MICROFILMED
APR 2 1985

CONVENTIONAL SIGNS

TOWNSHIP LINE
GREAT LOT LINE OR TRACT LINE
EXISTING RIGHT OF WAY
PROPERTY LINES
CENTER LINE
FENCE LINE
GUARD RAIL
RAILROAD
PROPOSED LIMITED ACCESS LINE
PROPOSED RIGHT OF WAY
PROPOSED EASEMENTS
POWER POLES
TELEPHONE POLES
TREES

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Sheet 272 not used
289A - 299B added 3/27/68
299A - 299B revised 7/11/68

LINE DATA

BEGIN PROJECT STATION 370+07.44
END I.G. FUNDS STATION 388+00 — 1,792.56 L.F.
Deduct for L.E. (Sta. 371+42.88 to 372+02.88) — 60.00 L.F.
NET LENGTH PROJECT I.G. 1,732.56 L.F. 0.328 MI.

BEGIN FUNDS STATION 388+00
STATION EQUATION STATION 420+00 BK = STATION 418+60 AH.
END PROJECT STATION 520+80.75 — 13,420.75 L.F.
Add for Sta. 371+42.88 to 372+02.88 — + 60.00 L.F.
Net Length Project I. — 13,480.75 — 2.553 MI.
TOTAL NET LENGTH PROJECT 15,213.31 L.F. 2.881 MI.
ADD FOR APPROACHES (SHEET No 13) 8091.54 L.F. 1.532 MI.
TOTAL LENGTH WORK 23,304.85 L.F. 4.413 MI.

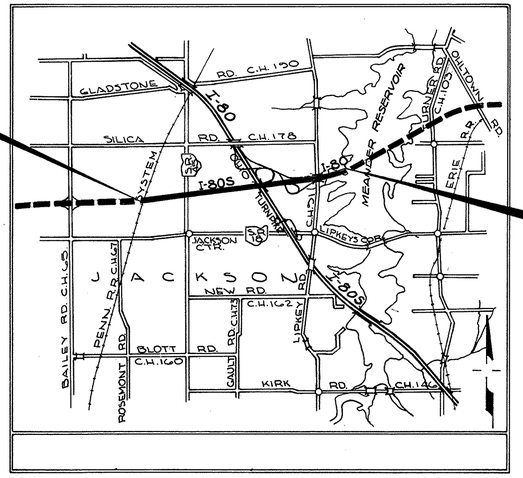
File No	Mahoning County MAH-80S-7.01, MAH-80-2.30
	Date of Letting ____ 19__
	Contract No ____

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
MAH-80S-7.01
MAH-80-2.30
MAHONING COUNTY

JACKSON TOWNSHIP

GRADE SEPARATION WITH THE PENN. RAILROAD CO.

STA. 370+07.44
BEGIN PROJECT
MAH-80S-7.01
MAH-80-2.30



LOCATION MAP

SCALE OF MILES
0 1 2 3 4 5 6

Portion to be improved
Portion to be improved by others

STA. 520+80.75
END PROJECT
MAH-80S-7.01
MAH-80-2.30

SCALE

PLAN = 50'
PROFILE: HORIZONTAL = 50'
PROFILE: VERTICAL = 5'
CROSS SECTIONS = 10'

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS							
BP-1	6-1-65	CB-8	6-1-65	GR-6	6-1-65	MC-1	10-1-67
BP-2	1-10-67	F-1	6-1-65	HW-1	6-1-65	MC-3	5-1-66
BP-3	1-10-67	F-2	6-1-65	HW-3	6-1-65	MC-4	6-1-65
BP-4	1-10-67	F-3	10-1-66	HW-E	6-1-65	MC-5	6-1-65
BP-5	6-1-65			HL-1	11-1-65	MC-6	6-1-65
BP-6	6-1-65	F-5	10-1-66	HL-2	11-1-65	MC-7	3-1-66
BP-7	1-1-66	FAC1-1	9-15-67	HL-3	11-1-65	MH-1	6-1-65
CB-2-2-A&B	6-1-65	FAC1-2	6-1-65	HL-4	1-1-66	MH-1A	8-1-66
		GR-1	1-1-67	I-2	6-1-65	SP-53	6-30-61
CB-4	6-1-65	GR-2A	1-1-67	L-1	6-1-65	SD-1-65	11-8-65
CB-5	6-1-65	GR-5B	6-1-65	RP-1-65	11-21-67	SS-1-54	8-10-65
CB-6	6-1-65	F-6	10-1-66	RP-1-55	2-2-55		

SUPPLEMENTAL SPECIFICATIONS	
801	1-1-67
806	1-1-67
808	1-15-67
811	1-1-67
815	1-1-67
816	8-6-65
825	1-1-67
828	1-1-67
832	5-25-67
931	5-25-67
1001	3-21-66

MICROFILMED
JUL 26 1978
REPRODUCTION

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5(3)228	

1/384

MAH-80S-7.01
MAH-80-2.30

LIMITED ACCESS

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

DESIGN DESIGNATION

A.D.T. 1968 ---- 16,310
A.D.T. 1985 ---- 30,174
D.H.V. ---- 2,716
D. ---- 60%
T. ---- 11%
V. ---- 70 M.P.H.

I-IG-80-5(3)228

1967 SPECIFICATIONS

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

THE RIGHT OF WAY FOR THIS IMPROVEMENT WILL BE PROVIDED BY THE STATE OF OHIO.

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

Approved Clifton M. Kendall
Date 11-13-67 Division Deputy Director

Approved C. H. Altvater
Date 1-2-68 Engineer of Bridges

Approved R. E. Catlin
Date 1-9-68 Engineer of Location and Design

Approved ____
Date ____ Deputy Director of Design and Construction

Approved T. M. Brand
Date 1-29-68 Deputy Director of Right of Way

ADD 7
10-24-67
Approved Thomas M. Major
Date 1-24-68 Deputy Director of Planning and Programming

Approved E. W. Wilson
Date 1-24-68 First Assistant Director

Approved P. E. Machtes
Date 1-24-68 Director of Highways

PREPARED AND RECOMMENDED BY
DALTON · DALTON ASSOCIATES
AKRON OHIO CLEVELAND

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS

APPROVED

Division Engineer ____ Date ____

MICROFILMED
APR 2 1986

FED. RD.	STATE	PROJECT	
2	OHIO		

2/384

MAH.-80S-7.01
MAH.-80 -2.30

END PROJECT MAH 80S-3.08 STA. 370+07.44 I-IG-80S-7(7)220
BEGIN PROJECT MAH80S-7.01 MAH 80-2.30 STA. 370+07.44 I-IG-80-5(3)228 S.L.M. 7.01

END PROJECT MAH 80S-7.01 MAH 80-2.30 STA. 520+80.75 I-IG-80-5(3)228 S.L.M. 5.89
BEGIN PROJECT MAH 80-3.37 STA. 520+80.75 I-IG-80-5(4)229

MATCH LINE "A"
RESUME WORK STA. 72+00.15
BEGIN WORK STA. 538+75
SUSPEND WORK STA. 539+25
ONE MILE
"EQUATION" ℄ S.R. 45
SUSPEND WORK STA. 28+00
RESUME WORK STA. 26+25
"A" MATCH LINE
OHIO TURNPIKE (I-80)
S 31° 23' 11" E
58°24'45"
BRIDGE Nº MAH 80-0148
STA. 84+32.86 (O.T.)
Begin Work Sta. 32+85
End Work Sta. 34+80
SILICA ROAD C.H. 178
C.H. 91 ROAD
LINE "X"
RAMP "C"
℄ TEMP. CROSSOVER STA. 100+87
LINE "B"
STATE I. Sta. 449+00
I. Sta. 454+00
TOLL PLAZA TO BE DONE BY OTHERS EXCEPT GRADING
RAMP "D"
END WORK STA. 56+50
END WORK STA. 521+15
I.
P.T. STA. 515+00
BEGIN WORK STA. 369+78
I.G.
S6°19'47" (LOCAL TANGENT)
P.T. STA. 378+87.13
STA. 388+00 I.G. I.
F.A.C.I. SIGN
STA. 402+98.79
420+00 BACK = 416+00 AHEAD
"EQUATION"
TRACT 13
BRIDGE Nº MAH 80-0186
S.R. 45 N 0° 14' 53" W
R.R.
℄ TEMP. CROSSOVER STA. 107+67
STA. 455+24.82 (I-80) STA. 118+74.19 (O.T.)
STA. 475+75.82
P.C. STA. 507+37.00
N 83° 06' 30" E
BRIDGE Nº MAH 80S-0761 L. & R.
I-80S
BRIDGE Nº MAH 80S-0861
BRIDGE Nº MAH 80-0289 L & R
BRIDGE Nº MAH 80-0240 I-80
FIRE TRAIL
370 380 390 400 410 420 430 440 450 460 470 480 490 500 510 520
BRIDGE Nº MAH 80S-0701 L & R
℄ CROSSOVER STA. 431+00
℄ CROSSOVER STA. 512+00
I Funds From Sta. 371+42.88 to 372+02.88
STA. 371+11.34
F.A.C.I. SIGN
S.R. 45 BRG. BREAK
56°38'37"
114°29'41"
TEMPORARY ROAD
BRIDGE Nº MAH 80S-0862
RAMP "A"
83°41'45"
FIRE TRAIL & TEMPORARY ROAD
SUSPEND WORK STA. 133+03
BEGIN WORK STA. 43+00
OHIO TURNPIKE
LINE "G" 130
TRACT 13
TRACT 12
N 0° 05' 53" W
FUTURE CONSTRUCTION (BY OTHERS)
140
RAMP "H"
(I-80S)
150 RAMP "J"
LIPKEY N 00° 35' 15" W
CURVE DATA
Δ = 17° 08' 31"
D = 1° 28'
R = 3900.53'
T = 588.78'
E = 44.12'
L = 1168.77'
JACKSON TWP. AUSTINTOWN TWP.
MAHONING
RESUME WORK STA. 153+95
EXIST. S.R. 18
60
SUSPEND WORK STA. 155+70
RESUME WORK STA. 214+50
END WORK STA. 216+25

CURVE DATA
Δ = 7° 31' 36"
D = 0° 15'
R = 22,918.32'
T = 1,507.50'
E = 49.53'
L = 3010.67'
L' = 879.69' (MAH. 80S-7.01)

GRAPHIC SCALE
0 600 1200 2400 3600

LOCATION PLAN

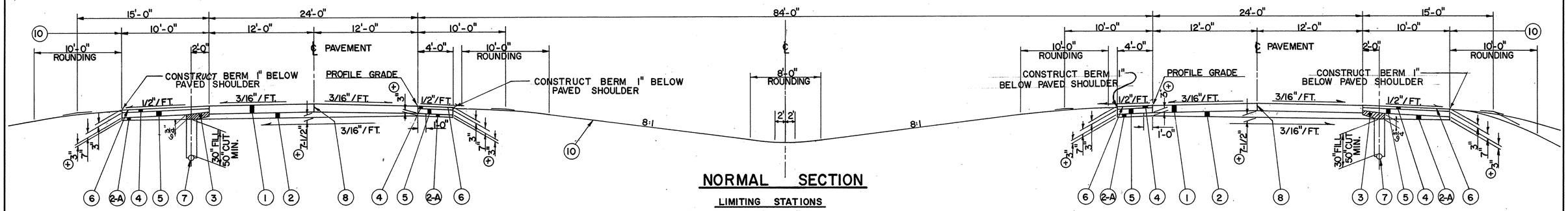
TYPICAL SECTIONS

TYPE 451
CODE 7221

FED. RD.	STATE	PROJECT	
2	OHIO		

3
384

MAH.-80S-7.01
MAH.-80-2.30



NORMAL SECTION

LIMITING STATIONS

STA. 370+07.44	TO	STA. 370+32.46	
STA. 372+53.54	TO	STA. 401+95.04	(STA. 420+00 BK. STA. 418+60 AH'D.)
STA. 403+58.56	TO	STA. 495+23.82	
STA. 496+67.32	TO	STA. 506+37.02	
STA. 520+05.75	TO	STA. 521+05.75	

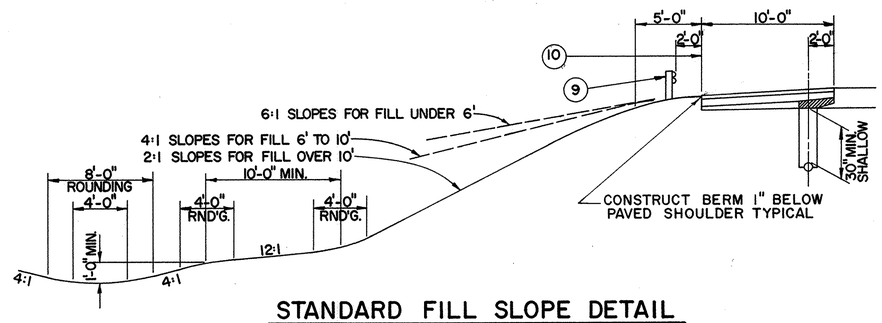
BRIDGE LIMITS

STA. 370+32.46	TO	STA. 372+53.54
STA. 401+95.04	TO	STA. 403+58.56
STA. 495+23.82	TO	STA. 496+67.32

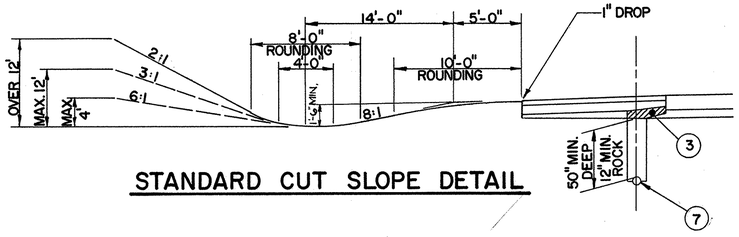
APPROX. ROCK LIMITS ⊕

STA. 407+00	TO	STA. 456+00
STA. 469+50	TO	STA. 483+00

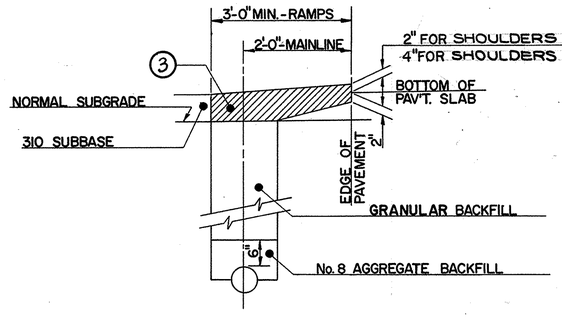
(1)	451	10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT.
(2)	310	VARIABLE DEPTH SUBBASE, GRADING A OR B MODIFIED AS PER GENERAL NOTE.⊕
(2A)	310	VARIABLE DEPTH SUBBASE.*⊕
‡ (3)		SPECIAL DRAINAGE CONNECTION, USING No.8 AGGREGATE (SEE DETAIL THIS SHEET AND NOTE IN PROPOSAL).
(4)	301	3" BITUMINOUS AGGREGATE BASE, 702.01 (85-100) OR 702.09, RT-10 (SEE NOTE IN PROPOSAL). NOTE: ADJACENT TO SPEED CHANGE LANES THE DEPTH OF 301 SHALL BE INCREASED TO 6", WITH A COMPENSATING REDUCTION IN 304 THICKNESS.
(5)	304	VARIABLE DEPTH AGGREGATE BASE.
(6)	409	SEAL COAT BITUMINOUS MATERIAL, APPLIED@0.30 GAL. PER SQ.YD., SEAL COAT COVER AGGREGATE №8, APPLIED@0.008 CU. YD. PER SQ.YD. (SEE NOTE IN PROPOSAL)
(7)	605	6" PIPE UNDERDRAIN (707.06 OR 707.12 SHALL BE USED IN ROCK CUT)**
(8)		STANDARD LONGITUDINAL JOINT.
(9)	606	GUARD RAIL, TYPE-4, *Modified as per plan*
(10)	659	SEEDING AND MULCHING *(See General Notes)*



STANDARD FILL SLOPE DETAIL



STANDARD CUT SLOPE DETAIL



SPECIAL DRAINAGE DETAIL

‡ SEQUENCE OF OPERATIONS: (1) INSTALL PIPE UNDERDRAIN ON OUTSIDE SHOULDER. (2) PLACE SUBBASE TO OUTSIDE EDGE OF UNDERDRAIN OR TO ONE FOOT BEYOND EDGE OF PAVEMENT WHERE NO UNDERDRAIN IS PRESENT. ‡ (3) CONSTRUCT 451. (4) REMOVE SUBBASE AND ANY CONTAMINATED BACKFILL OVER DRAIN AND REPLACE WITH No.8 AGGREGATE AS SHOWN. (5) COMPLETE SHOULDER AS SHOWN.

‡ *Payment shall be made for all subbase placed in this operation.*

* SUBBASE UNDER PAVED SHOULDERS SHALL MEET THE GRADING REQUIREMENTS OF REGULAR GRADING 310. THE LIMITS FOR REGULAR GRADING 310 ARE FROM THE UNDERDRAIN TRENCH (OR ONE FOOT BEYOND THE SLAB EDGE WHERE UNDERDRAINS ARE NOT USED) TO THE EDGE OF SHOULDER, AS SHOWN.

** UNLESS OTHERWISE SHOWN ON PLANS, UNDERDRAINS SHALL BE LAID PARALLEL TO PROFILE GRADE WITH 30" OF COVER FROM BOTTOM OF SUBBASE TO CROWN OF PIPE. WHERE DEEP UNDERDRAINS ARE CALLED FOR, 50" COVER FROM BOTTOM OF SUBBASE TO CROWN OF PIPE SHALL BE PROVIDED.

IN ROCK CUTS, UNDERDRAINS SHALL BE 6" ITEM 605 TYPE 707.06 OR 707.12 PIPE WITH 12" OF COVER FROM BOTTOM OF SUBBASE TO CROWN OF PIPE.

SLOPES TYPICAL UNLESS OTHERWISE SHOWN ON CROSS SECTIONS.

⊕ IN ROCK CUT INCREASE DEPTH OF SUBBASE (310) BY 2 INCHES.

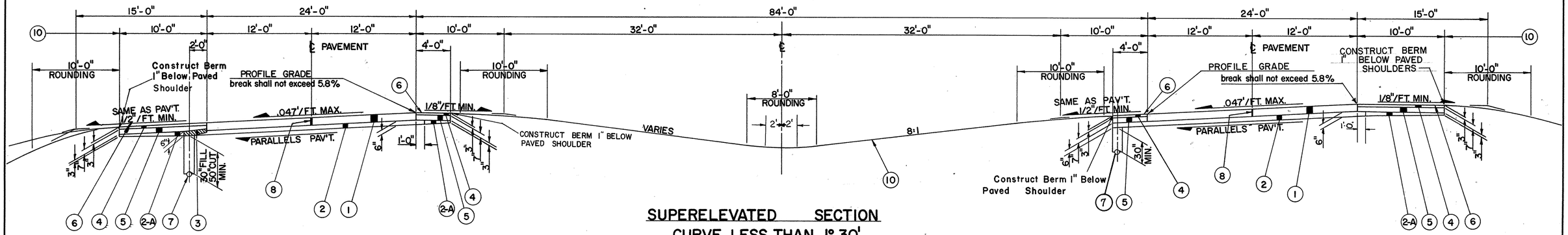
FED. RD.	STATE	PROJECT	
2	OHIO		

4
384

MAH.-80S-7.01
MAH.-80-2.30

TYPICAL SECTIONS

TYPE 451
CODE 7221



SUPERELEVATED SECTION
CURVE LESS THAN 1° 30'

LIMITING STATIONS
STA. 506 + 37.02 TO STA. 520 + 05.75

(1)	451	10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT.
(2)	310	VARIABLE DEPTH SUBBASE, GRADING A OR B MODIFIED AS PER GENERAL NOTE.
(2-A)	310	VARIABLE DEPTH SUBBASE. *
(3)		SPECIAL DRAINAGE CONNECTION, USING No.8 AGGREGATE (SEE DETAIL SHEET No. 3 *and Note in Proposal*)
(4)	301	3" BITUMINOUS AGGREGATE BASE, 702.01 (85-100) OR 702.09, RT-10 (SEE NOTE IN PROPOSAL).
(5)	304	VARIABLE DEPTH AGGREGATE BASE.
(6)	409	SEAL COAT BITUMINOUS MATERIAL, APPLIED @ .30 GAL. PER SQ. YD. *(SEE NOTE IN PROPOSAL)* SEAL COAT COVER AGGREGATE, No.8, APPLIED @ 0.008 CU.YD. PER SQ.YD.
(7)	605	6" PIPE UNDERDRAIN (707.06 OR 707.12 SHALL BE USED IN ROCK CUT).**
(8)		STANDARD LONGITUDINAL JOINT.
(9)	606	GUARD RAIL, TYPE-4, *Modified as per plan*
(10)	659	SEEDING AND MULCHING *(See General Notes)*

SEQUENCE OF OPERATIONS: (1) INSTALL PIPE UNDERDRAIN ON OUTSIDE SHOULDER. INSTALLATION OF SHALLOW UNDERDRAIN IN MEDIAN MAY BE DEFERRED UNTIL 451 IS PLACED. (2) PLACED SUBBASE TO OUTSIDE EDGE OF UNDERDRAIN OR TO ONE FOOT BEYOND EDGE OF PAVEMENT WHERE NO UNDERDRAIN IS PRESENT.# (3) CONSTRUCT 451. (4) REMOVE SUBBASE AND ANY CONTAMINATED BACKFILL OVER DRAIN AND REPLACE WITH No.8 AGGREGATE AS SHOWN. (5) COMPLETE SHOULDER AS SHOWN.

 # Payment shall be made for all subbase placed in this operation.

* SUBBASE UNDER PAVED SHOULDERS SHALL MEET THE GRADING REQUIREMENTS OF REGULAR GRADING 310. THE LIMITS FOR REGULAR GRADING 310 ARE FROM THE UNDERDRAIN TRENCH (OR 1' *BEYOND* THE SLAB EDGE WHERE UNDERDRAINS ARE NOT USED) TO THE EDGE OF SHOULDER, AS SHOWN.

** UNLESS OTHERWISE SHOWN ON PLANS, UNDERDRAINS SHALL BE LAID PARALLEL TO PROFILE GRADE WITH 30" OF COVER FROM BOTTOM OF SUBBASE TO CROWN OF PIPE. WHERE DEEP UNDERDRAINS ARE CALLED FOR, 50" OF COVER FROM BOTTOM OF SUBBASE TO CROWN OF PIPE SHALL BE PROVIDED.

IN ROCK CUTS, UNDERDRAINS SHALL BE 6" ITEM 605 TYPE 707.06 OR 707.12 PIPE WITH 12" OF COVER FROM BOTTOM OF SUBBASE TO CROWN OF PIPE.

FOR TYPICAL SIDE SLOPES AND DITCH TREATMENT SEE MAINLINE TYPICAL SHEET No. 3.

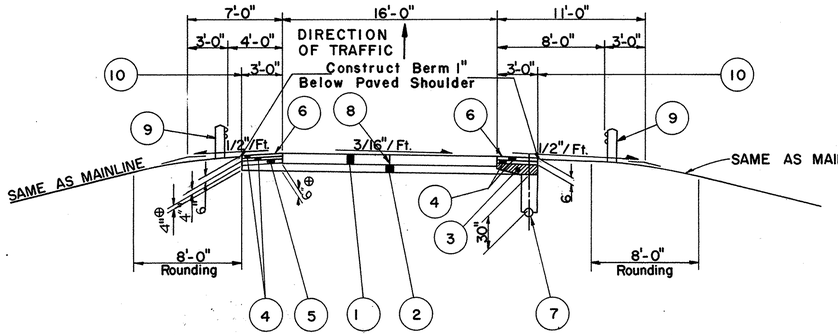
TYPICAL SECTIONS

FED. RD.	STATE	PROJECT	
2	OHIO		

5
384

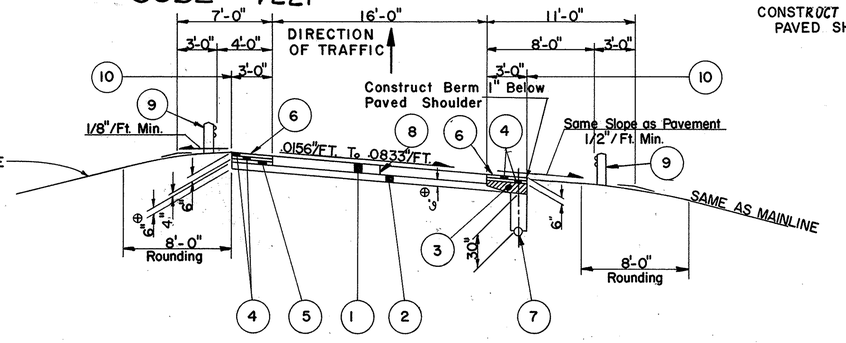
MAH.-80S-7.01
MAH.-80-2.30

TYPE 451
CODE 7221



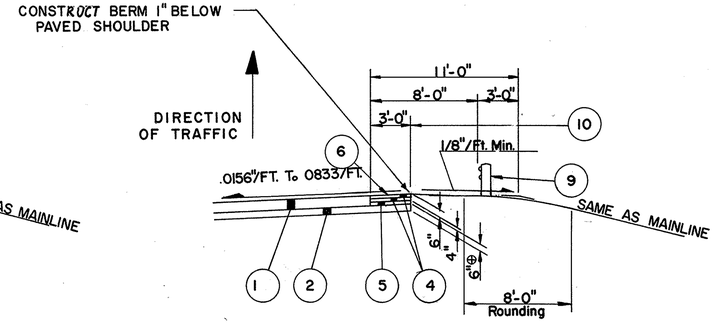
NORMAL RAMP SECTION FOR:

RAMP C
RAMP D
RAMP E

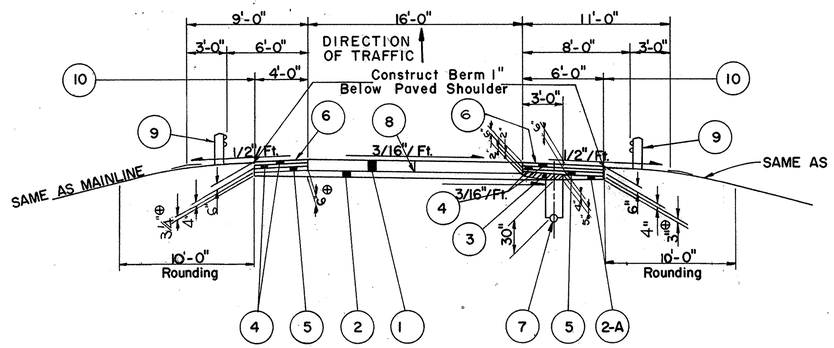


SUPERELEVATED RAMP SECTION FOR:

RAMP C
RAMP D
RAMP E
RAMP F



RAMP SHOULDER SUPERELEVATED LEFT



NORMAL SECTION ONE LANE DIRECTIONAL ROADWAY FOR:

LINE A
LINE B
LINE B1

Sequence of Operations: (1) Install pipe underdrain on outside shoulder. (2) Place Subbase to outside edge of underdrain or to one foot beyond edge of pavement where no underdrain is present.‡ (3) Construct 451. (4) Remove Subbase and any contaminated backfill over drain and replace with No. 8 Aggregate as shown. (5) Complete shoulder as shown.

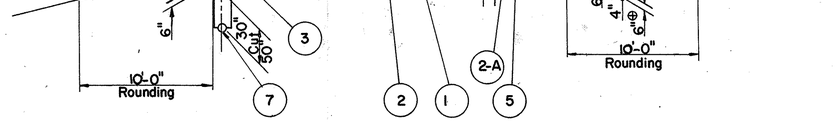
‡ *Payment shall be made for all subbase placed in this operation.*

** Unless otherwise shown on plans, Underdrains shall be laid parallel to profile grade with 30" of cover from bottom of subbase to crown of pipe. Where deep Underdrains are called for, 50" cover from bottom of subbase to crown of pipe shall be provided.

In rock cuts, Underdrains shall be 6" Item 605 Type 707.06 or 707.12 pipe with 12" of cover from bottom of subbase to crown of pipe.

For typical side slopes and ditch treatment see Mainline Typical Sheet No. 3.

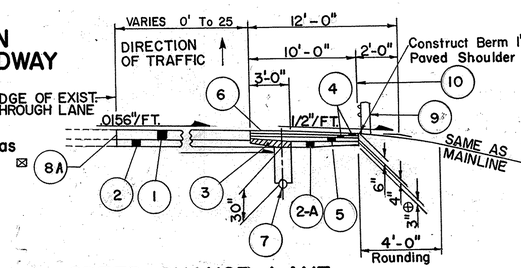
⊠ For Speed Change Lanes Adjacent to The Ohio Turnpike, use Standard Expansion Bolts Spaced at 2-6" on Centers to Tie The Proposed Concrete Pavement to The Existing Concrete Pavement. The Unit of Pay will be Per-Each for ITEM SPECIAL "Expansion Bolt" & ITEM 510 "DOWEL HOLE" SEE SHEET NO. 116, 117, 118.



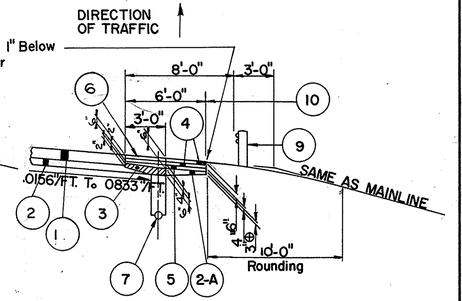
SUPERELEVATED SECTION ONE LANE DIRECTIONAL ROADWAY FOR:

LINE A
LINE B
LINE B1

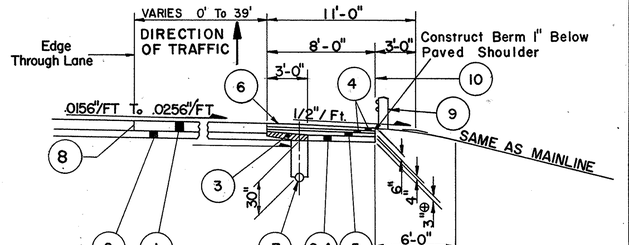
(1)	451	10" Reinforced Portland Cement Concrete Pavement.
(2)	310	Variable Depth Subbase, Grading A or B Modified as Per General Note. ⊕
(2-A)	310	Variable Depth Subbase.*⊕
(3)	Special	Drainage Connection, Using No. 8 Aggregate (See Sheet No. 3 ; & *Note in Proposal*)
(4)	301	3" Bituminous Aggregate Base, 702.01 (85-100) or 702.09, RT10 (see note in proposal).
(5)	304	Variable Depth Aggregate Base.
(6)	409	Seal Coat Bituminous Material, Applied@0.30 Gal. Per Sq. Yd. (See Note In Proposal) Seal Coat Cover Aggregate, No. 8, Applied@0.008 Cu. Yd. Per Sq. Yd.
(7)	605	6" Pipe Underdrain (707.06 or 707.12 shall be used in Rock Cut). **
(8)		Standard Longitudinal Joint
(9)	606	Guard Rail, Type-4, *Modified as per plan*
(10)	659	Seeding and Mulching *(See General Notes)*
(8A)		*Standard Expansion Bolt Joint*



SPEED CHANGE LANE
(ADJACENT OHIO TURNPIKE)



ONE LANE DIRECTIONAL ROADWAY SUPERELEVATED RIGHT



SPEED CHANGE LANE
(ADJACENT I-80)

* Subbase under Paved Shoulders shall meet the Grading Requirements of Regular Grading 310.
The limits for Regular Grading 310 are from the Underdrain Trench (or One Foot beyond the Slab Edge where underdrains are not used) to the edge of Shoulder, as shown.

⊕ IN ROCK CUT INCREASE DEPTH OF SUBBASE (310) BY 2 INCHES, EXCEPT IN ROCK CUT ADJACENT TO OHIO TURNPIKE ON SPEED CHANGE LANES INCREASE DEPTH OF SUBBASE (310) BY 6 INCHES.

TYPICAL SECTIONS

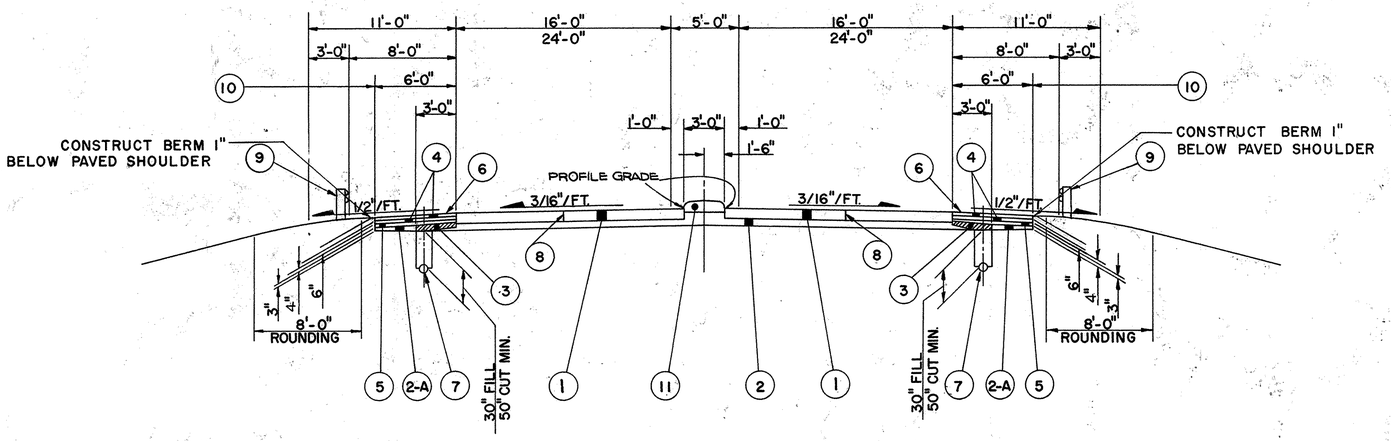
FED. RD.	STATE	PROJECT	
2	OHIO		

6
384

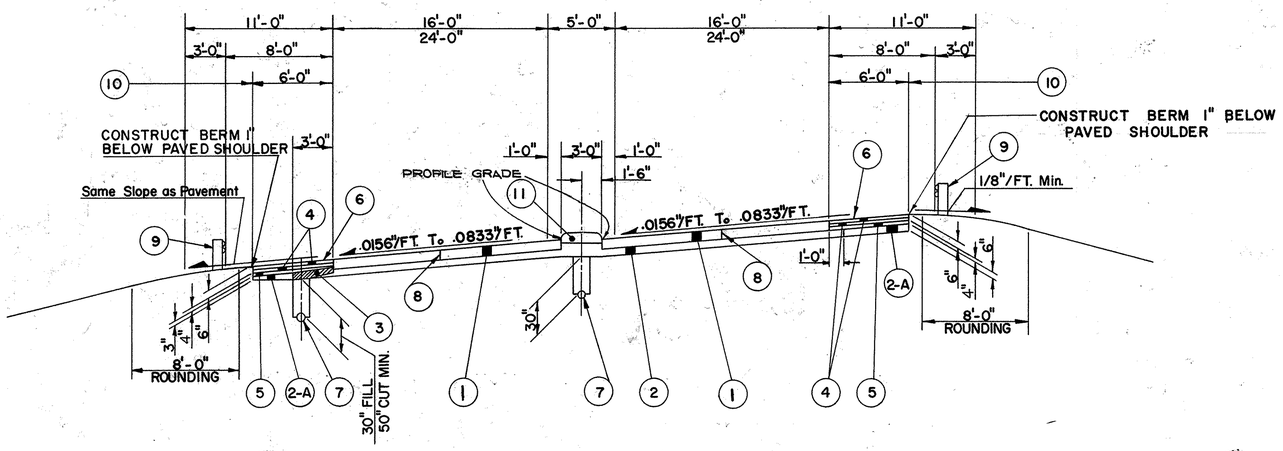
MAH.-80S-7.01
MAH.-80-2.30

TYPICAL SECTIONS

TYPE 451
CODE 7221



NORMAL TWO WAY RAMP SECTION



SUPERELEVATED TWO WAY RAMP SECTION

(1) 451 10" Reinforced Portland Cement Concrete Pavement.

(2) 310 Variable Depth Subbase, Grading A or B Modified as Per General Note.⊕

(2-A) 310 Variable Depth Subbase. *⊕

(3) Special Drainage Connection, Using No.8 Aggregate (See Detail Sheet No. 3 & Note in Proposal)

(4) 301 3" Bituminous Aggregate Base, 702.01 (85-100) or 702.09, RT-10 (see note in proposal).

(5) 304 Variable Depth Aggregate Base.

(6) 409 Seal Coat Bituminous Material, Applied@0.30 Gal. Per Sq. Yd. (See note in proposal)
Seal Coat Cover Aggregate, No.8, Applied@0.008 Cu. Yd. Per Sq. Yd.

(7) 605 6" Pipe Underdrain (707.06 or 707.12 shall be used in Rock Cut). * *

(8) Standard Longitudinal Joint.

(9) 606 Guard Rail, Type-4, Modified as per plan

(10) 659 Seeding and Mulching (See General Notes)

(11) 612 Concrete Median.

Sequence of Operations: (1) Install pipe underdrain on outside shoulder. (2) Place Subbase to outside edge of underdrain or to one foot beyond edge of pavement where no underdrain is present.#(3) Construct 451. (4) Remove Subbase and any contaminated backfill over drain and replace with No.8 Aggregate as shown. (5) Complete shoulder as shown.
Payment shall be made for all subbase placed in this operation.

* Subbase under Paved Shoulders shall meet the Grading Requirements of Regular Grading 310 The limits for Regular Grading 310 are from the Underdrain Trench (or one foot beyond the Slab Edge where underdrains are not used) to the edge of Shoulder, as shown.

* * Unless otherwise shown on plans, Underdrains shall be laid parallel to profile grade with 30" of cover from bottom of subbase to crown of pipe. Where deep Underdrains are called for, 50" cover from bottom of subbase to crown of pipe shall be provided.

In rock cuts, Underdrains shall be 6" Item 605 Type 707.06 or 707.12 pipe with 12" of cover from bottom of subbase to crown of pipe.

For typical side slopes and ditch treatment see Mainline Typical Sheet No. 3.

⊕ In rock cut increase depth of subbase (310) by 2 inches

FED. RD.	STATE	PROJECT	
2	OHIO		

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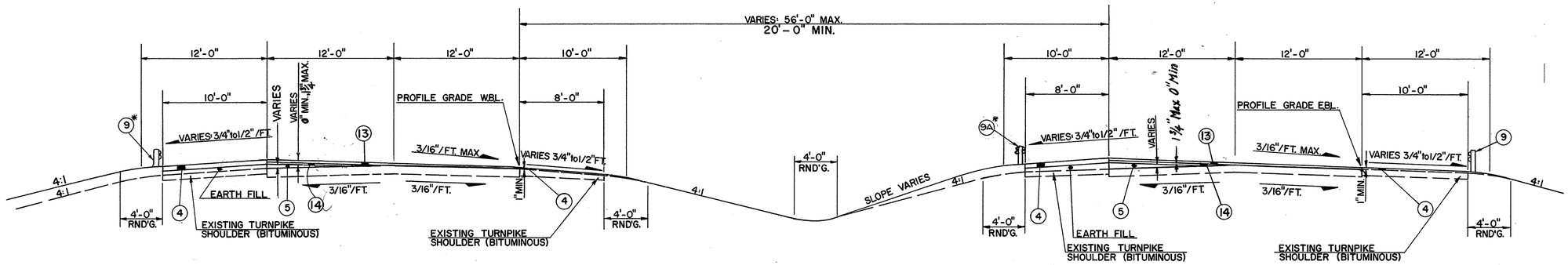
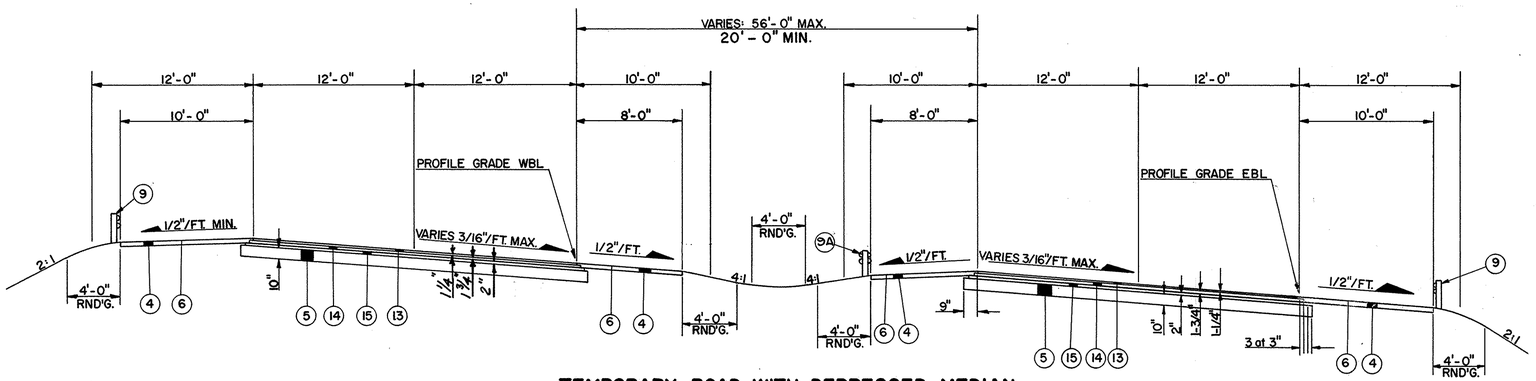
MAH.-80S-7.01
MAH.-80-2.30

TYPICAL SECTIONS

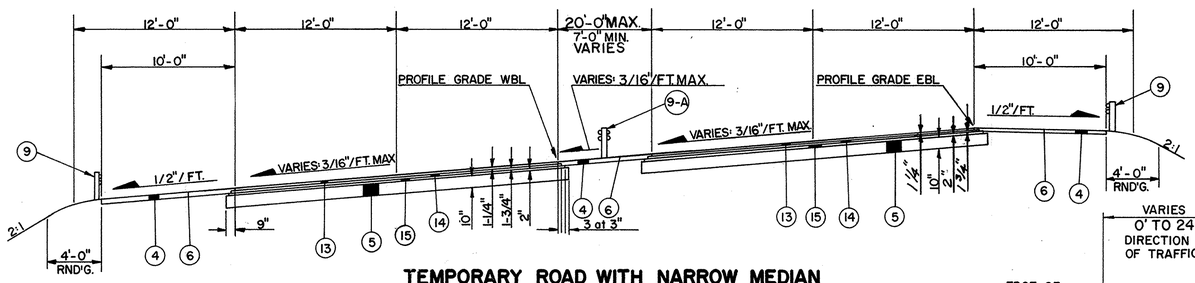
TYPE 404



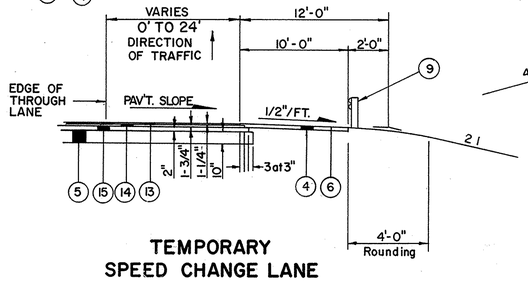
TEMPORARY ROAD ON EXISTING OHIO TURNPIKE



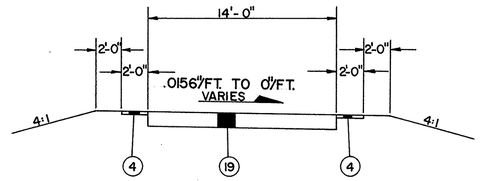
TEMPORARY ROAD WITH DEPRESSED MEDIAN



TEMPORARY ROAD WITH NARROW MEDIAN



TEMPORARY SPEED CHANGE LANE

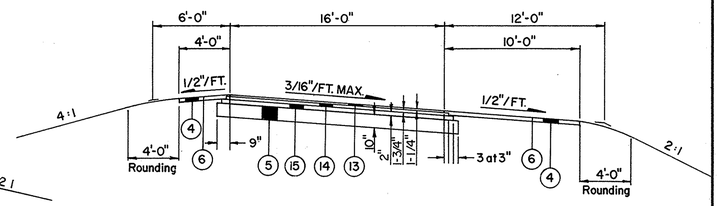


TEMPORARY CROSSOVERS & RAMP CONNECTIONS

* TEMPORARY GUARD RAIL LOCATED ON EXISTING PAVEMENT SHALL BE MOUNTED ON POSTS AND BRACKETS AS SHOWN ON SHEET Nº 243.

(4)	301	BITUMINOUS AGGREGATE BASE, 702.01 (85-100) OR 702.09, RT-10, 3" unless otherwise shown (see note in proposal).
(5)	304	VARIABLE DEPTH AGGREGATE BASE.
(6)	409	SEAL COAT BITUMINOUS MATERIAL, APPLIED @ 0.30 GAL. PER SQ. YD. (See note in proposal) SEAL COAT COVER AGGREGATE, NO. 8, APPLIED @ 0.008 CU. YDS. PER SQ. YD.
(9)	606	GUARD RAIL, TYPE-4, WITH STEEL POSTS.
(9-A)	606	GUARD RAIL, TYPE-4, BARRIER DESIGN, WITH STEEL POSTS
(13)	404	ASPHALT CONCRETE (70-85). (1-1/4" COURSE)
(14)	402	ASPHALT CONCRETE (70-85) Thicknesses as shown
(15)	302	ASPHALT CONCRETE (2" COURSE) (70-85)
(19)	615	TEMPORARY PAVEMENT, CLASS A

NOTE:
NORMAL SECTION FOR TEMPORARY ROAD SHALL BE THE SAME AS SHOWN ON THIS SHEET EXCEPT THE 24 FEET OF PAVEMENT SHALL BE CROWNED WITH 3/16"/FT. CROSS SLOPE.



TEMPORARY RAMP

TYPICAL SECTIONS

FED. RD.	STATE	PROJECT	
2	OHIO		

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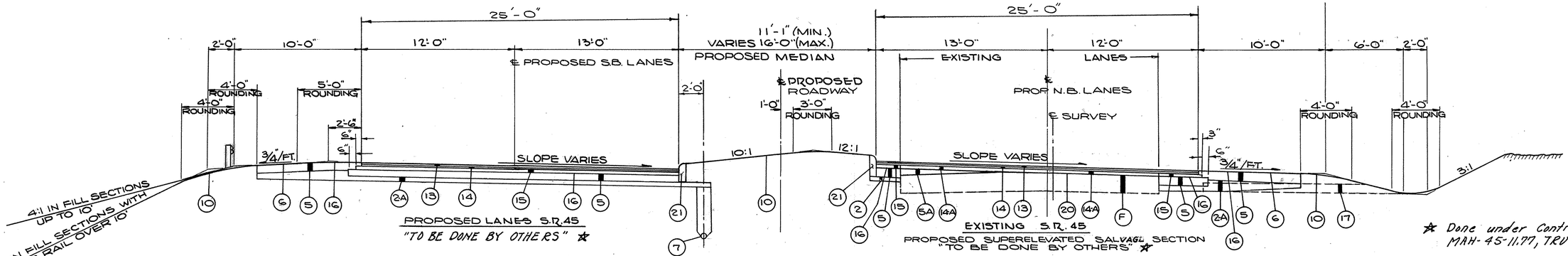
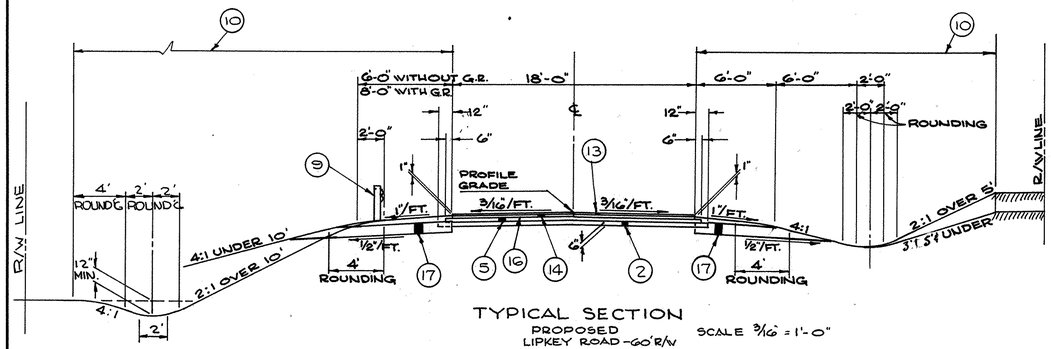
MAH.-80S-7.01
MAH.-80-2.30

TYPICAL SECTIONS



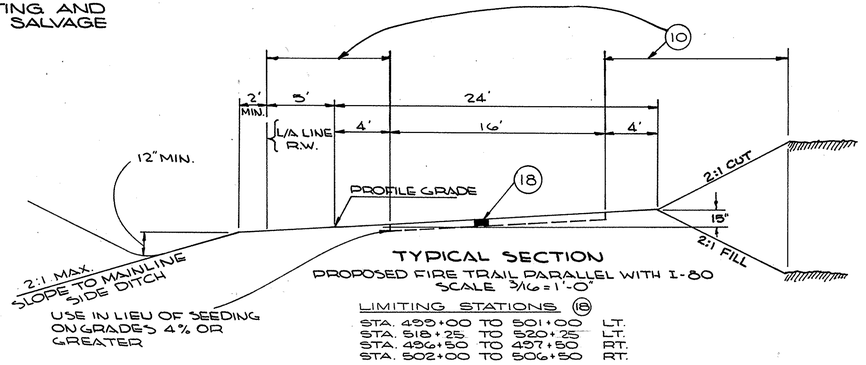
★ Done under Contract MAH-45-11.77, TRU-45-0.00

TYPICAL SECTION OF EXISTING AND PROPOSED SUPERELEVATED SALVAGE SECTION S.R. 45
SCALE: 1/4"=1'-0"



TYPICAL SECTION
PROPOSED LIPKEY ROAD - 60' R/W
SCALE 3/16" = 1'-0"

LIMITING STATIONS
STA. 45+15 TO STA. 54+50

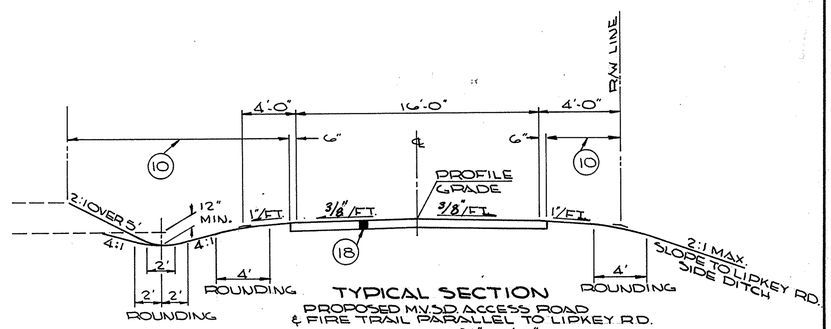


TYPICAL SECTION
PROPOSED FIRE TRAIL PARALLEL WITH I-80
SCALE 3/16" = 1'-0"

USE IN LIEU OF SEEDING ON GRADES 4% OR GREATER

LIMITING STATIONS (18)

STA. 499+00	TO	501+00	LT.
STA. 518+25	TO	520+25	LT.
STA. 486+50	TO	487+50	RT.
STA. 502+00	TO	506+50	RT.



TYPICAL SECTION
PROPOSED MVSD ACCESS ROAD & FIRE TRAIL PARALLEL TO LIPKEY RD.
SCALE: 3/16" = 1'-0"

LIMITING STATIONS
STA. 45+55 TO STA. 54+50

(2)	310	6" SUBBASE
(2A)	310	SUBBASE, VAR. THICKNESS AS SHOWN.
(5)	304	6" AGGREGATE BASE
(5A)	304	VAR: 1" MIN. TO 8" MAX. AGGREGATE BASE
(6)	409	SEAL COAT - BITUMINOUS MATERIAL, APPLIED AT THE RATE OF 0.30 GAL. PER SQ.YD.; 702.09, RT-9 OR RT-10; OR 702.02, MC-800 or MC3000 and #8 AGGREGATE APPLIED AT THE RATE OF 0.008 CU. YD. PER SQ.YD..
(7)	605	PIPE UNDERDRAINS
(9)	606	GUARD RAIL, REBUILT
(10)	659	SEEDING AND MULCHING (See General Notes)
(13)	404	ASPHALT CONCRETE (70-85) (1-1/4 COURSE)
(14)	402	ASPHALT CONCRETE (1-3/4" COURSES) (70-85)
(14A)	402	VAR: 0" MIN. TO 3" MAX. ASPHALT CONCRETE (70-85)
(15)	302	3" ASPHALT CONCRETE (70-85)
(16)	408	BITUMINOUS PRIME COAT; 702.09, RT-2 OR RT-3 APPLIED AT THE RATE OF 0.4 GAL. PER SQ.YD.
(17)	605	AGGREGATE DRAINS (See General Notes)
(18)	304	6" AGGREGATE BASE, AS PER PLAN
(20)	407	TACK COAT: 702.04, MS-2 OR RS-1; OR 702.02, RC-70 OR RC-250, APPLIED AT THE RATE OF 0.1 GAL. PER SQ.YD.
(21)	609	CONCRETE CURB STANDARD TYPE 6, MODIFIED AS PER PLAN.
(F)		EXISTING VAR: 5-3/4" TO 8" BITUMINOUS MATERIAL ON VAR: 9" TO 12" WATERBOUND MACADAM BASE.

FED. RD.	STATE	PROJECT	
2	OHIO		

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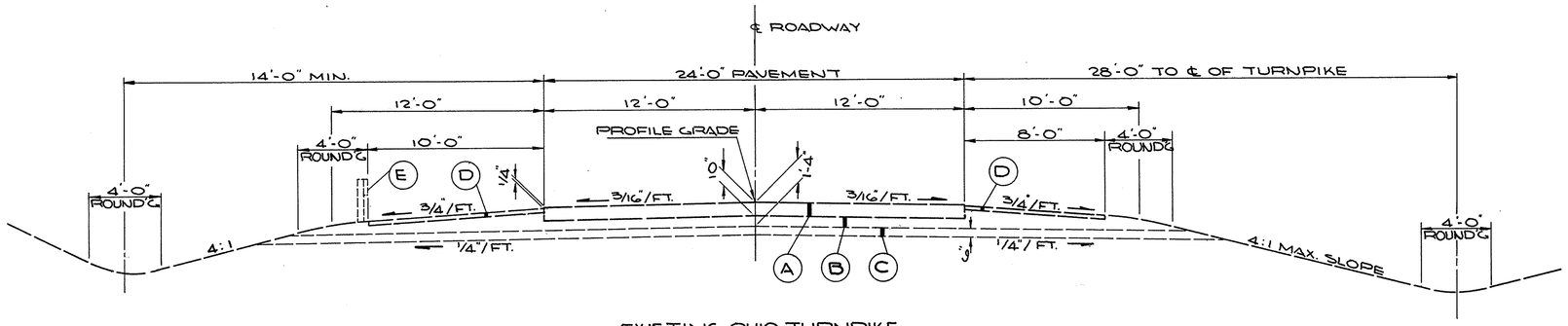
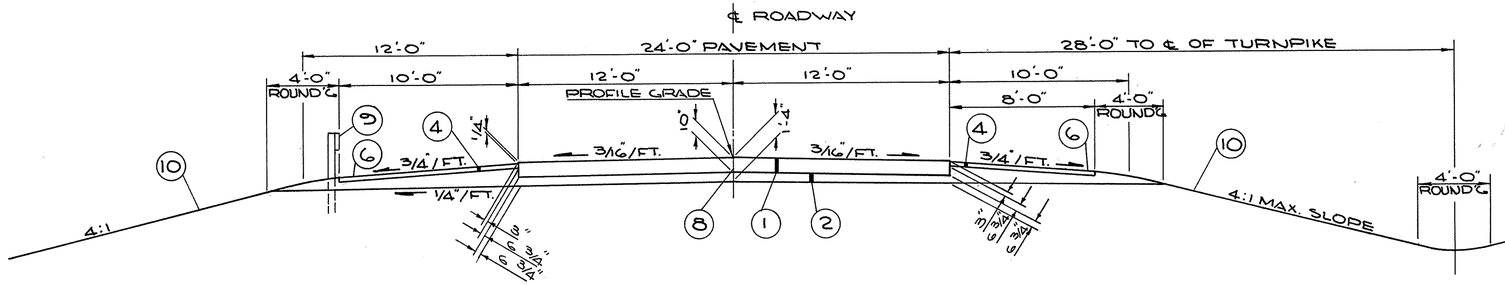
MAH.-805-7.01
MAH.-80-2.30

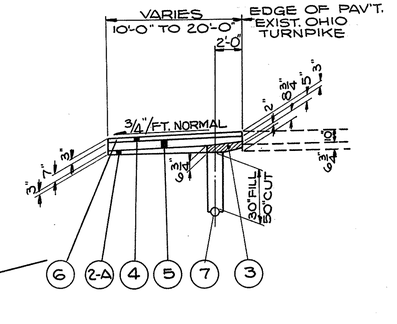
TYPICAL SECTIONS

TYPE 451
CODE 7221



EXISTING OHIO TURNPIKE





PROPOSED OHIO TURNPIKE

LIMITING STATIONS

EASTBOUND LANE	WESTBOUND LANE
STA.115+89.4 TO STA.116+35.97	STA.116+44.0 TO STA.116+35.97
STA.120+24.51 TO STA.120+81.8	STA.120+24.51 TO STA.121+36.3

BRIDGE LIMITS
STA.116+35.97 TO STA.120+24.51

PROPOSED PAVED SHOULDER AT OHIO TURNPIKE

LIMITING STATIONS

EASTBOUND LANE	WESTBOUND LANE
STA.95+55.39 TO STA.99+70	STA.97+25 TO STA.101+50.15

(A) EXISTING 10" PORTLAND CEMENT CONCRETE PAVEMENT.

(B) EXISTING, VARIABLE DEPTH SELECTED SUBBASE MATERIAL.

(C) EXISTING, COMPACTED SELECTED SUBBASE MATERIAL PLACED AT ROCK OR SHALE CUTS.

(D) EXISTING 3" WATERPROOFED AGGREGATE BASE COURSE.

(E) EXISTING GUARDRAIL.

(1) 451 10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT.

(2) 310 VARIABLE DEPTH SUBBASE, GRADING A OR B (*See General Notes*)

(4) 301 3" BITUMINOUS AGGREGATE BASE, 702.01 (85-100) OR 702.09, RT-10 (*SEE NOTE IN PROPOSAL*)

(6) 409 SEAL COAT BITUMINOUS MATERIAL, APPLIED@0.30 GAL. PER SQ.YD. SEAL COAT COVER AGGREGATE, Nº 8 APPLIED@0.008 CU.YD. PER SQ.YD. (*SEE NOTE IN PROPOSAL*)

(8) STANDARD LONGITUDINAL JOINT.

(9) 606 GUARD RAIL, TYPE-4, WITH STEEL POSTS

(10) 659 SEEDING AND MULCHING (*See General Notes*)

(2A) 310 VARIABLE DEPTH SUBBASE.

(3) SPECIAL DRAINAGE CONNECTION, USING Nº 8 AGGREGATE (SEE DETAIL SH.3 & NOTE IN PROPOSAL)

(5) 304 VARIABLE DEPTH AGGREGATE BASE

(7) 605 6" PIPE UNDERDRAIN (707.06 OR 707.12 SHALL BE USED IN ROCK CUT)

NOTE:
FOR DETAILS OF PAVED SHOULDER BETWEEN RAMP AND TURNPIKE PAVEMENT ON LINE "A" FROM STA. 411+67.49 TO STA. 413+22 AND RAMP "D" FROM STA. 438+02.38 TO STA. 439+41, SEE THE PAVEMENT DETAILS SHEETS 116 & 118 AND RAMP TYPICALS SHEET 5 AND CALCULATIONS SHEETS 18 - 21.

TYPICAL SECTIONS

FORM DDA-8

GENERAL NOTES

FED. RD.	STATE	PROJECT	
2	OHIO		

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MAH-80S-7.01
MAH-80-2.30

ROADWAY

GENERAL

FIELD OFFICE

THE CONTRACTOR SHALL, IN ADDITION TO THE REQUIREMENTS OF 105.152, PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 400 SQ.FT. OF FLOOR SPACE. THE CONTRACTOR SHALL HAVE A TELEPHONE INSTALLED AND MAINTAINED IN THIS FIELD OFFICE DURING THE CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL ALSO PROVIDE AND MAINTAIN SANITARY PROVISIONS AS PER 107.06. ALL THE ABOVE IS INCLUDED IN THE LUMP SUM PRICE BID FOR FIELD OFFICE.

UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE STATE OF OHIO DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS.

ESTIMATED QUANTITIES

SPECIFIC LOCATIONS AND USAGE OF ESTIMATED QUANTITIES SET UP ON THIS PLAN TO BE USED "AS DIRECTED BY THE ENGINEER" SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT. *MATERIALS TO BE USED "AS DIRECTED BY THE ENGINEER" SHALL NOT BE DELIVERED TO THE PROJECT UNTIL REQUESTED BY THE ENGINEER.*

CONSTRUCTION LAYOUT STAKES

SEE NOTE IN PROPOSAL DESCRIBING THE WORK INCLUDED IN THIS LUMP SUM PAY ITEM.

FEDERAL AID CONSTRUCTION IDENTIFICATION SIGNS

THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE FEDERAL AID CONSTRUCTION IDENTIFICATION SIGNS AT EACH OF THE FOLLOWING APPROXIMATE LOCATIONS:

1. EAST SIDE S.R. 45, 200' S. ℄ I-80S
2. WEST SIDE S.R. 45, 200' N. ℄ I-80S

SIGN DETAILS SHALL BE AS SPECIFIED ON STANDARD DRAWING FACI-1, CODE N-55(2)-120(2). THE SIGNS SHALL BE ERECTED IN ACCORDANCE WITH STANDARD DRAWING FACI-2. ADDITIONAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH NOTES IN THE PROPOSAL.

COAL MINES

THE GENERAL AREA THIS PROJECT IS IN HAS A HISTORY OF ABANDONED COAL MINES. EVIDENCES OF ABANDONED MINES HAVE BEEN OBSERVED IN THE FIELD FROM JUST WEST OF THE OHIO TURNPIKE TO LIPKEY ROAD. SPECIAL ATTENTION SHOULD BE GIVEN THE AREA AROUND STATION 491+00. THE CONTRACTOR SHOULD FILL ANY OPENINGS OR VOIDS ENCOUNTERED DURING CONSTRUCTION WITH GRANULAR BORROW TO A POINT TO ASSURE SOLID FOUNDATION FOR COMPACTION OF EMBANKMENT AND/OR ROADWAY SUBBASE. ANY MATERIAL REQUIRED FOR THE ABOVE SHALL BE *measured and paid for as Item 203 Borrow, using Granular Material as per plan.*

OHIO TURNPIKE TOLL PLAZA

THE OHIO TURNPIKE COMMISSION WILL AWARD CONTRACTS FOR THE CONSTRUCTION OF A TOLL PLAZA INCLUDING A UTILITY BUILDING, TOLL PLAZA PAVING, PARKING AREAS, ROADWAY LIGHTING, UTILITY LINES, BOOTHS, ISLANDS AND A SEPTIC SEWAGE DISPOSAL PLANT IN THE AREA DESIGNATED "TOLL PLAZA AREA" ON THESE PLANS. PRELIMINARY LAYOUT PLANS FOR SUCH CONSTRUCTION TO BE PERFORMED BY OTHERS ARE AVAILABLE FOR INFORMATIONAL PURPOSES FROM THE CHIEF ENGINEER OF THE OHIO TURNPIKE COMMISSION, *682 Prospect St. Berea, O.*

THE PLANS FOR THIS CONTRACT (MAH 80 S - 7.01 AND MAH 80 - 2.30) INCLUDE THE EARTHWORK NECESSARY TO PREPARE THE AREA FOR THE CONSTRUCTION OF THE TOLL PLAZA AND APPURTENANCES. THE CONTRACTOR WILL BE REQUIRED TO COMPLETE THIS EARTHWORK NOT LATER THAN ONE CALENDAR YEAR PRIOR TO THE COMPLETION DATE FOR THIS PROJECT IN ORDER TO PERMIT OTHER CONTRACTORS TO WORK IN THE AREA AND WILL BE REQUIRED TO COOPERATE WITH THESE OTHER CONTRACTORS WITH RESPECT TO ACCESS TO THE SITE.

RESPONSIBILITIES BETWEEN CONTRACTORS AND REQUIREMENTS FOR COOPERATION WITH RESPECT TO THIS WORK SHALL BE GOVERNED BY THE PROVISIONS SET FORTH IN 105.07 OF THE SPECIFICATIONS FOR THE PROJECT.

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS

THE ROUNDED CORNERS SHOWN ON STANDARD DRAWING MC-1, AS MODIFIED BY THE TYPICAL SECTIONS, APPLY TO ALL CROSS SECTIONS, EVEN THOUGH OTHERWISE SHOWN ON THESE PLANS.

THE FOLLOWING GENERAL NOTES SHALL APPLY TO THE PORTION OF CONSTRUCTION WITHIN AND ADJACENT TO THE MAHONING VALLEY SANITARY DISTRICT, *HEREAFTER REFERRED TO AS M.V.S.D.*

THE M.V.S.D. IS IN A STATE FIRE DISTRICT AND THE CONTRACTOR SHALL OBTAIN A "BURNING PERMIT" FROM THE FIRE WARDEN AT AUSTINTOWN BEFORE COMMENCING ANY BURNING. ALL BURNING OPERATIONS WITHIN AND ADJACENT TO THE M.V.S.D. SHALL BE UNDER COMPLETE CONTROL AT ALL TIMES.

THE CONTRACTOR SHALL KEEP ALL I-80 RIGHT-OF-WAY AND WORK AREAS FENCED OR GUARDED NIGHT AND DAY WITHIN THE M.V.S.D. TO PREVENT TRESPASSING BEYOND THESE LIMITS.

THE CONTRACTOR, HIS AGENTS OR REPRESENTATIVES AND THE STATE OF OHIO ITS AGENTS OR REPRESENTATIVES SHALL BE PROHIBITED FROM HUNTING OR FISHING WITHIN THE M.V.S.D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENFORCING THIS PROVISION.

MATERIAL USED FOR FILL WHICH MAY COME INTO CONTACT WITH RESERVOIR WATER SHALL BE SUCH AS NOT TO AFFECT THE QUALITY OF THE WATER OR CAUSE SILTING. THIS INCLUDES DUMP ROCK FILL AND CHANNEL PROTECTION USED BELOW ELEVATION 913.00.

THE CONTRACTOR SHALL REMOVE ONLY THOSE TREES WHICH ARE NECESSARY IN AREAS COVERED BY EASEMENTS, WORK AGREEMENT AND/OR TEMPORARY RIGHT-OF-WAY.

BEFORE CLEARING BEGINS, THE CONTRACTOR SHALL ERECT A SINGLE 10 GAUGE STRAND OF GALVANIZED WIRE FENCE ON THE LINE OF THE LIMITS OF CONSTRUCTION ON BOTH SIDES OF THE PROPOSED HIGHWAY THROUGH ALL AREAS ABOVE WATER. FENCE SHALL BE SUPPORTED ON POSTS OR TREES AT NOT LESS THAN 20 FOOT INTERVALS. THE WIRE SHALL BE 5 FEET ABOVE GROUND. THESE FENCES WILL MARK THE LIMITS OUTSIDE OF WHICH NO TREES ARE TO BE CUT, NO EQUIPMENT OPERATED, AND NO TRESPASSING PERMITTED. THE CONTRACTOR SHALL REMOVE THE FENCES AFTER THE CONSTRUCTION IS COMPLETED.

THE SPILLWAY ELEVATION OF MEANDER RESERVOIR IS 906.50 THE WATER LEVEL IN THE RESERVOIR CAN BE ANTICIPATED TO BE UP TO THE SPILLWAY LEVEL AT ONE OR MORE TIMES DURING ANY YEAR. THE WATER LEVEL OF THE RESERVOIR IS CONTROLLED BY THE AMOUNT OF RAINFALL AND THE WATER SUPPLY REQUIREMENTS OF THE M.V.S.D. THE CONTRACTOR WILL BE EXPECTED TO PERFORM THE REQUIRED WORK AT THE PREVAILING WATER LEVEL AND THE M.V.S.D. WILL NOT RAISE OR LOWER THE WATER LEVEL OTHER THAN THROUGH NORMAL SUPPLY AND USAGE.

ALL NEW SLOPES OR SURFACES ARE TO BE PROTECTED FROM EROSION BY EITHER DUMP ROCK FILL TYPE A, DUMP ROCK CHANNEL PROTECTION, 304 AGGREGATE BASE, AS PER PLAN OR SEEDING AS SHOWN ON THE PLAN. THE ABOVE MATERIAL SHOULD BE PLACED AS SOON AS POSSIBLE AFTER EXCAVATION, TO PREVENT SILTING OF THE RESERVOIR.
or Embankment

FENCING USED WITHIN THE M.V.S.D. SHALL BE STANDARD CHAIN LINK FENCE MODIFIED WITH A VERTICAL EXTENSION ARM AND 3 STRANDS OF BARBED WIRE. THE BARBED WIRE SHALL MEET THE REQUIREMENTS OF 710.01. THE VERTICAL EXTENSION ARM SHALL MEET THE REQUIREMENTS OF U.S.S. CYCLONE FENCE STYLE T-22 OR T-4 AS SHOWN ON THEIR DRAWING CBX-27 DET OR PAGE FENCE STYLE 3 TRV OR AN APPROVED EQUAL. THE END, CORNER AND GATE POSTS SHALL BE EXTENDED TO PROVIDE FOR THE BARBED WIRE. THE COST OF THE VERTICAL EXTENSION AND BARBED WIRE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 607, FENCE TYPE CL , AS PER PLAN.

THE COST OF GUARDING, FENCING WITH 10 GAUGE WIRE AND ANY OTHER ITEM ABOVE NOT INCLUDED IN OTHER PAY ITEMS SHOULD BE A PART OF LUMP SUM PAY ITEM -SPECIAL -GUARDING AND PROTECTING M.V.S.D.

REMOVAL OF EXISTING PIPE

THE REMOVAL OF ALL EXISTING PIPE DRAINS WHICH WOULD NORMALLY BE REMOVED IN VARIOUS EXCAVATION ITEMS SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICES BID FOR THE RESPECTIVE EXCAVATION ITEMS, UNLESS OTHERWISE ITEMIZED IN THE PLANS.

ADDRESS OF UTILITY OWNERS

AMERICAN TELEPHONE & TELEGRAPH
LONG LINES DEPARTMENT
ROOM 1713 - 100 ERIEVIEW PLAZA
CLEVELAND, OHIO 44114

OHIO EDISON CO.
47 N. MAIN STREET
AKRON, OHIO 44308

OHIO BELL TELEPHONE CO.
2405 MARKET STREET
YOUNGSTOWN, OHIO

EAST OHIO GAS CO.
1717 EAST NINTH STREET
CLEVELAND, OHIO 44114

MAHONING VALLEY SANITARY DISTRICT
BOX 4145
YOUNGSTOWN, OHIO

OHIO TURNPIKE COMMISSION
682 PROSPECT STREET
BEREA, OHIO

ITEM 203, BORROW, USING GRANULAR MATERIAL AS PER PLAN

MATERIAL FOR THIS ITEM SHALL BE AS DEFINED IN 203.02 GRANULAR MATERIAL, EXCEPT THAT AT LEAST 85% BY WEIGHT OF THE GRAINS OR PARTICLES SHALL BE RETAINED ON A NO. 200 SIEVE, IN THE AREA BETWEEN STATION 373 + 55 TO 382 + 75 AND STATION 504 + 65 TO 510 + 47 THIS MATERIAL MAY BE PLACED BY END DUMPING IF SURFACE WATER IS PRESENT. END DUMPING MAY BE USED UP TO 2 FEET ABOVE THE WATER LEVEL. ABOVE THIS ELEVATION, EMBANKMENT CONSTRUCTION SHALL BE IN ACCORDANCE WITH 203.07 TO 203.12, INCLUSIVE. WHERE END DUMPING IS PERMITTED, CLEARING AND GRUBBING SHALL BE PERFORMED BUT THE REQUIREMENTS OF 201.04 FOR SCALPING SHALL BE WAIVED. THE ABOVE MATERIAL SHALL NOT BE ORDERED WITHOUT APPROVAL OF THE PROJECT ENGINEER.

IN ADDITION TO THE ABOVE, THE GRANULAR MATERIAL REQUIRED BETWEEN STATION 504+65 ℄ 510+47 WILL HAVE THE FOLLOWING REQUIREMENTS:

1. CINDERS WILL NOT BE ACCEPTABLE FOR THIS ITEM.
2. IF SLAG IS FURNISHED, IT SHALL BE OBTAINED FROM STOCKPILES OF WEATHERED MATERIAL WHICH WILL NOT AFFECT THE QUALITY OF THE WATER.

   THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FROM THE MAHONING VALLEY SANITARY DISTRICT AT YOUNGSTOWN OF THE SLAG SOURCE PRIOR TO THE USE OF THE MATERIAL FOR THIS ITEM.

REMOVAL OF TREES AND STUMPS

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT SHALL BE REMOVED UNDER THE LUMP SUM PRICE BID FOR ITEM 201 CLEARING AND GRUBBING, EXCEPT THAT THOSE TREES FOR WHICH PROTECTION AND PRESERVATION WORK IS INDICATED ELSEWHERE IN THESE PLANS SHALL NOT BE REMOVED.

THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZES	NO. OF TREES			NO. OF STUMPS		
	STATE	I.	I.G.	STATE	I.	I.G.
18"	9	64	1	8	0	0
30"	2	8	0	0	0	0
48"	0	7	0	0	0	0
60"	0	0	0	0	0	0

THE ABOVE ESTIMATE IS APPROXIMATE AND THE STATE OF OHIO RESERVES THE RIGHT TO ORDER THE REMOVAL OF ADDITIONAL TREES OR STUMPS OUTSIDE OF THE LIMITS OF CONSTRUCTION BUT WITHIN THE RIGHT-OF-WAY AND/OR EASEMENT LINES. PAYMENT FOR THE REMOVAL OF THESE ADDITIONAL TREES OR STUMPS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201 CLEARING AND GRUBBING.

CENTERLINE REFERENCE MONUMENTS, ~~AS PER PLAN~~ *See Std. Cons. Dwg. MC-1*

~~MONUMENTS~~ SHALL BE CONSTRUCTED OF CLASS "C" CONCRETE, ~~CAST IN~~ PLACE IN ~~A CIRCULAR~~ HOLE EIGHT (8) INCHES IN DIAMETER ~~AND~~ FORTY-FOUR (44) INCHES ~~IN DEPTH~~. TOP OF CONCRETE ~~SHALL~~ BE FINISHED AT A DEPTH OF TWO (2) INCHES BELOW ~~GROUND~~ LEVEL AND THE UPPER SIX (6) INCH PORTION OF THE ~~CONCRETE~~ SHALL ~~BE FORMED~~. ONE-HALF (1/2) INCH STEEL RODS ~~SIX (6)~~ INCHES LONG SHALL BE ~~EMBEDDED~~ IN THE WET CONCRETE ~~AS~~ DIRECTED BY THE ENGINEER TO MARK THE ~~CENTERLINE AND STATION~~.

FOR LOCATIONS, SEE RIGHT-OF-WAY SHEETS.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY.

ITEM 604 CENTERLINE REFERENCE MONUMENTS — 3 EA. (I.G.)

ITEM 604 CENTERLINE REFERENCE MONUMENTS — 17 EA. (I.)

ITEM 604 MONUMENT ASSEMBLIES — 2 EA. (I.)

GENERAL NOTES

GENERAL NOTES

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SEEDING (LIPKEY ROAD)

QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS BETWEEN THE WORK LIMITS, AS SHOWN ON THE CROSS SECTIONS.

SEEDING (I-80, I-80S, OHIO TURNPIKE)

QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS BETWEEN THE RIGHT-OF-WAY FENCE LINES, BETWEEN THE RIGHT-OF-WAY LINES IN UNFENCED AREAS, AND WITHIN THE WORK LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. ROADSIDE CLEAN-UP AREAS ARE EXCLUDED FROM SEEDING QUANTITIES.

ITEM 203, PROOF ROLLING

AN ESTIMATED QUANTITY FOR THIS ITEM HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR USE IN PROOF ROLLING OF SUBGRADE FOR THE MAIN-LINE AND RAMP PAVEMENTS, AND FOR PAVED SHOULDERS, IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 801.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY.

	I.G. FUNDS	I. FUNDS	STATE
ITEM 203, PROOF ROLLING	7 HRS.	41 HRS.	15 HRS.

ITEM SPECIAL, DRILLED WELL ABANDONED

THE EXISTING CONCRETE OR STONE SLAB WELL COVER AND PUMPING EQUIPMENT SHALL BE REMOVED AND DISPOSED OF. THE CAS ING SHALL BE CUT OFF AT LEAST TWO (2) FEET BELOW THE PROPOSED FINISHED GRADE OUTSIDE PROPOSED PAVEMENT AREAS OR AT LEAST TWO (2) FEET BELOW THE PROPOSED SUBGRADE ELEVATION INSIDE PROPOSED PAVEMENT AREAS AND CAPPED WITH CLASS E CONCRETE OR A STANDARD THREADED PIPE CAP.

THE UNIT PRICE BID FOR EACH "DRILLED WELL ABANDONED" SHALL INCLUDE PAYMENT FOR ALL LABOR, TOOLS, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

RIGHT-OF-WAY FENCE

FOR LOCATION OF RIGHT-OF-WAY FENCE, SEE RIGHT-OF-WAY SHEETS.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER OR CALCIUM CHLORIDE FOR DUST CONTROL PURPOSES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

	I.G. FUNDS	I. FUNDS	STATE
ITEM 616 CALCIUM CHLORIDE	1 TON	8 TONS	3 TONS
ITEM 616 WATER	50 M.GALS	400M.GALS.	150 M.GALS.

CLEANING PRIVY VAULTS

SUBSEQUENTLY

PRIVY VAULTS SHALL BE CLEANED AND FILLED WITH SUITABLE MATERIAL AS DIRECTED BY THE ENGINEER. MATERIAL REMOVED FROM THESE VAULTS SHALL BE CLASSIFIED AS UNSUITABLE AND DISPOSED OF OUTSIDE THE LIMITS OF RIGHT-OF-WAY OR EASEMENT LINES. THE CLEANING OF PRIVY VAULTS SHALL BE PAID FOR UNDER ITEM SPECIAL, CLEANING OF PRIVY VAULTS.

THE BACKFILLING OF PRIVY VAULTS SHALL BE PAID FOR UNDER ITEM 203 EMBANKMENT. THE PRICE BID FOR THIS ITEM SHALL CONSTITUTE FULL COMPENSATION FOR PERFORMING ALL OTHER REQUIREMENTS OF THE ITEM AND FOR ALL LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

AN ESTIMATED AMOUNT OF EMBANKMENT FOR BACKFILLING PRIVY VAULTS HAS BEEN CARRIED TO CROSS SECTIONS.

ITEM SPECIAL - CLEANING AND DISPOSING OF SEPTIC TANKS

THIS ITEM SHALL INCLUDE CLEANING, BACKFILLING AND REMOVING OF ALL OR ANY PORTION OF EXISTING SEPTIC TANKS, AS REQUIRED.

ALL SEPTIC TANKS LYING WITHIN THE PROPOSED RIGHT-OF-WAY LIMITS SHALL BE CLEANED AND EMPTIED. MATERIAL REMOVED FROM THESE TANKS SHALL BE CLASSIFIED AS UNSUITABLE AND DISPOSED OF OUTSIDE THE RIGHT-OF-WAY OR EASEMENT LINES.

WHEN THE SEPTIC TANKS ARE LOCATED ABOVE THE FINISHED PAVEMENT OR GROUND LINES, THEY SHALL BE ENTIRELY REMOVED AND DISPOSED OF IN ACCORDANCE WITH 202.

WHEN THE TANKS ARE LOCATED BELOW THE FINISHED PAVEMENT OR GROUND LINES, THE TOPS OF THE TANKS SHALL BE REMOVED, AND THE WALLS SHALL BE REMOVED TO A DEPTH OF 2 FEET BELOW THE FINISHED SUBGRADE OR GROUND LINES. THE REMOVED MATERIAL SHALL BE DISPOSED OF AS EXPLAIN ED ABOVE. THE TANKS SHALL BE BACKFILLED WITH SUITABLE SOIL OR GRANULAR MATERIAL IN ACCORDANCE WITH 203.

THIS ITEM SHALL BE PAID FOR AT THE UNIT PRICE BID PER EACH FOR "ITEM SPECIAL - CLEANING AND DISPOSING OF SEPTIC TANKS", WHICH PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR CLEANING, REMOVING, AND DISPOSING OF EXCESS MATERIALS, BACKFILLING AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM INCLUDING INCIDENTAL EXCAVATION.

EROSION CONTROL

ITEM 601.04, 601.07 and 601.08 ARE PROVIDED IN THESE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE WILL NOT BE REMOVED IN ORDER TO PLACE ANY OF THESE ITEMS. THE ENGINEER SHALL CHECK THE NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES FOR THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION.

ADJACENT CONTRACTS

THE CONTRACTOR FOR THIS PROJECT SHALL COORDINATE HIS OPERATIONS WITH THOSE OF THE CONTRACTORS FOR BOTH OF THE ADJACENT PROJECTS SO AS TO COMPLETE THE PROJECT IN AN ORDERLY FASHION AND WITHOUT ANY UNDUE DELAY OR INTERFERENCE TO THE OTHER CONTRACTORS.

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT CERTAIN GRADING OPERATIONS WITHIN THIS PROJECT ARE TO BE PERFORMED BY THE CONTRACTOR FOR MAH 80S-3.08 AND MAH 80-3.37 PROJECTS.

Also a portion of MAH-45-11.77, TRU-45-000 may be under construction concurrently with this contract.

ACCESS TO WORK AREAS OVER TURNPIKE RIGHT OF WAY

WHERE POSSIBLE AND NECESSARY, AND UPON APPLICATION BY THE CONTRACTOR TO THE CHIEF ENGINEER, OHIO TURNPIKE COMMISSION, THE OHIO TURNPIKE COMMISSION WILL COOPERATE IN PERMITTING TEMPORARY ACCESS TO THE WORK SITE AND WITHIN THE TURNPIKE RIGHT OF WAY IN THAT AREA BETWEEN TOE-OF SLOPE OR TOP-OF-CUT AND THE RIGHT OF WAY FENCE. USE OF ANY SUCH AREAS BY THE CONTRACTOR WILL REQUIRE THE CONSTRUCTION OF A TEMPORARY FENCE (TYPE 47) ALONG THE TOE-OF-SLOPE OR TOP-OF-CUT AS THE CASE MAY BE. PLANS FOR THE PREPARATION OF ANY SUCH AREA FOR USE BY THE CONTRACTOR MUST BE SUBMITTED TO AND APPROVED BY THE CHIEF ENGINEER, OHIO TURNPIKE COMMISSION, BEFORE ENTERING UPON THE TURNPIKE RIGHT OF WAY. THIS PLAN MAY BE IN NARRATIVE FORM. USE OF THIS AREA WILL REQUIRE POSITIVE DUST CONTROL SO THAT THERE WILL BE NO DRIFTING OF DUST ONTO OR ACROSS THE TURNPIKE ROADWAY.

WHEN THE TEMPORARY ACCESS IS NO LONGER NEEDED THE CONTRACTOR SHALL REMOVE ANY SURFACING MATERIAL USED IN CONNECTION WITH THE TEMPORARY ACCESS AND RESTORE THE AREA BY SEEDING AND MULCHING IN ACCORDANCE WITH THE PROVISIONS OF ITEM 659 OF THE SPECIFICATIONS AND BY REMOVING THE TEMPORARY FENCE AND REPAIRING ANY DAMAGE TO THE RIGHT OF WAY FENCE WHICH MIGHT HAVE ARISEN FROM THE USE OF THE TEMPORARY ACCESS, ALL AT HIS EXPENSE.

DRAINAGE

FARM DRAINS

ALL FARM DRAINS WHICH ARE ENCOUNTERED DURING CONSTRUCTION SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS UNDER THE DIRECTION OF THE ENGINEER. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS AND WHICH CROSS THE ROADWAY SHALL BE REPLACED WITHIN THE RIGHT-OF-WAY LIMITS BY ITEM 603 CONDUIT, TYPE B WITH CLASS B BEDDING, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF THE ROADWAY DITCHES SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 603 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE, IF POSSIBLE, ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL TILE FIELDS WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 603 TYPE E CONDUIT AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE AND GRADE OF REQUIRED REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

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

ITEM 603, 6" CONDUIT, TYPE B WITH CLASS B BEDDING 50 LIN.FT.
ITEM 603, 6" CONDUIT, TYPE E 50 LIN. FT.
ITEM 603, 6" CONDUIT, TYPE F 50 LIN.FT.
ITEM 603, 8" CONDUIT, TYPE B WITH CLASS B BEDDING 50 LIN. FT.
ITEM 603, 8" CONDUIT, TYPE E 50 LIN.FT.
ITEM 603, 8" CONDUIT, TYPE F 50 LIN. FT.
ITEM 601, DUMPED ROCK CHANNEL PROTECTION 50 CU. YD.
NECESSARY BENDS & BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEM.

NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL REQUESTED BY THE ENGINEER.

SANITARY FLOW INTO HIGHWAY DRAINAGE SYSTEMS

THIS PLAN MAKES NO PROVISION FOR CONNECTING, NOR SHALL THE ENGINEER OR CONTRACTOR CONNECT, ANY EXISTING OR NEW DRAINAGE INTO THE HIGHWAY DRAINAGE SYSTEM WHEN SUCH DRAINS CARRY FLOW FROM ANY PLUMBING FIXTURES INCLUDING FLOOR DRAINS AND SINK DRAINS OR DRAINS FROM LIVESTOCK LOTS OR BARNS OR HIGHLY POLLUTED WATER OF ANY KIND.

EXISTING PIPE CARRYING FLOW WHICH COMES WITHIN THE CATEGORY OUTLINED ABOVE SHALL BE PLUGGED WITH CLASS E CONCRETE AT THE RIGHT-OF-WAY LINE. PAYMENT FOR SAID PLUGGING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203 EXCAVATION (OR THE PERTINENT 202 ITEM).

SPECIAL DITCHES

FOR SPECIAL DITCH GRADES, SEE CROSS SECTIONS.

CONNECTIONS TO EXISTING PIPE

AT PLACES WHERE THE PLANS PROVIDE FOR PROPOSED PIPE TO BE CONNECTED TO EXISTING PIPE, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING PIPE BOTH AS TO LINE AND GRADE BEFORE HE STARTS TO LAY THE PROPOSED PIPE. THE COST OF THIS OPERATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT 603 CONDUIT ITEM.

MODIFICATION 604 NO. 6 CATCH BASIN

STANDARD 604 NO. 6 CATCH BASIN SHALL BE MODIFIED AS FOLLOWS:

1. THE GUTTER FRAME AND GRATE SHALL BE DEPRESSED TWO INCHES BELOW NORMAL GUTTER ELEVATION.
2. THE NORMAL SHOULDER SHALL BE ADJUSTED IN FIVE FEET TO MEET THE DEPRESSED CATCH BASIN.

GENERAL NOTES

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MAH-80 - 2.30

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ITEM 605, AGGREGATE DRAINS FOR LIPKEY ROAD

AGGREGATE DRAINS SHALL BE PLACED AT FIFTY (50) FOOT INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS AND AT TWENTY-FIVE (25) FOOT INTERVALS ON THE LOW SIDE ONLY OF SUPERELEVATED SECTIONS, EXCEPT WHERE ITEM 605 PIPE UNDERDRAINS HAVE BEEN PROVIDED.

AN AGGREGATE DRAIN SHALL BE PLACED AT THE LOW POINT OF EACH SAG VERTICAL CURVE.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY.

ITEM 605 AGGREGATE DRAINS 800 L.F. (I.)

SPRING DRAINS

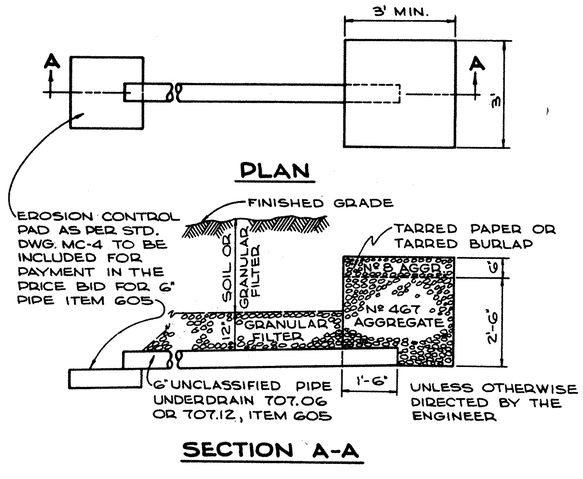
REFERENCE IS MADE TO THE DETAILED DRAWING SHOWING THE METHOD OF DRAINING ANY SPRING THAT MAY BE SHOWN ON THE PLAN OR ENCOUNTERED DURING CONSTRUCTION AS DETERMINED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS PURPOSE:

ITEM 605, 6" UNCLASSIFIED PIPE UNDERDRAIN, 707.06 OR 707.12, AS PER PLAN 300 L.F.

ITEM 605, AGGREGATE DRAINS FOR SPRINGS, AS PER PLAN 9 L.F.

THE CONTRACTOR SHALL NOT ORDER MATERIALS FOR "SPRING DRAINS" UNTIL AUTHORIZED BY THE ENGINEER AND IN THE EVENT NO SPRINGS ARE ENCOUNTERED, THE ITEM SHALL BE NON-PERFORMED.

SPRING DRAIN DETAIL



AGGREGATES, TARRED PAPER OR TARRED BURLAP, AND NECESSARY EXCAVATION FOR SPRING DRAINS SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICE BID PER LIN.FT. FOR "ITEM 605, AGGREGATE DRAINS FOR SPRINGS, AS PER PLAN."

THE 6" PIPE 707.06 OR 707.12 SHALL BE COVERED WITH GRANULAR FILTER MATERIAL 605.03 (c) TO A HEIGHT OF ONE (1) FOOT ABOVE THE TOP OF THE PIPE. THE REMAINDER OF THE BACKFILL FOR THIS ITEM SHALL BE SOIL OR GRANULAR FILTER BACKFILL PLACED IN ACCORDANCE WITH 603.08, *TYPE E.*

SPRING DRAINS SHALL BE BUILT IN REASONABLY CLOSE CONFORMITY WITH THE DETAIL SHOWN ABOVE. THE LENGTHS AND EXACT LOCATIONS OF THE DRAINS SHALL BE DETERMINED BY THE ENGINEER.

PAVEMENT

CONTRACTION AND EXPANSION JOINTS

ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN EXPANSION AND CONTRACTION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES AND THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS SHALL IN ALL CASES BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWINGS *AND THE SPECIFICATIONS.*

310 UNDER APPROACH SLABS

THE AREA BETWEEN THE BOTTOM SURFACE OF THE APPROACH SLAB AND THE SUBGRADE SHALL BE FILLED WITH ITEM 310 SUBBASE, GRADING A OR B AS PER PLAN.

ITEM 304 AGGREGATE BASE, AS PER PLAN

THE MATERIAL REQUIREMENT FOR THIS ITEM WILL BE MODIFIED TO PROHIBIT THE USE OF SLACKER AGGREGATE, 703.09.

ITEM 310 SUBBASE, GRADING A OR B AS PER PLAN

MATERIAL FOR THIS ITEM SHALL MEET THE REQUIREMENTS OF GRADING A OR B OF 310.02 EXCEPT THAT FOR EITHER GRADING, NO MORE THAN 10% OF THE MATERIAL SHALL PASS A NO. 200 SIEVE AFTER ALL OPERATIONS OF PLACING AND COMPACTING HAVE BEEN COMPLETED.

PAVEMENT DETAILS ADJACENT OHIO TURNPIKE

THE PROPOSED ELEVATIONS APPEARING ON THE PAVEMENT DETAILS ADJACENT THE EXISTING OHIO TURNPIKE PAVEMENT HAVE BEEN DETERMINED FROM FIELD SURVEY AND CALCULATIONS REQUIRED TO PROVIDE A SMOOTH TRANSITION BETWEEN THE EXISTING AND PROPOSED PAVEMENT. WHERE REQUIRED THE CONTRACTOR AT THE DIRECTION OF THE ENGINEER SHALL MAKE MINOR ELEVATION ADJUSTMENTS TO MEET EXISTING FIELD CONDITIONS.

MEDIAN PAVEMENT ON APPROACH SLABS

THE WIDTH AND TYPE OF MEDIAN PAVEMENT ON APPROACH SLABS SHALL BE TRANSITIONED FROM THE STANDARD SECTION USED ON THE APPROACH PAVEMENT TO THE SECTION USED ON THE BRIDGE WITHIN THE LIMITS OF THE APPROACH SLAB.

CONCRETE CURB, STANDARD TYPE 6 MODIFIED

ST'D. TYPE 6 CURB, SHOWN ON STANDARD DRAWING BP-7 SHALL BE MODIFIED AS FOLLOWS:

1. A 4" VERTICAL HEIGHT ABOVE THE SURFACE OF THE PAVEMENT SHALL BE USED IN LIEU OF 6".
2. THE TOTAL HEIGHT SHALL BE 16" IN LIEU OF 18".

451 PAVEMENT REINFORCING

The 16' maximum length requirement of Standard Drawing BP-2 dated 1-10-67 is hereby waived. All other provisions of BP-2 shall remain in effect.

CHANNEL EMBANKMENTS

Portions of the existing channel outside the roadbed shall be filled and sloped to drain as called for on the plans and included for payment in the price bid for Item 203 Embankment. The contractor shall use either suitable or unsuitable material to the extent available for channel embankments.

Areas where channel embankments are to be placed shall be cleared of weeds and brush but need not be scalped.

The requirements for moisture, density control, benching, and suitable materials shall be waived.

The depth of layers in which the embankments are placed and their compaction shall, in lieu of the requirements of Item 203, conform with acceptable construction practices as determined by the Engineer.

No provision of the specifications shall be waived for embankments which support any portion of the new roadbed or structural members.

An estimated quantity of 3,504 cubic yards has been provided in the plans for channel embankment.

GUARD RAIL, MODIFIED AS PER PLAN

Type 4 ~

The post spacing for Type 4 guard rail modified as per plan shall be at 6'-3" intervals with spacer blocks attached between the posts and rail element. The approach ends shall be constructed with the new guard rail approach end assemblies as detailed on sheet Nos. 243A & 243B. Where either end is adjacent to proposed bridges, the new bridge connector assembly will apply. The exit ends of Type 4 guard rail modified as per plan shall be as detailed on Std. Dwg. GR-2A.

Type 4 Barrier Design ~

The post spacing for all Type 4 barrier design guard rail modified as per plan shall be at 6'-3" intervals with spacer blocks attached between the post and rail elements. The approach ends shall be constructed with the new guard rail approach end assemblies as detailed on sheet Nos. 243A & 243B. Exceptions to this will occur where the median guard consists of a combination of Type 4 and barrier design as shown on Std. Dwg. GR-5B.

Basis of Payment ~

Type 4 guard rail with post spacing 6'-3", spacer blocks, and new approach end assemblies will be paid for as 606 Guard Rail, Type 4, modified as per plan, complete in place.

Type 4 barrier design with post spacing at 6'-3", spacer blocks, and new approach end assemblies will be paid for as 606 Guard Rail, Type 4 Barrier Design modified as per plan, complete in place.

MAINTENANCE OF TRAFFIC

FED. RD.	STATE	PROJECT	
2	OHIO		

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MAH 80S-7.01
MAH 80-2.30

SILICA ROAD (C.H. 178)

SILICA ROAD SHALL BE CLOSED TO ALL THROUGH TRAFFIC DURING THE CONSTRUCTION ON SILICA ROAD. THE CONTRACTOR SHOULD HOLD TO AN ABSOLUTE MINIMUM THE LENGTH OF TIME SILICA ROAD IS CLOSED. THE CONTRACTOR SHALL NOTIFY THE MAHONING COUNTY ENGINEER AT LEAST ONE WEEK IN ADVANCE OF ROAD CLOSING.

LIPKEY ROAD (C.H. 91)

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES ON LIPKEY ROAD BY USE OF THE EXISTING PAVEMENT, THE PROPOSED PAVEMENT AND TEMPORARY ROADS SURFACED WITH 410 AGGREGATE AND STABILIZED WITH 616 CALCIUM CHLORIDE. THE TEMPORARY ROADS SHALL BE BUILT TO THE LINE GRADE AND SURFACE WIDTH SHOWN ON SHEET NUMBER 207 & 208. A PART OF THE PROPOSED FIRE TRAILS FOR THE M.V.S.D. WILL BE USED AS A PORTION OF THE TEMPORARY ROADS AS SHOWN ON SHEET NUMBER 207 & 208. THE LIMITS AND DURATION OF USE OF THE TEMPORARY ROADS SHALL BE HELD TO AN ABSOLUTE MINIMUM, AND IN ALL CASES SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

PAYMENT FOR THE CONSTRUCTION AND REMOVAL OF THE TEMPORARY ROADS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "ITEM 615 - TEMPORARY ROADS" AND THE FOLLOWING ESTIMATED QUANTITIES.

ITEM 410 TRAFFIC COMPACTED SURFACE TYPE A OR B	306 C.Y.(I)
ITEM 616 CALCIUM CHLORIDE	2 TONS (I)

PAYMENT FOR THE PART OF THE FIRE TRAIL TO BE USED AS A PORTION OF THE TEMPORARY ROAD IS NOT INCLUDED IN THE ABOVE, BUT IS INCLUDED WITH THE PAY ITEMS FOR ALL THE PROPOSED FIRE TRAILS.

WARREN-SALEM ROAD (S.R. 45)

TRAFFIC SHALL BE MAINTAINED AT ALL TIMES ON S.R. 45 BY USE OF THE EXISTING PAVEMENT.

LIGHTS, SIGNS AND BARRICADES

THE CONTRACTOR SHALL, IN ADDITION TO THE GENERAL REQUIREMENTS OF ITEM 614 ON THIS PROJECT PERFORM THE FOLLOWING:

PROVIDE, ERECT AND MAINTAIN STANDARD 48" X 30" SIZE "ROAD CLOSED" SIGNS, SIGN SUPPORTS AND LIGHTS AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC:

1. SILICA ROAD (C.H. 178) JUST EAST WARREN-SALEM ROAD (S.R. 45).
2. SILICA ROAD (C.H. 178) JUST WEST OF LIPKEY ROAD (C.H.91).

SIGN SUPPORTS AND LIGHTS FOR "ROAD CLOSED" SIGNS SHALL BE AS DETAILED IN THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".

PAYMENT FOR PROVIDING, ERECTING, MAINTAINING AND REMOVING LIGHTS, SIGNS AND SIGN SUPPORTS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "ITEM 614 - MAINTAINING TRAFFIC".

MAINTAINING LOCAL TRAFFIC

THE FOLLOWING QUANTITIES ARE INCLUDED FOR MAINTAINING TRAFFIC AND ARE TO BE USED AS DIRECTED BY THE ENGINEER.

ITEM 410 TRAFFIC COMPACTED SURFACE, TYPE A OR B	50 C.Y. (I)
ITEM 410 TRAFFIC COMPACTED SURFACE, TYPE C	50 C.Y. (I)
ITEM 616 CALCIUM CHLORIDE	4 TONS (I)

LINE DATA CALCULATIONS FOR ROADS AND APPROACHES
I.G. FUNDS

MAINLINE APPROACHES
BEGIN PROJECT STATION 370 + 07.44
BEGIN WORK STATION 369 + 78

TOTAL LENGTH APPROACHES (I.G.) 29.44 L.F.

I. FUNDS

MAINLINE APPROACHES
END WORK STATION 521 + 15
END PROJECT STATION 520 + 80.75

TOTAL APPROACH LENGTH 34.25 L.F.

LIPKEY ROAD (C.H. 91)
END WORK STATION 56 + 50
BEGIN WORK STATION 43 + 00

TOTAL WORK LENGTH 1350.00 L.F.

STATE, AND I. FUNDS

OHIO TURNPIKE
BEGIN WORK STATION 538 + 75
SUSPEND WORK STATION 539 + 25 50.00 L.F.

RESUME WORK STATION 26+ 25
SUSPEND WORK STATION 28 +00 175.00 L.F.

RESUME WORK STATION 72 + 00.15
SUSPEND WORK STATION 133 + 03.00 6102.85 L.F.

RESUME WORK STATION 153+95
SUSPEND WORK STATION 155 + 70 175.00 L.F.

RESUME WORK STATION 214 +50
END WORK STATION 216 + 25 175.00 L.F.

TOTAL LENGTH OF WORK
(O.T., STATE AND I. FUNDS) 6677.85 L.F.

Total Length of Work (IG) 1,822.00 L.F. or 0.345 Mi.

Total Length of Work (I) 21,482.85 L.F. or 4.068 Mi.

Total Length of Work 23,304.85 L.F. or 4.413 Mi.

MAINTENANCE OF TRAFFIC

OHIO TURNPIKE

FED. RD.	STATE	PROJECT	
2	OHIO		

14
384

MAHONING COUNTY
MAH-80S-7.01
MAH-80 - 2.30

OHIO TURNPIKE

TRAFFIC ON THE OHIO TURNPIKE SHALL BE MAINTAINED AT ALL TIMES BY MEANS OF THE EXISTING OHIO TURNPIKE ROADWAY AND RAMPS AND/OR THE TEMPORARY ROAD, RAMPS, RAMP CONNECTIONS AND CROSS-OVERS WITH THE FOLLOWING RESTRICTIONS:

1. PERIOD MAY 1 THROUGH SEPTEMBER 14

   ALL TRAVEL LANES SHALL REMAIN OPEN AT ALL TIMES DURING THIS PERIOD BY MEANS OF THE TEMPORARY ROAD AND RAMPS AND/OR THE EXISTING ROADWAY AND RAMPS. THE TEMPORARY ROAD AND RAMPS WILL NOT BE PUT IN OR TAKEN OUT OF SERVICE DURING THIS PERIOD. NO WORK MAY BE PERFORMED DURING THIS PERIOD THAT IN ANY WAY INTERFERES WITH THE FREE-FLOW OF TRAFFIC USING THE OHIO TURNPIKE.

2. PERIOD SEPTEMBER 15 THROUGH APRIL 30.

   ONE PAIR OF LANES IN ONE DIRECTION OR SINGLE LANES IN EACH DIRECTION MAY BE CLOSED TO TRAFFIC DURING THE DAYLIGHT HOURS ON MONDAYS, TUESDAYS, WEDNESDAYS AND THURSDAYS AND UNTIL 2:00 P.M. ON FRIDAYS UNLESS THE OHIO TURNPIKE COMMISSION SHALL DESIGNATE OTHERWISE BECAUSE OF EXPECTED HEAVY TRAFFIC VOLUME PERIODS AS A RESULT OF A HOLIDAY, SPECIAL EVENT, OR AN EMERGENCY. ALL TRAVEL LANES SHALL REMAIN OPEN BY MEANS OF THE TEMPORARY ROAD AND RAMPS AND/OR THE EXISTING ROADWAY AND RAMPS FROM 2:00 P.M. ON FRIDAYS TO DAYLIGHT ON MONDAYS.

SAFETY AND CONTINUITY OF OPERATIONS OF TRAFFIC ON THE OHIO TURNPIKE SHALL BE OF THE FIRST IMPORTANCE AND SHALL AT ALL TIMES BE PROTECTED AND SAFEGUARDED. PROTECTION OF THIS TRAFFIC WILL INCLUDE POSITIVE DUST CONTROL DURING CONSTRUCTION OPERATIONS IN THOSE AREAS NEAR THE TRAVEL LANES OF THE OHIO TURNPIKE.

TEMPORARY ROAD & CROSS-OVERS - OHIO TURNPIKE

BEFORE ANY WORK SHALL BE DONE ON THE TEMPORARY ROAD, RAMPS, RAMP CONNECTIONS, AND CROSS-OVERS WITHIN THE RIGHT-OF-WAY OF THE OHIO TURNPIKE, THE CONTRACTOR SHALL SUBMIT TO THE CHIEF ENGINEER OF THE OHIO TURNPIKE COMMISSION FOR HIS APPROVAL A SEQUENCE AND TIME SCHEDULE OF PROPOSED OPERATIONS, INCLUDING THE NECESSARY DRAINAGE MODIFICATIONS. NO WORK SHALL BE PERFORMED WITHIN THE TURNPIKE RIGHT-OF-WAY UNTIL SUCH SEQUENCE AND SCHEDULE ARE APPROVED IN WRITING. FOLLOWING COMPLETION OF THE TEMPORARY ROAD, THE CONTRACTOR WILL NOT BE PERMITTED FURTHER OPERATIONS WITHIN THE LIMITS OF THE TEMPORARY ROADWAY AND RAMPS THAT WILL IN ANY WAY INTERFERE WITH ITS USE FOR TURNPIKE TRAFFIC.

THE TWO TEMPORARY CROSS-OVERS AND TEMPORARY RAMP CONNECTIONS WILL BE CONSTRUCTED, UTILIZED AND REMOVED DURING THE PERIOD OF SEPTEMBER 15 TO APRIL 30. TEMPORARY RAMP CONNECTIONS SHOULD BE USED DURING THE CONSTRUCTION AND REMOVAL OF THE TEMPORARY ROAD, RAMPS AND THE TEMPORARY CROSS-OVERS SHOULD BE UTILIZED DURING THE CONSTRUCTION OF LINE "A" BRIDGE TO MAINTAIN TWO-WAY TRAFFIC ON ONE PAIR OF LANES. PART WIDTH CONSTRUCTION SHOULD BE USED TO MAINTAIN THROUGH TRAFFIC DURING THE CONSTRUCTION AND REMOVAL OF THE TEMPORARY ROAD.

TRAFFIC SHALL BE RESTRICTED TO ONE LANE IN EITHER OR BOTH OF THE TURNPIKE ROADWAYS AT REDUCED SPEED WHEN ANY WORK IS WITHIN TEN (10) FEET OF THE ROADWAY AND THE TEMPORARY CROSS-OVERS AND/OR TEMPORARY ROAD AND RAMPS CANNOT BE UTILIZED TO MAINTAIN TRAFFIC. THIS WORK INCLUDES CONSTRUCTION OF RAMPS WITH ACCELERATION AND DECELERATION LANES, ADJUSTMENT TO SILICA ROAD BRIDGE, AND CONSTRUCTION AND REMOVAL OF THE TEMPORARY CROSS-OVERS, ROAD, RAMPS AND RAMP CONNECTIONS. TRAFFIC SHALL BE MAINTAINED AT ALL TIMES AT THE EXISTING EXIT AND ENTRANCE RAMPS TO S.R. 18 BY MEANS OF EITHER THE TEMPORARY RAMP CONNECTIONS OR TEMPORARY RAMPS AND/OR THE EXISTING RAMPS. FOR SUCH WORK AS PAINTING AND MINOR FINISHING WORK ON THE SUPERSTRUCTURE OF LINES "A" BRIDGE, TRAFFIC MAY BE RESTRICTED TO ONE LANE IN EACH OF THE TURNPIKE ROADWAYS AT REDUCED SPEED. A FIFTEEN FOOT VERTICAL CLEARANCE OVER THE OHIO TURNPIKE SHALL BE MAINTAINED AT ALL TIMES.

THE OHIO TURNPIKE ROADWAYS SHALL BE THOROUGHLY CLEANED BEFORE TRAFFIC IS RETURNED TO THEM AFTER EACH CLOSURE. CONSTRUCTION OF THE PIERS AND ABUTMENTS FOR LINE "A" BRIDGE MAY BE PERFORMED WITHOUT CLOSING THE ROADWAYS, BUT SHALL BE PROTECTED BY GUARD RAIL AND FENCE AS DESCRIBED UNDER THE OHIO TURNPIKE "TEMPORARY GUARD RAIL" AND "TEMPORARY FENCE" NOTES, NO EARTHWORK OTHER THAN MATERIAL EXCAVATED FROM OR REQUIRED FOR MEDIAN CONSTRUCTION SHALL BE HAULED ALONG OR ACROSS THE OHIO TURNPIKE ROADWAYS. THERE SHALL BE NO MOVEMENT AT ANY TIME OF THE CONTRACTOR'S WORKMEN, EQUIPMENT, OR MATERIALS ACROSS TURNPIKE LANES THAT ARE OPEN TO TRAFFIC EXCEPT FOR WORK PERFORMED IN THOSE AREAS LISTED UNDER THE "ACCESS TO WORK" NOTE.

UPON COMPLETION OF THE STRUCTURES CARRYING THE OHIO TURNPIKE OVER INTERSTATE 80, AND LINE "A" STRUCTURE OVER THE OHIO TURNPIKE AND THE CHIEF ENGINEER OF THE OHIO TURNPIKE HAS APPROVED THE WORK, THE CONTRACTOR WILL REMOVE THE TEMPORARY ROAD, RAMPS, CROSS-OVERS AND RAMP CONNECTIONS AND RESTORE THE DISTURBED AREAS TO THEIR ORIGINAL CONDITION. THE CONTRACTOR WILL AGAIN SUBMIT TO THE CHIEF ENGINEER A SEQUENCE AND TIME SCHEDULE OF THE OPERATIONS NECESSARY TO RESTORE THE DISTURBED AREAS AND TO RETURN TRAFFIC TO THE NORMAL ROADWAY. NO WORK ON THE REMOVAL OR RESTORATION SHALL COMMENCE UNTIL SUCH SEQUENCE AND SCHEDULE ARE APPROVED IN WRITING.

THE USE OF THE TEMPORARY ROAD FOR HANDLING THE TRAFFIC ON THE OHIO TURNPIKE AND TO FACILITATE THE CONSTRUCTION OF THE BRIDGES WILL BE LIMITED TO A MAXIMUM OF ONE YEAR WITH SUCH YEAR COMMENCING AND TERMINATING DURING THE PERIOD OF SEPTEMBER 15 TO APRIL 30.

PAYMENT FOR CONSTRUCTING, MAINTAINING, ADJUSTING AND REMOVING THE TEMPORARY CROSS-OVERS AND RAMP CONNECTIONS AND RESTORING THE DISTURBED AREAS TO THEIR ORIGINAL CONDITION SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "ITEM 615 TEMPORARY ROADS", EXCEPT THE PAVING OF THE TEMPORARY CROSS-OVERS AND CONNECTIONS WILL BE INCLUDED IN THE UNIT PRICE BID FOR "ITEM 615 - CLASS "A" TEMPORARY PAVEMENT". SEE SHEET NO.7, 190, 191 & 194 FOR DETAILS OF TEMPORARY CROSS-OVERS AND CONNECTIONS.

PAYMENT FOR CONSTRUCTING AND REMOVING THE TEMPORARY ROAD AND RAMPS AND RESTORING THE DISTURBED AREAS TO THEIR ORIGINAL CONDITION SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "ITEM 615 TEMPORARY ROADS", EXCEPT THE PAVING OF THE TEMPORARY ROAD WILL BE INCLUDED IN THE UNIT PRICE BID FOR "ITEM 615-CLASS "A" TEMPORARY PAVEMENT, AS PER PLAN". SEE SHEET NO.7 & 191-204 FOR TEMPORARY ROAD DETAILS.

MAINTENANCE - OHIO TURNPIKE

THE OHIO TURNPIKE COMMISSION WILL MAINTAIN WITH ITS OWN FORCES THE TEMPORARY ROAD AND RAMPS WHILE THEY ARE IN SERVICE. THE TURNPIKE WILL FURNISH, ERECT, MAINTAIN AND REMOVE ALL BARRICADES, GATES, LIGHTS AND WARNING SIGNS, DELINEATORS, EDGE LINES AND LANE LINES AS REQUIRED FOR MAINTAINING TRAFFIC ON THE OHIO TURNPIKE INCLUDING THE TEMPORARY ROAD AND RAMPS. WHEN, IN THE OPINION OF THE CHIEF ENGINEER OF THE OHIO TURNPIKE COMMISSION, THE CONSTRUCTION WORK CAUSES A HAZARD TO TRAFFIC ON THE OHIO TURNPIKE, THE COMMISSION MAY PLACE AT THE SITE OF THE WORK, QUALIFIED WATCHMEN, FLAGMEN AND PATROLMEN TO PROTECT THE TRAVELING PUBLIC ON THE OHIO TURNPIKE. THE ENGINEER SHALL AT ALL TIMES KEEP THE CHIEF ENGINEER OF THE OHIO TURNPIKE COMMISSION INFORMED OF THE CONSTRUCTION ACTIVITIES WITHIN THE OHIO TURNPIKE RIGHT-OF-WAY. PAYMENT FOR ALL OF THE ABOVE SERVICES AND MATERIAL PROVIDED BY THE OHIO TURNPIKE COMMISSION WILL BE BY FORCE ACCOUNT WITH THE STATE OF OHIO.

NOTICE - OHIO TURNPIKE

THE ENGINEER SHALL GIVE WRITTEN NOTICE TO THE CHIEF ENGINEER OF THE OHIO TURNPIKE COMMISSION AT THE COMMISSION'S OFFICES, 682 PROSPECT STREET, BEREA OHIO, AT LEAST TWENTY-FOUR HOURS IN ADVANCE OF THE TIME THE CONTRACTOR INTENDS TO COMMENCE ANY WORK UPON OR OVER THE OHIO TURNPIKE RIGHT-OF-WAY. WHENEVER SUCH WORK, IN THE OPINION OF THE CHIEF ENGINEER OF THE OHIO TURNPIKE COMMISSION, MAY AFFECT THE SAFETY OF TRAFFIC ON THE OHIO TURNPIKE, THE METHOD OF DOING SUCH WORK SHALL BE SUBMITTED UPON REQUEST TO THE CHIEF ENGINEER OF THE OHIO TURNPIKE COMMISSION FOR HIS APPROVAL. SUCH WORK SHALL NOT BE COMMENCED OR PROSECUTED WITHOUT THIS APPROVAL.

ACCESS TO WORK - OHIO TURNPIKE

EXCEPT AS LISTED BELOW, THE CONTRACTOR SHALL BE REQUIRED TO OBTAIN ACCESS TO THE WORK BY WAYS OTHER THAN THE USE OF THE OHIO TURNPIKE. FOR WORK IN THE FOLLOWING LOCATIONS, THE CONTRACTOR WILL BE PERMITTED TO USE THE FACILITIES OF THE OHIO TURNPIKE.

1. THE CONSTRUCTION OF THE TEMPORARY CROSS-OVERS AND RAMP CONNECTIONS.
2. THE CONSTRUCTION OF THE TEMPORARY ROAD AND RAMPS WITHIN THE TURNPIKE RIGHT-OF-WAY.
3. THE PIER CONSTRUCTION AND STEEL ERECTION OF LINE "A" BRIDGE OVER THE OHIO TURNPIKE.
4. REMOVAL OF DECK FORMS ON LINE "A" BRIDGE.
5. THE REMOVAL OF THE TEMPORARY ROAD WITHIN THE TURNPIKE RIGHT-OF-WAY AND THE RESTORATION OF THE OHIO TURNPIKE TO ORIGINAL CONDITION.
6. THE REMOVAL OF THE TEMPORARY CROSS-OVERS AND RAMP CONNECTIONS AND THE RESTORATION OF THE OHIO TURNPIKE TO ORIGINAL CONDITION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRANSPORTATION OF WORKMEN TO THE WORK AREA. WORKMEN EMPLOYED ON THE PROJECT WILL NOT BE PERMITTED TO PARK THEIR VEHICLES ON THE TURNPIKE RIGHT-OF-WAY. NEITHER CAN THE TOLL PLAZA AREA AT INTERCHANGES BE EMPLOYED FOR PARKING OF WORKMEN'S VEHICLES.

BEFORE ANY USE IS MADE OF THE OHIO TURNPIKE FACILITIES, THE CONTRACTOR WILL OBTAIN APPROVAL FROM THE CHIEF ENGINEER OF THE OHIO TURNPIKE COMMISSION FOR HIS SCHEDULED USE OF SUCH ROADWAYS. THE OHIO TURNPIKE COMMISSION RESERVES THE RIGHT TO LIMIT THE SIZE OF THE LOADS AND TO REQUIRE ANY OTHER MEANS TO PREVENT SPILLAGE ON THE TURNPIKE PAVEMENTS. ANY SPILLAGE OF DIRT OR OTHER MATERIALS ON THE PAVEMENTS SHALL BE IMMEDIATELY REMOVED BY THE CONTRACTOR, AT HIS OWN EXPENSE.

SPECIAL ARRANGEMENTS FOR ACCESS TO THE WORK SITE BY USE OF THE TURNPIKE FOR DELIVERY OF CONCRETE AND STEEL FOR THE LINE "A" OVER OHIO TURNPIKE AND OHIO TURNPIKE OVER I-80 STRUCTURES AND FOR PAVING MATERIAL FOR THE TEMPORARY ROAD, RAMPS, CROSS-OVERS AND RAMP CONNECTIONS, MAY BE MADE WITH THE CHIEF ENGINEER OF THE OHIO TURNPIKE COMMISSION. HOWEVER, SUCH ARRANGEMENTS WILL NOT INCLUDE U-TURNS EXCEPT THOSE POSSIBLE OUTSIDE THE TOLL PLAZAS. ANY USE OF THE OHIO TURNPIKE FOR THIS PURPOSE WILL REQUIRE THE PAYMENT OF NORMAL TOLLS AND SHALL BE DONE IN ACCORDANCE WITH THE "RULES AND REGULATIONS FOR THE CONTROL AND REGULATION OF TRAFFIC" ADOPTED BY THE OHIO TURNPIKE COMMISSION.

STATE AND FEDERAL INSPECTORS AND ENGINEERS OCCUPYING A STATE OR FEDERAL VEHICLE SHALL BE AFFORDED READY ACCESS TO THE WORK SITE BY MEANS OF INTERCHANGES 14 AND 15 WITHOUT PAYMENT OF TOLLS. ALL VEHICLES GOING TO THE JOB SITE IN THE MEDIAN SHALL ENTER THE CONED-OFF WORK ZONE AS SOON AS POSSIBLE, AND REMAIN WITHIN THE CONED-OFF AREAS IN BOTH ROADWAYS. EXITING VEHICLES FROM THE WORK AREAS SHALL "YIELD TO" AND EXERCISE ALL NECESSARY CARE TO SAFEGUARD EXISTING TRAFFIC ON THE OPEN ROADWAYS.

TEMPORARY FENCE - OHIO TURNPIKE

TEMPORARY FENCE SHALL BE INSTALLED BEHIND THE GUARD RAIL AT LINE "A" AND SILICA ROAD BRIDGES AND ADJACENT TO THE TEMPORARY ROAD. CHAIN LINK FENCE MINIMUM HEIGHT 6 FEET SHALL BE USED BEHIND THE GUARD RAIL. TYPE 47 FENCE MAY BE USED BEYOND THE LIMITS OF THE CHAIN LINK FENCE AS SHOWN ON THE PLANS. THE FENCE SHALL BE MAINTAINED IN GOOD CONDITION UNTIL THE CONSTRUCTION IS COMPLETED, AT WHICH TIME THE FENCE SHALL BE REMOVED AND DISPOSED OF. GOOD QUALITY USED MATERIALS MAY BE FURNISHED FOR TEMPORARY FENCING. CUSTOMARY CONCRETE ENCASEMENT OF FENCE POSTS WILL NOT BE REQUIRED IF SATISFACTORY STABILITY CAN OTHERWISE BE OBTAINED.

THE FENCING SHALL BE OF SUFFICIENT LENGTH TO AFFORD PROTECTION THROUGHOUT CONSTRUCTION OPERATION AREAS, AND PREVENT PEOPLE AND ANIMALS FROM ENTERING ONTO THE TRAVELED ROADWAY. (TOTAL ESTIMATED MINIMUM LENGTHS 775 LIN. FT. OF CHAIN LINK AND 3550 LIN. FT. OF CHAIN LINK OR TYPE 47). ALL MATERIALS, TYPE OF CONSTRUCTION, LOCATIONS, AND CONDITION OF MAINTENANCE SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.

PAYMENT FOR ERECTION, MAINTENANCE AND REMOVAL OF TEMPORARY FENCE SHALL BE INCLUDED IN THE LUMP SUM BID FOR "ITEM 614, MAINTAINING TRAFFIC".

TEMPORARY GUARD RAIL - OHIO TURNPIKE

THE CONTRACTOR SHALL FURNISH, ERECT AND SUBSEQUENTLY REMOVE APPROXIMATELY 625 LINEAL FEET GUARD RAIL, TYPE 4 AS A TEMPORARY GUARD RAIL FOR PROTECTION OF HIS WORK AREA FOR LINE "A" AND SILICA ROAD BRIDGES ADJACENT TO THE TURNPIKE. THE GUARD RAIL SHALL BE POST MOUNTED, ERECTED PER STANDARD DRAWINGS GR-1 AND GR-2A AT LOCATIONS SHOWN ON THE PLANS AND PLACED A MINIMUM OF 8 FEET FROM THE TURNPIKE PAVEMENT, WITH THE ENDS OF EACH RUN FLARED SO THAT THE TERMINAL POST WILL BE LOCATED APPROXIMATELY 12 FEET FROM THE EDGE OF THE PAVEMENT. CONSTRUCTION WILL BE SIMILAR TO THE FLARED ENDS SHOWN ON STANDARD DRAWING GR-6. GOOD QUALITY USED GUARD RAIL MAY BE USED FOR THIS PURPOSE.

PAYMENT FOR FURNISHING, ERECTING, MAINTAINING AND REMOVING THE TEMPORARY GUARD RAIL SHALL BE INCLUDED IN THE LUMP SUM BID FOR "ITEM 614 - MAINTAINING TRAFFIC".

THE CONTRACTOR IN ADDITION TO 615.04 OF THE SPECIFICATIONS, SHALL FURNISH, ERECT AND SUBSEQUENTLY REMOVE APPROXIMATELY 4025 LIN. FT. GUARD RAIL TYPE 4 AND 1900 LIN. FT. GUARD RAIL TYPE 4 BARRIER DESIGN AS A TEMPORARY GUARD RAIL FOR THE TEMPORARY ROAD. THE GUARD RAIL SHALL BE POST MOUNTED, ERECTED PER STANDARD DRAWINGS GR-1 AND GR-2A AT LOCATIONS SHOWN ON THE PLANS AND PLACED A MINIMUM OF 8 FEET FROM THE EDGE OF THE TEMPORARY PAVEMENT. PAVEMENT MOUNTED GUARD RAIL SHALL BE CONSTRUCTED USING STEEL POSTS 6" X 8.5 WELDED TO STEEL PLATES AND SECURED TO THE EXISTING PAVEMENT AS DETAILED ON SHEET NO. 243 . REMOVAL OF THE PAVEMENT MOUNTED GUARD RAIL POSTS SHALL IMMEDIATELY BE FOLLOWED WITH THE SEALING OF ALL DRILL HOLES WITH A MOISTURE PROOF FILLER APPROVED BY THE ENGINEER. GUARD RAIL ELEMENTS SHALL BE FIRMLY BOLTED A MINIMUM OF 27" FROM THE TOP OF RAIL TO THE PAVEMENT SURFACE. THE ENDS OF EACH RUN SHALL BE FLARED SO THAT THE TERMINAL POST WILL BE LOCATED APPROXIMATELY 12 FEET FROM THE EDGE OF PAVEMENT. CONSTRUCTION WILL BE SIMILAR TO THE FLARED ENDS SHOWN ON STANDARD DRAWING GR-6. GOOD QUALITY USED GUARD RAIL MAY BE USED FOR THIS PURPOSE.

PAYMENT FOR FURNISHING, ERECTING, MAINTAINING AND REMOVING TEMPORARY GUARD RAIL REQUIRED ON THE TEMPORARY ROAD SHALL BE INCLUDED IN THE LUMP SUM BID FOR "ITEM 615 - TEMPORARY ROAD".

OHIO TURNPIKE
MAINTENANCE OF TRAFFIC

COMPUTATIONS

MAIN LINE

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH. 80S-7.01
MAH. 80-2.30

15
384

ITEM 203
SUBGRADE PREPARATION

MAIN LINE (I.G. FUNDS)
ITEM 451 10" R.P.C.C.P. = 8,114 S.Y.
ITEM 409 BIT. MAT'L 1466/0.3 = 4,887 S.Y.
ITEM 611 REINF. CONC. APP. SLABS = 267 S.Y.

TOTAL I.G. FUNDS
MAINLINE ITEM 203 = 13,268 S.Y.
SUBGRADE PREPARATION

MAIN LINE (I.FUNDS)
ITEM 451 10" R.P.C.C.P. = 75,593 S.Y.
ITEM 409 BIT. MAT'L 12,333/0.3 = 41,110 S.Y.
ITEM 611 REINF. CONC. APP. SLABS = 633 S.Y.
Deduct for Rock = -57,880 S.Y.

TOTAL I. FUNDS
MAINLINE ITEM 203 =
SUBGRADE PREPARATION 59,456 S.Y.

ITEM 301
BITUMINOUS AGGREGATE BASE

FACTORS
NORMAL & SUPERELEVATED SECTIONS
$\frac{(10 + 4 + 4 + 10) \times .25}{27}$ = 0.259259 C.Y./LIN.FT.

NORMAL SECTION ONE SIDE W/SPEED CHANGE LANE
$\frac{4 \times .25 + 8 \times .50}{27}$ = 0.185185 C.Y./LIN.FT.

NORMAL SECTION 4' SHOULDER ONLY
$\frac{4 \times .25}{27}$ = 0.037037 C.Y./LIN.FT.

MAIN LINE (I.G. FUNDS)
STATION 370 + 07.44 - STATION 370 + 32.46
25.02 x 0.259259 = 6 CU.YD.

STATION 372+53.54 - STATION 388+00
1546.46 x 0.259259 = 401 CU.YD.

TOTAL I. G. FUNDS
MAIN LINE ITEM 301 = 407 CU. YD.
BITUMINOUS AGGREGATE BASE

STATION 388+00 - STATION 401 + 95.04
1395.04 x 0 .259259 = 362 CU. YD.

STATION 403+58.56 - STATION 446+33.24 (+140' STA. EQ.)
4414.68 x 0.259259 = 1145 CU. YD.

STATION 446+33.24 - STATION 468+11.59 (RT.)
2178.35 x 0.259259/2 = 282 CU. YD.

STATION 468+11.59 - STATION 476+11.59 (RT.)
800 x 0.185185 = 148 CU. YD.

STATION 476+11.59 - STATION 477.+ 11.59 (RT.)
100 x 0.037037 = 4 CU. YD.

STATION 477+11.59 - STATION 492+32.45 (RT.)
$1520.86 \times 0.259259/2 + \frac{(92(10+4.25-2)/2+300 \times 4.25/2).25}{27}$ = 208 CU.YD.

STATION 492+32.45 - STATION 495+23.82 (RT.)
291.37 x 0.185185 = 54 CU. YD.

STATION 496+67.32 - STATION 504+32.45 (RT.)
765.13 x 0.185185 = 142 CU. YD.

STATION 446+33.24 - STATION 458+33.24 (LT.)
1200 x 0.185185 = 222 CU. YD.

STATION 458+33.24 - STATION 474+54.46 (LT.) = 222 CU.YD.
$1621.22 \times 0.259259/2 + \frac{(300 \times 4.25/2 + 123(10 + 4.25-3)/2).25}{27}$

STATION 474+54.46 - STATION 475+54.46 (LT.)
100 x 0.037037 = 4 CU. YD.

STATION 475+54.46 - STATION 483+54.46 (LT.)
800 x 0.185185 = 148 CU. YD.

STATION 483+54.46 - STATION 495+23.82 (LT.)
1169.36 x 0.259259/2 = 152 CU. YD.

STATION 496+67.32 - STATION 504+32.45 (LT.)
765.13 x 0.259259/2 = 99 CU. YD.

STATION 504+32.45 - STATION 521+05.75
1673.30 x 0.259259 = 434 CU. YD.

CROSSOVERS STATION 430+30 & STATION 512+00
(2) (4520) (.25) (1/27) = 84 CU. YD.

TOTAL I. FUNDS
MAIN LINE ITEM 301 = 3710 CU. YD.
BITUMINOUS AGGREGATE BASE

ITEM 304
AGGREGATE BASE

FACTORS
NORMAL SECTION
$\frac{2 (4 \times 7/12 + 10 \times 7/12 - 2.58 \times 1/12)}{27}$ = 0.589012 CU. YD./LIN.FT.

NORMAL SECTION ONE SIDE W/SPEED CHANGE LANE
$\frac{4 \times 7/12 + 8 \times 4/12 - 3 \times 1/12}{27}$ = 0.175930 CU. YD./LIN.FT.

NORMAL SECTION 4' SHOULDER ONLY
$\frac{4 \times 7/12}{27}$ = 0.086420 CU. YD./LIN. FT.

SUPERELEVATED SECTION
$\frac{(10 \times 7/12 - 2.58 \times 1/12 + 4 \times 7/12 + 4 \times 7/12 + 10 \times 7/12)}{27}$ = 0.596975 CU. YD./LIN.FT.

MAIN LINE (I.G. FUNDS)

STATION 370+07.44 - STATION 370+32.46
25.02 x 0.589012 = 15 CU.YD.

STATION 372+53.54 - STATION 388+00
1546.46 x 0.589012 = 911 CU. YD.

TOTAL I.G. FUNDS
MAIN LINE ITEM 304 = 926 CU. YD.
AGGREGATE BASE

MAIN LINE (I.FUNDS)

STATION 388+00 - STATION 401 + 95.04
1395.04 x 0.589012 = 822 CU. YD.

STATION 403+58.56 - STATION 446+33.24 (+140' STA. EQ.)
4414.68 x 0.589012 = 2600 CU. YD.

STATION 446+33.24 - STATION 468+11.59 (RT.)
2178.35 x 0.589012/2 = 642 CU. YD.

STATION 468+11.59 - STATION 476+11.59 (RT.)
800 x 0.175930 = 141 CU. YD.

STATION 476+11.59 - STATION 477+11.59 (RT.)
100 x 0.086420 = 9 CU. YD.

STATION 477+11.59 - STATION 492+32.45 (RT.)
$1520.86 \times 0.589012/2 + \frac{(92 (10 + 4.25-2/2)+300x4.25/2)7/12}{27}$ = 474 CU. YD.

STATION 492+32.45 = STATION 495+23.82 (RT.)
291.37 x 0.175930 = 51 CU. YD.

STATION 496+67.32 - STATION 504+32.45 (RT.)
765.13 x 0.175930 = 135 CU. YD.

STATION 446+33.24 - STATION 458+33.24 (LT.)
1200 x 0.175930 = 211 CU. YD.

STATION 458+33.24 - STATION 474+54.46 (LT.)
$1621.22 \times 0.589012/2 + \frac{(300 \times 4.25/2 + 123(10+4.25-3/2) 7/12}{27}$ = 506 CU. YD.

STATION 474+54.46 - STATION 475+54.46 (LT.)
100 x 0.086420 = 9 CU. YD.

STATION 475+54.46 - STATION 483+54.46 (LT.)
800 x 0.175930 = 141 CU.YD.

STATION 483+54.46 - STATION 495+23.82 (LT.)
1169.36 x 0.589012/2 = 344 CU. YD.

STATION 496+67.32 - STATION 504+32.45 (LT.)
765.13 x 0.589012/2 = 225 CU.YD.

STATION 504+32.45 - STATION 506+37.02
204.57 x 0.589012 = 121 CU.YD.

STATION 506+37.02 - STATION 520+05.75
1368.73 x 0.596975 = 817 CU.YD.

CROSSOVERS STATION 430+30 & STATION 512+00
(2) (4520)(.58) (1/27) = 194 CU.YD.

STATION 520+05.75 - STATION 521+05.75
100 x 0.589012 = 59 CU.YD.

TOTAL I. FUNDS
MAIN LINE ITEM 304 = 7501 CU.YD.
AGGREGATE BASE

ITEM 310
SUBBASE GRADING "A" OR "B"

FACTORS

NORMAL SECTION
$((.25)(1) + \frac{(.625 + .25)}{2}(12) + (.625)(12) + \frac{(.625 + .562)}{2}(2.58)) \frac{2}{27}$ = 1.0764 CU.YD./LIN.FT.

NORMAL SECTION W/ROCK
$1.0764 + \frac{27.58 (2) (2)}{12 \times 27}$ = 1.4169 CU.YD./LIN.FT.

NORMAL SECTION ONE SIDE WITHOUT OUTSIDE SHOULDER
$((.25)(1) + \frac{(.625 + .25)}{2}(12) + (.625)(12)) \frac{1}{27}$ = 0.4815 CU.YD./LIN.FT.

NORMAL SECTION ONE SIDE W/ROCK & W/O OUTSIDE SHOULDER
$0.4815 + \frac{25 (2)}{12 \times 27}$ = 0.6358 CU.YD./LIN.FT.

SUPERELEVATED SECTION
$(26.58 \times .50 + (1)\frac{(.438 + .50)}{2} + 28 \times .50 + \frac{(.50 + .475)}{2}) \frac{1}{27}$ = 1.0462 CU.YD./LIN.FT.

MAIN LINE (I.G.FUNDS)

STATION 370+07.44 TO STATION 370+32.46
25.02 x 1.0764 = 27 CU.YD.

STATION 372+53.54 TO STATION 388+00.00
(1546.46) 1.0764 = 1,665 CU.YD.

TOTAL I.G. FUNDS
MAIN LINE ITEM 310 = 1,692 CU.YD.
SUBBASE GRADING "A" OR "B"

MAIN LINE (I.FUNDS)

STATION 388+00.00 TO STATION 401+95.04
(1395.04) 1.0764 = 1,502 CU. YD.

STATION 403+58.56 TO STATION 407+00.00
(341.44) 1.0764 = 368 CU. YD.

STATION 407+00.00 TO STATION 446+33.24
(+140' FOR EQUATION)
(4073.24) 1.4169 = 5,771 CU. YD.

STATION 446+33.24 TO STATION 456+00 (RT.)
(966.76) 1.4169/2 = 685 CU. YD.

STATION 456+00.00 TO STATION 468+11.59 (RT.)
(1211.59) 1.0764/2 = 652 CU. YD.

STATION 468+11.59 TO STATION 469+11.59 (RT.)
(100) 0.4815 = 48 CU. YD.
$\frac{(100)}{27}((12)\frac{(.625)}{2} + (\frac{.625 + .542}{2})(3)) + \frac{16.67(.625)}{27}$ = 21 CU. YD.

STATION 469+11.59 TO STATION 469+50.00 (RT.)
(38.41) 0.4815 = 18 CU. YD.
$(1/27)(38.41)((12)(.625) + (\frac{.625 + .542}{2})(3))$ = 13 CU. YD.

STATION 469+50.00 TO STATION 471+56.86 (RT.)
(206.86) 0.6358 = 132 CU. YD.
$(1/27)(206.86)((12)(.792) + (\frac{.792 + .708}{2})(3))$ = 90 CU. YD.

STATION 471+56.86 TO STATION 476+11.59 (RT.)
(454.73) 0.6358 = 289 CU. YD.
$(\frac{(12 + 39)}{2})(454.73) - (\frac{3819.72}{2})^2 (.1186145 - .1183365))(.792)(1/27)$ = 281 CU. YD.
$(453.07)(\frac{.792 + .708}{2})(3)(1/27)$ = 38 CU. YD.

STATION 476+11.59 TO STATION 477+11.59 (RT.)
(100) 0.6358 = 64 CU. YD.
$(100)(\frac{15 + 11}{2})(.792)(1/27)$ = 38 CU. YD.

STATION 477+11.59 TO STATION 483+00.00 (RT.)
(588.41) 1.4169/2 = 417 CU. YD.

STATION 483+00.00 TO STATION 492+32.45 (RT.)
(932.45) 1.0764/2 = 502 CU. YD.

STATION 492+32.45 TO STATION 495+23.82 (RT.)
(291.37) 0.4815 = 140 CU. YD.
$(291.37)\frac{(25 + 18.94)}{2}(.625)(1/27) - \frac{(3.0)(9.71)(.625)}{27}$ = 148 CU. YD.
$(291.37)(3)(\frac{.625 + .542}{2})(1/27)$ = 19 CU. YD.

STATION 496+67.32 TO STATION 504+32.45 (RT.)
765.13 (0.4815) = 368 CU. YD.
$(765.13)\frac{(15.94)}{2} + 96(1))(.625)(1/27)$ = 143 CU. YD.
$765.13(3)(\frac{.625 + .542}{2})(1/27)$ = 50 CU. YD.

STATION 446+33.24 TO STATION 456+00 (LT.)
(966.76) (0.6358) = 615 CU. YD.
$(966.76)((\frac{20.14}{2})(.792) + (\frac{.792 + .708}{2})(3))(1/27) + \frac{96(1)(.792)}{27}$ = 369 CU. YD.

CALCULATED BY B.R.S. 1/67
CHECKED BY J.L.S. 7/67

COMPUTATIONS

FED. RD.	STATE	PROJECT	
2	OHIO		

16
384

MAH.80S-7.01
MAH. 80-2.30

COMPUTATIONS
MAIN LINE (CONTINUED)

STATION 456+00 TO STATION 458+33.24 (LT.)
233.24 (0.4815) = 112 CU. YDS.

$233.24 \left(\frac{(20.14 + 25)}{2} (.625) + \frac{(.625 + .542)}{2} (3) \right) (1/27)$ = 137 CU. YDS.

STATION 458+33.24 TO STATION 469+50 (LT.)
(1116.76) (1.0764/2) = 601 CU. YDS.

STATION 469+50 TO STATION 474+54.46 (LT.)
(504.46) 1.4169/2 = 357 CU. YDS.

STATION 474+54.46 TO STATION 475+54.46 (LT.)
(100)0.6358 = 64 CU. YDS.

$(100) \frac{(11 + 15)}{2} (.792) (1/27)$ = 38 CU. YDS.

STATION 475+54.46 TO STATION 480+17.56 (LT.)
(463.10) 0.6358 = 294 CU. YDS.

$(463.10 \frac{(12 + 24)}{2} - \frac{(3819.72)^2}{2} (.1207768 - .1204834)) (.792) (1/27)$ = 182 CU. YDS.

$463.10 \frac{(16)}{2} (.792) (1/27)$ = 109 CU. YDS.

$463.10 \left(\frac{(.792 + .708)}{2} (3) \right) (1/27)$ = 39 CU. YDS.

STATION 480+17.56 TO STATION 482+54.46 (LT.)
(236.90) 0.6358 = 151 CU. YDS.
(236.90) (12) (.792) (1/27) = 83 CU. YDS.

$(236.90) \left(\frac{(.792 + .708)}{2} (3) \right) (1/27)$ = 20 CU. YDS.

STATION 482+54.46 TO STATION 483+00 (LT.)
(45.54) 0.6358 = 29 CU. YDS.

$(45.54) \frac{(12 + 6.54)}{2} (.792) (1/27)$ = 12 CU. YDS.

$(45.54) \left(\frac{(.792 + .708)}{2} (3) \right) (1/27)$ = 4 CU. YDS.

STATION 483+00.00 TO STATION 483+54.46 (LT.)

$\left((54.46) \frac{(6.54)}{2} + 16.67 (1) \right) (.625) (1/27)$ = 5 CU. YDS.

$(54.46) (3) \frac{(.625 + .542)}{2} (1/27)$ = 4 CU. YDS.

(54.46) 0.4815 = 26 CU. YDS.

STATION 483+54.46 TO STATION 495+23.82 (LT.)
(1169.36) 1.0764/2 = 629 CU. YDS.

STATION 496+67.32 TO STATION 504+32.45 (LT.)
(765.13) 1.0764/2 = 412 CU. YDS.

STATION 504+32.45 TO STATION 506+37.02
204.57 (1.0764) = 220 CU. YDS.

STATION 506+37.02 TO STATION 520+05.75
1368.73 (1.0462) = 1,432 CU. YDS.

STATION 520+05.75 TO STATION 521+05.75
100 (1.0764) = 108 CU. YDS.

TOTAL I. FUNDS
MAIN LINE ITEM 310 = 17,849 CU. YDS.
SUBBASE GRADING "A" OR "B"

ITEM 310
SUBBASE REGULAR GRADING

FACTORS

NORMAL SECTION
$\frac{2}{27} \left(\frac{(7.417) (3+6.7085)}{2 \times 12} + 3 \times .25 \right)$ = 0.277802 CU.YD./LIN.FT.

NORMAL SECTION W/ROCK
$.277802 + \frac{2 \times 2(7.42 + 3)}{12 \times 27}$ = 0.406444 CU.YD./LIN.FT.

NORMAL SECTION ONE SIDE W/SPEED CHANGE LANE
$\frac{5 (6.5 + 3) / 2 \times 12 + 3 \times .25}{27}$ = 0.101080 CU.YD./LIN. FT.

NORMAL SECTION ONE SIDE W/SPEED CHANGE LANE & ROCK
$0.101080 + \frac{2 (5 + 3)}{12 \times 27}$ = 0.150463 CU.YD./LIN.FT.

NORMAL SECTION 4' SHOULDER W/ROCK
$\frac{3 \times 5}{12 \times 27}$ = 0.046296 CU.YD./LIN.FT.

SUPERELEVATED SECTION
$\frac{(7.417) (3+6)}{2 \times 12} + \frac{3 (5.25 + 3)}{2 \times 12} + \frac{9(5.7 + 3)}{2 \times 12}$ / 27 = 0.263194 CU. YD./LIN.FT.

MAIN LINE (I.G. FUNDS)

STATION 370+07.44 - STATION 370+32.46
25.02 x 0.277802 = 7 CU.YD.

STATION 372+53.54 - STATION 388+00
1546.46 x 0.277802 = 430 CU. YD.

TOTAL I.G. FUNDS
MAIN LINE ITEM 310 = 437 CU. YD.
SUBBASE REGULAR GRADING

MAIN LINE (I. FUNDS)
STATION 388+00 - STATION 401+95.04
1395.04 x 0.277802 = 388 CU.YD.

STATION 403+58.56 - STATION 407+00
341.44 x 0.277802 = 95 CU.YD.

STATION 407+00 - STATION 446+33.24 (+140'STA.EQ.)
4073.24 x 0.406444 = 1656 CU.YD.

STATION 446+33.24 - STATION 456+00 (RT.)
966.76 x 0.406444/2 = 197 CU.YD.

STATION 456+00 - STATION 468+11.59 (RT.)
1211.59 x 0.277802/2 = 162 CU.YD.

STATION 468+11.59 - STATION 469+50 (RT.)
138.41 x 0.101080 = 14 CU.YD.

STATION 469+50 - STATION 476+11.59 (RT.)
661.59 x 0.150463 = 100 CU.YD.

STATION 476+11.59 - STATION 477+11.59 (RT.)
100 x 0.046296 = 5 CU.YD.

STATION 477+11.59 - STATION 483+00 (RT.)
588.41 x 0.406444/2 = 120 CU.YD.

STATION 483+00 - STATION 492+32.45 (RT.)
$932.45 \times 0.277802/2 + \frac{(92 (10 + 4.25 - 2)/2 + 300 \times 4.25/2).25}{27}$ = 141 CU. YD.

STATION 492+32.45 - STATION 495+23.82 (RT.)
291.37 x 0.101080 = 29 CU. YD.

STATION 496+67.32 - STATION 504+32.45 (RT.)
765.13 x 0.101080 = 77 CU. YD.

STATION 446+33.24 - STATION 456+00 (LT.)
966.76 x 0.150463 = 145 CU. YD.

STATION 456+00 - STATION 458+33.24 (LT.)
233.24 x 0.101080 = 24 CU. YD.

STATION 458+33.24 - STATION 469+50 (LT.)
$1116.76 \times 0.277802/2 + \frac{(300 \times 4.25/2 + 123 (10 + 4.25 - 3/2) .25}{27}$ = 167 CU. YD.

STATION 469+50 - STATION 474+54.46 (LT.)
504.46 x 0.406444/2 = 103 CU. YD.

STATION 474+54.46 - STATION 475+54.46 (LT.)
100 x 0.046296 = 5 CU. YD.

STATION 475+54.46 - STATION 483+00 (LT.)
745.54 x 0.150463 = 112 CU. YD.

STATION 483+00 - STATION 483+54.46 (LT.)
54.46 x 0.101080 = 6 CU. YD.

STATION 483+54.46 - STATION 495+23.82 (LT.)
1169.36 x 0.277802/2 = 162 CU. YD.

STATION 496+67.32 - STATION 504+32.45 (LT.)
765.13 x 0.277802/2 = 106 CU. YD.

STATION 504+32.45 - STATION 506+37.02
204.57 x 0.277802 = 57 CU.YD.

CROSSOVERS STATION 430 + 30 & STATION 512+00
(2) (4520) (.25) (1/27) = 84 CU. YD.

STATION 506+37.02 - STATION 520+05.75
1368.73 x 0.263194 = 360 CU. YD.

STATION 520+05.75 - STATION 521+05.75
100 x 0.277802 = 28 CU. YD.

TOTAL I. FUNDS
MAINLINE ITEM 310 = 4343 CU. YD.
SUBBASE REGULAR GRADING

ITEM 409
SEAL COAT BITUMINOUS MATERIAL

FACTORS

NORMAL SECTION
$\frac{10 + 4 + 4 + 10}{9} \times .30$ = 0.933333 GAL./LIN. FT.

NORMAL SECTION ONE SIDE W/SPEED CHANGE LANE
$\frac{4 + 8}{9} \times .30$ = 0.400000 GAL./LIN.FT.

NORMAL SECTION 4' SHOULDER ONLY
4/9 x .30 = 0.133333 GAL./LIN. FT.

MAIN LINE (I.G. FUNDS)

STATION 370+07.44 - STATION 370+32.46
25.02 x 0.933333 = 23 GAL.

STATION 372+53.54 - STATION 388+00
1546.46 x 0.933333 = 1443 GAL.

TOTAL I. G. FUNDS
MAIN LINE ITEM 409 = 1466 GAL.
SEAL COAT BITUMINOUS MATERIAL

MAIN LINE (I. FUNDS)

STATION 388+00 - STATION 401+95.04
1395.04 x 0.933333 = 1302 GAL.

STATION 403+58.56 - 446+33.24 (+140' STA. EQ.)
4414.68 x 0.933333 = 4120 GAL.

STATION 446+33.24 - STATION 468+11.59 (RT.)
2178.35 x 0.933333/2 = 1017 GAL.

STATION 468+11.59 - STATION 476+11.59 (RT.)
$800 \times 0.400000 + \frac{16.67 \times 2}{2 \times 9} \times .30$ = 321 GAL.

STATION 476+11.59 - STATION 477+11.59 (RT.)
100 x 0.133333 = 13 GAL.

STATION 477+11.59 - STATION 492 +32.45 (RT.) = 750 GAL.
$1520.86 \times 0.933333/2 + \frac{(92 (10+4.25 - 2)/2 + 300 \times 4.25/2) .30}{9}$

STATION 492+32.45 - STATION 495+23.82 (RT.)
291.37 x 0.400000 = 117 GAL.

STATION 496+67.32 - STATION 504+32.45 (RT.)
$765.13 \times 0.400000 + \frac{96 \times 2}{2 \times 9} \times .30$ = 309 GAL.

STATION 446+33.24 - STATION 458+33.24 (LT.)
$1200 \times 0.400000 + \frac{96 \times 2}{2 \times 9} \times .30$ = 483 GAL.

STATION 458+33.24 - STATION 474+54.46 (LT.) = 801 GAL.
$1621.22 \times 0.933333/2 + \frac{(300 \times 4.25/2 + 123(10 + 4.25 - 3)/2) .30}{9}$

STATION 474+54.46 - STATION 475+54.46 (LT.)
100 x 0.133333 = 13 GAL.

STATION 475+54.46 - STATION 483+54.46 (LT.)
$800 \times 0.400000 + \frac{16.67 \times 2}{2 \times 9} \times .30$ = 321 GAL.

STATION 483+54.46 - STATION 495+23.82 (LT.)
1169.36 x 0.933333/2 = 546 GAL.

STATION 496+67.32 - STATION 504+32.45 (LT.)
765.13 x 0.933333/2 = 357 GAL.

STATION 504+32.45 - STATION 521+05.75
1673.30 x 0.933333 = 1562 GAL.

CROSSOVERS STATION 430+30 & STATION 512+00
(2) (4520) (1/9) (.30) = 301 GAL.

TOTAL I. FUNDS
MAIN LINE ITEM 409 = 12,333 GAL.
SEAL COAT BITUMINOUS MATERIAL

ITEM 409
SEAL COAT COVER AGGREGATE, No. 8

FACTORS

NORMAL SECTION
$\frac{(10 + 4 + 4 + 10) \times .008}{9}$ = 0.024889 CU. YD./LIN. FT.

NORMAL SECTION ONE SIDE W/SPEED CHANGE LANE
$\frac{4 + 8}{9} \times .008$ = 0.010667 CU.YD./LIN.FT.

NORMAL SECTION 4' SHOULDER ONLY
$\frac{4 \times .008}{9}$ = 0.003556 CU. YD./LIN. FT.

MAIN LINE (I.G. FUNDS)

STATION 370+07.44 - STATION 370+32.46
25.02 x 0.024889 = 1 CU.YD.

STATION 372+53.54 - STATION 388+00
1546.46 x 0.024889 = 38 CU. YD.

TOTAL I.G. FUNDS
MAIN LINE ITEM 409 = 39 CU. YD.
SEAL COAT COVER AGGREGATE NO. 8

MAIN LINE (I. FUNDS)

STATION 388+00 - STATION 401+95.04
1395.04 x 0.024889 = 35 CU. YD.

STATION 403+58.56 - STATION 446+33.24 (+140' STA. EQ.)
4414.68 x 0.024889 = 110 CU. YD.

STATION 446+33.24 - STATION 468+11.59 (RT.)
2178.35 x 0.024889/2 = 27 CU. YD.

STATION 468+11.59 - STATION 476+11.59 (RT.)
$800 \times 0.010667 + \frac{16.67 \times 2}{2 \times 9} .008$ = 9 CU. YD.

STATION 476+11.59 - STATION 477+11.59 (RT.)
100 x 0.003556 = 1 CU. YD.

STATION 477+11.59 - STATION 492+32.45 (RT.) = 20 CU. YD.
$1520.86 \times 0.024889/2 + \frac{(92(10 + 4.25 - 2)/2 + 300 \times 4.25/2) .008}{9}$

CALCULATED BY B.R.S. 1/67
CHECKED BY J.L.S. 7/67

COMPUTATIONS

COMPUTATIONS
MAIN LINE (CONTINUED)

FED. RD.	STATE	PROJECT	
2	OHIO		

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384

MAH.80S-7.01
MAH.80-2.30

STATION 492+32.45 - STATION 495+23.82 (RT.)
291.37 x 0.010667 = 3 CU. YD.

STATION 496+67.32 - STATION 504+32.45 (RT.)
765.13 x 0.010667 + $\frac{96 \times 2}{2 \times 9}$ .008 = 8 CU. YD.

STATION 446+33.24 - STATION 458+33.24 (LT.)
1200 x 0.010667 + $\frac{96 \times 2}{2 \times 9}$ .008 = 13 CU. YD.

STATION 458+33.24 - STATION 474+54.46 (LT.)
1621.22 x 0.024889/2 + $\frac{(300 \times 4.25 + 123\ (10 + 4\ .25-3)/2)\ .008}{9}$ = 22 CU. YD.

STATION 474+54.46 - STATION 475+54.46 (LT.)
100 x 0.003556 = 1 CU. YD.

STATION 475+54.46 - STATION 483 + 54.46(LT.)
800 x 0.010667 + $\frac{16.67 \times 2}{2 \times 9}$ .008 = 9 CU. YD.

STATION 483+54.46 - STATION 495+23.82 (LT.)
1169.36 x 0.024889/2 = 15 CU. YD.

STATION 496+67.32 - STATION 504+32.45 (LT.)
765.13 x 0.024889/2 = 10 CU. YD.

STATION 504+32.45 - STATION 521+05.75
1673.30 x 0.024889 = 42 CU. YD.

CROSSOVER STATION 430 + 30 & STATION 512+00
(2) (4520) (1/9) (.008) = 8 CU. YD.

TOTAL I. FUNDS
MAIN LINE ITEM 409 = 333 CU. YD.
SEAL COAT COVER AGGREGATE, No. 8

ITEM 451

10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT

MAIN LINE (I. G. FUNDS)

STATION 372+78.54 TO STATION 388+00 = 8,114 SQ.YD.
$\frac{1521.46 \times 24 \times 2}{9}$

TOTAL I. G. FUNDS
MAIN LINE ITEM 451 8,114 SQ. YD.
10" R. P. C. C. P.

MAIN LINE (I. FUNDS)

STATION 388+00.00 TO STATION 401+70.04
$\frac{1370.04 \times 24 \times 2}{9}$ = 7,307 SQ. YD.

STATION 403+83.56 TO STATION 494+98.82
(+140' FOR EQUATION)
$\frac{9255.26 \times 24 \times 2}{9}$ = 49,361 SQ. YD.

STATION 496+92.32 TO STATION 520+80.75
$\frac{2388.43 \times 24 \times 2}{9}$ = 12,738 SQ. YD.

STATION 446+33.24 TO STATION 458+33.24 (TAPER LT.)
$\frac{(1200)\ (25)}{2}$
$\frac{}{9}$ = 1,667 SQ. YD.

STATION 471+56.86 TO STATION 476+11.59 (TAPER RT.)
$\frac{\frac{12 + 39}{2} \times 454.73 - \frac{(3819.72)^2}{2}\ (.1186145 - .1183365)}{9}$ = 1,063 SQ. YD.

STATION 468+11.59 TO STATION 471+56.86 (TAPER RT.)
$\frac{(100)\ (0 + 12)\ /\ 9}{2}$ = 67 SQ. YD.

(245.27) (12) / 9 = 327 SQ. YD.

STATION 476+11.59 TO STATION 477+11.59 (@NOSE RT.)
$\frac{(100)\ (14 + 10)\ /\ 9}{2}$ = 133 SQ. YD.

STATION 474+54.46 TO STATION 475+54.46 (@NOSE LT.)
$\frac{(100)\ (14 + 10)\ /\ 9}{2}$ = 133 SQ. YD.

STATION 475+54.46 TO STATION 480+17.56 (LT.) (TAPER LT.)
$\frac{1}{9}\left(\frac{(463.10)\ (12 + 24)}{2} - \frac{(3819.72)^2}{2}\ (.1207768 - .1204834)\right)$ = 688 SQ. YD.

$\frac{(463.10)\ (16)\ (1)}{2\ \ 9}$ = 412 SQ. YD.

STATION 480+17.56 TO STATION 483+54.46 (TAPER LT.)
(236.90) (12) / 9 = 316 SQ. YD.
$\frac{(100)\ (12 + 0)\ /\ 9}{2}$ = 67 SQ. YD.

STATION 492+32.45 TO STATION 504+32.45 (TAPER RT.)
$\frac{(1200)\ (25)\ /\ 9 - 193.50(17.59)}{2\ \ \ \ \ 9}$ = 1,289 SQ. YD.

TAPERS AT END OF "A", "B", "E", & "F"
$\frac{(2)\ (96)\ (2 + 0)\ (1)}{2\ \ 9} + (2)\ (16.67)\ \frac{(2 + 0)\ 1}{2\ \ 9}$ = 25 SQ. YD.

TOTAL I. FUNDS
MAIN LINE ITEM 451
10" R. P.C.C.P. = 75,593 SQ. YD.

ITEM SPECIAL
DRAINAGE CONNECTOR W/ No. 8 AGGREGATE

FACTORS

NORMAL SHOULDER

$\frac{(9.5 + 6.750)\ (2.583) - (5.5)(1.417)}{2 \times 12 \times 27}$ = 0.05275 CU.YD./LIN.FT.

NORMAL SHOULDER W/ROCK

$\frac{(11.5 + 8.750)\ (2.583) - (7.5)(1.417)}{2 \times 12 \times 27}$ = 0.06432 CU.YD./LIN.FT.

8' SHOULDER (SPEED CHANGE LANE)

$\frac{(9.5 + 6.5)\ (3) - (5.5)\ (1.833)}{2 \times 12 \times 27}$ = 0.05852 CU. YD./LIN. FT.

8' SHOULDER W/ROCK (SPEED CHANGE LANE)

$\frac{(11.5 + 8.5)\ (3) - (7.5)(1.833)}{2 \times 12 \times 27}$ = 0.07138 CU. YD./LIN. FT.

SUPERELEVATED SHOULDER

$\frac{(8 + 6)\ (2.583) - (4)\ (1.417)}{2 \times 12 \times 27}$ = 0.04706 CU. YD./LIN. FT.

MAIN LINE (I.G. FUNDS)

STATION 372+49 TO STATION 388+00 (RT.)
STATION 373+07 TO STATION 388+00 (LT.)
(1551 + 1493) (.05275) = 161 CU. YD.

TOTAL I.G. FUNDS
MAIN LINE ITEM SPECIAL = 161 CU. YD.
DRAINAGE CONNECTOR W/NO. 8 AGGREGATE

MAIN LINE (I. FUNDS)

STATION 388+00 TO STATION 401+62 (RT.)
STATION 388+00 TO STATION 401+77 (LT.)

(1362 + 1377) (.05275) = 144 CU. YD.

STATION 403+77 TO STATION 407+00 (RT.)
STATION 403+92 TO STATION 407+00 (LT.)
(323 + 308) (.05275) = 33 CU. YD.

STATION 407+00 TO 420+00 (BACK)
(1300) (2) (.06432) = 167 CU. YD.

STATION 418+60 (AHEAD) TO STATION 446+33.24
(2773.24) (2) (.06432) = 357 CU. YD.

STATION 446+33.24 TO STATION 456+00
(966.76 (.07138) = 73 CU. YD.
(966.76)(.06432) = 62 CU. YD.

STATION 456+00 TO STATION 458+33.24
(233.24) (.05852) = 14 CU. YD.
(233.24) (.05275) = 12 CU. YD.

STATION 458+33.24 TO STATION 468+11.59
(978.35) (2) (.05275) = 103 CU. YD.

STATION 468+11.59 TO STATION 469+50
(138.41) (.05275) = 7 CU. YD.
(138.41) (.05852) = 8 CU. YD.

STATION 469+50 TO STATION 476+11.59 (RT.)
(661.59) (.07138) = 47 CU. YD.

STATION 469+50 TO STATION 475+54.46 (LT.)
(604.46) (.06432) = 39 CU. YD.

STATION 475+54.46 TO STATION 483+54.56 (LT.)
(54.56) (.05852) = 3 CU. YD.
(745.54) (.07138) = 53 CU. YD.

STATION 476+45 TO STATION 483+00 (RT.)
(655.00) (.06432) = 42 CU. YD.

STATION 483+00 TO STATION 492+30 (RT.)
(930) (.05275) = 49 CU.YD.

STATION 492+32 TO STATION 494+88 (RT.)
(256) (.05852) = 15 CU.YD.

STATION 483+54.46 TO STATION 495+00 (LT.)
(1145.54) (.05275) = 60 CU.YD.

STATION 496+84 TO STATION 504+32.45 (RT.)
(748.45) (.05852) = 44 CU.YD.

STATION 496+99 TO STATION 504+32.45 (LT.)
(733.45) (.05275) = 39 CU.YD.

STATION 504+32.45 TO STATION 506+37 (RT.)
(204.55) (.05275) = 11 CU.YD.

STATION 506+37 TO STATION 520+80.75 (LT.)
(1443.75) (.04706) = 68 CU.YD.

STATION 520+06 TO STATION 520+81 (RT.)
(75) (.05275) = 4 CU.YD.

TOTAL I FUNDS
MAIN LINE ITEM SPECIAL = 1454 CU.YD.
DRAINAGE CONNECTOR W/No. 8 AGGREGATE

ITEM 611
13" REINFORCED CONCRETE APPROACH SLABS

MAIN LINE (I.G.FUNDS)

STATION 370+07.46 TO STATION 370+32.46

STATION 372+53.54 TO STATION 372+78.54
(2)(25)(24)(2)(1/9) = 267 SQ.YD.

TOTAL I.G. FUNDS
MAIN LINE ITEM 611 = 267 SQ.YD.
13" REINFORCED CONCRETE APPROACH SLABS

MAIN LINE (I. FUNDS)

STATION 401+70.04 TO STATION 401+95.04

STATION 403+58.56 TO STATION 403+83.56
(2)(25)(24)(2)(1/9) = 267 SQ. YD.

STATION 494+98.82 TO STATION 495+23.82
(25)(24)(1/9) = 67 SQ. YD.
(25)$\frac{(43.65 + 43.13)}{2}$(1/9) = 121 SQ. YD.

STATION 496+67.32 TO STATION 496+92.32
(25)(24)(1/9) = 67 SQ. YD.
(25)$\frac{(40.11 + 39.55)}{2}$(1/9) = 111 SQ. YD.

TOTAL I. FUNDS
MAIN LINE ITEM 611 = 633 SQ. YD.
13" REINFORCED CONCRETE APPROACH SLABS

CALCULATED BY B.R.S. 1/67
CHECKED BY J.L.S. 7/67

COMPUTATIONS

COMPUTATIONS
RAMPS

FED. RD.	STATE	PROJECT	
2	OHIO		

18
384

MAH.805-7.01
MAH. 80-2.30

ITEM 203
SUBGRADE PREPARATION

LINE "A" WEST OF TOLL PLAZA (STATE)

ITEM 451 10" R.P.C.C.P.	10,340 S.Y.
ITEM 409 BIT. MAT'L 1393/.3	4,643 S.Y.
ITEM 609 TYPE 6 CURB (230)(0.5)/9	13 S.Y.
ITEM 611 REINF. CONC. APP. SLABS	189 S.Y.
ITEM 612 CONC. MEDIAN	548 S.Y.
Deduct for Rock	-9,212 S.Y.

TOTAL STATE
LINE "A" WEST OF TOLL PLAZA ITEM 203
SUBGRADE PREPARATION 11,521 S.Y.

LINE "B" (STATE)

ITEM 451 10" R.P.C.C.P.	2,130 S.Y.
ITEM 409 BIT. MAT'L. 421/.3	1,403 S.Y.
ITEM 609 TYPE 6 (80)(.5)/9	4 S.Y.
ITEM 609 TYPE 7 (106)(8)/(12)9	8 S.Y.
ITEM 609 TYPE 8 (411)/9	46 S.Y.
ITEM 612 CONC. MEDIAN	17 S.Y.

TOTAL STATE
LINE "B" ITEM 203
SUBGRADE PREPARATION 3,608 S.Y.

RAMP "C" (STATE)

ITEM 451 10" R.P.C.C.P.	2,111 S.Y.
ITEM 409 BIT. MAT'L 279/.3	930 S.Y.
ITEM 609 TYPE 6 100(.5)/9	6 S.Y.
ITEM 609 TYPE 7 92(8)/(12)9	7 S.Y.
ITEM 609 TYPE 8 402/9	45 S.Y.

TOTAL STATE
RAMP "C" ITEM 203
SUBGRADE PREPARATION 3,099 S.Y.

RAMP "D" (STATE)

ITEM 451 10" R.P.C.C.P.	1,533 S.Y.
ITEM 409 BIT. MAT'L 299/.3	997 S.Y.
ITEM 609 TYPE 7 140(8)/(12)9	10 S.Y.
ITEM 609 TYPE 8 69/9	8 S.Y.

TOTAL STATE
RAMP "D" ITEM 203
SUBGRADE PREPARATION 2,548 S.Y.

LINE "A" EAST OF TOLL PLAZA (I. FUNDS)

ITEM 451 10" R.P.C.C.P.	11,101 S.Y.
ITEM 409 BIT. MAT'L. 1248/.3	4,160 S.Y.
ITEM 609 TYPE 6 180(.5)/9	10 S.Y.
ITEM 609 TYPE 7 172(8)/(12)9	13 S.Y.
ITEM 609 TYPE 8 500/9	56 S.Y.
ITEM 611 REINF. CONC. APP. SLABS	189 S.Y.
ITEM 612 CONC. MEDIAN	643 S.Y.

TOTAL I. FUNDS
LINE "A" EAST OF TOLL PLAZA ITEM 203
SUBGRADE PREPARATION 16,172 S.Y.

LINE "B" (I. FUNDS)

ITEM 451 10" R.P.C.C.P.	1,886 S.Y.
ITEM 409 BIT. MAT'L 369/.3	1,230 S.Y.
ITEM 609 TYPE 6 136(.5)/9	8 S.Y.
ITEM 612 CONC. MEDIAN	26 S.Y.
Deduct for Rock	-1,373 S.Y.

TOTAL I. FUNDS
LINE "B" ITEM 203
SUBGRADE PREPARATION 1,777 S.Y.

RAMP "E" (I. FUNDS)

ITEM 451 10" R.P.C.C.P.	1,795 S.Y.
ITEM 409 BIT. MAT'L 230/.3	767 S.Y.
ITEM 609 TYPE 6 80 (.5)/9	4 S.Y.
ITEM 609 TYPE 7 (65) (8)/(12)9	5 S.Y.
ITEM 609 TYPE 8 425/9	47 S.Y.
ITEM 612 CONC. MEDIAN	17 S.Y.

TOTAL I. FUNDS
RAMP "E" ITEM 203
SUBGRADE PREPARATION 2,635 S.Y.

RAMP "F" (I. FUNDS)

ITEM 451 10" R.P.C.C.P.	1,516 S.Y.
ITEM 409 BIT. MAT'L 176/.3	587 S.Y.
ITEM 609 TYPE 6 236(.5)/9	13 S.Y.
ITEM 612 CONC. MEDIAN	26 S.Y.
Deduct for Rock	-1,657 S.Y.

TOTAL I. FUNDS
RAMP "F" ITEM 203
SUBGRADE PREPARATION 485 S.Y.

ITEM 301
BITUMINOUS AGGREGATE BASE

FACTORS

NORMAL SECTION 10' SHOULDER
$\frac{10 \times 6}{12 \times 27}$ 0.1852 CU. YD./LIN. FT.

NORMAL SECTION 6' SHOULDER
$\frac{6 \times 6}{12 \times 27}$ 0.1111 CU. YD./LIN. FT.

NORMAL SECTION 4' SHOULDER
$\frac{4 \times 6}{12 \times 27}$ 0.0741 CU. YD./LIN. FT.

NORMAL SECTION 8' SHOULDER
$\frac{8 \times 6}{12 \times 27}$ 0.1481 CU. YD./LIN. FT.

NORMAL SECTION 3' SHOULDER
$\frac{3 \times 6}{12 \times 27}$ 0.0556 CU. YD./LIN. FT.

LINE "A" (WEST TOLL PLAZA)(STATE

STA 411 + 67.49 - STA 415 + 35.59
$368.10(0.1852 + 0.0741) + \frac{154.51(4 + 14)0.5}{2 \times 27} - \frac{18.25 \times 0.37 \times 0.5}{2 \times 27}$ 121 C.Y.

STA 415 + 35.59 - STA 428 + 92
$1356.41 \times 0.1852 + \frac{200(0.0741)}{2}$ 259 C.Y.

STA 428 + 92 - STA 430 + 42
$150 \times 0.1111 + \frac{50 (4 + 3)0.5}{2 \times 27}$ 20 C.Y.

STA 430 + 42 - STA 438 + 25.34
$783.34 \times 0.1111 \times 2$ 174 C.Y.

STA 441 + 20.40 - STA 444 + 77.32
$356.92 \times 0.1111 \times 2$ 79 C.Y.

STA 444 + 77.32 - STA 447 + 00 (LT.)
226.41×0.1111 25 C.Y.

STA 447 + 00 - STA 449 + 00 (LT.)
$100 \frac{(0.1111 + 0.1852)}{2} - \frac{30.88 (2 + 0)0.5}{2 \times 27} + 100 \times 0.1852$ 33 C.Y.

STA 444 + 77.32 - STA 446 + 72.87 (RT.)
$126.68 + 0.1111 + \frac{68.87 (16 + 5)0.5}{2 \times 27}$ 27 C.Y.

STA 446 + 72.87 - STA 447 + 35.68 (RT.)
62.81×0.1111 7 C.Y.

STA 447 + 35.68 - STA 449 + 00 (RT.)
$90\frac{(0.1111 + 0.1852)}{2} - \frac{30(2 + 0)0.5}{2 \times 27} + 74.32 \times 0.1852$ 27 C.Y.

TOTAL STATE
LINE "A" WEST TOLL PLAZA ITEM 301
BIT. AGG. MATERIAL 772 C.Y.

LINE "B" (STATE)

STA 432 + 69.11 - STA 435 + 69.11
300×0.1852 56 C.Y.

STA 435 + 69.11 - STA 437 + 19.11
$150 \frac{(0.1852 + 0.1111)}{2} + \frac{(50 (2+4) 0.5)}{2 \times 27}$ 25 C.Y.

STA 437 + 19.11 - STA 444 + 73.59
$754.48 \times 0.1852 + \frac{100 (0+4+4+6) 0.5}{2 \times 27}$ 153 C.Y.

TOTAL STATE 234 C.Y.
LINE "B" ITEM 301
BIT. AGGR. MATERIAL

RAMP "C" (STATE)

STA 418 + 63.36 - STA 421 + 63.36
300×0.1852 56 C.Y.

STA 421 + 63.36 - STA 423 + 13.36
$150 \frac{(0.1852 + 0.0556)}{2} + \frac{50 (2+3) 0.5}{2 \times 27}$ 20 C.Y.

STA 423 + 13.36 - STA 429 + 54
640.64×0.1111 71 C.Y.

STA 429 + 54 - STA 430 + 54
$100 \frac{(0.0556 + 0.1111)}{2}$ 8 C.Y.

TOTAL STATE 155 C.Y.
RAMP "C", ITEM 301
BIT. AGG. MATERIAL

RAMP "D"(STATE)

STA 438 + 02.38 - STA 440 + 64.15
$261.77 (0.1852 + 0.0556) + \frac{138.62 (5 + 14)0.5}{2 \times 27}$ 87 C.Y.

STA 440 + 64.15 - STA 445 + 26.58
$462.43 \times 0.1111 + \frac{200 (7 \times 6)}{2 \times 12 \times 27}$ 64 C.Y.

STA 445 + 26.58 - STA 446 + 76.58
$\frac{50 (3 +2) 0.5}{2 \times 27} + \frac{150(0.0556 + 0.1111)}{2}$ 15 C.Y.

TOTAL STATE
RAMP "D" ITEM 301
BIT. AGG. MATERIAL 166 C.Y.

LINE "A"(EAST TOLL PLAZA)(I. FUNDS)

STA 454 + 00 - STA 456 + 73.28 (RT.)
$(68.26 \times 0.1852) + 180\frac{(0.1852 + 0.1111)}{2} - \frac{30 \times 2 \times 6}{2x12x27} + 21.70 \times 0.1111$ 41 C.Y.

STA 454 + 00 - STA 458 + 68.47 (LT.)
$(150 \times 0.1852) + 100 \frac{(0.1852 + 0.1111)}{2} - \frac{33.09 \times 2 \times 6}{2 \times 12 \times 27} + 218.47 \times 0.1111$ 66 C.Y.

STA 457 + 73.28 - STA 460 + 68.47 (RT.)
$295.19 \times 0.1111 + \frac{50 \times 2 \times 6}{2 \times 12 \times 27}$ 34 C.Y.

STA 459 + 68.47 - STA 460 + 68.47 (LT.)
$100 \frac{(0.0741 + 0.1111)}{2}$ 9 C.Y.

STA 460 + 68.47 - STA 463 + 32.28
$263.81 \times 0.1111 \times 2$ 59 C.Y.

STA 466 + 63.95 - STA 475 + 12
$848.05 \times 0.1111 \times 2$ 188 C.Y.

STA 475 + 12 - STA 476 + 12
100×0.1111 11 C.Y.

STA 476 + 12 - STA 487 + 82.45
1170.45×0.1852 217 C.Y.

STA 487 + 82.45 - STA 492 + 32.45
$\frac{(4 + 2) \times 50 \times 6}{2 \times 12 \times 27} + \frac{150(0.1111 + 0.1481)}{2} + 300 \times 0.1481$ 67 C.Y.

TOTAL I. FUNDS
LINE"A"(EAST TOLL PLAZA) ITEM 301
BIT. AGG. MATERIAL 692 C.Y.

LINE "B_1"(I. FUNDS)

STA 465 + 01.80 - STA 475 + 56.23
$1054.43 \times 0.1852 + \frac{(10 + 1) \times 6 \times 79}{2 \times 12 \times 27} + \frac{(2 + 0) \times 6 \times 100}{2 \times 12 \times 27}$

TOTAL I. FUNDS
LINE "B_1" ITEM 301
BIT. AGG. MATERIAL 205 C.Y.

RAMP "E" (I. FUNDS)

STA 458 + 33.24 - STA 462 + 83.24
$300 \times 0.1481 + 150 \frac{(0.1481 + 0.0556)}{2} + \frac{50(2+3)6}{2 \times 12 \times 27}$ 62 C.Y.

STA 462 + 83.24 - STA 468 + 48.95
$565.71 \times 0.1111 + 100 \times 0.0556/2$ 66 C.Y.

TOTAL I. FUNDS
RAMP "E" ITEM 301
BIT. AGG. MATERIAL 128 C.Y.

RAMP "F" (I. FUNDS)

STA 476 + 09.93 - STA 483 + 52
$742.07 \times 0.1111 + 100 \frac{(0.1481 - 0.0556)}{2}$ 87 C.Y.

STA 483+52 - STA 484+52
$100 \frac{(0.1111+0.0556)}{2} + \frac{50(2+3)6}{2x12x27}$ 11 C.Y.

TOTAL I. FUNDS
RAMP "F" ITEM 301
BIT. AGG. MATERIAL 98 C.Y.

ITEM 304
AGGREGATE BASE

FACTORS

10' SHOULDER W/UNDERDRAIN
$\frac{3 \times (4 + 2)}{2 \times 12 \times 27} + \frac{7 \times 4}{12 \times 27}$ .1142 CU. YD./LIN. FT.

8' SHOULDER W/UNDERDRAIN
$\frac{3 \times (4 + 2)}{2 \times 12 \times 27} + \frac{5 \times 4}{12 \times 27}$ .0895 CU. YD./LIN. FT.

6' SHOULDER W/UNDERDRAIN
$\frac{3 \times (4 + 2)}{2 \times 12 \times 27} + \frac{3 \times 4}{12 \times 27}$ .0648 CU. YD./LIN. FT.

6' SHOULDER W. O./UNDERDRAIN
$\frac{6 \times 4}{12 \times 27}$ 0.0741 CU. YD./LIN. FT.

4' SHOULDER W. O./UNDERDRAIN
$\frac{4 \times 4}{12 \times 27}$ .0494 CU. YD./LIN. FT.

10' SHOULDER W. O./UNDERDRAIN
$\frac{10 \times 4}{12 \times 27}$ .1235 CU. YD./LIN. FT.

3' SHOULDER W. O./UNDERDRAIN
$\frac{3 \times 4}{12 \times 27}$ .0370 CU. YD./LIN. FT.

LINE "A" (WEST TOLL PLAZA) (STATE)

STA 411 + 67.49 - STA 415 + 35.59
$368.10 (.1142 + .0494) + \frac{154.51 (4 + 14)0.33}{2 \times 27}$ 77 C.Y.

STA 415 + 35.59 - STA 423 + 38.46
$802.87(.0648 +.0494) + \frac{200(0.0494)}{2}$ 97 C.Y.

STA 423 + 38.46 - STA 430 + 42
703.54×0.0741 52 C.Y.

STA 430 + 42 - STA 438 + 25.04
$783.04 (0.0648 + 0.0741)$ 109 C.Y.

STA 441 + 19.99 - STA 444 + 77.32
$357.33 (0.0648 + 0.0741)$ 50 C.Y.

STA 444 + 77.32 - STA 445 + 75 (LT.)
101.41×0.0648 7 C.Y.

STA 445 + 75 - STA 447 + 00 (LT.)
125×0.0741 9 C.Y.

STA 447 + 00 - STA 449 + 00 (LT.)
$100\frac{(.0741 + .1235)}{2} + 100 \times .1235$ 22 C.Y.

STA 444 + 77.32 - STA 446 + 72.87 (RT.)
$126.68 \times .0648 + \frac{68.87(16 + 5)0.33}{2 \times 27}$ 17 C.Y.

STA 446 + 72.87 - STA 447 + 35.68 (RT.)
$62.81 \times .0648$ 4 C.Y.

STA 447 + 35.68 - STA 449 + 00 (RT.)
$90\frac{(.0648 + .1142)}{2} + 74.32 \times .1142$ 17 C.Y.

TOTAL STATE
LINE "A"(WEST TOLL PLAZA), ITEM 304
AGG. BASE 461 C.Y.

CALCULATED BY B.R.S. 1/67
CHECKED BY J.L.S. 7/67

FED. RD.	STATE	PROJECT	
2	OHIO		

19
384

MAH.80S-7.01
MAH. 80-2.30

COMPUTATIONS
RAMPS (CONTINUED)

LINE "B" (STATE)

STA 432+69.11 - STA 435+69.11
300 x 0.1142 — 34 C.Y.

STA 435+69.11 - STA 473+19.11
$\frac{150(0.1142 + .0648)}{2} + \frac{50(2 + 4)0.33}{2 \times 27}$ — 15 C.Y.

STA 437+19.11 - STA 444+73.59
754.48(0.0648 + .0494) + $\frac{100(0 + 4 + 4 + 6)0.33}{2 \times 27}$ — 95 C.Y.

TOTAL STATE
LINE "B", ITEM 304 — 144 C.Y.
AGG. BASE

RAMP "C" (STATE)

STA 418+63.36 - STA 421+63.36
300 x .1142 — 34 C.Y.

STA 421+63.36 - STA 423+13.36
$\frac{150(0.1142)}{2} + \frac{50(2 + 3)\ 0.33}{2 \times 27}$ — 10 C.Y.

STA 423+13.36 - STA 429+54
640.64 x .0370 — 24 C.Y.

STA 429+54 - STA 430+54
$\frac{100(0.0648)}{2}$ — 3 C.Y.

TOTAL STATE
RAMP "C", ITEM 304 — 71 C.Y.
AGG. BASE

RAMP "D" (STATE)

STA 438+02.38 - STA 440+64.15
$261.77(0.1142+0.0370) + \frac{138.62(5+14)0.33}{2 \times 27}$ — 47 C.Y.

STA 440+64.15 - STA 445+26.58
$462.43 \times 0.0370 + 200\frac{(0.1142)}{2}$ — 29 C.Y.

STA 445+26.58 - STA 446+76.50
$\frac{50(3 + 2)0.33}{2 \times 27} + \frac{150(0.0648)}{2}$ — 6 C.Y.

TOTAL STATE
RAMP "D" ITEM 304 — 82 C.Y.
AGG. BASE

LINE "A" (EAST TOLL PLAZA) (I. FUNDS)

STA 454+00 - STA 456+73.28 (RT.)
$68.26 \times 0.1142 + \frac{180(0.1142 + .0648)}{2} - \frac{30 \times 2 \times 4}{2 \times 12 \times 27} + 24.70 \times .0648$ — 25 C.Y.

STA 454+00 - STA 458+68.47 (LT.)
$125 \times .1142 + 25 \times .1235 + \frac{100(.1235 + .0741)}{2} - \frac{(33.09 \times 2 \times 4)}{2 \times 12 \times 27} + 218.47 \times .0741$ — 43 C.Y.

STA 457+73.28 - STA 460+68.47 (RT.)
$295.19 \times .0648 + \frac{50 \times 2 \times 4}{2 \times 12 \times 27}$ — 20 C.Y.

STA 459+68.77 - STA 460 + 68.47 (LT.)
$\frac{100(.0494 + .0741)}{2}$ — 6 C.Y.

STA 460+68.47 - STA 463 + 32.28
263.81 (.0648 + .0741) — 37 C.Y.

STA 466 + 63.95 - STA 467 + 51.61
87.66 x .0648 x 2 + 2(25)(.0741 - .0648) — 12 C.Y.

STA 467 + 51.61 - STA 475 + 12
760.39 (.0741 + .0648) — 106 C.Y.

STA 475 + 12 - STA 481 + 56.63
644.63 (.0741) — 48 C.Y.

STA 481 + 56.63 - STA 487 + 82.45
625.82(.0648 + .0494) — 71 C.Y.

STA 487 + 82.45 - STA 492 + 32.45
$\frac{(4+2) \times 50 \times 4}{2 \times 12 \times 27} + 150\frac{(.0648 + .0895)}{2} + 300 \times .0895$ — 40 C.Y.

TOTAL I. FUNDS
LINE "A"(EAST TOLL PLAZA, ITEM 304) — 408 C.Y.
AGG. BASE

LINE "B_1", (I. FUNDS)

STA 465 + 01.80 - STA 475 + 56.23
$1054.43\ (.0648 + .0494) + \frac{(10 + 1)\ 4 \times 79}{2 \times 12 \times 27}$
$+73.20\ (.0741 - .0648) + \frac{(2+0)\ 4 \times 100}{2 \times 12 \times 27}$

TOTAL I. FUNDS
LINE "B_1", ITEM 304 — 128 C.Y.
AGG. BASE

RAMP "E" (I. FUNDS)

STA 458 + 33.24 - STA 462 + 83.24
$300 \times .0895 + 150 \times .0895/2 + \frac{50\ (2+3)\ 4}{2 \times 12 \times 27}$ — 35 C.Y.

STA 462 + 83.24 - STA 468 + 45.95
565.71 x .0370 + 100 x .0370 /2 — 22 C.Y.

TOTAL I. FUNDS
RAMP "E", ITEM 304 — 57 C.Y.
AGG. BASE

RAMP "F" (I. FUNDS)

STA 476 + 09.93 - STA 483 + 52
742.07 x .0370 + 100 x .0895/2 — 32 C.Y.

STA 483 + 52 - STA 484 + 52
$100 \times .0648/2 + \frac{50\ (2 + 3)\ 4}{2 \times 12 \times 27}$ — 5 C.Y.

TOTAL I. FUNDS
RAMP "F", ITEM 304 — 37 C.Y.
AGG. BASE

ITEM 310

SUBBASE GRADING "A" OR "B"

LINE "A" (WEST OF TOLL PLAZA) (STATE)

STATION 411+67.49 TO STATION 413+22
$\frac{154.51(24+34)1.0}{2 \times 27}$ — 166 CU. YD.

$\frac{154.51\ (3)\ (12 + 11)}{12 \times 27 \times 2}$ — 16 CU. YD.

STATION 413 + 22 TO STATION 413+85.59

$\frac{63.59 \times 16 \times 8}{12 \times 27}$ — 25 CU. YD.

$\frac{63.59\ (3)\ (8 + 7)}{12 \times 2 \times 27} + \frac{63.59\ (4)\ (8 + 5.25)}{12 \times 2 \times 27}$ — 10 CU. YD.

STATION 413+85.59 TO STATION 421+85.59
$\frac{(800)\ (23)\ (8)}{12 \times 27}$ — 454 CU. YD.

STATION 421+85.59 TO STATION 423 + 38.46
$\frac{(152.87 \times 16 \times 8)}{12 \times 27}$ — 60 CU. YD.

$\frac{(152.87)(3)(8+7)}{12 \times 27 \times 2}$ — 11 CU. YD.

$\frac{(152.87)(4)(8 + 5.25)}{12 \times 27 \times 2}$ — 13 CU. YD.

STATION 423+38.46 TO STATION 425+00.00
$\frac{(161.54)(21)(8)}{12 \times 27}$ — 84 CU. YD.

STATION 425+00.00 TO STATION 428+92
(392) (21)(.50)(1/27) — 152 CU. YD.

STA 428 + 92 - STA 432.01.81
$\frac{(150)(22.5 + 19.5)(.50)}{2 \times 27}$ — 58 C.Y.

$\frac{159.81\ (48 + 41)(0.5)}{2 \times 27}$ — 132 C.Y.

$\frac{159.81\ (10 + 3)(.583)}{2 \times 27}$ — 22 C.Y.

STA 432 + 01.81 - STA 438 + 25.34
(623.53)(41)(.50)(1/27) - 25(2)(0.5)(1/27) — 472 C.Y.
(623.53)(3)(.583)(1/27) — 40 C.Y.

STA 441 + 20.40 - STA 449 + 00
(779.60) (41) (.50)(1/27) - 25(2)(0.5)(1/27) — 591 C.Y.
(779.60)(3)(.583)(1/27) — 51 C.Y.

STA 443 + 77.32 - STA 444 + 77.32 (Lt.)
$\frac{(100)(.50)}{27}$ — 2 C.Y.

STA 444 + 77.32 - STA 447 + 77.68 (LT.)
(SEE 10" ITEM 451)
657 (.5)(1/3) — 110 C.Y.

$\frac{(5.03)(77.68)(.50)}{2 \times 27}$ — 4 C.Y.

$\frac{101.41(6 + 5)(2)}{12x2x27}$ — 3 C.Y.

STA 446 + 72.87 - STA 448 + 25.68 (RT.)
(SEE 10" ITEM 451)
239(0.5)(1/3) — 40 C.Y.

90 (3)(0.5)(1/27) — 5 C.Y.

STA 447 + 77.68 - STA 449 + 00 (LT.)
$\frac{122.32(13.03 + 20.95)(0.5)}{2 \times 27}$ — 38 C.Y.

STA 448 + 25.68 - STA 449 + 00 (RT.)
$\frac{74.32(14+21.43)(0.5)}{2 \times 27}$ — 24 C.Y.

TOTAL STATE
LINE "A"(WEST TOLL PLAZA) ITEM 310 — 2,583 C.Y.
SUBBASE GRADING "A" OR "B"

LINE "B" (STATE)

STATION 432+69.11 TO STATION 435+69.11
$\frac{(300)(18 + 20)(.50)}{2 \times 27}$ — 106 CU. YD.

STA 435 + 69.11 - STA 436 + 69.11
$\frac{(100)(20+22)(.50)}{2 \times 27}$ — 39 C.Y.

STA 436 + 69.11 - STA 437 + 80
$\frac{50(22 + 24)(0.5)}{2 \times 27} + \frac{61(24)(0.5)}{27}$ — 48 C.Y.

STA 437 + 80 - STA 442 + 73.59
493.59 (23)(0.5)(1/27) — 210 C.Y.

STA 442 + 73.59 - STA 443 + 73.59
100(16)(0.5)(1/27) — 30 C.Y.

$\frac{100(3)(6+5)}{2 \times 12 \times 27} + \frac{100(6)(6+3.25)}{2 \times 12 \times 27} + \frac{100(4 + 8)(6 + 3.25)}{2 \times 12 \times 27 \times 2}$ — 22 C.Y.

STA 443 + 73.59 - STA 444 + 73.59
$\frac{(100)(16 + 18)(.50)}{2 \times 27}$ — 31 C.Y.

$\frac{100(3)(6 + 5)}{2 \times 12 \times 27}$ — 5 C.Y.

$\frac{80(9.5 + 11.1)(6 + 3.25)}{2 \times 2 \times 12 \times 27} + \frac{20(18.6 + 13)(0.5)}{2 \times 27}$ — 18 C.Y.

TOTAL STATE
LINE "B" ITEM 310 — 509 C.Y.
SUBBASE GRADING "A" OR "B"

RAMP "C" STATE,

STATION 418+63.36 TO STATION 421+63.36
$\frac{(300)(15 + 17)(.5)}{27 \times 2}$ — 89 CU. YD.

$\frac{(300)(3)(6 + 5)}{12 \times 27 \times 2}$ — 15 CU. YD.

STATION 421+63.36 TO STATION 423+13.36
$\frac{(150)(20 + 23)(.5)}{27 \times 2}$ — 60 CU. YD.

STATION 423+13.36 TO STATION 428+54
$\frac{(540.64)(22)(.50)(1/27)}{}$ — 220 CU. YD.

STATION 428+54 TO STATION 429+54
$\frac{(100)(22 + 23)(.5)}{27 \times 2}$ — 42 CU. YD.

STATION 429 + 54 - STATION 430 + 54
(100)(21(.50)(1/27) — 39 C.Y.

TOTAL STATE
RAMP "C" ITEM 310 — 465 C.Y.
SUBBASE GRADING "A" OR "B"

RAMP "D" (STATE)

STATION 438+02.38 TO STATION 440+64.15
(261.77)(16)(.5)(1/27) — 78 CU. YD.
$\frac{(261.77)(6 + 5)\ (3)}{27 \times 2 \times 12}$ — 13 CU. YD.
$\frac{(123.15)(6 + 4)(3)}{27 \times 12 \times 2} + \frac{138.62(8 + 17)(0.5)}{2 \times 27}$ — 38 CU. YD.

STATION 440+64.15 TO STATION 444 +76.58
(412.43)(22)(.50)(1/27) — 168 CU. YD.

STATION 444 + 76.58 TO STATION 446 + 76.58
$\frac{(100)(23 + 20)(.5)}{27 \times 2}$ — 40 C.Y.
(100) (19)(.5)(1/27) — 35 C.Y.

TOTAL STATE
RAMP "D" ITEM 310 — 372 C.Y.
SUBBASE GRADING "A" OR "B"

LINE "A" (EAST OF TOLL PLAZA) (I. FUNDS)

STATION 454 + 00 TO STATION 455 + 25 (LT.)
$\frac{125(41.61 + 34.06)(.5)}{2\ (27)}$ — 88 C.Y.
(125)(1.5)(.583)(1/27) — 4 C.Y.
$\frac{(125)(3)(5 + 6)}{(27)(2)(12)}$ — 6 C.Y.

STATION 455 + 25 TO STATION 456 + 83.98 (LT.)
$\frac{125(35.06 + 27.5)(.5)}{2\ (27)}$ — 72 C.Y.
(158.98)(1.5)(.583)(1/27) — 5 C.Y.
33.98(27.5)(.5)(1/27) — 17 C.Y.

STATION 456 + 83.98 TO STATION 458 + 68.47 (LT.)
(SEE 10" ITEM 451)
(455 + 145)(.5)(1/3) — 100C.Y.
(186.09)(1)(.5)(1/27) — 3 C.Y.
(184.49)(1.5)(1.08)(1/27) — 11 C.Y.

STATION 458 + 68.47 TO STATION 459 + 68.47 (LT.)
$\frac{(100)\ (18.0 + 22.0)(.50)}{2\ (27)}$ — 37 C.Y.
(100)(1.5)(.583)(1/27) — 3 C.Y.

STATION 459 + 68.47 TO STATION 460 + 68.47 (LT.)
$\frac{(100)(17.5+19.5)(.5)(1/27)}{2}$ — 34 C.Y.
(100)(1.5)(.583)(1/27) — 3 C.Y.

STATION 454 + 00 TO STATION 454 + 68.26 (RT.)
(68.26)(1.5)(.583)(1/27) — 2 C.Y.
$\frac{68.26(45.27 + 41.5)(0.5)}{2 \times 27}$ — 55 C.Y.

STATION 454 + 68.26 TO STATION 456 + 73.28 (RT.)
(SEE 10" ITEM 451)
(570 + 152 + 192)(.5)(1/3) — 152 C.Y.
(201.70)(3)(.5)(1/27) — 11 C.Y.
(205.02)(1.5)(1.08)(1/27) — 12 C.Y.

STATION 456 + 73.28 TO STATION 457 + 73.28 (RT.)
$\frac{(100)(31.5 + 27.5)(.5)(1/27)}{2}$ — 55 C.Y.
(100)(1.5)(.583)(1/27) — 3 C.Y.

STATION 457 + 73.28 TO STATION 460 + 68.47 (RT.)
(295.19)(21.5)(.50)(1/27) — 118 C.Y.
(295.19)(1.5)(.583)(1/27) — 10 C.Y.

STATION 460 + 68.47 TO STATION 463 + 32.28
(263.81)(41)(.5)(1/27) - 25(.5)(2)(1/27) — 199 C.Y.
(263.81)(.583)(3)(1/27) — 17 C.Y.

STATION 466 + 63.95 TO STATION 467 + 51.61
(62.66)(37)(.5)(1/27) + 25(39)(.5)(1/27) — 61 C.Y.
$\frac{(62.66)(5 + 6)(3)(2)}{2(12)(27)}$ — 6 C.Y.
(87.66)(3)(.583)(1/27) — 6 C.Y.

STATION 467 + 51.61 TO STATION 473 + 53.63
(602.02)(41)(.5)(1/27) — 457 C.Y.
(602.02)(3)(.583)(1/27) — 39 C.Y.

STATION 473 + 53.63 TO STATION 475 + 12
(158.37(38)(.5)(1/27) — 111 C.Y.
$\frac{(158.37)(3 + 10)(1.08)}{(27)\ 2}$ — 41 C.Y.

STATION 475 + 12 TO STATION 476 + 12
(100)(19.5)(.5)(1/27) — 36 C.Y.

CALCULATED BY BRS 1/67 COMPUTATIONS
CHECKED BY JLS 7/67

COMPUTATIONS

RAMPS (CONTINUED)

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH. 80S-7.01
MAH. 80-2.30

20
384

STATION 476+12 TO STATION 477+12
$\frac{(100)(21+22)(.5)}{(27)\ 2}$ = 40 CU. YD.

STATION 477+12 TO STATION 481+56.63
(444.63)(21)(.5)(1/27) = 173 CU. YD.

STATION 481+56.63 TO STATION 483+28.72
(172.09)(16)(.50)(1/27) = 51 CU. YD.
$\frac{(172.09)(4)(3.25+6)}{(27)\ (12)\ (2)}$ = 10 CU. YD.
$\frac{(172.09)(3)(5+6)}{(27)\ (12)\ (2)}$ = 9 CU.YD.

STATION 483+28.72 TO STATION 488+32.45
(503.73)(23)(.50)(1/27) = 215 CU. YD.

STATION 488+32.45 TO STATION 489+32.45
$\frac{(100)(22+20)(.50)}{2\ (27)}$ = 39 CU.YD.

STATION 489+32.45 TO STATION 492+32.45
$\frac{(300)(20+18)(.50)}{2(27)}$ = 106 CU.YD.

TOTAL I FUNDS
LINE "A" (EAST TOLL PLAZA), ITEM 310 = 2,417 CU.YD.
SUBBASE GRADING "A" OR "B"

LINE "B-1" (I. FUNDS)

STATION 465+01.80 TO STATION 465+75
$\frac{(73.20)(22+30)(0.5)}{2\ (27)}$ = 35 CU.YD.

STATION 465+75 TO STATION 467+50
(175)(16)(.50)(1/27) = 52 CU.YD.
$\frac{(175)(4)(3.25+6)}{(27)(12)(2)}$ = 10 CU. YD.
$\frac{(175)(3)(5+6)+5.8(10+11)(5)}{(27)(12)(2)\quad 2(27)(12)}$ = 10 CU.YD.

STATION 467+50 TO STATION 471+00
(350)(23)(.5)(1/27) = 149 CU. YD.

STATION 471+00 TO STATION 474+56.23
$\frac{(356.23)(23)(8)}{12\ (27)}$ = 202 CU.YD.

STATION 474+56.23 TO STATION 475+56.23
$\frac{(100)(24+26)\ (8)}{(12)\ (2)\ (27)} + \frac{32\ (8+2)(8)}{(12)(2)(27)}$ = 66 CU. YD.

TOTAL I. FUNDS
LINE "B-1", ITEM 310 = 524 CU. YD.
SUBBASE GRADING "A" OR "B"

RAMP "E" (I. FUNDS)

STATION 458+33.24 TO STATION 461 +33.24
$\frac{(300)(17+15)(.50)}{2\ (27)}$ = 89 CU. YD.

$\frac{(300)(3)(5+6)}{(12)(27)(2)}$ = 15 CU. YD.

STATION 461+33.24 TO STATION 462+33.24
$\frac{(100)(22+20)(.5)}{2\ (27)}$ = 39 CU. YD.

STATION 462+33.24 TO STATION 463+15.24
(82)(16)(.5)(1/27) = 24 CU.YD.
(32)(7)(.5)(1/27) = 4 CU.YD.
$\frac{(50)(6+7)(.5)}{(27)\ 2}$ = 6 CU.YD.

STATION 463+15.24 TO STATION 467+48.95
(433.71)(22)(.50)(1/27) = 177 CU.YD.

STATION 467+48.95 TO STATION 468+48.95
$\frac{(100)(25+23)(.5)}{(27)\ 2} + \frac{20(8+2)(0.5)}{2\times27}$ = 46 CU.YD.

TOTAL I. FUNDS
RAMP "E", ITEM 310 400 CU.YD.
SUBBASE GRADING "A" OR "B"

RAMP "F" (I. FUNDS)

STATION 476+09.93 TO STATION 477+09.93
$\frac{(100)(25+23)(8)}{(12)\ (2)\ (27)} + \frac{(32)(2+8)(8)}{(2)\ (12)\ (27)}$ = 63 CU.YD.

STATION 477 +09.93 TO STATION 480+00
$\frac{(290.07)(22)(8)}{(27)(12)}$ = 158 CU.YD.

STATION 480+00 TO STATION 482+00
(200)(22)(.50)(1/27) = 81 CU. YD.

STATION 482+00 TO STATION 483+52
$\frac{(152)(22)(8)}{(12)(27)}$ = 83 CU.YD.

STATION 483+52 TO STATION 484+02
$\frac{(50)(23+22)(8)}{(12)(2)\ (27)}$ = 28 CU. YD.

STATION 484+02 TO STATION 484+52
$\frac{(50)(22+21)\ (8)}{(12)\ (2\times27)}$ = 27 CU.YD.

TOTAL I. FUNDS
RAMP "F", ITEM 310 = 440 CU.YD.
SUBBASE GRADING "A" OR "B"

ITEM 310
SUBBASE (REG.)

FACTORS
NORMAL SECTION 10' SHOULDER
$\frac{7(5+3)}{2\times12\times27}$ = 0.0864 CU.YD/LIN.FT.

SUPERELEVATED SECTION 10' SHOULDER W.O./UNDERDRAIN
$\frac{9\times6}{12\times27}$ = 0.1667 CU.YD/LIN.FT.

SUPERELEVATED SECTION 10' SHOULDER W/UNDERDRAIN
$\frac{7(6+3)}{2\times12\times27}$ = 0.0972 CU.YD/LIN.FT.

NORMAL SECTION 10' SHOULDER W/ROCK
$\frac{7\ (7+5)}{2\times12\times27}$ = 0.1296 CU.YD/LIN.FT.

SUPERELEVATED SECTION 10' SHOULDER W/UNDERDRAIN & ROCK
$\frac{7(8+5)}{2\times12\times27}$ = 0.1404 CU.YD/LIN FT.

NORMAL SECTION 8' SHOULDER W/ROCK
$\frac{5(7+5)}{2\times12\times27}$ = 0.0926 CU.YD/LIN.FT.

SUPERELEVATED SECTION 6' SHOULDER W/UNDERDRAIN & ROCK
$\frac{3(8+5)}{2\times12\times27}$ = 0.0602 CU.YD/LIN.FT.

NORMAL SECTION 8' SHOULDER
$\frac{5(5+3)}{2\times12\times27}$ = 0.0617 CU.YD/LIN.FT.

NORMAL SECTION 6' SHOULDER
$\frac{3(5+3)}{2\times12\times27}$ = 0.0370 CU.YD/LIN.FT.

SUPERELEVATED SECTION 6' SHOULDER W/UNDERDRAIN
$\frac{3(6+3)}{2\times12\times27}$ = 0.0417 CU.YD/LIN.FT.

SUPERELEVATED SECTION 6' SHOULDER W.O./UNDERDRAIN
$\frac{5\times6}{12\times27}$ = 0.0926 CU.YD/LIN.FT.

NORMAL SECTION 6' SHOULDER W/ROCK
$\frac{3\ (7+5)}{2\times12\times27}$ = 0.0556 CU.YD/LIN.FT.

SUPERELEVATED SECTION 6' SHOULDER W.O./UNDERDRAIN & W/ROCK
$\frac{5\times8}{12\times27}$ = 0.1235 CU.YD/LIN.FT.

LINE "A" (WEST TOLL PLAZA) STATE

STA 411 +67.49 - STA 415+35.59
218.10 x 0.1296 + 150 x 0.1404 + 154.41 x 0.333 x 7 x 1/27 60 C.Y.

STA 415 +35.59 - STA 417 + 35.59
$200\ \frac{(0.1404+0.0602)}{2}$ 20 C.Y.

STA 417+35.59 - STA 421+85.59
450 x 0.0602 27 C.Y.

STA 421 +85.59 - STA 423 + 38.46
152.87 x 0.0556 8 C.Y.

STA 423 + 38.46 - STA 425 + 00
161.54 x 0.1235 20 CY.

STA 425 + 00 - STA 430 + 42
542 x 0.0926 50 C.Y.

STA 430 + 42 - STA 438 + 25.04
783.04 (0.0417 + 0.0926) + 25 (0.0926-0.0417) 106 C.Y.

STA 441 + 19.99 - STA 444 + 77.32
357.33 (0.0926 + 0.0417) + 25 (0.0926-0.0417) +100(1)(0.5)(1/27) 51 C.Y.

STA 444 + 77.32 - STA 445 + 75 (LT.)
101.41 x 0.0370 4 C.Y.

STA 445 + 75 - STA 447 + 00 (LT.)
125 x 0.0926 12 C.Y.

STA 447 + 00 - STA 449 + 00 (LT.)
$100\ \frac{(0.0926+0.1667)}{2}$ + 100 x 0.1667 30 C.Y.

STA 444 + 77.32 - STA 446 + 72.87 (RT.)
$126.68 \times 0.0417 + \frac{6887\ (13+2)\ 0.5}{2\times27}$ 15 C.Y.

STA 446 + 72.87 - STA 447 +35.68 (RT.)
62.81 x 0.0417 3 C.Y.

STA 447 + 35.68 - STA 449 + 00
$90\ \frac{(0.0417+0.0972)}{2}$ + 74.32 x 0.0972 13 C.Y.

TOTAL STATE
LINE "A" (WEST TOLL PLAZA), ITEM 310
SUBBASE (REG.) 419 C.Y.

LINE "B" (STATE)

STA 432 + 69.11 - STA 435 + 69.11
$300\ \frac{(0.0864+0.0972)}{2}$ 28 C.Y.

STA 435 + 69.11 - STA 437 + 19.11
$150\ \frac{(0.0972+0.0417)}{2}$ 10 C.Y.

STA 437 + 19.11 - STA 442 +25
505.89 x 0.0417 21 C.Y.

STA 442 + 25 - STA 444 + 73.59
248.59 x 0.0370 9 C.Y.

TOTAL STATE
LINE "B", ITEM 310 68 C.Y.
SUBBASE (REG.)

RAMP "C" (STATE)

STA 418 + 63.36 - STA 421 + 63.36
300 x 0.0864 26 C.Y.

STA 421 + 63.36 - STA 423 + 13.36
$150\ \frac{(0.0864)}{2}$ 6 C.Y.

STA 429 + 54 - STA 430 + 54
$100\ \frac{(0.0417)}{2}$ 2 C.Y.

TOTAL STATE
RAMP "C", ITEM 310 34 C. Y.
SUBBASE (REG.)

RAMP "D" (STATE)

STA 438 + 02.38 - STA 440 + 64.15
261.77 x 0.0864 23 C.Y.

STA 440 + 64.15 - STA 442 + 64.15
$200\ \frac{(0.0864)}{2}$ 9 C.Y.

STA 445 + 26.58 - STA 446 + 76.58
$150\ \frac{(0.0417)}{2}$ 3 C.Y.

TOTAL STATE
RAMP "D", ITEM 310 35 C.Y.
SUBBASE (REG.)

LINE "A" (EAST TOLL PLAZA) (I. FUNDS)

STA 454 + 00 - STA 456 + 73.28 (RT.)
$68.26 \times 0.0864 + 180\ \frac{(0.0864+0.0417)}{2} + 21.70 \times 0.0417$ 18 C.Y.

STA 454 + 00 - STA 458 + 68.47 (LT)
$125 \times 0.0864 + 25 \times 0.1667 + 100\ \frac{(0.1667+0.0926)}{2}$ + 218.47 x 0.0926 48 C.Y.

STA 457 + 73.28 - STA 460 + 68.47 (RT.)
$295.19 \times 0.0417 + \frac{50\times2\times3}{2\times12\times27}$ 13 C.Y.

STA 459 + 68.47 - STA 460 + 68.47 (LT.)
100 x 0.0926/2 + 100 (15)(0.5) (1/27) 7 C.Y.

STA 460 + 68.47 - STA 463 + 32.28
263.81 (0.0417 + 0.0926) + 25 (0.0926-0.0417) 37 C.Y.

STA 466 + 63.95 - STA 467 + 51.61
62.66 x 0.0370 x 2 + 25 x 0.0926 x 2 9 C.Y.

STA 467 + 51.61 - STA 475 + 12
596.39 (0.0417 + 0.0926) + 164 x 2 x .0926 110 C.Y.

STA 475 + 12 - STA 481 + 56.63
644.63 x 0.0926 60 C.Y.

STA 481 + 56.63 - STA 483 + 28.72
172.09 x 0.0370 6 C.Y.

STA 483 + 28.72 - STA 487 + 82.45
453.73 x 0.0417 19 C.Y.

STA 487 + 82.45 - STA 492 + 32.45
$150\ \frac{(0.0417+0.0617)}{2}$ + 300 x 0.0617 26 C.Y.

TOTAL I. FUNDS
LINE "A" (EAST TOLL PLAZA), ITEM 310 353 C.Y.
SUBBASE (REG.)

LINE "B", (I. FUNDS)

STA 465 + 01.80 - STA 467 + 50
73.20 x 0.0926 + 175 x 0.0370 13 C.Y.

STA 467 + 50 - STA 471 + 00
350 x 0.0417 15 C.Y.

STA 471 + 00 - STA 475 + 56.23
$356.23 \times 0.0602 + 100\ \frac{(0.0602+0.0926)}{2}$ 29 C.Y.

TOTAL I. FUNDS
LINE "B", ITEM 310 57 C.Y.
SUBBASE (REG.)

RAMP "E" (I. FUNDS)

STA 458 + 33.24 - STA 462 + 83.24
300 x 0.0617 + 150 x 0.0617/2 23 C.Y.

STA 467 + 48.95 - STA 468 + 48.95
100 x 0.0417/2 2 C.Y.

TOTAL I. FUNDS
RAMP "E", ITEM 310 25 C.Y.
SUBBASE (REG.)

RAMP "F" (I. FUNDS)

STA 476 +09.93 - STA 477 + 09.93
100 x 0.0926/2 5 C.Y.

STA 483 + 52 - STA 484 + 52
100 x 0.0602/2 3 C.Y.

TOTAL I. FUNDS
RAMP "F", ITEM 310 8 C.Y.
SUBBASE (REG.)

CALCULATED BY B.R.S. 1/67
CHECKED BY J.L.S. 7/67

COMPUTATIONS

COMPUTATIONS
RAMPS (CONTINUED)

FED. RD.	STATE	PROJECT	
2	OHIO		

21
384

MAH.805-7.01
MAH. 80-2.30

ITEM 409
SEAL COAT BITUMINOUS MATERIAL

FACTOR

Item 301 x $\frac{0.30 \times 12 \times 3}{6}$ = 1.8 x Item 301

LINE "A" (WEST TOLL PLAZA) (STATE)

Sta 411 + 67.49 - STA 449 + 00
772 x 1.8 + $\frac{30 \times 2 \times 0.30}{2 \times 9}$ + $\frac{30.88 \times 2 \times 0.30}{2 \times 9}$

TOTAL STATE
LINE "A" (WEST TOLL PLAZA), ITEM 409 1,393 GAL.
SEAL COAT BIT. MATERIAL

LINE "B" (STATE

STA 432 + 69.11 - STA 444 + 73.59
234 x 1.8

TOTAL STATE
LINE "B", ITEM 409 421 GAL.
SEAL COAT BIT. MATERIAL

RAMP "C" (STATE)

STA 418 + 63.36 - STA 430 + 54
155 x 1.8

TOTAL STATE
RAMP "C", ITEM 409 279 GAL.
SEAL COAT BIT. MATERIAL

RAMP "D" (STATE)

STA 438 + 02.38 - STA 446 + 76.58
166 x 1.8

TOTAL(STATE)
RAMP "D", ITEM 409 299 GAL.
SEAL COAT BIT. MATERIAL

LINE "A" (EAST TOLL PLAZA) (I. FUNDS)

STA 454 + 00 - STA 492 + 32.45
692 x 1.8 + $\frac{33.09 \times 2 \times 0.30}{2 \times 9}$ + $\frac{30 \times 2 \times 0.30}{2 \times 9}$

TOTAL I. FUNDS
LINE "A" (EAST TOLL PLAZA), ITEM 409 1,248 GAL.
SEAL COAT BIT. MATERIAL

LINE "B" (I. FUNDS)

STA 465 + 01.80 - STA 475 + 56.23
205 x 1.8

TOTAL I. FUNDS
LINE "B" ITEM 409 369 GAL.
SEAL COAT BIT. MATERIAL

RAMP "E" (I. FUNDS)

STA 458 + 33.24 - STA 468 + 48.95
128 x 1.8

TOTAL I. FUNDS
RAMP "E", ITEM 409 230 GAL.
SEAL COAT BIT. MATERIAL

RAMP "F", (I. FUNDS)

STA 476 + 09.93 - STA 484 + 52
98 x 1.8

TOTAL I. FUNDS
RAMP "F", ITEM 409 176 GAL.
SEAL COAT BIT. MATERIAL

ITEM 409
SEAL COAT COVER AGGREGATE NO. 8

FACTOR

ITEM 301 x $\frac{0.008 \times 12 \times 3}{6}$ = 0.048 x ITEM 301

LINE "A" (WEST TOLL PLAZA) (STATE)

STA 411 + 67.49 - STA 449 + 00
772 x 0.048 + $\frac{(30+30.88)(.008)}{2}$

TOTAL STATE
"LINE "A" (WEST TOLL PLAZA), ITEM 409 37 C.Y.
SEAL COAT COVER AGG. NO 8

LINE "B" (STATE)

STA 432 + 69.11 - STA 444 +73.59
234 x 0.048

TOTAL STATE
LINE "B", ITEM 409 11 C.Y.
SEAL COAT COVER AGG. NO. 8

RAMP "C" (STATE

STA 418 + 63.36 - STA 430 + 54
155 x 0.048

TOTAL STATE
RAMP "C", ITEM 409
SEAL COAT COVER AGG. NO. 8 7 C.Y.

RAMP "D" (STATE)

STA 438 + 02.38 - STA 446 + 76.58
166 x 0.048

TOTAL STATE
RAMP "D", ITEM 409 8 C.Y.
SEAL COAT COVER AGG. NO. 8

LINE "A" (EAST TOLL PLAZA)(I. FUNDS)

STA 454 + 00 - STA 492 + 32.45
692 x 0.048

TOTAL I. FUNDS
LINE "A" (EAST TOLL PLAZA) ITEM 409
SEAL COAT COVER AGG. NO. 8 33 C.Y.

LINE "B" (I. FUNDS)

STA 465 + 01.80 - STA 475 + 56.23
205 x 0.048 + $\frac{(33.09+30)(.008)}{2}$

TOTAL I. FUNDS
LINE "B", ITEM 409 10 C. Y.
SEAL COAT COVER AGG. NO. 8

RAMP "E" (I. FUNDS)

STA 458 + 33.24 - STA 468 + 48.95
128 x 0.048

TOTAL I. FUNDS
RAMP "E", ITEM 409 6 C.Y.
SEAL COAT COVER AGG. NO. 8

RAMP "F" (I. FUNDS)

STA 476 + 09.93 - STA 484 + 52
98 x 0.048

TOTAL I. FUNDS
RAMP "F", ITEM 409 5 C.Y.
SEAL COAT COVER AGG. NO. 8

ITEM 451

10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT

LINE "A" (WEST TOLL PLAZA) (STATE)

STATION 411+67.49 TO STATION 430+42
(1874.51)(16) x 1/9 + $\frac{100(3+1)}{2 \times 27}$ = 3,340 SQ. YD.

STATION 430+42 TO STATION 438+00.34
(758.34)(17)(2) x 1/9 = 2,865 SQ. YD.

STATION 441+45.20 TO STATION 449+00.00
(754.80)(17)(2) x 1/9 = 2,851 SQ. YD.

STATION 446+72.87 TO STATION 448+25.68 (RT.)
$\frac{(149.10)(20+8)}{9 \times 2}$ - $\frac{(716.20)^2}{2 \times 9}$ (.2081888 - .2066880) = 239 SQ. YD.

$\frac{+150 \times 2}{2x9}$ + $\frac{90 \times 6}{2x9}$ + $\frac{30 \times 2}{2x9}$

STATION 444+77.32 TO STATION 447+77.68 (LT.)
$\frac{(304.09)(40+8)}{9 \times 2}$ - $\frac{(1450.89)^2}{2 \times 9}$ (.2096908 - .20815828) = 657 SQ. YD.

$\frac{+77.68 x 5.03}{2 \times 9}$ + $\frac{30.88 x 2}{2 \times 9}$

STATION 447+77.68 TO STATION 449+00.00 (LT.)
$\frac{122.32(13.03 + 20.95)}{2 \times 9}$ = 231 SQ. YD.

STATION 448+25.68 TO STATION 449+00.00 (RT.)
$\frac{74.32(14+21.43)}{2 \times 9}$ = 146 SQ. YD.

STATION 443+77.32 TO STATION 444+77.32 (LT.)
$\frac{(100)(2+0)}{9 \times 2}$ = 11 SQ. YD.

TOTAL STATE
LINE"A" (WEST TOLL PLAZA) ITEM 451 = 10,340 SQ. YD.
10" R.P.C.C.P.

LINE "B" (STATE)

STATION 432+69.11 TO STATION 435+69.11
$\frac{(300)(14+16)}{9 \times 2}$ = 500 SQ. YD.

STATION 435+69.11 TO STATION 436+69.11
$\frac{100 (16+18)}{2 \times 9}$ = 189 SQ. YD.

STATION 436+69.11 TO STATION 443+73.59
(704.48)(16) x 1/9 = 1,252 SQ. YD.

STATION 443+73.59 TO STATION 444+73.59
$\frac{(100)(16+18)}{9 \times 2}$ = 189 SQ. YD.

TOTAL STATE
LINE "B" ITEM 451 = 2,130 SQ. YD.
10" R.P.C.C.P.

RAMP "C" (STATE)

STATION 418+63.36 TO STATION 421+63.36
$\frac{(300)(14+16)}{9 \times 2}$ = 500 SQ. YD.

STATION 421+63.36 TO STATION 422 +63.36
$\frac{(100)(16+18)}{9 \times 2}$ = 189 SQ. YD.

STATION 422+63.36 TO STATION 428+54
(590.64)(16) x 1/9 = 1,050 SQ. YD.

STATION 428+54 TO STATION 429+54.00
$\frac{(100)(16+17)}{9 \times 2}$ = 183 SQ. YD.

STATION 429+54.00 TO STATION 430+54
(100)(17) x 1/9 = 189 SQ. YD.

TOTAL STATE
RAMP "C" ITEM 451 = 2,111 SQ. YD.
10" R.P.C.C.P.

RAMP "D" (STATE)

STATION 438+02.38 TO STATION 444+76.58
(674.20)(16) x 1/9 = 1,199 SQ. YD.

STATION 444+76.58 TO STATION 445+76.58
$\frac{(100)(16+14)}{9 \times 2}$ = 167 SQ. YD.

STATION 445+76.58 TO STATION 445+76.58
$\frac{(100)(16+14)}{9 \times 2}$ = 167 SQ. YD.

TOTAL STATE
RAMP "D" ITEM 451 = 1,533 SQ. YD.
10" R.P.C.C.P.

LINE "A" (EAST TOLL PLAZA) (I. FUNDS)

STATION 454+00 TO STATION 454 + 68.26 (RT.)
$\frac{(68.26)(25)}{9}$ + $\frac{(12+15.77)(68.26)}{2 \times 9}$ = 295 SQ. YD.

STATION 454+68.26 TO STATION 456+73.28 (RT.)
(205.02)(25) x 1/9 = 570 SQ. YD.
1/9 ($\frac{(201.70)(23)}{2}$ - $\frac{(716.20)^2}{2}$ (.2816186 - .2779108)) = 152 SQ. YD.

$\frac{(205.02)(6)}{2}$ + $\frac{180 (12)}{(9)}$ + 30 (2) = 192 SQ. YD.

STATION 456+73.28 TO STATION 457+73.28 (RT.)
$\frac{(100)(29+25)}{(9) \quad 2}$ = 300 SQ. YD.

STATION 457+73.28 TO STATION 460+68.47 (RT.)
(295.19)(17) x 1/9 = 558 SQ. YD.

STATION 454+00 TO STATION 456+83.98 (LT.)
$\frac{(283.98)(25)}{9}$ + $\frac{250 (15.11)}{2 (9)}$ + 33.09 (2) = 1,003 SQ. YD.

STATION 456+83.98 TO STATION 458+68.47 (LT.)
(186.09)(22) x 9 = 455 SQ. YD.
1/9 ($\frac{(186.09 + 184.49)(3+15)}{2 \quad 2}$ - $\frac{(1433.89)^2}{2}$ (.1287983 - .1284422)) = 145 SQ. YD.

STATION 458+68.47 TO STATION 459+68.47 (LT.)
$\frac{(100)(15+19)}{(9) \quad 2}$ = 189 SQ. YD.

STATION 459+68.47 TO STATION 460+68.47 (LT.)
$\frac{(100)(15+17)}{(9) \quad 2}$ = 178 SQ. YD.

STATION 460+68.47 TO STATION 463+87.28
(238.81)(17)(2) x 1/9 = 902 SQ. YD.

STATION 466+88.95 TO STATION 475+12
(823.05)(17)(2) x 1/9 = 3,109 SQ. YD.

STATION 475+12 TO STATION 476+12
(100)(17) x 1/9 = 189 SQ. YD.

STATION 476+12 TO STATION 477+12
$\frac{(100)(16+17)}{(9) \quad 2}$ = 183 SQ. YD.

STATION 477+12 TO STATION 488+32.45
(1120.45)(16) x 1/9 = 1,992 SQ. YD.

STATION 488+32.45 TO STATION 489+32.45
$\frac{(100)(18+16)}{(9) \quad 2}$ = 189 SQ. YD.

STATION 489+32.45 TO STATION 492+32.45
$\frac{(300)(16+14)}{(9) \quad 2}$ = 500 SQ. YD.

TOTAL I. FUNDS
LINE "A" (EAST TOLL PLAZA) ITEM 451 = 11,101 SQ. YD.
10" R.P.C.C.D.

LINE "B-1" (I. FUNDS)

STATION 465+01.80 TO STATION 474+56.23
(954.43)(16) x 1/9 = 1,697 SQ. YD.

STATION 474+56.23 TO STATION 475+56.23
$\frac{(100)(16+18)}{(9) \quad 2}$ = 189 SQ. YD.

TOTAL I. FUNDS
LINE "B-1" ITEM 451 = 1,886 SQ. YD.
10" R.P.C.C.P.

CALCULATED BY BRS 1/67
CHECKED BY J.L.S. 7/67

COMPUTATIONS

COMPUTATIONS

RAMPS (CONTINUED)

RAMP "E" (I. FUNDS)

STATION 458+33.24 TO STATION 461+33.24
$\frac{(300)(16+14)}{(9)\quad 2}$ = 500 SQ. YD.

STATION 461+33.24 TO STATION 462+33.24
$\frac{(100)(18+16)}{(9)\quad 2}$ = 189 SQ. YD.

STATION 462+33.24 TO STATION 467+48.95
(515.71)(16) × 1/9 = 917 SQ. YD.

STATION 467+48.95 TO STATION 468+48.95
$\frac{(100)(18+16)}{(9)\quad 2}$ = 189 SQ.YD.

TOTAL I. FUNDS
RAMP "E" ITEM 451
10" R.P.C.C.P. = 1,795 SQ. YD.

RAMP "F" (I. FUNDS)

STATION 476+09.93 TO STATION 477+09.93
$\frac{(100)(18+16)}{(9)\quad 2}$ = 189 SQ. YD

STATION 477+09.93 TO STATION 484+02
(692.07)(16) × 1/9 = 1,230 SQ. YD.

STATION 484+02 TO STATION 484+52
$\frac{(50)(18+17)}{(9)\quad 2}$ = 97 SQ. YD.

TOTAL I. FUNDS
RAMP "F" ITEM 451
10" R.P.C.C.P. = 1,516 SQ. YD.

SPECIAL DRAINAGE CONNECTOR
NO. 8 AGGREGATE

FACTORS

3' SHOULDER - NORMAL
$\frac{(10+9)(3)-(4)(1.833)}{2 \times 12 \times 27}$ .07665 CU. YD./LIN. FT.

3' SHOULDER - SUPERELEVATED
$\frac{(10)(3)-(4)(1.833)}{12 \times 27 \quad 2 \times 12 \times 27}$ .08128 CU. YD./LIN. FT.

3' SHOULDER - SUPERELEVATED W/ROCK
$\frac{(12)(3)-(6)(1.833)}{12 \times 27 \quad 2 \times 12 \times 27}$ .09414 CU. YD./LIN. FT.

4' SHOULDER - SUPERELEVATED
$\frac{10 \times 4 - 4(2.833)}{12 \times 27 \quad 2 \times 12 \times 27}$ .10597 CU. YD./LIN. FT.

4' SHOULDER - SUPERELEVATED W/ROCK
$\frac{12 \times 4 - 6(2.833)}{12 \times 27 \quad 2 \times 12 \times 27}$ .12191 CU. YD./LIN. FT.

6', 8' & 10' SHOULDER - NORMAL
$\frac{(8+5)(3)-(4)(1.833)}{2 \times 12 \times 27}$ .04887 CU. YD./LIN. FT.

6',8' & 10' SHOULDER - SUPERELEVATED
$\frac{(8+6)(3)-(4)(1.833)}{2 \times 12 \times 27}$ .05350 CU. YD./LIN. FT.

6', 8' & 10' SHOULDER - NORMAL W/ROCK
$\frac{(10+7)(3)-(6)(1.833)}{2 \times 12 \times 27}$ .06173 CU. YD./LIN. FT.

6',8' & 10' SHOULDER - SUPERELEVATED W/ROCK
$\frac{(10+8)(3)-(6)(1.833)}{2 \times 12 \times 27}$ .06639 CU. YD./LIN. FT.

10' SHOULDER - NORMAL W/ROCK (ADJ. O.T.)
$\frac{(14+11)(3)-(10)(1.833)}{2 \times 12 \times 27}$ .08745 CU. YD./LIN. FT.

LINE "A" (WEST OF TOLL PLAZA) (STATE)
STATION 411 + 67.49 - STATION 413 + 85.59
218.10 (.06173) 13 C.Y.
STATION 413 + 85.59 - STATION 421 + 85.59
800.00 (.06639) 53 C.Y.
STATION 421 + 85.59 - STATION 423 + 38.46
152.87 (.06173) 9 C.Y.
STATION 423 + 38.46 - STATION 425 + 08
169.54 (.12191) 21 C.Y.
STATION 425 + 00 - STATION 430 + 42
542 (.10597) 57 C.Y.
STATION 430 + 42 - STATION 437 + 91
749 (.05350) 40 C.Y.
STATION 441 + 53 - STATION 446 + 72.87 (RT.)
519.87 (.05350) 28 C.Y.
STATION 446 + 72.87 - STATION 449 + 00 (RT.)
227.13 (.05350) 12 C.Y.
STATION 444 + 77.32 - STATION 445 + 75
101.41 (.04887) 5 C.Y.

TOTAL STATE
LINE "A"(WEST OF TOLL PLAZA) ITEM SPECIAL
DRAINAGE CONNECTOR NO. 8 AGG. 238 C.Y.

LINE "B" (STATE)
STATION 432 + 69.11 - STATION 435 + 69.11
(300) (.05350 + .04887)/2 15 C.Y.
STATION 435 + 69.11 - STATION 442 + 25
(655.89) (.05350) 35 C.Y.
STATION 442 + 25 - STATION 444 + 73.89
(248.59) (.04887) 12 C.Y.

TOTAL STATE
LINE "B" ITEM SPECIAL
DRAINAGE CONNECTOR NO. 8 AGG. 62 C.Y.

RAMP "C" (STATE)
STATION 418 + 63.86 - STATION 421 + 63.36
300 (.04887) 15 C.Y.
STATION 421 + 63.36 - STATION 423 + 13.36
150 (.04887 + .08128)/2 10 C.Y.
STATION 423 + 13.36 - STATION 429 + 54
640.64 (.08128) 52 C.Y.
STATION 429 + 54 - STATION 430 + 54
100 (.08128 + .05350)/2 7 C.Y.

TOTAL STATE
RAMP "C" ITEM SPECIAL
DRAINAGE CONNECTOR NO. 8 AGG. 84 C.Y.

RAMP "D" (STATE)
STATION 438 + 02.38 - STATION 440 + 64.15
261.77 (.04887) 13 C.Y.
STATION 440 + 64.15 - STATION 442 + 64.15
200 (.04887 + .08128)/2 13 C.Y.
STATION 442 + 64.15 - STATION 445 + 26.58
262.43 (.08128) 21 C.Y.
STATION 445 + 26.58 - STATION 446 + 76.58
150 (.08128 + .05350)/2 10 C.Y.

TOTAL STATE
RAMP "D" ITEM SPECIAL
DRAINAGE CONNECTOR NO. 8 AGG. 57 C.Y.

LINE "A" EAST OF TOLL PLAZA (I. FUNDS)
STATION 454 + 00 - STATION 455 + 25 (LT.)
125 (.04887) 6 C.Y.
STATION 454 + 00 - STATION 454 + 68.26 (RT.)
68.26 (.04887) 3 C.Y.
STATION 454 + 68.26 - STATION 456 + 48.26 (RT.)
180 (.04887 + .05350)/2 9 C.Y.
STATION 456 + 48.26 - STATION 456 + 73.28 (RT.)
25.02 (.05350) 1 C.Y.
STATION 457 + 00 - STATION 462 + 96
596 (.05350) 32 C.Y.
STATION 466 + 80 - STATION 467 + 51.61 (RT.)
71.61 (.04887) 4 C.Y.
STATION 467 + 00 - STATION 467 + 51.61 (LT.)
51.61 (.04887) 3 C.Y.
STATION 467 + 51.61 - STATION 475 + 12
760.39 (.05350) 41 C.Y.
STATION 475 + 12 - STATION 481 + 56.53
644.53 (.10597) 68 C.Y.
STATION 481 + 56.53 - STATION 489 + 32.45
775.92 (.05350) 42 C.Y.
STATION 489 + 32.45 - STATION 492 + 32.45
300 (.04887) 15 C.Y.

TOTAL I. FUNDS
LINE "A"(EAST OF TOLL PLAZA) ITEM SPECIAL
DRAINAGE CONNECTOR NO. 8 AGGREGATE 224 C.Y.

LINE "B" (I. FUNDS)
STATION 465 + 75 - STATION 467 + 50
175 (.04887) 9 C.Y.
STATION 467 + 50 - STATION 471 + 00
350 (.05350) 19 C.Y.
STATION 471 + 00 - STATION 475 + 56.23
456.23 (.06639) 30 C.Y.

TOTAL I. FUNDS
LINE "B" ITEM SPECIAL
DRAINAGE CONNECTOR NO. 8 AGG. 58 C.Y.

RAMP "E" (I. FUNDS)
STATION 458 + 33.24 - STATION 461 + 33.24
300 (.04887) 15 C.Y.
STATION 461 + 33.24 - STATION 462 + 83.24
150 (.04887 + .08128)/2 10 C.Y.
STATION 462 + 83.24 - STATION 467 + 48.95
465.71 (.08128) 38 C.Y.
STATION 467 + 48.95 - STATION 468 + 48.95
100 (.08128 + .05350)/2 7 C.Y.

TOTAL I. FUNDS
RAMP "E" ITEM SPECIAL
DRAINAGE CONNECTOR NO. 8 AGG. 70 C.Y.

RAMP "F" (I. FUNDS)
STATION 476 + 09.93 - STATION 477 + 09.93
100 (.06639 + .09414)/2 8 C.Y.
STATION 477 + 09.93 - STATION 480 + 00
290.07 (.09414) 27 C.Y.
STATION 480 + 00 - STATION 482 + 00
200 (.08128) 16 C.Y.
STATION 482 + 00 - STATION 483 + 52
152 (.09414) 14 C.Y.
STATION 483 + 52 - STATION 484 + 52
100 (.09414 + .06639)/2 8 C.Y.

TOTAL I. FUNDS
RAMP "F" ITEM SPECIAL
DRAINAGE CONNECTOR NO. 8 AGG. 73 C.Y.

ITEM 611
13" REINFORCED CONCRETE APPROACH SLABS

LINE "A" (WEST OF TOLL PLAZA) (STATE)

STATION 438 + 00.34 - STATION 438 + 25.34

STATION 441 + 20.40 - STATION 441 + 45.20
(2) (25) (17) (2) (1/9) 189 SQ. YD.

TOTAL STATE
LINE "A" (WEST OF TOLL PLAZA)ITEM611
13" REINFORCED CONCRETE APPROACH SLABS 189 SQ. YD.

LINE "A" (EAST OF TOLL PLAZA) (I. FUNDS)

STATION 463 + 07.28 - STATION 463 + 32.28

STATION 466 + 63.95 - STATION 466 + 88.95
(2) (25) (17) (2) (1/9) 189 SQ. YD.

TOTAL I. FUNDS
LINE "A"(EAST OF TOLL PLAZA) ITEM 611
13" REINFORCED CONCRETE APPROACH SLABS 189 SQ. YD.

CALCULATED BY BRS 1/67
CHECKED BY J.L.S. 7/67

COMPUTATIONS

COMPUTATIONS

OHIO TURNPIKE

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH.80S-7.01
MAH. 80-2.30

23
384

ITEM 203
SUBGRADE PREPARATION

OHIO TURNPIKE (STATE)
ITEM 451 10" R.P.C.C.P. = 5,697 S.Y.
ITEM 409 BIT. MAT'L 1804/.3 = 6,013 S.Y.
ITEM 611 13" REINF. CONC. APP. SLABS = 67 S.Y.
Deduct for Rock -3422 S.Y.

TOTAL STATE
OHIO TURNPIKE, ITEM 203 = 8,355 S.Y.
SUBGRADE PREPARATION

OHIO TURNPIKE (I. FUNDS)
ITEM 451 10" R.P.C.C.P. = 629 S.Y.
ITEM 409 130/.3 = 433 S.Y.
ITEM 611 13" REINF. CONC. APP. SLABS = 267 S.Y.

TOTAL I. FUNDS
OHIO TURNPIKE, ITEM 203 = 1,326 S.Y.
SUBGRADE PREPARATION

ITEM 301
BITUMINOUS AGGREGATE BASE

FACTOR
NORMAL SECTION 10' SHOULDER
$\frac{10 \times 6}{12 \times 27}$ = 0.1852 C.Y./LIN.FT.

OHIO TURNPIKE (STATE)

LINE "A" DECELERATION LANE
STATION 72 + 00.15 - STATION 80 + 32.90
$832.75 \times 0.1852 - \frac{76.37 \times 2 \times 0.5}{2x27}$ = 153 C.Y.

LINE "B" ACCELERATION LANE
STATION 83 + 59.39 - STATION 95 + 59.39
$1200 \times 0.1852 - \frac{96 \times 2 \times 0.5}{2 \times 27} - \frac{73 \times 1 \times 0.5}{2 \times 27}$ = 220 C.Y.

STATION 95 + 59.39 - STATION 99 + 70
$410.81\frac{(0.1852)}{2} + \frac{(300 \times 4.25) + 110.61(4.25 + 10 - 2)\,0.25}{2 \times 27}$ = 50 C.Y.

RAMP "C" ACCELERATION LANE
STATION 97 + 25 - STATION 101 + 50.15
$425.15\frac{(0.1852)}{2} + \frac{(300 \times 4.25) + 125.15(4.25 + 10 - 3)0.25}{2 \times 27}$ = 52 C.Y.

STATION 101 + 50.15 - STATION 113 + 50.15
$1200 \times 0.1852 - \frac{39.56 \times 0.47 \times 0.5}{2 \times 27} - \frac{96 \times 2 \times 0.5}{2 \times 27}$ = 220 C.Y.

RAMP "D" DECELERATION LANE
STATION 113 + 35.43 - STATION 127 + 97.60
$(1462.17 - 328.94)\,0.1852 - \frac{(160 \times 2.5 + 20 \times 5)0.5}{27}$ = 201 C.Y.

TOTAL STATE
OHIO TURNPIKE, ITEM 301 = 896 C.Y.
BITUMINOUS AGGREGATE BASE

OHIO TURNPIKE (I. FUNDS)

OHIO TURNPIKE @ I. 80S & I. 80

STATION 116+44.0 - STATION 121+36.3 (LT.)
$(492.3-328.94)(8)(0.25)(1/27) - \frac{70 \times 1.5 + 20 \times 3)0.25}{27}$ = 11 CU.YD.

STATION 115 + 89.4 - STATION 120 + 81.8 (RT.)
$\frac{(492.4 - 329.94)(8)(0.25)}{27} - \frac{(70 \times 1.5 + 20 \times 3)0.25}{27}$ = 11 CU.YD.

$\frac{(492.4 - 328.94)(10)(0.25)}{27} - \frac{(25 \times 1)0.25}{27}$ = 15 CU.YD.

TOTAL I. FUNDS
OHIO TURNPIKE, ITEM 301 = 37 CU.YD.
BITUMINOUS AGGREGATE BASE

ITEM 304
AGGREGATE BASE

FACTORS
10' SHOULDER W/UNDERDRAIN
$\frac{3 \times 3}{2 \times 12 \times 27} + \frac{7 \times 4}{12 \times 27}$ = 0.1003 CU.YD./LIN.FT.

OHIO TURNPIKE (STATE)

LINE "A" DECELERATION LANE
STATION 72 + 00.15 - STATION 80 + 32.90

$832.75 \times 0.1003 - \frac{76.37 \times 2 \times 0.33}{2 \times 27}$ = 83 CU.YD.

LINE "B" ACCELERATION LANE
STATION 83 + 59.39 - STATION 95 + 59.39

$1200 \times 0.1003 - \frac{96 \times 2 \times 0.33}{2 \times 27} - \frac{73 \times 1 \times 0.33}{2 \times 27}$ = 119 CU.YD.

STATION 95 + 59.39 - STATION 99 + 70

$\frac{(410.61)(2.58)(7 + 5) + 7 \times 7.42)}{2 \times 12 \times 27} + \frac{(300(4.25/2) + 110.61\ (4.25 + 10 - 2)/2)7}{12 \times 27}$ = 81 CU.YD.

RAMP "C" ACCELERATION LANE
STATION 97 + 25 - STATION 101 + 50.15

$\frac{(425.15)((2.58)(7+5) + 7 \times 7.42) + (300(4.25/2) + 125.15(4.25 + 10-3)/2)7}{2 \times 12 \times 27} + \frac{}{12 \times 27}$ = 83 CU.YD.

STATION 101 + 50.15 - STATION 113 + 50.15

$1200 \times 0.1003 - \frac{34.56 \times 0.47 \times 0.33}{2 \times 27} - \frac{96 \times 2 \times 0.33}{2 \times 27}$ = 119 CU.YD.

RAMP "D" DECELERATION LANE
STATION 113 + 35.43 - STATION 127 + 97.60

$(1462.17 - 328.94)0.1003 - \frac{(160 \times 2.5 + 20 \times 5)0.33}{27}$ = 107 CU.YD.

TOTAL STATE
OHIO TURNPIKE, ITEM 304 = 592 CU.YD.
AGGREGATE BASE

ITEM 310
SUBBASE GRADING "A" OR "B"

OHIO TURNPIKE (STATE)

LINE "A" DECELERATION LANE

STATION 72+00.15 - STATION 78+74.51
$\frac{(674.36)(3+20.66)(1)}{2 \times 27}$ = 295 CU. YD

STATION 78+74.51 - STATION 80+32.90
SEE ITEM 451
$\frac{(359)\ (1)}{3} + \frac{(15853)(3)(1)}{27}$ = 137 CU. YD.

LINE "B" ACCELERATION LANE

STATION 83+59.39 - STATION 95+5939
$\frac{740.61\ (3+18.43)(1)}{2 \times 27} + \frac{459.39\ (18.43+28)(0.5)}{2 \times 27}$ = 491 CU. YD.

RAMP "C" ACCELERATION LANE

STATION 101 + 50.15 - STATION 113 + 50.15
$\frac{1200\ (28+3)(0.5)}{2 \times 27}$ = 344 CU.YD.

RAMP "D" DECELERATION LANE

STATION 113+35.43 = 114+93.82
SEE ITEM 451
$\frac{(359)(0.5)}{3} + \frac{158.53(3)(0.5)}{27}$ = 69 CU. YD.

STATION 114+93.82 - STATION 127+97.60

$\frac{(1303.78 - 328.94)(15)(0.5)}{27} + \frac{216.10\ (5.66)(0.5)}{2 \times 27}$ = 282 CU. YD.

TOTAL STATE
OHIO TURNPIKE ITEM 310 = 1,618 CU.YD.
SUBBASE GRADING "A" OR "B"

OHIO TURNPIKE (I. FUNDS)

OHIO TURNPIKE @ I.80S & I.80

STATION 116+44.0 - STATION 121+36.3 (LT.)

$\frac{(492.3 - 328.94)((24)(0.5)+(8)(\frac{13.25 + 9.25}{2 \times 12}) + (4)(\frac{12.25}{2 \times 12}))}{27}$ = 130 CU.YD.

STATION 115 + 89.4 - STATION 120+81.8 (RT.)

$\frac{(492.3 - 328.94)((24)(6 + 6.75) + (8)(\frac{13.25 + 9.25}{2 \times 12})(\frac{4 \times 12.25}{12}))}{27}$

$+ \frac{(2 + 4)(80)(6.75)}{2 \times 12 \times 27}$ = 198 CU.YD.

TOTAL I. FUNDS
OHIO TURNPIKE ITEM 310 = 328 CU.YD.
SUBBASE GRADING "A" OR "B"

ITEM 310
SUBBASE (REGULAR)

FACTORS
NORMAL SECTION 10' SHOULDER
$\frac{7\ (5+3)}{2x12x27}$ = 0.0864 CU.YD./LIN.FT.

10' SHOULDER W/UNDERDRAIN AND 6" FOR ROCK
$\frac{7\ (11+9)}{2x12x27}$ = 0.2160 CU. FT./LIN.FT.

OHIO TURNPIKE (STATE)

LINE "A" DECELERATION LANE
STATION 72+00.15 - STATION 80+32.90

832.75x0.2160 = 180 CU. YD.

LINE "B" ACCELERATION LANE
STATION 83+59.39 - STATION 95+59.39

740.61x0.2160 +459.39x0.0864 = 200 CU. YD.

STATION 95+59.39 - STATION 99+70

$\frac{(410.61)((3 + 6.75)(7.42) + (6.75 + 8.75)(2.58) - (4.75)(1.42))}{2 \times 12 \times 27}$

$+ \frac{(300 \times 4.25 + 110.61\ (4.25+10-2))(0.25)}{2 \times 27}$ = 79 CU.YD.

RAMP "C" ACCELERATION LANE
STATION 97+25 - STATION 101 + 50.15

$\frac{(425.15)((3+6.75)(7.42) + (6.75 + 8.75)(2.58)-(4.75)(1.42))}{2 \times 12 \times 27}$

$+ \frac{(300 \times 4.25 + 125.15(4.25 + 10-3)(0.25)}{2 \times 27}$ = 82 CU.YD.

STATION 101+50.15 - STATION 113+50.15

1200x0.0864 = 104 CU. YD.

RAMP "D" DECELERATION LANE
STATION 113+35.43 - STATION 127+97.60

$(1462.17 - 328.94)(0.0864) - \frac{(160 \times 2.5 + 20 \times 5)0.25}{27}$ = 93 CU.YD.

TOTAL STATE
OHIO TURNPIKE ITEM 310 = 738 CU.YD.
SUBBASE (REGULAR)

ITEM 409
SEAL COAT BITUMINOUS MATERIAL

OHIO TURNPIKE (STATE)

LINE "A" DECELERATION LANE
STATION 72+00.15 - STATION 80+32.90

$\frac{832.75(10)(0.3)}{9}$ = 278 GAL.

LINE "B" ACCELERATION LANE
STATION 83+59.39 - STATION 95+59.39

$\frac{1200(10)(0.3)}{9} - \frac{73x1(0.3)}{2x9}$ = 399 GAL.

STATION 97+59.39 - STATION 99+70

$\frac{((300(10+14.25)+110.61(14.25+20-2))(.3)}{2 \times 9}$ = 181 GAL.

RAMP "C" ACCELERATION LANE
STATION 97+25 - STATION 101+50.15

$\frac{((300)(10+14.25) + 125.15(14.25+20-3))(.3)}{2 \times 9}$ = 186 GAL.

STATION 101+50.15 - STATION 113+50.15

$\frac{1200x10x0.3}{9}$ = 400 GAL.

RAMP "D" DECELERATION LANE

STATION 113+35.43 - STATION 127+97.60

$\frac{(1462.17-328.94)(10)(0.3)}{9} - \frac{(160x2.5+20x5)0.3}{9}$ = 360 GAL.

TOTAL STATE
OHIO TURNPIKE ITEM 409 = 1804 GAL.
SEAL COAT BITUMINOUS MATERIAL

OHIO TURNPIKE (I. FUNDS)

OHIO TURNPIKE @ I.80S & I. 80

STATION 116+44.0 - STATION 121+36.3(LT.)

$\frac{(492.3-328.94)(8)(0.30)}{9} - \frac{(70x1.5+20x3)\ 0.3}{9}$ = 38 GAL.

STATION 115+89.4 - STATION 120+81.8(RT.)

$\frac{(492.4-328.94)(8)(0.3)}{9} - \frac{(70x1.5+20x3)0.3}{9}$ = 38 GAL.

$\frac{(492.4-328.94)(10)(0.3)}{9} - \frac{(25x1\ \ )0.3}{9}$ = 54 GAL.

TOTAL I. FUNDS
OHIO TURNPIKE ITEM 409 = 130 GAL.
SEAL COAT BITUMINOUS MATERIAL

CALCULATED BY B.R.S. 1/67
CHECKED BY J.L.S. 7/67

COMPUTATIONS

COMPUTATIONS
OHIO TURNPIKE (CONTINUED)

FED. RD.	STATE	PROJECT	
2	OHIO		

24
384

MAH.80S-7.01
MAH. 80 - 2.30

ITEM 409
SEAL COAT COVER AGGREGATE NO.8

OHIO TURNPIKE (STATE)

LINE "A" DECELERATION LANE
STATION 72+00.15 - STATION 80+32.90

$\frac{832.75(10)\ 0.008}{9}$ = 7 CU. YD.

LINE "B" ACCELERATION LANE
STATION 83+59.39 - STATION 95+59.39

$\frac{1200\ (10)\ 0.008}{9} - \frac{73x1x0.008}{2 \times 9}$ = 11 CU. YD.

STATION 95+59.39 - STATION 99+70

$\frac{(300\ (10+14.25)+110.61(14.25+20-2)\ 0.008}{2 \times 9}$ = 5 CU.YD.

RAMP "C" ACCELERATION LANE
STATION 97+25 - STATION 101+50.15

$\frac{(300\ (10+14.25) + 125.15\ (14.25+20-3)\ )\ 0.008}{2 \times 9}$ = 5 CU.YD.

STATION 101+50.15 - STATION 113+50.15

$\frac{1200x10x0.008}{9}$ = 11 CU. YD.

RAMP "D" DECELERATION LANE
STATION 113+35.43 - STATION 127+97.60

$\frac{(1462.17 - 328.94)\ (10)(0.008) - (160x2.5+20x5)\ 0.008}{9}$ = 10 CU.YD.

TOTAL STATE
OHIO TURNPIKE ITEM 409 = 49 CU.YD.
SEAL COAT COVER AGGRE. NO. 8

OHIO TURNPIKE (I. FUNDS)

OHIO TURNPIKE @ I. 80S & I 80
STATION 116+44.0 - STATION 121+36.3 (LT.)

$\frac{(492.3-328.94((8)(0.008) - (70x1.5+20x3)\ 0.008}{9}$ = 1 CU.YD.

STATION 115+89.4 - STATION 120+81.8 (RT.)

$\frac{(492.4-328.94)(8)(0.008) - (70x1.5+20x3)\ 0.008}{9}$ = 1 CU.YD.

$\frac{(492.4-328.94)(10)(0.008) - (25x1)\ 0.008}{9}$ = 1 CU.YD.

TOTAL I. FUNDS
OHIO TURNPIKE ITEM 409 = 3 CU.YD.
SEAL COAT COVER AGGREGATE NO. 8

ITEM 451
10" REINFORCED PORTLAND CEMENT PAVEMENT

OHIO TURNPIKE (STATE)
LINE "A" DECELERATION LANE

STATION 72+00.15 TO STATION 78+ 74.51
$\frac{(674.36)(17.66)}{9 \times 2} + \frac{(76.37)(2)}{9 \times 2}$ = 670 SQ. YD.

STATION 78+74.51 TO STATION 80+32.90
$\frac{(158.39)(17.66 + 24)}{9 \times 2} - \frac{(5729.58)^2\ (.0276687I - .02766479)}{2 \times 9}$ = 359 SQ. YD.

LINE "B" ACCELERATION LANE

STATION 83+59.39 TO STATION 95+59.39
$\frac{(1200)(0 + 25)}{9 \times 2} + \frac{(96)\ (2)}{9x2}$ = 1677 SQ. YD.

RAMP "C" ACCELERATION LANE

STATION 101+50.15 TO STATION 113+50.15
$\frac{(1200)(25)}{9 \times 2} + \frac{96(2)}{9x2}$ = 1677 SQ. YD.

RAMP "D" DECELERATION LANE

STATION 113+35.43 TO STATION 114+93.82
$\frac{(158.39)(24 + 17.66)}{9 \times 2} - \frac{(5729.58)^2\ (.02766871 - .02766479)}{2 \times 9}$ = 359 SQ. YD.

STATION 114+93.82 TO STATION 127+97.60
$\frac{(1303.78 - 378.94)12}{9} - \frac{533.35x12}{9x2} + \frac{216.10\ (5.66)}{9x2} + \frac{88.91(2)}{9x2}$ = 955 SQ.YD.

TOTAL STATE
OHIO TURNPIKE ITEM 451 = 5697 SQ.YD.
10" R.P.C.C.P.

OHIO TURNPIKE (I. FUND)
O.T.@ I.-80 & 180S

STATION 116+44.0 - STATION 121+36.3 (LT.)
$\frac{(492.3 - 378.94)(24)}{9}$ = 302 SQ. YD.

STATION 115+89.4 - STATION 120+81.8 (RT.)
$\frac{(492.4 - 378.94(\ (24) + (2+3.7)\ 76.8}{9 \qquad 2 \times 9}$ = 327 SQ.YD.

TOTAL I. FUNDS
OHIO TURNPIKE ITEM 451 = 629 SQ.YD.
10" R.P.C.C.P.

SPECIAL DRAINAGE CONNECTOR
NO. 8 AGGREGATE

OHIO TURNPIKE (STATE)

LINE "A" DECELERATION LANE
STATION 72+00.15 - STATION 80+32.90

832.75 (0.08745) = 73 CU.YD.

LINE "B" ACCELERATION LANE
STATION 83+59.39 - STATION 91+00

740.61 (.08745) = 65 CU.YD.

STATION 91+00 - STATION 99+70

$459.39\ (.04887) + \frac{(410.61)(6.75 + 8.75)(2.58)-4.75x1.42)}{2 \times 12 \times 27}$ = 44 CU.YD.

RAMP "C" ACCELERATION LANE
STATION 97+25 - STATION 113+50.15

$1200\ (.04887) + \frac{(425.15)((6.75+8.75)(2.58) - 4.75 \times 1.42)}{2 \times 12 \times 27}$ = 80 CU.YD.

RAMP "D" DECELERATION LANE
STATION 113+35.43 - STATION 117+00

364.57 (.04887) = 18 CU.YD.

STATION 120+80 - STATION 127+97.60

717.6 (.04887) = 35 CU.YD.

TOTAL STATE
OHIO TURNPIKE SPECIAL DRAINAGE CONNECTOR
NO. 8 AGGREGATE = 315 CU.YD.

ITEM 611
13" REINFORCED CONCRETE APPROACH SLABS

OHIO TURNPIKE (I-FUNDS)

RAMP "D" DECELERATION LANE
STATION 116+70.97 TO STATION 116+95.97

STATION 120+24.91 TO STATION 120+49.91
(25)(24)(2)(1/9)(2) = 267 SQ. YD.

TOTAL I FUNDS
OHIO TURNPIKE ITEM 611 = 267 SQ. YD.
13" REINFORCED CONCRETE APPROACH SLABS

OHIO TURNPIKE (STATE)

OHIO TURNPIKE @ I. 80 & I. 80S
STATION 116+70.97 TO STATION 116+95.97

STATION 120+24.91 TO STATION 120+49.91
(25)(12)(2)(1/9) = 67 SQ. YD.

TOTAL(STATE)
OHIO TURNPIKE ITEM 611 = 67 SQ. YD.
13" REINFORCED CONCRETE APPROACH SLABS

ITEM 615
CLASS A TEMPORARY PAVEMENT
AS PER PLAN

OHIO TURNPIKE (I FUNDS)

TEMP. ROAD (E.B.L.)

STA 10 + 00 TO STA 32 + 75
WIDTH = 24'
(2275') (24') x 1/9 6,067 S.Y.

DECEL. LANE

(600') (15') x 1/2 x 1/9 500 S.Y.

TEMP. RAMP STA 0 + 0 TO STA 2 +02.28

PLANIMETER AREA = 4,100 ft^2
(4100) x 1/9 456 S.Y.

TEMP. RAMP STA 2 + 02.28 TO STA 4 + 80.69

WIDTH = 16'
(16') (278.41') x 1/9 495 S.Y.

TEMP. RAMP STA 4 + 80.69 TO STA 5 + 10

TAPER - AVG. WIDTH = 15.5'
(15.5') (29.31') x 1/9 50 S.Y.

TEMP. ROAD (W.B.L.)

STA 8 + 75 TO STA 33 + 75
WIDTH = 24'
(2500') (24') x 1/9 6,667 S.Y.

ACCEL. LANE

(612') (15.3') x 1/2 x 1/9 520 S.Y.

ACCEL. LANE TO EXIST. NOSE

O.T. STA 129 + 37.54 TO STA 129 + 79.43
AVG. WIDTH = 15.65'
(15.65') (41.89) x 1/9 73 S.Y.

RAMP NOSE TO END CONSTRUCTION

STA 32 + 91.89 TO STA 33 + 75
WIDTH = 12'
(12') (83.11) x 1/9 111 S.Y.

TOTAL I. FUNDS
OHIO TURNPIKE ITEM 615
CLASS A TEMPORARY PAVEMENT,
AS PER PLAN 14,939 S.Y.

ITEM 615
CLASS A, TEMPORARY PAVEMENT

OHIO TURNPIKE (STATE)

TEMP. CROSSOVER #1
PLANIMETER AREA = 6,850 FT^2
6,850 x 1/9 761 S.Y.

TEMP. CROSSOVER #2
PLANIMETER AREA = 6,375 FT^2
6,375 x 1/9 708 S.Y.

TOTAL STATE
OHIO TURNPIKE ITEM 615 1,469 S.Y.
CLASS "A", TEMPORARY PAVEMENT

OHIO TURNPIKE (I. FUNDS)

TEMP RAMP CONNECTION (E.B.L.)
WIDTH = 14'

$\frac{((54 \times 14) + (111 \times 14) + 675)) \times 1/9}{(\quad 2 \quad)}$ 290 S.Y.

TEMP. RAMP CONNECTION (W.B.L.)
WIDTH = 14'

$\frac{((14)\ (34 + 38))\ \times\ 1/9}{2}$ 56 S.Y.

TOTAL I. FUNDS
OHIO TURNPIKE ITEM 615 346 S.Y.
CLASS "A" TEMPORARY PAVEMENT

CALCULATED BY B.R.S. 1/67
CHECKED BY J.L.S. 7/67

COMPUTATIONS

COMPUTATIONS

FED. RD.	STATE	PROJECT	
2	OHIO		

25
384

MAH.80S-7.01
MAH. 80-2.30

LIPKEY RD.

ITEM 203
SUBGRADE PREPARATION

LIPKEY ROAD (I. FUNDS)
STATION 45 + 15 - STATION 54 + 50
(935 x 20)/9

TOTAL I. FUNDS
LIPKEY ROAD ITEM 203
SUBGRADE PREPARATION 2,078 SQ. YD.

ITEM 304
AGGREGATE BASE

LIPKEY ROAD (I. FUNDS)
STATION 45 + 15 - STATION 54 + 50
(935 x 19 x 6/12)/27 329 CU. YD.

DRIVEWAY LT. STATION 52 + 00
STATION 0 + 12 - STATION 1 + 50
(138) (13) (.42) (1/27) 28 CU. YD.

$\frac{2(20 \times 20)}{2}$ (.42)(1/27) 6 CU. YD.

$(24 + \frac{6 + 1}{2} \times 24)$ (.42)(1/27) 2 CU. YD.

TOTAL I. FUNDS
LIPKEY ROAD ITEM 304
AGG. BASE 365 CU. YD.

ITEM 310
SUBBASE (REGULAR GRADING)

LIPKEY ROAD (I. FUNDS)
STATION 45 + 15 - STATION 54 + 50
(935 x 20 x 6/12)/27

TOTAL I. FUNDS
LIPKEY ROAD ITEM 310
SUBBASE (REGULAR GRADING) 346 CU. YD.

ITEM 402
ASPHALT CONCRETE

LIPKEY ROAD (I. FUNDS)
STATION 45 + 15 - STATION 54 + 50
(935 x 18 x 1.75/12)/27

TOTAL I. FUNDS
LIPKEY ROAD ITEM 402
ASPHALT CONCRETE 91 CU. YD.

ITEM 404
ASPHALT CONCRETE

LIPKEY ROAD (I. FUNDS)
STATION 45 + 15 - STATION 54 + 50
(935 x 18 x 1.25/12)/27 65 CU. YD.

DRIVEWAY LT. STATION 52 + 00
STATION 0 + 12 - STATION 1 + 50
(138)(12)(.167)(1/27) 10 CU. YD.

$\frac{(2)(20 \times 20)}{2}$ (.167)(1/27) 2 CU. YD.

$(24 + \frac{6 + 1}{2} \times 24)(1.67)(1/27)$ 1 CU. YD.

TOTAL I. FUNDS
LIPKEY ROAD ITEM 404
ASPHALT CONCRETE (70-85) 78 CU. YD.

ITEM 408
BIT. PRIME COAT

LIPKEY ROAD (I. FUNDS)
STATION 45 + 15 - STATION 54 + 50
(935 x 18 x.4)/9 748 GAL.

DRIVEWAY LT. STATION 52 +00
STATION 0 + 12 - STATION 1 + 50
(138) (12) (.40) (1/9) 74 GAL.

(2) (20 x 20) (.40) (1/9) 18 GAL.

$(24 + \frac{6 + 1}{2} \times 24)$ (.40) (1/9) 5 GAL.

TOTAL I. FUNDS
LIPKEY ROAD ITEM 408
BIT. PRIME COAT 845 GAL.

SILICA RD.

ITEM 203
SUBGRADE PREPARATION

SILICA ROAD (STATE)
STATION 33 + 38.95 - STATION 33 + 63.95
ITEM 611 REINF. CONC. APP. SLABS 67 S. Y.

TOTAL STATE
SILICA ROAD ITEM 203
SUBGRADE PREPARATION 67 S. Y.

ITEM 611
13" REINFORCED CONCRETE APPROACH SLABS

SILICA ROAD(STATE)

STATION 33 + 38.95 - STATION 33 + 63.95
25(24)/9 67 S. Y.

TOTAL STATE
SILICA ROAD ITEM 611
REINF. CONC. APP. SLABS 67 S. Y.

ITEM 310
SUBBASE (REGULAR GRADING)

SILICA ROAD (STATE)
STATION 33 + 35 - STATION 33 + 63.95
$\frac{(3.95)(14)(.50)}{27}$

$\frac{(25)(24)(.50)}{27}$ 12 CU. YD.

TOTAL STATE
SILICA ROAD ITEM 310
SUBBASE (REGULAR GRADING) 12 CU. YD.

ITEM 304
AGGREGATE BASE

SILICA ROAD (STATE)

RELOCATED DRIVEWAY
$\frac{117 \times 12 \times 6}{12 \times 27}$ 26 C. Y.

TOTAL STATE
SILICA ROAD ITEM 304
AGGREGATE BASE 26 CU. YD.

ITEM 404
ASPHALT CONCRETE (70-85)

SILICA ROAD (STATE)
STATION 33 + 35 - STATION 33 + 38.95
$\frac{3.95 \times 14 \times 1.5}{12 \times 27}$ 1 CU. YD.

TOTAL STATE
SILICA ROAD ITEM 404
ASPHALT CONCRETE 1 CU. YD.

ITEM 408
BITUMINOUS PRIME COAT

SILICA ROAD (STATE)
STATION 33 + 35 - STATION 33 + 38.95
$\frac{3.95 \times 14 \times .4}{9}$ 3 GAL.

TOTAL STATE
SILICA ROAD ITEM 408
BIT. PRIME COAT 3 GAL.

FIRE TRAILS

ITEM 304
AGGREGATE BASE AS PER PLAN

FIRE TRAILS (I. FUNDS)
STATION 45 + 55 - STATION 54 + 50
895(17)(0.5)/27 282 C. Y.
STATION 499 + 00 - STATION 501 + 00 (LT.)
200 (16)(0.5)/27 59 C. Y.
STATION 518 + 25 - STATION 520 + 25 (LT.)
200 (16)(0.5)/27 59 C. Y.
STATION 496 + 50 - STATION 497 + 50
100(16)(0.5)/27 30 C. Y.
STATION 502 + 00 - STATION 506 + 50
450 (16)(0.5)/27 133 C. Y.

TOTAL I. FUNDS
FIRE TRAILS ITEM 304
AGG. BASE AS PER PLAN 563 C. Y.

CALCULATED BY BRS 1/67
CHECKED BY JLS 7/67

COMPUTATIONS

FORM DDA-8

RECAPITULATION

FED. RD.	STATE	PROJECT	
2	OHIO		

26
384

MAH 805-7.01
MAH 80-2.30

ITEM 203 EARTHWORK ANALYSIS			
LOCATION	EMBANKMENT	EXCAVATION NOT INCL. EMBANKMENT	GRANULAR BORROW
I. G. FUNDS			
MAINLINE			
STATION 370+07.44-STATION 375+00	88,396	2,575 C.Y.	267 C.Y.
STATION 375+00-STATION 385+00	240,712	3,921	8,795
STATION 385+00-STATION 388+00	21,251	908	--
CHANNEL RELOCATION MORRISON RUN	--	7,627	--
TOTAL I.G. FUNDS	350,359	15,031	9,062
I. FUNDS			
MAINLINE			
STATION 388+00-STATION 395+00	81,775	1,399	--
STATION 395+00-STATION 405+00	180,803	2,336	--
STATION 405+00-STATION 415+00	4,491	80,420	--
STATION 415+00-STATION 425+00	--	157,519	--
STATION 425+00-STATION 435+00	--	132,644	--
STATION 435+00-STATION 445+00	--	146,926	--
STATION 445+00-STATION 455+00	--	194,521	--
STATION 455+00-STATION 465+00	--	120,830	--
STATION 465+00-STATION 475+00	94	99,373	--
STATION 475+00-STATION 485+00	566	127,206	--
STATION 485+00-STATION 495+00	27,823	3,467	--
STATION 495+00-STATION 505+00	23,373	9,232	75
STATION 505+00-STATION 515+00	73,117	9,472	20,008
STATION 515+00-STATION 521+05.75	6,707	5,644	--
LINE "A"			
STATION 454+00-STATION 462+00	52,419	3,725	--
STATION 462+00-STATION 472+50	41,326	5,867	--
STATION 472+50-STATION 483+00	2,243	21,332	--
STATION 483+00-STATION 492+32.45	15,028	3,912	--
LINE "B_1"	6,020	39,864	--
RAMP "E"	2,879	7,083	--
RAMP "F"	790	20,748	--
LIPKEY ROAD			
STATION 45+15-STATION 51+50	51	26,837	--
STATION 51+50-STATION 54+50	10	8,040	--
CHANNEL RELOCATION I-80 TO LINE "A"	1,986	1,563	--
CHANNEL RELOCATION SOUTH I-80	97	2,353	--
CHANNEL RELOCATION CULVERT C-1	0	359	--
CHANNEL RELOCATION CULVERT C-2	0	687	--
S.R. 45 CULVERT C-16		6	--
TOTAL (I. FUNDS)	521,598	1,233,365	20,083
STATE			
LINE "A"			
STATION 411+67.49-STATION 421+00	691	27,382	--
STATION 421+00-STATION 431+50	6,541	18,021	--
STATION 431+50-STATION 442+00	69,112	1,238	--
STATION 442+00-STATION 452+00	41,561	6,376	--
STATION 452+00-STATION 454+00		0	--
SILICA ROAD	8	13	--
LINE "B"	26,533	1,458	--
RAMP "C"	4,773	1,620	--
RAMP "D"	7,016	839	--
OHIO TURNPIKE			
STATION 70+00-STATION 80+00	1,511	1,675	--
STATION 80+00-STATION 90+00	295	427	--
STATION 90+00-STATION 100+00	621	602	--
STATION 100+00-STATION 110+00	3,147	680	--
STATION 110+00-STATION 120+00	1,425	699	--
STATION 120+00-STATION 130+00	903	472	--
CHANNEL RELOCATION O. T. TO LINE "A"	1,421	747	--
TOTAL O. T. & STATE	173,483	62,249	--
100% OHIO TURNPIKE			
LINE "A"			
STATION 449+00-STATION 452+00	7,503	120	--
STATION 452+00-STATION 454+00	7,127	91	--
TOTAL (100% OHIO TURNPIKE)	14,630	211	--
SUMMARY EARTHWORK			
TOTAL(I.G. FUNDS)	350,359	15,031	9,062
TOTAL (I. FUNDS)	521,598	1,233,365	20,083
TOTAL(STATE)	173,483	62,249	--
TOTAL (100% O.T.)	14,630	211	--
GRAND TOTAL	1,060,070	1,310,856	29,145

ROADWAY AND PAVEMENT									
LOCATION	ITEM 203 SUBGRADE PREPARA. S.Y.	ITEM 301 BIT. AGG. BASE C.Y.	ITEM 304 AGG. BASE C.Y.	ITEM 304 AGG. BASE AS PER PLAN C.Y.	ITEM 310 SUBBASE GRADING "A" OR "B" C.Y.	ITEM 310 SUBBASE GRADING REGULAR C.Y.	ITEM 402 ASPHALT CONCRETE C.Y.	ITEM 404 ASPHALT CONCRETE C.Y.
I.G. FUNDS MAINLINE	13,268	407	926		1,692	437		
I.G. FUNDS TOTAL	13,268	407	926		1,692	437		
I. FUNDS MAINLINE	117,336	3,710	7,501		17,849	4,343		
LINE "A"	16,172	692	408		2,417	353		
LINE "B_1"	3,150	205	128		524	57		
RAMP "E"	2,635	128	57		400	25		
RAMP "F"	2,142	98	37		440	8		
OHIO TURNPIKE	1,326	37			328			
LIPKEY ROAD	2,078		365			346	91	78
FIRE TRAILS				563				
I. FUNDS TOTAL	144,839	4,870	8,496	563	21,958	5,132	91	78
STATE								
LINE "A"	15,733	772	461		2,583	419		
LINE "B"	3,608	234	144		509	68		
RAMP "C"	3,099	155	71		465	34		
RAMP "D"	2,548	166	82		372	35		
OHIO TURNPIKE	11,777	896	592		1,618	738		
SILICA ROAD	67		26			12		1
STATE TOTALS	36,765	2,223	1,376		5,547	1,306		1

ROADWAY AND PAVEMENT									
LOCATION	ITEM 408 BIT. PRIME COAT GAL.	ITEM 409 SEAL COAT BIT. MAT'L AS PER PLAN GAL.	ITEM 409 SEAL COAT COVER AGG. NO8 C.Y.		ITEM 451 10" REINF. PORT. CEM. CONC. PAV. S.Y.	ITEM SPECIAL DRAINAGE CONNECTOR NO. 8 AGG. C.Y.	ITEM 611 13" REINF. CONC. APP SLABS S.Y.	ITEM 615 CLASS A TEMP. PAV. AS PER PLAN S.Y.	ITEM 615 CLASS A TEMP. PAV. S.Y.
I.G. FUNDS MAINLINE		1,466	39		8,114	161	267		
I.G. FUNDS TOTAL		1,466	39		8,114	161	267		
I. FUNDS MAINLINE		12,333	333		75,593	1,454	633		
LINE "A"		1,248	33		11,101	224	189		
LINE "B_1"		369	10		1,886	58			
RAMP "E"		230	6		1,795	70			
RAMP "F"		176	5		1,516	73			
OHIO TURNPIKE		130	3		629		267	14,939	346
LIPKEY ROAD	845								
I. FUNDS TOTALS	845	14,486	390		92,520	1,879	1,089	14,939	346
STATE									
LINE "A"		1,393	37		10,340	238	189		
LINE "B"		421	11		2,130	62			
RAMP "C"		279	7		2,111	84			
RAMP "D"		299	8		1,533	57			
OHIO TURNPIKE		1,804	49		5,697	315	67		1,469
SILICA ROAD	3						67		
STATE TOTALS	3	4,196	112		21,811	756	323		1,469

ITEM 659				
LOCATION	Seeding & Mulching Sq. Yd.	660 Sodding Sq. Yd.	Commercial Fertilizer (12-12-12) Tons Seeding & Sodding X0.00009 Ton/SY	Agriculture Liming Tons Seeding & Sodding X0.00045 Ton/SY
STA 370 + 07.44 - STA 388 + 00	44,529	253	4.02 Tons	20.10 Tons
TOTAL I.G. FUNDS	44,529	253	4.02 Tons	20.10 Tons
STA 388 + 00 - STA 521 + 05.75	295,332	139	26.58 Tons	132.90 Tons
LINE "A" (EAST OF TOLL PLAZA)	50,189	94	4.52	22.59
LINE "B_1"	9,234		.83	4.16
RAMP "E"	4,448	8	.40	2.00
RAMP "F"	6,857		.62	3.09
LIPKEY ROAD	9,245		.83	4.16
TOTAL I. FUNDS	375,305	241	33.78 Tons	168.90 Tons
LINE "A" (WEST OF TOLL PLAZA)	64,882	197	5.84 Tons	29.19 Tons
LINE "B"	13,661		1.23	6.15
RAMP "C"	12,281		1.11	5.53
RAMP "D"	14,416		1.30	6.49
TOTAL STATE	105,240	197	9.44 Tons	47.36 Tons

ITEM 607 SUMMARY R/W FENCE

WOVEN WIRE FENCE, TYPE 47	4,043 L.F. (I.G.)
WOVEN WIRE FENCE, TYPE 47	21,315 L.F. (I.)
WOVEN WIRE FENCE, TYPE 47	4,518 L.F. (STATE)
TOTAL	29,876 L.F.
CHAIN LINK FENCE, TYPE CL, AS PER PLAN	6,482 L.F. (I.)

FOR LOCATION OF R/W FENCE SEE RIGHT-OF-WAY PLANS.

CALCULATED BY BRS 1/67
CHECKED BY J.L.S. 7/67

RECAPITULATION

FORM DDA-S

QUANTITY SUMMARY

ROADWAY

FED.RD.	STATE	PROJECT	
2	OHIO		

27
384

MAH.-80S-7.01
MAH.-80-2.30

I-G FUNDS — SHEET NUMBERS

ITEM	10	11	26	36	37	38	TOTAL I-G FUNDS QUANTITY
201	LUMP						LUMP
202							—
							—
202							—
202							—
202							—
203			350359				350,359
203			15031				15,031
203			9062				9,062
203			13268				13,268
203		7					7
410							—
410							—
604	3						3
604							—
606							—
606				642	2000	600	3,242
606				80	70		150
606							—
607			4043				4,043
607							—
606							
606							
615							—
615							—
615							—
615							
616		50					50
616		1					1
656							—
SPECIAL							—
SPECIAL							—
SPECIAL							—
SPECIAL							—

I-FUNDS — SHEET NUMBERS

ITEM	10	11	13	14	26	38	39	40	41	44	45	46
201	LUMP											
202									LUMP			
202												
202												
202												
203					521,598							
203					1,233,365							
203					29,083							
203					83,929							
203		41										
410			356									
410			50									
604	17											
604	2											
606												
606						1400	1955	318.5		224	326	737.5
606							150	150				
606												
607					21,315							
607					6,482							
606												
606												
615					346							
615					14939							
615				LUMP								
615			LUMP									
616		400										
616		8	6									
656												
SPECIAL												
SPECIAL									1			
SPECIAL									1			
SPECIAL	LUMP											

SUB TOTAL I-FUNDS BID — CODE-7221

ITEM	QUANTITY	UNIT	DESCRIPTION
201	LUMP	LUMP	CLEARING & GRUBBING
202	LUMP	LUMP	PARCEL No. 4WL, Removal of one 1-story tile block building, one frame shed, one frame privy
202	—	LIN. FT.	GUARD RAIL REMOVED FOR STORAGE
202	—	LIN. FT.	GUARD RAIL REMOVED FOR REUSE
202	—	SQ.YDS.	EXIST. PAVEMENT REMOVED & DISPOSED OF
203	521,598	CU.YDS.	EMBANKMENT
203	1,233,365	CU.YDS.	EXCAVATION, NOT INCLUDING EMBANKMENT CONSTRUCTION
203	20,083	CU.YDS.	BORROW USING GRANULAR MATERIAL, AS PER PLAN As Per Plan
203	83,929	SQ.YDS.	SUBGRADE PREPARATION
203	41	HOURS	PROOF ROLLING
410	356	CU.YDS.	TRAFFIC COMPACTED SURFACE, TYPE A OR B
410	50	CU.YDS.	TRAFFIC COMPACTED SURFACE, TYPE C
604	17	EACH	Standard Centerline Reference Monument
604	2	EACH	Standard Monument Assembly
606	—	LIN. FT.	GUARD RAIL TYPE 4, USING STEEL POSTS
606	4,961.0	LIN. FT.	GUARD RAIL TYPE 4, Modified as per plan
606	300	LIN. FT.	GUARD RAIL TYPE 4, BARRIER DESIGN, Modified as per plan
606	—	LIN. FT.	GUARD RAIL, REBUILT USING STEEL POSTS
607	21,315	LIN. FT.	FENCE, TYPE 47
607	6,482	LIN. FT.	FENCE, TYPE CL, AS PER PLAN
606	—	LIN. FT.	GUARD RAIL TYPE 4, BARRIER, DESIGN USING STEEL POSTS
606	—	LIN. FT.	GUARD RAIL, REBUILT
615	346	SQ.YDS.	CLASS A TEMPORARY PAVEMENT
615	14939	SQ.YDS.	CLASS A TEMPORARY PAVEMENT, AS PER PLAN
615	LUMP	LUMP	TEMPORARY ROADS (OHIO TURNPIKE)
615	LUMP	LUMP	TEMPORARY ROADS (LIPKEY ROAD)
616	400	M-GALS.	WATER
616	14	TONS	CALCIUM CHLORIDE
656	—	1000 Sq. Ft.	ROADSIDE CLEANUP
SPECIAL	—	EACH	DRILLED WELL ABANDONED
SPECIAL	1	EACH	CLEANING & DISPOSING OF EXISTING SEPTIC TANK
SPECIAL	1	EACH	CLEANING OF PRIVY VAULT
SPECIAL	LUMP	LUMP	GUARDING & PROTECTING M.V.S.D.

SUB - SUMMARY ~ ROADWAY

EROSION CONTROL

I-G FUNDS — SHEET NUMBERS

	26	36	37	38	214	TOTAL I-G FUNDS QUANTITY
601		5	1	1	908	915
601						—
601						—
601						—
659	44529					44,529
659	20.10					20.10
659	4.02					4.02
660						—
660		253				253
667			125	98		223

I-FUNDS — SHEET NUMBERS

	11	26	38	39	42	44	46	48	49	50	51	107	108	109
601	50			42	7	10		50		131	276	3	6	6
601									33	838	283			
601														
601														
659		375305												
659		168.9												
659		33.78												
660														
660				96					43			58	9	
667			27				125	125		625	163	66	1352	

SUB TOTAL I-FUNDS BID — CODE - Y005

ITEM	QUANTITY	UNIT	DESCRIPTION
601	581	CU.YDS.	DUMPED ROCK CHANNEL PROTECTION
601	1154	CU.YDS.	DUMPED ROCK FILL, TYPE A
601	—	SQ.YDS.	RIPRAP
601	—	SQ.YDS.	RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN
659	375,305	SQ.YDS.	SEEDING & MULCHING
659	168.90	TONS	AGRICULTURAL LIMING
659	33.78	TONS	COMMERCIAL FERTILIZER (12-12-12)
660	—	SQ.YDS.	SODDING
660	206	SQ.YDS.	SODDING FOR SPECIAL BERM & SLOPE PROT., AS PER PLAN
667	2,483	SQ.YDS.	JUTE MATTING

SUB - SUMMARY ~ EROSION CONTROL

QUANTITY SUMMARY

ROADWAY

FED.RD.	STATE	PROJECT	
2	OHIO		

28
384

MAH.-80S-7.01
MAH.-80 -2.30

I-FUNDS

ITEM	SUB TOTAL I FUNDS SH'T. 27	SHEET NUMBERS 48	49	50	51	101	106	107	109	111	114	192	193	205	207	230	259
201	LUMP																
202	LUMP																
202	—	LUMP															
202	—														77		
202	—											2044	619				
203	521,598																
203	1,233,365																
203	20083																
203	83,929																
203	41																
410	356																
410	50																875
604	17																
604	2																
606	—											250	362.5				
606	4,961.0	1085.5	1812	1188.5	887.5		1038	387.5	727.45	407	1675			725			
606	300		150	150		150											
606	—																
607	21,315																
607	6,482																
606	—											100	100				
606	—														77		
615	346																
615	14,939																
615	LUMP																
615	LUMP																
616	400																
616	14																
656	—					298											
SPECIAL	—								2								
SPECIAL	1																
SPECIAL	1		1														
SPECIAL	LUMP																

100% O.T. FUNDS

TOTAL I FUNDS QUANTITY	SHEET NUMBERS 10	26
LUMP	LUMP	
LUMP		
LUMP		
77		
2663		
521,598		14630
1,233,365		211
20083		
83,929		
41		
356		
50		
17		
2		
612.5		
13,586		
750		
—		
21,315		
6,482		
200		
77		
346		
14,939		
LUMP		
LUMP		
400		
14		
298		
2		
1		
2		
LUMP		

100% O.T. FUNDS TOTAL ITEM	TOTAL QUANTITY	UNIT	TYPE CODE-7221 DESCRIPTION
201	LUMP	LUMP	CLEARING & GRUBBING
202	—	LUMP	PARCEL No 4WL, Removal of one 1-story tile block building, one frame shed, one frame privy
202	—	LUMP	PARCEL No 16WL, Removal of one 1½-story frame residence, 1 frame barn, 2 frame sheds, 1 tile silo, 1-car fr. garage, 1 fr. privy, 1 fr. corn crib, 1 frame chicken coop
202	—	LIN.FT.	GUARD RAIL REMOVED FOR STORAGE
202	—	LIN.FT.	GUARD RAIL REMOVED FOR REUSE
202	—	SQ.YDS.	EXIST. PAVEMENT REMOVED & DISPOSED OF
203	14,630	CU.YDS.	EMBANKMENT
203	211	CU.YDS.	EXCAVATION, NOT INCLUDING EMBANKMENT CONSTRUCTION
203	—	CU.YDS.	BORROW USING GRANULAR MATERIAL, AS PER PLAN — As Per Plan
203	—	SQ.YDS.	SUBGRADE PREPARATION
203	—	HOURS	PROOF ROLLING
410	—	CU.YDS.	TRAFFIC COMPACTED SURFACE, TYPE A OR B
410	—	CU.YDS.	TRAFFIC COMPACTED SURFACE, TYPE C
604	—	EACH	Standard Centerline Reference Monument
604	—	EACH	Standard Monument Assembly
606	—	LIN.FT.	GUARD RAIL, TYPE 4, USING STEEL POSTS
606	—	LIN.FT.	GUARDRAIL, TYPE 4, Modified as per plan
606	—	LIN.FT.	GUARDRAIL, TYPE 4, BARRIER DESIGN, Modified as per plan
606	—	LIN.FT.	GUARD RAIL, REBUILT, USING STEEL POSTS
607	—	LIN.FT.	FENCE, TYPE 47
607	—	LIN.FT.	FENCE, TYPE CL., AS PER PLAN
606	—	LIN.FT.	GUARD RAIL, TYPE 4, BARRIER DESIGN, USING STEEL POSTS
606	—	LIN.FT.	GUARD RAIL REBUILT
615	—	SQ.YDS.	CLASS A, TEMPORARY PAVEMENT
615	—	SQ.YDS.	CLASS A, TEMPORARY PAVEMENT AS PER PLAN
615	—	LUMP	TEMPORARY ROADS (OHIO TURNPIKE)
615	—	LUMP	TEMPORARY ROADS (LIPKEY ROAD)
616	—	M-GALS.	WATER
616	—	TONS	CALCIUM CHLORIDE
656	—	1000 SQ.FT.	ROADSIDE CLEANUP
SPECIAL	—	EACH	DRILLED WELL ABANDONED
SPECIAL	—	EACH	CLEANING & DISPOSING OF EXISTING SEPTIC TANK
SPECIAL	—	EACH	CLEANING OF PRIVY VAULT
SPECIAL	—	LUMP	GUARDING & PROTECTING M.V.S.D.

SUB - SUMMARY ~ ROADWAY

EROSION CONTROL

I-FUNDS

ITEM	SUB TOTAL I-FUNDS SH'T. 27	SHEET NUMBERS 114	192	193	207	230	233	237	238	239	240
601	581		26			46	4	61		114	11
601	1154										
601	—						30				
601	—					102					
659	375,305										
659	168.90										
659	33.78										
660	—					7			1		
660	206			27							
667	2,483	117			242						

STATE FUNDS

TOTAL I-FUNDS QUANTITY	SHEET NUMBERS 26	103	104	105	112	190	213	235	236
843			9	8				8	18
1154									
30									
102									
375,305	105,240								
168.90	47.36								
33.78	9.44								
8									
233		12	164				21		
2842					129	125			

STATE FUNDS TOTAL ITEM	TOTAL QUANTITY	UNIT	TYPE CODE - Y005 DESCRIPTION
601	43	CU.YDS.	DUMPED ROCK CHANNEL PROTECTION
601	—	CU.YDS.	DUMPED ROCK FILL, TYPE A
601	—	SQ.YDS.	RIPRAP
601	—	SQ.YDS.	RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN
659	105,240	SQ.YDS.	SEEDING & MULCHING
659	47.36	TONS	AGRICULTURAL LIMING
659	9.44	TONS	COMMERCIAL FERTILIZER (12-12-12)
660	—	SQ.YDS.	SODDING
660	197	SQ.YDS.	SODDING FOR SPECIAL BERM & SLOPE PROT., AS PER PLAN
667	254	SQ.YDS.	JUTE MATTING

SUB - SUMMARY ~ EROSION CONTROL

QUANTITY SUMMARY

ROADWAY

FED.RD.	STATE	PROJECT	
2	OHIO		

29 / 384

MAH 80 S-7.01
MAH 80-2.30

STATE FUNDS

ITEM	SHEET NUMBERS	STATE FUNDS TOTAL	I-G FUNDS TOTAL SH'T. 27	I FUNDS TOTAL SH'T. 28	100% O.T. FUNDS TOTAL SH'T. 28	GRAND TOTALS BID ITEM	QUANTITY	UNIT	TYPE CODE-7221 DESCRIPTION
201	10: LUMP	LUMP	LUMP	LUMP	LUMP	201	LUMP	LUMP	CLEARING & GRUBBING
202		LUMP	—	—	—	202	LUMP	LUMP	PARCEL № 3CWD, Removal of one frame shed
202		—	—	LUMP	—	202	LUMP	LUMP	PARCEL № 4 WL, Removal of one 1-sty. tile block building, 1 fr.shed, 1 fr. privy
202		—	—	LUMP	—	202	LUMP	LUMP	PARCEL № 16 WL, Removal of one 1½-sty frame residence, 4 frame barn, 2 frame sheds, 1 tile silo, 1-car frame garage, 1 frame privy, 1 fr. corn crib, 1 fr. chicken coop
202	189: 65; 191: 50; 192: 195; 213: 1915	501.5	—	—	—	202	501.5	LIN.FT.	GUARD RAIL REMOVED FOR STORAGE
202	213: 50	50	—	77	—	202	127	LIN.FT.	GUARD RAIL REMOVED FOR REUSE
202		—	—	2663	—	202	2,663	SQ.YDS.	EXIST. PAVEMENT REMOVED & DISPOSED OF
203	26: 173,483	173,483	350,359	521,598	14,630	203	1,060,070	CU.YDS.	EMBANKMENT
203	26: 62,249	62,249	15,031	1,233,365	211	203	1,310,856	CU.YDS.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
203		—	5,062	20,083	—	203	29,145	CU.YDS.	BORROW USING GRANULAR MATERIAL, AS PER PLAN \ AS per Plan
203	26: 29,131	29,131	13,268	83,929	—	203	126,328	SQ.YDS.	SUBGRADE PREPARATION
203	11: 15	15	7	41	—	203	63	HOURS	PROOF ROLLING
410		—	—	356	—	410	356	CU.YDS.	TRAFFIC COMPACTED SURFACE, TYPE A OR B
410		—	—	50	—	410	50	CU.YDS.	TRAFFIC COMPACTED SURFACE, TYPE C
604		—	3	17	—	604	20	EACH	Standard Centerline Reference Monument
604		—	—	2	—	604	2	EACH	Standard Monument Assembly
606	102: 187.5; 103: 101; 104: 1285.5; 105: 620; 110: 764.5; 189: 100; 191: 250; 213: 1000	4,262.5	—	612.5	—	606	4,875	LIN. FT.	GUARD RAIL, TYPE 4, USING STEEL POSTS
606		—	3242	13,586	—	606	16,828	LIN. FT.	GUARD RAIL, TYPE 4, Modified as per plan
606	102: 50	—	150	750	—	606	900	LIN. FT.	GUARD RAIL, TYPE 4, BARRIER: DESIGN, Modified as per plan
607	26: 4518	50	—	—	—	606	50	LIN. FT.	GUARD RAIL, REBUILT USING STEEL POSTS
607		4518	4,043	21,315	—	607	29,876	LIN. FT.	FENCE, TYPE 47
606		—	—	6,482	—	607	6,482	LIN. FT.	FENCE, TYPE CL, AS PER PLAN
615	26: 1,469	—	—	200	—	606	200	LIN. FT.	GUARD RAIL, TYPE 4, BARRIER DESIGN, USING STEEL POSTS
615		—	—	77	—	606	77	LIN. FT.	GUARD RAIL REBUILT
615	11: LUMP	1469	—	346	—	615	1815	SQ. YDS.	CLASS A TEMPORARY PAVEMENT
615		—	—	14,939	—	615	14,939	SQ. YDS.	CLASS A TEMPORARY PAVEMENT, AS PER PLAN
616	11: 150	LUMP	—	LUMP	—	615	LUMP	LUMP	TEMPORARY ROADS (OHIO TURNPIKE)
616	11: 3	—	—	LUMP	—	615	LUMP	LUMP	TEMPORARY ROADS (CLIPKEY ROAD)
616		150	50	400	—	616	600	M-GALS.	WATER
656	26: 518; 100: 287	3	1	14	—	616	18	TONS	CALCIUM CHLORIDE
SPECIAL		805	—	298	—	656	1103	M SQ. FT.	ROADSIDE CLEANUP
SPECIAL		—	—	2	—	SPECIAL	2	EACH	DRILLED WELL ABANDONED
SPECIAL		—	—	1	—	SPECIAL	1	EACH	CLEANING & DISPOSING OF EXISTING SEPTIC TANK
SPECIAL		—	—	2	—	SPECIAL	2	EACH	CLEANING OF PRIVY VAULT
SPECIAL		—	—	LUMP	—	SPECIAL	LUMP	LUMP	GUARDING & PROTECTING M.V.S.D.

SUMMARY ~ ROADWAY

EROSION CONTROL

STATE FUNDS TOTAL SH'T. 28	I-G FUNDS TOTAL SH'T. 27	I FUNDS TOTAL SH'T. 28	GRAND TOTALS BID ITEM	QUANTITY	UNIT	TYPE CODE - Y005 DESCRIPTION
43	515	843	601	1801	CU.YDS.	DUMPED ROCK CHANNEL PROTECTION
—	—	1154	601	1154	CU.YDS.	DUMPED ROCK FILL, TYPE A
—	—	30	601	30	SQ.YDS.	RIPRAP
—	—	102	601	102	SQ.YDS.	RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN
105,240	44,529	375,305	659	525,074	SQ.YDS.	SEEDING & MULCHING
47.36	20.10	168.90	659	236.36	TONS	AGRICULTURAL LIMING
9.44	4.02	33.78	659	47.24	TONS	COMMERCIAL FERTILIZER (12-12-12)
—	—	8	660	8	SQ.YDS.	SODDING
197	253	233	660	683	SQ.YDS.	SODDING FOR SPECIAL BERM & SLOPE PROT. AS PER PLAN
254	223	2842	667	3319	SQ.YDS.	JUTE MATTING

SUMMARY ~ EROSION CONTROL

QUANTITY SUMMARY

DRAINAGE

FED.RD.	STATE	PROJECT	
2	OHIO		

30
384

MAH 80S-7.01
MAH 80-2.30

I-G FUNDS

I-FUNDS

TYPE CODE-7221

ITEM	36	37	38	TOTAL I-G FUNDS QUANTITY	11	12	38	39	40	41	42	43	44	45	46	47	48	49	50	51	106	107	108	109	I-FUNDS SUB TOTALS ITEM	QUANTITY	UNIT	DESCRIPTION
202				—																					202	—	LIN. FT.	PIPE REMOVED – 15" & UNDER
202				—																					202	—	LIN. FT.	PIPE REMOVED – OVER 15"
202				—																					202	—	EACH	CATCH BASIN REMOVED
202				—																					202	—	SQ. YDS.	Existing GUTTER REMOVED & DISPOSED OF
202				—																					202	—	EACH	INLET REMOVED
602		0.3	0.3	0.6				0.3								1.2	0.6		0.2			0.3	0.3		602	2.9	CU. YDS.	CONCRETE MASONRY
603				—																					603	—	LIN. FT.	18" CONDUIT, TYPE A W/CL. B BEDDING
603				—																					603	—	LIN. FT.	15" CONDUIT, TYPE C 706.01 E.S., 706.02 or 706.08 E.S. W/CL. B BEDDING
603				—																					603	—	LIN. FT.	18" CONDUIT, TYPE A 706.01, 706.02 OR 706.08 W/CL. B BEDDING
603				—																					603	—	LIN. FT.	21" CONDUIT, TYPE A 706.02 OR 706.08 W/CL. B BEDDING
603				—																					603	—	LIN. FT.	21" CONDUIT, TYPE A 706.02 CL.III OR 706.08 W/CL.B BEDDING
603				—																					603	—	LIN. FT.	21" CONDUIT, TYPE A 706.02 CL.V W/CL. B BEDDING
603				—																					603	—	LIN. FT.	24" CONDUIT, TYPE A 706.02 OR 706.08 W/CL.B BEDDING
603				—																					603	—	LIN. FT.	27" CONDUIT, TYPE A 706.02 OR 706.08 W/CL. B BEDDING
603				—																					603	—	LIN. FT.	30" CONDUIT, TYPE A 706.02 OR 706.08 W/CL. B BEDDING
603				—																					603	—	LIN. FT.	42" CONDUIT, TYPE A 706.02 W/CL. B BEDDING
603				—																					603	—	LIN. FT.	54" CONDUIT, TYPE A 706.02 W/CL. B BEDDING
603				—																					603	—	LIN. FT.	54" CONDUIT, TYPE A 706.02 CL. III W/CL. B BEDDING
603				—																					603	—	LIN. FT.	54" CONDUIT, TYPE A W/CL B BEDDING, 707.05 B GAGE, SHOP ELONGATED or 706.02 CL. V
603				—																					603	—	LIN. FT.	60" CONDUIT, TYPE A 706.02 CL. III W/CL. B BEDDING, 706.02 CL. V
608				—																					603	—	LIN. FT.	84" CONDUIT, TYPE A 706.03 CL. III or 707.03 8-7 GAGE W/CL. B BEDDING
603				—	50					136		136			130									603	452	LIN. FT.	6" CONDUIT, TYPE B, W/CL. B BEDDING
603					50																				603	50	LIN. FT.	8" CONDUIT, TYPE B W/CL. B BEDDING
603				—															56						603	56	LIN. FT.	12" CONDUIT, TYPE B W/CL. B BEDDING
603		91	105	196				88								94	104		44			58	46		603	434	LIN. FT.	15" CONDUIT, TYPE B W/CL. B BEDDING
603				—													137								603	137	LIN. FT.	18" CONDUIT, TYPE B W/CL. B BEDDING
603				—							60		106												603	166	LIN. FT.	24" CONDUIT, TYPE B W/CL. B BEDDING
603				—									78												603	78	LIN. FT.	27" CONDUIT, TYPE B W/CL. B BEDDING
603				—												183									603	183	LIN. FT.	48" CONDUIT, TYPE B W/CL. B BEDDING
603				—																					603	—	LIN. FT.	12" CONDUIT, TYPE C, W/CL. B BEDDING
603				—											17	18									603	35	LIN. FT.	15" CONDUIT, TYPE C W/CL. B BEDDING
603				—						640										325					603	965	LIN. FT.	18" CONDUIT, TYPE C W/CL. B BEDDING
603				—						100	500														603	600	LIN. FT.	21" CONDUIT, TYPE C W/CL. B BEDDING
603				—							440	700													603	1140	LIN. FT.	24" CONDUIT, TYPE C W/CL. B BEDDING
603				—								300	875												603	1175	LIN. FT.	27" CONDUIT, TYPE C W/CL. B BEDDING
603				—									77												603	77	LIN. FT.	36" CONDUIT, TYPE C W/CL. B BEDDING
603				—									50	1000	700										603	1750	LIN. FT.	42" CONDUIT, TYPE C W/CL. B BEDDING
603				—											300	5									603	305	LIN. FT.	48" CONDUIT, TYPE C W/CL. B BEDDING
603				—																					603	—	LIN. FT.	12" CONDUIT, TYPE D 707.01 or 707.02 14 GAGE
603				—																					603	—	LIN. FT.	18" CONDUIT, TYPE D
603					50																				603	50	LIN. FT.	6" CONDUIT, TYPE E
603					50																				603	50	LIN. FT.	8" CONDUIT, TYPE E
603		10	30	40	50			10		20		20	40		20	10	50	10	40	30		30	30	40	20	603	420	LIN. FT.	6" CONDUIT, TYPE F
603					50																				603	50	LIN. FT.	8" CONDUIT, TYPE F
603				—				52																	603	52	LIN. FT.	12" CONDUIT, TYPE F
603		27		27															10						603	10	LIN. FT.	15" CONDUIT, TYPE F
603				—																10					603	10	LIN. FT.	18" CONDUIT, TYPE F
604				—									1	2	2	1									604	6	EACH	ST'D. Nº 1 MANHOLE
604				—				1									1		1						604	3	EACH	ST'D. Nº 2-2B CATCH BASIN
604		1	1	2						1			1		1	1	1		1	1					604	7	EACH	ST'D. Nº 4 CATCH BASIN
604				—									2						2						604	4	EACH	ST'D. Nº 5 CATCH BASIN
604				—												1									604	1	EACH	ST'D. Nº 6 CATCH BASIN
604				—						1	1	2	1												604	5	EACH	ST'D. Nº 8 CATCH BASIN
604				—																		1			604	1	EACH	ST'D. Nº 2-8 MEDIAN INLET
604				—																			1		604	1	EACH	ST'D. Nº 2-10 MEDIAN INLET
604				—																					604	—	EACH	ST'D. Nº 2-12 MEDIAN INLET
604				—																					604	—	EACH	ST'D. Nº 2-14 MEDIAN INLET
604				—													1								604	1	EACH	ST'D. Nº 6 CATCH BASIN, MODIFIED AS PER PLAN
605	444	1990	614	3048			1400	1560	568							400	1979	1646	2018	1249		1560	1332	1158	912	605	15,782	LIN. FT.	6" SHALLOW PIPE UNDERDRAINS
605				—					1500	2272	2000	1992	2007		1285	1582									605	12,638	LIN. FT.	6" SHALLOW PIPE UNDERDRAINS, 707.06 OR 707.12
605				—										2000	719										605	2,719	LIN. FT.	6" DEEP PIPE UNDERDRAINS
605				—		800																			605	800	LIN. FT.	AGGREGATE DRAINS
605				—		9																			605	9	LIN. FT.	AGGREGATE DRAINS FOR SPRINGS, AS PER PLAN
605				—		300																			605	300	LIN. FT.	6" UNCLASSIFIED PIPE UNDERDRAINS, 707.06 OR 707.12 AS PER PLAN
				—																								

SUB – SUMMARY-DRAINAGE

QUANTITY SUMMARY

DRAINAGE

FED.RD.	STATE	PROJECT	
2	OHIO		

31
384

MAH 80 S-7.01
MAH 80-2.30

I - FUNDS

TYPE CODE-7221

SHEET NUMBERS

ITEM	SUB TOTAL FROM SHT. 30	111	114	192	193	205	208	229	230	232	233	237	238	239	240	241
202	—					42										
202	—						31									
202	—			1	1											
202	—															
202	—															
602	2.5			0.4				15.2	19.9	1.0	0.6	2.0	4.1	3.0	0.7	0.5
603	—						36									184
603	—										268					
603	—														122	
603	—															
603	—															
603	—												62			
603	—												130			
603	—															
603	—													244		
603	—															
603	—											164				
603	—									464						
603	—								248							
603	—							628								
603	452		45													
603	50															
603	56															
603	434															
603	137															
603	166															
603	78															
603	183															
603	—				46											
603	35			237												
603	965															
603	600															
603	1140															
603	1175															
603	77															
603	1750															
603	305															
603	—															112
603	—						44									
603	50															
603	50															
603	420		20	30												
603	50															
603	52				54											
603	10			66												
603	10															
604	6															
604	3			1	1											
604	7			1												
604	4												1			
604	1															
604	5															
604	1															
604	1															
604	—															
604	—															
604	1															
605	15,782		525	359												
605	12,638		436	864												
605	2719			833												
605	800															
605	9															
605	300															

I - FUNDS

ITEM	TOTAL QUANTITY	UNIT	DESCRIPTION
202	42	LIN. FT.	PIPE REMOVED ~ 15" & UNDER
202	31	LIN. FT.	PIPE REMOVED ~ OVER 15"
202	2	EACH	CATCH BASIN REMOVED
202	—	SQ. YDS	*Existing* GUTTER REMOVED & DISPOSED OF
202	—	EACH	INLET REMOVED
602	50.3	CU. YDS.	CONCRETE MASONRY
603	36	LIN. FT.	18" CONDUIT, TYPE A W/CL. B BEDDING
603	184	LIN. FT.	15" CONDUIT, TYPE C *706.01 E.S. 706.02 or 706.08 E.S.* W/CL. B BEDDING
603	268	LIN. FT.	18" CONDUIT, TYPE A 706.01, 706.02 OR 706.08 W/CL. B BEDDING
603	122	LIN. FT.	21" CONDUIT, TYPE A 706.02 OR 706.08 W/CL. B BEDDING
603	—	LIN. FT.	21" CONDUIT, TYPE A 706.02 CL. III OR 706.08 W/CL. B BEDDING
603	—	LIN. FT.	21" CONDUIT, TYPE A 706.02 CL. V W/CL. B BEDDING
603	62	LIN. FT.	24" CONDUIT, TYPE A 706.02 OR 706.08 W/CL. B BEDDING
603	130	LIN. FT.	27" CONDUIT, TYPE A 706.02 OR 706.08 W/CL. B BEDDING
603	—	LIN. FT.	30" CONDUIT, TYPE A 706.02 OR 706.08 W/CL. B BEDDING
603	244	LIN. FT.	42" CONDUIT, TYPE A 706.02 W/CL. B BEDDING
603	—	LIN. FT.	54" CONDUIT, TYPE A 706.02 W/CL. B BEDDING
603	164	LIN. FT.	54" CONDUIT, TYPE A 706.02 CL. III W/CL. B BEDDING
603	464	LIN. FT.	54" CONDUIT, TYPE A *W/CL B BEDDING, 707.05 B GAGE, SHOP ELONGATED or* 706.02 CL. III W/CL. B BEDDING *706.02 CL. V*
603	248	LIN. FT.	60" CONDUIT, TYPE A 706.02 CL. III W/CL. B BEDDING
603	628	LIN. FT.	84" CONDUIT, TYPE A 707.03 8-7 GAGE *or 706.03 CLASS V* W/CL. B BEDDING
603	497	LIN. FT.	6" CONDUIT, TYPE B W/CL. B BEDDING
603	50	LIN. FT.	*8" CONDUIT, TYPE B W/CL. B BEDDING*
603	56	LIN. FT.	12" CONDUIT, TYPE B W/CL. B BEDDING
603	434	LIN. FT.	15" CONDUIT, TYPE B W/CL. B BEDDING
603	137	LIN. FT.	18" CONDUIT, TYPE B W/CL. B BEDDING
603	166	LIN. FT.	24" CONDUIT, TYPE B W/CL. B BEDDING
603	78	LIN. FT.	27" CONDUIT, TYPE B W/CL. B BEDDING
603	183	LIN. FT.	48" CONDUIT, TYPE B W/CL. B BEDDING
603	46	LIN. FT.	12" CONDUIT, TYPE C W/CL. B BEDDING
603	272	LIN. FT.	15" CONDUIT, TYPE C W/CL. B BEDDING
603	965	LIN. FT.	18" CONDUIT, TYPE C W/CL. B BEDDING
603	600	LIN. FT.	21" CONDUIT, TYPE C W/CL. B BEDDING
603	1140	LIN. FT.	24" CONDUIT, TYPE C W/CL. B BEDDING
603	1175	LIN. FT.	27" CONDUIT, TYPE C W/CL. B BEDDING
603	77	LIN. FT.	36" CONDUIT, TYPE C W/CL. B BEDDING
603	1750	LIN. FT.	42" CONDUIT, TYPE C W/CL. B BEDDING
603	305	LIN. FT.	48" CONDUIT, TYPE C W/CL. B BEDDING
603	112	LIN. FT.	*12" CONDUIT, TYPE D 707.01 or 707.02 14 GAGE*
603	44	LIN. FT.	12" CONDUIT, TYPE D
603	50	LIN. FT.	*4" CONDUIT, TYPE E*
603	50	LIN. FT.	*8" CONDUIT, TYPE E*
603	470	LIN. FT.	6" CONDUIT, TYPE F
603	50	LIN. FT.	*8" CONDUIT, TYPE F*
603	106	LIN. FT.	12" CONDUIT, TYPE F
603	76	LIN. FT.	15" CONDUIT, TYPE F
603	10	LIN. FT.	18" CONDUIT, TYPE F
604	6	EACH	ST'D. Nº 1 MANHOLE
604	5	EACH	ST'D. Nº 2-2B CATCH BASIN
604	8	EACH	ST'D. Nº 4 CATCH BASIN
604	5	EACH	ST'D. Nº 5 CATCH BASIN
604	1	EACH	ST'D. Nº 6 CATCH BASIN
604	5	EACH	ST'D. Nº 8 CATCH BASIN
604	1	EACH	ST'D. Nº 2-8 MEDIAN INLET
604	1	EACH	ST'D. Nº 2-10 MEDIAN INLET
604	—	EACH	ST'D. Nº 2-12 MEDIAN INLET
604	—	EACH	ST'D. Nº 2-14 MEDIAN INLET
604	1	EACH	ST'D. Nº 6 CATCH BASIN, MODIFIED *AS PER PLAN*
605	16,666	LIN. FT.	6" SHALLOW PIPE UNDERDRAINS
605	13,938	LIN. FT.	6" SHALLOW PIPE UNDERDRAINS, 707.06 OR 707.12
605	3,552	LIN. FT.	6" DEEP PIPE UNDERDRAINS
605	800	LIN. FT.	AGGREGATE DRAINS
605	9	LIN. FT.	AGGREGATE DRAINS FOR SPRINGS, AS PER PLAN
605	300	LIN. FT.	6" UNCLASSIFIED PIPE UNDERDRAINS, 707.06 OR 707.12 AS PER PLAN

QUANTITY SUMMARY

DRAINAGE

FED. RD.	STATE	PROJECT	
2	OHIO		

32
384

MAH.- 80S - 7.01
MAH.- 80 - 2.30

STATE FUNDS

* 50 Lin. Ft. is for Farm Drain Crossings

TYPE CODE - 7221

ITEM	SHEET NUMBERS																											TOTAL STATE FUNDS	TOTAL I-G FUNDS SH'T. 30	TOTAL I FUNDS SH'T. 31	GRAND TOTAL ITEM	GRAND TOTAL QUANTITY	GRAND TOTAL UNIT	DESCRIPTION
			102	103	104	105		110		112		188	189	190	191	192	193		213		234	235	236	237										
202																												—	—	42	202	42	LIN. FT.	PIPE REMOVED ~ 15" & UNDER
202																			117									117	—	31	202	148	LIN. FT.	PIPE REMOVED ~ OVER 15"
202																												—	—	2	202	2	EACH	CATCH BASIN REMOVED
202															58													58	—	—	202	58	SQ. YDS.	*Existing* GUTTER REMOVED & DISPOSED OF
202																			2									2	—	—	202	2	EACH	INLET REMOVED
602					0.3	0.6		0.3		0.6											1.4	1.6	1.9	0.5				7.2	0.6	50.3	602	58.1	CU. YDS.	CONCRETE MASONRY
603																												—	—	36	603	36	LIN. FT.	18" CONDUIT, TYPE A W/CL. B BEDDING
603																								176				176	—	184	603	360	LIN. FT.	15" CONDUIT, TYPE C 706.01 E.S. 706.02 or 706.08 E.S. W/CL. B BEDDING
603																												—	—	268	603	268	LIN. FT.	18" CONDUIT, TYPE A 706.01 706.02 OR 706.08 W/CL. B BEDDING
603																												—	—	122	603	122	LIN. FT.	21" CONDUIT, TYPE A 706.02 OR 706.08 W/CL. B BEDDING
603																						136						136	—	—	603	136	LIN. FT.	21" CONDUIT, TYPE A 706.02 CL. III OR 706.08 W/CL. B BEDDING
603																						152						152	—	—	603	152	LIN. FT.	21" CONDUIT, TYPE A 706.02 CL. V W/CL. B BEDDING
603																					64							64	—	62	603	126	LIN. FT.	24" CONDUIT, TYPE A 706.02 OR 706.08 W/CL. B BEDDING
603																												—	—	130	603	130	LIN. FT.	27" CONDUIT, TYPE A 706.02 OR 706.08 W/CL. B BEDDING
603																					88							88	—	—	603	88	LIN. FT.	30" CONDUIT, TYPE A 706.02 OR 706.08 W/CL. B BEDDING
603																												—	—	244	603	244	LIN. FT.	42" CONDUIT, TYPE A 706.02 W/CL. B BEDDING
603																							92					92	—	—	603	92	LIN. FT.	54" CONDUIT, TYPE A 706.02 W/CL. B BEDDING
603																												—	—	164	603	164	LIN. FT.	54" CONDUIT, TYPE A 706.02 CL. III W/CL. B BEDDING
603																												—	—	464	603	464	LIN. FT.	54" CONDUIT, TYPE A W/CL B BEDDING, 707.05 8 GAGE SHOP ELONGATED or
603																												—	—	248	603	248	LIN. FT.	60" CONDUIT, TYPE A 706.02 CL. III W/CL. B BEDDING 706.02 CL. V
603																												—	—	628	603	628	LIN. FT.	84" CONDUIT, TYPE A 707.03 8-7 GAGE or 706.03 CLASS V W/CL. B BEDDING
603														27	27													54	—	497 *	603	551	LIN. FT.	6" CONDUIT, TYPE B W/CL. B BEDDING
603																														50 *	603	50	LIN. FT.	8" CONDUIT, TYPE B W/CL. B BEDDING
603																												—	—	56	603	56	LIN. FT.	12" CONDUIT, TYPE B W/CL. B BEDDING
603					35	130		44		78																		287	196	434	603	917	LIN. FT.	15" CONDUIT, TYPE B W/CL. B BEDDING
603																												—	—	137	603	137	LIN. FT.	18" CONDUIT, TYPE B W/CL. B BEDDING
603																												—	—	166	603	166	LIN. FT.	24" CONDUIT, TYPE B W/CL. B BEDDING
603																												—	—	78	603	78	LIN. FT.	27" CONDUIT, TYPE B W/CL. B BEDDING
603																												—	—	183	603	183	LIN. FT.	48" CONDUIT, TYPE B W/CL. B BEDDING
603																												—	—	46	603	46	LIN. FT.	12" CONDUIT, TYPE C W/CL. B BEDDING
603																												—	—	272	603	272	LIN. FT.	15" CONDUIT, TYPE C W/CL. B BEDDING
603																												—	—	365	603	365	LIN. FT.	18" CONDUIT, TYPE C W/CL. B BEDDING
603																												—	—	600	603	600	LIN. FT.	21" CONDUIT, TYPE C W/CL. B BEDDING
603																												—	—	1140	603	1140	LIN. FT.	24" CONDUIT, TYPE C W/CL. B BEDDING
603																												—	—	1175	603	1175	LIN. FT.	27" CONDUIT, TYPE C W/CL. B BEDDING
603																												—	—	77	603	77	LIN. FT.	36" CONDUIT, TYPE C W/CL. B BEDDING
603																												—	—	1750	603	1750	LIN. FT.	42" CONDUIT, TYPE C W/CL. B BEDDING
603																												—	—	305	603	305	LIN. FT.	48" CONDUIT, TYPE C W/CL. B BEDDING
603																												—	—	112	603	112	LIN. FT.	12" CONDUIT, TYPE D 707.01 or 707.02 14 GAGE
603																												—	—	44	603	44	LIN. FT.	12" CONDUIT, TYPE D
603																												-	-	50	603	50	LIN. FT.	6" CONDUIT, TYPE E
603																												—	—	50	603	50	LIN. FT.	8" CONDUIT, TYPE E
603			10			40				20		10	20	10		20	10											140	40	470	603	650	LIN. FT.	6" CONDUIT, TYPE F
603																												—	—	50	603	50	LIN. FT.	8" CONDUIT, TYPE F
603																												—	—	106	603	106	LIN. FT.	12" CONDUIT, TYPE F
603					25	60																						85	27	76	603	188	LIN. FT.	15" CONDUIT, TYPE F
603																												—	—	10	603	10	LIN. FT.	18" CONDUIT, TYPE F
604																												—	—	6	604	6	EACH	STD. Nº 1 MANHOLE
604																												—	—	5	604	5	EACH	STD. Nº 2-2B CATCH BASIN
604																												—	2	8	604	10	EACH	STD. Nº 4 CATCH BASIN
604																												1	—	5	604	6	EACH	STD. Nº 5 CATCH BASIN
604																												—	—	1	604	1	EACH	STD. Nº 6 CATCH BASIN
604																												—	—	5	604	5	EACH	STD. Nº 8 CATCH BASIN
604																												—	—	1	604	1	EACH	STD. Nº 2-8 MEDIAN INLET
604					1																							1	—	1	604	2	EACH	STD. Nº 2-10 MEDIAN INLET
604						1																						1	—	—	604	1	EACH	STD. Nº 2-12 MEDIAN INLET
604						1																						1	—	—	604	1	EACH	STD. Nº 2-14 MEDIAN INLET
604						1		1		2	—					—												4	—	1	604	5	EACH	STD. Nº 6 CATCH BASIN, MODIFIED *AS PER PLAN*
605				650	1335	1489		1204		2220				1135	1000	739	745											10,517	3048	16,666	605	30,231	LIN. FT.	6" SHALLOW PIPE UNDERDRAINS
605			937	420								810	689	100														2,956	—	13,938	605	16,894	LIN. FT.	6" SHALLOW PIPE UNDERDRAINS, 707.06 OR 707.12
605																												—	—	3,552	605	3,552	LIN. FT.	6" DEEP PIPE UNDERDRAINS
605																												—	—	800	605	800	LIN. FT.	AGGREGATE DRAINS
605																												—	—	9	605	9	LIN. FT.	AGGREGATE DRAINS FOR SPRINGS, AS PER PLAN
605																												—	—	300	605	300	LIN. FT.	6" UNCLASSIFIED PIPE UNDERDRAINS, 707.06 OR 707.12 AS PER PLAN

QUANTITY SUMMARY

PAVEMENT

FED.RD.	STATE	PROJECT	
2	OHIO		

33
584

MAH 80S-7.01
MAH 80-2.30

★ Construction layout staking within limits of Toll Plaza will be at 100% O.T. cost.

TYPE CODE 7221

ITEM	I-G FUNDS SHEET NUMBERS	I-G FUNDS TOTAL I-G FUNDS QUANTITY	I-FUNDS SHEET NUMBERS 26	106	107	108	109	111	114	205	I-FUNDS TOTAL I FUNDS QUANTITY	STATE FUNDS SHEET NUMBERS 26	103	104	105	110	112	116	117	118	TOTAL STATE FUNDS QUANTITY	TOTAL I-G FUNDS QUANTITY	TOTAL I FUNDS QUANTITY	GRAND TOTAL BID ITEM	BID QUANTITY	BID UNIT	DESCRIPTION
301	407	407	4870								4870	2223									2223	407	4,870	301	7500	CU.YDS.	BITUMINOUS AGGREGATE BASE, 702.01(85-100) OR 702.09, RT.-10, AS PER PLAN
304	926	926	8496								8496	1376									1376	926	8496	304	10,198	CU.YDS.	AGGREGATE BASE
304		—	563								563										—	—	563	304	563	CU.YDS.	AGGREGATE BASE, AS PER PLAN
305										26	26										—	—	26	305	26	SQ.YDS.	8" PORTLAND CEMENT CONCRETE BASE
310	1692	1692	21958								21,958	5547									5547	1692	21,958	310	29,157	CU.YDS.	SUBBASE, GRADING A OR B, AS PER PLAN
310	437	437	5132								5,132	1306									1,306	437	5,182	310	6,875	CU.YDS.	SUBBASE
402		—	91							2	93	—									—	—	93	402	93	CU.YDS.	ASPHALT CONCRETE (70-85)
404		—	78							2	80	1									1	—	80	404	81	CU.YDS.	ASPHALT CONCRETE (70-85)
407										4	4										—	—	4	407	4	GAL.	TACK COAT; 702.04, MS-2 OR RS-1; OR 702.02, RC70 OR RC-250
408		—	845								845	3									3	—	845	408	848	GAL.	BITUMINOUS PRIME COAT; 702.09, RT.-2 OR RT.-3
409	1466	1466	14486								14,486	4186									4186	1,466	14,486	409	20,148	GAL.	SEAL COAT BITUMINOUS MATERIAL, AS PER PLAN
409	39	39	390								390	112									112	39	390	409	541	CU.YDS.	SEAL COAT COVER AGGREGATE Nº 8
451	8114	8114	82520								82,520	21811									21,811	8,114	82,520	451	122,445	SQ.YDS.	10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
510																		332	958	387	1677	—	—	510	1677	EACH	DOWEL HOLE
SPECIAL																		332	958	387	1677	—	—	SPECIAL	1677	EACH	STANDARD EXPANSION BOLT
609						112			100		212		150				100				250	—	212	609	462	LIN.FT.	CONCRETE CURB, STANDARD TYPE 6
609		—						136	296		432					160					160	—	432	609	592	LIN.FT.	CONCRETE CURB, STANDARD TYPE 6, MODIFIED AS PER PLAN
609		—		100			72		65		237					106	232				338	—	237	609	575	LIN.FT.	CONCRETE CURB, STANDARD TYPE 7
609		—		100			400		425		925					411	470				881	—	925	609	1806	LIN.FT.	CONCRETE CURB, STANDARD TYPE 8
611	267	267	1089								1089	323									323	267	1089	611	1679	SQ.YDS.	REINFORCED CONCRETE APPROACH SLABS (T=13")
612		—		267	239	137					643			76	248	224					548	—	643	612	1191	SQ.YDS.	CONCRETE MEDIAN, STANDARD
612		—						26	43		69					17					17	—	69	612	86	SQ.YDS.	CONCRETE TRAFFIC ISLAND
SPECIAL	161	161	1879								1879	756									756	161	1,879	SPECIAL	2796	CU.YDS.	DRAINAGE CONNECTION, USING Nº 8 AGGREGATE
																					LUMP	LUMP	LUMP		LUMP	LUMP	★CONSTRUCTION LAYOUT STAKES
614																					LUMP	LUMP	LUMP		LUMP	LUMP	FIELD OFFICE
																					LUMP	LUMP	LUMP	614	LUMP	LUMP	MAINTAINING TRAFFIC

For Lighting Quantities, See Sht. No. 247

For Traffic Control Quantities, See Sht. No. 259

~ STRUCTURES OVER 20 FT. SPAN ~ *For Estimated Quantities*

MAH 80S-0701 L&R.	SEE SHEET Nº 285
MAH 80S-0761 L&R.	SEE SHEET Nº 293
MAH 80S-0861 & 0862	SEE SHEET Nº 301 & 310
MAH 80-0240	SEE SHEET Nº 338
MAH 80-0289 L&R.	SEE SHEET Nº 348
MAH 80-0186	SEE SHEET Nº 327
MAH 80-0148	SEE SHEET Nº 318

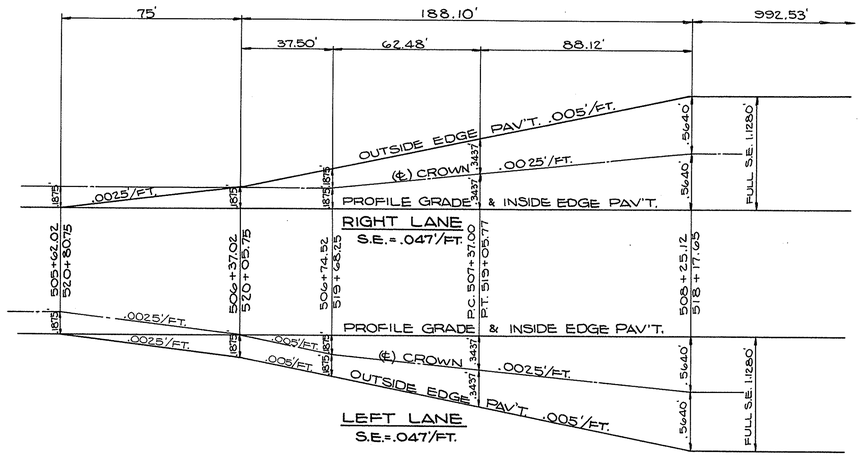
SUPERELEVATION DIAGRAMS & TABLES

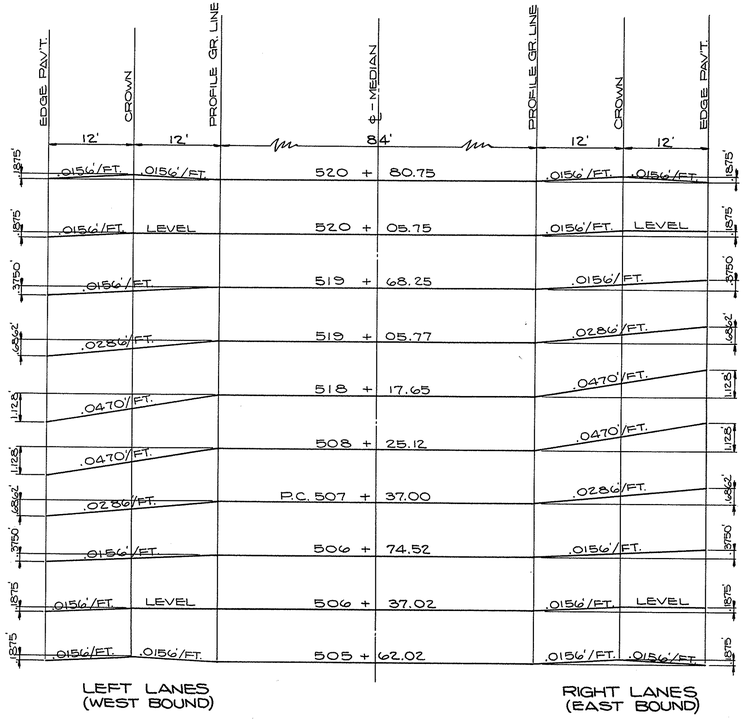
CURVE AT P.I. STA. 513 + 25.78
D_c = 1° 28' LT.

FED. RD.	STATE	PROJECT	
2	OHIO		

34
384

MAH-80 S-7.01
MAH-80 -2.30





STATION	LEFT LANE		PROFILE GRADE	RIGHT LANE	
	OUTSIDE EDGE	℄		℄	OUTSIDE EDGE
505+62.02	934.84	935.03	934.84	935.03	934.84
+75	934.60	934.79	934.63	934.82	934.71
506+00	934.15	934.34	934.24	934.43	934.33
+25	933.68	933.87	933.84	934.03	934.00
+37.02	933.46	933.65	933.65	933.84	933.84
+50	933.19	933.38	933.44	933.63	933.69
+66	932.86	933.05	933.19	933.38	933.52
+74.52	932.67	932.86	933.05	933.24	933.43
+75	932.66	932.85	933.04	933.23	933.42
507+00	932.15	932.40	932.65	932.90	933.15
+25	931.62	931.94	932.25	932.56	932.88
P.C.+37	931.36	931.71	932.05	932.39	932.74
+50	931.10	931.47	931.85	932.23	932.60
+75	930.57	931.01	931.45	931.89	932.33
508+00	930.06	930.56	931.06	931.56	932.06
+25	929.53	930.10	930.66	931.22	931.79
+25.12	929.53	930.10	930.66	931.22	931.79
+50	929.13	929.70	930.26	930.82	931.39
+75	928.73	929.30	929.86	930.42	930.99
509+00	928.34	928.91	929.47	930.03	930.60
+25	927.94	928.51	929.07	929.63	930.20
+50	927.54	928.11	928.67	929.23	929.80
+75	927.14	927.71	928.27	928.83	929.40
510+00	926.75	927.32	927.88	928.44	929.01
+25	926.35	926.92	927.48	928.04	928.61
+50	925.96	926.53	927.09	927.65	928.22
+75	925.56	926.13	926.69	927.25	927.82
511+00	925.16	925.73	926.29	926.85	927.42
+25	924.76	925.33	925.89	926.45	927.02
+31	924.67	925.24	925.80	926.36	926.93
+50	924.37	924.94	925.50	926.06	926.63
+55	924.29	924.86	925.42	925.98	926.55
+75	923.97	924.54	925.10	925.66	926.23
+87	923.78	924.35	924.91	925.47	926.04
512+00	923.57	924.14	924.70	925.26	925.83
+25	923.17	923.74	924.30	924.86	925.43
+44	922.87	923.44	924.00	924.56	925.13
P.V.C.+50	922.78	923.35	923.91	924.47	925.04
+75	922.39	922.96	923.52	924.08	924.65
513+00	922.01	922.58	923.14	923.70	924.27
+25	921.65	922.22	922.78	923.34	923.91
+50	921.32	921.89	922.45	923.01	923.58
+75	921.00	921.57	922.13	922.69	923.26
514+00	920.69	921.26	921.82	922.38	922.95

STATION	LEFT LANE		PROFILE GRADE	RIGHT LANE	
	OUTSIDE EDGE	℄		℄	OUTSIDE EDGE
514+25	920.40	920.97	921.53	922.09	922.66
+50	920.13	920.70	921.82	922.39	922.39
+75	919.87	920.44	921.00	921.56	922.13
515+00	919.63	920.20	920.76	921.32	921.89
+25	919.40	919.97	920.53	921.09	921.66
P.V.I. +50	919.20	919.77	920.33	920.89	921.46
+75	919.01	919.58	920.14	920.70	921.27
516+00	918.84	919.41	919.97	920.53	921.10
+25	918.68	919.25	919.81	920.37	920.94
+50	918.54	919.11	919.67	920.23	920.80
+75	918.42	918.99	919.55	920.11	920.68
517+00	918.31	918.88	919.44	920.00	920.57
+25	918.22	918.79	919.35	919.91	920.48
+50	918.14	918.71	919.27	919.83	920.40
+55	918.13	918.70	919.26	919.82	920.39
+75	918.08	918.65	919.21	919.77	920.34
518+00	918.04	918.61	919.17	919.73	920.30
+17.65	918.02	918.59	919.15	919.71	920.28
+25	918.06	918.60	919.15	919.70	920.24
P.V.T. +50	918.17	918.66	919.14	919.62	920.11
+75	918.30	918.72	919.14	919.56	919.98
519+00	918.42	918.78	919.14	919.50	919.86
P.H.T. +05.77	918.45	918.80	919.14	919.48	919.83
+25	918.55	918.84	919.14	919.44	919.73
+50	918.67	918.91	919.14	919.37	919.61
+68.25	918.76	918.95	919.14	919.33	919.52
+75	918.80	918.99	919.14	919.33	919.48
520+00	918.92	919.11	919.14	919.33	919.36
+05.75	918.95	919.14	919.14	919.33	919.33
+25	919.00	919.19	919.14	919.33	919.28
+50	919.06	919.27	919.14	919.33	919.22
+75	919.13	919.32	919.14	919.33	919.15
+80.75	919.14	919.33	919.14	919.33	919.14

SUPERELEVATION
DIAGRAMS & TABLES

K & E - AKRON

SUPERELEVATION TABLES

LINE "A"

FED. RD.	STATE	PROJECT	
2	OHIO		

35
384

MAH.-80S-7.01
MAH.-80-2.30

STATION	LT. EDGE	PROFILE GRADE	RT. EDGE
413+85.59	997.95	997.70	
414	998.16	997.84	
+25	998.54	998.09	
+50	998.91	998.34	
+75	999.29	998.59	
415	999.66	998.84	
+25	1000.04	999.09	
+35.59	1000.20	999.20	
+50	1000.41	999.34	
+75	1000.79	999.59	
416	1001.17	999.85	
+01.59	1001.19	999.86	
+25	1001.44	1000.11	
+50	1001.70	1000.37	
+75	1001.97	1000.64	
417	1002.23	1000.90	
+25	1002.51	1001.18	
+50	1002.78	1001.45	
+75	1003.06	1001.73	
418	1003.34	1002.01	
+25	1003.62	1002.29	
+50	1003.92	1002.59	
+75	1004.17	1002.84	
419	1004.45	1003.12	
+25	1004.73	1003.40	
+50	1005.01	1003.68	
+69.59	1005.22	1003.89	
+75	1005.25	1003.95	
420	1005.41	1004.23	
+25	1005.56	1004.51	
+35.59	1005.62	1004.62	
+50	1005.72	1004.79	
+75	1005.87	1005.07	
421	1006.02	1005.34	
+25	1006.17	1005.62	
+50	1006.33	1005.90	
+75	1006.48	1006.18	
+85.59	1006.54	1006.29	

STATION	LT. EDGE	PROFILE GRADE	RT. EDGE
422+88.46	1007.68	1007.43	
423	1007.76	1007.57	
+25	1007.92	1007.85	
+38.46	1007.98	1007.98	
+50	1008.06	1008.12	
+75	1008.22	1008.40	
+88.46	1008.29	1008.54	
424	1008.37	1008.68	
+25	1008.53	1008.96	
+50	1008.68	1009.24	
+75	1008.84	1009.52	
425	1008.98	1009.79	
+25	1009.13	1010.07	
+50	1009.29	1010.35	
+75	1009.44	1010.63	
426	1009.59	1010.90	
+04.46	1009.60	1010.93	
+25	1009.85	1011.18	
+50	1010.13	1011.46	
+75	1010.41	1011.74	
427	1010.69	1012.02	
+25	1010.96	1012.29	
+50	1011.24	1012.57	
+75	1011.54	1012.87	
428	1011.86	1013.19	
+25	1012.21	1013.54	
+50	1012.60	1013.93	
+75	1013.02	1014.35	

FOR SUPERELEVATION STA. 428+75 TO 433+25
SEE PAVEMENT DETAIL SHEET NO. 116

433+25	1022.51	1023.84	1025.17
+50	1023.07	1024.49	1025.91
+75	1023.72	1025.14	1026.56
434	1024.37	1025.79	1027.21
+25	1025.02	1026.44	1027.80
+50	1025.67	1027.09	1028.51
+75	1026.32	1027.74	1029.16
435	1026.96	1028.38	1029.80
+25	1027.61	1029.03	1030.45
+50	1028.26	1029.68	1031.10
+67.12	1028.70	1030.12	1031.54

STATION	LT. EDGE	PROFILE GRADE	RT. EDGE
435+75	1028.95	1030.33	1031.71
436	1029.73	1030.98	1032.23
+25	1030.50	1031.63	1032.76
+50	1031.28	1032.28	1033.28
+75	1032.01	1032.89	1033.77
437	1032.68	1033.43	1034.18
+25	1033.28	1033.91	1034.54
+50	1033.80	1034.31	1034.82
+75	1034.26	1034.64	1035.02
+97.12	1034.62	1034.89	1035.16
439+82.61	1034.97	1034.70	1034.43
440	1034.82	1034.47	1034.12
+25	1034.59	1034.10	1033.61
+50	1034.27	1033.65	1033.03
+75	1033.87	1033.14	1032.41
+96.61	1033.49	1032.65	1031.81
441	1033.41	1032.56	1031.71
+25	1032.88	1031.90	1030.92
+50	1032.29	1031.18	1030.07
+59.61	1032.21	1031.09	1029.97
+75	1031.51	1030.39	1029.27
442	1030.64	1029.52	1028.40
+25	1029.71	1028.59	1027.47
+50	1028.70	1027.58	1026.46
+75	1027.66	1026.54	1025.42
443	1026.62	1025.50	1024.38
+25	1025.58	1024.46	1023.34
+50	1024.54	1023.42	1022.30
+75	1023.50	1022.38	1021.26

FOR SUPERELEVATION STA. 443+75 TO 449+00 SEE
PAVEMENT DETAIL SHEET NO. 118

449+00	1003.31	1002.92	1002.53
+25	1002.70	1002.44	1002.05
+50	1002.15	1002.02	1001.63
+75	1001.65	1001.65	1001.26
450	1001.22	1001.35	1000.96
+25	1000.84	1001.10	1000.71
+50	1000.52	1000.91	1000.52

STATION	LT. EDGE	PROFILE GRADE	RT. EDGE
—			

FOR SUPERELEVATION STATION 454+00 TO 461+00
SEE PAVEMENT DETAIL SHEET NO. 119

461+00	997.80	996.68	995.56
+25	997.70	996.58	995.46
+50	997.60	996.48	995.36
+75	997.50	996.38	995.26
462	997.40	996.28	995.16
+25	997.30	996.18	995.06
+50	997.20	996.08	994.96
+75	997.10	995.98	994.86
+89.27	997.04	995.92	994.80
463	996.95	995.88	994.81
+25	996.72	995.78	994.84
+50	996.50	995.68	994.86
+65.27	996.36	995.62	994.88
+75	996.27	995.58	994.89
464	996.05	995.48	994.91
+25	995.82	995.38	994.94
+50	995.60	995.28	994.96
+59.27	995.51	995.24	994.97
+75	995.37	995.18	994.91
465	995.15	995.08	994.81
+13.27	995.03	995.03	994.76
+25	994.92	994.98	994.71
+50	994.70	994.88	994.61
+67.27	994.54	994.81	994.54
466+97.61	994.02	994.29	994.02
467	994.01	994.28	994.03
+25	993.89	994.16	994.03
+39.61	993.80	994.07	994.01
+50	993.73	994.00	993.99
+51.61	993.72	993.99	993.99
+75	993.54	993.81	993.93

STATION	LT. EDGE	PROFILE GRADE	RT. EDGE
468+00	993.30	993.57	993.81
+05.61	993.25	993.52	993.79
+25	992.94	993.30	993.66
+50	992.50	992.99	993.48
+75	992.02	992.64	993.26
469	991.51	992.25	992.99
+25	990.95	991.82	992.69
+39.61	990.61	991.55	992.49
+50	990.36	991.35	992.34
+75	989.73	990.85	991.97
470	989.06	990.30	991.54
+25	988.36	989.72	991.08
+35.61	988.04	989.46	990.88
+50	987.68	989.10	990.52
+75	987.02	988.44	989.86
471	986.32	987.74	989.16
+25	985.60	987.02	988.44
+50	984.88	986.30	987.72
+75	984.16	985.58	987.00
472	983.45	984.87	986.29
+25	982.73	984.15	985.57
+50	982.01	983.43	984.85
+75	981.29	982.71	984.13

FOR SUPERELEVATION STA. 472+75 TO 477+50 SEE
PAVEMENT DETAIL SHEET NO. 121

477+50	969.21	970.54	
+75	968.55	969.88	
+78	967.90	969.23	
478+25	967.27	968.60	
+50	966.66	967.99	
+75	966.08	967.41	
+90.63	965.72	967.05	
479	965.55	966.84	
+25	965.14	966.30	
+50	964.73	965.77	
+75	964.35	965.26	
+78.63	964.29	965.18	

STATION	LT. EDGE	PROFILE GRADE	RT. EDGE
480+00	963.99	964.78	
+25	963.61	964.31	
+50	963.33	963.86	
+75	963.00	963.44	
481	962.75	963.03	
+06.63	962.68	962.93	
+25	962.48	962.64	
+50	962.15	962.28	
+56.63	962.19	962.19	
+75	962.03	961.93	
+78.63	961.98	961.87	
482	961.83	961.61	
+06.63	961.77	961.52	
483+28.72	960.49	960.24	
+44.72	960.44	960.12	
+50	960.43	960.07	
+75	960.37	959.89	
484	960.33	959.72	
+25	960.31	959.58	
+50	960.31	959.45	
+75	960.32	959.34	
485	960.37	959.26	
+25	960.41	959.18	
+44.72	960.45	959.12	
+50	960.44	959.11	
+75	960.36	959.03	
486	960.29	958.96	
+25	960.21	958.88	
+50	960.14	958.81	
+75	960.06	958.73	
487	959.99	958.66	
+25	959.91	958.58	
+50	959.84	958.51	
+75	959.76	958.43	
488	959.69	958.36	

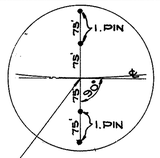
FORM D 1A-8

MICROFILMED APR 2 1986

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

36
384

MAHONING COUNTY
MAH.80S-7.01
MAH.80 2.30



CURVE DATA
P.I. STA. 363+83.56
Δ = 7° 31' 36" LT.
D = 0° 15'
R = 22,918.32'
T = 1507.80'
E = 49.53'
L = 3010.67'
Lc = 879.69' (MAH.805-7.01)

M.P. STA. 363+81.77

END PROJECT	BEGIN PROJECT
MAH-805-3.08	MAH-805-7.01
STA. 370+07.44	MAH-80-2.30
	STA. 370+07.44
	S.L.M. 7.01

I-IG-805-7(7) 220 | I-IG-80-5(3) 228

IG 60'I IG

BEGIN WORK STA. 369+78

BEGIN SHEET STA. 365+00

END SHEET STA. 375+00

℄ I-80S

℄ SURVEY PENN. R.R.

℄ LA

℄ 8° (LOCAL TANGENTS)

722.13' TO P.I. N-83° 06' 30"-E

66°-27'-49" TO LOC. TAN.

STA. 371+11.34 ℄ MAH. 805
STA. 50+15.34
℄ SURVEY PENN. R.R.

STA. 371+67.90 MAH-805 =
STA. 5+86.49 RELOC. CHANNEL

STA. 372+90.49 ℄ SURVEY PENN. R.R.

STA. 373+00.35 ℄ TRACKS +102.88

+42.86 12.15

PROP. RELOC. CHANNEL

U-1 6" PLUG
373+07
℄ -1036.85
605 SHALLOW

U-1 375+00
℄ -1035.35

U-2 375+00
℄ -1035.35
605 SHALLOW

U-2 6" PLUG
372+45
℄ -1037.10

E-1 E-2 E-3 E-4 E-5 G-1 G-2 G-3 U-1 U-2

1 SET TO MILE POST No 3 FROM INTERSECTION SIGNAL BOX

STD. E-2 TYPE 2 CROSSING

6" APPLE

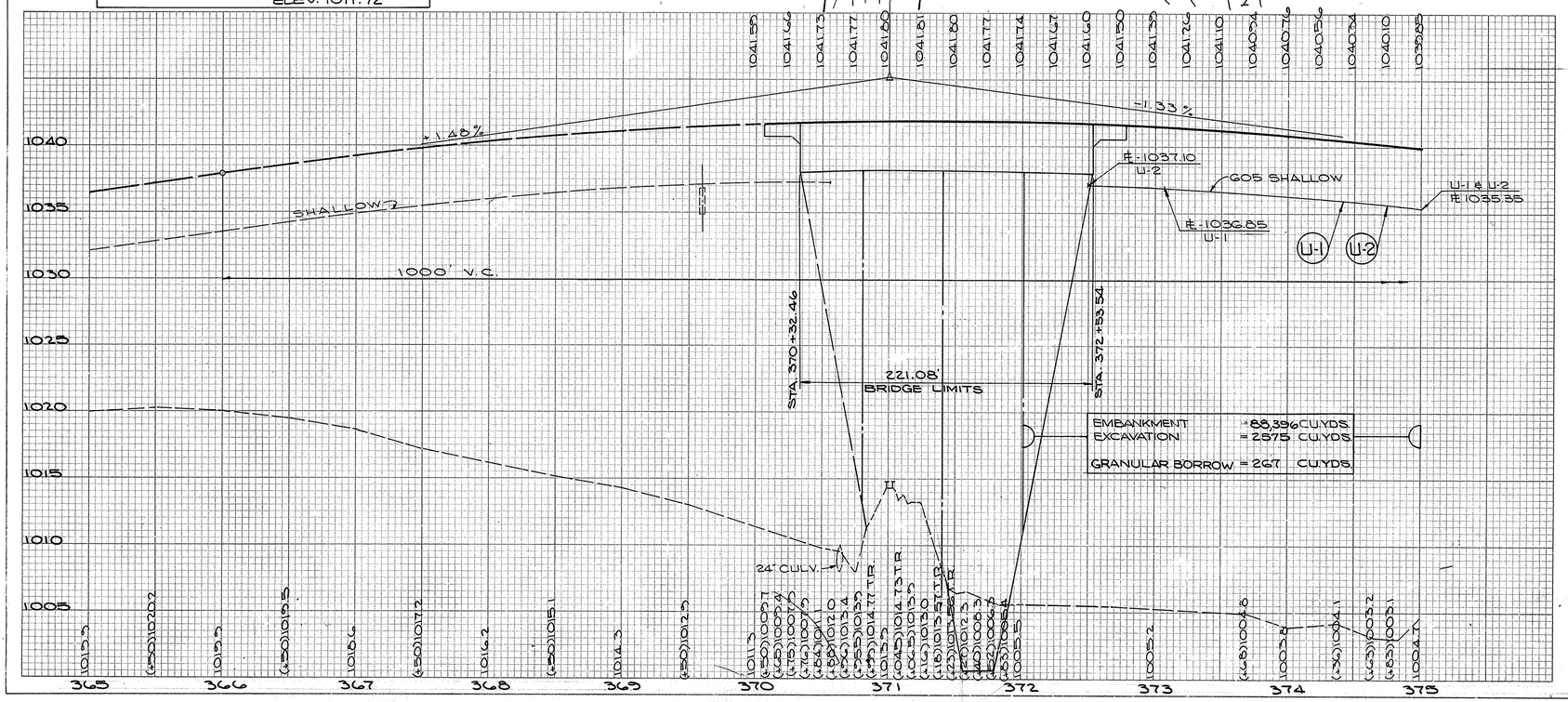
TEMPORARY WORK EASEMENT

6" HICKORY

P.I. STA. 371+00.00
ELEV. 1043.31

ERIE-SON RUN

B.M. 1 - R.R. SPIKE IN ROOT OF 30" ELM TREE 293' RT. I-80 ℄ STA. 365+95
ELEV. 1011.72



EMBANKMENT	= 88,396 CU.YDS.
EXCAVATION	= 2575 CU.YDS.
GRANULAR BORROW	= 267 CU.YDS.

PROPOSED STRUCTURE Nº MAH-80S-0701L&R.

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 48'-0" - 60'-0" - 60'-0" - 48'-0" ℄ TO ℄ BRGS.
ROADWAY: 40'-0" F/F PARAPETS
SKEW: 23° 32' 11" L.F. (BETWEEN LOCAL TANGENTS)
LOAD FREQUENCY: C.F. = 2000 ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LONG (AS-1-54)
ALIGNMENT: 0° 15' 00" CURVE LEFT
SUPERELEVATION: NONE
SLOPE PROTECTION: 601 CRUSHED AGGREGATE & DUMPED ROCK

605 UNDERDRAINS (LIN. FT.)

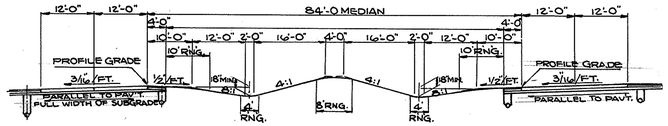
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" SHALLOW	
U-1	373+07	375+00	LT.	193	
U-2	372+49	375+00	RT.	251	
SHEET TOTAL				444	

606 GUARD RAIL (LIN. FT.)

CODE	FROM	TO	LOCA.	TYPE 4	TYPE 4 BARRIER
G-1	372+70	375+00	℄	150	80
G-2	372+20	375+00	RT.	280	
G-3	372+88	375+00	LT.	212	
SHEET TOTALS				642	80

EROSION CONTROL

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	660 SODDING SPECIAL BERM & SLOPE PROT. SQ. YDS.	601 DUMPED ROCK CHANNEL PROT. CU. YDS.
E-1	372+90	-	LT.	58	
E-2	372+21	-	RT.	76	
E-3	371+63	150' RT. ℄			5
E-4	370+62	-	LT.	57	
E-5	368+95	-	RT.	62	
SHEET TOTALS				253	5



SUPERELEVATED SECTION

NOTE:
THE TYPICAL SECTION OF THE ADJOINING PROJECT WILL BE SIMILAR TO THE PROPOSED TYPICAL SECTION FOR THE MAIN LINE ON THIS PROJECT EXCEPT THE MEDIAN DITCH WHICH IS IN DETAIL ABOVE.

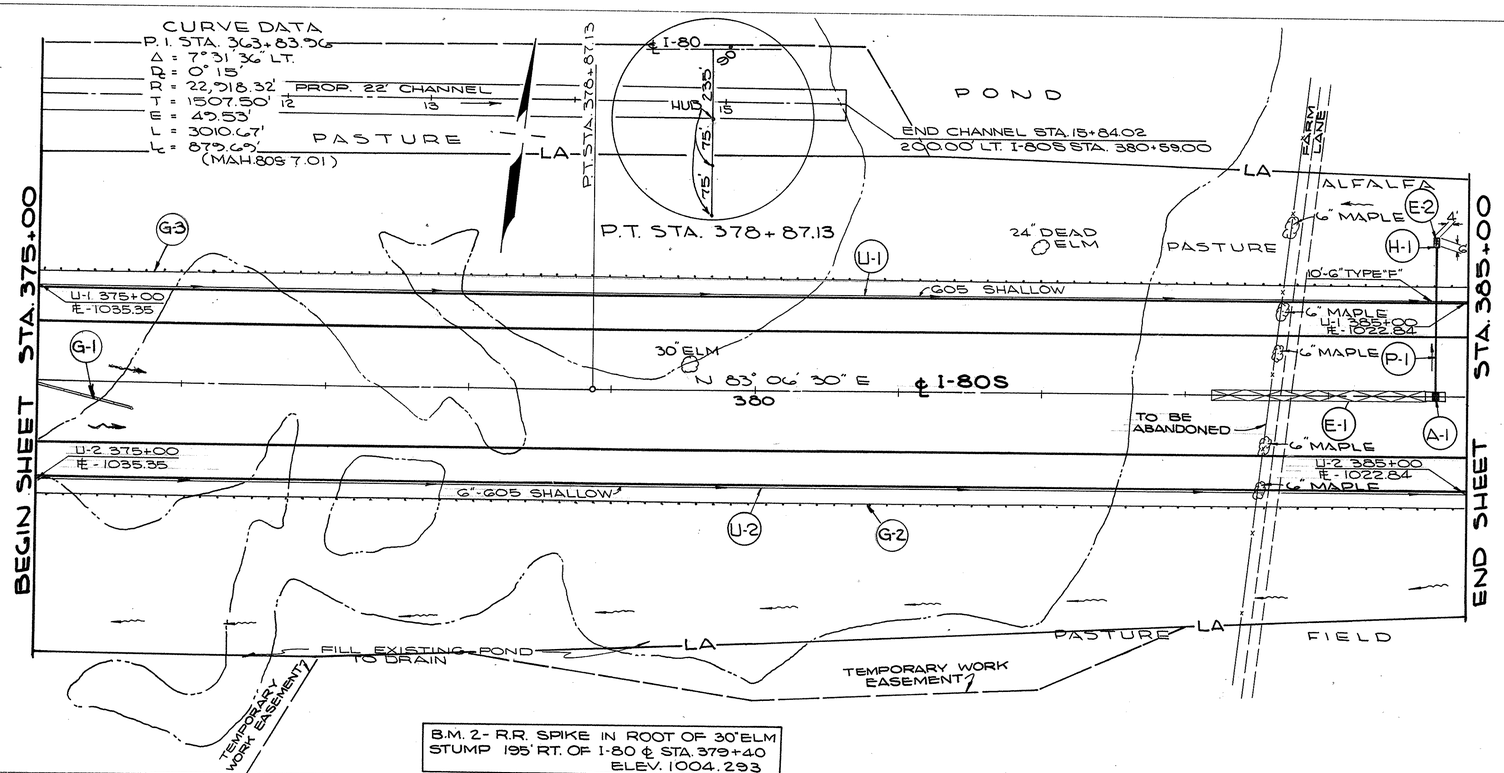
FOR DETAILS OF PROPOSED RELOCATED CHANNEL SEE SHEET Nº 214

STA. 365+00 TO STA. 375+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

37
384

MAHONING COUNTY
MAH.805-7.01
MAH.80 -2.30



G05 UNDERDRAINS (LIN.FT.)					G03
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" SHALLOW	6" TYPE "F" LIN. FT.
U-1	375+00	385+00	LT.	990	10
U-2	375+00	385+00	RT.	1000	
SHEET TOTAL				1990	10

EROSION CONTROL				G01	G02		G07
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	DUMPED ROCK CHANNEL PROT'N CU.YDS.	CONCRETE MASONRY CU.YDS.		JUTE MATTING SQ.YDS.
E-1	383+18	384+68	℄				125
E-2	384+75	116'LT.℄		1			
H-1	384+75	116'LT.℄			0.3		
SHEET TOTAL				1	0.3		125

G03 CONDUIT (LIN. FT.)						
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	15" TYPE "B" W/CL. "B" BEDDING	TYPE "F" 15"	15" BENDS & BRANCHES 25°
P-1	384+75		LT.	91	27	2
SHEET TOTAL				91	27	

G04 CATCH BASINS			
CODE	LOCATION	STD. Nº 4 EACH	
A-1	384+75(℄)	1	
SHEET TOTAL		1	

G06 GUARD RAIL (LIN. FT.)					
CODE	FROM	TO	LOCA.	TYPE 4	TYPE 4 BARRIER
G-1	375+00	375+70	℄		70
G-2	375+00	385+00	RT.	1000	
G-3	375+00	385+00	LT.	1000	
SHEET TOTALS				2000	70

FOR DETAILS OF RELOCATED CHANNEL, SEE SHEET Nº 214.

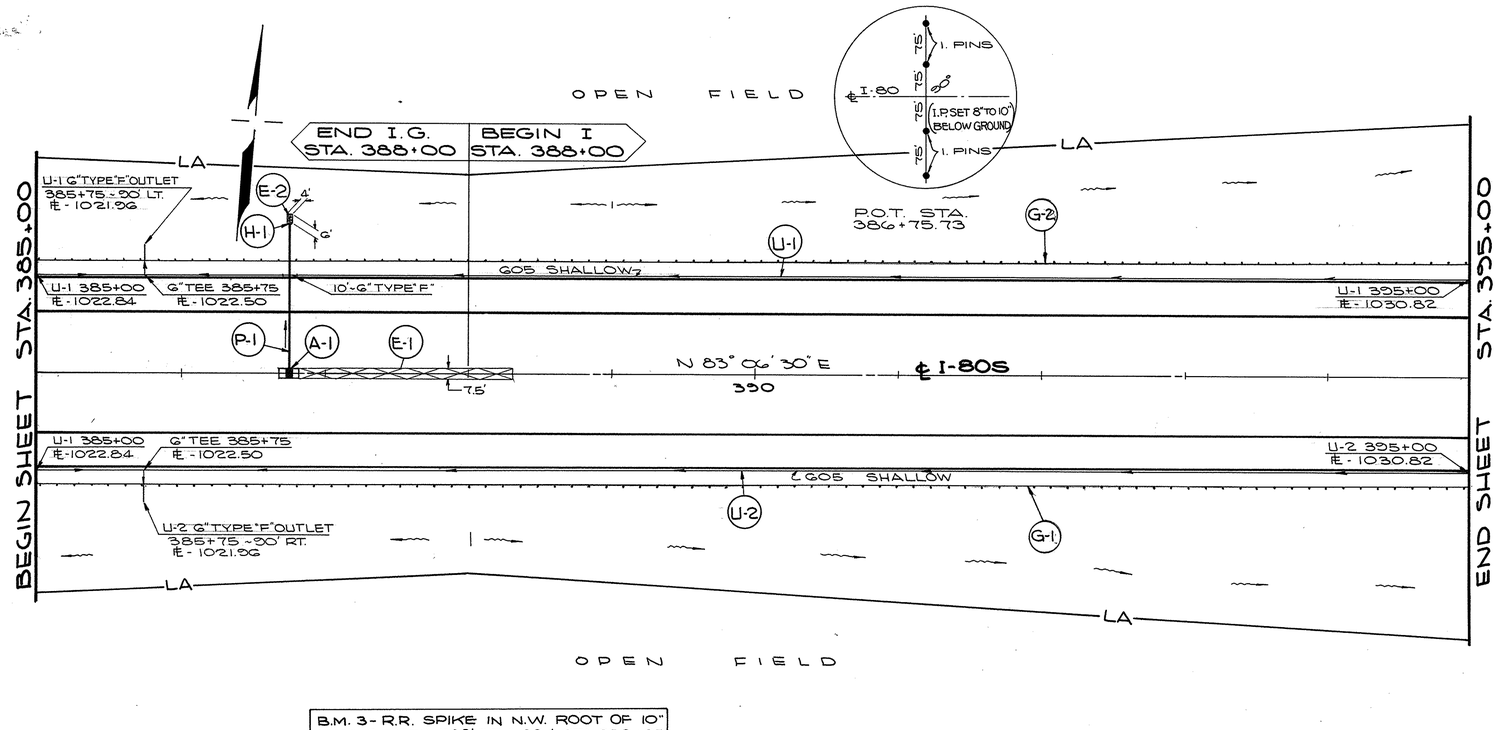
FOR PIPE PROFILE, (P-1) SEE SHEET Nº 59.

STA. 375+00 TO STA. 385+00

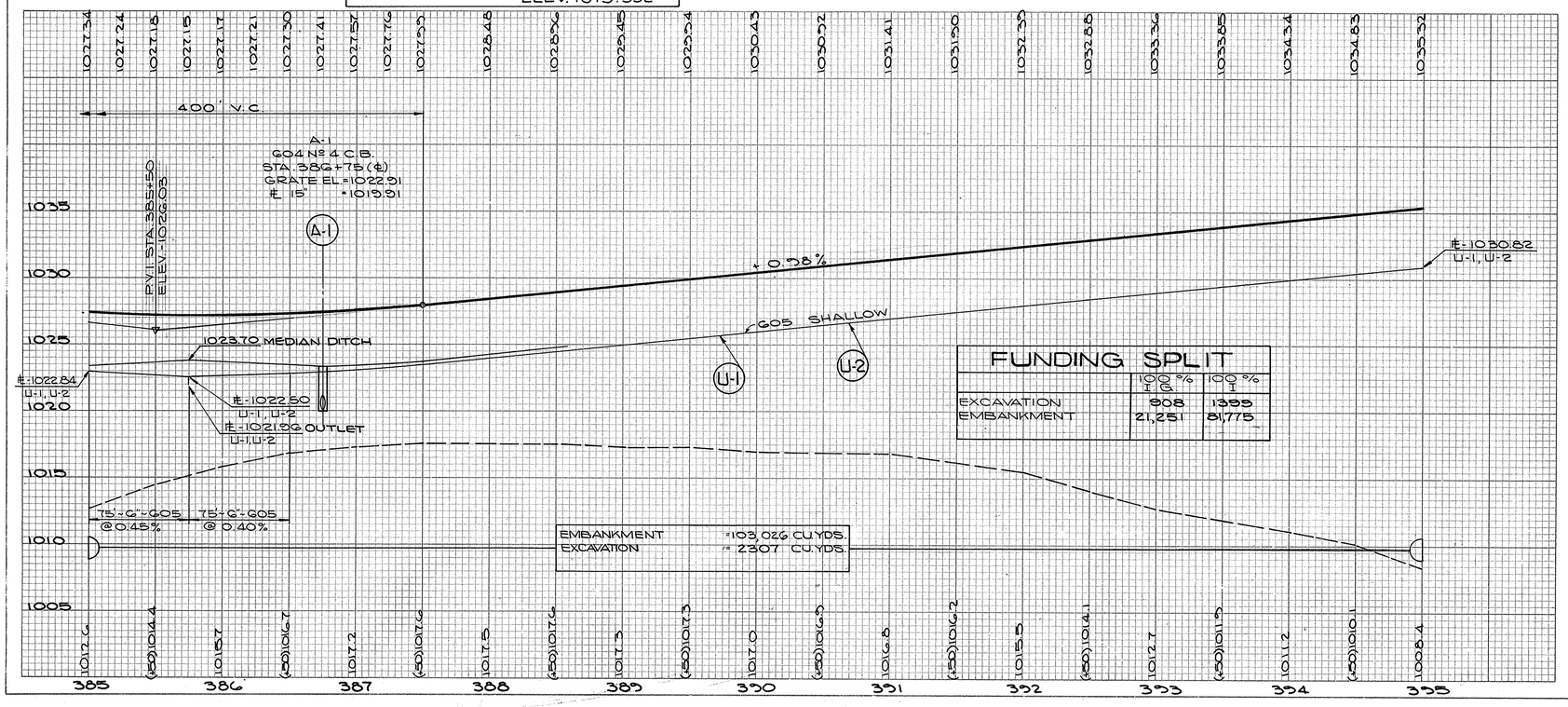
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

38
384

MAHONING COUNTY
MAH.80S-7.01
MAH.80 -2.30



B.M. 3 - R.R. SPIKE IN N.W. ROOT OF 10" MAPLE TREE 500' RT. I-80 ℄ STA. 388+07 ELEV. 1019.552



FUNDING SPLIT

	100% FED.	100% ST.
EXCAVATION	908	1399
EMBANKMENT	21,251	81,775

605 UNDERDRAINS (LIN. FT.)

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" SHALLOW		6" BENDS & BRANCHES TEE	603 6" TYPE "F" LIN. FT.
U-1	385+00	395+00	LT.	1002		1	20
U-2	385+00	395+00	RT.	1012		1	10
SHEET TOTAL (I.G.)				614			30
SHEET TOTAL (I.)				1400			

EROSION CONTROL

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	601 DUMPED ROCK CHANNEL PROT'T'N CU.YDS.	602 CONC. MASONRY CU.YDS.		607 JUTE MATTING SQ.YDS.
E-1	386+82	388+32	℄				125
E-2	386+75	105' LT. ℄		1			
H-1	386+75	105' LT. ℄			0.3		
SHEET TOTAL (I.G.)				1	0.3		98
SHEET TOTAL (I.)							27

603 CONDUIT (LIN. FT.)

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	15" TYPE "B" W/CL. "B" BEDDING	
P-1	386+75		LT.	105	
SHEET TOTAL (I.G.)				105	

604 CATCH BASINS (EA.)

CODE	LOCATION	STD. Nº 4	
A-1	386+75 (℄)	1	
SHEET TOTAL (I.G.)		1	

606 GUARD RAIL (LIN. FT.)

CODE	FROM	TO	LOCA.	TYPE 4
G-1	385+00	395+00	RT.	1000
G-2	385+00	395+00	LT.	1000
SHEET TOTAL (I.G.)				600
SHEET TOTAL (I.)				1400

FOR PIPE PROFILE, (P-1) SEE SHEET Nº 60

STA. 385+00 TO STA. 395+00

MICROFILMED
APR 2 1986

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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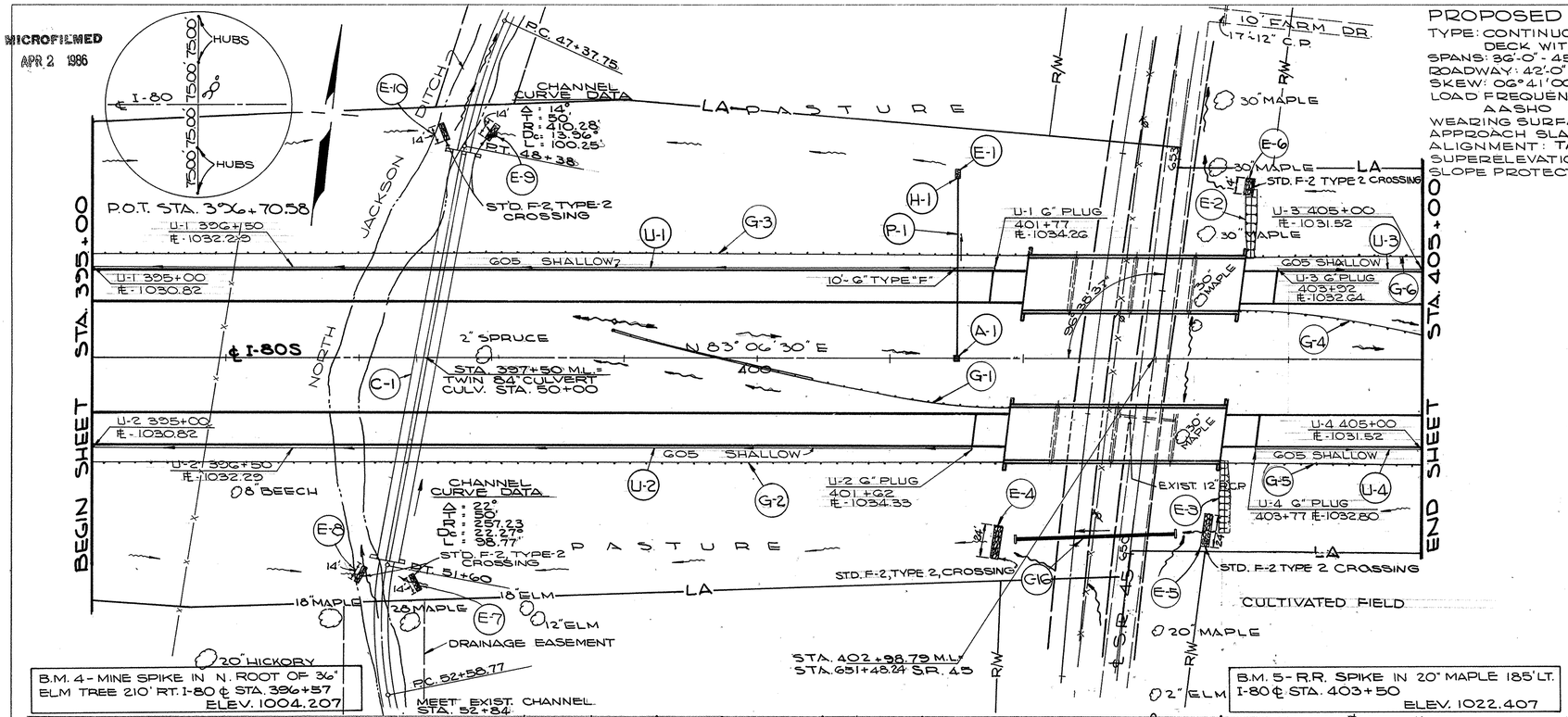
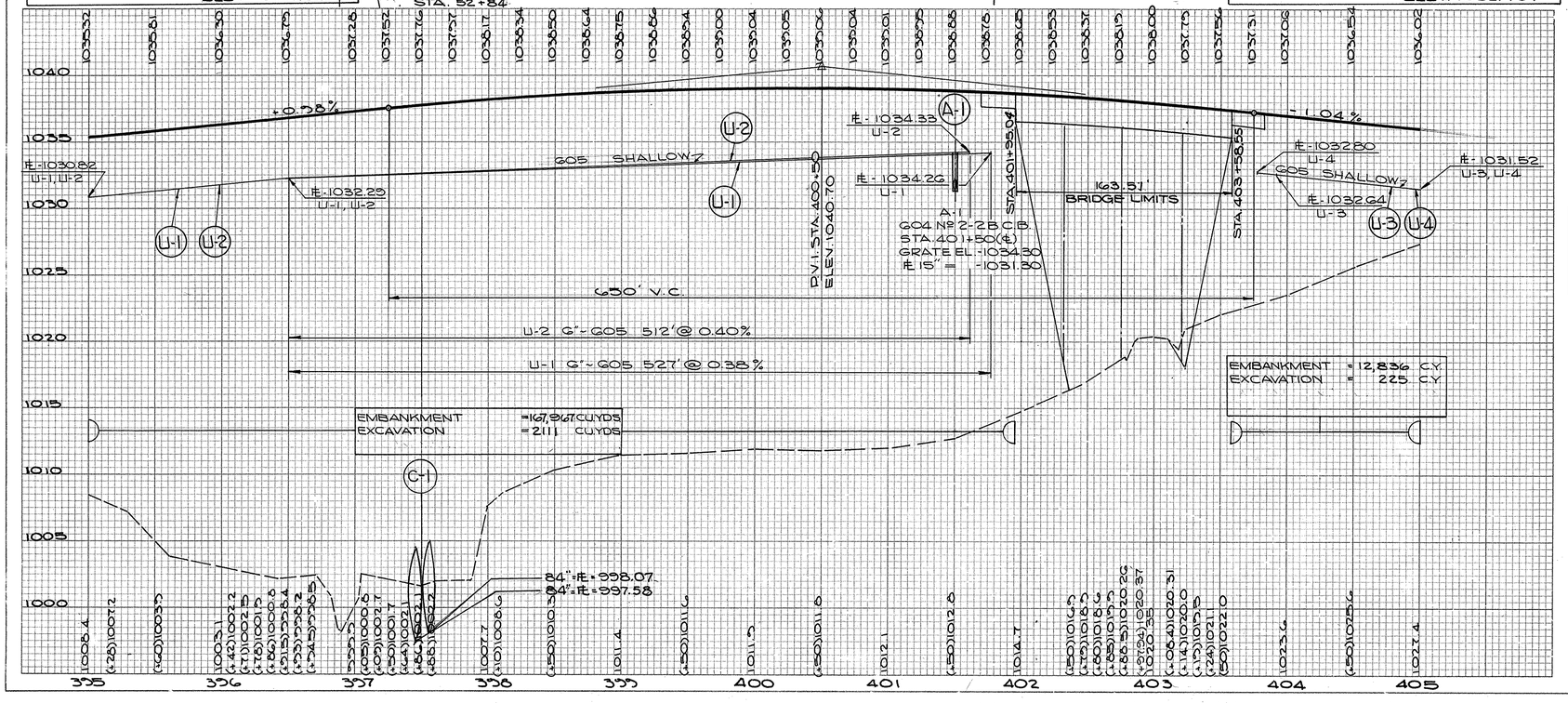
MAHONING COUNTY
MAH-80S-7.01
MAH-80 -2.30

PROPOSED STRUCTURE Nº MAH-80S-0761 L&R.

TYPE: CONTINUOUS REINFORCED CONCRETE SLAB DECK WITH REINFORCED CONC. SUBSTRUCTURE
SPANS: 36'-0" - 45'-0" - 45'-0" - 36'-0" ℄ TO ℄ BRGS.
ROADWAY: 42'-0" F/F PARAPETS
SKEW: 06°41'00" L.F.
LOAD FREQUENCY: C.F. = 2000 ADEQUATE FOR AASHO ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLAB: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: 601 CRUSHED AGGREGATE





G05 UNDERDRAINS (LIN. FT.)

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" SHALLOW		G03 6" TYPE "F" LIN. FT.
U-1	395+00	401+77	LT.	677		10
U-2	395+00	401+62	RT.	662		
U-3	403+92	405+00	LT.	108		
U-4	403+77	405+00	RT.	123		
SHEET TOTAL				1570		10

EROSION CONTROL

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	601 DUMPED ROCK CHANNEL PROT'N. CU.YDS.	602 CONC. MASONRY CU.YDS.	660 SODDING SPECIAL BERM & SLOPE PROT SQ.YDS.
E-1	401+50	137' LT. ℄		1		
E-2	403+71	-	LT.			47
E-3	403+53	-	RT.			49
E-4	401+82	137' RT. ℄		8		
E-5	403+38	130' RT. ℄		8		
E-6	403+70	128' LT. ℄		5		
E-7	397+45	170' RT. ℄	RT.	5		
E-8	397+00	165' RT. ℄	RT.	5		
E-9	398+05	170' LT. ℄	LT.	5		
E-10	397+64	168' LT. ℄	LT.	5		
H-1	401+50	137' LT. ℄			0.3	
SHEET TOTAL				42	0.3	96

G03 CONDUIT (LIN. FT.)

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	15" TYPE "B" W/CL "B" BEDDING	TYPE "F" 15"	TYPE "F" 15" BENDS & BRANCHES 25°
P-1	401+50		LT.	88	52	2
SHEET TOTAL				88	52	

G04 CATCH BASINS

CODE	LOCATION	STD. Nº 2-28 EACH
A-1	401+50(℄)	1
SHEET TOTAL		1

STRUCTURES 20' SPAN ℄ UNDER

CODE	LOCATION	TYPE		SIZE	DETAIL SH'T. Nº
C-1	397+50	314'~TYPE "A"	707.03	TWIN 84"	229
C-16	650+14	122'~TYPE "A"	706.02	21"	240

G06 GUARD RAIL (LIN. FT.)

CODE	FROM	TO	LOCA.	TYPE 4	TYPE 4 BARRIER
G-1	398+88	401+88	℄	150	150
G-2	395+00	401+83	RT.	683	
G-3	395+00	402+03	LT.	703	
G-4	403+63	405+00	℄	137	
G-5	403+50	405+00	RT.	150	
G-6	403+68	405+00	LT.	132	
SHEET TOTALS				1955	150

FOR PIPE PROFILE, SEE SHEET Nº 65 (P-1)

FOR DETAILS ON SR 45 SEE SHEET Nº 205

STA. 395+00 TO STA. 405+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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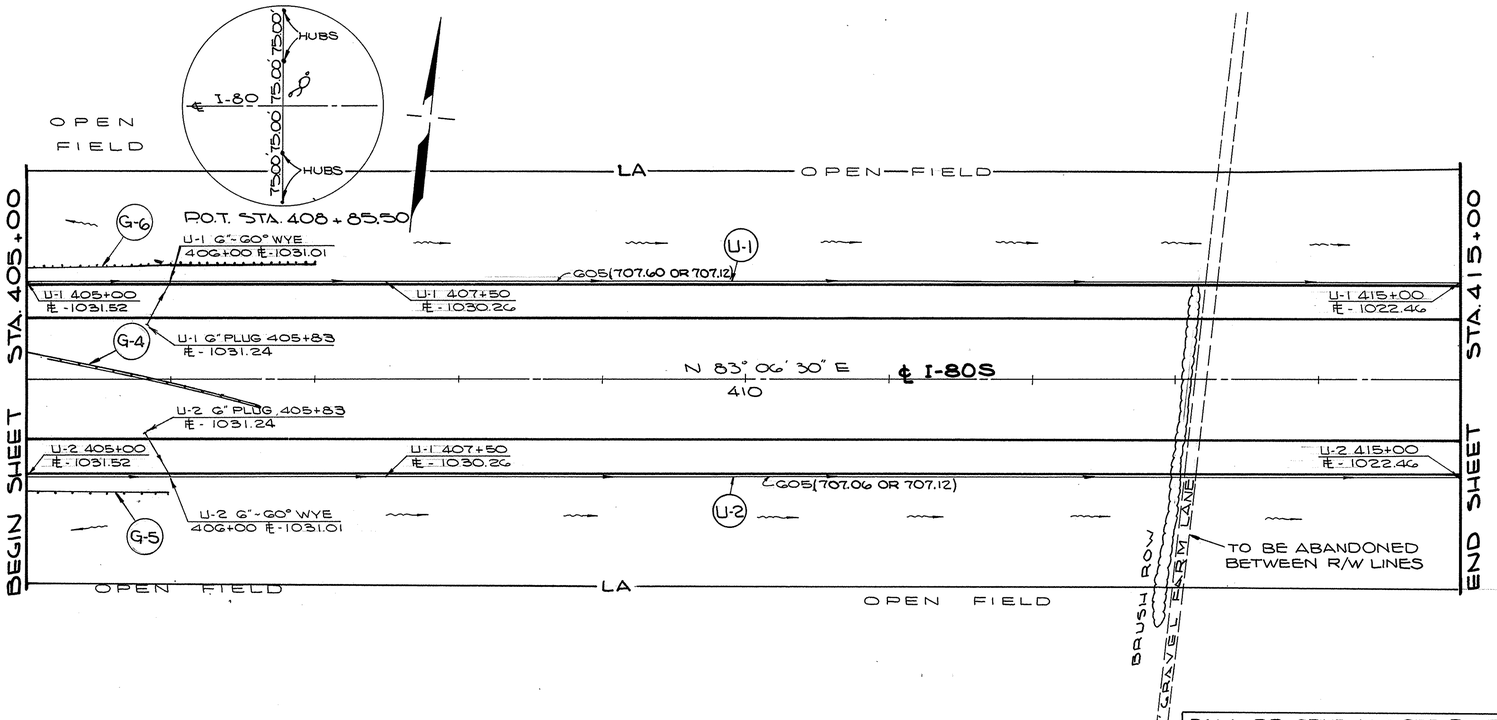
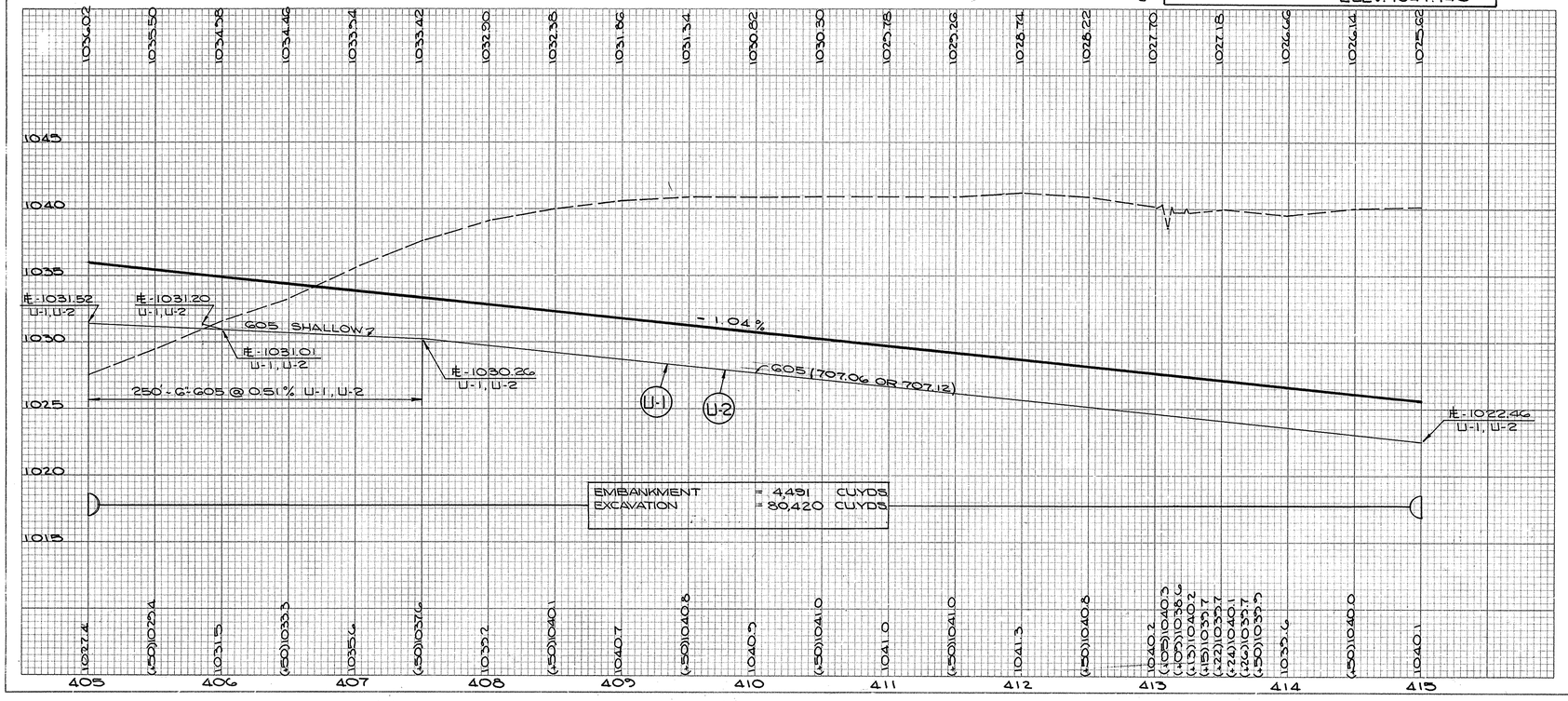
MAHONING COUNTY
MAH.80S-7.01
MAH.80 -2.30



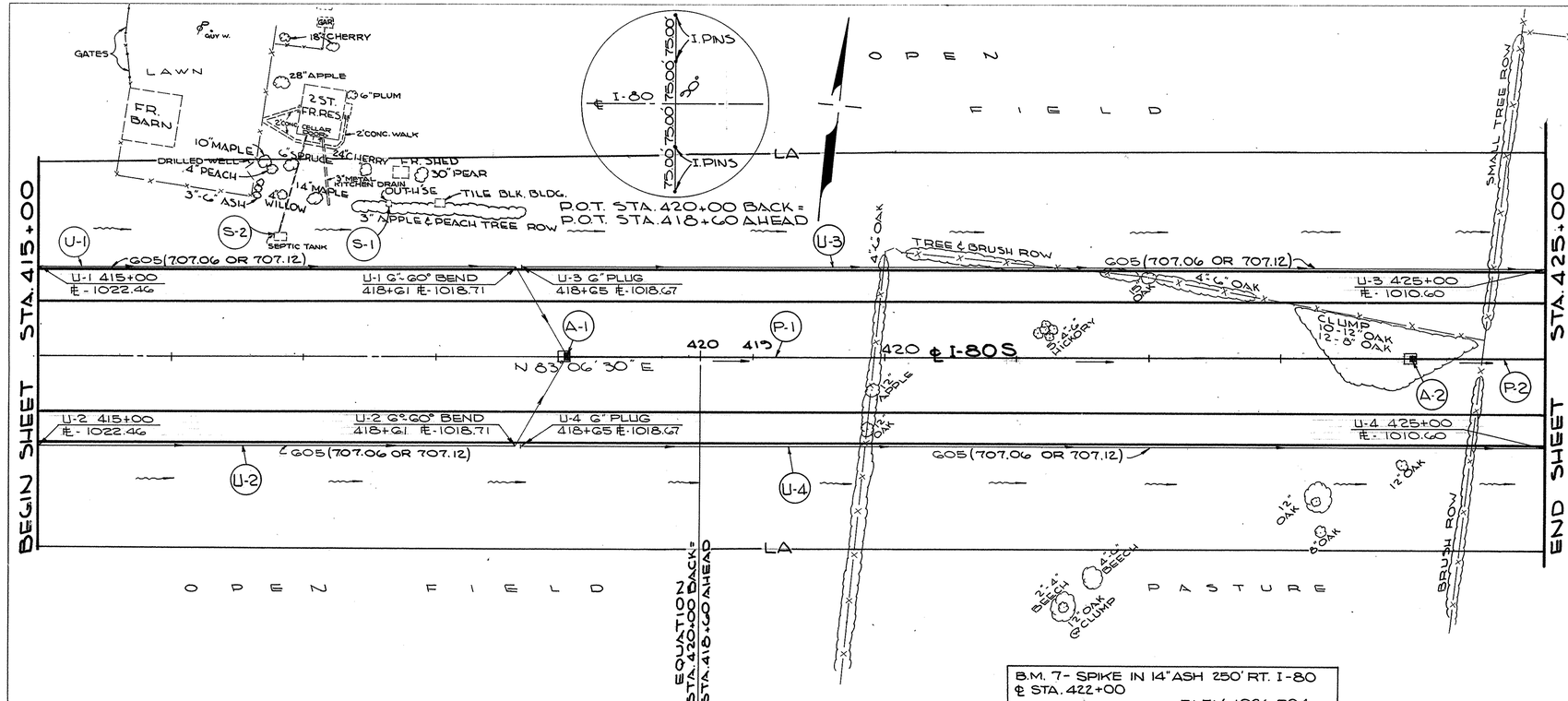
B.M. 6 - R.R. SPIKE IN S. SIDE POWER POLE № 275, LT. OF I-80 ℄ STA. 413+35
ELEV. 1047.748

G05 UNDERDRAINS (LIN. FT.)						
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" SHALLOW	6" 707.06 OR 707.12	6" BENDS & BRANCHES 60°
U-1	405+00	415+00	LT.	284	750	1
U-2	405+00	415+00	RT.	284	750	1
SHEET TOTAL				568	1500	

606 GUARD RAIL (LIN. FT.)					
CODE	FROM	TO	LOCA.	TYPE 4	TYPE 4 BARRIER
G-4	405+00	406+63	℄	13	150
G-5	405+00	406+00	RT.	100	
G-6	405+00	407+05.5	LT.	205.5	
SHEET TOTALS				318.5	150



STA. 405+00 TO STA. 415+00



ITEM SPECIAL				
CODE	LOCATION	SIDE ℄	CLEANING OF PRIVY VAULTS EACH	CLEANING AND DISPOSAL OF SEPTIC TANKS EACH
S-1	417+68-116'	LT.	1	
S-2	416+85-88'	LT.		1
SHEET TOTAL			1	1

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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MAHONING COUNTY
MAH.80S-7.01
MAH.80 -2.30

605 UNDERDRAINS (LIN.FT.)							603	
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" 707.06 OR 707.12		6" BENDS & BRANCHS 60°	6" TYPE "B" W/CL "B" BED LIN.FT.	6" TYPE "E" LIN.FT.
U-1	415+00	419+00 BK.	LT.	361		1	68	10
U-2	415+00	419+00 BK.	RT.	361		1	68	10
U-3	418+65 BK.	425+00 AH.	LT.	775				
U-4	418+65 BK.	425+00 AH.	RT.	775				
SHEET TOTAL				2272			136	20

603 CONDUIT (LIN. FT.)					
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	TYPE "C" W/CL "B" BEDDING 18"	TYPE "C" W/CL "B" BEDDING 21"
P-1	419+00 BK.	424+00 AH.	℄	640	
P-2	424+00 AH.	425+00 AH.	℄		100
SHEET TOTAL				640	100

604 CATCH BASINS (EA.)			
CODE	LOCATION	STD. Nº 4	STD. Nº 8
A-1	419+00 BK. ℄	1	
A-2	424+00 AH. ℄		1
SHEET TOTAL		1	1

STA. 415+00 TO STA. 425+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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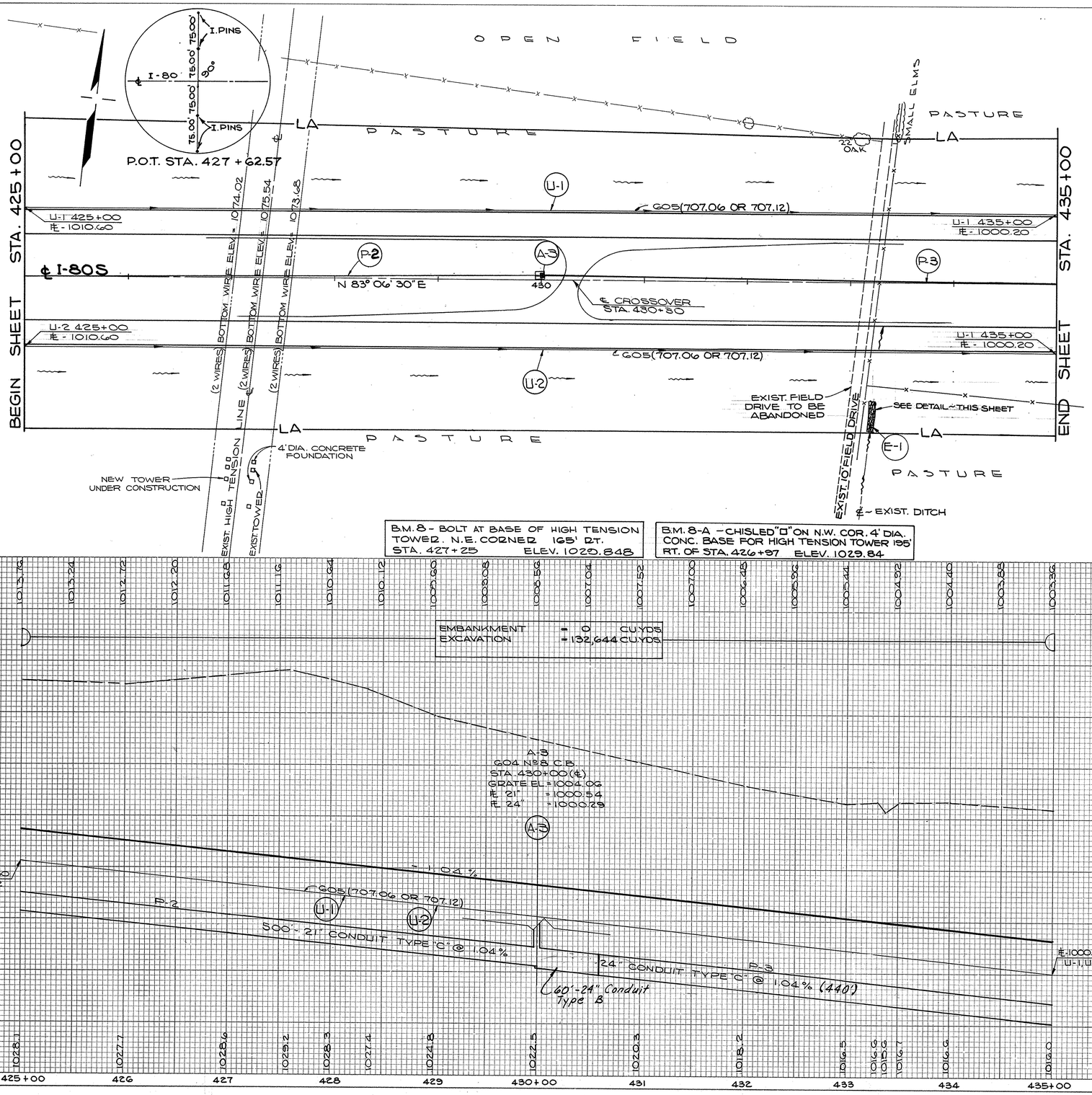
MAHONING COUNTY
MAH. 805-7.01
MAH. 80 -2.30



B.M. 8 - BOLT AT BASE OF HIGH TENSION TOWER. N.E. CORNER 165' RT. STA. 427+25 ELEV. 1029.848

B.M. 8-A - CHISLED "□" ON N.W. COR. 4' DIA. CONC. BASE FOR HIGH TENSION TOWER 195' RT. OF STA. 426+97 ELEV. 1029.84

605 UNDERDRAINS (LIN. FT.)

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" 707.06 OR 707.12	
U-1	425+00	435+00	LT.	1000	
U-2	425+00	435+00	RT.	1000	
SHEET TOTAL				2000'	

EROSION CONTROL

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	601 DUMPED ROCK CHANNEL PROT. CU.YDS.	
E-1	433 + 22	115' TO 145'	RT.	7	
SHEET TOTAL				7	

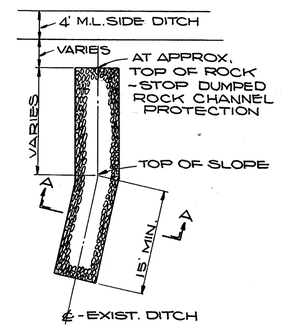
603 CONDUIT (LIN. FT.)

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	21" TYPE "C" W/CL. "B" BEDDING	24" TYPE "C" W/CL. "B" BEDDING	24" TYPE B W/CL. B BEDDING
P-2	425+00	430+00 (℄LT)	-	500		
P-3	430+00 (℄LT)	435+00	-		440	60
SHEET TOTAL				500	440	60

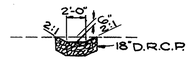
604 CATCH BASINS

CODE	LOCATION	STD. Nº 8 EACH	
A-3	430+00 (℄LT)	1	
SHEET TOTAL		1	

FOR CROSSOVER DETAILS SEE SHEET Nº 243



TYPICAL SLOPE PROTECTION



SECTION A-A

SCALE: 1" = 10'

STA. 425+00 TO STA. 435+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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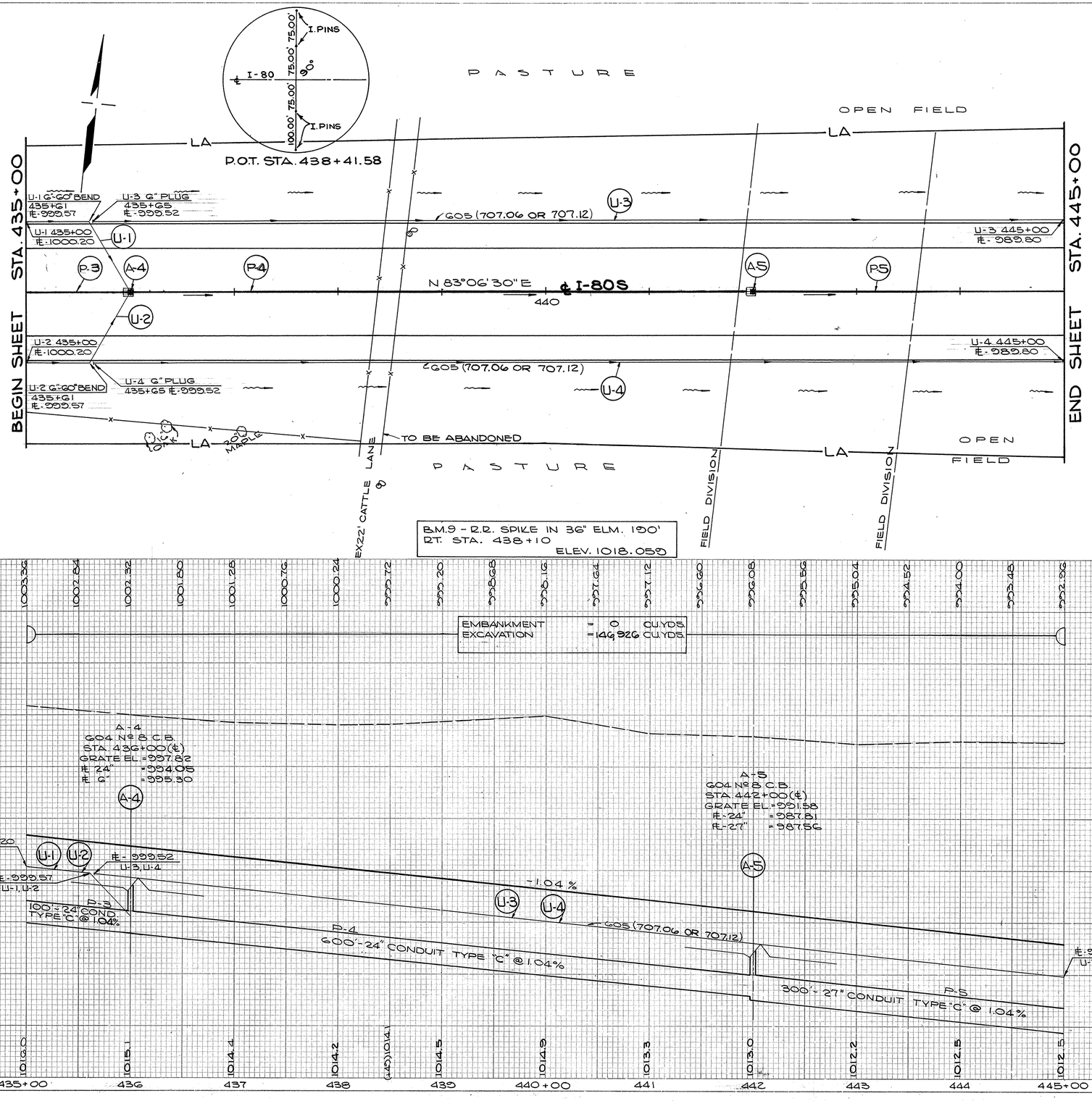
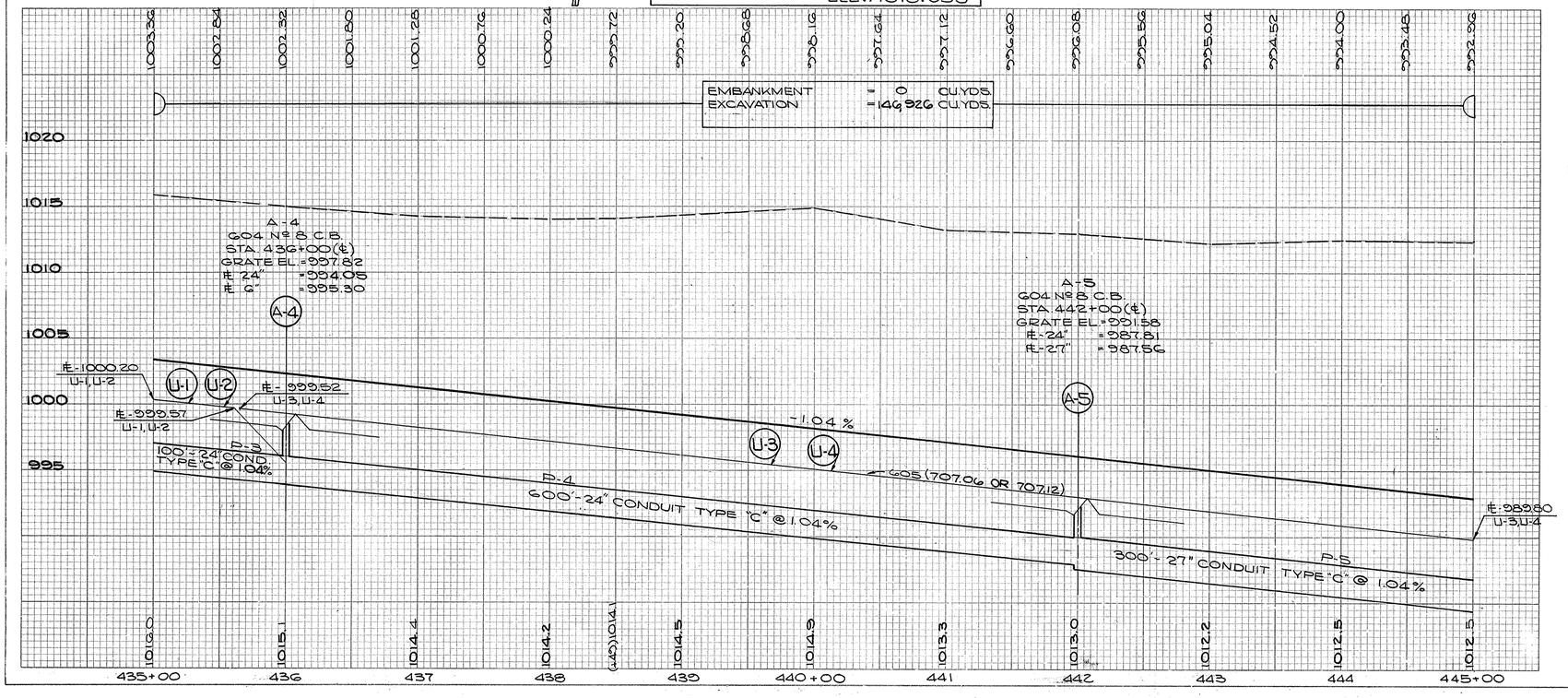
MAHONING COUNTY
MAH-80S-7.01
MAH.80 -2.30



G05 UNDERDRAINS						603		
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" 707.06 OR 707.12		6" BENDS & BRANCHES 60°	6" LIN. FT. TYPE "B" W/CL "B" BED.	6" LIN. FT. TYPE "F"
U-1	435+00	436+00	LT.	61		1	68	10
U-2	435+00	436+00	RT.	61		1	68	10
U-3	435+65	445+00	LT.	935				
U-4	435+65	445+00	RT.	935				
SHEET TOTAL				1992			136	20

603 CONDUIT (LIN. FT.)					
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	TYPE "C" W/CL "B" BEDDING 24"	27"
P-3	435+00	436+00	℄	100	
P-4	436+00	442+00	℄	600	
P-5	442+00	445+00	℄		300
SHEET TOTAL				700	300

604 CATCH BASINS (EA.)			
CODE	LOCATION	ST.D. Nº 8	
A-4	436+00 (℄)	1	
A-5	442+00 (℄)	1	
SHEET TOTAL		2	



STA. 435+00 TO STA. 445+00

MICROFILMED
APR 2 1986

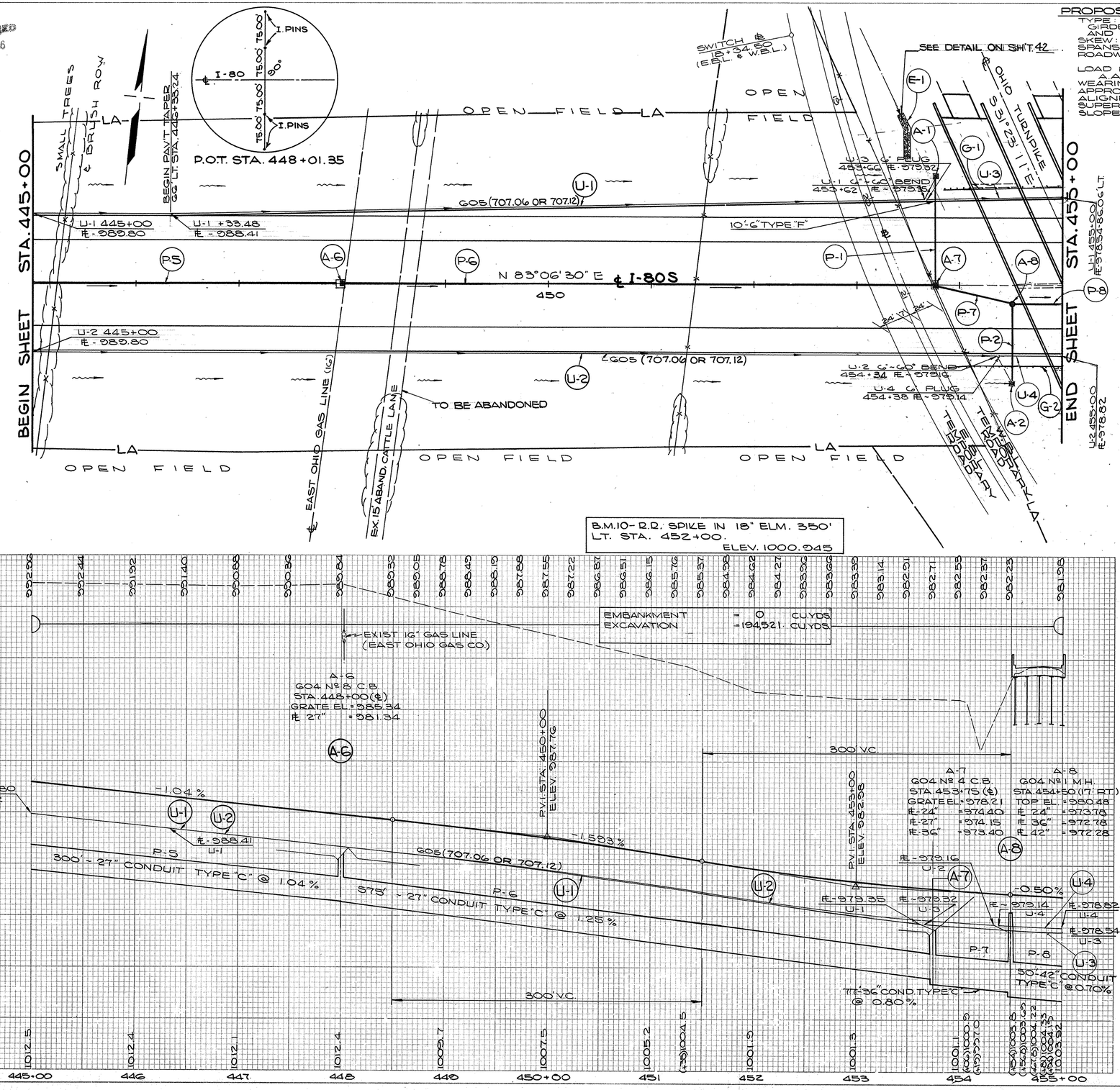
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

44
384

MAHONING COUNTY
MAH 80S-7.01
MAH.80 -2.30

PROPOSED STRUCTURE~MAH-80S-0861 & 0862

TYPE: CONTINUOUS WELDED STEEL PLATE GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES.
SKEW: 24°29'41" L.F.
SPANS: 69'-3"~100'-6"~88'-9"~58'-6" c/c BRGS.
ROADWAY: LT. STR.: 48'-0" F/F PARAPETS
RT. STR.: 41'-0" F/F PARAPETS
LOAD FREQUENCY: FOR 2000 ADEQUATE FOR AASHO ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: CRUSHED AGGREGATE (601.05)



605 UNDERDRAINS (LIN.FT.)						605	603
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" 707.06 OR 707.12		6" BENDS & BRANCH'S 60°	6" LIN. FT. TYPE "F"
U-1	445+00	453+62	LT.	877		1	10
U-2	445+00	454+34	RT.	354		1	10
U-3	453+66	455+00	LT.	134			10
U-4	454+38	455+00	RT.	52			10
SHEET TOTAL				2007			40

EROSION CONTROL					
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	601 DUMPED ROCK CHANNEL PROT. CU.YDS.	
E-1	453+49	122' TO 165'	LT.	10	
SHEET TOTAL				10	

603 CONDUIT (LIN.FT.)								
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	TYPE "B" W/CL "B" BED 24"	TYPE "C" W/CL "B" BEDDING 27"	27"	36"	42"
P-1	453+75 (106' LT)	(℄)	-	106				
P-2	454+50 (95' RT)	17' RT. ℄	-		78			
P-5	445+00	448+00	℄			300		
P-6	448+00	453+75	℄			575		
P-7	453+75 (℄)	454+50 (17' RT)	-				77	
P-8	454+50	455+00	17' RT.					50
SHEET TOTAL				106	78	875	77	50

604 CATCH BASINS & MANHOLES (EACH)				
CODE	LOCATION	STD. №4 C.B.	STD. №5 C.B.	STD. №8 C.B.	STD. №1 M.H.
A-1	453+75 (106' LT)		1		
A-2	454+50 (95' RT)		1		
A-6	448+00 (℄)			1	
A-7	453+75 (℄)	1			
A-8	454+50 (17' RT)				1
SHEET TOTAL		1	2	1	1

606 GUARD RAIL (LIN.FT.)					
CODE	FROM	TO	LOCA	TYPE 4	
G-1	453+86	455+00	LT.	114	
G-2	453+90	455+00	RT.	110	
SHEET TOTALS				2240	

A-1
604 №5 C.B.
STA. 453+75 (106' LT. ℄)
DITCH ELEV. = 980.44
GRATE ELEV. = 980.19
℄ 27" = 976.17
℄ 6" = 978.75

A-2
604 №5 C.B.
STA. 454+50 (95' RT. ℄)
DITCH ELEV. = 980.02
GRATE ELEV. = 979.77
℄ 24" = 976.02
℄ 6" = 978.50

FOR DETAILS OF OHIO TURNPIKE, SEE SHEET №188-204
FOR PROFILE (P-1) & (P-2)
SEE SHEET №78

STA. 445+00 TO STA. 455+00

MICROFILMED
APR 2 1985

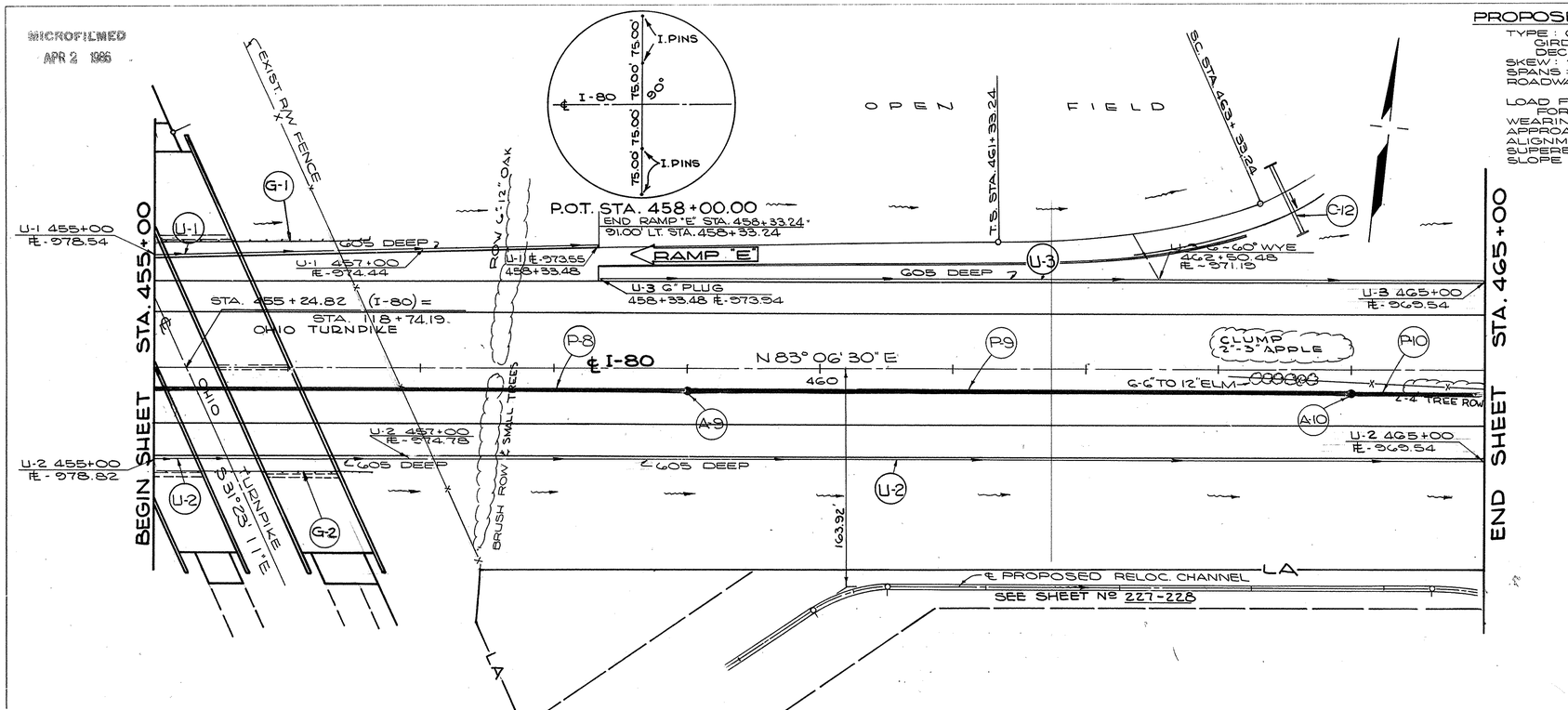
PROPOSED STRUCTURE MAH-805-0861&0862

TYPE: CONTINUOUS WELDED STEEL PLATE GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES.
SKEW: 24°29'21" L.F.
SPANS: (63'-3"+106'-6"+89'-9"+58'-6") c/c BRGS.
ROADWAY LT. STR.: 48'-0" F/F PARAPETS
RT. STR.: 41'-0" F/F PARAPETS
LOAD FREQUENCY: CF=2000 ADEQUATE FOR A.A.S.H.T.O. ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: CRUSHED AGGREGATE (601.05)

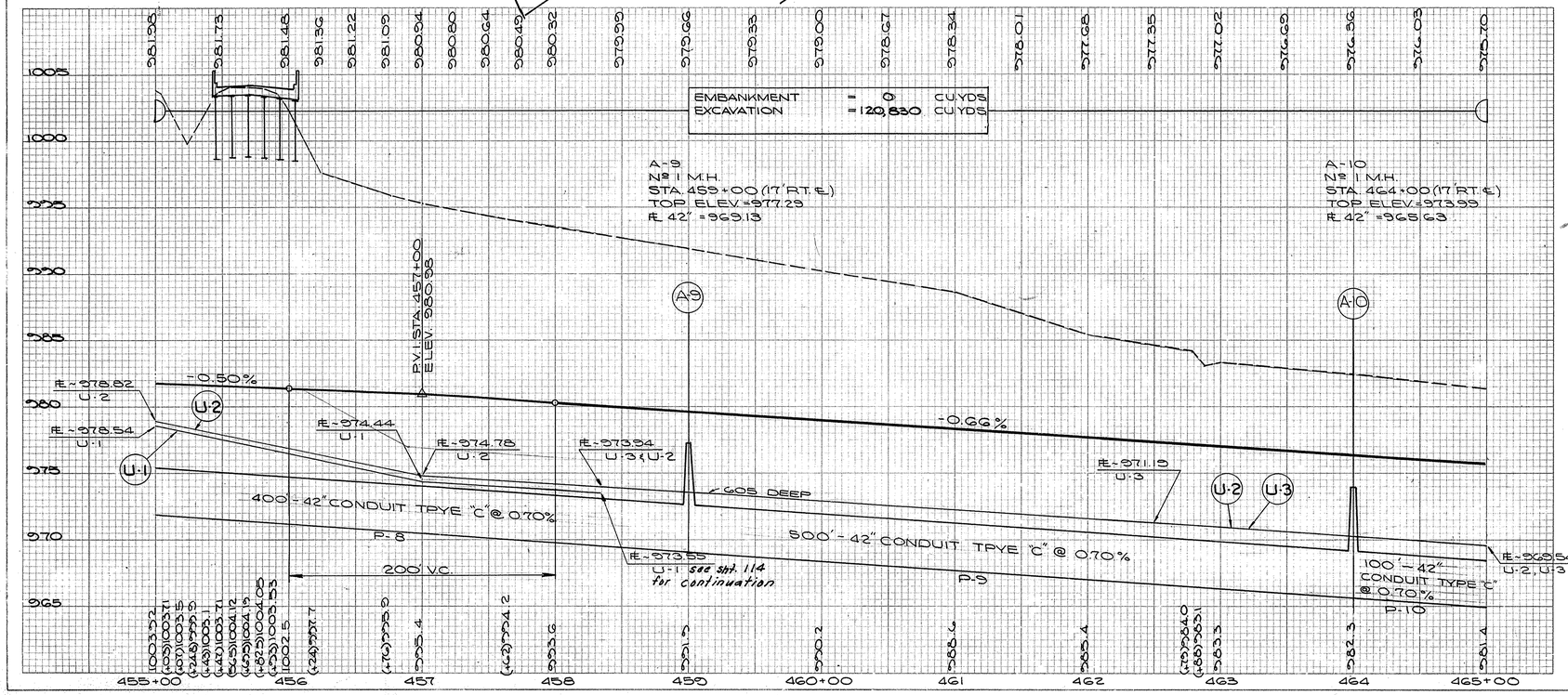
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

45/384

MAHONING COUNTY
MAH 805-7.01
MAH.80 -2.30



605 UNDERDRAINS (LIN.FT.)					603
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" DEEP	6" BENDS & BRANCH'S 60°
U-1	455+00	458+33.48	LT.	333.5	
U-2	455+00	465+00	RT.	1000	
U-3	458+33.48	465+00	LT.	666.5	1
SHEET TOTAL				2000	



603 CONDUIT (LIN. FT.)					
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	TYPE "C" W/CL B BEDDING 42"	
P-8	455+00	459+00	17' RT.		400
P-9	459+00	464+00	17' RT.		500
P-10	464+00	465+00	17' RT.		100
SHEET TOTAL					1000

604 CATCH BASINS & MANHOLES (EACH)			
CODE	LOCATION	STD. Nº 1 M.H.	
A-9	459+00 (17' RT. ℄)	1	
A-10	464+00 (17' RT. ℄)	1	
SHEET TOTAL		2	

606 GUARD RAIL (LIN. FT.)					
CODE	FROM	TO	LOCA	TYPE 4	
G-1	455+00	456+61	LT.	161.0	
G-2	455+00	456+65.0	RT.	165.0	
SHEET TOTAL				326.0	

STRUCTURES 20' SPAN & UNDER				
CODE	LOCATION	TYPE	SIZE	DETAIL SHEET Nº
C-12	463+50	55' TYPE "A" ... 706.02 or 706.08	24"	238

FOR PLAN & PROFILE OF RAMP "E" SEE SHEET Nº 114-115

FOR INTERSECTION DETAILS OF RAMP "E" AND MAIN LINE SEE SHEET Nº 119

STA. 455+00 TO STA. 465+00

PROPOSED STRUCTURE MAH-80-0240

TYPE: CONTINUOUS WELDED STEEL PLATE GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SKEW: 30°00'00" L.F.
SPANS: 61'-3" ~ 94'-3" ~ 103'-6" ~ 67'-3" % BRGS.
ROADWAY: 53'-0" F/F PARAPETS ~ 3' MEDIAN
WEARING SURFACE: 1" MONOLITHIC
LOAD FREQUENCY: CF + 2000 ADEQUATE FOR AASHO ALTERNATE LOADING.
APPROACH SLABS: 25' LONG (AS-1-54)
ALIGNMENT: 4°00'00" CURVE RT. & TANGENT
SUPERELEVATION: TRANSITION
SLOPE PROTECTION: CRUSHED AGGREGATE (601.05)

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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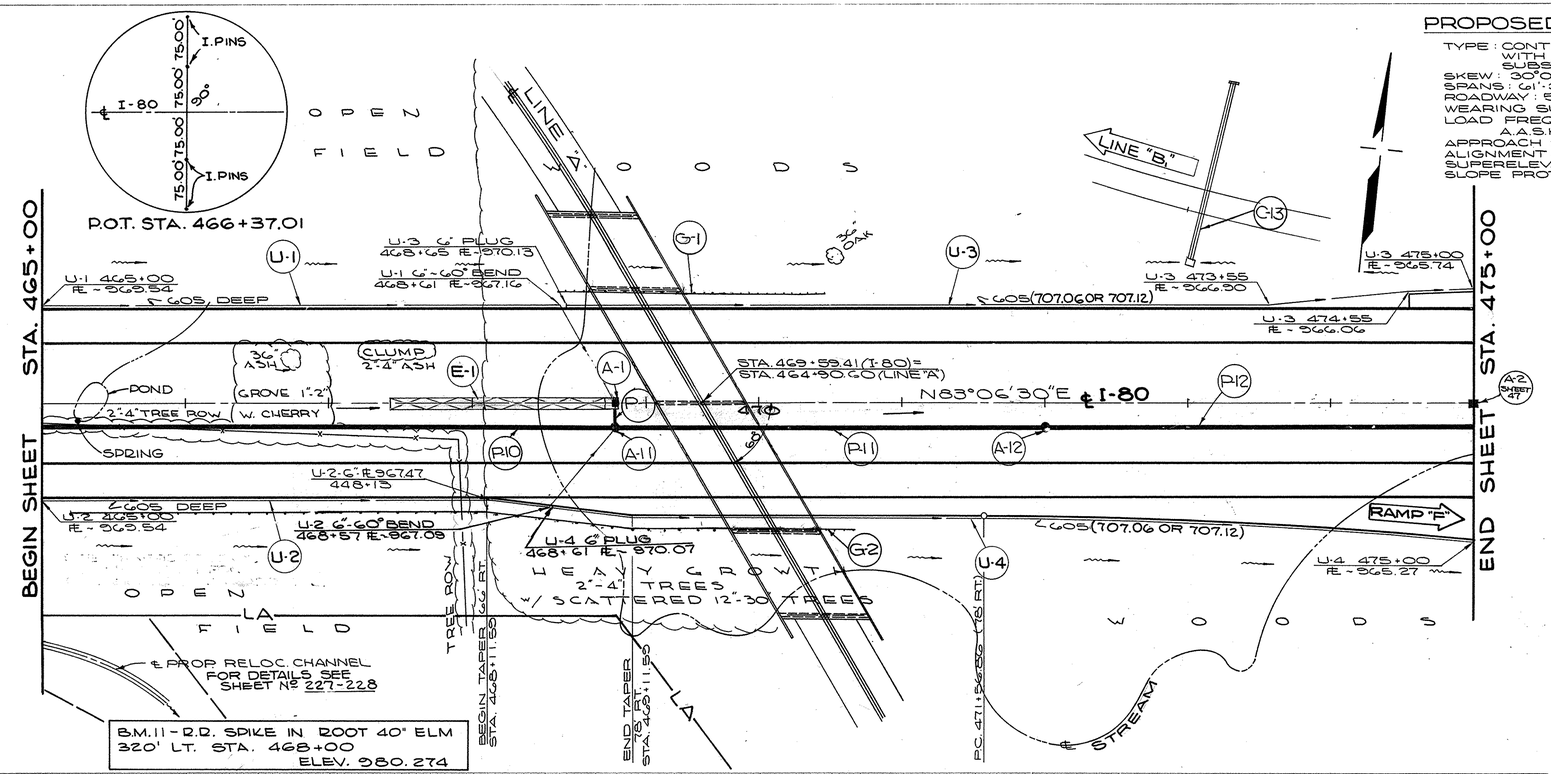
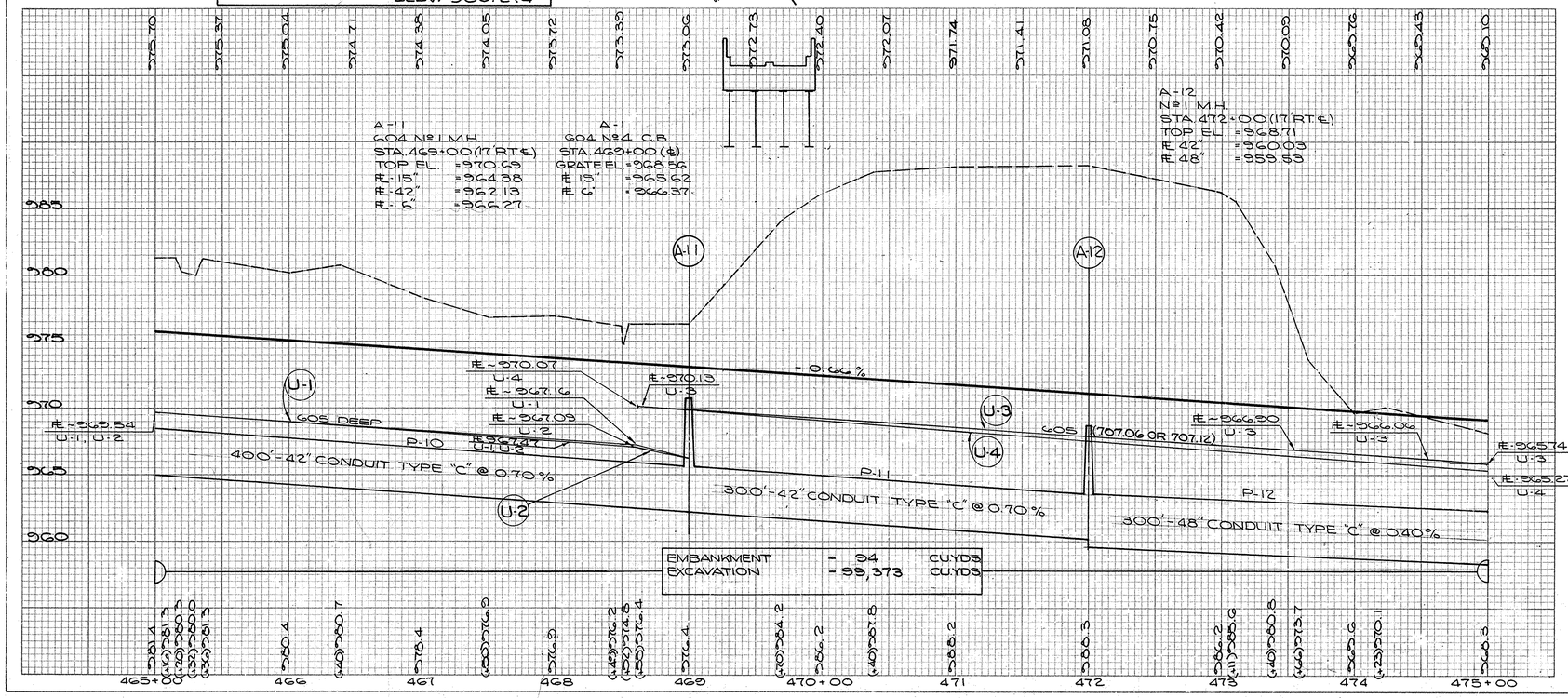
MAHONING COUNTY
MAH. 80S-7.01
MAH.80 -2.30





605 UNDERDRAINS (LIN. FT.) | 603

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" 707.06 OR 707.12	6" DEEP	603 6" BENDS & BRANCHES 60°	603 LIN. FT. 6" TYPE "B"	603 LIN. FT. 6" TYPE "F"
U-1	465+00	469+00	LT.		361	1	70	10
U-2	465+00	469+00	RT.		358	1	60	10
U-3	468+65	475+00	LT.	635				
U-4	468+61	475+00	RT.	650				
SHEET TOTAL				1285	719		130	20

EROSION CONTROL

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	667 JUTE MATTING SQ. YDS.	
E-1	467+43	468+93	℄	125	
SHEET TOTAL				125	

603 CONDUIT (LIN. FT.)

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	TYPE "C" W/CL B BEDDING 15"	42"	48"
P-10	465+00	469+00	℄		400	
P-11	469+00	472+00	RT.		300	
P-12	472+00	475+00	RT.			300
P-1	469+00 ℄	17' RT. ℄	RT.	17		
SHEET TOTAL				17	700	300

604 CATCH BASINS & MANHOLES (EACH)

CODE	LOCATION	STD. Nº 4 C.B.	STD. Nº 1 M.H.	
A-1	469+00 ℄	1		
A-11	469+00 (17' RT ℄)		1	
A-12	472+00 (17' RT ℄)		1	
SHEET TOTAL		1	2	

STRUCTURES 20' SPAN & UNDER

CODE	LOCATION	TYPE	SIZE	DETAIL SHEET Nº
C-13	473+0	130' TYPE "A" 706.02 OR 706.05	27"	238

606 GUARD RAIL (LIN. FT.)

CODE	FROM	TO	LOCA	TYPE 4	
G-1	468+59	470+46.5	LT.	187.5	
G-2	465+20	470+70	RT.	550.0	
SHEET TOTAL				737.5	

FOR PLAN AND PROFILE OF LINE "A" SEE SHEET Nº 107.

FOR DETAILS OF PIPE (P-1) SEE CROSS SECTION SHEET Nº 82

FOR DETAILS CHANNEL RELOCATION SEE SHEET Nº 227-228

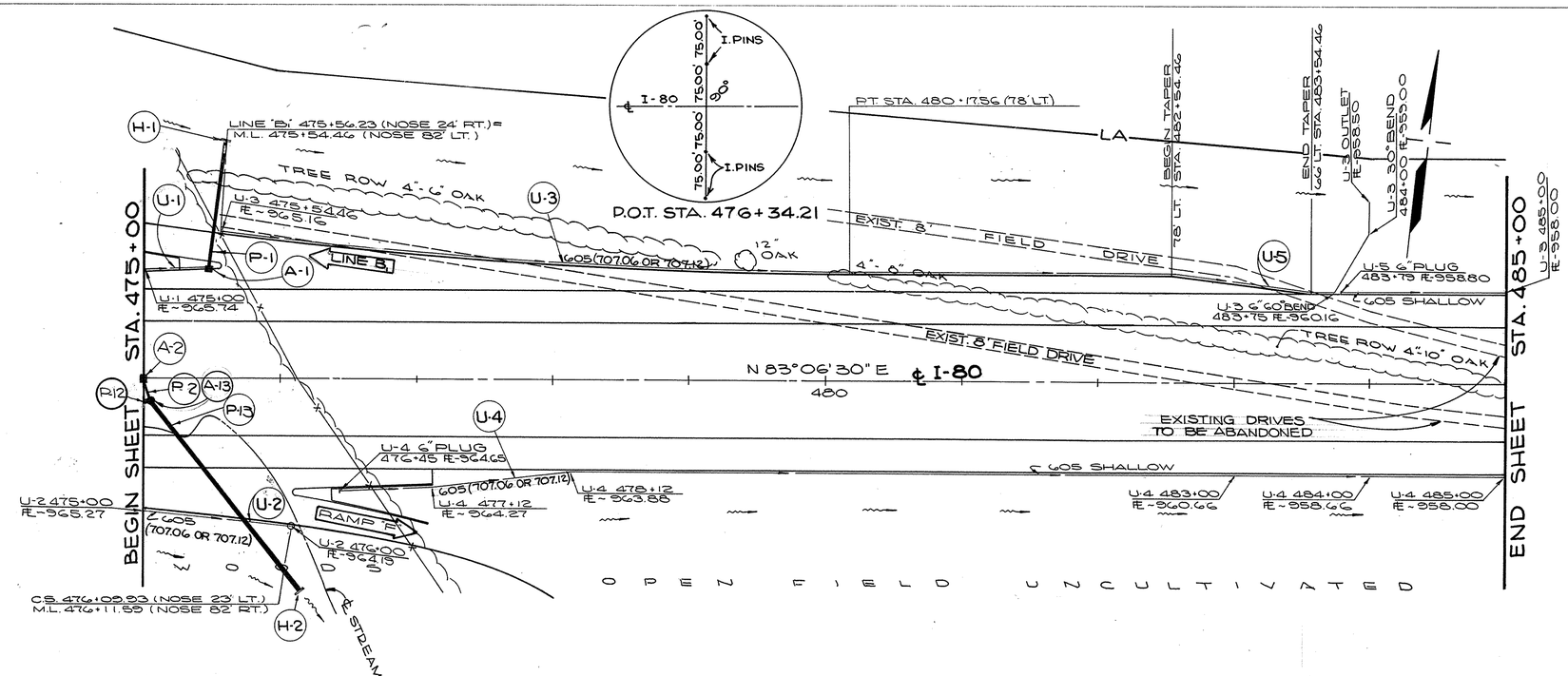
STA. 465+00 TO STA. 475+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

47
384

MAHONING COUNTY

MAH.80S-7.01
MAH.80 -2.30



605 UNDERDRAINS (LIN. FT.)

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" 707.06 OR 707.12	6" SHALLOW	6" BENDS & BRANCHS 30°	6" BENDS & BRANCHS 60°	603 6" LIN. FT. TYPE "F"
U-1	475+00	475+53	LT.	53				
U-2	475+00	476+09	RT.	109				
U-3	475+5	48	LT.	646		1	1	10
U-4	476+45	485+00	RT.	655	200			
U-5	481+81	485+00	LT.	119	200			
SHEET TOTAL				1582	400			10

EROSION CONTROL

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	602 CONC. MASONRY CU. YDS.
H-1	475+52.67	143'	LT.	0.3
H-2	476+18	161'	RT.	0.9
SHEET TOTAL				1.2

603 CONDUIT (LIN. FT.)

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	TYPE "B" W/CL."B" BEDDING 15"	TYPE "B" W/CL."B" BEDDING 48"	TYPE "C" W/CL."B" BEDDING 15"	TYPE "C" W/CL."B" BEDDING 48"
P-1	475+52.67	79' TO 173'	LT.	94			
P-2	475+00℄	475+05 (17')	RT.			18	
P-12	475+00	475+05	17' RT.				5
P-13	475+05 (17' RT.)	476+18 (161' RT.)	RT.		183		
SHEET TOTAL				94	183	18	5

604 CATCH BASINS & MANHOLES ~ EACH

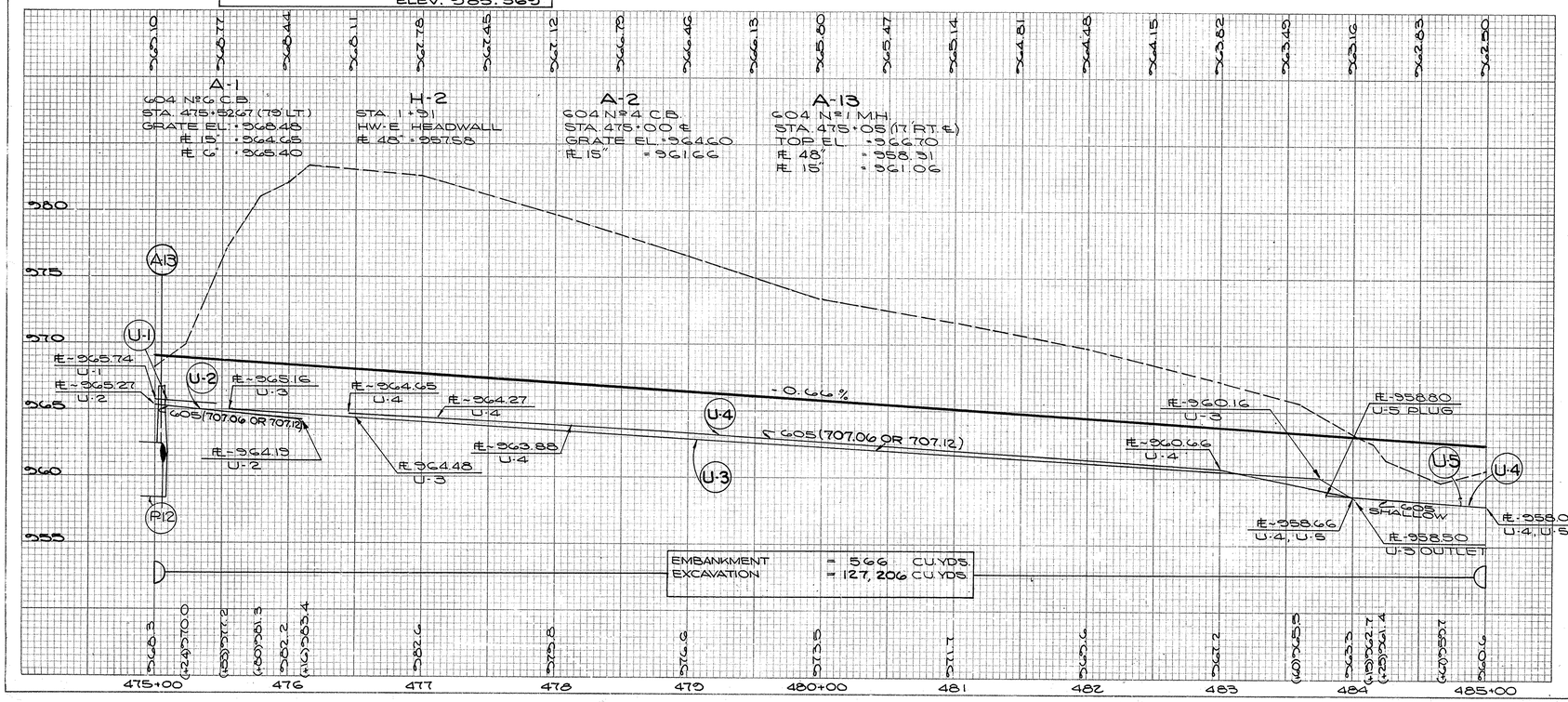
CODE	LOCATION	SIDE ℄	№ 6 C.B.	№ 4 C.B.	№ 1 M.H.
A-1	475+52.67	79' LT.	1		
A-2	475+00	℄		1	
A-13	475+05	17' RT.			1
SHEET TOTAL			1	1	1

FOR DETAILS LINE 'B' SEE SHEET № 111

FOR DETAILS RAMP F SEE SHEET № 114 & 120

FOR PROFILE OF P-1 SEE SHEET № 84

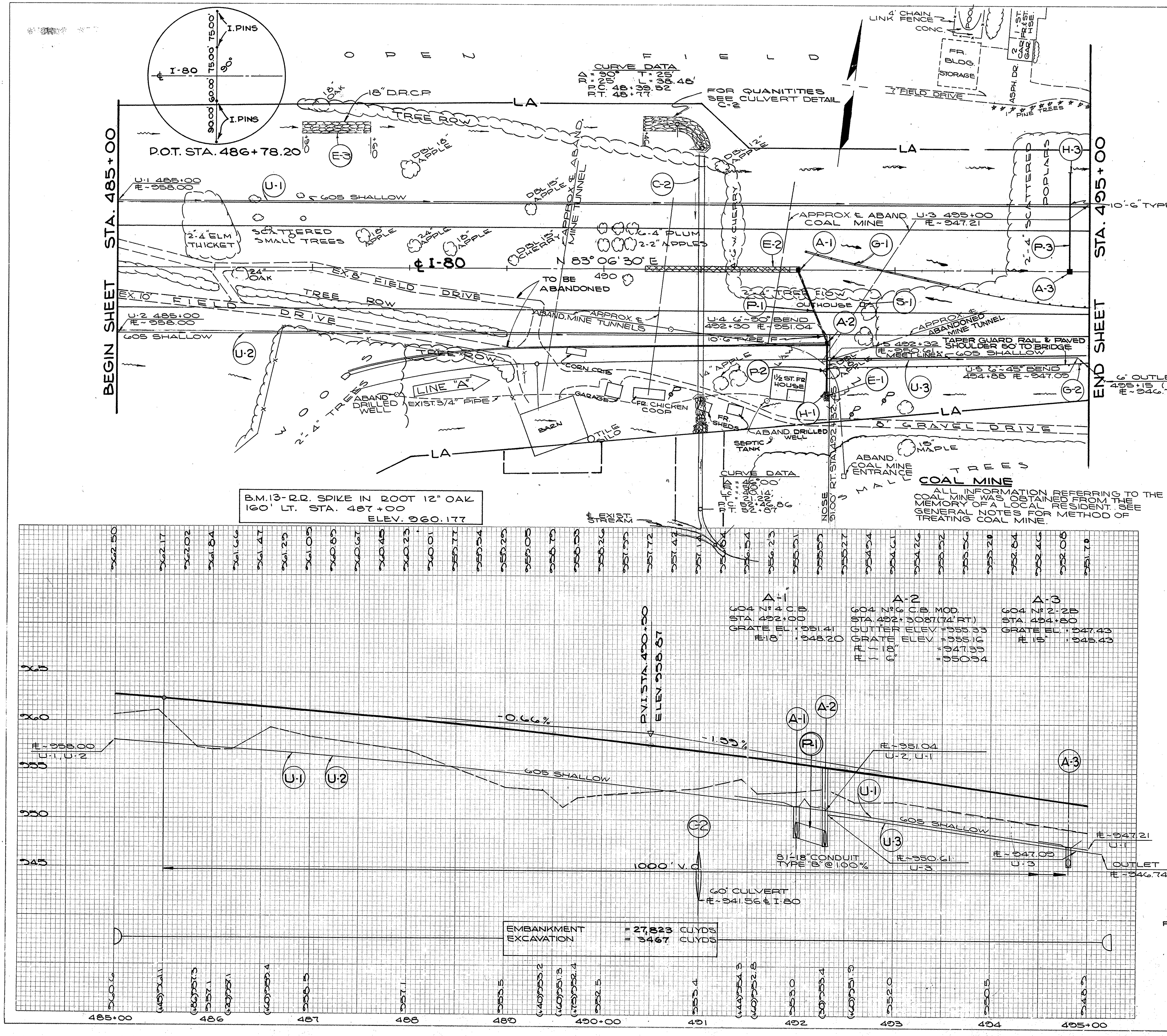
FOR PROFILE OF P-13 SEE SHEET № 222



STA. 475+00 TO STA. 485+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

MAHONING COUNTY
MAH 80S-7.01
MAH.80 -2.30



ITEM SPECIAL			
CODE	LOCATION	SIDE ℄	CLEANING OF PRIVY VAULTS EACH
S-1	492+65	RT	1
SHEET TOTAL			1

605 UNDERDRAINS (LIN. FT.)								603
CODE	LOCATION FROM	LOCATION TO	SIDE ℄		6" SHALLOW	6" BENDS AND BRANCHES 45°	6" BENDS AND BRANCHES 90°	6" LIN. FT. TYPE "F"
U-1	485+00	495+00	LT.		980			20
U-2	485+00	492+30	RT.		715		1	20
U-3	492+32.45	495+15	RT.		284	1		10
SHEET TOTAL					1979			50

EROSION CONTROL							
				601	602	667	
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	D.R.C.P. CU. YDS.	CONCRETE MASONRY CU. YDS.	JUTE MATTING SQ. YDS.	
E-1	492+30.87	130' TO 140'	RT.				
E-2	490+43	491+93	℄	3		125	
E-3	486+90	487+60	LT.	47			
H-1	492+30.87	130'	RT.		0.3		
H-3	494+80	103.5'	LT.		0.3		
SHEET TOTAL				50	0.6	125	

603 CONDUIT (LIN. FT.)						
				TYPE "B" W/CL."B" BEDDING		
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	15"		18"
P-1	492+00	A-2	RT.			81
P-2	492+30.87	74' TO 130'	RT.			56
P-3	494+80	0 TO 103.5'	LT.	104		
SHEET TOTAL				104		137

604 CATCH BASINS & MANHOLES EACH					
CODE	LOCATION	STD. Nº 6 C.B. MOD.	STD. Nº 4 C.B.	STD. Nº 22B C.B.	
A-1	492+00 ℄		1		
A-2	492+30.87 (74' RT.)	1			
A-3	494+80 ℄			1	
SHEET TOTAL		1	1	1	

STRUCTURES 20' SPAN & UNDER				
CODE	LOCATION	TYPE	SIZE	DETAIL SH'T. Nº
C-2	491+00	248' TYPE "A" 706.02	60"	230

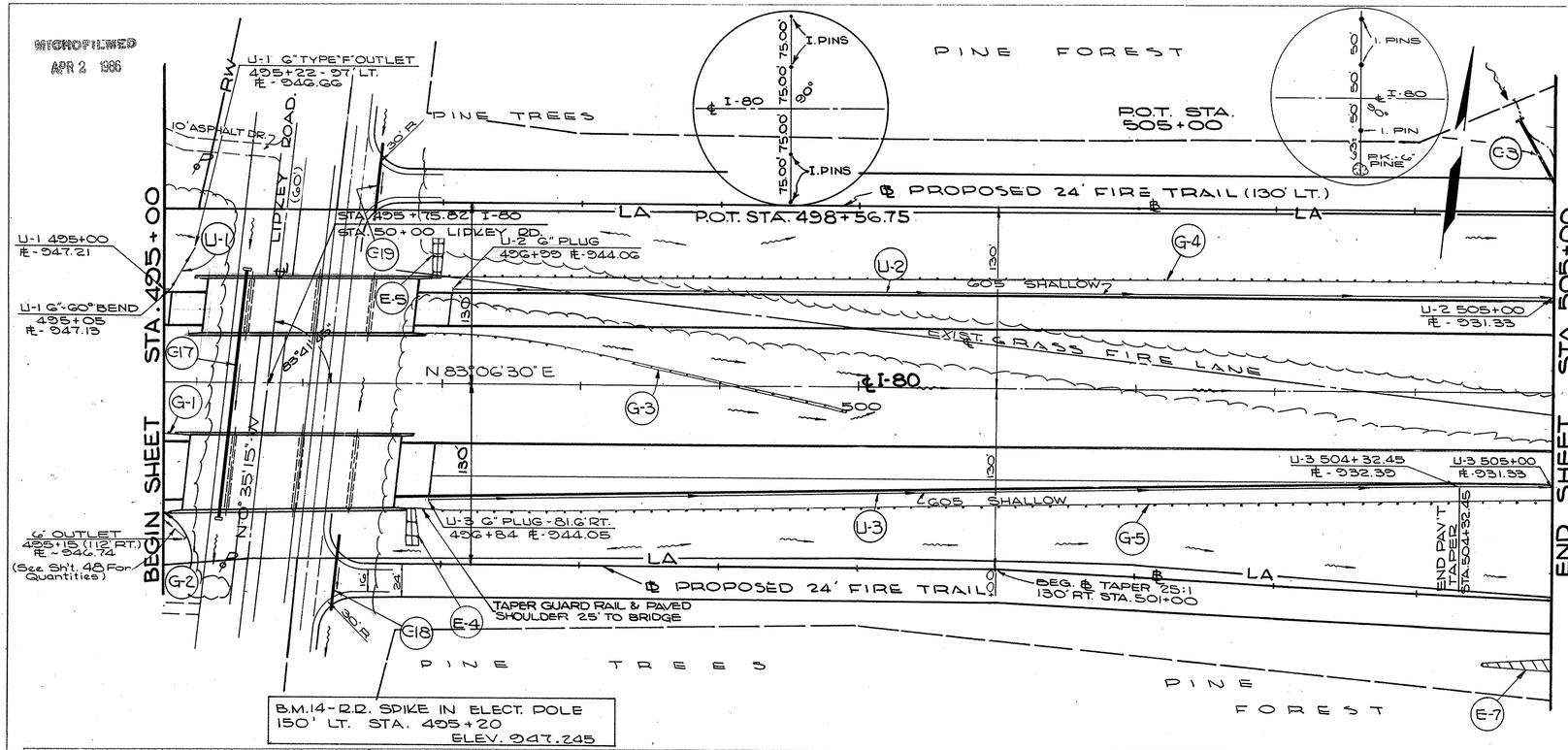
FOR INTERSECTION DETAILS OF LINE "A" & M.L. SEE SHEET Nº 121

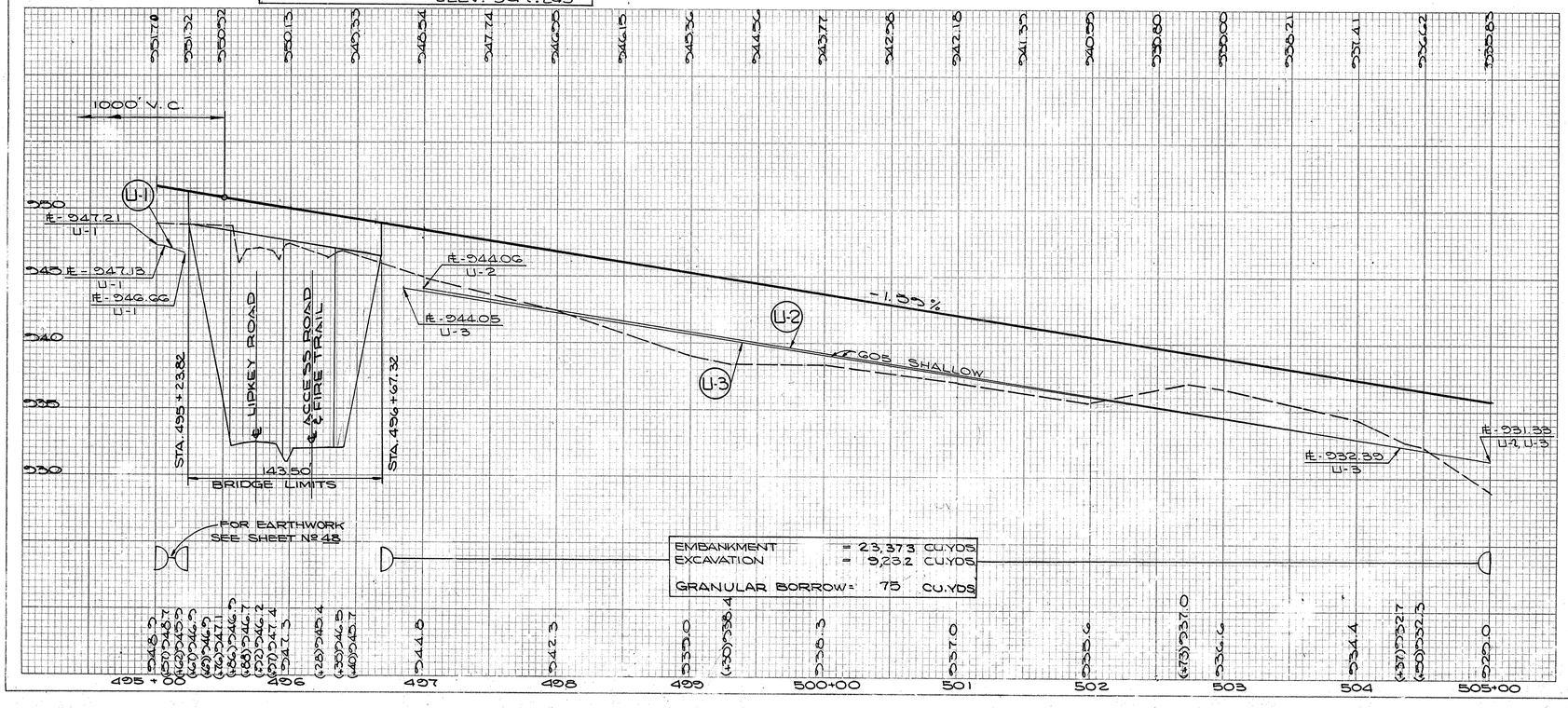
FOR PIPE PROFILE P-2 & P-3 SEE SHEET Nº 88-89

606 GUARD RAIL (LIN. FT.)					
CODE	FROM	TO	LOCA	TYPE 4	TYPE 4 BARRIER
G-1	492+08	495+00	℄	142	150
G-2	492+32.45	495+00	RT.	267.55	
SHEET TOTALS				409.55	150

STA. 485+00 TO STA. 495+00

MICROFILMED
APR 2 1986





FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

49
384

MAHONING COUNTY

MAH.80S-7.01
MAH.80 -2.30

PROPOSED STRUCTURE Nº MAH-80-0289 L.&R.

TYPE: CONTINUOUS REINFORCED CONCRETE SLAB DECK WITH REINFORCED CONC. SUBSTRUCTURE
SPANS: 31'-6" - 39'-6" - 39'-6" - 31'-6" ℄ TO ℄ ASSUMED BRGS.
ROADWAY: 41'-0" F/F PARAPETS (W.B.L.); E.B.L. VARIES
SKEW: 06° 18' 15" L.F.
LOAD FREQUENCY: C.F. = 2000(57) ADEQUATE FOR AASHO ALTERNATE LOADING.
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLAB: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: 601 CRUSHED AGGREGATE

605 UNDERDRAINS (LIN.FT.)							603
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" SHALLOW		6" BENDS & BRANCHES 60°	6" TYPE "F" LIN. FT.
U-1	495+00	495+22	LT.	22		1	10
U-2	496+99	505+00	LT.	801			
U-3	496+84	505+00	RT.	816			
SHEET TOTAL				1640			10

EROSION CONTROL						
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	601 DUMPED ROCK FILL TYPE "A" CU.YDS.		660 SODDING, SPL. BERM & SLOPE PROT. SQ. YDS.
E-4	496+80	–	RT.			21
						22
E-5	496+95	–	LT.			
E-7	504+50	505+00	RT.	33		
SHEET TOTAL				33		43

STRUCTURES 20' SPAN & UNDER				
CODE	LOCATION	TYPE	SIZE	DETAIL SHEET Nº
C-17	49+88 (24' LT.)	184'-TYPE C	15"	241
C-18	48+69 (63.5' RT.)	56'-TYPE "D"	12"	241
C-19	51+33 (63.5' RT.)	56'-TYPE "D"	12"	241
C-3	505+85	464'-TYPE "A" TOTOS	54"	232

FOR DETAILS OF LIPKEY RD. SEE SHEET Nº 207-210

FOR FIRE TRAIL PROFILES SEE SHEET Nº 52453

606 GUARD RAIL (LIN.FT.)					
CODE	FROM	TO	LOCA	TYPE 4	TYPE 4 BARRIER
G-1	495+00	495+08	℄	8	
G-2	495+00	495+05	RT.	5	
G-3	496+80	498+30	℄	150	150
G-4	496+84	505+00	LT.	816	
G-5	496+67	505+00	RT.	833	
SHEET TOTALS				1812	150

STA. 495+00 TO STA. 505+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

50
384

MAHONING COUNTY

MAH.80S-7.01
MAH.80 -2.30

NOTE:
ADJUST GRADE OF EXISTING FIRE TRAIL TO MEET PROPOSED FIRE TRAIL GRADE.

CURVE DATA
P.I. STA. 513 + 25.78
Δ = 17°08'31"
Dc = 1°28'00"
R = 3,906.53'
T = 588.78'
Lc = 1,168.77'
E = 44.12'

P.O.T. STA. 505+00

BEGIN SHEET STA. 505+00

END SHEET STA. 515+00

M.O. STA. 513+21.38

PINE FOREST

BEGIN WOODS

END WOODS

℄ EXIST. FIRE TRAIL

℄ PROPOSED 24' FIRE TRAIL (130' LT.)

LA

WOODS LA

U-1 ℄ 6" TYPE "F" OUTLET 99' LT. ~ 509+18 ℄ - 922.85

U-1 505+00 ℄ - 931.33

U-2 505+00 ℄ - 931.33

U-3 6" PLUG 506+37 ℄ - 920.88

U-3 6" 60° BEND 506+37 ℄ - 920.34

U-3 6" TYPE "F" OUTLET 91' RT. ~ 506+50 ℄ - 922.08

END ℄ TAPERS 1:25 ⊘ RT. STA 506+00

U-1 6" 60° BEND 509+18 ℄ - 923.82

U-4 6" PLUG 509+04 ℄ - 923.86

U-4 515+00 ℄ - 915.21

U-3 515+00 ℄ - 916.27

℄ CROSSOVER STA 512+00

℄ I-80

N 03°00'30" E

N 05°57'58" E

10'-6" TYPE "F"

605 SHALLOW

MEANDER RESERVOIR SPILLWAY ELEV. 906.33

END FIRE TRAIL STA. 511+00 (155' RT.)

FIRE TRAIL TURNAROUND R=30'

B.M. 16 - R.R. SPIKE IN ROOT 24" OAK 250' RT. STA. 514+50 ELEV. 918.479

B.M. 15 - NAIL IN ROOT 24" OAK 275' RT. STA. 507+00 ELEV. 912.805

A-1
604 No 3 C.B.
STA. 506+66 (116.5' LT. ℄)
GRATE ELEV. — 913.75
℄ 12" — 911.32

A-3
604 No 5 C.B.
STA. 508+00 (138.5' RT.)
GRATE EL. - 908.15
℄ 15" - 906.00

A-2
604 No 4 C.B.
STA. 511+63 (5' LT. ℄)
GRATE EL. 920.68
℄ - 15" - 917.47

600' V.C.

-1.55%

℄ - 931.33 U-1, U-2

℄ - 923.34 U-2

℄ - 923.08 U-3 PLUG

℄ - 927.08 U-2

℄ - 923.82 U-1

℄ - 922.85 U-1

℄ - 923.86 U-4

℄ - 916.27 U-3

℄ - 915.21 U-4

LT. DITCH

CULV. ℄ - 915.14 ℄ I-80

54" CULV. ℄ - 904.41 ℄ I-80

SPILLWAY ELEV. 906.33

EMBANKMENT = 73,117 CUYDS
EXCAVATION = 9,472 CUYDS
GRANULAR BORROW = 20,008 CUYDS

605 UNDERDRAINS (LIN. FT.)

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" SHALLOW		6" BENDS & BRANCHES 60°	603 6" TYPE "F" LIN. FT.
U-1	505+00	509+18	LT.	426		1	10
U-2	505+00	506+50	RT.	153		1	10
U-3	506+37	515+00	RT.	853			10
U-4	509+04	515+00	LT.	586			10
SHEET TOTAL				2018			40

EROSION CONTROL

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	601 DUMPED ROCK CHANNEL PROT'N CU.YDS.	602 CONC. MASONRY CU.YDS.	601 DUMPED ROCK FILL TYPE "A" CU. YDS.	607 JUTE MATTING SQ.YDS.
E-2	505+09	506+59	LT.				125
E-3	506+73	508+23	LT.				125
E-4	510+13	511+63	℄				125
E-5	506+66	509+00	RT.	131			
H-1	506+66	-	LT.		0.2		
E-5	505+00	510+46	RT.			755	
E-6	511+60	512+10	RT.			83	
E-7	506+43	507+93	RT.				125
E-8	508+07	509+57	RT.				125
SHEET TOTAL				131	0.2	838	625

603 CONDUIT (LIN. FT.)

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	12" TYPE "B" W/CL "B" BEDDING	15" W/CL "B" BEDDING TYPE "B"	15" TYPE "F"
P-1	506+66	116.5'-172.5'	LT.	56		
P-2	508+00	138.5'-194.5'	RT.		44	10
SHEET TOTAL				56	44	10

604 CATCH BASINS (EA.)

CODE	LOCATION	STD. No 4	STD. No 5
A-1	506+66 (116.5' LT.)		1
A-2	511+63 (℄)	1	
A-3	508+00 (138.5' RT.)		1
SHEET TOTAL		1 ✓	2 ✓

STRUCTURES 20' SPAN & UNDER

CODE	LOCATION	TYPE	SIZE	DETAIL SHEET No.
C-3	505+85	46.4'-TYPE "A" 707.05	54"	232
C-4	511+70	26.8'-TYPE "A" 706.02	18"	233

606 GUARD RAIL (LIN. FT.)

CODE	FROM	TO	LOCA	TYPE 4	
G-1	505+00	509+46.5	LT.	446.5	
G-2	505+00	512+42	RT.	742	
SHEET TOTAL				1188.5	

FOR CROSSOVER DETAIL SEE SHEET No 243

FOR FIRE TRAIL PROFILES SEE SHEET No 52 & 53

FOR PROFILE OF (P-1) SEE SHEET No 93

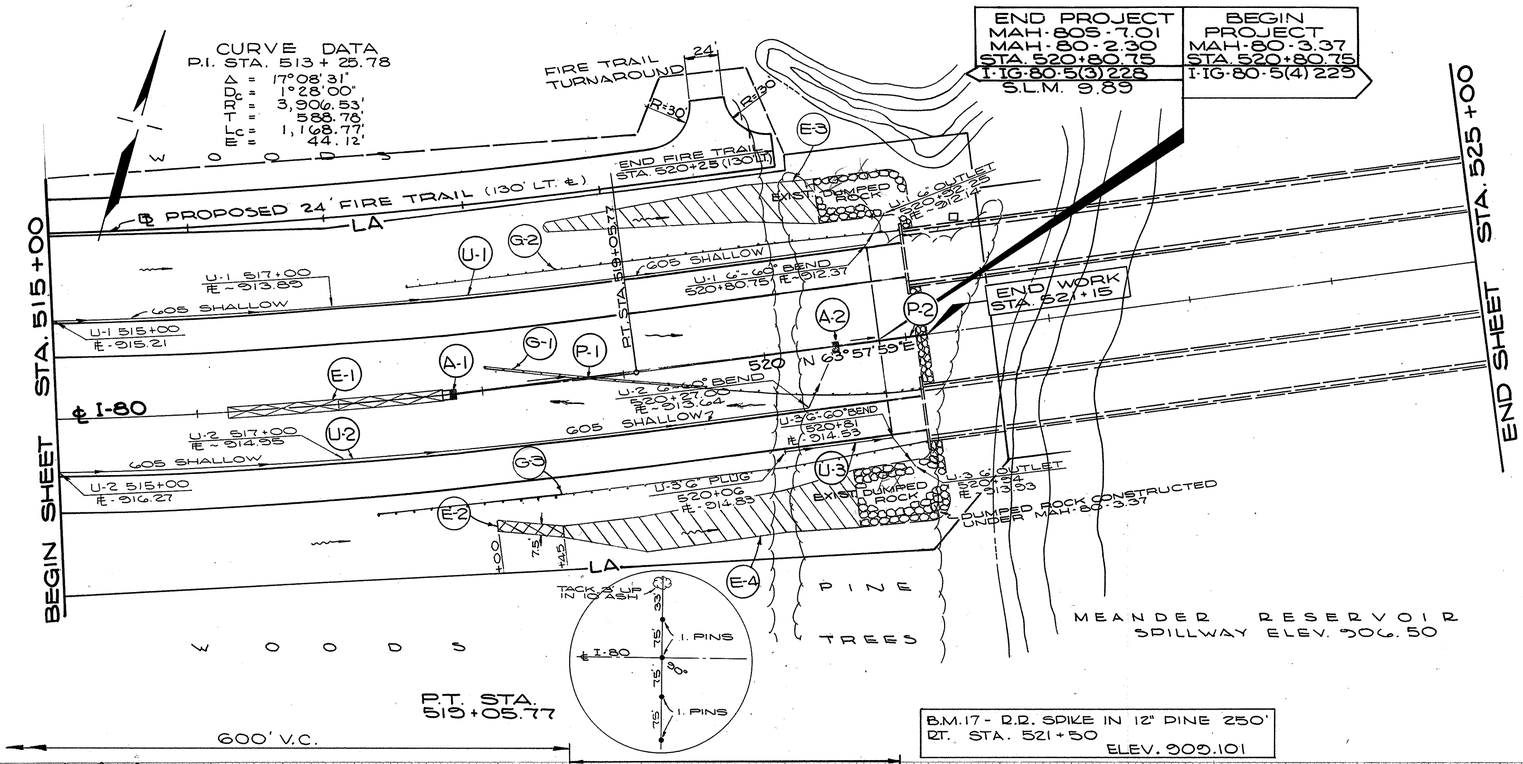
FOR PROFILE OF (P-2) SEE SHEET No 94

STA. 505+00 TO STA. 515+00

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

51
384

MAHONING COUNTY
MAH.80S-7.01
MAH.80 -2.30



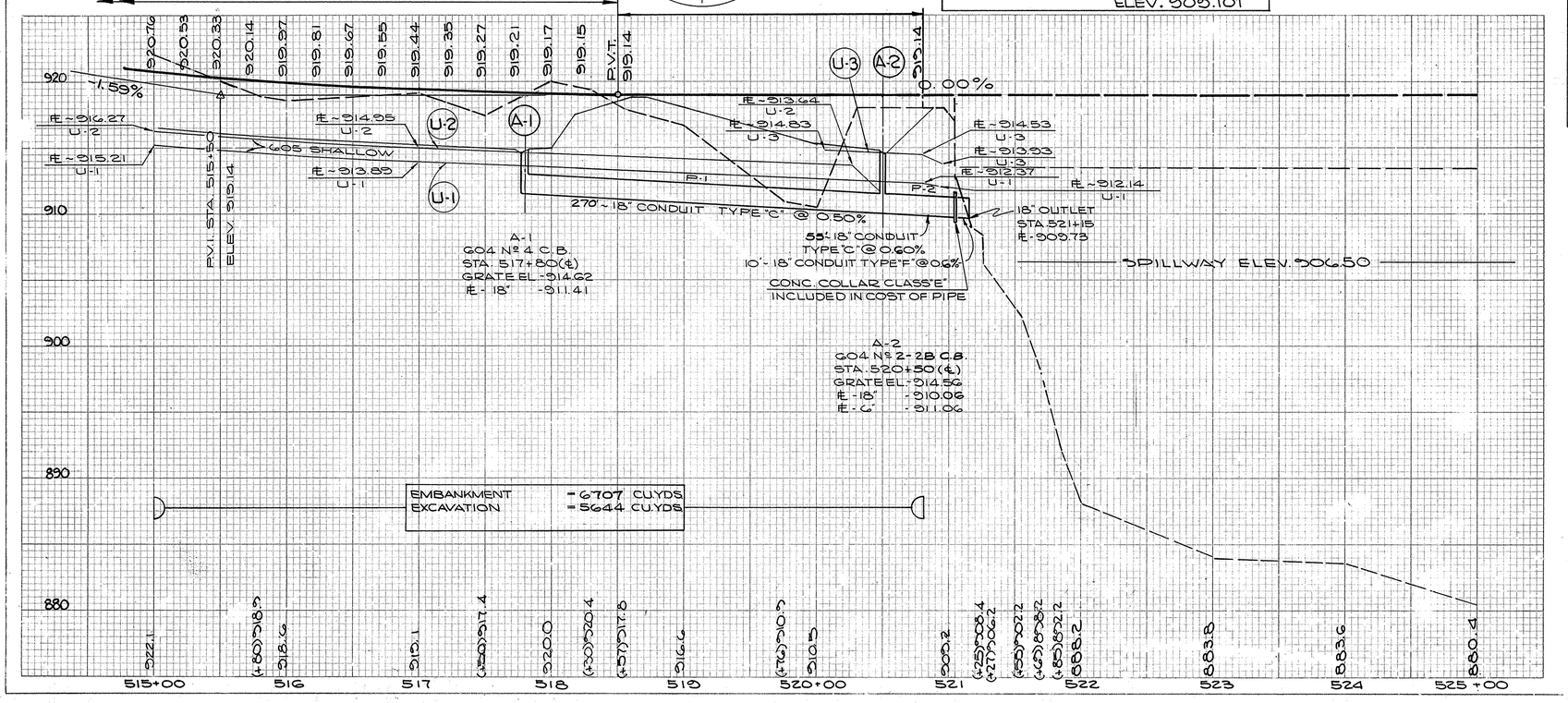
605 UNDERDRAINS (LIN.FT.)							603
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" SHALLOW		6" BENDS & BRANCHS 60°	6" TYPE "F" LIN. FT.
U-1	515+00	520+92.25	LT.	594			10
U-2	515+00	520+50	RT.	564			10
U-3	520+06	520+94	RT.	91			10
SHEET TOTAL				1249			30

EROSION CONTROL						
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	601 DUMPED ROCK CHANNEL PROT'N. CU. YDS.	667 JUTE MATTING SQ. YDS.	601 DUMPED ROCK FILL TYPE A CU. YDS.
E-1	516+23	517+73	℄		125	
E-2	518+00	518+45	RT.		38	
E-3	518+50	520+50	LT.	108		141
E-4	518+45	520+50	RT.	168		142
SHEET TOTAL				276	163	283

603 CONDUIT (LIN. FT.)					
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	18" TYPE "C" W/CL. "B" BEDDING	18" TYPE "F"
P-1	517+80	520+55	℄	270	
P-2	520+50	521+15	℄	55	10
SHEET TOTAL				325	10

604 CATCH BASINS (EA.)			
CODE	LOCATION	STD. Nº 4	STD. Nº 2-2B
A-1	517+80(℄)	1	
A-2	520+50(℄)		1
SHEET TOTAL		1	1

606 GUARD RAIL (LIN. FT.)					
CODE	FROM	TO	LOCA	TYPE 4	TYPE 4 BARRIER
G-1	518+07	521+07	℄	150	150
G-2	517+57	521+07	LT.	350	
G-3	517+19.5	521+07	RT.	387.5	
SHEET TOTALS				887.5	150



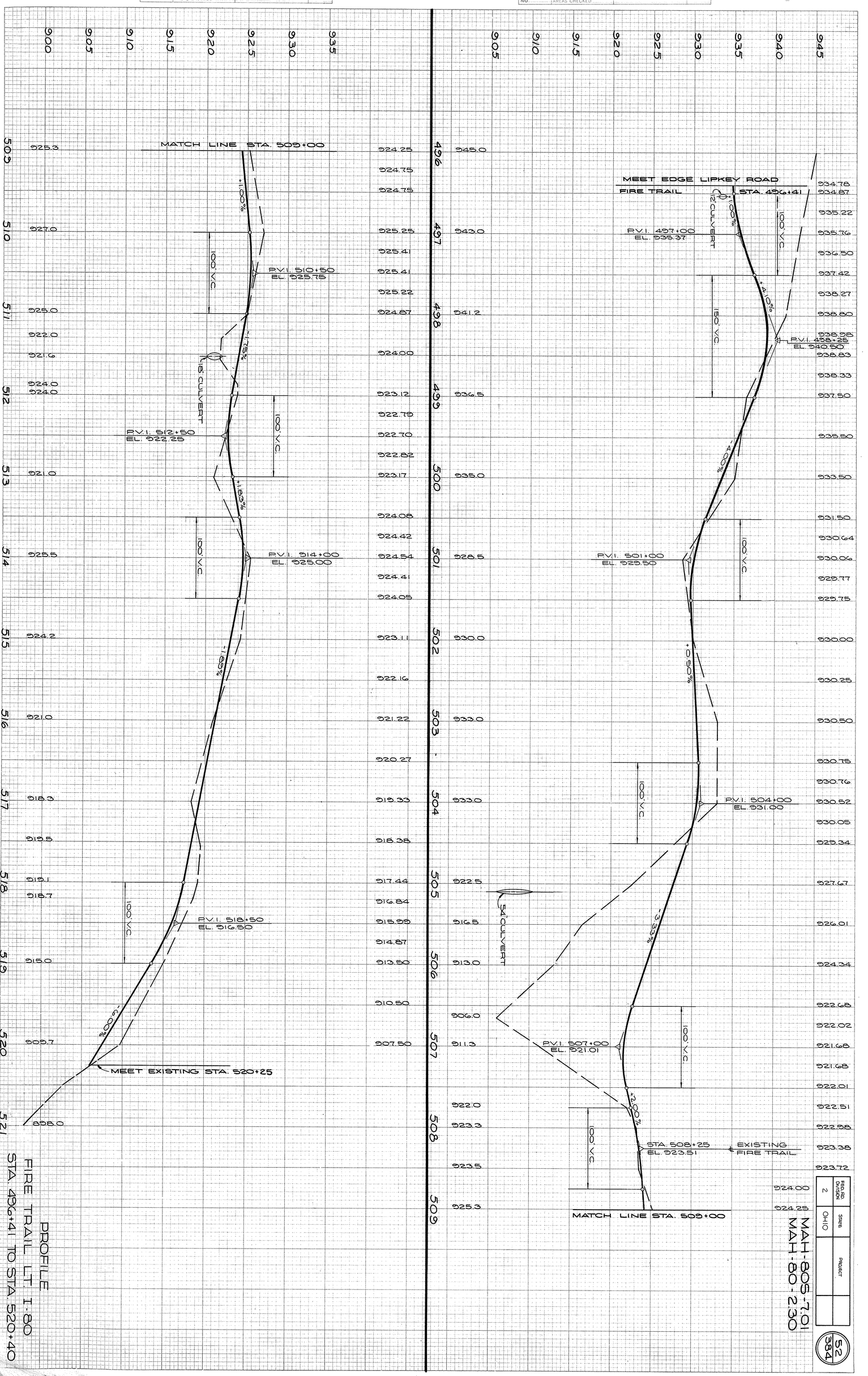
EXISTING STRUCTURE Nº MAH. 18-1013
TYPE: CONTINUOUS STEEL GIRDERS WITH HINGES AND REINFORCED CONCRETE DECK
SUBST: REINFORCED CONCRETE PIER. CAP ON 18"Φ CAST-IN-PLACE CONCRETE PILES.
SPANS: 36'-0" ~ 19 SPANS @ 120'-0" ~ 96'-0" = 2472'-0"
SKEW: 0° 00' 00"
ROADWAY: 30'-0" F/F OF 2'-0" SAFETY CURBS
LOAD FREQUENCY: CF - 2,000 ADEQUATE FOR AASHO ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS: 25'-0" LONG (AS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: I-10 DUMPED ROCK

FOR FIRE TRAIL PROFILES SEE SHEET Nº 52.

STA. 515+00 TO STA. 525+00

ORIGINAL SURVEY		BY	DATE
	SURVEYED		
	PLOTTED		
NOTE BOOK	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		

FINAL SURVEY		BY	DATE
	SURVEYED		
	PLOTTED		
NOTE BOOK	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		



PROFILE
FIRE TRAIL LT. I-80
STA. 496+41 TO STA. 520+40

PLATE 3 · CROSS SECTION, G. P. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK

REVISION DIVISION	STATE	PROJECT	
2	OHIO		

MAH-80S-7.01
MAH-80-2.30

52
384

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

53
384

MAH-80S-7.01
MAH-80-230

950 945 940 935 930 925 920 915 910 905

(413)933.83 (413)933.83 933.85 934.13 934.45 934.73 935.64 936.33 938.07 939.14 939.90 940.30 940.38 940.13 939.55 938.05 936.55 935.05 934.41 933.98 933.77 933.78 933.69 933.19 932.30 931.00 928.00 925.00 923.54 922.16 920.85 919.63 918.58 917.32 916.42 915.52 914.69 913.94

MEET EDGE OF LIPKEY RD.
FIRE TRAIL STA. 496+13
(130' RT.)

P.V.I. 496+25
EL. 941.80

100' V.C.

+4.98%

-5.00%

P.V.I. 496+45
EL. 933.83

0.07 0.21 0.35

0.00%

150' V.C.

P.V.I. 501+00 (130' RT.)
ELEV. 933.55

100' V.C.

+0.45%

P.V.I. 502+00
ELEV. 934.00

-6.00%

500 V.C.

100' V.C.

MATCH LINE STA. 506+00

P.V.I. 506+00 (155' RT.)
ELEV. 910.00

947.2 944.4 943.0 940.4 937.1 933.4 935.1 933.5 928.0 910.0 910.1 902.6

496 497 498 499 500 501 502 503 504 505 506

913.94 913.27 912.67 912.34 912.15 911.62 911.46 911.08 910.86 910.76 910.72 910.75 910.90 911.05 911.20 911.40 911.81 912.47 913.35

MATCH LINE STA. 506+00 (155 RT.)

500 V.C.

100' V.C.

+0.30%

4.0%

MEET EXISTING STA. 511+00 (155 RT.)

P.V.I. 506+00
ELEV. 910.00

CULVERT

P.V.I. 510+50
ELEV. 911.35

902.6 899.9+(66) 899.8 898.2(+75) 898.0 897.0 898.3 899.0 914.0

506 507 508 509 510 511

PROFILE
FIRE TRAIL RT. I-80
STA. 496+13 TO 511+00

PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED — BY — DATE — NOTE BOOK — NO.

ORIGINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED — BY — DATE — NOTE BOOK — NO.

FED. RD.	STATE	PROJECT	
2	OHIO		

54
384

MAH-80S-7.01
MAH-80-2.30

FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, CROSS CHECKED — BY — DATE — NOTE BOOK — NO.

ORIGINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, CROSS CHECKED — BY — DATE — NOTE BOOK — NO.

1010
1000

370+90
1007.4
SKEWED
PARALLEL TO R.R.

"D" "D"
1010
"D" "D"
140

"B" "B"
"B" "B"
150

SKEWED
23°40'13"
STA. 370+07.44 BEGIN PROJECT
1011.20
STA. 369+78 BEGIN WORK

"C" "C"
1010
"C" "C"
140

"A" "A"
"A" "A"
150

369+00
1014.20

NOTE:
EARTHWORK ON THIS SHEET TO BE DONE
UNDER ADJOINING CONTRACT MAH-80S-3.08

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA. 369+00 TO STA. 370+90

FED. RD.	STATE	PROJECT	
2	OHIO		

55
384

MAH.-80S-7.01
MAH.-80-2.30

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL

SEEDING

END WIDTH	SQ. YDS.

1040
1030
1020
1010

1041.80

1041.80

371+46
1006.6

1041.81

1041.81

1040
1030

1030
1020
1010

371+27
1012.9

1041.80

1041.80

1040
1030
1020
1010

SHEET TOTAL

371+00
1013.9

SHEET TOTALS

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

FINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
NOTE BOOK AREAS
NO. AREAS CHECKED
BY
DATE

ORIGINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
NOTE BOOK AREAS
NO. AREAS CHECKED
BY
DATE

PLATE 3 · CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA. 371+00 TO STA. 371+46

FED. RD.	STATE	PROJECT	
2	OHIO		

5G 384

MAH.-80S-7.01
MAH.-80-2.30

SEEDING

END WIDTH	SQ. YDS.
312	3567
332	5275
331	

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
98	8750		
	(49 = GRAN)		
			(GRAN=41)
		857	3205
365	8557		
733	14570		
488	8388		
579	9952		
SHEET TOTALS		2169	56573

GRAN = 41

ZERO EARTHWORK
STA. 371+85.50

374+00
1003.7

373+00
1005.2

372+53.54
1005.4
BEGIN APPROACH SLAB

203 GRANULAR BORROW

BEGIN GRANULAR BORROW
STA. 373+55

PLATE 3 CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA. 372+53.57 TO STA. 374+00

FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED, NOTE BOOK, NO., BY, DATE

ORIGINAL SURVEY — SURVEYED, PLOTTED, NOTE BOOK, NO., BY, DATE

FED. RD.	STATE	PROJECT	
2	OHIO		

57
384

MAH.-80S-7.01
MAH.-80-2.30

SEEDING
END SQ. WIDTH YDS.

END AREA CU. YDS.
CUT FILL CUT FILL

(540=GRAN)

161 8118

931 30406

(GRAN=1259)

179 8901

(140=GRAN)

556 30291

(GRAN=354)

121 8494

(73=GRAN)

406 31823

(GRAN=226)

SHEET TOTALS 1293 89220

GRAN=1879

FINAL SURVEY
ORIGINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NOTE BOOK
NO.
BY
DATE

STA. 375+00

3527 | 935.20 | 180 | 160 | 140 | 1000

1030 / 1020 / 1010 / 1000

2:1 | 2:1 | 12:1 | 2:1 | 8:1 | 8:1 | 2:1

1037.33 | 1035.08 | 1037.33

"E" | "E" | "E" | "E" | "E" | "E"

203 GRANULAR BORROW

1038.66 | 1038.66

VARIES | VARIES | 1035.50

"F" | "F" | 10:1 | 12:1 | 4:1 | 4:1 | 1002.25 | 140 | 160

377+00

998.1

STA. 375+71
END OF MEDIAN GUARD RAIL

3515 | 1030 / 1020 / 1010 / 1000 | 2:1 | 2:1 | 12:1 | 2:1 | 8:1 | 8:1 | 2:1

"C" | "C" | "C" | "C" | "C" | "C"

203 GRANULAR BORROW

1036.00 | 1037.90 | GUARD RAIL

"D" | "D" | 12:1 | 4:1 | 4:1 | 1002.00 | 150 | 170

376+00

1001.8

3511 | 933.41 | 180 | 160 | 140 | 1000

1030 / 1020 / 1010 / 1000

2:1 | 2:1 | 12:1 | 2:1 | 8:1 | 8:1 | 12:1 | 2:1

1035.85 | 1035.85

GUARD RAIL

1037.60 | 1038.20

"B" | "B" | 12:1 | 4:1 | 4:1 | 1001.75 | 150 | 170

375+00

1004.7

3494 | 933.62 | 180 | 160 | 140 | 1000

1030 / 1020 / 1010 / 1000

2:1 | 2:1 | 12:1 | 2:1

"A" | "A" | "A" | "A"

203 GRANULAR BORROW

10532 SHEET TOTAL

140 | 120 | 100 | 80 | 60 | 40 | 20 | ℄ | 20 | 40 | 60 | 80 | 100 | 120 | 140

PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA. 375+00 TO STA. 377+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

58
384

MAH.-80S-7.01
MAH.-80-2.30

SEEDING
END SQ.
WIDTH YDS

END AREA CU. YDS.			
CUT	FILL	CUT	FILL

FINAL SURVEY — SURVEYED, PLOTTED, PROFILE, AREAS, AREAS CHECKED, NOTE BOOK, NO., BY, DATE

ORIGINAL SURVEY — SURVEYED, PLOTTED, PROFILE, AREAS, AREAS CHECKED, NOTE BOOK, NO., BY, DATE

349
1033.34
8:1
8:1
1025.05
1033.34
2:1
12:1
"E"
1030
1020
1010
1000
203 GRANULAR BORROW
3789
998.57
380+00
998.7
1034.67
1034.67
1030.42
1030
1020
1010
1000
203 GRANULAR BORROW
333
3693
558.78
379+00
1001.4
1036.00
1036.00
1031.75
1030
1020
1010
1000
203 GRANULAR BORROW
321
3561
10988
SHEET TOTAL
558.55
378+00
1002.5
1030
1020
1010
1000
203 GRANULAR BORROW
140
120
100
80
60
40
20
℄
20
40
60
80
100
120
140

197	6835		
		(16= GRAN)	
754	25881		
		(GRAN=1849)	
210	7140		
		(255= GRAN)	
839	27037		
		(GRAN=830)	
218	7560		
		(193= GRAN)	
748	25,034		
		(GRAN=1357)	
SHEET TOTALS	2341	81952	
		GRAN = 3430	

PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA. 378+00 TO STA. 380+00

FED.RD. DIVISION	STATE	PROJECT	
2	OHIO		

59
384

MAH.-80S-7.01
MAH.-80-2.30

SEEDING
END AREA
WIDTH SQ. YDS.

	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
	48	3685		
			116	6548
	14	5251		
	26	21021		
(GRAN=408)				
	0	6100		
(294=GRAN)				
	0	23347		
(GRAN=1530)				
	0	6507		
(542=GRAN)				
			365	24708
(GRAN=1774)				
SHEET TOTALS			507	85624
GRAN=3712				

214
238
206
258
260
296
273
345
SHEET TOTAL 3239

7.5' 20.5'
STD. MC-4 COLLAR
91'-15" TYPE "S" CONDUIT @-2.10%
4'x6'x1.5' DEEP D.R.C.P.
E=1018.07
25° BEND
20'-15" TYPE "F" CONDUIT
E=1009.81
25° BEND
8'-15" TYPE "F" @ 2.37%
HW=E
E=1009.62
1009.41
1007.25
A-1
604 Nº 4 C.B.
STA. 384+75(℄)
GRATE=1022.97
E=15" =1020.00
384+75
1023.84
1028.05
1028.05
384.00
1008.9
1025.10
1025.35
1025.35
383.00
1004.0
1026.43
1028.68
1028.68
203 GRANULAR BORROW
382.00
1001.0
1027.76
1028.20
1028.20
203 GRANULAR BORROW
381+00
1000.4
1003.75
END GRANULAR BORROW
STA. 382+75
1003.50
1003.25
"A"
"B"
1.0%
150
170
190
140
120
100
80
60
40
20
℄
20
40
60
80
100
120
140

PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA. 381+00 TO STA. 384+00

ORIGINAL SURVEY
NOTE BOOK
NO.
BY
DATE
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED

FINAL SURVEY
NOTE BOOK
NO.
BY
DATE
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED

FED. RD. DIVISION	STATE	PROJECT		60 384
2	OHIO			

MAH.-80S-7.01
MAH.-80-2.30

SEEDING
END SQ. WIDTH YDS.

		END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
172					
		37	1737		
					212 6199
1950					
		77	1607		
179					
2050					
					326 6560
190					
		99	1935		
					370 8498
2183					
		100	2654		
					186 11799
2317					
SHEET TOTAL	8500			SHEET TOTALS	1094 32990

1028.48 — 8:1 — 1024.23 — 8:1 — 1028.48 — 2:1 — 12:1 — 4:1 — 4:1 — 1016.80
2:1 — 12:1 — 4:1 — 4:1 — 1015.54

388.00
1017.6

1027.57 — 8:1 — 1023.32 — 8:1 — 1027.57 — 2:1 — 12:1 — 4:1 — 4:1 — 1015.25
2:1 — 12:1 — 4:1 — 4:1 — 1014.27

387+00
1017.3

A-1
A-1
604 Nº 4 C.B.
STA. 386+75 (℄)
GRATE = 1022.91
℄-15" = 1018.91

4'x6'x1.5' DEEP O.R.C.P.
HW-℄
℄-1014.59
105'-15" TYPE "A" CONDUIT @5.07%
1013.55

1027.17 — 8:1 — 1023.58 — 8:1 — 1027.17 — 2:1 — 12:1 — 4:1 — 4:1 — 1011.67
2:1 — 12:1 — 4:1 — 4:1 — 1013.00

386.00
1015.9

1027.34 — 8:1 — 1023.40 — 8:1 — 1027.34 — 2:1 — 12:1 — 4:1 — 4:1 — 1008.08
2:1 — 12:1 — 4:1 — 4:1 — 1010.13

385.00
1012.7

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA. 385+00 TO STA. 388+00

FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED — NOTE BOOK — NO. — BY — DATE

ORIGINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED — NOTE BOOK — NO. — BY — DATE

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

G1
384

MAH.-805-7.01
MAH.-80-2.30

SEEDING
END SQ.
WIDTH YDS.

	END AREA		CU. YDS.	
	CUT	FILL	CUT	FILL
201	57	3033		
2183			225	10435
192	65	2542		
2089			214	8856
184	50	2240		
1983			168	7707
173	40	1922		
1918			146	6776
SHEET TOTAL 8173	SHEET TOTALS	754	33774	

392+00
1015.6
1031.41
1028.14
1027.16
1014.17
1015.50
1012.51
1013.84

391+00
1016.8
1030.43
1026.18
1025.20
1016.15
1016.81
1015.17
1016.50

390.00
1017.1
1029.45

389+00
1017.3

2:1 8:1 8:1 2:1 12:1 4:1 4:1

1030
1020
1010

FINAL SURVEY
ORIGINAL SURVEY
SURVEYED
PLOTTED
NOTE BOOK
TEMPLATE
AREAS
VOLS.
CHECKED
NO.
DATE
BY

PLATE 3 CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA. 389+00 TO STA. 392+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

62
384

MAH.-80S-7.01
MAH.-80-2.30

SEEDING END WIDTH	SEEDING SQ. YDS.		END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
		1020				
245		1035.92		64	6300	
		1031.67				
		1000				
1680		1005.03		166	13328	
		395+60				
		1003.9				
		1035.32				
		1031.07		85	5695	
		1020				
244		1007.46		257	19145	
		395+00				
		1008.4				
		1034.34				
		1030.09		54	4943	
226		1020				
		1011.51		192	15863	
2478		1000				
		394+00				
		1011.3				
		1033.36				
		1029.11		49	3923	
218		1020				
		1012.84		136	12398	
2328		1000				
9058	SHEET TOTAL		SHEET TOTALS	811	61328	
		393+00				
		1012.8				

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA. 393+00 TO STA. 395+60

FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED — NOTE BOOK — NO. — BY — DATE

ORIGINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED — NOTE BOOK — NO. — BY — DATE

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

G3
384

MAH.-80S-7.01
MAH.-80-2.30

SEEDING
END SD.
WIDTH YDS.

END AREA CU. YDS.
CUT FILL CUT FILL

278
675
1020
2:1
1037.28
8:1
1033.03
8:1
1037.28
2:1
1000
"E"
"E"
"F"
"F"
64 8234
53 6634
4:1 4:1 12:1 2:1
999.36
150
"E"
"F"
2:1 12:1 4:1 4:1
999.36
160
"F"
67 8050
397+00
999.8
1037.06
8:1
1032.81
8:1
1037.06
2:1
1020
"C"
"C"
1010
274
"C"
"C"
4:1 4:1 12:1 2:1
1000.25
150
"C"
"D"
"D"
"D"
"D"
2:1 12:1 4:1 4:1
1000.49
150
165 21,600
396+78
1001.9
1036.30
8:1
1032.05
8:1
1036.30
2:1
1020
"A"
"A"
1000
257
282
"A"
"A"
4:1 4:1 12:1 2:1
1003.41
"B"
"B"
"B"
"B"
4:1 4:1
1004.50
150
12:1
47 6904
62 9781
396+00
1003.1
3258 SHEET TOTAL
SHEET TOTALS 300 38015
140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
CROSS CHECKED
BY
DATE

FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
CROSS CHECKED
BY
DATE

PLATE 3 CROSS SECTION O. F. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA. 396+00 TO STA. 397+00

FED. RD. DIVISION	STATE	PROJECT		64 384
2	OHIO			

MAH.-80S-7.01
MAH.-80-2.30

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
		129	6048		
				315	24089
		41	6957		
				40	3749
		113	7503		
				224	22270
		44	8116		
				18	2725
SHEET TOTALS	597	52828			
SHEET TOTAL	5945				

FINAL SURVEY — SURVEYED / PLOTTED / TEMPLATE / AREAS / AREAS CHECKED — NOTE BOOK — NO. — BY — DATE

ORIGINAL SURVEY — SURVEYED / PLOTTED / TEMPLATE / AREAS / AREAS CHECKED — NOTE BOOK — NO. — BY — DATE

STA. 397+09 TO 399+00

PLATE 3-CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

G5
384

MAH.-805-7.01
MAH.-80-2.30

SEEDING
END AREA CU. YDS.
WIDTH SQ. YDS. CUT FILL CUT FILL

FINAL SURVEY — SURVEYED, PLOTTED, TRACED, NOTE BOOK, AREAS, AREAS CHECKED, NO., DATE, BY

ORIGINAL SURVEY — SURVEYED, PLOTTED, TRACED, NOTE BOOK, AREAS, AREAS CHECKED, NO., DATE, BY

1038.00 1038.00

END BRIDGE
STA. 403+58.56

1030
1020

403+00
1020.4

997
ZERO EARTHWORK
STA. 402+34

1038.68 1038.68

ZERO EARTHWORK O S
STA. 402+34
28 3464
39 4798

225
2:1
1020
4:1 12:1 4:1
1012.14
1010

401+95.04
1014.8
END APPROACH SLAB
A-1

1038.88

GUARD RAIL

END CULVERT & BEGIN DITCH 401+94
℄ 1015.50

1811 18195

BEGIN BRIDGE
STA. 401+95.04

P-1
38"~15" CONDUIT TYPE "B" @ 1.00%
STD. MC-4 COLLAR
25° BEND
℄-1030.42

A-1
604 No 2-2B C.B.
STA. 401+50 (℄)
GRATE EL-1034.30
℄ 15" -1031.30

2481
2:1
44'~15" TYPE "E"
1020
4'x6'x1.5' DEEP D.R.C.P
12:1
25° BEND
℄-1010.81
8'~15" TYPE "F" @ 1.00%
1010.61
HW-E
℄-1010.72

401+50
1013.5

1039.01 1039.01

GUARD RAIL

G4 5546

10:1 10:1
1035.90
2:1 2:1

245
"B" 1020 "B"
4:1 4:1
1003.00
160 140
12:1
"B"

401+00
1012.0

359 20804

12:1 4:1 4:1
1014.00

2767

1039.04 1039.04

GUARD RAIL

253
10:1 8:1 6:1 8:1
1036.80
1037.00

130 5580

2944
2:1
"A" 1020 "A"
160 140 2:1 1010
4:1 4:1 12:1
1005.77

400+00
1012.0

102.0 "A"
12:1 4:1 4:1
1010
"A" 1010.33
140 160

480 21533

9189
SHEET TOTAL
"A" "A"
120 120 100 60 60 40 20 ℄ 20 40 60 80 100 120 "A" "A"

SHEET TOTALS 1042 69796

PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA. 400+00 TO STA. 403+00

FED RD. DIVISION	STATE	PROJECT		
2	OHIO			

66
384

MAH.-80S-7.01
MAH.-80-2.30

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	CU.YDS. CUT	CU.YDS. FILL
143		655	0		
154.4				1205	852
135		28	460		
164.4				107	3638
161		30	1505		
191.7		139	7324		
184		45	2450		
89.6		65	4030		
205		40	2858		
62.8		21	1482		
662.9	SHEET TOTAL	SHEET TOTALS		1597	17,327

ZERO EARTHWORK STA. 403+31

ZERO EARTHWORK STA. 403+31

STA. 406+66
END MEDIAN
GUARD RAIL

403+58.56
1022.4
BEGIN APPROACH SLAB

PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

STA. 404+00 TO STA. 407+00

FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, FIELD BOOK, NO., DATE, BY, AREAS CHECKED

ORIGINAL SURVEY — SURVEYED, PLOTTED, NOTE BOOK, NO., DATE, BY, AREAS CHECKED

FED. RD.	STATE	PROJECT	
2	OHIO		

67
384

SEEDING

END AREA CUT	END AREA FILL	CU YDS. CUT	CU YDS. FILL
2576	0		
		1027	0
2570	0		
		9574	0
2330	0		
		7593	0
1765	0		
		4481	0
SHEET TOTALS		31412	0

MAH.-805-7.01
MAH.-80-2.30

185
1030
2000
1020

2:1 8:1 8:1 8:1 8:1 3:1

1027.57 1025.53 1027.57

1029.78 1029.78

411+00
1040.9

175
1030
1578
1020

2:1 8:1 8:1 8:1 8:1 3:1

1028.61 1026.57 1028.61

1030.82 1030.82

410+00
1040.6

181
1030
1993
1020

3:1 8:1 8:1 8:1 8:1 3:1

1029.65 1027.61 1029.65

1031.86 1031.86

409+00
1040.6

167
1030
1722
1020

3:1 8:1 8:1 8:1 8:1 3:1

1030.69 1028.65 1030.69

1032.90 1032.90

408+00
1039.2

7233 SHEET TOTAL

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

STA. 408+00 TO STA. 411+00

FINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
NOTE BOOK AREAS
NO. AREAS CHECKED
BY DATE

ORIGINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
NOTE BOOK AREAS
NO. AREAS CHECKED
BY DATE

PLATE 3-CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

FED. RD.	STATE	PROJECT	
2	OHIO		

68
384

MAH. 80S-7.01
MAH. 80-2.30

END AREA CU. YDS.
CUT | FILL | CUT | FILL

SEEDING
END SQ.
WIDTH YDS.

DATE	BY	
		SURVEYED
		PLOTTED
		TEMPLATE
		AREAS
		AREAS CHECKED

FINAL SURVEY
NOTE BOOK
NO.

ORIGINAL SURVEY
NOTE BOOK
NO.

416+00
1038.2

185 | 2056 | 1020
2:1 | 8:1 | 8:1 | 8:1 | 2:1
1022.37 | 1024.58 | 1020.33 | 1024.58 | 1022.37

3525 | 0 | 13270 | 0

415+00
1040.0

185 | 2011 | 1020
2:1 | 8:1 | 8:1 | 8:1 | 2:1
1023.41 | 1025.62 | 1021.37 | 1025.62 | 1023.41

3681 | 0 | 12768 | 0

414+00
1039.5

177 | 1961 | 1020
2:1 | 8:1 | 8:1 | 8:1 | 2:1
1024.45 | 1026.66 | 1022.41 | 1026.66 | 1024.45

3252 | 0 | 11850 | 0

413+00
1040.1

176 | 1944 | 1020
2:1 | 8:1 | 8:1 | 8:1 | 2:1
1025.49 | 1027.70 | 1023.45 | 1027.70 | 1025.49

3147 | 0 | 11668 | 0

412+00
1041.1

174 | 1928 | 1020
2:1 | 8:1 | 8:1 | 8:1 | 2:1
1026.53 | 1028.74 | 1024.49 | 1028.74 | 1026.53

3154 | 0 | 11352 | 0

SHEET TOTALS 60556 0

SHEET TOTAL 9911

STA. 412+00 TO STA. 416+00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

PLATE 3 CROSS SECTION O. P. R. & R. E. STANDARD
263 FM-3 AGEPROOF FILM—MADE AND PRINTED IN U. S. A.
EUGENE DIETZGEN CO.

FED. RD.	STATE	PROJECT	
2	OHIO		

69
384

MAH.-80S-7.01
MAH.-80-2.30

SEEDING
END SO.
WIDTH YDS.

END AREA CU.YDS.
CUT FILL CUT FILL

191
849
1020
8:1
1017.79
1020.00
1015.75
419+00 AH.
1034.5
3781 0
5719 0

191
2106
1020
1018.21
1020.42
1016.17
418+60 AH.
420+00 BK.
1034.9
3980 0
14710 0

188
2089
1020
1015.25
1021.46
A-1
GRADE EL. 1016.56
FL. 1013.06
1014.06
419+00 BK.
1033.3
4096 0
14244 0

188
2078
1020
1020.29
1022.50
1018.25
418+00 BK.
1036.4
3656 0
13,144 0

186
2081
1020
1021.33
1023.54
1019.29
417+00
1036.6
3442 0
12902 0

SHEET 9189
TOTAL

SHEET TOTALS 60718 0

STA. 417+00 TO STA. 419+00

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

ORIGINAL SURVEY	BY	DATE
NOTE BOOK	SURVEYED	
NO.	PLOTTED	
	TEMPLATE	
	AREAS	
	AREAS CHECKED	

FINAL SURVEY	BY	DATE
NOTE BOOK	SURVEYED	
NO.	PLOTTED	
	TEMPLATE	
	AREAS	
	AREAS CHECKED	

PLATE 3 CROSS SECTION O. P. R. & R. E. STANDARD
263 FM3 AGEPROOF FILM—MADE AND PRINTED IN U. S. A.
EUGENE DIETZGEN CO.

FED. RD.	STATE	PROJECT	
2	OHIO		

70
384

MAH. 805 7.01
MAH.-80-7.30

SEEDING
END 150
WIDTH YDS.

	END AREA	C.U. YDS.
	CUT	FILL
185		
2056		3593 0
1010	1013.63	
8:1	1015.34	
8:1	1011.58	
8:1	1015.34	
8:1	1013.63	13348 0
2:1		

423+00
1030.6

185		3615 0
2061	1014.67	
1010	1016.88	
8:1	1012.63	
8:1	1016.88	
8:1	1014.67	13667 0
2:1		

422+00
1030.7

186		3765 0
2083	1015.71	
1010	1017.92	
8:1	1013.67	
8:1	1017.92	
8:1	1015.11	14262 0
2:1		

421+00
1032.4

189		3938 0
2106	1016.75	
1010	1018.96	
8:1	1014.71	
8:1	1018.92	
8:1	1016.75	14805 0
2:1		

420+00 AH.
1033.9

SHEET TOTALS 55383 0

SHEET TOTAL 8906

STA. 420+00 TO STA. 423+00

FINAL SURVEY	SURVEYED	DATE
	PLOTTED	BY
NOTE BOOK	TEMPLATE	
NO.	AREAS	
	AREAS CHECKED	

ORIGINAL SURVEY	SURVEYED	DATE
	PLOTTED	BY
NOTE BOOK	TEMPLATE	
NO.	AREAS	
	AREAS CHECKED	

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

PLATE 3 CROSS SECTION O. P. R. & R. E. STANDARD
263 FM-3 AGEPROOF FILM—MADE AND PRINTED IN U. S. A.
EUGENE DIETZGEN CO.

FED. RD.	STATE	PROJECT	
2	OHIO		

71
384

MAH.-80S.-7.01
MAH.-80-2.30

SEEDING
END SQ.
WIDTH YDS.

END AREA CU YDS
CUT FILL CUT FILL

DATE	BY	
		FINAL SURVEY
		SURVEYED
		PLOTTED
		TRIANGLE
		AREAS
		AREAS CHECKED
		NOTE BOOK
		NO.

192
210.6
1010
1005.47
8:1
8:1
1011.48
1007.43
8:1
8:1
1011.48
8:1
1009.47
2:1
427+00
1028.65
4853 0
15148 0

187
207.2
1010
1010.51
8:1
8:1
1012.72
1008.47
8:1
8:1
1012.72
8:1
1010.51
2:1
426+00
1027.75
14084 0

186
207.2
1010
1011.55
8:1
8:1
1013.76
1009.51
8:1
8:1
1013.76
8:1
1011.55
2:1
425+00
1028.15
3784 0
14220 0

187
206.7
1010
1012.59
8:1
8:1
1014.80
1010.30
8:1
8:1
1014.80
8:1
1012.59
2:1
424+00
1029.75
3895 0
13867 0

A-2
CONCRETE
GRATE EL. 1010.30
℄ 18" 1007.01
℄ 21" 1006.78

SHEET TOTAL 8317

SHEET TOTALS 57329 0

STA. 424+00 TO STA. 427+00

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

PLATE 3 CROSS SECTION O. P. R. & R. E. STANDARD
263 FM-3 ACEPROOF FILM—MADE AND PRINTED IN U. S. A.
EUGENE DIETZGEN CO.

FED. RD.	STATE	PROJECT	
2	OHIO		

72
384

MAH.-805-7.01
MAH.-80-2.30

SEEDING
END SQ.
WIDTH YDS.

	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
175			3179	0
			12372	0
1000				
1983				
			3502	0
182				
			13894	0
1000				
2072				
			4000	0
191				
			15726	0
2144				
1000				
			4492	0
195				
			16280	0
2150				
1000				
SHEET TOTALS			58972	0

2:1 8:1 1005.31 1007.52 8:1 7.5:1 1003.27 1007.52 8:1 2:1 1005.31

431+00
1020.31

CROSSOVER
STA 430+30
FOR CROSS OVER DETAIL
SEE SHEET NO 243

2:1 8:1 1006.35 1008.56 VARIES 6:1 1008.56 8:1 2:1 1006.35

ADD
GOAL POST C.B.
GRATE EL. = 1000.40
Ht. 21" = 1000.44
Ht. 24" = 1000.48

430+00
1022.31

2:1 8:1 1007.35 1009.60 7:1 7:1 1005.35 1009.60 8:1 2:1 1007.38

429+00
1024.65

2:1 8:1 1008.43 1010.64 8:1 8:1 1006.39 1010.64 8:1 2:1 1008.43

428+00
1028.35

SHEET TOTAL 8349

STA. 428+00 TO STA. 431+00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

FINAL SURVEY
NOTE BOOK
NO
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

ORIGINAL SURVEY
NOTE BOOK
NO
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO. CHICAGO - NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

73
384

MAH.-80S-7.01
MAH.-80-2.30

SEEDING
END SQ.
WIDTH YDS.

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
8160	0		
		11234	0
		2908	0
		10350	0
		2997	0
		8080	0
		11592	0
		15030	0

SHEET TOTALS

FINAL SURVEY
NOTE BOOK
NO
BY
DATE
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED

ORIGINAL SURVEY
NOTE BOOK
NO
BY
DATE
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED

176
1000
1938
2:1
8:1
1001.15
1003.36
999.11
435+00
1015.98

173
1000
1944
1002.19
1004.40
1000.15
434+00
1016.58

177
1000
1961
1003.23
1005.44
1001.19
433+00
1016.28

176
1000
1950
1004.27
1006.48
1002.23
432+00
1018.38

SHEET TOTALS 17793

STA. 432+00 TO STA. 435+00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

74
384

MAH.-80S-7.01
MAH.-80-2.30

SEEDING
END SQ.
WIDTH YDS.

END AREA CU YDS.
CUT FILL CUT FILL

FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

182
1000
2028
2:1
8:1
956.99
999.20
954.35
999.20
956.99
2:1
3698 0
13712 0
3556 0

183
1000
2039
2:1
8:1
958.03
1000.24
955.99
1000.24
958.03
2:1
16300 0

439+00
1014.4

438+00
1014.1

184
1000
2010
2:1
8:1
959.07
1001.28
957.03
1001.28
959.07
2:1
9410 0
12302 0

437+00
1014.3

178
1000
1967
2:1
8:1
1000.11
1002.32
1002.32
1000.11
2:1
3235 0
11842 0

GOA A-4
GRADE EL. 997.82
R-24 " " 995.40
R-C " " 995.40

436+00
1014.2

SHEET TOTALS 8098
SHEET TOTALS 55760 0

STA. 436+00 TO STA. 439+00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO. CHICAGO - NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

75
384

MAH.-80S-7.01
MAH.-80-2.30

SEEDING
END | SQ.
WIDTH YDS.

	END AREA CUT	END AREA FILL	CU YDS. CUT	CU YDS. FILL
4355 0				
1600 0				
4250 0				
4130 0				
15376 0				
4173 0				
16854 0				
SHEET TOTALS	21834 0			

197
2172
990
992.83
995.04
990.79
995.08
992.83
443+00
1012.0

194
2139
990
993.07
995.08
A-5
60 N≠ 81 CB
GRATE EL. +991.58
RE-24" +987.01
RE-27" +987.56
995.08
993.87
442+00
1012.5

191
2117
990
994.91
997.12
992.87
997.12
994.91
441+00
1013.4

190
2080
990
995.95
998.16
993.91
998.16
995.85
440+00
1014.7

SHEET TOTAL 8728

STA.440+00 TO STA.443+00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO. CHICAGO - NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

TG 384

MAH.-80S-7.01
MAH.-80-2.30

SEEDING
END SEC.
WIDTH YDS.

END AREA CU. YDS.
CUT FILL CUT FILL

5587 0

211

2015 0

8328

990

8:1 8:1 8:1 8:1 8:1 8:1

2:1 2:1

988.67 988.67

990.88 990.88

986.63

BEG. RAMP "E"
STA. 446+33.24

447+00
1012.1

5294 0

208

1913 0

2254

990

991.92 991.92

985.71 989.71

987.07

446+00
1012.1

5040 0

205

1780 0

2261

990

990.75 990.75

988.71

445+00
1012.3

4572 0

202

1653 2 0

2217

990

991.75 991.75

989.75

444+00
1012.4

SHEET TOTALS 78620 0

SHEET TOTAL 9100

STA. 444+00 TO STA. 447+00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO. CHICAGO - NEW YORK

FINAL SURVEY
NOTE BOOK
NO
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

ORIGINAL SURVEY
NOTE BOOK
NO
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

FED. RD.	STATE	PROJECT	
2	OHIO		

77
384

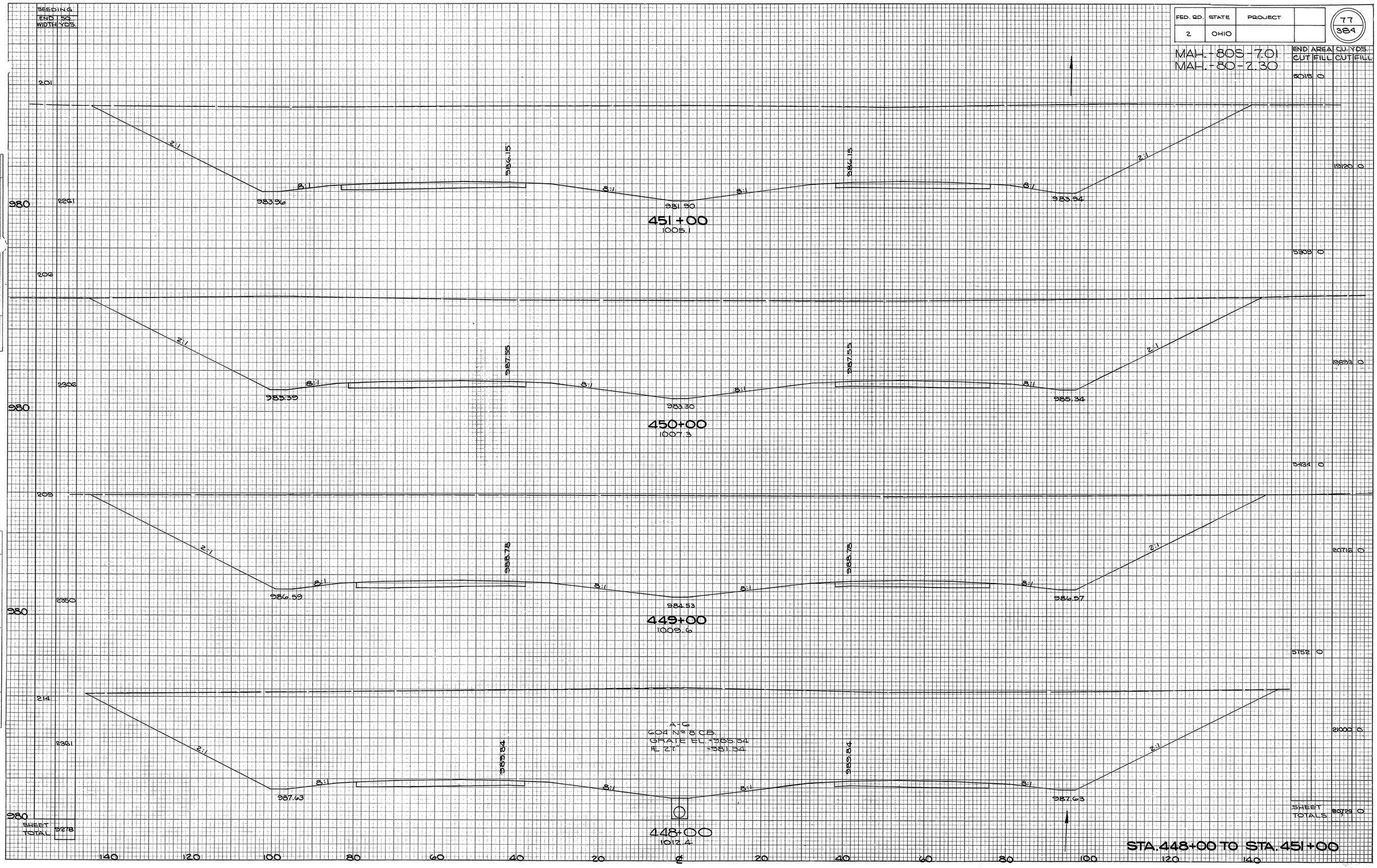
MAH.-80S-7.01
MAH.-80-2.30

SEEDING
END SQ.
WIDTH YDS.

END AREA CU. YDS.
CUT | FILL | CUT FILL

FINAL SURVEY
NOTE BOOK
NO
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

ORIGINAL SURVEY
NOTE BOOK
NO
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE



STA. 448+00 TO STA. 451+00

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO., CHICAGO · NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

78
384

MAH.-80S-7.01
MAH.-80-2.30

SEEDING
END SQ.
WIDTH YDS.

END AREA CU. YDS.
CUT FILL CUT FILL

1000
980
2272
204
BRIDGE SLOPE
979.66
981.58
4:1
4:1
8:1
979.98
981.58
979.77
BRIDGE SLOPE
5925 0
20836 0
455+00
1003.80
A-3
604 N#1 M.H.
STA. 454+50 (11' RT. ℄)
TOP EL. = 980.48
℄ 27" = 973.78
℄ 30" = 972.78
℄ 42" = 972.28
980.23
78 - 27" CONDUIT TYPE "B" @ 2.87%
454+50
A-2
604 N#5 C.B.
STA. 454+50 (55' RT. ℄)
DITCH EL. = 980.02
GRATE ELEV. = 979.77
℄ 27" = 976.02
℄ 6" = 978.50
5088 0
205
980
2:1
2:1
8:1
8:1
8:1
8:1
2:1
2217
382.53
382.53
980.25
980.32
18224 0
A-1
604 N#5 C.B.
STA. 453+75 (10' LT ℄)
DITCH ELEV. = 980.44
GRATE EL. = 980.19
℄ 24" = 977.17
℄ 6" = 978.75
382.71
454+00
1001.0
100' - 24" CONDUIT TYPE "B" @ 1.91%
453+75
A-1
604 N#4 C.B.
STA. 453+75
GRATE ELEV. = 979.82
℄ 24" = 974.40
℄ 27" = 974.15
℄ 36" = 973.40
4752 0
194
980
2:1
8:1
8:1
8:1
8:1
2:1
2178
383.39
383.39
981.13
979.14
981.18
453+00
1001.3
17698 0
198
980
2:1
8:1
8:1
8:1
8:1
2:1
2271
384.62
384.62
982.40
980.37
982.41
452+00
1001.7
18185 0
SHEET TOTALS 74504 0
SHEET TOTAL 8884

STA. 452+00 TO STA. 455+00

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

79
384

MAH.-80S-7.01
MAH.-80-2.30

SEEDING
END SQ.
WIDTH YDS.

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL

FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

A-15
NEW MANHOLE
TOP EL. EV. = 977.29
℄ 42" = 969.15
STA. 459+00 (11' RT ℄)

℄ RAMP "E"

182
980
2022
2:1
8:1
977.20
979.66
975.41
979.66
977.45
2:1
3634 0
13224 0

459+00
991.9

182
980
2050
2:1
8:1
977.91
980.32
976.07
980.32
978.11
2:1
3507 0
13638 0

458+00
993.5

187
980
2111
2:1
8:1
978.56
980.94
976.69
980.94
978.73
2:1
3857 0
12946 0

457+00
995.3

192
980
2206
2:1
8:1
979.13
981.48
979.48
981.48
979.27
BRIDGE SLOPE
5253 0
20776 0

456+00
1002.5

SHEET TOTAL 8389

SHEET TOTALS 61884 0

STA. 456+00 TO STA. 459+00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

80
384

MAH.-80S-7.01
MAH.-80-2.30

SEEDING
END SQ. WIDTH YDS.

	END AREA CU. YDS. CUT	FILL	CUT	FILL
			1708	0
142				
970				
1666				
			6680	0
168				
	AHEAD		1899	0
	BACK		2519	0
970				
1700				
			10261	0
188				
			3027	0
970			550	
1776			980	
			11842	0
179				
			3328	0
2006				
			12967	0
970				
			41750	0
			SHEET TOTALS	
	7193			
SHEET TOTAL				

MATCH LINE
STA. 462+93
RAMP "E"

977.02	977.02	977.02	977.02		
8:1	8:1	8:1	8:1	3:1	
372.77			374.81		
463+00					
383.1					

2:1	376.73	977.68	977.68	977.68	2:1
8:1		8:1	8:1	8:1	
374.69		373.43		375.47	
		462+00			
		385.3			

2:1	377.55	978.34	978.34	978.34	2:1
8:1		8:1	8:1	8:1	
375.51		374.09		376.13	
		461+00			
		388.5			

℄ 375.70

2:1	378.47	979.00	979.00	979.00	2:1
8:1	379.00	8:1	8:1	8:1	
376.43		374.15		376.79	
		460+00			
		390.7			

STA. 460+00 TO STA. 463+00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

FINAL SURVEY
ORIGINAL SURVEY
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NOTE BOOK
NO.
BY
DATE

FED. RD.	STATE	PROJECT	
2	OHIO		

81
384

MAH.-80S-7.01
MAH.-80-2.30

SEEDING
END SQ.
WIDTH YDS.

END AREA CU. YDS.
CUT FILL CUT FILL

STA. 464+00 TO STA. 468+00

FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

82
384

MAH.-805-7.01
MAH.-80-2.30

SEEDING
END SQ. WIDTH YDS.

END AREA CU. YDS.
CUT FILL CUT FILL

174
970
1894
2:1
MATCH LINE SEE LINE "B" STA. 471+14
A
A
140
969.43
8:1
971.74
8:1
967.49
471+00
988.2
8:1
971.74
8:1
969.59
3:1
SEE LINE "A" FOR EARTHWORK
4149 0
14076 0

BR.

167
970
645
2:1
969.83
11:1
8:1
972.40
970.40
8:1
970.40
972.40
8:1
970.25
3:1
SEE LINE "A" FOR EARTHWORK STA. 466+12
3952 0
3518 0

BR.

196
970
1318
MATCH LINE SEE LINE "A" STA. 463+79 FOR EARTHWORK
2:1
969.96
6:1
8:1
972.61
970.61
4:1
4:1
970.61
8:1
972.61
8:1
970.46
7:1
970.73
MATCH LINE "A" @ 466+64
3159 0
5460 0

153
970
1806
888.6
BRIDGE SLOPE
MATCH LINE SEE LINE "A" STA. 463+79 FOR EARTHWORK
6:1
970.23
8:1
973.06
A-I
A-II
P-I
8:1
973.06
8:1
970.83
4:1
1177 0
4341 0

A-I
CO4 Nº 4C.B. 469+00
STA. 469+00(℄) 976.4
GRATE EL. 968.56
℄ 15" " 965.62
℄ 6" " 966.37

A-II
CO4 Nº 1 M.H.
STA. 469+00 (11' Rt. ℄)
TOP EL. " 970.63
℄ 15" " 964.58
℄ 42" " 962.18
℄ 6" " 966.27

17-15" @ 7.29%

SHEET TOTAL 5663

SHEET TOTALS 27795 0

STA. 469+00 TO STA. 471+00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NOTE BOOK
NO.
BY
DATE
FINAL SURVEY
ORIGINAL SURVEY

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

83
384

MAH.-80S-7.01
MAH.-80-2.30

END AREA CU. YDS.	
CUT	FILL
1787	0
3454	0
3121	0
3747	0
4682	0
15608	0
16354	0
SHEET TOTALS	38850 0

SEEDING
END SQ.
WIDTH YDS.

178
741
970
MATCH LINE
SEE LINE "B"
STA. 473+69
4:1
VARIES
968.42
8:1
8:1
965.74
970.42
970.42
970.14
968.10
8:1
4:1
8:1
MATCH LINE
LINE "A"
STA. 468+50
473+65
973.7

173
509
108
970
MATCH LINE
SEE LINE "B"
STA. 473+32
4:1
VARIES
968.31
8:1
8:1
965.99
970.24
970.24
969.73
967.68
8:1
4:1
7:1
MATCH LINE
LINE "A"
STA. 468+17
473+27
983.3

166
970
MATCH LINE
SEE LINE "B"
STA. 473+08
8:1
8:1
8:1
966.17
970.42
970.42
970.14
968.10
8:1
4:1
8:1
MATCH LINE
LINE "A"
STA. 468+00
473+00
986.2
604 24" S.C.P.
STA. 473+00 (11.0' LT. ℄)
DITCH ELEV. = 968.21
GRATE ELEV. = 967.96
27" = 965.94

191
2028
970
MATCH LINE
SEE LINE "B"
STA. 472+08
8:1
VARIES
975.8
8:1
968.87
971.08
971.08
970.87
968.83
8:1
4:1
12:1
MATCH LINE
LINE "A"
STA. 467+40
472+00
988.2
A-12
INLET M.H.
STA. 472+00 (11' RT. ℄)
TOP = 971.08
# 42" = 966.83
# 48" = 966.33

SHEET TOTAL 5261

STA. 472+00 TO STA. 473+65

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

FINAL SURVEY
NOTE BOOK
NO
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

ORIGINAL SURVEY
NOTE BOOK
NO
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
DATE

FED. RD.	STATE	PROJECT	
2	OHIO		

84
384

MAH.-80S-7.01
MAH.-80-2.30

END AREA CU. YDS.	
CUT	FILL
3528.44	
7773.72	
4466.34	
7193.48	
3104.28	
1295.27	
2000.18	
2000.166	

SEEDING
END SQ.
WIDTH YDS.

271
1402
234
1560
390
1702
167
560

970
960

A-1
604 N#6 C.B.
STA. 475+52.67 (79' LT.℄)
GRATE ELEV.=968.48
#15" =964.65
#15" =965.40

24"-15" TYPE "B" W/CL "B" BED @ 2.35%

HW-E HEADWALL
E=962.41

1/4"/FT.

961.40

961.60

961.80

964.52

964.90

965.15

965.51

966.42

966.83

967.29

968.53

968.77

969.10

969.40

969.76

969.96

604 N#1 MH
STA. 475+05 (17' RT.℄)
TOP EL.=966.70
#48" =958.31
#15" =961.06

962.50

968.00

968.40

968.84

969.33

℄ STREAM

475+50
976.1

475+05

475+00
968.5

474+55
969.1

474+00
968.6

MATCH LINE
SEE LINE "A"
STA. 471+00

MATCH LINE
SEE LINE "A"
STA. 470+00

MATCH LINE
SEE LINE "A"
STA. 469+50

MATCH LINE
SEE LINE "A"
STA. 468+75

MATCH LINE
STA. 474+07
LINE "B"

VAR. VAR.
968.7

VARIES
968.53

AH'D 4166 0
"A" BK 1749 0

SHEET TOTAL 5224

SHEET TOTALS 2000.166

STA. 474+00 TO STA. 475+50

FINAL SURVEY — NOTE BOOK NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

ORIGINAL SURVEY — NOTE BOOK — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

85
884

MAH.-80S-7.01
MAH.-80-2.30

END AREA CU. YDS.
CUT FILL CUT FILL

SEEDING
END SQ.
WIDTH YDS.

478+00
979.7

477+00
982.6

476+50
982.6

476+00
982.2

MATCH LINE
SEE RAMP "F"
STA. 477+86

AH'D 4733
BK. 5785

STA. 476+18 (15 LT. ℄)
OUTLET 48" PIPE
FL. = 357.58

STREAM

SHEET TOTALS 62455 166

SHEET TOTAL 6721

STA. 476+00 TO STA. 478+00

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

86
384

MAH.-80S-7.01
MAH.-80-2.30

SEEDING
END WIDTH | SQ. YDS.

	END AREA CU. YDS. CUT	FILL	CUT	FILL
			1932	0
			3889	0
			1848	0
			7859	0
			2896	0
			10028	0
			3019	0
			12572	0
			3770	0
			15219	0
SHEET TOTALS			51567	0

483+00
967.2

206 | 160 | 140 | 2:1 | 2:1 | 958.40 | 963.71 | 963.82 | 963.32 | 961.80 | 959.57 | 1/4"/FT. | 8:1 | 8:1 | 8:1 | 8:1 | 6:1 | 960

2267 | 160 | 140 | 2:1 | 2:1 | 956.80 | 964.29 | 964.48 | 964.48 | 962.40 | 960.23 | 1/4"/FT. | 8:1 | 8:1 | 8:1 | 8:1 | 3:1 | 960

482+00
968.5

2306 | 180 | 160 | 140 | 2:1 | 2:1 | 959.20 | 965.14 | 965.14 | 963.20 | 960.89 | 1/4"/FT. | 8:1 | 8:1 | 8:1 | 8:1 | 3:1 | 960

481+00
971.5

2411 | 180 | 160 | 140 | 2:1 | 2:1 | 959.60 | 965.21 | 965.80 | 965.80 | 963.60 | 961.55 | 1/4"/FT. | 8:1 | 8:1 | 8:1 | 8:1 | 3:1 | 960

480+00
973.4

2494 | 180 | 160 | 140 | 2:1 | 2:1 | 960.00 | 966.25 | 966.46 | 966.46 | 963.80 | 962.21 | 1/4"/FT. | 8:1 | 8:1 | 8:1 | 8:1 | 2:1 | 960

479+00
976.5

SHEET TOTAL 11922

STA. 479+00 TO STA. 483+00

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

FINAL SURVEY — NOTE BOOK — NO. — BY — DATE
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED

ORIGINAL SURVEY — NOTE BOOK — NO. — BY — DATE
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED

FED. RD.	STATE	PROJECT	
2	OHIO		

87
384

MAH.-80S-7.01
MAH.-80-2.30

SEEDING
END SQ.
WIDTH YDS.

END AREA CU. YDS.
CUT | FILL | CUT | FILL

STA 486+90 (144' LT. ℄) ℗ 955.10
BEGIN 601.6" REINFORCED CONCRETE RIPRAP WITH AN 18" DEED CUT-OFF WALL. SEE ST'D. DRAWING MC-5 FOR DETAILS OF CUT-OFF WALL.

MATCH LINE
SEE LINE "A"
STA. 487+10

MATCH LINE
SEE LINE "D"
STA. 486+64

487+00
958.5

486+50
958.9

486+00
957.0

485+00
960.4

484+00
963.2

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO. CHICAGO - NEW YORK

SHEET TOTALS 1092 6247

STA. 484+00 TO STA. 487+00

FED. RD.	STATE	PROJECT	
2	OHIO		

88
384

MAH.-80S-7.01
MAH.-80-7.30

END AREA CU. YDS.
CUT FILL CUT FILL
84 445

604 № M.H.-1
STA. 492+00 (75.5 Rt. ℄)
GRATE EL. 955.73
℄ 12" = 948.15
℄ 18" = 947.65

SEEDING
END SQ.
WIDTH YDS.

161

955.60 — 8:1 — 6:1 — GUARD RAIL — 6:1 — 8:1 — 955.60
954.20 — 952.20
STA 492+08
BEGIN MEDIAN
GUARD RAIL
A-1

955.91 — 955.91 — 955.91 — GUARD RAIL — 955.91
950 — 4:1 — 8:1 — 8:1 — 4:1
950.50
2044
BEGIN DITCH STA. 491+25
ELEV. = 952.1
A-1
604 № 4 C.B.
STA. 492+00
GRATE EL. 951.41
℄ 18" 948.20
P-1
492+00
952.3
178 2262

957.14 — 957.14 — 957.14 — 956.89 — 956.66 — GUARD RAIL
207
950 — 8:1 — 8:1
952.85
FOR QUANTITIES
SEE CHANNEL
X-SECTIONS SHEET
№ 20C-A
491+00
953.8
12 780
FOR QUANTITIES
SEE CHANNEL
X-SECTIONS
SHEET № 2.3-1
2367
94.500 ℄ 60" CULVERT
248' ~ 60" CONDUIT TYPE "A" 706.02 CL. III
WITH CLASS "B" BEDDING @ 1.15%
540.10 ℄ 60
CULVERT
235 3823

℄ 950.00 @ STA. 490+50 148' LT. ℄
6 — 4' — 4'
STA. 490+40 (148' LT. ℄) ℄ 950.05
BEGIN 601 6" REINF. CONC. RIPRAP WITH AN 18"
DEEP CUT-OFF WALL. FOR DETAILS OF CUT-OFF
WALL SEE STD. DRAWING MC-1.5
219
18
1½:1 — 6:1
2:1 — 2:1
950 — 950.25
CULVERT

958.26 — 958.26 — 957.84 — 957.51 — GUARD RAIL
8:1 — 8:1 — 2:1
954.01
490+00
952.4
117 1284
C — C — 2:1 — 2:1 — 4:1 — 4:1
120 — 140
537.8
2367
956.4780

207
℄
1½:1 — 6:1 — 8:1 — 8:1
2:1 — 2:1
950.75
955.04
489+00
953.6
959.23 — 959.25 — 959.15 — 959.11 — 958.05 — GUARD RAIL
75 1270
B — B — 2:1 — 12:1 — 4:1 — 4:1
120 — 140 — 160
535.6
2354
337.3154

224
℄
1½:1 — 6:1 — 8:1 — 8:1
2:1 — 2:1
960.23 — 960.23 — 959.68 — 958.37 — GUARD RAIL
950 — 955.98
STA. 487+60 (144' LT. ℄) ℄ 951.45
END 601 6" REINF. CONC. RIP-RAP
WITH AN 18" DEEP CUT-OFF WALL.
2189 951.25
488+00
957.0
AH'D 107 1518
BK. 100 613
244 1114
A — A — 2:1 — 12:1 — 4:1 — 4:1
120 — 140 — 160
535.7

℄
2:1 — 12'-0" — 2:1
951.50
CHANNEL SECTION
(144' LT. STA. 487+50)

SHEET TOTAL 11,361
SHEET TOTALS 1354 17099

STA. 488+00 TO STA. 492+00

140 — 120 — 100 — 80 — 60 — 40 — 20 — ℄ — 20 — 40 — 60 — 80 — 100 — 120 — 140

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO. CHICAGO - NEW YORK

FINAL SURVEY / ORIGINAL SURVEY
SURVEYED BY
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NOTE BOOK
NO.
DATE

FED. RD.	STATE	PROJECT	
2	OHIO		

89
384

MAH.-805-7.01
MAH.-80-2.30

SEEDING
END SQ.
WIDTH YDS.

LIPKEY ROAD STRUCTURE
STA. 496+75.32 - END APPROACH SLAB

LIPKEY ROAD STRUCTURE
STA. 495+23.82 - END APPROACH SLAB

	END AREA CU. YDS.	
	CUT	FILL
STA. 496+75.32 END APPROACH SLAB	1092	693
STA. 496+55 ZERO EARTHWORK SECTION	210	115
STA. 495+25 ZERO EARTHWORK SECTION	0	0
STA. 495+23.82 END APPROACH SLAB	17	377

950.13 — 950 — 496+00 — 947.4 — 950.13

ZERO EARTHWORK
STA. 495+25

958 — 129 — 950 — 351.71 — 4:1 — 4:1 — 944.85 — GUARD RAIL — 351.71 — 6:1

H-3
STA. 494+80 (103.5' RT)
HW-E HEADWALL
℄ 15" 945.12

352.01 — 4:1 — 4:1 — 945.0 — 16.00 — 495+00 — 948.8 — 947.76 — 8:1 — 8:1 — GUARD RAIL — 952.01

A-3
604.№2-2B C.B.
STA. 494+80 (℄)
GRATE EL. 947.43
℄ 15" 945.43

104'-15" TYPE "B" W/CL. BEDDING @ 0.30%

494+80

953.21 — 159 — 950 — 4:1 — 8:1 — 6:1 — 946.66 — 949.10 — GUARD RAIL — 953.21 — 6:1 — 948.0

494+00
950.5

	15	335
	17	377
	106	1357
	40	356
	115	1495
	22	435
	196	1630

178.9 — 16.0 — 950 — 954.61 — 4:1 — 4:1 — 948.6 — 8:1 — GUARD RAIL — 6:1 — 6:1 — 8:1 — 954.61 — 352.10 — 352.70 — 954.61 — 954.24 — 4:1 — 947.6

493+00
951.9

A-2
STA. 492+30.87 (74' RT ℄)
GUTTER ELEV. = 955.33
GRATE ELEV. = 955.16
℄ 18" = 947.39

A-2 — 955.33 — 955.11 — 4:1 — 10' — 8' — 4:1 — 10'x7'-1.5 P.C.B.

P-1 — 56-15" CONDUIT TYPE "B" @1.00%

PIPE OUTLET 946.83
DITCH EL. 946.63

SHEET TOTALS — 642 — 4909

SHEET TOTAL — 5553

STA. 493+00 TO STA. 496+00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

FINAL SURVEY
NOTE BOOK
NO.
BY
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AREAS
AREAS CHECKED

ORIGINAL SURVEY
NOTE BOOK
NO.
BY
DATE
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED

FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

91
884

MAH.-80S-7.01
MAH.-80-2.30

SEEDING
END SQ.
WIDTH YDS

STA. 404+73 (197' LT. ℄)
INLET 54" CULVERT
FE~906.67

END AREA CU YDS.
CUT FILL CUT FILL

578 208

2053 1115

1406 2246

223 819

404 3255

44 341

249 3335

SHEET TOTALS 4,116 10015

SHEET TOTAL 9512

STA. 501+00 TO STA. 504+00

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

92
384

MAH-80S-7.01
MAH-80-2.30

END AREA CU. YDS.
CUT FILL CUT FILL

SEEDING
END SQ.
WIDTH YDS.

256

934.15 934.34 934.24 934.74 934.43 934.33

924.34 LA RW

929.95

922.88

1428

203 GRANULAR BORROW

909.00

180 160

506+00
915.4

SUPERELEVATION BEGINS
STA. 505+62.02

935.03 935.03

926.01 LA RW

924.38

930.78

258

505+50
926.2

927.67 LA RW

925.54

931.58

935.83 935.83

265

907.80

203 GRANULAR BORROW

505+00
929.0

INLET STA. 504+90
54" CULVERT
FE - 906.70

907.60

203 GRANULAR BORROW

BEGIN GRANULAR BORROW 504+80

2667

BEGIN GRANULAR BORROW 504+65

BEGIN 601 FILL
STA. 504+50

203 GRANULAR = 1052
601 TYPE A = 120

SHEET TOTALS 1163 18256

SHEET TOTAL 5548

STA. 505+00 TO STA. 506+00

C 910 900 160 180 200
15-601 TYPE "A"
601 FILL TYPE "A"
15'
5828
203 GRANULAR BORROW
434(GRAN)
ITEM 601: 36
GRAN 634
0 8488
912.10
12:1 4:1 4:1

B 910 900 160 180 200
203 GRANULAR BORROW
601 FILL TYPE "A"
15'
20-601 TYPE "A"
850 GRAN

B 910 920 160
1459
907.80
203 GRANULAR BORROW

3838
913.80
203 GRANULAR BORROW
35-601 TYPE "A"
110 GRAN RT.
10 GRAN LT.
601 FILL TYPE "A"
1.5'
180
203 GRANULAR BORROW

A 910 920 160
2667
INLET STA. 504+90
54" CULVERT
FE - 906.70
907.60
203 GRANULAR BORROW

3838 2265
ITEM 601:38
GRAN 71
GRAN 4
915.70
1131 4580

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO. CHICAGO - NEW YORK

FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
DATE
BY

ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
DATE
BY

FED. RD.	STATE	PROJECT	
2	OHIO	.	

93 / 384

MAH-805-7.01
MAH-80-2.30

FINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		
NOTE BOOK NO.		

ORIGINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		
NOTE BOOK NO.		

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

94
384

MAH-80S-7.01
MAH-80-2.30

	END AREA		CU. YDS.	
	CUT	FILL	CUT	FILL
1&2	1896			
3	2428		3502	
4	3135		6303	
5	3095		7161	
6	3223		7141	
SHEET TOTAL	13,752	22,825		

SEEDING
END | SQ.
WIDTH | YDS.

00 SECTION
203 GRANULAR BORROW
STA. 510+47

510+00
921.0

509+00
912.3

508+50
908.1

508+00
903.6

STA. 508+00 TO STA. 510+00

45-601 TYPE "A"
607 GRAN

40-601 TYPE A

END D.R.C.P.
509+00

30-601 TYPE "A"
20-D.R.C.P.

10-15 TYPE "E" W/C.
"B" BEDDING
35-601 TYPE "A"

A-3
604 NO. 5 C.B.
GRATE EL. = 908.15
IN-15" PIPE = 906.00

STD. CONC. COLLAR TO
BE INCL. IN COST OF PIPE

203 GRANULAR
BORROW

ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

95
384

MAH-80S-7.01
MAH-80-2.30

END AREA	CU. YDS.	
CUT	FILL	CUT FILL

SEEDING
END SQ.
WIDTH YDS.

BEGIN DITCH STA 511+56 R=923.10

A-2
604 N 84 CB
STA 511+63 (15' Lt)
GRATE EL 920.68
R 15' 917.45

153

B
923.91
RW
LA
924.25
925.42
921.90
VARIES
921.60
925.42
926.55
BEGIN ROCK FILL
STA 511+60
79 384
B
920
4:1
6:1
4:1
2:1
919.40
B
150
920
B
4:1
913.70
4:1
RW
LA

511+55
919.9

437
CULVERT INVERT
STA 511+45
R=919.05

87 557

175

A
924.35
RW
LA
924.67
925.80
925.80
926.93
117 270
920
4:1
6:1
VARIES
6:1
4:1
921.88
921.60
A
150
920
A
4:1
922.00

511+31
924.8

706

RW
LA

300 213

910
A
160

235

924.87
LA
RW
925.16
926.25
926.25
927.42
4:1
925.00
4:1
6:1
VARIES
4:1
922.37
921.99
920
BEGIN DITCH
STA 510+97
EL 926.01

511+00
926.5

405 101

RW
LA
913.35
A
1085 2656
REVERSE
SLOPE
12:1
4:1
4:1
910
911.85
END GOI FILL TYPE "A"
STA 511+00
A

2583

2 FIRE TRAIL

SHEET TOTALS 1476 4468

SHEET TOTAL 3785

GOI TYPE "A" = 83

STA. 511+00 TO STA. 511+55

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TERRAIN
AREAS
AREAS CHECKED
BY
DATE

ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TERRAIN
AREAS
AREAS CHECKED
BY
DATE

FED. R.D.	STATE	PROJECT	
2	OHIO		

96
384

MAH-80S-7.01
MAH-80S-2.30

SEEDING
END AREA | CU YDS
CUT | FILL | CUT | FILL

BEG. DITCH STA. 513+00
E-920.80

125 | 125

923.17 | 922.01 | 923.14 | 923.114 | 924.27 | 922.61
RW LA
2:1 | 4:1 | 6:1 | 7:1 | 8:1 | 4:1
919.72 | 918.84

403 | 169

513+00
925.2

961

STATION 512+60

184

922.60 | 922.87 | 924.00 | 924.00 | 925.13 | 921.76
RW LA
2:1 | 4:1 | 6:1 | VARIES | 7:1 | 4:1
920.08 | 919.80

211 | 160

225 | 1253

910

512+44
923.7

870

B
920
920.5

170 | 160

172

923.12 | 923.57 | 924.70 | 924.70 | 925.93
RW LA
2:1 | 4:1 | 6:1 | 2:1
920.78

CROSSOVER
STA. 512+00

END ROCK FILL TYPE "A"
STA. 512+10

174 | 1346

910.00

512+00
912.1

C
920
919.80

170 | 160

172

923.35 | 923.78 | 924.91 | 924.91 | 926.04
RW LA
2:1 | 4:1 | 6:1 | VARIES | 2:1
920.59

156 | 1595

138 | 1498

578

910

SHEET TOTAL 2734

511+87
914.1

60 TYPE "A" = 28

SHEET TOTALS 966 | 5022

STA. 511+87 TO STA. 513+00

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

ORIGINAL SURVEY
NOTE BOOK
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NO.
BY
DATE

FINAL SURVEY
NOTE BOOK
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
NO.
BY
DATE

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO. CHICAGO - NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

97
384

MAH-80S-7.01
MAH-80-2.30

END AREA	CU. YDS.		
CUT	FILL	CUT	FILL

SEEDING
END SQ.
WIDTH YDS.

FINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

ORIGINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

168
910
1844
915.33
RW
LA
2:1
4:1
916.02
8:1
918.31
919.44
VARIES
915.14
8:1
919.44
920.57
4:1
6:1
917.41
913 91
902 267

517+00
919.1

164
910
1838
921.22
RW
LA
2:1
4:1
916.55
8:1
918.84
919.97
VARIES
915.67
8:1
919.37
921.10
8:1
6:1
919.44
174 58
1729 98

516+00
918.6

167
910
1833
913.11
RW
LA
2:1
4:1
917.34
8:1
919.03
920.76
VARIES
916.46
8:1
920.76
921.89
8:1
6:1
920.23
758 0
3228 37

515+00
922.1

163
910
1600
924.54
RW
LA
2:1
4:1
918.40
8:1
920.09
921.82
8:1
917.50
8:1
921.82
922.95
8:1
985 20
2698 269

514+00
925.2

SHEET TOTAL 1115

SHEET TOTALS 8549 6711

STA. 514+00 TO STA. 517+00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

PLATE 3 CROSS SECTION B & R STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

98
384

MAH-80S-7.01
MAH-80-2.30

END AREA	CU. YDS.		
CUT	FILL	CUT	FILL

SEEDING
END SQ.
WIDTH YDS

50 DRCP AT +51
19 DRCP AT +18

144 586

1007 1051

152

920
910

313.50 | DRCP | 318.42 | 318.78 | 319.14 | GUARD RAIL | 319.4 | 319.50 | 319.86 | D.R.C.P.

4:1 | 2:1 | 4:1 | 4:1 | 8:1 | 6:1 | 6:1 | 8:1 | 3:1 | 4:1 | 4:1

911.56 | 916.50 | 917.20 | 308.7 | 2.5' | 1.5'

519+00
916.6

488

BEGIN D.R.C.P.
STA. 518+50

33.33 D.R.C.P. : 17.00

BEGIN D.R.C.R.
STA. 518+45

171

441 24

920
910

317.06 | 318.02 | 319.15 | GUARD RAIL | 319.15 | 320.25

4:1 | 4:1 | 4:1 | 8:1 | 6:1 | 6:1 | 8:1 | 4:1 | 4:1

913.17 | 917.80 | 916.00 | 915.20

518+17
920.2

173 5

323

575 8

170

920
910

317.44 | 318.04 | 319.17 | 319.17 | 320.30

4:1 | 4:1 | 4:1 | VARIES | VARIES | 4:1 | 4:1

914.00 | 915.20 | 917.00

518+00
920.0

695 36

390

166

259 40

582 135

920
910

318.29 | 318.13 | 319.24 | 319.24 | 320.35

VARIES | 8:1 | VARIES | 8:1 | 4:1 | 6:1

1021 | 915.84 | 914.56 | 917.23

517+55
917.9

SHEET TOTAL 3673

DRCP = 65

SHEET TOTALS 2457 1281

STA. 517+55 TO STA. 519+00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

ORIGINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
BY
DATE

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

95
384

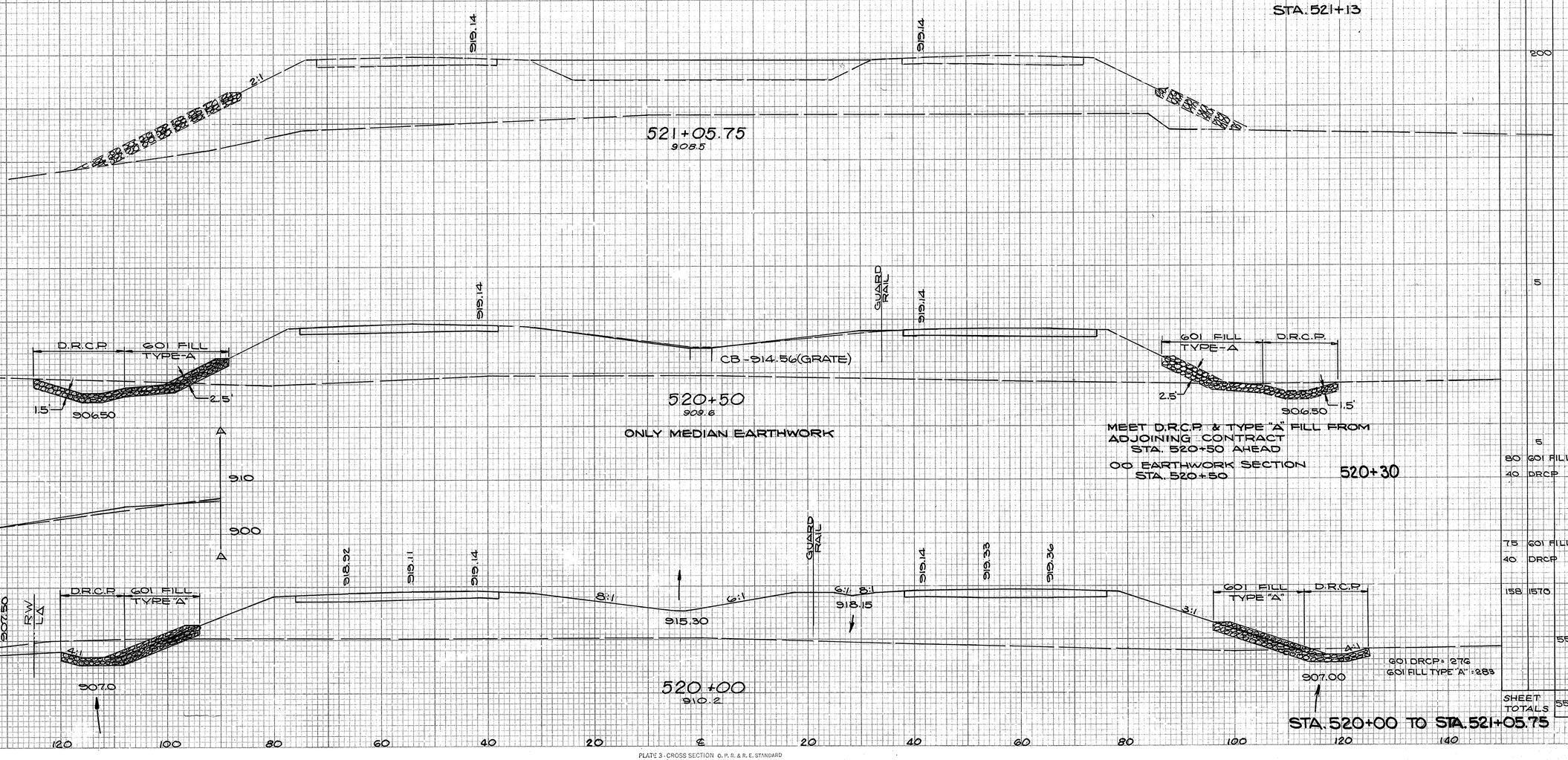
MAH-80S-7.01
MAH-80-2.30

SEEDING	
END WIDTH	SQ. YDS.

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
			27
		200	
			212
		5	
			4
		5	
80	601 FILL		144
40	DRCP		74
			875
75	601 FILL		135
40	DRCP		202
158	1570		
		559	3803
SHEET TOTALS		559	5111

END PROJECT STA. 520+80.75
END WORK STA. 521+15

ZERO EARTHWORK
IN MEDIAN
STA. 521+13



FINAL SURVEY — SURVEYED / PLOTTED / NOTE BOOK / NO. — TEMPLATE AREAS / AREAS CHECKED — BY — DATE

ORIGINAL SURVEY — SURVEYED / PLOTTED / NOTE BOOK / NO. — TEMPLATE AREAS / AREAS CHECKED — BY — DATE

PLATE 3 - CROSS SECTION O. P. R. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.

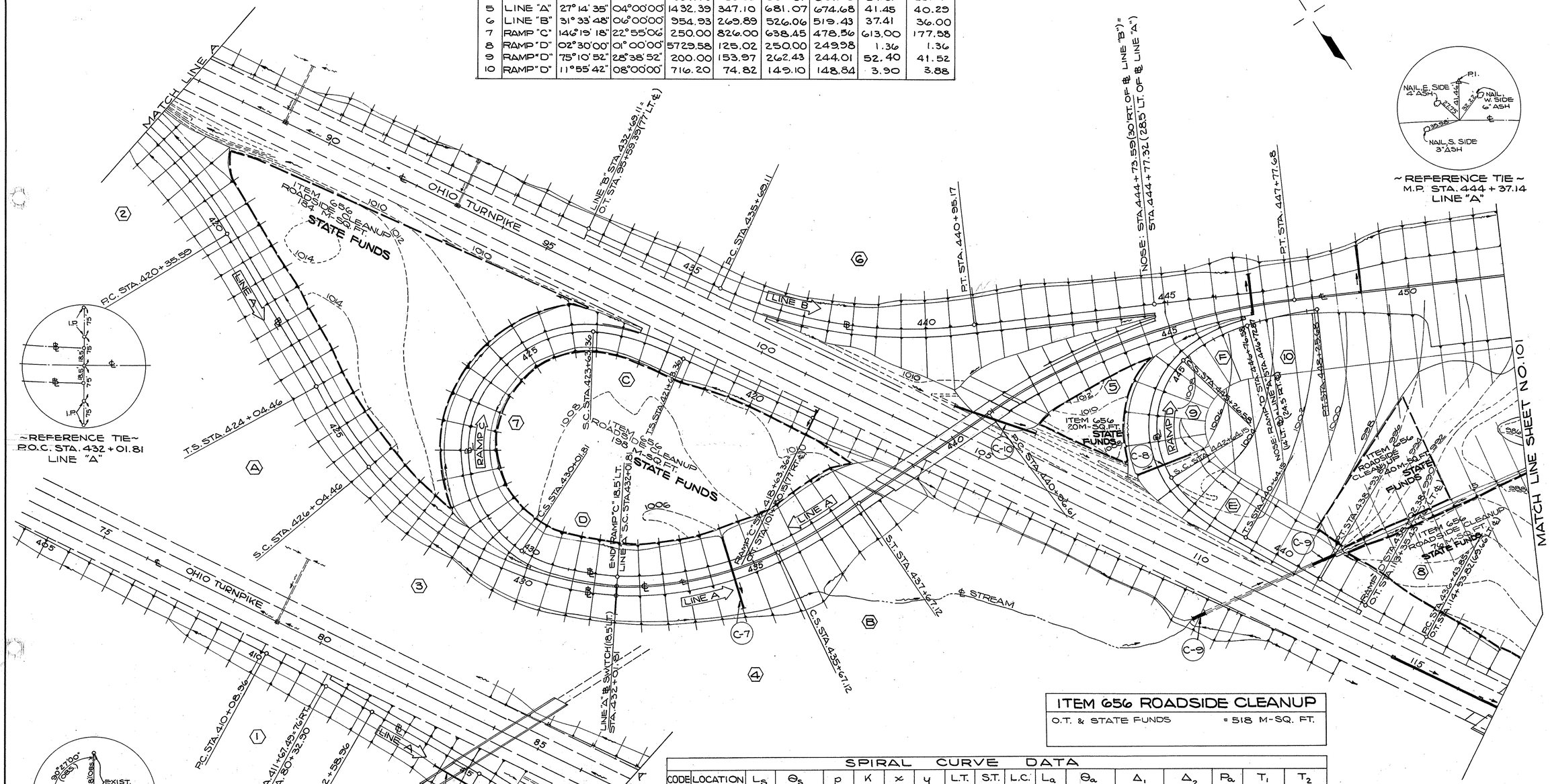
FED. RD.	STATE	PROJECT	
2	OHIO		

100
384

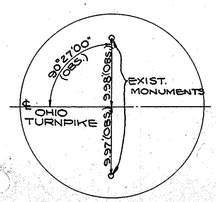
MAH-80 S-7.01
MAH-80 - 2.30

CURVE DATA

CODE	LOCATION	Δ	D_c	R	T	L_c	C_H	Ex	M.O.
1	LINE "A"	02°30'00"	01°00'00"	5729.58	125.02	250.00	249.98	1.36	1.36
2	LINE "A"	30°00'00"	06°00'00"	954.93	255.87	500.00	494.31	33.69	32.54
3	LINE "A"	47°47'16"	08°00'00"	716.20	317.28	597.35	580.18	67.13	61.38
4	LINE "A"	30°00'00"	08°12'44"	697.70	186.95	365.31	361.16	24.61	23.77
5	LINE "A"	27°14'35"	04°00'00"	1432.39	347.10	681.07	674.68	41.45	40.29
6	LINE "B"	31°33'48"	06°00'00"	954.93	269.89	526.06	519.43	37.41	36.00
7	RAMP "C"	146°19'18"	22°55'06"	250.00	826.00	638.45	478.56	613.00	177.58
8	RAMP "D"	02°30'00"	01°00'00"	5729.58	125.02	250.00	249.98	1.36	1.36
9	RAMP "D"	75°10'52"	28°38'52"	200.00	153.97	262.43	244.01	52.40	41.52
10	RAMP "D"	11°55'42"	08°00'00"	716.20	74.82	149.10	148.84	3.90	3.88



~REFERENCE TIE~
P.O.C. STA. 432+01.81
LINE "A"



~REFERENCE TIE~
STA. 69+04.95 (OBS.)
STA. 69+05.27 (REC.)
℄ OHIO TURNPIKE

~REFERENCE TIE~
M.P. STA. 444+37.14
LINE "A"

SPIRAL CURVE DATA

CODE	LOCATION	L_s	Θ_s	p	K	x	y	L.T.	S.T.	L.C.	L_a	Θ_a	Δ_1	Δ_2	P_a	T_1	T_2
A	LINE "A"	200	8°00'00"	2.33	99.93	199.61	9.30	133.47	66.79	199.83	—	—	—	—	—	—	—
B	LINE "A"	200	8°12'44"	2.39	99.93	199.59	9.54	133.48	66.80	199.82	—	—	—	—	—	—	—
C	RAMP "C"	200	22°55'06"	6.63	99.47	196.83	26.34	134.47	67.70	198.58	—	—	—	—	—	—	—
D	RAMP "C"	—	—	—	—	—	—	—	—	—	200	14°28'57"	8°26'09"	22°55'06"	4.20	118.07	87.08
E	RAMP "D"	200	28°38'52"	8.26	99.17	195.06	32.74	135.12	68.30	197.79	—	—	—	—	—	—	—
F	RAMP "D"	—	—	—	—	—	—	—	—	—	150	15°29'09"	6°00'00"	21°29'09"	3.37	90.65	62.30

ITEM 656 ROADSIDE CLEANUP

O.T. & STATE FUNDS = 518 M-SQ. FT.

SCALE: 1"=100'

OHIO TURNPIKE INTERCHANGE GEOMETRIC & GRADING PLAN

K & E - AKRON

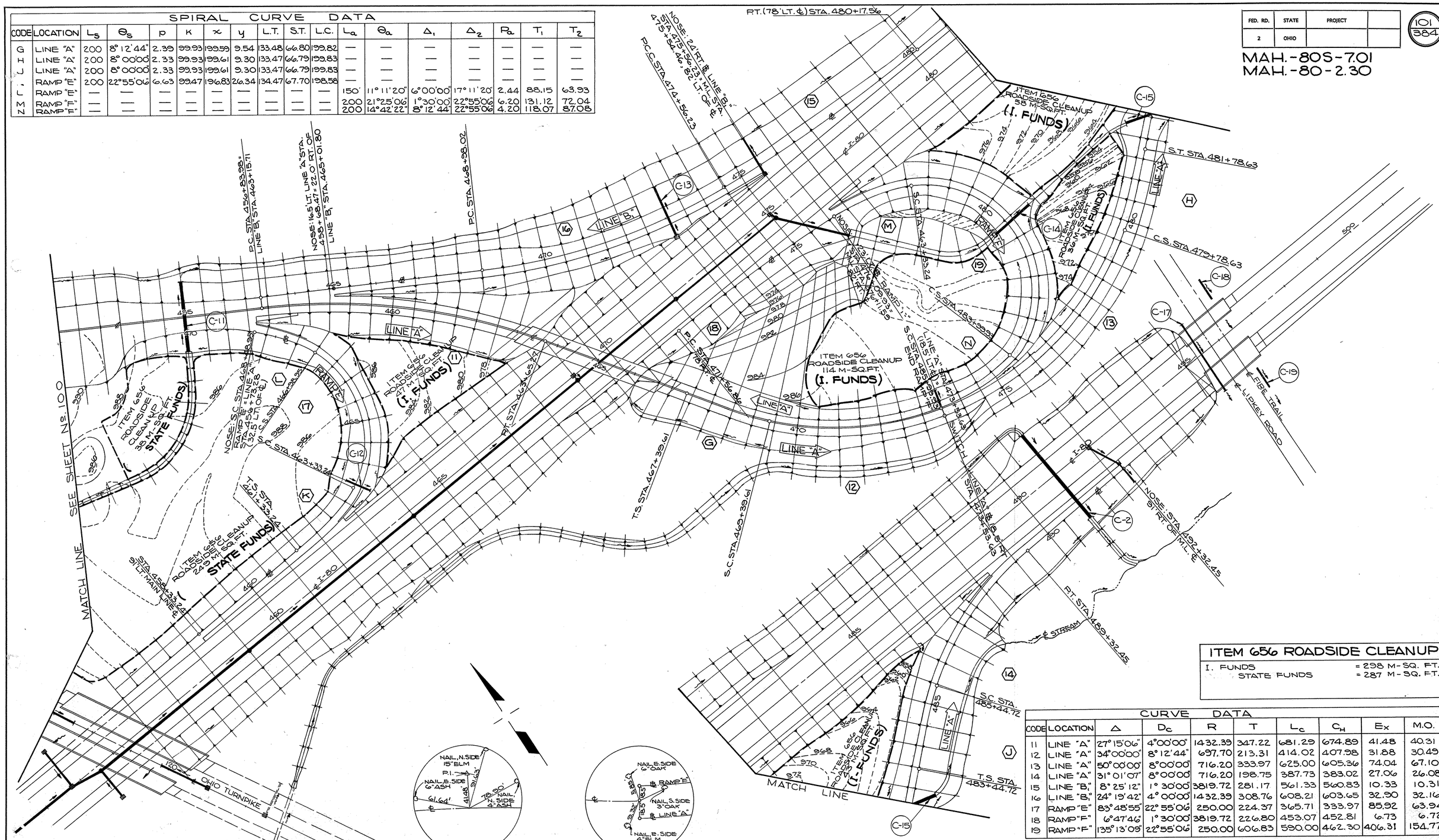
FED. RD.	STATE	PROJECT	
2	OHIO		

101
384

MAH.-80S-7.01
MAH.-80-2.30

SPIRAL CURVE DATA

CODE	LOCATION	L_S	Θ_S	p	k	x	y	L.T.	S.T.	L.C.	L_a	Θ_a	Δ_1	Δ_2	R_a	T_1	T_2
G	LINE "A"	200	8°12'44"	2.39	99.93	199.59	9.54	133.48	66.80	199.82	—	—	—	—	—	—	—
H	LINE "A"	200	8°00'00"	2.33	99.93	199.61	9.30	133.47	66.79	199.83	—	—	—	—	—	—	—
L	LINE "A"	200	8°00'00"	2.33	99.93	199.61	9.30	133.47	66.79	199.83	—	—	—	—	—	—	—
K	RAMP "E"	200	22°55'06"	6.63	99.47	196.83	26.34	134.47	67.70	198.58	—	—	—	—	—	—	—
M	RAMP "E"	—	—	—	—	—	—	—	—	—	150'	11°11'20"	6°00'00"	17°11'20"	2.44	88.15	63.93
N	RAMP "F"	—	—	—	—	—	—	—	—	—	200	21°25'06"	1°30'00"	22°55'06"	6.20	131.12	72.04
	RAMP "F"	—	—	—	—	—	—	—	—	—	200	14°42'22"	8°12'44"	22°55'06"	4.20	118.07	87.08



ITEM 656 ROADSIDE CLEANUP

I. FUNDS	= 298 M-SQ. FT.
STATE FUNDS	= 287 M-SQ. FT.

CURVE DATA

CODE	LOCATION	Δ	D_c	R	T	L_c	C_H	Ex	M.O.
11	LINE "A"	27°15'06"	4°00'00"	1432.39	347.22	681.29	674.89	41.48	40.31
12	LINE "A"	34°00'00"	8°12'44"	697.70	213.31	414.02	407.98	31.88	30.49
13	LINE "A"	50°00'00"	8°00'00"	716.20	343.97	625.00	605.36	74.04	67.10
14	LINE "A"	31°01'07"	8°00'00"	716.20	198.75	387.73	383.02	27.06	26.08
15	LINE "B"	8°25'12"	1°30'00"	3819.72	281.17	561.33	560.83	10.33	10.31
16	LINE "B"	24°19'42"	4°00'00"	1432.39	308.76	608.21	603.65	32.90	32.16
17	RAMP "E"	83°48'55"	22°55'06"	250.00	224.37	365.71	333.97	85.92	63.94
18	RAMP "F"	6°47'46"	1°30'00"	3819.72	226.80	453.07	452.81	6.73	6.72
19	RAMP "F"	135°13'09"	22°55'06"	250.00	606.83	590.00	462.30	406.31	154.77

SCALE : 1" = 100'

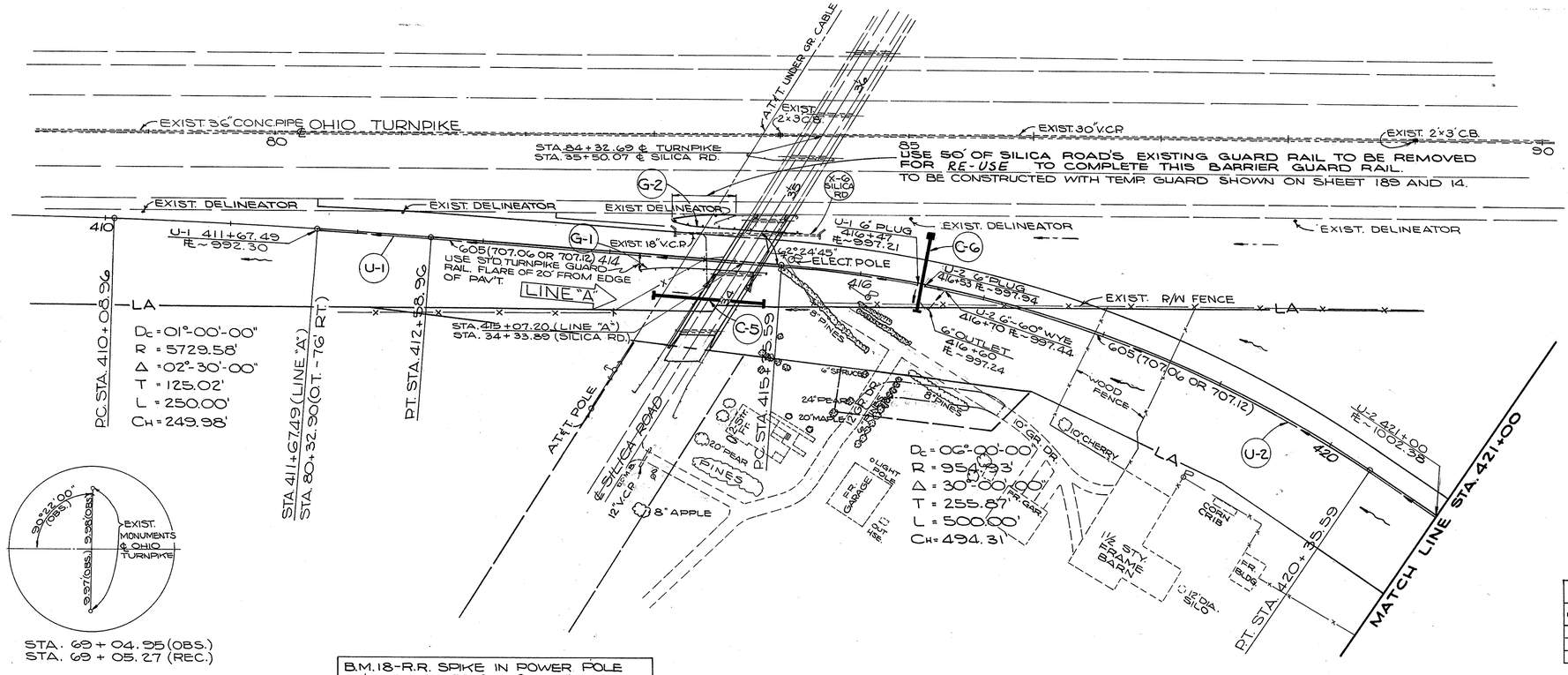
OHIO TURNPIKE INTERCHANGE GEOMETRIC & GRADING PLAN

K & E-AKRON

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

102
384

MAHONING COUNTY
MAH.-80S-7.01
MAH.-80-2.30



STA. 69 + 04.95 (OBS.)
STA. 69 + 05.27 (REC.)

B.M. 18-R.R. SPIKE IN POWER POLE
28' RT. SILICA RD. STA. 32 +50.
ELEV. 1010.73

PROPOSED STRUCTURE MAH-80-0148

TYPE: CONTINUOUS STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUB STRUCTURE
SKEW: 31° 35' 00" R.F.
SPANS: NEW 53'-0" ~ 53'-0" C/C BEARINGS
EXISTING SPANS TO REMAIN: 56'-11 5/16" ~ 38'-8 7/8"
56'-11 5/16" ~ 89'-11 9/16" C/C BEARINGS
ROADWAY: 24'-0" F/F 1'-6" SAFETY CURBS
LOAD FREQUENCY: CF = 30
WEARING SURFACE: 1" MONOLITHIC
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: CRUSHED AGGREGATE 601.05
APPROACH SLAB: 25'-0" LONG (AS 1-54, REV. 8-10-65)

605 UNDERDRAINS (LIN. FT.)						603
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" 707.06 OR 707.12	6" BENDS & BRANCHES 60°	6" TYPE "F" LIN. FT.
U-1	411+67.49	416+47	RT.	480		
U-2	416+53	421+00	RT.	457	1	10
SHEET TOTAL				937		10

STRUCTURES 20' SPAN & UNDER					
CODE	LOCATION	TYPE		SIZE	DETAIL SHEET Nº
C-5	415+00 (32' RT.)	88'-TYPE "A"	706.02	30"	234
C-6	416+50	64'-TYPE "A"	706.02	24"	234

FOR NOSE AND INTERSECTION DETAILS OF LINE "A" AT OHIO TURNPIKE SEE SHEET Nº 116

FOR DETAILS OF SILICA ROAD & RELOCATED DRIVE SEE SHEET Nº 213

FOR PLAN & PROFILE SHEET OF OHIO TURNPIKE SEE SHEET Nº 189

606 GUARD RAIL (LIN. FT.)						
CODE	FROM	TO	LOCA	TYPE "A" WITH STEEL POST	GUARD RAIL-REBUILD USING STEEL POSTS	
G-1	414+31	415+185	RT.	87.5		
G-2	414+48	415+48	LT.	100	50	
SHEET TOTAL				187.5	50	

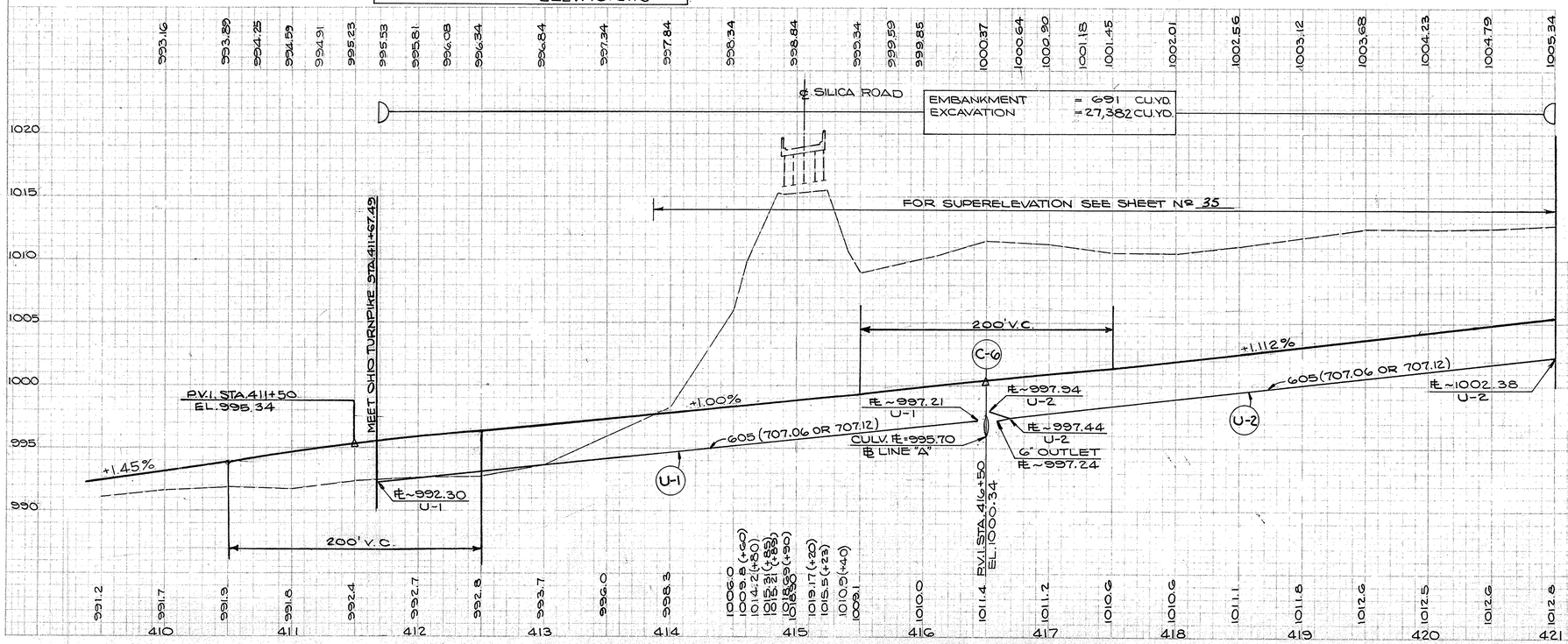


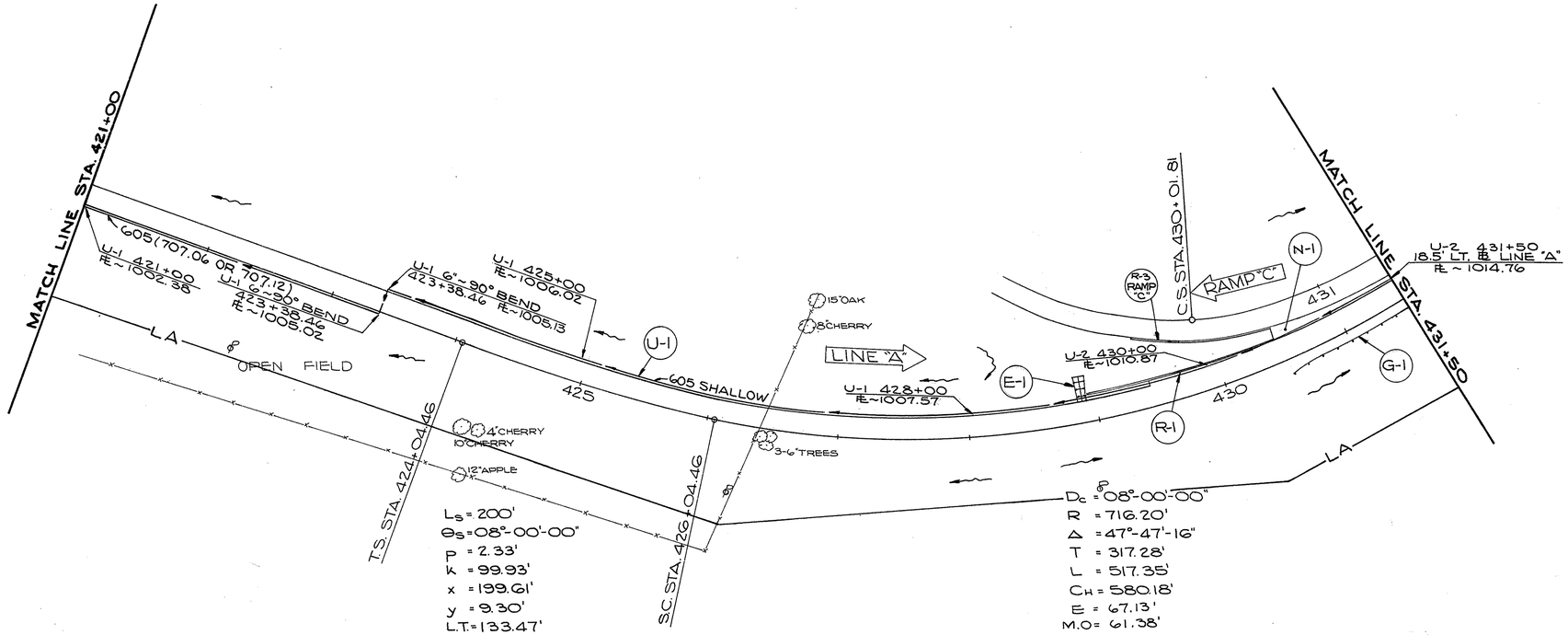
PLATE 4-CROSS SECTION A.A.S.H.O. STANDARD
NATIONAL TRACING PAPER DIVISION
I. P. P. CO., INC. INDIANAPOLIS, INDIANA

PLAN - PROFILE LINE "A"
STA. 410+00 - 421+00

FED. RD DIVISION	STATE	PROJECT	
2	OHIO		

103
384

MAHONING COUNTY
MAH.-80S-7.01
MAH.-80-2.30



B.M. # 20 - R.R. SPIKE IN N. SIDE OF 18" HICKORY 120' RT. LINE "A" STA. 433+75. ELEV. - 1007.39

605 UNDERDRAINS (LIN. FT.)						
CODE	LOCATION		SIDE ℄	6" SHALLOW	6" 707.06 OR 707.12	6" BENDS & BRANCHES
	FROM	TO				90°
U-1	421+00	431+50	LT. & RT.	650	420	2
SHEET TOTAL				650	420	

EROSION CONTROL					
CODE	LOCATION		SIDE ℄	660 SODDING SPL. BERM & SLOPE PROT. SQ. YDS.	
	FROM	TO			
E-1	428+90	—	LT.	12	
SHEET TOTALS				12	

FOR INTERSECTION DETAILS LINE "A" & RAMP "C" SEE SHEET Nº 116

FOR PLAN & PROFILE OF RAMP "C" SEE SHEET Nº 112 & 113

612 CONCRETE MEDIAN			
CODE	FROM	TO	SQ. YD.
N-1	430+42	431+50	75.8
SHEET TOTAL			75.8

609 CONCRETE CURB (L.F.)				
CODE	FROM	TO	LOCA.	TYPE 6
R-1	428+92	430+42	LT.	150
SHEET TOTAL				150

606 GUARD RAIL (LIN. FT.)						
CODE	FROM	TO	LOCA.	TYPE 21 WITH STEEL POST		
G-1	430+49	431+50	RT.	101		
SHEET TOTAL				101		

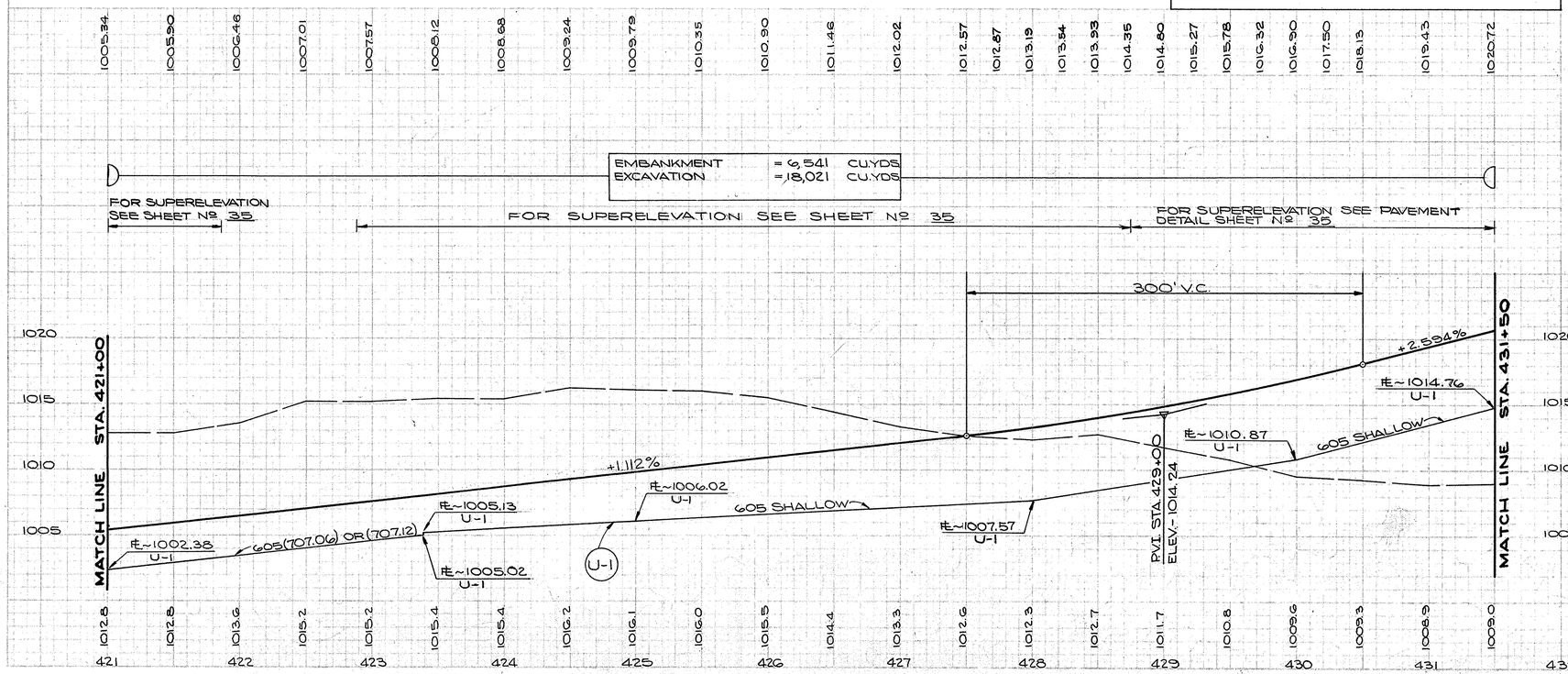


PLATE 4-CROSS SECTION O. P. R. & R. C. STANDARD
NATIONAL TRACING PAPER DIVISION

PLAN - PROFILE
LINE "A"
STA. 421+00 - 431+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

104
384

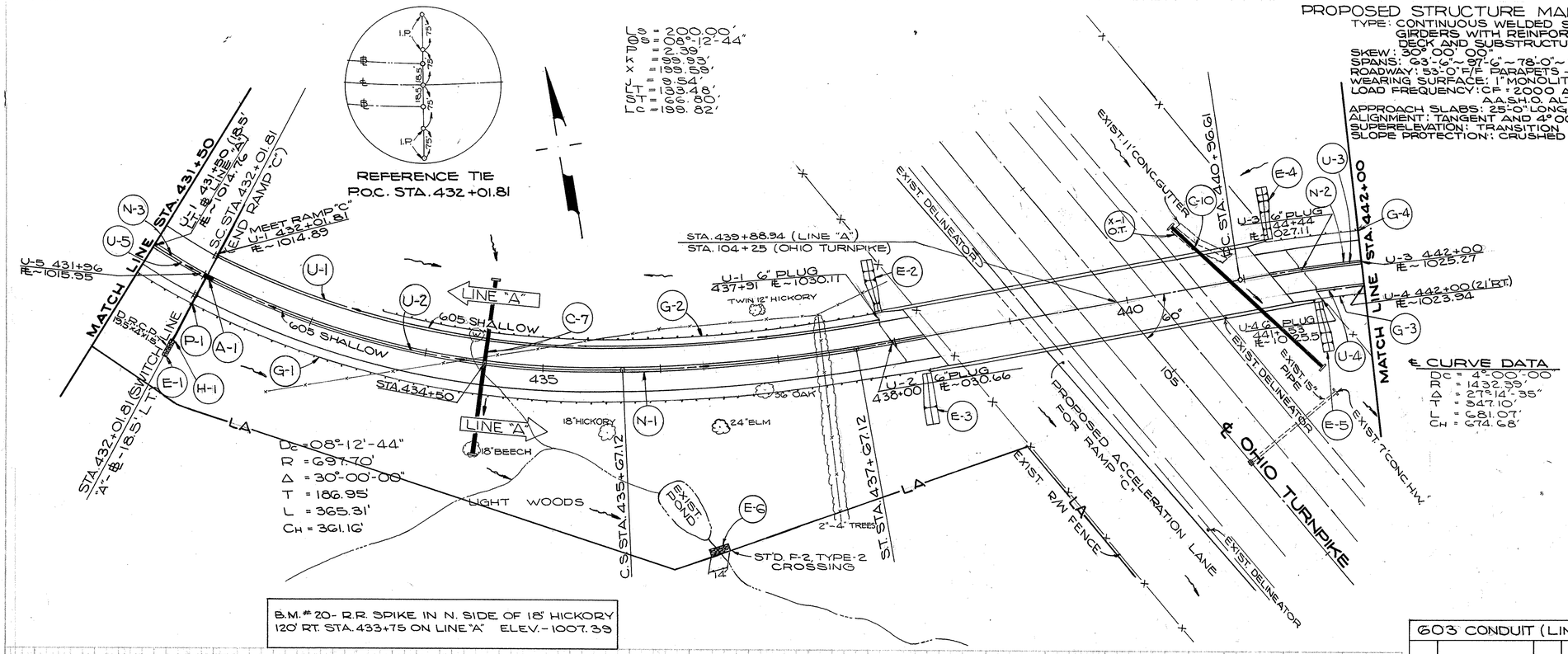
MAHONING COUNTY

MAH.-80S-7.01

MAH.-80-2.30

PROPOSED STRUCTURE MAH-80-0186

TYPE: CONTINUOUS WELDED STEEL PLATE GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SKEW: 30° 00' 00"
SPANS: 63'-6"~97'-6"~78'-0"~50'-9" c/c BRGS.
ROADWAY: 53'-0" F/F PARAPETS - 3' MEDIAN
WEARING SURFACE: 1" MONOLITHIC
LOAD FREQUENCY: CF = 2000 ADEQUATE FOR AASHO ALTERNATE LOADING
APPROACH SLABS: 25'-0" LONG (AS1-54)
ALIGNMENT: TANGENT AND 4° 00' 00" CURVE RT.
SUPERELEVATION: TRANSITION
SLOPE PROTECTION: CRUSHED AGGREGATE (601.05)



℄ CURVE DATA

D = 4°-00'-00"
R = 1432.39'
Δ = 27°-14'-35"
T = 347.10'
L = 681.07'
CH = 674.68'

605 UNDERDRAINS (LIN. FT.)

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" SHALLOW	
U-1	432+01.81	437+91'	LT.	589	
U-2	432+02	438+00	℄	598	
U-3	441+45	442+00	℄	55	
U-4	441+53	442+00	RT.	47	
U-5	431+50	431+96	℄	46	
SHEET TOTAL				1335	

EROSION CONTROL

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	601 DUMPED ROCK CHANNEL PROTEC. CU. YDS.	602 CONC. MASONRY CU. YDS.	660 SODDING SPL. BERM & SLOPE PROT. SQ. YDS.
E-1	432+02	-	RT.	4		
H-1	432+02	-	RT.		0.3	
E-2	437+90	-	LT.			42
E-3	438+22	-	RT.			44
E-4	441+22	-	LT.			37
E-5	441+54	-	RT.			41
E-6	436+35	-	RT.	5		
SHEET TOTALS				9	0.3	164

603 CONDUIT (LIN. FT.)

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	15" TYPE "B" W/CL "B" BEDDING	15" TYPE "F"	15" BENDS & BRANCHES 25° BEND
P-1	432+02	A-1~H-1	RT.	35	25	2
SHEET TOTAL				35	25	

604 CATCH BASIN & MED. INLETS

CODE	LOCATION	STD. Nº 2-10 EA.		
A-1	432+02	1		
SHEET TOTAL		1		

STRUCTURES 20' SPAN & UNDER

CODE	LOCATION	TYPE	SIZE	DETAIL SHEET Nº
C-7	434+50	152'-TYPE "A" - 706.02 CL "V"	21"	235
C-10	104+03.5 (79 LT.)	176'-TYPE "A" 706.02	15"	237

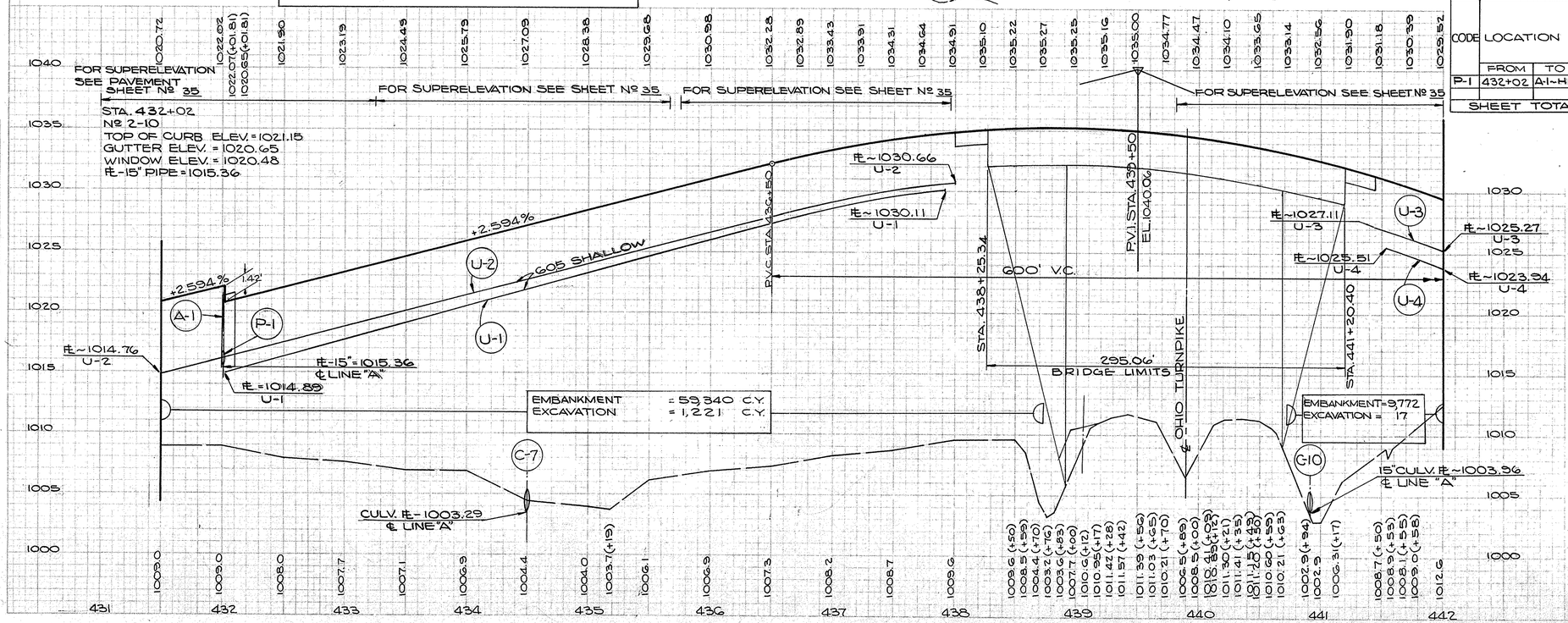
606 GUARD RAIL (LIN. FT.)

CODE	FROM	TO	LOCA.	TYPE 4 WITH STEEL POST
G-1	431+50	438+24	RT.	674
G-2	430+54.5	437+92	LT.	437.5
G-3	441+52	442+00	RT.	48
G-4	441+20	442+00	LT.	80
SHEET TOTAL				1239.5

612 CONCRETE MEDIAN

CODE	FROM	TO	SQ. YDS.
N-1	432+11.67	438+25.04	204.5
N-2	441+19.99	442+00	26.7
N-3	431+50	432+00	16.7
SHEET TOTAL			247.9

B.M. # 20- R.R. SPIKE IN N. SIDE OF 18" HICKORY 120' RT. STA. 433+75 ON LINE "A" ELEV.- 1007.39



FOR PLAN & PROFILE OF OHIO TURNPIKE SEE SHEET Nº 191
FOR PIPE PROFILE (P-1) SEE SHEET Nº 133
FOR INTERSECTION DETAILS LINE "A" & RAMP "C" SEE SHEET Nº 116

PLAN-PROFILE LINE "A"

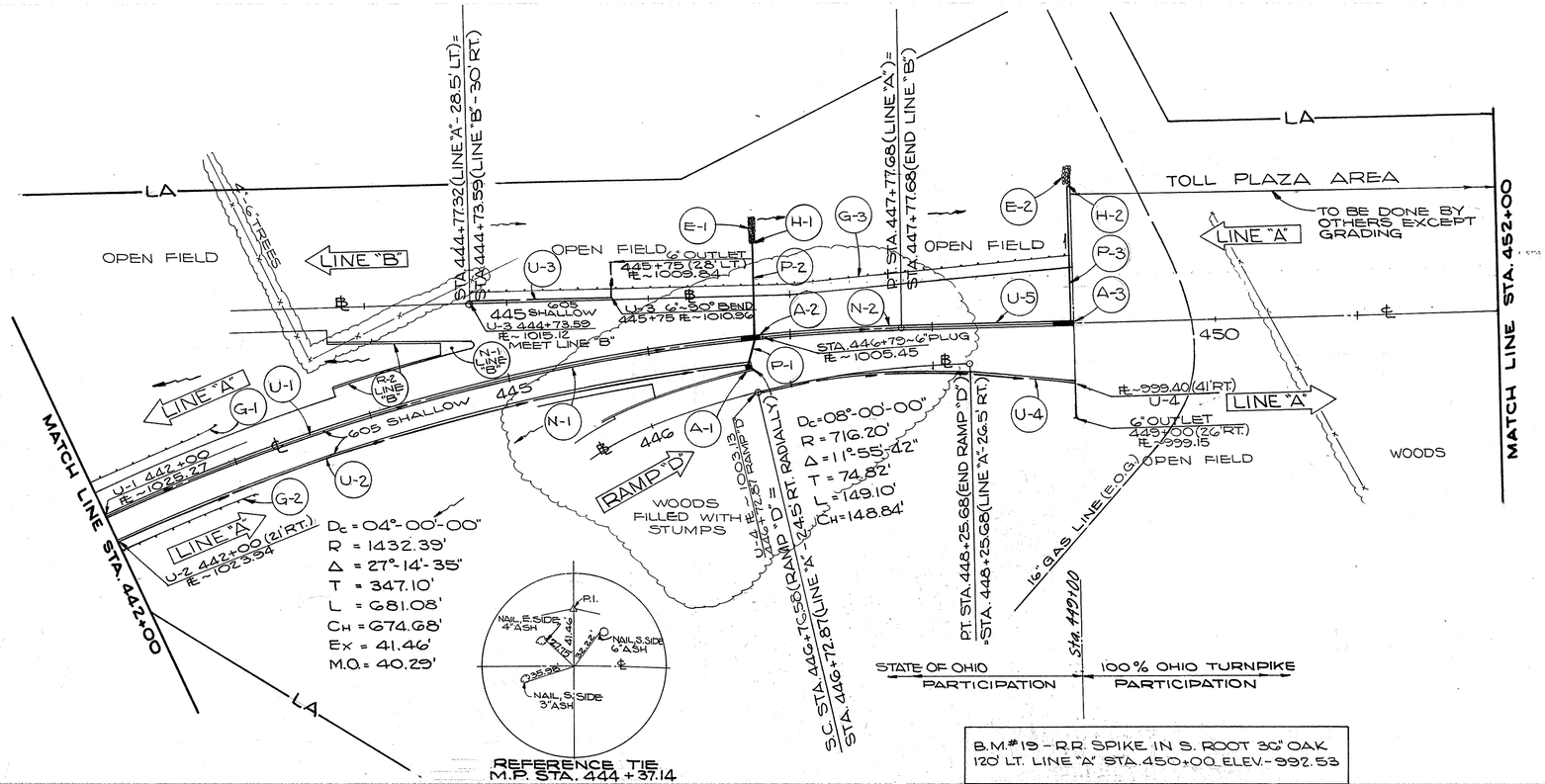
STA. 431+50-442+00

PLATE 4 CROSS SECTIONS P.A.R. STANDARD
NATIONAL TRACING PAPER DIVISION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

105 384

MAHONING COUNTY
MAH.-805-7.01
MAH.-80-2.30



B.M. #19 - R.R. SPIKE IN S. ROOT 36" OAK
120' LT. LINE "A" STA. 450+00 ELEV. - 992.53

605 UNDERDRAINS (LIN. FT.)						603
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" SHALLOW		6" BENDS & BRANCHES 90°	6" LIN. FT. TYPE "E"
U-1	442+00 LINE "A"	446+75 LINE "A"	℄	465			10
U-2	442+00	446+71	RT.	471		1	
U-3	444+73.59 LINE "B"	445+75 LINE "B"	LT.	117		1	10
U-4	446+72.87 LINE "A"	449+00 LINE "A"	RT.	227		1	10
U-5	446+79	448+98	℄	209			10
SHEET TOTALS				1489			40

603 CONDUIT (LIN. FT.)					
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	15" TYPE "B" W/CL. "B" BEDDING	15" TYPE "F"
P-1	A-1	446+75	RT.	23	
P-2	446+75	67.5 LT.	LT.	47	22
P-3	448+98	59.5 LT.	LT.	60	38
SHEET TOTAL				130	60

604 CATCH BASIN & MED. INLETS				
CODE	LOCATION	STD Nº 6 C.B. (MOD.) EACH	STD. Nº 2-12 INLET EACH	STD Nº 2-14 INLET EACH
A-1	446+71.08 (23.5' RT. ℄)	1		
A-2	446+75 ℄		1	
A-3	448+98 ℄			1
SHEET TOTAL		1	1	1

612 CONCRETE MEDIAN			
CODE	FROM	TO	SQ. YDS.
N-1	442+00	446+63.67	155
N-2	446+77	448+84.67	69
SHEET TOTAL			224

606 GUARD RAIL (LIN. FT.)				
CODE	FROM	TO	LOCA.	TYPE 4 WITH STEEL POST
G-1	442+00	442+95	LT.	95
G-2	442+00	443+02	RT.	102
G-3	444+77	449+00	LT.	423
SHEET TOTAL				620

EROSION CONTROL					
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	601 DUMPED ROCK CHANNEL PROT. CU. YDS.	602 CONC. MASONRY CU. YD.
E-1	446+75	67.5 TO 85'	LT.	4	
E-2	448+98	59.5 TO 77'	LT.	4	
H-1	446+75	67.5	LT.		0.3
H-2	448+98	59.5	LT.		0.3
SHEET TOTAL				8	0.6

FOR PIPE PROFILE (P-1) (P-2) (P-3) SEE SHEET Nº 140 & 141
FOR DETAILS LINE "B" SEE SHEET Nº 117

FOR NOSE & INTERSECTION DETAILS LINE "A", "B" & RAMP "D" SEE SHEET Nº 118

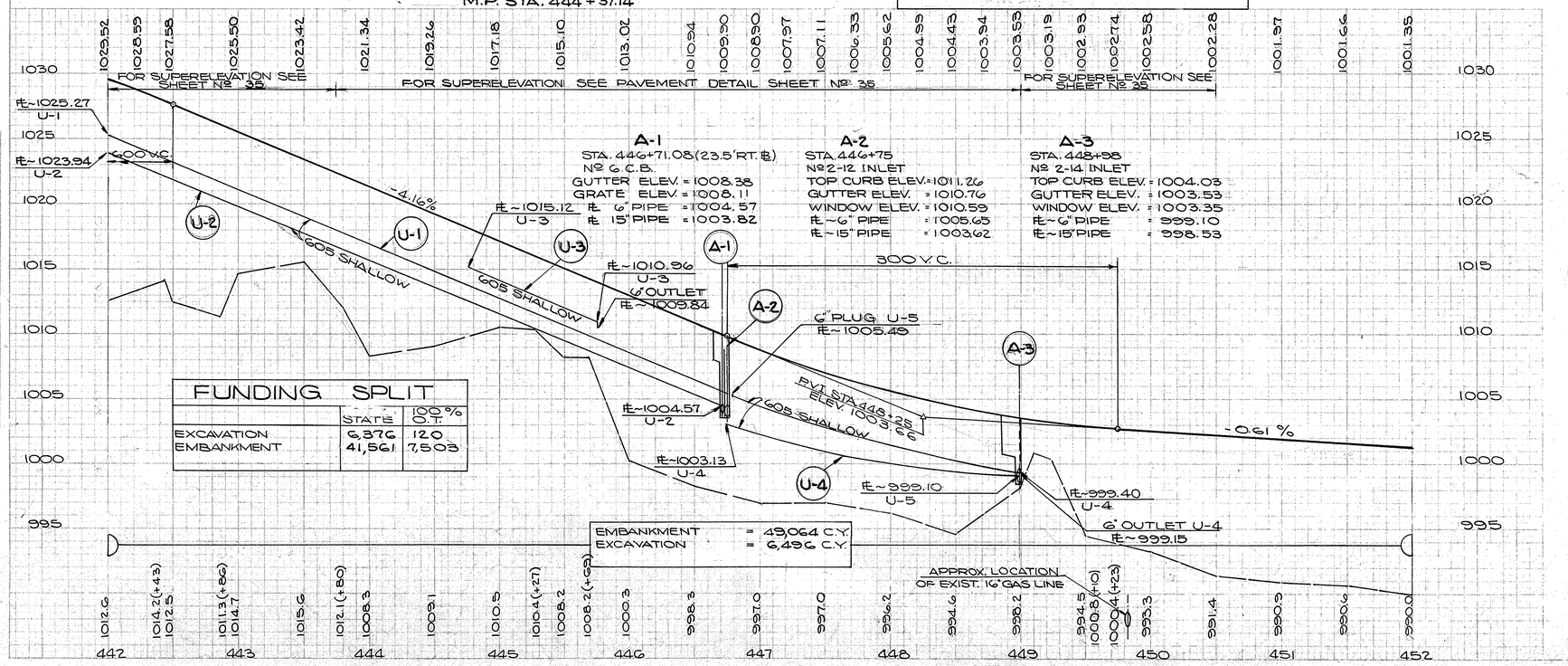


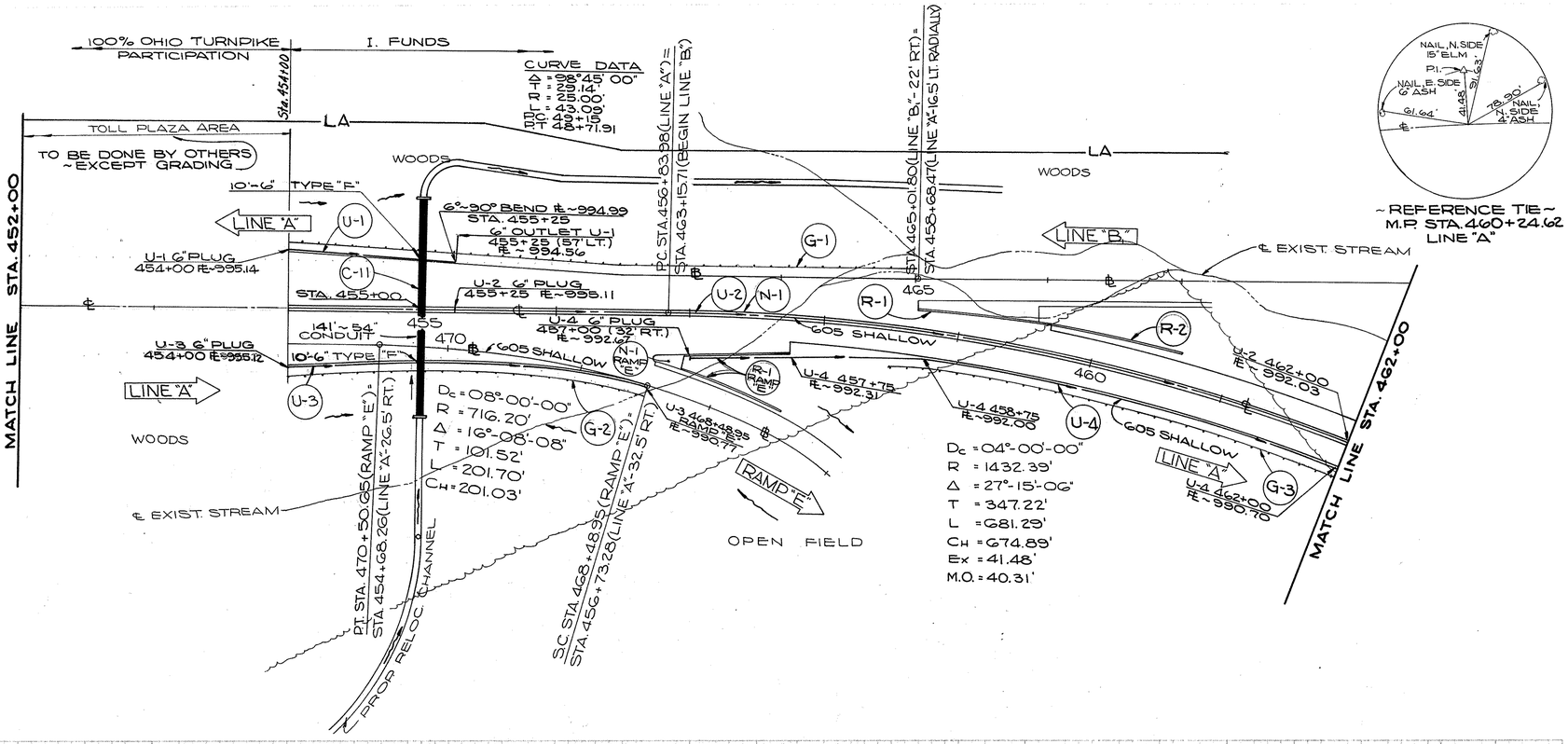
PLATE 4 - CROSS SECTION P. D. 11, & R. S. STANDARD
NATIONAL TRACING PAPER DIVISION

PLAN - PROFILE
LINE "A"
STA. 442+00 - 452+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

106
384

MAHONING COUNTY
MAH.-80S-7.01
MAH.-80-2.30



605 UNDERDRAINS (LIN. FT.)							603
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" SHALLOW		6" BENDS & BRANCHES 90°	6" TYPE "F" LIN. FT.
U-1	454+00	455+25	LT.	125		1	20
U-2	455+25	462+00	℄	675			
U-3	454+00	468+48.95 RAMP "E"	RT.	260			110
U-4	457+00	462+00	RT.	500			
SHEET TOTAL				1560			30

STRUCTURES 20' SPAN & UNDER				
CODE	LOCATION	TYPE	SIZE	DETAIL SHEET Nº
C-11	455+00	164' TYPE "A" 706.02 CL III	54"	237

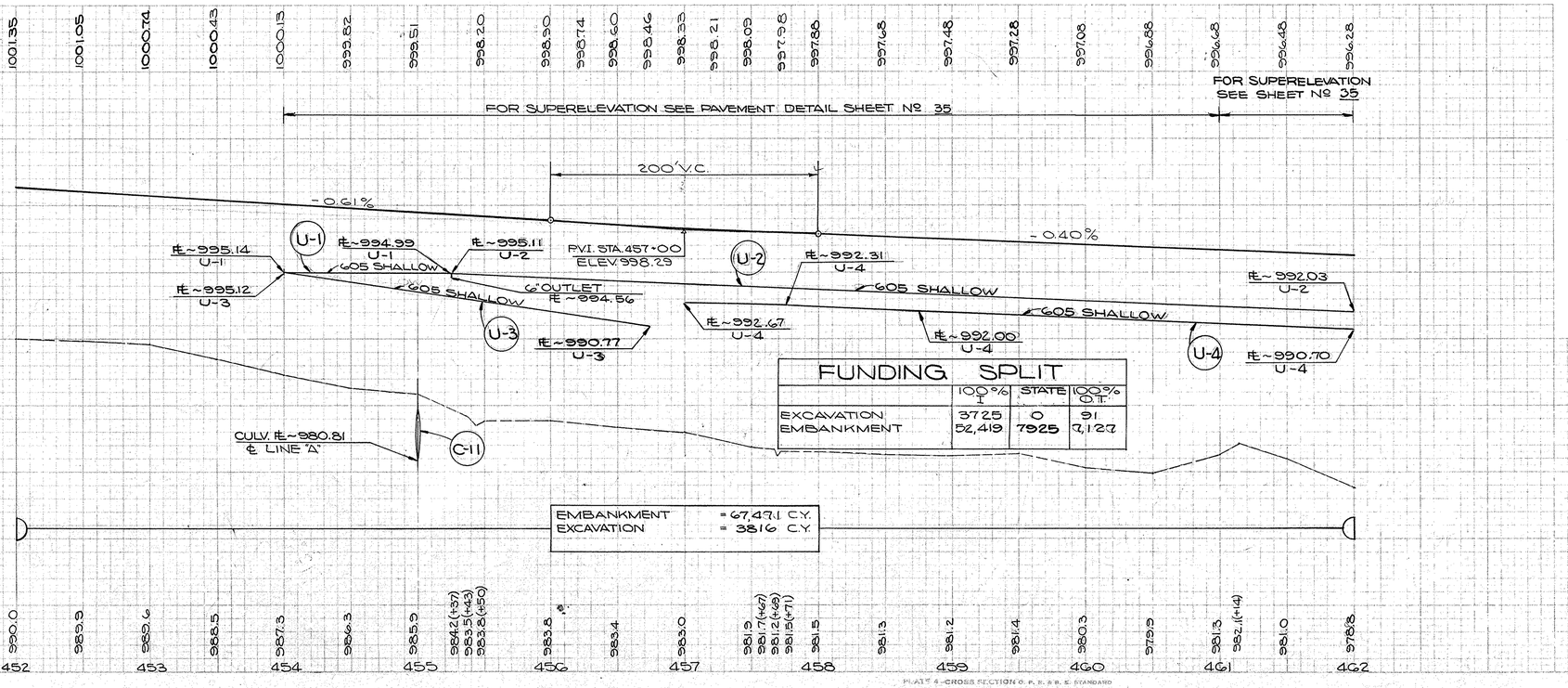
FOR DETAILS RAMP "E" SEE SHEET Nº 114 & 115
FOR DETAILS LINE "B," SEE SHEET Nº 111
FOR DETAILS RELOCATED CHANNEL SEE SHEET Nº 217
FOR NOSE & INTERSECTION DETAILS LINE "A" & "B," SEE SHEET Nº 119
FOR NOSE & INTERSECTION DETAILS LINE "A" & RAMP "E" SEE SHEET Nº 119

606 GUARD RAIL (LIN. FT.)				
CODE	FROM	TO	LOCA.	TYPE 4
G-1	454+50	458+68	LT.	418
G-2	454+00	468+48.95 RAMP "E"	RT.	270
G-3	458+50	462+00	RT.	350
SHEET TOTAL				1038

609 CONCRETE CURB (LIN. FT.)					
CODE	FROM	TO	LOCA.	TYPE 7	TYPE B
R-1	458+68	459+68	LT.		100
R-2	459+68	460+68	LT.	100	
SHEET TOTALS				100	100

612 CONCRETE MEDIAN			
CODE	FROM	TO	SQ. YDS.
N-1	454+00	462+00	267
SHEET TOTAL			267

FOR DETAILS OF LINE "A" @ TOLL PLAZA SEE PAVEMENT DETAIL SHEET Nº 118 & 119



FUNDING SPLIT			
	100% I	STATE	100% OT
EXCAVATION	3725	0	91
EMBANKMENT	52,419	7925	7,127

PLAT & CROSS SECTION C. P. P. & B. E. STANDARD
NATIONAL TRACING PAPER DIVISION
I. B. P. S. CO. INC. INDIANAPOLIS, INDIANA

PLAN - PROFILE
LINE "A"
STA. 452+00-462+00

FED. RD. DIVISION	STATE	PROJECT	
2	OH10		

107
384

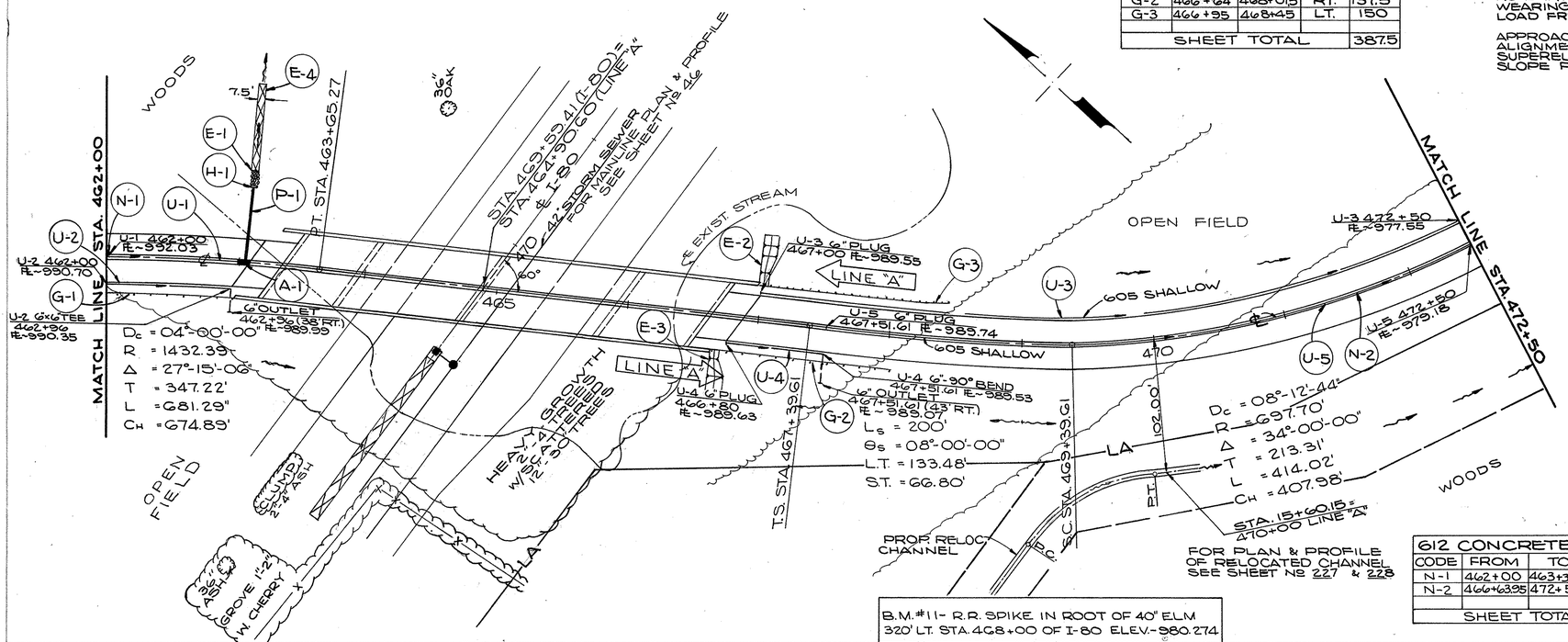
MAHONING COUNTY

MAH.-80S-7.01
MAH.-80-2.30

PROPOSED STRUCTURE MAH-80-0240

TYPE: CONTINUOUS WELDED STEEL PLATE GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SKEW: 30°00'00" L.F.
SPANS: 61'-9" ~ 94'-9" ~ 103'-6" ~ 67'-3" C/C BRG'S.
ROADWAY: 53'-0" F/F PARAPETS ~ 3' MEDIAN
WEARING SURFACE: 1" MONOLITHIC
LOAD FREQUENCY: D.F. = 2000 ADEQUATE FOR AASHO ALTERNATE LOADING
APPROACH SLABS: 25' LONG (AS I-54)
ALIGNMENT 4°00'00" CURVE RT. & TANGENT
SUPERELEVATION: TRANSITION
SLOPE PROTECTION: CRUSHED AGGREGATE(601.05)

606 GUARD RAIL (LIN. FT.)				
CODE	FROM	TO	LOCA	TYPE 4
G-1	462+00	463+00	RT.	100
G-2	466+64	468+01.5	RT.	137.5
G-3	466+95	468+45	LT.	150
SHEET TOTAL				387.5



B.M.#11- R.R. SPIKE IN ROOT OF 40" ELM
320' LT. STA. 468+00 OF I-80 ELEV.-980.274

FOR PLAN & PROFILE OF RELOCATED CHANNEL SEE SHEET Nº 227 & 228

612 CONCRETE MEDIAN			
CODE	FROM	TO	SQ. YDS.
N-1	462+00	463+32.28	44
N-2	466+63.95	472+50	195
SHEET TOTAL			239

605 UNDERDRAINS (LIN. FT.)						603
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" SHALLOW	6" BENDS & BRANCHES 90°	6" LIN. FT. TYPE "F"
U-1	462+00	463+05	℄	95		10
U-2	462+00	462+96	RT.	104	1	10
U-3	467+00	472+50	LT.	550		
U-4	466+80	467+51.61	RT.	85	1	10
U-5	467+51.61	472+50	℄	498		
SHEET TOTAL				1332		30

603 CONDUIT (LIN. FT.)				
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	TYPE "B" 15" W/CL. "B" BEDDING
P-1	463+05	–	LT.	58
SHEET TOTALS				58

604 CATCH BASINS & MEDIAN INLETS (EACH)			
CODE	LOCATION	STD. Nº 2-8 INLET	
A-1	463+05	1	
SHEET TOTALS		1	

EROSION CONTROL						
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	601 DUMPED ROCK CHANNEL PROT. CU. YDS.	602 CONCRETE MASONRY CU. YDS.	667 JUTE MATTING SQ. YDS.	660 SODDING SPL. BERM & SLOPE PROT. SQ. YDS.
H-1	463+05	–	LT.		0.3		
E-1	463+05	–	LT.	3			
E-2	467+00	–	LT.				31
E-3	466+70	–	RT.				27
E-4	463+05	–	LT.			66	
SHEET TOTALS				3	0.3	66	58

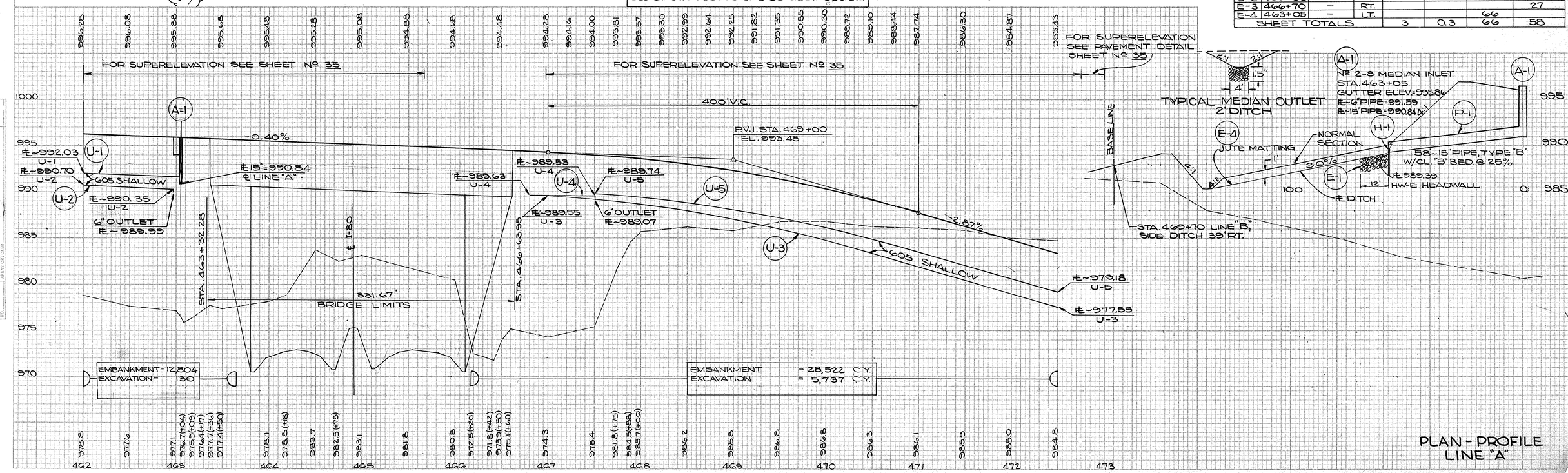


PLATE 4-CROSS SECTION O. P. R. & R. E. STANDARD
EUGENE DIETZGEN CO.- CHICAGO

PLAN - PROFILE LINE "A"

STA. 462+00 - 472+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

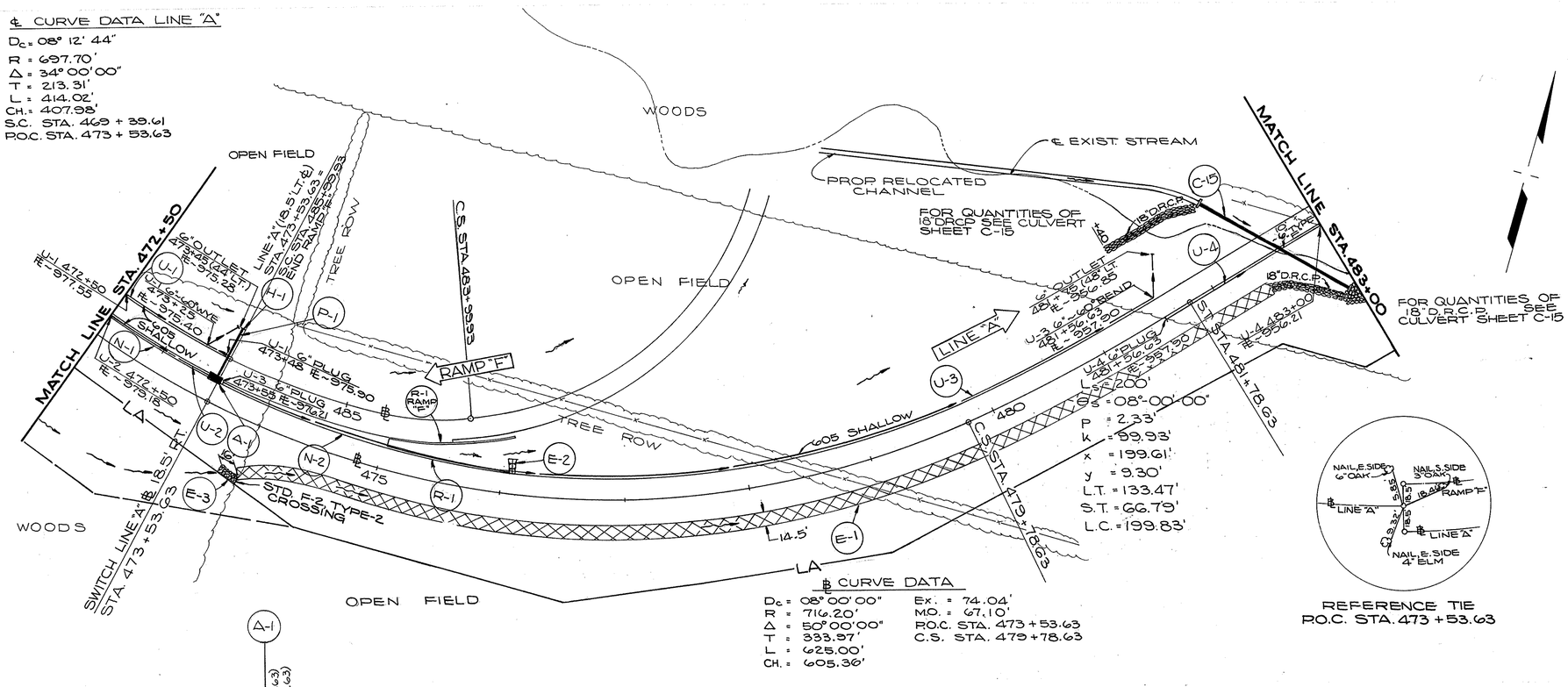
108
384

MAHONING COUNTY

MAH.-80S-7.01
MAH.-80-2.30

℄ CURVE DATA LINE "A"

D_c = 08° 12' 44"
R = 697.70'
Δ = 34° 00' 00"
T = 213.31'
L = 414.02'
CH. = 407.98'
S.C. STA. 469 + 39.61
P.O.C. STA. 473 + 53.63



605 UNDERDRAINS (LIN. FT.)

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" SHALLOW		6" BENDS & BRANCHES 60°	603 6" LIN. FT. TYPE "F"
U-1	472+50	473+48	LT.	117		1	10
U-2	472+50	473+50	℄	90			10
U-3	473+55	481+56.63	LT.	817		1	10
U-4	481+56.63	483+00	RT.	134			10
SHEET TOTAL				1158			40

EROSION CONTROL

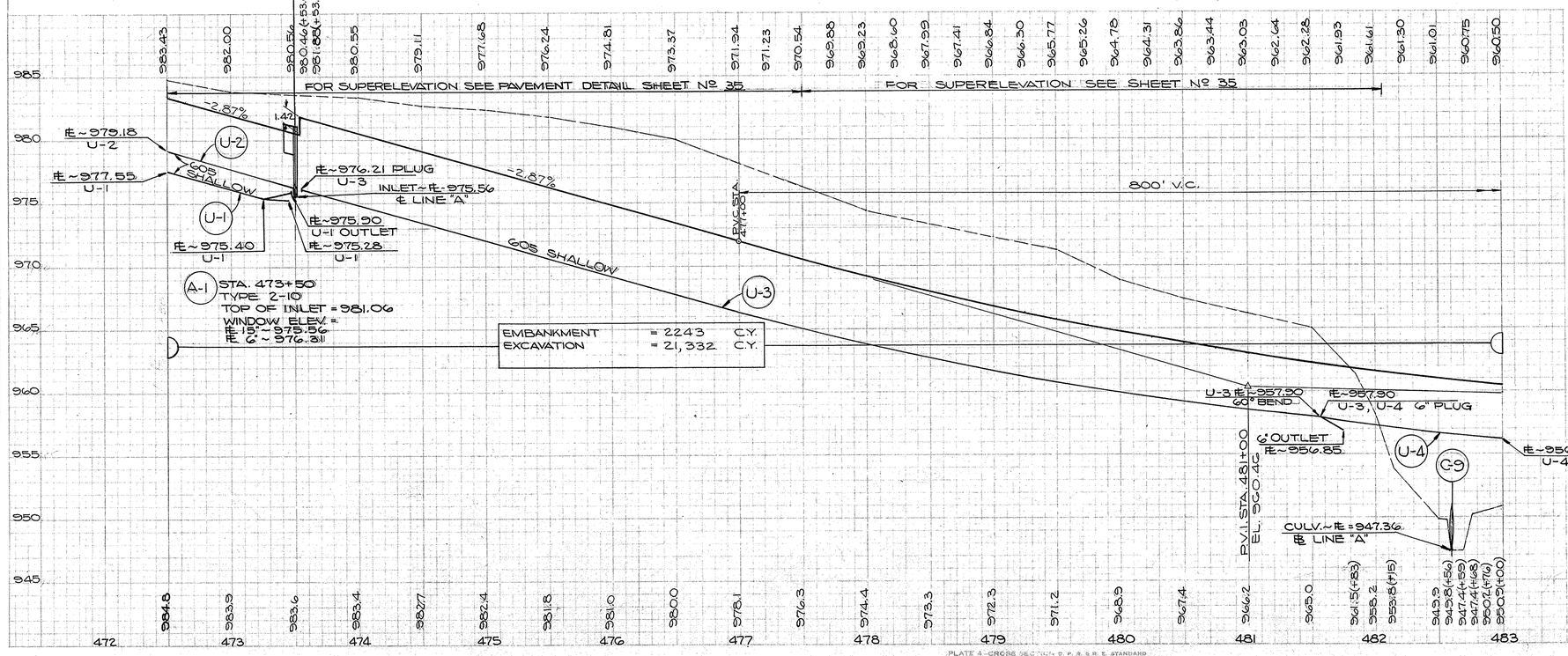
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	660 SODDING SPL., BERM & SLOPE PROT. SQ. YDS.	602 CONCRETE MASONRY CU. YDS.	667 JUTE MATTING SQ. YDS.	601 D.R.C.P. CU. YDS.
E-1	474+00	482+35	RT.			1352	
E-2	476+12	46' LT. ℄		9			
E-3	474+00		RT.				6
H-1	473+50	46' LT. ℄			0.3		
SHEET TOTAL				9	0.3	1352	6

603 CONDUIT (LIN. FT.)

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	15" TYPE "B" W/CL. "B" BEDDING
P-1	473+50	℄ TO 46'	LT.	46
SHEET TOTAL				46

604 CATCH BASINS & INLETS (EACH)

CODE	LOCATION	STD. №2-10 MEDIAN INLET
A-1	473+50 ℄	1
SHEET TOTAL		1



STRUCTURES 20' SPAN & UNDER

CODE	LOCATION	TYPE	SIZE	DETAIL SH. №
C-15	483+60	134'-TYPE "A" 706.02	42"	239

612 CONCRETE MEDIAN

CODE	FROM	TO	SQ. YDS.
N-1	472+50	473+40.67	30
N-2	473+52	475+00	107
SHEET TOTAL			137

609 CONCRETE CURB (L.F.)

CODE	FROM	TO	LOCA.	TYPE
R-1	475+00	476+12	LT.	112
SHEET TOTAL				112

FOR DETAILS OF RELOCATED CHANNEL SEE SHEET № 222-226
FOR INTERSECTION DETAILS LINE "A" & RAMP "F" SEE SHEET № 121
FOR PROFILE OF PIPE (P-1) SEE SHEET № 154

PLAN - PROFILE LINE "A"

STA. 472+50 - 483+00

PLATE 4-CROSS SECTION O. P. R. S. R. E. STANDARD
NATIONAL TRACING PAPER DIVISION
U. P. R. S. CO., INC. INDIANAPOLIS, INDIANA

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

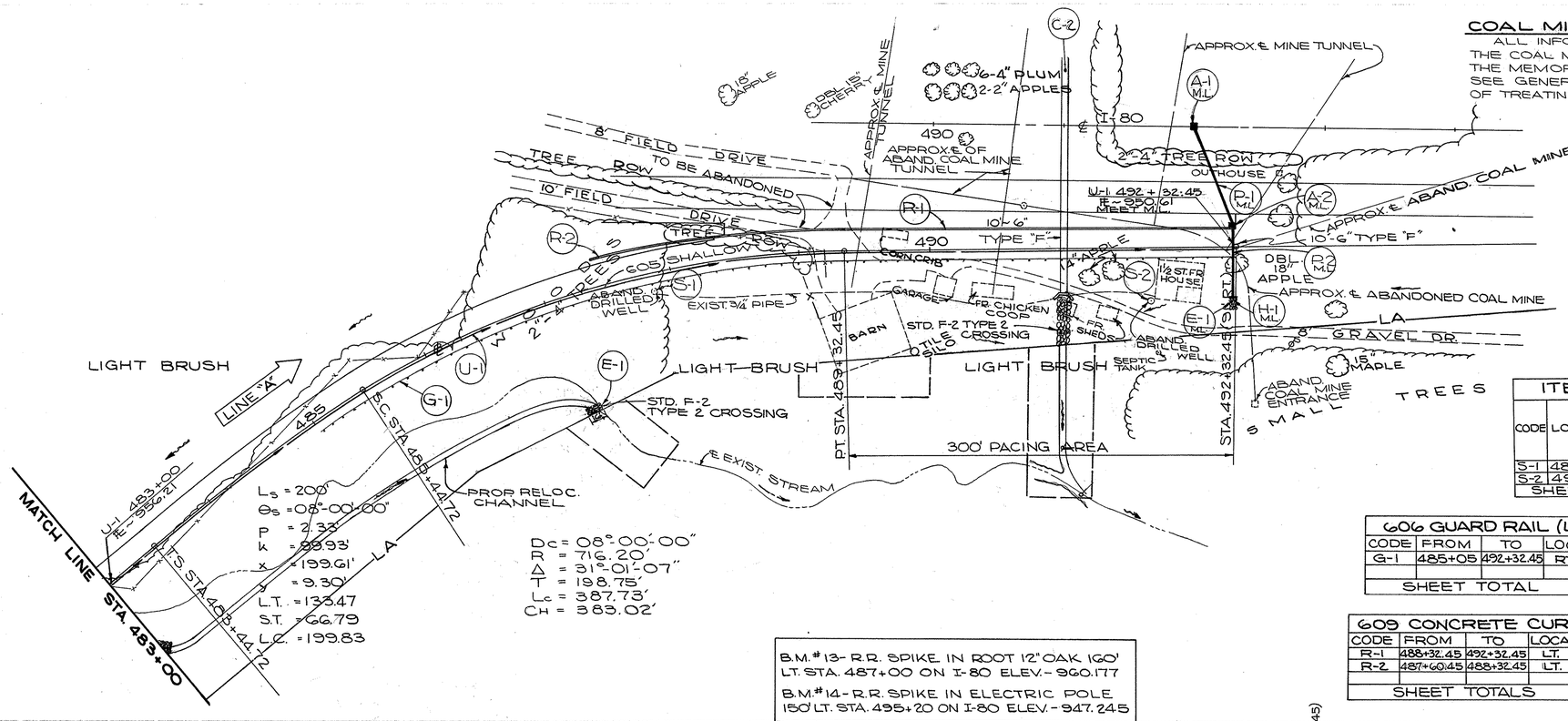
109
384

MAHONING COUNTY

MAH.-80S-7.01
MAH.-80-2.30

COAL MINE

ALL INFORMATION REFERRING TO THE COAL MINE WAS OBTAINED FROM THE MEMORY OF A LOCAL RESIDENT. SEE GENERAL NOTES FOR METHOD OF TREATING COAL MINE.



ITEM SPECIAL			
CODE	LOCATION	SIDE ℄	DRILLED WELL ABAND. EACH
S-1	487+85	RT.	1
S-2	491+68	RT.	1
SHEET TOTAL			2

EROSION CONTROL			
			601
CODE	LOCATION	SIDE ℄	DUMPED ROCK CHAN. PROTEC. CU.YDS.
E-1	487+08 (80 RT. ℄)		6
SHEET TOTAL			6

605 UNDERDRAINS (LIN. FT.)					603
CODE	LOCATION		SIDE ℄	6" SHALLOW	6" TYPE "F" LIN. FT.
	FROM	TO			
U-1	483+00	492+32.45	RT.	912	20
SHEET TOTAL				912	20

606 GUARD RAIL (LIN. FT.)				
CODE	FROM	TO	LOCA.	TYPE 4
G-1	485+05	492+32.45	RT.	727.45
SHEET TOTAL				727.45

609 CONCRETE CURB (LIN. FT.)					
CODE	FROM	TO	LOCA.	TYPE 7	TYPE 8
R-1	488+32.45	492+32.45	LT.		400
R-2	487+60.45	488+32.45	LT.	72	
SHEET TOTALS				72	400

STRUCTURES 20' SPAN & UNDER				
CODE	LOCATION	TYPE	SIZE	DETAIL SH. NO.
C-2	491+00	248'-TYPE "A" 706.02	60"	230-231

B.M.#13- R.R. SPIKE IN ROOT 12" OAK. 160' LT. STA. 487+00 ON I-80 ELEV.- 960.177

B.M.#14- R.R. SPIKE IN ELECTRIC POLE 150' LT. STA. 495+20 ON I-80 ELEV.- 947.245

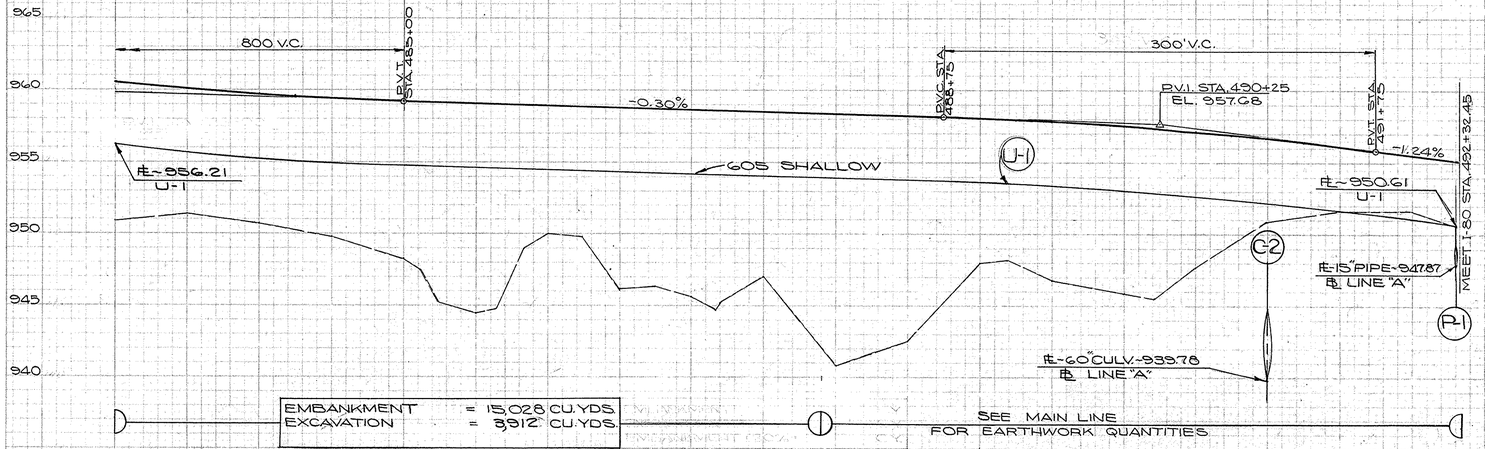
FOR DETAILS OF RELOCATED CHANNEL SEE SHEET Nº 227

FOR NOSE & INTERSECTION DETAILS, LINE "A" & I-80 SEE SHEET Nº 121

FOR DETAILS & QUANTITIES OF (P-1), (P-2), (A-1), (A-2), (H-1) & (E-1) SEE MAIN LINE SHEET Nº 89

960.50 960.28 960.07 959.89 959.72 959.58 959.45 959.34 959.26 959.11 958.96 958.81 958.66 958.51 958.36 958.21 958.13 958.05 957.94 957.82 957.67 957.51 957.33 957.13 956.91 956.66 956.40 956.12 955.82 955.51 955.20 955.11(℄32.45)

FOR SUPERELEVATION SEE SHEET Nº 35



950.9 951.4 950.7 949.8 948.3 947.5(+11) 945.5(+33) 944.5 944.8(+64) 945.0(+84) 950.0 949.8(+23) 946.2 946.4(+75) 945.6 944.7(+17) 945.2(+20) 947.0 940.8 942.5 948.0 948.2(+19) 946.8 946.36(+77) 945.9 945.5(+21) 947.7 950.9 951.6 951.6 950.15(+32.45)

483 484 485 486 487 488 489 490 491 492 493

PLATE 4 - CROSS SECTION O. Y. R. & R. E. STANDARD
NATIONAL TRACING PAPER DIVISION
T. E. P. A. I. CO. INC. INDEPENDENCE, INDIANA

PLAN - PROFILE
LINE "A"
STA. 483+00 - 492+32.45

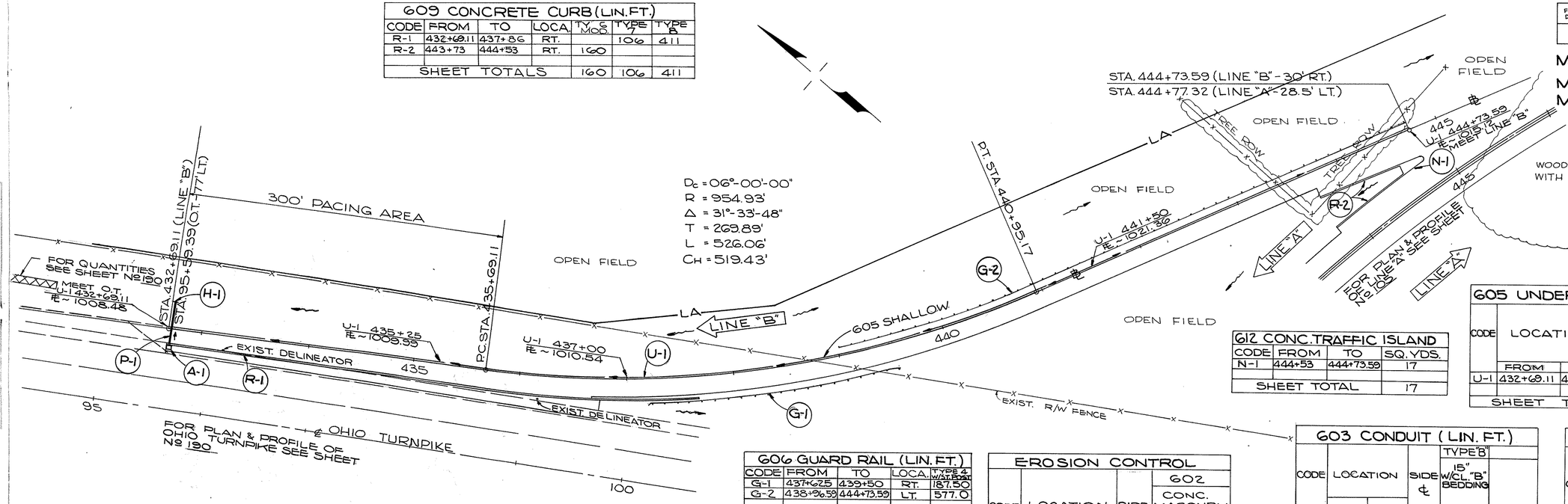
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

110
384

MAHONING COUNTY

MAH.-80S-7.01
MAH.-80-2.30

609 CONCRETE CURB (LIN. FT.)						
CODE	FROM	TO	LOCA.	TY. C MOD.	TYPE 7	TYPE B
R-1	432+69.11	437+86	RT.		106	411
R-2	443+73	444+53	RT.	160		
SHEET TOTALS				160	106	411



612 CONC. TRAFFIC ISLAND			
CODE	FROM	TO	SQ. YDS.
N-1	444+53	444+73.59	17
SHEET TOTAL			17

605 UNDERDRAINS (LIN. FT.)				
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" SHALLOW
U-1	432+69.11	444+73.59	LT.	1204
SHEET TOTAL				1204

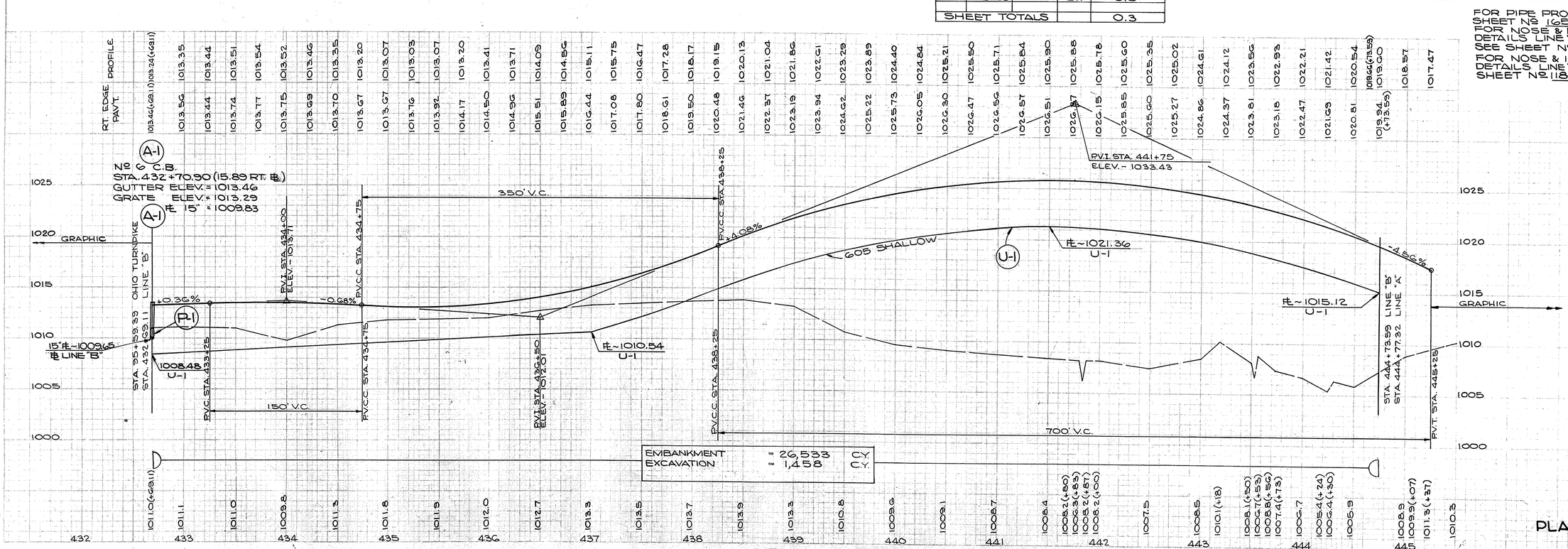
606 GUARD RAIL (LIN. FT.)				
CODE	FROM	TO	LOCA.	TYPE A W/ST. POST
G-1	437+62.5	439+50	RT.	187.50
G-2	438+96.59	444+73.59	LT.	577.0
SHEET TOTAL				764.5

EROSION CONTROL				
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	602 CONC. MASONRY CU. YDS.
H-1	432+69	—	LT.	0.3
SHEET TOTALS				0.3

603 CONDUIT (LIN. FT.)				
CODE	LOCATION	SIDE ℄		TYPE "B" 15" W/CL. "B" BEDDING
P-1	432+69	—	—	44'
SHEET TOTALS				44'

604 CATCH BASINS			
CODE	LOCATION	STD. NO 6 CATCH BASIN (MOD.) EA.	
A-1	432+70.90	1	
SHEET TOTAL		1	

FOR PIPE PROFILE (P-1) SEE SHEET No. 165
FOR NOSE & INTERSECTION DETAILS LINE "B" & OHIO TURNPIKE SEE SHEET No. 117
FOR NOSE & INTERSECTION DETAILS LINE "A" & "B" SEE SHEET No. 118



PLAN - PROFILE
LINE "B"

PLATE A - CROSS SECTION & P. & P. & R. A. STANDARD
NATIONAL TRACING PAPER DIVISION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

MAHONING COUNTY

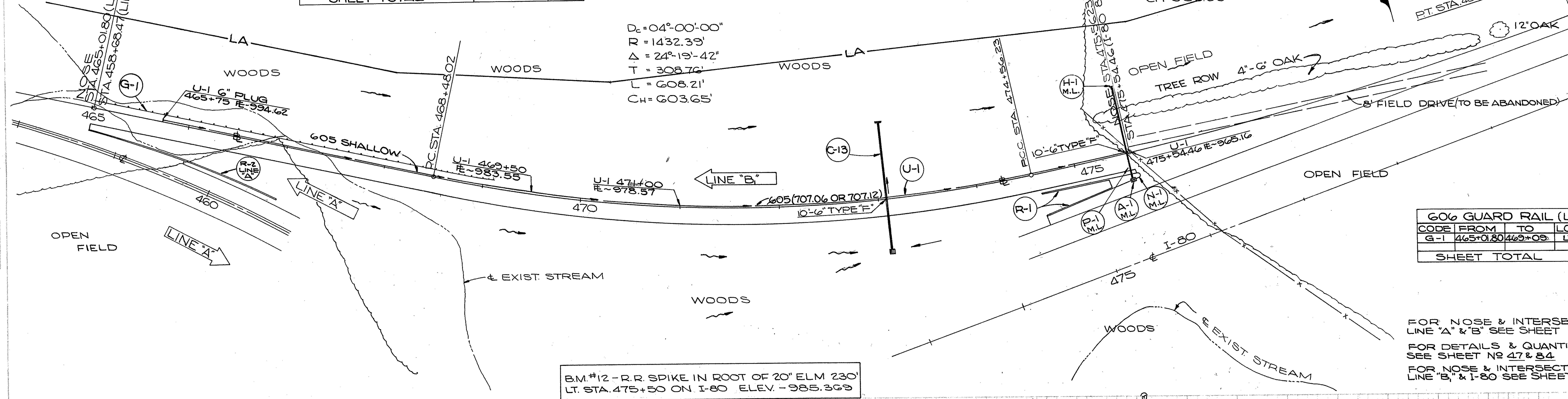
MAH.-80S-7.01
MAH.-80-2.30

STRUCTURES 20' SPAN & UNDER				
CODE	LOCATION	TYPE	SIZE	DETAIL SHEET №
C-13	473+08	130'~TYPE "A" 706.02	27"	238

609 CONCRETE CURB (LIN. FT.)					
CODE	FROM	TO	LOCA.	TYPE 6 MOD.	
R-1	474+56	475+24	RT.	136	
SHEET TOTAL				136	

605 UNDERDRAINS (LIN. FT.)							603
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" SHALLOW	6" 707.06 OR 707.12		6" LIN. FT. TYPE "F"
U-1	465+75	475+56.23	LT.	525	436		20
SHEET TOTAL				525	436		20

612 CONC. TRAFFIC ISLAND			
CODE	FROM	TO	SQ.YDS.
N-1	475+28	475+56	26
SHEET TOTAL			26



606 GUARD RAIL (LIN. FT.)				
CODE	FROM	TO	LOCA.	TYPE 4
G-1	465+01.80	469+09	LT.	407
SHEET TOTAL				407

FOR NOSE & INTERSECTION DETAILS, LINE "A" & "B" SEE SHEET № 119

FOR DETAILS & QUANTITIES (P-1), (A-1), (H-1), SEE SHEET № 47 & 84

FOR NOSE & INTERSECTION DETAILS, LINE "B," & I-80 SEE SHEET № 120

B.M. #12 - R.R. SPIKE IN ROOT OF 20" ELM 230' LT. STA. 475+50 ON I-80 ELEV. - 985.369

PLAN - PROFILE LINE "B,"

PLATE 4 CROSS SECTION NATIONAL TRACING PAPER DIVISION

FED. RD.	STATE	PROJECT	
2	OHIO		

112
384

MAHONING COUNTY
MAH.-80S-7.01
MAH.-80-2.30

609 CONCRETE CURB (LIN. FT.)					
CODE	FROM	TO	LOCA.	TYPE "7"	TYPE "8"
R-1	418+63.36	422+65.36	RT.		402
R-2	422+65.36	423+57.36	RT.	92	
R-3	429+54	430+54	RT.	100	
SHEET TOTALS				100	92	402

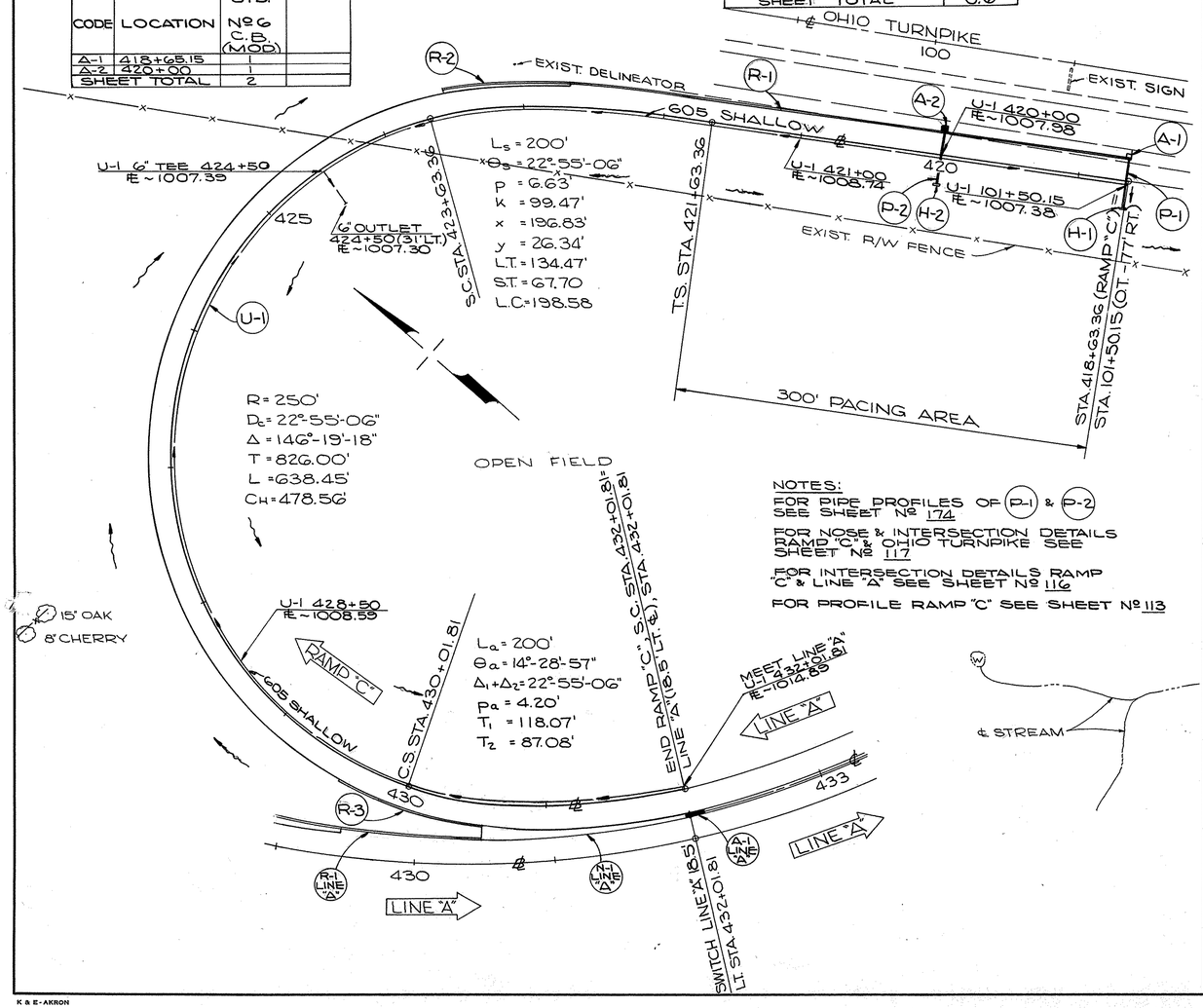
B.M. #20 - R.R. SPIKE IN N. SIDE OF 18" HICKORY 120' RT. LINE "A" STA. 433+75 ELEV. - 1007.39

605 UNDERDRAINS (LIN. FT.)					603	
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" SHALLOW		6" BENDS AND BRANCHES 90°	6" LIN. FT. TYPE "F"
U-1	418+63.36	432+01.81	LT.	1356		1	10
SHEET TOTAL				1356		1	10

603 CONDUIT (LIN. FT.)					
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	TYPE "B" 15" W/CL. "B" BEDDING	
P-1	418+63	–	–	38	
P-2	420+20	–	–	40	
SHEET TOTALS				78	

EROSION CONTROL				
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	602 CONC. MASONRY CU. YD.
H-1	418+65.15	–	LT.	0.3
H-2	420+00	–	LT.	0.3
SHEET TOTAL				0.6

604 CATCH BASINS, EA.			
CODE	LOCATION	STD. Nº 6 C.B. (MOD)	
A-1	418+65.15	1	
A-2	420+00	1	
SHEET TOTAL		2	



NOTES:
FOR PIPE PROFILES OF (P-1) & (P-2) SEE SHEET Nº 174

FOR NOSE & INTERSECTION DETAILS RAMP "C" & OHIO TURNPIKE SEE SHEET Nº 117

FOR INTERSECTION DETAILS RAMP "C" & LINE "A" SEE SHEET Nº 116

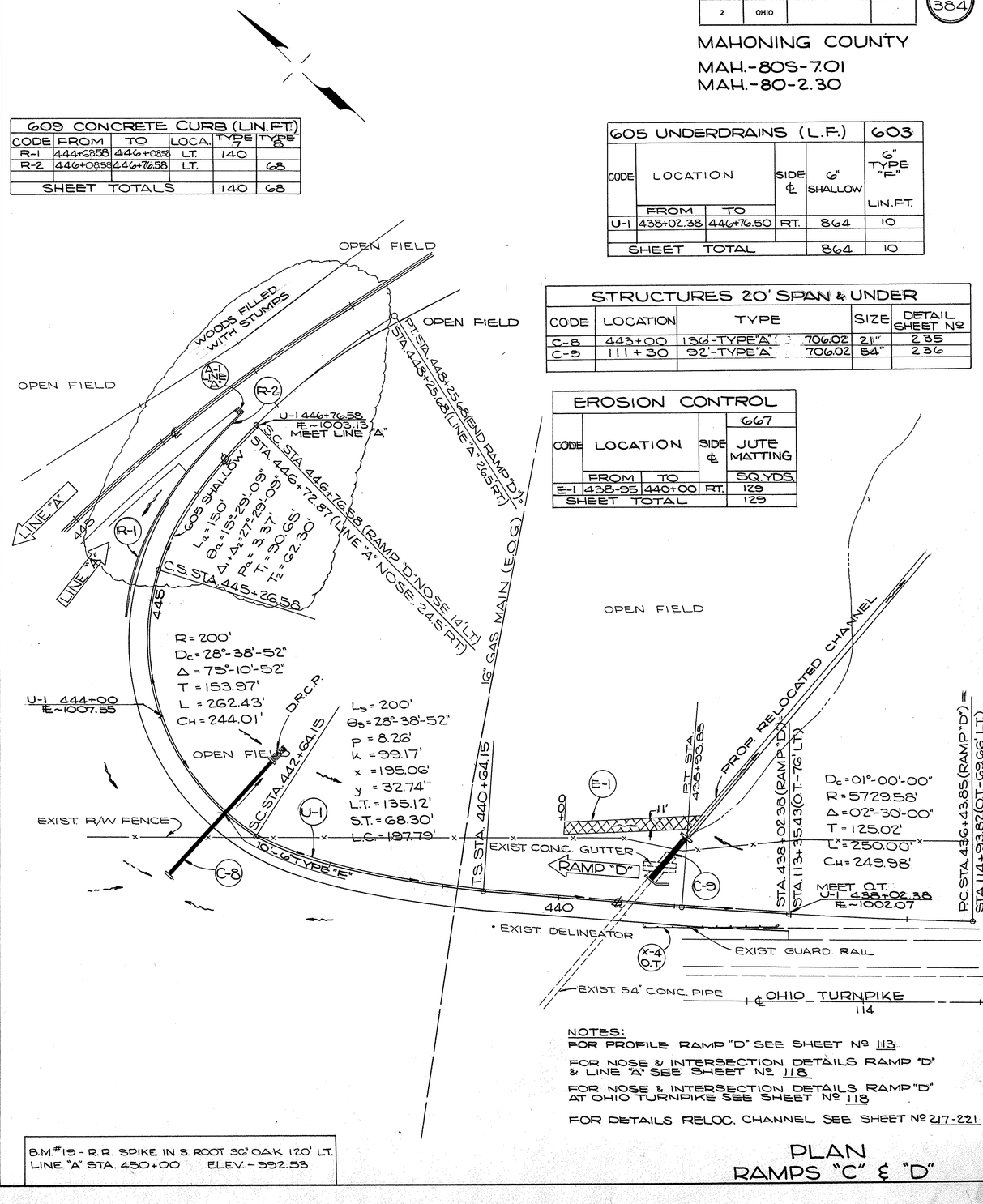
FOR PROFILE RAMP "C" SEE SHEET Nº 113

609 CONCRETE CURB (LIN. FT.)					
CODE	FROM	TO	LOCA.	TYPE "7"	TYPE "8"
R-1	444+68.58	446+08.58	LT.	140	
R-2	446+08.58	446+76.58	LT.		68
SHEET TOTALS				140	68

605 UNDERDRAINS (L.F.)					603
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" SHALLOW	6" TYPE "F" LIN. FT.
U-1	438+02.38	446+76.50	RT.	864	10
SHEET TOTAL				864	10

STRUCTURES 20' SPAN & UNDER				
CODE	LOCATION	TYPE	SIZE	DETAIL SHEET Nº
C-8	443+00	136'-TYPE "A" 706.02	21"	235
C-9	111+30	92'-TYPE "A" 706.02	54"	236

EROSION CONTROL				
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	667 JUTE MATTING SQ. YDS.
E-1	438-95	440+00	RT.	129
SHEET TOTAL				129



NOTES:
FOR PROFILE RAMP "D" SEE SHEET Nº 113

FOR NOSE & INTERSECTION DETAILS RAMP "D" & LINE "A" SEE SHEET Nº 118

FOR NOSE & INTERSECTION DETAILS RAMP "D" AT OHIO TURNPIKE SEE SHEET Nº 118

FOR DETAILS RELOC. CHANNEL SEE SHEET Nº 217-221

B.M. #19 - R.R. SPIKE IN S. ROOT 36" OAK 120' LT. LINE "A" STA. 450+00 ELEV. - 992.53

PLAN
RAMPS "C" & "D"

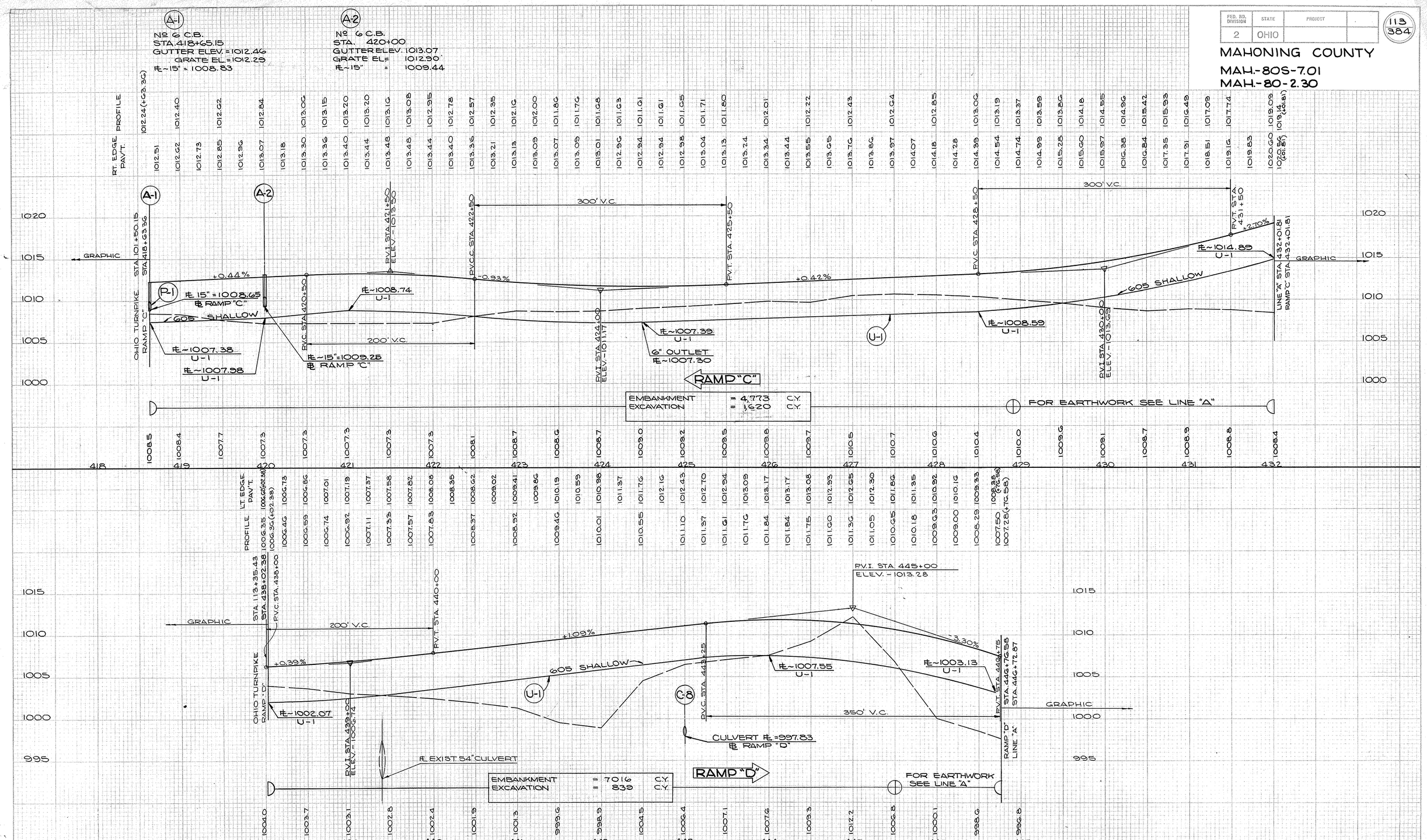
K & E - AKRON

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

113
384

MAHONING COUNTY

MAH.-80S-7.01
MAH.-80-2.30



PROFILE
RAMPS "C" & "D"

FED. RD.	STATE	PROJECT	
2	OHIO		

114
384

MAHONING COUNTY
MAH.-80S-7.01
MAH.-80-2.30

612 CONC. TRAFFIC ISLAND

CODE	FROM	TO	SQ.YDS.
N-1	468+29	468+48.95	17
SHEET TOTAL			17

609 CONCRETE CURB (LIN.FT.)

CODE	FROM	TO	LOCA.	TY. C MOD	TYPE 7	TYPE 8
R-1	467+49	468+29	RT.	160		
R-2	458+33	463+23	RT.		65	425
SHEET TOTALS				160	65	425

606 GUARD RAIL (LIN.FT.)

CODE	FROM	TO	LOCA.	TYPE 4
G-1	463+20.5	464+58.0	RT.	137.5
G-2	468+18.95	468+48.95	RT.	30
SHEET TOTAL				167.5

STRUCTURES 20' SPAN & UNDER

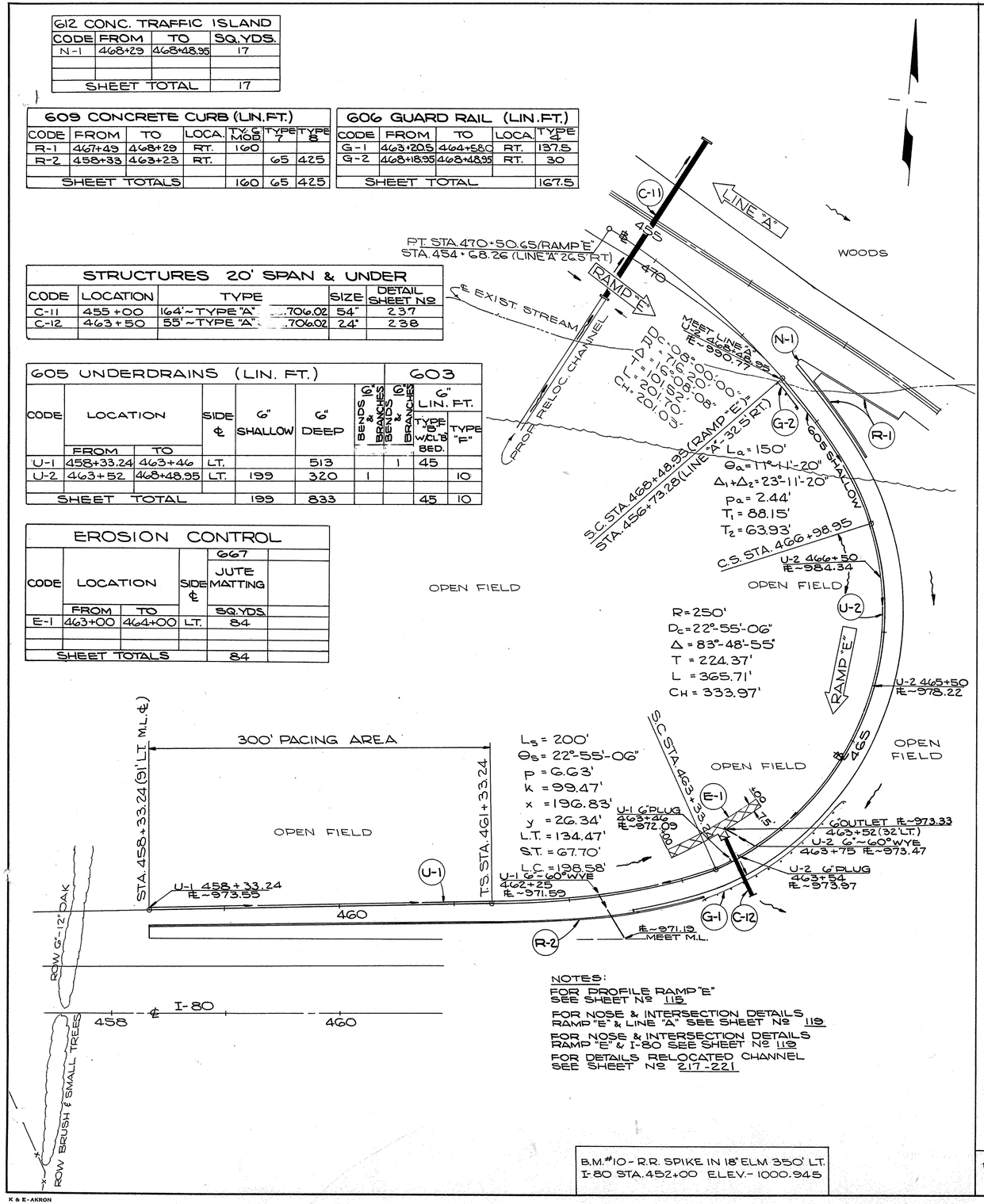
CODE	LOCATION	TYPE		SIZE	DETAIL SHEET NO
C-11	455+00	164'-TYPE "A"	706.02	54"	237
C-12	463+50	55'-TYPE "A"	706.02	24"	238

605 UNDERDRAINS (LIN. FT.) / 603

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" SHALLOW	6" DEEP	6" BENDS & BRANCHES	6" BENDS & BRANCHES	6" LIN. FT. TYPE "S" W.C.L.B. BED.	6" LIN. FT. TYPE "F"
U-1	458+33.24	463+46	LT.		513		1	45	
U-2	463+52	468+48.95	LT.	199	320	1			10
SHEET TOTAL				199	833			45	10

EROSION CONTROL

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	667 JUTE MATTING SQ.YDS.
E-1	463+00	464+00	LT.	84
SHEET TOTALS				84



NOTES:
FOR PROFILE RAMP "E" SEE SHEET Nº 115
FOR NOSE & INTERSECTION DETAILS RAMP "E" & LINE "A" SEE SHEET Nº 119
FOR NOSE & INTERSECTION DETAILS RAMP "E" & I-80 SEE SHEET Nº 119
FOR DETAILS RELOCATED CHANNEL SEE SHEET Nº 217-221

B.M.#10 - R.R. SPIKE IN 18" ELM 350' LT. I-80 STA. 452+00 ELEV. - 1000.945

605 UNDERDRAINS (LIN. FT.) / 603

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" 707.06 OR 707.12	6" SHALLOW	6" BENDS & BRANCHES 60°	6" LIN. FT. TYPE "F"
U-1	476+09	480+57	RT.	464		1	10
U-2	480+65	485+99.93	RT.	400	160	1	10
SHEET TOTAL				864	160		20

609 CONCRETE CURB (LIN.FT.)

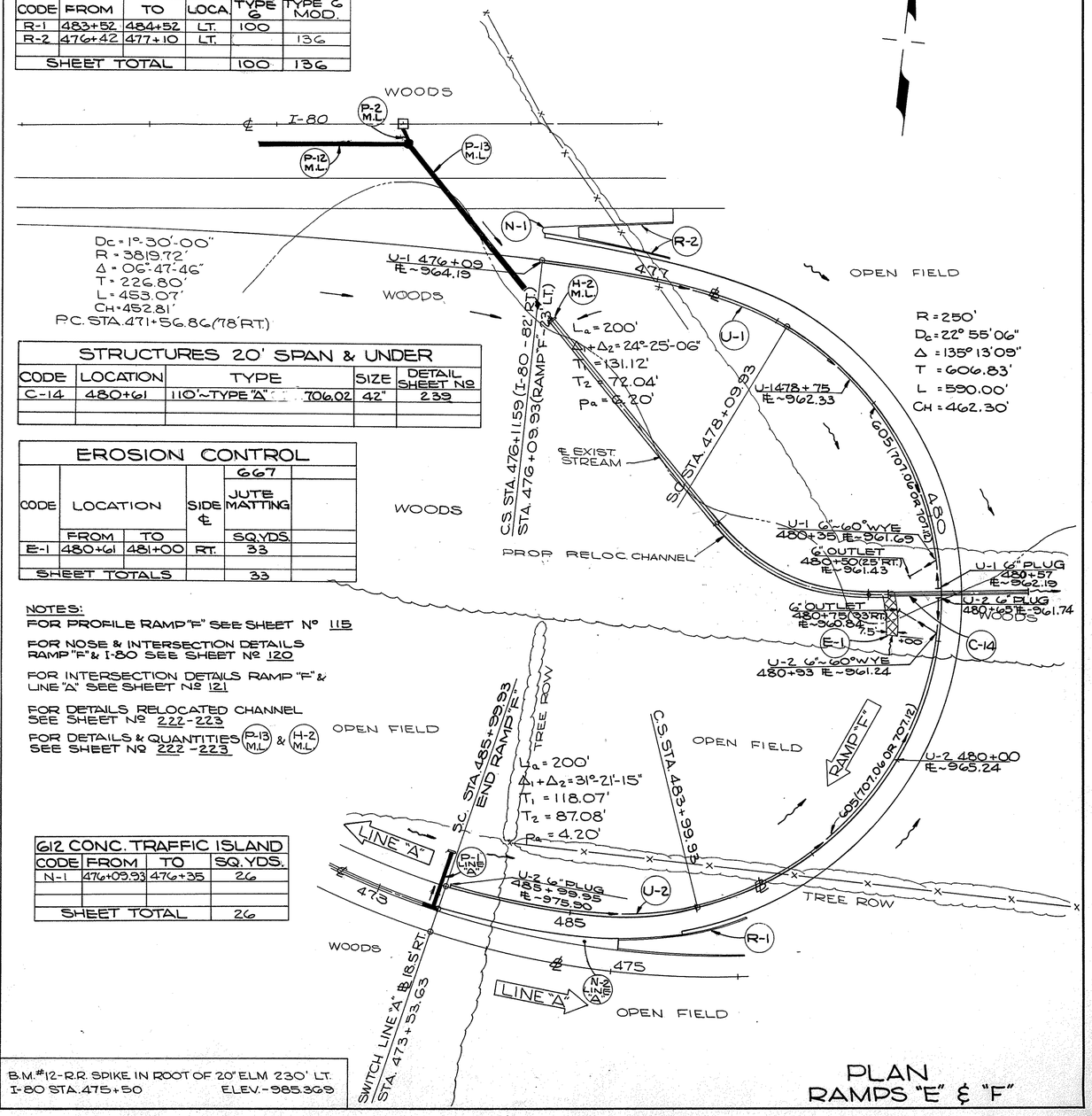
CODE	FROM	TO	LOCA.	TYPE 6	TYPE 6 MOD.
R-1	483+52	484+52	LT.	100	
R-2	476+42	477+10	LT.		136
SHEET TOTAL				100	136

STRUCTURES 20' SPAN & UNDER

CODE	LOCATION	TYPE		SIZE	DETAIL SHEET NO
C-14	480+61	110'-TYPE "A"	706.02	42"	239

EROSION CONTROL

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	667 JUTE MATTING SQ.YDS.
E-1	480+61	481+00	RT.	33
SHEET TOTALS				33



612 CONC. TRAFFIC ISLAND

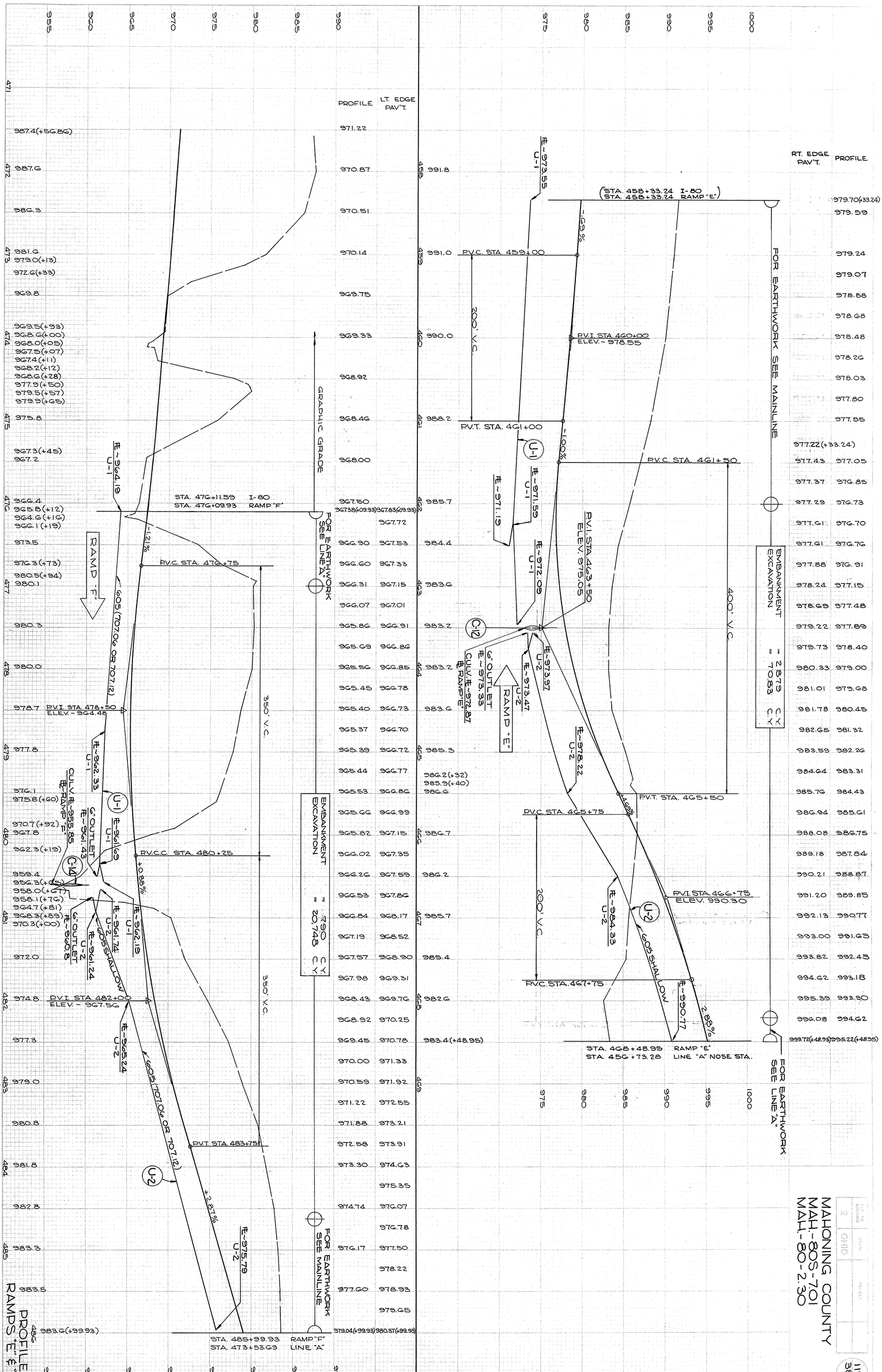
CODE	FROM	TO	SQ.YDS.
N-1	476+09.93	476+35	26
SHEET TOTAL			26

NOTES:
FOR PROFILE RAMP "F" SEE SHEET Nº 115
FOR NOSE & INTERSECTION DETAILS RAMP "F" & I-80 SEE SHEET Nº 120
FOR INTERSECTION DETAILS RAMP "F" & LINE "A" SEE SHEET Nº 121
FOR DETAILS RELOCATED CHANNEL SEE SHEET Nº 222-223
FOR DETAILS & QUANTITIES SEE SHEET Nº 222-223 (P-13 M.L. & H-2 M.L.)

B.M.#12 - R.R. SPIKE IN ROOT OF 20" ELM 230' LT. I-80 STA. 475+50 ELEV. - 985.369

PLAN
RAMPS "E" & "F"

K & E - AKRON


PROFILE RAMPS "E" & "F"
MAHONING COUNTY
MAH-80S-7.01
MAH-80-2.30
RAMP "F"
RAMP "E"
I-80
GRAPHIC GRADE
FOR EARTHWORK SEE MAINLINE
FOR EARTHWORK SEE LINE "A"
EMBANKMENT EXCAVATION = 7,790 C.Y.
EMBANKMENT EXCAVATION = 20,748 C.Y.
EMBANKMENT EXCAVATION = 2,879 C.Y.
EMBANKMENT EXCAVATION = 7083 C.Y.
PROFILE
LT. EDGE PAV'T.
RT. EDGE PAV'T.
STA. 485+99.93 RAMP "F"
STA. 473+53.63 LINE "A"
STA. 476+11.59 I-80
STA. 476+09.93 RAMP "F"
STA. 458+33.24 I-80
STA. 455+33.24 RAMP "E"
STA. 468+48.95 RAMP "E"
STA. 456+73.28 LINE "A" NOSE STA.
P.V.I. STA. 478+50 ELEV. = 964.48
P.V.C. STA. 476+75
P.V.C.C. STA. 480+25
P.V.I. STA. 482+00 ELEV. = 967.56
P.V.T. STA. 483+75
P.V.C. STA. 459+00
P.V.I. STA. 460+00 ELEV. = 978.55
P.V.T. STA. 461+00
P.V.C. STA. 461+50
P.V.I. STA. 463+50 ELEV. 975.05
P.V.T. STA. 465+50
P.V.C. STA. 465+75
P.V.I. STA. 466+75 ELEV. 990.30
P.V.C. STA. 467+75
605' (707.06 OR 707.12)
605' SHALLOW
200' V.C.
350' V.C.
400' V.C.
-1.12%
+0.88%
+2.87%
-1.00%
-.99%
+2.88%
6' OUTLET
CULV. ℄ RAMP "F"
CULV. ℄ RAMP "E"
U-1
U-2
C-14
C-12
MAH-80S-7.01
MAH-80-2.30
OHIO
115
384

FED. RD.	STATE	PROJECT	
2	OHIO		

116
384

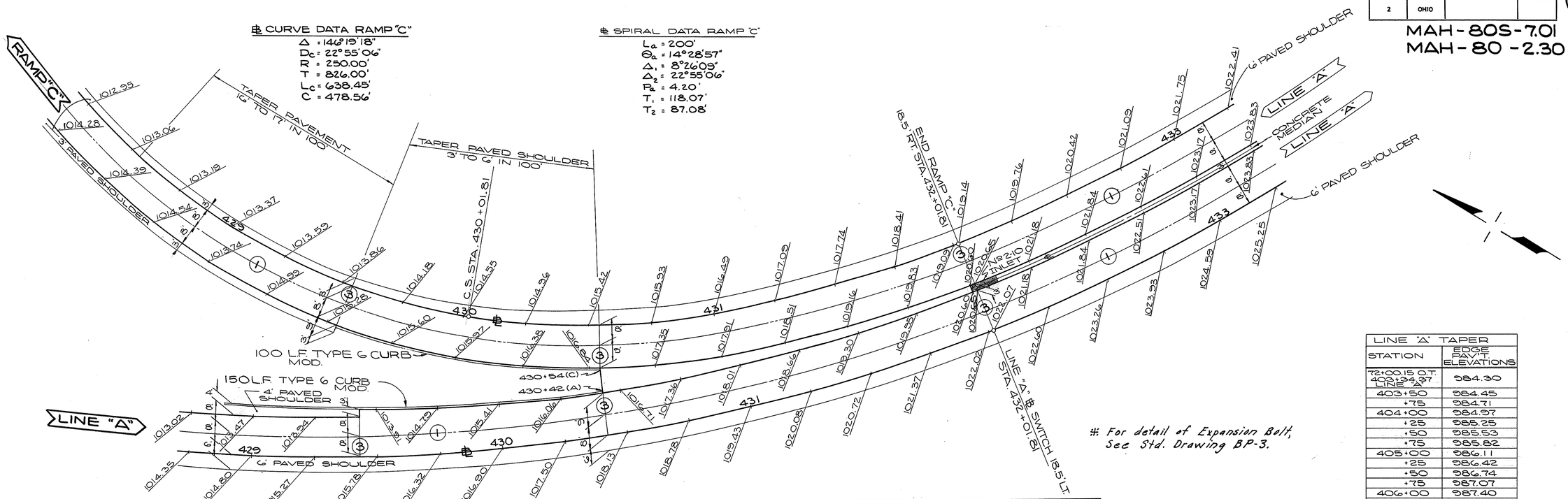
MAH-80S-7.01
MAH-80-2.30

℄ CURVE DATA RAMP "C"

Δ = 148°19'18"
D_c = 22°55'06"
R = 250.00'
T = 826.00'
L_c = 638.45'
C = 478.56'

℄ SPIRAL DATA RAMP "C"

L_a = 200'
Θ_a = 14°28'57"
Δ_1 = 8°26'09"
Δ_2 = 22°55'06"
P_a = 4.20'
T_1 = 118.07'
T_2 = 87.08'



\# For detail of Expansion Bolt, See Std. Drawing BP-3.

LINE "A" TAPER

STATION	EDGE PAVT. ELEVATIONS
72+00.15 O.T. 403+34.37 LINE "A"	984.30
403+50	984.45
+75	984.71
404+00	984.97
+25	985.25
+50	985.53
+75	985.82
405+00	986.11
+25	986.42
+50	986.74
+75	987.07
406+00	987.40
+25	987.73
+50	988.07
+75	988.43
407+00	988.79
+25	989.16
+50	989.53
+75	989.89
408+00	990.26
+25	990.62
+50	990.99
+75	991.35
409+00	991.72
+25	992.08
+50	992.44
+75	992.80
410+00	993.16

℄ CURVE DATA LINE "A"

Δ = 47°47'16"
D_c = 8°00'
R = 716.00'
T = 317.28'
L_c = 597.35'
C = 580.18'
E_x = 67.13'
M.O. = 61.38'

ANCHOR BOLTS AND DOWEL HOLES

CODE	LOCATION FROM	LOCATION TO	ITEM ~ SPECIAL EXPANSION ANCHOR BOLTS # ~EACH~	ITEM ~ 510 DOWEL HOLES ~EACH~
T-1	O. TURNPIKE & LINE "A" 72+00.15	~80+32.90	332	332
			332	332

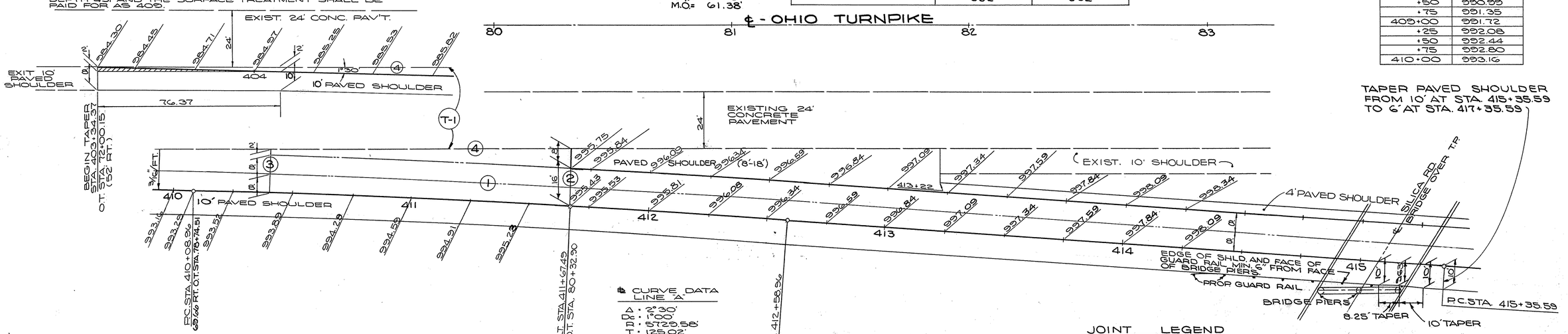
℄ CURVE DATA LINE "A"

Δ = 30°00'00"
D_c = 8°12'44"
R = 697.70'
T = 186.55'
L_c = 365.31'
C = 361.13'

℄ - OHIO TURNPIKE

80 81 82 83

CROSS HATCHED AREA SHALL BE CONSTRUCTED OF CONCRETE PAVEMENT TO AN ELEVATION ONE HALF INCH LOWER THAN ADJACENT PAVEMENT AND SURFACED WITH 409 USING N°8 AGGREGATE AS THE MAXIMUM SIZE. THE CROSS HATCHED AREA SHALL BE PAID FOR AS FULL DEPTH 451 AND THE SURFACE TREATMENT SHALL BE PAID FOR AS 409.



℄ CURVE DATA LINE "A"

Δ = 2°30'
D_c = 1°00'
R = 5729.58'
T = 125.02'
L_c = 250'
C = 249.98'

JOINT LEGEND

① STANDARD LONGITUDINAL JOINT
② STANDARD EXPANSION JOINT
③ STANDARD CONTRACTION JOINT
④ STANDARD EXPANSION BOLT JOINT (SPACED 2'-6" O.C.)

INTERSECTION DETAILS LINE "A" & RAMP "C"

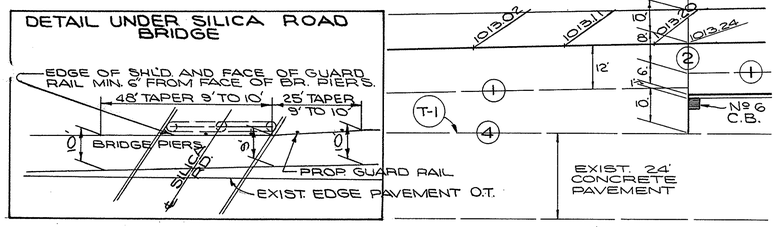
SCALE: 1" = 20'

K & E - AKRON

FED. RD.	STATE	PROJECT	
2	OHIO		

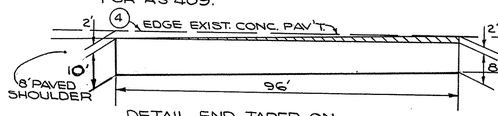
117
384

MAH-80S-7.01
MAH-80-2.30

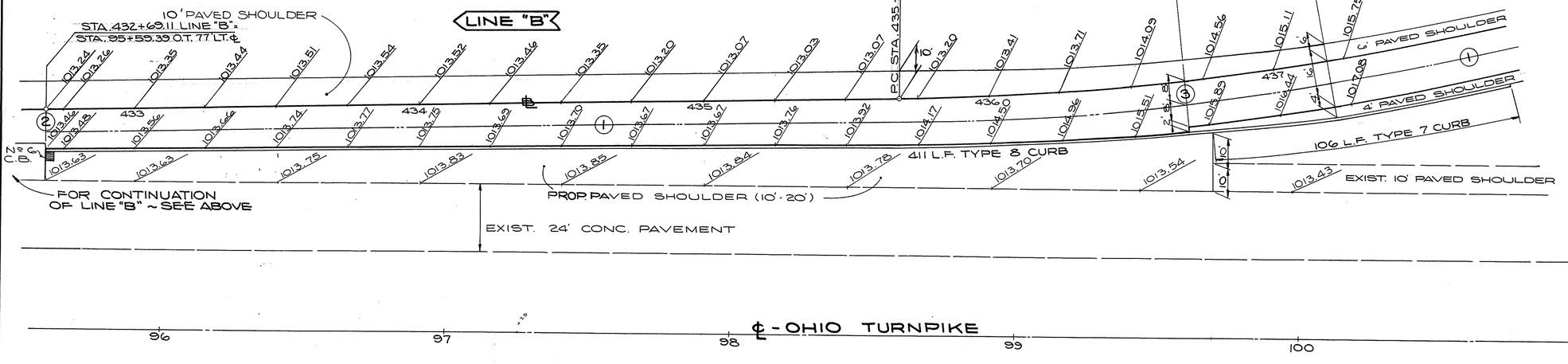


CROSS HATCHED AREA SHALL BE CONSTRUCTED OF CONCRETE PAVEMENT TO AN ELEVATION ONE HALF INCH LOWER THAN ADJACENT PAVEMENT AND SURFACED WITH 409 USING №8 AGGREGATE AS THE MAXIMUM SIZE. THE CROSS HATCHED AREAS SHALL BE PAID FOR AS FULL DEPTH 451 AND THE SURFACE TREATMENT SHALL BE PAID FOR AS 409.

℄ CURVE DATA LINE "B"
Δ = 21°33'48"
Dc = 6°00'00"
R = 954.93'
T = 269.80'
Lc = 526.06'
C = 519.43'



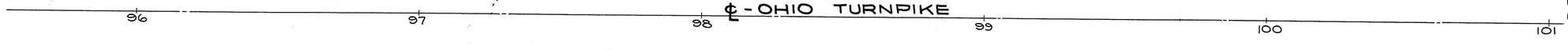
DETAIL END TAPER ON LINE "B" & RAMP "C"

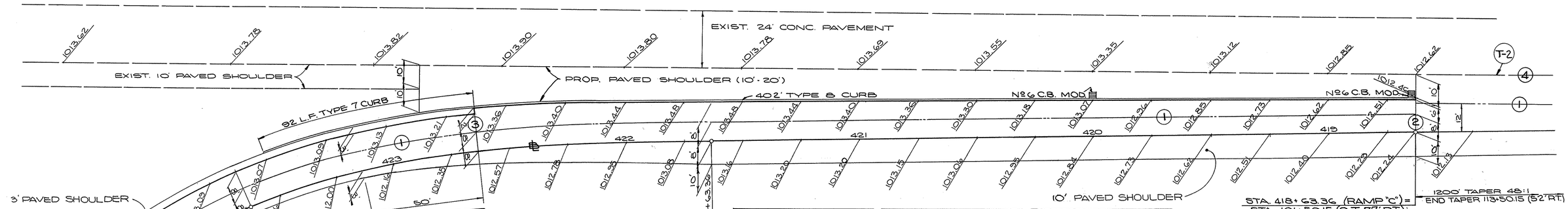


LINE "B" TAPER		
STATION	EDGE PAV'T ELEV.	OFFSET
432+69.11 LINE "B" 95+59.39 O.T.	1013.24	77'
95+50	1013	76.80
95+25	1013.11	76.28
95+00	1013.02	75.76
94+75	1012.93	75.24
94+50	1012.84	74.72
94+25	1012.73	74.20
94+00	1012.62	73.68
93+75	1012.50	73.16
93+50	1012.37	72.64
93+25	1012.23	72.12
93+00	1012.08	71.60
92+75	1011.93	71.08
92+50	1011.77	70.55
92+25	1011.60	70.03
92+00	1011.41	69.51
91+75	1011.21	68.99
91+50	1011.00	68.47
91+25	1010.78	67.95
91+00	1010.56	67.43
90+75	1010.33	66.91
90+50	1010.09	66.39
90+25	1009.85	65.87
90+00	1009.60	65.35
89+75	1009.34	64.83

LINE "B" TAPER (CONT'D)		
STATION	EDGE PAV'T ELEV.	OFFSET
89+50	1009.07	64.30
89+25	1008.78	63.78
89+00	1008.49	63.26
88+75	1008.19	62.74
88+50	1007.89	62.22
88+25	1007.57	61.70
88+00	1007.24	61.18
87+75	1006.90	60.66
87+50	1006.55	60.14
87+25	1006.20	59.62
87+00	1005.84	59.10
86+75	1005.47	58.58
86+50	1005.10	58.05
86+25	1004.74	57.53
86+00	1004.37	57.01
85+75	1004.00	56.49
85+50	1003.63	55.97
85+25	1003.27	55.45
85+00	1002.90	54.93
84+75	1002.54	54.41
84+50	1002.18	53.89
84+25	1001.81	53.37
84+00	1001.45	52.85
83+75	1001.07	52.33
83+59.39	1000.88	52.00

JOINT LEGEND
① STANDARD LONGITUDINAL JOINT
② STANDARD EXPANSION JOINT
③ STANDARD CONTRACTION JOINT
④ STANDARD EXPANSION BOLT JOINT (SPACED 2'-6" O.C.)





ANCHOR BOLTS AND DOWEL HOLES			
CODE	LOCATION FROM	TO	ITEM~SPECIAL EXPANSION ANCHOR BOLTS ~EACH~	ITEM~510 DOWEL HOLES ~EACH~
T-1	O. TURNPIKE & LINE "B" 83+59.39	~ 95+59.39	479	479
T-2	O. TURNPIKE & RAMP "C" 101+50.15	~ 113+50.15	479	479
SHEET TOTAL			958	958

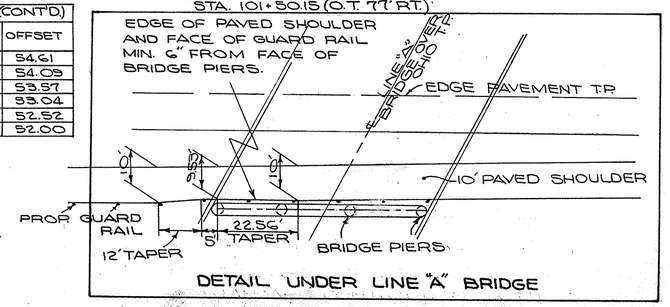
℄ CURVE DATA RAMP "C"
Δ = 146°19'18"
Dc = 22°55'06"
R = 250.00'
T = 826.00'
Lc = 638.45'
C = 478.56'

℄ SPIRAL DATA RAMP "C"
Ls = 200'
θs = 22°55'06"
p = 6.63'
K = 99.47'
x = 196.83'
Y = 26.34'
L.T. = 134.47'
S.T. = 67.70'
L.C. = 198.58'

RAMP "C" TAPER		
STATION	EDGE PAV'T ELEV.	OFFSET
418+63.36 LINE "A" 101+50.15 O.T.	1012.24	77'
101+75	1012.13	76.48
102+00	1012.02	75.96
102+25	1011.91	75.44
102+50	1011.80	74.92
102+75	1011.69	74.40
103+00	1011.58	73.88
103+25	1011.47	73.36
103+50	1011.35	72.84
103+75	1011.23	72.32
104+00	1011.11	71.79
104+25	1010.99	71.27
104+50	1010.87	70.75
104+75	1010.76	70.23
105+00	1010.64	69.71
105+25	1010.52	69.19
105+50	1010.40	68.67
105+75	1010.28	68.15
106+00	1010.16	67.63
106+25	1010.04	67.11
106+50	1009.92	66.59

RAMP "C" TAPER (CONT'D)		
STATION	EDGE PAV'T ELEV.	OFFSET
106+75	1009.79	66.07
107+00	1009.67	65.54
107+25	1009.55	65.02
107+50	1009.43	64.50
107+75	1009.31	63.98
108+00	1009.18	63.46
108+25	1009.06	62.94
108+50	1008.93	62.42
108+75	1008.82	61.82
109+00	1008.71	61.38
109+25	1008.60	60.86
109+50	1008.49	60.34
109+75	1008.38	59.82
110+00	1008.27	59.29
110+25	1008.16	58.77
110+50	1008.05	58.25
110+75	1007.94	57.73
111+00	1007.83	57.21
111+25	1007.72	56.69
111+50	1007.61	56.17
111+75	1007.50	55.65
112+00	1007.39	55.13

RAMP "C" TAPER (CONT'D)		
STATION	EDGE PAV'T ELEV.	OFFSET
112+25	1007.28	54.61
112+50	1007.18	54.05
112+75	1007.07	53.57
113+00	1006.96	53.04
113+25	1006.85	52.52
113+50.15	1006.74	52.00



INTERSECTION DETAILS
LINE "B" & RAMP "C"
SCALE: 1" = 20'

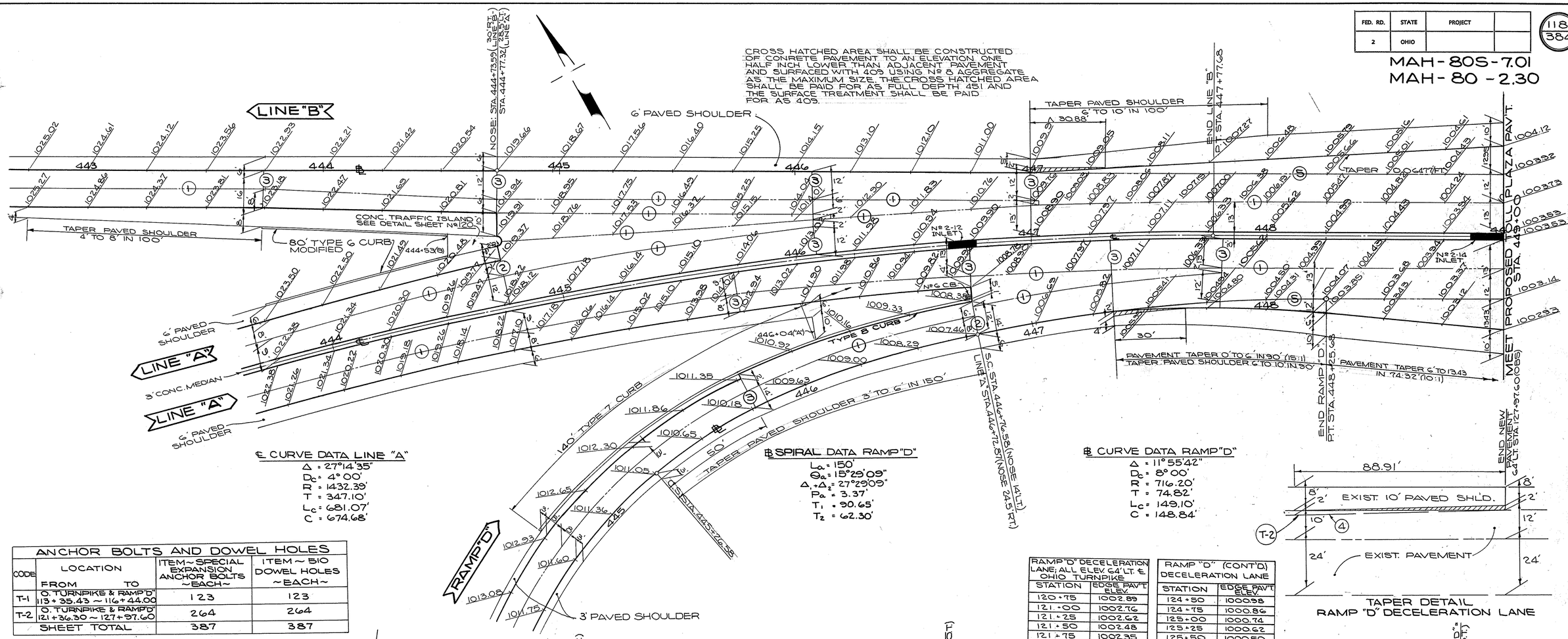
K & E - AKRON

FED. RD.	STATE	PROJECT	
2	OHIO		

118
384

MAH-80S-7.01
MAH-80-2.30

CROSS HATCHED AREA SHALL BE CONSTRUCTED OF CONRETE PAVEMENT TO AN ELEVATION ONE HALF INCH LOWER THAN ADJACENT PAVEMENT AND SURFACED WITH 409 USING №8 AGGREGATE AS THE MAXIMUM SIZE. THE CROSS HATCHED AREA SHALL BE PAID FOR AS FULL DEPTH 451 AND THE SURFACE TREATMENT SHALL BE PAID FOR AS 409.



℄ CURVE DATA LINE "A"
Δ = 27°14'35"
D_c = 4°00'
R = 1432.39'
T = 347.10'
L_c = 681.07'
C = 674.68'

℄ SPIRAL DATA RAMP "D"
L_s = 150'
Θ_s = 15°29'09"
$\Delta_1 + \Delta_2$ = 27°29'09"
P_s = 3.37'
T_1 = 90.65'
T_2 = 62.30'

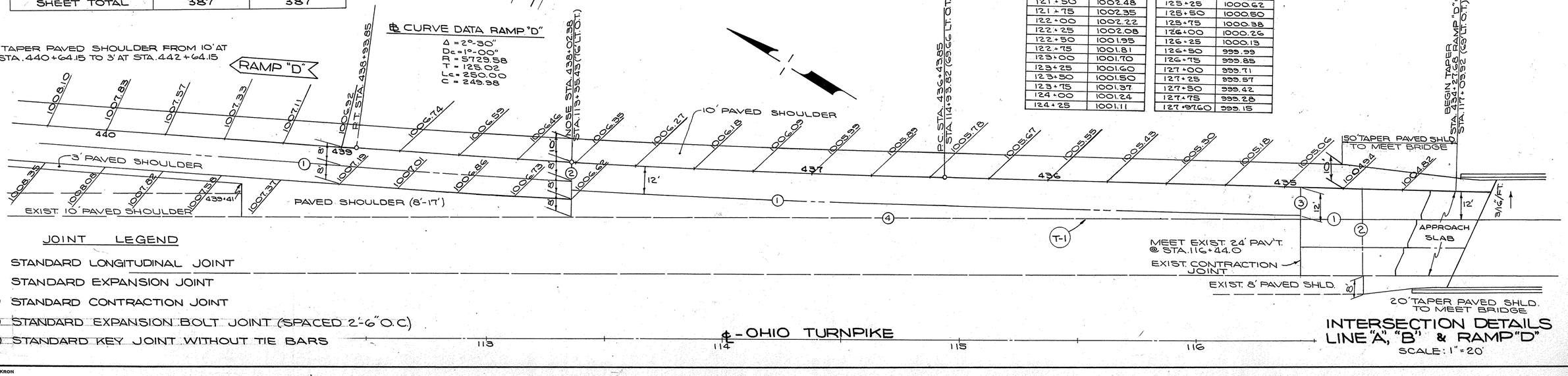
℄ CURVE DATA RAMP "D"
Δ = 11°55'42"
D_c = 8°00'
R = 716.20'
T = 74.82'
L_c = 149.10'
C = 148.84'

TAPER DETAIL
RAMP "D" DECELERATION LANE

RAMP "D" DECELERATION LANE; ALL ELEV. 64' LT. ℄ OHIO TURNPIKE	
STATION	EDGE PAV'T ELEV.
120+75	1002.89
121+00	1002.76
121+25	1002.62
121+50	1002.48
121+75	1002.35
122+00	1002.22
122+25	1002.08
122+50	1001.95
122+75	1001.81
123+00	1001.70
123+25	1001.60
123+50	1001.50
123+75	1001.37
124+00	1001.24
124+25	1001.11

RAMP "D" (CONT'D) DECELERATION LANE	
STATION	EDGE PAV'T ELEV.
124+50	1000.98
124+75	1000.86
125+00	1000.74
125+25	1000.62
125+50	1000.50
125+75	1000.38
126+00	1000.26
126+25	1000.13
126+50	999.99
126+75	999.85
127+00	999.71
127+25	999.57
127+50	999.42
127+75	999.28
127+97.60	999.15

ANCHOR BOLTS AND DOWEL HOLES			
CODE	LOCATION FROM	TO	ITEM ~ SPECIAL EXPANSION ANCHOR BOLTS ~EACH~	ITEM ~ 510 DOWEL HOLES ~EACH~
T-1	O. TURNPIKE & RAMP "D"	113+35.43 ~ 116+44.00	123	123
T-2	O. TURNPIKE & RAMP "D"	121+36.30 ~ 127+97.60	264	264
SHEET TOTAL			387	387



JOINT LEGEND

① STANDARD LONGITUDINAL JOINT
② STANDARD EXPANSION JOINT
③ STANDARD CONTRACTION JOINT
④ STANDARD EXPANSION BOLT JOINT (SPACED 2'-6" O.C.)
⑤ STANDARD KEY JOINT WITHOUT TIE BARS

℄ - OHIO TURNPIKE
113 114 115 116

INTERSECTION DETAILS
LINE "A", "B" & RAMP "D"
SCALE: 1" = 20'

K & E - AKRON

FED. RD.	STATE	PROJECT	
2	OHIO		

119
384

MAH-80S-7.01
MAH-80-2.30

"A" 10' PAVED SHOULDER
TAPER 0.06045'/FT.
TAPER PAVED SHOULDER 10' TO 6' IN 100'
33.09'
STA. 456+50
(BEGIN LINE "B") STA. 463+15.71
P.C. LINE "A" STA. 456+83.98
NOSE 16.5' LT. LINE "A" STA. 458+68.47 =
NOSE 22' RT. LINE "B" STA. 465+01.80
LINE "B"
6' PAVED SHOULDER
100 L.F. TYPE 8 CURB
4' PAVED SHOULDER
100 L.F. TYPE 7 CURB
6' PAVED SHOULDER
LINE "A"
3' CONC. MEDIAN
LINE "A"
6' PAVED SHOULDER
PAVEMENT TAPER 12' TO 0' IN 180'
PAVED SHOULDER TAPER 10' TO 6' IN 180'
BEGIN RAMP "E" P.T. STA. 470+50.65 =
LINE "A" STA. 454+68.26 (26.5' RT.)
CONC. TRAFFIC ISLAND (FOR DETAIL SEE SHEET No 120)
468+29
6" TYPE 6 CURB MODIFIED
TAPER PAVED SHLD 8' TO 6' IN 50'
RAMP "E"
TAPER PAVED SHOULDER 6' TO 3' IN 100'
3' PAVED SHOULDERS
NOSE STA. 468+48.95 (23.1' LT.)
NOSE (32.5' RT.) STA. 456+73.28 RAMP "E" = LINE "A"
C.S. STA. 466+58.95
S.C. STA. 463+33.24

℄ CURVE DATA RAMP "E"
Δ = 16°08'08"
Dc = 8°00'
R = 716.20'
T = 101.52'
Lc = 201.70'
C = 201.03'

℄ CURVE DATA RAMP "E"
La = 150'
Θa = 11°11'20"
Δ1+Δ2 = 23°11'20"
Pa = 2.44'
T1 = 88.15'
T2 = 63.93'

℄ CURVE DATA RAMP "E"
Δ = 83°48'55" LT.
Dc = 22°55'06"
R = 250.00'
T = 224.37'
Lc = 365.71'
C = 333.97'

℄ CURVE DATA RAMP "A"
Δ = 27°15'06" RT.
Dc = 4°00'
R = 1432.39'
T = 347.22'
Lc = 681.29'
C = 674.89'

℄ SPIRAL DATA RAMP "E"
Ls = 200'
Θs = 22°55'06"
p = 6.63'
k = 99.47'
x = 196.83'
y = 26.34'
L.T. = 134.47'
S.T. = 67.70'
L.C. = 198.58'

"A" 10' PAVED SHLD.
MEET PROPOSED TOLL PLAZA PAVT. STA. 454+00
TAPER 0.05521'/FT.

CROSS HATCHED AREA SHALL BE CONSTRUCTED OF CONCRETE PAVEMENT TO AN ELEVATION ONE HALF INCH LOWER THAN ADJACENT PAVEMENT AND SURFACED WITH 409 USING 7#8 AGGREGATE AS THE MAXIMUM SIZE. THE CROSS HATCHED AREA SHALL BE PAID FOR AS FULL DEPTH 451 AND THE SURFACE TREATMENT SHALL BE PAID FOR AS 409.

TYPICAL DETAIL FOR SLOPE OF SHOULDERS @ STA. 462+75
℄ RAMP "E"
2% VARIES
8:1
℄ M.L.

10' PAVED SHOULDER "B"
1200' TAPER (48:1)
END TAPER STA. 446+33.24 (66' LT.)
FOR DETAIL OF END TAPER SEE SHEET No 121
NOSE STA. 458+33.24 (91' LT. ℄ MAIN LINE)
8' PAVED SHOULDER
4' PAVED SHOULDER
3/16"/FT.
TAPER PAVED SHOULDER 8' TO 3' IN 150'
50'
8' 463
3' PAVED SHOULDERS
65 L.F. TYPE 7 CURB
RAMP "E"
425 L.F. TYPE 8 CURB

JOINT LEGEND
① STANDARD LONGITUDINAL JOINT
② STANDARD EXPANSION JOINT
③ STANDARD CONTRACTION JOINT
⑤ STANDARD KEY JOINT WITHOUT TIE BARS

℄ I-80
457 458 459 460 461 462

INTERSECTION DETAILS RAMP "E" & LINES "A" & "B"

SCALE: 1" = 20'

K & E - AKRON

FED. RD.	STATE	PROJECT	
2	OHIO		

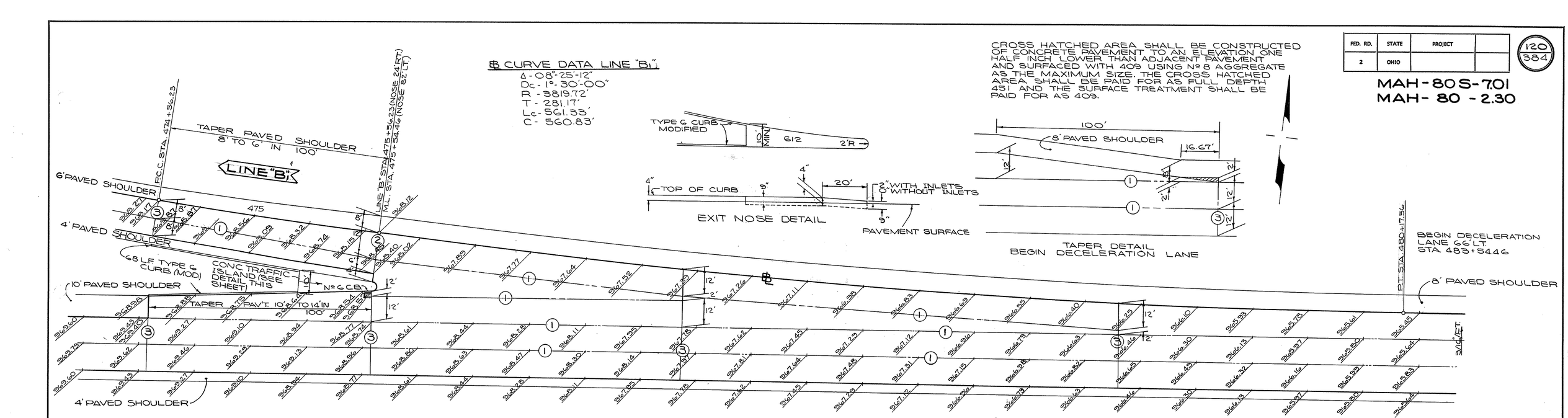
120
384

MAH-80 S-7.01
MAH-80-2.30

CROSS HATCHED AREA SHALL BE CONSTRUCTED OF CONCRETE PAVEMENT TO AN ELEVATION ONE HALF INCH LOWER THAN ADJACENT PAVEMENT AND SURFACED WITH 409 USING N°8 AGGREGATE AS THE MAXIMUM SIZE. THE CROSS HATCHED AREA SHALL BE PAID FOR AS FULL DEPTH 451 AND THE SURFACE TREATMENT SHALL BE PAID FOR AS 409.

℄ CURVE DATA LINE "B"

Δ - 08°-25'-12"
Dc - 1°-30'-00"
R - 3819.72'
T - 281.17'
Lc - 561.33'
C - 560.83'



EXIT NOSE DETAIL

TAPER DETAIL
BEGIN DECELERATION LANE

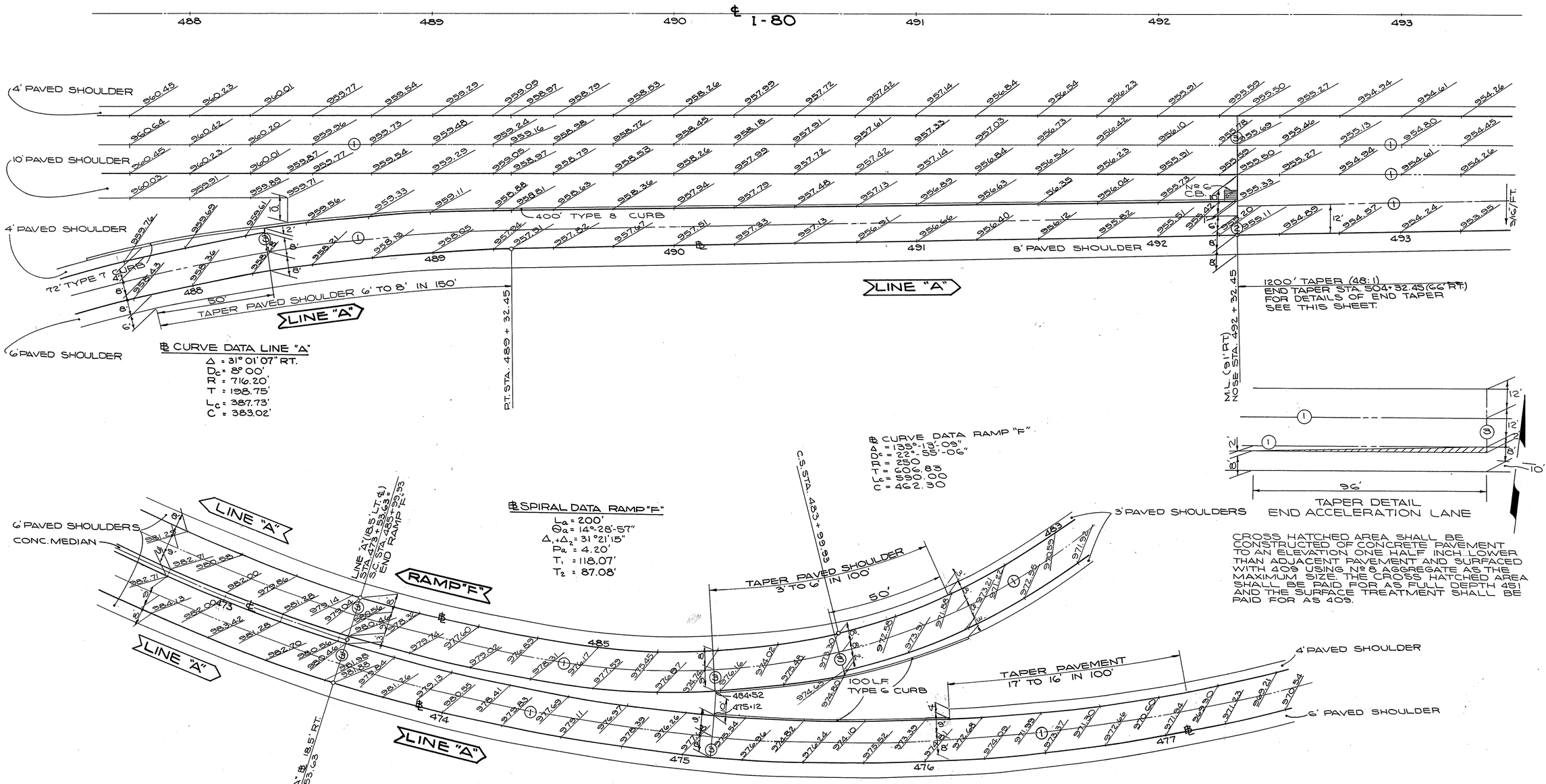
INTERSECTION DETAILS
RAMP "F" & LINE "B"
SCALE: 1" = 20'

K & E - AKRON

FED. RD.	STATE	PROJECT	
2	OHIO		

121
384

MAH-80S-7.01
MAH-80-2.30



JOINT LEGEND

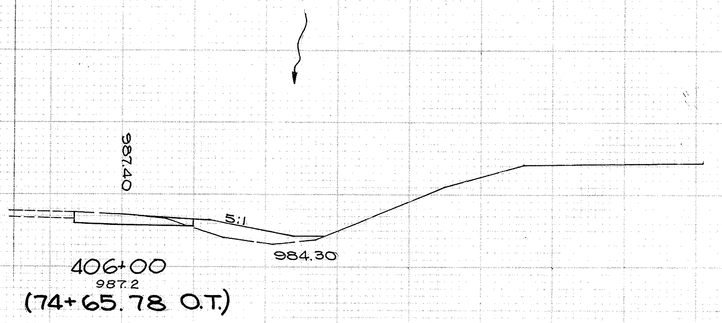
① STANDARD LONGITUDINAL JOINT
② STANDARD EXPANSION JOINT
③ STANDARD CONTRACTION JOINT

CROSS HATCHED AREA SHALL BE CONSTRUCTED OF CONCRETE PAVEMENT TO AN ELEVATION ONE HALF INCH LOWER THAN ADJACENT PAVEMENT AND SURFACED WITH 409 USING Nº 8 AGGREGATE AS THE MAXIMUM SIZE. THE CROSS HATCHED AREA SHALL BE PAID FOR AS FULL DEPTH 451 AND THE SURFACE TREATMENT SHALL BE PAID FOR AS 409.

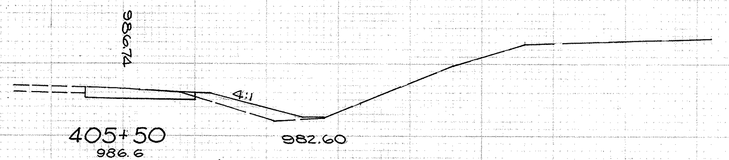
INTERSECTION DETAILS
RAMP "F" & LINE "A"

SCALE: 1" = 20'

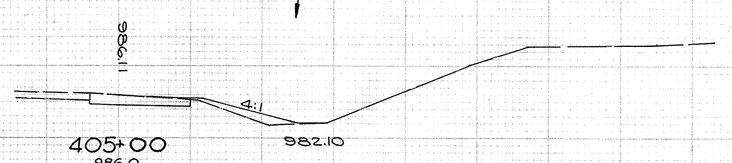
K & E - AKRON



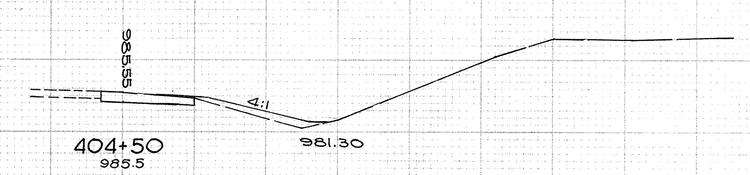
406+00
987.2
(74+65.78 O.T.)



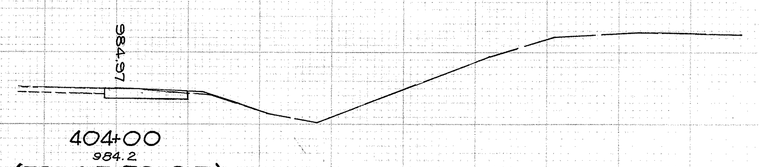
405+50
986.6
(74+15.78 O.T.)



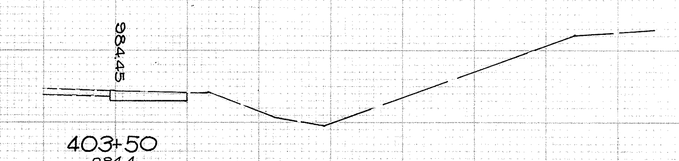
405+00
986.0
(73+65.78 O.T.)



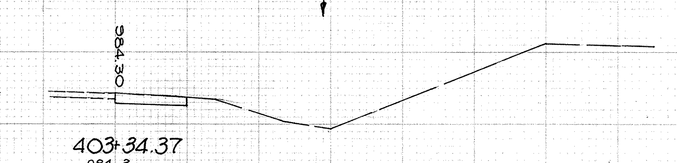
404+50
985.5
(73+15.78 O.T.)



404+00
984.2
(72+65.78 O.T.)



403+50
984.4
(72+15.78 O.T.)



403+34.37
984.3
(72+00 O.T.)
BEGIN PAVEMENT & WORK

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
25	133	29	44	53	93
23	133	28	66	46	63
25	139	21	12	33	25
25	125	15	15	33	20
20	111	20	7	39	7
20	35	22	0	25	0
676 SHEET TOTALS		229	208		

(OHIO TURNPIKE STA. 72+00 TO STA. 74+65.78)
LINE "A" STA. 403+34.37 TO STA. 406+00

MAH-80S-7.01
MAH-80-2.30

DIST.	STATE	PROJECT
2	OHIO	

12.2
384

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
		64	51		
44				135	100
	222				
		81	57		
40				136	83
	214				
		66	32		
37				87	71
	164				
		28	44		
29				51	92
	131				
		27	55		
23				47	90
	133				
25		23	42		
	139				
25				48	104
	139				
	1142				

409+50
991.2
(78+15.78 O.T.)

409+00
990.9
(77+65.78 O.T.)

408+50
990.5
(77+15.78 O.T.)

408+00
989.7
(76+65.78 O.T.)

407+50
989.1
(76+15.78 O.T.)

407+00
988.4
(75+65.78 O.T.)

406+50
987.8
(75+15.78 O.T.)

29	70		
		54	106
SHEET TOTALS		558	646

MAH-80S-7.01
MAH-80 - 2.30

OHIO TURNPIKE STA. 75+15.78 TO STA. 78+15.78)
LINE "A" STA. 406+50 TO STA. 409+50

123
384

2 OHIO

MAH-80S-7.01
MAH-80-2.30

(OHIO TURNPIKE STA. 78+65.78 TO STA. 80+15.78)

LINE "A" STA. 410+00 TO STA. 412+50

MAH-805-7.01
MAH-80 - 2.30

END AREA		CU. YDS	
CUT	FILL	CUT	FILL
1000	0	2089	0
1249	0	1972	24
880	28	1396	77
563	55	932	91
508	49	820	86

377	150	
	610	106
SHEET TOTALS	781.3	386

BRIDGE

SEEDING END SQ.	WIDTH YDS.
81	1000
435	990
76	1000
435	990
82	1000
419	990
69	1000
372	990
65	1000
342	990
56	1000
2007 SHEET TOTAL	990

LINE "A" STA. 413+00 TO STA. 415+50

415+50
1009.1
999.34
1000.41
5:1
1:2
1/2"/FT.
994.61

415+00
1018.9
998.84
999.66
℄ - 30" CULVERT = 994.41
1:2
1:2

414+50
1006.0
998.34
998.91
℄ - 30" CULVERT = 994.21
1:2
1:1.5

414+00
998.3
997.84
998.16
994.01
1:2
5.7:1

413+50
996.0
997.34
997.59
993.80
1:2
6:1

413+00
993.7
996.84
997.09
993.60
1:2
6:1

80
60
40
20
0
20
40

SEEDING		END AREA CU. YDS.			
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
		1030	0		
129					

1010
1000

1/2"/FT.
3:1
8:1
1003.92
1002.59
1002.70
8:1
3:1
1000.04

418+50
1011.1

				1815	0
644					
		990	0		

1010
1000
103

1/2"/FT.
3:1
8:1
1003.34
1002.01
1002.09
8:1
3:1
999.51

418+00
1010.6

				1685	0
508					
		989	0		

1010
1000
80

3:1
8:1
1002.78
1001.45
1000.2
1001.56
8:1
2:1
998.95

417+50
1010.6

				1680	0
467					
		986	0		

1010
1000
88

6:1
1002.23
1000.90
1000.0
7:1
2:1
997.31

417+00
1011.2

				1781	14
514					
		987	15		

A-1
STA. 416+50 (37.5 LT.)
604 Nº5 C.B.
GRATE ELEV. = 999.55
℄ 15" = 996.31

1010
1000
97

999.55
5:1
1001.70
1000.37
14'-6"
6:1
2:1
15"
601 L.D.R.C.P.
DITCH ELEV. = 995.45
℄ 24" = 995.67

416+50
1011.4

				1773	67
519					
		927	57		

1010
1000
90

4:1
5:1
1001.17
999.85
1000.0
6:1
2:1
995.05

416+00
1010.0

				1785	53
SHEET TOTAL	3149	SHEET TOTALS		10529	134

LINE "A" STA. 416+00 TO STA. 418+50

100 80 60 40 20 ℄ 20 40 60

MAH-80S-7.01
MAH-80-2.30

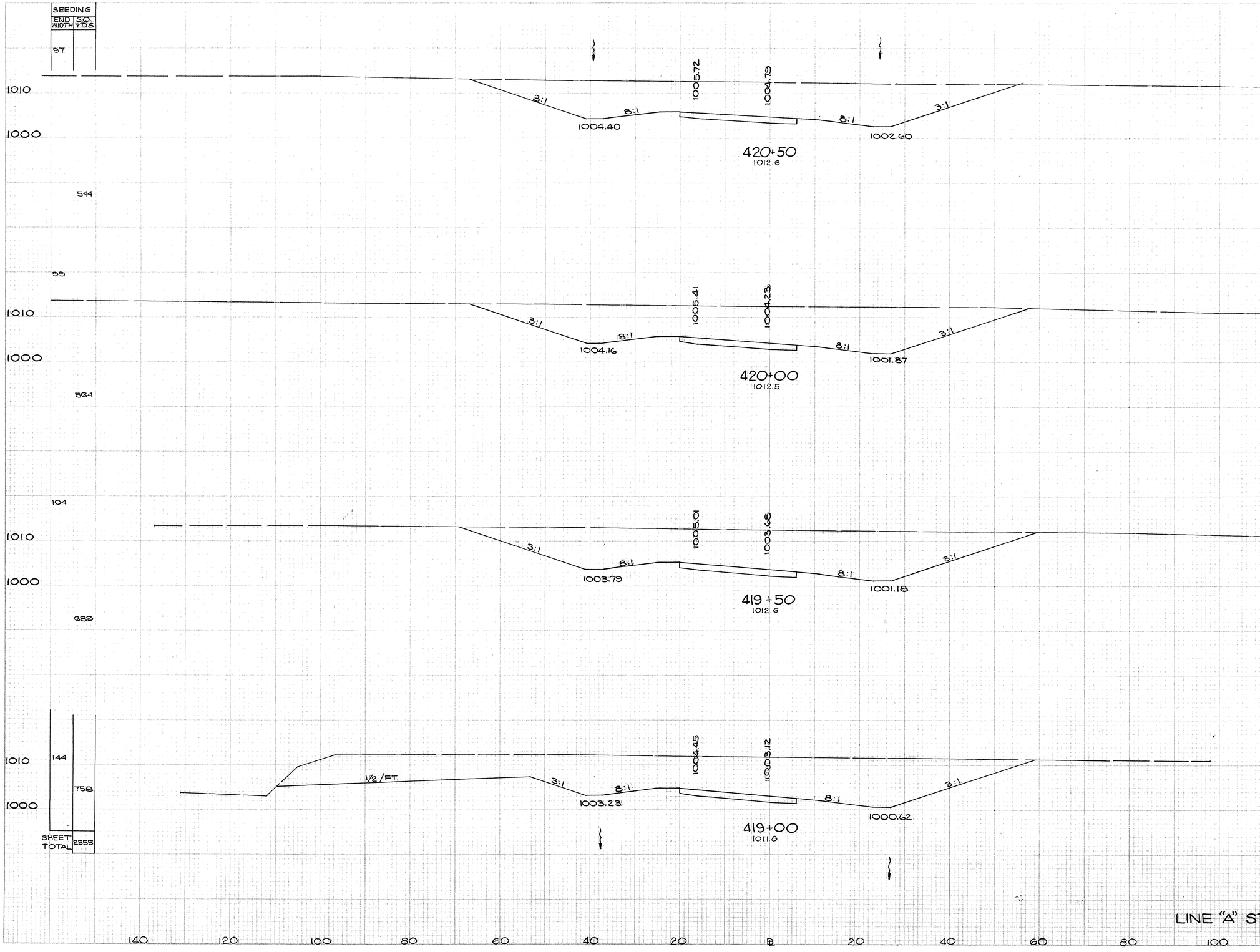
OHIO

126
384

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

127
384

MAH-80S-7.01
MAH-80 – 2.30



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
830	0		
		1604	0
902	0		
		1740	0
977	0		
		2046	0
1232	0		
		1169	0
SHEET TOTALS		6559	0

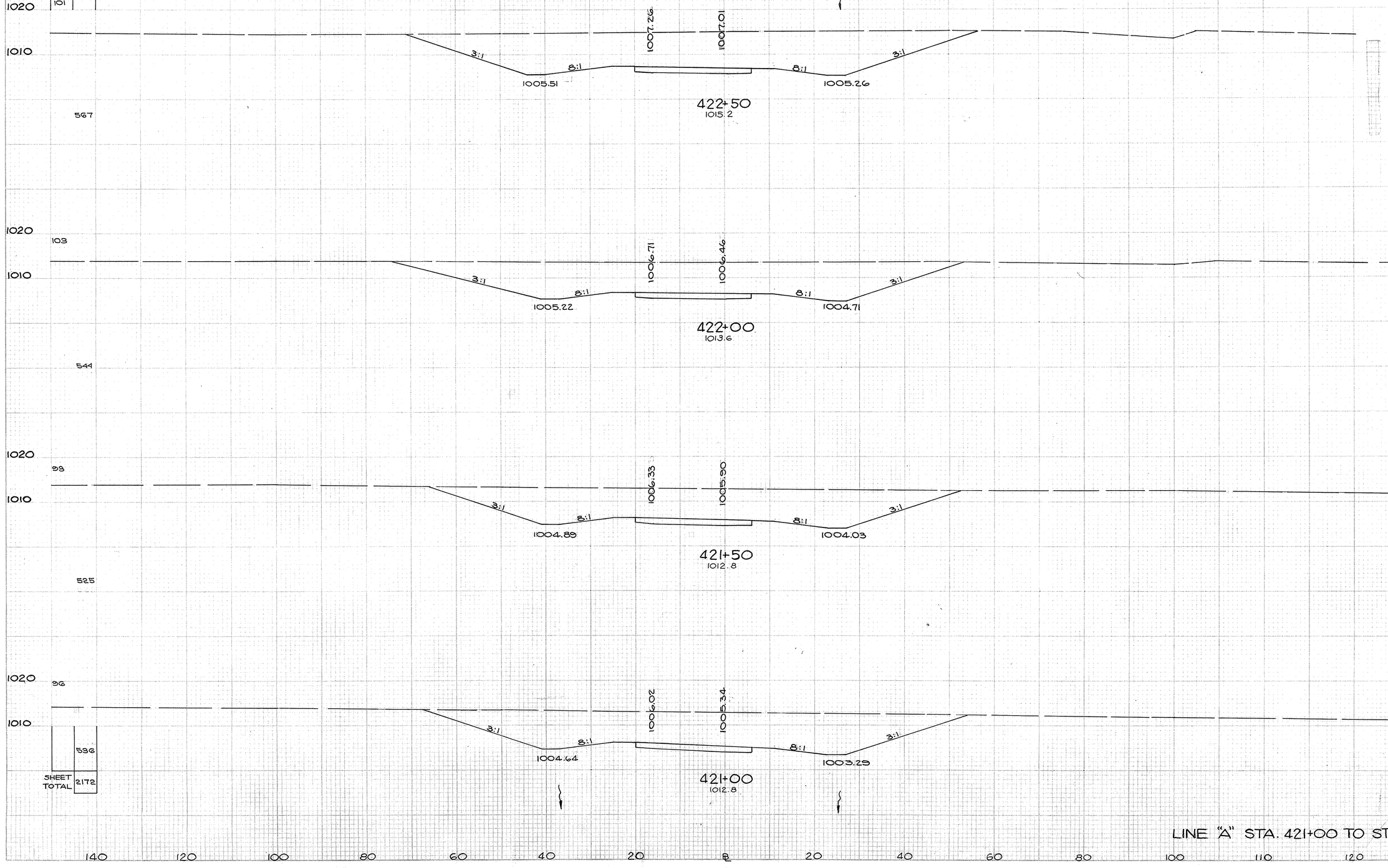
LINE "A" STA. 419+00 TO STA. 420+50

FED. HWY. DIVISION	STATE	PROJECT
2	OHIO	

128
384

MAH-80S-7.01
MAH-80 - 2.30

SEEDING	
END WIDTH	SQ. YDS.
101	
103	
98	
96	
SHEET TOTAL	536
	2172



	END AREA		CU. YDS.	
	CUT	FILL	CUT	FILL
567	924	0		
			1617	0
544	822	0		
			1482	0
525	778	0		
	778	0		
			1482	0
	822	0		
			1530	0
SHEET TOTALS	6111	0		

LINE "A" STA. 421+00 TO STA. 422+50

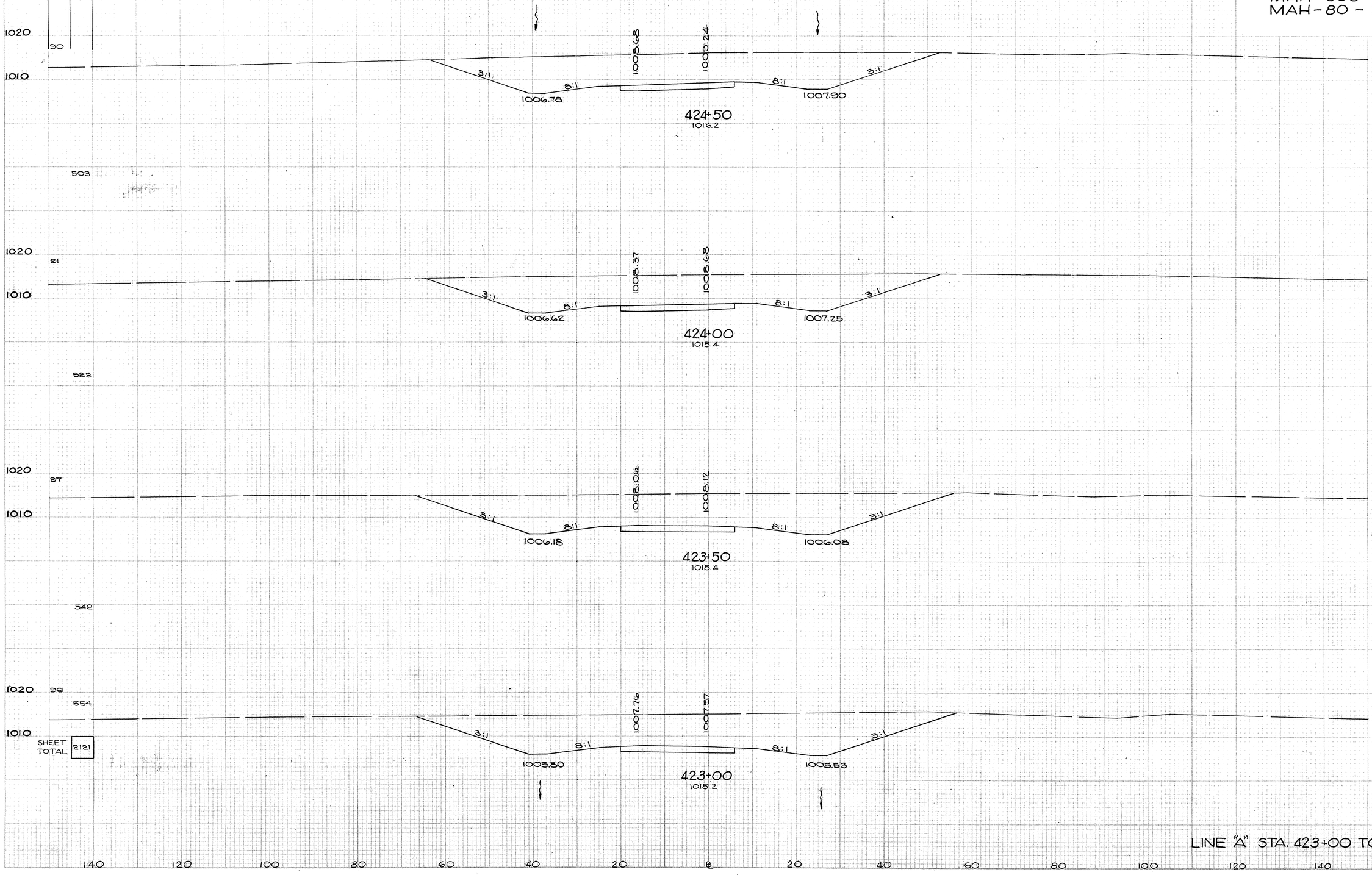
140 120 100 80 60 40 20 ℄ 20 40 60 80 100 110 120 140

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

129
384

MAH-80S-7.01
MAH-80 - 2.30

SEEDING	
END WIDTH	SQ. YDS.
90	503
91	522
97	542
98	554



SHEET TOTAL 2121

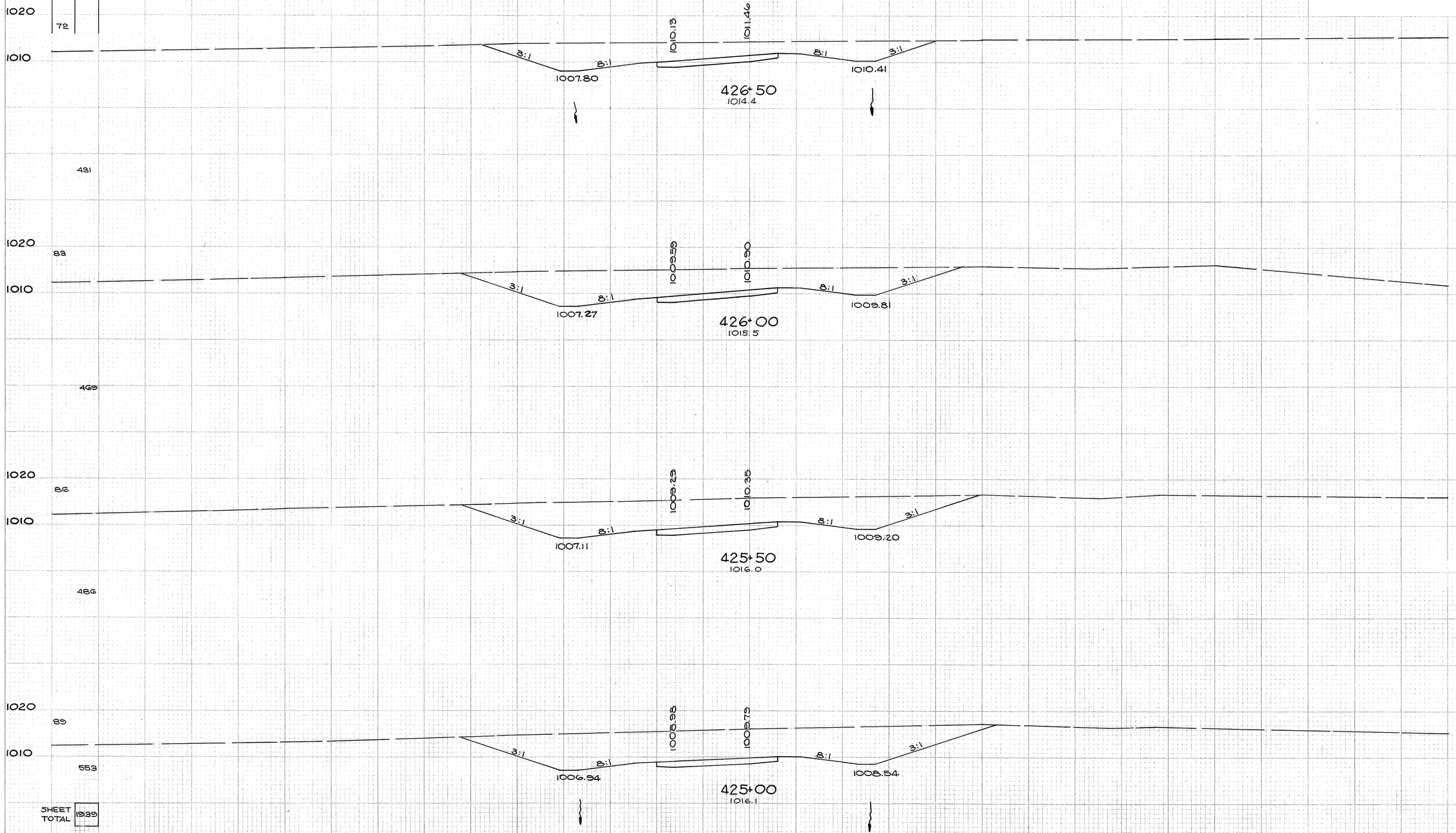
END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
757	0		
		1809	0
756	0		
		1457	0
817	0		
		1562	0
870	0		
		1661	0
SHEET TOTALS		5989	0

LINE "A" STA. 423+00 TO STA 424+50

FED. RD. DIVISION	STATE	PROJECT		130
2	OHIO			384

MAH – 80S – 7.01
MAH – 80 – 2.30

SEEDING	
END WIDTH	SQ. YDS.
72	431
83	469
86	486
89	553



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
402	0		
		910	0
58	0		
		1127	0
637	0		
		1255	0
718	0		
		1366	0
SHEET TOTALS		4658	0

SHEET TOTAL 1939

LINE "A" STA. 425+00 TO STA. 426+50

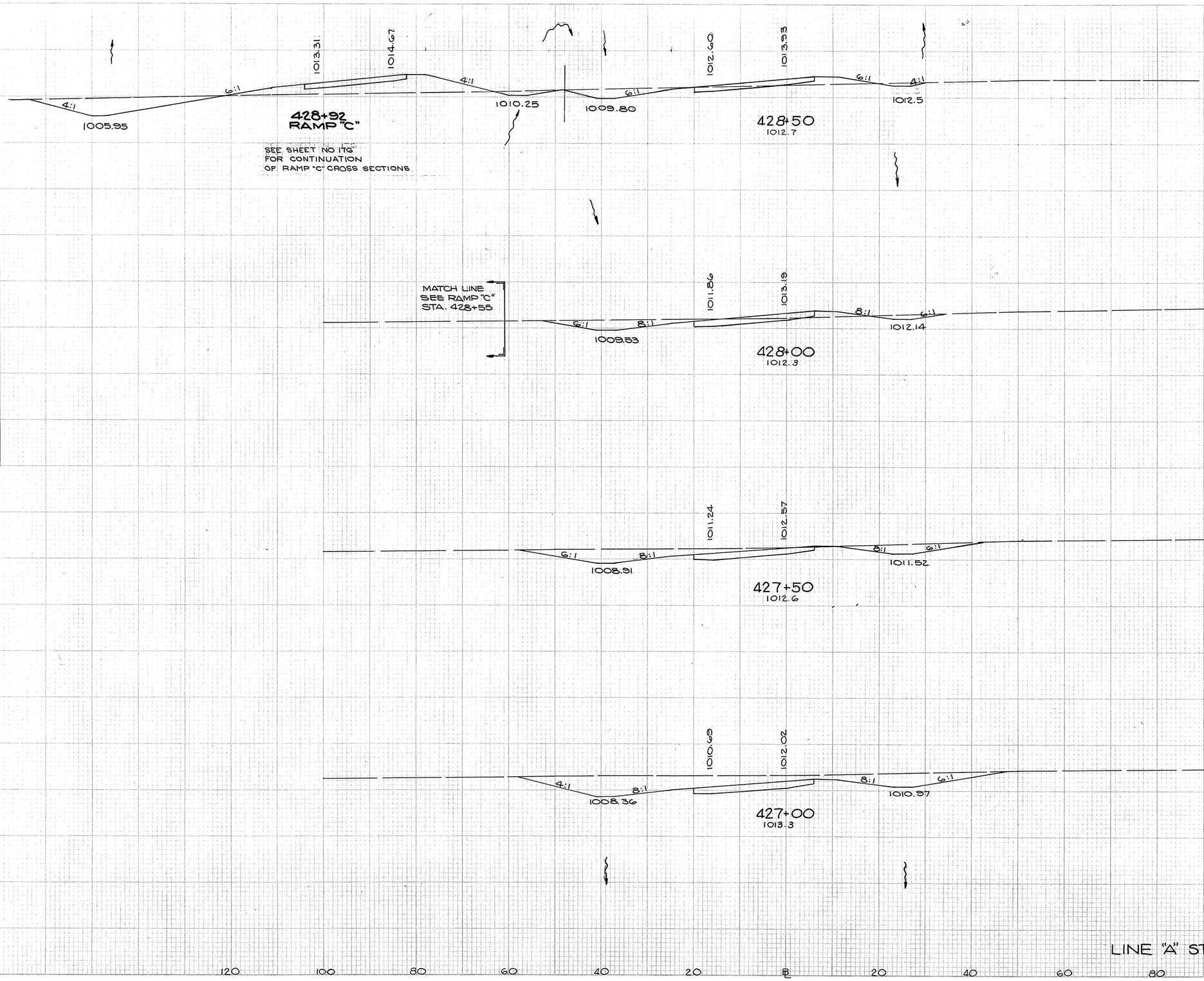
140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

131
384

MAH - 80 S - 7.01
MAH - 80 - 2.30

SEEDING		
	END WIDTH	SQ YDS.
1010	146	
1000		578
1010	62	
1000		381
1010	75	
1000		431
1010	80	422
1000		
SHEET TOTAL		1812



	END AREA		CU. YDS.	
	CUT	FILL	CUT	FILL
AHD	228	192		
BK.	122	68		
			235	90
	132	89		
			308	27
	200	0		
			460	0
	297	0		
			647	0
SHEET TOTALS	1650	117		

LINE "A" STA. 427+00 TO STA. 428+50

120 100 80 60 40 20 ℄ 20 40 60 80 100

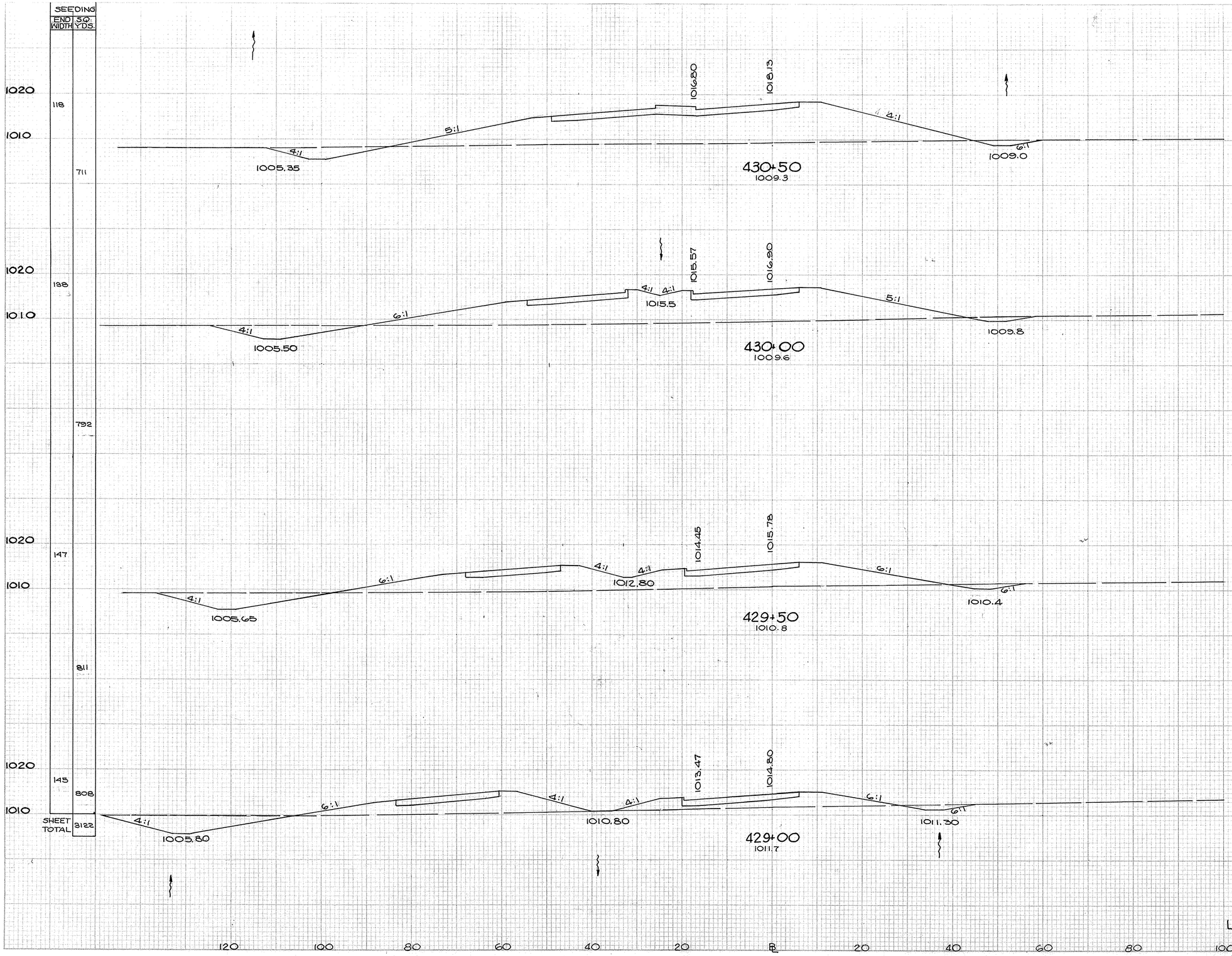
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

132
384

MAH-80S-7.01
MAH-80 - 2.30

SEEDING

	END WIDTH	SQ. YDS.
430+50	118	711
430+00	198	792
429+50	147	811
429+00	145	808
SHEET TOTAL		3122



	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
430+50	33	635		
			163	1228
430+00	88	625		
			153	1018
429+50	82	474		
			228	722
429+00	164	305		
			363	460
SHEET TOTALS			907	3423

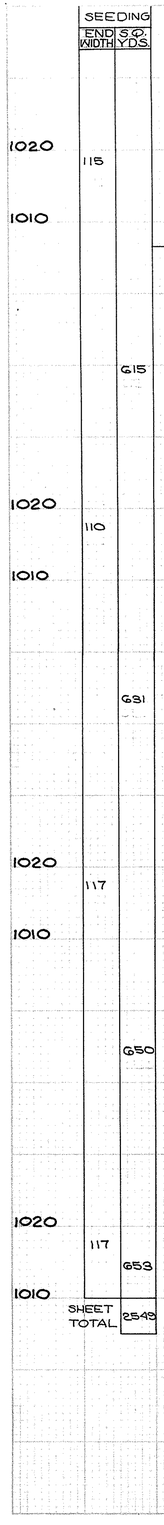
LINE "A" STA. 429+00 TO STA. 430+50

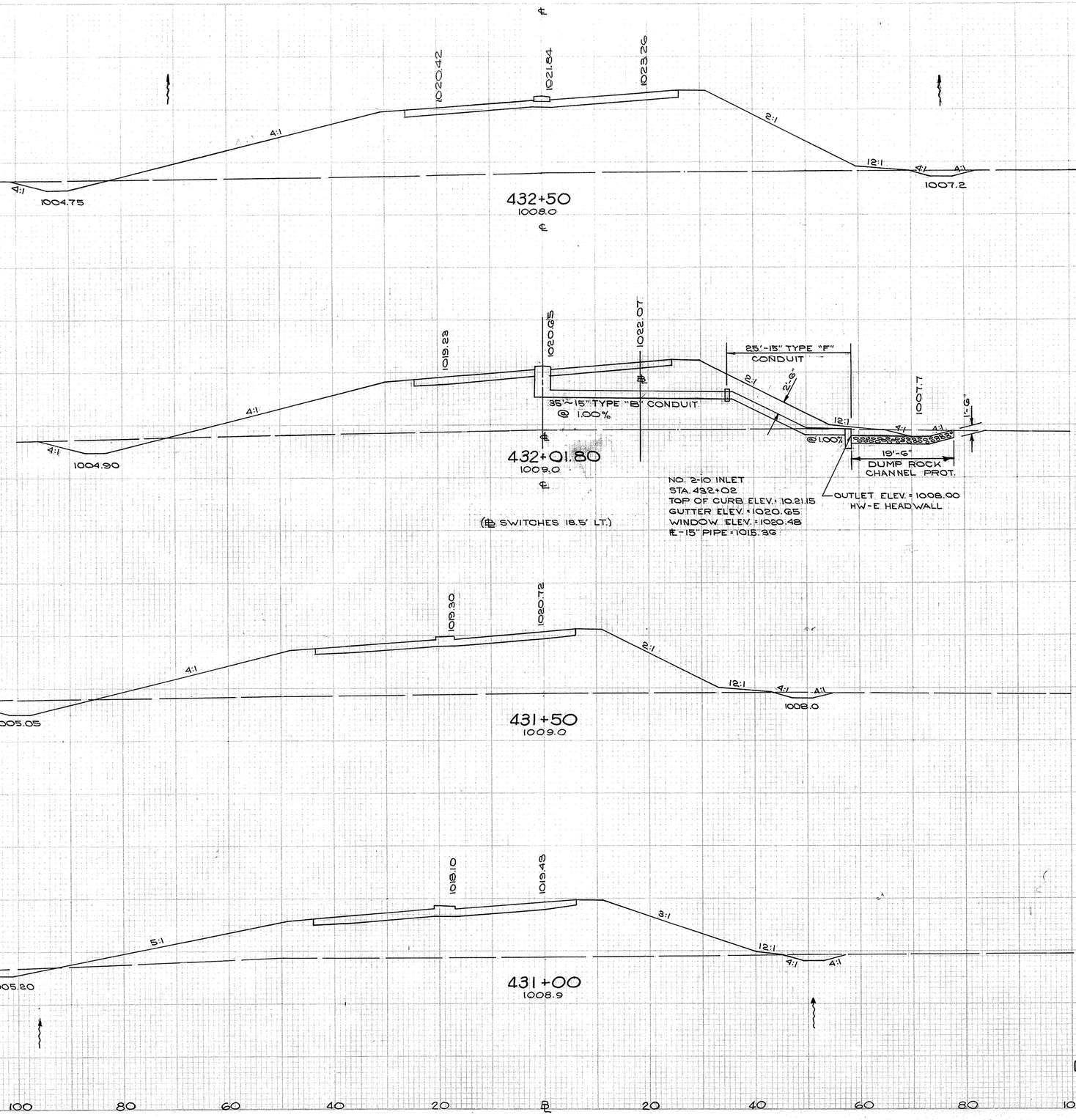
120 100 80 60 40 20 ℄ 20 40 60 80 100 120

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

133
384

MAH-80S-7.01
MAH-80-2.30





	END AREA		CU. YDS.	
	CUT	FILL	CUT	FILL
	38	1376		
			84	2235
	53	1038		
			99	1772
	54	676		
			100	1584
	54	835		
			136	1417
SHEET TOTALS			419	7008

LINE "A" STA. 431+00 TO STA. 432+50

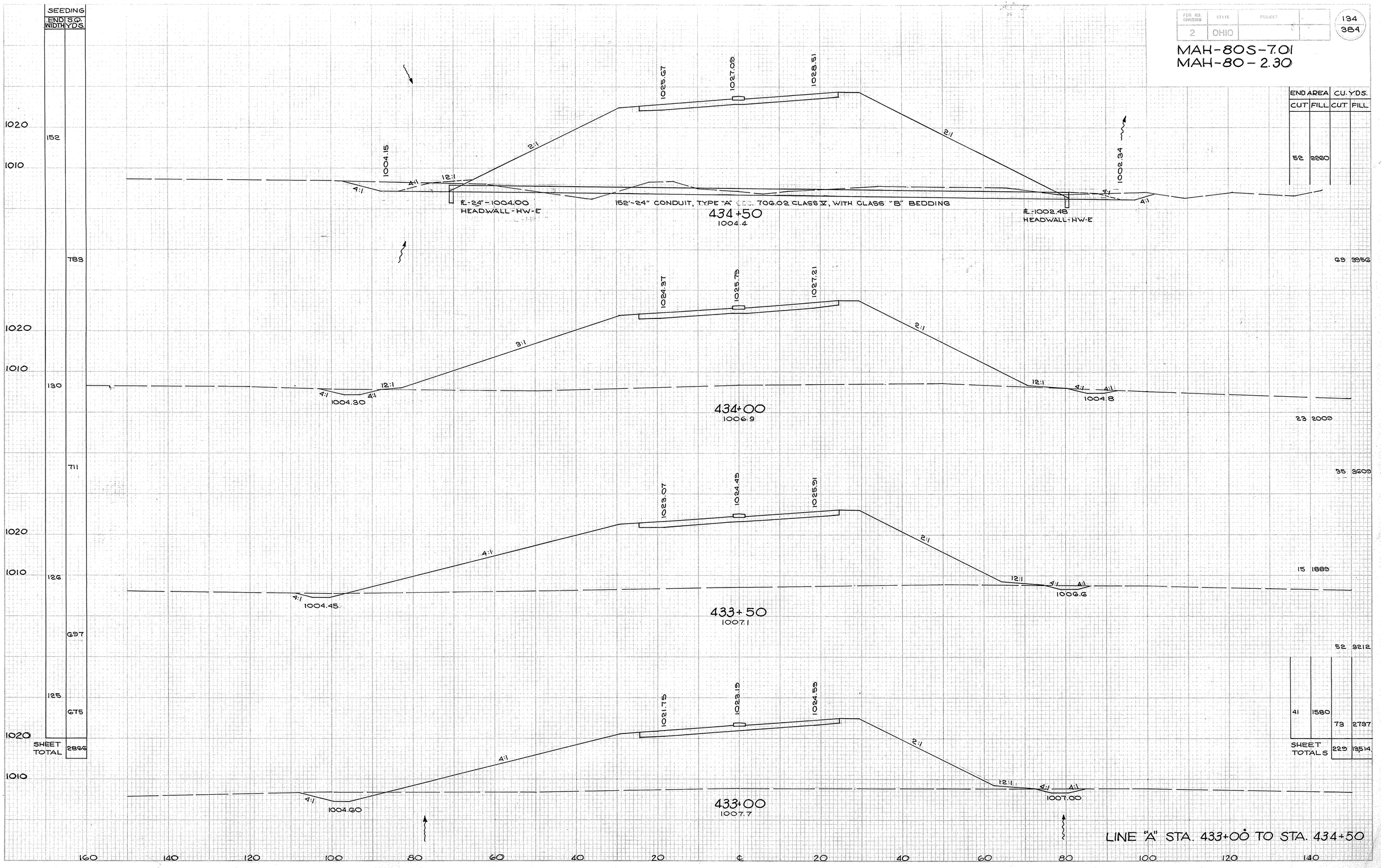
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

134
384

MAH-80S-7.01
MAH-80-2.30

SEEDING END WIDTH	SEEDING SQ. YDS.
152	
	788
130	
	711
126	
	697
125	
	675
SHEET TOTAL	2896

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
52	2260		
		69	3956
		23	2009
		35	3209
		15	1889
		52	3212
41	1580		
		73	2797
SHEET TOTALS		229	18514



LINE "A" STA. 433+00 TO STA. 434+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

135
384

MAH-80S-7.01
MAH-80 – 2.30

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
42	2630		

SEEDING

END WIDTH	SQ YDS
150	

1020
1010

1031.28 1032.28 1033.24
2:1 2:1
12:1 12:1
4:1 4:1 4:1 4:1
1007.8 1006.0

436+50
1007.3

917

58 4885

1020
1010

180

1029.73 1030.98 1032.23
2:1 2:1
12:1
4:1 4:1
1007.5

436+00
1006.9

FILL POND

12:1 4:1 4:1
999.2

981

20 2646

1028.68 1029.68 1031.10
2:1 2:1
12:1 12:1
4:1 4:1 4:1 4:1
1006.9 1000.1

435+50
1006.1

163 4871

1020
1010

173

15G 2615

936

1026.96 1028.38 1029.80
2:1 2:1
12:1 12:1
4:1 4:1 4:1 4:1
1005.5 1001.3

435+00
1004.0

233 4792

1020
1010

164

878

102 2560 21G 4463

SHEET TOTAL 8712

SHEET TOTALS 67G 12011

160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

LINE "A" STA. 435+00 TO STA. 436+50

FED. RD. DIVISION	STATE	PROJECT		136
2	OHIO			384

MAH-80S-7.01
MAH-80 – 2.30

00 EARTHWORK SECTION
STA. 438+75

SEEDING	
END WIDTH	SQ. YDS.
105	
	328
131	
	742
136	
	742
131	
781	
SHEET TOTAL	2593

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
0	2720		
			12 5041
			13 2724
			26 5140
			15 2827
		35	5145
22	2730	60	4563
SHEET TOTALS		139	20289

438+25
1009.6
CROSS-SECTION SKEWED PARALLEL WITH T.P.

1034.83 1035.10 1035.23
2:1 2:1
1020 1010

438+00
1009.6
CROSS-SECTION SKEWED PARALLEL WITH T.P.

1034.64 1034.91 1035.17
2:1 2:1
4:1 4:1 12:1
1008.7
1020 1010

437+50
1008.7

1033.80 1034.31 1034.82
2:1 2:1
4:1 4:1 12:1
1000
1020 1010

437+00
1008.2

1032.68 1033.43 1034.18
2:1 2:1
4:1 4:1 12:1
1008.0
1020 1010

LINE "A" STA. 437+00 TO STA. 438+25

160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

SEEDING	
END WIDTH	SQ. YDS.
	345

1020

1010

1033.15

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

137
384

MAH-80S-7.01
MAH-80 - 2.30

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
		4	2667

440+73
1007.8
00 EARTHWORK SECTION

1034.47

1020

1010

440+00
1008.5

1035.25

1020

1010

439+00
1007.7

1035.27

1020

1010

	392
SHEET TOTAL	737

438+75
1003.2
00 EARTHWORK SECTION

	0	2619
SHEET TOTALS	4	5186

160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

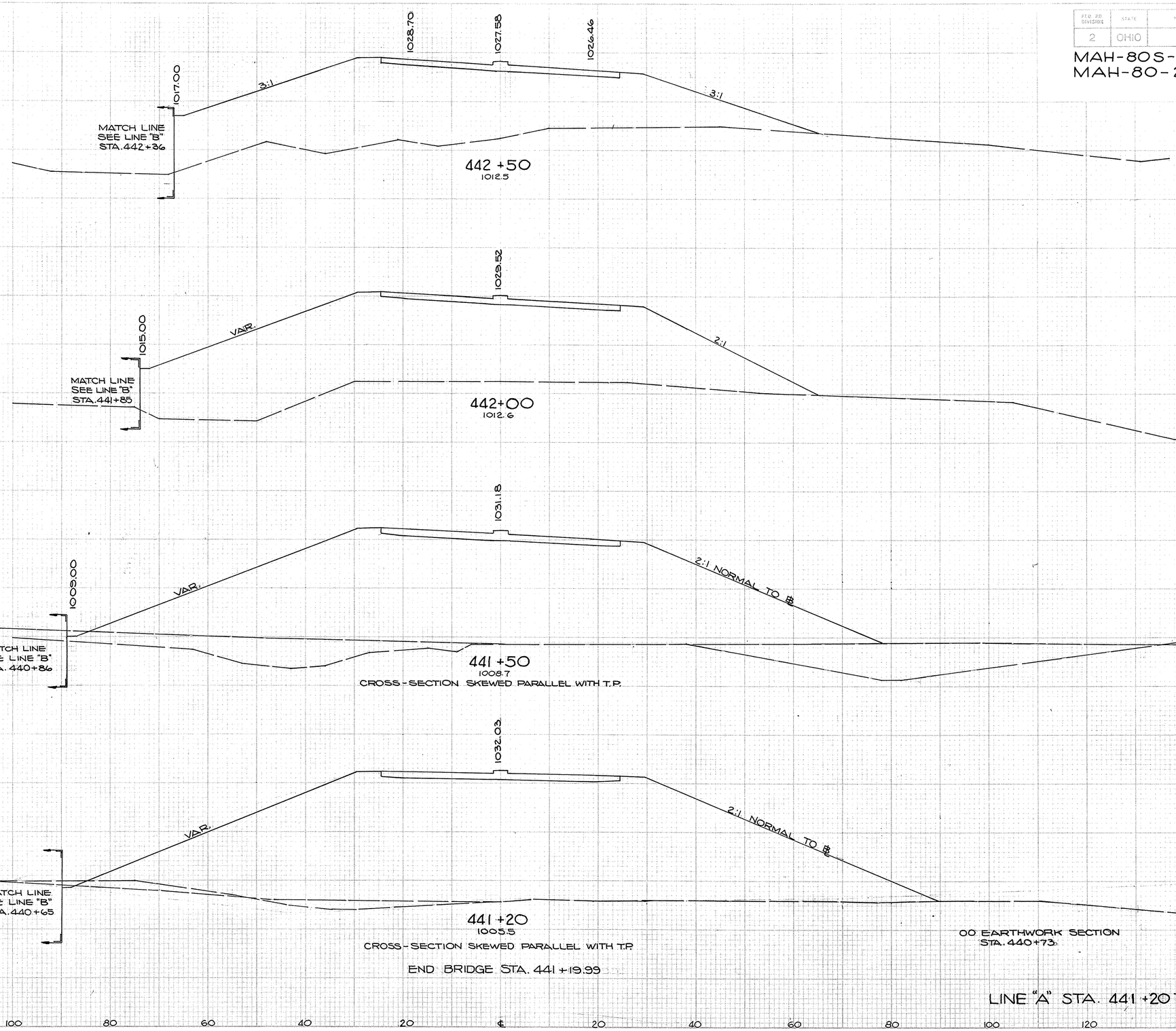
LINE "A" STA. 438+75 TO STA. 440+73

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

138
384

MAH-80S-7.01
MAH-80-2.30

SEEDING	
END WIDTH	SQ. YDS.
85	492
92	589
120	420
182	1501
SHEET TOTAL	



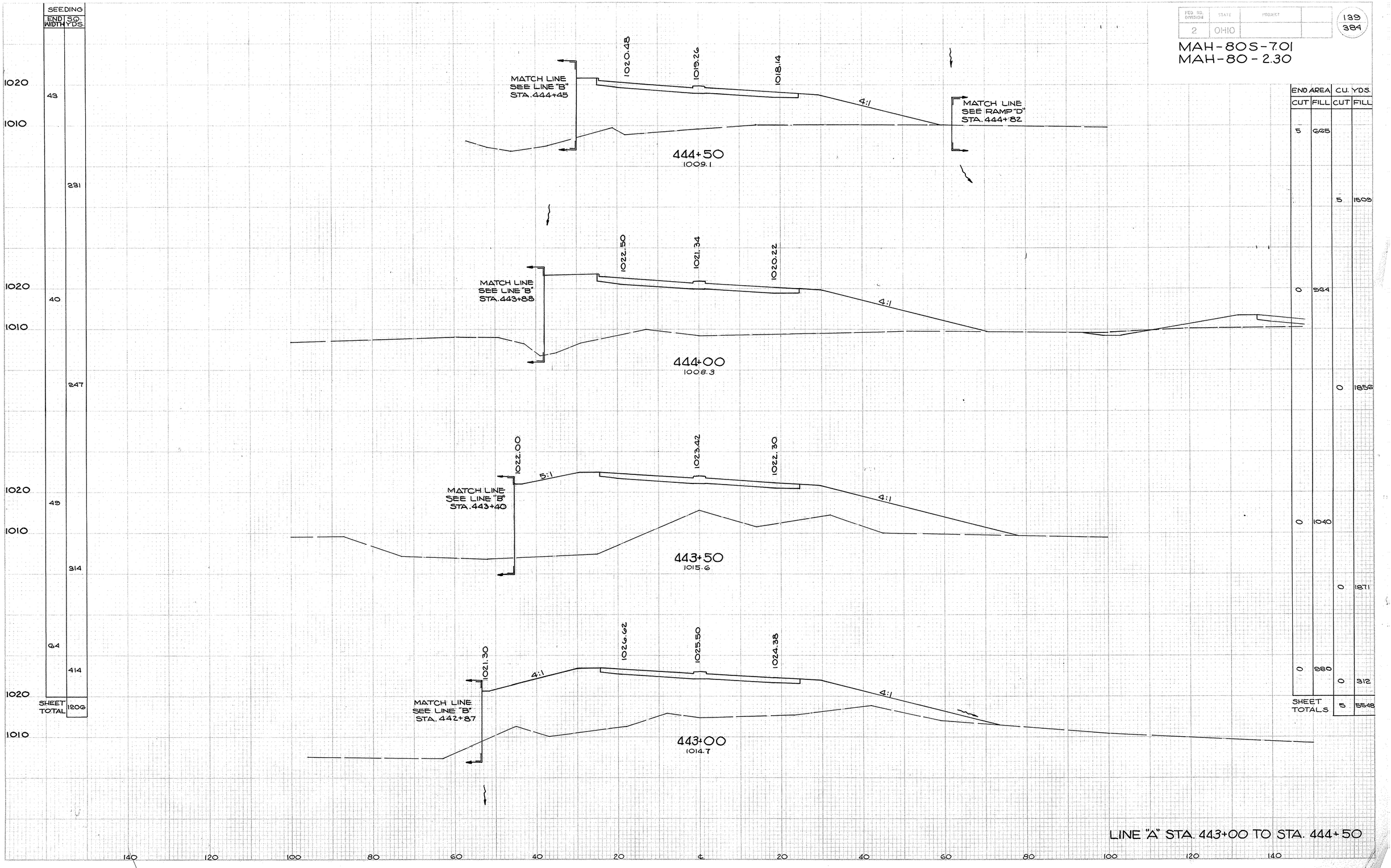
END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
0	1320		
		0	2349
0	1864		
		10	4008
10	2465		
		3	3097
5	3110		
SHEET TOTALS		13	10054

LINE "A" STA. 441+20 TO STA. 442+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

139
384

MAH-80S-7.01
MAH-80-2.30



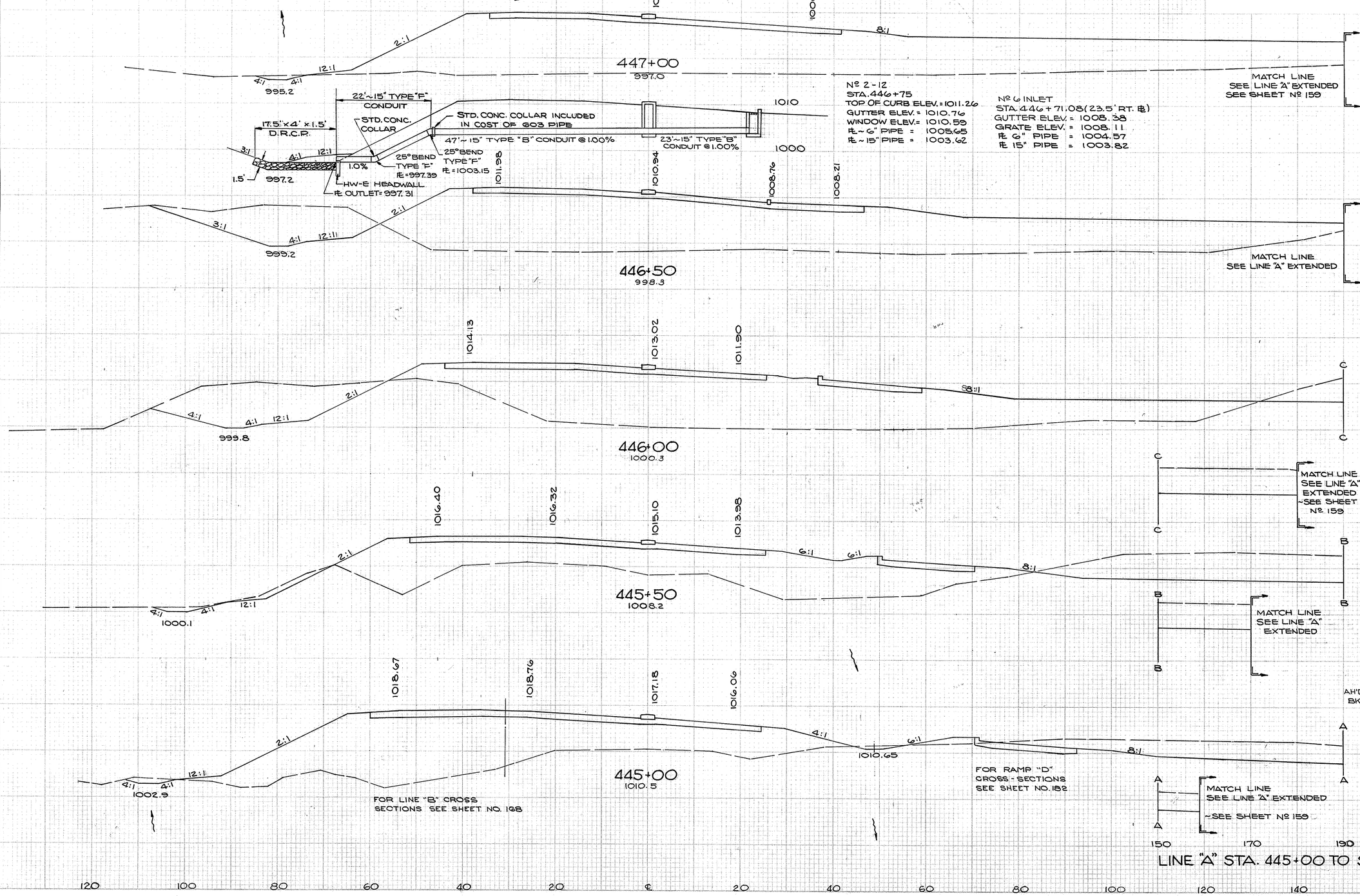
LINE "A" STA. 443+00 TO STA. 444+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

140
384

MAH-80S-7.01
MAH-80 - 2.30

SEEDING		
	END WIDTH	SQ. YDS.
447+00	161	958
446+50	184	972
446+00	166	908
445+50	161	889
445+00	159	561
SHEET TOTAL		4288



Nº 2-12
STA. 446+75
TOP OF CURB ELEV. = 1011.26
GUTTER ELEV. = 1010.76
WINDOW ELEV. = 1010.55
℄~6" PIPE = 1005.65
℄~15" PIPE = 1003.62

Nº 6 INLET
STA. 446+71.08 (23.5' RT. ℄)
GUTTER ELEV. = 1008.38
GRATE ELEV. = 1008.11
℄ 6" PIPE = 1004.57
℄ 15" PIPE = 1003.82

MATCH LINE SEE LINE "A" EXTENDED SEE SHEET Nº 159

MATCH LINE SEE LINE "A" EXTENDED

MATCH LINE SEE LINE "A" EXTENDED ~SEE SHEET Nº 159

MATCH LINE SEE LINE "A" EXTENDED

MATCH LINE SEE LINE "A" EXTENDED ~SEE SHEET Nº 159

FOR LINE "B" CROSS SECTIONS SEE SHEET NO. 168

FOR RAMP "D" CROSS-SECTIONS SEE SHEET NO. 182

	END AREA		CU. YDS.	
	CUT	FILL	CUT	FILL
	15	1897		
			278	3465
	285	1845		
			644	3070
	410	1470		
			776	2260
	428	970		
			703	1949
AH'D BK 4	332	1195		
	429			
SHEET TOTALS			2401	10,744

LINE "A" STA. 445+00 TO STA. 447+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

141
384

MAH-80S-7.01
MAH-80-2.30

SEEDING

END WIDTH	S.Q. YDS.
150	
165	897
158	886
SHEET TOTAL	4480

1000
990

4:1 100% OHIO TURNPIKE PARTICIPATION LIMITS
990.30
STATE TURNPIKE
1002.93
449+50
994.5
100% OHIO TURNPIKE
8:1
PARTICIPATION LIMITS
MATCH LINE SEE LINE "A" EXTENDED SEE SHEET Nº 160

869
39'-15" CONDUIT TYPE "F"
1004.14
1003.92
1003.53
1003.20
ST'D. CONC. COLLAR
4:1
2'-6"
60'-15" CONDUIT TYPE "B" @ 1.0%
8:1
1.5'
@ 1.0%
15° BEND TYPE "F" ℄ = 991.53
ST'D. COLLAR INCLUDED IN COST OF 603 PIPE
15° BEND TYPE "F" ℄ = 997.93
HW-E HEADWALL ℄ ~ 991.41
449+00
998.2
Nº 2-14
STA. 448+98
TOP OF CURB ELEV. = 1004.03
GUTTER ELEV. = 1003.53
WINDOW ELEV. = 1003.35
℄ 6" PIPE = 999.28
℄ 15" PIPE = 998.53
BEGIN FUNDING SPLIT @ STA. 449+00 FOR EARTHWORK
MATCH LINE SEE LINE "A" EXTENDED

911
1005.01
1004.43
1003.68
3:1
8:1
4:1
992.00
448+50
994.6
MATCH LINE SEE LINE "A" EXTENDED SEE SHEET Nº 160

917
1006.38
1005.62
1004.50
MATCH LINE SEE LINE "A" EXTENDED
2:1
12:1
8:1
4:1
4:1
992.40
448+00
996.2

1008.06
1007.11
1005.35
MATCH LINE SEE LINE "A" EXTENDED SEE SHEET Nº 159
2:1
12:1
8:1
994.70
447+50
997.0

	END AREA CUT	END AREA FILL	CU. YDS CUT	CU. YDS FILL
(O.T.	14	271)		
	0	980		
(O.T.			25	517)
			0	1519
(O.T. AND	12	287)		
BK	0	660		
	0	947		
			86	1580
	93	992		
			315	2030
	247	1200		
			245	2489
	17	1481		
			30	3128
SHEET TOTALS			676	10690
(OHIO T.			25	517)

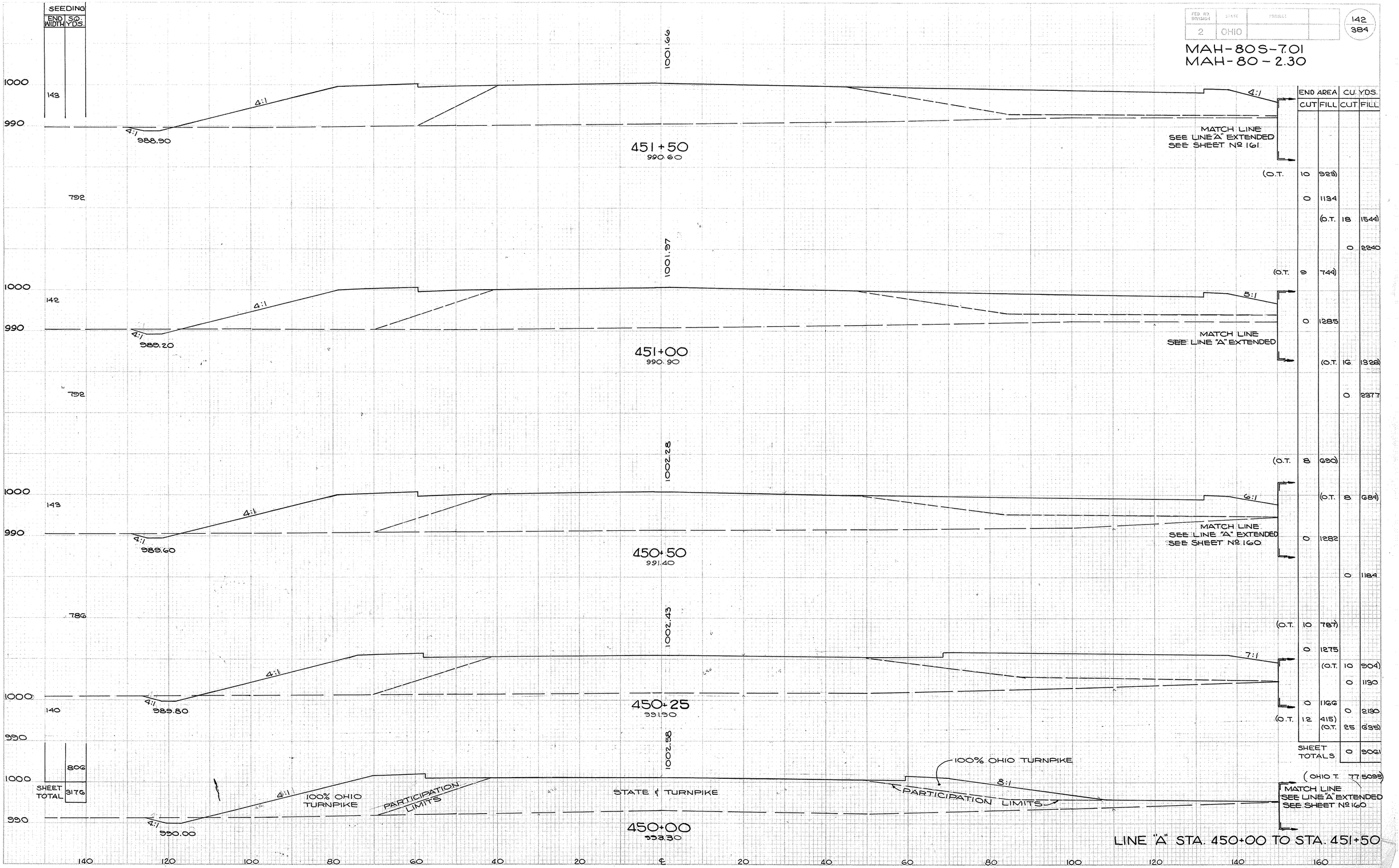
LINE "A" STA. 447+50 TO STA. 449+50

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

142
384

MAH-80S-7.01
MAH-80-2.30



	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
(O.T.	10	923)		
	0	1134		
		(O.T.	18	1544)
			0	2240
(O.T.	9	744)		
	0	1285		
		(O.T.	16	1328)
			0	2377
(O.T.	8	680)		
		(O.T.	8	684)
	0	1282		
			0	1184
(O.T.	10	787)		
	0	1275		
		(O.T.	10	904)
			0	1130
	0	1166	0	2180
(O.T.	12	415)		
		(O.T.	25	635)
SHEET TOTALS			0	9061

LINE "A" STA. 450+00 TO STA. 451+50

FED. RD DIVISION	STATE	PROJECT	
2	OHIO		

143
384

MAH-80S-7.01
MAH-80-2.30

SEEDING	
END WIDTH	SQ. YDS.
58	322
63	572
143	792
142	792
SHEET TOTAL	2478

1000.43

1000
990
4:1
4:1
987.60
3:1
453+50
988.5

1000.74

1000
990
4:1
4:1
987.80
4:1
453+00
989.6

1001.05

1000
990
4:1
4:1
988.00
4:1
452+50
989.9

1001.35

1000
990
4:1
4:1
988.40
100% OHIO TURNPIKE
PARTICIPATION LIMITS
STATE & TURNPIKE
PARTICIPATION LIMITS
100% OHIO TURNPIKE
4:1
452+00
990.0

MATCH LINE
SEE CH. RELOCATION
STA. 20+50

MATCH LINE
SEE LINE "A" EXTENDED
SEE SHEET Nº 161

MATCH LINE
SEE LINE "A" EXTENDED
SEE SHEET Nº 161

MATCH LINE
SEE LINE "A" EXTENDED

	END AREA		CU. YDS.	
	CUT	FILL	CUT	FILL
	0	1002		
(O.T.	15	844)		
(O.T.	25	1808)		
	0	1822		
(O.T.	12	1108)		
	0	965		
(O.T.	19	2010)		
	0	1849		
(O.T.	9	1028)		
	0	1025		
(O.T.	17	1914)		
	0	1936		
(O.T.	9	998)		
	0	1065		
(O.T.	18	1779)		
	0	2037		
SHEET TOTALS	0	7638		
(OHIO T.	79	7517)		

LINE "A" STA. 452+00 TO STA. 453+50

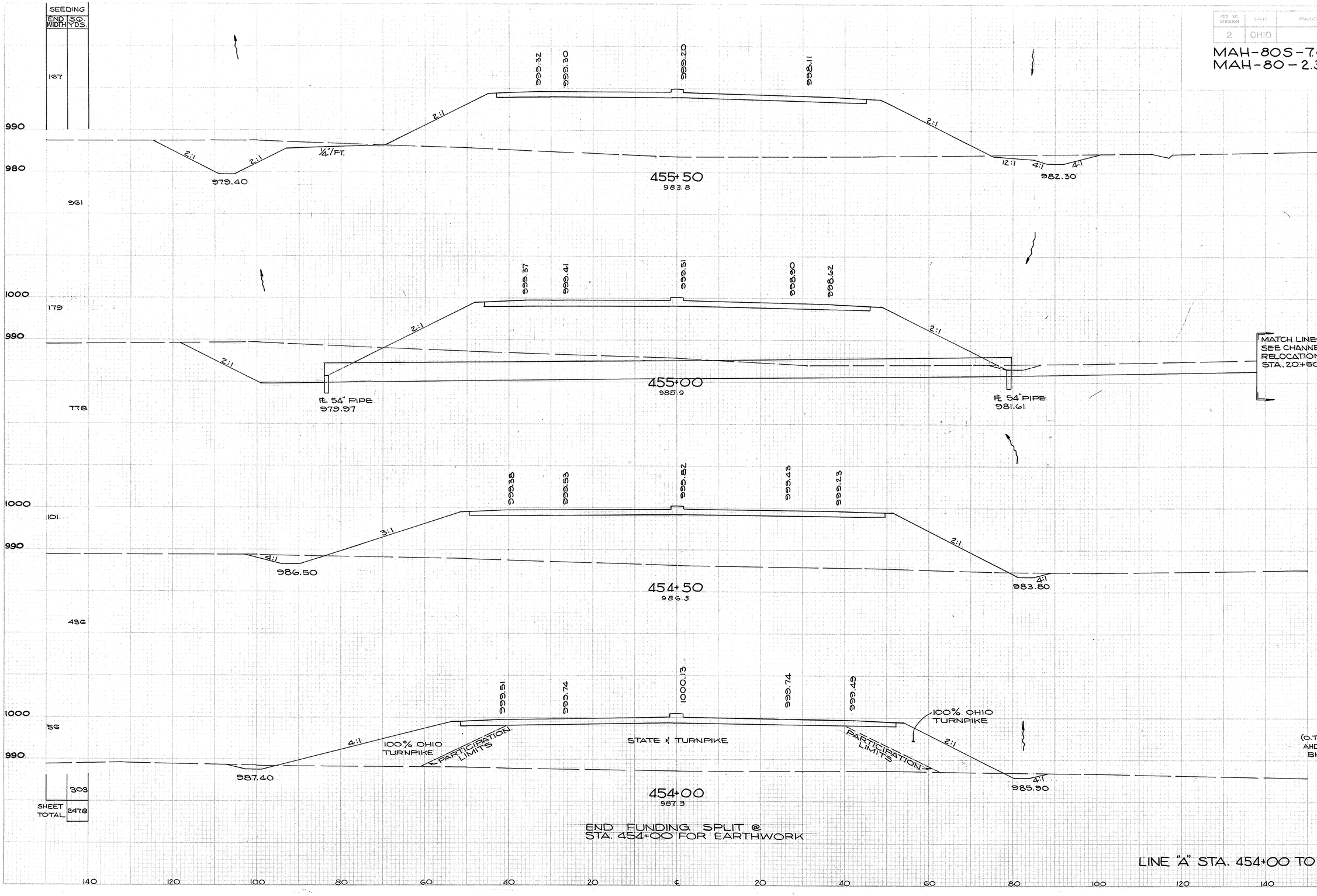
140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

144
384

MAH-80S-7.01
MAH-80-2.30

SEEDING	
END WIDTH	SQ. YDS.
167	
961	
179	
778	
436	
101	
56	
303	
SHEET TOTAL	2478



	END AREA		CU. YDS.	
	CUT	FILL	CUT	FILL
	217	1425		
			688	2500
	526	1275		
			513	2274
	28	1181		
			27	1094
(O.T.	17	449)		
AHD.	0	1080		
BK.	0	1529		
			(O.T. 30	1198)
			0	2324
SHEET TOTALS			1228	8192
(OHIO T.			30	1198)

END FUNDING SPLIT @
STA. 454+00 FOR EARTHWORK

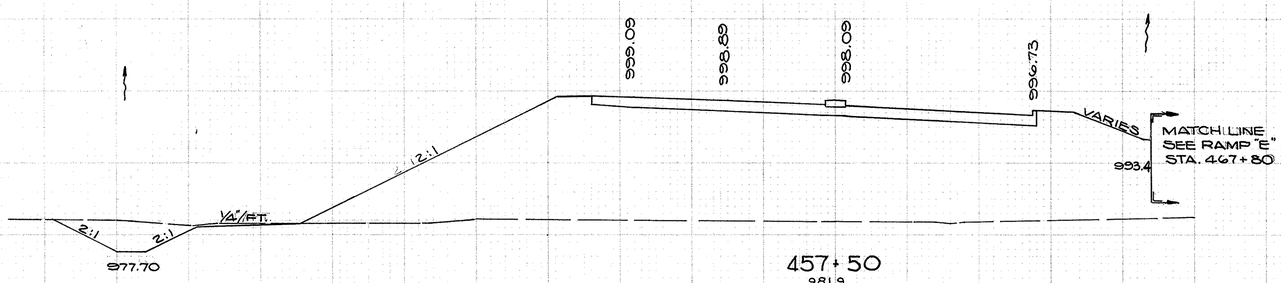
LINE "A" STA. 454+00 TO STA. 455+50

FED. RD DIVISION	STATE	PROJECT	
2	OHIO		

145
384

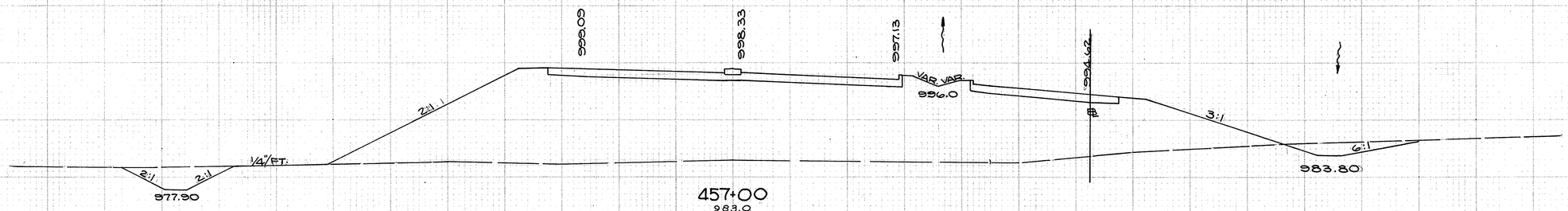
MAH-80 S-7.01
MAH-80 – 2.30

SEEDING	
END WIDTH	SQ. YDS.
91	614
130	717
128	728
134	836
SHEET TOTAL	2895

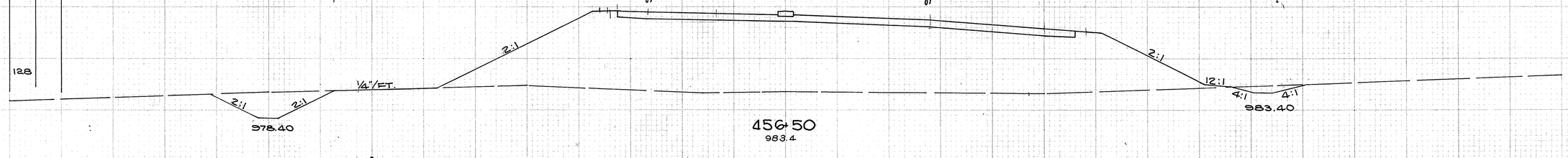


457+50
981.9

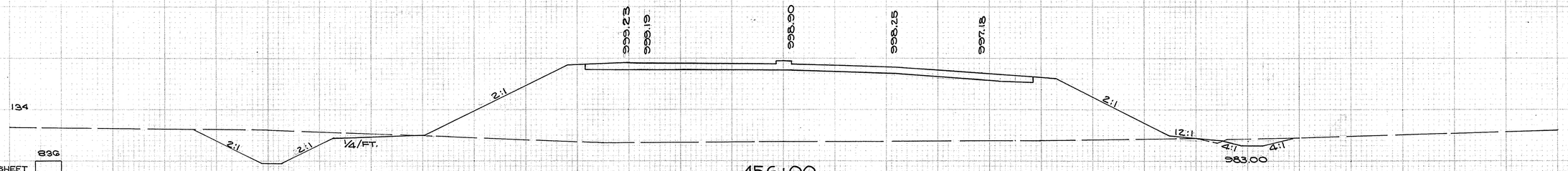
FOR CROSS-SECTIONS OF RAMP "E" SEE SHEET NO. 184



457+00
983.0



456+50
983.4



456+00
983.8

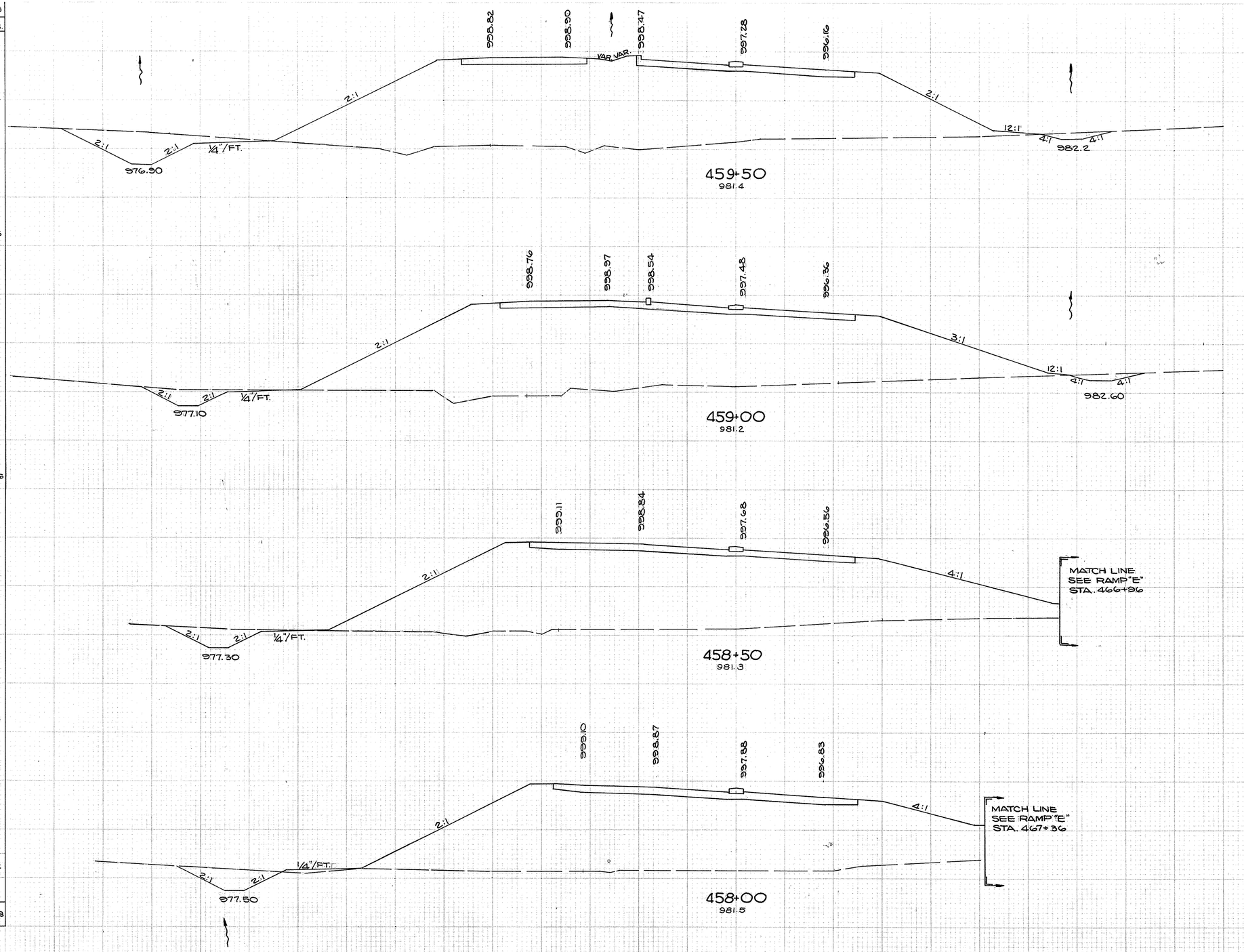
END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
73	1564		
		119	2705
A.H'D. 55	1960		
BK. 87	1894		
		182	3305
110	1675		
		259	3007
170	1572		
		359	2775
SHEET TOTALS		919	11792

LINE "A" STA. 456+00 TO STA. 457+50

FED. RD. DIVISION	STATE	PROJECT		146
2	OHIO			384

MAH-80S-7.01
MAH-80-2.30

SEEDING END WIDTH	SEEDING SQ. YDS.
137	736
128	686
119	619
104	542
SHEET TOTAL	2588

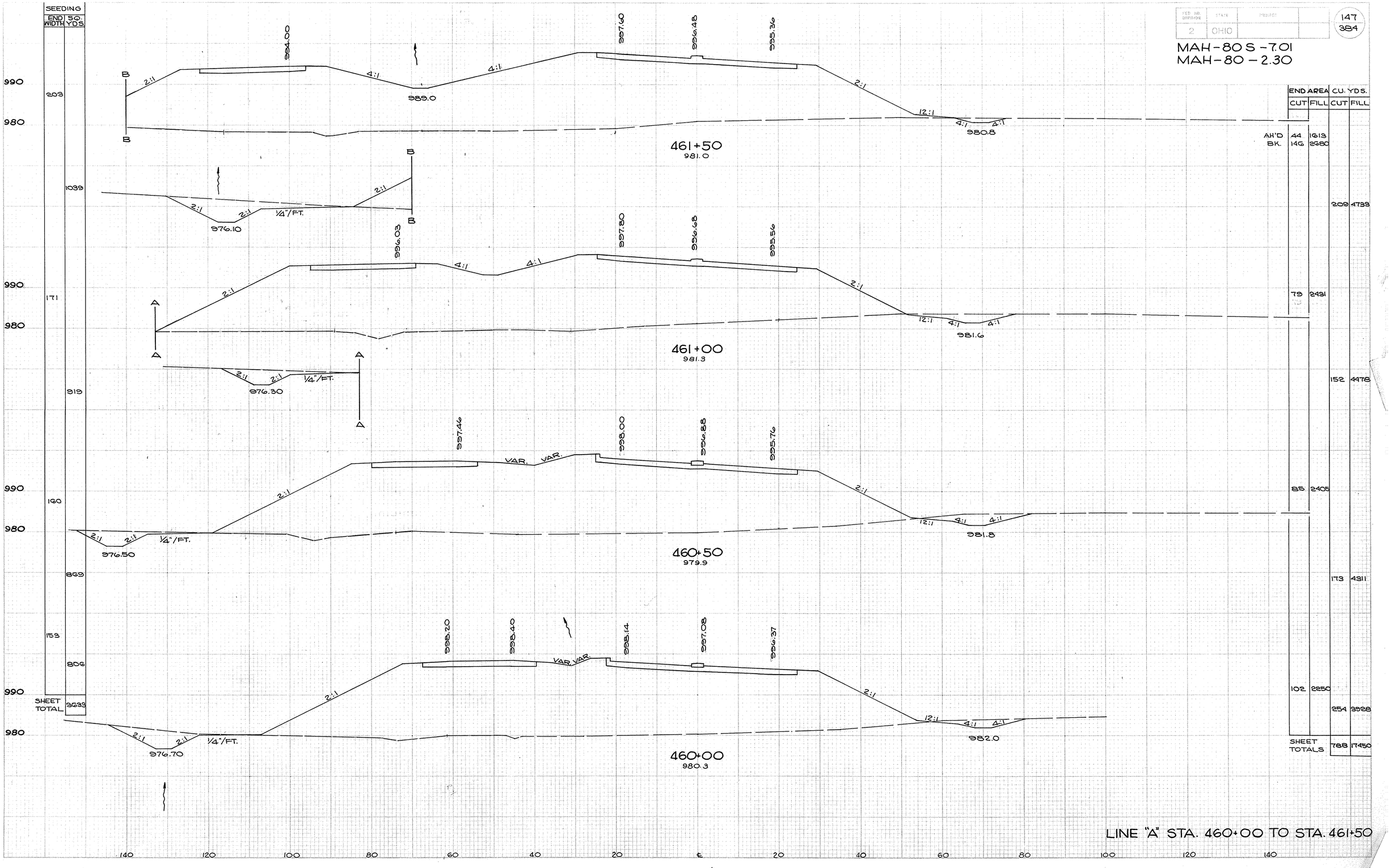


END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
172	1992		
		233	3578
79	1872		
		135	3428
66	1830		
		131	3226
75	1654		
		137	2980
SHEET TOTALS		636	13,212

LINE "A" STA. 458+00 TO STA. 459+50

FED. HIGHWAY DIVISION	STATE	PROJECT		SHEET	TOTAL SHEETS
2	OHIO			147	384

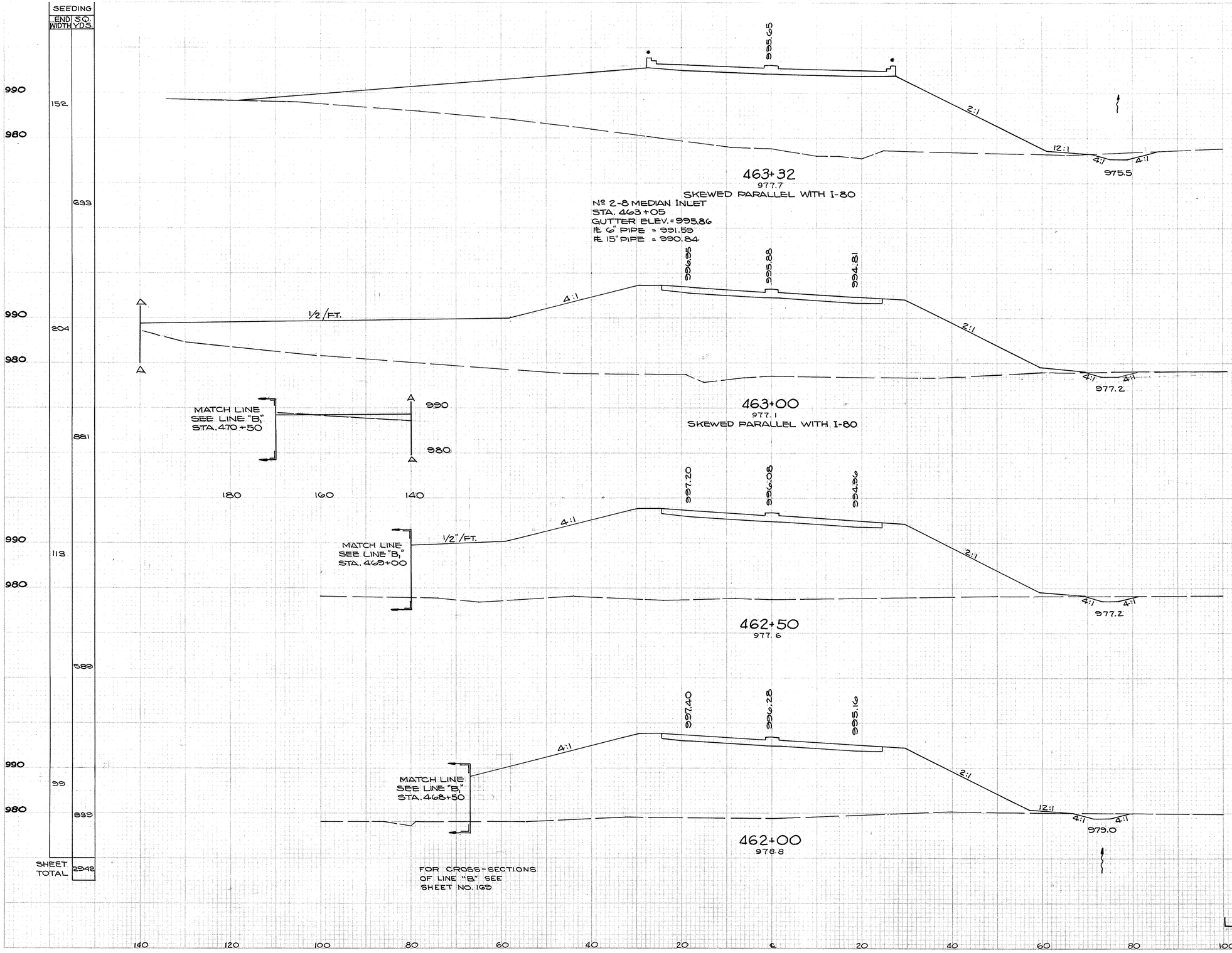
MAH-80 S -7.01
MAH-80 -2.30



LINE "A" STA. 460+00 TO STA. 461+50

FED. RD. DIVISION	STATE	PROJECT		148
2	OHIO			384

MAH-80S-7.01
MAH-80-2.30



SEEDING END WIDTH	SEEDING SQ. YDS.
152	
	693
204	
	881
113	
	589
99	
	839
SHEET TOTAL	2942

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
45	4058		
		38	3672
19	2188		
		35	3912
19	2087		
		96	3548
20	1745		
		154	4097
SHEET TOTALS		263	15230

LINE "A" STA. 462+00 TO STA. 463+32

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

MAH-80S-7.01
MAH-80-2.30

SEEDING	
END WIDTH	SQ. YDS.
SHEET TOTAL	

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
0	0	21	1671
SHEET TOTALS		21	1671

LINE "A" STA. 463+79 TO STA. 465+00

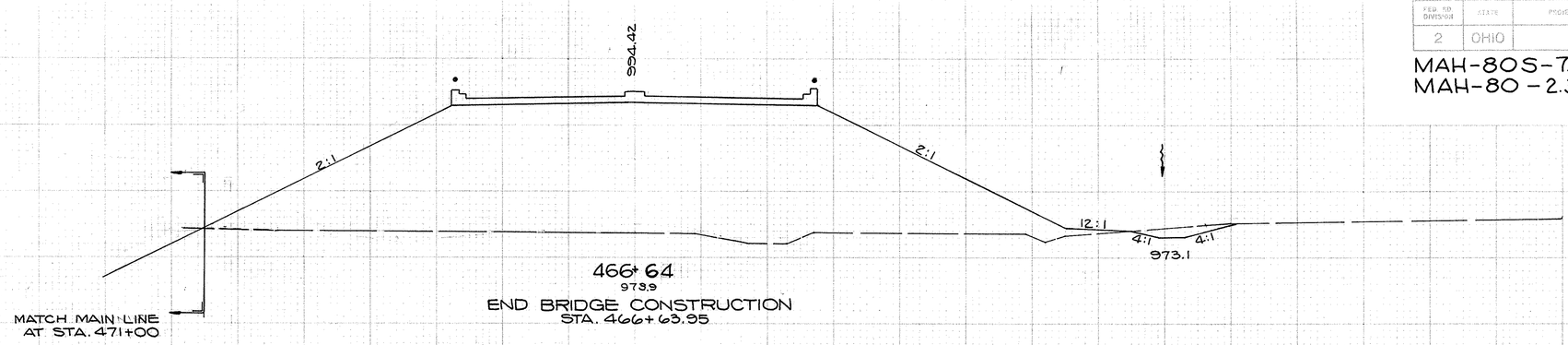
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

150
384

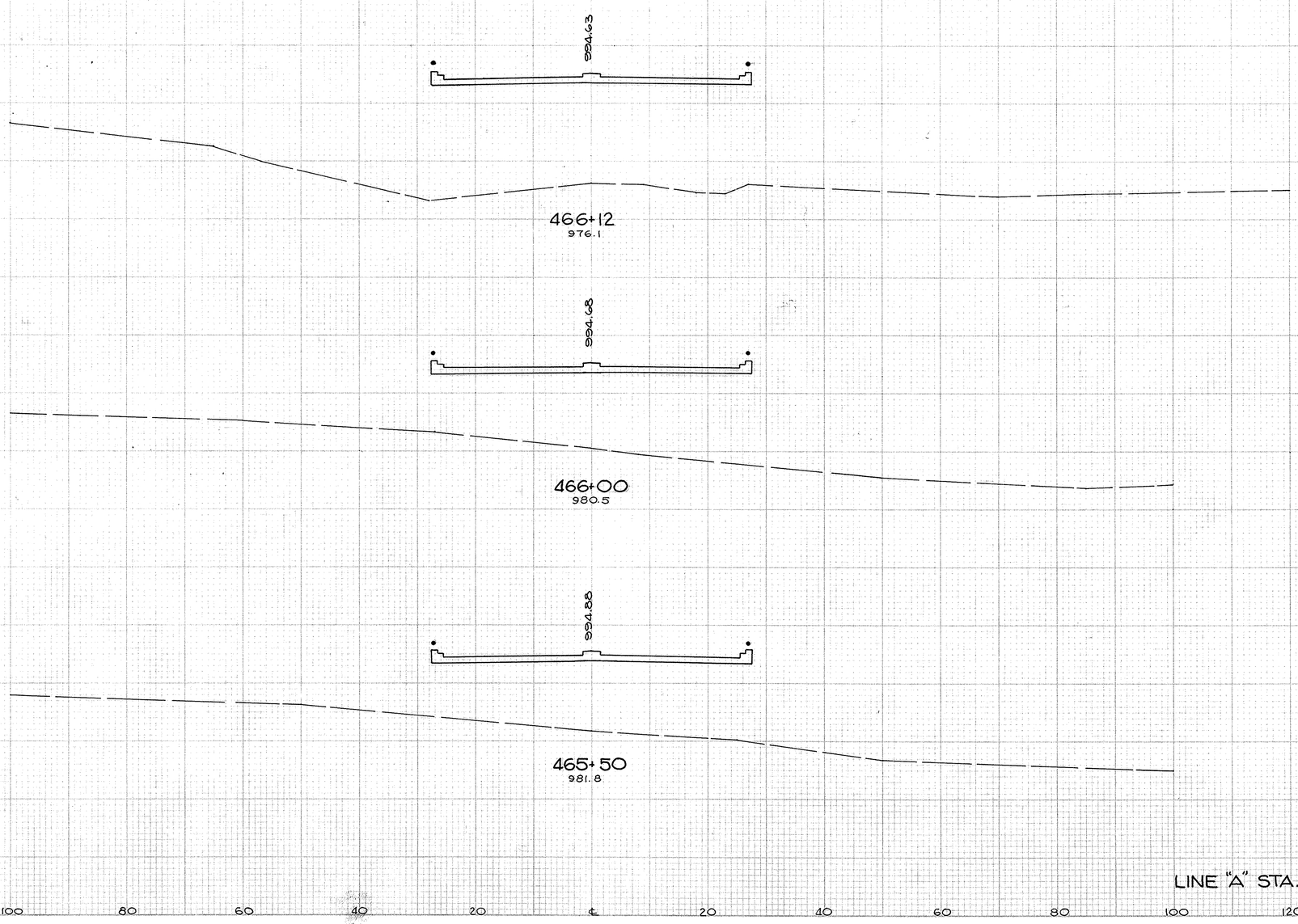
MAH-80S-7.01
MAH-80 - 2.30

SEEDING	
END WIDTH	SQ. YDS
108	

ZERO EARTHWORK
STA. 466+64



466+64
973.9
END BRIDGE CONSTRUCTION
STA. 466+63.95



466+12
976.1

466+00
980.5

465+50
981.8

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
16	1850		
		15	1782
0	0	0	0
SHEET TOTALS		15	1782

SHEET TOTAL

990
980
990
980
990
980
990
980

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

LINE "A" STA. 465+50 TO STA. 466+64

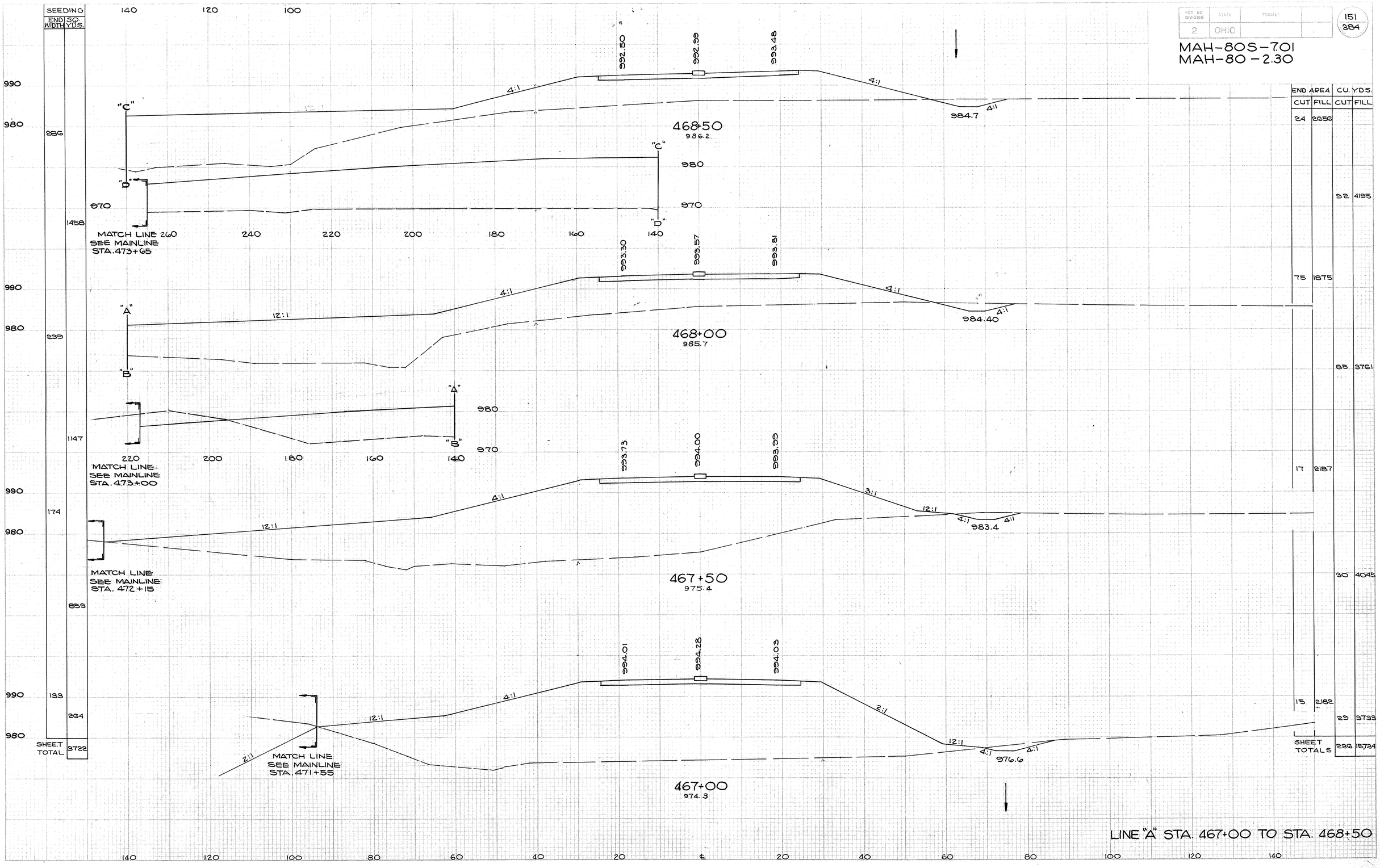
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

151
384

MAH-80S-7.01
MAH-80-2.30

SEEDING END WIDTH	SEEDING SQ. YDS.
286	
	1458
239	
	1147
174	
	859
133	
264	
SHEET TOTAL	9722

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
24	2656		
		92	4195
75	1875		
		85	3761
17	2187		
		80	4045
15	2182		
		29	3733
SHEET TOTALS		236	15734



FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

152
384

MAH-80 S-7.01
MAH-80-2.30

SEEDING		
	END WIDTH	SQ. YDS.
"G" – "H"	380	2133
"E" – "F"	378	2008
"C" – "D"	345	1867
"A" – "B"	327	1703
SHEET TOTAL		7711

	END AREA		CU. YDS.	
	CUT	FILL	CUT	FILL
	750	182		
			1265	511
AH'D GIG		370		
BK. SIG		370		
			550	1784
			84	1560
			95	3575
	18	2300		
			33	4589
SHEET TOTALS	1949	10459		

990
980

380 360 340 320 300 280 260 240 220 200 180 160 140

"G" "H"

6:1 8:1 985.18 987.68 989.10 990.52 6:1 48:1 2:1 2:1 "G" 979.85

470+50
986.3

980 970 "H"

MATCH LINE
SEE MAINLINE
STA. 475+27

990
980

380 360 340 320 300 280 260 240 220 200 180 160 140

"E" "F"

6:1 6:1 985.30 989.06 990.30 991.54 6:1 48:1 2:1 2:1 981.34 "E" 980.12

470+00
986.8

980 970 "F"

RELOCATED CHANNEL
STA. 15+60.15

MATCH LINE
SEE MAINLINE
STA. 475+00

990
980

360 340 320 300 280 260 240 220 200 180 160 140

"C" "D"

6:1 6:1 989.36 991.35 992.34 6:1 6:1 48:1

469+50
986.8

980 970 "C" "D"

FOR CROSS-SECTIONS AND QUANTITIES OF RELOCATED CHANNEL SEE SHEET Nº 228

RELOC. CHANNEL
STA. 15+03

BEGIN DITCH
℄ 986.00

FOR DETAILS OF CHANNEL RELOCATION SEE SHEET Nº 228

MATCH LINE
SEE MAINLINE
STA. 474+55

990
980

340 320 300 280 260 240 220 200 180 160 140

"A" "B"

5:1 4:1 4:1 985.00 991.16 992.26 992.39

469+00
985.8

980 970 "A" "B"

MATCH LINE
SEE MAINLINE
STA. 474+25

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

LINE "A" STA. 469+00 TO STA. 470+50

FED. AID DIVISION	STATE	PROJECT	
2	OHIO		

153
384

MAH-80S-7.01
MAH-80-2.30

SEEDING		
	END WIDTH	SQ. YDS.
990	76	
980		
		403
990	69	
980		
	1272	
		389
990		
980		
		2206
990		
	405	
980		
	2208	
SHEET TOTAL	6089	

MATCH LINE
CHANNEL RELOC
STA. 2+00

MATCH LINE
SEE MAINLINE
STA. 475+50

982.01 983.43 984.85
G:1 8:1 8:1 48:1 2:1 2:1
979.51
472+50
984.8
979.17

983.45 984.87 986.29
G:1 8:1 G:1 48:1 2:1 2:1
980.95
472+00
985.0
979.34 "C"
980
"D"
970

984.88 986.30 987.72
G:1 8:1 G:1 48:1 2:1 2:1
982.38
471+50
985.9
979.51
"A"
980
"B"
970

986.32 987.74 989.16
G:1 8:1 G:1 48:1 2:1 2:1
983.62
471+00
986.1
979.68

380 360 340 320 300 280 260 240 220 200 180 160 140
140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

	END AREA		CU. YDS.	
	CUT	FILL	CUT	FILL
500	8			
746	32			
305	26			
725	82			
478	62			
907	161			
501	112			
1159	272			
SHEET TOTALS	3537	647		

LINE "A" STA. 471+00 TO STA. 472+50

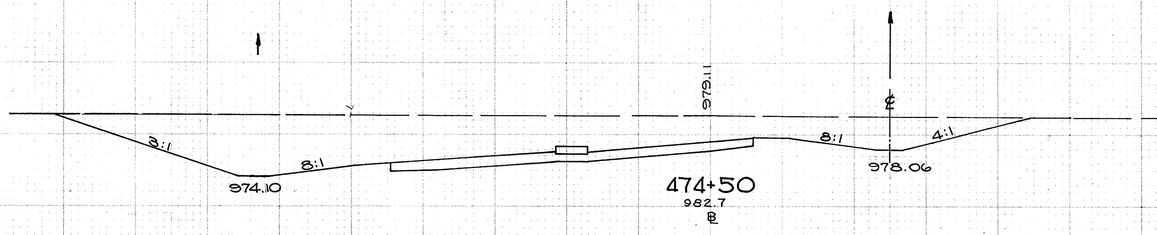
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

154
984

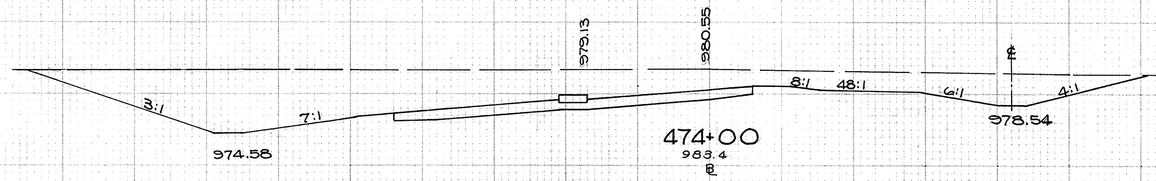
MAH-80S-7.01
MAH-80-2.30

SEEDING

	END WIDTH	SQ. YDS
990		
	87	
980		
		497
990		
	92	
980		
		914
990		
	93	
980		
		464
990		
	74	
980		
		417
SHEET TOTAL		2292

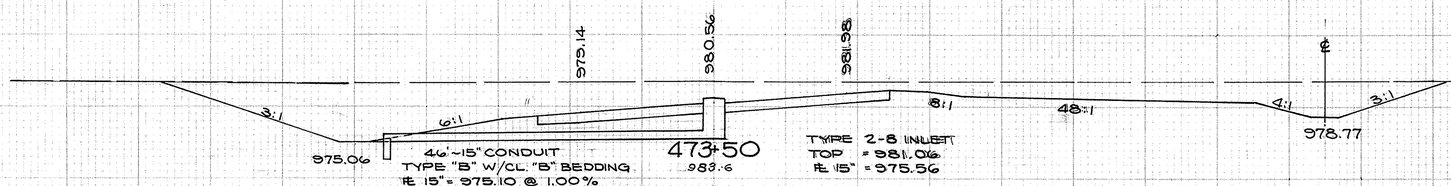


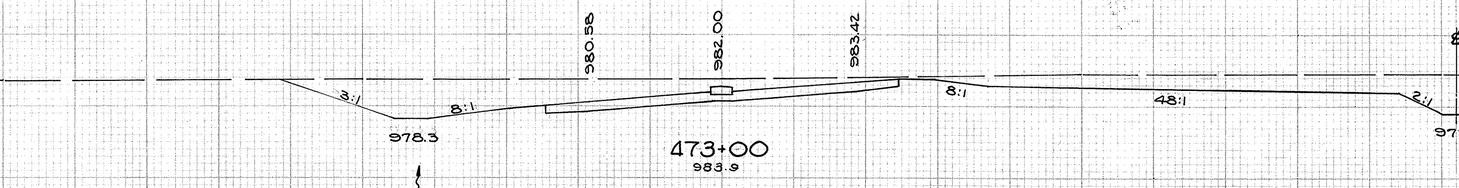
474+50
982.7
℄



474+00
983.4
℄

℄ SWITCHES 18.5' RT. STA. 473+53.63



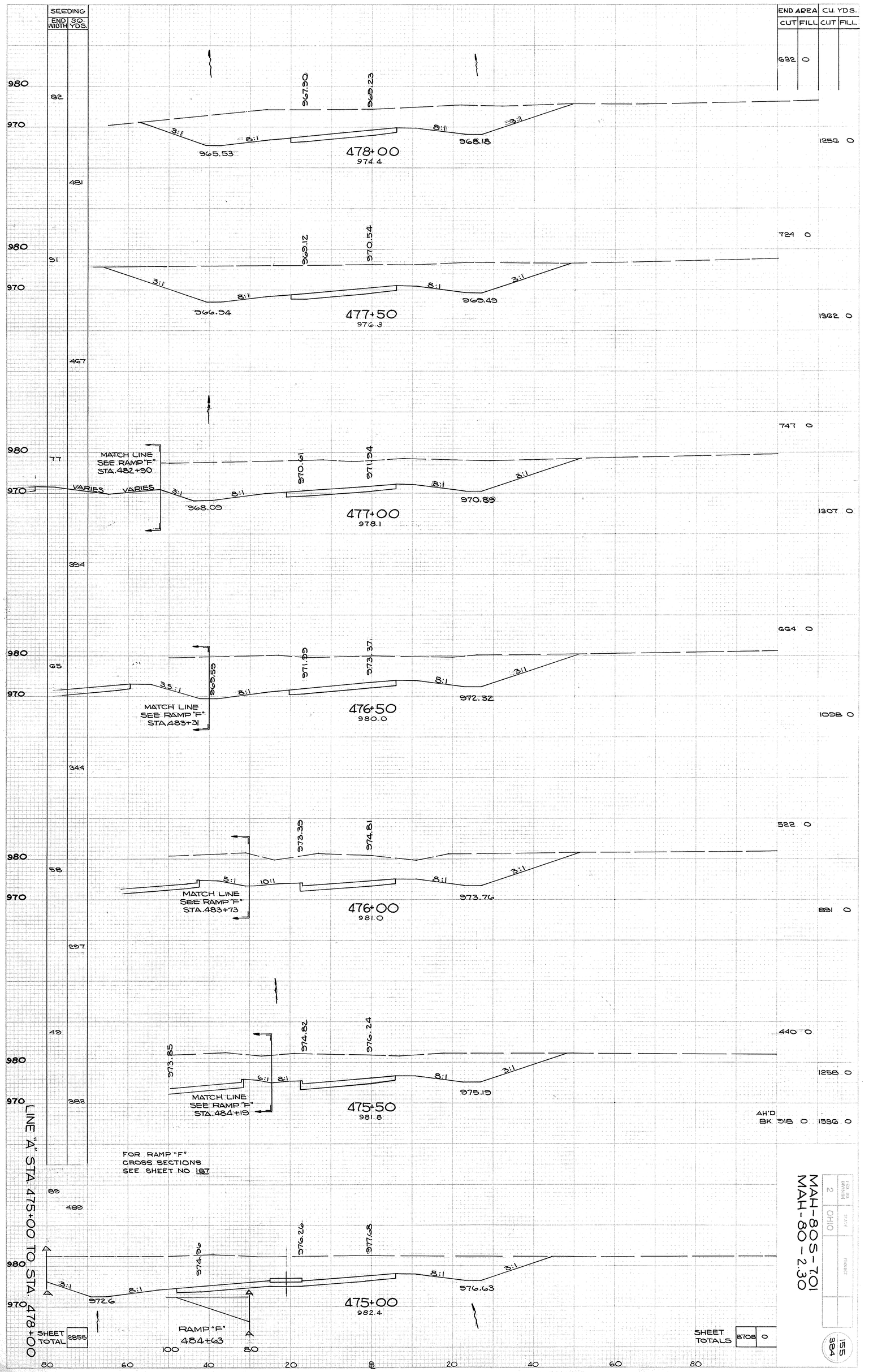


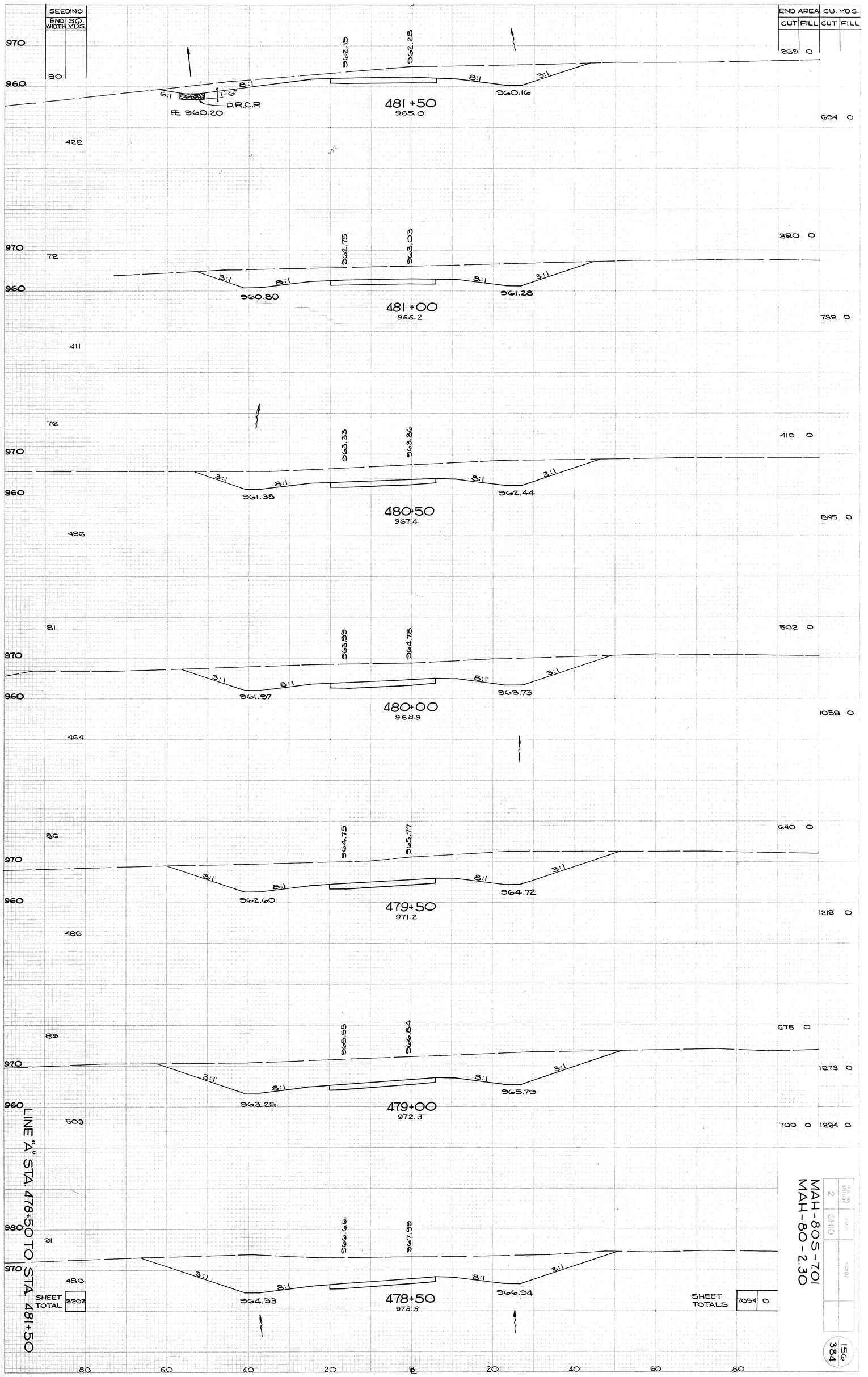
473+00
983.9

	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
	750	0		
			1993	0
	754	0		
			1984	0
	740	0		
			1164	0
	517	0		
			942	8
SHEET TOTALS			4883	8

LINE "A" STA. 473+00 TO STA. 474+50

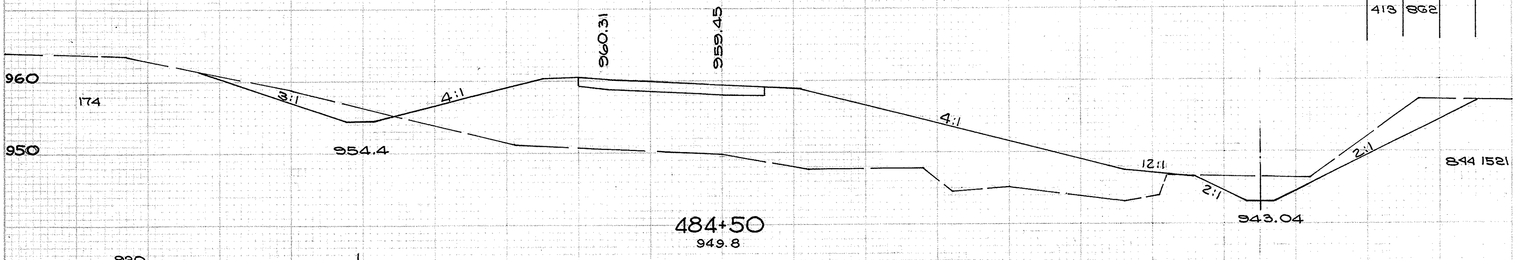
140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140


SEEDING
END WIDTH
SQ. YDS.
END AREA
CUT
FILL
CU. YDS.
CUT
FILL
LINE "A" STA. 475+00 TO STA. 478+00
478+00
974.4
477+50
976.3
477+00
978.1
476+50
980.0
476+00
981.0
475+50
981.8
475+00
982.4
RAMP "F"
484+63
MATCH LINE SEE RAMP "F" STA. 482+90
MATCH LINE SEE RAMP "F" STA. 483+31
MATCH LINE SEE RAMP "F" STA. 483+73
MATCH LINE SEE RAMP "F" STA. 484+19
VARIES
FOR RAMP "F" CROSS SECTIONS SEE SHEET NO 187
AH'D
BK 918
SHEET TOTAL
2855
SHEET TOTALS
8708
MAH-80S-7.01
MAH-80-2.30
OHIO
155
384


SEEDING
END WIDTH
SQ. YDS.
END AREA
CU. YDS.
CUT
FILL
CUT
FILL
970
960
80
422
962.15
962.28
8:1
8:1
3:1
6:1
1'-6"
D.R.C.P.
℄ 960.20
960.16
481+50
965.0
269 0
694 0
72
962.75
963.03
3:1
8:1
8:1
3:1
960.80
961.28
481+00
966.2
380 0
732 0
411
76
963.33
963.86
961.38
962.44
480+50
967.4
410 0
845 0
436
81
963.99
964.78
961.57
963.73
480+00
968.9
502 0
1058 0
464
86
964.75
965.77
962.60
964.72
479+50
971.2
640 0
1218 0
486
89
965.55
966.84
963.25
965.79
479+00
972.3
675 0
1279 0
503
700 0
1234 0
91
966.66
967.99
964.33
966.94
478+50
973.3
480
SHEET TOTAL
3208
SHEET TOTALS
7054
0
80
60
40
20
℄
20
40
60
80
LINE "A" STA. 478+50 TO STA. 481+50
MAH-80S-7.01
MAH-80-2.30
OHIO
2
156
384

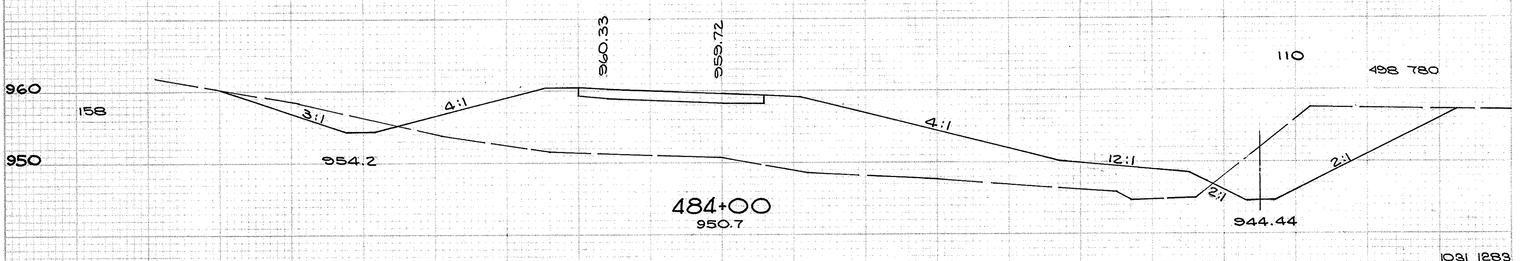
SEEDING		
END WIDTH	SQ. YDS	

END AREA		CU. YDS	
CUT	FILL	CUT	FILL
413	862		



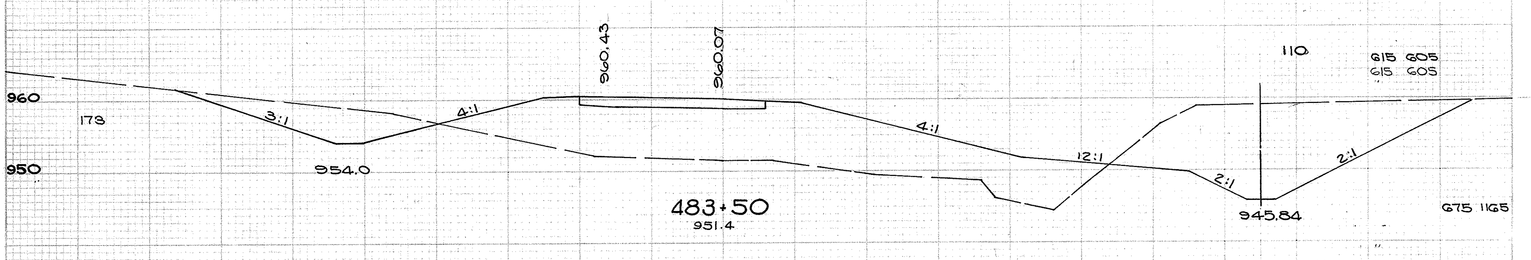
484+50
949.8

920



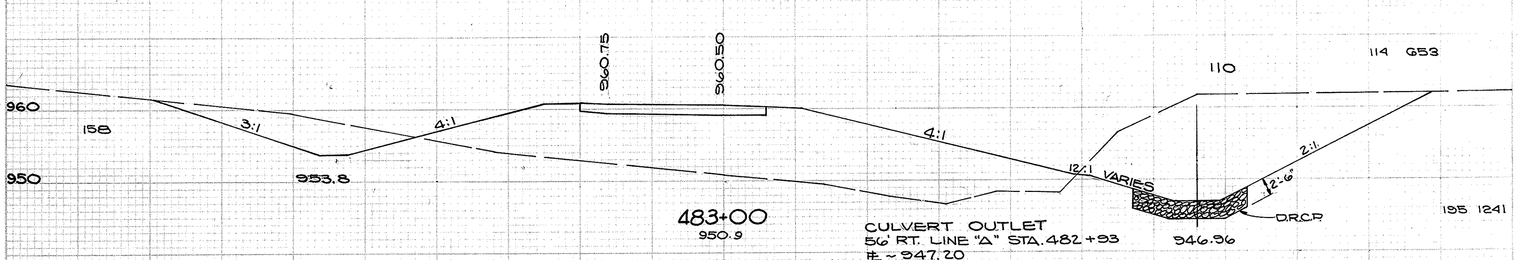
484+00
950.7

915



483+50
951.4

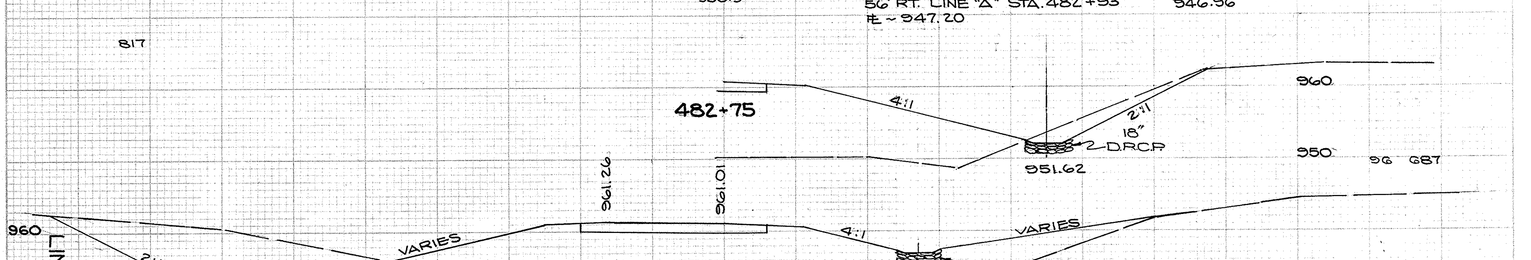
919



483+00
950.9

CULVERT OUTLET
56' RT. LINE "A" STA. 482+93
℄ ~ 947.20

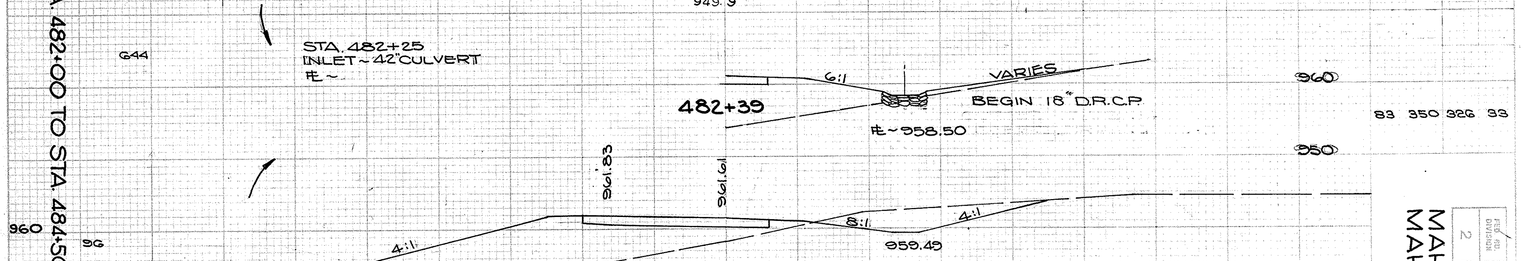
817



482+50
949.9

644

STA. 482+25
INLET ~ 42" CULVERT
℄ ~



482+00
958.2

SHEET TOTAL 4708

SHEET TOTALS 3237 6204

MAH-80S-7.01
MAH-80-2.30

FILE NO.	SHEET NO.	TOTAL SHEETS
2	OHIO	

157
384

80 60 40 20 0 20 40 60 80

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

158
384

MAH-805-7.01
MAH-80-2.30

END AREA	CU. YDS.
CUT / FILL	CUT / FILL
7 / 900	49 / 1463
46 / 680	

SEEDING	
END WIDTH	SQ. YDS.
75	

FOR CONTINUATION SEE MAINLINE CROSS-SECTION SHEET 58.

STA. 487+90
80 1545
340.1
4:1
12:1
4:1
2:1

MEET EXIST. CHANNEL 97' RT. LINE 'A' STA. 487+15 ELEV. 937.0
FOR PLAN VIEW SEE SH'T. 228
97 1628
937.64
12:1
4:1
940.50 BEGIN DITCH
2:1

177 1407
938.64
2:1
12:1
3:1

126 754
939.64
2:1
12:1
3.25:1

259 1483
940.64
2:1
12:1
3.5:1

197 848
230 1758
51 1050 430 1771
941.64
2:1
12:1
3.75:1

SHEET TOTALS
1362 1958

487+50
947.0
958.84
4:1
8:1
MATCH LINE SEE M.L. STA. 487+43
578
950
940

487+00
945.6
958.39
8:1
MATCH LINE SEE M.L. STA. 486+90
798
950
940

486+50
946.2
958.81
8:1
6:1
MATCH LINE SEE M.L. STA. 486+35
140
950
940
806

486+00
950.0
958.96
960.29
6:1
955.0
150
950
940
864

485+50
948.3
959.11
960.44
4:1
954.8
191
950
940

485+00
948.3
959.26
960.37
4:1
3:1
954.6
149 897 SHEET TOTAL 4764
950
940
861

B
B
80
60
40
20

LINE "A" STA. 485+00 TO STA. 487+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

159
384

MAH-80S-7.01
MAH-80-2.30

SEEDING

END WIDTH	SQ. YDS.
215	1236
230	1389
270	1408
235	1181
150	5208

MATCH LINE SEE LINE "A" STA. 448+00
1000
448+00
990

MATCH LINE SEE LINE "A" STA. 447+00
1000
447+50
990

MATCH LINE SEE LINE "A" STA. 447+00
1010
1000
447+00

MATCH LINE SEE LINE "A" STA. 446+50
1010
1000
446+50

MATCH LINE SEE LINE "A" STA. 446+00
1010
1000
446+00

MATCH LINE SEE LINE "A" STA. 12+50 CHANNEL RELOCATION

MATCH LINE SEE STA. 11+97 CH. RELOCATION

MATCH LINE SEE STA. 440+28 RAMP "D"

MATCH LINE SEE STA. 440+90 RAMP "D"

MATCH LINE SEE STA. 441+65 RAMP "D"

SHEET TOTALS

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
197	0		
		548	7
395	8		
		652	127
309	129		
		566	122
292	3		
		531	3
282	0		
SHEET TOTALS		2297	259

LINE "A" EXTENDED RIGHT (SOUTH)
STA. 446+00 TO STA. 448+00

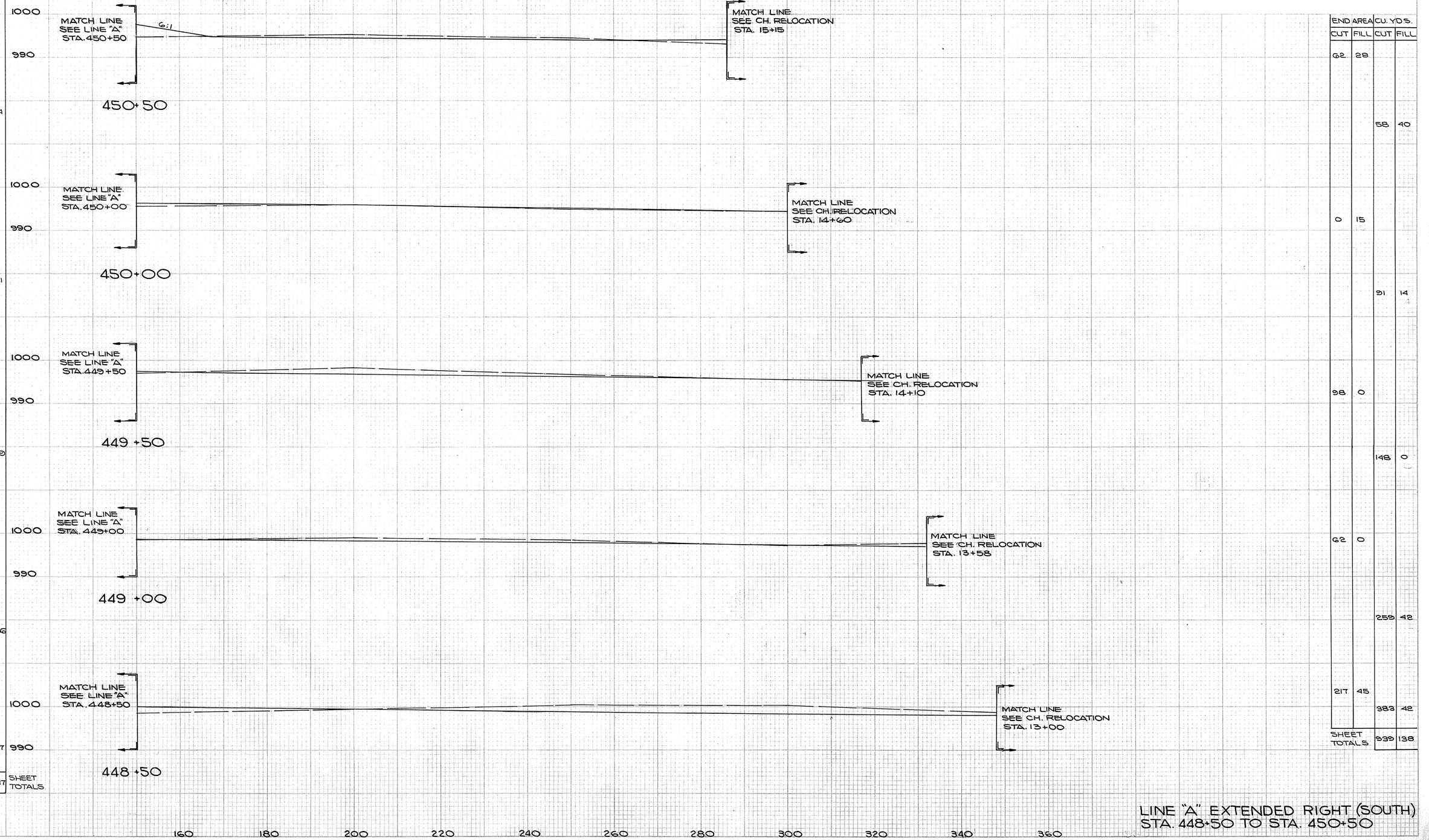
160 180 200 220 240 260 280 300 320 340 360 380 400 420 440

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

160
384

MAH-80S-7.01
MAH-80-2.30

SEEDING END WIDTH	SEEDING SQ. YDS.
136	794
150	881
167	969
182	1056
198	1147
	4847 SHEET TOTALS

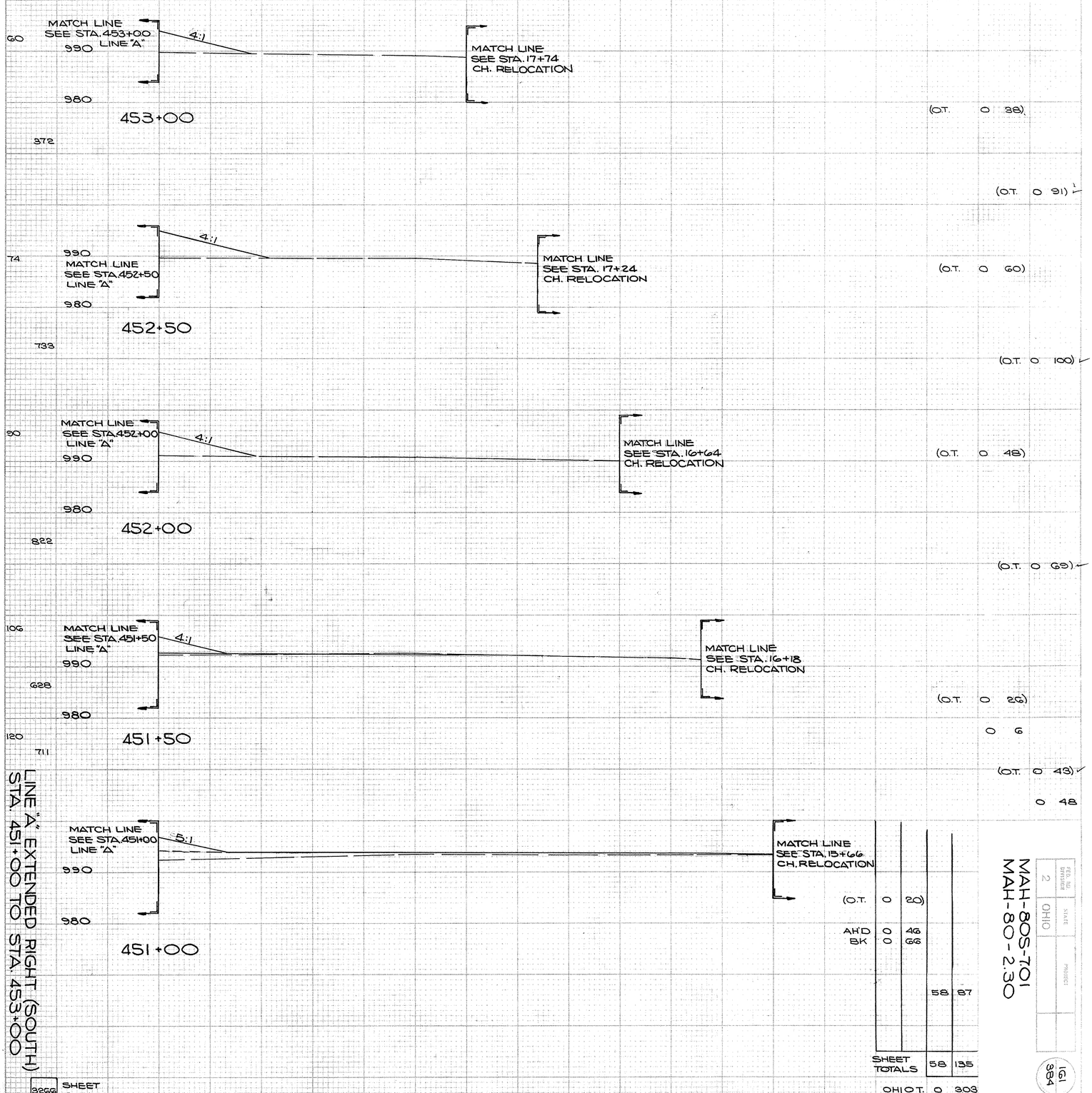


END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
62	28		
		58	40
0	15		
		91	14
98	0		
		148	0
62	0		
		259	42
217	45		
		383	42
SHEET TOTALS		939	138

LINE "A" EXTENDED RIGHT (SOUTH)
STA. 448+50 TO STA. 450+50

SEEDING	
END WIDTH	SQ. YDS.

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL



60
372

74
733

90
822

106
628
120
711

(O.T. 0 38)

(O.T. 0 91)

(O.T. 0 60)

(O.T. 0 100)

(O.T. 0 48)

(O.T. 0 69)

(O.T. 0 26)

0 6

(O.T. 0 43)

0 48

(O.T. 0 28)

AH'D 0 46

BK 0 66

SHEET TOTALS	58	87
	58	135
OHIO T.	0	303

LINE "A" EXTENDED RIGHT (SOUTH)
STA. 451+00 TO STA. 453+00

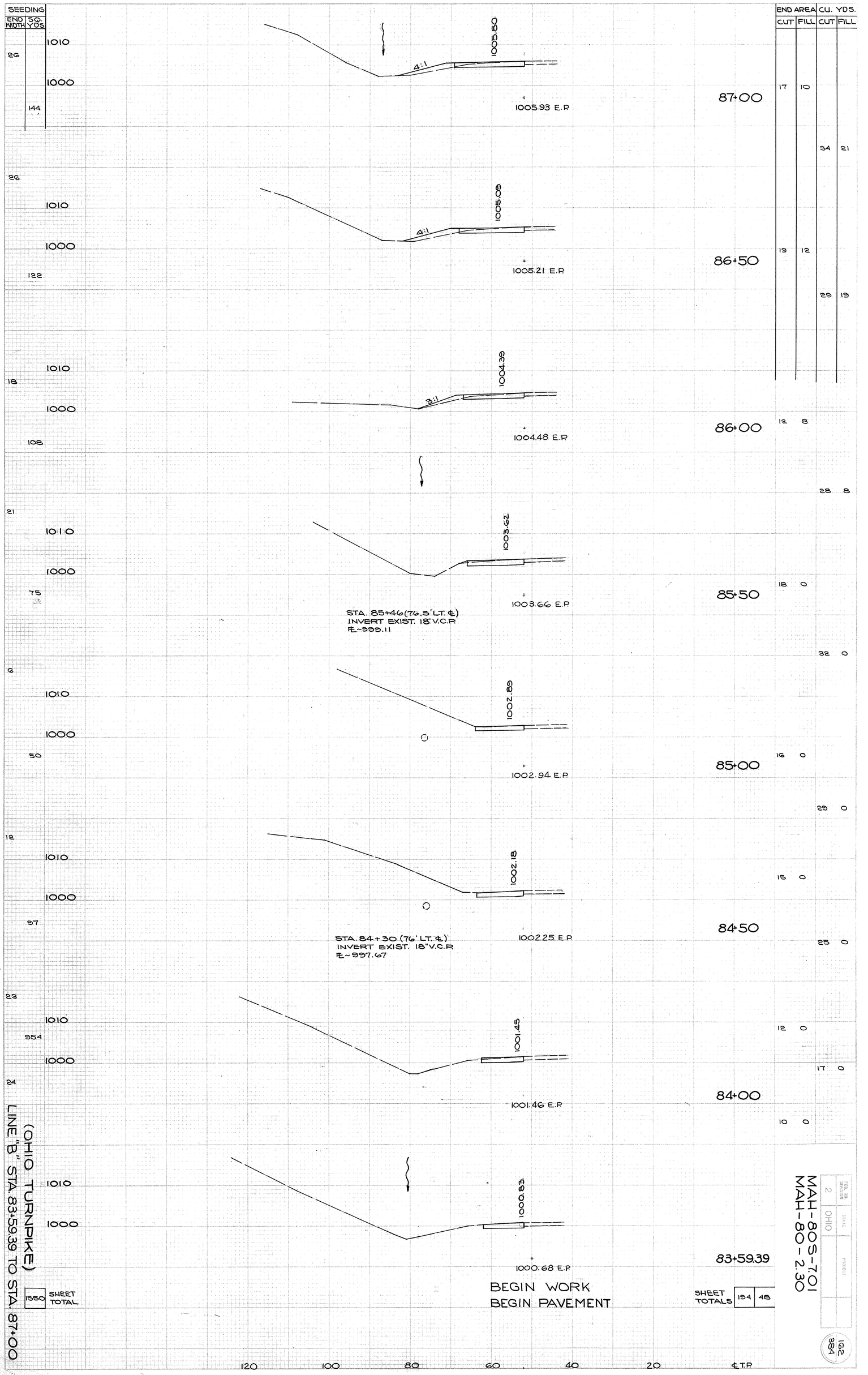
3266 SHEET TOTALS

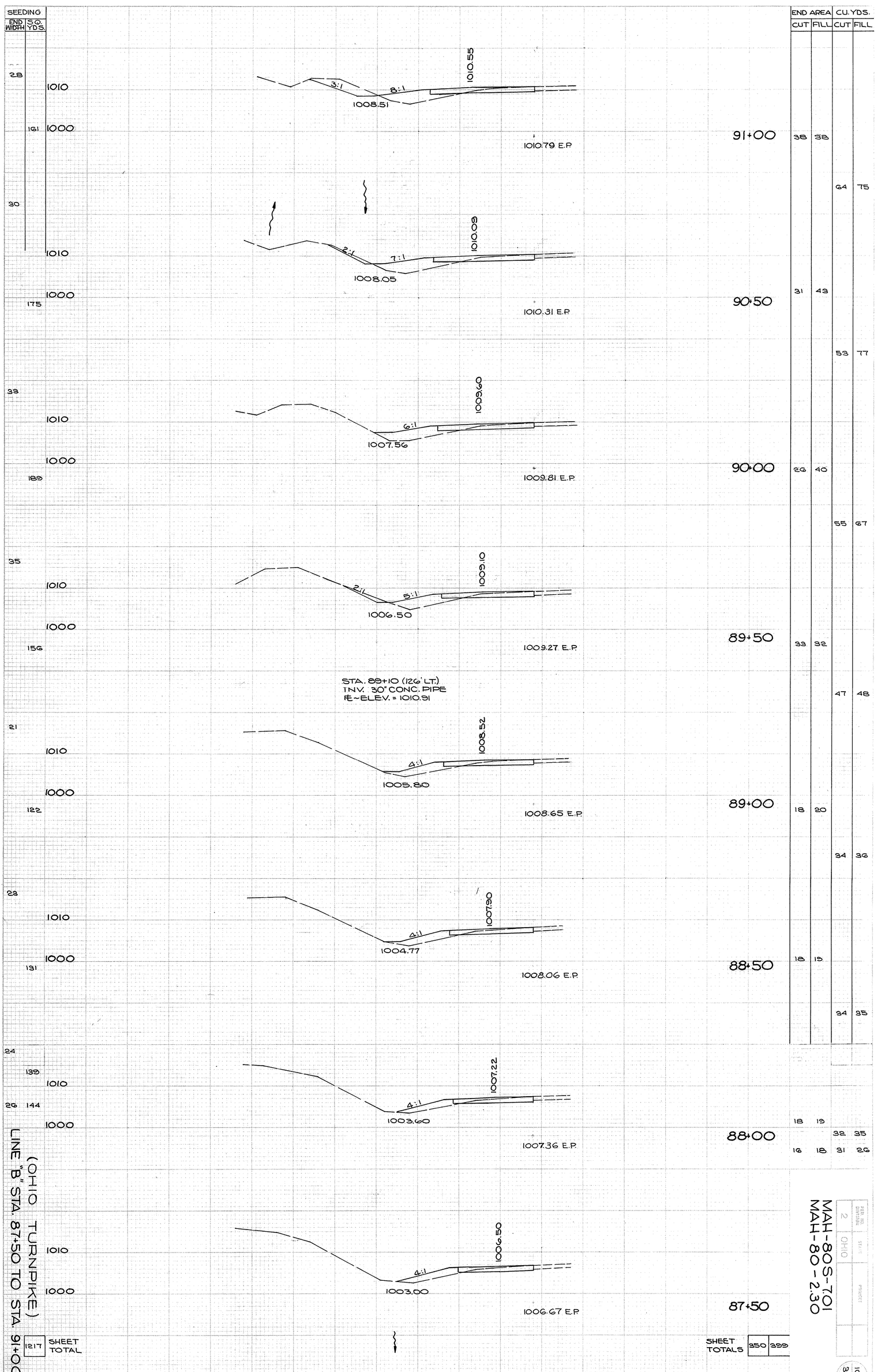
160 180 200 220 240 260 280

MAH-80S-701
MAH-80-2.30

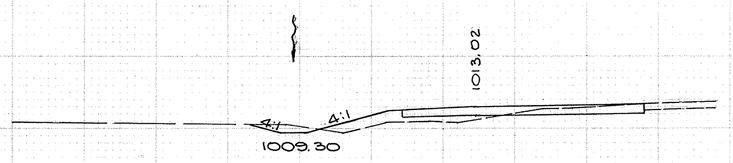
2	FED. ROAD DIVISION		
	OHIO	STATE	
		PROJECT	

161
384


SEEDING
END WIDTH
SQ. YDS.
END AREA
CUT
FILL
CU. YDS.
CUT
FILL
1010
1000
1005.80
4:1
1005.93 E.P.
87+00
17
10
34
21
1005.09
4:1
1005.21 E.P.
86+50
19
12
29
19
1004.39
3:1
1004.48 E.P.
86+00
12
8
28
8
1003.62
1003.66 E.P.
85+50
18
0
32
0
STA. 85+46 (76.5' LT. ℄)
INVERT EXIST. 18" V.C.P.
℄ ~ 999.11
1002.89
1002.94 E.P.
85+00
16
0
29
0
1002.18
1002.25 E.P.
84+50
15
0
25
0
STA. 84+30 (76' LT. ℄)
INVERT EXIST. 18" V.C.P.
℄ ~ 997.67
1001.45
1001.46 E.P.
84+00
12
0
17
0
10
0
1000.83
1000.68 E.P.
83+59.39
BEGIN WORK
BEGIN PAVEMENT
SHEET TOTALS
194
48
1550
SHEET TOTAL
(OHIO TURNPIKE)
LINE "B" STA. 83+59.39 TO STA. 87+00
120
100
80
60
40
20
℄ T.P.
MAH-80S-7.01
MAH-80-2.30
OHIO
2
122
384

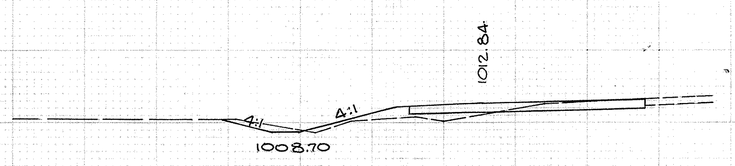

SEEDING
END WIDTH
SQ. YDS.
END AREA
CUT
FILL
CU. YDS.
CUT
FILL
91+00
90+50
90+00
89+50
89+00
88+50
88+00
87+50
3:1
8:1
2:1
7:1
6:1
2:1
5:1
4:1
4:1
4:1
4:1
1010.55
1008.51
1010.79 E.P.
1010.09
1008.05
1010.31 E.P.
1009.60
1007.56
1009.81 E.P.
1009.10
1006.50
1009.27 E.P.
STA. 89+10 (126' LT.)
INV. 30" CONC. PIPE
E~ELEV. = 1010.91
1008.52
1005.80
1008.65 E.P.
1007.90
1004.77
1008.06 E.P.
1007.22
1003.60
1007.36 E.P.
1006.50
1003.00
1006.67 E.P.
SHEET TOTAL
SHEET TOTALS
140
120
100
80
60
40
20
℄ T.P.
(OHIO TURNPIKE)
LINE "B" STA. 87+50 TO STA. 91+00
MAH-80S-7.01
MAH-80-2.30
OHIO
2
384
163

SEEDING END WIDTH	SEEDING SQ. YDS.
25	147
28	156
28	161
30	169
31	175
32	158
25	144
27	153



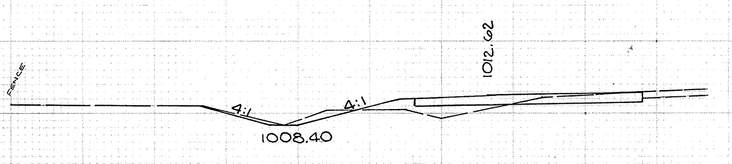
1013.39 E.P.

95+00



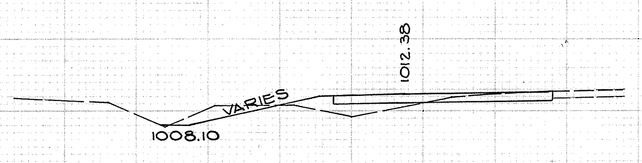
1013.19 E.P.

94+50



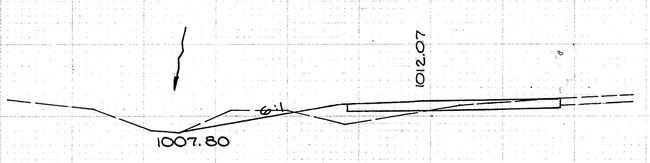
1012.96 E.P.

94+00



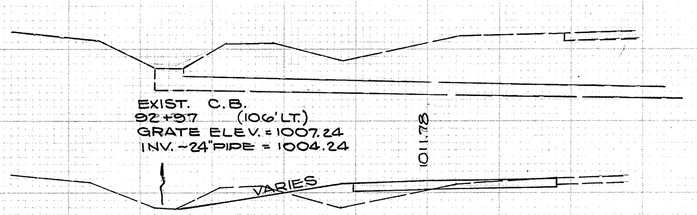
1012.70 E.P.

93+50



1012.36 E.P.

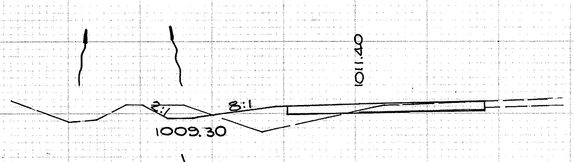
93+00



1012.07 E.P.

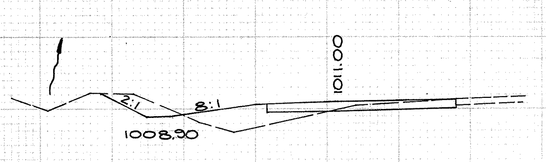
92+96

92+50



1011.69 E.P.

92+00



1011.26 E.P.

91+50

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
28	28		
		50	51
26	27		
		47	49
25	26		
		59	50
38	28		
		69	49
36	25		
		68	57
37	37		
		62	67
30	35		
		61	72
36	42		
		69	74

SHEET TOTALS 485 499

SHEET TOTAL 1263

LINE "B" (OHIO TURNPIKE) STA. 91+50 TO STA. 95+00

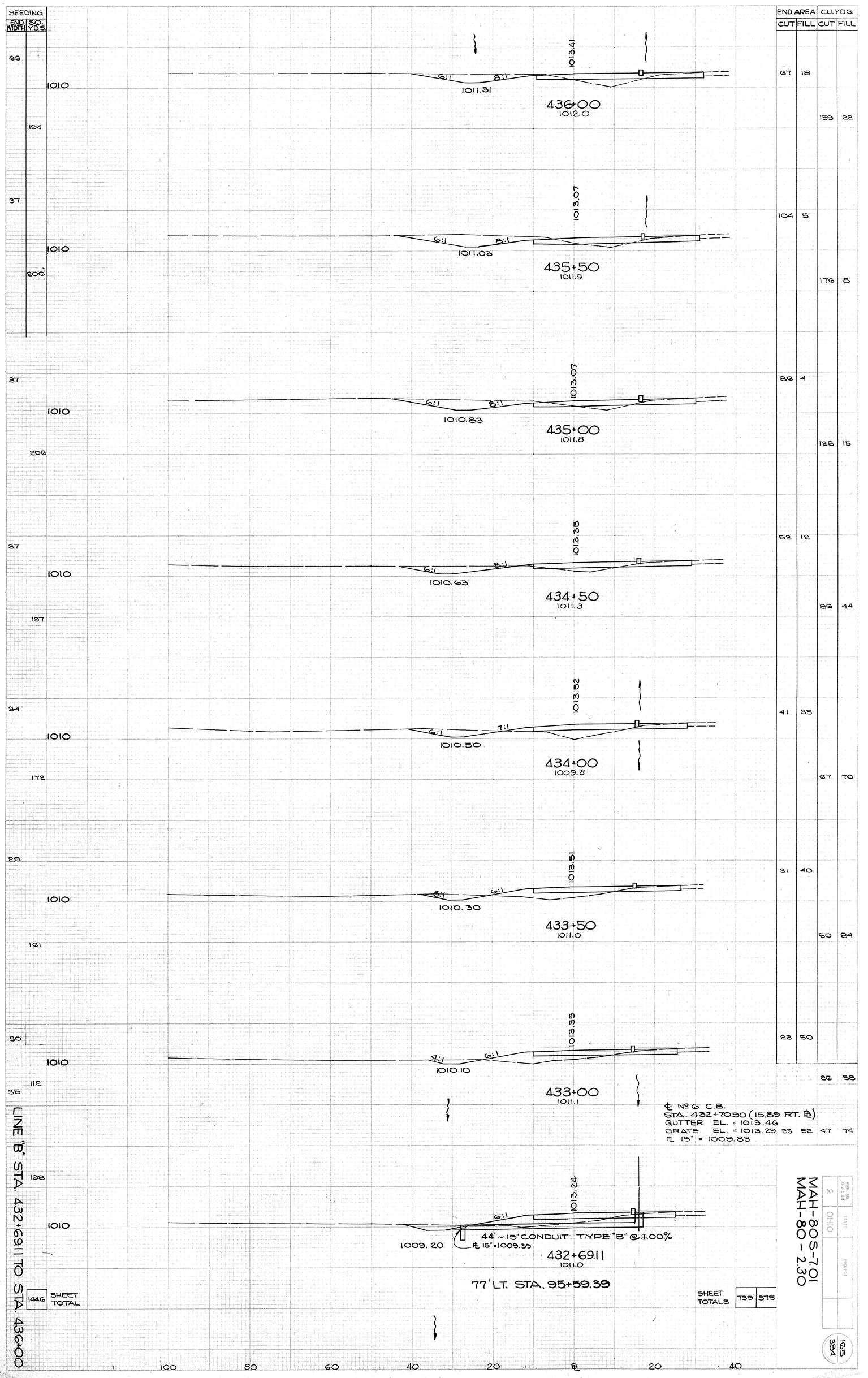
140 120 100 80 60 40 20 ℄ T.P.

MAH-80S-7.01
MAH-80-2.30

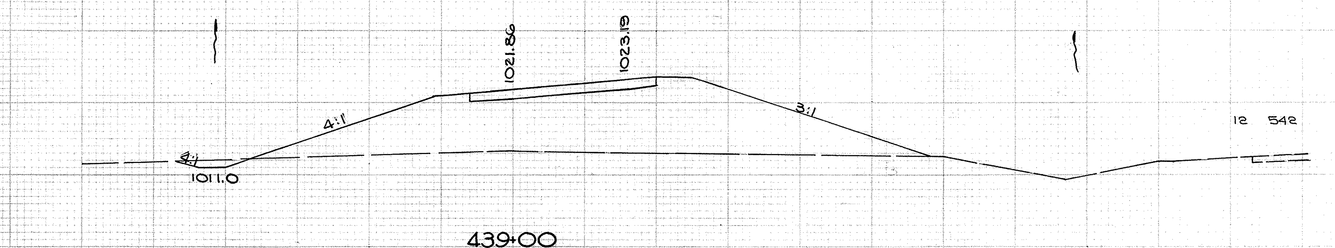
NO.	DATE	REVISION
2		

OHIO

164
384


SEEDING
END WIDTH
SQ. YDS.
END AREA
CUT
FILL
CU. YDS.
CUT
FILL
1013.41
1011.31
6:1
8:1
436+00
1012.0
1010
1013.07
1011.03
435+50
1011.9
1010
1013.07
1010.83
435+00
1011.8
1010
1013.35
1010.63
434+50
1011.3
1010
1013.52
1010.50
7:1
434+00
1009.8
1010
1013.51
1010.30
5:1
433+50
1011.0
1010
1013.35
1010.10
4:1
433+00
1011.1
℄ N° 6 C.B.
STA. 432+70.90 (15.89 RT. ℄)
GUTTER EL. = 1013.46
GRATE EL. = 1013.29
℄ 15" = 1009.83
1013.24
1009.20
44'~15" CONDUIT, TYPE "B" @ 1.00%
℄ 15" = 1009.39
432+69.11
1011.0
77' LT. STA. 95+59.39
LINE "B" STA. 432+69.11 TO STA. 436+00
SHEET TOTAL
SHEET TOTALS
100
80
60
40
20
℄
20
40
MAH-80 S-7.01
MAH-80 - 2.30
OHIO
2
384
165

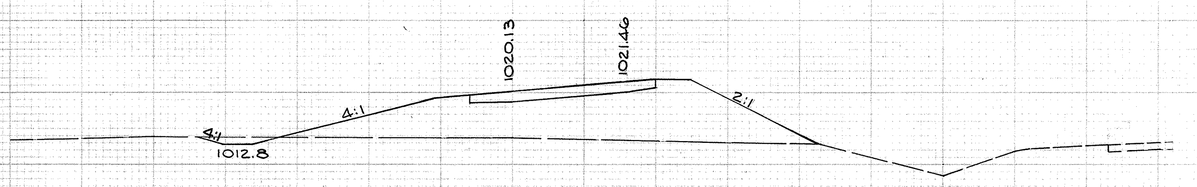
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL



82 | | | 12 | 542

439+00
1013.3

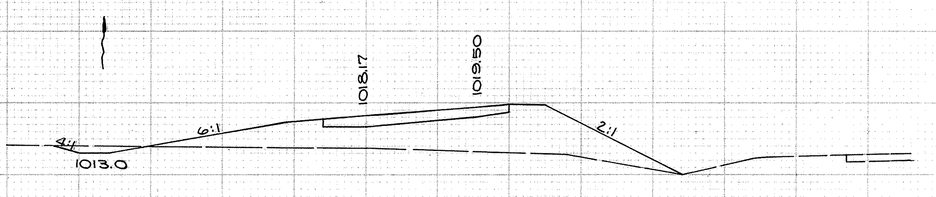
406 | | | 19 | 859



64 | | | 8 | 365

438+50
1013.9

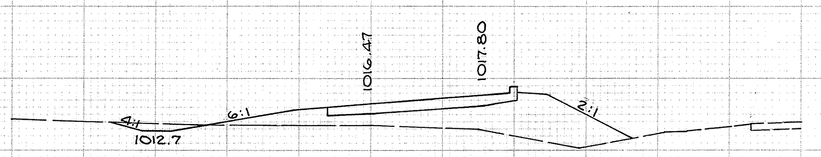
356 | | | 17 | 559



64 | | | 10 | 218

438+00
1013.7

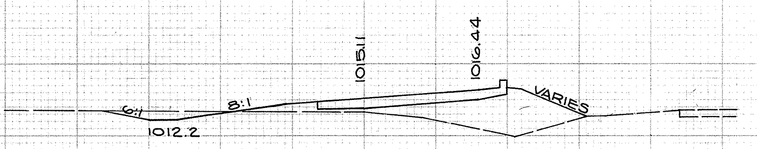
311 | | | 20 | 367



48 | | | 12 | 178

437+50
1013.5

256 | | | 25 | 279

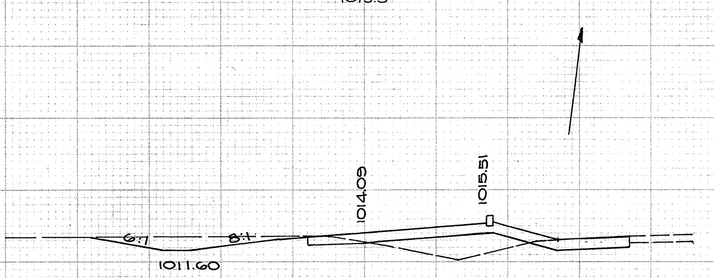


44 | | | 15 | 117

200 | | | 75 | 153

437+00
1013.3

38 | | | 66 | 48 | 123 | 60



181

436+50
1012.0

1710 SHEET TOTAL

SHEET TOTALS 279 2271

LINE "B" STA. 436+50 TO STA. 439+00

80 60 40 20 ℄ 20 40 60 80

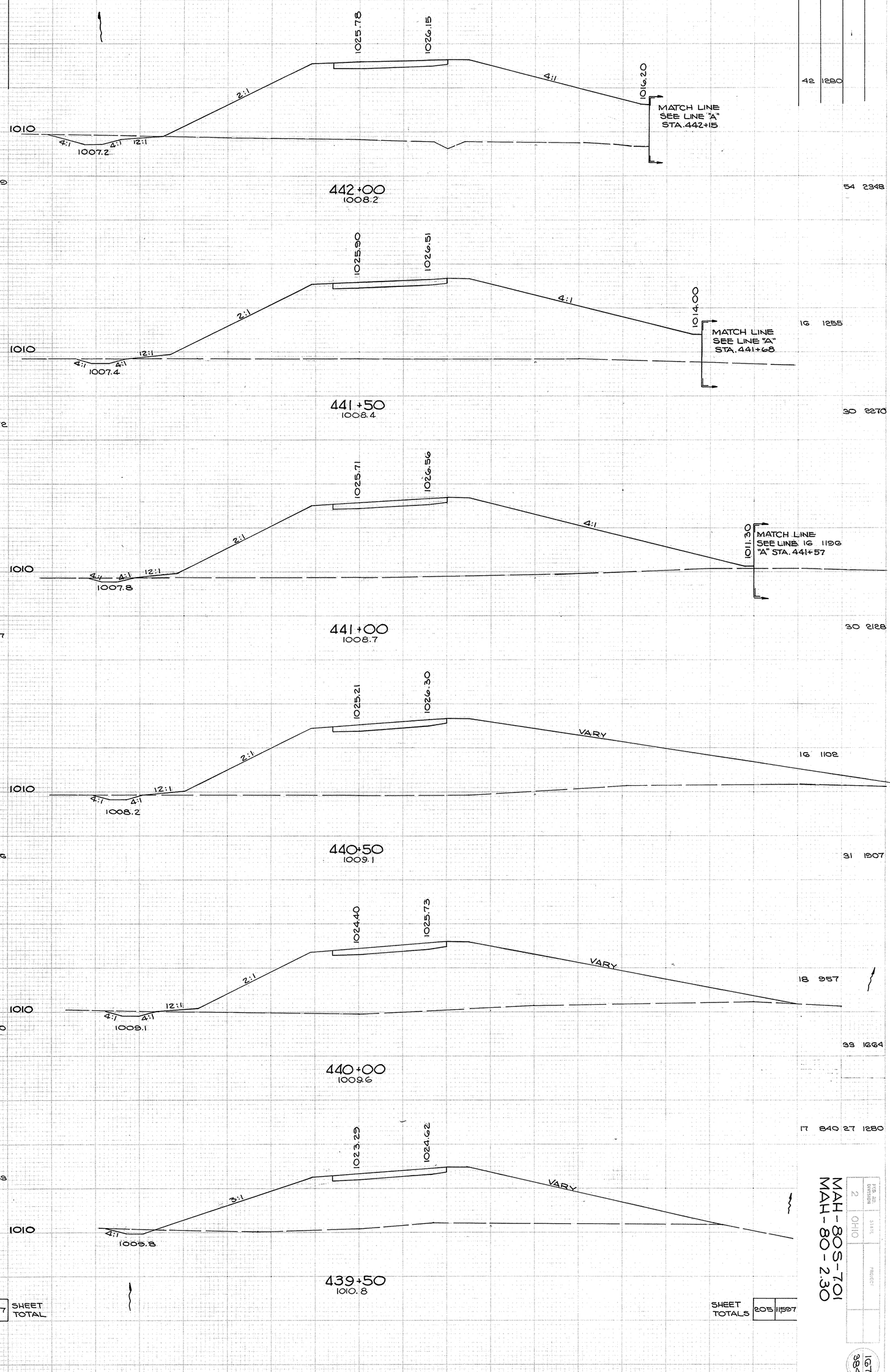
FED. AID DIVISION	STATE	PROJECT
2	OHIO	

MAH-80S-7.01
MAH-80-2.30

166

SEEDING		
END WIDTH	SQ. YDS.	
112		
699		
118		
572		
128		
817		
166		
836		
135		
700		
117		
558		
4117	SHEET TOTAL	

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
	42		1280
		54	2348
16			1255
		30	2270
		30	2128
16			1102
		31	1907
18			957
		33	1664
17	840	27	1280
205	11587		



LINE "B" STA. 439+50 TO STA. 442+00

80 60 40 20 ℄ 20 40 60 80

MAH-80S-7.01
MAH-80-2.30

OHIO

NO.	DESCRIPTION	DATE
2		

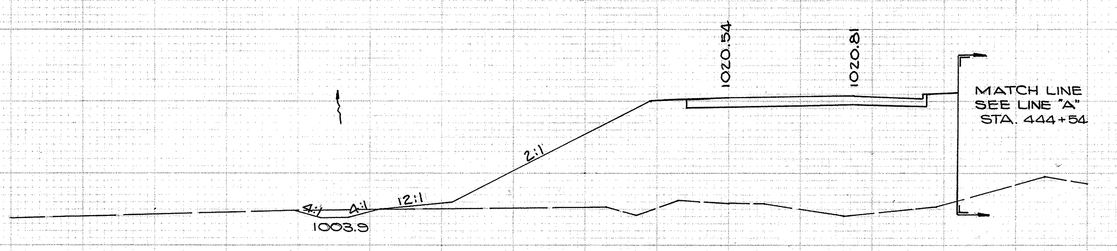
IGT 384

SEEDING	
END WIDTH	SQ. YDS.

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL

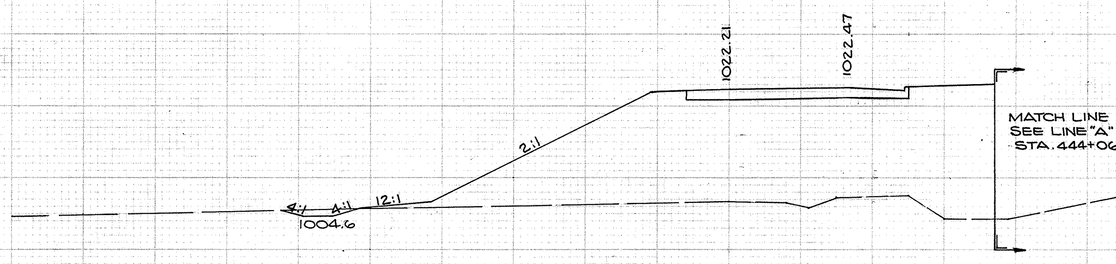
FOR CONTINUATION
SEE LINE "A" CROSS-SECTIONS
ON SHEET NO. 140

STA. 444+92 12 680



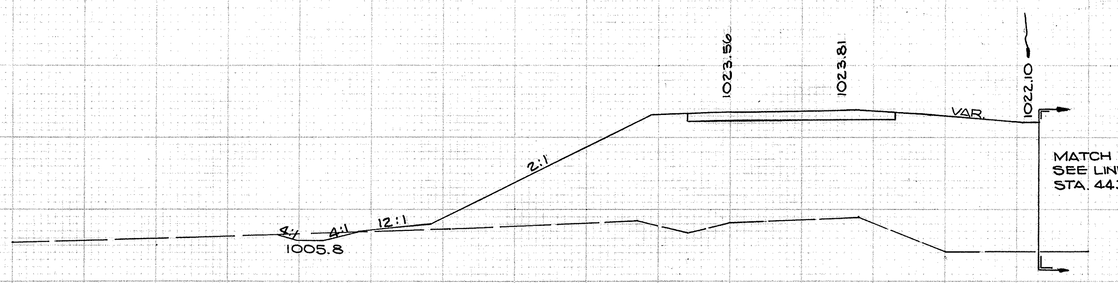
17 1211
10 877
20 1754

444+50
1005.9



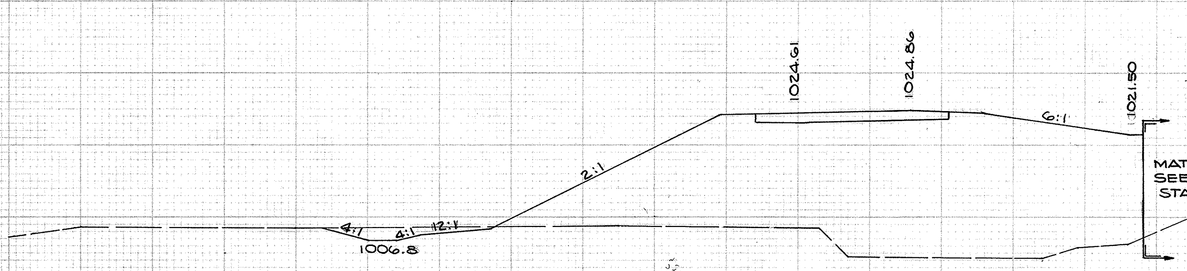
11 1017
20 1962

444+00
1006.7



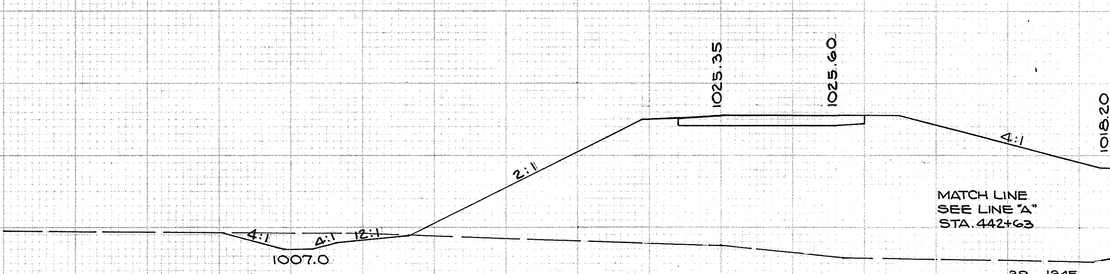
10 1102
39 2504

443+50
1008.1



32 1278

443+00
1008.5



38 1345
74 2490

442+50
1007.5

SHEET TOTALS 235 2290

SHEET TOTAL 2358

LINE "B" STA. 442+50 TO STA. 444+50

120 100 80 60 40 20 ℄ 20 40

MAH-80S-701
MAH-80-2.30

FED. ROAD DIST. NO.	STATE	PROJECT
2	OHIO	

168
384

END AREA	CU. YDS.
CUT	FILL
2464	0

CUT	FILL
	4074
	0

CUT	FILL
	1936
	0

CUT	FILL
	3262
	0

CUT	FILL
	1586
	0

CUT	FILL
	2595
	0

CUT	FILL
	1184
	0

CUT	FILL
	1556
	15

CUT	FILL
	528
	15

CUT	FILL
	741
	494

CUT	FILL
	272
	528

CUT	FILL
	391
	1419

CUT	FILL
	150
	1004

CUT	FILL
	2601
	1929

CUT	FILL
	130
	1072

CUT	FILL
	54
	2178

CUT	FILL
	102
	1067

SHEET TOTALS	1293	9280

FED. NO. DIVISION	STATE	PROJECT	
2	OHIO		

MAH-80S-7.01
MAH-80-2.30

169
384

MATCH LINE SEE MAINLINE STA. 471+85

977.20

978.38

977.32

MATCH LINE SEE MAINLINE STA. 471+36

979.10

980.49

979.43

MATCH LINE SEE MAINLINE STA. 470+84

981.10

982.59

981.53

MATCH LINE SEE LINE "A" STA. 463+00

983.20

984.69

983.63

MATCH LINE SEE LINE "A"

985.20

986.80

985.74

MATCH LINE SEE LINE "A" STA. 462+50

985.40

988.30

987.84

MATCH LINE SEE LINE "A" STA. 462+50

986.20

990.89

989.35

MATCH LINE SEE LINE "A" STA. 462+00

986.60

992.76

992.05

STA. 467+95

FOR CONTINUATION SEE LINE "A" CROSS-SECTIONS ON SHEET NO. 148

472+00
989.9

471+50
989.5

471+00
988.9

470+50
988.1

470+00
986.1

469+50
982.7

469+00
979.1

468+50
978.7

1/4":1 FT.

2:1

8:1

6:1

4:1

980

967.58

970.08

972.58

975.08

975.28

975.48

975.68

975.88

100

120

SEEDING
END AREA SQ. YDS.
WIDTH YDS.

155 853
152 878
164 906
162 851
155 886
146 761
131 419
180 933

SHEET TOTAL 5937

LINE "B" STA. 468+50 TO STA. 472+00

80 60 40 20 0 20 40 60 80 ℄

SEEDING	
END WIDTH	SQ. YDS.

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL

FOR CONTINUATION
SEE MAIN LINE CROSS-SECTIONS
ON SHEET NO. 84.

00 SECTION
STA.

STA. 474+60 2417 0 5870 0

140 D 980 D 2:1 2:1 1/4"/FT. 8:1 4:1 970.29 971.24 MATCH LINE SEE MAINLINE STA. 473+97 962.00 D 474+00 987.2 D 783

2856 0 5829 0

142 C 980 C 970 2:1 2:1 1/4"/FT. 8:1 4:1 971.62 972.68 MATCH LINE SEE MAINLINE STA. 473+45 960 962.20 C 473+50 988.2 C 831

2889 0 4722 0

157 B 980 B 2:1 2:1 DITCH EL. = 962.34 PIPE ℄ = 962.64 1/4"/FT. 8:1 973.27 974.33 M.L. SHOULDER 81' LT. STA. 473+00 473+08 989.2 844

3183 0 6270 0

604 Nº5 C.B.
STA. 473+00 (96' LT. ℄
DITCH ELEV. = 968.21
GRATE ELEV. = 967.96
℄ 27" = 963.94

130'-27" CONDUIT TYPE "A" 706.02 CLASS II OR SEC. 706.08
W/CLASS "B" BEDDING @ 1.00%

B 140 120 100 B 147

8655 0 4740 0

LINE "B" STA. 472+50 TO STA. 474+00

A 980 A 2:1 2:1 1/4"/FT. 8:1 6:1 2:1 975.21 976.27 MATCH LINE SEE MAINLINE STA. 472+40 974.40 965.08 472+50 989.5 839

A 120 100 A

80 60 40 20 ℄ 20 40 60

3297	SHEET TOTAL

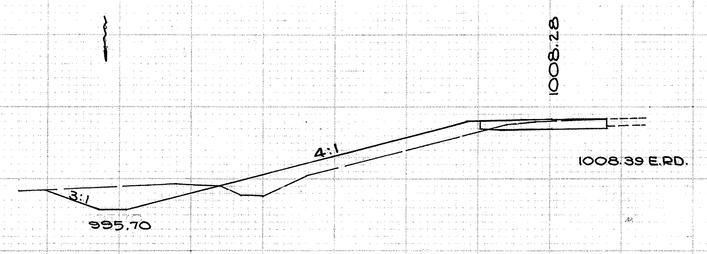
SHEET TOTALS 26931 0

MAH-80S-7.01
MAH-80-2.30

SHEET NO.	SHEETS	STATE	PROJECT
2		OHIO	

ITO 584

SEEDING		END AREA		CU. YDS.	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL

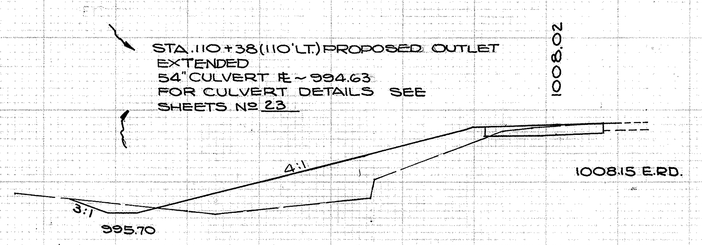


110+00

G5 1010 361

87 208

STA. 110+38 (110' LT.) PROPOSED OUTLET EXTENDED 54" CULVERT ℄ ~ 994.63 FOR CULVERT DETAILS SEE SHEETS NO. 23

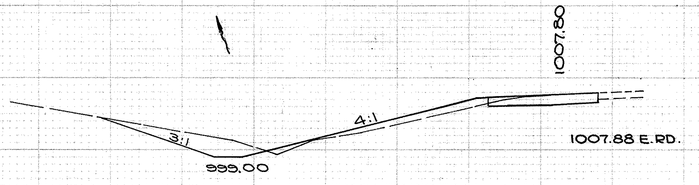


110+50

30 152

G5 1010 375

97 163

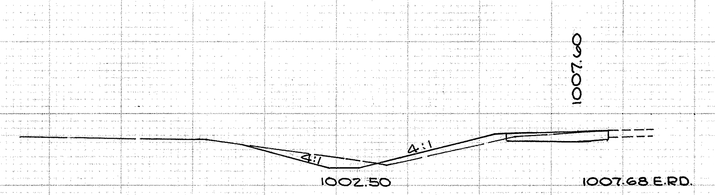


111+00

75 24

G9 1010 309

101 36

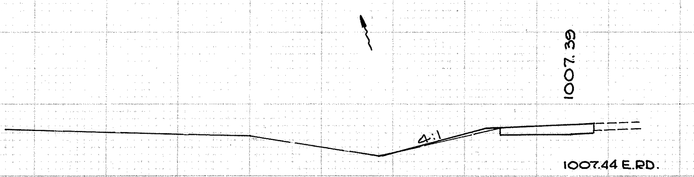


111+50

34 15

40 1010 178

48 14

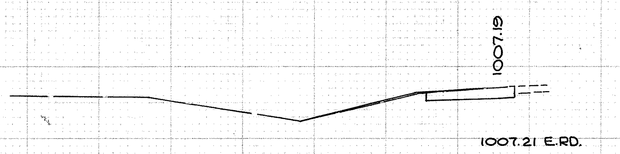


112+00

18 0

24 1010 142

33 0



112+50

17 0

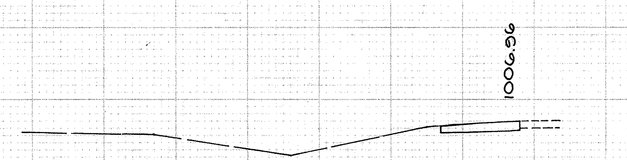
27 1010 150

29 0

27 150

27

1659 SHEET TOTAL

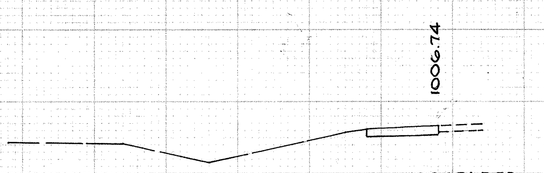


113+00

14 0

1010

26 0



113+50.15

BEGIN WORK
BEGIN PAVEMENT

14	0	26	0
SHEET TOTALS		447	421

RAMP "C" (OHIO TURNPIKE) STA. 110+00 TO STA. 113+50.15

120 100 80 60 40 20 ℄ T.P.

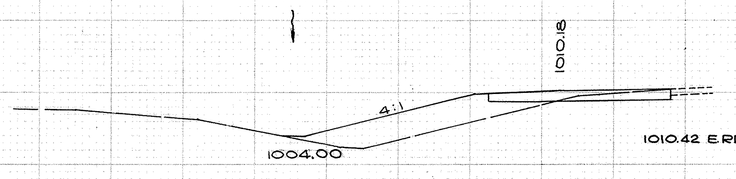
MAH-80S-7.01
MAH-80-2.30

		FED. AID PROJECT	
2	OHIO	STATE	
		PROJECT	

171
384

SEEDING END WIDTH	SEEDING SQ YDS.

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
20	100		

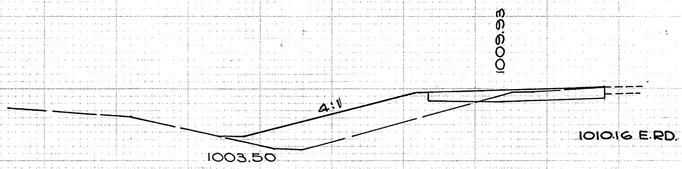


1010.42 E.RD.

106+00

34 192

37 176

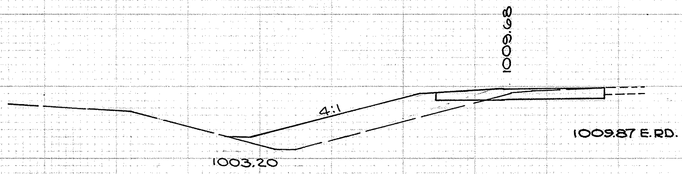


1010.16 E.RD.

106+50 20 90

35 194

36 164

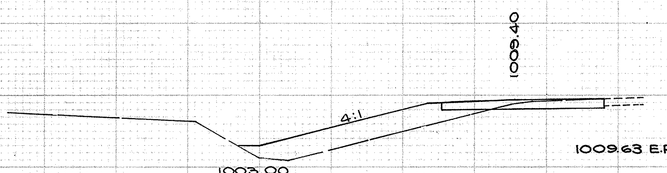


1009.87 E.RD.

107+00 19 87

35 189

38 159

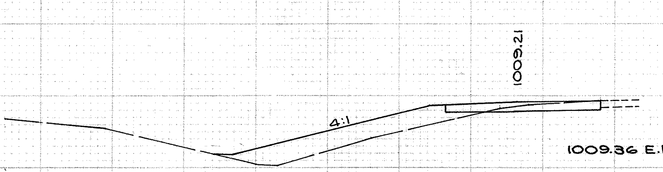


1009.63 E.RD.

107+50 17 85

33 197

30 146

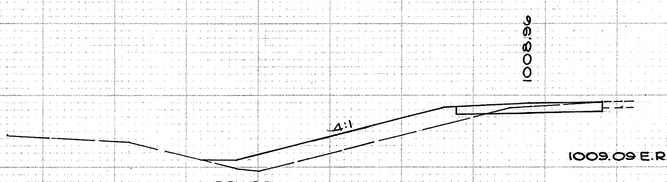


1009.36 E.RD.

108+00 16 79

38 219

29 136



1009.09 E.RD.

108+50 15 74

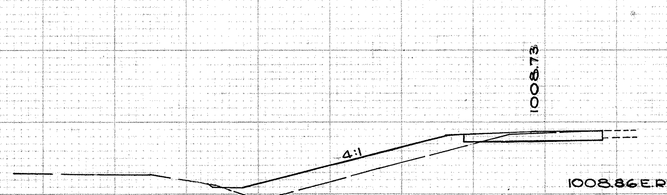
41 225

33 131

40 231

43 300

1747	SHEET TOTALS



1008.86 E.RD.

109+00 21 67

36 135

1008.62 E.RD.

109+50

18	78		
		76	139
SHEET TOTALS		310	1186

RAMP "C" STA. 106+00 TO STA. 109+50 (OHIO TURNPIKE)

140 120 100 80 60 40 20 ℄ T.P.

MAH-80S-7.01
MAH-80-2.30

SHEET NO.	OF SHEETS
2	OHIO

172
384

END AREA	C.U. YDS.
CUT	FILL
23	140

SEEDING	
END SQ.	
WIDTH	YDS
34	
172	
28	1010
131	
19	1010
106	
19	1010
106	
19	1010
158	
38	1010
217	
40	1010
211	
36	1010
194	
1293	SHEET TOTAL

102+00

1012.39 E.RD.

1012.02

4:1

6:1

1008.30

44 275

102+50

1012.17 E.RD.

1011.80

4:1

5:1

1008.15

24 157

43 261

103+00

1011.93 E.RD.

1011.57

4:1

1008.00

SEE LINE "A" FOR EARTHWORK

21 125

38 220

103+50

1011.68 E.RD.

1011.35

BR. PIER

1003.00

4:1

1007.85

BRIDGE SLOPE

SEE LINE "A" FOR EARTHWORK

20 112

36 213

104+00

1011.42 E.RD.

1011.11

4:1

1007.70

BRIDGE SLOPE

SEE LINE "A" FOR EARTHWORK

19 118

41 220

104+50

1011.18 E.RD.

1010.89

4:1

8:1

1007.55

25 120

37 228

105+00

1010.90 E.RD.

1010.62

4:1

8.5:1

1006.00

15 126

31 223

105+50

1010.65 E.RD.

1010.40

4:1

6:1

1005.5

18	115
35	195
305	1839
SHEET TOTALS	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

MAH-80S-7.01
MAH-80-2.30

178
384

℄ T.P.

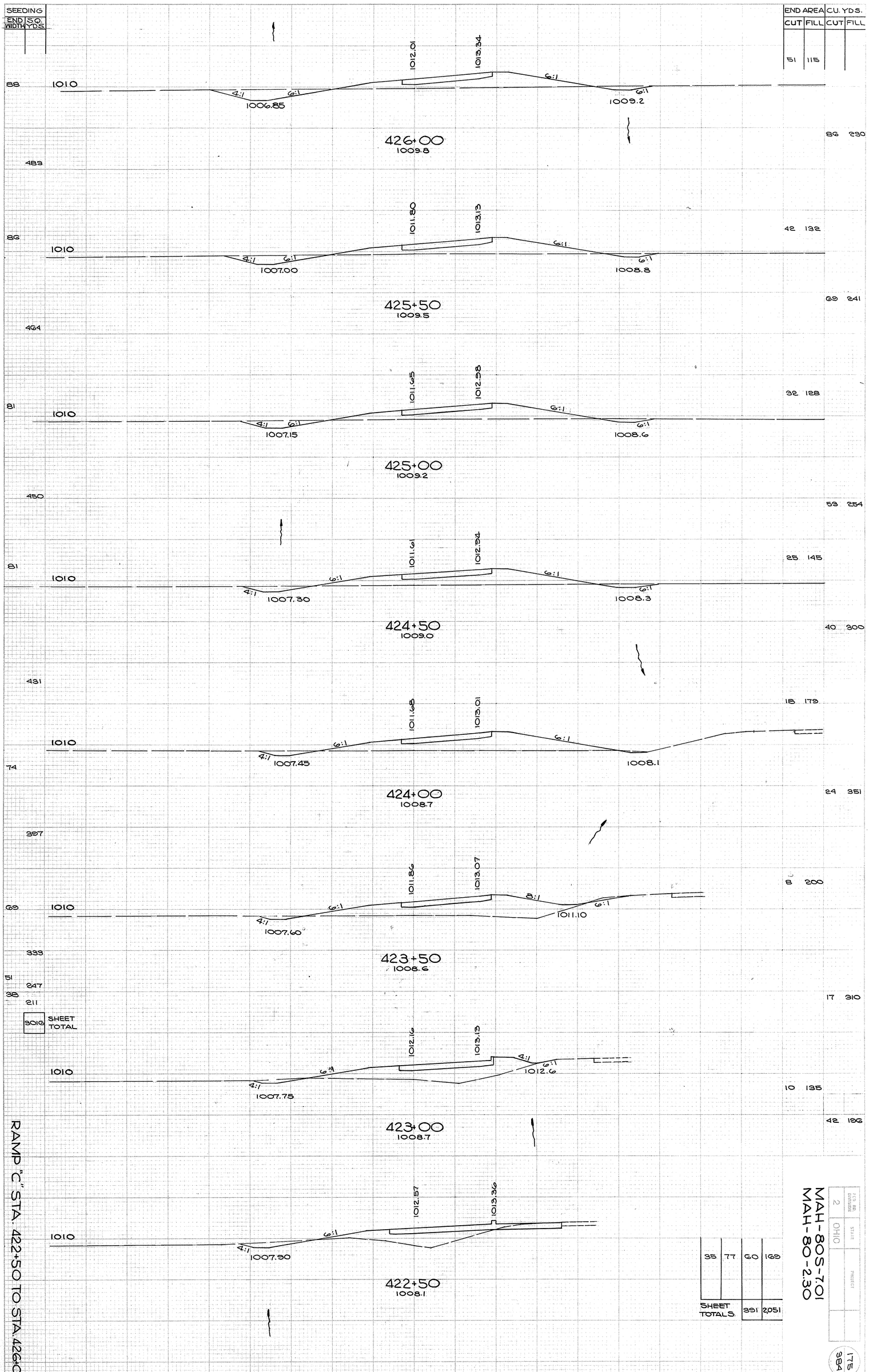
20 40 60 80 100 120 140

(OHIO TURNPIKE)
RAMP "C" STA. 102+00 TO STA. 105+50

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

MAH-805-7.01
MAH-80-2.30

RAMP "C" STA. 418+63.36 TO STA. 422+00

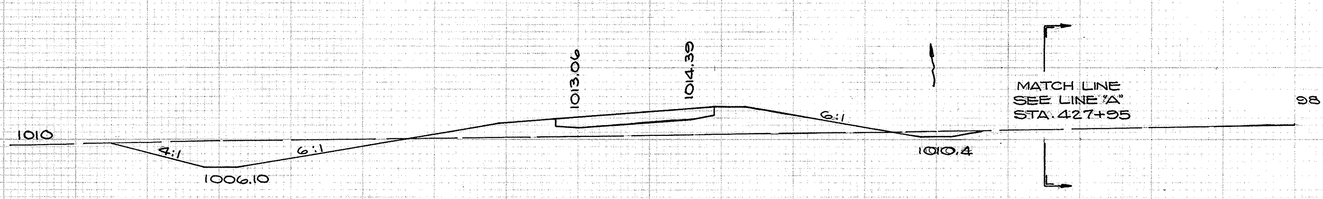

SEEDING
END WIDTH
S.Q. YDS.
END AREA C.U. YDS.
CUT FILL CUT FILL
51 115
1012.01
1013.34
1010
4:1
6:1
1006.85
1009.2
426+00
1009.8
88 290
483
1011.80
1013.13
1007.00
1008.8
42 132
425+50
1009.5
89 241
464
1011.65
1012.98
1007.15
1008.6
32 128
425+00
1009.2
450
59 254
1011.61
1012.94
1007.30
1008.3
25 145
424+50
1009.0
40 300
431
1011.68
1013.01
1007.45
1008.1
18 179
424+00
1008.7
24 351
387
1011.86
1013.07
8:1
1011.10
1007.60
8 200
423+50
1008.6
333
51 247
38 211
SHEET TOTAL
1012.16
1013.13
1012.6
1007.75
10 135
423+00
1008.7
42 196
1012.57
1013.36
1007.90
422+50
1008.1
35 77 60 169
SHEET TOTALS 391 2051
RAMP "C" STA. 422+50 TO STA. 426+00
80 60 40 20 ℄ 20 40 60 80
MAH-80S-7.01
MAH-80-2.30
OHIO
2
NO. OF SHEETS
SHEET NO.
175
384

SEEDING	
END WIDTH	SQ. YDS.

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
STA. 428+92			
106	124		

FOR CONTINUATION
SEE LINE "A" CROSS-SECTIONS
ON SHEET NO. 181

159 204

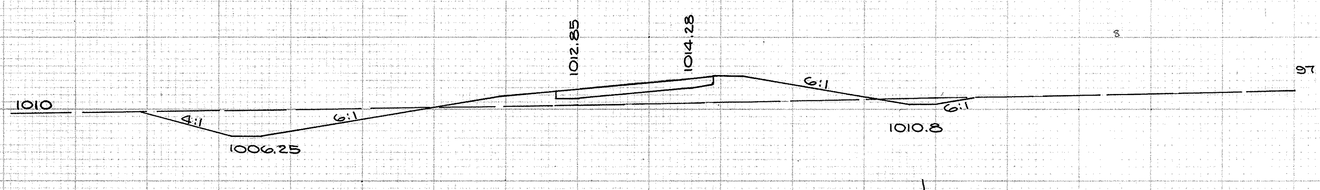


98 138 181 231

102

428+50
1010.4

550

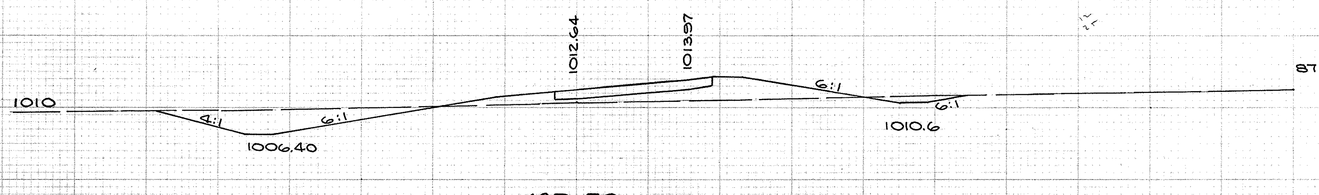


97 112 170 187

98

428+00
1010.6

525

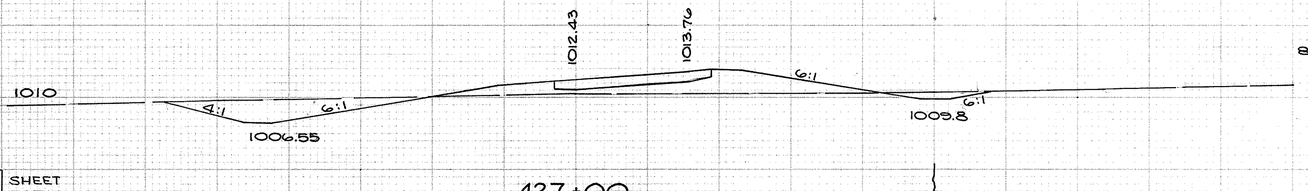


87 90 169 174

93

427+50
1010.7

519



89 98

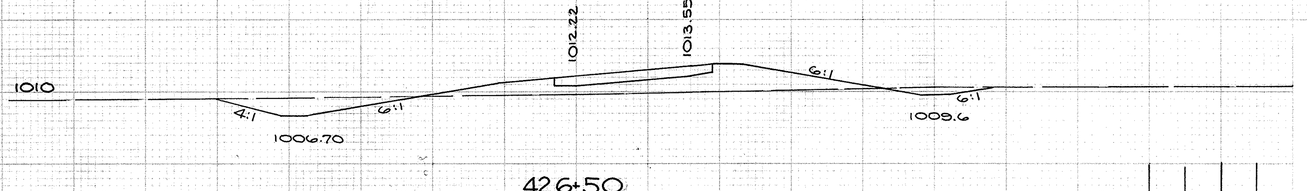
94
506
88
489

135 207

1122	SHEET TOTAL

427+00
1010.5

RAMP "C" STA. 426+50 TO STA. 428+50



426+50
1009.7

56	125	99	222
SHEET TOTALS		907	1225

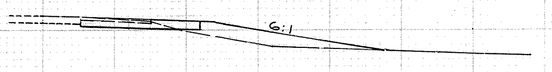
80 60 40 20 0 20 40 60 80

MAH-80S-7.01
MAH-80-2.30

2	SHEET NO.	
OHIO	STATE	
	PROJECT	

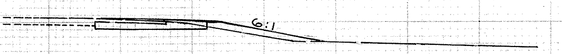
ITG 384

SEEDING		END AREA		CU. YDS.	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
		16	48		
25	1000				



426+50
1001.96 E. RD.
(124+87.60 O.T.)

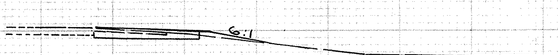
				38	68
158					
	1000				



		19	20		
26					

426+00
1000.69 E. RD.
(125+37.60 O.T.)

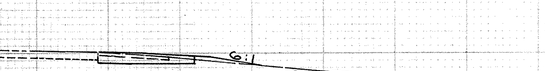
				35	26
142					
25					
	1000				



		19	8		

425+50
1000.44 E. RD.
(125+87.60 O.T.)

				32	13
147					
	1000				



		15	6		
28					

425+00
1000.20 E. RD.
(126+37.60 O.T.)

				28	6
153					
	1000				

		15	0		
27					

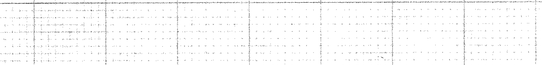
424+50
999.42 E. RD.
(126+87.60 O.T.)

				25	0
156					
	1000				

		12	0		
29					

424+00
999.62 E. RD.
(127+37.60 O.T.)

				22	0
153					
26					
22	27				
	1000				



		11	0		

423+50
999.41 E. RD.
(127+87.60 O.T.)

				4	0
		10	0		
	1000				

423+40.00
999.16 E. RD.
(127+97.60 O.T.)
BEGIN WORK
BEGIN PAVEMENT

00 SECTION
STA. 423+40

931 SHEET TOTAL

SHEET TOTALS 179 108

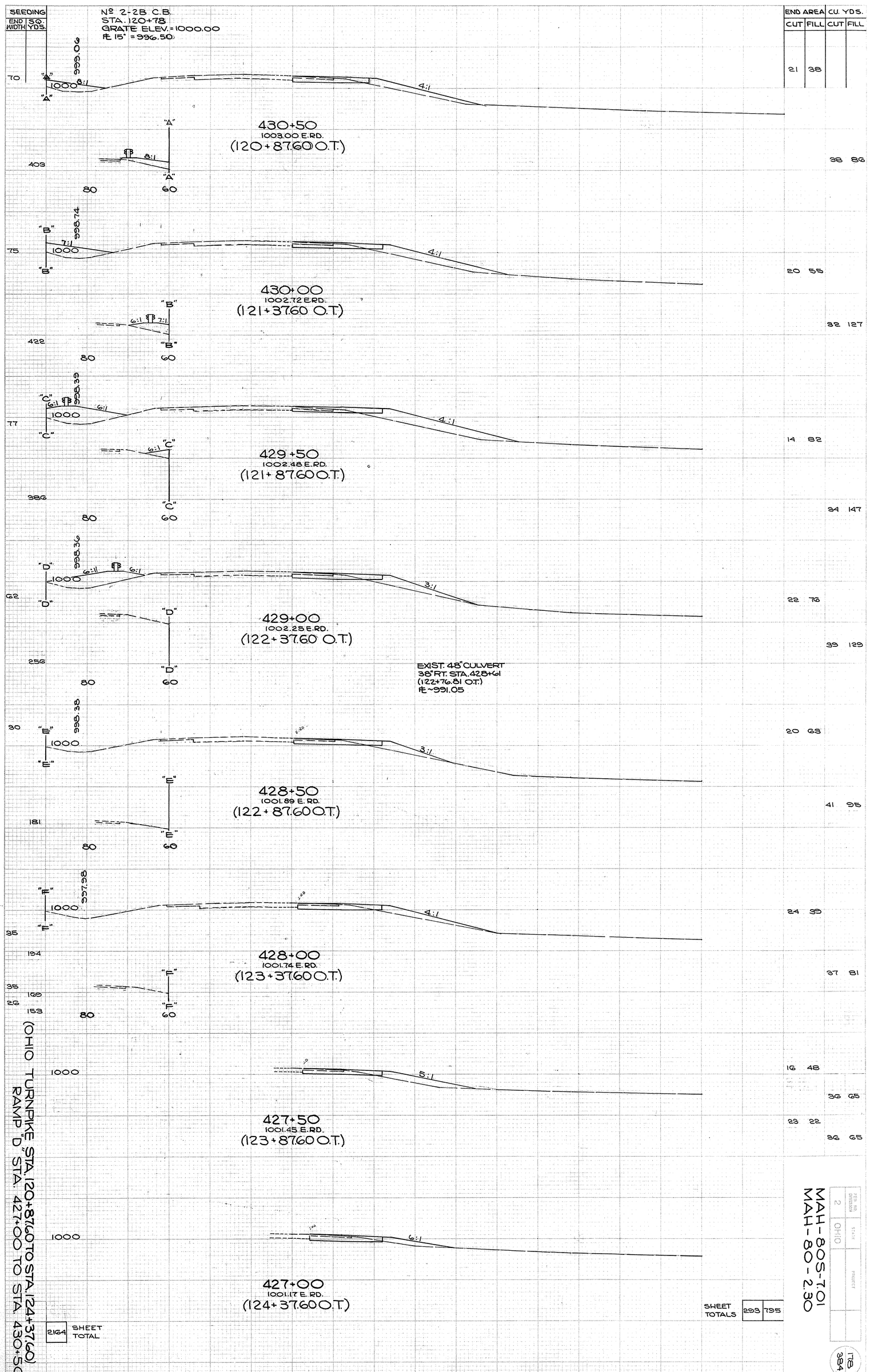
E. RD. T.P. 20 40 60 80

(OHIO TURNPIKE STA. 124+87.60 TO STA. 127+97.60
RAMP D STA. 423+40 TO STA. 426+50

MAH-80S-7.01
MAH-80-2.30

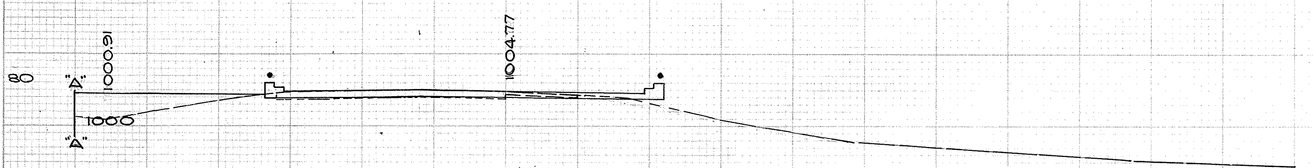
FED. ROAD DIVISION	STATE	PROJECT
2	OHIO	

177
384

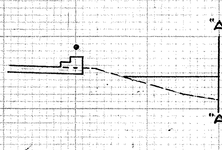

SEEDING
END WIDTH
SQ. YDS.
END AREA CU. YDS.
CUT FILL CUT FILL
Nº 2-2B C.B.
STA. 120+78
GRATE ELEV.=1000.00
ft 15" = 996.50
70
999.00
1000
8:1
4:1
"A"
21 38
430+50
1003.00 E.RD.
(120+87.60 O.T.)
403
80
60
38 86
999.74
"B"
7:1
75
20 58
430+00
1002.72 E.RD.
(121+37.60 O.T.)
422
32 127
999.39
"C"
6:1
77
14 82
429+50
1002.48 E.RD.
(121+87.60 O.T.)
386
34 147
999.36
"D"
6:1
62
22 76
429+00
1002.25 E.RD.
(122+37.60 O.T.)
256
39 129
EXIST. 48" CULVERT
38° RT. STA. 428+61
(122+76.81 O.T.)
ft ~991.05
999.38
"E"
30
20 65
428+50
1001.89 E.RD.
(122+87.60 O.T.)
181
41 95
997.98
"F"
95
194
428+00
1001.74 E.RD.
(123+37.60 O.T.)
95
169
26
153
37 81
1000
5:1
16 48
427+50
1001.45 E.RD.
(123+87.60 O.T.)
36 65
23 22
1000
6:1
427+00
1001.17 E.RD.
(124+37.60 O.T.)
36 65
2164
SHEET TOTAL
SHEET TOTALS
293 795
E.RD. T.P.
20
40
60
80
100
(OHIO TURNPIKE STA. 120+87.60 TO STA. 124+37.60)
RAMP "D" STA. 427+00 TO STA. 430+50
MAH-80S-7.01
MAH-80-2.30
OHIO
2
384

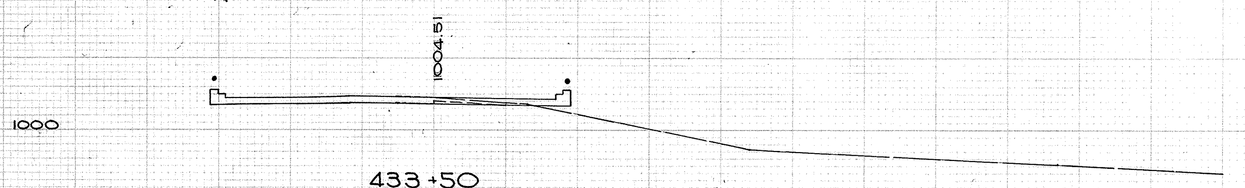
SEEDING	
END WIDTH	SQ. YDS.

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL

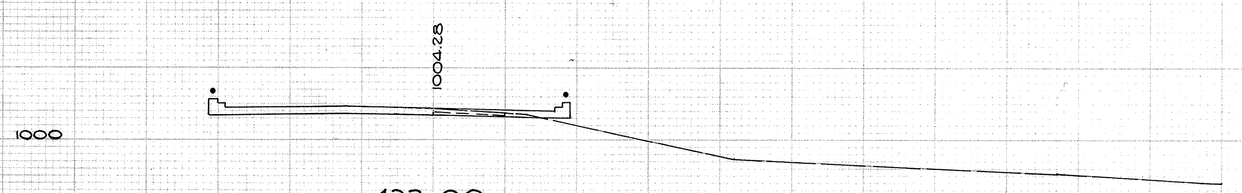


433 + 89.73
1004.77 E. RD.
(116+95.97 O.T. END BRIDGE)
SECTION SKEWED PARALLEL
WITH BRIDGE

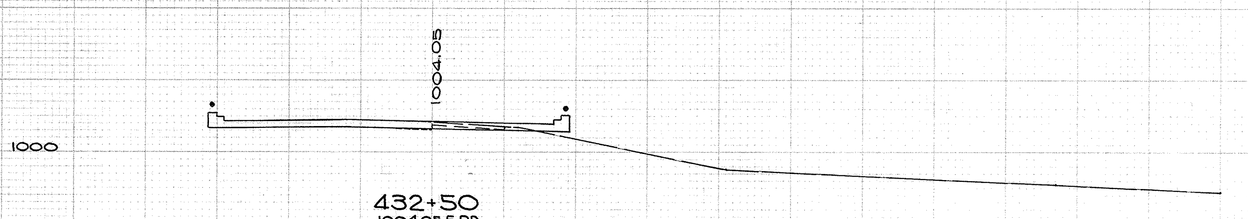




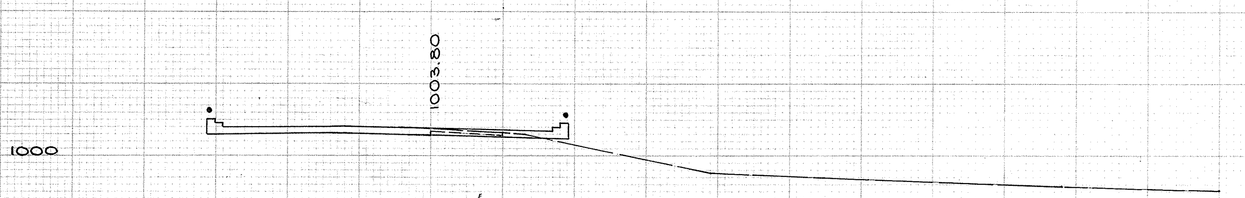
433 + 50
1004.51 E. RD.
(117 + 87.60 O.T.)



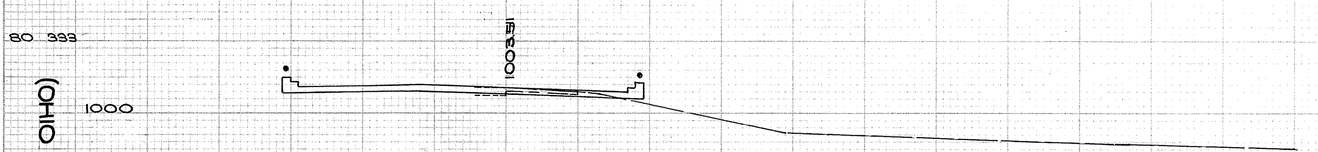
433 + 00
1004.28 E. RD.
(118 + 37.60 O.T.)



432 + 50
1004.05 E. RD.
(118 + 87.60 O.T.)



432 + 00
1003.80 E. RD.
(119 + 37.60 O.T.)



431 + 50
1003.51 E. RD.
(119 + 87.60 O.T.)

430+89.90
1003.28 E. RD.
(120+24.91 O.T. BEG. BRIDGE)
SECTION SKEWED PARALLEL
WITH BRIDGE

333 SHEET TOTAL

SHEET TOTALS 0 0

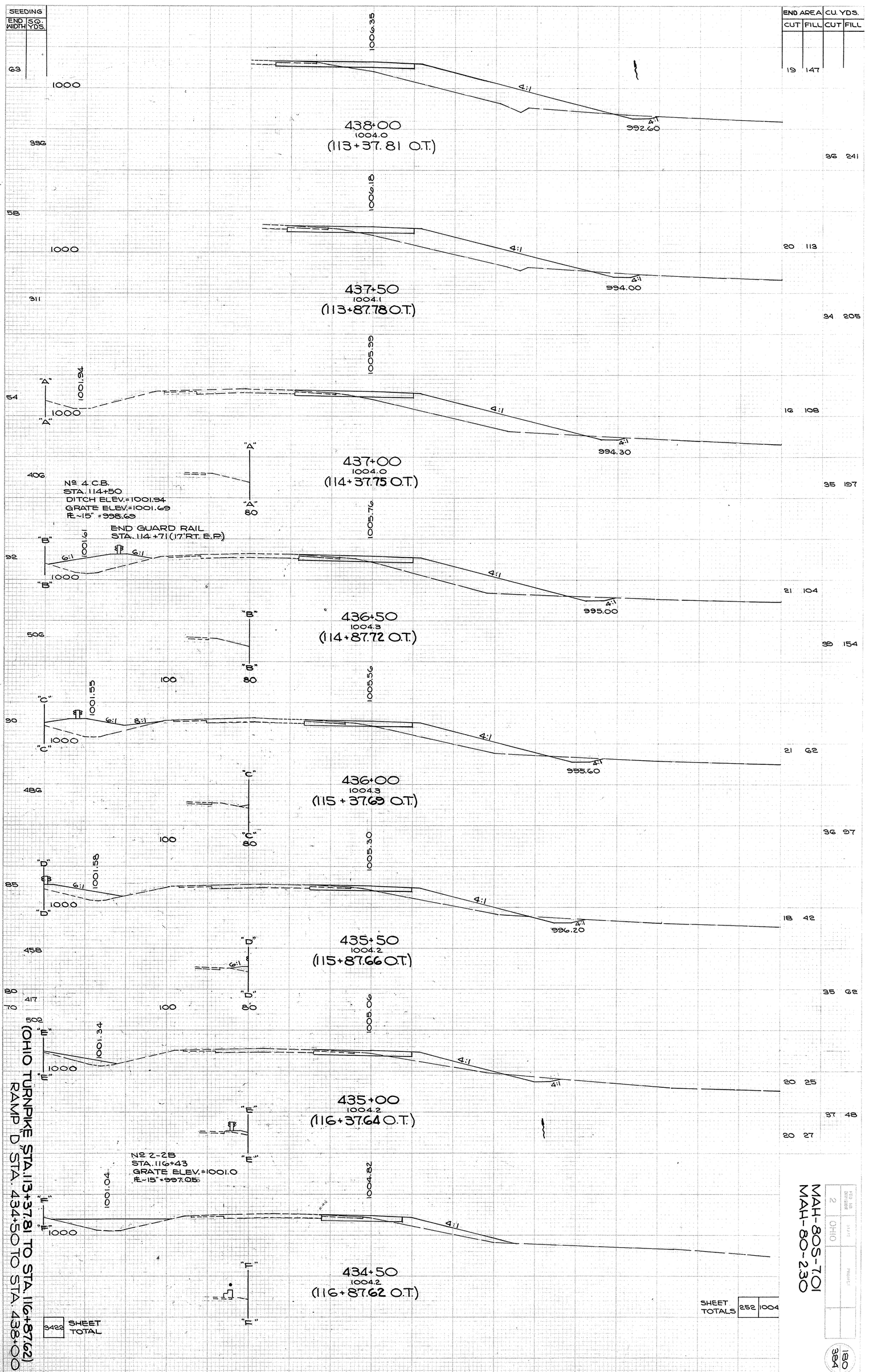
(OHIO TURNPIKE STA. 116+95.97 TO STA. 120+24.91)
RAMP "D" STA. 431+00 TO STA. 434+00

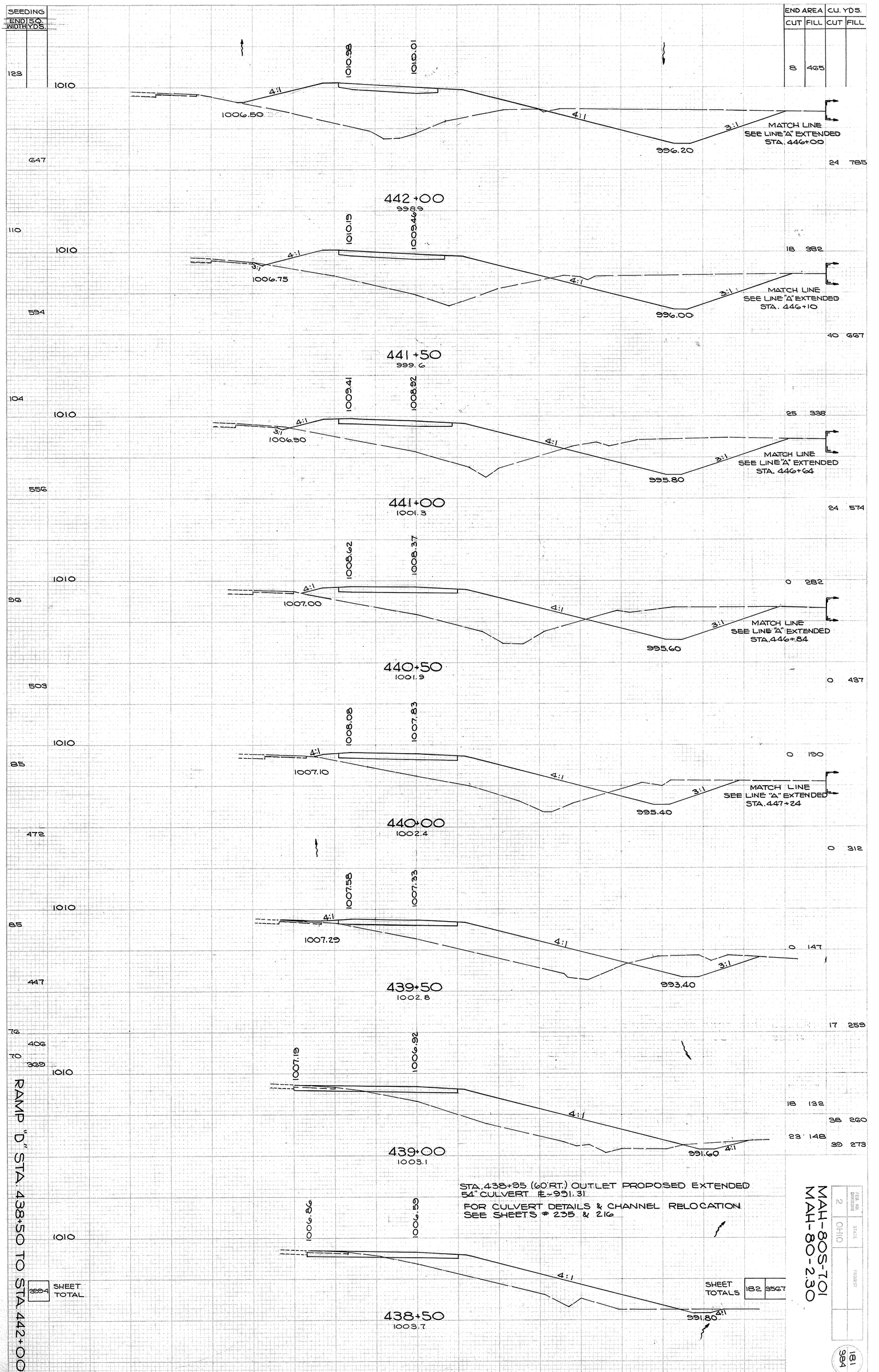
MAH-80S-7.01
MAH-80-2.30

REV. NO.	DESCRIPTION	STATE	PROJECT
2		OHIO	

TP9
384

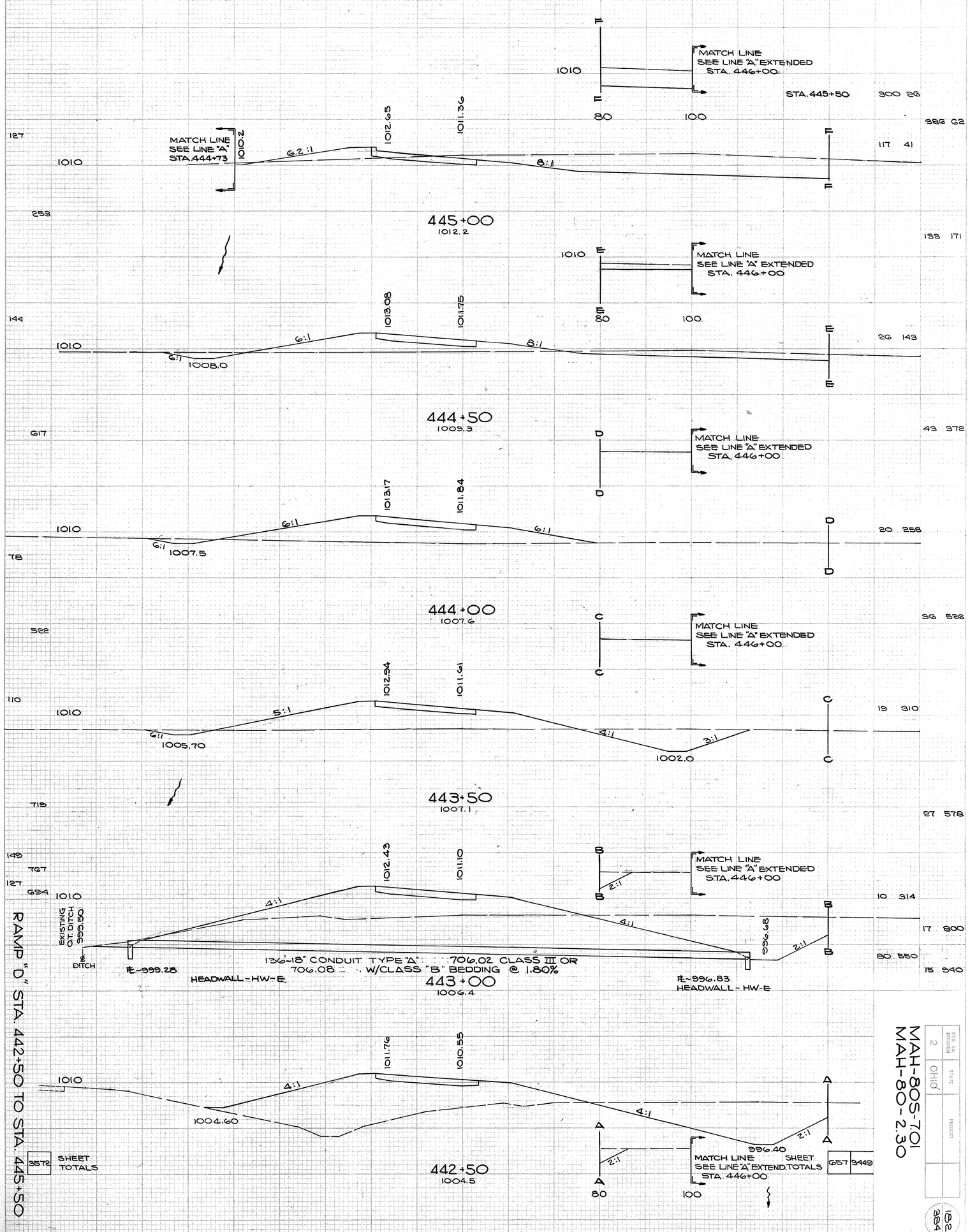
E. RD. T.P. 20 40 60 80 100


SEEDING
END WIDTH
SQ. YDS.
END AREA
CUT
FILL
CU. YDS.
CUT
FILL
1006.35
4:1
992.60
438+00
1004.0
(113+37.81 O.T.)
1006.18
994.00
437+50
1004.1
(113+87.78 O.T.)
1005.99
994.30
437+00
1004.0
(114+37.75 O.T.)
Nº 4 C.B.
STA. 114+50
DITCH ELEV.=1001.94
GRATE ELEV.=1001.69
Ø=15" =998.69
END GUARD RAIL
STA. 114+71 (17' RT. E.P.)
1005.76
995.00
436+50
1004.3
(114+87.72 O.T.)
1005.56
995.60
436+00
1004.3
(115+37.69 O.T.)
1005.30
996.20
435+50
1004.2
(115+87.66 O.T.)
1005.06
435+00
1004.2
(116+37.64 O.T.)
Nº 2-2B
STA. 116+43
GRATE ELEV.=1001.0
Ø=15" =997.015
1004.82
434+50
1004.2
(116+87.62 O.T.)
SHEET TOTAL
SHEET TOTALS
RAMP "D" STA. 434+50 TO STA. 438+00
(OHIO TURNPIKE "A" STA. 113+37.81 TO STA. 116+87.62)
MAH-80S-7.01
MAH-80-2.30
OHIO
180
384


SEEDING
END WIDTH
SQ. YDS.
END AREA
CUT
FILL
CU. YDS.
CUT
FILL
1010
1010.98
1010.01
4:1
1006.50
4:1
3:1
996.20
MATCH LINE
SEE LINE "A" EXTENDED
STA. 446+00
123
647
8
465
24
785
442+00
998.9
110
1010
1010.15
1009.46
4:1
3:1
1006.75
4:1
3:1
996.00
MATCH LINE
SEE LINE "A" EXTENDED
STA. 446+10
594
18
382
40
667
441+50
999.6
104
1010
1009.41
1008.92
4:1
3:1
1006.90
4:1
3:1
995.80
MATCH LINE
SEE LINE "A" EXTENDED
STA. 446+64
556
25
338
24
574
441+00
1001.3
1010
1008.62
1008.37
4:1
1007.00
4:1
3:1
995.60
MATCH LINE
SEE LINE "A" EXTENDED
STA. 446+84
96
0
282
440+50
1001.9
503
0
487
1010
1008.08
1007.83
4:1
1007.10
4:1
3:1
995.40
MATCH LINE
SEE LINE "A" EXTENDED
STA. 447+24
85
0
190
440+00
1002.4
472
0
312
1010
1007.58
1007.33
4:1
1007.25
4:1
3:1
993.40
85
0
147
439+50
1002.8
447
17
259
76
406
70
369
1010
1007.19
1006.92
4:1
991.60
4:1
18
132
38
260
23
148
39
273
439+00
1003.1
STA. 438+95 (60' RT.) OUTLET PROPOSED EXTENDED
54" CULVERT E=991.31
FOR CULVERT DETAILS & CHANNEL RELOCATION
SEE SHEETS # 235 & 216
1010
1006.86
1006.59
4:1
991.80
4:1
SHEET TOTAL
3884
SHEET TOTALS
182
3567
438+50
1003.7
RAMP "D" STA. 438+50 TO STA. 442+00
80
60
40
20
0
20
40
60
80
MAH-80S-7.01
MAH-80-2.30
2
OHIO
181
384

SEEDING	
END WIDTH	SQ. YDS.

END AREA CU. YDS.			
CUT	FILL	CUT	FILL

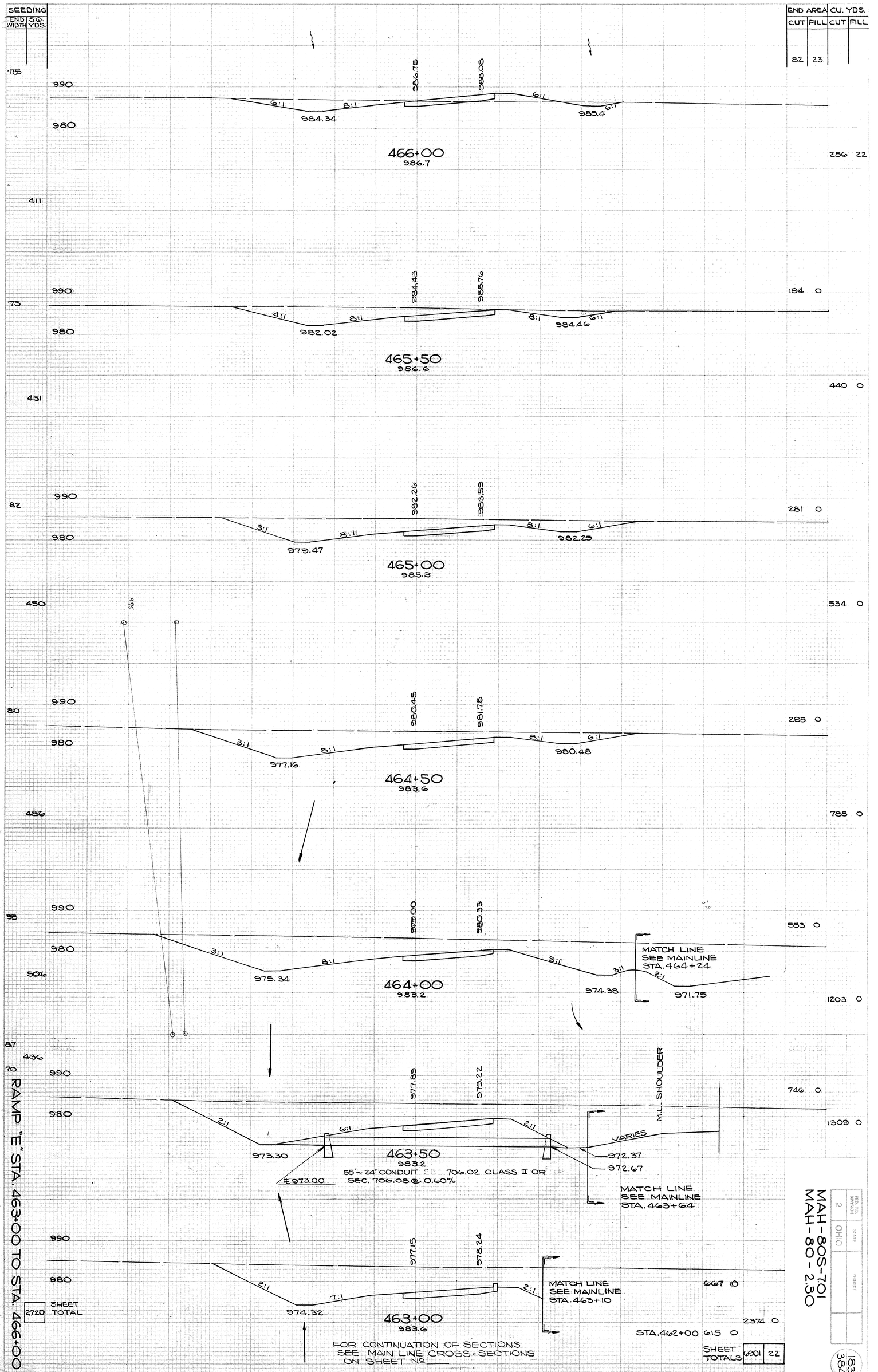


RAMP "D" STA. 442+50 TO STA. 445+50

MAH-80S-7.01
MAH-80-2.30

FED. NO. DIVISION	STATE	PROJECT
2	OHIO	

122
384


SEEDING
END WIDTH
SQ. YDS.
END AREA
CUT
FILL
CU. YDS.
CUT
FILL
RAMP "E" STA. 463+00 TO STA. 466+00
986.75
985.08
984.34
985.4
6:1
8:1
466+00
986.7
82
23
256
22
411
984.43
985.76
982.02
984.46
465+50
986.6
194
0
73
431
440
0
982.24
983.59
979.47
982.29
465+00
985.3
281
0
82
450
534
0
980.45
981.78
977.16
980.48
464+50
983.6
295
0
80
486
785
0
977.00
980.33
975.34
974.38
971.75
464+00
983.2
MATCH LINE
SEE MAINLINE
STA. 464+24
553
0
98
506
1203
0
977.89
979.22
973.30
972.37
972.67
M.L. SHOULDER
VARIES
℄ 973.00
463+50
983.2
55'~24" CONDUIT SEE 706.02 CLASS II OR
SEC. 706.08 @ 0.60%
MATCH LINE
SEE MAINLINE
STA. 463+64
746
0
1309
0
87
436
70
977.15
978.24
974.32
463+00
983.6
MATCH LINE
SEE MAINLINE
STA. 463+10
667
0
2374
0
STA. 462+00
615
0
SHEET TOTAL
2720
SHEET TOTALS
6801
22
FOR CONTINUATION OF SECTIONS
SEE MAIN LINE CROSS-SECTIONS
ON SHEET No.____
80
60
40
20
℄
20
40
60
80
MAH-80S-7.01
MAH-80-2.30
OHIO
2
PROJECT
183
384

END AREA	CU. YDS.
CUT	FILL

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

MAH-805-7.01
MAH-80-2.30

SHEET TOTALS 182 2857

SHEET TOTAL 1728

FOR CONTINUATION OF SECTIONS
SEE LINE "A" CROSS-SECTIONS
ON SHEET NO. 145

(STA. 468+22) 32 534 17 218

995.30
995.5
MATCH LINE
SEE LINE "A"
STA. 457+42
4:1
8:1
993.37
4:1
6:1
984.20
468+00
982.6
990
980
63

19 1065 10 644

993.82
991.6
MATCH LINE
SEE LINE "A"
STA. 457+83
8:1
992.43
4:1
6:1
984.5
467+50
985.4
990
980
T4
351

21 844 12 506

992.13
990.7
MATCH LINE
SEE LINE "A"
STA. 458+46
6:1
990.80
5:1
6:1
988.2
467+00
985.7
990
980
83
436

30 542 20 405

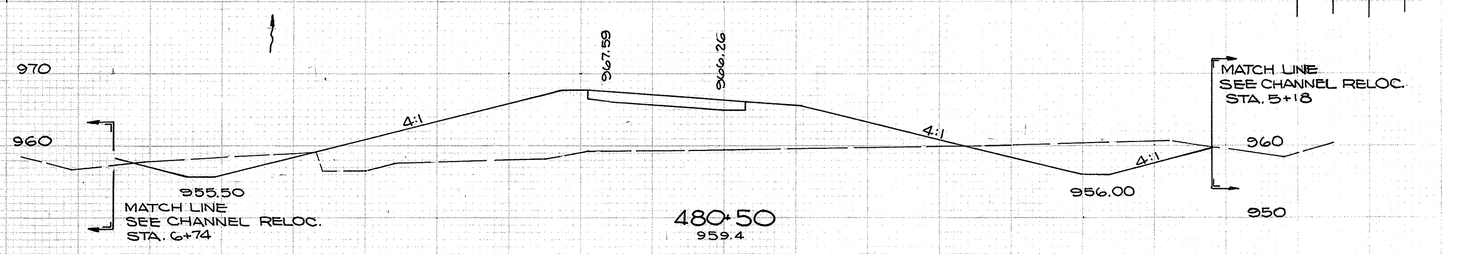
990.21
988.3
6:1
988.88
6:1
466+50
986.2
990
980
85
467
444

95 188 20 180

RAMP "E" STA. 466+50 TO STA. 468+00

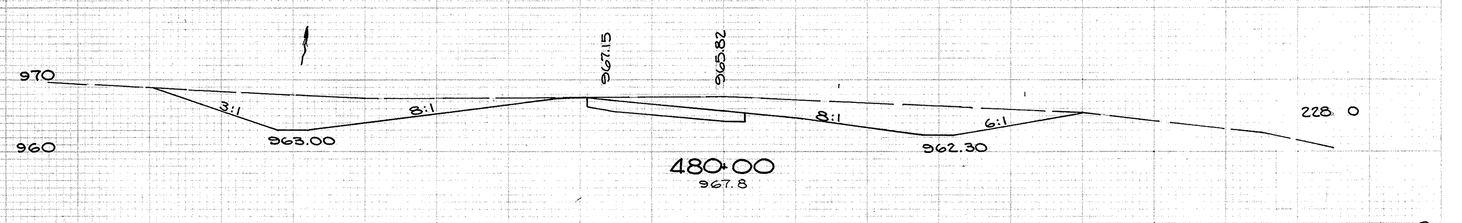
SEEDING	
END	S.Q.
WIDTH	YDS.

SEEDING		END AREA		CU. YDS.	
END WIDTH	SQ YDS	CUT	FILL	CUT	FILL
		0	498		



480+50
959.4

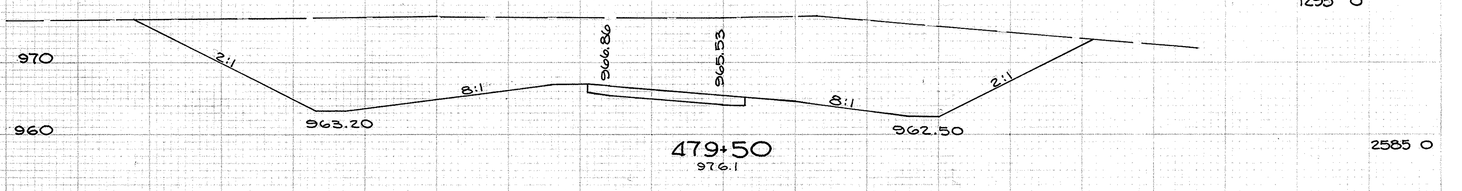
633 211 462



480+00
967.8

109 228 0

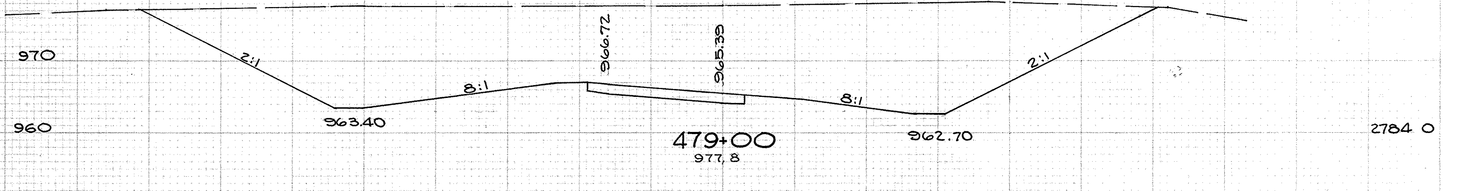
617 1411 0



479+50
976.1

113 1295 0

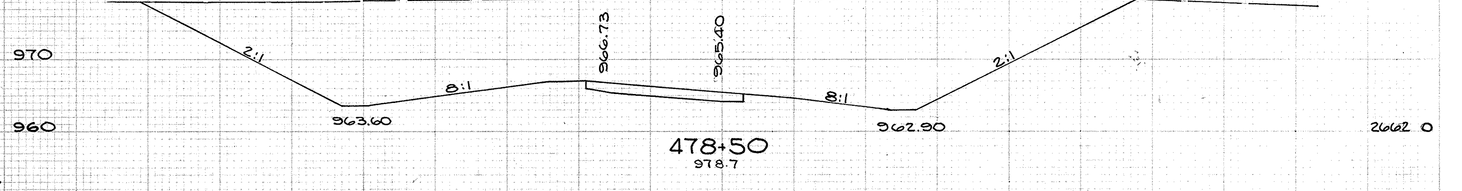
650 2585 0



479+00
977.8

121 1496 0

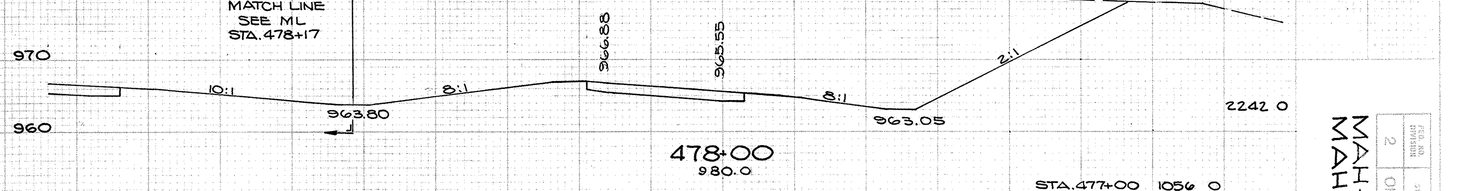
661 2784 0



478+50
978.7

117 1510 0

567 2662 0



478+00
980.0

87 1365 0

2242 0

STA. 477+00 1056 0

FOR CONTINUATION OF CROSS-SECTIONS ~ SEE MAIN LINE CROSS-SECTIONS ON SHEET Nº 85

SHEET TOTAL	3128

SHEET TOTALS	11,895	462

RAMP "F" STA 478+00 TO STA 480+50

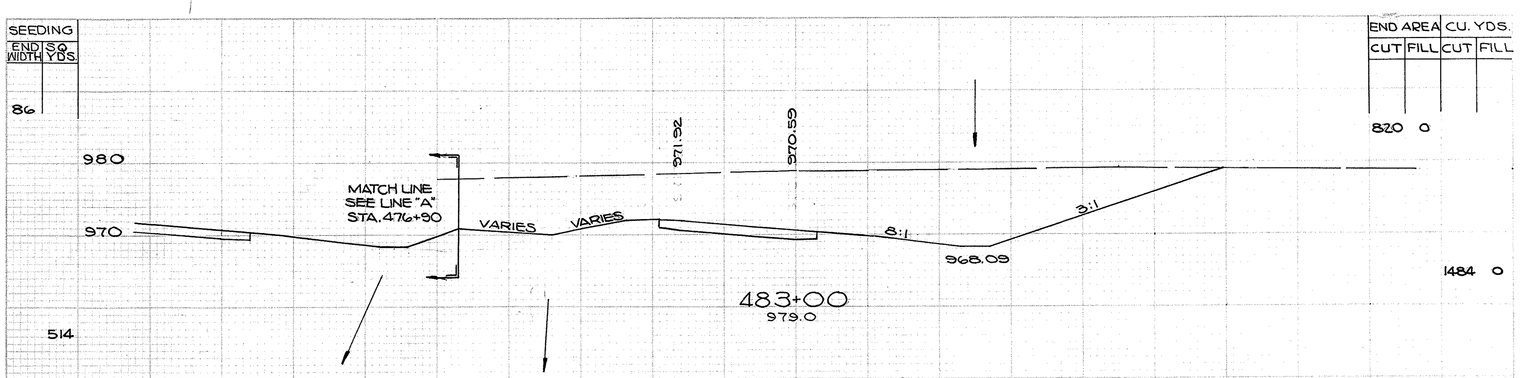
80 60 40 20 ℄ 20 40 60

MAH-80S-7.01
MAH-80-2.30

2	OHIO	

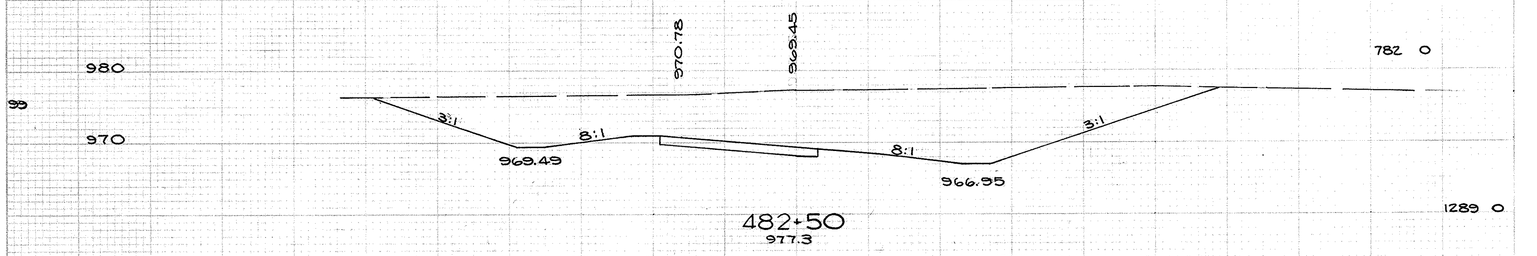
185
384

SEEDING		END AREA		CU. YDS.	
END WIDTH	SQ YDS.	CUT	FILL	CUT	FILL



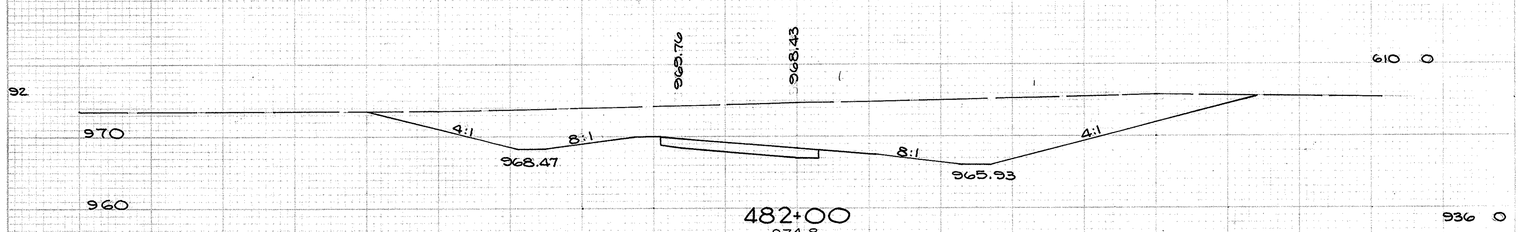
820 0

1484 0



782 0

1289 0

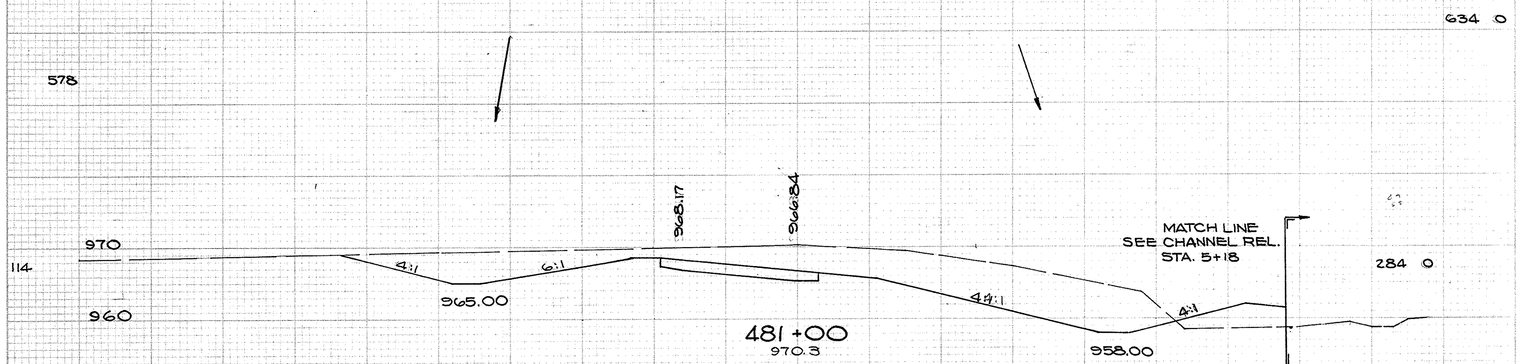


610 0

936 0

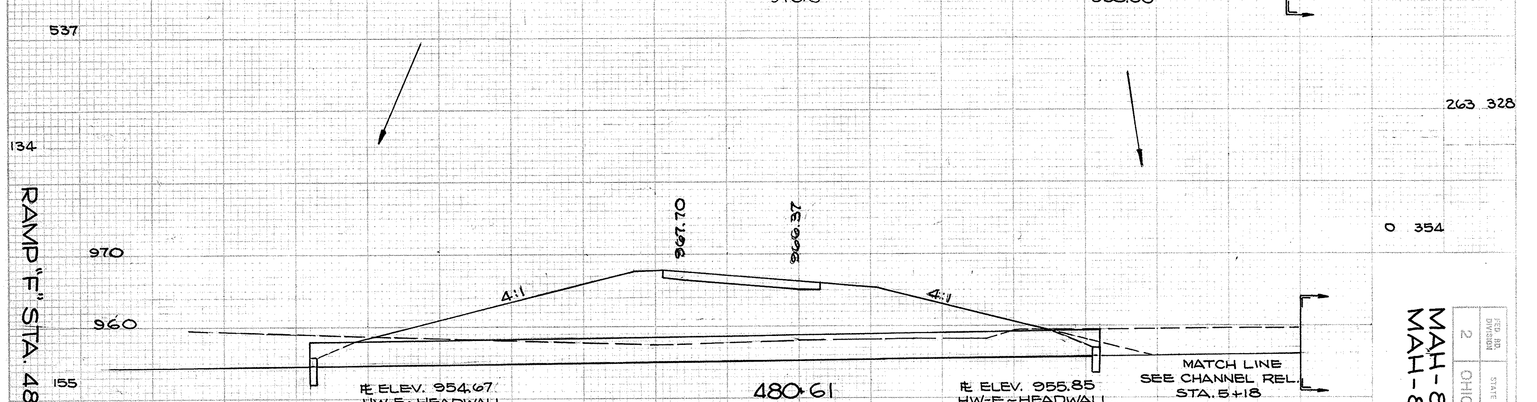
400 0

634 0



284 0

263 328



0 354

110'~42"CONDUIT @ 1.07% TYPE "A" ⊙ ED. 706.02
W/CLASS "B" BEDDING
SEE SHEET 239 FOR CULVERT DETAILS C-14

RAMP "F" STA. 480+61 TO STA. 483+00

2832	SHEET TOTAL

SHEET TOTALS	4,606	328

100 80 60 40 20 ℄ 20 40 60

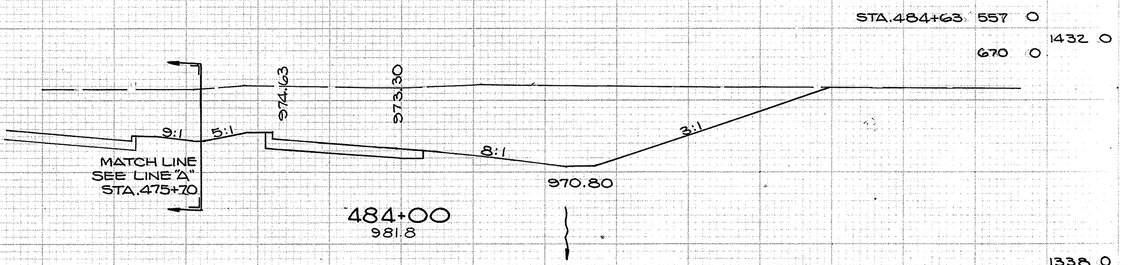
MAH-80S-701
MAH-80-2.30

FED. ROAD DESIGNATION	STATE	PROJECT
2	OHIO	

SEEDING	
END WIDTH	SQ. YDS.

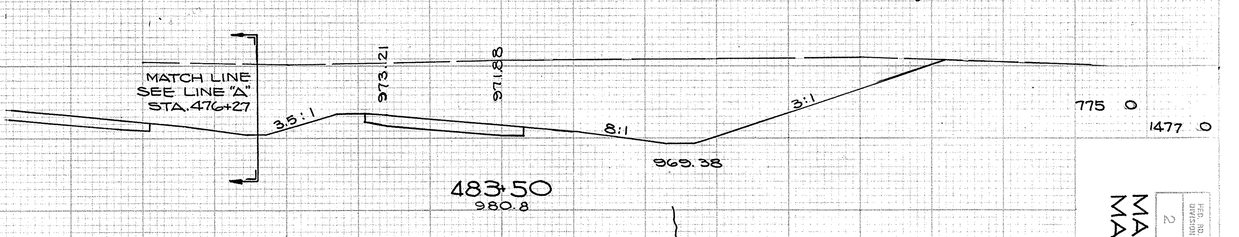
END AREA		CU. YDS.	
CUT	FILL	CUT	FILL

FOR CONTINUATION OF CROSS-SECTIONS
SEE LINE "A" CROSS-SECTIONS ON SHEET Nº 155



1338 0

450



447

RAMP "F" STA. 483+50 TO STA. 484+50

SHEET TOTAL	897

SHEET TOTALS	4247	0

80 60 40 20 0 20 40 60

MAH-80S-7.01
MAH-80-2.30

NO.	DATE	REVISION
2		

OHIO

PROJECT

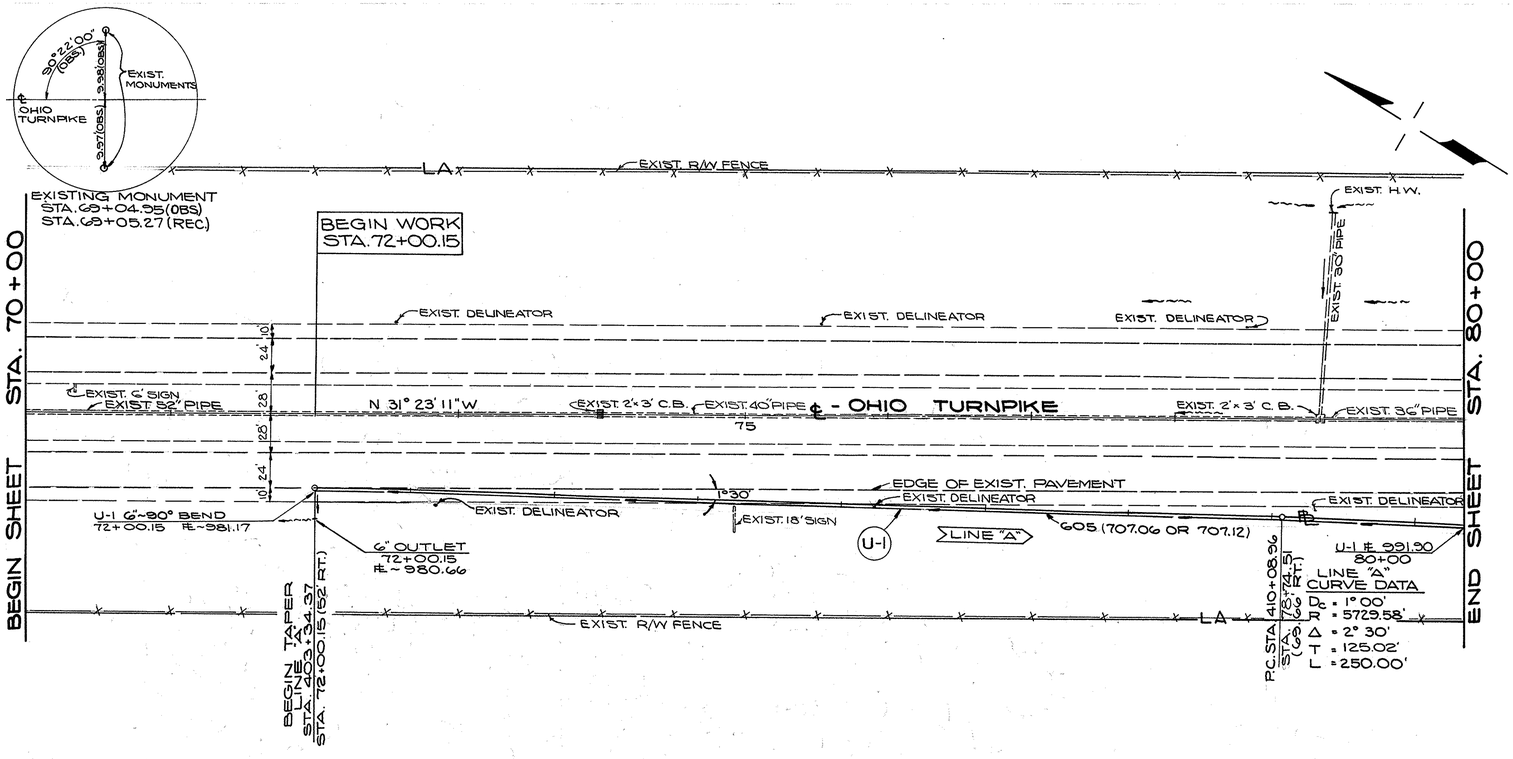
187
384

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

188
384

MAHONING COUNTY

MAH. 80S-7.01
MAH. 80-2.30



605 UNDERDRAINS (LIN. FT.)						603	
CODE	LOCATION		SIDE ℄	6" 707.06 OR 707.12		6" BENDS & BRANCHES	6" TYPE "F" LIN. FT.
	FROM	TO				60°	
U-1	72+00.15	80+00	RT.	810		1	10
SHEET TOTAL				810			10

FOR CROSS SECTIONS ON OHIO TURNPIKE SEE LINE "A" CROSS SECTIONS

FOR PROPOSED PAVEMENT ELEVATIONS OF TAPER SEE DETAIL SHEET No 116

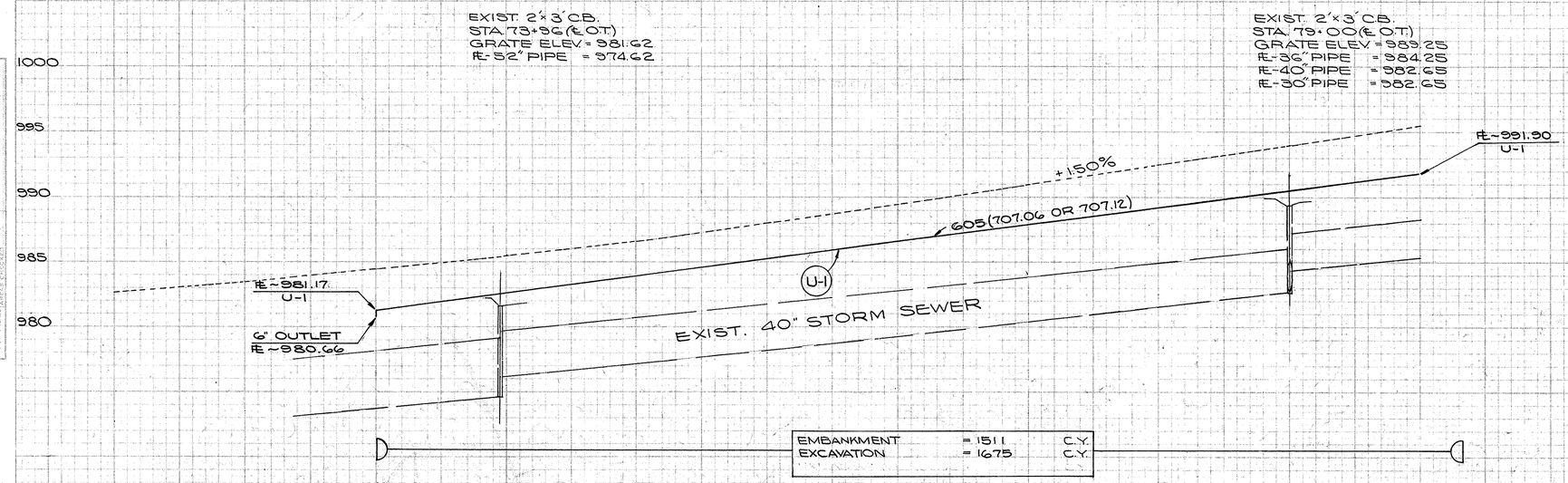
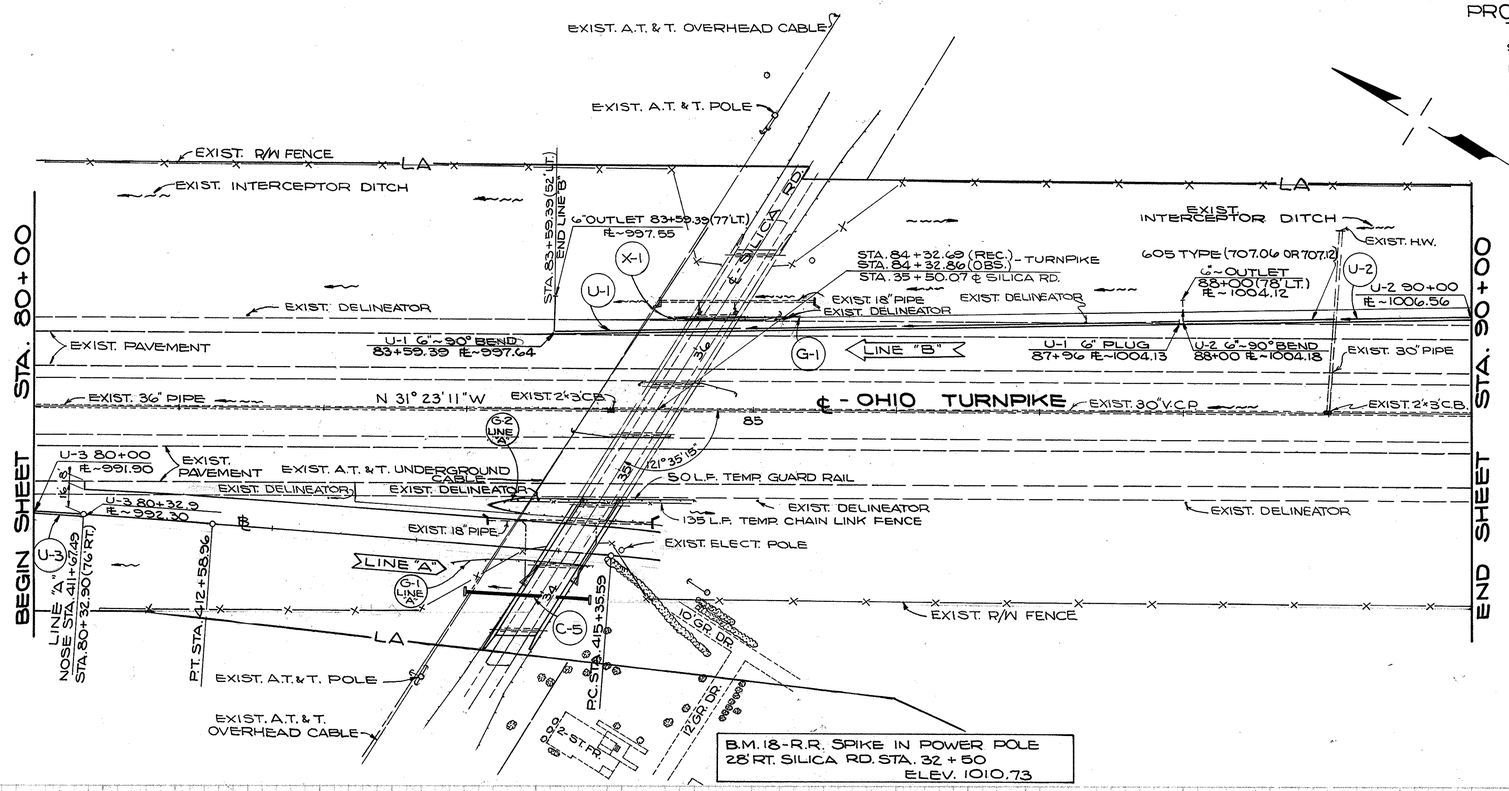


PLATE A - CROSS SECTION PAPER STANDARD
NATIONAL TRACING PAPER DIVISION

OHIO TURNPIKE
STA. 70+00 TO STA. 80+00



PROPOSED STRUCTURE MAH-80-0148

TYPE: CONTINUOUS STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SKEW: 31° 35' 01" R.F.
SPANS: NEW: 53'-0" ~ 53'-0"
EXISTING SPANS TO REMAIN: 56'-11 3/16" ~ 38'-8 7/8" ~ 56'-11 3/16" ~ 39'-1 9/16" C/C BRG'S.
ROADWAY: 24'-0" F/F ~ 1'-6" SAFETY CURBS
LOAD FREQUENCY: CF = 30
WEARING SURFACE: 1" MONOLITHIC
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: CRUSHED AGGREGATE (601.05)
APPROACH SLAB: 25' LONG (AS-1-54)

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

189
384

MAHONING COUNTY

MAH. 80S-7.01
MAH. 80-2.30

605 UNDERDRAINS (LIN. FT.)

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" 707.06 OR 707.12		603 6" BENDS & BRANCHES 90°	603 6" TYPE "F" LIN. FT.
U-1	83+59.39	87+96	LT.	451		1	10
U-2	88+00	90+00	LT.	205		1	10
U-3	80+00	80+32.90	RT.	33			
SHEET TOTAL				689			20

STRUCTURES 20' SPAN & UNDER

CODE	LOCATION	TYPE	SIZE	DETAIL SHEET №
C-5	415+00 (32' RT.)	88'-TYPE "A" 706.02	30"	234

202 REMOVAL ITEMS

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	GUARD RAIL REMOVED FOR STORAGE ~LIN. FT.		
X-1	84+52	85+17	LT.	65		
SHEET TOTALS				65		

606 GUARD RAIL (LIN. FT.)

CODE	FROM	TO	LOCA	TYPE 4 WITH ST. POST
G-1	84+60	85+60	LT.	100
SHEET TOTAL				100

FOR DETAILS LINE "A" SEE SHEET № 116

FOR DETAILS SILICA RD. SEE SHEET № 213

FOR CROSS SECTIONS ON OHIO TURNPIKE SEE (LINES "A" & "B") CROSS SECTIONS

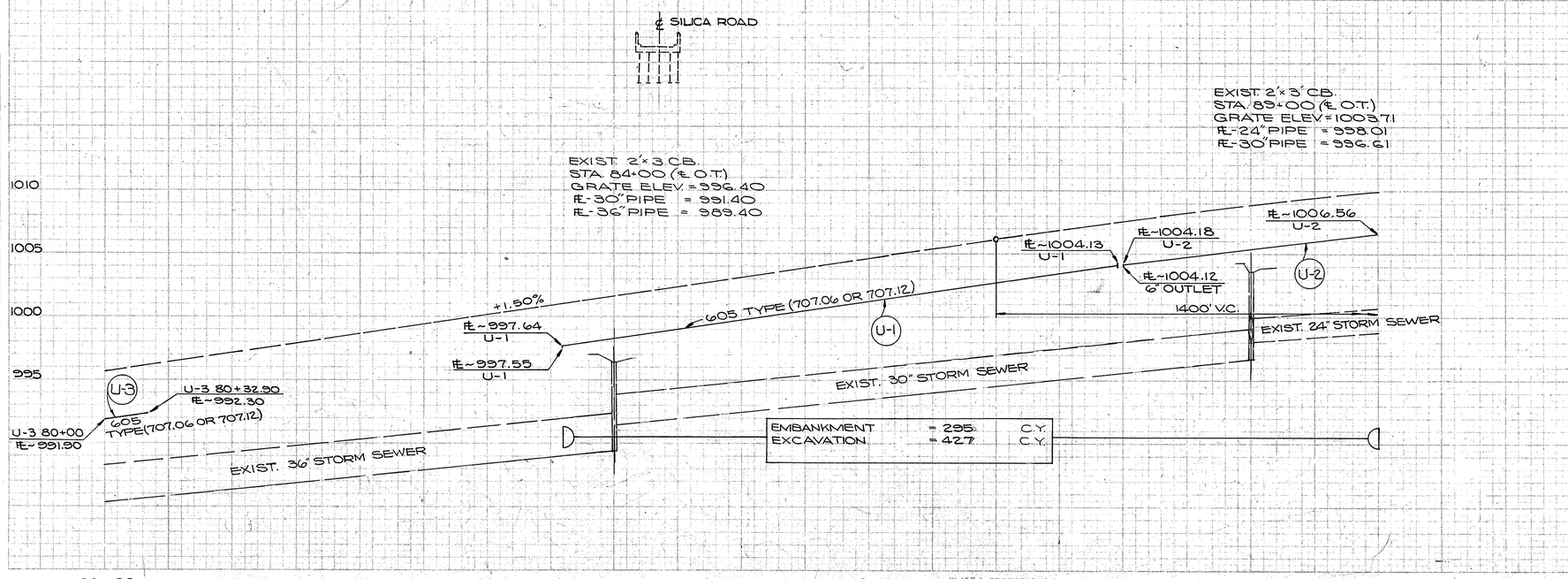


PLATE & PAPER SECTION O. P. S. & S. BOARD
NATIONAL TRACING PAPER DIVISION
I. S. & S. CO., INC. TERRE HAUTE, INDIANA

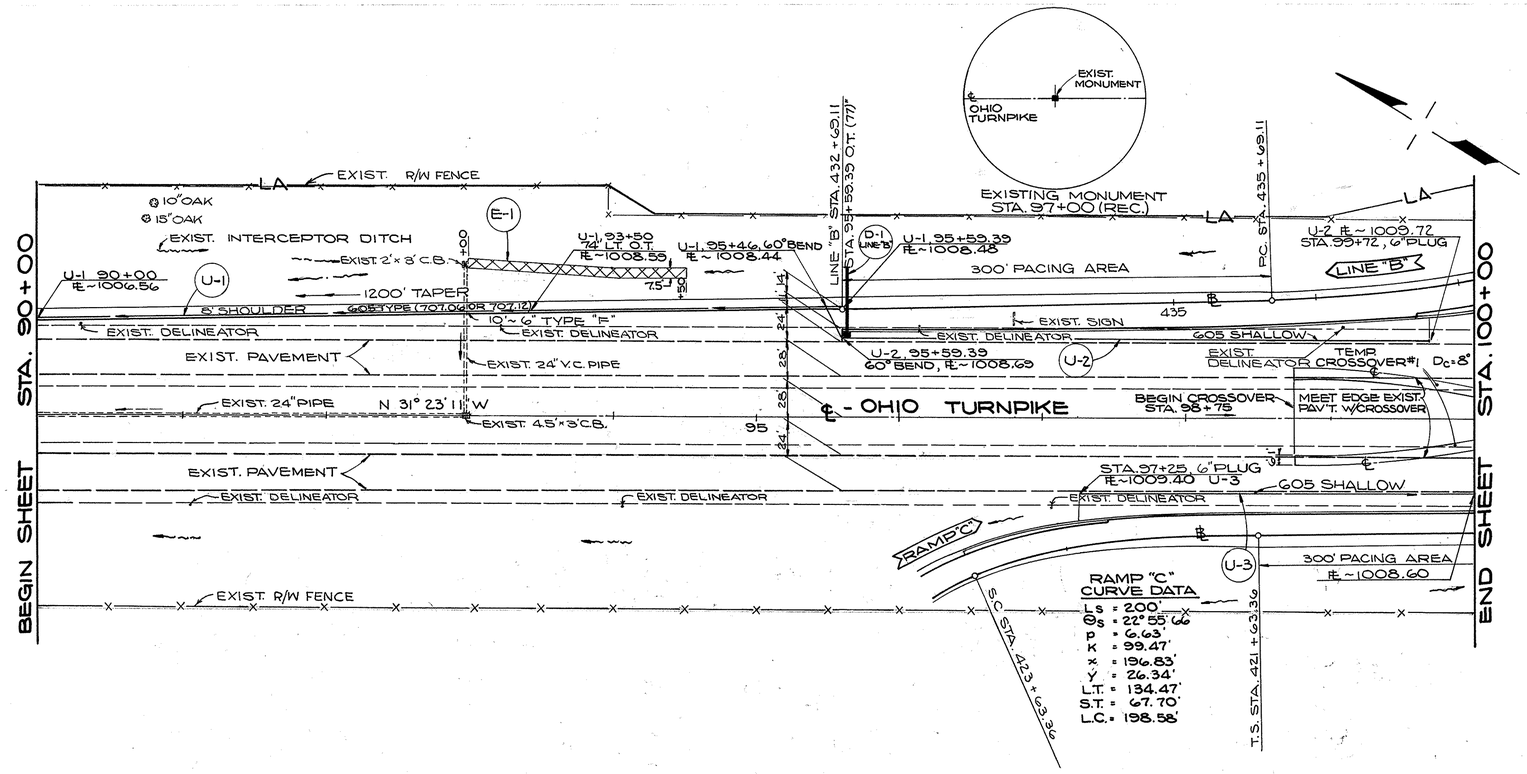
OHIO TURNPIKE
STA. 80 + 00 TO STA. 90 + 00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

190
584

MAHONING COUNTY

MAH. 80S-7.01
MAH. 80-2.30



605 UNDERDRAINS (LIN. FT.)						603			
CODE	LOCATION FROM	LOCATION TO	SIDE	6" SHALLOW	6" 707.06 OR 707.12	6" TYPE "F"	6" TYPE "B" CONDUIT WITH CL. "B" BEDDING	6" BENDS & BRANCH 60° BEND	6" BENDS & BRANCH 60° WYE
U-1	90+00	432+69.11 LINE "B"	LT.	449	100	10			1
U-2	95+21	99+69	LT.	411			27	1	
U-3	97+25	100+00	RT.	275					
SHEET TOTAL				1135	100	10	27		

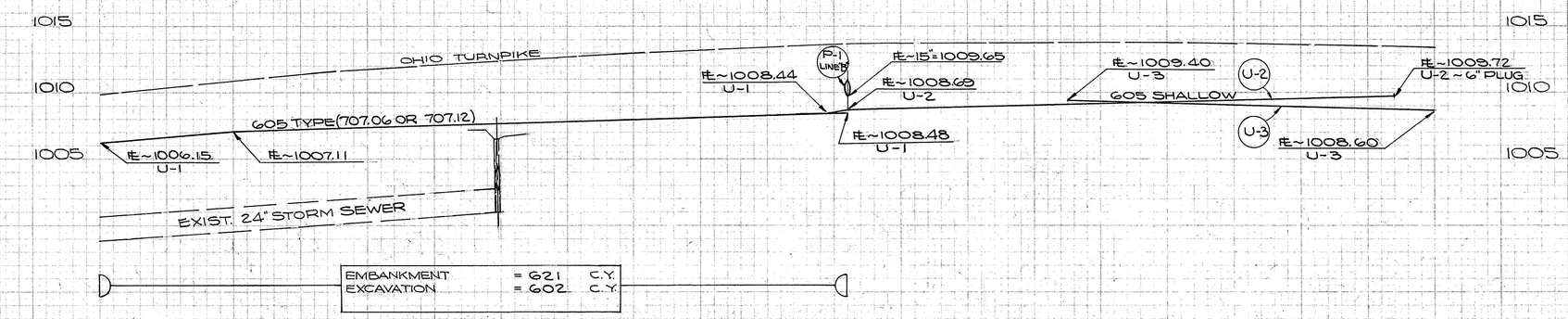
EROSION CONTROL				
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	667 JUTE MATTING SQ.YDS.
E-1	93+00	94+50	LT.	125
SHEET TOTAL				125

FOR DETAILS LINE "B"
SEE SHEET № 117

FOR DETAILS RAMP "C"
SEE SHEET № 117

FOR CROSS SECTIONS ON OHIO TURNPIKE SEE LINE "B" AND RAMP "C" CROSS SECTIONS.

EXIST 2'x 3' C.B.
STA. 92+97 (℄ O.T.)
GRATE ELEV. = 1007.46
℄ - 24" PIPE = 1000.96 (N)
℄ - 24" PIPE = 1002.46 (E)

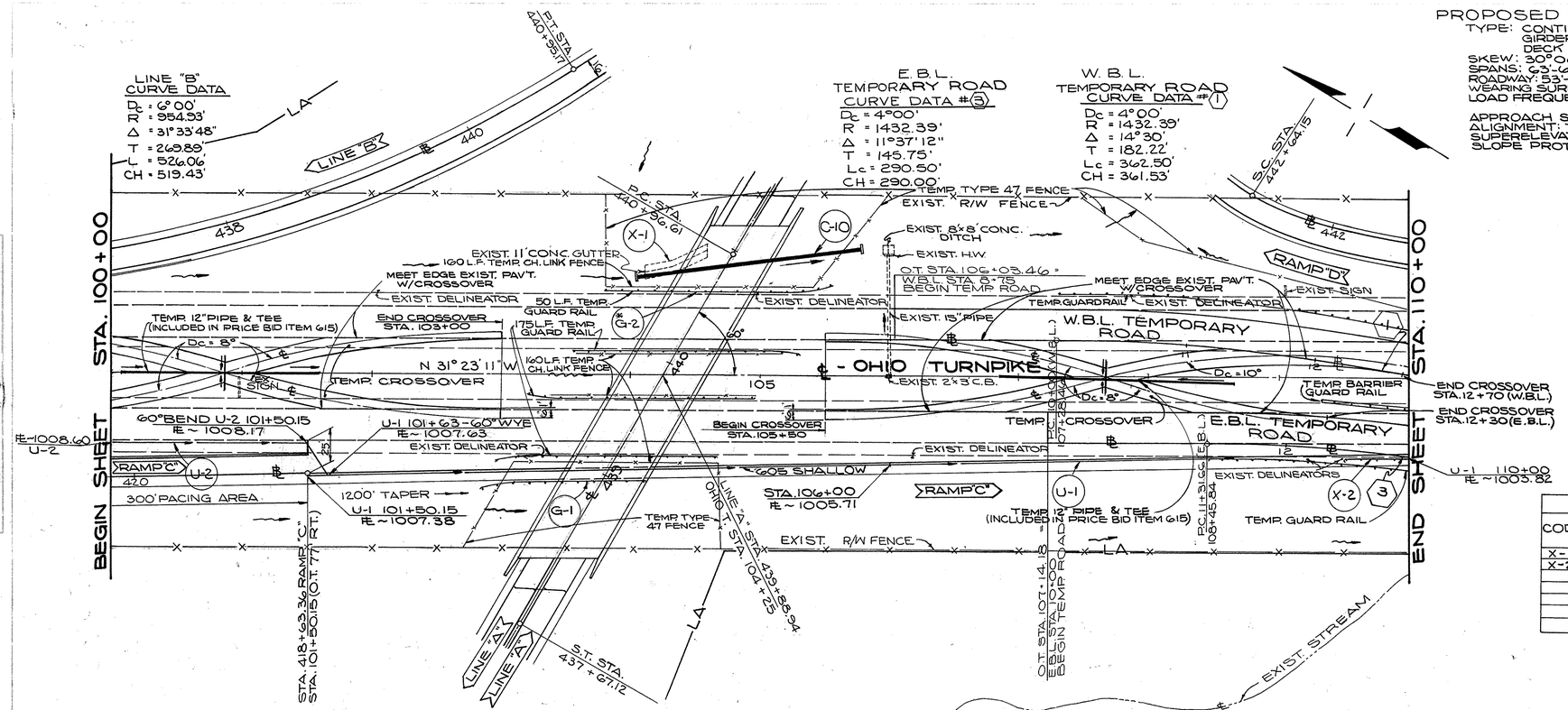


EMBANKMENT	= 621	C.Y.
EXCAVATION	= 602	C.Y.

90+00 91 92 93 94 95+00 96 97 98 99 100+00

PLATE 4 CROSS SECTION GRAPH PAPER
NATIONAL TRACING PAPER DIVISION
U.S.T. CO., INC. INDIANAPOLIS, INDIANA

OHIO TURNPIKE
STA. 90+00 TO STA. 100+00



PROPOSED STRUCTURE MAH-80-0186
TYPE: CONTINUOUS WELDED STEEL PLATE GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SKEW: 30°00'00"
SPANS: 93'-6" ~ 97'-6" ~ 78'-0" ~ 50'-9" C/C BRG'S.
ROADWAY: 53'-0" F/F PARAPETS ~ 3' MEDIAN
WEARING SURFACE: 1" MONOLITHIC
LOAD FREQUENCY: C.F. = 2000 ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING
APPROACH SLABS: 25' LONG (AS I-54)
ALIGNMENT: TANGENT AND 4°00'00" CURVE RT.
SUPERELEVATION: TRANSITION
SLOPE PROTECTION: CRUSHED AGGREGATE (601.05)

FED.RD. DIVISION	STATE	PROJECT	
2	OHIO		

191
384

MAHONING COUNTY
MAH. 80S-7.01
MAH. 80-2.30

605 UNDERDRAINS (L.F.) — 603

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" SHALLOW	6" TYPE "B" CONDUIT WITH CLASS "B" BEDDING	6" BENDS & BRANCHES 60° BEND	60° WYE
U-1	101+50.15	110+00	RT.	850			
U-2	100+00	101+50.15	RT.	150	27	1	
SHEET TOTAL				1000	27		

STRUCTURES 20' SPAN & UNDER

CODE	LOCATION	TYPE	SIZE	DETAIL SHEET Nº
C-10	104+04.5 (79 LT.)	176'-TYPE 'C'	15	237

202 REMOVAL ITEMS

CODE	LOCATION FROM	LOCATION TO	SIDE ℄		GUTTER REMOVED & DISPOSED OF SQ.YD.	GUARD RAIL REMOVED FOR STOR. L.F.	
X-1	104+12	104+59	LT.		58		
X-2	109+50	110+00	RT.			50'	
SHEET TOTALS					58	50'	

606 GUARD RAIL (L.F.)

CODE	FROM	TO	LOCA.	TYPE 4 W/STL. POST
G-1	102+83	104+08	RT.	125
*G-2	104+30	105+55	LT.	125
SHEET TOTAL				250

FOR DETAILS LINE "B" SEE SHEET Nº 117
FOR DETAILS RAMP "C" SEE SHEET Nº 117
FOR DETAILS RAMP "D" SEE SHEET Nº 118
FOR CROSS SECTIONS ON OHIO TURNPIKE SEE LINE "A" & "B" AND RAMP "C" & "D" CROSS SECTIONS.
FOR DETAILS LINE "A" SEE SHEET Nº 104
FOR PROFILES TEMPORARY ROAD SEE SHEET Nº 196-197
FOR CROSS SECTIONS TEMP. ROAD SEE SHEET Nº 198-204

* G-2 TO BE CONSTRUCTED CONCURRENTLY WITH TEMP. GUARD RAIL.
FOR QUANTITIES OF THE TEMP. FENCE AND GUARD RAIL SEE "MAINTENANCE OF TRAFFIC" SHEET Nº 14
FOR CROSS SECTION OF OHIO TURNPIKE STA. 103+50 TO STA. 105+50 SEE SHEET Nº 195

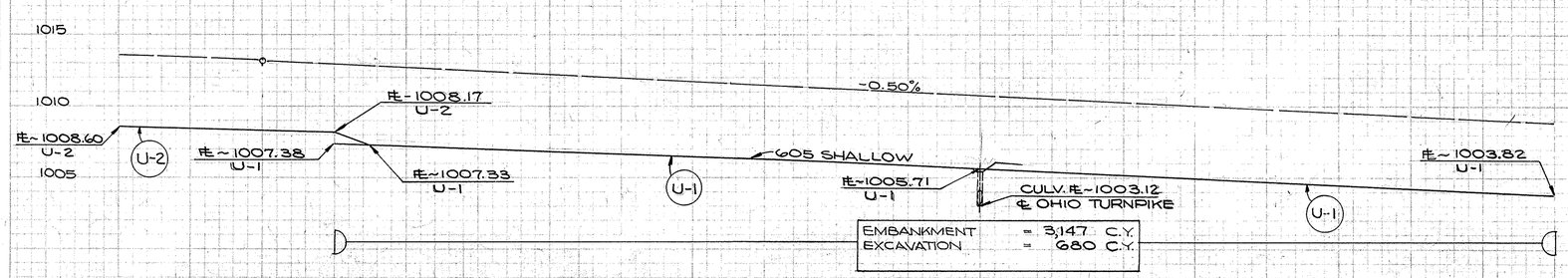
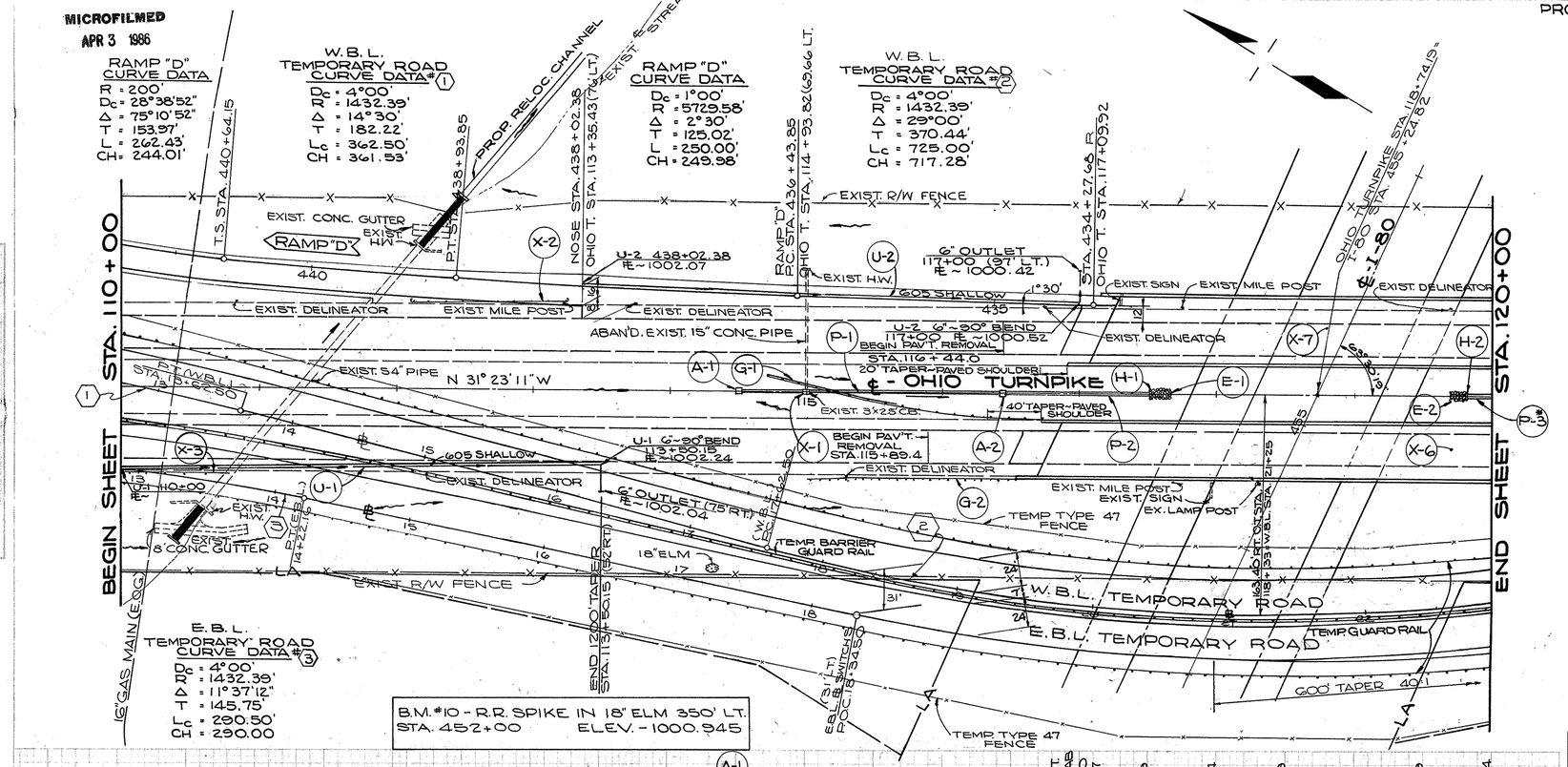
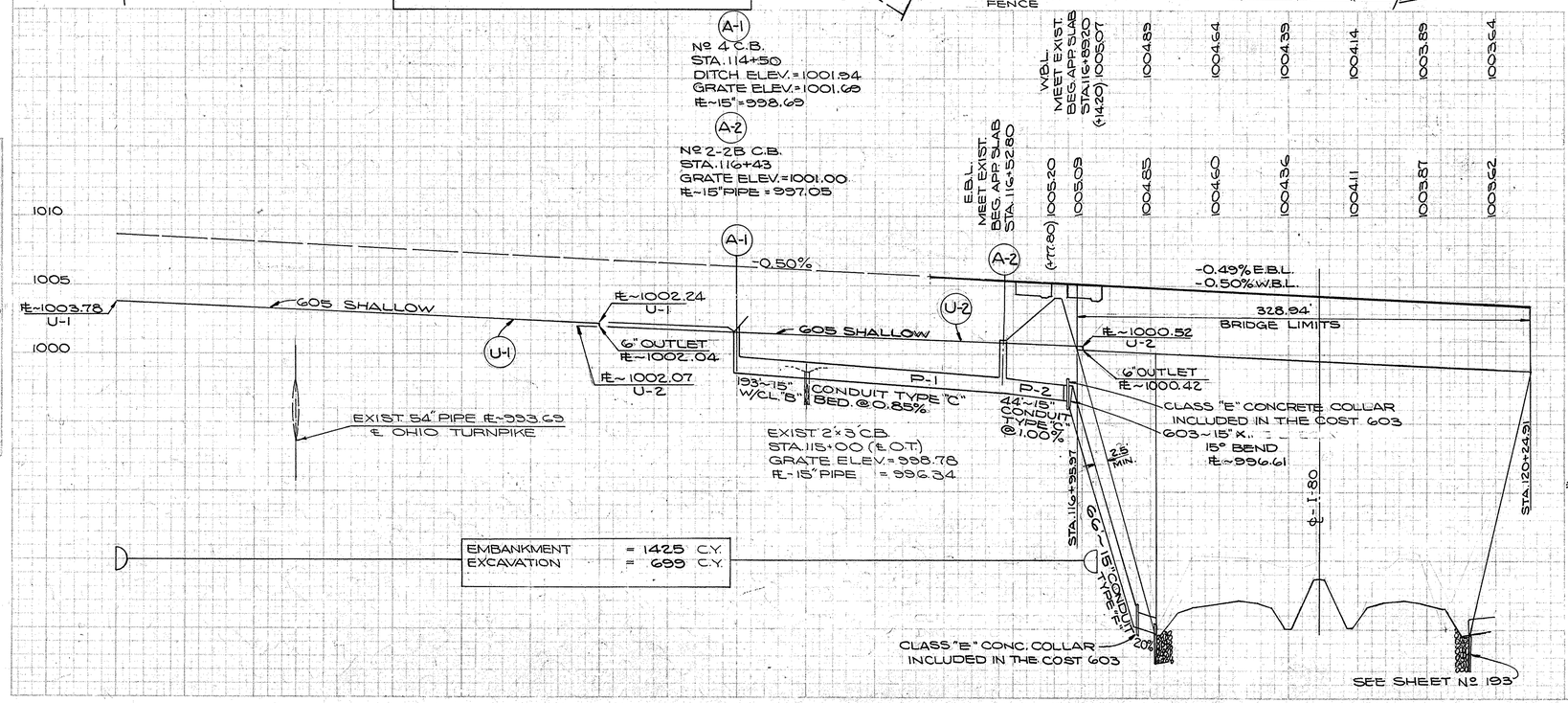


PLATE 1 LINES SECTION ℄ P. B. 5/8 E. 1/2 NATIONAL TRACING PAPER DIVISION U.S.S.L. CO., INC. INDIANAPOLIS, INDIANA

OHIO TURNPIKE
STA. 100+00 TO STA. 110+00

MICROFILMED
APR 3 1986





PROPOSED STRUCTURE MAH-805-0861 & 0862
TYPE: CONTINUOUS WELDED STEEL PLATE GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES
SKEW: 24°29'41" L.F.
SPANS: 69'-3"~106'-6"~89'-9"~58'-6" C/L BRGS.
ROADWAY LT. STR. 48'-0" F/F. PARAPETS
RT. STR. 41'-0" F/F. PARAPETS
LOAD FREQUENCY CF = 2.000 ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING
WEARING SURFACE 1" MONOLITHIC
APPROACH SLABS: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: CRUSHED AGGREGATE (601.05)

FED RD. DIVISION	STATE	PROJECT	
2	OHIO		

192
384

MAHONING COUNTY
MAH. 80S-7.01
MAH. 80-2.30

605 UNDERDRAINS (LIN. FT.)						603	
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" SHALLOW		6" BENDS & BRANCHES 90°	6" TYPE "F" LIN. FT.
U-1	110+00	113+50.15	RT.	360		1	10
U-2	438+02.38 RAMP "D"	117+00	LT.	379		1	10
SHEET TOTAL (O.T. ℄ S.)				739			20

STRUCTURES 20' SPAN & UNDER					
CODE	LOCATION	TYPE		SIZE	DETAIL SHEET Nº
C-9	111+30 (112' RT.)	33'~TYPE "A"	706.02	54"	236
C-9	111+30 (129' LT.)	58'~TYPE "A"	706.02	54"	236

603 CONDUIT (LIN. FT.)						
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	TYPE "C" 15" W/CL. "B" BEDDING	TYPE "F" 15"	15" BENDS & BRANCHES 15°
P-1	114+50	116+43	℄	193'		
P-2	116+43	117+54	℄	44'	66'	2
SHEET TOTAL (1)				237'	66'	

604 CATCH BASINS			
CODE	LOCATION	ST'D. Nº 4 C.B. EA.	ST'D. Nº 2-2B C.B. EA.
A-1	114+50	1	
A-2	116+43		1
SHEET TOTAL (1)		1	1

EROSION CONTROL				601	602
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	D.R.C.P. CU. YDS.	CONC. MASONRY CU. YDS.
H-1	117+54	—	℄		0.2
H-2	119+81	—	℄		0.2
E-1	117+54	117+66	℄	13	
E-2	119+68	119+81	℄	13	
SHEET TOTAL (I)				26	0.4

606 GUARD RAIL (LIN. FT.)					
CODE	FROM	TO	LOCA	TYPE 4 W/STL. POST	TYPE 4 BARRIER W/STL. POST
G-1	114+71	116+71	℄	100	100
G-2	115+01	116+51	RT.	150	
SHEET TOTAL (I)				250	100

202 REMOVAL ITEMS									
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	C.B. REMOVED EACH	GUARD RAIL TO BE REMOVED FOR STORAGE ~LIN. FT.		EXIST. PAV'T. REMOVED & DISPOSED OF ~SQ. YD.		
X-1	115+00		℄	1					
X-2	112+10	113+25	LT.		115				
X-3	110+00	110+80	RT.		80				
X-6	115+89.4	120+00	RT.				1095		
X-7	116+44	120+00	LT.				949		
SHEET TOTAL (I)				1			2044		
SHEET TOTAL (STATE)					195				

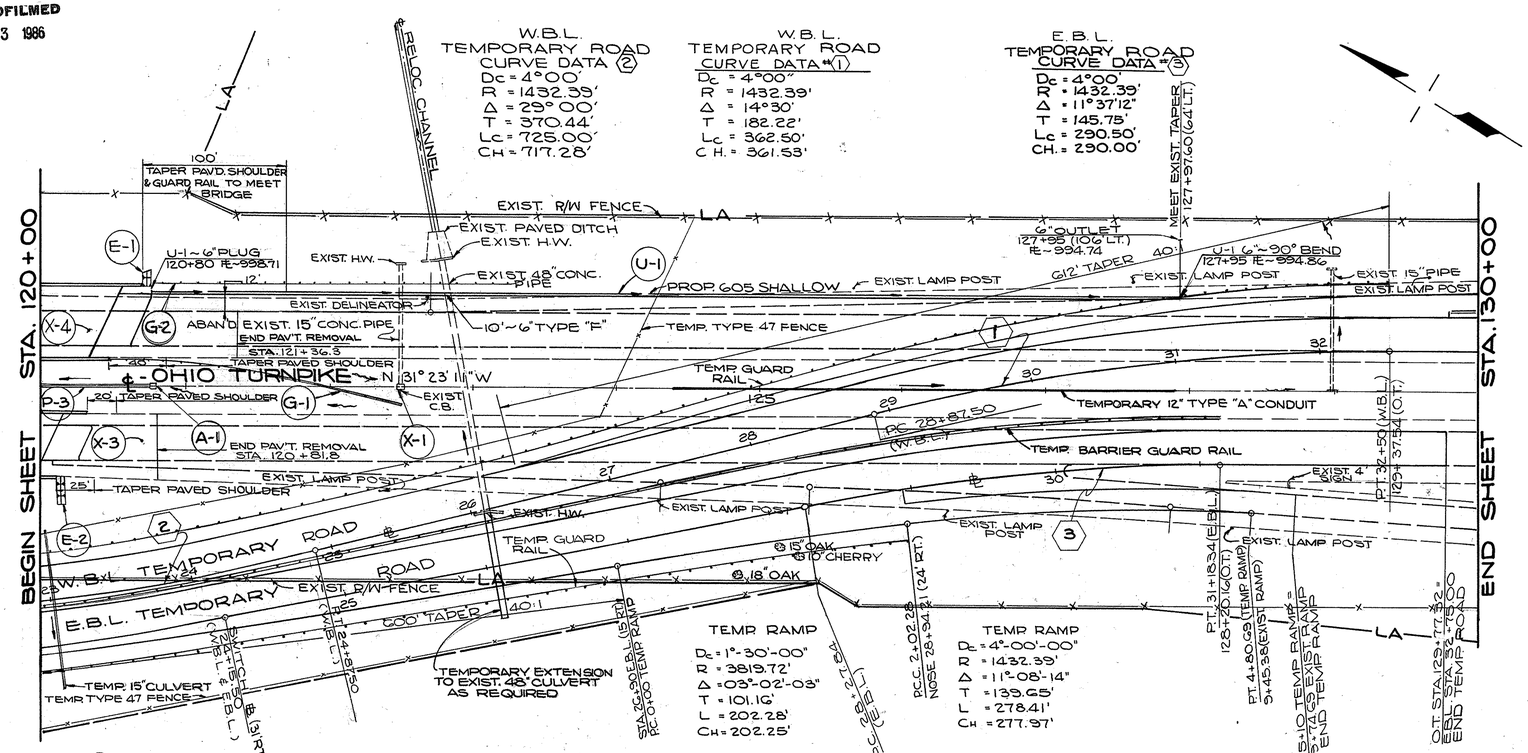
FOR CROSS SECTIONS ON OHIO TURNPIKE, SEE RAMP "C" & "D" CROSS SECTIONS.
FOR CROSS SECTIONS ON TEMPORARY ROAD, SEE SHEET Nº 198-204
FOR DETAILS RAMP "D", SEE SHEET Nº 118
FOR DETAILS I-80, SEE SHEET Nº 44 & 45
*FOR QUANTITIES & PROFILE (P-3), SEE SHEET Nº 193
FOR DETAIL OF CHANNEL RELOCATION, SEE SHEET Nº 217
FOR QUANTITIES OF THE TEMPORARY GUARD RAIL AND TEMPORARY FENCE, SEE MAINTENANCE OF TRAFFIC SHEET Nº 14

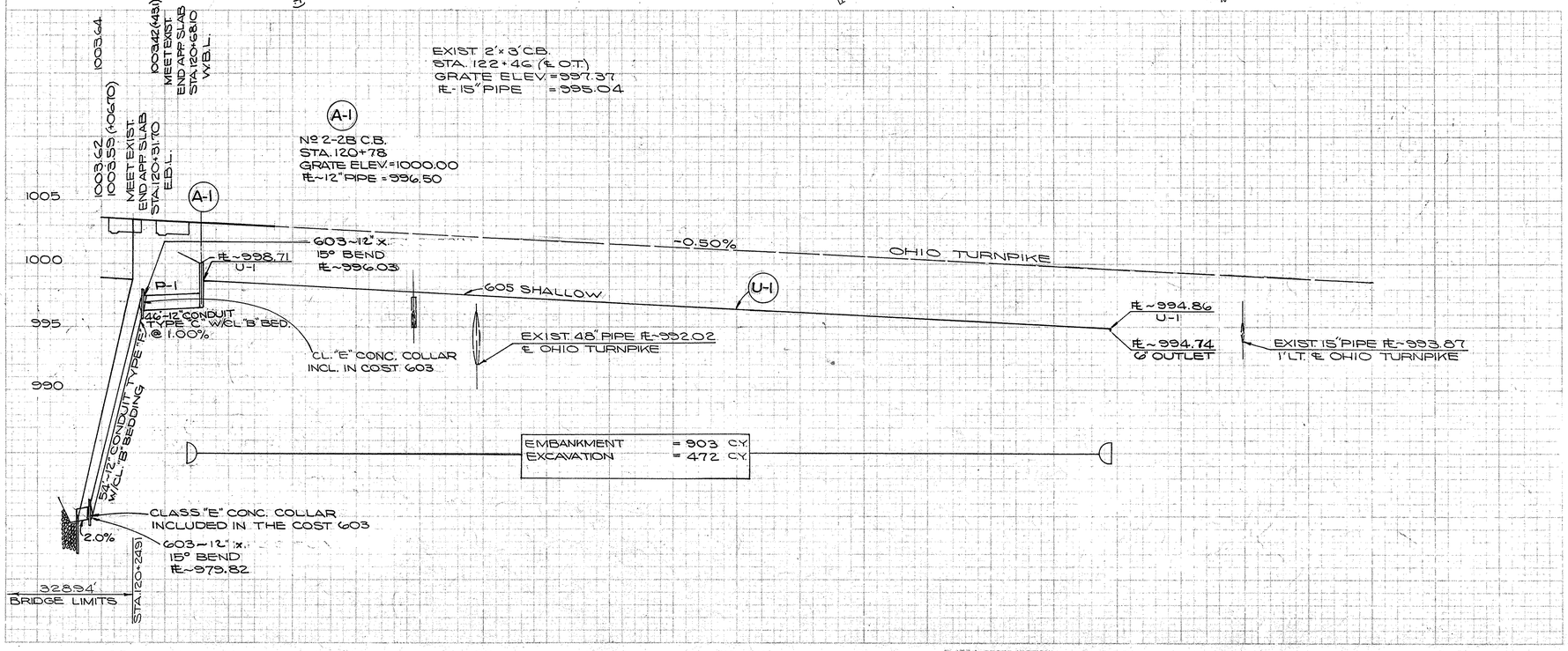
FENCE REPLACEMENT
THE EXISTING FENCE ALONG THE OHIO TURNPIKE 133 FT. RIGHT OF ℄ FROM STA. 111+50 TO STA. 116+27.68 AND STA. 119+82.68 TO STA. 125+44.83 WILL BE REPLACED BY THE CONTRACTOR AFTER THE TEMPORARY ROAD IS REMOVED. THE COST OF REPLACING THE FENCE WILL BE INCLUDED IN ITEM 615, "TEMPORARY ROADS."

PLATE 4 CROSS SECTION GRAPH PAPER
NATIONAL TRACING PAPER D'V SION
B. K. S. & CO. INC. INDIANAPOLIS, INDIANA

OHIO TURNPIKE
STA. 110+00 TO STA. 120+00

MICROFILMED
APR 3 1986





PROPOSED STRUCTURE MAH-80S-0861 & 0862

TYPE: CONTINUOUS WELDED STEEL PLATE GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES
SKEW: 24°29.41" L.F.
SPANS: 69'-3" ~ 106'-6" ~ 89'-3" ~ 58'-6" C/C BRGS.
ROADWAY L.T. STR. 48'-0" F/F PARAPETS
RT. STR. 41'-0" F/F PARAPETS
LOAD FREQUENCY: C.F. = 2.000 ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLABS 25' LONG (AS I-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: CRUSHED AGGREGATE (601.05)

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

193
384

MAHONING COUNTY

MAH. 80S-7.01
MAH. 80-2.30

605 UNDERDRAINS (LIN. FT.)

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	6" SHALLOW		6" BENDS & BRANCHES 90°	6" TYPE "F" LIN. FT.
U-1	120+80	127+95	LT.	745		1	10
SHEET TOTAL (STATE & O.T.)				745			10

603 CONDUIT (LIN. FT.)

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	TYPE "C" 12" W/CL. "B" BEDDING	TYPE "F" 12"	12" BENDS & BRANCHES 15°
P-3	119+81	120+18	℄	46'	54'	2
SHEET TOTALS (I)				46	54	

604 CATCH BASINS

CODE	LOCATION	STD. №2-2B C.B. EACH
A-1	120+78	1
SHEET TOTALS (I)		1

202 REMOVAL ITEMS

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	CATCH BASIN REMOVED EACH		EXIST. PAVEMENT REMOVED AND DISPOSED OF SQ. YD.
X-1	122+48	–	℄	1		
X-3	120+00	120+81.8	RT.			255
X-4	120+00	121+36.3	LT.			364
SHEET TOTAL (I)				1		619

EROSION CONTROL

CODE	LOCATION FROM	LOCATION TO	SIDE ℄	SODDING SPECIAL BERM & SLOPE PROTECTION SQ. YD.
E-1	120+75	–	LT.	9
E-2	120+15	–	RT.	18
SHEET TOTAL (I)				27

606 GUARD RAIL (LIN. FT.)

CODE	FROM	TO	LOCA.	TYPE 4 W/STL. POST	TYPE 4 BARRIER WITH STEEL POST
G-1	120+51	122+51	℄	100	100
G-2	120+74	123+36.5	LT.	262.5	
SHEET TOTAL (I)				362.5	100

FOR CROSS SECTIONS ON OHIO TURNPIKE SEE RAMP "D" CROSS SECTIONS.

FOR CROSS SECTIONS ON TEMPORARY ROAD SEE SHEET № 198-204

FOR DETAILS CHANNEL RELOCATION SEE SHEET № 227-228

FOR QUANTITIES OF THE TEMPORARY GUARD RAIL AND TEMPORARY FENCE SEE MAINTENANCE OF TRAFFIC SHEET № 14

FENCE REPLACEMENT

THE EXISTING FENCE ALONG THE OHIO TURNPIKE, 133 FT. RIGHT OF ℄ FROM STA. 111+50 TO STA. 116+27.68 AND STA. 119+82.68 TO STA. 125+44.83 WILL BE REPLACED BY THE CONTRACTOR AFTER THE TEMPORARY ROAD IS REMOVED. THE COST OF REPLACING THE FENCE WILL BE INCLUDED IN ITEM 615 "TEMPORARY ROADS."

OHIO TURNPIKE
STA. 120+00 TO STA. 130+00

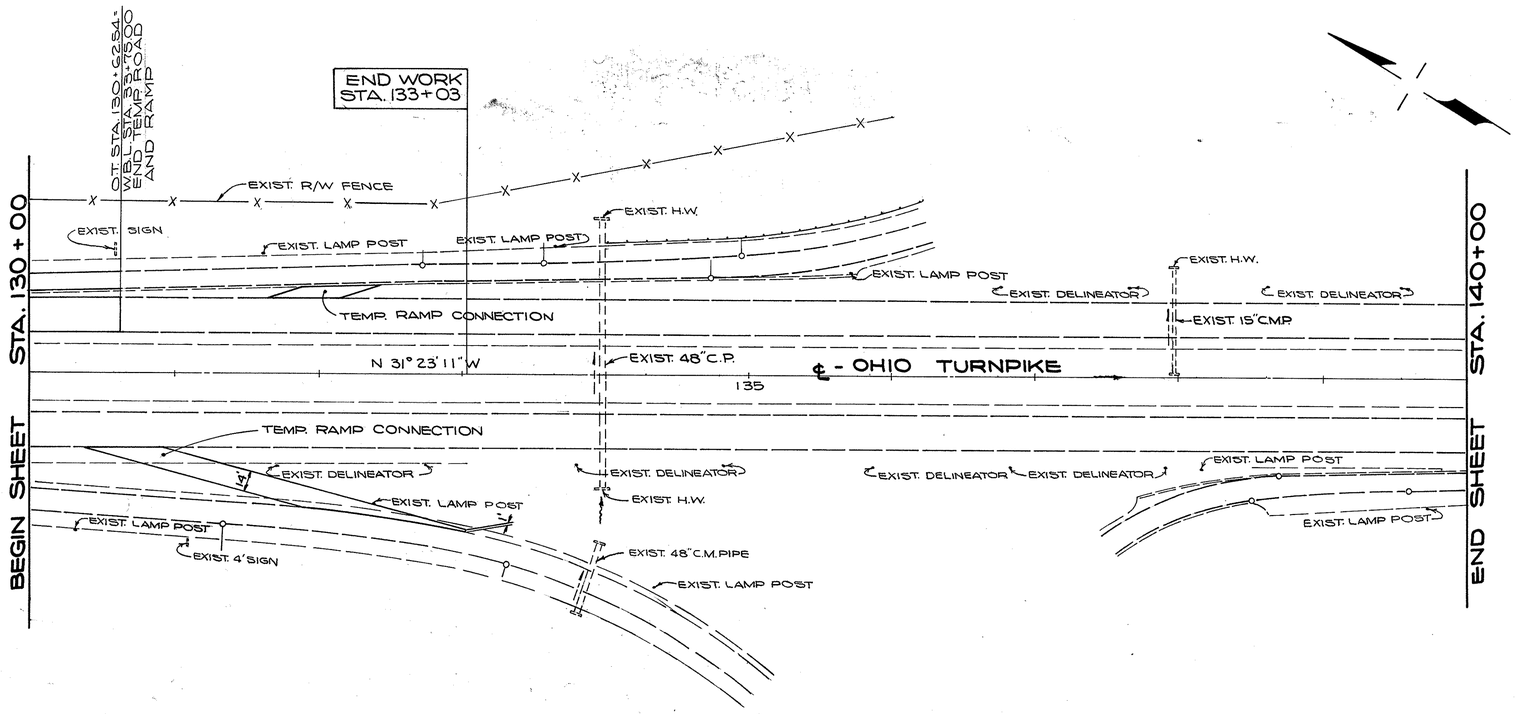
PLATE A 127 SS SECTION O.F.K.A.N.C. 128
NATIONAL TRACING PAPER DIVISION

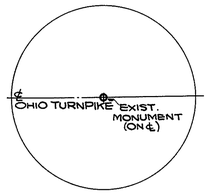
FED.RD. DIVISION	STATE	PROJECT	
2	OHIO		

194
384

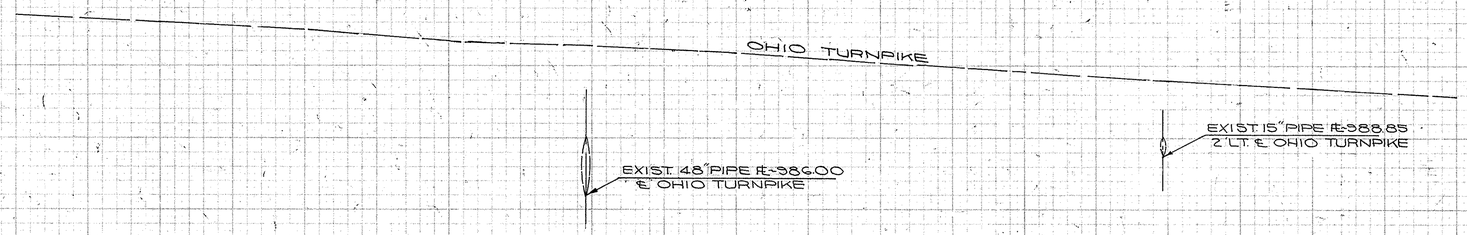
MAHONING COUNTY

MAH. 80S-7.01
MAH. 80-2.30





STA. 158+49.16 (OBS.)
STA. 158+50.00 (REC.)



130+00 131 132 133 134 135+00 136 137 138 139 140+00

PLATE 4 — CROSS SECTION OF PAPER ON BOARD
NATIONAL TRACING PAPER DIVISION
I. P. A. Co., INC. INDIANAPOLIS, INDIANA

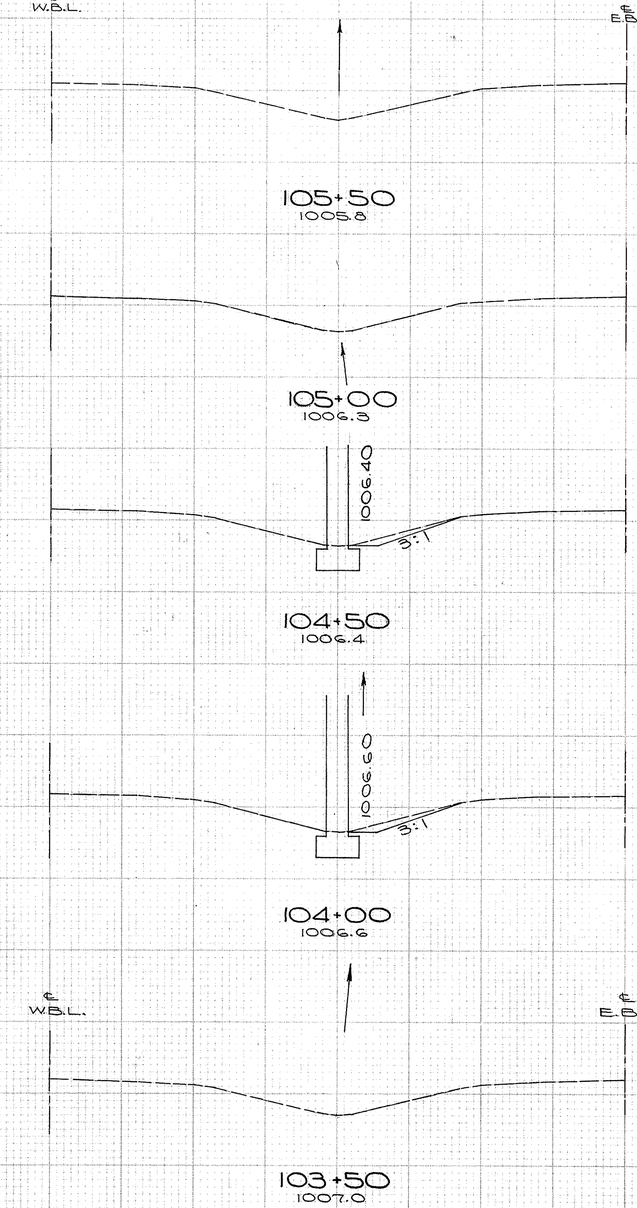
OHIO TURNPIKE
STA. 130 + 00 TO STA. 140 + 00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

195
384

MAH-80S-7.01
MAH-80-2.30

1010
1000
1010
1000
1010
1000
1010
1000
1010
1000



00 EARTHWORK
STA. 105+00

C = 9

C = 9

C = 18

C = 10

C = 10

TOTAL = 37 CU. YDS.

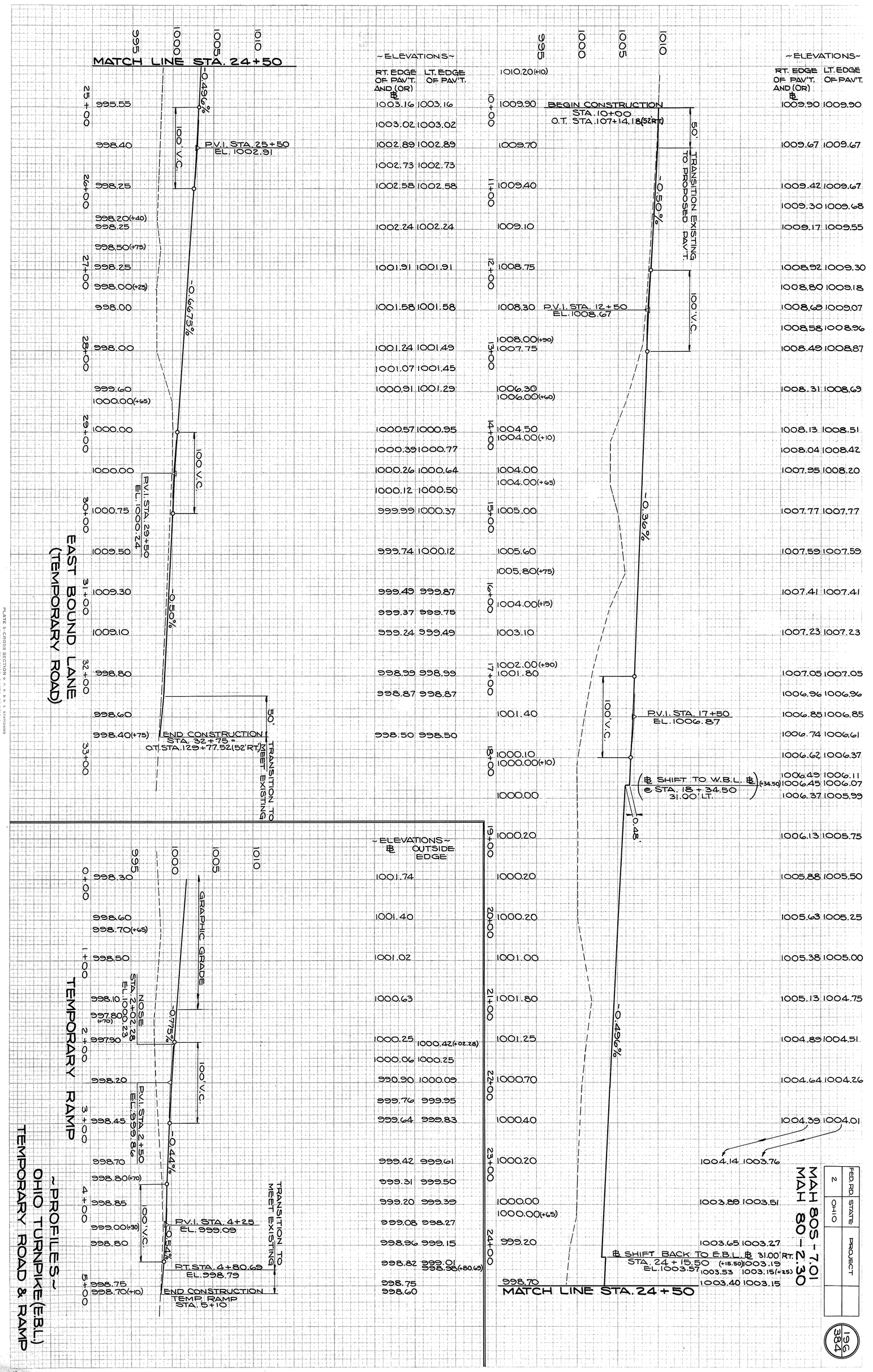
00 EARTHWORK
STA. 103+50

40 20 ℄ 20 40

OHIO TURNPIKE
STA. 103+50 TO STA. 105+50

ORIGINAL SURVEY		BY	DATE
NOTE BOOK NO.	SURVEYED		
	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		

FINAL SURVEY		BY	DATE
NOTE BOOK NO.	SURVEYED		
	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		



FED. RD.	STATE	PROJECT
2	OHIO	MAH 80S-7.01 MAH 80-2.30

ORIGINAL SURVEY	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK	TEMPLATE		
NO.	AREAS		
	AREAS CHECKED		

FINAL SURVEY	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK	TEMPLATE		
NO.	AREAS		
	AREAS CHECKED		

~PROFILES~
OHIO TURNPIKE (W.B.L.)
TEMPORARY ROAD

995 1000 1005 1010

MATCH LINE STA. 21+50

WEST BOUND LANE
(TEMPORARY ROAD)

		~ELEVATIONS~ ℄ & RT. EDGE OF PAV'T.	LT. EDGE OF PAV'T.
22+00	1000.80	1004.16	1003.78
	1000.60	1003.91	1003.53
23+00	1000.40	1003.66	1003.28
	1000.20	1003.41	1003.03
	1000.10(+15)		
24+00	1009.40	1003.17	1002.79
	1009.50	1002.92	1002.54
25+00	1009.60	1002.67	1002.29
	1008.00(+10)		
	996.00(+35)		
	996.00(+75)	1002.42	1002.29
	996.40	1002.30	1002.30
26+00	998.00(+10)	1002.17	1002.17
	1000.15(+35)		
	1000.20	1001.93	1001.93
27+00	1000.40	1001.68	1001.68
	1000.70	1001.43	1001.62
28+00	1000.15	1001.17	1001.17
	1000.50	1001.31	1001.16
		1000.78	1001.16
29+00	1000.00(+90)		
	1000.40	1000.65	1001.03
	998.00(+20)		
	996.00(+40)		
	996.00	1000.39	1000.77
30+00	996.00(+90)		
	996.50	1000.13	1000.51
	998.10(+35)		
	998.30	999.86	1000.24
31+00	999.20	999.60	999.98
	999.00	999.34	999.72
32+00	998.70	999.08	999.46
	998.60	998.82	999.20
	998.50	998.57	998.70
33+00	998.50(+25)	(+25) 998.45	998.45
	998.20(+75)	(+75) 998.20	998.20
34+00	998.00		
	998.70		
35+00	997.40		

-0.49.6%

P.V.I. STA. 27+50
EL. 1001.43

-0.522%

P.V.I. STA. 32+50
EL. 998.32

-0.50%

END CONSTRUCTION
STA. 33+75 ±
O.T. STA. 130+62.54 (28' LT.)

50' TRANSITION TO MEET EXISTING

995 1000 1005 1010

MATCH LINE STA. 21+50

		~ELEVATIONS~ ℄ & RT. EDGE OF PAV'T.	LT. EDGE OF PAV'T.
8+00	1010.55(+15)		
	1010.50		
	1010.30(+75) BEGIN CONSTRUCTION STA. 8+75	(+75) 1010.30	1010.30
9+00	1010.22 O.T. STA. 106+03.46 (28' LT.)		
		(+25) 1010.36	1010.36
	1010.06	1010.24	1010.37
10+00	1009.90	1009.98	1010.36
	P.V.I. STA. 10+00 EL. 1009.98		
	1009.55	1009.75	1010.13
11+00	1009.20	1009.51	1009.89
	1008.50	1009.28	1009.66
	1008.00(+85)		
12+00	1007.70	1009.04	1009.42
	1006.00(+40)		
	1006.70	1008.81	1009.19
13+00	1004.30	1008.57	1008.95
	1006.00(+30)		
	1006.50	1008.34	1008.72
14+00	1008.90	1008.10	1008.23
		1007.98	1007.98
	1008.75	1007.87	1007.87
15+00	1007.60	1007.63	1007.63
	P.V.I. STA. 15+00 EL. 1007.63		
	1006.30	1007.38	1007.38
	1006.90(+15)		
16+00	1004.00	1007.26	1007.26
	1002.00(+30)		
	1002.00	1006.87	1006.87
	1002.00(+70)	1006.76	1006.76
17+00	1001.50	1006.64	1006.51
	1001.00(+40)		
	1001.03	1006.39	1006.01
18+00	1000.20	1006.14	1005.76
	1000.00(+10)		
	1000.20(+70)	1005.89	1005.51
19+00	1000.20	1005.65	1005.27
	1000.20	1005.40	1005.02
20+00	1000.20	1005.15	1004.77
	1001.00	1004.90	1004.52
21+00	1001.80	1004.65	1004.27
	1001.25	1004.41	1004.03

-0.50%

-0.47%

-0.496%

50' TRANSITION EXISTING TO PROPOSED PAV'T.

P.V.I. STA. 10+00
EL. 1009.98

P.V.I. STA. 15+00
EL. 1007.63

MATCH LINE STA. 21+50

FED. RD.	STATE	PROJECT
2	OHIO	

MAH 80S-7.01
MAH 80-2.30

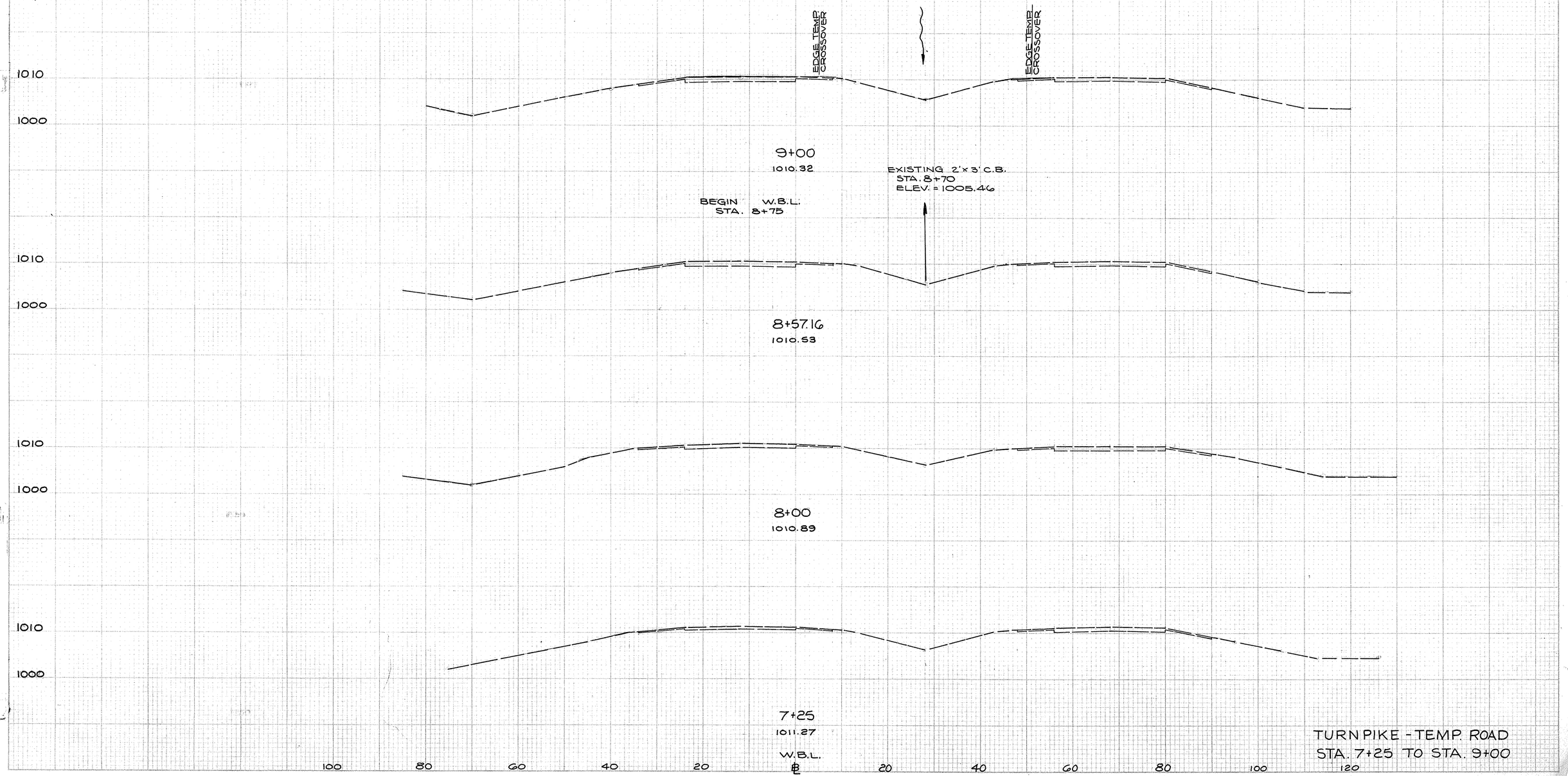
197
384

PLATE 3 - CROSS SECTION & P. & R. STANDARD
NATIONAL TRACING PAPER DIVISION
T. P. & C., INC.
INDIANAPOLIS, INDIANA

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

198
384

MAH. 80S-7.01
MAH. 80-2.30

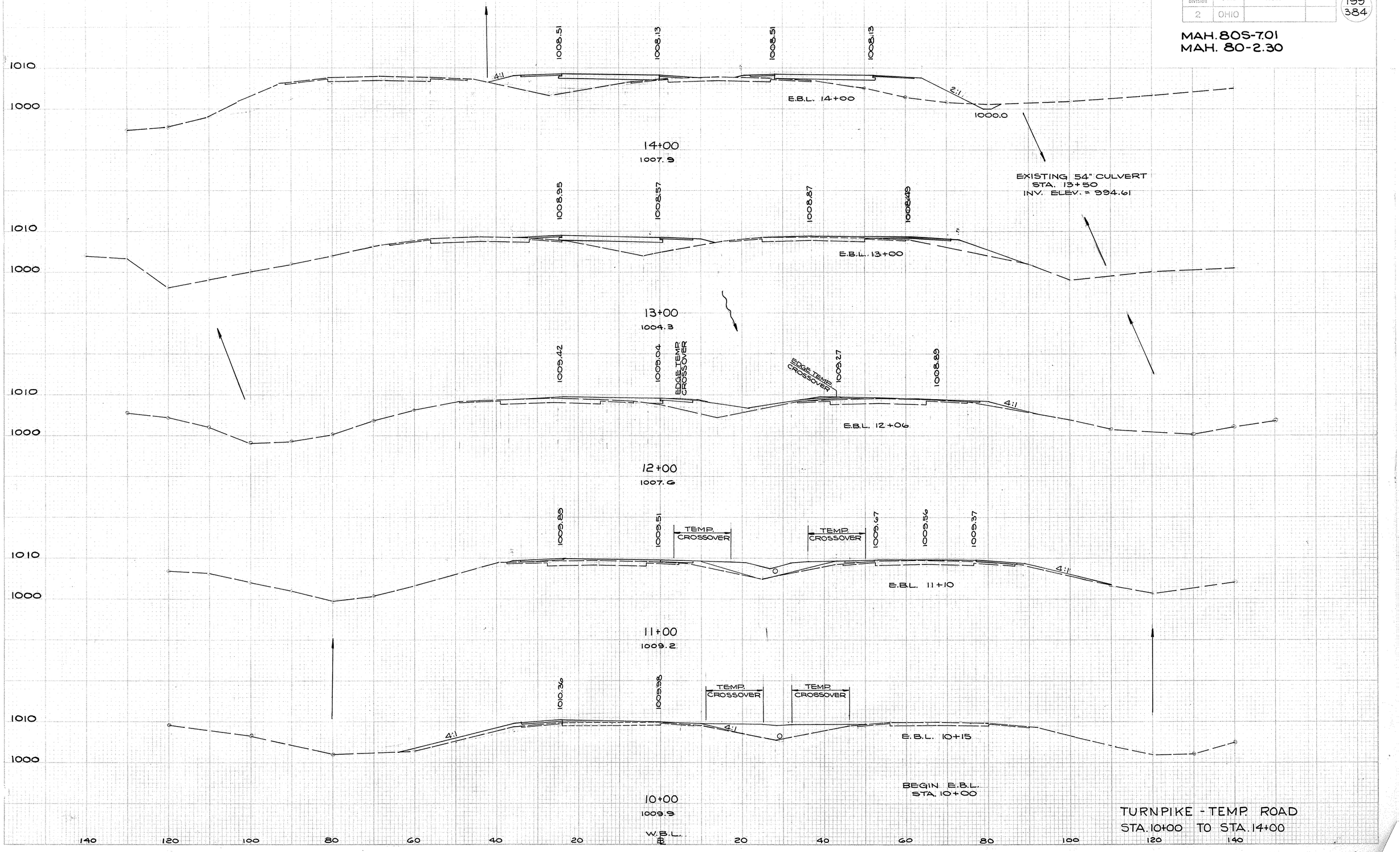


TURNPIKE - TEMP. ROAD
STA. 7+25 TO STA. 9+00

FED. RD DIVISION	STATE	PROJECT	
2	OHIO		

199
384

MAH. 80S-7.01
MAH. 80-2.30

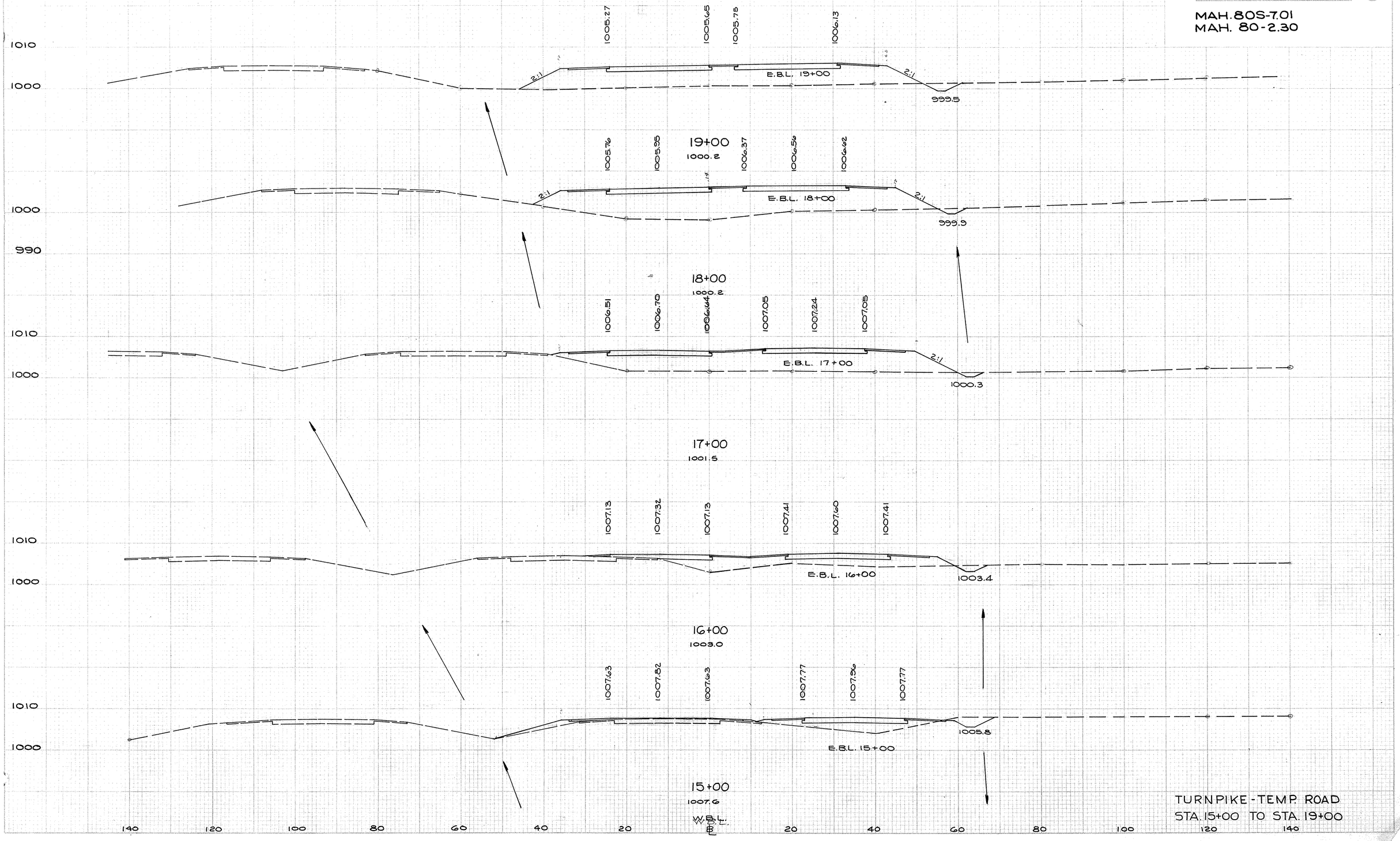


TURNPIKE - TEMP. ROAD
STA. 10+00 TO STA. 14+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

200
384

MAH. 80S-7.01
MAH. 80-2.30

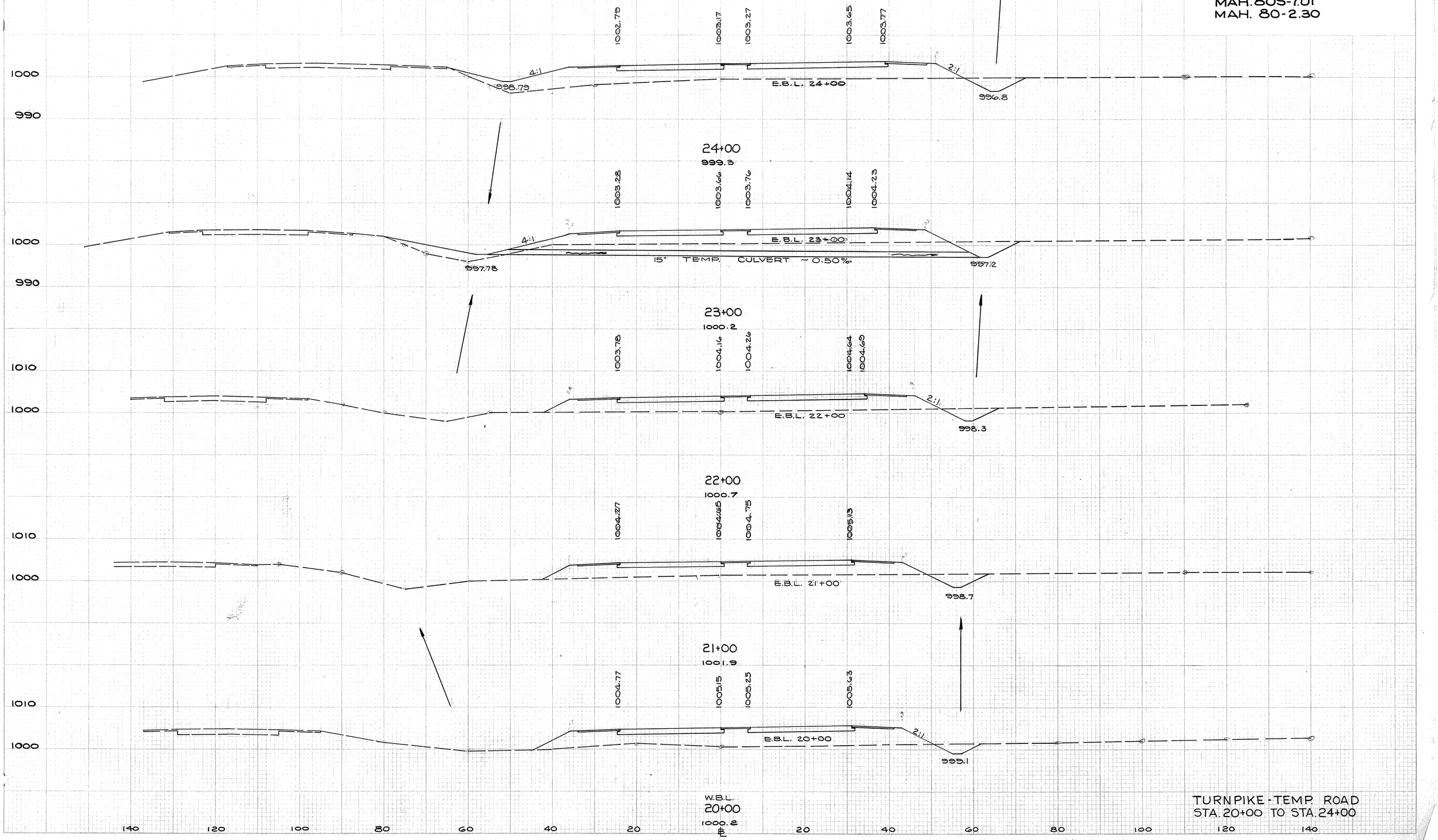


TURNPIKE-TEMP. ROAD
STA. 15+00 TO STA. 19+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

201
384

MAH. 80S-7.01
MAH. 80-2.30



TURNPIKE - TEMP. ROAD
STA. 20+00 TO STA. 24+00

FED. HIGHWAY DIVISION	STATE	PROJECT	
2	OHIO		

202
384

MAH. 80S-7.01
MAH. 80-2.30

1000
990

1001.14 1001.03 1000.84 1000.65 1000.95 1000.76 1000.57 1000.44 1000.19

E.B.L. 29+00

TEMP. RAMP
2+07

997.5

1001.08 1001.17 1001.36 **29+00** 999.3 1001.45 1001.43 1001.24 1000.93

E.B.L. 28+00

998.5

BEGIN TEMP.
12" CULVERT
STA. 27+60
(O.T. STA. 124+40)
INV. ELEV. = 997.0 (PROP.)

1001.63 1001.68 1001.87 1001.68 1001.91 1002.16 1001.91 1001.67

28+00
1001.10

E.B.L. 27+00

998.0

1002.17 1002.36 1002.17 1002.58 1002.77 1002.58 1002.38

27+00
1000.3

EXTEND EXIST. 48" CULVERT
STA. 26+10
INV. ELEV. = 993.74 (PROP.)

E.B.L. 26+00

996.0

1002.29 1002.67 1003.16 1003.34 1003.16 1003.00

26+00
996.4

E.B.L. 25+00

996.4

25+00
999.5
W.B.L.
℄

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

TURNPIKE-TEMP. ROAD
STA. 25+00 TO STA. 29+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

203
384

MAH. 80S-7.01
MAH. 80-2.30

END W.B.L.
STA. 33+75

MEET EXIST. RAMP
LT. STA. 33+75 (W.B.L.)

998.30 998.50 998.70 998.76 998.57

END E.B.L.
STA. 32+75

33+00
998.6

999.98 999.46 999.27 999.08

EXIST. 15"
STEEL PIPE
STA. 32+08
INV. ELEV. = 992.77

999.09 999.23 999.04

END TEMP. RAMP
STA. 5+10

4:1 4:1 4:1

E.B.L. 31+90

TEMP. RAMP
STA. 4+95

32+00
998.7

1000.16 999.98 999.79 999.60

END TEMP.
12" CULVERT
STA. 31+00
(O.T. STA. 127+93)
PROP. INV. = 994.7

999.87 999.71 999.52 999.36 999.20

E.B.L. 30+95

TEMP. RAMP
4+00

31+00
999.1

1000.64 1000.51 1000.32 1000.13

1000.37 1000.18 999.99 999.84 999.69

4:1 4:1

E.B.L. 30+00

TEMP. RAMP
3+07

30+00
994.8
W.B.L.
℄

1000
990

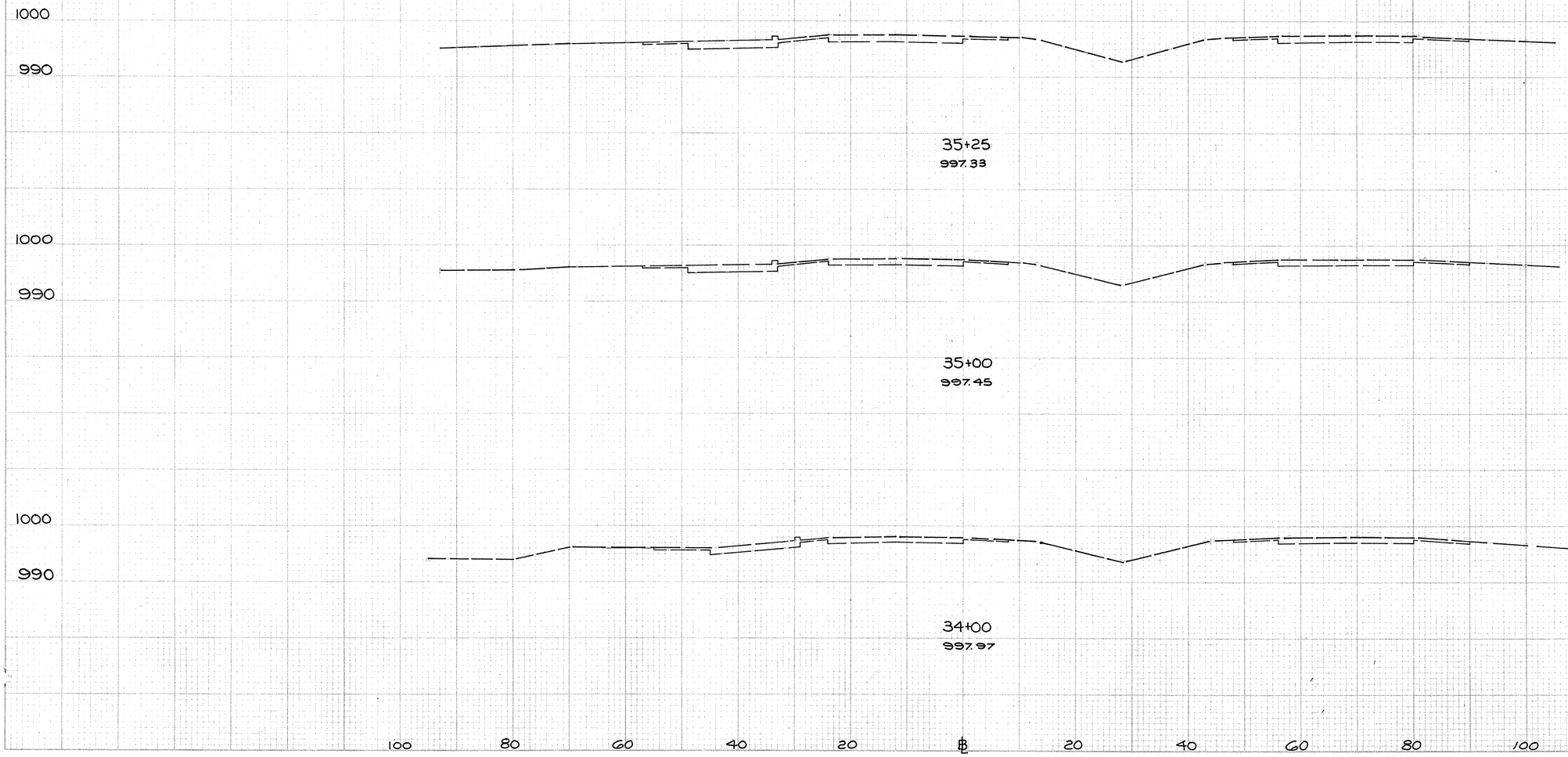
140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

TURNPIKE - TEMP. ROAD
STA. 30+00 TO STA. 33+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

204
384

MAH. 80S-7.01
MAH. 80-2.30



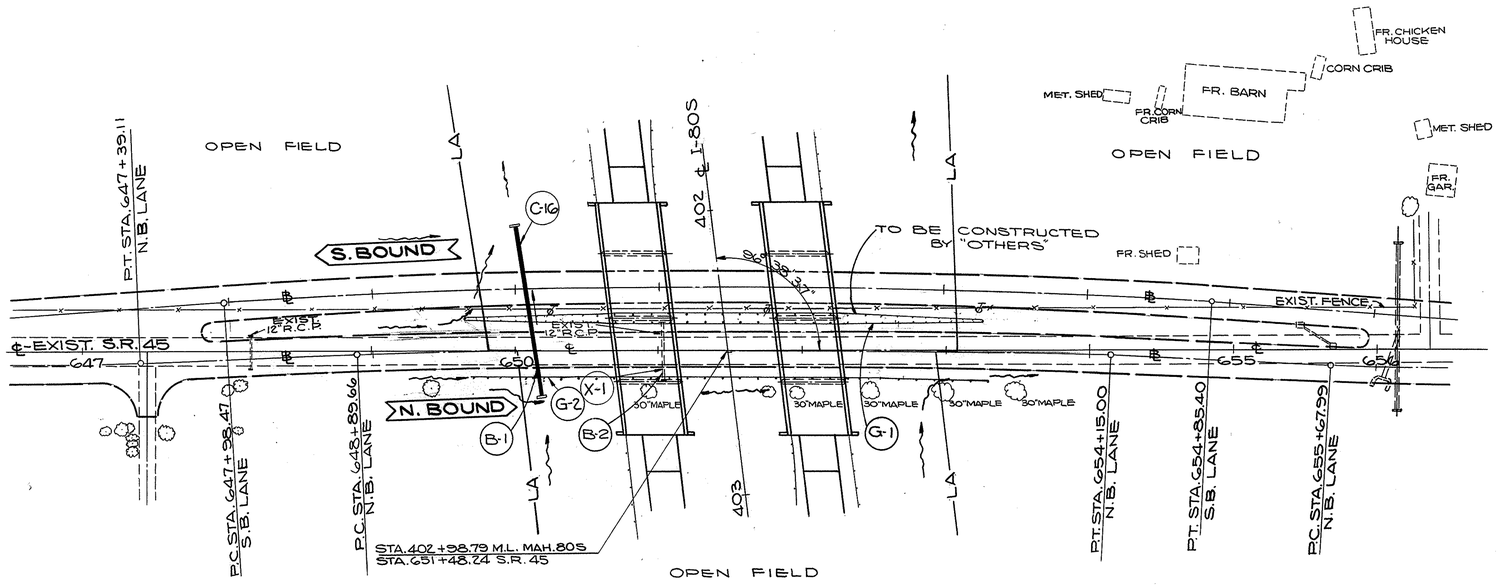
TURNPIKE - TEMP. ROAD
STA. 34+00 TO STA. 35+25

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

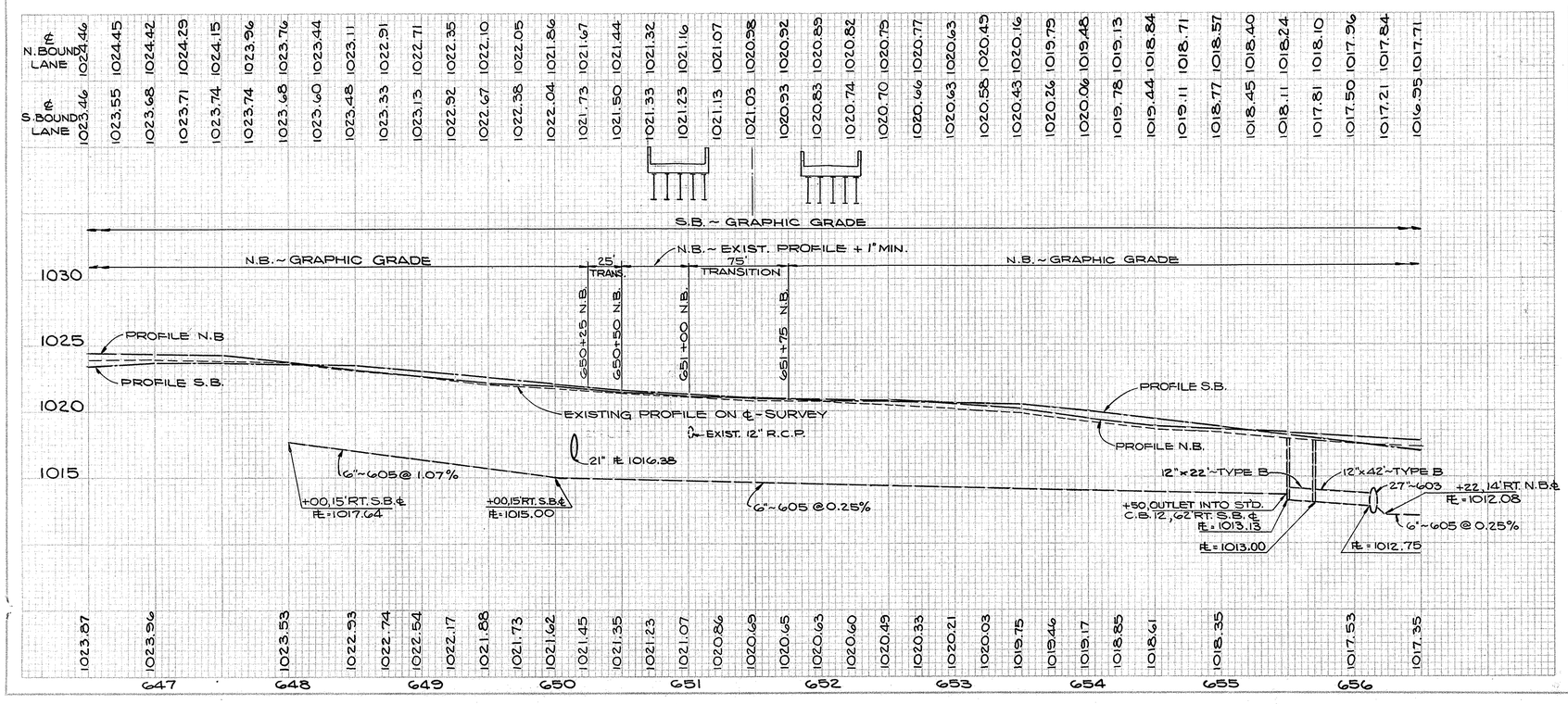
205
384

MAHONING COUNTY
MAH. 80S-7.01
MAH. 80-2.30

PROPOSED STRUCTURE Nº MAH-80S-0761 L&R.
TYPE: CONTINUOUS REINFORCED CONCRETE SLAB DECK WITH REINFORCED CONCRETE SUBSTRUCTURE.
SPANS: 36'-0" – 45'-0" – 45'-0" – 36'-0" ℄ TO ℄ BRGS.
ROADWAY: 42'-0" F/F PARAPETS
SKEW: 06°41'00" L.F.
LOAD FREQUENCY: C.F. = 2000 ADEQUATE FOR AASHO ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLAB: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: 601 CRUSHED AGGREGATE



606 GUARD RAIL (LIN. FT.)					
CODE	FROM	TO	SIDE ℄	TYPE 4	
*G-1	649+640	653+26.5	LT.	362.5	
*G-2	649+66.5	653+29	RT.	362.5	
SHEET TOTAL				725.0	



PAVEMENT REPLACEMENT FOR ITEM 603 & 202							
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	ITEM 305 8" P.C.C. BASE SQ. YD.	ITEM 402 ASPHALT CONCRETE (70-85) CU. YDS.	ITEM 404 ASPHALT CONCRETE (70-85) CU. YDS.	ITEM 407 TACK COAT GAL.
B-1	650+14	–	RT. & LT.	14	1	1	2
B-2	651+02	–	RT. & LT.	12	1	1	2
SHEET TOTALS				26	2	2	4

STRUCTURES 20' SPAN & UNDER				
CODE	LOCATION	TYPE	SIZE	DETAIL SH'T. Nº
C-16	650+14	122'~ TYPE "A" ... 706.02	21"	240

202 REMOVAL ITEMS					
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	PIPE REMOVED 15" & UNDER ~LIN. FT.~	
X-1	651+02		RT. & LT.	42	
SHEET TOTAL				42	

NOTES:
THE WORK INDICATED BY LONG DASH LINE SHALL BE DONE BY OTHERS UNDER CONTRACT MAH 45-11.77, TRU-45-0.00

FOR THE EXISTING TYPICAL SECTION AND PROPOSED TYPICAL SECTION SEE SHEET Nº 8

FOR PAVEMENT REPLACEMENT DETAILS OF (B-1) & (B-2) SEE SHEET Nº 242

* PLACE FACE OF GUARD RAIL 6" FROM FACE OF PIER FOR (G2) WITH THE POSTS PLACED BETWEEN THE PIERS AND PLACE (G1) STANDARD 2' FEET FROM PIERS TO FACE OF GUARD RAIL.

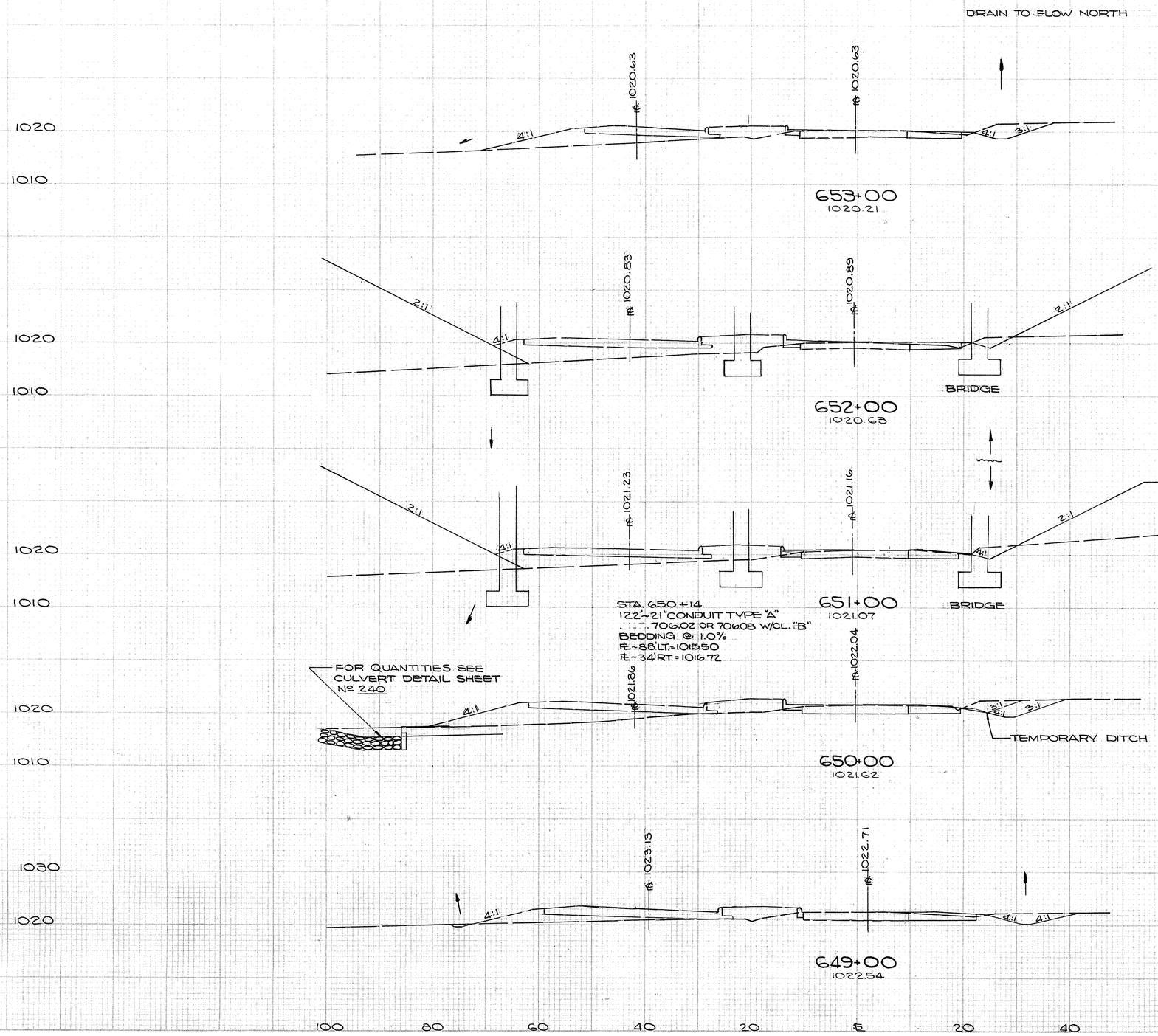
S.R. 45
STA. 646+50 TO STA. 656+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

206
384

MAH-80S-7.01
MAH-80-2.30

DRAIN TO FLOW NORTH



NOTE:
ALL CONSTRUCTION IS TO BE DONE BY "OTHERS" ON S.R. 45 EXCEPT WHERE SHOWN ON THESE PLANS OR DIRECTED BY THE ENGINEER.

S.R. 45
STA. 649+00 TO STA. 653+00

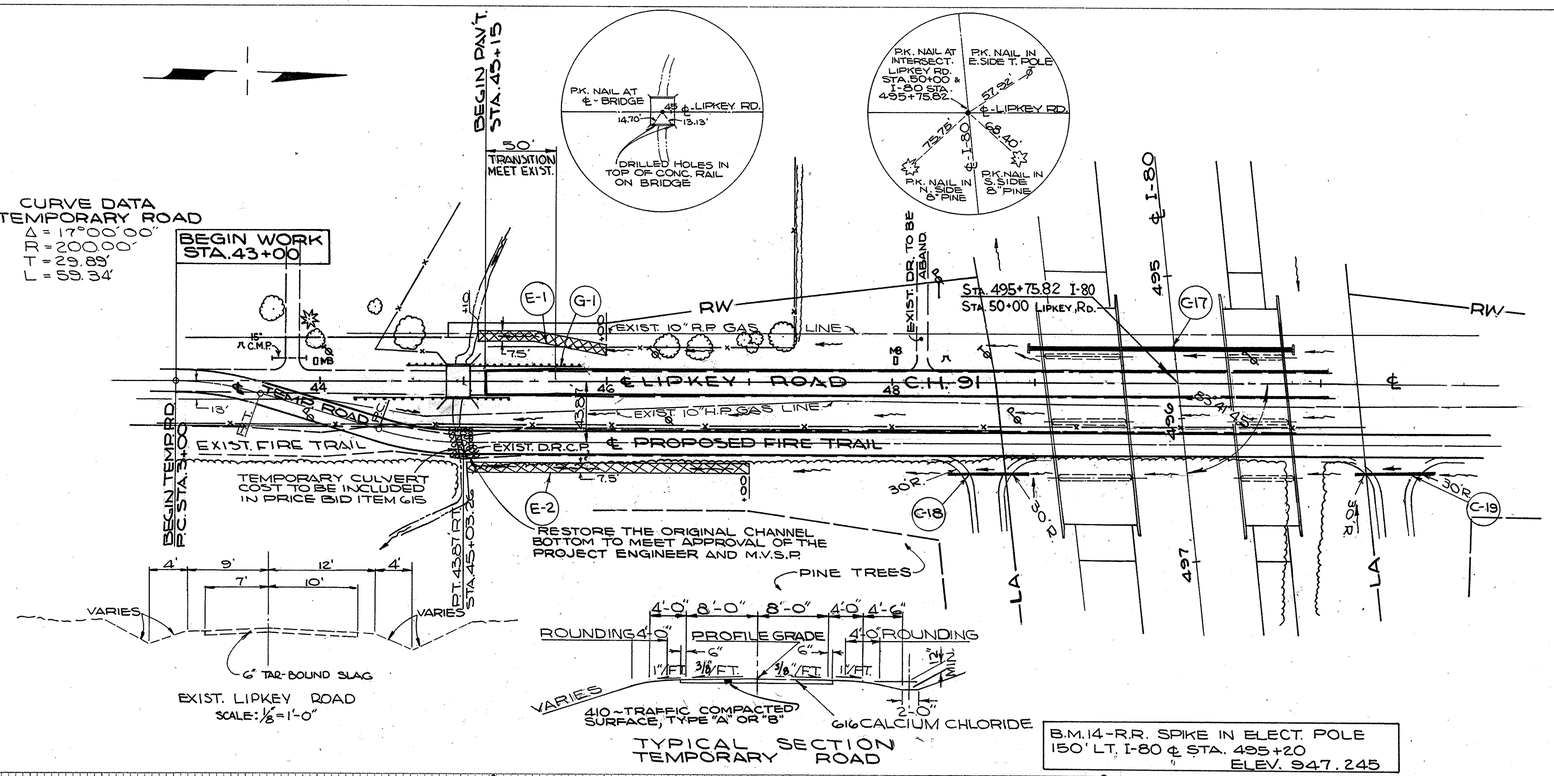
FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

207
384

MAHONING COUNTY

MAH-80S-7.01
MAH-80-2.30

CURVE DATA
TEMPORARY ROAD
Δ = 17°00'00"
R = 200.00'
T = 29.89'
L = 59.34'

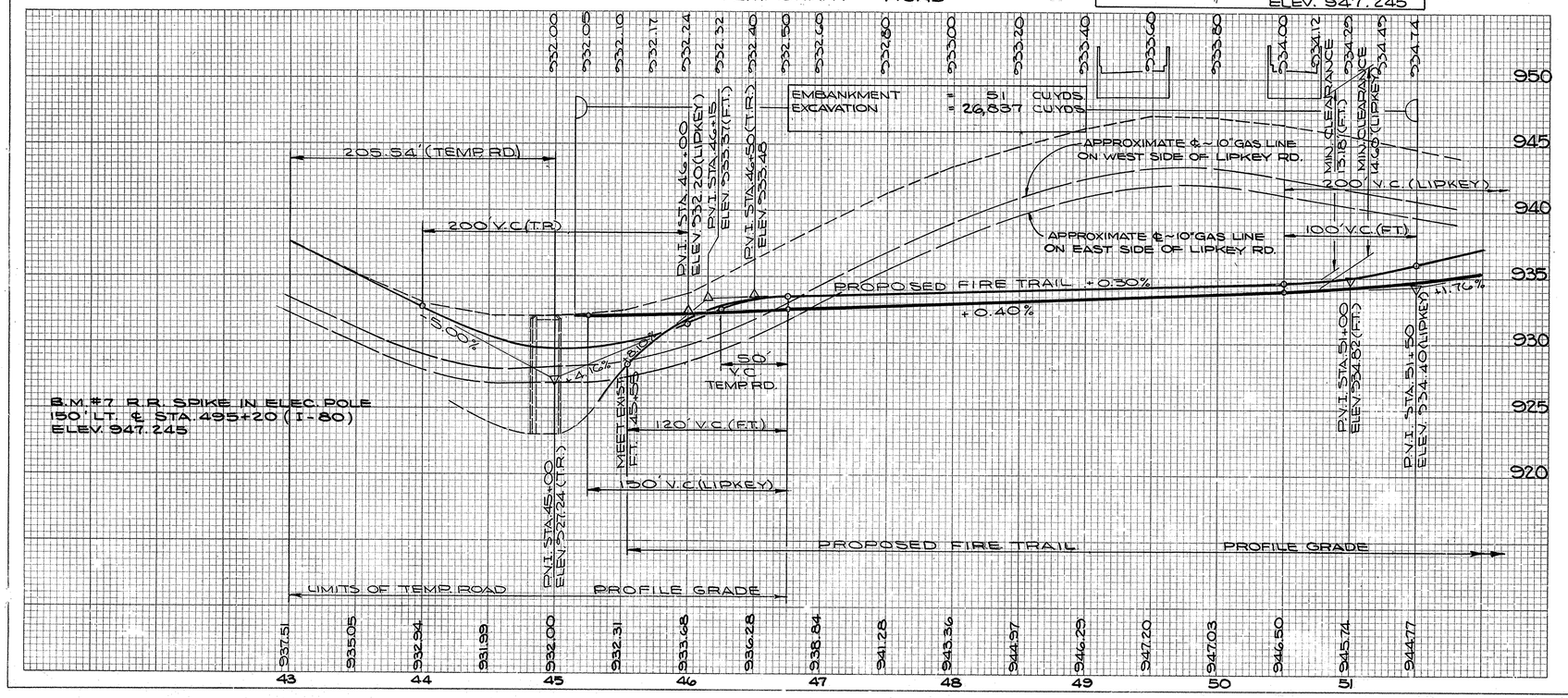


B.M. 14 - R.R. SPIKE IN ELECT. POLE
150' LT. I-80 ℄ STA. 495+20
ELEV. 947.245

PROPOSED STRUCTURE Nº MAH-80-0289 L.&R.

TYPE: CONTINUOUS REINFORCED CONCRETE SLAB DECK WITH REINFORCED CONC. SUBSTRUCTURE
SPANS: 31'-6" - 39'-6" - 39'-6" - 31'-6" ℄ TO ℄ ASSUMED BRGS.
ROADWAY: 41'-0" F/F PARAPETS (W.B.L.); E.B.L. VARIES
SKEW: 06° 18'-15" L.F.
LOAD FREQUENCY: C.F. = 2000 ADEQUATE FOR AA.SHO. ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLAB: 25' LONG (AS 1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: 601 CRUSHED AGGREGATE

EROSION CONTROL					
				667	
CODE	LOCATION		SIDE ℄	JUTE MATTING	
	FROM	TO		SQ. YDS.	
E-1	45+10	46+00	LT.	75	
E-2	45+00	47+00	RT.	167	
SHEET TOTALS				242	



STRUCTURES 20' SPAN ℄ UNDER				
CODE	LOCATION	TYPE	SIZE	DETAIL SHEET Nº
C-17	49+88 (24' LT.)	184'-TYPE C	15"	241
C-18	48+69 (63.5 RT.)	56'-TYPE "D"	12"	241
C-19	51+53 (63.5 RT.)	56'-TYPE "D"	12"	241

606 GUARD RAIL (LIN. FT.)				202 REMOVAL	
CODE	FROM	TO	LOCA.	GUARD RAIL REBUILT	GUARD REMOVED FOR REUSE
G-1	45+05	45+82	LT.	77	77
SHEET TOTAL				77	77

LIPKEY ROAD

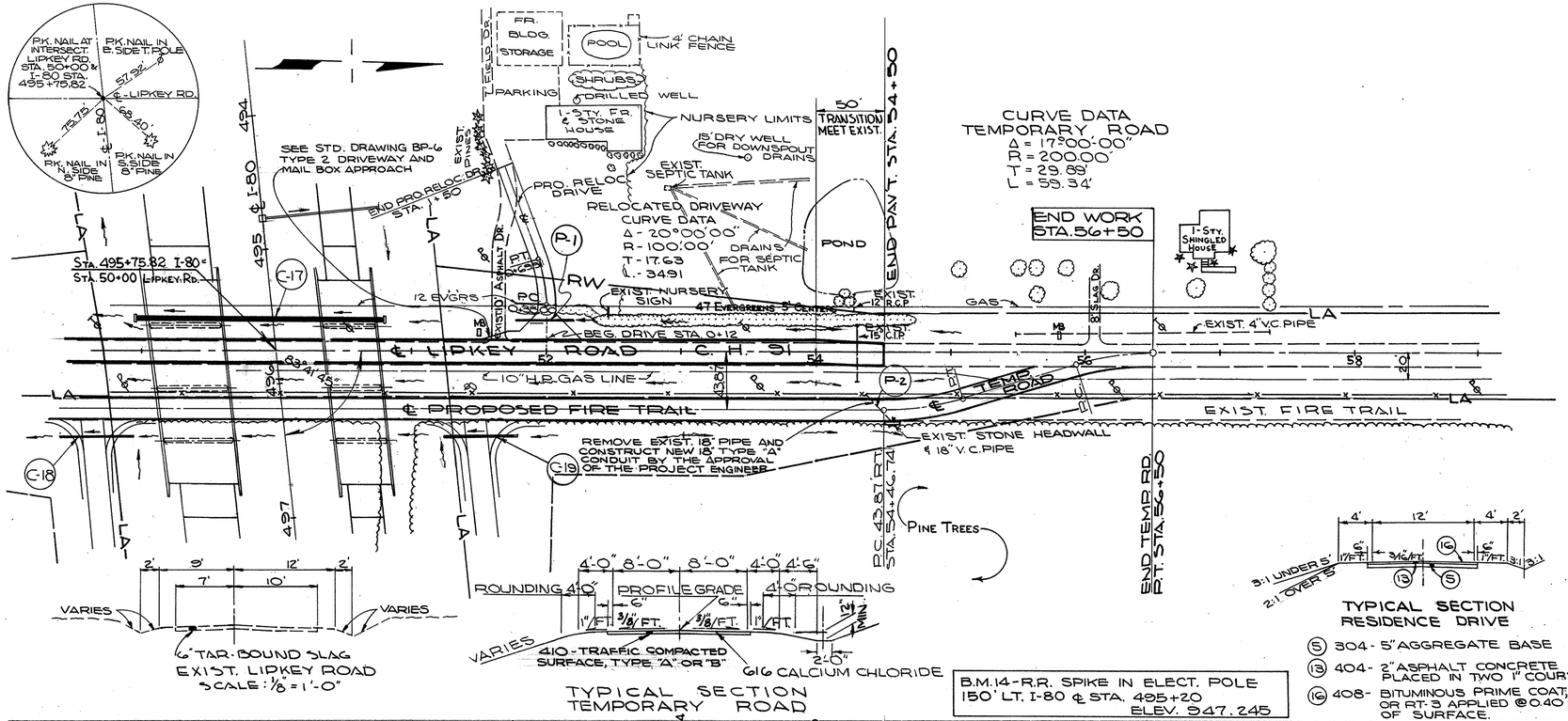
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

208
384

MAHONING COUNTY
MAH-805-7.01
MAH-80-2.30

PROPOSED STRUCTURE Nº MAH-80-02.89 L&R.

TYPE: CONTINUOUS REINFORCED CONCRETE SLAB, DECK WITH REINFORCED CONC. SUBSTRUCTURE
SPANS: 31'-6" - 35'-6" - 39'-6" - 31'-6" & TO ℄ ASSUMED BRGS.
ROADWAY: 41'-0" F/F PARAPETS (W.B.L); E.B.L. VARIES
SKEW: 06° 18' 15" LF
LOAD FREQUENCY: C.F. = 2000 ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLAB: 25' LONG (AS I-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: 601 CRUSHED AGGREGATE



603 CONDUIT (LIN. FT.)						202 REMOVAL
CODE	LOCATION FROM	LOCATION TO	SIDE ℄	12" TYPE "D"	18" TYPE "A" WITH CLASS "B" BEDDING	PIPE REMOVED OVER 15"
P-1	51+77.5	52+21.5	22' LT.	44'		
P-2	54+37	54+58 (32' TO 54' LT.)			36	31
SHEET TOTAL				44'	36	31

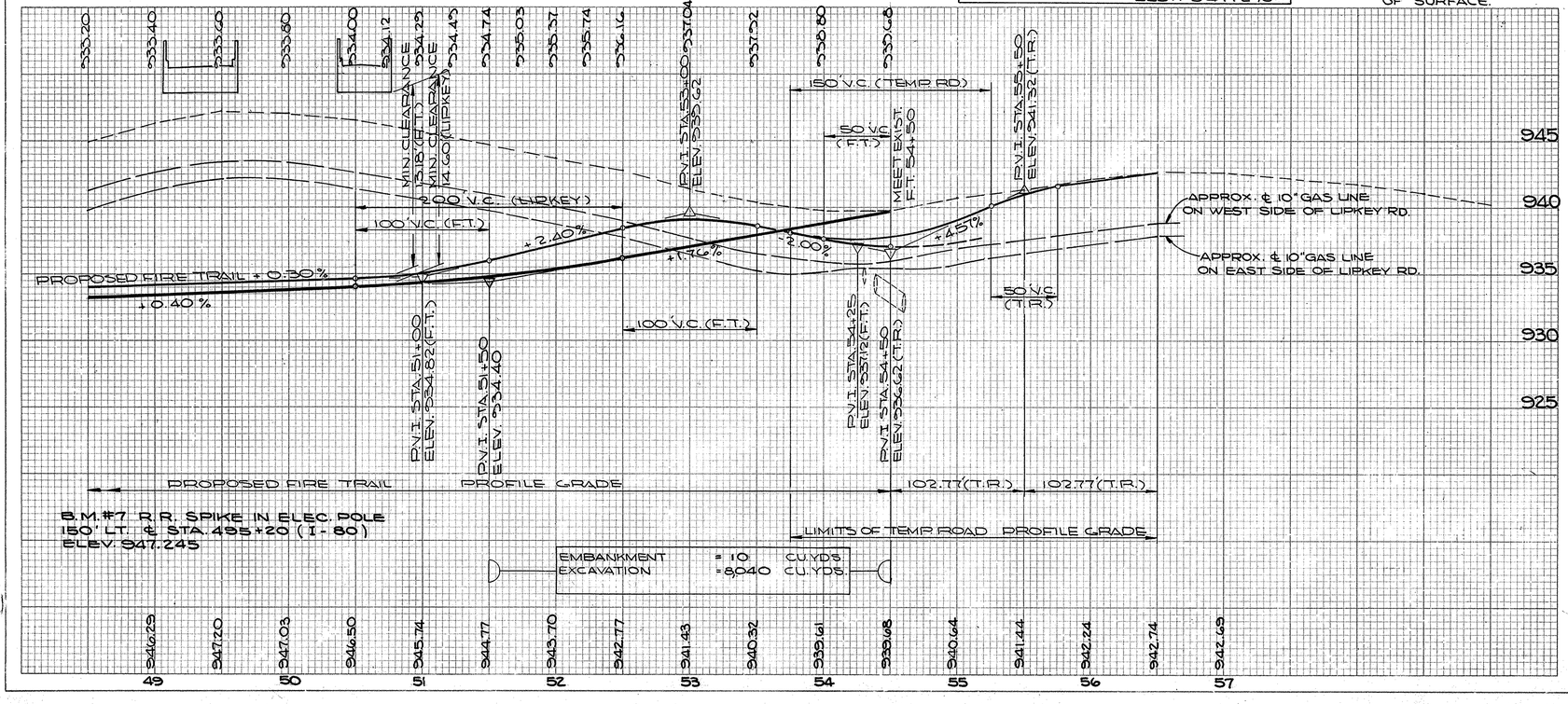
STRUCTURE 20' SPAN & UNDER				
CODE	LOCATION	TYPE	SIZE	DETAIL SHEET Nº
C-17	49+88 (24' LT)	184'-TYPE "A"	15"	241
C-18	48+69 (6.35 RT)	56'-TYPE "D"	12"	241
C-19	51+53 (6.35 RT)	56' TYPE "D"	12"	241

TYPICAL SECTION
TEMPORARY ROAD

TYPICAL SECTION
RESIDENCE DRIVE

(S) 304 - 5" AGGREGATE BASE
(13) 404 - 2" ASPHALT CONCRETE (70-85) PLACED IN TWO 1" COURSES
(16) 408 - BITUMINOUS PRIME COAT, 702.09 RT-2 OR RT-3 APPLIED @ 0.40 GAL. PER SQ.YD. OF SURFACE.

B.M. 14 - R.R. SPIKE IN ELECT. POLE 150' LT. I-80 ℄ STA. 495+20 ELEV. 947.245



B.M. #7 R.R. SPIKE IN ELEC. POLE 150' LT. ℄ STA. 495+20 (I-80) ELEV. 947.245

EMBANKMENT	= 10	CU. YDS.
EXCAVATION	= 8040	CU. YDS.

FOR PIPE PROFILE (P-1) SEE SHEET Nº 188

FOR QUANTITIES OF DRIVE, DRIVEWAY APPROACH AND MAIL BOX APPROACH SEE COMPUTATION SHEET Nº 25

LIPKEY ROAD

FED. RD.	STATE	PROJECT	
2	OHIO		

209
384

MAH-80S-7.01
MAH-80-2.30

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TYPED & CHECKED		
NO	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TYPED & CHECKED		
NO	AREAS		
	AREAS CHECKED		

END AREA CU. YDS.
CUT FILL CUT FILL

45 23 62 32

45 23 62 32

℄ TEMP. ROAD

928.0

928.0

45+50
932.31

BEGIN PAVEMENT @ STA. 45+15

℄ T.R.

EDGE OF CULVERT

45+00
932.00

℄ T.R.

EDGE OF CULVERT

℄ STREAM

TEMP. PIPE TO BE PLACED AS DIRECTED BY THE PROJECT ENGINEER

44+96.3
932.0

℄ T.R.

44+50
931.95

℄ T.R.

44+00
932.94

℄ TEMP. ROAD

43+50
935.05

BEGIN WORK @ STA. 43+00

℄

END AREA CU. YDS.
WIDTH 120

63 250 29 184 38 104 21 51 2 30 17 47 TOTAL 1695

930 930 930 930 930

0 20 40 60 80 100

LIPKEY ROAD STA. 43+50 TO STA. 45+50

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

210
384

MAH-80S-7.01
MAH-80-2.30

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TRIANGULATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TRIANGULATE		
	AREAS		
NO.	AREAS CHECKED		

END AREA CUT 10.3
CUT FILL OUT FILL

SEE MILL

MATCH M.L.

MATCH M.L.

VARY

OUTLET @ HEADWALL 931.04
24' LT. STA. 48+96

PIPE TRAIL & TEMP ROAD

BEGIN PROPOSED PIPE TRAIL AT 45+56

SHEET TOTALS 12,781 179

LIPKEY ROAD STA. 46+00 TO STA. 49+00

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

FED. R.D.	STATE	PROJECT	
2	OHIO		

211
384

MAH-80-7.01
MAH-80-2.30

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TRACED		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TRACED		
	AREAS		
	AREAS CHECKED		

PROP. RELOC. 12' DRIVEWAY @ STA. 52+00

PROFILE - EXIST. BLACKTOP DRIVE

LIPKEY ROAD STA. 49+50 TO STA. 52+50

PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

FED. RD.	STATE	PROJECT	
2	OHIO		

212
384

MAH-80S-7.01
MAH-80-2.30

END AREA	CU. YDS.		
CUT FILL	CUT FILL		

FINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
NO.	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
NO.	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		

SEE DWG END SHT MAH 1405

END WORK @ STA. 56+50

56+00
942.24

55+50
941.44

55+00
940.64

54+50
939.68

54+00
939.91

53+50
940.32

53+00
941.43

℄ T.R.

℄ FIRE TRAIL & TEMP. ROAD

MEET EXISTING FIRE TRAIL STA. 54+30

OUTLET EX. 18" 932.05
54' RT. STA. 54+90

INV. EX. 15" 933.45
54' RT. STA. 54+38

OUTLET EX. 933.86
25' RT. STA. 54+30

MEET EXISTING LIPKEY ROAD

INV. EX. 15" 934.68
15' LT. STA. 54+35

END PAVEMENT @ STA. 54+50

℄ FIRE TRAIL & TEMP. ROAD

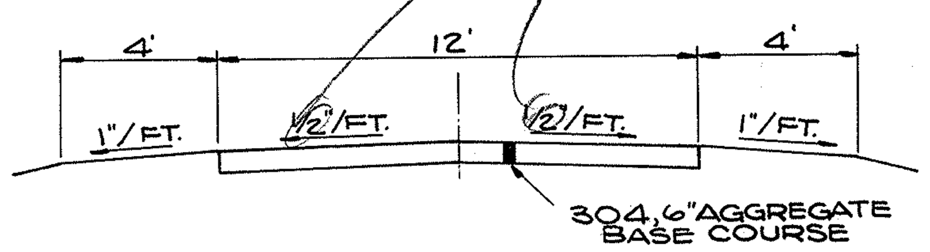
LIPKEY ROAD STA. 53+00 TO STA. 56+00

SHEET TOTALS 2719 1102

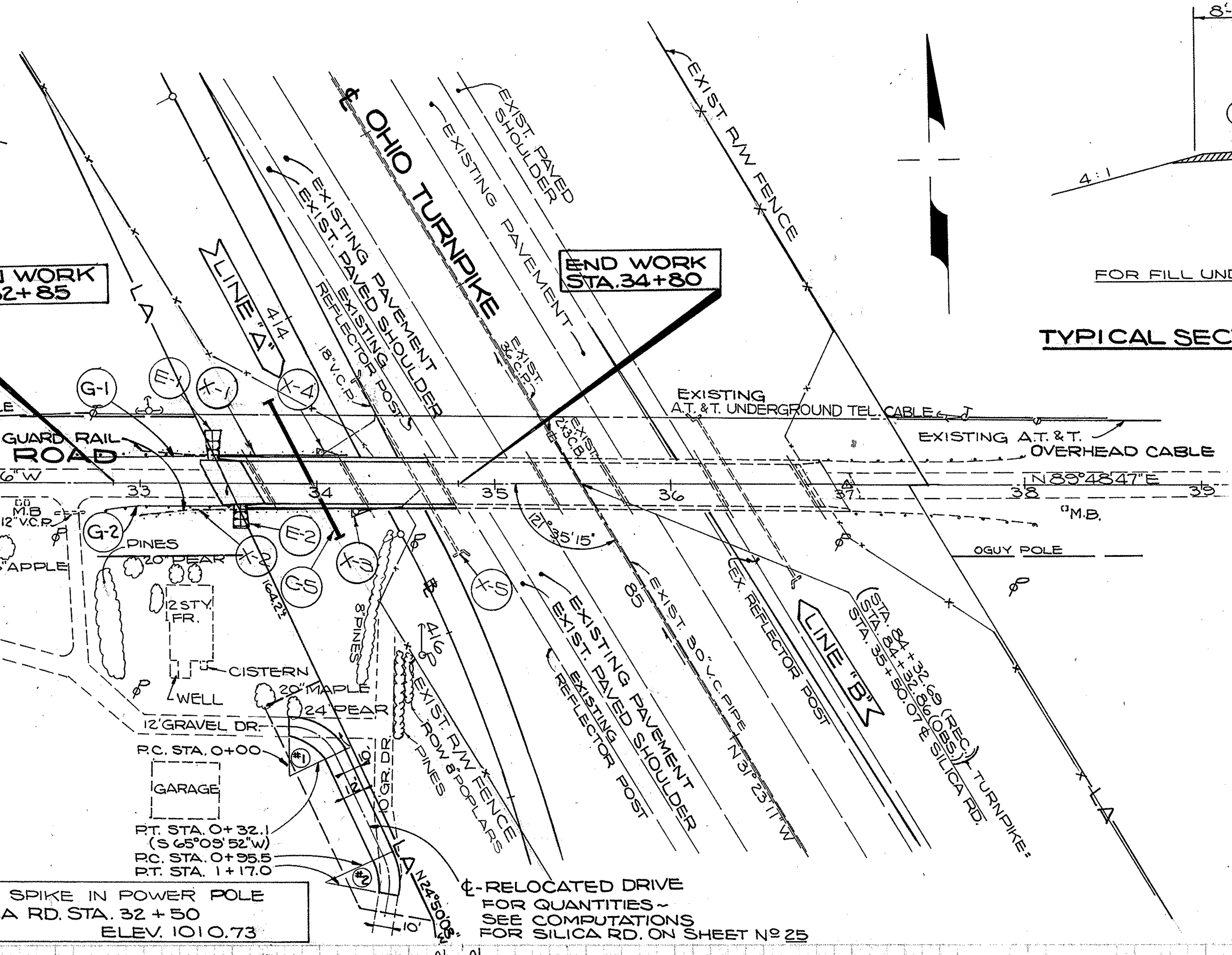
PLATE 3 CROSS SECTION B P R STANDARD
EUGENE DIETZGEN CO., CHICAGO - NEW YORK

MAHONING COUNTY

MAH. 80S-7.01
MAH. 80-2.30



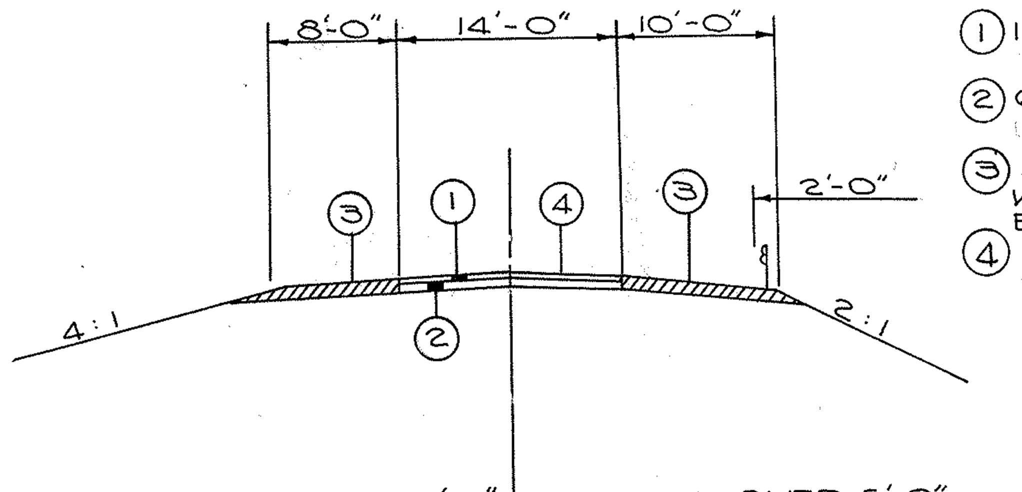
TYPICAL SECTION OF DRIVE
SCALE: 1/4" = 1'-0"



RELOCATED DRIVE CURVE DATA

¢-CURVE #1	¢-CURVE #2
R = 29'	R = 36'
Dc = 197.57'	Dc = 159.16'
Δ = 63°30'	Δ = 34°15'
L = 32.14'	L = 21.52'
CH = 30.52'	CH = 21.20'
T = 17.95'	T = 11.18'

B.M. 18 - R.R. SPIKE IN POWER POLE
28' RT. SILICA RD. STA. 32 + 50
ELEV. 1010.73



TYPICAL SECTION - EXISTING & PROPOSED
SILICA RD.
SCALE: 1" = 10'-0"

(1) 1 1/2" 404 ASPHALT CONCRETE (70-85)
(2) 6" 310 SUBBASE
(3) 605 AGGREGATE DRAINS 4' WIDE SPACED AS ORDERED BY THE ENGINEER.
(4) 408 BITUMINOUS PRIME COAT 702.09, RT-2 OR RT-3 APPLIED AT THE RATE OF 0.4 GAL. PER SQ. YD.

EXISTING STRUCTURE

TYPE: STEEL BEAM ~ CONTINUOUS CENTER SPANS WITH SIMPLE END SPANS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SKEW: 31°35'00" R.F.
SPANS: 33'-0 3/4", 56'-11 3/16", 38'-8 7/8", 56'-11 3/16" 39'-1 9/16" C/C BRGS.
ROADWAY: 24'-0" F/F 1'-6" SAFETY CURBS
LOAD FREQUENCY: CF = 30
ALIGNMENT: TANGENT
SUPERELEVATION: NONE

PROPOSED STRUCTURE MAH-80-0148

TYPE: CONTINUOUS STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SKEW: 31°35'00" R.F.
SPANS: NEW: 53'-0", 53'-0" C/C BRGS. EXISTING SPANS TO REMAIN: 56'-11 3/16", 38'-8 7/8", 56'-11 3/16", 39'-1 9/16" C/C BRGS.
ROADWAY: 24'-0" F/F 1'-6" SAFETY CURBS
LOAD FREQUENCY: CF = 30
WEARING SURFACE: 1" MONOLITHIC
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: CRUSHED AGGREGATE (601.05)
APPROACH SLAB: 25' LONG (AS-1-54)

606 GUARD RAIL (LIN. FT.)

CODE	FROM	TO	LOCA.	GUARD RAIL REBUILT WITH STEEL POSTS
G-1	32+69	33+44	LT.	75
G-2	32+86	33+61	RT.	75
SHEET TOTALS				150

STRUCTURES 20' SPAN & UNDER

CODE	LOCATION	TYPE	SIZE	DETAIL SHEET Nº
C-5	415+00 (32' RT.)	88' TYPE "A" 706.02	30"	234

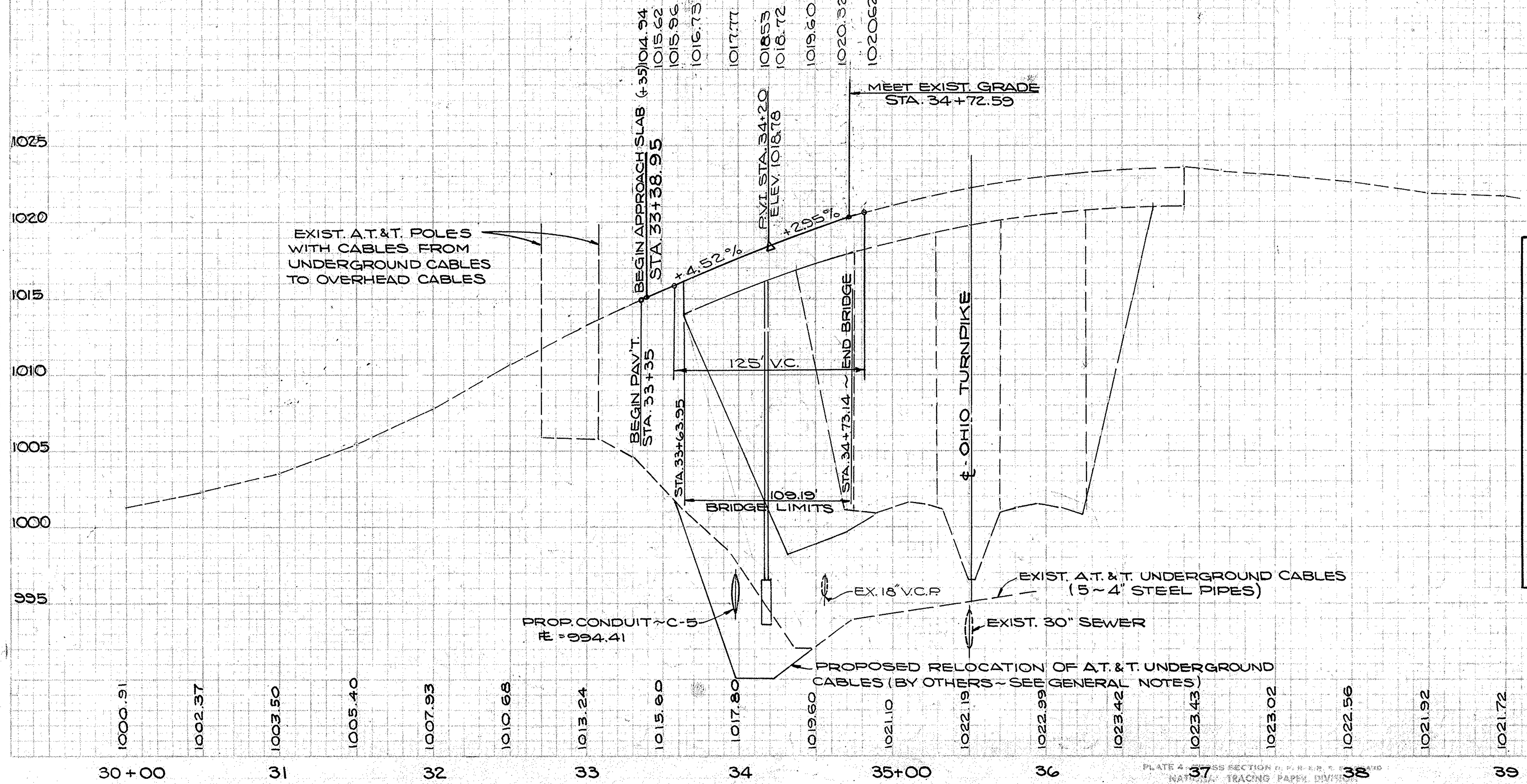
EROSION CONTROL

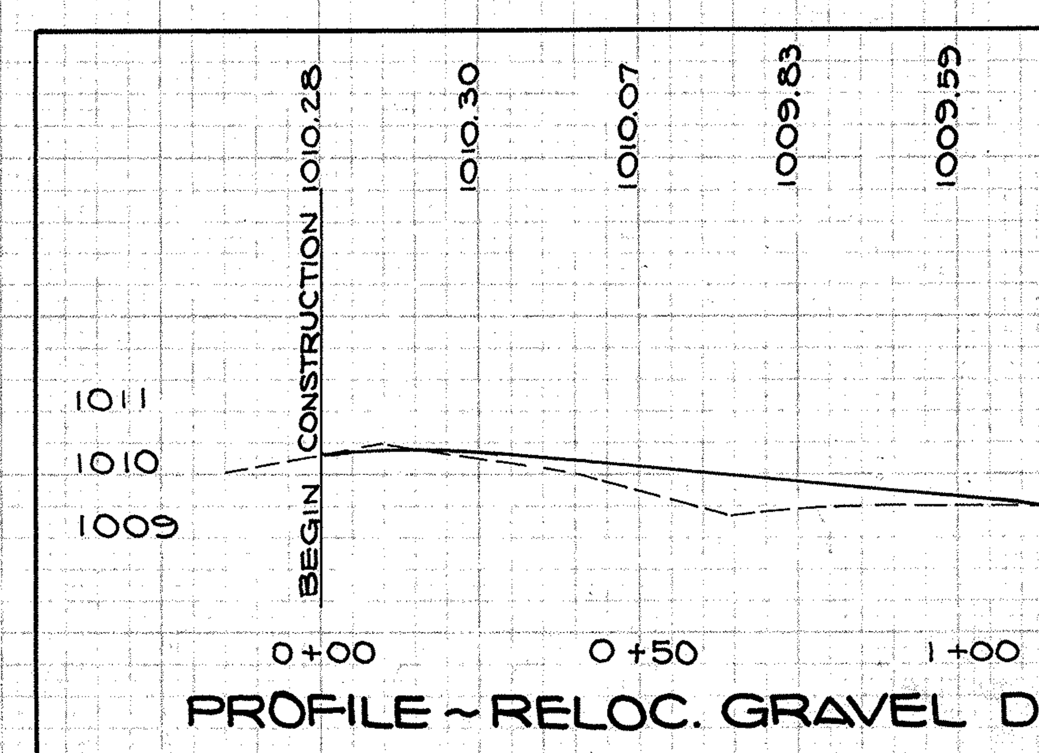
CODE	LOCATION FROM	LOCATION TO	SIDE ¢	SODDING SPECIAL BERM & SLOPE PROT. SQ. YD.
E-1	33+40	–	LT.	13
E-2	33+58	–	RT.	8
SHEET TOTAL				21

202 REMOVAL ITEMS

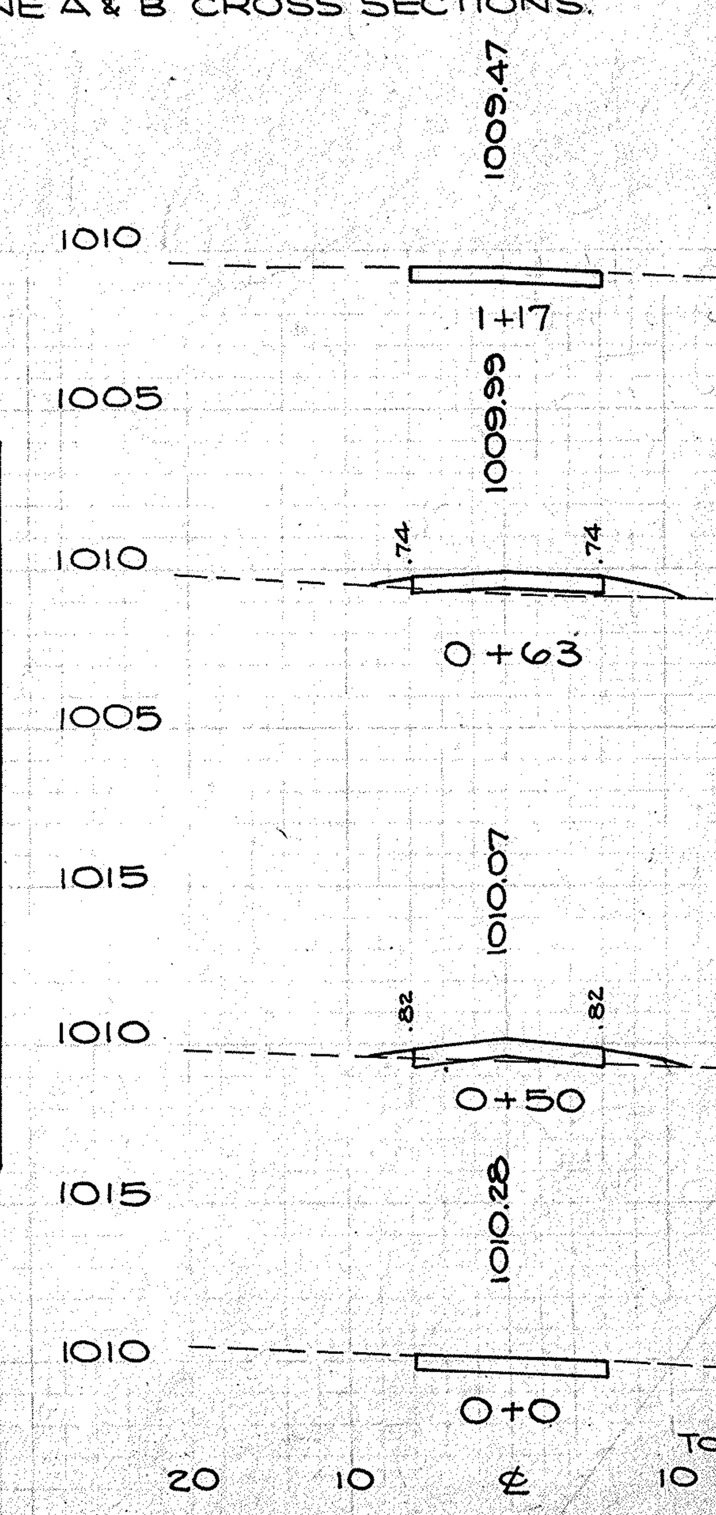
CODE	LOCATION FROM	LOCATION TO	SIDE ¢	GUARD RAIL REMOVED FOR LIN. FT. STORAGE	GUARD RAIL REMOVED FOR LIN. FT. REUSE	INLETS REMOVED EACH	PIPE REMOVED OVER 15" LIN. FT.
X-1	33+00	34+65	LT.	66.5	50		
X-2	33+00	34+31	RT.	125			
X-3	34+21	16' RT.				1	
X-4	34+06	15' LT.				1	
X-5	34+56	–	RT.&LT.				117
SHEET TOTALS				191.5	50	2	117

FOR DETAILS LINE "A" SEE SHEET Nº 102
FOR CROSS SECTIONS ON OHIO TURNPIKE SEE LINE "A" & "B" CROSS SECTIONS.





PROFILE ~ RELOC. GRAVEL DRIVE



END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
5	0		
		6	4
1	5		
		1	2
1	2		
		6	2
5	0		
TOTALS		13	8

SILICA ROAD

PLATE 4 - CROSS SECTION ... NATIONAL TRACING PAPER DIVISION

FED. RD.	STATE	PROJECT	
2	OHIO		

214
384

MAHONING COUNTY
MAH.-80S-7.01
MAH.-80-2.30

MICROFILMED
JUL 00 1979
REPRODUCTION

STA. 371+11.34 ℄ PROP I-80S
STA. 50+15.94 ℄ SURVEY

STA. 371+02.35 ℄ PROP I-80S
STA. 898+92.20 ℄ ORIGINAL R/W

PROP CHANNEL ℄ PARALLEL TO ℄ I-80S
STA. 373+25.12 TO 380+59.00

D.R.C.P.

CURVE #2
P.R.C. CHANNEL STA. 8+56.53
200.00' LT. I-80S STA. 373+25.12
℄ ~ 1000.00

P.C.C. CHANNEL STA. 7+44.75
60.00' RT. ℄ ORIG. R/W STA. 900+78.64
143.82' LT. I-80S STA. 372+35.59
51.31' RT. SURVEY STA. 51+98.30
℄ ~ 1000.24

I-80S STA. 371+67.90
CHANNEL STA. 5+86.49
℄ ~ 1000.57

ITEM-601.05 (CRUSHED AGGREGATE)

CHANNEL ℄ PARALLEL TO ORIG. R/W ℄
STA. 897+48.91 TO 900+78.64

E-3 M.L.

P.C.C. CHANNEL STA. 4+20.34
60.00' RT. ℄ ORIG. R/W STA. 897+47.28
51.31' RT. ℄ SURVEY STA. 48+70.46
℄ ~ 1000.92

CURVE #1

CHANNEL STA. 2+42.00=0+00
℄ ~ 1001.29

P.C. CHANNEL STA. 2+26.61
℄ ~ 1001.32

BEGIN CHANNEL RELOCATION
STA. 2+00 ℄ ~ 1001.38

FILL EXISTING CHANNEL TO DRAIN TO PROPOSED CHANNEL

FILL EXISTING CHANNEL TO DRAIN TO PROPOSED DITCH

MORRISON RUN

SPILLWAY ELEV - 1001.93

PT CHANNEL STA. 14+12.15
200.00 LT. I-80S STA. 378+87.13

END CHANNEL RELOCATION STA. 15+84.02
200 LT. I-80S STA. 380+59.00
℄ ~ 998.47

PT. STA. 378+87.13

EXIST. SIGNAL BOX ℄ SURVEY

PROP POLE LINE

FOR CROSS SECTIONS
STA. 2+00 TO STA. 8+65.53
SEE SHEET № 215-21G.

FOR CROSS SECTIONS
STA. 8+65.53 TO STA. 15+84.02
SEE MAINLINE CROSS SECTIONS.

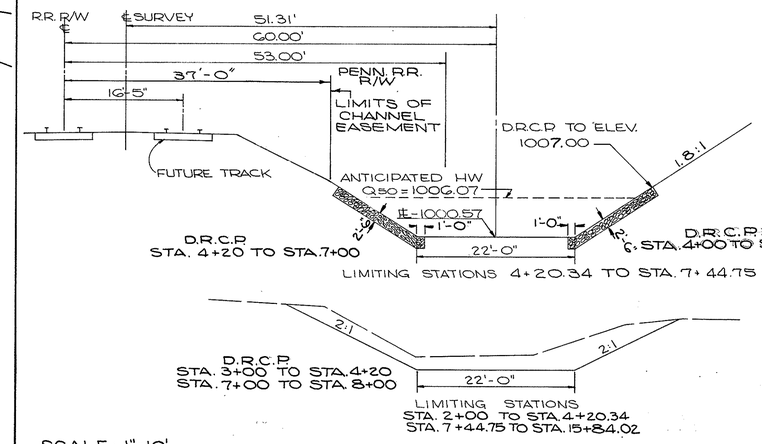
PROP CHANNEL		PENNA. R.R.	I-80S
CURVE №1	CURVE №2	℄ R/W	PROP ℄
Δ = 37° 00' 00"	Δ = 64° 02' 32"	D_c = 01° 00' 00"	D_c = 00° 15' 00"
R = 300.00'	R = 100.00'	Δ = 09° 11' 00"	Δ = 07° 31' 36"
T = 100.38'	T = 62.50'	R = 5729.65'	R = 22,918.32'
L = 193.73'	L = 111.78'	T = 460.16'	T = 1,507.50'
CHANNEL SLOPE = 0.21%		L = 918.35'	L = 3,010.67'
		P.C. = 896+56.00	P.C. = 348+76.46
		P.T. = 905+74.35	P.T. = 378+87.13

ESTIMATED QUANTITIES

* 203 EXC. NOT INCL. EMB. CONST.	7627 C.Y.
601 D.R.C.P.	908 C.Y.

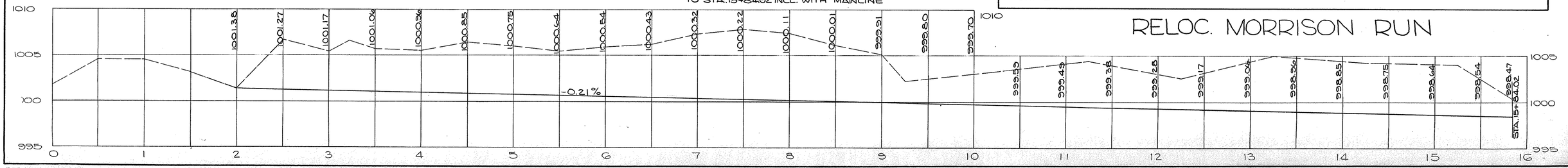
* EARTHWORK QUANTITY FROM STA. 8+65.53 TO STA. 15+84.02 INCL. WITH MAINLINE

TYPICAL CHANNEL SECTIONS



SCALE: 1"=10'

RELOC. MORRISON RUN



K & E - AKRON

FED. RD. DIVISION	STATE	PROJECT		215 384
2	OHIO			

MAH-80S-7.01
MAH-80-2.30

END AREA VOLUME
SQ. YDS. CU. YDS.

C- 517

1001.27

2:1 2:1

2+50
1006.9

C- 280

C- 368

1001.38

2:1 2:1

2+00
1001.38

C- 117

BEGIN CHANNEL RELOCATION
STA. 2+00

1+50
1003.2

1+00
1004.4

0+50
1004.5

0+00
1001.9

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

END AREA VOLUME
SQ. YDS. CU. YDS.

1000.75

1.75:1 1.5:1

2'-6" DRCP

5+00
1006.0

DRCP-63
C-289

DRCP-110
C-580

1000.85

1.75:1 1.5:1

2'-6" DRCP

4+50
1006.4

DRCP-56
C-337

DRCP-71
C-616

1000.96

1.75:1 2:1

2'-6" DRCP

4+00
1005.5

DRCP-33
C-328

DRCP-58
C-560

BEGIN DUMPED ROCK
CHANNEL PROTECTION
STA. 4+50 RT. ℄

1001.06

1.75:1 2:1

2'-6" DRCP

3+50
1005.7

DRCP-30
C-277

DRCP-65
C-514

1001.17

2:1

2'-6" DRCP

3+00
1005.4

DRCP-40
C-278

BEGIN DUMPED ROCK
CHANNEL PROTECTION
STA. 3+00 LT. ℄

SHEET TOTALS

DRCP=	304
CUT=	3155

80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80

PROPOSED RELOC. MORRISON RUN
STA. 2+00 TO STA. 5+00

FED. RD DIV. NO.	STATE	PROJECT	
2	OHIO		

216
384

MAH-805-7.01
MAH-80-2.30

END AREA VOLUME
SQ. YDS. CU. YDS.

STA. 8+00 LT. ℄
END DUMPED ROCK CHANNEL
PROTECTION

C-663

1010
1000
2:1
2:1
2'-6" DRCP
1000.11

DRCP-38
C-394

8+00
1007.4

1000.22

DRCP-69
C-747

I_I
1010
1000
2:1
2:1
2'-6" DRCP

DRCP-36
C-412

7+50
1007.8

1000.32

DRCP-67
C-720

STA. 7+00 RT. ℄
END DUMPED ROCK
CHANNEL PROTECTION

J_I
1010
1000
1.75:1
1.8:1
2'-6" DRCP

DRCP-68
C-365

7+00
1007.3

1000.43

DRCP-124
C-627

FOR DETAILS & QUANITIES
SEE STRUCTURE SHEET Nº 284

I_I
1010
1000
1.75:1
1.8:1
2'-6" DRCP

DRCP-66
C-312

6+50
1006.2

1000.54

DRCP-119
C-561

J_I
1010
1000
1.75:1
1.8:1
2'-6" DRCP

DRCP-62
C-294

6+00
1005.9

1000.64

DRCP-112
C-532

FOR DETAILS & QUANITIES
SEE STRUCTURE SHEET Nº 284

J_I
1010
1000
1.75:1
1.8:1
2'-6" DRCP

DRCP-59
C-280

5+50
1005.4

DRCP-113
C-527

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

FOR CONTINUATION OF RELOCATED CHANNEL
SEE MAINLINE CROSS-SECTIONS SHEET Nº 56

ZERO EARTHWORK
STA. 8+65.53

C-95

10.000

C-322

1010
2:1
2:1
1000

8+50
1006.1

SHEET TOTALS
DRCP= 604
CUT= 4472

80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80

PROPOSED RELOC. MORRISON RUN
STA. 5+50 TO STA. 8+50

FED.RD. DIVISION	STATE	PROJECT	
2	OHIO		

217
384

MAH-80S-7.01
MAH-80-2.30

OHIO TURNPIKE
STATION AHEAD
110

RAMP "C" ACCELERATION LANE

16" GAS MAIN (E.O.G.)

T.S. STA. 440+64.15

STA. 111+30.00 (OHIO T.R.) =
STA. 10+00.00 (CHANNEL)

RAMP "D"
440

EXIST. HEADWALL & CONC. GUTTER TO BE REMOVED.

℄ EXIST. STREAM

EXIST. 8' CONC. GUTTER TO BE REMOVED

C-9

EXIST. 54" CONC. PIPE

P.T. STA. 435+33.85

OPEN FIELD

CHANNEL CURVE DATA
Δ = 72° 30'
T = 150.00'
R = 204.57'
L℄ = 258.86'
C = 241.93'

TO BE FILLED WITH SUITABLE MATERIAL (SEE CROSS SECTIONS)

EXIST. SWALE

℄

15

P.C. STA. 17+60.00

PROPOSED RELOC. CHANNEL

OPEN FIELD

STA. 455+00 (LINE "A")
CULVERT STA. 5+00

LINE "A"

LINE "A"

C-11

455

STATION AHEAD

CULVERT STA. 50+69.50
CHANNEL STA. 21+08

457

P.C. STA. 456+83.98
LINE "A"

P.T. STA. 41+30.65
RAMP "E"

RAMP E

P.T. STA. 20+18.86

WOODS

20

S.C. STA. 462+48.95

FOR CHANNEL CROSS SECTIONS SEE SHEET Nº 218-221

FOR DETAILS OHIO TURNPIKE SEE SHEET Nº 152

ESTIMATED QUANTITIES	
EXCAVATION	= 747 CU.YDS.
EMBANKMENT	= 1421 CU.YDS.

STRUCTURES ~ 20' SPAN & UNDER				
CODE	LOCATION	TYPE	SIZE	DETAIL SHEET Nº
C-11	455+00	58' TYPE A 706.02	54"	237
C-9	111+30 (134' LT)	184' TYPE A 706.02	54"	236

2:1 2:1 4'-0"

TYPICAL CHANNEL SECTION

1005
1000
995
990
985

4:1 4:1 4:1

℄ RAMP "C" ℄ TURNIPIKE ℄ RAMP "D"

C-9

-0.66% -2.28% -0.90% -1.00%

EXIST. INLET ℄ = 994.43
INLET ELEV. = 994.65

℄ EXIST. 54" = 992.85
STA. 11+26

P.V.I. STA. 11+84
OUTLET ℄ 991.53

100' V.C.

2'-6"

25'

P.V.I. STA. 13+00
ELEV. 988.85

C-11

184'~54" CONDUIT, TYPE "A"
SEC. 706.02 CL. III W/CL. "B" BED.

P.V.I. STA. 21+00
ELEV. 981.63

991.17 990.03 989.06 988.44 987.99 987.54 987.05 986.64 986.15 985.74 985.29 984.84 984.39 983.94 983.45 983.04 982.59 982.14 981.69 981.61 (+08) 979.97

℄ LINE "A"

1000
995
990
985
980

8 9 10+00 11 12 13 14 15+00 16 17 18 19 20+00 21 22

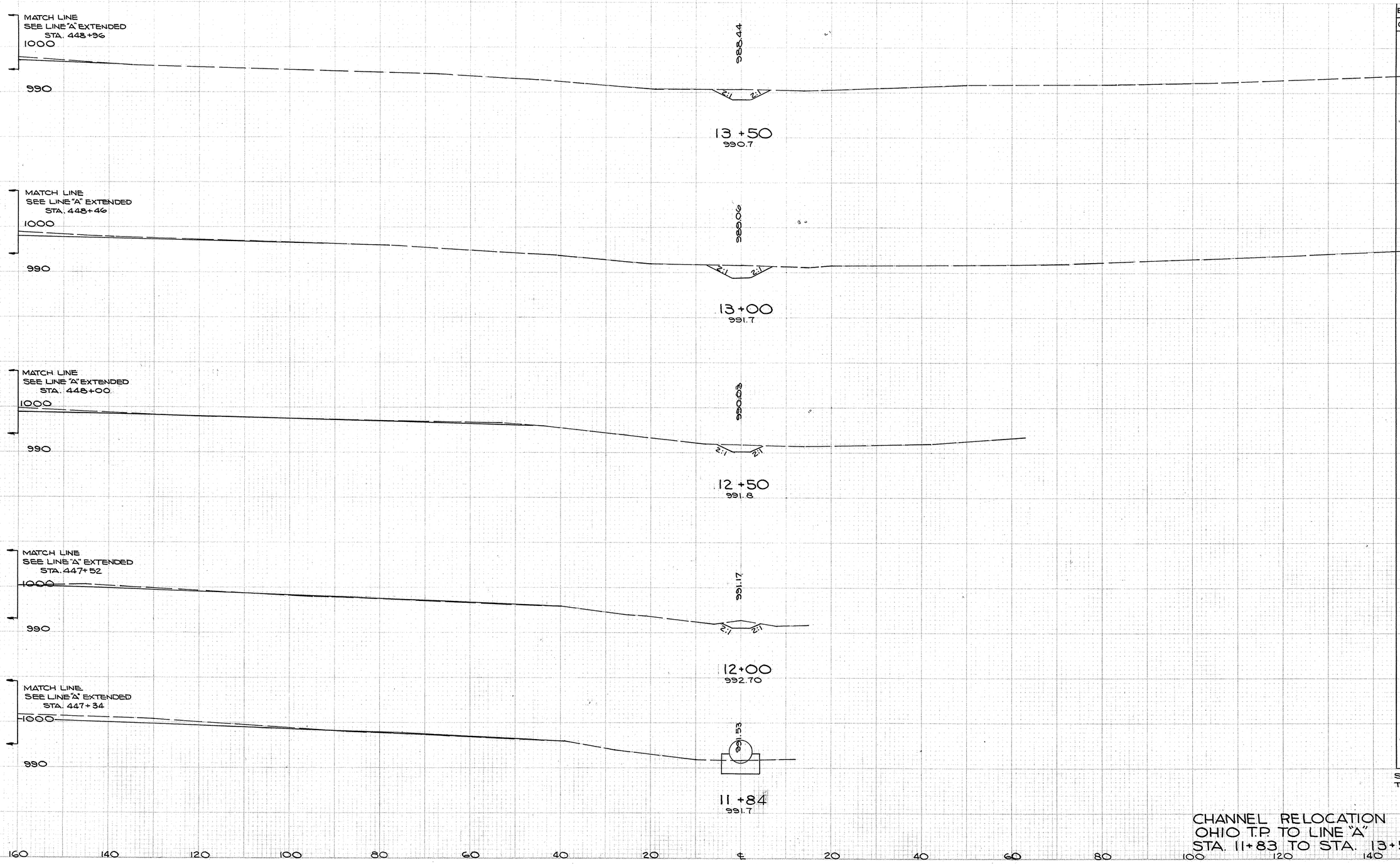
CHANNEL RELOCATION - OHIO T.P. TO LINE "A"
STA. 10+00 TO STA. 21+88

PLATE #15+00 SECTION O. P. R. & R. S. #16 AHD
NATIONAL TRACING PAPER DIVISION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

218
384

MAH-80 S-7.01
MAH-80 - 2.30



	END AREA		CU. YDS.	
	CUT	FILL	CUT	FILL
	31	0		
			80	0
	55	0		
			79	0
	30	0		
			60	0
	35	0		
			32	0
	65	0		
SHEET TOTALS			251	0

CHANNEL RELOCATION
OHIO T.P. TO LINE "A"
STA. 11+83 TO STA. 13+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

219
384

MAH-80S-7.01
MAH-80 - 2.30

MATCH LINE
SEE LINE "A" EXTENDED
STA. 451+78

995

985

985.74

2:1 2:1

16+50
986.2

986.19

2:1 2:1

MATCH LINE
SEE LINE "A" EXTENDED
STA. 451+32

995

985

16+00
987.4

986.64

2:1 2:1

MATCH LINE
SEE LINE "A" EXTENDED
STA. 450+82

995

985

15+50
988.2

987.09

2:1 2:1

MATCH LINE
SEE LINE "A" EXTENDED
STA. 450+38

995

985

15+00
988.6

987.54

2:1 2:1

MATCH LINE
SEE LINE "A" EXTENDED
STA. 449+82

995

985

14+50
989.8

987.99

2:1 2:1

MATCH LINE
SEE LINE "A" EXTENDED
STA. 449+40

995

985

14+00
989.9

	END AREA		CU. YDS.	
	CUT	FILL	CUT	FILL
	4	70		
			13	164
	10	107		
			21	224
	12	135		
			22	209
	12	90		
			26	141
	16	62		
			26	58
	12	0		
			40	0
SHEET TOTALS			148	796

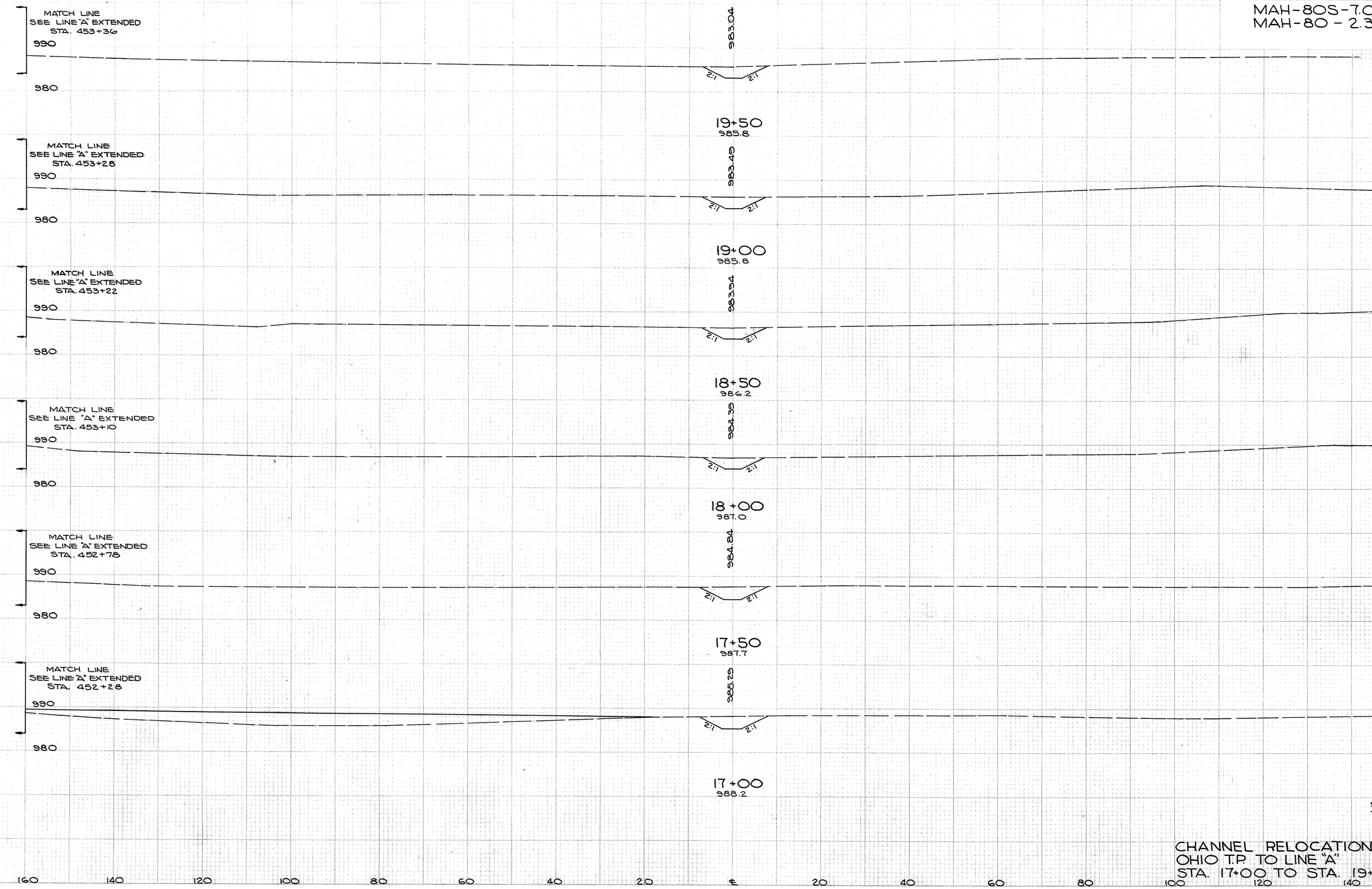
160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

CHANNEL RELOCATION
OHIO T.P. TO LINE "A"
STA. 14+00 TO STA. 16+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

220
384

MAH-80S-7.01
MAH-80 - 2.30



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
22	0		
		42	0
23	0		
		45	0
25	0		
		42	0
20	0		
		43	0
26	0		
		50	280
28	302		
		30	345
SHEET TOTALS		252	625

CHANNEL RELOCATION
OHIO T.P. TO LINE "A"
STA. 17+00 TO STA. 19+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

221
384

MAH-80S-7.01
MAH-80-2.30

MATCH LINE
SEE LINE "A" EXTENDED
STA. 453+38

990

980

MATCH LINE
SEE LINE "A" EXTENDED
STA. 453+37

990

980

982.14

2:1 2:1

20+50
985.3

982.59

2:1 2:1

20+00
985.5

160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

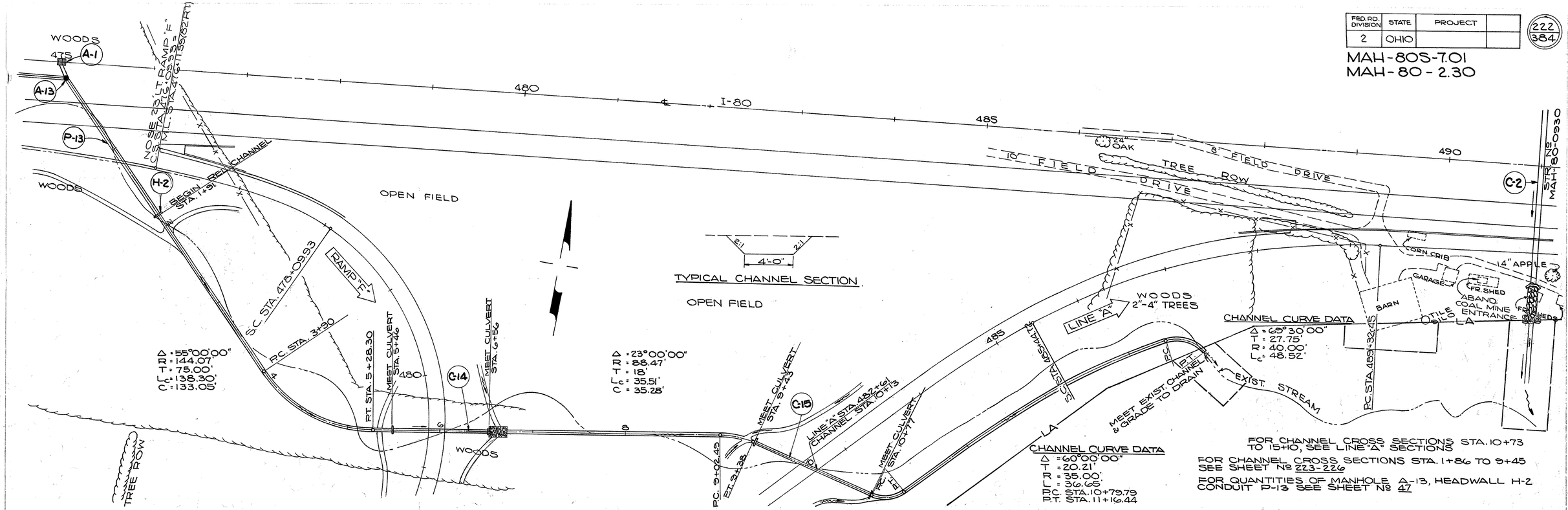
END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
31	0		
		52	0
25	0		
		44	0
SHEET TOTALS		96	0

CHANNEL RELOCATION
OHIO T.P. TO LINE "A"
STA. 20+00 TO STA. 20+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

222
384

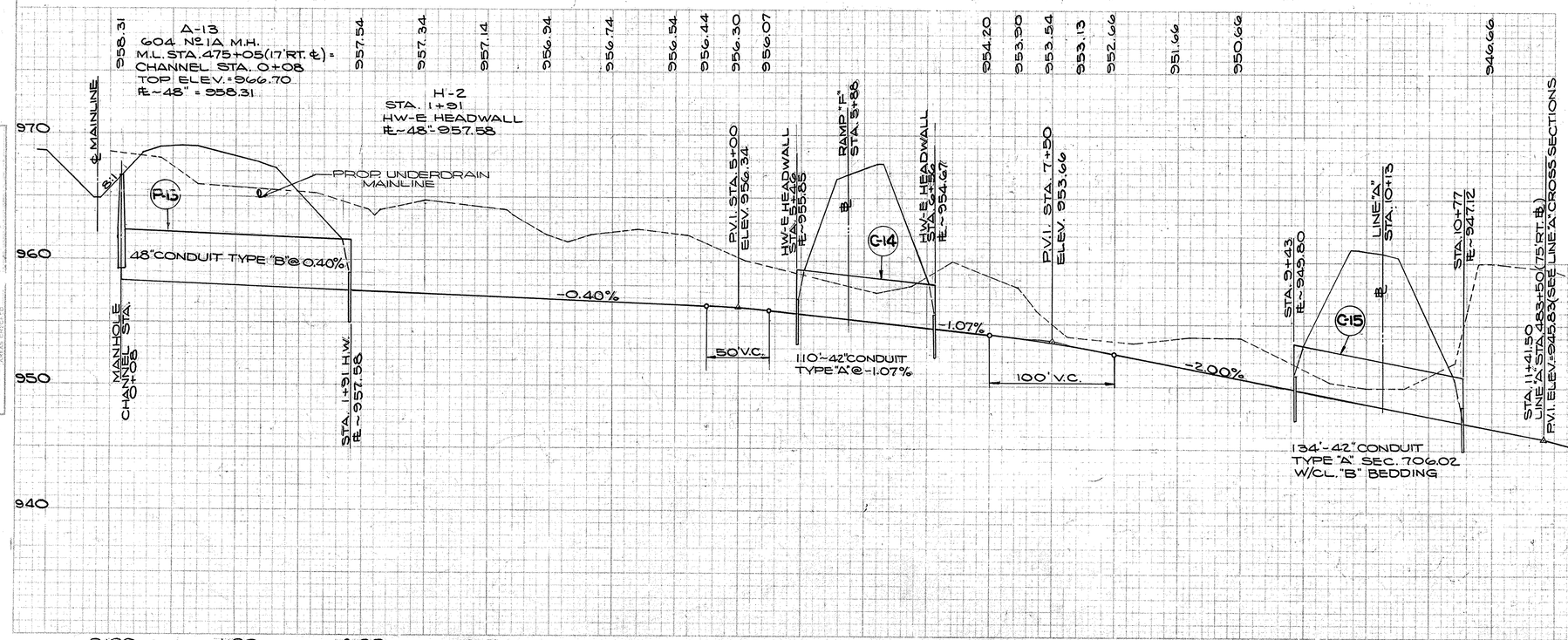
MAH-80S-7.01
MAH-80-2.30



FOR CHANNEL CROSS SECTIONS STA. 10+73 TO 15+10, SEE LINE "A" SECTIONS

FOR CHANNEL CROSS SECTIONS STA. 1+86 TO 9+45 SEE SHEET Nº 223-226

FOR QUANTITIES OF MANHOLE A-13, HEADWALL H-2 CONDUIT P-13 SEE SHEET Nº 47



STRUCTURES 20' SPAN & UNDER				
CODE	LOCATION	TYPE	SIZE	DETAIL SHEET Nº
C-15	LINE "A" 482+61	134'-TYPE "A" 706.02	42"	239
C-14	RAMP "F" 480+61	110'-TYPE "A" 706.02	42"	239
C-2	491+00	248' TYPE "A" 706.02 CL III	60"	230

ESTIMATED QUANTITIES	
EXCAVATION =	1563 CU. YDS.
EMBANKMENT =	1986 CU. YDS.

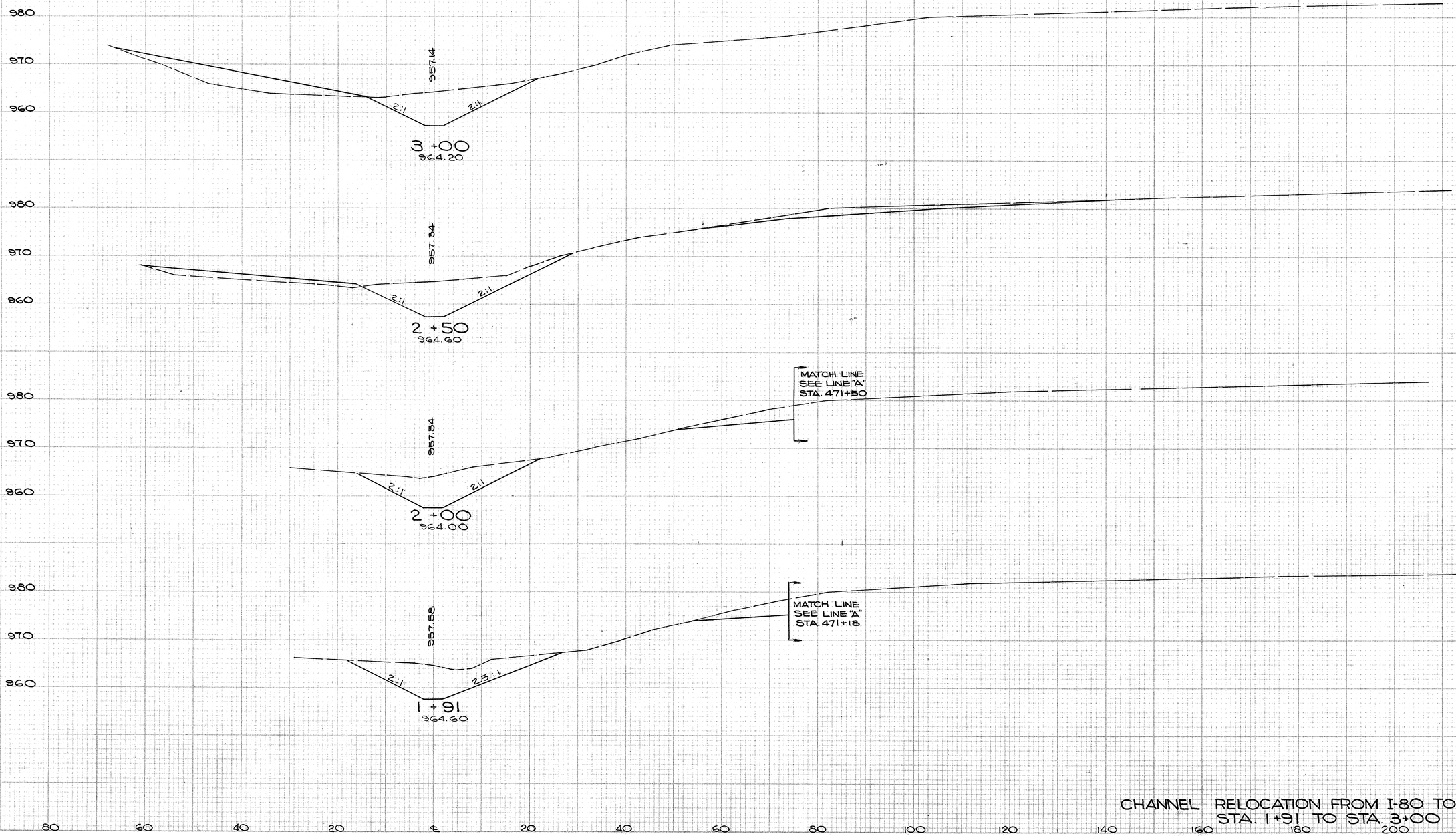
CHANNEL RELOCATION FROM I-80 TO LINE "A"
STA. 1+86 TO STA. 15+10

PLATE 1 SECTION C. P. 3. N. X.
NATIONAL TRACING PAPER DIVISION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

223
384

MAH-80S-7.01
MAH-80-2.30



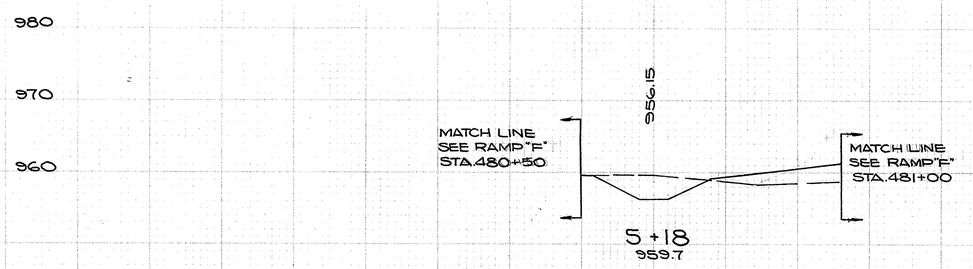
	END AREA		CU. YDS.	
	CUT	FILL	CUT	FILL
3+00	90	145		
			255	190
2+50	185	60		
			294	0
2+00	132	0		
			72	0
1+91	146	0		
SHEET TOTALS			621	190

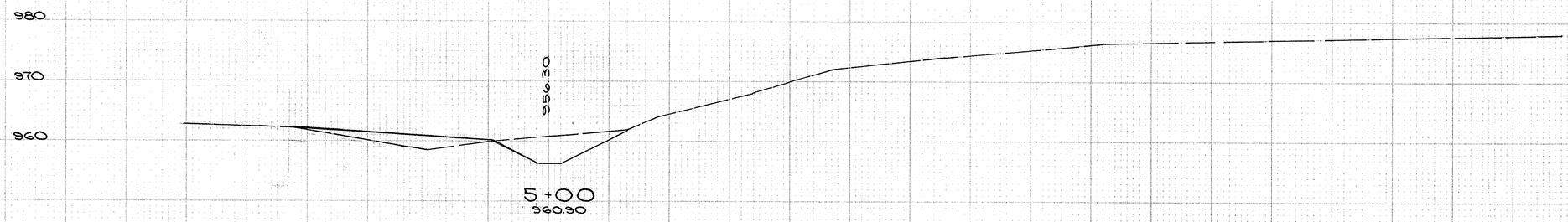
CHANNEL RELOCATION FROM I-80 TO LINE "A"
STA. 1+91 TO STA. 3+00

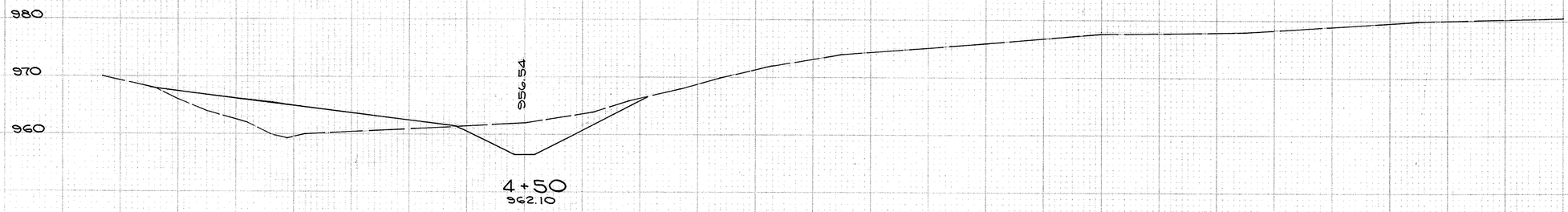
FED. AD. DIVISION	STATE	PROJECT	
2	OHIO		

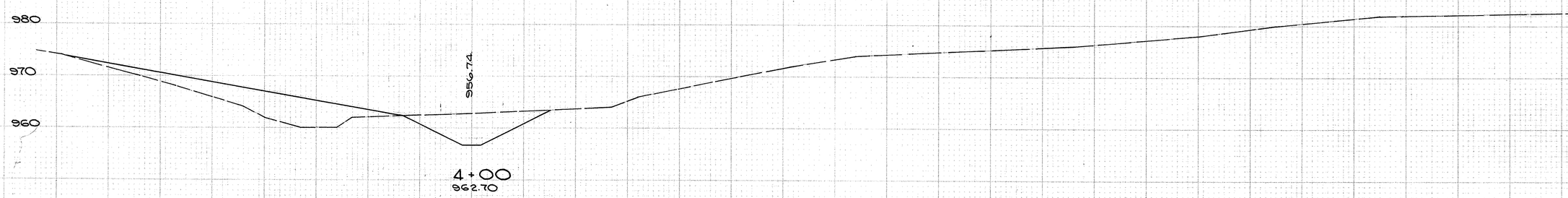
224
384

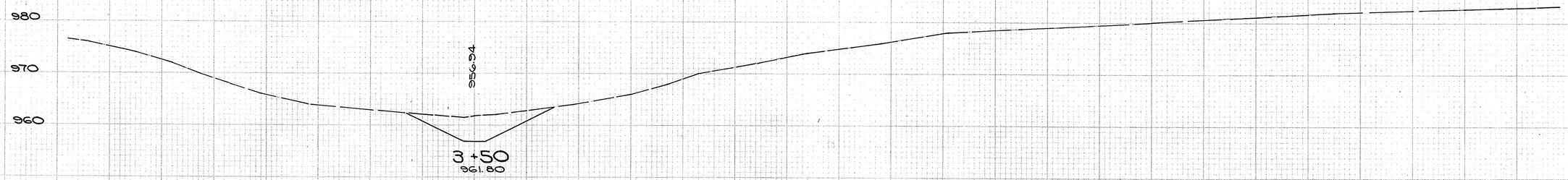
MAH-80S-7.01
MAH-80-2.30











	END AREA		C.U. YDS.	
	CUT	FILL	CUT	FILL
3+50	28	34		
			69	78
4+00	46	50		
			103	208
4+50	65	174		
			120	353
5+00	64	207		
			103	192
5+18	47	0		
			127	135
SHEET TOTALS			522	966

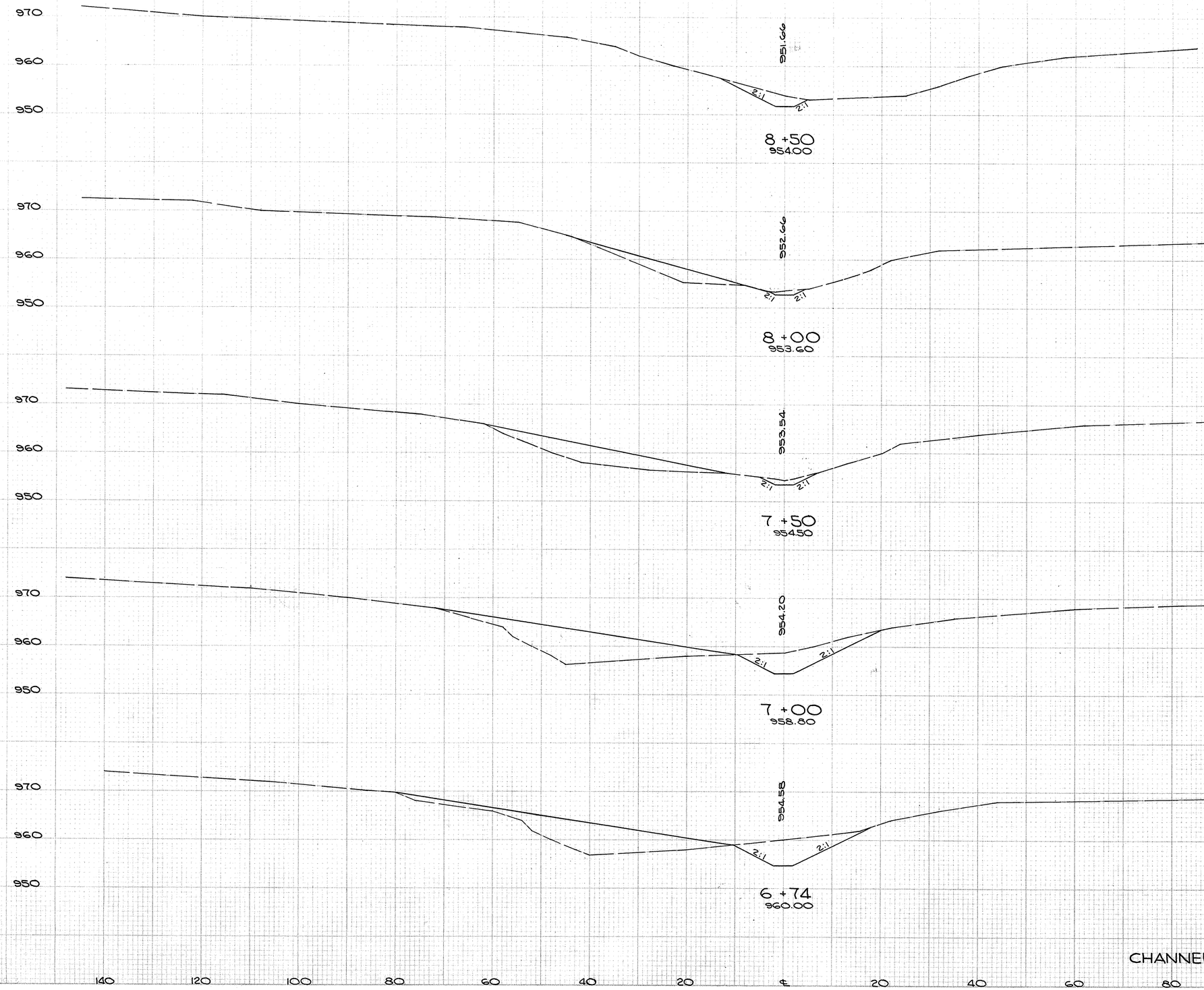
80 60 40 20 ℄ 20 40 60 80 100 120 140 160 180 200 220

CHANNEL RELOCATION FROM I-80 TO LINE "A"
STA. 3+50 TO STA. 5+18

FED. AID DIVISION	STATE	PROJECT	
2	OHIO		

225
384

MAH-80S-7.01
MAH-80-2.30



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
31	0		
		34	56
5	60		
		16	173
12	127		
		95	323
90	222		
		83	208
82	210		
SHEET TOTALS		228	760

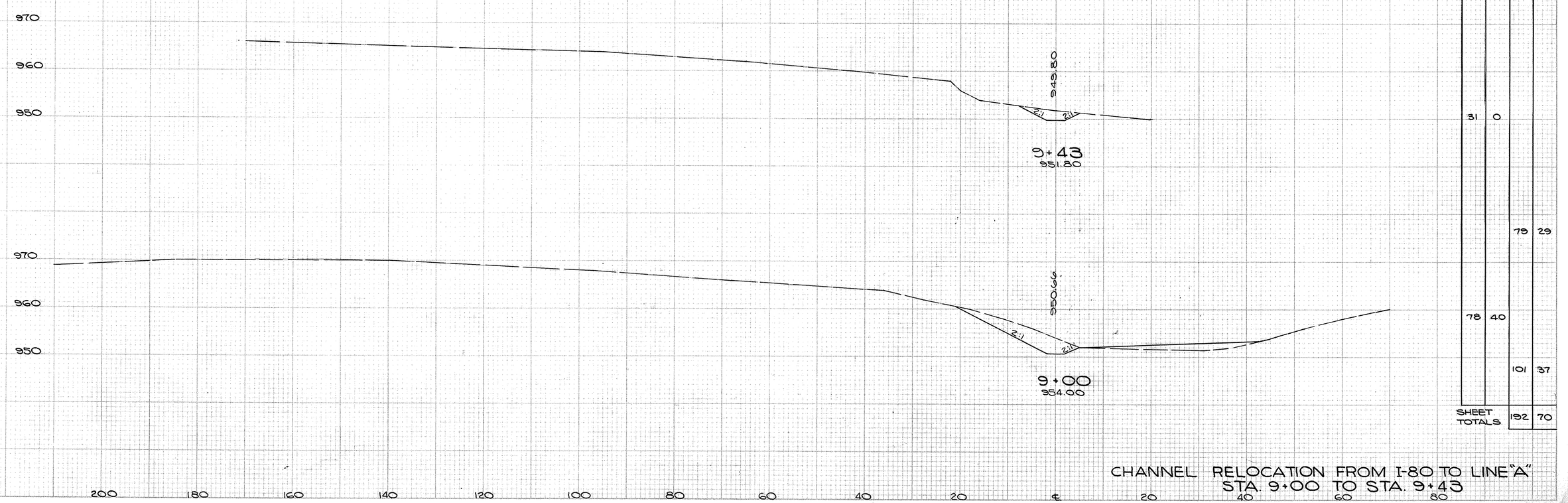
CHANNEL RELOCATION FROM I-80 TO LINE "A"
STA. 6+74 TO STA. 8+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

226
384

MAH-80S-7.01
MAH-80-2.30

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
31	0		
		79	29
78	40		
		101	37
SHEET TOTALS		192	70



CHANNEL RELOCATION FROM I-80 TO LINE "A"
STA. 9+00 TO STA. 9+43

FED.RD. DIVISION	STATE	PROJECT	
2	OHIO		

227
384

MAH-80S-7.01
MAH-80 -2.30

460

455

470

OPEN FIELD

LA

1332' RT. ℄ STA. 460+20

1332' RT. ℄ STA. 465+60

℄ PROPOSED RELOC. CHANNEL

5.00

PC STA 2+26.56

PT STA 3+25.56

PC STA 7+34.85

PT STA 9+20.54

10.00

PC STA 10+76.17

PT STA 12+61.85

15.00

PC STA 14+38.21

PT STA 15+05.95

102.00'

EXISTING LINE "A"

T.S. STA 467+39.61

S.C. STA 469+39.61

STREAM

OPEN FIELD

WOODS

HEAVY GROWTH 2"-4" TREES w/SCATTERED 12"-30" TREES

STA. 15+60.15 = 470+00 LINE "A"

CURVE 1
Δ = 34°-09'-00"
T = 30.71'
R = 100.00'
Lc = 59.60'

CURVE 2 & 3
Δ = 52°-42'-14"
T = 100.00'
R = 201.87'
Lc = 185.69'

CURVE 4
Δ = 49°-18'-29"
T = 60.00'
R = 131.01'
Lc = 112.74'

BEG. PROP CHANNEL STA. 0+18

EXIST. PAVED GUTTER

EXIST. 48" CONC. PIPE STA. 0+00

FENCE REPLACEMENT
IF ANY OF THE O.T. FENCE IS REMOVED IN THE CONSTRUCTION OF THE CHANNEL IT SHALL BE REPLACED BY THE CONTRACTOR. PAYMENT FOR REPLACING THE FENCE SHALL BE INCLUDED IN THE UNIT PRICE FOR "ITEM 203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION"

ESTIMATED QUANITIES

EXCAVATION =	2353	CU.YDS
EMBANKMENT =	97	CU.YDS

FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, NOTE BOOK, AREAS CHECKED, NO., BY, DATE

ORIGINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, NOTE BOOK, AREAS CHECKED, NO., BY, DATE

995
990
985
980

PVI STA 1+00 ELEV 988.30

PVI STA 4+50 ELEV 984.16

PVI STA 11+00 ELEV 981.50

-1.40%

-0.40%

+0.50%

STA. 15+60.15 = STA. 470+00 LINE "A"

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00 14+00 15+00

CHANNEL RELOCATION SOUTH I-80
STA 0+18 TO STA 15+60.15

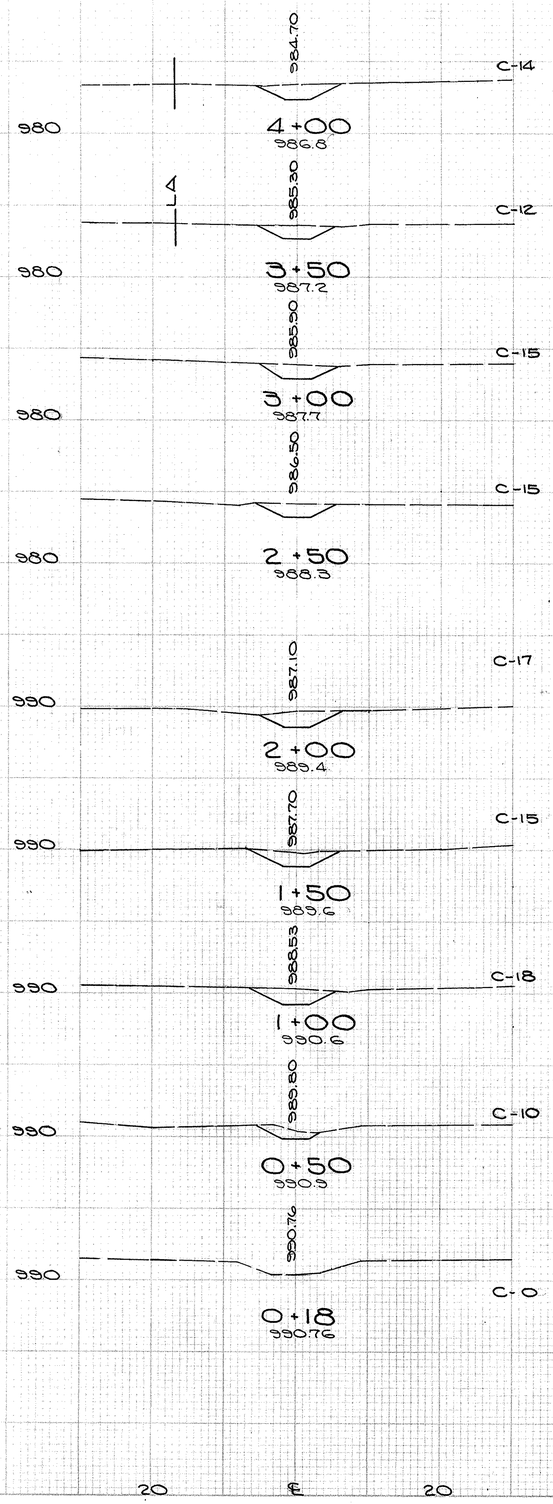
PLATE 4 CROSS SECTION B. P. R. & R. E. STANDARD
EUGENE DIETZGEN CO., CHICAGO • NEW YORK

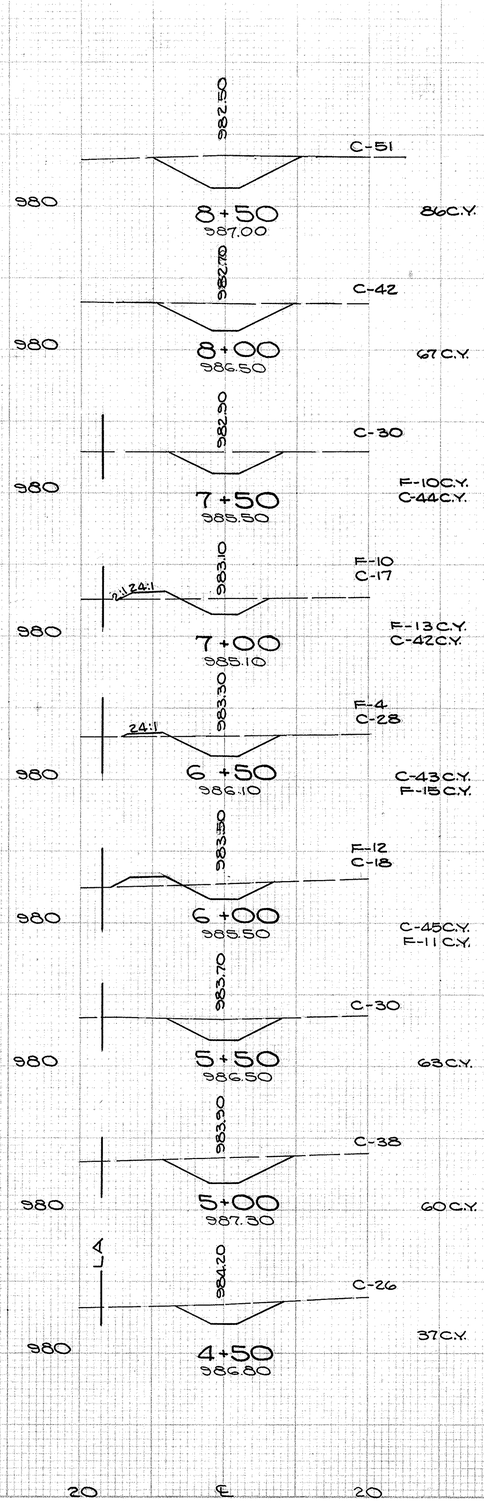
DIETZGEN NO. 138 M-3 REPRODOL

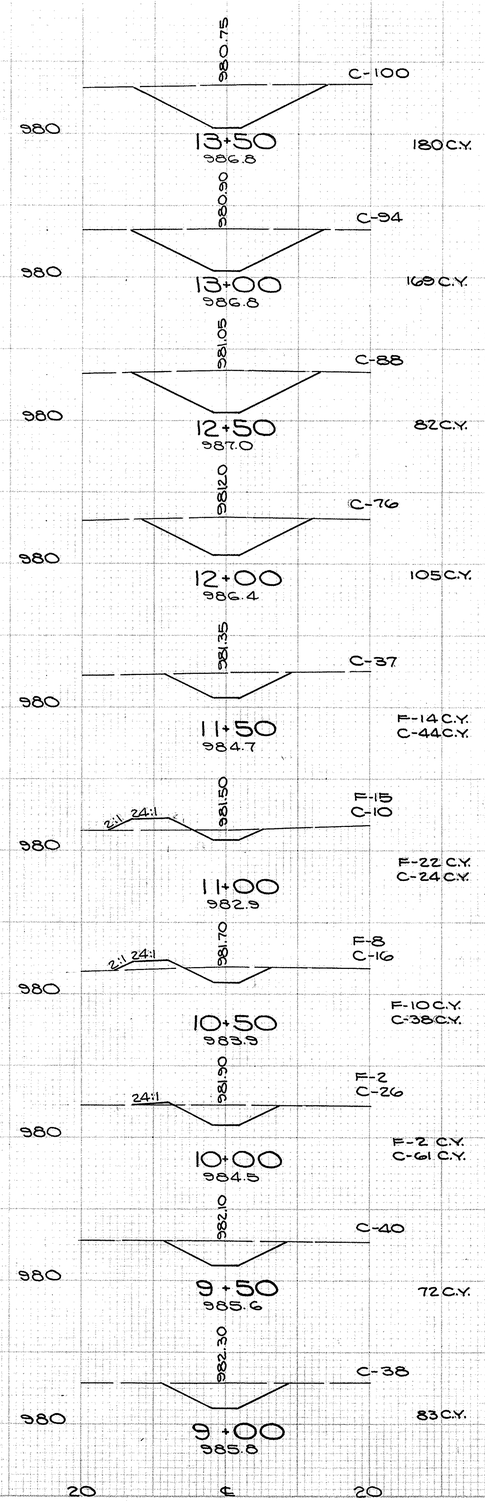
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

228
384

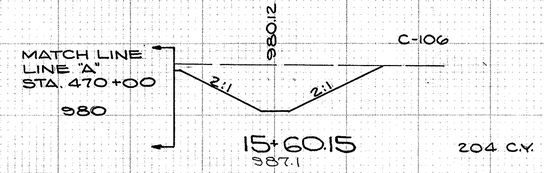
MAH-80S-7.01
MAH-80-2.30

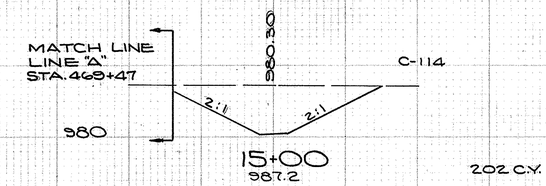


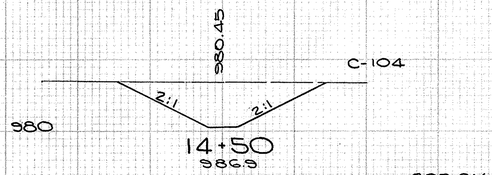




FOR CONTINUATION OF CHANNEL CROSS-SECTION SEE LINE "A" SHEET Nº 135







SHEET TOTALS	2353 C.Y.	CUT
	97 C.Y.	FILL

CHANNEL RELOCATION SOUTH I-80
STA. 0+18 TO STA. 15+60.15

STRUCTURE Nº MAH-80S-0753

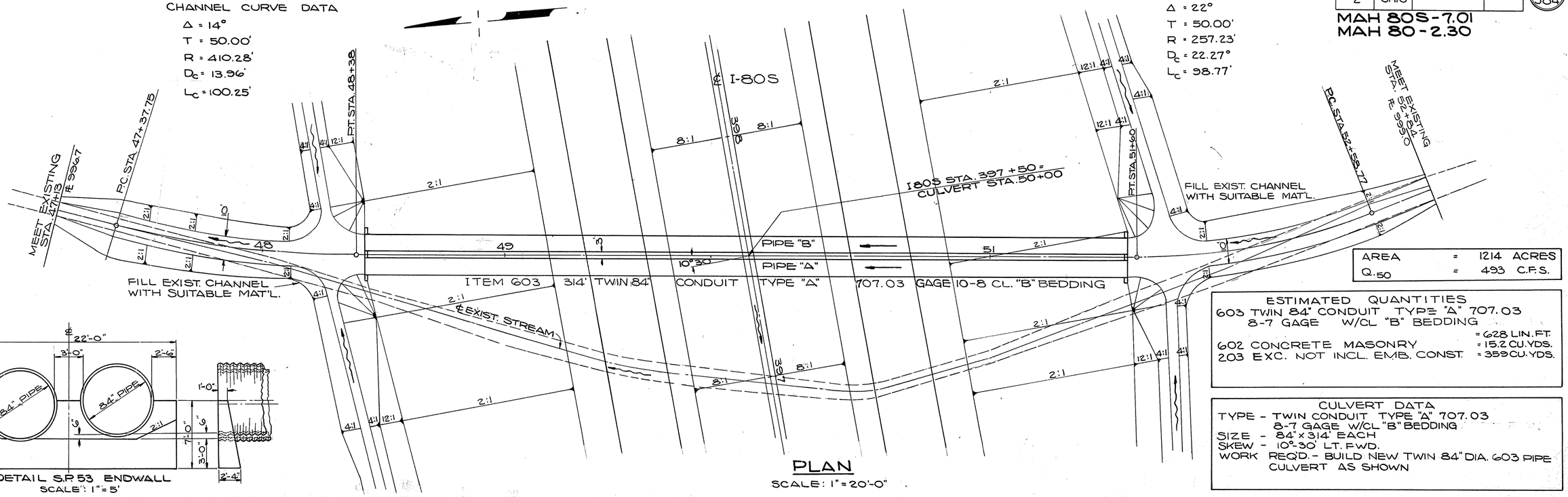
FED. RD.	STATE	PROJECT	
2	OHIO		

229
384

MAH 80S-7.01
MAH 80-2.30

CHANNEL CURVE DATA
Δ = 14°
T = 50.00'
R = 410.28'
D_c = 13.96'
L_c = 100.25'

CHANNEL CURVE DATA
Δ = 22°
T = 50.00'
R = 257.23'
D_c = 22.27°
L_c = 98.77'

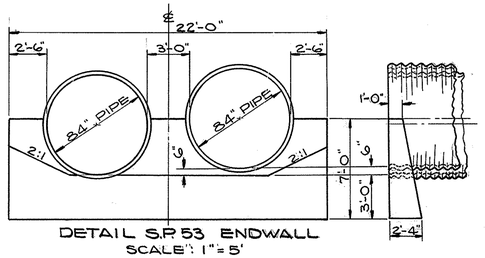


PLAN
SCALE: 1"=20'-0"

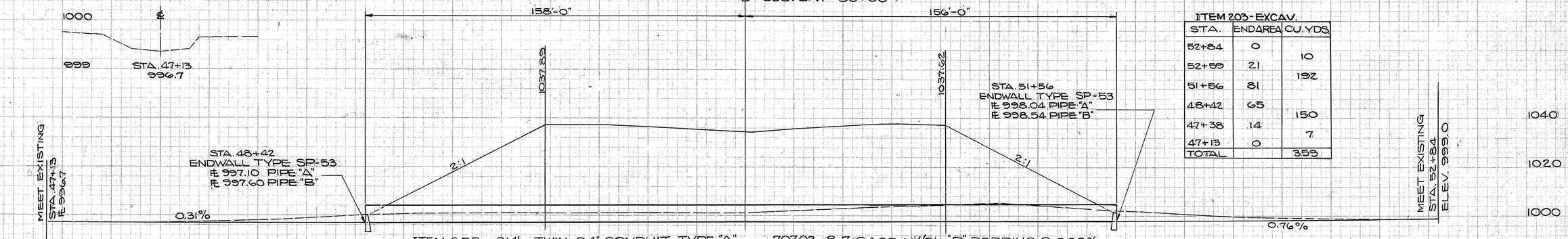
AREA	=	1214 ACRES
Q.50	=	493 C.F.S.

ESTIMATED QUANTITIES
603 TWIN 84" CONDUIT TYPE "A" 707.03
8-7 GAGE W/CL "B" BEDDING = 628 LIN. FT.
602 CONCRETE MASONRY = 15.2 CU. YDS.
203 EXC. NOT INCL. EMB. CONST. = 359 CU. YDS.

CULVERT DATA
TYPE - TWIN CONDUIT TYPE "A" 707.03
8-7 GAGE W/CL "B" BEDDING
SIZE - 84" x 314' EACH
SKEW - 10°-30' LT. FWD.
WORK REQ'D. - BUILD NEW TWIN 84" DIA. 603 PIPE CULVERT AS SHOWN



DETAIL S.P. 53 ENDWALL
SCALE: 1"=5'

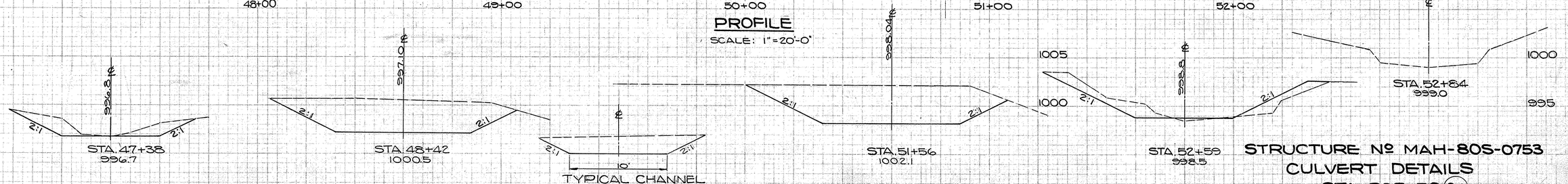


ITEM 203-EXCAV.

STA.	ENDAREA	CU. YDS.
52+84	0	
		10
52+59	21	
		192
51+56	81	
		150
48+42	65	
		7
47+38	14	
47+13	0	
TOTAL		359

ITEM 603 314' TWIN 84" CONDUIT TYPE "A" 707.03 8-7 GAGE W/CL. "B" BEDDING @ 0.30%

PROFILE
SCALE: 1"=20'-0"



TYPICAL CHANNEL SECTION
SCALE: 1"=5' HOR. & VERT.

STRUCTURE Nº MAH-80S-0753
CULVERT DETAILS
STA. 397+50 C-1

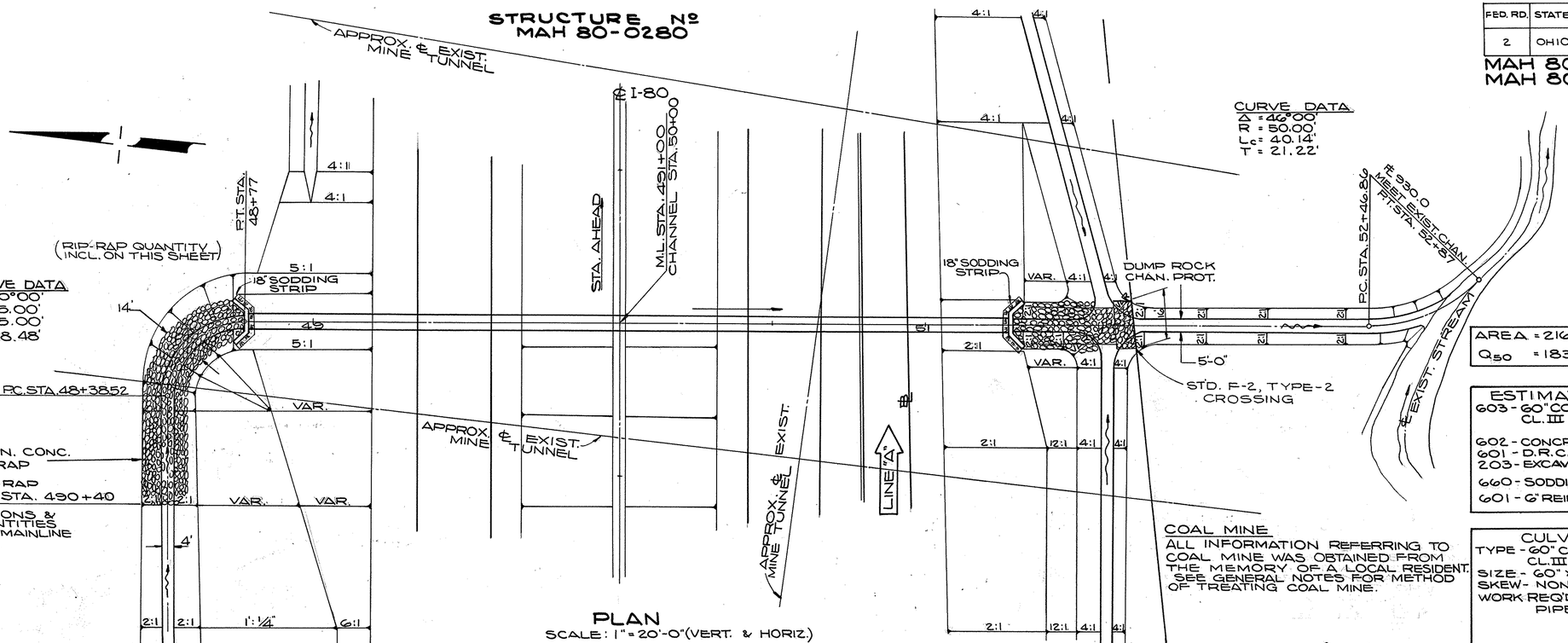
PLATE 4-CROSS SECTION U. P. S. & N. E. STANDARD
NATIONAL TRACING PAPER DIVISION

STRUCTURE Nº MAH 80-0280

FED. RD.	STATE	PROJECT	
2	OHIO		

230/384

MAH 80S-7.01
MAH 80-2.30

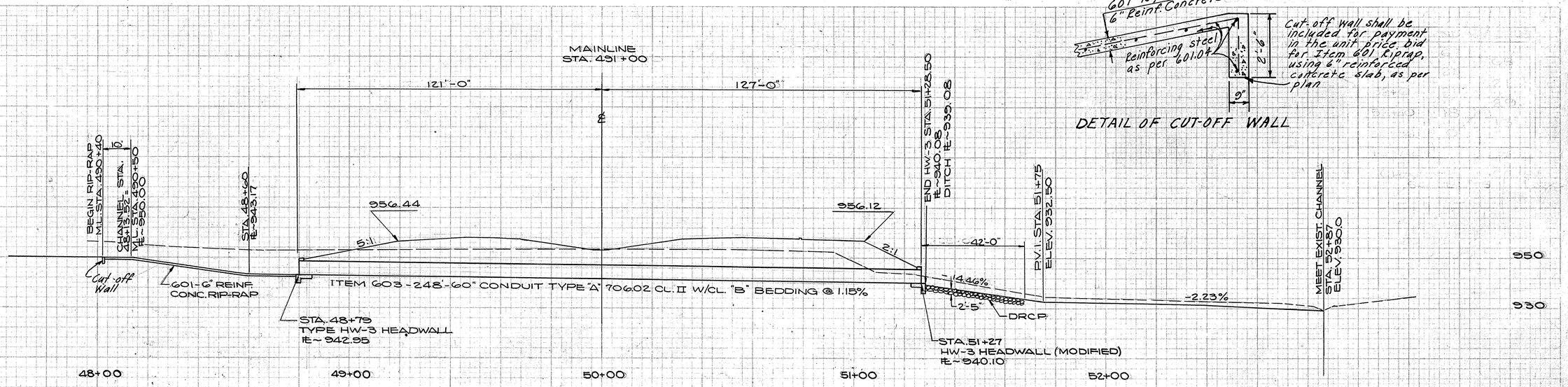


PLAN
SCALE: 1" = 20'-0" (VERT. & HORIZ.)

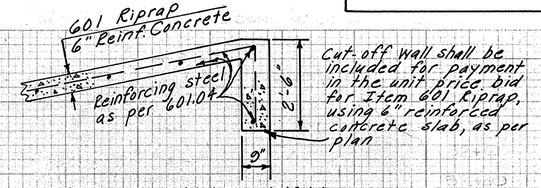
ESTIMATED QUANTITIES
603 - 60" CONDUIT TYPE "A" 706.02 CL. III W/CL. "B" BEDDING = 248 LIN. FT.
602 - CONCRETE MASONRY = 19.9 CU. YDS.
601 - D.R.C.P. = 46 CU. YDS.
203 - EXCAV. NOT INCL. EMB. = 687 CU. YDS.
660 - SODDING = 7 SQ. YDS.
601 - 6" REINF. CONC. RIPRAP = 102 SQ. YDS.

CULVERT DATA
TYPE - 60" CONDUIT TYPE "A" 706.02 CL. III W/CL. "B" BEDDING
SIZE - 60" x 248'
SKEW - NONE
WORK REQ'D. - BUILD NEW 60" DIA. PIPE CULVERT AS SHOWN.

COAL MINE
ALL INFORMATION REFERRING TO COAL MINE WAS OBTAINED FROM THE MEMORY OF A LOCAL RESIDENT. SEE GENERAL NOTES FOR METHOD OF TREATING COAL MINE.



PROFILE
SCALE: 1" = 20'-0"



Cut-off wall shall be included for payment in the unit price bid for Item 601 Riprap, using 6" reinforced concrete slab, as per plan.

DETAIL OF CUT-OFF WALL

HW-3 MODIFIED
SEE STANDARD DRAWING HW-3 DATED 6-1-65 SECTION D-D THE 12" FOOTER SHOULD BE CHANGED TO 24".

STR. Nº MAH 80-0280
CULVERT DETAILS
STA. 491+00

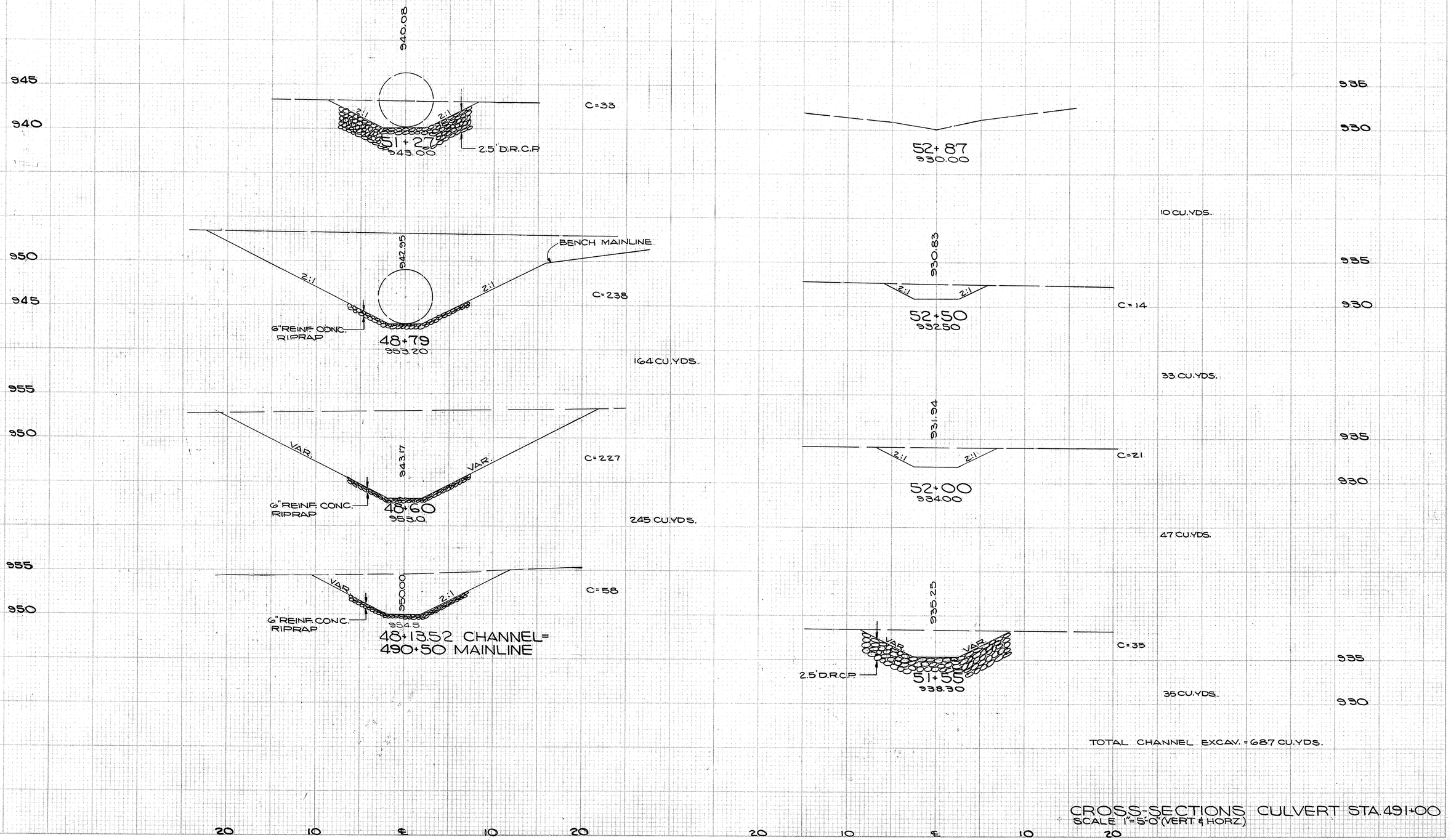
C-2

PLATE 4-CROSS SECTION O. P. S. & E. C. STANDARD
NATIONAL TRACING PAPER DIVISION
O. P. S. & E. CO., INC. INDIANAPOLIS, INDIANA

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

231
384

MAH-80S-7.01
MAH-80-2.30

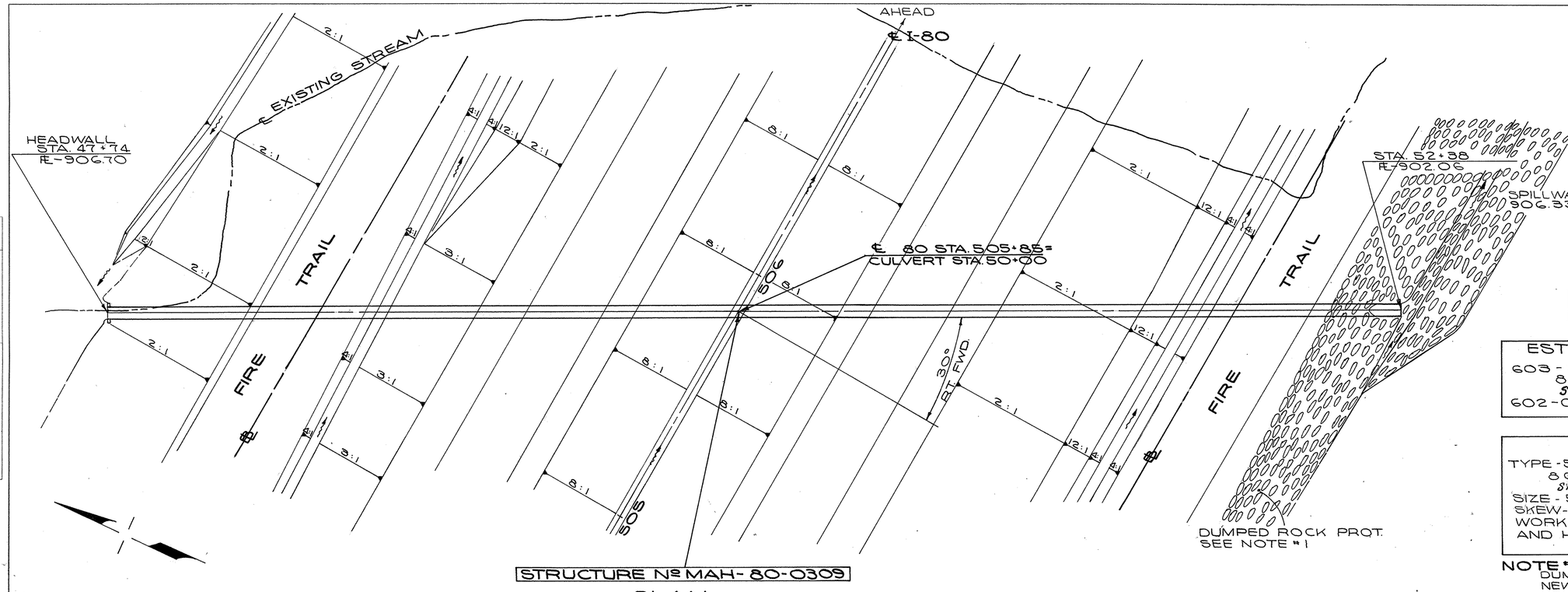


TOTAL CHANNEL EXCAV. = 687 CU.YDS.

CROSS-SECTIONS CULVERT STA. 491+00
SCALE 1"=5'-0" (VERT. & HORZ.)

FED.RD	STATE	PROJECT		232 / 384
2	OHIO			

MAH-80S-7.01
MAH-80- 2.30



STRUCTURE Nº MAH-80-0309

PLAN
CULVERT
SCALE 1"=20'-0"

AREA	= 181 ACRE
Q50	= 122 C.F.S.

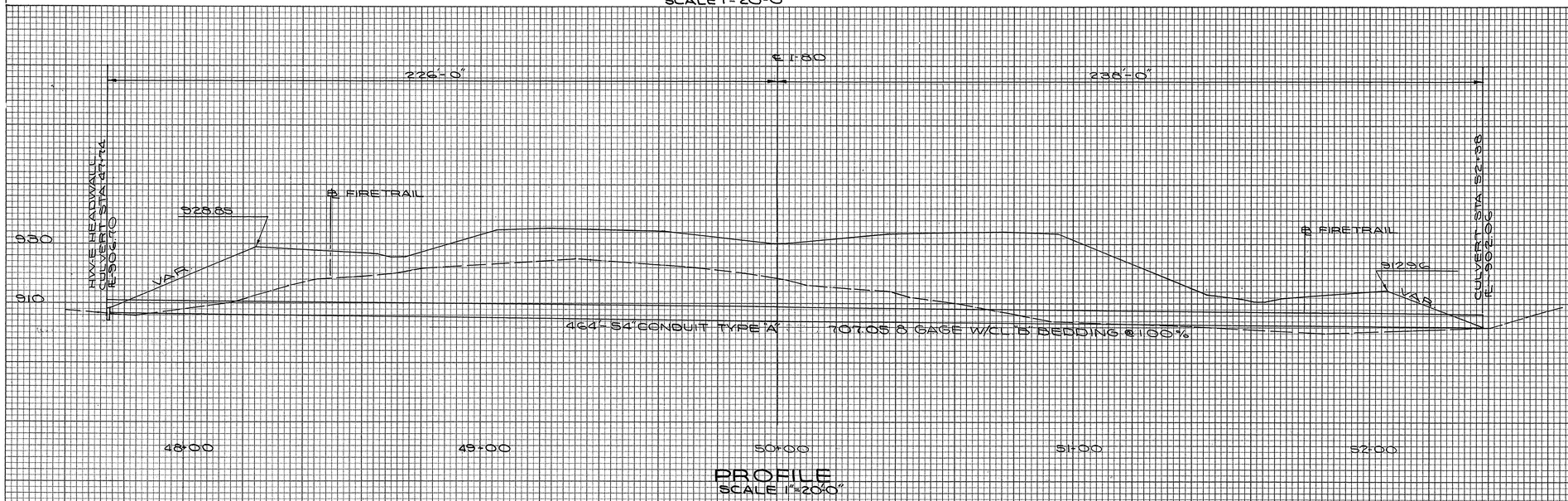
ESTIMATED QUANTITIES

603 - 54" CONDUIT TYPE "A" 707.05
8 GAGE W/CL. "B" BEDDING
Shop Elongated = 464 LIN. FT.
602 - CONC. MASONRY = 1.0 CU.YD.

CULVERT DATA

TYPE - 54" CONDUIT TYPE "A" 707.05
8 GAGE W/CL. "B" BEDDING
Shop Elongated
SIZE - 54"x464'-0"
SKEW - 30° RT. FWD.
WORK REQ'D. - BUILD NEW 54" CULV. AND HEADWALL AS SHOWN.

NOTE #1:
DUMPED ROCK PROTECTION ON NEW SLOPES. FOR DETAILS SEE MAINLINE CROSS SECTIONS SHEETS 92 & 93 .



PROFILE
SCALE 1"=200"

STR Nº MAH-80-0309
CULVERT DETAIL
STA. 505+85

C3

PLATE 4 CROSS SECTION B. P. R. & R. E. STANDARD
EUGENE DIETZGEN CO., CHICAGO • NEW YORK

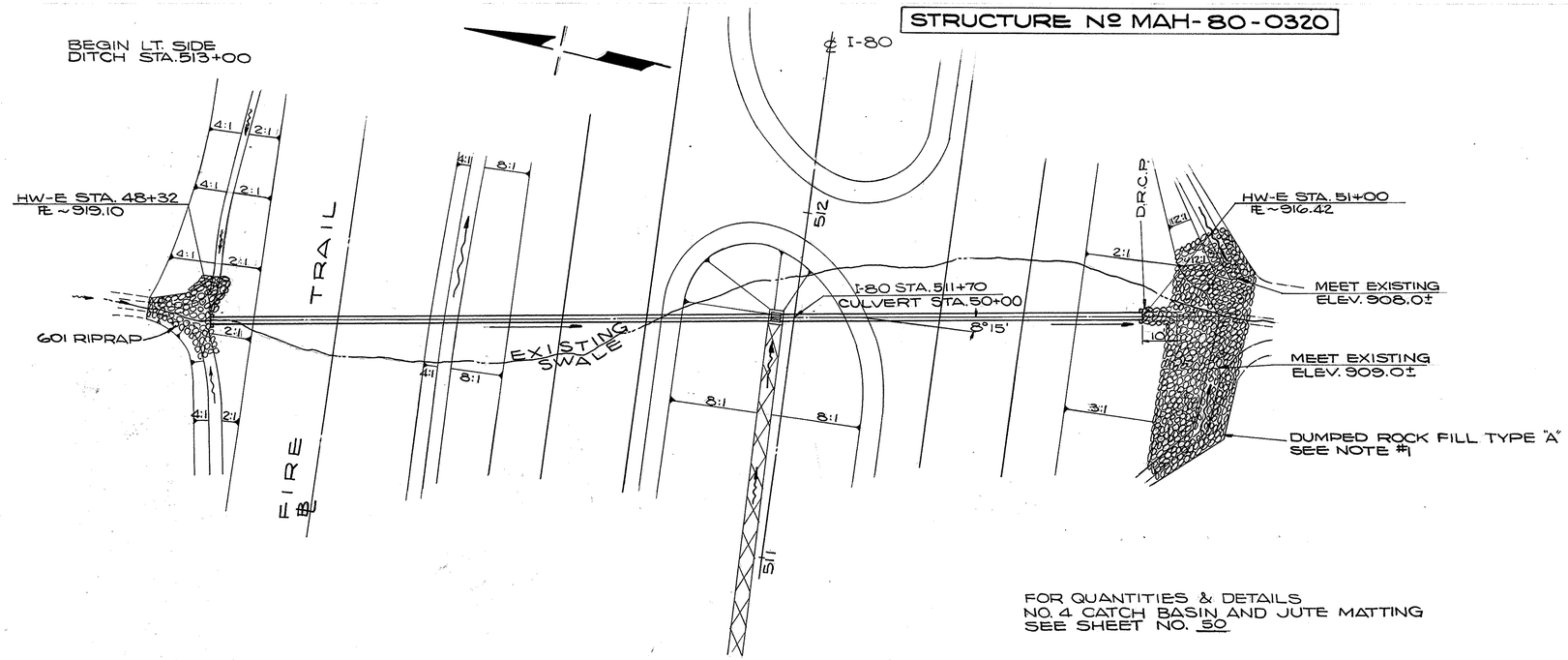
DIETZGEN NO. 138 M-3 REORDER

FED. RD.	STATE	PROJECT	
2	OHIO		

233
384

MAH 80 S-7.01
MAH 80-2.30

STRUCTURE Nº MAH-80-0320



PLAN
CULVERT
SCALE: 1"=20'-0"

AREA	7	ACRES
Q-50	7	C.F.S.

ESTIMATED QUANTITIES

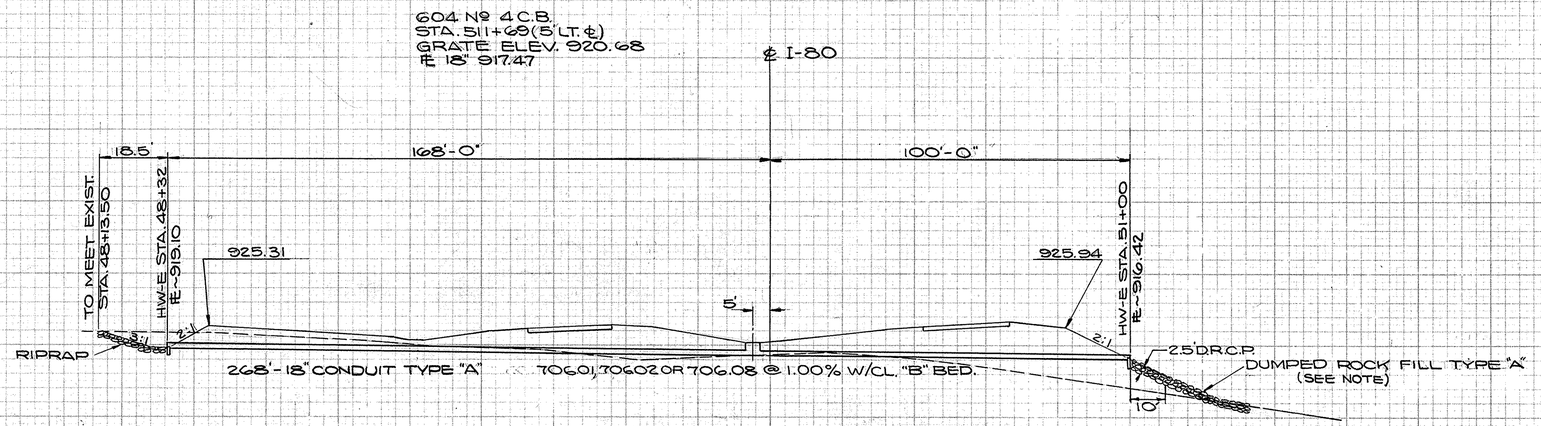
603 - 18" CONDUIT TYPE "A" 706.01, 706.02 OR 706.08 WITH CL. "B" BEDDING	268 LIN. FT.
602 - CONCRETE MASONRY	0.6 CU. YD.
601 - RIPRAP	30 SQ. YD.
601 - DUMP ROCK CHANNEL PROT.	4 CU. YD.

CULVERT DATA

TYPE - 18" CONDUIT TYPE "A" 706.01, 706.02
SIZE - 18" x 268' OR 706.08 W/CL. "B" BED.
SKEW - 8°15' RT. FWD.
WORK REQ'D. - BUILD NEW 18" DIA. CONDUIT AND HEADWALLS AS SHOWN

FOR QUANTITIES & DETAILS
NO. 4 CATCH BASIN AND JUTE MATTING
SEE SHEET NO. 50

NOTE #1
DUMPED ROCK FILL TYPE "A" ON NEW SLOPES FOR DETAILS SEE MAINLINE CROSS SECTIONS SHEETS 95 & 96



PROFILE
SCALE: 1"=20'-0"

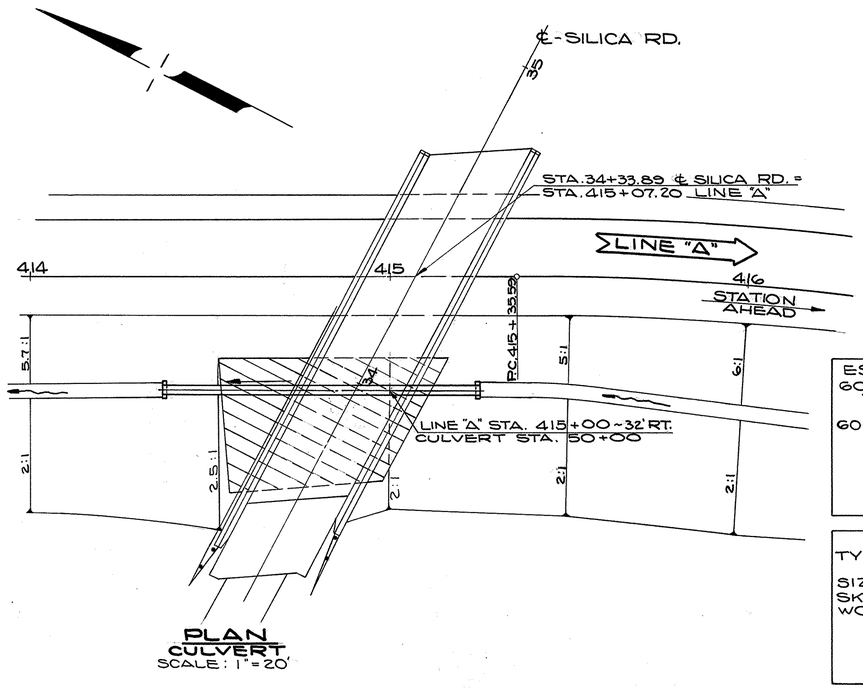
STRUCTURE Nº MAH-80-0320
CULVERT DETAILS
STA. 511+70 C-4

PLATE 4 - CROSS SECTION O. P. R. & R. E. STANDARD
NATIONAL TRACING PAPER DIVISION
I. B. P. & L. CO., INC. INDIANAPOLIS, INDIANA

FED.RD.	STATE	PROJECT	
2	OHIO		

234
384

MAH 80S-7.01
MAH 80-2.30

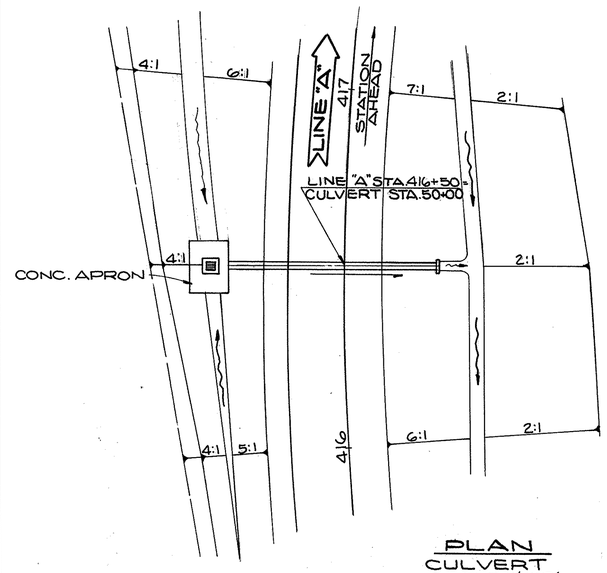


PLAN
CULVERT
SCALE: 1"=20'

AREA = 11 ACRES
Q_{50} = 26 C.F.S.

ESTIMATED QUANTITIES
603-30" CONDUIT TYPE "A"
706.02 OR 706.08 W/CL."B" BEDDING
= 88 LIN.FT.
602 - CONCRETE MASONRY
= 1.0 CU.YD.

CULVERT DATA
TYPE-30" CONDUIT TYPE "A"
706.02 OR 706.08 W/CL."B" BED.
SIZE - 88'x30"
SKEW- PARALLEL TO LINE "A"
WORK REQ'D. BUILD NEW 30" DIA.
PIPE AS SHOWN

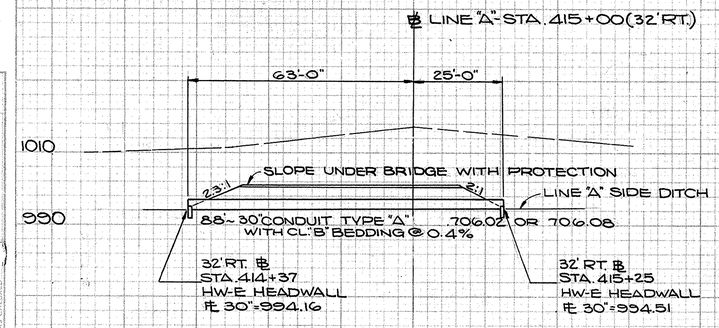


PLAN
CULVERT
SCALE 1"=20'

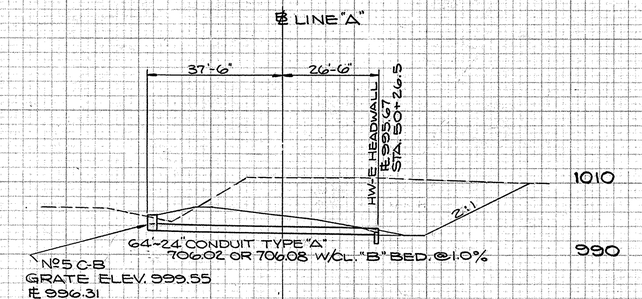
AREA = 8 ACRES
Q_{50} = 21 C.F.S.

ESTIMATED QUANTITIES
603 - 24" CONDUIT TYPE "A" [illegible] 706.02
OR SEC. 706.08
W/CL."B" BEDDING = 64 LIN.FT.
602 - CONCRETE MASONRY
= 0.4 CU.YD.
604 - Nº5 CATCH BASIN = 1 EACH

CULVERT DATA
TYPE-24" CONDUIT TYPE "A" [illegible] 706.02
OR SEC. 706.08
W/CL."B" BEDDING
SIZE - 66'x24"
SKEW- NONE
WORK REQ'D.- BUILD NEW 24" DIA.
PIPE & CATCH BASIN AS
SHOWN



PROFILE (C-5)
SCALE: 1"=20'



PROFILE (C-6)
SCALE: 1"=20'

CULVERT DETAILS
LINE "A" STA. 416+50 (C-6)
LINE "A" STA. 415+00 (32' RT.) (C-5)

PLATE 4 - CROSS SECTION C. P. R. & N. E. STANDARD
NATIONAL TRACING PAPER DIVISION
I. B. P. D. L. CO., INC. INDIANAPOLIS, INDIANA

FED. RD.	STATE	PROJECT	
2	OHIO		

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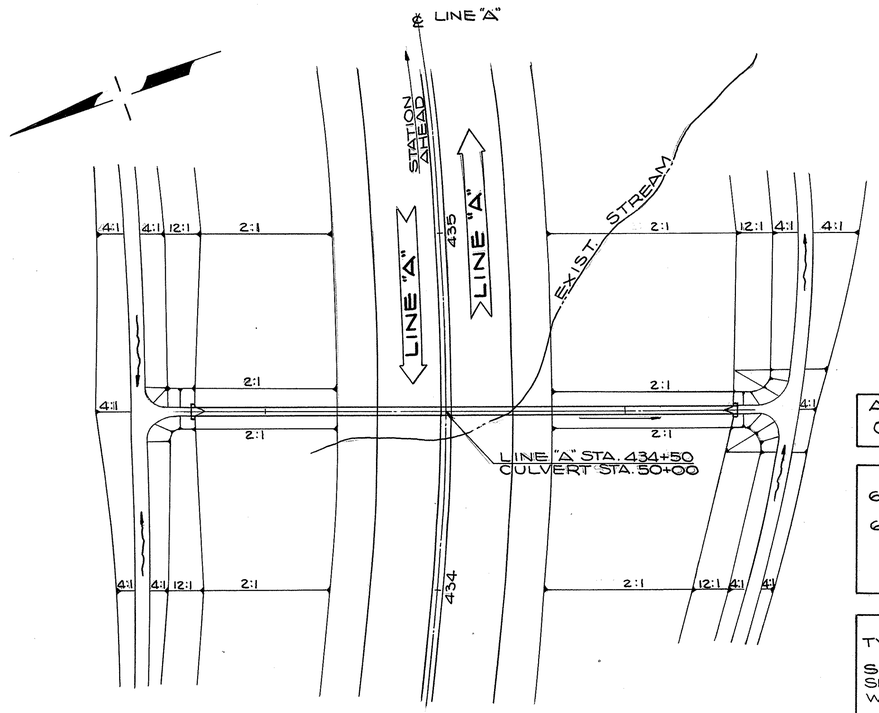
MAH 80S-7.01
MAH 80-2.30



PLAN
CULVERT
SCALE: 1"=20'-0"

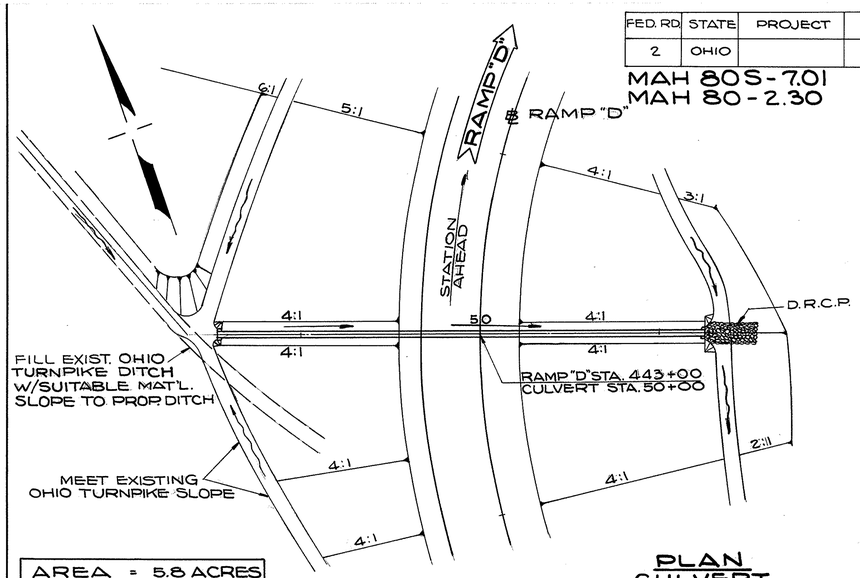
AREA = 7.4 ACRES
Q_{50} = 18 C.F.S.

ESTIMATED QUANTITIES

603 - 21" CONDUIT TYPE "A" 706.02
CL. V, WITH CL. "B" BEDDING = 152 LIN. FT.
602 - CONCRETE MASONRY = 0.8 CU. YD.

CULVERT DATA

TYPE - 21" CONDUIT TYPE "A" 706.02
CL. V, W/CL. "B" BEDDING
SIZE - 21" X 152'
SKEW - NONE
WORK REQ'D. - BUILD NEW 21" DIA. CULVERT AS SHOWN



PLAN
CULVERT
SCALE: 1"=20'-0"

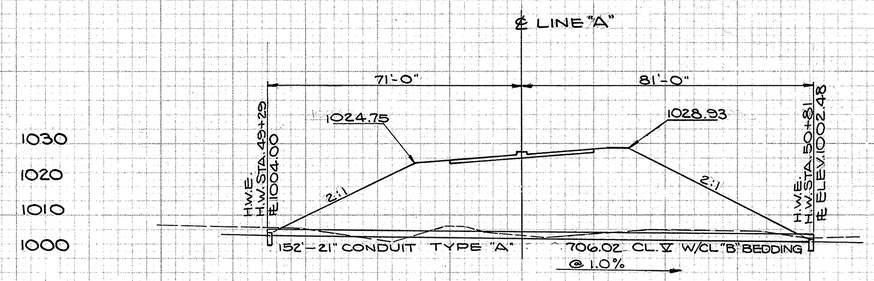
AREA = 5.8 ACRES
Q_{50} = 16 C.F.S.

ESTIMATED QUANTITIES

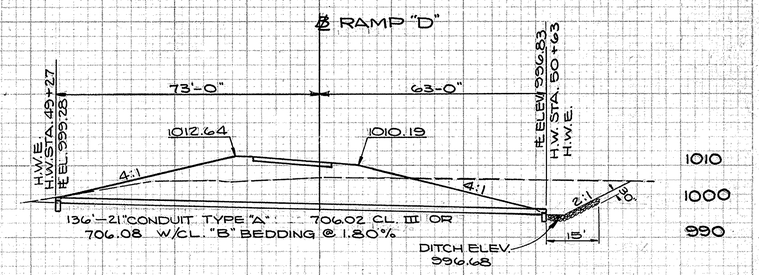
603 - 21" CONDUIT TYPE "A" 706.02
CL. III OR 706.08 W/CL. "B" BEDDING
= 136 LIN. FT.
602 - CONCRETE MASONRY = 0.8 CU. YDS.
604 - D.R.C.P. = 8 CU. YDS.

CULVERT DATA

TYPE - 21" CONDUIT TYPE "A" ..... 706.02 CL. III OR 706.08 W/CL. "B" BEDDING
SIZE - 21" X 136'
SKEW - NONE
WORK REQ'D. - BUILD NEW 21" DIA. CULVERT AS SHOWN



PROFILE (C-7)
SCALE: 1"=20'-0"



PROFILE (C-8)
SCALE: 1"=20'-0"

CULVERT DETAILS
LINE "A" STA. 434+50 (C-7)
RAMP "D" STA. 443+00 (C-8)

FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, QUANTITIES COLLECTED — BY, DATE — NOTE BLANK NO

ORIGINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, QUANTITIES COLLECTED — BY, DATE — NOTE BLANK NO

PLATE 8 - CROSS SECTION © P. B. & W. E. STANDARD
NATIONAL TRACING PAPER DIVISION
E. P. & L. CO., INC. INDIANAPOLIS, INDIANA

FED.RD	STATE	PROJECT	
2	OHIO		

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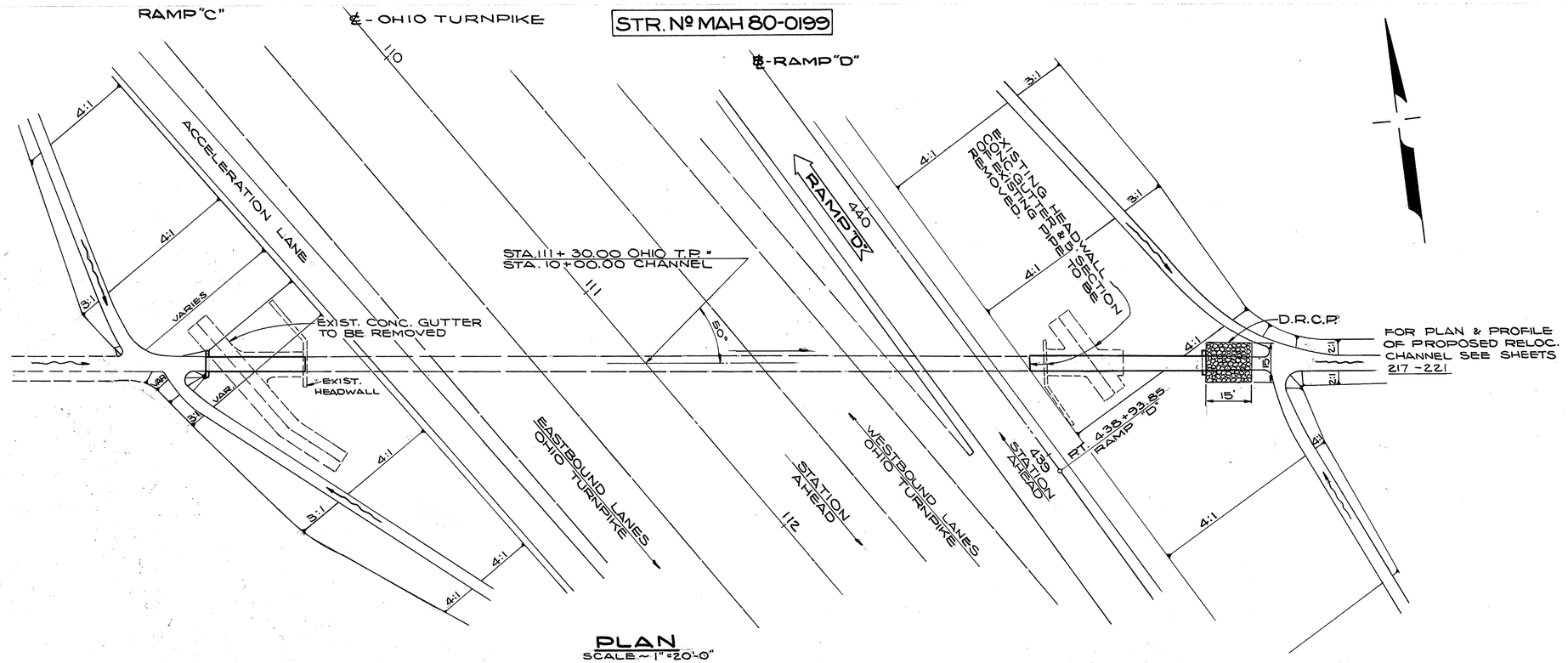
MAH 80S-7.01
MAH 80-2.30

STR. Nº MAH 80-0199



PLAN
SCALE ~ 1" = 20'-0"

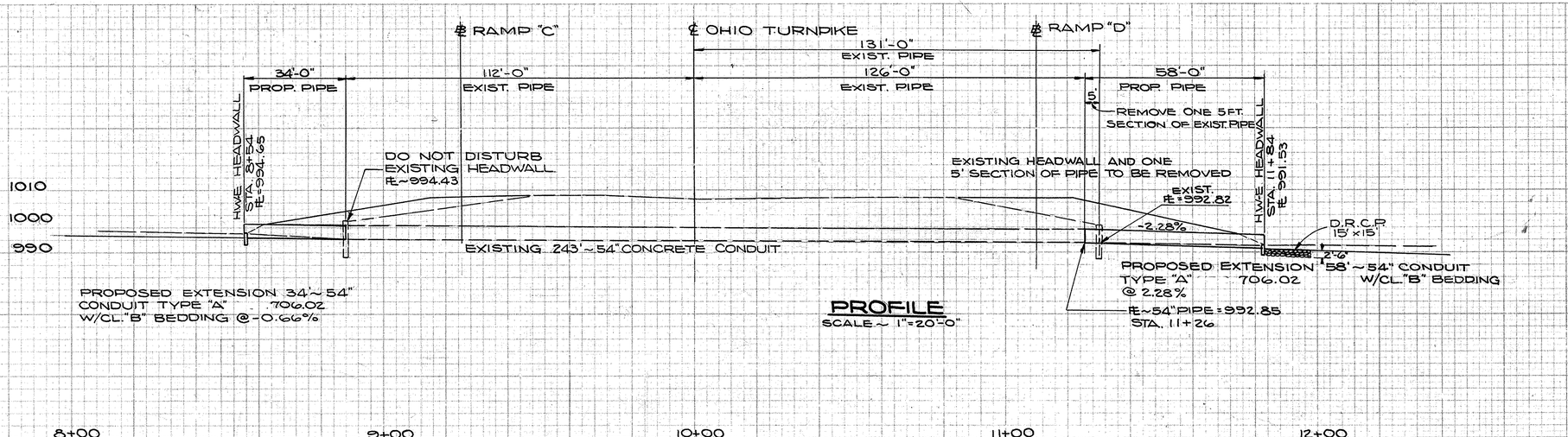
AREA =	104 Ac
Q50 =	113 c.f.s.

ESTIMATED QUANTITIES

603 - 54" CONDUIT TYPE "A" W/CL."B" BEDDING	706.02 = 92 LIN.FT.
602 - CONCRETE MASONRY	= 1.9 CU.YDS.
604 - D.R.C.P.	= 18 CU.YDS.

CULVERT DATA

TYPE - 54" CONDUIT TYPE "A" 706.02
W/CL. "B" BEDDING
SIZE - 92' x 54"
SKEW - 50° LT. FWD.
WORK REQ'D. - BUILD NEW 54" DIA. PIPE EXTENSIONS, HEADWALLS AND WORK AS SHOWN



PROFILE
SCALE ~ 1" = 20'-0"

NOTE:
THE COST OF REMOVING THE EXISTING EAST END HEADWALL, CONCRETE GUTTERS & PIPE TO BE INCLUDED IN THE PER UNIT PRICE OF 54" CONDUIT TYPE "A" 706.02 CL. II

STR. Nº MAH 80-0199
CULVERT DETAILS
STA. 111+30 OHIO TURNPIKE C-9

PLATE 4 - CROSS SECTION O. P. R. & R. E. STANDARD
NATIONAL TRACING PAPER DIVISION
I. B. M. I. CO. INC. INDIANAPOLIS, INDIANA

FED.RD.	STATE	PROJECT	
2	OHIO		

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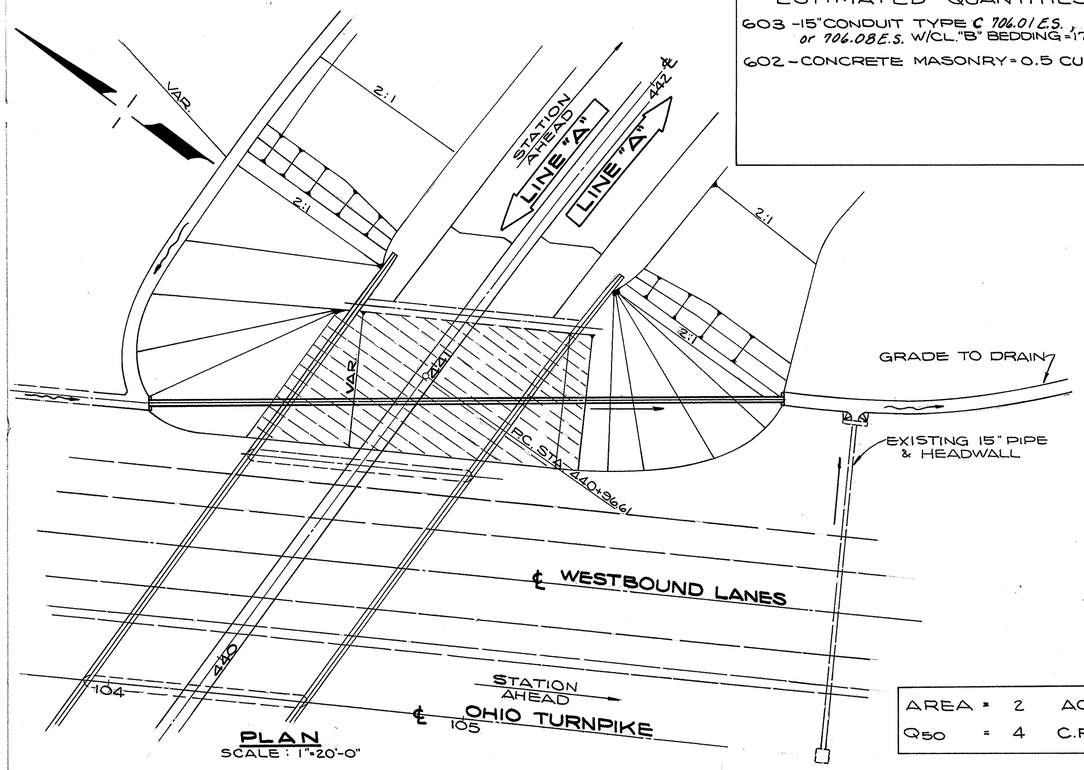
MAH 80S-7.01
MAH 80-2.30

ESTIMATED QUANTITIES

603 -15" CONDUIT TYPE C 706.01 E.S., 706.02
or 706.08 E.S. W/CL."B" BEDDING = 176 L.F.

602 - CONCRETE MASONRY = 0.5 CU. YDS.

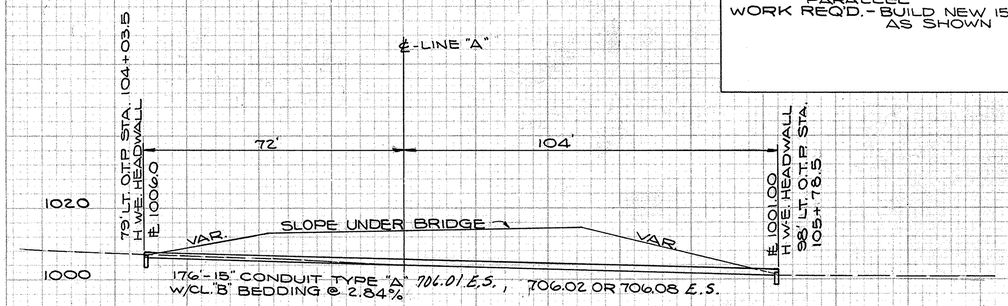


PLAN
SCALE: 1"=20'-0"

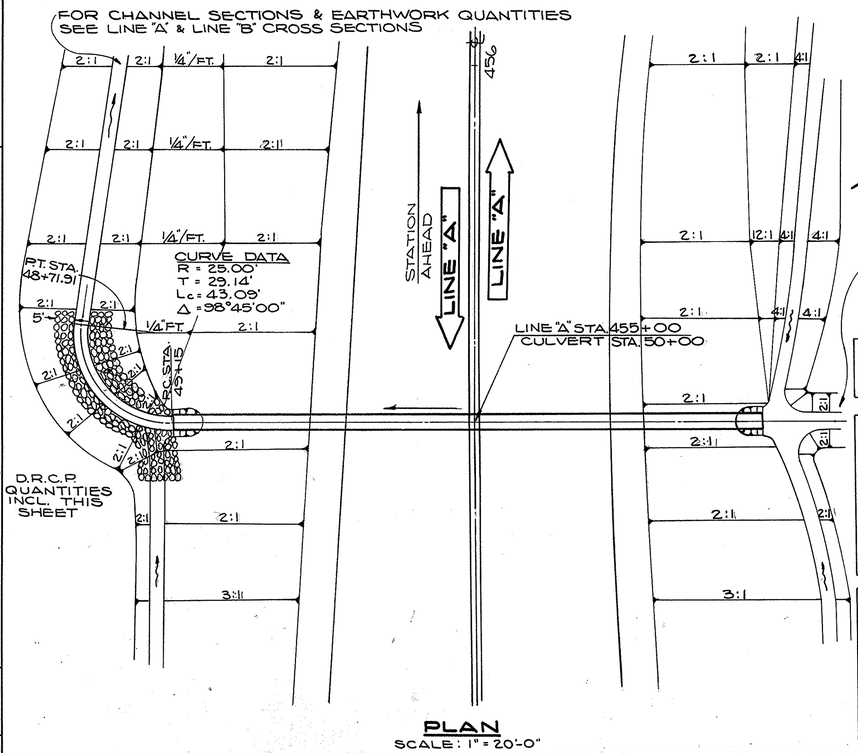
AREA = 2 ACRES
Q_{50} = 4 C.F.S.

CULVERT DATA

TYPE - 15" CONDUIT TYPE C 706.01 E.S., 706.02 OR 706.08 E.S. W/CL. B BEDDING
SIZE - 176'-15"
SKEW - (IN ROADWAY DITCH) APPROXIMATELY PARALLEL
WORK REQ'D. - BUILD NEW 15" DIA. PIPE AS SHOWN



PROFILE C-10
SCALE: 1"=20'-0"



NOTE:
FOR DETAILS RELOCATED CHANNEL SEE SHEET Nº 216

AREA = 128 ACRES
Q = 131 C.F.S.

ESTIMATED QUANTITIES

603 - 54" CONDUIT TYPE "A" 706.02
CLASS III W/CL. "B" BEDDING
= 164 LIN. FT.

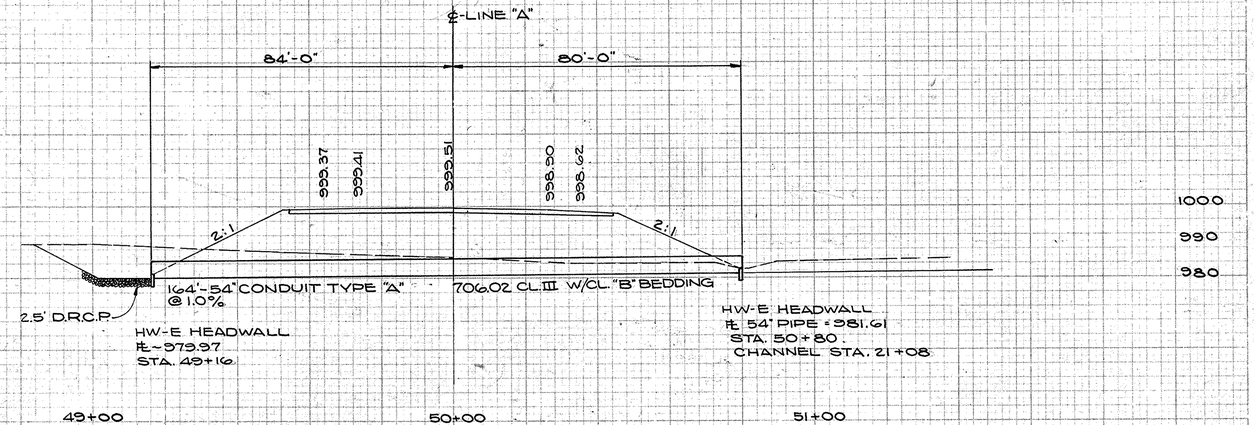
602 - CONCRETE MASONRY = 2.0 CU. YDS.

601 - DUMP-ROCK CHANNEL PROT.
= 61 CU. YDS.

CULVERT DATA

TYPE - 54" CONDUIT TYPE "A" 706.02
CL. III W/CL. "B" BEDDING
SIZE - 54" x 164'
SKEW - NONE
WORK REQ'D. - BUILD NEW 54" PIPE AS SHOWN

PLAN
SCALE: 1"=20'-0"



PROFILE C-11
SCALE: 1"=20'-0"

CULVERT DETAILS

C-11 LINE "A" STA. 455+00

C-10 OHIO T.P. (FROM STA. 104+04.5, 79' LT. TO STA. 105+78.5, 98' LT.

FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS CHECKED, NOTE BOOK, NO., DATE
ORIGINAL SURVEY — SURVEYED, PLOTTED, NOTE BOOK, NO., DATE
PLATE 4 - CROSS SECTION O. P. W. & P. E. STANDARD
NATIONAL TRACING PAPER DIVISION
J. B. P. & L. CO., INC. INDIANAPOLIS INDIANA

FED.RD	STATE	PROJECT	
2	OHIO		

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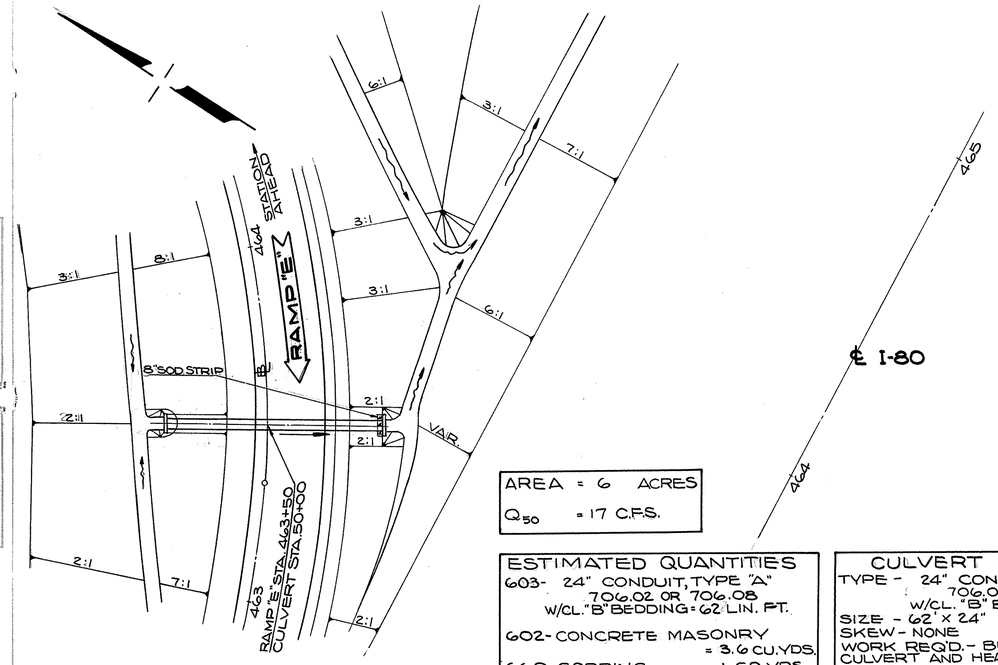
MAH 80S-7.01
MAH 80-2.30

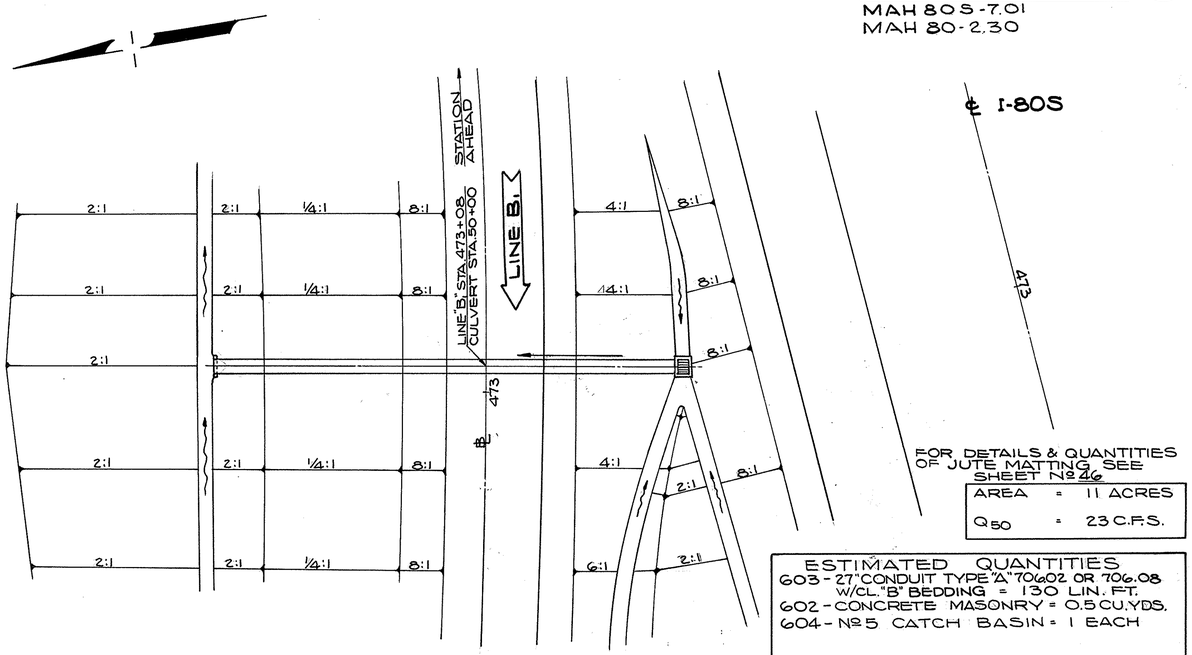


PLAN
SCALE: 1"=20'-0"

AREA = 6 ACRES
Q_{50} = 17 C.F.S.

ESTIMATED QUANTITIES
603- 24" CONDUIT, TYPE "A" 706.02 OR 706.08 W/CL."B" BEDDING = 62 LIN. FT.
602- CONCRETE MASONRY = 3.6 CU.YDS.
660- SODDING = 1 SQ.YDS.

CULVERT DATA
TYPE - 24" CONDUIT, TYPE "A" 706.02 OR 706.08 W/CL. "B" BEDDING
SIZE - 62' x 24"
SKEW - NONE
WORK REQ'D. - BUILD NEW 24" CULVERT AND HEADWALLS AS SHOWN

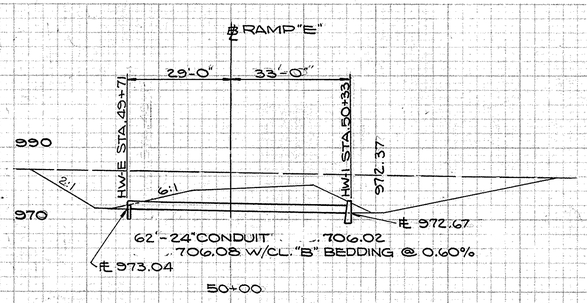


FOR DETAILS & QUANTITIES OF JUTE MATTING SEE SHEET №46

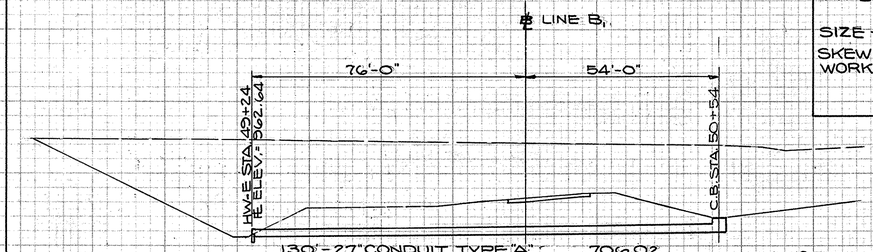
AREA = 11 ACRES
Q_{50} = 23 C.F.S.

ESTIMATED QUANTITIES
603 - 27" CONDUIT TYPE "A" 706.02 OR 706.08 W/CL. "B" BEDDING = 130 LIN. FT.
602 - CONCRETE MASONRY = 0.5 CU.YDS.
604 - №5 CATCH BASIN = 1 EACH

PLAN
SCALE: 1"=20'-0"



PROFILE
SCALE: 1"=20'-0" C-12



PROFILE
SCALE: 1"=20'-0" C-13

CULVERT DATA
TYPE - 27" CONDUIT TYPE "A" 706.02 OR 706.08 W/CL. "B" BEDDING
SIZE - 27" x 130'
SKEW - NONE
WORK REQ'D. - BUILD NEW 27" DIA. PIPE, CATCH BASIN & HEADWALL AS SHOWN

CULVERT DETAILS
LINE "B" STA. 473+07 C-13
RAMP "E" STA. 463+50 C-12

FINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, AREAS, AREAS CHECKED, NO., DATE, BY

ORIGINAL SURVEY — SURVEYED, PLOTTED, TEMPLATE, NOTE BOOK, AREAS, NO., AREAS CHECKED, DATE, BY

PLATE 4 - CROSS SECTION O. P. R. & R. E. STANDARD
NATIONAL TRACING PAPER DIVISION
E. R. P. & L. CO., INC. INDIANAPOLIS, INDIANA

FED. RD	STATE	PROJECT	
2	OHIO		

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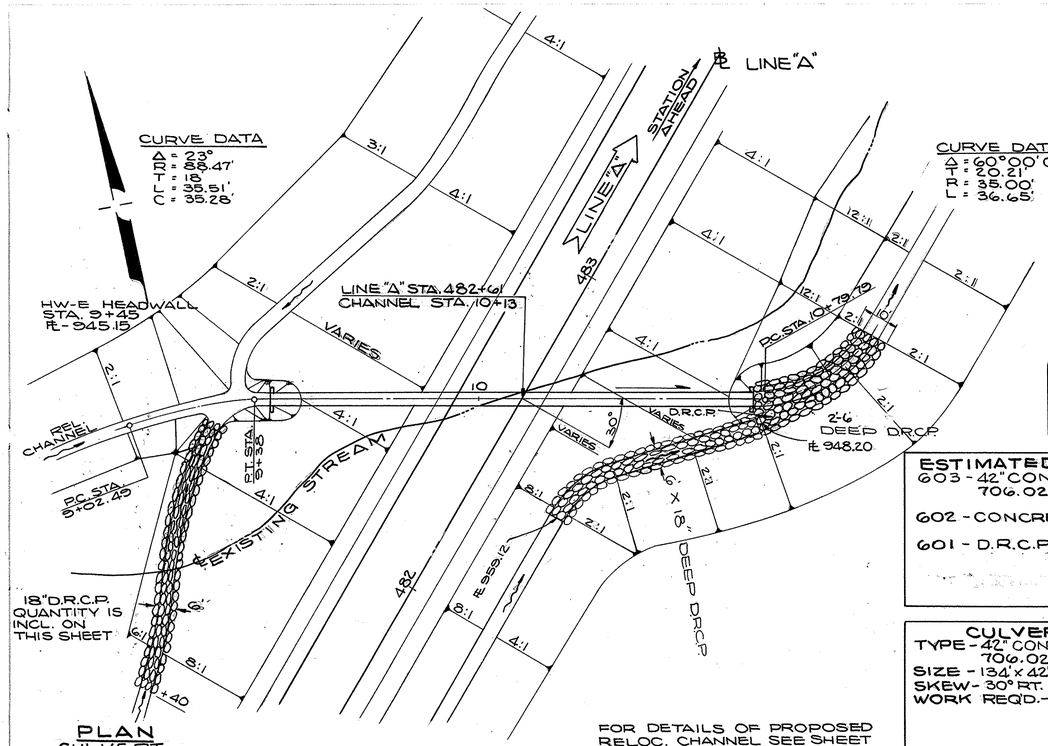
MAH 80S-7.01
MAH 80-2.30



PLAN
CULVERT
SCALE: 1"=20'-0"

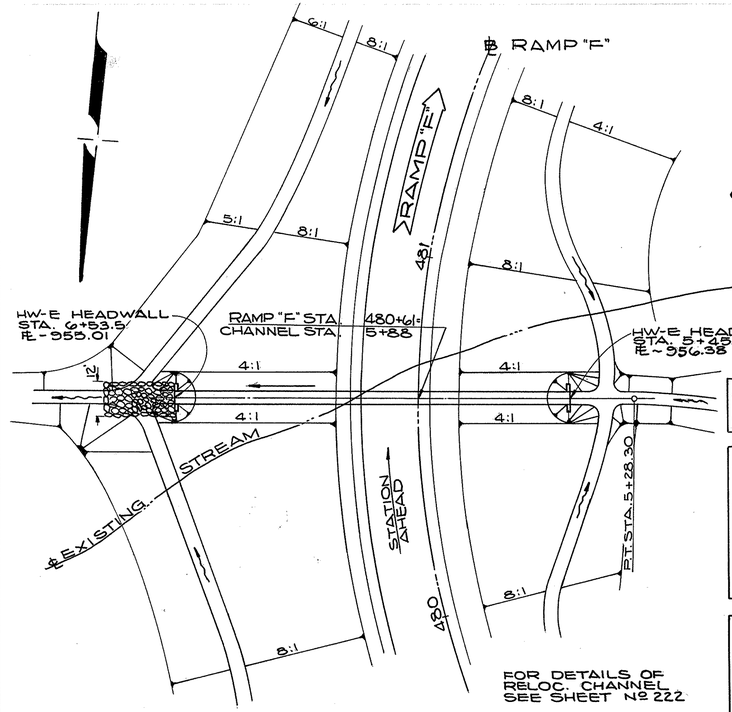
FOR DETAILS OF PROPOSED RELOC. CHANNEL SEE SHEET Nº 222

AREA = 93 ACRES

Q_{50} = 102 C.F.S.

ESTIMATED QUANTITIES
603 - 42" CONDUIT TYPE "A" 706.02 WITH CL. "B" BEDDING = 134 LIN. FT.
602 - CONCRETE MASONRY = 1.5 CU. YDS.
601 - D.R.C.P. = 92 CU. YDS.

CULVERT DATA
TYPE - 42" CONDUIT TYPE "A" 706.02 W/CL. "B" BEDDING.
SIZE - 134' x 42"
SKEW - 30° RT. FWD.
WORK REQ'D. - BUILD NEW 42" DIA PIPE AS SHOWN



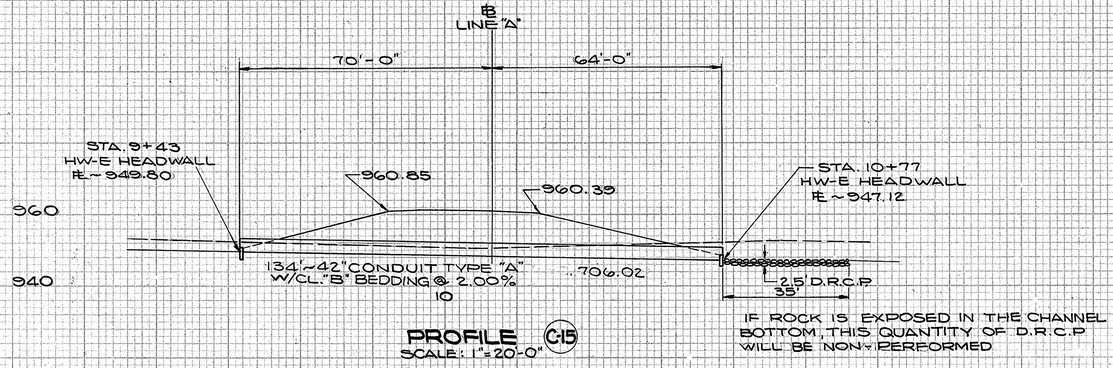
PLAN
CULVERT
SCALE: 1"=20'-0"

AREA = 81 ACRES

Q_{50} = 93 C.F.S.

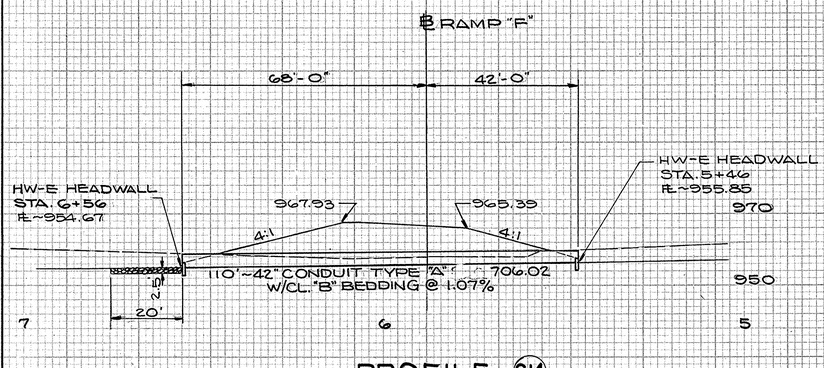
ESTIMATED QUANTITIES
603 - 42" CONDUIT TYPE "A" 706.02 W/CL. "B" BEDDING = 110 LIN. FT.
602 - CONCRETE MASONRY = 1.5 CU. YDS.
601 - D.R.C.P. = 22 CU. YDS.

CULVERT DATA
TYPE - 42" CONDUIT TYPE "A" 706.02 W/CL. "B" BEDDING
SIZE - 110' x 42"
SKEW - NONE
WORK REQ'D. - BUILD NEW 42" DIA. PIPE AS SHOWN



PROFILE C-15
SCALE: 1"=20'-0"

IF ROCK IS EXPOSED IN THE CHANNEL BOTTOM, THIS QUANTITY OF D.R.C.P WILL BE NON-PERFORMED



PROFILE C-14
SCALE: 1"=20'-0"

CULVERT DETAILS
LINE "A" STA 482+61 C-15
RAMP "F" STA 480+61 C-14

FED.RD	STATE	PROJECT	
2	OHIO		

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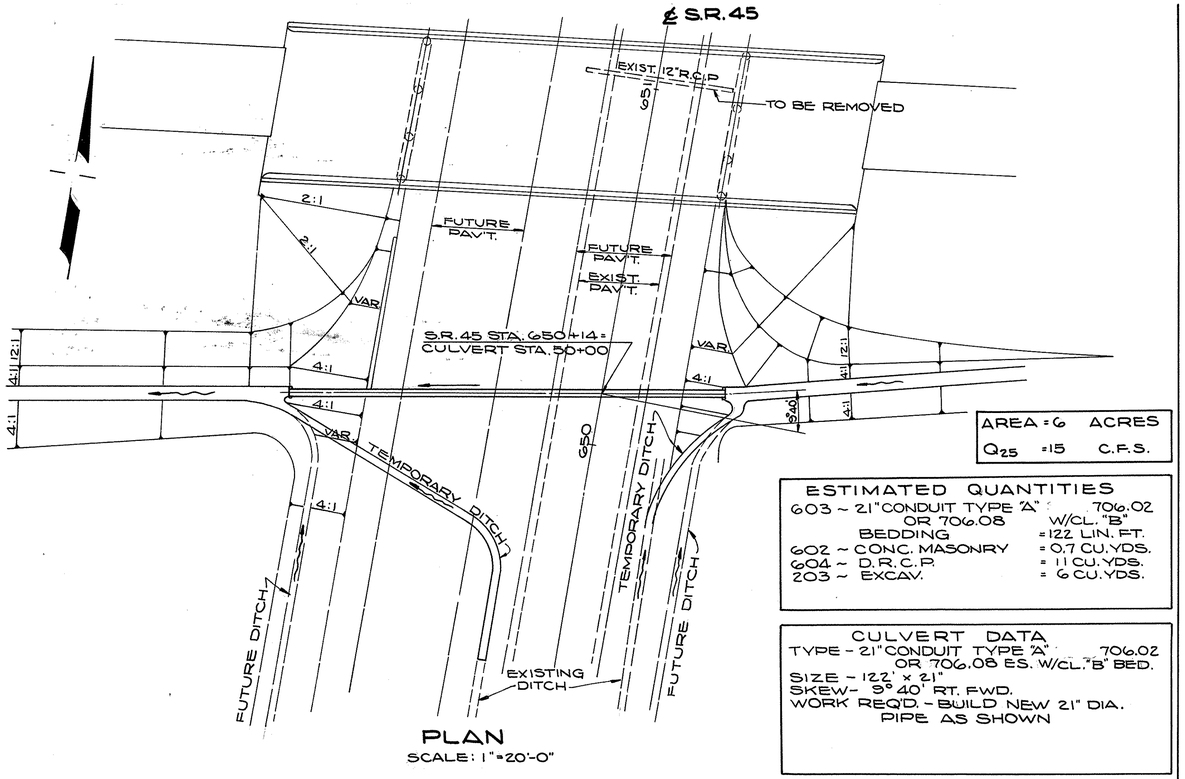
MAH 80S-7.01
MAH 80-2.30



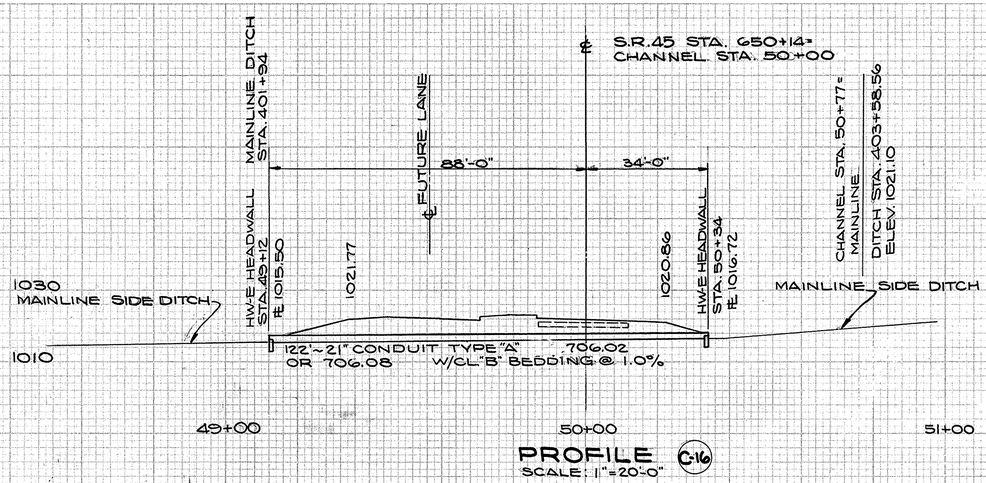
AREA = 6 ACRES
Q_{25} = 15 C.F.S.

ESTIMATED QUANTITIES

603 ~ 21" CONDUIT TYPE "A" OR 706.08 BEDDING	706.02 W/CL. "B" = 122 LIN. FT.
602 ~ CONC. MASONRY	= 0.7 CU. YDS.
604 ~ D.R.C.P.	= 11 CU. YDS.
203 ~ EXCAV.	= 6 CU. YDS.

CULVERT DATA

TYPE - 21" CONDUIT TYPE "A" 706.02 OR 706.08 ES. W/CL. "B" BED.
SIZE - 122' x 21"
SKEW - 9° 40' RT. FWD.
WORK REQ'D. - BUILD NEW 21" DIA. PIPE AS SHOWN



PROFILE C-16
SCALE: 1"=20'-0"

FOR DETAILS OF PAVEMENT REPLACEMENT SEE SHEET Nº 242

CULVERT DETAILS
S.R. 45 STA. 650+14 C-16

PLANS ACROSS SECTION O.P.C. & B.E. STANDARDS
EUGENE DITZGEN CO. - CHICAGO

FED. RD.	STATE	PROJECT	
2	OHIO		

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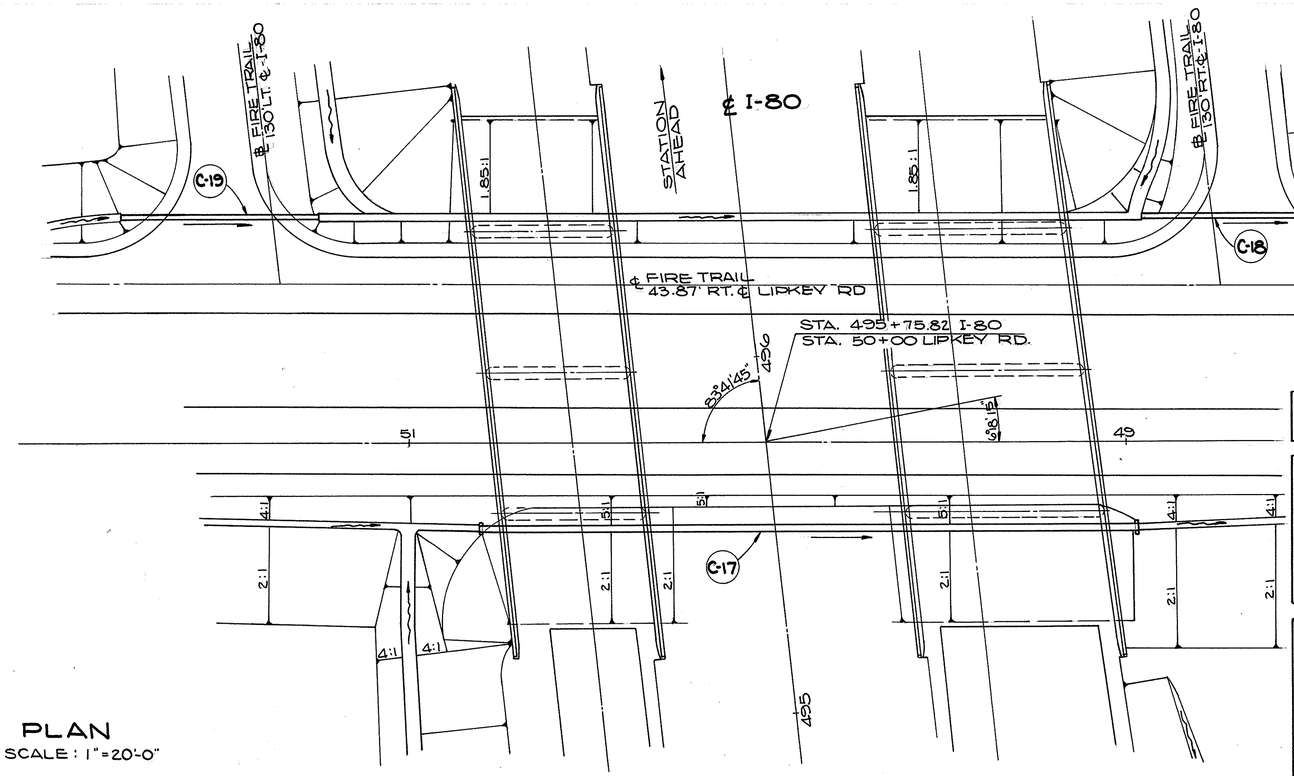
MAH 80S-7.01
MAH 80-2.30



PLAN
SCALE: 1"=20'-0"

AREA = 1.4 ACRES
Q_{25} = 3 C.F.S.

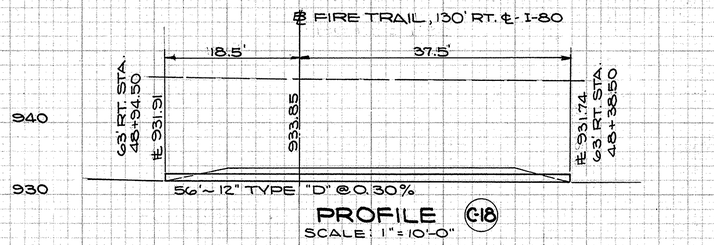
ESTIMATED QUANTITIES

603 - 15" CONDUIT TYPE C 706.01 E.S. 706.02 or 706.08 E.S. W/CL. "B" BED. = 184 LIN. FT.
602 - CONCRETE MASONRY = 0.5 CU. YDS.
603 - 12" CONDUIT TYPE "D" = 112 LIN. FT.
707.01 or 707.02 14 GAGE

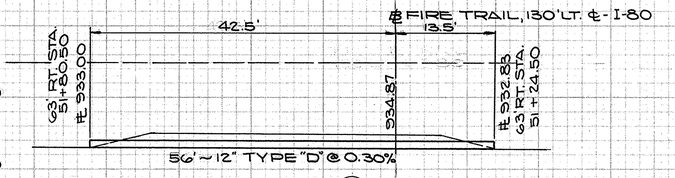
CULVERT DATA

TYPE - 15" CONDUIT TYPE C 706.01 E.S., 706.02 or 706.08 E.S. W/CL. "B" BED. @ 0.40%
& 12" CONDUIT, TYPE "D"
SIZE - 184'-15" & 2-56'-12"
SKEW - PARALLEL WITH ℄ - LIPKEY ROAD

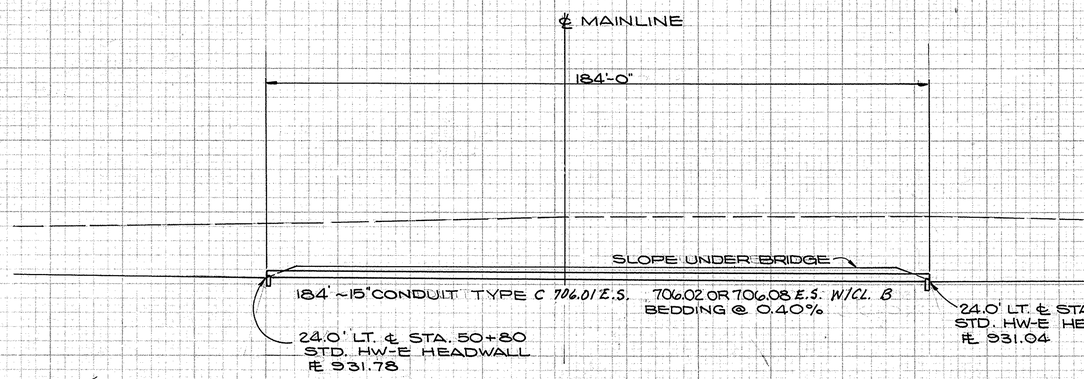
WORK REQ'D. - BUILD NEW 15" DIA. CULVERT & 2 NEW 12" DIA. CULVERTS AS SHOWN.



PROFILE C-18
SCALE: 1"=10'-0"



PROFILE C-19
SCALE: 1"=10'-0"



PROFILE C-17
SCALE: 1"=20'-0"

CULVERT DETAILS
LIPKEY RD. C-17 C-18 C-19

FINAL SURVEY — SURVEYED, PLOTTED, NOTE BOOK, PAGE NO., TEMPLATE, AREA, CHECKED, BY, DATE

ORIGINAL SURVEY — SURVEYED, PLOTTED, NOTE BOOK, PAGE NO., TEMPLATE, AREA, CHECKED, BY, DATE

PLATE 4-CROSS SECTIONS O. P. R. & R. E. STANDARD
NATIONAL TRACING PAPER DIVISION
R. P. L. CO., INC. INDIANAPOLIS, INDIANA

TYPICAL DETAILS OF UNDERDRAIN OUTLETS

FED. RD.	STATE	PROJECT	
2	OHIO		

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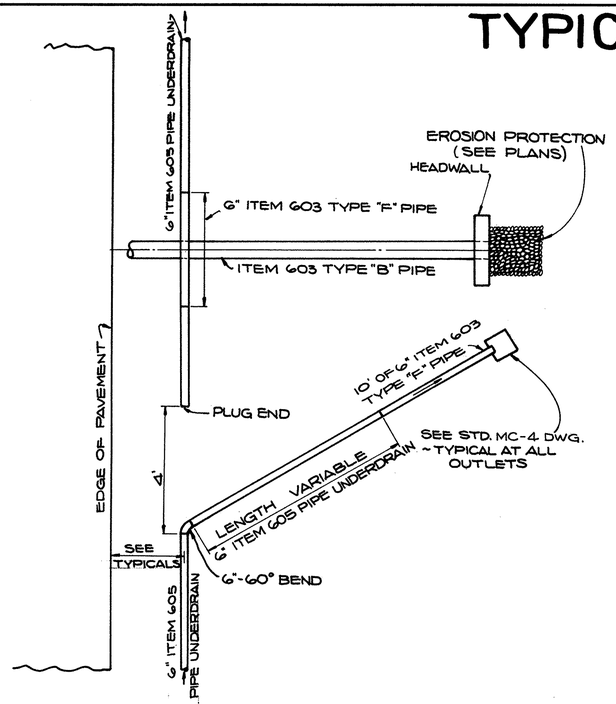
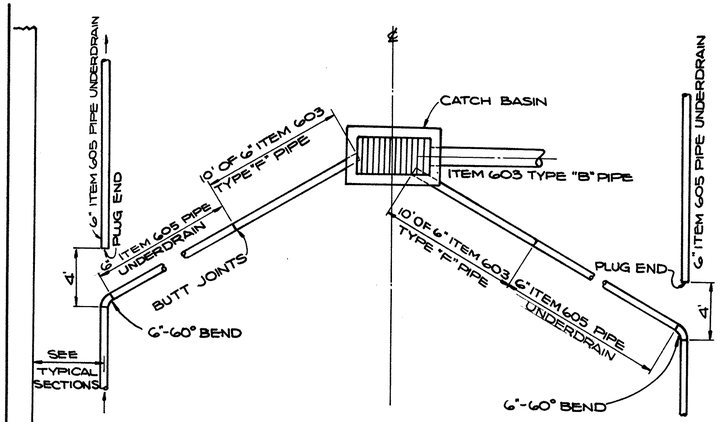
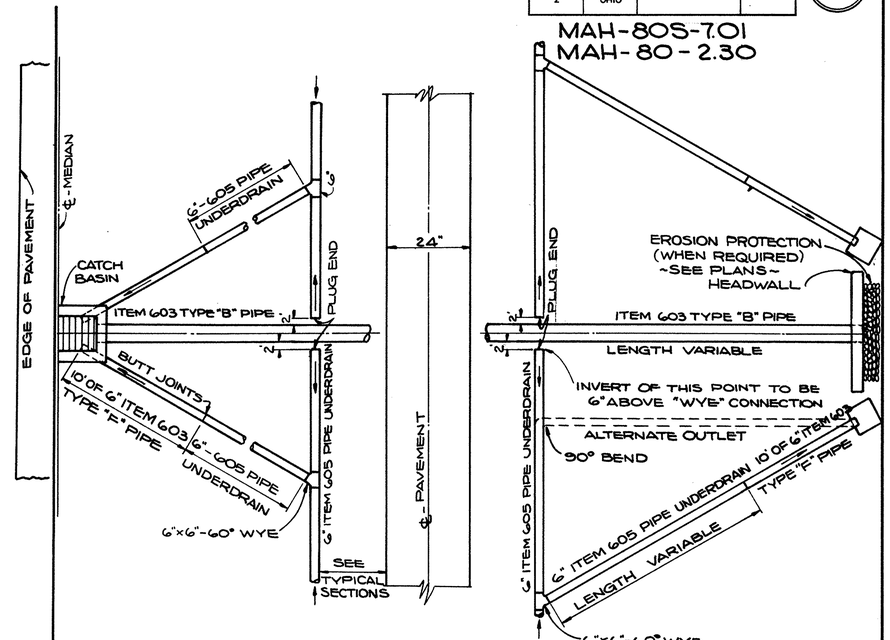
MAH-80S-7.01
MAH-80-2.30



UNDERDRAIN OUTLET - DETAIL "A"

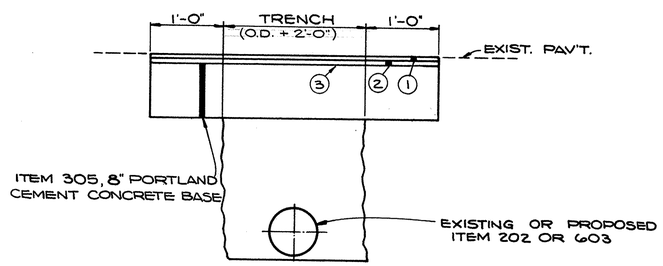


UNDERDRAIN OUTLET - DETAIL "B"

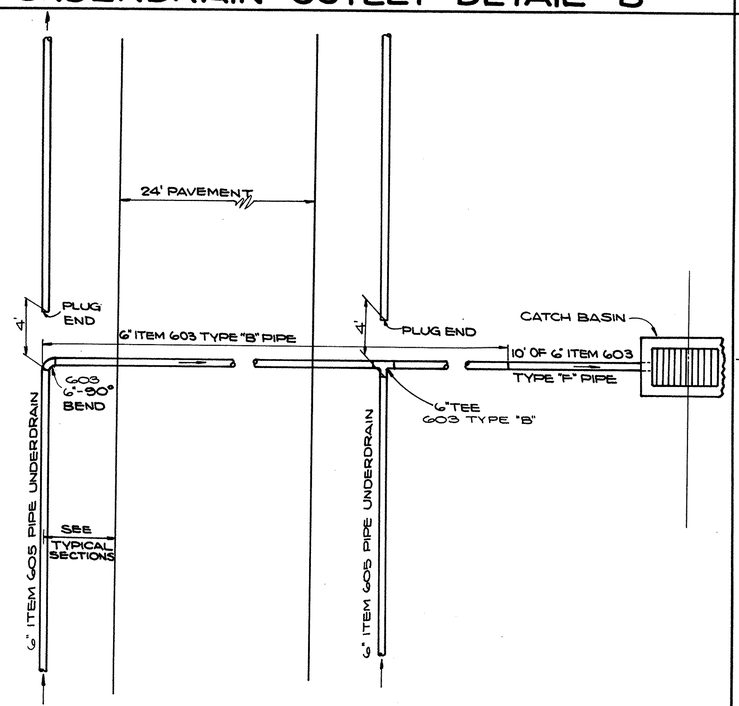


UNDERDRAIN OUTLET - DETAIL "C"

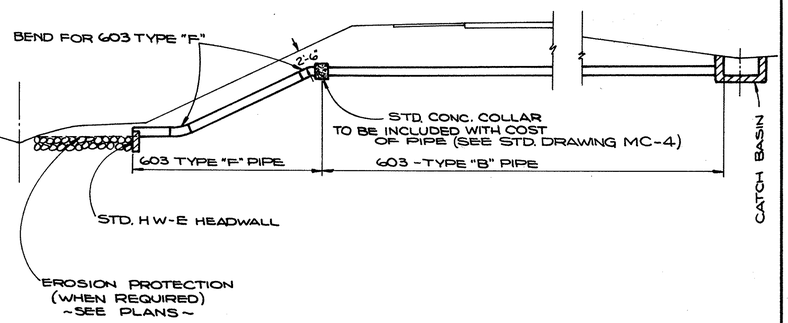
① ITEM 404 1¼" ASPHALT CONCRETE (70-85)
② ITEM 402 1¾" ASPHALT CONCRETE (70-85)
③ ITEM 407 TACK COAT 702.04 MS-2 OR RS-1; OR 702.02 RC-70 OR RC-250 APPLIED AT THE RATE OF 1/10 GAL./SQ.YD.



PAVEMENT REPLACEMENT DETAIL FOR ITEM 603 & 202



UNDERDRAIN OUTLET - DETAIL "D"



NOTES

WHEN 601 DUMPED ROCK CHANNEL PROTECTION IS CALLED FOR IN THE PLANS, IT SHALL BE PLACED A MINIMUM OF 18" IN DEPTH.

PIPE WITHOUT PERFORATIONS WILL BE PERMITTED FOR ALL BENDS AND BRANCHES

MEDIAN OUTLET DETAIL IN HIGH FILL

FED. RD.	STATE	PROJECT	
2	OHIO		

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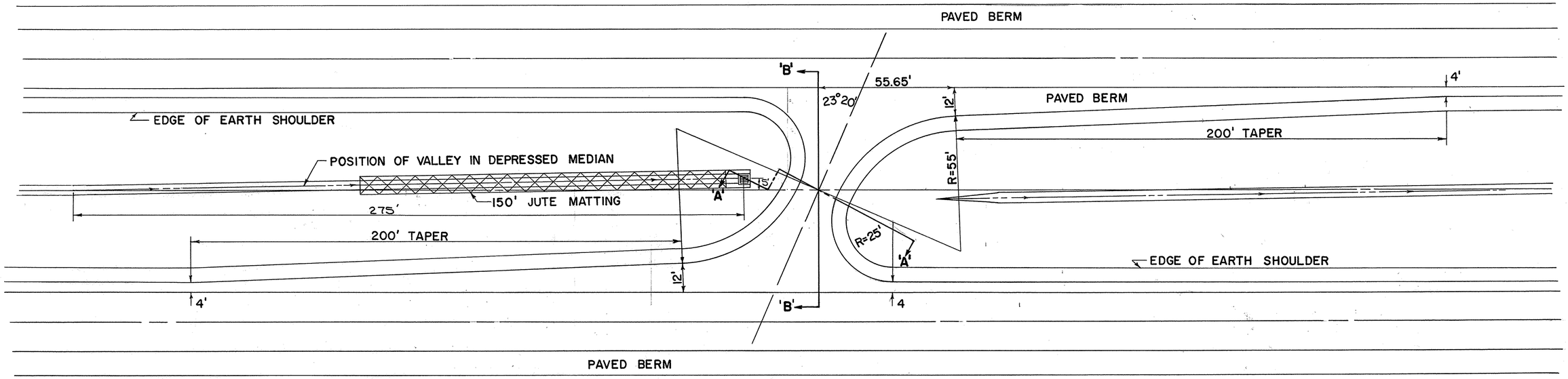
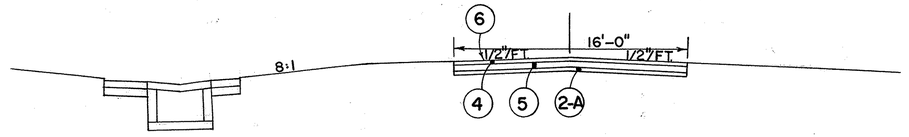


TYPICAL CROSSOVER

SCALE: 1"=20'



SECTION 'A'-'A'

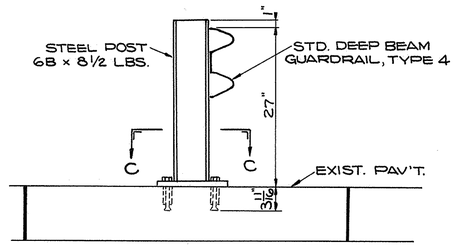
SCALE: 1"=5'

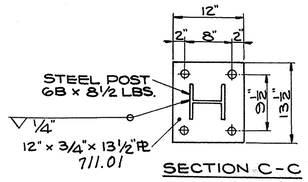
(2-A) 310 - 3" SUBBASE (REGULAR GRADING)

(4) 301 - 3" BITUMINOUS AGGREGATE BASE, 702.01(85-100) OR 702.09, RT-10 (SEE NOTE IN PROPOSAL)

(5) 304 - 7" AGGREGATE BASE

(6) 409 - SEAL COAT BITUMINOUS MATERIAL APPLIED @ 0.30 GAL. PER SQ.YD. SEAL COAT COVER AGGREGATE No. 8 APPLIED @ 0.008 CU. YD. PER SQ. YD.





SECTION C-C

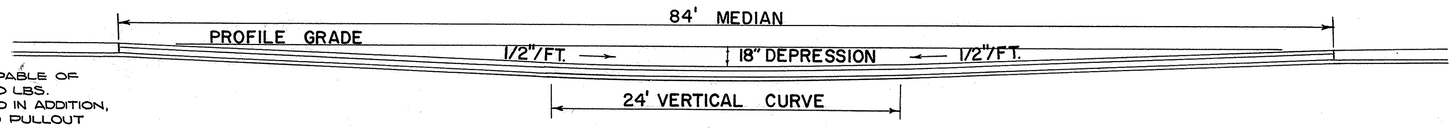
TEMPORARY GUARD RAIL DETAIL FOR TURNPIKE PAVEMENT

SCALE: 1"=1'

ANCHOR BOLTS SHALL BE 7/8", DRILLED IN PLACE AND CAPABLE OF DEVELOPING A PULLOUT RESISTANCE OF NOT LESS THAN 18,000 LBS. SAMPLES SHALL BE PROVIDED FOR LABORATORY TESTING, AND IN ADDITION, THE CONTRACTOR SHALL PERFORM NON-DESTRUCTIVE FIELD PULLOUT TESTS AT SIX (6) LOCATIONS DESIGNATED BY THE ENGINEER, STRESSING EACH SUCH ANCHOR TO NOT LESS THAN 12,000 LBS.

IF ANCHOR BOLTS USED ARE OF SUCH CHARACTER AS TO RESULT IN AN OPEN ANNULAR SPACE BETWEEN THE BOLT AND THE CONCRETE, SUCH SPACE SHALL BE FILLED TO PREVENT THE ENTRANCE OF MOISTURE. THIS FILLER WILL BE SUBJECT TO APPROVAL OF THE ENGINEER.

PAYMENT FOR ALL THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 615 "TEMPORARY ROADS"



SECTION 'B'-'B'

SCALE: 1"=5'

ROADWAY DETAILS

FORM DDA-5

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2	OHIO		

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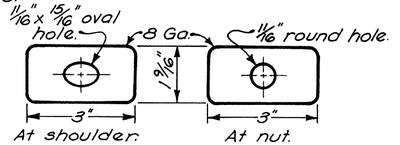
NOTES

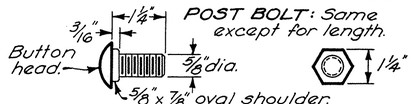
For details not shown, see Standard Drawings GR-1 and GR-2A.

All steel parts shall be galvanized in accordance with ASTM A123, A153 or A525, whichever may apply.

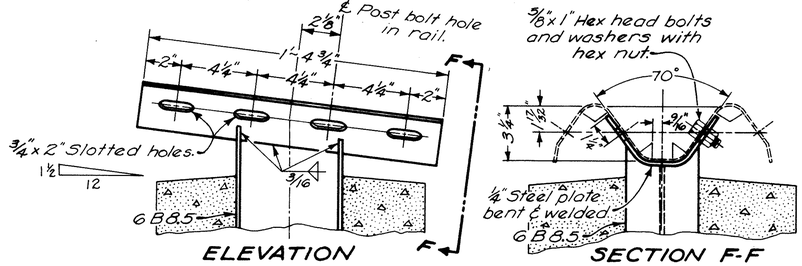
This drawing shall govern where a conflict arises.



POST BOLT WASHERS

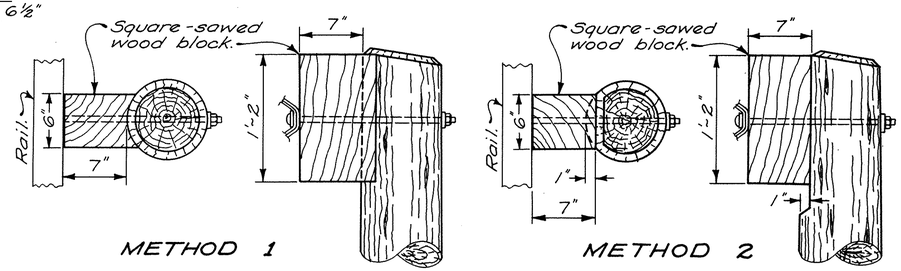


SPLICE BOLT & NUT



ELEVATION — SECTION F-F

TERMINAL ANCHOR DETAIL

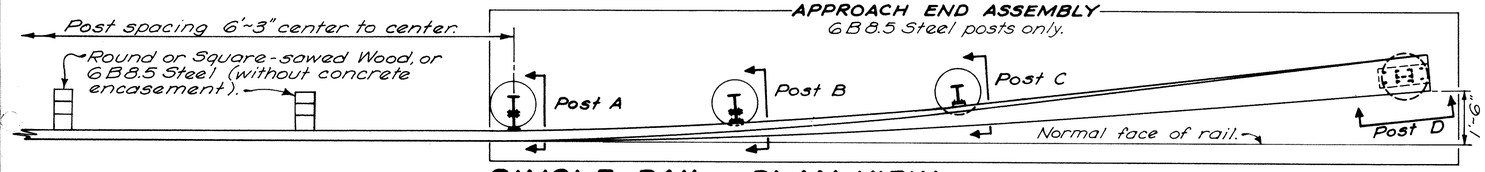


METHOD 1 — METHOD 2

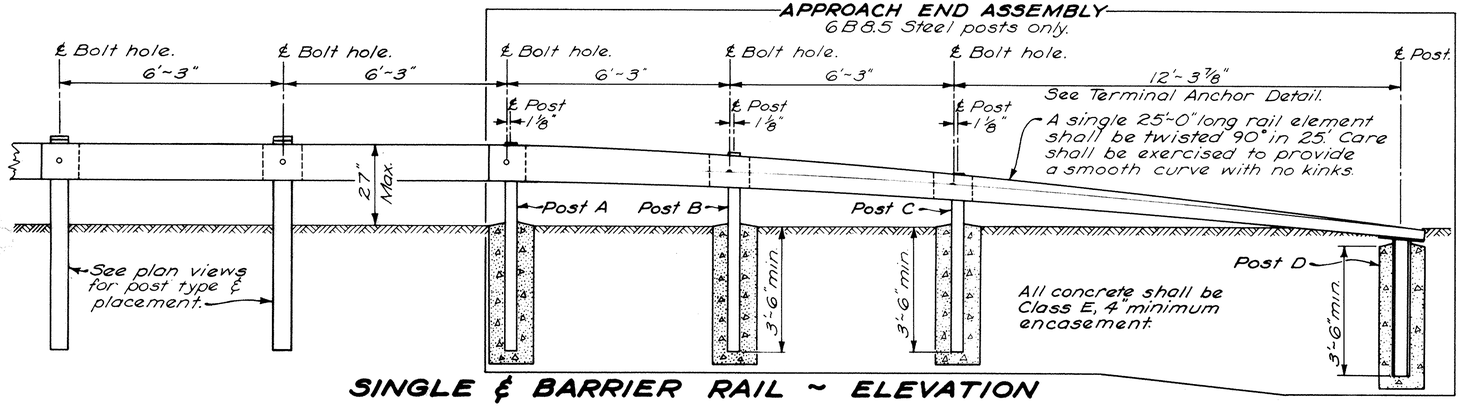
ROUND WOOD POSTS *

Alternate methods of placing the spacer blocks on the round posts may be submitted for consideration and approval by the Engineer.

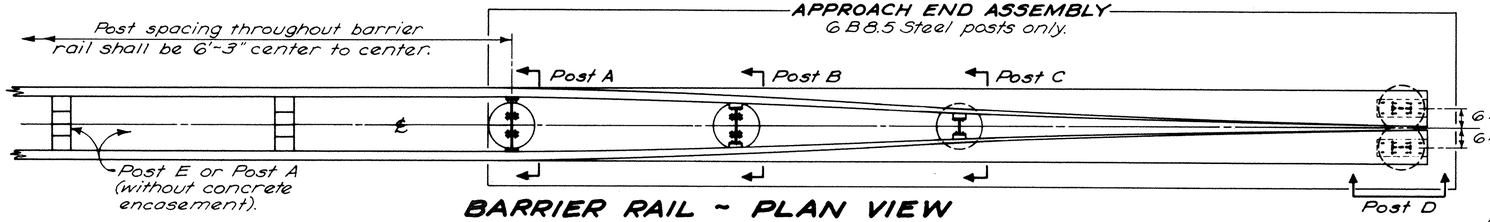
APPROACH END ASSEMBLY
6 B 8.5 Steel posts only.



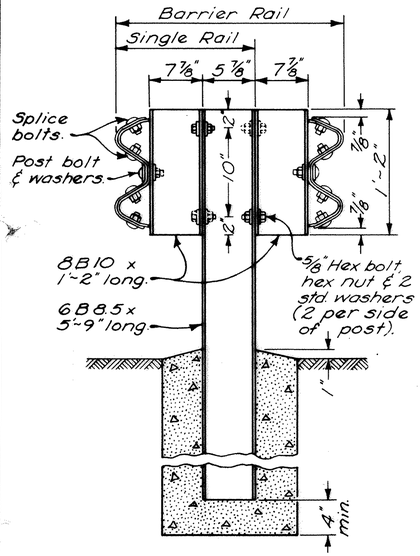
SINGLE RAIL ~ PLAN VIEW



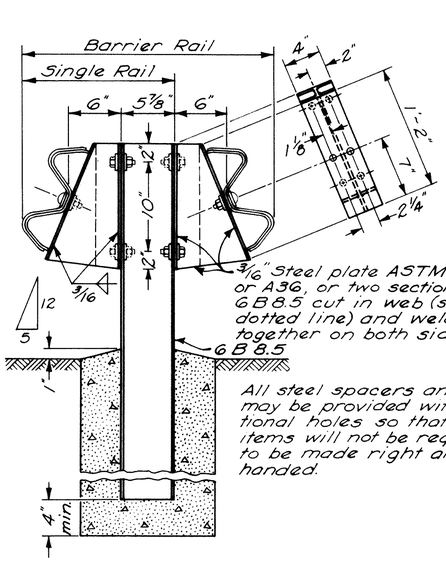
SINGLE & BARRIER RAIL ~ ELEVATION



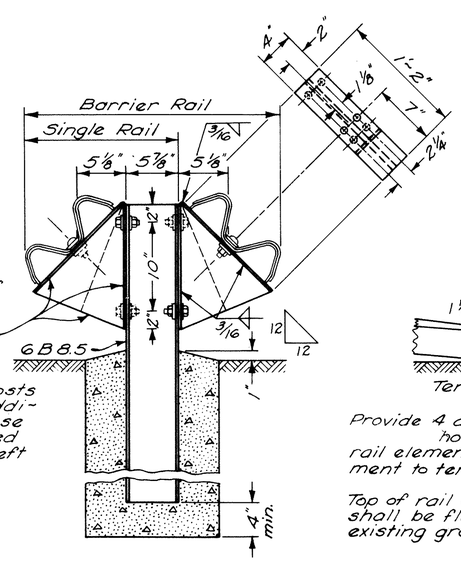
BARRIER RAIL ~ PLAN VIEW



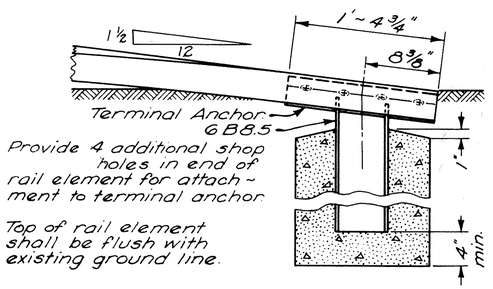
POST A



POST B



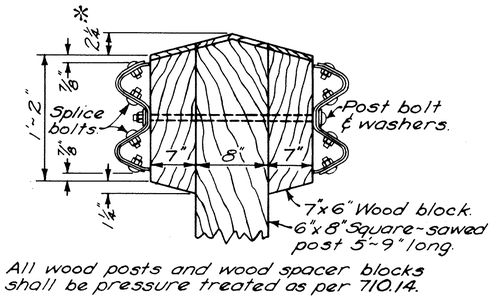
POST C



Provide 4 additional shop holes in end of rail element for attachment to terminal anchor.

Top of rail element shall be flush with existing ground line.

POST D



All wood posts and wood spacer blocks shall be pressure treated as per 710.14.

POST E

* Tops of driven posts need not be trimmed.

GUARD RAIL ~ APPROACH END ASSEMBLY

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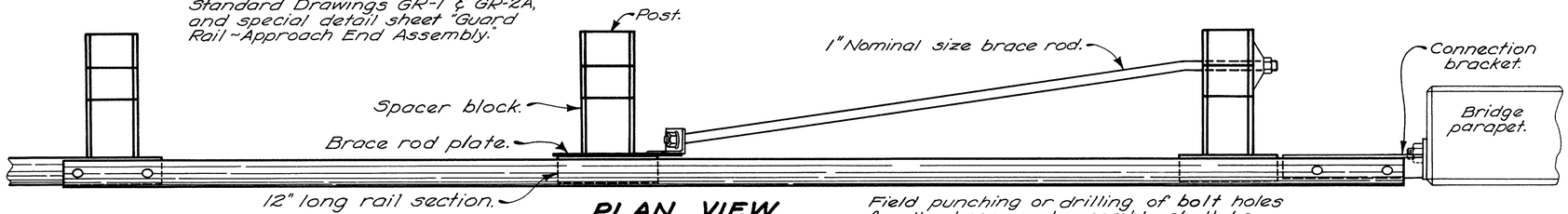
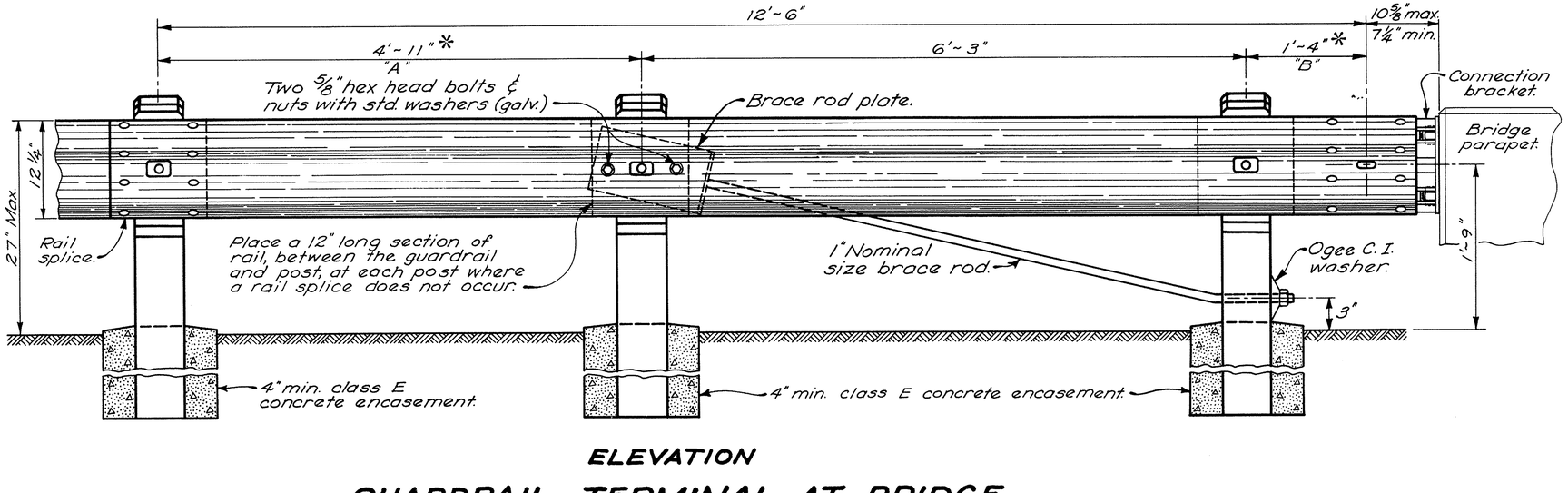


PLAN VIEW

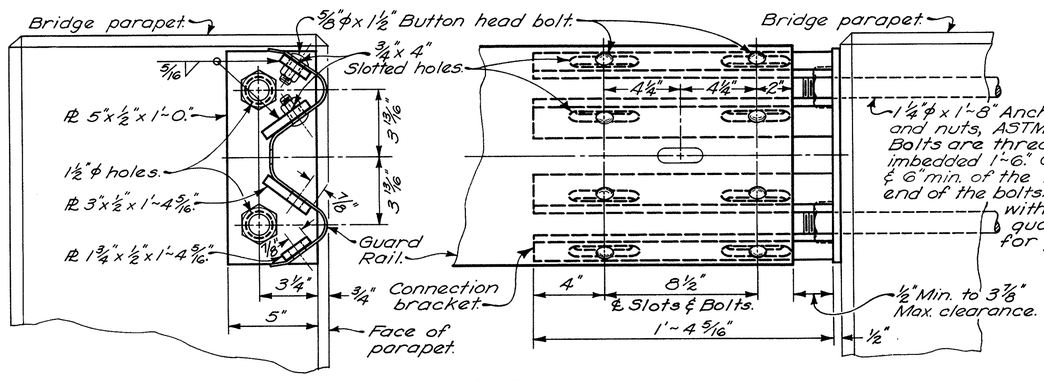
Field punching or drilling of bolt holes for the brace rod assembly shall be accomplished as provided for in 606.04.



ELEVATION

GUARDRAIL TERMINAL AT BRIDGE

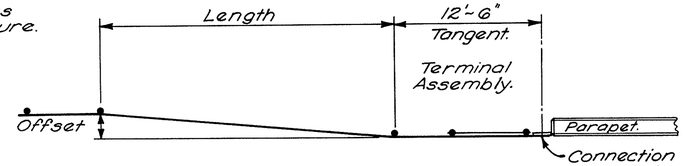
* Dimension "A" shall decrease as dimension "B" increases to accommodate interference by the bridge substructure.



CONNECTION BRACKET DETAIL

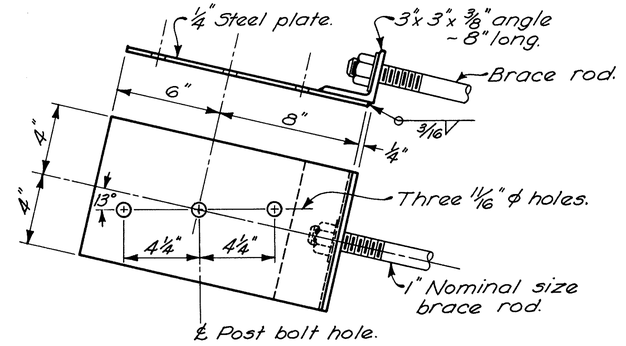
GUARDRAIL - BRIDGE CONNECTION

The connection bracket shall be galvanized after welding and shall be included with guardrail for payment.

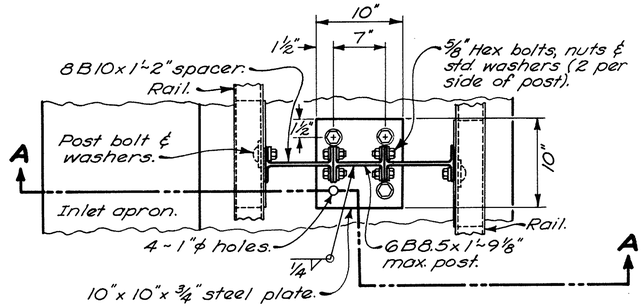


Offset	Length	Offset	Length
1'-0"	25.00'	5'-0"	100.00'
2'-0"	50.00'	6'-0"	100.00'
4'-0"	100.00'	7'-0"	100.00'

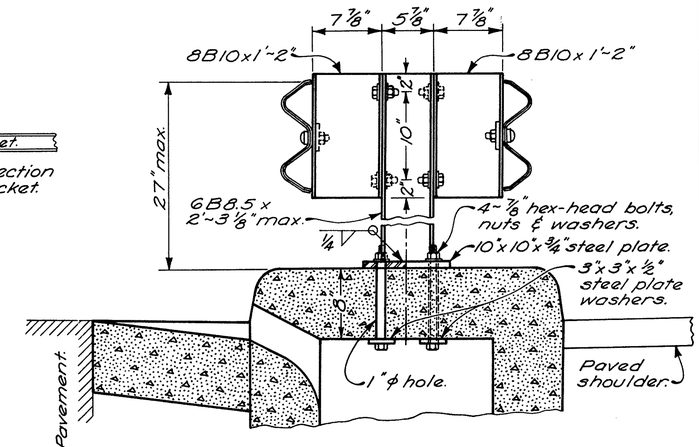
GUARDRAIL OFFSET DETAIL



BRACE ROD PLATE



PLAN VIEW



SECTION A-A

BARRIER RAIL MOUNTED ON MEDIAN INLET

This design shall be used for posts located over inlets regardless of the type of post used on the approaches.

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BRIDGE TERMINAL ASSEMBLY

GENERAL LIGHTING NOTES

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MAH-80-2.30

GENERAL

THIS SPECIFICATION SUPPLEMENTS THE STATE OF OHIO CONSTRUCTION AND MATERIAL SPECIFICATIONS DATED JANUARY 1, 1967, SECTION #713, #625 FOR MATERIALS USED FOR THE INSTALLATION OF LIGHTING ON THE ROADWAY. THE WORDS "LIGHTING STANDARD" IN THE STATE OF OHIO SPECIFICATION MEANS "LIGHTING POLE".

THE LOCATION OF LIGHTING POLES, CONDUIT, CIRCUIT CABLE, PULL BOXES, ETC., SHALL BE AS INDICATED ON THE PLANS. DETAILS APPLICABLE TO THIS PROJECT, AND NOT SHOWN ON STANDARD DRAWINGS HL-1, HL-2, HL-3, AND HL-4 ARE A PART OF THIS SET OF PLANS. THE UTILITY COMPANY FOR THIS AREA IS THE OHIO EDISON COMPANY, YOUNGSTOWN, OHIO.

THROUGHOUT THESE PLANS THE USE OF TRADE NAMES FOR ELECTRICAL LIGHTING EQUIPMENT IS MEANT TO BE DESCRIPTIVE ONLY. COMPARIBLE PRODUCTS OF OTHER ELECTRICAL FIRMS ARE ACCEPTABLE IF ACCESSORIES AND MAIN MEMBERS ARE COMPATIBLE WITH ONE ANOTHER AND SERVE THE INTENDED PURPOSE.

SECTION 625.13 SPECIFIES THAT "TERMINAL POINTS OF ALL CONDUITS CONTAINING CONDUCTOR WIRE OR CABLE, SHALL BE COMPLETELY SEALED IN AN APPROVED MANNER WITH A REMOVABLE SEALING COMPOUND WHICH IS COMPATIBLE WITH THE CABLE JACKET, THE INSULATION, AND THE"CONDUIT MATERIAL". THE SEALING MATERIAL MUST BE INSTALLED IMMEDIATELY UPON THE COMPLETION OF THE DUCT CABLE INSTALLATION. FURTHER ALL EMPTY CONDUITS SHALL BE IMMEDIATELY CAPPED UNTIL PULL WIRES OR CABLE IS INSTALLED. FURTHER LIGHT POLE HAND HOLES SHALL HAVE THEIR COVERS INSTALLED IMMEDIATELY UPON ERECTION OF POLE. FURTHER ALL CABLE CONNECTOR KITS AND EXPOSED CABLE ENDS SHALL BE ADEQUATELY PROTECTED BY ENCLOSING IN PLASTIC BAGS OR BY TAPING OR BY OTHER APPROVED MEANS UNTIL SUCH TIME AS THE CABLE CONNECTION SHALL HAVE BEEN COMPLETED.

WORKING PLANS

THE CONTRACTOR SHALL CONFORM TO SECTION 625.04 IN REGARD TO SUBMITTING WORKING PLANS AND APPROVAL OF MATERIALS BY THE DIRECTOR. THE CONTRACTOR SHALL ALSO BE REQUIRED TO SUBMIT TO THE CHIEF ENGINEER OF THE OHIO TURNPIKE COMMISSION; BEREA, OHIO; FOR REVIEW AND APPROVAL ALL ITEMS AS SET FORTH IN SEC. 625.04 WHICH EFFECT WORK ON OR ADJACENT TO THE OHIO TURNPIKE.

THE CONTRACTOR SHALL ALSO BE SUBJECT TO ALL RULES AND REGULATIONS AS SET FORTH ON SHEET NO. 14, "OHIO TURNPIKE MAINTENANCE OF TRAFFIC".

LIGHTING DESIGN

THE LIGHTING DESIGN IS BASED ON 1.0 TO 1.2 FOOT CANDLES INITIAL VALUE ON THE ROADWAY, LINES, RAMPS, AND BRIDGES.

THE LIGHTING WILL BE MERCURY VAPOR, USING A MULTIPLE SYSTEM, SINGLE PHASE 480 VOLT CIRCUITS WITH ONE LEG GROUNDED.

TESTS

TESTS SHALL BE PERFORMED AS SPECIFIED IN SECTION 625.22.

SUPER-STRUCTURE GROUNDING

GROUNDING IN GENERAL SHALL FOLLOW SECTION 625.20. THE SPECIFIC GROUNDING REQUIREMENTS FOR ALL STRUCTURES SHALL BE AS FOLLOWS:

GROUND CABLE SHALL BE 1/0, 7 STRAND, SOFT ANNEALED COPPER CABLE ENCASED IN THE OUTSIDE COLUMN OF STRUCTURE AT FIXED PIER NUMBER 2. SPIRAL COIL 25 FEET OF THE 1/0 COPPER GROUND CABLE UNDER THE PIER FOOTING FLAT TO THE EARTH. THE SPIRAL COIL OF GROUND CABLE SHALL BE COVERED WITH TWO (2) LAYERS OF TAR PAPER TO SEPARATE THE GROUND CABLE FROM THE CONCRETE WHEN POURED.

EXTEND CABLES UP IN ONE CONTINUOUS LENGTH THROUGH FIXED PIER AND PIER CAP WITH SUFFICIENT LENGTH AND EXOTHERMIC WELD GROUND CABLE TO OUTSIDE STEEL GIRDER OF SUPER-STRUCTURE.

TRENCHING

THE CONTRACTOR SHALL DO ALL EXCAVATION OF EVERY DESCRIPTION TO THE DIMENSIONS AND LEVELS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER. EXCAVATION MAY BE ACCOMPLISHED WITH MECHANICAL TRENCHING AND BORING EQUIPMENT, EXCEPT THAT THE CONTRACTOR MAY NOT USE A TRENCHER THAT PRODUCES SUCH LIFTING FORCE AS TO DESTROY THE EDGE OR UNDERMINE THE PAVED BERM.

CONTROL CENTER

THE CONTROL CENTER SHALL IN GENERAL FOLLOW SECTION 625.19. THE SPECIFIC REQUIREMENTS FOR THE CONTROL CENTER SHALL BE AS FOLLOWS:

THE CONTRACTOR SHALL FURNISH AND INSTALL IN THE SPACE PROVIDED BY OTHERS IN THE OHIO TURNPIKE UTILITY BUILDING, CONTROL CENTERS AS DETAILED ON THE DRAWING "CONTROL CENTER DETAILS". THE CONTRACTOR SHALL ALSO FURNISH, INSTALL, AND CONNECT ALL REQUIRED CABLES FROM THE PULL BOXES OUTSIDE THE TOLL PLAZA TUNNEL TO THE CONTROL CENTERS IN THE CONDUIT PROVIDED BY OTHERS.

CONTROL CENTERS SHALL BE COMPLETE WITH PROTECTIVE DEVICES, CABLE, SECONDARY CIRCUIT CONTACTORS AND AUXILIARY SELECTOR SWITCHES, PANELBOARDS AND CIRCUIT BREAKERS, AND PHOTOCELL CONTROLS.

THE SERVICE CABLE AND CONDUIT FROM THE MAIN PANEL TO THE ROADWAY LIGHTING CONTACTORS SHALL BE PROVIDED BY OTHERS. THE CONTRACTOR SHALL CONNECT THE SERVICE CABLE TO THE LIGHTING CONTACTORS.

CONDUIT

RIGID FERROUS METAL CONDUITS CONFORMING TO SECTION 625.13 AND 713.04 SHALL BE USED FOR THE CONDUIT RUNS.

USE 3 INCH TYPE II OR III CONDUIT FOR ALL CROSSOVER CONDUITS.

USE 2 INCH TYPE II OR III CONDUIT FOR ALL RUNS IN BRIDGES WHERE CONDUIT IS ENCASED IN CONCRETE AND AT THE ENDS OF BRIDGES, WHERE CONDUIT HAS TO BE EXPOSED AND RUN UNDER GROUND TO THE NEAREST FIBER PULL BOX. PROVIDE CONDUIT EXPANSION FITTINGS FOR ALL JOINTS IN STRUCTURES, SIMILAR TO OZ CO., TYPE AX, HOPE ELECTRICAL CO., SPRING CITY CO., TYPE AF, OR APPROVED EQUAL.

CONDUIT FOR LIGHTING POLE FOUNDATIONS SHALL EITHER BE 2-1/2 INCH FERROUS METAL ELLS, OR 3 INCH CEMENT - ASBESTOS, OR 3 INCH BITUMINOUS FIBER ELLS, AT THE OPTION OF THE CONTRACTOR.

DUCT-CABLE, CABLE

DUCT-CABLE SHALL BE FURNISHED IN 1-1/2" NOMINAL SIZE WITH TWO (2) NO. 4 AWG CODED, 7-STRAND 600 VOLT COPPER CONDUCTORS, CROSS-LINKED FILLED POLYETHYLENE INSULATED TYPE, GENERAL ELECTRIC CABLE NO. SI-58073 OR APPROVED EQUIVALENTS AS MANUFACTURED BY *ANACONDA "UNICON"*, PHELPS-DODGE *"THERMOLENE"*, *OR OTHER* MANUFACTURERS APPROVED PRODUCT. DUCT SHALL BE BLACK POLYETHYLENE PLASTIC CONFORMING TO SECTION 713.03-3.

CABLE USED IN BRIDGE STRUCTURES, IN CROSSOVER CONDUIT, AND IN 3" CONDUIT UP SLOPE, SHALL BE THE SAME SIZE AND SPECIFICATION AS FURNISHED IN THE DUCT-CABLE.

POLE AND BRACKET CABLE SHALL BE SINGLE CONDUCTOR, NO. 10 AWG, COPPER THHN OR THHN/THWN.

WIRE-CABLE-DUCT-CABLE IDENTIFICATION

ALL CIRCUIT AND GROUND CABLES (EXCEPT STRUCTURE GROUNDING SYSTEM WIRES) AND DUCT-CABLE SHALL BE IDENTIFIED IN EACH PULL BOX, MANHOLE, PARAPET OR CURB JUNCTION BOX (TYPE "A" OR "B" BRIDGE RACEWAY BOXES), ETC. TAGS SHALL BE CIRCULAR IN SHAPE, 1-3/8" TO 1-1/2" NOMINAL DIAMETER AND NOT LESS THAN .031" THICK COPPER OR BRASS. USE STEEL LETTERING DIES, 1/4" MINIMUM SIZE, OR THE EQUIVALENT ENGRAVING PROCESS TO MARK THE TAG. IT SHALL BE SECURELY ATTACHED WITH AN AWG #14 OR LARGER, TYPE TW COPPER WIRE. MARKING OF TAGS SHALL CONSIST OF AN ABBREVIATION FOR THE GROUND WIRES "GR'D" AND CIRCUIT WITH NUMBER OR LETTER "CKT. A", ETC.

IDENTIFICATION BY AN APPROVED BANDING METHOD WILL BE CONSIDERED AS AN ALTERNATE; ALSO APPROVED PLASTIC TAGS IN LIEU OF ABOVE METAL TAGS.

CABLES IN CIRCUIT BREAKER AND SAFETY SWITCH ENCLOSURES SHALL BE TAGGED WITH PLASTIC TAGS OR BANDED IN AN APPROPRIATE MANNER SO AS NOT TO REDUCE ELECTRICAL CLEARANCES FROM LIVE CONDUCTORS AND LIVE PARTS TO GROUND.

COST SHALL BE INCLUDED WITH BID ITEM FOR WIRE, CABLE OR DUCT-CABLE.

CONNECTIONS

CONNECTORS CONFORMING TO SECTION 713.15 AND 625.17 SHALL BE USED FOR ALL CONNECTIONS AND SHALL BE USED AS FOLLOWS:

IN FIBER PULL BOX: TYPE I UNFUSED KIT FOR BOTH CIRCUIT CABLES WHEN STRAIGHT THROUGHOUT.

TYPE IV UNFUSED KIT FOR BOTH CIRCUIT CABLES WHERE TAP IS REQUIRED.

IN LIGHTING POLE BASE: TYPE II FUSED KIT W/6 AMP FUSE IN HOT LEG.

TYPE III UNFUSED KIT IN GROUND LEG.

SUFFICIENT SLACK SHALL BE PROVIDED IN THE CABLE TO ALLOW CONNECTOR KITS TO BE REMOVED THROUGH THE HANDHOLE FOR TESTING, REFUSING, ETC.

PULL BOXES

18" DIAMETER FIBER PULL BOXES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.37" AND BE FABRICATED FROM A FIBER TUBE IMPREGNATED WITH A BLACK BITUMINOUS COMPOUND TO MAKE IT WATERPROOF. THE PULL BOX SHALL HAVE A TYPE II COVER OF 3/8" THICK, 19" NOMINAL DIAMETER, CAST IRON PAINTED WITH ASPHALTUM, WITH THE WORD "ELECTRIC" IMPRINTED AND A BOLT FASTENING AS INDICATED ON STANDARD CONSTRUCTION DRAWING HL-3. THE BOTTOM OF THE TUBE SHALL BE LEFT OPEN, AND SET OVER A 6 INCH BED OF AGGREGATE TO ALLOW FOR DRAINING. THE CONTRACTOR SHALL CUT ONLY THE NECESSARY SIZE AND LENGTH OF SLOTS FOR DUCT-CABLE, OR HOLE FOR CROSS OVER CONDUIT, AS DETERMINED FOR EACH LOCATION. COVER ATTACHMENT SHOWN ON STANDARD DRAWING HL-3 IS TYPICAL, OTHER APPROVED TWO BOLT ATTACHMENT AS SHOWN ON THE DRAWING "LIGHTING DETAILS" MAY BE EMPLOYED. THE PULL BOX SHALL PROJECT A MAXIMUM OF 1" ABOVE FINISHED GRADE IN LIEU OF 1-1/2" MINIMUM AS SHOWN ON HL-3.

GROUND ROD UNITS

GROUND ROD UNITS SHALL BE FURNISHED AND INSTALLED AT EACH LIGHT POLE FOUNDATION. THE TOP OF THE ROD SHALL BE 18" TO 20" BELOW TOP OF TRENCH REGARDLESS OF THE DEPTH OF THE TRENCH.

LIGHT POLE FOUNDATION

LIGHT POLE FOUNDATIONS IN GENERAL SHALL BE AS SPECIFIED IN SECTION 625.06 AND AS DETAILED ON HL-1 WITH THE EXCEPTION OF FOUNDATION TOPS.

FOUNDATION TOPS SHALL HAVE DRAIN-VENT GROOVES AS DETAILED ON THE DRAWING "ALUMINUM TRANSFORMER BASE DETAILS" SHEET NO.254.

LUMINAIRES AND LAMPS

ROADWAY LUMINAIRES SHALL BE FURNISHED WITH 2" SLIPFITTER. ALL COMPLETELY ASSEMBLED AND SOCKET IN POSITION TO EFFECT EITHER IES-ASA TYPE II OR III DISTRIBUTION.

BALLASTS SHALL BE A HIGH POWER FACTOR REGULATING, OR CONSTANT WATTAGE TYPE RATED FOR USE WITH 400 WATT MERCURY LAMP, 240/480 VOLTS ± 13% REGULATION. CONNECT BALLASTS FOR 480 VOLTS ON NEW CIRCUITS AND 240 VOLTS ON ALL EXISTING OHIO TURNPIKE CIRCUITS.

LUMINAIRES WITH INTEGRAL BALLAST SHALL BE GENERAL ELECTRIC CO., FORM M-400, WESTINGHOUSE TYPE OV-25, LINE MATERIAL COMPANY UNISTYLE 400, OR AN APPROVED EQUAL.

LAMPS SHALL BE 400 WATT CLEAR MERCURY VAPOR, ASA DESIGNATION H-33-ICD. LAMPS SHALL BE GENERAL ELECTRIC COMPANY "BONUS LINE", WESTINGHOUSE "LIFEGUARD", SYLVANIA "BANNER LINE", OR AN APPROVED EQUAL.

625.06 LIGHTING STANDARD FOUNDATIONS

Light Pole Offset & Foundation Elevation

Light pole offsets shown on this plan are, in many instances, based on pole locations 18 inches behind face of guard rail. As shown on Sheet 254 light pole locations shall be 2 feet - 0 inches behind the normal face of guard rail location (whether used or not) and plan offset distances shall be adjusted accordingly. Foundation elevations shall be 1-inch above grade on roadway side.

GENERAL LIGHTING NOTES

FED. RD.	STATE	PROJECT	
2	OHIO		

245
384

MAH-805-7.01
MAH-80 - 2.30

LIGHT POLES

THE LIGHT POLES FOR THIS PROJECT SHALL BE AS THE STYLE SHOWN ON THE DRAWING "LIGHTING DETAILS" WITH THE EXCLUSION OF BRIDGE MOUNTED POLES. ALL BRIDGE MOUNTED POLES SHALL BE STYLE "A" AS SHOWN ON "HL-2".

ALL POLES SHALL BE PLACED SO THEIR BRACKETS ARE NORMALLY AT RIGHT ANGLES TO THE CENTERLINE OF THE ROADWAY, AND CAREFULLY PLUMBED TO BE IN VERTICAL ALIGNMENT. EACH LIGHT POLE AND THE CIRCUIT CABLE SHALL BE GROUNDED AT EACH LOCATION. ALL POLE HARDWARE SHALL BE STAINLESS STEEL, EXCEPT BOLTS AND NUTS 5/8" AND OVER MAY BE HOT DIPPED GALVANIZED AS PER ASTM SPECIFICATION A-153.

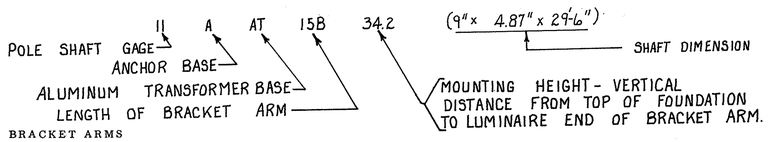
THE FOLLOWING SPECIFICATIONS FOR LIGHT POLES ARE SUPPLEMENTARY TO SECTION 625.05 AND 713.01;

SHAFTS

1. SHAFTS SHALL BE 11 GAUGE TAPERED STEEL TUBES.
2. SHAFTS SHALL BE FITTED WITH CAST STEEL ANCHOR BASES AS SHOWN ON "HL-3". and on roadways without transformer bases
3. SHAFTS OF POLES MOUNTED ON BRIDGES SHALL HAVE A 4" X 10" HANDHOLE WITH BOLT ON COVER AND CAPTIVE CHAIN.
4. SHAFTS SHALL CONFORM TO THE MINIMUM REQUIREMENTS FOR DEFLECTION AND PERMANENT SET AS TABULATED FOR THE RESPECTIVE POLE SIZES IN THE FOLLOWING TABLE:

DESIGN NO.	POLE SIZE	GA.	ARM LENGTH	ANCHOR BOLT CIRCLE	PROJ. ABOVE FOUND.	ELASTIC DEFL. RATE IN. PER 100 LBS.	AT 2/3 YIELD STRESS LOAD 18" DOWN LBS.	AT 2/3 YIELD STRESS TOTAL DEFL. IN.	AT 2/3 YIELD STRESS PERM. SET. IN.	AT YIELD STRESS LOAD 18" DOWN LBS.	AT YIELD STRESS TOTAL DEFL. IN.	AT YIELD STRESS PERM. SET. IN.	MOUNTING HEIGHT
11 AT 15B 34.2	9.0" x 4.87"x29'-6"	11	15'-0"	15'-0"	3-1/2"	2.16	659	14.73	0.50	989	24.00	2.64	34.2'
11 AT 10B 34.2	8.0"x3.87"x29'-6"	11	10'-0"	15'-0"	3-1/2"	3.32	517	17.66	0.50	776	28.84	3.08	34.2'
11 AT 8 B 34.2	8.0"x3.87"x29'-6"	11	8'-0"	15'-0"	3-1/2"	3.32	517	17.66	0.50	776	28.84	3.08	34.2'
11 A 12B 30.0	8.0" x 4.22"x27'-0"	11	12'-0"	11.0"	2-5/8"	2.37	568	13.96	0.50	852	22.71	2.52	30.0'
11 A 10B 30.0	8.0"x4.22"x27'-0"	11	10'-0"	11.0"	2-5/8"	2.37	568	13.96	0.50	852	22.71	2.52	30.0'
11 A 15B 32.5	9.0"x 4.87"x29'-6"	11	15'-0"	12.5"	3"	2.16	654	14.73	0.50	989	24.00	2.64	32.5'
11 A 10B 32.5	8.0"x 3.87"x 29'-6"	11	10'-0"	11.0"	2-5/8"	3.32	517	17.66	0.50	776	28.84	3.08	32.5'

LIGHT POLE DESIGN LEGEND



BRACKET ARMS

1. BRACKET ARMS SHALL CONFORM TO SECTION 713.01-6 USING ASTM A-53 SCHEDULE 40 PIPE. AN ALTERNATE SPECIFICATION WILL PERMIT THE USE OF ASTM A-36 PIPE.

SHIMS

1. SHIMS FOR PLUMBING POLE SHALL BE OF GALVANIZED STEEL.

GALVANIZING

1. THE STEEL POLES AND ARMS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 713.01-8.

FORM DDA-8

TEMPORARY LIGHTING NOTES

FED. RD.	STATE	PROJECT	
2	OHIO		

246
384

MAH-80S-7.01
MAH-80-2.30

GENERAL

THIS SPECIFICATION SUPPLEMENTS THE STATE OF OHIO CONSTRUCTION AND MATERIAL SPECIFICATIONS DATED JANUARY 1, 1967, SECTIONS 625,713 FOR MATERIALS USED FOR THE INSTALLATION OF TEMPORARY LIGHTING ON THE TEMPORARY ROADWAY. THE WORD "LIGHTING STANDARD" IN THE STATE OF OHIO SPECIFICATION MEANS "LIGHTING POLE".

THE LOCATION OF LIGHTING POLES, CONDUIT, CIRCUIT CABLE, PULL BOXES, ETC., SHALL BE AS INDICATED ON THE PLANS. DETAILS APPLICABLE TO THIS PROJECT, AND NOT SHOWN ON STANDARD DRAWINGS HL-1, HL-2, HL-3, AND HL-4 ARE A PART OF THIS SET OF PLANS.

THE UTILITY COMPANY FOR THIS AREA IS THE OHIO EDISON COMPANY, YOUNGSTOWN, OHIO.

THROUGHOUT THIS SET OF PLANS THE USE OF TRADE NAMES FOR ELECTRICAL LIGHTING EQUIPMENT IS MEANT TO BE DESCRIPTIVE ONLY. COMPARIBLE PRODUCTS OF OTHER ELECTRICAL FIRMS ARE ACCEPTABLE IF ACCESSORIES AND MAIN MEMBERS ARE COMPATIBLE WITH ONE ANOTHER AND SERVE THE INTENDED PURPOSE.

WORKING PLANS

THE CONTRACTOR SHALL CONFORM TO SECTION 625.04 IN REGARD TO SUBMITTING WORKING PLANS, AND APPROVAL OF MATERIALS BY THE DIRECTOR. THE CONTRACTOR SHALL ALSO BE REQUIRED TO SUBMIT TO THE CHIEF ENGINEER OF THE OHIO TURNPIKE COMMISSION, BEREA, OHIO; FOR REVIEW AND APPROVAL ALL ITEMS AS SET FORTH IN SECTION 625.04 WHICH EFFECT WORK ON OR ADJACENT TO THE OHIO TURNPIKE.

THE CONTRACTOR SHALL ALSO BE SUBJECT TO ALL RULES AND REGULATIONS AS SET FORTH ON SHEET NUMBER 14 "OHIO TURNPIKE MAINTENANCE OF TRAFFIC".

TESTS

TESTS SHALL BE PERFORMED AS SPECIFIED IN SECTION 625.22 WITH THE EXCLUSION OF PARAGRAPH B.

TEMPORARY WOOD POLES

TEMPORARY WOOD POLES SHALL BE FULL LENGTH PENTA-TREATED. ULTIMATE FIBER STRESS AND MINIMUM DIMENSIONS FOR THE SIZE, CLASS AND DEPTH OF SETTING AS SHOWN ON THE PLANS SHALL CONFORM TO ASA STANDARD 05.1-1948.

POLES SHALL NOT BE MORE THAN 3 INCHES SHORTER OR 6 INCHES LONGER THAN NOMINAL LENGTH. THE CIRCUMFERENCE AT 6 FEET FROM THE BUTT SHALL NOT BE MORE THAN 7 INCHES LARGER THAN THE SPECIFIED MINIMUM.

BRACKET ARMS

BRACKET ARMS SHALL BE OF GALVANIZED STEEL, "A" FRAME STYLE AND SHALL BE CAPABLE OF SUPPORTING A MINIMUM LUMINAIRE WEIGHT OF 60 POUNDS AND A MINIMUM PROJECTED AREA OF 3.0 SQUARE FEET.

BRACKET ARMS SHALL BE LINE MATERIAL CO. LB 30E 3, GENERAL ELECTRIC CO. C623 G055, OR APPROVED EQUAL.

LUMINAIRES AND LAMPS

LUMINAIRES SHALL BE FURNISHED WITH 2" SLIPFITTER, ALL COMPLETELY ASSEMBLED, AND SOCKET IN POSITION TO EFFECT IES-ASA TYPE III DISTRIBUTION. BALLASTS SHALL BE HIGH POWER FACTOR REGULATING OR CONSTANT WATTAGE TYPE RATED FOR USE WITH 400 WATT MERCURY LAMP, 240/480 VOLT ± 13% REGULATION. CONNECT BALLAST FOR 240 VOLTS.

LUMINAIRES SHALL BE GENERAL ELECTRIC CO. FORM M-400, WESTINGHOUSE OV-25, OR LINE MATERIAL CO. UNISTYLE 400, OR AN APPROVED EQUAL.

LAMPS SHALL BE 400 WATT CLEAR MERCURY VAPOR, ASA DESIGNATION H-33-ICD.

LAMPS SHALL BE GENERAL ELECTRIC CO. "BONUS LINE", WESTINGHOUSE "LIFEGUARD", SYLVANIA "BANNER LINE" OR APPROVED EQUAL.

3 SPOOL RACKS

3 SPOOL RACKS SHALL PROVIDE A MINIMUM SPACING OF 8 INCHES BETWEEN CONDUCTORS AT THE POINT OF ATTACHMENT AND SHALL BE OF GALVANIZED STEEL. 3 SPOOL RACKS SHALL BE PROVIDED WITH A 5/8 INCH CLEVIS PIN.

3 SPOOL RACKS SHALL BE LINE MATERIAL DRIF2, JOSLYN J-2838, OR AN APPROVED EQUAL.

1 SPOOL CLEVIS

1 SPOOL CLEVISES SHALL BE OF GALVANIZED STEEL AND BE PROVIDED WITH A 5/8" CLEVIS PIN.

1 SPOOL CLEVISES SHALL BE LINE MATERIAL DCIC3, JOSLYN EX-376, OR AN APPROVED EQUAL.

PORCELAIN SPOOL INSULATORS

PORCELAIN SHALL HAVE A MINIMUM ULTIMATE STRENGTH OF 3000 POUNDS.

PORCELAIN SPOOL INSULATORS SHALL BE LINE MATERIAL DE453, OHIO BRASS 36361, OR AN APPROVED EQUAL.

8" PATENT ANCHOR

PATENT ANCHORS SHALL HAVE A RATED HOLDING POWER OF 6000 POUNDS IN AVERAGE SOIL. PATENT ANCHORS SHALL BE OF THE EXPANDING TYPE WITH A BLACK ASPHALTUM FINISH. PATENT ANCHORS SHALL HAVE AN ANCHOR HOLE SIZE OF 8 INCHES.

PATENT ANCHORS SHALL BE FITTED WITH A 5/8 INCH BY 6 FOOT SINGLE EYE ANCHOR ROD.

PATENT ANCHORS SHALL BE LINE MATERIAL DAIEI, JASPER-BLACKBURN PL 84115, OR AN APPROVED EQUAL.

GUY WIRE

GUY WIRE SHALL BE 5/16" NOMINAL DIAMETER, 7 STRAND, ZINC COATED STEEL WIRE. GUY WIRE SHALL BE UTILITIES GRADE, 6000 POUND MINIMUM BREAKING STRENGTH AND SHALL MEET THE REQUIREMENTS OF ASTM A475-62T.

GROUND ROD UNITS

GROUND ROD UNITS SHALL BE FURNISHED AND INSTALLED AT EACH TEMPORARY WOOD POLE SUPPORTING A LUMINAIRE. THE LUMINAIRE, BRACKET, AND NEUTRAL SHALL BE GROUNDED AT EACH LOCATION.

THE REQUIREMENTS FOR GROUND RODS SHALL IN GENERAL FOLLOW SECTION 625.10 WITH THE FOLLOWING EXCEPTIONS:

1. GROUND RODS SHALL BE DRIVEN IN THE GROUND APPROXIMATELY 6 INCHES FROM THE BASE OF THE POLE.
2. THE TOP OF THE GROUND ROD SHALL PROTRUDE APPROXIMATELY 6 TO 8 INCHES ABOVE GROUND
3. GROUNDING CABLE SHALL BE NO. 10 AWG SOFT OR ANNEALED SOLID COPPER CONFORMING TO ASTM SPECIFICATION B3-63. THE GROUNDING CABLE SHALL BE COVERED FOR A MINIMUM DISTANCE OF 8 FEET ABOVE THE GROUND LINE WITH A 1 INCH BY 8 FOOT WOOD MOULDING.

TRIPLEXED AERIAL CABLE

TRIPLEXED AERIAL CABLE SHALL BE FURNISHED WITH ONE NO.4 AWG BARE ACSR MESSENGER NEUTRAL, 6/1 STRANDING AND TWO 4 AWG, 7 STRAND 600 VOLT ALUMINUM POLYETHELENE INSULATED CONDUCTORS. THE #4 AWG BARE ACSR MESSENGER SHALL HAVE AN ULTIMATE BREAKING STRENGTH OF 1,830 POUNDS. TRIPLEXED CABLE SHALL BE ALCOA "PERIWINKLE", OR AN APPROVED EQUAL AS MANUFACTURED BY REYNOLDS, ANACONDA, OR OTHER MANUFACTURERS APPROVED PRODUCT.

FINAL TENSION SHALL NOT BE MORE THAN 50% OF THE ULTIMATE BREAKING STRENGTH (915 POUNDS). THE MAXIMUM SAG SHALL NOT EXCEED 5 FEET IN ANY SPAN.

DUPLEXED AERIAL CABLE

DUPLEXED AERIAL CABLE SHALL BE FURNISHED WITH ONE NO.6AWG BARE ACSR MESSENGER NEUTRAL, 6/1 STRANDING AND ONE NO.6AWG 600 VOLT ALUMINUM POLYETHELENE INSULATED CONDUCTOR. THE NEUTRAL MESSENGER SHALL HAVE AN ULTIMATE BREAKING STRENGTH OF 1170 POUNDS. DUPLEXED CABLE SHALL BE ALCOA "SHEPHERD", OR AN APPROVED EQUAL AS MANUFACTURED BY REYNOLDS, ANACONDA, OR OTHER MANUFACTURERS APPROVED PRODUCT.

FINAL TENSION SHALL NOT BE MORE THAN 50% OF THE ULTIMATE BREAKING STRENGTH (585 POUNDS). THE MAXIMUM SAG SHALL NOT EXCEED 5 FEET IN ANY SPAN.

BRACKET CABLE

BRACKET CABLE SHALL BE SINGLE CONDUCTOR, NO. 10 AWG, COPPER THHN OR THHN/THWN.

TEMPORARY SERVICE POLE

THE CONTRACTOR SHALL FURNISH AND INSTALL AT THE LOCATIONS SHOWN, A TEMPORARY SERVICE POLE AS DETAILED ON THE DRAWINGS, COMPLETE WITH WEATHERHEAD AND 2 INCH GALVANIZED STEEL CONDUIT AND CABLES TO THE PULL BOX AT THE BASE OF THE TEMPORARY SERVICE POLE. THE CONTRACTOR SHALL ALSO PROVIDE THE CIRCUIT CABLE TO THE ADJACENT LIGHT UNITS AS SHOWN ON SHEET NO. 250

THE CONTRACTOR SHALL MAKE ALL NECESSARY CONNECTIONS WITH THE EXISTING OHIO TURNPIKE LIGHTING CIRCUITS. THE CONTRACTOR SHALL OBTAIN THE PERMISSION OF THE CHIEF ENGINEER OF THE OHIO TURNPIKE COMMISSION BEFORE CONNECTING THE TEMPORARY SERVICE POLES TO THE EXISTING TURNPIKE LIGHTING CABLES.

INSTALLATION AND REMOVAL OF TEMPORARY ROADWAY LIGHTING.

AT SUCH TIME AS IS DIRECTED BY THE PROJECT ENGINEER THE CONTRACTOR SHALL REMOVE THE TEMPORARY ROADWAY LIGHTING SYSTEM. ALL LIGHTING MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE TRANSPORTED OUTSIDE THE LIMITS OF THE PROJECT AREA.

THE CONTRACTOR SHALL SUPPLY ALL NECESSARY MATERIALS TO EFFECT A COMPLETE TEMPORARY ROADWAY LIGHTING SYSTEM AS SET FORTH IN THIS SET OF PLANS. ALL MATERIALS SHALL CONFORM TO SECTIONS 625 AND 713.

THE MATERIAL AND QUANTITIES LISTED BELOW ARE INTENDED TO BE A GUIDE TO CONTRACTOR AND IN NO WAY RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITY TO FURNISH ALL MATERIAL NECESSARY TO EFFECT A COMPLETE TEMPORARY LIGHTING SYSTEM. THE CONTRACTOR SHALL NOT ORDER OR INSTALL ANY OF THE MATERIAL LISTED BELOW WITHOUT THE APPROVAL OF STATE OF OHIO AND THE OHIO TURNPIKE COMMISSION.

ESTIMATED QUANTITY	UNIT	DESCRIPTION
17	EA.	WOOD POLE - 40' - CLASS - 3.
5	EA.	WOOD POLE - 35' - CLASS - 3.
17	EA.	14'-0" BRACKET ARM "A" FRAME
17	EA.	LUMINAIRE, TYPE III 400 WATT MERCURY W/400 WATT BALLAST.
17	EA.	MERCURY VAPOR LAMP, 400 WATT
17	EA.	GROUND ROD UNITS
2	EA.	PULL BOX ROUND FIBER 18" I.D.
2981	L.F.	AERIAL CABLE 600 V., TRIPLEXED NO. 4 ALUMINUM.
284	L.F.	AERIAL CABLE 600 V., DUPLEXED NO. 6 ALUMINUM.
476	L.F.	BRACKET CABLE 600 V., 1/C NO. 6 COPPER.
310	L.F.	5/16" GALV. STEEL GUY WIRE.
14	EA.	8" PATENT ANCHOR
14	EA.	5/8" X 6'-0" GALV. STEEL ANCHOR ROD.
19	EA.	RACK 3 SPOOL
3	EA.	1 SPOOL CLEVIS
60		PORCELAIN SPOOL INSULATOR
1	EA.	SERVICE POLE E.B. LANE COMPLETE
1	EA.	SERVICE POLE W.B. LANE COMPLETE

ALL WORK AND MATERIALS AS SPECIFIED ABOVE TO EFFECT A COMPLETE TEMPORARY ROADWAY LIGHTING SYSTEM SHALL BE INCLUDED IN THE LUMP SUM PAY ITEM 625 "INSTALLATION AND REMOVAL OF TEMPORARY ROADWAY LIGHTING.

MAINTENANCE OF TEMPORARY ROADWAY LIGHTING

THE OHIO TURNPIKE COMMISSION WILL MAINTAIN WITH ITS OWN FORCES THE TEMPORARY ROADWAY LIGHTING SYSTEM WHILE IT IS IN SERVICE. PAYMENT FOR THE ABOVE WILL BE BY FORCE ACCOUNT WITH THE STATE OF OHIO.

DUCT-CABLE, CABLE FOR TURNPIKE LIGHTING RESTORATION

DUCT-CABLE SHALL BE FURNISHED IN 1-1/2" NOMINAL SIZE WITH THREE (3) NO.6 AWG CODED, 7-STRAND 600 VOLT COPPER CONDUCTORS, CROSS-LINKED FILLED POLYETHYLENE INSULATED TYPE, GENERAL ELECTRIC CABLE NO. SI-58073 OR APPROVED EQUIVALENTS AS MANUFACTURED BY ROME, SIMPLEX, PHELPS-DODGE, KAISER, OR OTHER MANUFACTURERS APPROVED PRODUCT. DUCT SHALL BE BLACK POLYETHYLENE PLASTIC CONFORMING TO SECTION 713.03-3.

REMOVAL AND RESTORATION OF THE OHIO TURNPIKE ROADWAY LIGHTING

LIGHT POLES AS SHOWN ON SHEET 251 SHALL BE CAREFULLY REMOVED AND EVERY PRECAUTION TAKEN TO AVOID BREAKING OR DAMAGING THE LIGHT POLES, LUMINAIRES, BALLASTS AND LAMPS. THE LIGHT POLES SHALL BE STORED IN SUCH A MANNER THAT THERE WILL BE NO LOSS OR DAMAGE BEFORE RESETTING. THE CONTRACTOR WILL BE REQUIRED TO REPLACE LIGHT POLES, LUMINAIRES, BALLASTS, OR LAMPS LOST FROM STORAGE OR DAMAGED BY NEGLIGENCE OR BY THE USE OF IMPROPER METHODS AT NO ADDITIONAL COST.

EXISTING FOUNDATIONS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH SECTION 202.02.

UPON REMOVAL, THE EXISTING LIGHTING UNIT AT STATION 118+32, SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE TRANSPORTED OUTSIDE THE LIMITS OF THE PROJECT AREA.

AFTER THE REMOVAL OF THE TEMPORARY ROADWAY, THE CONTRACTOR SHALL INSTALL NEW LIGHTPOLE FOUNDATIONS AT THE LOCATIONS SHOWN ON THE PLANS IN ACCORDANCE WITH "HL-1" AND THE DETAILS SHOWN ON THE DRAWING "LIGHTING DETAILS". THE CONTRACTOR SHALL RESET THE LIGHTPOLES IN ACCORDANCE WITH ALL DETAILS AND SPECIFICATIONS SET FORTH IN THIS SET OF PLANS AND RESTORE THE EXISTING LIGHTING SYSTEM TO ITS ORIGINAL CONDITION.

THE MATERIAL AND QUANTITIES LISTED BELOW ARE INTENDED TO BE A GUIDE TO THE CONTRACTOR FOR THE RESTORATION OF THE EXISTING LIGHTING SYSTEM AND IS IN NO WAY INTENDED TO RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITY TO FURNISH ALL MATERIALS NECESSARY TO RESTORE THE ORIGINAL LIGHTING SYSTEM TO ITS ORIGINAL CONDITION. THE CONTRACTOR SHALL NOT ORDER OR INSTALL ANY MATERIAL LISTED BELOW WITHOUT THE APPROVAL OF STATE OF OHIO AND THE OHIO TURNPIKE COMMISSION.

ESTIMATED QUANTITY	UNIT	DESCRIPTION
5	EA.	LIGHT POLE FOUNDATION 24" X 24" X 6'-0" DEEP. (120+32, 122+32, 124+32, 126+30, 125+65)
5	EA.	GROUND ROD UNITS
1	EA.	PULL BOX, ROUND FIBER, 18" I.D.
836	L.F.	DUCT CABLE 600 VOLT, THREE INSULATED 1/C NO. 6
5	EA.	CONNECTOR KIT, TYPE II
5	EA.	CONNECTOR KIT, TYPE III
8	EA.	CONNECTOR KIT, TYPE I

ALL WORK AND MATERIALS AS SPECIFIED ABOVE TO RESTORE THE EXISTING LIGHTING SYSTEM TO ITS ORIGINAL CONDITION INCLUDED IN THE LUMP SUM ITEM 625 "REMOVAL AND RESTORATION OF OHIO TURNPIKE ROADWAY LIGHTING."

TEMPORARY LIGHTING NOTES

GENERAL LIGHTING QUANTITIES

FED. RD.	STATE	PROJECT	
2	OHIO		

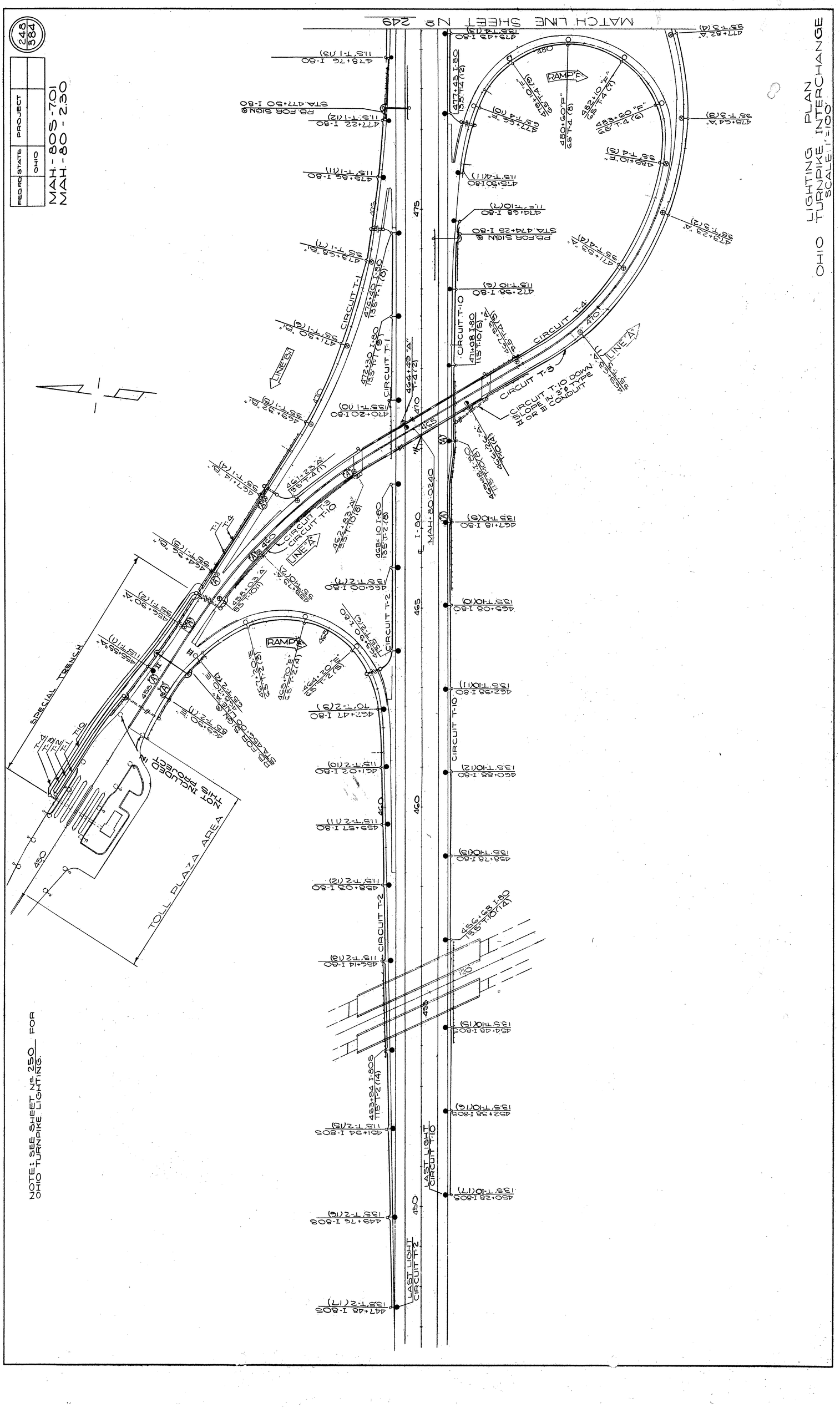
247/384

MAH-80 S-7.01
MAH-80 -2.30

TYPE CODE 7221

LINE Nº	ITEM	I - FUNDS STRUCTURES MAH. 80 0240	MAH. 80 0289R	MAH. 805 0861	ROADWAY SHEET Nº 248	249	251	I FUND TOTAL	STATE STRUCTURES MAH. 80 0186	MAH. 80 0862	ROADWAY SHEET Nº 250	STATE TOTAL	GRAND TOTAL INCLUDING BRIDGES	ITEM	UNIT	DESCRIPTION
SHEET Nº																
1	625				32	6		38			52	52	90	625	EA.	LIGHT POLE W/15' BRACKET ARM~DESIGN 11AT15B 34.2
2	625				12	3		15			19	19	34	625	EA.	LIGHT POLE W/10' BRACKET ARM~ DESIGN 11AT10B 34.2
3	625				9			9			9	9	18	625	EA.	LIGHT POLE W/ 8' BRACKET ARM~ DESIGN 11AT 8B 34.2
4	625			1				1					1	625	EA.	LIGHT POLE W/12' BRACKET ARM~ DESIGN 11A12B 30.0
5	625	2	1					3	1	2		3	6	625	EA.	LIGHT POLE W/10' BRACKET ARM~ DESIGN 11A10B 30.0
6	625				62	19		81			80	80	161	625	EA.	LIGHT POLE FOUNDATION 24"x 24"x 6' DEEP
7	625		1	1	35	15		52		2	49	51	103	625	EA.	LUMINAIRE, TYPE III 400 WATT MERCURY W/400 WATT BALLAST
8	625	2			27	4		33	1		31	32	65	625	EA.	LUMINAIRE, TYPE II 400 WATT MERCURY W/400 WATT BALLAST
9																
10	625	2	1	1	62	19		85	1	2	80	83	168	625	EA.	MERCURY VAPOR LAMP, 400 WATT
11	625				62	19		81			80	80	161	625	EA.	GROUND ROD UNITS
12																
13	625				21	2	1	24			28	28	52	625	EA.	PULL BOX, ROUND FIBER 18" I.D.
14																
15	625				9,013	2,935	20	11,968			13,764	13,764	25,732	625	L.F.	TRENCH 24" DEEP
16	625				630			630			1,405	1,405	2,035	625	L.F.	SPECIAL TRENCH 30" DEEP
17					2390	1,500		3,890					3,890	625	L.F.	ALTERNATE TRENCH 4'6" DEEP
18	625	770	195	380				1,345	704	380		1,084	2429	625	L.F.	CONDUIT, 2" RIGID FERROUS METAL, TYPE II OR III, 7/3.04
19	625				450			450			858	858	1,308	625	L.F.	CONDUIT, 3" RIGID FERROUS METAL, TYPE II OR III, 7/3.04
20																
21	625	2270	410	780	1,400			4,860	1,448	780	2,382	4,610	9,470	625	L.F.	CIRCUIT CABLE, 600 VOLT, 1/C Nº 4
22	625	168	80	84	5,791	1,810		7,933	84	168	7,557	7,809	15,742	625	L.F.	POLE AND BRACKET CABLE, 600 VOLT, 1/C Nº 10
23	625				15,219	3,625	20	18,864			17,804	17,804	36,668	625	L.F.	DUCT CABLE, 600 VOLT, TWO INSULATED 1/C Nº 4
24																
25	625				26	4	2	32			60	60	92	625	EA.	CONNECTOR KIT, TYPE I
26	625	2	1	1	62	19		85	1	2	80	83	168	625	EA.	CONNECTOR KIT, TYPE II
27	625	2	1	1	62	19		85	1	2	80	83	168	625	EA.	CONNECTOR KIT, TYPE III
28	625				18			18			18	18	36	625	EA.	CONNECTOR KIT, TYPE IV
29																
30	625				LUMP			LUMP					LUMP	625	LUMP	CONTROL CENTER #1
31	625										LUMP	LUMP	LUMP	625	LUMP	CONTROL CENTER #2
32																
33	625	1	1	1				3	1	1		2	5	625	EA.	STRUCTURE GROUNDING SYSTEM
34																
35	625	LUMP	LUMP	LUMP	LUMP	LUMP		LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	625	LUMP	CIRCUIT AND LIGHT POLE IDENTIFICATION
36																
37	625	2	1	1				4	1	1		2	6	625	Set/4	LIGHT POLE ANCHOR BOLTS FOR STRUCTURE (L)
38																
39	625						LUMP	LUMP					LUMP	625	LUMP	INSTALLATION AND REMOVAL OF TEMPORARY LIGHTING
40	625						LUMP	LUMP					LUMP	625	LUMP	REMOVAL AND RESTORATION OF THE OHIO TURNPIKE ROADWAY LIGHTING
41	625															
42					3	9		12					12	625	EA.	LIGHT POLE W/15' BRACKET ARM DESIGN 11A15B 32.5
43	625				6	1		7					7	625	EA.	LIGHT POLE W/10' BRACKET ARM DESIGN 11A10B 32.5

LIGHTING SUMMARY


248
384
FED. STATE PROJECT
OHIO
MAH.-80S-7.01
MAH.-80-2.30
LIGHTING PLAN
OHIO TURNPIKE INTERCHANGE
SCALE 1" = 100'
MATCH LINE SHEET No 249
RAMP "A"
RAMP "B"
CIRCUIT T-1
CIRCUIT T-2
CIRCUIT T-3
CIRCUIT T-4
CIRCUIT T-10
LINE "A"
LINE "B"
I-80
MAH-80-0240
SPECIAL TRENCH
TOLL PLAZA AREA
NOT INCLUDED IN THIS PROJECT
CIRCUIT T-10 DOWN SLOPE IN 3" Ø TYPE II OR III CONDUIT
LAST LIGHT CIRCUIT T-10
LAST LIGHT CIRCUIT T-2
NOTE: SEE SHEET No. 250 FOR OHIO TURNPIKE LIGHTING.

FED.RD	STATE	PROJECT	
	OHIO		

249
384

MAH-80S-7.01
MAH-80-2.30

LEGEND

(A) STEEL LIGHT POLE W/15' BRACKET ARM & 400 WATT MERCURY VAPOR LUMINAIRE W/INTEGRAL BALLAST, TYPE III (EXCEPT AS NOTED) DISTRIBUTION - 34.2' MOUNTING HEIGHT (M.L.)
(A) - Denotes Anchor Base 32.5' Mounting Height (M.L.)

(A) STEEL LIGHT POLE W/10' BRACKET ARM & 400 WATT MERCURY VAPOR LUMINAIRE W/INTEGRAL BALLAST, TYPE II DISTRIBUTION 34.2' MOUNTING HEIGHT (LINES).
(A) - Denotes Anchor Base 32.5' Mounting Height (Lines)

STEEL LIGHT POLE W/8' BRACKET ARM & 400 WATT MERCURY VAPOR LUMINAIRE W/INTEGRAL BALLAST, TYPE II DISTRIBUTION 34.2' MOUNTING HEIGHT (LINES & RAMPS).

STEEL LIGHT POLE W/12' BRACKET ARM & 400 WATT MERCURY VAPOR LUMINAIRE W/INTEGRAL BALLAST, TYPE III DISTRIBUTION (UNLESS OTHERWISE NOTED), 30.0' MOUNTING HEIGHT (M.L. BRIDGES)

STEEL LIGHT POLE W/10' BRACKET ARM & 400 WATT MERCURY VAPOR LUMINAIRE W/INTEGRAL BALLAST (TYPE II DISTRIBUTION (UNLESS OTHERWISE NOTED), 30.0' MOUNTING HEIGHT (LINE, BRIDGES)

LIGHT POLE SHOWN ON ANOTHER SHEET OR EXISTING AS NOTED.

EXISTING STEEL LIGHT POLE W/15' BRACKET ARM & 400 WATT MERCURY VAPOR LUMINAIRE W/REMOTE BALLAST, TYPE III DISTRIBUTION, 30.0' MOUNTING HEIGHT - TO BE REMOVED AND RESET.

EXISTING STEEL LIGHT POLE W/15' BRACKET ARM & 400 WATT MERCURY VAPOR LUMINAIRE W/REMOTE BALLAST, TYPE III DISTRIBUTION. TO BE RELOCATED OR REMOVED AS NOTED. 30.0' MOUNTING HEIGHT (EXIST. OHIO TURNPIKE.)

RELOCATED STEEL LIGHT POLE W/15' BRACKET ARM & 400 WATT MERCURY VAPOR LUMINAIRE W/REMOTE BALLAST, TYPE III DISTRIBUTION 30.0' MOUNTING HEIGHT (RELOCATED OHIO TURNPIKE).

TEMPORARY 40' WOOD POLE W/14' BRACKET ARM & 400 WATT MERCURY VAPOR LUMINAIRE W/INTEGRAL BALLAST, TYPE III DISTRIBUTION 32.6' MOUNTING HEIGHT (TEMPORARY RUNAROUND

TEMPORARY 35' WOOD POLE.

LEGEND (CONT'D)

13.5'T-1(4) OFFSET & LIGHTPOLE IDENTIFICATION - THE FIRST NUMBER (13.5) INDICATES THE OFFSET FROM THE EDGE OF PAVEMENT - THE LETTER AND NUMBER COMBINATION (T-1) INDICATES THE CIRCUIT NUMBER - THE LAST NUMBER (4) INDICATES THE POLE NUMBER WITHIN THE CIRCUIT
*See Ltg. Notes 625.06

DUCT CABLE - 600 VOLT, TWO INSULATED 1/C N°4 COPPER.

—#— LIGHTING CIRCUIT CABLE - 600 VOLT 1/C N°4 COPPER IN 2" TYPE II OR III CONDUIT THROUGH BRIDGES (SLASH MARKS INDICATE THE NUMBER OF CONDUCTORS)

—A#— AERIAL TRIPLEXED CABLE - 600 VOLT TWO INSULATED 1/C N°4 ALUMINUM & ONE BARE #4 ACSR.

—A#— AERIAL DUPLEXED CABLE - 600 VOLT ONE INSULATED 1/C N°6 & ONE BARE #6 ACSR.

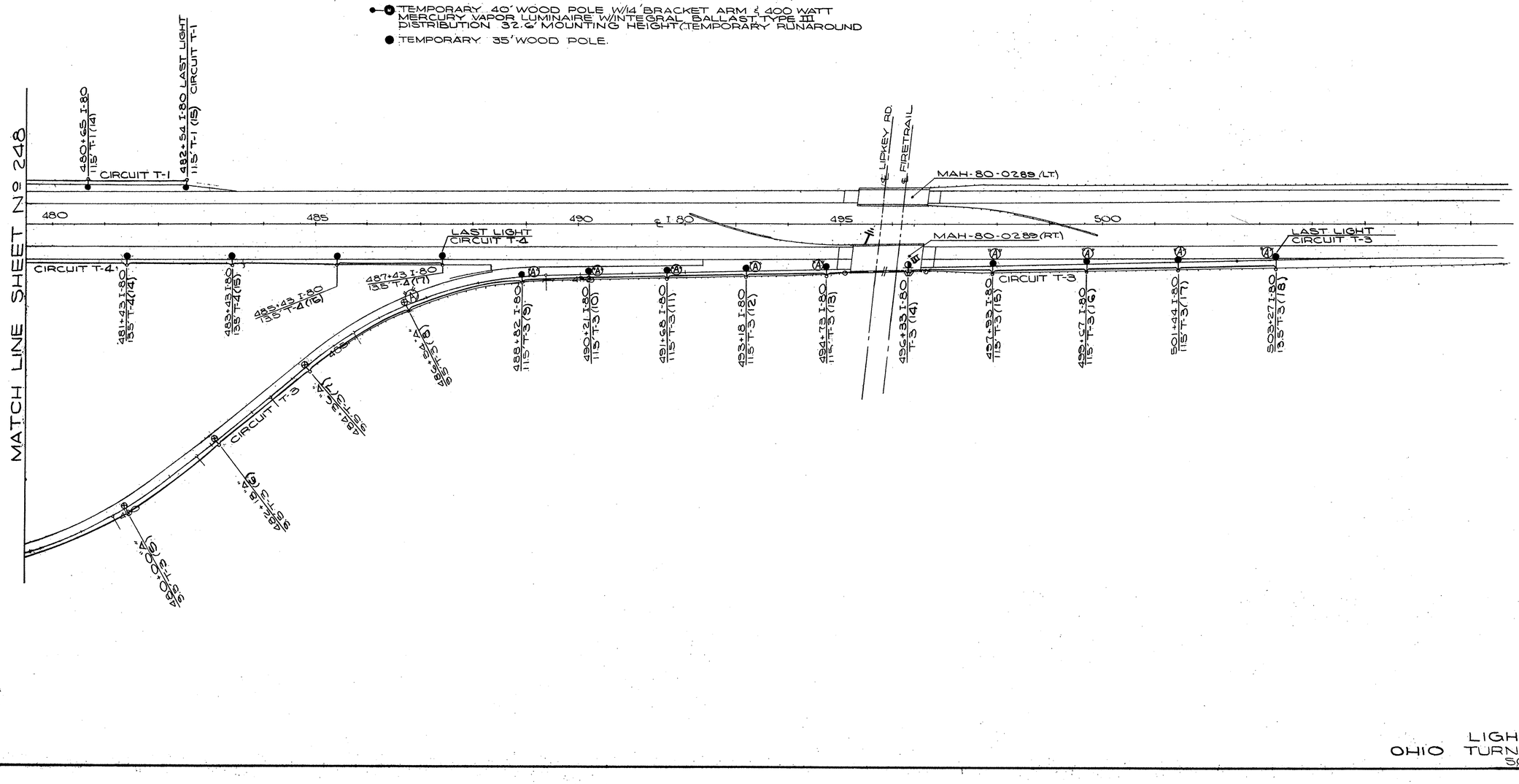
=#= LIGHTING CIRCUIT CABLE - 600 VOLT 1/C N°4 COPPER (SLASH MARKS INDICATE THE NUMBER OF CONDUCTORS) IN 3" TYPE II OR III CONDUIT UNDER ROADWAY.

○ 18" CIRCULAR BITUMINOUS FIBER PULL BOX

TEMPORARY 8" EXPANDABLE ANCHOR & 5/8" GALV. STEEL GUY WIRE (LEAD AS NOTED)

DUCT-CABLE - 600 VOLT, THREE INSULATED 1/C N°6 COPPER.

N



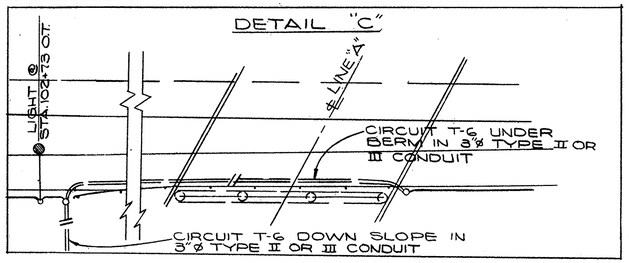
LIGHTING PLAN
OHIO TURNPIKE INTERCHANGE
SCALE: 1"=100'

FED.RD.	STATE	PROJECT	
	OHIO		

250
384

MAH-80S-7.01
MAH-80 - 2.30

DETAIL "C"



MATCH LINE

87+92 OT
135 T-5 (15)

90

℄ OHIO TURNPIKE

95

CIRCUIT T-8

20+02 OT
135 T-5 (14)

88+95 OT
135 T-8 (12)

30+95 OT
135 T-8 (11)

32+12 OT
135 T-5 (13)

32+55 OT
135 T-8 (10)

33+82 OT
135 T-5 (12)

34+35 OT
135 T-8 (9)

35+29 OT
135 T-5 (11)

96+60 OT
135 T-8 (8)

35+79 OT
135 T-8 (10)

38+19 OT
135 T-5 (9)

435

CIRCUIT T-9

39+60 OT
115 T-5 (8)

420+09 "A"
95 T-7 (10)

422+27 "A"
95 T-7 (9)

CIRCUIT T-7

424+45 "A"
95 T-7 (8)

425

426+53 "A"
95 T-7 (7)

428+24 "C"
C5 T-8 (4)

429+74 "C"
C5 T-8 (5)

RAMP "D"

428+19 "A"
95 T-7 (6)

430

CIRCUIT T-8

431+40 "A"
95 T-7 (5)

435

CIRCUIT T-7

434+80 "A"
95 T-7 (4)

LINE "A"

435+50 "A"
95 T-8 (1)

218+10 "A"

42+74 "C"

37+99 OT
115 T-6 (8)

100

CIRCUIT T-6

39+38 OT
135 T-6 (7)

101+03 OT
135 T-6 (6)

101+29 OT
135 T-6 (3)

CIRCUIT T-6 DOWN SLOPE IN 3"ø TYPE II OR III CONDUIT

438+59 "B"
95 T-5 (7)

LINE "B"

440+51 "B"
95 T-5 (6)

CIRCUIT T-6 DOWN SLOPE IN 3"ø TYPE II OR III CONDUIT

442+43 "B"
95 T-5 (5)

P.B. FOR SIGN @ (CONNECT SIGN TO CIRCUIT T-8)
STA. 444+52 "A"

444+35 "B"
95 T-5 (4)

445

445+81 "B"
95 T-5 (3)

447+05 "A"
100 T-5 (2)

448+15 "A"
120 T-5 (1)

TOLL PLAZA AREA

SPECIAL TRENCH

T-9
T-8
T-7
T-6
T-5

450

440

105

MAH-80-0186

103+38 OT
135 T-6 (4)

443+30 "A"
95 T-7 (3)

CIRCUIT T-6

CIRCUIT T-6

445+00 "A"
95 T-7 (1)

445

443+90 "D"
C5 T-5 (4)

RAMP "D"

442+46 "D"
75 T-5 (5)

107+58 OT
135 T-5 (5)

109+65 OT
135 T-5 (6)

440+35 "D"
135 T-5 (6)

111+68 OT
135 T-5 (7)

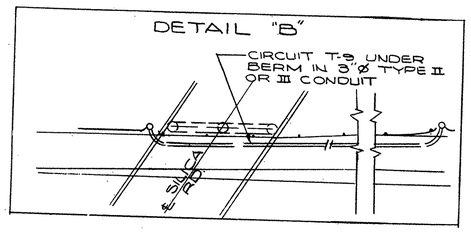
439+45 "D"
135 T-5 (8)

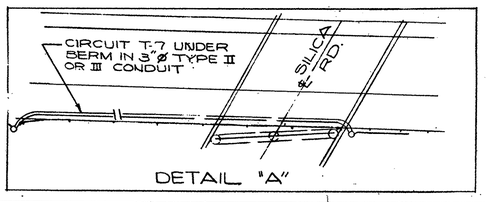
446+95 "D"
135 T-5 (9)

448+15 "A"
115 T-5 (11)

NOTE: SEE SHEET Nº 248 & 249 FOR I-80 LIGHTING

DETAIL "B"





DETAIL "A"

75

OHIO TURNPIKE

80

LAST LIGHT CIRCUIT T-5

LAST LIGHT CIRCUIT T-8

LAST LIGHT CIRCUIT T-7
72+89 OT
135 T-7 (15)

75+09 OT
135 T-7 (16)

SPECIAL TRENCH

P.B. FOR SIGN @
STA. 76+68 OT.

77+09 OT
135 T-7 (17)

78+60 OT
135 T-7 (16)

80+03 OT
135 T-7 (18)

LINE "A"

83+72 OT
135 T-5 (17)

B

CIRCUIT T-9

85+82 OT
135 T-5 (16)

84+55 OT
135 T-8 (14)

85

MATCH LINE

80+55 OT
135 T-8 (13)

413+55
135 T-7 (14)

82+37 OT
135 T-7 (13)

A

SILICA RD.

415+73 "A"
12 T-7 (12)

417+91 "A"
95 T-7 (11)

MAH-80-0137

MATCH LINE STA. 120+00

120+32 OT.
EXIST. LIGHT

120+36 OT.
T-5 (16)

CIRCUIT T-5

122+16 OT.
135 T-5 (17)

SPECIAL TRENCH

123+90 OT. LAST LIGHT CIRCUIT T-5

125

125+69 OT.
EXIST. LIGHT

MATCH LINE STA. 120+00

NOTE: SEE SHEET Nº 251 FOR EXISTING AND TEMPORARY OHIO TURNPIKE LIGHTING.

MAH-80S-0562

115+42 OT.
T-5 (15)

P.B. FOR SIGN @
STA. 116+60 OT.
135 T-5 (14)

115

SPECIAL TRENCH

113+69 OT
135 T-6 (14)

2" TYPE II OR III CONDUIT FOR FUTURE USE

116+89 OT
135 T-6 (15)

LAST LIGHT CIRCUIT T-6

111+49 OT
135 T-6 (13)

109+56 OT
135 T-6 (12)

107+93 OT
135 T-6 (11)

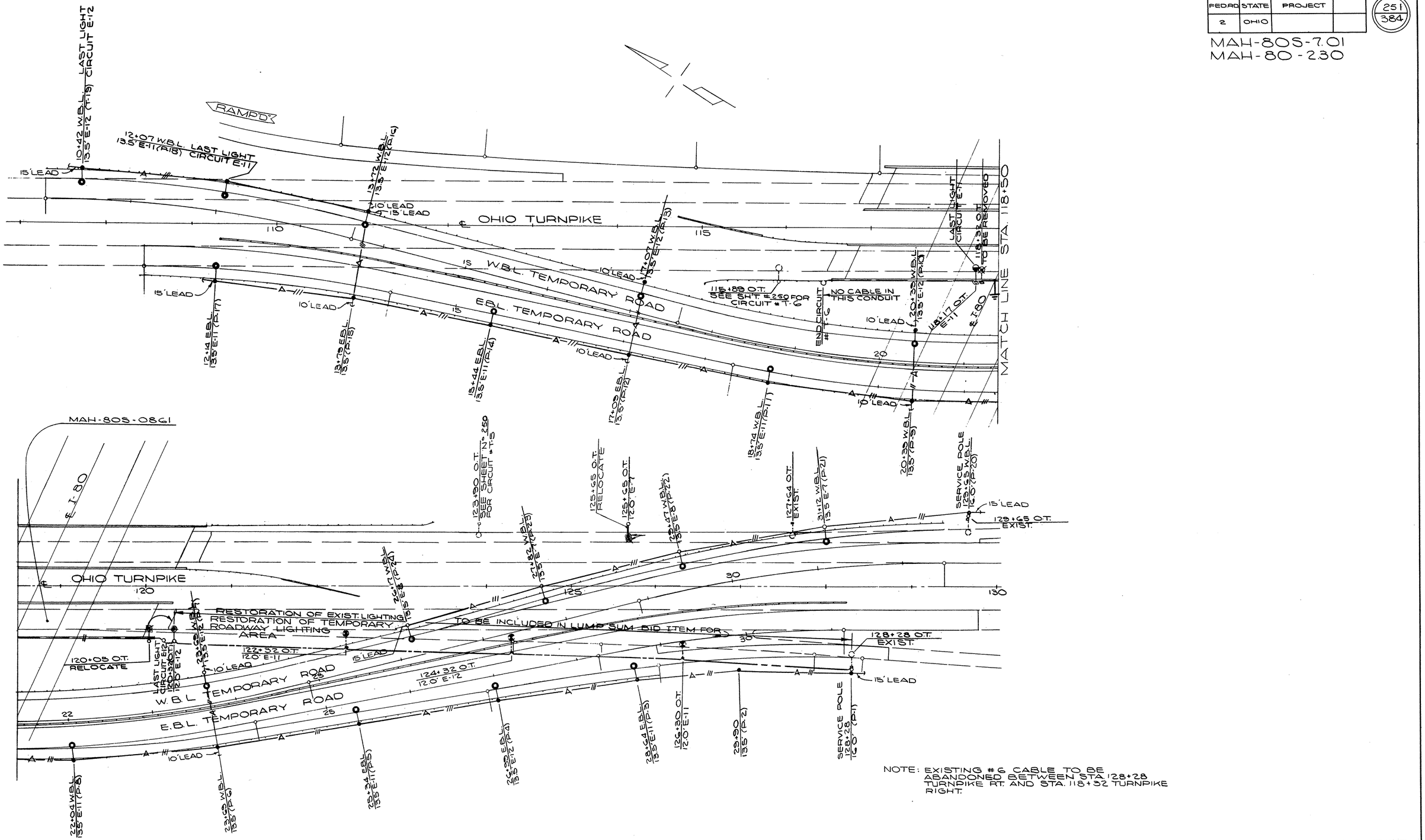
105+23 OT
135 T-6 (10)

LIGHTING PLAN
OHIO TURNPIKE INTERCHANGE
SCALE: 1"=100'

FED.RD.	STATE	PROJECT	
2	OHIO		

251
384

MAH-80S-7.01
MAH-80-2.30



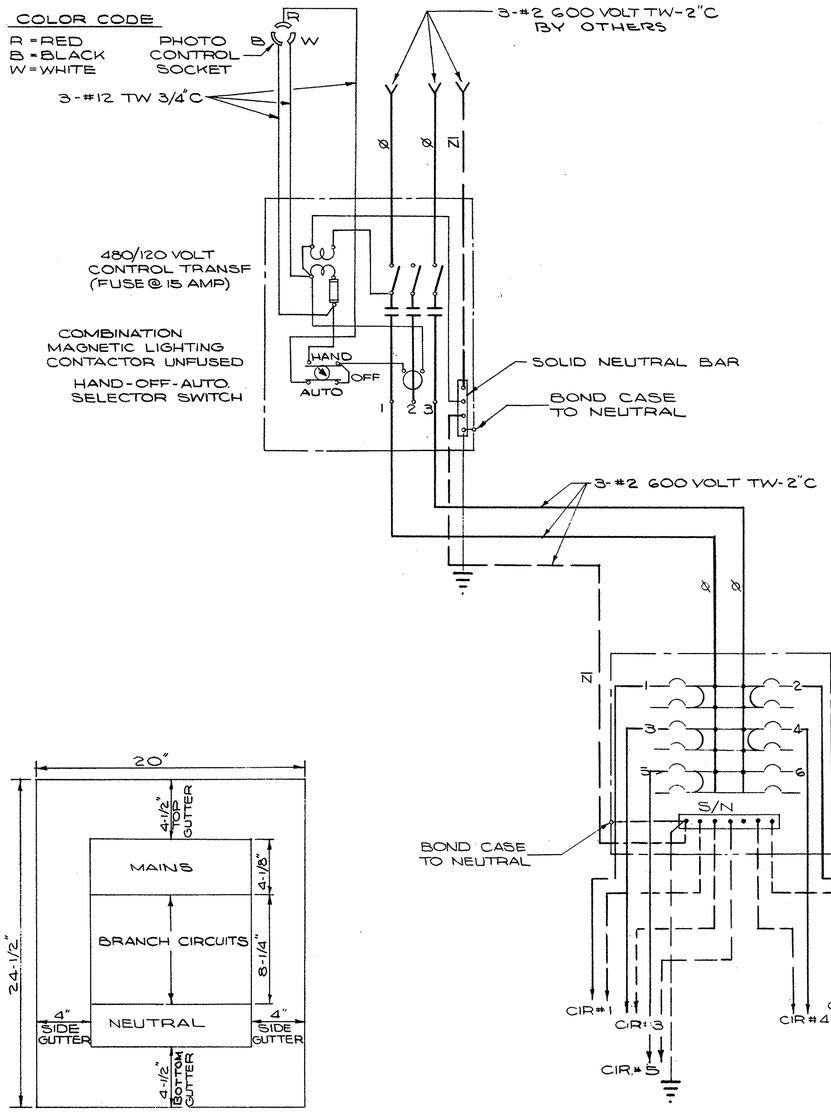
NOTE: EXISTING #6 CABLE TO BE ABANDONED BETWEEN STA. 128+28 TURNPIKE RT. AND STA. 118+32 TURNPIKE RIGHT.

EXIST. AND TEMPORARY OHIO TURNPIKE
ROADWAY LIGHTING
SCALE: 1"=50'-0"

FED RD	STATE	PROJECT	
2	OHIO		

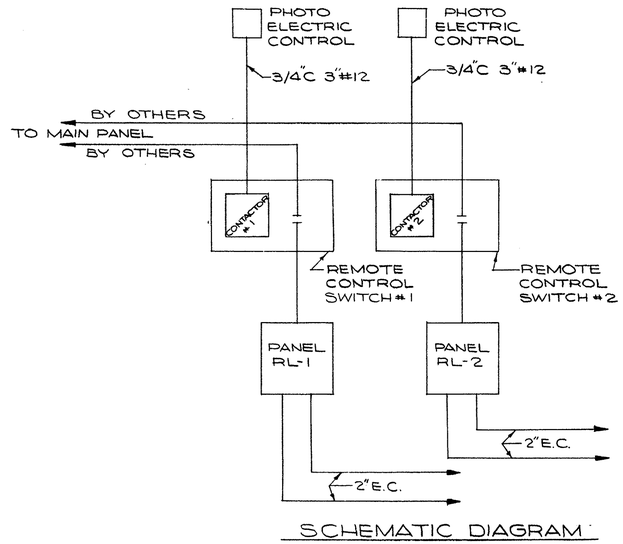
252/384

MAH-80S-7.01
MAH-80-2.30



WIRING DIAGRAM

1Ø 480 V. MULTIPLE LIGHTING CIRCUITS TYPICAL FOR PANELS RL-1 & RL-2



SCHEMATIC DIAGRAM

NOTE: BOX IS 5-3/4" DEEP
ALL DIMENSION SHOWN ARE INSIDE DIMENSIONS.

PANEL BOARD DETAIL
TYPE "NHDP"

PANEL RL-1

6-2 P."F" FRAME BREAKERS, 480 VOLT, 1Ø, 3 WIRE 225 A. MAIN LUGS ONLY, SOLID NEUTRAL BAR			
CIR. Nº	BREAKER	DESCRIPTION	CONN. LOAD
1	2P-50A	RDWY. LTG. CIR. Nº T-1	7880W
2		" " " " T-2	8784W
3		" " " " T-3	8136W
4		" " " " T-4	7684W
5		" " " " T-10	8784W
6		"	

PANEL RL-2

6-2 P."F" FRAME BREAKERS, 480 VOLTS, 1Ø, 3 WIRE 225 A. MAIN LUGS ONLY, SOLID NEUTRAL BAR			
CIR. Nº	BREAKER	DESCRIPTION	CONN. LOAD
1	2P-50A	RDWY LTG. CIR. Nº T-5	9,236W
2		" " " " T-7	9,688W
3		" " " " T-6	6,780W
4		" " " " T-8	6708W
5		" " " " T-9	7684W
6		" " " "	

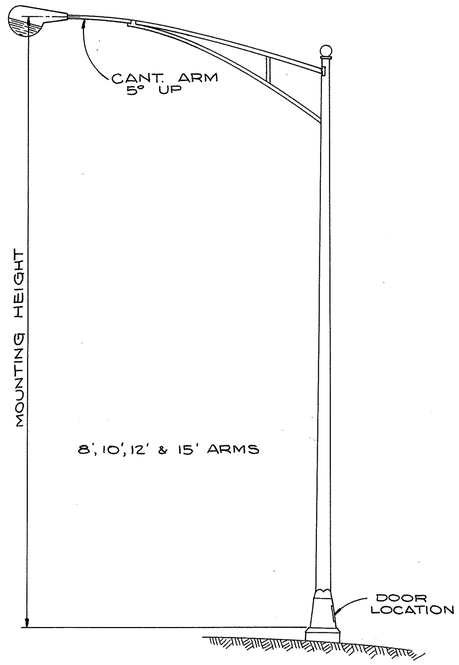
NOTE: CONNECT INCOMING 480 VOLT SERVICE GROUNDED AND UNGROUNDED, CONDUCTORS TO BUS BAR IN MAIN PANEL AND PANELS RL-1 AND RL-2. THE TWO POLE BRANCH BREAKERS WILL THEN INTERRUPT BOTH CONDUCTORS.

CONTROL CENTER DETAILS

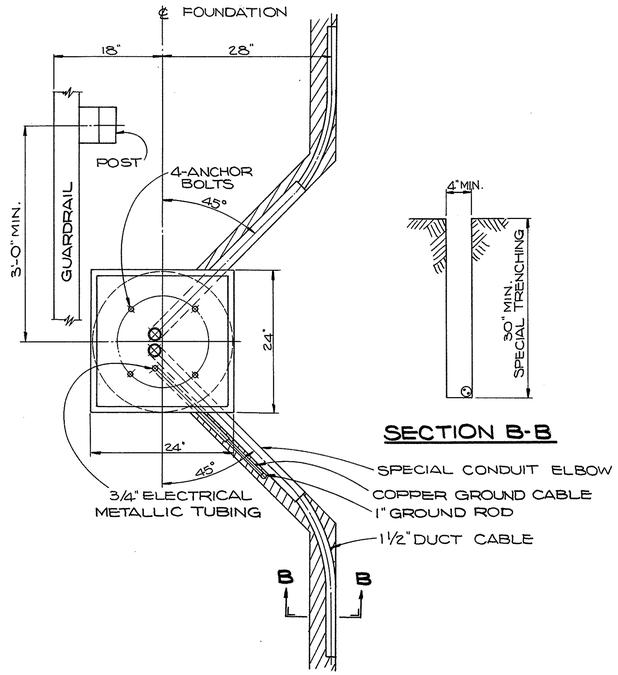
FED. RD.	STATE	PROJECT	
2	OHIO		

253
384

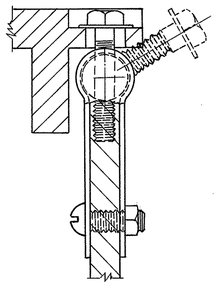
MAH 80S-7.01
MAH 80-2.30



LIGHT POLE ~ ROADWAY
SCALE: 1/4"=1'-0"



SPECIAL TRENCH ALIGNMENT
SCALE: 1"=1'-0"



ALTERNATE DESIGN
~CAPTIVE BOLT FOR PULL BOX~

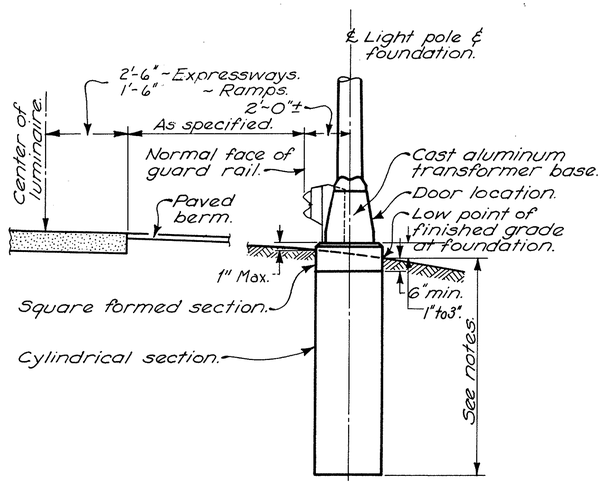
LIGHTING DETAILS

FORM DDA-5

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

254
384

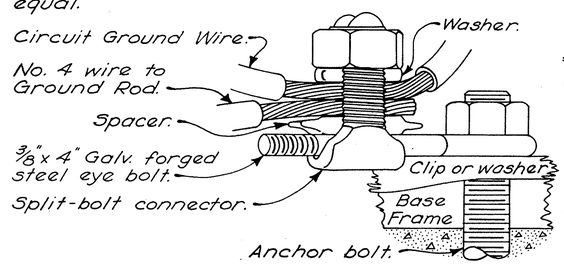
MAH-805-7.01
MAH-80 -2.30



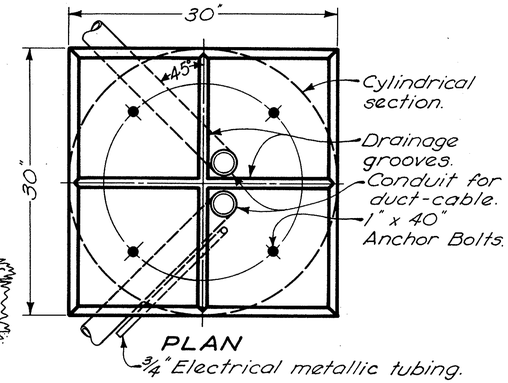
LOCATION OF POLE WITH OR WITHOUT ALUMINUM TRANSFORMER BASES

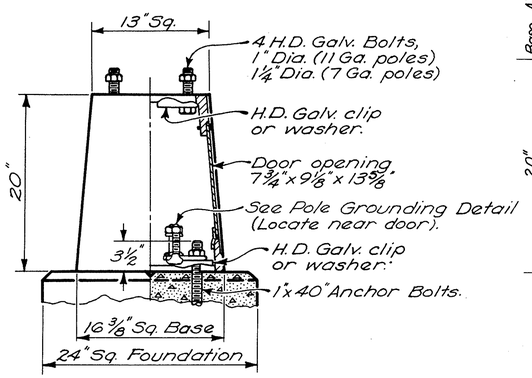
(Supersedes "Location of Light Pole Foundation" shown on Standard Drawing HL-1).

NOTE: Split-bolt Connector shall be made of tin plated copper alloy with tin plated spacer. Acceptable models are: Blackburn #10HPS, Burndy #KSU-25, Line Material #DK-5B-10, Kearney #118109-02 or an approved equal.

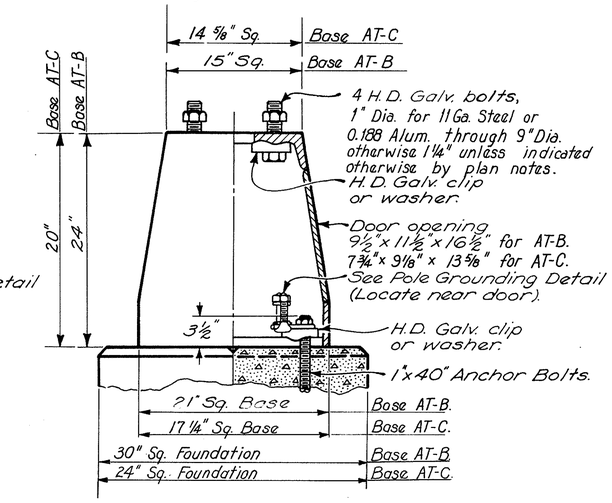


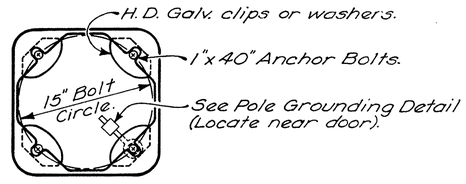
POLE GROUNDING DETAIL





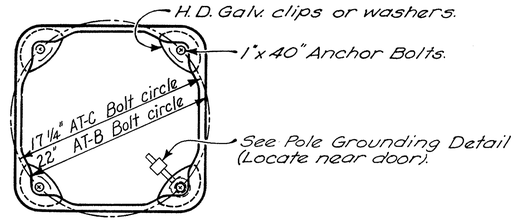
ELEVATION





BASE FRAME

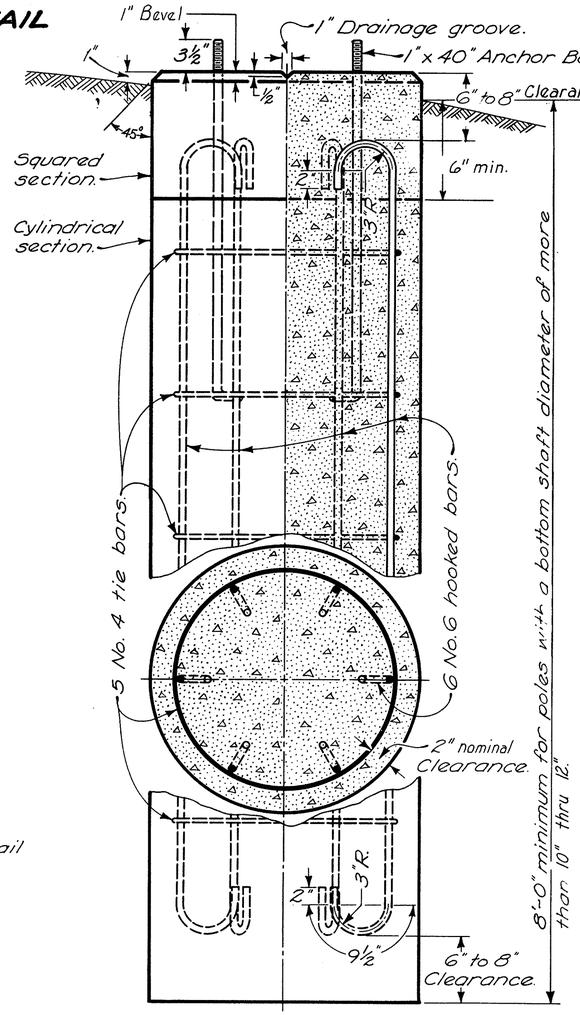
BASE AT-A



BASE FRAME

BASES AT-B and AT-C.

CAST ALUMINUM TRANSFORMER BASES



ELEVATION

30" FOUNDATION

NOTES

FOUNDATION: Foundations for light poles shall be poured-in-place concrete (vibrated and spaded 511.09). Each foundation must meet minimum depths as specified, but additional depth may be required by the Engineer because of existing soil conditions. The 30" foundation (detailed hereon) shall be used for light poles having a bottom shaft diameter of more than 10" through 12". The 24" foundation (detailed on Standard Drawing HL-1) shall be used for all light poles having a bottom shaft diameter of 6.0" through 10". See HL-1 for Foundation depth. Rotate reinforcing bars to clear conduit.

Drainage grooves on foundation top, as detailed hereon, shall be required on all foundations even though they do not appear on Standard Drawing HL-1.

ALUMINUM TRANSFORMER BASES: All bases shall be cast from ASTM B-26 or B-108 Alloy 5G 70A-T6.

Base AT-A shall be used with anchor base poles of 6" through 9.2" dia. inclusive, thru 32'-6" Mtg. Ht. Base AT-B shall be used for anchor base poles above 10" through 12" diameter. Base AT-C shall be used for anchor base poles with bottom diameter 9" through 10"*

The transformer bases shall be capable of resisting the following moments in foot pounds applied to the top of the base without collapsing or rupturing.

Style	Bolt Circle	Base Height	Moment-Foot Pounds	Arm Length
AT-A	15"	20"	40,000	15' Max.
AT-C	17¼"	20"	46,000	10' to 25'
AT-B	22"	24"	52,000	10' to 25'

Both the bottom of the cast steel pole base and the top of the aluminum transformer base shall be coated or painted with a heavy film of zinc rich paint (Federal Specification TT-P-641-Type II) to reduce galvanic action between the two dissimilar metals.

PAYMENT: 30" Light Pole Foundations shall be paid for at the unit price bid per each foundation.

Aluminum base complete with hardware, eye bolt and connector, zinc rich paint, and installation shall be included with ground-mounted poles for payment.

* AT-C Base can be used with 8" or 8½" dia. base poles, if desired, in order to reduce maintenance items.

Issued: 11-6-67

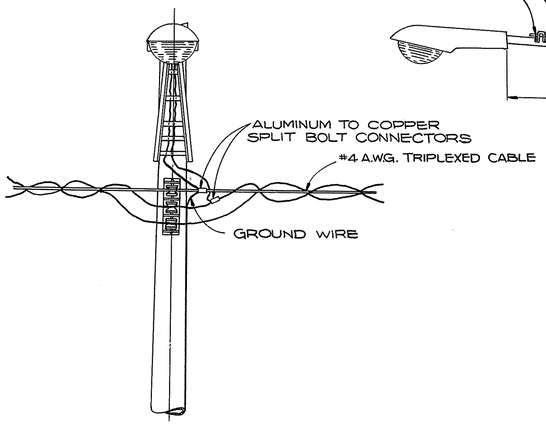
Design Services Sketch No. RL-SK-186

ALUMINUM TRANSFORMER BASE DETAILS

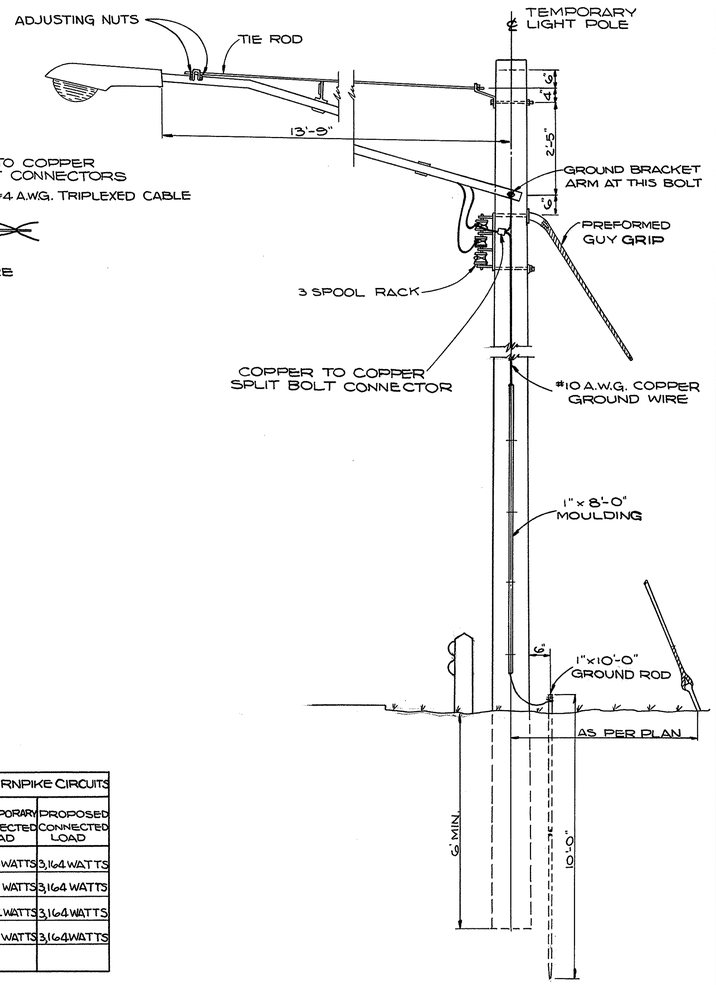
FED. RD.	STATE	PROJECT	
2	OHIO		

255
384

MAH 80S-7.01
MAH 80-2.30

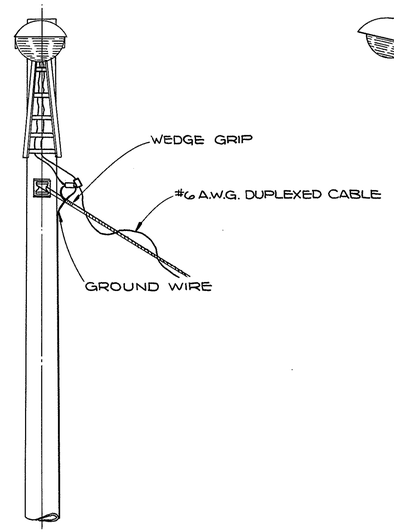


TEMPORARY
LIGHT POLE
~FRONT VIEW~

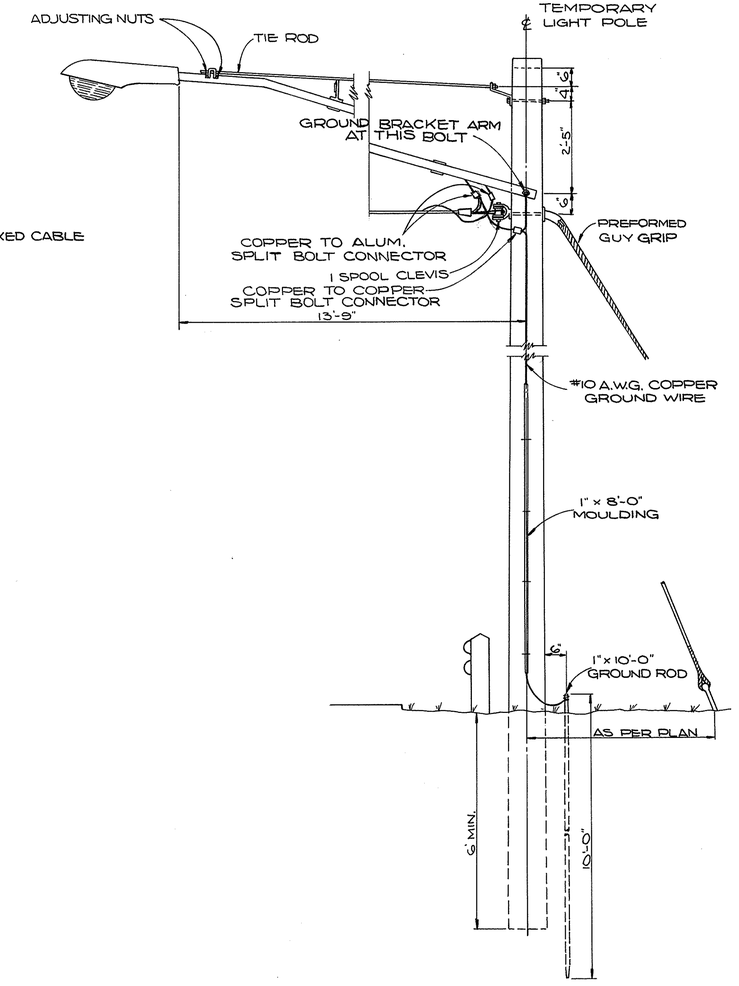


TEMPORARY LIGHT POLE
~SIDE VIEW~

CONNECTED LOADS-EXISTING OHIO TURNPIKE CIRCUITS				
CIRCUITS	DESCRIPTION	EXISTING CONNECTED LOAD	TEMPORARY CONNECTED LOAD	PROPOSED CONNECTED LOAD
7	ROADWAY LIGHTING	3,164 WATTS	4,068 WATTS	3,164 WATTS
8	" "	3,164 WATTS	4,068 WATTS	3,164 WATTS
11	" "	3,164 WATTS	4,972 WATTS	3,164 WATTS
12	" "	3,164 WATTS	4,972 WATTS	3,164 WATTS



TEMPORARY
LIGHT POLE
~FRONT VIEW~



TEMPORARY LIGHT POLE
~SIDE VIEW~

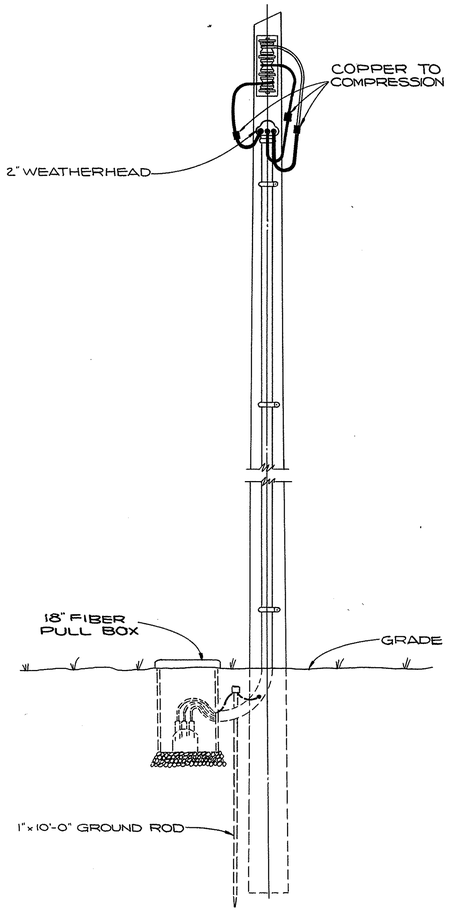
TEMPORARY LIGHTING POLE DETAILS

FORM DDA-8

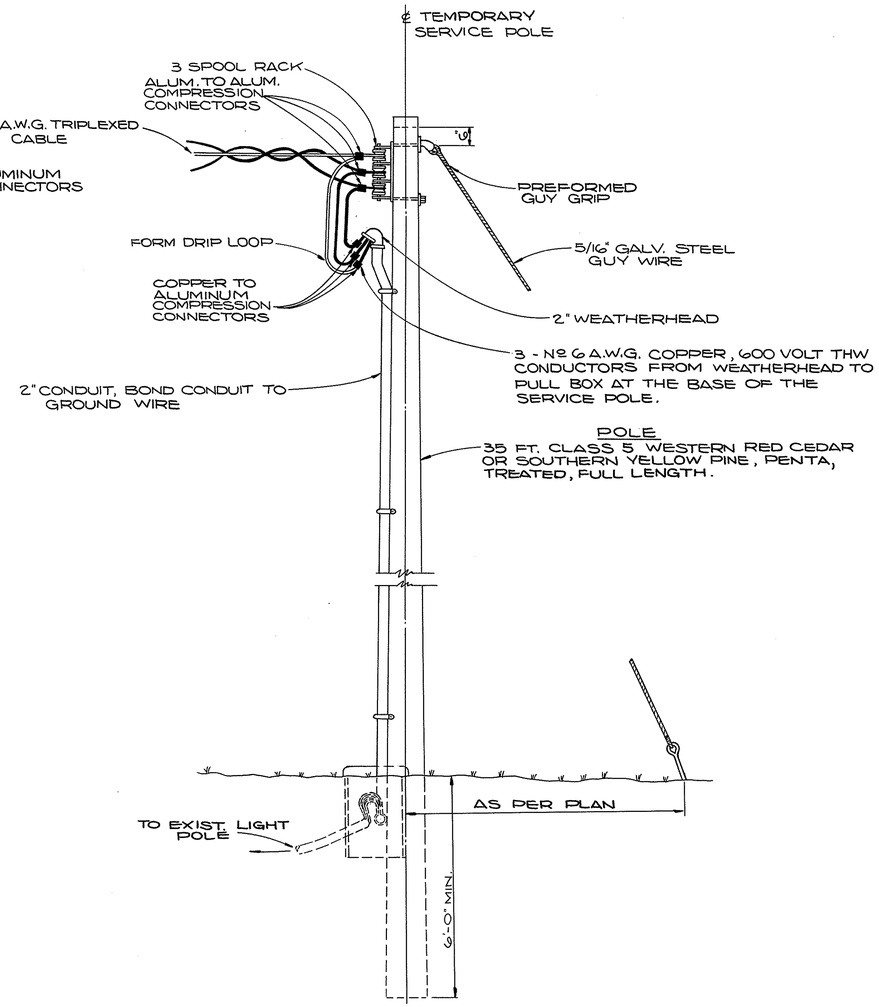
FED. RD.	STATE	PROJECT	
2	OHIO		

25G
384

MAH 80S-7.01
MAH 80-2.30



~FRONT VIEW~



TEMPORARY SERVICE POLE
~SIDE VIEW~
SCALE: 1/2"=1'-0"

TEMPORARY SERVICE POLE DETAILS

FORM DDA-5

GENERAL NOTES
SIGNING

FED. RD.	STATE	PROJECT	
2	OHIO		

257
384

MAH-80S-7.01
MAH-80-2.30

MATERIALS - GENERAL

MATERIALS TO BE FURNISHED MAY BE SPECIFIED IN THE PLANS BY A GIVEN MANUFACTURER'S CATALOG NUMBER OR TYPE. THIS IS FOR DESCRIPTIVE PURPOSES ONLY AND THE CONTRACTOR MAY ASSUME THAT APPROVED EQUAL MATERIALS MAY BE FURNISHED.

816 - STRUCTURAL SUPPORTS, STEEL BEAM (TYPE)

THE STRUCTURAL STEEL BEAM SUPPORTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123.

QUANTITIES FOR ITEM 816 "STRUCTURAL SUPPORTS, STEEL BEAM (TYPE)", APPEARING IN THE QUANTITY TABLES ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT SUPPORT LENGTHS PRIOR TO FABRICATION AND GALVANIZING OF SUPPORTS. PAYMENT SHALL BE AT THE CONTRACT UNIT PRICE BID PER LIN. FT. WHICH PRICE AND PAYMENT SHALL INCLUDE ALL COSTS IN CONNECTION WITH THE EMBEDMENT OF THE SUPPORTS.

THE COST OF THE CONCRETE USED FOR EMBEDMENT WILL BE A SEPARATE PAY ITEM.

816 - OVERHEAD SIGN SUPPORT, BY TYPE

ALL COMPONENT PARTS OF THE OVERHEAD SIGN SUPPORTS SHALL BE STEEL, EXCEPT FOR THE TRUSS AND COMPONENTS FOR THE NUMBER 7 SERIES WHICH SHALL BE ALUMINUM. FOR SPECIFIC DETAILS AND MATERIALS, SEE SHEET NUMBERS 270 THROUGH 274.

COST OF FURNISHING AND INSTALLING THE SIGN BRACKETS AND THE FIXTURE SUPPORT ARM, LENGTH "G" WITH MOUNTING HOLES AND HARDWARE SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS.

MODIFYING SUPPLEMENTAL SPECIFICATION 816,SWITCH ENCLOSURE MOUNTING BRACKETS INCLUDING MOUNTING BOLTS AND DRILLED HOLES SHALL BE FURNISHED AND INSTALLED UNDER PAYMENT FOR 816 OVERHEAD SIGN SUPPORT STRUCTURES AT THE CONTRACT PRICE PER OVERHEAD SIGN SUPPORT, BY TYPE.

PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT UNIT PRICE BID FOR EACH OVERHEAD SIGN SUPPORT, BY TYPE, INSTALLED IN PLACE AND ACCEPTED, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL ANCHOR BOLTS, 3/4" EMT, 2" GALV. STEEL CONDUIT ELLS, (FOR INSTALLATION UNDER 816 CONCRETE FOR OVERHEAD SIGN SUPPORT FOUNDATIONS), AND FOR FURNISHING AND INSTALLING EACH OVERHEAD SIGN SUPPORT STRUCTURE SHOWN ON SHEETS 270 THRU 274 INCLUDING FIXTURE SUPPORT ARMS, SWITCH ENCLOSURE MOUNTING BRACKET, SIGN BRACKETS AND ALL COMPONENT PARTS NECESSARY TO MAKE A COMPLETE WORKABLE INSTALLATION READY FOR SIGN ERECTION, INSTALLATION OF DISCONNECT SWITCH AND ENCLOSURE, GROUND ROD AND WIRE CONNECTIONS AND SIGN WIRING.

ERECTION OF THESE SUPPORTS SHALL BE ACCOMPLISHED IN A MANNER MEETING THE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 816.

816 - CONCRETE FOR SIGN SUPPORT FOUNDATIONS, BY TYPE

FOUNDATIONS SHALL BE CONSTRUCTED IN THE MANNER CALLED FOR UNDER SUPPLEMENTAL SPECIFICATION 816, CONCRETE SHALL BE CLASS "C".

PAYMENT FOR INSTALLATION ONLY OF THE 2 INCH GALVANIZED STEEL AND THE 3/4 INCH EMT CONDUIT ELLS WILL BE INCLUDED IN THIS ITEM. PAYMENT FOR FURNISHING THIS CONDUIT IS INCLUDED IN THE UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS.

PAYMENT FOR THIS ITEM SHALL BE PER CUBIC YARD BASED ON APPROVED PLAN DIMENSIONS OR DIMENSIONS AS MODIFIED BY THE ENGINEER IN LIEU OF PLAN QUANTITIES AS SPECIFIED IN SUPPLEMENTAL SPECIFICATION 816.

815 - SIGN ERECTION, BY TYPE

THE CONTRACTOR SHALL ERECT SIGN PANELS FURNISHED BY OTHERS AS NOTED ON THE SCHEMATIC SIGNING LAYOUT SHEET NUMBER (S) 260-264. THE PANELS SHALL BE MOUNTED ON THE BRACKETS OR BEAM SUPPORTS PROVIDED IN THE PLANS.

A SCHEDULE FOR SIGN ERECTION SHALL BE SUBMITTED TO THE DIVISION TRAFFIC ENGINEER,THE ENGINEER, BUREAU OF TRAFFIC, 450 EAST TOWN STREET, COLUMBUS, OHIO, AND THE OHIO TURNPIKE COMMISSION, 682 PROSPECT ROAD, BEREA, OHIO, 60 CALENDAR DAYS PRIOR TO THE START OF ANY SCHEDULED ERECTION WORK. THE SCHEDULE SHALL INCLUDE PROPOSED DATES, TIME, SIGN NUMBERS AND DELIVERY POINT.

THE PRICE BID PER SQUARE FOOT FOR, "ITEM 815, SIGN ERECTION, BY TYPE" SHALL INCLUDE ALL NECESSARY EQUIPMENT, MANPOWER AND TOOLS TO ERECT THE SIGNS NOTED. ALL SIGN MATERIAL AND ACCESSORIES WILL BE FURNISHED AND TRANSPORTED TO A DESIGNATED DELIVERY POINT, ON OR NEAR THE SUBJECT PROJECT BY OTHERS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE HANDLING AND STORAGE OF THE SIGN PANELS AND ACCESSORIES FROM THE TIME OF ARRIVAL AT THE DELIVERY POINT.

ELECTRICAL - GENERAL

THIS ITEM SHALL CONSIST OF FURNISHING ALL NECESSARY MATERIAL, LABOR AND FACILITIES REQUIRED TO COMPLETE THE ELECTRICAL INSTALLATION IN ACCORDANCE WITH THE DESIGNS, DIMENSIONS AND DETAILS SHOWN IN THE PLANS AND DESCRIBED IN THE SPECIFICATIONS.

ALL MATERIAL, WORKMANSHIP AND CONSTRUCTION METHODS, EXCEPT AS MODIFIED HEREIN, SHALL CONFORM TO THE GENERAL REQUIREMENTS OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, CONSTRUCTION AND MATERIALS SPECIFICATIONS, JANUARY 1, 1967.

ERECTION OF OVERHEAD SPAN TYPE SIGN SUPPORTS (7 SERIES)

IN ALL CASES, SPAN TYPE OVERHEAD SIGN SUPPORTS AND SIGNS SHALL BE ERECTED CONCURRENTLY. AT NO TIME SHALL THE BOX TRUSSES BE ERECTED WITHOUT THE SIGN BEING IN PLACE WITHIN EIGHT (8) HOURS.

625 - SIGN SERVICE

THIS ITEM SHALL CONSIST OF THE COMPLETION OF THE ELECTRICAL SYSTEM AND COMPONENTS CONNECTING THE CONNECTORS IN THE PULL BOX (INCLUDED WITHIN THE ROADWAY LIGHTING QUANTITIES) WITH THE PRIMARY SIDE OF THE DISCONNECT SWITCH.

WORK WILL INCLUDE THE FURNISHING AND INSTALLING (INCLUDING TRENCHING AND BACKFILLING) OF THE 2 INCH GALVANIZED STEEL CONDUIT AND COUPLINGS FROM THE PULL BOX TO THE CONDUIT ELL IN THE SIGN SUPPORT FOUNDATION.

THIS ITEM WILL ALSO INCLUDE THE FURNISHING AND INSTALLING OF THE 1/C 600 VOLT SERVICE WIRE FROM THE CONNECTORS TO THE DISCONNECT SWITCH.

BASIS OF PAYMENT FOR THIS ITEM SHALL BE AT CONTRACT UNIT PRICE PER EACH, WHICH SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

625 - DISCONNECT SWITCH WITH TYPE "Y" OR "Z" ENCLOSURE

THIS ITEM SHALL INCLUDE FURNISHING OF A 30 AMP. 600 VOLT FUSED DISCONNECT SWITCH OF TYPE AND MAKE AS INDICATED ON SHEET 258 & 259 AND SHALL BE MOUNTED IN A NEMA 4 STAINLESS STEEL ENCLOSURE TYPE "Y" OR "Z" AND ATTACHED TO EACH SIGN SUPPORT BY MEANS OF A MOUNTING BRACKET AS DESCRIBED IN DETAIL ON THE ABOVE SHEET.

EACH SWITCH ENCLOSURE SHALL BE FURNISHED WITH ONE PADLOCK. PADLOCKS SHALL HAVE A BRASS BODY AND WROUGHT IRON SHACKLE EQUAL TO RUSSWIN NO. 2882 KA OR MASTER NO. 4 KA OR APPROVED EQUAL.

BASIS OF PAYMENT FOR THIS ITEM SHALL BE PER EACH AT CONTRACT UNIT PRICE, WHICH SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT TO COMPLETE THIS ITEM OF WORK.

625 - TRANSFORMER, BY TYPE

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING TRANSFORMERS AS DETAILED AND SPECIFIED ON SHEET 277.

BASIS OF PAYMENT FOR THIS ITEM SHALL BE AT CONTRACT UNIT PRICE PER EACH, WHICH SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED FOR THIS COMPLETE ITEM OF WORK.

625 - BALLAST, BY TYPE

BALLAST FOR FIXTURES SHALL BE WEATHER-PROOF OUTDOOR TYPE FOR A 120 VOLT 60 CYCLE SYSTEM AND SHALL PROVIDE LAMP STARTING AT AN AMBIENT TEMPERATURE OF -20° F.

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING ALL BALLAST TYPES A THROUGH D AS DETAILED AND SPECIFIED ON SHEET 276.

BASIS OF PAYMENT FOR THIS ITEM SHALL BE AT CONTRACT UNIT PRICE PER EACH. FURNISHED TO THE JOB FOR INSTALLATION UNDER ITEM 625 "SIGNS WIRED, COMPLETE".

625 - SIGNS WIRED, COMPLETE

THIS ITEM SHALL CONSIST OF THE COMPLETION OF THE ELECTRICAL SIGN LIGHTING SYSTEM FOR EACH ILLUMINATED SIGN.

WORK SHALL INCLUDE, INSTALLATION OF LIGHT FIXTURES AND BALLASTS, AND FURNISHING AND INSTALLATION OF ALL RIGID AND FLEXIBLE CONDUIT, CONDULETS, JUNCTION BOXES, CABLE, FASTENERS, HARDWARE, AND ALL OTHER ITEMS REQUIRED TO ENERGIZE THE SIGN LIGHTING SYSTEM. SEE DETAILS ON SHEETS 275 - 277.

THE COST OF FURNISHING AND INSTALLING CABLE, CABLE GRIPS, CABLE SPLICE UNITS, AND NECESSARY FASTENERS FROM THE DISCONNECT SWITCH TO THE SIGNS (OR BETWEEN SIGNS) WITHIN SIGN SUPPORT MEMBERS SHALL BE INCLUDED IN THIS ITEM OF WORK.

BASIS OF PAYMENT SHALL BE AT THE CONTRACT UNIT PRICE PER EACH SIGN WIRED WHICH PRICE SHALL INCLUDE ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND OTHER INCIDENTALS TO PROVIDE A COMPLETE AND ACCEPTED ITEM OF WORK.

ILLUMINATED SIGNS REQUIRING TWO (2) BALLASTS SHALL BE CONSIDERED AS AN EQUIVALENT OF TWO (2) SEPARATE SIGNS FOR DETERMINATION OF PAYMENT QUANTITIES.

625 - LIGHT FIXTURE WITH LAMP, BY TYPE AND SIZE

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING ALL LIGHT FIXTURES AND LAMPS, TYPES AND SIZES AS SPECIFIED ON SHEET 276.

BASIS OF PAYMENT FOR THIS ITEM SHALL BE AT CONTRACT UNIT PRICE PER EACH, FURNISHED TO THE JOB FOR INSTALLATION UNDER ITEM 625 SIGNS WIRED, COMPLETE.

625 - GROUND ROD UNITS

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING GROUND ROD AND CABLE AS DETAILED AND SPECIFIED ON SHEET 277.

BASIS OF PAYMENT FOR THIS ITEM SHALL BE AT CONTRACT UNIT PRICE PER EACH, WHICH SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

816-Breakaway Sign Support Connections
This item shall include the cutting and drilling of the beam, the furnishing, welding, and assembly of the base and fuse plate for each beam.
The basis of payment for this item shall be per each (beam) at the contract unit price which shall include all labor, material, and equipment required to provide a complete breakaway beam in accordance with the plans and specifications.

INSPECTION AND TESTING OF SIGN LIGHTING

THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT NECESSARY TO DEMONSTRATE TO THE ENGINEER THAT ALL CIRCUITS ARE FREE FROM SHORT CIRCUITS AND UNSPECIFIED GROUNDS, AND ARE PROPERLY CONNECTED AND OPERABLE BEFORE ACCEPTANCE. THIS DEMONSTRATION SHALL INCLUDE A MEGGERING TEST TO SHOW THAT ALL CONDUCTORS ARE CLEAR OF GROUNDS AND THAT THE RESISTANCE AT THE GROUND IS NOT MORE THAN 25 OHMS. VOLTAGE AND AMPERAGE TESTS SHALL BE MADE AT THE SIGN SUPPORT SWITCH.

PAYMENT FOR THESE TESTS SHALL BE CONSIDERED A SUBSIDIARY WORK ITEM, INCLUDED IN THE UNIT PRICE BID FOR THE RESPECTIVE ITEMS TESTED.

AFTER THE SIGN LIGHTING SYSTEM IS COMPLETED, THE ENTIRE SYSTEM SHALL BE OPERATED CONTINUOUSLY EACH NIGHT UNTIL SEVEN (7) CONSECUTIVE DAYS ELAPSE WITHOUT FAILURE OR DEFECT. THE CONTRACTOR SHALL CORRECT ANY DEFECTS WHICH MAY DEVELOP AT NO EXTRA COST TO THE STATE.

DURING THE TEST PERIOD, ADJUSTMENTS TO FIXTURE AIMING ANGLES SHALL BE MADE AS DIRECTED BY THE ENGINEER TO OBTAIN MAXIMUM UNIFORMITY IN SIGN ILLUMINATION.

UNDERGROUND UTILITIES

EXTREME CAUTION SHOULD BE EXERCISED IN AREAS WITH UNDERGROUND ELECTRICAL CONDUIT OR CABLE, SEWERS, DRAINS, WATER LINES, OR OTHER UNDERGROUND UTILITIES.

THE CONTRACTOR IS FULLY RESPONSIBLE FOR ALL DAMAGE INFLICTED ON (UNDERGROUND) UTILITIES IN THE EXCAVATION AND PLACEMENT OF SIGN SUPPORT FOUNDATIONS, PROTECTIVE GUARDRAIL, DELINEATORS AND THE LIKE.

CERTIFICATION AND APPROVAL OF SIGN SUPPORT & SIGN LIGHTING ITEMS

THE CONTRACTOR SHALL SUBMIT THROUGH PROPER CHANNELS THE DRAWINGS, INFORMATION, & SAMPLES AS REQUIRED BELOW:

A. 6 COPIES OF SHOP DRAWINGS & MATERIAL LISTS FOR APPROVAL:
   1. OVERHEAD SIGN SUPPORTS
   2. SIGN LIGHTING LAYOUT PLAN & DETAILS FOR WIRING, CONDUIT SIZE AND PLACEMENT FROM SIGN DISCONNECT SWITCH TO FIXTURE.

B. 10 COPIES OF CATALOG CUTS,DESCRIPTION OF SAMPLES OF FABRICATORS STANDARD ITEMS AS SHOWN IN THE PLANS OR THEIR EQUALS FOR APPROVAL OF THEIR USE.

C. CERTIFICATIONS AND/OR SAMPLES FOR ALL MATERIAL WHICH HAVE BEEN APPROVED ABOVE UNDER "A" AND "B".

D. APPROVAL OF ITEMS UNDER "A" AND "B" SHALL BE IN THE HAND OF THE CONTRACTOR PRIOR TO ANY PURCHASE OR INSTALLATION.

E. CERTIFICATIONS OF SAMPLES UNDER "C" MUST BE IN HAND AND APPROVED PRIOR TO CONTRACT COMPLETION.

RESTORATION OF DISTURBED AREAS

THE CONTRACTOR SHALL REPLACE ALL MEDIAN PAVEMENT, SEEDED AND SODDED AREAS, PAVED SHOULDERS, AND ALL THE OTHER DISTURBED SURFACES TO A CONDITION EQUAL TO THAT EXISTING BEFORE THE WORK WAS STARTED. ALL REPLACEMENTS SHALL BE DONE IN ACCORDANCE WITH THE PERTINENT SPECIFICATION ITEMS AND AS DIRECTED BY THE ENGINEER. PAYMENT FOR ALL RESTORATION WORK, INCLUDING MATERIALS, EQUIPMENT, LABOR, INCIDENTALS AND DISPOSAL OF ALL SURPLUS MATERIALS, SHALL BE INCLUDED IN THE UNIT PRICES BID FOR ITEMS 816.

816 - ALTERNATE DESIGNS FOR OVERHEAD SIGN SUPPORTS

IF THE CONTRACTOR DESIRES TO FURNISH AN ALTERNATE DESIGN FOR OVERHEAD SIGN SUPPORTS, THE ALTERNATE DESIGNS MUST BE SUBMITTED TO THE STATE AT LEAST 21 DAYS PRIOR TO OPENING OF BIDS. THE BIDDER WILL BE NOTIFIED AS TO ACCEPTANCE OR REJECTION OF ALTERNATE DESIGN AT LEAST 7 DAYS BEFORE BIDS ARE TO BE OPENED. ALTERNATE DESIGNS MUST UTILIZE TUBULAR STRUCTURAL MEMBERS. SUBMISSIONS SHALL BE MADE TO OHIO DEPARTMENT OF HIGHWAYS, BUREAU OF TRAFFIC, 450 EAST TOWN STREET, COLUMBUS, OHIO 43216.

816 - ROCK-EXCAVATION

WHERE SOLID ROCK IS ENCOUNTERED IN EXCAVATION FOR SIGN SUPPORT FOUNDATIONS, THE DEPTH TO BE EXCAVATED BELOW ROCK SURFACE MAY BE DECREASED,AS DIRECTED BY THE ENGINEER,A MAXIMUM OF THIRTY-FIVE (35) PERCENT OF DEPTH SPECIFIED IN THE PLANS.

MAINTENANCE OF TRAFFIC ON OHIO TURNPIKE

THE CONTRACTOR SHALL BE SUBJECT TO ALL RULES AND REGULATIONS AS SET FORTH BY SHEET NO. 14, OHIO TURNPIKE, MAINTENANCE OF TRAFFIC.

IN ADDITION TO THE ABOVE, THE CONTRACTOR SHALL BE PERMITTED SPECIAL ACCESS TO THE OVERHEAD SIGN SITES ON THE TURNPIKE, VIA THE TURNPIKE, FOR EQUIPMENT AND MATERIALS, SUBJECT TO APPROVAL BY THE CHIEF ENGINEER, OF THE OHIO TURNPIKE COMMISSION.

ALSO, SIGN SUPPORT STRUCTURES TO BE CONSTRUCTED ADJACENT TO TRAFFIC LANES, AND REQUIRING NEW GUARDRAIL, SHALL HAVE THE GUARDRAIL CONSTRUCTED, PRIOR TO THE CONSTRUCTION OF THE SIGN STRUCTURE.

QUANTITY SUMMARY

TRAFFIC CONTROL

FED.RD.	STATE	PROJECT	
	OHIO		

258
384

MAH-80S-7.01
MAH-80-2.30

ITEM	SIGN REFERENCE NUMBERS — SHT. Nº 260												115/116	SIGN REFERENCE NUMBERS — SHT. Nº 261																SIGN REFERENCE Nºs — SHT. Nº 262				
	1	2a	2b	3	4	20	100	101	102a	102b	103a	103b		5	6a	6b	7a	7b	8a	8b	8c		104	105	106	107	108	109		9	10		110
606		275													275		275																
625															1	3	1	3	2														
625															1		1																
625																				2													
625																				1													
625																1		1															
625															1	1	1	1	1														
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625																	1																
625															1																		
625															1			1		1													
625															1			1		1													
625															3		3		2														
815	238	120	210	78	126	154								220	1785	200	178.5	200	110.5	91									210	126		
815							12	12	20	16	4.5	10.5	15/15										16	20	20	16	16	20					16
816		1																															
816															1		1																
816																			1														
816													12/12																				
816							16	16			17												18			18	18						18
816									44															17	17			17					
816				42	48																									47			
816	95					58								83															83				
816		9													9.5		9.5		9.5														
816	3.5			2.5	2.5	3.0	0.1	0.1	0.2		0.1		0.1/0.1	4.5									0.1	0.1	0.1	0.1	0.1	0.1		4.5	2.5		0.1
816				2	2																												

NOTE: SIGN SIZES TO BE OHIO TURNPIKE COM. & STATE FUNDS - SEE SHEET Nº 259 FOR QUANTITIES.

NORMAL PARTICIPATION ITEM	SUB-TOTAL	UNIT	DESCRIPTION
606	825	LIN. FT.	GUARD RAIL, TYPE 4 MODIFIED AS PER PLAN
625	10	EACH	72" LIGHT FIXTURE WITH SHO LAMP
625	2	EACH	96" LIGHT FIXTURE WITH SHO LAMP
625	2	EACH	72" LIGHT FIXTURE WITH HO LAMP
625	1	EACH	SIGN BALLAST, TYPE "B"
625	2	EACH	SIGN BALLAST, TYPE "C"
625	5	EACH	SIGN BALLAST, TYPE "D"
625	1	EACH	1.00 KVA 480/120 VOLT TRANSFORMER
625	1	EACH	1.50 KVA 480/120 VOLT TRANSFORMER
625	1	EACH	1.50 KVA 480/120 VOLT TRANSFORMER W(2)5% LOW VOLTAGE TAPS
625	3	EACH	30 AMPERE FUSEABLE DISCONNECT SWITCH W/TYPE "Z" ENCLOSURE
625	3	EACH	GROUND ROD UNITS
625	8	EACH	SIGNS WIRED COMPLETE
815	2440.5	SQ. FT.	SIGN ERECTION - EXTRU. SHEET TYPE
815	202	SQ. FT.	SIGN ERECTION - FLAT SHEET TYPE
816	1	EACH	OVERHEAD SIGN SUPPORT, Nº 7.4, DESIGN 1, 54' SPAN
816	2	EACH	OVERHEAD SIGN SUPPORT, Nº 7.5, DESIGN 2 (MODIFIED) 73' SPAN
816	1	EACH	OVERHEAD SIGN SUPPORT, Nº 7.5, DESIGN 4 (MODIFIED) 94' SPAN
816	24	LIN. FT.	STRUCTURAL SUPPORT - 4" STEEL DRIVE POST
816	121	LIN. FT.	STRUCTURAL SUPPORT - 6" BEAM
816	90	LIN. FT.	STRUCTURAL SUPPORT - 8" BEAM
816	137	LIN. FT.	STRUCTURAL SUPPORT, STEEL BEAM, TYPE 10 WF 21
816	319	LIN. FT.	STRUCTURAL SUPPORT, STEEL BEAM, TYPE 12 - WF - 31
816	37.5	CU. YDS.	CONCRETE FOR OVERHEAD SIGN SUPPORT FOUNDATIONS
816	24.4	CU. YDS.	CONCRETE FOR GROUND MOUNTED SIGN SUPPORT FOUNDATIONS
816	4	EACH	BREAKAWAY SIGN SUPPORT CONNECTION

GENERAL SUMMARY
TRAFFIC CONTROL

FED.RD.	STATE	PROJECT	
	OHIO		

259 / 384

MAH-80S-7.01
MAH-80-2.30

★ This quantity carried to General Summary Sht. 28
✱ This quantity carried to General Summary Sht. 29

TYPE CODE 7221

STATE FUNDS

ITEM	SUB-TOTAL FROM SHT. Nº 258	SIGN REFERENCE NUMBERS SHT. Nº 263 11a	11b	12	118/119	111a	111b	112	113	114a	114b	TOTALS FROM SHT. Nº 269	TOTAL I FUNDS	SIGN REFERENCE NUMBERS SHT. Nº 264 8c	13a	13b	14	15a	15b	16a	16b	17a	17b	18a	18b	18c	19	TOTAL STATE FUNDS (INCL. SHT. Nº 269)	I.G. FUNDS SHT. Nº 269	GRAND TOTAL ITEM	QUANTITY	UNIT	DESCRIPTION
606	825	50											875 ★																	606		LIN. FT.	(GUARD RAIL, TYPE 4, MODIFIED AS PER PLAN)
															50			137.5		275		125		275			137.5	1000 ★		606		LIN. FT.	(GUARD RAIL, TYPE 4 WITH STEEL POSTS)
620												105	105																17	620	122	EACH	MONO-DIRECTIONAL DELINEATORS, TYPE "A-1" POST MOUNTED
620												2	2																3	620	5	EACH	MONO-DIRECTIONAL DELINEATORS, TYPE "A-1" BRACKET MOUNTED
620												174	174																	620	174	EACH	MONO-DIRECTIONAL DELINEATORS, TYPE "C-2" POST MOUNTED
620												5	5																	620	5	EACH	MONO-DIRECTIONAL DELINEATORS, TYPE "C-2" BRACKET MOUNTED
621												13.45	13.45																1.36	621	14.81	MILES	4" EDGE LINES
621												0.03	0.03																	621	0.03	MILES	4" LANE LINES
621												0.26	0.26															0.04		621	0.30	MILES	4" CENTER LINES
621												1.98	1.98																0.26	621	2.23	MILES	6" LANE LINES
621												0.34	0.34																	621	0.34	MILES	8" CHANNELIZING LINES
621												LUMP	LUMP																	621	LUMP	LUMP	CURB ISLAND MARKING
621												LUMP	LUMP																	621	LUMP	LUMP	BROAD TRANSVERSE STRIPES
625	10												10				2	2	2	3	2	3	2	2	2	2	2	24		625	34	EACH	72" LIGHT FIXTURE WITH SHO LAMP
625	2												2																	625	2	EACH	96" LIGHT FIXTURE WITH SHO LAMP
625	2												2	1														1		625	3	EACH	72" LIGHT FIXTURE WITH HO LAMP
														1	1	1												3		625	3	EACH	96" LIGHT FIXTURE WITH HO LAMP
625															1	1												2		625	2	EACH	SIGN BALLAST, TYPE "A"
625	1												1	1														1		625	2	EACH	SIGN BALLAST, TYPE "B"
625	2												2							1		1						2		625	4	EACH	SIGN BALLAST, TYPE "C"
625	5												5				1	1	1	1	1	1	1	1	1	1	1	11		625	16	EACH	SIGN BALLAST, TYPE "D"
625															1													2		625	2	EACH	.50 KVA 480/120 VOLT TRANSFORMER
625														1			1										1	2		625	2	EACH	.75 KVA 480/120 VOLT TRANSFORMER
625	1												1																	625	1	EACH	1.00 KVA 480/120 VOLT TRANSFORMER
625	1												1					1				1						2		625	3	EACH	1.50 KVA 480/120 VOLT TRANSFORMER
625	1												1							1								1		625	2	EACH	1.50 KVA 480/120 VOLT TRANSFORMER W(2)5% LOW VOLTAGE TAPS
625																								1				1		625	1	EACH	2.00 KVA 480/120 VOLT TRANSFORMER
625														1	1		1										1	4		625	4	EACH	30 AMPERE FUSEABLE DISCONNECT SWITCH W/TYPE "Y" ENCLOSURE
625	3												3					1		1		1		1				4		625	7	EACH	30 AMPERE FUSEABLE DISCONNECT SWITCH W/TYPE "Z" ENCLOSURE
625	3												3	1	1		1	1		1		1		1			1	8		625	11	EACH	GROUND ROD UNITS
625	8												8	1	2		1	2		3		3		3			1	16		625	24	EACH	SIGNS WIRED COMPLETE
815	2440.5	90	210	35									2776	119	50	50	256	154	182	220	132	220	132	154	182	132	156	2139		815	4915	SQ.FT.	SIGN ERECTION - EXTRU. SHEET TYPE
815	202				1.5/1.5	4.5	9.0	12	12	20	16		279																	815	279	SQ.FT.	SIGN ERECTION - FLAT SHEET TYPE
816		1											1																	816	1	EACH	OVERHEAD SIGN SUPPORT, Nº 7.4, DESIGN 1 (MODIFIED) 54' SPAN
816																		1										1		816	1	EACH	OVERHEAD SIGN SUPPORT, Nº 7.4, DESIGN 1 (MODIFIED) 52' SPAN
816	1												1																	816	1	EACH	OVERHEAD SIGN SUPPORT, Nº 7.4, DESIGN 1 54' SPAN
816																				1								1		816	1	EACH	OVERHEAD SIGN SUPPORT, Nº 7.4, DESIGN 1 (MODIFIED) 60' SPAN
816																						1						1		816	1	EACH	OVERHEAD SIGN SUPPORT, Nº 7.4, DESIGN 1 (MODIFIED) 61' SPAN
816	2												2																	816	2	EACH	OVERHEAD SIGN SUPPORT, Nº 7.5, DESIGN 2 (MODIFIED) 73' SPAN
816																								1				1		816	1	EACH	OVERHEAD SIGN SUPPORT, Nº 7.5, DESIGN 1 (MODIFIED) 57' SPAN
816	1												1																	816	1	EACH	OVERHEAD SIGN SUPPORT, Nº 7.5, DESIGN 4 (MODIFIED) 94' SPAN
816															1													1		816	1	EACH	OVERHEAD SIGN SUPPORT, Nº 10.48, DESIGN 1 ARMS = 12'
816																	1										1	2		816	2	EACH	OVERHEAD SIGN SUPPORT, Nº 12.24, DESIGN 5 (MODIFIED), ARMS = 16'
816	24				12/12								48																	816	48	LIN. FT.	STRUCTURAL SUPPORT - 4# STEEL DRIVE POST
816	121			27		16		16	16	34			230																	816	230	LIN. FT.	STRUCTURAL SUPPORT - 6# BEAM
816	95												95																	816	95	LIN. FT.	STRUCTURAL SUPPORT - 8# BEAM
816	137												137																	816	137	LIN. FT.	STRUCTURAL SUPPORT - STEEL BEAM, TYPE 10-WF-21
816	319												319																	816	319	LIN. FT.	STRUCTURAL SUPPORT - STEEL BEAM, TYPE 12-WF-31
816	37.5	9											46.5		2.6		3.8	9		9		9		9.5			3.8	46.7		816	93.2	CU. YDS.	CONCRETE FOR OVERHEAD SIGN SUPPORT FOUNDATIONS
816	24.4				0.1/0.1	0.1		0.1	0.1	0.2			25.1																	816	25.1	CU. YDS.	CONCRETE FOR GROUND MOUNTED SIGN SUPPORT FOUNDATIONS
816	4												4																	816	4	EACH	BREAKAWAY SIGN SUPPORT CONNECTION

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-80S-7.01
MAH-80-2.30

SIGNING PLAN
OHIO TURNPIKE INTERCHANGE
SCALE: 1" = 100'

MATCH LINE SHEET No 261

STA. 442+00
(103) M-5.3G-3.3¢ IM-40-3G
WEST 80S

STA. 440+00
TOLL ROAD
Ohio Turnpike
NEXT RIGHT
(4) 18' x 7'

STA. 432+00
(102) R-10-48¢ R-10-48
SPEED LIMIT 70 TRUCKS 55

STA. 430+40
(116) MAINTENANCE AND EMERGENCY VEHICLES ONLY
R-19-18

STA. 430+10
(101) R-23-3G
NO U TURN

STA. 430+50
NO U TURN
(100) R-23-3G

STA. 430+15
(115) MAINTENANCE AND EMERGENCY VEHICLES ONLY
R-19-18

STA. 422+00
(3) 13' x 6'
Bailey Rd. 2
Akron 33

a.
80 EAST
Youngstown
16' x 7.5'

b.
80 WEST 80S EAST
Cleveland
Pittsburgh
KEEP RIGHT
20' x 10.5'
(2)

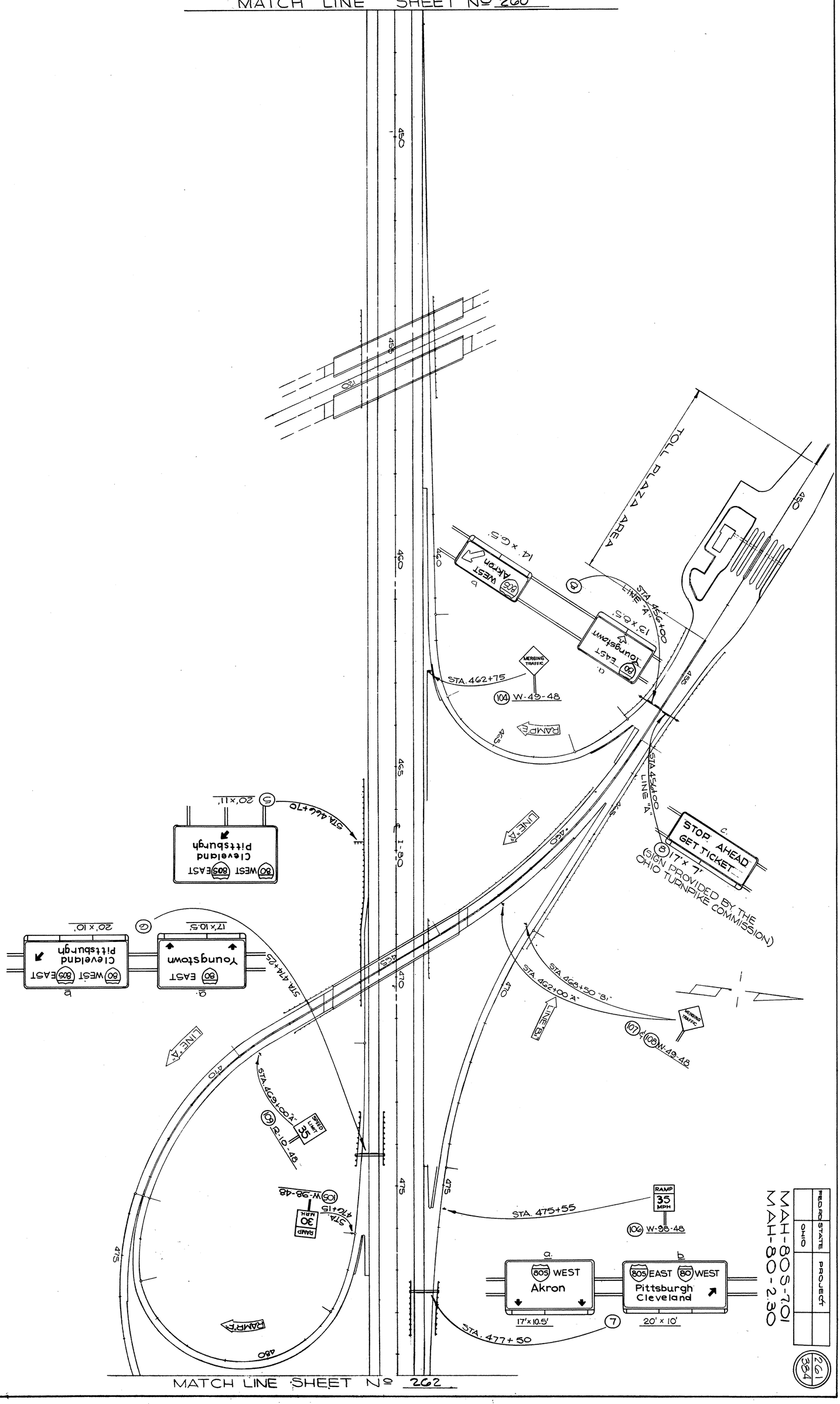
STA. 421+00

STA. 382+30
(20) 14' x 11'
TO 45
Bailey Rd.
Lordstown
EXIT 1 MILE

80
Youngstown
Cleveland
JCT. 2 MILES
(1) 19' x 12.5'

STA. 373+00

445
440
435
430
425
420
385
373

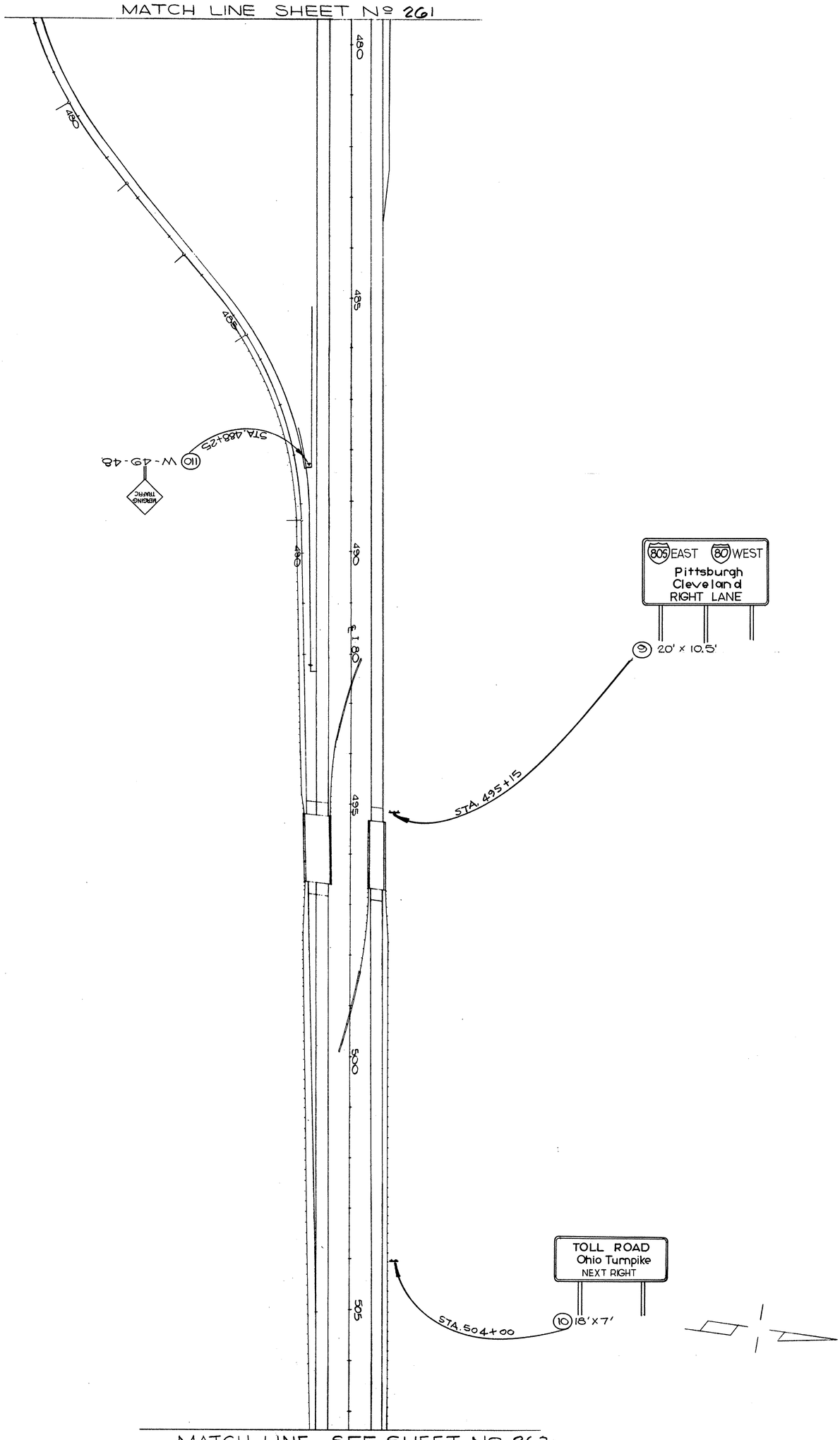


SIGNING PLAN
OHIO TURNPIKE INTERCHANGE
SCALE: 1" = 100'

FED. ROAD	STATE	PROJECT
	OHIO	MAH-80S-701 MAH-80-2.30

261
384

MATCH LINE SHEET Nº 261



MATCH LINE SEE SHEET Nº 263

SIGNING PLAN
OHIO TURNPIKE INTERCHANGE
SCALE: 1"=100'

FED. ROAD STATE	PROJECT
OHIO	MAH-80S-7.01 MAH-80-2.30

FED. RD.	STATE	PROJECT	
2	OHIO		

263
384

MAH-80S-7.01
MAH-80-2.30

SIGNING PLAN
OHIO TURNPIKE INTERCHANGE
SCALE: 1"=100'

FED.RD.	STATE	PROJECT	
	OHIO		

264
384

MAH-80S-7.01
MAH-80 - 2.30

MATCH LINE

90

OHIO TURNPIKE

95

435

100

420

425

LINE "B"

440

445

105

RAMP C

RAMP D

410

430

LINE "A"

110

540

27

75

80

85

OHIO TURNPIKE

MATCH LINE

STA. 444+32 - LINE "A"

STA. 539+00 (TRUMBULL COUNTY)

STA. 538+75 BEGIN WORK

STA. 538+25 SUSPEND WORK

26+25 RESUME WORK

28+00 SUSPEND WORK

STA 154+90

STA 155+10 SUSPEND WORK

STA 214+50 RESUME WORK

STA 215+00

216+25 END WORK

STA 116+60

STA 114+45 RESUME WORK

STA 27+50

STA 70+69

STA. 82+50

a. WEST Cleveland 14'x11'

b. EXIT 15 1 MI. 805 Akron 14'x13'

c. Mahoning Ave. 12'x11'

a. Pittsburgh & EAST 10'x5'

b. Cleveland & WEST 10'x5'

a. EAST Pittsburgh 80S 14'x11'

b. EXIT 15 1 MI. 80 Youngstown 14'x13'

a. EAST Pittsburgh 80S 20'x11'

b. EXIT 15 80 12'x11'

b. EXIT 15 2 MI. 80S 12'x11'

a. WEST Cleveland 80 20'x11'

b. EXIT 15 2 MI. 80 12'x13'

b. EXIT 15 80 12'x11'

GUARD RAIL = 62.5 LIN.FT.
GUARD RAIL = 37.5 LIN.FT.
NOTE: GUARD RAIL ON BOTH SIDES TO END AT BRIDGE.

NOTE:
ALL PROPOSED GUARD RAIL ON THIS SHEET SHALL BE GUARD RAIL, TYPE 4, AS PER PLAN WITH STEEL POSTS. THE GORE INSTALLATION NOSE SECTION SHALL BE A BARRIER TERMINAL TYPE, MOUNTED ON A SINGLE POST.

ALL SIGNS SHOWN ON THIS SHEET WILL BE PROVIDED BY THE OHIO TURNPIKE COMMISSION. (SEE "SIGN ERECTION" NOTE ON SHEET № 257)

PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN FINAL APPROVAL FOR THE EXACT LOCATION OF ALL SIGN SUPPORTS, SHOWN ON THIS SHEET, FROM THE OHIO TURNPIKE COMMISSION'S SUPERINTENDENT OF TRAFFIC AND SAFETY.

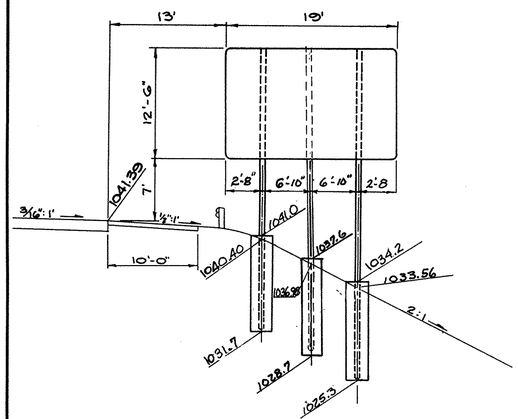
SIGNING PLAN
OHIO TURNPIKE INTERCHANGE
SCALE: 1" = 100'

SIGN DETAILS

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH. 80S-7.01
MAH. 80-2.30

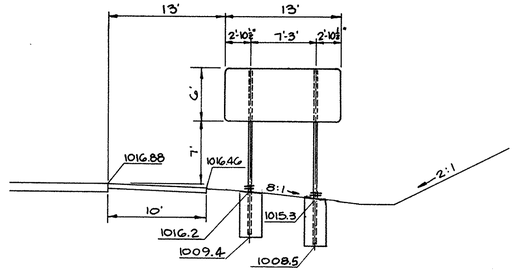
265
384



STA. 373+00 - EASTBOUND
GROUND MOUNTED SIGN

STEEL BEAMS { LEFT = 28' TYPE 12 WF 31
RIGHT = 35' TYPE 12 WF 31
CENTER = 31.5' TYPE 12WF31

SIGN NO. ①

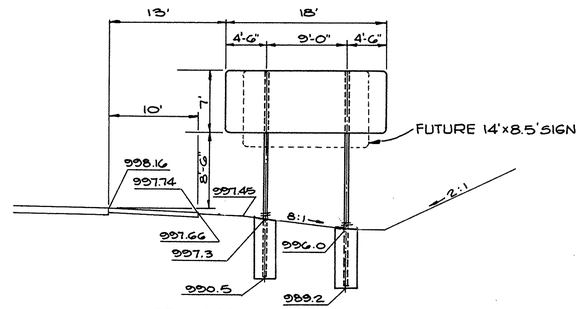


STA. 422+00 WESTBOUND
GROUND MOUNTED SIGN

STEEL BEAMS { LEFT 20.5' - 10WF21
RIGHT 21' - 10 WF21

13' x 6' = 78 SQ. FT.
NO LIGHTING

SIGN NO. ③

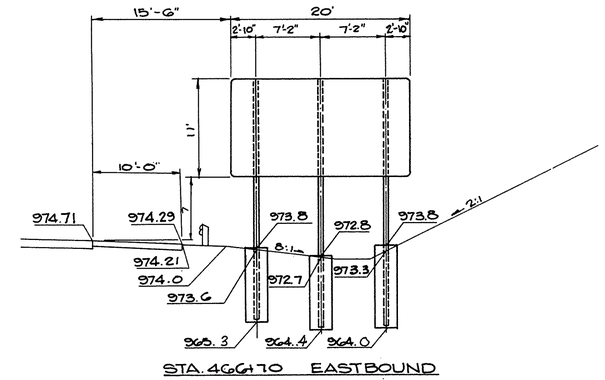


STA. 440+00 EASTBOUND
GROUND MOUNTED SIGN

STEEL BEAMS { LEFT 23' TYPE 10 WF21
RIGHT 24.5' TYPE 10 WF21

18' x 7' = 126 SQ. FT.
NO LIGHTING

SIGN NO. ④



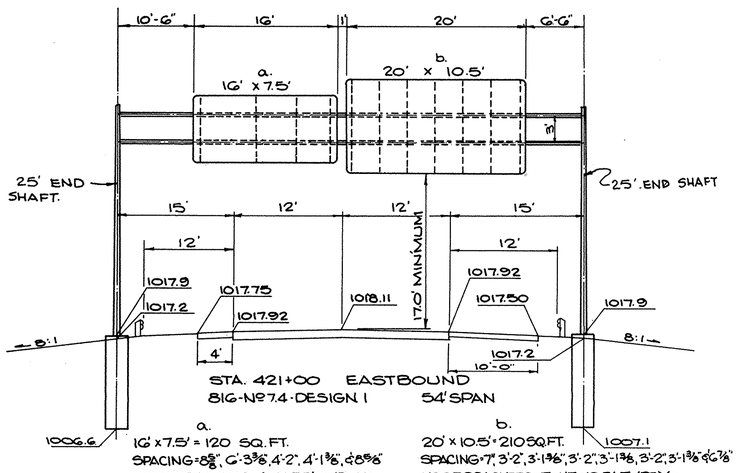
STA. 466+70 EASTBOUND
GROUND MOUNTED SIGN

STEEL BEAMS { LEFT 27' TYPE 12 WF 31
CENTER 28.5' TYPE 12 WF31
RIGHT 27 TYPE 12 WF31

20' x 1.1' = 220 SQ. FT.
NO LIGHTING

SIGN NO. ⑤

SIGN NO. ②

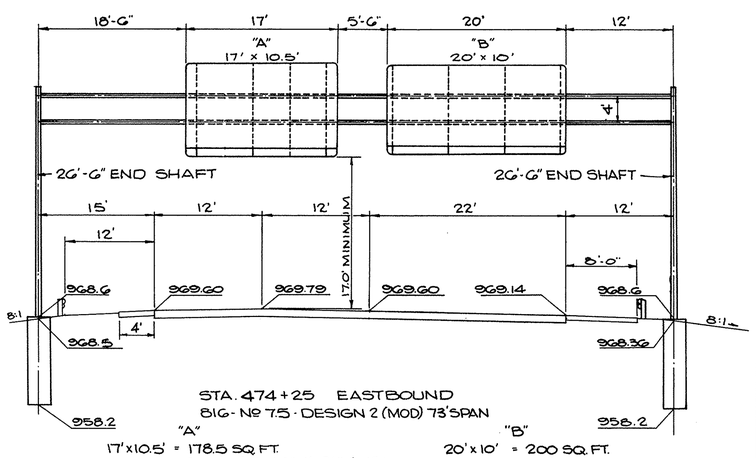


STA. 421+00 EASTBOUND
81G-Nº 7.4-DESIGN 1 54' SPAN

a.
16' x 7.5' = 120 SQ. FT.
SPACING = 8⅝", 6'-3⅜", 4'-2", 4'-1⅜", & 8⅝"
Nº OF BRACKETS = 4, HT. = 7.5', TYPE Ya.
NO LIGHTING

b.
20' x 10.5' = 210 SQ. FT.
SPACING = 7", 3'-2", 3'-1⅜", 3'-2", 3'-1⅜", 3'-2", 3'-1⅜" & 6⅞"
Nº OF BRACKETS = 7, HT. = 10.5', TYPE Ya
NO LIGHTING

SIGN NO. ⑥

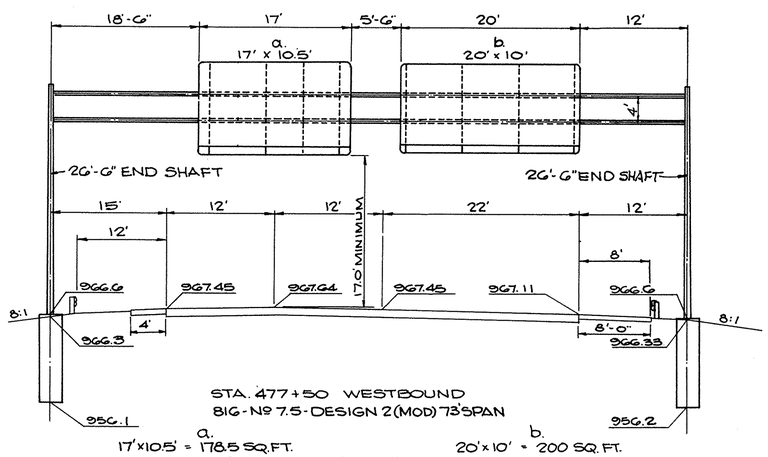


STA. 474+25 EASTBOUND
81G-Nº 7.5-DESIGN 2 (MOD) 73' SPAN

"A"
17' x 10.5' = 178.5 SQ. FT.
SPACING = 14⅝", 6'-3⅜", 4'-2", 4'-1⅜", & 14⅝"
Nº OF BRACKETS = 4, HT. = 10.5', TYPE Ya.
FIXTURES = 1 @ 75⅜" & 1 @ 99⅜"

"B"
20' x 10' = 200 SQ. FT.
SPACING = 7", 6'-3⅜", 6'-3⅜", 6'-3⅜" & 6⅞"
Nº OF BRACKETS = 4, HT. = 10', TYPE = Ya
FIXTURES = 3 @ 75⅜"

SIGN NO. ⑦



STA. 477+50 WESTBOUND
81G-Nº 7.5-DESIGN 2 (MOD) 73' SPAN

a.
17' x 10.5' = 178.5 SQ. FT.
SPACING = 14⅝", 6'-3⅜", 4'-2", 4'-1⅜" & 14⅝"
Nº OF BRACKETS = 4, HT. = 10.5', TYPE Ya
FIXTURES = 1 @ 75⅜" & 1 @ 99⅜"

b.
20' x 10' = 200 SQ. FT.
SPACING = 7", 6'-3⅜", 6'-3⅜", 6'-3⅜" & 6⅞"
Nº OF BRACKETS = 4, HT. = 10', TYPE = Ya
FIXTURES = 3 @ 75⅜"

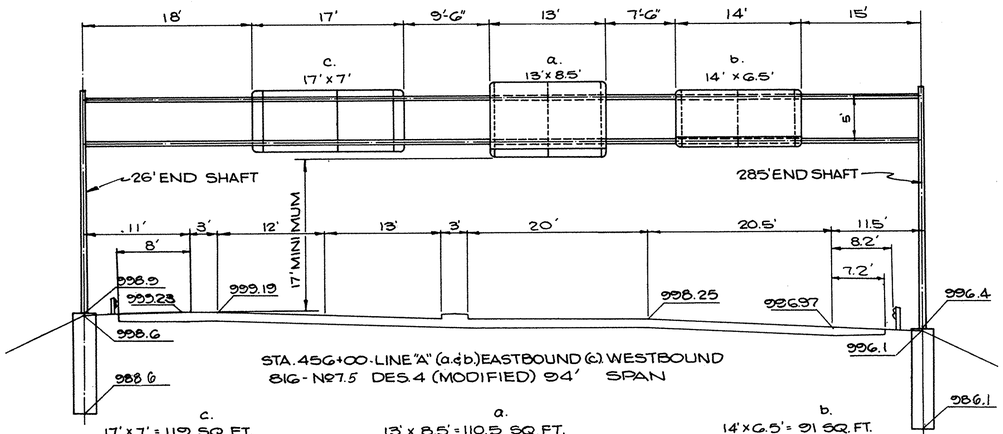
SIGN DETAILS

SIGN DETAILS

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH. 80S-7.01
MAH. 80-2.30

266
384



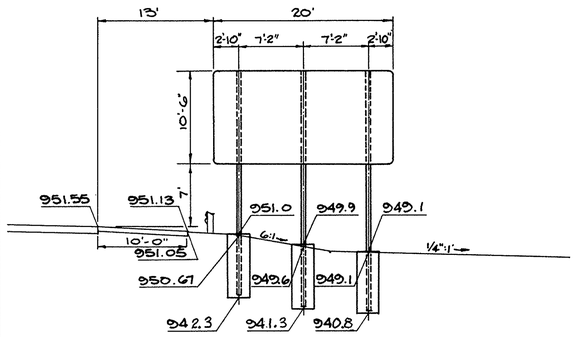
STA. 456+00-LINE "A" (a.&b.) EASTBOUND (c.) WESTBOUND
81G-N87.5 DES.4 (MODIFIED) 94' SPAN

c.
17' x 7' = 119 SQ. FT.
SPACING=14⅝", 8'-3⅜", 6'-3⅜" & 14⅝"
Nº OF BRACKETS=3, HT.=7', TYPE Xa
FIXTURES=1@ 99⅜" & 1@ 75⅜"

a.
13' x 8.5' = 110.5 SQ. FT.
SPACING=6", 6'-0", 6'-0" & 6"
Nº OF BRACKETS=3, HT.=8.5', TYPE Ya
FIXTURES=2@75⅜" (ALT. CONNECTION).

b.
14' x 6.5' = 91 SQ. FT.
SPACING=8⅝", 6'-3⅜", 6'-3⅜" & 8⅝"
Nº OF BRACKETS=3, HT.=6.5', TYPE Xa
FIXTURES=2@75⅜"

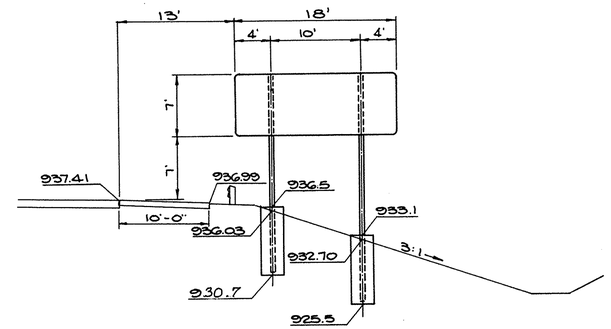
SIGN NO. ⑧



STA. 435+15 - WESTBOUND
GROUND MOUNTED SIGN
STEEL BEAMS { LEFT = 27' TYPE 12 WF31
CENTER = 27.5' TYPE 12 WF31
RIGHT = 28.5' TYPE 12 WF31

20' x 10.5' = 210 SQ. FT.
NO LIGHTING

SIGN NO. ⑨

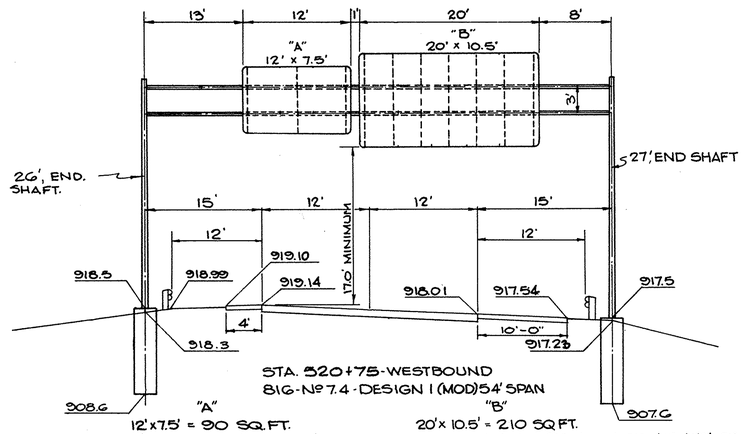


STA. 504+00 WESTBOUND
GROUND MOUNTED SIGN
STEEL BEAMS { LEFT = 22'-TYPE 10 WF21
RIGHT = 25'-TYPE 10 WF21

18' x 7' = 126 SQ. FT.
NO LIGHTING

SIGN NO. ⑩

SIGN NO. ⑪

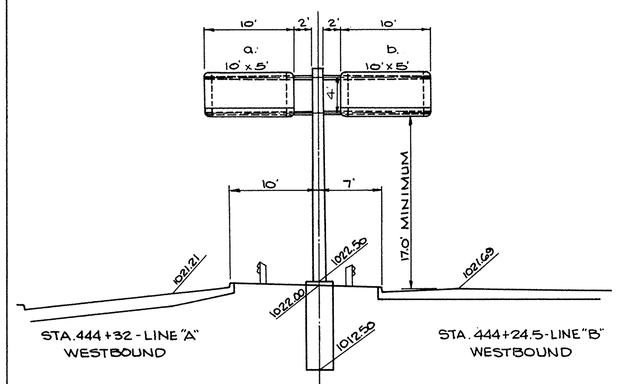


STA. 520+75-WESTBOUND
81G-Nº 7.4-DESIGN 1 (MOD) 54' SPAN

"A"
12' x 7.5' = 90 SQ. FT.
SPACING=6", 5'-6", 5'-6" & 6"
Nº OF BRACKETS=3, HT.=7.5', TYPE Ya
NO LIGHTING

"B"
20' x 10.5' = 210 SQ. FT.
SPACING=7", 3'-2", 3'-1⅜", 3'-2", 3'-1⅜", 3'-2", 3'-1⅝" & 6⅞"
Nº OF BRACKETS=7, HT.=10.5', TYPE Ya
NO LIGHTING

SIGN NO. ⑬

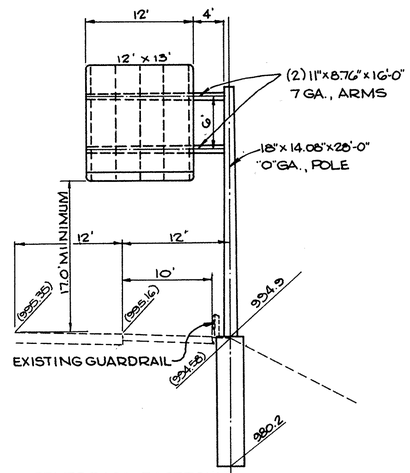


81G-Nº 10.48 DESIGN 1, ARMS=12'

a.
5' x 10' = 50 SQ. FT.
SPACING = 10⅜", 8'-3⅜" & 10¼"
Nº OF BRACKETS = 2, HT.=5', TYPE XS
FIXTURES = 1 @ 99⅜"

b.
5' x 10' = 50 SQ. FT.
SPACING = 10⅜", 8'-3⅜" & 10¼"
Nº OF BRACKETS = 2, HT.=5', TYPE XS
FIXTURES = 1 @ 99⅜"

SIGN NO. ⑭



STA. 539+00-EASTBOUND
(OHIO TURNPIKE-TRUMBULL COUNTY)
81G-Nº 12.24-DESIGN 5 (MOD.) ARM=16'
13' x 12' = 156 SQ. FT.
SPACING=6", 2'-9", 2'-9", 2'-9", 2'-9" & 6"
Nº OF BRACKETS=5, HT.=13', TYPE Ys
FIXTURES=2@75⅜" (ALT. CONNECTION)

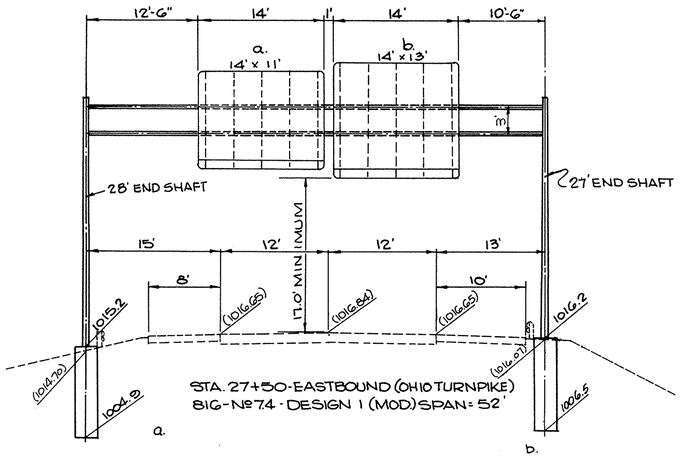
FORM DD A-S

SIGN DETAILS

FED. RD.	STATE	PROJECT	
2	OHIO		

267
384

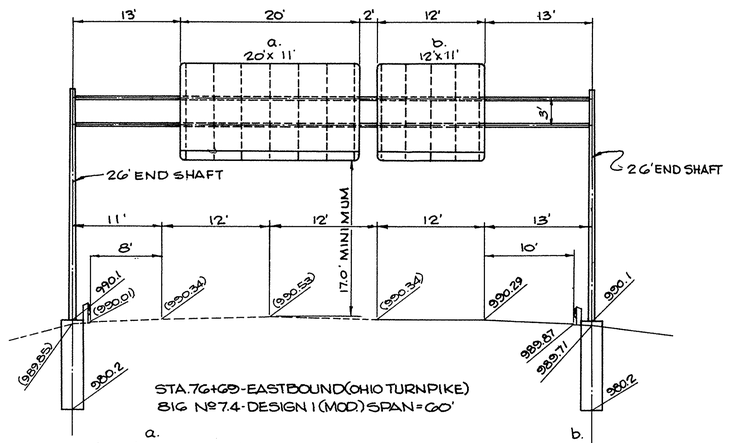
MAH. 80S-7.01
MAH. 80-2.30



11' x 14' = 154 SQ. FT.
SPACING = 8 5/8", 3'-1 3/4", 3'-1 5/8", 3'-1 3/4", 3'-1 5/8" ¢ 8 5/8"
Nº OF BRACKETS = 5, HT. = 11', TYPE Ya.
FIXTURES = 2 @ 75 3/8"

13' x 14' = 182 SQ. FT.
SPACING = 8 5/8", 3'-1 3/4", 3'-1 5/8", 3'-1 3/4", 3'-1 5/8" ¢ 8 5/8"
Nº. OF BRACKETS = 5, HT. = 13', TYPE Ya
FIXTURES = 2 @ 75 3/8"

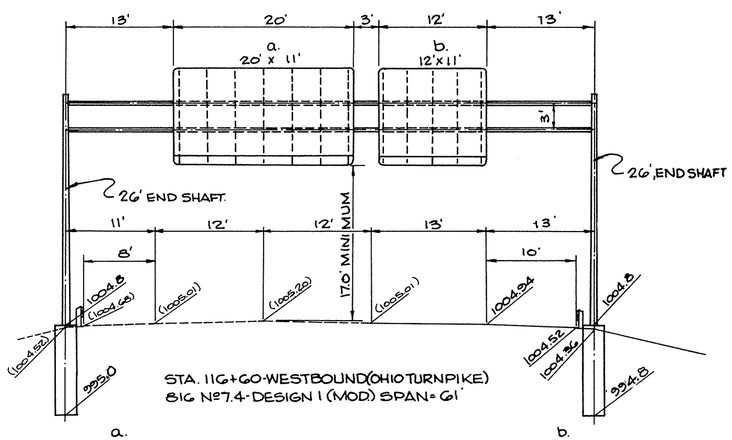
SIGN NO. 15



11' x 20' = 220 SQ. FT.
SPACING = 7", 3'-1 3/4", 3'-1 5/8", 3'-1 3/4", 3'-1 5/8", 3'-1 3/4", 3'-1 5/8" ¢ 6 7/8"
Nº OF BRACKETS = 7, HT. = 11', TYPE Ya
FIXTURES = 3 @ 75 3/8"

11' x 12' = 132 SQ. FT.
SPACING = 6", 2'-9", 2'-9", 2'-9", 2'-9" ¢ 6"
Nº OF BRACKETS = 5, HT. = 11', TYPE Ya
FIXTURES = 2 @ 75 3/8" (ALT. CONNECT.)

SIGN NO. 16

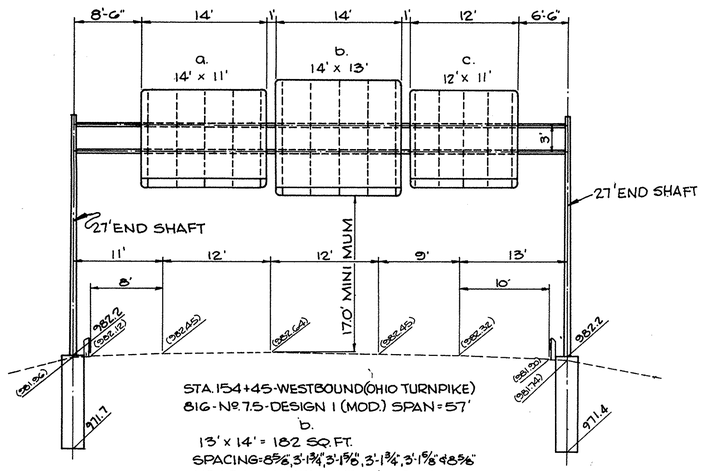


11' x 20' = 220 SQ. FT.
SPACING = 7", 3'-1 3/4", 3'-1 5/8", 3'-1 3/4", 3'-1 5/8", 3'-1 3/4", 3'-1 5/8" ¢ 6 7/8"
Nº OF BRACKETS = 7, HT. = 11', TYPE Ya.
FIXTURES = 3 @ 75 3/8"

11' x 12' = 132 SQ. FT.
SPACING = 6", 2'-9", 2'-9", 2'-9", 2'-9" ¢ 6"
Nº OF BRACKETS = 5, HT. = 11', TYPE Ya
FIXTURES = 2 @ 75 3/8" (ALT. CONNECT.)

SIGN NO. 17

SIGN NO. 18

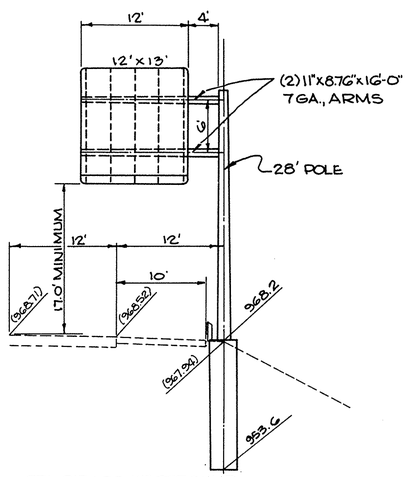


11' x 14' = 154 SQ. FT.
SPACING = 8 5/8", 3'-1 3/4", 3'-1 5/8", 3'-1 3/4", 3'-1 5/8" ¢ 8 5/8"
Nº OF BRACKETS = 5, HT. = 11', TYPE Ya
FIXTURES = 2 @ 75 3/8"

13' x 14' = 182 SQ. FT.
SPACING = 8 5/8", 3'-1 3/4", 3'-1 5/8", 3'-1 3/4", 3'-1 5/8" ¢ 8 5/8"
Nº OF BRACKETS = 5, HT. = 13', TYPE Ya
FIXTURES = 2 @ 75 3/8"

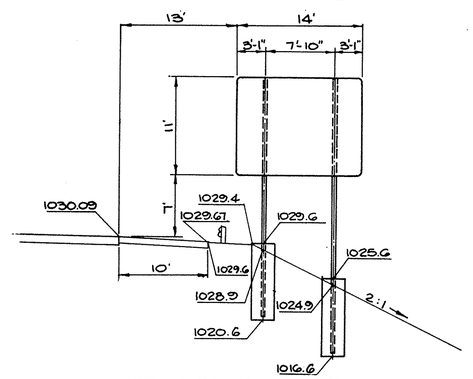
11' x 12' = 132 SQ. FT.
SPACING = 6", 2'-9", 2'-9", 2'-9", 2'-9" ¢ 6"
Nº OF BRACKETS = 5, HT. = 11', TYPE Ya
FIXTURES = 2 @ 75 3/8" (ALT. CONNECTION)

SIGN NO. 19



STA. 215+00-WESTBOUND
(OHIO TURNPIKE)
81G-Nº 12.24-DESIGN 5 (MOD) ARM = 16'
13' x 12' = 156 SQ. FT.
SPACING = 6", 2'-9", 2'-9", 2'-9", 2'-9" ¢ 6"
Nº OF BRACKETS = 5, HT. = 13', TYPE Ys
FIXTURES = 2 @ 75 3/8" (ALT. CONNECTION)

SIGN NO. 20

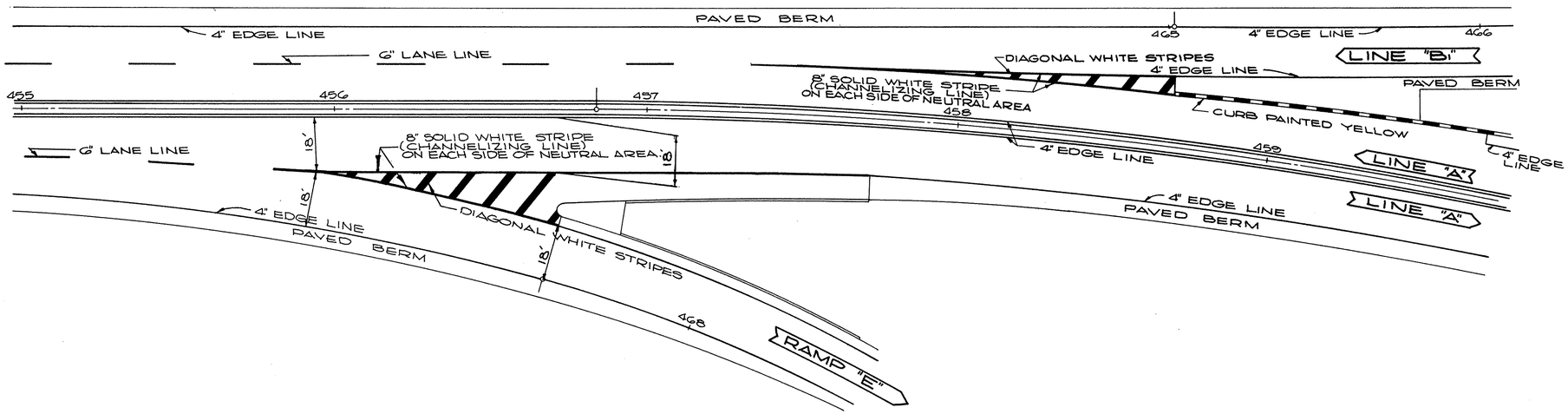


STA. 382+30 WESTBOUND
GROUND MOUNTED SIGN
STEEL BEAMS { LEFT 27' TYPE 12 WF 31 / RIGHT 31' TYPE 12 WF 31
14' x 11' = 154 SQ. FT.
NO LIGHTING

FED. RD.	STATE	PROJECT	
2	OHIO		

268
384

MAH. 80S - 7.01
MAH. 80 - 2.30



PAVEMENT MARKING CALCULATIONS

4" EDGE LINES

MAINLINE:
(388 + 00.00 - 370 + 07.44) x 4 (I.G. FUNDS) = 7,170.24 L.F.
(420 + 00.00 - 388 + 00.00) x 4 = 12,800.00 L.F.
(520 + 80.75 - 418 + 60.00) x 4 - (2 x 100')+(2x528) = 41,739.00 L.F.
7,170.24 x 1/5,280.00 I.G. FUNDS = 1.358 MILES
(12,800.00 + 41,739.00) x 1/5,280.00 = 10.329 MILES
TOTAL = 11.687 MILES

LINE "A"
(492 + 32.45 - 488 + 32.45) = 400.00 L.F.
(488 + 32.45 - 472 + 50.00) x 2 = 3,164.90 L.F.
(473 + 53.63 - 472 + 50.00) x 2 = 207.26 L.F.
(472 + 50.00 - 462 + 00.00) x 4 = 4,200.00 L.F.
(462 + 00.00 - 454 + 00.00) x 2 = 1,600.00 L.F.
(462 + 00.00 - 459 + 68.00) = 232.00 L.F.
(462 + 00.00 - 457 + 75.00) = 425.00 L.F.
(456 + 83.98 - 454 + 00.00) = 283.98 L.F.
(456 + 73.28 - 454 + 00.00) = 273.28 L.F.
10,786.42 L.F.
(10,786.42) x 1/5,280.00 = 2.043 MILES

LINE "B1"
(475 + 56.23 - 465 + 01.80) x 2 = 2,108.86 L.F.
(465 + 01.80 - 463 + 15.71) = 186.09 L.F.
2,294.95 L.F.
(2,294.95) x 1/5,280.00 = 0.435 MILES

RAMP "E"
(468 + 48.95 - 463 + 33.24) x 2 = 1,031.42 L.F.
(463 + 33.24 - 458 + 33.24) = 500.00 L.F.
(463 + 33.24 - 462 + 58.24) = 75.00 L.F.
1,606.42 L.F.
(1,606.42) x 1/5,280.00 = 0.304 MILES

RAMP "F"
(485 + 99.93 - 483 + 99.93) = 200.00 L.F.
(483 + 99.93 - 476 + 09.93) x 2 = 1,580.00 L.F.
(484 + 14.93 - 483 + 99.93) = 15.00 L.F.
1,795.00 L.F.
(1,795.00) x 1/5,280.00 = 0.340 MILES

PAVEMENT MARKING CALCULATIONS

6" LANE LINE

MAINLINE
(520 + 80.75 - 388 + 00.00) + 140 x (1/40 x 15) x 2 x (1/5280) = 1.906 MILES

(388 + 00.00 - 370 + 07.44) x (1/40 x 15) x (2 x 1/5280) = *0.256 MILES

LINE "A"
(455 + 20.00 - 454 + 00.00) x (1/40 x 15) x (2 x 1/5280) = 0.017 MILES
(457 + 47.00 - 454 + 00.00) x(1/40 x 15) x(2 x 1/5280) = 0.049 MILES
TOTAL = 0.066 MILES

4" LANE LINE

LINE "B1"
"L" = 700' - (478 + 04.46 - 475 + 54.46) = 450' L/2 = 225'
225' x (1/40 x 15) x (1/5280) = 0.016 MILES

RAMP "F"
"L" = 700' - (476 + 11.59 - 473 + 61.59) = 450' L/2=225'
225' x (1/40 x 15) x (1/5280) = 0.016 MILES

4" CENTERLINES

LIPKEY ROAD
(56 + 50 - 43 + 00) = 1,350 x 1/5280 = 0.256 MILES

SILICA ROAD (STATE OF OHIO FUNDS)
(34 + 80 - 32 + 85) = 195 x 1/5280 = 0.037 MILES

8" CHANNELIZING LINES

LINE "A"
(457 + 75.00 - 455 + 95) = 180.00 L.F.
(456 + 73.28 - 455 + 95) = 78.28 L.F.
(459 + 68.00 - 457 + 47) = 221.00 L.F.
(458 + 68.47 - 457 + 47) = 121.47 L.F.
600.75 L.F.
600.75 x 1/5280.00 = 0.114 MILES

RAMP "B1"
(478 + 04.46 - 475 + 54.46) = 250.00 L.F.
(478 + 04.46 - 474 + 54.46) = 350.00 L.F.
600.00 L.F.
600.00 x 1/5280.00 = 0.114 MILES

RAMP "F"
(476 + 11.59 - 473 + 61.59) = 250.00 L.F.
(477 + 11.59 - 473 + 61.59) = 350.00 L.F.
600.00 L.F.
600.00 x 1/5280.00 = 0.114 MILES

* I.G. FUNDS

PAVEMENT MARKINGS

FORM DD A-5

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH. 80S-7.01
MAH. 80-2.30

269
384

MAINLINE DELINEATORS

SIDE	LOCATION FROM	LOCATION TO	SPACING	A - 1 POST	A - 1 BRK'T.
*RT.	370 + 00	388 + 00	200'	8	2
*LT.	370 + 00	388 + 00	200'	9	1
RT.	388 + 00	420 + 00	200'	15	1
LT.	388 + 00	420 + 00	200'	16	-
		(STA. EQUATION 420 + 00 BK = 418 + 60 AHD)			
RT.	418.+ 60	420 + 50	190'	1	-
LT.	418 + 60	420 + 50	190'	1	-
RT.	420 + 50	466 + 50	200'	23	-
LT.	420 + 50	444 + 50	200'	12	-
LT.	464 + 00	474 + 00	200'	6	-
RT.	478 + 00	488 + 00	200'	6	
LT.	485 + 50	519 + 50	200'	17	1
RT.	505 + 50	519 + 50	200'	8	-
		TOTALS			
		*I.G. FUNDS		17	3
		L FUNDS		105	2
		MAINLINE-GRAND TOTAL		122	5

* INDICATES "I. G. FUNDS"

RAMP DELINEATORS

SIDE	LOCATION FROM	LOCATION TO	SPACING	C - 2 POST	C - 2 BRK'T.
	LINE"A"				
RT.	454 + 15	456 + 65	50'	6	
LT.	454 + 20	458 + 20	100'	5	
LT.	459 + 90	472 + 90	100'	10	4
RT.	458 + 30	468 + 30	100'	7	4
RT.	468 + 30	469 + 10	80'	1	
RT.	469 + 10	480 + 10	50'	22	
RT.	480 + 10	480 + 90	80'	1	
RT.	480 + 90	483 + 90	100'	3	
LT.	483 + 90	484 + 90	100'	2	
LT.	484 + 90	485 + 70	80'	1	
LT.	485 + 70	488 + 20	50'	5	
RT.	488 + 20	489 + 20	50'	3	
RT.	489 + 20	490 + 00	80'	1	
RT.	490 + 00	504 + 00	100'	13	1
RT.	504 + 00	504 + 30	30'	1	
		TOTALS LINE "A"		81	9
	LINE "B1"				
LT.	465 + 50	468 + 50	100'	4	
RT.	468 + 50	474 + 50	100'	7	
LT.	474 + 50	483 + 50	100'	10	
		TOTALS LINE "B1"		21	- -
	RAMP "E"				
LT.	446 + 30	461 + 30	100'	16	
RT.	461 + 30	462 + 30	100'	2	
RT.	462 + 30	462 + 90	60'	1	
RT.	462 + 90	467 + 10	30'	14	
RT.	467 + 10	468 + 10	50'	2	
LT.	468 + 10	468 + 10	50'	1	
		TOTALS RAMP "E"		36	-
	RAMP "F"				
RT.	468 + 10	477 + 10	100'	10	
LT.	477 + 10	477 + 70	60'	2	
LT.	477 + 70	484 + 00	30'	21	
LT.	484 + 00	484 + 60	60'	1	
RT.	484 + 60	485 + 60	100'	2	
		TOTALS RAMP "F"		36	- -
		RAMPS - GRAND TOTAL		174	9

SUMMARY OF PAVEMENT MARKING & DELINEATORS-CARRY TO SHT. Nº 259

	PAVEMENT MARKING 4" Edge Lines (Miles)	4" Lane Lines (Miles)	4" Center Lines (Miles)	6" Lane Lines (Miles)	8" Chann. Lines (Miles)	Curb Island Mark. (Lump)	Diag. Stripes (Lump)	DELINEATORS A-1 Post Each	A-1 Brk't Each	C-2 Post Each	C-2 Brk't Each	
MAINLINE I.G. FUNDS	1.358			0.256				17	3			
MAINLINE	10.329			1.906				105	2			
LINE "A"	2.043			0.066	0.114	Lump	Lump			81	9	
LINE "B1"	0.435	0.016			0.114	Lump	Lump			21		
RAMP "E"	0.304					Lump				36		
RAMP "F"	0.340	0.016			0.114	Lump	Lump			36		
LIPKEY ROAD			0.256									
SILICA ROAD O.T.C. & STATE FUNDS			0.037									
I.G. FUNDS TOTAL	1.358			0.256				17	3			
O.T.C. & STATE FUNDS TOTAL			0.037									
L FUNDS TOTAL	13.451	0.032	0.256	1.972	0.342	Lump	Lump	105	2	174	9	
GRAND TOTAL	14.809	0.032	0.293	2.228	0.342	Lump	Lump	122	5	174	9	

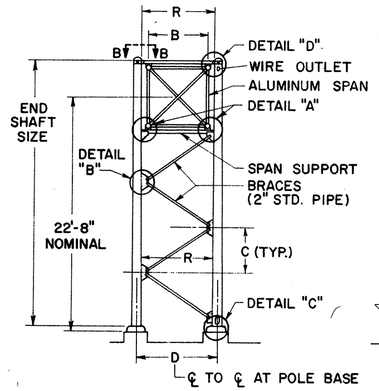
DELINEATORS & PAVEMENT MARKINGS

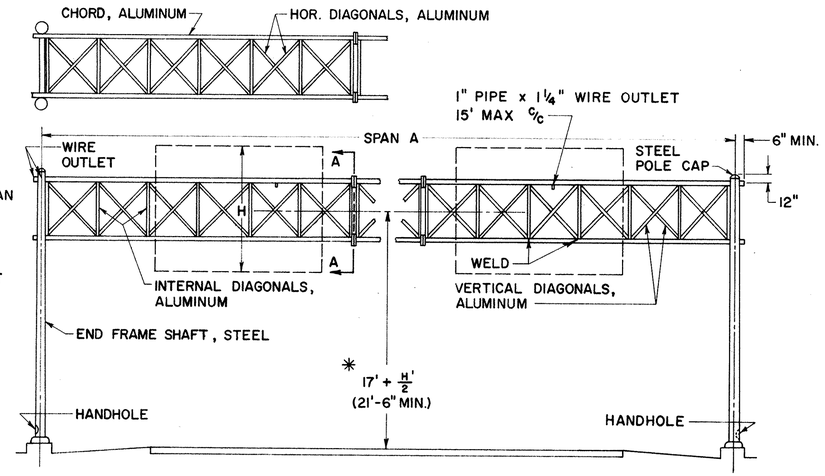
FORM DD A-S

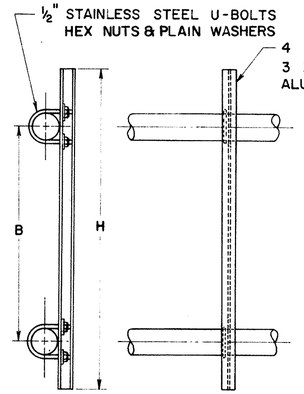
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

270/384

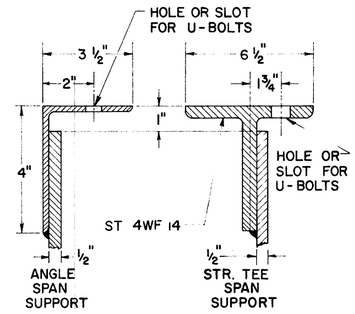
MAH 80S - 7.01
MAH 80 - 2.30







SIGN BRACKET



SECTION D-D

NOTES

MATERIALS

THE OVERHEAD SPAN TRUSS SHALL BE ALUMINUM AND THE END FRAMES SHALL BE STEEL.

SPAN TRUSS AND END FRAMES, INCLUDING HARDWARE, SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 816 UNLESS OTHERWISE NOTED.

STEEL POLE BASES AND GUSSETS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A-373.

AFTER FABRICATION THE TAPERED POLES SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 PSI.

FABRICATION

THE ENTIRE STEEL END FRAME SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH SEC. 711.02.

MAXIMUM LENGTH OF SPAN SECTIONS IS 30 FT.

ERECTION

USE A MINIMUM OF 1" CAMBER IN SPAN TRUSS MEMBER FOR A 50' SPAN; ADD ¼" OF CAMBER FOR EACH 5' OF INCREASE IN SPAN OVER 50'.

PAYMENT

PAYMENT FOR THE GALVANIZED CONDUIT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS.

SOILS

THE FOUNDATION DETAILS SHOWN ARE FOR AVERAGE SOIL CONDITIONS (MEDIUM CLAY, CEMENTED SAND AND GRAVEL, SANDY CLAY, OR STIFF CLAY.).

FOR POOR SOIL CONDITIONS, INCREASE "D" MIN. BY: 50% IN DRY OR WET SAND, 60% IN SILTY CLAY, 100% IN SOFT CLAY, AND FROM 75% TO 150% IN WET SILT, DEPENDING ON QUICKSAND ACTION.

REINFORCING STEEL

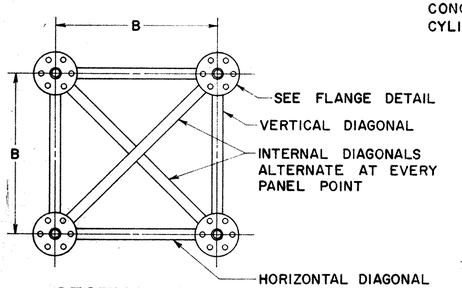
COST OF REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM 816 CONCRETE FOR SIGN SUPPORT FOUNDATIONS. BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATE THE BAR SIZE NUMBER.

*FOUNDATION ELEVATION

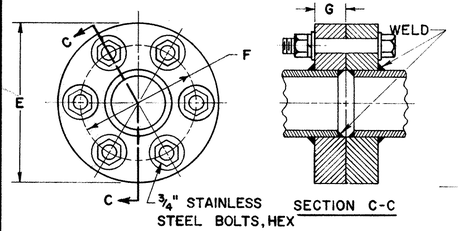
ELEVATION OF TOPS OF FOUNDATIONS SHALL BE BUILT UP SO THAT 17' CLEARANCE IS MAINTAINED OVER THE ENTIRE WIDTH OF THE PAVEMENT AND SHOULDERS.

DESIGN

THE DESIGN OF OVERHEAD SUPPORTS IS IN ACCORDANCE WITH A.A.S.H.O. SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, ADOPTED JUNE 12, 1961.

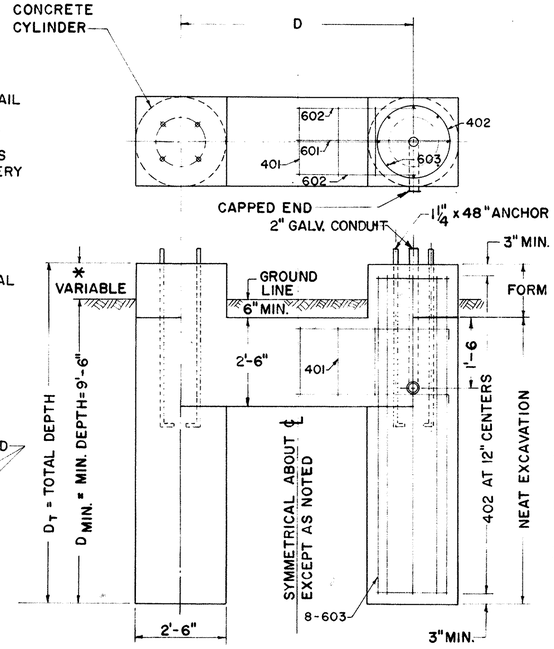


SECTION A-A



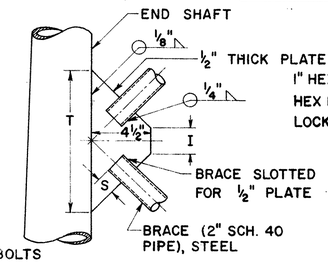
CAST FLANGE, B-26 ALLOY SG 70A-T7 (356-T7)

FLANGE DETAIL

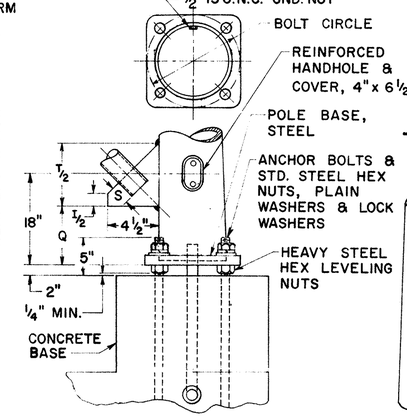


FOUNDATION DETAIL

(RIGHT HAND SHOWN — LEFT HAND OPPOSITE)

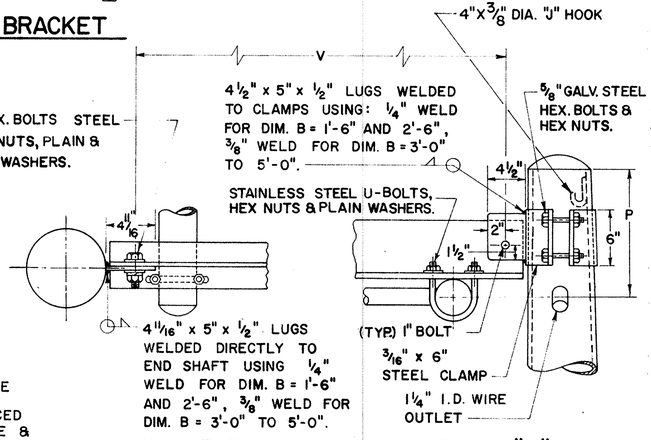


DETAIL "B"



DETAIL "C"

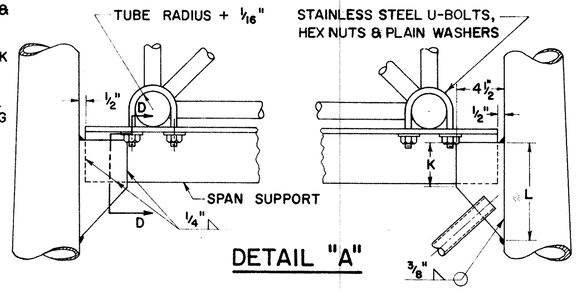
POLE BASE DETAIL



VIEW B-B

DETAIL "D"

UPPER SPAN SUPPORT (ALTERNATE METHODS)



DETAIL "A"

LOWER SPAN SUPPORT

DESIGN NO.	SPAN A	B	C	D	E	END SHAFT	BRACE LENGTH	F	G	I	K	L	P	Q	R	S	T	U BOLTS	V	BOLT CIRCLE	SPAN SUPPORT SECTION D-D	CHORDS	HORIZONTAL AND INTERNAL DIAGONAL	VERTICAL DIAGONAL
1	50' thru 75'	3'-0"	4'-11¾"	4'-5"	9¼"	8"x4.5"x25'-0", 3 GA.	5'-10 13/16"	7 7/16"	1⅜"	3½"	4¾"	8"	12"	6⅝"	3'-9"	1½"	10"	⅝"	3'-3 5/8"	11"	SPLIT TEE 3'-8"	4¾" x .188"	1.900" x .145"	1.660" x .140"
2	76' thru 85'	4'-0"	4'-10¼"	5'-7"	9¼"	8"X6.22"x25'-6" 3GA.	6'-7⅛"	7 7/16"	1⅜"	⅝"	4⅜"	7¾"	12'	6¼"	4'-10"	1½"	9½"	⅝"	4'-4 5/8"	11"	SPLIT TEE 4'-10"	4¾" x .188"	2" x .188"	1.900" x .145"
3	86' thru 90'	4'-0"	4'-10¼"	5'-7"	11"	8"X6.22"x25'-6"3GA.	6'-7⅛"	8½"	1½"	⅝"	4⅜"	7¾"	42"	6¼"	4'-10"	1½"	9½"	⅝"	4'-4 5/8"	11"	SPLIT TEE 4'-10"	5½" x .250"	2" x .188"	1.900"x .145"
4	91' thru 110'	5'-0"	4'-8½"	6'-7"	11"	8"X6.18"x26'-0", 3GA.	7'-3¼"	8½"	1½"	—	3½"	7¾"	12"	7¼"	5'-10"	1¾"	11¼"	¾"	5'-4 5/8"	11"	SPLIT TEE 5'-10"	5½" x .250"	2½" x .188"	2½"x .188"

REINFORCEMENT SCHEDULE			
MARK	NO.	LENGTH	TYPE
401	12"C/C	8'-6"	102
402	12"C/C	7'-6"	103
601	4	D+ 4'-0"	101
602	8	D+ 2'-0"	101
603	32	D_T - 6"	STR.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

OVERHEAD SIGN SUPPORTS

816 No. 7.4

DATE
5-2-62
7-25-62
5-6-64

APPROVED Robert E. Conner
ENGINEER OF TRAFFIC

400 SQ. FT. SIGN AREA

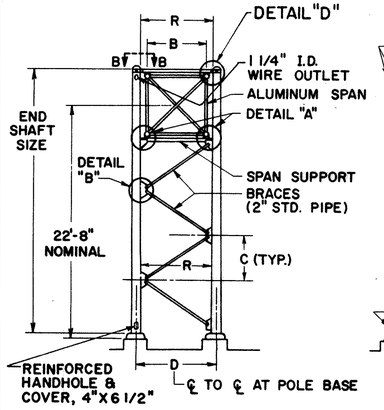
OVERHEAD SIGN SUPPORT, 816 NO. 7.4

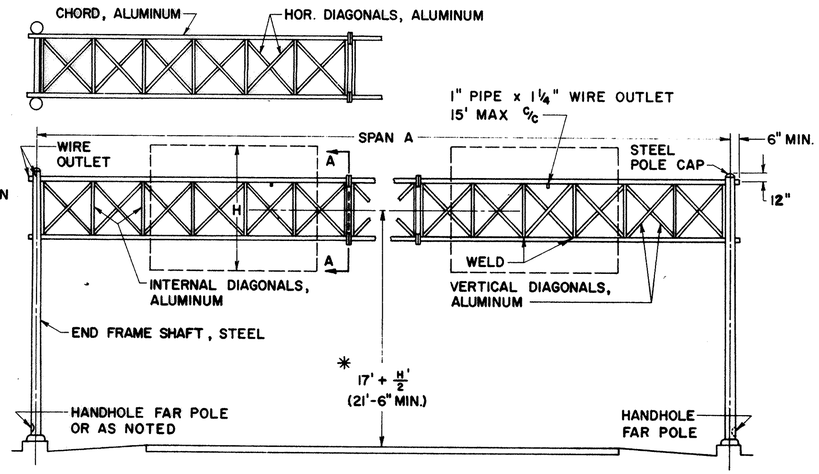
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

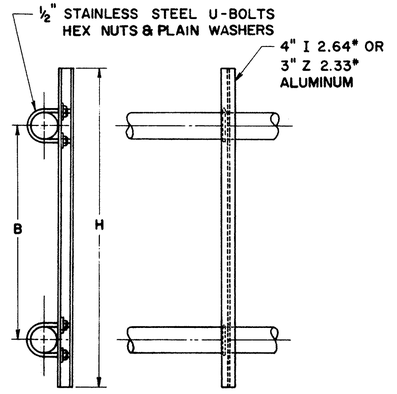
271
384

MAH 805-7.01
MAH 80-2.30

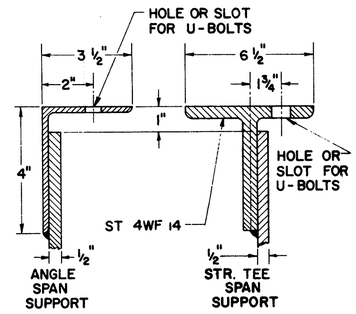
DIRECTION OF TRAFFIC







SIGN BRACKET



SECTION D-D

NOTES

MATERIALS

THE OVERHEAD SPAN TRUSS SHALL BE ALUMINUM AND THE END FRAMES SHALL BE STEEL.

SPAN TRUSS AND END FRAMES, INCLUDING HARDWARE, SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 816 UNLESS OTHERWISE NOTED.

STEEL POLE BASES AND GUSSETS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A-373.

AFTER FABRICATION THE TAPERED POLES SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 PSI.

FABRICATION

THE ENTIRE STEEL END FRAME SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH SEC. 711.02

MAXIMUM LENGTH OF SPAN SECTIONS IS 30 FT.

ERECTION

USE A MINIMUM OF 1" CAMBER IN SPAN TRUSS MEMBER FOR A 50' SPAN; ADD 1/4" OF CAMBER FOR EACH 5' OF INCREASE IN SPAN OVER 50'.

PAYMENT

PAYMENT FOR THE GALVANIZED CONDUIT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OVER-HEAD SIGN SUPPORTS.

SOILS

THE FOUNDATION DETAILS SHOWN ARE FOR AVERAGE SOIL CONDITIONS (MEDIUM CLAY, CEMENTED SAND AND GRAVEL, SANDY CLAY, OR STIFF CLAY).

FOR POOR SOIL CONDITIONS, INCREASE "D" MIN. BY: 50% IN DRY OR WET SAND, 60% IN SILTY CLAY, 100% IN SOFT CLAY, AND FROM 75% TO 150% IN WET SILT, DEPENDING ON QUICKSAND ACTION.

REINFORCING STEEL

COST OF REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM 816 CONCRETE FOR SIGN SUPPORT FOUNDATIONS.

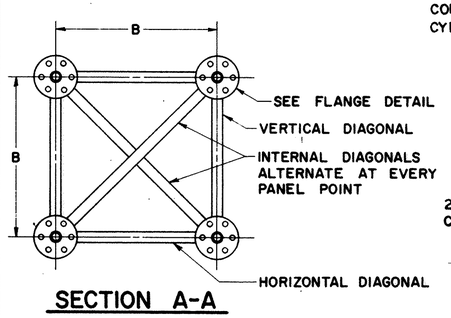
*BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATE THE BAR SIZE NUMBER.

*FOUNDATION ELEVATION

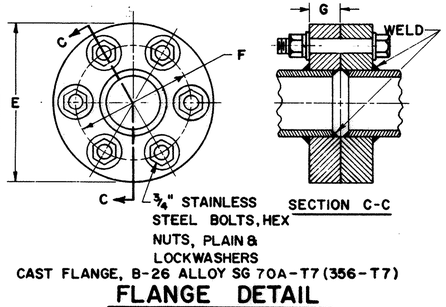
ELEVATION OF TOPS OF FOUNDATIONS SHALL BE BUILT UP SO THAT 17' CLEARANCE IS MAINTAINED OVER THE ENTIRE WIDTH OF PAVEMENT AND SHOULDERS.

DESIGN

THE DESIGN OF OVERHEAD SUPPORTS IS IN ACCORDANCE WITH A.A.S.H.O. SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, ADOPTED JUNE 12, 1961.

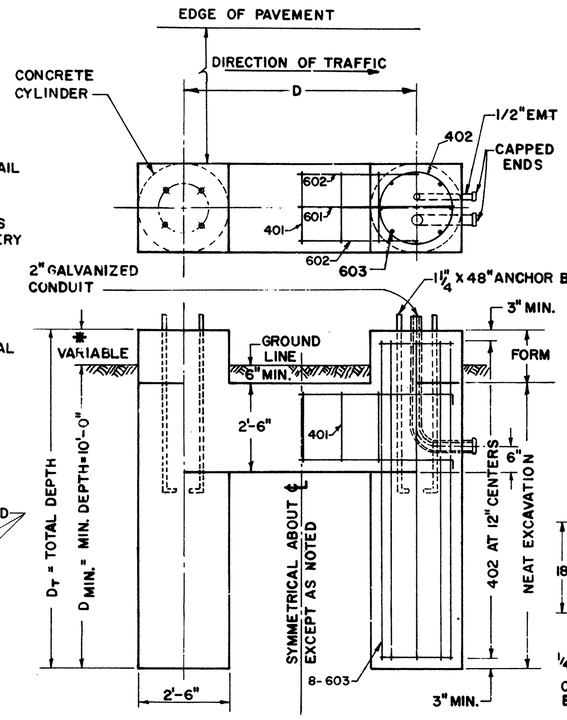


SECTION A-A



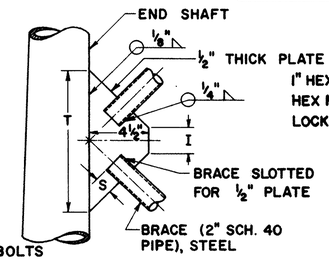
CAST FLANGE, B-26 ALLOY SG 70A-T7 (356-T7)

FLANGE DETAIL

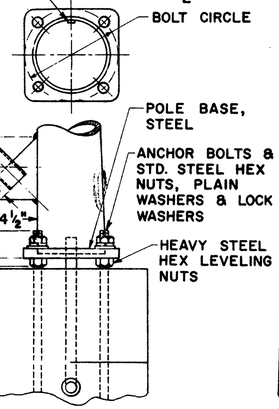


FOUNDATION DETAIL

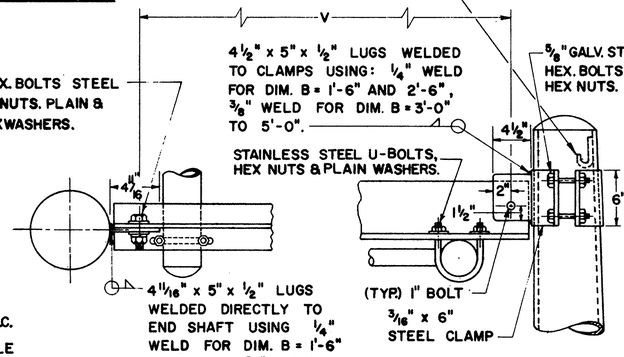
(RIGHT HAND SHOWN — LEFT HAND OPPOSITE)



DETAIL "B"



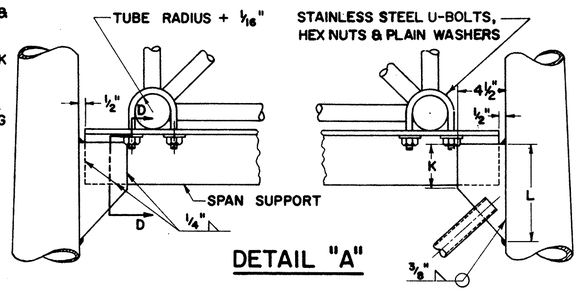
POLE BASE DETAIL



VIEW B-B

DETAIL "D"

UPPER SPAN SUPPORT (ALTERNATE METHODS)



DETAIL "A"

LOWER SPAN SUPPORT

DESIGN NO.	SPAN A	B	C	D	E	END SHAFT	BRACE LENGTH	F	G	I	K	L	P	Q	R	S	T	U BOLTS	V	BOLT CIRCLE	SPAN SUPPORT SECTION D-D	CHORDS	HORIZONTAL AND INTERNAL DIAGONAL	VERTICAL DIAGONAL
1	50' THRU 70'	3'-0"	4'-11 3/4"	4'-5"	9 1/4"	8"X4.5"X 25'-0", 3GA	5'-10 3/16"	7 7/16"	1 3/8"	3 1/2"	4 3/4"	8"	12"	6 5/8"	3'-9"	1 1/2"	10"	5/8"	3'-3 5/8"	11"	SPLIT TEE 3'-8"	4 3/4"X.188"	1.900"X.145"	1.660"X.140"
2	71' THRU 80'	4'-0"	4'-10 1/4"	5'-7"	9 1/4"	8"X6.22"X25'-6", 3GA	6'-7 1/8"	7 7/16"	1 3/8"	5/8"	4 3/4"	7 3/4"	12"	6 1/4"	4'-11"	1 1/2"	9 1/2"	5/8"	4'-5 5/8"	11"	SPLIT TEE 4'-10"	4 3/4"X.188"	2" X.188"	1.900"X.145"
3	81' THRU 86'	4'-0"	4'-10 1/4"	5'-7"	11"	8"X6.22"X25'-6", 3GA	6'-7 1/8"	8 1/2"	1 1/2"	5/8"	4 3/4"	7 3/4"	12"	6 1/4"	4'-11"	1 1/2"	9 1/2"	5/8"	4'-5 5/8"	11"	SPLIT TEE 4'-10"	5 1/2"X.250"	2" X.188"	1.900"X.145"
4	86' THRU 110'	5'-0"	4'-8 1/2"	6'-7"	11"	8"X6.18"X26'-0", 3GA	7'-3 1/4"	8 1/2"	1 1/2"	—	3 1/2"	7 3/4"	12"	7 1/4"	5'-11"	1 3/4"	11 1/4"	3/4"	5'-5 5/8"	11"	SPLIT TEE 5'-10"	5 1/2"X.250"	2 1/2"X.188"	2 1/2"X.188"

REINFORCEMENT SCHEDULE			
MARK	NO.	LENGTH	TYPE
401	12"C/C	8'-6"	102
402	12"C/C	7'-6"	103
601	4	D+4'-0"	101
602	8	D+2'-0"	101
603	32	D_T − 6"	STR.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

OVERHEAD SIGN SUPPORTS

816 No. 7.5

DATE
5-2-62
7-25-62
4-29-64
6-20-66

APPROVED Robert E. Conner
ENGINEER OF TRAFFIC

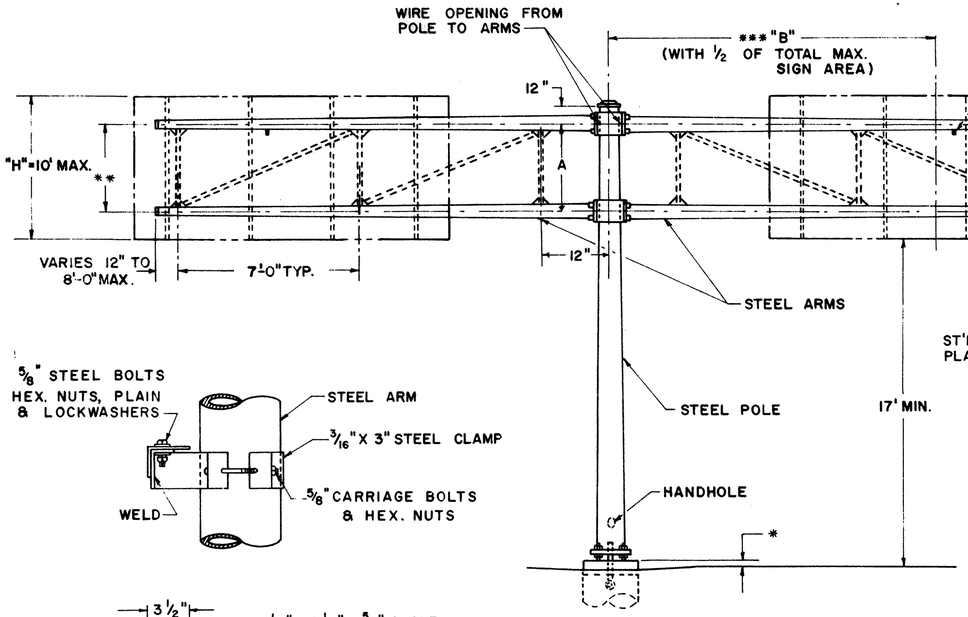
500 SQ. FT. SIGN AREA

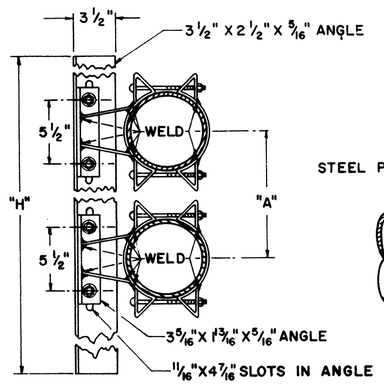
OVERHEAD SIGN SUPPORT, 816 NO. 7.5

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

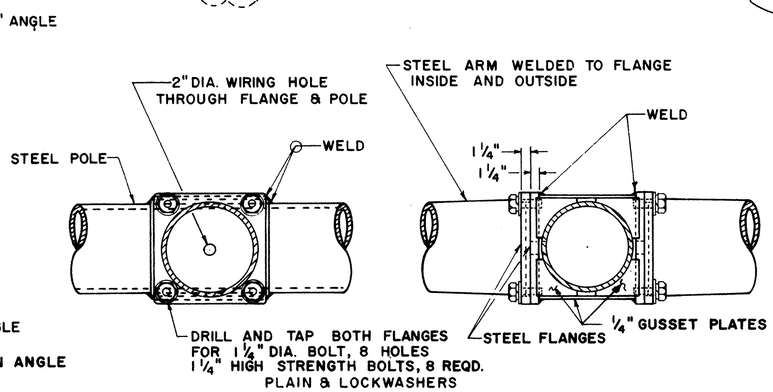
273
384

MAH 805-7.01
MAH 80-2.30

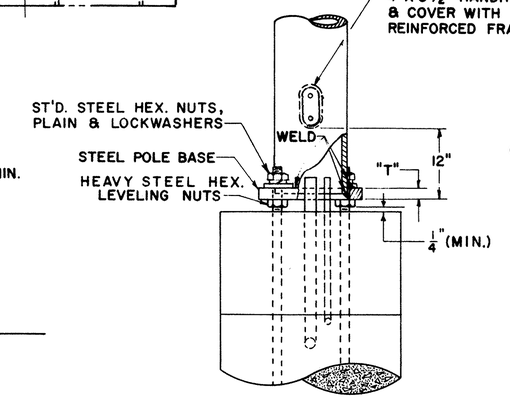


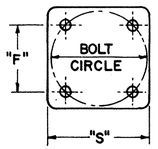


SIGN ATTACHMENT DETAIL

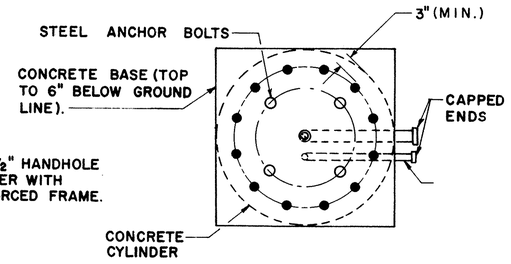


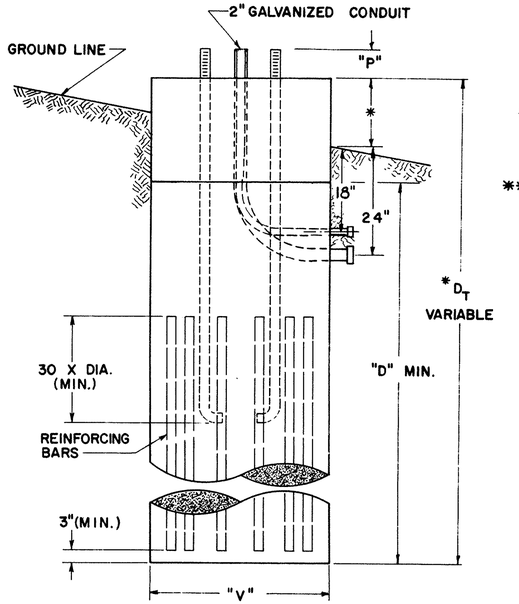
BEAM CONNECTION DETAIL





POLE DETAIL





FOUNDATION DETAIL

NOTES

FABRICATION - ALL PORTIONS OF THE SIGN SUPPORT INCLUDING SIGN ATTACHMENTS, SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF A.S.T.M. DESIGNATIONS A-123 AND A-153. THE CONDUIT SHALL BE GALVANIZED IN ACCORDANCE WITH SEC. 625.13 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS FOR PAYMENT.

*FOUNDATION - THE TOP ELEVATION OF ALL FOUNDATIONS SHALL BE BUILT UP 1'-0" ABOVE THE HIGHWAY CROWN.

**ERECTION - ARMS 20' AND OVER IN LENGTH SHALL BE TRUSS TYPE USING 3"X3"X⅜" ANGLES WELDED TO GUSSET PLATES WITH THE INSIDE EDGES OF THE ARMS PARALLEL.

***VALUES OF "B" MAY BE EXCEEDED PROVIDED THE PRODUCT OF ACTUAL SIGN AREA TIMES THE DISTANCE FROM ℄ OF POLE TO ℄ OF SIGN DOES NOT EXCEED THE PRODUCT OF "B" TIMES ½ THE MAX. SIGN AREA.

GENERAL - THE MAX. SIGN AREA ON EACH SIDE OF THE POLE EQUALS ½ THE MAX. TOTAL AREA IN THE CHART.

MATERIAL - STEEL POLE BASES, AND FLANGES SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 30 GRADE B.
HIGH STRENGTH STEEL BOLTS SHALL CONFORM TO ASTM SPECIFICATION A 193 GRADE B 7.
AFTER FABRICATION TAPERED POLES AND ARMS SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 PSI.

SOILS - THE FOUNDATION DETAILS SHOWN ARE FOR AVERAGE SOIL CONDITIONS (MEDIUM CLAY, CEMENTED SAND AND GRAVEL, SANDY CLAY, OR STIFF CLAY). FOR POOR SOIL CONDITIONS, INCREASE "D" MIN. BY: 50% IN DRY OR WET SAND, 60% IN SILTY CLAY, 100% IN SOFT CLAY, AND FROM 75% TO 150% IN WET SILT, DEPENDING ON QUICKSAND ACTION.

REINFORCING STEEL - REINFORCING STEEL AS SHOWN IN TABLE SHALL BE INSTALLED WHEN "D_T" EXCEEDS THE ANCHOR BOLT LENGTH BY MORE THAN 3 FT. THE COST AND PLACEMENT OF REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE FOR 816 CONCRETE FOR SIGN SUPPORT FOUNDATIONS.

DESIGN

THE DESIGN OF OVERHEAD SUPPORTS IS IN ACCORDANCE WITH A.A.S.H.O. SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, ADOPTED JUNE 12, 1961.

DESIGN NO.	POLE SIZE	* * ARM SIZE	DIM. A	DIM. ***B	DIM. "D" MIN.	DIM. F	DIM. P	DIM. S	DIM. T	BOLT CIRCLE	ANCHOR BOLT SIZE	DIM. V	MAX SIGN AREA	REINF. BARS	
														SIZE	NO.
1	3ga. 18"X14.64"X24'-0"	7ga., 5.7"X4.02"X12'-0"	4'	8'	9'	18"	8⅜"	26½"	2"	25½"	2"X96"	3'-0"	160	¾"	12
2	3ga. 18"X14.64"X24'-0"	7ga., 6.9"X4.66"X16'-0"	4'	12'	9'	18"	8⅜"	26½"	2"	25½"	2"X96"	3'-0"	160	¾"	12
3	0ga., 18"X14.64"X24'-0"	7ga., 7.5"X5.82"X12'-0"	4'	8'	11'	18"	9⅜"	26½"	2½"	25½"	2¼"X108"	3'-0"	240	1"	12
4	0ga., 18"X14.64"X24'-0"	7ga., 8.3"X6.06"X16'-0"	4'	12'	11'	18"	9⅜"	26½"	2½"	25½"	2¼"X108"	3'-0"	240	1"	12
5	0ga., 18"X14.64"X24'-0"	7ga., 10"X7.2"X20'-0	4'	16'	11'	18"	9⅜"	26½"	2½"	25½"	2¼"X108"	3'-0"	220	1"	12
6	2 ply 3ga., 18"X14.5"X25'-0"	7ga., 10"X7.48"X18'-0"	6'	10'	14'	18"	11¼"	26½"	3"	25½"	3"X144"	3'-0"	360	1⅛"	12
7	2 ply 3ga., 18"X14.5"X25'-0"	7ga., 11"X7.92"X22'-0"	6'	14'	14'	18"	11¼"	26½"	3"	25½"	3"X144"	3'-0"	360	1⅛"	12
8	2 ply 0ga., 18"X14.5"X25'-0"	7ga., 12.5"X9.14"X24'-0"	6'	14'	17'	18"	11¼"	26½"	3"	25½"	3"X168"	3'-0"	480	1¼"	12
9	2 ply 0ga., 18"X14.5"X25'-0"	3ga., 12.5"X8.58"X28'-0"	6'	18'	17'	18"	11¼"	26½"	3"	25½"	3"X168"	3'-0"	480	1¼"	12

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

OVERHEAD SIGN SUPPORT

816 No. 10.48

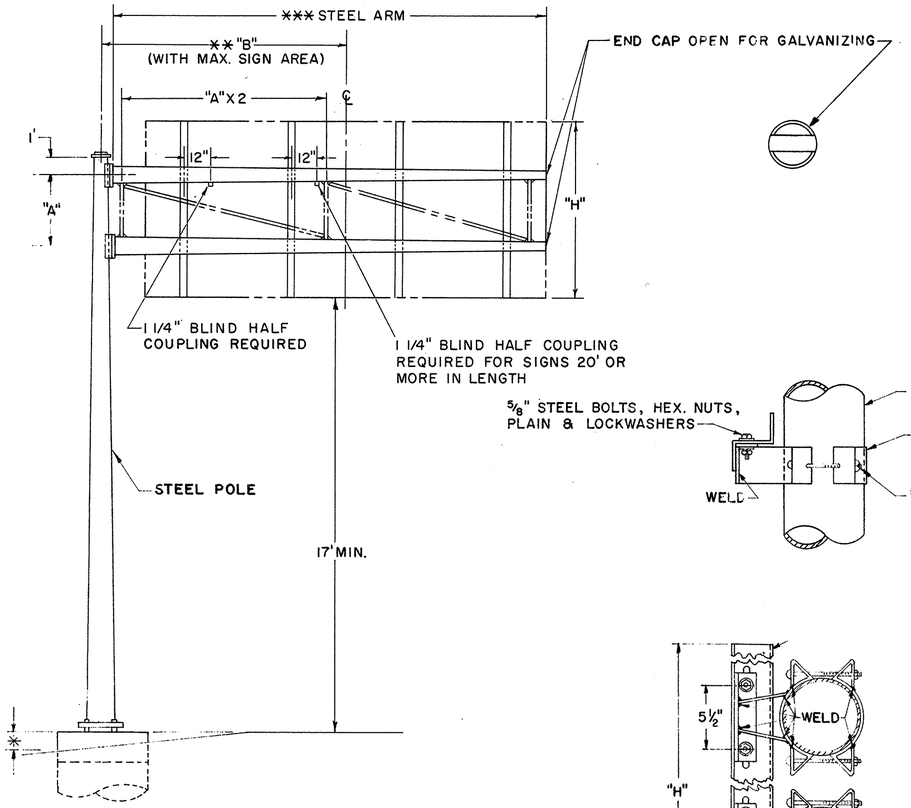
DATE
11-2-61
1-18-62
3-30-62
4-18-62
5-19-64

APPROVED Robert E. Comer
ENGINEER OF TRAFFIC

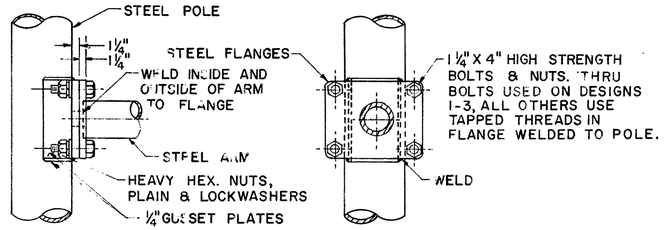
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

274
384

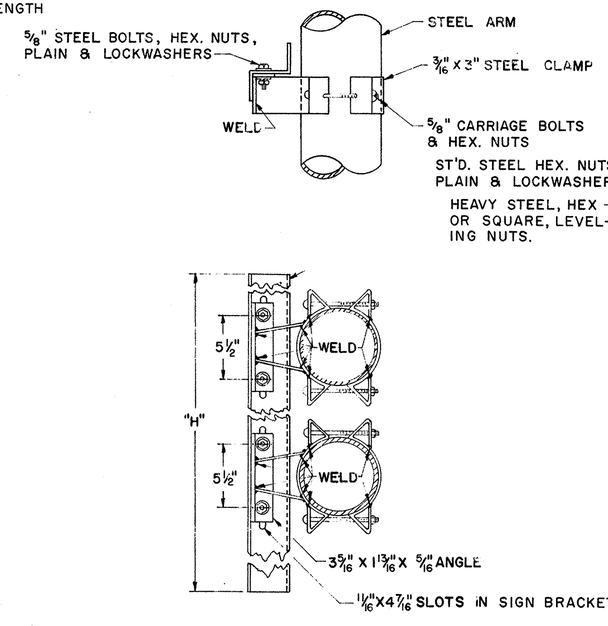
MAH 80S - 7.01
MAH 80 - 2.30



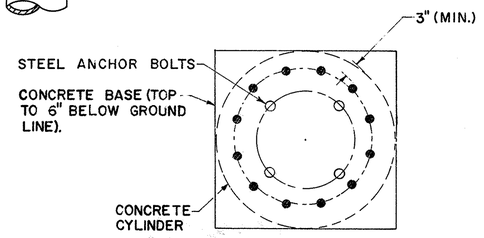
NOTE:
THE 12" DIMENSION SHOWN FOR BLIND HALF COUPLINGS MAY BE INCREASED OR DECREASED WHEN NECESSARY TO TO PREVENT INTERFERENCE WITH OTHER MEMBERS.

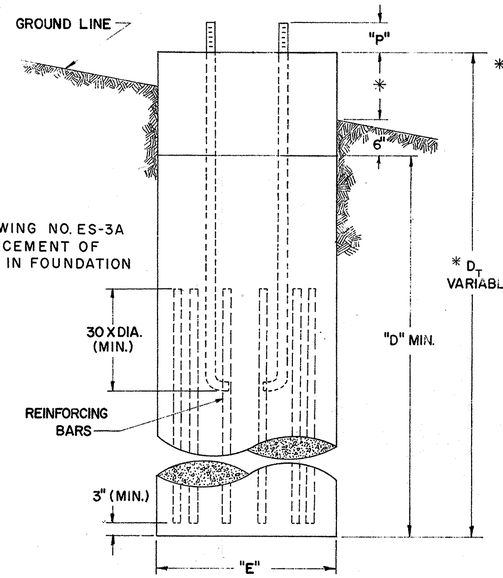


ARM ATTACHMENT



POLE BASE DETAIL





FOUNDATION DETAIL

SIGN ATTACHMENT DETAIL

DESIGN NO.	POLE SIZE	*** ARM SIZE	DIM A	DIM ** B	DIM "D" MIN.	DIM F	DIM F	DIM P	DIM *S	DIM T	BOLT CIRCLE	ANCHOR BOLT SIZE	MAX SIGN AREA	REINF BARS SIZE	REINF BARS #REQ'D
1	3 Ga, 12" X 8.78" X 23'-0"	7Ga, 6.9"X 4.66"X16'-0"	4'	12'	9'	3'-0"	11 5/16"	7¾"	17"	2"	16"	1¾" X 90"	80	¾"	12
2	3 Ga, 12" X 8.78" X 23'-0"	7 Ga, 8" X 5.2" X 20'-0"	4'	16'	9'	3'-0"	11 5/16"	7¾"	17"	2"	16"	1¾"X 90"	80	¾"	12
3	3 Ga, 15" X 11.5" X 25'-0"	7 Ga, 8.3"X 6.06"X16'-0"	4'	12'	11'	3'-0"	15½"	8⅜"	23"	2"	22"	2"X 96"	120	1"	12
4	3 Ga, 16" X 12.5"X 25'-0"	3 Ga, 9.2"X 6.40"X20'-0"	4'	16'	11'	3'-0"	16 5/16"	8⅜"	24½"	2"	23½"	2"X 96"	120	1"	12
5	0 Ga, 18"X 14.36"X 26'-0"	7 Ga, 11"X 7.92"X 22'-0"	6'	14'	13'	3'-0"	18"	9 3/8"	26½"	2½"	25½"	2¼"X120"	180	1⅛"	12
6	0 Ga, 18"X 14.36"X 26'-0"	7 Ga, 12.5"X 8.86"X 26'-0"	6'	18'	13'	3'-0"	18"	9 3/8"	26½"	2½"	25½"	2¼"X120"	180	1⅛"	12
7	2 PLY 7 Ga, 18"X 14.36"X 26'-0"	7 Ga, 12.5"X 9.14"X 24'-0"	6'	14'	15'	3'-0"	18"	9¾"	26½"	2½"	25½"	2½"X 144"	240	1¼"	12
8	2 PLY ¼", 18"X 14.36"X 26'-0"	3 Ga, 12.5"X 8.58"X 26'-0"	6'	18'	15'	3'-0"	18"	11¼"	26½"	3"	25½"	3"X 144"	240	1¼"	12

NOTES

FABRICATION - ALL PORTIONS OF THE SIGN SUPPORT, INCLUDING SIGN ATTACHMENTS, SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF A.S.T.M. DESIGNATIONS A-123 AND A-153. THE CONDUIT SHALL BE GALVANIZED IN ACCORDANCE WITH SEC. 625.13 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS FOR PAYMENT.

* FOUNDATION- THE TOP ELEVATION OF FOUNDATIONS SHALL BE VARIED SO AS TO MAINTAIN A MINIMUM CLEARANCE OF 17' BETWEEN THE BOTTOM OF THE SIGN AND THE HIGHWAY CROWN.

** ERECTION- VALUES OF "B" MAY BE EXCEEDED PROVIDED THE PRODUCT OF ACTUAL SIGN AREA TIMES THE DISTANCE FROM ℄ OF POLE TO ℄ OF SIGN DOES NOT EXCEED THE MAX. SIGN AREA TIMES "B".

*** ARMS 20' LONG OR LONGER ARE TO BE TRUSS TYPE WITH 3"X 3"X ⅜" ANGLES WELDED TO GUSSET PLATES.

MATERIAL- STEEL POLE BASES, FLANGES, AND END CAPS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 30 GRADE B.
HIGH STRENGTH STEEL BOLTS SHALL CONFORM TO ASTM SPECIFICATION A 193 GRADE B7
AFTER FABRICATION TAPERED POLES AND ARMS SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 PSI.

SOILS- THE FOUNDATION DETAILS SHOWN ARE FOR AVERAGE SOIL CONDITIONS (MEDIUM CLAY, CEMENTED SAND AND GRAVEL, SANDY CLAY, OR STIFF CLAY).
FOR POOR SOIL CONDITIONS, INCREASE "D" MIN. BY: 50% IN DRY OR WET SAND, 60% IN SILTY CLAY, 100% IN SOFT CLAY, AND FROM 75% TO 150% IN WET SILT, DEPENDING ON QUICKSAND ACTION.

REINFORCING STEEL- REINFORCING STEEL AS SHOWN IN TABLE SHALL BE INSTALLED WHEN "D_T" EXCEEDS THE ANCHOR BOLT LENGTH BY MORE THAN 3 FT. THE COST AND PLACEMENT OF REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM 816 CONCRETE FOR SIGN SUPPORT FOUNDATIONS.

DESIGN

THE DESIGN OF OVERHEAD SUPPORTS IS IN ACCORDANCE WITH A.A.S.H.O. SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, ADOPTED JUNE 12, 1961.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

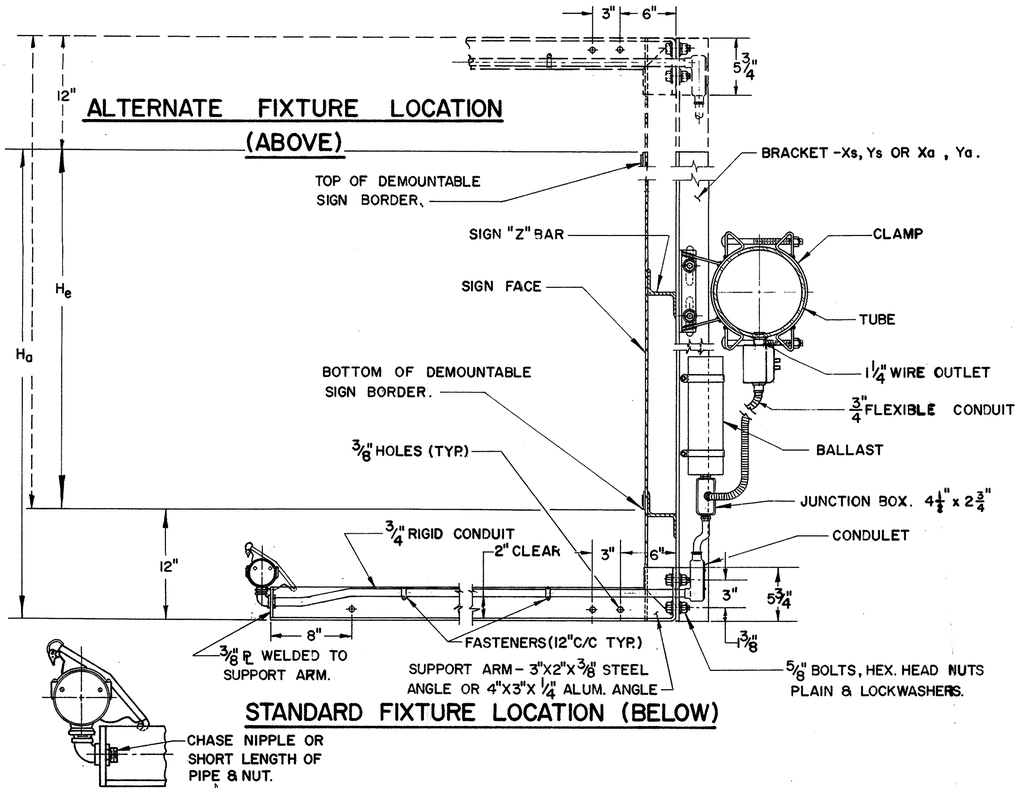
OVERHEAD SIGN SUPPORT	816 No. 12.24	DATE 8-18-61 4-11-62 4-18-67

APPROVED Robert E. Conner
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

275
384

MAH 80S-7.01
MAH 80-2.30



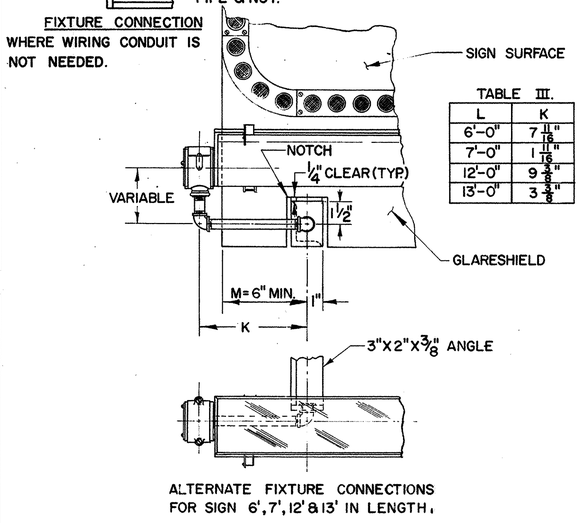
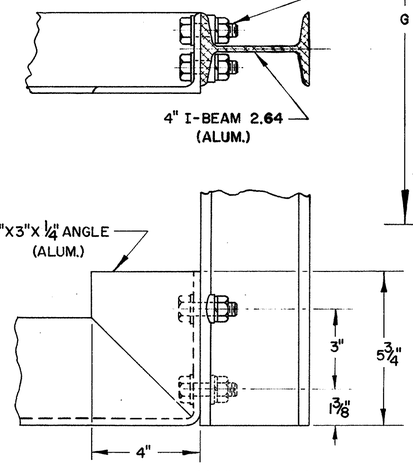


TABLE III.

L	K
6'-0"	7 11/16"
7'-0"	1 11/16"
12'-0"	9 3/8"
13'-0"	3 3/8"

DETAIL A.



DETAIL B.

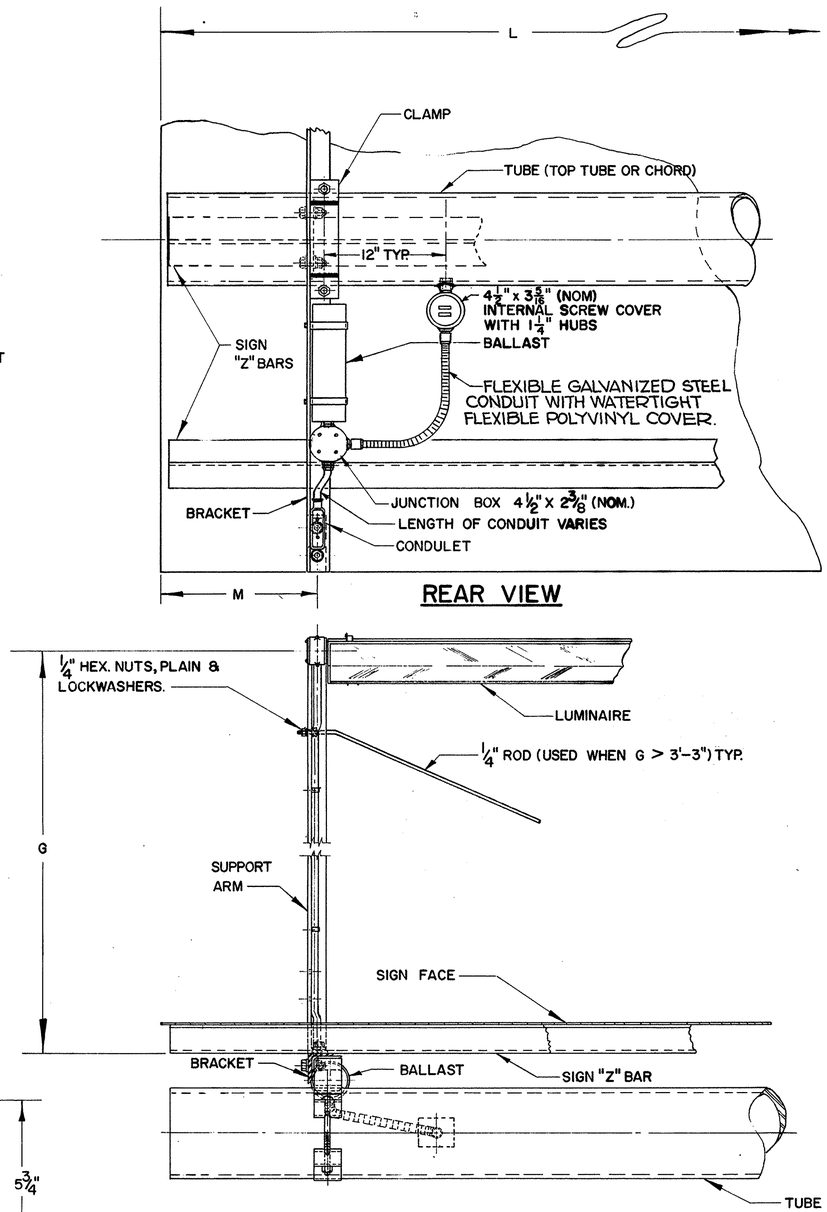


TABLE I.

"L" SIGN LENGTH		NUMBER OF FIXTURES		"M" EDGE DISTANCE				NO. BALLAST
				A		B		
A	B	75 3/8	99 3/8	LT.	RT.	LT.	RT.	
6'-0"	7'-0"	1		6"	6"	6"	6"	1
8'-0"	9'-0"	1		10 3/16"	10 1/4"	16 3/8"	16 1/4"	1
10'-0"	11'-0"		1	10 3/16"	10 1/4"	16 3/8"	16 1/4"	1
12'-0"	13'-0"	2		6"	6	6	6	1
14'-0"	15'-0"	2		8 5/16"	8 5/16"	14 5/8"	14 5/8"	1
16'-0"	17'-0"	1	1	8 5/16"	8 5/16"	14 5/8"	14 5/8"	1
18'-0"	19'-0"		2	8 5/16"	8 5/16"	14 5/8"	14 5/8"	1
20'-0"	21'-0"	3		7"	6 7/8"	13	12 7/8"	2
22'-0"	23'-0"	2	1	7"	6 7/8"	13	12 7/8"	2
24'-0"	25'-0"	1	2	7"	6 7/8"	13	12 7/8"	2
26'-0"	27'-0"		3	7"	6 7/8"	13	12 7/8"	2

Sn= Nominal Fixture Length, 72" & 96" respectively.
Sa= Actual Fixture Length, for mounting purposes, 75 3/8" and 99 3/8" respectively. (Slight variation for different manufacturers.)
M= Distance from edge of sign to ℄ of notch, min. 6". When the length of the sign minus 1'-0" is less than the sum of the actual fixture lengths, an offset "K" is used. For additional details see detail A and table III.

TABLE II

MAX. BRACKET SPACING FOR EXTERNALLY ILLUMINATED SIGNS

ACTUAL SIGN HEIGHT "Ha"	SUPPORT TYPES			
	9.12, 11.08, 13.2, 7.2	9.24, 10.48, 12.24, 14.5, 15.8, 7.2 to 7.6		
	SINGLE TUBE DOUBLE TUBE LESS 36" C/C	DOUBLE TUBE		
		C/C 36"-42"	C/C 48"-54"	C/C 60"-72"
	MAXIMUM BRACKET SPACING			
to 5'-0"	6'-4" with X 8'-4" with Y	8'-4" with X	8'-4" with X	8'-4" with X
5'-6" to 8'-0"	6'-4" with Y	4'-2" with X 6'-4" with Y	6'-4" with X 8'-4" with Y	8'-4" with X
8'-6" to 10'-0"	3'-2" with X 4'-2" with Y	6'-4" with Y	6'-4" with Y	8'-4" with Y
10'-6" to 12'-0"	———	4'-2" with Y	6'-4" with Y	6'-4" with Y
12'-6" to 14'-0"	———	3'-2" with Y	3'-2" with Y	4'-2" with Y

Ha= ACTUAL SIGN HEIGHT
He= EFFECTIVE SIGN HEIGHT
BRACKET SIZE: Xs = 3½" X 2½" X 5/16" — L @ 6.1 LB. STEEL; Ys = 4" X 3 1/16" X ¼" — Z @ 8.2 LB. STEEL } 9.12, 10.48, 11.08, 12.24, 14.5 & 15.8
Xa = 3" X 2 11/16" X ¼" — Z @ 2.33 LB. ALUM.; Ya = 4" X 2 23/32" X 3/16" — I @ 2.64 LB. ALUM. } 7.2 Thru 7.6

WHEN MAX. ALLOWABLE SPACING IS LESS THAN ACTUAL FIXTURE LENGTHS, Sa, ADDITIONAL STANDARD BRACKETS MUST BE FURNISHED, EQUAL IN HEIGHT TO "Ha".

SUPPORTS 7.2 THROUGH 7.6 SHALL HAVE AN ALUMINUM FIXTURE ARM, 4"X3"X¼" ANGLE. SEE DETAIL B. BOLTS AND ACCESSORIES SHALL BE STAINLESS STEEL.

FABRICATION — ALL STRUCTURAL COMPONENTS SHOWN ON THIS SHEET SHALL CONFORM TO SUPPLEMENT SPECIFICATIONS I-129.

MATERIALS — THE MATERIALS USED IN THE COMPONENTS SHOWN ON THIS SHEET SHALL BE IN CONFORMANCE WITH THE MATERIALS USED IN THE SIGN SUPPORT.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

STRUCTURAL DETAILS FOR EXTERNALLY ILLUMINATED SIGNS

EI-1

DATE 10-16-63, 5-6-64, 10-29-64

APPROVED Fred C. Taubye
ENGINEER OF TRAFFIC

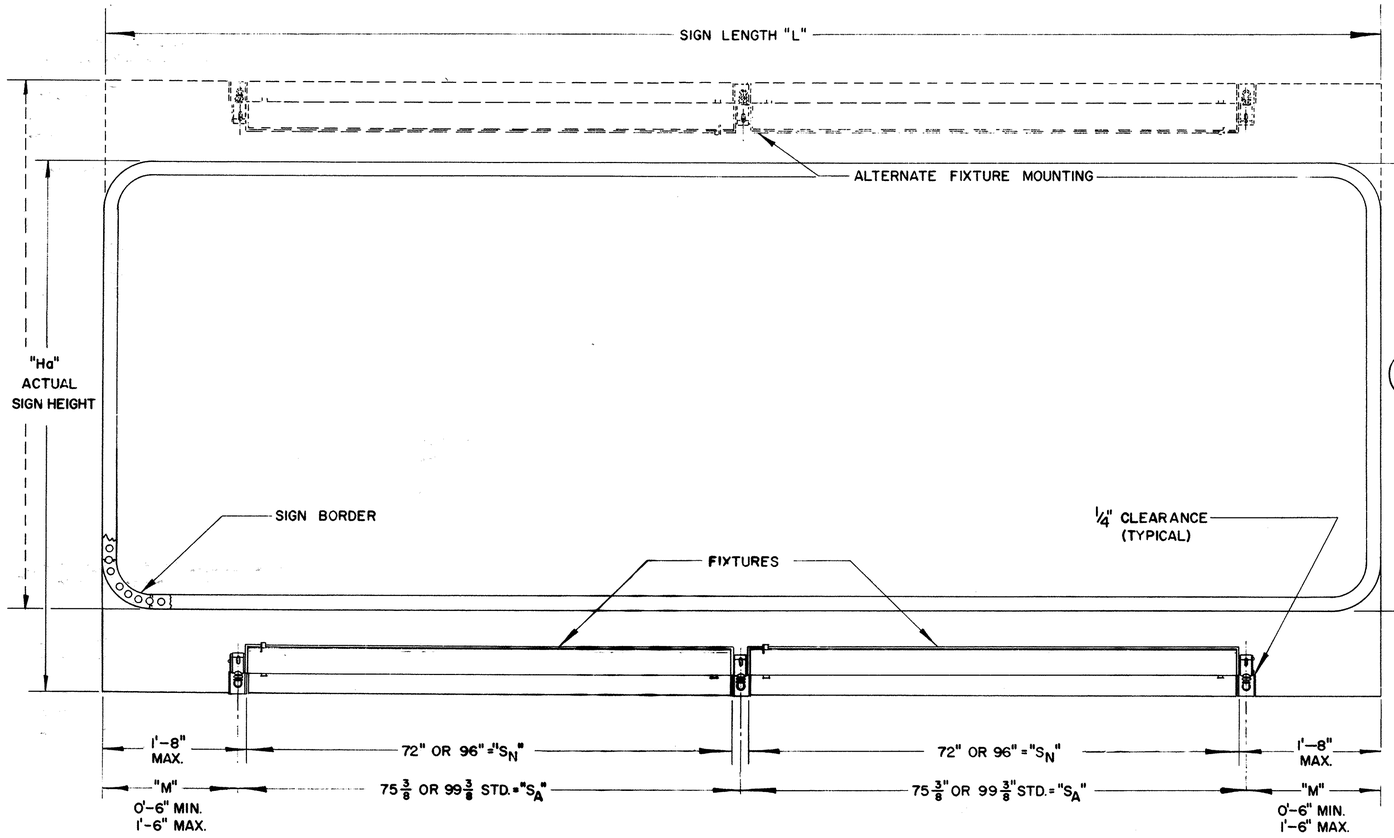
STRUCTURAL DETAILS FOR EXTERNALLY ILLUMINATED SIGNS

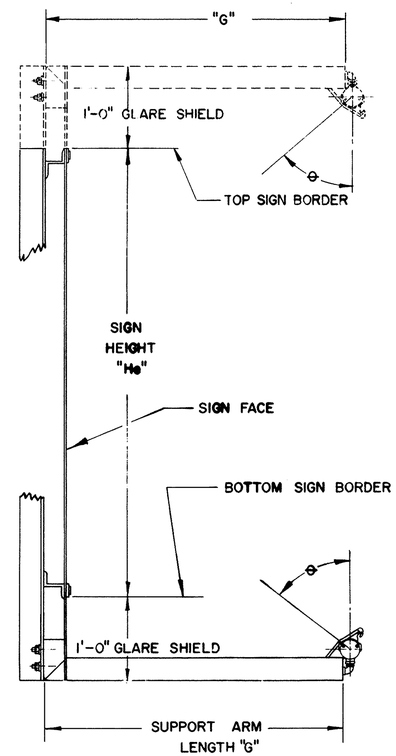
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

276
584

MAH 80S-7.01
MAH 80-2.30

SIGN LIGHTING NOTES





SIGN ILLUMINATION

SIGN ILLUMINATION SHALL BE BY ATTACHED FLUORESCENT FIXTURES AS SHOWN ON ILLUMINATED SIGN DETAIL SHEETS.

LAMPS

LAMPS SHALL BE TYPE F72 OR F96-T12/CW/HO AS MANUFACTURED BY WESTINGHOUSE, GENERAL ELECTRIC OR APPROVED EQUAL FOR SIGNS TO A MAXIMUM HEIGHT OF 6'-6". LAMP TYPE SHALL BE F72 OR F96-T12/CW/SHO AS MANUFACTURED BY WESTINGHOUSE, F72 OR F96-PG17/CW AS MANUFACTURED BY GENERAL ELECTRIC OR APPROVED EQUAL FOR SIGNS THAT ARE 7'-0" OR GREATER IN HEIGHT.

LAMP FIXTURES

LIGHTING FIXTURES SHALL BE CONSTRUCTED OF CORROSION RESISTANT MATERIALS OR WITH HIGH QUALITY CORROSION RESISTANT FINISH. ALL FIXTURES SHALL BE SPECIFICALLY DESIGNED FOR OUTDOOR SIGN LIGHTING SERVICE. MAJOR COMPONENTS SHALL INCLUDE WEATHERPROOF CAST ALUMINUM MOUNTING HUBS DESIGNED TO SECURELY LOCK THE FIXTURES AT ANY ANGLE THROUGH 360 DEGREES. INDICATORS IN 10 DEGREE INCREMENTS SHALL BE STAMPED OR CAST INTO THE HUB TO FACILITATE PROPER AIMING OF THE FIXTURE. FINAL ADJUSTMENT OF FIXTURE SHALL BE DONE AT NIGHT UNDER THE PROJECT ENGINEER'S DIRECTION.

THE BODY DESIGN OF THE FIXTURE SHALL PROVIDE AN ASYMMETRIC SPECULAR ALZAK REFLECTOR TO GIVE A HIGH LEVEL OF UNIFORM ILLUMINATION AND SHALL PROVIDE A WIREWAY FROM END TO END. WHEN ADJACENT FIXTURES ARE WIRED TOGETHER THROUGH THE WIREWAY, WIRE BETWEEN FIXTURES SHALL BE ENTIRELY ENCLOSED.

EXTERIOR FINISH OF THE FIXTURE BODY SHALL BE INTERSTATE GREEN COLOR, HEAT RESISTANT BAKED ENAMEL AS #8950 UNIVERSAL PAINT AND VARNISH INC., OR EQUIVALENT BY MIDWESTERN COLORWORKS, OR APPROVED EQUAL. REFLECTOR, LAMP AND SOCKETS SHALL BE PROTECTED BY A HINGED DOOR OF CLEAR ACRYLIC PLASTIC WITH ALUMINUM OR STAINLESS STEEL FRAME AND NEOPRENE GASKETING.

BALLASTS

BALLASTS FOR FIXTURES SHALL BE WEATHER-PROOF OUTDOOR TYPE FOR A 120 VOLT 60 CYCLE SYSTEM AND SHALL PROVIDE LAMP STARTING AT AN AMBIENT TEMPERATURE OF -20°F. BALLASTS SHALL BE MOUNTED ON SIGN BRACKET ONLY. WIRING SHALL BE ACCOMPLISHED IN SUCH A MANNER THAT THE SIGN MAY BE REMOVED WITHOUT DISTURBING THE ELECTRICAL WIRING.

EFFECTIVE SIGN HEIGHT "H"	SUPPORT ARM LENGTH "G"	APPROX. AIMING ANGLE ⊖
3'-0" to 5'-0"	2'-9"	25°
5'-0" to 6'-6"	3'-3"	25°
7'-0" to 10'-0"	4'-3"	17°
10'-6" to 13'-0"	5'-9"	23°

"L" SIGN LENGTH	NO. OF FIXTURES			He=3'-0" to 6'-6" LAMP=T12/cw/ho			He=7'-0" to 13'-0" LAMP=T12/cw/sho		
	72	96		BALLAST NO.	BALLAST TYPE	WATTAGE PER SIGN	BALLAST NO.	BALLAST TYPE	WATTAGE PER SIGN
6'-0" to 7'-0"	1			1	A	190	1	C	250
8'-0" to 9'-0"	1			1	A	190	1	C	250
10'-0" to 11'-0"			1	1	A	190	1	C	250
12'-0" to 13'-0"	2			1	B	250	1	D	425
14'-0" to 15'-0"	2			1	B	250	1	D	425
16'-0" to 17'-0"	1	1		1	B	250	1	D	425
18'-0" to 19'-0"			2	1	B	250	1	D	425
20'-0" to 21'-0"	3			2	A&B	440	2	C&D	675
22'-0" to 23'-0"	2	1		2	A&B	440	2	C&D	675
24'-0" to 25'-0"	1	2		2	A&B	440	2	C&D	675
26'-0" to 27'-0"			3	2	A&B	440	2	C&D	675

BALLASTS

TYPE	MANUFACTURERS		WATTAGE
	G.E.	JEFFERSON	
A	GG 3583	257-321	190
B	GG 3535	257-331	250
C	GG 3585	257-361	250
D	GG 3588	257-371	425

BALLASTS SHALL BE GENERAL ELECTRIC, JEFFERSON AS SPECIFIED ABOVE OR EQUAL.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

ELECTRICAL DETAILS FOR EXTERNALLY ILLUMINATED SIGNS

EI-2

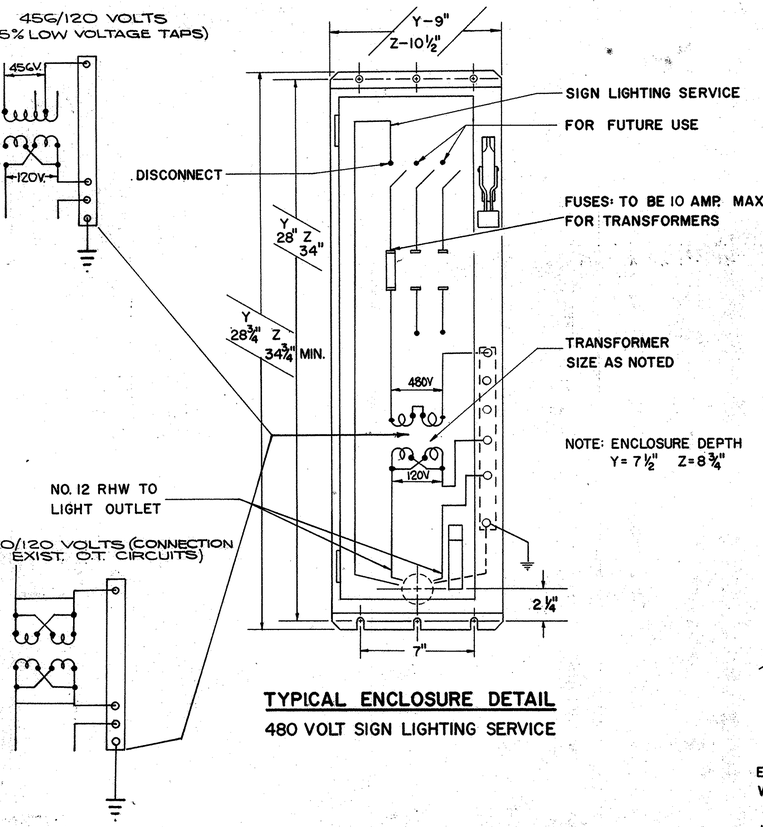
DATE
10-31-63
5-6-64
10-29-64

APPROVED Fred C Talbot
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

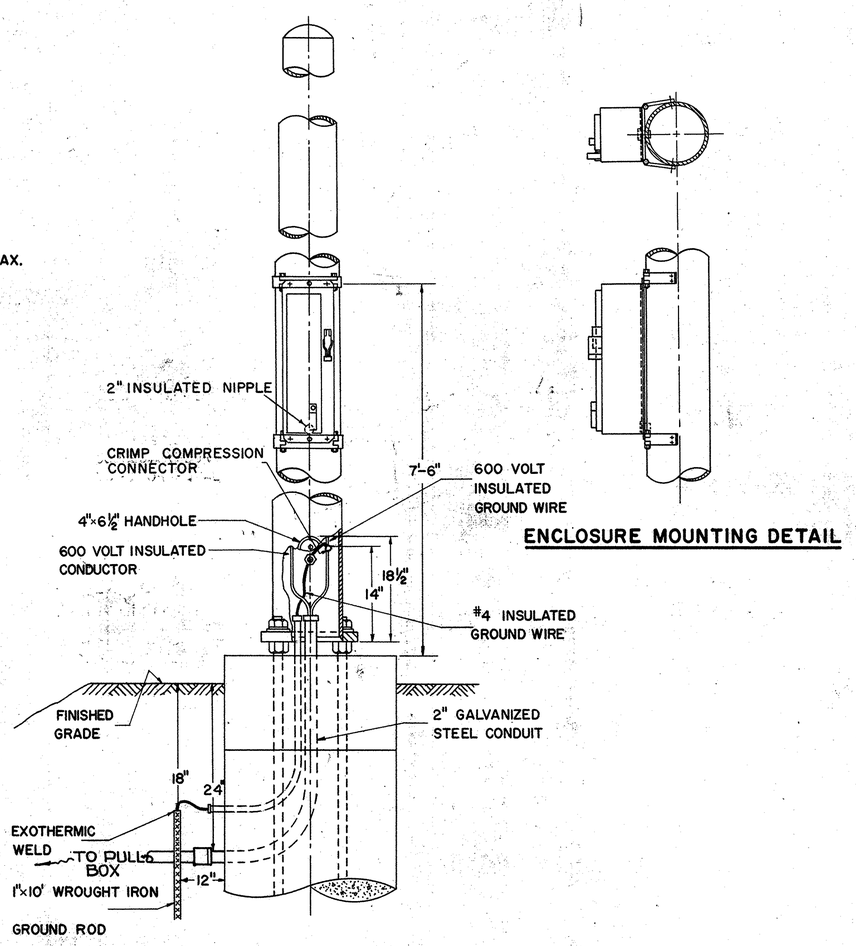
277
384

MAH 80S-7.01
MAH 80-2.30

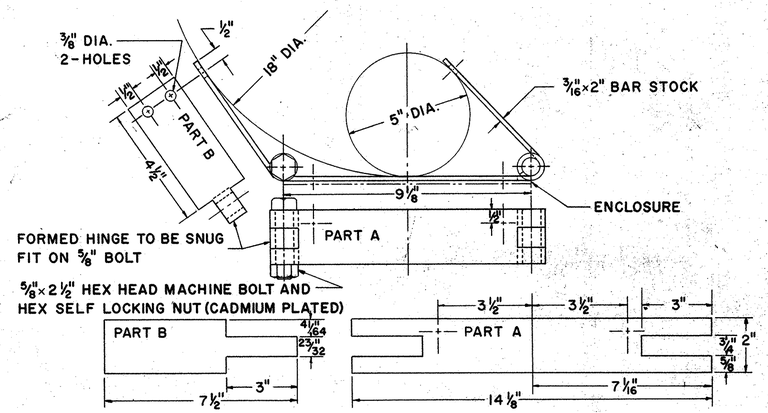


TYPICAL ENCLOSURE DETAIL

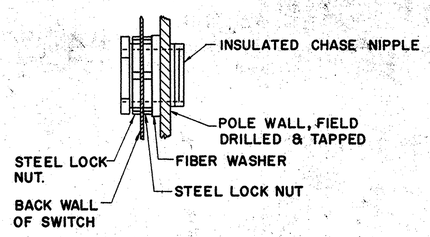
480 VOLT SIGN LIGHTING SERVICE



SIGN SUPPORT DETAIL FOR ILLUMINATED SIGNS



ENCLOSURE MOUNTING BRACKET



INSULATED CHASE NIPPLE ASSEMBLY

AS MANUFACTURED BY THOMAS BETTS,
APPELTON, STEEL CITY OR EQUAL

NOTES

GENERAL

DETAILS OF THIS SHEET SHALL APPLY TO EACH OVERHEAD SIGN STRUCTURE TO SUPPORT EXTERNALLY ILLUMINATED SIGNS.

SERVICE

ELECTRIC SERVICE SHALL ENTER THROUGH A 2" GALVANIZED RIGID STEEL CONDUIT INSTALLED IN STRUCTURE FOUNDATION AS PER DETAIL. SIGN SERVICE OR CIRCUITRY SHALL BE CONTROLLED AS REQUIRED BY THE SYSTEM DESIGN AT THE PRIMARY SOURCE.

SERVICE CONDUCTORS SHALL BE THE SIZE AND TYPE AS SPECIFIED.

COMBINATION SWITCH AND TRANSFORMER

(TYPE Y OR Z ENCLOSURE REQUIRED AS PER SCHEDULE ON THIS SHEET)

THIS COMBINATION SHALL BE A 30 OR 60 AMPERE 600 VOLT SWITCH WITH A .25 TO 3.0 KVA TRANSFORMER. THE COMBINATION AND ENCLOSURE SHALL BE AS SQUARE D CLASS 9421, COLUMBUS ELECTRIC WORKS CLASS 101, PANALS INCORPORATED–CLASS 9400, OR APPROVED EQUAL.

TRANSFORMER

THE TRANSFORMER SHALL BE DRY TYPE SINGLE PHASE 240/480 VOLT PRIMARY 120/240 VOLT SECONDARY, THE TYPE AND CAPACITY AS SPECIFIED IN DETAILED SCHEDULE ON THIS SHEET.

ENCLOSURE

THE ENCLOSURE SHALL BE NEMA #4 WATER TIGHT .063 GAGE STAINLESS STEEL ASTA 302–303. A DISCONNECT HANDLE SHALL BE FLANGE MOUNTED AND CAPABLE OF BEING LOCKED IN EITHER POSITION. THE ENCLOSURE SHALL BE EQUIPPED WITH A DOOR LOCKING MECHANISM WITH A DEFEATER THAT NECESSITATES TWO HANDS TO OPERATE MECHANISM WITH THE SWITCH IN OFF POSITION. SPACE FOR A 2" INSULATED CHASE NIPPLE SHALL BE PROVIDED APPROXIMATELY 2¼" ABOVE THE CENTER LINE OF THE LOWER MOUNTING SLOT. THIS ENCLOSURE AND STRUCTURE SHALL BE FIELD DRILLED AND TAPPED FOR THE REQUIRED NIPPLE AS SHOWN ON THE DETAIL ON THIS SHEET.

THIS ENCLOSURE SHALL BE FLANGE MOUNTED ON BRACKETS WITH 5/16–18×¾" HEX HEAD CADMIUM PLATED MACHINE BOLTS. ENCLOSURES SHALL BE TYPE Y OR Z AS SPECIFIED AND DIMENSIONED ON THIS SHEET.

ENCLOSURE MOUNTING BRACKET

THE ENCLOSURE MOUNTING BRACKET SHALL BE FABRICATED THEN GALVANIZED BEFORE ASSEMBLY. THE BRACKET SHALL BE FIELD MOUNTED WITH 5/16 HEX HEAD SELF TAPPING CADMIUM PLATED SCREWS. THE SIGN SUPPORT SHALL BE FIELD DRILLED, AS PER DETAIL.

WIRE AND CABLE

ALL WIRE AND CABLE UP TO AND INCLUDING #4 SHALL COMPLY WITH FAA TYPE A SPECIFICATIONS, #2 OR LARGER WIRE OR CABLE SHALL BE G.E. 58006 OR ANACONDA AP–10711, OR EQUAL. ALL WIRE AND CABLE SHALL BE 600 VOLT.

GROUNDING

EACH SIGN SUPPORT OR STRUCTURE SHALL BE GROUNDED WITH A #4 RUBBER INSULATION AND NEOPRENE JACKETED CONDUCTOR. THE GROUNDING CONDUCTOR SHALL BE CONNECTED TO THE SWITCH THEN TO THE COMPRESSION CONNECTOR IN THE SIGN SUPPORT THEN TO A 1"×10' SOLID WROUGHT IRON GROUND ROD. GROUND CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO GROUND ROD AND THEN TAPED WITH PLASTIC ELECTRICAL TAPE AT EACH EXPOSED PORTION OF CONDUCTOR. THE WELDED CONNECTION AND TAPED PORTION SHALL BE PAINTED 2 COATS OF INSULATING ENAMEL.

TRANSFORMERS

TYPE	MANUFACTURERS		OUTPUT K.V.A.	SWITCH TRANSFORMER ENCLOSURE	2-5% TAPS	
	G.E.	JEFFERSON			G.E.	JEFFERSON
I	9T51Y7	220-041	.25	Y		
II	9T51Y8	220-051	.50	Y		
III	9T51Y9	220-061	.75	Y		
IV	9T51Y10	220-071	1.00	Z	9T51Y50	220-071-100
V	9T51Y11	220-081	1.50	Z	9T51Y51	220-081-100
VI	9T51Y12	220-091	2.00	Z	9T51Y52	220-091-100
VII	9T51Y13	221-102	3.00	Z		

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

ELECTRICAL SIGN SERVICE DETAILS 480 VOLT SYSTEM

ES-3A

DATE 6-18-64
9-15

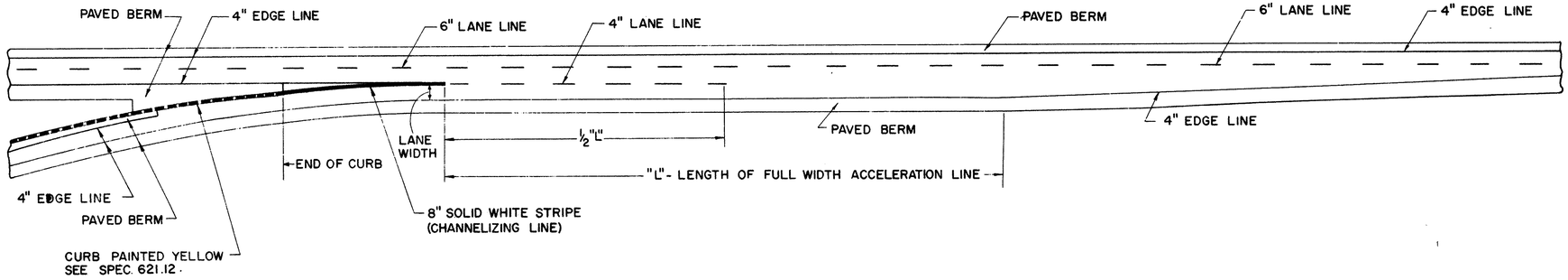
APPROVED _____
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

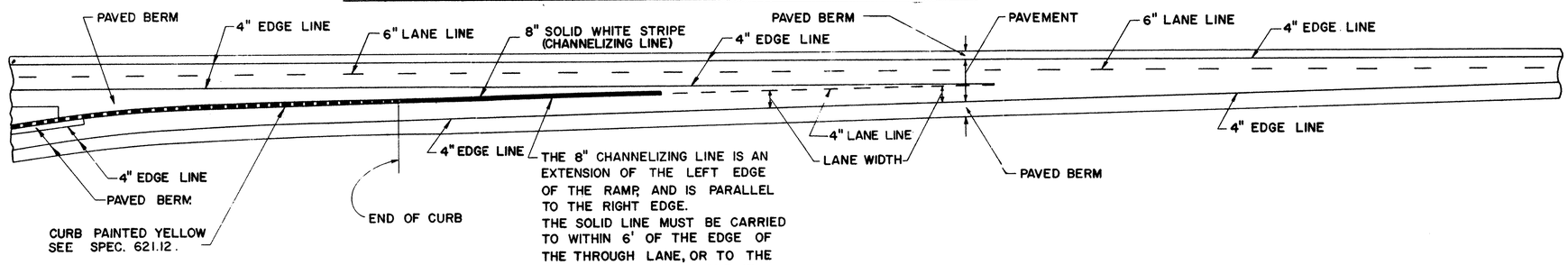
278
384

MAH 80S-7.01
MAH 80-2.30

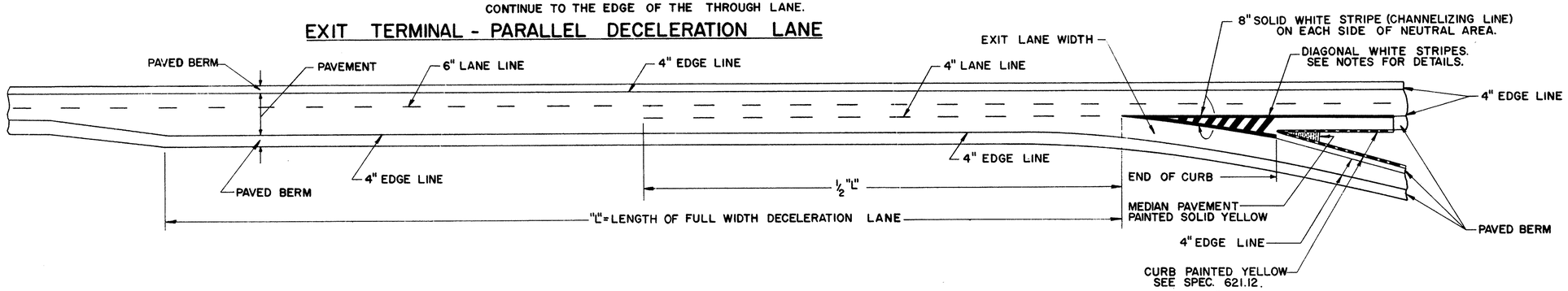
ENTRANCE TERMINAL - PARALLEL ACCELERATION LANE



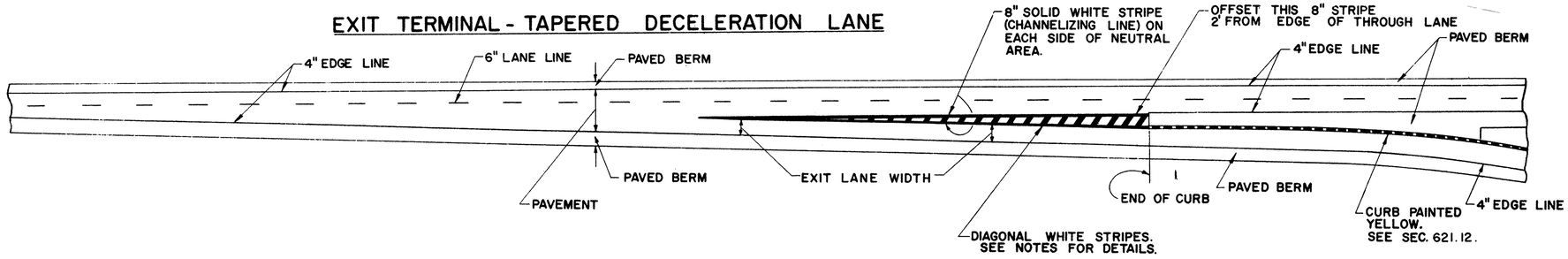
ENTRANCE TERMINAL - TAPERED ACCELERATION LANE



EXIT TERMINAL - PARALLEL DECELERATION LANE



EXIT TERMINAL - TAPERED DECELERATION LANE



NOTES

EDGE LINES SHALL BE PLACED IN THE LOCATIONS AS SHOWN TO CONFORM TO ITEM No. 621 AND DEFINED IN SECTION 621.06.

LANE LINES SHALL BE PLACED IN THE LOCATIONS AS SHOWN TO CONFORM TO ITEM No. 621 AND DEFINED IN SECTION 621.07.

CHANNELIZING LINES SHALL BE CONTINUOUS WHITE BEADED STRIPES 8" IN WIDTH PLACED IN THE LOCATIONS AS SHOWN TO CONFORM TO ITEM No. 621 AND DEFINED IN SECTION 621.09.

DIAGONAL STRIPES IN EXIT RAMP MARKINGS SHALL BE 2' WIDE WHITE BEADED STRIPES SET AT A 45° ANGLE TO THE CENTER LINE OF THE THROUGH PAVEMENT AND SLANTED IN THE DIRECTION OF THE FLOW OF TRAFFIC ON SAID PAVEMENT. SPACE BETWEEN THE 2' DIAGONAL STRIPES SHALL BE 6' AS MEASURED PARALLEL TO THE CENTER LINE OF THE THROUGH PAVEMENT. PAINT ON THE DIAGONAL STRIPES SHALL BE APPLIED AT THE RATE OF ONE GALLON TO EACH 100 SQUARE FEET AND GLASS BEADS SHALL BE APPLIED AT THE RATE OF SIX POUNDS PER GALLON OF PAINT. DIAGONAL WHITE STRIPES SHALL BE PLACED BETWEEN THE TWO 8" WHITE CHANNELIZING LINES AT EXIT RAMPS AS SHOWN TO CONFORM TO ITEM No. 621 AND DEFINED IN SECTION 621.11.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

PAVEMENT MARKING	621	DATE 7-17-61 4-6-62 5-24-65

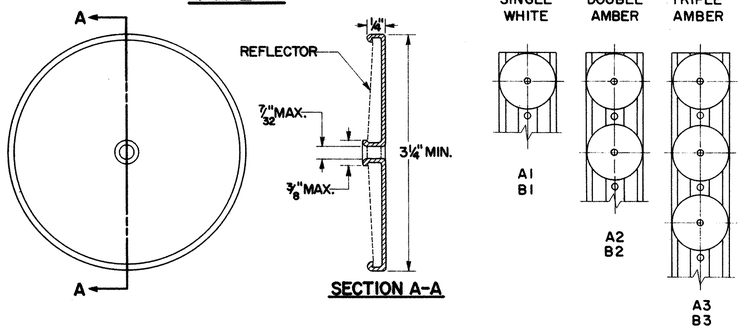
APPROVED Robert E. Lower
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

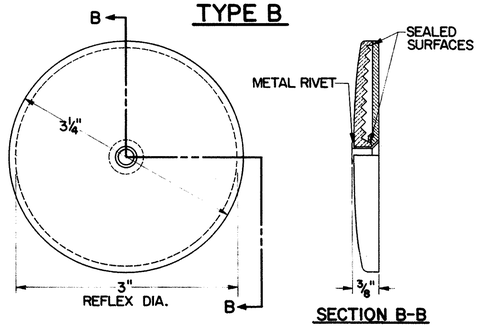
278
384

MAH 805-7.01
MAH 80-2.30

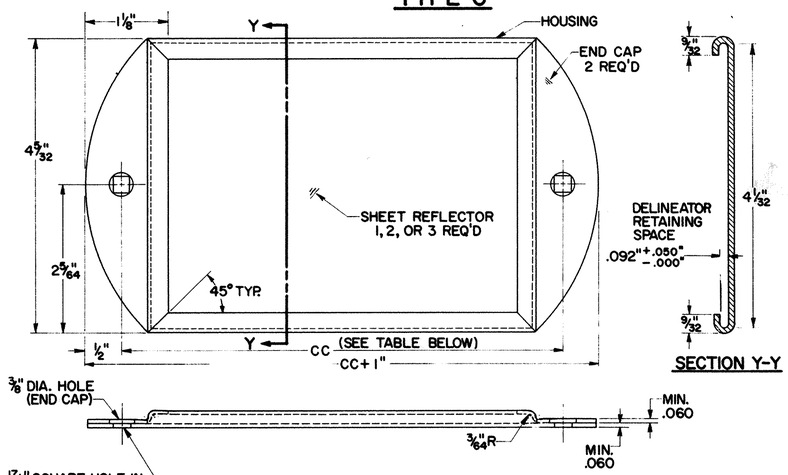
TYPE A



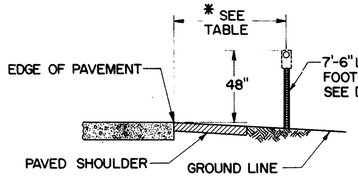
TYPE B



TYPE C



TYPE	DIM. CC
C1- SINGLE WHITE	6"
C2- DOUBLE AMBER	11"
C3- TRIPLE AMBER	16"

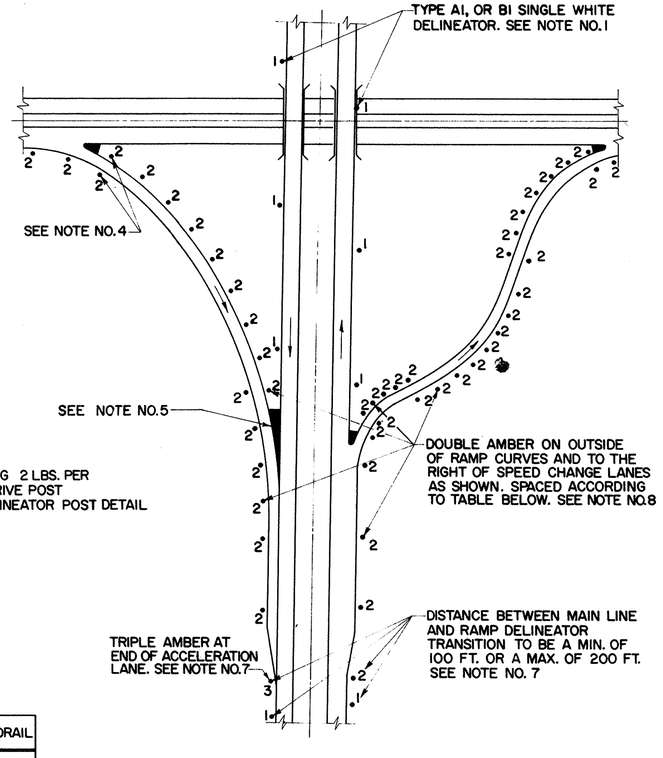


LATERAL PLACEMENT OF DELINEATORS

* TABLE

TYPE DELINEATOR	NO GUARDRAIL	GUARDRAIL
SINGLE WHITE	12'-6"	6" OUTSIDE
DOUBLE AMBER RIGHT SIDE	** 8'-6"	6" OUTSIDE
DOUBLE AMBER LEFT SIDE	4'-6"	6" OUTSIDE
TRIPLE AMBER	12'-6"	6" OUTSIDE

** THIS DIMENSION SHALL VARY ON SPEED CHANGE LANES TO MAINTAIN MINIMUM DISTANCE OF 2'-6" FROM EDGE OF PAVED SHOULDER.



TYPICAL DELINEATOR PLACEMENT

DELINEATOR SPACING ON RAMP HORIZONTAL CURVES

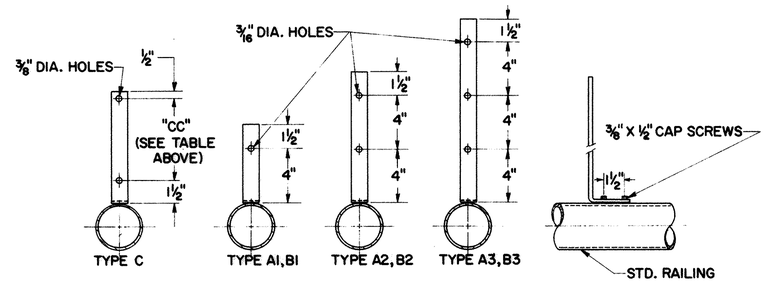
RADII, FT. FROM	RADII, FT. TO	SPACING ON CURVE	*TRANSITION SPACING	
TANGENT	1,801	100'	100'	100'
1,800	1,401	80'	100'	100'
1,400	1,001	70'	100'	100'
1,000	751	60'	100'	100'
750	551	50'	80'	100'
550	326	40'	70'	100'
325	———	30'	60'	100'

* SUCH AS 40' TO 70' TO 100' OR 100' TO 80' TO 50' OR ANY OTHER COMBINATION SHOWN ABOVE.

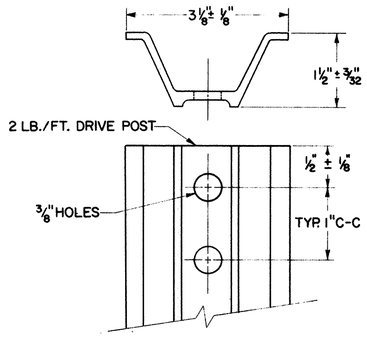
NOTES

1. TYPE A1 OR B1 DELINEATORS ON THE RIGHT OF THE THROUGH ROADWAY ARE TO BE SPACED AT 200 FT. INTERVALS THROUGHOUT, REGARDLESS OF CURVES, BEGINNING AT STA. +00, +25, +50, OR +75.
2. DELINEATORS SHALL BE FURNISHED AND ERECTED IN ACCORDANCE WITH ITEM NO. 620, (5-1-65).
3. PAYMENT FOR SUPPORTS (DRIVEPOST OR BRACKET) SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH FOR "ITEM 620 DELINEATORS".
4. WHEN CROSSING FROM LEFT TO RIGHT OR FROM RIGHT TO LEFT ON THE RAMPS THE DELINEATORS AT THE POINT OF CROSSOVER ARE TO BE AT THE SAME STATION ON EACH SIDE.
5. NO DELINEATORS ARE TO BE PLACED IN PAVED BERM
6. WHEN RADII OF CURVE ON RAMPS REQUIRE 100' SPACING THE DELINEATORS SHALL BE PLACED ON THE RIGHT IN RELATION TO THE FLOW OF TRAFFIC.
7. RAMP DELINEATOR AT END OF ACCELERATION & BEGINNING OF DECELERATION LANES TO BE A MAXIMUM OF 5' FROM POINT OF TANGENCY AT MAIN LINE.
8. ALL RAMP DELINEATORS SHALL BE PLACED TO THE NEAREST 5' INCREMENTS, SUCH AS +05, +10, +15, +20 AND SO ON.

ALL BRACKETS 1/4" X 1 1/4" STAINLESS STEEL



BRIDGE RAIL BRACKET



DELINEATOR POST

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

DELINEATOR DETAILS

620

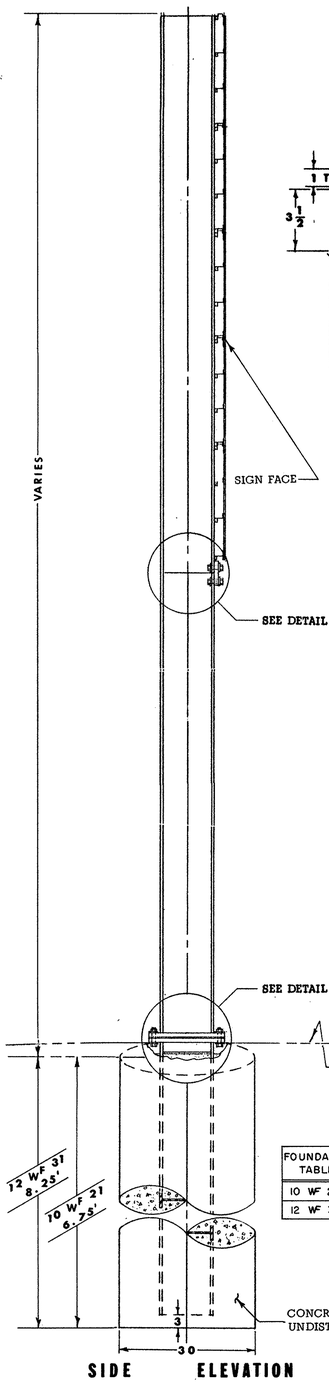
DATE
9-25-62
5-24-65

APPROVED Robert Elsmore
ENGINEER OF TRAFFIC

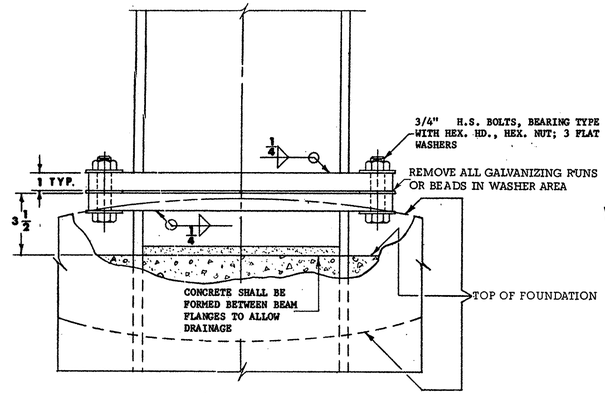
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

280
384

MAH 80S - 7.01
MAH 80 - 2.30



SIDE ELEVATION



BOLTING PROCEDURE

1. ASSEMBLE POST TO STUB W/BOLTS & ONE FLAT WASHER ON EACH BOLT BETWEEN PLATES.

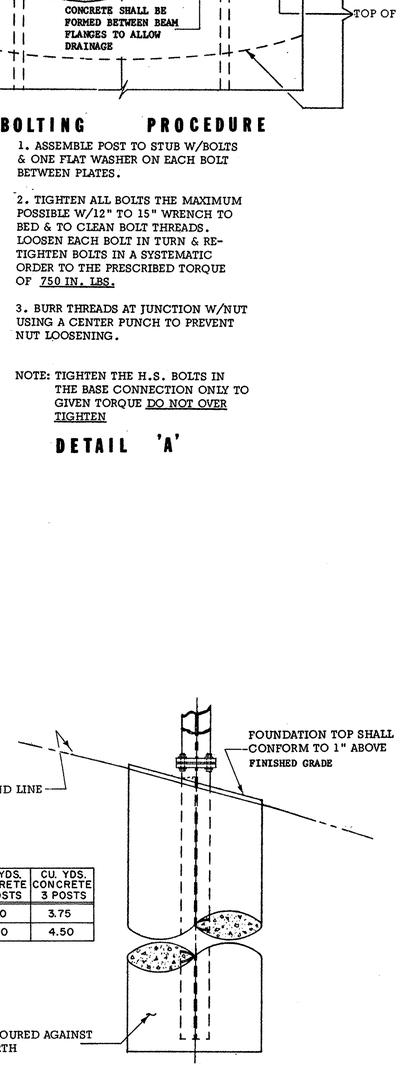
2. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE W/12" TO 15" WRENCH TO BED & TO CLEAN BOLT THREADS. LOOSEN EACH BOLT IN TURN & RE-TIGHTEN BOLTS IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE OF 750 IN. LBS.

3. BURR THREADS AT JUNCTION W/NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

NOTE: TIGHTEN THE H.S. BOLTS IN THE BASE CONNECTION ONLY TO GIVEN TORQUE DO NOT OVER TIGHTEN

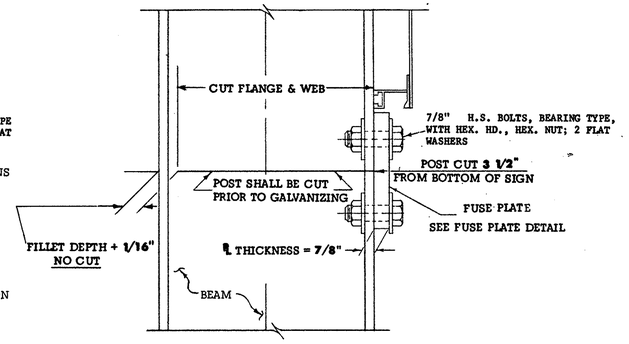
DETAIL 'A'

FOUNDATION TABLE	CU. YDS. CONCRETE 2 POSTS	CU. YDS. CONCRETE 3 POSTS
10 WF 21	2.50	3.75
12 WF 31	3.00	4.50



FRONT ELEVATION

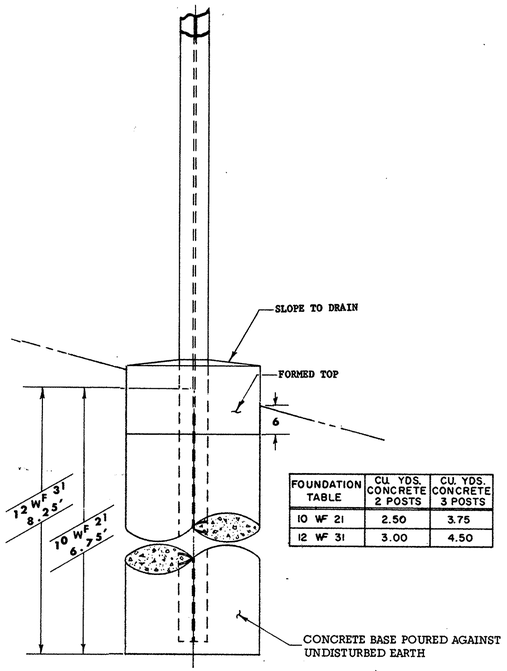
BREAK-AWAY SUPPORT



FABRICATOR NOTE: ALL FRICTION FUSE BOLTS SHALL BE TIGHTENED IN THE SHOP FOLLOWING A METHOD APPROVED BY THE ENGINEER. TIGHTENING SHALL BE TO SUCH A DEGREE AS TO OBTAIN MINIMUM RESIDUAL TENSION IN EACH BOLT OF 36,050 LBS.

NOTE: INSTALL FUSE PLATE WITH NOTCHES TOWARD BASE

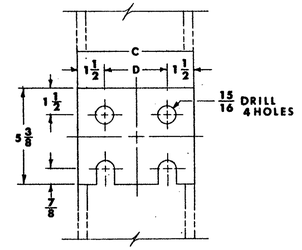
DETAIL B'



FOUNDATION TABLE	CU. YDS. CONCRETE 2 POSTS	CU. YDS. CONCRETE 3 POSTS
10 WF 21	2.50	3.75
12 WF 31	3.00	4.50

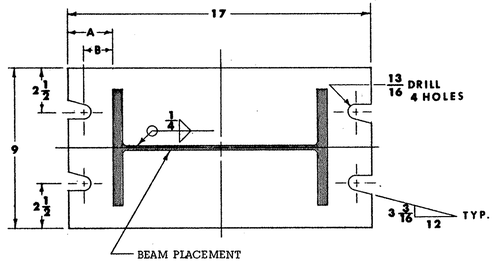
FRONT ELEVATION

STANDARD SUPPORT



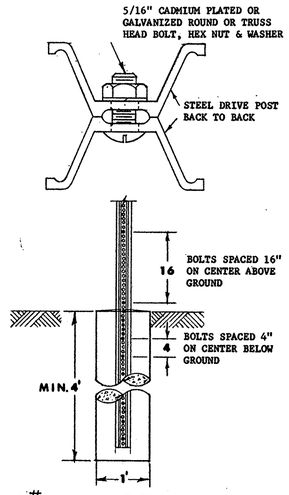
BEAM SIZE	C	D
10 WF 21	5 3/4	2 3/4
12 WF 31	6 1/2	3 1/2

FUSE PLATE DETAIL

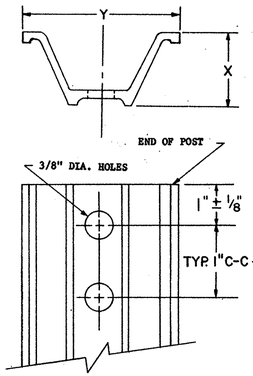


BEAM SIZE	A	B
10 WF 21	3 1/2	2 5/8
12 WF 31	2 1/2	1 5/8

BASE PLATE DETAIL



6# & 8# BEAM DETAIL



WEIGHT PER FOOT	X ± 3/32"	Y ± 1/8"
2.00 #	1 15/32"	3 1/16"
3.00 #	1 7/8"	3 1/2"
4.00 #	2 "	3 5/8"

DRIVE POST DETAIL

NOTE

THE FOUNDATION FOR 4# DRIVE POST IS SIMILAR TO THE FOUNDATION SHOWN FOR 6# & 8# BEAM.

NOTE: ALL MATERIALS SHALL CONFORM TO THE STATE OF OHIO, CONSTRUCTION & MATERIALS SPECIFICATIONS OR AS OTHERWISE SPECIFIED

1) 511 FOUNDATIONS
2) 711.01 STRUCTURAL STEEL SHAPES & PLATES
3) 711.09 H.S. STEEL BOLTS, NUTS & WASHERS

NOTE: ALL DIMENSIONS IN INCHES UNLESS OTHERWISE SHOWN

STRUCTURAL SUPPORTS

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

GROUND MOUNTED SIGN SUPPORTS

GMSS

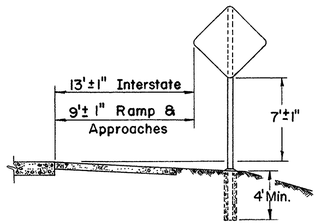
DATE 8-22-67

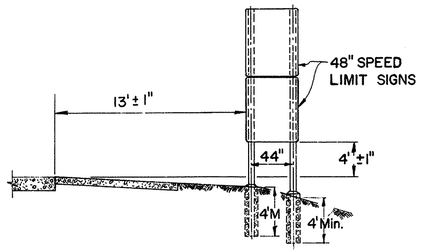
APPROVED _____
ENGINEER OF TRAFFIC

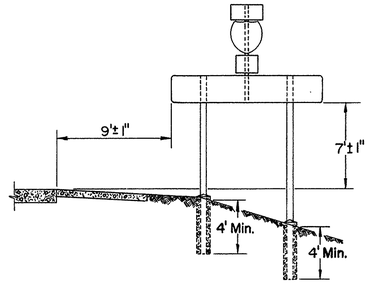
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

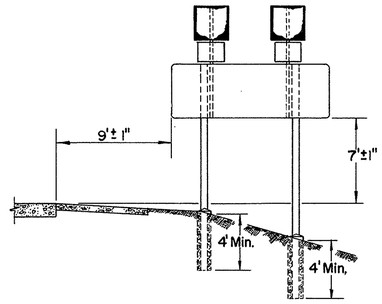
281
384

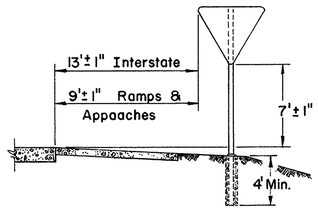
MAH 805-7.01
MAH 80-2.30

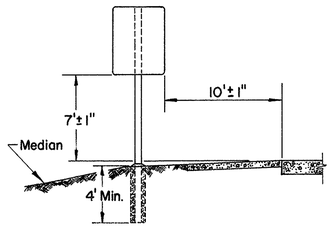


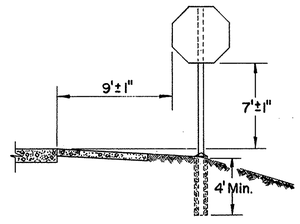


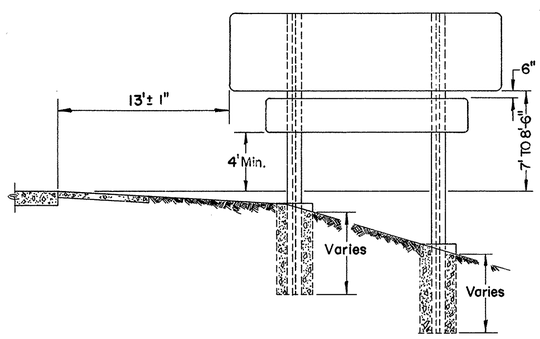


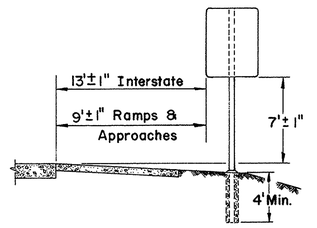


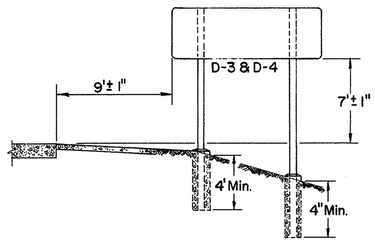


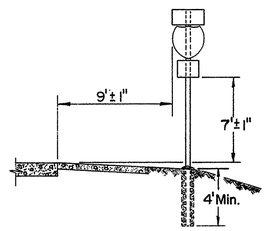


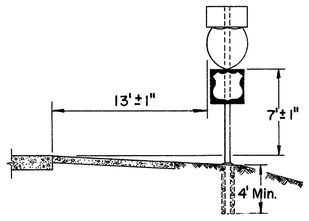


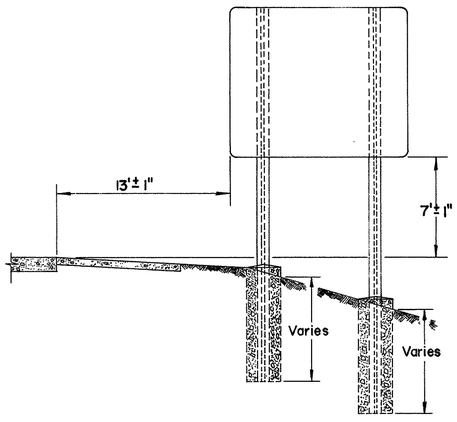


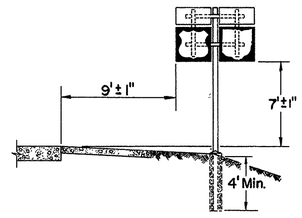


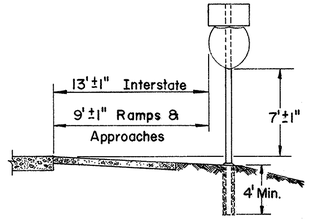


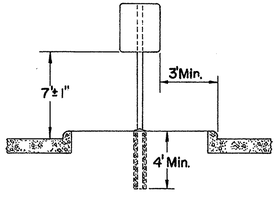












NOTES

1. BOLT HOLE LOCATIONS ARE INDICATED ON THE SIGN DESIGN SHEETS NO. 282.

2. HORIZONTAL BACK BRACING SHALL ALWAYS BE MOUNTED ON THE FRONT FLANGE OF THE SUPPORT EXCEPT WHERE SIGNS ARE MOUNTED BACK TO BACK. BACK BRACING SHALL NEVER EXTEND ABOVE TOP EDGE OF UPPERMOST SIGN PLATE AND SHALL BE ATTACHED TO SUPPORTS USING 5/16" GALVANIZED STEEL BOLTS.

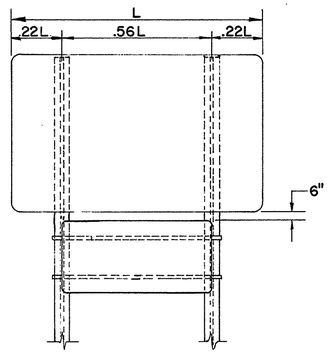
3. SCREWS, NUTS, AND WASHERS FOR SIGN ERECTION SHALL BE ALUMINUM EXCEPT AS NOTED ABOVE. 5/16" TRUSS HEAD SLOTTED MACHINE SCREWS WITH HEX. NUTS PLAIN AND LOCKWASHERS SHALL BE USED. PLAIN WASHERS SHALL BE $\frac{5}{16}$"WIDE", USED ON SIGN FACE ONLY.

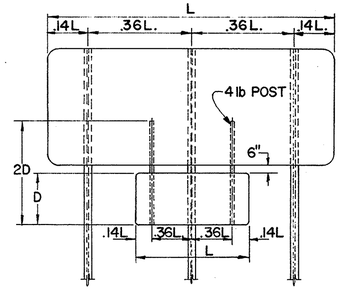
4. SIGN INSTALLATIONS SHALL BE PLACED SO THAT SUPPORTS ARE NOT PLACED IN DRAINAGE DITCHES.

5. HORIZONTAL CLEARANCES SHOWN PERTAIN TO NON-CURBED SECTIONS. SECTIONS WITH UNMOUNTABLE CURB SHALL HAVE A HORIZONTAL CLEARANCE OF 3'-0" MINIMUM FROM THE CURB FACE TO THE SIGN EDGE. ALL SIGN SHALL BE ERECTED 1'-0"±1" BEHIND EXISTING GUARD RAIL UNLESS OTHERWISE SPECIFIED ON PLANS OR BY THE ENGINEER.

6. VERTICAL AND HORIZONTAL CLEARANCE BETWEEN SIGNS ON ONE ASSEMBLY SHALL BE A MAXIMUM OF 2" AND A MINIMUM OF 1".

7. GALVANIZED STEEL BEARING PLATES SHALL BE INCLUDED BETWEEN ALL SHEET ALUMINUM SIGNS ATTACHED TO VERTICAL SUPPORTS AT EACH SIGN BOLT LOCATION.





BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

TYPICAL PLACEMENT OF SIGNS

TPS-1

DATE
10-12-65
2-28-66

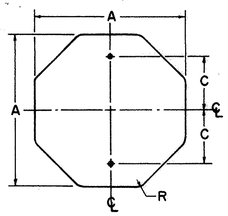
APPROVED Fred C. Parlow
ENGINEER OF TRAFFIC

TYPICAL PLACEMENT OF SIGNS

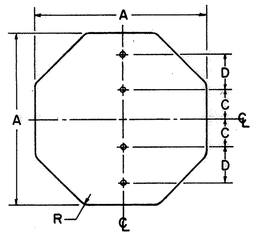
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

282/384

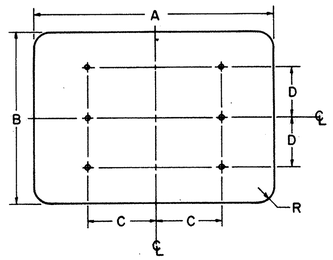
MAH 80S-7.01
MAH 80-2.30



A	C	R	GAGUE
30	8	1½	.080
36	8	1½	.080

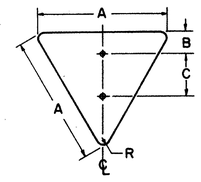


A	C	D	R	GAGUE
48	8	10	1½	.100

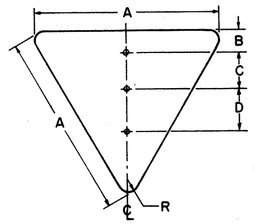


A	B	C	D	R	GAGUE
78	60	22	22	6	.100
96	48	27	16	6	.100
48	60	22	22	3	.100 *
48	48	22	16	3	.100 **

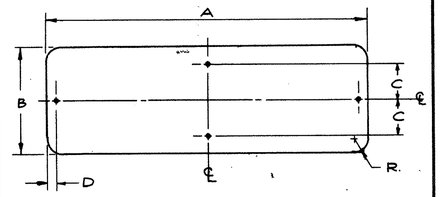
*{R-10-48 R-7-48 ** R-16-48



A	B	C	R	GAGUE
36	3	16	2½	.080



A	B	C	D	R	GAGUE
60	5	10	15	4	.100



A	B	C	D	R	GAGUE
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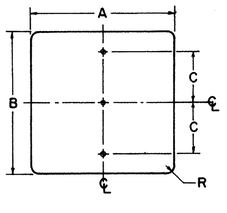
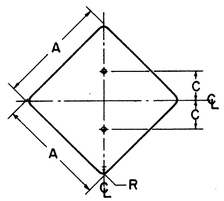
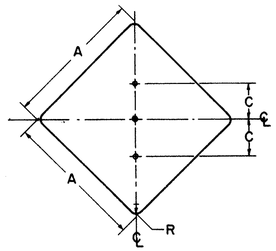


A	B	C	R	GAGUE
36	8½	15	1½	.080
48	36	13	3	.100



A	C	R	GAGUE
36	8½	1½	.080



A	C	R	GAGUE
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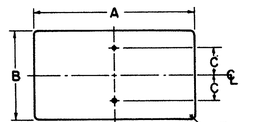
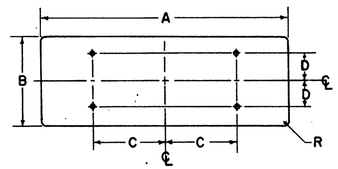
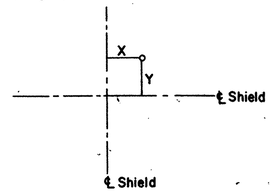


A	B	C	R	GAGUE
24	30	8	1½	.063
24	24	8	1½	.063
30	30	8	1½	.080
24	12	4½	1½	.063
20	15	6	1½	.063
36	18	7½	1½	.080
30	42	12	1½	.080
30	36	10½	1½	.080



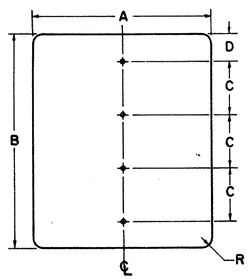
A	B	C	D	R	GAGUE
78	30	22	8	6	.100
48	24	15	7	1½	.100

Location of holes on "Demountable Shields" (attached to guide signs)

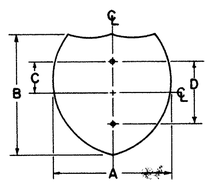


SIZE	NO. HOLES	X	Y
(26) 24X24	4	7	7
30X24	4	8	8
(39) 36X36	4	10	10
		0	10
48X36	6	15	10

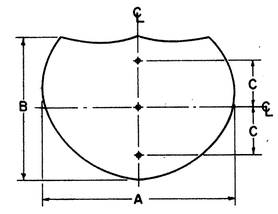
For notes on fastening see drawing for "Miscellaneous Signing Items" Sheet



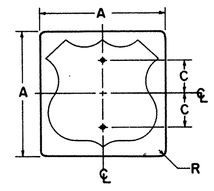
A	B	C	D	R	GAGUE
48	60	15	7½	3	.100



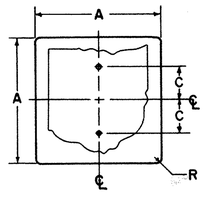
A	B	C	D	GAGUE
24	24	8	16	.063
30	24	8	16	.080
36	36	11	20	.080



A	B	C	GAGUE
48	36	11	.100



A	C	R	GAGUE
24	9	1½	.063
36	11	1½	.080



NOTES:

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SHOWN.

MATERIAL

FLAT SIGN BLANKS SHALL BE FURNISHED IN ALUMINUM ALLOY 6061-T6, (ASTM-B209, GS11A-T6) WITH MILL FINISH.

BOLT HOLES

THE BOLT HOLES SHALL BE ⅜" IN DIAMETER, THEY MAY BE DRILLED, BLANKED OR PUNCHED TO FINISH SIZE.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

SIGN BLANK DETAILS

SBD

DATE
12-3-63
2-1-65
10-14-65
3-21-66

APPROVED Fred O Carter
ENGINEER OF TRAFFIC

SIGN BLANK DETAILS

MICROFILMED
APR 3 1986

STRUCTURAL GENERAL NOTES

FED. RD.	STATE	PROJECT	
2	OHIO		

285
384

MAH-80s-7.01
MAH-80-2.30

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF "DESIGN SPECIFICATIONS FOR HIGHWAY STRUCTURES" OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, DATED 9/1/57, TOGETHER WITH CURRENT REVISIONS THEREOF.

DESIGN LOADING - SEE SITE PLANS

CONCRETE CLASS C — BASIC UNIT STRESS 1,333 p.s.i.
CONCRETE CLASS E — BASIC UNIT STRESS 1,133 p.s.i.

STRUCTURAL STEEL — ALL STRUCTURAL STEEL SHALL BE ASTM A 36, ASTM A36-BASIC UNIT STRESS 20,000 p.s.i.

REINFORCING STEEL — ASTM A15, A 16, A 160, DEFORMED, INTERMEDIATE OR HARD GRADE. BASIC UNIT STRESS 20,000 p.s.i. EXCEPT, SPIRAL REINFORCEMENT MAY BE PLAIN, STRUCTURAL GRADE WITH BASIC UNIT STRESS of 18,000 p.s.i.

REFERENCE

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:			BRIDGE NUMBER						
			0701 L&R	0761 L&R	0861 0862	0148	0186	0240	0289 L&R
BR - 1 - 65	SHEETS 1 & 2 REVISED	11/24/65	•	•	•	•	•	•	•
RB - 1 - 55	REVISED	2 2/59	•		•	•	•	•	
SD - 1 - 65	SHEETS 1, 2, & 3 DATED	11/ 8/65	•		•	•	•	•	
AS - 1 - 54	REVISED	8/10/65	•	•	•	•	•	•	•
808	SUPPLEMENTAL SPEC. DATED	1/13/67	•	•	•	•	•	•	•
811	SUPPLEMENTAL SPEC. DATED	1/ 1/67	•		•	•	•	•	
825	SUPPLEMENTAL SPEC. DATED	1/ 1/67	•	•	•	•	•	•	•
828	SUPPLEMENTAL SPEC. DATED	1/ 1/67	•		•	•	•	•	
832	SUPPLEMENTAL SPEC. DATED	5/25/67	•		•	•	•	•	
931	SUPPLEMENTAL SPEC. DATED	5/25/67	•		•	•	•	•	

SLAB DEPTH OVER BEAMS OR GIRDERS

THE DIMENSION SHOWN FROM THE TOP OF THE DECK SLAB TO THE TOP FLANGE OF THE BEAMS OR TO THE TOP OF THE GIRDER WEBS IS THE NOMINAL DIMENSION. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED UPON THIS DIMENSION, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE GIRDER OR BEAM MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE. DEDUCTION SHALL BE MADE FOR VOLUME OF ENCASED STEEL PLATES, AS PER ITEM 511.19 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

MACHINE FINISH

THE CONCRETE DECK SHALL BE FINISHED BY THE USE OF A FINISHING MACHINE.

PAINTING

PAINTING OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 832.

WELDS

WELDS ON SECONDARY STRESS CARRYING MEMBERS ARE SHOWN THUS:

S

WELDED ATTACHMENTS: NO ATTACHMENTS SHALL BE MADE BY WELDING TO TOP FLANGES OF THE BEAMS WITHIN A DISTANCE OF 7'-6" ON EITHER SIDE OF THE PIER BEARINGS. WELDING FOR ATTACHMENTS TO THE TOP FLANGES AT OTHER POINTS ON THE SPANS SHALL BE KEPT AT LEAST 2" FROM EDGE OF FLANGE.

FOUNDATION BEARING PRESSURE

FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF "A" TONS PER SQ. FT.

BRIDGE NUMBER	A	
	ABUTS.	PIERS
MAH-80s-0761 R/L	—	4.0
MAH-80s-0861	5.0	6.0
MAH-80s-0862	5.0	6.0
MAH-80-0148	4.0	4.0
MAH-80-0186	—	4.0
MAH-80-0240	—	5.0
MAH-80-0289	—	6.0

FOOTINGS

FOOTINGS FOR THE FOLLOWING SUBSTRUCTURES SHALL EXTEND A MINIMUM OF 3" INTO UNDISTURBED ROCK OR TO THE ELEVATION SHOWN, WHICHEVER IS LOWER.

BRIDGE NO	SUBSTRUCTURE
MAH-80s-0761 L/R	PIERS
MAH-80s-0861	ABUTS. & PIERS
MAH-80s-0862	ABUTS & PIERS
MAH-80-0148	ABUTS & PIERS
MAH-80-0186	PIER
MAH-80-0240	PIERS
MAH-80-0289	PIERS

PILES TO ROCK

PILES SHALL BE DRIVEN TO FIRM CONTACT WITH ROCK. IF THE LENGTH OF PENETRATION IS APPROXIMATELY EQUAL TO THE DEPTH TO ROCK ACCORDING TO THE BRIDGE FOUNDATION INVESTIGATION REPORT, THE FIRM CONTACT SHALL BE CONSIDERED AS ATTAINED WHEN THE CAPACITY ACCORDING TO THE FORMULA IN 507.05 IS NOT LESS THAN THE FOLLOWING VALUE FOR A PILE HAMMER OF THE INDICATED ENERGY RATING.

A ___ TONS PER PILE USING A 7000 FT. LB. HAMMER

B ___ TONS PER PILE USING AN 11000 FT. LB. HAMMER

C ___ TONS PER PILE USING A 15000 FT. LB. OR GREATER HAMMER

IF THE ENERGY RATING OF THE HAMMER IS BETWEEN THE RATINGS AS SHOWN ABOVE, THE REQUIRED FORMULA CAPACITY SHALL BE DETERMINED BY INTERPOLATION. THE DESIGN LOAD IS D TONS PER PILE.

BRIDGE NUMBER	SUBSTR.	A	B	C	D
MAH-80s-0701 L/R	ABUTS.	45	40	35	35
	PIER #1	55	50	45	35
	PIERS #2 & #3	65	55	45	35
MAH-80s-0761 L/R	ABUTS. ONLY	55	50	45	35
MAH-80-0186	ABUTS. ONLY	*	50	40	35
MAH-80-0240	ABUTS. ONLY	*	54	47	35
MAH-80-0289	ABUTS ONLY	*	50	43	35

* DO NOT USE A HAMMER OF LESS THAN 11,000 FT LBS PER BLOW.

ALIGNING RAILROAD TRACKS

AFTER THE CONTRACTOR HAS COMPLETED ALL EXCAVATION AND BACKFILL ADJACENT TO THE RAILROAD TRACKS IN COMPLIANCE WITH 503.04 AND 503.09 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, SUBJECT TOTHE SUPERVISION OF THE RAILROAD COMPANY, NOTHING IN 503.04, 503.09, OR 108.04 OF THE SPECIFICATIONS SHALL BE CONSTRUED TO HOLD THE CONTRACTOR LIABLE FOR ALIGNING AND RESURFACING THE RAILROAD TRACKS.

RAILROAD AERIAL LINES

RAILROAD AERIAL LINES WILL BE RELOCATED BY THE RAILROAD. THE CONTRACTOR SHALL USE ALL PRECAUTIONS NECESSARY TO SEE THAT THE LINES ARE NOT DISTURBED DURING THE CONSTRUCTION STAGE AND SHALL COOPERATE WITH THE RAILROAD IN THE RELOCATION OF THESE LINES. THE COST OF THE RELOCATION SHALL BE INCLUDED IN THE RAILROAD FORCE ACCOUNT WORK.

CONSTRUCTION CLEARANCE

CONSTRUCTION CLEARANCE OF 20.00 FEET VERTICALLY ABOVE THE TOP OF THE RAILROAD RAILS AND 8.00 FEET HORIZONTALLY FROM THE CENTER OF TRACKS SHALL BE MAINTAINED AT ALL TIMES.

SHEETING AND BRACING

BEFORE CONSTRUCTION IS STARTED, NINE (9) SETS OF PRINTS SHOWING DETAILS OF THE SHEETING AND BRACING TO BE USED FOR EXCAVATION ADJACENT TO THE RAILROAD TRACKS SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL BY THE DEPARTMENT OF HIGHWAYS AND BY THE RAILROAD COMPANY.

UTILITY LINES

ALL EXPENSE INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNERS. THE CONTRACTOR AND OWNERS ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER BE HELD TO A MINIMUM.

MAINTENANCE OF TRAFFIC

FOR DETAILS OF MAINTENANCE OF TRAFFIC AT THE TURNPIKE, SEE SHEET 14.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

STRUCTURAL GENERAL NOTES

MAH - 80s - 7.01
MAH - 80 - 2.30

MAHONING COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RDH	L.S.		RDH	RDH	3-3-67	

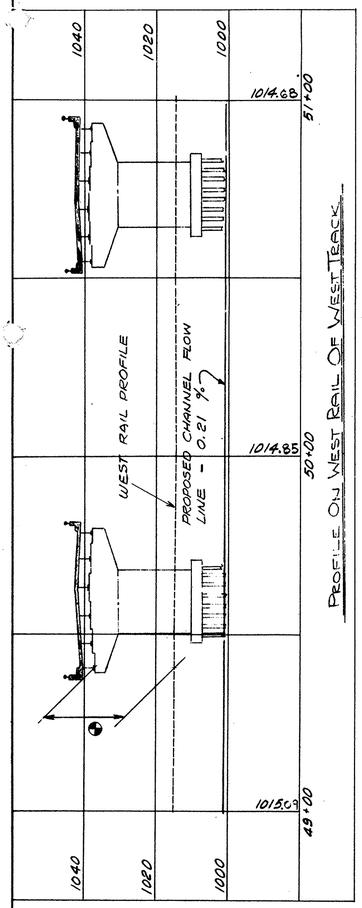
MICROFILMED
APR 3 1986

284
384

MAH-80S-7.01
MAH-80-2.30

DRAINAGE DATA

DRAINAGE AREA = 1845 ACRES.
OPENING REQUIRED = 174 SQ. FT.
OPENING PROVIDED = 174 SQ. FT
EST. 50YR. HIGH WATER = 1006.07
50YR. FREQUENCY = 940 C.f.s.



VERTICAL CLEARANCE :
DESIGN = 23.00'
ACTUAL = 23.09'

CURVE DATA

℄ I-80S

P.I. STA. 363+83.96
Δ = 7°-31'-36" LT.
D = 00°-15'-00"
T = 1507.50'
L = 3010.67'
E = 49.53'
R = 22,918.32'

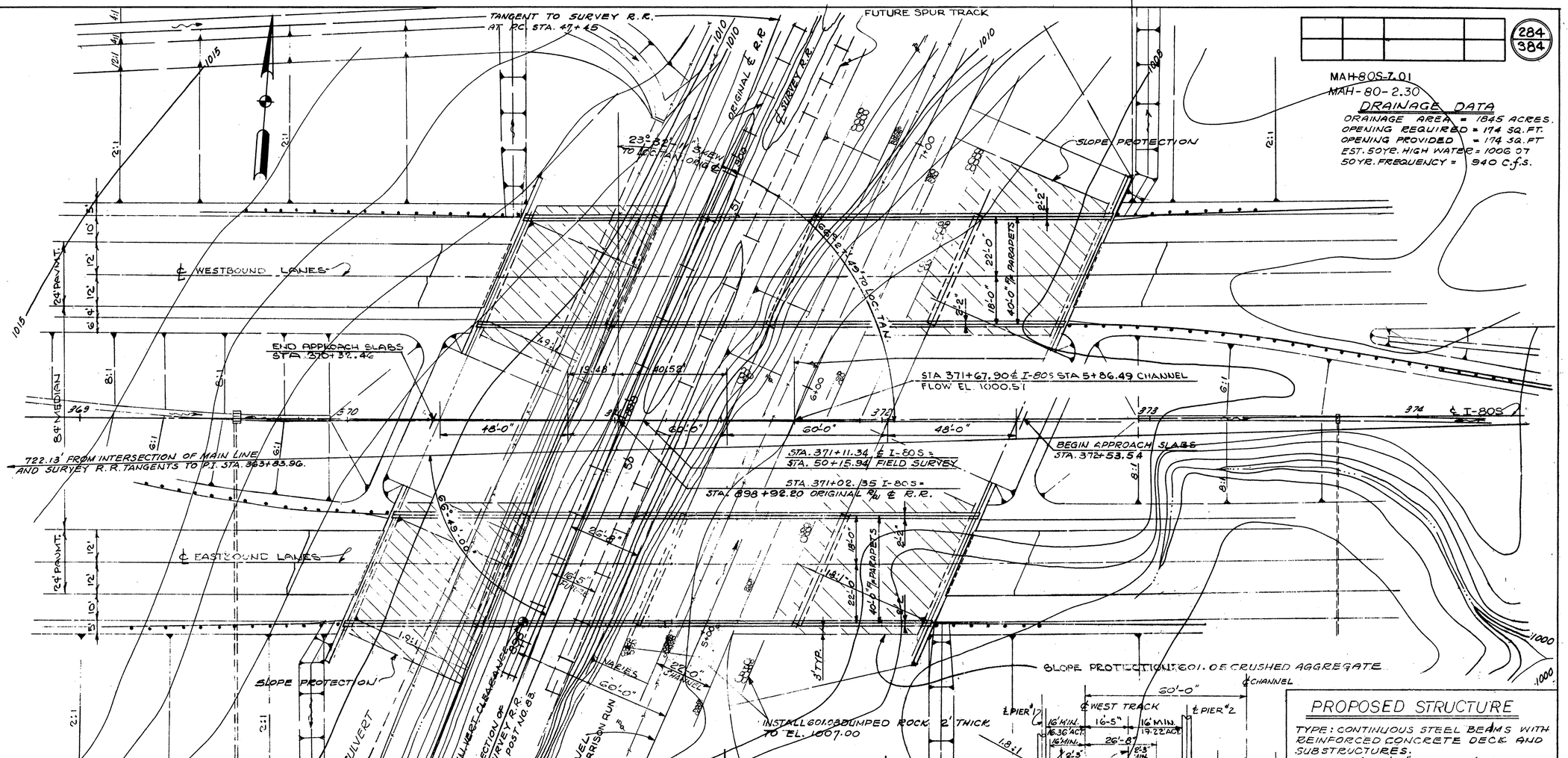
℄ WEST TRACK

Δ = 9°-11'
D = 1°-00'-00"
L = 918.35'
R = 5729.65'
P.C. STA. 896+56.00
P.T. STA. 905+74.35

℄ FIELD SURVEY

Δ = 10°-00'-00"
D = 1°-00'-00"
L = 1000.00'
R = 5729.58'
P.C. STA. 47+45.00
P.T. STA. 57+45.00

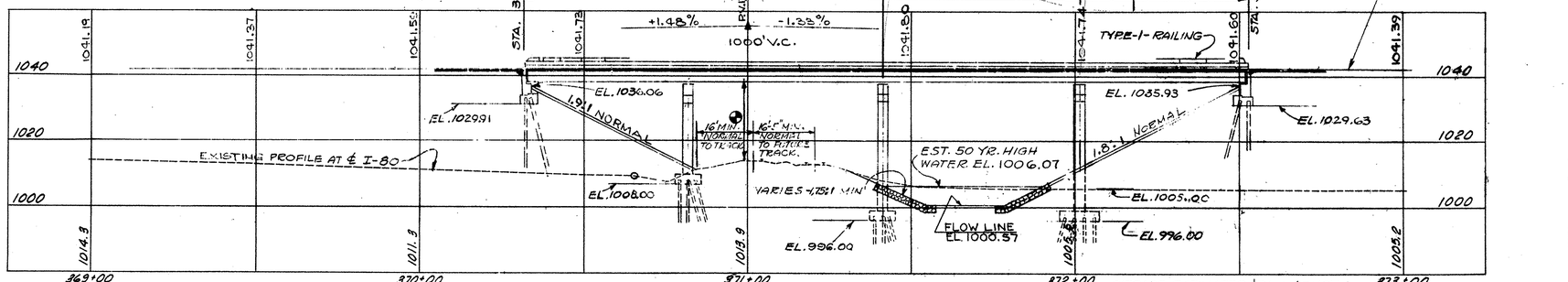
SEE PLAN OF PROPOSED RELOC. MORRISON RUN FOR PROP. RELOCATION OF R.R., R/W. FENCE AND POLE LINE.



PROFILE ON ℄ EXPRESSWAY

AVERAGE ESTIMATED PAY LENGTH FOR PILES : ABUTMENTS = 45'
PIER #1 = 23-PIER #2 - 10' # PIER #3 = 14'

R.R. CLEARANCE DIAGRAM



PROPOSED STRUCTURE

TYPE: CONTINUOUS STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES.
SKEW: 23°-32'-11" BETWEEN LOC. TANGENTS
SPANS: 48'-0" 60'-0" 60'-0" 48'-0" ℅ BRGS.
ROADWAY: 40'-0" ℅ PARAPETS
LOAD FREQUENCY: CF - 8000 ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING.
WEARING SURFACE: 1" MONOLITHIC.
APPROACH SLABS: 25' LONG (AS-1-64)
ALIGNMENT: 0°-15'-00" CURVE LT.
SUPERELEVATION: NONE.
SLOPE PROTECTION: CRUSHED AGGREGATE (601.05) AND DUMPED ROCK (601.08)

TRAFFIC: I-80S - 28,091 - A.D.T. - 1985

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

SITE PLAN

BRIDGE No. MAH-80S-0701 L & R
OVER PENN. R.R.
MAHONING COUNTY
STA 371+02.35

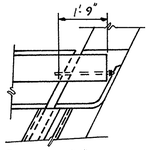
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JP	JWW		Hager	RDH	3-10-67	5-13-64

MICROFILMED
APR 3 1986

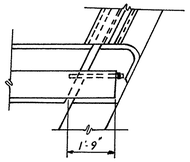
FED. RD.	STATE	PROJECT	
2	OHIO		

285
384

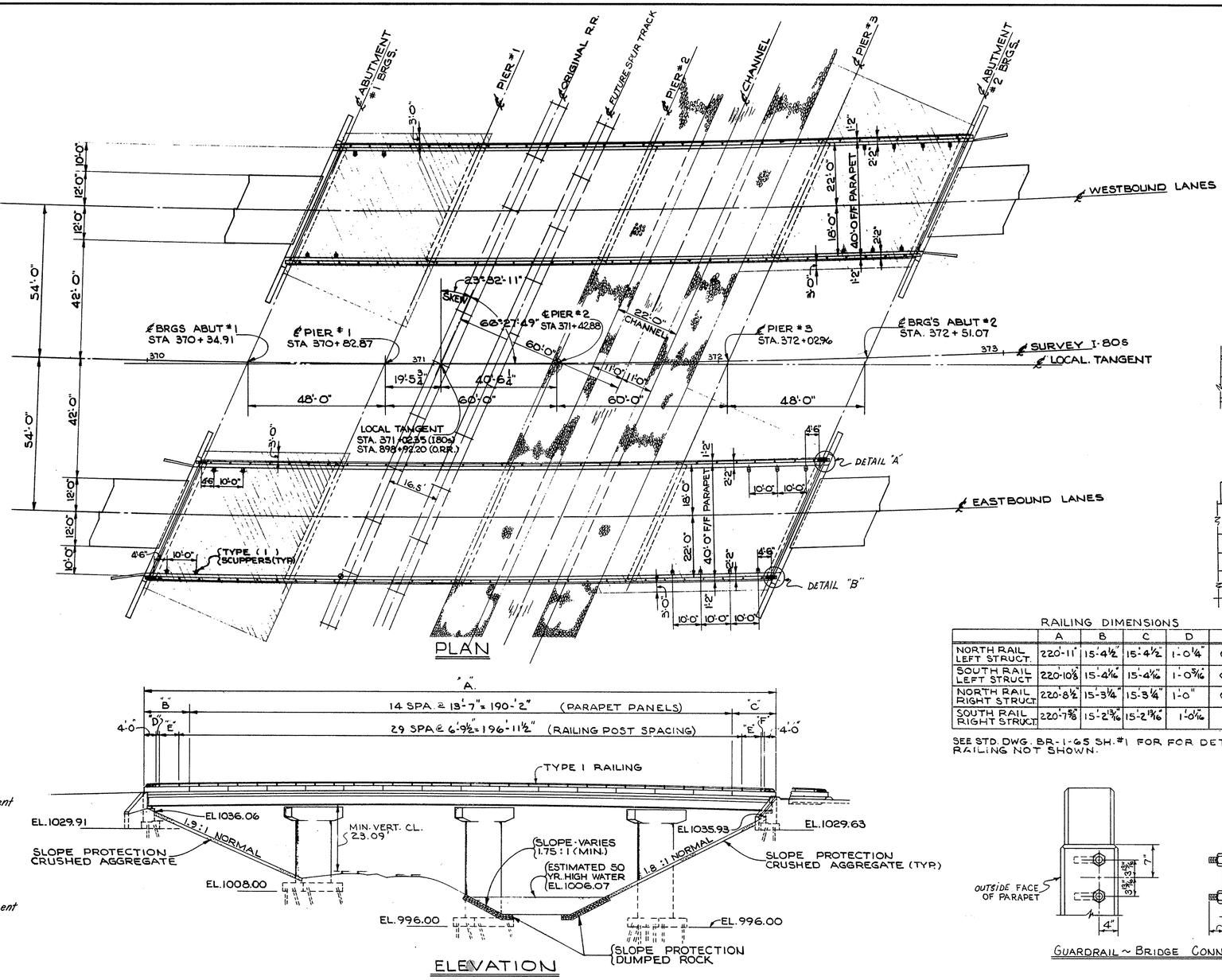
MAH.-80S-07.01
MAH.-80-02.30



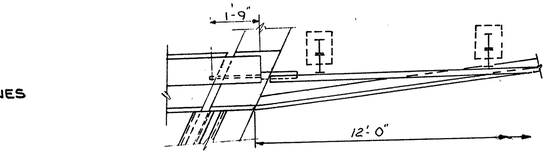
DETAIL "A"

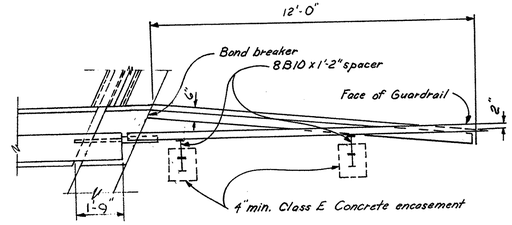


DETAIL "B"

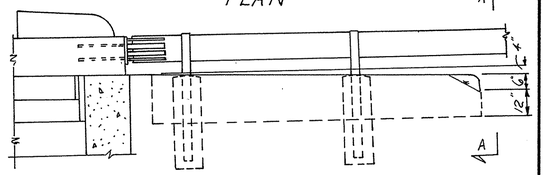


PLAN





PLAN

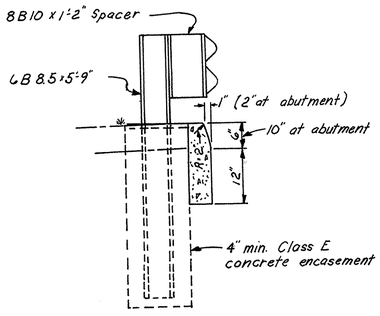


ELEVATION

RAILING DIMENSIONS

	A	B	C	D	E	F
NORTH RAIL LEFT STRUCT.	220'-11"	15'-4½"	15'-4½"	1'-0¼"	6'-11½"	1'-0¼"
SOUTH RAIL LEFT STRUCT.	220'-10⅜"	15'-4⅛"	15'-4⅛"	1'-0⅜"	6'-11"	1'-0⅜"
NORTH RAIL RIGHT STRUCT.	220'-8½"	15'-3¼"	15'-3¼"	1'-0"	6'-10½"	1'-0"
SOUTH RAIL RIGHT STRUCT.	220'-7⅞"	15'-2⅜"	15'-2⅜"	1'-0⅛"	6'-10"	1'-0⅛"

SEE STD. DWG. BR-1-65 SH. #1 FOR FOR DETAILS OF RAILING NOT SHOWN.

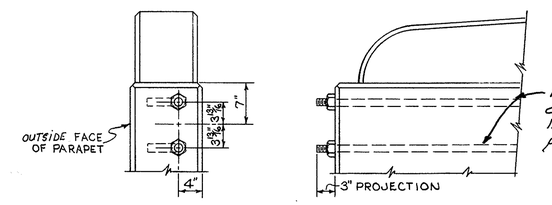


VIEW A-A

ELEVATION

APPROACH CURB DETAIL

(Curb concrete is included with the abutment concrete for payment.)



GUARDRAIL ~ BRIDGE CONNECTION ANCHOR DETAILS

27.1% I & 72.9% IG

ESTIMATED QUANTITIES (2-BRIDGES)

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS.	PIERS	GEN.
503	LUMP	SUM	COFFERDAMS CRIBS & SHEETING				LS
503	1343	CU.YD.	UNCLASSIFIED EXCAVATION		464	879	
505	LUMP	SUM	FIRST TEST PILE				LS
507	4,800	LIN.FT.	10"BP42 STEEL "H" PILES		2,520	2,280	
509	263,625	LBS	REINFORCING STEEL	162,443	20,809	80,373	
511	562	CU.YD.	CLASS "C" CONC. SUPERSTRUCTURE	562			
511	195	CU.YD.	CLASS "E" CONC. ABUTS ABOVE FTNGS.		195		

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS.	PIERS	GEN.
511	502	CU.YD.	CLASS "C" CONC. PIERS ABOVE FTNGS			502	
511	324	CU.YD.	CLASS "E" CONC. PIER & ABUT. FOOTINGS		143	181	
512	36	LIN.FT.	WATERPROOFING PREMOLDED SEALING STRIP		36		
513	448,519	LBS	STRUCTURAL STEEL	443,519			
832	448,519	LBS	FIELD PAINTING OF STRUCT. STEEL	448,519			
517	883.10	LIN.FT.	BRIDGE RAILING TYPE 1	883.10			
518	107	CU.YD.	POROUS BACKFILL		107		
518	180	LIN.FT.	6" PERF. HELICAL C.M.P. 707.06 INCL. SPECIALS		180		

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUTS.	PIERS	GEN.
518	140	LIN.FT.	6" NON-PERF. HELICAL C.M.P. 707.06		140		
518	22	EACH	SCUPPERS (INCLUDING SUPPORTS)	22			
601	1574	SQ.YD.	CRUSHED AGGREGATE SLOPE PROTECTION		1574		
808	562	UNITS	WATER REDUCING SET RETARDING ADMIXTURE	562			
825	2294	SQ.YD.	CONCRETE SURFACE TREATMENT	2254	40		
828	166	LIN.FT.	JOINT SEALER		166		

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

GENERAL PLAN & ELEVATION

BRIDGE Nº MAH.-80S-0701 L & R
OVER PENNA. R/R
MAHONING COUNTY
STA. 371+02.35

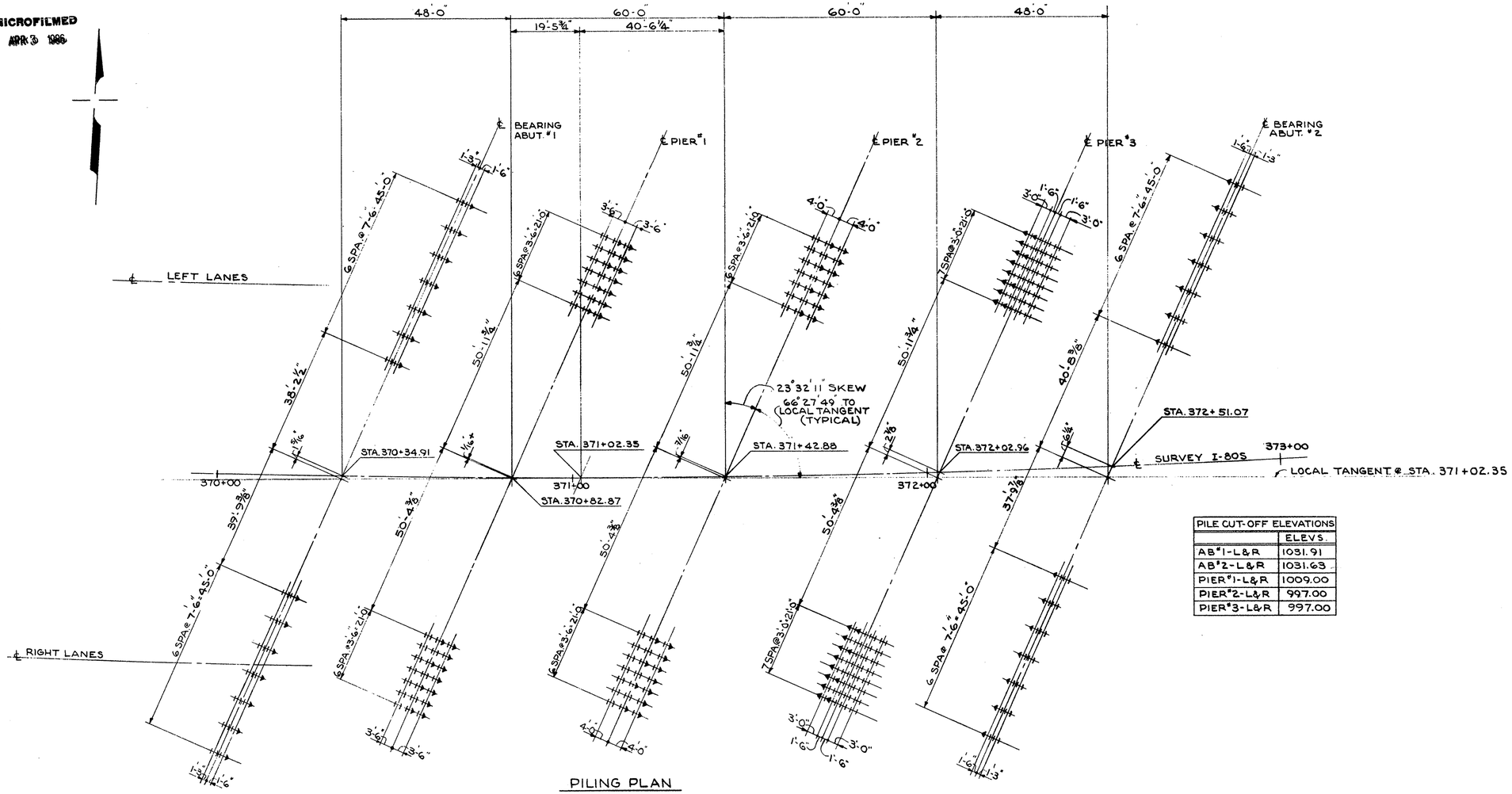
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JP	ALH		Hager 2/1/67	RBH	3-10-67	

MICROFILMED
APR 3 1996

FED. RD.	STATE	PROJECT	
2	OHIO		

286
384

MAH.-805-07.01
MAH.-80-02.30



PILING PLAN

PILE CUT-OFF ELEVATIONS	
	ELEVS.
AB#1-L&R	1031.91
AB#2-L&R	1031.63
PIER#1-L&R	1009.00
PIER#2-L&R	997.00
PIER#3-L&R	997.00

ALL PILES TO BE 10 BP 42 STEEL "H" PILES
↦ INDICATES DIRECTION OF BATTER OF 1:4 BATTERED PILES.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

PILING PLAN

BRIDGE Nº MAH.-805-0701 L&R
OVER PENNA. R/R
MAHONING COUNTY
STA. 371+02.35

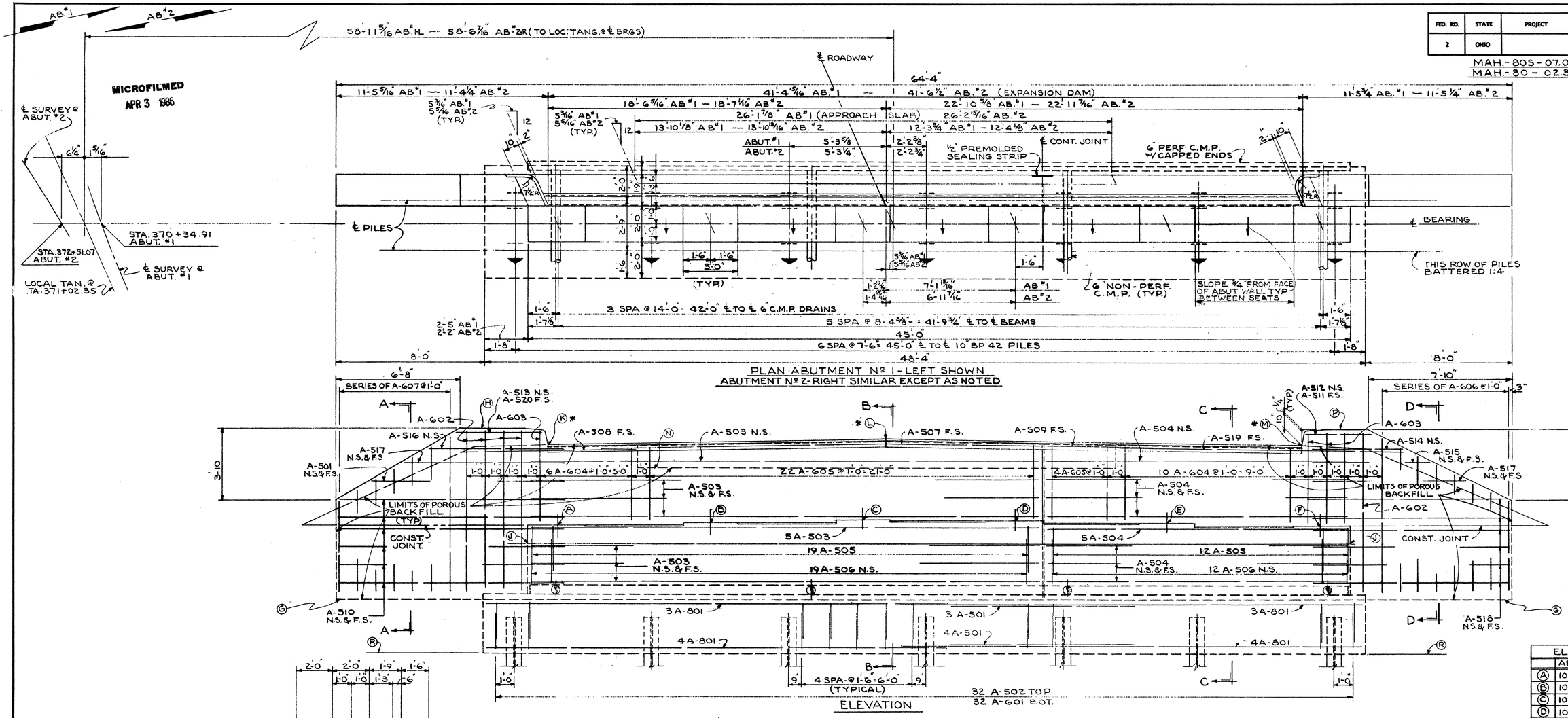
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JP	JLH		HAGER	RDH	3-10-67	

FED. RD.	STATE	PROJECT	
2	OHIO		

287
384

MAH.-80S-07.01
MAH.-80-02.30

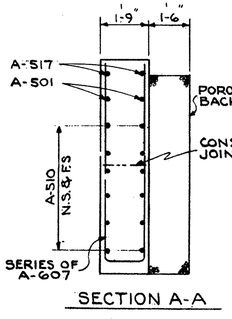
MICROFILMED
APR 3 1986



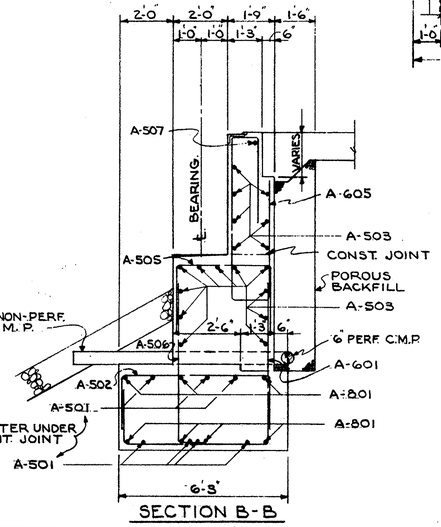
PLAN ABUTMENT Nº 1 - LEFT SHOWN
ABUTMENT Nº 2 - RIGHT SIMILAR EXCEPT AS NOTED

ELEVATION

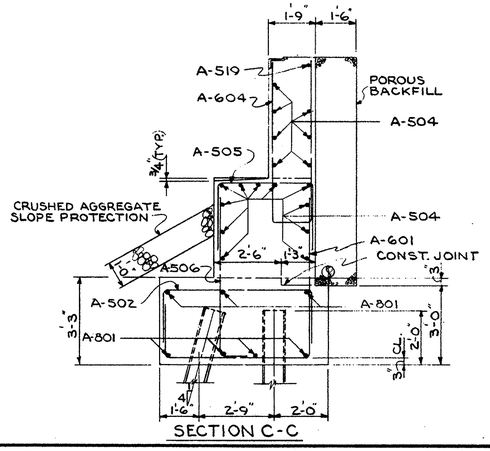
ELEVATIONS	AB"1-L	AB"2-R
Ⓐ	1037.26	1037.17
Ⓑ	1037.39	1037.30
Ⓒ	1037.51	1037.43
Ⓓ	1037.45	1037.38
Ⓔ	1037.33	1037.27
Ⓕ	1037.22	1037.16
Ⓖ	1032.91	1032.63
Ⓗ	1042.50	1042.42
Ⓙ	1036.06	1035.93
*Ⓚ	1041.65	1041.56
*Ⓛ	1041.93	1041.85
*Ⓜ	1041.62	1041.55
Ⓝ	1040.39	1040.31
Ⓟ	1042.47	1042.40
Ⓡ	1029.91	1029.63



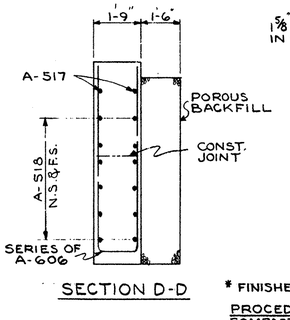
SECTION A-A



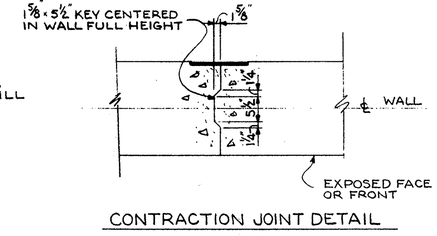
SECTION B-B



SECTION C-C



SECTION D-D



CONTRACTION JOINT DETAIL

* FINISHED PAVEMENT ELEVATIONS AT FACE OF BACKWALL.

PROCEDURE: THE EMBANKMENT SHALL BE PLACED AND COMPACTED UP TO THE FINISHED SPILL THRU SLOPE AND TO THE LEVEL OF THE SUBGRADE FOR A DISTANCE OF 200 FEET BACK OF THE ABUTMENTS AFTER WHICH EXCAVATION SHALL BE MADE FOR THE ABUTMENTS AND FOR PIERS NUMBER 1 & 3.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

ABUTMENTS

BRIDGE Nº MAH.-80S-0701 L&R
OVER PENNA. R/R
MAHONING COUNTY
STA. 371+02.35

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JP	JLH		HAGER	EBH	3-10-67	

FED. RD.	STATE	PROJECT	
2	OHIO		

288
384

MAH.-805-7.01
MAH-80-2.30

MICROFILMED
APR 3 1986

AB.#1 | AB.#2

63'-8"
58'-8 7/16" AB.#1-R- 59'-7 5/16" AB.#2-L (TO LOC. TANG.@ ℄ BRGS.)

12'-7 3/8" AB.#1 ~ 12'-6" AB #2
41'-4 1/2" AB.#1- 41'-7" AB.#2 (EXPANSION DAM)
22'-10 3/8" AB.#1 — 22'-11 3/4" AB.#2
26'-1 5/8" AB.#1 — APPR. SLAB
13'-9 13/16" AB#1 - 13'-10 7/8" AB#2
18'-6 1/8" AB.#1 — 18'-7 1/4" AB.#2
26'-3 3/16" AB#2
12'-3 3/16" AB.#1 — 12'-4 5/16" AB#2
9'-8 1/8" AB-1 ~ 9'-7" AB.#2

5 3/16" AB#1
5 5/16" AB#2
(TYP.)

℄ CONT. JOINT
1'-6"
℄ ROAD WAY
3'-1 3/4"
4'-4 1/4"
1/2" PREMOLDED SEALING STRIP
6" PERF. C.M.P W/ CAPPED ENDS

THIS ROW OF PILES BATTERED 1:4

1'-6" 1'-6" 3'-0" (TYP.) 6" NON-PERF. C.M.P. (TYP.)

5-10 15/16" AB#1
5-7 5/16" AB#2
2-5 7/16" AB#1
2-9 1/16" AB#2

SLOPE 3/4" FROM FACE OF ABUT. WALL TYP. BETWEEN SEATS

℄ BEARING
℄ PILES

3 SPA. @ 14'-0" = 42'-0" ℄ TO ℄ 6" C.M.P. DRAINS
5 SPA. @ 8'-4 3/8" = 41'-9 1/4" ℄ TO ℄ BEAMS
45'-0"
6 SPA. @ 7'-6" = 45'-0" ℄ TO ℄ 10 BP 42 PILES
49'-1"

3'-3" AB.#1
3'-7" AB.#2
1'-10"
1'-7 1/8"
2'-3"

8'-0"
7'-10"
6'-7"
6'-8"

SERIES OF A-656 @ 1'-0" - 7'-0"
SERIES OF A-657 @ 1'-0"

PLAN OF ABUTMENT Nº 1 - RIGHT SHOWN
ABUTMENT Nº 2 - LEFT SIMILAR EXCEPT AS NOTED

A-563 N.S.
A-562 F.S.
A-654
A-557 F.S.
A-555 N.S.
A-564 F.S.
A-570 F.S.
A-558 N.S.
A-560 N.S.
A-561 F.S.
A-571 N.S. & F.S.
A-567 N.S. & F.S.
A-565 N.S. & F.S.
A-655
10 A-652 @ 1'-0" - 9'-0"
1'-0" 6 A-653 @ 1'-0" - 5'-0"
20 A-653 @ 1'-0" - 20'-0"
1'-0" 6 A-652 @ 1'-0" - 5'-0"
A-559 F.S.
A-568 N.S. & F.S.
A-569 N.S. & F.S.
A-556 N.S. & F.S.
3'-10"
LIMITS OF POROUS BACKFILL (TYP.)
A-555 N.S. & F.S.
A-558 N.S. & F.S.
CONST. JOINT
5 A-555
11 A-554
A-555 N.S. & F.S.
11 A-553 N.S.
5 A-558
19 A-554
A-558 N.S. & F.S.
19 A-553 N.S.
A-566 N.S. & F.S.
A-567 N.S. & F.S.
3 A-851
3 A-551
4 A-551
4 A-851
4 SPA @ 1'-6" = 6'-0" (TYPICAL)
1'-0" 9" 9" 1'-0"
32 A-552 TOP & 32 A-651 BOT

ELEVATION

SECTION A-A

POROUS BACKFILL
CONST. JOINT
A-567
A-565
A-566 N.S. & F.S.
SER. OF A-656

SECTION B-B

A-564 VARIES
℄ BEARING
3/4" (TYP.)
A-555
A-653
CONST. JOINT
A-554
A-555
A-651
6" PERF. C.M.P.
A-553
A-552
A-851
A-551 CENTER UNDER CONT. JOINT
CRUSHED AGGREGATE SLOPE PROTECTION
6" NON-PERF. C.M.P.
6'-3"

SECTION C-C

POROUS BACKFILL
A-559
A-652
A-558
A-554
A-558
A-651
A-559
CONST. JT.
A-851
A-552
3" CL. (TYP.)
2'-0"
2'-9"
1'-6"

SECTION D-D

POROUS BACKFILL
CONST. JOINT
SER. OF A-657
A-569
A-556
A-567 N.S. & F.S.

LOCAL TANGENT ℄ STA. 371+02.35
STA. 370+34.91 ABUT. #1
STA. 372+51.07 ABUT. #2
℄ SURVEY ABUT. #1
℄ SURVEY ABUT. #2

ELEVATIONS		
	AB.#1-R.	AB.#2-L
Ⓐ	1037.06	1036.93
Ⓑ	1037.19	1037.06
Ⓒ	1037.32	1037.20
Ⓓ	1037.39	1037.26
Ⓔ	1037.28	1037.16
Ⓕ	1037.17	1037.05
Ⓖ	1032.91	1032.63
Ⓗ	1042.29	1042.16
Ⓙ	1036.06	1035.93
*Ⓚ	1041.45	1041.31
*Ⓛ	1041.81	1041.68
*Ⓜ	1041.56	1041.45
Ⓝ	1040.26	1040.13
Ⓟ	1042.41	1042.29
Ⓡ	1029.91	1029.63

* FINISHED PAVEMENT ELEVATIONS AT FACE OF BACKWALL.

KEY PLAN

℄ BEARING ABUT. #1
℄ BEARING ABUT. #2
℄ ROADWAY LEFT LANES
℄ SURVEY
LOCAL TANGENT
STA. 370+34.91
66°27'49"
STA. 372+51.07
℄ ROADWAY RIGHT LANES
FACE OF BACKWALL
FACE OF BACKWALL

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

ABUTMENTS

BRIDGE Nº MAH.-805-0701 L&R
OVER PENNA. R/R.
MAHONING COUNTY
STA. 371+02.35

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JP	JLH		HAGER	RBH	3-10-67	

MAH.-805-07.01
MAH.-80-02.30

FED. RD.	STATE	PROJECT	
2	OHIO		

289
384

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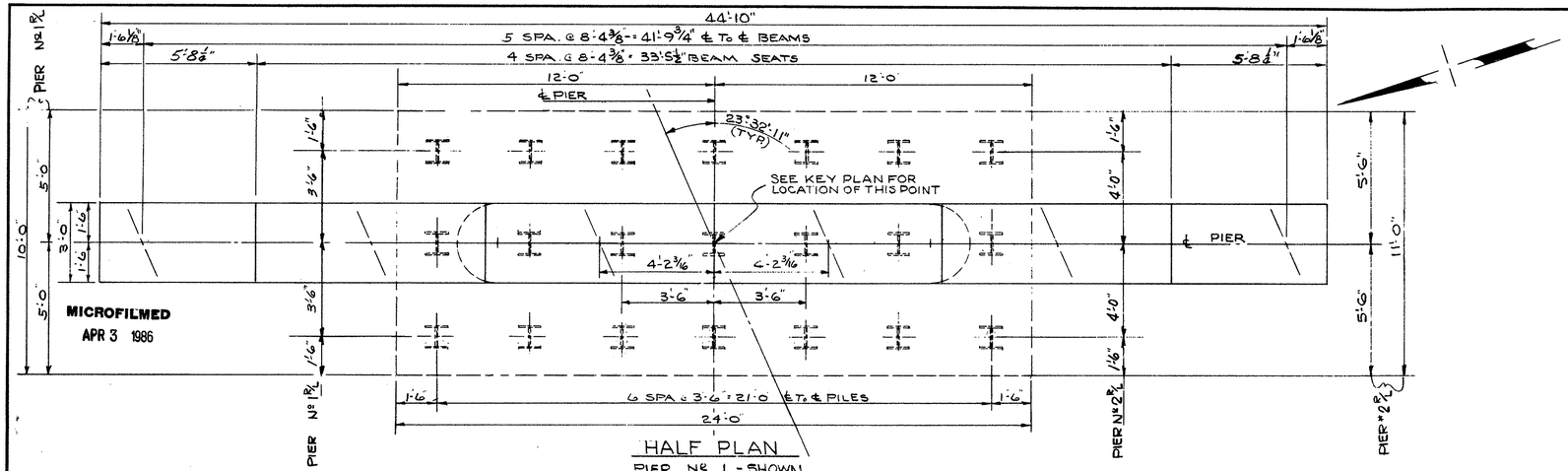
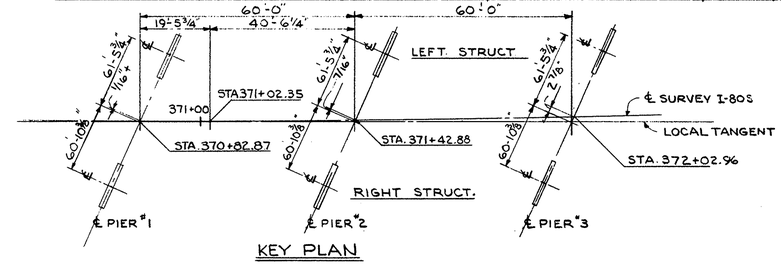
APR 3 1986



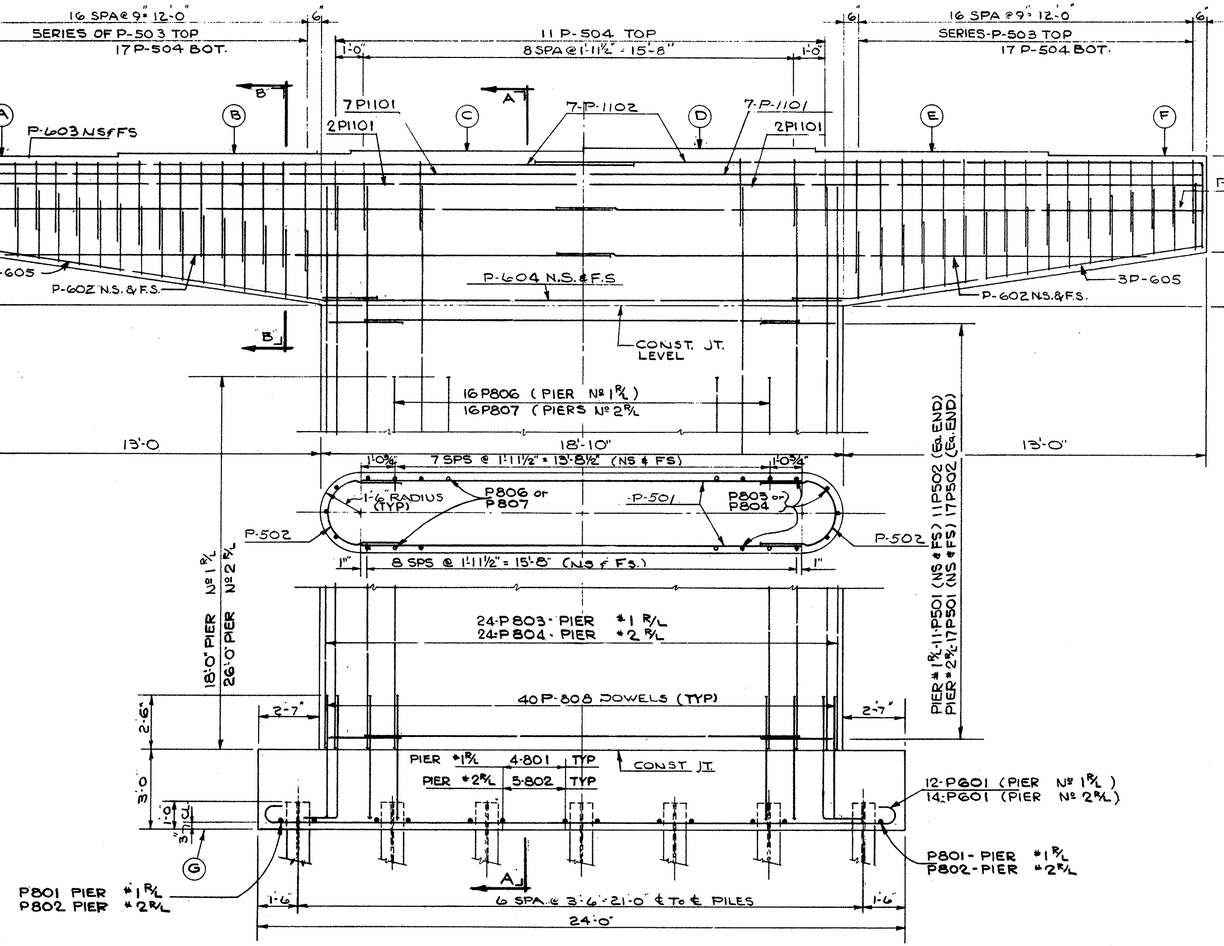
HALF PLAN

PIER Nº 1 - SHOWN
PIER Nº 2 SIMILAR EXCEPT AS SHOWN

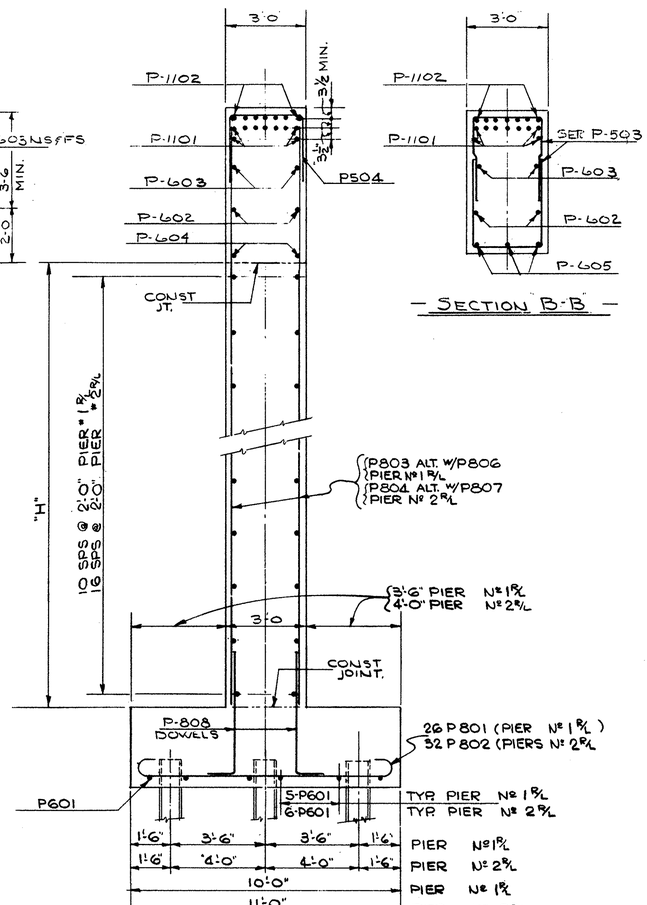
ELEVATIONS									
PIER Nº	A	B	C	D	E	F	G	H	
1-L	1037.00	1037.11	1037.23	1037.30	1037.18	1037.06	1008.00	20'-6"	
1-R	1037.01	1037.13	1037.24	1037.18	1037.05	1036.92	1008.00	20'-5"	
2-L	1036.96	1037.08	1037.21	1037.28	1037.17	1037.05	996.00	32'-5 5/8	
2-R	1037.06	1037.18	1037.30	1037.24	1037.12	1037.00	996.00	32'-6"	
3-L	1036.83	1036.96	1037.09	1037.17	1037.06	1036.95	996.00	32'-4"	
3-R	1037.01	1037.14	1037.26	1037.21	1037.09	1036.98	996.00	32'-5 3/4"	



KEY PLAN



— ELEVATION —



— SECTION A-A —

— SECTION B-B —

NOTES:
SEE PILING PLAN FOR PILING DETAILS NOT SHOWN. SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEATS ON PIER Nº 2 TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BOLT HOLES.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

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PIERS ~ NO. 1 & 2

BRIDGE Nº MAH.-805-0701 L&R.
OVER PENNA R/R
MAHONING COUNTY
STA. 371+02.35

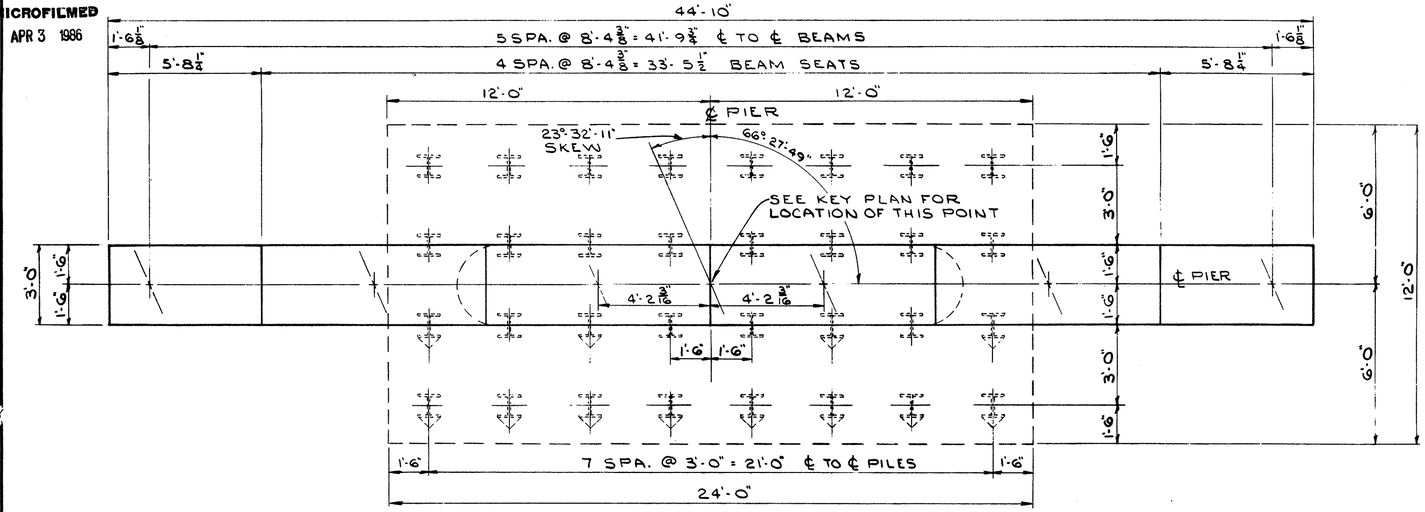
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JP	JP		HAGER	EDH	3-10-67	

MICROFILMED
APR 3 1986

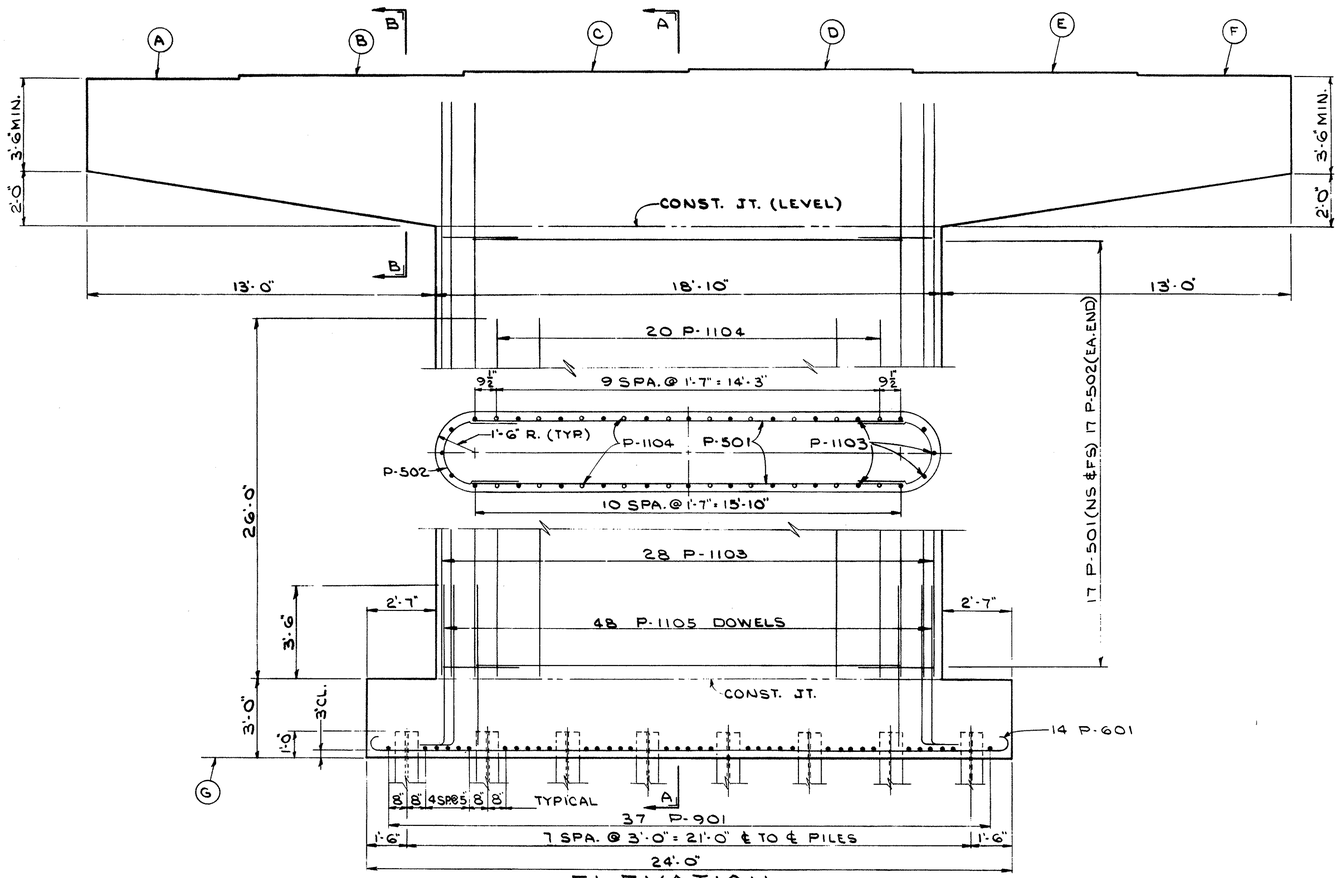
FED. RD.	STATE	PROJECT	
2	OHIO		

289 A
384

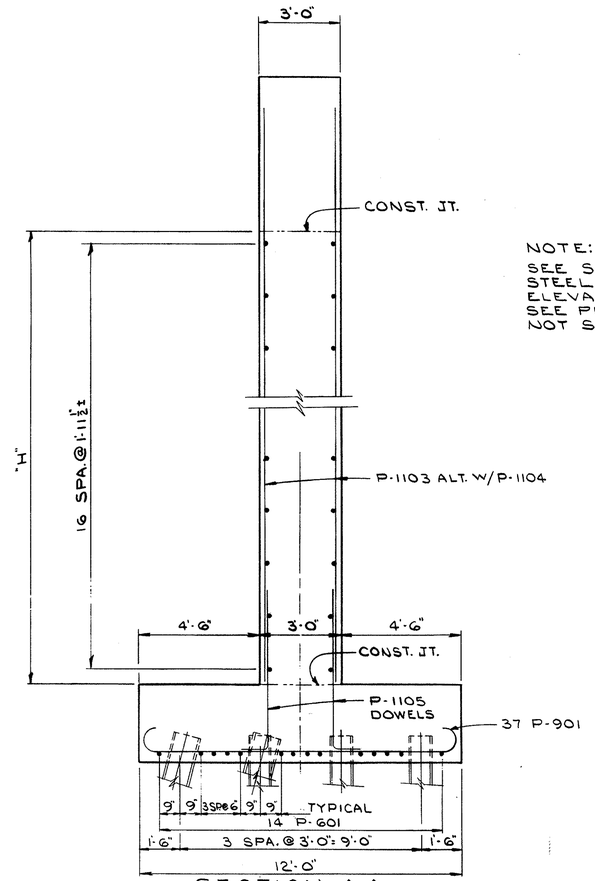
MAH - 805 - 07.01
MAH - 80 - 02.30



HALF PLAN
PIER # 3



ELEVATION



SECTION A-A

NOTE:
SEE SH. NO. 289 FOR REINFORCING STEEL IN PIER CAP SECTION B-B, ELEVATION TABLE & KEY PLAN.
SEE PILING PLAN FOR PILING DETAILS NOT SHOWN.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

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PIER NO. 3

BRIDGE NO. MAH - 80 S-07 01 L&R
OVER PENNA R/R
MAHONING COUNTY
STA. 371+02.35

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JP	RW		JFP	RDH	10-24-67	

MICROFILMED
APR 3 1986

FED. RD.	STATE	PROJECT	
2	OHIO		

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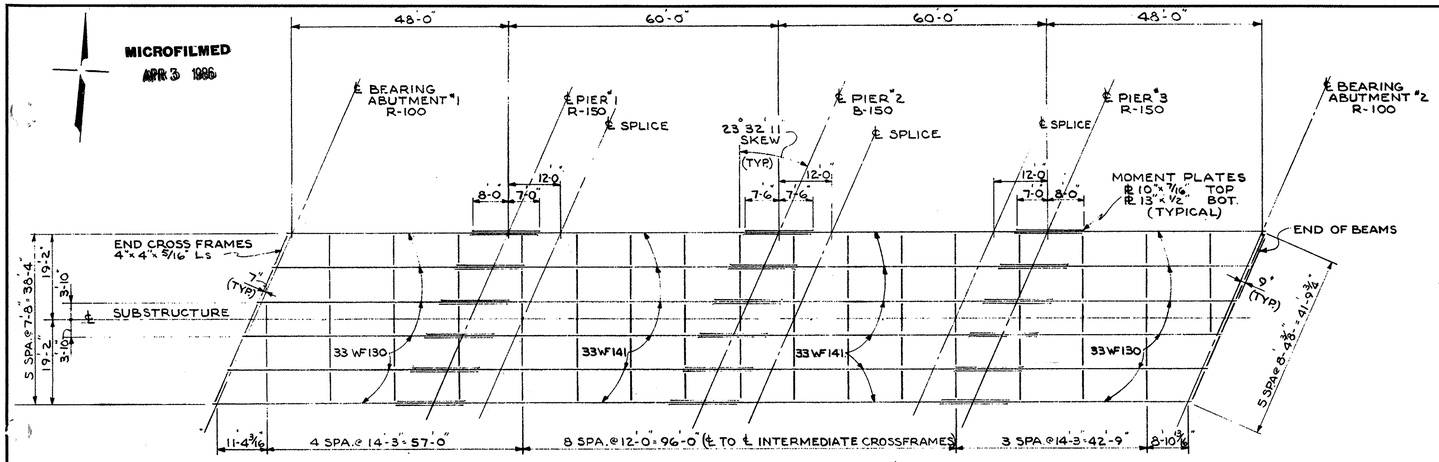
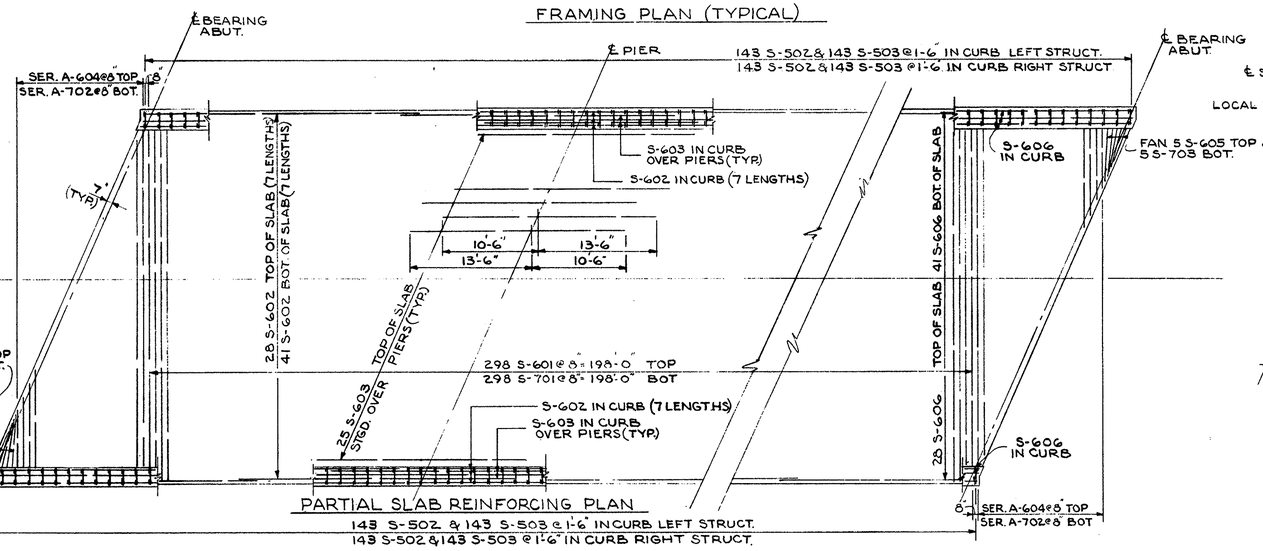
384

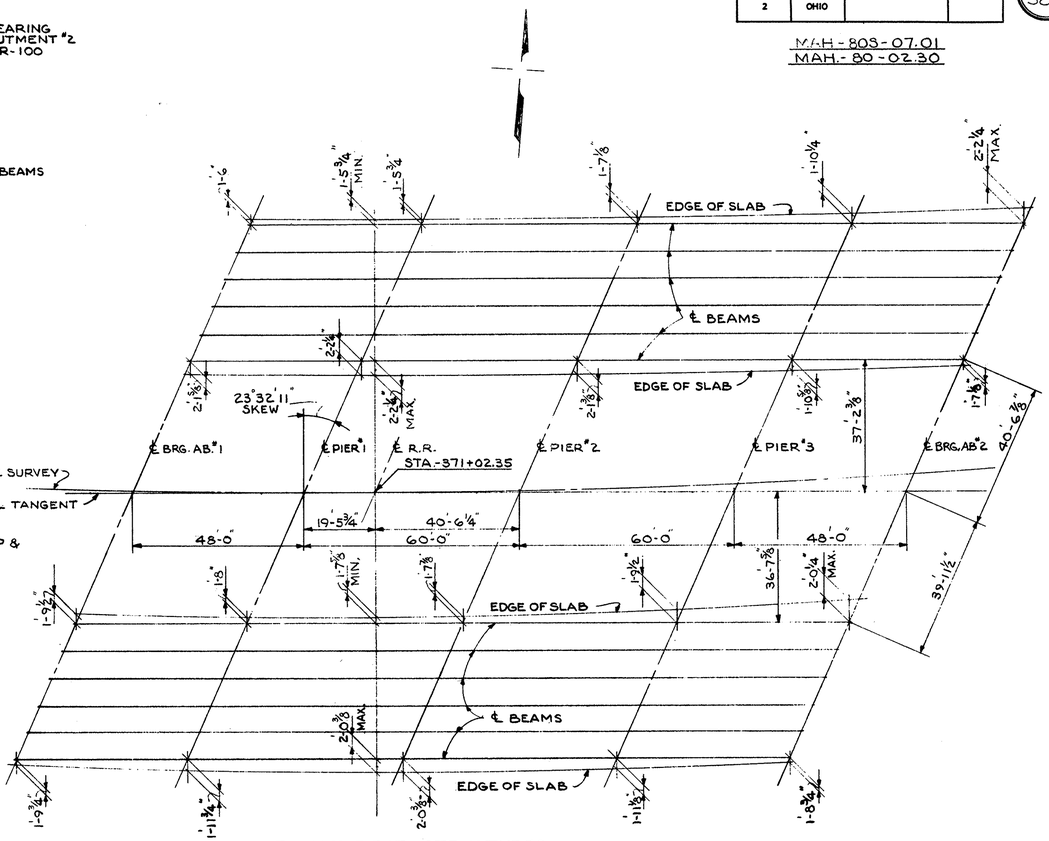
MAH-803-07.01
MAH-80-02.30



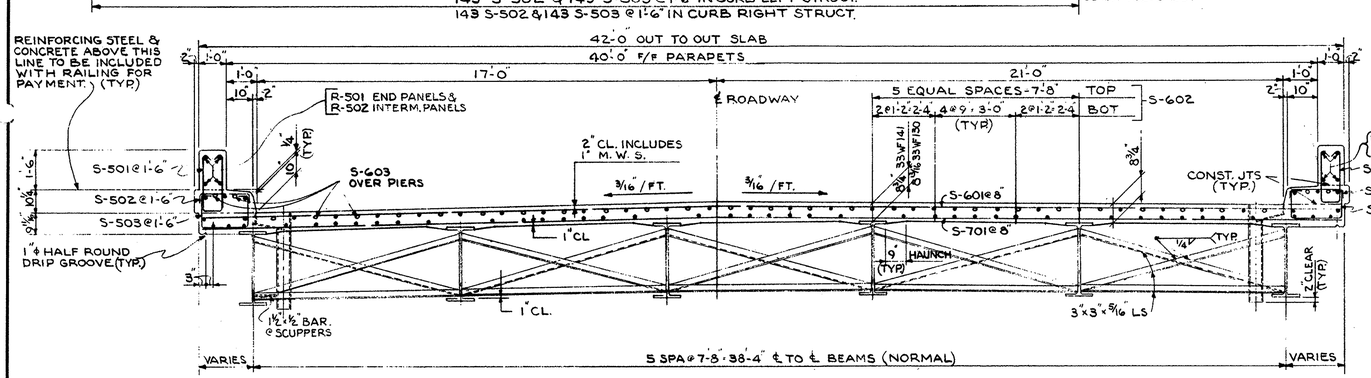
FRAMING PLAN (TYPICAL)



PARTIAL SLAB REINFORCING PLAN
143 S-502 & 143 S-503 @1'-6" IN CURB LEFT STRUCT.
143 S-502 & 143 S-503 @1'-6" IN CURB RIGHT STRUCT.



PLAN FOR BOTH STRUCTURES
SHOWING OFFSETS FROM LOCAL TANG. & SLAB OVERHANG DIMENSIONS

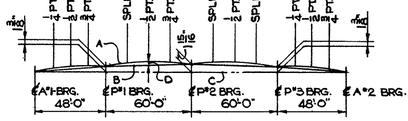


TRANSVERSE SECTION
RIGHT STRUCTURE SHOWN LEFT STRUCTURE SIMILAR

SLAB THICKNESS SHOWN INCLUDES 1" FOR MONOLITHIC WEARING SURFACE.
A TYP. HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6" & 12" PROVIDED THAT THE SLOPE SHALL BE NOT MORE THAN 1:4 FOR A HAUNCH LESS THAN 9" IN WIDTH.

FIELD WELDED ATTACHMENTS:

NO ATTACHMENTS SHALL BE MADE BY WELDING TO THE TOP FLG'S. OF THE BEAMS WITHIN A DISTANCE OF 0.10 OF THE SPAN LENGTH ON EITHER SIDE OF THE INTERIOR SUPPORTS. WELDING FOR ATTACHMENTS TO THE TOP FLANGES AT OTHER PARTS OF THE SPANS SHALL BE KEPT AT LEAST 2" FROM EDGE OF FLANGE

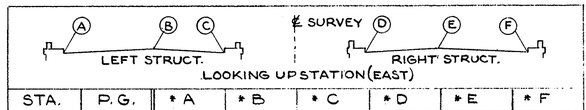


LAYOUT DIAGRAM

A- BEAM ℄ SHOWN IN CORRECT UNLOADED POSITION
B- CHORD BETWN. ADJ. BRG'S.
C- CHORD BETWN. ABUT. BRG'S.
D- REQ'D. SHOP CAMBER.

DEFLECTION & CAMBER

SPAN	1			2			3			4		
	1/4 PT.	1/2 PT.	3/4 PT.	SPLICE	1/2 PT.	3/4 PT.	SPLICE	1/2 PT.	SPLICE	1/4 PT.	1/2 PT.	3/4 PT.
DEFLECT. DUE TO WT. OF STEEL	0"	1/16"	0"	0"	1/16"	0"	0"	1/16"	0"	0"	1/16"	0"
DEFLECT. DUE TO REMAINING D.L.	3/16"	3/16"	1/8"	1/8"	1/4"	1/8"	1/8"	1/4"	1/8"	1/8"	3/16"	3/16"
ADJUST. REQ'D FOR VERT. CURVE	1/16"	1/8"	1/16"	1/8"	3/16"	1/8"	1/8"	3/16"	1/8"	1/16"	1/8"	1/16"
REQ'D SHOP CAMBER	1/4"	3/8"	3/16"	1/4"	1/2"	1/4"	1/4"	1/2"	1/4"	3/16"	3/8"	1/4"



STA.	P.G.	* A	* B	* C	* D	* E	* F
370+25	1041.66				1041.58	1041.87	1041.54
+50	1041.73			1041.65	1041.66	1041.93	1041.59
+75	1041.77	1041.63	1041.97	1041.70	1041.69	1041.97	1041.65
371+00	1041.80	1041.67	1041.99	1041.72	1041.74	1042.01	1041.67
+25	1041.81	1041.68	1042.01	1041.75	1041.73	1042.00	1041.68
+50	1041.80	1041.68	1042.00	1041.73	1041.73	1042.01	1041.68
+75	1041.77	1041.63	1041.96	1041.70	1041.70	1041.96	1041.63
372+00	1041.74	1041.62	1041.95	1041.67	1041.67	1041.95	1041.61
+25	1041.67	1041.54	1041.86	1041.59	1041.60	1041.86	
+50	1041.60	1041.47	1041.80	1041.53			
+75	1041.50	1041.33	1041.69				

* PROPER ALLOWANCE HAS BEEN MADE FOR DEAD LOAD DEFLECTIONS CAUSED BY THE WEIGHT OF THE CONCRETE.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

FRAMING PLAN

BRIDGE Nº MAH-803-0701 L & R.
OVER PENNA. R/R
MAHONING COUNTY
STA. 371+02.35

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JP	JLH		HAGER	EDH	3-10-67	

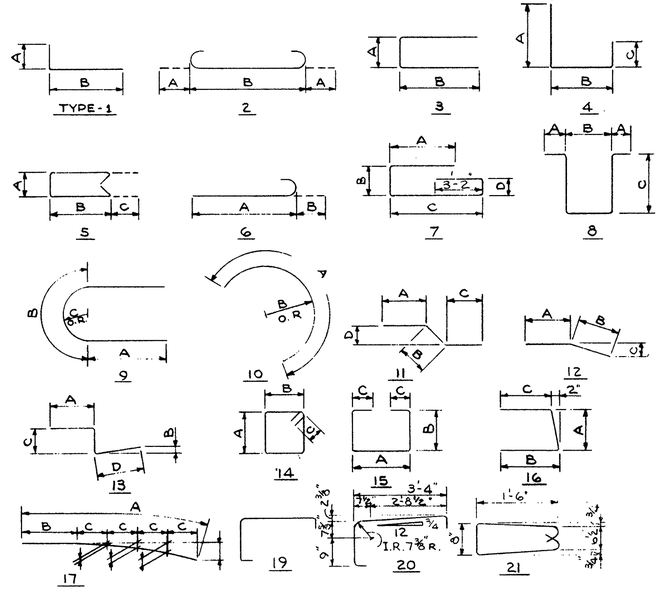
MICROFILMED
APR 3 1986

MARK	Nº REQUIRED L.STR.	R.STR	TOTAL	LENGTH	SHP.	DIMENSIONS A	B	C	D	INCR.	WEIGHT
ABUTMENT Nº 1 LEFT & ABUTMENT Nº 2 RIGHT											
A-501	9	9	18	10'-0"	ST						188
A-502	32	32	64	9'-2"	3	5'-5"	2'-0"				612
A-503	18	18	36	27'-10"	ST						1045
A-504	18	18	36	16'-5"	ST						616
A-505	31	31	62	8'-2"	3	3'-5"	2'-6"				511
A-506	31	31	62	7'-5"	1	1'-0"	6'-6"				464
A-507	1	1	2	24'-0"	ST						50
A-508	1	1	2	10'-2"	ST						21
A-509	1	1	2	5'-9"	ST						12
A-510	12	12	24	12'-0"	ST						300
A-511	1	1	2	3'-0"	ST						6
A-512	1	1	2	2'-4"	ST						5
A-513	1	1	2	4'-2"	ST						9
A-514	1	1	2	4'-9"	ST						10
A-515	2	2	4	6'-3"	ST						26
A-516	1	1	2	7'-0"	ST						15
A-517	4	4	8	8'-3"	ST						69
A-518	12	12	24	10'-6"	ST						263
A-519	1	1	2	15'-3"	ST						32
A-520	1	1	2	3'-5"	ST						14
A-601	32	32	64	13'-8"	4	6'-6"	5'-5"	2'-0"			1514
A-602	5	5	10	18'-10"	3	1'-5"	8'-10"				283
A-603	4	4	8	14'-10"	3	1'-5"	6'-10"				178
A-604	16	16	32	13'-2"	3	1'-5"	6'-0"				633
A-605	26	26	52	15'-4"	7	4'-4"	1'-5"	6'-0"	11"		1198
SERIES OF A-606	1 SET OF 8 : 8 BARS	1 SET OF 8 : 8 BARS	2 SETS OF 8 : 16 BARS	VARIES 11'-2" TO 18'-0"	5	1'-5"	VARIES 5'-0" TO 8'-5" *			5⅞"	351
SERIES OF A-607	1 SET OF 7 : 7 BARS	1 SET OF 7 : 7 BARS	2 SETS OF 7 : 14 BARS	VARIES 11'-2" TO 18'-0"	3	1'-5"	VARIES 5'-0" TO 8'-5" *			6⅞"	307
A-801	14	14	28	25'-3"	ST						1888
TOTAL ABUTMENT Nº 1 LEFT & ABUTMENT Nº 2 RIGHT = 10,453 #											
ABUTMENT Nº 1 RIGHT & ABUTMENT Nº 2 LEFT											
A-551	7	7	14	10'-0"	ST						146
A-552	32	32	64	9'-2"	3	5'-5"	2'-0"				612
A-553	30	30	60	7'-5"	1	1'-0"	6'-6"				464
A-554	30	30	60	8'-2"	3	3'-5"	2'-6"				511
A-555	18	18	36	16'-5"	ST						616
A-556	2	2	4	3'-9"	ST						37
A-557	1	1	2	15'-0"	ST						32
A-558	18	18	36	27'-10"	ST						1045
A-559	1	1	2	10'-3"	ST						22
A-560	1	1	2	2'-6"	ST						5
A-561	1	1	2	2'-9"	ST						6
A-562	1	1	2	3'-6"	ST						7
A-563	1	1	2	4'-4"	ST						6
A-564	1	1	2	8'-3"	ST						17
A-565	2	2	4	11'-9"	ST						49
A-566	10	10	20	13'-0"	ST						271
A-567	12	12	24	9'-9"	ST						244
A-568	2	2	4	5'-6"	ST						23
A-569	2	2	4	7'-0"	ST						29
A-570	1	1	2	22'-6"	ST						47
A-571	2	2	4	7'-6"	ST						31
A-651	32	32	64	13'-8"	4	6'-6"	5'-5"	2'-0"			1314
A-652	16	16	32	13'-2"	3	1'-5"	6'-0"				633
A-653	26	26	52	15'-4"	7	4'-4"	1'-5"	6'-0"	11"		1198
A-654	3	3	6	14'-6"	3	1'-5"	6'-8"				131

MARK	Nº REQUIRED L.STR.	R.STR	TOTAL	LENGTH	SHP.	DIMENSIONS A	B	C	D	INCR.	WEIGHT
ABUTMENT Nº 1 RIGHT & ABUTMENT Nº 2 LEFT (CONT.)											
A-655	5	5	10	18'-10"	3	1'-5"	8'-10"				285
SERIES OF A-656	1 SET OF 8 : 8 BARS	1 SET OF 8 : 8 BARS	2 SETS OF 8 : 16 BARS	VARIES 11'-2" TO 18'-0"	3	1'-5"	VARIES 5'-0" TO 8'-5" *			5⅜"	351
SERIES OF A-657	1 SET OF 7 : 7 BARS	1 SET OF 7 : 7 BARS	2 SETS OF 7 : 14 BARS	VARIES 11'-2" TO 18'-0"	3	1'-5"	VARIES 5'-0" TO 8'-5" *			6⅞"	307
A-851	14	14	28	25'-8"	ST						1919
TOTAL ABUTMENT Nº 1 RIGHT & ABUTMENT Nº 2 LEFT = 10,356 #											
PIERS											
P-501			180	15'-10"	ST						2,972
P-502			180	7'-1"	9	1'-7"	3'-11"	1'-3"			1,330
SERIES OF P-503			12 SETS OF 17 = 204 BARS	VARIES 6'-11" TO 10'-7"	3	2'-8"	VARIES 2'-5" TO 4'-1" *			1⅜"	1,862
P-504			270	7'-5"	3	2'-8"	2'-6"				2,084
P-601			80	24'-10"	2	8"	23'-6"				2,984
P-602			24	22'-0"	ST						793
P-603			24	23'-3"	ST						838
P-604			12	18'-10"	ST						340
P-605			36	15'-0"	12	2'-0"	13'-0"	2'-0"			811
P-801			52	11'-8"	2	1'-1"	9'-6"				1,620
P-802			64	12'-6"	2	1'-1"	10'-6"				2,165
P-803			48	25'-0"	ST						3,204
P-804			48	37'-0"	ST						4,742
P-805				OPEN							
P-806			32	18'-0"	ST						1,538
P-807			32	26'-0"	ST						2,221
P-808			160	6'-1"	1	1'-0"	5'-3"				2,599
P-901			74	14'-0"	2	1'-3"	11'-6"				3,523
P-1101			108	22'-0"	ST						12,624
P-1102			84	26'-11"	1	3'-2"	24'-0"				12,013
P-1103			56	37'-0"	ST						11,009
P-1104			40	26'-0"	ST						5,584
P-1105			96	7'-0"	1	1'-0"	6'-3"				3,570
TOTAL PIERS = 80,373 #											
SLAB											
S-501			592	5'-7"	5	8"	2'-2"	5"			3448
S-502			572	2'-3"	3	1'-6"	6"				1342
S-503			572	4'-4"	15	1'-6"	1'-4"	4"			2585
SERIES OF S-604			4 SETS OF 22 : 88 BARS	VARIES 41'-6" TO 9'-6"	ST					1¼"	3370
S-605			20	8'-0"	ST						240
S-606			150	21'-9"	ST						4900

MARK	Nº REQUIRED L.STR.	R.STR	TOTAL	LENGTH	SHP.	DIMENSIONS A	B	C	D	INCR.	WEIGHT
SLAB (CONT.)											
S-701			596	41'-8"	ST						50,759
SERIES OF S-702			4 SETS OF 22 : 88 BARS	VARIES 41'-6" TO 9'-6"	ST					1¼"	4,567
S-703			20	8'-0"	ST						327
TOTAL SLAB = 162,443 #											
RAILING ⊛											
R-501			32	14'-11"	ST						
R-502			224	13'-3"	ST						
R-503			24	4'-2"	21						
R-504			16	5'-4"	20						
R-505			16	3'-5"	5	8"	1'-1"	5"			
R-506			16	8'-0"	ST						
REPLACEMENT BARS											
RE-501			2	6'-6"	ST						
RE-601			6	7'-0"	ST						
RE-701			3	7'-3"	ST						
RE-801			2	7'-6"	ST						
RE-901			1	7'-10"	ST						
RE-1101			3	8'-9"	ST						

GRAND TOTAL 263,625 LBS



BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE A-601 IS A Nº 6 SIZE BAR AND P-1101 IS A Nº 11 SIZE BAR.

⊛ RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 517 FOR PAYMENT

FED. RD.	STATE	PROJECT	
2	OHIO		

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MAH.-80S-07.01
MAH.-80-02.30

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

REINFORCING SCHEDULE

BRIDGE Nº MAH-80S-0701 L & R
OVER PENNA. R/R
MAHONING COUNTY
STA. 371+02.35

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JJ	JLH		HAGER	RBH	3-10-67	

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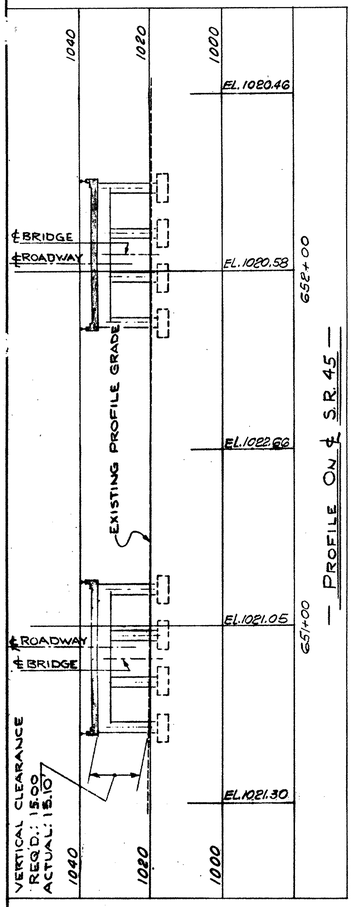
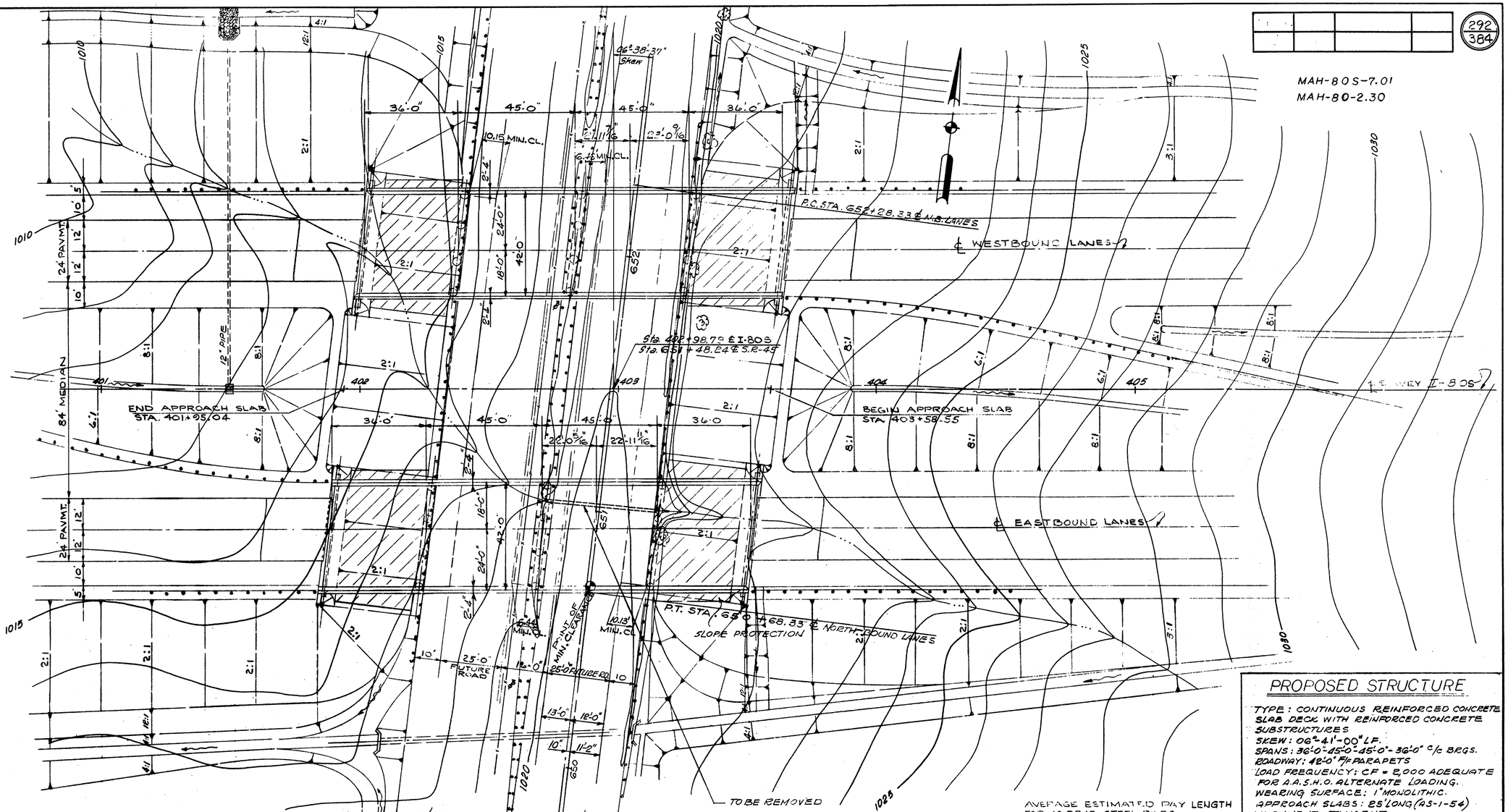
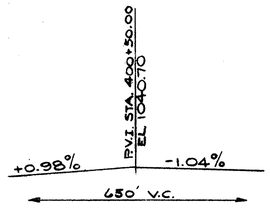
APR 3 1986

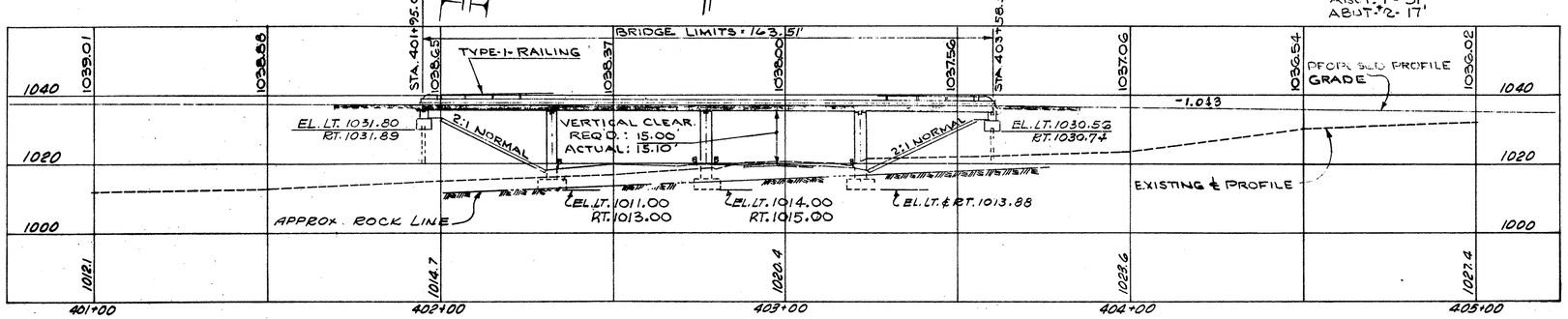
MAH-80S-7.01
MAH-80-2.30

— PROFILE ON ℄ S.R. 45 —









PROFILE ON ℄ I-80

AVERAGE ESTIMATED PAY LENGTH FOR 10 BP42 STEEL PILES.
ABUT. #1 - 31'
ABUT. #2 - 17'

PROPOSED STRUCTURE

TYPE: CONTINUOUS REINFORCED CONCRETE SLAB DECK WITH REINFORCED CONCRETE SUBSTRUCTURES
SKEW: 06°-41'-00" LF.
SPANS: 36'-0"-45'-0"-45'-0"-36'-0" c/c BRGS.
ROADWAY: 42'-0" F/F PARAPETS
LOAD FREQUENCY: CF = 2,000 ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING.
WEARING SURFACE: 1" MONOLITHIC.
APPROACH SLABS: 25' LONG (RS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: CRUSHED AGGREGATE (601.05)

TRAFFIC: I-80: 28,091 - A.D.T. - 1985.
S.R.-45: 4,315 - A.D.T. - 1985.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

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SITE PLAN

BRIDGE № MAH-80S-0761 L ℄ R
OVER S.R.-45
MAHONING COUNTY
STA. 401+95.04 TO STA. 403+58.55

DESIGN	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
H.F.	J.N.P.	H.F.	L.W.W.	R.D.W.	3-23-67	

MICROFILMED
APR 3 1986

FED. RD.	STATE	PROJECT	
2	OHIO		

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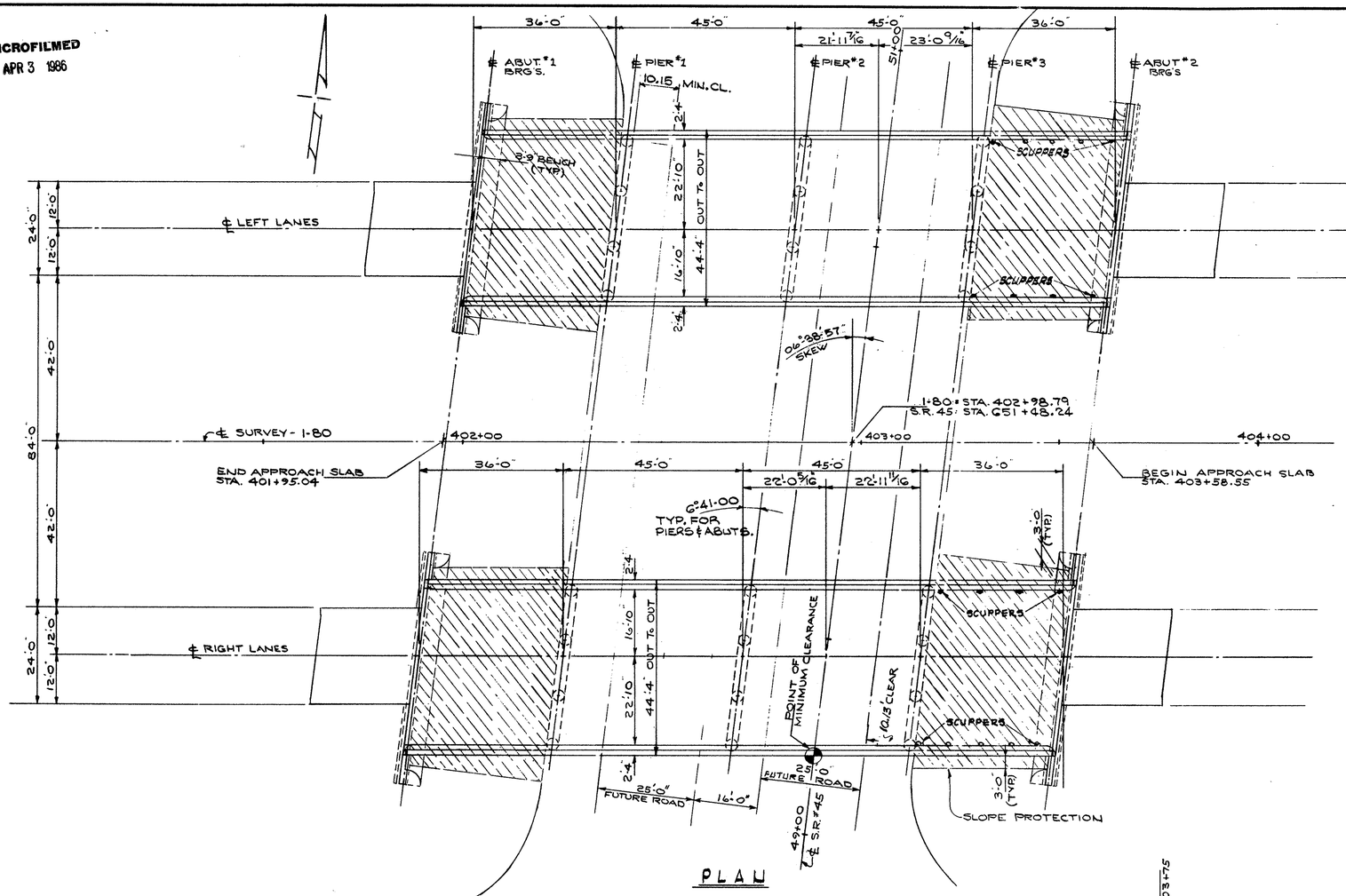
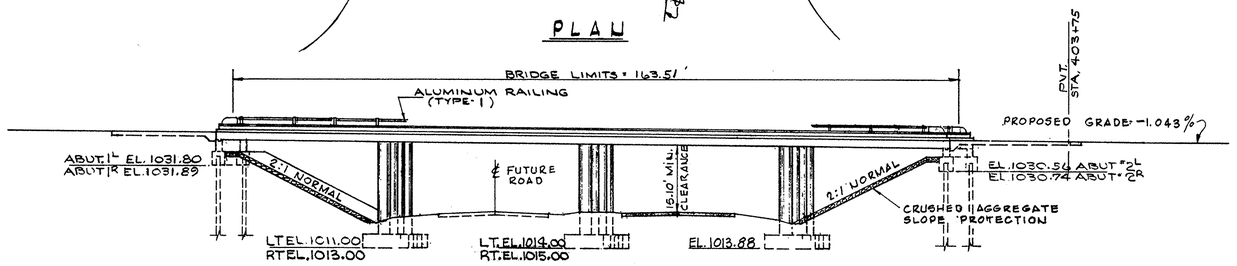
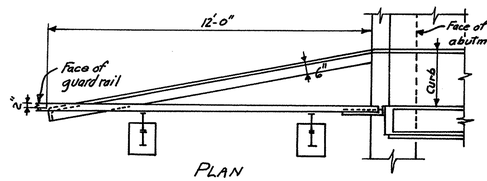
MAH.-80S-7.01
MAH-80-2,30



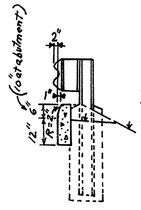
PLAN



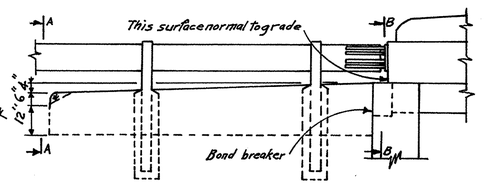
ELEVATION



PLAN



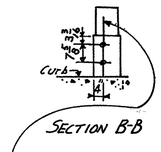
SECTION A-A



ELEVATION

APPROACH TRANSITION CURB

Square bridge shown, - alter to suit skew.
Use on both sides of roadway at entrance end of bridge.
Include with abutments for payment.



SECTION B-B

$\frac{3}{4}$" × 1'-8" Anchor bolts and nuts, ASTM A325. Bolts are threaded 3" and imbedded 1'-6". Galvanize the nuts and a minimum of 6" of the threaded end of the bolts. Use at all corners where guard rail occurs. Include with bridge railing for payment.

EXCAVATION QUANTITY. INCLUDES THE REMOVAL OF FILL MATERIAL REQUIRED FOR CONSTRUCTION OF THE ABUTMENTS, PIERS, AND THE REMOVAL OF FILL MATERIAL ABOVE THE LEVEL OF EARTH BENCH.

SEE SHT. No. 285 FOR DETAILS OF ANCHOR BOLTS FOR GUARDRAIL AT END OF PARAPETS.

CAMBER IN THE FOLLOWING AMOUNTS SHALL BE PROVIDED UNDER FULL DEAD LOAD TO COINCIDE WITH THE VERTICAL CURVE OVER THIS BRIDGE

SPANS 1 & 4 = 3/4"
SPANS 2 & 3 = 1 1/8"

CAMBER — OF 1/800 OF THE SPAN SHALL BE PROVIDED IN EACH SPAN (IN ADDITION TO THAT REQUIRED FOR CONFORMANCE WITH THE PROFILE OF THE HIGHWAY) TO ALLOW FOR DEAD LOAD DEFLECTION. THIS IS THE AMOUNT OF CAMBER REQUIRED BEFORE FALSEWORK IS RELEASED, TO OBTAIN THIS, PROPER ALLOWANCE SHALL BE MADE FOR THE DEFLECTION OF FALSEWORK MEMBERS.

SEE SHEET Nº 283 FOR GENERAL NOTES

— ESTIMATED QUANTITIES — (2 BRIDGES)

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT'S.	PIERS	GEN.
503	637	CU.YDS.	UNCLASSIFIED EXCAVATION		169	468	
503	32	CU.YDS.	ROCK EXCAVATION			32	
505	LUMP	SUM.	FIRST TEST PILE				
507	770	LIN.FT.	10 BP 42 STEEL PILES		770		L.S.
511	330,368	LBS.	REINFORCING STEEL	241,939	11,813	76,616	
511	106	CU.YDS.	CLASS "E" CONC. ABUTS.		106		
511	190	CU.YDS.	CLASS "C" CONC. PIERS ABOVE FOOTINGS			190	
511	216	CU.YDS.	CLASS "E" CONC. PIER FOOTING			216	
511	924	CU.YDS.	CLASS "C" CONC. SUPERSTRUCTURE	924			

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT'S.	PIERS	GEN.
516	25	SQ.FT.	½" PREMOLDED EXP. JOINT FILLER (AASHO M-153)		25		
517	649.13	LIN.FT.	RAILING (TYPE 1)	649.13			

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT'S.	PIERS	GEN.
518	49	CU.YDS.	POROUS BACKFILL		49		
518	18	EA.	SCUPPERS - 6" WROUGHT IRON OR CAST IRON PIPE	18			
601	830	SQ.YDS.	CRUSHED AGGREGATE SLOPE PROTECTION		830		
808	924	UNITS	WATER REDUCING SET RETARDING ADMIXTURE	924			
825	1768	SQ.YDS.	CONC. SURFACE TREATMENT	1768			

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

GENERAL PLAN & ELEVATION

BRIDGE NO. MAH-80-S-0761L&R
OVER S.R.45
MAHONING COUNTY

STA. 401+95.04 TO STA. 403+58.55

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MHC.	G.S.	R M M	C V W 3-1-67	3-23-67		

MICROFILMED
APR 3 1986

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-80S-7.01
MAH 80-2.30

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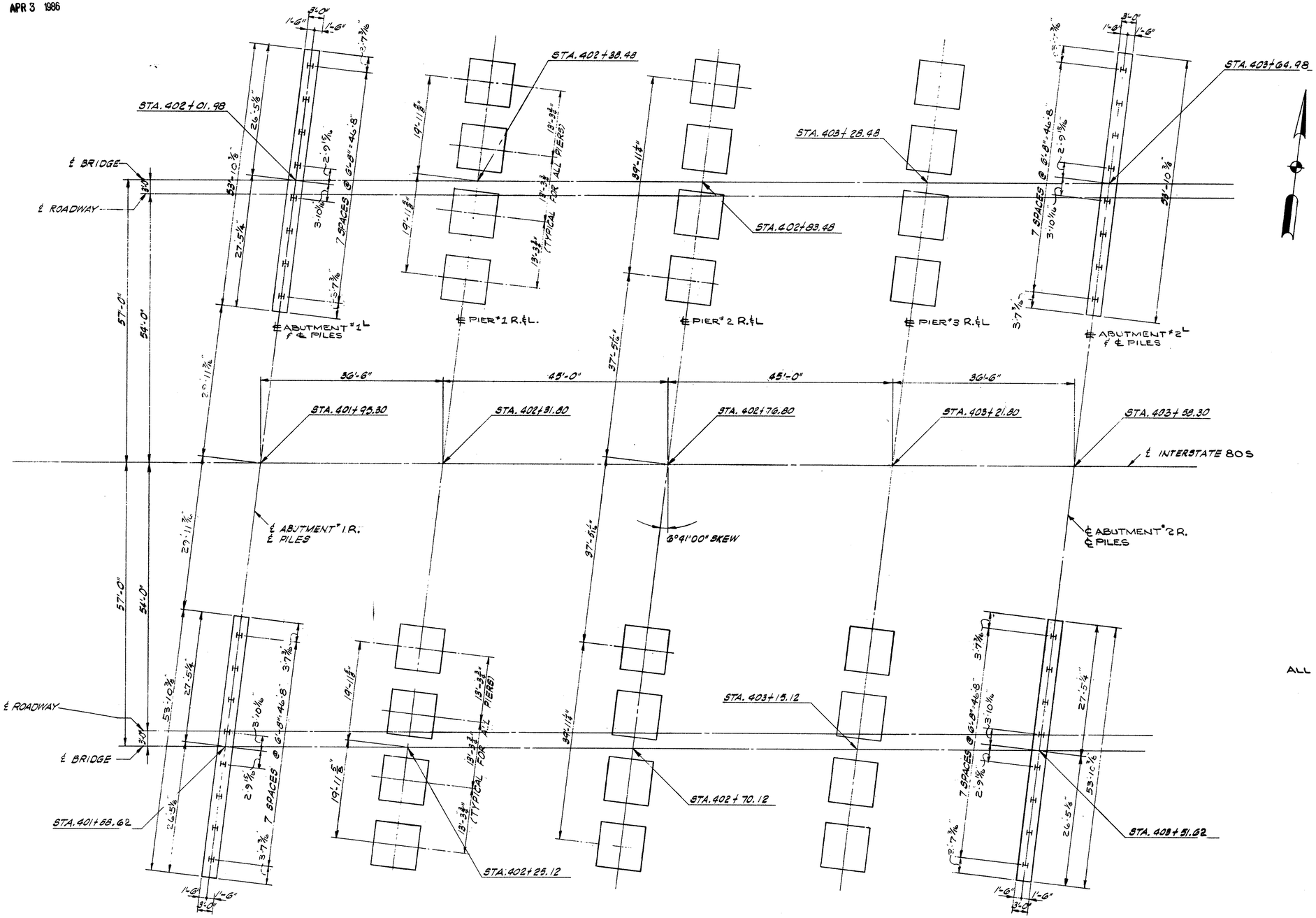

PILING PLAN

PILE CUT-OFF ELEVATIONS

LOCATION	ELEVATION
ABUT.#1L.	1033.80
ABUT.#2L.	1032.56
ABUT.#1R.	1033.89
ABUT.#2R.	1032.74

ALL PILES ARE 10"BP42"

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

PILING PLAN

BRIDGE NO. MAH-80-S-0761 L&R
OVER S.R. 45
MAHONING COUNTY
STA. 401+95.04 TO STA. 403+58.55

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
H.F.	A.W.T.	A.W.T.	E.deV.	RBH	3-23-67	

MICROFILMED
APR 3 1986

FED. RD.	STATE	PROJECT	
2	OHIO		

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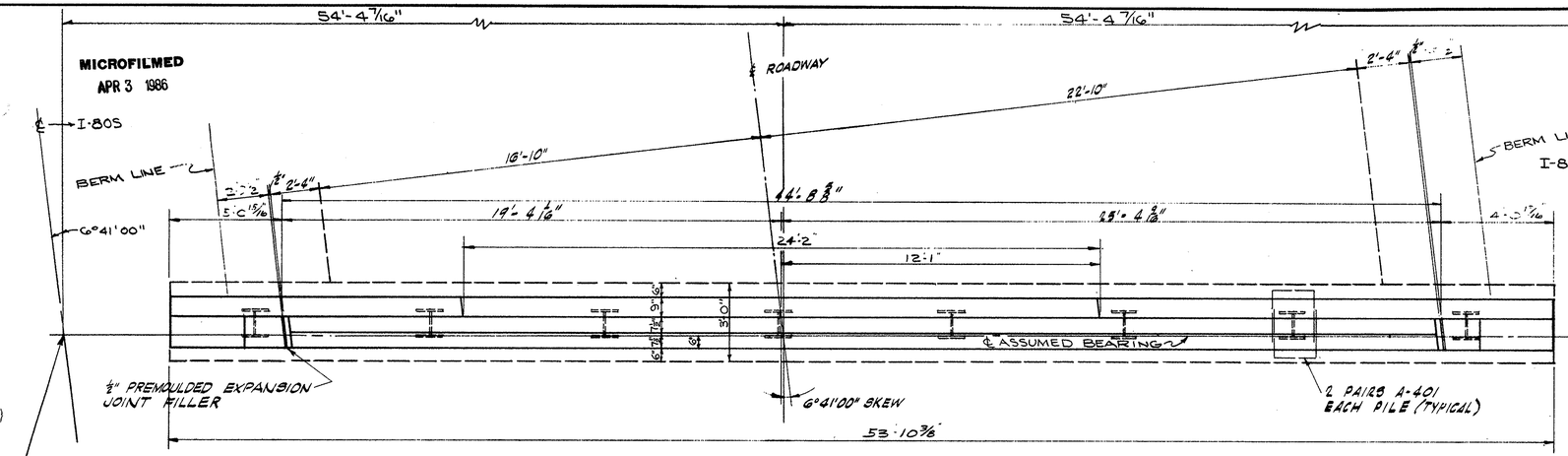
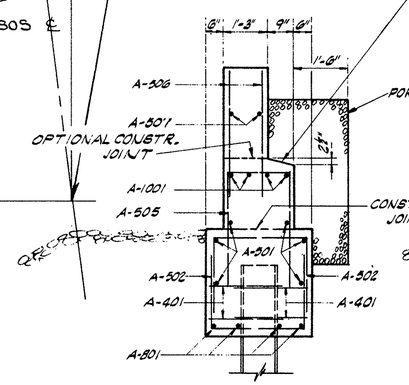
MAH.-80S-7.01
MAH-80-2.30



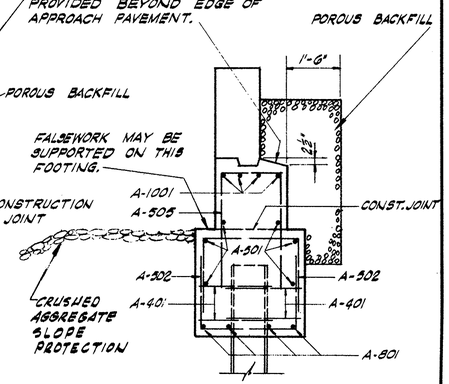
PLAN

ABUT. #1L AS SHOWN
ABUT. #1R & 2L OPP. HAND (EXCEPT AS NOTED)
ABUT. #2R. SIMILAR ---(EXCEPT AS NOTED)

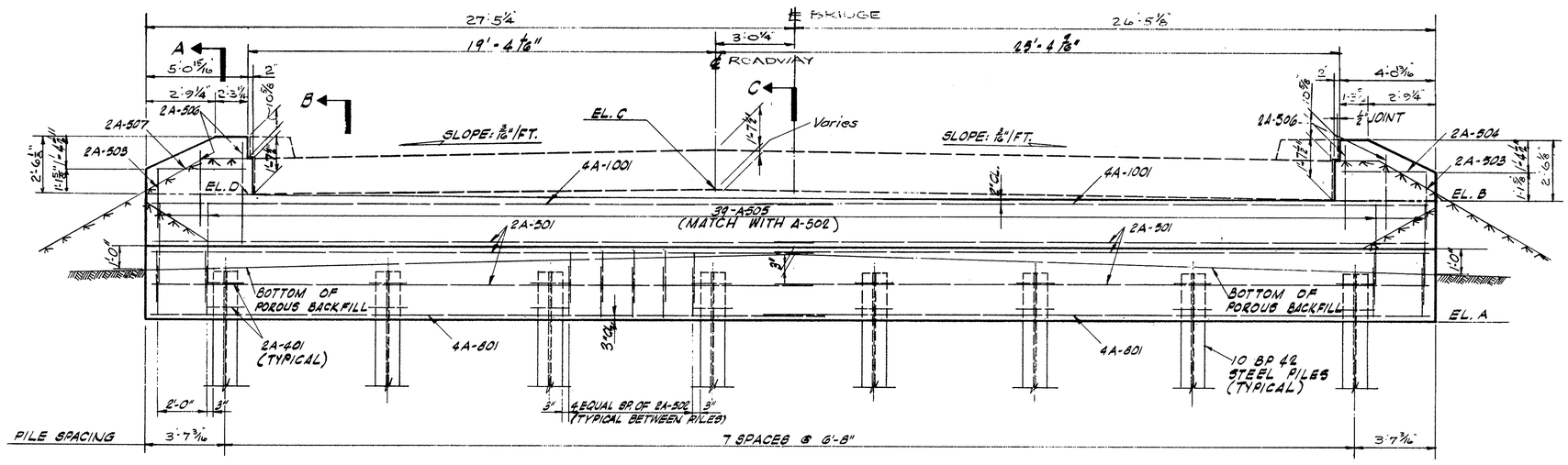
STA. 401+95.79 A#1R
STA. 403+57.79 A#2L



SECTION A-A

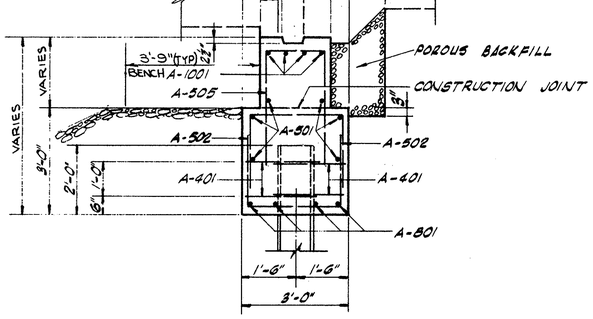


SECTION B-B



A ◄┘ B ◄┘ C ◄┘

ELEVATION



SECTION C-C

POROUS BACKFILL: SHALL EXTEND UPWARD TO THE APPROACH SLAB AND TO THE SURFACE OF THE EARTH SHOULDERS, AND OUTWARD TO THE SURFACE OF THE EMBANKMENT SLOPES. EXCAVATION THEREFORE, IN EXCESS OF THAT REQUIRED FOR CONSTRUCTION OF THE ABUTMENT, SHALL BE CONSIDERED AS PAID FOR IN THE BID PRICE PER. CU. YDS. PAID FOR POROUS BACKFILL.

PROCEDURE: THE EMBANKMENT SHALL BE PLACED AND COMPACTED UP TO THE SPILL THRU SLOPE AND TO LEVEL OF THE SUBGRADE FOR A DISTANCE OF 200 FEET BACK OF THE ABUTMENTS, AFTER WHICH EXCAVATION SHALL BE MADE FOR THE ABUTMENTS AND FOR THE EARTH BENCH AND PIERS Nº 1 L & R AND Nº 3 L & R.

ELEVATIONS

	ABUT. #1L	ABUT. #2L	ABUT. #1R.	ABUT. #2R
ELEV. "A"	1031.80	1030.56	1031.89	1030.74
ELEV. "B"	1036.80	1035.56	1036.89	1035.74
ELEV. "C"	1037.21	1035.98	1037.27	1036.10
ELEV. D	1036.92	1035.70	1036.96	1035.78
BENCH ELEV.	1034.80	1033.56	1034.89	1033.74

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

ABUTMENTS

BRIDGE NO. MAH-80-S-07.61 L&R
OVER S.R. 45
MAHONING COUNTY

STA. 401+95.04 TO STA. 403+58.55

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
H.F.	G.S./A.T.	G.S./A.T.	S.H.N.	E.D.N.	3-23-67	

MICROFILMED
APR 3 1986

FED. RD.	STATE	PROJECT.	
2	OHIO		

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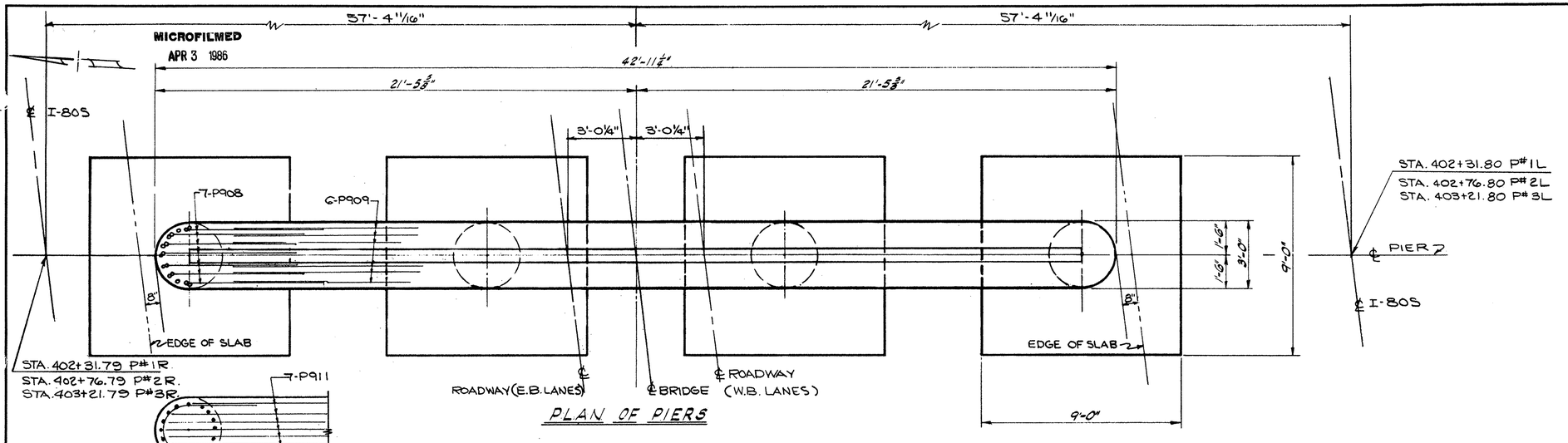
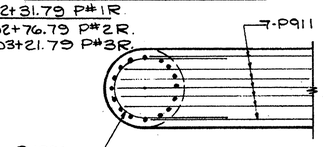
MAH.-80S-7.01
MAH-80-2.30

ELEVATIONS

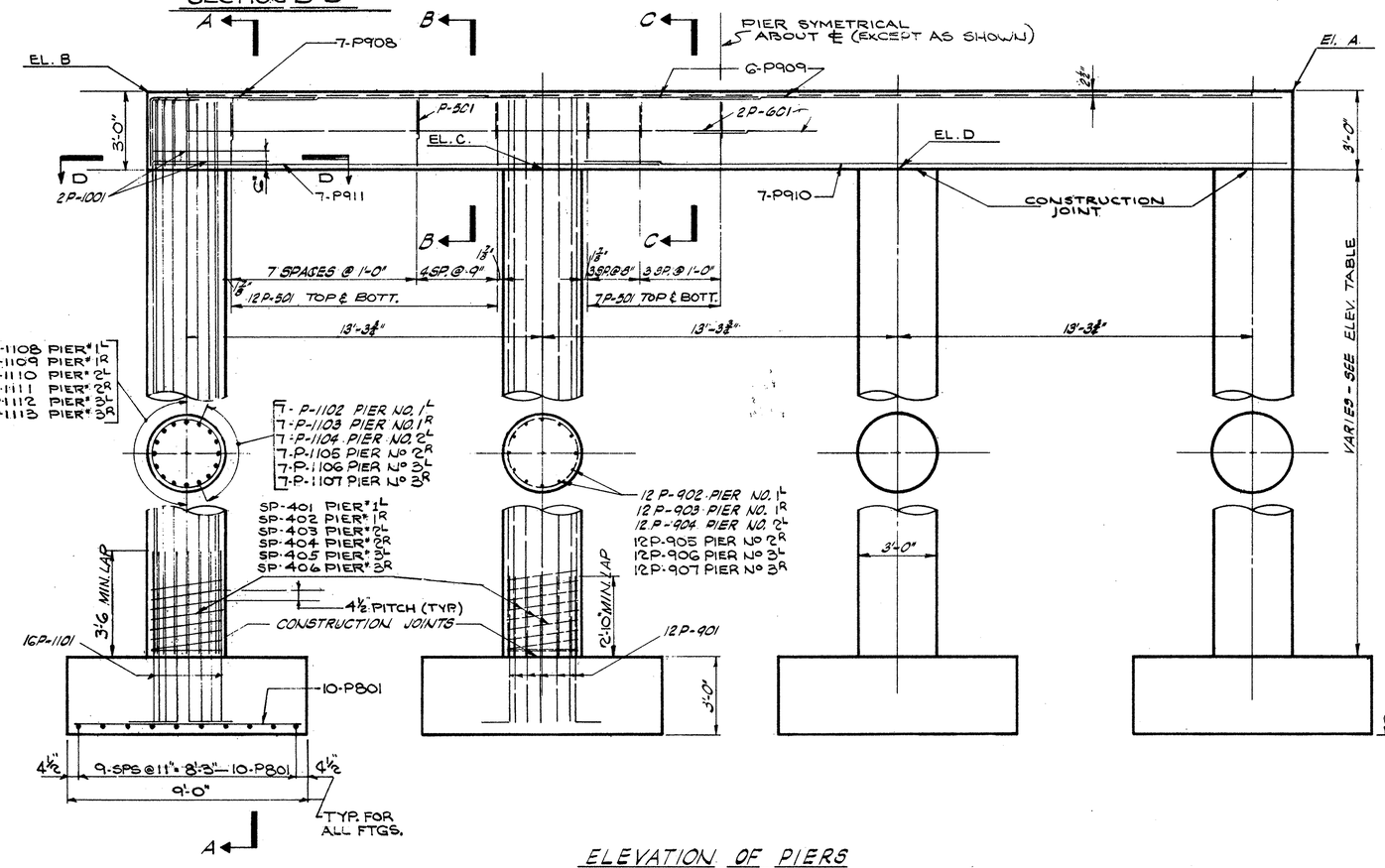
ELEV	PIER #1 L	PIER #1 R	PIER #2 L	PIER #2 R	PIER #3 L	PIER #3 R
A	1036.73	1036.72	1036.43	1036.43	1036.06	1036.08
B	1036.61	1036.79	1036.30	1036.49	1035.92	103613
C	1033.65	1033.77	1033.34	1033.47	1032.97	1033.11
D	1033.69	1033.74	1033.39	1033.45	1033.01	1033.10
E	1011.00	1013.00	1014.00	1015.00	1013.88	1013.88



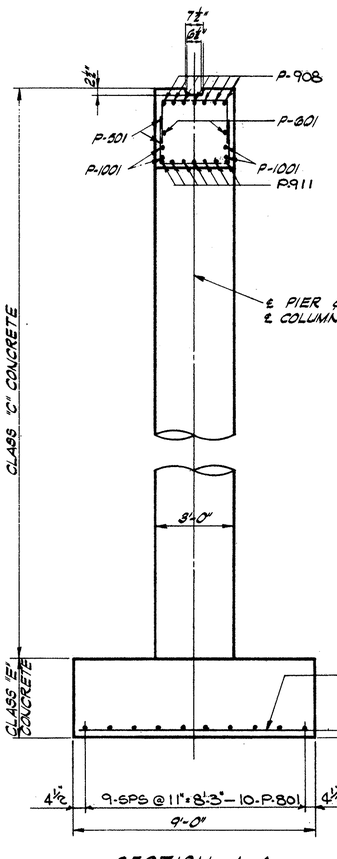
PLAN OF PIERS



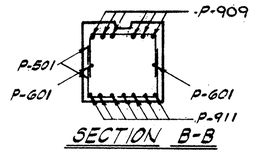
SECTION D-D



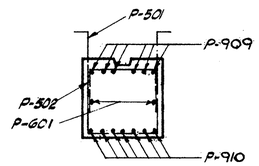
ELEVATION OF PIERS



SECTION A-A



SECTION B-B



SECTION C-C

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

PIERS

BRIDGE NO. MAH-80S-0761 L&R.
OVER S.R. 45
MAHONING COUNTY

STA. 401+95.04 TO STA. 403+58.55

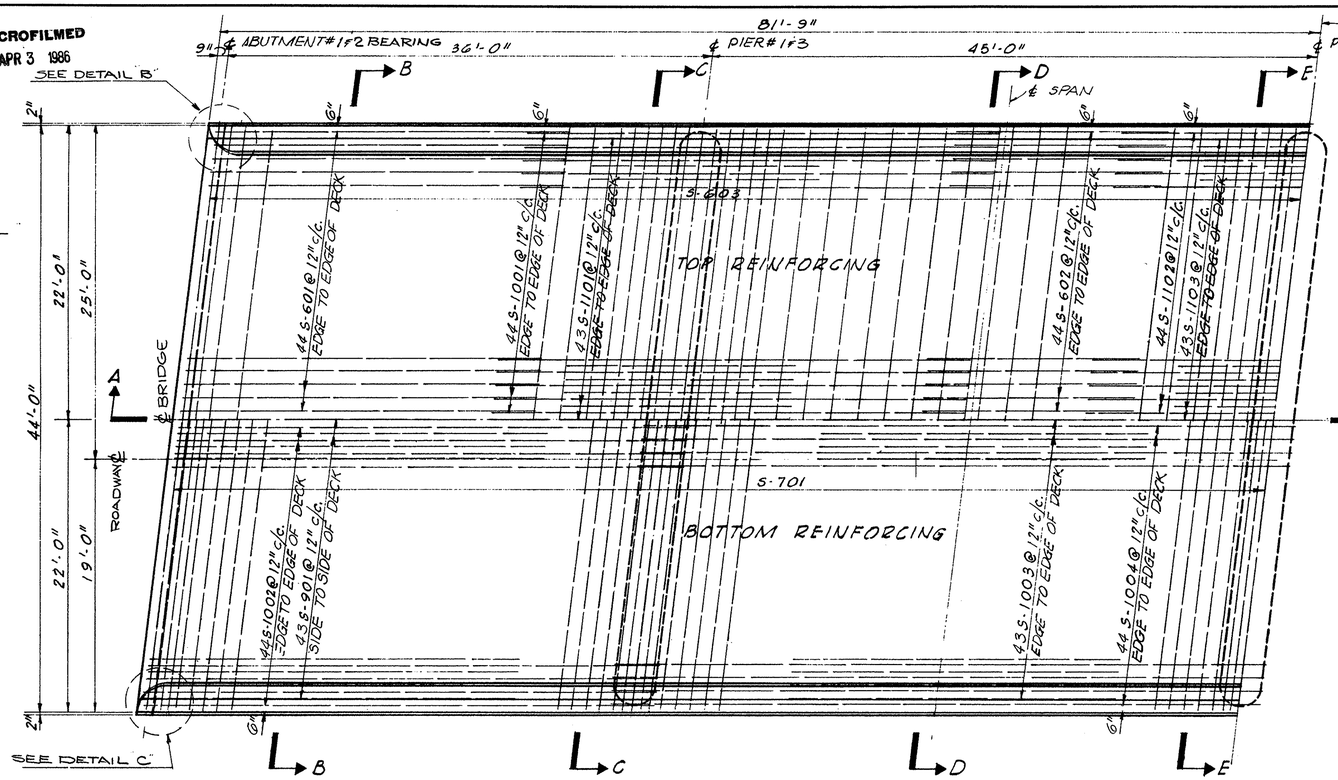
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.E.G. H.F.	A.W.T.	A.W.T.	E.A.V. S.H.N.	RDH	3-23-67	

MICROFILMED
APR 3 1986

FED. RD.	STATE	PROJECT	
2	OHIO		

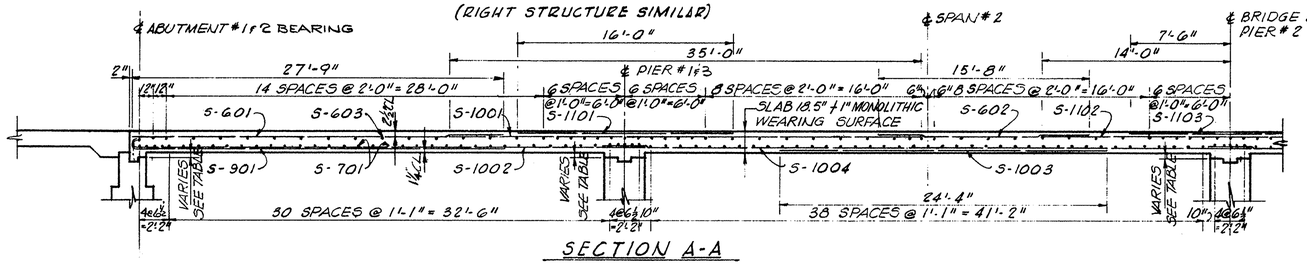
MAH.- 80S-7.01
MAH-80-2.30

297
384

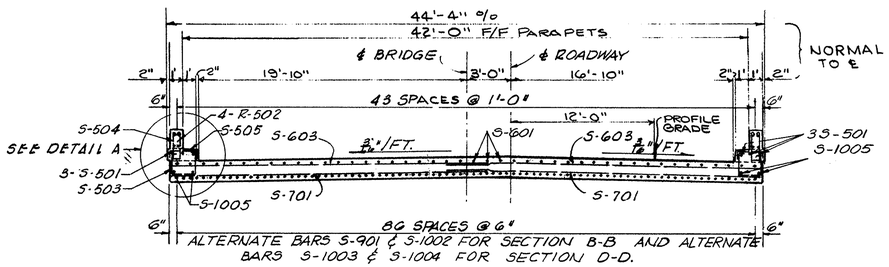


HALF PLAN LEFT STRUCTURE

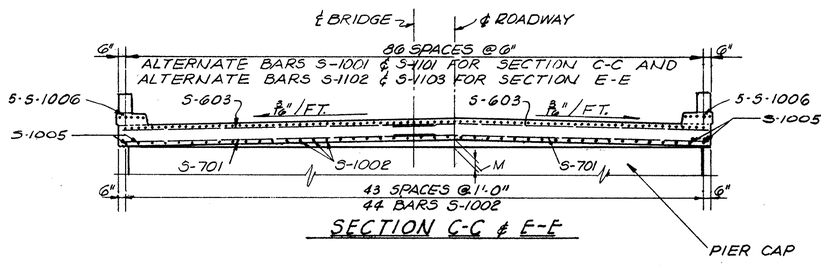
(RIGHT STRUCTURE SIMILAR)



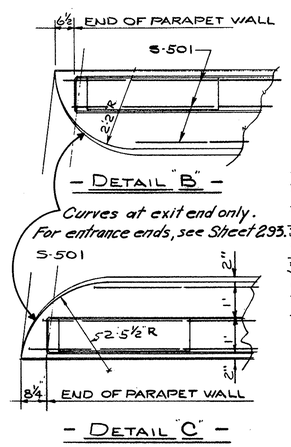
SECTION A-A

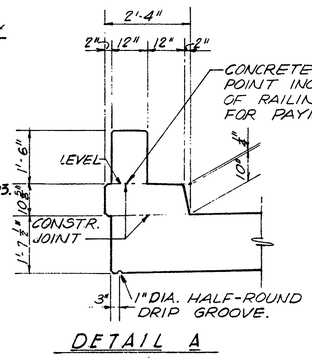


SECTION B-B & D-D

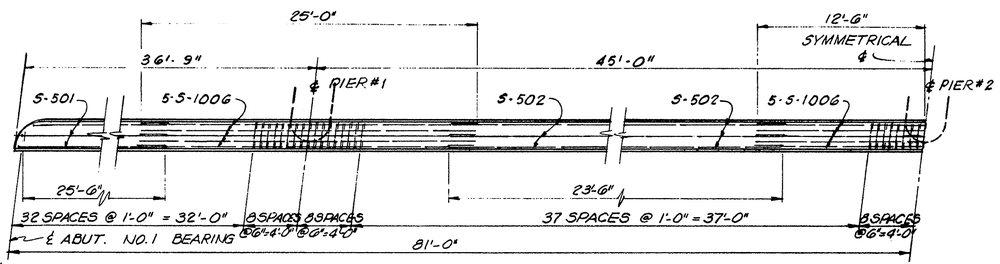


SECTION C-C & E-E





DETAIL A



— SAFETY CURB REINFORCING —

PIER Nº	M
1L	4 1/16"
2L	4 1/16"
3L	4 1/16"
1R	3 7/8"
2R	3 15/16"
3R	4"

ONE LONGITUDINAL JOINT WILL BE PERMITTED, ON CENTERLINE OF ROADWAY. TRANSVERSE CONSTRUCTION JOINTS SHALL CONFORM TO THE SPECIFICATIONS.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

SUPERSTRUCTURE

BRIDGE NO. MAH-80-S-0761 L&R
OVER S.R.45
MAHONING COUNTY

STA. 401+95.04 TO STA. 403+58.55

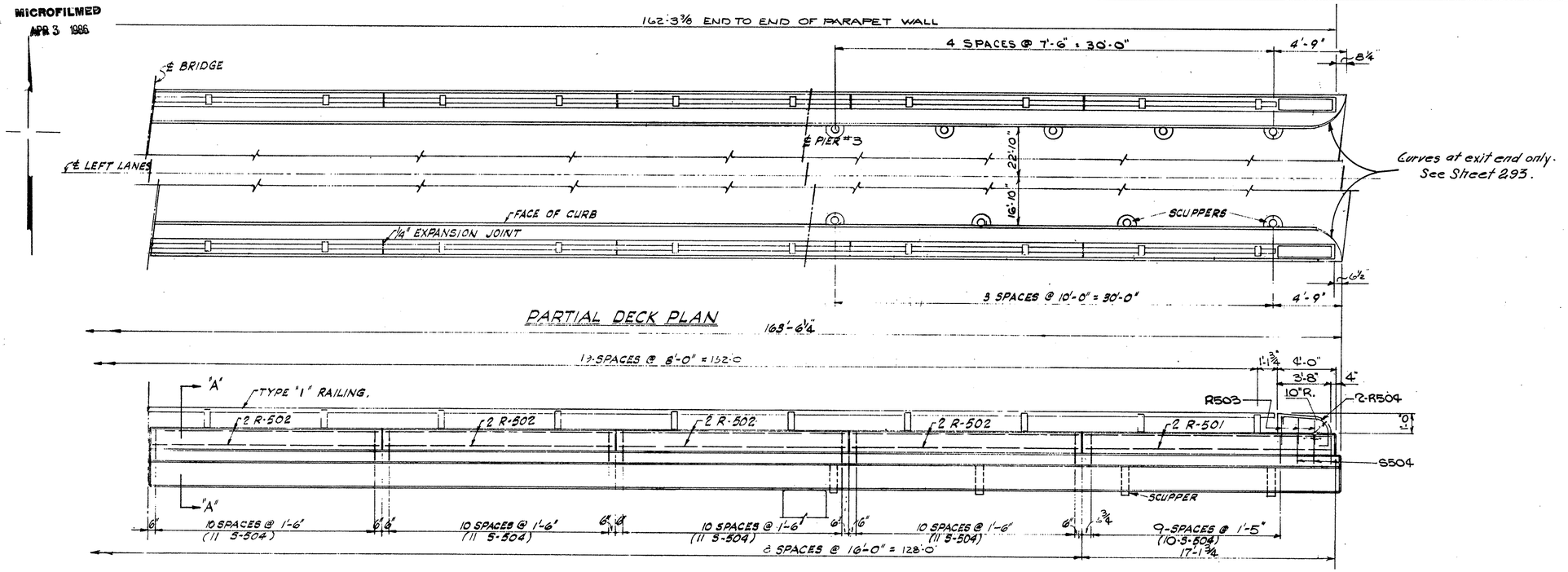
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
S.H.W. E. de V.	J.D.D.		H.F. E. de V.	WDH	3-23-67	

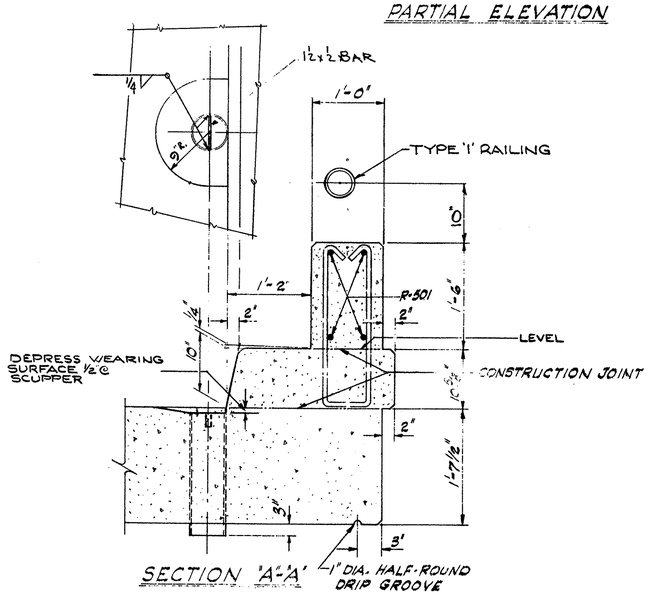
MICROFILMED
APR 3 1986

FED. RD.	STATE	PROJECT	
2	OHIO		

298
384

MAH.-80S-7.01
MAH-80-2.30





STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

RAILING & DRAINAGE DETAILS

BRIDGE NO. MAH-80-S-0761L&R.
OVER S.R. 45
MAHONING COUNTY
STA. 401+95.04 TO STA. 403+58.55

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
H.F.	B.E.S.		S.H.W. E.de V.	RDH	3-23-67	

MICROFILMED
APR 3 1986

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENTS	WEIGHT LBS.
ABUTMENTS									
A-401	128	5'-5"	3	1'-9"	1'-11"				463
A-501	48	27'-7"	ST.						1381
A-502	312	6'-7"	3	2'-8"	2'-1"				2142
A-503	16	2'-8"	ST.						45
A-504	8	3'-6"	ST.						29
A-505	156	7'-11"	3	1'-8"	3'-3"				1288
A-506	32	4'-0"	ST.						134
A-507	8	4'-6"	ST.						38
A-801	32	28'-0"	ST.						2392
A-1001	32	28'-4"	ST.						3901
TOTAL ABUTMENTS									11,813
PIERS									
P-501	444	6'-6"	3	2'-8"	2'-1"				3010
P-601	24	21'-0"	ST						757
P-801	480	8'-8"	ST						11,111
P-901	144	6'-4"	1	1'-0"	5'-7"				3,099
P-902	24	22'-0"	ST						1,795
P-903	24	20'-1"	ST						1,639
P-904	24	18'-8"	ST						1,523
P-905	24	17'-10"	ST						1455
P-906	24	18'-5"	ST						1,503
P-907	24	18'-7"	ST						1516
P-908	84	8'-3"	1	2'-6"	6'-0"				2356
P-909	72	18'-11"	ST						4632
P-910	42	26'-5"	ST						3773
P-911	42	18'-11"	ST						2725
P-1001	24	9'-3"	9	2'-10+	3'-6½	1'-2⅜			955
P-1101	192	7'-0"	1	1'-0"	6'-3"				7141
P-1102	14	22'-0"	ST						1636
P-1103	14	20'-1"	ST						1494
P-1104	14	18'-8"	ST						1388
P-1105	14	17'-10"	ST						1326
P-1106	14	18'-5	ST						1370
P-1107	14	18'-7"	ST						1382
P-1108	18	22'-11"	1	1'-0"	22'-2"				2192
P-1109	18	21'-0"	1	1'-0"	20'-3"				2008
P-1110	18	19'-7"	1	1'-0"	18'-10"				1873
P-1111	18	18'-9"	1	1'-0"	18'-0"				1793
P-1112	18	19'-4	1	1'-0"	18'-7"				1849
P-1113	18	19'-6"	1	1'-0"	18'-9"				1865
TOTAL									69,166
SPIRALS									7,450
TOTAL FOR PIERS									76,616
SUPERSTRUCTURES									
S-501	24	25'-6"	ST.						638
S-502	24	23'-6"	ST.						588
S-503	748	6'-6"	15	1'-8"	2'-2"	6"			5071
S-504	456	5'-7"	5	8"	2'-2"	5"			2656
S-505	748	2'-5"	3	1'-8"	6"				1885
S-601	176	27'-9"	ST.						7336
S-602	176	15'-8"	ST.						4142
S-603	412	23'-0"	ST.						14,233
S-701	644	23'-2"	ST.						30425

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENTS	WEIGHT LBS.
S-901	172	29'-0"	6	27'-9"	1'-3"				16959
S-1001	176	35'-0"	ST						26,506
S-1002	176	39'-7"	6	38'-2"	1'-5"				29,978
S-1003	172	24'-4"	ST						18,009
S-1004	176	48'-2"	ST						36,478
S-1005	32	43'-2"	ST.						5,944
S-1006	60	25'-0"	ST						6,455
S-1101	172	16'-0"	ST						14,621
S-1102	88	28'-0"	ST.						13091
S-1103	86	15'-0"	ST.						6854
TOTAL SUPERSTRUCTURE									241,939

MARK	NO. REQ'D	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENTS	WEIGHT LBS.
RAILING®									
R-501	32	16'-9"	ST.						
R-502	128	15'-8	ST						
R-503	24	4'-2"	16						
R-504	16	5'-4"	17						

REPLACEMENT BARS

RE-401	1	6'-3"	10	5'-3	1'-4"				
RE-501	1	6'-6"	ST.						
RE-601	2	7'-0"	ST.						
RE-701	2	7'-3"	ST.						
RE-801	1	7'-6"	ST.						
RE-901	2	7'-10"	ST.						
RE-1001	7	8'-3"	ST.						
RE-1101	3	8'-9"	ST.						

SPIRAL REINFORCING SCHEDULE

MARK	NO. REQ'D	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT LBS.
SP-401	4	2'-8"	19'-7 5/16"	4½"	55	1426
SP-402	4	2'-8"	17'-8 5/8"	4½"	50	1294
SP-403	4	2'-8"	16'-3 5/8"	4½"	47	1214
SP-404	4	2'-8"	15'-5 3/16"	4½"	44	1138
SP-405	4	2'-8"	16'-0½"	4½"	46	1187
SP-406	4	2'-8"	16'-2 3/8"	4½"	46	1191
TOTAL SPIRALS						7,450

GRAND TOTAL 330,368 LBS.

®RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 511 FOR PAYMENT.

FED. RD.	STATE	PROJECT	
2	OHIO		

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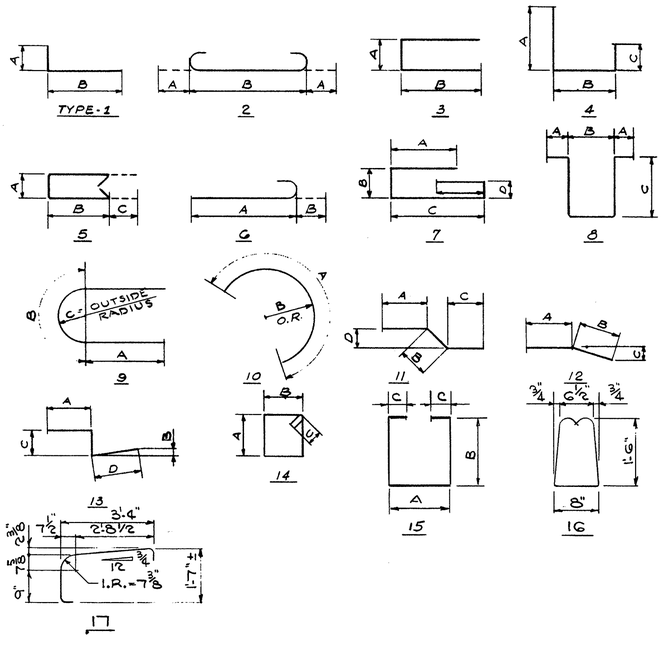
MAH-80S-7.01
MAH-80-2.30



REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL SCHEDULE FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE PIER CAP. THE NUMBER OF TURNS SHOWN IN THE STEEL SCHEDULE FOR SPIRAL BARS IS THE LENGTH DIVIDED BY THE PITCH PLUS THREE TURNS (TOTAL NUMBER OF CLOSED COILS) EXPRESSED AS THE NEAREST WHOLE NUMBER.
SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS, BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 5-4.
ONE AND ONE HALF CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOUR (4) STEEL CHANNEL, TEE OR ANGLE SPACERS WEIGHING APPOX. 0.66 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS BASED ON 0.66 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE A-601 IS A NO. 6 SIZE BAR AND P-1001 IS A NO. 10 SIZE BAR.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

REINFORCING SCHEDULE

BRIDGE NO. MAH-80-S-0761 L&R
OVER S.R.45
MAHONING COUNTY

STA. 401+95.04 TO STA. 403+58.55

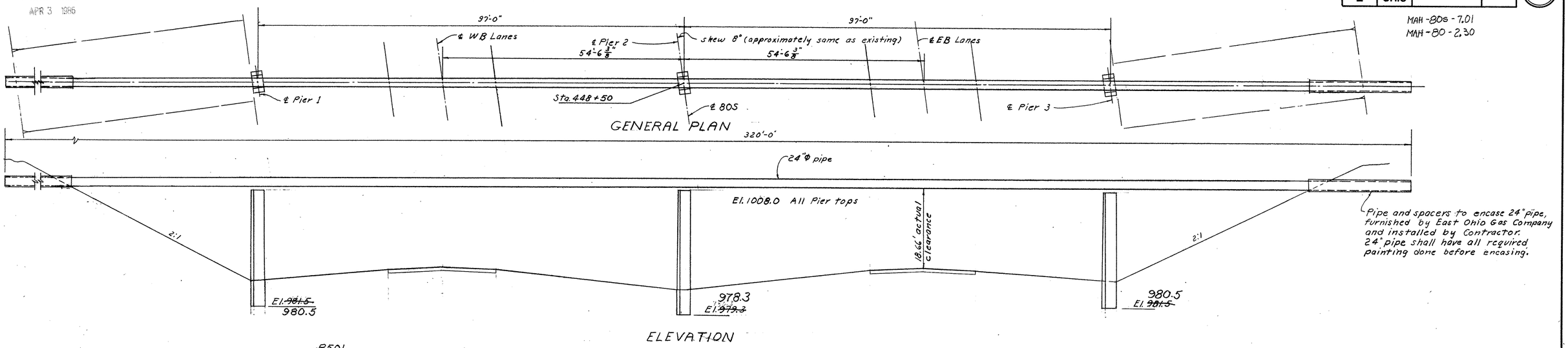
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
S.H.W.	JNR		C.V.W.	RAV	3-23-67	

MICROFILMED
APR 3 1986

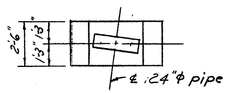
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

299A

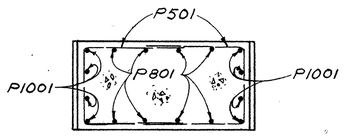
MAH-80s-7.01
MAH-80-2.30



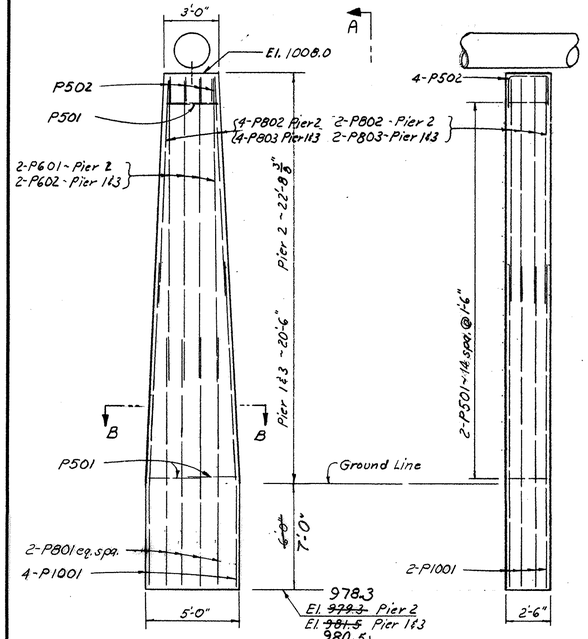
Pipe and spacers to encase 24" pipe, furnished by East Ohio Gas Company and installed by Contractor. 24" pipe shall have all required painting done before encasing.



PIER PLAN



SECTION B-B

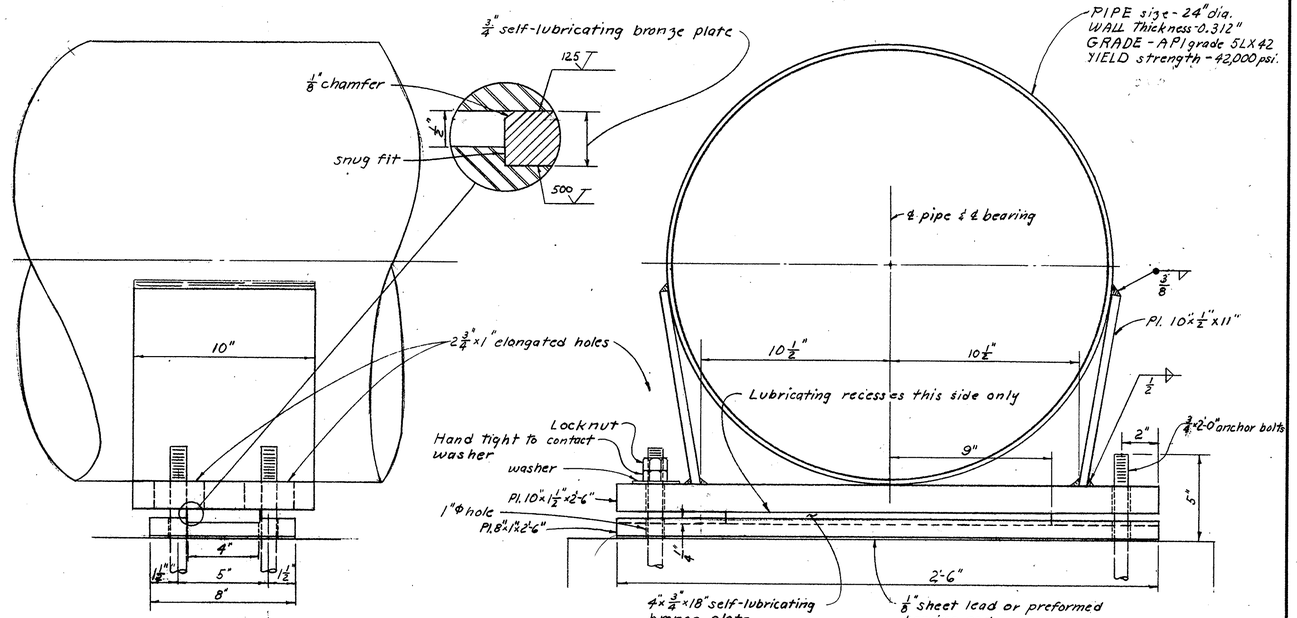


PIER ELEVATION VIEW A-A

Contractor may make a construction joint at whatever location advantageous.

Reinforcing steel in pier tops shall be placed to avoid interference with anchor bolts.

Note: Concrete shall be placed as soon as possible after excavation is completed.



Reference shall be made to Supplemental Specification 927 for Self-Lubricating Bronze Plates

BEARINGS

Rev 7-11-68

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

GAS LINE STRUCTURE DETAILS

MAH-80S-7.01
UNDER 24" GAS LINE
MAHONING COUNTY
STA. 448+50

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FPR	FPR		WCK	BFG	3-27-68	

MICROFILMED
APR 3 1986

GENERAL NOTES

REFERENCE shall be made to Supplemental Specifications 927 dated 8-7-67, 832 and 931 dated 5-25-67 and 811 dated 1-1-67.

DESIGN DATA
Concrete Class C - unit stress 1333 p.s.i.
Pipe - 24 inch diameter, 0.312 inch wall thickness API grade 5LX 42, yield strength 42000 p.s.i., double random lengths.
Bearing Steel - ASTM A36, unit stress 20,000 p.s.i.
Reinforcing Steel - ASTM A15, A16, A160 Deformed, intermediate or Hard Grade. Unit stress 20,000 p.s.i.

WELDS for all pipe joints shall be examined by radiographic examination in accordance with Supplemental Spec. 811 except that the entire length of all welds must be so examined.

PAINTING of pipe and bearings shall be according to Supplemental Specification 832, except pipe shall be sand blast cleaned, and prime coat shall be Pittsburg Plate Glass Industries Aquapon Green Non-Toxic UC 40058, or equal, 2 mils dry. Prime coat shall not be applied to areas that will be welded. After approval of weld, the unpainted area shall be cleaned and a prime coat applied.

The Contractor shall cooperate with the East Ohio Gas Company and their agents in scheduling and performance of their work so that rearrangement of their facility may be accomplished during the months of May through August. The existing 16" gas line shall remain in continuous service until it is to be connected to the rearranged line.
All costs of protecting and supporting the transmission line during construction shall be included in the prices bid for the various items of the contract.

The location of the proposed 27" storm sewer and catch basin shown in the center of the median will be adjusted at the time of construction to accommodate the center pier of the Utility Pipe Line Structure.

FOUNDATION BEARING PRESSURE: Footings are designed for a maximum bearing pressure of 3 tons per. sq. ft.

FOOTINGS shall be placed in bedrock at the elevation shown.

EXISTING GAS LINE shall be removed by the Gas Company. The Contractor and Gas Company are requested to cooperate by arranging their work in such a manner that inconvenience to either would be held to a minimum.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

299B

MAH-805-7.01
MAH-80-2.30

ESTIMATED QUANTITIES

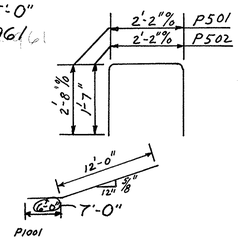
Item	Total	Unit	Description	Piers	Gen'l
503	39	Cu. Yds.	Unclassified excavation including shale	9	30
509	~~4790~~ 4957	lbs.	Reinforcing steel	~~4790~~	4957
511	~~32~~ 34	Cu. Yds.	Class C concrete	~~32~~	34
513	3	each	Structural Steel bearings	3	
Special	320	lin. ft.	Steel pipe 24" diameter 0.312 inches wall thickness		
			API grade 5LX 42, yield strength 42000 p.s.i.		320
832	Lump	Sum	Field painting 24" pipe and bearings (2 Coats)		Lump

REINFORCING STEEL LIST

Mark	No.	Length	Weight	Shp
Piers				
P1001	24	~~18'-0"~~ 19'-0"	~~859~~ 961	B
P801	24	~~12'-0"~~ 15'-0"	~~697~~ 961	S
P802	8	13'-0"	278	S
P803	16	11'-0"	470	S
P601	8	16'-4"	197	S
P602	16	14'-4	345	S
P501	90	7'-3"	680	B
P502	12	5'-1"	64	B
REPLACEMENT BARS				
RE1001	1	8'-2"	—	S
RE801	1	7'-6"	—	S
RE601	1	6'-11"	—	S
RE501	1	6'-7"	—	S

Bending Diagrams

~~1962~~ 1961



P1001

Rev 7-11-68

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

GENERAL NOTES, ESTIMATED QUANTITIES, REINFORCING STEEL LIST FOR GAS LINE STRUCTURE
MAH-805-7.01
UNDER 24" GAS LINE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FPK		RMM	WCK 3-26-68	BFG 3-27-68		

MICROFILMED
APR 3 1985

FED. RD.	STATE	PROJECT	
2	OHIO		

300
384

MAH-80S-7.01
MAH-80-2.30

STA. 455+24.82 ℄ I-80S =
STA. 118+74.19 ℄ EXISTING OHIO TURNPIKE

5.66'/216.17' TAPER

RAMP "D"

STA. 434+27.68 ℄ RAMP "D"
STA. 117+09.92 ℄ I-80S

℄ WESTBOUND LANES

24°29'41" SKEW

HOR'L. CLEARANCE: 10.00 REQ'D.; 10.21' ACTUAL
NOSE: 9'-1" ℄ STA. 458+33.24
1:48 TAPER

PT. OF MIN. VERT. CLEARANCE ℄ EASTBOUND LANES

HOR'L. CLEARANCE: 14.00 REQ'D.; 14.11' ACTUAL

SLOPE PROTECTION

STA. 118+62.00

STA. 120+36.00

STRUCTURE MAH-80S-0862

END APPROACH SLABS
STA. 116+95.97

BEGIN APPROACH SLABS
STA. 120+24.91

℄ EASTBOUND LANES

EXIST. OHIO TURNPIKE

EXIST. RAMP "E"

STA. 0+00.00 ℄ EXIST. RAMP "E"
54' RT. ℄ STA. 120+05

STRUCTURE MAH-80S-0861

84' MEDIAN

RAMP "E"

STA. 118+17.00

HOR'L. CLEARANCE: 10.00 REQ'D.; 11.38' ACTUAL

PT. OF MIN. VERT. CLEARANCE

SLOPE PROTECTION

EXIST. 1000 1002

EL. 981.48
EL. 981.73
EL. 981.98
EL. 982.53
EL. 982.98
P.V.I. STA. 453+00.00
P.V.T. STA. 454+50
PROPOSED PROFILE GRADE
+0.50%
-1.58%
660' V.C.

EXISTING PROFILE AT ℄ I-80S

456+00
455+00
454+00
970
990
996
998
1000
1002
1004

PROPOSED STRUCTURE

TYPE: CONTINUOUS WELDED STEEL PLATE GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES.
SKEW: 24°-29'-41" L.F.
SPANS: 66'-3" - 106'-6" - 89'-9" - 58'-6" BRGS.
ROADWAY LT. STR.: 48'-0" F/F PARAPETS
RT. STR.: 41'-0" F/F PARAPETS
LOAD FREQUENCY: CF = 2000 ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING.
WEARING SURFACE: 1" MONOLITHIC.
APPROACH SLABS: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: CRUSHED AGGREGATE (601.05)

TRAFFIC: I-80: 28,091 - A.D.T. - 1985.
OHIO TURNPIKE: 40,966 - A.D.T. - 1985.

14' MIN. 10' 24' PAVEMENT 28' MEDIAN TO ℄
ROUND. 4' 12' 12' 8' 4' ROUNDING
3/4" FT 3/4" FT 5/8" FT 3/4" FT
2:1 MAX.
4:1 MAX
PROFILE GRADE
4' ROUNDING
ROUND. 4'
3'-11" MIN.
SYMMETRICAL ABOUT ℄ OHIO TURNPIKE

TYPICAL SECTION
EXIST. OHIO TURNPIKE

VERTICAL CLEARANCE:
DESIGN = 16.50'; ACTUAL = 16.41 E/B. LANES
16.48 W/B. LANES

MEET EXISTING ℄ BEGIN APPROACH SLABS
E/B. APPROACH SLABS STA. 116+95.97 EL. 1005.29 EL. 1005.14
W/B. APPROACH SLABS STA. 116+95.97 EL. 1005.29 EL. 1005.14
E/B. L. EL. 1004.87 W/B. L. EL. 1004.89
E/B. L. EL. 1004.80 W/B. L. EL. 1004.64
E/B. L. EL. 1004.36 W/B. L. EL. 1004.39
E/B. L. EL. 1004.11 W/B. L. EL. 1004.14
E/B. L. EL. 1003.87 W/B. L. EL. 1003.89
E/B. L. EL. 1003.62 W/B. L. EL. 1002.64
BEGIN APPROACH SLABS STA. 120+24.91
MEET EXISTING ℄ END APPROACH SLABS
BRIDGE LIMITS = 328.94
TYPE -1- RAILING
PROFILE GRADE {-0.49% E/B. LANES; -0.50% W/B. LANES}
EL. 997.8 E/B. LANES
EL. 997.5 TO 997.6 W/B. L.
EL. 996.2 E/B. LANES
EL. 995.9 TO 996.2 W/B. L.
VARIES
APPROX. ROCK LINE RT. LANES (E.B.L.)
APPROX. ROCK LINE LT. LANES (W.B.L.)
EL. 984.5 TO 987.0 E/B. LANES
EL. 978.5 TO 981.5 W/B. LANES
EL. 975.5 E/B. LANES
EL. 975.0 W/B LANES
EL. 975.0 E/B. LANES
EL. 975.0 W/B. LANES
EL. 975.0 E/B. LANES
EL. 974.5 W/B. LANES
EL. 982.70 E/B. LANES
EL. 981.0 TO 982.5 W/B. L.
EXISTING PROFILE AT ℄ SURVEY
117+00
118+00
119+00
120+00
121+00
990
970

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

SITE PLAN

BRIDGE NO. MAH-80S-0861 & 0862
UNDER OHIO TURNPIKE
I-80S MAHONING COUNTY
STA. 455+24.82

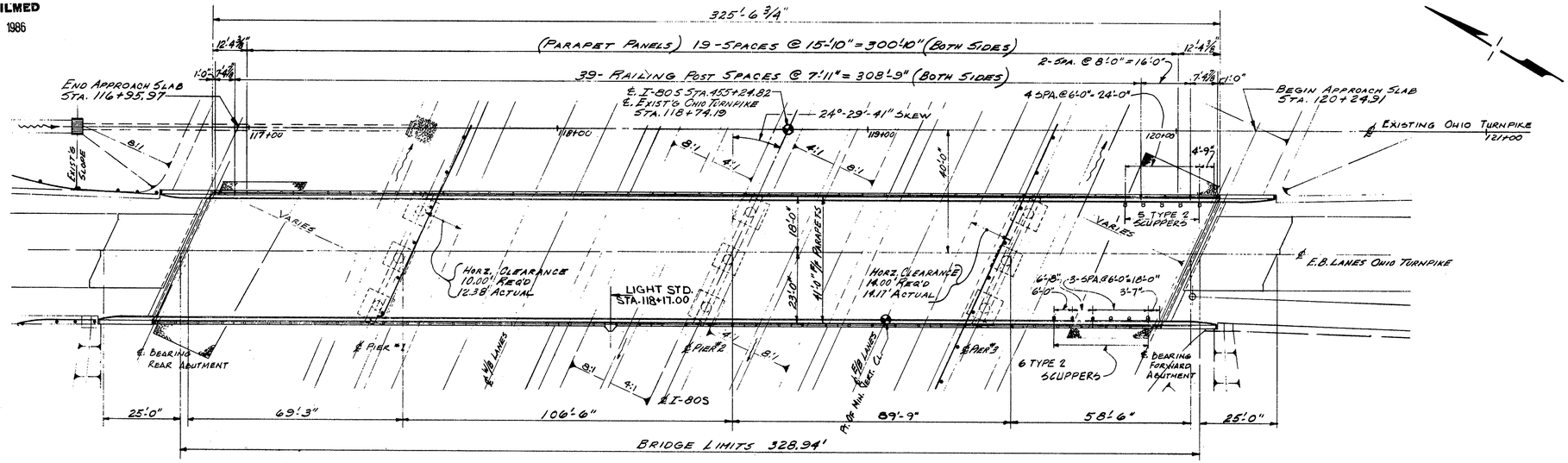
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JH	VENESSY		EAH	RAH	3-21-67	

MICROFILMED
APR 3 1986

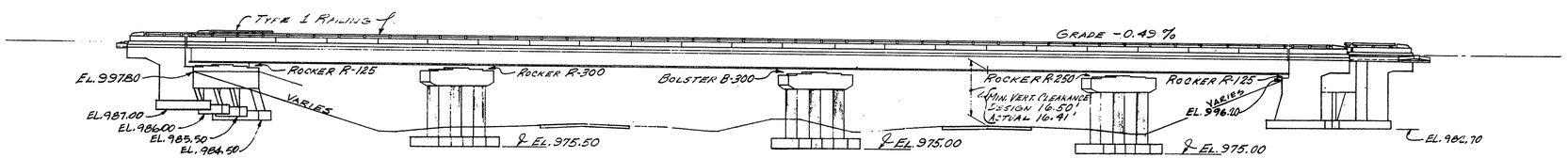
FED. RD.	STATE	PROJECT	
2	OHIO		

301
384

MAH-80S-7.01
MAH-80-2.30



GENERAL PLAN



ELEVATION

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIERS	GEN'L
503	LUMP	SUM	COFFERDAMS, CRIBS AND SHEETING		LUMP		
503	487	CU. YD.	UNCLASSIFIED EXCAVATION		487		
503	182	CU. YD.	SHALE EXCAVATION		17	165	
509	195,661	LBS.	REINFORCING STEEL	131,473	21,283	42,905	
511	444	CU. YD.	CLASS "C" CONCRETE - SUPERSTRUCTURE	444			
511	98	CU. YD.	CLASS "C" CONCRETE - PIERS ABOVE FOOTING			98	
511	131	CU. YD.	CLASS "E" CONCRETE - FOOTINGS		56	75	
511	192	CU. YD.	CLASS "E" CONCRETE - ABUTMENTS ABOVE FOOTINGS		192		
515	451,600	LBS.	STRUCTURAL STEEL	451,600			
832	451,600	LBS. SUM	FIELD PAINTING OF STRUCTURAL STEEL	451,600			

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIERS	GEN'L
517	723.07	LIN. FT.	RAILING (TYPE 1)	632.40	70.67		
518	34	CU. YD.	POROUS BACKFILL		34		
518	78	LIN. FT.	6" HELICAL PERFORATED C.M. PIPE, INCL. SPECIALS (707.06)		78		
518	26	LIN. FT.	6" HELICAL NONPERFORATED C.M. PIPE, INCL. SPECIALS (707.06)		26		
518	11	EACH	SCUPPERS INCLUDING SUPPORTS	11			
601	414	SQ. YDS.	CRUSHED AGGREGATE SLOPE PROTECTION		414		
625			See sheet 247 for lighting summary.				
808	444	UNITS	WATER-REDUCING, SET-RETARDING ADMIXTURE	444			
825	1,779	SQ. YDS.	CONCRETE SURFACE TREATMENT	1,723	56		
828	86	LIN. FT.	JOINT SEALER	86			

QUANTITIES CHECKED BY D.H.S. 2-20-67

NOTES:
EMBANKMENT PROCEDURE:
AFTER THE PEDESTALS HAVE BEEN CONSTRUCTED THE BACKFILL SHALL BE PLACED AND COMPACTED UP TO THE HEIGHT OF THE FINISHED SPILL-THRU SLOPE AND TO THE LEVEL OF THE SUBGRADE, AFTER WHICH EXCAVATION SHALL BE MADE FOR THE CROSSBEAM.

ABBREVIATIONS USED:
N.F. — NEAR FACE
F.F. — FAR FACE
E.F. — EACH FACE

FOR ADDITIONAL NOTES SEE SHT # 283

SEE SH'T NO. 348 FOR LIGHT STANDARD SUPPORT DETAILS.

See sheet 285 for guardrail attachment to parapets.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

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GENERAL PLAN & ELEVATION
BRIDGE NO. MAH-80S-0861
UNDER OHIO TURNPIKE
I-80S MAHONING COUNTY
STA. 455+24.82

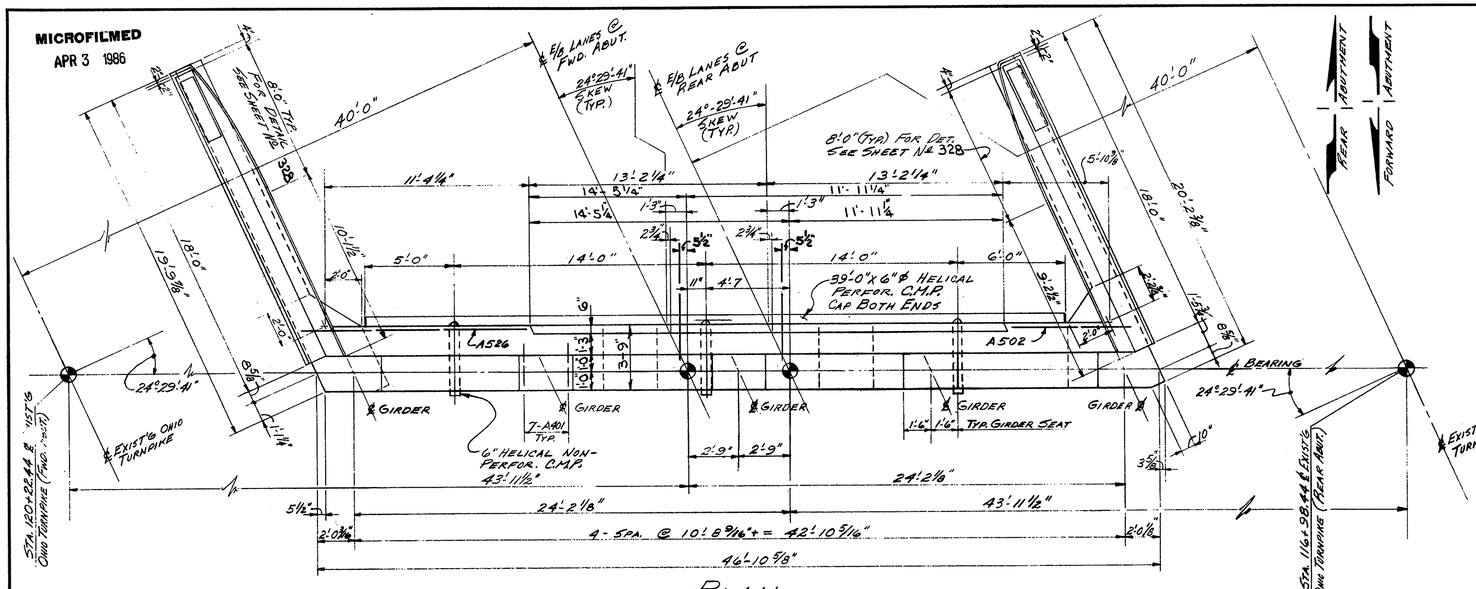
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
VH.	R.J.P.		EAH	RBH	3-21-67	

MICROFILMED
APR 3 1986

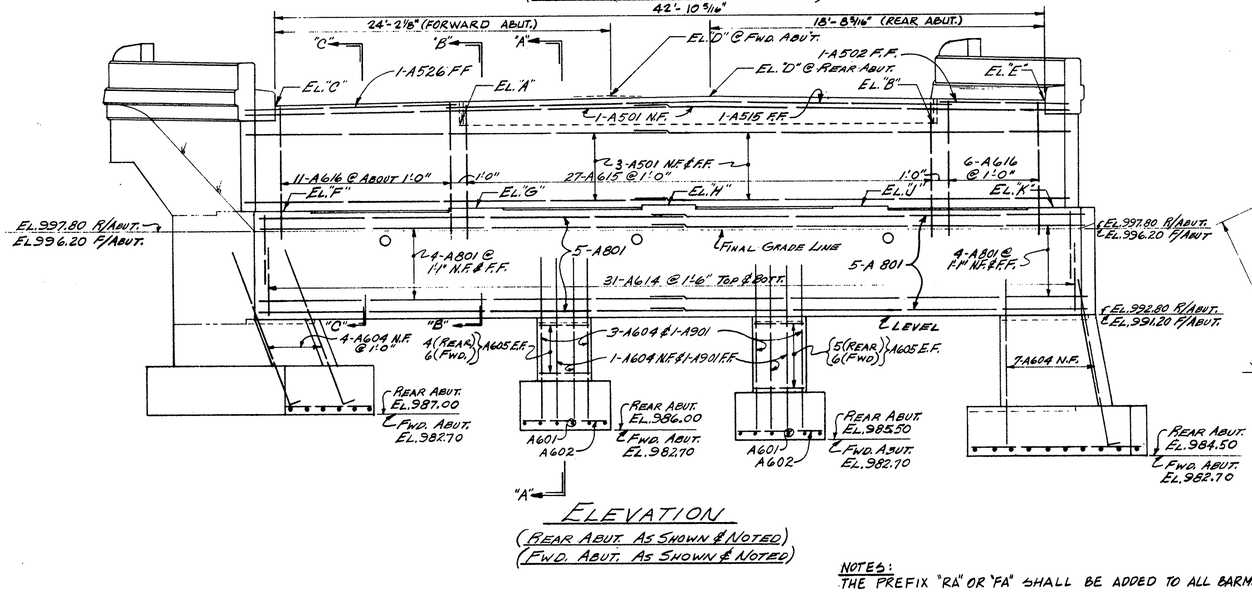
FED. RD.	STATE	PROJECT	
2	OHIO		

302
384

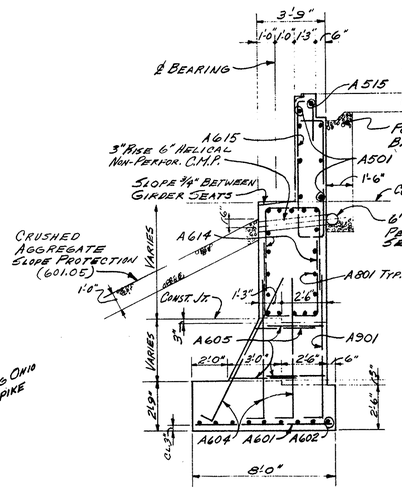
MAH-80S-7.01
MAH-80-2.30



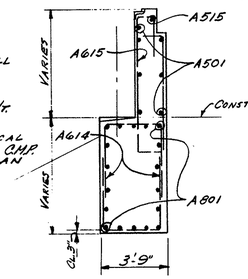
PLAN
(REAR ABUTMENT AS SHOWN & NOTED)
(FWD. ABUTMENT AS SHOWN & NOTED)



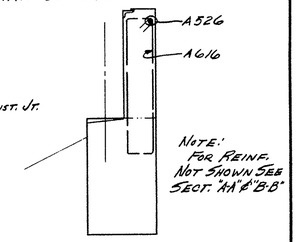
ELEVATION
(REAR ABUT. AS SHOWN & NOTED)
(FWD. ABUT. AS SHOWN & NOTED)



SECTION "A-A"

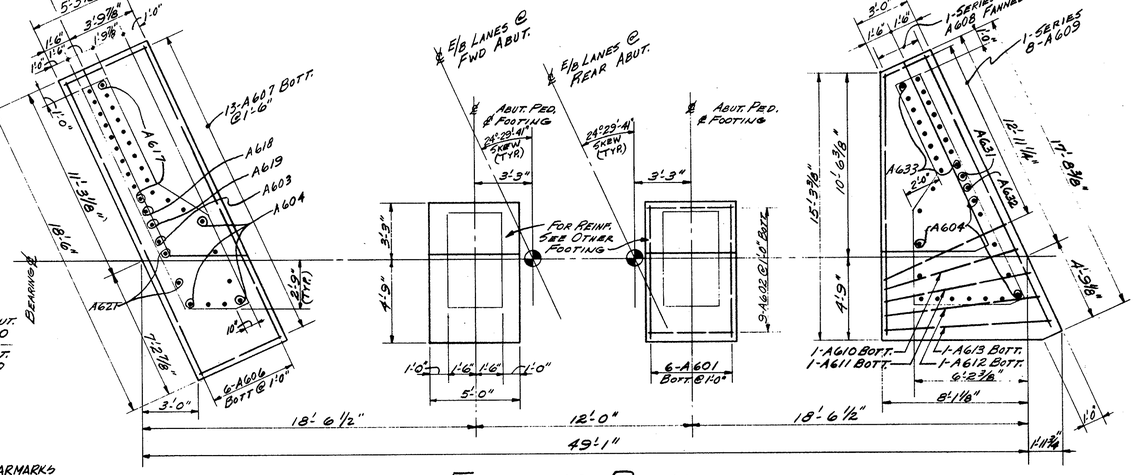


SECTION "B-B"



SECTION "C-C"

NOTES:
THE PREFIX "RA" OR "FA" SHALL BE ADDED TO ALL BARMARKS IN THE REAR OR FORWARD ABUTMENTS RESPECTIVELY.
FOR ADDITIONAL NOTES SEE SHEET NO. 301.
POROUS BACKFILL SHALL EXTEND UPWARD TO THE APPROACH SLAB AND TO THE PAVED SHOULDERS, AND OUTWARD TO THE INSIDE FACE OF WINGWALLS. EXCAVATION THEREFORE, IN EXCESS OF THAT REQUIRED FOR CONSTRUCTION OF THE ABUTMENT, SHALL BE CONSIDERED AS PAID FOR IN THE BID PRICE PER CU. YD. PAID FOR POROUS BACKFILL.



FOOTING PLAN
(REAR ABUT. AS SHOWN & NOTED)
(FWD. ABUT. AS SHOWN & NOTED)

NOTE: ELEVATIONS "C", "D" & "E" ARE GIVEN AS FINAL PAVEMENT ELEVATIONS @ FRONT FACE OF BACKWALL.

ELEVATION TABLE

ABUTMENTS	EL. "A"	EL. "B"	EL. "C"	EL. "D"	EL. "E"	EL. "F"	EL. "G"	EL. "H"	EL. "J"	EL. "K"
REAR ABUT.	1003.71	1003.66	1004.90	1005.18	1004.89	998.86	998.98	999.11	999.02	998.84
FORWARD ABUT.	1002.04	1002.10	1003.29	1003.59	1003.30	997.26	997.44	997.53	997.40	997.28

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

ABUTMENT DETAILS

BRIDGE NO. MAH-80S-0861
UNDER OHIO TURNPIKE
I-80S MAHONING COUNTY
STA. 455+24.82

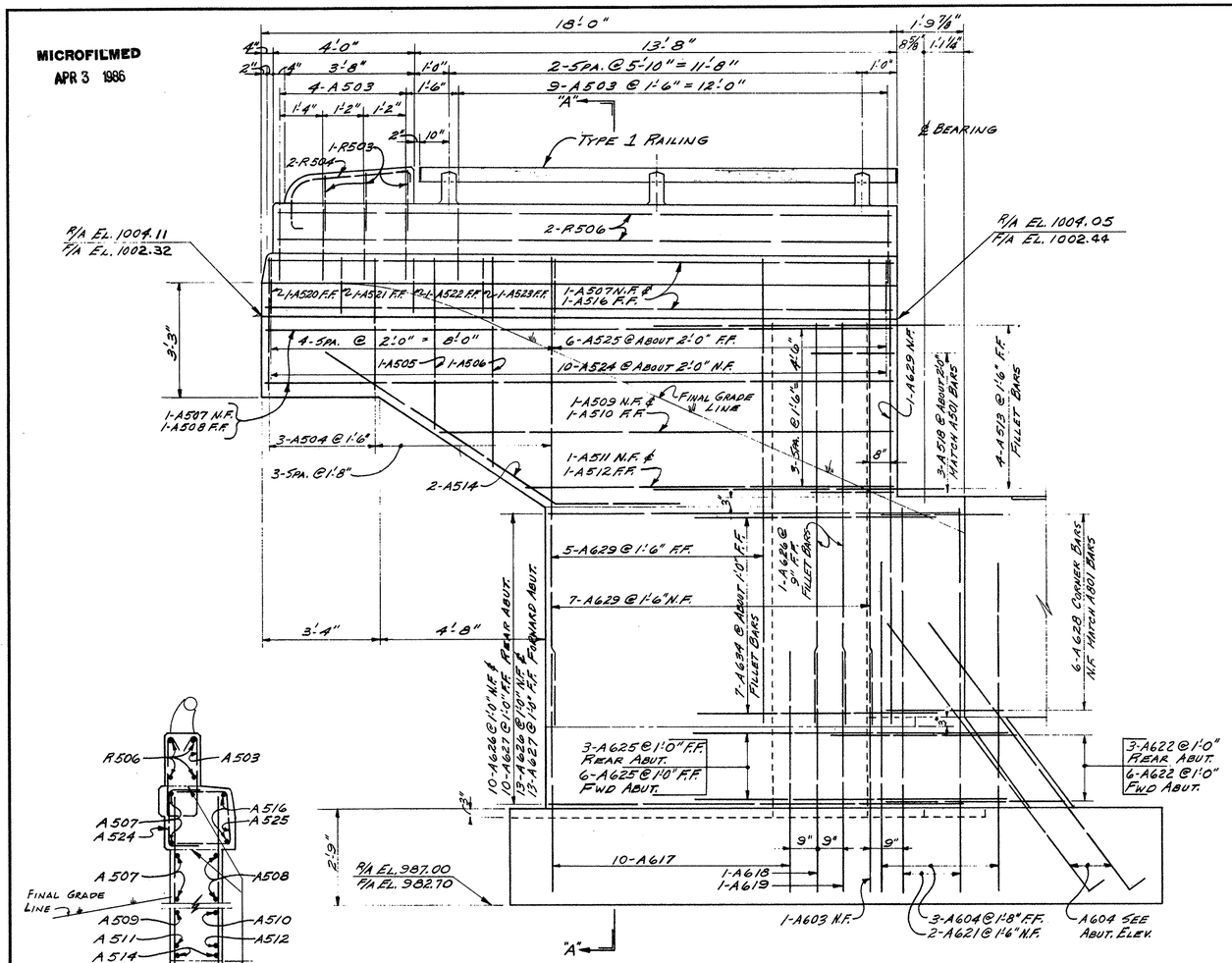
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.H.	R.J.P.		D.H.S.	R.H.	3-21-67	

MICROFILMED
APR 3 1986

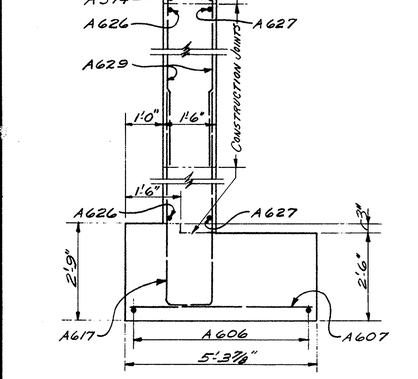
MAH-80S-7.01
MAH-80-2.30

FED. RD.	STATE	PROJECT	
2	OHIO		

303
384

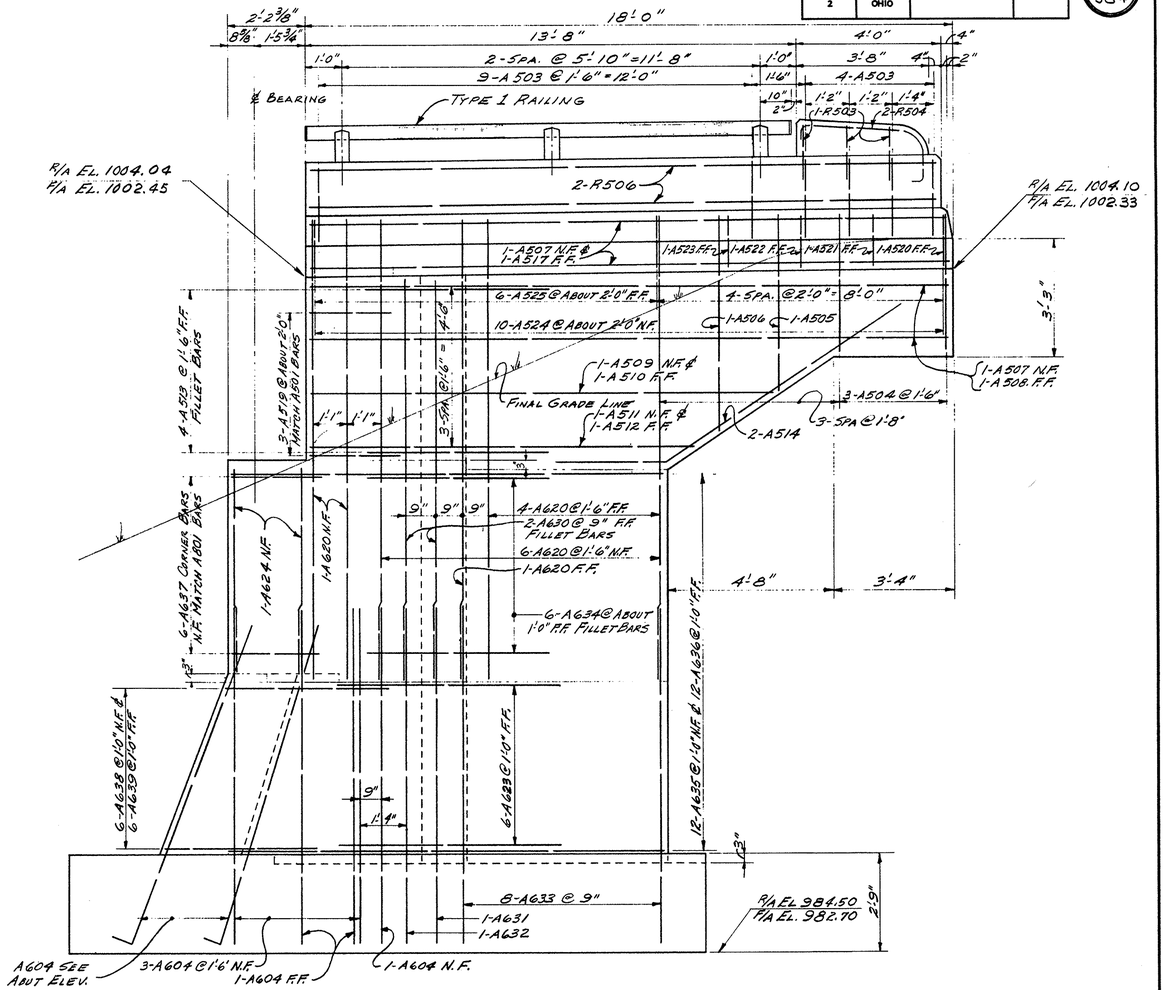


REAR ABUT. WEST WING WALL (AS SHOWN & NOTED)
FWD. ABUT. EAST WING WALL (AS SHOWN & NOTED)



SECTION "A-A" AS SHOWN
(OTHER WING WALLS SIMILAR)

NOTES
FOR TYP. CURB SECTION SEE SHEET Nº 312
FOR TYP. CURB TRANSITION SEE SHEET Nº 328
THE PREFIX "RA" OR "FA" SHALL BE ADDED TO ALL BARMARKS IN THE REAR OR FORWARD ABUTMENT RESPECTIVELY.
FOR ADDITIONAL NOTES SEE SHEET Nº 301



REAR ABUT. EAST WING WALL (AS SHOWN & NOTED)
FWD. ABUT. WEST WING WALL (AS SHOWN & NOTED)

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

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ABUTMENT WINGWALLS

BRIDGE NO. MAH-80S-0861
UNDER OHIO TURNPIKE
I-80S MAHONING COUNTY
STA. 455+24.82

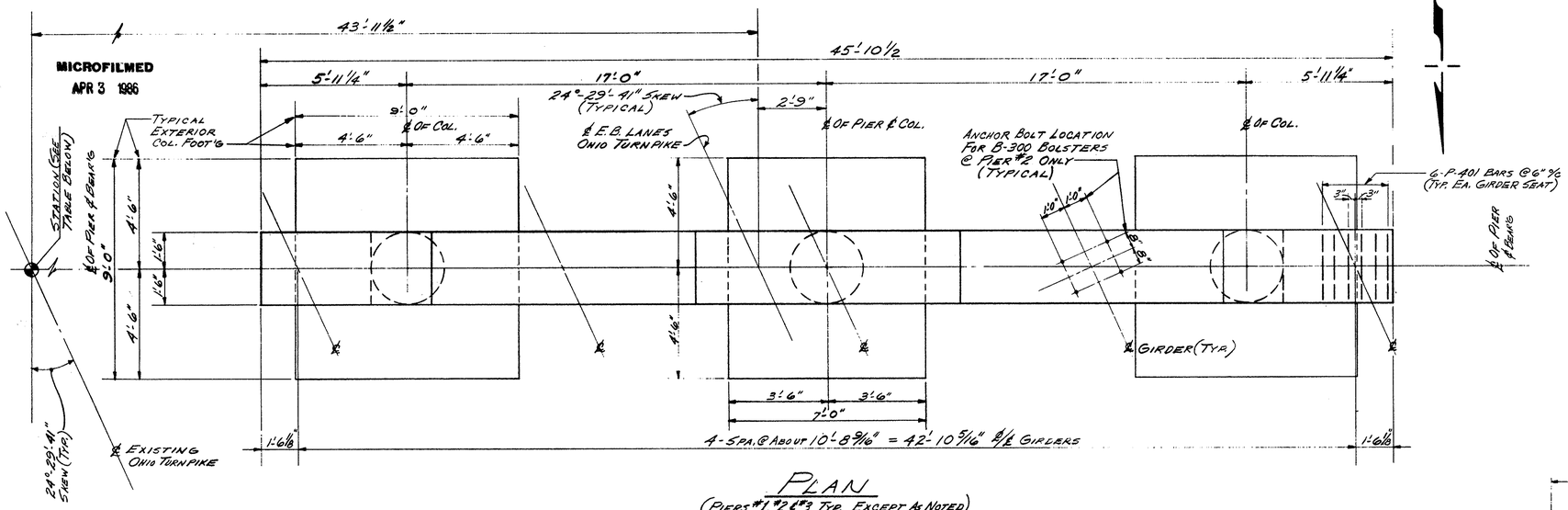
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.H.	R.V.P.		D.H.S.	RBH	3-21-67	

FED. RD.	STATE	PROJECT	
2	OHIO		

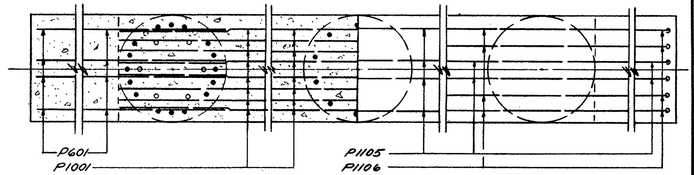
304
384

MAH-80S-7.01
MAH-80-2.30

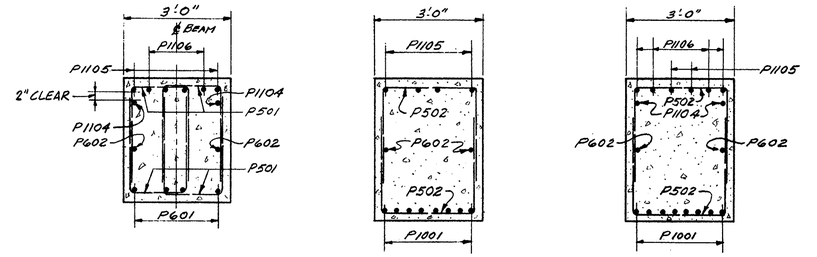
MICROFILMED
APR 3 1986



PLAN
(PIERS #1, #2 & #3 TYP. EXCEPT AS NOTED)



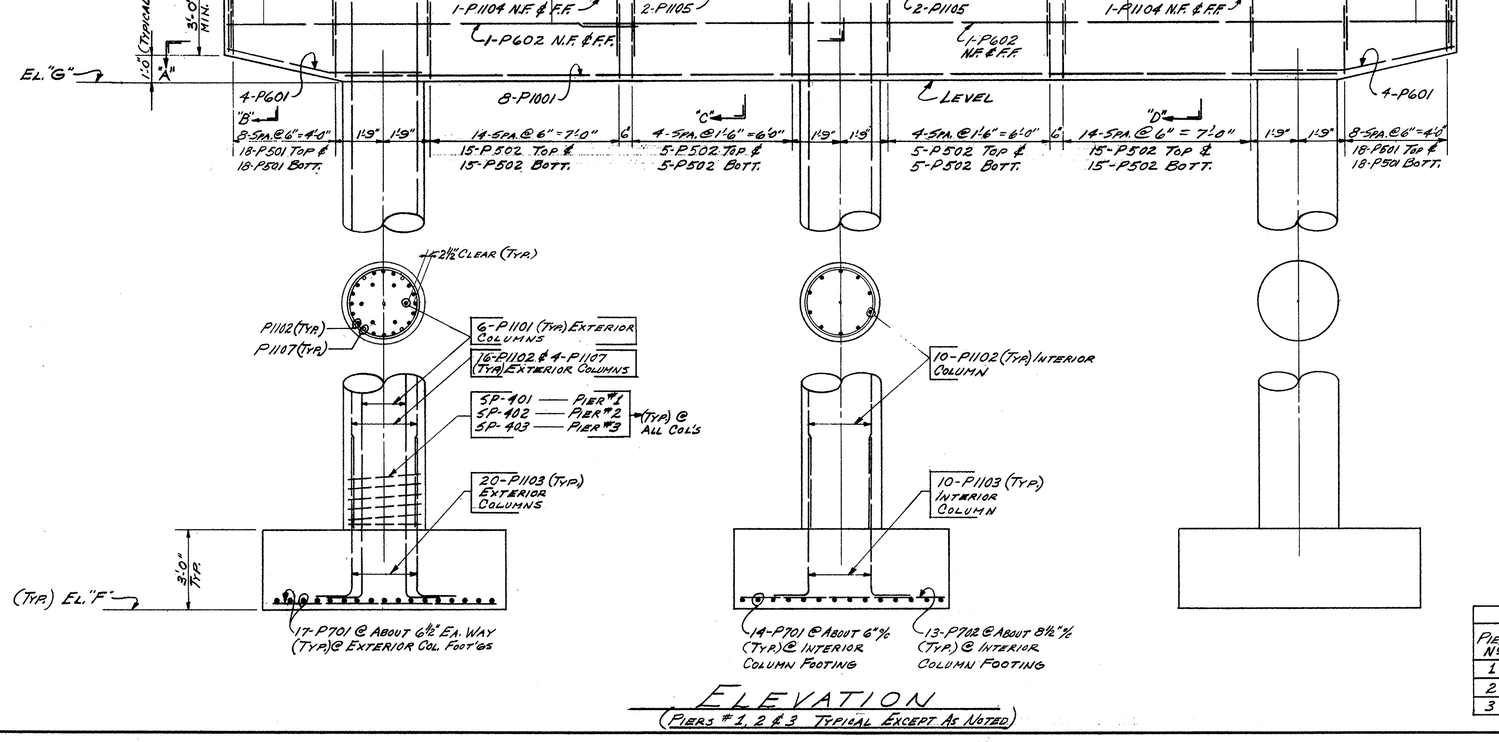
SECTION "A-A"



SECTION "B-B"

SECTION "C-C"

SECTION "D-D"



ELEVATION
(PIERS # 1, 2 & 3 TYPICAL EXCEPT AS NOTED)

TABLE OF STATIONS & ELEVATION									
PIER NO.	STATION	ELEVATIONS							
		EL. "A"	EL. "B"	EL. "C"	EL. "D"	EL. "E"	EL. "F"	EL. "G"
1	117+67.69	997.83	998.01	998.10	997.97	997.85	975.50	993.83
2	118+74.19	997.29	997.47	997.56	997.43	997.31	975.00	993.29
3	119+63.94	997.04	997.22	997.31	997.18	997.06	975.00	993.04

NOTE:
BRIDGE SEAT REINFORCING:
SPECIAL CARE SHOULD BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SO AS TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BAR HOLES.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

PIER DETAILS

BRIDGE NO. MAH-80S-0861
UNDER OHIO TURNPIKE
I-80S MAHONING COUNTY
STA. 455+24.82

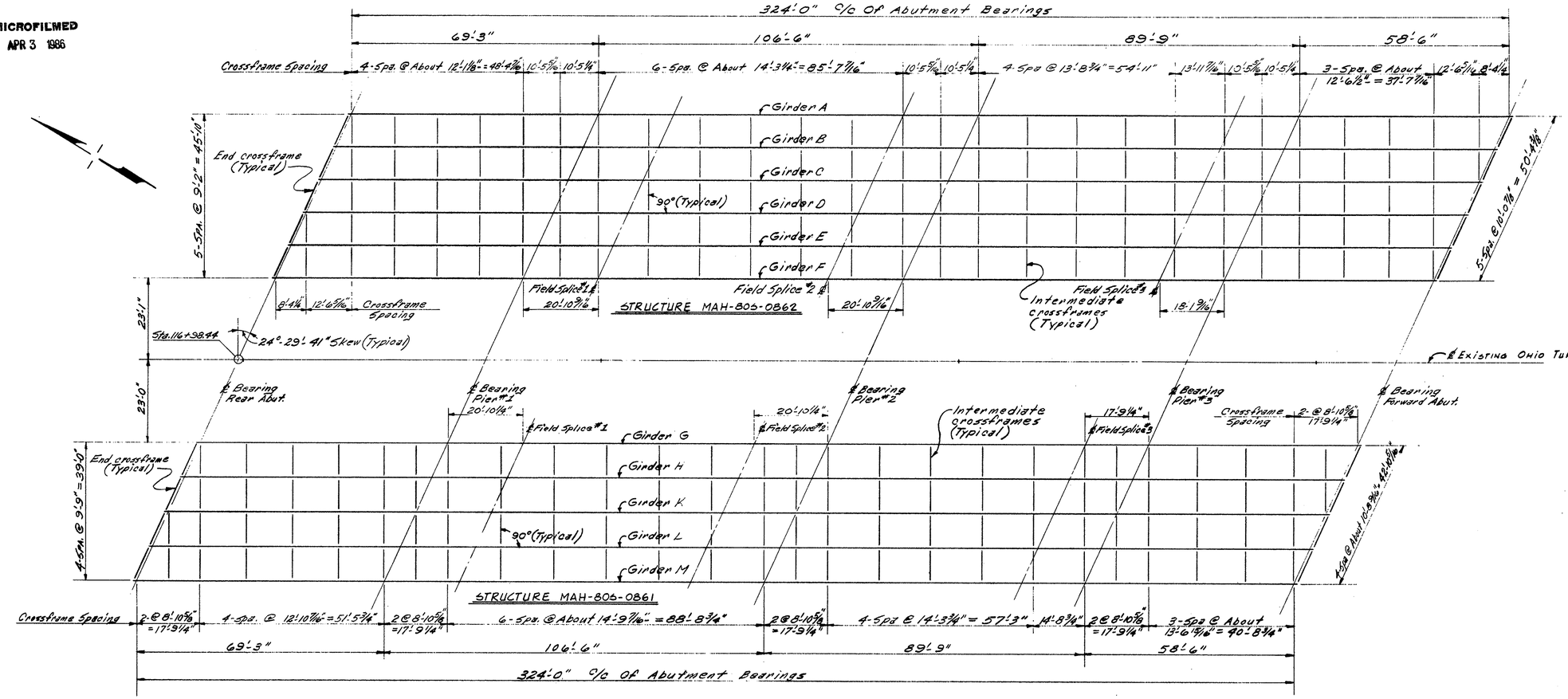
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.H.	R.J.P.		E.A.H.	E.A.H.	3-21-67	

MICROFILMED
APR 3 1965

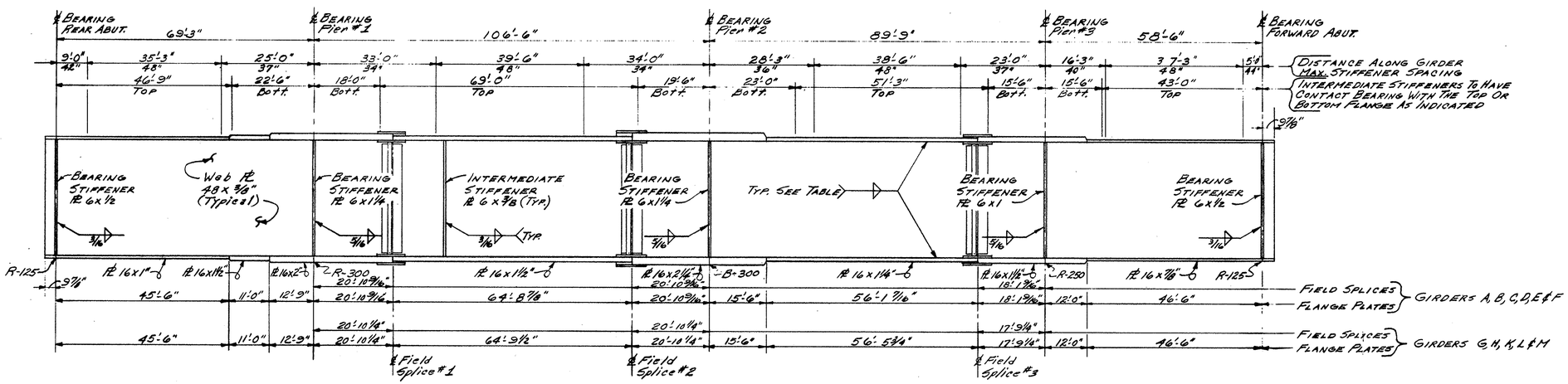
FED. RD.	STATE	PROJECT	
2	OHIO		

305
384

MAH-805-7.01
MAH-80-2.30



FRAMING PLAN



TYPICAL GIRDER ELEVATION

NOTES:
TOP & BOTTOM FLANGE PLATES ARE TO BE THE SAME AND SHALL BE SPLICED AT POINTS SHOWN ON THE GIRDER ELEVATION. INTERMEDIATE STIFFENERS SHALL BE PLACED IN PAIRS EQUALLY SPACED BETWEEN FIELD SPLICE ANGLES AND/OR CROSS FRAME STIFFENERS AND/OR BEARING STIFFENERS IN ACCORDANCE WITH MAXIMUM STIFFENER SPACING SHOWN ON THE GIRDER ELEVATION. ALL GIRDER FIELD SPLICES SHALL BE MADE WITH 7/8" ϕ HIGH STRENGTH STEEL BOLTS. THE BOLTS SHALL BE PLACED WITH THEIR HEADS ON THE OUTSIDE FACE OF EXTERIOR GIRDERS AND ON THE BOTTOM OF ALL FLANGE PLATES.

FIELD WELDED ATTACHMENTS:
NO ATTACHMENTS SHALL BE MADE BY WELDING TO THE TOP FLANGES OF THE GIRDERS WITHIN A DISTANCE OF 0.10 OF THE SPAN LENGTH ON EITHER SIDE OF THE INTERIOR SUPPORTS. WELDING FOR ATTACHMENTS TO THE TOP FLANGES AT OTHER PARTS OF THE SPANS SHALL BE KEPT AT LEAST 2" FROM EDGE OF FLANGE.
THE CONTRACTOR SHALL SUBMIT TO THE DIRECTOR FOR APPROVAL 3 PRINTS SHOWING HIS PROPOSED ERECTION PROCEDURE.

WELD SIZE WEB TO FLANGE	
FLANGE ℞ THICKNESS	FILLET WELD SIZE
7/8", 1", 1 1/4" & 1 1/2"	5/16"
2" & 2 1/4"	3/8"

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

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FRAMING PLANS

BRIDGE NO. MAH-805-0861 & 0862
UNDER OHIO TURNPIKE
I-80S MAHONING COUNTY
STA. 455+24.82

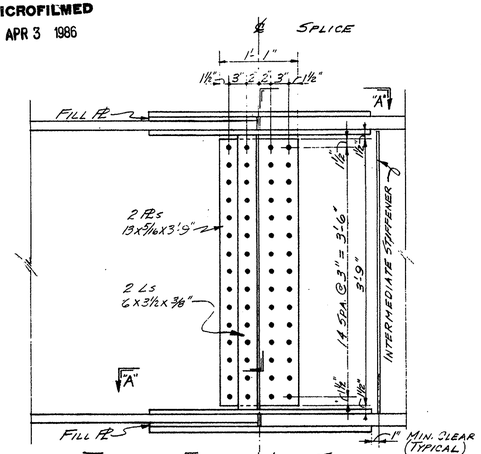
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.H.	R.J.P.		E.A.H.	R.B.H.	3-21-67	

MICROFILMED
APR 3 1986

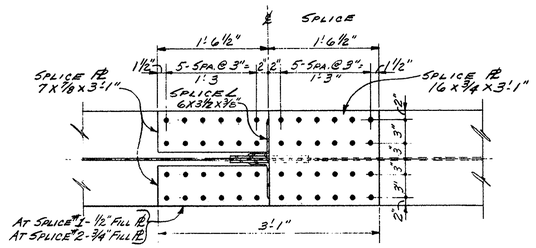
FED. RD.	STATE	PROJECT	
2	OHIO		

305
384

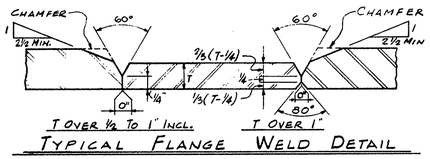
MAH-80S-7.01
MAH-80-2.30



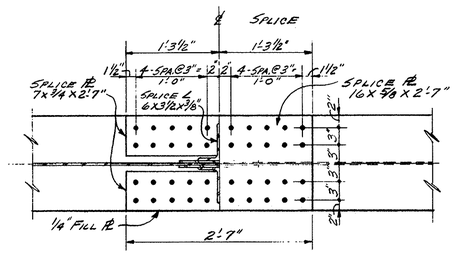
TYPICAL FIELD WEB SPLICE



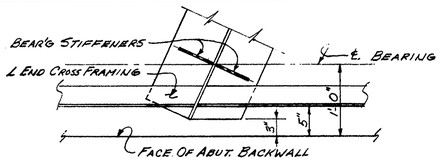
SECTION "A-A" FIELD FLANGE SPLICE #1 & #2



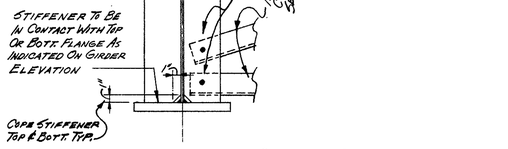
TYPICAL FLANGE WELD DETAIL



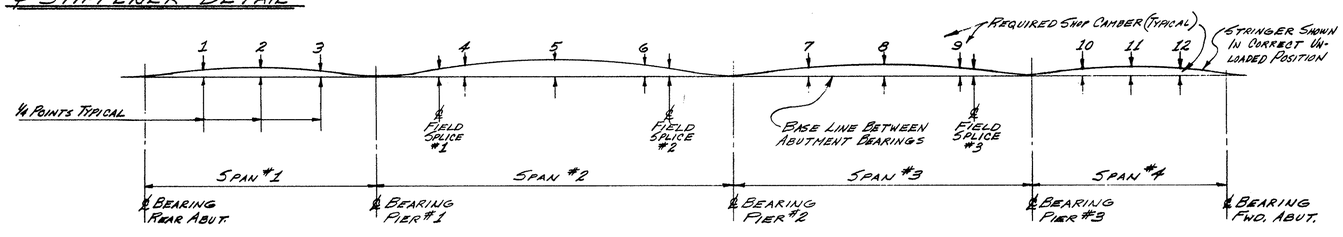
SECTION "A-A" FIELD FLANGE SPLICE #3



BEARING STIFFENER DETAIL
(TYP. @ ALL ABUT.)



INTERMEDIATE CROSS FRAME & STIFFENER DETAIL



LAYOUT DIAGRAM AND DEFLECTION & CAMBER TABLE

LOCATION	INTERIOR GIRDERS "H" THRU "L"														
	1	2	3	FIELD SPLICE #1	4	5	6	FIELD SPLICE #2	7	8	9	FIELD SPLICE #3	10	11	12
DEFLECTION DUE TO WEIGHT OF STEEL	.106	.094	-.022	.490	.648	1.028	.620	.461	.112	.312	.221	.172	.024	.087	.079
DEFLECTION DUE TO REMAINING DEAD LOAD	.020	.018	.004	.095	.126	.200	.121	.090	.022	.061	.043	.034	.005	.017	.015
ADJUSTMENT REQUIRED FOR VERTICAL CURVE	0	0	0	0	0	0	0	0	C	0	0	0	C	0	0
SUM OF DEFLECTION AND ADJUSTMENT	.126	.112	-.018	.585	.774	1.228	.741	.551	.134	.373	.264	.206	.029	.104	.094
REQUIRED SHOP CAMBER	⅛"	⅛"	-1/16"	9/16"	¾"	1¼"	¾"	9/16"	⅛"	⅜"	¼"	5/16"	1/16"	1/8"	⅛"

LOCATION	EXTERIOR GIRDERS "A" & "F"														
	1	2	3	FIELD SPLICE #1	4	5	6	FIELD SPLICE #2	7	8	9	FIELD SPLICE #3	10	11	12
DEFLECTION DUE TO WEIGHT OF STEEL	.087	.078	-.017	.404	.535	.848	.512	.380	.092	.257	.182	.142	.020	.072	.065
DEFLECTION DUE TO REMAINING DEAD LOAD	.020	.018	.004	.095	.126	.200	.121	.090	.022	.061	.043	.034	.005	.017	.015
ADJUSTMENT REQUIRED & VERTICAL CURVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUM OF DEFLECTION AND ADJUSTMENT	.107	.096	-.013	.499	.661	1.048	.633	.470	.114	.318	.225	.176	.025	.089	.080
REQUIRED SHOP CAMBER	⅛"	⅛"	-1/16"	½"	11/16"	1 1/16"	5/8"	½"	⅛"	5/16"	¼"	5/16"	1/16"	1/16"	1/16"

LOCATION	INTERIOR GIRDERS "B" THRU "E"														
	1	2	3	FIELD SPLICE #1	4	5	6	FIELD SPLICE #2	7	8	9	FIELD SPLICE #3	10	11	12
DEFLECTION DUE TO WEIGHT OF STEEL	.996	.088	-.021	.460	.609	.966	.580	.430	.105	.293	.208	.162	.022	.082	.074
DEFLECTION DUE TO REMAINING DEAD LOAD	.020	.018	.004	.095	.126	.200	.121	.090	.022	.061	.043	.034	.005	.017	.015
ADJUSTMENT REQUIRED & VERTICAL CURVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUM OF DEFLECTION AND ADJUSTMENT	1.016	.106	-.017	.555	.735	1.166	.701	.520	.127	.354	.251	.196	.027	.099	.089
REQUIRED SHOP CAMBER	1 1/16"	⅛"	-1/16"	9/16"	¾"	1 3/16"	11/16"	½"	⅛"	⅜"	¼"	5/16"	1/16"	1/16"	1/16"

LOCATION	EXTERIOR GIRDERS "G" & "M"														
	1	2	3	FIELD SPLICE #1	4	5	6	FIELD SPLICE #2	7	8	9	FIELD SPLICE #3	10	11	12
DEFLECTION DUE TO WEIGHT OF STEEL	.090	.080	-.018	.417	.551	.874	.527	.390	.095	.265	.819	.146	.020	.074	.067
DEFLECTION DUE TO REMAINING DEAD LOAD	.020	.018	.004	.095	.126	.200	.121	.090	.022	.061	.043	.034	.005	.017	.015
ADJUSTMENT REQUIRED & VERTICAL CURVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUM OF DEFLECTION AND ADJUSTMENT	.110	.098	-.014	.512	.677	1.074	.648	.480	.117	.326	.862	.180	.025	.091	.082
REQUIRED SHOP CAMBER	⅛"	⅛"	-1/16"	½"	11/16"	1 1/16"	11/16"	½"	⅛"	5/16"	⅞"	3/16"	1/16"	1/16"	1/16"

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

FRAMING DETAILS

BRIDGE NO. MAH-80S-0861 & 0862
UNDER OHIO TURNPIKE
I-80S MAHONING COUNTY
STA. 455+24.82

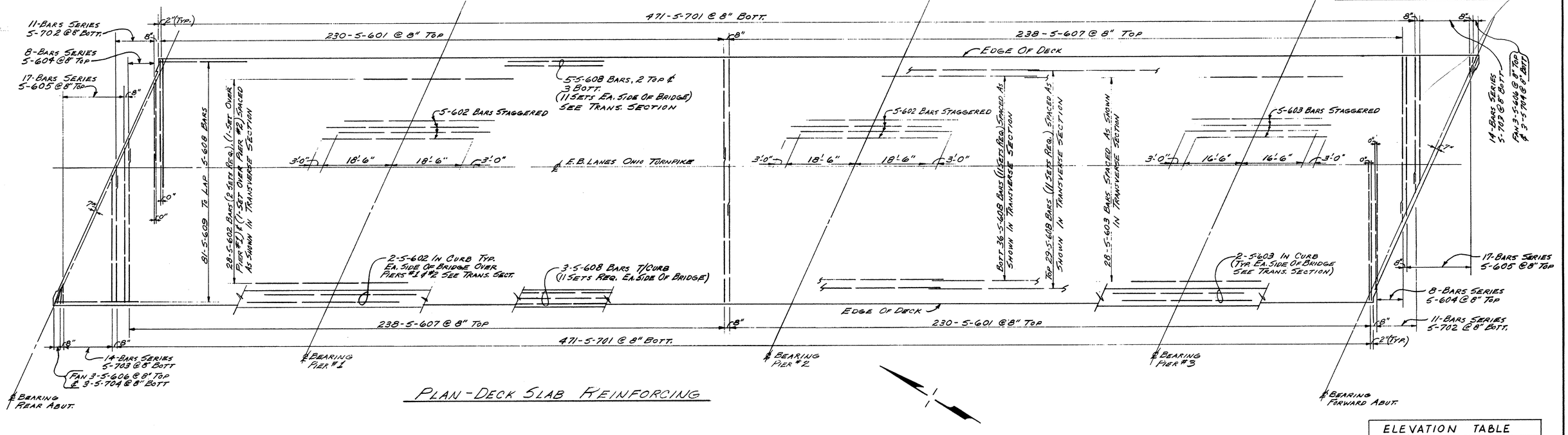
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.H.	R.J.P.		E.A.H.	R.B.H.	3-21-67	

MICROFILMED
APR 3 1986

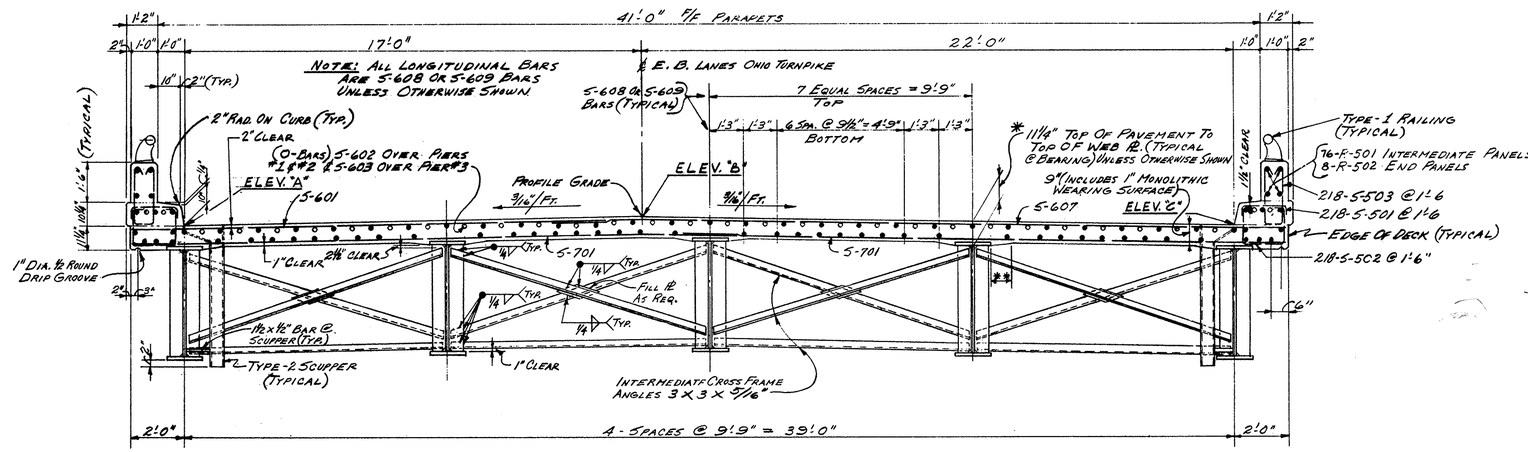
MAH-80S-7.01
MAH-80-2.30

FED. RD.	STATE	PROJECT	
2	OHIO		

307
384



PLAN - DECK SLAB REINFORCING



TRANSVERSE SECTION

ELEVATION TABLE				
STA.	PROFILE GRADE ELEV.	EL. "A" ⊗	EL. "B" ⊗	EL. "C" ⊗
116+75	1005.21	——	——	1004.87
117+00	1005.09	1004.83	1005.10	1004.76
+25	1004.97	1004.71	1004.97	1004.63
+50	1004.85	1004.58	1004.85	1004.52
+75	1004.72	1004.48	1004.75	1004.43
118+00	1004.60	1004.39	1004.66	1004.32
+25	1004.48	1004.27	1004.52	1004.17
+50	1004.36	1004.10	1004.36	1004.02
+75	1004.23	1003.96	1004.24	1003.90
119+00	1004.11	1003.86	1004.13	1003.79
+25	1003.99	1003.74	1004.01	1003.66
+50	1003.87	1003.60	1003.87	1003.53
+75	1003.74	1003.48	1003.75	1003.41
120+00	1003.62	1003.36	1003.62	1003.28

⊗ NOTE: THESE ELEVATIONS ARE THOSE WHICH ARE REQUIRED BEFORE THE CONCRETE IS PLACED. PROPER ALLOWANCE HAS BEEN MADE FOR DEAD LOAD DEFLECTIONS CAUSED BY WEIGHT OF CONCRETE.

NOTES:
FOR REINFORCING SCHEDULE AND BAR BENDING DIAGRAMS, SEE SHEET NO. 309
FOR FRAMING PLAN SEE SHEET NO. 305
FOR FRAMING DETAILS SEE SHEET NO. 306
FOR LOCATION OF SCUPPERS SEE GENERAL PLAN SHEET NO. 301

* THIS IS THE NOMINAL DIMENSION. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED UPON THIS DIMENSION, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE GIRDER MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE. DEDUCTION SHALL BE MADE FOR VOLUME OF ENCASED STEEL PLATES AS PER SEC. 511.19 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

** A TYPICAL HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6" AND 12" PROVIDED THAT THE SLOPE SHALL BE NOT MORE THAN 1:4 FOR A HAUNCH LESS THAN 9" IN WIDTH.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON • DALTON ASSOCIATES

SLAB PLAN & SECTION

BRIDGE NO. MAH-80S-0861
UNDER OHIO TURNPIKE
I-80S MAHONING COUNTY
STA. 455+24.82

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.H.	R.J.P.		D.H.S.	R.B.H.	3-21-67	

MICROFILMED
APR 3 1986

FED. RD.	STATE	PROJECT	
2	OHIO		

308
384

MAH-80S-7.01
MAH-80-2.30

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.
REAR ABUTMENT									
RA 401	35	3'-0"	3	2'-2"	6½"				70
RA 501	14	24'-0"	STR.						350
RA 502	1	7'-0"	STR.						7
RA 503	26	5'-7"	5	8"	2'-2"	5"			151
RA 504	6	7'-11"	3	1'-2"	3'-6"				50
RA 505	2	10'-5"	3	1'-2"	4'-9"				22
RA 506	2	12'-11"	3	1'-2"	6'-0"				27
RA 507	8	17'-6"	STR.						146
RA 508	4	15'-0"	STR.						63
RA 509	2	12'-9"	STR.						27
RA 510	2	10'-0"	STR.						21
RA 511	2	10'-6"	STR.						22
RA 512	2	7'-9"	STR.						16
RA 513	8	6'-0"	STR.						50
RA 514	4	9'-8"	12	8'-0"	1'-9"	1'-0"			40
RA 515	1	28'-0"	STR.						29
RA 516	2	18'-0"	17	18'-0"	10'-0"	2'-0"			38
RA 517	2	17'-2"	17	17'-2"	9'-2"	2'-0"			36
RA 518	3	4'-5"	1	1'-9"	2'-9"				14
RA 519	3	5'-3"	23	1'-9"	8"	3'-0"	1'-3"		16
RA 520	2	3'-1"	16	1'-6"	1'-0"	10"			6
RA 521	2	3'-7"	16	1'-6"	1'-3"	1'-1"			7
RA 522	2	4'-1"	16	1'-6"	1'-6"	1'-4"			9
RA 523	2	4'-3"	16	1'-6"	1'-7"	1'-5"			9
RA 524	20	2'-11"	3	1'-6"	10"				61
RA 525	12	4'-5"	16	1'-6"	1'-8"	1'-6"			55
RA 526	1	12'-0"	STR.						13
RA 601	12	7'-6"	STR.						135
RA 602	18	4'-6"	STR.						122
RA 603	1	7'-9"	1	6"	7'-5"				12
RA 604	36	10'-6"	1	6"	10'-2"				568
RA 605	18	9'-8"	3	3'-6"	3'-3"				261
RA 606	6	18'-0"	STR.						162
RA 607	13	5'-0"	STR.						98
RA 608	1 SER 10	18'-0" / 17'-3"	STR.					3"	242
RA 609	1 SER 8	8'-9" / 7'-6"	STR.					8⅛"	62
RA 610	1	7'-9"	STR.						12
RA 611	1	8'-0"	STR.						12
RA 612	1	8'-6"	STR.						13
RA 613	1	9'-0"	STR.						14
RA 614	62	10'-11"	3	3'-3"	4'-0"				1017
RA 615	27	21'0"	7	7'-0"	1'-5"	8'-4"	11"		852
RA 616	17	19'-7"	14	8'-0"	1'-5"				500
RA 617	10	15'-8"	3	1'-2"	7'-5"				235
RA 618	1	16'-0"	3	1'-6"	7'-5"				24
RA 619	1	16'-6"	3	2'-0"	7'-5"				25
RA 620	13	12'-9"	STR.						249
RA 621	2	11'-9"	1	6"	11'-5"				35
RA 622	3	9'-11"	24	3'-3"	8"	2'-4"	4'-0"		45
RA 623	6	8'-0"	12	3'-6"	4'-6"	2'-6"			72
RA 624	2	5'-9"	STR.						17
RA 625	3	8'-2"	12	5'-0"	3'-3"	2'-0"			37
RA 626	12	11'-3"	STR.						203
RA 627	10	8'-0"	STR.						120
RA 628	6	5'-0"	12	2'-6"	2'-6"	1'-0"			45
RA 629	13	13'-0"	STR.						254
RA 630	2	11'-10"	STR.						36
RA 631	1	21'-10"	3	2'-2"	10'-0"				33
RA 632	1	22'-10"	3	3'-2"	10'-0"				34
RA 633	8	20'-10"	3	1'-2"	10'-0"				250
RA 634	13	7'-0"	STR.						137
RA 635	12	11'-9"	STR.						212
RA 636	12	7'-0"	STR.						126
RA 637	6	5'-6"	23	2'-0"	8"	3'-0"	1'-3"		50
RA 638	6	8'-6"	23	4'-0"	8"	4'-0"	1'-8"		77
RA 639	6	7'-4"	1	3'-6"	4'-0"				66
RA 801	36	24'-6"	STR.						2355
RA 901	8	10'-3"	1	6"	10'-0"				279
TOTAL REAR ABUTMENT									10,953

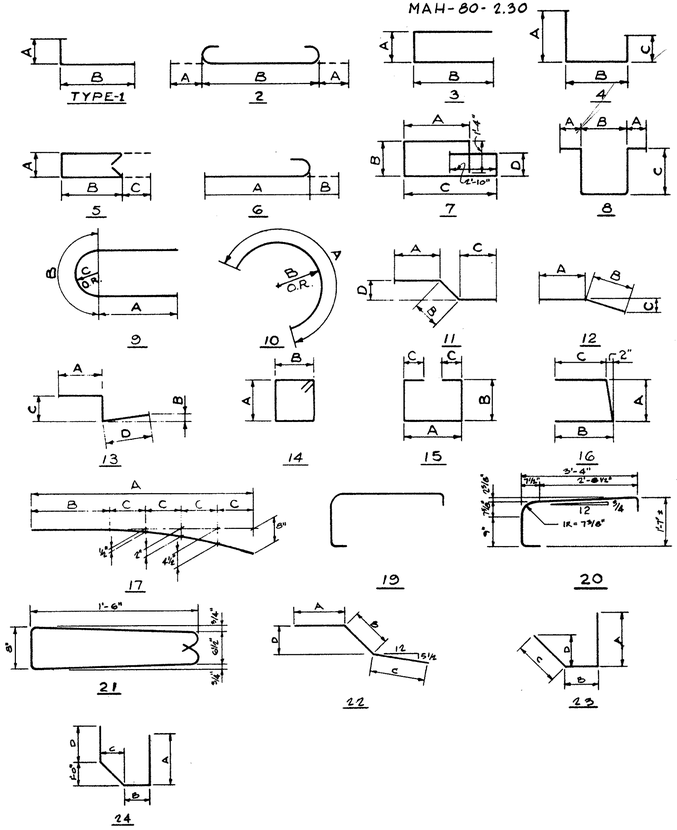
MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.
FORWARD ABUTMENT									
FA 401	35	3'-0"	3	2'-2"	6½"				70
FA 501	14	24'-0"	STR.						350
FA 502	1	7'-0"	STR.						7
FA 503	26	5'-7"	5	8"	2'-2"	5"			151
FA 504	6	7'-11"	3	1'-2"	3'-6"				50
FA 505	2	10'-5"	3	1'-2"	4'-9"				22
FA 506	2	12'-11"	3	1'-2"	6'-0"				27
FA 507	8	17'-6"	STR.						146
FA 508	4	15'-0"	STR.						63
FA 509	2	12'-9"	STR.						27
FA 510	2	10'-0"	STR.						21
FA 511	2	10'-6"	STR.						22
FA 512	2	7'-9"	STR.						16
FA 513	8	6'-0"	STR.						50
FA 514	4	9'-8"	12	8'-0"	1'-9"	1'-0"			40
FA 515	1	28'-0"	STR.						29
FA 516	2	18'-0"	17	18'-0"	10'-0"	2'-0"			38
FA 517	2	17'-2"	17	17'-2"	9'-2"	2'-0"			36
FA 518	3	4'-5"	1	1'-9"	2'-9"				14
FA 519	3	5'-3"	23	1'-9"	8"	3'-0"	1'-3"		16
FA 520	2	3'-1"	16	1'-6"	1'-0"	10"			6
FA 521	2	3'-7"	16	1'-6"	1'-3"	1'-1"			7
FA 522	2	4'-1"	16	1'-6"	1'-6"	1'-4"			9
FA 523	2	4'-3"	16	1'-6"	1'-7"	1'-5"			9
FA 524	20	2'-11"	3	1'-6"	10"				61
FA 525	12	4'-5"	16	1'-6"	1'-8"	1'-6"			55
FA 526	1	12'-0"	STR.						13
FA 601	12	7'-6"	STR.						135
FA 602	18	4'-6"	STR.						122
FA 603	1	10'-4"	1	6"	10'-0"				16
FA 604	36	10'-6"	1	6	10'-2"				568
FA 605	24	9'-8"	3	3'-6"	3'-3"				348
FA 606	6	18'-0"	STR.						162
FA 607	13	5'-0"	STR.						98
FA 608	1 SER 10	18'-0" / 17'-3"	STR.					3"	242
FA 609	1 SER 8	8'-9" / 7'-6"	STR.					8⅛"	62
FA 610	1	7'-9"	STR.						12
FA 611	1	8'-0"	STR.						12
FA 612	1	8'-6"	STR.						13
FA 613	1	9'-0"	STR.						14
FA 614	62	10'-11"	3	3'-3"	4'-0"				1017
FA 615	27	21'0"	7	7'-0"	1'-5"	8'-4"	11"		852
FA 616	17	19'-7"	14	8'-0"	1'-5"				500
FA 617	10	20'-10"	3	1'-2"	10'-0"				313
FA 618	1	21'-2"	3	1'-6"	10'-0"				32
FA 619	1	21'-8"	3	2'-0"	10'-0"				33
FA 620	13	12'-9"	STR.						249
FA 621	2	14'-6"	1	6"	14'-2"				44
FA 622	6	9'-11"	24	3'-3"	8"	2'-4"	4'-0"		89
FA 623	6	8'-0"	12	3'-6"	4'-6"	2'-6"			72
FA 624	2	5'-9"	STR.						17
FA 625	6	8'-2"	12	5'-0"	3'-3"	2'-0"			74
FA 626	15	11'-3"	STR.						253
FA 627	13	8'-0"	STR.						156
FA 628	6	5'-0"	12	2'-6"	2'-6"	1'-0"			45
FA 629	13	13'-0"	STR.						254
FA 630	2	11'-10"	STR.						36
FA 631	1	22'-0"	3	2'-2"	10'-2"				33
FA 632	1	23'-0"	3	3'-2"	10'-2"				35
FA 633	8	21'-0"	3	1'-2"	10'-2"				252
FA 634	13	7'-0"	STR.						137
FA 635	12	11'-9"	STR.						212
FA 636	12	7'-0"	STR.						126
FA 637	6	5'-6"	23	2'-0"	8"	3'-0"	1'-3"		50
FA 638	6	8'-6"	23	4'-0"	8"	4'-0"	1'-8"		77
FA 639	6	7'-4"	1	3'-6"	4'-0"				66
FA 801	36	24'-6"	STR.						2355
FA 901	8	10'-9"	1	6'	10'-6"				292
TOTAL FORWARD ABUTMENT									10830

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.
RAILING®									
~~RE-401~~		~~5'-3"~~							
~~RE-501~~		~~6'-6"~~							
~~RE-601~~		~~7'-0"~~							
~~RE-701~~		~~7'-3"~~							
~~RE-801~~		~~7'-6"~~							
~~RE-901~~		~~7'-10"~~							
~~RE-1001~~		~~8'-3"~~							
~~RE-1101~~		~~8'-8"~~							
TOTAL SPIRALS									
GRAND TOTAL LBS.									

~~REPLACEMENT BARS~~

SPIRAL REINFORCING SCHEDULE

MARK	NO. REQ'D.	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT LBS.



REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL SCHEDULE FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE PIER CAP. THE NUMBER OF TURNS SHOWN IN THE STEEL SCHEDULE FOR SPIRAL BARS IS THE LENGTH DIVIDED BY THE PITCH PLUS THREE TURNS (TOTAL NUMBER OF CLOSED COILS) EXPRESSED AS THE NEAREST WHOLE NUMBER. SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS, BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 509. ONE AND ONE HALF CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOUR (4) STEEL CHANNEL, TEE OR ANGLE SPACERS WEIGHING APPROX. 0.68 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS BASED ON 0.68 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIDGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED INDICATE THE BAR SIZE NUMBER. A-601 IS A NO. 6 SIZE BAR AND P-1001 IS A NO. 10 SIZE BAR.

®RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 517 FOR PAYMENT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

REINFORCING SCHEDULE

BRIDGE NO. MAH-80S-0861
UNDER OHIO TURNPIKE
I-80S MAHONING COUNTY
STA. 455+84.82

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.J.P.	D.A.D.		E.A.H. D.H.S.	RBN	3-21-67	

MICROFILMED
APR 3 1986

FED. RD.	STATE	PROJECT	
2	OHIO		

309
384

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.
PIERS									
									266
P401	90	4'-5"	3	2'-8"	1'-0"				
P501	216	7'-1"	3	2'-0"	2'-8"				1596
P502	240	7'-9"	3	2'-8"	2'-8"				1940
P601	24	7'-4"	12	3'-0"	4'-4"	1'-0"			264
P602	12	23'-9"	STR.						428
P701	246	8'-6"	STR.						4274
P702	39	6'-6"	STR.						518
P1001	24	37'-0"	STR.						3821
P1101	36	11'-2"	1	1'-5½"	10'-0"				2136
P1102	126	18'-0"	STR.						12050
P1103	150	7'-5"	1	1'-5½"	6'-3"				5911
P1104	12	16'-3"	STR.						1036
P1105	12	35'-8"	1	2'-6½"	33'-5"				2274
P1106	24	18'-6"	1	2'-6½"	16'-3"				2359
P1107	24	18'-0"	STR.						1530
				TOTAL PIERS (EXCEPT SPIRALS)					40003
SUPERSTRUCTURE									
S501	436	2'-6"	3	1'-6"	7½"				1137
S502	436	4'-11"	15	1'-6"	1'-4"	7½"			2236
S503	436	5'-7"	5	8"	2'-2"	5"			2539
S506	3	11'-0"	25	2'-0"	2'-11"	1'-2"	2'-1"		36
S601	460	17'-6"	STR.						12091
S602	64	40'-0"	STR.						3845
S603	32	36'-0"	STR.						1730
S604	2 SER B	4'-7" 14'-10"	STR.					1'-5 9/16"	233
S605	2 SER 17	4'-11" 28'-8"	STR.					1'-5 9/16"	849
S606	6	4'-6"	STR.						41
S607	476	27'-4"	STR.						19542
S608	891	50'-0"	STR.						40148
S609	81	16'-0"	STR.						1947
S610	12	6'-0"	STR.						108
S611	4	9'-8"	14	2'-10"	2'-0"				58
S701	942	22'-7"	STR.						43483
S702	2 SER 11	5'-6" 30'-0"	STR.					1'-5 9/16"	570
S703	2 SER 14	4'-11" 23'-11"	STR.					1'-5 9/16"	825
S704	6	4'-6"	STR.						55
				TOTAL SUPERSTRUCTURE					131,973

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.

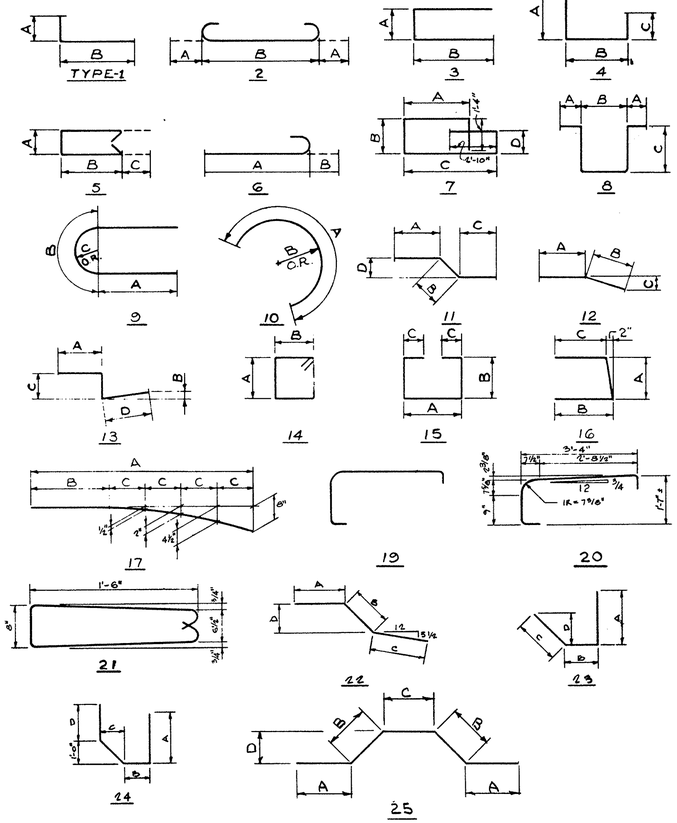
MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.
RAILING ⊗									
R501	152	15'-6"	STR.						
R502	16	12'-0"	STR.						
R503	12	4'-2"	21						
R504	8	5'-4"	20						
R505	16	17'-4"	STR.						
R510	2	11'-0"	25	2'-0"	2'-11"	1'-2"	2'-1"		
R511	2	8'-10"	25	2'-0"	11"	3'-0"	8"		
REPLACEMENT BARS									
RE-401	1	4'-5"	3	2'-8"	1'-0"				
RE-501	1	6'-6"	STR.						
RE-601	5	7'-0"	STR.						
RE-701	3	7'-3"	STR.						
RE-801	1	7'-6"	STR.						
RE-901	1	7'-10"	STR.						
RE-1001	1	8'-3"	STR.						
RE-1101	2	8'-9"	STR.						

SPIRAL REINFORCING SCHEDULE

MARK	NO. REQ'D.	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT LBS.
SP401	3	32	15'-4"	4½	44	833
SP402	3	32	14'-9½"	4½	42	815
SP403	3	32	15'-0½"	4½	43	834
				TOTAL SPIRALS		2502

GRAND TOTAL 195,661 LBS.

MAH-805-7.01
MAH-80-2.30



REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL SCHEDULE FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE PIER CAP. THE NUMBER OF TURNS SHOWN IN THE STEEL SCHEDULE FOR SPIRAL BARS IS THE LENGTH DIVIDED BY THE PITCH PLUS THREE TURNS (TOTAL NUMBER OF CLOSED COILS) EXPRESSED AS THE NEAREST WHOLE NUMBER. SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS, BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 509. ONE AND ONE HALF CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOUR (4) STEEL CHANNEL, TEE OR ANGLE SPACERS WEIGHING APPROX. 0.68 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS BASED ON 0.68 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIDGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED INDICATE THE BAR SIZE NUMBER. A-601 IS A NO. 6 SIZE BAR AND P-1001 IS A NO. 10 SIZE BAR.

⊗RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 517 FOR PAYMENT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

REINFORCING SCHEDULE

BRIDGE NO. MAH-805-0861
UNDER OHIO TURNPIKE
I-80S MAHONING COUNTY
STA. 455+24.82

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.J.P.	D.F.D.		E.A.H. D.H.S.	R.B.H.	3-21-67	

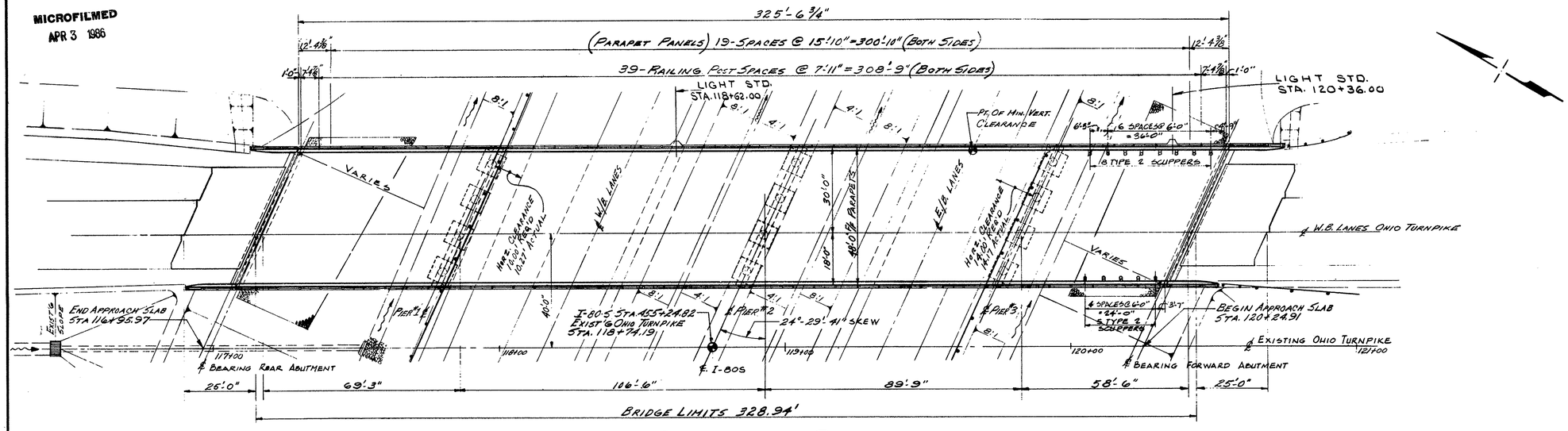
K&I

MICROFILMED
APR 3 1986

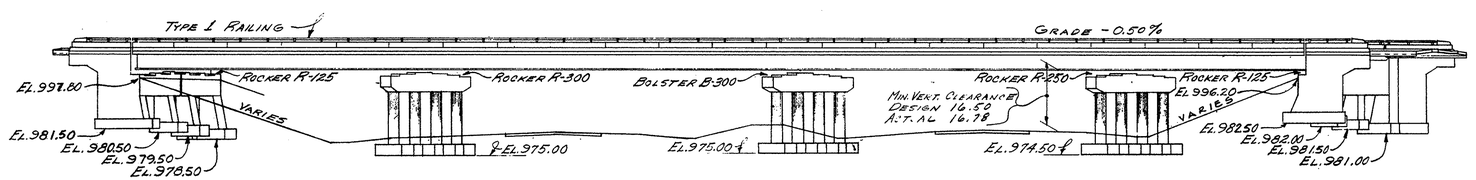
FED. RD.	STATE	PROJECT	
2	OHIO		

310
384

MAH-80S-7.01
MAH-80-2.30



GENERAL PLAN



ELEVATION

NOTE:

Participation ~ 85.42% Normal & 14.58% State

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIERS	GEN'L
503	LUMP	SUM	COFFERDAMS, CRIBS AND SHEETING		LUMP		
503	628	CU. YD.	UNCLASSIFIED EXCAVATION		628		
503	243	CU. YD.	SHALE EXCAVATION		18	225	
509	229,606	LBS.	REINFORCING STEEL	153,070	26,617	49919	
511	509	CU. YD.	CLASS "C" CONCRETE - SUPERSTRUCTURE	509			
511	123	CU. YD.	CLASS "C" CONCRETE - PIERS ABOVE FOOTING			123	
511	161	CU. YD.	CLASS "E" CONCRETE - FOOTINGS		59	102	
511	239	CU. YD.	CLASS "E" CONCRETE - ABUTMENTS ABOVE FOOTINGS		239		
51	541,000	LBS.	STRUCTURAL STEEL	541,000			
832	541,000	LBS. SQ.M	FIELD PAINTING OF STRUCTURAL STEEL	541,000			

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIERS	GEN'L
517	723.07	LIN. FT.	RAILING (TYPE 1)	652.40	70.67		
518	39	CU. YD.	POROUS BACKFILL		39		
518	92	LIN. FT.	6" HELICAL PERFORATED C.M. PIPE, INCL. SPECIALS (707.06)		92		
518	26	LIN. FT.	6" HELICAL NONPERFORATED C.M. PIPE, INCL. SPECIALS (707.06)		26		
518	13	EACH	SCUPPERS INCLUDING SUPPORTS	13			
601	541	SQ. YDS.	CRUSHED AGGREGATE SLOPE PROTECTION		541		
625			See sheet 247 for lighting summary.				
808	509	UNITS	WATER-REDUCING, SET-RETARDING ADMIXTURE	509			
825	2,035	SQ. YDS.	CONCRETE SURFACE TREATMENT	1976	59		
828	101	LIN. FT.	JOINT SEALER	101			

QUANTITIES CHECKED BY D.H.S. 2-20-67

NOTE:
FOR FRAMING PLAN & GIRDER DETAILS SEE SHEETS 305 & 306

EMBANKMENT PROCEDURE:
AFTER THE PEDESTALS HAVE BEEN CONSTRUCTED THE BACKFILL SHALL BE PLACED AND COMPACTED UP TO THE HEIGHT OF THE FINISHED SPILL-THRU SLOPE AND TO THE LEVEL OF THE SUBGRADE, AFTER WHICH EXCAVATION SHALL BE MADE FOR THE CROSS BEAM.

ABBREVIATIONS USED
N.F. — NEAR FACE
F.F. — FAR FACE
E.F. — EACH FACE

FOR ADDITIONAL NOTES SEE SHEET NO 283 & 301.

SEE SHEET NO. 348 FOR LIGHT STANDARD SUPPORT DETAIL.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

GENERAL PLAN & ELEVATION
BRIDGE NO. MAH-80S-0862
UNDER OHIO TURNPIKE
I-80S MAHONING COUNTY
STA. 455+24.82

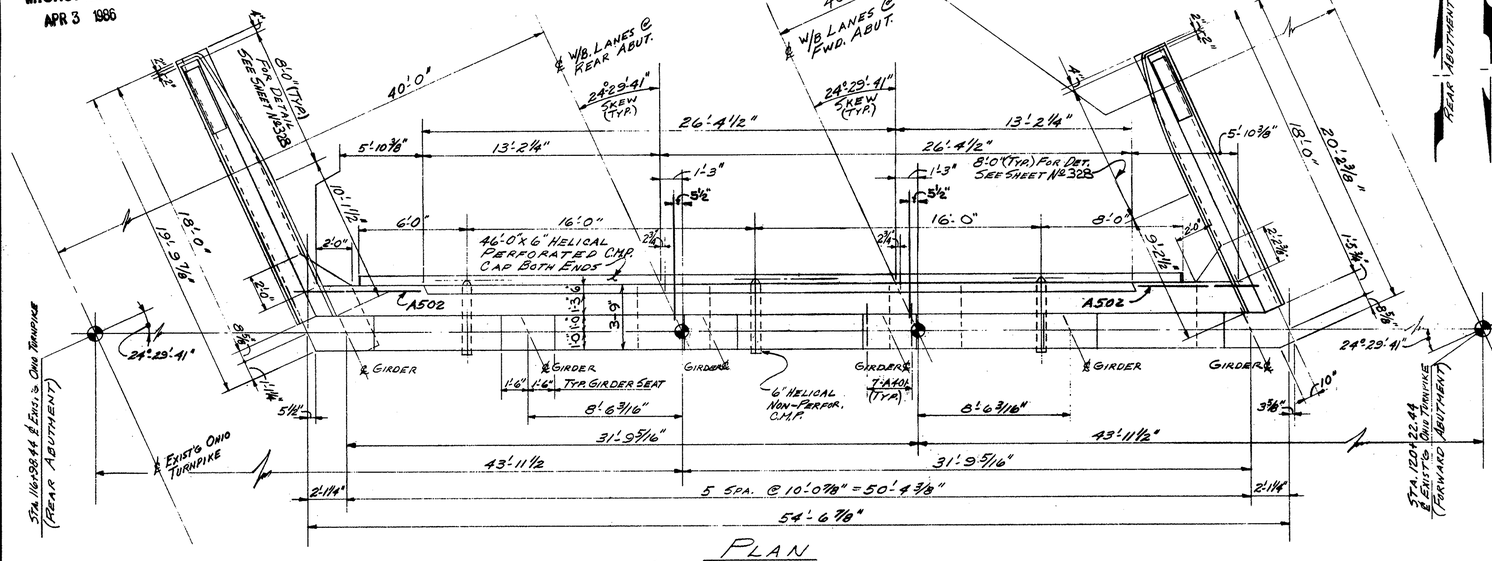
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.H.	R.W.P.		E.A.H.	D.H.S.	3-21-67	

MICROFILMED
APR 3 1986

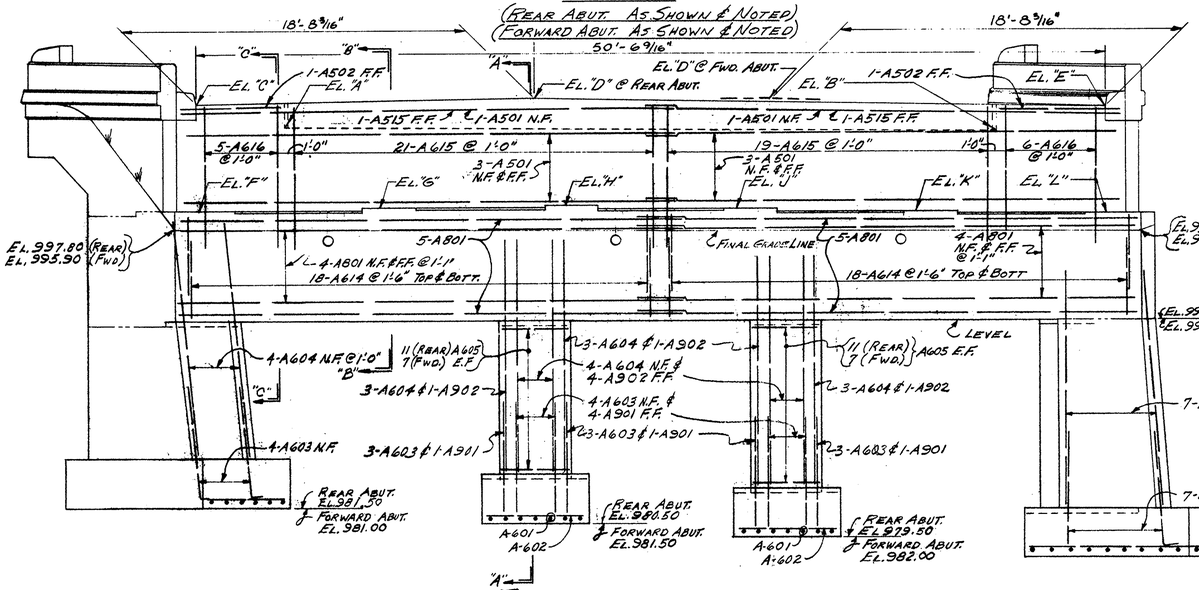
FED. RD.	STATE	PROJECT	
2	OHIO		

311
384

MAH-80S-7.01
MAH-80-2.30



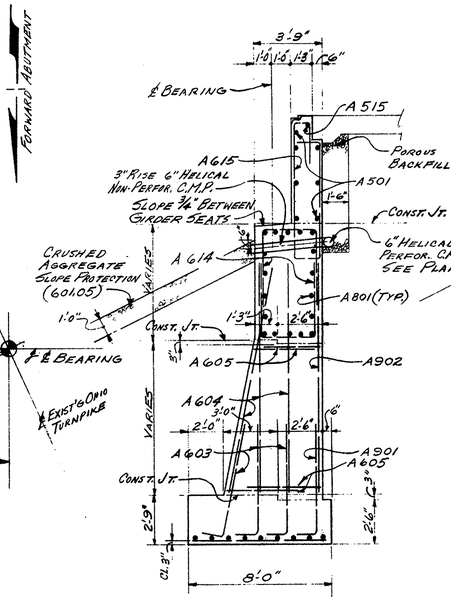
PLAN
(REAR ABUT. AS SHOWN & NOTED)
(FORWARD ABUT. AS SHOWN & NOTED)



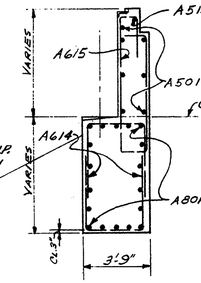
ELEVATION
(REAR ABUT. AS SHOWN & NOTED)
(FORWARD ABUT. AS SHOWN & NOTED)

NOTES:
THE PREFIX "RA" OR "FA" SHALL BE ADDED TO ALL BARMARKS IN THE REAR OR FORWARD ABUTMENTS RESPECTIVELY.
POROUS BACKFILL SHALL EXTEND UPWARD TO THE APPROACH SLAB AND TO THE PAVED SHOULDERS, AND OUTWARD TO THE INSIDE FACE OF WINGWALLS. EXCAVATION THEREFORE, IN EXCESS OF THE ABUTMENT, SHALL BE CONSIDERED AS PAID FOR IN THE BID PRICE PER CU. YD. PAID FOR POROUS BACKFILL.

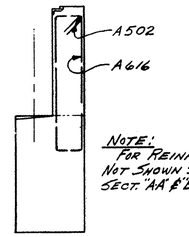
FOR ADDITIONAL NOTES SEE SHEET NO. 310



SECTION "A-A"



SECTION "B-B"

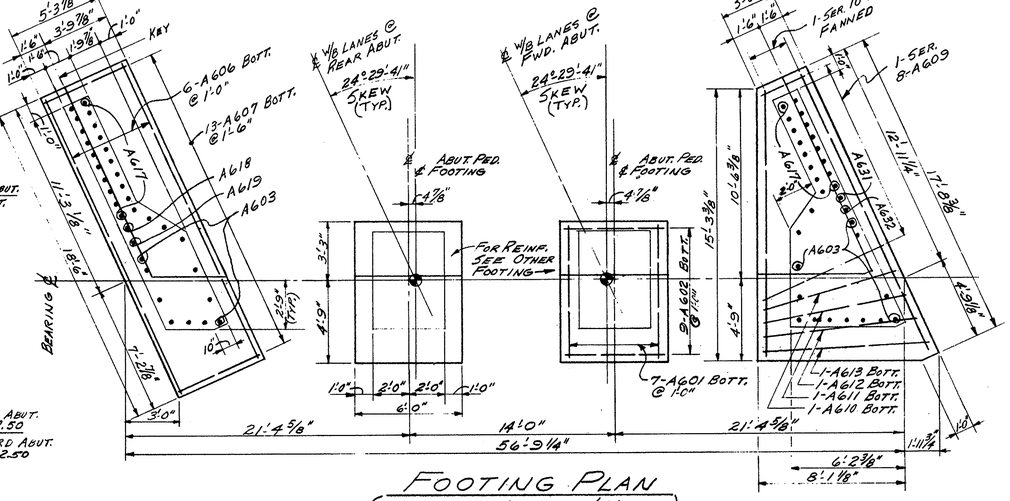


SECTION "C-C"

NOTE:
ELEVATIONS 'C', 'D', & 'E' ARE GIVEN AS FINAL PAVEMENT ELEVATIONS @ FRONT FACE OF BACKWALL.

ELEVATION TABLE

ABUTMENTS	EL. "A"	EL. "B"	EL. "C"	EL. "D"	EL. "E"	EL. "F"	EL. "G"	EL. "H"	EL. "J"	EL. "K"	EL. "L"
REAR	1003.58	1003.31	1004.84	1005.06	1004.55	998.80	998.91	998.99	998.82	998.66	998.50
FORWARD	1001.67	1001.34	1002.91	1003.43	1003.21	996.89	997.05	997.21	997.98	997.30	997.19



FOOTING PLAN
(REAR ABUT. AS SHOWN & NOTED)
(FORWARD ABUT. AS SHOWN & NOTED)

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

ABUTMENT DETAILS

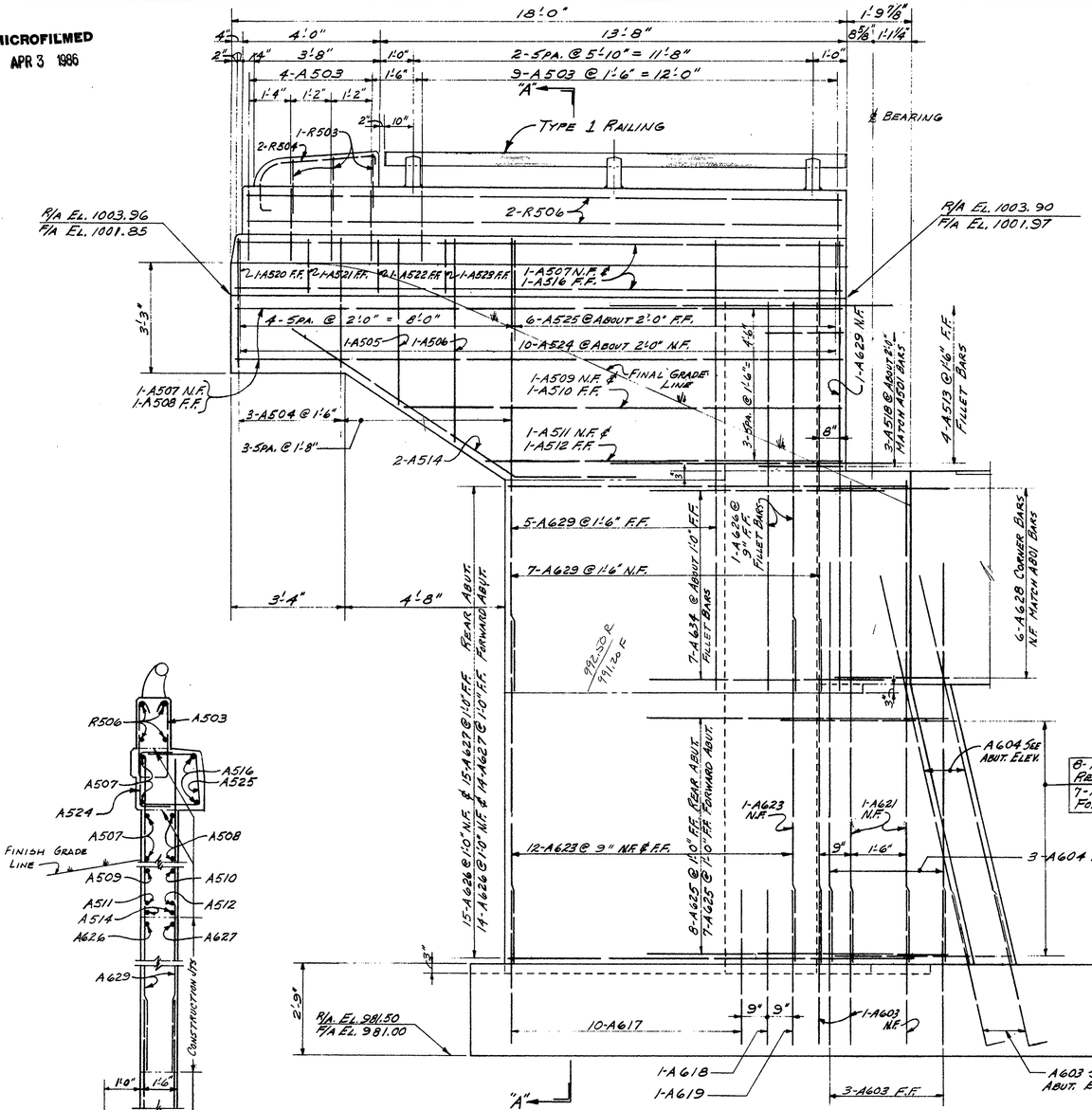
BRIDGE NO. MAH-80S-0862
UNDER OHIO TURNPIKE
I-80S MAHONING COUNTY
STA. 455+24.82

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.H.	R.V.P.		J.H.	P.B.H.	3-21-67	

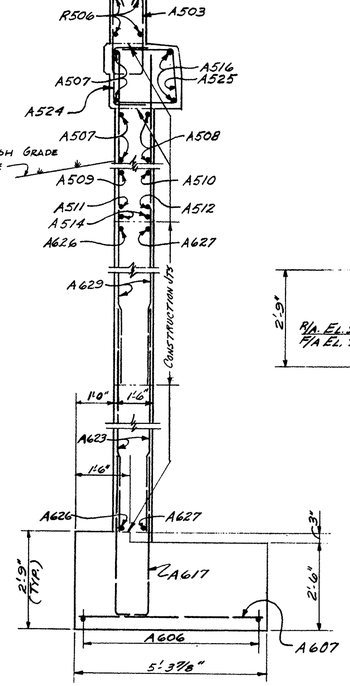
MICROFILMED
APR 3 1986

MAH-805-7.01
MAH-80-2.30

FED. RD.	STATE	PROJECT	
2	OHIO		

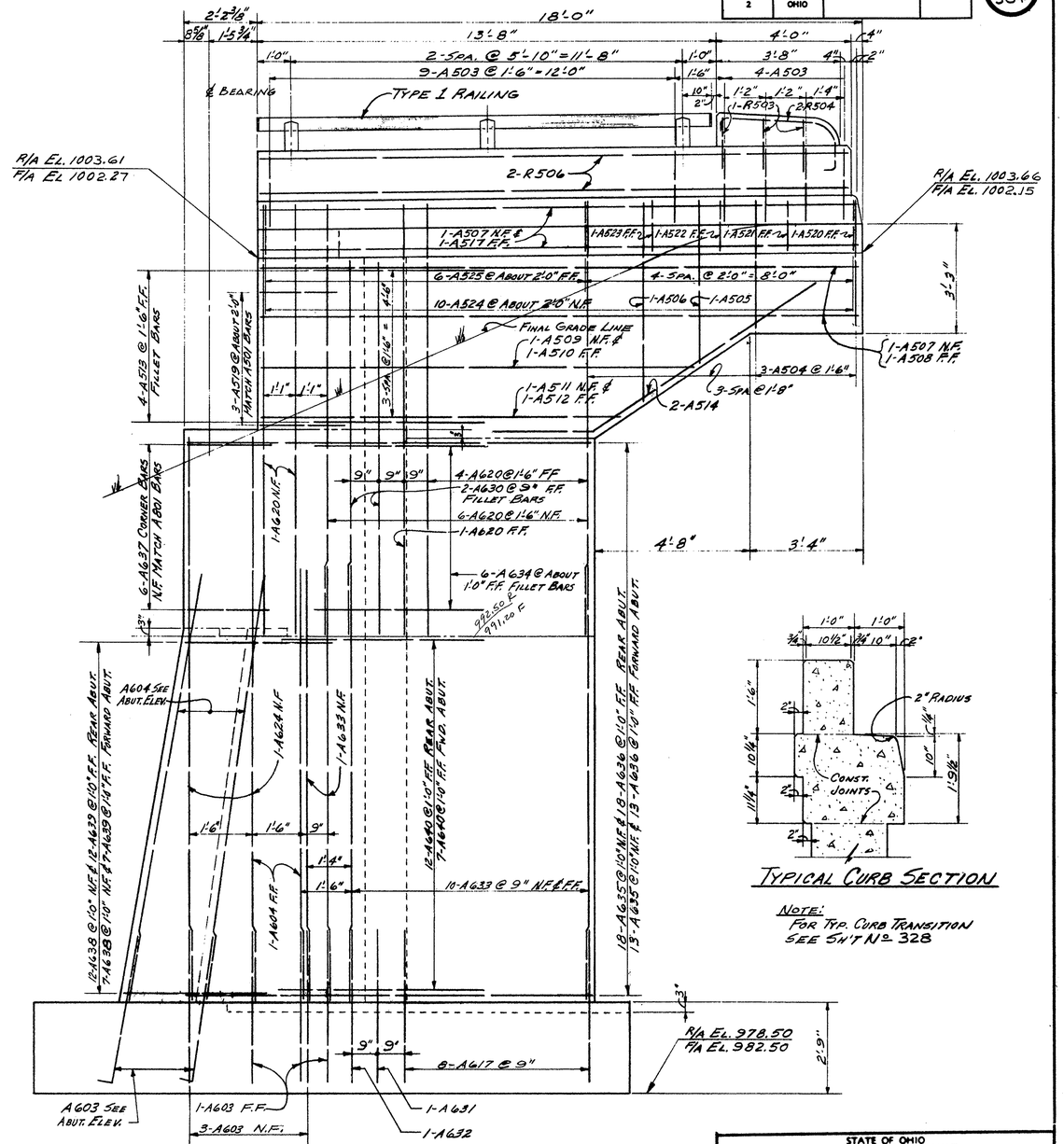


REAR ABUT. WEST WING WALL (AS SHOWN & NOTED)
FWD. ABUT. EAST WING WALL (AS SHOWN & NOTED)



SECTION "A-A" AS SHOWN
(OTHER WING WALLS SIMILAR)

NOTES:
THE PREFIX "RA" OR "FA" SHALL BE ADDED TO ALL BARMARKS IN THE REAR OR FORWARD ABUTMENT RESPECTIVELY.
FOR ADDITIONAL NOTES SEE SHEET NO. 310



REAR ABUT. EAST WING WALL (AS SHOWN & NOTED)
FWD. ABUT. WEST WING WALL (AS SHOWN & NOTED)

TYPICAL CURB SECTION

NOTE:
FOR TYP. CURB TRANSITION SEE SHT NO. 328

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

ABUTMENT WINGWALLS

BRIDGE NO. MAH-805-0862
UNDER OHIO TURNPIKE
I-805 MAHONING COUNTY
STA. 455+24.82

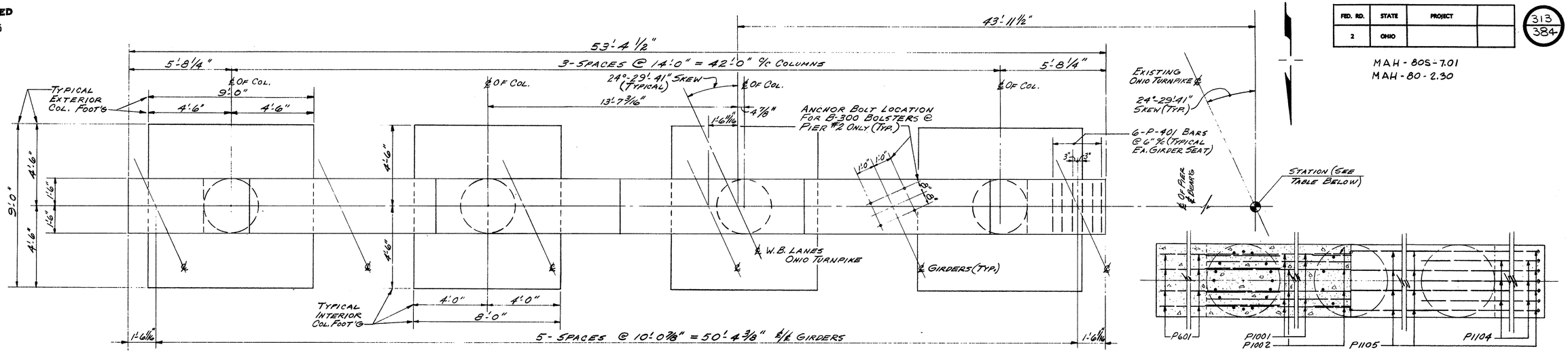
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
V.H.	R.V.P.		V.H.	R.D.H.	3-21-67	

MICROFILMED
APR 3 1986

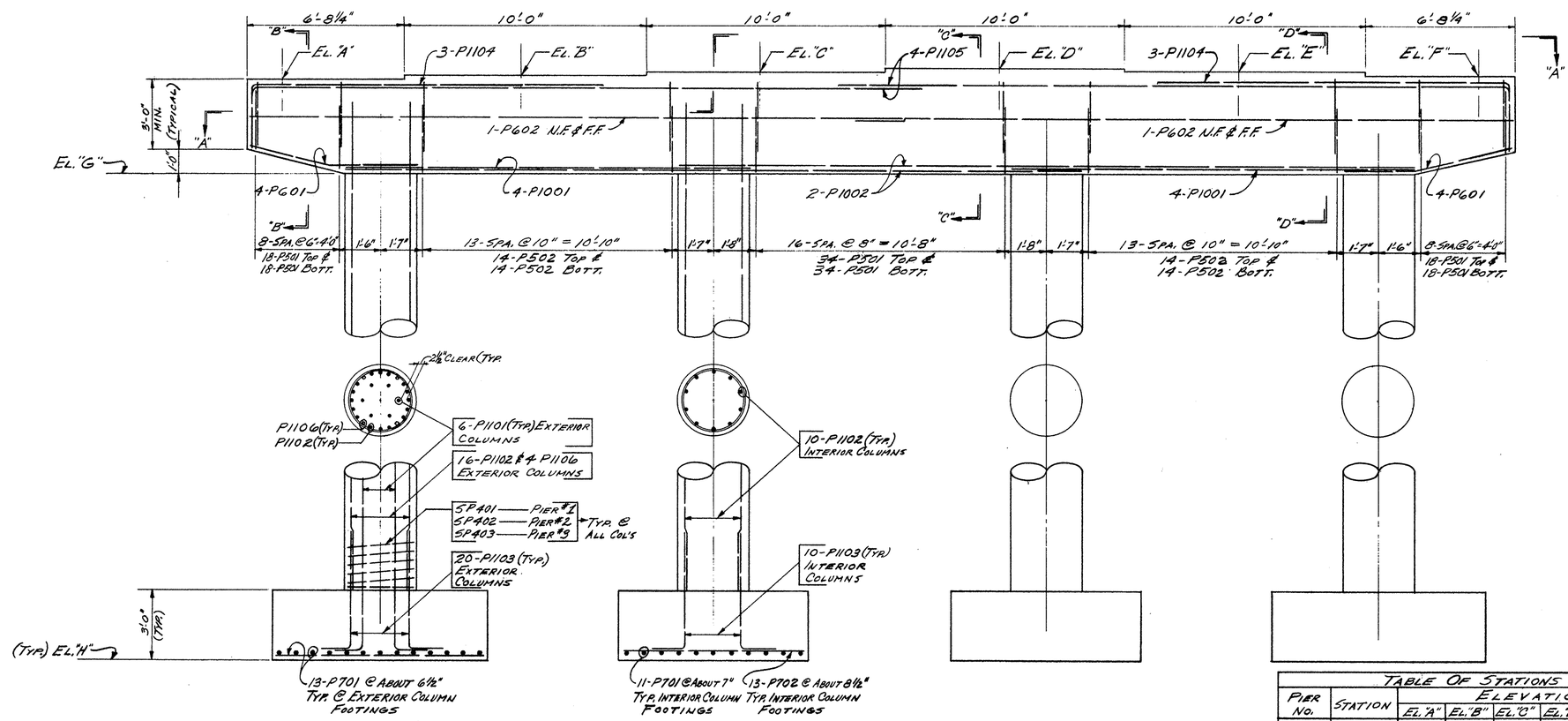
FED. RD.	STATE	PROJECT	
2	OHIO		

313
384

MAH-80S-7.01
MAH-80-2.30

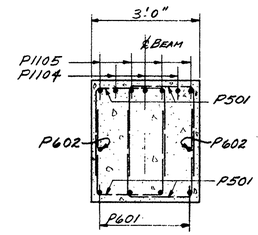


PLAN
(PIER #1, #2 & #3 TYP. EXCEPT AS NOTED)

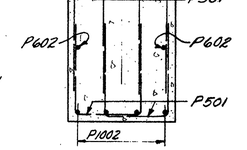


ELEVATION
(PIERS #1, 2 & 3 TYPICAL EXCEPT AS NOTED)

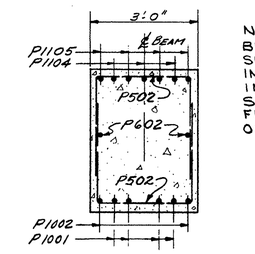
SECTION "A-A"



SECTION "B-B"



SECTION "C-C"



SECTION "D-D"

NOTE:
BRIDGE SEAT REINFORCING: SPECIAL CARE SHOULD BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SO AS TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BAR HOLES.

NOTE: FOR NOTES SEE SHEET NO 310

TABLE OF STATIONS & ELEVATIONS

PIER NO.	STATION	ELEVATIONS							
		EL. "A"	EL. "B"	EL. "C"	EL. "D"	EL. "E"	EL. "F"	EL. "G"	EL. "H"
1	117+67.69	997.48	997.64	997.80	997.97	997.89	997.78	983.48	975.00
2	118+74.13	996.93	997.09	997.25	997.42	997.34	997.23	982.93	975.00
3	119+63.34	996.67	996.83	996.99	997.16	997.08	996.97	982.67	974.50

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

PIER DETAILS

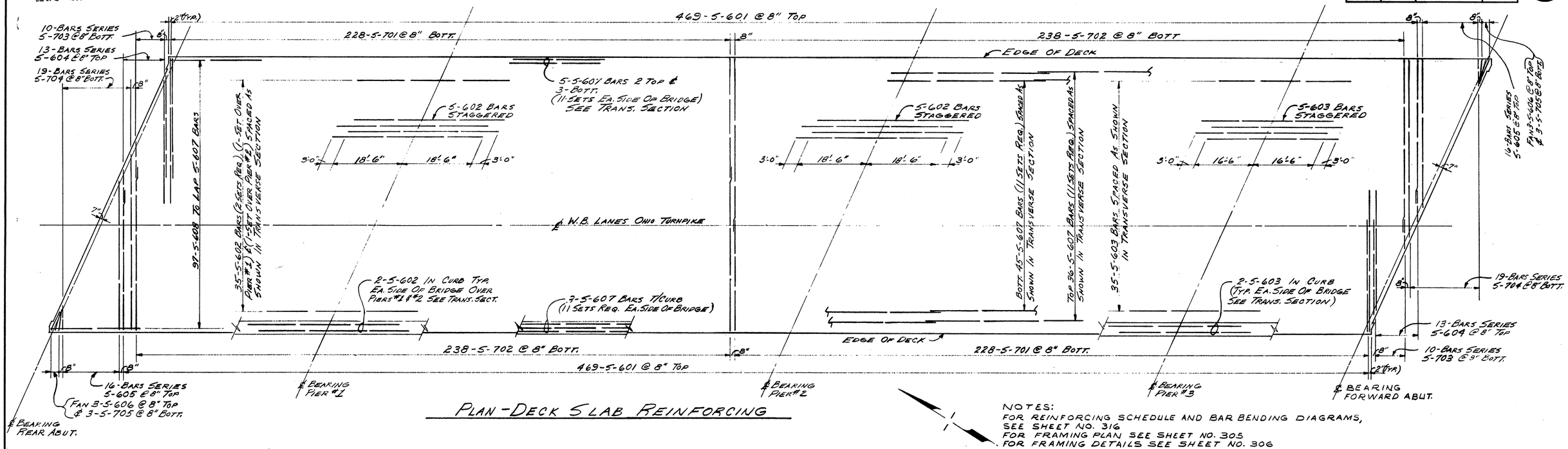
BRIDGE NO. MAH-80S-0862
UNDER OHIO TURNPIKE
I-80S MAHONING COUNTY
STA. 455+24.82

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.H.	R.J.P.		E.A.H.	E.B.H.	3-21-67	

MICROFILMED
APR 3 1986

MAH-80S-7.01
MAH-80-2.30

FED. RD.	STATE	PROJECT	
2	OHIO		



PLAN - DECK SLAB REINFORCING

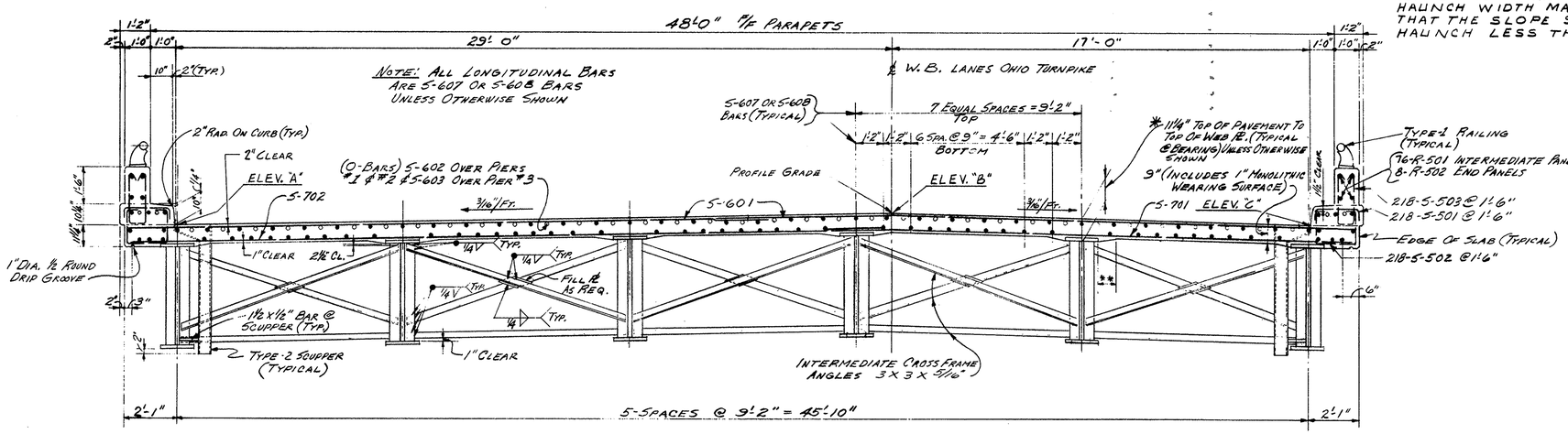
NOTES:
FOR REINFORCING SCHEDULE AND BAR BENDING DIAGRAMS, SEE SHEET NO. 316
FOR FRAMING PLAN, SEE SHEET NO. 305
FOR FRAMING DETAILS, SEE SHEET NO. 306
FOR LOCATION OF SCUPPERS SEE GENERAL PLAN SHEET NO. 310.

* THIS IS THE NOMINAL DIMENSION. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED ON THIS DIMENSION, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE GIRDER MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE. DEDUCTION SHALL BE MADE FOR VOLUME OF ENCASED STEEL PLATES AS PER SEC. 511.19 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

** A TYPICAL HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6" AND 12" PROVIDED THAT THE SLOPE SHALL BE NOT MORE THAN 1:4 FOR A HAUNCH LESS THAN 9" IN WIDTH.

ELEVATION TABLE				
STA.	PROFILE GRADE ELEV.	EL. "A" ⊗	EL. "B" ⊗	EL. "C" ⊗
117+25	1005.01	——	1005.02	1004.75
+50	1004.89	1004.45	1004.90	1004.62
+75	1004.76	1004.31	1004.76	1004.49
118+00	1004.64	1004.19	1004.67	1004.40
+25	1004.51	1004.09	1004.56	1004.30
+50	1004.39	1004.00	1004.44	1004.16
+75	1004.26	1003.85	1004.28	1004.00
119+00	1004.14	1003.69	1004.14	1003.87
+25	1004.01	1003.57	1004.03	1003.76
+50	1003.89	1003.46	1003.91	1003.64
+75	1003.76	1003.33	1003.76	1003.49
120+00	1003.64	1003.19	1003.64	1003.38
+25	1003.51	1003.07	1003.52	1003.24
+50	1003.39	1002.94	——	——

⊗ NOTE: THESE ELEVATIONS ARE THOSE WHICH ARE REQUIRED BEFORE THE CONCRETE DECK IS PLACED. PROPER ALLOWANCE HAS BEEN MADE FOR THE DEAD LOAD DEFLECTIONS CAUSED BY THE WEIGHT OF THE CONCRETE.



TRANSVERSE SECTION

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

SLAB PLAN & SECTION
BRIDGE NO. MAH-80S-0862
UNDER OHIO TURNPIKE
I-80S MAHONING COUNTY
STA. 455+24.82

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.H.	R.U.R		D.H.S.	EDH	3-21-67	

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MICROFILMED
APR 3 1986

FED. RD.	STATE	PROJECT	
2	OHIO		

315
384

MAH-80S-7.01
MAH-80-2.30

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.
REAR ABUTMENT									
RA401	42	3'-0"	3	2'-2"	6½"				84
RA501	14	27'-9"	STR.						405
RA502	2	7'-0"	STR.						15
RA503	26	5'-7"	5	8"	2'-2"	5"			151
RA504	6	7'-11"	3	1'-2"	3'-6"				50
RA505	2	10'-5"	3	1'-2"	4'-9"				22
RA506	2	12'-11"	3	1'-2"	6'-0"				27
RA507	8	17'-6"	STR.						146
RA508	4	15'-0"	STR.						63
RA509	4	12'-9"	STR.						27
RA510	2	10'-0"	STR.						21
RA511	2	10'-6"	STR.						22
RA512	2	7'-9"	STR.						16
RA513	8	6'-0"	STR.						50
RA514	4	9'-8"	12	8'-0"	1'-9"	1'-0"			40
RA515	2	23'-6"	STR.						49
RA516	2	18'-0"	17	18'-0"	10'-0"	2'-0"			38
RA517	2	17'-2"	17	17'-2"	9'-2"	2'-0"			36
RA518	3	4'-5"	1	1'-9"	2'-9"				14
RA519	3	5'-3"	28	1'-9"	8"	3'-0"	1'-3"		16
RA520	2	3'-1"	16	1'-6"	1'-0"	10"			6
RA521	2	3'-7"	16	1'-6"	1'-3"	1'-1"			7
RA522	2	4'-1"	16	1'-6"	1'-6"	1'-4"			9
RA523	2	4'-3"	16	1'-6"	1'-7"	1'-5"			9
RA524	20	2'-11"	3	1'-6"	10"				61
RA525	12	4'-5"	16	1'-6"	1'-8"	1'-6"			55
RA601	14	7'-6"	STR.						158
RA602	18	5'-6"	STR.						149
RA603	43	5'-1"	1	10"	4'-5"				328
RA604	36	12'-9"	STR.						689
RA605	44	9'-8"	3	3'-6"	5'-3"				639
RA606	6	18'-0"	STR.						162
RA607	13	5'-0"	STR.						98
RA608	1 SER 10	15'-0" / 17'-3"	STR.					3"	242
RA609	1 SER B	2'-9" / 7'-6"	STR.					8⅛"	62
RA610	1	7'-9"	STR.						12
RA611	1	8'-0"	STR.						12
RA612	1	8'-6"	STR.						13
RA613	1	9'-0"	STR.						14
RA614	72	10'-11"	3	3'-3"	4'-0"				1181
RA615	40	21'-0"	7	7'-0"	1'-5"	8'-4"	11"		1262
RA616	11	19'-7"	14	8'-0"	1'-5"				324
RA617	18	9'-8"	3	1'-2"	4'-5"				261
RA618	1	10'-0"	3	1'-6"	4'-5"				15
RA619	1	10'-6"	3	2'-0"	4'-5"				16
RA620	13	12'-9"	STR.						249
RA621	2	14'-3"	STR.						43
RA622	8	9'-11"	24	3'-3"	8"	2'-4"	4'-0"		119
RA623	25	9'-6"	STR.						357
RA624	2	17'-0"	STR.						51
RA625	8	8'-2"	12	5'-0"	3'-3"	2'-0"			98
RA626	17	11'-3"	STR.						287
RA627	15	8'-0"	STR.						180
RA628	6	5'-0"	12	2'-6"	2'-6"	1'-0"			45
RA629	13	13'-0"	STR.						254
RA630	2	11'-0"	STR.						33
RA631	1	10'-8"	3	2'-2"	4'-5"				16
RA632	1	11'-8"	3	3'-2"	4'-5"				18
RA633	22	15'-3"	STR.						438
RA634	13	7'-0"	STR.						137
RA635	18	11'-9"	STR.						318
RA636	18	7'-0"	STR.						189
RA637	6	5'-6"	23	2'-0"	8"	3'-0"	1'-3"		50
RA638	12	8'-6"	23	4'-0"	8"	4'-0"	1'-8"		153
RA639	12	7'-4"	1	3'-6"	4'-0"				132
RA640	12	8'-0"	12	3'-6"	4'-6"	2'-6"			144
RA801	36	28'-6"	STR.						2739

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.
RA901	12	6'-1"	1	1'-0"	5'-4"				248
RA902	12	13'-6"	STR.						551
TOTAL REAR ABUTMENT									13,925
FORWARD ABUTMENT									
FA401	42	3'-0"	3	2'-2"	6½"				84
FA501	14	27'-9"	STR.						405
FA502	2	7'-0"	STR.						15
FA503	26	5'-7"	5	8"	2'-2"	5"			151
FA504	6	7'-11"	3	1'-2"	3'-6"				50
FA505	2	10'-5"	3	1'-2"	4'-9"				22
FA506	2	12'-11"	3	1'-2"	6'-0"				27
FA507	8	17'-6"	STR.						146
FA508	4	15'-0"	STR.						63
FA509	2	12'-9"	STR.						27
FA510	2	10'-0"	STR.						21
FA511	2	10'-6"	STR.						22
FA512	2	7'-9"	STR.						16
FA513	8	6'-0"	STR.						50
FA514	4	9'-8"	12	8'-0"	1'-9"	1'-0"			40
FA515	2	23'-6"	STR.						49
FA516	2	18'-0"	17	18'-0"	10'-0"	2'-0"			38
FA517	2	17'-2"	17	17'-2"	9'-2"	2'-0"			36
FA518	3	4'-5"	1	1'-9"	2'-9"				14
FA519	3	5'-3"	28	1'-9"	8"	3'-0"	1'-3"		16
FA520	2	3'-1"	16	1'-6"	1'-0"	10"			6
FA521	2	3'-7"	16	1'-6"	1'-3"	1'-1"			7
FA522	2	4'-1"	16	1'-6"	1'-6"	1'-4"			9
FA523	2	4'-3"	16	1'-6"	1'-7"	1'-5"			9
FA524	20	2'-11"	3	1'-6"	10"				61
FA525	12	4'-5"	16	1'-6"	1'-8"	1'-6"			55
FA601	14	7'-6"	STR.						158
FA602	18	5'-6"	STR.						149
FA603	43	5'-1"	1	10"	4'-5"				328
FA604	36	8'-9"	STR.						473
FA605	28	9'-8"	3	3'-6"	5'-3"				407
FA606	6	18'-0"	STR.						162
FA607	13	5'-0"	STR.						98
FA608	1 SER 10	15'-0" / 17'-3"	STR.					3"	242
FA609	1 SER B	2'-9" / 7'-6"	STR.					8⅛"	62
FA610	1	7'-9"	STR.						12
FA611	1	8'-0"	STR.						12
FA612	1	8'-6"	STR.						13
FA613	1	9'-0"	STR.						14
FA614	72	10'-11"	3	3'-3"	4'-0"				1181
FA615	40	21'-0"	7	7'-0"	1'-5"	8'-4"	11"		1262
FA616	11	19'-7"	14	8'-0"	1'-5"				324
FA617	18	9'-8"	3	1'-2"	4'-5"				261
FA618	1	10'-0"	3	1'-6"	4'-5"				15
FA619	1	10'-6"	3	2'-0"	4'-5"				16
FA620	13	12'-9"	STR.						249
FA622	7	9'-11"	24	3'-3"	8"	2'-4"	4'-0"		104
FA623	25	9'-9"	STR.						366
FA624	2	11'-9"	STR.						35
FA625	7	8'-2"	12	5'-0"	3'-3"	2'-0"			86
FA626	16	10'-9"	STR.						258
FA627	14	8'-0"	STR.						168
FA628	6	5'-0"	12	2'-6"	2'-6"	1'-0"			45
FA629	13	12'-6"	STR.						244
FA630	2	11'-0"	STR.						33
FA631	1	10'-8"	3	2'-2"	4'-5"				16
FA632	1	11'-8"	3	3'-2"	4'-5"				18
FA633	22	8'-0"	STR.						264
FA634	13	7'-0"	STR.						137
FA635	13	11'-9"	STR.						229
FA636	13	7'-0"	STR.						137
FA637	6	5'-6"	23	2'-0"	8"	3'-0"	1'-3"		50
FA638	7	8'-6"	23	4'-0"	8"	4'-0"	1'-8"		89
FA639	7	7'-4"	1	3'-6"	4'-0"				77
FA640	7	8'-0"	12	3'-6"	4'-6"	2'-6"			84

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.
FA801	36	28'-6"	STR.						2739
FA901	12	6'-1"	1	1'-0"	5'-4"				248
FA902	12	9'-6"	STR.						388
TOTAL FORWARD ABUTMENT									12,692

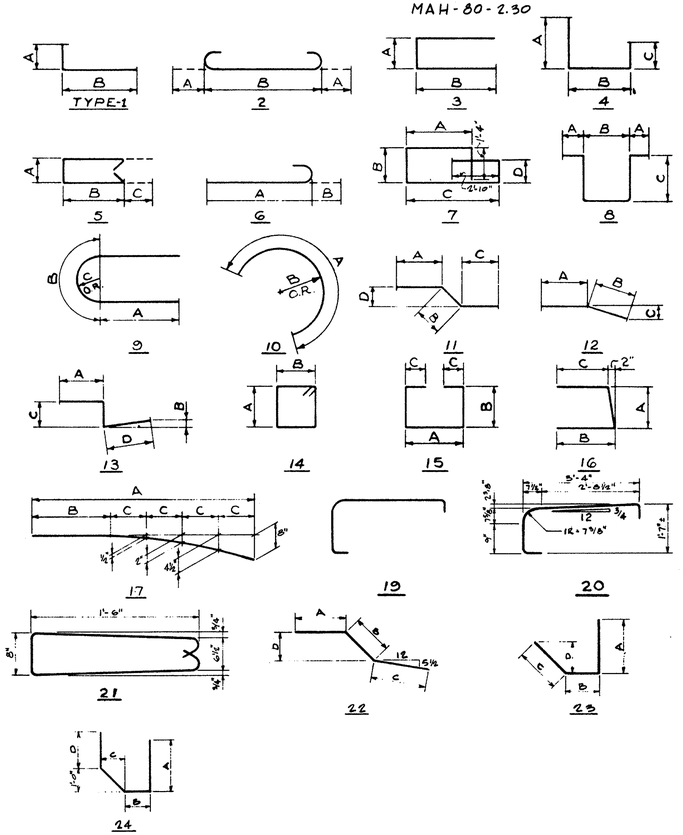
RAILING ⊛

~~REPLACEMENT BARS~~

~~RE 401~~	~~5'-3"~~
~~RE 501~~	~~5'-6"~~
~~RE 601~~	~~7'-0"~~
~~RE 701~~	~~7'-3"~~
~~RE 801~~	~~7'-6"~~
~~RE 901~~	~~7'-10"~~
~~RE 1001~~	~~8'-3"~~
~~RE 1101~~	~~8'-9"~~

SPIRAL REINFORCING SCHEDULE

MARK	NO. REQ'D.	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT LBS.
TOTAL SPIRALS						
GRAND TOTAL LBS.						



REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL SCHEDULE FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE PIER CAP. THE NUMBER OF TURNS SHOWN IN THE STEEL SCHEDULE FOR SPIRAL BARS IS THE LENGTH DIVIDED BY THE PITCH PLUS THREE TURNS (TOTAL NUMBER OF CLOSED COILS) EXPRESSED AS THE NEAREST WHOLE NUMBER. SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS, BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 509.
ONE AND ONE HALF CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOUR (4) STEEL CHANNEL, TEE OR ANGLE SPACERS WEIGHING APPROX. 0.68 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS BASED ON 0.68 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIDGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED INDICATE THE BAR SIZE NUMBER. A-601 IS A NO. 6 SIZE BAR AND P-1001 IS A NO. 10 SIZE BAR.

⊛RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 517 FOR PAYMENT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

REINFORCING SCHEDULE

BRIDGE NO. MAH-80S-0862
UNDER OHIO TURNPIKE
I-80S MAHONING COUNTY
STA. 455+24.82

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.J.P.	D.F.D.		J.H.	R.D.H.	3-21-67	

MICROFILMED
APR 3 1986

FED. RD.	STATE	PROJECT	
2	OHIO		

316
384

MAH-80S-7.01
MAH-80-2.30

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.
PIERS									
P401	108	4'-5"	3	2'-8"	1'-0"				319
P501	420	7'-1"	3	2'-0"	2'-8"				3103
P502	168	7'-9"	3	2'-8"	2'-8"				1358
P601	24	7'-1"	12	3'-0"	4'-1"	1'-0"			255
P602	12	27'-6"	STR.						496
P701	288	8'-6"	STR.						5004
P702	78	7'-6"	STR.						1196
P1001	24	17'-0"	STR.						1756
P1002	12	31'-0"	STR.						1601
P1101	36	11'-2"	1	1'-5½"	10'-0"				2136
P1102	156	18'-3"	STR.						15126
P1103	180	7'-9"	1	1'-5½"	6'-3"				7093
P1104	18	17'-3"	1	2'-6½"	15'-0"				1650
P1105	24	30'-10"	1	2'-6½"	28'-7"				3932
P1106	24	12'-0"	STR.						1530
				TOTAL PIERS (EXCEPT SPIRALS)					46,555
SUPERSTRUCTURE									
S501	436	2'-6"	3	1'-6"	7½"				1137
S502	436	4'-11"	15	1'-6"	1'-4"	7½"			2236
S503	436	5'-7"	5	8"	2'-2"	5"			2539
S506	6	11'-0"	25	2'-0"	2'-11"	1'-2"	2'-1"		72
S601	938	26'-0"	STR.						36681
S602	78	40'-0"	STR.						4686
S603	39	36'-0"	STR.						2109
S604	2 SER 13	4'-6" 32'-1"	STR.					1'-5 9/16"	519
S605	2 SER 16	5'-0" 36'-10"	STR.					1'-5 9/16"	765
S606	6	4'-6"	STR.						41
S607	1067	30'-0"	STR.						48079
S608	97	16'-0"	STR.						2331
S610	24	6'-0"	STR						216
S611	8	9'-8"	14	2'-10"	2'-0"				116
S701	456	21'-6"	STR.						20039
S702	476	30'-6"	STR.						29675
S703	2 SER 10	5'-7" 16'-9"	STR.					1'-5 9/16"	416
S704	2 SER 19	5'-0" 31'-5"	STR.					1'-5 9/16"	1408
S705	6	4'-6"	STR.						55
				TOTAL SUPERSTRUCTURE					153,070

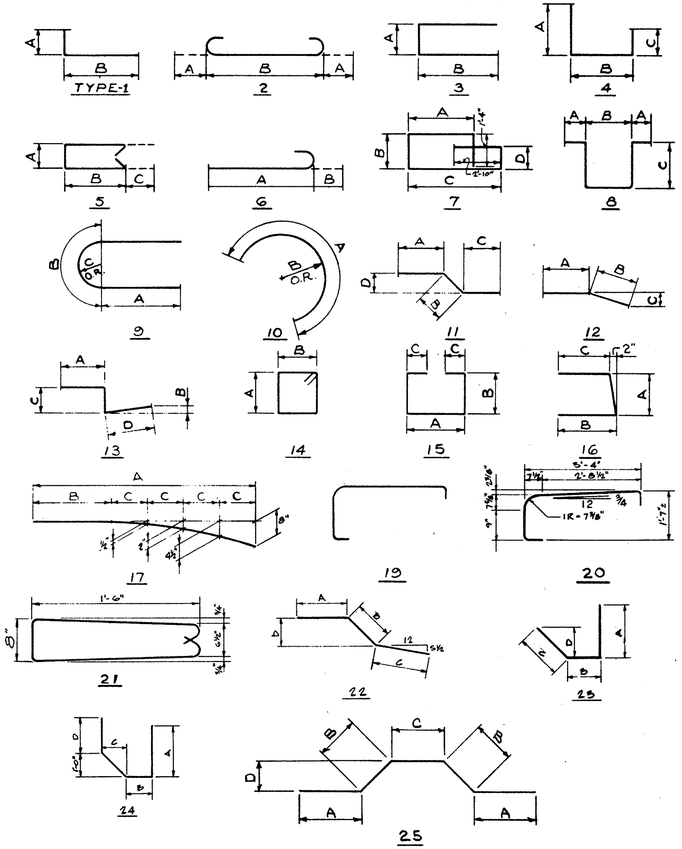
MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.
RAILING ⊗									
R501	152	15'-6"	STR.						
R502	16	12'-0"	STR						
R503	12	4'-2"	21						
R504	8	5'-4"	20						
R505	16	17'-4"	STR.						
R510	4	11'-0"	25	2'-0"	2'-11"	1'-2"	2'-1"		
R511	4	8'-10"	25	2'-0"	11"	3'-0"	8"		
REPLACEMENT BARS									
RE-401	1	4'-5"	3	2'-8"	1'-0"				
RE-501	1	6'-6"	STR.						
RE-601	6	7'-0"	STR.						
RE-701	3	7'-3"	STR.						
RE-801	1	7'-6"	STR.						
RE-901	1	7'-10"	STR.						
RE-1001	1	8'-3"	STR.						
RE-1101	2	8'-9"	STR.						

SPIRAL REINFORCING SCHEDULE

MARK	NO. REQ'D.	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT LBS.
SP401	4	32	15'-5¾"	4½"	44	1139
SP402	4	32	14'-11⅞"	4½"	43	1111
SP403	4	32	15'-2"	4½"	43	1114
				TOTAL SPIRALS		3364

GRAND TOTAL 229,606 LBS.



REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL SCHEDULE FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE PIER CAP. THE NUMBER OF TURNS SHOWN IN THE STEEL SCHEDULE FOR SPIRAL BARS IS THE LENGTH DIVIDED BY THE PITCH PLUS THREE TURNS (TOTAL NUMBER OF CLOSED COILS) EXPRESSED AS THE NEAREST WHOLE NUMBER. SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS, BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 509.

ONE AND ONE HALF CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOUR (4) STEEL CHANNEL, TEE OR ANGLE SPACERS WEIGHING APPROX. 0.68 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS BASED ON 0.68 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIDGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED INDICATE THE BAR SIZE NUMBER. A-601 IS A NO. 6 SIZE BAR AND P-1001 IS A NO. 10 SIZE BAR.

⊗RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 517 FOR PAYMENT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

REINFORCING SCHEDULE

BRIDGE NO. MAH-80S-0862
UNDER OHIO TURNPIKE
I-80S MAHONING COUNTY
STA. 455 + 24.82

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.J.P.	D.F.D.		E.A.H.	B.H.	3-21-67	

FED. RD.	STATE	PROJECT	
2	OHIO		

317
384

MAH-80 S.-7.01
MAH-80-2.30

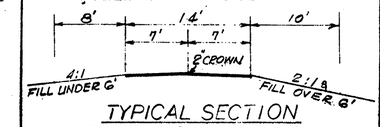
CURVE DATA

℄ LINE "A"

P.C. STA. 415+35.59
Δ = 30°-00'-00"
Dc = 6°-00'-00"
R = 954.93'
T = 255.67
Lc = 500.00'

EXISTING STRUCTURE

TYPE: STEEL BEAM - CONTINUOUS CENTER SPANS WITH SIMPLE END SPANS - WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SKEW: 31°-35'-00" RF.
SPANS: 33'-0 3/4", 56'-11 3/16", 38'-8 7/8", 56'-11 3/16", 39'-1 9/16" ℄ TO ℄ BRGS.
ROADWAY: 24'-0" ℄ TO ℄ 1'-6" SAFETY CURBS.
LOAD FREQUENCY: CF = 30
ALIGNMENT: TANGENT.
SUPERELEVATION: NONE.



TYPICAL SECTION
EXISTING SILICA RD.

PROPOSED STRUCTURE

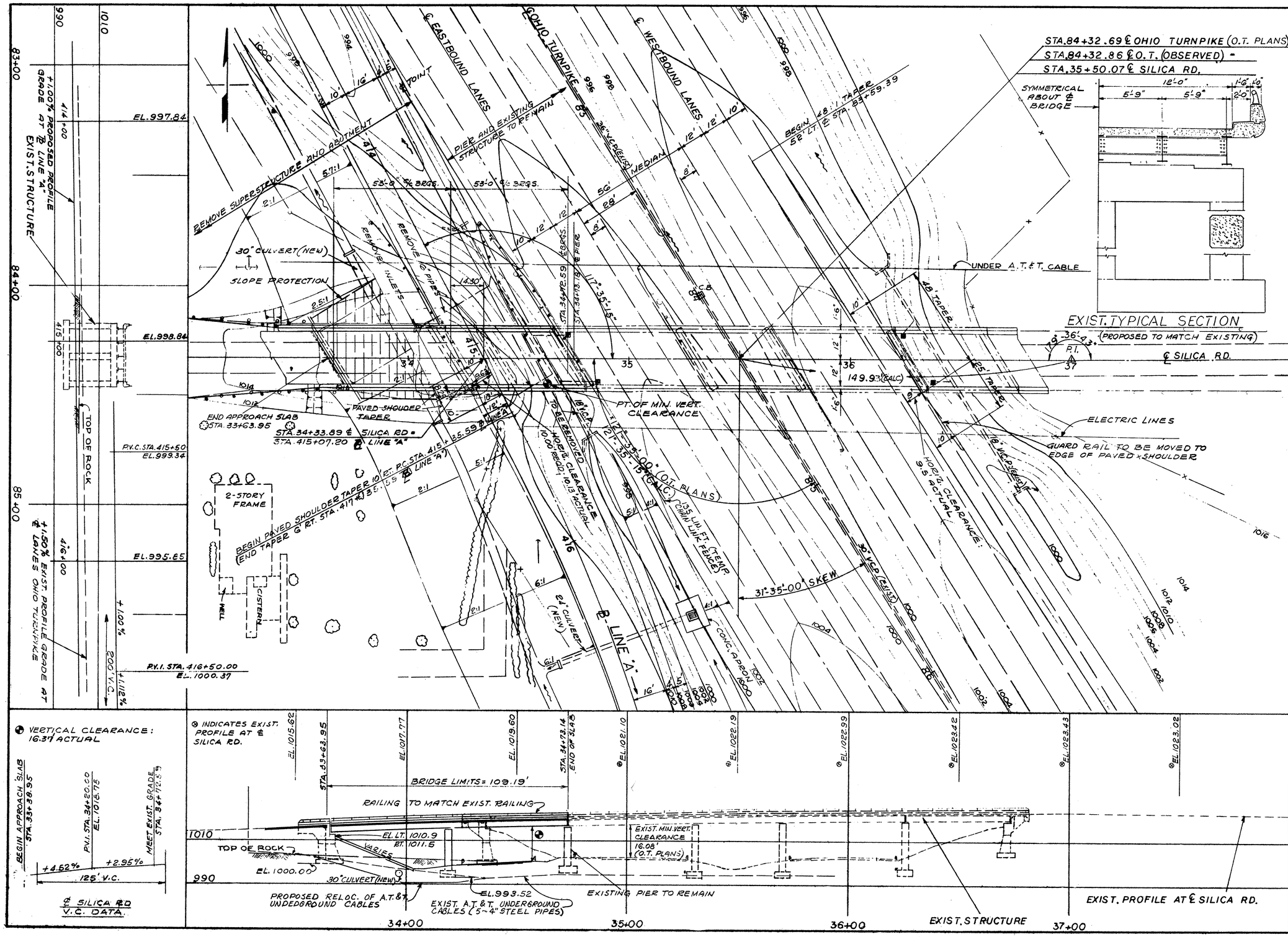
TYPE: CONTINUOUS STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE. (NEW SECTION)

SKEW: 31°-35'-00" RF.
SPANS: NEW SPANS, 4 @ 40'-0" ℄ BRGS.
EXISTING SPANS TO REMAIN, 56'-11 3/16", 38'-8 7/8", 56'-11 3/16", 39'-1 9/16" ℄ BRGS.
ROADWAY: 24'-0" ℄ TO ℄ 1'-6" SAFETY CURBS.
LOAD FREQUENCY: CF = 30
WEARING SURFACE: 1" MONOLITHIC.
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
SLOPE PROTECTION: CRUSHED AGGREGATE (QC 1.05)
APPROACH SLAB: 25' LONG (AS-1-54, REV. 8-10-65)

TRAFFIC:
OHIO TURNPIKE : 41,257 A.D.T. - 1985

STA. 84+32.69 ℄ OHIO TURNPIKE (O.T. PLANS) =
STA. 84+32.86 ℄ O.T. (OBSERVED) =
STA. 35+50.07 ℄ SILICA RD.

EXIST. TYPICAL SECTION
(PROPOSED TO MATCH EXISTING)
℄ SILICA RD.



VERTICAL CLEARANCE: 16.31' ACTUAL

℄ SILICA RD
V.C. DATA.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

SITE PLAN

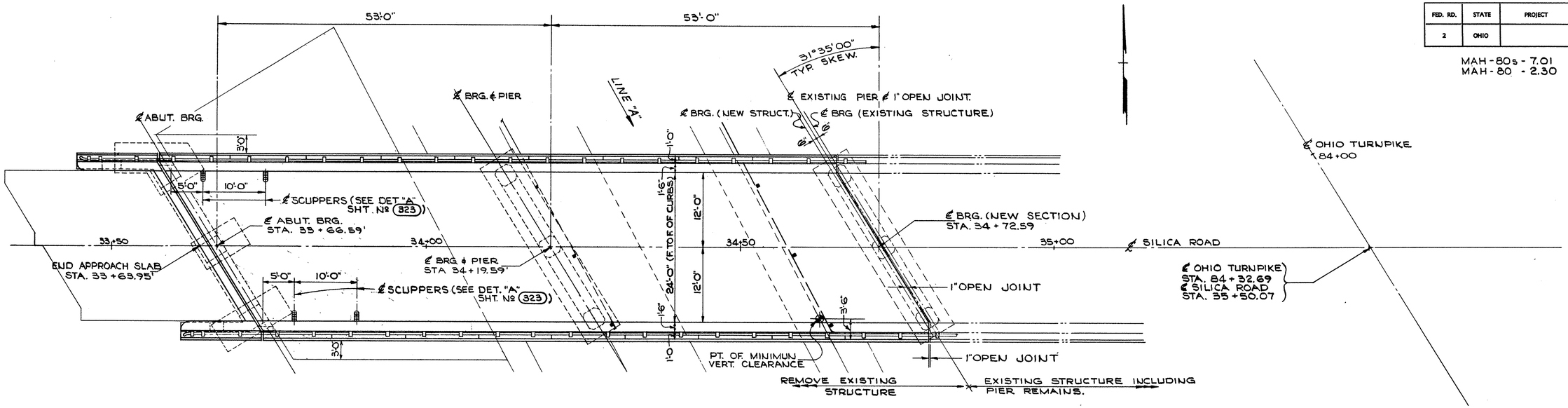
BRIDGE NO. MAH-80 - 0148
SILICA ROAD OVER OHIO TURNPIKE
MAHONING COUNTY
LINE "A" STA. 415+07.20

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	KDVESSY		3-23-67 D.H.S.	CBH	3-29-67	

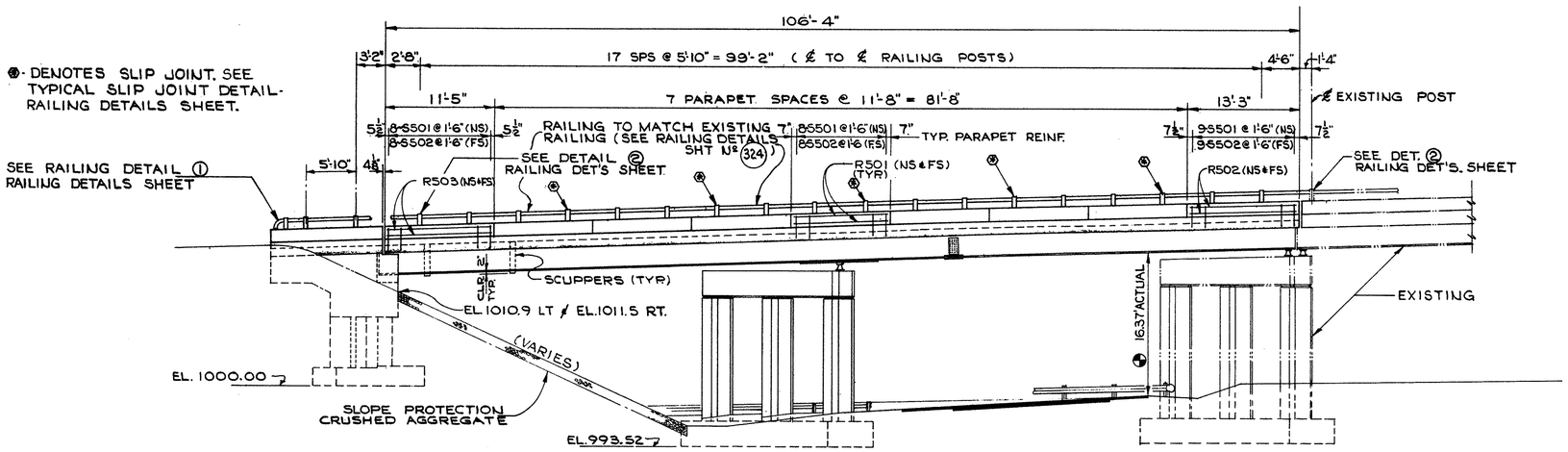
FED. RD.	STATE	PROJECT	
2	OHIO		

318
384

MAH-80s - 7.01
MAH-80 - 2.30



PLAN



ELEVATION

REMOVAL OF PORTIONS OF EXISTING STRUCTURE:
WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC THE EXISTING REAR ABUTMENT AND REAR END SPAN SHALL BE REMOVED. THE SHOULDER BOLTS ON THE EXISTING ROCKERS OF THE REAR SPAN AT PIER Nº 1 OF THE EXISTING STRUCTURE SHALL BE REMOVED. THE PORTIONS OF THE EXISTING ROCKER ATTACHED TO THE EXISTING BEAMS SHALL BE REMOVED WITH THE BEAMS. THE REMAINING PORTIONS SHALL BE INSPECTED BY THE ENGINEER AND IF FOUND IN SATISFACTORY CONDITION SHALL BE REPAINTED AND USED FOR THE NEW BEAM BEARINGS. SHOULD THESE PORTIONS OF THE ROCKERS BE FOUND UNFIT FOR REUSE THEY SHALL BE REPLACED BY MEMBERS OF EQUAL DIMENSIONS AND DETAIL. THE WEIGHT OF STRUCTURAL STEEL TO REPLACE THAT PORTION OF THE ROCKERS NOT ATTACHED TO THE BEAMS IS NOT INCLUDED IN THE PAY WEIGHT OF ITEM 513 STRUCTURAL STEEL.
EXTREME CARE SHOULD BE TAKEN NOT TO DAMAGE ANY PORTION OF THE STRUCTURE THAT IS TO REMAIN.

SEE SHEET Nº 283 FOR GENERAL NOTES.

See sheet 285 for guardrail attachment to parapet.

100% State Partic.

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT	PIER	GEN
202	LUMP	LUMP SUM	PORTIONS OF EXISTING STRUCT. REMOVED				L.S.
503	80	CU. YDS.	UNCLASSIFIED EXCAVATION		80		
503	57	CU. YDS.	SHALE EXCAVATION		21	36	
509	28,549	LBS.	REINFORCING STEEL	16280	5918	6351	
511	85	CU. YDS.	CLASS "C" CONC. SUPERSTRUCTURE	85			
511	48	CU. YDS.	CLASS "E" CONC. ABUT. ABOVE FTG'S.		48		
511	25	CU. YDS.	CLASS "C" CONC. PIER. ABOVE FTG.			25	
511	36	CU. YDS.	CLASS "E" CONC. FOOTINGS		14	22	

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT	PIER	GEN
513	67,000	LBS.	STRUCTURAL STEEL	67,000			
832	67,000	LBS.	FIELD PAINTING OF STRUCT. STL.	67,000			
517	238.83	LIN. FT.	RAILING (SEE RAILING DET'S., SHT. Nº 324)	213.35	25.48		
518	10	CU. YDS.	POROUS BACKFILL		10		
518	4	EACH	SCUPPERS INCLUDING SUPPORTS	4			
518	27	LIN. FT.	6" HELICAL NON-PERF. C.M.P. 707.06		27		
518	16	LIN. FT.	6" HELICAL PERF. C.M.P. 707.06 (INCLUDING. SPECIALS)		16		

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT	PIER	GEN
601	203	SQ. YDS.	CRUSHED AGGREGATE SLOPE PROTECTION		203		
808	85	UNITS	WATER-REDUCING, SET-RETARDING - ADMIXTURE	85			
825	422	SQ. YDS.	CONCRETE SURFACE TREATMENT	401	21		
828	31	LIN. FT.	JOINT SEALER	31			

FORM DDA-6

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

GENERAL PLAN & ELEVATION

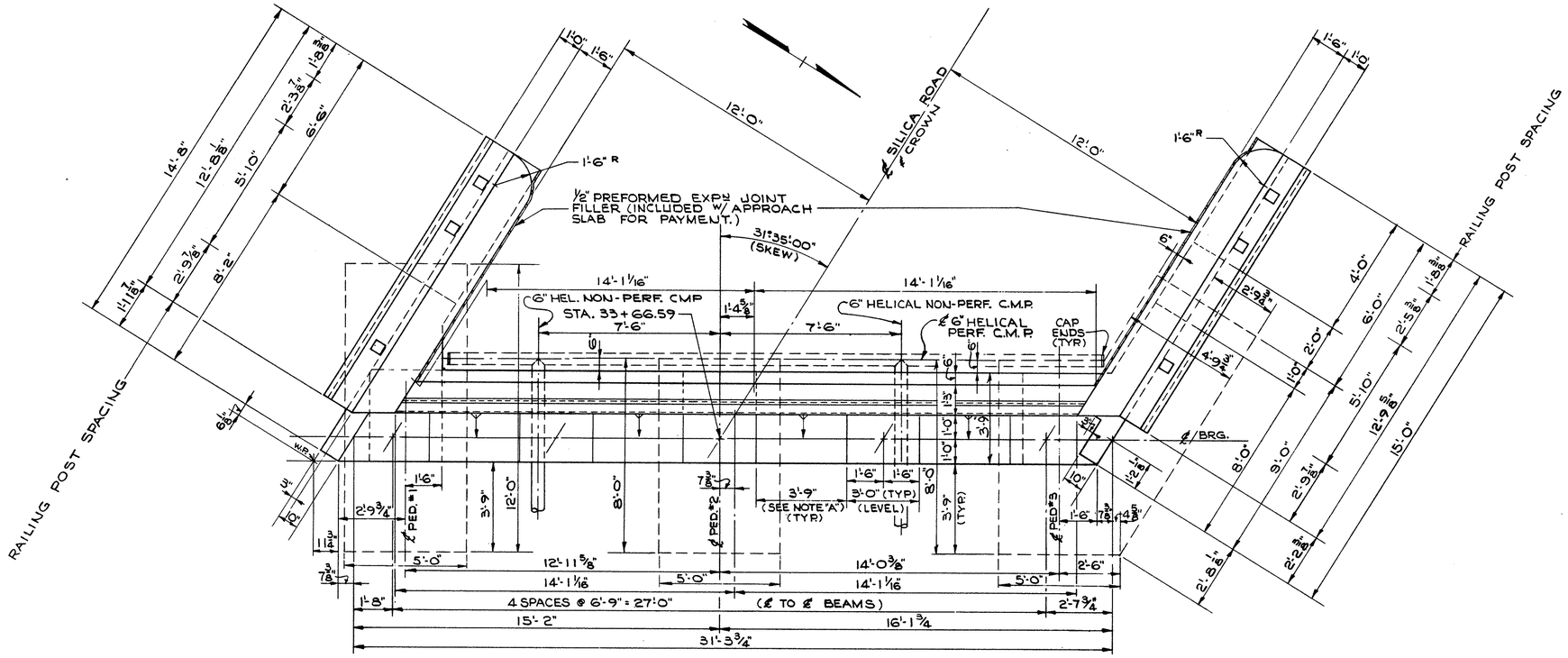
BRIDGE NO. MAH-80-0148
SILICA ROAD OVER OHIO TURNPIKE
MAHONING COUNTY
LINE "A" STA. 415 + 07.20

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
[illegible]	ALH		DHS 3-28-67	EDA	3-27-67	

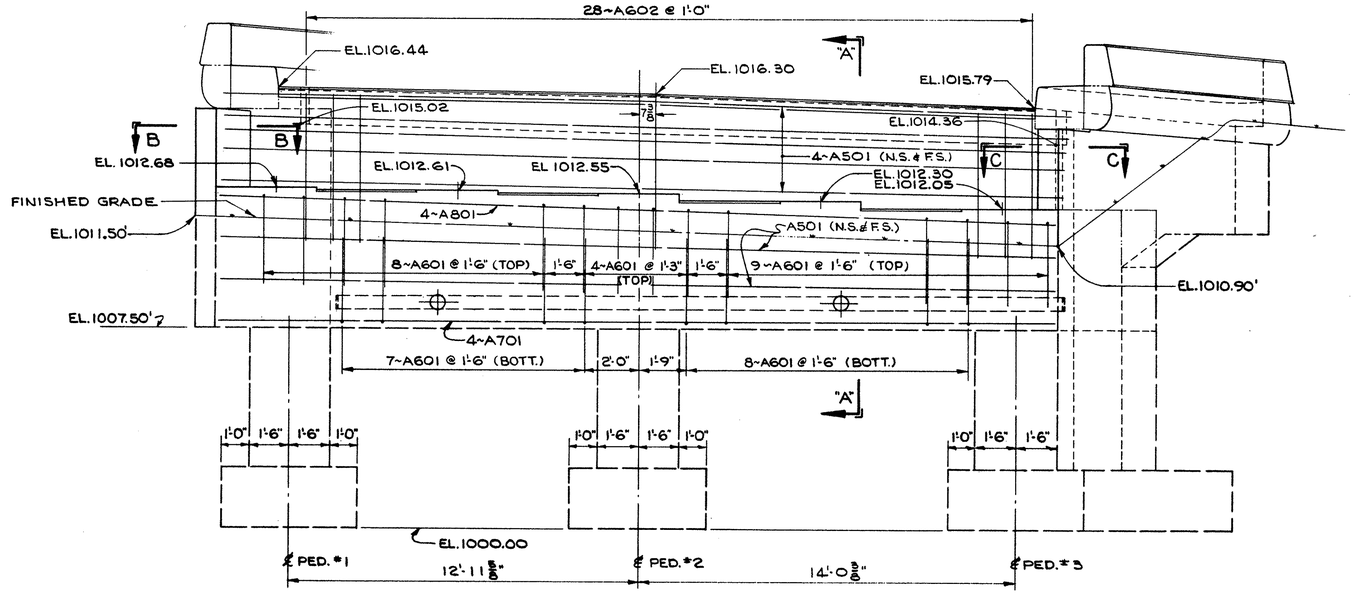
FED. RD.	STATE	PROJECT	
2	OHIO		

319
384

MAH - 80s - 7.01
MAH - 80 - 2.30



PLAN



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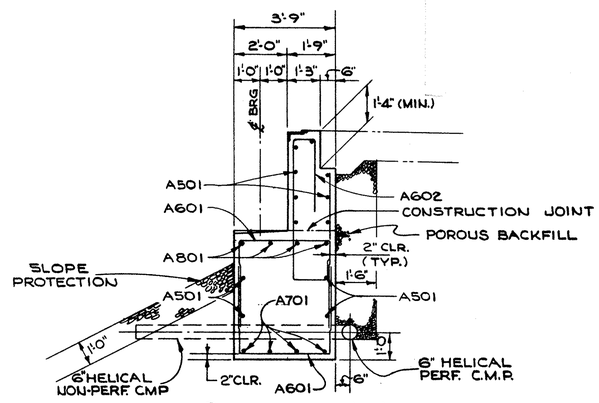


SECTION A-A

POROUS BACKFILL:
POROUS BACKFILL SHALL EXTEND FROM 0'-9" ABOVE BOTTOM OF CROSSBEAM TO THE UNDER SIDE OF THE APPROACH SLAB AND OUT TO THE FACE OF THE WINGWALLS.

Notes

A. SLOPE 3/4" FROM FACE OF ABUTMENT BACKWALL, BETWEEN BEAM SEATS.

B. FOR SECTIONS & DETAILS NOT SHOWN HERE SEE SHEET Nº 320

PROCEDURE: AFTER THE PEDESTALS HAVE BEEN CONSTRUCTED THE EARTH FILL SHALL BE PLACED AND COMPACTED UP TO THE HIEGHT OF THE FINISHED SPILLTHRU SLOPE AND TO THE LEVEL OF THE SUBGRADE, AFTER WHICH EXCAVATION SHALL BE MADE FOR THE CROSSBEAM

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

ABUTMENT DETAIL

BRIDGE NO. MAH-80-0148
SILICA ROAD OVER OHIO TURNPIKE
MAHONING COUNTY
LINE "A" STA. 415 + 07.20

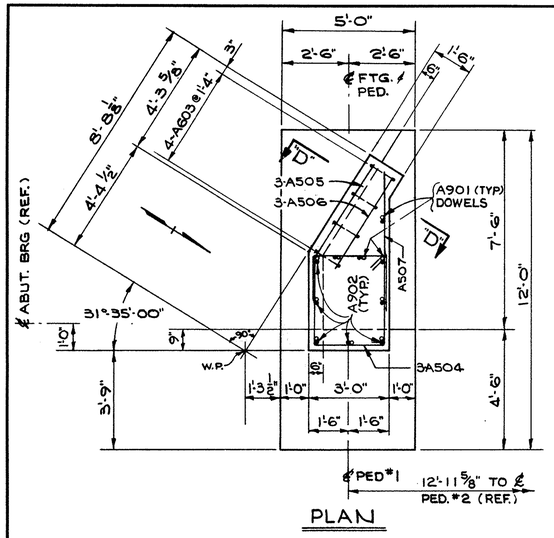
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
[illegible]	ALH		D.H.S. 3-29-67	EDH	3-27-67	

FORM DDA-6

FED. RD.	STATE	PROJECT	
2	OHIO		

320
384

MAH-80s-7.01
MAH-80-2.30



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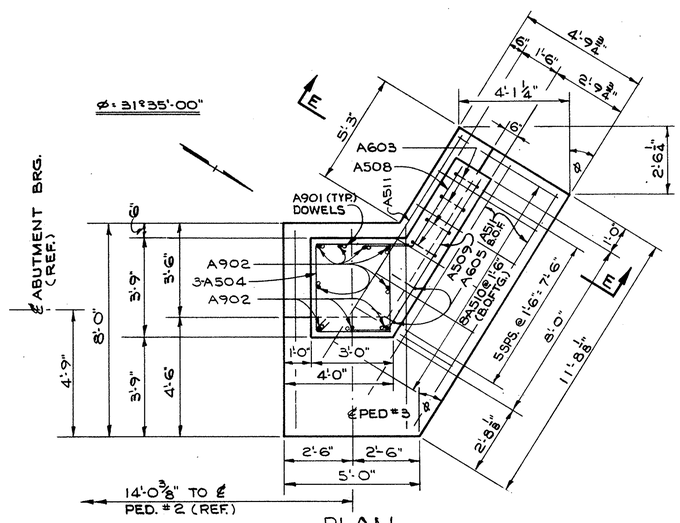

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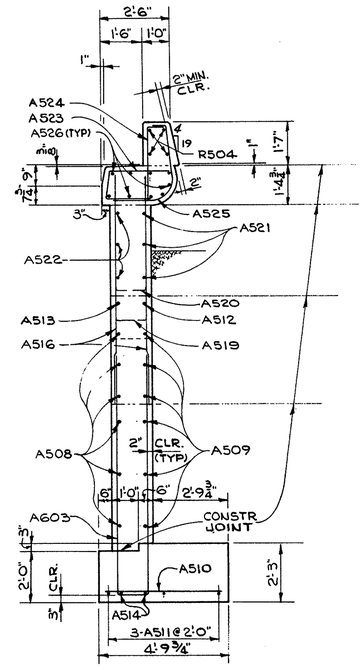
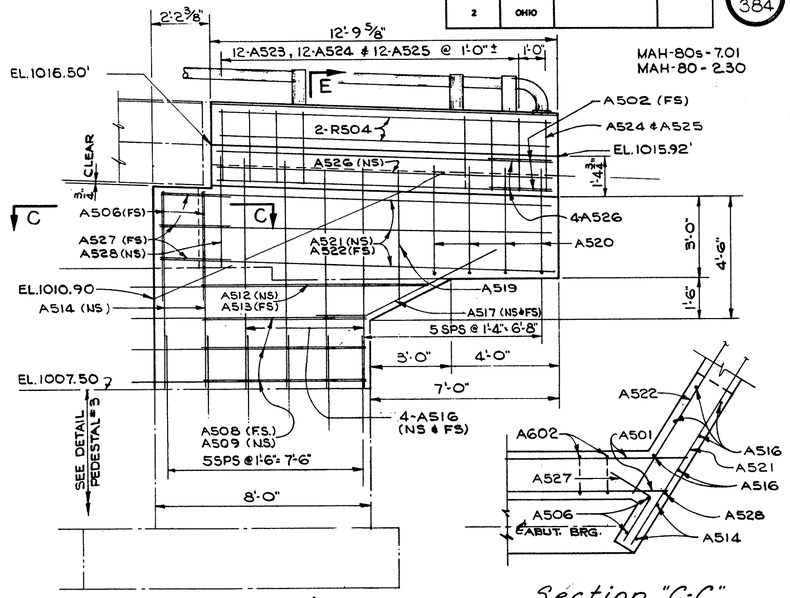
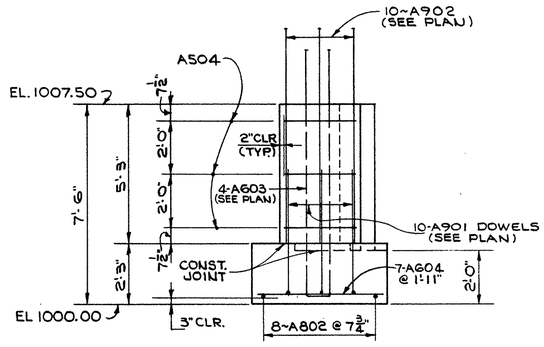


Section "E-E"



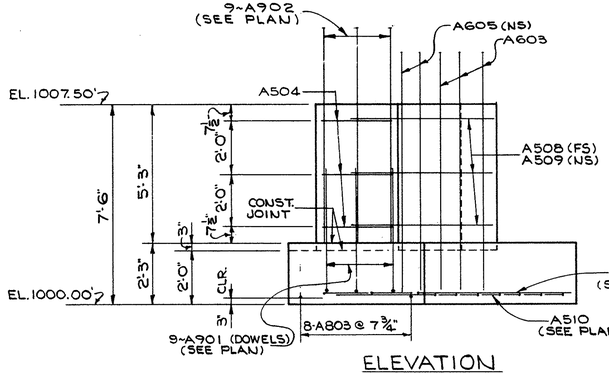
Detail North Wing Wall

Section "C-C"



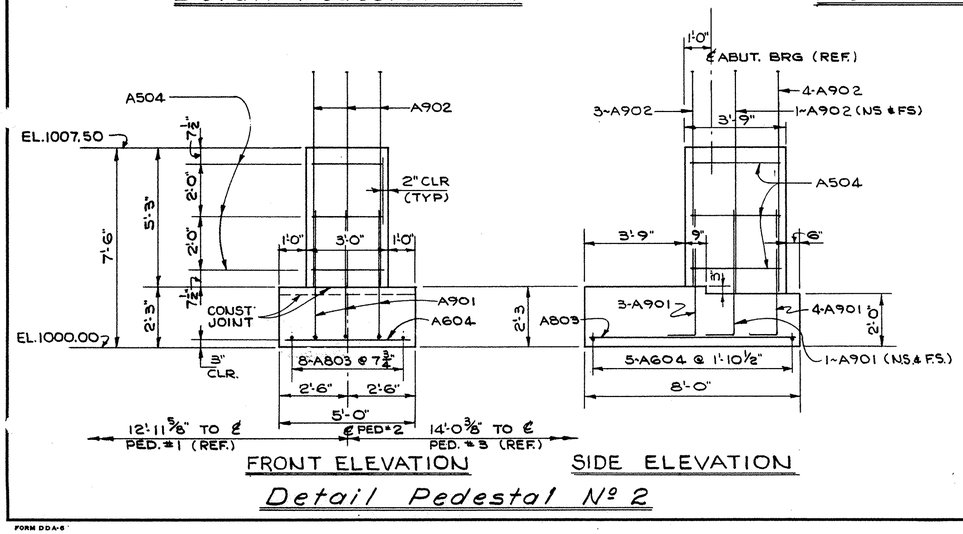
ELEVATION

Detail Pedestal No 1



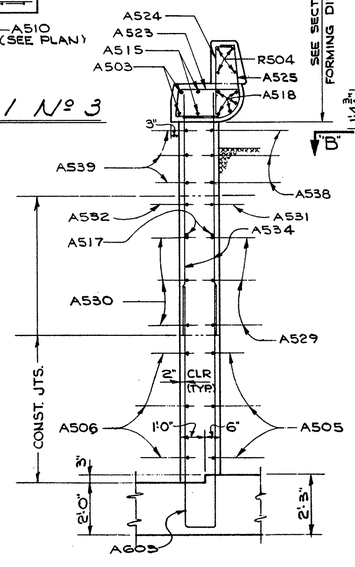
ELEVATION

Detail Pedestal No 3

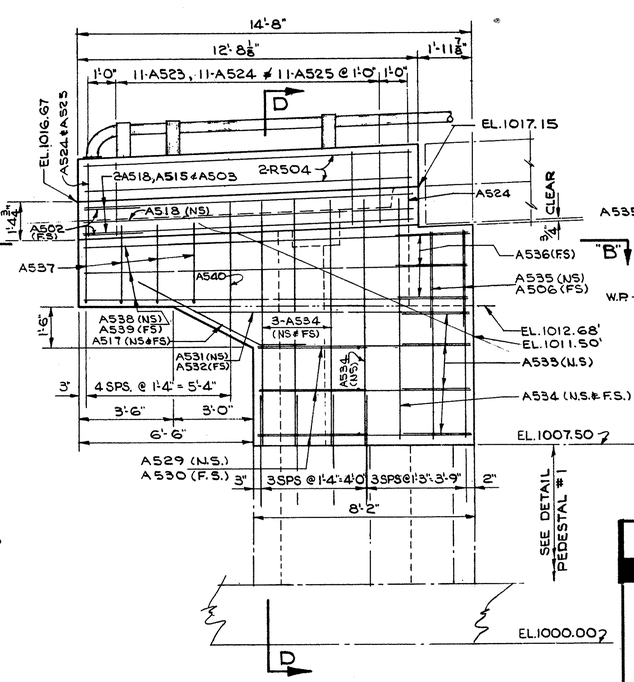


FRONT ELEVATION SIDE ELEVATION

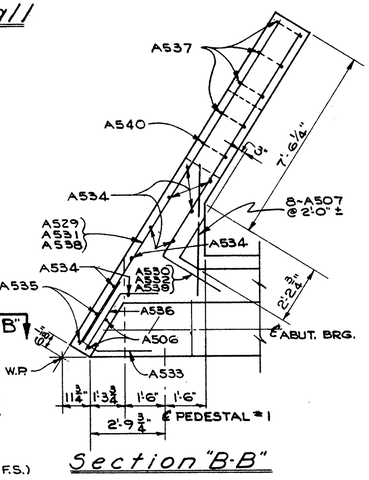
Detail Pedestal No 2



Section "D-D"



Detail South Wing Wall



Section "B-B"

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

ABUTMENT & WINGWALL SECTIONS & DETAILS

BRIDGE NO. MAH-80-0148
SILICA ROAD OVER OHIO TURNPIKE
MAHONING COUNTY
LINE "A" STA 415 + 07.20

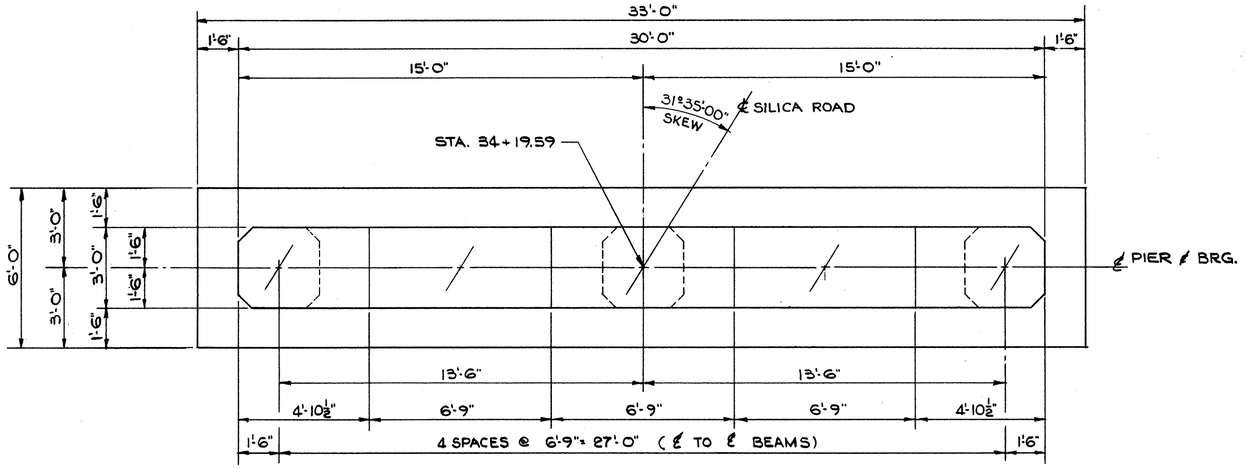
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	ALH		D.H.S. 3-23-67	RBH	3-27-67	

FORM DDA-8

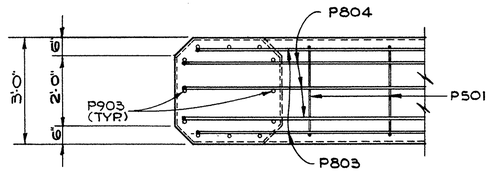
FED. RD.	STATE	PROJECT	
2	OHIO		

321
384

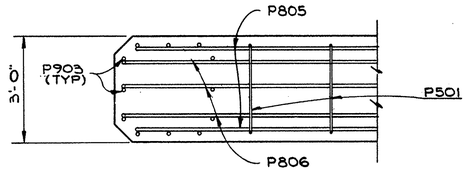
MAH - 80 S - 7.01
MAH - 80 - 2.30



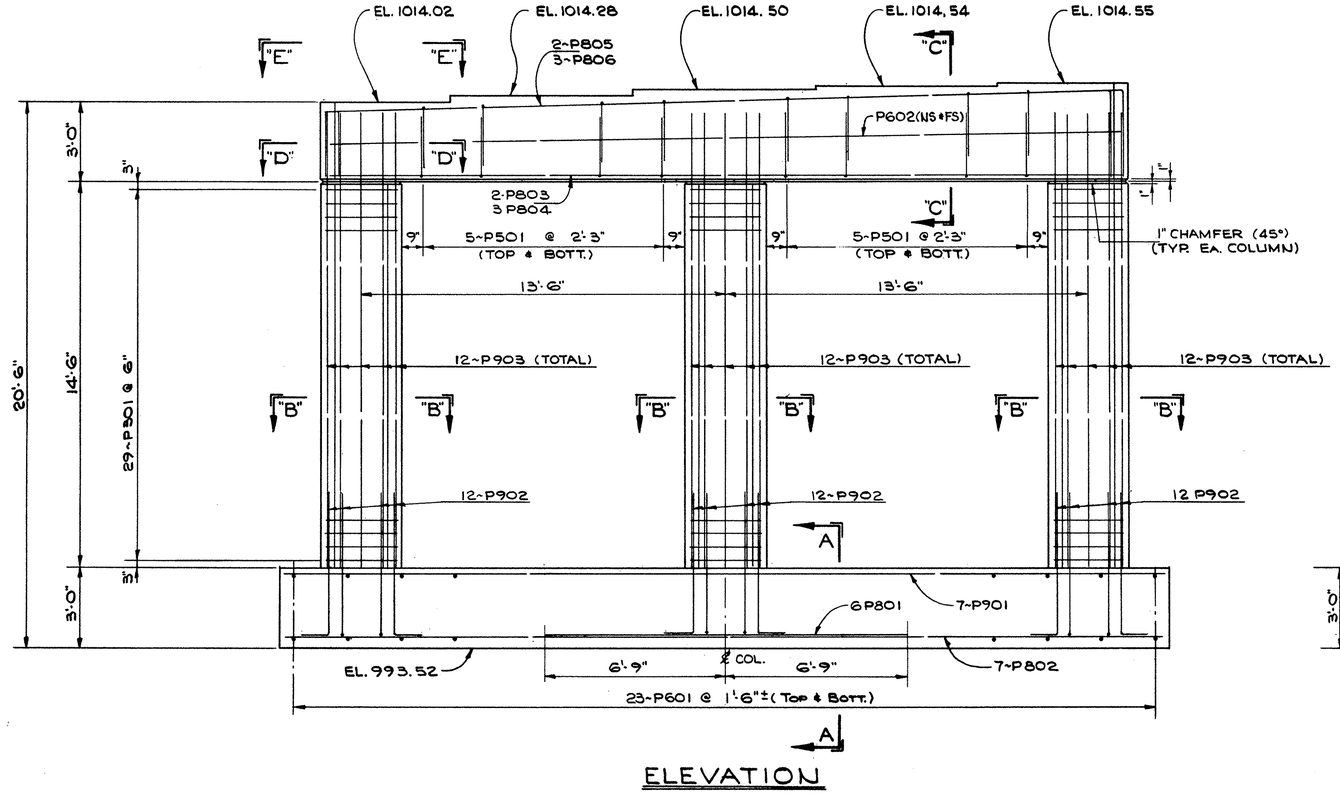
PLAN



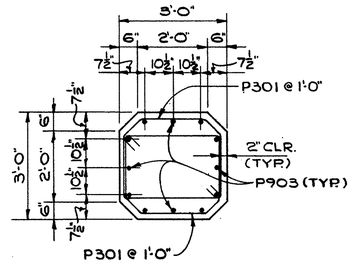
SECT. "D-D"



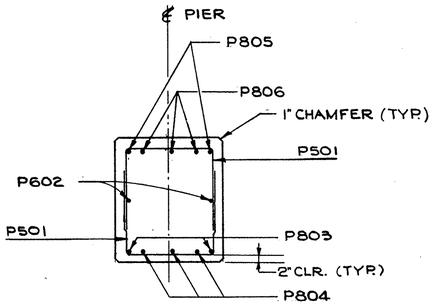
VIEW "E-E"



ELEVATION

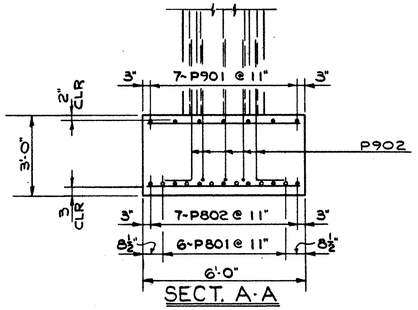


SECT. "B-B"



SECT. "C-C"

SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BAR HOLES.



SECT. A-A

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

PIER DETAIL

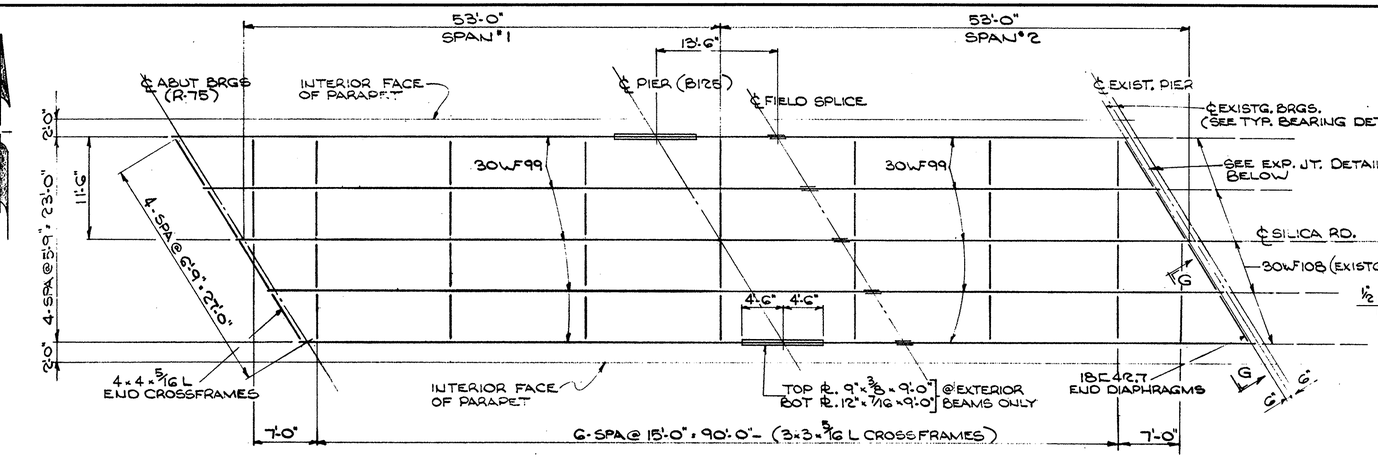
BRIDGE NO. MAH-80-0148
SILICA ROAD OVER OHIO TURNPIKE
MAHONING COUNTY
LINE "A" STA. 415 + 07.20

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
	ALH		DHS 3-27-67	RDH	3-27-67

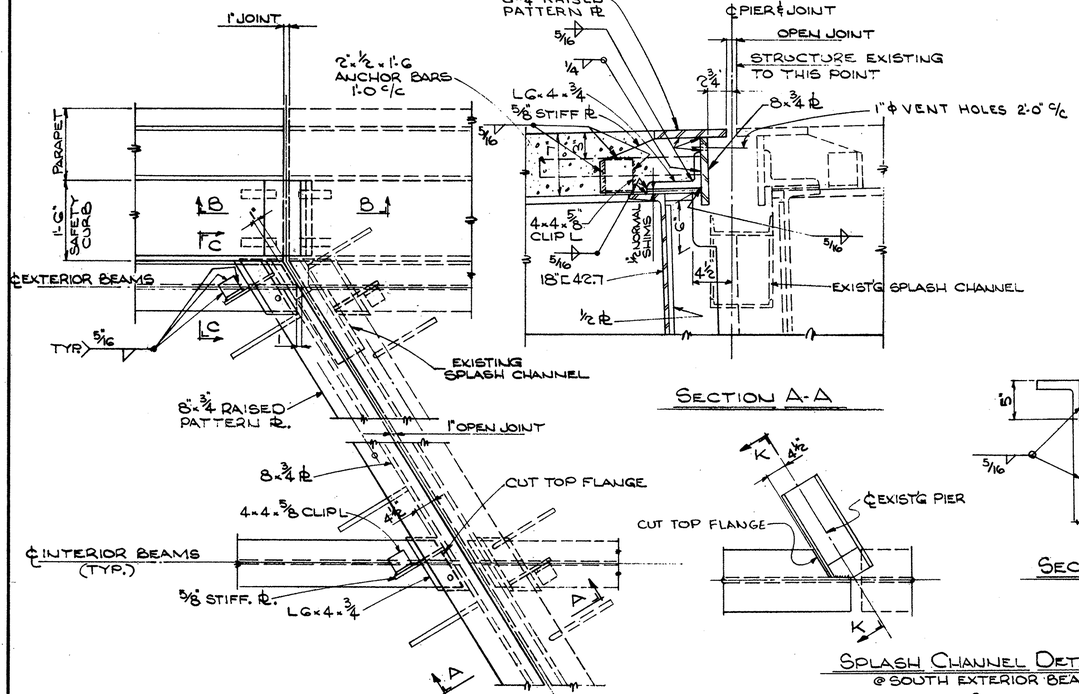
REVISED

FED. RD.	STATE	PROJECT	
2	OHIO		

322
384

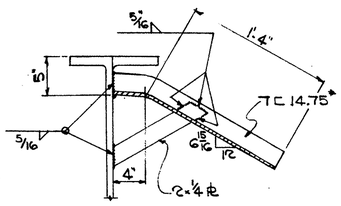


Framing Plan

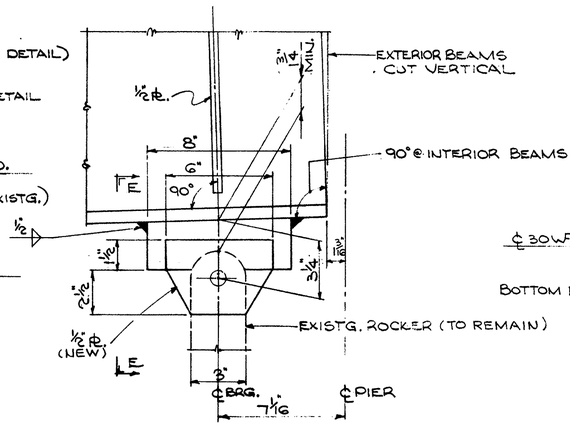


Section A-A

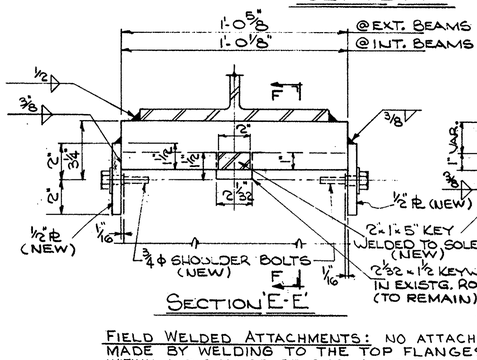
Splash Channel Details @ South Exterior Beam



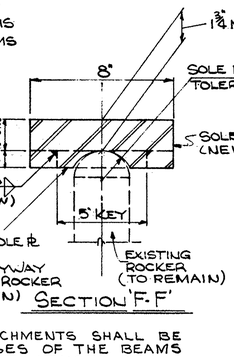
Section K-K



Detail 'A'

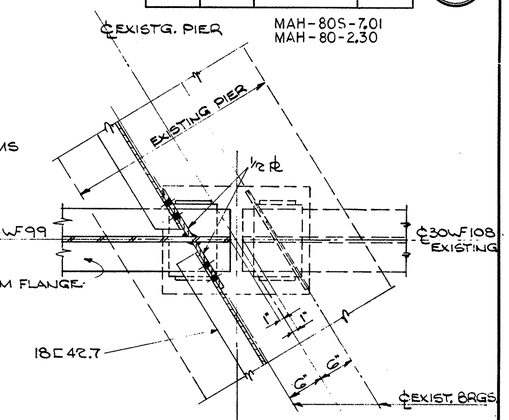


Section 'E-E'

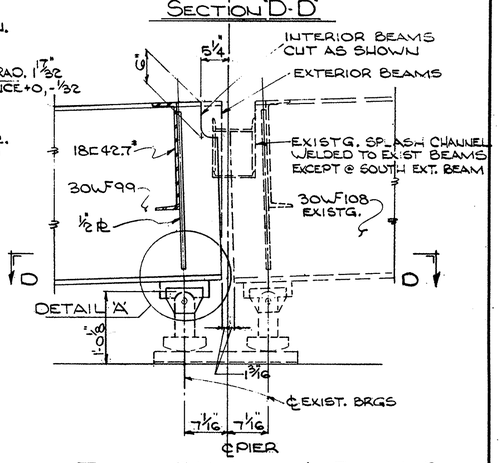


Section 'F-F'

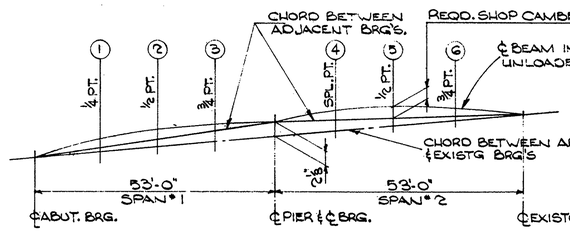
Field Welded Attachments: NO ATTACHMENTS SHALL BE MADE BY WELDING TO THE TOP FLANGES OF THE BEAMS WITHIN A DISTANCE OF 0.10 OF THE SPAN LENGTH ON EITHER SIDE OF THE INTERIOR SUPPORTS. WELDING FOR ATTACHMENTS TO THE TOP FLANGES AT OTHER PARTS OF THE SPANS SHALL BE KEPT AT LEAST 2" FROM EDGE OF FLANGE.



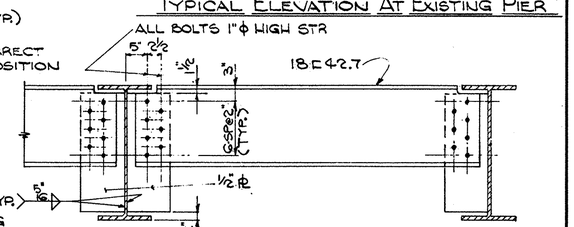
Section 'D-D'



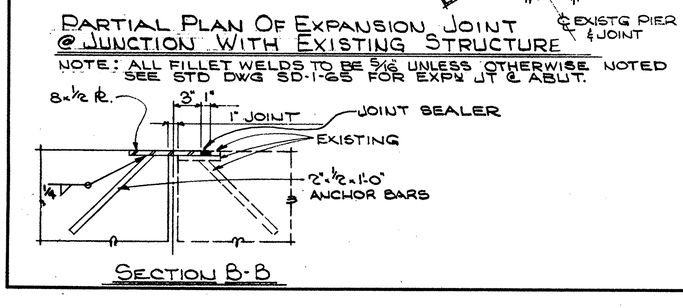
Typical Elevation At Existing Pier



Layout Diagram



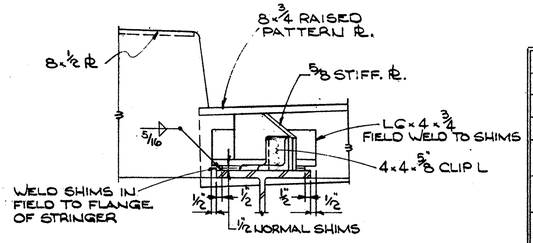
Section 'G-G'



Partial Plan Of Expansion Joint @ Junction With Existing Structure

NOTE: ALL FILLET WELDS TO BE 5/16 UNLESS OTHERWISE NOTED SEE STD DWG SD-1-65 FOR EXPN JT @ ABUT.

Section B-B



Section 'C-C'

Deflection & Camber Table

	SPAN #1						SPAN #2					
LOCATION	1/4 PT.	(1)	1/2 PT.	(2)	3/4 PT.	(3)	SPL.	(4)	1/2 PT.	(5)	3/4 PT.	(6)
BEAMS	EXT.	INT.	EXT.	INT.	EXT	INT.	EXT.	INT.	EXT.	INT.	EXT.	INT.
DEFLECTION DUE TO WEIGHT OF STEEL	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"
DEFLECTION DUE TO REMAINING DEAD LOAD	3/8"	1/4"	7/16"	5/16"	3/16"	1/8"	3/16"	1/8"	7/16"	5/16"	3/8"	1/4"
ADJUSTMENT REQUIRED FOR VERTICAL CURVE	3/8"	3/8"	1/2"	1/2"	3/8"	3/8"	3/8"	3/8"	1/2"	1/2"	3/8"	3/8"
REQUIRED SHOP CAMBER	13/16"	11/16"	1"	7/8"	5/8"	9/16"	5/8"	9/16"	1"	7/8"	13/16"	11/16"

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

FRAMING DETAILS

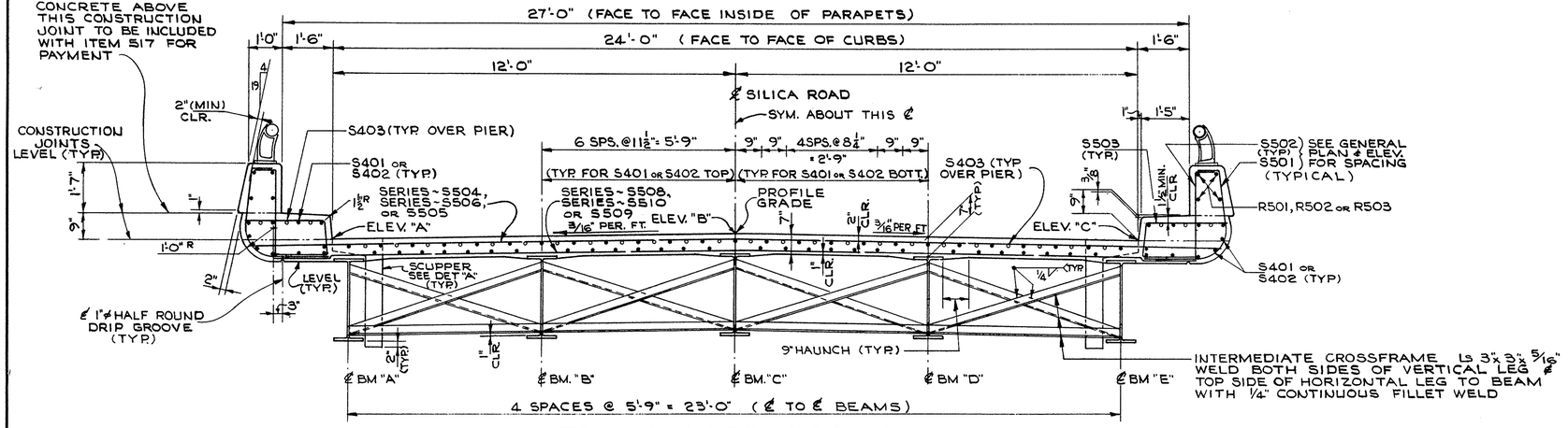
BRIDGE NO. MAH-80-0148
SILICA ROAD OVER OHIO TURNPIKE
MAHONING COUNTY
LINE 'A' STA. 415 + 07.20

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WHC	JWW		DHS 3-24-67	RDH	3-27-67	

FED. RD.	STATE	PROJECT	
2	OHIO		

323
384

MAH - 80s - 7.01
MAH - 80 - 2.30



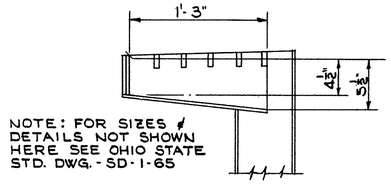
TRANSVERSE SECTION

ELEVATIONS @ 25' INTERVALS			
LOCATION	ELEV. "A"	ELEV. "B"	ELEV. "C"
STA 33+75	1016.57	1016.74	1016.55
STA 34+00	1017.60	1017.79	1017.62
STA 34+25	1018.53	1018.72	1018.52
STA 34+50	1019.44	1019.62	1019.44
STA 34+75	——	——	1020.23

(SEE NOTES "A" ℄ "B")

NOTE "A" THE ELEVATIONS SHOWN ARE THOSE WHICH ARE REQUIRED BEFORE THE CONCRETE DECK IS POURED.

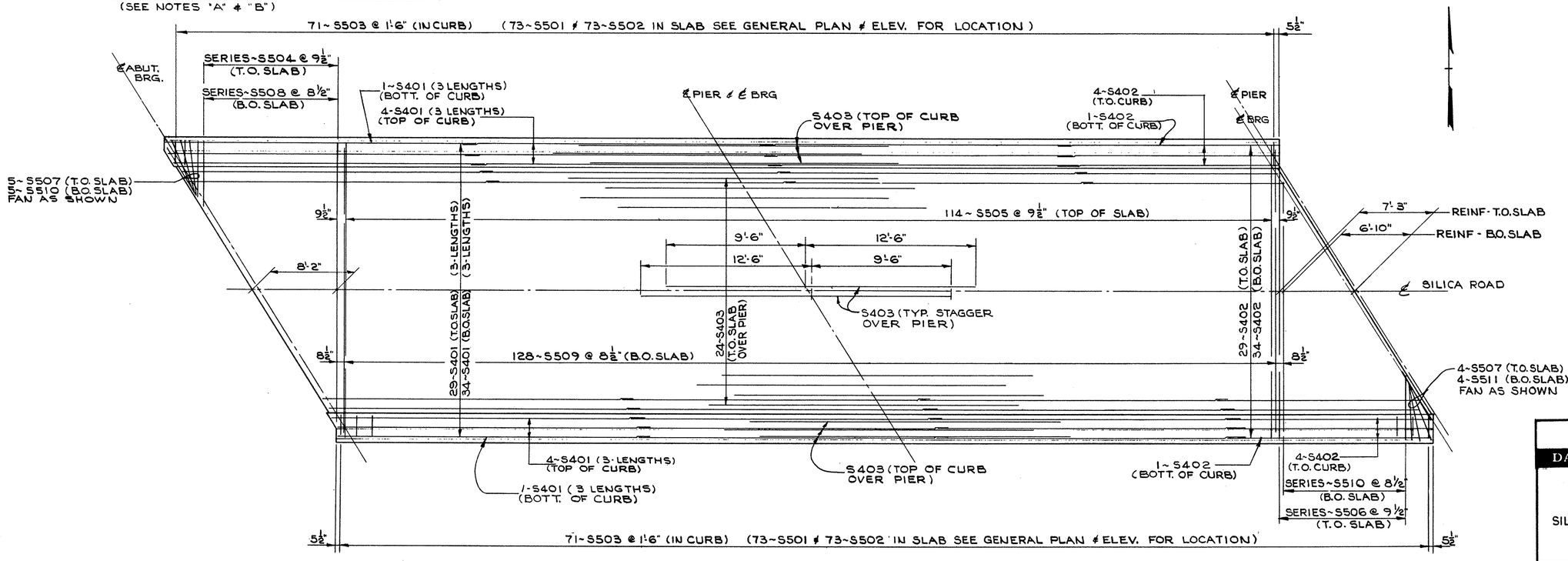
NOTE "B" PROPER ALLOWANCE HAS BEEN MADE FOR THE DEAD LOAD DEFLECTIONS CAUSED BY THE WEIGHT OF CONCRETE.



NOTE: FOR SIZES ℄ DETAILS NOT SHOWN HERE SEE OHIO STATE STD. DWG. - SD-1-65

Detail "A"

SLAB THICKNESS SHOWN INCLUDES 1" FOR MONOLITHIC WEARING SURFACE.
A TYPICAL HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6" AND 12" PROVIDED THAT THE SLOPE SHALL BE NOT MORE THAN 1:4 FOR A HAUNCH LESS THAN 9" IN WIDTH.



SLAB - PLAN

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

SLAB DETAIL

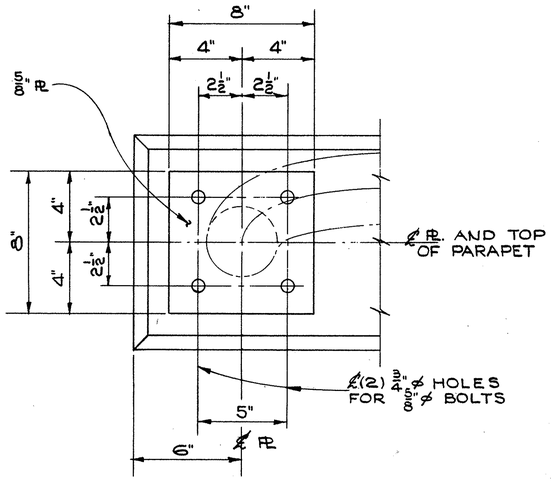
BRIDGE NO. MAH-80-0148
SILICA ROAD OVER OHIO TURNPIKE
MAHONING COUNTY
LINE "A" STA 415 + 07.20

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JJC	ALH		DHS 5-25-67	RBH	5-27-67	

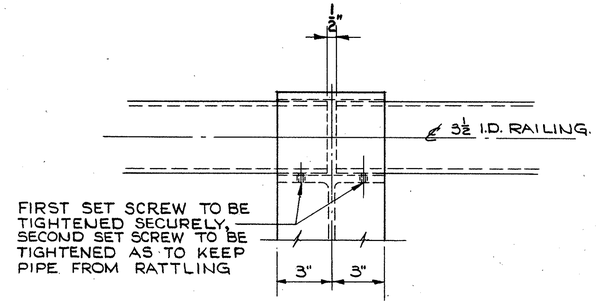
FED. RD.	STATE	PROJECT	
2	OHIO		

324
384

MAH.-80s-7.01
MAH.-80-2.30

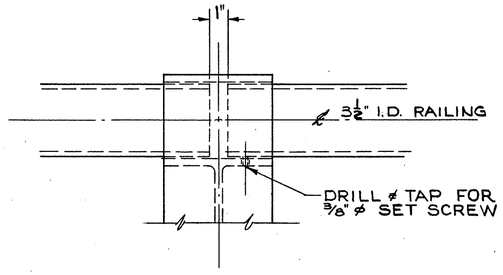


SECTION A-A

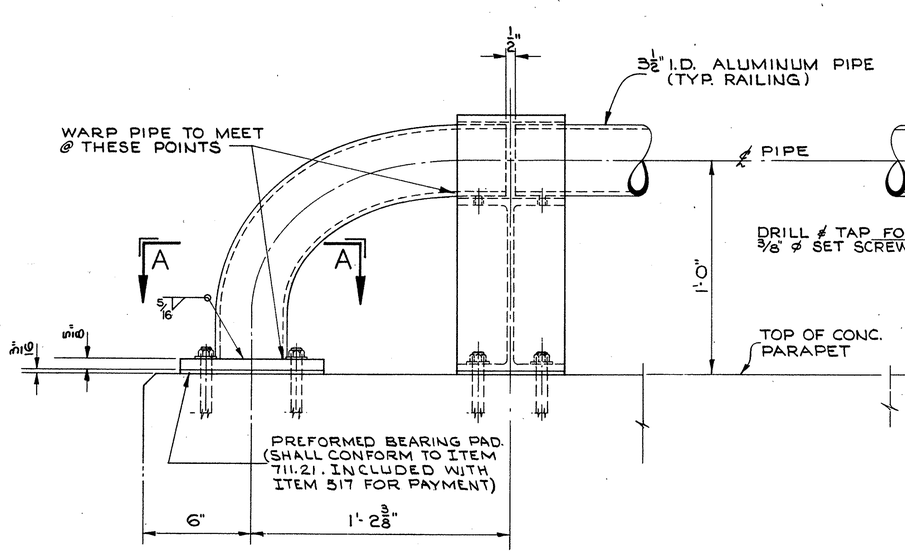


Typical Slip Joint

SLIP JOINTS TO BE PROVIDED AT EVERY THIRD POST. RAILING TO BE CONTINUOUS BETWEEN THESE SLIP JOINTS.



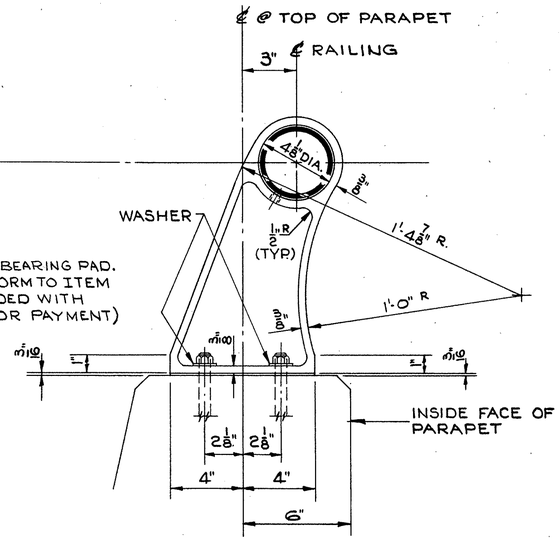
Expansion Joint Detail ②



Railing Detail ①-End Parapet

Railing Detail

(Typical Post)



Typical Railing Section

Note:
SEE STATE OF OHIO STANDARD DRAWING BR-1-65 (REV. 11-24-65) FOR INFORMATION NOT SHOWN HERE.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

RAILING DETAILS
BRIDGE NO. MAH-80-0148
SILICA ROAD OVER OHIO TURNPIKE
MAHONING COUNTY
LINE "A" STA. 415 + 07.20

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
[illegible]	ALH		D.H.S. 3-28-67	[illegible]	3-27-67	

FED. RD.	STATE	PROJECT	
2	OHIO		

325
384

MAH-80s-7.01
MAH-80-2.50

ABUTMENT

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.
A501	12	31'-0"	ST						388
A502	4	5'-10"	26	SEE BENDING SCHEDULE					24
A503	2	10'-9"	ST						22
A504	9	12'-6"	14	3'-5"	2'-8"	4"			117
A505	3	5'-9"	12	4'-0"	1'-9"	11"			18
A506	7	4'-6"	ST						33
A507	8	5'-0"	ST						42
A508	6	6'-7	12	4'-6"	1'-9"	11"			39
A509	6	9'-6"	12	7'-9"	1'-9"	11"			59
A510	8	4'-5"	ST						37
A511	3	11'-4"	ST						35
A512	1	12'-6"	12	10'-9"	1'-9"	11"			13
A513	1	9'-6"	12	7'-9"	1'-9"	11"			10
A514	4	7'-4"	ST						31
A515	2	11'-6"	ST.						24
A516	8	8'-9"	ST.						73
A517	4	7'-0"	12	5'-0"	2'-0"	11"			29
A518	5	12'-4"	ST.						64
A519	1	11'-5"	3	1'-2"	5'-3"				12
A520	4	8'-11"	3	1'-2"	4'-0"				37
A521	3	14'-8"	ST						46
A522	3	12'-9"	ST						40
A523	23	4'-7"	16	1'-0"	1'-7"	2'-3"			110
A524	26	3'-3"	1	8"	2'-8"				88
A525	25	5'-5"	24	SEE BENDING SCHEDULE					141
A526	9	12'-5"	ST.						117
A527	3	3'-9"	1	1'-11"	1'-11"				12
A528	1	4'-0"	ST.						4
A529	3	7'-9"	ST						24
A530	3	5'-9"	1	2'-6"	3'-4"				18
A531	1	9'-6"	ST						10
A532	1	8'-0"	1	2'-6"	5'-7"				8
A535	4	5'-6"	25	2'-6"	8"	2'-6"	4		23
A534	9	9'-0"	ST.						84
A535	2	8'-0"	ST						17
A536	3	4'-1"	12	2'-4"	1'-9"	1'-6"			13
A537	4	7'-11"	3	1'-2"	3'-6"				33
A538	3	14'-4"	ST.						45
A539	3	12'-3"	1	2'-6"	9'-10"				38
A540	1	10'-5"	3	1'-2"	4'-9"				11
A601	36	10'-1"	3	3'-5"	3'-6"				545
A602	28	12'-8"	7	3'-8"	1'-5"	5'-4"	11"		533
A603	8	19'-3"	3	1'-2"	9'-2"				231
A604	12	4'-8"	ST						84
A605	2	10'-1"	1	1'-0"	9'-2"				30
A701	4	31'-0"	ST.						253
A801	4	31'-0"	ST						331
A802	8	11'-6"	ST						246
A803	16	7'-8"	ST						328
A901	28	5'-10"	1	1'-3"	4'-10"				555
A902	28	8'-4"	ST						793

ABUTMENT TOTAL 5,918 LBS

PIER

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.
P301	87	9'-9"	22	SEE BENDING SCHEDULE					319
P501	20	7'-5"	3	2'-8"	2'-6"				155
P601	46	5'-8"	ST						392
P602	2	28'-5"	ST						85
P801	6	13'-6"	ST						216
R802	7	32'-8"	ST						611
P803	2	28'-5"	ST						152
P804	3	29'-8"	ST						238
P805	2	33'-7"	4	3'-0"	28'-5"	2'-6"			179
P806	3	34'-10	4	3'-0"	29'-8"	2'-6"			279
P901	7	32'-8"	ST						777
P902	36	6'-9"	1	1'-5"	5'-9"				826
P903	36	17'-4"	ST						2122

PIER TOTAL 6,351 LBS

SUPERSTRUCTURE

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.
S401	219	30'-0"	ST						4389
S402	73	23'-0"	ST						1122
S403	30	22'-0"	ST						441
S501	146	5'-5"	24	SEE BENDING SCHEDULE					825
S502	146	3'-1"	1	8"	2'-7"				470
S503	142	4'-8"	16	1'-0"	1'-7"	2'-3"			691
SERIES S504	(1) SET OF 17 BARS	7'-0" TO 27'-6	ST					1'-3 3/8"	306
S505	114	28'-6"	ST						3389
SERIES S506	(1) SET OF 16 BARS	7'-0" TO 26'-3"	ST					1'-3 3/8"	277
S507	9	6'-0"	ST						56
SERIES S508	(1) SET OF 19 BARS	5'-10" TO 26'-6"	ST					1'-1 3/4"	320
S509	128	27'-6"	ST						3671
SERIES S510	(1) SET OF 17 BARS	6'-4" TO 24'-9"	ST					1'-1 3/4"	276
S511	9	5'-0"	ST						47

SUPERSTRUCTURE TOTAL 16,280 LBS

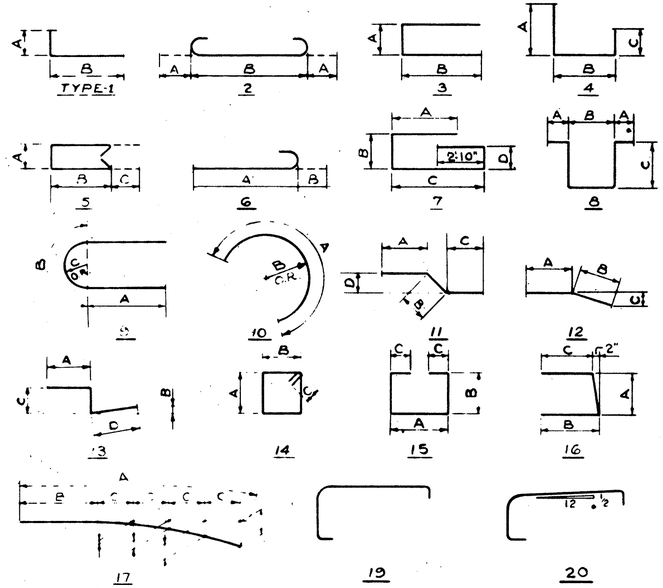
RAILING ⊛

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.
R501	56	11'-4"	ST						
R502	8	12'-11"	ST						
R503	8	11'-1"	ST						
R504	8	12'-4	ST						

REPLACEMENT BARS

RE-301	1	5'-1"	ST
RE-401	1	6'-3"	ST
RE-501	1	6'-6"	ST
RE-601	1	7'-0	ST
RE-701	1	7'-3	ST
RE-801	1	7'-6"	ST
RE-901	1	7'-10"	ST
RE-1001		8'-3"	ST
RE-1101		8'-9"	ST

GRAND TOTAL 28,549 LBS.



REINFORCING NOTES

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED INDICATE THE BAR SIZE NUMBER. A-601 IS A NO. 6 SIZE BAR AND P-1001 IS A NO. 10 SIZE BAR.

⊛RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 517 FOR PAYMENT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

REINFORCING SCHEDULE

BRIDGE NO. MAH-80-0148
SILICA ROAD OVER OHIO TURNPIKE
MAHONING COUNTY
LINE "A" STA 415 + 07.20

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WMC	ALH		DHS. 3-29-67	WBH	3-27-67	

FED. RD.	STATE	PROJECT	
2	OHIO		

326
384

MAH-80 S-7.01
MAH-80-2.30

CURVE DATA

℄ LINE "A"

C.S. STA. 435+67.12
L_S = 200'
θ_S = 8°12'-44"
LT = 133.48'
ST = 66.80'

P.I. STA. 444+43.91
Δ = 27°14'-35"
D_C = 4°00'-00"
R = 1432.69'
T = 347.10'
L_C = 681.07'

PROPOSED STRUCTURE

TYPE: CONTINUOUS WELDED STEEL PLATE GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SKEW: 30°-00'-00" R.F.
SPANS: 63'-6" - 97'-6" - 78'-0" - 50'-9" c/c BRGS.
ROADWAY: 53'-0" = 2 PARAPETS - 3 MEDIAN
WEARING SURFACE: 1" MONOLITHIC.
LOAD FREQUENCY: CF = 2,000 ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING
APPROACH SLABS: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT AND 4°00'-00" CURVE RT.
SUPERELEVATION: TRANSITION
SLOPE PROTECTION: CRUSHED AGGREGATE. (601.05)

TRAFFIC: OHIO TURNPIKE: 35,778 - A.D.T.-1985
LINE-"A": 3,177-A.D.T.-1985

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

SITE PLAN

BRIDGE NO MAH-80-0186
LINE A OVER OHIO TURNPIKE
I-80 MAHONING COUNTY
STA. 104 + 25.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.A.H.	KENNEDY		E.A.H.	DH	3-23-67	

EB. EL. 1012.10
WB. EL. 1012.11
EB. EL. 1011.85
WB. EL. 1011.87
EB. EL. 1011.59
WB. EL. 1011.65
EB. EL. 1011.36
WB. EL. 1011.41
EB. EL. 1011.11
WB. EL. 1011.15
EB. EL. 1010.86
WB. EL. 1010.94

EXISTING PROFILE GRADE ℄ PAVEMENT
TOP OF ROCK
EXISTING PROFILE GRADE ℄ OHIO TURNPIKE.

103+00
104+00
105+00

ST. STA. 437+67.12
NOSE: 17" HT. ℄ STA. 101+50.15
25'-1200' TAPER
63'-6" ℄ EBS. BOUND LANES
℄ OHIO TURNPIKE
EXISTING MEDIAN 56' 103
97'-6"
78'-0"
50'-9"
MEASURED ALONG MAIN TANGENT.
℄ WBS. BOUND LANES.
STA. 104+25.00 ℄ EXISTING OHIO TURNPIKE = STA. 439+88.94 LINE "A"
HORIZ. CLEARANCE: 70'-0" EQD. TO 1'-1" ACTUAL
LIGHT STD. STA. 439+94.00
SLOPE PROTECTION
PARAPETS
℄ LINE "A"
END APPROACH SLAB STA. 438+25.34
BEGIN APPROACH SLAB STA. 441+20.40
438
439
440
441
442
160'-0"
HORIZ. CLEARANCE: 140'-0" EQD. 14.05 SKEW
PT. OF MIN. VERT. CLEARANCE
PC. STA. 440+96.19
15' DIA CULVERT ℄
30°-00'-00" SKEW
EXISTING R/W
EXISTING PIPE
EXISTING R/W
VARIES
8:1
2:1
1:2
4:1
1012
1010
1008
1006
1004
1002
1000

VERTICAL CLEARANCE:
DESIGN = 16.50'; ACTUAL = 16.34'

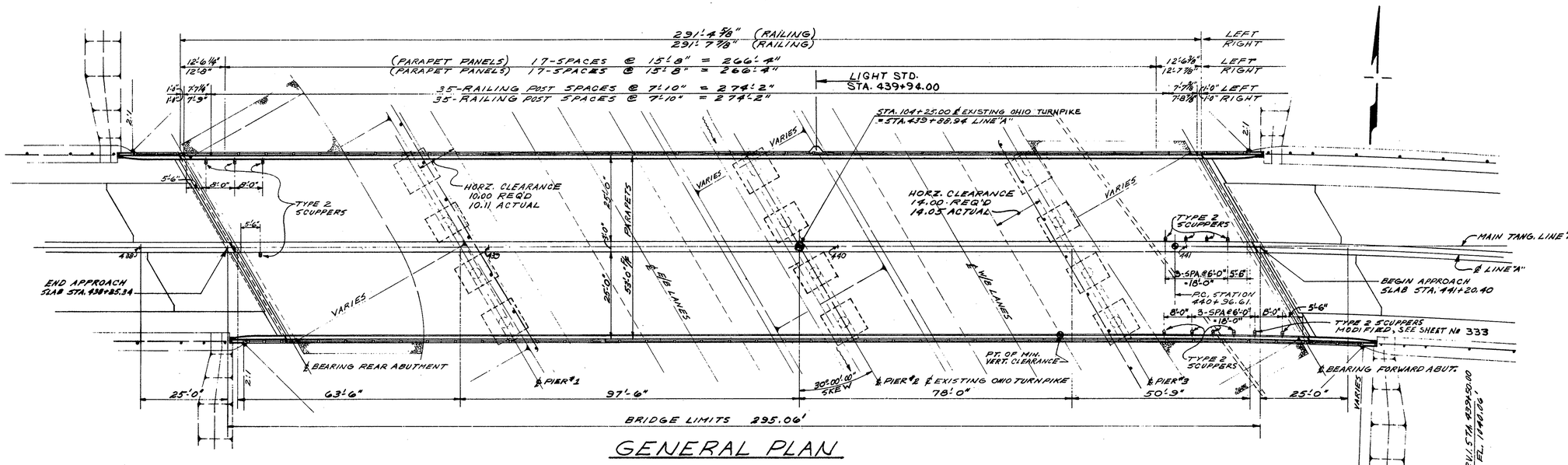
AVERAGE ESTIMATED PAY LENGTH FOR 10BP42 STEEL PILE ABUTMENTS — REAR 25'-0"
FORWARD 20'-0"

EL. 1034.91
END APPROACH SLAB STA. 438+25.34
EL. 1035.22
EL. 1035.25
PVI. STA. 439+50.00
EL. 1040.06
P.G. EL. 1035.00
EL. 1034.47
EL. 1033.65
EL. 1032.56
PT. STA. 441+20.40
BEGIN APPROACH SLAB
EL. 1031.18
EL. 1029.52
+2.594%
- 4.16%
600' V.C.
BRIDGE LIMITS = 295.06'
TYPE-1-RAILING
PROPOSED PROFILE GRADE
EL. LT. 1027.6
RT. 1028.1
EL. LT. 1026.5
RT. 1022.5
EL. LT. 1018.0
RT. 1016.5
EXISTING PROFILE LINE "A"
TOP OF ROCK
EL. 1021.5
EL. 1003.0
EL. 1002.0
EL. 1000.0
1020
1000
438+00
439+00
440+00
441+00
442+00

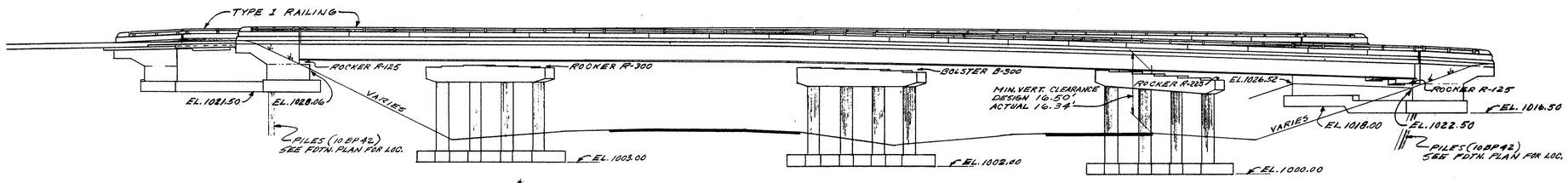
FED. RD.	STATE	PROJECT	
2	OHIO		

327
384

MAH-80S-7.01
MAH-80-2.30



GENERAL PLAN



ELEVATION

100% State Partic.

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIERS	GEN'L
503	LUMP	SUM	COFFERDAMS, CRIBS & SHEETING			LUMP	
503	661	CU. YD.	UNCLASSIFIED EXCAVATION		369	292	
503	39	CU. YD.	SHALE EXCAVATION			39	
505	LUMP	SUM	FIRST TEST PILE		LUMP		
507	960	LIN. FT.	STEEL PILES, 10BP42		960		
509	228,755	LBS.	REINFORCING STEEL	153,699	17,941	57,115	
511	515	CU. YD.	CLASS "C" CONCRETE, SUPERSTRUCTURE	515			
511	147	CU. YD.	CLASS "C" CONCRETE, PIERS ABOVE FOOTINGS			147	
11	230	CU. YD.	CLASS "E" CONCRETE, FOOTINGS		110	120	
511	167	CU. YD.	CLASS "E" CONCRETE, ABUTMENTS ABOVE FOOTINGS		167		
512	21	LIN. FT.	PREMOLDED SEALING STRIP		21		

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIERS	GEN'L
513	450,400	LBS.	STRUCTURAL STEEL	450,400			
832	450,400	LBS.	FIELD PAINTING OF STRUCTURAL STEEL	450,400			
517	651.99	LIN. FT.	RAILING (TYPE 1)	584.41	67.58		
518	68	CU. YD.	POROUS BACKFILL		68		
518	114	LIN. FT.	6" HELICAL PERFORATED C.M. PIPE, INCL. SPECIALS (707.06)		114		
518	73	LIN. FT.	6" HELICAL NONPERFORATED C.M. PIPE, INCL. SPECIALS (707.06)		73		
518	14	EACH	SCUPPERS INCLUDING SUPPORTS	14			
601	751	SQ. YDS.	CRUSHED AGGREGATE SLOPE PROTECTION		751		
625			See sheet 247 for lighting summary.				
808	515	UNITS	WATER-REDUCING, SET-RETARDING ADMIXTURE	515			
825	2027	SQ. YDS.	CONCRETE SURFACE TREATMENT	1,963	64		
828	112	LIN. FT.	JOINT SEALER	112			

QUANTITIES CHECKED BY D.H.S. 2-15-67

NOTES:

EMBANKMENT PROCEDURE:

THE EMBANKMENT SHALL BE PLACED AND COMPACTED UP TO THE FINISHED SPILL-THRU SLOPE AND TO THE LEVEL OF THE SUBGRADE FOR A DISTANCE OF 200 FEET BACK OF THE ABUTMENTS, AFTER WHICH EXCAVATION SHALL BE MADE FOR THE ABUTMENTS, AND FOR PIERS NO. 1 & 3.

ABBREVIATIONS USED

N.F. —— NEAR FACE
F.F. —— FAR FACE
E.F. —— EACH FACE

FOR ADDITIONAL NOTES SEE SHEET No. 283

EXCAVATION QUANTITY INCLUDES THE REMOVAL OF FILL MATERIAL REQUIRED FOR THE CONSTRUCTION OF ABUTMENTS & PIERS.

SEE SHEET NO. 348 FOR LIGHT STANDARD SUPPORT DETAILS.

See sheet 285 for guardrail attachment to parapet.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

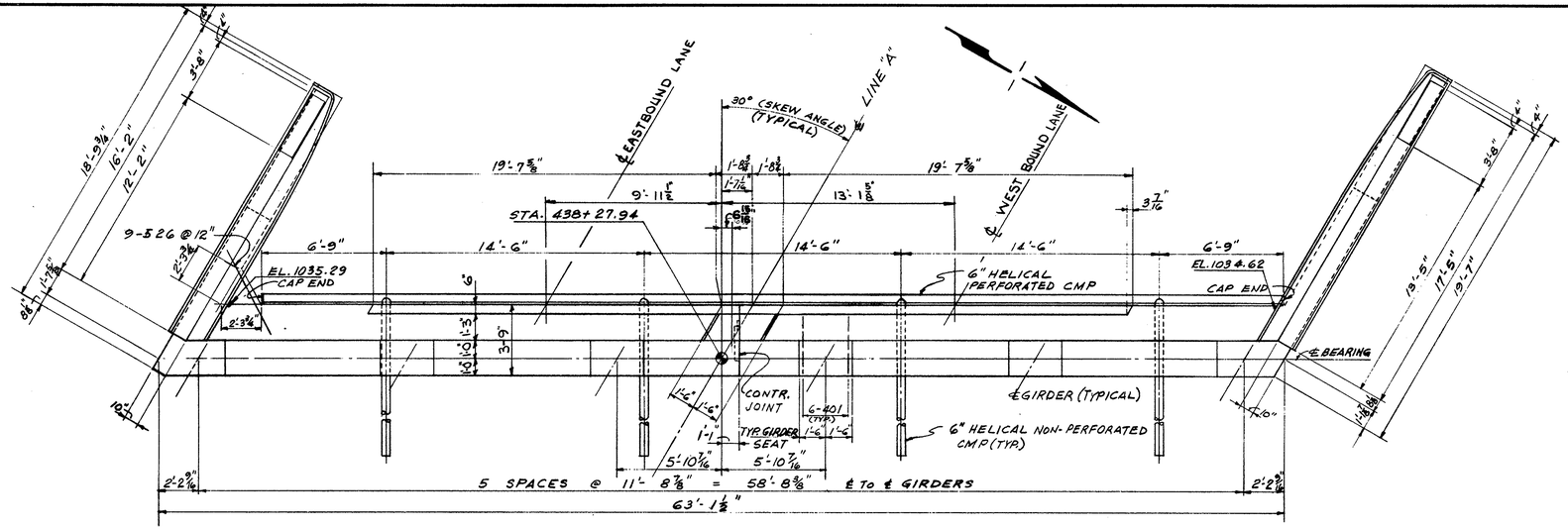
GENERAL PLAN & ELEVATION
BRIDGE NO. MAH-80-0186
LINE "A" OVER OHIO TURNPIKE
I-80 MAHONING COUNTY
STA. 104+25.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAH	R.J.P.		E.A.H		3-23-67	

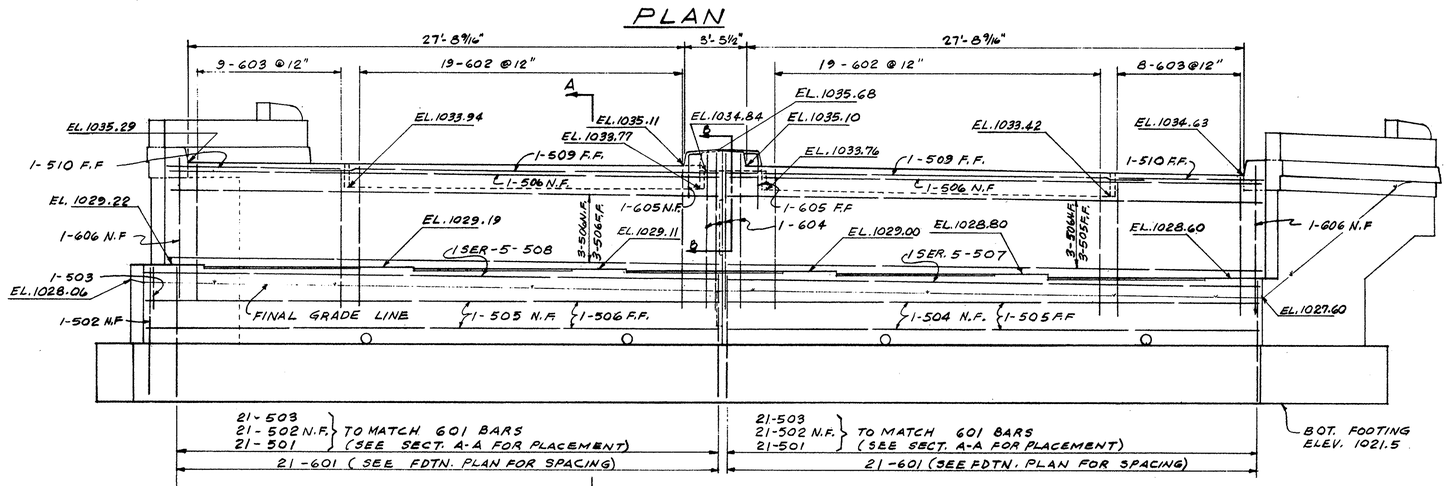
FED. RD.	STATE	PROJECT	
2	OHIO		

328
384

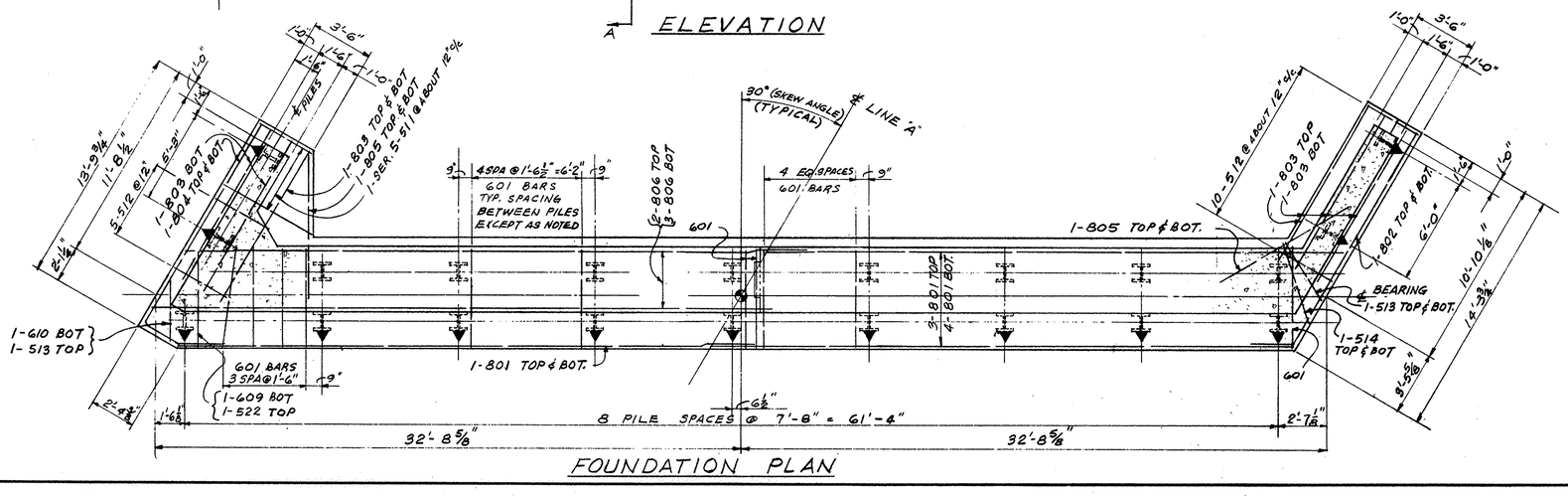
MAH-80S-7.01
MAH-80-2.30



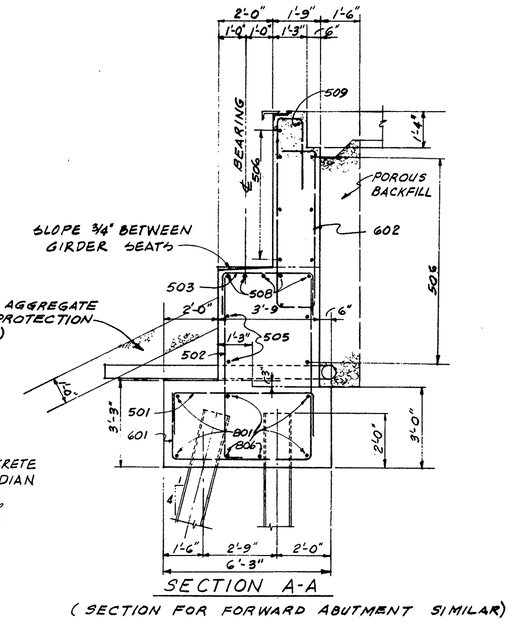
PLAN



ELEVATION

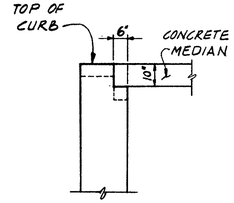


FOUNDATION PLAN

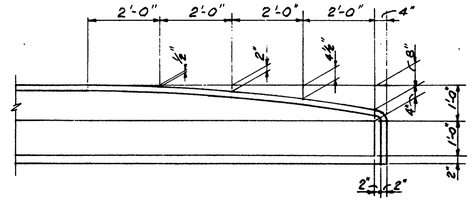


SECTION A-A

(SECTION FOR FORWARD ABUTMENT SIMILAR)



SECTION B-B



DETAIL
TYPICAL CURB TRANSITION

NOTES:
THE PREFIX "RA" OR "FA" SHALL BE ADDED TO ALL BARMARKS IN THE REAR OR FORWARD ABUTMENTS RESPECTIVELY.
POROUS BACKFILL SHALL EXTEND UPWARD TO THE APPROACH SLAB AND TO THE PAVED SHOULDERS, AND OUTWARD TO THE INSIDE FACE OF WINGWALLS.
EXCAVATION THEREFORE, IN EXCESS OF THAT REQUIRED FOR CONSTRUCTION OF THE ABUTMENT, SHALL BE CONSIDERED AS PAID FOR IN THE BID PRICE PER CU. YD. PAID FOR POROUS BACKFILL.
ALL PILES SHALL BE 10BP42 STEEL BEARING AND SHALL BE BATTERED 1 IN 4 IN DIRECTION SHOWN THUS ▼
FOR CONTRACTION JOINT DETAIL SEE SHEET NO. 329
FOR ADDITIONAL NOTES SEE SHEET NO. 327

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

REAR ABUTMENT DETAILS

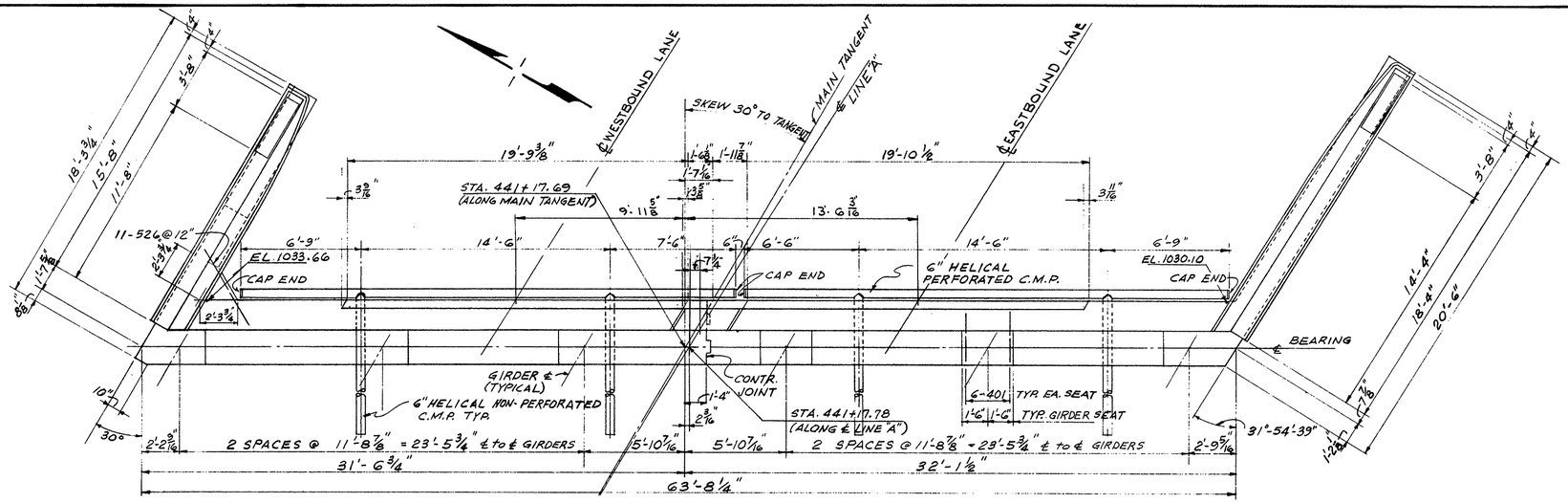
BRIDGE NO. MAH-80-0186
LINE "A" OVER OHIO TURNPIKE
I-80 MAHONING COUNTY
STA. 104+25.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.A.H		E.A.H	J.H.	R.B.H	3-23-67	

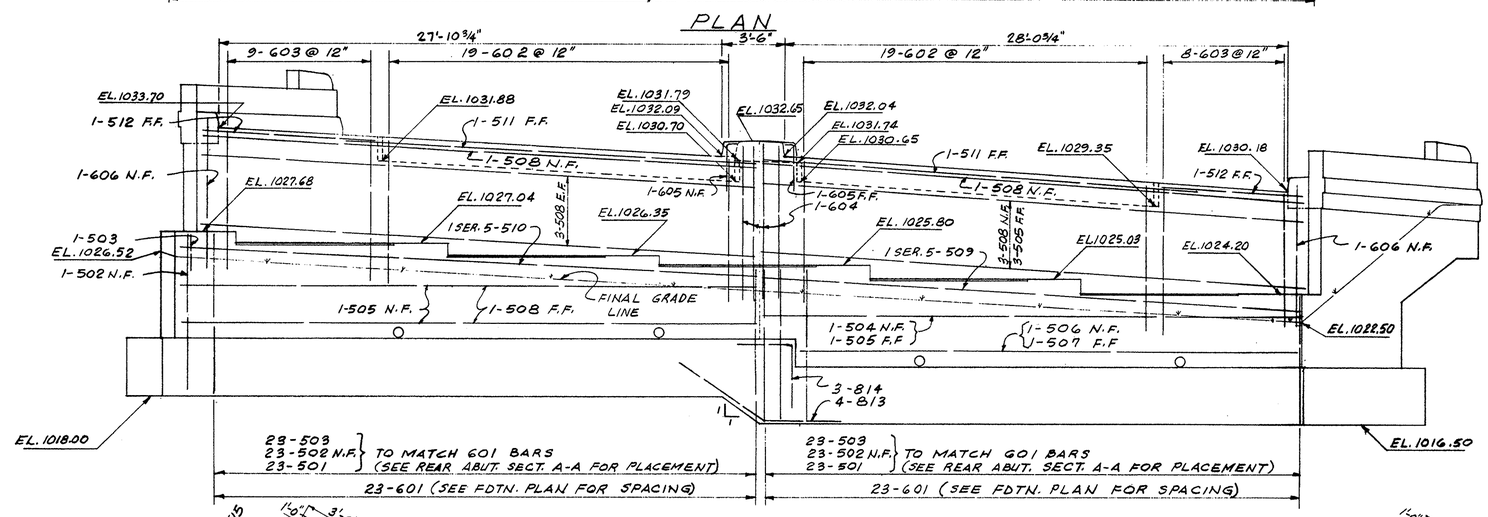
FED. RD.	STATE	PROJECT	
2	OHIO		

329
384

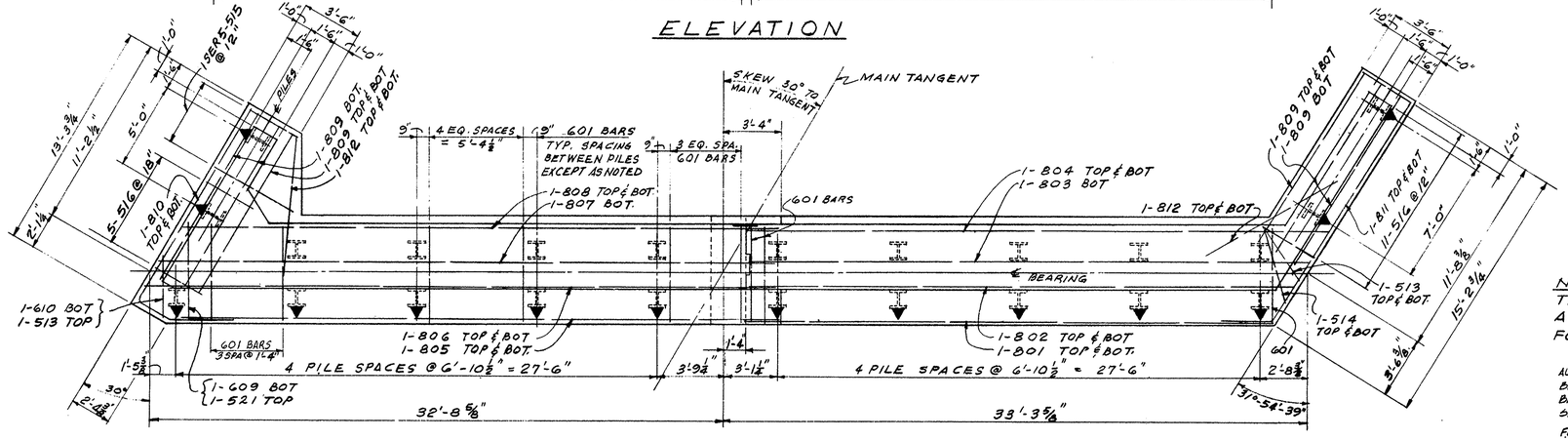
MAH-80S-7.01
MAH-80-2.30



PLAN

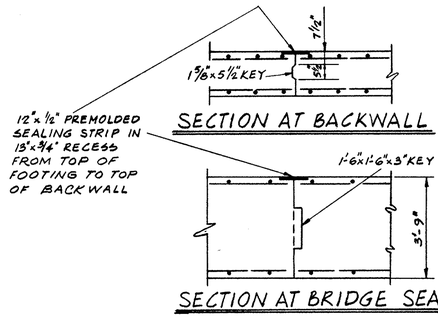


ELEVATION



FOUNDATION PLAN

NOTE:
FOR SECTION THROUGH ABUTMENT SEE SHEET 328



SECTION AT BACKWALL

SECTION AT BRIDGE SEAT

ABUTMENT CONTRACTION JOINT DETAIL

NOTE:
THE PREFIX "FA" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN THE FORWARD ABUTMENT

ALL PILES SHALL BE 10BP42 STEEL BEARING PILES AND SHALL BE BATTERED 1 IN 4 IN DIRECTION SHOWN THUS ▲

FOR ADDITIONAL NOTES SEE SHEET NO. 328

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON • DALTON ASSOCIATES

FORWARD ABUTMENT DETAILS

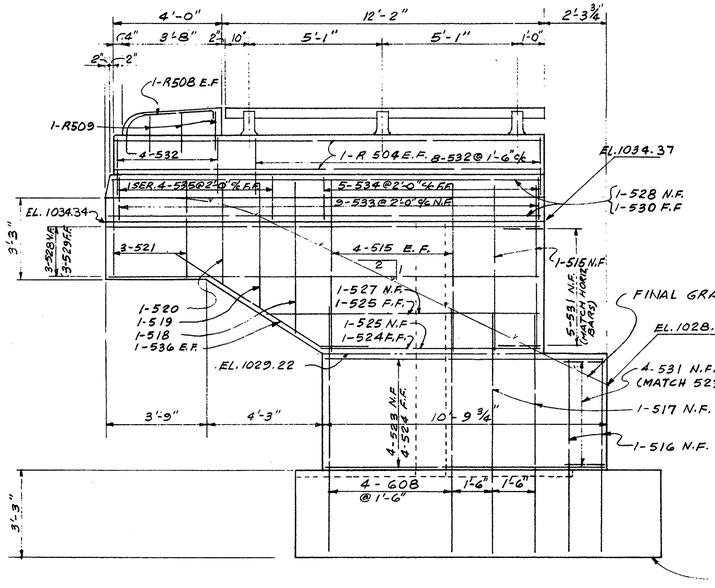
BRIDGE NO. MAH-80-0186
LINE "A" OVER OHIO TURNPIKE
I-80 MAHONING COUNTY
STA. 104+25.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAH		EAH	JH	EOH	3-23-67	

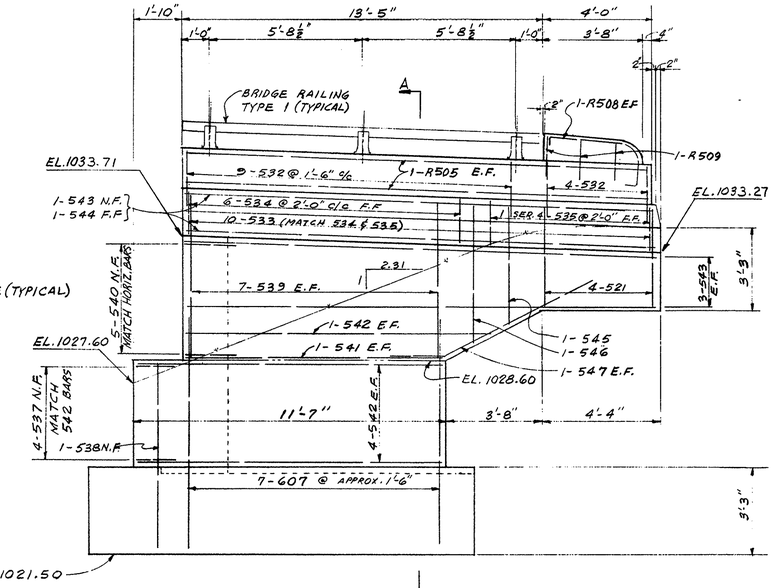
FED. RD.	STATE	PROJECT	
2	OHIO		

330
384

MAH-80S-7.01
MAH-80-2.30



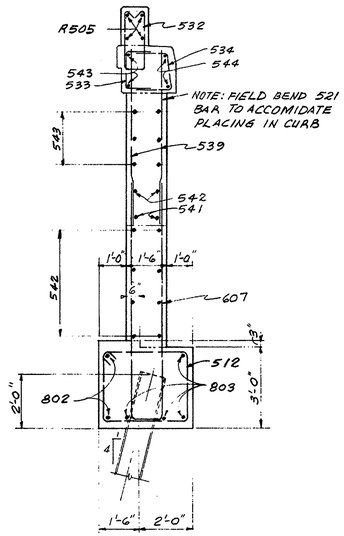
ELEVATION - SOUTH WINGWALL



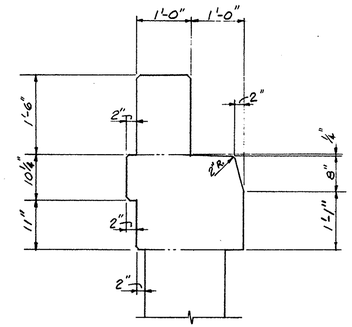
ELEVATION - NORTH WINGWALL

REAR ABUTMENT WINGWALL DETAILS

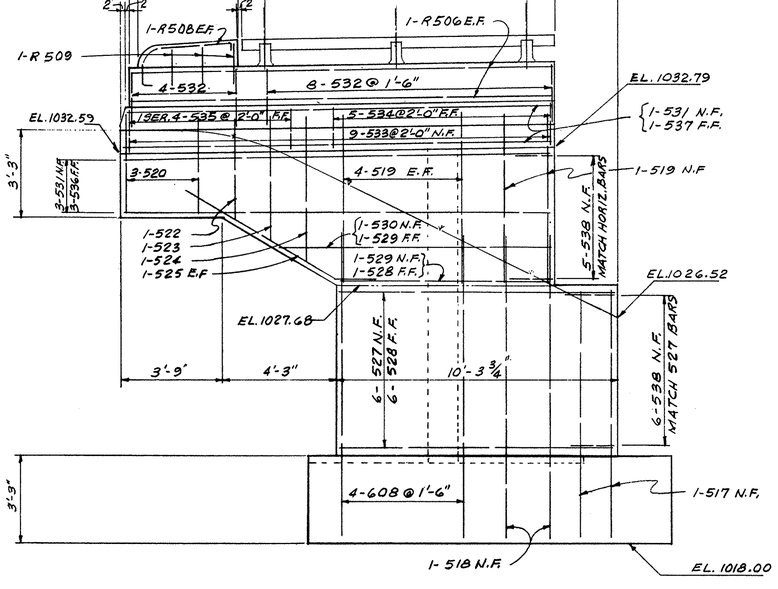
NOTE:
THE PREFIX "RA" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN THE REAR ABUTMENT WINGWALLS



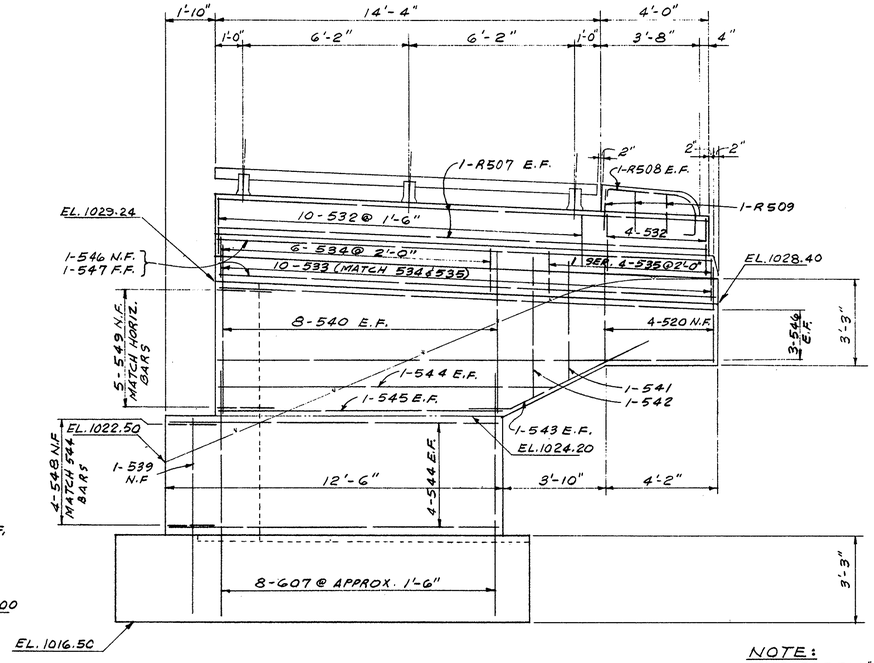
SECTION A-A
(OTHER WINGWALLS SIMILAR)



TYPICAL CURB SECTION
FOR CURB TRANSITION DETAILS SEE SHEET NO. 328



ELEVATION - NORTH WINGWALL



ELEVATION - SOUTH WINGWALL

FORWARD ABUTMENT WINGWALL DETAILS

NOTE:
THE PREFIX "FA" SHALL BE ADDED TO ALL REINFORCING BAR MARKS IN THE FORWARD ABUTMENT WINGWALLS

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

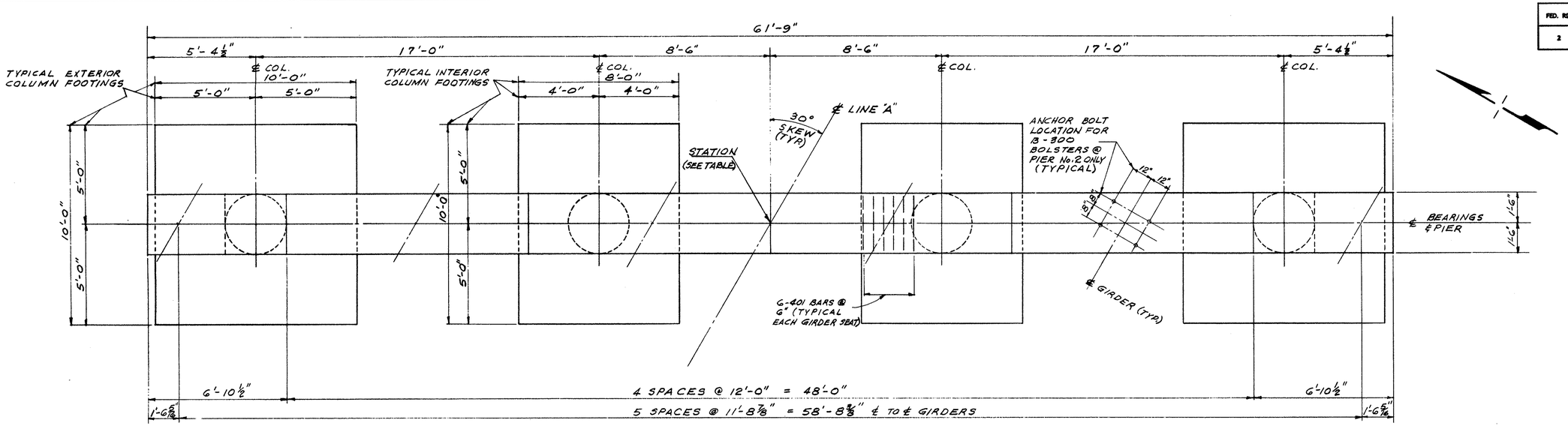
ABUTMENT WINGWALLS
BRIDGE NO. MAH-80-0186
LINE "A" OVER OHIO TURNPIKE
I-80 MAHONING COUNTY
STA. 104+25.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAH		EAH	JH	RBH	3-27-67	

FED. RD.	STATE	PROJECT	
2	OHIO		

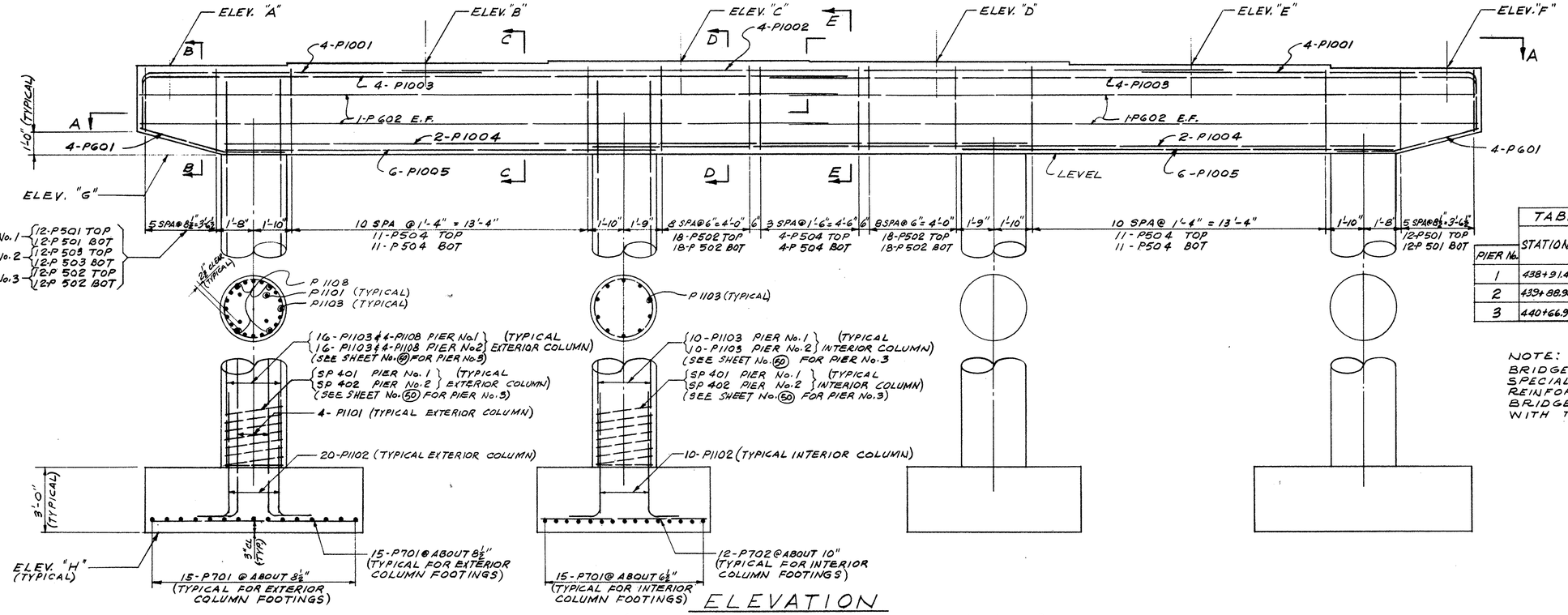
331
384

MAH-80S-7.01
MAH-80-2.30



PLAN

(PIER Nos. 1, 2 & 3 TYPICAL EXCEPT AS NOTED)



ELEVATION

(PIER Nos. 1, 2 & 3 TYPICAL EXCEPT AS NOTED)

TABLE OF STATIONS AND ELEVATIONS

PIER No.	STATION	ELEVATIONS "A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
1	438+91.44	1028.28	1028.42	1028.53	1028.52	1028.40	1028.23	1024.23	1003.00
2	439+88.94	1028.38	1028.21	1027.99	1027.80	1027.50	1027.15	1023.15	1002.00
3	440+66.94	SEE PIER CAP ELEVATION ON SHEET No. 332							1000.00

NOTE:
BRIDGE SEAT REINFORCING:
SPECIAL CARE SHOULD BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SO AS TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR ROD HOLES.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES.

DALTON · DALTON ASSOCIATES

PIER DETAILS

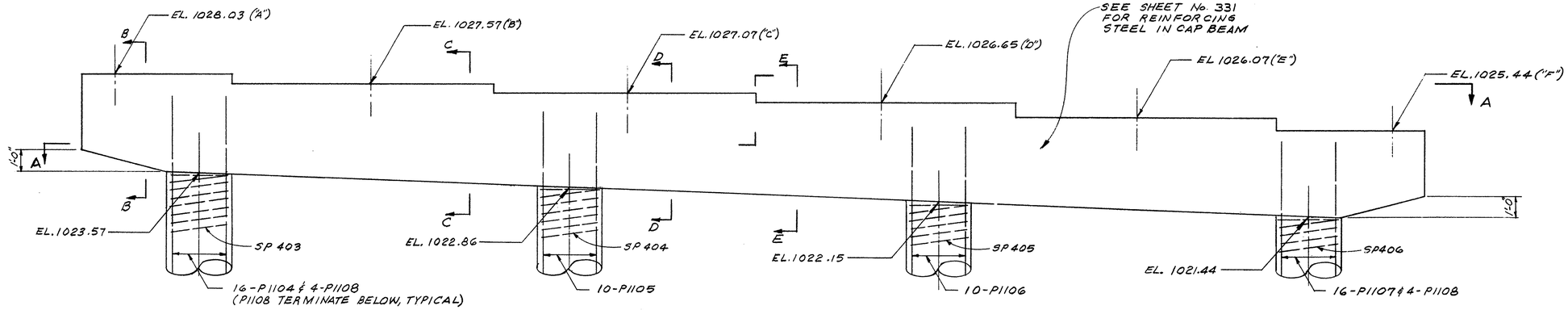
BRIDGE NO. MAH-80-0186
LINE "A" OVER OHIO TURNPIKE
I-80 MAHONING COUNTY
STA. 104+25.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAH	EAH		J.H.	DBH	3-28-67	

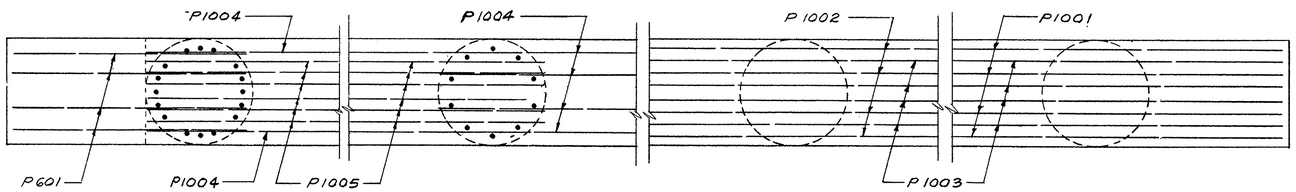
FED. RD.	STATE	PROJECT	
2	OHIO		

332
384

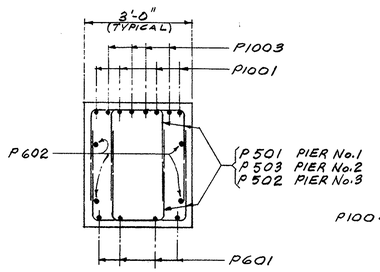
MAH-80S-7.01
MAH-80-2.30



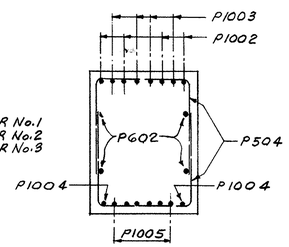
ELEVATION- CAP FOR PIER No. 3



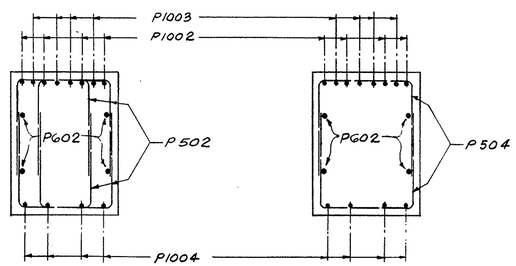
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D SECTION E-E

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

PIER DETAILS

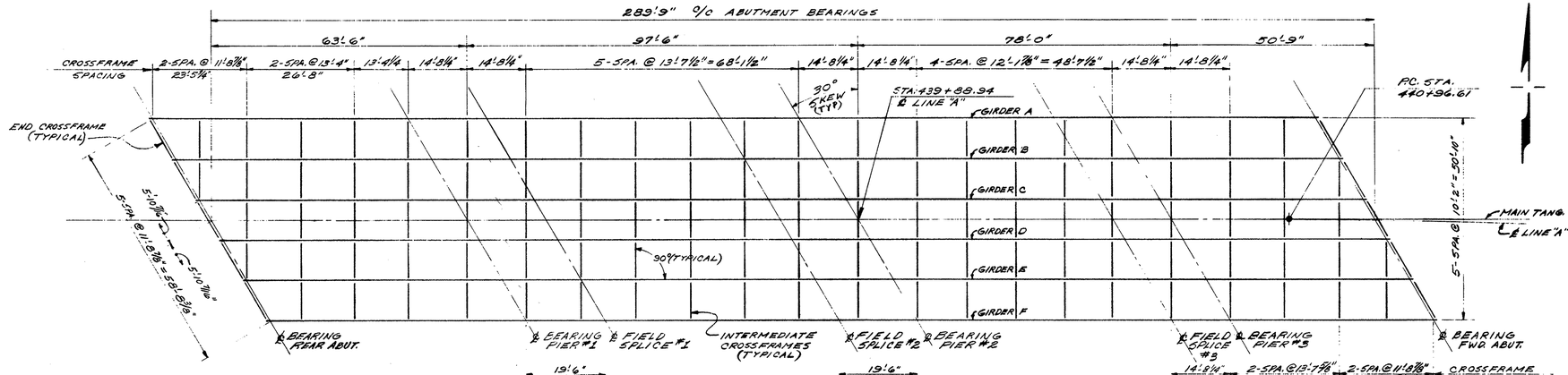
BRIDGE NO. MAH-80-0186
LINE 'A' OVER OHIO TURNPIKE
I-80 MAHONING COUNTY
STA. 104+25.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EAH	EAH		J.H.	EBH	3-23-67	

FED. RD.	STATE	PROJECT	
2	OHIO		

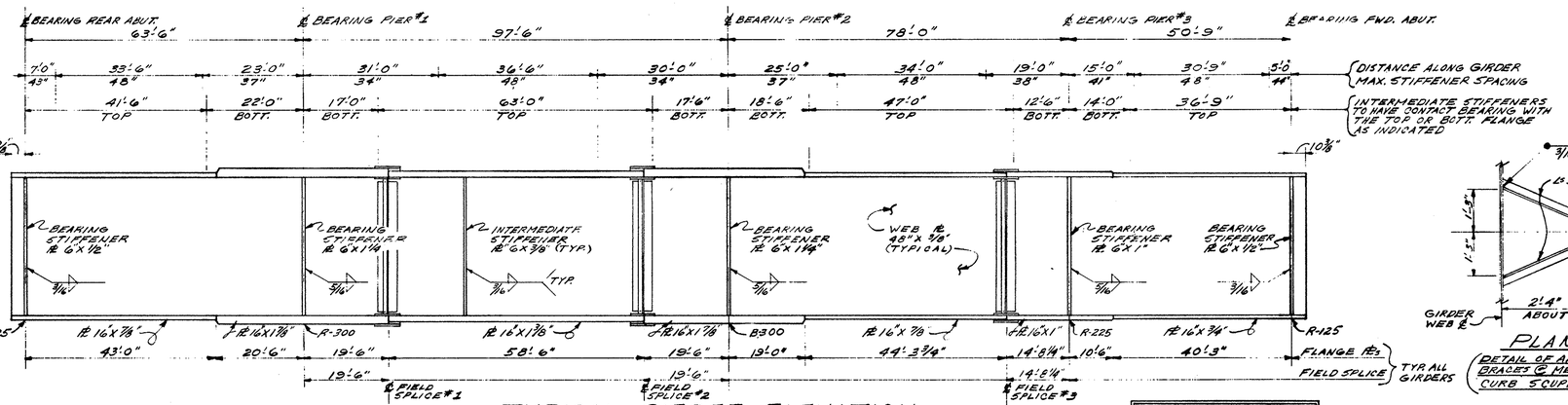
333
384

MAH-80S-7.01
MAH-80-2.30

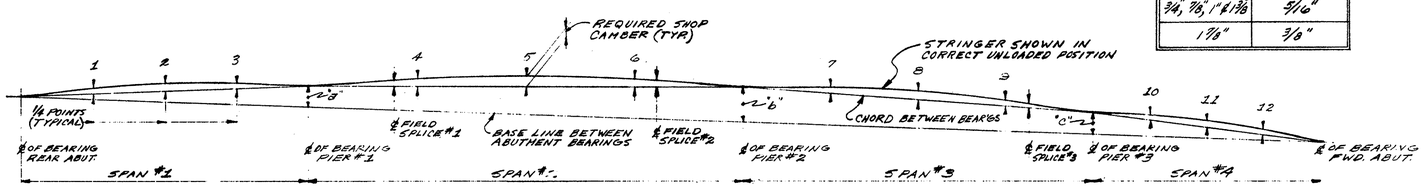


FRAMING PLAN

NOTE: ALL DIMENSIONS ARE ALONG MAIN TANGENT



TYPICAL GIRDER ELEVATION



LAYOUT DIAGRAM AND DEFLECTION ℄ CAMBER TABLE

LOCATION	GIRDERS "A" ℄ "F"														
	1	2	3	FIELD SPLICE #1	4	5	6	FIELD SPLICE #2	7	8	9	FIELD SPLICE #3	10	11	12
DEFLECTION DUE TO WEIGHT OF STEEL	.023	.020	-.003	.052	.074	.120	.065	.051	.010	.044	.035	.020	.006	.018	.016
DEFLECTION DUE TO REMAINING DEAD LOAD	.102	.088	-.011	.235	.336	.544	.296	.229	.044	.195	.158	.092	.027	.082	.071
*ADJUSTMENT REQUIRED FOR VERTICAL CURVE	.512	.680	.512	1.033	1.201	1.604	1.201	1.033	.770	1.027	.770	.631	.355	.464	.338
SUM OF DEFLECTION AND ADJUSTMENT	.637	.788	.498	1.320	1.611	2.268	1.562	1.313	.824	1.270	.963	.743	.388	.564	.425
REQUIRED SHOP CAMBER	5/8"	13/16"	1/2"	1 5/16"	1 5/8"	2 1/4"	1 9/16"	1 5/16"	13/16"	1 1/4"	15/16"	3/4"	3/8"	9/16"	7/16"

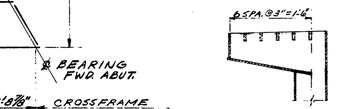
LOCATION	GIRDERS "B" ℄ "E"														
	1	2	3	FIELD SPLICE #1	4	5	6	FIELD SPLICE #2	7	8	9	FIELD SPLICE #3	10	11	12
DEFLECTION DUE TO WEIGHT OF STEEL	.023	.020	-.003	.052	.074	.120	.065	.051	.010	.044	.035	.020	.006	.018	.016
DEFLECTION DUE TO REMAINING DEAD LOAD	.120	.104	-.011	.277	.396	.640	.348	.270	.052	.234	.186	.108	.032	.096	.083
*ADJUSTMENT REQUIRED FOR VERTICAL CURVE	.512	.680	.512	1.033	1.201	1.604	1.201	1.033	.770	1.027	.770	.631	.355	.464	.338
SUM OF DEFLECTION AND ADJUSTMENT	.655	.804	.498	1.362	1.671	2.364	1.614	1.354	.832	1.305	.991	.759	.393	.578	.437
REQUIRED SHOP CAMBER	5/8"	13/16"	1/2"	1 3/8"	1 11/16"	2 3/8"	1 5/8"	1 3/8"	13/16"	1 5/16"	1"	3/4"	3/8"	9/16"	7/16"

LOCATION	GIRDERS "C" ℄ "D"														
	1	2	3	FIELD SPLICE #1	4	5	6	FIELD SPLICE #2	7	8	9	FIELD SPLICE #3	10	11	12
DEFLECTION DUE TO WEIGHT OF STEEL	.023	.020	-.003	.052	.074	.120	.065	.051	.010	.044	.035	.020	.006	.018	.016
DEFLECTION DUE TO REMAINING DEAD LOAD	.125	.108	-.014	.288	.411	.666	.362	.281	.054	.243	.194	.112	.033	.100	.087
*ADJUSTMENT REQUIRED FOR VERTICAL CURVE	.512	.680	.512	1.033	1.201	1.604	1.201	1.033	.770	1.027	.770	.631	.355	.464	.338
SUM OF DEFLECTION AND ADJUSTMENT	.660	.808	.495	1.373	1.686	2.390	1.628	1.365	.834	1.314	.955	.763	.394	.582	.441
REQUIRED SHOP CAMBER	11/16"	13/16"	1/2"	1 3/8"	1 11/16"	2 3/8"	1 5/8"	1 3/8"	13/16"	1 5/16"	1"	3/4"	3/8"	9/16"	7/16"

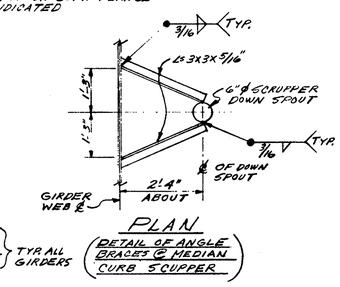
*ADJUSTMENT REQUIRED FOR VERTICAL CURVE

WELD SIZE WEB TO FLANGE	
FLANGE ℓ THICKNESS	FILLET WELD SIZE
¾", ⅞", 1" & 1⅜"	5/16"
1⅛"	⅜"

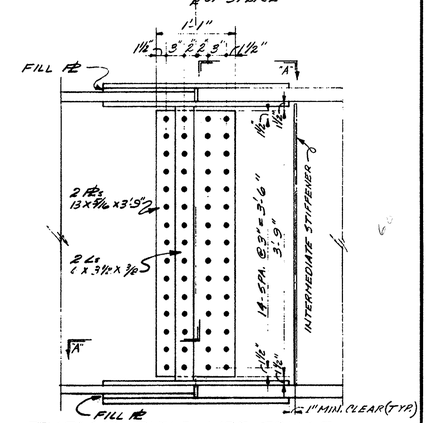
TABLE OF VERTICAL OFFSETS			
GIRDER	PIER #1 "a" DIM.	PIER #2 "b" DIM.	PIER #3 "c" DIM.
A	6 5/8"	11 3/8"	7 1/16"
B	8 1/8"	1'-0 11/16"	7 5/8"
C	9 5/16"	1'-1 5/8"	8"
D	9 5/8"	1'-2 3/8"	8 1/4"
E	9 11/16"	1'-3 9/16"	8 3/4"
F	9 5/8"	1'-4 3/4"	9 1/4"



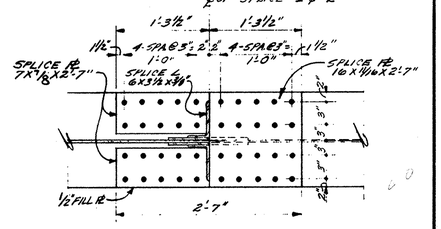
TYPE 2 SCUPPER MODIFIED
(OTHER DETAILS & DIM. SAME AS STD. DWG.)



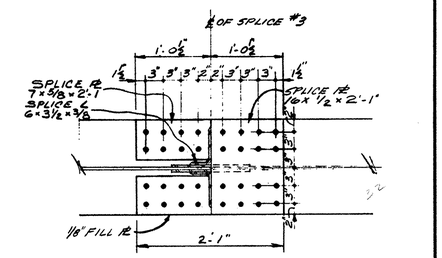
PLAN
(DETAIL OF ANGLE BRACES & MEDIAN CURB SCUPPER)



TYPICAL FIELD WEB SPLICE



SECTION "A-A" FIELD FLANGE SPLICE #1 & #2



SECTION "A-A" FIELD FLANGE SPLICE #3

NOTES:
SEE SHEET NO. 306 FOR INTERMEDIATE CROSS FRAME & STIFFENER DETAIL, FLANGE WELD DETAIL & BEARING STIFFENER DETAIL.
FOR ADDITIONAL NOTES SEE SHEET NO. 310

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

FRAMING PLAN

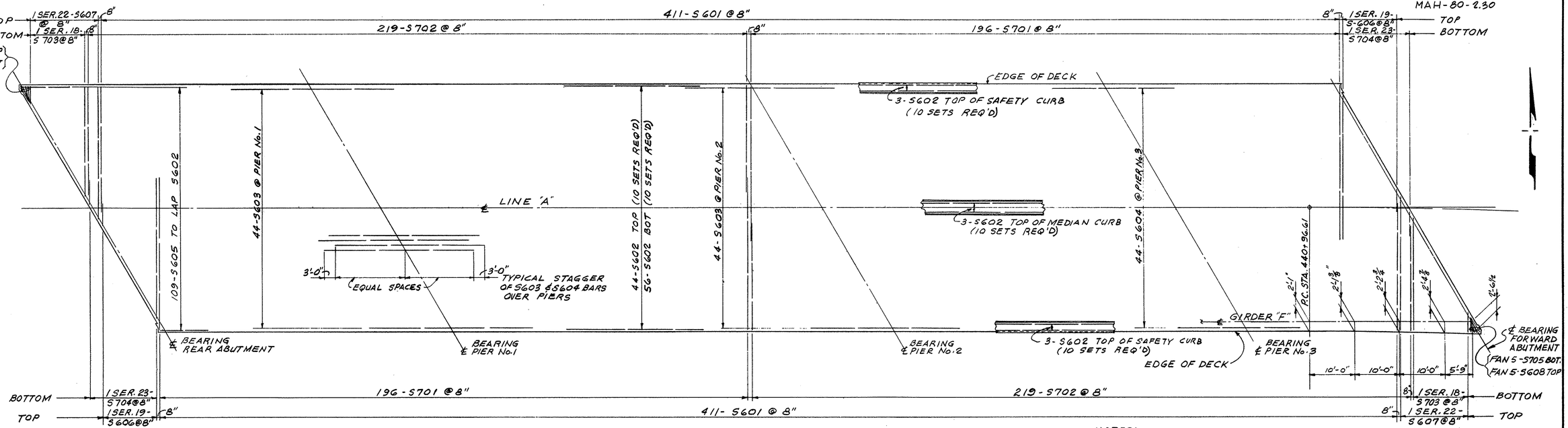
BRIDGE NO. MAH-80-0186
LINE "A" OVER OHIO TURNPIKE
I-80 MAHONING COUNTY
STA. 104+25.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.A.H.	R.L.P.		D.H.S.	R.B.H.	3-23-67	

FED. RD.	STATE	PROJECT	
2	OHIO		

334
384

MAH-80S-7.01
MAH-80-2.30



PLAN - DECK SLAB REINFORCING

NOTES:

* THIS IS THE NOMINAL DIMENSION. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED UPON THIS DIMENSION, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE GIRDER MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE. DEDUCTION SHALL BE MADE FOR VOLUME OF ENCASED STEEL PLATES AS PER SEC. 511.19 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

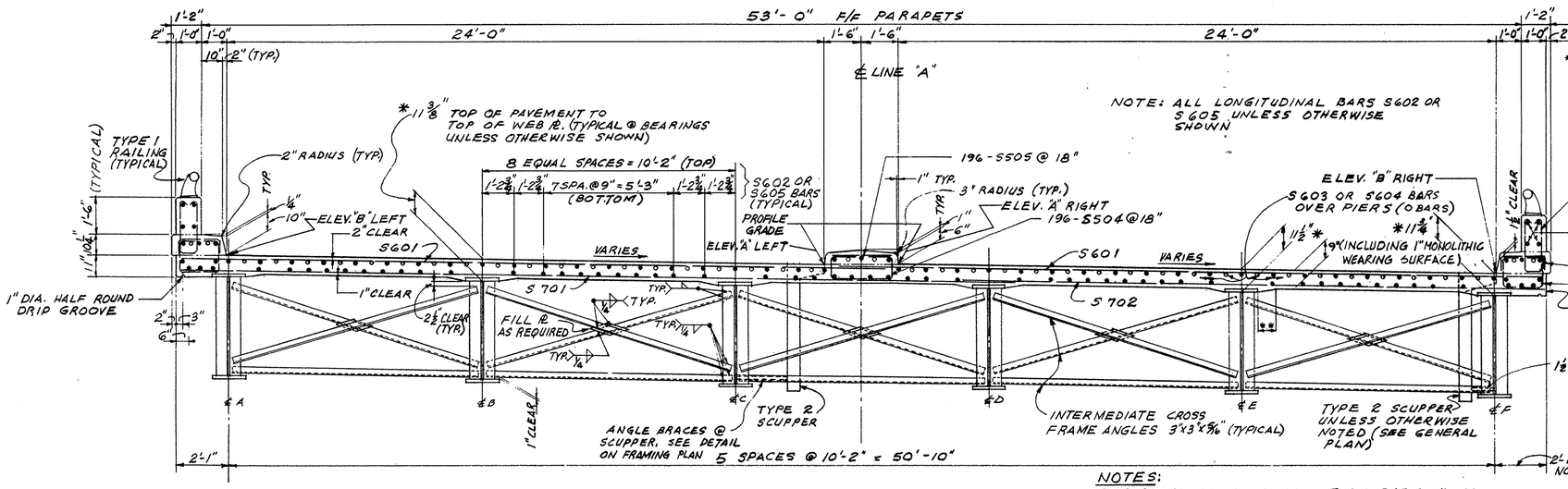
** A TYPICAL HAUNCH WIDTH OF 9" SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER THE HAUNCH WIDTH MAY VARY BETWEEN 6" AND 12" PROVIDED THAT THE SLOPE SHALL BE NOT MORE THAN 1:4 FOR A HAUNCH LESS THAN 9" IN WIDTH.

ELEVATION TABLE

STATION	PROFILE GRADE ELEV.	ELEV. "A" ⊗ LEFT	ELEV. "A" ⊗ RIGHT	ELEV. "B" ⊗ LEFT	ELEV. "B" ⊗ RIGHT
438+25	1035.10	—	—	1034.73	—
+50	1035.22	1035.23	1035.23	1034.85	1035.28
+75	1035.27	1035.27	1035.27	1034.98	1035.19
439+00	1035.25	1035.26	1035.26	1035.13	1035.02
+25	1035.16	1035.20	1035.20	1035.20	1034.80
+50	1035.00	1035.05	1035.05	1035.18	1034.67
+75	1034.77	1034.78	1034.78	1035.09	1034.42
440+00	1034.47	1034.47	1034.47	1034.97	1033.97
+25	1034.10	1034.11	1034.11	1034.79	1033.42
+50	1033.65	1034.66	1034.66	1034.51	1032.82
+75	1033.14	1033.14	1033.14	1034.18	1032.11
441+00	1032.56	1032.56	1032.56	1033.77	1031.35
+25	1031.90	—	—	—	1030.52

⊗ NOTE: THESE ELEVATIONS ARE THOSE WHICH ARE REQUIRED BEFORE THE CONCRETE IS PLACED. PROPER ALLOWANCE HAS BEEN MADE FOR DEAD LOAD DEFLECTIONS CAUSED BY THE WEIGHT OF CONCRETE.

TRANSVERSE SECTION



NOTE: ALL LONGITUDINAL BARS S602 OR S605 UNLESS OTHERWISE SHOWN

NOTES:
FOR REINFORCING SCHEDULE AND BAR BENDING DIAGRAMS, SEE SHEET No. 336
FOR DETAILS NOT SHOWN, SEE FRAMING PLAN, SHEET No. 333

NOTE:
FOR SCUPPER LOCATION SEE GENERAL PLAN SHEET NO. 327

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

SLAB PLAN & SECTION
BRIDGE NO. MAH-80-0186
LINE "A" OVER OHIO TURNPIKE
I-80 MAHONING COUNTY
STA. 104+25.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.A.H.	E.A.H.		D.H.S.	R.B.H.	8-23-67	

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.
REAR ABUTMENT									
RA 401	36	3'-0"	3	2'-2"	6½"				72
RA 501	42	8'-4"	3	5'-5"	1'-7"				365
RA 502	43	7'-1"	1	7½"	6'-7"				318
RA 503	43	7'-8"	3	3'-5"	2'-3"				344
RA 504	2	29'-9"	STR.						62
RA 505	7	31'-9"	STR.						232
RA 506	13	30'-9"	STR.						417
RA 507	1 SER 5	29'-9" / 31'-9"	STR.					6"	160
RA 508	1 SER 5	30'-9" / 31'-9"	STR.					3"	163
RA 509	2	24'-0"	STR.						50
RA 510	2	9'-9"	STR.						20
RA 511	1 SER 5	12'-0" / 16'-6"	14	2'-7"	3'-2" / 3'-5"			1'-1½"	74
RA 512	15	12'-0"	14	2'-7"	3'-2"				188
RA 513	3	7'-5"	3	3'-6"	2'-1"				23
RA 514	2	8'-5"	3	4'-6"	2'-1"				18
RA 515	10	6'-9"	STR.						70
RA 516	2	7'-9"	1	7½"	7'-3"				16
RA 517	2	9'-7"	1	7½"	9'-1"				20
RA 518	1	12'-11"	3	1'-2"	6'-0"				13
RA 519	1	10'-11"	3	1'-2"	5'-0"				11
RA 520	1	8'-11"	3	1'-2"	4'-0"				9
RA 521	7	8'-3"	3	1'-2"	3'-8"				60
RA 522	1	7'-0"	1	5'-0"	2'-1"				7
RA 523	4	10'-6"	STR.						44
RA 524	5	6'-3"	STR.						33
RA 525	2	8'-3"	STR.						17
RA 526	9	5'-6"	STR.						52
RA 527	1	10'-3"	STR.						11
RA 528	5	16'-0"	STR.						83
RA 529	3	14'-0"	STR.						44
RA 530	2	15'-7"	17	15'-6"	7'-6"	2'-0"			33
RA 531	9	3'-8"	23	1'-7"	6"	1'-7"	9½"		34
RA 532	25	5'-7"	5	8"	2'-2"	5			146
RA 533	19	2'-10"	3	1'-5"	10"				56
RA 534	11	4'-4"	16	1'-5"	1'-8"	1'-6"	2"		50
RA 535	2 SER 4	3'-0" / 4'-2"	16	1'-5"	1'-0" / 1'-7"	10" / 1'-5"	2"	4 11/16"	30
RA 536	2	8'-7"	12	7'-0"	1'-7"	10½"			18
RA 537	4	4'-0"	12	2'-0"	2'-0"	1'-9"			17
RA 538	1	7'-2"	1	7½"	6'-8"				7
RA 539	14	6'-6"	STR.						95
RA 540	5	3'-11"	1	2'-0"	2'-0"				20
RA 541	2	9'-6"	STR.						20
RA 542	10	11'-3"	STR.						117
RA 543	8	17'-3"	STR.						144
RA 544	2	17'-11"	17	17'-10"	9'-10"	2'-0"			37
RA 545	1	9'-11"	3	1'-2"	4'-6"				10
RA 546	1	11'-11"	3	1'-2"	5'-6"				12
RA 547	2	7'-7"	12	6'-0"	1'-7"	10¼"			16
RA 601	42	14'-3"	4	6'-7"	5'-5"	2'-7"			899
RA 602	38	19'-6"	7	6'-3"	1'-5"	7'-7"	11"		1113
RA 603	17	18'-9"	14	7'-7"	1'-5"				479
RA 604	4	21'-1"	7	7'-4"	1'-5"	8'-1"	11"		127
RA 605	2	3'-0"	1	1'-1"	2'-1"				9
RA 606	2	8'-6"	STR.						26
RA 607	7	17'-10"	3	1'-2"	8'-6"				187
RA 608	4	19'-0"	3	1'-2"	9'-1"				114
RA 609	1	6'-11"	1	5'-0"	2'-1"				10
RA 610	1	7'-4"	3	3'-6"	2'-1"				11
RA 801	9	32'-6"	STR.						781
RA 802	2	16'-4"	12	14'-0"	2'-6"	2'-2"			87
RA 803	8	11'-0"	STR.						235
RA 804	2	17'-9"	23	13'-5"	2'-0"	2'-6"	1'-3"		95
RA 805	4	8'-0"	STR.						85
RA 806	5	35'-0"	STR.						467
				TOTAL	REAR	ABUTMENT			8,581

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.
FORWARD ABUTMENT									
FA 401	36	3'-0"	3	2'-2"	6½"				72
FA 501	46	8'-4"	3	5'-5"	1'-7"				400
FA 502	47	7'-9"	1	7½"	7'-3"				380
FA 503	47	10'-4"	3	3'-5"	3'-7"				507
FA 504	1	29'-9"	STR.						31
FA 505	6	32'-0"	STR.						200
FA 506	1	27'-9"	STR.						29
FA 507	1	30'-0"	STR.						31
FA 508	13	31'-0"	STR.						420
FA 509	1 SER 5	29'-9" / 32'-0"	STR.					6¾"	161
FA 510	1 SER 5	31'-0" / 32'-0"	STR.					3"	164
FA 511	2	24'-0"	STR.						50
FA 512	2	9'-9"	STR.						20
FA 513	3	7'-5"	3	3'-6"	2'-1"				23
FA 514	2	8'-5"	3	4'-6"	2'-1"				18
FA 515	1 SER 5	12'-0" / 16'-6"	14	2'-7"	3'-2" / 5'-5"			1'-1½"	74
FA 516	16	12'-0"	14	2'-7"	3'-2"				200
FA 517	2	9'-9"	1	7½"	9'-3"				20
FA 518	2	11'-6"	1	7½"	11'-0"				24
FA 519	10	6'-6"	STR.						68
FA 520	7	8'-3"	3	1'-2"	3'-8"				60
FA 521	1	7'-0"	1	5'-0"	2'-1"				7
FA 522	1	8'-11"	3	1'-2"	4'-0"				9
FA 523	1	10'-5"	3	1'-2"	4'-9"				11
FA 524	1	12'-5"	3	1'-2"	5'-9"				13
FA 525	2	8'-7"	12	7'-0"	1'-7"	8¼"			18
FA 526	11	5'-6"	STR.						63
FA 527	6	10'-0"	STR.						63
FA 528	7	6'-0"	STR.						44
FA 529	2	7'-9"	STR.						16
FA 530	1	10'-0"	STR.						10
FA 531	5	15'-6"	STR.						81
FA 532	26	5'-7"	5	8"	2'-2"	5"			151
FA 533	19	2'-10"	3	1'-5"	10"				56
FA 534	11	4'-4"	16	1'-5"	1'-8"	1'-6"	2"		50
FA 535	2 SER 4	3'-0" / 4'-2"	16	1'-5"	1'-0" / 1'-7"	10" / 1'-5"	2"	4 11/16	30
FA 536	3	13'-6"	STR.						42
FA 537	2	15'-1"	17	15'-0"	7'-0"	2'-0"			31
FA 538	11	3'-8"	23	1'-7"	6"	1'-7"	9½"		42
FA 539	1	7'-9"	1	7½"	7'-3"				8
FA 540	16	6'-2"	STR.						103
FA 541	1	10'-5"	3	1'-2"	4'-9"				11
FA 542	1	11'-11"	3	1'-2"	5'-6"				12
FA 543	2	7'-7"	12	6'-0"	1'-7"	7"			16
FA 544	10	12'-3"	STR.						128
FA 545	2	10'-3"	STR.						21
FA 546	8	18'-3"	STR.						152
FA 547	2	19'-0"	17	18'-11"	10'-11"	2'-0"			40
FA 548	4	4'-0"	12	2'-0"	2'-0"	1'-9"			17
FA 549	5	3'-11"	1	2'-0"	2'-0"				20
FA 601	46	14'-11"	4	7'-3"	5'-5"	2'-7"			1031
FA 602	38	20'-4"	7	6'-8"	1'-5"	8'-0"	11"		1161
FA 603	17	19'-7"	14	8'-0"	1'-5"				500
FA 604	4	21'-11"	7	7'-9"	1'-5"	8'-6"	11"		132
FA 605	2	3'-0"	1	1'-1"	2'-1"				9
FA 606	2	8'-6"	STR.						26
FA 607	8	19'-0"	3	1'-2"	9'-1"				228
FA 608	4	22'-10"	3	1'-2"	11'-0"				137
FA 609	1	6'-11"	1	5'-0"	2'-1"				10
FA 610	1	7'-4"	3	3'-6"	2'-1"				11
FA 801	2	30'-0"	STR.						160
FA 802	2	31'-3"	STR.						167
FA 803	1	32'-3"	STR.						86
FA 804	2	33'-3"	STR.						178
FA 805	2	34'-9"	STR.						186
FA 806	2	36'-3"	STR.						194
FA 807	1	35'-3"	STR.						94
FA 808	2	34'-3"	STR.						183
FA 809	8	11'-0"	STR.						235
FA 810	2	17'-4"	23	13'-0"	2'-0"	2'-6"	1'-3"		93
FA 811	2	17'-3"	12	14'-11"	2'-6"	2'-2"			92
FA 812	4	8'-0"	STR.						85
FA 813	4	8'-5"	12	5'-6"	3'-0"	2'-1"			90
FA 814	3	6'-10"	1	3'-0"	4'-0"				55
				TOTAL	FORWARD	ABUTMENT			9,360
RAILING ⊗									
~~REPLACEMENT BARS~~									
~~RE-401~~		~~6'3"~~							
~~RE-501~~		~~6'6"~~							
~~RE-601~~		~~7'0"~~							
~~RE-701~~		~~7'3"~~							
~~RE-801~~		~~7'6"~~							
~~RE-901~~		~~7'10"~~							
~~RE-1001~~		~~8'3"~~							
~~RE-1101~~		~~8'9"~~							

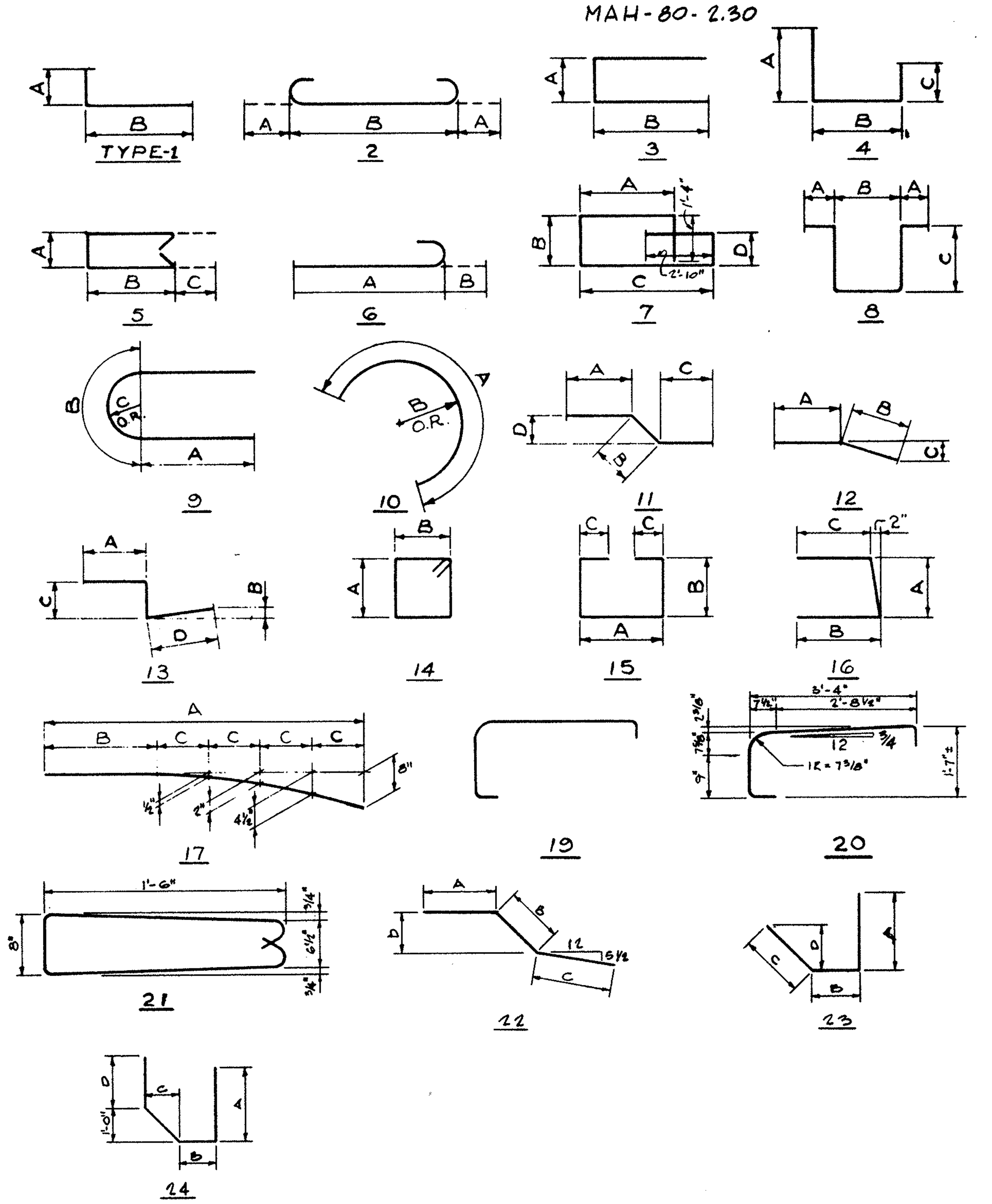
SPIRAL REINFORCING SCHEDULE

MARK	NO. REQ'D.	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT LBS.
					TOTAL SPIRALS	
			GRAND TOTAL			LBS.

FED. RD.	STATE	PROJECT	
2	OHIO		

335/384

MAH-80S-7.01
MAH-80-2.30



REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL SCHEDULE FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE PIER CAP. THE NUMBER OF TURNS SHOWN IN THE STEEL SCHEDULE FOR SPIRAL BARS IS THE LENGTH DIVIDED BY THE PITCH PLUS THREE TURNS (TOTAL NUMBER OF CLOSED COILS) EXPRESSED AS THE NEAREST WHOLE NUMBER.
SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS, BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 509.
ONE AND ONE HALF CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOUR (4) STEEL CHANNEL, TEE OR ANGLE SPACERS WEIGHING APPROX. 0.68 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS BASED ON 0.68 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIDGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED INDICATE THE BAR SIZE NUMBER. A-601 IS A NO. 6 SIZE BAR AND P-1001 IS A NO. 10 SIZE BAR.

⊗RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 517 FOR PAYMENT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

REINFORCING SCHEDULE
BRIDGE NO. MAH-80-0186
LINE "A" OVER OHIO TURNPIKE
I-80 MAHONING COUNTY
STA. 104+25.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.A.H.	D.F.D.		J.H. E.A.H.	RBH	3-23-67	

FED. RD.	STATE	PROJECT	
2	OHIO		

336
384

MAH-80S-7.01
MAH-80-2.30

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.
PIERS									
P401	108	4'-5"	3	2'-8"	1'-0"				319
P501	96	7'-1"	3	2'-0"	2'-8"				709
P502	240	7'-11"	3	2'-0"	3'-1"				1982
P503	24	8'-5"	3	2'-0"	3'-3"				207
P504	156	8'-9"	3	2'-8"	3'-2"				1424
P601	24	6'-10"	12	3'-0"	3'-10"	1'-0"			246
P602	24	31'-9"	STR.						1145
P701	270	9'-6"	STR.						5243
P702	72	7'-6"	STR.						1104
P1001	24	17'-7"	1	2'-3½	15'-7"				1816
P1002	12	37'-9"	STR.						1949
P1003	24	34'-7	1	2'-3½	32'-7"				3571
P1004	12	37'-3"	STR.						1923
P1005	36	20'-3"	STR.						3137
P1101	24	11'-2"	1	1'-5½"	10'-0"				1424
P1102	180	7'-5"	1	1'-5½"	6'-3"				7093
P1103	104	21'-6"	STR.						11880
P1104	16	24'-0"	STR.						2040
P1105	10	23'-3"	STR.						1235
P1106	10	22'-6"	STR.						1195
P1107	16	21'-9"	STR.						1849
P1108	24	12'-0"	STR.						1530
					TOTAL	PIERS			53,021
SUPERSTRUCTURE									
S501	392	5'-1"	15	1'-6"	1'-5"	7½"			2078
S502	392	2'-6"	3	1'-6"	7½"				1022
S503	392	5'-7"	5	8"	2'-2"	5"			2283
S504	196	6'-0"	15	2'-6"	1'-0"	1'-0"			1227
S505	196	2'-6"	STR.						511
S506	3	11'-0"	25	2'-0"	2'-11"	1'-2"	2'-1"		36
S601	822	28'-6"	STR.						35187
S602	1090	30'-0"	STR.						49115
S603	88	39'-0"	STR.						5155
S604	44	31'-6"	STR.						2082
S605	109	10'-6"	STR.						1719
S606	26ER19	5'-6" / 26'-0"	STR.					1'-1⅜"	899
S607	26ER22	6'-0" / 30'-6"	STR.					1'-2"	1206
S608	10	6'-0"	STR.						90
S610	12	6'-0"	STR.						108
S611	4	9'-8"	14	2'-10"	2'-0"				58
S701	392	33'-6"	STR.						26842
S702	438	28'-6"	STR.						21039
S703	26ER18	6'-0" / 22'-9"	STR.					1'-2"	1168
S704	26ER23	6'-0" / 31'-3"	STR.					1'-1¾"	1751
S705	10	6'-0"	STR.						123
					TOTAL	SUPERSTRUCTURE			153,699

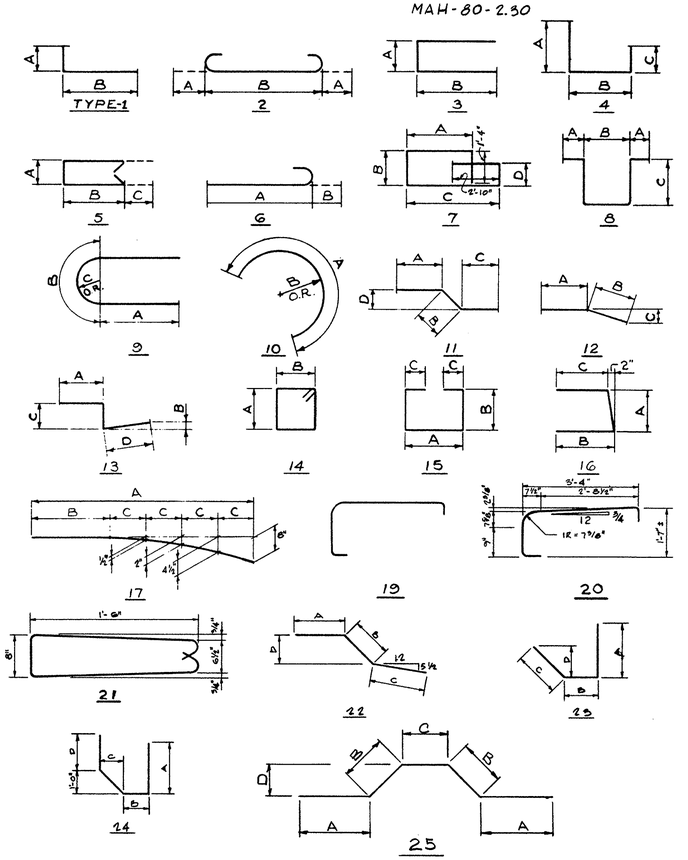
MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.
RAILING ⊗									
R501	136	15'-4"	STR.						
R502	8	12'-3"	STR.						
R503	8	12'-5"	STR.						
R504	4	16'-0"	STR.						
R505	4	17'-3"	STR.						
R506	4	15'-6"	STR.						
R507	4	18'-2"	STR.						
R508	8	4'-2"	20						
R509	12	5'-4"	21						
R510	2	11'-0"	25	2'-0"	2'-11"	1'-2"	2'-1"		
R511	2	8'-10"	25	2'-0"	11"	3'-0"	8"		
REPLACEMENT BARS									
RE-401	1	4'-5"	3	2'-8"	1'-0"				
RE-501	1	6'-6"	STR.						
RE-601	6	7'-0"	STR.						
RE-701	3	7'-3"	STR.						
RE-801	1	7'-6"	STR.						
RE-901	–	7'-10"	STR.						
RE-1001	1	8'-3"	STR.						
RE-1101	2	8'-9"	STR.						

SPIRAL REINFORCING SCHEDULE

MARK	NO. REQ'D.	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT LBS.
SP401	4	2'-8"	18'-2¾"	4½"	52	1344
SP402	4	2'-8"	18'-1¾"	4½"	51	1324
SP403	1	2'-8"	20'-6⅞"	4½"	58	376
SP404	1	2'-8"	19'-10⅜"	4½"	56	363
SP405	1	2'-8"	19'-1¾"	4½"	54	350
SP406	1	2'-8"	18'-5¼"	4½"	52	337
				TOTAL SPIRALS		4,094

GRAND TOTAL 228,755 LBS.



REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL SCHEDULE FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE PIER CAP. THE NUMBER OF TURNS SHOWN IN THE STEEL SCHEDULE FOR SPIRAL BARS IS THE LENGTH DIVIDED BY THE PITCH PLUS THREE TURNS (TOTAL NUMBER OF CLOSED COILS) EXPRESSED AS THE NEAREST WHOLE NUMBER. SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS, BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 509. ONE AND ONE HALF CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOUR (4) STEEL CHANNEL, TEE OR ANGLE SPACERS WEIGHING APPROX. 0.68 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS BASED ON 0.68 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIDGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED INDICATE THE BAR SIZE NUMBER. A-601 IS A NO. 6 SIZE BAR AND P-1001 IS A NO. 10 SIZE BAR.

⊗RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 517 FOR PAYMENT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

REINFORCING SCHEDULE

BRIDGE NO. MAH-80-0186
LINE "A" OVER OHIO TURNPIKE
I-80 MAHONING COUNTY
STA. 104+25.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.A.H.	D.F.D.		E.A.H. D.H.S.	RDN	3-23-67	

FED. RD.	STATE	PROJECT	
2	OHIO		

337
384

MAH-80 S-7.01
MAH-80-2.30

CURVE DATA

℄ LINE "A"

P.I. STA. 460+31.20
Δ = 29°-15'-00"
D_C = 4°-00'-00"
R = 1432.39'
T = 367.22'
L_C = 681.29'

PROPOSED STRUCTURE

TYPE: CONTINUOUS WELDED STEEL PLATE GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.
SKEW: 30°00'00" L.P.
SPANS: 61'-3" - 94'-3" - 103'-6" - 67'-3" ℄ BRGS.
ROADWAY: 53'-0" W/ PARAPETS - 3' MEDIAN.
WEARING SURFACE: 1" MONOLITHIC.
LOAD FREQUENCY: CF = 2000 ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING.
APPROACH SLABS: 25' LONG (AS-1-54)
ALIGNMENT: 4-00-00 CURVE RT. & TANGENT
SUPERELEVATION: TRANSITION
SLOPE PROTECTION: CRUSHED AGGREGATE (601.05)

TRAFFIC: I-80: 28,091 - A.D.T - 1985
LINE "A" - 8108 - A.D.T. - 1985

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

SITE PLAN

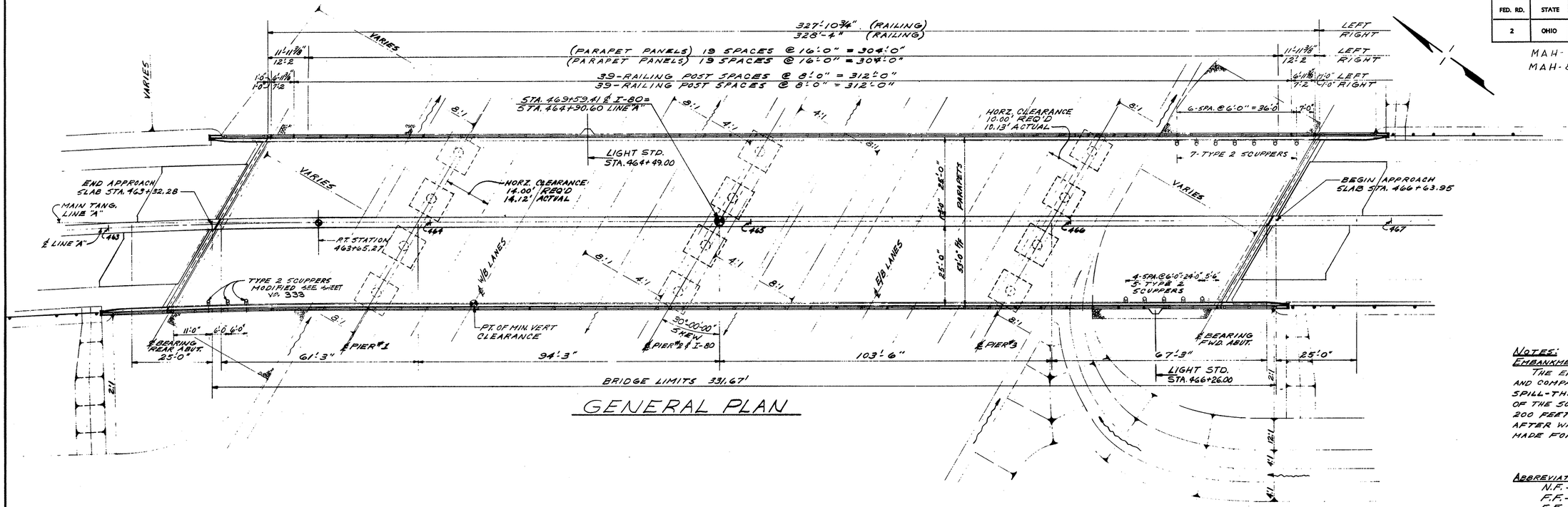
BRIDGE NO MAH-80-0240
UNDER LINE "A"
I-80 MAHONING COUNTY
STA. 469+59.41.

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.S.	KENNESSY		E.A.H.	RDH	3-22-67	

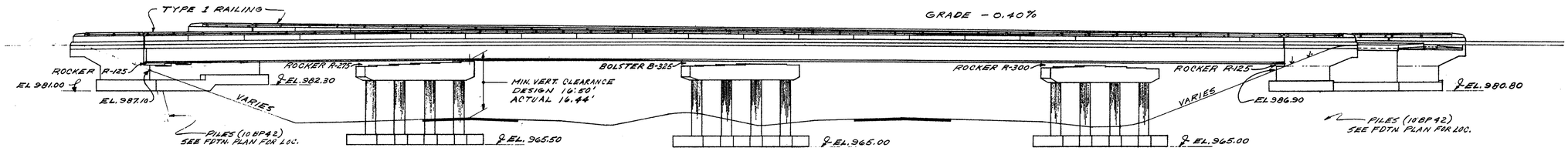
FED. RD.	STATE	PROJECT	
2	OHIO		

338
384

MAH-805-7.01
MAH-80-2.30



GENERAL PLAN



ELEVATION

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIERS	GEN'L.
503	417	CU.YD.	UNCLASSIFIED EXCAVATION		386	31	
503	307	CU.YD.	SHALE EXCAVATION			307	
505	LUMP	SUM	FIRST TEST PILE		LUMP		
507	664	LIN.FT.	STEEL PILES, 10BP42		664		
509	243,091	LBS.	REINFORCING STEEL	172,746	18,937	51,408	
511	581	CU.YD.	CLASS "C" CONCRETE, SUPERSTRUCTURE	581			
511	140	CU.YD.	CLASS "C" CONCRETE, PIERS ABOVE FOOTINGS			140	
511	247	CU.YD.	CLASS "E" CONCRETE, FOOTINGS		114	133	
511	169	CU.YD.	CLASS "E" CONCRETE, ABUTMENTS ABOVE FOOTINGS		169		
512	21	LIN.FT.	PREMOLDED SEALING STRIP		21		
513	539,500	LBS.	STRUCTURAL STEEL	539,500			
832	539,500	LBS.	FIELD PAINTING STRUCTURAL STEEL	539,500			
517	739.43	LIN.FT.	RAILING (TYPE 1)	457.57	81.86		
518	64	CU.YD.	POROUS BACKFILL		64		
518	115	LIN.FT.	6" HELICAL PERFORATED C.M. PIPE, INCL. SPECIALS (707.06)		115		
518	72	LIN.FT.	6" HELICAL NON-PERFORATED C.M. PIPE, INCL. SPECIALS (707.06)		72		
518	15	EACH	SCUPPERS, INCLUDING SUPPORTS	15			
601	772	SQ.YDS.	CRUSHED AGGREGATE SLOPE PROTECTION		772		
625			See sheet 247 for lighting summary.				
808	581	UNITS	WATER-REDUCING, SET RETARDING ADMIXTURE	581			
825	2,279	SQ.YD.	CONCRETE SURFACE TREATMENT	2,208	71		
828	112	LIN.FT.	JOINT SEALER	112			

FORM DDA-8

NOTES:

EMBANKMENT PROCEDURE:
THE EMBANKMENT SHALL BE PLACED AND COMPACTED UP TO THE FINISHED SPILL-THRU SLOPE AND TO THE LEVEL OF THE SUBGRADE FOR A DISTANCE OF 200 FEET BACK OF THE ABUTMENTS, AFTER WHICH EXCAVATION SHALL BE MADE FOR THE ABUTMENTS

ABBREVIATIONS USED:
N.F. —— NEAR FACE
F.F. —— FAR FACE
E.F. —— EACH FACE

FOR ADDITIONAL NOTES SEE SHEET NO. 283

EXCAVATION QUANTITY INCLUDES THE REMOVAL OF FILL MATERIAL REQUIRED FOR CONSTRUCTION OF THE ABUTMENTS AND PIERS.
SEE SHEET NO. 348 FOR LIGHT STANDARD SUPPORT DETAILS
SEE SHEET NO. 285 FOR ANCHOR BOLT FOR GUARD RAIL AT ENDS OF PARAPETS.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

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GENERAL PLAN & ELEVATION

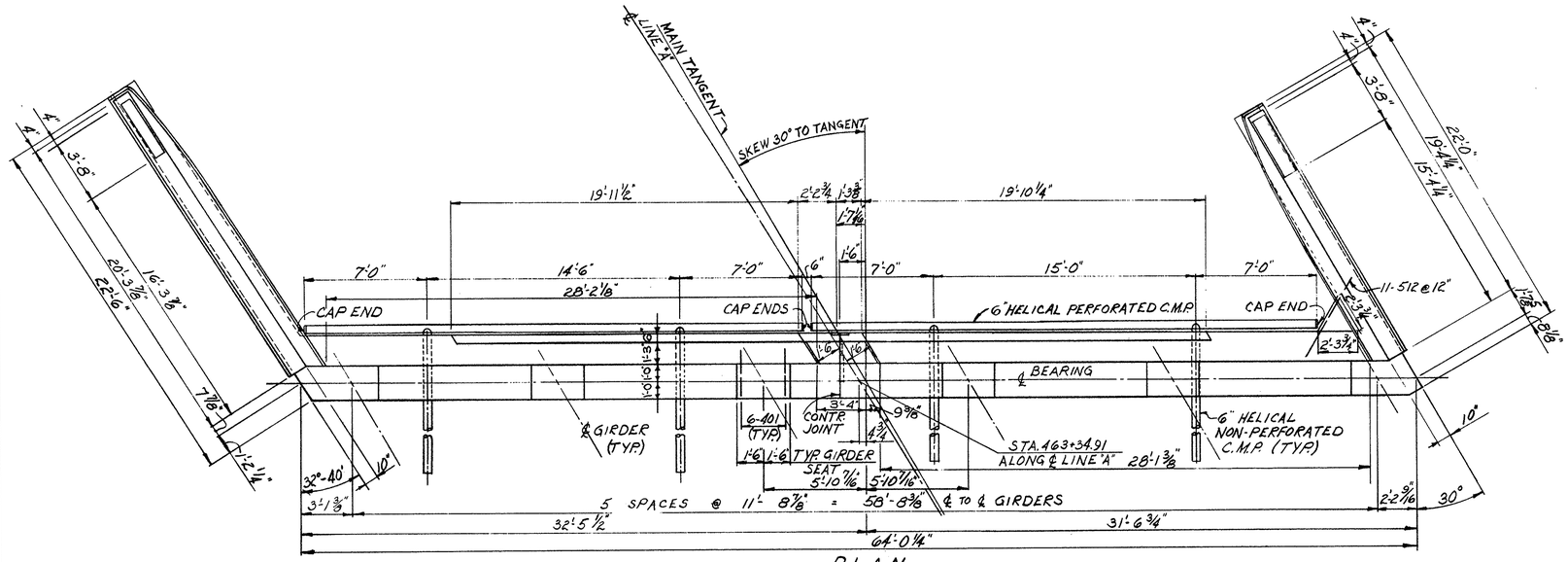
BRIDGE NO. MAH-80-0240
UNDER LINE "A"
I-80 MAHONING COUNTY
STA. 469+59.41

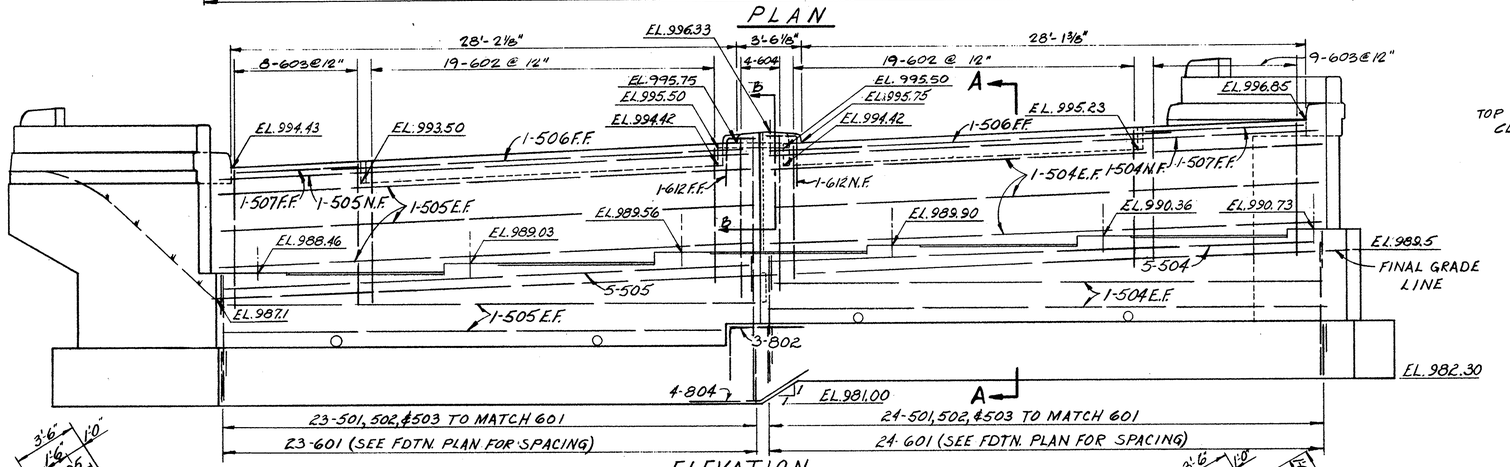
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.S.	R.J.P.		E.A.H. 2-21-67	R.D.W.	3-22-67	

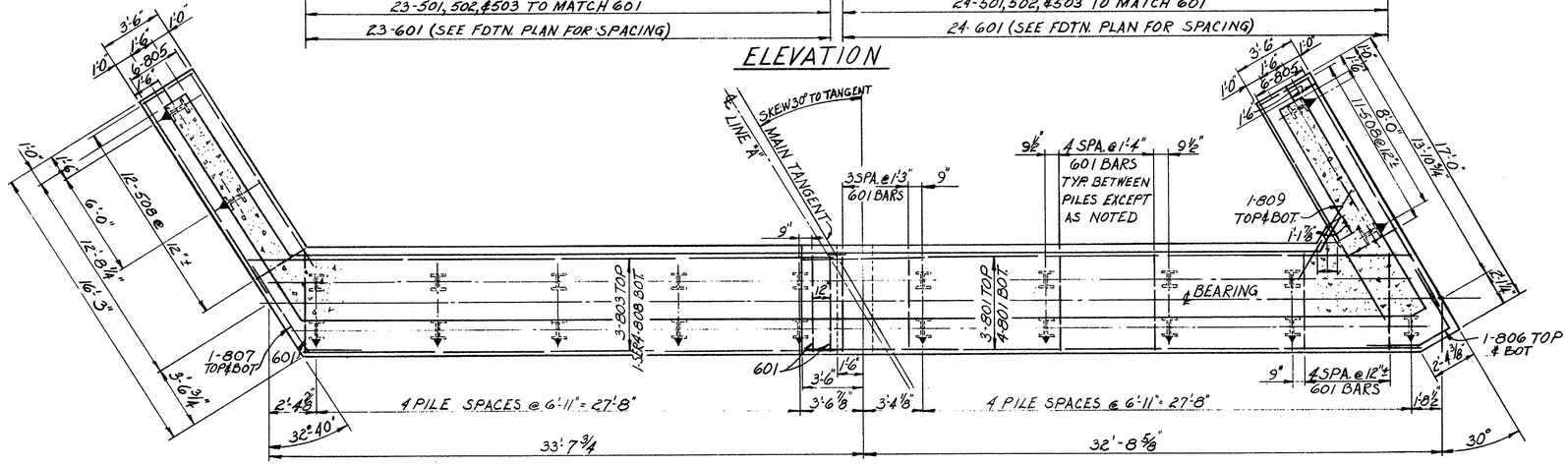
FED. RD.	STATE	PROJECT	
2	OHIO		

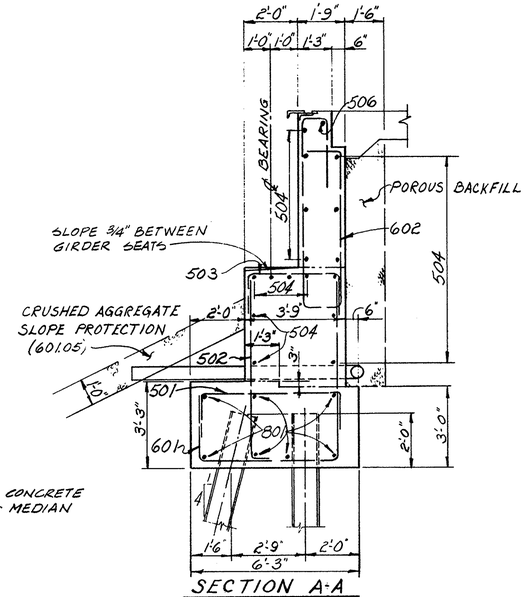
339
384

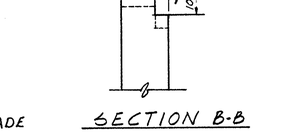
MAH-80S-7.01
MAH-80-2.30

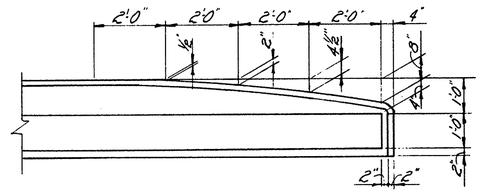












NOTES:
POROUS BACKFILL SHALL EXTEND UPWARD TO THE APPROACH SLAB AND TO THE PAVED SHOULDERS, AND OUTWARD TO THE INSIDE FACE OF WINGWALLS. EXCAVATION THEREFORE, IN EXCESS OF THAT REQUIRED FOR CONSTRUCTION OF THE ABUTMENT, SHALL BE CONSIDERED AS PAID FOR IN THE BID PRICE PER CU. YD. PAID FOR POROUS BACKFILL

THE PREFIX "RA" SHALL BE ADDED TO ALL REINFORCING MARKS IN THE REAR ABUTMENT

ALL PILES SHALL BE 10BP42 STEEL BEARING PILES AND SHALL BE BATTERED 1 IN 4 IN DIRECTION SHOWN THUS ▼

BACKWALL ELEVATIONS ARE GIVEN AS FINAL PAVEMENT ELEVATIONS @ FRONT FACE OF BACKWALL.

FOR ADDITIONAL NOTES SEE SHEET NO 338.
FOR CONTRACTION JOINT DETAIL SEE SHEET NO. 329.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

REAR ABUTMENT DETAILS

BRIDGE NO. MAH-80-0240
UNDER LINE "A"
I-80 MAHONING COUNTY
STA. 469+59.41

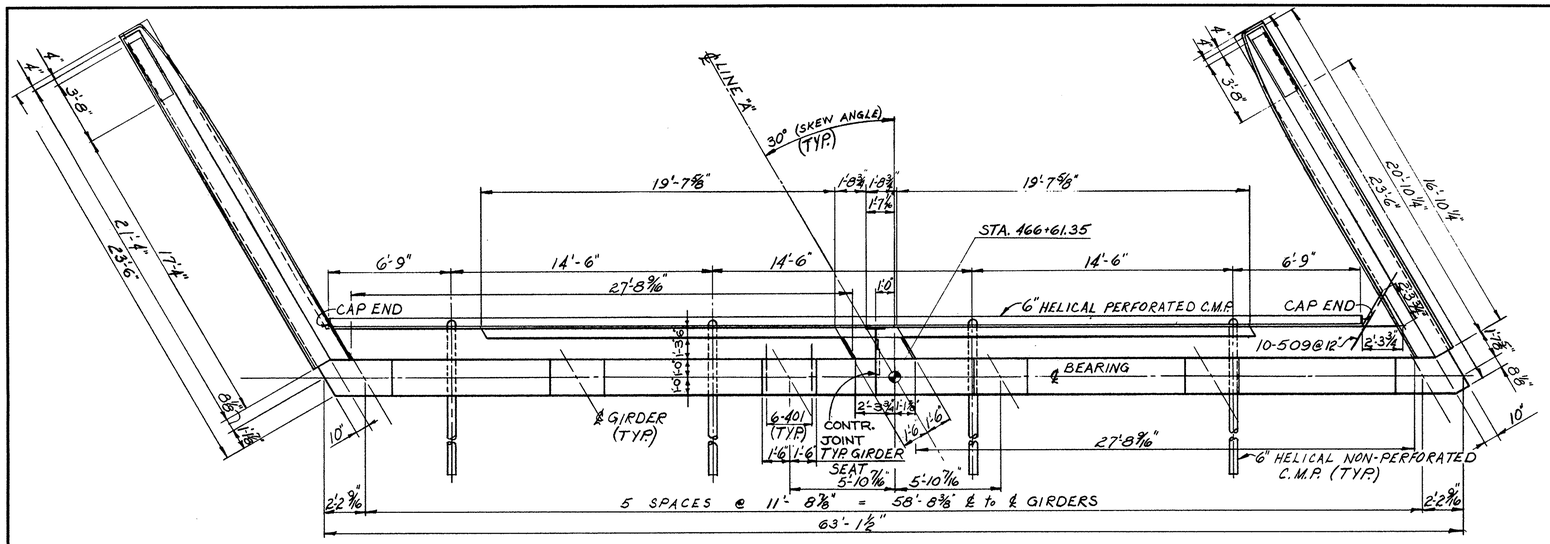
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.S.	D.H.S.		V.H.	RDH	3-22-67	

FORM DDA-6

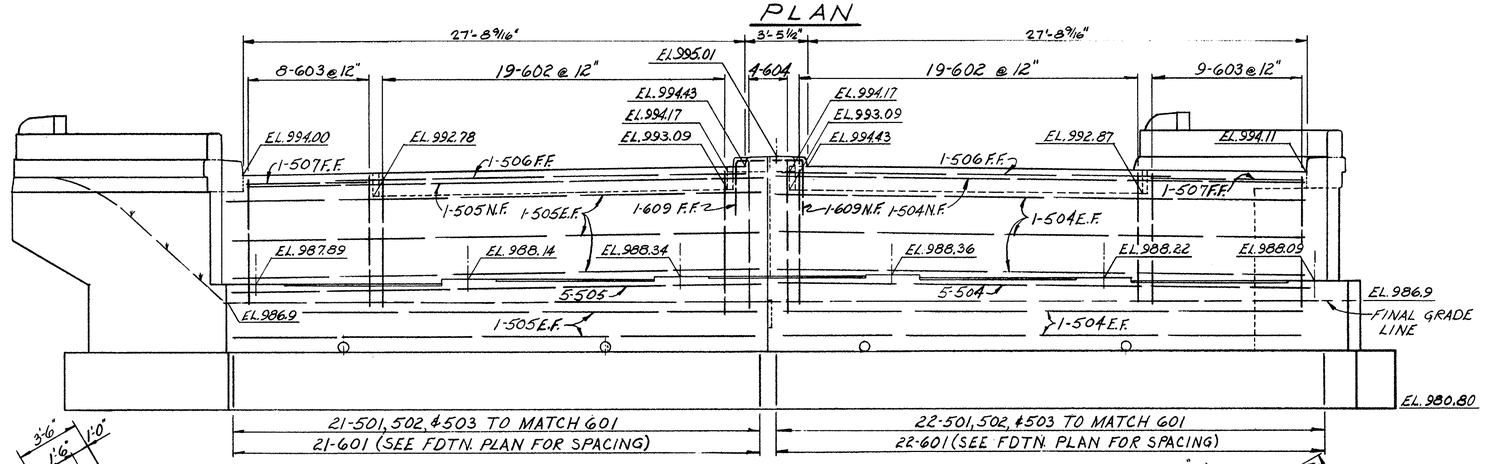
FED. RD.	STATE	PROJECT	
2	OHIO		

340
384

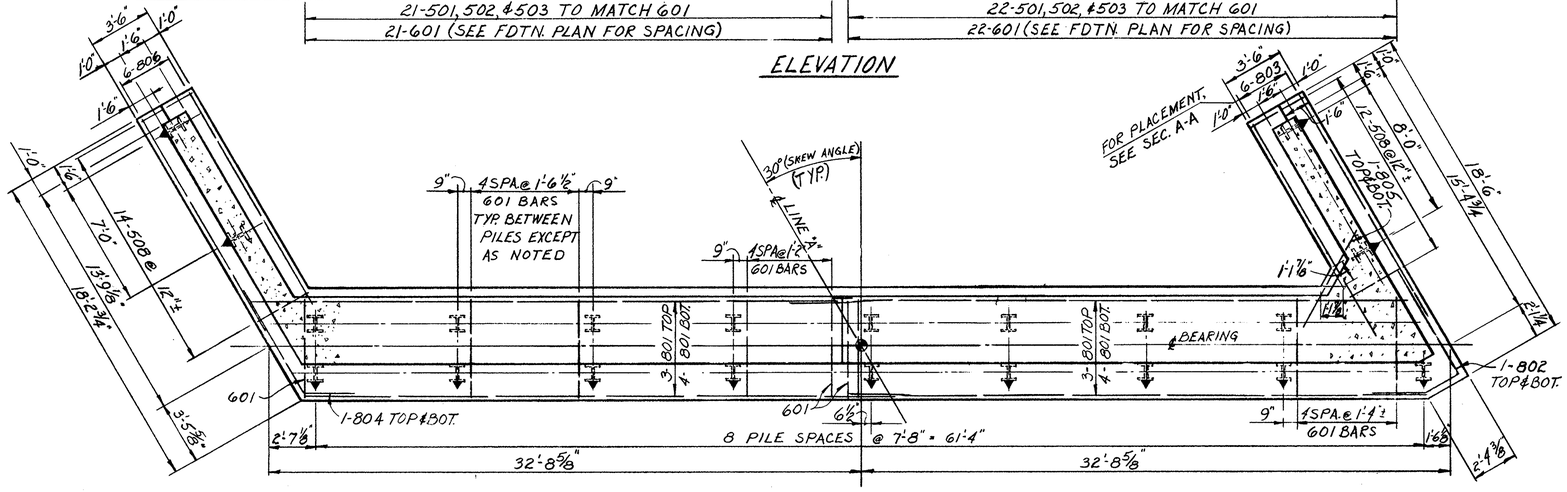
MAH-80S-7.01
MAH-80-2.30



PLAN



ELEVATION



FOUNDATION PLAN

NOTE:
FOR SECTIONS THROUGH ABUTMENT SEE SHEET NO. 339

NOTES:
THE PREFIX "FA" SHALL BE ADDED TO ALL REIFORCING BAR MARKS IN THE FORWARD ABUTMENT.

ALL PILES SHALL BE 10BP42 STEEL BEARING PILES AND SHALL BE BATTERED 1 IN 4 IN DIRECTION SHOWN THUS ▲

BACKWALL ELEVATIONS ARE GIVEN AS FINAL PAVEMENT ELEVATIONS @ FRONT FACE OF BACKWALL

FOR ADDITIONAL NOTES SEE SHEET NO. 339

FOR CONTRACTION JOINT DETAIL SEE SHEET NO. 329.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

FORWARD ABUTMENT DETAILS

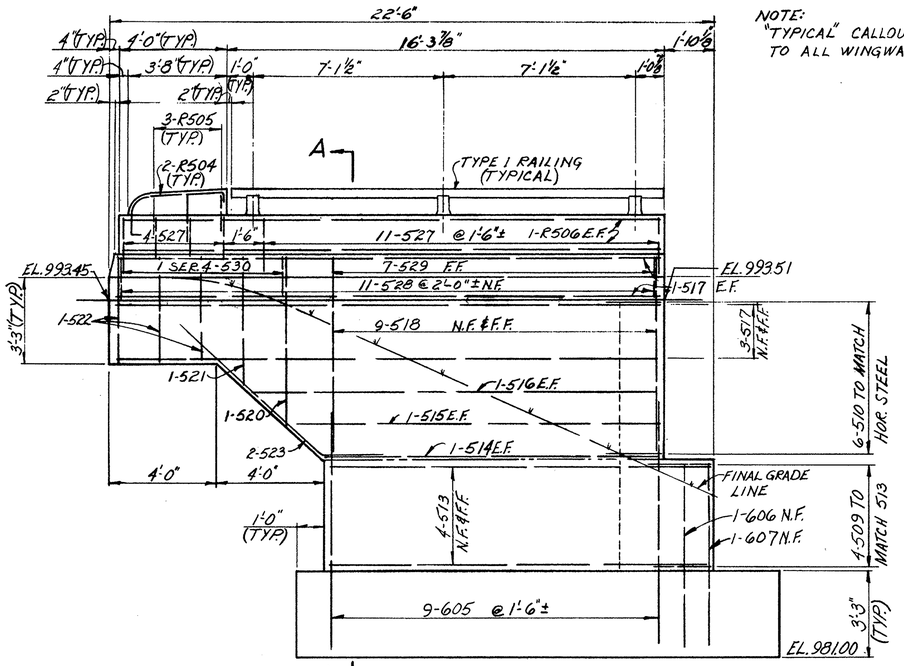
BRIDGE NO. MAH-80-0240
UNDER LINE "A"
I-80 MAHONING COUNTY
STA. 469+59.41

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.S.	D.H.S.		J.H.	RBH	3-22-67	

FED. RD.	STATE	PROJECT	
2	OHIO		

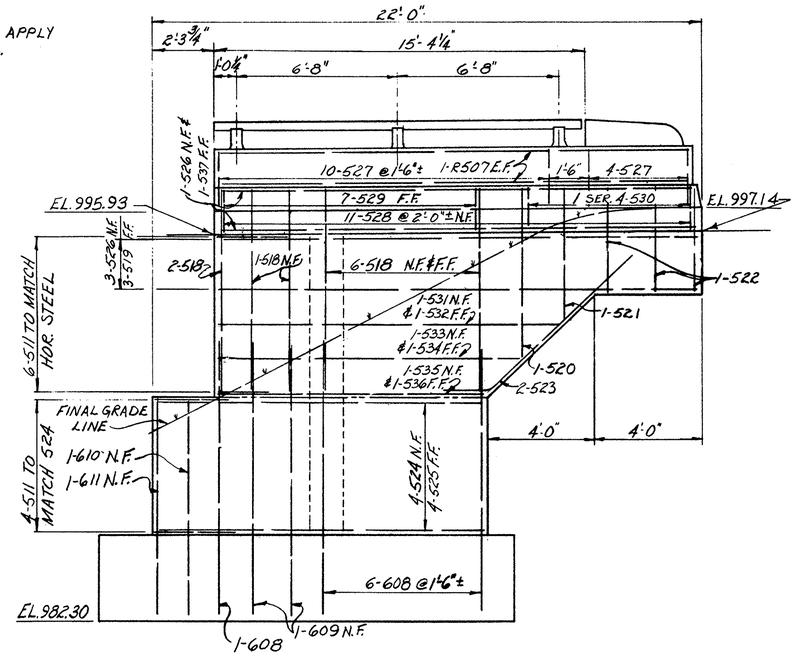
341
384

MAH-80S-7.01
MAH-80-2.30

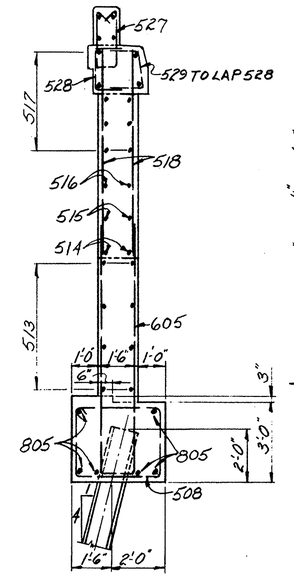


ELEVATION- WEST WINGWALL

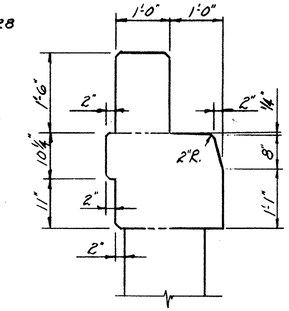
NOTE:
"TYPICAL" CALLOUTS APPLY TO ALL WINGWALLS.



ELEVATION- EAST WINGWALL



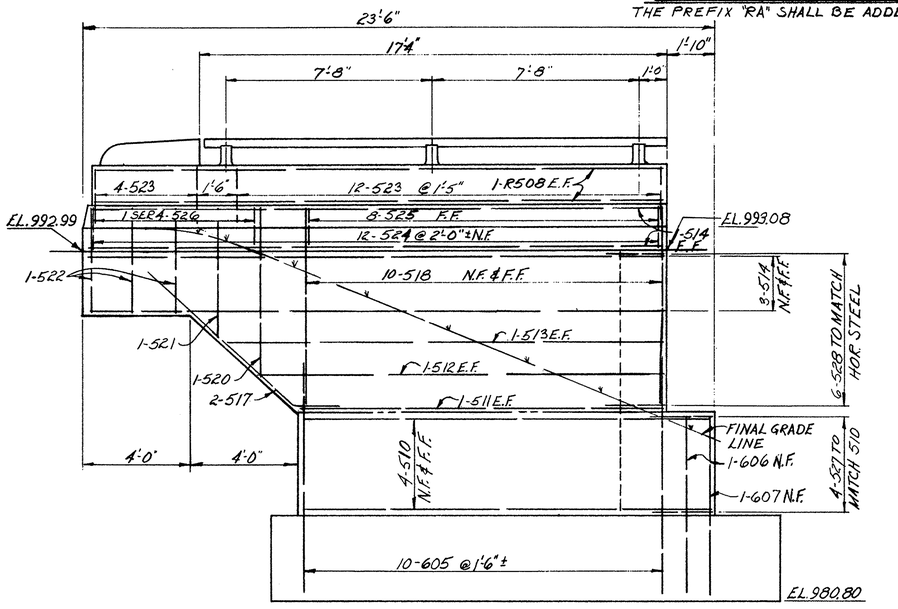
SECTION A-A
(OTHER WINGWALLS SIMILAR)



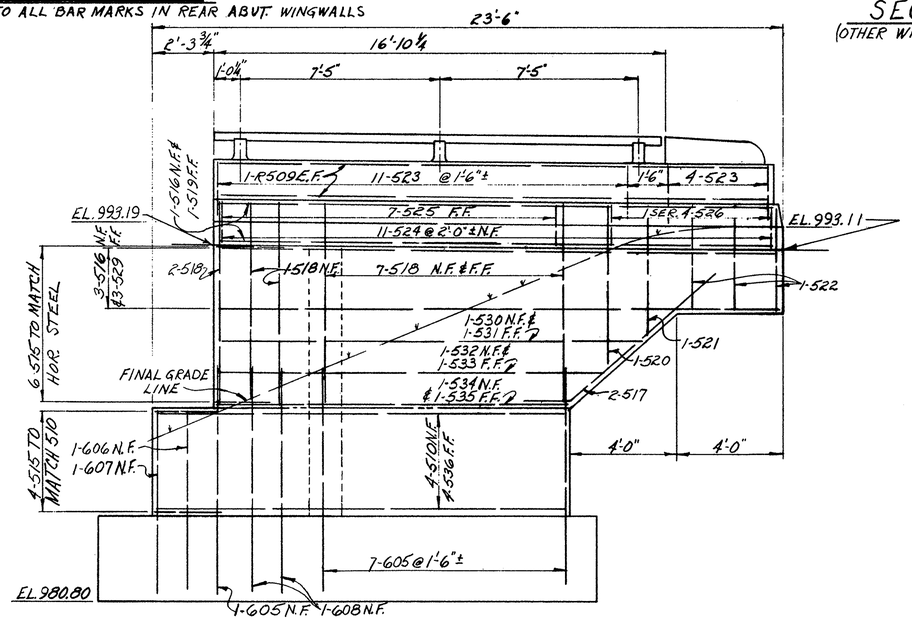
TYPICAL CURB SECTION
FOR CURB TRANSITION DETAILS, SEE SHEET NO. 339.

REAR ABUTMENT WINGWALL DETAILS

THE PREFIX "RA" SHALL BE ADDED TO ALL BAR MARKS IN REAR ABUT. WINGWALLS



ELEVATION - EAST WINGWALL



ELEVATION - WEST WINGWALL

FORWARD ABUTMENT WINGWALL DETAILS

THE PREFIX "FA" SHALL BE ADDED TO ALL BAR MARKS IN FORWARD ABUT. WINGWALLS

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

ABUTMENT WINGWALLS
BRIDGE NO. MAH-80-0240
UNDER LINE "A"
I-80 MAHONING COUNTY
STA. 469 + 59.41

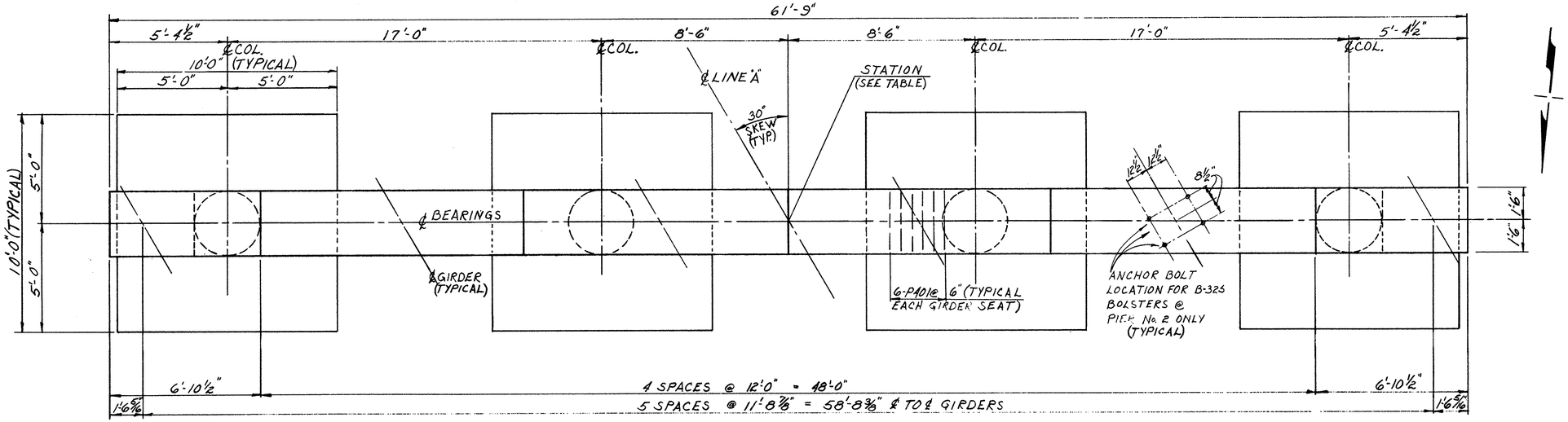
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.S.	D.H.S.		J.H.	RBN	3-22-67	

FORM DDA-6

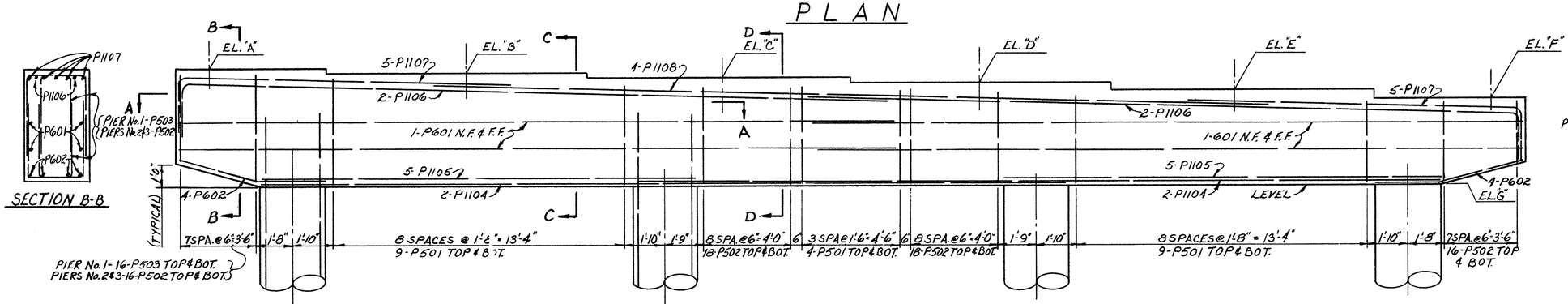
FED. RD.	STATE	PROJECT	
2	OHIO		

342
384

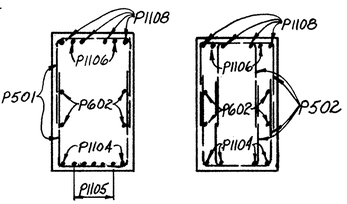
MAH-80S-7.01
MAH-80-2.30



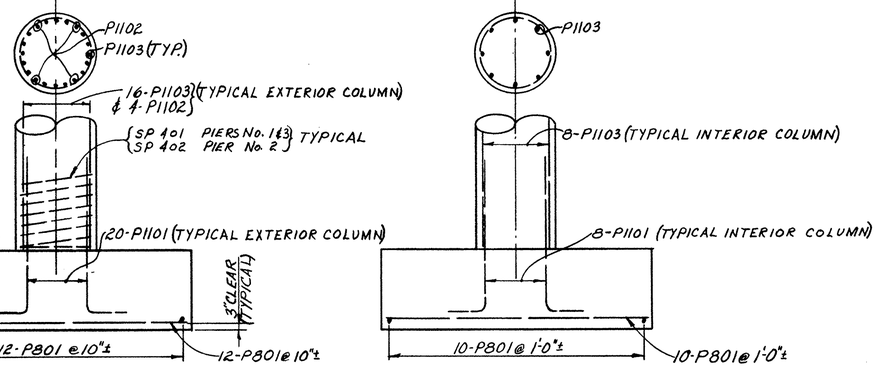
PLAN



SECTION B-B

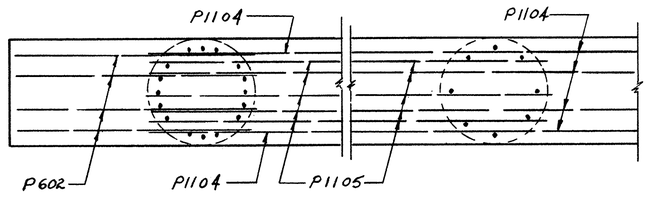


SECTION C-C SECTION D-D



NOTE: FOOTING REINFORCING SHOWN IS TYPICAL FOR EXTERIOR OR INTERIOR FOOTINGS RESPECTIVELY.

ELEVATION



SECTION A-A

TABLE OF STATIONS AND ELEVATIONS

PIER No.	STATION	ELEVATIONS "A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
1	463+96.35	989.44	989.26	988.98	988.76	988.40	988.00	984.00	965.50
2	464+90.60	988.26	988.36	988.36	988.30	988.17	988.03	984.03	965.00
3	465+94.10	987.46	987.71	987.91	987.93	987.80	987.66	983.46	965.00

NOTE:
BRIDGE SEAT REINFORCING: SPECIAL CARE SHALL BE TAKEN IN PLACING REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT SO AS TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BAR HOLES.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

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PIER DETAILS

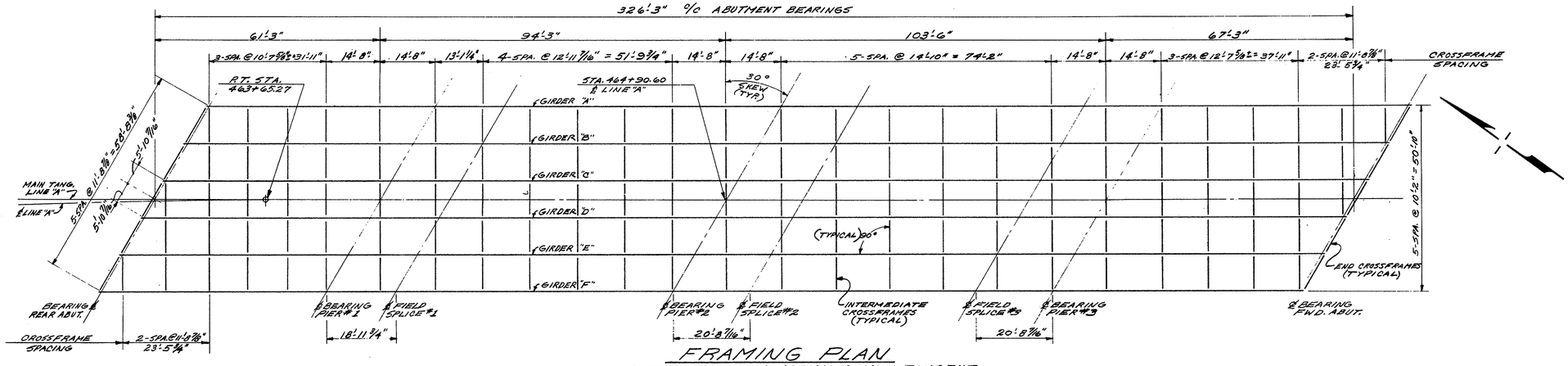
BRIDGE NO. MAH-80-0240
UNDER LINE "A"
I-80 MAHONING COUNTY
STA. 469 + 59.41

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.S.	D.H.S.		J.H.	RBH	3-22-67	

FED. RD.	STATE	PROJECT	
2	OHIO		

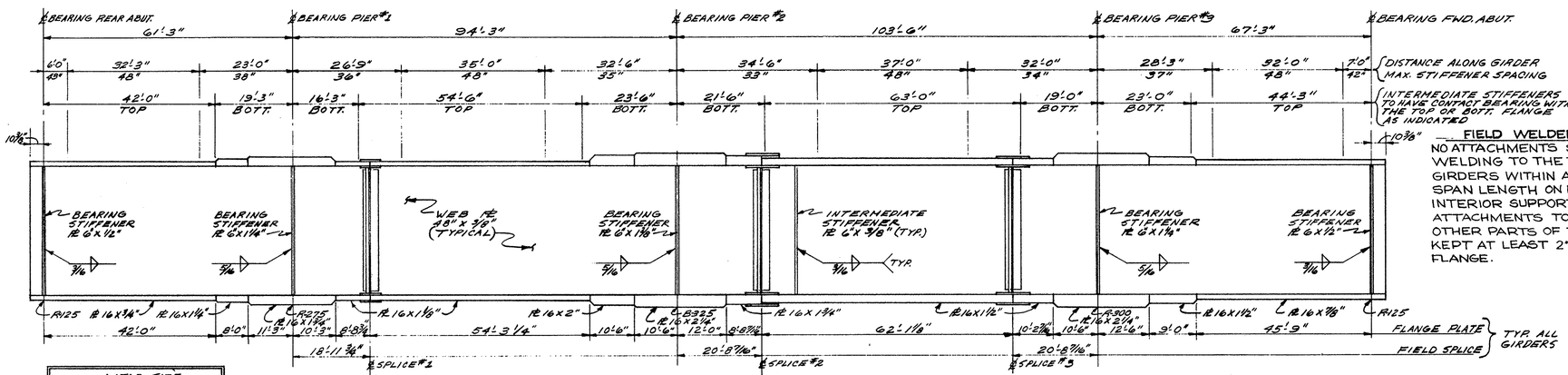
343
384

MAH-80S-7.01
MAH-80-2.30



FRAMING PLAN

NOTE: ALL DIMENSIONS ARE ALONG MAIN TANGENT



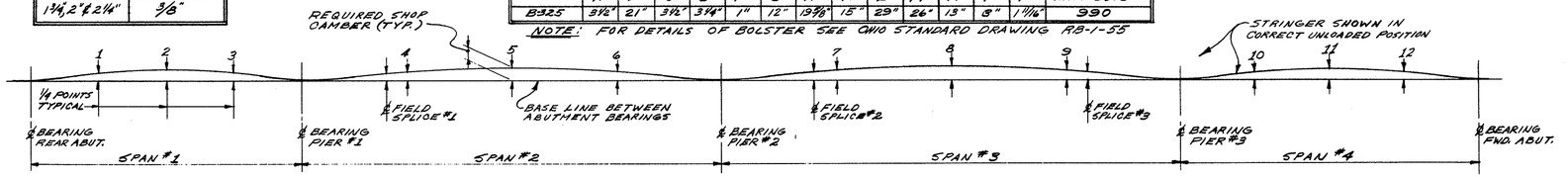
TYPICAL GIRDER ELEVATION

WELD SIZE WEB TO FLANGE	
FLANGE ℄ THICKNESS	FILLET WELD SIZE
3/4, 7/8, 1 1/16, 1 1/4 & 1 1/2"	5/16"
1 5/8, 2" & 2 1/4"	3/8"

MODIFIED BOLSTER

NO.	DIMENSIONS													WEIGHT (LB.) EACH B325
	A	B	C	D	F	G	H	K	L	M	R	T	Y	
B325	3 1/2"	21"	3 1/2"	3 1/4"	1"	12"	13 3/8"	15"	29"	26"	13"	8"	1 1/16"	390

NOTE: FOR DETAILS OF BOLSTER SEE OHIO STANDARD DRAWING RB-1-55

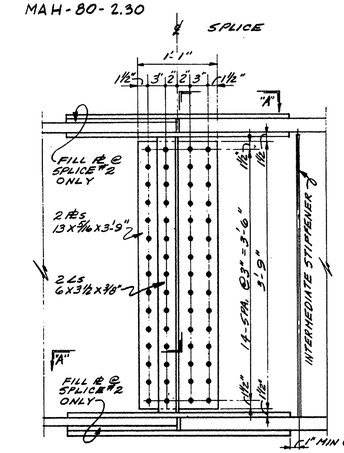


LAYOUT DIAGRAM AND DEFLECTION & CAMBER TABLE

LOCATION	EXTERIOR GIRDERS "A" & "F"													INTERIOR GIRDERS "B" THROUGH "E"											
	1	2	3	FIELD SPLICE #1	4	5	6	FIELD SPLICE #2	7	8	9	FIELD SPLICE #3	10	11	12	1	2	3	FIELD SPLICE #1	4	5	6	FIELD SPLICE #2	7	8	9	FIELD SPLICE #3	10	11	12
DEFLECTION DUE TO WEIGHT OF STEEL	.026	.027	.007	.037	.049	.074	.031	.058	.079	.140	.088	.067	.002	.026	.027	.026	.027	.007	.037	.049	.074	.031	.058	.079	.140	.088	.067	.002	.026	.027
DEFLECTION DUE TO REMAINING DEAD LOAD	.109	.115	.031	.156	.209	.316	.133	.247	.333	.594	.371	.284	.008	.110	.115	.119	.125	.034	.173	.228	.344	.145	.270	.364	.647	.405	.310	.009	.120	.125
ADJUSTMENT REQUIRED FOR VERTICAL CURVE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUM OF DEFLECTION AND ADJUSTMENT	.135	.142	.038	.193	.258	.390	.164	.305	.412	.734	.459	.351	.010	.136	.142	.145	.152	.041	.210	.277	.418	.176	.328	.443	.787	.493	.377	.011	.146	.152
REQUIRED SHOP CAMBER	1/8"	1/8"	1/16"	3/16"	1/4"	3/8"	3/16"	5/16"	7/16"	3/4"	7/16"	3/8"	0	1/8"	1/8"	1/8"	1/8"	1/16"	3/16"	1/4"	7/16"	3/16"	5/16"	7/16"	13/16"	1/2"	3/8"	0	1/8"	1/8"

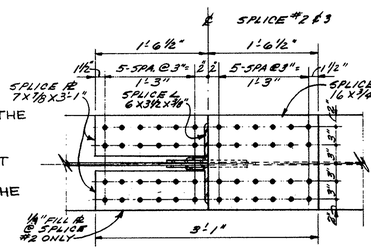
NOTES:
SEE SHEET NO. 306 FOR INTERMEDIATE CROSS FRAME & STIFFENER DETAIL, FLANGE WELD DETAIL, AND BEARING STIFFENER DETAIL.

NOTES:
TOP & BOTTOM FLANGE PLATES ARE TO BE THE SAME AND SHALL BE SPLICED AT POINTS SHOWN ON THE GIRDER ELEVATION.
INTERMEDIATE STIFFENERS SHALL BE PLACED IN PAIRS EQUALLY SPACED BETWEEN FIELD SPLICE ANGLES AND/OR CROSS FRAME STIFFENERS AND/OR BEARING STIFFENERS IN ACCORDANCE WITH MAXIMUM STIFFENER SPACING SHOWN ON THE GIRDER ELEVATION.
ALL GIRDER FIELD SPLICES SHALL BE MADE WITH 7/8" ℄ HIGH STRENGTH STEEL BOLTS. THE BOLTS SHALL BE PLACED WITH THEIR HEADS ON THE OUTSIDE FACE OF EXTERIOR GIRDERS AND ON THE BOTTOM OF ALL FLANGE PLATES. THE CONTRACTOR SHALL SUBMIT TO THE DIRECTOR FOR APPROVAL, 3 PRINTS SHOWING HIS PROPOSED ERECTION PROCEDURE.

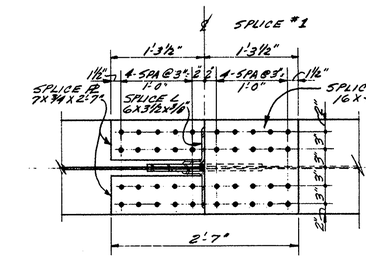


TYPICAL FIELD WEB SPLICE

FIELD WELDED ATTACHMENTS:
NO ATTACHMENTS SHALL BE MADE BY WELDING TO THE TOP FLANGES OF THE GIRDERS WITHIN A DISTANCE OF 0.10 OF THE SPAN LENGTH ON EITHER SIDE OF THE INTERIOR SUPPORTS. WELDING FOR ATTACHMENTS TO THE TOP FLANGES AT OTHER PARTS OF THE SPANS SHALL BE KEPT AT LEAST 2" FROM THE EDGE OF THE FLANGE.



SECTION "A-A" FIELD FLANGE SPLICE #2 & 3



SECTION "A-A" FIELD FLANGE SPLICE #1

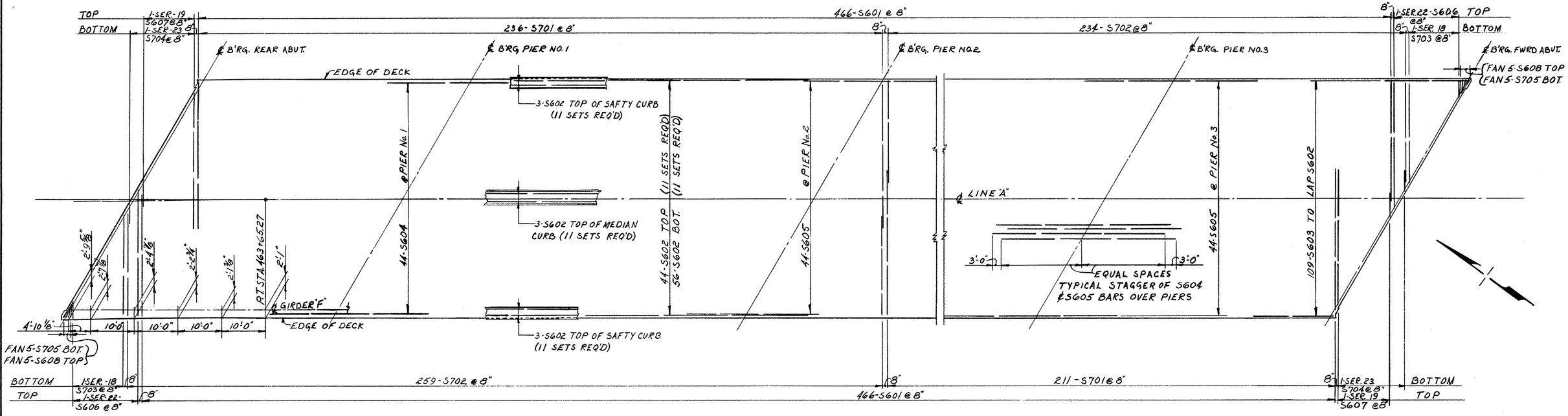
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES
DALTON • DALTON ASSOCIATES

FRAMING PLAN
BRIDGE NO. MAH-80-0240
UNDER LINE "A"
I-80 MAHONING COUNTY
STA. 469 + 59.41

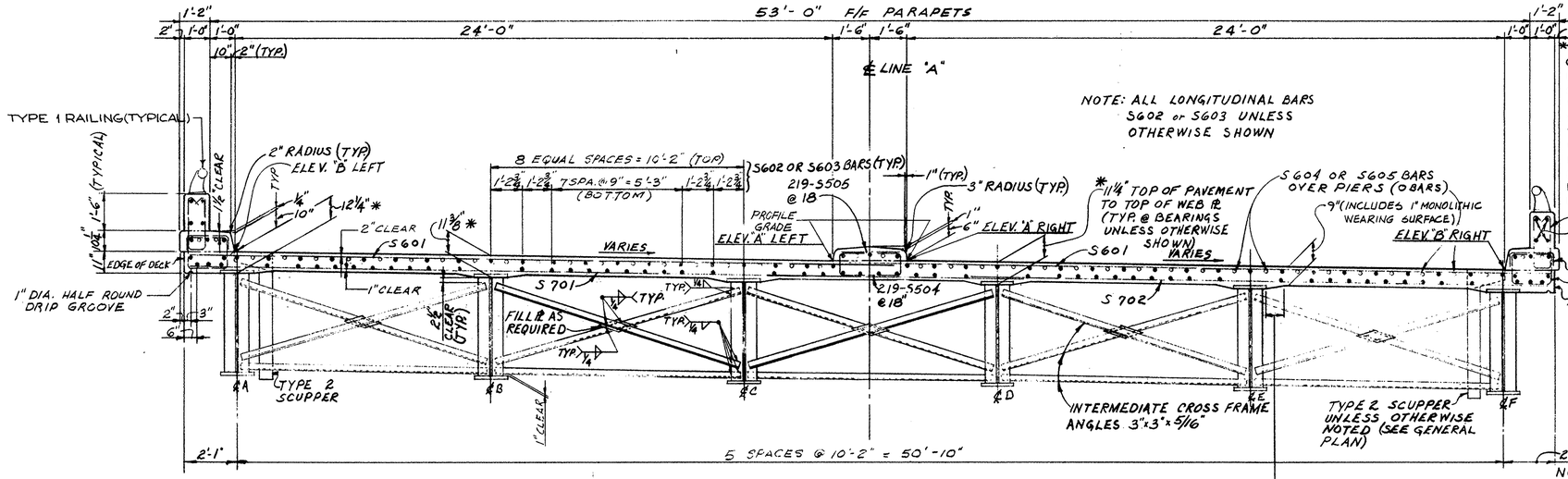
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.M.S.	R.D.P.		E.A.H.	EDH	3-22-67	

MAH-80S-7.01
MAH-80-2.30

FED. RD.	STATE	PROJECT	
2	OHIO		



PLAN - DECK SLAB REINFORCING



NOTE: ALL LONGITUDINAL BARS S602 or S603 UNLESS OTHERWISE SHOWN

TRANSVERSE SECTION

NOTES

FOR REINFORCING SCHEDULE AND BAR BENDING DIAGRAM, SEE SHEET NO. 346.

FOR DETAILS NOT SHOWN, SEE FRAMING PLAN, SHEET NO. 343.

FOR LOCATION OF SCUPPERS SEE GENERAL PLAN SHEET NO. 338.

*THIS IS THE NOMINAL DIMENSION. THE QUANTITY OF DECK CONCRETE TO BE PAID FOR SHALL BE BASED UPON THIS DIMENSION, EVEN THOUGH DEVIATION FROM IT MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE GIRDER MAY NOT HAVE THE EXACT CAMBER OR CONFORMATION REQUIRED TO PLACE IT PARALLEL TO THE FINISHED GRADE. DEDUCTION SHALL BE MADE FOR VOLUME OF ENCASED STEEL PLATES AS PER SEC. 511.19 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

220-S503@18" (TYPICAL)
(76-R501 (TYPICAL INTERMEDIATE PANELS)
8-R502 (RIGHT SIDE END PANELS)
8-R503 (LEFT SIDE END PANELS)
220-S502@18" (TYPICAL)
220-S501@18" (TYPICAL)
EDGE OF DECK

A TYPICAL HAUNCH OF 9" SHALL BE USED FOR COMPUTING QUANTITY OF CONCRETE. HOWEVER, THE HAUNCH WIDTH MAY VARY BETWEEN 6" AND 12" PROVIDED THAT THE SLOPE SHALL NOT BE MORE THAN 1:4 FOR A HAUNCH LESS THAN 9" IN WIDTH.

ELEVATION TABLE

STATION	PROFILE GRADE ELEV.	ELEV. "A"⊗ LEFT	ELEV. "A"⊗ RIGHT	ELEV. "B"⊗ LEFT	ELEV. "B"⊗ RIGHT
463+25	995.78	—	—	997.11	—
+50	995.68	995.69	995.69	996.84	—
+75	995.58	995.59	995.59	996.55	994.62
464+00	995.48	995.48	995.48	996.29	994.69
+25	995.38	995.40	995.40	996.02	994.77
+50	995.28	995.31	995.31	995.73	994.87
+75	995.18	995.18	995.19	995.45	994.82
465+00	995.08	995.09	995.09	995.20	994.70
+25	994.98	995.02	995.02	994.95	994.62
+50	994.88	994.93	994.93	994.66	994.56
+75	994.78	994.80	994.80	994.41	994.45
466+00	994.68	994.68	994.68	994.31	994.31
+25	994.58	994.59	994.59	994.22	994.21
+50	994.48	994.49	994.49	—	994.12
+75	994.38	—	—	—	994.01

⊗ NOTE: THESE ELEVATIONS ARE THOSE WHICH ARE REQUIRED BEFORE THE CONCRETE IS PLACED. PROPER ALLOWANCE HAS BEEN MADE FOR DEAD LOAD DEFLECTIONS CAUSED BY THE WEIGHT OF CONCRETE.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

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SLAB PLAN & SECTION

BRIDGE NO. MAH-80-0240
UNDER LINE "A"
I-80 MAHONING COUNTY
STA. 469+59.41

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.S.	D.H.S.		E.A.H.	R.D.H.	3-22-67	

MAH-80S-7.01
MAH-80-2.30

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	DIMENSIONS B	DIMENSIONS C	DIMENSIONS D	SERIES INCR.	WEIGHT LBS.
REAR ABUTMENT									
RA 401	36	3'-0"	3	2'-2"	6½"				72
RA 501	47	8'-4"	3	5'-5"	1'-7"				409
RA 502	47	7'-6"	1	7½"	7'-0"				368
RA 503	47	8'-4"	3	3'-5"	2'-7"				409
RA 504	16	31'-0"	STR.						517
RA 505	16	30'-0"	STR.						501
RA 506	2	23'-0"	STR.						48
RA 507	2	9'-9"	STR.						20
RA 508	23	12'-0"	14	2'-7"	3'-2"				288
RA 509	4	4'-0"	12	2'-0"	2'-0"	1'-9"			17
RA 510	6	3'-11"	1	2'-0"	2'-0"				25
RA 511	10	3'-6"	23	1'-7"	6"	1'-7"	9½"		37
RA 512	11	5'-6"	STR.						63
RA 513	8	14'-0"	STR.						117
RA 514	2	12'-3"	STR.						26
RA 515	2	13'-9"	STR.						29
RA 516	2	15'-0"	STR.						31
RA 517	10	20'-3"	STR.						211
RA 518	34	6'-6"	STR.						231
RA 519	3	16'-3"	STR.						51
RA 520	2	12'-3"	3	1'-2"	5'-8"				26
RA 521	2	10'-3"	3	1'-2"	4'-8"				21
RA 522	6	8'-3"	3	1'-2"	3'-8"				52
RA 523	4	8'-7"	12	7'-0"	1'-7"	1'-0"			36
RA 524	4	13'-6"	STR.						56
RA 525	4	9'-0"	STR.						38
RA 526	5	19'-3"	STR.						100
RA 527	29	5'-7"	5	8"	2'-2"	5"			169
RA 528	22	2'-10"	3	1'-5"	10"				65
RA 529	14	4'-4"	16	1'-5"	1'-8"	1'-6"			63
RA 530	2 SER 4	3'-0" / 4'-2"	16	1'-5"	1'-0" / 1'-7"	10" / 1'-5"		4 11/16"	30
RA 531	1	13'-9"	STR.						14
RA 532	1	10'-9"	STR.						11
RA 533	1	12'-6"	STR.						13
RA 534	1	9'-6"	STR.						10
RA 535	1	11'-3"	STR.						12
RA 536	1	8'-3"	STR.						9
RA 537	2	18'-9"	STR.						39
RA 601	47	14'-8"	4	7'-0"	5'-5"	2'-7"			1035
RA 602	38	20'-4"	7	6'-8"	1'-5"	8'-0"	11"		1161
RA 603	17	19'-7"	14	8'-0"	1'-5"				500
RA 604	4	20'-11"	7	7'-3"	1'-5"	8'-0"	11"		126
RA 605	9	19'-4"	3	1'-2"	9'-3"				261
RA 606	1	7'-8"	1	10"	7'-0"				12
RA 607	1	14'-10"	3	1'-2"	7'-0"				22
RA 608	7	20'-10"	3	1'-2"	10'-0"				219
RA 609	2	10'-8"	1	10"	10'-0"				32
RA 610	1	8'-6"	1	10"	7'-10"				13
RA 611	1	16'-6"	3	1'-2"	7'-10"				25
RA 612	2	3'-0"	1	1'-1"	2'-1"				9
RA 801	7	34'-3"	STR.						640
RA 802	3	7'-0"	1	4'-0"	3'-2"				56
RA 803	3	33'-6"	STR.						268
RA 804	4	8'-0"	12	4'-1"	4'-0"	3'-0"			85
RA 805	12	15'-0"	STR.						481
RA 806	2	8'-3"	23	4'-0"	2'-0"	2'-6"	1'-6"		44
RA 807	2	5'-6"	12	3'-7"	2'-6"	2'-9"			29
RA 808	1 SER 4	29'-6" / 33'-0"	STR.					1'-2"	334
RA 809	2	6'-0"	STR.						32
				TOTAL	REAR	ABUTMENT			9,618

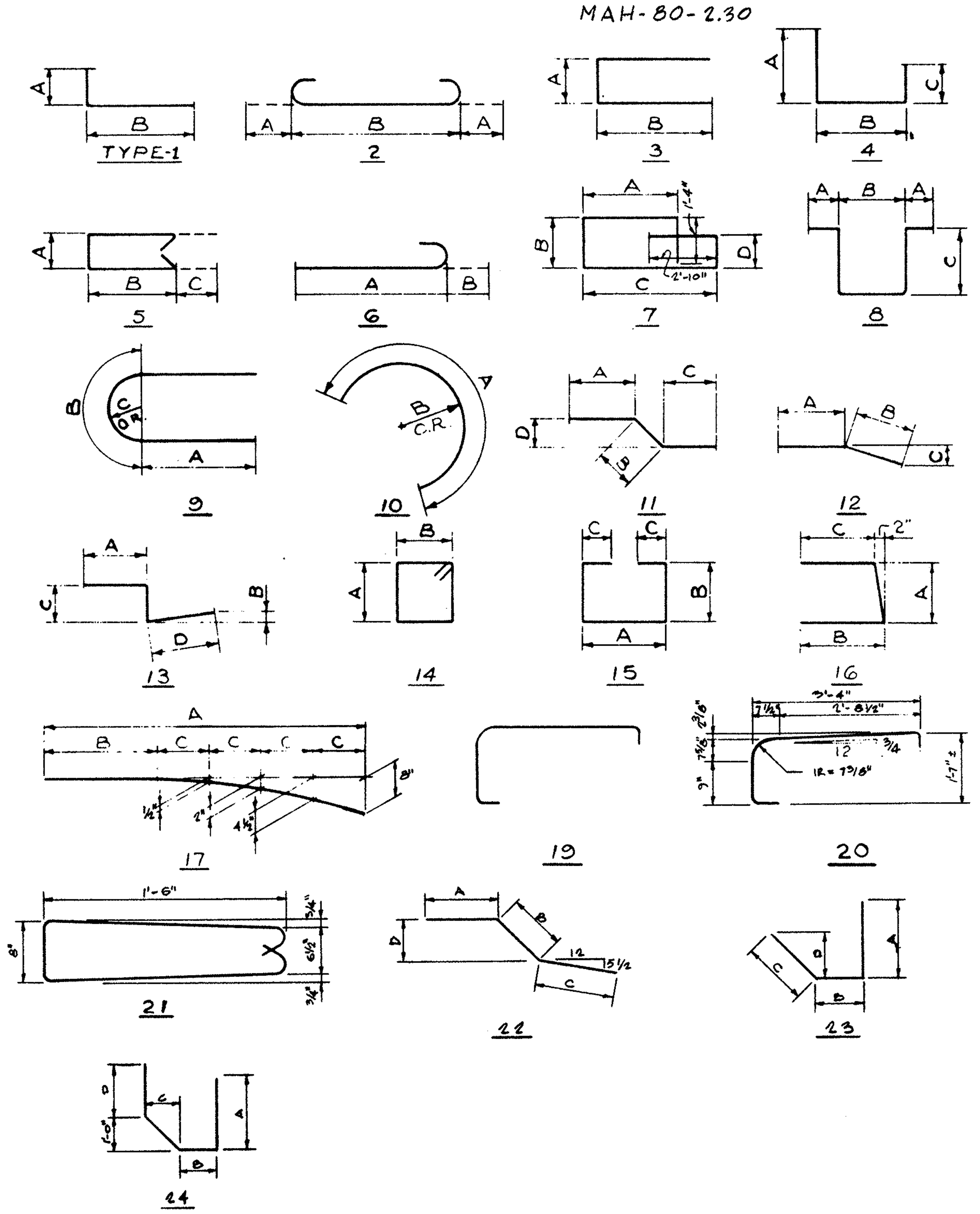
MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	DIMENSIONS B	DIMENSIONS C	DIMENSIONS D	SERIES INCR.	WEIGHT LBS.
FORWARD ABUTMENT									
FA 401	36	3'-0"	3	2'-2"	6½"				72
FA 501	43	8'-4"	3	5'-5"	1'-7"				374
FA 502	43	7'-1"	1	7½"	6'-7"				318
FA 503	43	7'-6"	3	3'-5"	2'-2"				336
FA 504	16	30'-0"	STR.						501
FA 505	16	29'-6"	STR.						492
FA 506	2	23'-0"	STR.						48
FA 507	2	9'-9"	STR.						20
FA 508	26	12'-0"	14	2'-7"	3'-2"				325
FA 509	10	5'-6"	STR.						57
FA 510	12	15'-0"	STR.						188
FA 511	2	13'-3"	STR.						28
FA 512	2	14'-6"	STR.						30
FA 513	2	15'-9"	STR.						33
FA 514	10	21'-3"	STR.						222
FA 515	10	3'-6"	23	1'-7"	6"	1'-7"	9½"		37
FA 516	5	20'-9"	STR.						108
FA 517	4	8'-7"	12	7'-0"	1'-7"	1'-0"			36
FA 518	38	6'-6"	STR.						258
FA 519	2	20'-3"	STR.						42
FA 520	2	12'-3"	3	1'-2"	5'-8"				26
FA 521	2	10'-3"	3	1'-2"	4'-8"				21
FA 522	6	8'-3"	3	1'-2"	3'-8"				52
FA 523	31	5'-7"	5	8"	2'-2"	5"			181
FA 524	23	2'-10"	3	1'-5"	10"				68
FA 525	15	4'-4"	16	1'-5"	1'-8"	1'-6"			68
FA 526	2 SER 4	3'-0" / 4'-2"	16	1'-5"	1'-0" / 1'-7"	10" / 1'-5"		4 11/16"	30
FA 527	4	4'-0"	12	2'-0"	2'-0"	1'-9"			17
FA 528	6	3'-11"	1	2'-0"	2'-0"				25
FA 529	3	17'-9"	STR.						56
FA 530	1	15'-3"	STR.						16
FA 531	1	12'-3"	STR.						13
FA 532	1	14'-0"	STR.						15
FA 533	1	11'-0"	STR.						11
FA 534	1	12'-9"	STR.						13
FA 535	1	9'-9"	STR.						10
FA 536	4	10'-6"	STR.						44
FA 601	43	14'-3"	4	6'-7"	5'-5"	2'-7"			920
FA 602	38	19'-8"	7	6'-2"	1'-5"	7'-6"	11"		1122
FA 603	17	18'-7"	14	7'-6"	1'-5"				475
FA 604	4	20'-11"	7	7'-3"	1'-5"	8'-0"	11"		126
FA 605	18	18'-10"	3	1'-2"	9'-0"				509
FA 606	2	7'-4"	1	10"	6'-8"				22
FA 607	2	14'-2"	3	1'-2"	6'-8"				43
FA 608	2	9'-8"	1	10"	9'-0"				29
FA 609	2	3'-0"	1	1'-1"	2'-1"				9
FA 801	14	33'-9"	STR.						1262
FA 802	2	10'-9"	23	6'-6"	2'-0"	2'-6"	1'-3"		57
FA 803	6	14'-3"	STR.						228
FA 804	2	7'-1"	12	4'-8"	2'-6"	2'-2"			38
FA 805	2	6'-0"	STR.						32
FA 806	6	16'-0"	STR.						256
				TOTAL	FORWARD	ABUTMENT			9319

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	DIMENSIONS B	DIMENSIONS C	DIMENSIONS D	SERIES INCR.	WEIGHT LBS.
RAILING ⊗									
~~REPLACEMENT BARS~~									
~~RE-401~~									
~~RE-501~~									
~~RE-601~~									
~~RE-701~~									
~~RE-801~~									
~~RE-901~~									
~~RE-1001~~									
~~RE-1101~~									

SPIRAL REINFORCING SCHEDULE

MARK	NO. REQ'D.	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT LBS.
					TOTAL SPIRALS	

GRAND TOTAL LBS.



REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL SCHEDULE FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE PIER CAP.
THE NUMBER OF TURNS SHOWN IN THE STEEL SCHEDULE FOR SPIRAL BARS IS THE LENGTH DIVIDED BY THE PITCH PLUS THREE TURNS (TOTAL NUMBER OF CLOSED COILS) EXPRESSED AS THE NEAREST WHOLE NUMBER.
SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS, BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 509.
ONE AND ONE HALF CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOUR (4) STEEL CHANNEL, TEE OR ANGLE SPACERS WEIGHING APPROX. 0.68 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS BASED ON 0.68 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIDGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED INDICATE THE BAR SIZE NUMBER. A-601 IS A NO. 6 SIZE BAR AND P-1001 IS A NO. 10 SIZE BAR.

⊗RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 517 FOR PAYMENT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

REINFORCING SCHEDULE
BRIDGE NO. MAH-80-0240
UNDER LINE "A"
I-80 MAHONING COUNTY
STA. 469+59.41

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.S.	D.F.D.		EAH	RDH	3-22-67	

FED. RD.	STATE	PROJECT	
2	OHIO		

346
384

MAH-805-7.01
MAH-80-2.30

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.
PIERS									
P401	108	4'-5"	3	2'-8"	1'-0"				319
P501	132	8'-9"	3	2'-8"	3'-2"				1205
P502	376	7'-1"	3	2'-0"	2'-8"				2778
P503	32	8'-3"	3	2'-0"	3'-3"				275
P601	24	31'-9"	STR.						1145
P602	24	6'-10"	12	3'-0"	3'-10"	1'-0"			246
P801	264	9'-6"	STR.						6696
P1101	168	7'-5"	1	1'-5½"	6'-3"				6620
P1102	24	8'-0"	STR.						1020
P1103	144	19'-0"	STR.						14536
P1104	12	37'-3"	STR.						2375
P1105	30	20'-3"	STR.						3228
P1106	12	34'-10"	1	2'-3½"	32'-10"				2221
P1107	30	18'-0"	1	2'-3½"	16'-0"				2869
P1108	12	37'-9"	STR.						2907
					TOTAL PIERS (EXCEPT SPIRALS)				47940
SUPERSTRUCTURE									
S501	440	5'-1"	15	1'-6"	1'-5"	7½"			2338
S502	440	2'-6"	3	1'-6"	7½"				1147
S503	440	5'-7"	5	8"	2'-2"	5"			2562
S504	219	6'-0"	15	2'-6"	1'-0"	1'-0"			1371
S505	219	2'-6"	STR.						571
S506	6	11'-0"	'25	2'-0"	2'-11"	1'-2"	2'-1"		72
S601	932	28'-6"	STR.						39896
S602	1199	30'-0"	STR.						54027
S603	109	19'-0"	STR.						3111
S604	44	38'-0"	STR.						2511
S605	88	40'-0"	STR.						5287
S606	2 SERIES	6'-0" / 30'-6"	STR.					1'-2"	1206
S607	2 SERIES	5'-6" / 86'-0"	STR.					1'-1 5/8"	899
S608	10	6'-0"	STR.						90
S610	24	6'-0"	STR.						216
S611	8	9'-8	14	2'-10"	2'-0"				116
S701	447	33'-6"	STR.						30608
S702	493	23'-6"	STR.						23681
S703	2 SERIES	6'-0" / 25'-6"	STR.					1'-2"	1168
S704	2 SERIES	6'-0" / 31'-3"	STR.					1'-1 3/8"	1751
S705	10	6'-0"	STR.						123
					TOTAL SUPERSTRUCTURE				172796

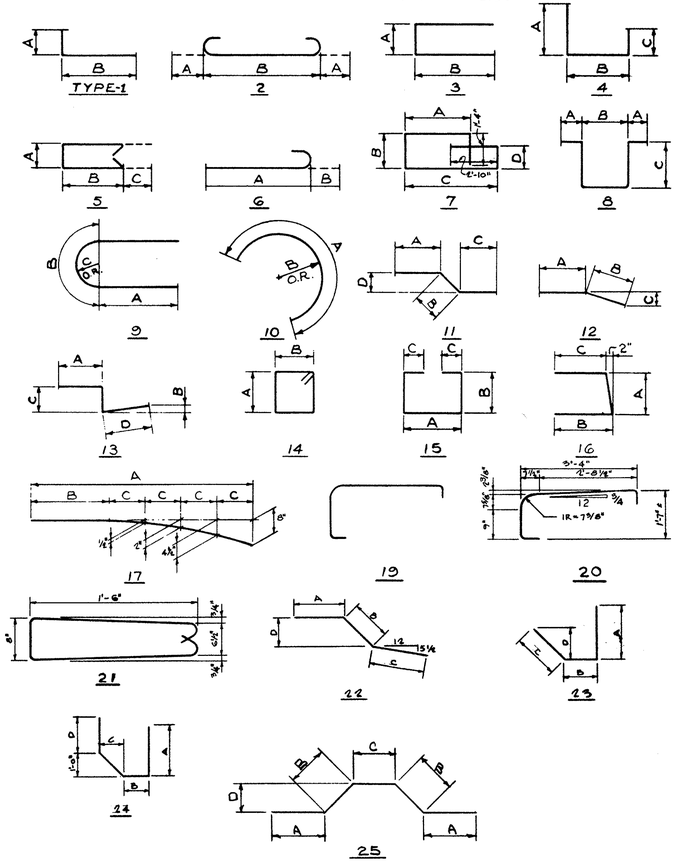
MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.
RAILING ⊗									
R501	152	15'-9"	STR.						
R502	8	11'-9"	STR.						
R503	8	11'-6"	STR.						
R504	8	5'-4"	20						
R505	12	4'-2"	21						
R506	4	20'-0"	STR.						
R507	4	19'-0"	STR.						
R508	4	21'-0"	STR.						
R509	4	20'-6"	STR.						
R510	4	11'-0	25	2'-0"	2'-11"	1'-2"	2'-1"		
R511	4	8'-10"	25	2'-0"	11"	3'-0"	8		
REPLACEMENT BARS									
RE-401	1	4'-5"	3	2'-8"	1'-0"				
RE-501	2	6'-6"	STR.						
RE-601	6	7'-0"	STR.						
RE-701	3	7'-3"	STR.						
RE-801	1	7'-6"	STR.						
RE-901	–	7'-10"	STR.						
RE-1001	–	8'-3"	STR.						
RE-1101	2	8'-9"	STR.						

SPIRAL REINFORCING SCHEDULE

MARK	NO. REQ'D.	CORE DIA. OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT LBS.
SP401	8	32	15'-6"	4½	44	2280
SP402	4	32	16'-0"	4½	46	1188
				TOTAL SPIRALS		3468

GRAND TOTAL 243,091 LBS.



REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL SCHEDULE FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE PIER CAP. THE NUMBER OF TURNS SHOWN IN THE STEEL SCHEDULE FOR SPIRAL BARS IS THE LENGTH DIVIDED BY THE PITCH PLUS THREE TURNS (TOTAL NUMBER OF CLOSED COILS) EXPRESSED AS THE NEAREST WHOLE NUMBER. SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS, BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 509. ONE AND ONE HALF CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOUR (4) STEEL CHANNEL, TEE OR ANGLE SPACERS WEIGHING APPROX. 0.68 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS BASED ON 0.68 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIDGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED INDICATE THE BAR SIZE NUMBER. A-601 IS A NO. 6 SIZE BAR AND P-1001 IS A NO. 10 SIZE BAR.

⊗RAILING REINFORCEMENT BARS WILL BE INCLUDED, AS PART OF ITEM 517 FOR PAYMENT.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON • DALTON ASSOCIATES

REINFORCING SCHEDULE

BRIDGE NO. MAH-80-0240
UNDER LINE "A"
I-80 MAHONING COUNTY
STA. 469+59.41

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.H.S.	D.F.D.		E.A.H.	RBW	3-22-67	

MICROFILMED
APR 3 1986

FED. RD.	STATE	PROJECT	
2	OHIO		

347
384

MAH-80 S-7.01
MAH-80-2.30

PROP. PROFILE GRADE LIPKEY RD.
LIPKEY RD.
200' V.C.
+0.40%
-1.11%
P.V.I. STA. 51+50
EL. 934.40
P.G. EL. 934.74
EL. 934.29
FIRE TRAIL
100' V.C.
+2.40%
+0.30%
P.V.I. STA. 51+00
EL. 934.82
P.G. EL. 935.08
LAWN
SCATTERED TREES
OPEN FIELD
P.I. STA. 50+77.42
℄ R/W.
60' R/W.
M.B.
10'GAS
10'GAS
7' 10"
17'
EXISTING
9' 9"
14'
PROPOSED
5:1
VARY
34'
15'
5100
PT. OF MIN. VERT. CLEARANCE
CULVERT
PINE TREES
℄ PROP FIRE TRAIL
SLOPE PROTECTION
130'-0"
FIRE LANE
16'
8' 8"
23'-0"
80'
2:1
4:1
8:1
2:2
P.V.C. STA. 50+50
EL. 934.00
P.V.C. STA. 50+50
EL. 934.67
℄ WEST BOUND LANES
24'
12'
6"
32'
MEDIAN
31'-6"
39'-6"
39'-6"
31'-6"
19'-9"
19'-9"
24'-0"
℄ SURVEY PROPOSED I-80
℄ CULVERT
BEGIN APPROACH SLAB
STA 496+67.32
END APPROACH SLAB
STA. 495+23.82
496+00
497+00
498+00
STA. 495+76.62 ℄ R/W.
STA. 495+75.82 I-80 =
STA. 50+00 LIPKEY RD
6°-18'-15" SKEW
EL. 933.80
EL. 934.52
EL. 933.60
EL. 934.37
EL. 933.40
EL. 934.22
℄ EASTBOUND LANES
LINE "A" ACCELERATION LANE
VARIES
55.32' F/F PARAPETS
51.36' F/F PARAPETS
HORIZ. CLEARANCE:
4.00' REQ'D. — 5.52' ACTUAL
4.00' REQ'D. — 14.74 ACTUAL
℄ LIGHT STD. SUPPORT @ STA. 496+33
HORIZ. CLEARANCE:
9.00' REQ'D. 9.13' ACTUAL
NOSE: 91' RT. ℄ STA. 492+32.45
1:48 TAPER
℄ LIPKEY RD.
℄ 60' R/W.
℄ FIRE TRAIL
CULVERT
PINE TREES
℄ PROP. FIRE TRAIL
PROPOSED PROFILE GRADE FIRE TRAIL
EXISTING GRADE LIPKEY RD ℄ PROFILE
PROPOSED PROFILE GRADE: ℄ LIPKEY RD ⊗ FIRE TRAIL
5100
5000
4900
950
940
930
920
948

PROPOSED STRUCTURE

TYPE: CONTINUOUS REINFORCED CONCRETE SLAB WITH REINFORCED CONCRETE SUBSTRUCTURES.
SKEW: 6°-18'-15" L.F.
SPANS: 31'-6"-39'-6"-39'-6"-31'-6" ℄ ASSUMED BRGS
ROADWAY: LT. 41'-0" F/F PARAPETS, RT. VARIES
LOAD FREQUENCY: CF-2000(57) ADEQUATE FOR AASHO ALTERNATE LOADING.
WEARING SURFACE: 1" MONOLITHIC
APPROACH SLAB: 25' LONG (AS-1-54)
ALIGNMENT: TANGENT.
SUPERELEVATION: NONE.
SLOPE PROTECTION: 601.09 CRUSHED AGGREGATE

TRAFFIC: LIPKEY RD. 1237 ADT (1985)
I-80 30,174 ADT (1985)

PVI STA. 490+50
EL. 958.87
-0.66%
-1.59%
1000' V.C.
EL. 953.20
EL. 952.46
EL. 951.70
EL. 950.13
EL. 949.33
EL. 948.54
EL. 947.74
EL. 946.95
STA. 495+23.82
PVT STA. 495+50
EL. 950.32
STA. 496+67.32
BRIDGE LIMITS = 143.50'
EL. R. 948.07
L. 947.99
EL. R. 942.78
L. 942.70
EL. R. 926.00
L. 926.00
TYPE-I-RAILING
EL. R. 945.86
L. 945.73
PROPOSED PROFILE GRADE
2:1 NORMAL
EL. R. 940.57
L. 940.44
EXISTING ℄ PROFILE
R. 925.00
L. 925.00
EL. R. 925.00
L. 925.00
TOP OF ROCK
940
920
494+00
495+00
496+00
497+00
498+00

AVERAGE ESTIMATED PAY LENGTH FOR 10BP42 STEEL PILES
ABUT #1 L & R. 18'
ABUT #2 L & R. 22'

VERTICAL CLEARANCE:
LIPKEY RD: DESIGN = 14.50', ACTUAL = 14.56'
FIRE TRAIL: DESIGN = 13.00', ACTUAL = 13.10'

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

SITE PLAN

BRIDGE NO. MAH-80-0289 L & R
OVER LIPKEY ROAD
I-80 (SR-18) MAHONING COUNTY
STA. 495+23.82 TO STA. 496+67.32

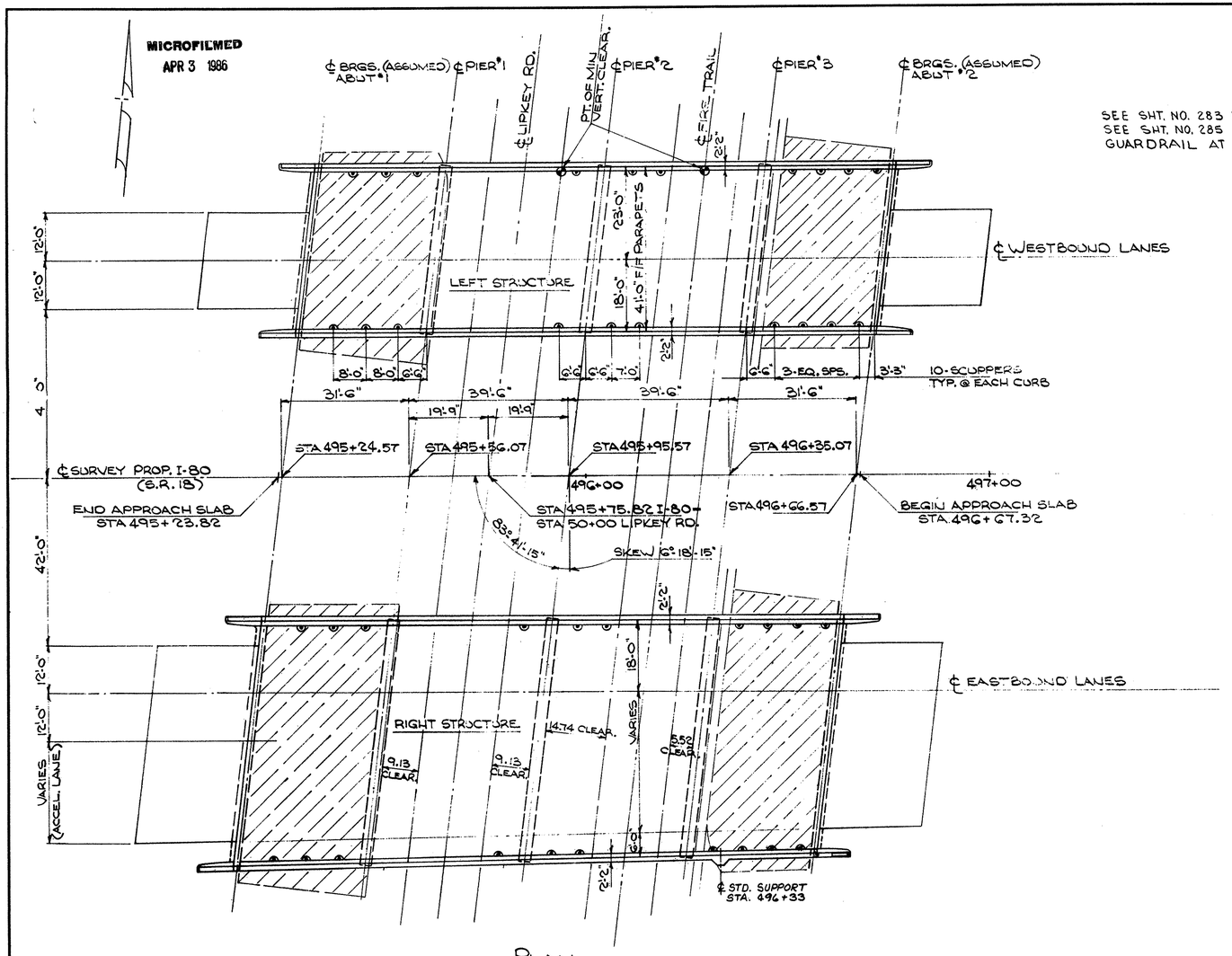
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.F.P.	WENESSY		HAGER	RDH	3-29-67	

MICROFILMED
APR 3 1986

MAH-80S-7.01
MAH-80-2.30

FED. RD.	STATE	PROJECT	
2	OHIO		

348
384

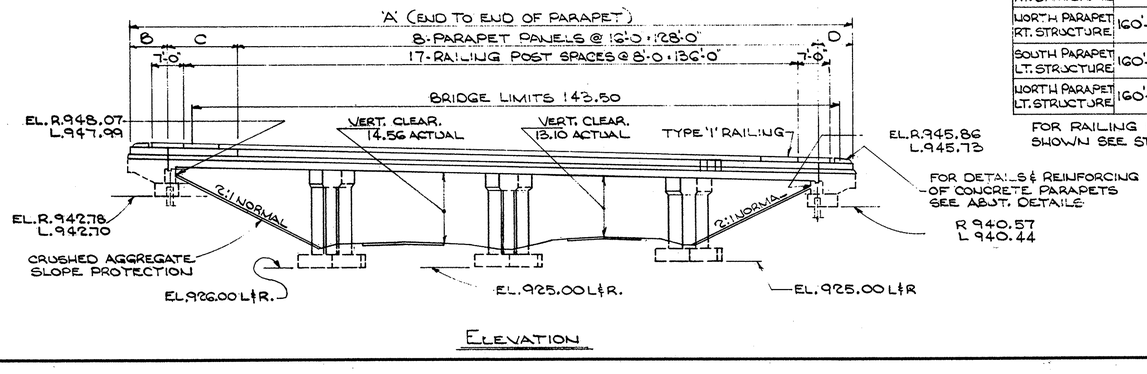


PLAN

SEE SHT. NO. 283 FOR GENERAL NOTES
SEE SHT. NO. 285 FOR DETAILS OF ANCHOR BOLTS FOR GUARDRAIL AT END OF PARAPETS.

ESTIMATED QUANTITIES (2 BRIDGES)

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUTS	PIERS	GEN
502	807	CU.YDS.	UNCLASSIFIED EXCAVATION, INCLUDING ROCK		282	525	
505		LUMP SUM	FIRET TEST PILE				
507	880	LIN.FT.	STEEL PILES 10BP42		880		
509	282,193	LBS.	REINFORCING STEEL	197,871	16,125	68,197	
512	16	LIN.FT.	PREMOLDED SEALING STRIP		16		
511	853	CU.YDS.	CLASS 'C' CONC. SUPERSTRUCTURE	853			
511	77	CU.YDS.	CLASS 'E' CONC. ABUTS. ABOVE FTGS.		77		
511	188	CU.YDS.	CLASS 'C' CONC. PIERS ABOVE FTGS.			188	
511	209	CU.YDS.	CLASS 'E' CONC. FOOTINGS		78	131	
517	661.69	LIN.FT.	RAILING (TYPE 'T')	574.42	67.26		
518	39	CU.YDS.	POROUS BACKFILL		39		
518	40	EACH	SCUPPERS, 4"ϕ CAST IRON OR WROUGHT IRON PIPE	40			
518	168.80	LIN.FT.	6" PERF, HELICAL CMP. INCLUDING SPEC. 707.06		168.80		
518	89.33	LIN.FT.	6" NON-PERF, HELICAL CMP. 707.06		89.33		
601	840	SQ.YDS.	CRUSHED AGGREGATE SLOPE PROTECTION		840		
625			SEE SH. No. 247 FOR LIGHTING SUMMARY				
808	853	UNITS	WATER REDUCING SET RETARDING ADMIX.	853			
825	1759	SQ.YDS.	CONCRETE SURFACE TREATMENT	1722	37		

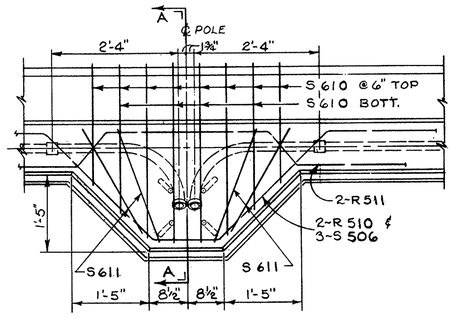


ELEVATION

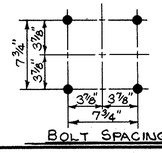
RAILING & PARAPET DIMENSIONS

	A	B	C	D
SOUTH PARAPET RT. STRUCTURE	160'-8¼"	8'-6¼"	15'-10½"	8'-3½"
NORTH PARAPET RT. STRUCTURE	160'-4"	8'-3¾"	15'-6¼"	8'-6"
SOUTH PARAPET LT. STRUCTURE	160'-4"	8'-6"	15'-6¼"	8'-3¾"
NORTH PARAPET LT. STRUCTURE	160'-4"	8'-3¾"	15'-6¼"	8'-6"

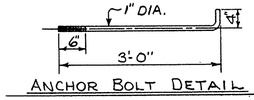
FOR RAILING DETAILS NOT SHOWN SEE STD. DWG. BR-1-65 SHT. 1



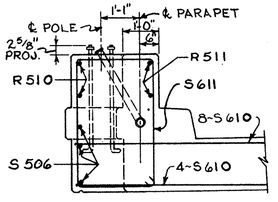
PLAN OF LIGHT STANDARD SUPPORT



BOLT SPACING



ANCHOR BOLT DETAIL



SECTION "A-A"

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON • DALTON ASSOCIATES

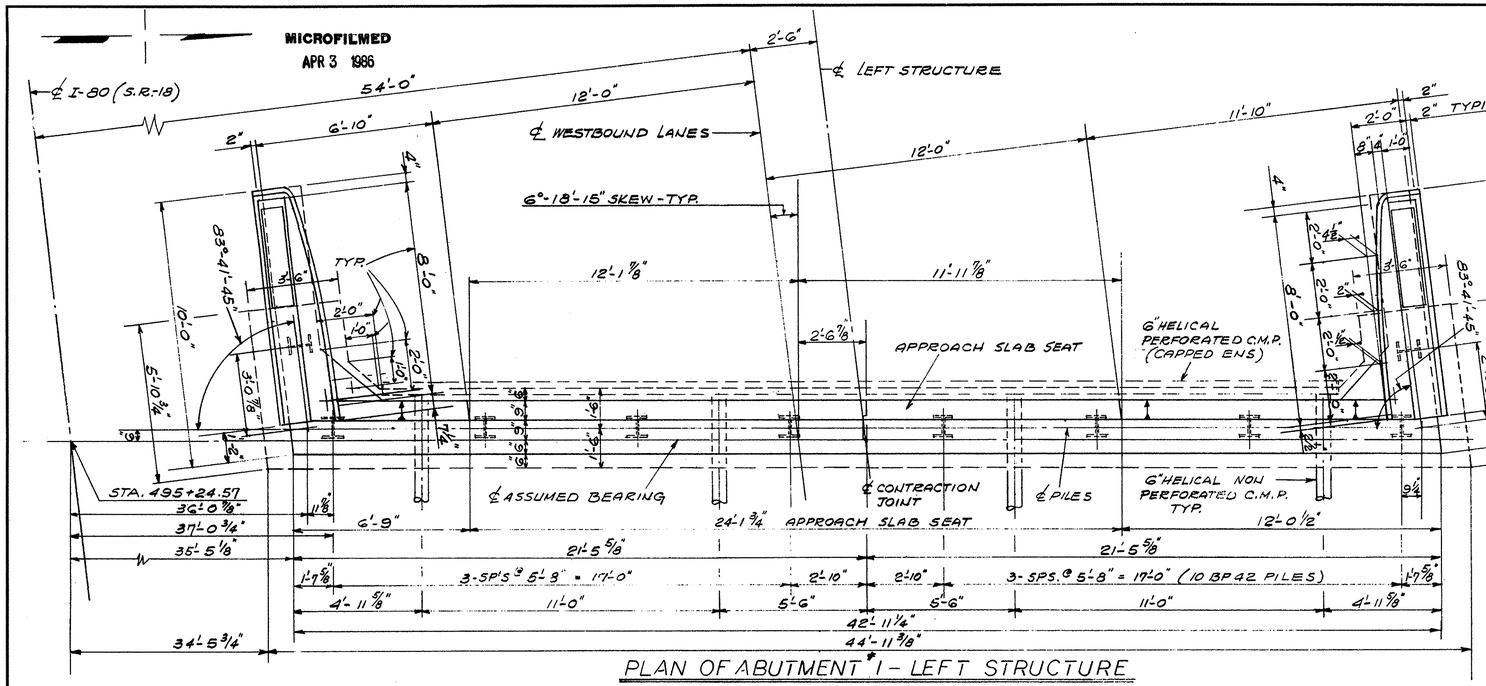
GENERAL PLAN & ELEVATION

BRIDGE Nº MAH-80-0289 L & R
OVER LIPKEY ROAD
I-80 (SR-18) MAHONING COUNTY
STA 495+23.82 TO STA 496+67.32

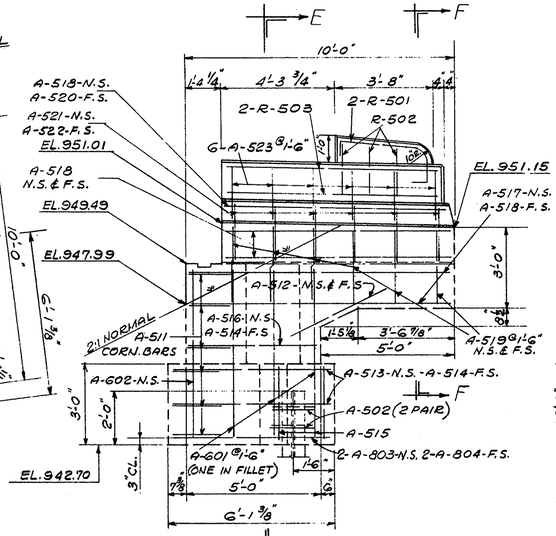
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.F.P.	J.W.W.		HAGER 3/7/67	RBH	3-29-67	

MICROFILMED
APR 3 1986

FED. RD.	STATE	PROJECT	
2	OHIO		

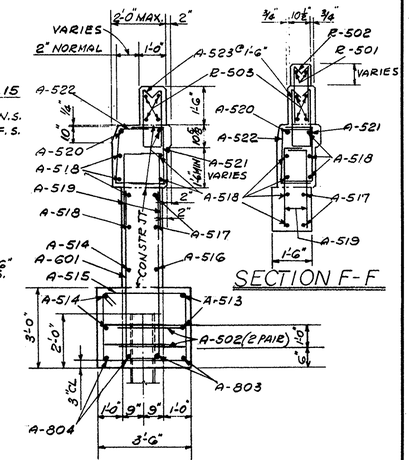


PLAN OF ABUTMENT # 1 - LEFT STRUCTURE



ELEVATION OF NORTH WINGWALL

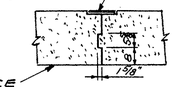
MAH-80 S-7.01
MAH-80-2.30



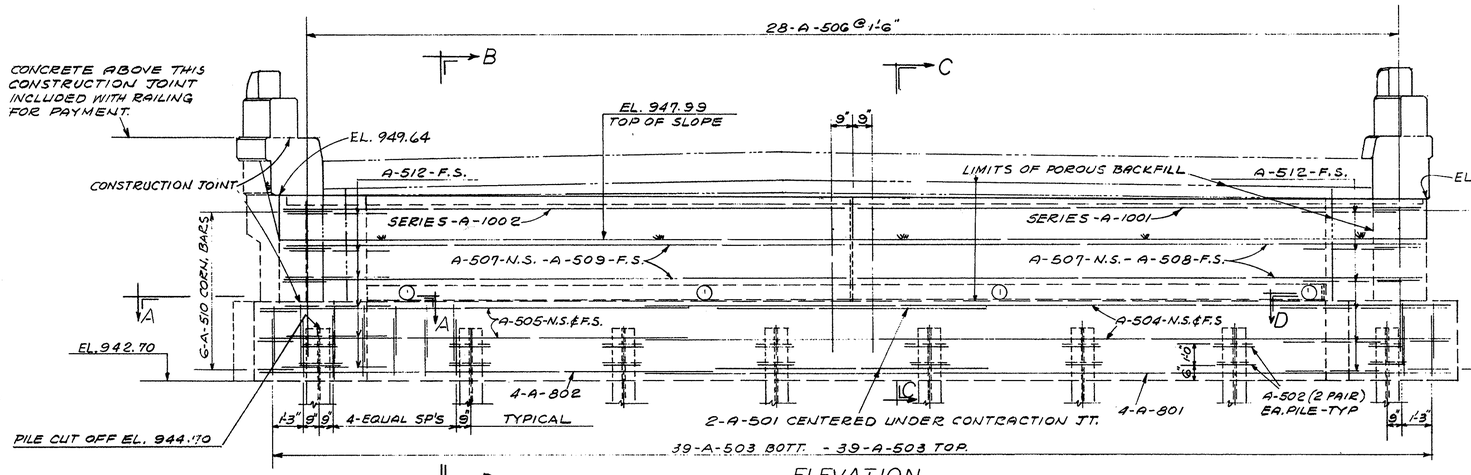
SECTION F-F

SECTION E-E

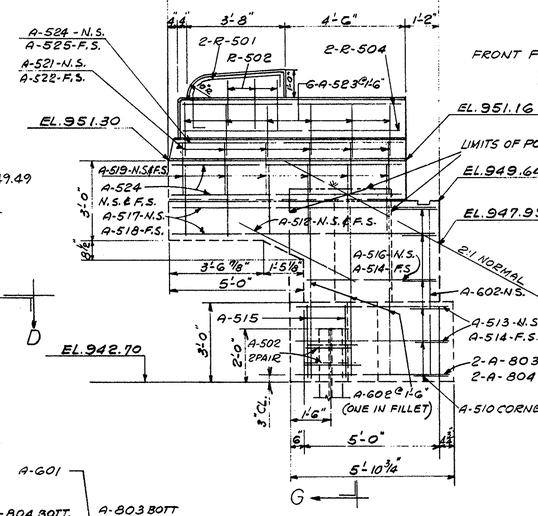
PREHOLDED SEALING STRIP IN 13"x 3/4" RECESS (TOP OF FOOTING TO THE BOTT. OF APPROACH SLAB SEAT)



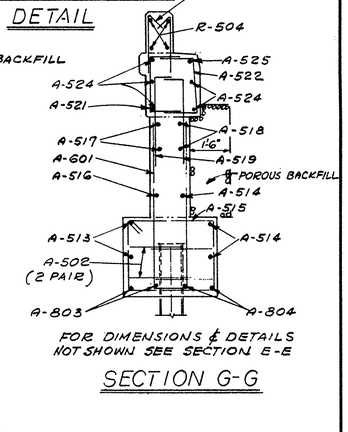
CONTRACTION JOINT DETAIL



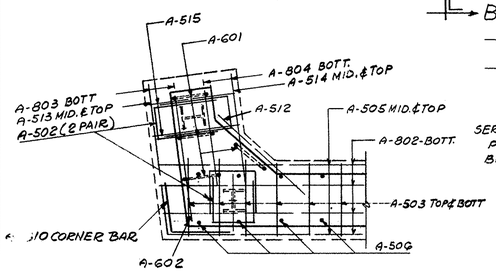
ELEVATION



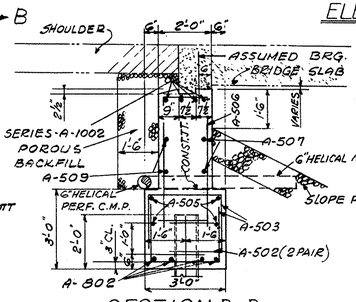
ELEVATION OF SOUTH WINGWALL



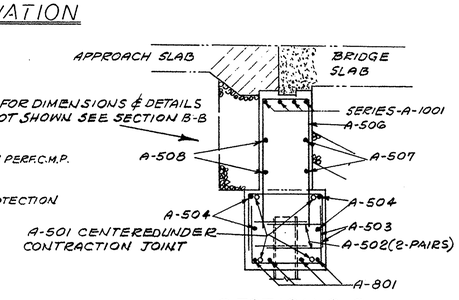
SECTION G-G



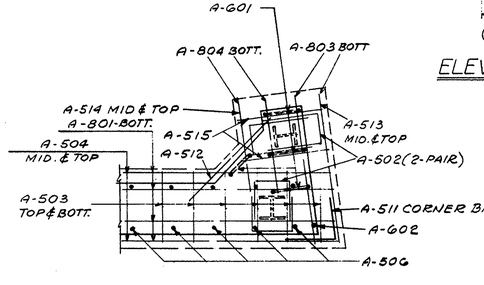
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

ABUTMENT # 1 DETAILS-LEFT STR
BRIDGE NO. MAH-80-0289 L.
OVER LIPKEY ROAD
I-80 (S.R.-18) MAHONING COUNTY
STA. 495+23.82 TO STA. 496+67.32

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.F.P.	KENESSY		HAGER	WDH	3-29-67	

MICROFILMED
APR 3 1996

FED. RD.	STATE	PROJECT	
2	OHIO		

350
384

MAH-80 S 7.01
MAH-80-2.30

VARIES (NOT PARALLEL)

℄ EASTBOUND LANES

54'-0"

℄ I-80 (S.R.-18)

6'-10"

2"

4"

7°29'-52"

82°30'-08"

3'-6"

8'-0"

10'-0"

5'-10½"

3'-7⅛"

31'-4¾"

9'-6 11/16"

11'-11⅞"

12'-0"

6°-18'-15"

6°-18'-15"

APPROACH SLAB SEAT

℄ PILES

6"HELICAL PERFORATED C.M.P. (CAPPED ENDS)

83°41'-45"

3'-6"

10'-0"

6'-1¾"

2'-10⅞"

℄ ASSUMED BEARING

℄ CONTRACTION JOINT

6"HELICAL NON PERFORATED C.M.P. TYP.

STA. 495+24.57

36'-2¼"

36'-10 11/16"

35'-3⅞"

6'-8¾"

43'-4⅝" APPROACH SLAB SEAT

7'-0¼"

28'-6 13/16"

28'-6 13/16"

4-SP'S @ 6'-0" = 24'-0"

3'-0"

3'-0"

4-SP'S @ 6'-0" = 24'-0" (10 BP 42 PILES)

1'-6 13/16"

1'-6 13/16"

6'-0 13/16"

15'-0"

7'-6"

7'-6"

15'-0"

6'-0 13/16"

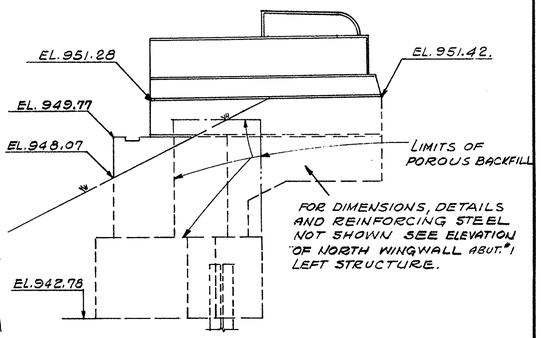
57'-1 5/8"

59'-1¾"

34'-3⅛"

CONCRETE ABOVE THIS CONSTRUCTION JOINT INCLUDED WITH RAILING FOR PAYMENT

PLAN OF ABUTMENT #1 — RIGHT STRUCTURE



ELEVATION OF NORTH WINGWALL

38-A-506 @ 1'-6"

B

EL. 948.07
TOP OF SLOPE

9" 9"

C

EL. 949.57

A-512-F.S.

SERIES-A-1004

A-528-N.S.-A-530-F.S.

LIMITS OF POROUS BACKFILL

A-512-F.S.

EL. 949.77

SERIES-A-1003

A-528-N.S.-A-529-F.S.

6-A-531 CORN. BARS

6-A-511 CORNER BARS

A

A

D

D

A-527-N.S.&F.S.

A-526-N.S.&F.S.

EL. 942.78

PILE CUT OFF EL. 944.78

1'-3" 9" 9" 4-EQUAL SP'S 9" TYPICAL

4-A-806

2-A-501 CENTERED UNDER CONTRACTION JT.

4-A-805

A-502 (2-PAIR) EA. PILE -TYP.

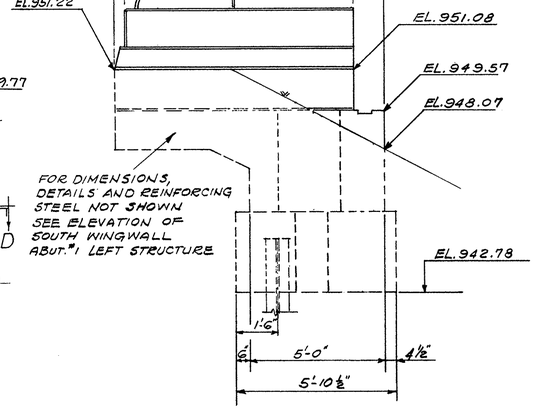
9" 1'-3"

49-A-503-BOTT. - 49-A-503-TOP

B

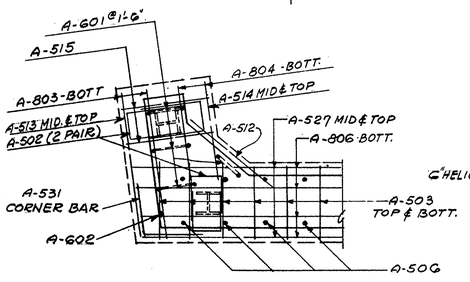
C

ELEVATION

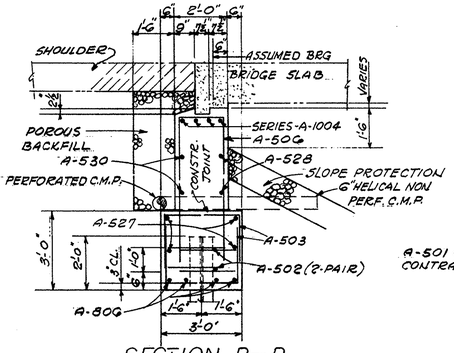


ELEVATION OF SOUTH WINGWALL

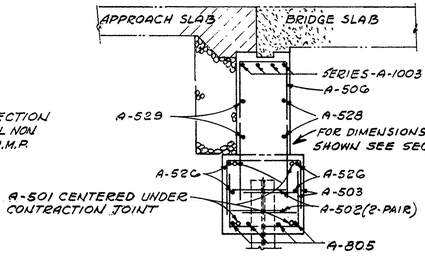
SEE SHT. #349 FOR CONTRACTION JOINT DETAIL.



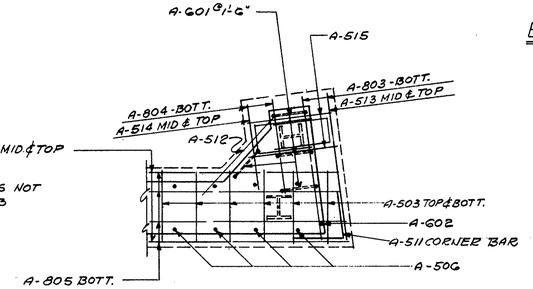
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

ABUTMENT #1 DETAILS-RIGHT STR.

BRIDGE NO. MAH-80-0289 R.
OVER LIPKEY ROAD
I-80 (S.R.-18) MAHONING COUNTY
STA. 495+23.82 TO STA. 496+67.32

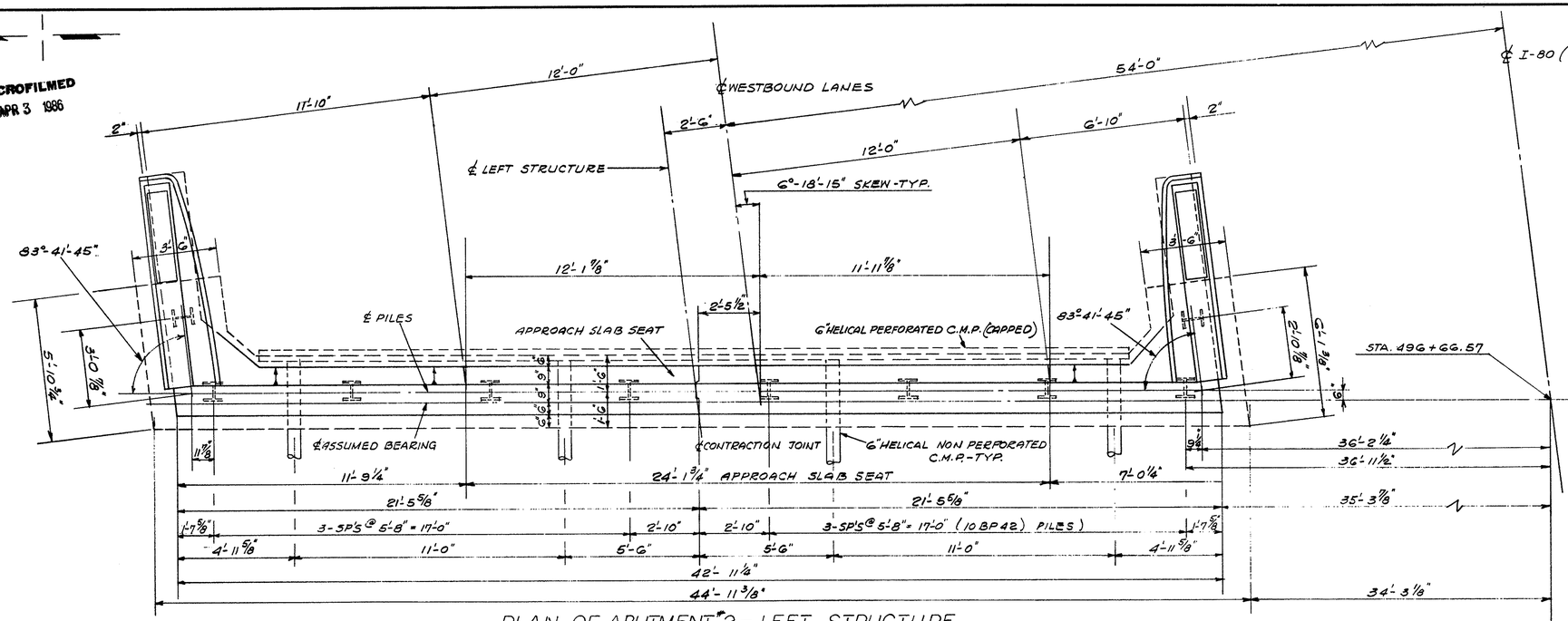
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.F.P.	KENNESSY		HAGER	RDW	3-29-67	

MICROFILMED
APR 3 1986

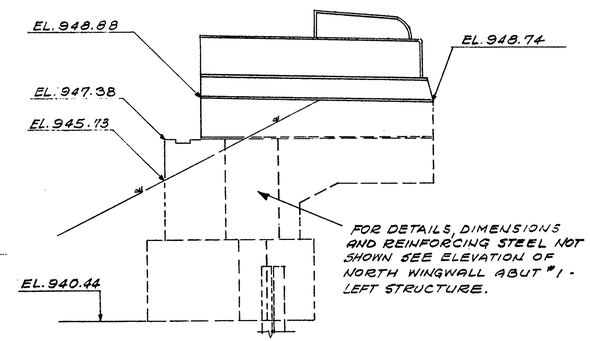
FED. RD.	STATE	PROJECT	
2	OHIO		

351
384

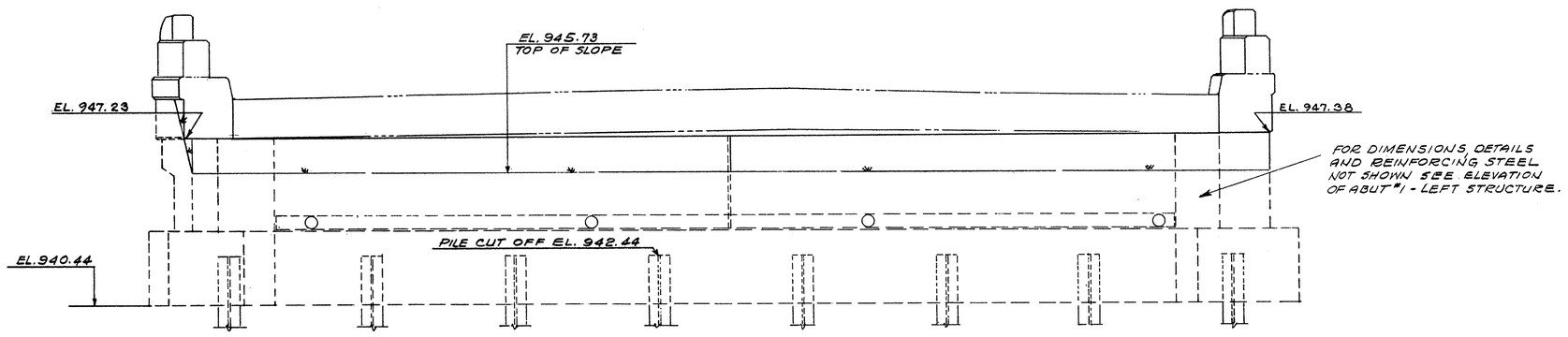
MAH-80-S 7.01
MAH-80-2.30



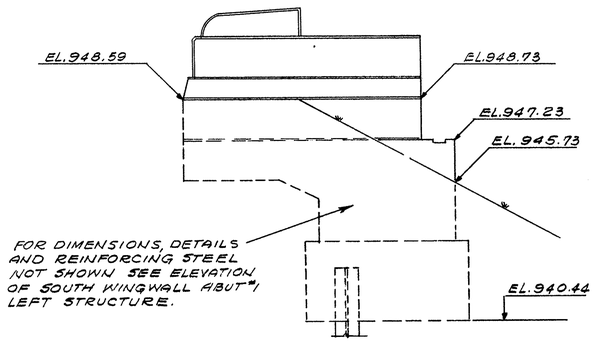
PLAN OF ABUTMENT #2 - LEFT STRUCTURE



ELEVATION OF SOUTH WINGWALL



ELEVATION



ELEVATION OF NORTH WINGWALL

SEE SHT. #349 FOR CONTRACTION JOINT DETAIL.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

ABUTMENT #2 DETAILS-LEFT STR.

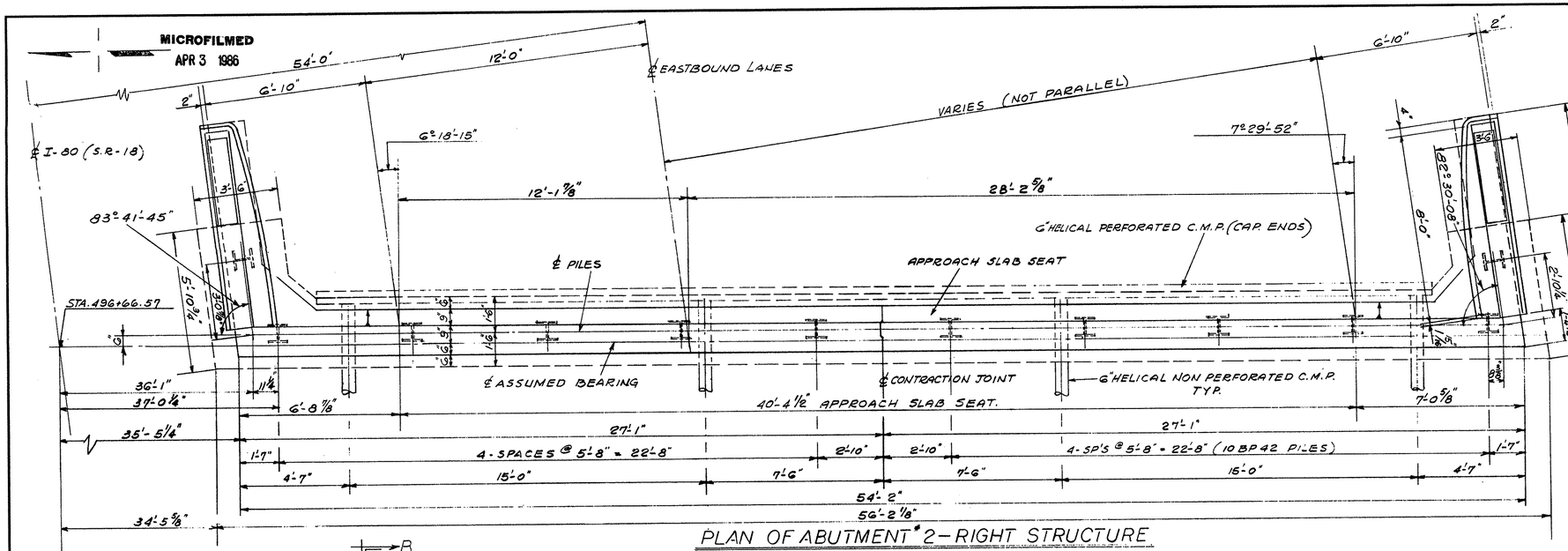
BRIDGE NO. MAH-80-0289 L.
OVER LIPKEY ROAD
I-80 (S.R.-18) MAHONING COUNTY
STA. 495+23.82 TO STA. 496+67.32

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.F.P.	VENESSY		HAGER	RBH	3-29-67	

MICROFILMED
APR 3 1986

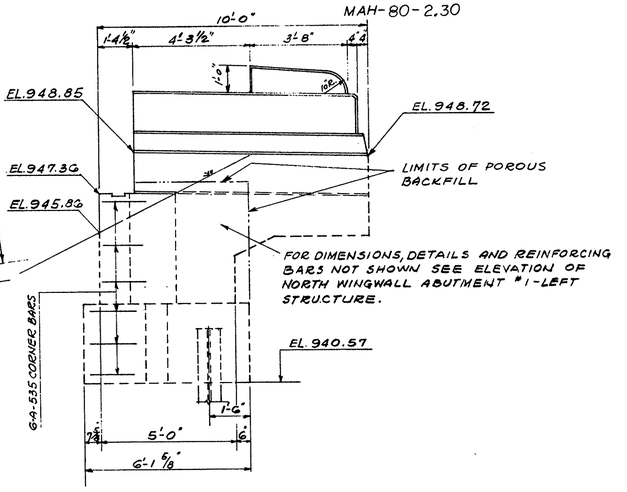
FED. RD.	STATE	PROJECT	
2	OHIO		

352
384

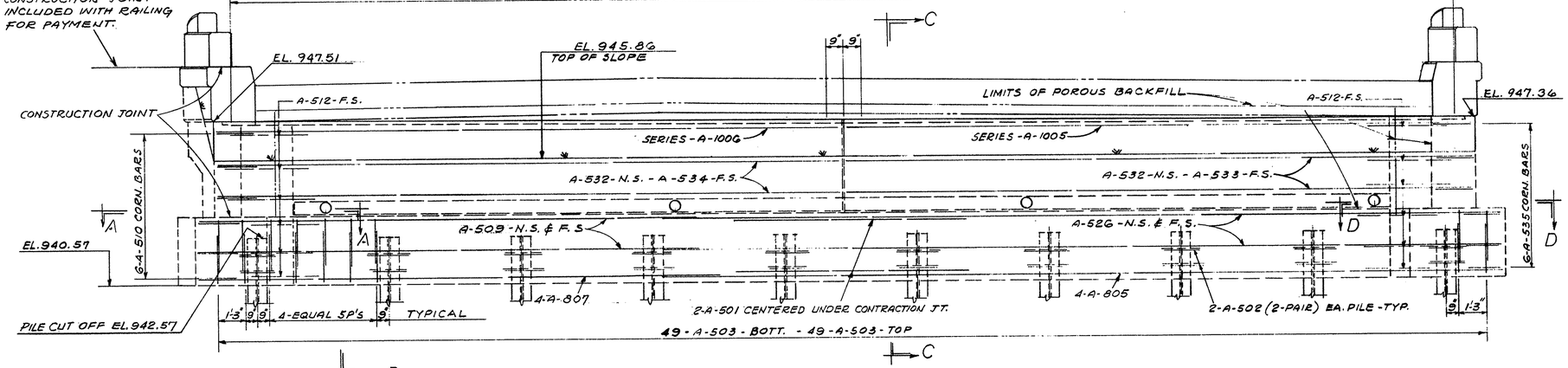


PLAN OF ABUTMENT #2 - RIGHT STRUCTURE

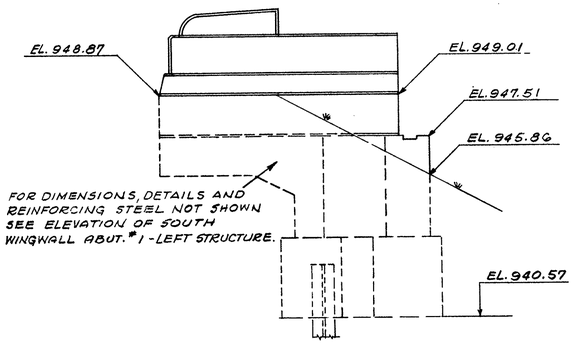
MAH-80 S. 7.01
MAH-80-2.30



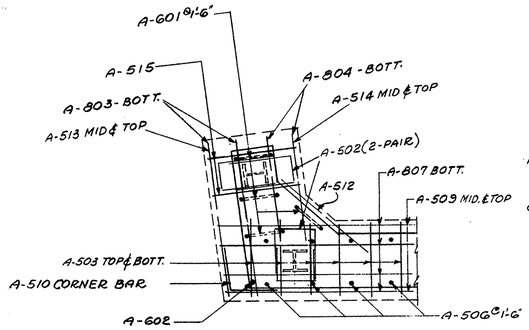
ELEVATION OF SOUTH WINGWALL



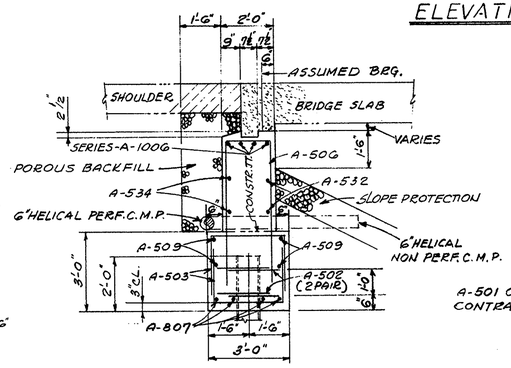
ELEVATION



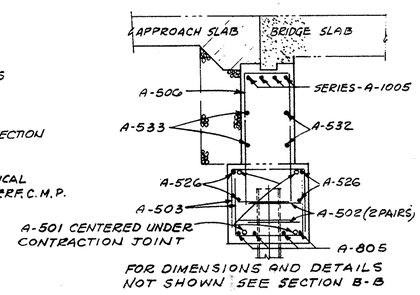
ELEVATION OF NORTH WINGWALL



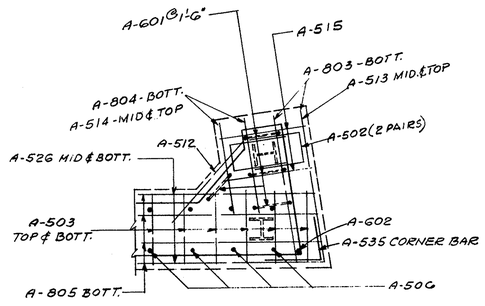
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

SEE SHT. #349 FOR CONTRACTION JOINT DETAIL.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

ABUTMENT #2 DETAILS RIGHT STR.

BRIDGE NO. MAH-80-0289 R.
OVER LIPKEY ROAD
I-80 (S.R-18) MAHONING COUNTY
STA. 495+23.82 TO STA 496+67.32

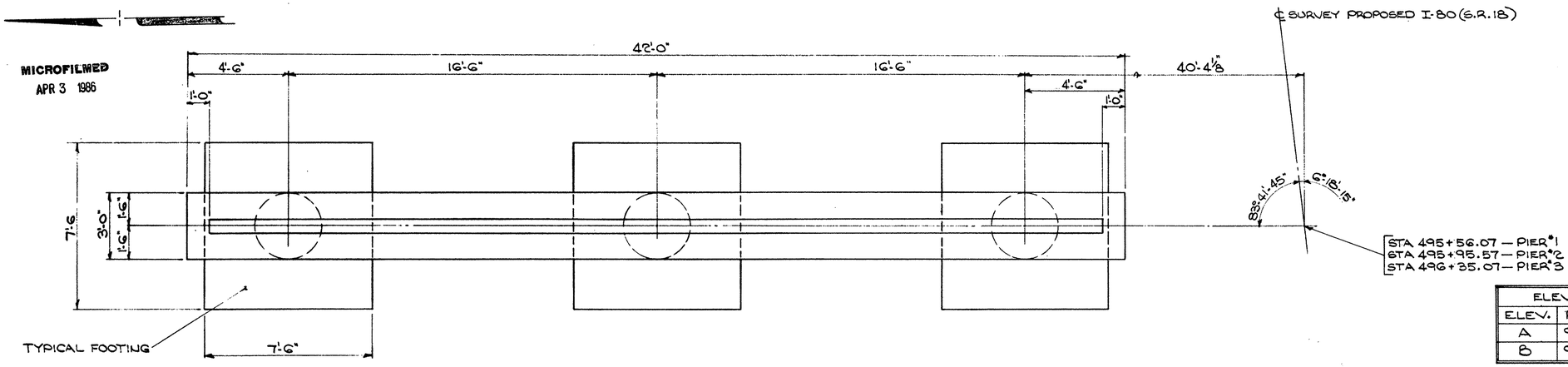
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.F.P.	KENESSY		HAGER	[illegible]	3-29-67	

MICROFILMED
APR 3 1986

FED. RD.	STATE	PROJECT	
2	OHIO		

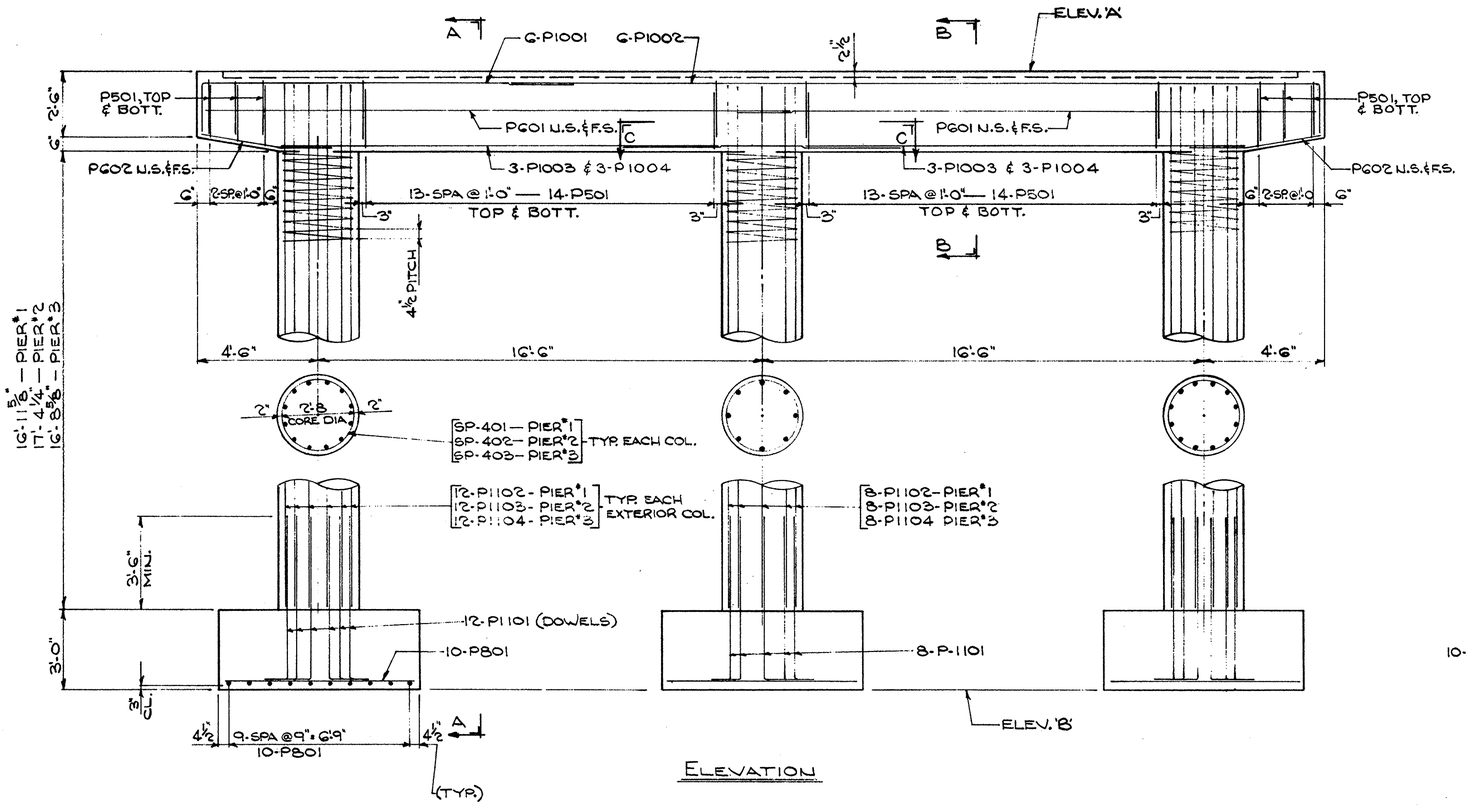
353
384

MAH-80S-7.01
MAH-80-2.30

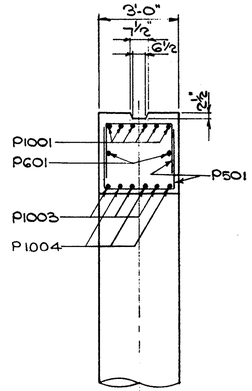


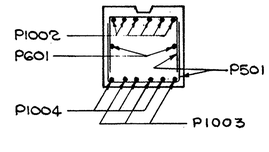
ELEVATION TABLE			
ELEV.	PIER #1	PIER #2	PIER #3
A	948.97	948.35	947.72
B	926.00	925.00	925.00

PLAN OF PIERS #1, #2 & #3 LEFT STRUCTURE

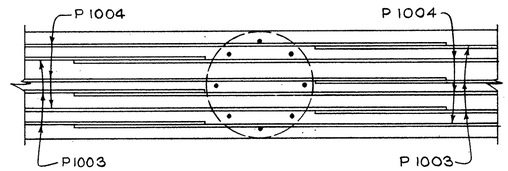


ELEVATION

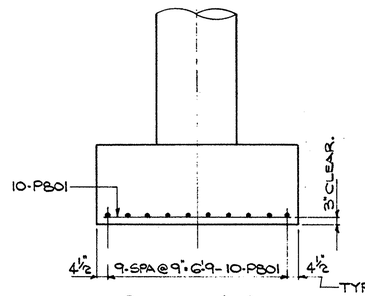




SECTION B-B



SECTION "C-C"



SECTION A-A

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

PIER DETAILS LEFT STRUCTURE
BRIDGE Nº MAH-80-0289 L.
OVER LIPKEY ROAD
I-80 (S.R-18) MAHONING COUNTY
STA 495+23.82 TO STA 496+67.32

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JFP	JWW		HAGER	EBH	3-29-67	

FORM DDA-6

FED. RD.	STATE	PROJECT	
2	OHIO		

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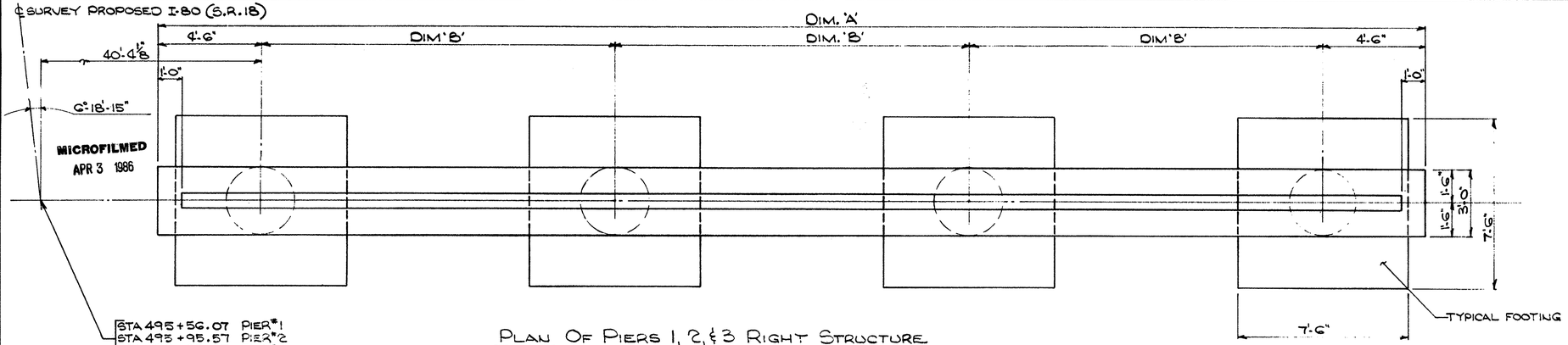
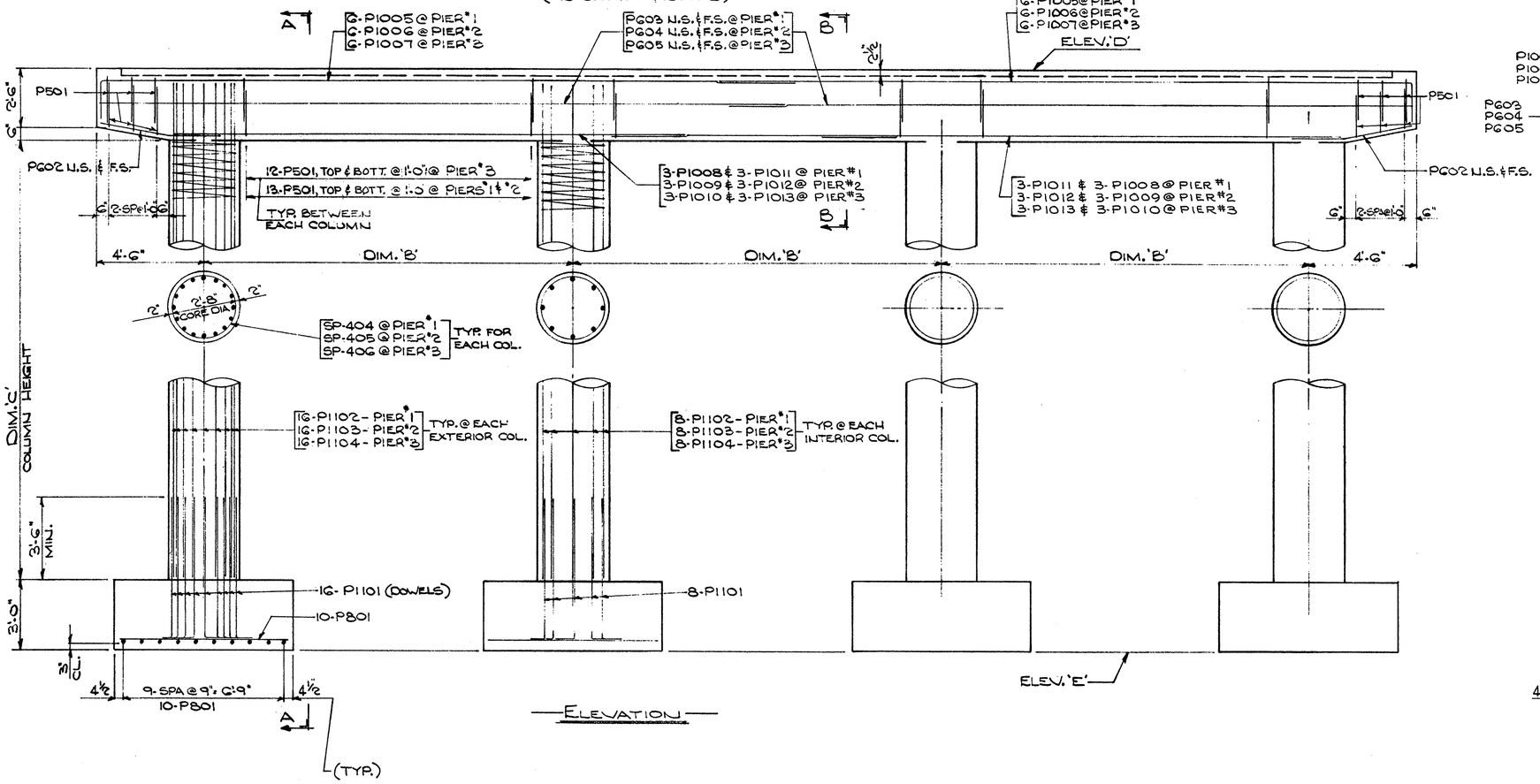
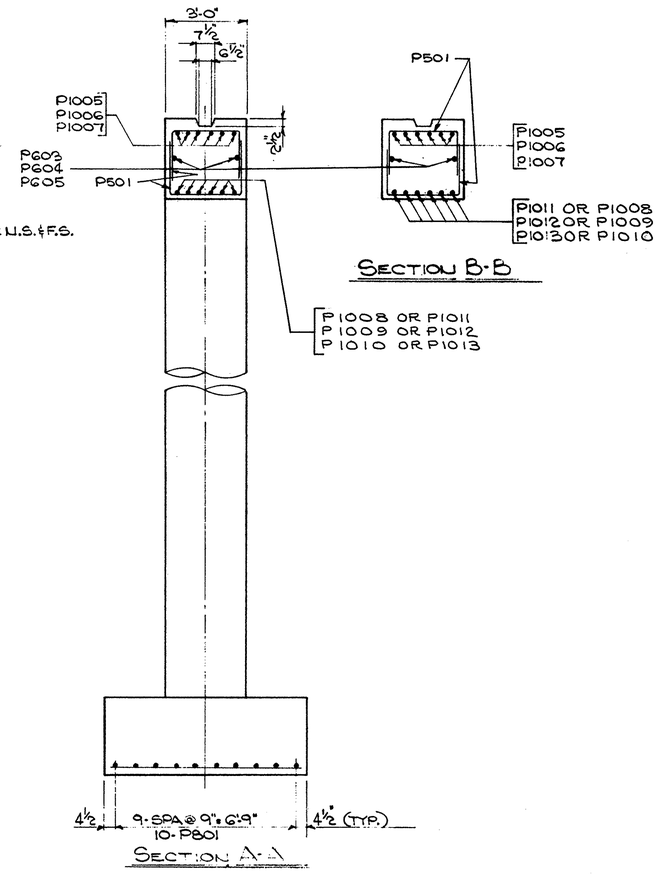
MAH-80S-7.01
MAH-80-2.30



PLAN OF PIERS 1, 2, & 3 RIGHT STRUCTURE
(AS SHOWN & NOTED)



ELEVATION



SECTION B-B

SECTION A-A

DIMENSION TABLE			
DIM.	PIER #1	PIER #2	PIER #3
A	55'-6"	54'-8"	53'-10"
B	15'-6"	15'-2⅝"	14'-11⅜"
C	17'-0¾"	17'-5¼"	16'-10"

ELEVATION TABLE			
ELEV.	PIER #1	PIER #2	PIER #3
D	949.06	948.44	947.83
E	926.00	925.00	925.00

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON • DALTON ASSOCIATES

PIER DETAILS — RIGHT STRUCTURE

BRIDGE Nº MAH 80 0289 R
OVER LIPKEY ROAD
I-80 (S.R.18) MAHONING COUNTY
STA 495+23.82 TO STA 496+67.32

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JFP	JWW		HAGER	RWH	3-29-67	

MICROFILMED
APR 3 1986

FED. RD.	STATE	PROJECT	
2	OHIO		

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MAH-80S-7.01
MAH-80-2.30

℄ BRGS. ABUT #1 (ASSUMED) ℄ PIER #1 ℄ PIER #2 ℄ PIER #3 ℄ BRGS. ABUT #2 (ASSUMED)

SLAB LENGTH 143'-6 3/16"

EDGE OF SLAB

BARS IN THIS CURB SAME AS OTHER SIDE

21-S602 41-S1001 20-S1003 20-S1002 21-S603

93-S601 (2 LENGTHS)

STEEL IN TOP OF SLAB

31'-6" SPAN #1 | 39'-6" SPAN #2 | 39'-6" SPAN #3 | 31'-6" SPAN #4

BARS S1007 & S1008 CENTERED BETWEEN PIERS

18-S1005 17-S1006 17-S1008 18-S1007

133-S701 (2 LENGTHS)

36-S1004

S1004 (4 LENGTHS) 3-S504 5-S901 (CENTERED OVER PIERS) 3-S505

STEEL IN BOTTOM OF SLAB

28-SPA @ 1'-0" | 8-SPA @ 6" | 8-SPA @ 6" | 31-SPA @ 1'-0" | 9-SPA @ 6" | 9-SPA @ 6" | 31-SPA @ 1'-0" | 8-SPA @ 6" | 8-SPA @ 6" | 28-SPA @ 1'-0"

169-S502 169-S503

EDGE OF SLAB

9" 19'-6" 2" 2½" 43'-4" (OVERALL) [43'-0" EDGE TO EDGE OF SLAB] ℄ STRUCTURE

PLAN

S602 (LAP WITH ALT. S1001) S603 (LAP WITH ALT S1001) S603 (LAP WITH ALT S1001) S602 (LAP WITH ALT. S1001)

SPC'G. OF S601 1'-0" 1'-0" SPC'G. OF S604

12-SPS @ 2'-0" = 24'-0" 6-SPS @ 1'-0" 6-SPS @ 1'-0" 13-SPS @ 2'-0" = 26'-0" 1'-6" 6-SPS @ 1'-0" 6-SPS @ 1'-0" 1'-6" 13-SPS. @ 2'-0" = 26'-0" 6-SPS. @ 1'-0" 6-SPS @ 1'-0" 14'-1" 12-SPS @ 2'-0" = 24'-0" 1'-0" 1'-0"

14'-1" 6'-6" 4'-5"

S1001 S1003 S1002 S1005 S1006 S1004 S1008 S1007 S1004 2¼" CL. S1004 S1008 S1007 DETAIL 'G' S1004 S1006 S1005

SPC'G. OF S701 SPC'G. OF S702

4-SPS. @ 7" 24-SPS. @ 1'-2" = 28'-0" 32-EQUAL SPACES 4-SPS @ 7" 32-EQUAL SPACES 4-SPS. @ 7" 24-SPS. @ 1'-2" = 28'-0" 4-SPS. @ 7"

SECTION B-B

℄ WEST BOUND LANES 43'-0" 54'-0"

2'-0" 1'-9" 3" 22'-0" 18-SPACES @ 2'-2" = 39'-0" (21-S603) 17'-0" 2'-0" 1'-9" 3"

3/16"/FT. 3/16"/FT. 12'-0" PROFILE GRADE S601 (2 LENGTHS)

5⅝" 10⅝" S701 (2 LENGTHS) ℄ SURVEY I-80 (S.R.-18)

16-SPS. @ 2'-5" = 38'-8" — (17-S1008)
17-SPS. @ 2'-5" = 41'-1" — (18-S1007)
35-SPS. @ 1'-2½" = 42'-3½" — (36-S1004)

SECTION A-A

19'-6" 19'-6" 10½"

3" 1'-9" 18-SPS. @ 2'-2" = 39'-0" 21-S602 18-SPS @ 1'-1" = 19'-6" 8-SPS @ 2'-2" = 17'-4" 8-SPS @ 2'-2" = 17'-4" 1'-7½" 6¾" 10⅝" 2'-0¾" 3" — (41-S1001) 8¾ — (20-S1002) 1'-6¾ — (20-S1003) DETAIL 'E' 4¼" 7¼"

16-SPS @ 2'-5" = 38'-8" — (17-S1006)
17-SPS @ 2'-5" = 41'-1" — (18-S1005)
35-SPS. @ 1'-2½" = 42'-3½" — (36-S1004)

35-SPS @ 1'-2½" = 42'-3½" (36-S1004)

℄ STRUCTURE

SECTION D-D (HALF)

SECTION 'C-C' (HALF)

FOR CAMBER NOTE SEE SHT* (356)

* SLAB THICKNESS SHOWN INCLUDES 1" FOR MONOLITHIC WEARING SURFACE.

DETAIL 'E'
TYP. CURB & PARAPET DETAIL

2'-2" 1'-0" 1'-0" 2" ¾" 10½" ¾" S504 OR S505 2" 10" 2" 2" R. S502 S1004 S503 1'-6" 1'-0" 4" ℄ PIPE SCUPPERS (CAST IRON OR WROUGHT IRON) 3" 3" CONST. JT. 1" ℄ HALF ROUND DRIP GROOVE

S501 @ 1'-6" EXCEPT WHERE NECESSARY TO CLEAR PARAPET JOINTS
4-R505 @ EACH 16'-0 PARAPET PANEL
4-R506 @ EACH END PARAPET PANEL
(SEE SHT #348 FOR PANEL SPACING)
CONSTR. JT.

S901 OVER PIERS

1'-3" APPROACH SLAB ASSUMED ℄ BRG. 1'-6" SLAB 2½" 10" 12" VARIES 2'-0" VARIES

SECTION F-F

℄ PIERS 4-SPA @ 7" 2'-0" 2½" VARIES

DETAIL 'G'

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

SLAB DETAIL — LEFT STRUCTURE

BRIDGE Nº MAH-80-0289 L
OVER LIPKEY ROAD
I-80 (SR-18) MAHONING COUNTY
STA 495+23.82 TO STA 496+67.32

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JFP	JWW		HAGER	RBH	3-29-67	

MICROFILMED
APR 3 1986

FED. RD.	STATE	PROJECT	
2	OHIO		

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MAH-80S-7.01
MAH-80-2.30

℄BRGS.-ABUT°1
143'-6¼" SLAB LENGTH
28-SPA @ 1'-0"
8-SPA @ 6"
8-SPA @ 6"
℄PIER°1
5-S901 (CENTER OVER PIERS)
31-SPA @ 1'-0"
9-SPA @ 6"
9-SPA @ 6"
℄PIER°2
5-S901 (CENTERED OVER PIERS)
31-SPA @ 1'-0"
8-SPA @ 6"
8-SPA @ 6"
℄PIER°3
℄BRGS-ABUT°2
28-SPA @ 1'-0"
EDGE OF SLAB

S504 S505 S505 S504

169-S502
169-S503
93-S604 (2 LENGTHS)
133-S702 (2 LENGTHS)
SLAB 57'-3¼" @ ℄ BRGS.
49'-10" (LONG. BARS PARALLEL)
SLAB 54'-5¾" @ ℄ BRGS.

27-S602 58-S1001 26-S1002 26-S1003 27-S603 52-S1001 25-S1003 26-S1002 27-S603 51-S1001 25-S1003 25-S1002 26-S602

31'-6" (SPAN°1) 39'-6" (SPAN°2) 39'-6" (SPAN°3) 31'-6" (SPAN°4)

BARS S1007 & S1008 CENTERED BETWEEN PIERS

STEEL IN TOP OF SLAB

24-S1005 23-S1006 24-S1007 23-S1008 23-S1007 23-S1008 47-S1004 46-S1004 23-S1005 22-S1006

48-S1004 48-S1004

STEEL IN BOTTOM OF SLAB

S1005 S1006 S1005 S1006 S1004 S1004 S1007 S1008 S1004 S1008 S1007 S1004

EDGE OF SLAB

BARS IN THIS CURB SAME AS OTHER SIDE

NOTE—NUMBER REQUIRED OF REINFORCING BARS IS TOTAL ACROSS ENTIRE SLAB, INCLUDING TAPERED AREA

49'-10" TO N. EDGE SLAB

49'-10" TO N. EDGE SLAB

S602 S1001 S1003 S1002 S603 S1002 S1001 S1003 S1002 S1001 S1003 S602

143'-10½" SLAB LENGTH (THIS EDGE)

STEEL IN TOP OF SLAB @ SOUTH CURB

℄ SURVEY I-80 (S.R.18)

49'-10" (LONGITUDINAL BARS PARALLEL) IN THIS AREA — WIDTH VARIES

℄EASTBOUND LANES

54'-0"

2'-0" 17'-0" VARIES VARIES 2'-0"

3" 1'-11

12'-0"

SLOPE ¾"/FT SLOPE ¾"/FT.

PROFILE GRADE

22-SPS @ 2'-2" = 47'-8" (24-S603)

S604 (2 LENGTHS)

S702 (2 LENGTHS)

2'-1¼

10¾

19-SPS @ 2'-5" = 45'-11" (20-S1008)

20-SPS @ 2'-5" = 48'-4" (21-S1007)

41-SPS. @ 1'-2½" = 49'-6½ (42-S1004)

3½

SEE PLAN VIEW FOR TOP BARS IN TAPERED AREA

SEE PLAN VIEW FOR BOTT. BARS IN TAPERED AREA

SECTION 'K-K'

SEE NOTE-A

49'-10" (LONGIT. BARS PARALLEL) — WIDTH VARIES

3" 1½

8¾ 1'-8¼

1'-1¾ 2" 2¼

44-SPS @ 1'-1" = 47'-8" (47-S1001)

21-SPS. @ 2'-2" = 45'-6" (23-S1002)

21-SPS. @ 2'-2" = 45'-6" (23-S1003)

3½

41-SPS. @ 1'-2½" = 49'-6½ (42-S1004)

SEE PLAN VIEW FOR TOP BARS IN TAPERED AREA

SEE PLAN VIEW FOR BOTT. BARS IN TAPERED AREA

SECTION L-L

SEE NOTE-A

NOTE-A
SECTIONS "K-K" AND "L-L" GIVE N° OF BARS REQUIRED IN THE PARALLEL BAR AREA ONLY

CAMBER OF 1/800 OF THE SPAN SHALL BE PROVIDED IN EACH SPAN (IN ADDITION TO ANY REQUIRED FOR CONFORMANCE WITH THE PROFILE OF THE HIGHWAY) TO ALLOW FOR DEAD LOAD DEFLECTION. THIS IS THE AMOUNT OF CAMBER REQUIRED BEFORE FALSEWORK IS RELEASED. TO OBTAIN THIS, PROPER ALLOWANCE SHALL BE MADE FOR THE DEFLECTION OF FALSEWORK MEMBERS

FOR DETAILS & SECTIONS NOT SHOWN SEE SHT.°355 & 348

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

SLAB DETAIL RIGHT STRUCTURE

BRIDGE N° MAH-80-0289 R
OVER LIPKEY ROAD
I-80 (S.R-18) MAHONING COUNTY
STA 495+23.82 TO STA 496+67.32

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JFP	JWW		HAGER	RBH	3-29-67	

FORM DDA-6

MICROFILMED
APR 3 1986

FED. RD.	STATE	PROJECT	
2	OHIO		

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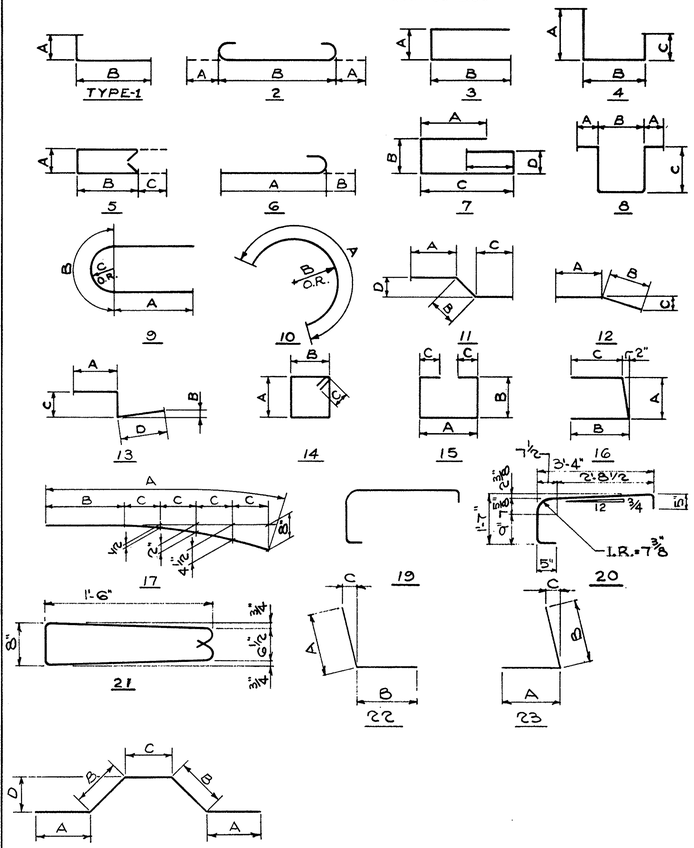
MAH-80-S-7.01
MAH-80-2.30

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.
ABUTMENTS									
A501	16	10'-0"	ST						167
A502	176	5'-4"	3	1'-9"	1'-11"				978
A503	352	6'-7"	3	2'-8"	2'-1"				2416
A504	8	30'-0"	ST						250
A505	8	16'-2"	ST						135
A506	130	11'-5"	3	1'-8"	5'-0"				1548
A507	8	21'-1"	ST						176
A508	4	20'-10"	ST						87
A509	8	21'-4"	ST						178
A510	18	3'-11"	22	2'-0"	2'-0"	2⅝			74
A511	18	3'-11"	23	2'-0	2'-0"	2⅝			74
A512	64	5'-0	ST						334
A513	16	5'-7"	ST						93
A514	24	3'-6"	ST						88
A515	16	12'-0"	14	2'-8"	3'-2"	5"			200
A516	8	4'-8"	ST						39
A517	16	9'-8"	ST						161
A518	36	8'-2"	ST						307
A519	96	3'-1"	1	6"	2'-8"				308
A520	4	8'-0"	17	8'-0"	-	2'-0"			33
A521	48	3'-5"	3	2'-0"	10"				171
A522	48	3'-7"	16	2'-0"	1'-0"	10"			179
A523	48	5'-7"	5	8"	2'-2"	5"			280
A524	20	8'-4	ST						174
A525	4	8'-5"	17	8'-0"	5"	2'-0"			35
A526	8	36'-0	ST						300
A527	4	24'-4"	ST						102
A528	4	28'-2"	ST						118
A529	2	27'-11"	ST						58
A530	2	28'-5"	ST						59
A531	6	3'-11"	22	2'-0"	2'-0"	3⅛			25
A532	4	26'-9"	ST						112
A533	2	26'-6"	ST						55
A534	2	27'-0"	ST						56
A535	6	3'-11	23	2'-0"	2'-0"	3⅛			25
A601	32	13'-5"	3	1'-2"	6'-3"				645
A602	8	6'-4"	ST						76
A801	8	30'-0"	ST						641
A802	8	17'-0"	ST						363
A803	16	5'-6"	ST						235
A804	16	3'-6"	ST						150
A805	8	36'-0"	ST						769
A806	4	25'-3"	ST						270
A807	4	22'-4"	ST						238
SERIES A1001	2-SETS OF 4 BARS	VARIES 21'-1" TO 20'-10"	ST					1"	722
SERIES A1002	2-SETS OF 4 BARS	VARIES 21'-1 TO 21'-4"	ST					1"	780
SERIES A1003	1-SET OF 4 BARS	VARIES 25'-2"TO 27'-11"	ST					1"	483
SERIES A1004	1-SET OF 4 BARS	VARIES 28'-2"TO 28'-5"	ST					1"	487
SERIES A1005	1-SET OF 4 BARS	VARIES 26'-9 TO 26'-6"	ST					1"	458
SERIES A1006	1-SET OF 4 BARS	VARIES 26'-9 TO 27'-0"	ST					1"	463
TOTAL ABUTMENTS 16,125 lbs.									
SUPERSTRUCTURE									
S501	396	5'-7"	5	8"	2'-2"	5"			2306
S502	676	2'-6"	3	1'-5"	8"				1763
S503	676	5'-11"	15	1'-5"	2'-0"	6"			4172
S504	24	23'-2"	ST						580
S505	24	21'-2"	ST						530

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.
SUPERSTRUCTURE (CONT'D)									
S506	3	11'-0"	24	2'-0"	2'-11"	1'-2"	2'-1"		35
S601	186	22'-4"	ST						6239
S602	95	20'-5"	ST						2913
S603	96	17'-2"	ST						2475
S604	186	29'-7"	ST						8265
S610	12	6'-0"	ST						108
S611	4	11'-8"	14	3'-7"	2'-3"	4"			70
S701	266	22'-6"	ST						12,233
S702	266	29'-9"	ST						16,175
S901	60	22'-0"	ST						4488
S1001	279	27'-5"	ST						32,915
S1002	137	12'-5"	ST						7,320
S1003	136	8'-10"	ST						5169
S1004	349	38'-2"	ST						57,317
S1005	83	24'-0"	6	22'-9"	1'-3"				8572
S1006	79	27'-3"	6	25'-10"	1'-5"				9263
S1007	82	18'-8"	ST						6587
S1008	80	24'-4"	ST						8376
TOTAL SUPERSTRUCTURE. 197,871									
DIERS									
P501	468	6'-7"	3	2'-8"	2'-1"				3212
P601	12	21'-10	ST						394
P602	24	4'-10	12	2'-0"	2'-10"	5⅜			174
P603	4	28'-7"	ST						172
P604	4	28'-2"	ST						169
P605	4	27'-9"	ST						167
P801	420	7'-0"	ST						7,850
P1001	18	16'-1"	1	1'-11"	14'-5"				1246
P1002	18	32'-7"	1	1'-11"	30'-11"				2524
P1003	18	16'-6"	ST						1278
P1004	18	22'-8"	ST						1756
P1005	12	31'-1"	1	1'-11"	29'-5				1605
P1006	12	30'-8"	1	1'-11"	29'-0"				1584
P1007	12	30'-3"	1	1'-11"	28'-7"				1562
P1008	6	21'-8"	ST						559
P1009	6	21'-4"	ST						551
P1010	6	21'-2"	ST						546
P1011	6	31'-0"	ST						800
P1012	6	30'-6"	ST						787
P1013	6	30'-0"	ST						775

MARK	NO. REQ'D.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCR.	WEIGHT LBS.
PIERS (CONTINUED)									
P1101	240	7'-0"	1	1'-0"	6'-2"				8926
P1102	80	19'-7"	ST						8324
P1103	80	19'-11"	ST						8465
P1104	80	19'-4"	ST						8217
TOTAL SPIRALS 6554									
TOTAL PIERS 68,197									
RAILING®									
R501	16	5'-4"	20						
R502	24	4'-2"	21						
R503	16	7'-11"	ST						
R504	16	8'-2"	ST						
R505	128	15'-8"	ST						
R506	12	15'-2"	ST						
R510	2	11'-0"	24	2'-0"	2'-11"	1'-2"	2'-1"		
R511	2	8'-10"	24	2'-0"	11"	3'-0"	8"		
REPLACEMENT BARS									
RE-401	1	6'-3"	10	5'-3"	1'-4"				
RE-501	2	6'-6"	ST						
RE-601	2	7'-0"	ST						
RE-701	2	7'-3"	ST						
RE-801	1	7'-6"	ST						
RE-901	1	7'-10"	ST						
RE-1001	8	8'-3"	ST						
RE-1101	2	8'-9"	ST						



SPIRAL REINFORCING SCHEDULE

MARK	NO. REQ'D.	CORE DIA OF SPIRAL	LENGTH OF SPIRAL	PITCH	NO. OF TURNS	WEIGHT LBS.
SP-401	3	2'-8"	16'-11⅝"	4½	48	932
SP-402	3	2'-8"	17'-4¼"	4½	49	952
SP-403	3	2'-3"	16'-8⅝"	4½	47	914
SP-404	4	2'-8"	17'-0¾"	4½	48	1244
SP-405	4	2'-8"	17'-5¼"	4½	49	1270
SP-406	4	2'-8"	16'-10"	4½	48	1242
TOTAL SPIRALS						6554

GRAND TOTAL 282,193 LBS.

®RAILING REINFORCEMENT BARS WILL BE INCLUDED AS PART OF ITEM 517 FOR PAYMENT.

REINFORCING NOTES

THE LENGTH SHOWN IN THE STEEL SCHEDULE FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE PIER CAP. THE NUMBER OF TURNS SHOWN IN THE STEEL SCHEDULE FOR SPIRAL BARS IS THE LENGTH DIVIDED BY THE PITCH PLUS THREE TURNS (TOTAL NUMBER OF CLOSED COILS) EXPRESSED AS THE NEAREST WHOLE NUMBER. SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS, BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 509. ONE AND ONE HALF CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOUR (4) STEEL CHANNEL, TEE OR ANGLE SPACERS WEIGHING APPROX. 0.68 LBS. PER LINEAL FT. OF SPACERS SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIPHERY OF EACH COIL. THE NUMBER OF POUNDS OF THESE SPACERS BASED ON 0.68 LBS. PER LINEAL FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN THE TABULATED QUANTITY OF SPIRAL BARS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED INDICATE THE BAR SIZE NUMBER. A-601 IS A NO. 6 SIZE BAR AND P-1001 IS A NO. 10 SIZE BAR.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DALTON · DALTON ASSOCIATES

REINFORCING SCHEDULE

BRIDGE Nº MAH-80-0289 L&R
OVER LIPKEY ROAD
I-80 (S.R.18) MAHONING COUNTY
STA 495+23.82 TO STA 496+67.32

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JFP	[illegible]		HAGER	RBH	3-29-67	

93412

CENTER LINE SURVEY PLAT

MAH-80S-7.01
MAH-80-2.30

MAHONING COUNTY, OHIO

JACKSON TOWNSHIP, TRACT 13, GREAT LOT 46
RANGE 4 WEST
TOWNSHIP 2 NORTH

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5(3)228	

358/384

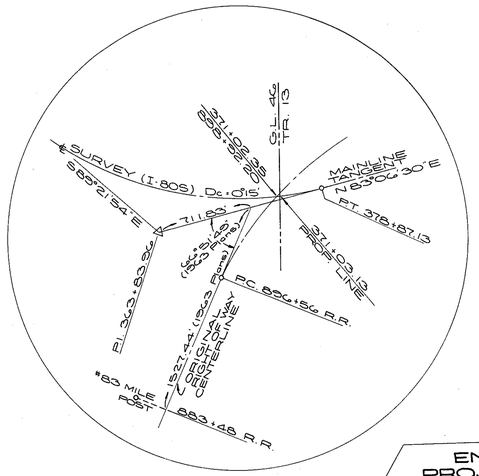
MAH-80S-7.01
MAH-80-2.30
RIGHT-OF-WAY SHEET

1/25

~ LIMITED ACCESS ~

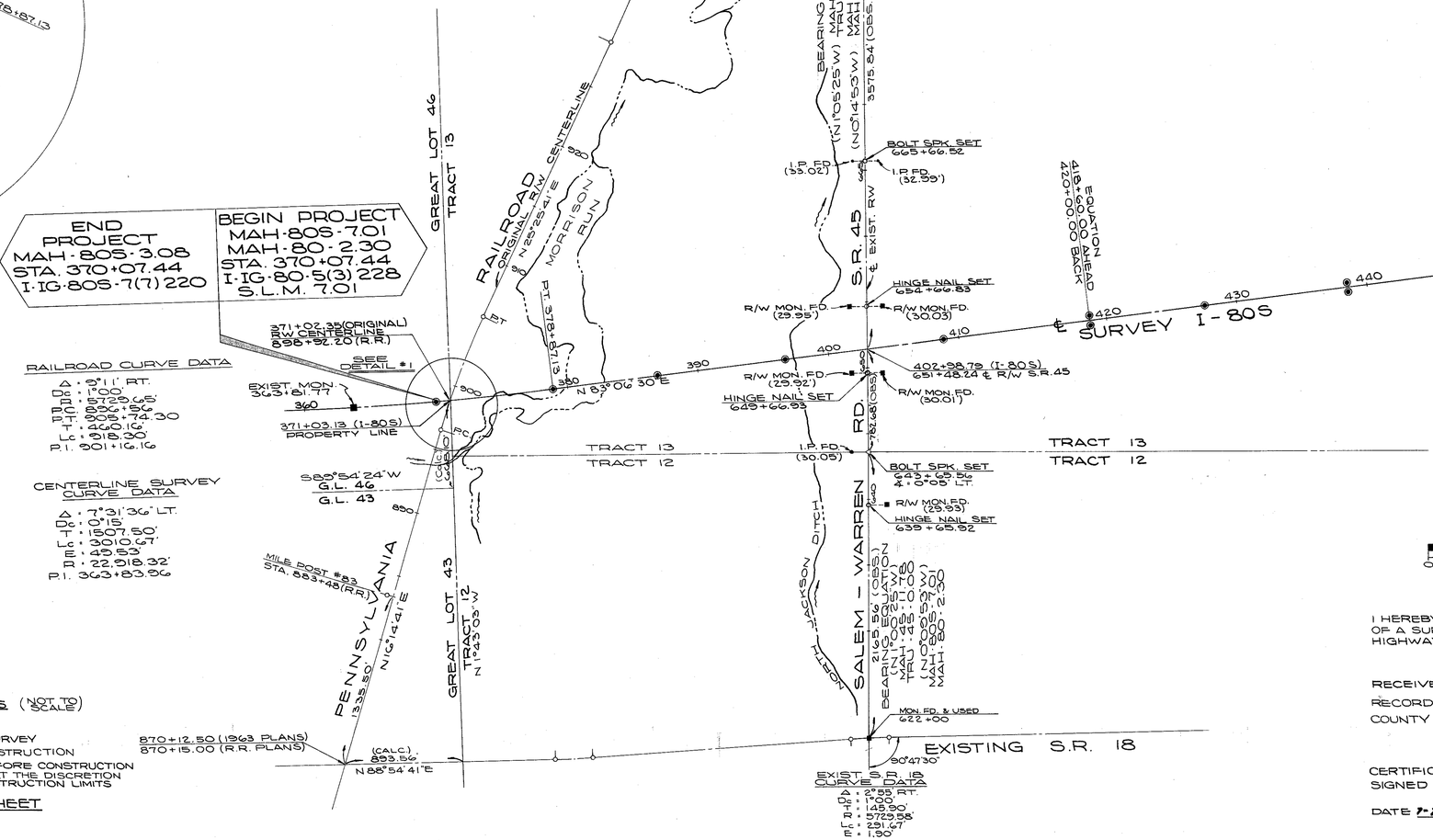
THIS IMPROVEMENT HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY FROM STATION 370+07.44 TO STATION 520+80.75 BY ACTION OF THE DIRECTOR OF HIGHWAYS AND RECORDED IN VOLUME *41,45, PAGE *935,1217, OF THE DIRECTORS JOURNAL PURSUANT TO LAW.

* I 80S HEARING HELD 10-24-56
‡ I 80 HEARING HELD 9-29-60



DETAIL #1

END PROJECT	BEGIN PROJECT
MAH-80S-3.08	MAH-80S-7.01
STA. 370+07.44	MAH-80-2.30
I-IG-80S-7(7)220	STA. 370+07.44
	I-IG-80-5(3)228
	S.L.M. 7.01

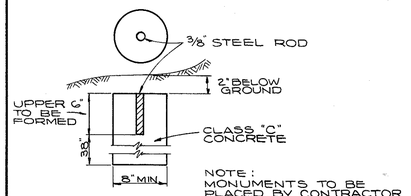


RAILROAD CURVE DATA

Δ : 9°11' RT.
Dc : 1°00'
R : 5729.65'
P.C. 896+56
P.T. 905+74.30
T : 2660.16'
Lc : 918.30'
P.I. 901+16.16

CENTERLINE SURVEY CURVE DATA

Δ : 7°31'36" LT.
Dc : 0°15'
T : 1507.50'
Lc : 3010.67'
E : 495.53'
R : 22,918.32'
P.I. 363+83.96



NOTE: MONUMENTS TO BE PLACED BY CONTRACTOR

DETAIL OF CENTERLINE REFERENCE MONUMENTS (NOT TO SCALE)

NOTES:
MONUMENTS TO BE PLACED ON CENTER LINE SURVEY
MONUMENTS TO BE PLACED DURING OR AFTER CONSTRUCTION
IRON PIN REFERENCE POINTS TO BE PLACED BEFORE CONSTRUCTION
ALL IRON PIN REFERENCE POINTS ARE TO BE SET AT THE DISCRETION OF THE FIELD ENGINEER AND OUTSIDE OF THE CONSTRUCTION LIMITS

EXIST S.R. 18 CURVE DATA

Δ : 2°55' RT.
Dc : 1°00'
R : 5729.58'
Lc : 291.67'
E : 1.90'

MONUMENTS TO BE SET - THIS SHEET

P.O.C. STA. 370+00
P.T. STA. 378+87.13
P.O.T. STA. 386+50
P.O.T. STA. 396+70.58
P.O.T. STA. 408+85.50
P.O.T. STA. 418+60 AHEAD (EQUATION) 420+00 BACK (MONUMENTS SET AT RIGHT ANGLES TO AND 50' LEFT AND RIGHT OF ℄).
P.O.T. STA. 427+62.57
P.O.T. STA. 438+41.58 (MONUMENTS SET AT RIGHT ANGLES TO AND 50' LEFT AND RIGHT OF ℄.)

OBS OBSERVED MEASUREMENT
REC RECORD MEASUREMENT
■ EXISTING MONUMENTS
◉ MONUMENTS TO BE SET
● IRON PINS FOUND

0 500 1000 1500 2000 2500
SCALE IN FEET

I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT OF HIGHWAYS.
BY Ryan E Medaj
DATE 7-11-67

RECEIVED FOR RECORD July 25 1967 at 12:59 PM
RECORDED: VOL. 58, PAGE 58:59, OF THE MAHONING COUNTY RECORDS.
Theresa G. Tetlow G.S.
RECORDER

CERTIFICATE OF APPROVAL
SIGNED BY Clifton M. Newhall
CLIFTON M. NEWHALL
DATE 7-25-67 DIVISION DEPUTY DIRECTOR

SURVEYORS SEAL

TRANSFERRED
JUL 25 1967
K. R. KOLBACK AUDITOR
H Parks DEPUTY

CENTERLINE SURVEY PLAT 1 OF 2

#2502

State Highway Dept. Div. 4 H/W Sec. 4 Akron, Ohio
JUL 24 1967
LOGGED
Cds. Bill Bk.

K & E - AKRON

79341

CENTER LINE SURVEY PLAT

MAH-80S - 7.01
MAH - 80 - 2.30
MAHONING COUNTY, OHIO
JACKSON TOWNSHIP, TRACT 13, TRACT 15
RANGE 4 WEST
TOWNSHIP 2 NORTH

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5(3)228	

359/384

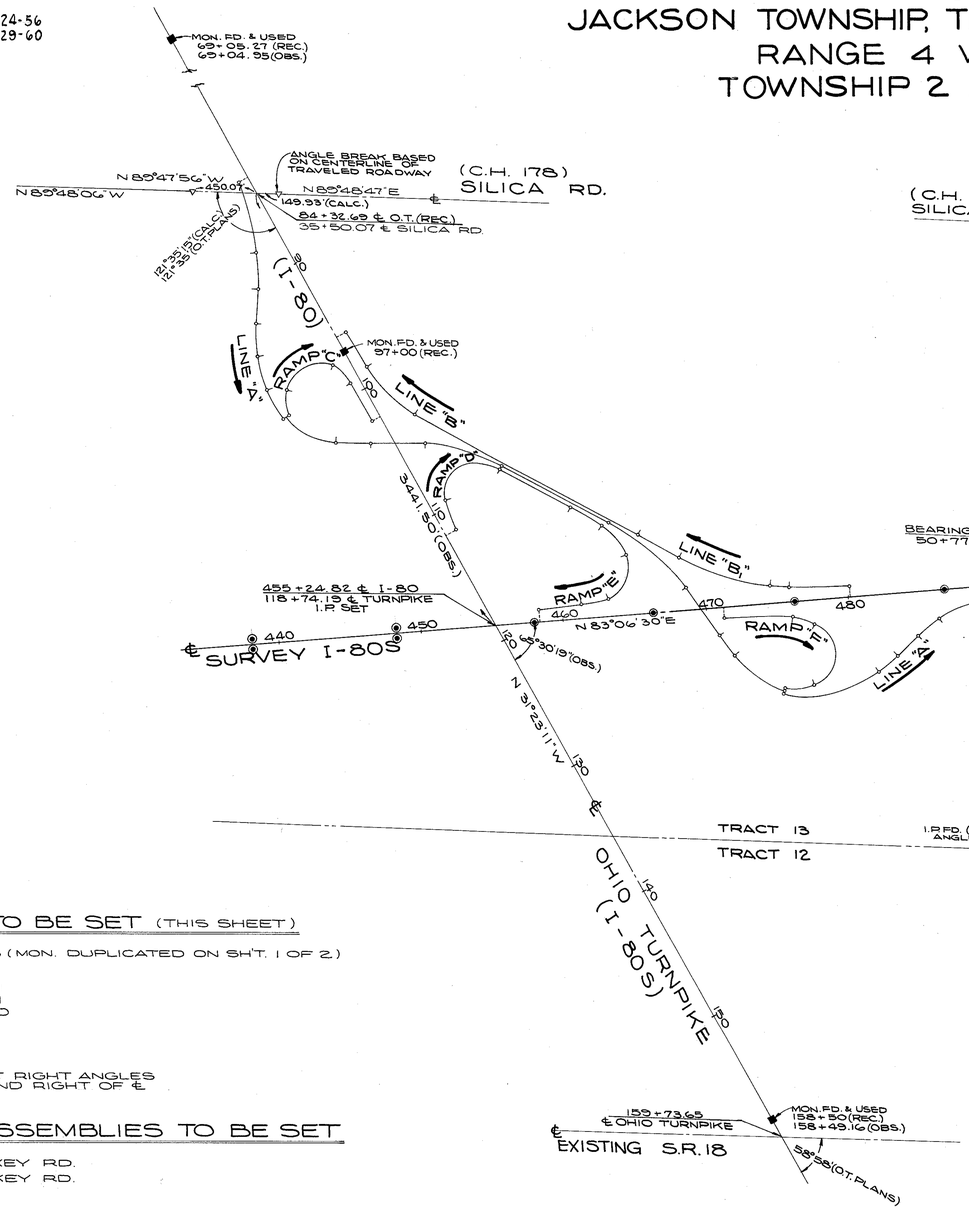
MAH-80S-7.01
MAH-80-2.30
RIGHT-OF-WAY SHEET

2/25

~ LIMITED ACCESS ~

THIS IMPROVEMENT HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY FROM STATION 370+07.44 TO STATION 520+80.75 BY ACTION OF THE DIRECTOR OF HIGHWAYS AND RECORDED IN VOLUME *41, ‡45, PAGE *935, ‡217, OF THE DIRECTORS JOURNAL PURSUANT TO LAW.

* I 80 S HEARING HELD 10-24-56
‡ I 80 HEARING HELD 9-29-60



MONUMENTS TO BE SET (THIS SHEET)

*P.O.T. STA. 438+41.58 (MON. DUPLICATED ON SH'T. 1 OF 2.)
*P.O.T. STA. 448+50
P.O.T. STA. 458+00
P.O.T. STA. 466+37.01
P.O.T. STA. 474+34.21
P.O.T. STA. 484+78.20
P.O.T. STA. 497+00
P.C. STA. 507+37
M.O. STA. 513+21.38
P.T. STA. 515+05.77

* MONUMENTS SET AT RIGHT ANGLES TO AND 50' LEFT AND RIGHT OF ℄

MONUMENT ASSEMBLIES TO BE SET

STA. 46+00 ℄ LIPKEY RD.
STA. 54+00 ℄ LIPKEY RD.

OBS OBSERVED MEASUREMENT
REC RECORD MEASUREMENT
■ EXISTING MONUMENTS
◉ MONUMENTS TO BE SET
● IRON PINS FOUND
▣ MONUMENT ASSEMBLIES TO BE SET

0 500 1000 1500 2000 2500
SCALE IN FEET

I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT OF HIGHWAYS.
BY Bryan E. Mellon
DATE 7-11-67

RECEIVED FOR RECORD July 25 1967 at 1258 P.M.
RECORDED: VOL. 58, PAGE 54-57, OF THE MAHONING COUNTY RECORDS.
Horace G. Tatlow C.E.
RECORDER

CERTIFICATE OF APPROVAL
SIGNED BY Clifton M. Newhall
CLIFTON M. NEWHALL
DATE 7-25-67 DIVISION DEPUTY DIRECTOR

TRANSFERRED JUL 25 1967 Mead PD
S. R. DIV. OF AUDITOR
By Porter DEPUTY

SURVEYORS SEAL

CENTERLINE SURVEY PLAT 2 OF 2

State Highway Dept. of Ohio R/W - ENGR. & ADMIN. BL. AKRON, OHIO
JUL 24 1967
LOGGED
Date
Bill No.

K & E - AKRON

#20.00

PROPERTY MAP

MAH-80S - 7.01
MAH - 80 - 2.30

MAHONING COUNTY, OHIO

JACKSON TOWNSHIP, TRACT 13, GREAT LOT 46
RANGE 4 WEST, TOWNSHIP 2 NORTH

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5(3)228	

360/384

MAH - 80S - 7.01
MAH - 80 - 2.30
RIGHT OF WAY SHEET

3/25

(1) THE YOUNGSTOWN WELDING & ENGINEERING CO., AN OHIO CORPORATION

(2) ELTA M. GAULT, ET. AL.

(3) (3A) CHRISTENA MOORE AKA CHRISTINA MOORE

(4) MARY C. HOWARD fka MARY C. THOMPSON

(5) NATIONAL INDUSTRIAL DEVELOPMENT CORP., AN OHIO CORP. fka YOUNGSTOWN INDUSTRIAL DEVELOPMENT CORP., AN OHIO CORP.

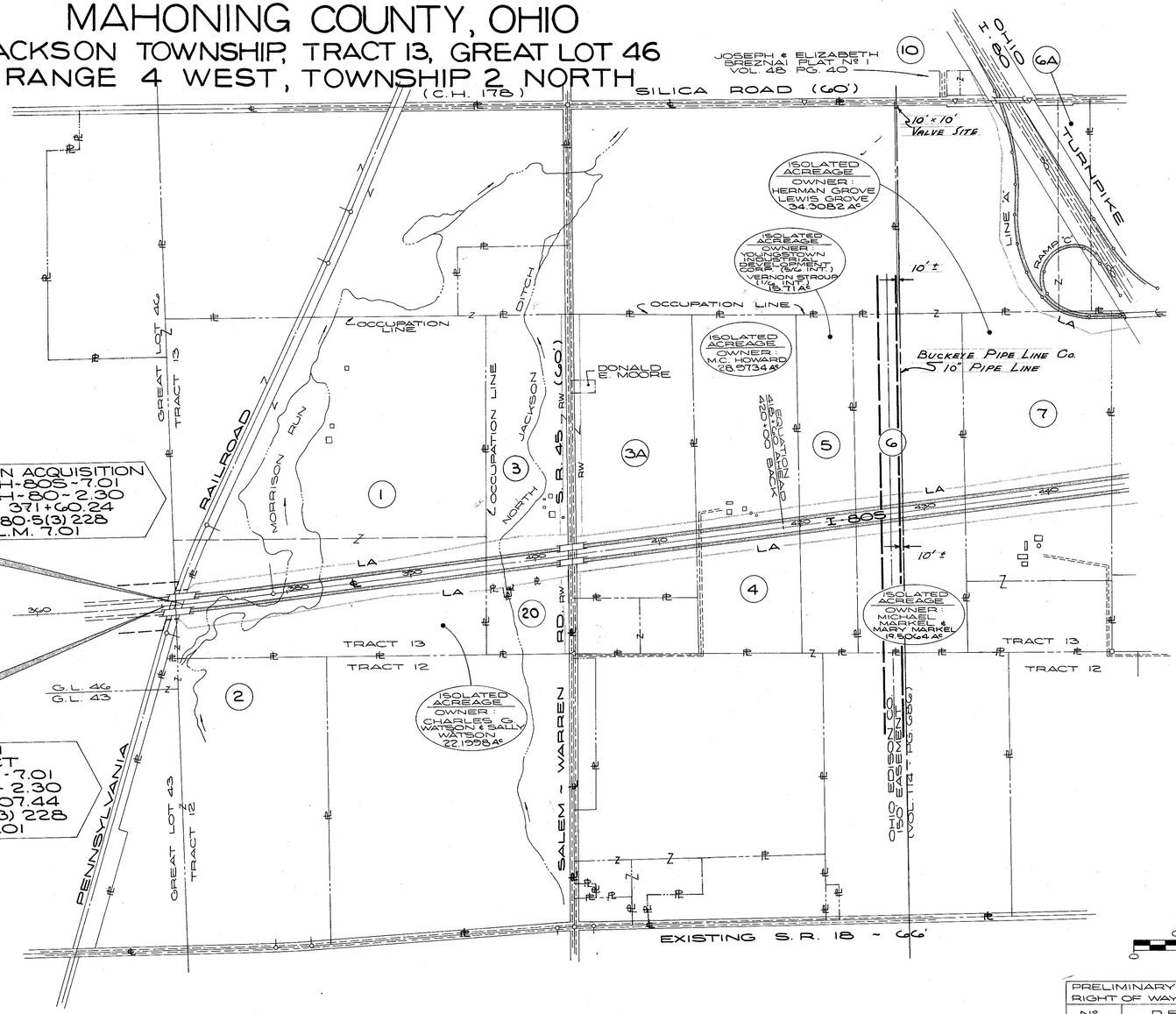
(6) MICHAEL MARKEL & MARY MARKEL

(6A) MICHAEL MARKEL & MARY MARKEL

(7) HERMAN GROVE & LEWIS GROVE

(10) JOSEPH BREZNAI & ELIZABETH BREZNAI

(20) THE OHIO DISTRICT OF THE LUTHERAN CHURCH - MISSOURI SYNOD, INC.



END ACQUISITION	BEGIN ACQUISITION
MAH-80S-3.08	MAH-80S-7.01
STA. 371+60.24	MAH-80-2.30
I-IG-80S-7(7)220	STA. 371+60.24
	I-IG-80-5(3)228
	S.L.M. 7.01

END PROJECT	BEGIN PROJECT
MAH-80S-3.08	MAH-80S-7.01
STA. 370+07.44	MAH-80-2.30
I-IG-80S-7(7)220	STA. 370+07.44
	I-IG-80-5(3)228
	S.L.M. 7.01

AFFECTED UTILITY COMPANIES

OHIO EDISON CO.
47 N. MAIN ST.
GENERAL OFFICES
AKRON 8, OHIO

OHIO BELL TELEPHONE CO.
2405 MARKET ST.
YOUNGSTOWN, OHIO

AMERICAN TELEPHONE AND TELEGRAPH
DIVISION PLANT SUPERINTENDENT
LONG LINES DEPARTMENT
1538 UNION COMMERCE BLDG.
CLEVELAND 14, OHIO

EAST OHIO GAS CO.
320 HIGH ST. N.E.
WARREN, OHIO

EAST OHIO GAS CO.
1020 MARKET AVE. NORTH
CANTON 4, OHIO

MAHONING VALLEY SANITARY DISTRICT
BOX 298
YOUNGSTOWN 1, OHIO

GRAPHIC SCALE
0 500 1000 1500 2000

PRELIMINARY SUBMITTAL DATE :
RIGHT OF WAY COMPLETION DATE :

No.	REVISIONS	MADE BY	DATE
1	Revised ℄ Pcl. 1	Lee	8-17-67
2	Revesed Name Pcls. 1, 3,4,& 5	Lee	8-17-67
3	Revised ℄ Pcls. 5 & 7	Lee	8-29-67
4	Added Pcl. 20-WD an Outsale from Pcl. 3	Lee	2-8-68
5	Added Buckeye Pipe Line per I.O.C. from Strahl, dated 7/17/68	J.R.B.	7/22/68

PROPERTY MAP SHEET No. 1 OF 2

Ohio Highway Dept. Div. of R/W - ENGINEERING Akron, O.
JUL 24 1967
LOGGED
Bill Bk.
Crds

PROPERTY MAP

MAH-80S - 7.01
MAH - 80 - 2.30
MAHONING COUNTY, OHIO
JACKSON TOWNSHIP, TRACT 13, TRACT 15
RANGE 4 WEST
TOWNSHIP 2 NORTH

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5-(3)228	

361/384

MAH 80S 7.01
MAH 80 2.30
RIGHT OF WAY SHEET

4/25

(6A) MICHAEL MARKEL & MARY MARKEL

(7) LEWIS GROVE & HERMAN GROVE

(9-1) JAMES ERSKINE & MARGARET ANN ERSKINE

(9) JAMES ERSKINE & MARGARET ANN ERSKINE

(9A) JAMES ERSKINE & MARGARET ANN ERSKINE

(11) MARIE TRNAVSKY

(12) MARY J. EVANS

(13) LEWIS GROVE & HERMAN GROVE

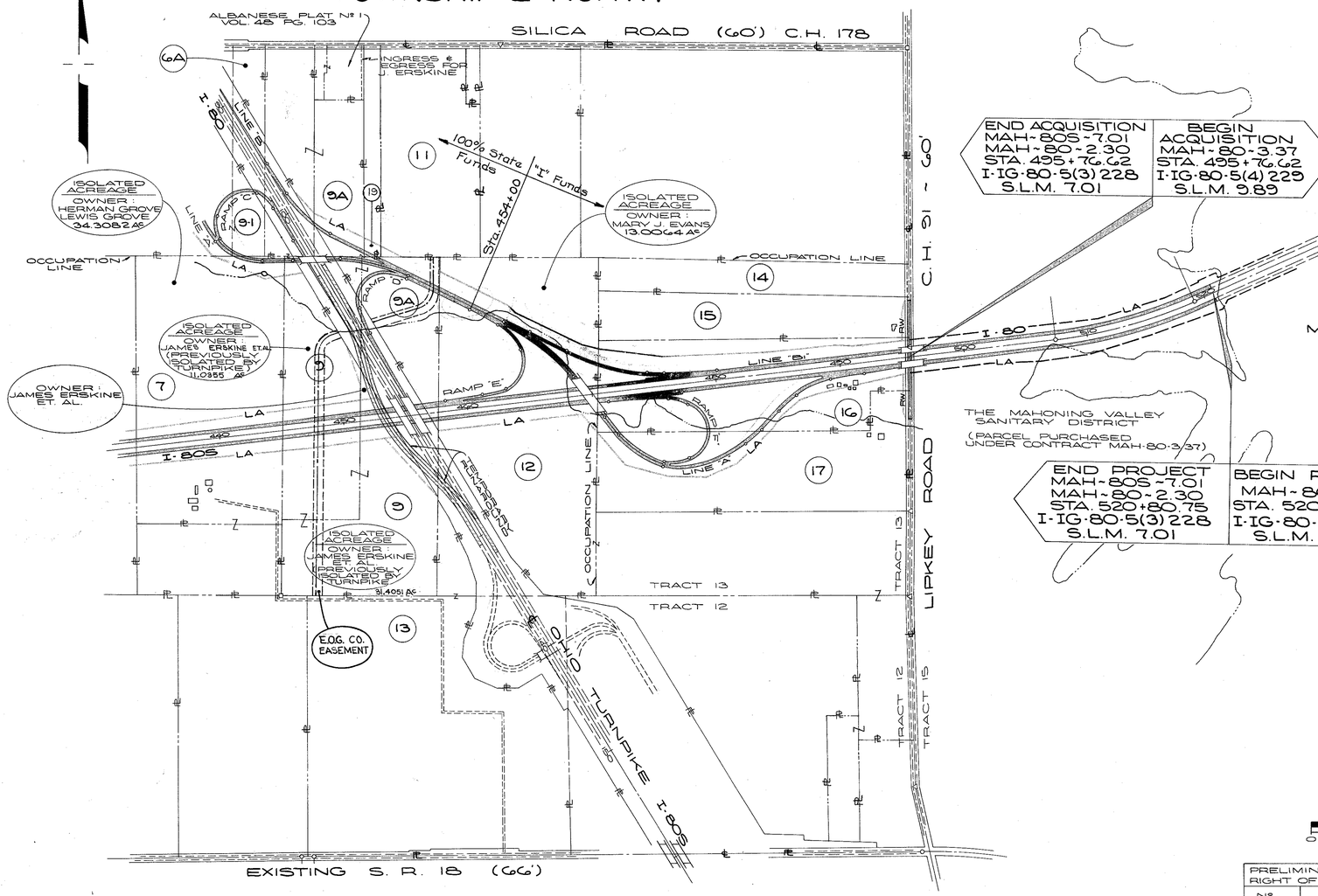
(14) THOMAS M. FITZER & JUSTINE M. FITZER

(15) FELIX VINCENT TESNER & LOUISE C. TESNER

(16) FRED J. SMITH & DOROTHY N. SMITH

(17) ROBERT J. SMITH

(19) IRENE KOLASKY



PRELIMINARY SUBMITTAL DATE :
RIGHT OF WAY COMPLETION DATE :

No	REVISION	MADE BY	DATE
1	Deleted Pcl. 8, 8A & 8B Combined Area with 9 & 9-A	Lee	8-10-67
2	Added Pcl. 19 WL, An Outsale from Pcl. 11-WL	Lee	8/18/67
3	Revised Name Pcls. 11 & 16	Lee	8/18/67
4	Revised ℄ Pcls 7 & 12	Lee	8/29/67
5	Added E.O.G. Co. Easement	Lee	12/21/67

PROPERTY MAP SHEET No 2 OF 2

State Highway Dept. Div. & R/W - Engr. & Admin. F. Akron, Ohio
JUL 24 1967
Date ..... LOGGED ..... By Dr. .....

K & E - AKRON

KEY MAP

FED. RD.	STATE	PROJECT	
2	OHIO	I-16-80-5(3)228	

362/384

5/25

MAH.-80S-7.01
MAH.-80 -2.30

RIGHT-OF-WAY SHEET

STA 370+07.44
BEGIN PROJECT
MAH.-80S-7.01
MAH.-80-2.30

STA 520+80.75
END PROJECT
MAH.-80S-7.01
MAH.-80-2.30

SILICA ROAD

OHIO TURNPIKE (I-80)

S 31° 23' 11" E

N 36° 09' W ROAD

R.R.

O.L. 46 TRACT 13

P.T. STA 378+87.13

S.R. 45 N 0° 14' 53" W

EQUATION
420+00 BACK
418+60 AHEAD

STA. 402+98.79

N 83° 06' 30" E

I-80S

455+24.62

LIPKEY RD BRG. BREAK

I-80

STA. 475+76.62

P.T. STA 507+37

P.C. STA 515+07.47

520

510

500

490

480

470

460

450

440

430

420

410

400

390

380

370

LINE "B"

LINE "A"

LINE "C"

RAMP "C"

RAMP "D"

RAMP "E"

RAMP "F"

4.80

STA. 371+02.35

S.R. 45 BRG. BREAK

TRACT 13

TRACT 12

N 0° 09' 53" W

EXIST. S.R. 18

OHIO TURNPIKE (I-80S)

LIPKEY ROAD N 0° 31' 09" W

JACKSON TWP.
AUSTINTOWN TWP.

GRAPHIC SCALE
0 500 1000 2000 3000

KEY MAP
STA. 370+07.44 TO STA. 520+80.75

Stark Blueprint & Printing Co.
CANTON, OHIO

JUL 24 1980

PROCESSED

SUMMARY OF RIGHT OF WAY REQUIRED

FED. RD.	STATE	PROJECT	
2	OHIO		

MAH-805-7.01
MAH-80-2.30
RIGHT OF WAY SHEET

363 / 384

6 / 25

TOTAL NUMBER OF OWNERS WITH STRUCTURES TO BE TAKEN 2

TOTAL NUMBER AFFECTED OWNERS 15

PARCEL Nº	OWNER	DEED RECORD BOOK	DEED RECORD PAGE	DEED AREA TOTAL ACRES	DEED AREA ACRES NET	TOTAL P.R.O.	TO BE ACQUIRED TOTAL TAKE	TO BE ACQUIRED P.R.O. IN TAKE	TO BE ACQUIRED NET TAKE	BLDGS.	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUNDS I.G.	TYPE FUNDS I.	TYPE FUNDS 100% STATE (INELG.)	SHEET Nº	REMARKS
153 WL	NETTIE A.K. PAGE, RUTH PAGE, MARY PAGE, HOWARD PAGE	248	263	——	——	——	——	——	——	——	——	——	——	——	——	7	PARCEL PURCHASED UNDER CONTRACT MAH-805-3.08
154	PENNSYLVANIA RAILROAD	206 49	48 556	——	——	——	——	——	——	——	——	——	——	——	——	7	PARCEL PURCHASED UNDER CONTRACT MAH-805-3.08
1WL	THE YOUNGSTOWN WELDING & ENGINEERING COMPANY, AN OHIO CORPORATION	10 22	18	5 195.44	——	SEE 0.825 Sil. Cart 0.45°	18.3950	——	18.3950	NO	154.0202	22.1998 L.L.	12.4145	5.9805	——	7-8-9	DEED ACREAGE DOES NOT INCLUDE PENNSYLVANIA RAILROAD
1X							1.5515	——	1.5515				1.5515	——	——	7-8	
1Y							0.3502	——	0.3502				0.3502	——	——	7	1T & 1-1T ~ FILL & GRADE EXISTING AREA
1T							1.8395	——	1.8395				1.8395	——	——	7	
1-1T							0.3217	——	0.3217				0.3217	——	——	7-8	1X & 1Y ~ CHANNEL RELOCATION
3WL	CHRISTINA MOORE AKA CHRISTENA MOORE	1093 478	746 100	80.463	30.58	14345	5.7592	0.2252	5.5340	NO	216207	.1602	——	5.7592	——	9-9A	3X & 3Y ~ CHANNEL RELOCATION
3X							0.1263	——	0.1263				——	0.1263	——	9	
3Y							0.1602	——	0.1602				——	0.1602	——	9	
3C							3.03	1.20	1.83				——	——	3.03	9A-9B	RIGHT RESIDUE CONSISTS OF "Y" PARCEL ONLY
3CT							0.02	——	0.02				——	——	0.02	9A	3CT ~ DRIVEWAY IMPROVEMENT
3AWL	CHRISTINA MOORE AKA CHRISTENA MOORE	1093 478	746 100	SEE PCL. 3WL	45.883	1.5475	6.6666	0.2011	6.4650	NO	34.5345	5.7170	——	6.6661	——	9-9A-10	NET DEED ACREAGE DOES NOT INCLUDE OUTSALE OF 0.51 Ac TO DONALD E. MOORE.
3D							0.24	0.13	0.11				——	——	0.24	9A	
3E							1.79	0.77	1.02				——	——	1.79	9A-9B	
3F							0.86	0.37	0.49				——	——	0.86	9B	
4WL	MARY C. HOWARD fka MARY C. THOMPSON	779 693	169 196	50.0	——	——	5.6337	——	5.6337	YES	28.5734 L.L.	15.3929	——	5.6337	——	10	
5WL	NATIONAL INDUSTRIAL DEVELOPMENT CORPORATION, AN OHIO CORPORATION fka THE YOUNGSTOWN INDUSTRIAL DEVELOPMENT CORPORATION, AN OHIO CORPORATION	1030 987 987	662 710 706	104.24	——	0.43	3.1582	——	3.1582	NO	15.7100 L.L.	84.9418	——	3.1582	——	10-11	
6WL	MICHAEL MARKEL & MARY MARKEL	559	434	112.5	100.5551	0.6061	5.8926	——	5.8926	NO	60.26	19.5064 L.L.	——	5.8926	——	11	TOTAL DEED ACREAGE INCLUDES 8.1325 Ac UNDER WARRANTY DEED TO THE OHIO TURNPIKE
6-1WL							14.3292	0.0392	14.2900				——	——	14.3292	19-20	
6T							0.1108	——	0.1108				——	——	0.1108	20	6T ~ DRIVEWAY RELOCATION
6AWL	MICHAEL MARKEL & MARY MARKEL	559	434	SEE PCL. 6WL	3.8124	0.3804	——	——	——	——	——	——	——	——	——	——	NOT REQUIRED
7WL	HERMAN GROVE & LEWIS GROVE	717 714	470 454	68.00	——	——	8.0813	——	8.0813	NO	34.3082 L.L.	24.0345	——	8.0813	——	11-12	
7-1WL							1.5760	——	1.5760				——	——	1.5760	19	
9WL	JAMES ERSKINE & MARGARET ANN ERSKINE	652 651	352 607	101.10	50.0787	——	6.3581	——	6.3581	NO	11.0355 L.L.	31.4051	——	6.3581	——	12-13-14	TOTAL DEED ACREAGE INCLUDES 16.8276 Ac UNDER WARRANTY DEED TO THE OHIO TURNPIKE
9-1WL							1.2800	——	1.2800				——	——	1.2800	18-19	PCL. 9 WAS PREVIOUSLY ISOLATED BY THE OHIO TURNPIKE
9T							0.7680	——	0.7680				——	0.7680	——	13-18	TEMPORARY RUNAROUND
9-1T							0.5452	——	0.5452				——	0.5452	——	13-18	TEMPORARY RUNAROUND
9-AWL	JAMES ERSKINE & MARGARET ANN ERSKINE	652 651	352 607	See PARCEL 9-WL	34.1937	0.27	15.4645	——	15.4645	NO	18.4592	——	——	0.6399	14.8246	13-14-17 18-19	
10WL	JOSEPH BREZNAI & ELIZABETH BREZNAI	527 48	374 40	28,075 Sq. Ft.	——	——	2646 Sq. Ft.	——	2646 Sq. Ft.	NO	25,429 Sq. Ft.	——	——	——	2646 Sq. Ft.	20	LOT 1 ~ JOSEPH AND ELIZABETH BREZNAI PLAT Nº 1
11WL	MARIE TRNAVSKY	407	604	35.76	29.682	0.485	0.141	——	0.141	NO	29.056	——	——	——	0.141	17-18	
12WL	MARY J. EVANS	1,055 686	738 158	CANNOT DETERMINE	126.3451	0.4674	2566623 0.9495	——	2566623 0.9495	NO	130.0064 L.L.	87.8090	——	17.3052 0.9495	8.3571 ——	13-14-15 16-17 13-15	12X ~ CHANNEL RELOCATION
12X																	
13	HERMAN GROVE & LEWIS GROVE	357 361	443 503	——	——	——	——	——	——	——	——	——	——	——	——	——	NOT REQUIRED
14	THOMAS M. FITZER & JUSTINE M. FITZER	752	269	——	——	——	——	——	——	——	——	——	——	——	——	——	NOT REQUIRED
15	FELIX VINCENT TESNER & LOUISE C. TESNER	718	413	18.75	——	0.2211	0.3078	0.2033	0.1045	NO	18.4244	——	——	0.3078	——	22-25	
15T							0.1216	——	0.1216				——	0.1216	——	22-25	15T ~ DRIVEWAY RELOCATION
16WL	FRED J. SMITH & DOROTHY N. SMITH	906 562	46 28	40.0	——	0.2918	28.9043	0.1745	28.7298	YES	5.4924	5.3512	——	28.9043	——	15-16-21 22-25	
16							0.0467	——	0.0256				——	0.0467	——	22-25	
16-1							0.2054	——	0.1052				——	0.2054	——	22-25	
16T							0.06666	——	0.06666				——	0.06666	——	21	16T ~ CHANNEL RELOCATION
16Z							0.1349	——	0.1349				——	0.1349	——	22	16Z ~ CHANNEL RELOCATION
16T-1							0.0663	——	0.0663				——	——	——	22	16T-1 ~ REMOVE STRUCTURE
17WL	ROBERT J. SMITH	598	464	38.62	——	0.6638	7.5277	——	7.5277	NO	——	30.3465	——	7.5277	——	15-21	
17WD							0.2480	0.1660	0.0820				——	0.2480	——	22-25	
17X							0.7746	——	0.7746				——	0.7746	——	15	17X ~ CHANNEL RELOCATION
18T	MAHONING VALLEY SANITARY DISTRICT	396 390 389 389 387 387	150 10 342 341 570 399	——	——	——	0.1009	——	0.1009	——	——	——	——	0.1009	——	23	SUPPLEMENTAL PARCEL FOR RIGHT-OF-WAY PREVIOUSLY ACQUIRED UNDER MAH-80-3.37
1WL 1AT	MAHONING VALLEY SANITARY DISTRICT	387 387 387 387 386 386	335 303 185 87 473 209	——	——	——	——	——	——	——	——	——	——	——	——	——	PARCEL PURCHASED UNDER CONTRACT MAH-80-3.37
19WL	IRENE KOLASKY	1093	95	5.00	——	.090	.325	——	.325	——	4.585	——	——	——	.325	18	
20	THE OHIO DISTRICT OF THE LUTHERAN CHURCH-MISSOURI SYNOD, Inc.	1137	83	8.82	——	0.42	1.04	0.42	0.62	NO	——	7.78	——	——	1.04	9-A-9	

LL= LANDLOCKED

State Highway Dept. of Ohio
R/W-Engr. Bureau
Akron, Ohio

JUL 24 1967

LOGGED

Cols. ..... Bill Bk. .....

REV	DATE	DESCRIPTION
11	2-9-70 3-12-69	Changed Deed Area, PRO & Left Residue Pcl. 1 CONVERTED 20WD TO STD HWAY ESMT Per Strahl
10	7-26-68	Changed Pcls 3C WD, 3-DWD, 3-E WD, 3-FWD to Standard Highway Easements Per IOC from H. Strahl dated 7-17-68 EW
9	3/5/68	Changed Pcl. 1GWA to Pcl. 1G-1 and Changed Pcls 15WD, 1GWD & 1GWD-1 to Stamdard Highway Easements Per IOC. from H. Strahl dated 5-4-68 Lee
8	2-8-68	Deleted Pcl. 3B-WD, Added Pcl. 20-WD Per Outsale from Pcl 3. Lee
7	8/29/67	Revised Deed Area & Residue Pcl. 7 Lee
6	8-29-67	Revised Deed Area & Residue Pcl. 12 Lee
		DATE OF PREPARATION
1	8-10-67	Deleted Pcls. 8, 8-A & 8-B. Combined Area with Pcls. 9 & 9-A Lee
2	8-17-67	REVISED NAME PCLS. 1, 3, 4, 5, 11, 16 LEE
3	8-17-67	REVISED DEED AREA & RESIDUE FOR
4	8-17-67	PCLS. 1, 3, 5, & 11 LEE
5	8-17-67	ADDED PCL 19-WL, AN OUTSALE FROM PCL. 11-WL LEE

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5(3)228	

364
384

MAH-80S-7.01
MAH-80-2.30

RIGHT OF WAY SHEET

7
25

QUANTITY SUMMARY ~ FENCE

SHEET Nº	WOVEN WIRE FENCE TYPE 47			CHAIN LINK TYPE CL AS PER PLAN I. FUNDS
	I.G. FUNDS	I. FUNDS	100% STATE	
7	2443			
8	1600	1400		
9		3125		
10		2880		
11		3000		
12		2400		
13		1514		
15		1824		
16		1427		
17		474	777	
18			931	
19			1760	
20			1050	
21		1684		
22		1583		782
23				3010
24				1415
25				1275
GRAND TOTAL	4,043	21,315	4,518	6,482

PENNSYLVANIA R. R.
CURVE DATA
Δ = 8°11' RT.
Dc = 1°00'
R = 5729.65'
P.C. 896+15.6
P.T. 903+74.30
T = 460.16'
Lc = 918.30'
P.I. 901+16.16

END ACQUISITION
MAH-80S-3.08
STA. 371+60.24
I-IG-80S-7(7) 220

BEGIN ACQUISITION
MAH-80S-7.01
MAH-80-2.30
STA. 371+60.24
I-IG-80-5(3) 228
S.L.M. 7.01

END PROJECT
MAH-80S-3.08
STA. 370+07.44
I-IG-80S-7(7)220

BEGIN PROJECT
MAH-80S-7.01
MAH-80-2.30
STA. 370+07.44
I-IG-80-5(3)228
S.L.M. 7.01

THE YOUNGSTOWN WELDING & ENGINEERING CO., AN OHIO CORP.

PROPOSED CHANNEL CURVE DATA
Δ = 64°02'32" RT.
R = 100'
T = 62.50'
Lc = 111.78'

372+70.90 (232.26')
901+75 (53')

FENCE TO BE CONSTRUCTED
MAH-80S-7.01

N83°06'30"E
804.62

CONSTRUCTION LIMITS

RELOCATED CHANNEL

BENCH SLOPE

N83°06'30"E
830.78

LA
TYPE 47 FENCE

TOE OF SLOPE

378+87.13
168

FUTURE MAINTENANCE OPENING ~ STA. 377+50

372+85
157.15'

CPA 155.15'

372+02.35 (92.17')
900+17.81 (53)

372+80
E.P.A. 77.0'±

372+63
E.P.A. 34'±

371+03.13 S.R. 18
@ PROPERTY LINE
371+03.35 ℄ S.R. 18
898+92.20 ORIGINAL R.R. R/W

STRUCTURE Nº
MAH-80S-0701

℄ SURVEY I-80S

371+60.24 ℄ I-80S
899+15.53 (53')
ORIGINAL R.R. R/W

372+38
E.P.A. 34'±

372+19
E.P.A. 80'±

371+20.57 (92.17')
898+14.25 (53)

TYPE 2 CROSSING
SEE STD. DETAIL F-2

371+30.47
CPA 188.62'

6" APPLE

371+30.47
190.62'

CONSTRUCTION LIMITS
574.30'
N84°13'34"E
TYPE 47 FENCE

LA

PROPOSED CHANNEL CURVE DATA
Δ = 37°00'00" RT.
R = 300'
T = 100.38'
Lc = 193.73'

371+17.13
338.63'

371+33.13
356.37'

N69°14'41"E

TRACT 13
TRACT 12

2470.66' (Calc.) TO PROP COR
N 89°48'34"E

370+68.91
405.55'

91.08'(D)

370+47.79 (275.85')
896+15 (53)

PARCELS 153 AND 154
PURCHASED UNDER
CONTRACT MAH-80S-3.08

CENTERLINE SURVEY
CURVE DATA
Δ = 7°31'36" LT.
Dc = 0°15'
R = 22,918.32'
T = 1507.50'
E = 49.53'
Lc = 3010.67'
P.I. STA. 363+83.96

ORIGINAL R/W CENTERLINE
S16°14'41"W

PENNSYLVANIA

GREAT LOT 46
TRACT 13
Z

RAILROAD

GREAT LOT 46
TRACT 12
N 1°43'03"W

NETTIE A.K. PAGE

153 WL

154 Aerial

154 T

154 A

154 C

154 B

154 SL

154 A-1

154 WL

154 X

154 Y

1 WL

1 X

1 Y

1-1 T

1 T

LA RW

365

375

380

POND

MORRISON RUN

30" ELM

PT. 378+87.13

N83°06'30"E

378+80
154.86

377+00
PI. FA. 188'

TOE OF SLOPE

1102.63'

601.18'

N80°32'58"E

293.07'
N88°04'06"W

380+00
PT. 378+87.13

END SHEET STA. 380+00

326.87'
N24°21'26"E

376+20
215

538.31'
N71°19'02"E

RESIDUE LANDLOCKED

THE YOUNGSTOWN WELDING & ENGINEERING CO., AN OHIO CORP.

MAHONING COUNTY
JACKSON TOWNSHIP
GREAT LOT 46
RANGE 4 WEST
TOWNSHIP 2 NORTH

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 13
RANGE 4 WEST
TOWNSHIP 2 NORTH

ELTA M. GAULT, ET. AL.

2

PCL. Nº	OWNER	DEED AREA	TOTAL P.R.O.	TO BE ACQUIRED TOTAL TAKE	TO BE ACQUIRED P.R.O. IN TAKE	TO BE ACQUIRED NET TAKE	NET RESIDUES LEFT	NET RESIDUES RIGHT	TYPE FUNDS I.G.	TYPE FUNDS I.
1WL	THE YOUNGSTOWN WELDING & ENGINEERING CO., AN OHIO CORP.	195.44	0.825	18.3950	——	18.3950	154.0202	22.1558 L.L.	12.4145	5.9805
1X	"	SEE PCL. 1WL ABOVE		1.5515	——	1.5515	SEE PCL. 1WL ABOVE		1.5515	——
1Y	"			0.3502	——	0.3502			0.3502	——
1T	"			1.8395	——	1.8395			1.8395	——
1-1T	"			0.3217	——	0.3217			0.3217	——

● PROPOSED MONUMENTS
• I.P. FOUND

GRAPHIC SCALE
0 50 100 150 200

Nº	REVISION	MADE BY	DATE
1	REVISED DEED AREA & RESIDUE & NAME Pcl 1 etc.	LEE	8-17-67
2	Changed Deed Area, PRO & Left Residue Pcl. 1	PRYOR	2-9-70

PRELIMINARY SUBMITTAL DATE :
RIGHT OF WAY COMPLETION DATE :

STA. 365+00 ~ STA. 380+00

State Highway Dept. "IW-4
Rte. & Section
R/W - E. BOUNDARY, OHIO
JUL 24 1967
LOGGED
Date
Bill Bk.

K & E - AKRON

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5(3)228	

365
384

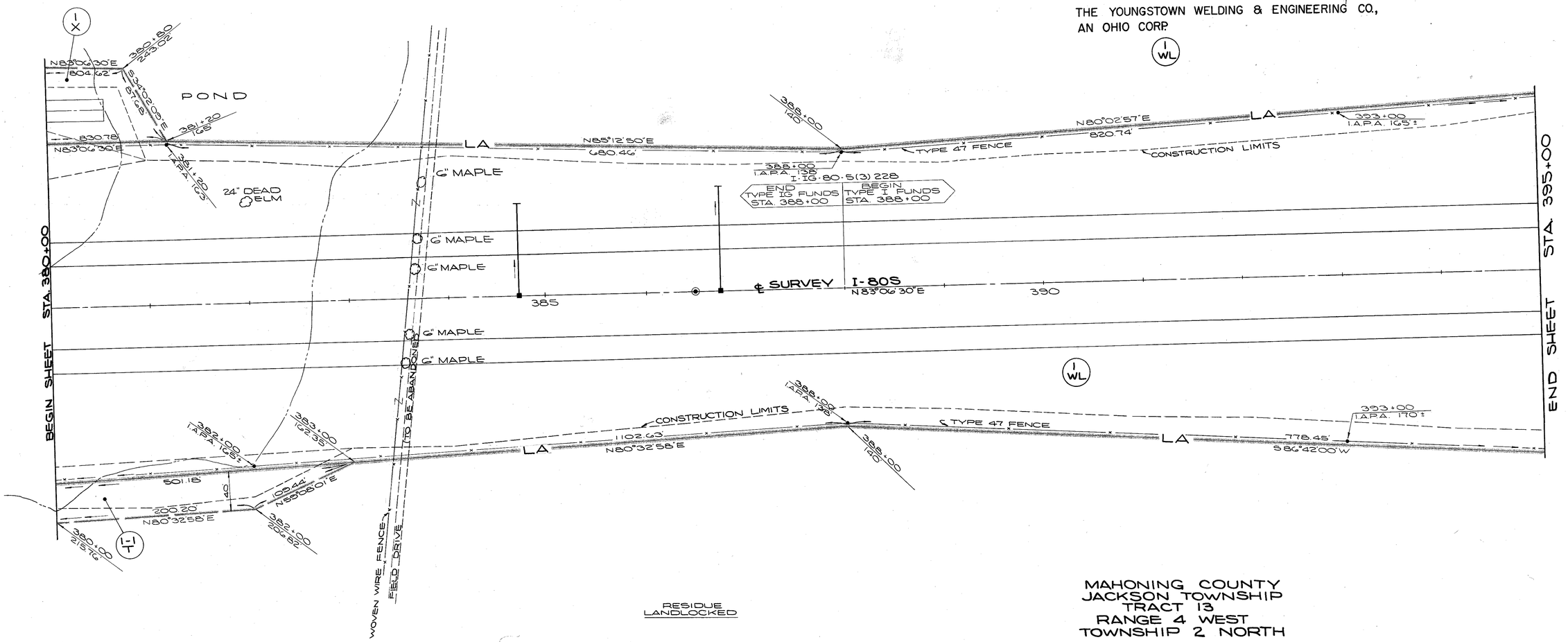
8
25

MAH. - 80S-7.01
MAH. - 80-2.30
RIGHT OF WAY SHEET

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 13
RANGE 4 WEST
TOWNSHIP 2 NORTH

THE YOUNGSTOWN WELDING & ENGINEERING CO.,
AN OHIO CORP.

I WL



RESIDUE LANDLOCKED

THE YOUNGSTOWN WELDING & ENGINEERING CO.,
AN OHIO CORP.

I WL

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 13
RANGE 4 WEST
TOWNSHIP 2 NORTH

◉ PROPOSED MONUMENTS

GRAPHIC SCALE
0 50 100 150 200

PCL. Nº	OWNER	DEED AREA	TOTAL P.R.O.	TO BE ACQUIRED			NET RESIDUES	
				TOTAL TAKE	P.R.O. IN TAKE	NET TAKE	LEFT	RIGHT
1WL	THE YOUNGSTOWN WELDING & ENGINEERING CO., AN OHIO CORP.	(SEE PARCEL 1WL SHEET Nº 7)						
1X	"	(SEE PARCEL 1X SHEET Nº 7)						
1-1T	"	(SEE PARCEL 1-1T SHEET Nº 7)						

TYPE FUNDS FOR THIS SHEET ARE SHOWN ON SHEET Nº 7.

PRELIMINARY SUBMITTAL DATE:
RIGHT OF WAY COMPLETION DATE:

Nº	REVISION	MADE BY	DATE
1	Revised Name Pcl. 1	Lee	8 17-67

STA. 380+00 - STA. 395+00

Ohio Highway Dept. Dist. 4
RW & ENGR. & ADM'N
RAVENNA, OHIO

JUL 24 1967

LOGGED
Bill Bk.
Pcls

K & E - AKRON

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5(3)228	

366 / 384

9 / 25

MAH. - 80S-7.01
MAH. - 80 - 2.30
RIGHT OF WAY SHEET

THE YOUNGSTOWN WELDING & ENGINEERING CO., AN OHIO CORPORATION

CHRISTINA MOORE
AKA CHRISTENA MOORE

CHRISTINA MOORE
AKA CHRISTENA MOORE

THE OHIO DISTRICT OF THE LUTHERAN CHURCH - MISSOURI SYNOD, INC.

OHIO EDISON CO.
12 WIRES - 4800/8320
CABLES - O.B.T. CO.

S.R. 45

EXIST. R/W

RW MON. FD & USED
654+66.83 (29.05)

RW MON. FD & USED
654+66.83 (30.03)

MAH-805-7.01
MAH-80-2.30
N0°14'53"W
N1°05'25"W
MAH-45-0.00
TRU-45-0.00

FOR DETAILS & ADDITIONAL INFORMATION ON S.R. 45 SEE SUPPLEMENTAL R/W SHEET Nº 9A.

CHANNEL CURVE DATA
Δ : 14°00' LT.
D : 50.00'
R : 409.28'
Dc : 13°56'
L : 100.05'
P.I. 47+87.15

CHANNEL CURVE DATA
Δ : 22°00' LT.
D : 50.00'
R : 257.23'
Dc : 22.27'
L : 98.71'
P.I. 52+10

BEGIN SHEET

END SHEET

STA. 395+00

STA. 410+00

℄ SURVEY I-80S

N 83°06'30"E

N 80°02'57"E 820.74'

N 80°45'18"E 280.00'

N 88°02'56"E 418.82'

N 83°06'30"E 999.60'

CONSTRUCTION LIMITS

TYPE 47 FENCE

LA

I.A.P.A. 143'±

1002.85'

700.22'

S 80°42'00"W 185.77'

BARBED WIRE FENCE

700.85' (CALC.) TO PROP. COR.

PROPERTY LINE AS PER OCCUPATION

N0°21'44"W 1991.25'(CALC.) TO PROP. COR.

TOP OF BANK

TOE OF SLOPE

JACKSON TOWN NORTH

397+50 I-80S 50'-00 CULVERT

TWIN 84" CONDUIT STR. Nº MAH-80S-0753

EPA TIE TO HEADWALL

EPA TIE TO ABUTMENT

TYPE 2 CROSSING SEE STD. DETAIL F-2

EX. 12' C.P.

STRUCTURE Nº MAH-80S-0761

122' x 21'

SALEM WARREN RD.

(60')

RW

℄ 645

℄ 648

BARBED WIRE FENCE

MAH-80S-7.01
MAH-80-2.30
N0°14'53"W
N1°05'25"W
MAH-45-0.00
TRU-45-0.00

24" MAPLE
27" MAPLE
18" MAPLE
20" HICKORY
8" BEECH
18" ELM
12" ELM
20" ELM
26" MAPLE

CONSTRUCTION LIMITS

FOR DETAILS & ADDITIONAL INFORMATION ON S.R. 45 SEE SUPPLEMENTAL R/W SHEET Nº 9A.

CEMETERY

SEE SHEET Nº 9A

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 13
RANGE 4 WEST
TOWNSHIP 2 NORTH

TYPE I FUNDS

PCL. Nº	OWNER	DEED AREA	TOTAL P.R.O.	TO BE ACQUIRED TOTAL TAKE	TO BE ACQUIRED P.R.O. IN TAKE	TO BE ACQUIRED NET TAKE	NET RESIDUES LEFT	NET RESIDUES RIGHT
1WL	THE YOUNGTOWN WELDING & ENG. CO., AN OHIO CORP.	(SEE PARCEL 1WL SHEET Nº 7)						
3WL	CHRISTINA MOORE AKA CHRISTENA MOORE	39.40	1.8545	5.7592	0.2252	5.5340	20.9521	8.5694
3AWL	"	43.883	1.5475	6.66661	0.2011	6.4650	34.5345	5.7170
3X	"	(SEE PARCEL 3WL ABOVE)	0.1263	——		0.1263	(SEE PARCEL 3WL ABOVE)	
3Y	"	(SEE PARCEL 3WL ABOVE)	0.1602	——		0.1602	(SEE PARCEL 3WL ABOVE)	

PROPOSED MONUMENTS
EXISTING MONUMENTS

GRAPHIC SCALE
0 50 100 150 200

PRELIMINARY SUBMITTAL DATE: RIGHT OF WAY COMPLETION DATE:			
Nº	REVISION	MADE BY	DATE
1	REVISED NAME PCLS. 1 & 3 etc.	Lee	8-17-67
2	REVISED DEED Area & Residue Pcl 3-A	Lee	8-17-67
3	Deleted Pcl. 3B-WD & Added Pcl. 20-WD Per Outcale from Pcl. 3	Lee	2-8-68
4	CONVERTED ROWD TO STD. HWAY ESMT PER F.H. 27 RNL	SRUBS	3-13-69

STA. 395+00 – STA. 410+00

JUL 24 1967

State Highway Dept. of Ohio
R/W - ENGR. & ADMIN. BLDG.
COLUMBUS, OHIO

LOGGED
Date
Bill Bk.

K & E - AKRON

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

367
384

MAHONING COUNTY
MAH-80S-7.01
MAH-80-2.30

9A
25
R/W

MAHONING COUNTY
JACKSON TOWNSHIP
LOT-2 - TRACT-12
GREAT SALT SPRING TRACT
T-2-N R-4-W

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT-13
T-2-N R-4-W

THE OHIO DISTRICT OF THE LUTHERAN CHURCH-MISSOURI SYNOD, Inc.

Howard C. May,
Jessie E. May,
Clyde C. May &
Beatrice May

Christina Moore
AKA Christena Moore

Christina Moore
AKA Christena Moore

Trustees of the Presbyterian Lutheran Church

Trustees of Jackson Township (Cemetery)

BEGIN SHEET STA. 642+00

END SHEET STA. 657+00

TRACT-12

TRACT-13

Underbrush

Fr. Barn

Corn Crib

Fr. Chicken Hse.

Metal Shed

Fr. Shed

Fr. Corn Crib

Lilac Bushes

6" Pine

Fr. Gar.

2-Sty. Fr. Hse.

2-Sty. Fr. Hse.

Septic Tank

Evgrs. & Shrubs

Shrubs Evgrs

Stump

Construction Limits

Construction Limits

Survey S.R.45

(Salem-Warren Rd.)

R/W Mon Fd & Used
649+66.93(29.92)

R/W Mon Fd & Used
649+66.93(30.01)

R/W Mon Fd & Used
654+66.83(29.95)

R/W Mon Fd & Used
654+66.83(30.03)

Structure No. MAH-80 S-07.61

Bearing Equation
(N 00°14'-53"W) MAH-80S-7.01 = MAH-80-2.30
N 01°-05'-25"W MAH-45-11.78 = TRU-45-0.00
Difference of 0°-50'-32"

Graphic Scale in Feet
0 50 100 150 200

Pcl. No.	Owner	Deed Area Acres	Total P.R.O.	To Be Acquired: Total Take	P.R.O. Intake	Net Take	Net Residue: Left	Right	Funds
3 WL	Christina Moore AKA Christena Moore	39.40	1.8545	See Sheet No. 9					
3C-T	" "	See Parcel 3WL Above		0.02		0.02			State (INELG.)
3C	" "	" "		3.03	1.20	1.83			State (INELG.)
3A WL	" "	19.883	1.5475	See Sheet No. 9					
3D	" "	See Parcel 3A WL Above		0.24	0.13	0.11			State (INELG.)
3E	" "	" "		1.79	0.77	1.02			State (INELG.)
20	The Ohio District of the Lutheran Church-Missouri Synod, Inc.	8.82	0.42	1.04	0.42	0.62	——	7.79	State (INELG.)

REVISED NAME, DEED AREA, &
RESIDUE PCL 3 etc 8/17/67 Lee
DELETED PCL. 3B-WD & ADDED PCL 20-WD PER
OUTSALE FROM PCL. 3. 2-8-68 Lee
Revised T.B.A. Pcl. 20-WD 2-9-68 Lee
CONVERTED 20WD TO STD HIWAY ESMT PER F.H. STRAHL 3-12-69

Completion Date 3/6/67

Changed Pcls. 3-CWD, 3-DWD, 3EWD to Standard Highway Easements Per Ltr. from F.H. Strahl dated 7-17-68. White 7-26-68

MAHONING COUNTY
JACKSON TOWNSHIP
LOT 2 - TRACT 12
GREAT SALT SPRING TRACT
T-2-N R-4-W

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT-13
T-2-N R-4-W

RIGHT-OF-WAY SHEET S.R.45 STA. 642+00 TO STA. 657+00

State Highway Dept. Div. 4
MAH-45-11.78 & MAH-80S-7.01
JACKSON TWP.

JUL 24 1967

LAGGED

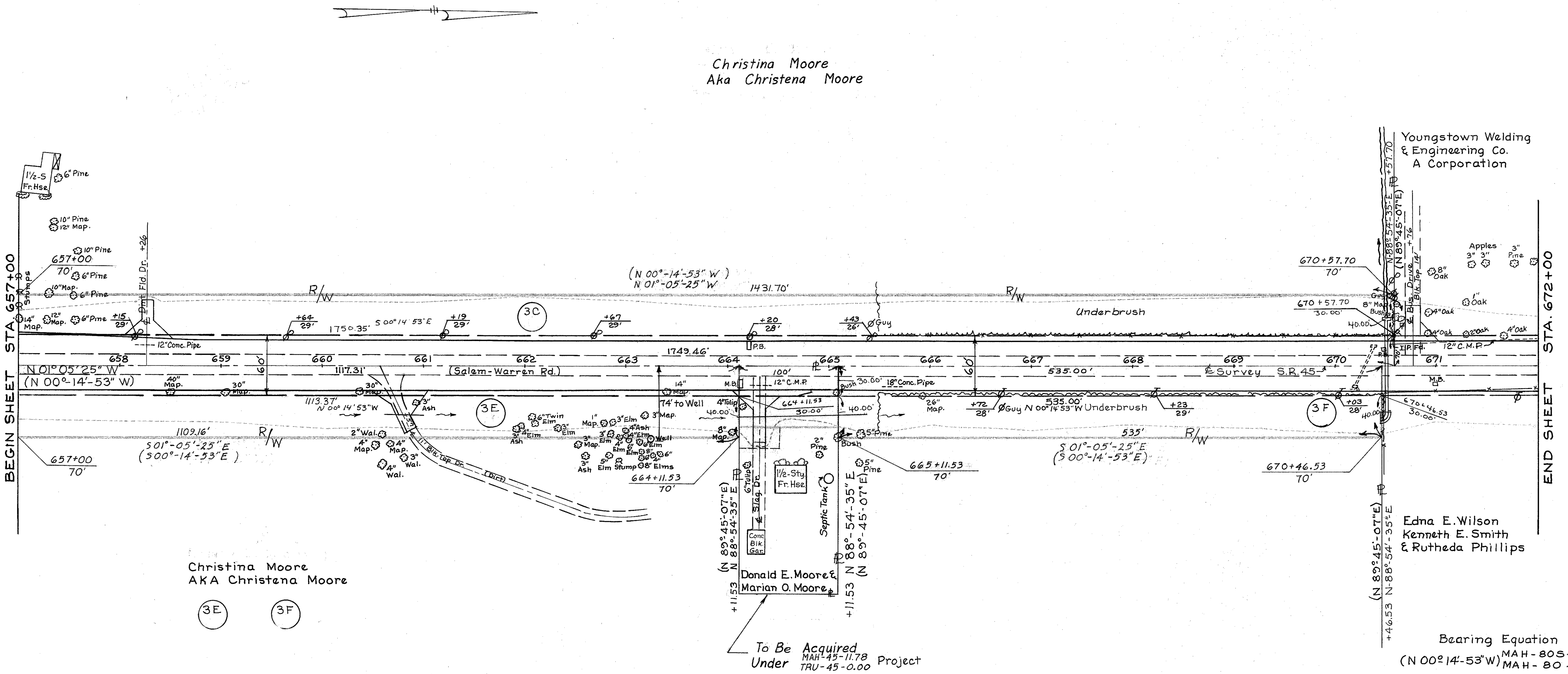
CKS. ..... BM BK. .....

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

MAHONING COUNTY
MAH - 80S - 7.01
MAH - 80 - 2.30

368/384 9B/25 R/W

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT-13
T-2-N R-4-W



Bearing Equation

(N 00° 14'-53" W) MAH - 80S - 7.01 / MAH - 80 - 2.30 =

N 01°-05'-25" W MAH - 45 - 11.78 / TRU - 45 - 0.00

Difference of 0°-50'-32"

Graphic Scale in Feet
0 50 100 150 200

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT - 13
T-2-N R-4-W

Pcl. No.	Owner	Deed Area Acres	Total P.R.O.	To Be Acquired: Total Take	P.R.O. Intake	Net Take	Net Residue: Left	Right	Funds
3C	Christina Moore AKA Christena Moore	49.883	1.5475	3.03	1.20	1.83			State (INELG)
3F	" "	See Parcel 3C Above		0.86	0.37	0.49			State (INELG)
3D	" "	"	"	0.24	0.13	0.11			State (INELG

8-17-67 Lee

REVISED NAME & DEED AREA PARCEL 3

Changed Pcls 3-CWD, 3-FWD, 3-DWD to Standard Highway Easement Per IOC from H. Strahl dated 7-17-68 White 7-26

Completion Date 3/6/67

State Highway Dept. Div. 4 R/W - ENGR & ADMIN SECT. RAVENNA, OHIO
JUL 24 1967
LOGGED
Crds ..... Bill Bk. .....

RIGHT-OF-WAY SHEET S.R. 45 STA. 657+00 TO STA. 672+00

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5(3)228	

360
384

10
25

MAH.-80S-7.01
MAH.-80-2.30
RIGHT OF WAY SHEET

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 13
RANGE 4 WEST
TOWNSHIP 2 NORTH

CHRISTINA MOORE
AKA CHRISTENA MOORE

3A WL

APPLE ORCHARD

CHICKEN COOP

SHED

WOVEN WIRE

BRICK GAR.

SHED

SHED

SHED

GATES

LAWN

WOVEN WIRE FENCE

18" CHERRY

8" CHERRY

28" APPLE

6" PLUM

2 STY. FR. RES.

2 CONC. WALK

FR. BARN

DRILLED WELL (2.15)

CEL. DOOR

13±

WOVEN WIRE FENCE

10" MAPLE

15' GATE

3-6" ASH

6" SPRUCE

14" WILLOW

3" MAPLE

3" DEPTH

SEPTIC TANK IN THIS AREA (UNABLE TO LOCATE)

4 WL

FR. SHED

30" PEAR

12" CHERRY

OUTHSE

TILE BLK. BLDG.

3 APPLE & PEACH TREE ROW

RESIDUE LANDLOCKED

RESIDUE LANDLOCKED

N 0°51'15" W 1782.64' (Calc) TO PROP COR

N 0°45'17" W 1681.01' (Calc.) TO PROP COR

413+15.37
145'

N 83°06'30" E
999.68

TYPE 47 FENCE

413+15.37
I.A.P.A. 143

CONSTRUCTION LIMITS

LA

N 82°25'16" E
533.28'

420+08.59
155'

N 83°06'30" E
458.93

CONSTRUCTION LIMITS

LA

418+40.00
I.A.P.A. 161'±

12' GATE

TREE & BRUSH ROW

4" C" OAK

BARBED WIRE FENCE

18" OAK

4" C" OAK

4" C" HICKORY

4" C" OAK

12" APPLE

12" OAK

145.8'

145.8'

145.8'

413+00.06

N 83°06'30" E

415

SURVEY (I-80S)

419+91.92

N 83°51'47" E
155.85'

420

419

N 83°06'30" E

BEGIN SHEET STA. 410+00

END SHEET STA. 423+00

BE ABANDONED)

BASIS OF BEARINGS

GRAVEL LANE

5 WL

412+84.75
I.A.P.A. 143'

1002.85'

N 83°06'30" E

412+84.75
145'

TYPE 47 FENCE

N 83°06'30" E

LA

831.58'

CONSTRUCTION LIMITS

EQUATION BACK= STA. 420+00
AHEAD STA. 418+60

419+00
I.A.P.A. 143'±

419+76.33
145'

LA

458.17'

N 83°06'30" E

4" C" BEECH

2-4" BEECH

2 OAK @ CLUMP

N 0°51'15" W 465.21' (Calc) TO ℄ I-80S

N 0°45'17" W 1006.72' (Calc) TO PROP COR

BARBED WIRE FENCE

MARY C. HOWARD fka
MARY C. THOMPSON

4 WL

NATIONAL INDUSTRIAL DEVELOPMENT CORP., AN OHIO CORP. ET AL

5 WL

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 13
RANGE 4 WEST
TOWNSHIP 2 NORTH

◉ PROPOSED MONUMENTS

GRAPHIC SCALE
0 50 100 150 200

TYPE I FUNDS

PCL. Nº	OWNER	DEED AREA	TOTAL P.R.O.	TO BE ACQUIRED TOTAL TAKE	TO BE ACQUIRED P.R.O. IN TAKE	TO BE ACQUIRED NET TAKE	NET RESIDUES LEFT	NET RESIDUES RIGHT
3AWL	CHRISTINA MOORE AKA CHRISTENA MOORE	(SEE PARCEL 3AWL SHEET Nº 9)						
4 WL	M.C. HOWARD	50.0	——	5.6337	——	5.6337	28.7734 L.L.	15.3929
5 WL	NATIONAL INDUSTRIAL DEVELOPMENT CORP AN OHIO CORP	104.24	0.93	3.1582	——	3.1582	15.710 L.L.	84.9418

PRELIMINARY SUBMITTAL DATE:
RIGHT OF WAY COMPLETION DATE:

Nº	REVISION	MADE BY	DATE
1	REVISED DEED AREA & RESIDUE PCL 5	LEE	8-17-67
2	REVISED NAME PCLS. 3 & 5	LEE	8-17-67

STA. 410+00 – STA. 423+00

State Highway Dept. Div. 6
R/W - Mapping Section
RAVENNA, OHIO

JUL 24 1967

LOGGED
Drfs. Bill Bk.

K & E - AKRON

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5(3)228	

370
384

11
25

MAH.-80S-7.01
MAH.-80-2.30
RIGHT OF WAY SHEET

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 13
RANGE 4 WEST
TOWNSHIP 2 NORTH

RESIDUE LANDLOCKED

NATIONAL INDUSTRIAL DEVELOPMENT CORP. AN OHIO CORP. AT AL

5 WL

1623.46' (CALC) TO PROP. CORNER ℄ N0°36'43"W

TREE ROW

OHIO EDISON EASEMENT LINE

345,000 VOLTS HIGH TENSION LINE (2 STRINGERS)

BARBED WIRE FENCE

4191+91.92
403+98.79
16 93.13

424+67.52
155'
N83°06'30"E
458.23'
424+67.52
I.A.P.A. 153'

LA

℄ TYPE 47 FENCE

877.37'
N84°08'35"E

423+00
I.A.P.A. 144'±

75' 75' 10'±

6 WL

BARBED WIRE (WIRE FENCE (CALC.)

15.5'
30.8'

BARBED WIRE FENCE

CLUMP
10-12" OAK
12-8" OAK

424+50.46

427+30.40
(FIELD)

℄ (P) 15°

425 430 435

℄ SURVEY (I-80S) N83°06'30"E

145.88' (calc.)

12" OAK

12" OAK

8" OAK
458.17'

426+00
I.A.P.A. 143'±

182' (F)

CONSTRUCTION LIMITS
878.68'
℄ TYPE 47 FENCE

424+34.50
145'

TOWER

35'±

RECORDED
VOL. 114 PG. 686

BUCKEYE PIPE LINE CO.
℄ 10" PIPE LINE

OHIO EDISON EASEMENT LINE

N0°36'43"W
1065.20' (CALC) TO PROP. COR.

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 13
RANGE 4 WEST
TOWNSHIP 2 NORTH

RESIDUE LANDLOCKED

MICHAEL MARKEL
& MARY MARKEL

6 WL

1531.21' (CALC) TO PROP. COR. ℄ N0°33'12"W

RESIDUE LANDLOCKED

EMMS ELMS

433+44.75
139.14'

22" OAK

433+44.75
I.A.P.A. 137.14'

1193.71'
N82°15'05"E

CONSTRUCTION LIMITS

7 WL

140'(SET)

℄ ABANDONED BARBED WIRE FENCE

433+29.29

WOVEN WIRE FENCE

20" MAPLE

16" OAK

433+13.18
I.A.P.A. 143'

433+13.18
145'

686.82'
N83°06'30"E

LA

10' FIELD DRIVE

1173.51' (CALC) TO PROP. COR. ℄ 60°58'
(CALC) TO PROP. COR. N0°33'12"W

HERMAN GROVE
LEWIS GROVE

7 WL

BEGIN SHEET STA. 423+00

END SHEET STA. 438+00

TYPE I FUNDS

PCL. Nº	OWNER	DEED AREA	TOTAL R.R.O.	TO BE ACQUIRED			NET RESIDUES	
				TOTAL TAKE	R.R.O. IN TAKE	NET TAKE	LEFT	RIGHT
5WL	NATIONAL INDUSTRIAL DEVELOPMENT CORP. ET AL AN OHIO CORP	(SEE PARCEL 5WL SHEET Nº 10)						
6WL	MICHAEL MARKEL & MARY MARKEL	100.5551	0.6061	5.8926	—	5.8926	60.26	19.5064 L.L.
7WL	HERMAN GROVE LEWIS GROVE	53.0	—	8.0813	—	8.0813	343082 L.L.	9.0345

PROPOSED MONUMENTS

GRAPHIC SCALE
0 50 100 150 200

PRELIMINARY SUBMITTAL DATE: RIGHT OF WAY COMPLETION DATE:			
Nº	REVISION	MADE BY	DATE
1	REVISED NAME. Pcl. 15 WL	LEE	8-17-67
2	ADDED BUCKEYE PIPE LINE PER I.O.C. FROM STRAHL DATED 7/17/68.	J.R.B.	7/22/68

STA. 423+00 - STA. 438+00

State Highway Dept. Div. 4
R/W — Right of Way Sect.
RAVENNA, OHIO

JUL 24 1967

LOGGED

Drds. Bill Bk.

K & E - AKRON

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5(3)228	

371
384

MAH.-80S-7.01
MAH.-80-2.30
RIGHT OF WAY SHEET

12
25

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 13
RANGE 4 WEST
TOWNSHIP 2 NORTH

RESIDUE
LANDLOCKED

JAMES ERSKINE &
MARGAET ANN ERSKINE

9
WL

RESIDUE
LANDLOCKED
(PREVIOUSLY ISOLATED
BY OHIO TURNPIKE)

BEGIN SHEET STA. 438+00

STA. 450+00
END SHEET

BARBED WIRE FENCE

OHIO EDISON CO.
12 WIRES
(NO RECORDED
EASEMENT AVAILABLE)

1193.71'
N82°15'09"E

TYPE 47 FENCE

CONSTRUCTION LIMITS

440+00
I.A.P.A. 146'±

7
WL

444+98.33
1566.67'

℄ 1386.19' (CALC.) TO PROP. COR.
N0°22'05"E

LA

721.53'

447+00
I.A.P.A. 150'±

EDG. R/W LINE

20'

40'

BRUSH ℄ EDG. R/W LINE
(16' LINE)

℄ SURVEY I-80S

N 83°06'30"E

440

445+18.33

445

WIRE FENCE
BRUSH ROW

159.24 (Calc)

3 STRAND BARBED WIRE
& BRUSH

SMALL TREE

160.52' (Calc.)

9
WL

22' CATTLE PASS
(TO BE ABANDONED)

BARBED WIRE FENCE

EASEMENT (LOCATED
PER COURT SETTLEMENT CASE NO 160786
RECORDED 6-11-67 VOL. 25 PAGE 376)

15' ABANDONED CATTLE LANE

EAST OHIO GAS LINE
PER
RECORDED

SMALL TREES

440+00
I.A.P.A. 143'

686.82'
N83°06'30"E

TYPE 47 FENCE

LA

438.25'
N84°44'42"E

202.04'
N84°44'42"E

LA

747.02'
N82°19'06"E

CONSTRUCTION LIMITS

447+00
I.A.P.A. 163'

440+00
145'

444+98.05
159.23

447+00
165'

30"
ELM

165'±

HERMAN GROVE
& LEWIS GROVE

7
WL

BARN

CONC. PAD

G.A.R.

G.A.R.

754.35' (CALC.) TO PROP. COR.
N0°22'05"E

RESIDUE
LANDLOCKED
(PREVIOUSLY ISOLATED
BY OHIO TURNPIKE)

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 13
RANGE 4 WEST
TOWNSHIP 2 NORTH

◉ PROPOSED MONUMENTS

TYPE I FUNDS

PCL. Nº	OWNER	DEED AREA	TOTAL P.R.O.	TO BE ACQUIRED TOTAL TAKE	TO BE ACQUIRED P.R.O. IN TAKE	TO BE ACQUIRED NET TAKE	NET RESIDUES LEFT	NET RESIDUES RIGHT
7 WL	HERMAN GROVE LEWIS GROVE	(SEE PARCEL 7WL SHEET Nº 11)						
9 WL	JAMES ERSKINE & MARGARET ANN ERSKINE	50.0787	—	6.3581	—	6.3581	11.0355 L.E.	31.4051

GRAPHIC SCALE
0 50 100 150 200

PRELIMINARY SUBMITTAL DATE: RIGHT OF WAY COMPLETION DATE:			
Nº	REVISION	MADE BY	DATE
1	Deleted Pcl. 8-WL Combined Area with Pcl. 9-WL	Lee	8-10-67
2	Revised Location of E.O.G. Easement	Lee	12-21-67

STA. 438+00 – STA. 450+00

State Highway Dept., Div. 4
RW - RECORD PLANS
RAVENNA, OHIO
SECT.

JUL 24 1967

LOGGED
Bill Bk.
Page

K & E - AKRON

PCL. Nº	OWNER	DEED AREA	TOTAL P.R.O.	TO BE ACQUIRED TOTAL TAKE	P.R.O. IN-TAKE	NET TAKE	NET RESIDUES LEFT	NET RESIDUES RIGHT	TYPE FUNDS I.	TYPE FUNDS 100% STATE (INELG.)
9 WL	JAMES ERSKINE & MARGARET ANN ERSKINE	50.0787	—	6.3581	—	6.3581	11.0355	31.4051	6.3581	—
9T	"	SEE PARCEL 9WL ABOVE		0.7680	—	0.7680	SEE PARCEL 9WL ABOVE		0.7680	—
9-1T	"	SEE PARCEL 9WL ABOVE		0.5452	—	0.5452	SEE PARCEL 9WL ABOVE		0.5452	—
9AWL	JAMES ERSKINE & MARGARET ANN ERSKINE	34.1937	—	15.4645	—		SEE PARCEL 9WL ABOVE		0.6399	14.8246
12 WL	MARY J. EVANS	106.6251	0.4674	25.6623	—	25.6623	13.0064 L.L.	67.4890	17.3052	8.3571
12X	"	(SEE PARCEL 12X SHEET Nº 15)								

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5(13)228	

372
384

13
25

MAH.-80S-7.01
MAH.-80-2.30
RIGHT OF WAY SHEET

MATCH TO SHEET Nº 18

RESIDUE LANDLOCKED
(PREVIOUSLY ISOLATED BY OHIO TURNPIKE)

JAMES ERSKINE & MARGARET ANN ERSKINE
9 WL

9-1 T

113+63.20 (135')
451+90.11 (409.03')

N 22°05'27" W
321.26'

TEMP. LA CONST. LIMITS

451+74.97
290.24'

PC 17+62.50

115 OHIO TURNPIKE (I-80)

N 9°23'17" W

RAMP "D"

PC STA. 436+43.85 (RAMP "D")
STA. 114+93.82 (O.T. - 69.66' LT.)

JAMES ERSKINE & MARGARET ANN ERSKINE
9A WL

EXISTING WIRE FENCE
STA. 90+80.12 (O.T. - 60.62')

N 3°32'17" W
ACCESS
CLOSED & REMOVED

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 13
RANGE 4 WEST
TOWNSHIP 2 NORTH

12 WL

(FOR PARTICIPATION ONLY)
457+86.22
160'

456+05.77 (160')
117+62.16 (140')
OHIO TURNPIKE
(FOR PARTICIPATION ONLY)

180.45

1235.78' (CALC.) TO PROP. COR.
N 0°25'56" E

ROW 6"-12" OAK, WIRE, BARBED FENCE, BRUSH & SMALL TREES

NOSE STA. 458+35.24 (91' LT.)

B.P.R. PARTICIPATION LINE
594.23'
N 83°06'30" E
(FOR PARTICIPATION ONLY)

(FOR PARTICIPATION ONLY)
462+00
160'

235.65'
N 51°06'11" E

140'
N 9°53'30" W

(FOR PARTICIPATION ONLY)
464+00
285'

465

RAMP "E"

TS STA. 461+33.24

SC STA. 463+33.24

463.150

55" x 24" CONDUIT

460

451+59.18
168.93'

116+27.68 (135')
452+95.77
(168.35')

N 82°15'09" E
761.53'
CONSTRUCTION LIMITS

EPA TIE TO EXIST. FENCE

451+38.00
℄ I-80S

N 83°06'30" E

455+24.82
118+74.19 ℄ O.T.

453+76.47
118+12.68
(135')

148.35'

455

456+78.67
119+37.98
(140')

153.85'

457+65.66
℄ SURVEY (I-80)

460

CLUMP 2'-3' APPLE

BARBED WIRE FENCE

6-6"-12" ELM

2'-4' TREE ROW

BEGIN SHEET STA. 450+00

END SHEET STA. 465+00

JAMES ERSKINE & MARGARET ANN ERSKINE
9 WL

CONSTRUCTION LIMITS

TYPE 47 FENCE
747.02'

451+17.71
159.24'

N 82°15'06" E

453+16.97
156.45'

130

CONST. TEMP. EPA
CONSTRUCTION LIMITS
N 42°21'02" W

EPA TIE TO EXIST. FENCE
454+46.95 (US 40')
119+82.05 (135')

SWITCH ℄
24+15.50

FT. 24+67.50

TEMPORARY RUNAROUND

N 3°32'17" W

BARBED WIRE FENCE

BRUSH ROW

120

℄ I-80S
N 9°23'17" W

150.15'

457+46.52 (148.92')
121+01.62 (140')

TYPE 47 FENCE
1153.48'
384.35'

EPA TIE TO EXIST. FENCE

HUB FD. & USED

37.84'

121+33.86 (120')
457+41.72 (186.28')

460+42.58
146.52'

461+30.87
146.52'

CONSTRUCTION LIMITS
N 83°06'30" E

℄ RELOC. 4' CHANNEL

372.79'
N 83°06'30" E

460+87.21
178.92'

463+00
T.A.P.A. 146.92'

442.85

463+60
178.92'

SC STA. 463+74.
S 6°55'15" E

X12

MARY J. EVANS
12 WL

℄ 4' CHANNEL
N 48°36'45" E

EXISTING EASEMENT
DRAINAGE
OHIO TURNPIKE

N 48°36'45" E

80°

N 9°23'17" W

122+75.40
120'

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 13
RANGE 4 WEST
TOWNSHIP 2 NORTH

PROPOSED MONUMENTS

GRAPHIC SCALE
0 50 100 150 200

PRELIMINARY SUBMITTAL DATE: RIGHT OF WAY COMPLETION DATE:			
Nº	REVISION	MADE BY	DATE
1	Deleted Pcls. 8-WL & 8-T, Added Area To Pcls. 9-WL & 9-1-T	Lee	8-9-67

MATCH TO SHEET Nº 14

STA. 450+00 - STA. 465+00

State Highway Dept. Div. of Right of Way & Airports
RAVENNA, OHIO
JUL 24 1967
LOGGED ..... Bill Br. .....
Chfs .....

K & E - AKRON

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5(3)228	

373
384

14
25

MAH-80S-7.01
MAH-80-2.30
RIGHT-OF-WAY SHEET

MARY J. EVANS
12 WL

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 13
RANGE 4 WEST
TOWNSHIP 2 NORTH

MATCH TO SHEET Nº 13

NOSE STA. 458+33.24 (91' LT.)
BRUSH ROW & SMALL TREES
BARBED WIRE FENCE
ROW 6"-12" OAK
RAMP "E"
12 WL
9A WL
457+63.66
456+78.67
150.15'
℄ I-80S ℄ OHIO TURNPIKE
465+24.83 ℄ I-80S ℄ OHIO TURNPIKE
118+74.15 ℄ OHIO TURNPIKE
163.65'(CALC.)
37.94'
50'
50'
500'
℄ 4' CHANNEL
N48°36'49"E
EXISTING OHIO TURNPIKE DRAINAGE EASEMENT
1133.45'
N83°04'30"E
4" USED FOR ℄ CHANNEL
457+34.52 (148.92')
121.01'@2 (1.40')
2+33.86 (120')
457+41.72 (156.28')
1224+73.40
120
90°
EXIST. LIMITED ACCESS (OHIO TURNPIKE)
N 31°23'11"W
LA
WOVEN WIRE FENCE
STRUCTURE Nº MAH-80S-0862
EXIST. 48" CONC. PIPE
15" C.M.P.
RAMP "F" (EXIST.)
℄ I-80S
℄ OHIO TURNPIKE (I-80S)
120
125
130
N 31°23'11"W
455
31
32
35
30
28
27
26
25
24
23
22
W.B.L. TEMPORARY RUNAROUND
E.B.L. TEMPORARY RUNAROUND
454+46.05 (154.70')
119+82.68 (135')
562.15'
N 31°23'11"W
PT. 24+87.50
PC 28+27.64
28.87'
RAMP "E" (EXIST.)
127+80
150
PT 31+17.84 (E.B.L.)
128+20.16 (O.T.)
PT 32+50 (W.B.L.)
128+37.54 (O.T.)
351.75'
N 25°40'33"W
EXIST. LIMITED ACCESS (OHIO TURNPIKE)
131+30
150
℄
LA
SWITCH ℄ 24+15.50
625.84'
N42°21'02"W
9 T
9 WL
453+16.57
156.48'
CONSTRUCTION LIMITS
765.68'
N 0°22'05"E
10" SANITARY SEWER
AC'S 87 TROP COR. TO ℄ SURVEY ℄
CONSTRUCTION LIMITS
74.19'
N62°19'06"E
BRUSH ROW
BARBED WIRE FENCE
N 0°22'05"E
125+44.68 (135')
45G°50'04"(465.86')
128+69.01 (150')
45G°76.44 (465.20')

HERMAN GROVE
℄ LEWIS GROVE
13

JAMES ERSKINE ℄
MARGARET ANN ERSKINE
9 WL
9 T

RESIDUE
LANDLOCKED
(PREVIOUSLY ISOLATED BY OHIO TURNPIKE)

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 13
RANGE 4 WEST
TOWNSHIP 2 NORTH

TYPE I FUNDS

PCL. Nº	OWNER	DEED AREA	TOTAL P.R.O.	TO BE ACQUIRED			NET RESIDUE	
				TOTAL TAKE	P.R.O. IN TAKE	NET TAKE	LEFT	RIGHT
9WL	JAMES ERSKINE ℄ MARGARET ANN ERSKINE	(SEE PARCEL 9WL SHEET Nº 13)						
9T	〃	(SEE PARCEL 9T SHEET Nº 13)						
9AWL	〃	(SEE PARCEL 9AWL SHEET Nº 13)						
12WL	MARY J. EVANS	(SEE PARCEL 12WL SHEET Nº 13)						

GRAPHIC SCALE
0 50 100 150 200

PRELIMINARY SUBMITTAL DATE:
RIGHT OF WAY COMPLETION DATE:

Nº	REVISIONS	MADE BY	DATE
1	Revised distance on L.A. line Pcl. 9	Lee	8-10-67

INTERCHANGE
INTERSTATE 80 ℄ 80S
OHIO TURNPIKE STA. 120+00 TO 134+00

State Highway Dept. Div. of H/W - District 4, Akron
APPROVED JUL 24 1967
LOGGED
Cnds. Bill Bk.

K & E - AKRON

MATCH TO SHEET Nº 16

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5(3)228	

374
384

MAH.-80S-7.01
MAH.-80-2.30

15
25

RIGHT OF WAY SHEET

BEGIN SHEET STA. 465+00

END SHEET STA. 480+00

MATCH TO SHEET Nº 21

FRED J. SMITH & DOROTHY N. SMITH

16 WL

LINE "B"

P.S.C. 474+56.23

475+56.23 LINE "B"
475+54.46 I-80

TREE ROW 4"-6" OAK

12" OAK

8' FIELD DRIVE (TO BE ABANDONED)

BARBED WIRE FENCE

36" OAK

N 0°34'23"E 430.70 (Calc.) TO PROP. COR.

STRUCTURE MAH-80-0407

BT. 463+65.27

36" ASH

CLUMP 2"-4" ASH

POND

GROVE 1"-2" W. CHERRY

2"-4" TREE ROW

SPRING

BARBED WIRE FENCE

470+51.35

N 83°06'30"E

SURVEY (I-80)

STA. 469+59.41 (I-80)
STA. 464+90.60 (LINE "A")

12 WL

CONSTRUCTION LIMITS

153.48'

442.85

N 83°06'30"E

TREE ROW

469+00
C.P.A. 140.52'

465+73.72
148.52

469+00
148.52

LINE "A"

RELOC. & CHANNEL CONSTRUCTION LIMITS

CURVE Nº 1

N 44°11'16"W
255.28

466+04.68
255.50

S 28°58'18"E
162.74'

N 44°11'16"W

467+20.18
255.28

CENTERLINE CURVE DATA FOR RELOC. CHANNEL CURVE Nº 1 & 2

Δ = 52°42'14" RT.
T = 100'
R = 201.87'
Lc = 185.69'

12 WL

467+09.09
387.42

CH. BAG. N 70°32'23"W
CH. LGTH. 150.20'
Lc = 185.69'
CH. BRG. N 70°32'23"W

EASEMENT CURVE DATA

Δ = 52°42'14" LT.
R = 169.19'
T = 823.81'
Lc = 155.03'
CH. = 150.20'
CH. BRG. N 70°32'23"W

468+56.38
421.83

468+65.40
421.83

N 83°06'30"E
130.98'

111.45'

CONSTRUCTION LIMITS

CURVE Nº 2

CH. BAG. S 70°32'23"E
CH. LGTH. 150.20'
Lc = 157.02'
R = 214.15'

114.46'

N 83°06'30"E

80.54'

468+75.48
471.83

469+89.94
471.83

470+60.48
471.83

EASEMENT CURVE DATA

Δ = 52°42'14" LT.
R = 214.15'
T = 104.10'
Lc = 197.02'
CH. = 190.15'
CH. BRG. S 70°32'23"E

I.P. FD. & USED 0.33' SOUTH OF ℄ BEARING BRK. IN ℄

470+12.48
256.63

N 0°34'23"E
229.17'
(Calc.)

T.S. STA. 471+38.65

471+07.87
TAPER 428'

N 44°11'16"W
157.38'

471+07.87
421.83

P.C. STA. 471+56.86
(78 RT.)

W O O D S

℄ STREAM

S.C. STA. 476+09.93

C.S. STA. 476+11.55 (I-80 - 82' RT.)
STA. 476+09.93 (RAMP "F")

480+61

104'x42'

1350' TO INTERSECTION ℄ & LA

N 0°34'23"E 430.70 (Calc.) TO PROP. COR.

17 WL

C.S. STA. 480+39.61

472+25
TAPER 528'

N 54°10'05"W
152.44'

LINE "A"

RAMP "F"

S.C. STA. 485+99.93
END RAMP "F"

C.S. STA. 483+99.93

472+77.35
530.00

100' FUTURE MAINTENANCE OF WAY BEARING
N 13°12'50" E
TAPER 100'
N 54°10'05" W
223.44'
LINE "A"

N 55°39'25"W
157.00' (Calc.)

473+50
625

265.26'

N 75°05'24"W

BENCH SLOPE

CONSTRUCTION LIMITS
250' RT.

N 69°25'02"W

472+44.64
623.42

17 WL

ROBERT J. SMITH

PROPERTY LINE ESTABLISHED BY OCCUPATION
N 70°24'50"E
645.54' (Calc.) TO PROPERTY CORNER
BARBED WIRE FENCE

MARY J. EVANS

12

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 13
RANGE 4 WEST
TOWNSHIP 2 NORTH
TYPE I FUNDS

PCL. Nº	OWNER	DEED AREA	TOTAL P.R.O.	TO BE ACQUIRED TOTAL TAKE	TO BE ACQUIRED P.R.O. IN TAKE	TO BE ACQUIRED NET TAKE	NET RESIDUE LEFT	NET RESIDUE RIGHT
12WL	MARY J. EVANS	(SEE PARCEL 12WL SHEET Nº 13)						
12X	"	(SEE PCL. 12WL SHEET Nº 13)		0.9495	——	0.9495	(SEE PCL. 12WL SHEET Nº 13)	
16WL	FRED J. SMITH & DOROTHY SMITH	(SEE PARCEL 16WL SHEET Nº 22)						
17WL	ROBERT J. SMITH	38.62	0.6638	7.5277	——	7.5277	——	30.3465
17X	"	(SEE PARCEL 17WL ABOVE)		0.7746	——	0.7746	(SEE PARCEL 17WL ABOVE)	

GRAPHIC SCALE
0 50 100 150 200

PRELIMINARY SUBMITTAL DATE:
RIGHT OF WAY COMPLETION DATE:

Nº	REVISION	MADE BY	DATE
1	REVISED NAME PCL. 16WL	LEE	8/17/67

PROPOSED MONUMENTS
I. P. FOUND

474+40
725

476+00
N 83°06'30"E
725

476+00
I.A.P.A. 723'±

LA

226.36'
N 89°26'55"E

478+25
750

MEET ROADWAY DITCH

TYPE 2 CROSSING (SEE STD. DETAIL P. 2

SWITCH LINE "A" STA. 473+53.63

185' RT.

160

CONSTRUCTION LIMITS
N 64°13'49"E
264.05'

419+35.46'
I.A.P.A.

STA. 465+00 - STA. 480+00

State Highway Dept.
R/W - Engr. & Admin.
Akron, Ohio

JUL 24 1967

Grids LOGGED BY

K & E - AKRON

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5(3)228	

375
384

MAH.-80S-7.01
MAH.-80-2.30
RIGHT OF WAY SHEET

16
25

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 13
RANGE 4 WEST
TOWNSHIP 2 NORTH

(LANDLOCKED)

MATCH TO SHEET Nº 17

MATCH TO SHEET Nº 21

BEGIN SHEET STA. 465+00

END SHEET STA. 480+00

TYPE I FUNDS

PCL. Nº	OWNER	DEED AREA	TOTAL P.R.O.	TO BE ACQUIRED			NET RESIDUE	
				TOTAL TAKE	P.R.O. IN TAKE	NET TAKE	LEFT	RIGHT
12WL	MARY J. EVANS	(SEE PARCEL 12WL SHEET Nº 13)						
16WL	FRED J. SMITH & DOROTHY N. SMITH	(SEE PARCEL 16WL SHEET Nº 22)						

FELIX VINCENT TESNER
& LOUISE C. TESNER
(15)

MARY J. EVANS
(12 WL)

FRED J. SMITH &
DOROTHY N. SMITH
(16 WL)

I.P. FD. & USED

2455.0' (D)

PROPERTY LINE ESTABLISHED BY OCCUPATION
N 0°28'15" E
330.21' (M)
330.00' (D)

BARBED WIRE FENCE

I.P. FD. & USED 2.0' E & 1.0' N BRK.

N 88°22'40" E
450.35' (Calc.)
450.00' (D)
TO ℄ LIPKEY RD.

STA 465+01.80 (LINE "B")
STA 458+68.47 (LINE "A")

N 64°08'36" W
210.00'
CONSTRUCTION LIMITS

465+00
428'
I.A.P.A. 443

LA

LINE "B"

LINE "A"

460

470

N 72°55'47" W
216.81'

PC STA. 468+48.02

470+98.12
356.55

470+98.12
I.A.P.A. 355'

TYPE 47 FENCE

LA

N 62°41'40" W
517.68'

RELOCATED 4' CHANNEL

℄ 340

STA 475+56.23 RAMP "B"
STA 475+54.46 - 82 LT I-80

476+00
230'

476+00
I.A.P.A. 228'

802.64'

LA

N 87°45'13" E

CONSTRUCTION LIMITS

PT. 463+65.27

N 0°34'23" E
430.70' (Calc.)

HEAVY GROWTH
2'-4' TREES
W/SCATTERED 12'-30'
TREES

130'x27'

473+07

PCC STA 474+56.23

475

8' FIELD DRIVE

TREE ROW 4'-6' OAK

12" OAK

(TO BE ABANDONED)

BARBED WIRE FENCE

STA. 467+60.240

36" OAK

30" ASH

CLUMP 2'-4' ASH

POND

GROVE 1"-2"

2'-4" TREE ROW

W. CHERRY

SPRING

BARBED WIRE FENCE

470+51.35

℄ SURVEY (I-80)

N 83°06'30" E

STA. 469+59.41 (I-80)
STA. 464+90.60 (LINE "A")

TREE ROW

CONSTRUCTION LIMITS

1153.45'

442.85'

LA

N 83°06'30" E

469+00
148.65'

469+73.72
148.92'

N 44°11'16" W
25.25'

185.65'
N 44°11'16" W

S 68°58'18" E

T.S. STA. 467+39.61

TO PRC 0.0' (Calc.)

PRC STA. 471+56.86
(78 RT.)

W O O D S

STREAM

RAMP "F"

C.S. STA. 476+11.59 (I-80 - 82' RT.)
STA. 476+09.93 (RAMP "F")

GRAPHIC SCALE
0 50 100 150 200

PRELIMINARY SUBMITTAL DATE:
RIGHT OF WAY COMPLETION DATE:

Nº	REVISION	MADE BY	DATE
1	CHANGED PCL 12 X TO AGREE WITH SHEET 15	SMITH	8-8-67
2	REVISED NAME PCL. 16	LEE	8-17-67

(12 X) ◉ PROPOSED MONUMENTS
• IRON PIN FOUND

MATCH TO SHEET Nº 15

STA. 465+00 - STA. 480+00

State Hig. Dept. Div. 4
Rte. - Sec. - Sub. - Addn
Mun. - Twp. - Rng. - Sect.

JUL 24 1967

LOGGED
Crds. DM Bk.

K & E - AKRON

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5(3)228	

376/384

MAH-80S-7.01
MAH-80-2.30
RIGHT-OF-WAY SHEET

17/25

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 13
RANGE 4 WEST
TOWNSHIP 2 NORTH

MARIE TRNAVSKY
11 WL

(LANDLOCKED)
MARY J. EVANS
12 WL

JAMES ERSKINE & MARGARET ANN ERSKINE
9A WL

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 13
RANGE 4 WEST
TOWNSHIP 2 NORTH

MATCH TO SHEET Nº 18

MATCH TO SHEET Nº 16

N 10°30'50" W
FENCE POST
OCCUPATION LINE
328.50' (F)
N 85°40'14" E
1271.82' (D)
1276.82' (Calc.)
1085+24.01
870.77
934.85' (D)
Hub Fd. & Used
N 10°25'54" E
124.18'
N 85°45'30" W
513.80' (D)
514.82' (Calc.)
513.98'
1071+54.11 O.T.
694.91'
N 64°08'36" W
177.98'
159.84' BARBED WIRE FENCE
455+07.11 ℄ I-80
1100.08
110+31.20 ℄ O.T.
804.18
20'
40'
455+07.11
I.A.P.A. 105.81'±
TYPE 47 FENCE
158'
P.T. STA. 447+77.68 (LINE "A")
STA. 447+77.68 (END LINE "B")
575.00
N 64°08'36" W
425.05
462+46.89
868.43
462+90.72 ℄ I-80
180.50
464+71.04 ℄ I-80
120.65
N 64°23'40" W
105.65
P.C. STA. 456+83.98 (LINE "A")
STA. 463+15.71 (BEGIN LINE "B")
N 64°08'36" W
510.00
LA
CONSTRUCTION LIMITS
RELOC. 4' CHANNEL
STA. 465+01.80 (LINE "B")
STA. 458+68.47 (LINE "A")
LINE "B"
135.55'
463+90.72
I.A.P.A. 181.5'±
464+71.04
I.A.P.A. 71.5'±
64'-54'
450+37.46
N 64°08'36" W
461+92.26 (750.69)
454+00 ℄ LINE "A"
℄ PLAZA
455+00
455
465
460
450
446
RAMP "D"
WOODS
S.C. STA. 446+76.98 (RAMP "C")
STA 446+72.87 (LINE "A")
P.T. STA. 448+25.68 (END RAMP "D")
STA. 448+25.68 (LINE "A")
S 11°42'E
℄ E.O.G. R/W Line
℄ UTILITY DRIVE
UTILITY BLDG.
PARKING
N 25°51'24" E
100
RAMP "E"
B.P.R. PARTICIPATION LINE
356.25'
S 54°11'42" E
(FOR PARTICIPATION ONLY)
464+00
425'
(FOR PARTICIPATION ONLY)
464+00
285'
S.C. STA. 464+56.95
N 46°23'30" W
140'
P.T. 470+50.65 RAMP "E"
454+68.26 LINE "A"
S.C. 468+48.98 (RAMP "E")
456+78.26 LINE "A"
235.85'
N 51°06'11" E
470
460
465
WOODS
1100.08' LA TO ℄ I-80
684.60' ℄ LINE "A" TO ℄ I-80
N 12°25'54" E
(Bearing Based on Ohio Turnpike Commission Monument Survey)
S.R.P. TROP. COR.
℄ RELOC. 4' CHANNEL
℄ Exist. L.A. (Ohio Turnpike)
20'
40'
S.C. STA. 446+76.98 (RAMP "C")
STA 446+72.87 (LINE "A")
P.T. STA. 448+25.68 (END RAMP "D")
STA. 448+25.68 (LINE "A")
℄ E.O.G. R/W Line
STATE EAST OHIO GAS CO. EASEMENT (LOCATED PER COURT SETTLEMENT, CASE NO. 160786 RECORDED 6-7-67, VOL. 250-A PAGE 376)

GRAPHIC SCALE
0 50 100 150 200

PCL. Nº	OWNER	DEED AREA	TOTAL P.R.O.	TO BE ACQUIRED TOTAL TAKE	TO BE ACQUIRED P.R.O. INTAKE	TO BE ACQUIRED NET TAKE	NET RESIDUE LEFT	NET RESIDUE RIGHT
9AWL	JAMES ERSKINE & MARGARET ANN ERSKINE	(SEE PARCEL 9AWL SHEET Nº 13)						
11WL	MARIE TRNAVSKY	(SEE PARCEL 11WL SHEET Nº 18)						
12WL	MARY J. EVANS	(SEE PARCEL 12WL SHEET Nº 13)						

TYPE FUNDS FOR PCLS. 9AWL & 12WL ARE SHOWN ON SHEET Nº 13.

TYPE FUNDS FOR PCL. 11WL ARE SHOWN ON SHEET Nº 18.

PRELIMINARY SUBMITTAL DATE:
RIGHT OF WAY COMPLETION DATE:

Nº	REVISIONS	MADE BY	DATE
1	Revised Name Pcl. 11WL	Lee	8-17-67
2	Revised Location of E.O.G. Easement	Lee	12-21-67

INTERCHANGE
INTERSTATE 80 & 80S
LINE "A" STA. 446+00 TO 460+00
RAMP "E" STA. 465+00 TO 470+50.65

State Highway Dept. Div. 4
R/W - ENGR. & ADMIN. SECT.
RAVENNA, OHIO
JUL 24 1967
LOGGED
Cds. Bill Bk.

K & E - AKRON

PCL. Nº	OWNER	DEED AREA	TOTAL P.R.O.	TO BE ACQUIRED TOTAL TAKE	TO BE ACQUIRED P.R.O. IN TAKE	TO BE ACQUIRED NET TAKE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUNDS I.	TYPE FUNDS 100% STATE FUNDED	TYPE FUNDS 75% FED. 25% STATE
19WL	IRENE KOLASKY	5.00	.09	.325	——	.325	4.585	——	——	.325	
9-1WL	JAMES ERSKINE MARGARET ANN ERSKINE	50.0787	0.00	6.3581	——	6.3581	11.0355	31.4051	——		1.2800
9AWL	JAMES ERSKINE & MARGARET ANN ERSKINE	(SEE PARCEL 9AWL SHEET Nº 13)									
9-1T	11	(SEE PARCEL 9-1T SHEET Nº 13)									
11WL	MARIE TRNAVSKY	29.682	0.485	0.141	——	0.141	29.056	——	——	0.141	

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 13
RANGE 4 WEST
TOWNSHIP 2 NORTH

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5(3)228	

377
384

18
25

MAH-80S-7.01
MAH-80-2.30
RIGHT-OF-WAY SHEET

MATCH TO SHEET Nº 17

MATCH TO SHEET Nº 19

MATCH TO SHEET Nº 13

MATCH TO SHEET Nº 19

11 WL MARIA TRNAVSKY

19 WL IRENE KOLASKY

9A WL JAMES ERSKINE & MARGARET ANN ERSKINE

9-1 WL JAMES ERSKINE & MARGARET ANN ERSKINE
RESIDUE LANDLOCKED
(PREVIOUSLY ISOLATED BY OHIO TURNPIKE)

LINE "A"
LINE "B"
RAMP "C"
RAMP "D"

PT STA. 447+77.68 (END LINE "B")
PT STA. 447+71.08 (END LINE "A")
334.58 (O) OCCUPATION LINE
107+54.11 554.51
107+54.11 TAPA 592.01
323.98
STA. 444+13.92 (LINE "B")
STA. 444+17.92 (LINE "A")
N 0°14'13" W
1573.23' (Calc.) TO PROP COR.
1533.50' (O) 1540.50' (Calc.) N 0°14'13" W TO PROP COR.
106+04.45 498.01'
177.97'
159.84' N 85°45'30" W (13.58' (O) (Calc.))
106+70.29 458.82'
N 44°08'36" W 145.53'
104+82.06 415.87'
104+82.06 TAPA 418'±
BARBED WIRE FENCE
130.70'
133.86'
CONSTRUCTION LIMITS
N 44°08'36" W 435.99
PT STA. 440+55.17
LP FD BRG. BRK.
LC=90.75 S47°55'E
N 0°22'05" E 339.41
102+56.84
TYPE 47 FENCE
99.44' (Calc.) TO PROP COR.
1427.66' (Calc.) N 59°41'13" W TO PROP COR.
101+15.40 TAPA 182'±
101+15.40 183.97'
N 46°16'20" W 171.14'
101+88.15
440
N 31°23'11" W
99+80 140
E.P.A. TIE TO EXIST. FENCE
24.7' (Calc.)
EXIST. LIMITED ACCESS (OHIO TURNPIKE)
104+75.99 140
PC STA. 443+00.61
443+00
N 31°23'11" W
WOVEN WIRE FENCE TO BE REMOVED STA. 99+50 TO STA. 121+01.62
T.S. STA. 440+64.15
1987.98' (Calc.) TO ℄ SURVEY
EAST OHIO GAS CO. EASEMENT (LOCATED PER COURT SETTLEMENT, CASE NO. 160786 RECORDED 6-7-67, VOL. 250-A PAGE 376)
E.O.G. R/W Line
PT STA. 448+25.68 (END LINE "A")
PC STA. 448+02.38 (RAMP "D") STA. 113+35.43 (O.T. -76' LT.)
PT STA. 438+93.85
58+54.7'
PC STA. 439+43.85 (RAMP "D") STA. 114+93.82 (O.T. -69.66' LT.)
RELOC. 4" CHANNEL
N 0°25'54" E
20' 40'
450
C.S. STA. 446+76.58 (RAMP "C")
STA. 446+72.87 (LINE "A")
C.S. STA. 445+26.58
445
446
N 0°22'05" E 339.41
102+56.84 339.41
102+19.86 140
132'±
N 31°23'11" W
OHIO TURNPIKE (I-80)
TEMPORARY CROSSOVER #1
100
103+91.15
105
STRUCTURE Nº MAH-80-0181
176'×15'
EXIST. 15' PIPE
SIGN
W.B.L. TEMPORARY RUNAROUND
TEMPORARY CROSSOVER #2
110
111+45.07
115
P.T. 13+62.50
104+25 O.T. 435+88.64 LINE "A"
P.C. 10+00.00
P.I. 12+28.46
E.B.L. TEMPORARY RUNAROUND
EXIST. 54" CONC. PIPE
P.C. 11+32.16 108+45.64
GRAPHIC SCALE 0 50 100 150 200
P.T. 14+22.16
111+50 135
477.68
CONST. LIMITS (TEMP. R/W)
321.26'
N 20°04'27" W
113+63.20 (135) 451+90.11 (405.03')
N 0°22'05" E
420
WOVEN WIRE FENCE TO BE REMOVED STA. 80+77.51 TO STA. 104+70
98+85.25 135
RAMP "C"
N 31°23'11" W
103+09.33 135
424.08' (Calc.)
E.P.A. TIE TO EXIST. FENCE
WOVEN WIRE FENCE
1053.87' (Calc.) TO PROP. LINE
EXIST. LIMITED ACCESS (OHIO TURNPIKE)
104+70 135
CONSTRUCTION LIMITS
341.91' (Calc.) TO PROP COR. N 0°14'13" W
STA. 418+63.36 (RAMP "C") STA. 101+50.15 (O.T. -77' RT.)
N 89°53'32" W TO PROP. COR.
N 89°53'32" W
S.T. STA. 437+67.12
LP FD BRG. BRK.
126'

PRELIMINARY SUBMITTAL DATE :
RIGHT OF WAY COMPLETION DATE :

Nº	REVISIONS	MADE BY	DATE
1	Deleted Pcl. 8 etc. Added Area to 9 etc.	Lee	8-11-67
2	Added Pcl. 19-WL, An outsale from Pcl. 11-WL.	Lee	8-17-67
3	Revised Name Pcl. 11-WL	Lee	8-17-67
4	Revised Location of E.O.G. Easement	Lee	12/21/67

INTERCHANGE
INTERSTATE 80 & 80S
OHIO TURNPIKE STA. 100+00.00 TO 115+00.00
LINE "A" STA. 438+00.00 TO 450+00.00
LINE "B" STA. 437+00.00 TO 447+77.68
RAMP "D" STA. 437+00.00 TO 448+25.68

• IRON PIN FOUND

JUL 24 1968
LOGGED

K & E - AKRON

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5(3)228	

MAH-80S-7.01
MAH-80-2.30
RIGHT-OF-WAY SHEET

(378) (384) (19) (25)

MATCH TO SHEET Nº 20

MATCH TO SHEET Nº 18

MICHAEL MARKEL & MARY MARKEL (6A WL)

JAMES ERSKINS & MARGARET ANN ERSKINE

JAMES ERSKINE & MARGARET ANN ERSKINE (9A WL)

EXIST. LIMITED ACCESS (OHIO TURNPIKE)

N 31°23'11"W 1535.57' (Calc.) TO ℄ SILICA RD.

N 31°23'11"W 519.74 (Calc.)

CONSTRUCTION LIMITS

STA. 432+69.11 (LINE "B") = STA. 55+59.39 (O.T. - 77 LT.)

P.C. STA. 435+69.11

WOVEN WIRE FENCE

LINE "B"

OHIO TURNPIKE (I-80)

℄ N 31°23'11"W

EXIST. MON. 97+00 (REC.)

TEMPORARY CROSSOVER #1

N 31°23'11"W

104+25 ℄ O.T. 439+86.64 LINE "A"

STA. 80+77.51 TO STA. 104+70 WOVEN WIRE FENCE TO BE REMOVED

1535.57' (Calc.) TO ℄ SILICA RD.

EXIST. LIMITED ACCESS (OHIO TURNPIKE)

N 31°23'11"W

CONST. LIMITS

RAMP "C" 424.08' (Calc.)

N 31°23'11"W

JAMES ERSKINE & MARGARET ANN ERSKINE (9-1 WL)

T.S. STA. 421+63.36

S.C. STA. 423+63.36

STA. 418+63.36 (RAMP "C") = STA. 101+50.15 (O.T. - 77' RT.)

LINE "A"

EP-A TIE TO EXIST. FENCE

102+78.24 186.32

I.P. FD BRG. BREAK

STR. PICTURE Nº MAH-80-105.1

N 85°33'26"W 1583.31' (Calc.)

N 0°14'13"W 321.91' (Calc.)

FENCE POST

BARBED WIRE FENCE

24" ELM

7-1 WL

101+24.98 322.21

S.C. STA. 427.72

POND

STREAM 103+60 C.P.A. 428

TYPE 2 CROSSING SEE STD DETAIL F-2

103+60 430

TYPE 47 FENCE

(LANDLOCKED)

HERMAN GROVE & LEWIS GROVE (7-1 WL)

LIGHT WOODS

N 7°03'53"E 1204.95' (Calc.)

2103.58' (Calc.) TO ℄ BURSLEM

2140.54' (Calc.) TO ℄ ROUTE 224

PROP. COR.

PROP. COR.

N 0°14'13"W 1421.64' (Calc.) TO PROP. COR.

N 46°08'36"W 435.85'

101+15.40 183.87'

N 46°16'20"W 171.14'

99+50 140

387.98'

P.C. STA. 436+69.11 140

101+85.15 140

103+91.15

105

140

420

425

430

435

433

434.50

152+21

15" BEECH

15" OAK

8" CHERRY

12" APPLE

10" CHERRY

4" CHERRY

3 U.C. TREES

CONSTRUCTION LIMITS

WOVEN WIRE FENCE

S 22°04'23"W 689.22'

LINE "A"

T.S. STA. 424+04.46

S.C. STA. 422+04.46

EASEMENT RECORDED OHIO EDISON CO. & NOT AVAILABLE

93+25 I.APA. 648' (Calc.) LT.

93+25 650

429.94' S 22°41'27"E

57+50 I.APA. 723' RT.

57+50 725

241.01' S 43°44'52"E

99+86.01 663.28'

1204.14' (Calc.) TO PROP. COR.

N 24°47'(Calc.) TO PROP. LINE

N 2°00' CONSTRUCTION LINE

N 89°53'26"W 1889.53' TO PROP. COR.

S 63°20'24"E 440.76'

END RAMP "C" S.C. STA. 432+01.81

C.S. STA. 430+01.81

L.W. TO C.L. STA. 432+01.81

GRAPHIC SCALE 0 50 100 150 200

PRELIMINARY SUBMITTAL DATE:			
RIGHT OF WAY COMPLETION DATE:			
Nº	REVISIONS	MADE BY	DATE
1	Deleted Pcl. 8 etc. Added Area to Pcl. 9 etc.	Lee	8-14-67

INTERCHANGE INTERSTATE 80 & 80S

OHIO TURNPIKE STA. 80+00 TO 105+00
LINE "A" STA. 423+00 TO 440+00
RAMP "C" STA. 418+63.36 TO 432+01.81

PCL. Nº	OWNER	DEED AREA	TOTAL P.R.O.	TO BE ACQUIRED			NET RESIDUE	
				TOTAL TAKE	P.R.O. IN TAKE	NET TAKE	LEFT	RIGHT
6-1WL	MICHAEL MARKEL & MARY MARKEL	(SEE PARCEL 6-1WL SHEET Nº 20)						
7-1WL	HERMAN GROVE LEWIS GROVE	SEE PCL 7WL SHEET Nº 11	1.57ac	—		1.57ac	SEE PCL 7WL SHEET Nº 11	
9-1WL	JAMES ERSKINE & MARGARET ANN ERSKINE	(SEE PARCEL 9AWL SHEET Nº 18)						
9AWL	JAMES ERSKINE & MARGARET ANN ERSKINE	(SEE PARCEL 9-1WL SHEET Nº 13)						

100% STATE FUNDS (INELG.)

MICHAEL MARKEL & MARY MARKEL (6-1 WL)

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 13
RANGE 4 WEST
TOWNSHIP 2 NORTH

■ EXISTING MONUMENT
• IRON PIN FOUND

(landlocked) HERMAN GROVE & LEWIS GROVE (7-1 WL)

LIGHT WOODS

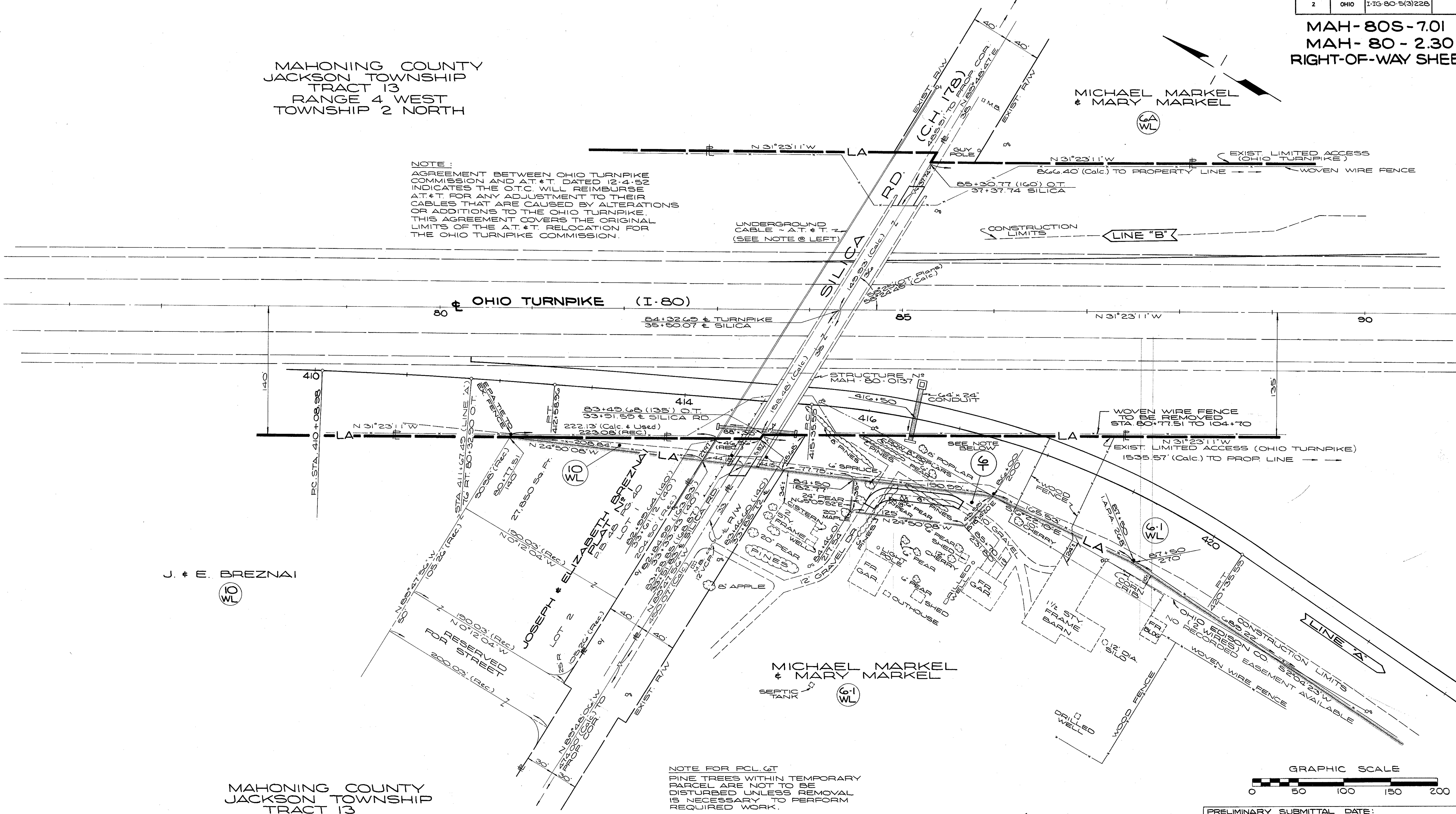
Ohio Highway Dept. Div. of P.R. & R/W - ENGR. & ADMIN. SEC'T. RIVERSIDE, OHIO
JUL 24 1967
LOGGED
Grids Bill Bk.
K & E - AKRON

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5(3)228	

379/384

20/25

MAH-80S-7.01
MAH-80-2.30
RIGHT-OF-WAY SHEET



NOTE :
AGREEMENT BETWEEN OHIO TURNPIKE COMMISSION AND A.T. & T. DATED 12-4-52 INDICATES THE O.T.C. WILL REIMBURSE A.T. & T. FOR ANY ADJUSTMENT TO THEIR CABLES THAT ARE CAUSED BY ALTERATIONS OR ADDITIONS TO THE OHIO TURNPIKE. THIS AGREEMENT COVERS THE ORIGINAL LIMITS OF THE A.T. & T. RELOCATION FOR THE OHIO TURNPIKE COMMISSION.

NOTE FOR PCL. 6T
PINE TREES WITHIN TEMPORARY PARCEL ARE NOT TO BE DISTURBED UNLESS REMOVAL IS NECESSARY TO PERFORM REQUIRED WORK.

100% STATE FUNDS (INELG.)

PCL. Nº	OWNER	DEED AREA	TOTAL P.R.O.	TO BE ACQUIRED			NET RESIDUE	
				TOTAL TAKE	P.R.O. IN TAKE	NET TAKE	LEFT	RIGHT
6-1WL	MICHAEL MARKEL & MARY MARKEL	SEE PCL. 6WL SHEET Nº 11		14.3292	0.0392	14.2900	SEE PCL. 6WL SHEET Nº 11	
6T	"	SEE PCL. 6WL SHEET Nº 11		0.1108	—	0.1108	SEE PCL. 6WL SHEET Nº 11	
10WL	JOSEPH BREZNAI & ELIZABETH BREZNAI	28,075 Sq. Ft.	—	2646 Sq. Ft.	—	2646 Sq. Ft.	25,429 Sq. Ft.	—

PRELIMINARY SUBMITTAL DATE:
RIGHT OF WAY COMPLETION DATE:

Nº	REVISIONS	MADE BY	DATE
			as 15

INTERCHANGE
INTERSTATE 80 & 80S
OHIO TURNPIKE STA. 80+00 TO 90+00
LINE "A" STA. 410+00 TO 423+00

State Highway Dept. Div. & R/W-ENGR & ADMN SECT. RAVENNA, OHIO
JUL 24 1967
LOGGED

K & E-AKRON

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5(3)228	

380
384

21
25

MAH.-80S-7.01
MAH.-80-2.30
RIGHT OF WAY SHEET

TYPE I FUNDS

PCL. Nº	OWNER	DEED AREA	TOTAL P.R.O.	TO BE ACQUIRED TOTAL P.R.O. TAKE	TO BE ACQUIRED NET TAKE	NET RESIDUES LEFT	NET RESIDUES RIGHT
16WL	FRED J. SMITH DOROTHY N. SMITH	(SEE PARCEL 16WL SHEET Nº 22)					
16T	11	SEE PCL 16WL SHEET Nº 22		0.0666	—	0.0666	SEE PCL 16WL SHEET Nº 22
17WL	ROBERT J. SMITH	(SEE PARCEL 17WL SHEET Nº 15)					

FELIX VINCENT TESNER
& LOUISE C. TESNER
15

ROBERT J. SMITH
17WL

FRED J. SMITH &
DOROTHY N. SMITH
16WL

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 13
RANGE 4 WEST
TOWNSHIP 2 NORTH

END SHEET STA. 488+00

488+00 APPA 19.3

488+00 15'

488+03.80 247.83

487+75.83 283.08

487+61.49 214.25

487+17.08 236.46

486+50 270

486+50 APPA 20.8

485+44 PC STA

484+23.16 458.91'

483+53.62 450.57'

483+53.62 APPA 45.7'

482+61

480+75 665'

480+75 APPA 66.8'

480 US STA 479+78.63

P.T. STA. 480+17.56 (78' LT)

BEGIN SHEET STA. 480+00

TYPE 2 CROSSING SEE STD. DETAIL P.C.

WOODS 2'-4" TREES

BARBED WIRE FENCE

DBL. 18" APPLE

18" APPLE

TREE ROW 18" OAK

SCATTERED SMALL TREES

2'-4" ELM THICKET

24" OAK

TREE ROW

8' FIELD DRIVE

TO BE ABANDONED

TREE ROW 4'-10" OAK

TO BE ABANDONED

RELOC. 4' CONSTRUCTION LIMITS

CONSTRUCTION LIMITS

TYPE 47 FENCE

LINE "B"

LINE "A"

SURVEY (I-80)

TO PROP. COR.

N 89°22'40"E 250.35' (CALC.) 249.90' (D)

N 87°45'13"E 602.64'

N 83°06'30"E

N 89°40'22"E 220.92' (D) 220.51' (Calc.)

N 89°40'22"E 135.0' TO PROP. COR.

N 43°26'42"E 1500'

N 43°26'42"E 295.24'

N 43°26'42"E 384.22'

N 64°15'45"E 264.05'

S 88°27'24"E 24.02'

N 88°27'24"W 24.02'

N 43°26'42"E 15'

MATCH TO SHEET Nos 15 & 16

PROPOSED MONUMENTS

GRAPHIC SCALE
0 50 100 150 200

PRELIMINARY SUBMITTAL DATE: RIGHT OF WAY COMPLETION DATE:			
Nº	REVISION	MADE BY	DATE
1	Revised Name Pcl. 16	Lee	8-17-67

STA. 480+00 - STA. 488+00

State Highway Dept. Div. 4
Alt. - Mile & Hund. Sec.
RAVENNA 1960

JUL 24 1967

LOGGED
Bill Bk.
Crds.

K & E - AKRON

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5(3)228	

381 / 384

22 / 25

MAH.-80S-7.01
MAH.-80-2.30
RIGHT OF WAY SHEET

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 13
RANGE 4 WEST
TOWNSHIP 2 NORTH

NURSERY EXTENDS TO NORTH, WEST & SOUTH PROPERTY LINES. APPROXIMATE TREE COUNT IS 50,000.

FELIX VINCENT TESNER
LOUISE C. TESNER

15 WD

POND 3-4' ELM

DAM

54+50 30'

3 OUTLETS TILE FOR SEPTIC SYSTEM

15

PROPOSED FIRE TRAIL

POINT OF ACCESS FOR FIRE TRAIL ACCESS UNDER BRIDGE ONLY. STA. 496+31 LT. 24' WIDTH

53+50 30'

END ACQUISITION
MAH-80S-7.01
MAH-80-2.30
STA. 495+76.62
I-IG-80-5(3) 228
S.L.M. 7.01

BEGIN ACQUISITION
MAH-80-3.37
STA. 495+76.62
I-IG-80-5(4) 229
S.L.M. 9.89

PINE TREES

S 85°20'45" E 112.32'

N 83°01'34" E 600'

CONSTRUCTION LIMITS

PROPOSED 24' FIRE TRAIL N83°06'30"E

CHAIN LINK FENCE

CONSTRUCTION LIMITS

SEPTIC TANK

WELL

PUMP HOUSE

POOL

DRILLED WELL

SHRUBS

4' CHAIN LINK FENCE

CONC.

STY FR HSE

NURSERY LIMITS

100'

52+35 (52.42)

STORAGE SHED OUTHOUSE

GAR.

FR. BLDG. STORAGE

PARKING

S 1+50 150'

N64°37'46"E 101.22

LIGHT POST

TO PROP. COR. N 89°22'40" E 2501.35' (CALC.) 2499.90 (D)

491+00 170

N 82°41'56" E 700.02'

LA

S 85°54'15" E (CALC.)

491+50 125

N 83°06'30" E 440.50'

LA

12" APPLE

CONSTRUCTION LIMITS

491+50 C.P.A. 123

DBL 18" APPLE

DBL 15" APPLE

24" APPLE

15" APPLE

DBL 15" CHERRY

6-4" PLUM

2-2" APPLE

N 83°06'30" E 490 491+00

℄ FIELD DRIVE

APPROX. ℄ MINE TUNNEL

TREE ROW

CORN CRIBS (TO BE ABANDONED)

LINE "A" 3/4" PIPE

STA 485+32.45 RT

GARAGE

FR. CHICKEN COOP

BARN

TYPE 2 CROSSING SEE STD DETAIL TC-2

TILE SILO

DRILLED WELL

SHEDS

STA 492+00 DRILLED WELL 50' RT. OF ORIG. ℄

BEGIN SHEET STA. 488+00

STA. 500+00 END SHEET

4'6" W. CHERRY

STA 488+60 NE 28.6 NAH-80-0280

2'-4" TREE ROW

OUTHOUSE

2'-4" SCATTERED POPLARS

APPROX. ℄ MINE TUNNEL

16 WL

E.P.A. TIE TO ABUTMENT

51+54.13 150

2'-4" EVERGREENS

16

51+25.76

495+26.42 (125') 51+18.64 (64.92')

BEARING BREAK STA. 50+77.42

E.P.A. TIE TO ABUTMENT

DEEP FILL

STRUCTURE Nº MAH-80-0290

N 83°06'30" E

24"

495

184.15' CONDUIT

495+76.62 ℄ I-80 50+00 ℄ RW LIPKEY RD.

WL

SURVEY I-80

STA 492+32.45 (9' RT.)

STA 492+00 (50' RT.)

16 T-1

16 Z

N 6°53'30" W 24.19'

N 83°06'30" E 285

420+75 50 491+25 285

100.44'

100'

S 83°06'30" W

43.55'

490+00 185.81'

490+00 185.81'

N 6°53'30" W 490.00'

N 6°53'30" W 490.00'

S 6°53'30" E 118.83'

S 6°53'30" E 118.83'

50 25 25 50

N 6°53'30" W 118.24'

SEPTIC SYSTEM

ENTRANCE ABANDONED COAL MINE

SMALL TREES

16-1

313.5' (D) N 88°40'35" E 47+30.28 57.15'

17 WD

FRED J. SMITH & DOROTHY N. SMITH

16 WL 16 WD 16-1 WD

NOTE:
ALL INFORMATION REFERRING TO THE COAL MINE WAS OBTAINED FROM THE MEMORY OF A LOCAL RESIDENT.

ROBERT J. SMITH

17 WD

313.5' (D) N 1°19'25" W

TO PROP. COR. 2201.02' (D) 2206.31' (CALC.) N 89°40'22" E

TYPE I FUNDS

PCL. Nº	OWNER	DEED AREA	TOTAL P.R.O.	TO BE ACQUIRED TOTAL TAKE	TO BE ACQUIRED P.R.O. IN TAKE	TO BE ACQUIRED NET TAKE	NET RESIDUES LEFT	NET RESIDUES RIGHT
15	FELIX VINCENT TESNER & LOUISE C. TESNER	18.75	0.2211	0.3078	0.2033	0.1045	18.4244	——
15T	"	SEE PARCEL 15WD ABOVE	0.1216	——	——	0.1216	SEE PARCEL 15WD ABOVE	
16WL	FRED J. SMITH & DOROTHY N. SMITH	40.0	0.2918	28.9043	0.1745	28.7298	5.4924	5.3512
16	"	SEE PARCEL 16WL ABOVE	0.0467	0.0211	0.0256	SEE PARCEL 16WL ABOVE		
16-1	"	SEE PARCEL 16WL ABOVE	0.2054	0.0962	0.1092	SEE PARCEL 16WL ABOVE		
16Z	"	SEE PARCEL 16WL ABOVE	0.1349	——	0.1349	SEE PARCEL 16WL ABOVE		
16T-1	"	SEE PARCEL 16WL ABOVE	0.0663	——	0.0663	SEE PARCEL 16WL ABOVE		
17WD	ROBERT J. SMITH	SEE PCL. 17WL SHEET Nº 15	0.2480	0.1660	0.0820	SEE PCL. 17WL SHEET Nº 15		

FOR DETAILS OF LIPKEY RD. SEE R/W SHEET Nº 25

POINT OF ACCESS FOR FIRE TRAIL ACCESS UNDER BRIDGE ONLY. STA. 496+06 RT. 24' WIDTH

1A T

333.10' N 81°35'30" E

496+14.7 (178.43') 48+32.70 (109.62')

PINE TREES

CONSTRUCTION LIMITS

PROPOSED 24' FIRE TRAIL

496+62.66 (125') 48+74.22

N 83°06'30" E

CONSTRUCTION LIMITS

LA

PROPOSED FIRE TRAIL (TO BE USED AS TEMPORARY TURNAROUND)

EXIST R/W

EXIST ELM

EXIST R/W

PROPOSED FIRE TRAIL

47+31.08

N 0°31'05" W

134.14'

N 7°53'28" E

47+00 50'

THE MAHONING VALLEY SANITARY DISTRICT

(PARCEL PURCHASED UNDER CONTRACT MAH-80-3.37)

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 15
RANGE 4 WEST
TOWNSHIP 2 NORTH

N 7°43'04" W 137.21'

45+54.15 40'

10 W. CHERRY

TRACT 3

℄ LIPKEY

TRACT 15

24108' ℄

N 0°31'05" W 1021.05'

44+90 40'

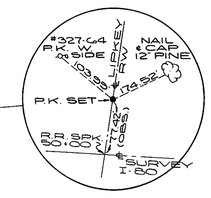
10 00 N 89°28'51" E

44+90 30'

PROPOSED MONUMENTS

MONUMENT ASSEMBLIES

GRAPHIC SCALE
0 50 100 150 200



REF. TIE

PRELIMINARY SUBMITTAL DATE:
RIGHT OF WAY COMPLETION DATE:

Nº	REVISION	MADE BY	DATE
1	Revised Name Pcl. 16	Lee	8-17-67
2	Changed Pcl. 16WA to Pcl 16T-1 and Changed Pcls. 16WD, 16WD and 15WD to Standard Highway Easements Per I.O.C. from H. Strahl dated 3/4/68	Lee	3-5-68

STA. 488+00 – STA. 500+00

State Highway Dept. Div. & R/W - Engrs. & Plans Sect. - Houses and

JUL 24 1967

LOGGED

Cds. Bill Bt.

K & E - AKRON

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5(3)228	

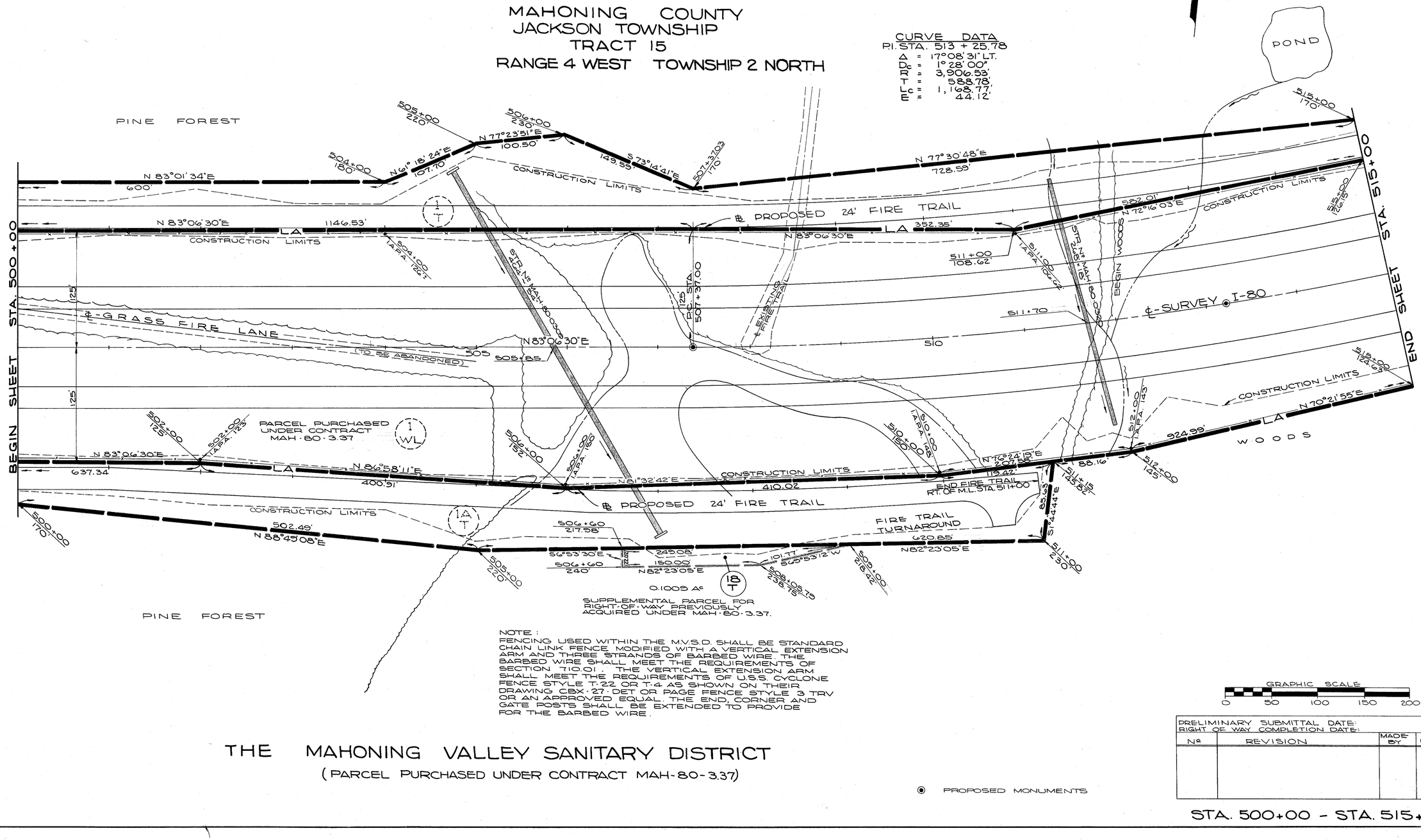
382
384

MAH.-80S-7.01
MAH.-80-2.30
RIGHT OF WAY SHEET

23
25

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 15
RANGE 4 WEST TOWNSHIP 2 NORTH

CURVE DATA
PI. STA. 513 + 25.78
Δ = 17°08'31" LT.
D_c = 1°28'00"
R = 3,906.53'
T = 588.78'
L_c = 1,168.77'
E = 44.12'



NOTE:
FENCING USED WITHIN THE M.V.S.D. SHALL BE STANDARD CHAIN LINK FENCE MODIFIED WITH A VERTICAL EXTENSION ARM AND THREE STRANDS OF BARBED WIRE. THE BARBED WIRE SHALL MEET THE REQUIREMENTS OF SECTION 710.01. THE VERTICAL EXTENSION ARM SHALL MEET THE REQUIREMENTS OF U.S. CYCLONE FENCE STYLE T-22 OR T-4 AS SHOWN ON THEIR DRAWING CBX-27-DET OR PAGE FENCE STYLE 3 TRV OR AN APPROVED EQUAL. THE END, CORNER AND GATE POSTS SHALL BE EXTENDED TO PROVIDE FOR THE BARBED WIRE.

GRAPHIC SCALE
0 50 100 150 200

PRELIMINARY SUBMITTAL DATE: RIGHT OF WAY COMPLETION DATE:			
Nº	REVISION	MADE BY	DATE

THE MAHONING VALLEY SANITARY DISTRICT
(PARCEL PURCHASED UNDER CONTRACT MAH-80-3.37)

⊙ PROPOSED MONUMENTS

STA. 500+00 - STA. 515+00

R/W - ENGR. & ADMIN. SECT
REVISED 1-1-1900
JUL 24 [illegible]
LOGGED
CHK'D [illegible]

K & E - AKRON

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5(3)228	

383
384

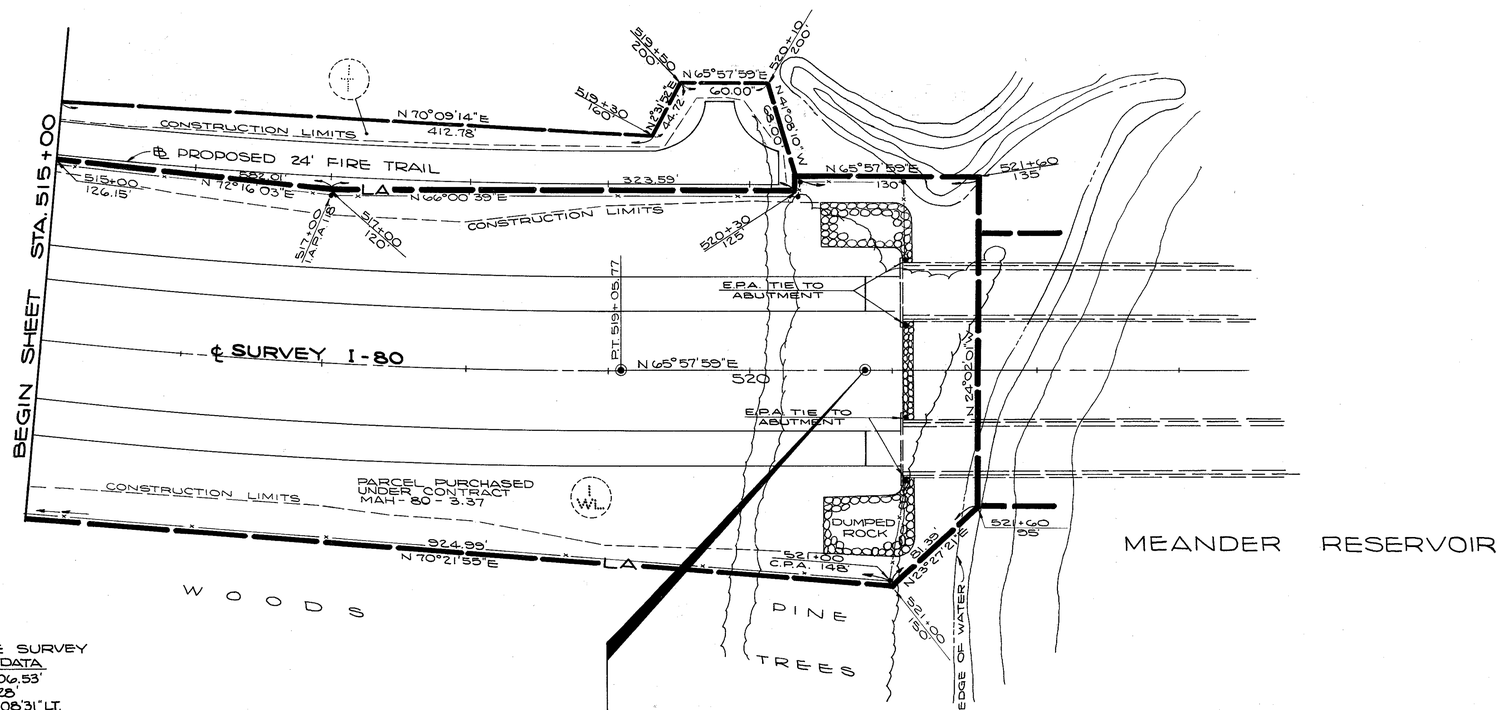
24
25

MAH.-80S-7.01
MAH.-80-2.30
RIGHT OF WAY SHEET

THE MAHONING VALLEY SANITARY DISTRICT

(PARCEL PURCHASED UNDER CONTRACT MAH-80-3.37)

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 15
RANGE 4 WEST
TOWNSHIP 2 NORTH



CENTERLINE SURVEY
CURVE DATA

R = 3906.53'
D_c = 1°28'
Δ = 17°08'31" LT.
T = 588.78'
L_c = 1168.77'
E = 44.12'
P.I. STA. 513+25.78

END PROJECT	BEGIN PROJECT
MAH-80S-7.01	MAH-80-3.37
MAH-80-2.30	STA. 520+80.75
STA. 520+80.75	I-IG-80-5(4) 229
I-IG-80-5(3) 228	SLM 9.89
S.L.M. 7.01	

◉ PROPOSED MONUMENTS

GRAPHIC SCALE
0 50 100 150 200

PRELIMINARY SUBMITTAL DATE:
RIGHT OF WAY COMPLETION DATE:

Nº	REVISION	MADE BY	DATE

STA. 515+00 - STA. 520+80.75

State Highway Dept.
R/W SURVEY & MAPPING SECT.
AKRON, OHIO
JUL 24 1967
LOGGED
Bill Bi
Cuts
State Highway Dept.

K & E - AKRON

FED. RD.	STATE	PROJECT	
2	OHIO	I-IG-80-5(3)228	

384
384

MAH-80S-7.01
MAH-80-2.30
RIGHT-OF-WAY SHEET

25
25

MAHONING COUNTY
JACKSON TOWNSHIP
TRACT 13
RANGE 4 WEST TOWNSHIP 2 NORTH

END ACQUISITION
MAH-80S-7.01
MAH-80-2.30
STA. 495+76.62

ROBERT J. SMITH

FRED J. SMITH & DOROTHY N. SMITH

FELIX VINCENT TESNER
LOUISE C. TESNER

THOMAS M. FITZER
JUSTINE M. FITZER

NURSERY EXTENDS TO NORTH, WEST & SOUTH PROPERTY LINES, APPROXIMATE TREE COUNT - 50,000

2" - 4" SCATTERED POPLARS

SMALL TREES

8" GRAVEL DRIVE

15" MAPLE

FR. BLDG. STORAGE

POOL

DRILLED WELL

PARKING

GAR.

1 STY. FR. HSE.

SEPTIC TANK

3 OUTLETS

POND

DAM

1 STY. SHINGLED HOUSE

10' LINE EAST OHIO GAS LINE

EXISTING RW

TRACT 13

TRACT 15

℄ LIPKEY RD. (60')

℄ PROPOSED FIRE TRAIL

FIRE LANE (TO BE USED AS TEMPORARY RUNAROUND)

FIRE LANE (EXISTING)

TEMP. RUNAROUND

CONSTRUCTION LIMITS

STONE HEADWALL

℄ OF RW

℄ SURVEY (I-80)

℄ PROPOSED 24' FIRE TRAIL

TOE OF SLOPE

PINE TREES

POINT OF ACCESS FOR FIRE TRAIL ACCESS UNDER BRIDGE ONLY STA. 496+06 RT. 24' WIDTH

POINT OF ACCESS FOR FIRE TRAIL ACCESS UNDER BRIDGE ONLY STA. 496+31 LT. 24' WIDTH

BEGIN ACQUISITION
MAH-80-3.37
STA. 495+76.62
I-IG-80-5(4) 229

CURVE DATA
TEMPORARY RUNAROUND
Δ = 17°
R = 200'
T = 29.89'
L = 59.34

CURVE DATA
TEMPORARY RUNAROUND
Δ = 17°
R = 200'
T = 29.89'
L = 59.34

FOR MAINLINE DETAILS, SEE R/W SHEET Nº 22

GRAPHIC SCALE
0 50 100 150 200

PCL. Nº	OWNER	DEED AREA	TOTAL P.R.O.	TO BE ACQUIRED			NET RESIDUES	
				TOTAL TAKE	P.R.O. IN TAKE	NET TAKE	LEFT	RIGHT
15	FELIX VINCENT TESNER & LOUISE C. TESNER	(SEE PARCEL 15WD SHEET Nº 22)						
15T	"	(SEE PARCEL 15T SHEET Nº 22)						
16WL	FRED J. SMITH & DOROTHY N. SMITH	(SEE PARCEL 16WL SHEET Nº 22)						
16	"	(SEE PARCEL 16WD SHEET Nº 22)						
16-1	"	(SEE PARCEL 16-1WD SHEET Nº 22)						
17WD	ROBERT J. SMITH	(SEE PARCEL 17WD SHEET Nº 22)						

TYPE I FUNDS

THE MAHONING VALLEY SANITARY DISTRICT
(PARCEL PURCHASED UNDER CONTRACT MAH-80-3.37)

◉ PROPOSED MONUMENTS
▣ MONUMENT ASSEMBLIES

PRELIMINARY SUBMITTAL DATE: RIGHT OF WAY COMPLETION DATE:			
Nº	REVISIONS	MADE BY	DATE
1	Revised Name Pcl. 16	Lee	8-17-67
2	Changed Pcls. 15WD, 16WD & 16WD-1 To Standard Highway Easements per I.O.C. from H. Strahl dated 3-4-67	Lee	3/5/68

LIPKEY ROAD
STA. 43+00 TO STA. 59+00

Ohio State Highway Dept. Div. of R/W - Right of Way Section
JUL 24 1967
LOGGED
Bill Bl...
CHKD

K & E - AKRON