

DESCRIPTION	MAH-76-7.01	MAH-80-0.00	TRU-80-0.00
Current ADT (1979)	31,000	62,500	48,000
Design Year ADT (1999)	49,800	100,000	67,200
DHV	7,500	15,000	10,100
D (Directional Distribution)	67%	67%	67%
T (Per Cent B+C Trucks)	29%	26%	26%
V (Design Speed)	70 MPH	70 MPH	70 MPH

STATE OF OHIO

PROJECT 320103
DESIGNED
DEC 18 1979

IR-80-5(34)219

DEPARTMENT OF TRANSPORTATION MAH-76-7.01, MAH-80-(0.00)(1.69) TRU-80-0.00

CONVENTIONAL SIGNS

STATE LINE	-----
COUNTY LINE	-----
CENTER LINE	-----
FENCE LINE (EXISTING)	-----x-----
FENCE LINE (PROPOSED)	-----x-----
GUARD RAIL (EXISTING)	-----
GUARD RAIL (PROPOSED)	-----
STORM SEWERS & CULVERTS	UNDER 24" OVER 24"
EXISTING MANHOLES	o o o o
EXISTING CATCH BASINS	o o o o
PROPOSED MANHOLES	o o o o
PROPOSED CATCH BASINS	o o o o
EXISTING SIGNS	-----
PROPOSED SIGNS	-----

INDEX OF SHEETS

TITLE SHEET	1
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STRUCTURES OVER 20' SPAN	27-29

LINE DATA
See Sheet No. 8

JACKSON TOWNSHIP
AUSTINTOWN TOWNSHIP

MAHONING COUNTY

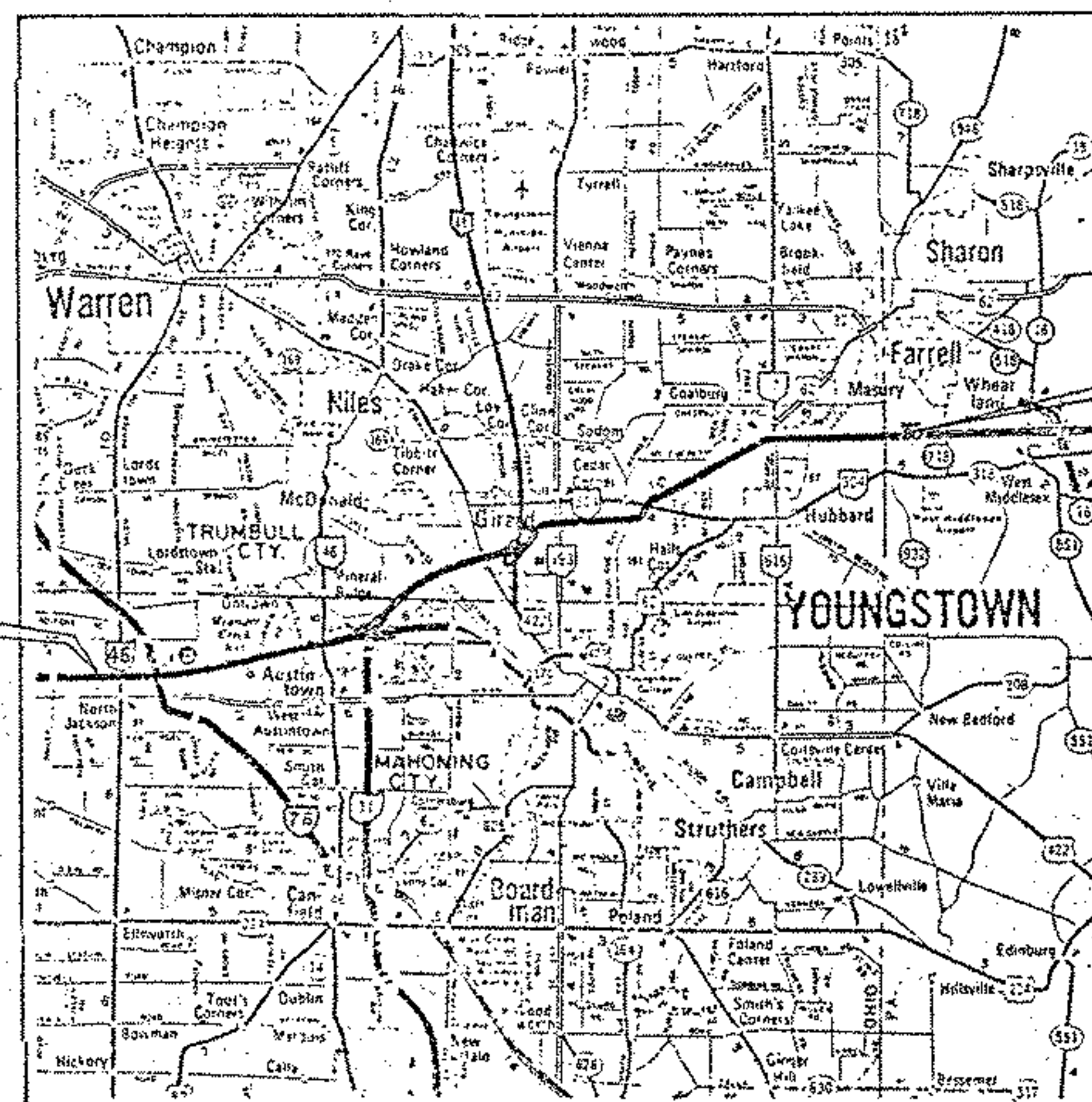
WEATHERSFIELD TOWNSHIP

LIBERTY TOWNSHIP

HUBBARD TOWNSHIP

TRUMBULL COUNTY

CITY OF GIRARD



BEGIN PROJECT
STA. 370+32
S.L.M. = 0701

END PROJECT
STA. 657+11.43
S.L.M. = 12.33

LOCATION MAP

PORTION TO BE IMPROVED	-----
EXISTING ROAD	-----
INTERSTATE ROUTE	-----
STATE HIGHWAY	-----
UNITED STATES HIGHWAY	-----
PLAN	0 5 10



W.K. DeHaven
W.K. DEHAVEN PE
REG. PROF. ENGINEER
NO. 20877
DATE 12/29/76

Revised:

District Four
Offices 7/18/79
Revisions Revised 3/81
Revised Revisions
Revised 4/82

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

TC-1110	4-9-79	GR-25	2-5-82
TC-1120	2-22-82	GR-3A	2-5-82
BP-5	2-26-82	GR-3B	2-5-82
BP-11	1-3-75	GR-4	2-5-82
MC-3	6-1-75	GR-4A	2-5-82
		GR-6	2-5-82
TC-35.10	10-2-77		
GR-1	2-5-87	MC-9A	5-1-81

GLAUS, PYLE, SCHOMER, BURNS, & DEHAVEN
AKRON, OHIO YOUNGSTOWN, OHIO

FILE NO. MAH-80-0.00(3.36) TRU-80-0.00
DATE OF LETTING MAH-76-7.01 19
CONTRACT NO.



FHWA REGION	STATE	PROJECT NO.	FUNDS
5	OHIO		

2
29

MAH-76-7.01
MAH-80-0.00(1.69)
TRU-80-0.00

SCALE IN FEET
0 500 1000 2000

BEGIN WORK
STA. 367+18

IR-80-5(34) 219
BEGIN PROJECT
STA. 370+32
S.L.M. = 7.01
MAH-76-0701

NOTE: Remove Existing 75'
Feather As Per Typical
Feather No. 3
Construct Butt Joint
At Sta. 369+00 As Per
Typical Feather No. 3, Sht. 7

MAH-76-8.65 BACK
MAH-80-0.00 AHD.

SUSPEND PROJECT
STA. 519+55.75
S.L.M. 1.19
MAH-80-0119
IR-80-5(34) 219

RESUME PROJECT
STA. 546+29.30
S.L.M. 1.69
MAH-80-0169
IR-80-5(34) 219

MAH-80-5.75 BACK
TRU-80-0.00 AHD.

END WORK
STA. 446+00
I.R. 680

NOTE: For Paving Limits
See Sheet Nos. 3-4-5

END RESURFACING
NORTH BOUND
STA. 429+51.82

BEGIN WORK
STA. 409+54
S.L.M. 0.00
MAH-680-0000

END RESURFACING SOUTH BOUND
STA. 437+03

STA. 405+64.58 E.B. I-80 =
STA. 0+00 RAMP C

STA. 16+75.28 RAMP C
STA. 862+55.70 EB I-80

Sta. 398+51.40 WB I-80 =
Sta. 0+00 RAMP A

Sta. 23+37.47 RAMP A =
Sta. 868+53.76 WB I-80

NOTE: For Quantities (C) & (D)
See Sheet No. 21

NO TYPICAL ON SHEETS 3 AND 4

END WORK
STA. 657+86.43

IR-80-5(34) 219
END PROJECT
STA. 657+11.43
S.L.M. = 12.33
TRU-80-12.33

SCHEMATIC PLAN

Rev. 10-5-82
Rev. 3-10-82
Rev. 8-10-81

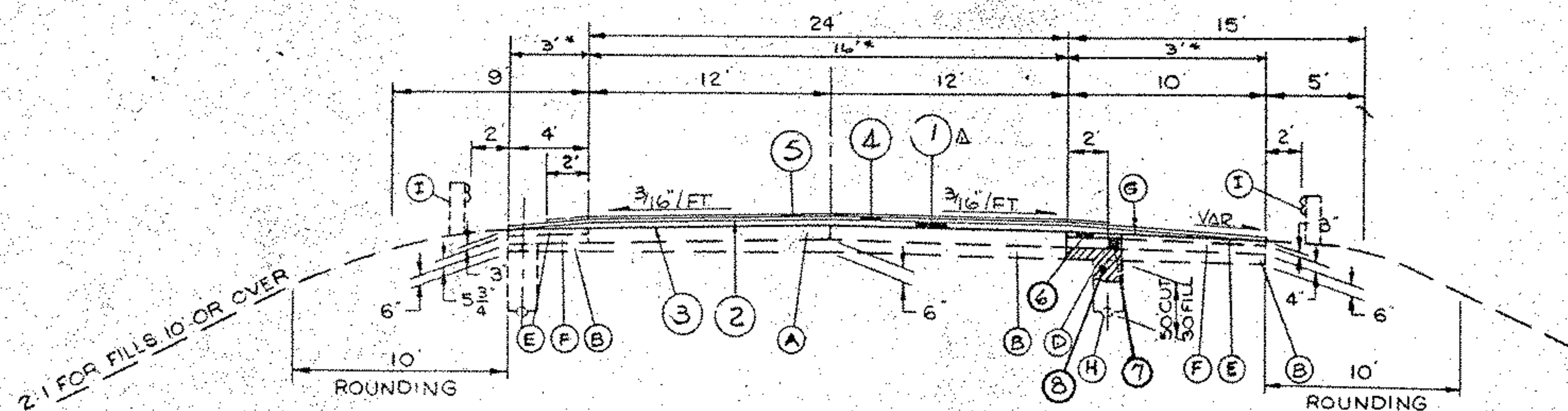
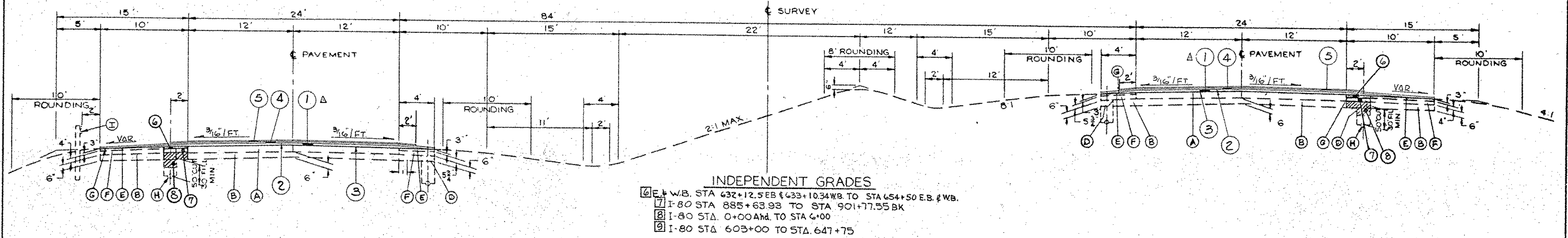
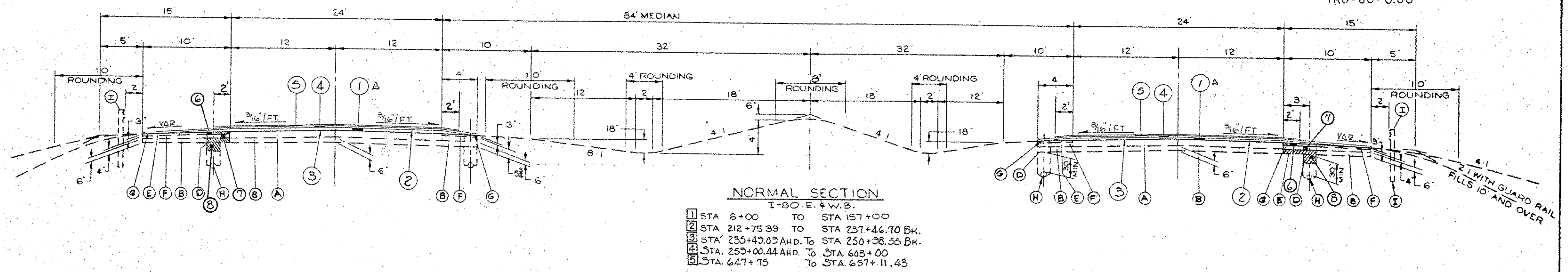
TYPE 848

CALC. BY RRC DATE 12-3-76
CHK'D BY C.A.P. DATE 12-17-76
REV. BY W.D.P. DATE 6-15-79

FHWA REGION	STATE	PROJECT
5	OHIO	

3
25

MAH-76-7.01
MAH-80-0.00(1.69)
TRU-80-0.00



NOTE: FOR LEGEND SEE SHEET NO. 4
FOR FEATHER LIMITS SEE SHT 5, 29
SEE SHEET NO. 2 FOR LOCATION OF TYPICAL

RESURFACING
TYPICAL SECTIONS

Rev. 10-5-82 Rev. 3-10-82 Rev. 8-10-81

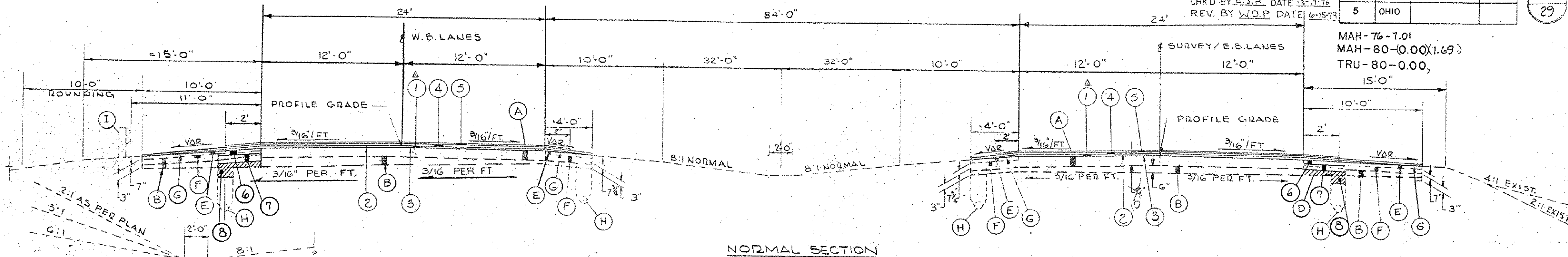
TYPE 848

CALC BY R.R.C. DATE 12-7-76
CHKD BY C.J.P. DATE 12-17-76
REV. BY W.D.P. DATE 6-15-79

FHWA REGION	STATE	PROJECT
5	OHIO	

4
29

MAH-76-7.01
MAH-80-(0.00)(1.69)
TRU-80-0.00,
15'-0"



NORMAL SECTION

18 STA 373+52.06 WB 180 & STA 373+05.02 EB TO STA 420+00 BK EB & WB
EB & WB 19 STA 418+60 AHD TO STA 520+80.75
20 STA 546+29.3 TO STA 629+96.80 W.B. & STA 628+98.96 E.B. (ITEMS 5 & 6 ONLY OVER EXISTING ASPHALT)
21 STA 654+29.3 TO STA 675+74.89 BK = STA 376+15.43 AHD.

PROPOSED PAVEMENT
LEGEND

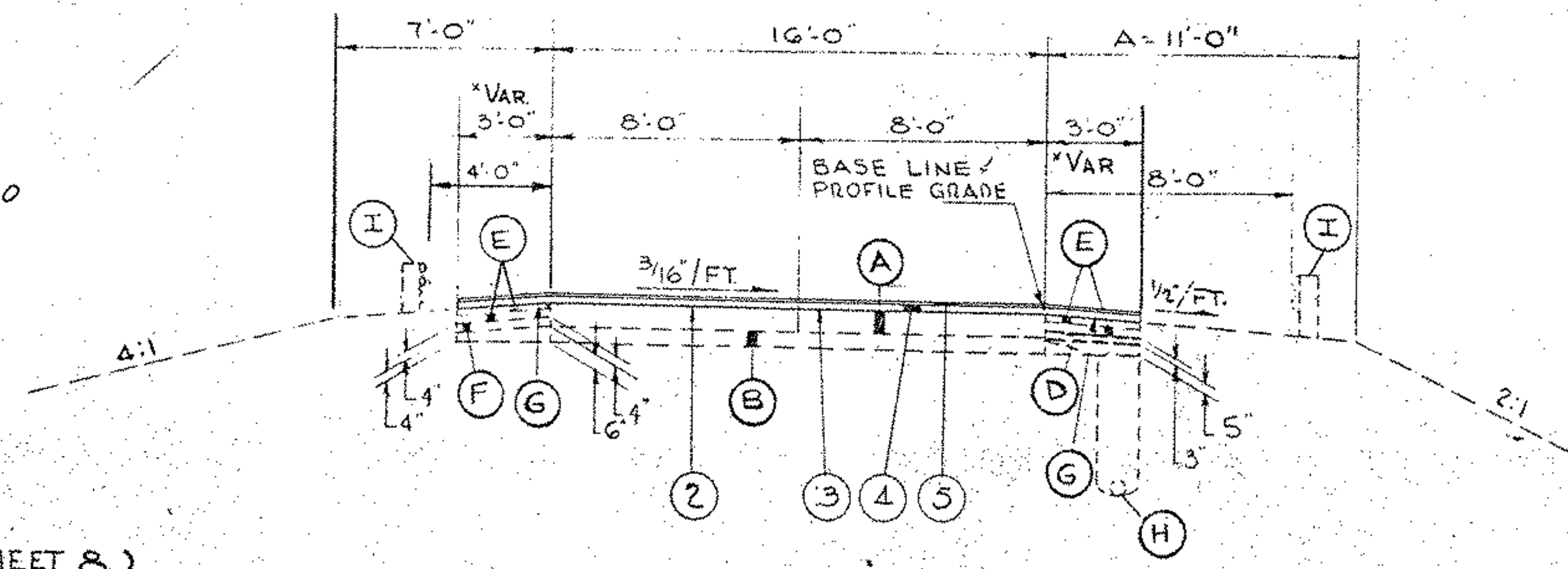
- ① ITEM 848 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
- ② ITEM 848 0" MINIMUM ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, AC-20
- ③ ITEM 407 TACK COAT, USING SS 924, AS PER PLAN APPLIED AT THE RATE OF 0.10 GAL. PER SQ. YD.
- ④ ITEM 848 1 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
- ⑤ ITEM SPECIAL 3/4" OPEN GRADED ASPHALT CONCRETE FRICTION COURSE, RUBBERIZED (SEE NOTE IN PROPOSAL)
- ⑥ ITEM 301 3" BITUMINOUS AGGREGATE BASE
- ⑦ ITEM 310 VARIABLE DEPTH SUBBASE, Type I, Grading A
- ⑧ ITEM SPECIAL DRAINAGE CONNECTION. (FOR DETAIL SEE SHEET 8.)

Δ ① THE 1 3/4" 848 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2 SHALL BE TAPERED FROM Δ DEPTH OF 1 3/4" AT THE EDGE OF PAVEMENT TO Δ 0" DEPTH AT THE EDGE OF THE PAVED SHOULDER

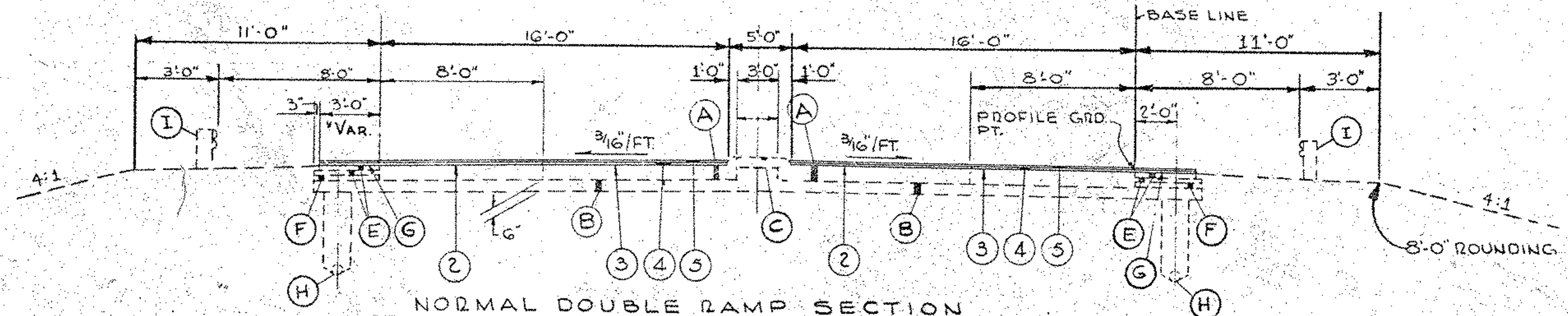
SEE SHEET NO. 2 FOR LOCATION OF TYPICAL

EXISTING PAVEMENT
LEGEND

- Ⓐ REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
- Ⓑ VARIABLE DEPTH SUBBASE
- Ⓒ CONCRETE MEDIAN
- Ⓓ SPECIAL DRAINAGE CONNECTION, USING NO. 8 AGGREGATE
- Ⓔ BITUMINOUS AGGREGATE BASE
- Ⓕ VARIABLE DEPTH AGGREGATE BASE
- Ⓖ SEAL COAT BITUMINOUS MATERIAL
- Ⓗ 6" UNDERDRAIN
- Ⓘ GUARD RAIL TYPE 4
- * VARIABLE WIDTH AT TURNPIKE



NORMAL RAMP SECTION



NORMAL DOUBLE RAMP SECTION

TYPICAL SECTIONS

This is existing
typical for
Mander.

RESURFACING
TYPICAL SECTIONS

Rev. 10-5-82 Rev. 9/11/82 Rev. 8-10-81

MAH-76-7.01
MAH-80- (0.00) (1.69)
TRU-80- 0.00

FEATHER AREAS

TYPE	LOCATION	BEGIN STATION	TYPE	LOCATION	BEGIN STATION
3	Left & Right Turnpike Interchange *	369+00		SR11 Inter	
			4	Ramp A	172+83
2	Ramp E	458+33.24	4	Ramp F	175+34.79
2	Ramp B	475+06.23	4	Ramp C	182+74.47
2	Ramp F	476+09.93	4	Ramp D	193+95
2	Ramp A	491+82.45	4	Ramp H	200+50.17
5	Right And Left	519+55.75		Ramp B	See Sht. 29
6	Right And Left	545+79.80			
1	Ramp B S.R.46 Interchange	15+77.45		Liberty Jones Inter.	
1	Ramp E S.R.46 Interchange	17+50.85	1	Ramp J	215+36.37
1	Ramp D S.R.46 Interchange	3+53.03	2	Ramp J	205+11.42
1	Ramp D S.R.46 Interchange E.Pav't. S.R.46				
1	Ramp C S.R.46 Interchange	14+02.28		Belmont Ave. Inter.	
1	Ramp A S.R.46 Interchange E.Pav't. S.R.46		2	Ramp K	230+61
	S.R.46 Interchange		2	Ramp L	238+16.58
2	Ramp A	16+62.68	2	Ramp M	233+57
2	Ramp C	4+53.07	1	Ramp K	239+04.23
2	Ramp E	4+53.07	1	Ramp K	225+94.83
2	Ramp B	4+53.07	1	Ramp L	226+34.83
2	Ramp D	16+98.81	1	Ramp M	223+48.13
	I-680, S.R.11 Interchange		4	Ramp A Weigh Sto.	16+32
4	Ramp G	27+90.65	4	Ramp B Weigh Sto.	33+18.48
4	Ramp E	4+58			
4	Ramp B	10+52		U.S.R.62 & S.R.7 Inter.	
4	Ramp D	16+10	1	Ramp A	26+62.60
4	South Bound I-680	412+47.51	1	Ramp B	28+01.82
4	South Bound I-680	436+28	1	Ramp B L Turn Lane	26+62.60
4	North Bound I-680	417+84.17	1	Ramp C	23+03.04
4	North Bound I-680	421+56.01	1	Ramp D	31+12.46
4	South Bound SR11 & WB I-80	862+25	1	Ramp E	E.Pav't. Hubbard Sharon Rd.
4	North Bound SR11 & EB I-80	855+77.25			
			2	Ramp A	See Sht 29
	S.R.422 Interchange		2	Ramp B	See Sht 29
1	Ramp A	8+14	2	Ramp C	9+48.47
1	Ramp B	0+99.5	2	Ramp D	See Sht 29
1	Ramp C	11+22	2	Ramp E	27+61
1	Ramp D	1+19			
	Ramp A	See Sht 29		Rest Area	
2	Ramp B	9+26			
	Ramp C	See Sht 29	4	Ramp G	6+00
2	Ramp D	11+37	4	Ramp H	22+93.21
			4	Left And Right	657+11.43
	Turnpike Inter. Cont *				
10	Ramp A	466+63.95			
1	Ramp B	465+01.80			
1	Ramp E	467+98.95			
1	Ramp F	484+52			

TWO-COURSE TYPICAL

LOCATION	STATION	
	FROM	TO
S.R.46 Interchange		
Ramp C	5+03.07	14+02.28
Ramp A	0+82	16+62.68
Ramp D	0+70	2+85.89
Ramp D	4+03.03	16+98.81
Ramp E	5+03.07	17+50.85
Ramp B	5+03.07	15+77.43
S.R.422 Interchange		
Ramp A	1+01	8+14
Ramp B	1+49.5	10+26.04
Ramp C	5+00	11+22
Ramp D	1+69	11+37
Liberty Jones Interchange		
Ramp J	205+61.42	215+36.37
Belmont Ave Interchange		
Ramp K	231+11	239+04.23
Ramp L	226+84.83	238+16.58
Ramp M	223+58.13	233+57
U.S.R.62 & S.R.7 Interchange		
Ramp A	15+90	26+62.60
Ramp C	9+98.47	23+03.04
Ramp B	14+95.78	28+01.82
Ramp D	16+48.47	25+77.81
Ramp E	19+00.00	27+61
Turnpike Interchange		
Ramp A	466+88.95	491+82.45
Ramp B	465+51.80	475+06.23
Ramp E	458+83.24	467+98.95
Ramp F	476+59.93	484+52

Note: For Feathering At Bridges See Sht. 29

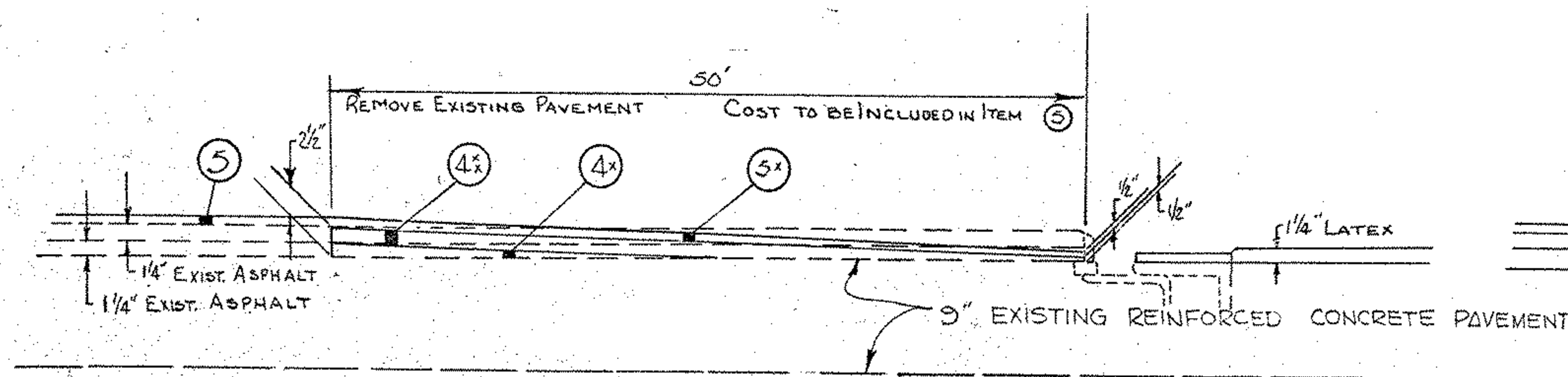
PAVEMENT DETAILS

CALC. BY L.S. DATE 7-3-79
CHK'D BY W.D.P. DATE 7-5-79

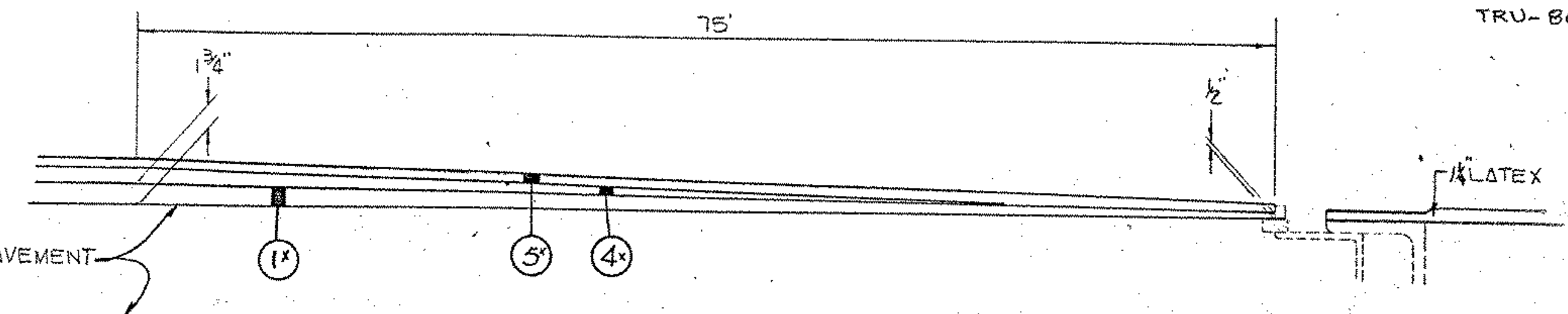
TRNS REGION	STATE	PROJECT NO.	FUNDS
5	OHIO		

6
29

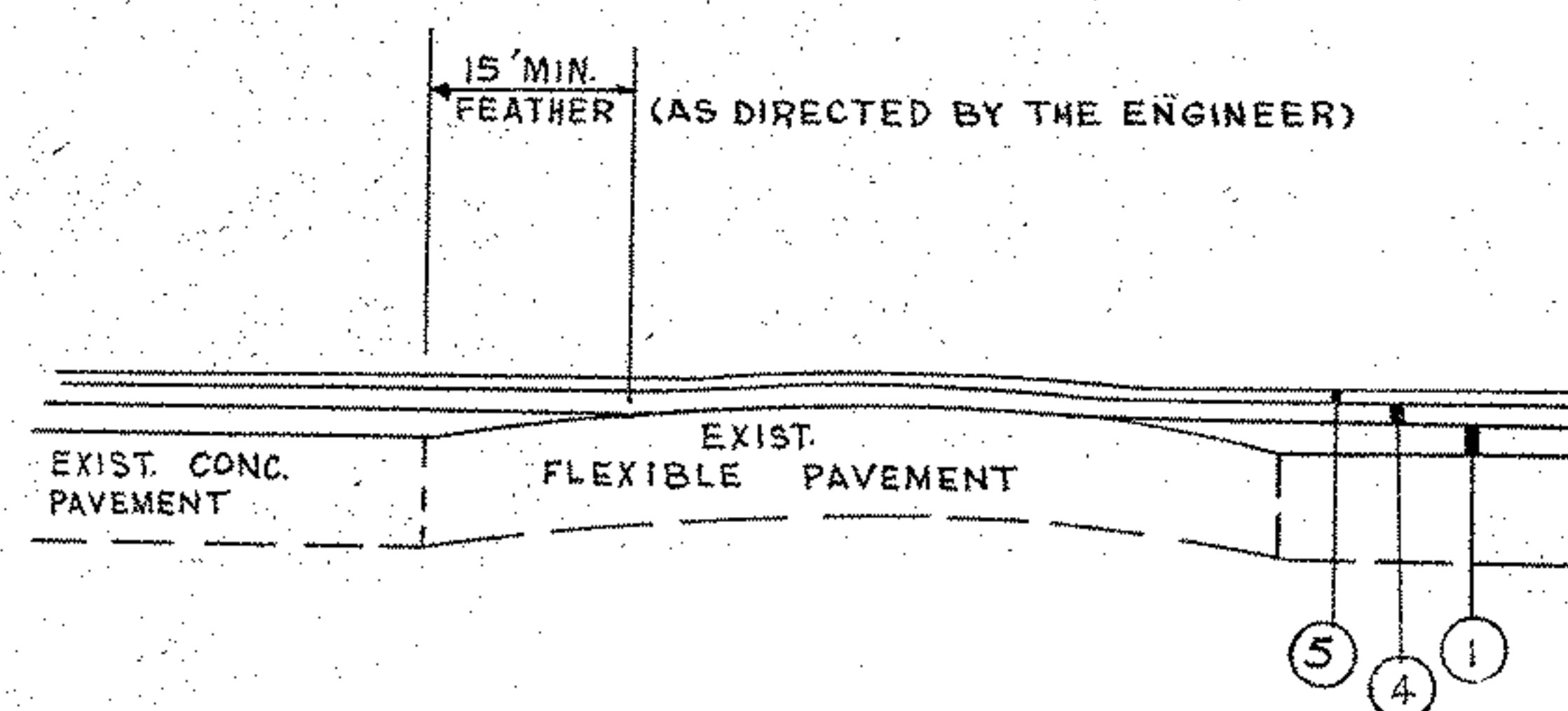
MAH-76-7.01
MAH-80-000(1.69)
TRU-80-0.00



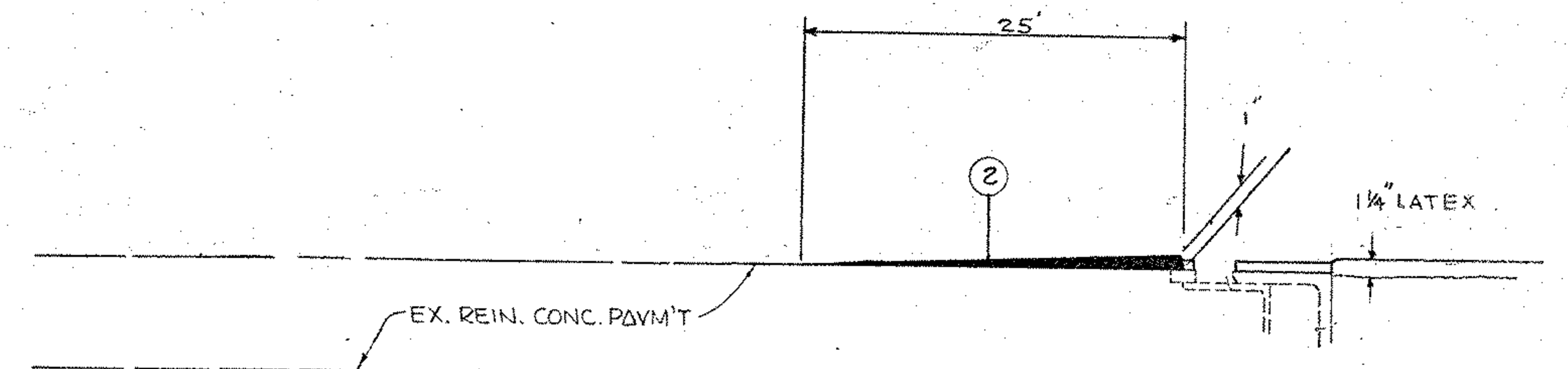
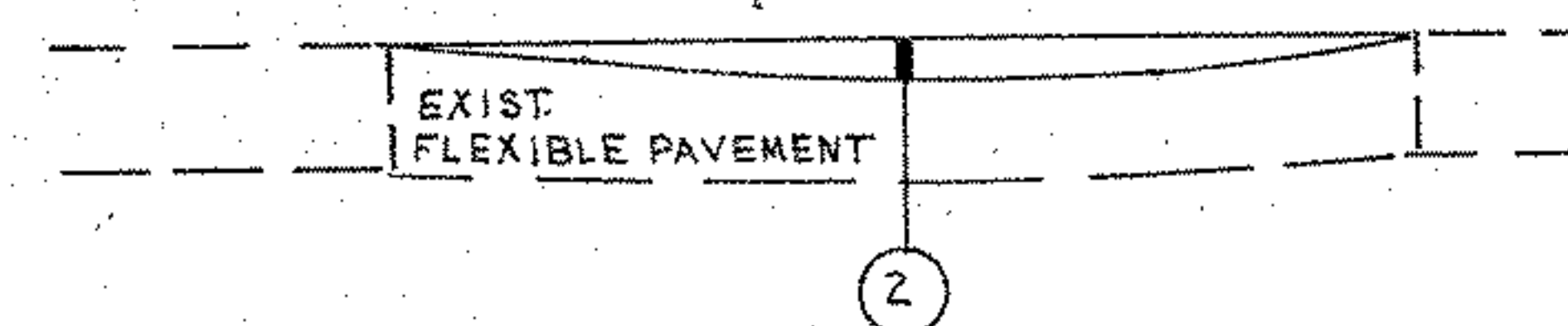
TYPICAL FEATHER NO. 6



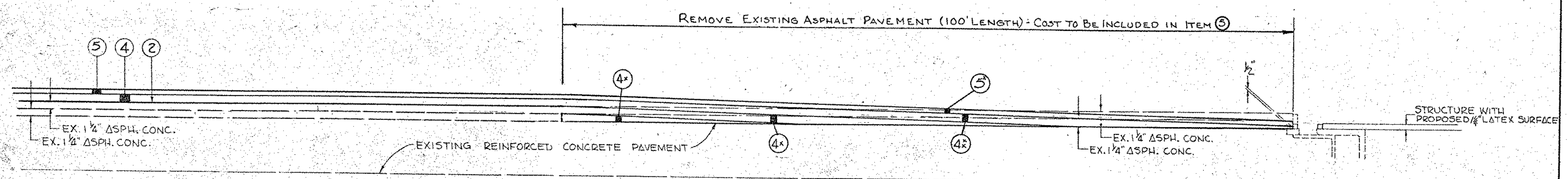
TYPICAL FEATHER NO. 5



TYPICAL @ EXISTING FLEXIBLE PATCHES



TYPICAL FEATHER NO. 8



TYPICAL FEATHER NO. 7

- ④^x SAME AS ITEM ④ EXCEPT VARIABLE DEPTH 1 1/4" TO 1/2"
- ④^x SAME AS ITEM ④ EXCEPT VARIABLE DEPTH 1 1/4" TO 0"
- ①^x SAME AS ITEM ① EXCEPT VARIABLE DEPTH 1 3/4" TO 1/2"
- ⑤^x SAME AS ITEM ⑤ EXCEPT VARIABLE DEPTH 3/4" TO 1/2"

⊗ VERTICAL AND HORIZONTAL FACE OF THE OPEN GRADED ASPHALT FRICTION COURSE SHALL BE COATED AS PER 401.15

LEGEND

- ① ITEM 848 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
- ② ITEM 848 0" MINIMUM ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, AC-20
- ③ ITEM 848 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, AC-20
- ④ ITEM 848 1 1/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
- ⑤ ITEM SPECIAL 3/4" OPEN GRADED ASPHALT CONCRETE FRICTION COURSE, Rev 10-5-82
Rev 3/10/82
Rev 8-10-81
Revised 2/81

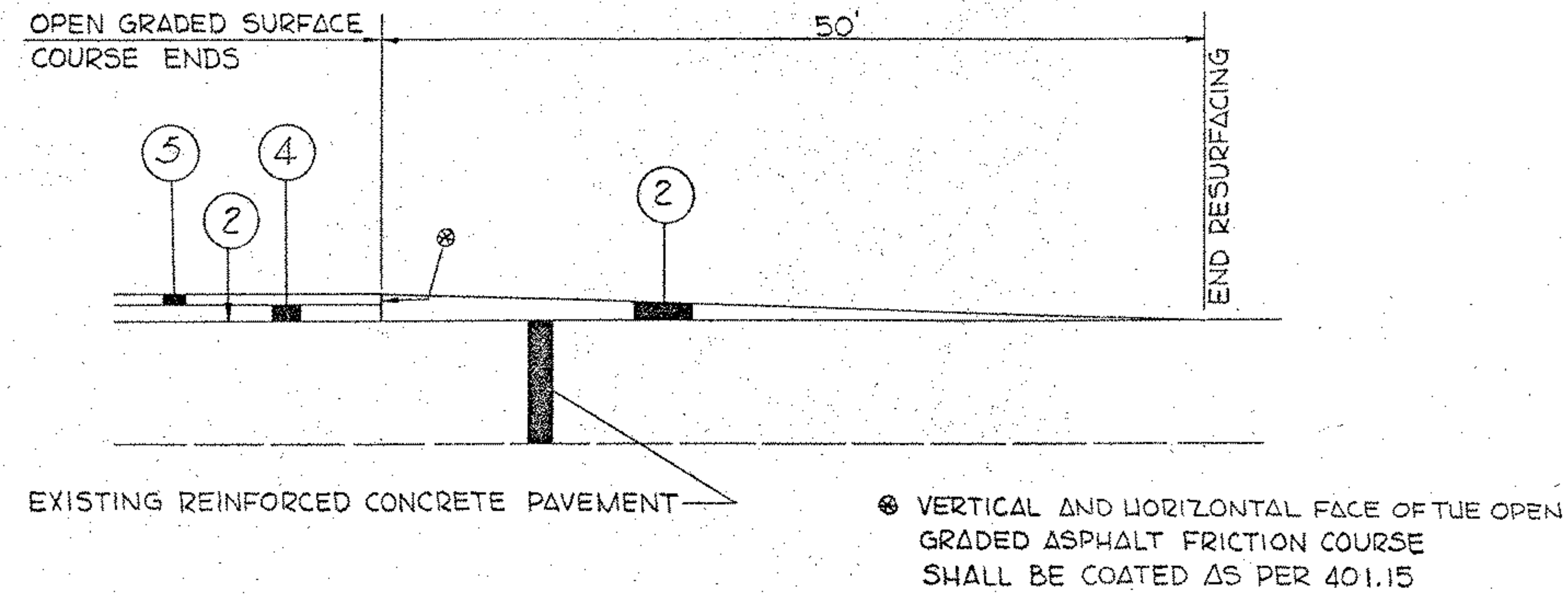
PAVEMENT DETAILS

PAVEMENT DETAILS

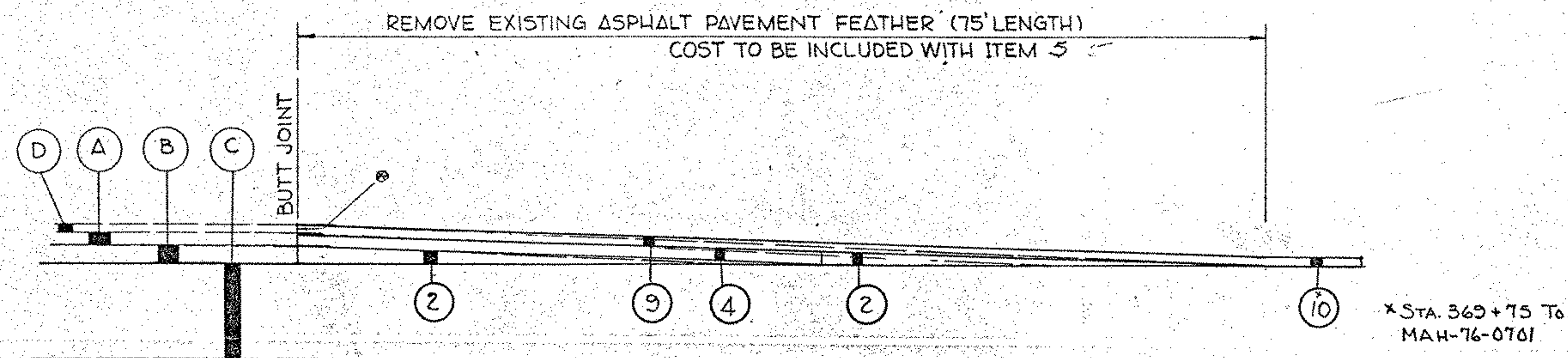
CALC. BY L.S. DATE 7-3-79
CHK'D BY W.D.P. DATE 7-6-79

THWA REGION	STATE	PROJECT NO.	SHEET NO.
5	OHIO		7 29

MAH-76-7.01
MAH-80-(0.00)(1.69)
TRU-80-0.00

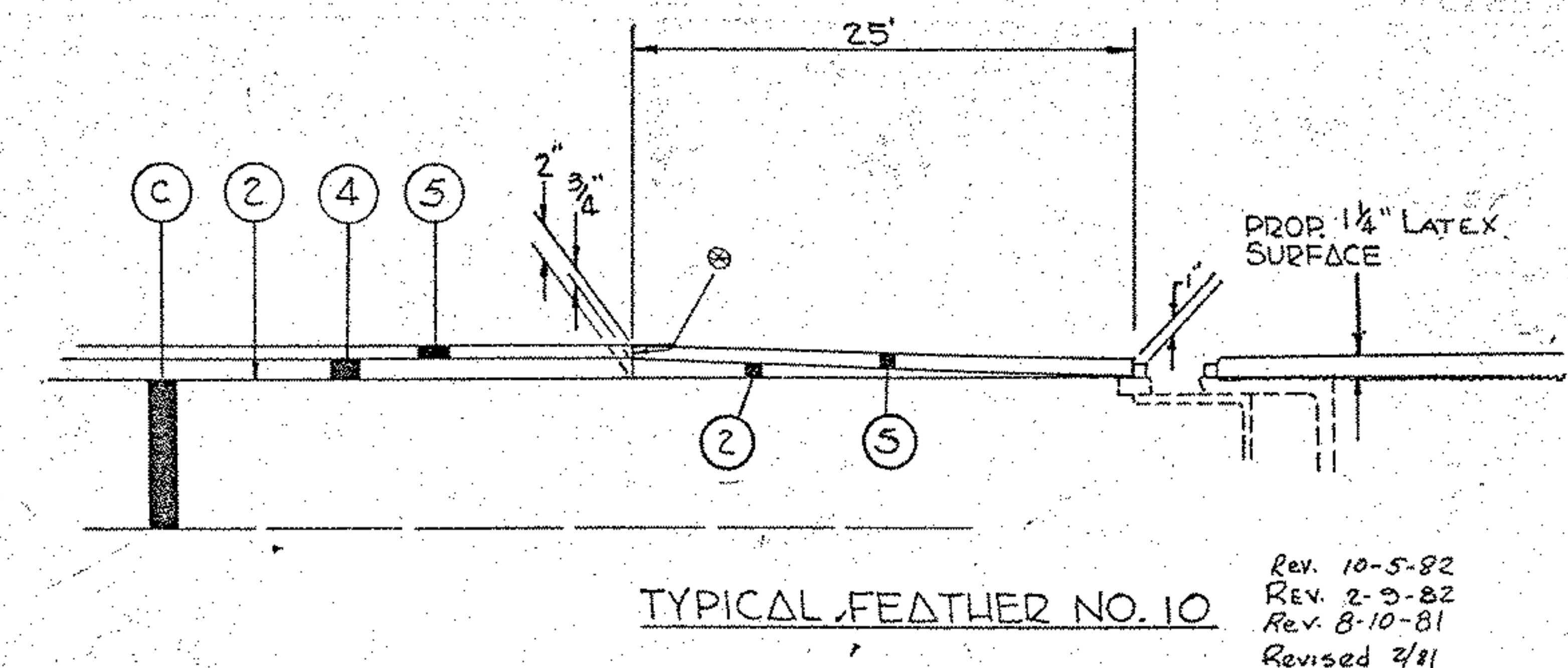
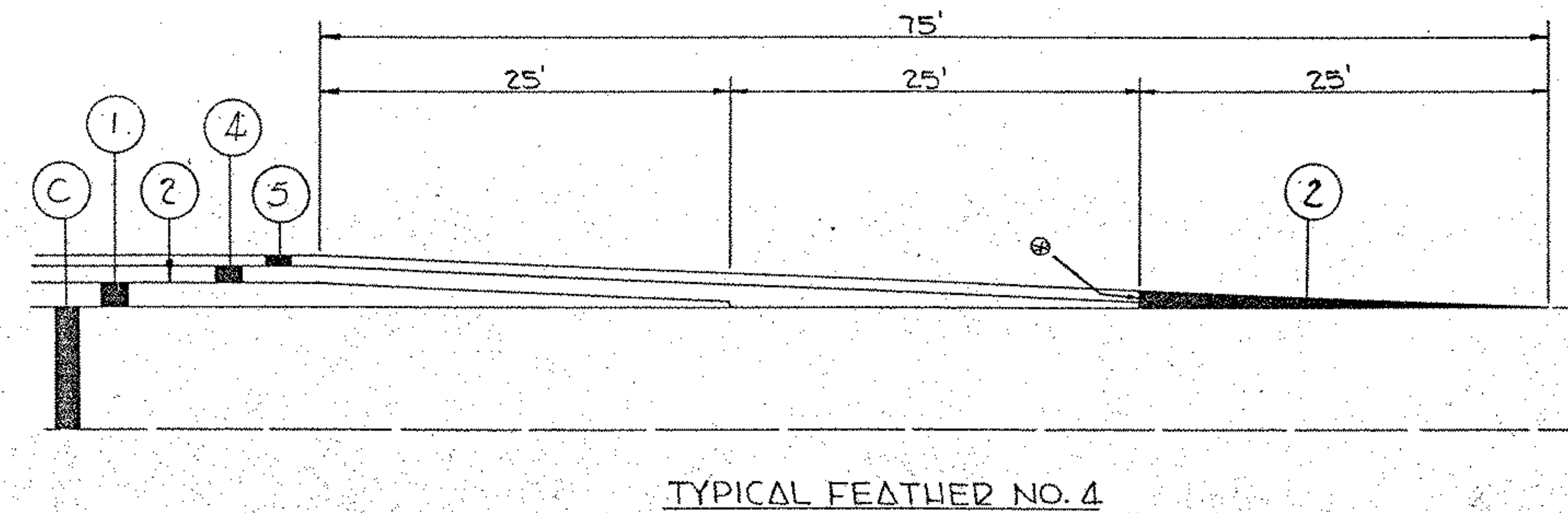
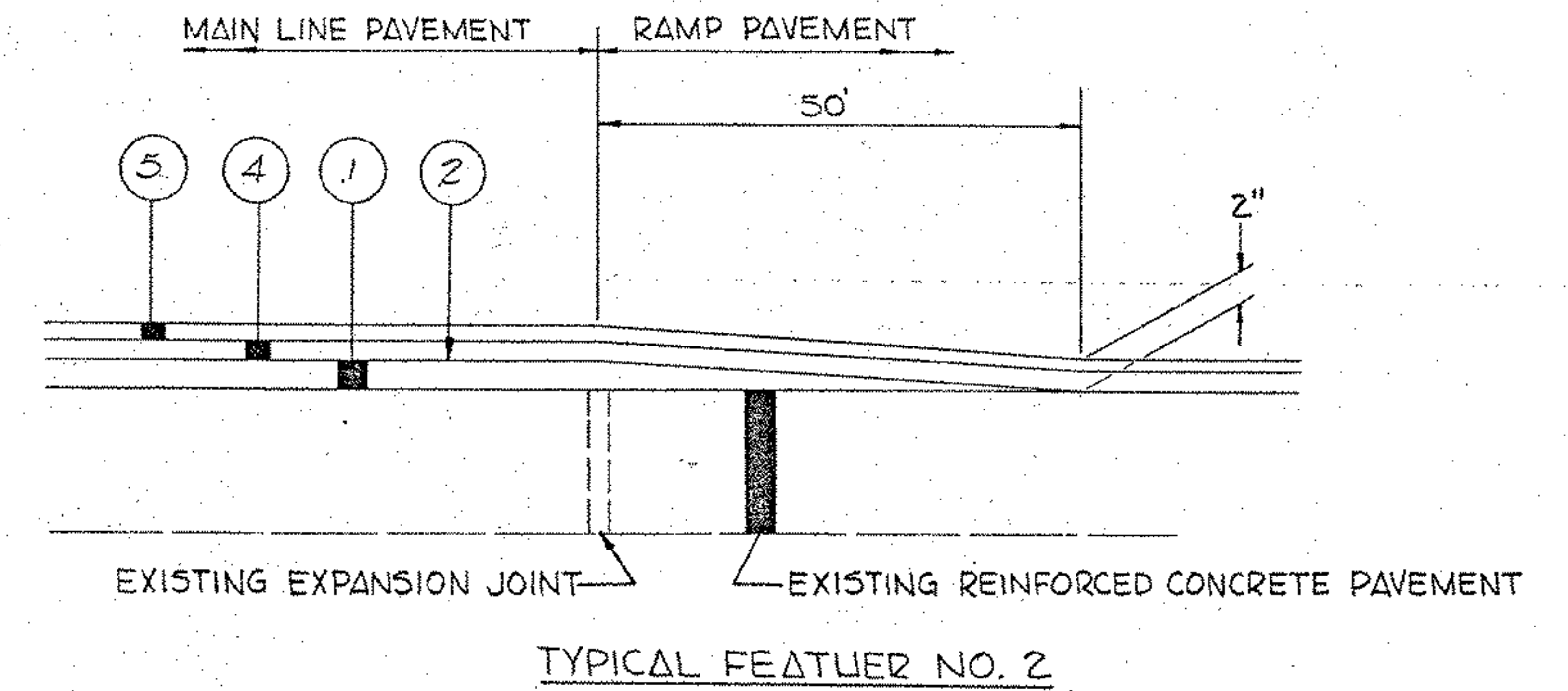


TYPICAL FEATHER NO. 1



TYPICAL FEATHER NO. 3
LEGEND

- | EXISTING PAVEMENT | PROPOSED PAVEMENT |
|--|---|
| (A) 1 1/2" 404 ASPHALT CONCRETE | (5) 3/4" OPEN GRADED ASPHALT FRICTION COURSE, RUBBERIZED (SEE NOTE IN PROPOSAL) |
| (B) 1 3/4" 402 ASPHALT CONCRETE | (4) 1 1/4" 848 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20 |
| (C) REINFORCED CONCRETE | (1) 1 3/4" 848 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20 |
| (D) 3/4" OPEN GRADED ASPHALT FRICTION COURSE | (2) 0" MINIMUM 848 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, AC-20 |
| | (9) VAR. 848 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, AC-20 |
| | (10) 1" 848 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, AC-20 |



REV. 10-5-82
REV. 2-9-82
REV. 8-10-81
REVISED 7/81

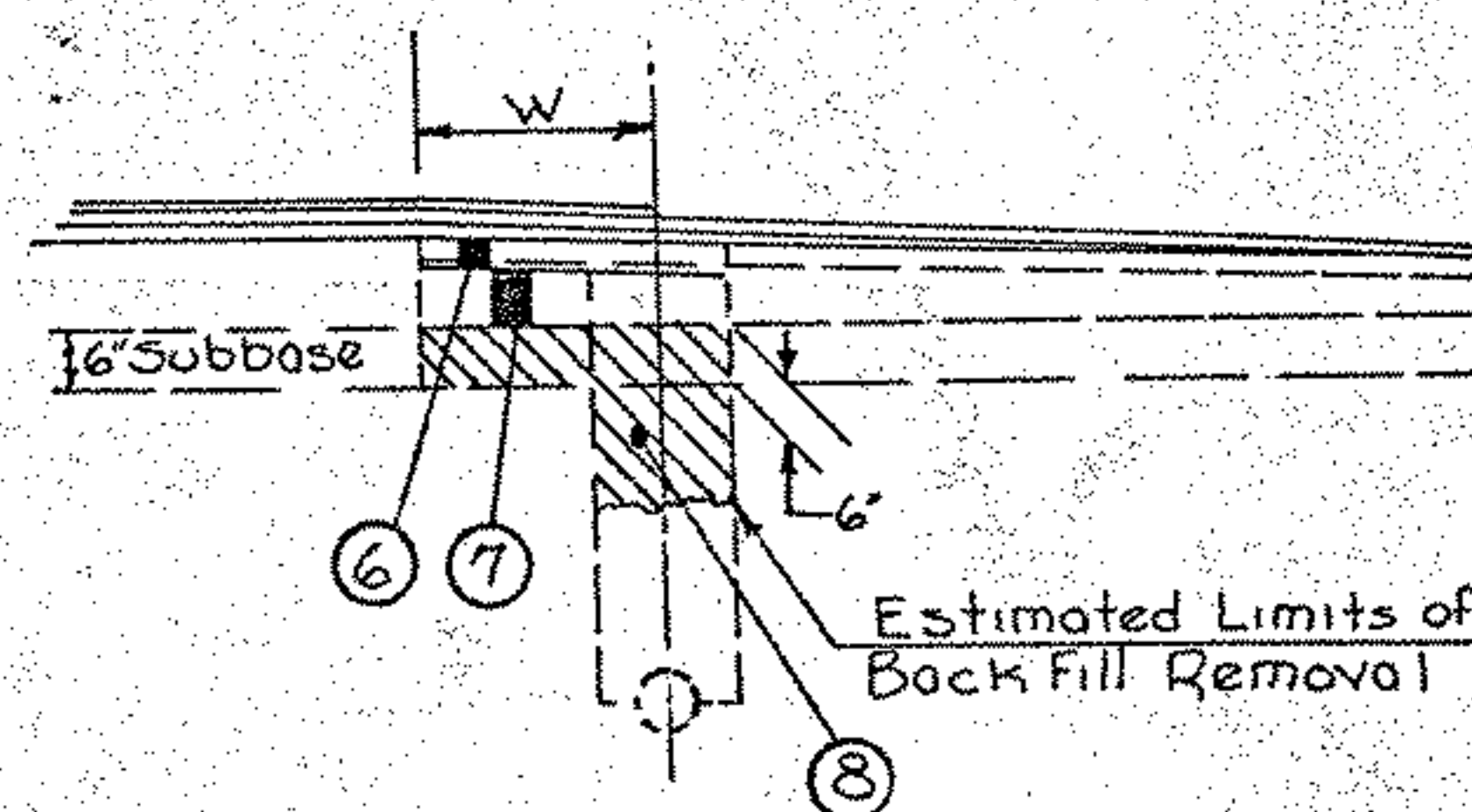
GENERAL NOTES

UNDERDRAIN FLUSHING AND RECONDITIONING

- This item shall consist of the following work:
 - Excavate to expose the subbase and underdrain trench as shown in the typical detail.
 - Remove and dispose of subbase and any contaminated backfill over the underdrain, as directed by the Engineer.
 - Expose the first tile at the upper end of each underdrain run. The approximate locations may be obtained from the original construction plans. (See original construction plan note on Sheet No. 2).
 - Furnish and place the special drainage connection using No. 8 or No. 9 aggregate in conformity with the typical detail as shown on this sheet. Payment for the operations described above shall include all labor, tools, equipment and materials incidental to completing the item and shall be made for "Lineal Feet - Item Special Drainage Connection."
- Item Special - Water (M-Gals) After the exposed tile (See 1.C) has been removed the line shall be flushed with water using a minimum size hose of 2" and a maximum volume of water calculated at 1 1/2 gallons per lineal foot of underdrain line. The flushing operation may be stopped at any time by the Engineer if field observations show the line to be either plugged or operating efficiently. In the event the line is found to be plugged or flow restricted, it will be the responsibility of the Contractor to locate the restriction by rodding or other similar method approved by the Engineer. The cost of rodding the line is to be included in the unit bid price for water. The method of measurement for the Item Special - Water, will be in accordance with Specification Section 616.03 and payment will be per thousand gallons (M-Gal) used.
- Where a section of tile is found to be broken or plugged it is to be isolated as noted above by rodding. The section shall be replaced at approximately the line grade in its entirety with 6" tile in accordance with Specification Section 605.03. The cost of removal of the existing tile is considered to be incidental to this work and extreme care is to be exercised in not damaging or removing any more tile than is necessary. Measurement and payment for this work will be as per Section 605.06 and 605.07 respectively.
- After all repairs have been made to a line, a final flushing will be performed to ascertain the line is functioning properly, after which the special drainage connection shall be constructed.

The following estimated quantities are provided in the Summary for this work:

Item Special Drainage Connection	160,087.00 Lin. Ft.
Item Special Water	240 M-GALS.
Item 605 6" Unclassified Pipe Underdrains	4,000 Lin. Ft.



W = 2'
FROM STA. 455+40 TO STA. 675+74.89
FROM STA. 89+02 TO STA. 486+82 = 12760.25+7686.78+13448.83+13724.31+743202.12=90822.17 Lin. Ft.

W = 3'
FROM STA. 376+15.43 TO STA. 675+74.89 = 37357.97 + 32262 = 69619.97 Lin. Ft.
FROM STA. 486+82 TO STA. 657.67

TYPICAL DETAIL SPECIAL DRAINAGE CONNECTION

UNDERDRAIN FLUSHING CONT.

- The open underdrain trench shall be adequately protected with drums and barricades at all times.
Placement of proposed subbase and base material shall follow as closely as possible behind the excavation operations. The length of underdrain trench which is open at any one time shall be held to a minimum and shall at all times be subject to approval of the Engineer.

SPECIAL SHOULDER PREPARATION

In certain areas of this Project, the existing paved shoulder has deteriorated or has heaved to an elevation above the pavement. Resurfacing of these areas shall not be started until the following work is performed:

- Where the existing paved shoulder has deteriorated and loose material is evident, the loose material shall be removed by the Contractor, the voids remaining shall be primed and patched with 402 materials as directed by the Engineer. The cost of performing the above work shall be included in the price bid for Item 402 Asphalt Concrete For Berm Repair (C.Y.)
- Where the existing paved shoulder has heaved the Contractor shall attempt to compact the shoulder or if this fails, to regrade the shoulder to a slope of approximately 3/4" per foot. At least 6" of existing aggregate base should remain after regrading. If inadequate depth of aggregate remains the area should be undercut to the extent necessary to pave 3" of 402 Asphalt Concrete with a transverse slope of 3/4" per foot. After performing the above work, the existing paved shoulder shall be resurfaced, as per Plan. The cost of the above work shall be included in the price bid for Item Special Grader Time, Item Special Rubber Tired Rollers or Item 402 Asphalt Concrete For Berm Repair.

The following quantities are provided to perform the work outlined in the description:

402	100	Cu.Yds.	Asphalt Concrete For Berm Repair
Special	50	Hours	Grader Time
Special	50	Hours	Rubber Tired Rollers (As Per Specification 401.11)

848, ASPHALT CONCRETE

On this project, item 848, table 2-2, properties of mixtures shall be for heavy traffic volumes.

TEMPORARY CONCRETE BARRIER

Temporary concrete barrier is available for the Contractor's use and is stored in the ODOT Maintenance yard at Bailey Rd. Arrangements for use of barrier should be made with the Operations Engineer in District 4.

ITEM 845 Latex Modified Concrete, as per plan.
The Contractor shall make available to the Project Engineer sufficient spray paint to outline removal areas. The cost of the paint shall be included in Item 845 Latex Modified Concrete, as per plan. Coarse aggregate used shall be as per 703.02 Crushed Carbonate Stone.

WEARING COURSE REMOVED

An estimated quantity of 5000 S.Y. of Wearing Course Removed has been carried to the General Summary for use as directed by the Engineer. The thickness may vary from 0" to 3"±, and in all locations, the wearing course shall be removed down to the existing concrete pavement.

- Item 301 3" Bituminous Aggregate Base
- Item 310 Variable Depth Subbase, Type I, Grading A
- Special Drainage Connection, using No. 8 or No. 9 aggregate conforming to the requirements of 703.04 except that percentage of fractured pieces shall not apply.

FHWA REGION	STATE	PROJECT NO.	FUND	8 29
5	OHIO			

MAH-76-7.01
MAH-80-(0.00)(1.69)
TRU-80-0.00

LINE DATA

BEGIN WORK:		
Sta. 367+18.00 @ I-76 To Sta. 545+79.30 @ I-80	17,861.30	Lin. Ft.
Sta. 545+79.30 @ I-80 To Sta. 675+74.89 @ I-80 Bk.	12,995.59	Lin. Ft.
Sta. 376+15.43 @ E.B. Ahd. To Sta. 405+64.58 @ E.B. Bk.	2,949.15	Lin. Ft.
Sta. 0+00 @ Ramp C" Ahd. To Sta. 16+75.28 @ Ramp C" Bk.	1,675.28	Lin. Ft.
Sta. 862+95.70 @ N.B. Ahd. To Sta. 901+77.55 @ I-80 Bk.	3,881.85	Lin. Ft.
Sta. 0+00 @ I-80 Ahd. To Sta. 657+86.43 @ I-80 END WORK	65,786.43	Lin. Ft.
	105,149.60	Lin. Ft.

Add For Equation "A"	+ 140.00	Lin. Ft.
Deduct For Equation "B"	- 3.20	Lin. Ft.
Deduct For Equation "C"	- 258.86	Lin. Ft.
Add For Equation "D"	+ 15.01	Lin. Ft.
Deduct For Equation "E"	- 361.58	Lin. Ft.
Add For Equation "F"	+ 197.61	Lin. Ft.
Deduct For Equation "G"	- 801.89	Lin. Ft.
TOTAL DEDUCTION	- 1072.91	Lin. Ft.
LENGTH OF WORK	104,076.69	Lin. Ft. OR
	19.711	MILES

WORK ADDITIONS:		
I-680 Sta. 405+54 @ S.B. To Sta. 446+00 @ S.B.	3,646.00	Lin. Ft.
LENGTH OF WORK ADDITIONS	3,646.00	Lin. Ft.
TOTAL LENGTH OF WORK	107,722.69	Lin. Ft. OR
	20.402	MILES

Equation "A"	Sta. 420+00 Bk. = Sta. 418+60 Ahd. @ I-76
Equation "B"	Sta. 560+08.49 Bk. = Sta. 560+11.69 Ahd. @ I-80
Equation "C"	Sta. 883+05.07 @ N.B. Bk. = Sta. 885+63.93 @ I-80 Ahd.
Equation "D"	Sta. 112+81.37 Bk. = Sta. 112+66.36 Ahd. @ I-80
Equation "E"	Sta. 209+13.81 @ W.B. Bk. = 212+75.39 @ I-80 Ahd.
Equation "F"	Sta. 237+46.70 Bk. = Sta. 235+49.09 Ahd. @ I-80
Equation "G"	Sta. 250+98.55 Bk. = Sta. 259+00.44 Ahd. @ I-80

BEGIN PROJECT		
Sta. 370+32 @ I-76 To Sta. 519+55.75 @ I-80	14,923.75	Lin. Ft.
Sta. 546+29.30 @ I-80 To Sta. 632+35 @ I-80	8,605.70	Lin. Ft.
Sta. 632+35 @ I-80 To Sta. 675+74.89 @ I-80 Bk.	4,339.89	Lin. Ft.
Sta. 376+15.43 @ E.B. Ahd. To Sta. 405+64.58 @ E.B. Bk.	2,949.15	Lin. Ft.
Sta. 0+00 @ Ramp C" Ahd. To Sta. 16+75.28 @ Ramp C" Bk.	1,675.28	Lin. Ft.
Sta. 862+95.70 @ N.B. Ahd. To Sta. 901+77.55 @ I-80 Bk.	3,881.85	Lin. Ft.
Sta. 0+00 @ I-80 Ahd. To Sta. 657+11.43 @ I-80	65,711.43	Lin. Ft.
	102,087.05	Lin. Ft.

Add for Equation "A"	+ 140.00	Lin. Ft.
Deduct for Equation "B"	- 3.20	Lin. Ft.
Deduct For Equation "C"	- 258.86	Lin. Ft.
Add For Equation "D"	+ 15.01	Lin. Ft.
Deduct For Equation "E"	- 361.58	Lin. Ft.
Add For Equation "F"	+ 197.61	Lin. Ft.
Deduct For Equation "G"	- 801.89	Lin. Ft.
TOTAL DEDUCTION	- 1072.91	Lin. Ft.
TOTAL LENGTH OF PROJECT	101,014.14	Lin. Ft. OR
	19.131	MILES

CALC. BY	WDR	DATE	7-79
CHK'D BY	GLB	DATE	7-79
REV'D BY	GLB	DATE	3-81

Rev. 4-4-83 Rev. 10-28-82 Rev. 3-82 Rev. 8-10-81

GENERAL NOTES

FHWA REGION	STATE	PROJECT NO.	FUNDS	9 29
5	OHIO			
MAH-76-7.01 MAH-80-(0.00)(1.69) TRU-80-0.00				

MOBILIZATION, AS PER PLAN

The Contractor shall provide a suitable Field Office having a minimum of 800 Sq. Ft. of floor space. The Field Office shall not be located within the L/A or R/W limits of I-80, I-76, I-680 or S.R. 11. The Field Office shall be in accordance with G19.01 & G19.02. Payment for the above shall be included in the lump sum price bid for Item 624 Mobilization, as per plan.

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. Estimated quantities of material shall not be ordered for delivery to the Project unless authorized by the Engineer.

ORIGINAL CONSTRUCTION PLANS

This Project includes Construction Projects MAH-80S-7.01/80-2.30, MAH-80-3.37, MAH/TRU-80-6.30-0.00, TRU-80-1.55, TRU-80-3.15, TRU-80-4.73 and TRU-80-8.90 with copies of the plans on file in the District 4 Office, 705 Oakwood Street, Ravenna, Ohio, 44266.

PROJECT STATIONING

The stationing shown on these plans is stenciled into the existing pavement as detailed in the specifications for Item 451.

MATERIAL AND EQUIPMENT STORAGE

For safety purposes, no material or equipment shall be stored or parked in the median or within fifty (50) feet of the outside edge of pavement unless behind guard rail.

ITEM SPECIAL CRACK SEALING

All open cracks and joints in the existing pavement shall be cleaned and sealed. This work shall commence on a section of the road just prior to the application of the 407 Tack Coat.

The cracks shall be cleaned by forced air using a minimum 100 PSI air pressure and with a hooking device to remove all loose material. Immediately after cleaning, the cracks shall be sealed using hot applied joint sealer, 705.81. The joint sealer shall be protected from traffic by methods approved by the Engineer.

Payment for all the above shall be at the unit price bid per pound for Item Special Crack Sealing. The following estimated quantity is provided in the Summary to be used as directed by the Engineer.

ITEM SPECIAL CRACK SEALING 110,000 Lbs.

STEAM BOILER SLAG

The use of Steam boiler slag, meeting the grading requirements of Supplemental Specification 901, for Item 605 Bedding and Backfill and Item 605 Underdrain Backfill shall be allowed on this Project. If steam boiler slag is used there shall be no increase in cost to the Project.

EMERGENCY TELEPHONE NUMBERS

The following Telephone Numbers can be used in case of an emergency. These Agencies will provide information relating to chemicals.

1. Chemical Transportation Emergency Center
1-800-424-9300
2. Environmental Protection Agency Hot Line
1-800-282-0272

STAGING AND STORAGE AREAS

No private vehicles (belonging to the Contractor's Employees and to ODOT personnel permanently assigned to the Project) shall be parked within the limits of the highway project. All parking will be done at the approved Contractor's staging areas. The Contractor will be responsible for providing transport vehicles to transport personnel from the staging areas to the work site.

ITEM 404 BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC

A quantity of 1000 Cu.Yds. of 404 Bituminous Concrete for maintaining traffic shall be provided for use in maintaining the existing pavement prior to resurfacing, as directed by the Engineer.

REMOVAL OF CURB

In areas where a partial length of curb is to be removed, the curb shall be removed at a construction joint if the joint is located within two feet of the station where termination or start of the removal is called for.

If a joint is not available for use, the concrete curb shall be sawed with a suitable power saw. The cut shall be a clean smooth cut perpendicular to the run of the curb. Any additional cost in connection with this operation shall be included in the unit price bid for the pertinent 202 Curb Removed Item.

BASE REPLACEMENT FOR CURB REMOVAL

Where existing curb is removed the trench shall be replaced with Item 301 compacted in 3 inch layers up to an elevation even with the surrounding pavement or berm areas. The Contractor will be paid for refilling at trench width of no greater than 24 inches.

Payment for the above work shall be included in the price bid for Item 301. The following quantity is carried to the General Summary for this work.

Item 301 Bituminous Aggregate Base 530 Cu.Yds.

ITEM SPECIAL PARTIAL DEPTH PAVEMENT JOINT REPAIR

A quantity of 1100 Sq.Yds. of special partial depth pavement joint repair shall be provided for use as directed by the Engineer. All work shall be done in accordance with the Proposal Note on Partial Depth Joint Repair. The depth of pavement removal shall be variable but not more than 2".

ITEM SPECIAL PAVEMENT SAWING

A quantity of 21,000 Lin. Ft. Special Pavement Sawing shall be provided for use as directed by the Engineer.

PROFILE CORRECTION

An estimated quantity of 9850 Cu.Yds. of Item 848 Asphalt Concrete Intermediate Course Type 1 has been included in the General Summary for profile correction. Quantity to be used as directed by the Engineer. This quantity has been carried to the General Summary from Sht. 19.

UNDERCUTTING SUBGRADE AND SUBBASE

In pavement replacement areas, where directed by the Engineer, the Contractor shall undercut the subgrade and subbase to the depth required by the Engineer, and backfill with Item 310. Broken pavement for compacted backfill may be used as directed by the Engineer. Aggregate drains shall be placed at each undercut area. The following quantities have been carried to the General Summary for use with this item.

Item 310 Subbase 600 Cu.Yd.
Item 605 Aggregate Drain 1000 Lin. Ft.

ITEM SPECIAL-STABILIZING CONCRETE PAVEMENT

This item of work shall consist of filling voids beneath existing concrete pavement by the mud jacking method in accordance with supplemental specification 813 except that the elevation of the pavement shall not be corrected.

Stabilization shall be done prior to the installation of any new underdrains and pavement repairs or replacement.

Traffic shall be prohibited from using the affected lane for a twenty-four hour period immediately following the performance of Item Special-Stabilizing Concrete Pavement.

An estimated quantity of 10,000 Sq.Yd. of Item Special-Stabilizing Concrete Pavement has been carried to the General Summary for use as directed by the Engineer.

COOPERATION BETWEEN CONTRACTORS

The Contractor shall be advised that other projects may be ongoing in areas immediately adjacent to the project limits of this project. If work is underway on an adjacent project or projects, the Contractor shall schedule his work so as to cause a minimum of delay or conflict with the adjacent project or projects.

ITEM 605 AGGREGATE DRAINS

A quantity of 1500 Lin.Ft. of Item 605 Aggregate Drains shall be provided for use as directed by the Engineer.

GUARD RAIL REPLACEMENT

No hazard shall be left unprotected except for the actual time necessary to remove, grade, and reinstall guardrail in a continuous operation. The removal of all guard rail shall at all times be as directed by the Engineer. No guardrail shall be removed until replacement material is on the site, ready for installation. Failure to comply with this requirement shall be deemed sufficient cause to order work suspended on this project until such time that the Engineer is assured of said compliance.

ITEM 202 PLOWABLE MARKERS REMOVED FOR STORAGE

Plowable markers shall be removed in a manner that prevents damage to the castings. All depressions caused by removal of the markers shall be filled with 848 to the existing road surface prior to resurfacing. Removed markers are to be stored at the O.D.O.T. Brookfield outpost. All costs to be included in the contract price bid for Item 202 Plowable Markers Removed For Storage. The following quantity is provided in the General Summary.

ITEM 202 PLOWABLE MARKERS REMOVED FOR STORAGE 100 EACH

CALC. BY WDP DATE 7-79
CHK'D BY GLB DATE 7-79
REV'D BY GLB DATE 3-81

Rev. 10-5-82

Rev. 3-12-82

Rev. 8-10-81

GENERAL NOTES

GENERAL NOTES

Calc By G.L.B. 3/82
Chk By F.J. 3/82

FHWA REGION	STATE	PROJECT NO.	FUNDS
5	OHIO		

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MAH. 76-7.01
MAH-80-(0.00)(1.69)
TRU-80-0.00

ITEM SPECIAL - SAWING AND SEALING TRANSVERSE JOINTS

THIS WORK SHALL CONSIST OF MAKING A SAW CUT TRANSVERSELY ACROSS THE 848 TYPE 2 INTERMEDIATE COURSE AND SEALING THIS TRANSVERSE JOINT. THE INTENT OF THIS WORK IS TO ESTABLISH A WEAKENED PLAN JOINT TO CONTROL REFLECTIVE CRACKING IN THE NEWLY INSTALLED 848 ASPHALT CONCRETE.

CONSTRUCTION METHODS - SAWING JOINTS

THE SAW CUT SHALL BE MADE DIRECTLY OVER THE EXISTING TRANSVERSE JOINT IN THE UNDERLYING CONCRETE PAVEMENT. THE EXISTING JOINT SHALL BE PROPERLY MARKED BY THE CONTRACTOR SO THE SAWED JOINT MAY BE PERFORMED AT THE SAME LOCATION. THE ASPHALT CONCRETE SHALL HAVE AGED SUFFICIENTLY TO ALLOW A CLEAN CUT TO BE MADE AND TO WITHSTAND THE ERODING EFFECTS OF THE SAW OR OTHER CUTTING DEVICE.

THE SAW CUT SHALL BE MADE WITH AN APPROVED POWER DRIVEN SAW. THE SAW CUT SHALL BE 1/4"±1/16" WIDE BY 1 1/2" DEEP. THE SAW CUT SHALL BE MADE WITH AN ABRASIVE BLADE AND SAWN DRY OR WITH A DIAMOND BLADE AND SAWN WET.

THE COMPLETED CUT SHALL EXTEND IN A STRAIGHT LINE TRANSVERSELY ACROSS THE PAVEMENT TO A POINT TWO FEET BEYOND THE EDGE OF THE UNDERLYING CONCRETE PAVEMENT.

UPON THE SATISFACTORY COMPLETION OF EACH CUT, IT SHALL BE SEALED WITH HOT RUBBER ASPHALT JOINT SEALER.

CONSTRUCTION METHODS - SEALING JOINTS

THE SAWED JOINTS SHALL BE SEALED IMMEDIATELY AFTER THE CUT HAS BEEN MADE. TRAFFIC SHALL NOT BE ALLOWED TO KNEAD TOGETHER OR DAMAGE THE SAWED JOINT. EACH JOINT SHALL BE THOROUGHLY CLEAN AND DRY PRIOR TO PLACEMENT OF THE SEALING COMPOUND. CLEANING SHALL BE PERFORMED BY BLOWING OUT ALL DIRT, DUST OR DELETERIOUS MATTER THAT MAY HAVE ACCUMULATED IN THE SAW JOINTS. SUFFICIENT AIR PRESSURE SHALL BE PROVIDED TO INSURE THOROUGH CLEANING. POURED JOINT MATERIAL SHALL BE HOT APPLIED CONFORMING TO AASHTO SPECIFICATION 173.

THE JOINT SEAL SHALL BE APPLIED WITH A MOBILE CARRIAGE AND RUBBER SHOE AND HAVE A CONTROL VALVE WHICH ALLOWS ALL CRACKS TO BE FILLED TO REFUSAL, SO AS TO ELIMINATE ALL VOIDS OR ENTRAPPED AIR, AND NOT LEAVE UNNECESSARY CRACK SEALER ON THE PAVEMENT SURFACE. THE HOT SEAL SHALL COMPLETELY FILL THE JOINT, SUCH THAT AFTER COOLING, THE LEVEL OF THE SEALER WILL NOT BE GREATER THAN 1/8" BELOW THE PAVEMENT SURFACE. ANY DEPRESSION IN THE SEAL GREATER THAN 3/16" SHALL BE BROUGHT UP TO THE SPECIFIED LIMIT BY FURTHER ADDITION OF HOT SEAL. OVERFILLING OF THE JOINTS WILL NOT BE ALLOWED AND SPILLAGE OF THE SEALER SHALL BE AVOIDED.

LOCATIONS

THE LOCATIONS OF THE SAWED/SEALED JOINTS SHALL BE AT LOCATIONS AS DIRECTED BY THE ENGINEER.

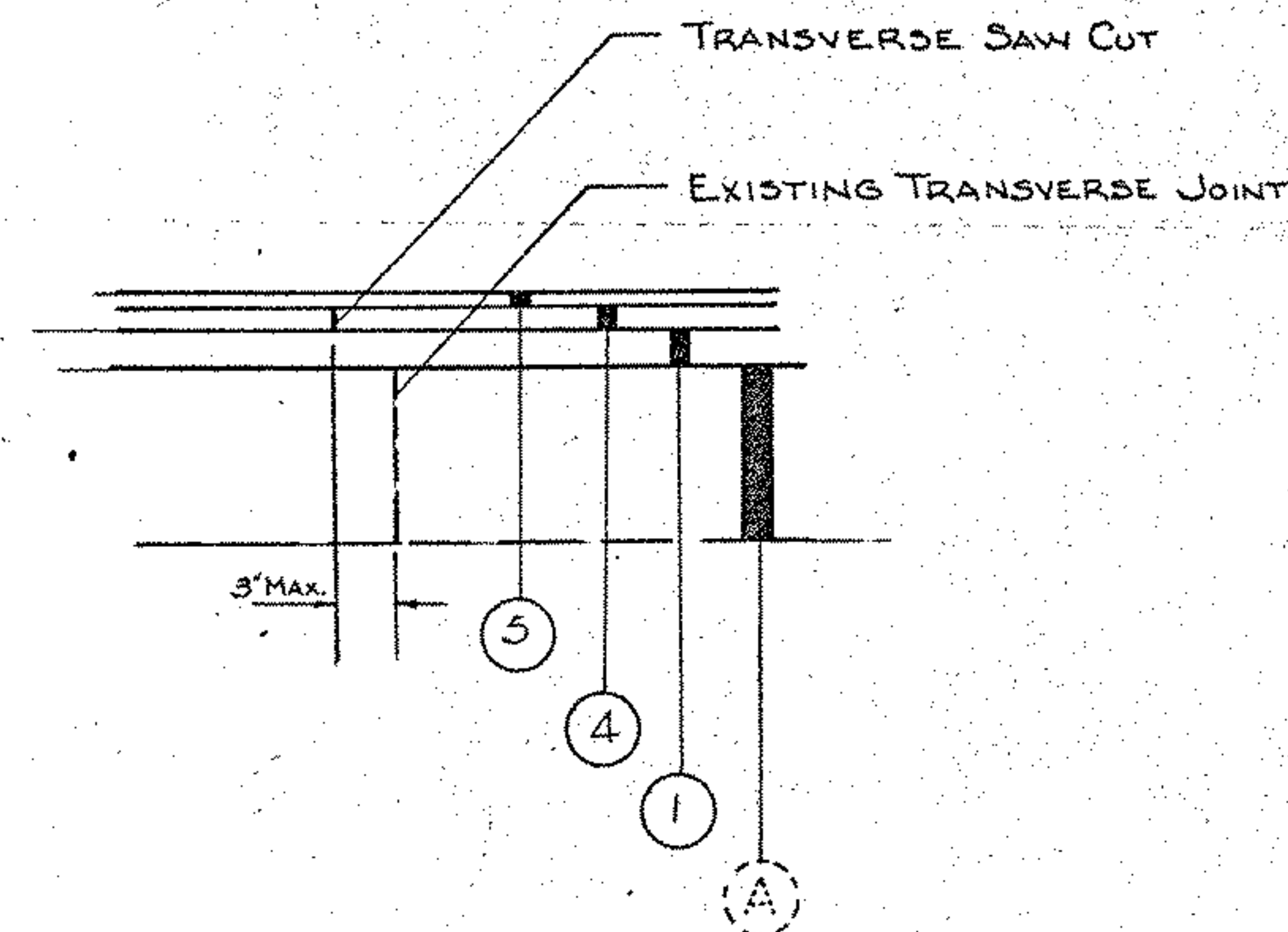
METHOD OF MEASUREMENT

THIS WORK SHALL BE MEASURED FOR PAYMENT BY THE ACTUAL NUMBER OF LINEAR FEET OF JOINT SAWED AND SEALED IN THE 848 ASPHALT CONCRETE, MEASURED IN PLACE AND ACCEPTED.

BASIS OF PAYMENT

PAYMENT FOR THIS WORK WILL BE AT THE CONTRACT UNIT PRICE PER LINEAR FOOT FOR SAWING AND SEALING TRANSVERSE JOINTS, COMPLETE IN PLACE, WHICH PRICE SHALL INCLUDE ALL MATERIALS, EQUIPMENT, TOOLS AND LABOR INCIDENTAL TO THIS WORK.

AN ESTIMATED QUANTITY OF 5,000 L.F. OF ITEM SPECIAL, SAWING AND SEALING TRANSVERSE JOINTS HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE WITH THIS ITEM.



- ① ITEM 848 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2, AC-20
- ④ ITEM 848 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2, AC-20
- ⑤ ITEM SPECIAL 3/4" OPEN GRADED FRICTION COURSE, RUBBERIZED
- Ⓐ EXISTING REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT

LINEAR GRADING

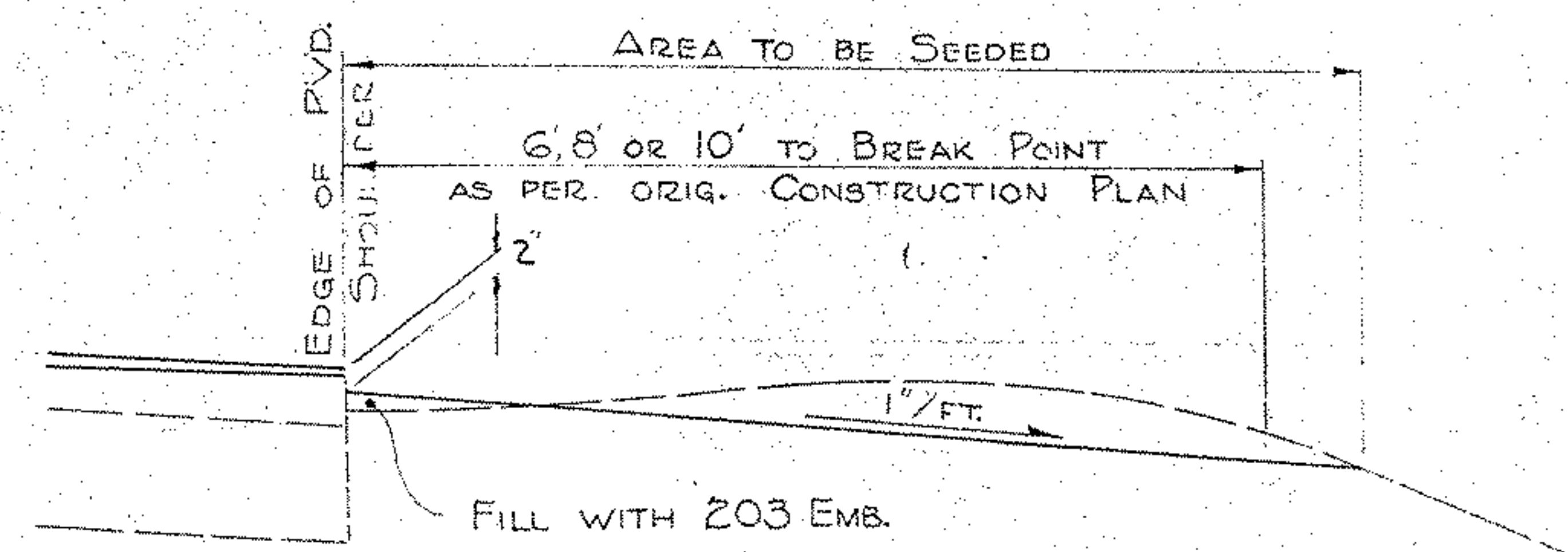
Calc. By G.L.B. 3/82
 Chk By F.J. 3/82

F.H.W.A. REGION	STATE	PROJECT
5	OHIO	

9B
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MAH. 76-7.01, MAH-80-(0.00)(1.69)
 TRU-80-0.00

METHOD 1, AS PER PLAN



LINEAR GRADING - METHOD 1

THIS WORK SHALL CONSIST OF REGRADING THE EXISTING OUTSIDE SHOULDER IN NON-GUARD RAIL AREAS AS INDICATED IN THE SKETCH. REGRADING WILL BE ACCOMPLISHED BY REMOVING EXCESS TURF BETWEEN THE EDGE OF THE PAVED SHOULDER AND THE BREAK OVER POINT USING A SLOPE OF APPROXIMATELY 1"/FT.

EXCESS MATERIAL SHALL BE WINDROWED ON THE SHOULDER AND REMOVED BY THE CONTRACTOR. ANY VOIDS OR IRREGULARITIES BETWEEN THE EDGE OF THE PAVED SHOULDER AND BREAK POINT SHALL BE FILLED AND ADEQUATELY COMPACTED USING THE EXCESS MATERIAL. EXISTING RUTTED AREAS CAUSED BY SURFACE EROSION SHALL BE SCARIFIED PRIOR TO FILLING. A DROP OF 2" SHALL BE MAINTAINED BETWEEN THE EDGE OF THE RESURFACED PAVED SHOULDER AND THE REGRADED SHOULDER. AFTER GRADING OPERATION IS COMPLETED THE DISTURBED AREA SHALL BE SEEDED AS PER 659 EXCEPT MULCHING WILL NOT BE REQUIRED. COMPACTION REQUIREMENT AS PER 203 IS WAIVED FOR THIS OPERATION.

THE METHOD OF MEASUREMENT SHALL BE CONSIDERED AS ONE STATION EQUAL TO 100 LIN. FT. MEASURED SEPARATELY FOR THE EAST BOUND AND WEST BOUND LANES AND SHALL INCLUDE ALL WORK REQUIRED AS DESCRIBED ABOVE INCLUDING THE NECESSARY SEEDING.

THERE MAY BE AREAS WHERE THIS TREATMENT MAY NOT BE REQUIRED IN THE FIELD. THE ENGINEER SHALL DETERMINE THESE LOCATIONS AND APPROPRIATE DEDUCTIONS MADE AS A RESULT OF THIS FIELD INVESTIGATION.

THE COST OF THE ABOVE OPERATION SHALL BE INCLUDED IN THE PRICE BID FOR FOR ITEM 203 LINEAR GRADING METHOD 1, AS PER PLAN.

ESTIMATED QUANTITIES

203 LINEAR GRADING, METHOD 1, AS PER PLAN = 1,350 STATIONS

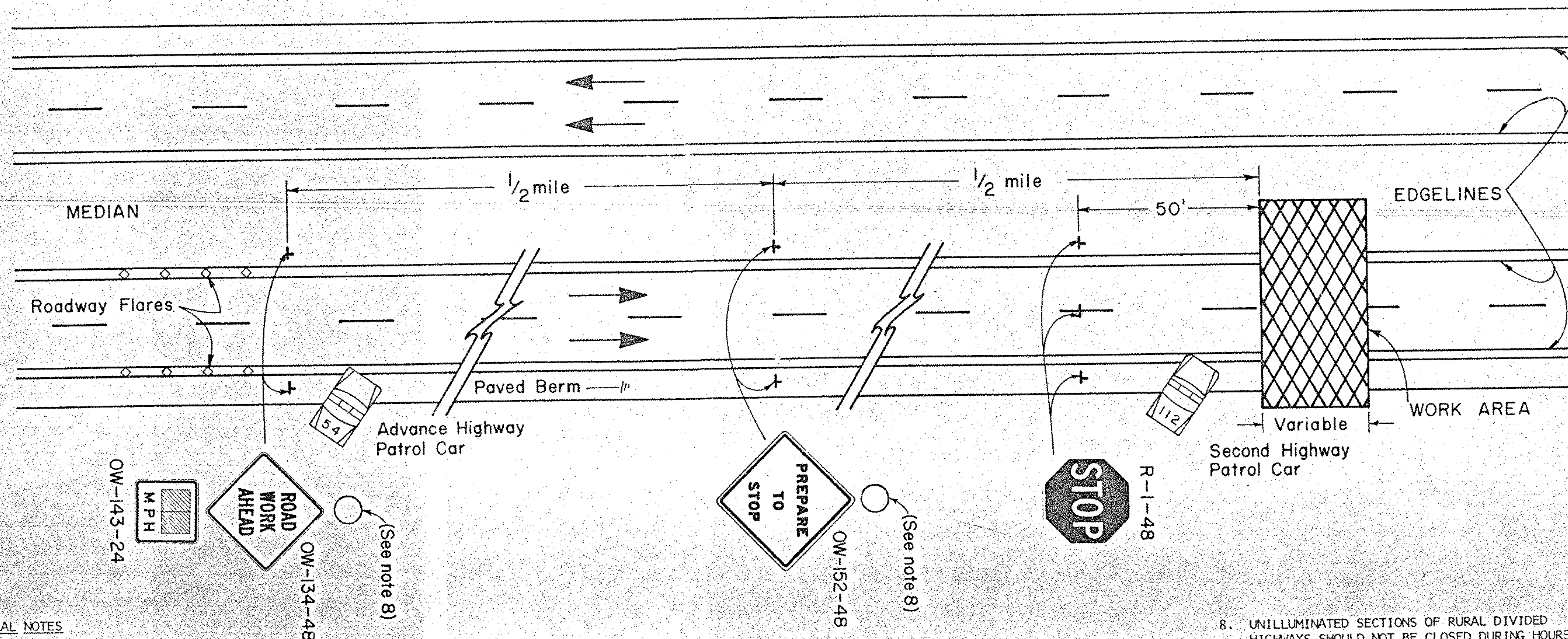
ITEM SPECIAL FULL DEPTH RIGID PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT

Calc. By T.G. 3/82
Chk By G.L.B. 3/82

FWHA REGION	STATE	PROJECT NO.	FUNDS
5	OHIO	MAH-76-7.01	MAH-80-0.00
		TRU-80-0.00	

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LANE	STATION		WIDTH Ft.	LENGTH Ft.	AREA SQ. YD.	BOUND	LANE	STATION		WIDTH Ft.	LENGTH Ft.	AREA SQ. YD.	BOUND	LANE	STATION		WIDTH Ft.	LENGTH Ft.	AREA SQ. YD.	BOUND	LANE	STATION		WIDTH Ft.	LENGTH Ft.	AREA SQ. YD.	BOUND	LANE	STATION		WIDTH Ft.	LENGTH Ft.	AREA SQ. YD.	BOUND	
	FROM	TO						FROM	TO						FROM	TO						FROM	TO						FROM	TO					
D	372+80	373+31	12	51	68	E.B.	D	220+00	221+00	12	100	133.33	E.B.	D	651+66	653+12	12	146	194.67	E.B.	D	264+20	264+33	12	13	17.33	W.B.	D	386+21	386+26	24	5	13.33	W.B.	
P	372+95	373+27	12	32	42.67	E.B.	D	226+00	226+20	12	20	26.67	E.B.	D	655+90	655+96	24	6	16.0	E.B.	D	260+22	262+25	12	203	270.67	W.B.	D	373+37	373+46	24	9	24.00	W.B.	
D	375+19	375+24	24	5	13.33	E.B.	D	229+95	230+05	12	10	13.33	E.B.	D	657+27	657+72	24	45	120.0	E.B.	D	226+48	227+43	20.5	195	444.17	W.B.								
D	401+21	401+29	24	8	21.33	E.B.	D	261+97	262+66	12	69	92.0	E.B.								D	227+34	227+37	12	3	4.00	W.B.								
D	404+86	405+38	12	52	69.33	E.B.	D	272+85	272+95	24	10	26.67	E.B.	TOTAL E.B.				7550.62										TOTAL W.B.				7655.53			
D	405+84	405+90	12	6	8.0	E.B.	D	274+00	274+35	12	35	46.67	E.B.																						
D	409+64	409+71	12	7	9.33	E.B.	D	279+19	279+72	12	53	70.67	E.B.																						
D	420+04	420+19	12	15	20.0	E.B.	D	291+95	292+05	24	10	26.67	E.B.																						
D	433+05	433+12	24	7	18.67	E.B.	D	322+00	322+30	12	30	40.0	E.B.	D	644+44	645+11	12	67	89.33	W.B.	D	226+56	226+59	12	3	4.00	W.B.								
D	440+65	440+81	24	16	42.67	E.B.	D	324+50	324+75	12	25	33.33	E.B.	D	642+43	642+43	24	255	680.00	W.B.	D	222+62	222+67	24	5	13.33	W.B.								
D	440+28	440+39	24	11	29.33	E.B.	D	326+00	326+15	24	15	40.0	E.B.	D	637+05	637+16	24	7	18.67	W.B.	D	214+50	214+78	24	18	48.00	W.B.								
D	465+07	465+13	24	6	16.0	E.B.	D	347+20	347+30	12	10	13.33	E.B.	D	637+05	637+16	24	7	18.67	W.B.	D	208+73	209+00	275	125	47.36	W.B.								
D	478+03	478+11	24	8	21.33	E.B.	D	358+03	358+09	24	6	16.00	E.B.	D	635+12	635+75	12	63	84.00	W.B.	D	208+01	208+05	24	4	10.67	W.B.								
D	479+15	479+81	24	6	16.0	E.B.	D	359+44	359+56	12	12	16.00	E.B.	D	630+12	630+74	12	62	83.33	W.B.	D	206+32	206+42	12	10	13.33	W.B.								
D	480+48	480+98	12	50	66.67	E.B.	D	389+20	389+30	12	10	13.33	E.B.	D	629+07	629+55	12	48	64.00	W.B.	D	206+42	206+42	12	3	4.00	W.B.								
D	490+10	490+20	24	10	26.67	E.B.	D	392+02	392+12	24	10	26.67	E.B.	D	621+25	621+68	12	43	57.33	W.B.	D	198+03	198+09	24	6	16.00	W.B.								
D	492+12	492+20	24	8	21.33	E.B.	D	392+80	392+90	12	10	13.33	E.B.	D	616+89	618+38	12	149	198.67	W.B.	D	163+79	163+83	12	4	5.33	W.B.								
D	501+66	502+15	12	49	65.33	E.B.	D	395+70	396+17	24	47	125.33	E.B.	D	609+54	610+02	12	48	64.00	W.B.	D	155+28	155+78	12	50	66.67	W.B.								
RAMP	493+63	494+24	12	61	81.33	E.B.	D	398+05	398+20	12	15	20.00	E.B.	D	600+97	604+38	12	341	454.67	W.B.	D	163+61	163+83	12	22	29.33	W.B.								
RAMP	494+52	494+74	12	22	29.33	E.B.	D	401+75	402+05	12	30	40.0	E.B.	D	599+35	599+87	24	52	138.67	W.B.	D	153+72	153+01	12	29	38.67	W.B.								
D	497+06	497+14	24	8	21.33	E.B.	D	423+73	423+78	24	5	13.33	E.B.	D	598+12	598+33	24	21	56.00	W.B.	D	136+72	136+01	12	29	38.67	W.B.								
D	499+33	500+14	12	81	108.0	E.B.	D	426+50	426+70	24	20	53.33	E.B.	D	597+15	597+45	24	30	80.00	W.B.	D	132+10	132+21	24	11	29.33	W.B.								
D	506+23	506+66	12	43	57.33	E.B.	D	430+80	430+92	12	12	16.0	E.B.	D	593+26	593+37	24	11	29.33	W.B.	D	132+14	132+18	12	4	5.33	W.B.								
D	510+51	511+42	12	91	121.33	E.B.	D	438+70	439+00	12	30	40.0	E.B.	D	583+62	585+63	12	20	26.80	W.B.	D	122+06	123+40	12	134	178.67	W.B.								
D	514+52	514+58	24	6	16.0	E.B.	D	450+04	451+00	12	96	128.0	E.B.	D	577+41	578+24	12	83	110.67	W.B.	D	120+82	120+96	24	14	37.33	W.B.								
D	549+97	550+03	24	6	16.0	E.B.	D	469+55	469+85	12	30	40.0	E.B.	D	574+77	575+65	24	88	234.67	W.B.	D	114+47	114+97	12	50	66.67	W.B.								
D	559+75	559+80	24	5	13.33	E.B.	D	483+93	484+24	12	31	41.33	E.B.	D	574+56	574+77	12	21	28.00	W.B.	D	100+40	100+52	12	12	16.00	W.B.								
D	567+98	568+04	24	6	16.00	E.B.	D	489+40	490+34	12	94	125.33	E.B.	D	572+94	573+20	12	26	34.67	W.B.	D	100+16	100+52	12	36	48.00	W.B.								
D	580+81	580+88	24	7	18.66	E.B.	D	489+40	490+34	12	94	125.33	E.B.	D	572+94	573+20	12	26	34.67	W.B.	D	98+28	98+40	12	12	16.00	W.B.								
D	604+92	604+98	12	6	8.0	E.B.	D	493+97	494+69	24	72	192.0	E.B.	D	563+15	564+40	12	125	166.67	W.B.	D	93+88	95+18	12	130	173.33	W.B.								
D	610+82	611+00	12	18	24.0	E.B.	D	501+63	501+84	12	21	28.0	E.B.	D	557+06	557+23	12	17	22.67	W.B.	D	68+40	68+55	12	15	20.00	W.B.								
D	611+79	612+43	12	64	85.33	E.B.	D	501+63	501+84	12	21	28.0	E.B.	D	549+86	550+11	12	25	33.33	W.B.	D	68+16	68+24	24	8	21.33	W.B.								
D	623+77	624+50	12	73	97.33	E.B.	D	501+96	502+01	12																									



GENERAL NOTES

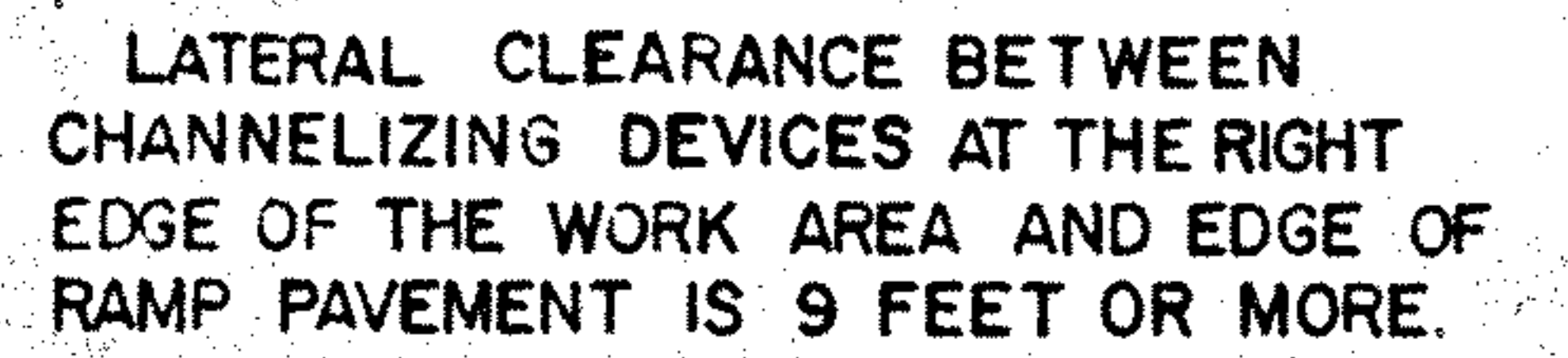
1. THIS TYPE OF HIGHWAY CLOSURE SHALL ONLY BE USED FOR EMERGENCIES OR FOR CONSTRUCTION OPERATIONS WHEN THE DURATION OF CLOSURE WILL NOT EXCEED 15 MINUTES. AFTER THE RURAL DIVIDED HIGHWAY HAS BEEN CLOSED AND REOPENED VIA THIS PROCEDURE A MINIMUM PERIOD OF 30 MINUTES SHALL ELAPSE BEFORE ANOTHER SHORT DURATION CLOSURE, EXCEPT WITH THE APPROVAL OF THE ENGINEER.
2. AT LEAST TWO PATROLMEN AND TWO PATROL CARS SHALL BE PROVIDED ON EACH APPROACH TO THE CLOSURE. EACH PATROL CAR SHALL HAVE A ROOF MOUNTED ROTATING RED LIGHT OR A LIGHT BAR.
3. A MINIMUM OF FOUR FLARES SHALL BE BURNING CONTINUOUSLY ON EACH SIDE OF THE ROADWAY IN ADVANCE OF THE "OW-134-48" SIGN DURING THE TIME THAT TRAFFIC IS STOPPED ON THE RURAL DIVIDED HIGHWAY.
4. ROAD CLOSURES ARE NOT PERMITTED ON HOLIDAYS, WEEKENDS OR BETWEEN THE HOURS OF 6 AM TO 9 AM, 11 AM TO 1 PM AND 3 PM TO 6 PM ON MONDAY THROUGH FRIDAY, EXCEPT BY PERMISSION OF THE ENGINEER.

5. THE ADVANCE PATROL CAR AND THE "OW-134-48", "OW-134-24", AND "OW-152-48" SIGNS SHALL BE MOVED BACK AS REQUIRED BY THE QUEUING OF STOPPED VEHICLES. NEW FLARES SHALL BE PLACED WHENEVER THE ADVANCE PATROL CAR IS REQUIRED TO RELOCATE.
6. TRAFFIC CONTROL FOR THE CLOSURE SHALL BE ACCOMPLISHED IN THE FOLLOWING ORDER:
 - A. ADVANCE PATROL CAR, LIGHTS AND FLASHER ON; AT LEAST FOUR FLARES BURNING ON EACH SIDE OF ROADWAY.
 - B. "OW-134-48" AND "OW-143-24" SIGNS ERECTED.
 - C. "OW-152-48" SIGNS ERECTED.
 - D. SECOND PATROL CAR, LIGHTS AND FLASHERS ON.
 - E. "R-1-48" SIGNS ERECTED BY FLAGMEN WITH FLARE OR FLAG USED TO STOP TRAFFIC. THE ORDER OF ERECTION SHALL BE TOWARD THE MEDIAN SHOULDER IN THE FOLLOWING ORDER: RIGHT SHOULDER, THEN CENTER, THEN MEDIAN SHOULDER.

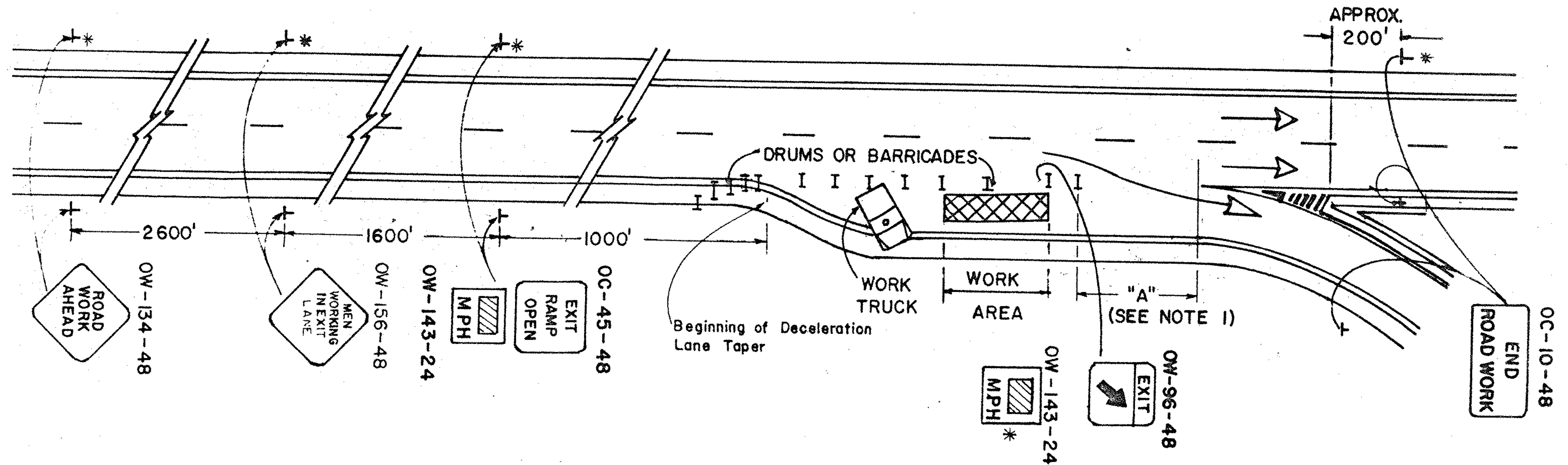
7. TRAFFIC CONTROL SHALL BE REMOVED IN THE FOLLOWING ORDER:
 - A. WITH TRAFFIC STOPPED ONE MAN WITH A FLARE OR FLAG SHOULD HOLD TRAFFIC AND OTHER FLAGMAN SHALL REMOVE THE "R-1-48" SIGNS TOWARD THE RIGHT SHOULDER IN THE FOLLOWING ORDER: MEDIAN, THEN CENTER, THEN SIGN ON RIGHT SHOULDER.
 - B. AFTER ALL STOPPED VEHICLES HAVE STARTED MOVING, THE "OW-152-48" SIGNS SHALL BE REMOVED. THESE SIGNS MAY BE COVERED IF RE-USE IS IMMINENT.
 - C. AFTER ALL CARS HAVE RESUMED APPROXIMATELY NORMAL SPEED, THE "OW-134-48" AND "OW-143-24" SIGNS SHALL BE REMOVED. THESE SIGNS MAY BE COVERED IF RE-USE IS IMMINENT.
 - D. LIGHTS AND FLASHERS SHALL BE TURNED OFF ON BOTH PATROL CARS.
 - E. REMOVE ALL ROADWAY FLARES IF THEY ARE STILL BURNING.

8. UNILLUMINATED SECTIONS OF RURAL DIVIDED HIGHWAYS SHOULD NOT BE CLOSED DURING HOURS OF DARKNESS EXCEPT FOR EMERGENCIES OR WITH THE APPROVAL OF THE ENGINEER. WHEN A RURAL DIVIDED HIGHWAY MUST BE CLOSED DURING HOURS OF DARKNESS, A TYPE B HIGH INTENSITY FLASHING BARRICADE WARNING LIGHT SHALL BE USED ON EACH OW-134 AND OW-152 SIGN.
9. IF AN ENTRANCE RAMP IS LOCATED BETWEEN THE OW-134 AND R-1 SIGNS, THE "OW-134-48", "OW-143-34", AND THE "OW-152-48" SIGNS SHALL ALSO BE ERECTED ON THE RAMP SHOULDER.

OHIO DEPARTMENT OF TRANSPORTATION	
SHORT DURATION CLOSING OF RURAL DIVIDED HIGHWAY	DATE 5/77
OR BSE CK MOW	Rev. 10-5-82 Rev. 8-10-81



OHIO DEPARTMENT OF TRANSPORTATION		
LANE CLOSURE		DATE
AT ENTRANCE		8-3-79
RAMP: PLAN A		

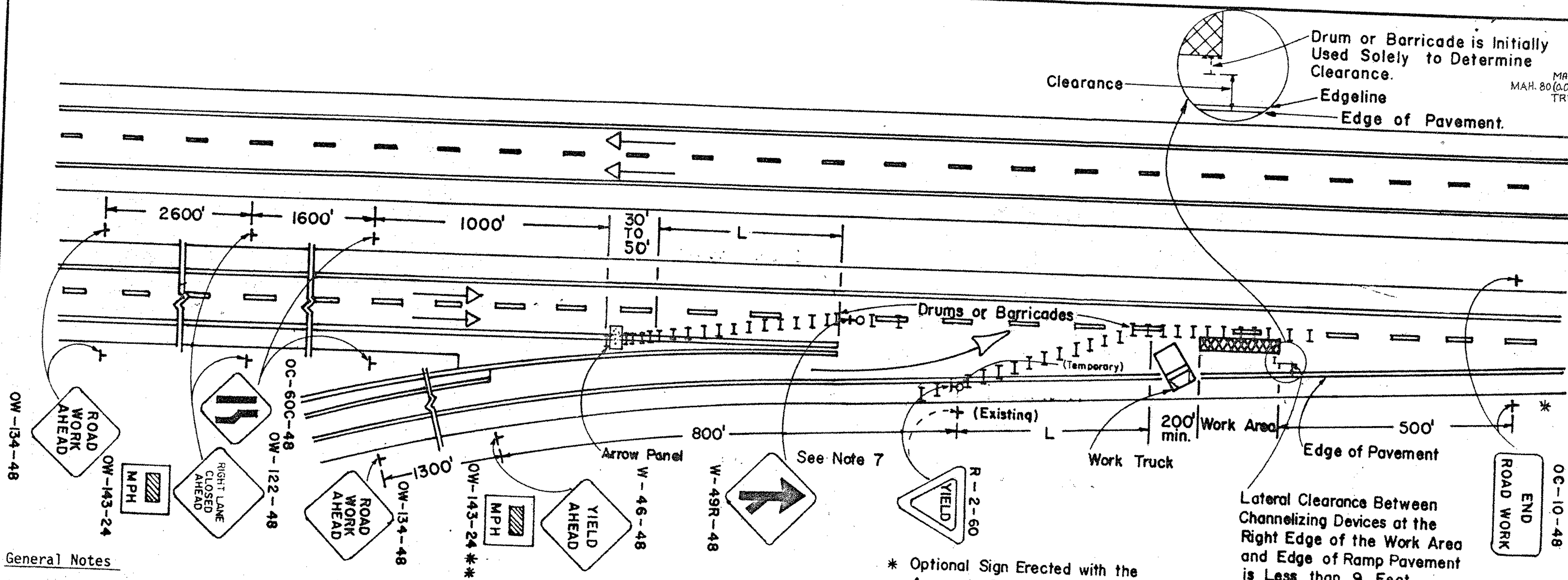


* OPTIONAL SIGN ERECTED WITH THE APPROVAL OF THE ENGINEER.

GENERAL NOTES.

1. THIS WORK AREA TRAFFIC CONTROL APPLICATION SHALL ONLY APPLY WHEN THE DISTANCE "A" IS GREATER THAN 100'. WHEN DISTANCE "A" IS LESS THAN 100', THE RAMP SHALL BE CLOSED. WHEN THE RAMP IS CLOSED, THE TRAFFIC CONTROL SHALL INCLUDE DETOUR SIGNING FOR EXIT RAMP CLOSURES IN ACCORDANCE WITH OMUTCD.
2. DRUMS OR BARRICADES SHALL BE SPACED AT 50 FOOT CENTERS. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS ONLY.
3. TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS OR BARRICADES FOR NIGHT LANE CLOSURES. MAXIMUM SPACING SHALL BE 50' CENTER TO CENTER IN ADVANCE OF THE WORK AREA AND 200' CENTER TO CENTER WITHIN THE LIMITS OF THE WORK AREA.
4. THE WORK TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER MEN ARE WORKING WITHIN THE WORK AREA. THIS TRUCK SHALL BE MOVED FROM THE PAVEMENT WHENEVER WORKMEN ARE NOT IN THE WORK AREA. OTHER PROTECTIVE DEVICES MAY BE USED IN LIEU OF THE WORK TRUCK SHOWN WHEN APPROVED BY THE ENGINEER.
5. THE SPACINGS BETWEEN CONSTRUCTION AND MAINTENANCE SIGNS SHOWN ON THIS DETAIL MAY REQUIRE ADJUSTMENTS (INCREASES OR DECREASES) TO ASSURE THAT THEY ARE POSITIONED NO CLOSER THAN 200 FEET TO EXISTING SIGNS AS DETERMINED BY THE ENGINEER.

Rev 10-5-82



General Notes

1. This work area traffic control application shall be employed when the lateral clearance between channelizing devices at the right edge of the work area and the edge of the ramp pavement is less than 9 feet. When the clearance is more than 9 feet, the traffic control on "Lane Closure at Entrance Ramp: Plan A" should be used, or the ramp should be closed. When the ramp is closed, appropriate detour signs shall be provided.
2. Thirteen (13) drums or barricades shall be used to form the lane transition taper in advance of the work area. Five (5) channelizing devices shall be used to form the taper on the shoulder. Cones, drums, or barricades shall be spaced at 50 foot centers. Cones may be substituted for barricades or drums for the lane closures during daylight hours only.
3. Ramp signs shall be dual mounted on multi-lane ramps. When the ramp is not long enough to allow placement as specified above, the signs may be spaced proportionately within the space available as determined by the Engineer (a 200' minimum spacing must be maintained).
4. The flashing arrow panel shall be in accordance with TC-35.10.
5. The work truck shown at the beginning of the work area shall be in place and unoccupied whenever men are working within the work area. This truck shall be moved from the pavement whenever workmen are not in the work area. Other protective devices may be used in lieu of work truck shown when approved by the Engineer.
6. Type C steady burning barricade warning lights shall be erected on drums or barricades for night lane closures. Maximum spacing shall be 50' center to center in advance of the work area and 200' center to center within the limits of the work area.

* Optional Sign Erected with the Approval of the Engineer.

7. It may be necessary to move the location of an existing Yield condition. In these cases, the permanent R-2 sign installation shall be covered and the temporary installation shall be mounted upon a drive post which shall be banded to a drum with stainless steel strapping material or other techniques subject to the approval of the Engineer.
8. Taper Formulae:

$$L = S \times W \text{ for Speeds of 45 or more.}$$
$$L = WS^2/60 \text{ for Speeds 40 or less.}$$

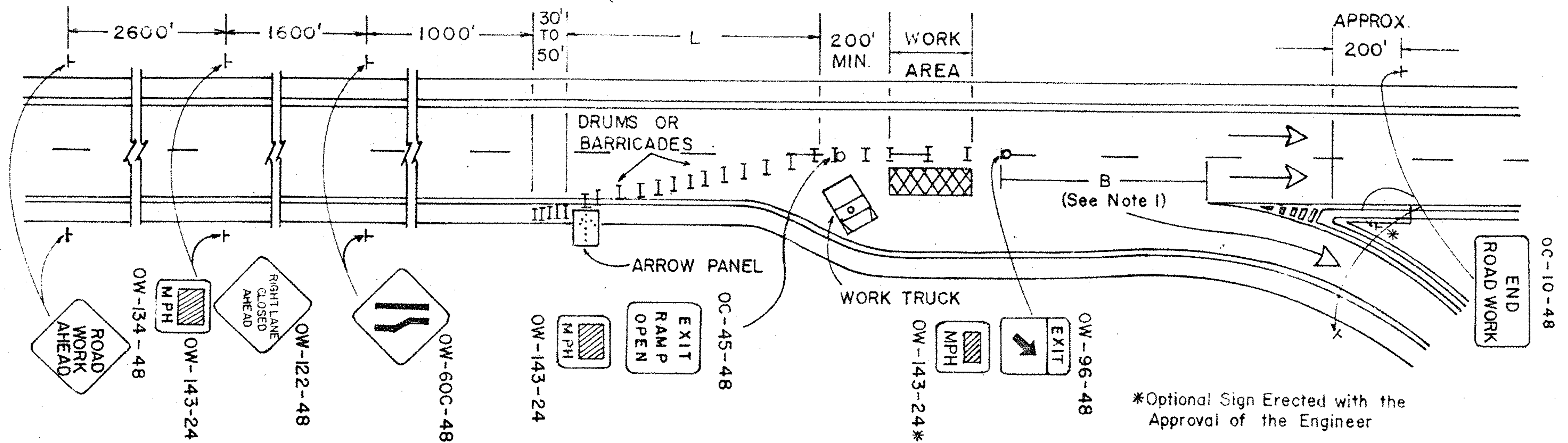
Where:

L = Minimum length of taper.
S = Numerical value of posted speed limit prior to work or 85 percentile speed.
W = Width of offset.

9. THE SPACINGS BETWEEN CONSTRUCTION AND MAINTENANCE SIGNS SHOWN ON THIS DETAIL MAY REQUIRE ADJUSTMENTS (INCREASES OR DECREASES) TO ASSURE THAT THEY ARE POSITIONED NO CLOSER THAN 200 FEET TO EXISTING SIGNS AS DETERMINED BY THE ENGINEER.

Lateral Clearance Between Channelizing Devices at the Right Edge of the Work Area and Edge of Ramp Pavement is Less than 9 Feet.

OHIO DEPARTMENT OF TRANSPORTATION	
LANE CLOSURE AT ENTRANCE RAMP PLAN B	DATE 8-3-79



GENERAL NOTES

1. THIS WORK AREA TRAFFIC CONTROL APPLICATION SHALL ONLY BE USED WHEN THE DISTANCE "B" IS 100 FEET OR GREATER. WHEN "B" IS LESS THAN 100 FEET, THE TRAFFIC CONTROL SHOWN ON THE "LANE CLOSURE AT EXIT GORE" DETAIL SHOULD BE USED, OR THE EXIT SHOULD BE CLOSED, OR THE TRAFFIC CONTROL ON THIS DRAWING MAY BE USED WITH APPROVAL OF THE ENGINEER. WHEN THE EXIT IS CLOSED, APPROPRIATE DETOUR SIGNS SHALL BE PROVIDED.
2. WHEN WORK IS BEING PERFORMED IN THE LANE ADJACENT TO THE MEDIAN ON A DIVIDED HIGHWAY, REFER TO THE TYPICAL WORK AREA TRAFFIC CONTROL SHOWN IN FIGURE C-21 OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
3. THE WORK TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER MEN ARE WORKING WITHIN THE WORK AREA. THIS TRUCK SHALL BE MOVED FROM THE PAVEMENT WHENEVER WORKMEN ARE NOT IN THE WORK AREA. OTHER PROTECTIVE DEVICES MAY BE USED IN LIEU OF THE WORK TRUCK SHOWN WHEN APPROVED BY THE ENGINEER.
4. THE FLASHING ARROW PANEL SHALL BE IN ACCORDANCE WITH TC-35.10.
5. THIRTEEN (13) DRUMS OR BARRICADES SHALL BE USED TO FORM THE LANE TRANSITION TAPER IN ADVANCE OF THE WORK AREA. FIVE (5) CHANNELIZING DEVICES SHALL BE USED TO FORM THE TAPER ON THE SHOULDER. CONES, DRUMS, OR BARRICADES SHALL BE SPACED AT 50 FOOT CENTERS. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS ONLY.
6. TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS OR BARRICADES FOR NIGHT LANE CLOSURES. MAXIMUM SPACING SHALL BE 50' CENTER TO CENTER IN ADVANCE OF THE WORK AREA AND 200' CENTER TO CENTER WITHIN THE LIMITS OF THE WORK AREA.
7. TAPER FORMULAE:
$$L = S \times W \text{ FOR SPEEDS OF 45 OR MORE.}$$
$$L = WS^2/60 \text{ FOR SPEEDS OF 40 OR LESS.}$$

WHERE:
L = MINIMUM LENGTH OF TAPER.
S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85 PERCENTILE SPEED.
W = WIDTH OF OFFSET.
8. THE SPACINGS BETWEEN CONSTRUCTION AND MAINTENANCE SIGNS SHOWN ON THIS DETAIL MAY REQUIRE ADJUSTMENTS (INCREASES OR DECREASES) TO ASSURE THAT THEY ARE POSITIONED NO CLOSER THAN 200 FEET TO EXISTING SIGNS AS DETERMINED BY THE ENGINEER.

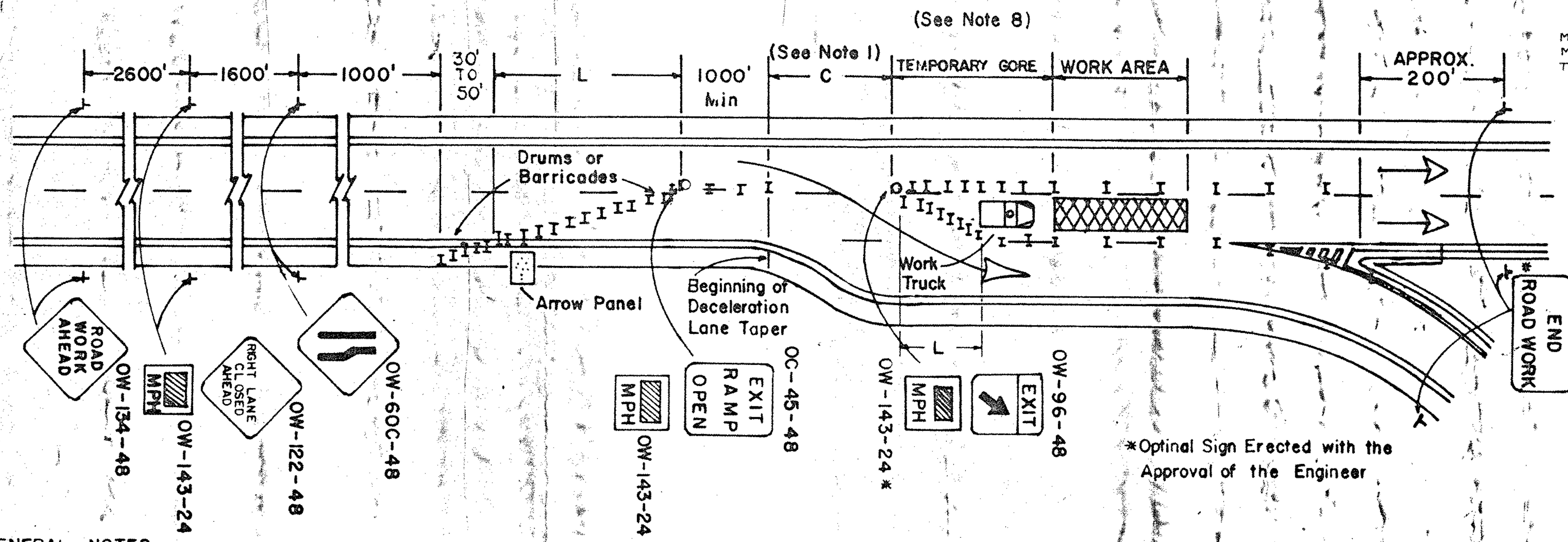
*Optional Sign Erected with the Approval of the Engineer

Rev. 10-5-82

OHIO DEPARTMENT OF TRANSPORTATION

LANE CLOSURE
BEFORE EXIT GORE

DATE
3-3-79



GENERAL NOTES

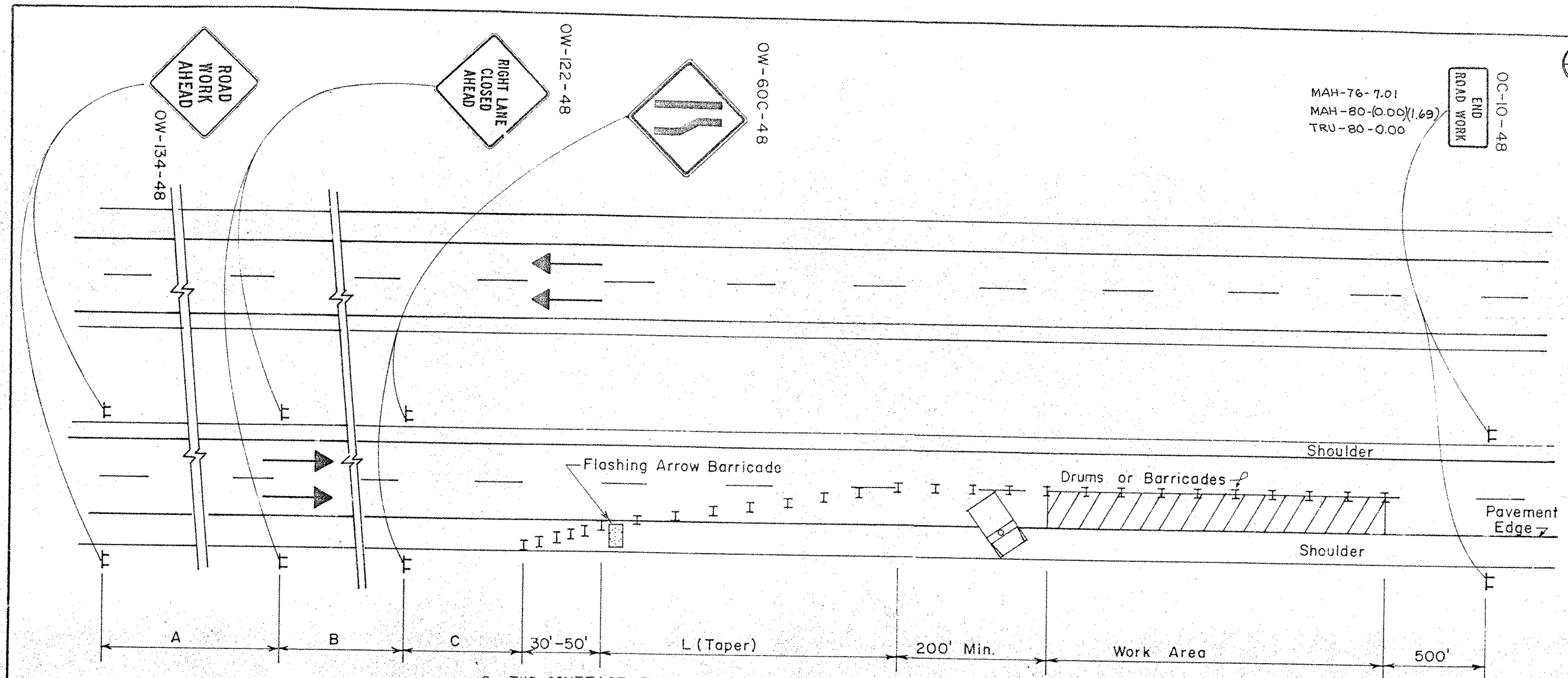
1. THIS WORK AREA TRAFFIC CONTROL APPLICATION SHALL ONLY BE USED WHEN THE DISTANCE "C" IS 100 FEET OR GREATER. WHEN "C" IS LESS THAN 100 FEET, THE TRAFFIC CONTROL SHOWN ON THE "LANE CLOSURE BEFORE EXIT GORE" DETAIL SHOULD BE USED, OR THE EXIT SHOULD BE CLOSED, OR THE TRAFFIC CONTROL ON THIS DRAWING MAY BE USED WITH APPROVAL OF THE ENGINEER. WHEN THE EXIT IS CLOSED, APPROPRIATE DETOUR SIGNS SHALL BE PROVIDED.
2. WHEN WORK IS BEING PERFORMED IN ONLY THE LANE ADJACENT TO THE MEDIAN ON A DIVIDED HIGHWAY, REFER TO THE TYPICAL WORK AREA TRAFFIC CONTROL SHOWN IN FIGURE C-21 OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
3. THE WORK TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER MEN ARE WORKING WITHIN THE WORK AREA. THIS TRUCK SHALL BE MOVED FROM THE PAVEMENT WHENEVER WORKMEN ARE NOT IN THE WORK AREA. OTHER PROTECTIVE DEVICES MAY BE USED IN LIEU OF THE WORK TRUCK SHOWN WHEN APPROVED BY THE ENGINEER. A TRUCK MOUNTED IMPACT ATTENUATOR MAY BE EMPLOYED.
4. THE FLASHING ARROW PANEL SHALL BE IN ACCORDANCE WITH TC-35.10.
5. THIRTEEN (13) DRUMS OR BARRICADES SHALL BE USED TO FORM THE LANE TRANSITION TAPER IN ADVANCE OF THE WORK AREA. FIVE (5) CHANNELIZING DEVICES SHALL BE USED TO FORM THE TAPER ON THE SHOULDER. CONES, DRUMS, OR BARRICADES SHALL BE SPACED AT 50 FOOT CENTERS. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS ONLY.
6. TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS OR BARRICADES FOR NIGHT LANE CLOSURES. MAXIMUM SPACING SHALL BE 50' CENTER TO CENTER IN ADVANCE OF THE WORK AREA AND 200' CENTER TO CENTER WITHIN THE LIMITS OF THE WORK AREA.
7. TAPER FORMULAE:
$$L = S \times W \text{ FOR SPEEDS OF 45 OR MORE.}$$
$$L = WS^2/60 \text{ FOR SPEEDS OF 40 OR LESS.}$$

WHERE:
L = MINIMUM LENGTH OF TAPER.
S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85 PERCENTILE SPEED.
W = WIDTH OF OFFSET.
8. WHEN CREATING A TEMPORARY GORE, CHANNELIZING DEVICES SHOULD BE SPACED 25' CENTER TO CENTER SO AS TO CREATE A "SOLID GORE" EFFECT.
9. THE SPACINGS BETWEEN CONSTRUCTION AND MAINTENANCE SIGNS SHOWN ON THIS DETAIL MAY REQUIRE ADJUSTMENTS (INCREASES OR DECREASES) TO ASSURE THAT THEY ARE POSITIONED NO CLOSER THAN 200 FEET TO EXISTING SIGNS AS DETERMINED BY THE ENGINEER.

OHIO DEPARTMENT OF TRANSPORTATION	
LANE CLOSURE AT EXIT GORE	
DATE	8-3-79

MAH-76-7.01
MAH-80-(0.00)(1.69)
TRU-80-0.00

OC-10-48
END
ROAD WORK



GENERAL NOTES

1. THIRTEEN (13) DRUMS OR BARRICADES SHALL BE USED TO FORM THE LANE TRANSITION TAPER IN ADVANCE OF THE WORK AREA. FIVE (5) CHANNELIZING DEVICES SHALL BE USED TO FORM THE TAPER ON THE SHOULDER. CONES, DRUMS, OR BARRICADES SHALL BE SPACED AT 50 FOOT CENTERS FOR THE FIRST 1000 FEET OF THE WORK AREA AND AT A MAXIMUM OF 100 FEET FOR THE BALANCE OF THE WORK AREA. CONES MAY BE SUBSTITUTED FOR THE BARRICADES OR STEEL DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS ONLY.
2. WHEN WORK IS BEING PERFORMED IN THE LANE ADJACENT TO THE MEDIAN ON A DIVIDED HIGHWAY, "OW-123-48" SIGNS SHALL BE SUBSTITUTED FOR "OW-122-48" SIGNS AND THE OW-60D SIGNS SHALL BE SUBSTITUTED FOR THE OW-60C SIGNS.

3. THE CONTRACTOR SHALL PLACE AN ADDITIONAL DRUM AT EACH PAVEMENT REMOVAL. THE FACE OF THIS DRUM SHALL BE EVEN WITH THE OUTSIDE EDGE OF THE REMOVAL. THE DRUM SHALL REMAIN IN PLACE UNTIL TRAFFIC IS RETURNED TO THIS LANE OF PAVEMENT.
4. THE WORK TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER MEN ARE WORKING WITHIN THE WORK AREA. THIS TRUCK SHALL BE MOVED FROM THE PAVEMENT WHENEVER WORKMEN ARE NOT IN THE WORK AREA. OTHER PROTECTIVE DEVICES MAY BE USED IN LIEU OF THE WORK TRUCK SHOWN WHEN APPROVED BY THE ENGINEER.
5. TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS OR BARRICADES FOR NIGHT LANE CLOSURES. MAXIMUM SPACING SHALL BE 50' CENTER TO CENTER IN ADVANCE OF THE WORK AREA AND 200' CENTER TO CENTER WITHIN THE LIMITS OF THE WORK AREA.

6. IF THE PAVEMENT REMOVAL IS MORE THAN 6'-0", AN ADDITIONAL DRUM SHALL BE PLACED ONE HALF THE DISTANCE FROM THE EDGE OF THE REMOVAL TO THE EDGE OF PAVEMENT. THE DRUM SHALL REMAIN IN PLACE UNTIL TRAFFIC IS RETURNED TO THIS LANE OF PAVEMENT.
7. LANE CLOSURES SHALL NOT BE MORE THAN ONE (1) MILE LANE UNLESS AUTHORIZED BY THE ENGINEER. THE CONTRACTOR SHALL RESTRICT THE SAWING OPERATION TO ONLY THE REMOVAL AND REPLACEMENT AREAS WHICH CAN BE COMPLETED IN ONE WEEK OR AS DIRECTED BY THE ENGINEER.
8. DURING THE TIME OF LANE CLOSURES FOR 24 HOURS OR MORE, THE CONTRACTOR SHALL HAVE SOMEONE ON THE PROJECT TWENTY-FOUR HOURS A DAY TO MAINTAIN SIGNS AND WARNING DEVICES.

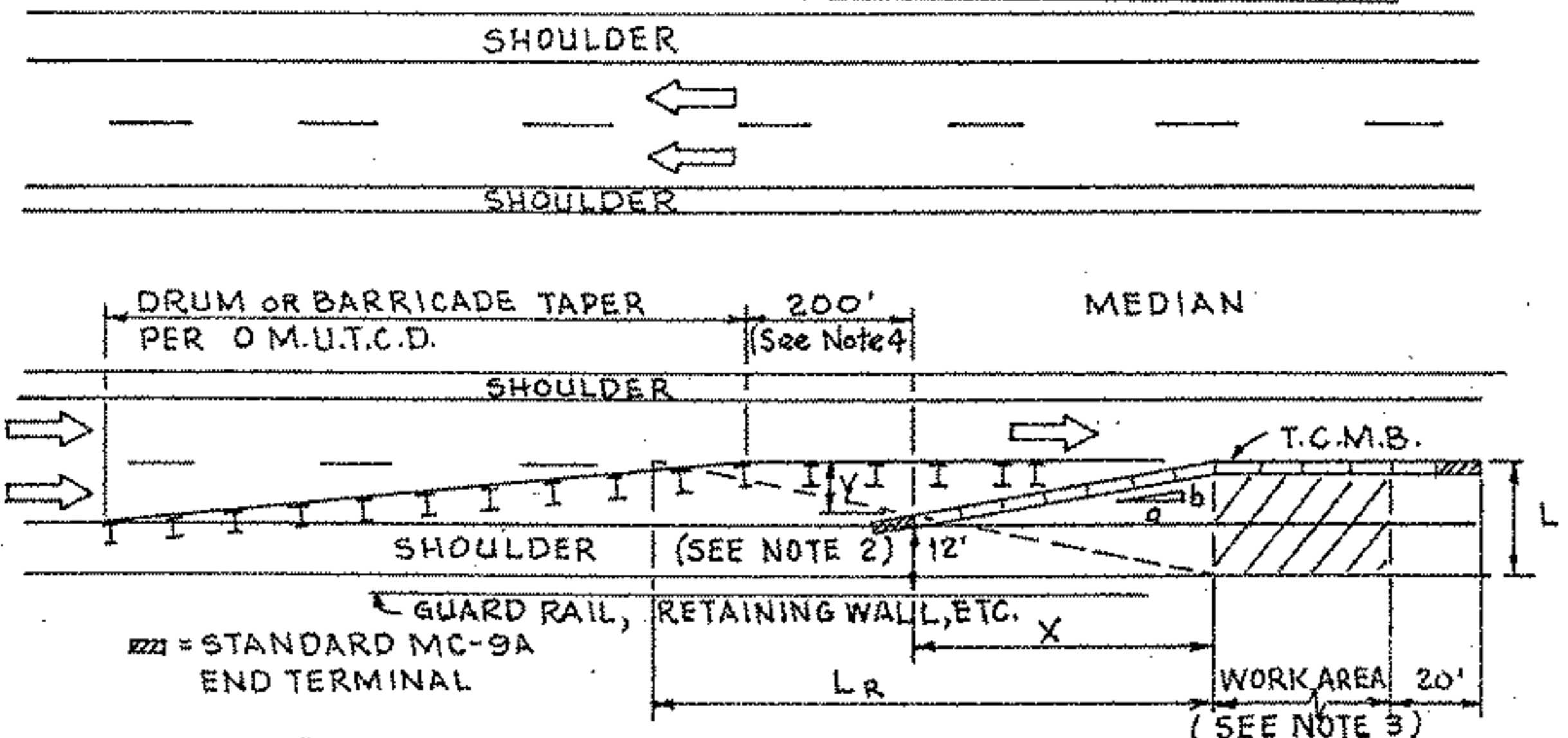
DISTANCE	A	B	C	L
URBAN	200	200	200	425
MAJOR STANDARD	500	500	500	600
FREEWAY AND EXPRESSWAY	2600	1500	1000	720

Rev. 10-5-82

OHIO DEPARTMENT OF TRANSPORTATION	
CLOSING ONE LANE OF A FOUR LANE DIVIDED HIGHWAY	DATE 4/77
Rev. 8-10-81	
OR GRD CK. RLB. REV. W.D.P. 7-5-79	

GENERAL NOTES

MAINTENANCE OF TRAFFIC (STRUCTURE REHABILITATION)



NOTES

1. DIMENSION Y SHALL BE $\geq 8'$
2. A MINIMUM WIDTH OF $12'$ IS REQUIRED FOR ACCESS TO WORK AREA
3. THE "WORK AREA" IS DEFINED TO INCLUDE AREAS WHERE HEAVY EQUIPMENT OR MATERIALS ARE STORED.
4. TAPE TO END $200'$ UPSTREAM FROM END OF T.C.M.B.

SPEED (M.P.H.)	a:b	L _r (FT.)
55	15:1	360
50	15:1	320
45	12:1	280
40	12:1	240
35	10:1	200
30	10:1	160
25	10:1	120

TYPICAL BARRIER INSTALLATION

A QUANTITY OF 970 LIN. FT. OF ITEM 622 TEMPORARY CONCRETE BARRIER IS PROVIDED FOR THE USE OF THE CONTRACTOR DURING THE STRUCTURE REHABILITATION WORK. IF THE CONTRACTOR ELECTS TO SCHEDULE HIS WORK IN A MANNER THAT WILL REQUIRE ADDITIONAL QUANTITIES OF TEMPORARY CONCRETE BARRIER, THE ADDITIONAL BARRIER REQUIRED WILL BE AT THE CONTRACTOR'S EXPENSE. PAYMENT FOR THE 970 LIN. FT. OF TEMPORARY CONCRETE BARRIER INCLUDING ALL LABOR AND MATERIAL REQUIRED TO TO ERCT AND TRANSPORT BARRIER FROM SITE TO SITE SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 622 TEMPORARY CONCRETE BARRIER, LINEAR FOOT.

MAINTENANCE OF TRAFFIC (RESURFACING)

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

1. TWO LANE DIRECTIONAL TRAFFIC SHALL BE MAINTAINED ON THE EXISTING PAVEMENT AT ALL TIMES WITHOUT INTERRUPTION DURING CONSTRUCTION OF THE WORK EXCEPT UNDER THE CONDITIONS SPECIFIED BELOW:
 - A. CONSTRUCTION WORK WHICH REQUIRES MEN AND EQUIPMENT TO OCCUPY A THROUGH LANE.
2. NO MORE THAN ONE LANE OF DIRECTIONAL TRAFFIC IN EACH DIRECTION SHALL BE CLOSED AT ANY TIME. THE CONTRACTOR SHALL SET UP AND OPERATE HIS EQUIPMENT IN SUCH A MANNER AS TO ENCR OACH UPON THE TRAVELED WIDTH OF THE PAVEMENT TO A MINIMUM EXTENT. TRAFFIC SHALL NOT BE CROSSED OVER THE MEDIAN AT ANY TIME.
3. NO LANE RESTRICTION WILL BE PERMITTED AFTER NORMAL WORKING HOURS EXCEPT FOR BRIDGE REHABILITATION OR MUDJACKING TO CORRECT CONCRETE SLAB ELEVATIONS. IN THESE AREAS THE LENGTH OF LANE CLOSING SHALL BE KEPT TO A MINIMUM.
4. IN AREAS OF PARTIAL AND FULL DEPTH PAVEMENT REPAIR THE CONTRACTOR SHALL LIMIT THE LENGTH OF THE REMOVAL TO THE LENGTH THAT CAN BE REPLACED DURING THE SAME WORKING DAY.
5. THE CONTRACTOR SHALL PROVIDE THE SERVICE OF ONE (1) SPECIAL DUTY LAW ENFORCEMENT OFFICER (LEO) WITH A PATROL CAR. AT THE ENGINEER'S REQUEST, FOR THE EXCLUSIVE PURPOSE OF CONTROLLING THROUGH TRAFFIC. THE LEO WITH A PATROL CAR SHALL BE UTILIZED DURING INSTALLATION AND REMOVAL OF TRAFFIC CONTROL DEVICES, FOR LANE RESTRICTIONS AND DURING HOURS OF PEAK TRAFFIC AS AUTHORIZED BY THE ENGINEER (IN CONGESTED AREAS). *

THE LEO SHALL CONSTANTLY MOVE WITH THE BACKUP OF TRAFFIC SO THAT HE IS ALWAYS IN A POSITION ON THE SHOULDER NEAR THE END OF THE LINE OF STOPPED TRAFFIC TO ASSIST IN CONTROLLING TRAFFIC AND INFORMING DRIVERS AS TO THE NATURE OF THE DELAY.

INFORMATION REGARDING ARRANGEMENTS AND PAYMENTS BY THE CONTRACTOR FOR THE SPECIAL DUTY SERVICES MAY BE OBTAINED BY CONTACTING OHIO HIGHWAY PATROL, 660 EAST MAIN STREET, COLUMBUS, OHIO, TELEPHONE: 614-466-2300.

MAINTENANCE OF TRAFFIC TURNPIKE RAMP

TRAFFIC SHALL BE MAINTAINED AT ALL TIMES ON THE TURNPIKE RAMP BY USE OF THE EXISTING PAVEMENT. EXISTING PAVED SHOULDER, RESURFACED RAMP PAVEMENT OR SHOULDER OR TEMPORARY PAVEMENT AS MAY BE REQUIRED. IN ADDITION, PAVING WHICH REQUIRES TRAFFIC CONTROL ON THE RAMP SHALL BE LIMITED TO DAYLIGHT WORK HOURS, MONDAY THROUGH FRIDAY NO LATER THAN 2:00 P.M. UNLESS THE PROVISION IS OTHERWISE WAIVED BY THE COMMISSION'S DEPUTY EXECUTIVE DIRECTOR OR CHIEF ENGINEER.

THE OHIO TURNPIKE COMMISSION SHALL BE NOTIFIED FIVE (5) DAYS IN ADVANCE OF ANY WORK ON THE RAMP THAT WILL AFFECT THE TRAVELLING PUBLIC AND REQUIRE TRAFFIC CONTROL.

THE OHIO TURNPIKE COMMISSION MAY BE CONTACTED AT 652 PROSPECT STREET, BEREA, OHIO 44017 OR TELEPHONE 216-234-2081.

ALL OF THE ABOVE WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

CONTRACTOR'S EQUIPMENT OPERATION AND STORAGE

THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAFFIC, WHERE PRACTICAL. A QUALIFIED FLAGMAN SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVING OPERATIONS ARE SCHEDULED TO CONTINUE WITHIN THE NEXT WORKDAY. OTHERWISE THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA, THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL BY THE PROJECT ENGINEER. WHEN PARKING ALONG THE HIGHWAY, THE EQUIPMENT SHALL BE PARKED AT LEAST 50 FEET FROM THE EDGE OF PAVEMENT. ADEQUATE BARRICADES AND LIGHTS SHALL BE PLACED ON THE PAVEMENT SIDE OF THE EQUIPMENT TO IDENTIFY THE LIMITS OF THE EQUIPMENT. ALL OTHER EQUIPMENT SHALL BE STORED AT THE APPROVED CONTRACTOR'S STAGING AREA.

ALTERNATE METHODS

IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THE PROVISIONS OF THIS PLAN ARE FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELLING PUBLIC RESULTS THEREFROM. NO ALTERNATE PLAN SHALL BE PLACED INTO EFFECT UNTIL APPROVAL HAS BEEN GRANTED, IN WRITING, BY THE DIRECTOR.

PRESSURE RELIEF JOINTS, TYPE C

PRESSURE RELIEF JOINTS SHALL BE INSTALLED AS PER STANDARD DRAWING BP-II.

THEY SHALL BE LOCATED AS PER STANDARD DRAWING BP-II WITHIN THE STRUCTURE AREAS. ALONG THE HIGHWAY THE JOINTS SHALL BE LOCATED APPROXIMATELY 1000 FEET APART. THE APPROXIMATE LOCATIONS USED FOR CALCULATION PURPOSES ARE AVAILABLE AT THE DISTRICT FOUR OFFICES, 705 OAKWOOD STREET, RAVENNA, OHIO.

THE FOLLOWING QUANTITIES ARE PROVIDED FOR THE PURPOSE OF INSTALLING PRESSURE RELIEF JOINTS ALONG THE HIGHWAY AND RAMP FOR THIS PROJECT.

ITEM SPECIAL PRESSURE RELIEF JOINTS, TYPE C	5108 LIN. FT.
ITEM 605, AGGREGATE DRAINS	3351 LIN. FT.
ITEM 605, 6" SHALLOW PIPE UNDERDRAINS, 707.01 TYPE III BR 707.12 III	350 LIN. FT.

CALC. BY W.D.P. DATE 7-3-79
CHK'D BY G.B. DATE 7-5-79
REV'D BY G.B. DATE 3-81

FHWA REGION	STATE	PROJECT NO.	FUND
5	OHIO		

MAH-76-7.01
MAH-80-(0.00)(1,69)
TRU-80-0.00

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

6. IN AREAS OF LANE CLOSURES THE CONTRACTOR SHALL BE RESPONSIBLE FOR GRADING THE SHOULDERS TO AN ELEVATION WITHIN ONE (1) INCH BELOW EXISTING PAVEMENT ELEVATION AND MAINTAINING THE SHOULDERS IN A SAFE CONDITION DURING THE DURATION OF LANE CLOSING OR OTHER LANE RESTRICTION.
7. DURING THE TIME OF LANE CLOSURES FOR 24 HOURS OR MORE, THE CONTRACTOR SHALL HAVE SOMEONE ON THE PROJECT 24 HOURS A DAY TO MAINTAIN SIGNS AND WARNING DEVICES.
8. A FLASHING ARROW BARRICADE (TC-35-10) SHALL BE USED FOR TRAFFIC CONTROL WHENEVER THERE IS A LANE RESTRICTION. SEE SHEET NOS. 11 THRU 16.
9. ALL TRAFFIC CONTROL DEVICES REQUIRED INSIDE THE WORK LIMITS EXCEPT REGULATORY SIGNS, SHALL BE FURNISHED, ERECTED AND MAINTAINED BY THE CONTRACTOR.
10. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL FLAGS, FLAGMEN, WATCHMEN, BARRICADES, SIGN SUPPORTS AND INCIDENTALS RELATED THERETO AND SHALL BE UTILIZED IN CONFORMANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, LATEST REVISION.
11. TEMPORARY SIGNS IN THE MEDIAN AND WHEREVER ELSE PRACTICAL SHALL BE MOUNTED ON SUPPORT POSTS FIXED TO EXISTING GUARD RAIL POSTS. WHERE THIS IS NOT POSSIBLE, EASELS OR BARRELS WITH A SUPPORT POST ATTACHED AND FILLED TO 1/2 CAPACITY WITH AGGREGATE SHOULD BE USED. BARRELS SHALL BE REFLECTORIZED WITH REFLECTIVE SHEETING, TYPE G IN ACCORDANCE WITH 730.19.
12. IN ORDER TO MAINTAIN ADEQUATE TRAFFIC CONTROL AT ALL TIMES, A MINIMUM OF TWO (2) MAJOR GUIDE SIGNS SHALL BE IN PLACE AT ALL TIMES TO DIRECT MOTORISTS TO APPROPRIATE EXITS OR THROUGH ROADWAYS. THE ERECTION OF ANY TEMPORARY SIGNS NECESSARY DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
13. BECAUSE OF QUANTITY OF PAVEMENT REPAIR ON THIS PROJECT, THE CONTRACTOR SHOULD PERFORM THIS PORTION OF THE CONTRACT IN THE INITIAL PHASE.
15. FOR ADDITIONAL MAINTENANCE OF TRAFFIC NOTES, DETAILS AND SKETCHES SEE SHEET NOS. 10 THROUGH 16 AND 18.
16. THE FOLLOWING QUANTITIES SHALL BE USED FOR THE MAINTENANCE OF TRAFFIC ON THIS PROJECT.

ITEM 614 MAINTAINING TRAFFIC LUMP SUM

ITEM SPEC. LAW ENFORCEMENT OFFICER w/ PATROL CAR 8000 HOURS

FOR OTHER MAINTENANCE OF TRAFFIC QUANTITIES SEE SHEET NUMBERS LISTED IN 15 ABOVE.

* This requirement does not preclude the Contractor's use of LEO for other purposes in the project area. However, where such a usage is at the option of Contractor, payment for the LEO services involved will be included in the lump sum price bid for Item 614, Maintaining Traffic.

614 TEMPORARY PAVEMENT MARKINGS

NOTE B

FHWA	STATE	PROJECT	
5	OHIO		

18
29

MAH-76-7.01
MAH-80-(0.00X1.69)
TRU-80-0.00

GENERAL

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, AND WHEN NECESSARY, REMOVE TEMPORARY RETROREFLECTIVE PAVEMENT MARKINGS ON EXISTING, RECONSTRUCTED, RESURFACED OR TEMPORARY ROADS WITHIN THE WORK LIMITS, IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

THE MARKINGS SHALL BE MAINTAINED IN GOOD CONDITION DURING THE REQUIRED SERVICE PERIOD TO PROVIDE DAY AND NIGHT VISIBILITY. THE MARKINGS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER TO MAINTAIN REQUIRED VISIBILITY AND/OR REFLECTIVITY AT NO ADDITIONAL COST TO THE STATE.

MATERIALS

UNLESS OTHERWISE INDICATED ON THE PLANS, TEMPORARY PAVEMENT MARKINGS MAY BE OF PAINT, PAVEMENT MARKING TAPE OR REMOVABLE PAVEMENT MARKING TAPE (TYPE R TAPE).

A. PAINT

PAINT SHALL COMPLY WITH 708.14 AND SHALL BE APPLIED IN ACCORDANCE WITH 621 EXCEPT AS MODIFIED HEREIN.

B. PAVEMENT MARKING TAPE

FLEXIBLE RETROREFLECTIVE PREFORMED PRESSURE SENSITIVE TAPE SHALL HAVE STRAIGHT EDGES AND BE FREE OF CRACKS. THE TAPE SHALL CONSIST OF PIGMENT AND FILLERS WITH SUFFICIENT BINDER AND PLASTICIZER TO RETAIN GLASS BEADS HAVING A REFRACTIVE INDEX MEETING THE MINIMUM REFLECTIVE INTENSITY STANDARD STATED IN THE MANUFACTURERS INFORMATION. THE TAPE SHALL BE FLEXOLITE "WE1 REFLECTIVE", 3M "SCOTCHLANE", OR AN APPROVED EQUAL.

THE GLASS BEADS SHALL BE DISTRIBUTED UNIFORMLY THROUGHOUT THE TAPE WITH SUFFICIENT SURFACE BEADS TO PROVIDE OPTIMUM REFLECTORIZATION AT ALL TIMES.

PAVEMENT MARKING TAPE SHALL COMPLY WITH THE COLOR REQUIREMENTS OF 708.14.

THE TAPE SHALL HAVE A PRECOATED ADHESIVE LAYER FOR PAVEMENT APPLICATION WITHOUT THE USE OF HEAT, SOLVENTS OR ADDITIONAL ADHESIVES. THE ADHESIVE SHALL BE SUFFICIENT TO RETAIN COMPLETE MARKINGS ON THE PAVEMENT SURFACE THROUGHOUT THE USEFUL LIFE OF THE MARKINGS.

IN ADDITION TO THE FOREGOING, ALL TEMPERATURE APPLICATION REQUIREMENTS AND OTHER APPLICABLE MANUFACTURERS MATERIAL AND APPLICATION INSTRUCTIONS SHALL BE FOLLOWED.

WHEN APPROVED BY THE ENGINEER THE CONTRACTOR MAY USE REMOVABLE PAVEMENT MARKING TAPE (TYPE R TAPE), IN LIEU OF THAT DESCRIBED ABOVE, TO FACILITATE REMOVAL OF MARKINGS.

C. REMOVABLE PAVEMENT MARKING TAPE (TYPE R TAPE)

THE MARKING MATERIAL SHALL BE A MIXTURE OF POLYMERIC MATERIALS, PIGMENTS, REINFORCING MEDIUM TO FACILITATE REMOVAL, GLASS BEADS THROUGHOUT THE PIGMENTED PORTION, AND A RETROREFLECTIVE LAYER OF GLASS BEADS BONDED TO THE TOP SURFACE.

THE TAPE SHALL BE PRECOATED WITH A PRESSURE SENSITIVE ADHESIVE CAPABLE OF TEMPORARILY BONDING TO ASPHALT CONCRETE OR PORTLAND CEMENT CONCRETE PAVEMENT AT AN AMBIENT TEMPERATURE OF NOT LESS THAN 50° F AND RISING, AT A PAVEMENT TEMPERATURE OF NOT LESS THAN 50° F NOR MORE THAN 150° F, WITHOUT THE USE OF HEAT, SOLVENTS, AND ADDITIONAL ADHESIVES OR ACTIVATORS.

MATERIALS SHALL CONFORM TO THE COLOR REQUIREMENTS OF 708.14.

THE TAPE SHALL BE REMOVABLE FROM ASPHALT AND PORTLAND CEMENT CONCRETE INTACT OR IN LARGE PIECES AT TEMPERATURES ABOVE 40° F WITHOUT USE OF HEAT, SOLVENTS, GRINDING, OR SANDBLASTING. REMOVAL SHALL NOT RESULT IN DAMAGE TO OR OBJECTIONABLE STAINING OF THE PAVEMENT.

GLASS BEADS SHALL BE PROVIDED IN A PROPER SIZE, QUANTITY AND DISTRIBUTION TO ASSURE OPTIMUM RETROREFLECTIVITY AS THE FILM WEARS. THE FOLLOWING INITIAL AVERAGE REFLECTANCE VALUES AT 86.0° ENTRANCE ANGLE AS MEASURED IN ACCORDANCE WITH THE TESTING PROCEDURES OF FEDERAL TEST METHOD 370 SHALL BE CERTIFIED:

	WHITE	YELLOW
OBSERVATION ANGLE	0.2 0.5	0.1 0.5
SPECIFIC LUMINANCE	1770 1270	1310 810
(MCD/FT ²)/FC		

THE TAPE SHALL BE 3-M COMPANY'S "STAMARK, DETOUR GRADE (SERIES 5710, 5711, 6270, 6211)" OR AN APPROVED EQUAL.

THE CONTRACTOR SHALL FURNISH TO THE ENGINEER CERTIFICATION THAT THE MATERIAL SUPPLIED MEETS THE PROPERTIES SPECIFIED HEREIN.

LAYOUT

THE TEMPORARY MARKINGS SHALL BE ACCURATELY LAID OUT IN CONFORMANCE WITH 621.051 AND SHALL BE LOCATED IN A TRUE LINE ON THE CENTER LINE, LANE LINE, EDGE LINE, OR CHANNELIZING LINE WHERE PERMANENT MARKINGS WOULD BE UNLESS OTHERWISE SPECIFIED IN THE PLANS.

PLACEMENT

TEMPORARY MARKINGS SHALL BE PLACED IN ACCORDANCE WITH LAYOUTS ON SHEETS AND THE FOLLOWING REQUIREMENTS, UNLESS OTHERWISE SPECIFIED IN THE PLANS.

TEMPORARY MARKINGS SHALL BE COMPLETE AND IN PLACE ON ALL PAVEMENT PRIOR TO EXPOSING IT TO TRAFFIC. WHEN TEMPORARY MARKINGS ARE NO LONGER NEEDED, THEY SHALL BE REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH 621.134 AND NECESSARY PAVEMENT MARKINGS INSTALLED BEFORE THE FLOW OF TRAFFIC IS CHANGED TO THE NEXT PHASE OR RETURNED TO ITS NORMAL CHANNEL.

WHERE PERMANENT PAVEMENT MARKINGS ARE CALLED FOR IN THE PLANS, THE CONTRACTOR SHALL FURNISH AND PLACE THE PERMANENT MARKINGS WITHIN 30 CALENDAR DAYS FOLLOWING COMPLETION OF ALL SURFACE COURSES IN A SINGLE ROADWAY OR PRIOR TO THE END OF THE CONSTRUCTION SEASON, WHICHEVER COMES FIRST. PERMANENT MARKINGS SHALL NOT BE PLACED OVER ANY TAPE MARKINGS.

A. CLASS I MARKINGS

CLASS I MARKINGS SHALL BE AS DEFINED IN 621, EXCEPT AS FOLLOWS:

- 1) LANE LINES SHALL BE 4-INCHES IN WIDTH.
- 2) TRANSVERSE LINES SHALL BE 8-INCHES IN WIDTH.
- 3) STOP LINES SHALL BE 12-INCHES IN WIDTH.
- 4) CROSS WALK LINES SHALL BE 8-INCHES IN WIDTH.

GORE MARKINGS SHALL CONSIST OF TWO CHANNELIZING LINES PLACED AT THE THEORETICAL OR TEMPORARY GORE OF RAMPS AND DIVERGING OR CONVERGING ROADWAYS.

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 16 GALLONS PER MILE FOR SOLID 4-INCH LINES, 24 GALLONS PER MILE FOR SOLID 6-INCH LINES, 48 GALLONS PER MILE FOR SOLID 12-INCH LINES, AND 4 GALLONS PER MILE FOR 4-INCH DASHED LINES.

B. CLASS II MARKINGS

CENTER LINES SHALL CONSIST OF SINGLE, YELLOW 12-INCH BY 4-INCH DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

LANE LINES SHALL CONSIST OF WHITE 12-INCH BY 4-INCH DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

CHANNELIZING LINES SHALL CONSIST OF WHITE 12-INCH BY 4-INCH DASHES SPACED AT A MAXIMUM OF 20-FOOT INTERVALS.

GORE MARKINGS SHALL BE TWO CONTINUOUS, WHITE 50-FOOT BY 4-INCH LINES PLACED AT THE THEORETICAL GORE OF AN EXIT RAMP OR DIVERGING ROADWAYS.

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 16 GALLONS PER MILE FOR GORE MARKINGS, 0.8 GALLONS PER MILE FOR CHANNELIZING LINE, AND 0.4 GALLONS PER MILE FOR LANE LINE AND CENTER LINE.

CONFLICTING MARKINGS

THE CONTRACTOR SHALL, PRIOR TO PLACING TEMPORARY MARKINGS, REMOVE ALL EXISTING CONFLICTING MARKINGS VISIBLE TO THE TRAVELING PUBLIC DURING DAYLIGHT OR NIGHTTIME HOURS IN ACCORDANCE WITH 621.134. THE COST FOR REMOVAL OF CONFLICTING MARKINGS SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS.

METHOD OF MEASUREMENT

TEMPORARY PAVEMENT MARKINGS WILL BE MEASURED COMPLETE IN PLACE, BY CLASS AND MATERIAL, IN THE UNITS DESIGNATED. DASHED LINE QUANTITIES WILL BE THE LENGTH OF THE COMPLETED STRIPE, INCLUDING GAPS, INTERSECTIONS, AND OTHER SECTIONS OF PAVEMENT NOT NORMALLY MARKED, IN ACCORDANCE WITH 621.15.

TEMPORARY PAVEMENT MARKINGS WILL INCLUDE THE LAYOUT, APPLICATION AND REMOVAL OF THE MARKINGS, WHEN REQUIRED.

BASIS OF PAYMENT

PAYMENT FOR ACCEPTED QUANTITIES COMPLETE IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL

COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR PLACEMENT, MAINTENANCE AND NECESSARY REMOVAL OF THE MARKINGS.

ITEM	UNIT	DESCRIPTION
614	MILES	TEMPORARY LANE LINES, CLASS _____ (PAINT, TAPE OR TYPE R TAPE)
614	MILES	TEMPORARY CENTER LINES, CLASS _____ (PAINT, TAPE OR TYPE R TAPE)
614	MILES/LIN. FT.	TEMPORARY CHANNELIZING LINES, CLASS _____ (PAINT, TAPE OR TYPE R TAPE)
614	MILES	TEMPORARY EDGE LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	LIN. FT.	TEMPORARY GORE MARKING, CLASS II, (PAINT, TAPE OR TYPE R TAPE)
614	LIN. FT.	TEMPORARY STOP LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	LIN. FT.	TEMPORARY CROSSWALK LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	EACH	TEMPORARY LANE ARROWS, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	EACH	TEMPORARY WORD "ONLY" ON PAVEMENT, 72-INCH, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	LIN. FT.	TEMPORARY TRANSVERSE LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

614	134.73 MILES	TEMPORARY LANE LINES, CLASS II
614	13.02 MILES	TEMPORARY CHANNELIZING LINES, CLASS II
614	6900 LIN. FT.	TEMPORARY GORE MARKINGS, CLASS II

COMPUTATIONS

FHWA REGION	STATE	PROJECT NO.	FUNDS
5	OHIO		

MAH. 76-7.01
MAH-80-(0.00)(1.69)
TRU-80-0.00

100% STATE

NOTE:

Pavement Areas, For The Purposes Of Calculations, Were Divided Into Seven Parts, One For Each Old Construction Plan Involved In The Original Construction. To Shorten The References To The Old Plans Each Of The Plans Will Have A Number As Per The Following:

Plan 1: MAH-80S-7.01; MAH-80-2.30 Vault No. 274
Plan 2: MAH-80-3.37 Vault No. 276
Plan 3: MAH-80-6.30; TRU-80-0.00 Vault No. 252-C
Plan 4: TRU-80-1.55 Vault No. 677-A
Plan 5: TRU-80-3.15 Vault No. 677-B
Plan 6: TRU-80-4.73 Vault No. 677-C
Plan 7: TRU-80-8.90 Vault No. 655-C

Only Pavement Areas Are Shown In The Following Calculations. The Original Calculations That These Areas Were Obtained From Can Be Obtained From The District 4 Location And Design Office, 705 Oakwood Street, Ravenna, Ohio.

ITEM SPECIAL ¾" OPEN GRADED ASPHALT CONCRETE FRICTION COURSE RUBBERIZED

Pavement Area (3 Course Typical):	Paved Berm Area
Plan 1: 82,459.39 S.Y.	17,260.55 S.Y.
Plan 2: 31,155.74 S.Y.	5,680.24 S.Y.
Plan 3: 107,689.04 S.Y.	17,732.41 S.Y.
Plan 4: 38,283.29 S.Y.	7,560.10 S.Y.
Plan 5: 55,640.62 S.Y.	3,275.76 S.Y.
Plan 6: 118,548.29 S.Y.	20,007.01 S.Y.
Plan 7: 97,209.60 S.Y.	17,880.32 S.Y.
Total Pavement Area = 530,985.97 S.Y.	Total Paved Berm Area = 95,396.39 S.Y.

Pavement Area (2 Course Typical):	Plan 1	Plan 6
Plan 2: 11,129.44 S.Y.	10,825.94	
Plan 4: 5,805.81 S.Y.		2,394.44
Plan 5: 7,366.80 S.Y.		
Plan 7: 11,160.99 S.Y.		
Total Pavement Area = 48,683.42 S.Y.		

Total Friction Course Area:
530,985.97 S.Y. + 48,683.42 S.Y. + 95,396.39 S.Y. = 675,065.78 S.Y.
675,065.78 S.Y. x 0.75" ÷ 36 = 14,063.87 C.Y.

Feathers:

Typical No. 2: 49.30 C.Y.
Typical No. 3: 6.60 C.Y.
Typical No. 5: 121.99 C.Y.
Typical No. 7: 26.39 C.Y.

Total Volume = 14268.15 C.Y.
Contingency = 31.85 C.Y.
14,300.00 C.Y.

Total Open Graded Asphalt Concrete Friction Course To Summary = 14,300 C.Y. + 1130 = 15,430

ITEM 848, 1¼" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2

From Friction Course Pavement Area = 579,669.39 S.Y.
Median Crossovers = 4,048.88 S.Y.
Paved Berm Area (3 Course and 2 Course Typical) = 290,661.92 S.Y.
Total Area = 874,380.19 S.Y.
874,380.19 S.Y. x 1.25" ÷ 36 = 30,360.42 C.Y.
Typical No. 2: 82.94 C.Y.
Typical No. 3: 11.00 C.Y.

Paved Berm 2 Course Typical
Plan 1: 5023.81
Plan 6: 810.99
Plan 2: 5533.07 S.Y.
Plan 4: 2005.27 S.Y.
Plan 5: 2759.47 S.Y.
Plan 7: 3688.60 S.Y.
Total Paved Berm Area = 19,821.21 S.Y.

Typical No. 4: 169.84 C.Y.
Typical No. 5: 101.67 C.Y.
Typical No. 7: 356.44 C.Y.
Typical No. 8: 8.32 C.Y.

Total Volume = 31,090.63 C.Y.
Contingency = 59.37 C.Y.
Total = 31,150.00 C.Y.

Total Asphalt Concrete Intermediate Course, Type 2(I) To Summary = 31,150 C.Y.

100% STATE

145.00 C.Y.

ITEM 848, 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2

Pavement Area (3 Course Typical) From Friction Course Area = 530,985.97 S.Y.
530,985.97 S.Y. x 1.75" ÷ 36 = 25,811.82 C.Y.
Paved Berm Area (3 Course Typical) = 268,691.30 S.Y.
270,840.71 S.Y. x 1.75" ÷ 2 ÷ 36 = 6,582.93 C.Y.

Feathers:

Typical No. 2: 54.47 C.Y.
Typical No. 3: 12.55 C.Y.
Typical No. 4: 52.39 C.Y.
Typical No. 5: 401.30 C.Y.
Typical No. 6: 694.21 C.Y.
Typical No. 7: 87.97 C.Y.
Typical No. 8: 3.15 C.Y.

Paved Berm Area
3 Course Typical
Plan #1 43,502.06 S.Y.
Plan #2 10,037.19 S.Y.
Plan #3 58,091.01 S.Y.
Plan #4 19,250.80 S.Y.
Plan #5 23,545.37 S.Y.
Plan #6 66,342.87 S.Y.
Plan #7 49,471.41 S.Y.
Total 270,840.71 S.Y.

Typical No. 10: 5.44 C.Y.
Total Volume = 33,706.23 C.Y.
Contingency = 43.77 C.Y.

Total = 33,750.00 C.Y. Deduct 2000 C.Y. (Areas Overlaid By Maintenance Forces)
Total Asphalt Concrete Intermediate Course, Type 2(IR) To Summary = 31,750 C.Y. + 31,150 + 145 = 63,045 C.Y.

ITEM 848, 0" MINIMUM ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I

From Friction Course Area (IR): 675,065.78 S.Y.
675,065.78 S.Y. x 0.50" (Ave) ÷ 36 = 9,375.92 C.Y.
Feathers (Total Pavement Area) (IR): 18,557.62 S.Y.
Feathers (Total Berm Area): 8,288.17 S.Y.
26,845.79 S.Y. x 0.50" (Ave) ÷ 36 = 372.86 C.Y.

Feathers: Typical No. 1: 101.36 C.Y.
Typical No. 4: 34.55 C.Y.
Typical No. 5 (¾"): 126.60 C.Y.
Typical No. 6 (¾"): 353.85 C.Y.
Typical No. 7 (¾"): 26.39 C.Y.
Typical No. 8: 14.10 C.Y.
Typical No. 10 (¾"): 2.72 C.Y.

Median Crossovers: 4,048.88 S.Y.
4,048.88 S.Y. x 0.50" (Ave) ÷ 36 = 56.23 C.Y. (IR)
Total Volume = 9,805.01 C.Y.
Contingency = 44.99 C.Y.
Total = 9,850.00 C.Y.

Total Asphalt Concrete Intermediate Course, Type I = 665 C.Y.
Total Asphalt Concrete Intermediate Course, Type I (IR) = 9,850 C.Y. (IR)

TO SUMMARY 10,515 C.Y.

Calc. By WDP Date 7-79
Chk. By GLB Date 7-79
Rev'd By GLB Date 3-81

Rev. 10-5-82
Rev. 3-11-82
Rev. 8-10-81

RESURFACING COMPUTATIONS

COMPUTATIONS

FHWA REGION	STATE	PROJECT NO.	FUNDS
5	OHIO		

20
29

MAH-76-7.01
MAH-80-(0.00)(1.69)
TRU-80-0.00

ITEM 407, TACK COAT USING SS924, AS PER PLAN

From Friction Course Pavement Area: 579,669.39 S.Y.
Feathers From 848 0" Min. Asphalt Concrete Area: 26,845.79 S.Y.
Median Crossovers: 4,048.88 S.Y.
Berm Areas: 290,661.92 S.Y.
Total Tack Coat Area = 901,225.98 S.Y.
901,225.98 S.Y. x 0.10 Gal./S.Y. = 90,122.60 Gal.
Contingency = 27.40 Gal.
Total = 90,150.00 Gal.
Total Tack Coat To Summary = 90,150 Gals. +

100% STATE

42,993.87 S.Y.
3,733.33 S.Y.
7,165.64 S.Y.
TOTAL TACK COAT AREA 53,852.84 S.Y.
53,852.84 x 0.10 GAL./S.Y. = 5,385.28 GAL.
CONTINGENCY = 10.72 GAL.
TOTAL 5,400.00 GAL.
TOTAL TO SUMMARY 5,400 GAL. = 95,550

407 COVER AGGEGATE = 3344 TON

ITEM 301 BITUMINOUS AGGREGATE BASE

From Special Drainage Connection 90822.17 L.F. @ 2" To 2" Pipe
90822.17 x 2.75 x .25 ÷ 27 = 2312.60 Cu.Yds.

63,619.97 L.F. @ 3" To 2" Pipe
63,619.97 x 3.75 x .25 ÷ 27 = 2417.36 Cu.Yds.
Total = 4729.90 Cu.Yds.
Contingency 30.10 Cu.Yds.
4760.00 Cu.Yds.

Total Bituminous Aggregate Base To Summary 4760 Cu.Yds.

ITEM 310 SUBBASE, GRADING "A", Type I

90822.17 x 2.75 x (6 + 5.14) ÷ 2 ÷ 12 ÷ 27 = 4293.75 Cu.Yds.
63,619.97 x 3.75 x (6 + 4.83) ÷ 2 ÷ 12 ÷ 27 = 4363.33 Cu.Yds.
8657.06 Cu.Yds.
Contingency 12.94 Cu.Yds.
8670.00 Cu.Yds.

Total 310 Subbase To Summary 8670 Cu.Yds.

Calc. By WDP Date 7-79
Chk. By GLB Date 7-79
Rev'd By GLB Date 3-81

Rev. 10-5-82
Rev. 3-11-82
Rev. 2-18-82
Rev. 8-10-81

RESURFACING COMPUTATIONS

SUB-SUMMARY

CALC. BY WDP DATE 7-79
 CHK'D BY GLB DATE 7-79
 REV'D BY GLB DATE 3-81

FHWA REGION	STATE	PROJECT NO.	FUNDS
5	OHIO		

MAH. 76-7.01
 MAH-80- (0.00) (1.69)
 TRU-80- 0.00

MARK	LOCATION	STATION		202 CURB REMOVED LIN. FT.	604 CATCH BASIN ADJ. TO GRADE EACH	202 TRAFFIC ISLAND REMOVED Sq. Yds.
		FROM	TO			
C-1	Ramp "A"	12+62.68	17+12.68	450		
C-2	Left	11+38.07	17+63.07	625		
C-3	Left	857+75	862+95.70	521		
C-4	Left	409+54	410+54	150		19
C-5	W. B. Right	0+00	2+47	247		
D-1		28+60	Ramp G		/	
C-6	Ramp "D"	16+85	19+99.85	314.85		
D-2	Right	424+25			/	
D-3	Ramp "A" Right	1+20			/	
D-4	Right	133+00			/	
D-5	Right	154+66			/	
C-7	Ramp "A" Right	0+00	2+42	242		
C-8	Ramp "D" Left	11+87	16+48.17	461		
D-6	Ramp "D" Left	194+80			/	
D-7	Ramp "F" Left	176+90			/	
D-8	Ramp "F" Left	178+00			/	
C-9	Ramp "F" Left	175+34.79	179+84.79	450		
C-10	Ramp "D" Left	193+95	196+03	209		
C-11	Ramp "K" Right	229+21	230+61	140		
C-12	Ramp "M"	234+07	236+67	260		
D-9	Right	256+60			/	
C-13	Ramp "A" Right	12+00	16+92	492		
C-14	Ramp "A" Right	8+69.19	13+50	481		
D-10	Ramp "A"	10+75			/	
C-15	Ramp "G"	2+00	6+00	400		
D-11	Left	402+00			/	
D-12	Left	369+64			/	
C-16	Ramp A	488+32.45	492+32.45	400		
D-13	Ramp A	492+32.45			/	
C-17	Ramp E	458+33.24	454+08.24	425		
	TOTALS			6267.85	13	19

SUB-SUMMARY

SUB-SUMMARY

GUARD RAIL AT STRUCTURES

Calc. By: GB DATE: 3/82
Ch'd. By: FJ DATE: 3/82

FYWA REGION	STATE	PROJECT NO.	FUNDS
5	OHIO		

21A
29

MAH-76-7.01
MAH-80-(0.00)(1.69) TRU-80-0.00

SIDE	LOCATION	STATION		606 GUARD RAIL TYPE S	202 GUARD RAIL REMOVED FOR STORAGE LIN. FT.	606 ANCHOR ASSEMBLY			606 BRIDGE TERMINAL ASSEMBLY TYPE C EA.	202 BARRIER GUARD RAIL REMOVED FOR STORAGE LIN. FT.	606 BRIDGE TERMINAL ASSEMBLY TYPE J EA.	606 BRIDGE TERMINAL ASSEMBLY TYPE D EA.	606 BRIDGE TERMINAL ASSEMBLY TYPE H EA.	606 BARRIER GUARD RAIL TYPE S LIN. FT.
		FROM	TO			REG.	TYPE	BAR						
LT	MAH-76-0701	312+85	313+13	28	25									
LT	MAH-76-0701	312+67	313+10	53	25									
RT	MAH-76-0701	367+18	370+21	53	25									
RT	MAH-76-0701	369+73.7	370+01.7	28	25									
LT	MAH-76-0761	403+65	403+93	28	25									
LT	MAH-76-0761	403+60	406+63	53	25									
RT	MAH-76-0761	398+88	401+91	53	25									
RT	MAH-76-0761	401+58	401+86	28	25									
LT	MAH-80-0076	494+30	495+42.5	112.5										
LT	MAH-80-0076	494+26	495+38.5	112.5										
LT	MAH-80-0076	496+81	497+09	28	25									
LT	MAH-80-0076	496+77	499+80	53	25									
RT	MAH-80-0076	492+08	495+11	53	25									
RT	MAH-80-0076	494+80	495+08	28	25									
RT	MAH-80-0125	518+07	521+10	53	25									
RT	MAH-80-0125	519+57	521+10	153	150									
LT	MAH-80-0125	545+79.3	547+32.3	153	150									
LT	MAH-80-0125	545+79.3	548+00	53	25									
RT	MAH-80-0125	545+79.3	546+07.3	28	25									
RT	MAH-80-0247	584+15	584+43	28	25									
RT	MAH-80-0247	581+52	584+55	53	25									
LT	MAH-80-0247	586+47	586+75	28	25									
LT	MAH-80-0247	586+35	589+58	53	25									
RT	MAH-80-0313	617+32	620+35	53	25									
RT	MAH-80-0313	620+23.8	620+57.8	28	25									
LT	MAH-80-0313	621+32	624+35	53	25									
LT	MAH-80-0313	621+15.4	621+43.4	28	25									
RT	MAH-80-0332	626+65	629+68	53	25									
RT	MAH-80-0332	629+01	629+29	28	25									
LT	MAH-80-0332	631+94	634+97	53	25									
LT	MAH-80-0332	632+34	632+62	28	25									
RT	MAH-80-0515	872+69.5	872+97.5	28	25									
RT	MAH-80-0515	872+62	872+90	28	25									
RT	MAH-80-0515	869+28	869+56	28	25									
RT	MAH-80-0515	869+21	869+49	28	25									
RT	TRU-80-0163	80+54	82+82	28	50									50
RT	TRU-80-0163	82+37.5	82+65.5	28	25									
RT	TRU-80-0199	99+34	101+62	28	50									50
RT	TRU-80-0199	101+20.5	101+48.5	28	25									
LT	TRU-80-0199	0+13 RAMP A	1+01	28	25									
RT	TRU-80-0199	108+98	111+26	28	50									50
RT	TRU-80-0223	114+68	116+96	28	50									50
RT	TRU-80-0223	116+79	117+07	28	25									
LT	TRU-80-0223	118+75	121+01	28	50									50
LT	TRU-80-0223	118+61	118+89	28	25									
RT	TRU-80-0358	190+21 RAMP B	190+49	28	25									
RT	TRU-80-0358	190+69 RAMP B	190+97	28	25									
RT	TRU-80-0358	191+49	192+24	50	25									
LT	TRU-80-0404	214+16	214+44	28	25									
LT	TRU-80-0404	214+33	216+81	28	50									50
RT	TRU-80-0404	213+70	213+98	28	25									
RT	TRU-80-0404	211+30	213+58	28	50									50
LT	TRU-80-0425	225+99	226+27	28	25									
RT	TRU-80-0425	220+79	223+07	28	50									50
RT	TRU-80-0425	222+42	222+70	28	25									
RT	TRU-80-0425	220+79	223+07	28	50									50
RT	TRU-80-0425	224+83	223+08	825										
LT	TRU-80-0482	271+34.5	271+62.5	28	25									
RT	TRU-80-0482	271+46	273+74	28	50									50
RT	TRU-80-0482	269+87.5	270+15.5	28	25									
RT	TRU-80-0482	267+75	270+03	28	50									50
SUB-TOTAL				2471	2800	2	2	23	28	1000	3	24	4	550

SIDE	LOCATION	STATION		606 GUARD RAIL TYPE S	202 GUARD RAIL REMOVED FOR STORAGE LIN. FT.	606 ANCHOR ASSEMBLY			606 BRIDGE TERMINAL ASSEMBLY TYPE C EA.	202 BARRIER GUARD RAIL REMOVED FOR STORAGE LIN. FT.	606 BRIDGE TERMINAL ASSEMBLY TYPE J EA.	606 BRIDGE TERMINAL ASSEMBLY TYPE D EA.	606 BRIDGE TERMINAL ASSEMBLY TYPE H EA.	606 BARRIER GUARD RAIL TYPE S LIN. FT.	606 BARRIER GUARD RAIL TYPE S LIN. FT.
		FROM	TO			REG.	TYPE	BAR							
RT	TRU-80-0514	318+12	319+00	28	25										
RT	TRU-80-0514	316+67	318+95	28	50										
LT	TRU-80-0574	319+37	320+25	28	25										
LT	TRU-80-0574	320+01	322+29	28	50										
LT	TRU-80-0922	504+97	506+25	103	100										50
LT	TRU-80-0922	505+11	512+28	350	225					75					375
RT	TRU-80-0922	501+27.5	504+18	265.5	262.5										
RT	TRU-80-0922	501+38	504+08	175	200										75
RT	TRU-80-0922	505+48	512+18	676	670										
LT	TRU-80-0920	14+19 RAMP A	14+57	465.5	462.5										
LT	TRU-80-0920	15+12 RAMP A	19+25	328	325										
RT	TRU-80-0920	15+62 RAMP A	18+15	228	225										
LT	TRU-80-0938	511+86.32	BRIDGE	50											
LT	TRU-80-0938	515+19	515+47	28	25										
LT	TRU-80-0938	515+12	517+87	175	200										
RT	TRU-80-0938	509+25	512+25	225						75					75
RT	TRU-80-0938	14+91 RAMP D	19+81.5	477.5	400										
LT	TRU-80-1066	574+41.5	580+07	553	550										
LT	TRU-80-1066	583+26	591+16.5	765.5	712.5										
LT	TRU-80-1066	583+16	585+94	175	225										75
RT	TRU-80-1066	576+64	579+64	275	187.5										
RT	TRU-80-1066	582+85	587+86	450.5	487.5										
RT	TRU-80-1066	576+98	579+73	175	225										75
N.B.	MAH-680-0001	422+20	422+48	28	25										
N.B.	MAH-680-0001	421+53	421+81	28	25										
N.B.	MAH-680-0007	412+32	413+20	28	25										
N.B.	MAH-680-0007	412+30	412+58	28	25										
N.B.	MAH-680-0040	430+57	430+85	28	25										
N.B.	MAH-680-00	430+19	430+47	28	25										
N.B.	MAH-680-00	429+31	429+59	28	25										
N.B.	MAH-680-00	428+12	429+20	28	25										
SUB-TOTAL				6091.5	6157.5	6	4	7	13	150	6	4	4	725	4
TOTALS				8562.5	8957.5	8	6	30	41	1150	9	28	8	1275	4

SUB-SUMMARY

REV 10-5-82

CALC. BY <u>W.D.P.</u> DATE <u>7-79</u>	MAH. 76-7.01 MAH-80-(0.00)(1.69) TRU-80-0.00	OHIO FHWA REGION 5	22 29
CHKD. BY <u>G.L.B.</u> DATE <u>3-81</u>	REV'D BY <u>G.L.B.</u> DATE <u>3-81</u>		

LD0303 - Rev. 11-21-73

GENERAL SUMMARY

Rev. 10-23-82 Rev. 10-5-82
Rev. 8-10-81

SWWA REGION	STATE	PROJECT	
5	OHIO		

10-5-82
 8-10-81
 4-2-82

24
29

Rev. 10-5-82
Rev. 8-30-82 JH
Rev. 8-10-81

PAVEMENT MARKING SUB-SUMMARY									
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25
29

Rev. 10-5-82
Rev. 8-10-81
4-2-80
8-30-82

26
79

Rev. 10-5-82
Rev. 8-30-82 HEB
Rev. 8-10-81

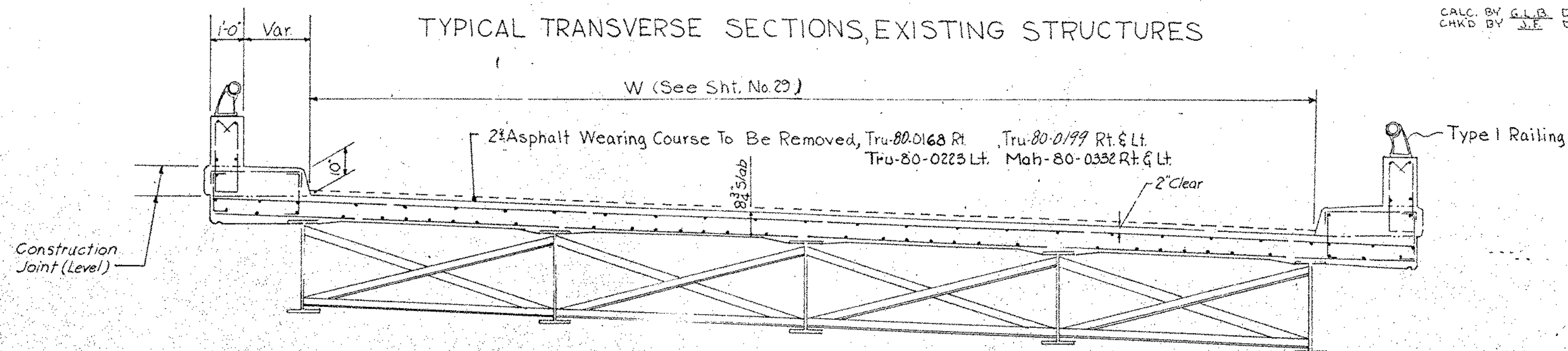
TYPICAL TRANSVERSE SECTIONS, EXISTING STRUCTURES

CALC. BY G.L.B. DATE 3-79
CHKD BY J.E. DATE 3-79

FHWA REGION	STATE	PROJECT NO.	FUNDS
5	OHIO		

27
29

MAH - 76 - 7.01
MAH - 80 - (0.00)(1169)
TRU - 80 - 0.00



Mah-76-0701 Rt. & Lt.

Tru-80-0199 Rt. & Lt.

Tru-80-0482 Rt. & Lt.

Mah-680-0007 S.B.

Tru-80-0223 Rt. & Lt.

Tru-80-0574 Rt. & Lt.

Mah-680-0040 S.B.

Tru-80-0356 Rt. (No Work)

Tru-80-0856 Lt. (No Work)

Mah-680-0033 N.B.

Mah-80-0332 Rt. & Lt.

Tru-80-0358 Lt.

Tru-80-0839 Rt. (No Work)

Mah-680-0001 N.B.

Mah-80-0515 Rt. & Lt.

Tru-80-0404 Rt. & Lt.

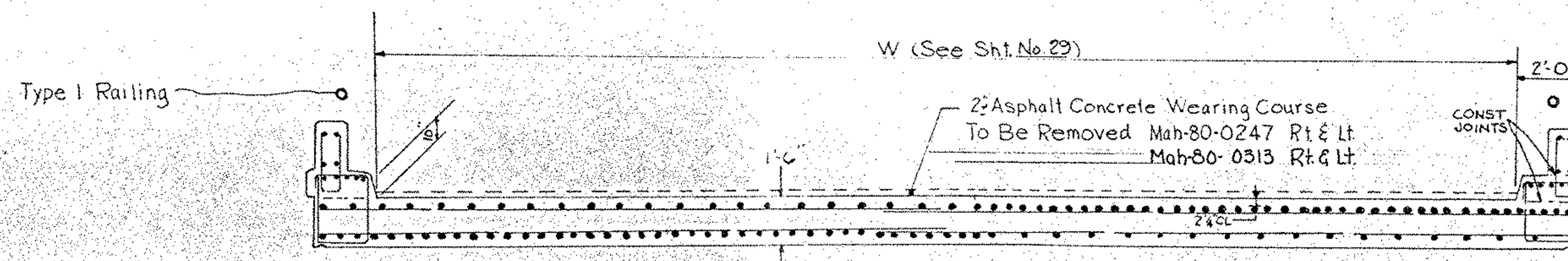
Tru-80-0922 Rt. & Lt.

Tru-80-0168 Rt. & Lt. (Lt. No Work)

Tru-80-0425 Rt. & Lt.

Tru-80-0938 Rt. & Lt.

Tru-80-1066 Rt. & Lt.



Mah-76-0761 Rt. & Lt.

Mah 80 0076 Rt. & Lt.

Mah 80 0247 Rt. & Lt.

Mah-80-0313 Rt. & Lt.

TYPICAL EXISTING STRUCTURES

Rev. 10-5-82
Rev. 3-12-82
Rev. 8-10-81

STRUCTURE QUANTITIES

CALC. BY G.E. DATE 3/82
CHKD. BY E.J. DATE 3/82

FHWA REGION	STATE	PROJECT NO.	FUNDS
5	OHIO		

MAH-76-7.01
MAH-80(0.00)-(1.69)
TRU-80-0.00

Side	Bridge Number	Bridge Limits		Length L Ft.	Width W *Designates Ave W Ft.	Area Sq Yds.	Latex Modified Concrete Overlay T=1/4" Sq Yd.	Latex Modified Concrete Variable Thickness Cu Yd.	Full Depth Repair Cu Yd.	Wearing Course Removed Sq Yd.	Vertical Extension Of Expansion Joints Type I Lin Ft.	Vertical Extension Of Expansion Joints, As. Per Plan Lin. Ft.	Typical Feathers Sheet No 647 REMOVAL OF EXISTING EXPANSION JOINT EXTENSIONS Lin. Ft.
		From	To										
Lt	MAH-76-0701	370+32.46	372+53.54	221.08	38.00	933.45	933.5	26				82.9	3.5
Rt	"						933.5	26				82.9	3.5
Lt	MAH-76-0761	401+95.04	403+58.53	163.51	39.67	720.70	720.7	16	6				5
Rt	"						720.7	16					5
Lt	MAH-80-0076	495+23.82	496+67.32	143.50	39.00	621.83	621.8	52					5
Rt	"						621.8	52					5
Lt	MAH-80-0247	584+72.92	586+16.50	143.58	38.00	606.23	606.2	16		606.2			5
Rt	"						606.2	16		606.2			5
Lt	MAH-80-0313	620+25.85	621+40.50	113.65	38.00	479.86	480.0	14		480			6
Rt	"						480.0	14		480			6
Lt	MAH-80-0332	629+97.88	631+61.42	206.58	38.00	950.08	950.1	26		950.1		111.7	6.7
Rt	"						950.1	26		950.1		111.7	6.7
Lt	MAH-80-0515	869+48.82	870+16.37	160.55	38.00	677.88	677.9	18				76.8	5.7
Rt	"						677.9	18				76.8	5.7
Lt	TRU-80-0168	82+89.54	83+43.72	NO WORK									
Rt	"	82+89.54	83+43.72	554.18	33.00	2031.99	2032.0	90		2032.0		68.1	7
Lt	TRU-80-0199	101+47.66	109+13.08	745.42	Var.	4062.74	4062.7	112		4062.7	55.0	161.1	7.0
Rt	"	101+71.72	109+13.44	741.72	Var.	3558.87	3558.9	198	20	3558.9	81.9	183.8	7.10
Lt	TRU-80-0223	116+96.26	118+72.92	176.66	38.00	745.90	745.9	20		745.9		78.6	7.5
Rt	"						745.9	20		745.9		78.6	7.5
Lt	TRU-80-0356	187+26.81	189+28.30	NO WORK									
Lt	TRU-80-0358	187+70.92	190+26.82	255.90	60.80	1728.89	1729.0	48				165.9	8.5
Rt	"						1729.0	48				165.9	8.5
Lt	TRU-80-0404	213+26.32	214+85.46	159.14	38.00	671.92	671.9	18				103.7	5
Rt	"						671.9	18				103.7	5
Lt	TRU-80-0425	223+35.83	225+20.77	184.94	51.90	1066.08	1066.1	30				272.8	5
Rt	"						1066.1	30				272.8	5
Lt	TRU-80-0482	269+94.75	271+56.91	162.16	38.00	684.68	684.7	24				78.6	5
Rt	"						684.7	24				78.6	5
Lt	TRU-80-0574	318+90.16	320+08.20	118.04	38.00	498.39	498.4	12				76.8	5
Rt	"						498.4	12				76.8	5
Lt	TRU-80-0856	458+89.05	463+42.45	NO WORK									
Rt	"												
Lt	TRU-80-0839	14+60.59	15+69.24	108.65	25.67	309.89	309.9	8				51.7	5.10
Rt	"						309.9	8				51.7	5.10
Lt	TRU-80-0920	503+98.82	505+20.46	121.64	39.67	536.16	536.2	14				81.8	5
Rt	"						536.2	14				81.8	5
Lt	TRU-80-0938	512+45.07	514+94.62	249.56	49.45	1371.05	1371.1	38				100.3	7
Rt	"						1371.1	38				100.3	7
Lt	TRU-80-10.66	579+85.16	583+04.84	319.68	30.00	1065.60	1065.6	30				62.4	5
Rt	"						1065.6	30				62.4	5
SB	MAH-680-0007	413+22.51	415+15.86	193.35	33.67	852.24		24				14.0	5
SB	MAH-680-0040	430+54.64	432+72.34	217.70	47.04	1137.85	1137.9	44				118.6	5
NE	MAH-680-0133	426+97.18	428+26.82	223.64	38.00	967.48	967.5	32				108.6	5.8
NE	MAH-680-0201	418+53.17	421+56.01	226.84	51.67	1704.19	1704.2	56				170.0	5
CONTINGENCY									5	1388.5			
TOTAL							38236.4	1284	39	16,00.8	136.9	3230.1	214.3

Note: The existing expansion joint extension consists of two 2"x1/2" bars.

** WHEN TWO-INCH DEPTH IS REACHED AT RAMP C USE 2 COURSE TYPICAL

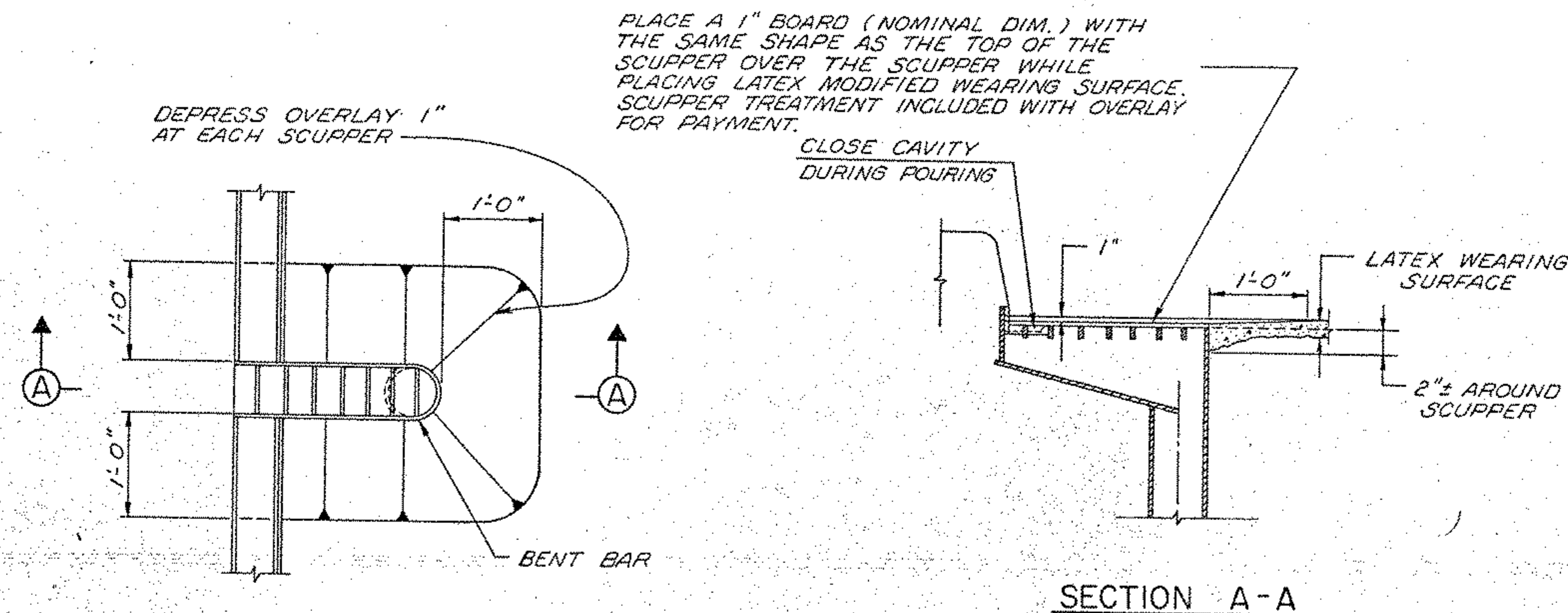
O INDICATES 100% STATE FUNDING

O FEATHER TO TWO COURSE TYPICAL AT RAMPS D & E

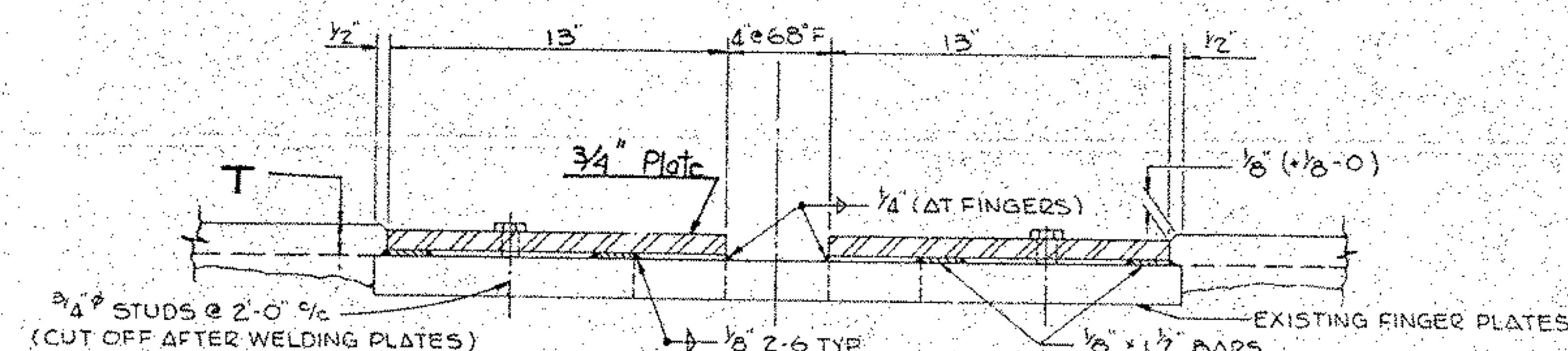
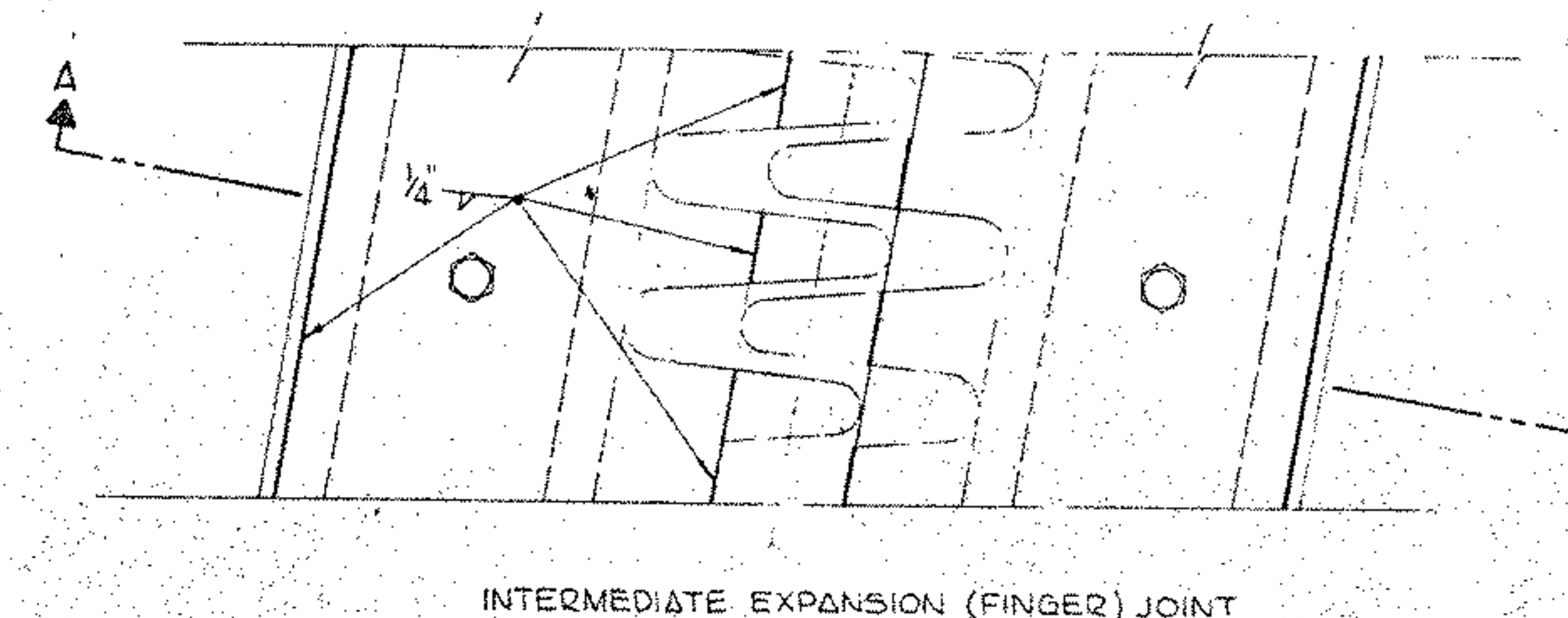
+ THIS QUANTITY IS PROVIDED TO REMOVE FEATHER AREAS BEYOND THE BRIDGE LIMITS
* See Sht. No. 8ITEM 516 VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS, AS PER PLAN
ITEM 845 FULL DEPTH REPAIR
ITEM 845 LATEX MODIFIED CONCRETE OVERLAY (1/4" OVERLAY) as per plan
ITEM 845 LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS) as per planITEM SPECIAL VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS, TYPE I
ITEM 202 WEARING COURSE REMOVED
ITEM 202 REMOVAL OF EXISTING EXPANSION JOINT EXTENSIONSGRAND TOTAL
3230 Lin. Ft.
39 Cu. Yds.
38,237 Sq. Yds.
1284 Cu. Yds.100% STATE FUNDS
291 Lin. Ft.
3995 Sq. Yds.
110 Cu. Yds.IR-FUNDS
2939 Lin. Ft.
39 Cu. Yds.
34242 Sq. Yds.
1174 Cu. Yds.137 Cu. Yds.
12606 Sq. Yds.Rev. 4-4-83
Rev. 10-5-82

STRUCTURE QUANTITIES

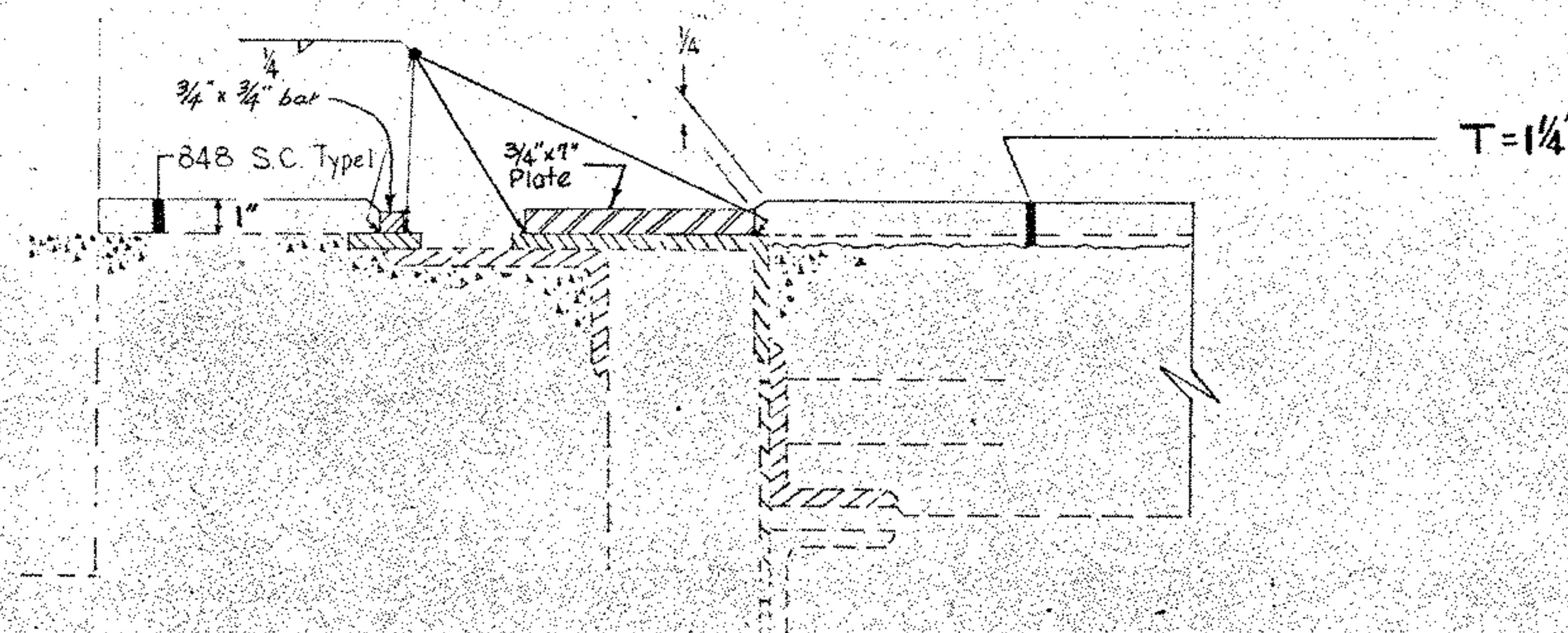
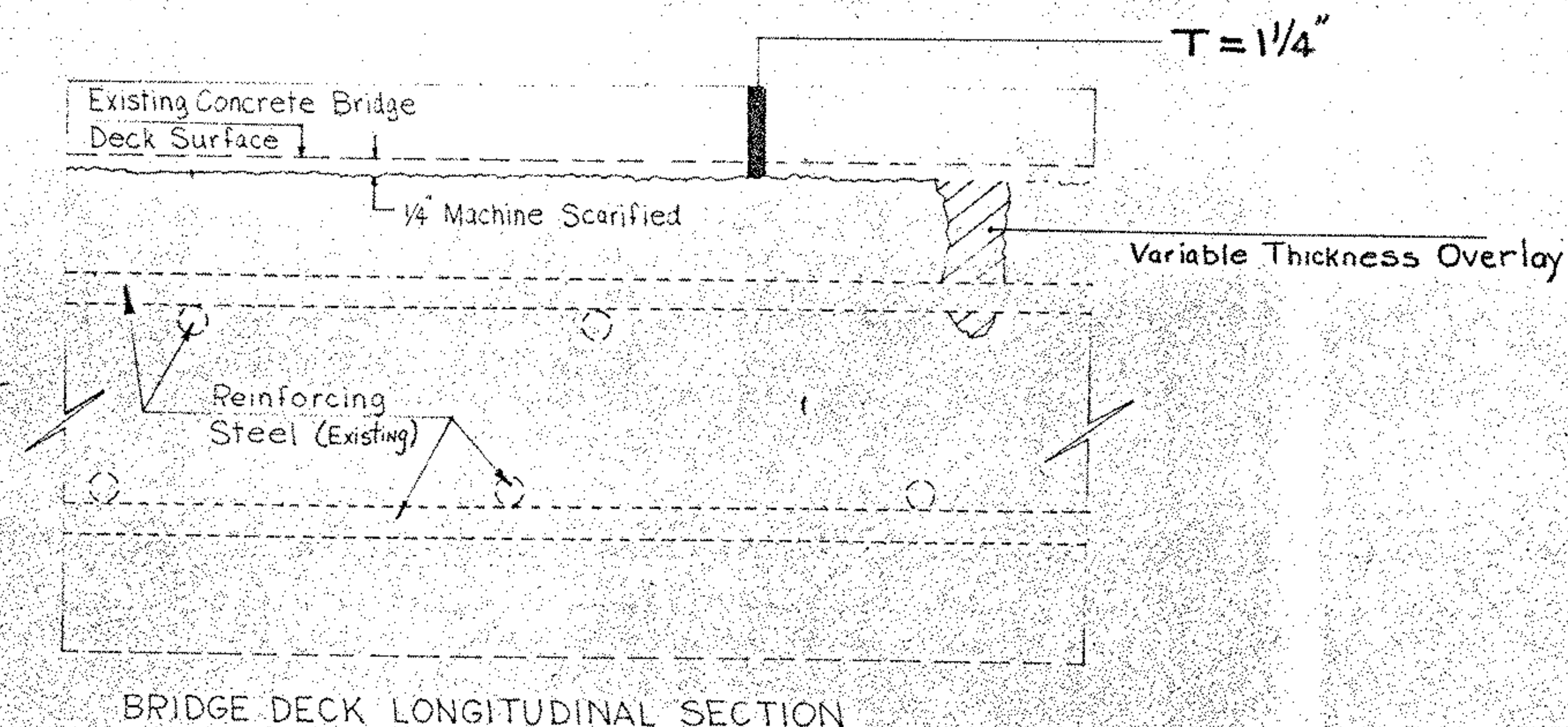
MAH-76-701
MAH-80-(0.00)(169)
TRU-80-0.00



SCUPPER TREATMENT DETAIL
PLAN VIEW



LATEX MODIFIED CONCRETE OVERLAY



TYPICAL STRUCTURE TREATMENT

Mah-76-0701 Lt. & Rt.	Mah-80-0247 Lt. & Rt.	Mah-80-0332 Lt. & Rt.	Tru-80-0199 Lt. & Rt.	Tru-80-0482 Lt. & Rt.
Mah-76-0761 Lt. & Rt.	Mah-680-0040 S.B.	Mah-80-0515 Lt. & Rt.	Tru-80-0223 Lt. & Rt.	Tru-80-0574 Lt. & Rt.
Mah-80-0076 Lt. & Rt.	Mah-80-0313 Lt. & Rt.	Tru-80-0168 Rt.	Tru-80-0356 Rt.	Tru-80-0920
	Mah-680-0035 N.B.		Tru-80-0358 Lt.	Tru-80-0922 Lt. & Rt.
	Mah-680-0001 N.B.		Tru-80-0404 Lt. & Rt.	Tru-80-0938 Lt. & Rt.
			Tru-80-0425 Lt. & Rt.	Tru-80-1066 Lt. & Rt.

Mah-76-0701 Lt. & Rt.	Tru-80-0168 Rt.	Tru-80-0358 Lt.	Tru-80-0574 Lt. & Rt.	Mah-680-0007 S.B.
	Tru-80-0199 Lt. & Rt.	Tru-80-0404 Lt. & Rt.	Tru-80-0920	Mah-680-0040 S.B.
Mah-80-0332 Lt. & Rt.	Tru-80-0223 Lt. & Rt.	Tru-80-0425 Lt. & Rt.	Tru-80-0922 Lt. & Rt.	Mah-680-0033 N.B.
Mah-80-0515 Lt. & Rt.	Tru-80-0356 Rt.	Tru-80-0482 Lt. & Rt.	Tru-80-0938 Lt. & Rt.	Mah-680-0001 N.B.
			Tru-80-1066 Lt. & Rt.	

Rev. 10-5-82
Rev. 3-5-82
Rev. 10-8-81
Revised 3/81
Revised 10-3-79

DETAILS