY TAX MAPS
PLATE 51 - BOARDMAN TOWNSHIP
EXISTING PROPERTY PINS

T-1-N , R-2-W
GREAT LOT 28. 4TH DIV.
BOARDMAN TOWNSHIP
MAHONING COUNTY, OHIO



MONUMENT LEGEND

- Ⓜ EXISTING R/W MONUMENT BOX
- ○I.R.F. IRON PIN FOUND
- ⊙I.R.F. IRON PIN FOUND W/ ID CAP
- ◎R.F. IRON PIPE FOUND

BASIS FOR BEARINGS:

THE BASIS OF BEARING IS BASED UPON THE OHIO NORTH ZONE STATE PLANE COORDINATES NAD83(95) DATUM. THE BEARINGS SHOWN ARE FOR PROJECT USE ONLY.

T-1-N , R-2-W
GREAT LOT 30. 4TH DIV.
BOARDMAN TOWNSHIP
MAHONING COUNTY, OHIO

REV. BY	DATE	DESCRIPTION

DATE COMPLETED: 03/06/03

SCALE IN FEET: 0, 10, 20, 40

PID NO. 23675

R/W DESIGNER JPS
R/W REVIEWER WJS

RIGHT OF WAY PLAN - WALKER MILL RD.
STA. 8+00 TO STA. 12+00

MAH-680-9.92/13.38

10 / 11

124
125

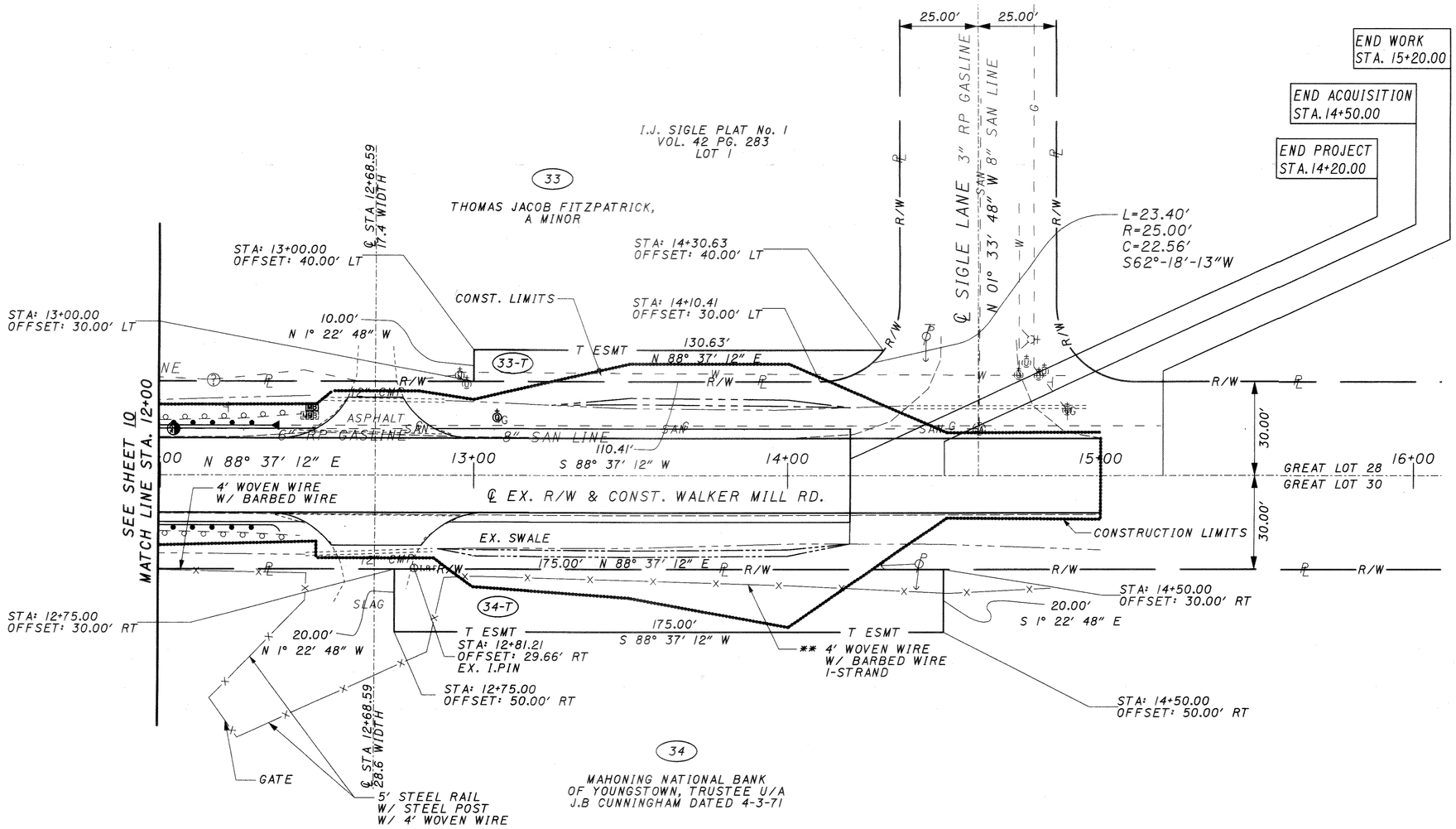
DATE: 05-Mar-03 10:25
FILE: J:\Job\6038B_MAH-680-13.38\Plan_Sheets\24_Right_of_Way\05_Plan_Sheets\RPI04.dgn
SCALE: 1" = 20'

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:
RECORD PLATS
MAHONING COUNTY RECORD DEEDS
MAHONING COUNTY TAX MAPS
PLATE 51 - BOARDMAN TOWNSHIP
EXISTING PROPERTY PINS

T-1-N , R-2-W
GREAT LOT 28. 4TH DIV.
BOARDMAN TOWNSHIP
MAHONING COUNTY, OHIO



T-1-N , R-2-W
GREAT LOT 30. 4TH DIV.
BOARDMAN TOWNSHIP
MAHONING COUNTY, OHIO

BASIS FOR BEARINGS:

THE BASIS OF BEARING IS BASED UPON THE OHIO NORTH ZONE STATE PLANE COORDINATES NAD83(95) DATUM. THE BEARINGS SHOWN ARE FOR PROJECT USE ONLY.

** 123 FEET OF WOVEN WIRE W/ BARBED WIRE TO BE REMOVED.

MONUMENT LEGEND

- Ⓜ EXISTING R/W MONUMENT BOX
- ○I.P.F. IRON PIN FOUND
- ⓘI.P.F. IRON PIN FOUND W/ ID CAP
- ◎P.F. IRON PIPE FOUND

REV. BY	DATE	DESCRIPTION

DATE COMPLETED: 03/06/03

SCALE IN FEET (0, 10, 20, 40)

PID NO. 23675

R/W DESIGNER JPS
R/W REVIEWER WJS

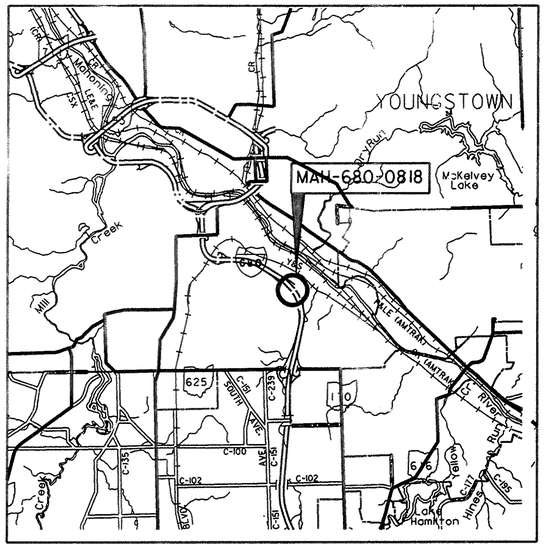
RIGHT OF WAY PLAN - WALKER MILL RD.
STA. 12+00 TO STA. 16+00

MAH-680-9.92/13.38

11 / 11

125 / 125

DATE: 05-Mar-03 10:25
FILE: J:\Job\6038B_MAH-680-13.38\Plan_Sheets\24_Right_of_Way\05_Plan_Sheets\RPI05.dgn
SCALE: 1" = 20E



LOCATION MAP

LATITUDE: N41°04'32"   LONGITUDE: W80°37'40"   MAH-680-0818

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED___________
INTERSTATE & DIVIDED HIGHWAY______
UNDIVIDED STATE & FEDERAL ROUTES___
OTHER ROADS___________________

DESIGN DESIGNATION - SEE SCHEMATIC PLAN ON SHEET 2

DESIGN EXCEPTIONS

DESIGN FEATURE	APPROVAL DATES	SHEET NUMBERS
MAH-680-8.18		
HORIZONTAL CLEARANCE	12-08-03	48

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

MAH-680-8.18
PART 2
MAHONING COUNTY
FOR PART 1, SEE MAH-680-9.92

PROJECT DESCRIPTION

THIS PROJECT SHALL CONSIST OF THE REPLACEMENT OF THE EXISTING BRIDGE DECK OVER IR-680 AND RECONSTRUCTION OF THE APPROACHES OF INDIANOLA AVENUE (0.07 MILES). THIS PROJECT SHALL ALSO INCLUDE IMPROVEMENTS TO UTILITIES AND STRUCTURE CLEARANCES.

PROJECT EARTH DISTURBED AREA = 0.3 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA = 0.0 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA = 4.9 ACRES

INDEX OF SHEETS:

LIMITED ACCESS

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

2002 SPECIFICATIONS

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

TRAFFIC REROUTED

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE LOCAL STREETS AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 17.

STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS
						SEE PART I
		SEE PART I				
						SPECIAL PROVISIONS

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

PLAN PREPARED BY:

CLAUS PYLE SCHOMER
BURNS & DEHAVEN, INC.
GPD ASSOCIATES
520 South Main Street, Suite 2531 Akron, Ohio 44311
330-572-2100 , Fax 330-572-2101

ENGINEERS SEAL:

RALPH A. HENDRICK
E-33588

SIGNED:
DATE: 12-18-03

APPROVED
DATE 2-5-04 DISTRICT DEPUTY DIRECTOR

APPROVED Gordon Proctor
DATE 3-9-04 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E040(280)

PID NO. 23675

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

MAH-680-8.18

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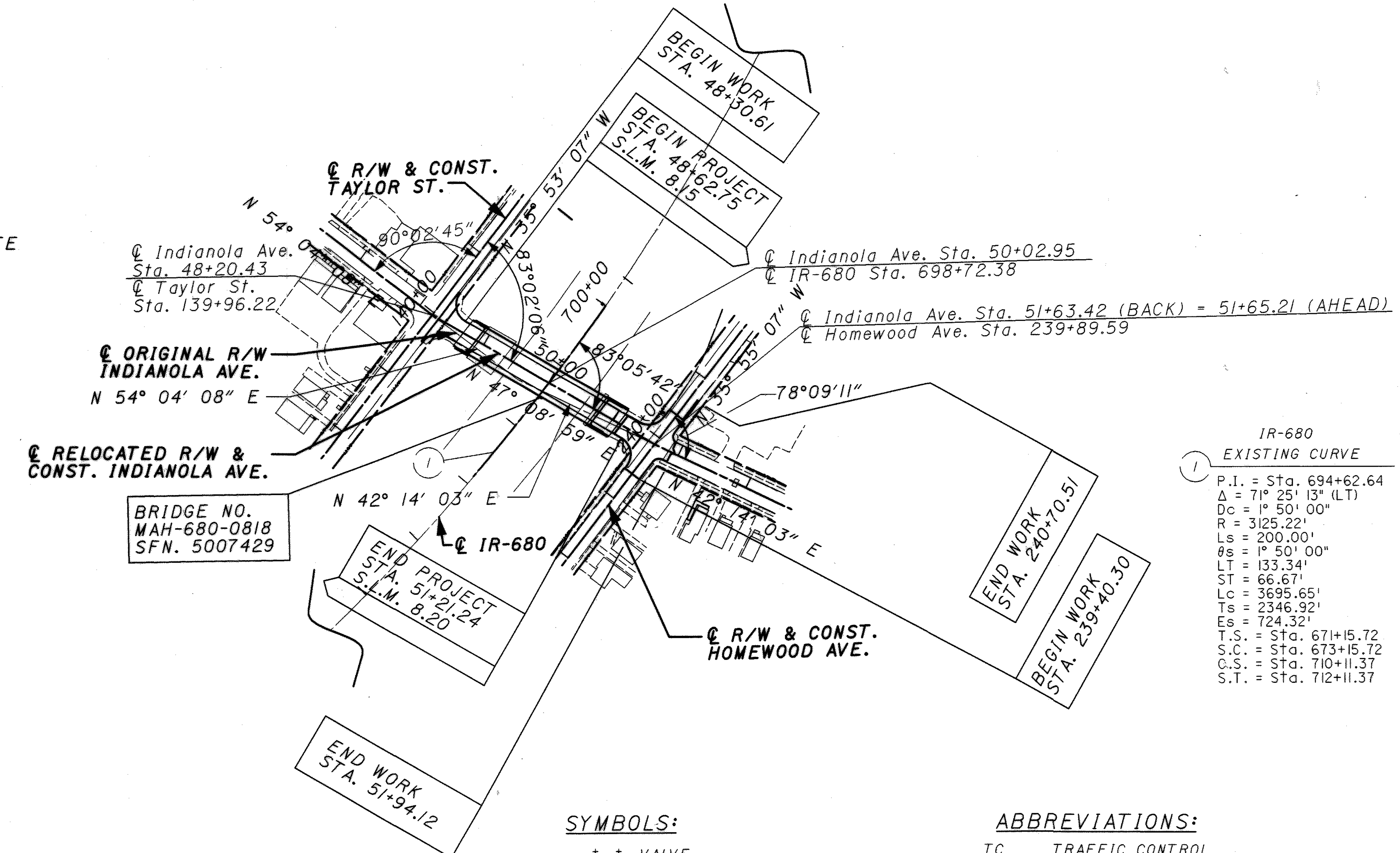
DESIGN DESIGNATION

IR-680 (8.18)

CURRENT YEAR ADT (2004)	= 46740
DESIGN YEAR ADT (2024)	= 59100
DESIGN HOURLY VOLUME (2024)	= 5319
DIRECTIONAL DISTRIBUTION	= 0.57
TRUCKS (24 HOUR B&C)	= 0.08
TRUCKS (PEAK HOUR)	= 0.04
DESIGN SPEED	= 60 MPH
LEGAL SPEED	= 55 MPH
DESIGN FUNCTIONAL CLASSIFICATION	= URBAN INTERSTATE

INDIANOLA AVENUE

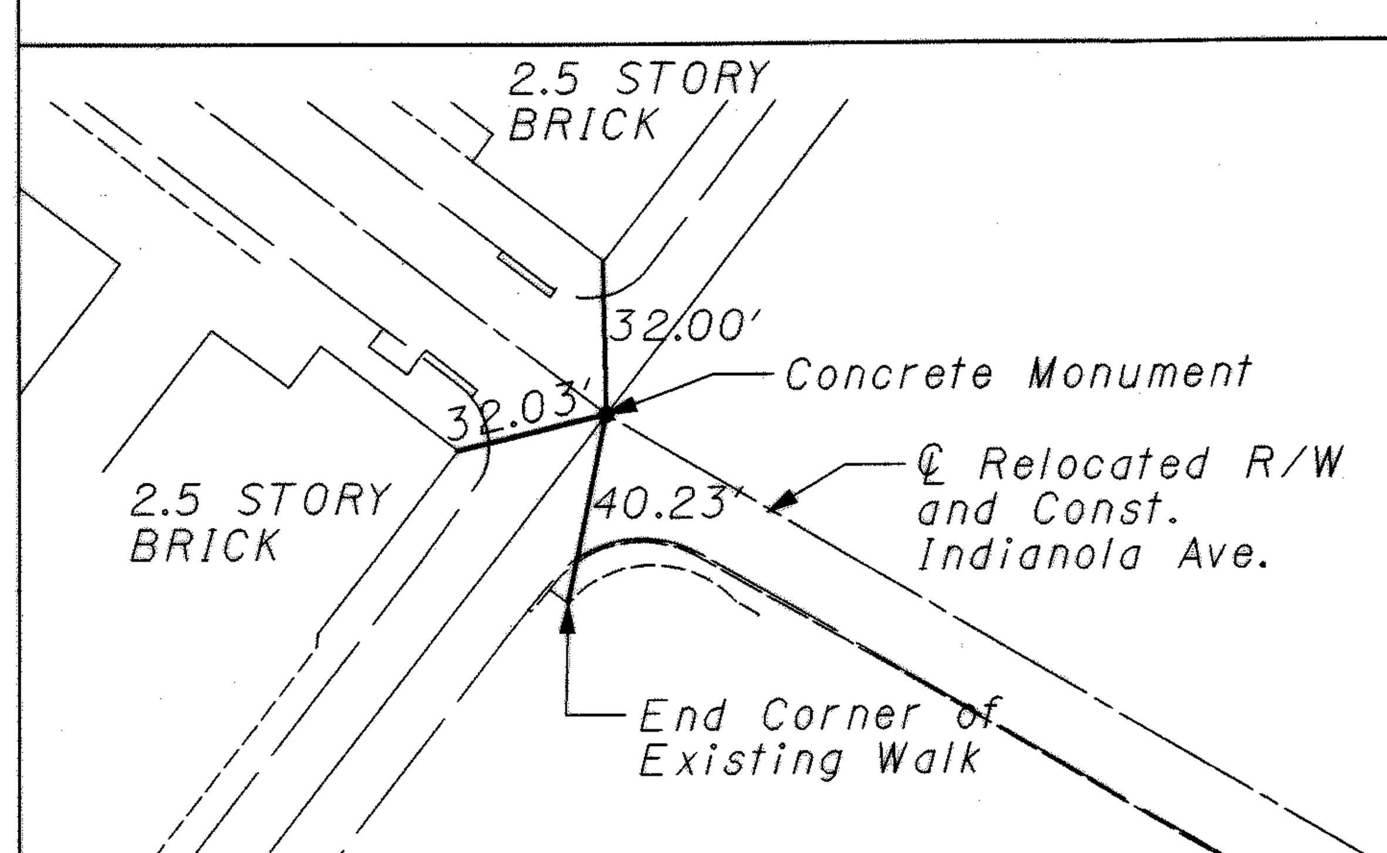
CURRENT YEAR ADT (2004)	= 6930
DESIGN YEAR ADT (2024)	= 7200
DESIGN HOURLY VOLUME (2024)	= 720
DIRECTIONAL DISTRIBUTION	= 0.55
TRUCKS (24 HOUR B&C)	= 0.03
TRUCKS (PEAK HOUR)	= 0.02
DESIGN SPEED	= 35 MPH
LEGAL SPEED	= 30 MPH
DESIGN FUNCTIONAL CLASSIFICATION	= URBAN LOCAL



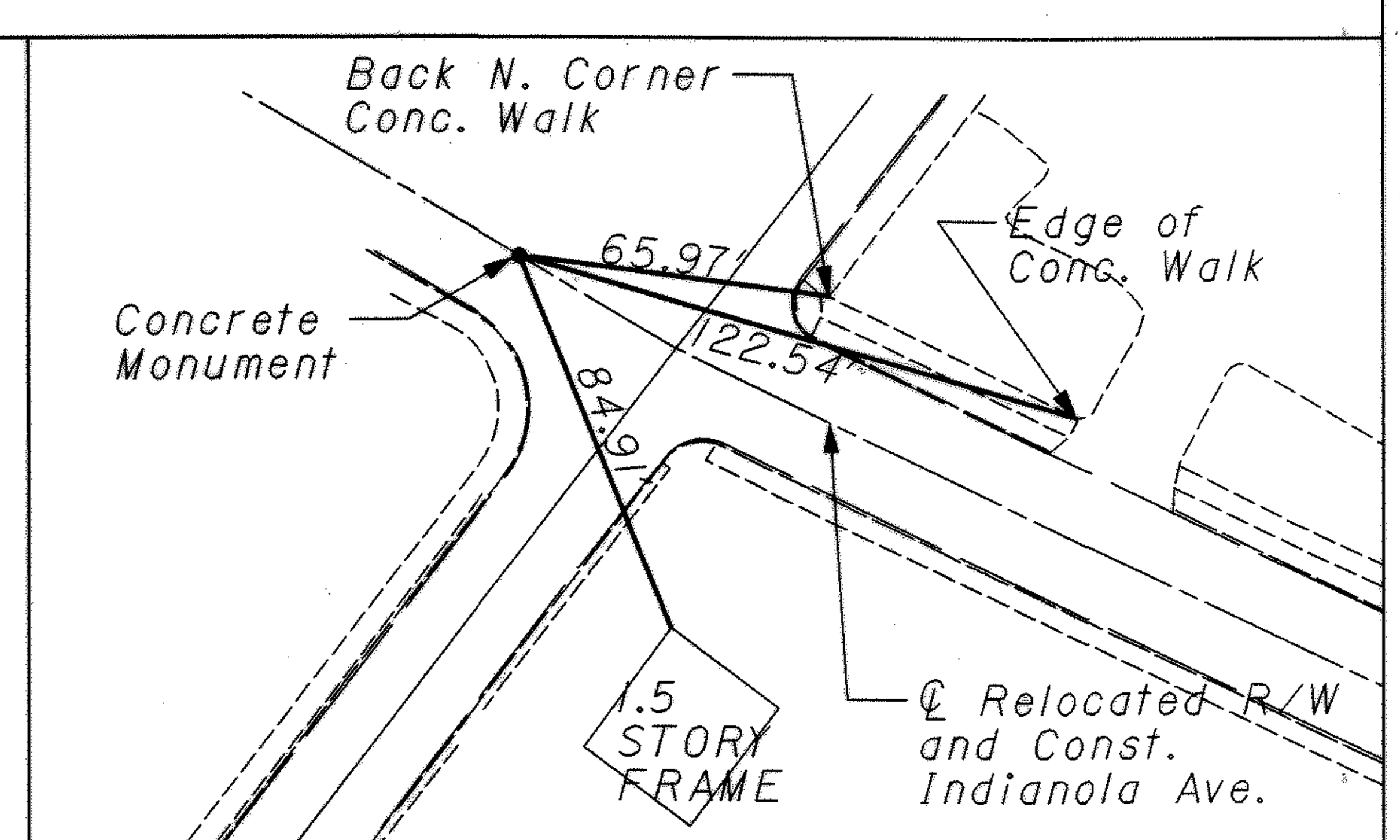
IR-680 EXISTING CURVE (1)

P.I. = Sta. 694+62.64
Δ = 71° 25' 13" (LT)
Dc = 1° 50' 00"
R = 3125.22'
Ls = 200.00'
θs = 1° 50' 00"
LT = 133.34'
ST = 66.67'
Lc = 3695.65'
Ts = 2346.92'
Es = 724.32'
T.S. = Sta. 671+15.72
S.C. = Sta. 673+15.72
C.S. = Sta. 710+11.37
S.T. = Sta. 712+11.37

CENTERLINE REFERENCES (Not to Scale)



STA. 48+20.43, ℄ INDIANOLA AVE.



STA. 51+25.04, ℄ INDIANOLA AVE.

SYMBOLS:

- VALVE
- METER
- MAN HOLE
- PED
- BOX/HAND HOLE
- FIRE HYDRANT
- MISC.
- TRAVERSE
- TV POLE
- POWER POLE
- TELE. POLE
- LIGHT POLE

CODES:

— W —	WATER
— G —	GAS
— T —	TELEPHONE
— TV —	CATV
— E —	ELECTRIC
— TC —	TRAFFIC CONTROL
— STM —	STORM SEWER
— SAN —	SANITARY SEWER
— SFM —	SANITARY FORCE MAIN
— UNK —	UNKNOWN
- - - - -	(DATUR)

ABBREVIATIONS:

TC	TRAFFIC CONTROL
G.T.S.	GAS TEST STATION
PFI	PER FIELD INSPECTION
TV	CATV
N.A.P.	NO ASSOCIATED PIPING FOUND FROM STRUCTURE TO ANY OTHER UTILITY OR STRUCTURE.
(AATFI)	ABANDONED ACCORDING TO FIELD INSPECTION
(AATUR)	ABANDONED ACCORDING TO UTILITY RECORDS
(DATFI)	DEPICTED ACCORDING TO FIELD INSPECTION, NO ELECTRONIC INFORMATION WAS OBTAINED.
(DATUR)	DEPICTED ACCORDING TO UTILITY RECORDS, NO ELECTRONIC INFORMATION WAS OBTAINED.
(FO)	FIBER OPTIC
E——	UTILITY END POINT
E.O.I.	END OF ELECTRONIC DESIGNATING INFORMATION
E.O.R.I.	END OF RECORD INFORMATION

UNLESS OTHERWISE NOTED, UTILITY LINE LIMITS DEPICTED REPRESENT FIELD DESIGNATING LIMITS AND NOT ENDPOINTS OF UTILITIES.

UTILITY INFORMATION LABELED "DATUR" IS DERIVED FROM AVAILABLE RECORDS. SUCH INFORMATION MAY NOT BE ACCURATE OR RELIABLE. SO-DEEP EXPRESSLY DISCLAIMS RESPONSIBILITY FOR THE ACCURACY OR RELIABILITY OF UTILITY INFORMATION THAT IS DEPICTED ACCORDING TO RECORDS.

DEPTH AND SIZE INFORMATION SHOWN HEREON IS TAKEN FROM AVAILABLE UTILITY RECORDS, AND HAS NOT BEEN VERIFIED.

UTILITY DEPTH AND SIZE INFORMATION IS UNAVAILABLE UNLESS OTHERWISE SHOWN ON PLAN SHEETS.

TRAFFIC CONTROL SENSORS IN PAVING ARE NOT SHOWN HEREON.

HORIZONTAL SCALE IN FEET: 0 50 100 200

SCHEMATIC PLAN

MAH-680-8.18

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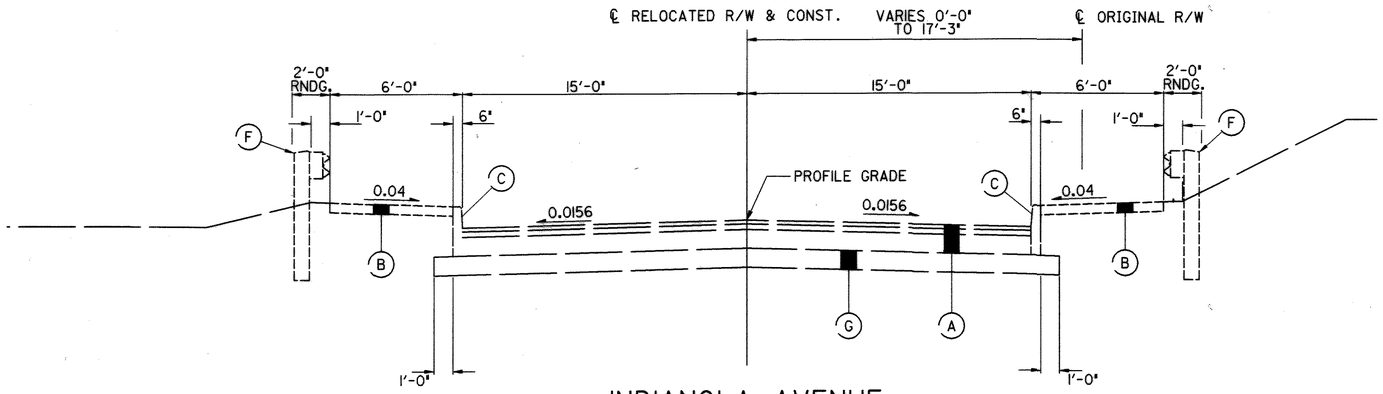
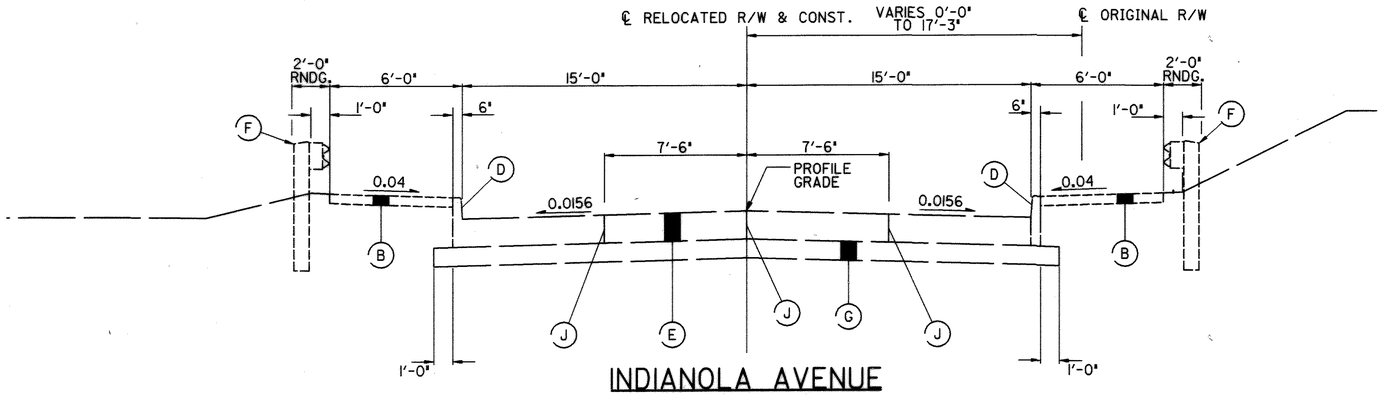
EXISTING LEGEND

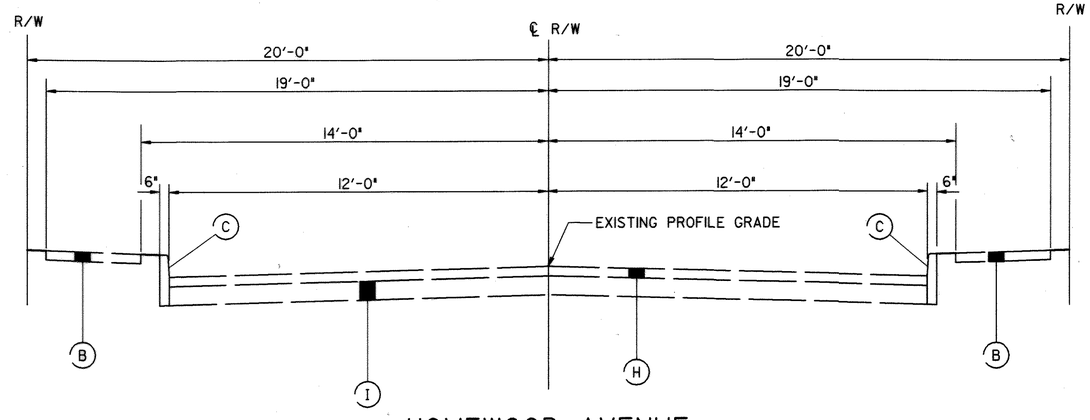
- (A) EXISTING FLEXIBLE PAVEMENT 9" +/-
- (B) EXISTING CONCRETE WALK
- (C) EXISTING CONCRETE CURB
- (D) EXISTING CONCRETE CURB, TYPE 2A
- (E) EXISTING RIGID PAVEMENT 8" +/-
- (F) EXISTING GUARDRAIL
- (G) EXISTING AGGREGATE BASE 4" +/-
- (H) EXISTING BITUMINOUS MACADAM SURFACE COURSE 2" +/-
- (I) EXISTING MACADAM BASE COURSE 8" +/-
- (J) EXISTING LONGITUDINAL JOINT



INDIANOLA AVENUE
STA. 48+30.61 TO STA. 48+68.43



INDIANOLA AVENUE
STA. 50+97.83 TO STA. 51+89.88



HOMEWOOD AVENUE
EXISTING TYPICAL

EXISTING TYPICAL SECTIONS

MAH-680-8.18

3
67

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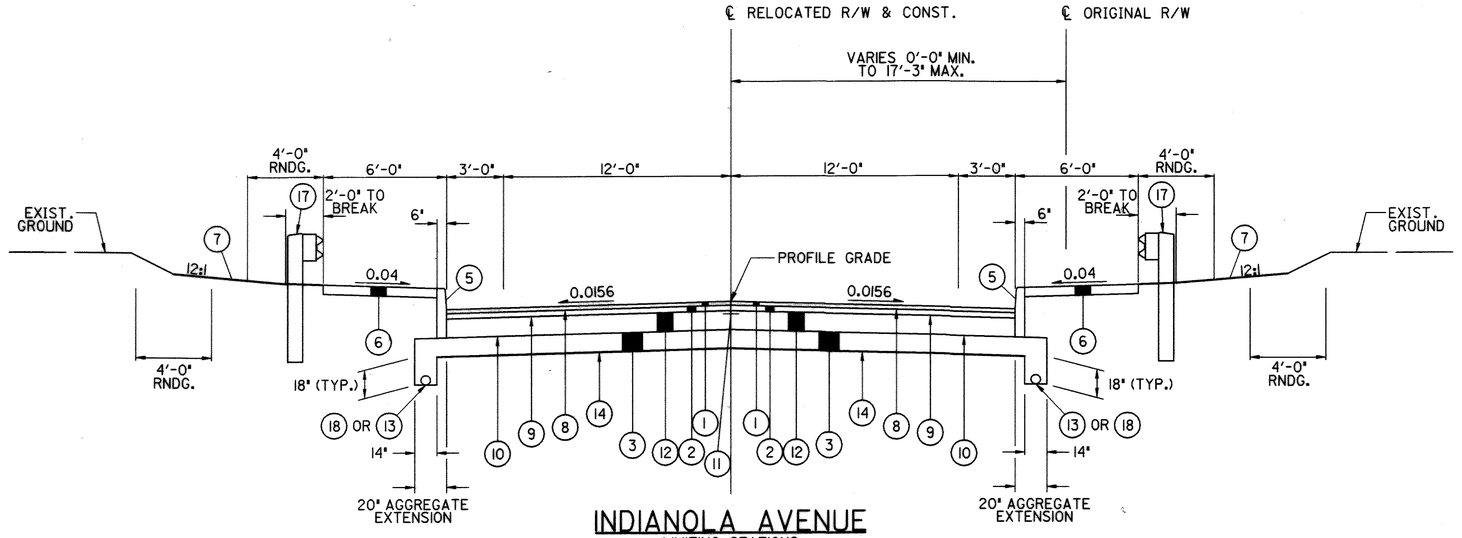
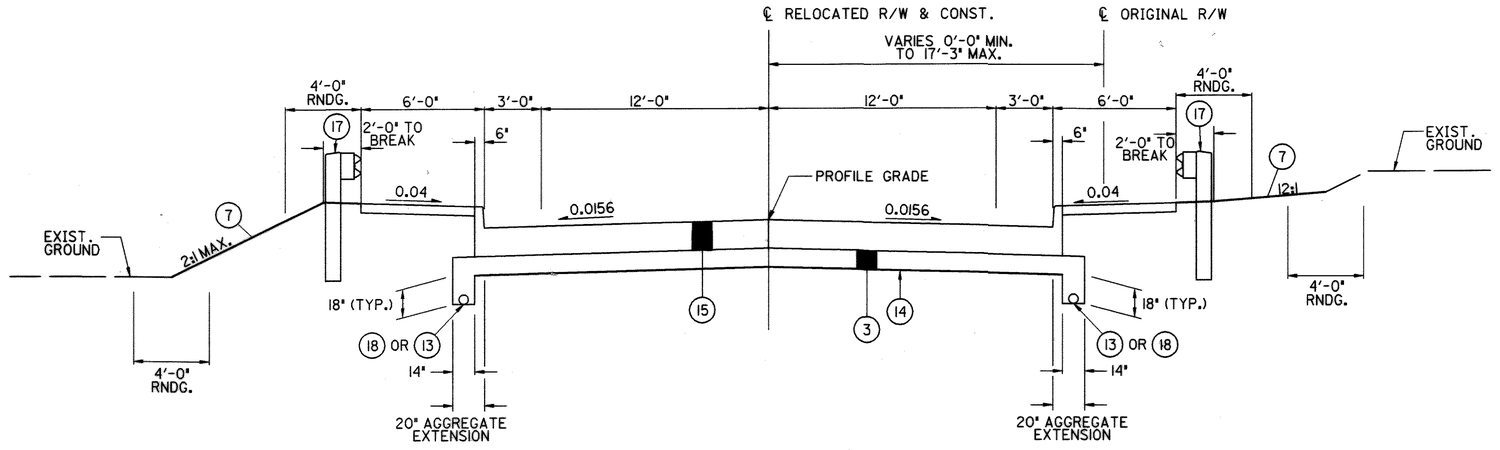
PROPOSED LEGEND

(1) ITEM 446 - 1-1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-28
(2) ITEM 446 - 1-3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64-28
(3) ITEM 304 - 6" AGGREGATE BASE
(4) ITEM 609 - CURB, TYPE 2-A
(5) ITEM 609 - CURB, TYPE 6
(6) ITEM 608 - 4" CONCRETE WALK
(7) ITEM 659 - SEEDING AND MULCHING
(8) ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE
(9) ITEM 407 - TACK COAT
(10) ITEM 408 - PRIME COAT
(11) STANDARD LONGITUDINAL JOINT
(12) ITEM 301 - 8" ASPHALT CONCRETE BASE, PG 64-28
(13) ITEM 605 - 6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP
(14) ITEM 204 - SUBGRADE COMPACTION
(15) ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T=13")
(16) ITEM 451 - 8" REINFORCED CONCRETE PAVEMENT
(17) ITEM 606 - GUARDRAIL, TYPE 5
(18) ITEM 605 - 6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP



INDIANOLA AVENUE

LIMITING STATIONS
STA. 48+30.61 TO STA. 48+68.43 = 37.82 LIN. FT.

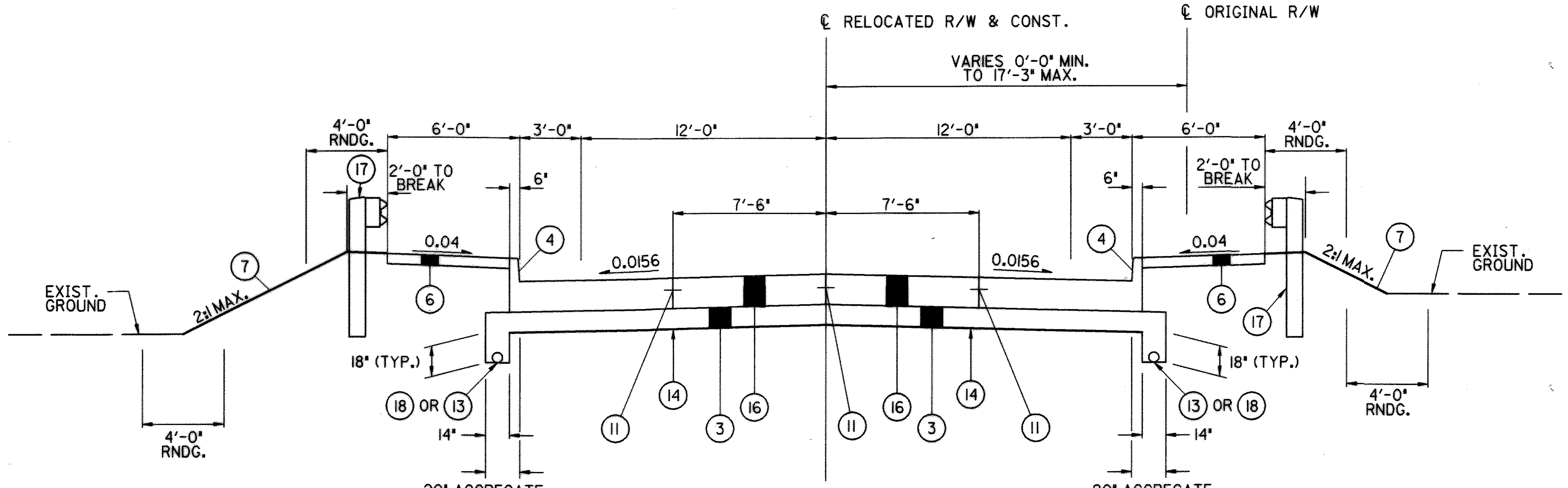


INDIANOLA AVENUE APPROACH SLAB

LIMITING STATIONS
STA. 48+68.43 TO STA. 48+88.43 = 20.00 LIN. FT.
STA. 50+77.83 TO STA. 51+07.83 = 30.00 LIN. FT.
TOTAL = 50.00 LIN.FT.

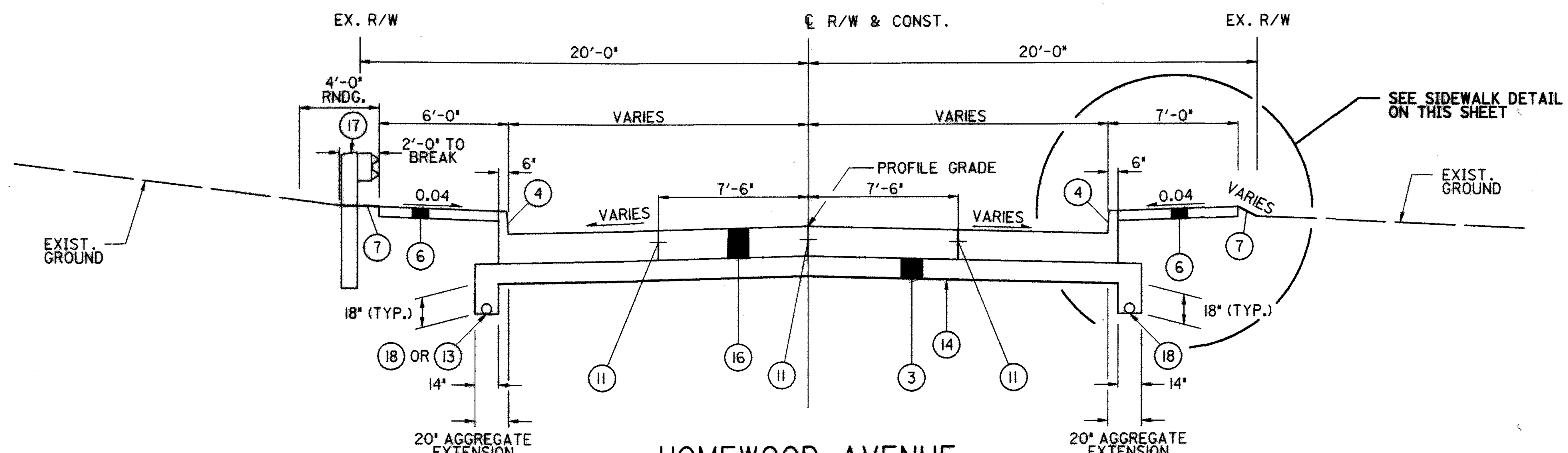
PROPOSED TYPICAL SECTIONS

MAH-680-8.18



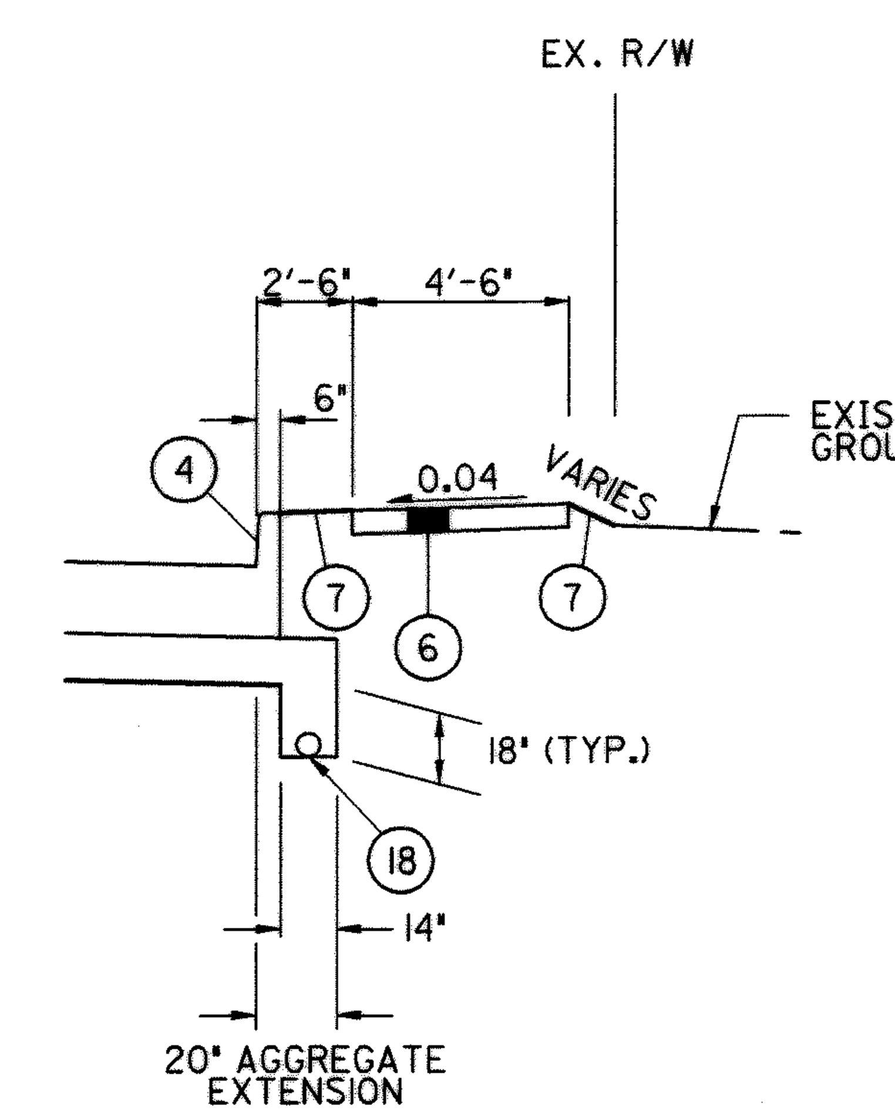
INDIANOLA AVENUE

LIMITING STATIONS
STA. 51+11.83 TO STA. 51+89.88 = 78.05 LIN. FT.



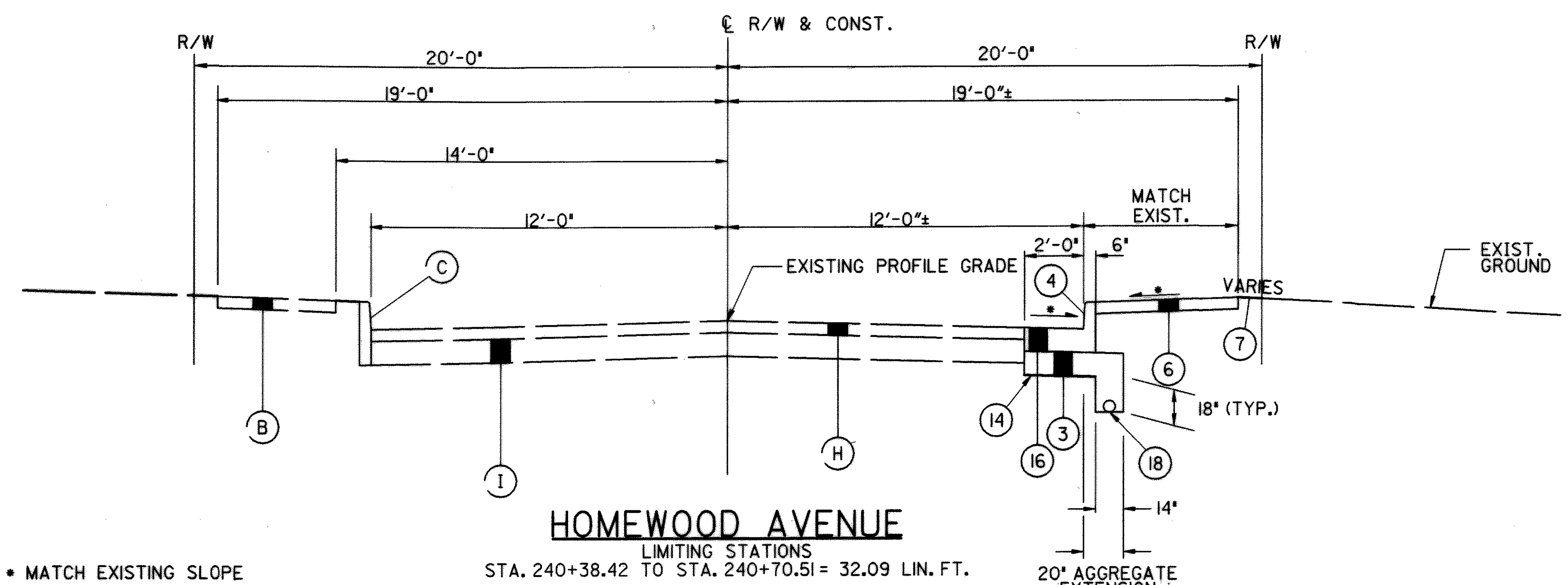
HOMEWOOD AVENUE

LIMITING STATIONS
STA. 239+40.30 TO STA. 240+38.42 = 98.12 LIN. FT.



SIDEWALK DETAIL

LIMITING STATIONS
STA. 239+40.30 TO STA. 239+89.59



HOMEWOOD AVENUE

LIMITING STATIONS
STA. 240+38.42 TO STA. 240+70.51 = 32.09 LIN. FT.

• MATCH EXISTING SLOPE

FOR PROPOSED LEGEND, SEE SHEET 4.
FOR EXISTING LEGEND, SEE SHEET 3.

PROPOSED TYPICAL SECTIONS

MAH-680-8.18

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GENERAL

ROUNDING

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

UTILITIES

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

SBC
SABRENA LAMPLEY
50 W. BOWERY ST.; 4TH FLOOR
AKRON, OH 44308
(330) 384-8057

AT&T
ATTN: JEFF BALLINGER
229 WEST 7TH STREET,
10TH FLOOR
CINCINNATI, OH 45020
(513) 784-5338

CITY OF YOUNGSTOWN,
WATER DEPT.
ATTN: GENE LESON
26 SOUTH PHELPS STREET
YOUNGSTOWN, OH 44503
(330) 743-5338

DOMINION EAST OHIO
ATTN: JIM SYMPSON
1165 WEST RAYEN AVENUE
YOUNGSTOWN, OH 44502
(330) 742-8138

DOMINION TELECOM
ATTN: DOUG PIERCE
ALLEGHENY CENTER MALL,
SUITE 108
PITTSBURGH, PA 15212
(412) 321-8432

DOMINION EAST OHIO
GAS SUPPLY OPERATIONS
ATTN: FRANK MARTIN
7015 FREEDOM AVE., N.W.
NORTH CANTON, OH 44720
(330) 266-2120

MAHONING VALLEY SANITARY DISTRICT
ATTN: MARTY KIELBASA
P.O. BOX 4119
YOUNGSTOWN, OH 44515-4119
(330) 799-6315

MCI/WORLDCOM
ATTN: INVESTIGATIONS
DEPT. 2855/642
JEFF BACHELDER
2250 LAKESIDE BOULEVARD
RICHARDSON, TX 75082

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

QWEST COMMUNICATIONS
ATTN: CLIFF CALDWELL
10645 WILLIAMS ROAD
WEST SALEM, OH 44287
(330) 948-1884

TIME WARNER CABLE
ATTN: DON JUGENHEIMER
4352 YOUNGSTOWN ROAD
WARREN, OH 44484
(330) 369-7138

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

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, ANY POWER-OPERATED CONSTRUCTION-TYPE DEVICE SHALL NOT BE OPERATED BETWEEN THE HOURS OF 9:00 PM AND 7:00 AM. IN ADDITION, ANY SUCH DEVICE SHALL NOT BE OPERATED AT ANY TIME 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 BASED ON U.S.G.S. DATUM NAVD 88.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

CONVERSION OF STANDARD CONSTRUCTION DRAWINGS

THE METRIC STANDARD DRAWINGS REFERENCED IN THIS PLAN SHALL BE CONVERTED TO ENGLISH UNITS USING THE SI (METRIC) TO ENGLISH CONVERSION FACTORS PROVIDED IN SECTION 109.02 OF THE 2002 CONSTRUCTION AND MATERIAL SPECIFICATIONS. CONVERSIONS SHALL BE APPROPRIATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE.

ROADWAY

CLEARING AND GRUBBING

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

UNSUITABLE FOUNDATION SOILS

IF UNSUITABLE FOUNDATION SOILS ARE ENCOUNTERED IN THE AREAS OF THE PROPOSED ROADBED, THEY SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL MEETING THE REQUIREMENTS OF 203.02.R. THE LOCATIONS AND DIMENSIONS WILL BE AS DETERMINED BY THE ENGINEER.

THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER:

ITEM 203, EMBANKMENT 100 CU. YD.

ITEM 203, EXCAVATION 50 CU. YD.

ADDITIONAL SOIL INFORMATION

NO SUBSURFACE INVESTIGATION WAS PERFORMED IN THIS PROJECT. MORE INFORMATION, IF ANY, MAY BE OBTAINED IN DISTRICT 4, OFFICE OF MATERIALS MANAGEMENT, OR THE OFFICE OF STRUCTURAL ENGINEERING.

FENCE LENGTHS

THE LENGTHS OF FENCE SHOWN IN THE PLANS ARE HORIZONTAL DIMENSIONS. MEASUREMENTS OF THE FINAL QUANTITIES SHALL BE MADE IN ACCORDANCE WITH ITEM 607.

ITEM 202 - PAVEMENT REMOVED, AS PER PLAN

THIS ITEM SHALL CONSIST OF THE REMOVAL OF THE EXISTING CONCRETE PAVEMENT, CONCRETE BASE, AND/OR BRICK PAVEMENT, IF PRESENT, AS PER SPECIFICATION 202.05.

ITEM 608 - CURB RAMP (EACH)

THIS ITEM SHALL CONSIST OF CONSTRUCTING CURB RAMPS INCLUDING DETECTABLE WARNINGS (TRUNCATED DOMES) AS PER PLAN INSERT SHEETS ON PAGES 39-41. CONTRACTOR TO MATCH EXISTING DESIGN AND LOCATION OF CURB RAMPS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

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. THE CONTRACTOR IS ADVISED THAT NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF 1247 FT. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, THE CONTRACTOR IS ADVISED THAT COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA) WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT FORM 7460-1 TO THE FAA. A COPY OF THE SUBMISSION AND TWO COPIES OF FORM 7460-1 SHALL BE FORWARDED TO THE ODOT OFFICE OF AVIATION. THE CONTRACTOR IS ADVISED THAT NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT, UNTIL A COPY OF THE FAA APPROVAL AND ODOT OFFICE OF AVIATION PERMIT HAS BEEN FURNISHED TO THE PROJECT ENGINEER.

THE FEDERAL AVIATION ADMINISTRATION
GREAT LAKES REGIONAL OFFICE
AIR TRAFFIC DIVISION AGL-530
2300 EAST DEVON AVENUE
DES PLAINES, ILLINOIS 60018
(847) 294-7566

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF AVIATION
2829 WEST DUBLIN-GRANVILLE ROAD
COLUMBUS, OHIO 43235
(614) 793-5046

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.

LOCATION OF GUARDRAIL

THE LOCATION OF GUARDRAIL RUNS AND IMPACT ATTENUATORS, AS SHOWN IN THESE PLANS, SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. THE LOCATION OF THESE ITEMS SHALL BE STAKED BY THE CONTRACTOR PRIOR TO REVIEW BY THE ENGINEER. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC. EXTREME CARE SHALL BE TAKEN WHEN PLACING GUARDRAIL POST ADJACENT TO DRAINAGE STRUCTURES. ANY DAMAGE TO DRAINAGE STRUCTURES CAUSED BY GUARDRAIL PLACEMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE COST OF STAKING SHALL BE INCLUDED IN THE LUMP SUM BID ITEM 623 - CONSTRUCTION LAYOUT STAKES.

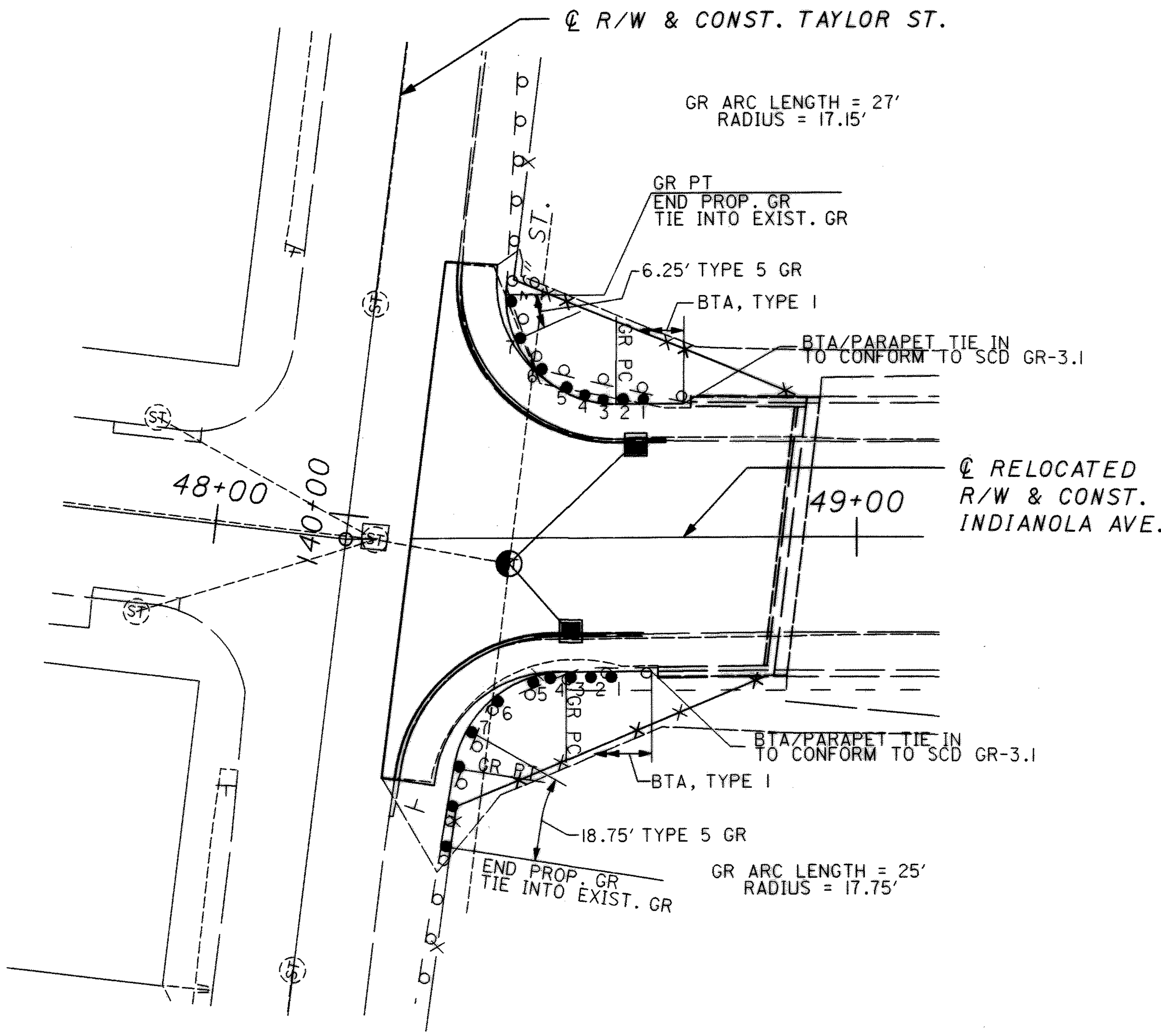
ITEM 204 - PROOF ROLLING

AN ESTIMATED QUANTITY FOR THIS ITEM HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

ITEM 204, PROOF ROLLING 1 HOUR

ITEM 606 BRIDGE TERMINAL ASSEMBLY, TYPE I, AS PER PLAN

THIS ITEM SHALL DEVIATE FROM STANDARD CONSTRUCTION DRAWING GR-3.1 WHERE GUARDRAIL FLARES WILL BEGIN PRIOR TO THE START OF THE SINGLE W-BEAM RAIL DUE TO INSUFFICIENT AVAILABLE TANGENT LENGTH BETWEEN THE NORTHWEST PARAPET AND TAYLOR STREET AND BETWEEN THE SOUTHWEST PARAPET AND TAYLOR STREET.



EROSION CONTROL

SEEDING AND MULCHING

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

659, TOPSOIL	19 CU. YD.
659, SEEDING AND MULCHING	167 SQ. YD.
659, REPAIR SEEDING AND MULCHING	8 SQ. YD.
659, COMMERCIAL FERTILIZER	0.02 TON
659, LIME	0.04 ACRE
659, WATER	1 M. GAL.

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

DRAINAGE

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 APPURTENANCES SHALL BE DETERMINED BY FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS 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 604 MANHOLE RECONSTRUCTED TO GRADE/ADJUSTED TO GRADE

THIS ITEM SHALL CONFORM TO THE REQUIREMENTS OF ITEM 604 AND ALSO INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO ADJUST ALL MANHOLES TO THE PROPOSED GRADE.

ALL CASTINGS SHALL BE ADJUSTED TO THE FINISHED ROADWAY ELEVATION BY THE CONTRACTOR. THE DEPTH OF AN ADJUST TO GRADE SHALL BE 1 FT. OR LESS AND THE WORK SHALL BE AS OUTLINED IN 604.03. ANY WORK BEYOND 1 FT. DEPTH SHALL BE PAID UNDER THE ITEM 604 - CATCH BASIN, OR MANHOLE RECONSTRUCTED TO GRADE. THE TIME BETWEEN ADJUSTING THE CASTINGS SHALL BE KEPT TO AN ABSOLUTE MINIMUM. NO ADJUSTING RINGS SHALL BE PERMITTED.

RESIDENTIAL AND COMMERCIAL DRAINAGE CONNECTIONS

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

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

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

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

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.

CALCULATED CML
CHECKED MVJ

GENERAL NOTES

MAH-680-8.18

PAVEMENT

LONGITUDINAL JOINTS (FLEXIBLE PAVEMENT)

LONGITUDINAL JOINTS BETWEEN A PAVEMENT LANE SHALL BE DONE IN THE SAME DAY. ALL LONGITUDINAL JOINTS SHALL BE HOT WITH THE EXCEPTION OF ONE COLD JOINT PER ROADWAY. LONGITUDINAL JOINT LOCATIONS SHALL BE AS APPROVED BY THE ENGINEER.

ITEM SPECIAL - PRESSURE RELIEF JOINT, TYPE A

THIS ITEM SHALL CONSIST OF CONSTRUCTING PRESSURE RELIEF JOINT, TYPE A AT THE LOCATIONS SHOWN IN THE PLAN PER ODOT STANDARD DRAWING BP-2.3.

CONCRETE PAVEMENT EXPANSION JOINTS

ALL PROPOSED CONCRETE PAVEMENT AND BASE SHALL BE CONSTRUCTED WITH EXPANSION JOINTS AS PER STANDARD DRAWING BP-2.1.

EXPANSION JOINTS SHALL BE LOCATED AT THE ENDS OF ALL INTERSECTION RADII TO ISOLATE EACH LEG OF THE INTERSECTION.

THE COST OF CONSTRUCTING THE EXPANSION JOINTS SHALL BE INCLUDED IN THE COST BID FOR ITEM 451.

CURBING ON APPROACH SLABS

THE SHAPE OF THE CURBING ON APPROACH SLABS SHALL BE TRANSITIONED, FROM THE STANDARD SECTION ON THE APPROACHES TO THE SECTION USED ON THE BRIDGE, WITHIN THE LIMITS OF THE APPROACH SLAB. THE CURBING ON APPROACH SLABS SHALL BE PAID FOR UNDER THE UNIT PRICE FOR ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T= 13"), AS PER PLAN.

EXISTING PAVEMENT THICKNESS

WHERE THE TYPICAL SECTIONS INDICATE EXISTING PAVEMENT THICKNESSES, THESE THICKNESSES ARE ORIGINAL DESIGN THICKNESSES AND MAY NOT REPRESENT THE AS-BUILT DESIGN THICKNESS' WHICH WILL BE ENCOUNTERED BY THE CONTRACTOR. WHERE THE THICKNESS OF THE EXISTING PAVEMENT LAYERS DIFFER FROM THOSE INDICATED ON THE PLANS, NO ADDITIONAL PAYMENT WILL BE MADE FOR OPERATIONS RELATED TO THIS DIFFERENCE; INCLUDING BUT NOT LIMITED TO PAVEMENT PLANING AND FULL DEPTH PAVEMENT SAWING.

CONTRACTION AND/OR EXPANSION JOINTS

ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN CONTRACTION AND EXPANSION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES AND MAXIMUM SPACING BETWEEN CONTRACTION JOINTS SHALL, IN ALL CASES, BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2 AND THE SPECIFICATIONS.

PAVEMENT AT INTERSECTIONS

THE ELEVATIONS APPEARING ON THE INTERSECTION DETAILS HAVE BEEN DETERMINED FROM FIELD SURVEY AND REFLECT THE CALCULATED ELEVATIONS REQUIRED TO PROVIDE A SMOOTH TRANSITION TO INTERSECTING GRADES.

THE CONTRACTOR, AT THE DIRECTION OF THE ENGINEER, SHALL MAKE MINOR ELEVATION ADJUSTMENTS TO MEET EXISTING FIELD CONDITIONS.

LIGHTING

ITEM 625 - STRUCTURE GROUNDING SYSTEM - AS PER PLAN

THIS ITEM SHALL CONSIST OF GROUNDING EACH LIGHT POLE AND STRUCTURE JUNCTION BOX AND RECONNECTING THE EXISTING STRUCTURE GROUND SYSTEM FOR BRIDGE NO. MAH-680-0818 TO THE NEW BRIDGE STEEL. THE CONTRACTOR SHALL INSPECT EACH GROUND CONNECTION AND VERIFY WORK REQUIRED WITH ENGINEER PRIOR TO WORK. PROVIDE ALL CABLE, CONNECTORS, LABOR, MATERIAL AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SHOWN ON STANDARD CONSTRUCTION DRAWING HL-50.21. PAYMENT SHALL BE MADE FOR EACH ITEM 625 - "STRUCTURE GROUNDING SYSTEM - AS PER PLAN"

ITEM 625 - LIGHT POLE ANCHOR BOLTS ON STRUCTURE

ANCHOR BOLTS FOR MOUNTING LIGHT POLES ON BRIDGES AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF 725.01 AND DETAILS SHOWN ON THE PLANS AND STANDARD DRAWINGS, OR THE APPROVED SHOP DRAWINGS, FOR THE RESPECTIVE POLES TO BE PLACED THEREON. PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR EACH SET OF THE SIZE REQUIRED AND NECESSARY TO INSTALL ONE POLE, AND THIS PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING AND PLACING THE BOLTS.

625.03 GENERAL

THE POWER SUPPLY AGENCY FOR THIS PROJECT IS:

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

POWER SERVICE: 120/240 VOLT, 2 WIRE, SINGLE PHASE, GROUNDED NEUTRAL

UNDERDRAINS FOR PULLBOXES

REFERENCE IS MADE TO STANDARD DRAWINGS FOR DETAILS OF DRAINING PULLBOXES, UNDERDRAINS FOR PULLBOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED APPROXIMATELY 20 FEET. AN ESTIMATED QUANTITY OF 20 LIN. FT. OF ITEM 603 - "4 INCH CONDUIT, TYPE E" IS INCLUDED IN THE GENERAL SUMMARY FOR THIS PURPOSE.

CONDUIT ON STRUCTURE

EXPANSION FITTINGS FOR CONDUIT ON STRUCTURES SHALL BE OZ TYPE DX, CROUSE-HINDS TYPE XJ-4, APPLETON TYPE XJ-4, OR EQUAL APPROVED BY THE ENGINEER, FOR BRIDGE NO. MAH-680-0818.

EACH EXPANSION FITTING SHALL HAVE A COPPER EXTERNAL BONDING JUMPER.

ITEM 625 - CABLE SPLICING KIT

THIS ITEM SHALL CONSIST OF PROVIDING AND INSTALLING AN APPROVED CABLE SPLICING KIT AS DESCRIBED IN PARAGRAPH 5 OF SECTION 725.15 OF THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE COST OF ALL MATERIALS, LABOR, AND EQUIPMENT NECESSARY FOR THIS ITEM SHALL BE INCLUDED IN THE UNIT BID PRICE FOR EACH ITEM 625 - CABLE SPLICING KIT.

HIGH-PRESSURE SODIUM LAMPS

HIGH-PRESSURE SODIUM LAMPS SHALL BE OF THE WATTAGE INDICATED ON THE PLANS AND SHALL BE GENERAL ELECTRIC "LUCALOX," SYLVANIA "LUMALOX," WESTINGHOUSE "CERVALUX," OR EQUAL APPROVED BY THE ENGINEER AND SHALL CONFORM TO SECTION 725.14 OF THE ODOT SPECIFICATIONS.

625.07 - 725.11 LUMINAIRES

STYLE B LUMINAIRES SHALL HAVE SINGLE RATED 120 VOLT, 250 WATT, INTEGRAL REGULATOR BALLASTS FOR USE WITH HIGH PRESSURE SODIUM LAMPS AND SHALL BE GENERAL ELECTRIC M400, COOPER OVD 255 OV-25, ITT AMERICAN ELECTRIC 125/266, OR 125/126 OR EQUAL APPROVED BY THE ENGINEER.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE LIGHTING SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 90 DAYS FOLLOWING COMPLETION OF THE 10-DAY PERFORMANCE TEST. IN THE EVENT OF UNSATISFACTORY OPERATION, THE CONTRACTOR SHALL CORRECT FAULTY INSTALLATIONS, MAKE REPAIRS AND REPLACE DEFECTIVE PARTS WITH NEW PARTS OF EQUAL OR BETTER QUALITY. EQUIPMENT, MATERIAL AND LABOR COSTS INCURRED IN CORRECTING AN UNSATISFACTORY OPERATION SHALL BE BORNE BY THE CONTRACTOR.

CUSTOMARY MANUFACTURER'S GUARANTEES FOR THE FOREGOING ITEMS SHALL BE TURNED OVER TO THE STATE FOLLOWING ACCEPTANCE OF THE EQUIPMENT.

THE COST OF GUARANTEEING THE LIGHTING SYSTEM SHALL BE INCIDENTAL TO AND INCLUDED IN THE CONTRACT UNIT PRICE OF THE VARIOUS ITEMS MAKING UP THE SYSTEM.

WATER WORKS AND SANITARY SEWER

WATER MAIN REMOVAL

THE WATER MAIN ON THE UNDERSIDE OF THE INDIANOLA AVENUE BRIDGE OVER I-680 SHALL BE REMOVED. PORTIONS OF THE MAIN WITHIN THE ROADWAY MAY NEED TO BE REMOVED AS WELL. THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR WATER MAIN REMOVAL.

ITEM 202 - PIPE REMOVED, 24" AND UNDER 100 FT.

SEQUENCE OF CONSTRUCTION

THIS PROJECT CONSISTS OF THE RECONSTRUCTION OF THE INDIANOLA AVENUE (MAH-680-8.18) BRIDGE OVER INTERSTATE 680. THE VERTICAL CLEARANCE OF INDIANOLA AVENUE OVER I-680 IS BEING IMPROVED TO MEET CURRENT DESIGN CRITERIA. ASSOCIATED ROADWAY RECONSTRUCTION, SIGNING AND PAVEMENT MARKING AND SIDEWALK WORK IS BEING PERFORMED AS NECESSARY.

PHASE 1:

THE CONTRACTOR SHALL CLOSE INDIANOLA AVENUE TO TRAFFIC FROM STATION 48+30 TO STA. 51+66.50. INDIANOLA TRAFFIC SHALL BE DETOURED VIA DICKSON AVENUE, SOUTH AVENUE, AND LEE AVENUE. THE LEFT LANE OF HOMEWOOD AVENUE SHALL BE CLOSED TO ALLOW CONSTRUCTION WITHIN THE HOMEWOOD AVENUE/ INDIANOLA AVENUE INTERSECTION. TRAFFIC SHALL BE MAINTAINED IN THE RIGHT LANE OF HOMEWOOD AVENUE AT ALL TIMES DURING THIS PHASE OF CONSTRUCTION THROUGH THE USE OF THE EXISTING PAVEMENT AND TEMPORARY PAVEMENT AS NECESSARY. THE CONTRACTOR SHALL PERFORM ALL BRIDGE REHABILITATION, PAINTING AND FULL DEPTH PAVEMENT REPLACEMENT UP TO BUT NOT INCLUDING THE FINAL PAVEMENT COURSE. UPON COMPLETION OF THE FULL DEPTH PAVEMENT RECONSTRUCTION THE CONTRACTOR SHALL ERECT THE PERMANENT SIGNAGE. UPON COMPLETION OF PHASE 1 CONSTRUCTION ACTIVITIES THE CONTRACTOR SHALL PROCEED TO PHASE 2.

PHASE 2:

THE CONTRACTOR SHALL SHIFT HOMEWOOD AVENUE TRAFFIC TO THE NEWLY CONSTRUCTED LEFT LANE OF PAVEMENT AND CLOSE THE RIGHT LANE OF HOMEWOOD AVENUE. HOMEWOOD AVENUE TRAFFIC SHALL BE MAINTAINED AT ALL TIMES IN THE LEFT LANE DURING THIS PHASE OF CONSTRUCTION. THE CONTRACTOR SHALL MAINTAIN THE CLOSURE OF INDIANOLA AVENUE, HOWEVER THE NEW CLOSURE LIMITS ARE STATION 48+30 TO STA. 51+90. THE CONTRACTOR SHALL PERFORM THE FULL DEPTH PAVEMENT REPLACEMENT IN THE HOMEWOOD AVENUE/ INDIANOLA AVENUE INTERSECTION AREA UP TO BUT NOT INCLUDING THE FINAL PAVEMENT COURSE. UPON COMPLETION OF THE FULL DEPTH PAVEMENT RECONSTRUCTION THE CONTRACTOR SHALL ERECT THE PERMANENT SIGNAGE. UPON COMPLETION OF PHASE 2 CONSTRUCTION ACTIVITIES THE CONTRACTOR SHALL REOPEN ALL LANES OF HOMEWOOD AVENUE AND PROCEED TO PHASE 3.

PHASE 3:

THE CONTRACTOR SHALL PLACE SURFACE COURSE OF PAVEMENT AND PERMANENT PAVEMENT MARKINGS THROUGHOUT THE PROJECT LIMITS, UNDER FLAGGER CONTROL. THE CONTRACTOR SHALL BE REQUIRED TO PERFORM FINAL PAVING AND STRIPING OPERATIONS DURING NON PEAK HOURS. ALL LANES MUST BE OPEN TO TRAFFIC, IN A PASSABLE CONDITION AS DETERMINED BY THE ENGINEER, AND AVAILABLE FOR USE DURING PEAK HOURS. PEAK HOURS ARE DETERMINED TO BE BETWEEN 7:00 AM AND 9:00 AM AS WELL AS 3:00 PM TO 6:00 PM.

RESTRICTIONS:

THE FOLLOWING RESTRICTIONS ARE IMPLEMENTED WITHIN THE ABOVE SEQUENCE OF CONSTRUCTION AND SHALL BE REQUIRED TO BE IMPLEMENTED IN ANY ALTERNATE SEQUENCE OF CONSTRUCTION PRESENTED BY THE CONTRACTOR:

1. THE INDIANOLA AVENUE BRIDGE CAN NOT BE CLOSED CONCURRENTLY WITH THE SHIRLEY ROAD BRIDGE OF THE MAH-680-7.24/8.34 CONTRACT.
2. INDIANOLA AVENUE MAY BE CLOSED CONCURRENTLY WITH THE GIBSON STREET BRIDGE STREET BRIDGE OF THE MAH-680-7.24/8.34 CONTRACT.
3. ANY REQUIRED LANE CLOSURES ON I-680 SHALL BE ENACTED PER THE ALLOWABLE LANE CLOSURE NOTE.
4. ANY REQUIRED ROAD CLOSURES ON I-680 SHALL BE ENACTED PER THE ALLOWABLE ROAD CLOSURE NOTE.

ALTERNATE MAINTENANCE OF TRAFFIC METHODS

THE SEQUENCE OF CONSTRUCTION NOTE PROVIDED IN THESE PLANS IS NOT TO BE CONSIDERED AS THE ONLY SEQUENCE OR METHOD OF CONSTRUCTION THAT MAY BE EMPLOYED ON THIS PROJECT.

ALTERNATE SEQUENCES OF CONSTRUCTION MAY BE UTILIZED, PROVIDED THAT THE ALTERNATE SEQUENCE OF CONSTRUCTION IS SUBMITTED TO THE ENGINEER A MINIMUM OF 30 DAYS BEFORE IMPLEMENTATION, AND PROVIDED THAT THE ENGINEER APPROVES THE REQUESTED ALTERNATE SEQUENCE OF CONSTRUCTION IN WRITING.

ANY ALTERNATE SEQUENCE OF CONSTRUCTION SHALL ADHERE TO THE RESTRICTIONS DESCRIBED IN THE SEQUENCE OF CONSTRUCTION NOTE AND SHALL NOT WAIVE ANY LIQUIDATED DAMAGES PROVISION.

NOTICE OF CLOSURE SIGNS

THE CONTRACTOR SHALL ERECT NOTICE OF CLOSURE SIGNS (OC-60A-60) THIRTY (30) DAYS PRIOR TO ENCACTING ANY ROAD CLOSURE. THE SIGNS SHALL BE ERECTED AT THE POINT OF CLOSURE, FACING ONCOMING TRAFFIC. THE CONTRACTOR SHALL FOLLOW THE DESIGN GUIDELINES IN THE ODOT (OHIO DEPARTMENT OF TRANSPORTATION) SIGN DESIGN MANUAL. THE CONTRACTOR SHALL UTILIZE MONTH AND DAY FORMAT FOR NOTIFICATION OF CLOSURE. THE TELEPHONE NUMBER PROVIDED FOR INFORMATION SHALL BE THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 4'S OFFICE TELEPHONE NUMBER (330-297-0801). ONCE CONSTRUCTION COMMENCES, THE CONTRACTOR SHALL REMOVE THE NOTICE OF CLOSURE SIGNS.

THE COST OF THE NOTICE OF CLOSURE SIGNS IS CONSIDERED TO BE INCIDENTAL AND INCLUDED IN ITEM 614 - MAINTAINING TRAFFIC.

DETOUR NOTIFICATION

THE CONTRACTOR SHALL ADVISE THE OHIO DEPARTMENT OF TRANSPORTATION'S DISTRICT 4 OFFICE (330-297-0801 EXT. 339) AND THE CITY OF YOUNGSTOWN ENGINEER'S OFFICE (330-742-8800) EIGHTEEN (18) CALENDAR DAYS IN ADVANCE OF WHEN THE DETOUR ROUTE SHOULD BE IN EFFECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVISION, ERECTION, MAINTENANCE OF AND REMOVAL ALL TRAFFIC CONTROL DEVICES REQUIRED FOR THE PROJECT, INCLUDING THOSE ON THE DETOUR ROUTES.

ALLOWABLE LANE CLOSURE TIME LIMITATIONS

THE CONTRACTOR MAY CLOSE LANES ON I-680 DURING THE FOLLOWING PERIODS FOR PAINTING:

INDIANOLA AVENUE (I-680 EASTBOUND)

WEEKDAY	WEEKENDS
1 - LANE ONLY	1 - LANE ONLY
7:00 AM - 8:00 AM 3:00 PM - 7:00 PM	4:00 PM - 6:00 PM
2 - LANES	2 - LANES
7:00 PM - 7:00 AM 8:00 AM - 3:00 PM	12:00 AM - 4:00 PM 6:00 PM - 12:00 AM

INDIANOLA AVENUE (I-680 WESTBOUND)

WEEKDAY	WEEKENDS
1 - LANE ONLY	1 - LANE ONLY
7:00 AM - 8:00 AM 11:00 AM - 7:00 PM	1:00 PM - 4:00 PM 5:00 PM - 7:00 PM
2 - LANES	2 - LANES
7:00 PM - 7:00 AM 8:00 AM - 11:00 AM	12:00 AM - 1:00 PM 4:00 PM - 5:00 PM 7:00 PM - 12:00 AM

ALL TIMES SHOWN ARE TAKEN FROM THE ODOT DISTRICT 4 PERMITTED LANE CLOSURES CHART.

NO LANE CLOSURES ARE PERMITTED ON HOLIDAYS OR HOLIDAY WEEKENDS. THIS INCLUDES THE DAY BEFORE OR AFTER THE HOLIDAY OR HOLIDAY WEEKEND. THE FOLLOWING ARE CONSIDERED HOLIDAYS: EASTER, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING, CHRISTMAS DAY AND NEW YEARS DAY.

OMUTCD CLARIFICATION

ANY REFERENCE TO THE LATEST EDITION AND REVISION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) SHALL BE INTERPRETED AS:

THE CONTRACTOR SHALL BE REQUIRED TO UTILIZE THE 1972 EDITION, REVISION 21 OF THE OMUTCD (WHICH TOOK EFFECT JUNE 1, 1999).

CALCULATED MAH CHECKED BJT

MAINTENANCE OF TRAFFIC GENERAL NOTES

MAH-680-8.18

ALLOWABLE ROAD CLOSURE TIME LIMITATIONS

THE CONTRACTOR MAY TEMPORARILY CLOSE I-680 DURING THE FOLLOWING PERIODS FOR STEEL ERECTION THE CONTRACTOR SHALL UTILIZE OHIO STATE HIGHWAY PATROL FORCES TO CLOSE THE HIGHWAY BY THE STOPPAGE OF MAINLINE TRAFFIC NOTE CONTAINED IN THIS PLAN. THE CONTRACTOR SHALL BE ALLOWED TO CLOSE THE HIGHWAY FOR 10 MINUTES IN ANY 30 MINUTE PERIOD DURING THE FOLLOWING TIMES:

ROAD CLOSURE RESTRICTIONS FOR STEEL ERECTION:

WEEKDAY	WEEKENDS
11:00 PM - 5:00 AM	12:00 AM SAT - 9:00 AM SAT 11:00 PM SAT - 8:00 AM SUN 11:00 PM SUN - 5:00 AM MON

NO ROAD CLOSURES ARE PERMITTED ON HOLIDAYS OR HOLIDAY WEEKENDS. THIS INCLUDES THE DAY BEFORE OR AFTER THE HOLIDAY OR HOLIDAY WEEKEND. THE FOLLOWING ARE CONSIDERED HOLIDAYS: EASTER, MEMORIAL DAY, FOURTH OF JULY, LABOR DAY, THANKSGIVING, CHRISTMAS DAY AND NEW YEARS DAY.

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

A QUALIFIED FLAGGER SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM ON I-680. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVING OPERATIONS ARE SCHEDULED TO CONTINUE WITHIN THE NEXT WORKDAY. OTHERWISE THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA OUTSIDE THE R/W, THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. WHEN PARKING ALONG THE HIGHWAY THE EQUIPMENT SHALL BE PLACED AND DELINEATED AS PER 614.03. NO EQUIPMENT SHALL BE PARKED IN THE MEDIAN OF THE HIGHWAY. ADEQUATE BARRICADES AND LIGHTS SHALL BE PLACED ON THE PAVEMENT SIDE OF THE EQUIPMENT TO IDENTIFY THE LIMITS OF THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA. NO EQUIPMENT SHALL BE PARKED ON PRIVATE PROPERTY UNLESS PRIOR APPROVAL OF THE OWNER AND THE PROJECT ENGINEER/SUPERVISOR HAS BEEN GRANTED.

DETOUR DURATION

THE MAXIMUM LENGTH OF TIME FOR THE DETOUR ROUTE TO BE IN EFFECT SHALL BE 180 CONSECUTIVE CALENDAR DAYS. CONSTRUCTION WORK MAY BE PERFORMED BEFORE AND AFTER THE DETOUR LIMITATION DATES, BUT THERE SHALL BE NO RESTRICTIONS (LANE WIDTH REDUCTIONS, TEMPORARY ROADWAYS, OR ONE WAY TRAFFIC) TO THROUGH OR LOCAL TRAFFIC. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE AND PERFORM THE CONSTRUCTION WORK WITHIN THE DETOUR LIMITATION TIME. THE FAILURE OF THE CONTRACTOR TO MEET THE DETOUR LIMITATION DATES WILL CAUSE SEPARATE LIQUIDATED DAMAGES OF $1,250 PER CALENDAR DAY OF OVERRUN OF DETOUR LIMITATION TIME TO BE ASSESSED. THE CONTRACTOR WILL COMPLY WITH ALL PROVISIONS OF 108.07 OF THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS.

TRAFFIC CONTROL INSPECTOR

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

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR

IN ADDITION TO THE REQUIREMENTS OF 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD). A UNIFORMED LAW ENFORCEMENT OFFICER AND OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS SHOULD BE PROVIDED FOR CONTROLLING TRAFFIC AS DIRECTED BY ENGINEER FOR THE FOLLOWING TASKS:

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

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

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

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES WITH:

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

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

LAW ENFORCEMENT OFFICERS WITH PATROL CAR REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON AN HOURLY BASIS UNDER ITEM 614 LAW ENFORCEMENT OFFICER WITH PATROL CAR. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR
500 HOURS

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

IF THE CONTRACTOR WISHES TO UTILIZE LEO'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, HE MAY DO SO AT THIS OWN EXPENSE. PAYMENT FOR THE EXCESS ABOVE THE CONTRACT REQUIREMENTS WILL BE INCLUDED UNDER ITEM 614 MAINTAINING TRAFFIC.

ITEM 614 - DETOUR SIGNING

THIS ITEM SHALL INCLUDE ALL LABOR AND MATERIAL COSTS ASSOCIATED WITH THE PROVISION, ERECTION AND MAINTENANCE OF THE DETOUR ROUTE(S) SIGNING. COMPENSATION TO THE CONTRACTOR SHALL BE PAID AT THE LUMP SUM BID PRICE FOR ITEM 614 - DETOUR SIGNING.

CALCULATED MAH CHECKED BJT

MAINTENANCE OF TRAFFIC GENERAL NOTES

MAH-680-8.18

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MAINTENANCE OF TRAFFIC

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

1. THE CONTRACTOR SHALL INFORM THE DISTRICT OFFICE (330) 297-0801 EXT 209, EIGHTEEN (18) DAYS PRIOR TO THE BEGINNING OF WORK.

2. CONES SHALL NOT BE ACCEPTABLE TRAFFIC CONTROL DEVICES FOR LANE RESTRICTIONS OR LANE REDUCTIONS THAT ARE IN OPERATION ONE-HALF HOUR AFTER SUNSET OR ONE HALF-HOUR BEFORE SUNRISE. ALL NIGHTTIME LANE RESTRICTIONS SHALL REQUIRE DRUMS OR BARRICADES AT A MAXIMUM SPACING OF FIFTY (50) FEET.

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

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 NET OR PLATFORM OF SUITABLE STRENGTH ON THE UNDERSIDE OF THE DECK. THE DESIGN OF THE NET OR PLATFORM SHALL CONFORM WITH OSHA REQUIREMENTS AND THE APPROVAL OF THE ENGINEER AND SHALL REMAIN IN PLACE UNTIL THE WORK HAS BEEN COMPLETED AND ACCEPTED OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL SUBMIT A DEMOLITION PLAN AND SAFETY NET OR PLATFORM DESIGN 10 DAYS PRIOR TO COMMENCING ANY DEMOLITION FOR APPROVAL BY THE ENGINEER. THE SUBMITTAL SHALL BE IN WRITING TO THE DISTRICT CONSTRUCTION ENGINEER WITH A COPY TO THE PROJECT ENGINEER.

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.

ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, CLASS I, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, 2 PORTABLE CHANGEABLE MESSAGE SIGNS [PCMS], ON SITE, FOR THE DURATION OF TIME SPECIFIED IN THIS NOTE, EACH SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR. THE CLASS I UNITS SHALL HAVE A MINIMUM LEGIBILITY DISTANCE OF 1250 FEET.

EACH SIGN SHALL BE TRAILER MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM TO DIM THE SIGN DURING DARKNESS AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY.

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 PCMS SHOULD NOT BE LOCATED IN THE MEDIAN OF THE HIGHWAY UNLESS IT IS PROTECTED FROM BOTH DIRECTIONS OF TRAFFIC. THE PCMS SHOULD BE LOCATED BEHIND GUARDRAIL WHEREVER POSSIBLE. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE THE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS WILL BE OFF, 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 PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT AND TO REVISE SIGN MESSAGES, IF NECESSARY.

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

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

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

ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, CLASS I, AS PER PLAN, CONT.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF 614. THE CONTRACTOR SHALL PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC AND THE ENTIRE COST TO CONTROL TRAFFIC ACCRUED BY THE DEPARTMENT WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

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

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE BID FOR EACH SIGN MONTH OF ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, CLASS I, AS PER PLAN AND 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
10 SIGN MONTH

MAINTENANCE OF TRAFFIC, AS DIRECTED

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR USE WITH VARIOUS MAINTENANCE OF TRAFFIC OPERATIONS AND HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

ITEM 614-WORKZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	4	EACH
ITEM 614-BARRIER REFLECTOR, TYPE B	25	EACH
ITEM 614-WORKZONE LANE LINE, CLASS I, 740.06, TYPE I	1.5	MILES
ITEM 614-WORKZONE EDGE LINE, CLASS I, 740.06, TYPE I	1.0	MILES
ITEM 622-PORTABLE CONCRETE BARRIER, 32"	2000	FT

PAVEMENT MARKING REPLACEMENT, AS DIRECTED

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR USE AS DIRECTED BY THE ENGINEER TO REPLACE ANY MAINLINE I-680 PAVEMENT MARKINGS WHICH WERE REMOVED, OR WERE DAMAGED BY THE CONSTRUCTION OPERATION.

ITEM 644-EDGE LINE	1.0	MILES
ITEM 644-LANE LINE	1.5	MILES

CALCULATED MAH CHECKED BJT

MAINTENANCE OF TRAFFIC GENERAL NOTES

MAH-680-8.18

INCIDENT MANAGEMENT

THE CONTRACTOR SHALL MAKE ALL PORTABLE CHANGEABLE MESSAGE SIGNS AVAILABLE FOR USE BY JERRY JONES, ODOT DISTRICT 4 HIGHWAY MANAGEMENT TRAFFIC COORDINATOR, FOR TRAFFIC INCIDENT MANAGEMENT PURPOSES. SHOULD IT BE NECESSARY FOR ODOT TO UTILIZE THE CONTRACTOR'S PCMS, ODOT PERSONNEL WILL PROGRAM THE APPROPRIATE INCIDENT MANAGEMENT MESSAGE INTO THE PCMS DIRECTLY. THE CONTRACTOR SHALL RETURN THE PCMS TO THE APPROPRIATE CONSTRUCTION MESSAGE IMMEDIATELY AFTER THE TRAFFIC INCIDENT HAS BEEN RESOLVED. ANY ADDITIONAL LABOR COST RESULTING FROM THIS SPECIFICATION SHALL BE INCIDENTAL AND INCLUDED IN ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN.

FLOODLIGHTING

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

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

ACCESS TO PROPERTIES

THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES (RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL) WITHIN THE CONSTRUCTION LIMITS AT ALL TIMES DURING ALL PHASES OF CONSTRUCTION. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE MAINTENANCE OF DRIVEWAYS:

ITEM 614-ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	- 10	C.Y.
ITEM 410-TRAFFIC COMPACTED SURFACE, TYPE A OR B	- 10	C.Y.
ITEM 410-TRAFFIC COMPACTED SURFACE, TYPE C	- 10	C.Y.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING CONTINGENCY QUANTITY HAS BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616-WATER 150 M GAL

NOTIFICATION AND CONTACTS

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

1. OHIO DEPARTMENT OF TRANSPORTATION
   DISTRICT 4
   705 OAKWOOD STREET
   RAVENNA, OHIO 44266
   330-297-0801

2. MAHONING COUNTY ENGINEER'S OFFICE
   940 BEARS DEN ROAD
   YOUNGSTOWN, OHIO 44511
   330-799-1581

3. CITY OF YOUNGSTOWN ENGINEERING DEPARTMENT
   26 SOUTH PHELPS STREET
   YOUNGSTOWN, OHIO 44503
   330-742-8800

4. CITY OF YOUNGSTOWN POLICE DEPARTMENT
   116 WEST BOARDMAN STREET
   YOUNGSTOWN, OHIO 44503
   330-742-8900

5. YOUNGSTOWN CITY SCHOOL DISTRICT
   20 WEST WOOD STREET
   YOUNGSTOWN, OHIO 44503
   330-744-6900

6. CITY OF YOUNGSTOWN FIRE DEPARTMENT
   420 MARTIN LUTHER KING BLVD
   YOUNGSTOWN, OHIO 44502
   330-747-9326

7. THE OHIO STATE HIGHWAY PATROL
   CANFIELD PATROL POST
   500 SOUTH BROAD STREET
   CANFIELD, OHIO 44406
   330-533-6866

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

CALCULATED MAH
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MAINTENANCE OF TRAFFIC
GENERAL NOTES

MAH-680-8.18

ITEM 614 - TEMPORARY IMPACT ATTENUATOR, (UNIDIRECTIONAL)

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

1. THE QUADGUARD CZ, (610 MM WIDE 6-BAY) TEMPORARY IMPACT ATTENUATOR MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., ONE EAST WACKER DRIVE, CHICAGO, IL 60601 (TELEPHONE: 312-467-6750).

   THE LENGTH OF THE 6-BAY QUADGUARD CZ IS 20.75 FT. 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
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
3540260	QUADGUARD SYSTEM PCMB ANCHOR ASSEMBLY	11/19/97 REV. C	8/27/99

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

   THE TRACC IS 21 FT LONG AND 2.62 FT 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.	ODOT APPROVAL DATE
SS450M	CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATION & SECTIONS	3/12/99 REV. 1	8/27/99
SS455	TRACC TRANSITION TO W-BEAM MEDIAN BARRIER PLAN, ELEVATION & SECTIONS	2/18/99	8/27/99
SS461	TRACC TRANSITION TO CONCRETE SAFETY SHAPE BARRIER PLAN, ELEVATION & SECTIONS	6/30/99 REV. 1	8/27/99
SS462	TRACC TRANSITION TO CONCRETE BARRIER SINGLE SLOPE PLAN, ELEVATION & SECTIONS	6/30/99	8/27/99

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 1 TO 6 UNITS INSTALLED ON THE PROJECT SITE. FOR EXAMPLE, 5 INSTALLED UNITS REQUIRE 1 SPARE PARTS PACKAGE AND 7 INSTALLED UNITS REQUIRE 2 SPARE PARTS PACKAGES.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 614, TEMPORARY IMPACT ATTENUATOR, (UNIDIRECTIONAL), EACH, 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.

CALCULATED MAH CHECKED BJT

MAINTENANCE OF TRAFFIC GENERAL NOTES

MAH-680-8.18

STOPPAGE OF MAINLINE TRAFFIC

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

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

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

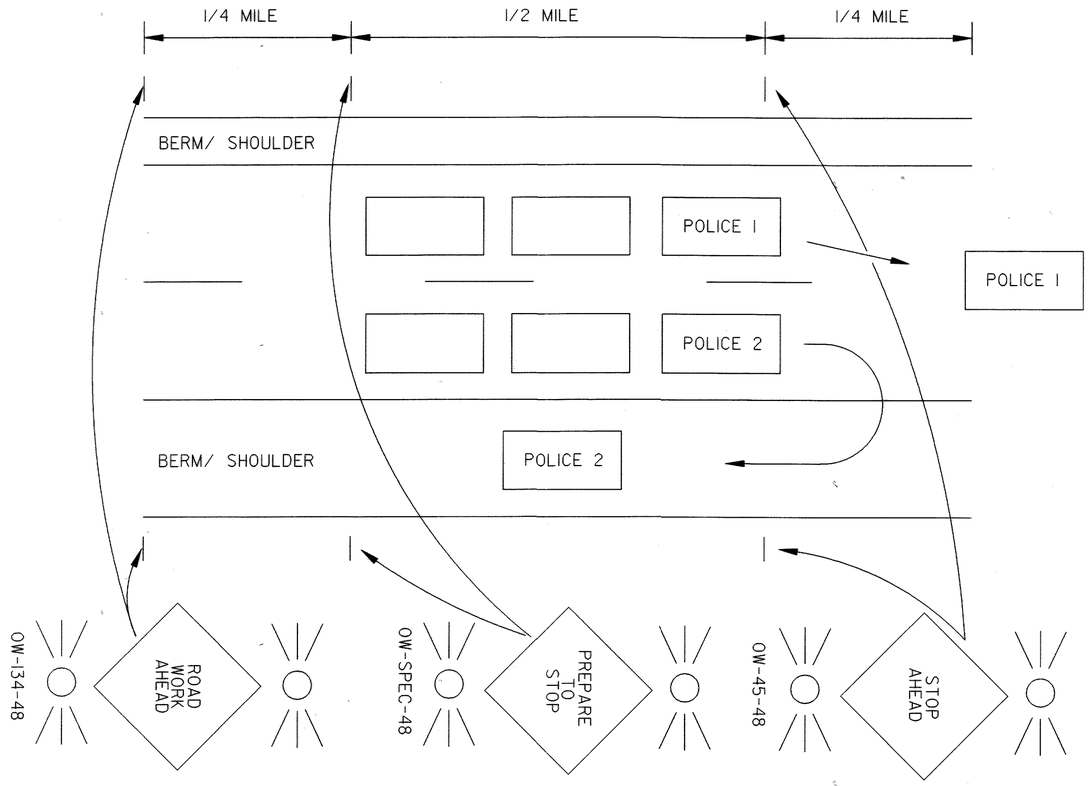
THE CONTRACTOR/PERMITEE SHALL ERECT AND MAINTAIN "ROAD WORK AHEAD" (OW-134-48), "PREPARE TO STOP" (OW-152-48), AND "STOP AHEAD" (OW-45-48) SIGNS. EACH SIGN SHALL BE EQUIPPED WITH A TYPE B FLASHING BARRICADE WARNING LIGHT IN ACCORDANCE WITH SECTION 7G-6 OF THE OMUTCD. PATROL CARS AND SIGNS SHALL BE LOCATED IN ACCORDANCE WITH THE DETAIL BELOW.

A PORTABLE CHANGEABLE MESSAGE SIGN, TYPE TO BE ON ODOT'S PREAPPROVED LIST, SHALL BE PLACED 1.5 TO 2 MILES IN ADVANCE OF THE CLOSURE OR AS DIRECTED BY THE ENGINEER. THE FOLLOWING MESSAGE SHALL BE DISPLAYED ON THE PCM UNLESS DIRECTED OTHERWISE BY THE ENGINEER:

	MESSAGE	DURATION
MESSAGE PHRASE 1	ROAD WORK AHEAD	1.5 SEC.
MESSAGE PHRASE 2	REDUCE SPEED	1.5 SEC.
MESSAGE PHRASE 3	PREPARE TO STOP	1.5 SEC.

* EACH COMPLETE MESSAGE WILL BE FOLLOWED BY A BANK SCREEN LASTING 0.3 SECOND.*

THE CONTRACTOR SHALL NOTIFY THE ENGINEER/PERMIT OFFICE AND THE ODOT PUBLIC INFORMATION OFFICE, 330-297-0801 EXT-211, THREE (3) DAYS PRIOR TO ANY MAINLINE TRAFFIC STOPPAGE.



CALCULATED MAH
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MAINTENANCE OF TRAFFIC GENERAL NOTES

MAH-680-8.18

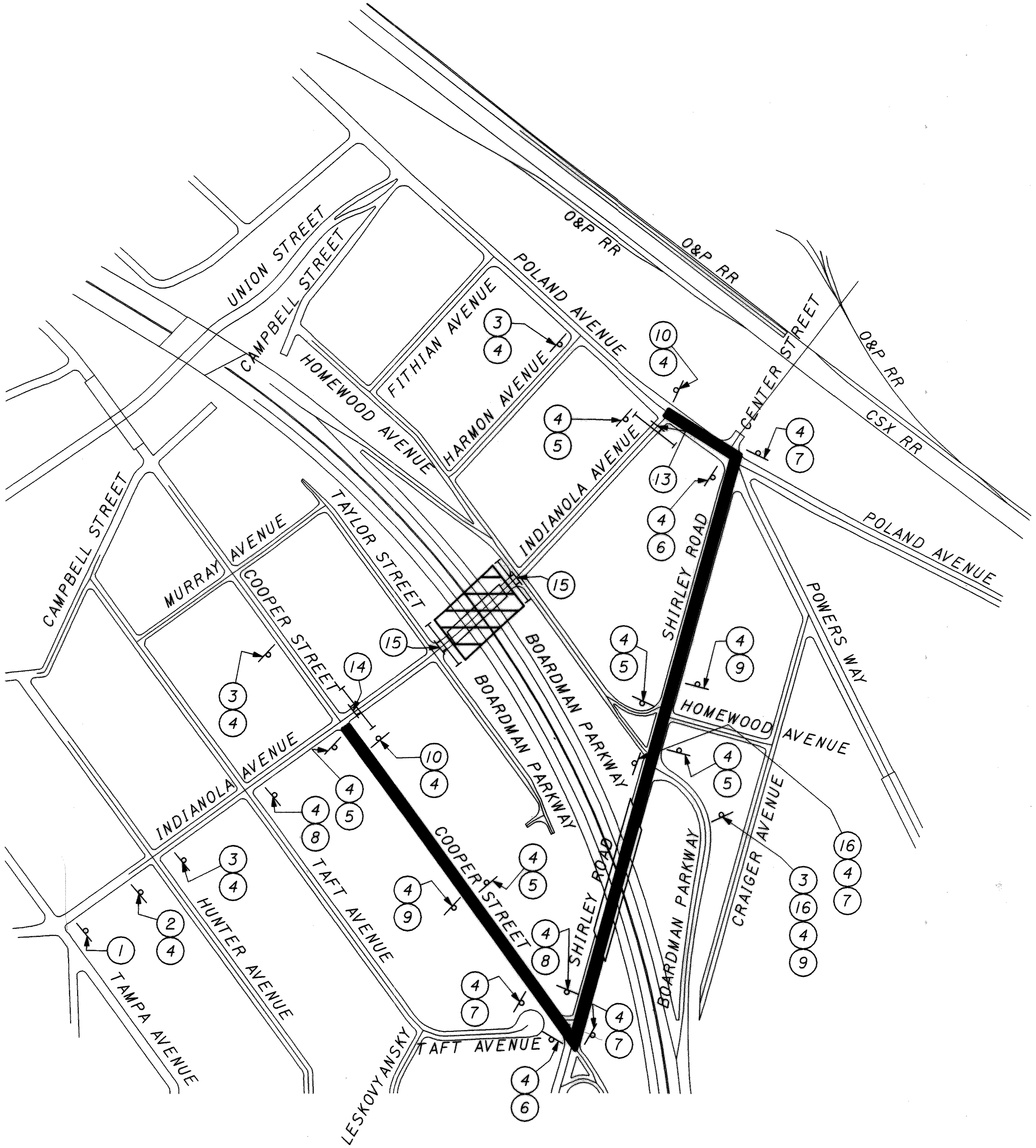
ITEM	SHEET NUMBERS																	ITEM	ITEM EXT.	TOTAL QUANT.	UNIT	DESCRIPTION	SHEET NUMBER
								10		12		13		18		19							
																						MAINTENANCE OF TRAFFIC	
410												10						410	12000	10	CU YD	TRAFFIC COMPACTED SURFACE, TYPE A OR B	
410												10						410	13000	10	CU YD	TRAFFIC COMPACTED SURFACE, TYPE C	
614																							
614								500										614	11100	500	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	
614										4								614	12336	4	EACH	WORKZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
614																		614	12420	LUMP		DETOUR SIGNING	
614												10						614	13000	10	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
614										25								614	13300	25	EACH	BARRIER REFLECTOR, TYPE B	
614										10								614	18601	10	SIGN MNTH	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	11 & 12
614										1.50								614	20200	1.50	MILE	WORK ZONE LANE LINE, CLASS I, 740.06, TYPE I	
614										1.00				0.10		0.12		614	22200	1.22	MILE	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I	
615														23				615	20000	23	SQ YD	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
616												150						616	10000	150	M GAL	WATER	
622										2000								622	40020	2000	FT	PORTABLE CONCRETE BARRIER, 32"	
644										1.00								644	00100	1.00	MILE	EDGE LINE	
644										1.50								644	00200	1.50	MILE	LANE LINE	

CHECKED BJT
DATE 12/1/03

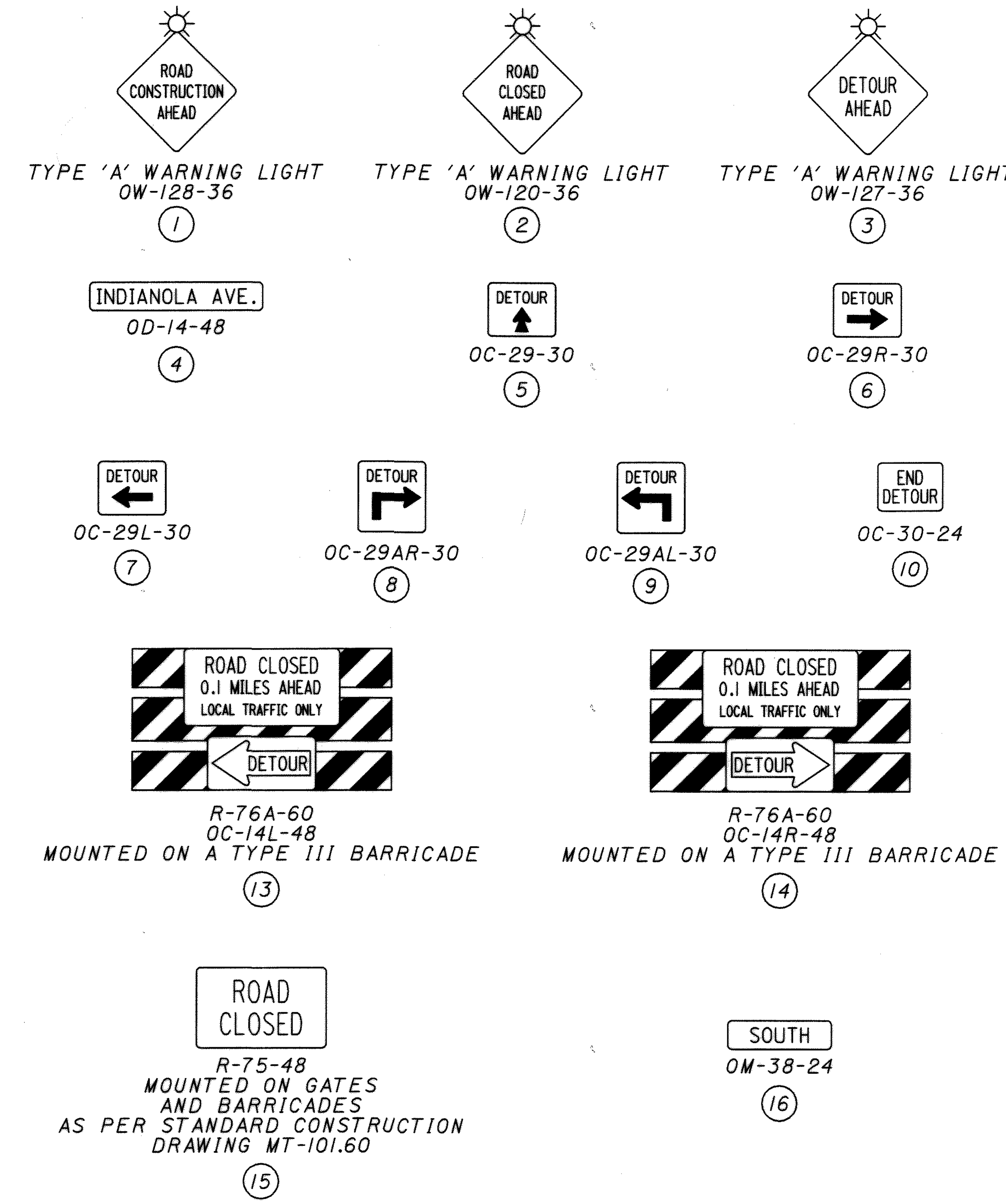
CALCULATED MAH
DATE 12/1/03

MAINTENANCE OF TRAFFIC GENERAL SUMMARY

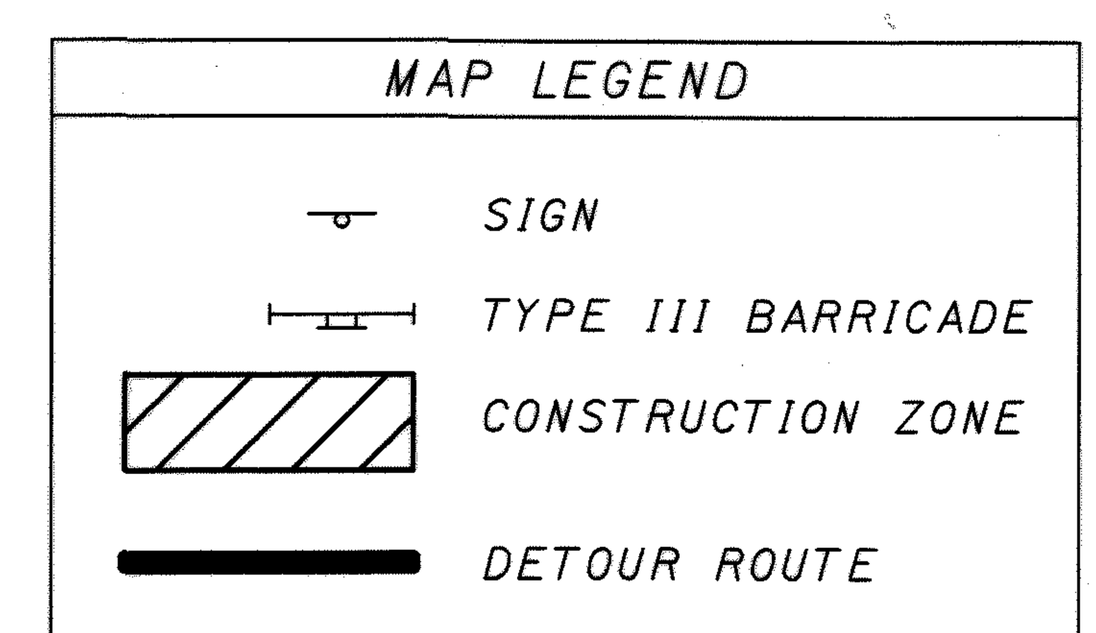
MAH-680-8.18



O&P RR
CSX RR
UNION STREET
CAMPBELL STREET
HOMEWOOD AVENUE
FITHIAN AVENUE
HARMON AVENUE
POLAND AVENUE
CENTER STREET
INDIANOLA AVENUE
SHIRLEY ROAD
TAYLOR STREET
MURRAY AVENUE
COOPER STREET
BOARDMAN PARKWAY
POWERS WAY
CRAIGER AVENUE
TAFT AVENUE
HUNTER AVENUE
TAMPA AVENUE
LESKOVYANSKY



ROAD CONSTRUCTION AHEAD
TYPE 'A' WARNING LIGHT
OW-128-36
(1)
ROAD CLOSED AHEAD
TYPE 'A' WARNING LIGHT
OW-120-36
(2)
DETOUR AHEAD
TYPE 'A' WARNING LIGHT
OW-127-36
(3)
INDIANOLA AVE.
OD-14-48
(4)
DETOUR
OC-29-30
(5)
DETOUR
OC-29R-30
(6)
DETOUR
OC-29L-30
(7)
DETOUR
OC-29AR-30
(8)
DETOUR
OC-29AL-30
(9)
END DETOUR
OC-30-24
(10)
ROAD CLOSED
0.1 MILES AHEAD
LOCAL TRAFFIC ONLY
DETOUR
R-76A-60
OC-14L-48
MOUNTED ON A TYPE III BARRICADE
(13)
ROAD CLOSED
0.1 MILES AHEAD
LOCAL TRAFFIC ONLY
DETOUR
R-76A-60
OC-14R-48
MOUNTED ON A TYPE III BARRICADE
(14)
ROAD CLOSED
R-75-48
MOUNTED ON GATES AND BARRICADES AS PER STANDARD CONSTRUCTION DRAWING MT-101.60
(15)
SOUTH
OM-38-24
(16)



NOT TO SCALE

CALCULATED | CHECKED

INDIANOLA AVENUE - BRIDGE OVER I-680 DETOUR PLAN

MAH-680-8.18

OW-123-36
STA. 235+55

LEFT LANE CLOSED AHEAD

BEGIN TAPER
STA. 236+57

OW-138-30
STA. 236+57.28

W STA. 236+57 TO STA. 241+00

20' C/C TYP.

M.N.S.

237+00

238+00

HOMEWOOD AVE.

END TAPER
STA. 238+50

BEGIN TAPER
STA. 239+00

239+00

111.86'

12.05'

10'

240+00

18°50'

R=10'

TEMPORARY PAVEMENT

52+00

R=8.66'

TEMPORARY PAVEMENT

N 47°-30'-55" W

5+00

6'

15'

15'

6'

R=25'

R=25'

96°-45'-55"

C/L Indianola Ave. Sta. 51+63.42
C/L Homewood Ave. Sta. 239+89.59

BEGIN TAPER
STA. 240+39

21.15'

10.92'

10'

20' C/C TYP.

MATCH LINE
STA. 241+00

LEGEND

- W — TEMPORARY EDGE LINE (WHITE)
- WORK AREA
- TEMPORARY PAVEMENT, CLASS A
- SIGN
- TRAFFIC FLOW ARROW
- WARNING LIGHT (TYPE PER MT. - 101.60M)
- CONSTRUCTION BARREL (SPACING AT 20' C/C UNLESS NOTED OTHERWISE)

W STA. 241+00 TO STA. 242+00

20' C/C TYP.

END TAPER
STA. 242+00

MATCH LINE
STA. 241+00

242+00

HOMEWOOD AVE.

243+00

244+00

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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED

CHECKED

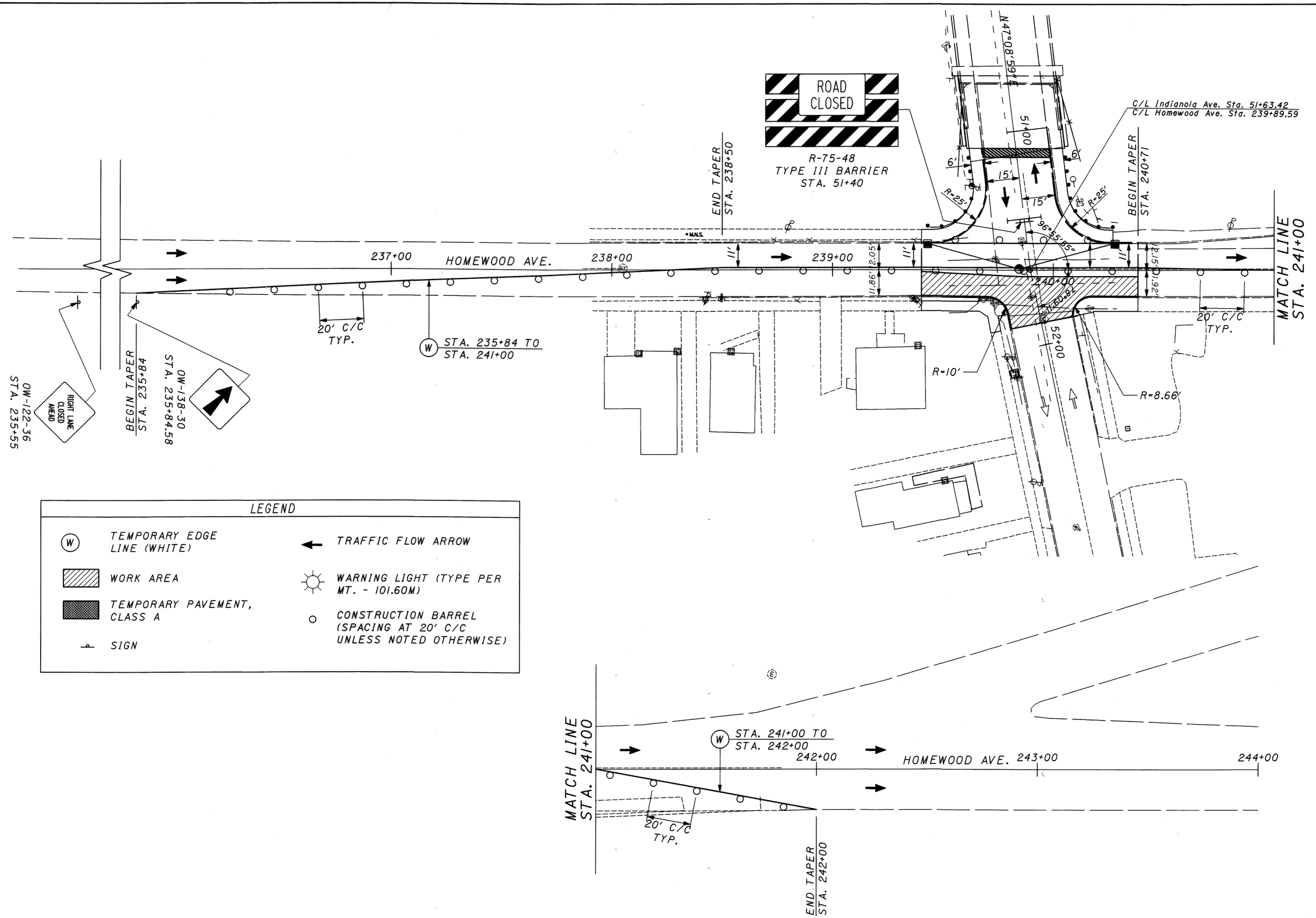
MAINTENANCE OF TRAFFIC PLAN
HOMEWOOD AVE. PHASE I

MAH-680-8.18

TRAFFIC PLAN
PHASE 2

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED | CHECKED



LEGEND

- TEMPORARY EDGE LINE (WHITE)
- WORK AREA
- TEMPORARY PAVEMENT, CLASS A
- SIGN
- TRAFFIC FLOW ARROW
- WARNING LIGHT (TYPE PER MT. - 101.60M)
- CONSTRUCTION BARREL (SPACING AT 20' C/C UNLESS NOTED OTHERWISE)

HOMEWOOD AVE. MAINTENANCE OF TRAFFIC PLAN

MAH-680-8.18

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GENERAL SUMMARY

CALCULATED CML — CHECKED CWL

SHEET NUMBER 6	7	8	22	23	24	25	27	38			ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
															ROADWAY	
LUMP											201	11000	LUMP		CLEARING AND GRUBBING	
					133						202	22900	133	SQ. YD.	APPROACH SLAB REMOVED	
					211						202	23001	211	SQ. YD.	PAVEMENT REMOVED, AS PER PLAN	6
					445						202	23010	445	SQ. YD.	PAVEMENT REMOVED, ASPHALT	
					2171						202	30000	2171	SQ. FT.	WALK REMOVED	
					419						202	32000	419	FT.	CURB REMOVED	
		100					190				202	35100	290	FT.	PIPE REMOVED, 24" AND UNDER	
							87.5				202	38000	87.5	FT.	GUARDRAIL REMOVED	
							180				202	75000	180	FT.	FENCE REMOVED	
50					29						203	10000	79	CU. YD.	EXCAVATION	
100					203						203	20000	303	CU. YD.	EMBANKMENT	
			773	117							204	10000	890	SQ. YD.	SUBGRADE COMPACTION	
			0.39	0.06							204	45000	1	HOUR	PROOF ROLLING	
							1				604	39500	1	EACH	MONUMENT BOX ADJUSTED TO GRADE	
							162.5				606	13000	162.5	FT.	GUARDRAIL, TYPE 5	
							2				606	26500	2	EACH	ANCHOR ASSEMBLY, TYPE T	
							2				606	35000	2	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
							2				606	35001	2	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1, AS PER PLAN	7
							180				607	23000	180	FT.	FENCE, TYPE CLT	
			1077	665							608	10000	1742	SQ. FT.	4" CONCRETE WALK	
							6				608	49000	6	EACH	CURB RAMP	
															EROSION CONTROL	
					15						601	21000	15	SQ. YD.	CONCRETE SLOPE PROTECTION	
	19										659	00300	19	CU. YD.	TOPSOIL	
	167										659	10000	167	SQ. YD.	SEEDING AND MULCHING	
	8										659	14000	8	SQ. YD.	REPAIR SEEDING AND MULCHING	
	0.02										659	20000	0.02	TON	COMMERCIAL FERTILIZER	
	0.04										659	31000	0.04	ACRE	LIME	
	1										659	35000	1	M. GAL.	WATER	
						1					832	10000	1	EACH	STORMWATER POLLUTION PREVENTION PLAN	
						LUMP					832	20000	LUMP		EROSION CONTROL	
															DRAINAGE	
	50							50			603	00900	100	FT.	6" CONDUIT, TYPE B	
	50										603	01100	50	FT.	6" CONDUIT, TYPE C	
	50										603	01400	50	FT.	6" CONDUIT, TYPE E	
	50							86			603	01500	136	FT.	6" CONDUIT, TYPE F	
							88				603	04400	88	FT.	12" CONDUIT, TYPE B	
							42				603	05900	42	FT.	15" CONDUIT, TYPE B	
							4				604	00800	4	EACH	CATCH BASIN, NO. 3A	
							2				604	34500	2	EACH	MANHOLE ADJUSTED TO GRADE	
								240			605	11110	240	FT.	6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP	
								118			605	13410	118	FT.	6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP	

MAH-680-8.18

Sheet Number 22	23	24	27	47	Participation	Item	Item Ext.	Grand Total	Unit	Description	See Sheet
										PAVEMENT	
37						301	46010	37	CU. YD.	ASPHALT CONCRETE BASE, PG64-28	
129	20					304	20000	149	CU. YD.	AGGREGATE BASE	
13						407	10000	13	GALLON	TACK COAT	
7						407	14000	7	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
67						408	10000	67	GALLON	PRIME COAT	
8						446	46040	8	CU. YD.	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-28	
6						446	47010	6	CU. YD.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-28	
376	98					451	13000	474	SQ. YD.	8" REINFORCED CONCRETE PAVEMENT	
		31				SPECIAL	451 30000	31	FT.	SPECIAL - PRESSURE RELIEF JOINT, TYPE A	8
150	100					609	14000	250	FT.	CURB, TYPE 2-A	
101						609	26000	101	FT.	CURB, TYPE 6	
										WATER WORK	
			5			638	10800	5	EACH	VALVE BOX ADJUSTED TO GRADE	
										LIGHTING	
				20		603	00400	20	FT.	4" CONDUIT, TYPE E	8
				1		625	00500	1	EACH	CONNECTOR KIT, TYPE II	
				1		625	00600	1	EACH	CONNECTOR KIT, TYPE III	
				1		625	02912	1	EACH	LIGHT POLE, DESIGN A8B30	
				4		625	10614	4	EACH	LIGHT POLE ANCHOR BOLTS ON STRUCTURE	
				244		625	23000	244	FT	NO. 4 AWG 600 VOLT DISTRIBUTION CABLE	
				110		625	23400	110	FT	NO. 10 AWG POLE AND BRACKET CABLE	
				112		625	25400	112	FT	CONDUIT, 2", 725.04	
				1		625	26250	1	EACH	LUMINAIRE, CONVENTIONAL, TYPE II, 250 WATT, 120V, 725.11	
				1		625	29920	1	EACH	STRUCTURE JUNCTION BOX	
				1		625	30700	1	EACH	PULLBOX, 725.08, 18"	
				1		625	33001	1	EACH	STRUCTURE GROUNDING SYSTEM, AS PER PLAN	8
										FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO. 43.	
										FOR STRUCTURE QUANTITIES, SEE SHEET NO. 50.	
										FOR MAINTENANCE OF TRAFFIC QUANTITIES, SEE SHEET NOS. 16.	
										MISCELLANEOUS	
						614	11000	LUMP		MAINTAINING TRAFFIC	
						623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
						624	10000	LUMP		MOBILIZATION	

CALCULATED CWL CHECKED CWL

GENERAL SUMMARY

MAH-680-8.18

FLEXIBLE PAVEMENT AREAS

PAVEMENT AREA

STA. 48+30.61 TO STA. 48+62.75 BOTH SIDES
GEOPAK CALCULATION = 1344.97 SQ. FT.

STA. 48+62.75 TO STA. 48+68.43 BOTH SIDES
(15.00+15.00)(5.68) = 170.40 SQ. FT.

INDIANOLA AVENUE TOTAL = 1515.37 SQ. FT.

AREA FOR 20" EXTENSION (ITEMS 204 & 304)

STA. 48+30.61 TO STA. 48+62.75 BOTH SIDES
GEOPAK CALCULATION = 144.64 SQ. FT.

STA. 48+62.75 TO STA. 48+68.43 BOTH SIDES
(2)(20/12)(5.68) = 18.93 SQ. FT.

INDIANOLA AVENUE TOTAL = 163.57 SQ. FT.

RIGID PAVEMENT AREAS

PAVEMENT AREA

STA. 48+68.43 TO STA. 48+88.43 (APPROACH SLAB AREA)
(15.00+15.00)(20.00) = 600.00 SQ. FT.

STA. 50+77.83 TO STA. 51+07.83 (APPROACH SLAB AREA)
(15.00+15.00)(30.00) = 900.00 SQ. FT.

STA. 51+11.83 TO STA 51+21.24 BOTH SIDES
(15.00+15.00)(9.41) = 282.30 SQ. FT.

STA. 51+21.24 TO STA. 51+89.88 BOTH SIDES
GEOPAK CALCULATION = 3105.78 SQ. FT.

INDIANOLA AVENUE TOTAL = 4888.08 SQ. FT.

AREA FOR 20" EXTENSION (ITEMS 204 & 304)

STA. 48+68.43 TO STA. 48+88.43 (APPROACH SLAB AREA)
(2)(20/12)(20.00) = 66.67 SQ. FT.

STA. 50+77.83 TO STA. 51+07.83 (APPROACH SLAB AREA)
(2)(20/12)(30.00) = 100.00 SQ. FT.

STA. 51+11.83 TO STA 51+21.24 BOTH SIDES
(2)(20/12)(9.41) = 31.37 SQ. FT.

STA. 51+21.24 TO STA. 51+89.88 BOTH SIDES
GEOPAK CALCULATION = 196.24 SQ. FT.

INDIANOLA AVENUE TOTAL = 394.28 SQ. FT.

ITEM 204 - SUBGRADE COMPACTION

STA. 48+30.61 TO STA. 51+89.88
(1515.37+163.57+4888.08+394.28)(1/9) = 773.48 SQ. YD.

ITEM 204 - PROOF ROLLING

STA. 48+30.61 TO STA. 51+89.88
(1515.37+163.57+4888.08+394.28)(1/9)(1/2000) = 0.39 HRS.

ITEM 301 - ASPHALT CONCRETE BASE, PG 64-28

STA. 48+30.61 TO STA. 48+68.43
(1515.37)(8/12)(1/27) = 37.42 CU. YD.

ITEM 304 - AGGREGATE BASE

STA. 48+30.61 TO STA. 51+89.88
(1515.37+163.57+4888.08+394.28)(6/12)(1/27) = 128.91 CU. YD.

ITEM 407 - TACK COAT

STA. 48+30.61 TO STA. 48+68.43
(1515.37)(1/9)(0.075) = 12.63 GAL.

ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE

STA. 48+30.61 TO STA. 48+68.43
(1515.37)(1/9)(0.040) = 6.73 GAL.

ITEM 408 - PRIME COAT

STA. 48+30.61 TO STA. 48+68.43
(1515.37)(1/9)(0.40) = 67.35 GAL.

ITEM 446 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64-28

STA. 48+30.61 TO STA. 48+68.43
(1515.37)(1.75/12)(1/27) = 8.18 CU. YD.

ITEM 446 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-28

STA. 48+30.61 TO STA. 48+68.43
(1515.37)(1.25/12)(1/27) = 5.85 CU. YD.

ITEM 451 - 8" REINFORCED CONCRETE PAVEMENT

STA. 51+11.83 TO STA. 51+89.88
(282.30+3105.78)(1/9) = 376.45 SQ. YD.

ITEM 608 - 4" CONCRETE WALK

RIGHT SIDE

STA. 139+59.76 (TAYLOR) TO STA. 48+52.89 RIGHT
SIDE GEOPAK CALCULATION = 176.38 SQ. FT.

STA. 48+52.89 TO STA. 48+66.25 RIGHT SIDE
(5.50)(13.36) = 73.48 SQ. FT.

STA. 51+05.65 TO STA. 51+21.24 RIGHT SIDE
(5.50)(15.59) = 85.75 SQ.FT.

STA. 51+21.24 TO STA. 239+44.79 (HOMEWOOD)
GEOPAK CALCULATION = 206.71 SQ. FT.

LEFT SIDE

STA. 140+41.30 (TAYLOR) TO STA. 48+62.75 LEFT SIDE
GEOPAK CALCULATION = 203.70 SQ. FT.

STA. 48+62.75 TO STA. 48+70.59 LEFT SIDE
(5.50)(7.84) = 43.12 SQ. FT.

STA. 51+10.00 TO STA. 51+30.95 LEFT SIDE
(5.50)(20.95) = 115.23 SQ. FT.

STA. 51+30.95 TO STA. 240+25.40 (HOMEWOOD)
GEOPAK CALCULATION = 173.00 SQ. FT.

INDIANOLA AVENUE TOTAL = 1077.37 SQ. FT.

ITEM 609 - CURB, TYPE 2-A

STA. 51+06.02 TO STA 51+21.24 RT = 15.22 FT.

STA. 51+21.24 TO STA. 239+44.79 (HOMEWOOD) = 42.29 FT.

STA. 239+70.11 (HOMEWOOD) TO STA. 51+89.88 RT = 20.50 FT.

STA. 51+09.63 TO STA. 51+30.95 LT = 21.32 FT.

STA. 51+30.95 TO STA. 240+25.40 (HOMEWOOD) = 36.17 FT.

STA. 240+17.41 (HOMEWOOD) TO STA. 51+89.88 LT = 14.30 FT.

INDIANOLA AVENUE TOTAL = 149.80 FT.

ITEM 609 - CURB, TYPE 6

STA. 139+59.76 (TAYLOR) TO STA. 48+52.89 RIGHT SIDE = 36.92 FT.

STA. 48+52.89 TO STA. 48+66.64 RIGHT SIDE = 13.75 FT.

STA. 140+41.30 (TAYLOR) TO STA 48+62.75 LEFT SIDE = 42.56 FT.

STA. 48+62.75 TO STA. 48+70.20 LEFT SIDE = 7.45 FT.

INDIANOLA AVENUE TOTAL = 100.68 FT.

INDIANOLA AVENUE PAVEMENT CALCULATION SUBSUMMARY

QUANTITIES CARRIED TO THE GENERAL SUMMARY ON SHEETS NO. 20 & 21.

ITEM	DESCRIPTION	TOTAL
204	SUBGRADE COMPACTION	773 SQ. YD.
204	PROOF ROLLING	0.39 HRS.
301	ASPHALT CONCRETE BASE, PG 64-28	37 CU. YD.
304	AGGREGATE BASE	129 CU. YD.
407	TACK COAT	13 GAL.
407	TACK COAT FOR INTERMEDIATE COURSE	7 GAL.
408	PRIME COAT	67 GAL.
446	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG 64-28	8 CU. YD.
446	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-28	6 CU. YD.
451	8" REINFORCED CONCRETE PAVEMENT	376 SQ. YD.
608	4" CONCRETE WALK	1077 SQ. FT.
609	CURB, TYPE 2-A	150 FT.
609	CURB, TYPE 6	101 FT.

CALCULATED CML CHECKED MVJ

PAVEMENT CALCULATIONS - INDIANOLA AVENUE

MAH-680-8.18

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RIGID PAVEMENT AREAS

PAVEMENT AREA

STA. 239+40.30 TO STA. 239+44.79 BOTH SIDES [(23.92+23.96)/2](4.49)	=	107.49 SQ. FT.
STA. 239+44.79 TO STA. 239+70.11 RIGHT SIDE [(11.91+12.19)/2](25.32)	=	305.11 SQ. FT.
STA. 240+17.41 TO STA 240+25.40 RIGHT SIDE [(11.85+11.88)/2](7.99)	=	94.80 SQ. FT.
STA. 240+25.40 TO STA. 240+38.42 BOTH SIDES (24.07)(13.02)	=	313.39 SQ. FT.
STA. 240+38.42 TO STA. 240+70.51 RIGHT SIDE (2.00)(32.09)	=	64.18 SQ. FT.
HOMEWOOD AVENUE TOTAL	=	884.97 SQ. FT.

AREA FOR 20" EXTENSION (ITEMS 204 & 304)

STA. 239+40.30 TO STA. 239+44.79 BOTH SIDES (2)(20/12)(4.49)	=	14.97 SQ. FT.
STA. 239+44.79 TO STA. 239+70.11 RIGHT SIDE (20/12)(25.32)	=	42.20 SQ. FT.
STA. 240+17.41 TO STA 240+25.40 RIGHT SIDE (20/12)(7.99)	=	13.32 SQ. FT.
STA. 240+25.40 TO STA. 240+38.42 BOTH SIDES (2)(20/12)(13.02)	=	43.40 SQ. FT.
STA. 240+38.42 TO STA. 240+70.51 RIGHT SIDE (20/12)(32.09)	=	53.48 SQ. FT.
HOMEWOOD AVENUE TOTAL	=	167.37 SQ. FT.

ITEM 204 - SUBGRADE COMPACTION

STA. 239+40.30 TO STA. 240+70.51
(884.97+167.37)(1/9) = 116.93 SQ. YD.

ITEM 204 - PROOF ROLLING

STA. 239+40.30 TO STA. 240+70.51
(884.97+167.37)(1/9)(1/2000) = 0.06 HRS.

ITEM 304 - AGGREGATE BASE

STA. 239+40.30 TO STA. 240+38.42
(884.97+167.37)(6/12)(1/27) = 19.49 CU. YD.

ITEM 451 - 8" REINFORCED CONCRETE PAVEMENT

STA. 239+40.30 TO STA. 240+38.42 = 98.33 SQ. YD.
(884.97)(1/9)

ITEM 608 - 4" CONCRETE WALK

STA. 239+40.30 TO STA. 239+44.79 LEFT SIDE (5.50)(4.49)	=	24.70 SQ. FT.
STA. 240+25.40 TO STA. 240+26.99 LEFT SIDE (5.50)(1.59)	=	8.75 SQ. FT.
STA. 239+40.30 TO STA. 239+79.31 RIGHT SIDE GEOPAK CALCULATION	=	237.01 SQ. FT.
STA. 240+09.28 TO STA. 240+70.51 RIGHT SIDE GEOPAK CALCULATION	=	394.11 SQ. FT.
HOMEWOOD AVENUE TOTAL	=	664.57 SQ. FT.

ITEM 609 - CURB, TYPE 2-A

STA. 239+40.30 TO STA. 239+44.79 LEFT SIDE	=	4.49 FT.
STA. 240+25.40 TO STA. 240+38.42 LEFT SIDE	=	13.02 FT.
STA. 239+40.30 TO STA 239+70.11 RIGHT SIDE	=	29.81 FT.
STA. 240+17.41 TO STA. 240+70.51 RIGHT SIDE	=	53.10 FT.
HOMEWOOD AVENUE TOTAL	=	100.42 FT.

HOMEWOOD AVENUE PAVEMENT CALCULATION SUBSUMMARY

QUANTITIES CARRIED TO GENERAL SUMMARY ON SHEETS NO. 20 & 21.

ITEM	DESCRIPTION	TOTAL
204	SUBGRADE COMPACTION	117 SQ. YD.
204	PROOF ROLLING	0.06 HRS.
304	AGGREGATE BASE	20 CU. YD.
451	8" REINFORCED CONCRETE PAVEMENT	98 SQ. YD.
608	4" CONCRETE WALK	665 SQ. FT.
609	CURB, TYPE 2-A	100 FT.

CALCULATED CML CHECKED MVJ

PAVEMENT CALCULATIONS - HOMEWOOD AVENUE

MAH-680-8.18

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ITEM 601 - CONCRETE SLOPE PROTECTION

BRIDGE NO. MAH-680-8.18 (SEE SITE PLAN ON SHEET NO. 48)

CONTINGENCY QUANTITY = 15 SQ. YD.

ITEM SPECIAL - PRESSURE RELIEF JOINT, TYPE A

BRIDGE NO. MAH-680-8.18 (SEE SITE PLAN ON SHEET NO. 48)

FORWARD APPROACH SLAB = 31 FT.

ITEM 626 - BARRIER REFLECTOR, TYPE A

INDIANOLA AVENUE = 7 EACH **

ITEM 202 - PAVEMENT REMOVED, AS PER PLAN

INDIANOLA AVENUE

GEOPAK CALCULATION = 211 SQ. YD.

ITEM 202 - PAVEMENT REMOVED, ASPHALT

INDIANOLA AVENUE

GEOPAK CALCULATION = 445 SQ. YD.

ITEM 202 - CURB REMOVED

INDIANOLA AVENUE

GEOPAK CALCULATION = 419 FT.

ITEM 202 - WALK REMOVED

INDIANOLA AVENUE

GEOPAK CALCULATION = 2171 SQ. FT.

ITEM 202 - APPROACH SLAB REMOVED

INDIANOLA AVENUE

(2) (20') (30') (1/9) = 133.33 SQ. YD.

EARTHWORK SUBSUMMARY

SHEET NO.	LOCATION STATION FROM	TO	ITEM 203 EXCAVATION CU. YD.	ITEM 203 EMBANKMENT CU. YD.	ITEM 659 SEEDING & MULCHING SQ. YD.
	INDIANOLA AVENUE				
28	48+00.00	48+50.00	13	0	29
29	48+52.89	48+68.43	10	4	25
30	48+88.43	51+00.00	0	76	30
31	51+07.83	51+30.95	0	104	59
32	51+50.00	52+50.00	0	16	0
	HOMEWOOD AVENUE				
34	239+40.30	240+17.41	4	2	12
35	240+25.40	240+38.42	2	1	12
	TOTALS		29	203	167*

QUANTITIES DENOTED BY AN (*) HAVE BEEN CARRIED TO THE GENERAL NOTES ON SHEET NO. 7

QUANTITIES DENOTED BY AN (**) HAVE BEEN CARRIED TO THE TRAFFIC CONTROL GENERAL SUMMARY ON SHEET NO. 43

ALL OTHER QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY ON SHEET NO. 20 & 21

CML CHECKED MVJ

MISCELLANEOUS CALCULATIONS

MAH-680-8.18

ITEM 832 - EROSION CONTROL = LUMP

ITEM 832 - STORMWATER POLLUTION PREVENTION PLAN = 1 EACH.

QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY ON SHEET NO. 20, 21.

PROJECT DATA (INDIANOLA ONLY)

TOTAL AREA (RIGHT-OF-WAY):	0.3 ACRES
PROJECT EARTH DISTURBED AREA:	0.3 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.3 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	4.9 ACRES
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE:	0.2 ACRES
IMPERVIOUS (PAVED) AREA FOR POST CONSTRUCTION SITE:	0.2 ACRES
RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE:	0.73
RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE:	0.73
IMMEDIATE RECEIVING WATERS:	N/A
SUBSEQUENT RECEIVING WATER:	MAHONING R.

USGS QUADRANGLE MAPS:

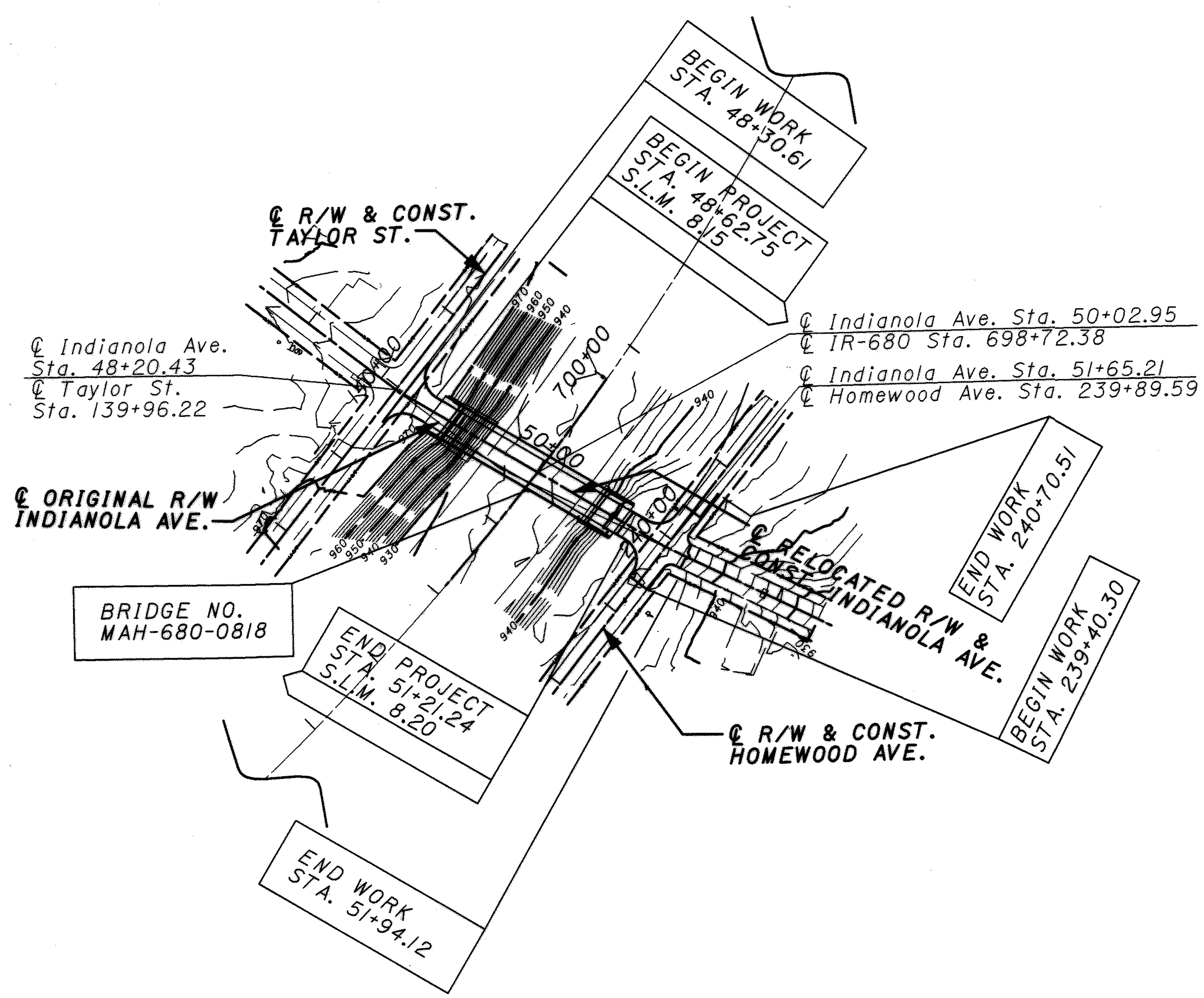
No. N4107.5-W8045/7.5 WARREN, OHIO

No. N4100-W8045/7.5 SALEM, OHIO

No. N4107.5-W8037.5/7.5 SHARON WEST, OHIO

No. N4100-W8037.5/7.5 NEW MIDDLETON, OHIO

LATITUDE: N 41°04'32"
LONGITUDE: W 80°37'40"



PROJECT DESCRIPTION
THIS PROJECT SHALL CONSIST OF THE REPLACEMENT OF THE EXISTING BRIDGE DECK OVER IR-680 AND RECONSTRUCTION OF THE APPROACHES OF INDIANOLA AVENUE (0.07 MILES). THIS PROJECT SHALL ALSO INCLUDE IMPROVEMENTS TO UTILITIES AND STRUCTURE CLEARANCES.

0 50 100 200
HORIZONTAL SCALE IN FEET

PROJECT SITE PLAN

MAH-680-8.18

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For Pipe Profiles, See Sheet 33.
For Homewood Avenue Plans, See Sheet 33.
For Underdrain Details and Quantities, See Sheet 38.
For Estimated Quantities, See Sheet 27.
For Existing and Proposed Structural Data, See Sheet 48.
For Intersection Detail, See Sheet 36.
For Pavement Joint Plan, See Sheet 37.

IR-680
EXISTING CURVE

P.I. = Sta. 694+62.64
Δ = 71° 25' 13" (LT)
Dc = 1° 50' 00"
R = 3125.22'
Ls = 200.00'
θs = 1° 50' 00"
LT = 133.34'
ST = 66.67'
Lc = 3695.65'
Ts = 2346.92'
Es = 724.32'
T.S. = Sta. 671+15.72
S.C. = Sta. 673+15.72
C.S. = Sta. 710+11.37
S.T. = Sta. 712+11.37

AJ-10
STA. 48+45.86, 4.01' RT.
MANHOLE ADJUSTED TO GRADE
EX. T/C ELEV. = 972.26
PROP. T/C ELEV. = 971.86
℄ EX. 36" (NW) = 954.99
℄ EX. 36" (SE) = 955.24
℄ EX. 15" (SW) = 958.19
℄ 15" (N) = 965.27
℄ 15" (E) = 965.99

AJ-11
STA. 51+62.27, 4.92' RT.
MANHOLE ADJUSTED TO GRADE
EX. T/C ELEV. = 946.25
PROP. T/C ELEV. = 946.79
℄ 6" U.D. (N,E) = 942.00
℄ EX. 12" (NW) = 938.00
℄ 12" (NW) = 941.57
℄ 12" (S) = 941.59

A-10
STA. 48+65.59, 15.00' LT.
CB NO. 3A
GRATE ELEV. = 970.38
℄ 6" U.D. (SW,SE) = 967.38
℄ 6" U.D (NE) = 967.04
℄ 15" (S) = 966.54

A-11
STA. 48+55.48, 15.00' RT.
CB NO. 3A
GRATE ELEV. = 970.97
℄ 6" U.D. (SW) = 967.97
℄ 6" U.D. (NE) = 967.64
℄ 15" (W) = 967.14

A-12
STA. 240+27.99, 12.18' LT.
CB NO. 3A
GRATE ELEV. = 946.35
℄ 6" U.D. (SW,NE) = 943.35
℄ 12" (SE) = 942.02

A-13
STA. 239+43.04, 12.05' LT.
CB NO. 3A
GRATE ELEV. = 945.85
℄ 6" U.D. (NW) 942.85
℄ 12" (NW) = 942.02

℄ R/W & CONST. TAYLOR ST.
℄ R/W & CONST. HOMEWOOD AVE.
Vertical Clearance Location
℄ Indianola Ave. Sta. 51+63.42
℄ Homewood Ave. Sta. 239+89.59
Begin Work Sta. 48+30.61
Begin Approach Slab Sta. 48+68.43
End Approach Slab Sta. 48+88.43
Begin Approach Slab Sta. 50+77.83
End Approach Slab Sta. 51+07.83
End Work Sta. 240+70.51
End Work Sta. 51+94.12
℄ RELOCATED R/W & CONST. INDIANOLA AVE.
℄ ORIGINAL R/W INDIANOLA AVE.
℄ INDIANOLA AVE. STA. 50+02.95
℄ IR-680 STA. 698+72.38
Bridge No. MAH-680-0818
Begin Project Sta. 48+62.75 S.L.M. 8.15
End Project Sta. 51+21.24 S.L.M. 8.20
Begin Work Sta. 239+40.30
BM#1
BM#2
BENCH MARK NO. 1
TOP OF IRON PIN
STA. 48+64.94 - 23.11' LT.
ELEV. 971.31
BENCH MARK NO. 2
TOP OF IRON PIN
N.W. CORNER OF HOMEWOOD AND INDIANOLA AVE.
STA. 51+51.87 - 42.31' LT
ELEV. 947.13
2.5 STORY BRICK #1426
2.5 STORY BRICK #1427
1.5 STORY FRAME #1710
IR-680
CONST. LIMITS
CONC. WALK
ASPH.
R/W
5' CONC. FENCE
12" COMB.
15" COMB.
6" W
3" GAS
6" WATER
N54°04'08"E
N42°14'03"E
N47°08'59"E
N35°53'07"W
N35°55'07"W
80°02'45"
83°02'06"
83°05'42"
96°55'55"
78°09'11"
R=25'
R=10'
R=8.66'
48+00
49+00
50+00
51+00
52+00
139+00
141+00
698+00
699+00
239+00
241+00

PROFILE GRADE

Sta. 49+99.89, 19.16' Lt., P.G. Elev. = 959.60
Exist. Actual Vertical Clearance = 20.75'
Prop. Actual Vertical Clearance = 22.63'
Req'd. Vertical Clearance = 15.50'

Sta. 50+57.45, 19.16' Lt., P.G. Elev. = 955.69
Exist. Actual Vertical Clearance = 13.97'
Prop. Actual Vertical Clearance = 16.39'
Req'd. Vertical Clearance = 15.50'

Proposed Grade
Existing Grade
Bridge Limit Sta. 48+88.43
Bridge Limit Sta. 50+77.83
Grade Break PVC Sta. 48+30.61 Elev. 972.70 Butt Joint Begin Full Depth Pvmt.
PVT Sta. 49+50.61 Elev. 964.67
P.V.I. Sta. 48+90.61 Elev. = 969.70 A.D. = 3.39 SSD = 378' K = 35 V (Actual) = 37 MPH 120 V.C.
EQUATION: BK. 51+63.42 AH 51+65.21
PVI Grade Break Butt Joint End Full Depth Pvmt. Sta. 51+89.06 Elev. = Exist.
-5.17 %
-5.00 %
-8.39 %
-9.00 %
EXIST.
℄ 6" U.D. RT. = 970.1
℄ 6" U.D LT. = 969.2
℄ 6" U.D. LT. = 967.2
℄ 6" U.D. RT. = 967.7
P-10 27"-15" CONDUIT, TYPE B @ 1.00%
P-11 15"-15" CONDUIT, TYPE B @ 1.00%
℄ 6" U.D. LT./RT. = 950.4/950.8
℄ R/W & CONST. TAYLOR ST.
℄ R/W & CONST. HOMEWOOD AVE.
6" GAS
2-10" ELEC. & TEL.
6" WATER
3" GAS
4" GAS
EXIST. PROFILE
975.31 973.71 971.70 967.35 962.86 958.31 953.83 949.55 946.32 943.92 938.16
970 965 960 955 950 945 940
48+00 49+00 50+00 51+00 52+00

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED CWL
CHECKED MVJ

PLAN AND PROFILE - INDIANOLA AVENUE
BEGIN TO END

MAH-680-8.18

26
67

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REF NO.	SHEET NO.	STATION TO STATION	202 GUARDRAIL REMOVED FT.	202 FENCE REMOVED FT.	202 PIPE REMOVED, 24" AND UNDER FT.	603 12" CONDUIT, TYPE B FT.	603 15" CONDUIT, TYPE B FT.	604 CATCH BASIN, NO. 3A EACH	604 MANHOLE ADJUSTED TO GRADE EACH	604 MONUMENT BOX ADJUSTED TO GRADE EACH	606 GUARDRAIL, TYPE 5 FT.	606 ANCHOR ASSEMBLY, TYPE T EACH	606 BRIDGE TERMINAL ASSEMBLY, TYPE I EACH	606 BRIDGE TERMINAL ASSEMBLY, TYPE I, AS PER PLAN EACH	607 FENCE, TYPE CLT FT.	608 CURB RAMP EACH	638 VALVE BOX ADJUSTED TO GRADE EACH
A-10	26	STA. 48+65.59, 15.00' LT.						1									
A-11	26	STA. 48+55.48, 15.00' RT.						1									
A-12	26	STA. 240+27.99, 12.18' LT.						1									
A-13	26	STA. 239+43.04, 12.05' LT.						1									
AJ-10	26	STA. 48+45.86, 4.01' RT.							1								
AJ-11	26	STA. 51+62.27, 4.92' RT.							1								
CR-10	26	STA. 48+45.00 (INDIANOLA) LT.														1	
CR-11	26	STA. 48+35.00 (INDIANOLA) RT.														1	
CR-12	26	STA. 51+45.00 (INDIANOLA) LT.														1	
CR-13	26	STA. 51+40.00 (INDIANOLA) RT.														1	
CR-14	26	STA. 51+83.00 (INDIANOLA) LT.														1	
CR-15	26	STA 51+77.00 (INDIANOLA) RT.														1	
F-10	26	STA. 48+46.98 TO STA. 48+90.42 LT. (INDIANOLA)													50		
F-11	26	STA. 48+36.53 TO STA. 48+85.61 RT. (INDIANOLA)													60		
F-12	26	STA. 50+77.06 TO STA. 51+16.98 LT. (INDIANOLA)													40		
F-13	26	STA. 50+86.26 TO STA. 51+17.41 RT. (INDIANOLA)													30		
FR-10	26	STA. 48+46.98 TO STA. 48+90.42 LT. (INDIANOLA)		50													
FR-11	26	STA. 48+36.53 TO STA. 48+85.61 RT. (INDIANOLA)		60													
FR-12	26	STA. 50+77.06 TO STA. 51+16.98 LT. (INDIANOLA)		40													
FR-13	26	STA. 50+86.26 TO STA. 51+17.41 RT. (INDIANOLA)		30													
G-10	26	STA. 140+37.16 (TAYLOR) TO STA. 48+73.04 LT.									37.5			1			
G-11	26	STA. 139+50.92 (TAYLOR) TO STA. 48+68.01 RT.									50.0			1			
G-12	26	STA. 51+08.23 LT. TO STA. 240+25.81 (HOMEWOOD)									37.5	1	1				
G-13	26	STA. 51+03.21 RT. TO STA. 239+44.26 (HOMEWOOD)									37.5	1	1				
GR-10	26	STA. 140+37.16 (TAYLOR) TO STA. 48+74.27 LT.	37.5														
GR-11	26	STA. 139+50.92 (TAYLOR) TO STA. 48+69.00 RT.	50.0														
MJ-12	26	STA. 51+25.04								1							
P-10	26	A-10 TO AJ-10					27										
P-11	26	A-11 TO AJ-10					15										
P-12	26	A-12 TO AJ-11				45											
P-13	26	A-13 TO AJ-11				43											
WJ-10	26	STA. 48+33.09, 4.51' RT.															1
WJ-11	26	STA. 51+50.53, 2.37' RT.															1
WJ-12	26	STA. 51+77.38, 2.16' RT.															1
WJ-13	26	STA. 48+60.82, 23.71' RT.															1
WJ-14	26	STA. 51+56.47, 15.20' RT.															1
WR-10	26	STA. 48+88.43 TO STA. 50+77.83			190												
TOTALS CARRIED TO GENERAL SUMMARY			87.5	180	190	88	42	4	2	1	162.5	2	2	2	180	6	5

CALCULATED CML CHECKED MVJ

ESTIMATED QUANTITIES - INDIANOLA AVENUE

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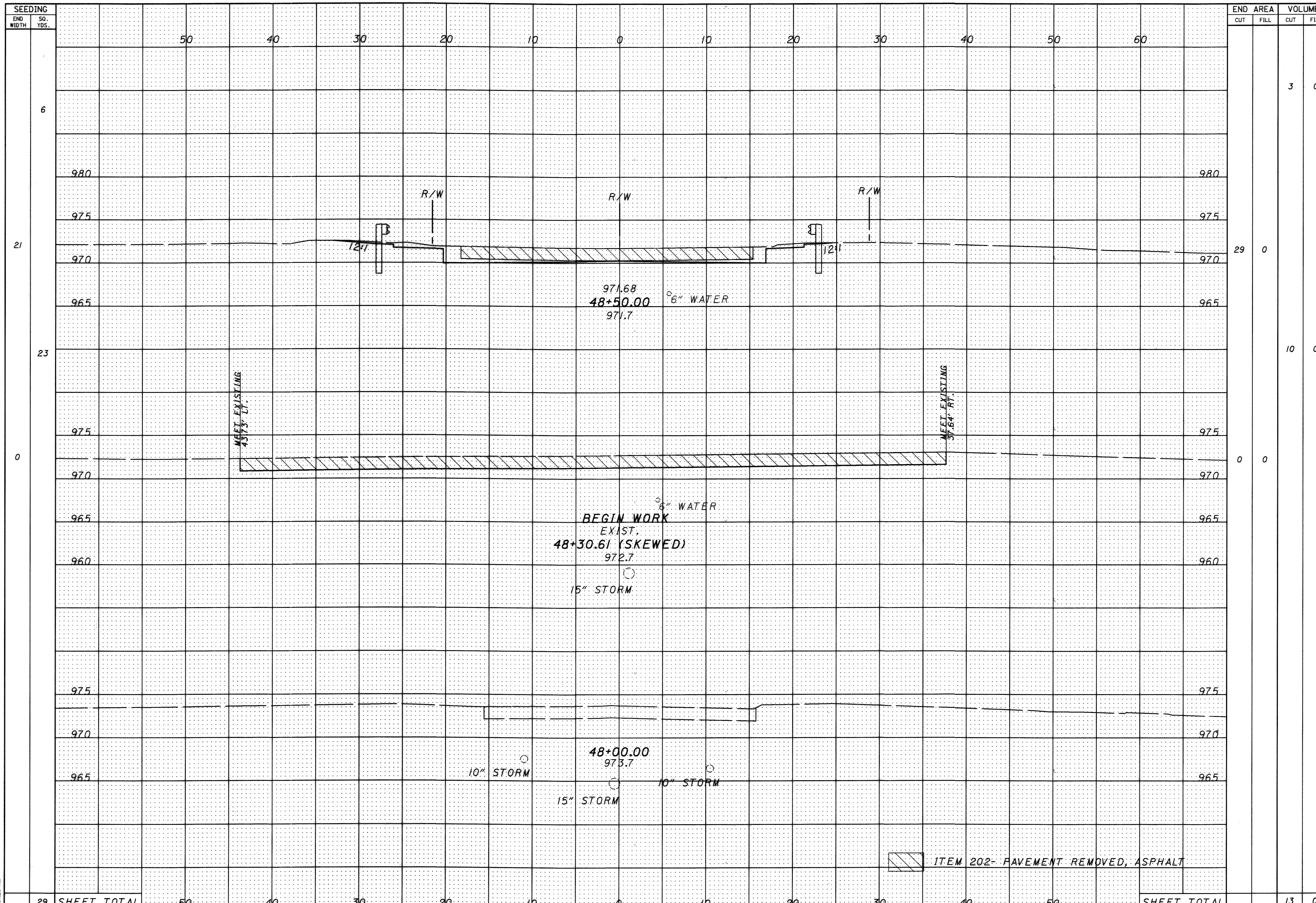

CALCULATED CWL
CHECKED CWL

CROSS SECTIONS - INDIANOLA AVENUE
STA. 48+00.00 TO STA. 48+50.00

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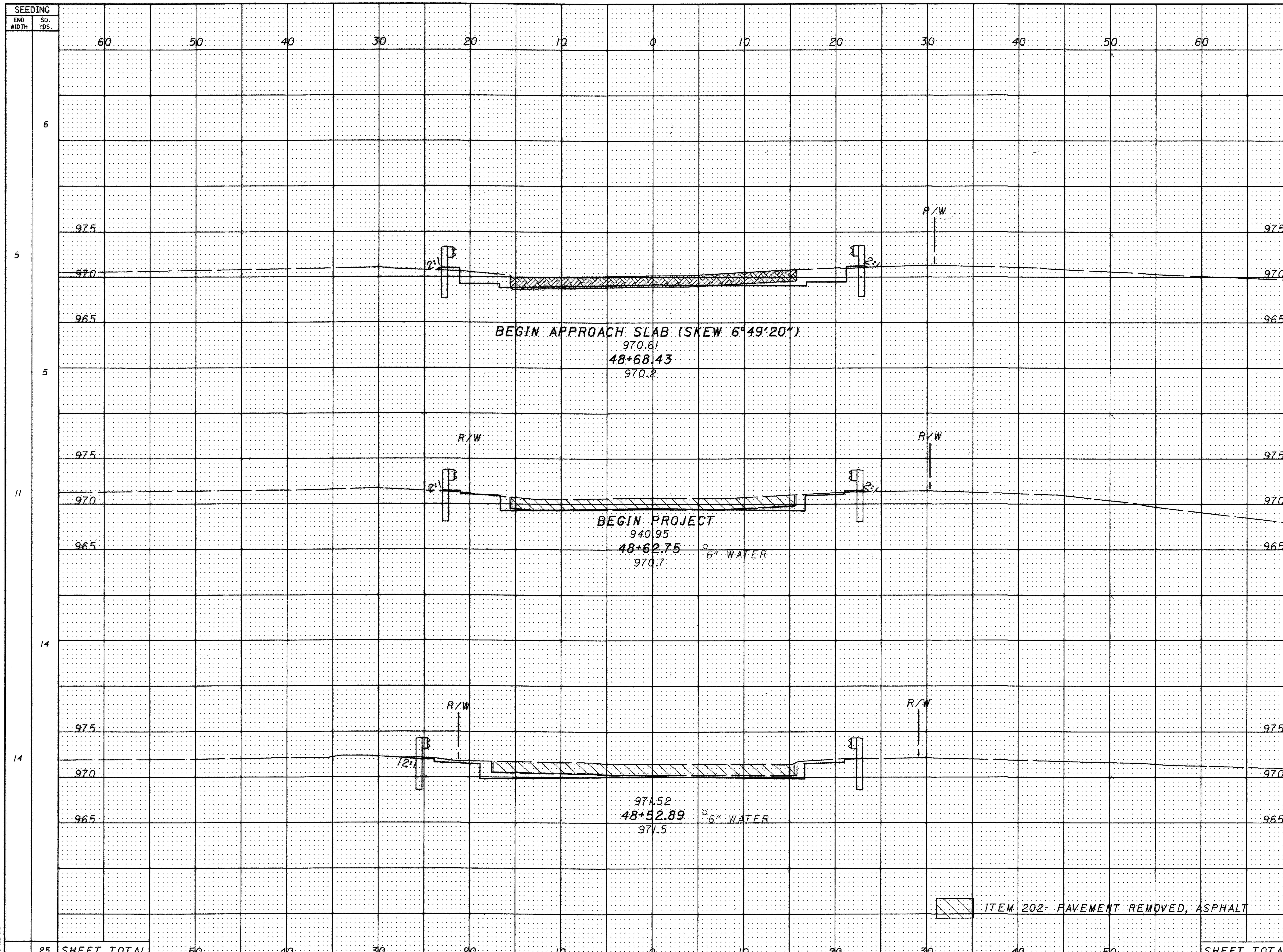

CALCULATED CML
CHECKED CWL

CROSS SECTIONS - INDIANOLA AVENUE
STA. 48+52.89 TO STA. 48+68.43

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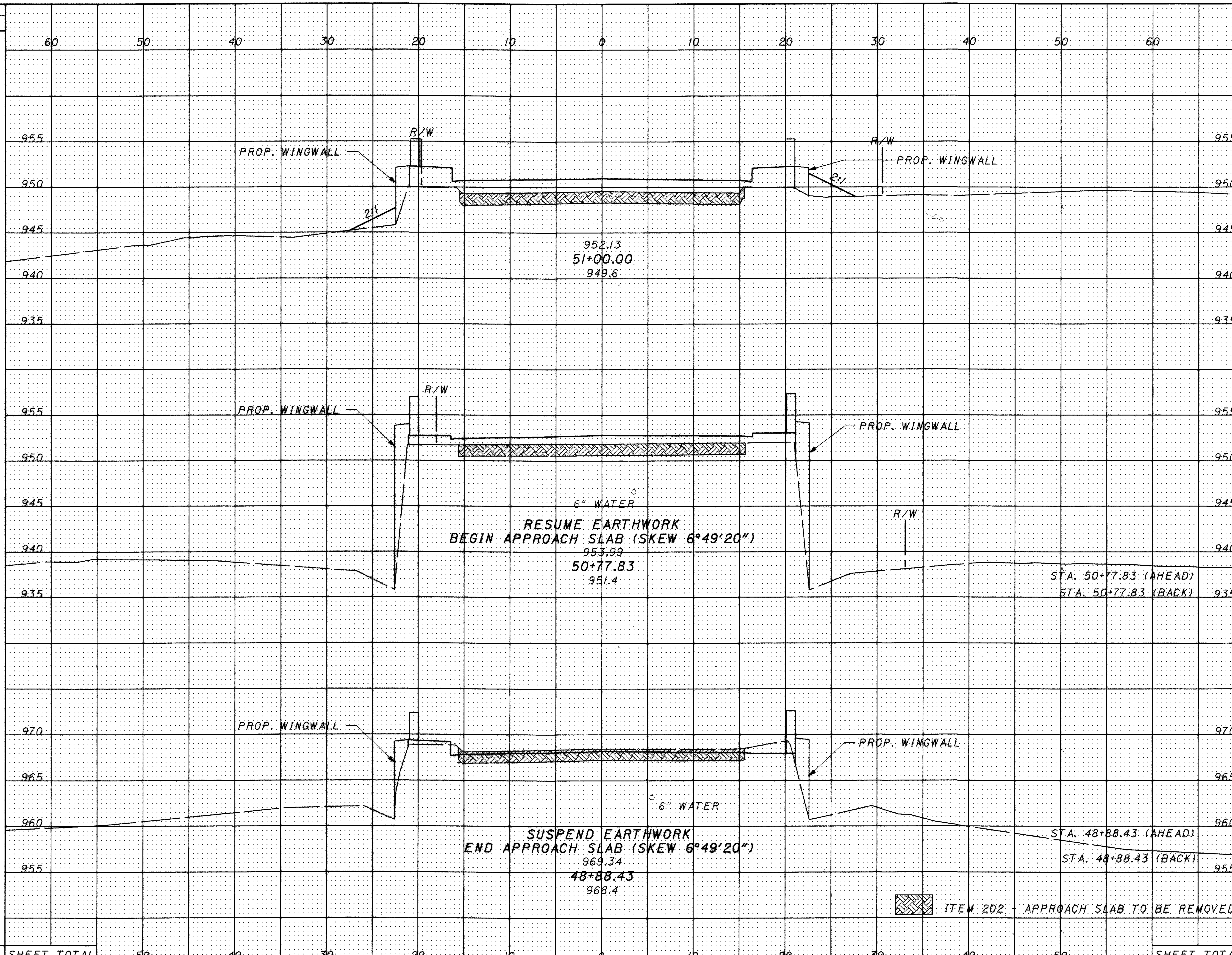
CROSS SECTIONS - INDIANOLA AVENUE
STA. 48+88.43 TO STA. 51+00.00

CALCULATED CWL | CHECKED CWL

SEEDING END WIDTH	SEEDING SQ. YDS.	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	14				0	24
	13	51+00.00	0	77		
	16				0	52
	0	STA. 50+77.83 (AHEAD)	0	50		
		STA. 50+77.83 (BACK)	0	0		
	0	STA. 48+88.43 (AHEAD)	0	0		
		STA. 48+88.43 (BACK)	1	5		
	30	SHEET TOTAL			0	76



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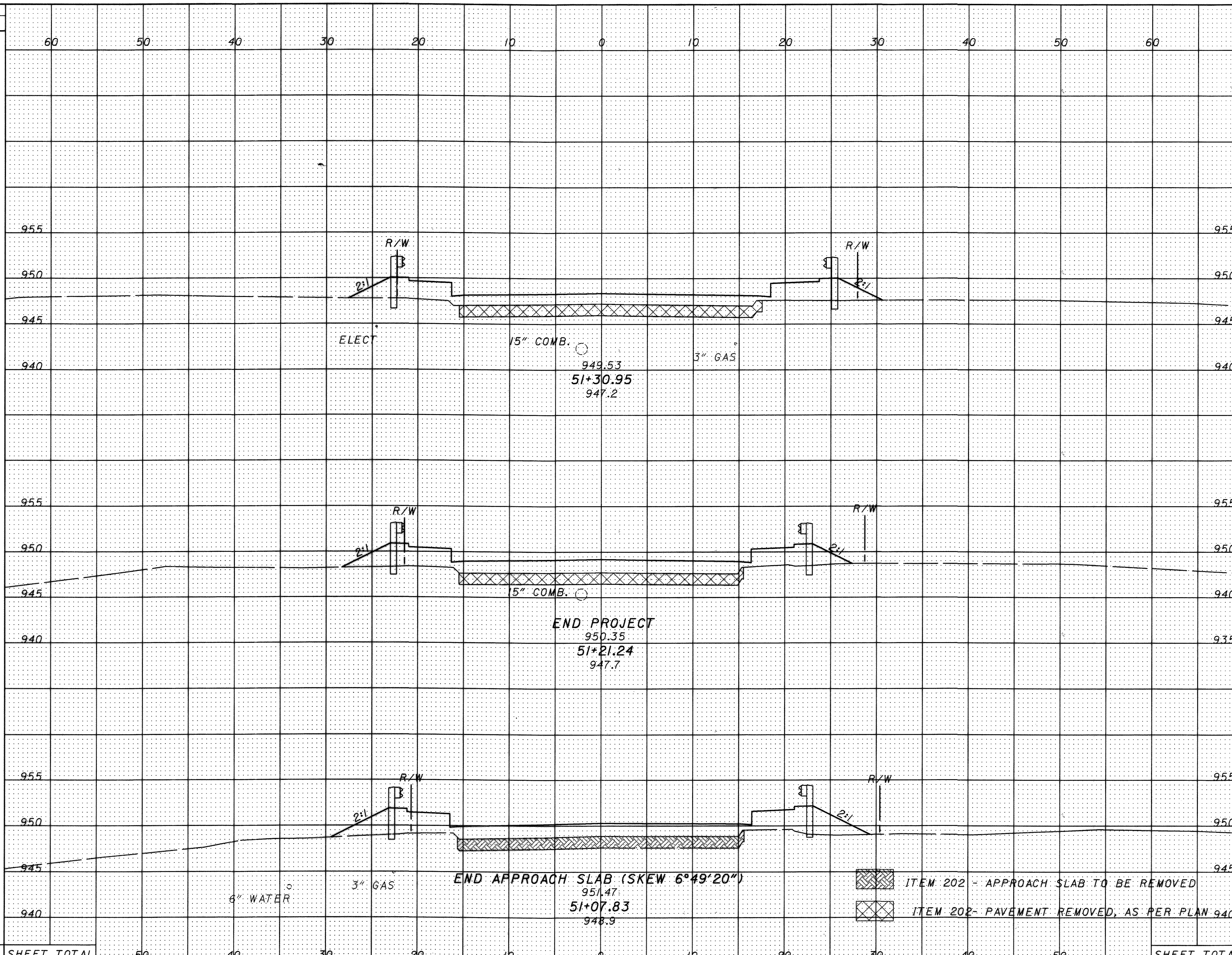

SEEDING	
END WIDTH	SQ. YDS.
	17
16	
	17
15	
	25
18	
	59

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		0	34
0	76		
		0	28
0	79		
		0	42
0	89		
		0	104

CALCULATED CML
CHECKED CWL

CROSS SECTIONS - INDIANOLA AVENUE
STA. 51+07.83 TO STA. 51+30.95

MAH-680-8.18

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CROSS SECTIONS - INDIANOLA AVENUE
STA. 51+50.00 TO STA. 52+50.00

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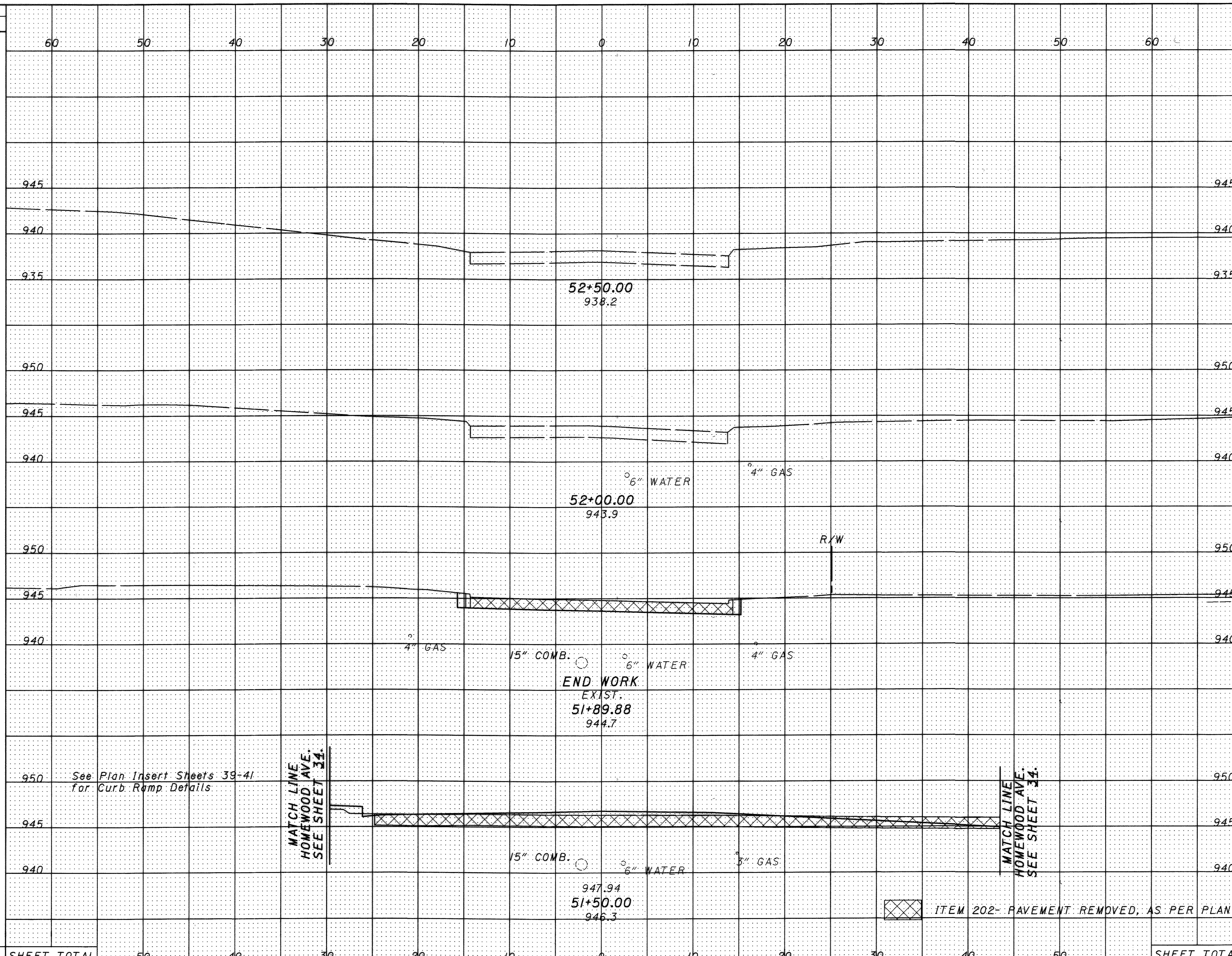
SEEDING	
END WIDTH	SQ. YDS.
0	
	0
0	
SHEET TOTAL	0



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
		0	16
0	21		
SHEET TOTAL		0	16

CALCULATED CWL
CHECKED CWL

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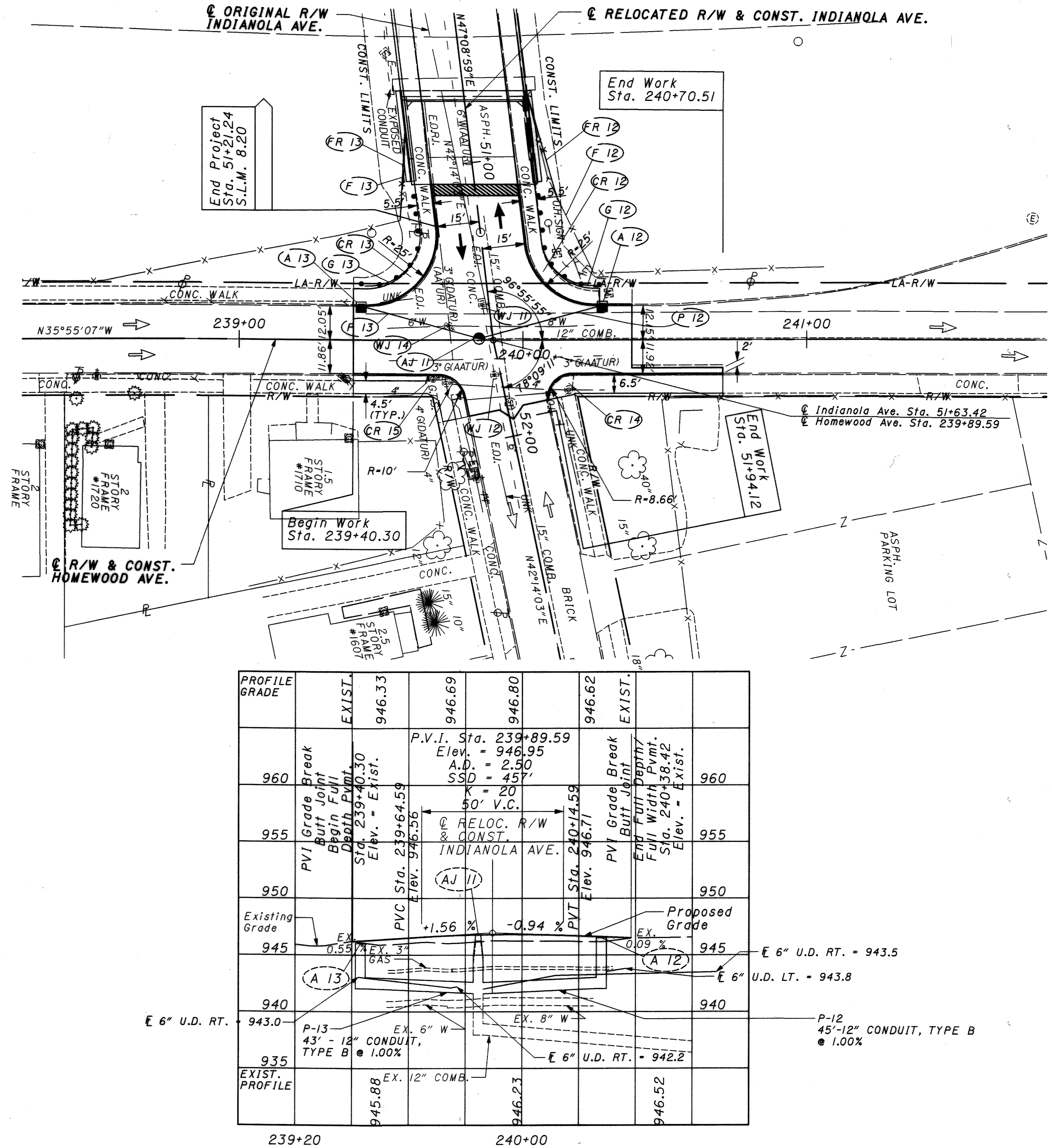
For Underdrain Details and Quantities, See Sheet 38.
For Estimated Quantities, See Sheet 27.
For Intersection Detail, See Sheet 36.
For Pavement Joint Plan, See Sheet 37.
For Indianola Avenue Plans, See Sheet 26.



AJ-11
STA. 51+62.27, 4.92' RT.
MANHOLE ADJUSTED TO GRADE
EX. T/C ELEV. = 946.25
PROP. T/C ELEV. = 946.79
℄ 6" U.D. (N,E) = 942.00
℄ EX. 12" (NW) = 938.00
℄ 12" (NW) = 941.57
℄ 12" (S) = 941.59

A-12
STA. 240+27.99, 12.18' LT.
CB NO. 3A
GRATE ELEV. = 946.35
℄ 6" U.D. (SW,NE) = 943.35
℄ 12" (SE) = 942.02

A-13
STA. 239+43.04, 12.05' LT.
CB NO. 3A
GRATE ELEV. = 945.85
℄ 6" U.D. (NW) = 942.85
℄ 12" (NW) = 942.02

HORIZONTAL SCALE IN FEET

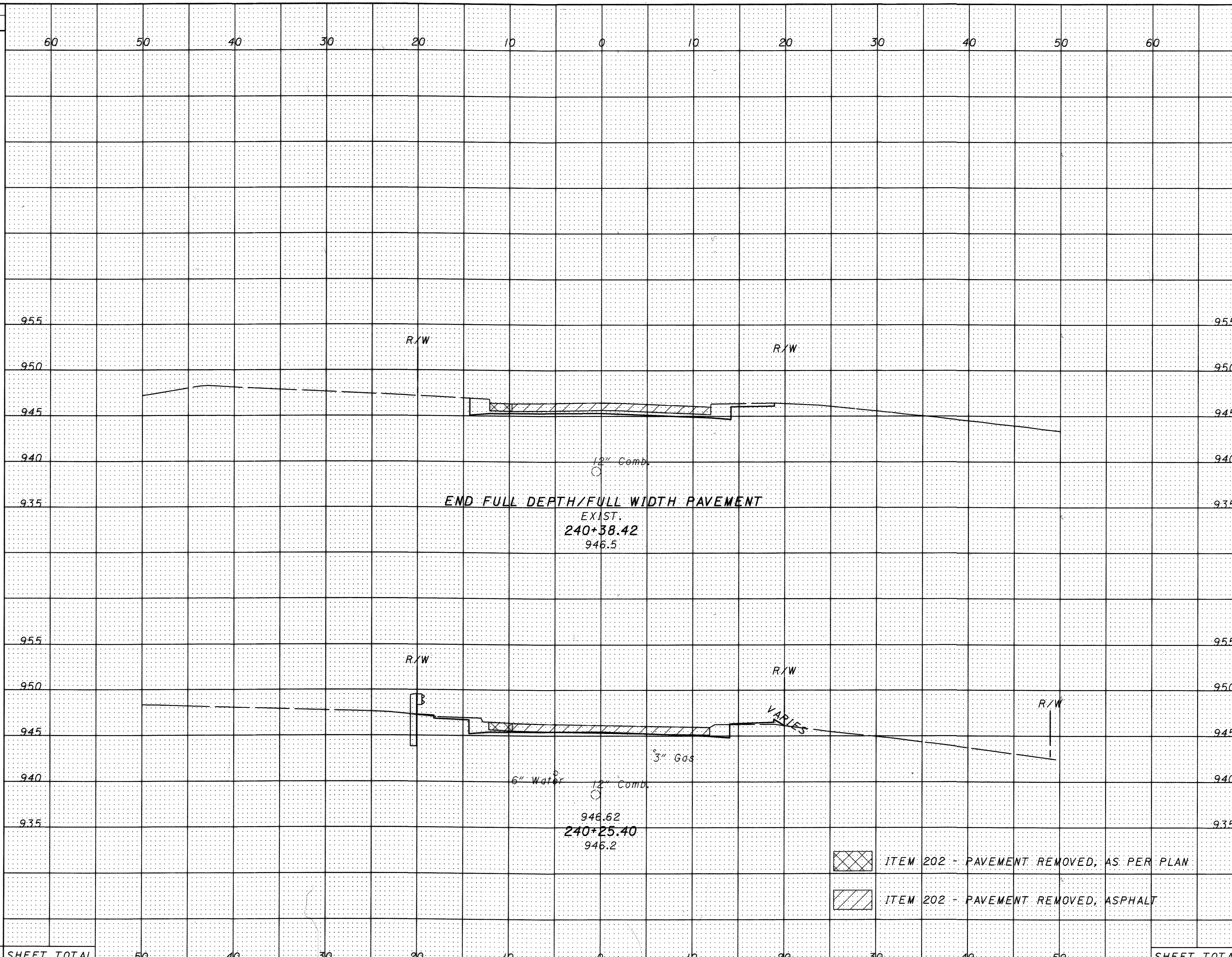
CALCULATED
CHECKED

PLAN AND PROFILE - HOMEWOOD AVENUE BEGIN TO END

MAH-680-8.18


SEEDING
END WIDTH
SQ. YDS.
END AREA
CUT
FILL
VOLUME
CUT
FILL
CALCULATED CWL
CHECKED CWL
R/W
2:1
VARIES
3" Gas
6" Water
12" Comb.
RESUME EARTHWORK
946.70
240+17.41
946.2
SUSPEND EARTHWORK
946.25
239+44.79
946.0
BEGIN WORK
EXIST.
239+40.30
946.2
ITEM 202 - PAVEMENT REMOVED, AS PER PLAN
ITEM 202 - PAVEMENT REMOVED, ASPHALT
SHEET TOTAL
CROSS SECTIONS - HOMEWOOD AVENUE
STA. 239+40.30 TO STA. 240+17.41
MAH-680-8.18
34
67

SEEDING END WIDTH	SEEDING SQ. YDS.
0	
	12
17	
SHEET TOTAL	12



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	0		
		2	1
8	2		
SHEET TOTAL		2	1

CALCULATED CML
CHECKED CWL

CROSS SECTIONS - HOMEWOOD AVENUE
STA. 240+25.40 TO STA. 240+38.42

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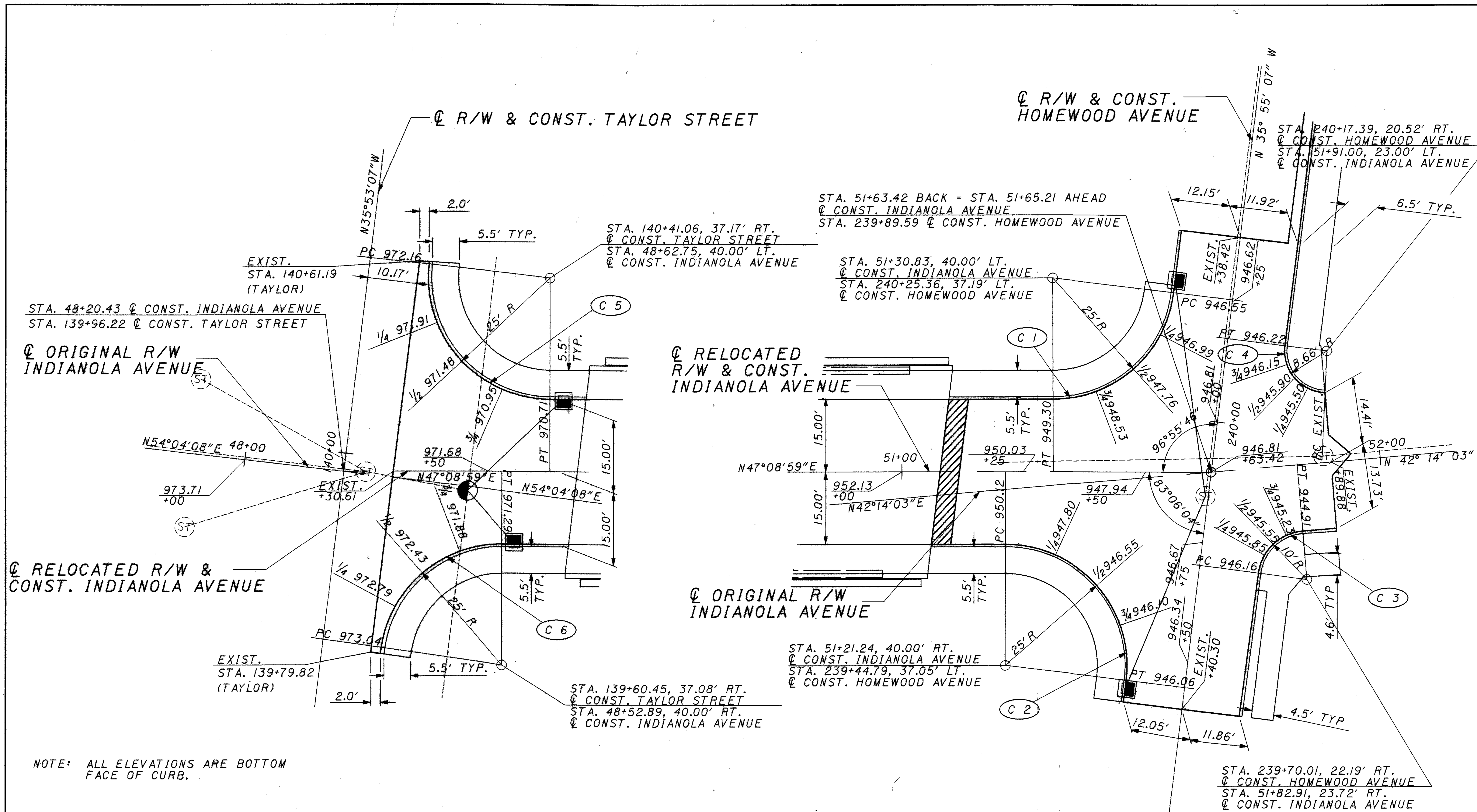

(C1) PROPOSED CURVE
Δ = 82°53'09"
R = 25.00'
T = 21.96'
L = 36.17'
P.C. = STA. 240+25.40, 12.19' LT. ℄ CONST. HOMEWOOD AVENUE
P.T. = STA. 51+30.95, 15.00' LT. ℄ CONST. INDIANOLA AVENUE

(C2) PROPOSED CURVE
Δ = 96°55'36"
R = 25.00'
T = 28.18'
L = 42.29'
P.C. = STA. 51+21.24, 15.00' RT. ℄ CONST. INDIANOLA AVENUE
P.T. = STA. 239+44.79, 12.05' LT. ℄ CONST. HOMEWOOD AVENUE

(C3) PROPOSED CURVE
Δ = 77°37'26"
R = 10.00'
T = 8.04'
L = 13.55'
P.C. = STA. 239+70.11, 12.19' RT. ℄ CONST. HOMEWOOD AVENUE
P.T. = STA. 51+82.92, 13.72' RT. ℄ CONST. INDIANOLA AVENUE

(C4) PROPOSED CURVE
Δ = 94°37'11"
R = 8.66'
T = 9.39'
L = 14.30'
P.C. = STA. 51+89.88, 14.41' LT. ℄ CONST. INDIANOLA AVENUE
P.T. = STA. 240+17.41, 11.85' RT. ℄ CONST. HOMEWOOD AVENUE

(C5) PROPOSED CURVE
Δ = 96°24'37"
R = 25.00'
T = 27.97'
L = 42.08'
P.C. = STA. 140+40.82, 12.17' RT. ℄ CONST. TAYLOR STREET
P.T. = STA. 48+62.75, 15.00' LT. ℄ CONST. INDIANOLA AVENUE

(C6) PROPOSED CURVE
Δ = 81°36'35"
R = 25.00'
T = 21.58'
L = 35.61'
P.C. = STA. 139+61.07, 12.09' RT. ℄ CONST. TAYLOR STREET
P.T. = STA. 48+52.89, 15.00' RT. ℄ CONST. INDIANLOA AVENUE

CALCULATED
CHECKED

INTERSECTION DETAIL
INDIANOLA AVENUE / HOMEWOOD AVENUE

MAH-680-8.18

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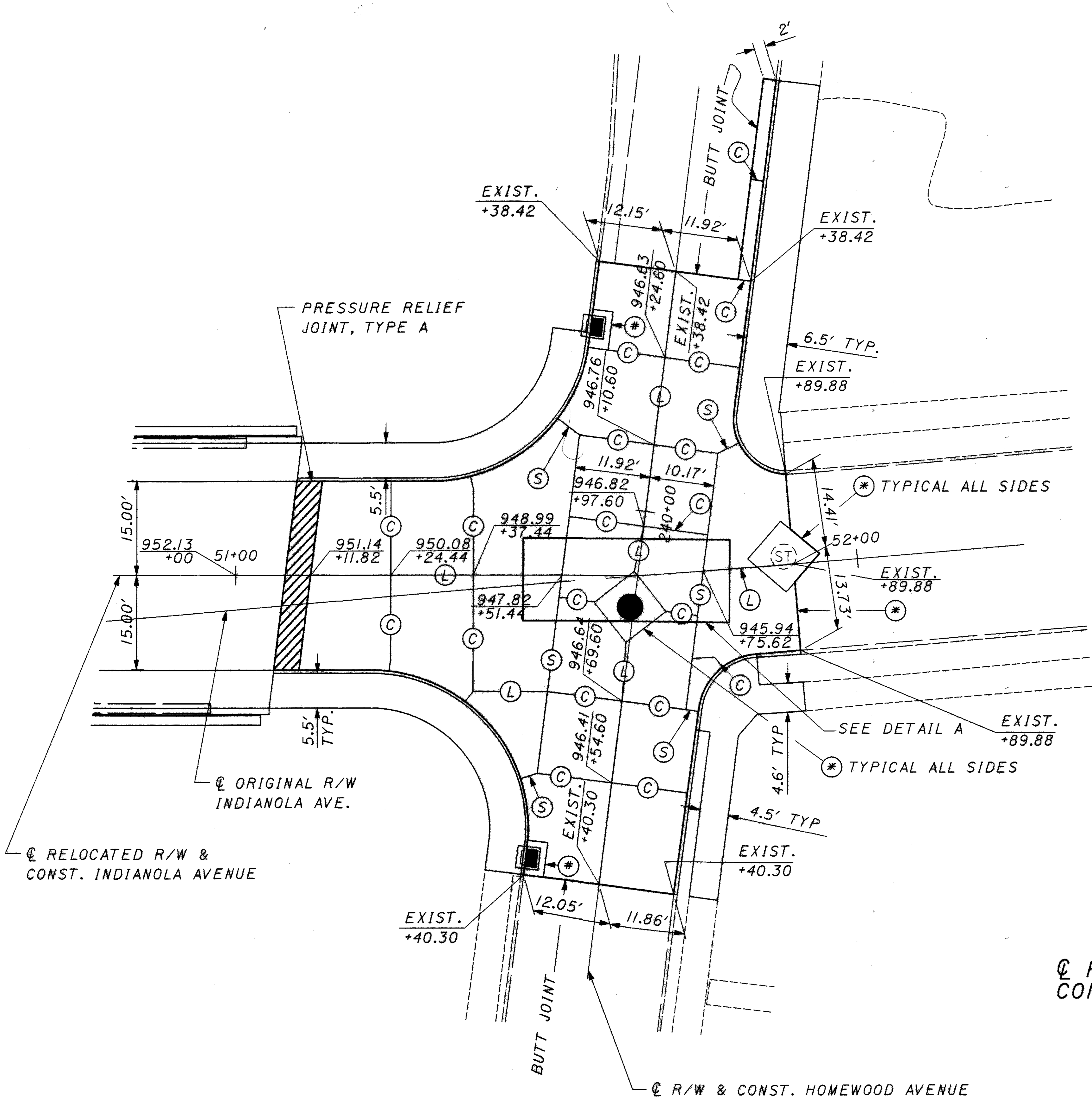
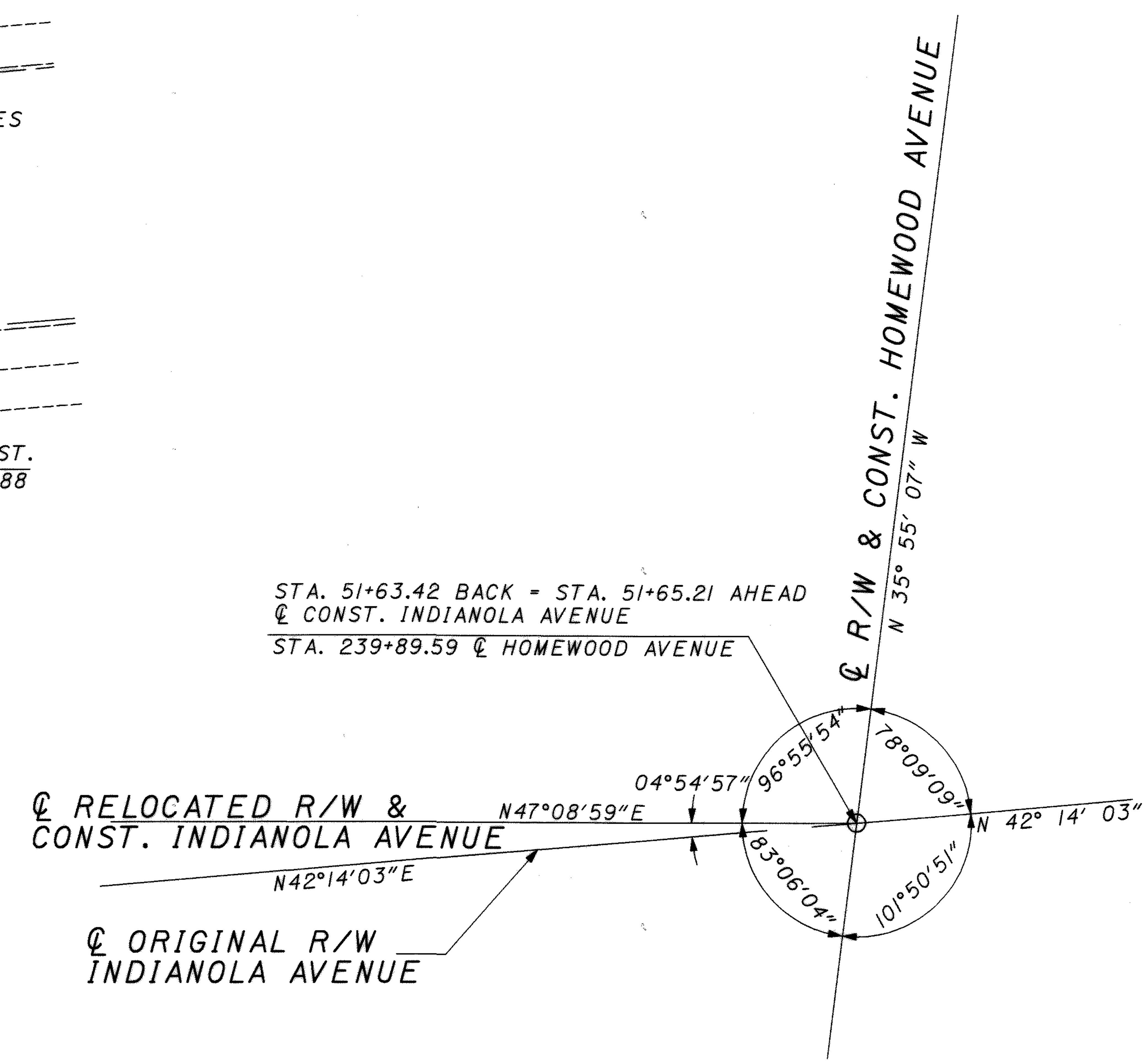
JOINT LEGEND

- (L) LONGITUDINAL JOINT (SEE STD. DWG. BP-2.1)
- (C) CONTRACTION JOINT (SEE STD. DWG. BP-2.2)
- (S) LONGITUDINAL JOINT WITHOUT TIE BARS
- (✱) EXPANSION JOINT WITHOUT TIE BARS
- (#) FOR JOINTING, SEE CATCH BASIN/INLET STD. DWG. CB-2.2

FOR CURB ELEVATIONS, SEE INTERSECTION DETAIL, SHEET NO. 36





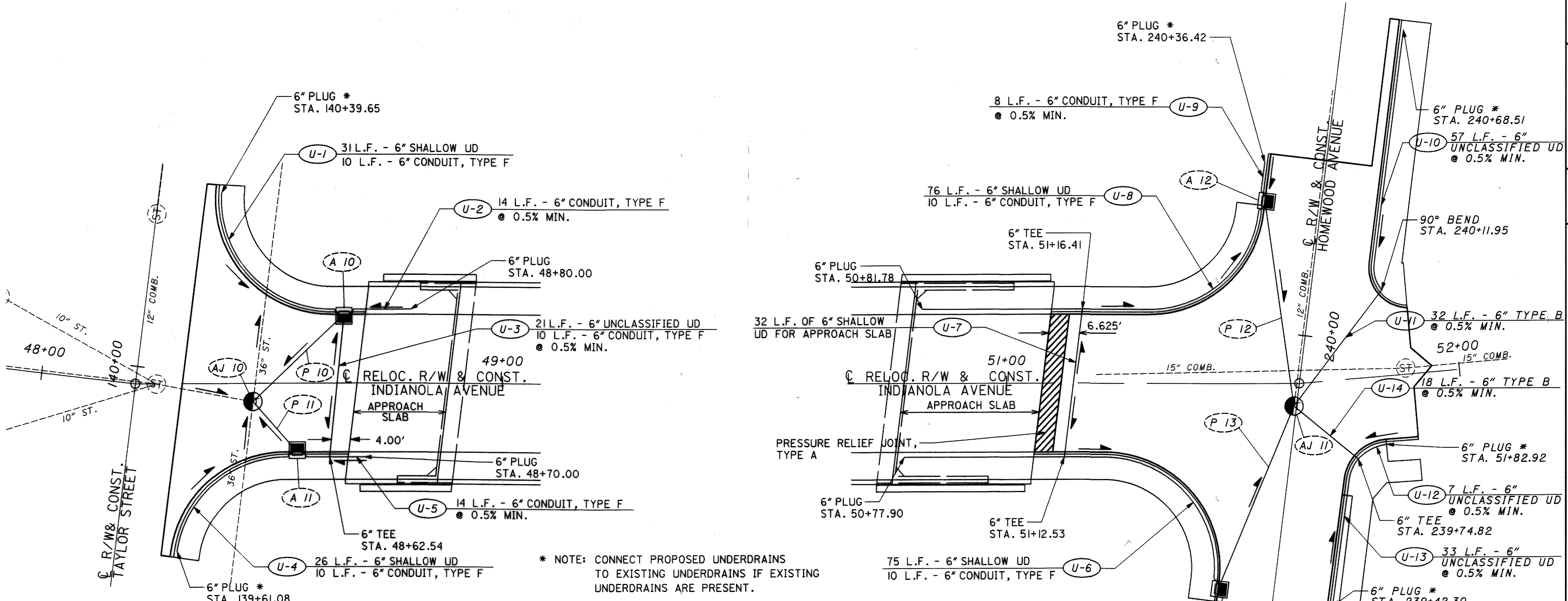
DETAIL A

HORIZONTAL SCALE IN FEET 0 5 10 20

CALCULATED | CHECKED

PAVEMENT JOINT PLAN
INDIANOLA AVENUE / HOMEWOOD AVENUE

MAH-680-8.18



* NOTE: CONNECT PROPOSED UNDERDRAINS TO EXISTING UNDERDRAINS IF EXISTING UNDERDRAINS ARE PRESENT.

UNDERDRAIN ESTIMATED QUANTITIES

REF NO.	STATION TO STATION	603 6" CONDUIT, TYPE B	603 6" CONDUIT, TYPE F		605 6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP	605 6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP
		FT.	FT.		FT.	FT.
U-1	STA. 140+39.65 (TAYLOR) TO A-10		10		31	
U-2	STA. 48+80.00 TO A-10		14			
U-3	U-5 TO A-10		10			21
U-4	STA. 139+61.08 (TAYLOR) TO A-11		10		26	
U-5	STA. 48+70.00 TO A-11		14			
U-6	STA. 50+77.90 TO A-13		10		75	
U-7	U-6 TO U-8				32	
U-8	STA. 50+81.78 TO A-12		10		76	
U-9	STA. 240+36.42 (HOMEWOOD) TO A-12		8			
U-10	STA. 240+36.42 (HOMEWOOD) TO STA. 240+11.95 (HOMEWOOD)					57
U-11	STA. 240+11.95 (HOMEWOOD) TO AJ-11	32				
U-12	STA. 51+87.88 TO STA. 239+74.82 (HOMEWOOD)					7
U-13	STA. 239+42.30 (HOMEWOOD) TO STA. 239+74.82 (HOMEWOOD)					33
U-14	STA. 239+74.82 (HOMEWOOD) TO AJ-11	18				
TOTALS CARRIED TO GENERAL SUMMARY ON SHEET NO. 20.21.		50	86		240	118

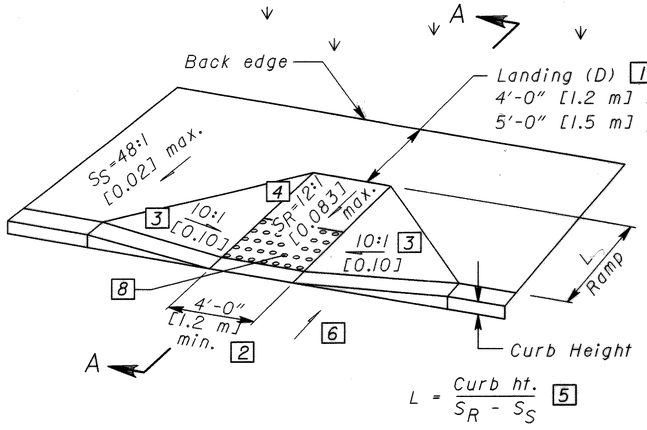
FOR UNDERDRAIN INVERTS AT STRUCTURES, SEE SHEET 26.

HORIZONTAL SCALE IN FEET: 0 5 10 20

CALCULATED CWL
CHECKED MVJ

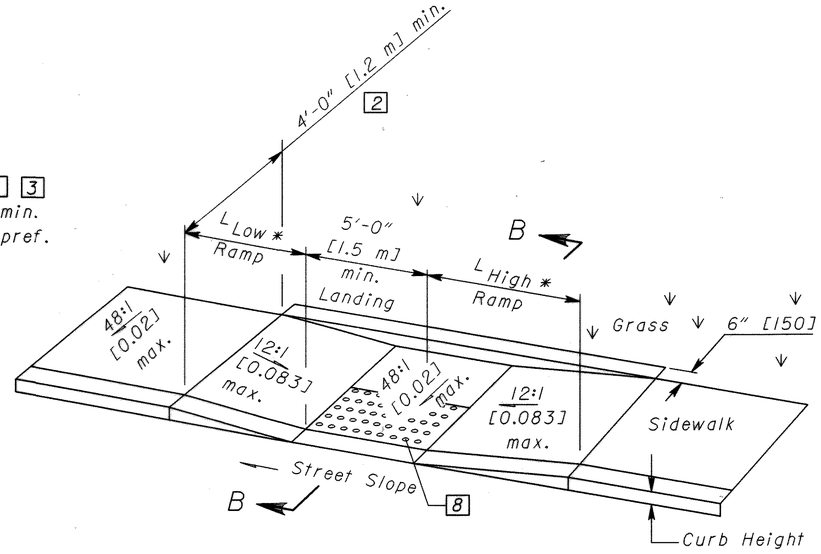
UNDERDRAIN DETAILS - INDIANOLA AVENUE

MAH-680-8.18



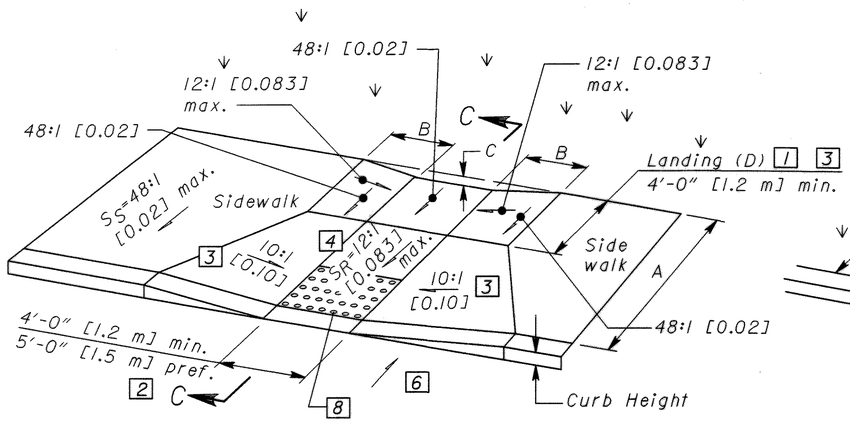
See Sht. 3/3 for SECTION A-A

PERPENDICULAR CURB RAMP DETAIL



See Sht. 3/3 for SECTION B-B

PARALLEL CURB RAMP DETAIL (DOUBLE)

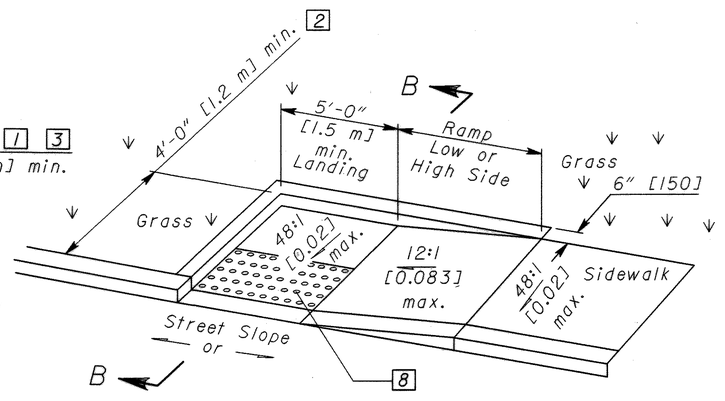


See Sht. 3/3 for SECTION C-C

COMBINED CURB RAMP DETAIL

$B = C / 0.083$

$C = [\text{Curb ht.} + A(S_S)] - [(A-D)S_R + D(0.02)]$



See Sht. 3/3 for SECTION B-B

PARALLEL CURB RAMP DETAIL (SINGLE)

Street Slope	Ramp Length @ 1"/ft [0.083]	
	$L_{LOW\ SIDE}$ *	$L_{HIGH\ SIDE}$ *
0.01	5'-5" [1.6 m]	6'-10" [2.1 m]
0.02	4'-10" [1.5 m]	7'-11" [2.4 m]
0.03	4'-5" [1.3 m]	9'-5" [2.9 m]
0.04	4'-1" [1.2 m]	11'-8" [3.6 m]
0.05	3'-9" [1.1 m]	15'-2" [4.6 m]

* Measured along the back of a 6" [150] high curb.

$$L_{HIGH} = \frac{\text{Curb ht.}}{0.083 - \text{Street Slope}} \quad 7$$

$$L_{LOW} = \frac{\text{Curb ht.}}{0.083 + \text{Street Slope}} \quad 7$$

LEGEND

1. May be reduced to 3'-0" [915] in existing sidewalks if the landing is unconstrained along the back edge.
2. May be reduced to 3'-4" [1.02 m] in existing sidewalks to better fit the walk configuration or where site conditions are restricted by narrow walks, pole foundations, drainage inlets, etc. The width may be tapered.
3. Where landing width (D) has been reduced to 3'-0" [915] the flared sides shall have a maximum slope of 12:1 [0.083].

   Flared sides are not required where the edges of a curb ramp are protected by landscaping or other barriers to travel by wheel chair users or pedestrians across the edge of the curb ramp. However, if the flared sides are used in these areas, they may be of any slope.
4. The slope of the ramp toward the curb is preferred to be 12:1 [0.083] or flatter related to the horizontal, but the maximum slope shall be 12:1 [0.083] relative to the existing or proposed walk slope.

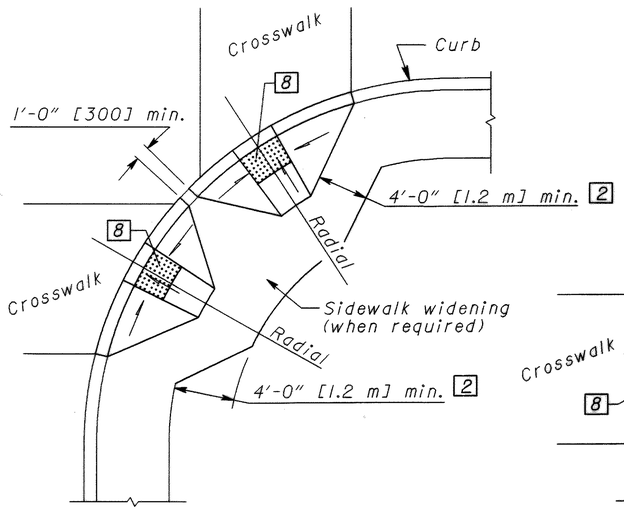
   In existing sidewalks, where the maximum ramp slope (S_R) is not feasible, it may be reduced as follows:

   A) 10:1 [0.10] for a max. rise of 6" [150],
   B) 8:1 [0.125] for a max. rise of 3" [75],
   C) 6:1 [0.167] over a max. run of 2'-0" [610] for historic areas where a flatter slope is not feasible.
5. The minimum length of a perpendicular ramp is 6' [2.0 m] from the back of a 6" [150] curb and may be increased where feasible to obtain a flatter ramp slope or to better blend with the walk configuration.
6. Gutter counter slopes at the foot of perpendicular curb ramps should not exceed 20:1 [0.05] over a distance of 2'-0" [610] from the curb.
7. Dimensions derived by equation are nominal. Construct ramps to meet required slopes and existing conditions.
8. Detectable Warnings (truncated domes) are to be installed in the location shown. Dimensions of the domes are 24" [610] from the back of the curb by the width of the ramp. See NOTES on sheet 3.

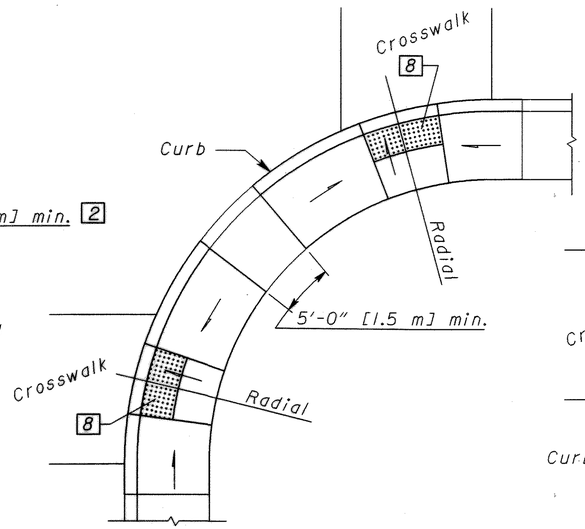
7-12-02

CURB RAMPS WITH TRUNCATED DOMES

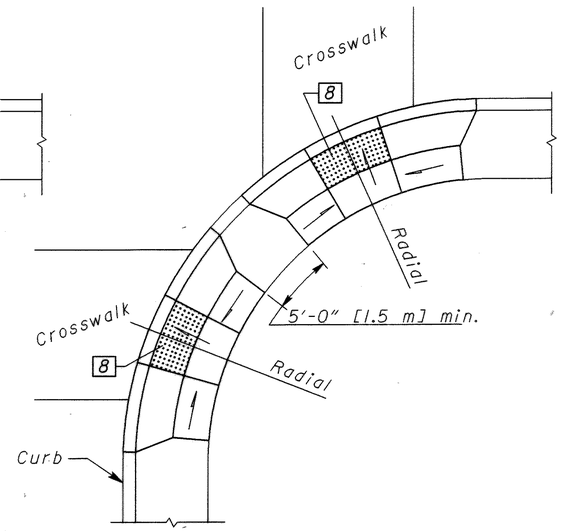
MAH-680-8.18



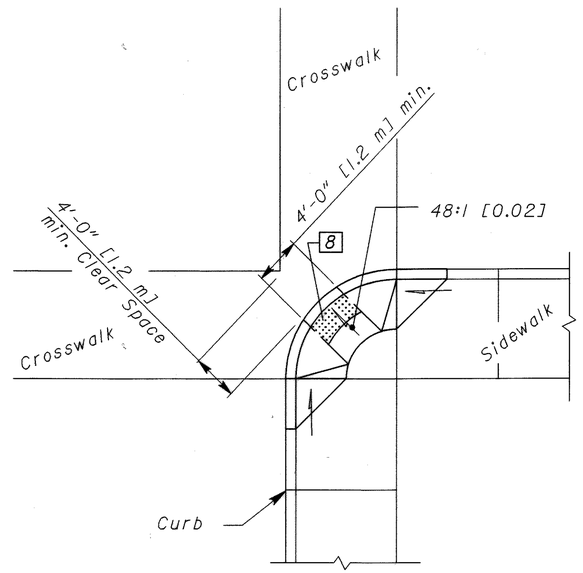
DESIGN A
PERPENDICULAR RAMP



DESIGN B
PARALLEL RAMP



DESIGN C
COMBINATION RAMP



DESIGN D
DIAGONAL RAMP

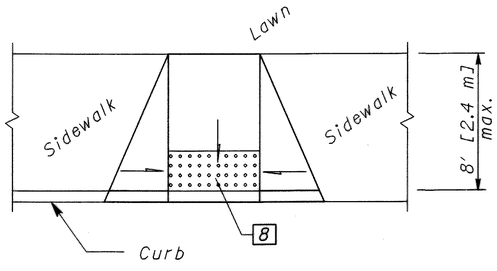
Use in existing walks only and when site constraints prohibit other designs. The diagonal ramp may be perpendcular, parallel or combination.

Avoid using where curb radii are less than 20'-0" [6.0 m].

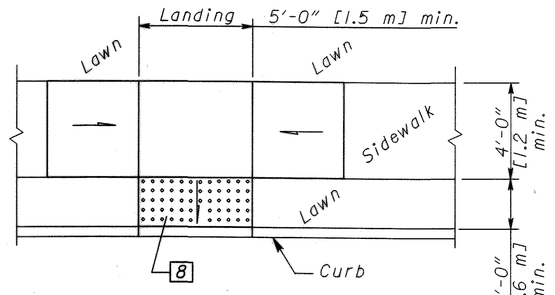
CORNER CURB RAMP DESIGNS

(See Curb Ramp Details on Sht. 1/3 for additional requirements.)

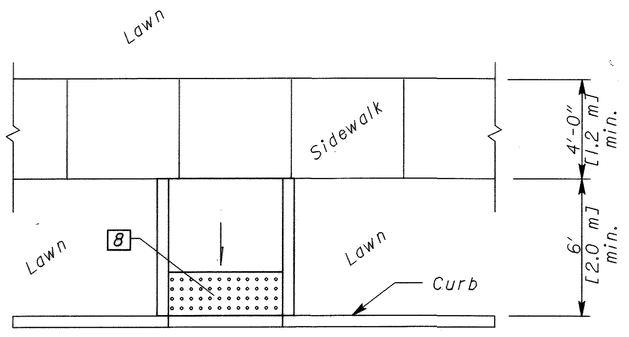
For LEGEND, See sheet 1.



DESIGN E
PERPENDICULAR RAMP



DESIGN F
PARALLEL RAMP



DESIGN G
PERPENDICULAR RAMPS
w/o FLARES

MID BLOCK CURB RAMP DESIGNS

(See Curb Ramp Details on Sht. 1/3 for additional requirements.)

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7-12-02

CURB RAMPS WITH TRUNCATED DOMES

MAH-680-8.18

NOTES

SURFACE TEXTURE: Texture of concrete surfaces shall be obtained by coarse brooming transverse to the ramp slopes and shall be rougher than adjacent walk.

TRUNCATED DOMES: Install detectable warnings (truncated domes) for a distance of 24" [610] from the back of the curb for the entire width of the ramp opening as shown on details on Sheet 1.

Pavers will meet ASTM C 902 Class SX, Type I, or C 936, or C 1272 Type R.

Acceptable manufacturers and products are:

1) Whitacre-Greer Fireproofing Company,
   1400 S. Mahoning Ave, Alliance, OH, 44601, (800) WG PAVER
   ADA Paver, 4"x8"x2-1/4", Clear Red (Rustic) #30.

2) Hanover Architectural Products,
   240 Bender Rd., Hanover, PA. 17331, (717) 637-0500
   Detectable Warning Paver, 12"x12"x2", or 24"x24"x2",
   Red or Quarry Red.

3) Endicott Clay Products,
   PO Box 17, Fairbury, NE, 68352, (402) 729-5804
   Handicap Detectable Warning Paver,
   4"x8"x2-1/4", Red Blend.

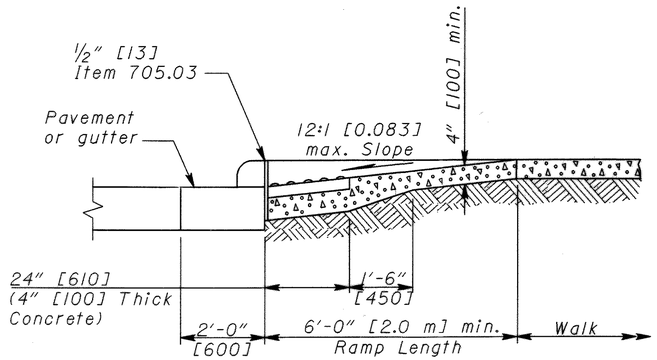
Pavers will laid on top of a 4" [100] unreinforced concrete base. Setting bed and joints to be mortared in accordance with manufacturer's instruction, or with a maximum 1/2" [13] thick bed of latex modified cement mortar. Mortar joints to a width not greater than 5/32" [4] and not less than 1/16" [1.5]. Pavers shall not be directly touching each other unless they have spacing bars.

Mortared joints are to be flush with top surface and struck so as to give a smooth surface. Pavers shall be laid such that joints are level with adjoining joints so as to provide a smooth transition from brick to brick and brick to concrete surface.

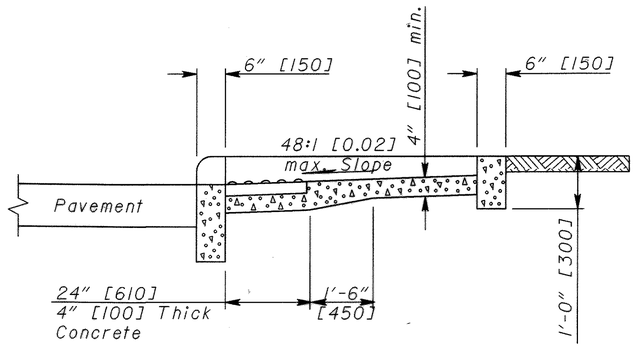
The surface of any two adjacent units should not differ by more than 1/8" [3] in height. Bricks shall be placed in a running bond pattern. Face of all brick shall be clean of cement and protected so as to avoid chipping during constructionn.

EXPANSION JOINTS: shall be provided in the curb ramp as extensions of walk joints and consistent with Item 608.03 requirements for a new concrete walk. A 1/2" [13] Item 705.03 expansion joint filler shall be provided around the edge of ramps built in existing concrete walk. Lines shown on this drawing indicate the ramp edge and slope changes and are not necessarily joint lines.

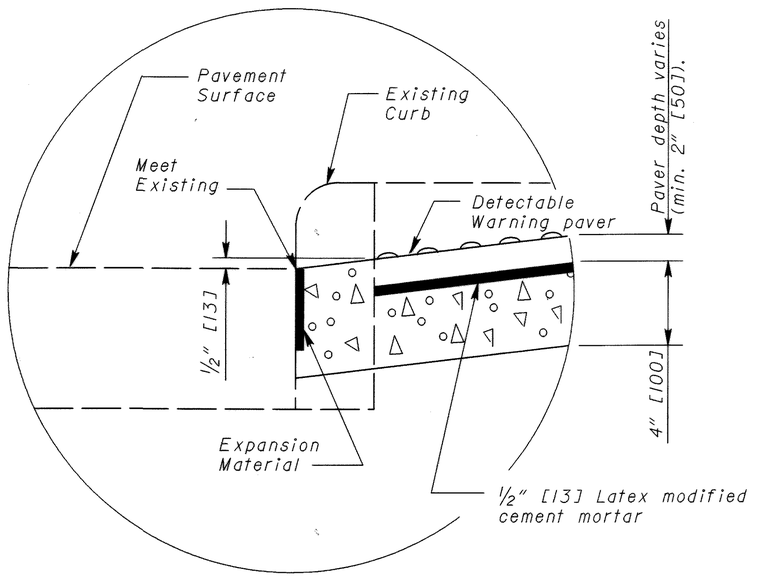
PAYMENT: Walk and curb, Items 608 and 609, shall be measured through the curb ramp area paid for under their respective Items. **Item 608 - Curb Ramp, As Per Plan, Each** constructed in new curb and walk shall include the cost of any additional materials and installation (including truncated domes), grading, forming and finishing. **Item 608 - Curb Ramp. As Per Plan, Square Foot [Meter],** constructed in existing curb and walk shall include the cost of furnishing and installing all materials (including truncated domes), grading, forming, and finishing of the curb and walk of the curb ramp. Removal of existing curb and walk shall be paid for under Item 202.



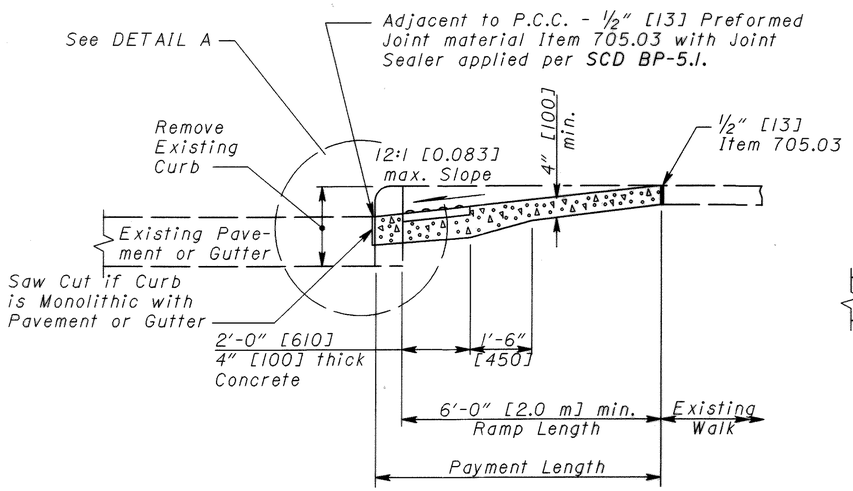
SECTION A-A
NORMAL DETAIL
See Sheet 1 of 3.
(Gutter shown)



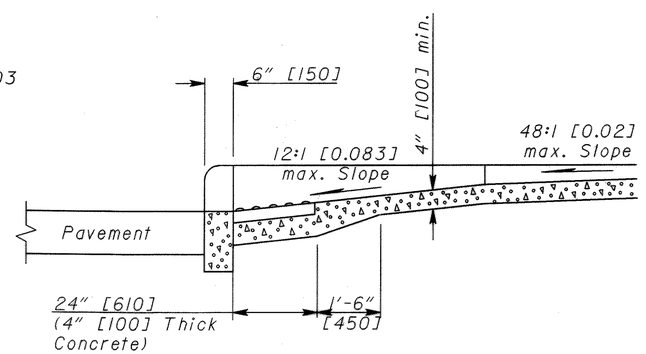
SECTION B-B
See Sheet 1 of 3.



DETAIL A



SECTION A-A
EXISTING WALK DETAIL
See Sheet 1 of 3.



SECTION C-C
See Sheet 1 of 3.

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OMUTCD CLARIFICATION

ANY REFERENCE TO THE LATEST EDITION AND REVISION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) SHALL BE INTERPRETED AS:

THE CONTRACTOR SHALL BE REQUIRED TO UTILIZE THE 1972 EDITION, REVISION 21 OF THE OMUTCD (WHICH TOOK EFFECT JUNE 1, 1999).

ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND STORAGE, AS PER PLAN

THIS ITEM SHALL BE AS OUTLINED IN 630 EXCEPT THAT ANY REMOVED SIGNS FROM WITHIN THE CITY OF YOUNGSTOWN SHALL BE STORED ON THE PROJECT FOR EVENTUAL DELIVERY TO THE CITY OF YOUNGSTOWN SIGNAL SHOP.

UPON COMPLETION OF ALL SIGN REMOVAL, THE CONTRACTOR SHALL CONTACT THE CITY OF YOUNGSTOWN SIGNAL SHOP TO ARRANGE A MUTUALLY AGREEABLE TIME FOR DELIVERY OF REMOVED SIGNS. THE CITY OF YOUNGSTOWN SIGNAL SHOP IS LOCATED AT 1034 LOIS COURT. LOIS COURT IS LOCATED ONE BLOCK EAST OF MARKET STREET BETWEEN MYRTLE AVENUE AND PYATT STREET. THE SIGNAL SHOP'S TELEPHONE NUMBER IS (330)-743-2141 EXT. 32. THE CONTRACTOR SHALL NOTIFY CITY OF YOUNGSTOWN PERSONNEL A MINIMUM OF 24 HOURS IN ADVANCE OF WHEN A DELIVERY WILL BE MADE.

ALL COSTS ASSOCIATED WITH THIS ITEM SHALL BE INCLUDED IN THE INCREMENTAL BID PRICE FOR ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND STORAGE, AS PER PLAN.

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ITEM	SHEET NUMBERS																	ITEM	ITEM EXT.	TOTAL QUANT.	UNIT	DESCRIPTION	SHEET NO.
													24		44		45						
																						TRAFFIC CONTROL	
626													7					626	00100	7	EACH	BARRIER REFLECTOR, TYPE A	
630																	51.3	630	03100	51.3	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
630																	27.6	630	08004	27.6	FT	ONE WAY SUPPORT, NO. 3 POST	
630																	42.8	630	80102	42.8	SQ FT	SIGN, FLAT SHEET, TYPE G	
630																	9	630	85001	9	EACH	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE, AS PER PLAN	42
630																	5	630	86002	5	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
630																	1	630	86310	1	EACH	REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL	
646															0.06			646	10200	0.06	MILES	CENTERLINE	
646															63			646	10300	63	FT	CHANNELIZING LINE	
646															49			646	10400	49	FT	STOP LINE	

CHECKED BJT DATE 12/1/03

CALCULATED MAH DATE 12/1/03

TRAFFIC CONTROL GENERAL SUMMARY

MAH-680-8.18

SHEET NO.	LOCATION	STATION FROM	STATION TO	SIDE		646 CENTERLINE FT	646 CHANNELIZING LINE FT	646 STOP LINE FT			
46	INDIANOLA AVENUE	48+50	51+20	CEN.		270.00					
46	INDIANOLA AVENUE	51+22		RT.				15.50			
46	HOMEWOOD AVENUE	239+65		LT. & RT.				33.00			
46	HOMEWOOD AVENUE	239+00	239+63	CEN.			63.00				
TOTALS CARRIED TO THE TRAFFIC CONTROL GENERAL SUMMARY						270.00	63	49			
MILES						0.06					

CALCULATED MAH DATE 7/31/03

CHECKED BJT DATE 7/31/03

PAVEMENT MARKING SUBSUMMARY

MAH-680-8.18

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630 GROUND MOUNTED SUPPORT, NO. 3 POST (FT)	630 ONE WAY SUPPORT, NO. 3 POST (FT)	630 SIGN, FLAT SHEET, TYPE G (SQ FT)			630 REMOVAL OF GROUND MOUNTED SIGN AND STORAGE, AS PER PLAN (EACH)	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL (EACH)	630 REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL (EACH)
46	S-1	HOMEWOOD AVENUE	239+65	RT.	R-1-30	30" X 30"	12.8		6.25					
					R-1A-12	12" X 6"			0.50					
46	S-2	INDIANOLA AVENUE	51+85	RT.	W-71-30	30" X 30"	13.5		6.25					
46	S-3	INDIANOLA AVENUE	52+00	LT.	R-121-24	24" X 24"	12.3		4.00					
46	S-4	INDIANOLA AVENUE	51+22	RT.	R-1-30	30" X 30"		13.8	6.25					
					R-43L-36	36" X 12"			3.00					
					R-1A-12	12" X 6"			0.50					
46	S-5	INDIANOLA AVENUE	51+22	LT.	R-1-30	30" X 30"		13.8	6.25					
					R-43L-36	36" X 12"			3.00					
					R-1A-12	12" X 6"			0.50					
46	S-6	HOMEWOOD AVENUE	239+55	LT.	R-1-30	30" X 30"	12.8		6.25					
46	R-1	HOMEWOOD AVENUE		LT.	R-1							2	1	
46	R-2	HOMEWOOD AVENUE		RT.	R-1							1	1	
46	R-3	INDIANOLA AVENUE		RT.	W-71							1	1	
46	R-4	INDIANOLA AVENUE		LT.	R-121							1	1	
46	R-5	I-680 (MOUNTED ON INDIANOLA BRIDGE)		RT.	GS									1
46	R-6	INDIANOLA AVENUE		RT.	R-1							1	1	
					R-43L							1		
					R-1							1		
					R-1A							1		
TOTALS CARRIED TO THE TRAFFIC CONTROL GENERAL SUMMARY							51.3	27.6	42.8			9	5	1

CHECKED BJT DATE 7/31/03

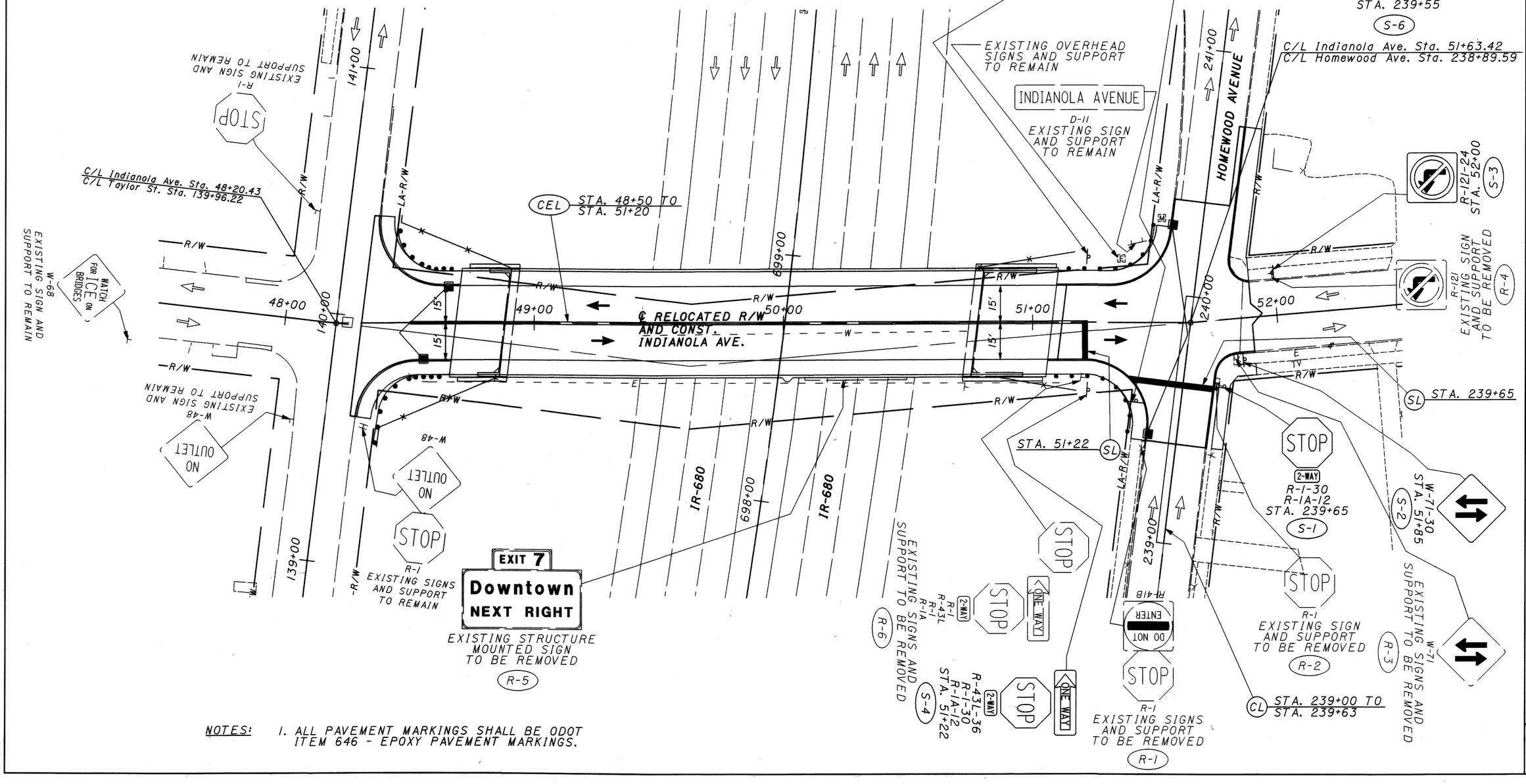
CALCULATED MAH DATE 7/31/03

SIGNING SUBSUMMARY

MAH-680-8.18

LEGEND

CEL	CENTER LINE	⊥	EXISTING SIGN AND SUPPORT
CL	CHANNELIZING LINE	⊥ / ⊥⊥	PROPOSED SIGN AND SUPPORT
SL	STOP LINE	←	TRAFFIC FLOW ARROW
LL	LANE LINE	R-#	EXISTING SIGN TO BE REMOVED
LA	LANE ARROW	S-#	PROPOSED SIGN TO BE REMOVED
WP	WORD ON PAVEMENT		
⊡—	PROPOSED OVERHEAD SIGN SUPPORT (TYPE TC-12-30)		



NOTES: 1. ALL PAVEMENT MARKINGS SHALL BE ODOT ITEM 646 - EPOXY PAVEMENT MARKINGS.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED CML CHECKED MVJ

SIGNING AND PAVEMENT MARKING PLAN
INDIANOLA AVENUE - BEGIN TO END

MAH-680-8.18

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67

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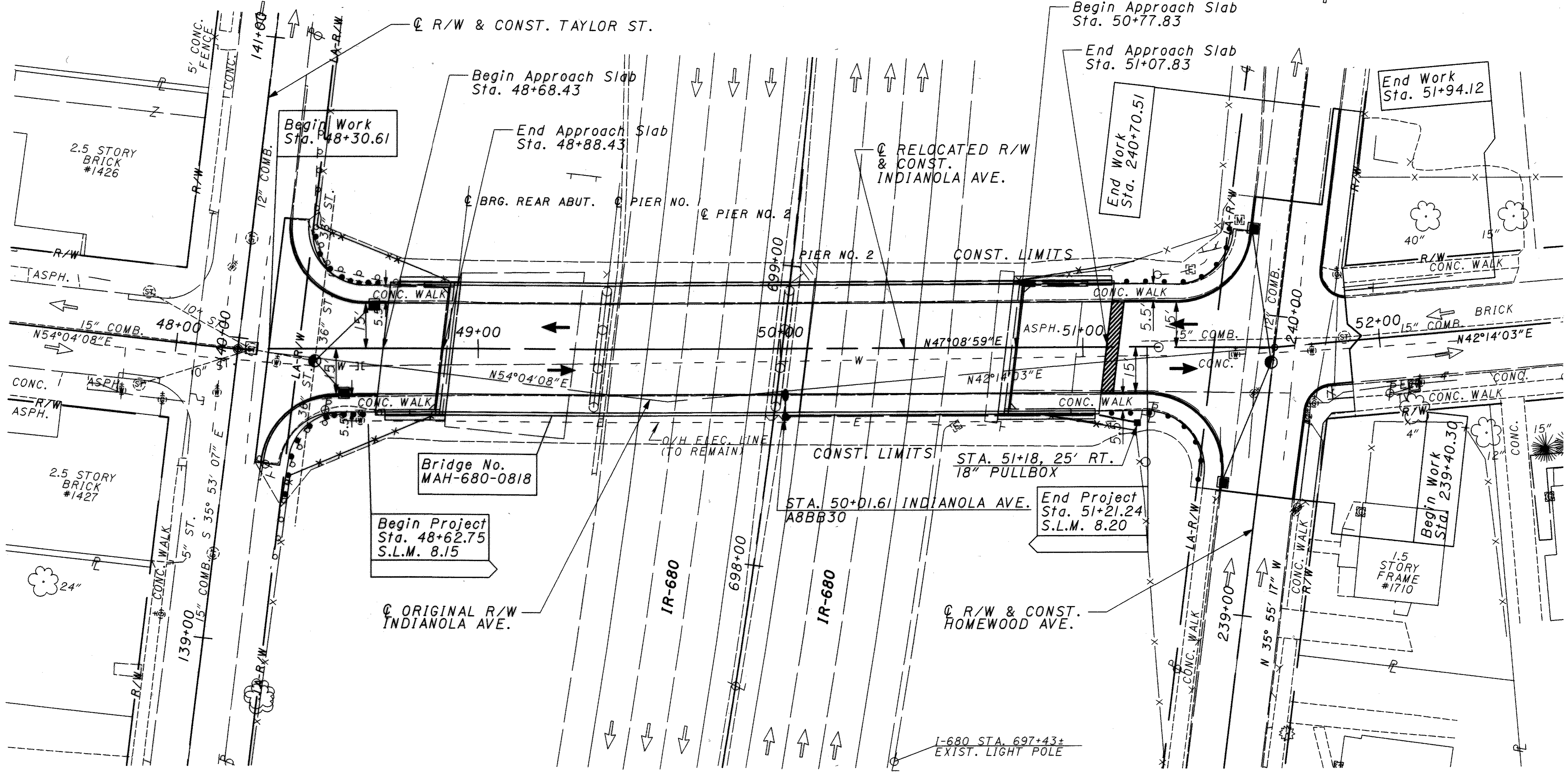


REF NO.	STATION TO STATION FROM	TO	SIDE	603 4" CONDUIT, TYPE E	625 STRUCTURE GROUNDING SYSTEM, AS PER PLAN	625 LIGHT POLE ANCHOR BOLTS ON STRUCTURE	625 PULLBOX, 725.08, 18"	625 CONDUIT, 2", 725.04	625 LIGHT POLE, DESIGN A8B30	625 LUMINAIRE, CONVENTIONAL, TYPE II, 250 WATT, 120V, 725.11	625 NO. 10 AWG POLE AND BRACKET CABLE	625 CONNECTOR KIT, TYPE II	625 CONNECTOR KIT, TYPE III	625 STRUCTURE JUNCTION BOX	625 NO. 4 AWG 600 VOLT DISTRIBUTION CABLE
				EACH	EACH	EACH	EACH	FT.	EACH	EACH	EACH	EACH	EACH	EACH	FT.
1	STA. REF. TO INDIANOLA AVE.														
2	50+01.61		RT			4			1	1	110	1	1	1	
3	50+03		LT		1										
4	50+06.61	51+18	RT					112							244
5	51+18		RT	20			1								
	TOTAL THIS SHEET			20	1	4	1	112	1	1	110	1	1	1	244

QUANTITIES CARRIED TO GENERAL SUMMARY, SEE SHEET 20,21.

LIGHTING KEY

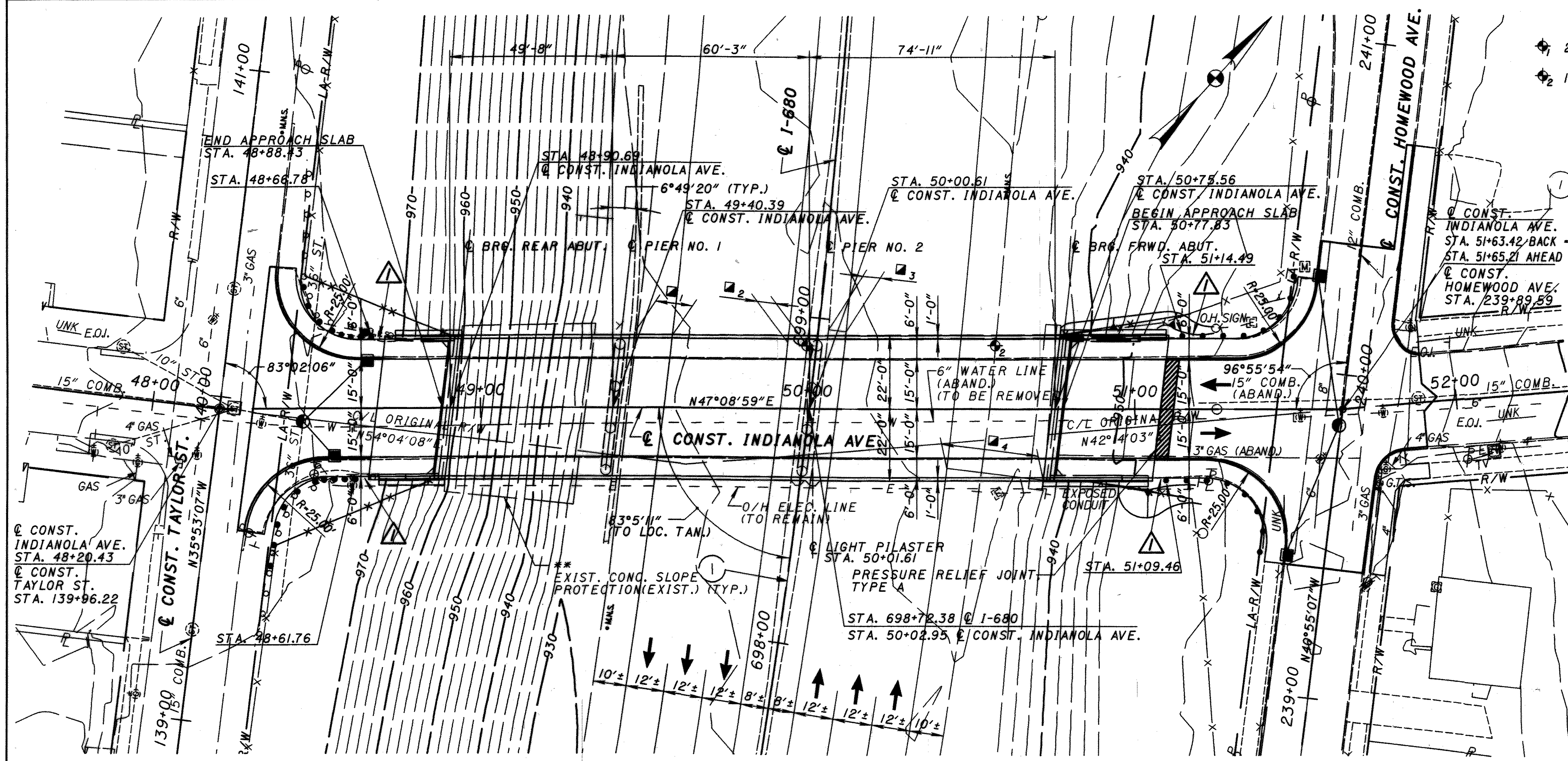
- BRIDGE MOUNTED LIGHT POLE 250 WATT HPS TYPE II DISTRIBUTION
- PROPOSED PULLBOX
- 2" CONDUIT IN PARAPET
- EXISTING PULLBOX
- EXISTING DUCT CABLES
- STRUCTURE GROUND SUPPORT
- EXISTING LIGHT POLE

0 10 20 40 HORIZONTAL SCALE IN FEET

CALCULATED CWL CHECKED JZ

LIGHTING PLAN INDIANOLA AVENUE

MAH-680-8.18



VERTICAL CLEARANCE

1	20.75' EXIST. ACTUAL	22.63' PROP. ACTUAL	15.50' REQ'D
2	13.97' EXIST. ACTUAL	16.39' PROP. ACTUAL	15.50' REQ'D

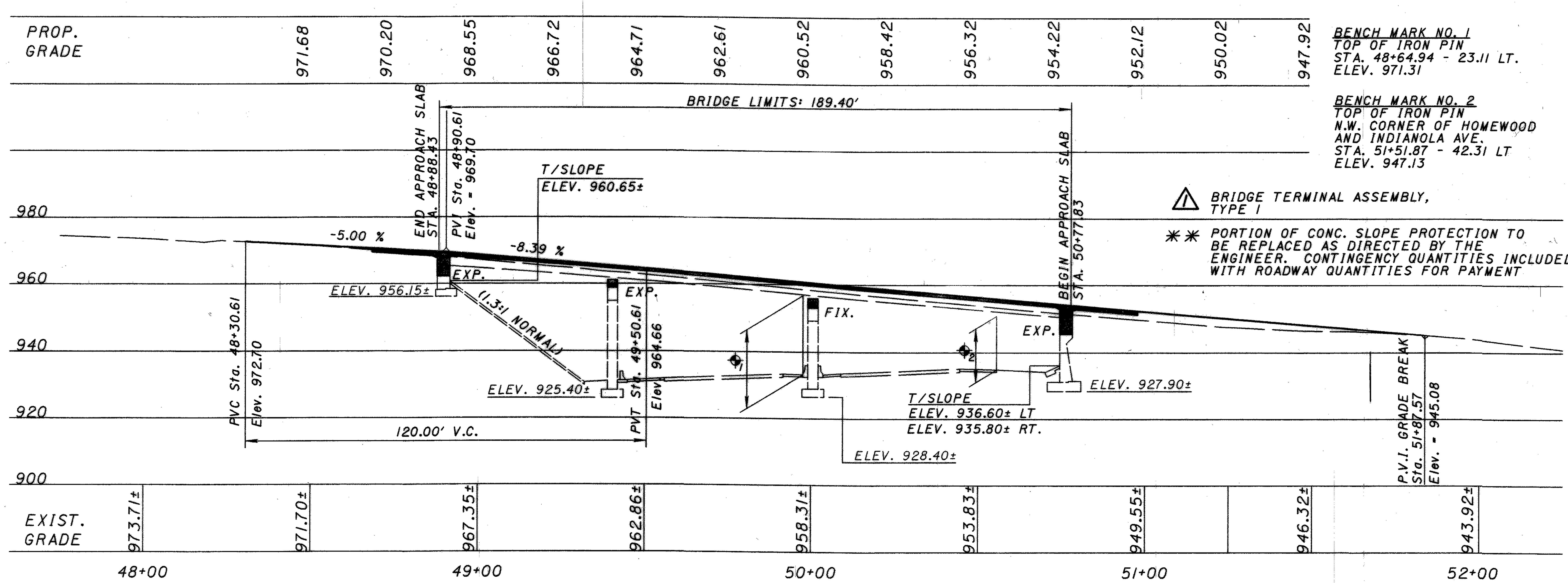
HORIZONTAL CLEARANCE

1	11.70' ACTUAL	12.00' REQ'D
2	5.03' ACTUAL	12.00' REQ'D
3	4.93' ACTUAL	12.00' REQ'D
4	24.44' ACTUAL	12.00' REQ'D

TRAFFIC DATA: ADT (2004) 6930
ADTT (2004) 139
ADT (2024) 7200
ADTT (2024) 144

EXISTING STRUCTURE

TYPE:	CONTINUOUS STEEL BEAMS (ASTM A36 STEEL) WITH REINFORCED CONCRETE DECK SLAB AND SUBSTRUCTURE
SPANS:	49'-8"±, 60'-3"±, 74'-11"± C/C BEARINGS
ROADWAY:	30'-0"± FACE TO FACE CURBS, WITH 6'-0" SIDEWALK (LEFT AND RIGHT)
LOADING:	HS20-44
SKEW:	6° 49' 20"± LF
ALIGNMENT:	TANGENT
CROWN:	0.0156± FT/FT
WEARING COURSE:	ASPHALT CONCRETE
APPROACH SLABS:	20'-0"± (AS-1-67)
DATE BUILT:	1973
SFN:	5007429



PROFILE ALONG ℄ CONST. INDIANOLA AVE.

PROPOSED STRUCTURE

PROPOSED WORK:	REMOVE EXISTING DECK SLAB. JACK AND PROVIDE TEMPORARY SUPPORT FOR EXISTING BEAMS. MODIFY EXISTING PIER CAPS TO RAISE BEAM SEATS. MODIFY EXISTING ABUTMENTS TO SEMI-INTEGRAL DESIGN. SET NEW BEARINGS. TRANSFER EXISTING BEAMS TO MODIFIED SUBSTRUCTURE UNITS. INSTALL SHEAR CONNECTORS. REPLACE DECK SLAB. MODIFY WINGWALLS. SPOT PAINT EXISTING STEEL, SEAL CONCRETE SURFACES.
TYPE:	CONTINUOUS COMPOSITE STEEL BEAMS WITH REINFORCED CONCRETE DECK SLAB AND SUBSTRUCTURE (EXISTING BEAMS AND SUBSTRUCTURE UNITS SALVAGED)
SPANS:	49'-8", 60'-3", 74'-11" C/C BEARINGS
ROADWAY:	30'-0" FACE TO FACE CURBS, WITH 6'-0" SIDEWALK (LEFT AND RIGHT)
LOADING:	HS20-44 (CASE II) AND ALTERNATE MILITARY LOADING. F.W.S. - 60 PSF.
SKEW:	6° 49' 20" LF
ALIGNMENT:	TANGENT
CROWN:	0.0156 FT/FT
WEARING COURSE:	MONOLITHIC CONCRETE
APPROACH SLAB:	20'-0" (AS-1-81 MODIFIED) R.A. 30'-0" (AS-1-81 MODIFIED) F.A.
STRUCTURE COORDINATES:	LAT. N 41° 04' 33" LONG. W 80° 37' 35"

DESIGN AGENCY: GPD ASSOCIATES

REVIEWED K.S.J.	DATE 12-10-02
	STRUCTURE FILE NUMBER 5007429
DRAWN R.P.R.	REVISED
DESIGNED B.J.M.	CHECKED L.P.C.

MAHONING COUNTY
STA. 48+88.43
STA. 50+77.83

SITE PLAN

BRIDGE NO. MAH - 680 - 0818
INDIANOLA AVE. OVER I-680

MAH-680-8.18

1/20

48/67

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DESIGN SPECIFICATIONS

THE PROPOSED REHABILITATION WORK FOR 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 DATA

DESIGN LOADING:	HS 20–44 (CASE II) AND THE ALTERNATE MILITARY LOADING FUTURE WEARING SURFACE (FWS) OF 60 PSF
HIGH PERFORMANCE CONCRETE HPC:	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.
DECK PROTECTION METHOD:	EPOXY COATED REINFORCING STEEL, 2 1/2" CONCRETE COVER, HIGH PERFORMANCE CONCRETE.
MONOLITHIC WEARING SURFACE:	MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1" THICK

REFERENCES

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

NO. AS–1–81 REVISED 07–19–02
NO. HL–20.14 DATED 01–17–03
NO. HL–30.32 DATED 04–19–02
NO. SICD–1–96 REVISED 07–19–02
NO. VPF–1–90 REVISED 07–19–02

AND TO SUPPLEMENTAL SPECIFICATIONS:

864 DATED 07–11–00
954 DATED 09–09–97

EXISTING STRUCTURE PLANS

THE EXISTING STRUCTURE PLANS (PROJECT NO. MAH–680–6.98) ARE ON FILE AND MAY BE REVIEWED IN THE OFFICE OF THE ODOT DISTRICT 4 DEPUTY DIRECTOR, 705 OAKWOOD ST., RAVENNA, OHIO 44266

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION IN THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE STATE OF OHIO DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS.

UTILITY LINES

THE UTILITIES SHALL BEAR ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITIES ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

PROPOSED WORK

1. REMOVE ENTIRE EXISTING DECK ABOVE THE BEAMS, INCLUDING ASPHALT CONCRETE WEARING SURFACE, EXPANSION JOINTS, SCUPPERS AND LIGHTING POLE.
2. REMOVE EXISTING APPROACH SLABS.
3. REMOVE EXISTING ABUTMENT BACKWALLS AND PORTIONS OF WINGWALLS.
4. REMOVE EXISTING END CROSSFRAMES.
5. WELD SHEAR CONNECTORS TO EXISTING BEAMS.
6. RAISE EXISTING BEAMS, REMOVE BEARINGS AND CONSTRUCT ABUTMENT AND PIER BRIDGE SEAT CAPS.
7. FIELD DRILL HOLES IN BEAM ENDS AS PER PLAN.
8. SET NEW LAMINATED ELASTOMERIC BEARINGS WITH LOAD PLATE AND HP 10X42 STEEL SHAPE AT ABUTMENTS AND WITH LOAD PLATE AT PIERS, AND PLACE BEAMS ON BEARINGS.
9. CONSTRUCT DECK AS PER PLAN.
10. RECONSTRUCT ABUTMENT BACKWALLS AND PORTIONS OF WINGWALLS AS PER PLAN.
11. PATCH PORTIONS OF ABUTMENTS AND PIERS AS REQUIRED.
12. SEAL CONCRETE SURFACES AS PER PLAN.
13. CONSTRUCT APPROACH SLABS AS PER PLAN.
14. INSTALL VANDAL FENCE.
15. REPAIR CONCRETE SLOPE PROTECTION.
16. SPOT PAINT EXISTING AND NEW STEEL.

PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

DESCRIPTION: THIS WORK SHALL CONSIST OF THE REMOVAL OF CONCRETE DECK INCLUDING CURBS, PARAPETS, RAILINGS, LIGHT POLE, DECK JOINTS, SCUPPERS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, CROSS FRAMES, ETC.), END CROSSFRAMES AND PORTIONS OF THE ABUTMENTS AND WINGWALLS TO THE LIMITS INDICATED IN THE PLANS. CARE SHALL BE TAKEN DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. IN THIS RESPECT, THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE–RAM TYPE OF EQUIPMENT IS PROHIBITED.

PROTECTION OF TRAFFIC: PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR FOR APPROVAL. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK SHALL BE DRAWN ON THE SURFACE OF THE DECK. SMALL DIAMETER PILOT HOLES SHALL BE DRILLED 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. DURING CUTTING OF THE DECK SLAB, CARE SHALL BE TAKEN NOT TO DAMAGE STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE.

REMOVAL METHODS: CONCRETE MAY BE REMOVED BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STEEL BEAMS, A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS MAY BE USED AT THE APPROVAL OF THE ENGINEER. REMOVAL METHODS OVER BRIDGE MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING OF THE PRIMARY STEEL MEMBERS.

DECK REMOVALS: DUE TO THE POSSIBLE PRESENCE OF WELDED ATTACHMENTS TO EXISTING STRUCTURAL STEEL (FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) CARE SHALL BE TAKEN DURING DECK REMOVAL TO AVOID DAMAGING STRINGERS WHICH ARE TO REMAIN. STRINGERS DAMAGED BY THE CONTRACTOR'S REMOVAL OPERATIONS SHALL, AT NO COST TO THE PROJECT, BE REPLACED OR REPAIRED. PROPOSED REPAIRS, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER, SHALL BE SUBMITTED IN WRITING FOR REVIEW AND APPROVAL BY THE DIRECTOR.

SUBSTRUCTURE CONCRETE REMOVAL: SHALL BE 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, HAMMERS NOT EXCEEDING 90 POUNDS., MAY BE USED UPON THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THE JOINT SURFACE AND EXPOSED REINFORCEMENT SHALL BE THOROUGHLY CLEANED 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 CONCRETE SURFACES WHICH NEW CONCRETE WILL BE PLACED AGAINST SHALL BE WET, BUT WITHOUT FREE WATER, AT THE TIME OF CONCRETE PLACEMENT.

EXTRANEOUS MEMBERS: EXISTING EXTRANEOUS MEMBERS (I.E., FINISHING MACHINE AND FORM SUPPORTS AND THE SUPPORT FOR SCUPPERS WHICH ARE TO BE REMOVED) ATTACHED BY WELDED CONNECTIONS TO PORTIONS OF THE TOP FLANGES DESIGNATED "TENSION" SHALL BE REMOVED AND THE FLANGE SURFACES GROUND SMOOTH. GRINDING SHALL BE CAREFULLY DONE AND PARALLEL TO THE FLANGES.

LOADING LIMITATIONS: NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF THE ALLOWABLE UNIT STRESSES GIVEN IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. STRUCTURAL ANALYSIS COMPUTATIONS, BY AN OHIO REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE CONTRACTOR'S METHODS OR EQUIPMENT SHALL BE SUBMITTED TO THE DIRECTOR FOR REVIEW AND APPROVAL AT LEAST TWO WEEKS PRIOR TO THE START OF THE WORK.

PAYMENT: THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THESE REQUIREMENTS, WITH PERTINENT PROVISIONS OF 202, AND TO THE SATISFACTION OF THE ENGINEER.

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 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 WHICH HAVE BEEN VERIFIED IN THE FIELD.

SEALING OF CONCRETE SURFACES

EPOXY–URETHANE SHALL BE THE "LIGHT NEUTRAL" COLOR MEETING FEDERAL COLOR STANDARD NO. 17778 AS PER THE DETAILS IN THE PLANS.

ASBESTOS NOTIFICATION:

AN ASBESTOS SURVEY OF THE INDIANOLA AVE. BRIDGE OVER I–680 SCHEDULED FOR REHABILITATION WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE BRIDGE.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF 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
OAK HILL/RENAISSANCE PLACE
SECOND FLOOR, ROOM 25
345 OAK HILL AVENUE
YOUNGSTOWN, OHIO 44502
ROBERT RAMHOFF, DIRECTOR
(330)744–1928
FAX (330)744–1928

AT LEAST TEN (10) WORKING DAYS PRIOR TO START OF THE BRIDGE DEMOLITION WORK, THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER.

INFORMATION REQUIRED ON THE FORM WILL INCLUDE: THE CONTRACTOR'S NAME AND ADDRESS, THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL OR RENOVATION AND A DESCRIPTION OF THE PLANNED DEMOLITION OR RENOVATION WORK AND THE METHOD(S) TO BE USED. A COPY OF THE OEPA FORM IS AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 4 OFFICE, 705 OAKWOOD STREET, RAVENNA, OHIO 44266.

BASIS FOR PAYMENT: THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202 – PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN.

REQUIRED MINIMUM BAR LAP LENGTHS *

BAR SIZE	OTHER	TOP
#4	1'–11"	2'–9"
#5	2'–5"	3'–5"
#6	2'–11"	4'–1"
#7	3'–8"	5'–2"
#8	4'–11"	6'–10"
#9	6'–2"	8'–8"
#10	7'–10"	11'–0"
#11	9'–8"	13'–6"

* UNLESS NOTED OTHERWISE IN PLANS.

INSPECTION OF EXISTING STRUCTURAL STEEL

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

ABBREVIATIONS

B.S.	BOTH SIDES	U.N.	UNLESS NOTED
N.S.	NEAR SIDE	SPL.	SPLICE
F.S.	FAR SIDE	CLR.	CLEAR
SER.	SERIES	EA.	EACH
TYP.	TYPICAL	MIN.	MINIMUM
EQ.	EQUAL	EXIST.	EXISTING
DIM.	DIMENSION	BM.	BEAM
SPA.	SPACES	BOT.	BOTTOM
FRWD.	FORWARD	P.E.J.F.	PREFORMED EXPANSION JOINT FILLER
ABUT.	ABUTMENT		
REHAB.	REHABILITATION	PERF.	PERFORATED
VAR.	VARIES	C.P.P.	CORRUGATED PLASTIC PIPE
SIM.	SIMILAR		
OPP.	OPPOSITE		

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DESIGN AGENCY
GPD ASSOCIATES
GLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
320 South Main Street, Suite 333, Akron, Ohio 44311
330.572.2100 Fax 330.572.2101

DESIGNED B.J.M. | DRAWN R.H.C. | REVIEWED K.S.J. | DATE 8–1–03
CHECKED P.J.W. | REVISED | STRUCTURE FILE NUMBER 5007429

STRUCTURE GENERAL NOTES
BRIDGE NO. MAH – 680 – 0818
INDIANOLA AVE. OVER I–680

MAH–680–8.18

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.

SUBMITTAL REQUIREMENTS: AN OHIO REGISTERED ENGINEER SHALL PREPARE, SEAL AND DATE PLANS FOR A JACKING SYSTEM, INCLUDING ANY TEMPORARY OR PERMANENT SUPPORTS, SUFFICIENT TO PERFORM THE WORK DESCRIBED IN THE PLANS. SUBMIT THREE SETS OF THESE PLANS TO THE DIRECTOR FOR APPROVAL AT LEAST THIRTY (30) DAYS BEFORE ACTUAL WORK IS TO BEGIN.

JACKING SUBMITTALS SHALL INCLUDE AT LEAST THE FOLLOWING:

1. THE SIGNATURE AND NUMBER, OR PROFESSIONAL SEAL, OF THE OHIO REGISTERED PROFESSIONAL ENGINEER WHO PREPARED THE SUBMITTAL.
2. CALCULATIONS AND ANALYSES OF THE STRUCTURE TO DETERMINE AND DEFINE THE ACTUAL LOADING APPLIED AT THE JACKING POINTS.
3. A DRAWING SHOWING THE PHYSICAL AND DIMENSIONAL POSITION OF THE JACKS WITH RESPECT TO THE STRUCTURE INCLUDING CLEARANCES AND CENTER OF LIFT.
4. A SCHEMATIC LAYOUT OF JACKS, CHECK VALVES, PUMPS WITH 3 WAY RETRACTOR VALVE, PRESSURE GAGES, FLOW CONTROL VALVES, ETC. IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. ALL JACKS FOR EACH ABUTMENT OR PIER SHALL BE CONNECTED TOGETHER. ALL JACKS AT EACH ABUTMENT OR PIER SHALL BE THE SAME SIZE.
5. ANALYSIS AND CALCULATIONS OF THE STRESSES INDUCED OR CREATED IN THE STRUCTURE AND ANY TEMPORARY OR PERMANENT SUPPORTS. DESIGN CALCULATIONS FOR ANY TEMPORARY OR PERMANENT SUPPORTS.
6. PHYSICAL DIMENSIONS, MATERIALS, AND FABRICATION DETAILS OF ANY TEMPORARY OR PERMANENT SUPPORTS. HORIZONTAL AND VERTICAL MOVEMENT RESTRAINT SHALL BE PROVIDED.
7. A STEP BY STEP PROCEDURE DETAILING ALL STEPS IN THE JACKING OPERATION.
8. METHOD OF ATTACHMENT TO STRUCTURAL MEMBERS. WELDING TO TENSION AREAS WILL NOT BE PERMITTED.

JACKING SYSTEM REQUIREMENTS:

THE ENTIRE SYSTEM INCLUDING JACKS SHALL HAVE 20% MORE CAPACITY THAN REQUIRED BASED ON CALCULATED LOADS. FOR LIFTS GREATER THAN 1 INCH, JACKS SHALL HAVE LOCKING NUTS TO POSITIVELY LOCK AND SUPPORT THE STRUCTURE DURING THE LIFT. JACKS SHALL HAVE A SWIVEL LOAD CAP, A DOMED PISTON HEAD OR SOME OTHER DEVICE TO PROTECT AGAINST THE EFFECTS OF SIDE LOAD ON THE JACK. DO NOT USE JACKS ALONE TO SUPPORT LOADS EXCEPT DURING THE ACTUAL JACKING OPERATION. USE TEMPORARY SUPPORTS, BLOCKING OR OTHER METHODS APPROVED BY THE DIRECTOR. DO NOT USE SINGLE ACTING RAMS WITH NO OVER-TRAVEL PROTECTION SYSTEM. HAVE SPARE EQUIPMENT AVAILABLE ON SITE IN ORDER TO PROCEED WITH THE JACKING IN THE EVENT OF BREAKDOWN. PROVIDE A LIST OF SPARE EQUIPMENT TO THE ENGINEER.

JACKING OPERATION REQUIREMENTS:

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 OR REHABILITATING INDIVIDUAL BEARINGS; NO PERMANENT SHIMMING IS REQUIRED 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 LIMIT 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, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH ODOT'S PROPOSAL NOTE "CONCRETE REPAIR BY EPOXY INJECTION". 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.

METHOD OF MEASUREMENT:

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

BASIS OF PAYMENT:

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

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

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

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

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

DESCRIPTION OF TEST	ASTM METHOD	REQUIREMENT
THICKNESS, INCHES	D 751	0.094" +/- .01
BREAKING STRENGTH, GRAB, LBS, MIN.(LONG X TRANS.)	D 751	700 X 700
ADHESIVE STRIP, 1" WIDE X 2" LONG, LBS. MIN.	D 751	9
BURST STRENGTH PSI, MIN.	D 751	1400
HEAT AGING 70 HOURS, 212° F , 180° BEND WITHOUT CRACKING	D 2136	NO CRACKING OF COATING
LOW TEMPERATURE BRITTLENESS, 1 HR, -40° F, BEND AROUND 1/4" MANDREL	D 2136	NO CRACKING OF COATING

METHOD OF MEASUREMENT:

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

BASIS OF PAYMENT:

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

BONDING GROUT

THE BONDING GROUT TO BE USED BETWEEN OLD AND NEW CONCRETE WALLS AT THE FORWARD ABUTMENT SHALL BE "SIKA ARMATEC 110" AS MANUFACTURED BY SIKA CORPORATION, 201 POLITO AVENUE, LYNDHURST, NEW JERSEY 07071; "EUCO NO. 452 EPOXY SYSTEM" AS MANUFACTURED BY THE EUCLID CHEMICAL CO., 19218 REDWOOD ROAD, CLEVELAND, OHIO 44110; "CONCRESIVE STANDARD LIQUID" AS MANUFACTURED BY MASTER BUILDERS, INC., 23700 CHAGRIN BOULEVARD, CLEVELAND, OHIO 44122; OR AN APPROVED ALTERNATE. SURFACE PREPARATION MIXING AND PLACING OF GROUT SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTION. BONDING GROUT IS INCLUDED WITH ITEM 511, CLASS C CONCRETE, ABUTMENT.

ESTIMATED QUANTITIES

CALCULATED: R.H.C. DATE: 11/14/02
CHECKED: P.J.W. DATE: 7/24/03

	ITEM	EXT	TOTAL	UNITS	DESCRIPTION	ABUT	PIER	SUPER	GENERAL	A.P.P. REF. SHT. NO.
	202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	2
	503	21301	LUMP		UNCLASSIFIED EXCAVATION, AS PER PLAN	LUMP				
	509	10000	104,372	POUND	EPOXY COATED REINFORCING STEEL, GRADE 60	10,461	2,164	91,747		
	510	10000	373	EACH	DOWEL HOLES WITH NON-SHRINK, NON-METALLIC GROUT	265	108			
	511	43200	25	CU YD	CLASS C CONCRETE, PIER		25			
	511	45700	99	CU YD	CLASS C CONCRETE, ABUTMENT	99				
	511	50001	365	CU YD	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN			365		3
	511	50100	36	CU YD	CLASS HP CONCRETE, BRIDGE DECK (PARAPET)			36		
	513	20000	2,700	EACH	WELDED STUD SHEAR CONNECTORS			2,700		
▲	514	00050	1,000	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL				1,000	
▲	514	00056	1,000	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT				1,000	
▲	514	00060	1,000	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT				1,000	
▲	514	00066	1,000	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT				1,000	
	514	00101	LUMP		SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, PRESSURE WASHING, AS PER PLAN				LUMP	3
◑	514	00504	8	MAN HR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL				8	
	516	13600	16	SQ FT	1" PREFORMED EXPANSION JOINT FILLER			16		
	516	13900	182	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	182				
	516	14021	101	FT	SEMI-INTEGRAL ABUTMENT JOINT SEAL, AS PER PLAN	101				3
	516	44101	6	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (9"x 13"x 2.78" THICK), AS PER PLAN			6		12
	516	44101	6	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (10"x 16"x 2.30" THICK), AS PER PLAN			6		12
	516	44101	6	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (10.5"x 18"x 1.99" THICK), AS PER PLAN			6		12
	516	44101	6	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (9.5"x 14.5"x 2.94" THICK), AS PER PLAN			6		12
	516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				LUMP	3
	518	21230	LUMP		POROUS BACKFILL WITH FILTER FABRIC	LUMP				
◪	519	11101	199	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	70	63		66	3
	526	15001	98	SQ YD	REINFORCED CONCRETE APPROACH SLABS (T=13"), AS PER PLAN			98		18,19
	526	30001	147	SQ YD	REINFORCED CONCRETE APPROACH SLABS (T=17"), AS PER PLAN			147		18,19
	SPECIAL	60739930	471	FT	SPECIAL-VANDAL PROTECTION FENCE, 12' CURVED, COATED FABRIC			471		
	864	10100	1,223	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	226	309	688		

▲ ITEM 514 - AN ALLOWANCE OF 1,000 SQ. FT. HAS BEEN INCLUDED FOR SPOT PAINTING OF EXISTING STRUCTURAL STEEL.

◑ ITEM 514 - AN ALLOWANCE OF 8 MAN HOUR HAS BEEN INCLUDED FOR SPOT PAINTING OF EXISTING STRUCTURAL STEEL.

◪ ITEM 519 - AN ALLOWANCE OF 66 SQ. FT. HAS BEEN INCLUDED FOR FUTURE DETERIORATION.

CONCRETE PARAPETS

AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, SAW CUT 1 1/4 INCH DEEP CONTROL JOINTS INTO THE PERIMETER OF THE CONCRETE PARAPET STARTING AND ENDING AT SIDEWALK. PLACE THE SAWCUTS AT THE SPACINGS SHOWN 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 1/4 INCH. SEAL THE PERIMETER OF THE DEFLECTION CONTROL TO A MINIMUM DEPTH OF 1 INCH WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. LEAVE THE BOTTOM 1/2" OF THE INSIDE AND OUTSIDE FACE UNSEALED TO ALLOW WATER TO ESCAPE.

ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN

EXPANDED POLYSTYRENE FILLER OR REMOVABLE FORMS SHALL BE USED IN FORMING TO PROVIDE THE CLEARANCE REQUIRED BETWEEN THE ABUTMENT AND SUPERSTRUCTURE AND SHALL BE INCLUDED WITH ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN.

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN

THE BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE TYPE B GRANULAR MATERIAL, 703.16.C, PLACED AND COMPACTED IN 6 INCH LIFTS.

ITEM 514-SURFACE PREPARATION OF EXISTING STEEL, PRESSURE WASHING, AS PER PLAN

THIS WORK CONSISTS OF A PRESSURE WASHING OF THE ENTIRE EXISTING STEEL STRUCTURE IN ACCORDANCE WITH THE PROVISIONS LISTED IN 514.12 AND IS TO INCLUDE ALL LABOR AND MATERIALS TO COMPLETE THE WASHING. PRESSURE WASHING WILL OCCUR PRIOR TO ANY REQUIRED REPAIR PAINTING SURFACE PREPARATION AND REPAIR FIELD PAINTING. IT WILL BE THE CONTRACTORS RESPONSIBILITY TO SCHEDULE THE WASHING WITHIN THE GUIDELINES ESTABLISHED IN THE MAINTENANCE OF TRAFFIC PLAN UNLESS A SEPARATE SCHEDULE IS APPROVED BY THE ENGINEER.

ITEM 514 - FIELD PAINTING OF STRUCTURAL STEEL

THE CONTRACTOR SHALL MATCH EXISTING COLOR AND FINISH FOR AREAS TO BE SPOT PAINTED TO THE SATISFACTION OF THE ENGINEER. ODOT RECORDS INDICATE THAT THE STRUCTURE WAS PREVIOUSLY PAINTED WITH "BLUE" COLOR MEETING FEDERAL COLOR STANDARD NO. 15450.

ITEM 519, PATCHING CONCRETE STRUCTURE, AS PER PLAN

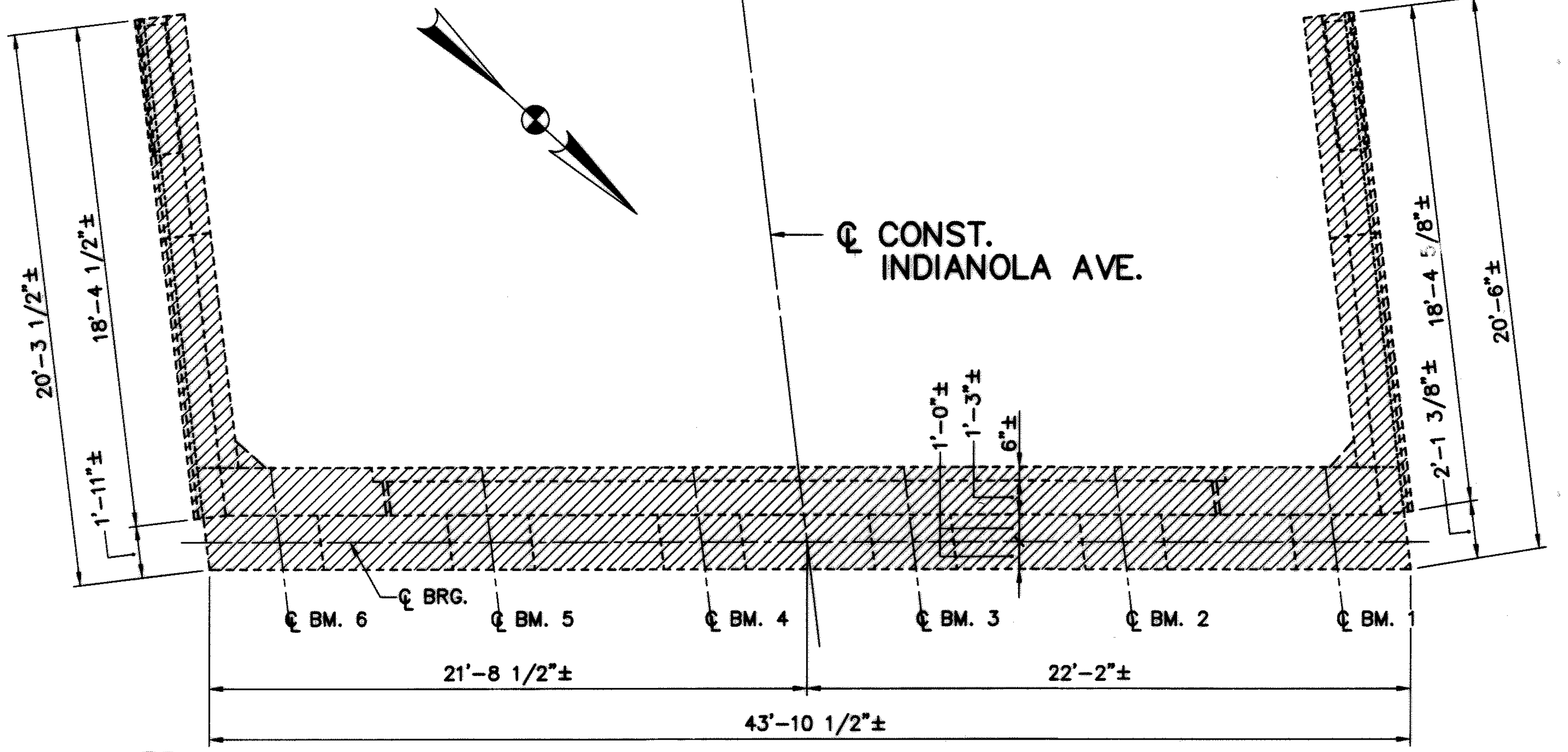
PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT,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

DESIGN AGENCY
GPD ASSOCIATES
GLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
2000 Huntington Building, 925 Euclid Avenue, Cleveland, Ohio 44115-1414
330-572-2100 • Fax 330-572-2101

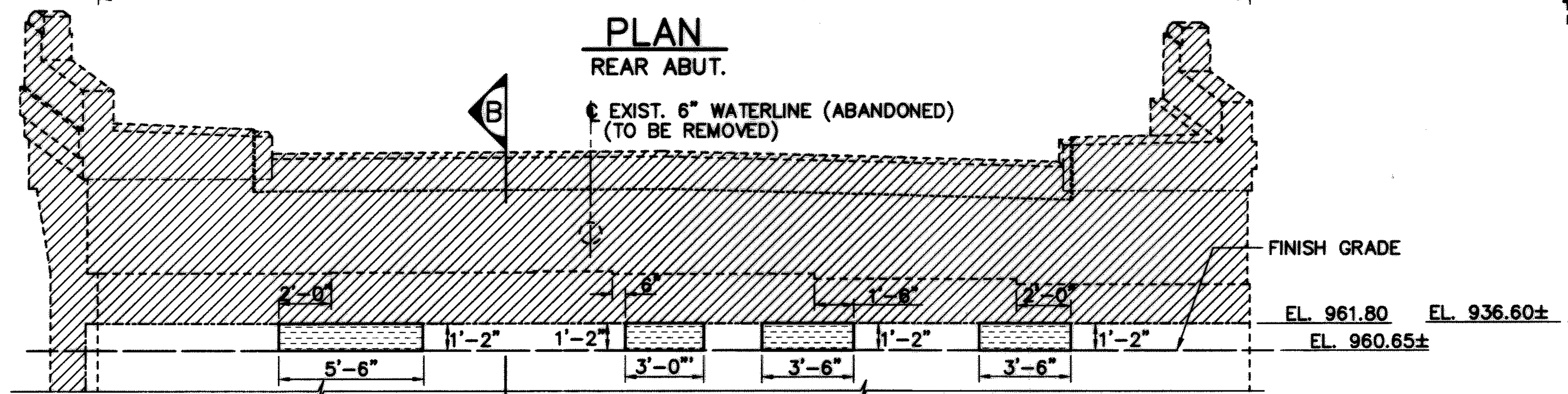
DESIGNED	DRAWN	REVIEWED	DATE
R.H.C.	R.H.C.	K.S.J.	8-1-03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
P.J.W.		5007429	

ESTIMATED QUANTITIES & STRUCTURE GENERAL NOTES
BRIDGE NO. MAH - 680 - 8.18
INDIANOLA AVE. OVER I-680

MAH-680-8.18



PLAN
REAR ABUT.



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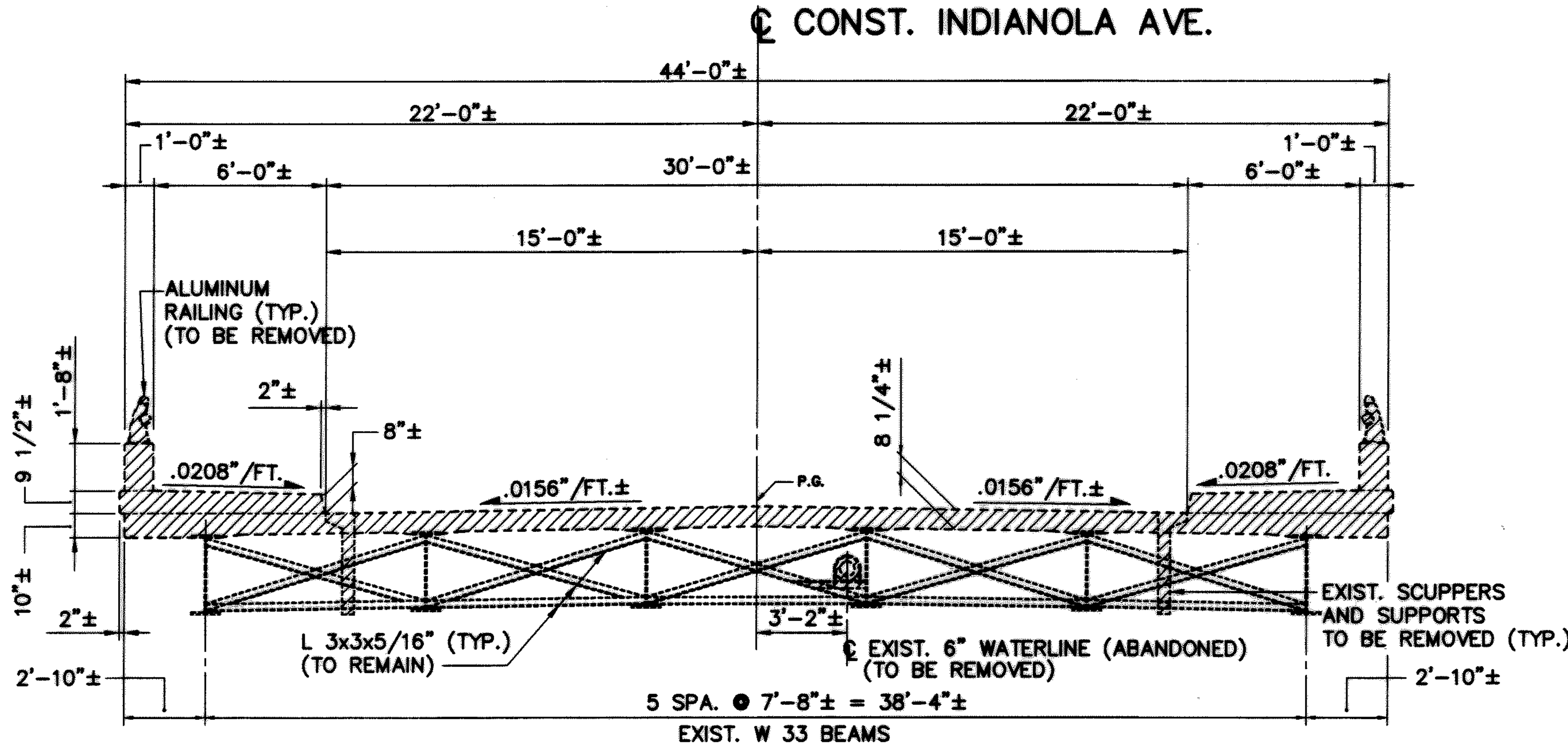
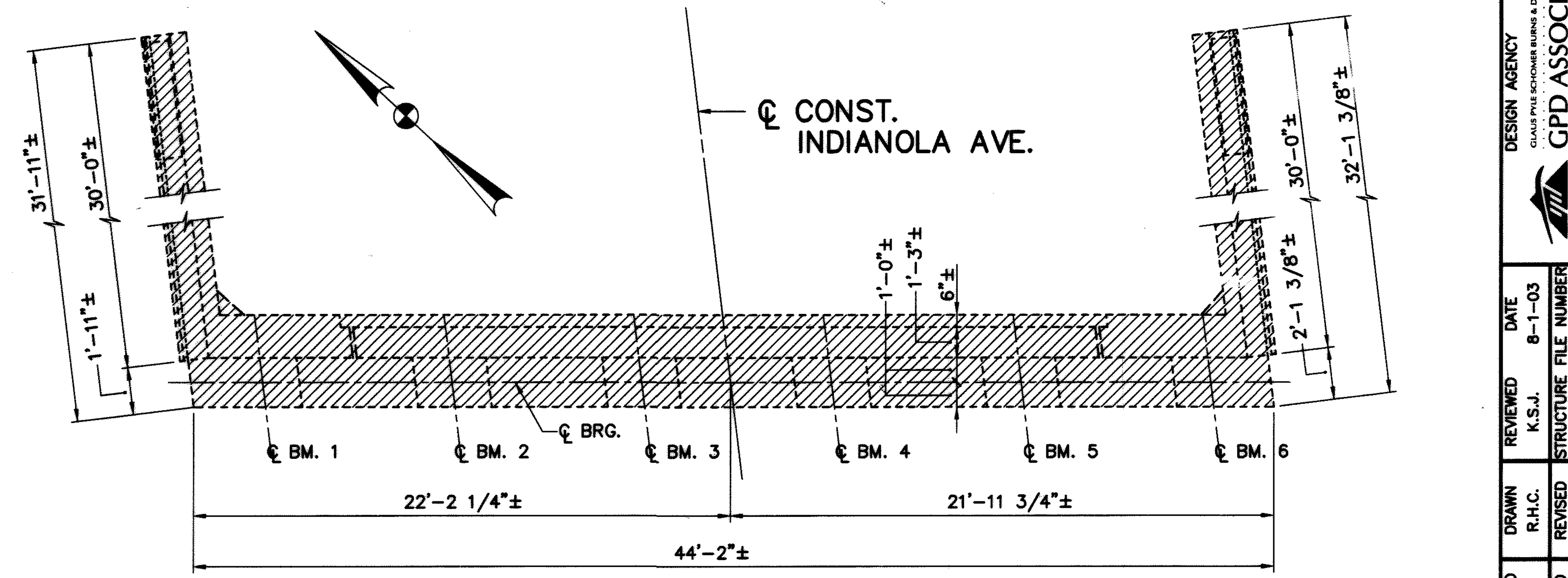
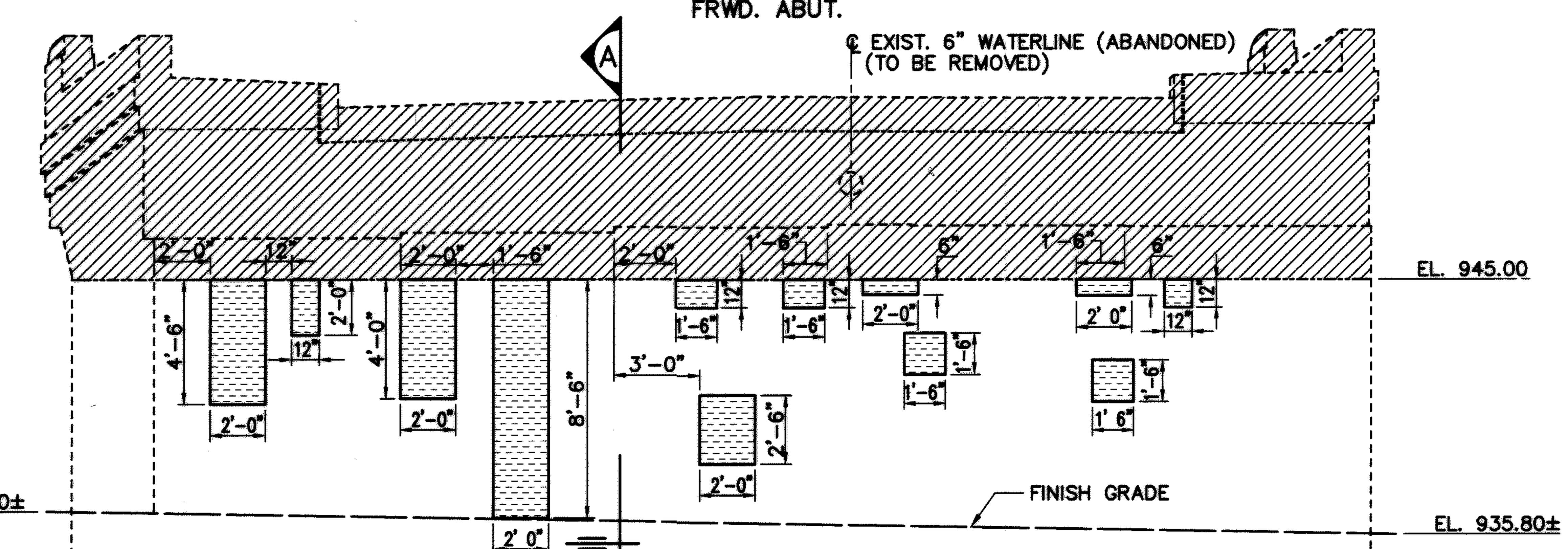
REAR ABUT.



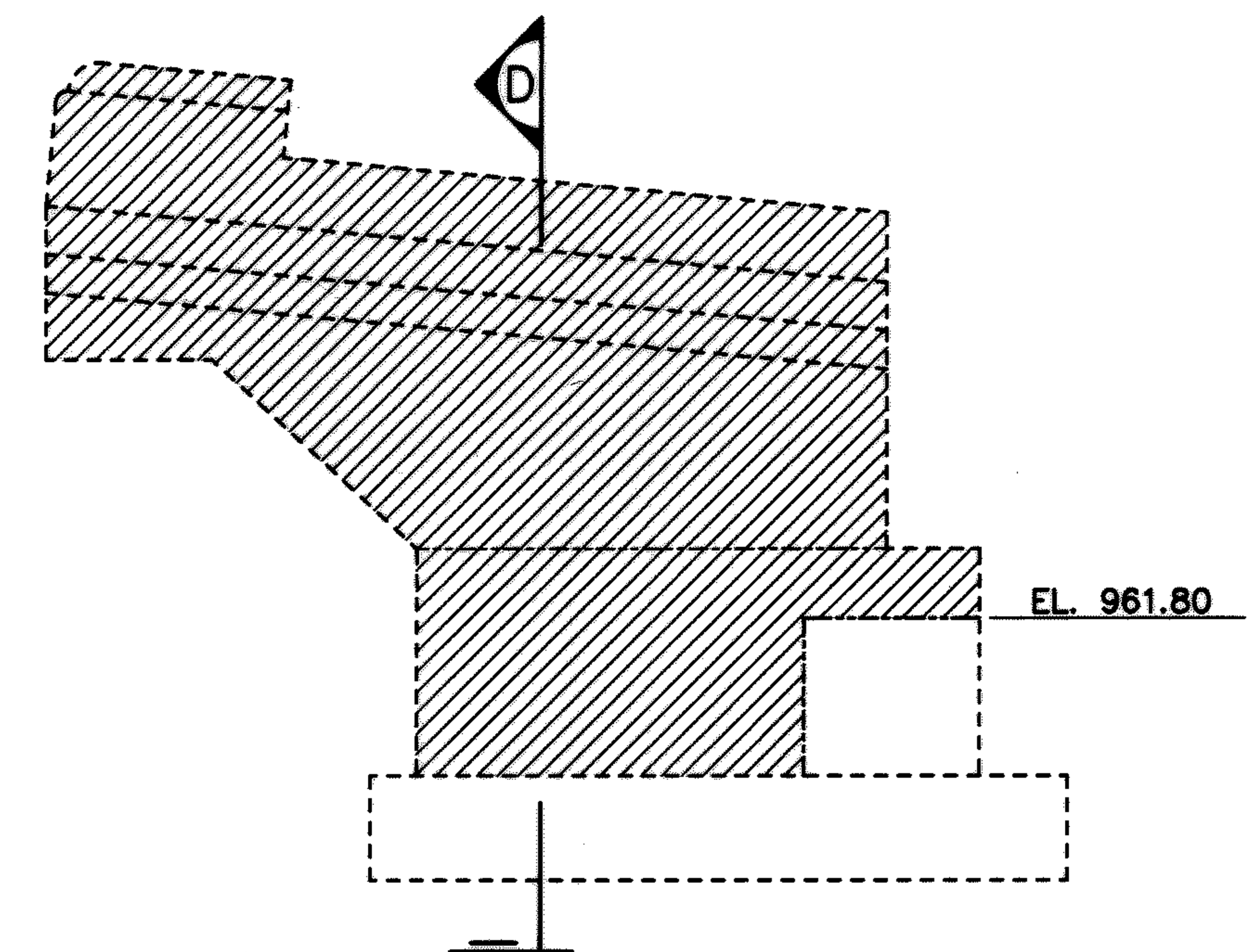
EXISTING TRANSVERSE SECTION



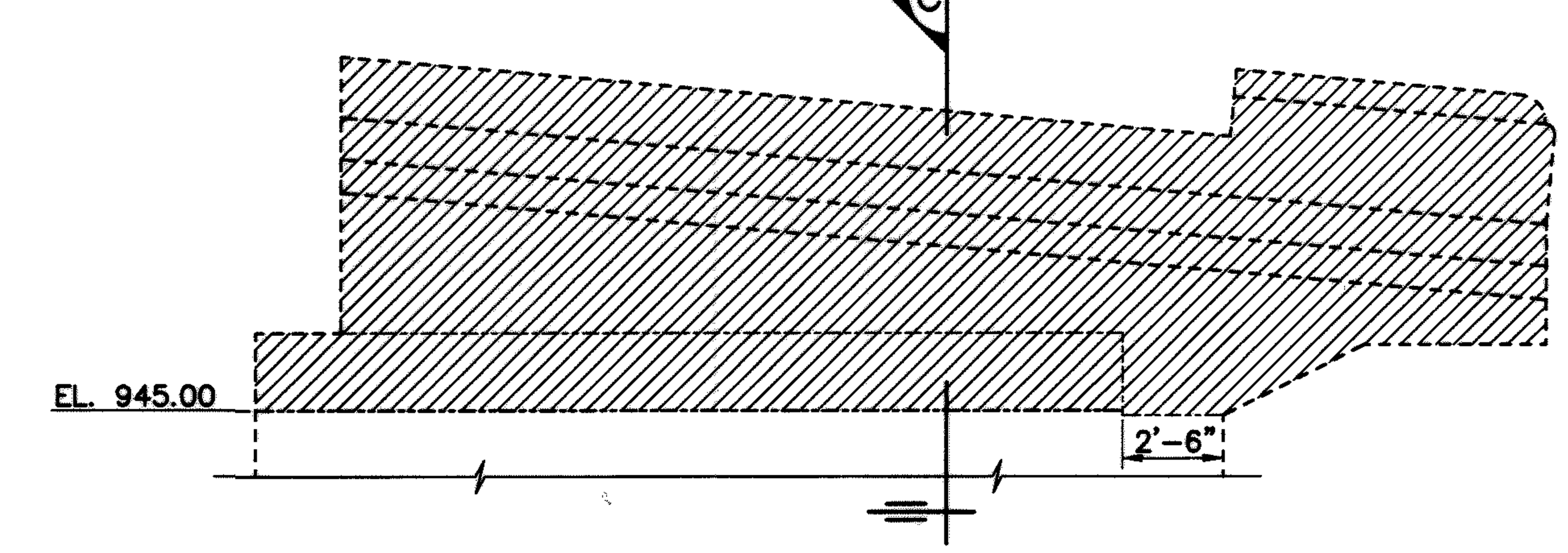
PLAN
FRWD. ABUT.



ELEVATION
FRWD. ABUT.



ELEVATION–S.E. WINGWALL
S.W. WINGWALL SIM. BUT OPP. HAND
NOTE: PIPE RAILING NOT SHOWN (TYP.)



ELEVATION–N.E. WINGWALL
N.W. WINGWALL SIM. BUT OPP. HAND

STRUCTURE INSPECTION
PERFORMED IN NOVEMBER, 2002.

NOTE
1. FOR PATCHING CONCRETE STRUCTURE NOTE, SEE SHT. NO. 3/20.
2. FOR SECTIONS A, B, C & D, SEE SHT. NO. 10/20.

LEGEND

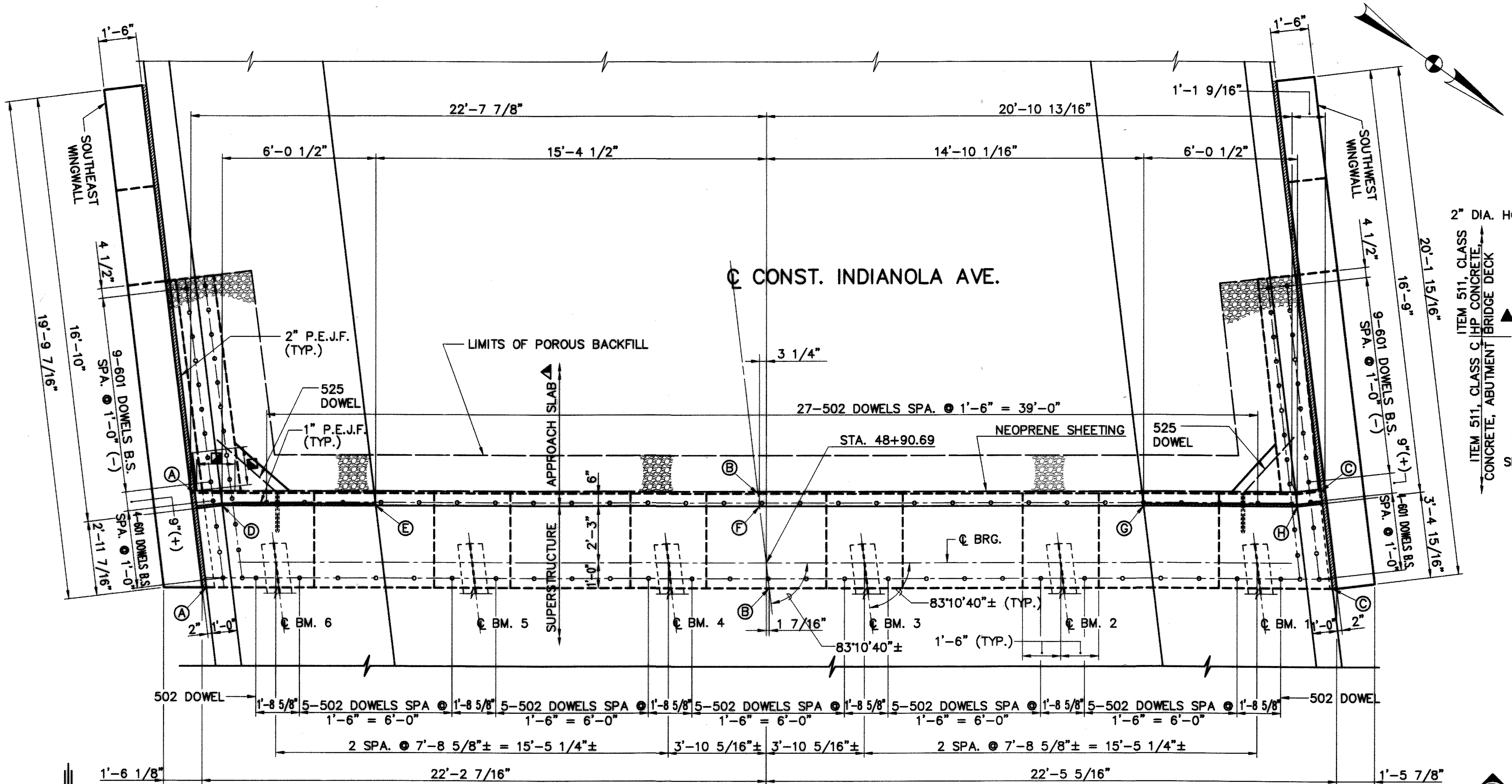
- INDICATES REMOVAL LIMITS, ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FT. SPAN, AS PER PLAN
- INDICATES AREA TO BE PATCHED PER ITEM 519, PATCHING CONCRETE STRUCTURE, AS PER PLAN

DESIGN AGENCY
CLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
GPD ASSOCIATES
520 South Main Street, Suite 2531 Akron, Ohio 44311
330-572-2100, Fax 330-572-2101

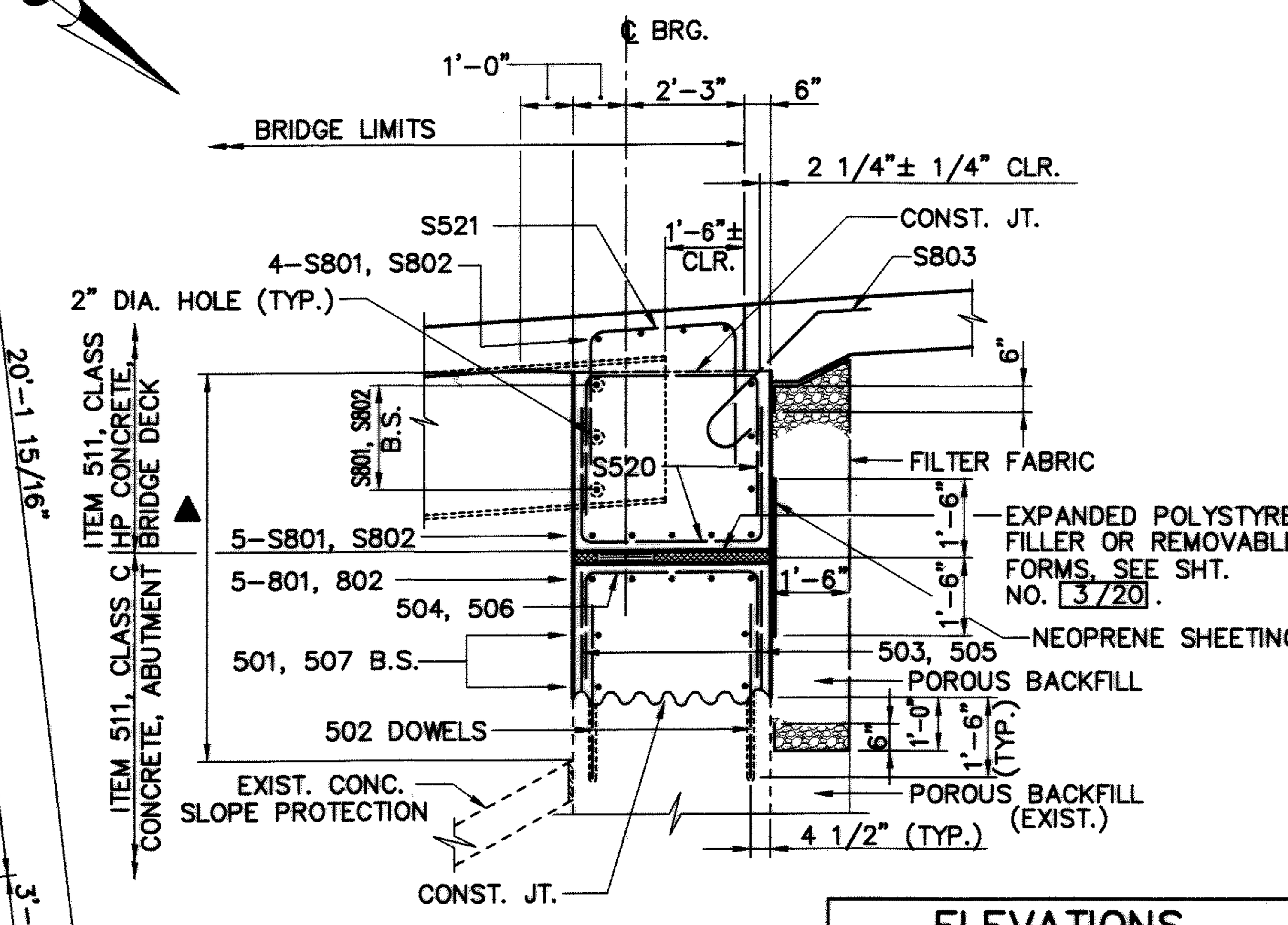
DESIGNED	DRAWN	REVIEWED	DATE
B.J.M.	R.H.C.	K.S.J.	8-1-03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
P.J.W.		5007429	

REMOVAL PLAN & REPAIR DETAILS
BRIDGE NO. MAH – 680 – 0818
INDIANOLA AVE. OVER I-680

MAH-680-8.18



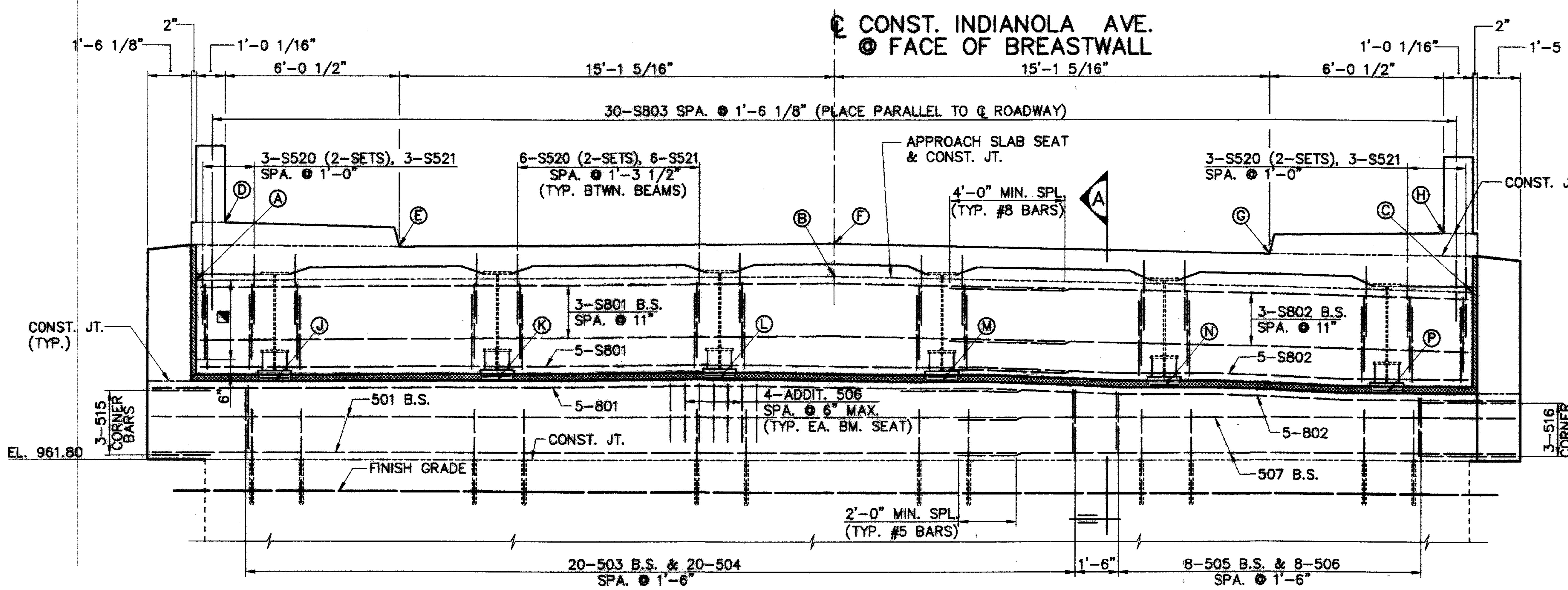
PLAN



SECTION A

ELEVATIONS

Ⓐ	Ⓑ	Ⓒ	Ⓓ
968.01	968.19	967.66	970.06
Ⓔ	Ⓕ	Ⓖ	Ⓗ
969.22	969.34	968.98	969.73
Ⓙ	Ⓚ	Ⓛ	Ⓜ
964.53	964.57	964.62	964.54
Ⓝ	Ⓟ		
964.34	964.15		



VIEW B

NOTES:

1. PREFIX "A" WILL BE ADDED TO ALL REBAR MARKS SHOWN FOR THE ABUTMENTS EXCEPT THOSE BARS PREFIXED WITH "S." SEE REINFORCING SCHEDULE.
2. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
3. MINIMUM CLEARANCE TO REBARS SHALL BE 2" UNLESS NOTED.
4. ABUTMENT DIAPHRAGM CONCRETE, STEEL SUPERSTRUCTURE: PLACE THE CONCRETE ENCASING THE STRUCTURAL STEEL MEMBERS WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE.
5. FOR BEARING DETAILS, SEE SHT. NOS. 12/20 & 13/20
6. FOR SLAB DETAILS, SEE SHT. NO. 15/20 . FOR RAILING DETAILS, SEE SHT. NO. 17/20 .
7. FOR SOUTHEAST & SOUTHWEST WINGWALL DETAILS, SEE SHT. NO. 6/20 .

LEGEND:

▲ LIMITS OF "ITEM 864-SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)"

◐ NEOPRENE SHEETING, 3'-0" WIDE, TO EXTEND FULL LENGTH OF BRG. SEAT PLUS 1'-6" LAP ONTO WINGWALL EA. END.

△ FOR APPROACH SLAB DETAILS, SEE SHT. NOS. 18/20 & 19/20 .

◪ INDICATES LIMITS OF VERTICAL NEOPRENE SHEETING, 3'-0" WIDE, TYP. AT ALL WINGWALLS.

DESIGN AGENCY: GPD ASSOCIATES

DESIGNED R.H.C.	CHECKED P.J.W.	DRAWN R.P.R.	REVISED	REVIEWED K.S.J.	DATE 8-01-03	STRUCTURE FILE NUMBER 5007429

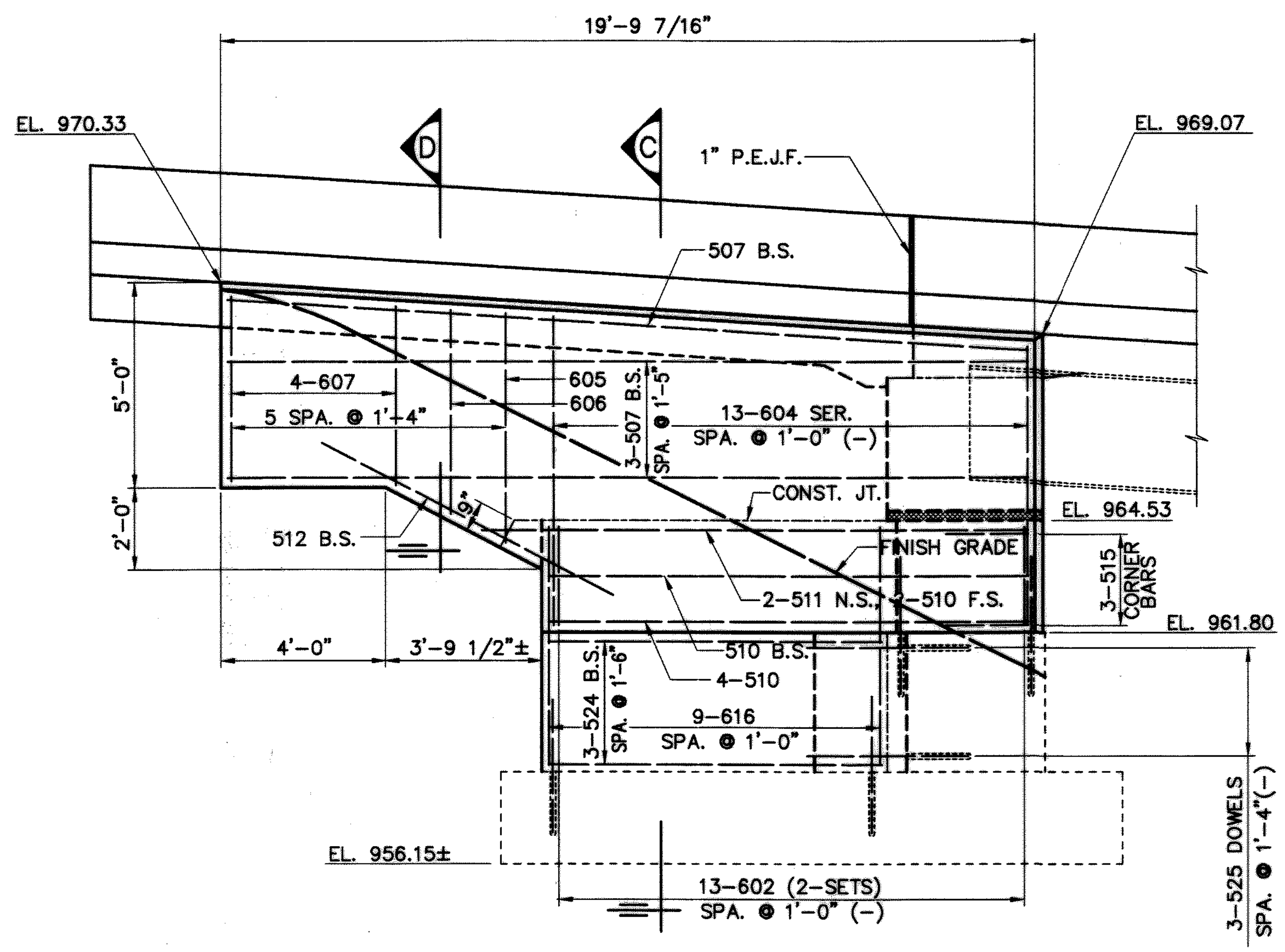
REAR ABUTMENT
BRIDGE NO. MAH - 680 - 0818
INDIANOLA AVE. OVER I-680

MAH-680-8.18

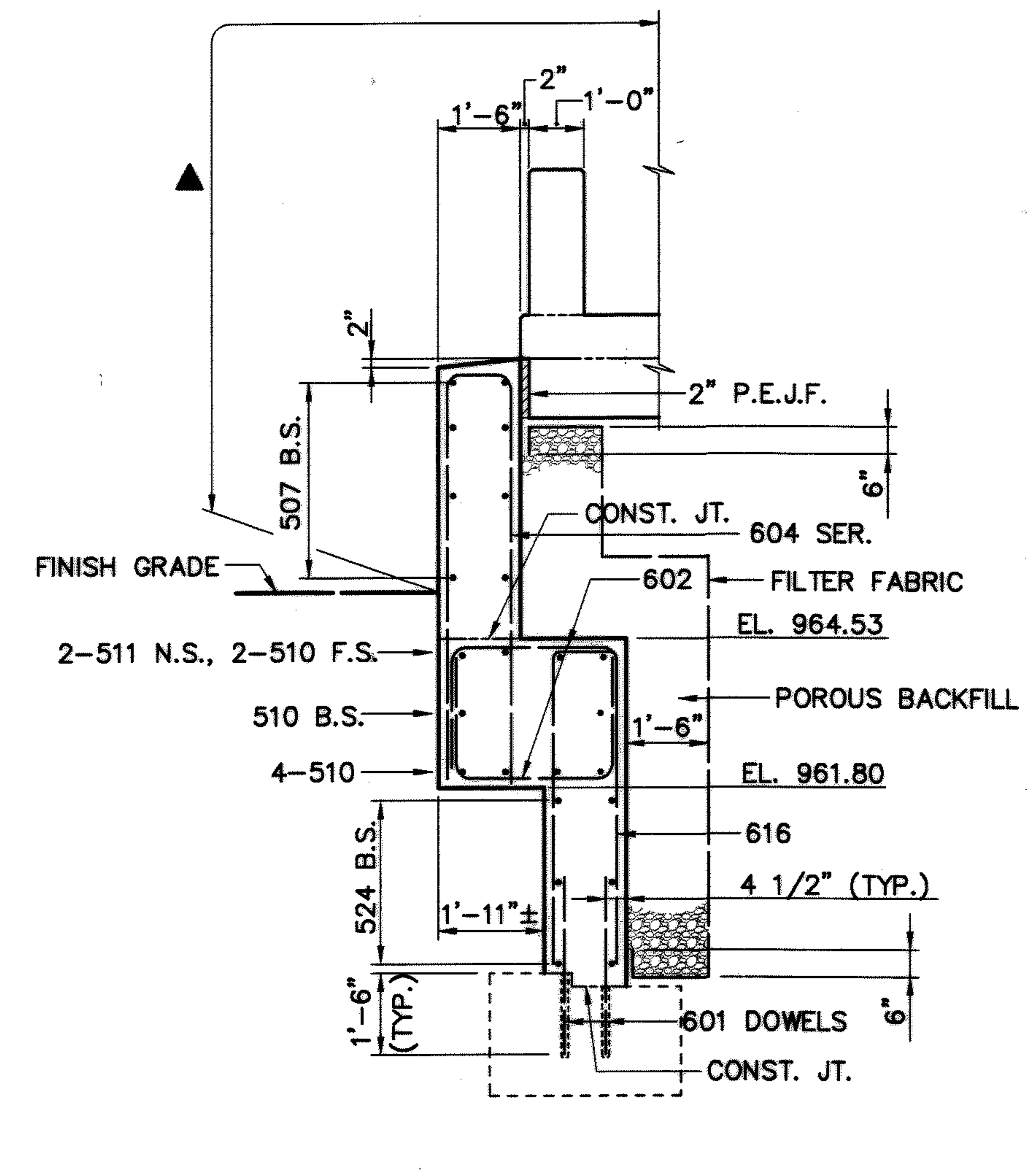
5/20

52/67

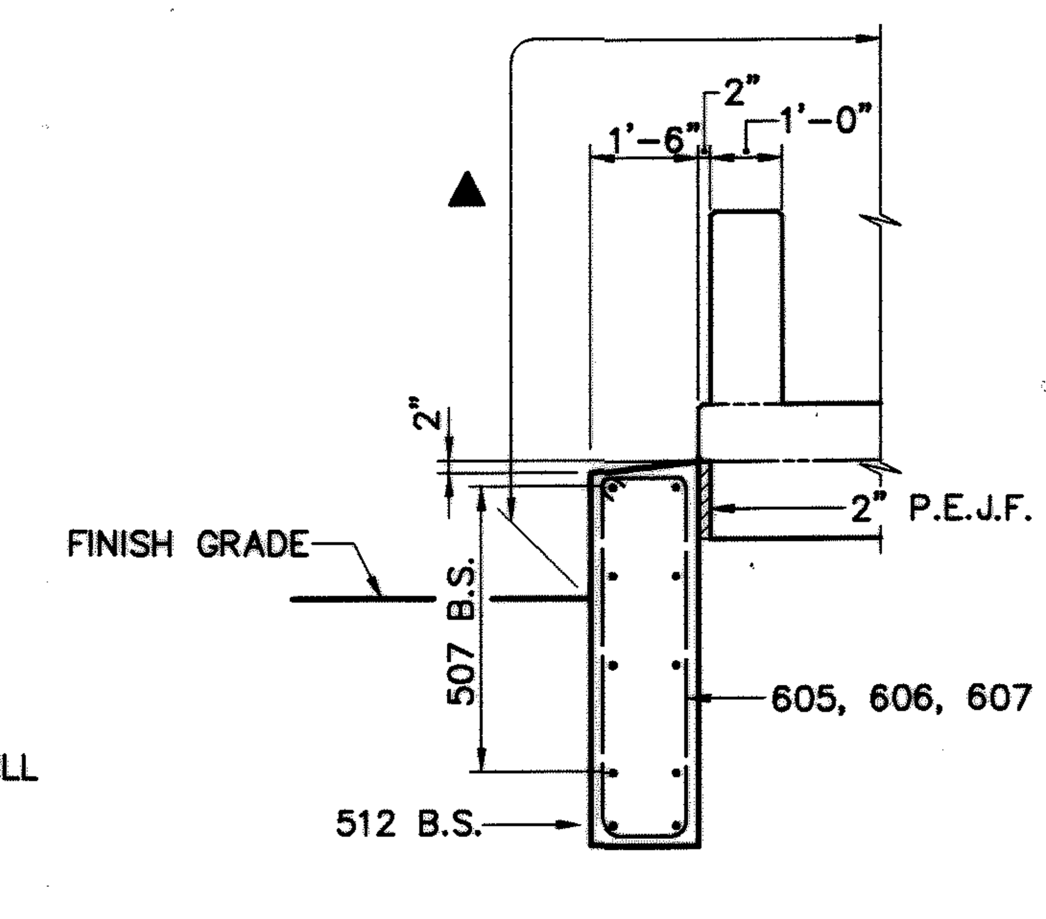
Technician: RRYMER



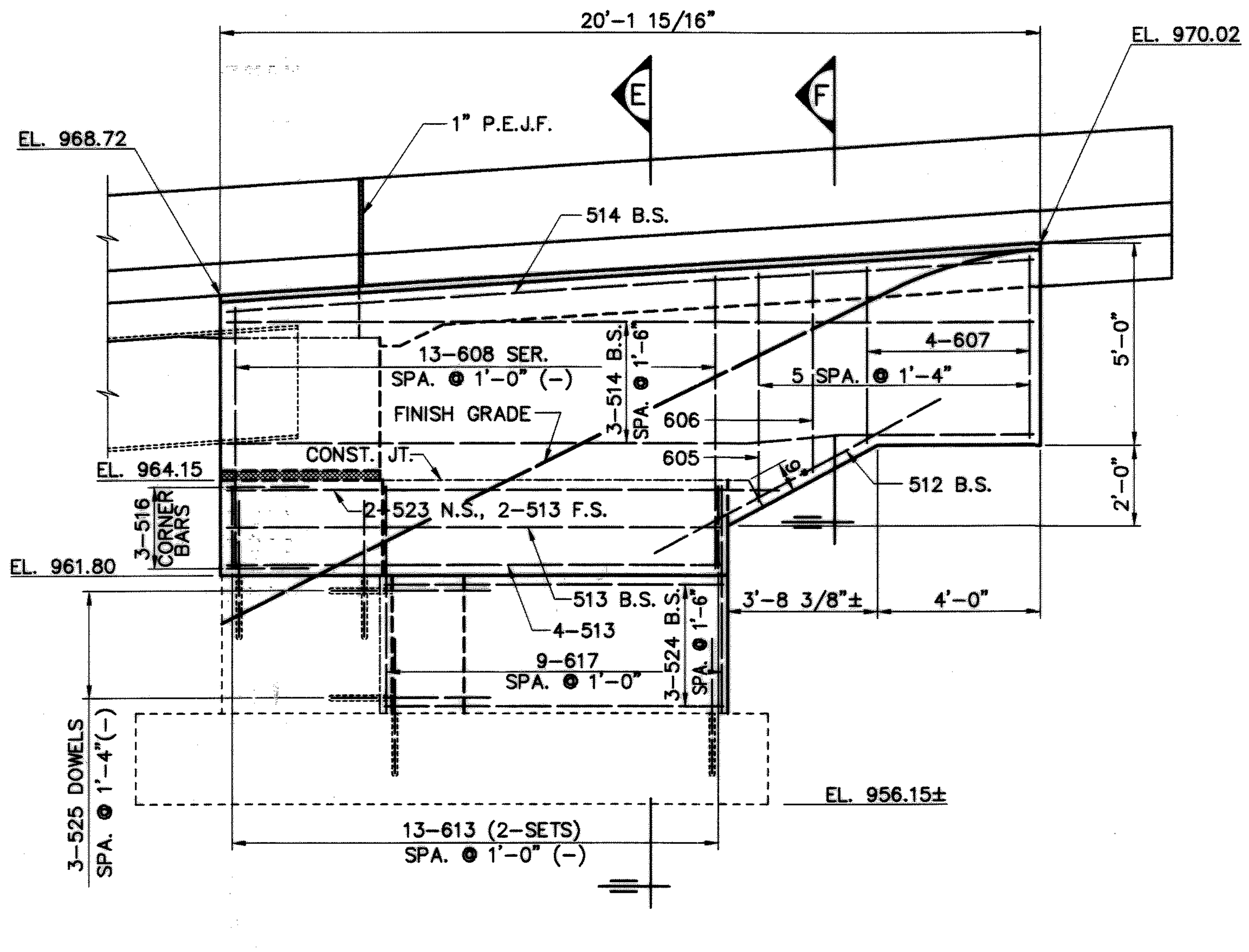
SOUTHEAST WINGWALL ELEVATION



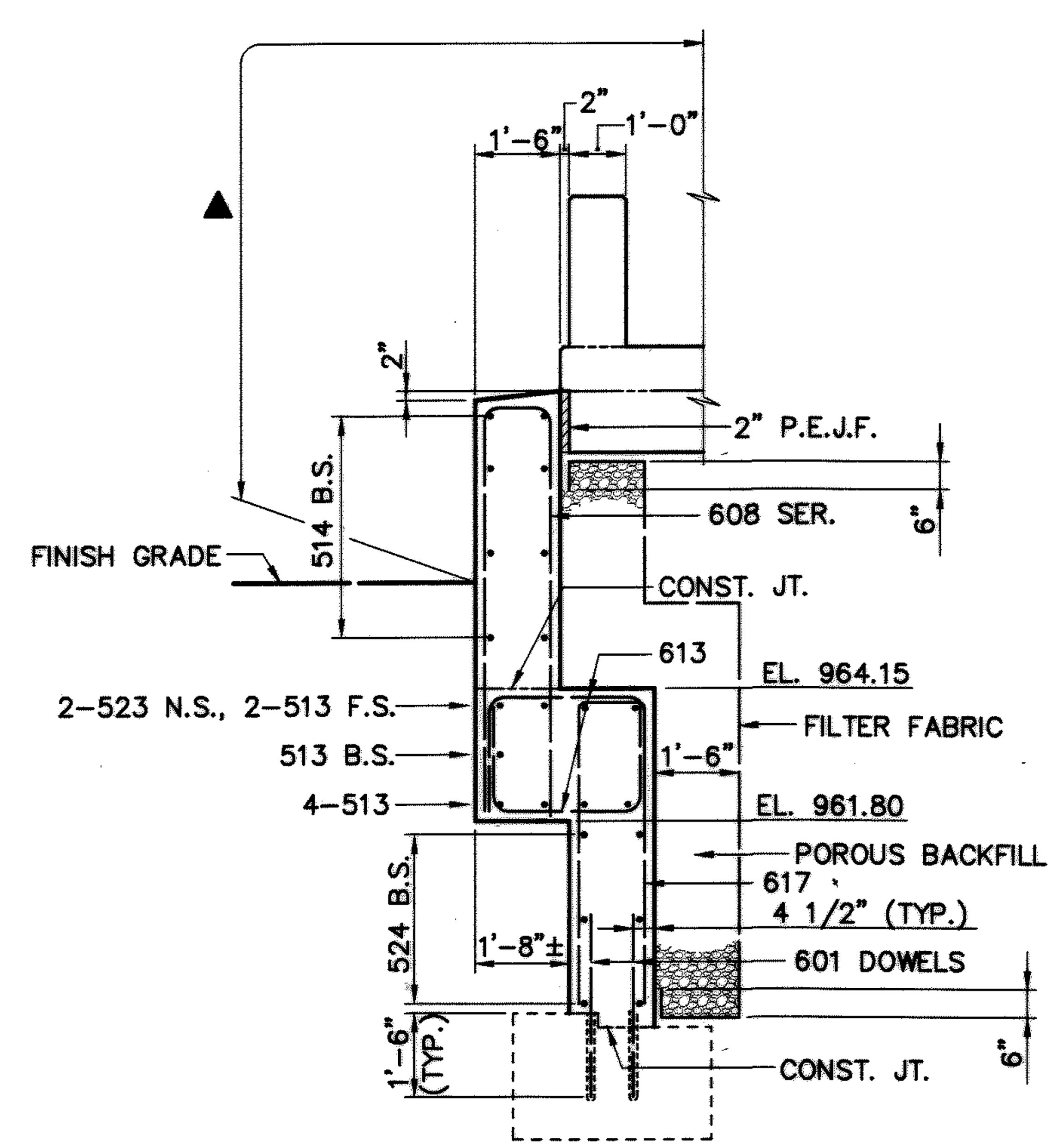
SECTION (C)



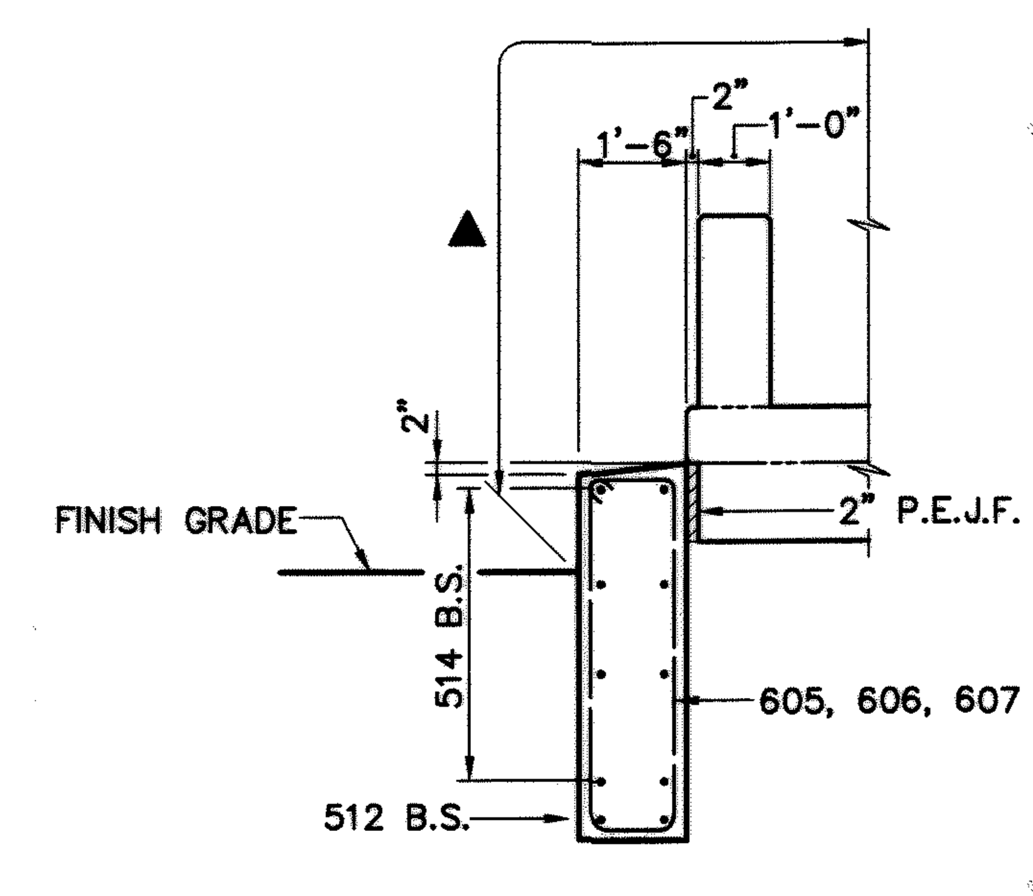
SECTION (D)



SOUTHWEST WINGWALL ELEVATION



SECTION (E)



SECTION (F)

NOTES:

1. PREFIX "A" WILL BE ADDED TO ALL REBAR MARKS SHOWN FOR THE ABUTMENTS EXCEPT THOSE BARS PREFIXED WITH "S." SEE REINFORCING SCHEDULE.
2. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
3. FOR ADDITIONAL NOTES, SEE SHT. NO. 5/20.

LEGEND:

▲ LIMITS OF "ITEM 864-SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)"

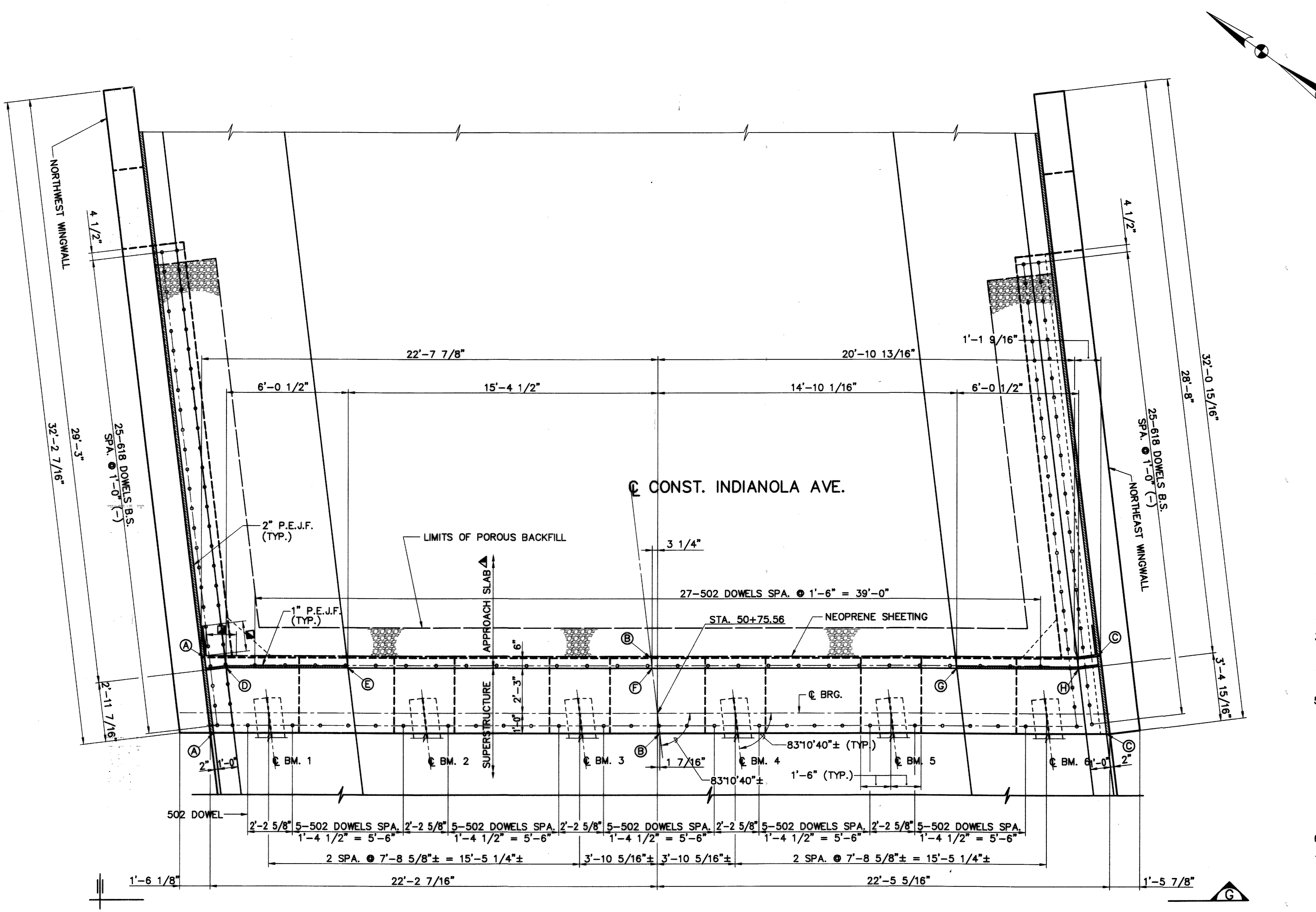
DESIGN AGENCY
GPD ASSOCIATES

DESIGNED R.H.C.	DRAWN R.P.R.	REVIEWED K.S.J.	DATE 8-01-03
CHECKED P.J.W.	REVISED	STRUCTURE FILE NUMBER 5007429	

REAR ABUTMENT DETAILS
BRIDGE NO. MAH - 680 - 0818
INDIANOLA AVE. OVER I-680

MAH-680-8.18

Technician: AELLERMAN



PLAN

NOTES:

1. PREFIX "A" WILL BE ADDED TO ALL REBAR MARKS SHOWN FOR THE ABUTMENTS EXCEPT THOSE BARS PREFIXED WITH "S." SEE REINFORCING SCHEDULE.
2. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
3. FOR VIEW G AND ELEVATION TABLE, SEE SHT. NO. 8/20.
4. FOR NORTHWEST & NORTHEAST WINGWALL DETAILS, SEE SHT. NO. 9/20.
5. PRIOR TO PLACEMENT OF NEW CONCRETE, THE EXISTING CONCRETE SURFACE SHALL BE THOROUGHLY CLEANED BY SANDBLASTING AND/OR OTHER APPROVED METHODS SO THAT IT IS FREE OF LOOSE OR DISINTEGRATED CONCRETE, DUST, LAITANCE, GREASE, RUST AND OTHER FOREIGN MATTER. ALL EXISTING REBARS SHALL BE CLEANED BY WIRE BRUSH OR SANDBLASTING TO REMOVE ANY RUST. A BONDING GROUT SHALL BE USED BETWEEN OLD CONCRETE AND NEW CONCRETE. BONDING GROUT IS INCLUDED WITH ITEM 511, CLASS C CONCRETE, ABUTMENT FOR PAYMENT.
6. FOR BONDING GROUT NOTE, SEE SHT. NO. 3/20.
7. FOR ADDITIONAL NOTES, SEE SHT. NO. 5/20.

LEGEND:

▲ FOR APPROACH SLAB DETAILS, SEE SHT. NOS. 18/20 & 19/20.

◪ INDICATES LIMITS OF VERTICAL NEOPRENE SHEETING, 3'-0" WIDE, TYP. AT ALL WINGWALLS.

DESIGN AGENCY
GPD ASSOCIATES

DESIGNED R.H.C.	DRAWN R.P.R.	REVIEWED K.S.J.	DATE 8-01-03
CHECKED P.J.W.	REVISED	STRUCTURE FILE NUMBER 5007429	

FRWD. ABUTMENT
BRIDGE NO. MAH - 680 - 0818
INDIANOLA AVE. OVER I-680

MAH-680-8.18

7/20

54/67

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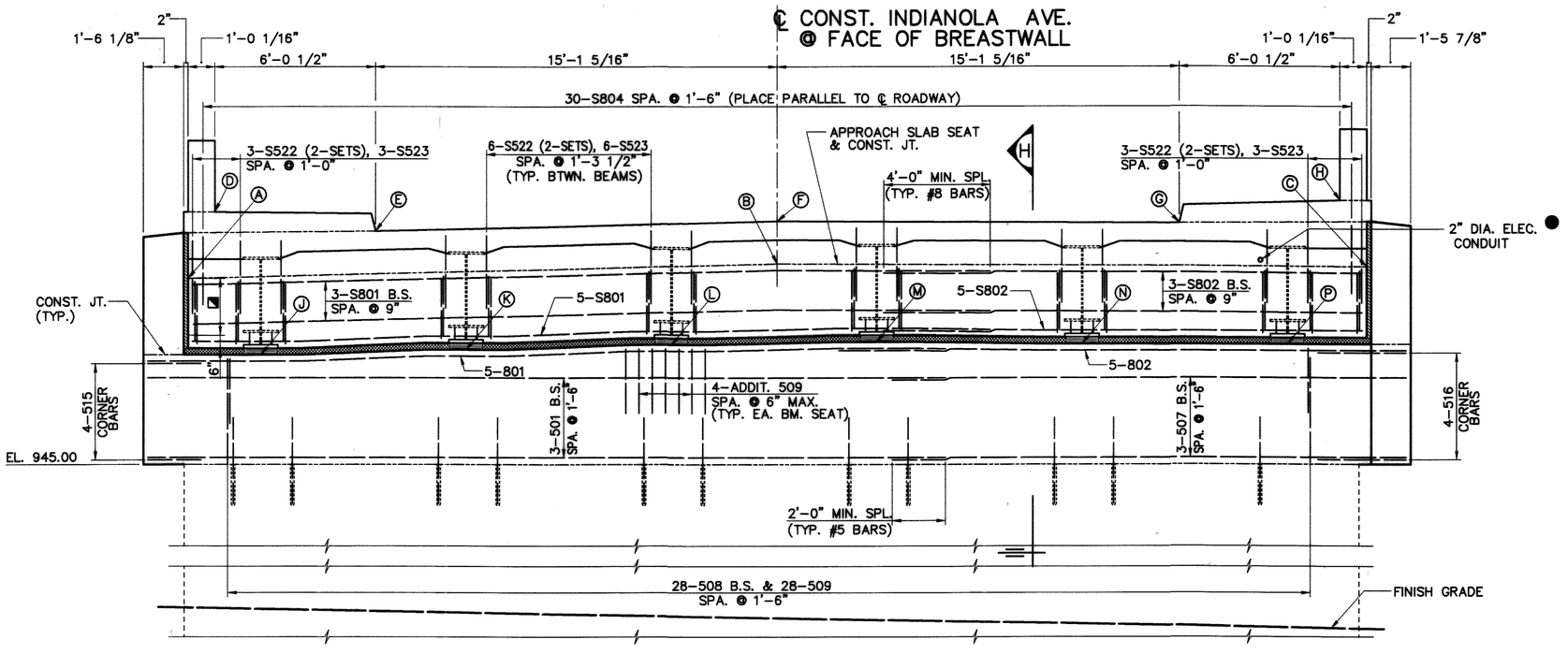
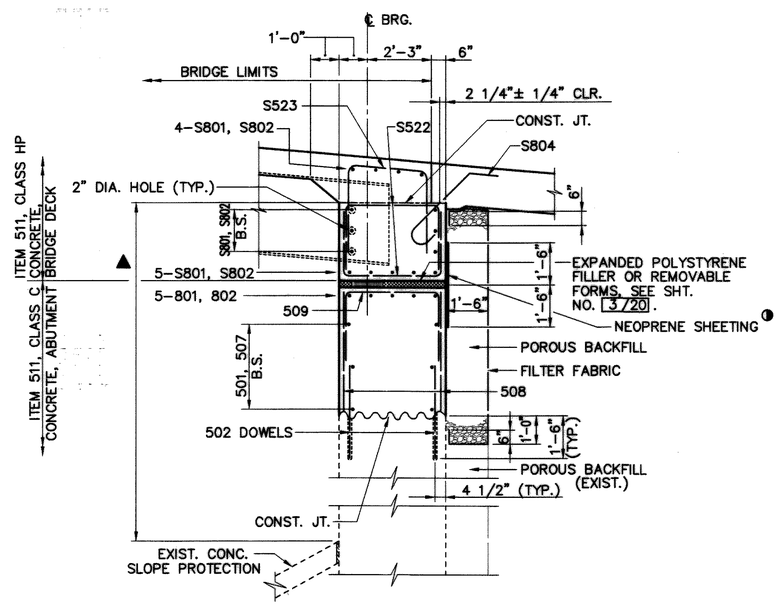
Technician: AELLERMAN



VIEW (G)



SECTION (H)

ELEVATIONS			
Ⓐ	Ⓑ	Ⓒ	Ⓓ
952.00	952.56	952.44	954.33
Ⓔ	Ⓕ	Ⓖ	Ⓗ
953.60	953.98	953.90	954.75
Ⓙ	Ⓚ	Ⓛ	Ⓜ
949.12	949.32	949.50	949.61
Ⓝ	Ⓟ		
949.53	949.52		

NOTES:

1. PREFIX "A" WILL BE ADDED TO ALL REBAR MARKS SHOWN FOR THE ABUTMENTS EXCEPT THOSE BARS PREFIXED WITH "S." SEE REINFORCING SCHEDULE.
2. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
3. FOR FRWD. ABUT. PLAN, SEE SHT. NO. 7/20.
4. FOR SLAB DETAILS, SEE SHT. NO. 15/20. FOR RAILING DETAILS, SEE SHT. NO. 17/20.
5. FOR ADDITIONAL NOTES, SEE SHT. NO. 5/20.

LEGEND:

▲ LIMITS OF "ITEM 864–SEALING OF CONCRETE SURFACES (EPOXY–URETHANE)"

◑ NEOPRENE SHEETING, 3'–0" WIDE, TO EXTEND FULL LENGTH OF BRG. SEAT PLUS 1'–6" LAP ONTO WINGWALL EA. END.

◪ INDICATES LIMITS OF VERTICAL NEOPRENE SHEETING, 3'–0" WIDE, TYP. AT ALL WINGWALLS.

● INCLUDED WITH LIGHTING QUANTITIES, SHT. NO. (47/67).

DESIGN AGENCY
CLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
GPD ASSOCIATES
320 South Main Street, Suite 2311, Akron, Ohio 44311
330-572-2100 FAX 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
R.H.C.	R.P.R.	K.S.J.	8-01-03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
P.J.W.		5007429	

FRWD. ABUTMENT
BRIDGE NO. MAH – 680 – 0818
INDIANOLA AVE. OVER I–680

MAH–680–8.18

8 / 20

55 / 67

Cad File: G:\CIVIL\20011169\01\111\DWG\STRUCT\DWG\20011169_111ABUT.DWG
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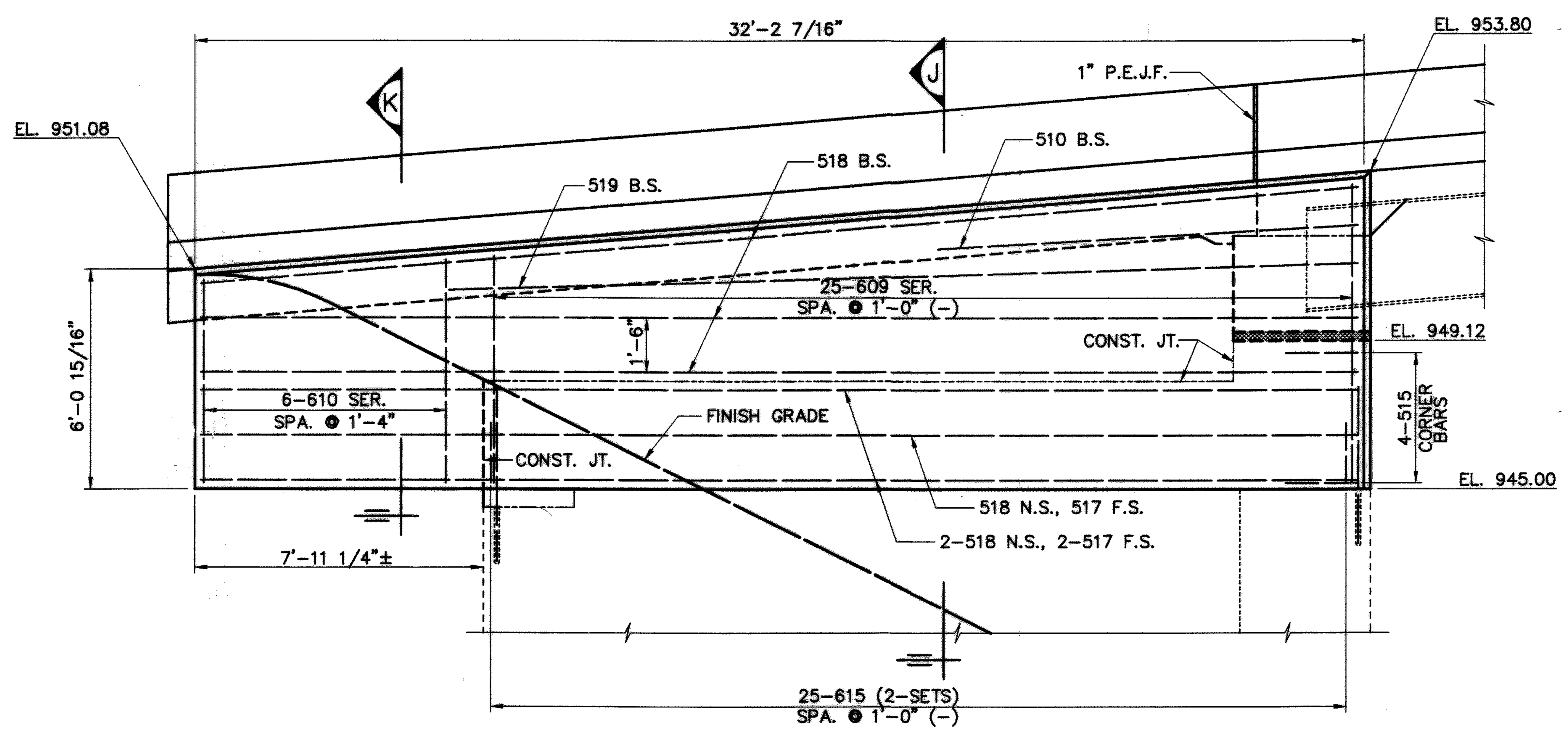
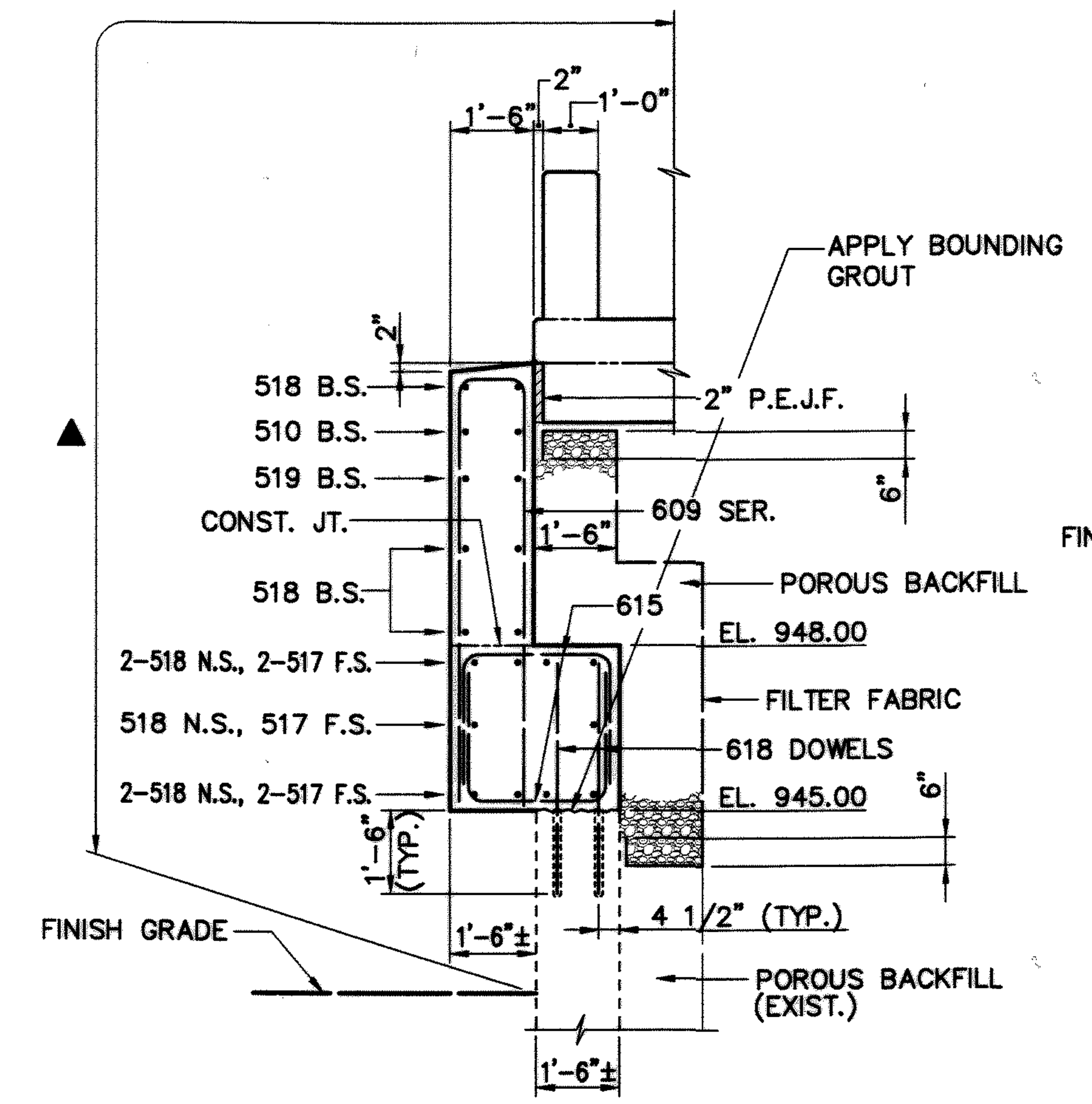
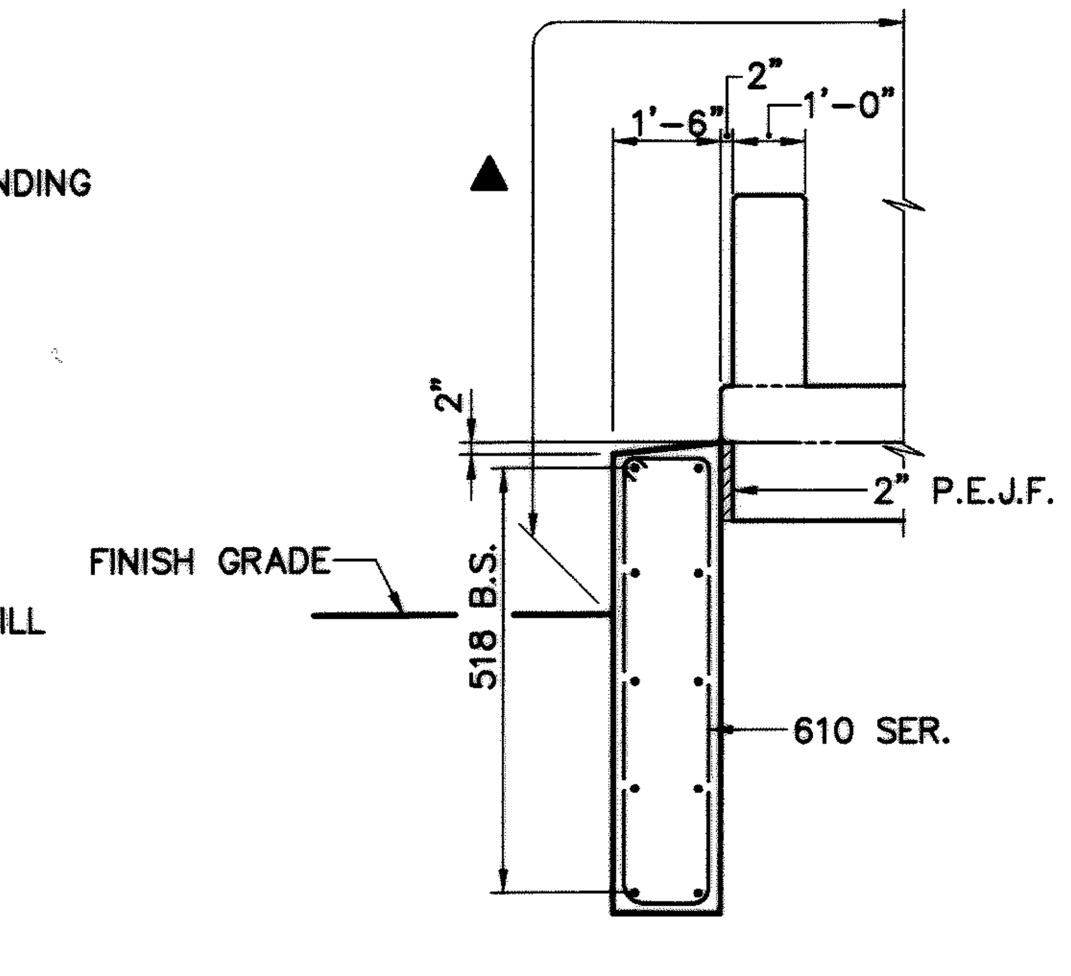


NORTHWEST WINGWALL ELEVATION



SECTION J



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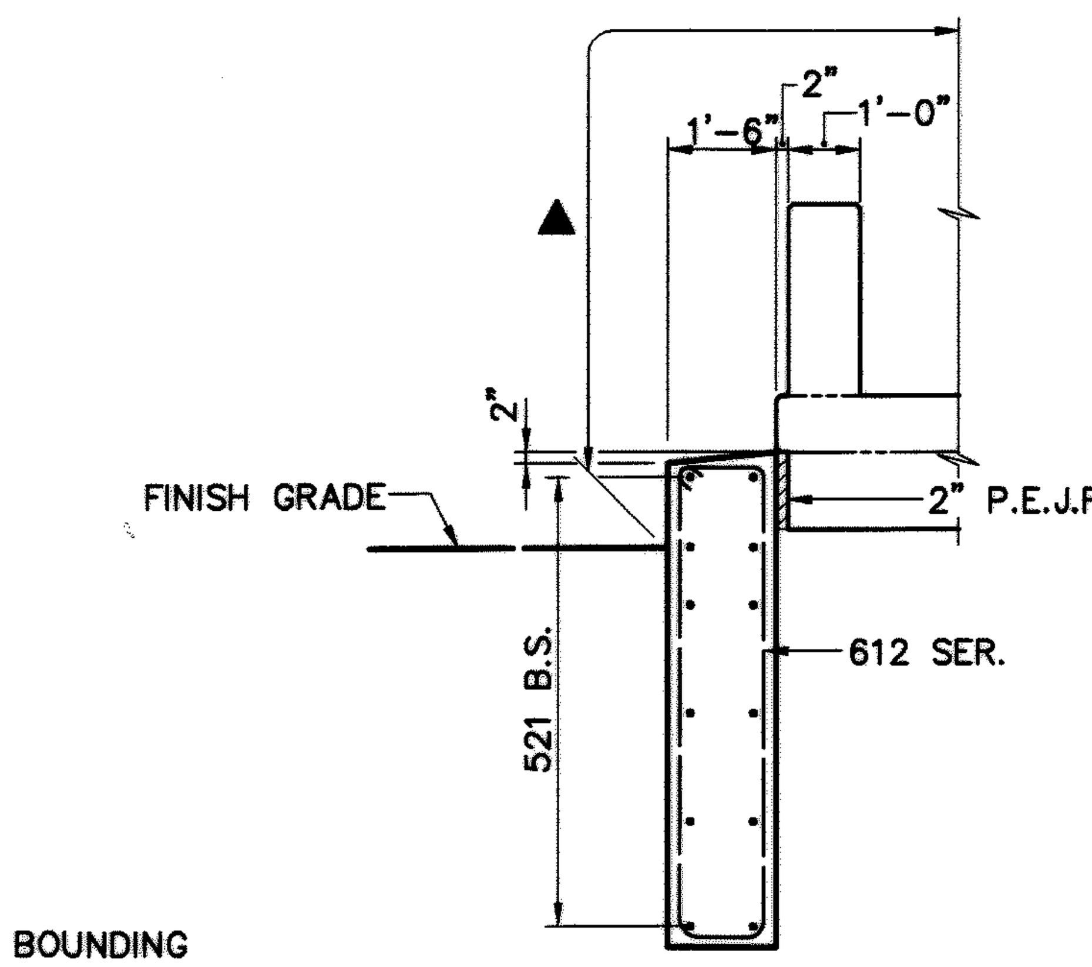

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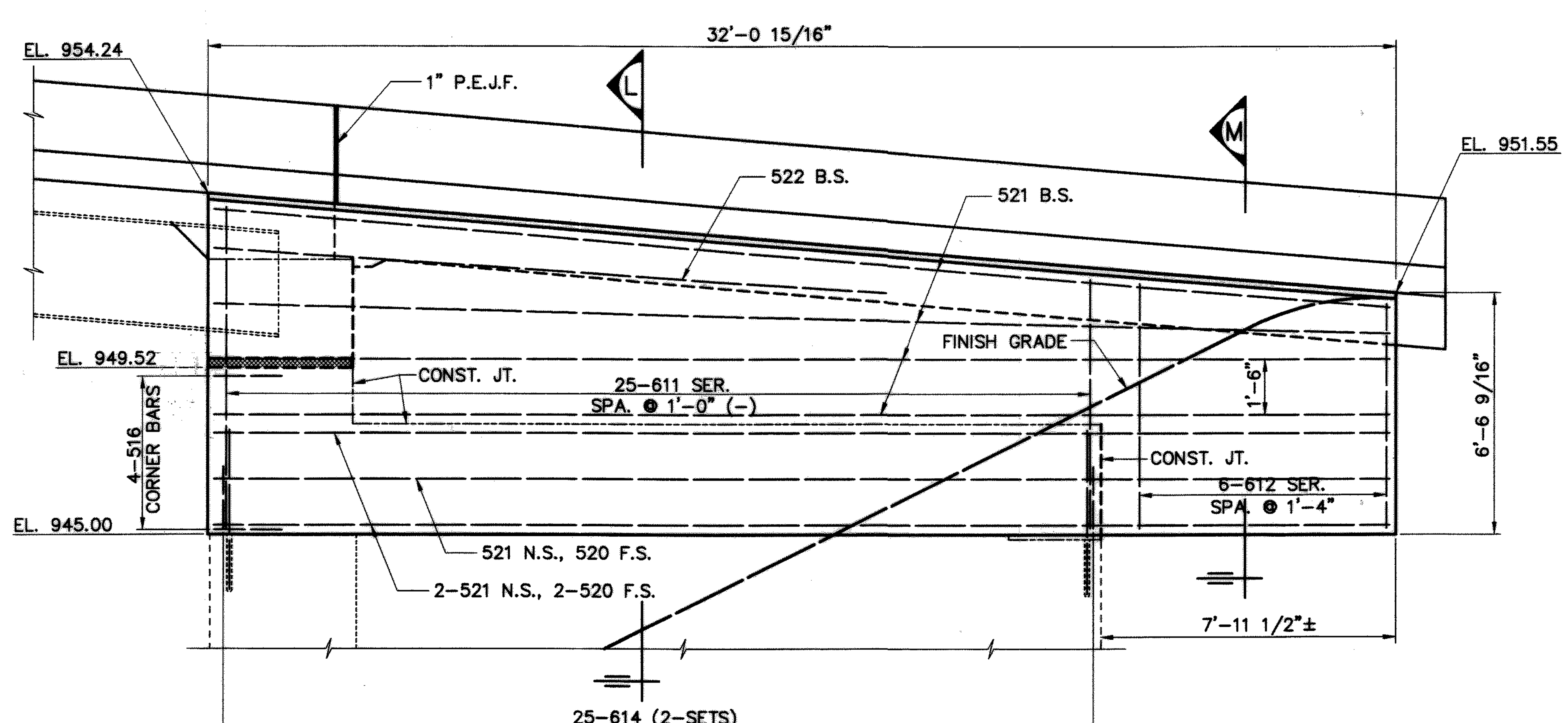
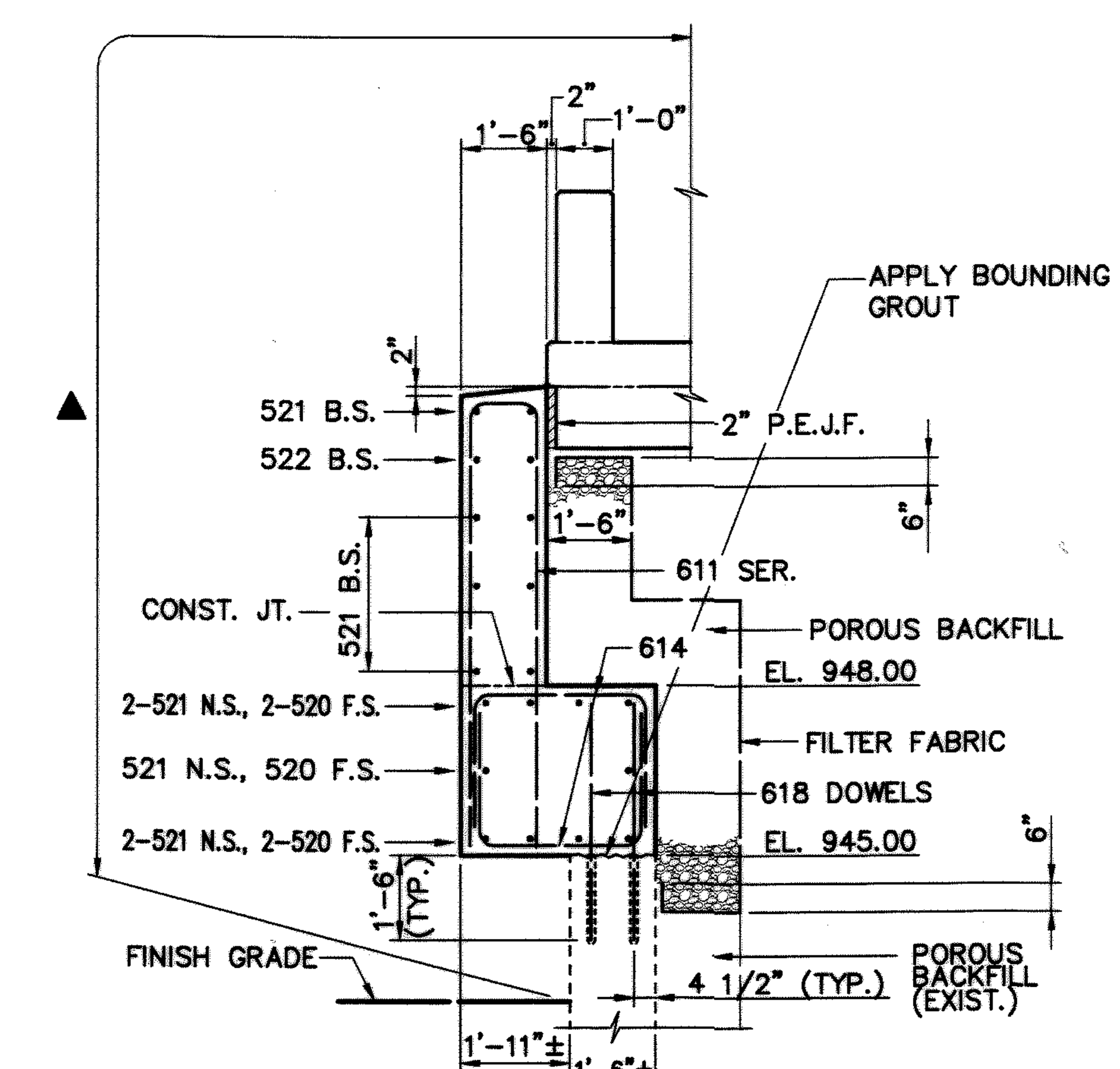


NORTHEAST WINGWALL ELEVATION



SECTION L

NOTES:

1. PREFIX "A" WILL BE ADDED TO ALL REBAR MARKS SHOWN FOR THE ABUTMENTS EXCEPT THOSE BARS PREFIXED WITH "S." SEE REINFORCING SCHEDULE.
2. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
3. FOR ADDITIONAL NOTES, SEE SHT. NO. 5/20.

LEGEND:

▲ LIMITS OF "ITEM 864-SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)"

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

DESIGNED	DRAWN	REVIEWED	DATE
R.H.C.	R.P.R.	K.S.J.	8-01-03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
P.J.W.		5007429	

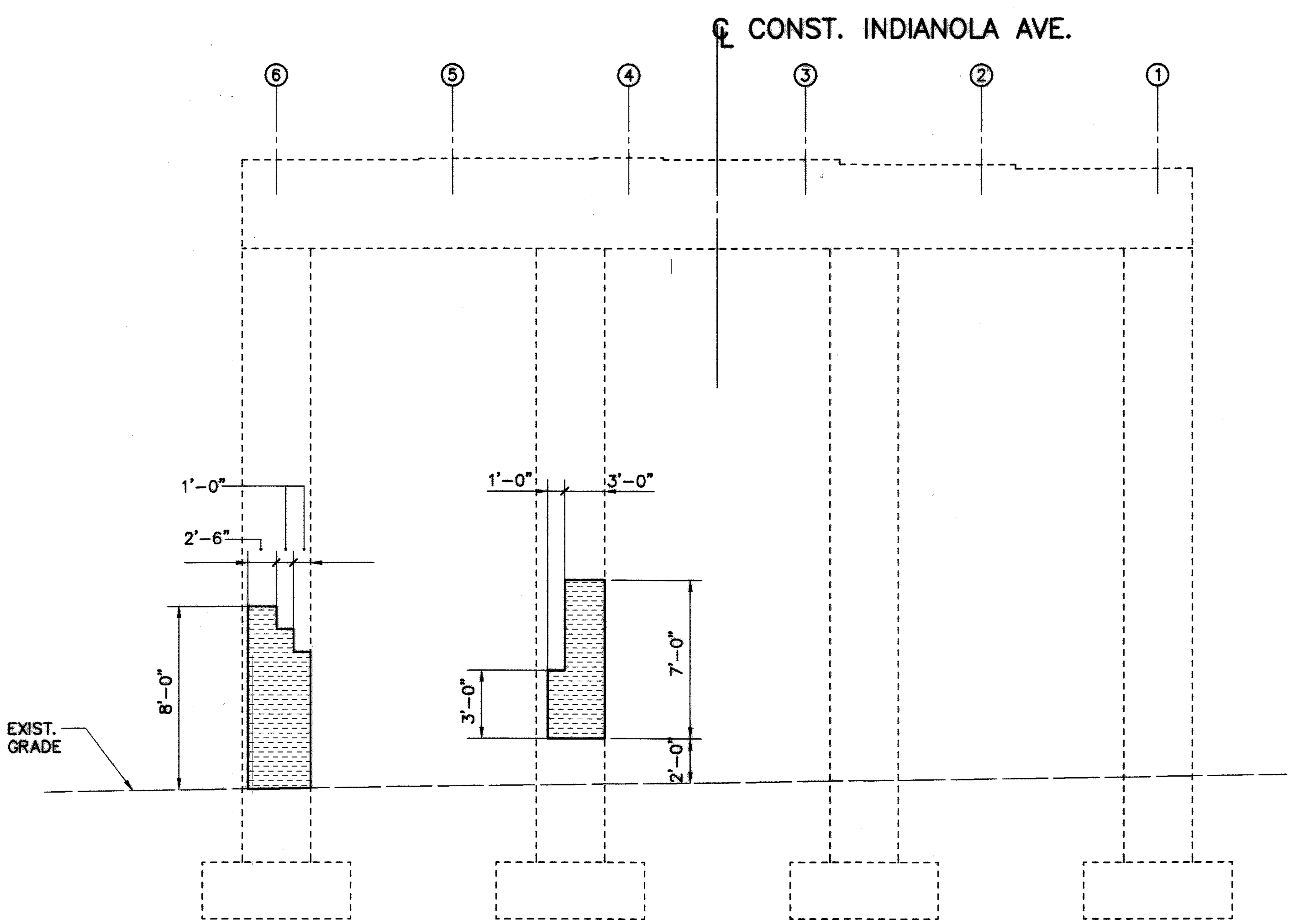
FRWD. ABUTMENT DETAILS
BRIDGE NO. MAH - 680 - 0818
INDIANOLA AVE. OVER I-680

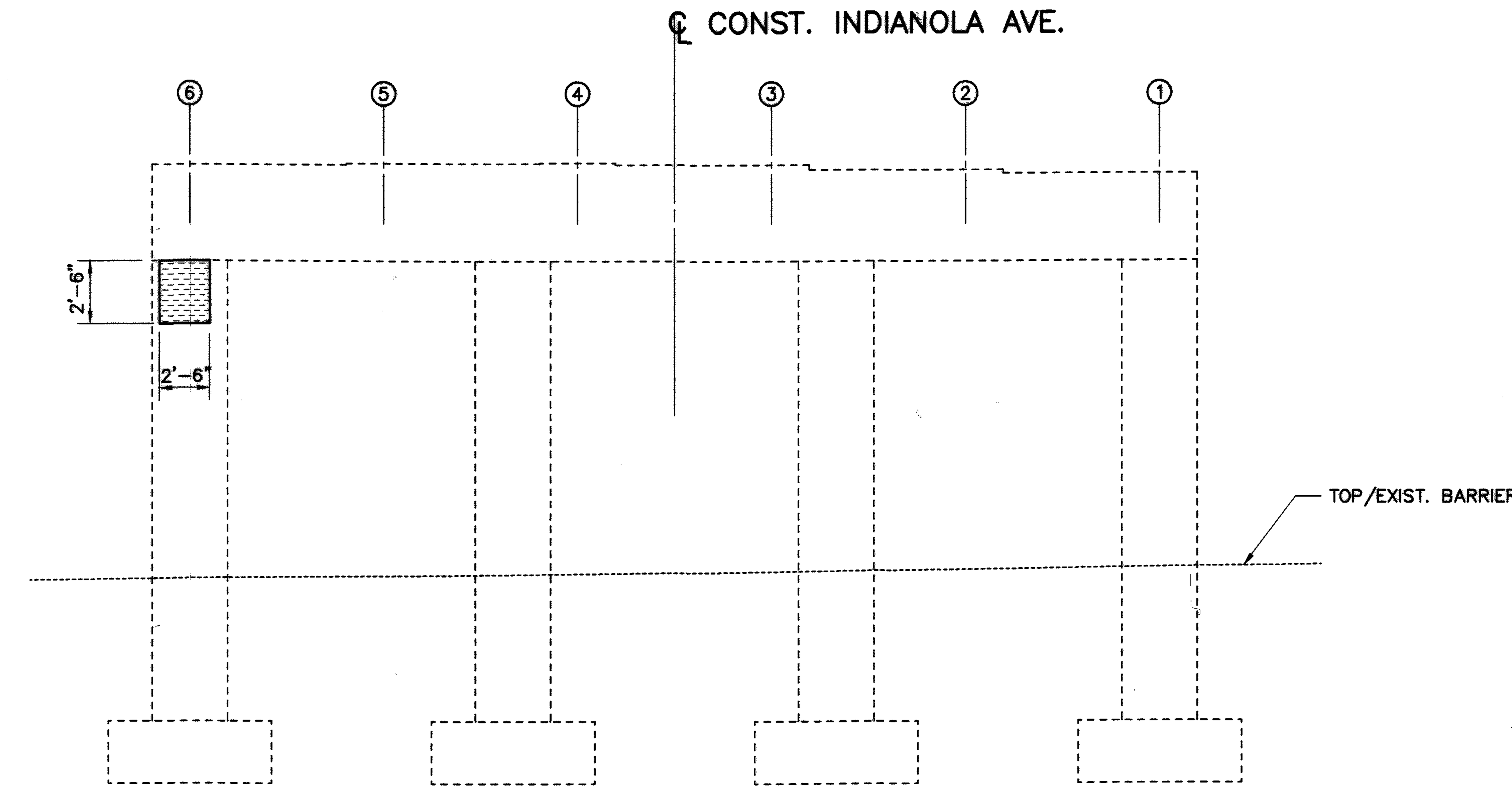
MAH-680-8.18

9/20

56/67

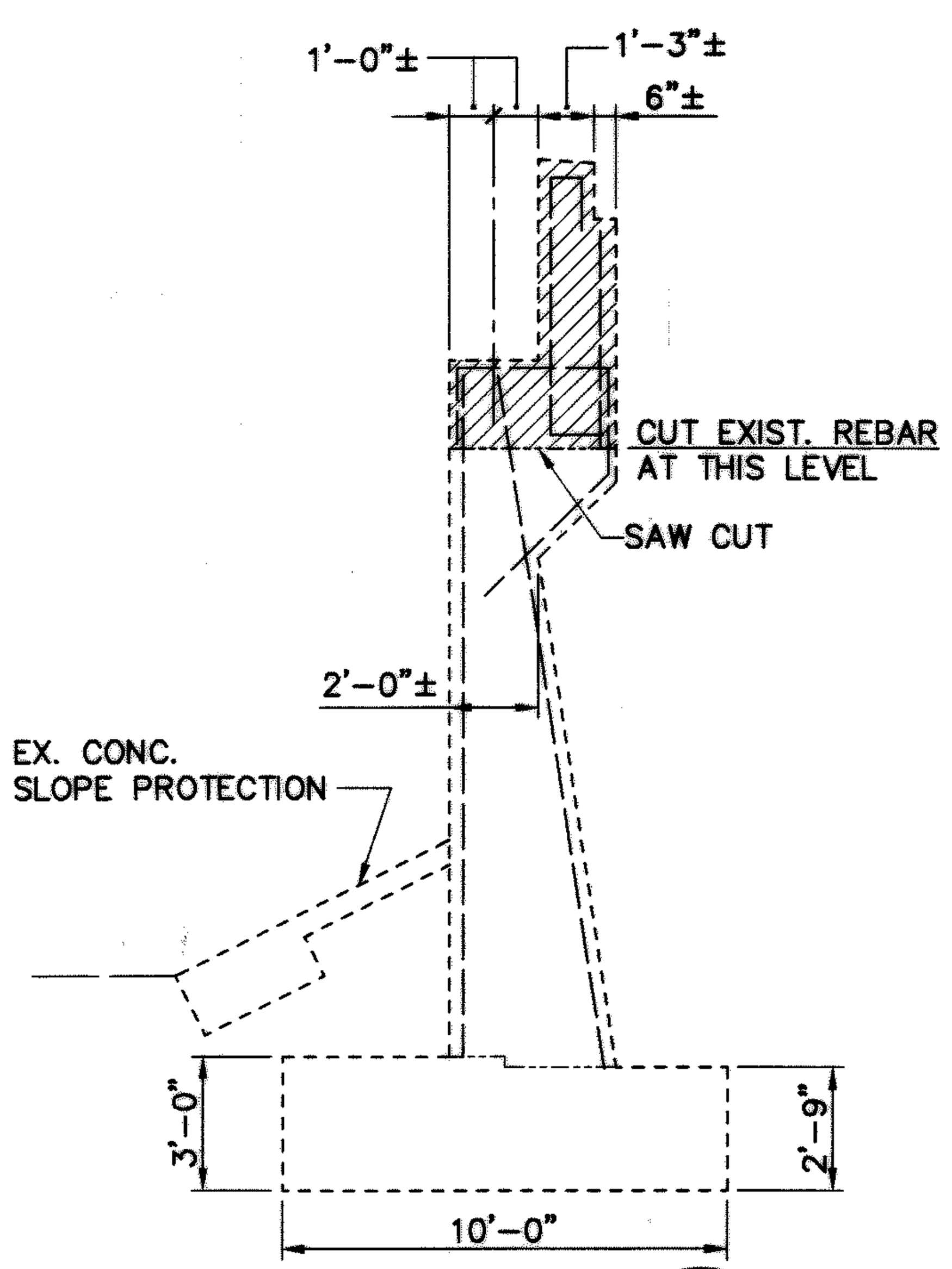
Technician: AELLERMAN



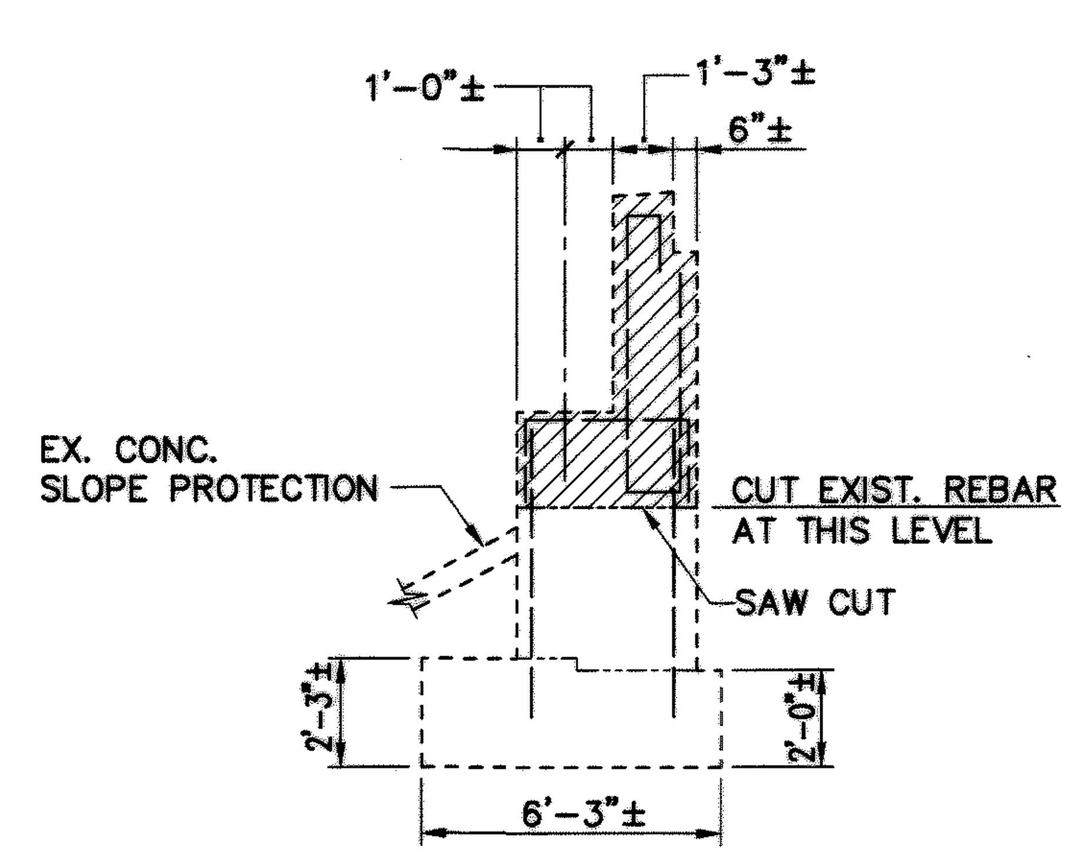


PIER NO. 1 – NORTH ELEV.

PIER NO. 2 – NORTH ELEV.



SECTION (A)



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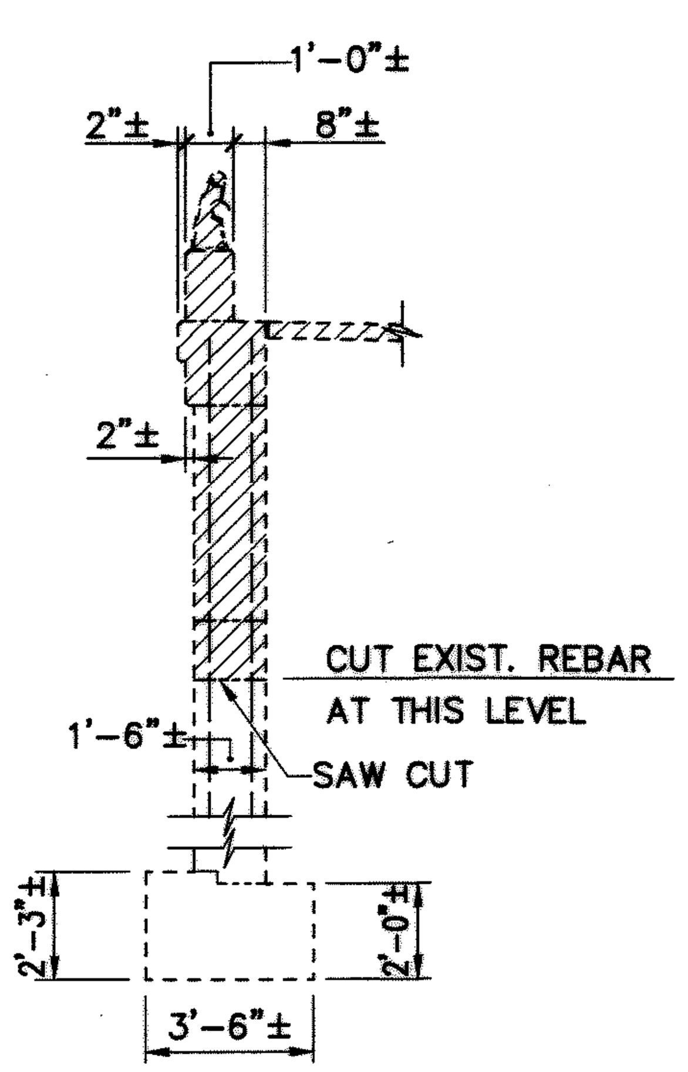

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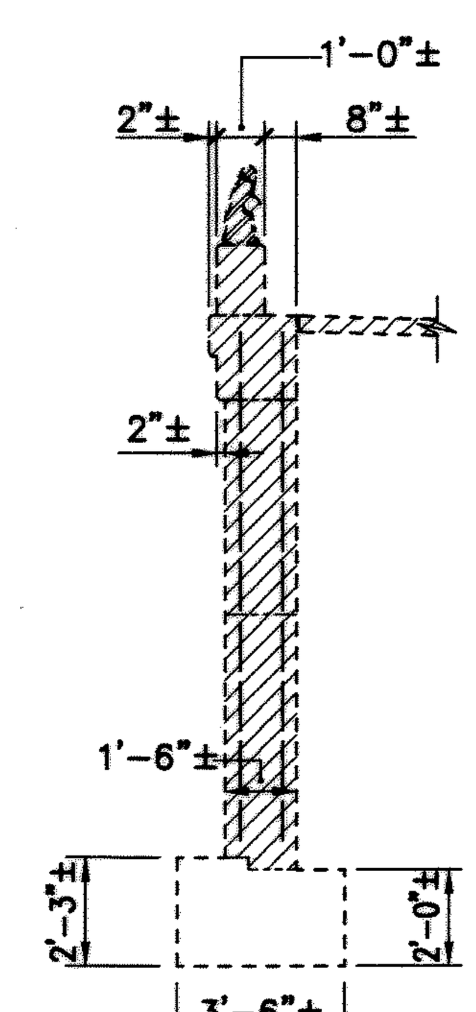

SECTION (D)

LEGEND

INDICATES AREA TO BE PATCHED PER ITEM 519, PATCHING CONCRETE STRUCTURE, AS PER PLAN.

NOTE:

FOR LOCATION OF SECTIONS A, B, C & D, SEE SHT. NO. 4/20.

STRUCTURE INSPECTION PERFORMED IN NOVEMBER, 2002.

DESIGN AGENCY
GPD ASSOCIATES

DESIGNED R.H.C.	DRAWN R.P.R.	REVIEWED K.S.J.	DATE 8-1-03
CHECKED P.J.W.	REVISED	STRUCTURE FILE NUMBER 5007429	

ABUTMENT REMOVAL & PIER REPAIR DETAILS

BRIDGE NO. MAH – 680 – 0818
INDIANOLA AVE. OVER I-680

MAH-680-8.18

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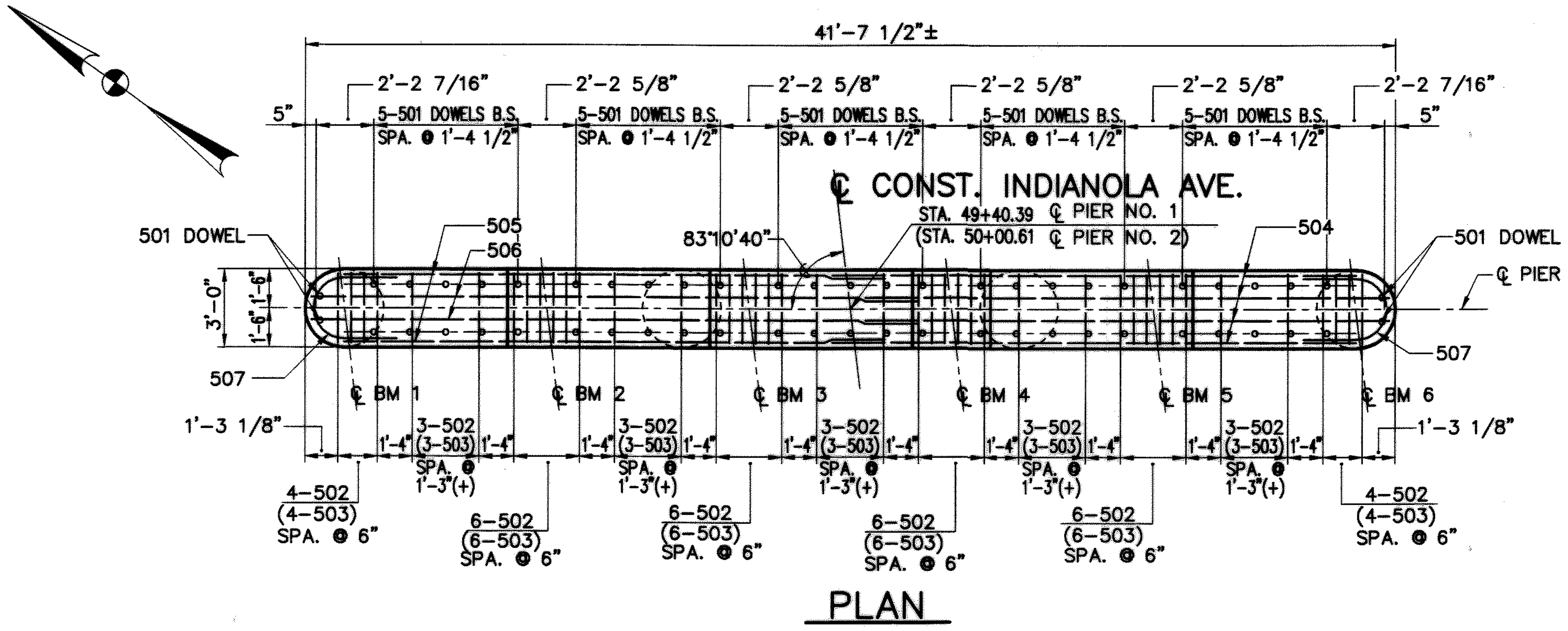
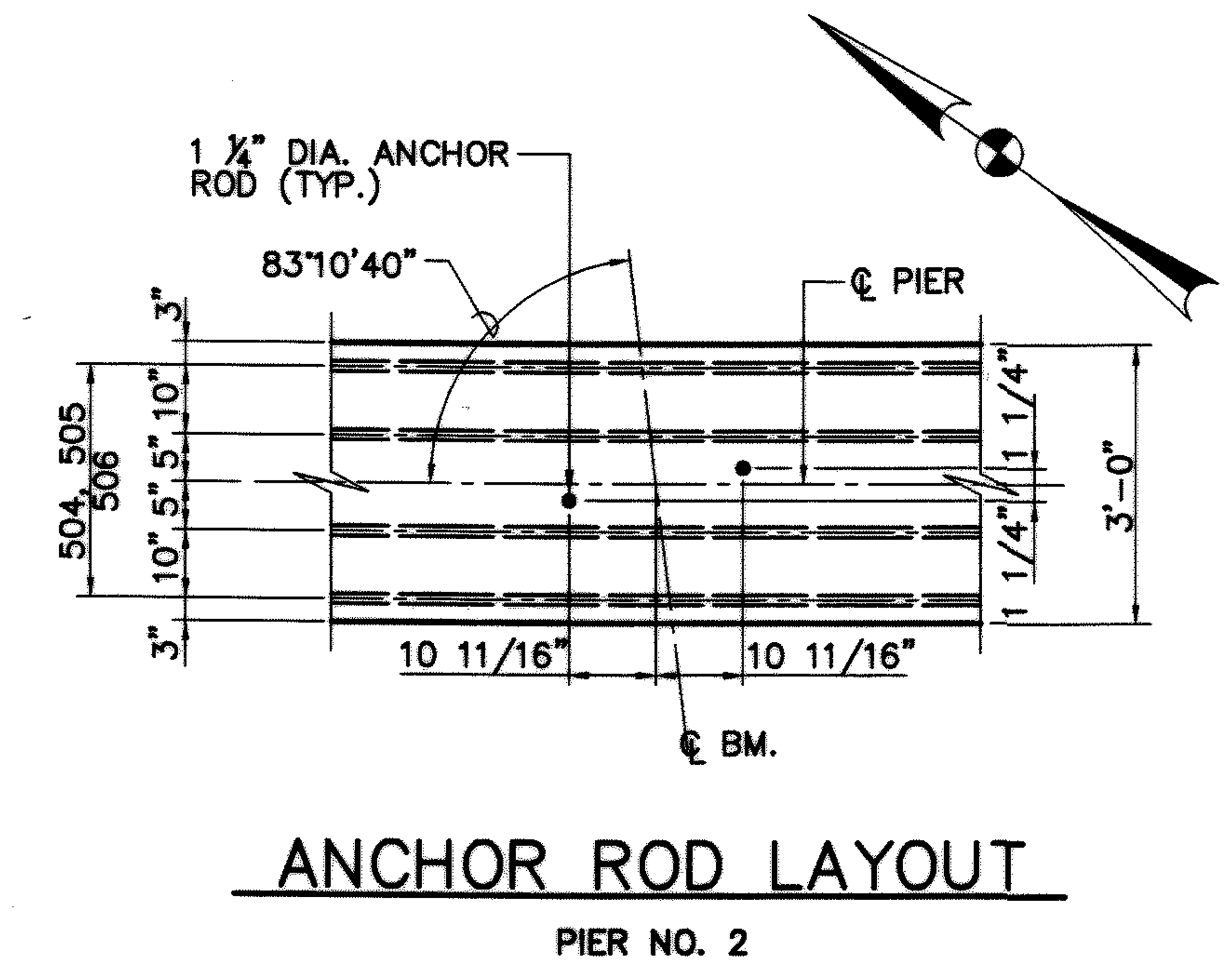
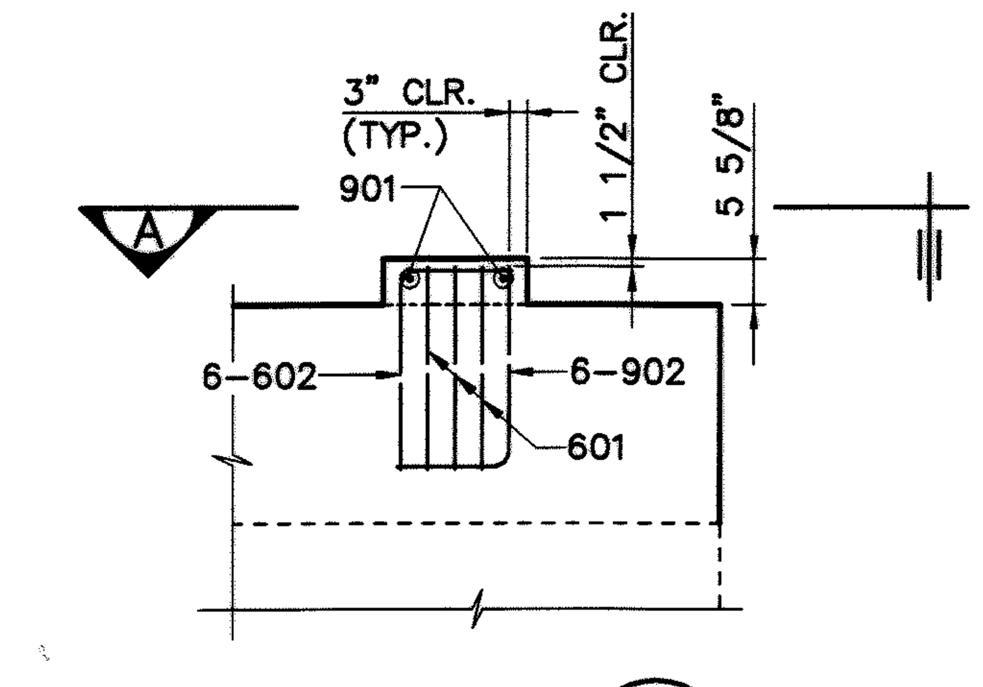


PLAN

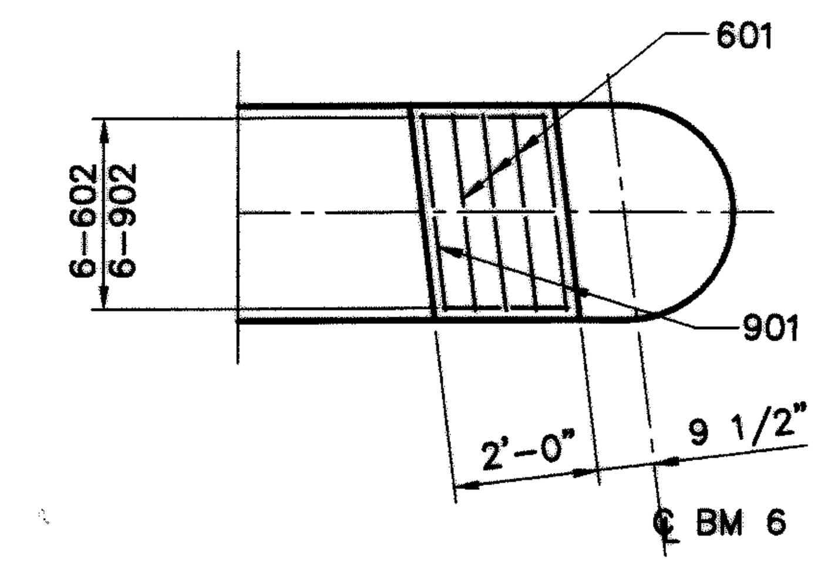


ANCHOR ROD LAYOUT

PIER NO. 2

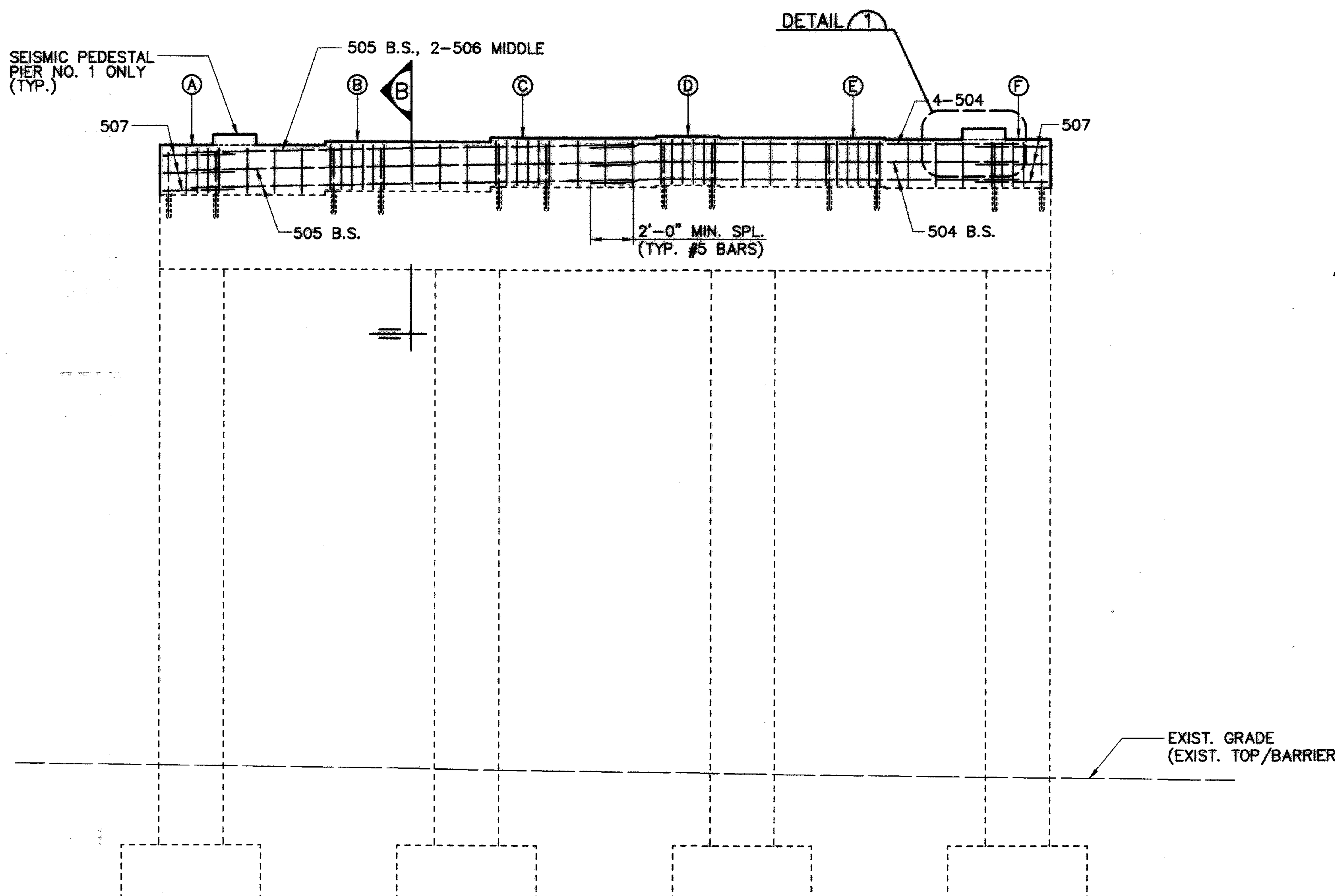


DETAIL 1



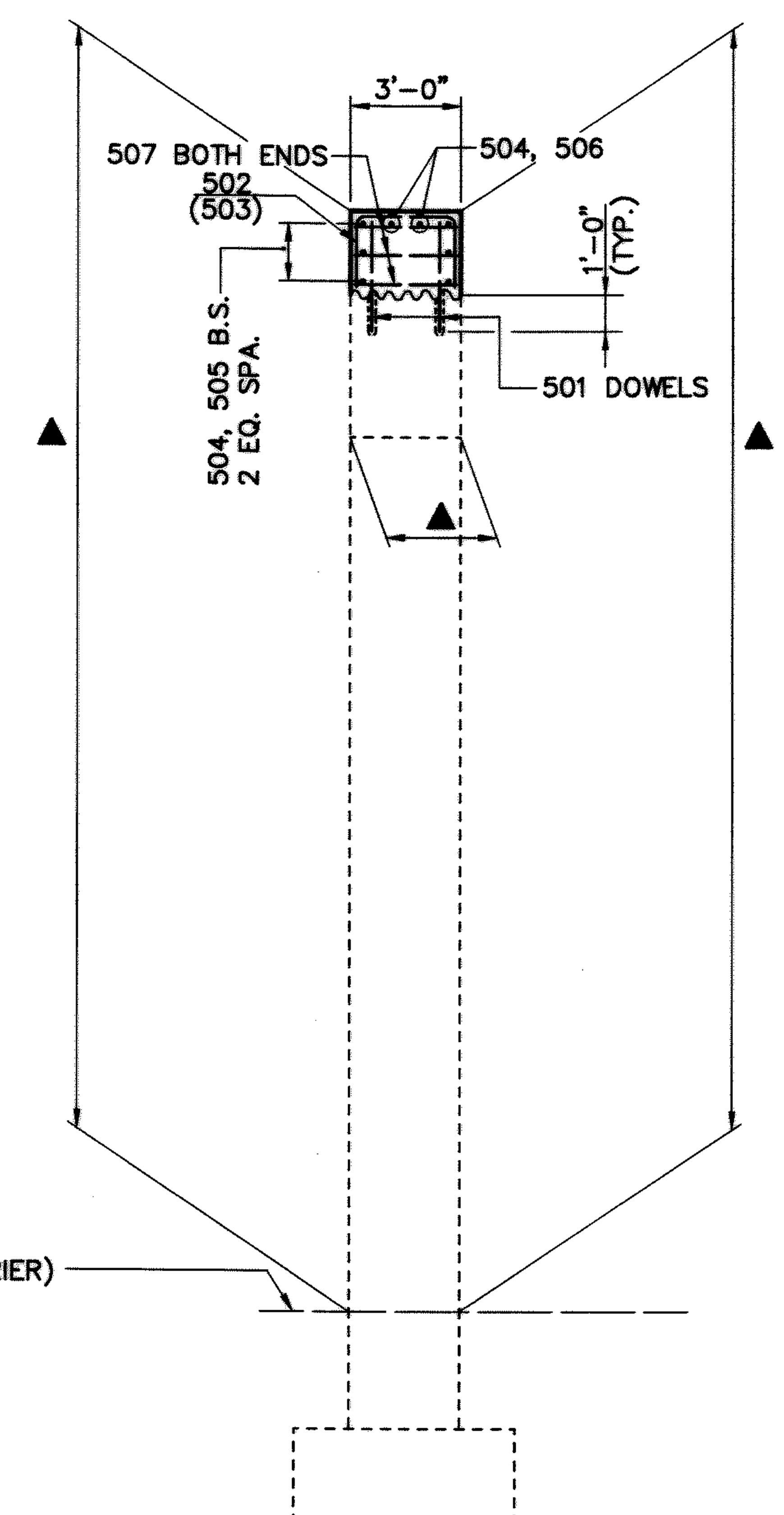
VIEW A

PIER NO. 1 ONLY

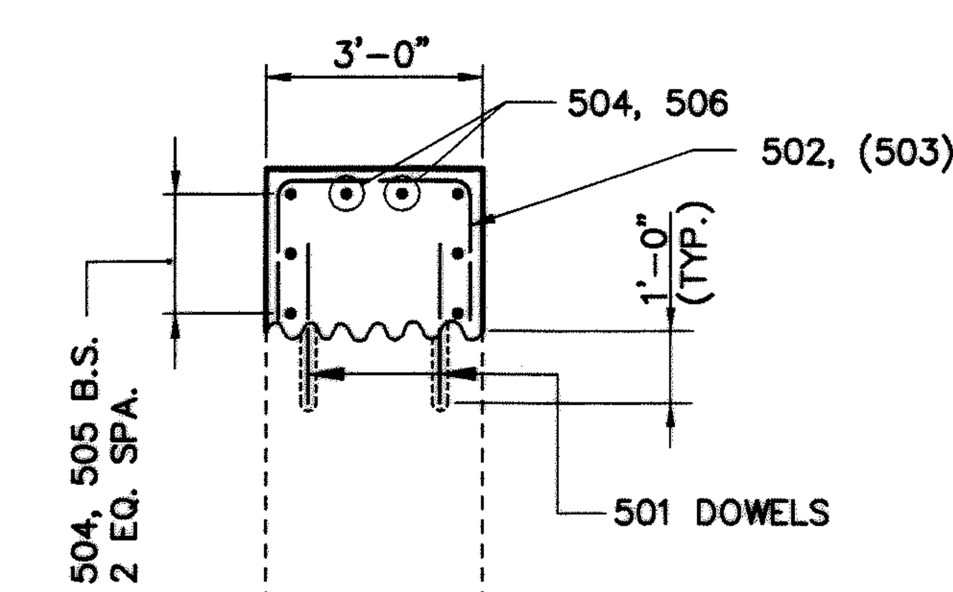


ELEVATION

PIER NO. 1 AS SHOWN, PIER NO. 2 SIMILAR AND AS NOTED IN ( ).



END VIEW



SECTION B

ELEVATIONS						
	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ
PIER NO. 1	960.72	960.90	961.11	961.18	961.12	961.06
PIER NO. 2	955.84	955.98	956.17	956.24	956.20	956.14

NOTES:

1. PREFIX "P" WILL BE ADDED TO ALL REBAR MARKS FOR THE PIERS. SEE REINFORCING SCHEDULE.
2. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
3. MINIMUM CLEARANCE TO REBARS SHALL BE 2" UNLESS NOTED OTHERWISE.
4. BRIDGE SEAT REINFORCING, SETTING ANCHORS (PIER NO. 2): ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF THE BEARING ANCHOR HOLES OR THE PRE-SETTING OF BEARING ANCHORS.
5. FOR BEARING DETAILS, SEE SHT. NOS. 12/20 & 13/20.

LEGEND:

▲ LIMITS OF "ITEM 864 – SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)."

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

DESIGNED	DRAWN	REVIEWED	DATE
B.J.M.	R.P.R.	K.S.J.	8-1-03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
P.J.W.		5007429	

PIER REHAB. DETAILS
BRIDGE NO. MAH – 680 – 0818
INDIANOLA AVE. OVER I-680

MAH-680-8.18

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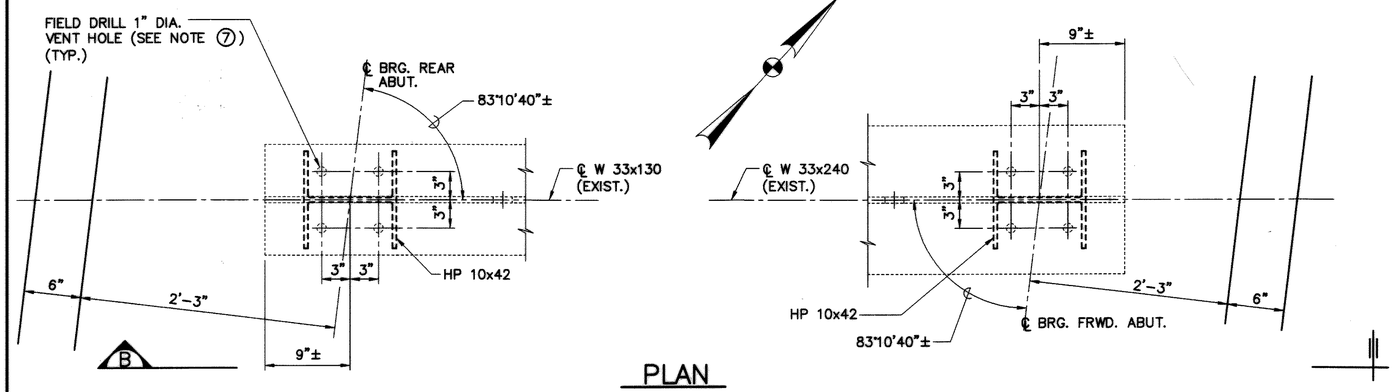
Date: 01-26-04 Time: 9:08 AM TW = 060'0.00"
Technician: AELLERMAN

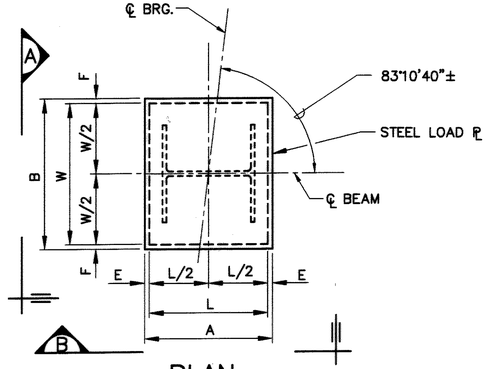
* W/O IMPACT

BEARING SCHEDULE

SUB-STRUCTURE	STEEL LOAD PLATE						ELASTOMERIC PAD						STEEL LAMINATES		TYPE	MIN. DEAD LOAD (K)	MAX. 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 1/2"	1'-2"	3/4"	1/2"	1 1/2"	–	9"	1'-1"	2.78"	7	0.26"	0.18"	8	0.0747"	EXP.	40.8	47.0	60.5	107.5
PIER NO. 1	11"	1'-5"	1/2"	1/2"	1 7/8"	2 3/4"	10"	1'-4"	2.30"	5	0.29"	0.20"	6	0.0747"	EXP.	68.7	86.0	69.7	155.7
PIER NO. 2	11 1/2"	2'-1 1/2"	1/2"	3 3/4"	2"	2 15/16"	10 1/2"	1'-6"	1.99"	4	0.30"	0.21"	5	0.0747"	FIX.	107.3	132.1	74.6	206.7
FRWD. ABUT.	10 1/2"	1'-3 1/2"	1/2"	1/2"	1 1/2"	–	9 1/2"	1'-2 1/2"	2.94"	7	0.28"	0.19"	8	0.0747"	EXP.	57.4	67.0	64.9	131.9



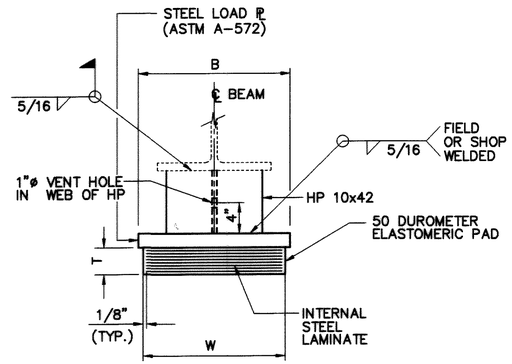
PLAN



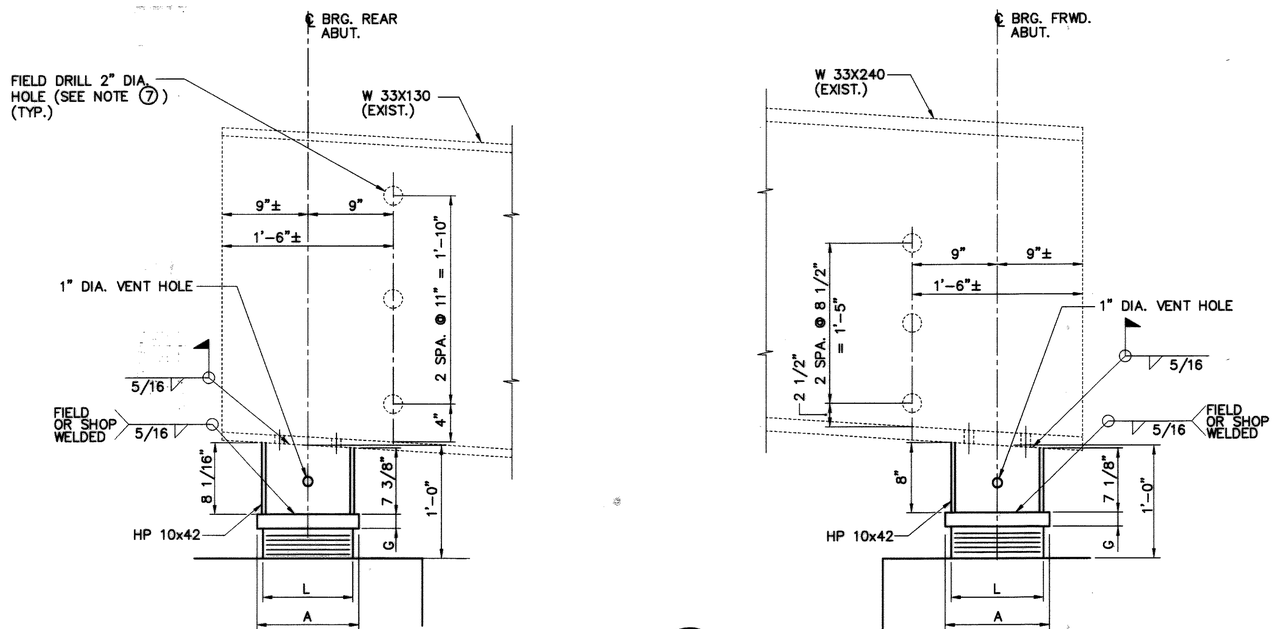
PLAN

EXPANSION BEARING DETAIL

ABUTMENTS



VIEW (A)



VIEW (B)

BEAM END DETAIL

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 USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.
3. THE STEEL LOAD PLATE AND HP SHAPE FOR BEARINGS SHALL BE ASTM A572 STEEL, GRADE 50, PAINTED.
4. THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.
5. FOR EXPANSION AND FIXED BEARING DETAILS AT PIERS, SEE SHT. NO. 13/20 .
6. ANCHOR RODS SHALL BE GALVANIZED AS PER C&MS 711.02. ANCHOR RODS SHALL EXTEND 1" ABOVE THE LOAD PLATE (PIER NO. 2 BEARINGS).
7. FIELD DRILLING OF HOLES IN BEAM ENDS AND THE COST OF FURNISHING AND INSTALLING HP 10X42 STEEL SHAPES AT THE ABUTMENT BEARINGS ARE INCLUDED WITH "ITEM 516-ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN," FOR PAYMENT.
8. BEARING REPOSITIONING: IF THE STEEL IS ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60°F (±) 10°F, RAISE THE BEAMS OR GIRDERS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F (±) 10°F.

DESIGN AGENCY
CLAUS PYLE SCHOMER BURNS & DEHAVEN, INC.
GPD ASSOCIATES
100 South Main Street, Suite 2317 Akron, Ohio 44311
330-572-2100, Fax 330-572-2101

DESIGNED R.H.C. | DRAWN R.P.R. | REVIEWED K.S.J. | DATE 8-1-03 | CHECKED P.J.W. | REVISED | STRUCTURE FILE NUMBER 5007429

LAMINATED ELASTOMERIC BEARINGS
BRIDGE NO. MAH - 680 - 0818
INDIANOLA AVE. OVER I-680

MAH-680-8.18

12/20

59/67

Cad File: G:\CIVIL\2001169\01\111\DWG\STRUCT\DWG\2001169_111BRG.DWG
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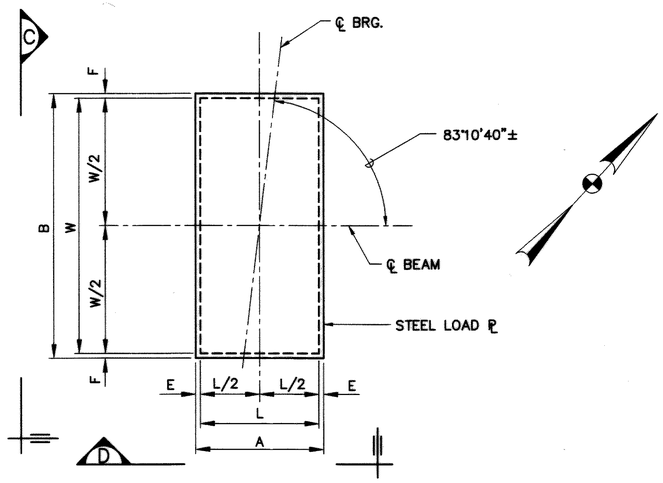

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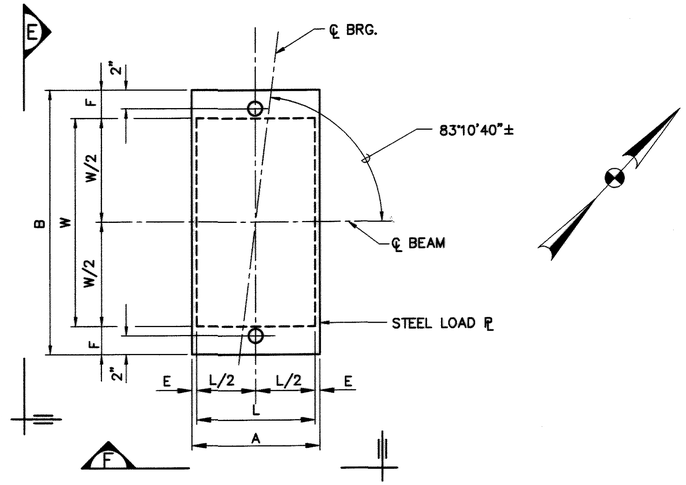

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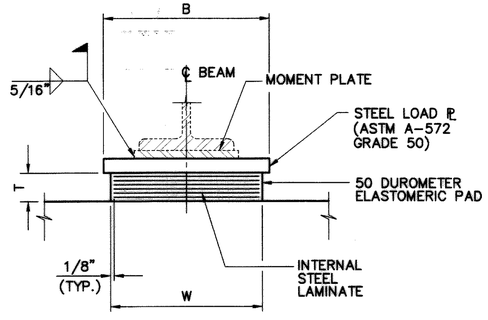

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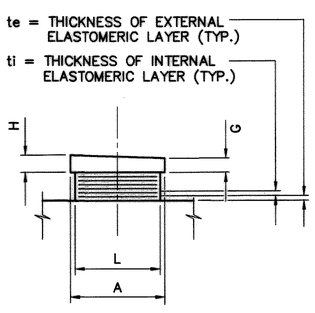
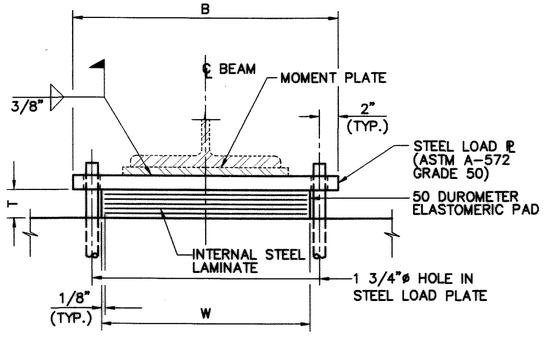


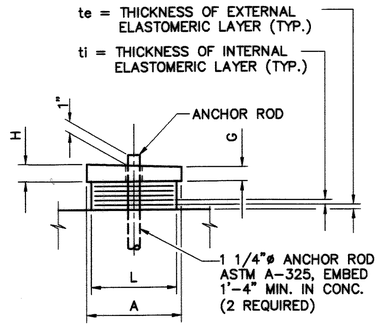
VIEW D

EXPANSION BEARING DETAIL

PIER NO. 1



VIEW E



VIEW F

FIXED BEARING DETAIL

PIER NO. 2

NOTES:

1. FOR NOTES AND ADDITIONAL BEARING DETAILS, SEE SHT. NO. 12/20 .

DESIGN AGENCY
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GPD ASSOCIATES
333 South Main Street, Suite 231, Akron, Ohio 44311
330-572-2100, Fax 330-572-2101

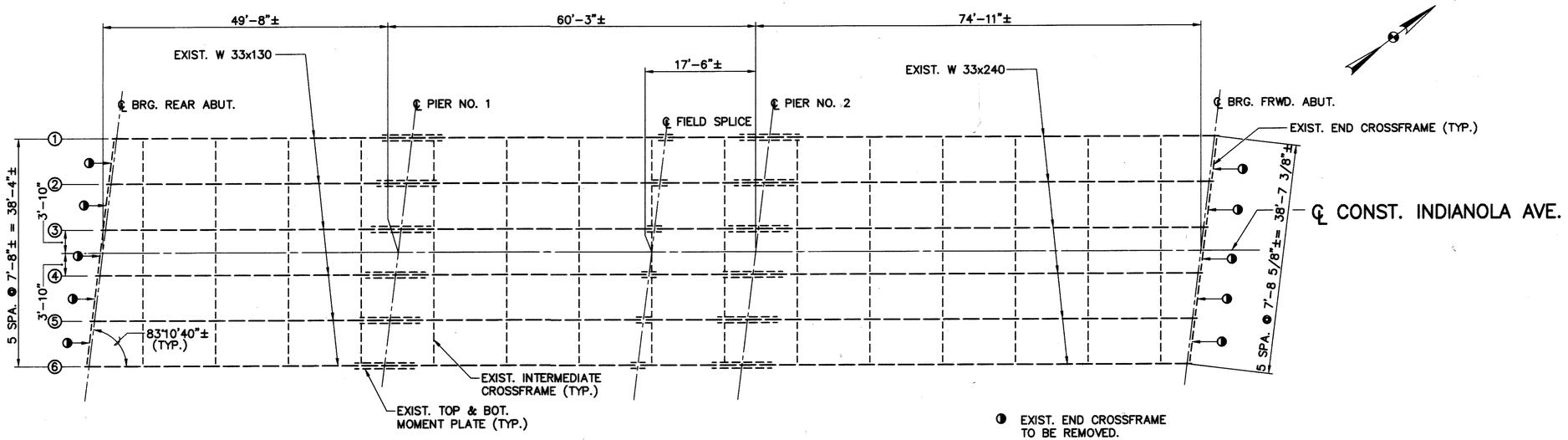
DESIGNED	DRAWN	REVIEWED	DATE
R.H.C.	R.P.R.	K.S.J.	8-1-03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
P.J.W.		5007429	

LAMINATED ELASTOMERIC BEARINGS
BRIDGE NO. MAH - 680 - 0818
INDIANOLA AVE. OVER I-680

MAH-680-8.18

13/20

60/67



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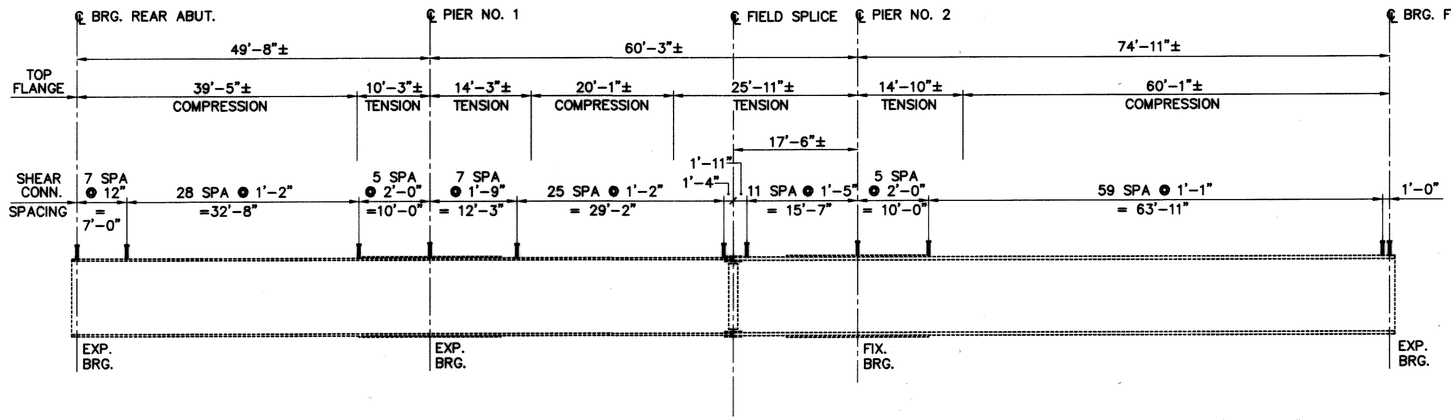

ELEVATION

EX. BMS. 1 THRU. 6

NOTES:

1. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE AT LEAST 2" LONG, AND AT LEAST 1/4" FOR THICKNESSES UP TO 3/4" THICK OR 5/16" FOR GREATER THAN 3/4" THICK.
2. FOR BEARING DETAILS, SEE SHT. NOS. 12/20 & 13/20.

DESIGN AGENCY
GLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
GPD ASSOCIATES
330-572-2100, Fax 330-572-2101

DESIGNED B.J.M. | DRAWN R.H.C. | CHECKED P.J.W. | REVIEWED K.S.J. | DATE 8-1-03 | REVISED | STRUCTURE FILE NUMBER 5007429

FRAMING PLAN
BRIDGE NO. MAH - 680 - 0818
INDIANOLA AVE. OVER I-680

MAH-680-8.18

14/20

61/67

Cad File: G:\CIVIL\2001169\01\111\DWG\STRUCT\DWG\2001169_111FRAME.DWG
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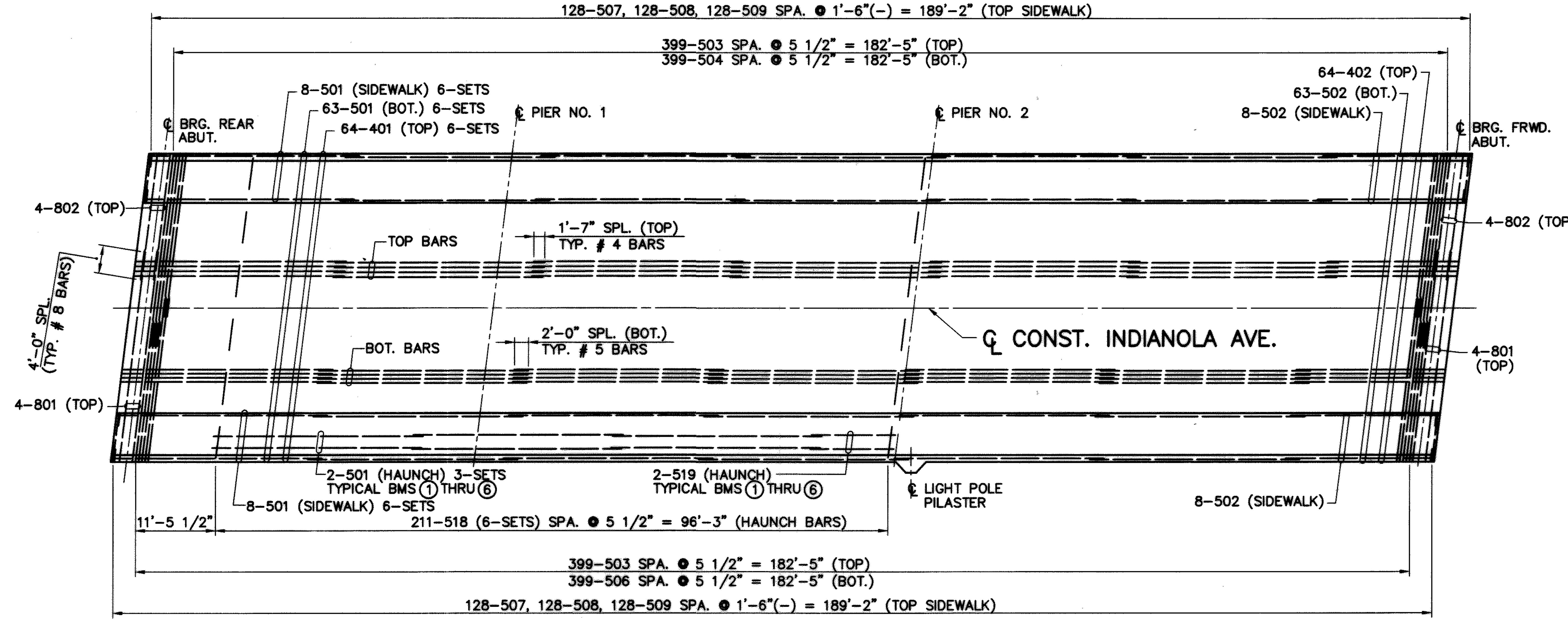
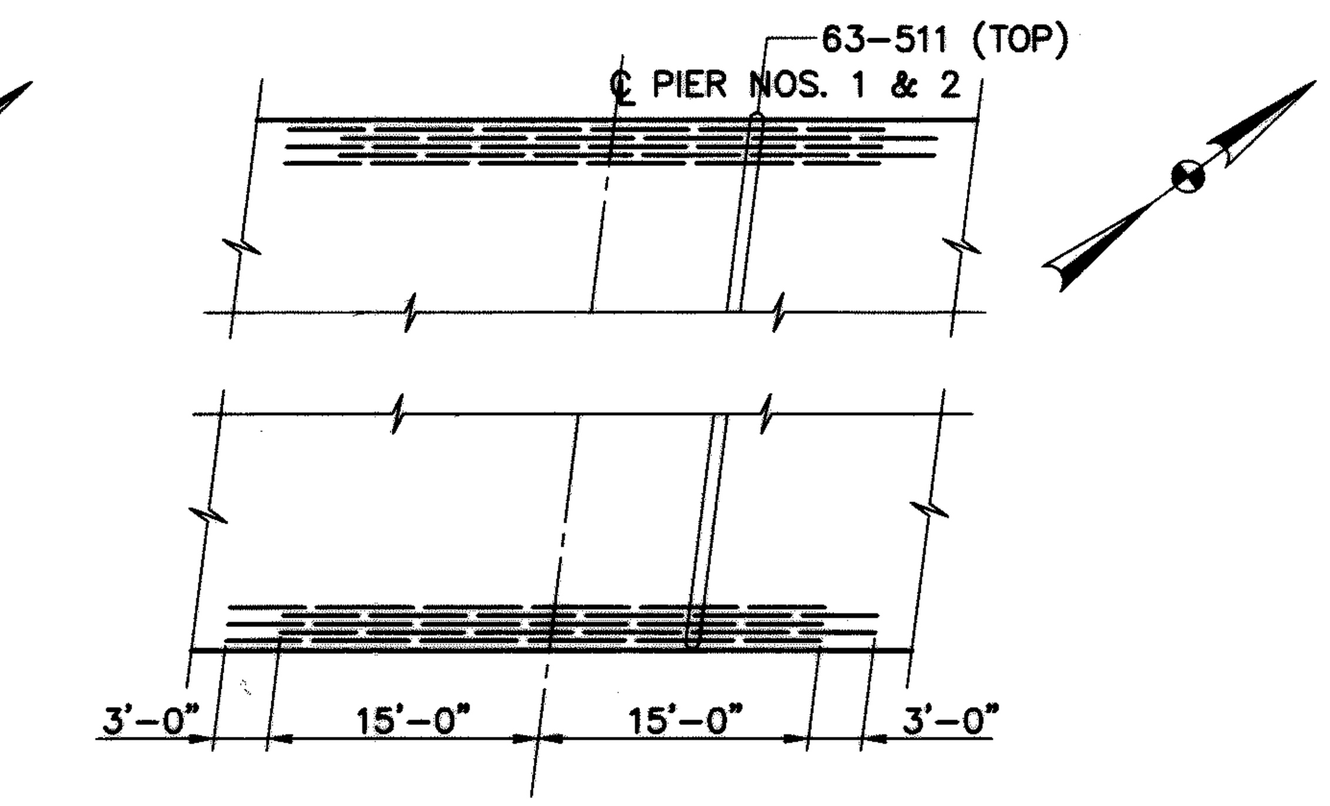
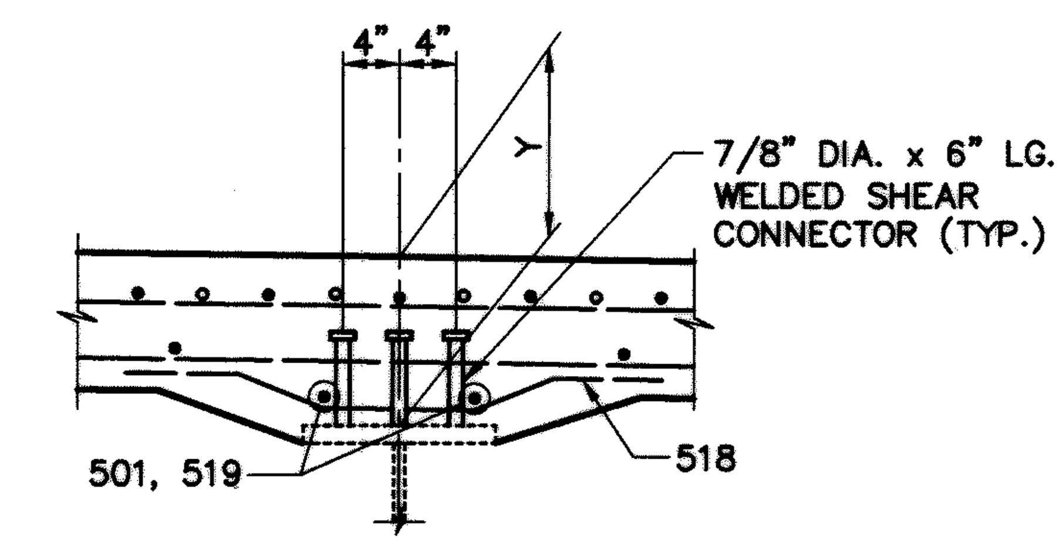


SLAB PLAN

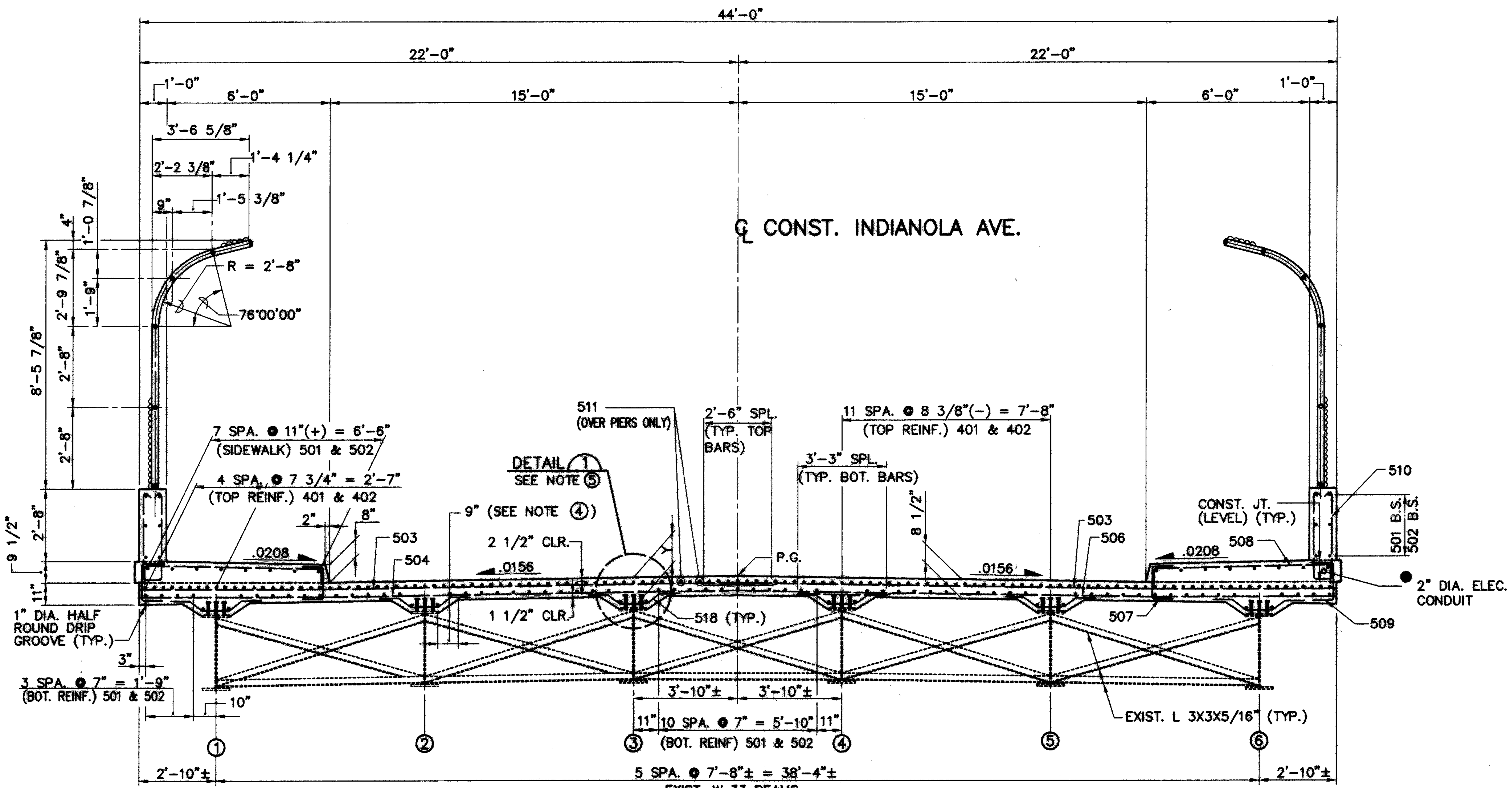


ADDITIONAL REINFORCING OVER PIERS



DETAIL ①

DEPTH OF SLAB OVER BEAM, Y				
LOCATION	REAR ABUT.	PIER NO. 1	PIER NO. 2	FRWD. ABUT.
BM. 1	11 1/16"	1'-3 15/16"	1'-1 1/4"	10 3/8"
BM. 2	10 7/8"	1'-4 1/16"	1'-1 5/16"	10 1/2"
BM. 3	10 11/16"	1'-4 1/4"	1'-1 5/16"	10 9/16"
BM. 4	10 1/2"	1'-4 3/8"	1'-1 3/8"	10 5/8"
BM. 5	10 5/16"	1'-4 7/16"	1'-1 7/16"	10 5/8"
BM. 6	10 1/16"	1'-4 7/16"	1'-1 7/16"	10 5/8"



TRANSVERSE SECTION

● INCLUDED WITH LIGHTING QUANTITIES, SHT. NO. 47/67.

NOTES:

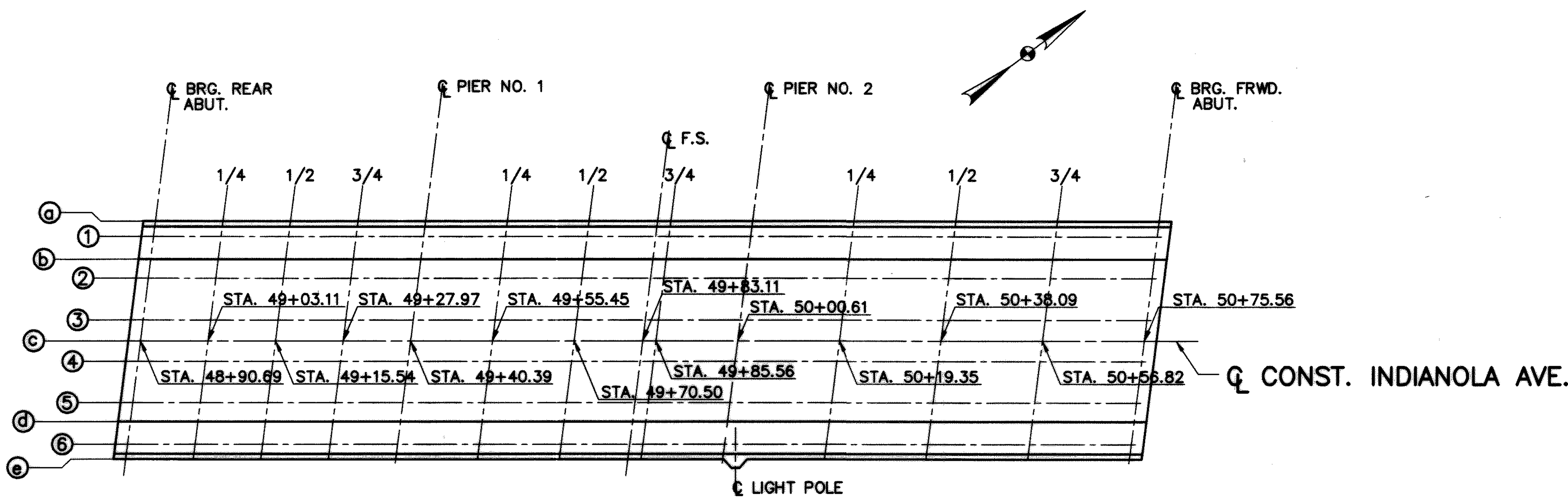
1. PREFIX "S" WILL BE ADDED TO ALL REBARS SHOWN FOR DECK SLAB. SEE REINFORCING SCHEDULE.
2. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
3. MINIMUM CLEARANCE TO REBARS SHALL BE 2" UNLESS NOTED OTHERWISE.
4. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 4.6 INCHES AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE IS ± 3 INCHES.
5. DECK SLAB DEPTH (Y): FOR TABULATION OF "Y", SEE DETAIL 1.
6. FOR SCREED ELEVATIONS AND SEALING OF CONCRETE SURFACES, SEE SHT. NO. 16/20.
7. QUANTITY OF CONCRETE FOR SIDEWALK IS INCLUDED WITH ITEM 511, CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN FOR PAYMENT.
8. QUANTITY OF CONCRETE FOR RAILING IS INCLUDED WITH ITEM 511, CLASS HP CONCRETE, BRIDGE DECK (PARAPET), FOR PAYMENT.
9. FOR RAILING AND PILASTER DETAILS AND POST SPACINGS, SEE SHT. 17/20.
10. FOR CHAIN LINK FENCE DETAILS, SEE STD. DWG. NO. VPF-1-90.
11. FOR ADDITIONAL ELEC. CONDUIT DETAILS, SEE STD DWG. NO. HL-30.32.

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

DESIGNED	DRAWN	REVIEWED	DATE
R.H.C.	R.H.C.	K.S.J.	8-1-03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
P.J.W.		5007429	

SLAB PLAN
BRIDGE NO. MAH - 680 - 0818
INDIANOLA AVE. OVER I-680

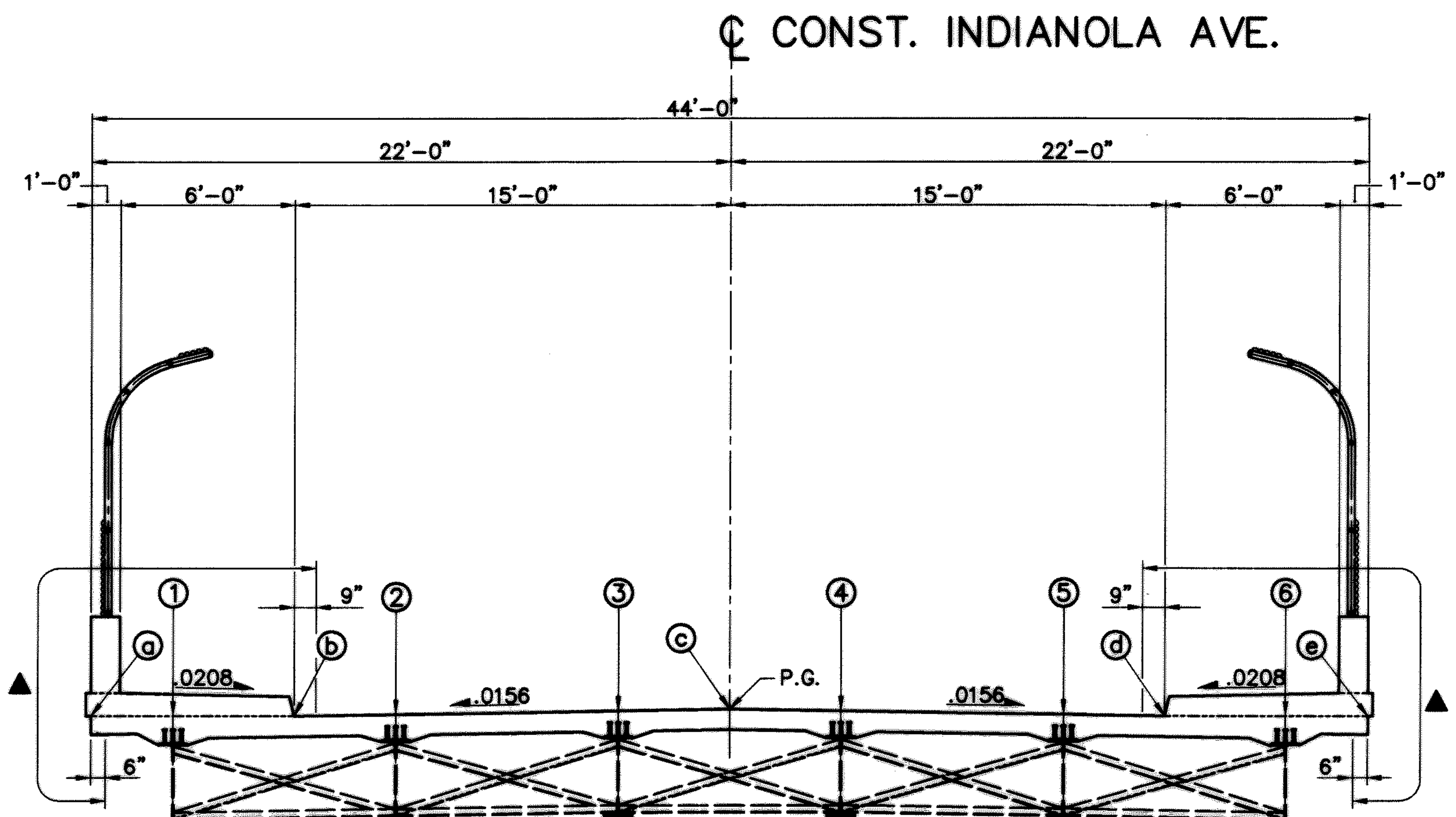
MAH-680-8.18



PLAN
SCREED ELEVATIONS

LOCATION	REAR ABUT.	SPAN NO. 1			℄ PIER NO. 1	SPAN NO. 2				℄ PIER NO.2	SPAN NO. 3			FRWD. ABUT
		1/4	1/2	3/4		1/4	1/2	F.S.	3/4		1/4	1/2	3/4	
ⓐ	968.66	967.83	966.93	965.96	964.95	963.69	962.42	961.36	961.15	959.89	958.37	956.84	955.25	953.60
①	968.73	967.89	966.99	966.03	965.02	963.76	962.49	961.43	961.22	959.97	958.44	956.91	955.32	953.67
ⓑ	968.83	967.99	967.10	966.14	965.12	963.87	962.60	961.53	961.33	960.07	958.55	957.02	955.42	953.78
②	968.91	968.08	967.18	966.22	965.21	963.96	962.69	961.62	961.42	960.16	958.64	957.11	955.51	953.87
③	969.09	968.26	967.37	966.41	965.41	964.15	962.89	961.82	961.62	960.36	958.84	957.30	955.71	954.07
ⓒ	969.18	968.36	967.46	966.51	965.51	964.25	962.99	961.92	961.71	960.46	958.94	957.40	955.81	954.17
④	969.15	968.33	967.44	966.48	965.48	964.23	962.96	961.90	961.69	960.44	958.91	957.38	955.79	954.14
⑤	969.10	968.27	967.39	966.44	965.44	964.19	962.92	961.86	961.65	960.40	958.87	957.34	955.75	954.10
ⓓ	969.07	968.25	967.36	966.41	965.42	964.17	962.90	961.84	961.63	960.38	958.85	957.32	955.73	954.08
⑥	969.04	968.22	967.33	966.39	965.39	964.15	962.88	961.81	961.61	960.35	958.83	957.30	955.70	954.06
ⓔ	969.02	968.20	967.32	966.37	965.37	964.13	962.86	961.80	961.59	960.34	958.81	957.28	955.69	954.04

Caption: DECK SCREED ELEVATION TABLE



TRANSVERSE SECTION

NOTE:

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

▲ LIMITS OF ITEM 864, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

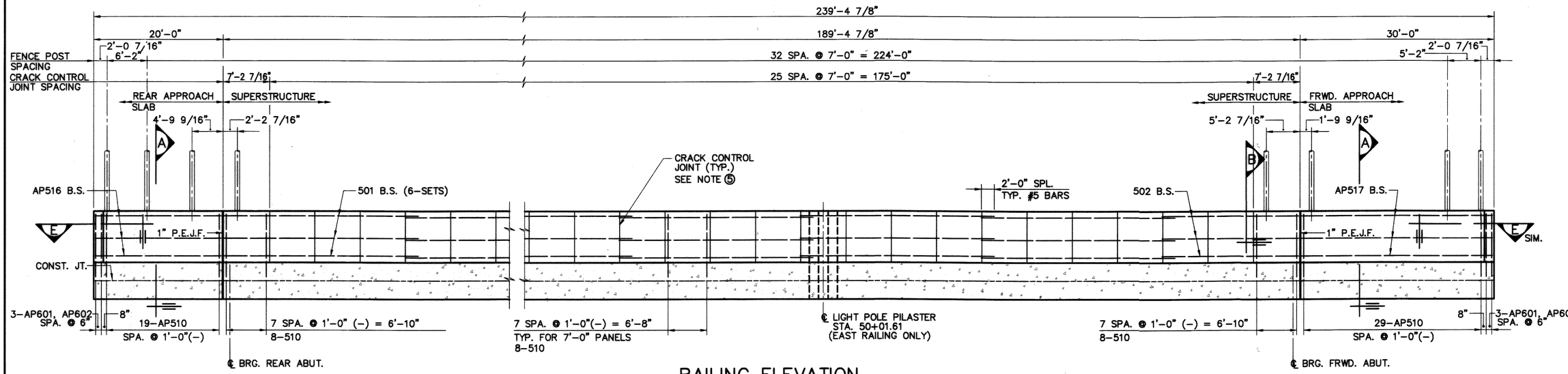
DESIGN AGENCY
GPD ASSOCIATES

DESIGNED R.H.C. | DRAWN R.P.R. | REVIEWED K.S.J. | DATE 8-1-03
CHECKED P.J.W. | REVISED | STRUCTURE FILE NUMBER 5007429

SUPERSTRUCTURE DETAILS
BRIDGE NO. MAH - 680 - 0818
INDIANOLA AVE. OVER I-680

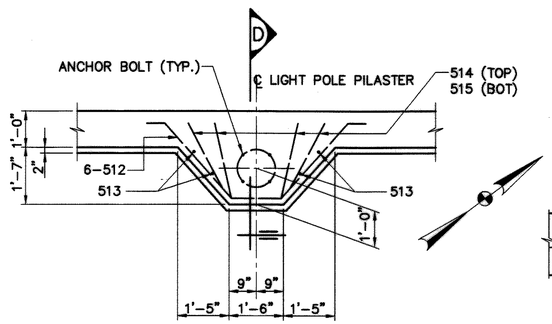
MAH-680-8.18

Technician: AELLERMAN



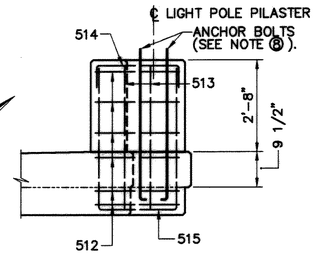
RAILING ELEVATION

WEST RAILING SHOWN
EAST RAILING SIMILAR

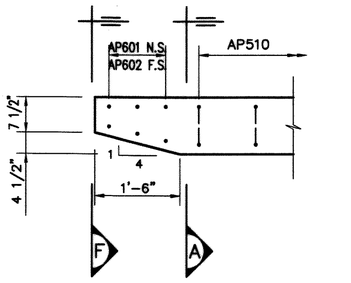


LIGHT POLE PILASTER DETAIL

(PARAPET REINFORCING NOT SHOWN)
(SEE NOTE ⑧)



SECTION D



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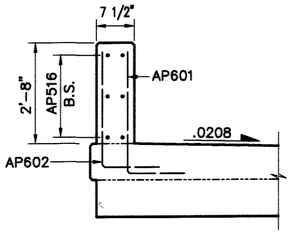
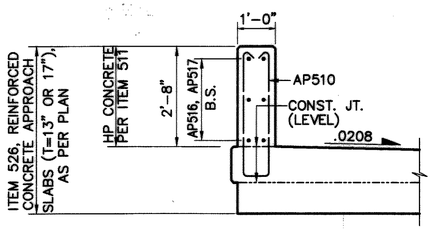
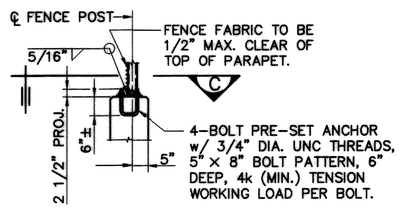


SECTION F

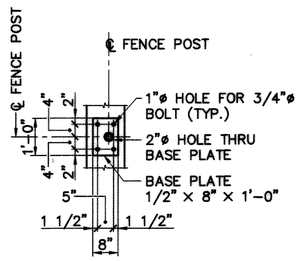


SECTION A

APPROACH SLAB AND SIDEWALK BARS NOT SHOWN



SECTION B



SECTION C

NOTES:

1. PREFIX "S" WILL BE ADDED TO ALL REBAR MARKS SHOWN FOR THE DECK SLAB EXCEPT THOSE BARS PREFIXED WITH "AP". SEE REINFORCING SCHEDULE.
2. MINIMUM CLEARANCE TO ALL REBARS SHALL BE 2" UNLESS NOTED OTHERWISE.
3. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
4. QUANTITY OF CONCRETE FOR RAILING IS INCLUDED WITH ITEM 511-CLASS HP CONCRETE, BRIDGE DECK (PARAPET), FOR PAYMENT.
5. FOR CONCRETE PARAPET NOTE, SEE SHT. NO. 3/20.
6. FOR CHAIN LINK FENCE DETAILS, SEE STD. DWG. NO. VPF-1-90.
7. FOR LIGHT POLE PILASTER DETAILS NOT SHOWN, SEE STD. DWG. NO. HL-20.14.
8. ANCHOR BOLTS ARE INCLUDED WITH ITEM 625, LIGHT POLE ANCHOR BOLTS ON STRUCTURE, SEE SHT. NO. 47/67.

DESIGN AGENCY
GPD ASSOCIATES
CLAUS PAUL SCHOMER BURNS & OBRAVEN, INC.
320 South Main Street, Suite 231 Akron, Ohio 44311
330-572-2100, Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
R.H.C.	R.P.R.	K.S.J.	8-1-03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
P.J.W.		5007429	

RAILING ELEVATION
BRIDGE NO. MAH - 680 - 0818
INDIANOLA AVE. OVER I-680

MAH-680-8.18

17/20

64/67

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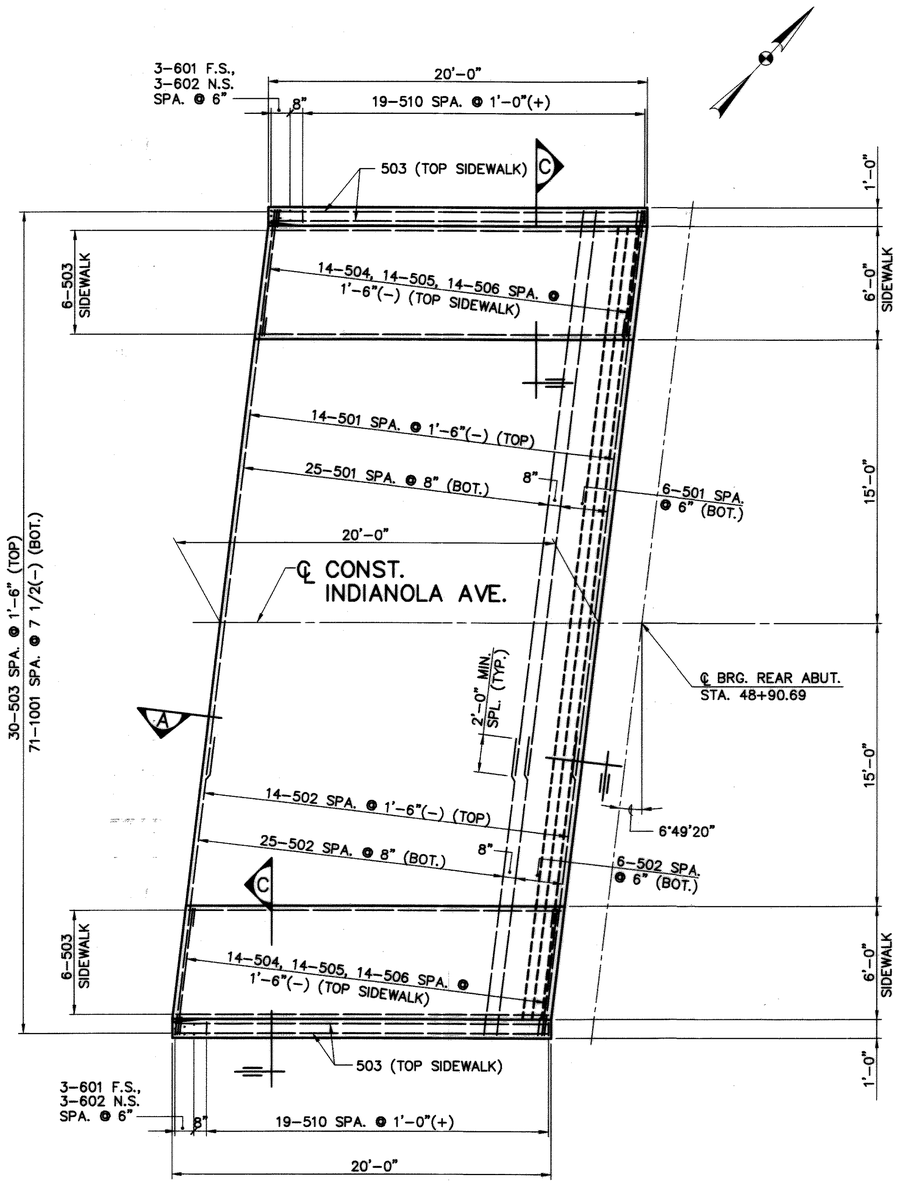
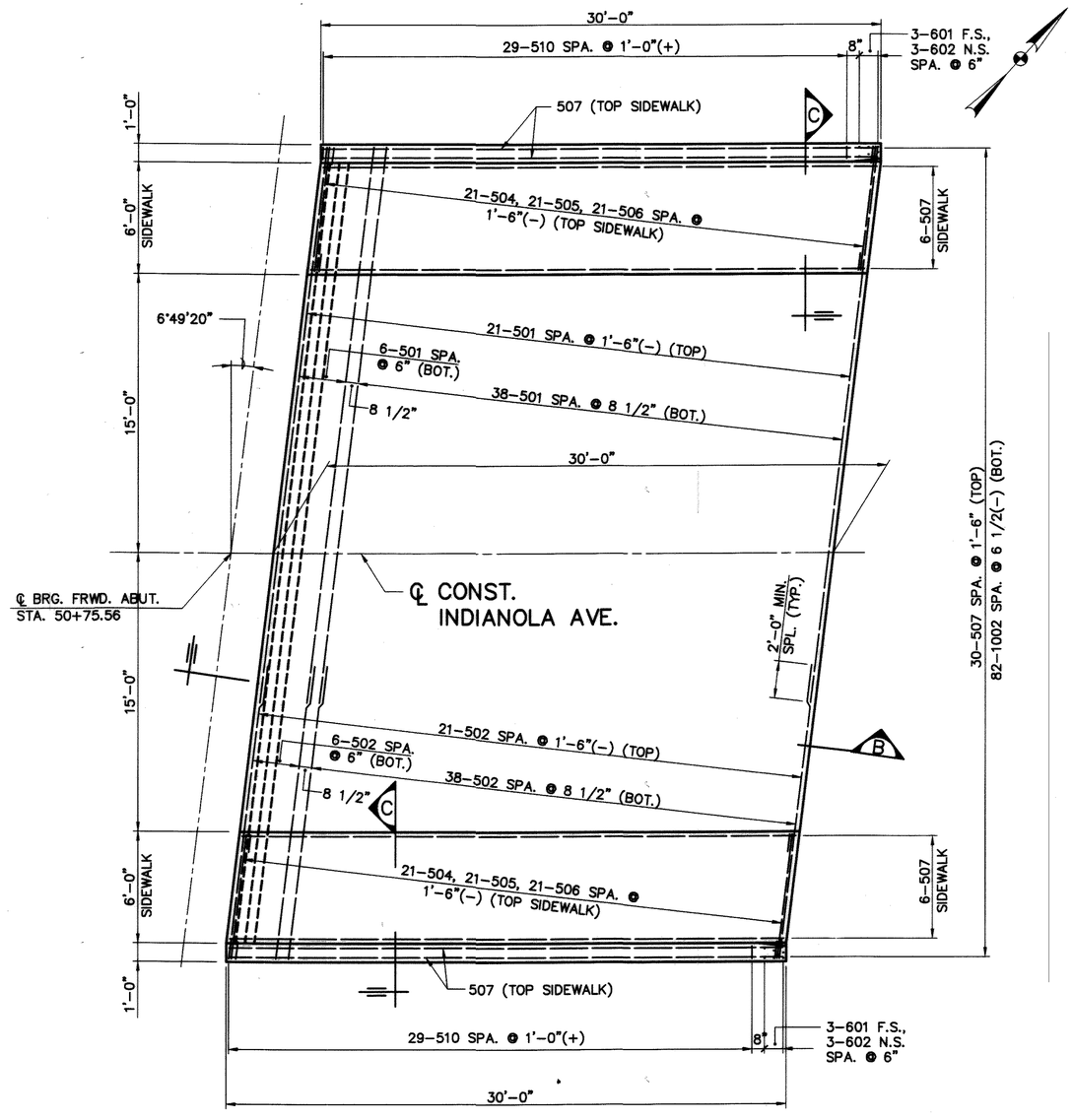


PLAN

REAR APPROACH SLAB



PLAN

FRWD. APPROACH SLAB

NOTES:

1. PREFIX "AP" WILL BE ADDED TO ALL REBAR MARKS SHOWN FOR THE APPROACH SLABS.
2. MINIMUM CLEARANCE TO REBARS SHALL BE 2" UNLESS NOTED.
3. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
4. FOR SECTIONS A, B, AND C, SEE SHT. NO. 19/20 .
5. FOR DETAILS NOT SHOWN, SEE STD. DWG. NO. AS-1-81.

DESIGN AGENCY
CLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
GPD ASSOCIATES
320 South Main Street, Suite 201, Akron, Ohio 44311
330-372-2100 - Fax 330-372-2101

DESIGNED	DRAWN	REVIEWED	DATE
B.J.M.	R.P.R.	K.S.J.	8-1-03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
P.J.W.		5007429	

APPROACH SLABS
BRIDGE NO. MAH - 680 - 0818
INDIANOLA AVE. OVER I-680

MAH-680-8.18

18/20

65/67

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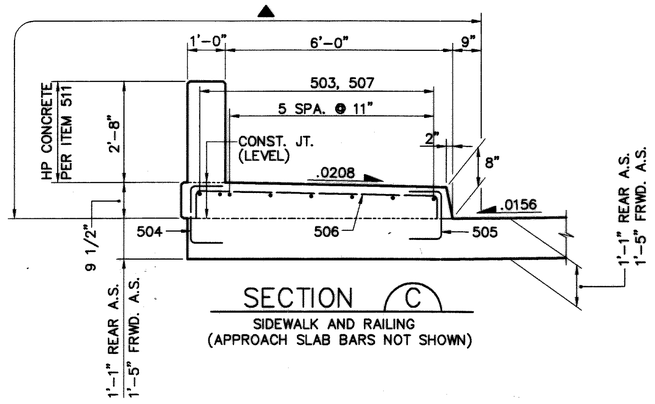
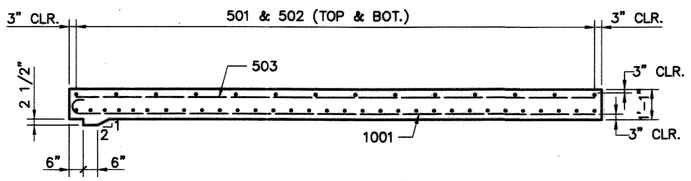
Technician: AELLERMAN



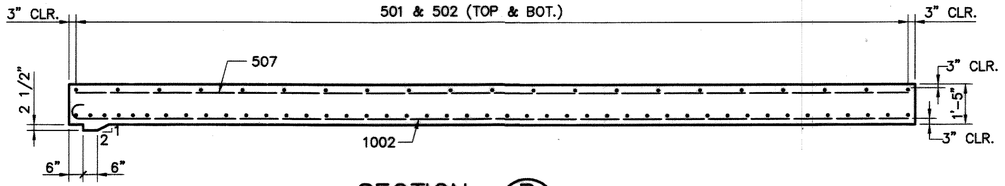
SECTION C

SIDEWALK AND RAILING
(APPROACH SLAB BARS NOT SHOWN)

▲ LIMITS OF ITEM 864 – SEALING OF CONCRETE SURFACES (EPOXY–URETHANE)



SECTION A



SECTION B

NOTES:

1. PREFIX "AP" WILL BE ADDED TO ALL REBAR MARKS SHOWN FOR THE APPROACH SLABS.
2. FOR APPROACH SLAB RAILING AND FENCE DETAILS, SEE SHT. NO. 17/20.
3. FOR DETAILS NOT SHOWN, SEE STD. DWG. NO. AS–1–81.
4. ITEM 526, REINFORCED CONCRETE APPROACH SLAB, AS PER PLAN RAILING ON APPROACH SLAB SHALL BE HIGH PERFORMANCE CONCRETE AS PER ITEM 511. APPROACH SLAB RAILING CONCRETE, REINFORCING STEEL, AND SEALING IS INCLUDED WITH ITEM 526, REINFORCED CONCRETE APPROACH SLAB, AS PER PLAN FOR PAYMENT.
5. FOR LOCATIONS OF SECTIONS A, B & C, SEE SHT. NO. 18/20.

DESIGN AGENCY
CLAUS PYLE SCHOMER BURNS & DEHAVEN, INC.
GPD ASSOCIATES
330-572-2100 Fax 330-572-2101

DESIGNED	DRAWN	REVIEWED	DATE
B.J.M.	R.P.R.	K.S.J.	8–1–03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
P.J.W.		5007429	

APPROACH SLAB DETAILS
BRIDGE NO. MAH – 680 – 0818
INDIANOLA AVE. OVER I–680

MAH–680–8.18

19/20

66
67

ABUTMENT – EPOXY COATED BARS

MARK	NUMBER REAR	NUMBER FRWD	NUMBER TOTAL	LENGTH	WEIGHT (LB)	TYPE	DIMENSIONS A	DIMENSIONS B	DIMENSIONS C	SERIES INC.
A501	4	6	10	30' 0"	313	ST				
A502	54	53	107	3' 3"	363	ST				
A503	40		40	2' 5"	101	ST				
A504	20		20	7' 6"	156	103	3' 5"	2' 2"		
A505	16		16	2' 2"	36	ST				
A506	32		32	7' 2"	239	103	3' 5"	2' 0"		
A507	12	6	18	19' 5"	365	ST				
A508		56	56	3' 11"	229	ST				
A509		52	52	8' 0"	434	103	3' 5"	2' 5"		
A510	8	2	10	11' 7"	121	ST				
A511	2		2	13' 3"	28	ST				
A512	4		4	8' 0"	33	ST				
A513	8		8	12' 1"	101	ST				
A514	8		8	19' 9"	165	ST				
A515	3	4	7	4' 0"	29	105	2' 0"	2' 0"	1' 11 7/8"	
A516	3	4	7	5' 2"	38	123	2' 0"	1' 4"	2' 2"	
A517		5	5	23' 11"	125	ST				
A518		11	11	31' 10"	365	ST				
A519		2	2	25' 0"	52	ST				
A520		5	5	23' 9"	124	ST				
A521		13	13	31' 8"	429	ST				
A522		2	2	18' 2"	38	ST				
A523	2		2	13' 6"	28	ST				
A524	12		12	8' 0"	100	ST				
A525	6		6	4' 6"	28	105	3' 0"	1' 6"	1' 0"	
A601	52		52	3' 3"	254	ST				
A602	26		26	7' 0"	273	103	3' 0"	2' 2"		
A603	26	50	76	5' 8"	647	103	2' 8"	1' 8"		
A604S	1 SER OF 13		1 SER OF 13	14' 4" TO 15' 10"	295	103	1' 2"	6' 9" TO 7' 6"		1 1/2"
A605	2		2	13' 11"	42	107	5' 6"	1' 2"		
A606	2		2	12' 9"	38	107	4' 11"	1' 2"		
A607	8		8	11' 5"	137	107	4' 3"	1' 2"		
A608S	1 SER OF 13		1 SER OF 13	13' 8" TO 15' 2"	281	103	1' 2"	6' 5" TO 7' 2"		1 1/2"
A609S		1 SER OF 25	1 SER OF 25	13' 4" TO 17' 4"	576	103	1' 2"	6' 3" TO 8' 3"		2"
A610S		1 SER OF 6	1 SER OF 6	14' 1" TO 15' 1"	131	107	5' 7" TO 6' 1"	1' 2"		2 3/8"
A611S		1 SER OF 25	1 SER OF 25	14' 2" TO 18' 2"	607	103	1' 2"	6' 8" TO 8' 8"		2"
A612S		1 SER OF 6	1 SER OF 6	14' 11" TO 16' 1"	140	107	6' 0" TO 6' 7"	1' 2"		2 3/4"
A613	26		26	6' 5"	251	103	2' 9"	2' 0"		
A614		50	50	7' 4"	551	103	3' 0"	2' 4"		
A615		50	50	6' 11"	519	103	2' 7"	2' 4"		
A616	9		9	12' 6"	169	103	1' 8"	5' 10"		
A617	9		9	11' 8"	158	103	1' 8"	5' 5"		
A618		100	100	4' 2"	626	ST				
A801	5	5	10	30' 0"	801	ST				
A802	5	5	10	21' 5"	572	ST				

SLAB – EPOXY COATED BARS

MARK	NO.	LENGTH	WEIGHT (LB)	TYPE	DIMENSIONS A	DIMENSIONS B	DIMENSIONS C
S401	384	30' 0"	7,695	ST			
S402	64	20' 0"	855	ST			
S501	582	30' 0"	18,211	ST			
S502	91	22' 5"	2,128	ST			
S503	798	23' 3"	19,351	ST			
S504	399	27' 6"	11,444	ST			
S506	399	19' 10"	8,254	ST			
S507	256	2' 9"	734	103	1' 4"	10"	
S508	256	7' 5"	1,980	103	6' 8"	6"	
S509	256	2' 5"	645	103	1' 0"	10"	
S510	432	7' 8"	3,454	124	3' 2"	8"	
S511	126	33' 0"	4,337	ST			
S512	6	8' 1"	51	132			
S513	4	4' 0"	17	ST			
S514	4	3' 0"	13	103	2' 1"	7"	
S515	4	9' 10"	41	103	2' 1"	4' 0"	
S518	1,266	4' 7"	6,052	135			
S519	12	12' 0"	150	ST			
S520	72	8' 2"	613	103	3' 5"	2' 6"	
S521	36	7' 0"	263	133	2' 1"	2' 3"	2' 11"
S522	72	7' 8"	576	103	3' 5"	2' 3"	
S523	36	8' 1"	304	133	2' 7"	2' 10"	2' 11"
S801	30	30' 0"	2,403	ST			
S802	30	18' 0"	1,442	ST			
S803	30	4' 5"	354	134	2' 6"	9"	8"
S804	30	4' 9"	380	134	2' 10"	8"	9"

PIERS – EPOXY COATED BARS

MARK	NUMBER PIER 1	NUMBER PIER 2	NUMBER TOTAL	LENGTH	WEIGHT (LB)	TYPE	DIMENSIONS A	DIMENSIONS B
P501	54	54	108	3' 0"	338	ST		
P502	47		47	6' 7"	323	103	2' 8"	2' 1"
P503		47	47	7' 11"	388	103	2' 8"	2' 9"
P504	8	8	16	20' 0"	334	ST		
P505	6	6	12	20' 8"	259	ST		
P506	2	2	4	23' 2"	97	ST		
P507	6	6	12	8' 1"	101	119	1' 3"	2' 0"
P601	6		6	7' 4"	66	103	2' 8"	2' 6"
P602	12		12	3' 10"	69	102	2' 6"	1' 6"
P901	4		4	2' 8"	36	ST		
P902	12		12	3' 9"	153	102	2' 6"	1' 6"

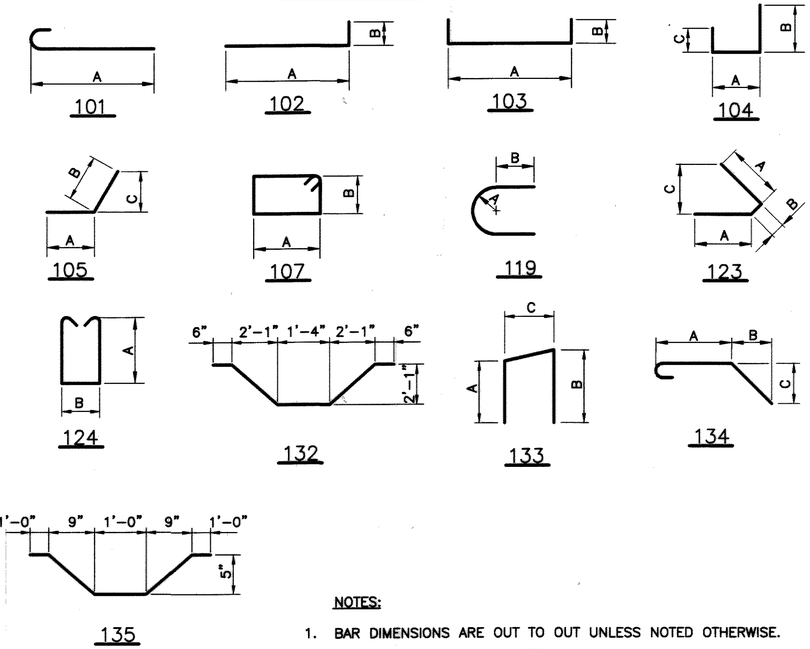
SUMMARY AND GRAND TOTAL OF BAR WEIGHTS

ABUTMENTS	10,461
SLAB	91,747
PIER	2,164
GRAND TOTAL	104,372

APPROACH SLAB – EPOXY COATED BARS

MARK	NUMBER REAR	NUMBER FRWD	NUMBER TOTAL	LENGTH	WEIGHT (LB)	TYPE	DIMENSIONS A	DIMENSIONS B	DIMENSIONS C	SERIES INC.
AP501	45	65	110	30' 0"	3,442	ST				
AP502	45	65	110	16' 0"	1,836	ST				
AP503	46		46	19' 6"	936	ST				
AP504	28	42	70	2' 11"	213	103	1' 6"	10"		
AP505	28	42	70	2' 8"	195	103	1' 3"	10"		
AP506	28	42	70	7' 6"	548	104	6' 6"	9"	6"	
AP507		46	46	29' 6"	1,415	ST				
AP510	38	58	96	7' 8"	768	124	3' 2"	8"		
AP516	12		12	19' 8"	246	ST				
AP517		12	12	29' 8"	371	ST				
AP601	6	6	12	4' 6"	81	102	3' 2"	1' 6"		
AP602	6	6	12	4' 4"	78	102	3' 0"	1' 6"		
AP1001	71		71	20' 11"	6,390	101	19' 6"			
AP1002		82	82	30' 11"	10,909	101	29' 6"			
				TOTAL	27,428					

STANDARD BAR TYPES



NOTES:

1. BAR DIMENSIONS ARE OUT TO OUT UNLESS NOTED OTHERWISE.
2. ALL BARS ARE EPOXY COATED.
3. I.R. DENOTES INSIDE RADIUS
4. WHEN NO BAR LEG DIMENSIONS ARE SHOWN, IT INDICATES STANDARD BEND.
5. 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 611S
- SERIES BAR
- NO. 6 SIZE BAR
- ABUTMENT

DESIGN AGENCY
CLAUS PILE SCHOMER BURNS & ORNAVEN, INC.
GPD ASSOCIATES
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330-572-2100, Fax 330-572-2101

DESIGNED B.J.M. | DRAWN R.C.P. | CHECKED P.J.W. | REVIEWED K.S.J. | DATE 8-1-03 | REVISED | STRUCTURE FILE NUMBER 5007429

REINFORCING SCHEDULE
BRIDGE NO. MAH – 680 – 0818
INDIANOLA AVE. OVER I-680

MAH-680-7.24/ 8.18/8.34

20 / 20

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