OHIO DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

FHWA REGION	STATE	FEDERAL PROJECT	
5	OHIO		

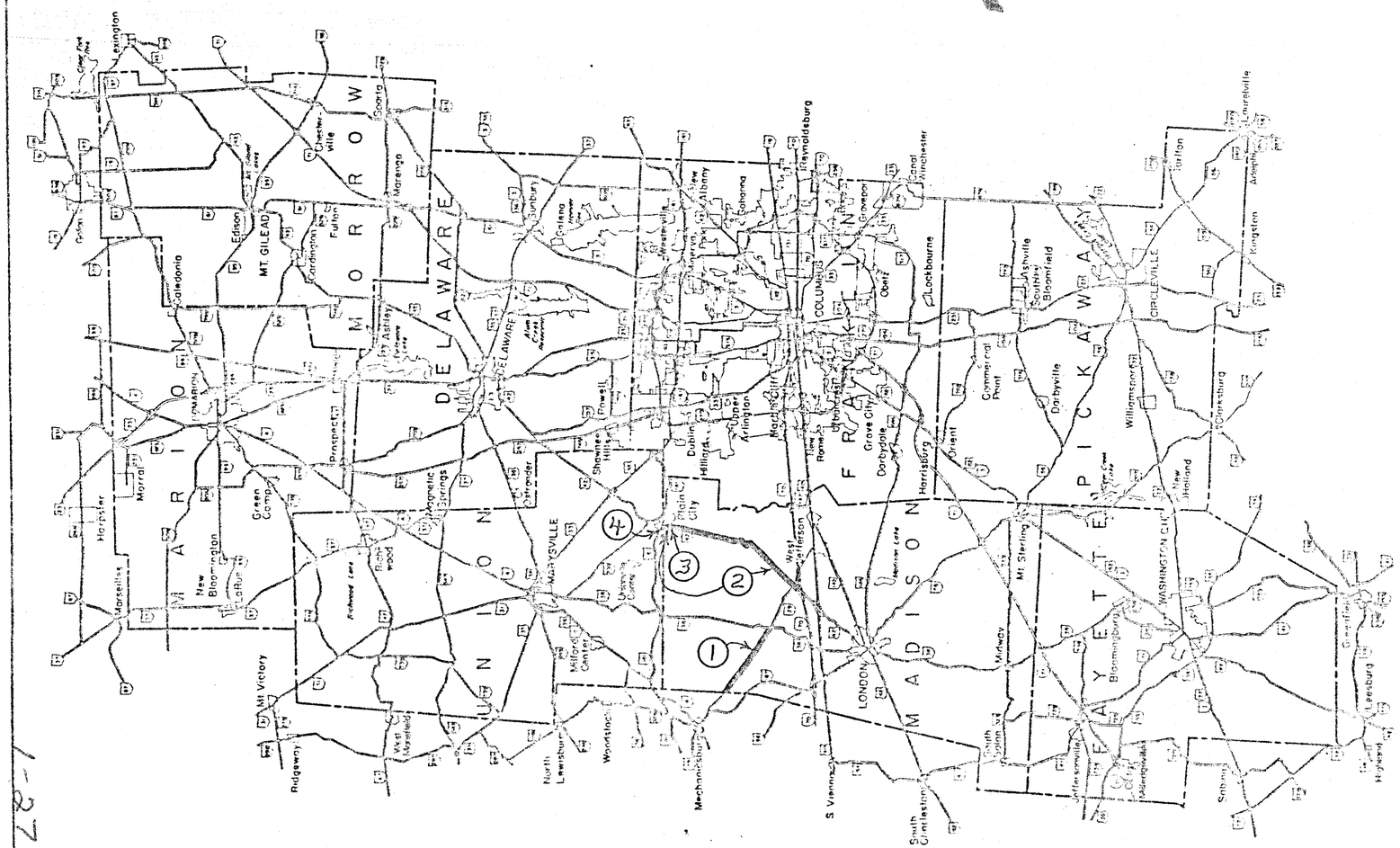
1/17

PLAN NO. 108

PART	COUNTY	ROUTE	SECTIONS	PROJECT TERMINI BEGIN	PROJECT TERMINI END	NET LENGTH MILES	TOWNSHIP	CITY	VILLAGE
1	MAD	SR29	(0.00-0.75)	0.00	5.97	5.97			
2	MAD	US42	(13.30-14.87)(24.86)	13.30	25.19	11.67			
3	MAD	US42	(24.64 - 24.68)	24.64	24.86	0.22			Plain City
4	UNI	US42	(0.00)	0.00	0.11	0.11			Plain City

LOCATION MAP

45-82



N

PORTION TO BE IMPROVED

The Standard 19 85 Specifications of the State of Ohio, Department of Transportation, including changes and Supplemental Specifications listed in the plans and proposal shall govern these improvements.

I hereby approve these plans and declare that the making of these improvements will require the closing of the highways to traffic on Parts No. _____ and that detours will be provided by State forces. The closing to traffic of the highways will not be required on Parts No. 1, 2, 3 and 4 and provisions for the maintenance and safety of traffic will be as indicated in the proposal.

Approved Date 7/28/86 — District Deputy Director of Transportation

Approved Date 8-14-86 — Engineer of Bridges Walter J. Justinger

Approved Date _____ — Engineer of Maintenance

Approved Date 11-1-86 — Deputy Director, Operations

Approved Date _____ — Assistant Deputy Director, Program Development

Approved Date _____ — Chief Engineer, Construction

Approved Date _____ — Chief Engineer, Design

Approved Date _____ — Assistant Director, Department of Transportation

Approved Date 11-12-86 — Director, Department of Transportation

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR _____ DATE _____

STANDARD DRAWINGS		SUPPLEMENTAL SPECIFICATIONS	
BP-5	1-11-85	847	10-17-83
TC-71.10	4-9-79	947	10-17-83

28-82

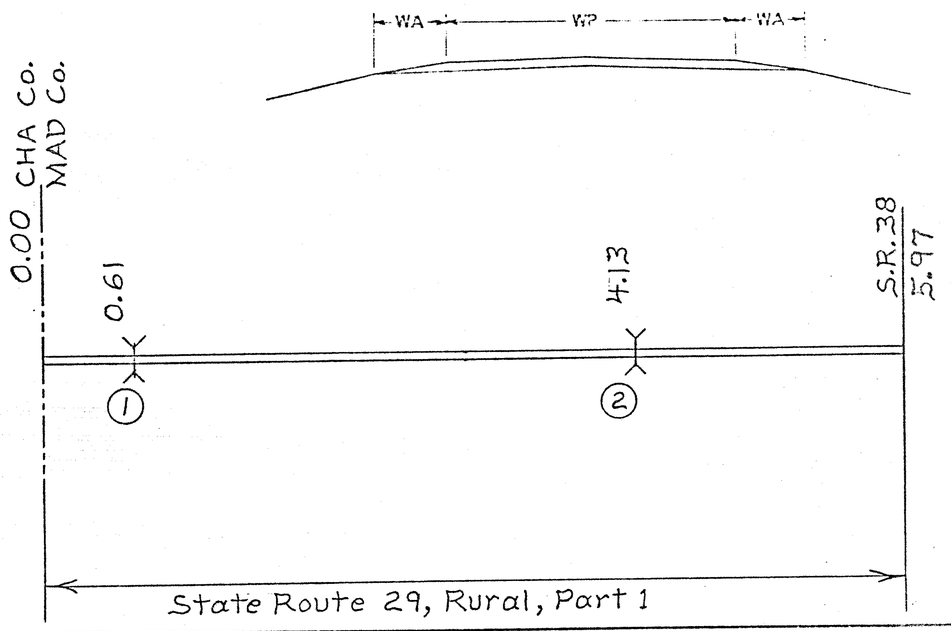
DEPARTMENT OF TRANSPORTATION
M& R 707 REV. 9-1-83

ASPHALT CONCRETE

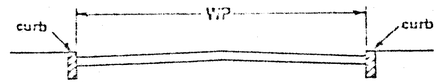
PLAN NO. 108 (2/17)

MAD-S.R.29-0.00
MAD-U.S.42-13.30
UNI-U.S.42-0.00

TYPICAL 1



TYPICAL 2



(3) Item Special - Pavement Repair See page 8 for Detail and Quantity.

(1) Omit resurfacing on structures MAD-29-0061 and MAD-42-1454. The 404 surface course shall be applied with a ButtJoint to these Structures as detailed on Page 8

(2) Remove and Replace
The existing wearing course shall be removed to a depth equal to the proposed 404 resurfacing course on Structures MAD-29-0413, MAD-42-2056, MAD-42-2351 and MAD-42-2465. Removal shall be tapered to 0" in 75 feet on each end of structure. See Detail Page 8

PAVEMENT DATA

PART	ROUTE	LOG POINT TO LOG POINT	LENGTH MILES	LENGTH LIN. FT.	WP FEET	TYPICAL	EXISTING TYPE PAVEMENT	PAVEMENT AREA SQ. YDS.	PROPOSED PAVEMENT 407 TACK COAT @ .0.1 gal./s.y. GALS.	407 COVER AGGR. @ ...7... lbs./s.y. TONS	ASPHALT CONCRETE ITEM 404 THICK INCHES	ITEM 404 CU. YDS.	ITEM ..... THICK INCHES	ITEM ..... CU. YDS.	ITEM ..... THICK INCHES	ITEM ..... CU. YDS.	202 Wearing Course Removed Sq. Yd.
1	S.R. 29	0.00 – 0.75	0.75	3,960	20	1	404	8,800									
		0.75 – 4.50	3.75	19,800	18	1	404	39,600									
		4.50 – 5.97	1.47	7,762	20	1	404	17,249									
	Extra Areas from Page 4							606									
	Totals	Part 1	5.97	31,522				66,255	6,626	232	1½	2,761					913
2	U.S. 42	13.30 – 24.64	11.34	59,875	24	1	404	159,667									
		24.86 – 25.19	0.33	1,742	24	1	404	4,645									
	Extra Areas from Page 4							5,514									
	Totals	Part 2	11.67	61,617				169,826	16,983	594	1½	7,076					1341

DEPARTMENT OF TRANSPORTATION
M& R 707 REV. 9-1-83

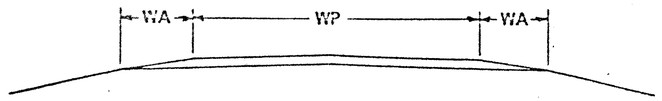
* 1/2 Rural

ASPHALT CONCRETE

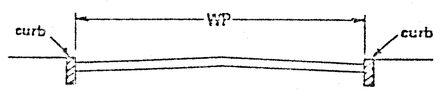
PLAN NO. 108 (3/17)

MAD-S.R 29-0.00
MAD-U.S.42-13.30
UNI-U.S.42-0.00

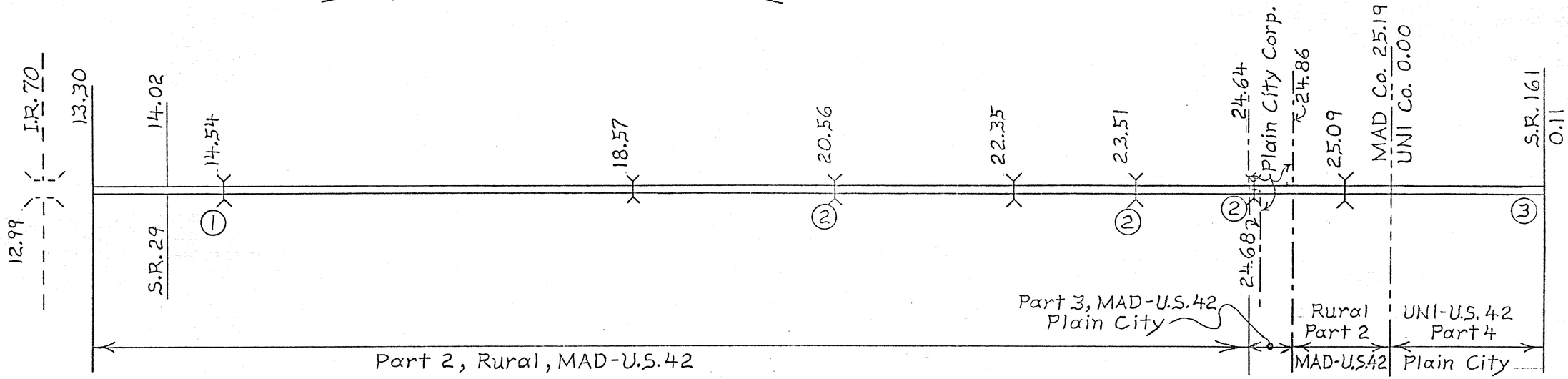
TYPICAL 1



TYPICAL 2



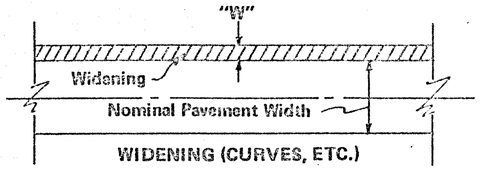
See Page 2 for Notes



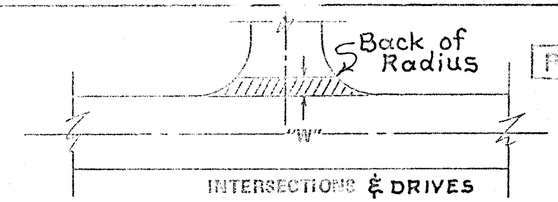
PAVEMENT DATA

PART	ROUTE	LOG POINT TO LOG POINT	LENGTH MILES	LENGTH LIN. FT.	WP FEET	TYPICAL	EXISTING TYPE PAVEMENT	PAVEMENT AREA SQ. YDS.	PROPOSED PAVEMENT 407 TACK COAT @ .0.1... gal./s.y. GALS.	407 COVER AGGR. @ ..7.... lbs./s.y. TONS	ASPHALT CONCRETE ITEM 404 THICK INCHES	ITEM 404 CU. YDS.	ITEM ..... THICK INCHES	ITEM ..... CU. YDS.	ITEM ..... THICK INCHES	ITEM ..... CU. YDS.	202 Wearing Course Removed SQ. YD.
3	U.S.42	24.64-24.68	0.04	211	*12/12	1	404	563									
		24.68-24.86	0.18	950	24	1	404	2,533									
	Extra Areas from Page 4							706									
	Totals	Part 3	0.22	1,161				3,802	380	13	1½	158					462
4	U.S.42	0.00 - 0.11	0.11	581	24	1	404	1,549									
	Extra Areas from Page 4							811									
	Totals	Part 4	0.11	581				2,360	236	8	1½	98					

DEPARTMENT OF TRANSPORTATION
M&R 769 REV. 9-1-83



EXTRA AREA AND DEDUCTIONS



PLAN NO. 108 (4/17)

MAD-S.R.29-0.00
MAD-U.S.42-13.30
UNI-U.S.42-0.00

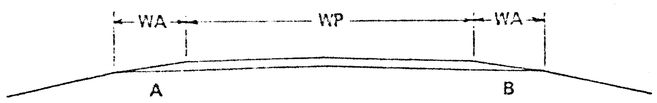
PART	ROUTE	LOG POINT TO LOG POINT	SIDE	DESCRIPTION	LENGTH MILES	LENGTH LIN. FT.	WIDTH "W" IN FEET	AREA IN SQ. YDS.	PROPOSED ITEMS 407 TACK COAT @..... gal./s.y. Gals.	407 COVER AGGR. @..... lbs./s.y. Tons	ASPHALT CONCRETE THICK INCHES	ASPHALT CONCRETE CU. YDS. ITEM	ASPHALT CONCRETE CU. YDS. ITEM	ASPHALT CONCRETE THICK INCHES
1	S.R.29	Various		Intersections				700						
		" "		Drives				70						
		0.61		Deduct for Structure		-93	20	-207						
		4.13		Extra Width for Structure		35	11	43						
	Total	Part 1, Carried to Page 2						606						
2	U.S.42	Various		Intersections				1,800						
		" "		Drives				180						
		14.54		Deduct for Structure		-197	24	-525						
		16.02	L	Extra Width	0.05	264	8	235						
		16.17	R	" " "	0.03	158	8	140						
		16.18	L	" " "	0.02	106	4	47						
		20.61	R	" " "	0.07	370	12	493						
		22.17	L	" " "	0.07	370	10	411						
		22.29	L	" " "	0.04	211	8	188						
		23.60	L	" " "	0.05	264	8	235						
		24.86	R	" " "	0.08	422	8	375						
		24.93	R	Extra Width	0.26	1,373	12	1,831						
		18.57		Extra Width for Structure		27	11	33						
		20.56		" " " "		16	9	16						
		22.35		" " " "		28	6	19						
		23.51		" " " "		23	8	20						
		25.09		" " " "		24	6	16						
	Total	Part 2, Carried to Page 2						5,514						
3	U.S.42	Various		Drives & Intersection				120						
		24.65		Extra Width for Structure		15	13	22						
		24.74	R	Extra Width	0.12	634	8	564						
	Total	Part 3, Carried to Page 3						706						
4	U.S.42	Various		Drives & Intersections				600						
		0.00	R	Extra Width	0.03	158	12	211						
	Total	Part 4, Carried to Page 3						811						

PDT 1002

MSR 691 REV. 8-1-78

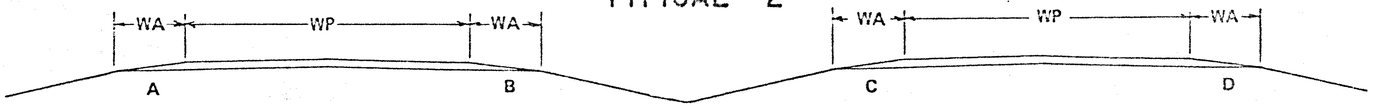
SHOULDER TREATMENT

TYPICAL 1

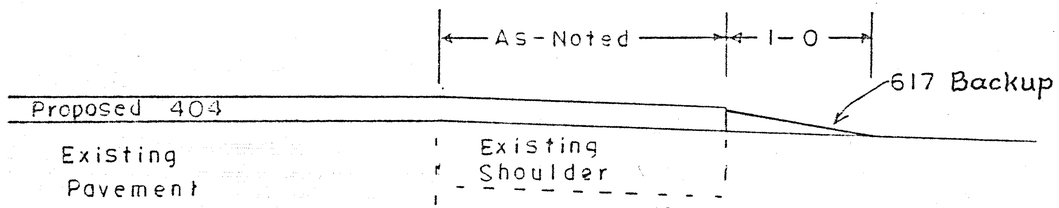


(5) An average of 1" depth was used for calculations and no deduction was made for structures to allow for low Berms and for extra material to be used as directed.

TYPICAL 2



(6) 5% has been added for use on gravel drives, turnouts and as directed.



TYPICAL 3

NOTES

1. SEAL COAT: After completion of the mix the Seal Coat shall be applied when directed by the Engineer.
2. PENETRATION CHOKE: Choke to be applied in two applications; approximately 0.004 cu. yd./sq. yd. shall be applied immediately on the mix after initial rolling. Not earlier than two days nor later than five days following the final rolling the penetration coat and final choke application shall be performed in accordance with the provisions of 409.07 and 409.08.
3. MIX BITUMINOUS MATERIAL: Include 0.20 gal./sq. yd. to be applied as a penetration.
4. PRIME COAT: A minimum of 36 hours shall elapse after completion of Prime Coat before any subsequent treatment.
5. MIX: Mix to be completed on shoulders within _____ days following completion of the adjacent pavement.
6. SHIELD: The contractor shall provide a shield to prevent the spraying or drifting of liquid bituminous material onto the edge of the pavement or edgelines. The attention of the contractor is directed to 107.12 of the Specifications.
7. APPLICATION RATE: The rate of application for mix bituminous material shall be _____ gal. per sq. yd. for slag or _____ gal. per sq. yd. for gravel or stone.
8. CENTRAL MIXING: When central mixing is used, the mix bituminous material shall be reduced 0.20 – 0.25 gal./sq. yd. to prevent in-transit drainage and applied as a penetration.

5/17

PLAN NO. 108

MAD-S.R.29-0.00
MAD-U.S.42-13.30
UNI-U.S.42-0.00

SHOULDER DATA

PART	ROUTE	LOG POINT TO LOG POINT	LENGTH MILES	LENGTH LIN. FT.	TYPICAL	EXISTING TYPE - WIDTH(ft.) A TYPE	A WIDTH	B TYPE	B WIDTH	C TYPE	C WIDTH	D TYPE	D WIDTH	AREA SQ. YDS.	407 TACK Bit Matl. @.0.1 gal./s.y. Gals.	407 TACK Cover Aggr. @.7 lbs./s.y. Tons	ASPHALT CONCRETE 404 Thick Inches	ASPHALT CONCRETE 404 Cu. Yds.	Thick Inches	Cu. Yds.	407 TACK Bit. Matl. @..... gal./s.y. Gals.	407 TACK @..... c.y./s.y. Cu. Yds.	617 AREA 1' each side Sq. Yds.	617 Compacted Aggregate @ 1 Inch Avg. Depth (5) Cu. Yds.
1	S.R.29	0.00-0.53	0.53	2,798	1&3	404	3	404	3					1,865	187	7		78					622	17
		0.53-0.75	0.22	1,162	1&3	404	2	404	2					516	52	2		22					258	7
		0.75-5.97	5.22	27,562	1&3	404	3	404	3					18,375	1,837	64		765					6,125	171
	Total	Part 1	5.97	31,522										20,756	2,076	73	1½	865					7,005	(6) 205

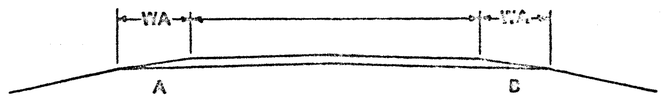
MTR R 634 REV. 9-1-79

PLAN NO. 108 (6/17)

PAVED SHOULDERS

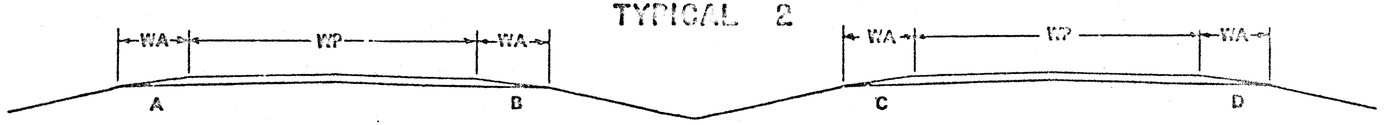
20.66 = Price-Hilliard Road
22.91 = Amity Pike

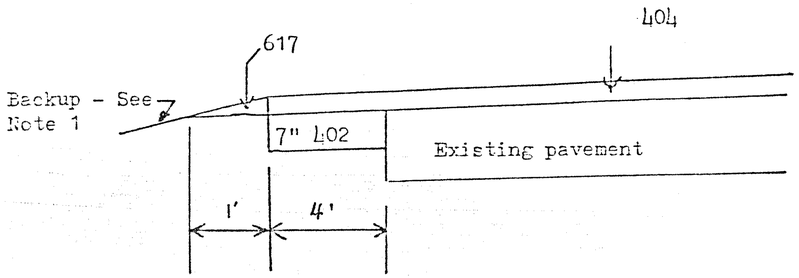
TYPICAL 1



** One station equals 100 lin. ft. Stations shall be measured along each edge of pavement.

TYPICAL 2





Widening Detail

***See notes 5 and 6 on page 5

*NOTES

1. ITEM 203 LINEAR GRADING: This work shall consist of preparing a subgrade for the shoulder paving by excavating the existing shoulder material to the depth shown in the plan, or as directed by the Engineer to remove any unstable material and by shaping and compacting the subgrade. The unsound or broken edge of bituminous pavements shall first be trimmed to a line established by the Engineer. The existing shoulder then shall be excavated and the subgrade shaped and compacted. Compaction shall be carried out to the satisfaction of the Engineer by means of a trench roller, 401.11. Areas graded in excess of depths specified or directed by the Engineer shall be backfilled to desired grade using 617 Compacted Aggregate at the contractor's expense. Excavated material shall be disposed of as indicated in the plan.

☒ a. Used to back up shoulders where required; the balance to be disposed of as directed by the Engineer. **All excavated bituminous mix material shall be** disposed of by the Contractor at his own responsibility outside the limits of the right-of way. **No excavated material to be used in yard sections.**

2. ITEM 402 ASPHALT CONCRETE: Prior to placing a bituminous mixture for shoulder paving, the edge of the existing pavement, for the full depth of the trench, shall be coated with bituminous material in accordance with 401.12.

3. ITEM 301 BITUMINOUS AGGREGATE BASE may be used in lieu of Item 402 Asphalt Concrete.

4. ITEM 617 COMPACTED AGGREGATE: A quantity of Item 617 Compacted Aggregate has been provided for areas where the shoulders were low prior to grading and/or low areas caused by removal of unsuitable material.

5. ITEM 408 BITUMINOUS PRIME COAT: After application of the Prime Coat, no further treatment shall be performed until so directed by the Engineer.

6. SHIELD: The contractor shall provide a shield to prevent the spraying or drifting of liquid bituminous material onto the edge of the pavement or edgelines. The attention of the contractor is directed to 107.12 of the Specifications.

⑦ **An average thickness to allow for low berms.**

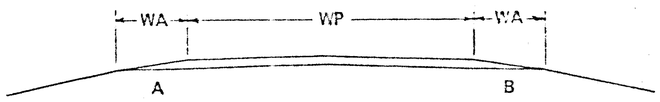
PAVED SHOULDER DATA

PART	ROUTE	LOG POINT TO LOG POINT	LENGTH MILES	LENGTH LIN. FT.	TYPICAL	PROPOSED WIDTH (FT.) A	B	C	D	SHOULDER AREA SQ. YDS.	203 LINEAR GRADING DEPTH INCHES	203 **STA.	404 ASPHALT CONCRETE AVG. THICK INCHES	404 CU. YD.	402 ASPHALT CONCRETE AVG. THICK INCHES	402 CU. YD.	408 PRIME Bit. Matl. .... @..... gal./s.y. GAL.	407 TACK COAT .... @..1.... gal./s.y. GAL.	407 COVER AGGR. ..... @..7.... lbs./s.y. TON	617 COMPACTED AGGREGATE AVG. THICK. INCHES ⑦	617 CU. YD.	617 Backup Area (see diagram) SQ. YDS.		* NOTES
2	US 42	13.30-20.66	7.36	38861	1	3	3			25907										1	720			
		20.66-22.91	2.25	11880	1	4	4			10560	7	238	1½	440	7	2053		1056	37	1	73	2640		1,2+3
		22.91-24.64	1.73	9134	1	3	3			6089										1	169			
		24.86-25.19	0.33	1742	1	3	3			1161										1	32			
2	Total		11.67	61617						43717		238		440		2053		1056	37		1044			
																					↖***			

DSR 691 REV. 8 1-78

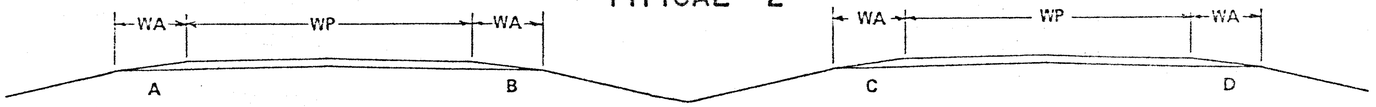
SHOULDER TREATMENT

TYPICAL 1

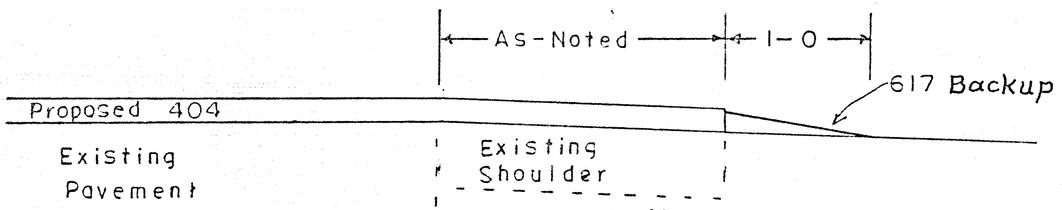


(5) An average of 1" depth was used for calculations and no deduction was made for structures to allow for low Berms and for extra material to be used as directed.

TYPICAL 2



(6) 5% has been added for use on gravel drives, turnouts and as directed.



TYPICAL 3

*NOTES

1. SEAL COAT: After completion of the mix, the Seal Coat shall be applied when directed by the Engineer.
2. PENETRATION CHOKE: Choke to be applied in two applications; approximately 0.004 cu. yd./sq. yd. shall be applied immediately on the mix after initial rolling. Not earlier than two days nor later than five days following the final rolling the penetration coat and final choke application shall be performed in accordance with the provisions of 409.07 and 409.08.
3. MIX BITUMINOUS MATERIAL: Include 0.20 gal./sq. yd. to be applied as a penetration.
4. PRIME COAT: A minimum of 36 hours shall elapse after completion of Prime Coat before any subsequent treatment.
5. MIX: Mix to be completed on shoulders within _____ days following completion of the adjacent pavement.
6. SHIELD: The contractor shall provide a shield to prevent the spraying or drifting of liquid bituminous material onto the edge of the pavement or edgelines. The attention of the contractor is directed to 107.12 of the Specifications.
7. APPLICATION RATE: The rate of application for mix bituminous material shall be _____ gal. per sq. yd. for slag or _____ gal. per sq. yd. for gravel or stone.
8. CENTRAL MIXING: When central mixing is used, the mix bituminous material shall be reduced 0.20 – 0.25 gal./sq. yd. to prevent in-transit drainage and applied as a penetration.

7/17

PLAN NO. 108

MAD-S.R.29-0.00
MAD-U.S.42-13.30
UNI-U.S.42-0.00

SHOULDER DATA

PART	ROUTE	LOG POINT TO LOG POINT	LENGTH MILES	LENGTH LIN. FT.	TYPICAL	EXISTING TYPE - WIDTH(ft.) A TYPE	A WIDTH	B TYPE	B WIDTH	C TYPE	C WIDTH	D TYPE	D WIDTH	AREA SQ. YDS.	407 TACK Bit Matl. @.0.1 gal./s.y. Gals.	407 TACK Cover Aggr. @.7 lbs./s.y. Tons	ASPHALT CONCRETE 404 Thick Inches	404 Cu. Yds.	Thick Inches	Cu. Yds.	407 TACK Bit. Matl. @..... gal./s.y. Gals.	407 TACK @..... c.y./s.y. Cu. Yds.	617 AREA Sq. Yds.	617 Compacted Aggregate @1 Inch Avg. Depth (5) Cu. Yds.
3	U.S.42	24.64-24.68	0.04	211	1	617	3	617	3															141	4
		24.68-24.86	0.18	950	1	617	3	617	3															633	18
	Total	Part 3	0.22	1,161																				774	(6) 23
4	U.S.42	0.00-0.11	0.11	581	1&3	404	2	404	2					258	26	1	1½	11						129	(6) 4

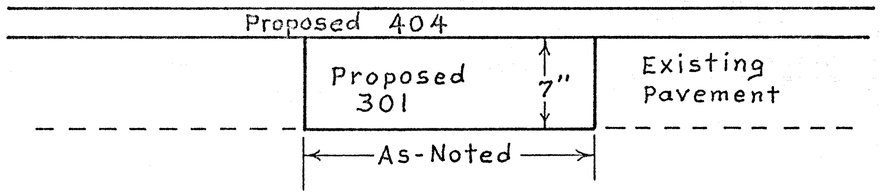
DEPARTMENT OF TRANSPORTATION
M& R 712 REV. 9-1-83

MAD-S.R.29-0.00
MAD-U.S.42-13.30
UNI-U.S.42-0.00

8
17

PLAN NO. 108

ITEM SPECIAL — PAVEMENT REPAIR



Location	Part 4 Size	Cu. Yd. @ 7" Thick
UNI-U.S.42-0.09	6'x14'	2
UNI-U.S.42-0.105	6'x8'	1
Total Part 4		3 Cu.Yd.

Total Carried to General Summery

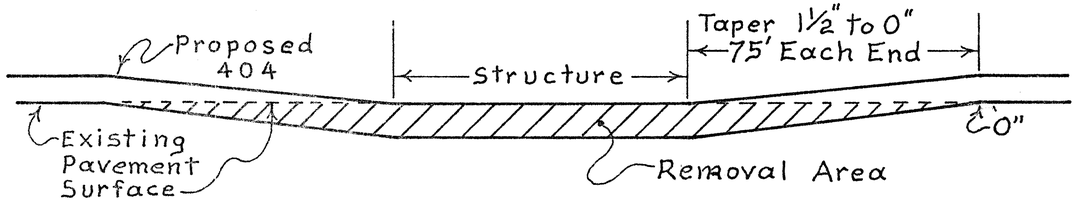
ITEM 202-WEARING COURSE REMOVED

Totals Carried to Page 2 or 3

PART 1
MAD-29-0061
Tapers [(24'x75')÷9]x2 = 400 Sq.Yd.
MAD-29-0413
Structure (35'x29')÷9 = 113
Tapers [(24'x75')÷9]x2 = 400
PART 1 Total 913 Sq.Yd.

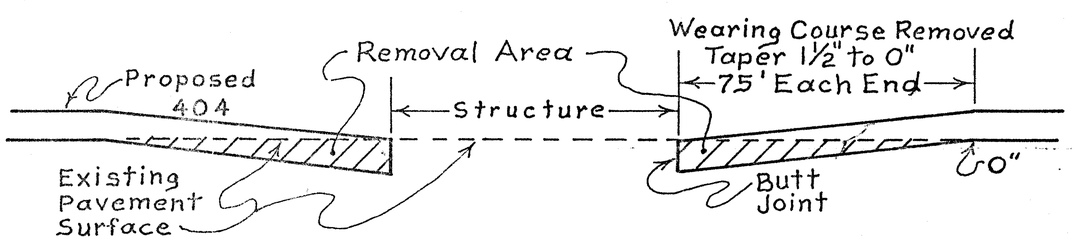
PART 2
MAD-42-1454
Tapers [(24'x75')÷9]x2 = 400 Sq.Yd.
MAD-42-2056
Structure (16'x33')÷9 = 59
Tapers [(24'x75')÷9]x2 = 400
MAD-42-2351
Structure (23'x32')÷9 = 82
Tapers [(24'x75')÷9]x2 = 400
PART 2 Total 1,341 Sq.Yd.

PART 3
MAD-42-2465
Structure (15'x37')÷9 = 62
Tapers [(24'x75')÷9]x2 = 400
PART 3 Total 462 Sq.Yd.



REMOVE and REPLACE DETAIL

ITEM 202 WEARING COURSE REMOVED



OMIT STRUCTURE RESURFACING DETAIL

FHWA REGION	STATE	PROJECT		(9/17)
5	OHIO			

MAD-S.R.29-0.00
MAD-U.S.42-13.30
UNI-U.S.42-0.00

614 WORK ZONE PAVEMENT MARKINGS

GENERAL

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

THE MARKINGS SHALL BE EVALUATED BY THE ENGINEER IN ACCORDANCE WITH THE THREE PERFORMANCE PARAMETERS CONTAINED IN SUPPLEMENT 1047. THE MARKINGS SHALL BE REPAIRED OR REPLACED WHEN THE NUMERICAL RATING OF A PARAMETER IS (a) SIX OR LOWER FOR DURABILITY, (b) FOUR OR LOWER FOR VISUAL EFFECTIVENESS AND (c) FOUR OR LOWER FOR NIGHT VISIBILITY. THE CONTRACTOR SHALL REPAIR OR REPLACE UNSATISFACTORY MARKINGS IMMEDIATELY AND AT NO ADDITIONAL COST TO THE STATE.

THE CONTRACTOR SHALL, IN ADVANCE OF ANY SECTION OF ROADWAY LACKING ONOTED FULL PATTERN STANDARD DIMENSION EDGE LINE OR CENTER LINE MARKINGS, ERECT A "NO EDGE LINES" (OW-167-36) SIGN OR "UNMARKED NO PASSING ZONES" (OW-168-36) SIGN OR BOTH AS MAY BE APPROPRIATE. THESE SIGNS SHALL BE IN PLACE PRIOR TO EXPOSING THE ROADWAY TO TRAFFIC. THESE SIGNS SHALL ALSO BE ERECTED ON EACH ENTRANCE RAMP, AT INTERSECTIONS OF THROUGH ROADS TO WARN ENTERING OR TURNING TRAFFIC OF THE CONDITION AND AT LEAST ONCE EVERY TWO MILES ALONG THE ROADWAY. THESE SIGNS SHALL BE REMOVED WHEN THEY NO LONGER APPLY.

TEMPORARY PAVEMENT MARKING MATERIALS

UNLESS OTHERWISE INDICATED ON THE PLANS, TEMPORARY PAVEMENT MARKINGS MAY BE EITHER 621.02 PAINT OR 947.03 TYPE B OR C PREFORMED MATERIAL.

PAINT

PAINTED MARKINGS SHALL BE IN ACCORDANCE WITH 621 EXCEPT THAT (1) PARAGRAPH 621.14 SHALL NOT APPLY, (2) WHERE THE MARKINGS ARE NOT LIABLE TO BE TRACKED, EITHER CONVENTIONAL OR FAST DRY PAINT MAY BE USED FOR 621.02, AND (3) WHEN APPLIED TO NEW ASPHALT PAVEMENT SURFACES OR PLANED ASPHALT PAVEMENT SURFACES, THE SPECIFIED APPLICATION RATE SHALL BE AS FOLLOWS:

WIDTH OF LINE, IN.	4	GALLONS PER MILE OF LINE 6	8	12	24
SOLID LINE	24	36	48	72	144
DASHED LINE	6	9			
DOTTED LINE	8	12			

TYPE B AND TYPE C PREFORMED MATERIAL

PREFORMED MATERIAL SHALL COMPLY WITH 947.03 EXCEPT THAT NO PREFORMED MATERIAL CONTAINING METAL SHALL BE PLACED ON ANY SURFACE UNLESS IT WILL BE REMOVED LATER BY THE CONTRACTOR. TEMPORARY PAVEMENT MARKINGS OF 947.03 PREFORMED MATERIAL SHALL BE REMOVED PRIOR TO PLACEMENT OF 621 OR 847 SURFACE COURSE MARKINGS AT THAT LOCATION. PREFORMED MATERIAL SHALL BE APPLIED IN ACCORDANCE WITH 847 EXCEPT AS MODIFIED HEREIN.

PLACEMENT

TEMPORARY MARKINGS SHALL BE COMPLETE AND IN PLACE ON ALL PAVEMENT, INCLUDING RAMPS, PRIOR TO EXPOSING IT TO TRAFFIC. WHEN TEMPORARY MARKINGS CONFLICT WITH THE TRAFFIC PATTERN, THEY SHALL BE REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH 621.134.

LINE PLACEMENT TOLERANCE FOR FINAL SURFACES SHALL BE IN ACCORDANCE WITH 621.052. ON SURFACES OTHER THAN THE FINAL, THE TOLERANCE PERMITTED SHALL BE TWICE THAT IN 621.052.

LAYOUT AND PREMARKING SHALL BE IN ACCORDANCE WITH 621.051.

TEMPORARY CENTER LINES - CLASS I
Part 1 = 5.97 Miles
Part 2 = 11.67 Miles
Part 3 = 0.22 Miles
Part 4 = 0.11 Miles

TEMPORARY MARKING CLASSES

CLASS I MARKINGS

CLASS I MARKINGS SHALL BE APPLIED TO THE FULL DIMENSIONS AS DEFINED IN 621 WITH THE FOLLOWING ADDITIONS OR EXCEPTIONS:

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

CLASS II MARKINGS

CLASS II MARKINGS (ABBREVIATED) SHALL BE DEFINED AS FOLLOWS:

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

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

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

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 2.4 GALLONS PER MILE FOR LANE LINE AND CENTER LINE AND 24 GALLONS PER MILE FOR GORE MARKINGS.

CONFLICTING EXISTING MARKINGS

THE CONTRACTOR SHALL, PRIOR TO PLACING TEMPORARY MARKINGS, REMOVE ALL CONFLICTING EXISTING 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 INCLUDED IN 614 MAINTAINING TRAFFIC UNLESS SPECIFICALLY ITEMIZED.

THE CONTRACTOR SHALL ALSO REMOVE THE PRISMATIC RETRO-REFLECTOR WITHIN ANY RAISED PAVEMENT MARKER (RPM) WHICH IS IN CONFLICT WITH THE TEMPORARY PAVEMENT MARKINGS. WHEN THE TEMPORARY PAVEMENT MARKINGS ARE REMOVED AND THE RPM IS NO LONGER IN CONFLICT, THE CONTRACTOR SHALL THOROUGHLY CLEAN THE RECESSED REFLECTOR ATTACHMENT AREA OF THE CASTING AND INSTALL A NEW PRISMATIC RETRO-REFLECTOR OF THE SAME KIND AND COLOR. THE COST FOR THIS WORK SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS.

INTERIM MARKINGS

WITHIN 21 CALENDAR DAYS AFTER OPENING ANY LENGTH OF PAVEMENT TO TRAFFIC, THE 621 OR 847 PAVEMENT MARKINGS CALLED FOR IN THE PLANS SHALL BE APPLIED. EQUIVALENT 614 CLASS I, PAINT MARKINGS MAY BE USED IN LIEU OF FINAL MARKINGS. IN THIS EVENT, THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT AND MATERIAL NECESSARY TO PLACE AND MAINTAIN 614 CLASS I PAINT MARKINGS AS PART OF THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC

FOR EACH CALENDAR DAY BEYOND 21 DAYS THAT THIS WORK SHALL REMAIN UNCOMPLETED, THE SUM OF $200 PER CALENDAR DAY WILL BE DEDUCTED FROM ANY MONEY DUE THE CONTRACTOR, NOT AS A PENALTY BUT AS LIQUIDATED DAMAGES.

METHOD OF MEASUREMENT

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

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 ____, *
614	MILES	TEMPORARY CENTER LINES, CLASS I, *
614	LIN. FT.	TEMPORARY CHANNELIZING LINES, CLASS I, *
614	MILES	TEMPORARY EDGE LINES, CLASS I, *
614	LIN. FT.	TEMPORARY GORE MARKINGS, CLASS II, *
614	LIN. FT.	TEMPORARY STOP LINES, CLASS I, *
614	LIN. FT.	TEMPORARY CROSSWALK LINES, CLASS I, *
614	EACH	TEMPORARY LANE ARROWS, CLASS I, *
614	EACH	TEMPORARY RAILROAD SYMBOL MARKINGS, CLASS I, *
614	EACH	TEMPORARY WORD "ONLY" ON PAVEMENT, 72-INCH, CLASS I, *
614	LIN. FT.	TEMPORARY TRANSVERSE LINES, CLASS I, *
614	LIN. FT.	TEMPORARY DOTTED LINES, CLASS I, *

*TYPE MATERIAL (621 PAINT, 947.03 TYPE B OR 947.03 TYPE C OR LEFT BLANK TO PERMIT ANY OF THE THREE)

614

614 WORK ZONE MARKING SIGNS

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND SUBSEQUENTLY REMOVE WORK ZONE MARKING SIGNS (OW-167 AND OW-168) WITHIN THE WORK LIMITS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED BUT GOOD CONDITION PROVIDED THE SIGNS MEET CURRENT DEPARTMENT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF 730.19. WORK ZONE MARKING SIGNS SHALL BE PROVIDED WITH SUITABLE YIELDING SUPPORTS OF SUFFICIENT STRENGTH AND STABILITY.

WORK ZONE MARKING SIGNS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. ALL OTHER WORK ZONE SIGNS SHALL BE INCLUDED IN 614 MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED.

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 REMOVAL OF THE SIGNS.

ITEM	UNIT	DESCRIPTION
614	EACH	WORK ZONE MARKING SIGNS

A QUANTITY OF 56 EACH WORK ZONE MARKING SIGNS (28 EACH "NO EDGE LINES" OW-167 AND 28 EACH "UNMARKED NO PASSING ZONES" OW-168) ARE CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.

2-21-86

MAD-S.R.29-0.00
MAD-U.S.42-13.30
UNI-U.S.42-0.00

PAVEMENT MARKING SUB-SUMMARY

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

10/17

PLAN NO. 108

CO.	ROUTE	FROM S.L.M.	FROM	TO S.L.M.	TO	621 QUANTITIES CENTER LINES MILES TOTAL	DASHED	SOLID	PARTICIPATION	621 CENTER LINE REMARKS
MAD	S.R. 29	0.00		5.97	End @ S.R.38	5.97	5.97	0.74		Part 1
MAD	U.S. 42	13.30	Part 3 24.64-24.86=0.22	25.19		11.67	11.47	2.04		Part 2
MAD	U.S. 42	24.64		24.86		0.22	0.22	0.10		Part 3
UNI	U.S. 42	0.00		0.11		0.11	~0~	0.22		Part 4
CENTER LINE TOTAL						17.97	17.66	3.10		

CO.	ROUTE	FROM S.L.M.	FROM	TO S.L.M.	TO	621 QUANTITIES 4" LANE LINES MILES TOTAL	DASHED	SOLID	PARTICIPATION	621 LANE LINE REMARKS
LANE LINE TOTAL										

CO.	ROUTE	FROM S.L.M.	FROM	TO S.L.M.	TO	WHITE EDGE LINE QUANTITIES TOTAL MILES	HIGHWAY MILES	RAMP MILES	PART.	YELLOW EDGE LINE QUANTITIES TOTAL MILES	HIGHWAY MILES	RAMP MILES	PART.	621 EDGE LINE REMARKS
MAD	S.R. 29	0.00		5.97		11.94	11.94							Part 1
MAD	U.S. 42	13.30	Part 3 24.64-24.86=0.22	25.19		23.34	23.34							Part 2
MAD	U.S. 42	24.64		24.86		0.44	0.44							Part 3
UNI	U.S. 42	0.00		0.11		0.22	0.22							Part 4
EDGE LINE TOTAL						35.94								

CO.	ROUTE	FROM S.L.M.	FROM	TO S.L.M.	TO	621 QUANTITIES 8" CHANNELIZING LINES MILES	LIN. FT.	PARTICIPATION	621 CHANNELIZING LINE REMARKS
CHANNELIZING LINE TOTAL									

847 AUXILIARY MARKING (947.03 TYPE A) INLAID

CO.	ROUTE	S.L.M. FROM	S.L.M. TO	24" TRANSVERSE LINES WHITE LIN. FT.	24" TRANSVERSE LINES YELLOW LIN. FT.	STOP LINE 24" LIN. FT.	12" CROSSWALK LINES WHITE LIN. FT.	WORD ON PAVEMENT ONLY 96" EACH	WORD ON PAVEMENT SCHOOL 96" EACH	LANE ARROWS TURN LEFT EACH	LANE ARROWS TURN RIGHT EACH	LANE ARROWS THRU. EACH	LANE ARROWS COMB. EACH	RAILROAD SYMBOL ON PAVEMENT EACH	24" DOTTED LINES WHITE LIN. FT.	24" DOTTED LINES YELLOW LIN. FT.	REMARKS
MAD	U.S. 42	14.01				14											Part 2
	U.S. 42	14.02				14											
AUXILIARY MARKING TOTALS						28											

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

11/17

PLAN NO. 108

MAD-S.R.29-0.00
MAD-U.S.42-13.30
UNI-U.S.42-0.00

INITIAL PAVEMENT MARKINGS FOR RESURFACED SECTIONS

GENERAL NOTES

In addition to the requirements of 621 and 847 the following shall apply:

621 Materials

Glass beads shall be kept dry during storage and prior to use.

621 SPECIAL EQUIPMENT

The Contractor's striper shall be equipped with an odometer graduated to 1/100 of a mile. The Engineer will determine the degree of accuracy of the Contractor's odometer and establish an adjustment factor as may be required to accurately determine the pay item quantities. The Engineer will periodically check the odometer's operation to assure maintenance of accurate measurements.

Failure of the odometer to function properly shall be cause to stop the work until the odometer is made to function properly. On short projects the Engineer may approve alternate methods to accurately measure the length of the various types of markings applied. If measurement of the work has to be done by the Department, the cost of the Department labor and equipment plus 10 percent shall be deducted from payment due the Contractor for the work. When measuring lane, edge and center line marking the odometer shall be started at the first marked line and remain in operation, until the end of the section being marked, where it shall be shut off and the reading of the odometer recorded.

Electrical foot counters shall be provided and installed in the striper. The counters shall individually tabulate the amount of footage applied by each striping gun on the center line carriage and lane line carriage, whether solid or dashed. The counters shall be 6 digit type with a reset feature.

The pavement marking equipment shall be equipped with a pressure regulated air jet which shall remove all debris from the pavement in advance of the applicator gun. The air jet shall operate when marking material is being applied and shall be synchronized with marking material application or remain "on" at all times.

The Contractor shall use an accurate dashing mechanism, capable of being easily adjusted

Provision for the above special equipment by the Contractor shall be incidental to the application.

847 LAYOUT AND PREMARKING

In addition to the requirements of 847 premarking for auxiliary markings shall be located from schematic forms provided at the pre-construction conference.

621 MATERIAL QUANTITY MEASUREMENT

The quantity of marking material or glass beads per unit of measurement will be computed by the Engineer at the end of each day's work. A day's applied mileage of less than 2 miles may be included in the next day's applied markings for the purpose of computing marking material and bead application rates.

The Contractor shall provide a calibrated measuring device acceptable to the Engineer for measuring material in the striper tanks.

The quantity of marking material used shall be determined by measuring the marking material in the tanks before and after marking material is applied. The Contractor shall cooperate with the Engineer in providing measurements whenever requested. The marking material application rate shall be determined by dividing the total gallons used by the appropriate marking length as determined from the foot counter as described within the Special Equipment Section of these notes. Any determination of pay deduction resulting from shortages in marking quantities shall be based on the measurements obtained by this method. The amount of glass beads applied will be ascertained by the Engineer by observation and from information supplied by the Contractor as to quantity used.

847 AUXILIARY PAVEMENT MARKING

For this project auxiliary markings shall be defined as: stop lines, crosswalk lines, transverse lines, railroad symbol markings, lane arrows, word on pavement and dotted lines except when used to extend edge lines.

STANDARD CONSTRUCTION DRAWING TC 71.10

The dimensions shown on Standard Construction Drawing TC 71.10 are nominal. Letters, numerals and symbols conforming to the requirements of section 3B-17 of the 1978 National Manual On Uniform Traffic Control Devices may also be used. Any of the following standards for letters, numeral or symbol dimensioning may be used: A.) Standard dimensions shown on this detail or B.) Standard dimensions (either metric or their hard converted English unit equivalents) in accord with the 1977 Metric Edition Standard Alphabets For Highway Signs and Pavement Marking with Errata or C.) Standard dimensions shown in figures 3-17, 3-18, 7-2, 7-3, 8-2 or 9-6 of the 1978 National Manual On Uniform Traffic Contol Devices.

PLAN NO. 108 (12-17)

IMMOBILE OPERATIONS

When loading material, cleaning or performing other operations in the field every effort shall be made to have all equipment completely off of the traveled roadway. When it becomes necessary to enter upon private property, permission shall be obtained in advance. When the Contractor cannot remove his equipment from the traveled roadway all traffic control devices on the vehicles shall be in operation and flaggers and vehicles shall be stationed to protect the work site and the travelling public.

Two way traffic shall be maintained. Flaggers shall be equipped in accordance with Item 614.03.

AUXILIARY MARKINGS

Pavement preparation and placing of auxiliary markings (Item 621.01 thru 621.134) are considered to be stationary operations and traffic control shall be in accordance with plan details shown on Sheet(s)_____ and Part 7, Ohio Manual of Uniform Traffic Control Devices (OMUTCD).

LAYOUT AND PREMARKING

The vehicle used in layout and premarking (Item 621.051) shall be equipped and operated with the following equipment:

1. A 360° rotating or flashing amber beacon clearly visible in all directions a minimum of ½ mile.
2. Lighted head lights and tail lights, and
3. A KEEP RIGHT sign (OC-31R-48) mounted a minimum of 5' above the road surface measured to the bottom of the sign and visible to opposing traffic.

NIGHTTIME OPERATION

Nighttime operation is defined to include the time from one-half hour after sunset to one-half hour before sunrise, and at any other time when there are unfavorable atmospheric conditions or when there is not sufficient natural light to render discernible persons, vehicles, and substantial objects on the highway at a distance of one thousand feet.

During nighttime conditions the following additional traffic control shall be provided:

1. Cones shall be reflectorized or equipped with lighting devices for maximum visibility (See 7F-5, OMUTCD), and
2. The guide and side mounted carriages shall be illuminated.

The presence of highway lighting does not waive these requirements.

MINIMUM PAVEMENT MARKING TRAFFIC CONTROL EQUIPMENT REQUIREMENTS

This table indicates the traffic control equipment which shall be furnished for each type of long line pavement marking operation. In addition, those types of traffic control equipment which shall be furnished when directed by the Engineer are indicated.

EQUIPMENT	PAVEMENT MARKING LINE TYPE [1]					
	CENTER LINE		EDGE LINE		LANE LINE [2] CHANNELIZING LINE	
	≥2 MIN. DRY	≤2 MIN. DRY	≥2 MIN. DRY	≤2 MIN. DRY	≥2 MIN. DRY	≤2 MIN. DRY
LEAD VEHICLE	▒	▒				
POWER BROOM EQUIPMENT	▒	▒	▒	▒	▒	▒
LINE MARKING MACHINE	▒	▒	▒	▒	▒	▒
TRAIL VEHICLE		▒	▒	▒		▒
TRAIL VEHICLE (ADDITIONAL)	▒	▒	▒	▒	▒	▒
TRAIL VEHICLE (SIGN & CONE RETRIEVAL)	▒		▒		▒	

1. For equipment requirements for auxiliary operations see plan sheet(s)_____ and Part 7, OMUTCD.
2. Includes both dashed and solid lane lines.

▒ Required Equipment

▒ Equipment Required When Directed by the Engineer

☐ Not Required

OHIO DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR LONG LINE PAVEMENT MARKING OPERATIONS

DATE 9-07 12-07

Mod. 6-84

MAD-S.R.29-0.00
MAD-U.S.42-13.30
UNI-U.S.42-0.00

PLAN NO. 108 (13/17)

TRAFFIC CONTROL FOR LONG LINE PAVEMENT MARKING OPERATIONS

GENERAL

In addition to 614, traffic shall be maintained in accordance with the following requirements.

The purpose of the following requirements for Traffic Control for Pavement Marking operations is to provide safety for highway users, workers and equipment and to protect the markings from damage during application. These requirements are the required minimums. If at any time during the application of markings it is found by the Engineer that these minimum traffic control device requirements are not achieving the necessary safety and marking protection, additional traffic control devices shall be implemented in accordance with 104.02.

The Engineer may suspend work in order to relieve traffic congestion at any time. No work shall be done during peak hours, as determined by the Engineer.

LEAD VEHICLE

A lead vehicle is to be used to warn opposing traffic of the approach of centerline and other marking equipment when this equipment extends into the adjacent opposing traffic lane. The lead vehicle shall precede the "left of center" marking equipment a distance that will provide advance safe warning to approaching traffic. The operator of this unit should drive ahead of the crest of a vertical curve or around a horizontal curve and wait until the "left of center" marking equipment nears and then proceed, maintaining an advance location of 400 feet to 600 feet.

A lead vehicle shall be equipped and operated with the following traffic control devices:

1. A 360° rotating or flashing amber beacon clearly visible in all directions a minimum of ½ mile.
2. Lighted head lights and tail lights, and
3. A KEEP RIGHT sign (OC-31R-48) and WET PAINT sign (OC-52-48) mounted a minimum of 5' above the road surface measured to the bottom of the sign and visible to opposing traffic.

POWER BROOM EQUIPMENT

Power broom equipment shall be equipped and operated during pavement preparations (Item 621.04) with the following traffic control devices:

1. A 360° rotating or flashing amber beacon clearly visible in all directions a minimum of ½ mile.
2. Lighted head lights and tail lights, and
3. A flashing arrow panel 54" x 30" (Type B) visible to the rear mounted a minimum of 7' above the road surface measured to the bottom of the panel and used only on multi-lane highways.

LINE MARKING MACHINE

All traffic line marking machines shall be equipped and operated with the following traffic control equipment:

1. Three 360° rotating or flashing amber beacons clearly visible a minimum of ½ mile mounted a minimum of 7' above the road surface; one forward, one on the right rear and one on the left rear of the vehicle.
2. (a) A flashing arrow panel 54" x 30" (Type B) displayed to the rear mounted a minimum of 7' above the road surface measured to the bottom of the panel and used only on multilane highways, or
   (b) A DO NOT PASS sign (R-33A-48) visible to the rear during centerline marking on two lane, two way roadways and mounted a minimum of 7' above the road surface measured to the bottom of the sign. This sign may be used to cover the arrow panel, which shall Not be used on two lane, two way roadways.
3. A WET PAINT with arrow sign (OC-50-24 or OC-51-48) shall face the rear. The sign shall be positioned with the arrow pointing to the wet line. When used, OC-50-24 shall be mounted on the in use carriage side of the vehicle. OC-50-24 and OC-51-48 signs shall be mounted a minimum of 1' above the road surface.
4. A KEEP RIGHT sign (OC-31R-48) and WET PAINT sign (OC-52-48) mounted a minimim of 5' above the road surface measured to the bottom of the sign and facing opposing traffic when this unit extends into the adjacent opposing traffic lane.
5. The guide and side mounted marking carriages shall each be equipped with a clean red flag not less than 16" square and fastened to staffs of sufficient length so as to permit the flags to move freely of any obstruction.

TRAIL VEHICLE

When required a trail vehicle shall be positioned at the track free end of the wet line. An additional trail vehicle shall be used when applying lane lines of fast dry material (i.e. ≤ 2 min. dry) to protect the wet line between the line marking machine and the track free end of the wet line. All pavement marking application, protection and support equipment following the line marking machine shall be equipped with the traffic control of a trail vehicle.

Trail vehicles shall be equipped and operated with the following traffic control equipment:

1. A 360° rotating or flashing amber beacon clearly visible in all directions a minimum of ½ mile.
2. (a) A flashing arrow panel 54" x 30" (Type B) visible to the rear mounted at a minimum height of 7' above the road surface measured to the bottom of the panel and used only on multi-lane highways, or
   (b) A DO NOT PASS sign ((R-33A-48) visible to the rear during centerline marking on two lane, two way roadways, and mounted a minimum of 7' above the road surface measured to the bottom of the sign. This sign may be used to cover the arrow panel, which shall Not be used on two lane, two way roadways.
3. A WET PAINT with arrow sign (OC-50-24 or OC-51-48) shall face the rear. The sign shall be positioned with the arrow pointing to the wet line. When used, OC-50-24 shall be mounted on the side of the vehicle nearest the wet marking material. When used, OC-50-24 shall be mounted a minimum of 4'6" above the road surface and OC-51-48 shall be mounted a minimum of 5'0" above the road surface, both measured to the bottom of the sign.

CONES AND WET PAINT-KEEP OFF SIGNS

Cones and WET PAINT-KEEP OFF signs (R-87-24) shall be placed to protect the line whenever the track free time exceeds two minutes. These devices shall not be removed until the line has dried to a track free condition. Retrieval equipment shall have traffic control of a trail vehicle. Cones shall have a minimum height of 18". They shall be spaced to protect the wet line, normally between 120' and 200'. In areas of traffic congestion, on curves and at other locations where tracking of the wet line is expected, spacings as close as 20' may be required. The WET PAINT-KEEP OFF signs (R-87-24) shall be placed facing traffic at:

A. The beginning and end of line application,
B. All side and cross roads, and
C. Maximum intervals of one mile.

OHIO DEPARTMENT OF TRANSPORTATION	
TRAFFIC CONTROL FOR LONG LINE PAVEMENT MARKING OPERATIONS	DATE 01-82 12-8 1

FEDRD DIV.	STATE	PROJECT	
5	OHIO		

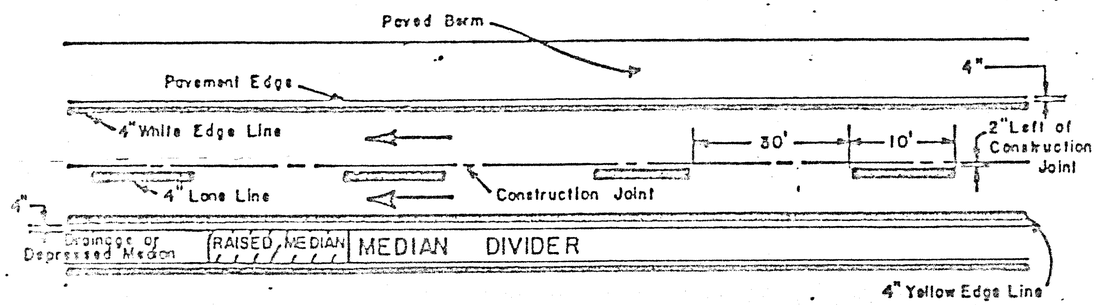
(14/17)

PAVEMENT MARKING TYPICAL DETAILS

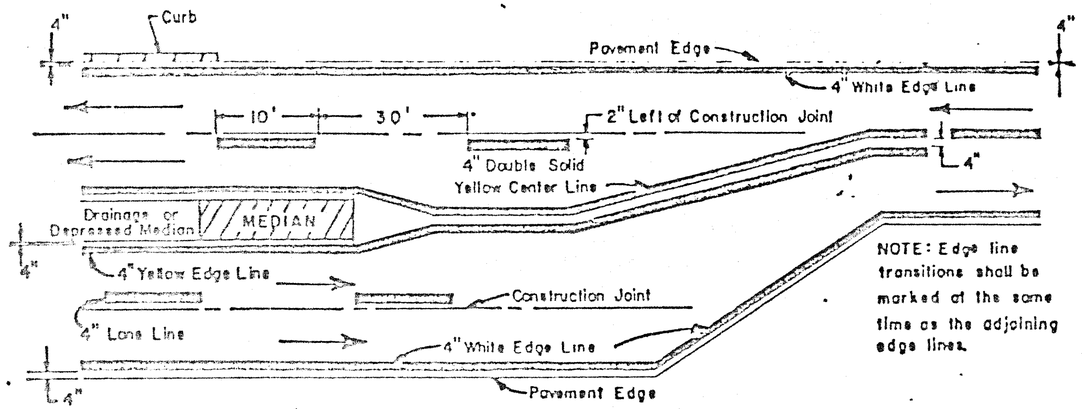
PLAN NO. 108

MAD-S.R.29-0.00
MAD-U.S.42-13.30
UNI-U.S.42-0.00

FREEWAY & EXPRESSWAY MAINLINE MARKINGS

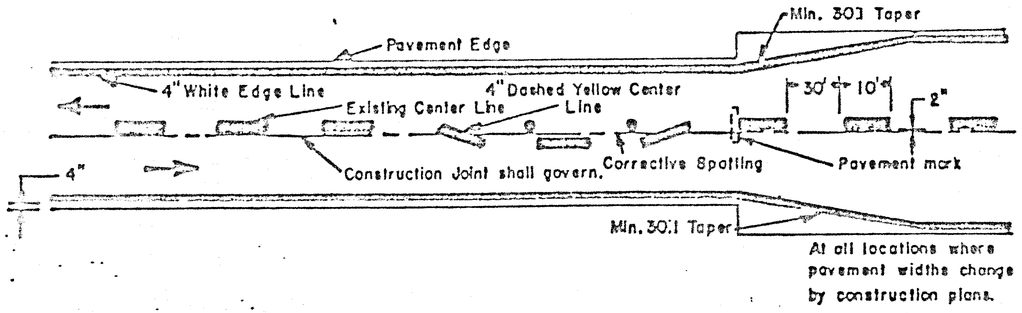


MULTILANE DIVIDED & UNDIVIDED HIGHWAY MARKINGS



NOTE: Edge line transitions shall be marked at the same time as the adjoining edge lines.

TWO LANE MARKINGS



At all locations where pavement widths change by construction plans.

NOTES:

1. THE DISTANCE FROM THE PAVEMENT EDGE TO THE NEARSIDE EDGE OF THE EDGELINE MAY BE INCREASED WITH THE APPROVAL OF THE ENGINEER IN ORDER TO MAINTAIN UNIFORM LANE WIDTH.
2. SEE TC 72.20 FOR PAVEMENT ENTRANCE AND EXIT RAMP TERMINALS.

...T. OF TRANSPORTATION

PAVEMENT MARKING TYPICAL DETAILS

DATE 11/80

JDL CDR

12/81

DEPARTMENT OF TRANSPORTATION
M& R 710 REV. 9-1-63

MAD-S.R.29-0.00
MAD-U.S.42-13.30
UNI-U.S.42-0.00

PLAN NO. 108

15/17

GENERAL SUMMARY

ITEM	Part 1 MAD-SR29 Rural		Part 2 MAD-US42 Rural	Part 3 MAD-US 42 Village	Total Parts 2&3		Part 4 UNI-U.S.42 Village	
407	8,702		18,039	380	18,419		262	
407	305		631	13	644		9	
402	~		2,053	~	2,053		~	
404	3,626		7,516	158	7,674		109	
Special	~		~	~	~		3	
202	913		1,341	462	1,803		~	
203	~		238	~	238		~	
621	5.97		11.67	0.22	11.89		0.11	
621	11.94		23.34	0.44	23.78		0.22	
847	~		28	~	28		~	
614	14		36	4	40		2	
614	5.97		11.67	0.22	11.89		0.11	
624	Lump		Lump	Lump	Lump		Lump	
617	1		3	1	4		1	
617	205		1,044	23	1,067		4	
614	Lump		Lump	Lump	Lump		Lump	

ITEM	GRAND TOTAL PARTS 1-4	UNIT	DESCRIPTION
407	27,383	Gal.	Tack Coat
407	958	Ton.	Cover Aggregate
402	2,053	Cu. Yd.	Asphalt Concrete AC-20
404	11,409	Cu. Yd.	Asphalt Concrete AC-20, as per plan
Special	3	Cu.Yd.	Pavement Repair
202	2,716	Sq.Yd.	Wearing Course Removed
203	238	Station	Linear Greading
621	17.97	Mile	Center Lines
621	35.94	Mile	Edge Lines
847	28	Lin.Ft.	Stop Lines, 947.03, Type A-1, inlaid
614	56	Each	Work Zone Marking Signs
614	17.97	Mile	Temporary Center Lines, Class II
624	Lump	Lump	Mobilization
617	6	M.Gal.	Water
617	1,276	Cu. Yd.	Compacted Aggregate
614	Lump	Lump	Maintaining Traffic

GENERAL NOTES

TRAFFIC:
Traffic shall be maintained at all times. The length of restricted traffic zones shall be kept to a minimum consistent with the specification requirements for protection of completed courses.

RAILROAD CROSSINGS:
The new surface course shall be feathered or butt jointed to meet the rail grades as specified.

ALIGNMENT AND PROFILE:
The work proposed by this project is for the resurfacing of the existing pavement. The alignment of the existing pavement will not be changed, and the profile of the proposed surface will be similar to that of the existing pavement except that it will be raised an amount equal to the thickness of the resurfacing course or courses specified in these plans.

INTERMEDIATE COURSE, SPOT LEVELING AND PATCHING:
This material shall be placed in a separate operation where and as directed by the engineer.

TACK COAT:
The tack coat operation shall be as determined at a pre-construction conference as per 407.05, and application rates shall not exceed 0.10 gal. per sq. yd.

COVER AGGREGATE:
Cover aggregate shall conform to 703.06.

Item 404 Asphalt Concrete, AC-20, as per plan
The top surface of the longitudinal and transverse joints shall be painted six (6) inches wide with the same bituminous material used in the 404 mixture as directed. Application rate shall be at least 0.25 gal./s.y. The cost of this operation to be included in the cost of the 404 Asphalt Concrete, AC-20, as per plan.

Fresh Tar Signs
The Contractor shall provide, erect and remove "Fresh Tar" signs in accordance with the O.M.U.T.C.D. Payment for the above to be included in the Unit Price Bid for Maintaining Traffic.

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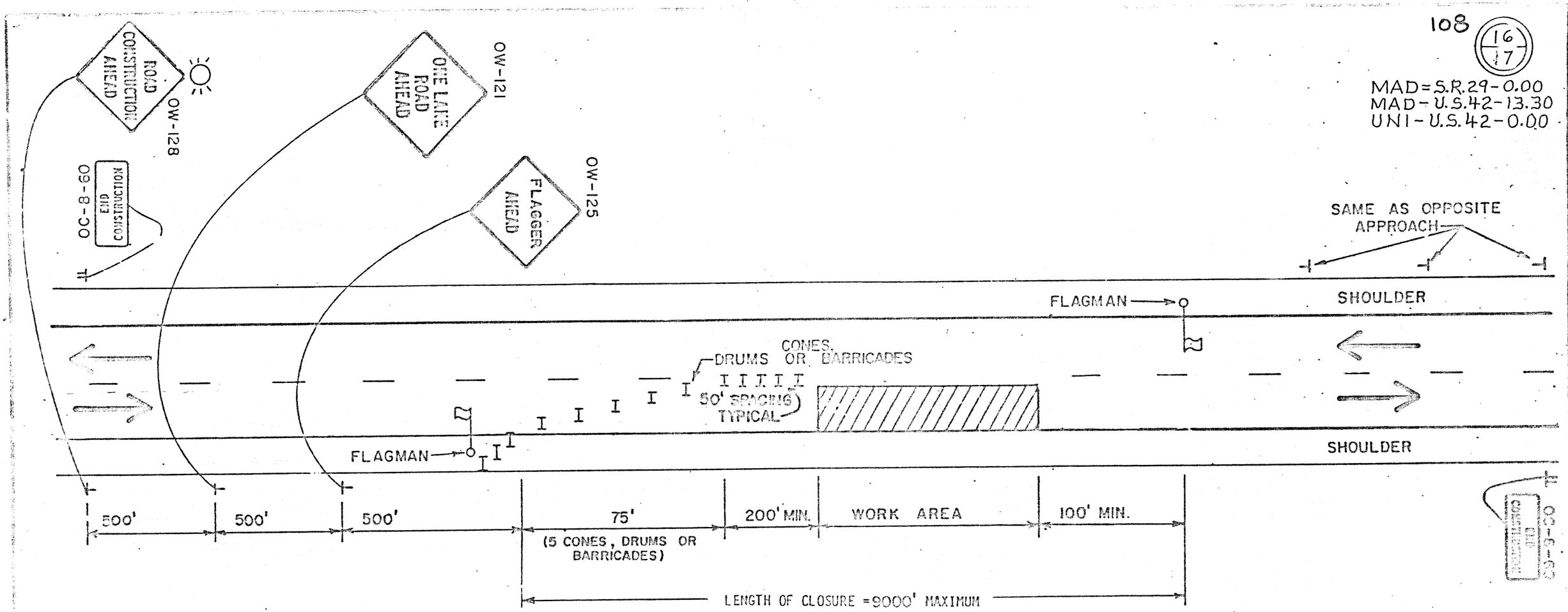


GENERAL NOTES

1. FLAGMEN SHALL BE USED TO CONTROL TRAFFIC CONTINUOUSLY FOR AS LONG AS ONE LANE OPERATION IS IN EFFECT. FLAGMEN SHALL BE ABLE TO COMMUNICATE WITH EACH OTHER AT ALL TIMES EITHER VERBALLY OR BY MEANS OF RADIO OR FIELD TELEPHONES. FLAGMAN STATIONS SHALL BE ADEQUATELY ILLUMINATED FOR NIGHT TIME OPERATIONS BY USE OF A 175 WATT MINIMUM LUMINAIRE.

2. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS ONLY.

3. WHEN THE AMBIENT TEMPERATURE EXCEEDS 80 DEGREES F, THE ENGINEER MAY INCREASE THE LENGTH OF CLOSURE TO ALLOW FOR SUFFICIENT COOLING OF THE NEW PAVEMENT.

   THE ENGINEER MAY SHORTEN THE MAXIMUM ALLOWABLE LENGTH OF CLOSURE TO RELIEVE EXCESSIVE TRAFFIC BACKUPS.

   ALL TRAFFIC CONTROL SIGNS, CHANNELIZING DEVICES, AND FLAGMEN SHALL BE MOVED FORWARD BEFORE THE CLOSURE REACHES THE MAXIMUM ALLOWABLE LENGTH. ONLY ONE SIDE OF THE ROAD SHALL BE CLOSED AT ANY TIME IN A WORK AREA.

4. THE TYPE B HIGH INTENSITY BARRICADE WARNING LIGHT SHOWN ON THE ROAD CONSTRUCTION AHEAD SIGN IS REQUIRED WHENEVER NIGHT LANE CLOSURE IS NECESSARY.

5. TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS OR BARRICADES FOR NIGHT LANE CLOSURES.

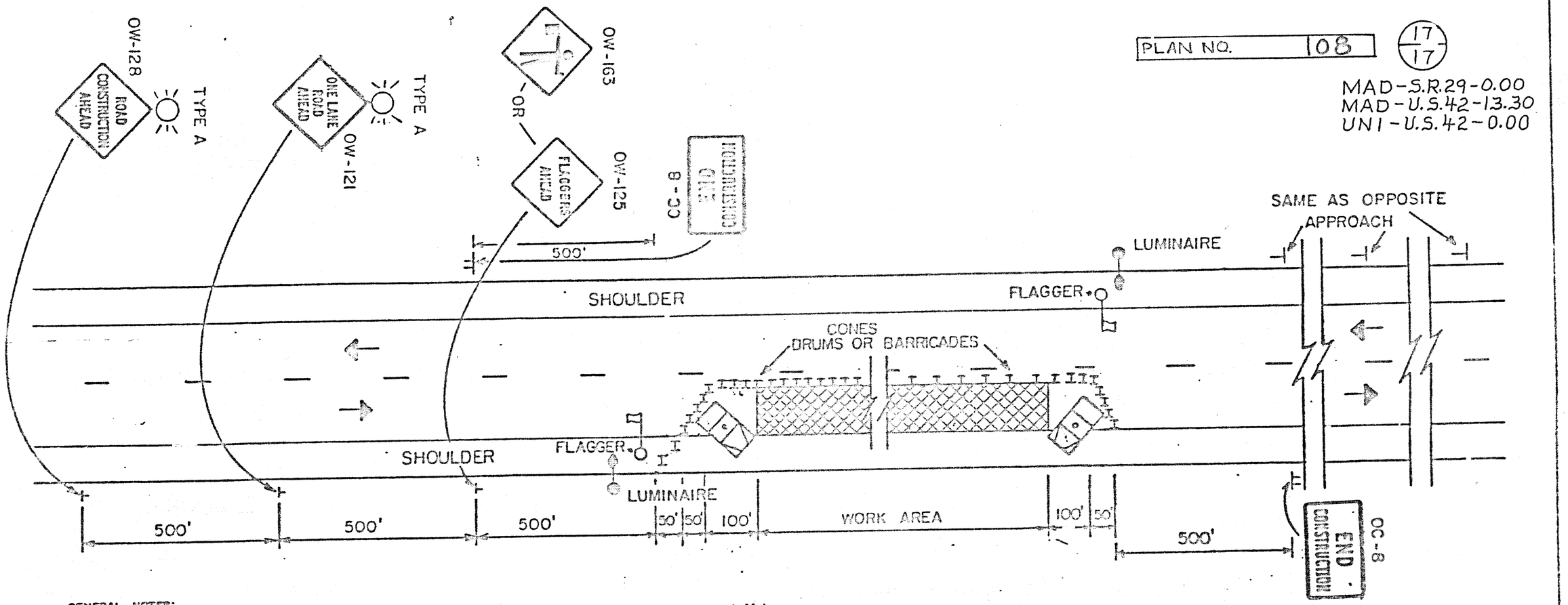
6. THE ADVANCE WARNING SIGNS "OW-128" "OW-121" AND "OW-125" SHALL BE MOVED BACK AS REQUIRED BY THE QUEUING OF STOPPED VEHICLES.

7. WITHIN THE LENGTH OF CLOSURE, PROVISION SHALL BE MADE TO CONTROL TRAFFIC ENTERING FROM INTERSECTING STREETS AND MAJOR DRIVES AS NECESSARY TO PREVENT WRONG WAY MOVEMENTS AND TO KEEP VEHICLES OFF OF NEW PAVEMENT NOT READY FOR TRAFFIC.

OHIO DEPARTMENT OF TRANSPORTATION	
FLAGMEN CLOSING I LANE OF A 2 LANE HIGHWAY	DATE 2/80
PAVING OPERATIONS	
DR	CK.

PLAN NO. 108 (17/17)

MAD-S.R.29-0.00
MAD-U.S.42-13.30
UNI-U.S.42-0.00



GENERAL NOTES:

1. The location of the advance warning signs should be adjusted to provide for adequate sight distance for the existing vertical and horizontal roadway alignment. The distances shown are minimums.

2. Flaggers shall be used to control traffic continuously for as long as a one lane operation is in effect. The flaggers shall communicate with each other at all times as described in the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) in Section 7H: Control of Traffic Through Work Areas.

3. Cones drums or barricades shall be spaced at approximately 50' to 60' center to center for the first 1000 feet of the work area and at a maximum of 100' to 120' center to center for the balance of the work area. Cones, drums or barricades on the advance and return tapers shall be spaced at 10' center to center. Cones may be substituted for barricades or drums for the lane closures during daylight hours only.

4. Several small work sites close together shall be combined into one work area to make a closure not more than 2000 feet long including tapers. Closures of more than 2000 feet may be approved by the Engineer. The minimum length between closures shall be 2000 feet. Only one side of the road shall be closed in any one work area.

5. The work vehicles shown at the beginning and end of the work area shall be in place and unoccupied whenever workers are in the work area. These work vehicles shall be removed from the pavement whenever workers are not in the work area. Other protective devices may be used in lieu of the work vehicles shown when approved by the Engineer. The vehicles shall be equipped with a 360° rotating or flashing amber beacon clearly visible a minimum of a ¼ mile.

6. The Type A flashing barricade warning lights shown on the "Road Construction Ahead" and the "One Lane Road Ahead" signs are required whenever a night lane closure is necessary.

7. Type C steady burning barricade warning lights shall be erected on drums or barricades for night lane closures. The maximum spacing shall be identical to the channelizing device spacing requirements described in Note 3.

8. Adequate area illumination to clearly identify the flagger station at night for long term operations shall be provided by using 150 watt minimum high pressure sodium luminaires or 250 watt minimum mercury luminaires. Luminaires shall be located adjacent to one flagger station for each direction of traffic as shown above. The mounting height for temporary luminaires shall be a minimum of 27 feet above the pavement and the overhead conductor clearance shall be 20 feet above the pavement.

OHIO DEPARTMENT OF TRANSPORTATION

FLAGGERS CLOSING 1 LANE OF A 2 LANE HIGHWAY

DATE

DR. | CK.