

GENERAL NOTES ✓

KNO-13-15.91

CALC. BY J.W.
DATE 3-17-90
CHKD. BY J.B.
DATE 3-18-90

337

2
17

FIELD OFFICE ✓

THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 150 SQ.FT. OF FLOOR SPACE. PAYMENT SHALL BE AT THE LUMP SUM PRICE BID FOR ITEM 619 FIELD OFFICE.

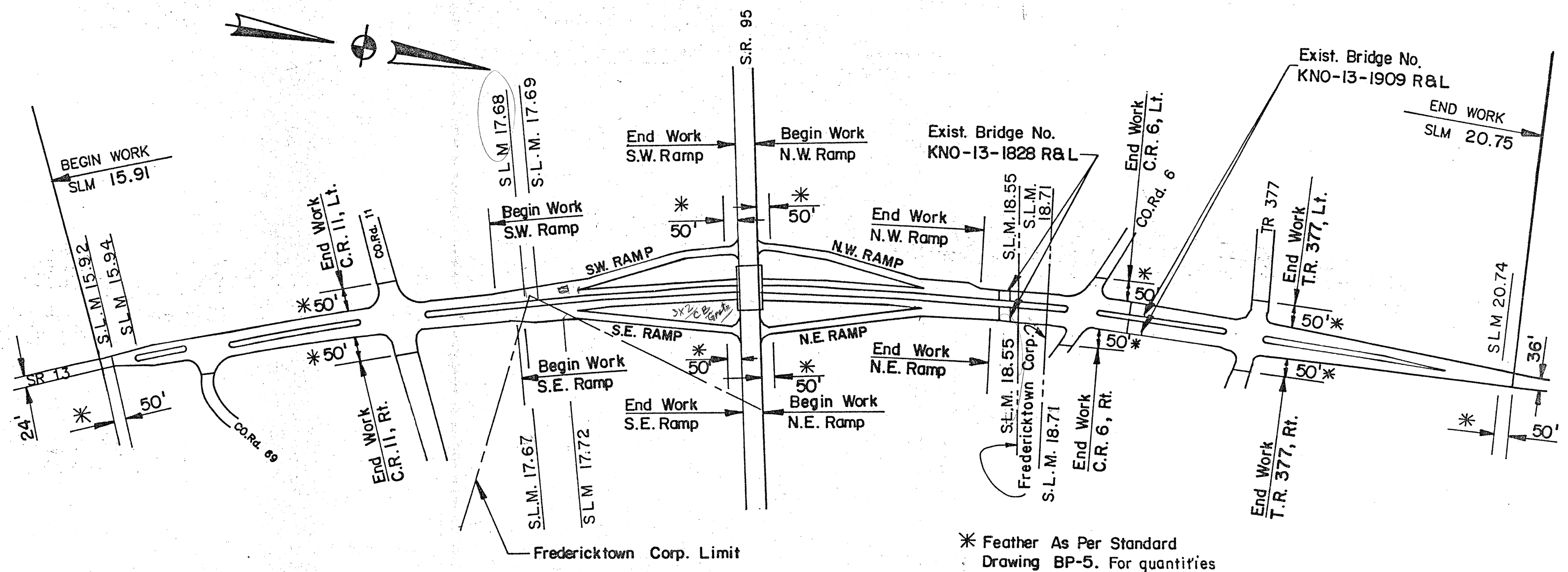
ITEM 614 WORK ZONE MARKING SIGNS ✓

A QUANTITY OF 12 EACH WORK ZONE MARKING SIGNS ARE CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.

RAISED PAVEMENT MARKERS ✓ REMOVED FOR STORAGE

THE RAISED PAVEMENT MARKERS REMOVED ON THIS JOB SHALL BE STORED ON THE JOB SITE, AND REMOVED BY STATE FORCES.

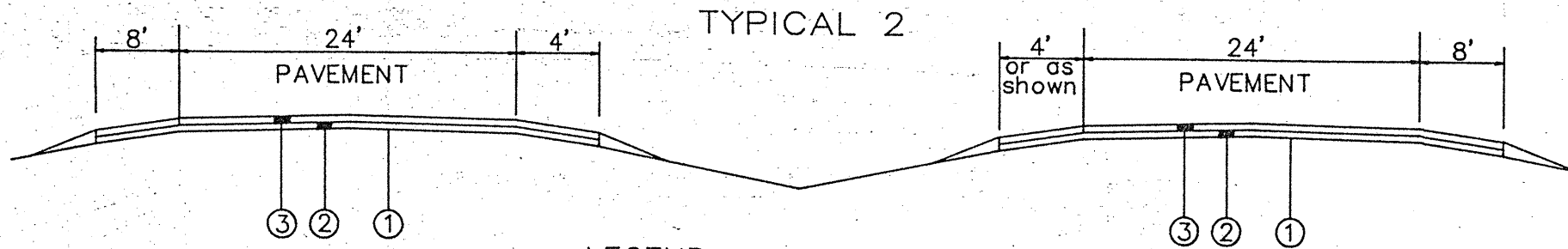
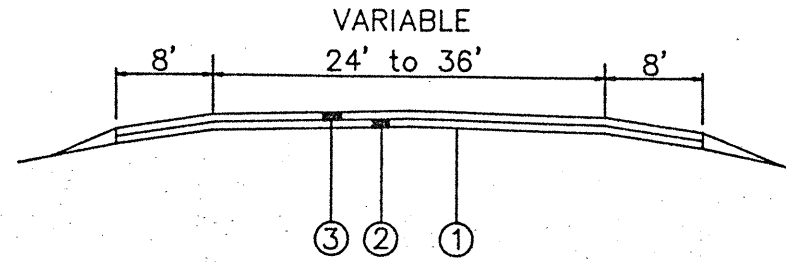
CALC. BY *D. J. M.*
DATE 3-17-90
CHKD. BY *L. J.*
DATE 3-19-90



Fredericktown Corp. Limit

* Feather As Per Standard Drawing BP-5. For quantities see sheet 9.

ASPHALT CONCRETE TYPICAL 1



MARK	ITEM	DESCRIPTION
①	407	Tack Coat @ .05 Gal./S.Y.
②	448	0" Min. & 1" Max. Asphalt Concrete Intermediate Course, Type 1, AC-20
③	448	1" Asphalt Concrete Surface Course, Type 1, AC-20

CALC. BY: <i>D. J.</i> DATE: <i>3-17-90</i> CHKD. BY: <i>J.C.</i> DATE: <i>3-19-90</i>	OHIO FHWA REGION 5	PLAN NO. 337	4 17
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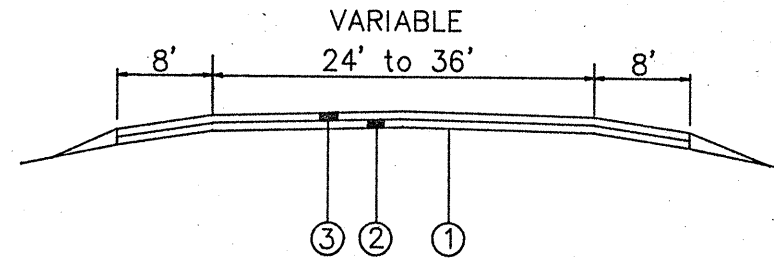
KNO-13-15.91

PAVEMENT DATA

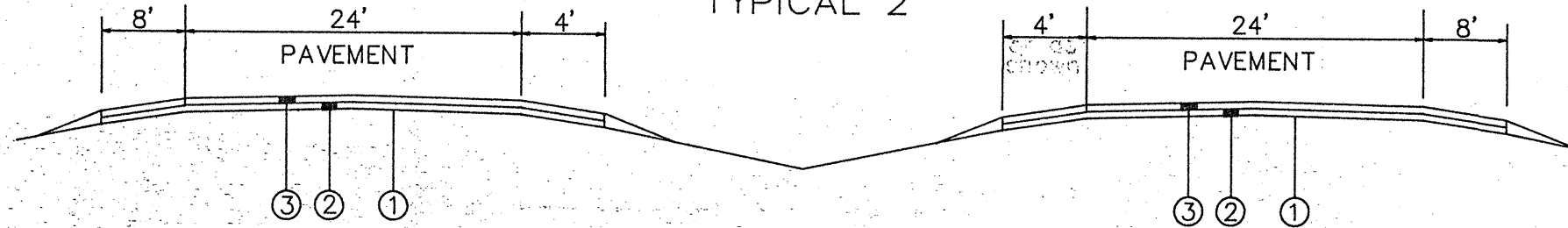
PART	ROUTE (NORTH BOUND)	LOG POINT TO LOG POINT	LENGTH		WP FEET	TYPICAL	EXISTING TYPE PAVEMENT 848	PAVEMENT AREA SQ. YDS.	PROPOSED PAVEMENT			614 TEMP. EDGE LINE CLASS I MILES	614 TEMP. LANE LINE CLASS II MILES
			MILES	LIN. FT.					407 ① ASPHALT CONCRETE				
									TACK COAT @ 0.05 Gal./S.Y. GALS.	ITEM 448 ② CU. YDS.	ITEM 448 ③ CU. YDS.		
1	S.R.13	15.92 - 15.94	0.02	120	27 Ave	1		360	18	10	10		
1	S.R.13	15.94 - 15.98	0.04	218	21 Ave	2		509	26	14	14		
1	S.R.13	15.98 - 17.67	1.69	8887	24	2		23,699	1185	658	658		
1	S.R.13	17.72 - 18.55	0.83	4415	24	2		11,774	589	327	327		
1	S.R.13	18.71 - 20.58	1.87	9854	24	2		26,277	1314	730	730		
1	S.R.13	20.58 - 20.68	0.10	519	19.7 Ave	2		1136	57	32	32		
1	S.R.13	20.68 - 20.74	0.06	323	13.7	1		492	25	14	14		
ADD OR DEDUCT FOR UNDERPASS (SEE SHEET 10)										(32)	(15)		
	Extra Area for Longitudinal Joint								113				
	Deduct for Bridges			(253)	24			(675)		(19)	(19)		(For Details and Quantities see sheet 10)
1	TOTALS		4.61	24336				64247	3327	1734	1781		18.52 8.94
2	S.R.13	17.67 - 17.72	0.05	265.0	24	2		707	35	20	20		
2	S.R.13	18.55 - 18.71	0.16	830.0	24	2		2214	111	62	62		
	Extra Area for Longitudinal Joint								5				
2	TOTALS		.21	1095				2921	151	82	82		0.84 0.42

PTMR707 (STAND)

ASPHALT CONCRETE TYPICAL 1



TYPICAL 2



MARK	ITEM	DESCRIPTION
①	407	Tack Coat @ .05 Gal./S.Y.
②	448	0" Min. & 1" Max. Asphalt Concrete Intermediate Course, Type 1, AC-20
③	448	1" Asphalt Concrete Surface Course, Type 1, AC-20

CALC. BY: <i>CLC</i> DATE: <i>3-17-90</i> CHKD. BY: <i>LC</i> DATE: <i>3-18-90</i>	OHIO FHWA REGION 5	PLAN NO. 337
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KNO-13-15.91

5
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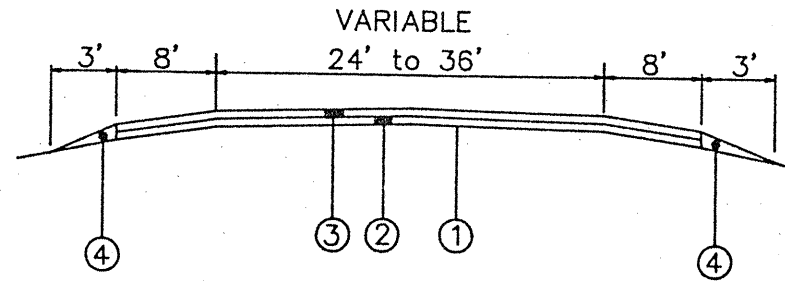
PAVEMENT DATA

PART	ROUTE (SOUTH BOUND)	LOG POINT TO LOG POINT	LENGTH		WP FEET	T Y P I C A L	EXISTING TYPE PAVEMENT 848	PAVEMENT AREA SQ. YDS.	PROPOSED PAVEMENT			614 TEMP. EDGE LINE CLASS I MILES	614 TEMP. LANE LINE CLASS II MILES	
			MILES	LIN. FT.					407 ①		ASPHALT CONCRETE			
									TACK COAT @ 0.05 Gal./S.Y. GALS.	ITEM 448 ② CU.YDS.	ITEM 448 ③ CU.YDS.			
1	S.R.13	15.94 - 16.02	0.08	400	18 Ave	2	800	40	22	22				
1	S.R.13	16.02 - 17.68	1.66	8760	24	2	23,360	1168	649	649				
1	S.R.13	17.69 - 18.55	0.86	4502	24	2	12,006	600	333	333				
1	S.R.13	18.71 - 20.74	2.03	10711	24	2	28,400	1420	789	789				
	Extra Area for Longitudinal Joint							299						
	Deduct for Bridges							(675)	(34)	(19)	(19)	(For Details and Quantities see sheet 10)		
1	TOTALS							3493	1774	1774	18.68	9.02		
2	S.R.13	17.68 - 17.69	0.01	70	24	2	187	9	5	5				
2	S.R.13	18.55 - 18.71	0.16	868	24	2	2315	116	64	64				
2	TOTALS							125	69	69	0.68	0.34		

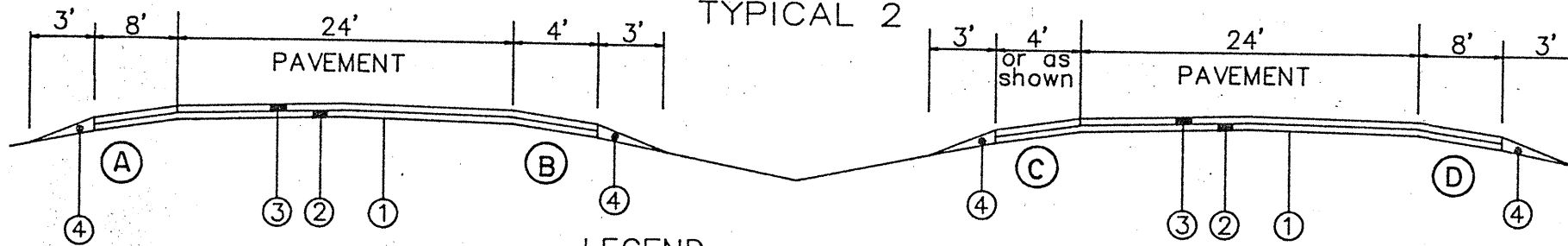
PTMR707A (STAND)

PAVED SHOULDERS

TYPICAL 1



TYPICAL 2



MARK	ITEM	DESCRIPTION
①	407	Tack Coat @ .05 Gal./S.Y.
②	448	0" Min. & 1" Max. Asphalt Concrete Intermediate Course, Type 1, AC-20
③	448	1" Asphalt Concrete Surface Course, Type 1, AC-20
④	617	2" Ave. Compacted Aggregate, Type A

OHIO
 3-11-90
 4G
 3-19-90

FHWA REGION	STATE	PROJECT
5	OHIO	

KNO-13-15.91

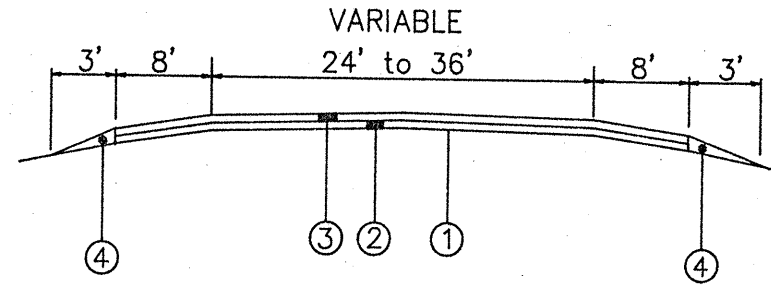
PLAN NO.
337

PAVED SHOULDER DATA

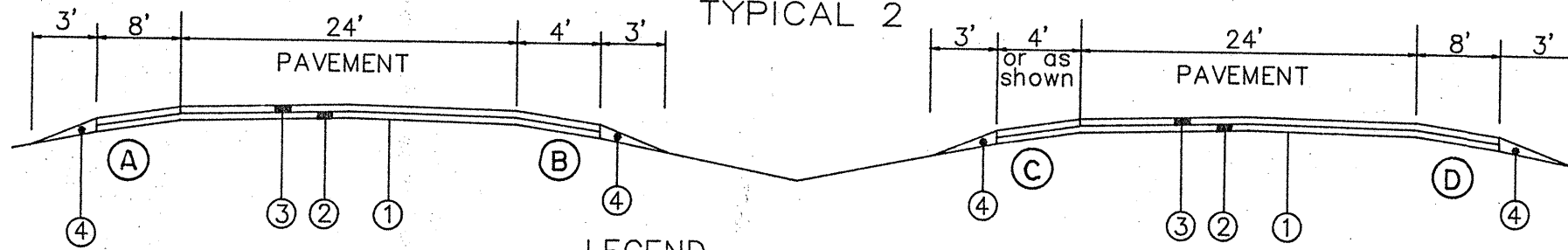
PART	ROUTE NORTH BOUND	LOG POINT TO LOG POINT	LENGTH		TYPICAL	PROPOSED WIDTH (FT.)				SHOULDER AREA SQ.YDS.	407	448		617				
			MILES	LIN.FT.		①	②	③	④		TACK COAT @ .05 Gal./Sq.Yd.	ASPHALT CONCRETE	ASPHALT CONCRETE					COMPACTED AGGREGATE TYPE A
											GALS.	CU.YDS.	CU.YDS.	CU.YDS.				
1	S.R.13	15.92 - 15.94	0.02	120	1				8	107	5	3	3	2				
1	S.R.13	15.94 - 15.99	0.05	257	2			6 Ave.	8	400	20	11	11	10				
1	S.R.13	15.99 - 17.67	1.68	8848	2			4	8	11798	590	328	328	328				
1	S.R.13	17.72 - 18.55	0.83	4415	2			4	8	5887	294	164	164	164				
1	S.R.13	18.71 - 20.69	1.98	10373	2			4	8	13831	692	384	384	384				
1	S.R.13	20.69 - 20.74	0.05	262	2			5 Ave.	8	379	19	11	11	10				
		Deduct for Bridges		(253)				4	8	(337)	(17)	(9)	(9)	(9)				
		Deduct for Approach		(515)					8	(458)	(23)	(13)	(13)	(10)				
		ADD OR DEDUCT FOR UNDERPASS (SEE SHEET 10)											4					
1		TOTALS									1580	863	883	879	(For Details and Quantities see sheet 10)			
2	S.R.13	17.67 - 17.72	0.05	265	2			4	8	354	18	10	10	10				
2	S.R.13	18.55 - 18.71	0.16	830	2			4	8	1107	55	31	31	31				
		TOTALS									73	41	41	41				

PAVED SHOULDERS

TYPICAL 1



TYPICAL 2



LEGEND

MARK	ITEM	DESCRIPTION
①	407	Tack Coat @ .05 Gal./S.Y.
②	448	0" Min. & 1" Max. Asphalt Concrete Intermediate Course, Type 1, AC-20
③	448	1" Asphalt Concrete Surface Course, Type 1, AC-20
④	617	2" Ave. Compacted Aggregate, Type A

FHWA REGION 5	STATE OHIO	PROJECT	

KNO-13-15,91

PLAN NO.
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PAVED SHOULDER DATA

PART	ROUTE SOUTH BOUND	LOG POINT TO LOG POINT	LENGTH		TYPICAL	PROPOSED WIDTH (FT.)				SHOULDER AREA SQ.YDS.	407	448		617				
			MILES	LIN.FT.		①	②	③	④									
						GALS.	CU.YDS.	CU.YDS.	CU.YDS.									
1	S.R.13	15.92 - 15.99	0.07	377	1	8			335	17	9	9	7					
1	S.R.13	15.99 - 17.68	1.69	8903	2	8	4		11871	594	330	330	330					
1	S.R.13	17.69 - 18.55	0.86	4502	2	8	4		6003	300	167	167	167					
1	S.R.13	18.71 - 20.68	1.97	10388	2	8	4		13851	693	385	385	385					
1	S.R.13	20.68 - 20.74	0.06	323	1	8			287	14	8	8	6					
		Deduct for Bridges		(253)		8	4		(373)	(19)	(10)	(10)	(9)					
		Deduct for Approach		(360)		8			(320)	(16)	(9)	(9)	(7)					
1		TOTALS								1583	880	880	879	(For Details and Quantities see sheet 10)				
2	S.R.13	17.68 - 17.69	0.01	70	2	8	4		93	5	3	3	3					
2	S.R.13	18.55 - 18.71	0.16	868	2	8	4		1157	58	32	32	32					
2		TOTALS								63	35	35	35					

PAVED SHOULDERS

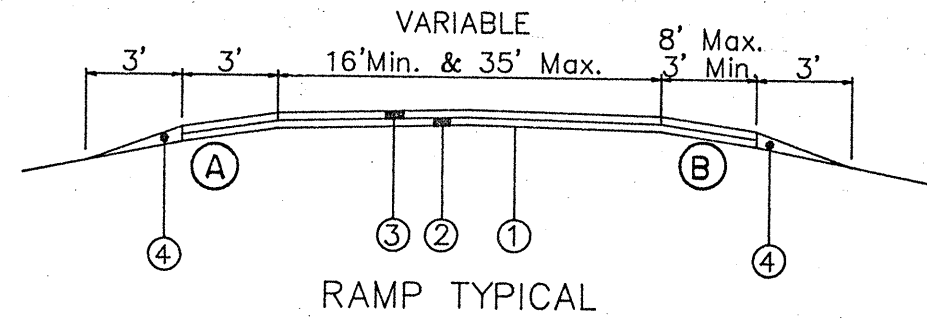
D.M.
8-11-80
UC
3-29-90

FHWA REGION	STATE	PROJECT
5	OHIO	

8
17

KNO-13-15.91

PLAN NO.
337



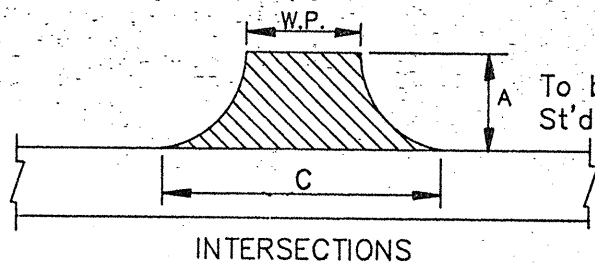
MARK	ITEM	LEGEND	DESCRIPTION
①	407		Tack Coat @ .050 Gal./S.Y.
②	448		1" Asphalt Concrete Intermediate Course, Type I, AC-20
③	448		1" Asphalt Concrete Surface Course, Type 1, AC-20
④	617		2" Ave. Compacted Aggregate, Type A

PAVED SHOULDER DATA

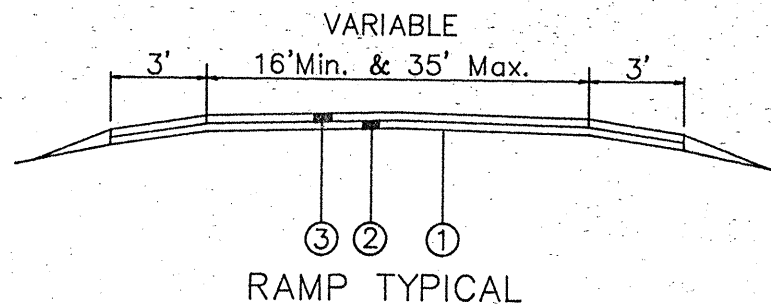
PART	LOG POINT TO LOG POINT	LENGTH		TYPICAL	PROPOSED WIDTH (FT.)			SHOULDER AREA SQ.YDS.	407	448		617					
		LIN.FT.			A	B			TACK COAT @ .05 Gal./Sq.Yd.	ASPHALT CONCRETE	ASPHALT CONCRETE						COMPACTED AGGREGATE TYPE A
								①	②	③	④						
								GALS.	CU.YDS.	CU.YDS.	CU.YDS.						
1	S.E. RAMP	1775	1	3	8-3		619	31	17	17	33						
1	S.W. RAMP	2054	1	8-3	3		740	37	21	21	38						
1	N.E. RAMP	1808	1	3	8-3		658	33	18	18	33						
1	N.W. RAMP	1953	1	8-3	3		679	34	19	19	36						
TOTALS								135	75	75	140						

PTMR684B 3/17/90

EXTRA AREA AND DEDUCTIONS



To be feathered as per St'd. Drawing BP-5.



LEGEND

MARK	ITEM	DESCRIPTION
①	407	Tack Coat @ .05 Gal./S.Y.
②	448	0" Min. & 1" Max. or as shown Asphalt Concrete Intermediate Course, Type 1, AC-20
③	448	1" or as shown Asphalt Concrete Surface Course, Type 1, AC-20

CALC. BY: <u> </u> DATE: <u> </u> CHKD. BY: <u> </u> DATE: <u> </u>	OHIO FHWA REGION 5
PLAN NO. 337	

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KNO-13-15.91

* Area to include Tapers.

PART	ROUTE	LOG POINT TO LOG POINT	SIDE	DESCRIPTION	INTERSECTIONS or RAMPS			AREA IN SQ. YD.	PROPOSED ITEMS						
					A IN FEET	W.P. IN FEET	C IN FEET		407 ①		ASPHALT CONCRETE			EXISTING SURFACE 848	614 TEMP EDGE LINE CLASS I MILES
									TACK COAT @ 0.05 GAL./S.Y. GAL.	THICK INCHES	ITEM 448 ②	ITEM 448 ③	THICK INCHES		
1	S.R.13	16.03	☉	Crossover			218	11	1	6	6	1			
1	S.R.13	16.03	RT.	Co. Rd. 69	50	30	307	15	.5	4	4	.5			
1	S.R.13	17.25	☉	Crossover			*1051	53	1	29	29	1			
			RT.	Co. Rd. 11	50	23	243	12	.5	3	3	.5			
			LT.	Co. Rd. 11	50	23	243	12	.5	3	3	.5			
1	S.R.13	17.93 ☉ S.R.95	RT.	S.E. Ramp		Var.	*2874	144	1	80	80	1	0.67		
1	S.R.13	17.93 ☉ S.R.95	LT.	S.W. Ramp		Var.	*3671	184	1	102	102	1	0.78		
1	S.R.13	17.93 ☉ S.R.95	RT.	N.E. Ramp		Var.	*3479	174	1	97	97	1	0.68		
1	S.R.13	17.93 ☉ S.R.95	LT.	N.W. Ramp		Var.	*3199	160	1	89	89	1	0.74		
1	S.R.13	18.85	☉	Crossover			*1017	51	1	28	28	1			
			RT.	Co. Rd. 6	50	21	253	13	.5	4	4	.5			
			LT.	Co. Rd. 6	50	20	253	13	.5	4	4	.5			
1	S.R.13	20.46	☉	Crossover			*992	50	1	28	28	1			
			RT.	T.R.377	50	28	218	11	.5	3	3	.5			
			LT.	T.R.377	50	28	218	11	.5	3	3	.5			
1	S.R.13	15.91 - 15.92	☉	Feather (50'x32')			178	9	.5	3	3	.5			
1	S.R.13	20.74 - 20.75	☉	Feather (50'x52')			289	14	.5	4	4	.5			
1		TOTALS						937		490	490		2.87		
2	S.R.13	17.93 ☉ S.R.95	RT.	S.E. Ramp			353	18	1	10	10	1			
2		TOTALS						18		10	10				

PTMREAD (STAND) 5/4/89

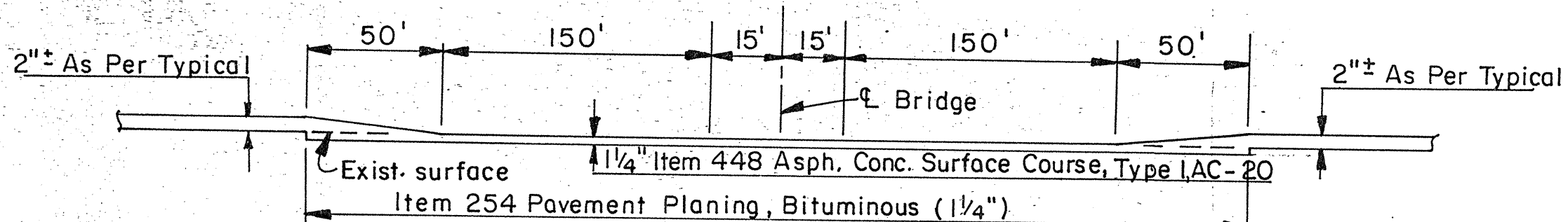
CALC. BY: JMA
DATE: 3-17-90
CHKD. BY: JLC
DATE: 3-19-90

OHIO
FHWA
REGION 5

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17

BRIDGE DETAILS AND QUANTITIES

BRIDGE UNDERPASS (NORTHBOUND ONLY)



Deduct PAVEMENT

Item 448 Asphalt Concrete Intermediate Course, Type I, AC-20.
430' x 24' x .0833 ÷ 27 = 32 C.Y.

Add

Item 448 Asphalt Concrete Surface Course, Type I, AC-20.
330' x 24' x .0208 ÷ 27 = 6 C.Y.
50' x 24' x .2083 ÷ 27 = 9 C.Y.

TOTAL 15 C.Y.

Item 254 Pavement Planing (1-1/4")
430' x 24' ÷ 9 = 1147 S.Y.

Item 254 Carried to General Summary.
All other quantities carried to sheet 4.

Deduct SHOULDER

Item 448 Asphalt Concrete Intermediate Course, Type I, AC-20.
430' x 12' x .0833 ÷ 27 = 16 C.Y.

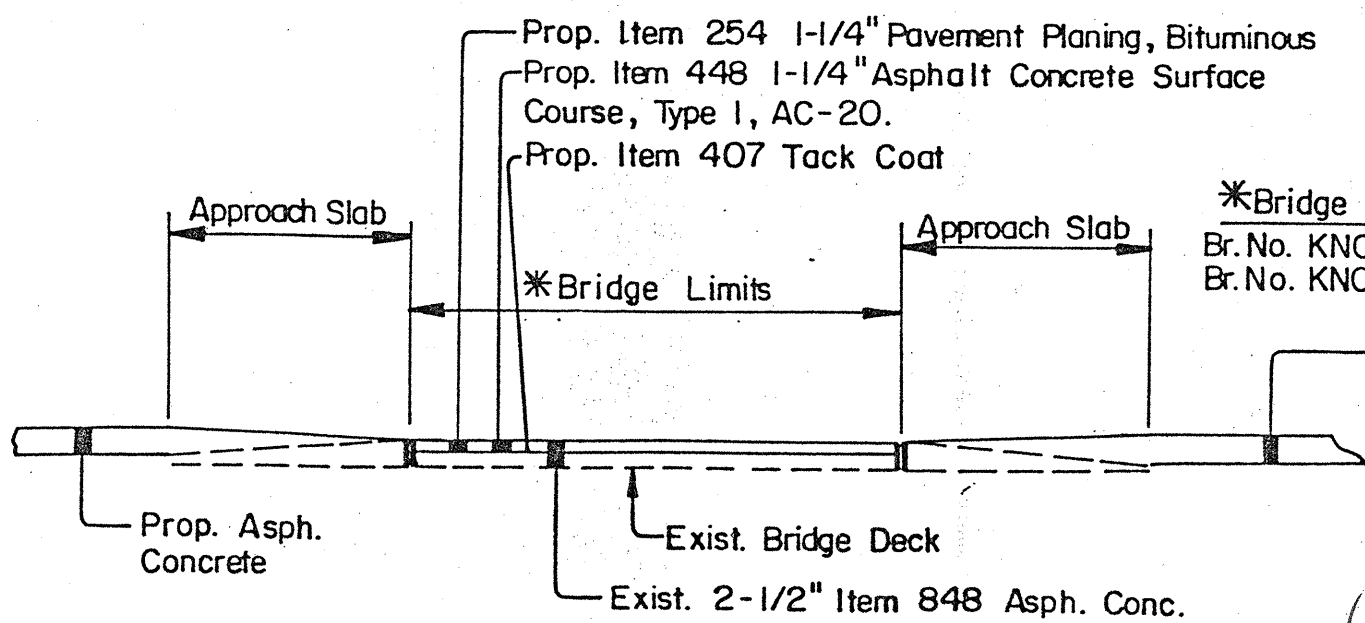
Add

Item 448 Asphalt Concrete Surface Course, Type I, AC-20.
330' x 12' x .0208 ÷ 27 = 3 C.Y.
50' x 12' x .0283 ÷ 27 = 1 C.Y.

TOTAL 4 C.Y.

Item 254 Pavement Planing (1-1/4")
430 x 12' ÷ 9 = 573 S.Y.

Item 254 Carried to General Summary.
All other quantities carried to sheet 6.



*Bridge Limits:
Br. No. KNO-13-1828 L&R 66'-7 1/4"
Br. No. KNO-13-1909 L&R 186'-6"

	Bridge Numbers				TOTALS
	KNO-13-1828 Lt.	KNO-13-1828 Rt.	KNO-13-1909 Lt.	KNO-13-1909 Rt.	
Item 254 1-1/4" Pavement Planing, Bituminous	296 S.Y.	323 S.Y.	829 S.Y.	829 S.Y.	2277 S.Y.
Item 448 1-1/4" Asphalt Concrete Surface Course, Type I, AC-20	11 C.Y.	12 C.Y.	29 C.Y.	29 C.Y.	81 C.Y.
Item 407 Tack Coat	15 Gal.	17 Gal.	42 Gal.	42 Gal.	116 Gal.

TOTALS CARRIED TO GENERAL SUMMARY, SEE SHEET 17.

FEATHER DETAIL AT BRIDGE APPROACH

NOTE: Care shall be exercised during the Planing Operation so as not to disturb existing Waterproofing Membrane and the Vertical Extensions of the Expansion Joints on the Bridge.

CALC. BY D.M.
DATE 3-17-90
CHKD. BY UC
DATE 3-19-90

LANE LINE SUB-SUMMARY

PLAN NO. **337**

ITEM 621

COUNTY	ROUTE	S.L.M.		QUANTITIES		PARTICIPATION TYPE				REMARKS	
				TOTAL MILES	4" LANE LINES		IRG	FG	RSG		NON FED STATE
		FROM	TO		DASHED	SOLID					
PART 1											
KNO	SR13(NB)	16.06	17.68	1.62	1.62						
		17.72	18.56	0.93	0.93	INCLUDES ACCELERATION AND DECELERATION DASHES AT SR95					
		18.72	20.62	1.90	1.90						
	SR13(NB)	16.08	17.68	1.60	1.60						
		17.72	18.56	0.94	0.94	INCLUDES ACCELERATION AND DECELERATION DASHES AT SR95					
		18.72	20.75	2.03	2.03						
PART 1	TOTALS			9.02	9.02						
PART 2											
KNO	SR13(NB)	17.68	17.72	0.04	0.04						
		18.56	18.72	0.16	0.16						
	SR13(NB)	17.68	17.72	0.04	0.04						
		18.56	18.72	0.16	0.16						
PART 2	TOTALS			0.40	0.40						

CALC. BY DM
DATE 1-17-90
CHKD. BY UC
DATE 3-19-90

PAVEMENT MARKING SUB-SUMMARY

PLAN NO. 337

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17

ITEM 847

KNO-13-15.91

947.02

CO.	ROUTE	SIDE	24" TRANSVERSE LINES		STOP LINE 24"	12" CROSSWALK LINES WHITE	WORD ON PAVEMENT		LANE ARROWS				DOTTED LINES		8" CHANNEL LINE	REMARKS
			WHITE	YELLOW			ONLY 96"	SCHOOL 96"	TURN		THRU	COMB.	WHITE	YELLOW		
									LEFT	RIGHT						
KNO	SR13 (PART 1)															
	ON SR13	SOUTH OF CO. Rd. 69		463												
	CO. Rd. 69	RT.			55											SEE REQUEST FORM
	ON SR13	NORTH OF CO. Rd. 65 (S.B.SIDE)		620			2		1		1			201		" " "
	CO. Rd. 11	LT & RT			80		2		2					150		" " "
	SOUTH EAST RAMP	(TO SR95)	139		65						1			392		" " "
	SOUTH WEST RAMP	(FROM SR95)												159		" " "
	NORT WEST RAMP	(TO SR95)	129		49						1			373		" " "
	NORT EAST RAMP	(FROM SR95)												197		" " "
	CO. Rd. 6	LT & RT			72		2		2					141		
	Twp. Rd. 377	LT & RT			79		2		2					146		" " "
	ON SR13	NORTH END TRANSITION		533												
KNO	SR13 PART 1	TOTALS	268	1616	400		8		7		3			1759		


K13PMSS 3/13/90

DETAIL	
1	MULTILANE UNDIVIDED

DETAIL	
6	STOP APPROACH
7	ONE LANE APPROACH W/LT. TURN LANE
8	THRU APPROACH
9	TWO LANE APPROACH W/LT. TURN LANE

DETAIL	
10	4 LANE DIVIDED TO 2 LANE TRANSITION
11	4 LANE UNDIVIDED TO 2 LANE TRANSITION
12	TWO LANE NARROW BRIDGE
13	TWO WAY LEFT TURN LANE
14	ONE LANE BRIDGE
15	HORIZONTAL CURVE

DETAIL	
2	TAPERED ACCELERATION LANE
3	DECELERATION LANE
4	PARALLEL ACCELERATION LANE
5	MULTILANE DIVIDED/EXPRESSWAY

CALC. BY: <i>Q. M.</i> DATE: 3-17-90 CHKD. BY: <i>W. C.</i> DATE: 3-17-90	KNO-13-15.91	OHIO FHWA REGION 5	
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PLAN NO. RPM-5-90 **337**

DETAIL	
16	HORIZONTAL CURVE ALT.
17	STOP APPROACH ALT.
GAP	CENTERLINE AT 80' TYP.

SEE STANDARD DRAWING TC-65.10, TC-65.11 & TC-65.13.
LOCATION SUB-SUMMARY

LOCATION				D E T A I L	P A R T I C.	RPM	INSTALLATION ONLY			PRISMATIC RETRO- REFLECTOR	PRISMATIC RETRO-REFLECTORS					202 RAISED PAVEMENT MARKERS REMOVED FOR STORAGE EACH	REMARKS	LOC. NO.
COUNTY	ROUTE	S.L.M. SECTION					RPM	RPM	ONE-WAY		TWO-WAY							
		FROM	TO						WHITE		YELLOW	WHITE/ WHITE	YELLOW/ YELLOW	WHITE/ RED				
PART 1																		
KNO	SR13	NORTH & SOUTH																
		15.91	16.04	10		80				42	34		4					
KNO	SR13	NORTH BOUND																
		16.06	17.68	5		111				74				37		CHANNEL LINE 20' AT CR 11		
		17.72	18.56	5		55				55								
		18.72	20.57	5		131				102				29		CHANNEL LINE 20' AT CR6 AND TR377		
	S.E.	RAMP AT SR95		3		20				18	2							
	N.E.	RAMP AT SR95		2		17				15	2							
KNO	SR13	SOUTH BOUND																
		16.04	16.30	7		72				40	27			5				
		16.30	17.68	5		95				75				20		CHANNEL LINE 20' AT CR 11		
		17.72	18.56	5		55				35				20				
		18.72	20.57	5		131				104				27		CHANNEL LINE 20' AT CR6 AND TR377		
	S.W.	RAMP AT SR95		2		19				17	2							
	N.W.	RAMP AT SR95		3		17				15	2							
KNO	SR13	NORTH & SOUTH																
		20.57	20.75	10		117				52	52			13				
PART 1 TOTALS						920				644	121		4	151	1636			
PART 2																		
KNO	SR13	NORTH BOUND																
		17.68	17.72	5		3								3				
		18.56	18.72	5		11								11				
KNO	SR13	SOUTH BOUND																
		17.68	17.72	5		3				3								
		18.56	18.72	5		10				10								
PART 2 TOTALS						27				13				14	24			

K13RPM 3/13/90

J.M.
3-17-90
J.C.
3-19-90

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

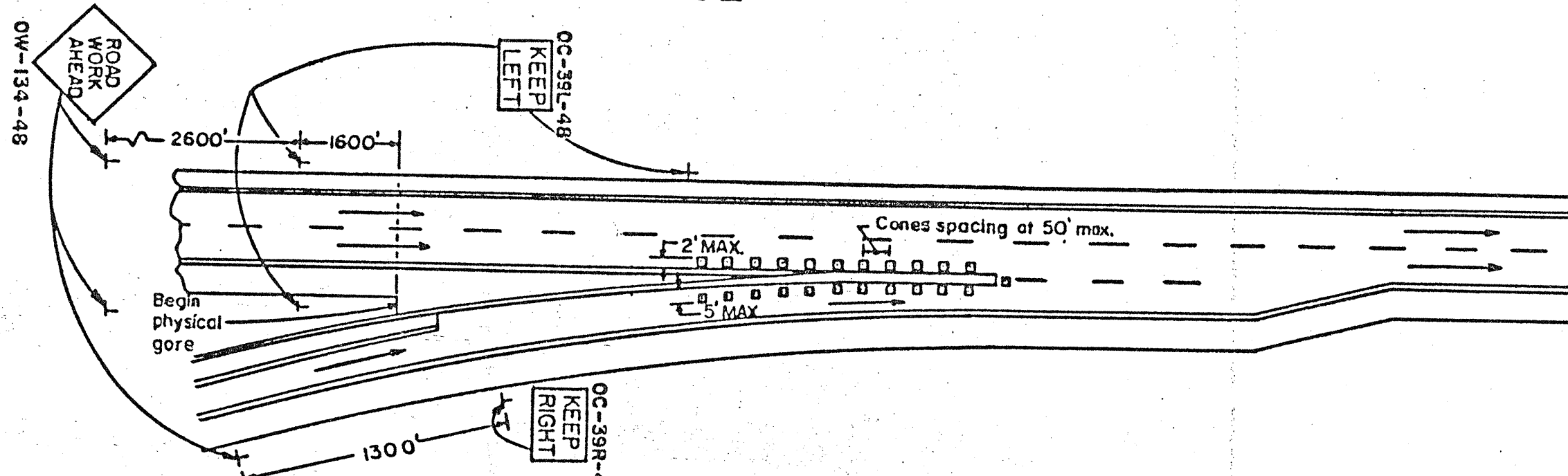
16
17

PLAN NO. 337

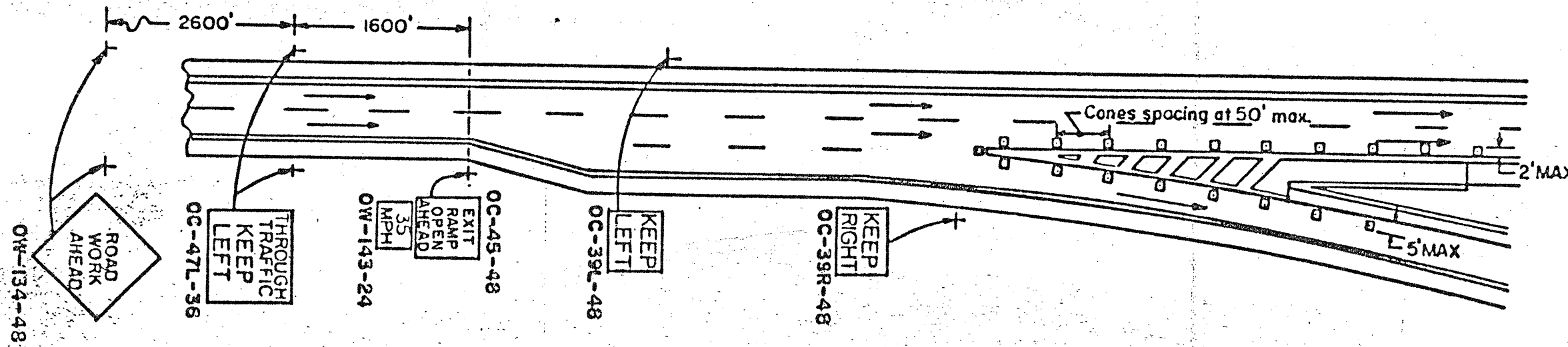
GENERAL NOTE

1. THE REQUIREMENTS OF THE "TRAFFIC CONTROL FOR LONG LINE PAVEMENT MARKING OPERATIONS" SCD MT. 99.20 SHALL APPLY IN LIEU OF THIS DETAIL WHERE EDGE LINES AND/OR CHANNELIZING LINES ARE SPRAYED IN MOVING OPERATIONS SEPARATE FROM ANY OTHER WORK.
2. WHERE THE WORK IN THE GORE AREA REQUIRES MORE POSITIVE TRAFFIC CONTROL OR OVERNIGHT WORK AREA PROTECTION, THE TRAFFIC CONTROL FOR "LANE CLOSURE AT THE ENTRANCE RAMP" OR "LANE CLOSURE AT EXIT GORE" SHOULD BE EMPLOYED.
3. THE SPACING BETWEEN SIGNS SHOWN ON THIS DETAIL MAY BE ADJUSTED (INCREASED OR DECREASED) WITH THE APPROVAL OF THE ENGINEER TO POSITION THEM NO CLOSER THAN 200 FEET TO EXISTING SIGNS WHICH MUST REMAIN IN USE.
4. AT AN ISOLATED ENTRANCE GORE AREA, A FLASHING ARROW PANEL CONFORMING TO REQUIREMENTS IN SECTION 7G-8 OF THE OMUTCD MAY BE SUBSTITUTED FOR THE ADVANCE OC-39-48 SIGNS.
5. AT AN INTERCHANGE WHERE BOTH EXITS AND ENTRANCES ARE MARKED WITH TRAFFIC CONTROL IN PLACE AT THE SAME TIME, THE OW-134-48 SIGN ON THE ENTRANCE RAMP IS NOT REQUIRED.
6. FOR NIGHT CLOSURES, THE OW-134-48 AND THE OC-47L-36 SIGNS SHALL BE LIGHTED USING TYPE A FLASHING BARRICADE WARNING LIGHT.

ENTRANCE GORE TRAFFIC CONTROL



EXIT GORE TRAFFIC CONTROL



OHIO DEPARTMENT OF TRANSPORTATION	
TRAFFIC CONTROL FOR WORK IN GORE AREAS	DATE 1/81
DR. JDL CK. CDR	

CALC. BY D.M.
DATE 3-17-91
CHKD. BY LB
DATE 3-17-90

GENERAL SUMMARY

ITEM	PART 1	PART 2				ITEM	ITEM EXT. NO.	GRAND TOTAL PARTS	UNIT	DESCRIPTION
202	1636	24				202	54100	1660	EACH	RAISED PAVEMENT MARKERS REMOVED FOR STORAGE
614	17.96	0.76				614	20400	18.72	MILES	TEMPORARY LANE LINES, CLASS II
621	0.26					621	20100	0.26	MILES	CENTER LINES
621	9.02	0.40				621	10008	9.42	MILES	LANE LINES
621	22.04	0.80				621	00100	22.84	MILES	EDGE LINES
614	400					614	26000	400	LIN.FT.	TEMPORARY STOP LINES, CLASS I
847	1884					847	47600	1884	EACH	TRANSVERSE LINES, 947.02
847	400					847	28000	400	LIN.FT.	STOP LINES, 947.02
847	8					847	74000	8	EACH	WORD ON PAVEMENT, "ONLY", 96", 947.02
847	10					847	66500	10	EACH	LANE ARROWS, 947.02
847	1759					847	19000	1759	LIN.FT.	CHANNELIZING LINES, 947.02
862	920	27				862	00100	947	EACH	RAISED PAVEMENT MARKERS
614	12					614	12460	12	EACH	WORK ZONE MARKING SIGNS
614	LUMP	LUMP				614	11000	LUMP	LUMP	MAINTAINING TRAFFIC
619	LUMP	LUMP				619	10000	LUMP	LUMP	FIELD OFFICE
624	LUMP	LUMP				624	10000	LUMP	LUMP	MOBILIZATION
448	5816	237				448	14000	6053	CU.YD.	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I, AC-20
448	5964	237				448	16000	6201	CU.YD.	ASPHALT CONCRETE SURFACE COURSE, TYPE I, AC-20
614	40.07	1.52				614	22000	41.59	MILES	TEMPORARY EDGE LINES, CLASS I
407	1171.76	430				407	10000	11,601	GAL'S	TACK COAT
254	3997					254	00100	3997	SQ.YD.	PAVEMENT PLANING, BITUMINOUS
617	1898	76				617	10100	1974	CU.YD.	COMPACTED AGGREGATE, TYPE A

K13GNSUM 3/12/90

INITIAL PAVEMENT MARKINGS FOR RESURFACED SECTIONS GENERAL NOTES

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

621 and 847 Materials

The materials used on this project shall either be 621 fast dry traffic paint or 847 thermoplastic material approved by prequalification.

The Contractor shall provide storage for all materials and shall transport materials to the site where used. Glass beads shall be kept dry during storage and prior to use.

The Laboratory will furnish the names of manufacturers and code numbers from its approved list of prequalified white and yellow paint upon request.

621 and 847 Special Equipment

The Contractor's striper shall be equipped with an odometer graduated to 1/100 of a mile. The Engineer shall 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 shall periodically check the odometer's operation to assure maintenance to 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/or 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 application equipment used to apply long line markings. The counters shall individually tabulate the amount of footage applied for each line, whether solid or dashed. The counters shall be a six digit type with a reset feature.

The Contractor shall use an accurate dashing mechanism, capable of being easily adjusted, to place lane or center line markings as specified in the plans or as directed by the Engineer.

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

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 the quantity used.

847 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 quantity of less than 100 pounds of marking material 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 before and after marking material is applied. The Contractor shall provide measurements whenever requested by the Engineer. The marking material application rate shall be determined by dividing the total pounds of thermoplastic material 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 shall be ascertained by the Engineer by observation and from information supplied by the Contractor as to quantity used.

INITIAL PAVEMENT MARKINGS FOR RESURFACED SECTIONS GENERAL NOTES

621 Layout and Premarking

In accordance with 621.05 the Contractor shall "T" no-passing zones in accordance with a no-passing zone log provided by the Engineer.

847 Layout and Premarking

In addition to the requirements of 847.04, premarking for auxiliary markings shall be located from schematic forms provided by the Engineer.

Markings shall not be applied over existing markings except when applying initial permanent markings over temporary markings of fast-dry paint. Temporary markings other than fast-dry paint shall be removed and the surface prepared to the satisfaction of the Engineer before permanent markings are applied.

621 and 847 Auxiliary Pavement Marking

For this project, auxiliary markings shall be defined as: Stop lines, crosswalk lines, transverse lines, railroad and school symbol markings, lane arrows, word on pavement, curb and island markings, parking lot stall markings and dotted lines except when used to extend edge lines.

847 Material Application Temperature

The Contractor shall provide a calibrated temperature sensing device which will accurately measure the temperature of the extruded thermoplastic material when it makes contact with the pavement. A temperature of 400°F to 440°F at point of application to road surface must be maintained at all times.

847 Material Application Rates

In addition to the requirements of 847 the minimum application rates shall be as follows:

Pounds Per Mile of Line	Width of Line (Inches)			
	4	8	12	24
Solid Line	2340	4680	7020	14040
Dashed Line	585	1170	1755	3510

133 Pounds Per 100 Square Feet

947.02 Thermoplastic Pavement Markings

Glass beads intermixed or dropped on 947.02 thermoplastic pavement marking material shall meet the following specification:

<u>Sieve No.</u>	<u>% Retained</u>
16	3 Max
20	5 to 20
40	65 to 95
50	0 to 5
Refractive Index:	1.50 to 1.60
Roundness:	80% Min
Coating:	Adhesion Promoting

The application rate of drop-on beads shall be a uniform 25 pounds of beads for each 100 square feet of thermoplastic material surface area.

862 Raised Pavement Markers

This Contract may include sections of roadway where plowable prismatic raised pavement markers are to be installed in the pavement. Raised pavement marker placement for a resurfaced section shall begin after the permanent pavement marking for that resurfaced section is completed and dry.

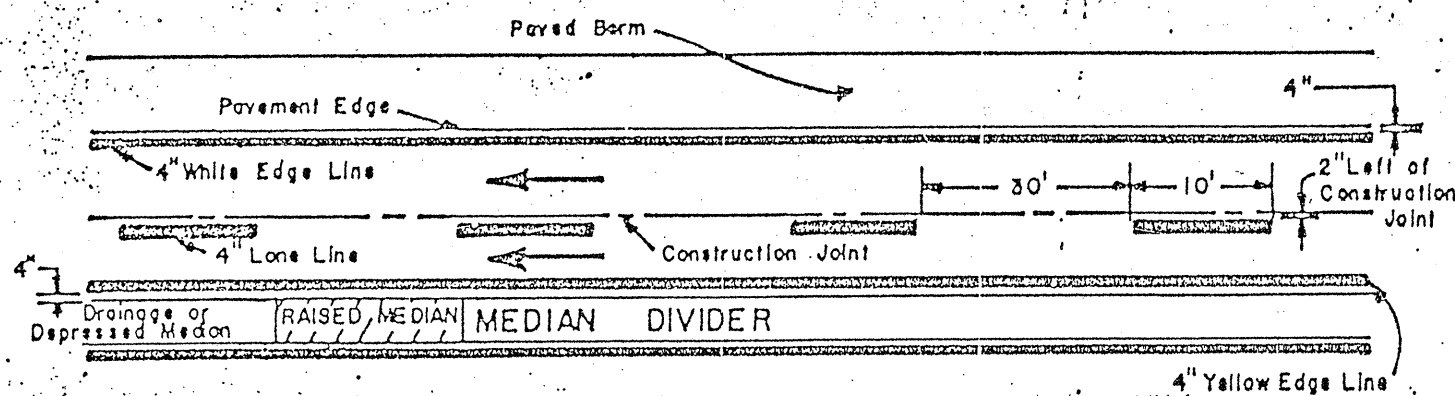
PAVEMENT MARKING TYPICAL DETAILS

FED. RD. DIST.	STATE	PROJECT	
5	OHIO		

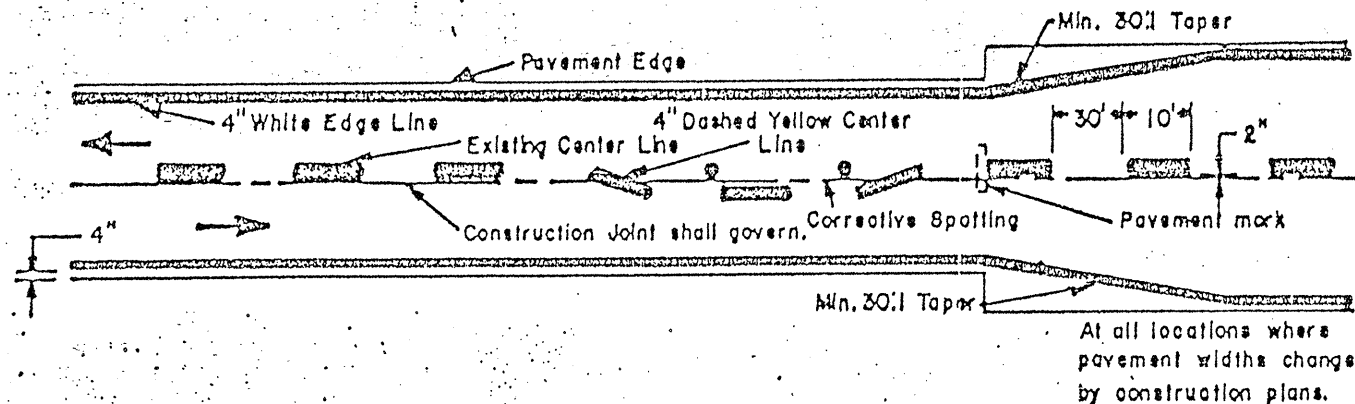
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PLAN NO. 337

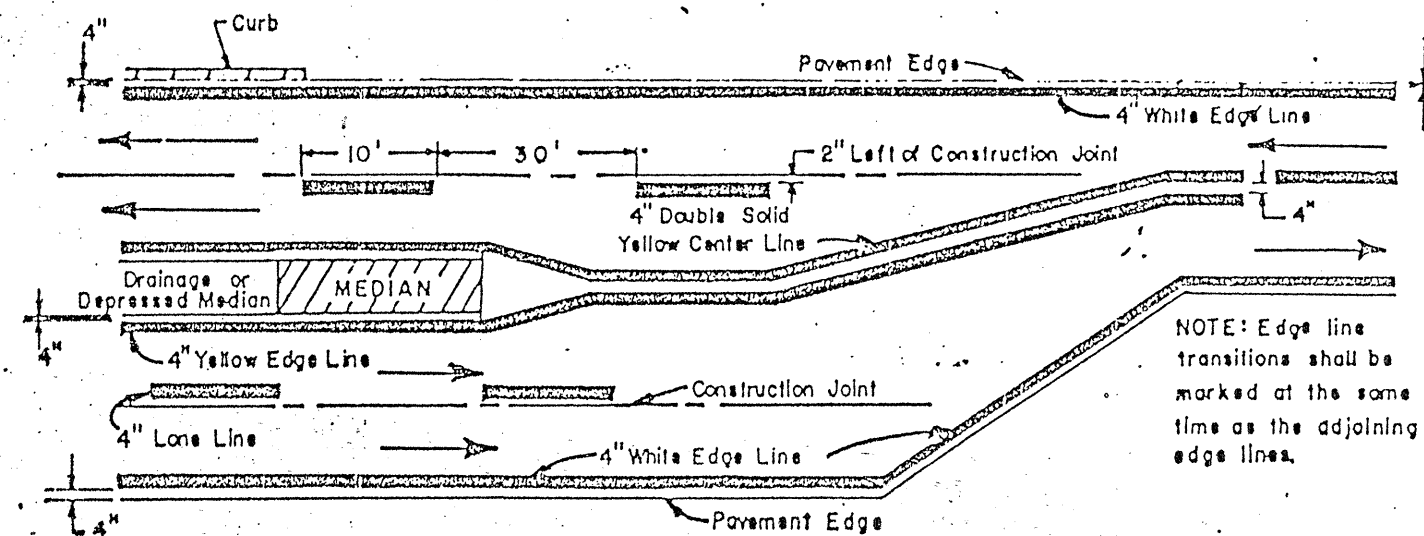
FREEWAY & EXPRESSWAY MAINLINE MARKINGS



TWO LANE MARKINGS



MULTILANE DIVIDED & UNDIVIDED HIGHWAY MARKINGS



NOTES:

1. THE DISTANCE FROM THE PAVEMENT EDGE TO THE NEAR-SIDE 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.

OHIO DEPARTMENT OF TRANSPORTATION	
PAVEMENT MARKING TYPICAL DETAILS	DATE 11/80
JUL. CDR.	

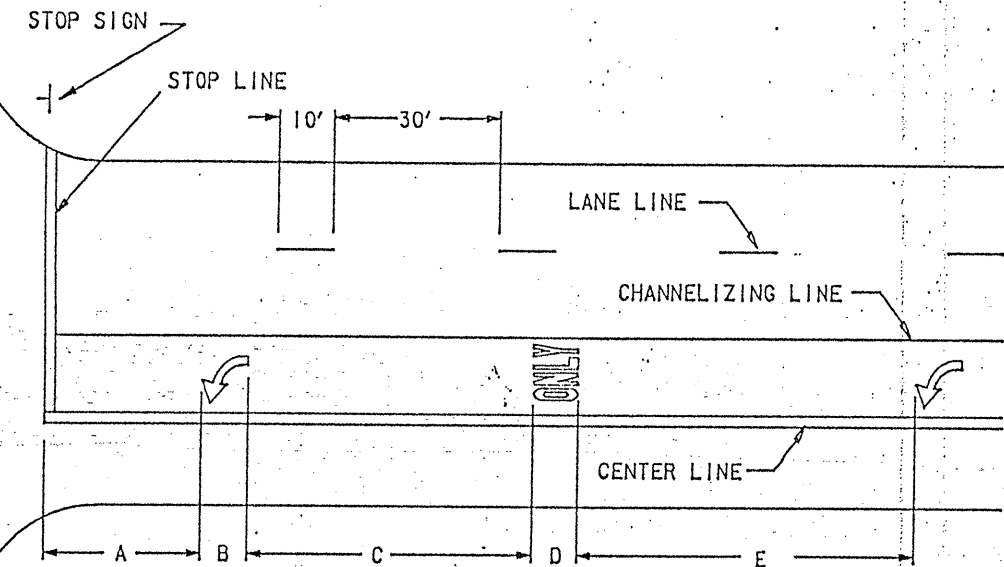
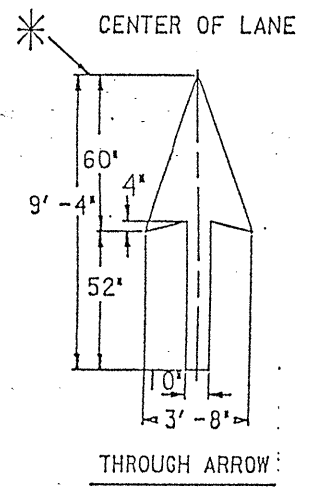
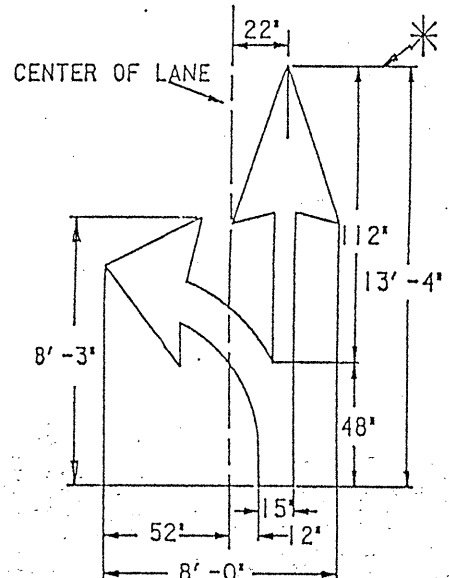
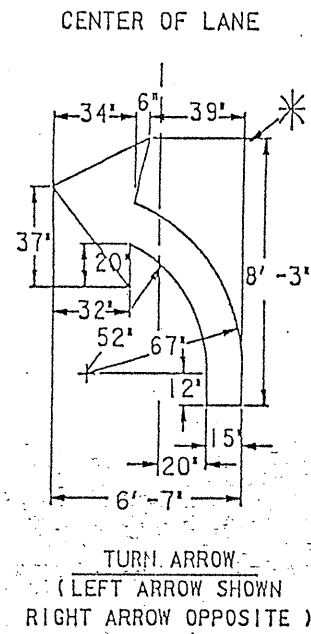
12/81

WORD AND SYMBOL MARKING DETAILS

FED RD DIVISION	STATE	PROJECT	
5	OHIO		



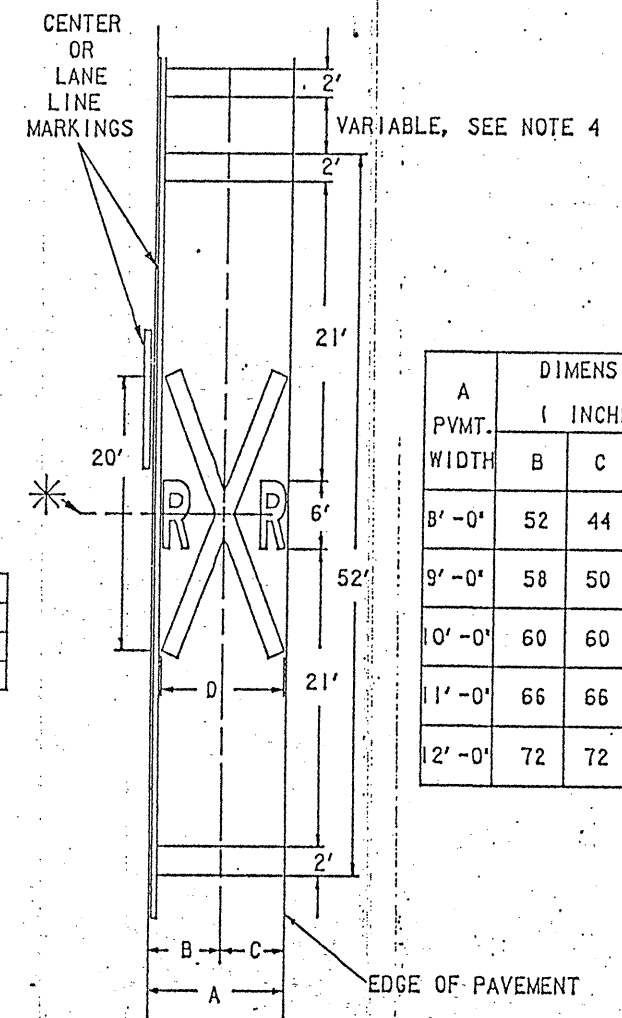
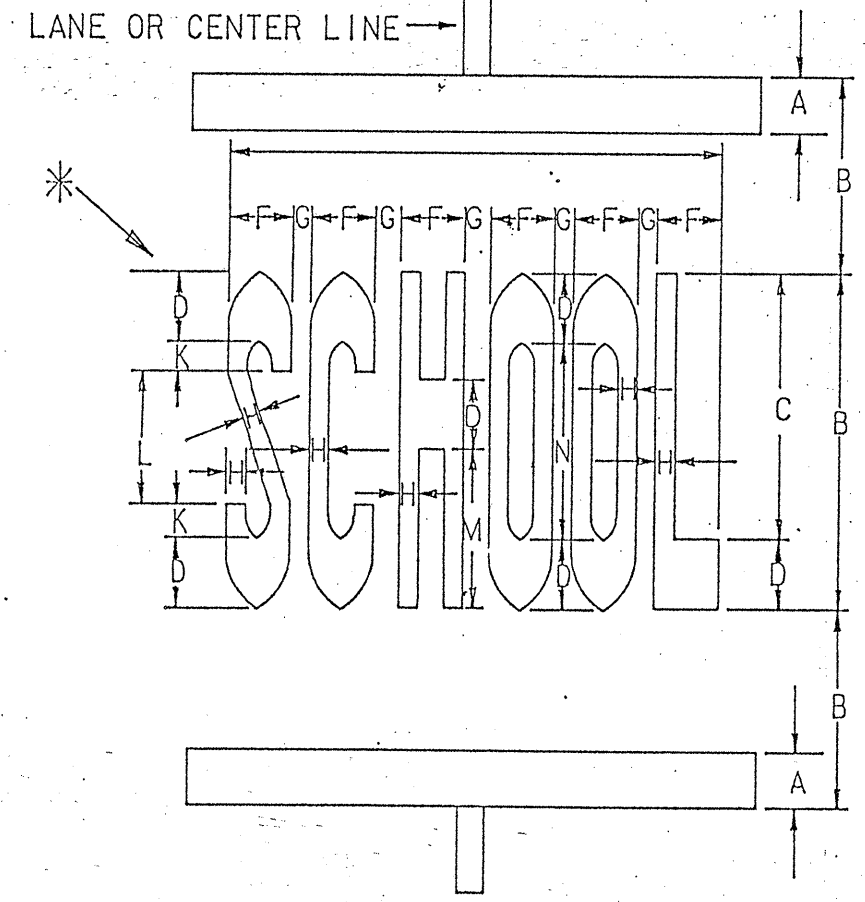
PLAN NO. **337**



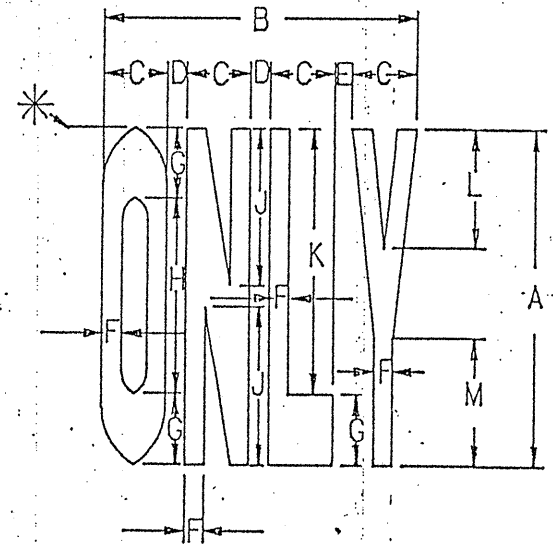
NOTE:
STOP BAR LOCATED MIN. 40' FROM
AT LEAST ONE SIGNAL HEAD WHICH APPLIES
TO THAT APPROACH

TYPE	DIMENSIONS (FEET)				
	A	B	C	D	E
RURAL	30 MIN.	8.25	32-80	8	32-60
URBAN	10 MIN.	8.25	32-80	6	24-60

TYPE	DIMENSIONS (INCHES)													
	A	B	C	D	E	F	G	H	J	K	L	M	N	
RURAL	16	96	76	20	150	20	6	6	8	9	38	45	56	
URBAN	16	72	57	15	148	18	8	4.50	9	6.75	28.50	33.75	42	



A PVMT. WIDTH	DIMENSIONS (INCHES)		
	B	C	D
8'-0"	52	44	84
9'-0"	58	50	96
10'-0"	60	60	96
11'-0"	66	66	96
12'-0"	72	72	120



TYPE	DIMENSIONS (INCHES)											
	A	B	C	D	E	F	G	H	J	K	L	M
RURAL	96	94	20	6	2	6	20	56	45	76	32	36
URBAN	72	90	18	8	2	4.50	15	42	33.75	57	24	27

- NOTES
- PAVEMENT MARKING FOR WORDS, SYMBOLS, ARROWS AND TRANSVERSE LINES FOR WORD 'SCHOOL' OR THE RAILROAD SYMBOl SHALL BE WHITE REFLECTIVE MATERIAL.
 - TWO TRANSVERSE LINES SHALL BE INCLUDED IN THE PAYMENT FOR EACH WORD 'SCHOOL'. THREE TRANSVERSE LINES SHALL BE INCLUDED IN THE PAYMENT FOR EACH RAILROAD SYMBOL.
 - ON MULTI-LANE APPROACHES, THE TRANSVERSE LINES USED WITH THE RAILROAD SYMBOLS SHALL EXTEND ACROSS ALL APPROACH LANES AND SYMBOLS SHALL BE PLACED IN EACH APPROACH LANE.
 - FOR THE RAILROAD SYMBOL, NO PORTION OF ONE TRANSVERSE LINE SHALL BE CLOSER THAN 30 FEET FROM THE NEAREST RAILROAD TRACK RAIL AND THE LINE MAY BE EITHER PARALLEL TO THE TRACK OR PERPENDICULAR TO THE CENTERLINE OF THE ROADWAY. THE OTHER TWO TRANSVERSE LINES AND THE RAILROAD SYMBOL SHALL BE LOCATED FROM THE STATION REFERENCE POINT SHOWN IN THE PLANS.
 - ON MULTI-LANE APPROACHES, THE TRANSVERSE LINES USED WITH THE WORD 'SCHOOL' SHALL EXTEND ACROSS ALL APPROACH LANES WITH A SINGLE WORD 'SCHOOL' CENTERED ACROSS THE APPROACH LANES. ON TWO LANE ROADWAYS, THE TRANSVERSE LINES SHALL EXTEND ACROSS THE ROADWAY WITH THE WORD 'SCHOOL' CENTERED ACROSS THE ROADWAY. CENTER OR LANE LINES SHALL NOT PASS THROUGH THE 'SCHOOL' MARKING.
 - THE STOP LINE SHOULD BE PLACED WHERE CROSS-CORNER VISION IS MAXIMUM, IN NO CASE MORE THAN 30 FEET OR LESS THAN 4 FEET FROM NEAREST EDGE OF THE INTERSECTING ROADWAY. FOR NORMAL INTERSECTIONS A MAXIMUM DISTANCE OF 10 FEET IS RECOMMENDED.
 - IF A MARKED CROSSWALK IS PRESENT THE STOP LINE SHOULD BE PLACED 4 FEET IN ADVANCE OF AND PARALLEL TO THE NEAREST CROSSWALK.
 - ANY OF THE FOLLOWING STANDARDS FOR LETTER (EXCEPT 'R'), NUMERAL OR SYMBOL DIMENSIONING MAY BE USED:

- STANDARD DIMENSIONS SHOWN ON THIS DETAIL (NOMINAL)
- STANDARD DIMENSIONS IN ACCORDANCE WITH THE 1977 METRIC EDITION STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING WITH ERRATA.
- STANDARD DIMENSIONS CONFORMING TO REQUIREMENTS OF SECTION 3B-17 OR AS SHOWN IN FIGURES 3-17, 3-18, 7-2, 7-3, 8-2 OR 9-6 OF THE 1978 NATIONAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

** THE LETTER 'R' DIMENSIONS SHALL BE AS SHOWN ON THIS SHEET AND IN THE NMUTCD SECTION 8-2.

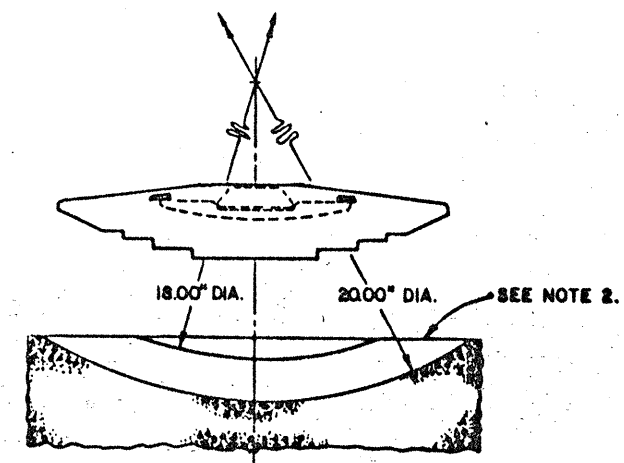
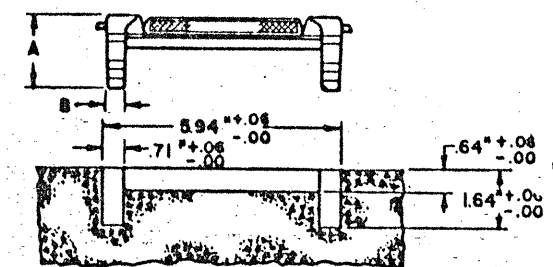
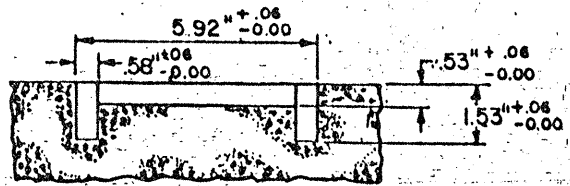
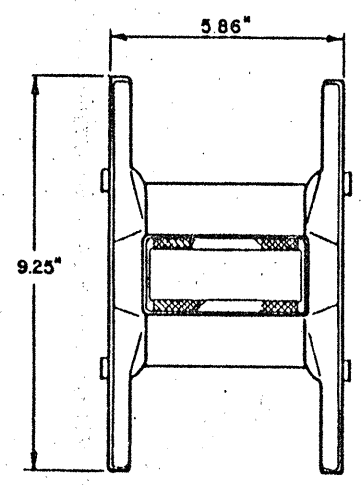
* INDICATES STATION REFERENCE POINT

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

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PLAN NO. 337

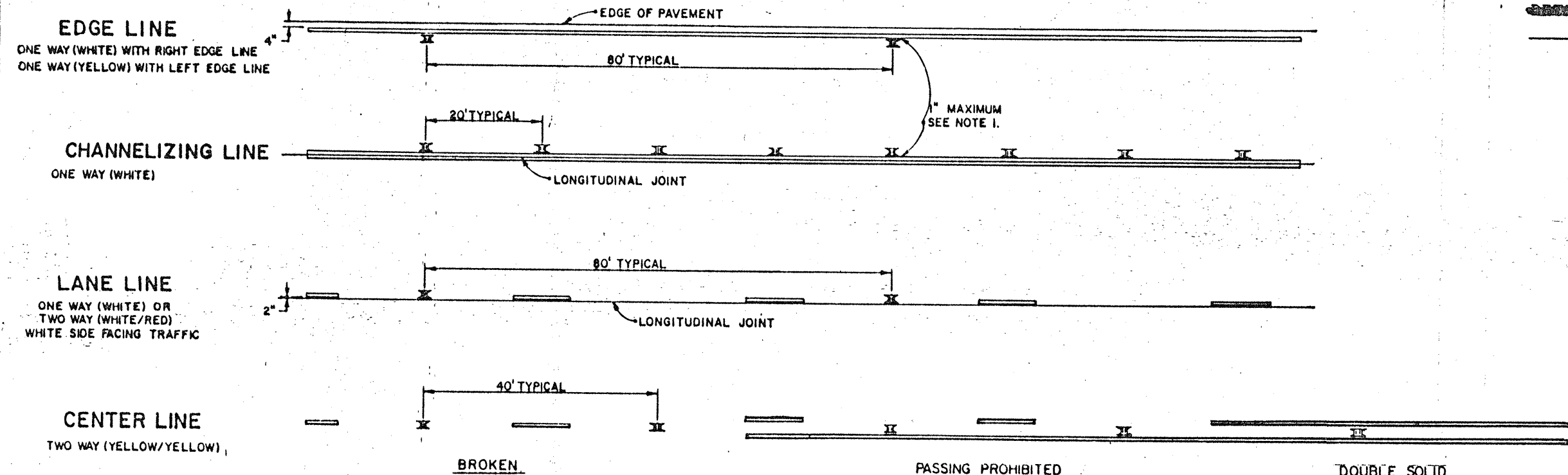
	CONVENTIONAL TYPE	LOW PROFILE TYPE
A	174"	169"
B	46"	59"



CASTING AND SAW CUT DETAILS

1. MARKERS INSTALLED AT DOUBLE YELLOW CENTERLINES SHALL BE PLACED BETWEEN THE TWO LINES. MARKERS INSTALLED ALONG AN EDGE LINE OR CHANNELIZING LINE SHALL BE PLACED SO THAT THE CASTING IS NO MORE THAN 1" FROM THE EDGE OF THE LINE. MARKERS INSTALLED ALONG A LANE LINE OR DASHED YELLOW CENTERLINE SHALL BE PLACED BETWEEN AND IN LINE WITH THE DASHES. MARKERS SHALL NOT BE PLACED OVER THE LINES EXCEPT WHERE THE LINES DEVIATES VISIBLY FROM THEIR CORRECT ALIGNMENT, AND THEN ONLY WITH THE APPROVAL OF THE ENGINEER.
2. TO FACILITATE THE CUTTING OF THE TWO PARALLEL SLOTS AND INTERVENING CONCAVED SURFACE SIMULTANEOUSLY, IT IS RECOMMENDED THAT AN ARBOR AND SAW BLADES ASSEMBLY BE USED. FOR ADDITIONAL DETAILS AND TOLERANCES OF THE CASTING AND ARBOR-SAW ASSEMBLY CONTACT THE CASTING MANUFACTURE.
3. WHEN THE DISTANCE BETWEEN TWO SEPARATE RPM INSTALLATIONS IS SUCH THAT A GAP OF ONE-HALF MILE OF LESS WOULD EXIST WITHOUT ANY RPM'S, CENTERLINE RPM SHALL BE PLACED IN THE GAP AT 80 FOOT TYPICAL SPACING.

OPTIONAL FOR CONVENTIONAL TYPE



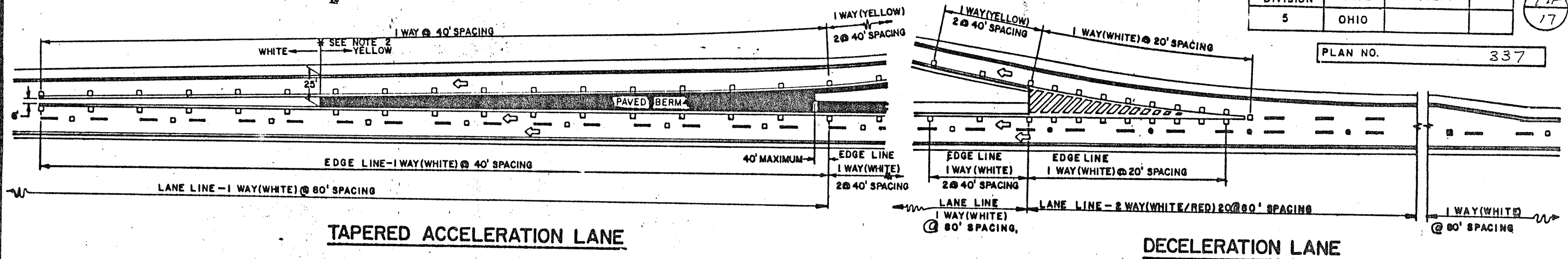
TYPICAL RAISED PAVEMENT MARKER PLACEMENT WITH LONGITUDINAL PAVEMENT MARKINGS

~~FOR INFORMATION - NOT TO BE USED~~
~~GENERAL NOTES~~

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

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PLAN NO. 337

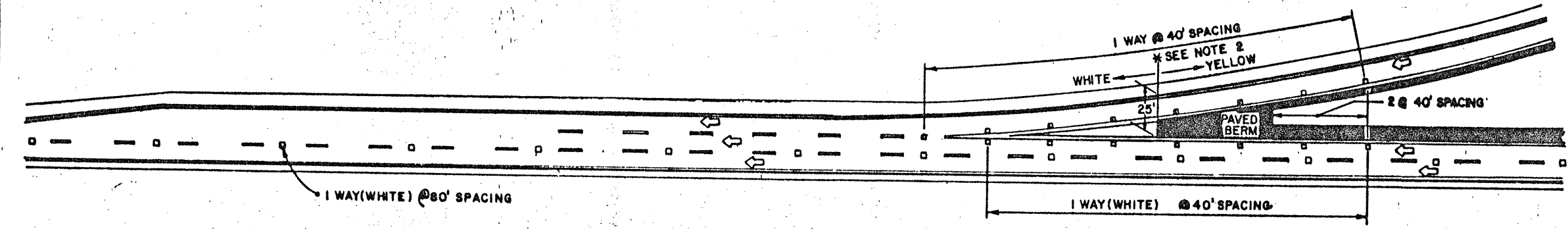


TAPERED ACCELERATION LANE

DECELERATION LANE

NOTES

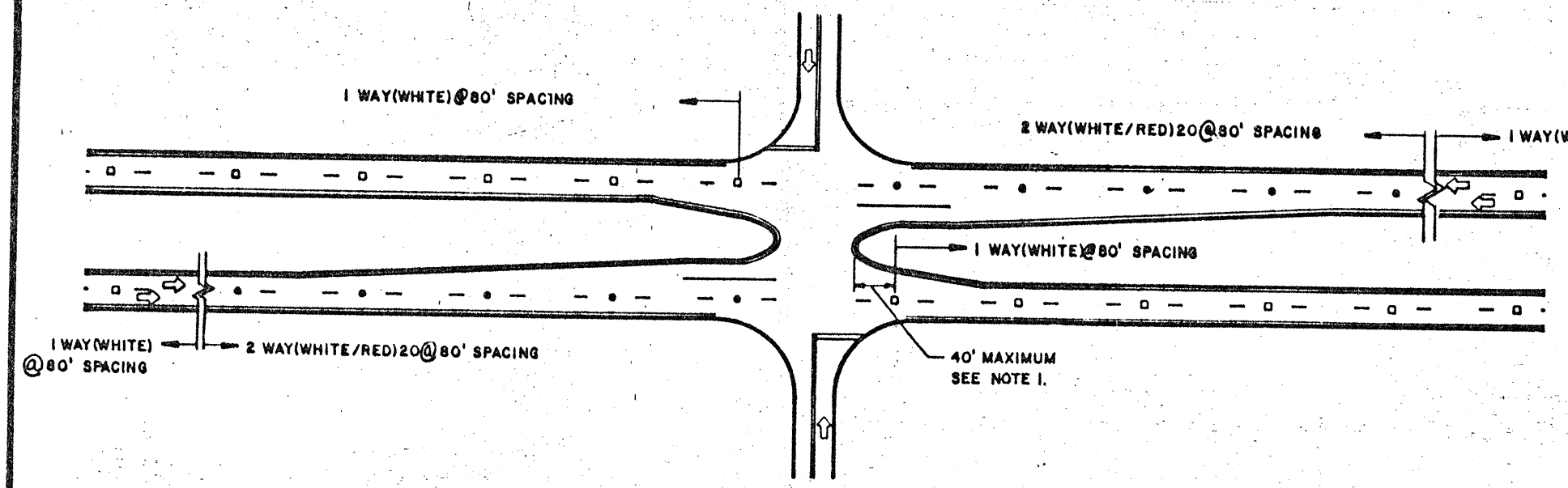
1. RAISED PAVEMENT MARKERS ARE NOT TO BE PLACED IN THE DIRECTIONAL ROADWAYS WITHIN THE INTERSECTION AREA.
2. IF A MARKER FALLS ON THE TRANSITION POINT MARKED * IT SHALL BE WHITE.
3. ON MULTILANE DIVIDED HIGHWAYS WITHOUT CONTROLLED ACCESS, LANE LINE RPM'S SHALL BE 2 WAY (WHITE/RED) AT 80 FT. SPACING.



PARALLEL ACCELERATION LANE

LEGEND

- 1 WAY REFLECTORS
- 2 WAY REFLECTORS

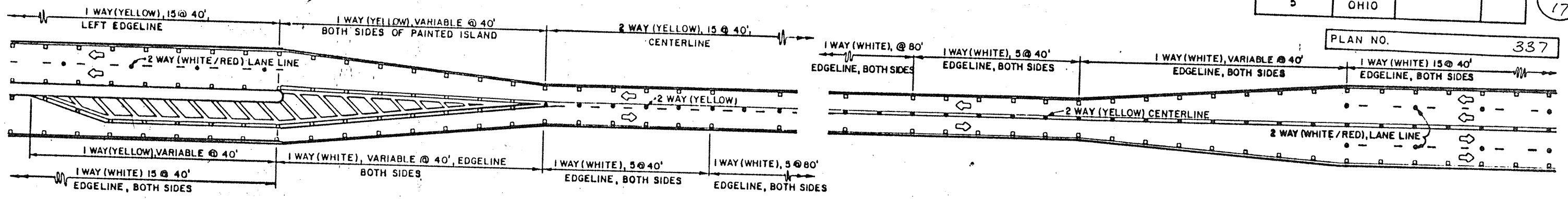


MULTILANE DIVIDED-CONTROLLED ACCESS (SEE NOTE 3)

FED. DIVISION	RD.	STATE	PROJECT
5		OHIO	

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PLAN NO. 337



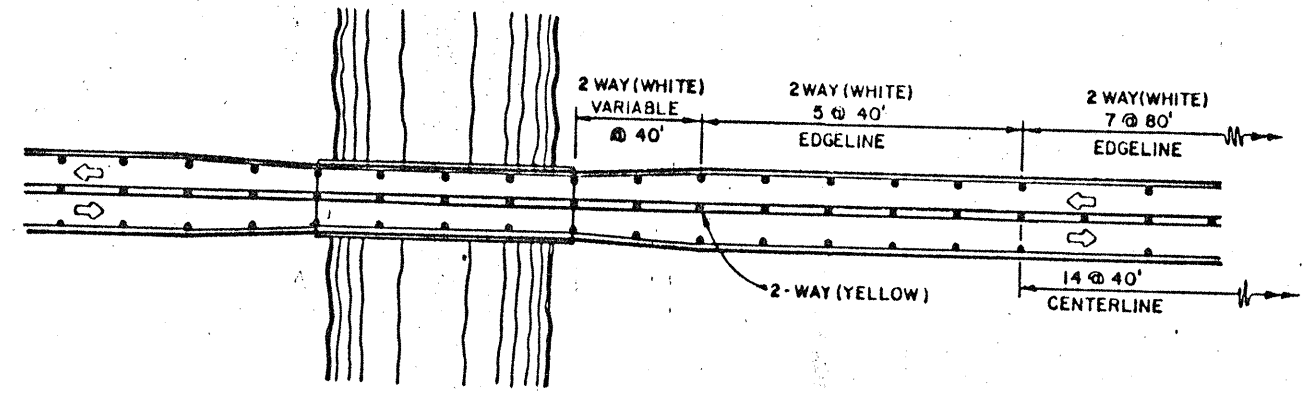
4 LANE DIVIDED TO 2 LANE TRANSITION

4 LANE UNDIVIDED TO 2 LANE TRANSITION

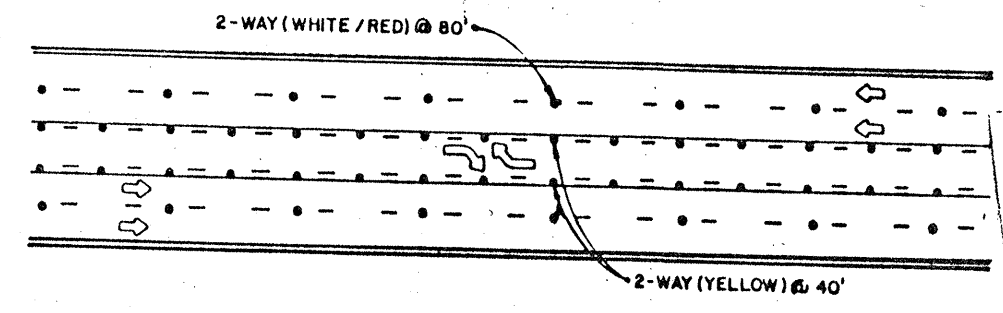
- LEGEND**
- 1-WAY REFLECTORS
 - 2-WAY REFLECTORS

NOTES

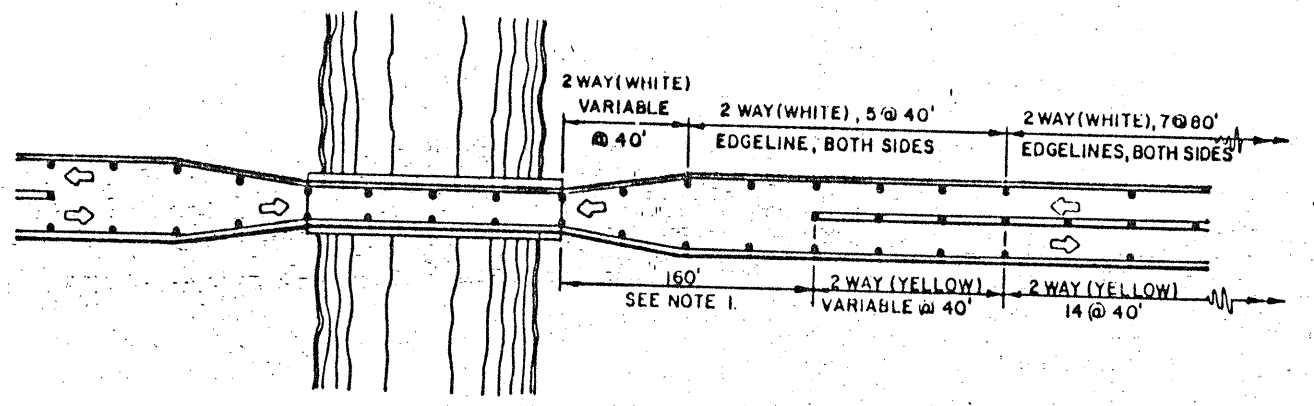
1. FOR ONE LANE BRIDGES, PAINTED CENTERLINE AND CENTERLINE MARKERS SHALL BE OMITTED 160 FEET ON EACH SIDE AND ACROSS THE BRIDGE.
2. FOR HORIZONTAL CURVES OF 5° OR GREATER, WHEN THE LENGTH OF CURVE IS LESS THAN OR EQUAL TO 500 FEET, REDUCE THE SPACING OF THE CENTERLINE MARKERS TO 20 FEET BETWEEN P.C. OR T.S. AND P.T. OR S.T. SEE GENERAL NOTE HORIZONTAL CURVE ALTERNATE.



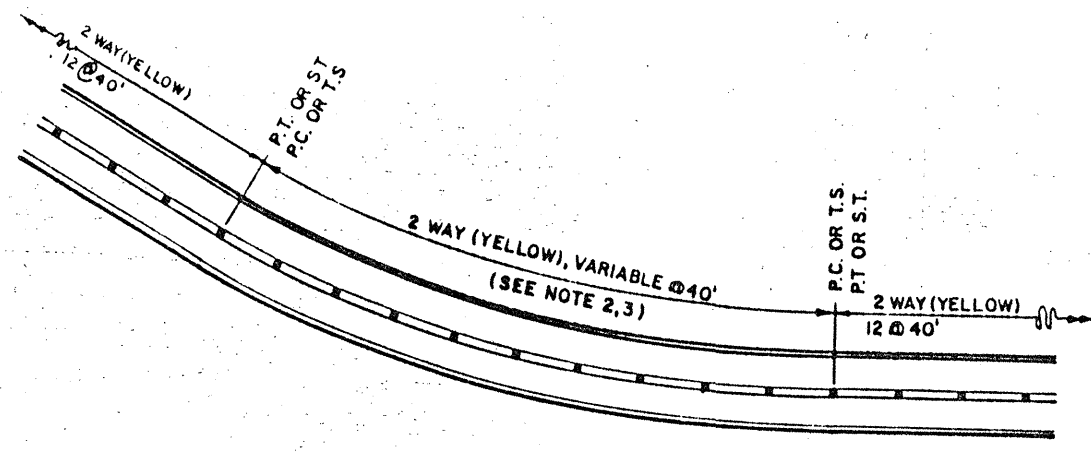
TWO LANE NARROW BRIDGE



TWO WAY LEFT TURN LANE



ONE LANE BRIDGE

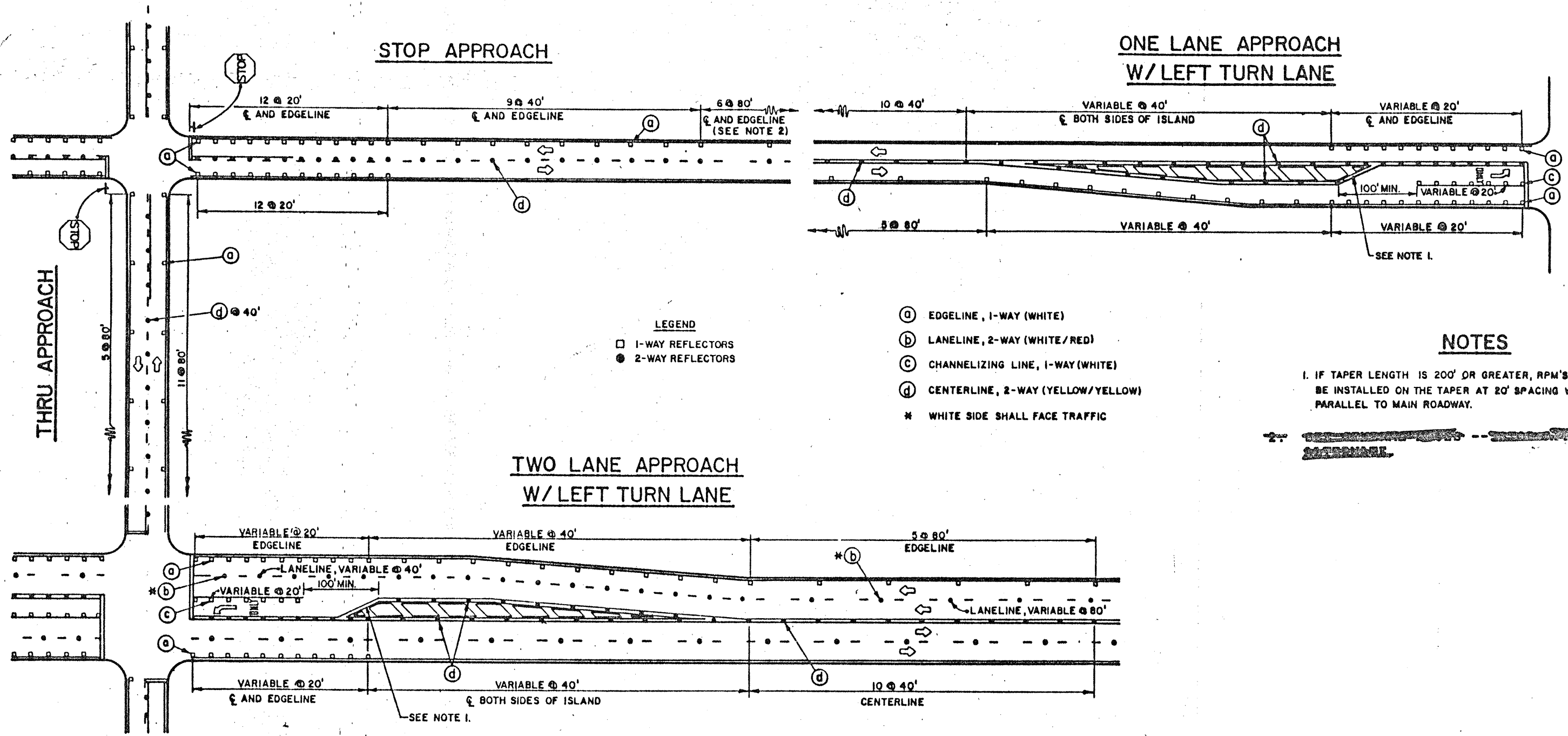


HORIZONTAL CURVE

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

17A
17

PLAN NO. 337



NOTES

1. IF TAPER LENGTH IS 200' OR GREATER, RPM'S SHOULD BE INSTALLED ON THE TAPER AT 20' SPACING WITH MARKERS PARALLEL TO MAIN ROADWAY.