

INDEX OF SHEETS
SEE SHEET 2 OF 44

Date: APR 03 1996

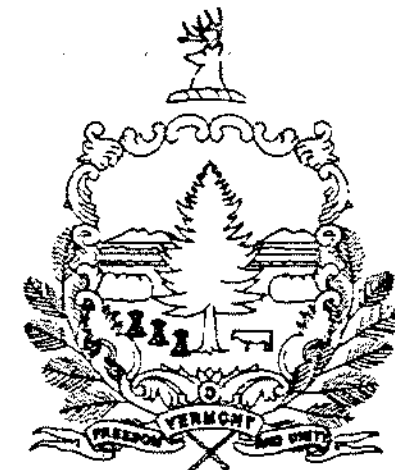
Pike Industries, Inc.
Contractor

[Signature]
Signature

District Manager
Title

[Signature]
Secretary of Transportation

STATE OF VERMONT
AGENCY OF TRANSPORTATION



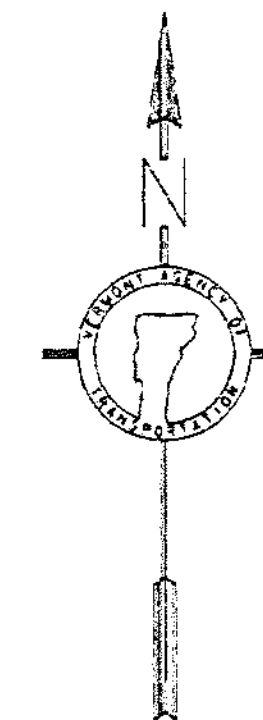
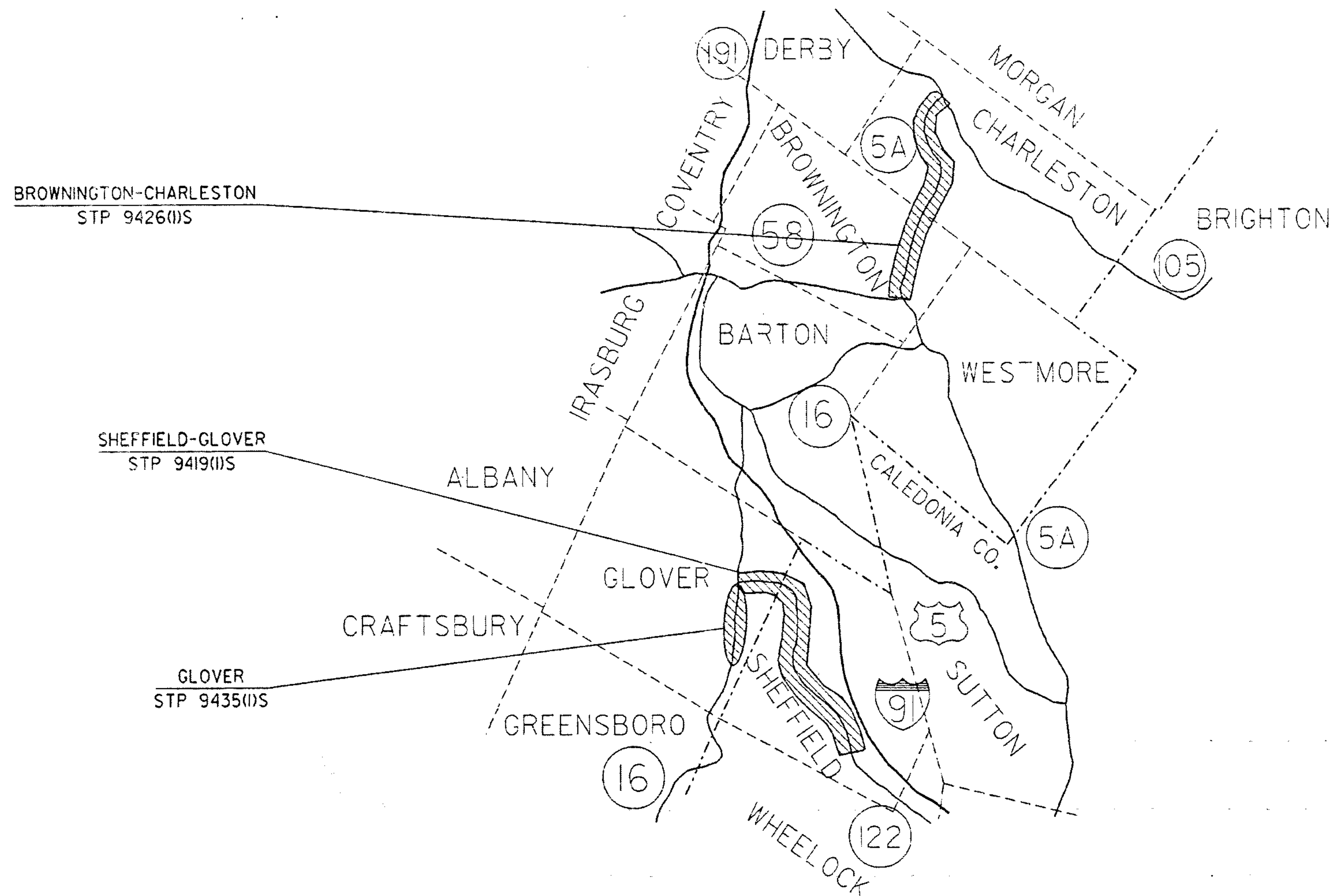
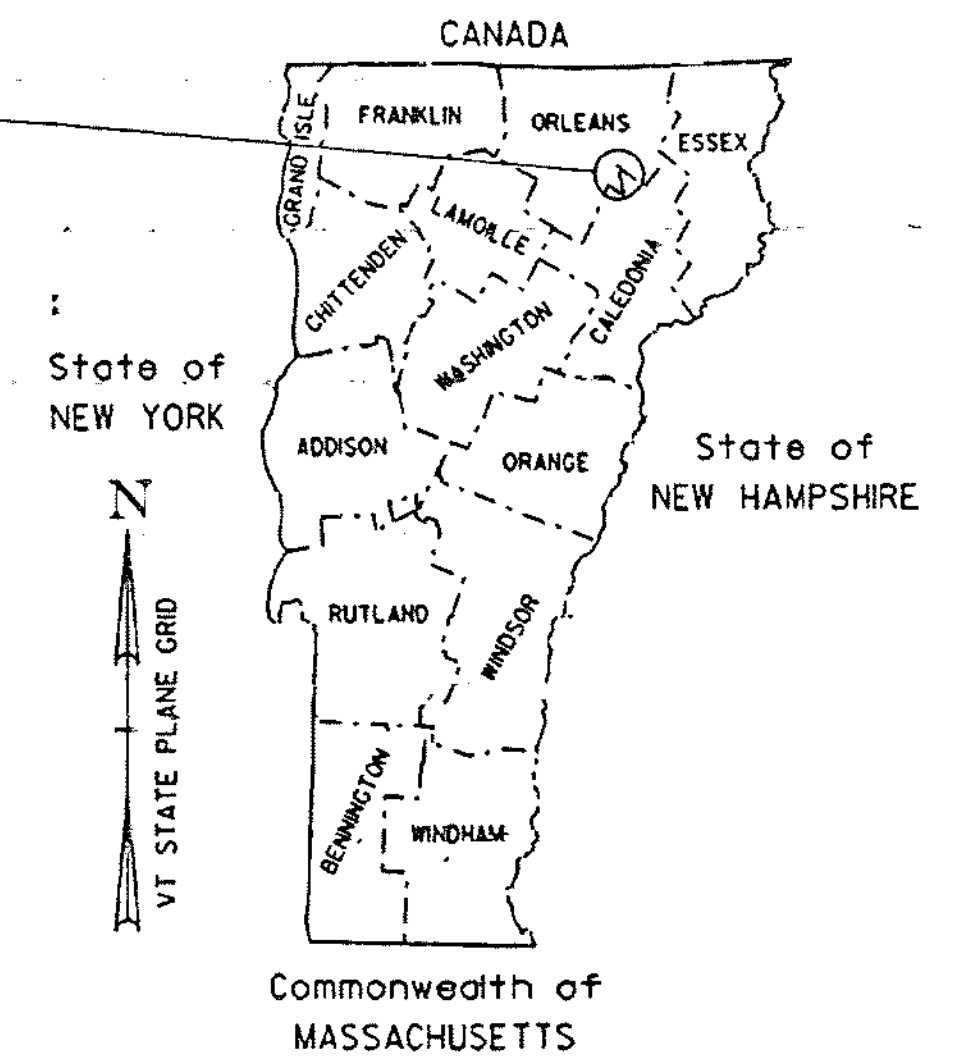
PROPOSED IMPROVEMENT
COUNTIES OF ORLEANS & CALEDONIA
TOWNS OF SHEFFIELD, BROWNINGTON,
CHARLESTON & GLOVER

SHEFFIELD-GLOVER
STP 9419(1)S
VT ROUTE 122
SEE SHEET (7 OF 44)

BROWNINGTON-CHARLESTON
STP 9426(1)S
VT ROUTE 5A
SEE SHEET (23 OF 44)

GLOVER
STP 9435(1)S
VT ROUTE 16
SEE SHEET (35 OF 44)

SHEFFIELD-GLOVER,
BROWNINGTON-CHARLESTON & GLOVER



UNLESS OTHERWISE NOTED, ALL SHEET REFERENCES
WITHIN INDIVIDUAL PROJECTS REFER TO THAT PROJECT
ALONE AND NOT TO SHEET NUMBERS OF THE ENTIRE
CONTRACT GROUP.

UNLESS OTHERWISE NOTED, ALL DRAWINGS AND
DETAILS OF THE PROJECT PLANS ARE NOT TO SCALE

RIGHT-OF-WAY LIMITS, IF APPLICABLE, ARE PROVIDED
SOLELY FOR THE CONVENIENCE OF THE STATE AND ITS
CONTRACTOR DURING THE COURSE OF THIS PAVING
PROJECT. ANY REFERENCES TO OFFSETS ON THESE
PLANS ARE APPROXIMATE AND SHOULD NOT BE RELIED
UPON FOR ANY OTHER PURPOSES.

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING
CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY
ADMINISTRATION OR THE DIRECTOR OF CONSTRUCTION
AND MAINTENANCE.
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE
WITH THESE PLANS AND THE STANDARD SPECIFICATIONS
FOR CONSTRUCTION DATED 1990, AS APPROVED BY THE
FEDERAL HIGHWAY ADMINISTRATION ON MARCH 15, 1990
FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT
REVISIONS AND SUCH REVISED SPECIFICATIONS AND
SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE
PLANS.

APPROVED <u>[Signature]</u> DATE <u>01/12/95</u> DIRECTOR OF CONSTRUCTION AND MAINTENANCE
DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
APPROVED _____ DATE _____ DIVISION ADMINISTRATOR
PROJECT SHEFFIELD-GLOVER, BROWNINGTON-CHARLESTON, GLOVER
SHEET 1 OF 44 SHEETS

CONVENTIONAL SIGNS	
COUNTY LINE	---
TOWN LINE	---
LIMITS OF ACCESS	---
POINT OF ACCESS	X
FENCE LINE	---
STONE WALL	---
TRAVELED WAY	---
GUARD RAIL	---
RAILROAD	---
SURVEY LINE	---
CULVERT	---
POWER POLE	---
TELEPHONE POLE	---
TREES	---
CONTROL OF ACCESS	---
PROPERTY LINE	---
R.O.W. TAKING LINE	---
SLOPE RIGHTS	---
TOP OF CUT	---
TOE OF SLOPE	---

DATUM	
VERTICAL	N/A
HORIZONTAL	N/A

9-OCT-1995
/pave/92cl76/pc176.dgn

INDEX OF SHEETS

01 COMPOSITE TITLE SHEET
02 COMPOSITE INDEX OF SHEETS
03 COMPOSITE QUANTITY SHEET
04 PAVEMENT MARKING DETAIL SHEET
05 DI AND GUARD RAIL END SECTION DETAILS SHEET
06 BLANK

SHEFFIELD - GLOVER STP 9419(1)S

07 TITLE SHEET
08 TYPICAL SHEET
09 QUANTITY SHEET
10-11 ITEM DETAIL SUMMARY SHEETS
12-15 PAVING PROJECT LAYOUT SHEETS
16 CONSTRUCTION SIGN DETAIL SHEET
17 INTERSECTION DETAIL SHEET
18 BRIDGE DETAIL SHEET NO. 1
19 BRIDGE DETAIL SHEET NO. 2
20 DETAIL OF STEEL BEAM GUARD RAIL AT LARGE CULVERTS
21 PROJECT DETAIL SHEET
22 BLANK

BROWNINGTON - CHARLESTON STP 9426(1)S

23 TITLE SHEET
24 TYPICAL SHEET
25 QUANTITY SHEET
26 ITEM DETAIL SUMMARY SHEET
27-29 PAVING PROJECT LAYOUT SHEETS
30 CONSTRUCTION SIGN DETAIL SHEET
31-32 INTERSECTION DETAIL SHEETS
33-34 BLANK

SHEFFIELD - GLOVER STP 9419(1)S

35 TITLE SHEET
36 TYPICAL SHEET
37 QUANTITY SHEET
38 ITEM DETAIL SUMMARY SHEET
39 PAVING PROJECT LAYOUT SHEET
40 CONSTRUCTION SIGN DETAIL SHEET
41 INTERSECTION DETAIL SHEET
42 BRIDGE DETAIL SHEET NO. 1
43 BRIDGE DETAIL SHEET NO. 2
44 PROJECT DETAIL SHEET

STANDARDS

E-100	CONSTRUCTION APPROACH SIGNS	8-08-95
E-101	CONSTRUCTION SIGN DETAILS	8-08-95
E-102	CONSTRUCTION SIGN DETAILS	8-08-95
E-106	TRAFFIC CONTROL - MISCELLANEOUS DETAILS	8-08-95
E-107	DELINEATION, BARRICADES, AND DETOURS FOR CONSTRUCTION AREAS	8-08-95
E-107A	BREAKAWAY BARRICADE DETAILS	8-08-95
E-108	CONSTRUCTION ZONE LONGITUDINAL DROP OFFS	8-18-95
E-110	MAJOR MAINTENANCE OPERATION LANE CLOSURE	8-08-95
E-120	STANDARD SIGN PLACEMENT - EXPRESSWAY & FREEWAY	8-08-95
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	8-08-95
E-143	REGULATORY SIGN DETAILS	9-20-95
E-150	WARNING SIGN DETAILS	8-08-95
E-160	FLANGED CHANNEL STEEL SIGN POST DETAIL	8-18-95
E-191	PAVEMENT MARKING DETAILS	8-18-95
E-197	DELINEATOR PLACEMENT TYPICAL	8-18-95
E-198	DELINEATORS AND MILEPOSTS	8-18-95
G-1	STEEL BEAM GUARDRAIL (50MPH & OVER)	6-01-94
G-10	STEEL BEAM GUARDRAIL (40MPH & LESS)	6-01-94
G-15	BREAKAWAY CABLE TERMINAL W/STEEL POSTS	6-01-94

DATUM
VERTICAL N/A
HORIZONTAL N/A

SURVEYED BY	N/A	DATE	N/A
DRAWN BY	PVMT MGMT	DATE	4/93
SQUAD LEADER	N/A		
DESIGN FILE NO.	/pave/92c176/pc176.dgn		
IPARM FILE	pc176in.i	DATE PLOTTED	9-OCT-1995
PROJ. NAME	SHEFFIELD-GLOVER, BROWNINGTON - CHARLESTON & GLOVER		
PROJ. NO.	STP 9419(1)S, STP9426(1)S & STP 9435(1)S		
SHEET	2	OF	44 SHEETS

QUANTITY SHEET

STATE OF VERMONT AGENCY OF TRANSPORTATION

APPROXIMATE SUMMARY OF QUANTITIES

			STEFFELD- GLOVER STP 94154 IIS	BROWN/INGTON- CHARLESTON STP 94264 IIS	GLOVER STP 94354 IIS	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NO.	ROUNDING
			1			1	CY	TRENCH EXCAVATION OF EARTH (NOT A BID ITEM)	204.20	-
			2200	1800	1000	5000	SY	COLD PLANING-BIT. PAVEMENT	210.10	-
					775	775	TON	SUBBASE OF CRUSHED GRAVEL (FINE GRADED)	301.28	-
			114500	104000		218500	SY	RECLAIMED STABILIZED BASE	310.20	-
			115	105		220	MGL	WATER FOR STABILIZATION	310.23	-
			4900	4500		9400	TON	CRUSHED AGGREGATE FOR STABILIZATION	310.24	-
			2700	1775	700	5175	TON	AGGREGATE SHOULDERS	402.12	-
			150	135	65	350	CWT	EMULSIFIED ASPHALT	404.65	-
			22400	26200	3100	51700	TON	MEDIUM DUTY BIT. CONCRETE PAVEMENT	406.27	-
			1			1	LS	PRICE ADJUSTMENT - ASPHALT CEMENT (NOT A BID ITEM)	406.50	-
			450		205	655	LF	REMOVAL OF EXISTING RAILING	525.10	-
			125			125	LF	BRIDGE RAIL - HEAVY DUTY STEEL BEAM FASCIA MOUNTED (MOD. 1)	525.41	-
					100	100	LF	BRIDGE RAIL - HEAVY DUTY STEEL BEAM FASCIA MOUNTED (MOD. 3)	525.41	-
			40		40	80	LF	15" CSP .064 (2-3/4 X 1/2)	601.0010	-
			190	175	50	415	HR	POWER GRADER RENTAL	608.15	EST.
			190	175	50	415	HR	ALL PURP. EXCAVATOR RENTAL, TYPE I	608.25	EST.
			120	110	30	260	HR	POWER BROOM RENTAL	608.30	EST.
			190	175	50	415	HR	TRUCK RENTAL	608.37	EST.
			190	175	50	415	HR	LOADER RENTAL TYPE I	608.40	EST.
				50		50	TON	BITUMINOUS CONCRETE GUTTERS & TRAFFIC ISLANDS	616.47	-
			12	8	15	35	EA	YIELDING MARKER POST	619.17	EST.
			5600	1000	850	7450	LF	STEEL BEAM GUARD RAIL	621.20	-
			150	100	100	350	LF	STEEL BEAM GUARD RAIL W/ 8" STEEL POSTS (MOD)	621.20	-
			300		130	430	LF	HEAVY DUTY STEEL BEAM GUARD RAIL	621.21	-
			40	8	11	59	EA	BREAKAWAY CABLE TERMINAL	621.50	-
			14		3	17	EA	ANCHOR FOR STEEL BEAM GUARD RAIL	621.60	-
			5150	925	160	6235	LF	REMOVAL AND DISPOSAL OF GUARD RAIL	621.80	-
			20		20	40	EA	REMOVAL AND DISPOSAL OF GUIDE POSTS	621.81	-
			300	300	100	700	HR	UNIFORMED TRAFFIC OFFICERS	630.10	EST.
			1130	1040	300	2470	HR	FLAGGERS	630.15	EST.
			1			1	LS	FIELD OFFICE - ENGINEERS	631.0	-
			0.50	0.40	0.10	1	LS	TESTING EQUIPMENT - CONCRETE	631.16	-
			0.50	0.40	0.10	1	LS	TESTING EQUIPMENT - BITUMINOUS	631.17	-
			1			1	LS	FIELD OFFICE TELEPHONE (NOT A BID ITEM)	631.25	-
			520	520	520	1560	HR	EMPLOYEE TRAINEESHIP	634.10	EST.
			0.50	0.40	0.10	1	LS	MOBILIZATION	635.10	-
			450	400	100	950	HR	TRAFFIC OFFICER W/ FLASHING LIGHT	641.35	EST.
			78500	72100	17800	168400	LF	DURABLE 4" WHITE LINE	646.40	-
			73100	63300	16800	153200	LF	DURABLE 4" YELLOW LINE	646.41	-
				125		125	LF	DURABLE 8" WHITE LINE	646.42	-
			60	75	15	150	LF	DURABLE 24" STOP BAR	646.46	-
			29	25	4	58	EA	DURABLE LETTER OR SYMBOL	646.50	-
			26			26	LF	DUR. CROSSWALK MKG. W/DIAG. LINES	646.51	-
			78500	72100	17800	168400	LF	TEMPORARY 4" WHITE LINE	646.60	EST.
			73100	63300	16800	153200	LF	TEMPORARY 4" YELLOW LINE	646.61	EST.
				125		125	LF	TEMPORARY 8" WHITE LINE	646.62	-
			60	75	15	150	LF	TEMPORARY 24" STOP BAR	646.66	EST.
			1000	1000	250	2250	EA	LINE STRIPING TARGETS	646.73	EST.
			40	40	40	120	LB	SEED	651.15	EST.
			250	250	250	750	LB	FERTILIZER	651.18	EST.
			1	1	1	3	TON	AGRICULTURAL LIMESTONE	651.20	EST.
			1	1	1	3	TON	HAY MULCH	651.25	EST.
			25	25	25	75	CY	TOPSOIL	651.35	EST.
			46			46	SF	TRAFFIC SIGNS, TYPE A	675.20	-
			228			228	LB	FLANGED CHANNEL SIGN POST	675.30	-
			5			5	EA	REMOVING SIGNS	675.50	-
			1			1	EA	ERECTING SALVAGED SIGNS	675.60	-

DETAILED SUMMARY OF QUANTITIES

[illegible]

DETAILED SUMMARY OF QUANTITIES

[illegible]

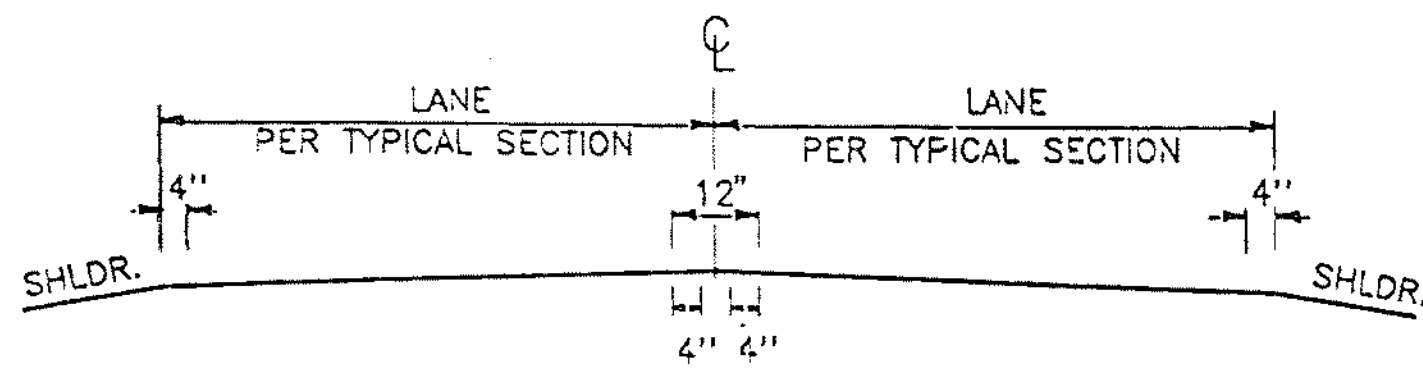
STATIONS		PAVEMENT WIDTHS			EQUATIONS		FEET	MILES	REMARKS
FROM	TO								
TOTALS									

9-OCT-1995
/pave/92c176/pc' 76. dgn

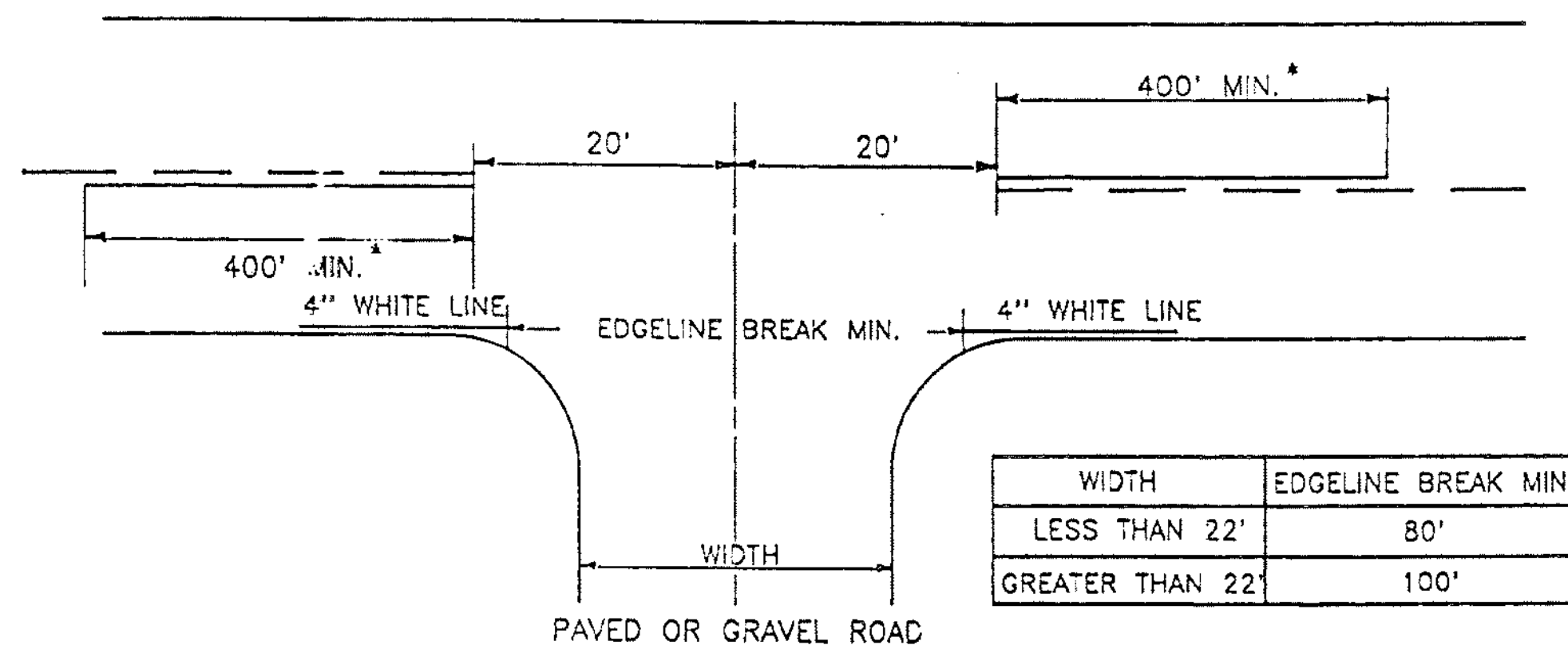
PROJECT NAME SHEFFIELD-GLOVER, BROWNINGTON-CHARLESTON & GLOVER

PROJECT NUMBER STP 9419(1)S, STP 9426(1)S & STP 9437(1)S

SHEET 3 OF 44 SHEETS



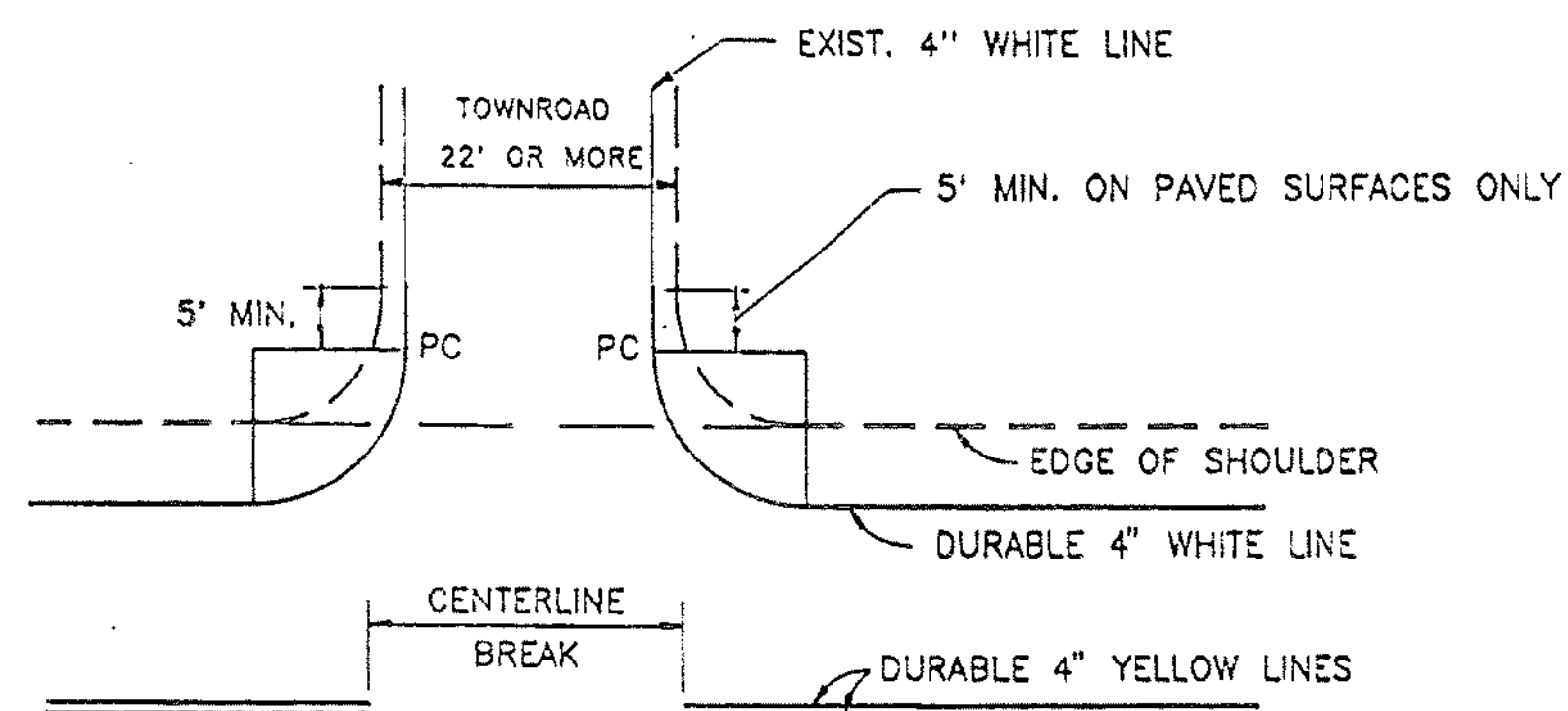
PAVEMENT MARKING PLACEMENT DETAIL
TYPICAL



A SOLID LINE IN THE DIRECTION OF TRAVEL IS BEGUN AT A LOCATION 400 FEET IN ADVANCE OF THE INTERSECTION. THE DISTANCE IS MEASURED FROM A POINT 20 FEET IN ADVANCE OF THE CENTERLINE OF THE INTERSECTING ROADWAY.

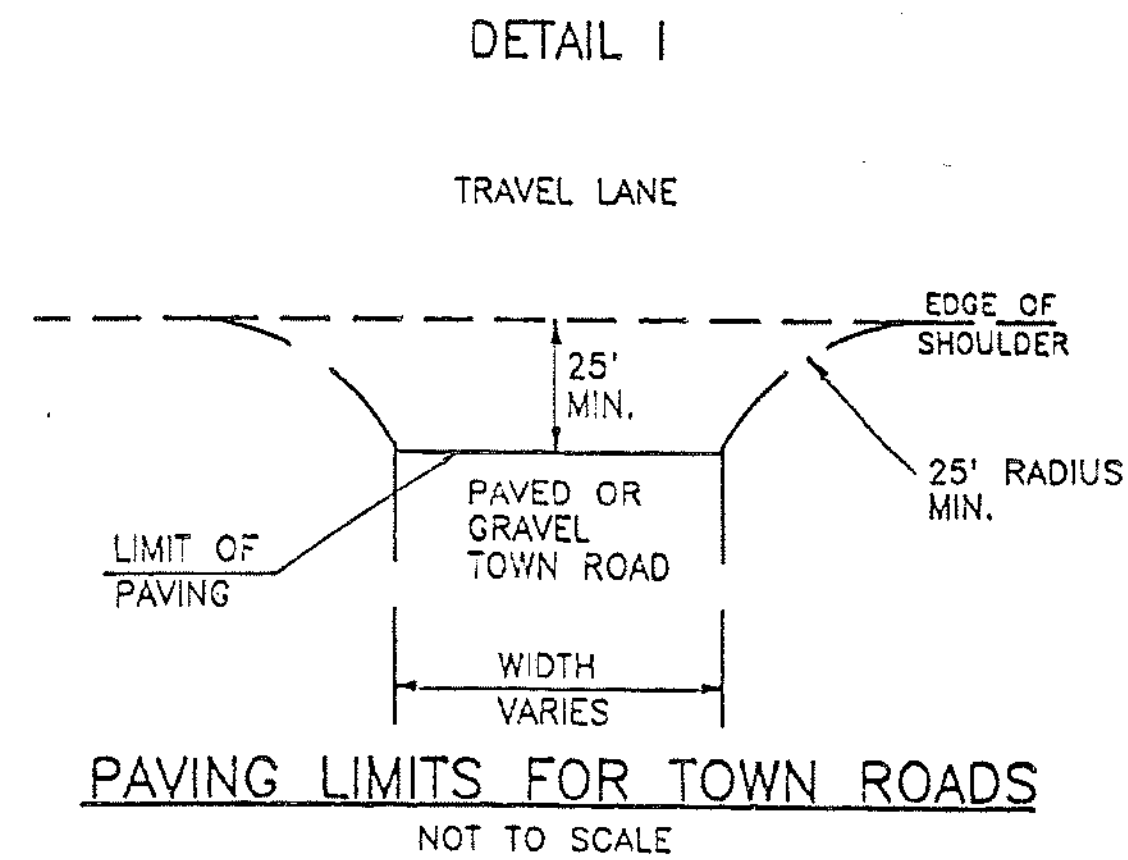
* CENTERLINE TREATMENT SHALL CONSIST OF A MINIMUM OF 400 FEET OF SOLID LINE IN ADVANCE OF THE INTERSECTION AND SHALL BE PAIRED WITH EITHER A SOLID OR DASHED LINE DEPENDING ON SIGHT DISTANCE AVAILABILITY IN THE OPPOSING LANE.

APPROACH TO A SIDE ROAD INTERSECTION
TYPICAL

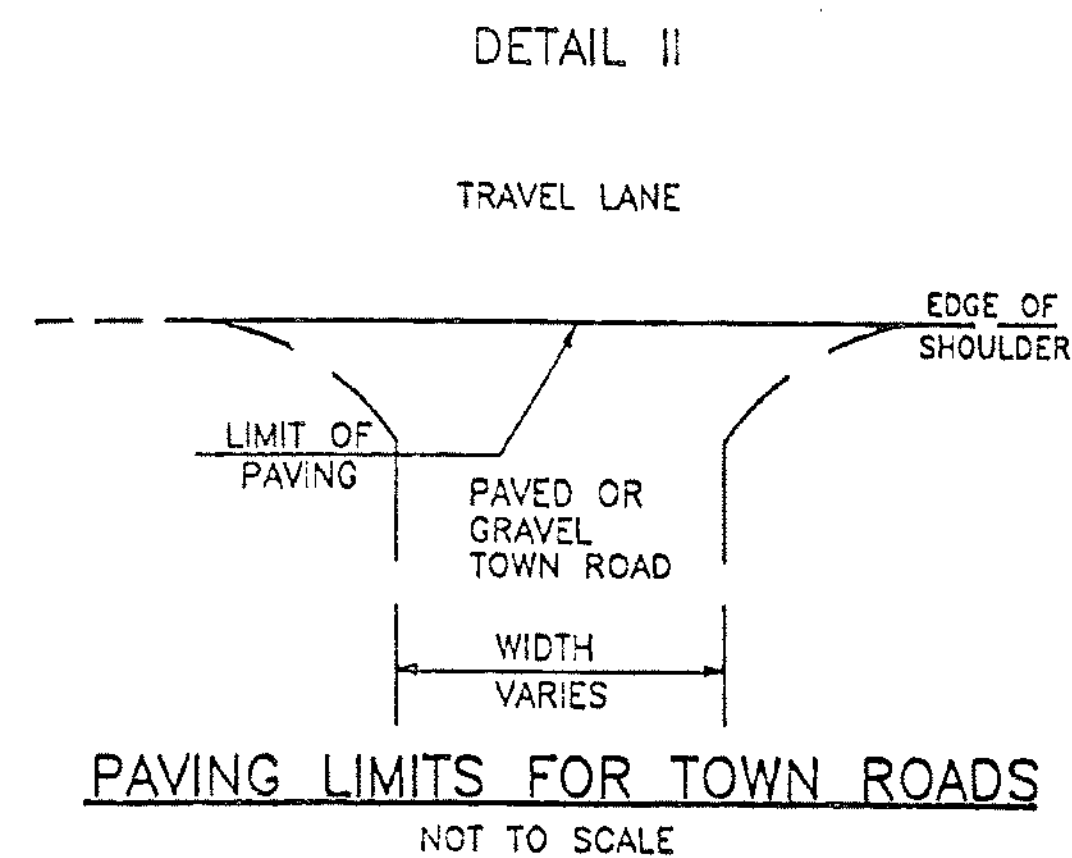


NOTE: IF A MINIMUM OF 30' RADIUS CANNOT BE OBTAINED, BREAK EDGELINE AS SHOWN ABOVE.

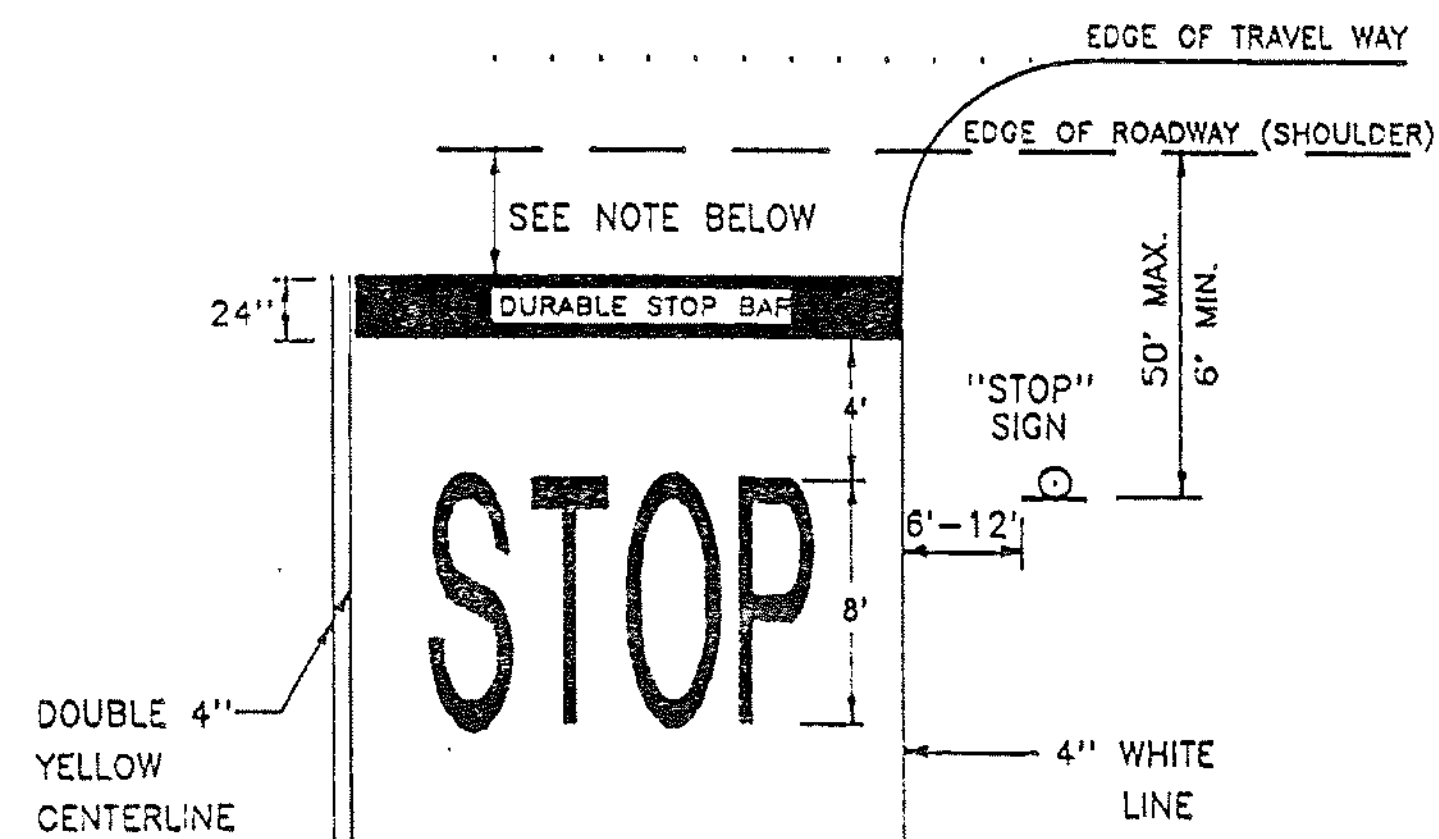
DURABLE EDGELINE RADIUS LAYOUT TYPICAL FOR TOWN ROADS



PAVING LIMITS FOR TOWN ROADS
NOT TO SCALE

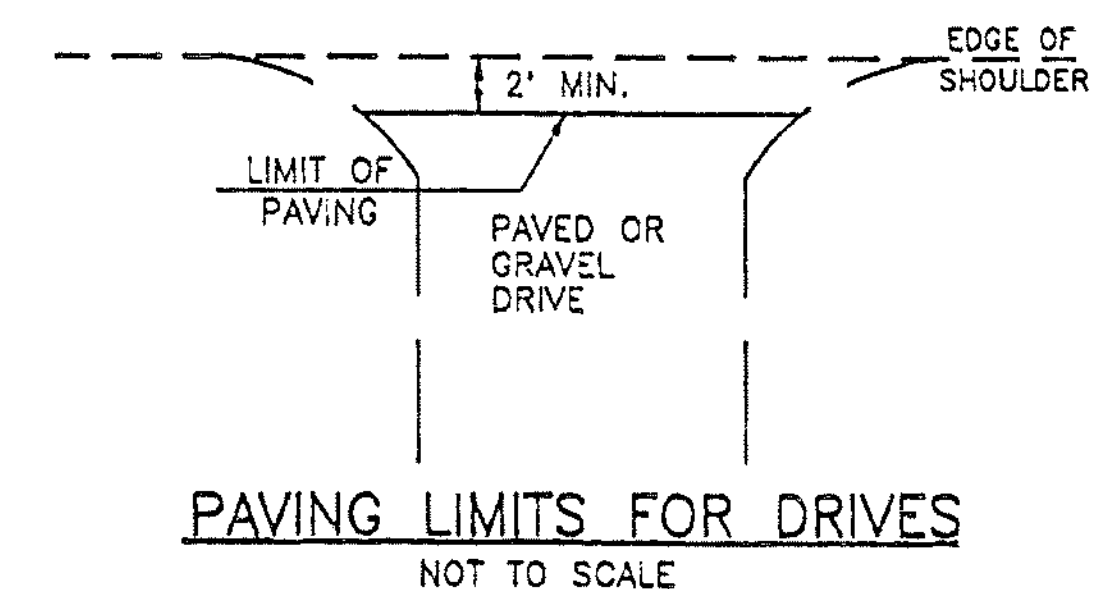


PAVING LIMITS FOR TOWN ROADS
NOT TO SCALE



THE "DESIRED STOPPING POINT" IS THE LOCATION BASED ON SITE CONDITIONS THAT BEST ALLOWS THE STOPPED VEHICLE TO VIEW THE APPROACHING TRAFFIC, IN NO CASE MORE THAN 30 FEET OR LESS THAN 4 FEET FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY.

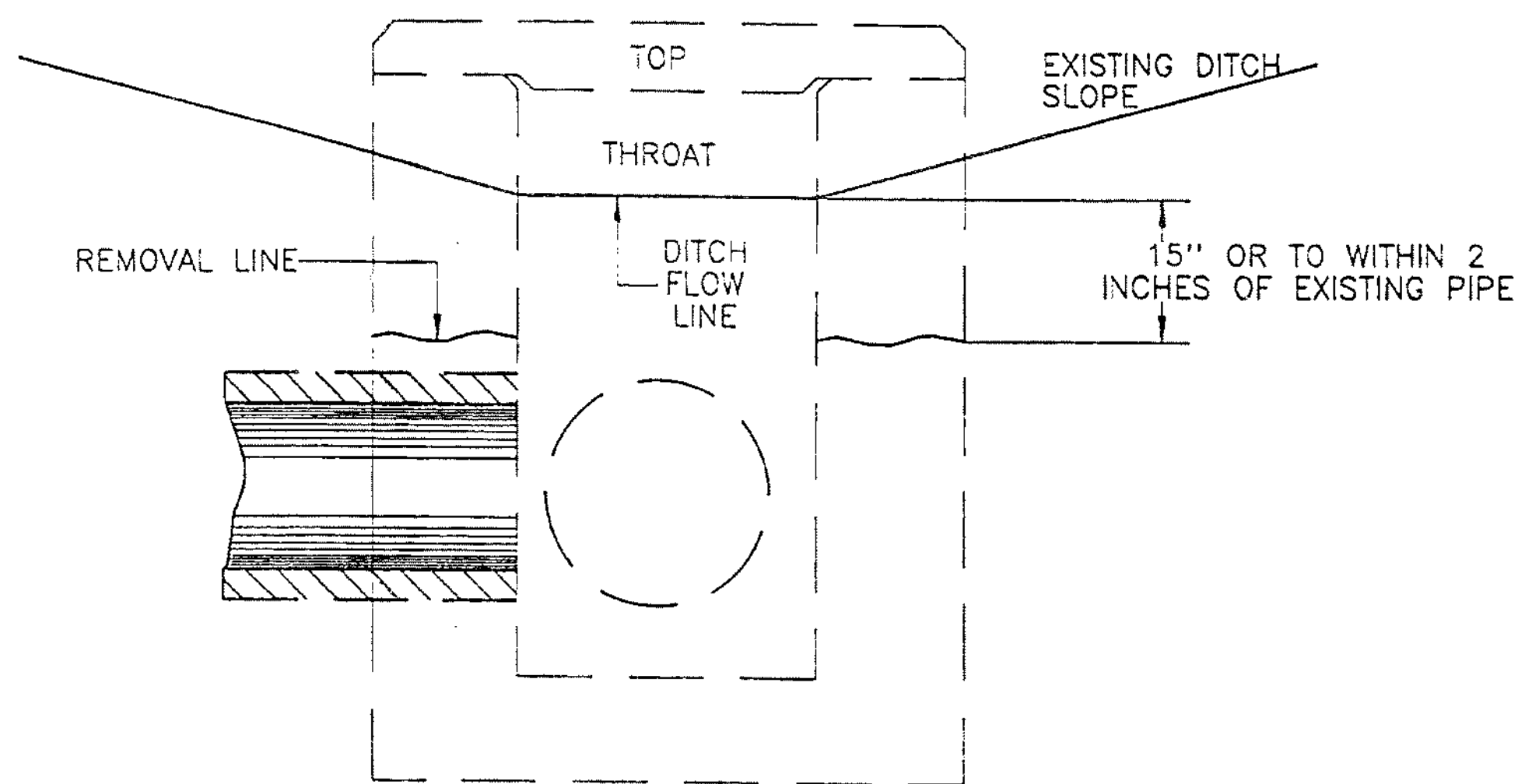
STOP BAR DETAIL



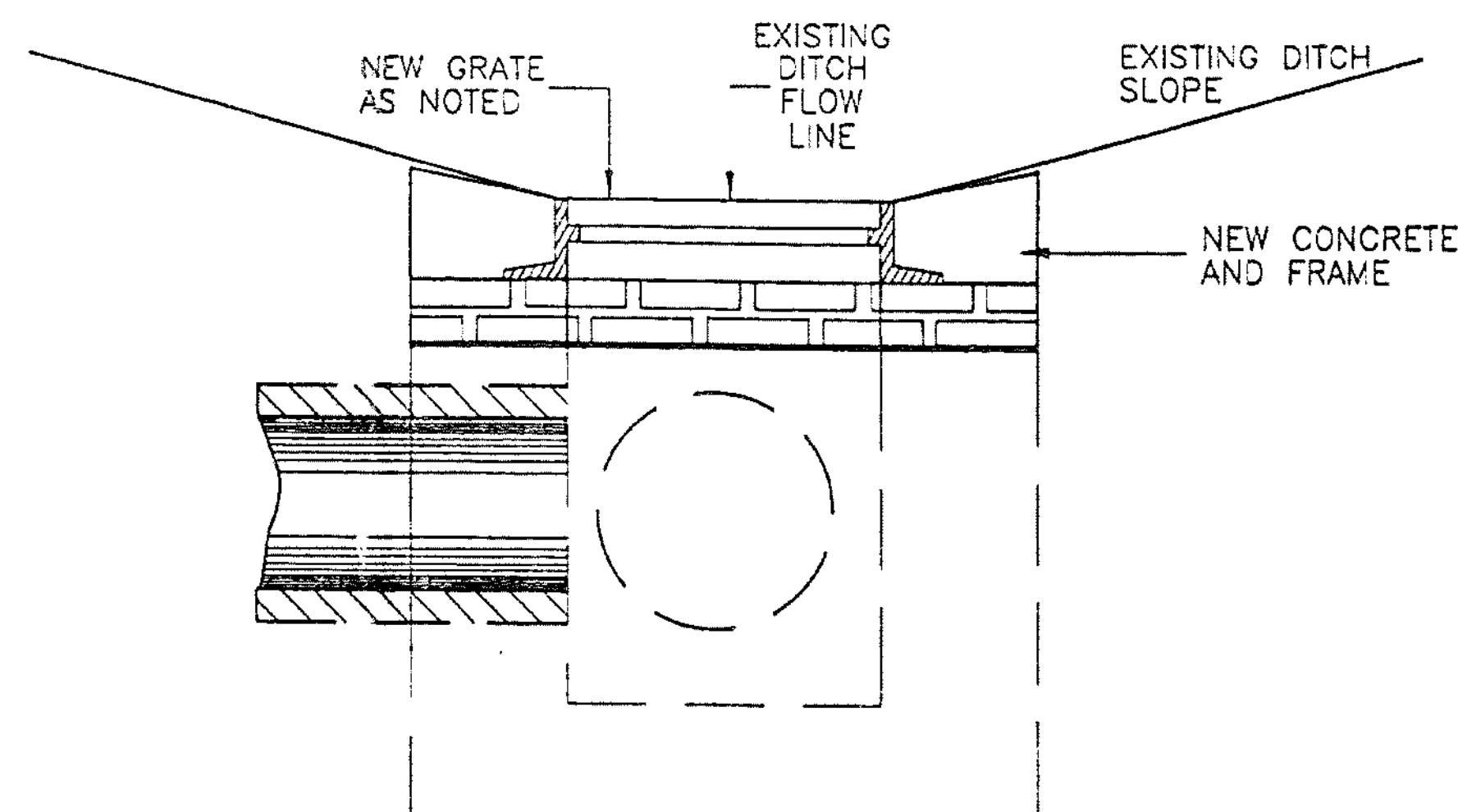
PAVING LIMITS FOR DRIVES
NOT TO SCALE

PAVEMENT MARKING DETAIL SHEET

SURVEYED BY N/A DATE N/A
DRAWN BY WL DATE 03/93
SQUAD LEADER _____
DESIGN FILE NO. _____
IPARM FILE _____ DATE PLOTTED _____
PROJ. NAME SHEFFIELD-GLOVER, BROWNINGTON-CHARLESTON, & GLOVER
PROJ. NO. SP948(0)5, SP948(1)5, SP9435(0)5
SHEET 04 OF 44 SHEETS

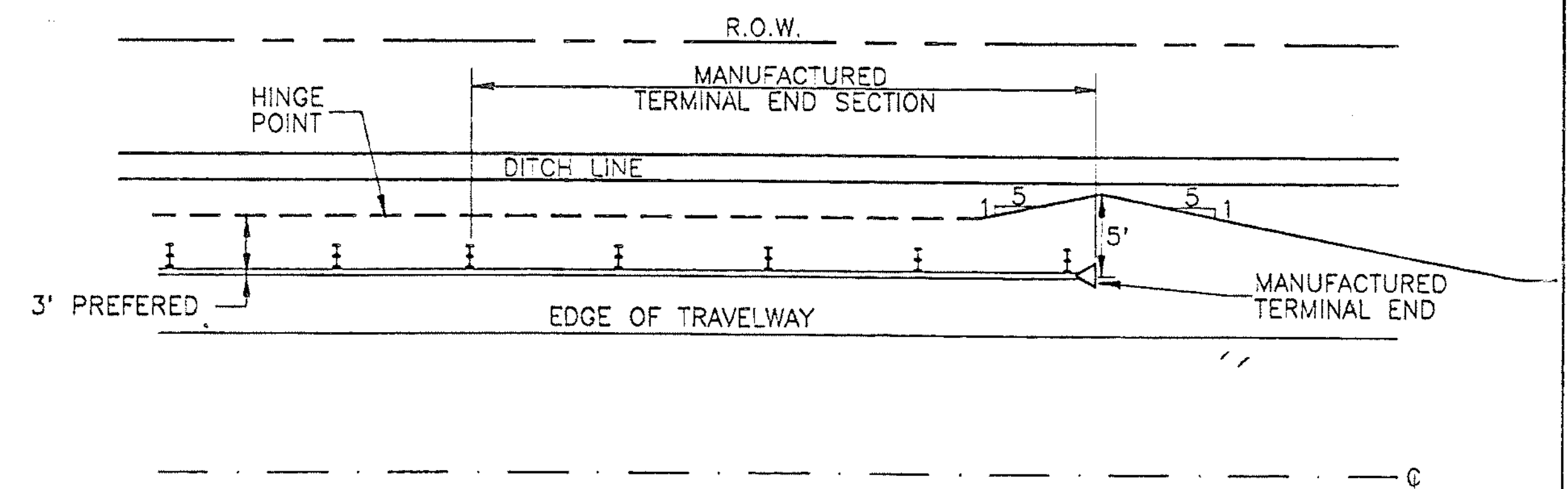
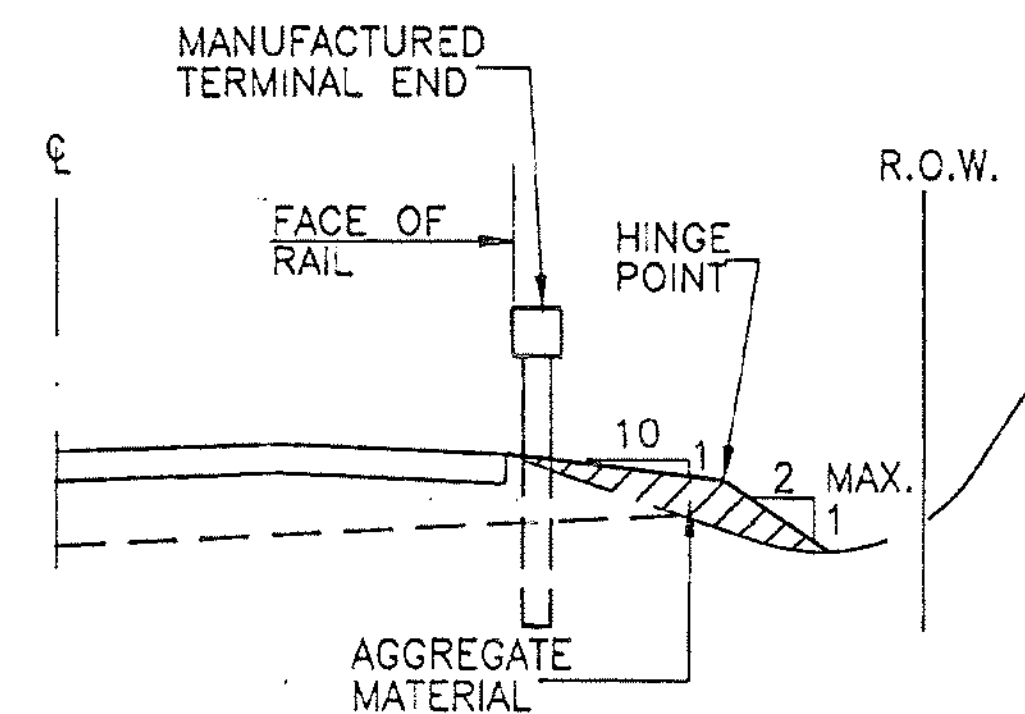


THROAT D.I. TOP REMOVAL

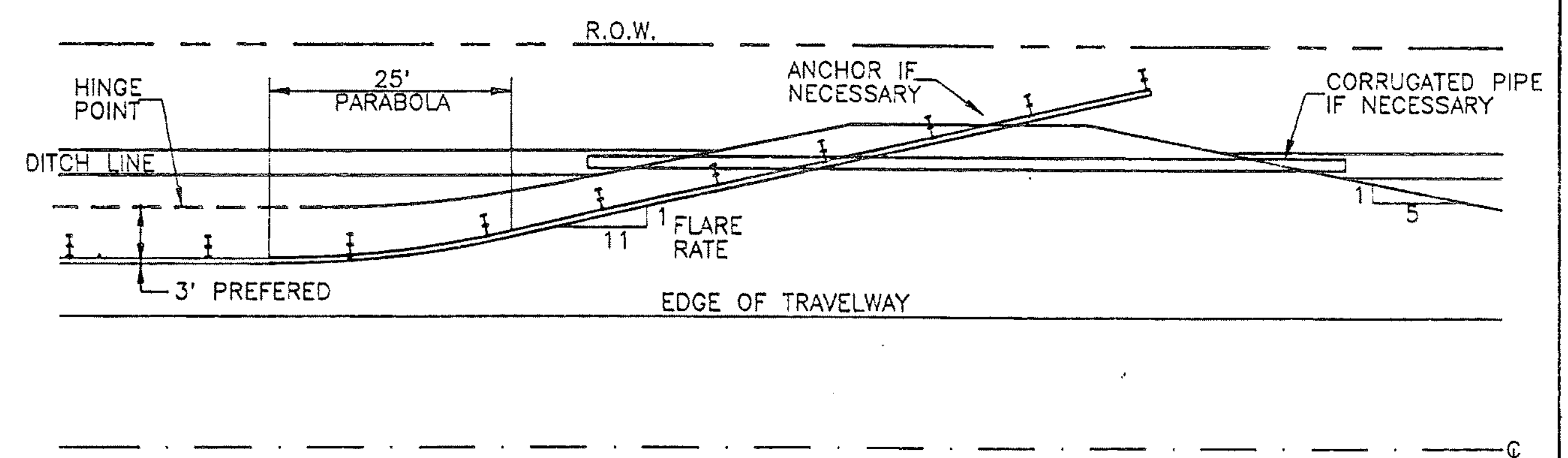
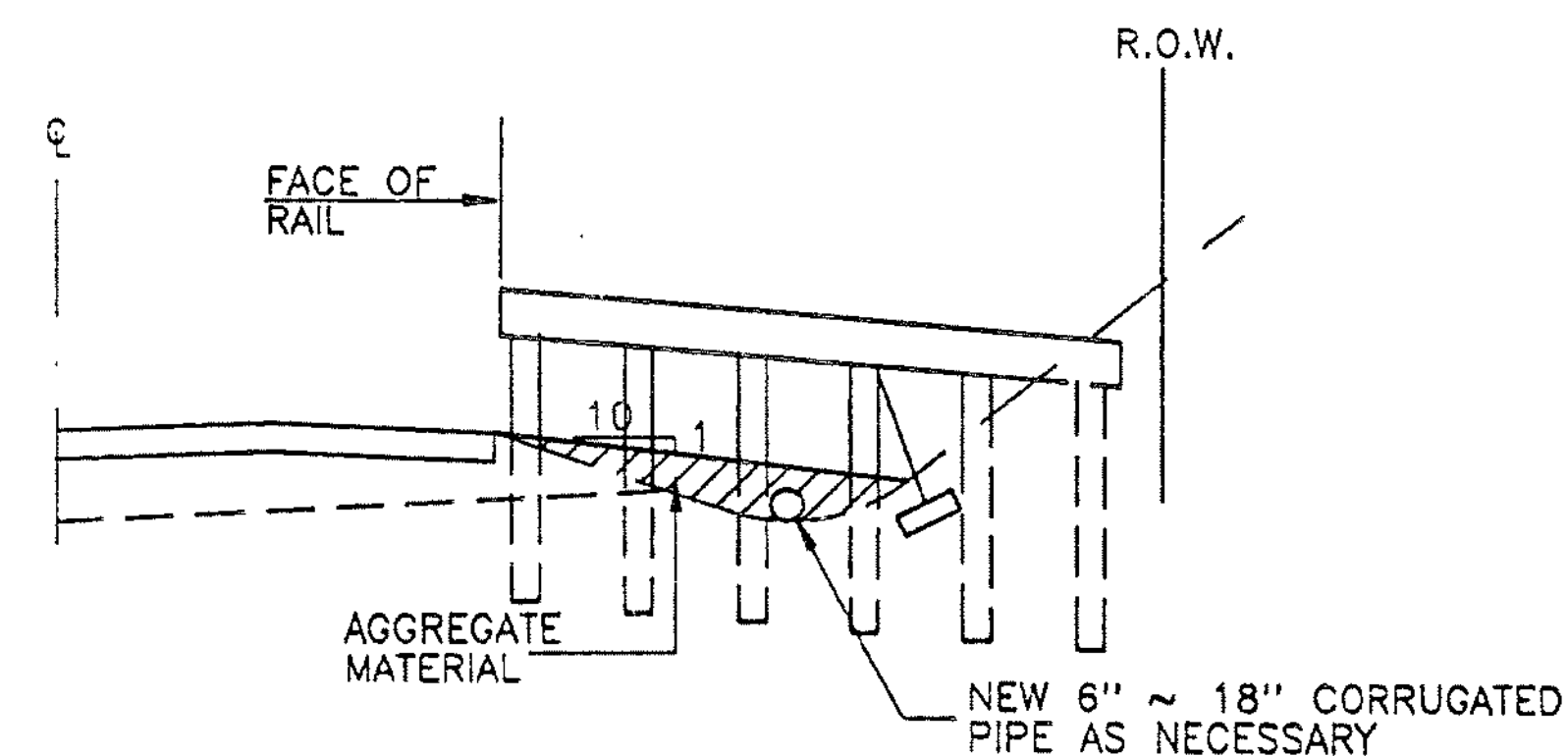


NEW D.I. TOP PLACEMENT

- NOTES: 1.) REMOVE THROAT DROP INLET TOPS, PEDESTALS AND DROP INLET WALLS TO ACCOMMODATE NEW BRICKS, D.I. COVERS, FRAMES AND GRATES TO MAINTAIN EXISTING DITCH FLOW LINES (SEE STD. D-8 FOR EXISTING D.I. DETAILS).
- 2.) REDUCE BRICK COURSES AS NECESSARY TO MAINTAIN EXISTING DITCH FLOW LINE.
- 3.) SEE STANDARDS D-11, D-15 AND D-16 FOR GRATE DETAIL.
- 4.) ALL REMOVAL AND RECONSTRUCTION, INCLUDING ALL MATERIALS AND LABOR, SHALL BE PAID FOR UNDER ITEM 604.41.



GUARD RAIL END SECTION DETAIL



DETAIL FOR BURIED GUARD RAIL ENDS INTO BACKSLOPES

**D.I. AND
GUARD RAIL
END SECTION
DETAILS**

SURVEYED BY N/A DATE N/A
 DRAWN BY WBL DATE 03/93
 SQUAD LEADER _____
 DESIGN FILE NO. _____
 PRF FILE _____ DATE PLOTTED _____
 PROJ. NAME SHEFFIELD-GLOVER, BROWNINGTON-
CHARLESTON, & GLOVER
 PROJ. NO. SPS419(0)S, SPS426(0)S, SPS435(0)S
 SHEET 05 OF 44 SHEETS

HTA FILE: GLVDIGR

STATE OF VERMONT AGENCY OF TRANSPORTATION



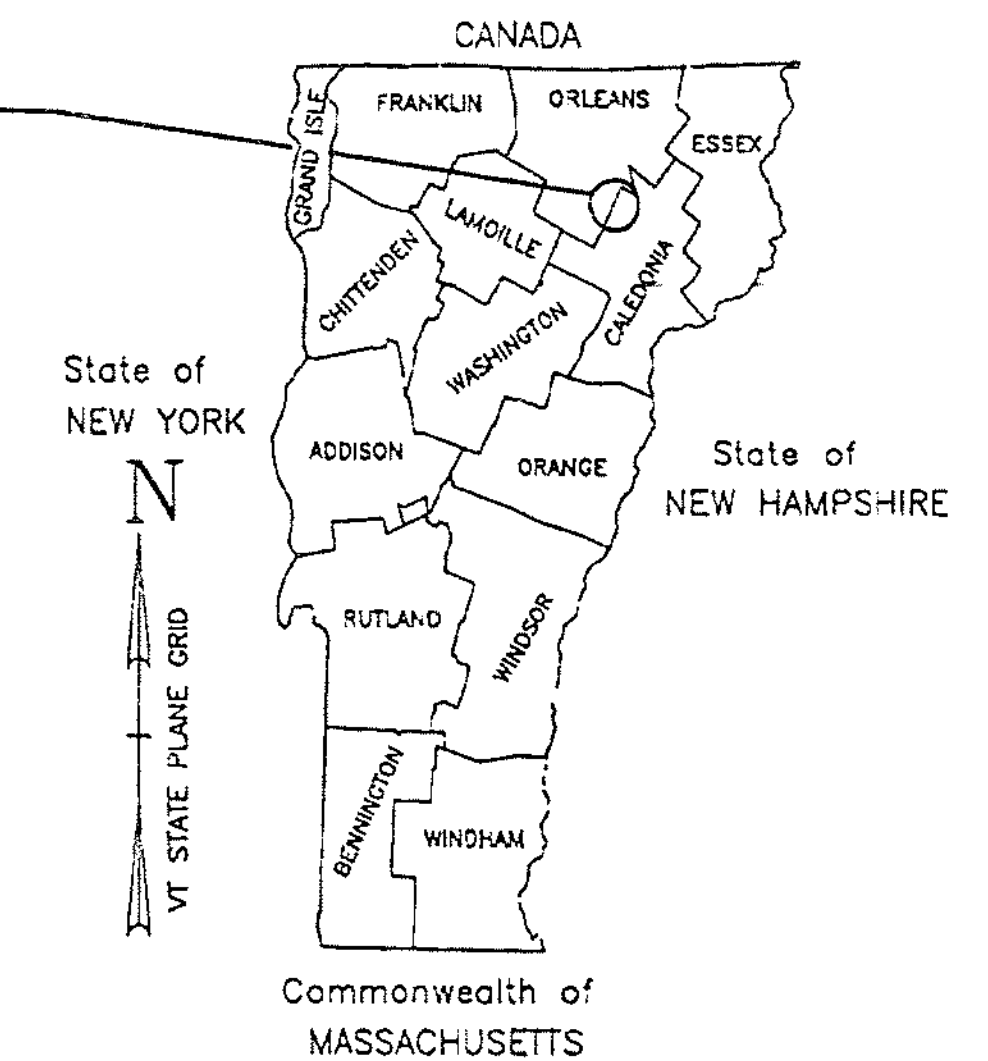
PROPOSED IMPROVEMENT TOWNS OF SHEFFIELD AND GLOVER COUNTIES OF CALEDONIA AND ORLEANS VT. RTE. 122 F.A.S.

BEGINNING IN SHEFFIELD, MILE MARKER 1.800 AND EXTENDING NORTHERLY ALONG VT. ROUTE 122
FOR A DISTANCE OF 7.486 MILES TO THE INTERSECTION OF VT. ROUTE 16, MILE MARKER 1.559 IN GLOVER.

LENGTH OF ROADWAY 39526.08 FEET = 7.486 MILES
LENGTH OF PROJECT 39526.08 FEET = 7.486 MILES

WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES THE CONSTRUCTION
OF A RECLAIMED STABILIZED BASE COURSE, BINDER COURSE, WEARING COURSE,
SAFETY IMPROVEMENTS, ASSOCIATED PAVEMENT MARKINGS AND INCIDENTAL ITEMS.

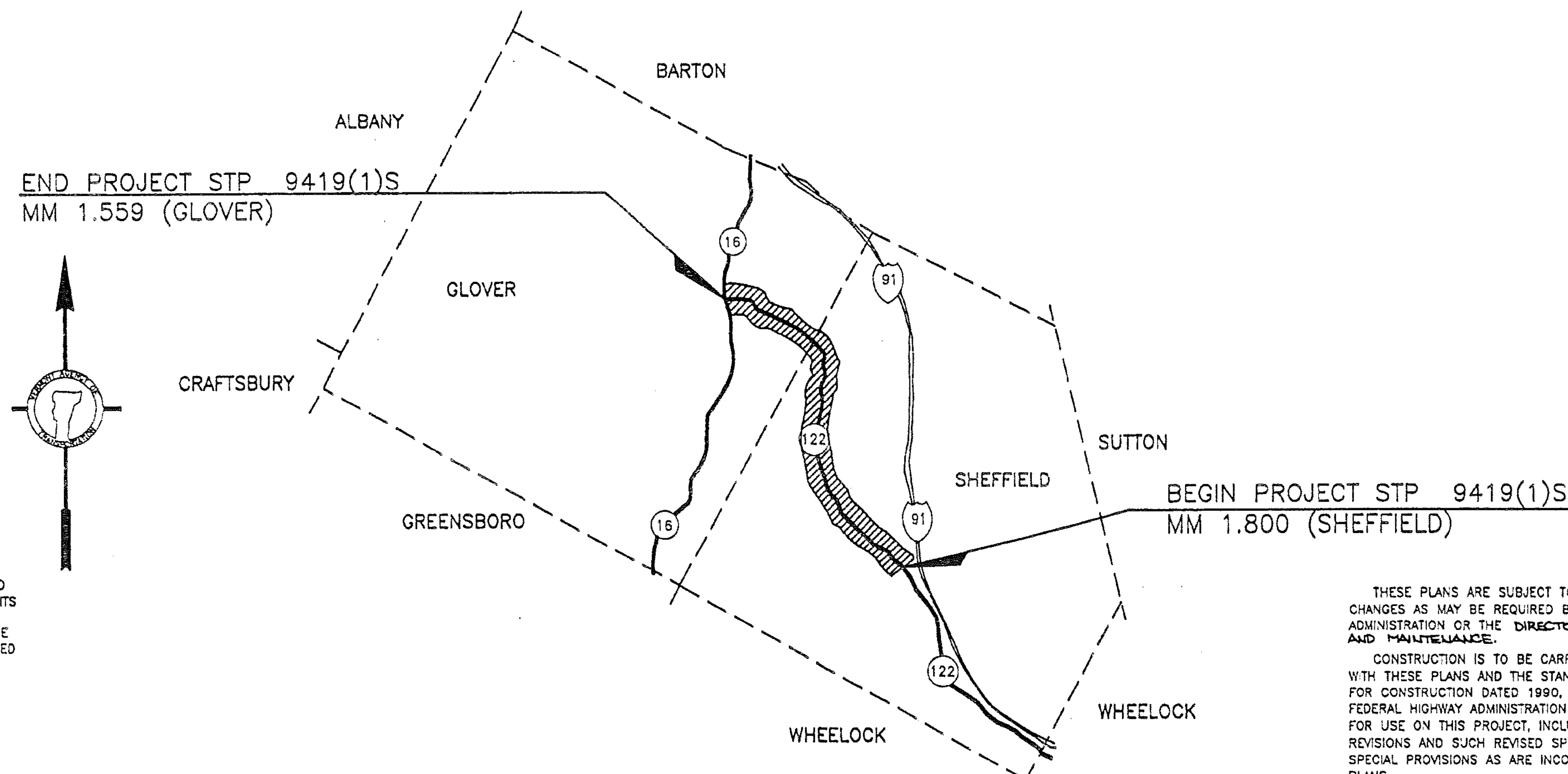
PROJECT LOCATION
STP 9419(1)S



TRAFFIC DATA

1993 ADT = 1110
1993 DHV = 155
2003 ADT = 1370
2003 DHV = 190

1993 - 2003
CUMULATIVE ESAL'S = 254,000



NOTE:
RIGHT-OF-WAY LIMITS, IF APPLICABLE, ARE PROVIDED
SOLELY FOR THE CONVENIENCE OF THE STATE AND ITS
CONTRACTOR DURING THE COURSE OF THIS PAVING
PROJECT. ANY REFERENCES TO OFFSETS ON THESE
PLANS ARE APPROXIMATE AND SHOULD NOT BE RELIED
UPON FOR ANY OTHER PURPOSES.

DATUM
VERTICAL N/A
HORIZONTAL N/A

CONVENTIONAL SIGNS

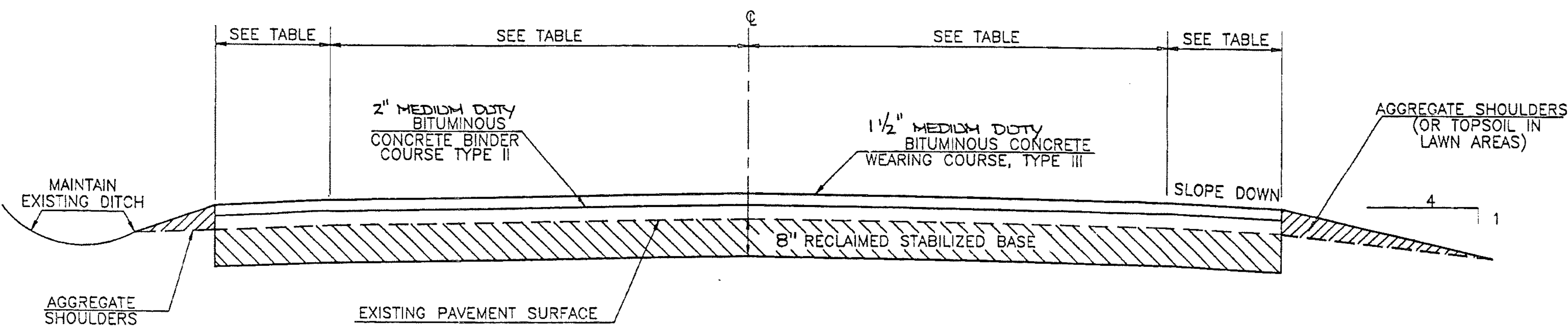
COUNTY LINE	---
TOWN LINE	---
LIMITS OF ACCESS	---X---
POINT OF ACCESS	X
FENCE LINE	---X---
STONE WALL	---X---
TRAVELED WAY	---
GUARD RAIL	---
RAILROAD	---
SURVEY LINE	---
CULVERT	---
POWER POLE	---
TELEPHONE POLE	---
TREES	---
CONTROL OF ACCESS	---
PROPERTY LINE	---
R.O.W. TAKING LINE	---
SLOPE RIGHTS	---
TOP OF CUT	---
TOE OF SLOPE	---

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING
CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY
ADMINISTRATION OR THE DIRECTOR OF CONSTRUCTION
AND MAINTENANCE.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE
WITH THESE PLANS AND THE STANDARD SPECIFICATIONS
FOR CONSTRUCTION DATED 1990, AS APPROVED BY THE
FEDERAL HIGHWAY ADMINISTRATION ON MARCH 15, 1990
FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT
REVISIONS AND SUCH REVISED SPECIFICATIONS AND
SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE
PLANS.



APPROVED _____ DATE _____	DIRECTOR OF CONSTRUCTION & MAINTENANCE
DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	
APPROVED _____ DATE _____	DIVISION ADMINISTRATOR
PROJECT SHEFFIELD-GLOVER STP 9419(1)S	
SHEET 01 OF	SHEETS
SHEET 07 OF 44	



RECLAIMED TYPICAL SECTION

NOT TO SCALE

NOTES

1. THE PAVEMENT WEARING COURSE SHALL BE TYPE III, ITEM 406.27. THE BINDER COURSE SHALL BE TYPE II, ITEM 406.27.
2. COLD PLANING TO BE COMPLETED ACCORDING TO THE DETAILS SHOWN ON THE PROJECT DETAIL SHEET.
3. THREE FEET OF BACKING IS REQUIRED BEHIND THE FACE OF GUARD RAIL WITH 6' POSTS. IF THIS CAN NOT BE OBTAINED THEN 8' POSTS SHALL BE USED.
4. EMULSIFIED ASPHALT, SHALL BE APPLIED ON ALL EXISTING SURFACES, ALL COLD PLANED SURFACES, AND BETWEEN ALL COURSES OF PAVEMENT AT THE RATE OF 0.015 GAL/SY OR AS DIRECTED BY THE RESIDENT ENGINEER.
5. BITUMINOUS CONCRETE PAVEMENT TOLERANCE = $\pm 1/4"$. (TOTAL PAVEMENT THICKNESS)

URBAN AREA - SEED MIXTURE

% WT.	LBS./ACRE	NAME	PUR%	GERM%
42.5	34.0	CREEPING RED FESCUE	98	85
10.0	8.0	PERENNIAL RYEGRASS	95	90
42.5	34.0	KENTUCKY BLUEGRASS	85	85
5.0	4.0	ANNUAL RYEGRASS	95	85
100.0	80.0			

SEED MIXTURE:
SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.

SEED:
TO BE APPLIED PER SEEDING FORMULAS OR AS DIRECTED BY THE ENGINEER.

FERTILIZER:
FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 500 LBS./ACRE. (HYDRO-SEEDERS MAY USE 15-15-15 FORMULA)

AGRICULTURAL LIMESTONE:
TO BE APPLIED AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.

HAY MULCH:
TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.

TOPSOIL:
TO BE USED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

MARKER POSTS:
TO BE PLACED AS INDICATED OR AS DIRECTED BY THE ENGINEER.

PROJECT PAVING LIMITS

TOWN	BEGIN MILE MARKER	END MILE MARKER	LANE TYPICAL	WEARING DEPTH	BINDER DEPTH	NOTES
SHEFFIELD	1.800	7.727	2'-11"-11'-2"	1-1/2"	2"	
GLOVER	0.000	1.559	2'-11"-11'-2"	1-1/2"	2"	
NOTE:						
SHEFFIELD	2.308	2.312	-	-	-	BRIDGE NO. 16 - DO NOT PAVE
SHEFFIELD	2.947	2.953	6'-11"-11'-6"	1-1/4"	-	BRIDGE NO. 17 - COLD PLANE AND PAVE 1-1/4"

PROJECT TYPICAL SHEET

SURVEYED BY	N/A	DATE	N/A
DRAWN BY	WBL	DATE	03/93
SQUAD LEADER			
DESIGN FILE NO.			
IFARM FILE		DATE PLOTTED	
PROJ. NAME	SHEFFIELD-GLOVER		
PROJ. NO.	STP 9419(1)S		
SHEET	02 OF	SHEETS	

HTA FILE: SHFTYPXS

QUANTITY SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

APPROXIMATE SUMMARY OF QUANTITIES

				EMPLOYEE TRAINEESHIP	BRIDGE	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NO.	ROUNDING
						1	1	CY	TRENCH EXCAVATION OF EARTH (NOT A BID ITEM)	204.20	-
						2200	2200	SY	COLD PLANING-BIT. PAVEMENT	210.10	27
						114500	114500	SY	RECLAIMED STABILIZED BASE	310.20	314
						115	115	MGL	WATER FOR STABILIZATION	310.23	-
						4900	4900	TON	CRUSHED AGGREGATE FOR STABILIZATION	310.24	-
						2700	2700	TON	AGGREGATE SHOULDERS	402.12	19
						150	150	CWT	EMULSIFIED ASPHALT	404.65	3
						22400	22400	TON	MEDIUM DUTY BIT. CONCRETE PAVEMENT	406.27	5
						1	1	LS	PRICE ADJUSTMENT - ASPHALT CEMENT (NOT A BID ITEM)	406.50	-
						450	450	LF	REMOVAL OF EXISTING RAILING	525.10	10
						125	125	LF	BRIDGE RAIL HEAVY DUTY STEEL BEAM FASCIA MOUNTED (MOD 1)	525.41	-
						40	40	LF	15' CSP .064 (2-2/3 X 1/2)	601.00	0 EST.
						190	190	HR	POWER GRADER RENTAL	608.15	EST.
						190	190	HR	ALL PURP. EXCAVATOR RENTAL, TYPE I	608.25	EST.
						120	120	HR	POWER BROOM RENTAL	608.30	EST.
						190	190	HR	TRUCK RENTAL	608.37	EST.
						190	190	HR	LOADER RENTAL TYPE I	608.40	EST.
						12	12	EA	YIELDING MARKER POST	619.17	EST.
						5600	5600	LF	STEEL BEAM GUARD RAIL	621.20	75
						150	150	LF	STEEL BEAM GUARD RAIL W/ 8' STEEL POSTS (MOD)	621.20	-
						300	300	LF	HEAVY DUTY STEEL BEAM GUARD RAIL	621.21	15
						5	35	EA	BREAKAWAY CABLE TERMINAL	621.50	-
						3	11	EA	ANCHOR FOR STEEL BEAM GUARD RAIL	621.60	-
						5150	5150	LF	REMOVAL AND DISPOSAL OF GUARD RAIL	621.80	38
						20	20	EA	REMOVAL AND DISPOSAL OF GUIDE POSTS	621.81	2
						300	300	HR	UNIFORMED TRAFFIC OFFICERS	630.10	EST.
						1130	1130	HR	FLAGGERS	630.15	EST.
						1	1	LS	FIELD OFFICE - ENGINEERS	631.10	-
						0.50	0.50	LS	TESTING EQUIPMENT - CONCRETE	631.16	-
						0.50	0.50	LS	TESTING EQUIPMENT - BITUMINOUS	631.17	-
						1	1	LS	FIELD OFFICE TELEPHONE (NOT A BID ITEM)	631.25	-
				520		520	520	HR	EMPLOYEE TRAINEESHIP	634.10	EST.
						0.50	0.50	LS	MOBILIZATION	635.10	-
						450	450	HR	TRAFFIC OFFICER W/ FLASHING LIGHT	641.35	EST.
						78500	78500	LF	DURABLE 4' WHITE LINE	646.40	88
						73100	73100	LF	DURABLE 4' YELLOW LINE	646.41	18
						60	60	LF	DURABLE 24' STOP BAR	646.46	6
						29	29	EA	DURABLE LETTER OR SYMBOL	646.50	-
						26	26	LF	DUR. CROSSWALK MKG. W/DIAG. LINES	646.51	-
						78500	78500	LF	TEMPORARY 4' WHITE LINE	646.60	88
						73100	73100	LF	TEMPORARY 4' YELLOW LINE	646.61	18
						60	60	LF	TEMPORARY 24' STOP BAR	646.66	6
						1000	1000	EA	LINE STRIPING TARGETS	646.73	12
						40	40	LB	SEED	651.15	EST.
						250	250	LB	FERTILIZER	651.18	EST.
						1	1	TON	AGRICULTURAL LIMESTONE	651.20	EST.
						1	1	TON	HAY MULCH	651.25	EST.
						25	25	CY	TOPSOIL	651.35	EST.
						46	46	SF	TRAFFIC SIGNS, TYPE A	675.20	-
						228	228	LB	FLANGED CHANNEL SIGN POST	675.30	-
						5	5	EA	REMOVING SIGNS	675.50	-
						1	1	EA	ERECTING SALVAGED SIGNS	675.60	-

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		COLD PLANING - BITUMINOUS PAVEMENT
217	SY	BEGINNING OF PROJECT
567	SY	SHEFFIELD MM 2.310 BRIDGE #16
587	SY	SHEFFIELD MM 2.950 BRIDGE #17
273	SY	TOWN HIGHWAYS
529	SY	END OF PROJECT
27	SY	ROUNDING
2200	SY	TOTAL
		MEDIUM DUTY
		BITUMINOUS CONCRETE PAVEMENT
9516	TON	MAINLINE - WEARING COURSE
12688	TON	MAINLINE - BINDER COURSE
154	TON	TOWN HIGHWAYS
37	TON	APPROACHES AND DRIVES
5	TON	ROUNDING
22400	TON	TOTAL
		REMOVING SIGNS
1	EA	SHEFFIELD MM 1.613 RT
1	EA	SHEFFIELD MM 1.670 RT
1	EA	SHEFFIELD MM 1.687 LT
1	EA	SHEFFIELD MM 1.738 LT
1	EA	SHEFFIELD MM 3.687 RT, TH 3
5	EA	TOTAL
		FLANGED CHANNEL SIGN POSTS
42	LB	SHEFFIELD MM 1.613 RT
51	LB	SHEFFIELD MM 1.670 RT
51	LB	SHEFFIELD MM 1.675 LT
42	LB	SHEFFIELD MM 1.738 LT
42	LB	SHEFFIELD MM 3.707 RT, TH 3
228	LB	TOTAL
		TRAFFIC SIGNS TYPE A
9	SF	SHEFFIELD MM 1.613 RT
9	SF	SHEFFIELD MM 1.670 RT
5	SF	SHEFFIELD MM 1.670 RT
5	SF	SHEFFIELD MM 1.675 LT
9	SF	SHEFFIELD MM 1.675 LT
9	SF	SHEFFIELD MM 1.738 RT
46	SF	TOTAL
		ERECTING SALVAGED SIGNS
1	EA	SHEFFIELD MM 3.707 RT, TH 3
1	EA	TOTAL

DETAILED SUMMARY OF QUANTITIES

[illegible][illegible]

ITEM DETAIL SUMMARY SHEET

[illegible]

ITEM DETAIL SUMMARY SHEET

MILE MARKER	MILE MARKER	POS.	DROP INLET	LAT. DITCH	CLEAN INLET DITCH	CLEAN OUTLET DITCH	EARTH BORROW	TIMBER CURB	STONE FILL	NEW PIPE			CSPES			FLUSH PIPES		6" UND.	CONC. CL B	REINF. STEEL	GRATE TYPE EA	CHAN ELEV EA	REHAB DI EA	GUARDRAIL ITEMS						REMARKS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
										D	L	TH/CL	D	TH	QTY	0-24"	24-36"							MOD.	621.20	620.20	621.21	621.50	621.60		621.80	621.81																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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DURABLE 4" YELLOW LINE

MM 1.800 TO MM 2.000 (SOLID LT. & RT.)
 MM 2.000 TO MM 2.077 (SOLID LT. & DASHED RT.)
 MM 2.077 TO MM 2.160 (DASHED)
 MM 2.160 TO MM 2.310 (DASHED LT. & SOLID RT.)
 MM 2.310 TO MM 2.330 (SOLID LT. & RT.)
 MM 2.330 TO MM 2.440 (SOLID LT. & DASHED RT.)
 MM 2.440 TO MM 2.470 (DASHED)
 MM 2.470 TO MM 2.610 (DASHED LT. & SOLID RT.)
 MM 2.610 TO MM 3.678 (SOLID LT. & RT.)
 (WITH CENTERLINE BREAKS FOR TOWN HIGHWAYS)

DURABLE 4" WHITE LINE

MM 1.800 TO MM 3.678 (SOLID LT. & RT.)
 (WITH EDGE LINE BREAKS FOR TOWN HIGHWAYS)

TEMPORARY 4" YELLOW LINE

MM 1.800 TO MM 2.000 (SOLID LT. & RT.)
 MM 2.000 TO MM 2.077 (SOLID LT. & DASHED RT.)
 MM 2.077 TO MM 2.160 (DASHED)
 MM 2.160 TO MM 2.310 (DASHED LT. & SOLID RT.)
 MM 2.310 TO MM 2.330 (SOLID LT. & RT.)
 MM 2.330 TO MM 2.440 (SOLID LT. & DASHED RT.)
 MM 2.440 TO MM 2.470 (DASHED)
 MM 2.470 TO MM 2.610 (DASHED LT. & SOLID RT.)
 MM 2.610 TO MM 3.678 (SOLID LT. & RT.)
 (WITH CENTERLINE BREAKS FOR TOWN HIGHWAYS)

TEMPORARY 4" WHITE LINE

MM 1.800 TO MM 3.678 (SOLID LT. & RT.)
 (WITH EDGE LINE BREAKS FOR TOWN HIGHWAYS)

DURABLE CROSSWALK WITH DIAGONAL LINES

MM 1.672, 26 LF

DURABLE LETTER OR SYMBOL

MM 1.613, RT. "SCHOOL"
 MM 1.738, LT. "SCHOOL"

INSTALL 37.5 LF OF STEEL BEAM GUARDRAIL WITH STEEL POSTS, (16'R AROUND TH 44) - BUTT TO EXISTING WOOD BRIDGE RAIL (FACE OF NEW RAIL SHALL BE SET FLUSH TO FACE OF EXISTING RAIL) - SEE DETAIL ON SHEET 11.

REMOVE EXISTING 2 CABLE GUARDRAIL, INSTALL A 16'R END TERMINAL AT MM 3.227, 425 LF OF NEW STEEL BEAM GUARDRAIL WITH STEEL POSTS AND A BCT AT MM 3.312 (@ EXIST. DRIVE)

REMOVE EXISTING 2 CABLE GUARDRAIL AND INSTALL A 16'R END TERMINAL AT MM 3.328, 575 LF OF NEW STEEL BEAM GUARDRAIL WITH STEEL POSTS AND A BCT AT MM 3.442

REMOVE EXISTING BEAM GUARDRAIL AND INSTALL 25 LF OF HEAVY DUTY STEEL BEAM GUARDRAIL BEGINNING AT MM 2.942 (APPROACH SCHEDULE 1), 37.5 LF OF NEW BRIDGE RAIL, H.D. STEEL BEAM FASCIA MOUNTED (MOD. 1), 25 LF OF HEAVY DUTY STEEL BEAM GUARDRAIL (APPROACH SCHEDULE 1) AND A BCT AT MM 2.963.

COLD PLANE & PAVE 1-1/4" BR 17 MM 2.950

INSTALL A 16'R END TERMINAL AT MM 2.293, 50 LF OF NEW STEEL BEAM GUARDRAIL WITH STEEL POSTS, 25 LF OF HEAVY DUTY STEEL BEAM GUARDRAIL (APPROACH SCHEDULE 1), 25 LF OF NEW BRIDGE RAIL, H.D. STEEL BEAM FASCIA MOUNTED (MOD. 1), 25 LF OF HEAVY DUTY STEEL BEAM GUARDRAIL (APPROACH SCHEDULE 1 WITH A 16'R END TERMINAL)

DO NOT PAVE BR 16 MM 2.310

INSTALL A BCT AT MM 2.293, 25 LF OF NEW STEEL BEAM GUARDRAIL WITH STEEL POSTS, 25 LF OF NEW HEAVY DUTY STEEL BEAM GUARDRAIL (APPROACH SCHEDULE 1), 25 LF OF NEW BRIDGE RAIL, HEAVY DUTY STEEL BEAM FASCIA MOUNTED (MOD. 1), 25 LF OF HEAVY DUTY STEEL BEAM GUARDRAIL (APPROACH SCHEDULE 1), 25 LF OF NEW STEEL BEAM GUARDRAIL WITH STEEL POSTS AND A BCT AT MM 2.327 RT.

REMOVE EXISTING BEAM GUARDRAIL AND INSTALL A BCT AT MM 2.937, RT., 25 LF OF STEEL BEAM RAIL, 25 LF OF NEW H.D. STEEL BEAM RAIL, 37.5 LF OF NEW BRIDGE RAIL, H.D. STEEL BEAM FASCIA MOUNTED (MOD. 1), 25 LF OF HEAVY DUTY STEEL BEAM GUARDRAIL (APPROACH SCHEDULE 1), 25 LF OF STEEL BEAM RAIL, AND A BCT AT MM 2.963.

REMOVE EXISTING 2 CABLE GUARDRAIL AND INSTALL A BCT AT MM 3.274, 37'-6" OF NEW STEEL BEAM GUARDRAIL WITH STEEL POSTS AND A BCT AT MM 3.286

FOR TOWN HIGHWAY DETAILS, SEE PAVEMENT MARKING DETAIL SHEET.

PAVING PROJECT LAYOUT

SURVEYED BY N/A DATE N/A
 DRAWN BY DJJ DATE 03/93
 SQUAD LEADER _____
 DESIGN FILE NO. _____
 IPARM FILE _____ DATE PLOTTED _____
 PROJ. NAME SHEFFIELD-GLOVER
 PROJ. NO. STP 9419(1)S
 SHEET 08 OF _____ SHEETS
 SHEET 12 OF 44

HTA FILE: SHFPMK1

DATUM
 VERTICAL N/A
 HORIZONTAL N/A

DURABLE 4" YELLOW LINE

MM 3.678 TO MM 5.310 (SOLID LT & RT)
MM 5.310 TO MM 5.394 (SOLID LT & DASHED RT)
(WITH CENTERLINE BREAKS FOR TOWN HIGHWAYS)

TEMPORARY 4" YELLOW LINE

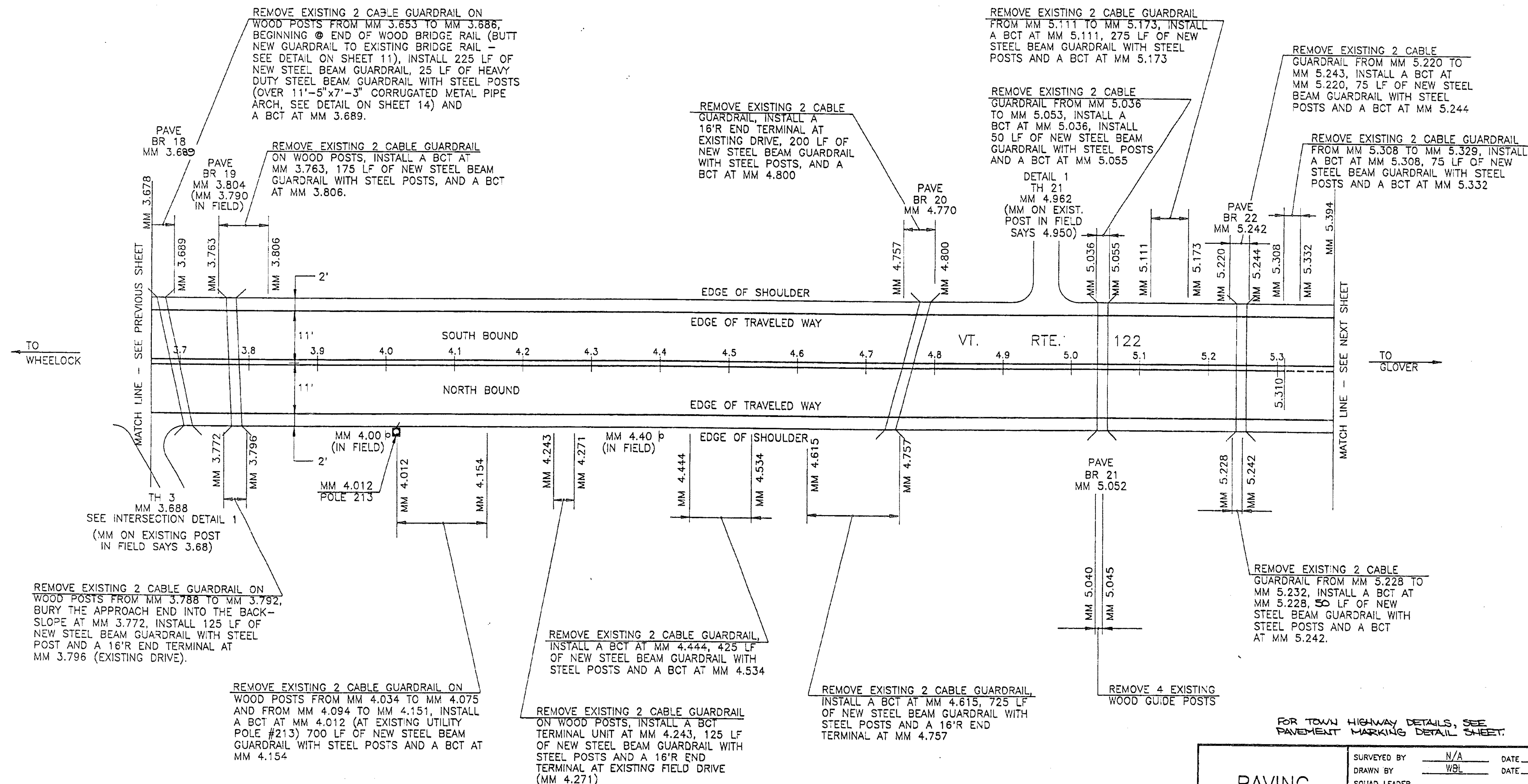
MM 3.678 TO MM 5.310 (SOLID LT & RT)
MM 5.310 TO MM 5.394 (SOLID LT & DASHED RT)
(WITH CENTERLINE BREAKS FOR TOWN HIGHWAYS)

DURABLE 4" WHITE LINE

MM 3.678 TO MM 5.394 (SOLID LT & RT)
(WITH EDGE LINE BREAKS FOR TOWN HIGHWAYS)

TEMPORARY 4" WHITE LINE

MM 3.678 TO MM 5.394 (SOLID LT & RT)
(WITH EDGE LINE BREAKS FOR TOWN HIGHWAYS)



FOR TOWN HIGHWAY DETAILS, SEE PAVEMENT MARKING DETAIL SHEET.

PAVING PROJECT LAYOUT

SURVEYED BY N/A DATE N/A
DRAWN BY WBL DATE 03/93
SQUAD LEADER _____
DESIGN FILE NO. _____
IPARM _____ DATE PLOTTED _____
PROJ. NAME SHEFFIELD-GLOVER
PROJ. NO. STP 9419(1)S
SHEET 07 OF _____ SHEETS

HTA FILE: SHFPMK2

SHEET 13 OF 44

DATUM
VERTICAL N/A
HORIZONTAL N/A

DURABLE 4" YELLOW LINE

MM 5.394 TO MM 5.430 (SOLID LT. & DASHED RT.)
MM 5.430 TO MM 5.445 (SOLID LT. & RT.)
MM 5.445 TO MM 5.572 (DASHED LT. & SOLID RT.)
MM 5.572 TO MM 6.532 (SOLID LT. & RT.)
(WITH CENTERLINE BREAKS FOR TOWN HIGHWAYS)

DURABLE 4" WHITE LINE

MM 5.394 TO MM 6.532 (SOLID LT. & RT.)
(WITH EDGELINE BREAKS FOR TOWN HIGHWAYS)

TEMPORARY 4" YELLOW LINE

MM 5.394 TO MM 5.430 (SOLID LT. & DASHED RT.)
MM 5.430 TO MM 5.445 (SOLID LT. & RT.)
MM 5.445 TO MM 5.572 (DASHED LT. & SOLID RT.)
MM 5.572 TO MM 6.532 (SOLID LT. & RT.)
(WITH CENTERLINE BREAKS FOR TOWN HIGHWAYS)

TEMPORARY 4" WHITE LINE

MM 5.394 TO MM 6.532 (SOLID LT. & RT.)
(WITH EDGELINE BREAKS FOR TOWN HIGHWAYS)

REMOVE EXISTING 2 CABLE GUARDRAIL
FROM MM 5.820 TO MM 5.915, INSTALL
A BCT AT MM 5.820, 500 LF OF NEW
STEEL BEAM GUARDRAIL WITH STEEL
POSTS AND A BCT AT MM 5.924

TH 19
MM 5.733
DETAIL 1
(MM ON EXISTING POST
IN FIELD SAYS 5.72)

MM 5.80
(IN FIELD)

EDGE OF SHOULDER

REMOVE EXISTING 2 CABLE GUARDRAIL
FROM MM 6.013 TO MM 6.077, INSTALL
A BCT AT MM 6.013, 375 LF OF NEW
STEEL BEAM GUARDRAIL WITH STEEL
POSTS AND A 16'R END TERMINAL
AT TH 16.

TH 16
MM 6.104
DETAIL 1
(MM ON EXIST. POST
IN FIELD SAYS 6.09)

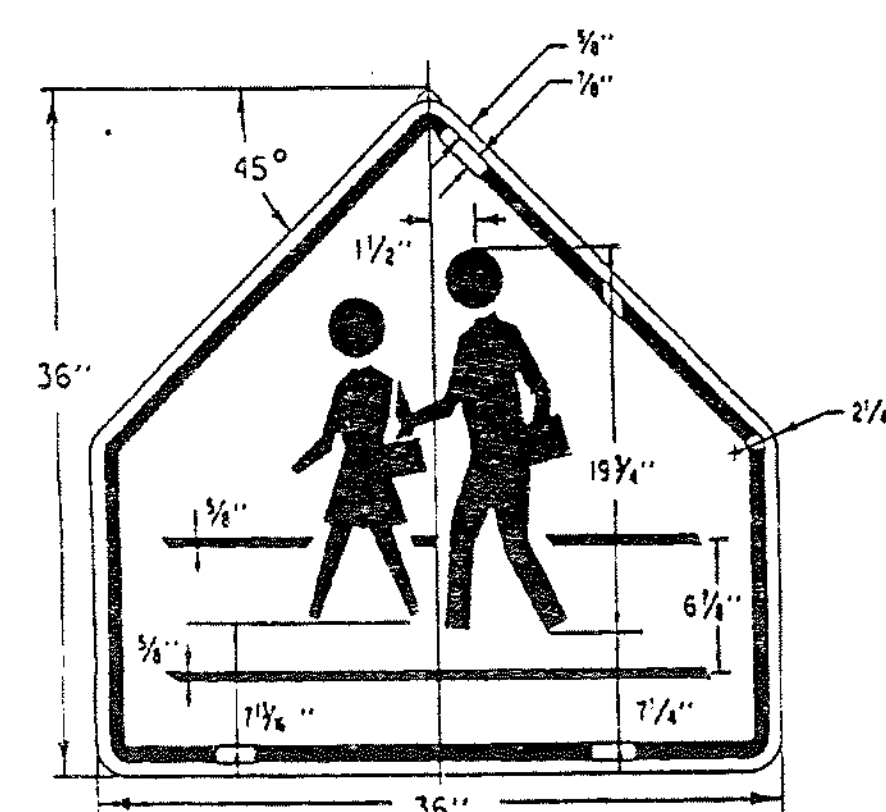
MM 6.088

MM 6.00
(IN FIELD)

MM 6.076

MM 6.095

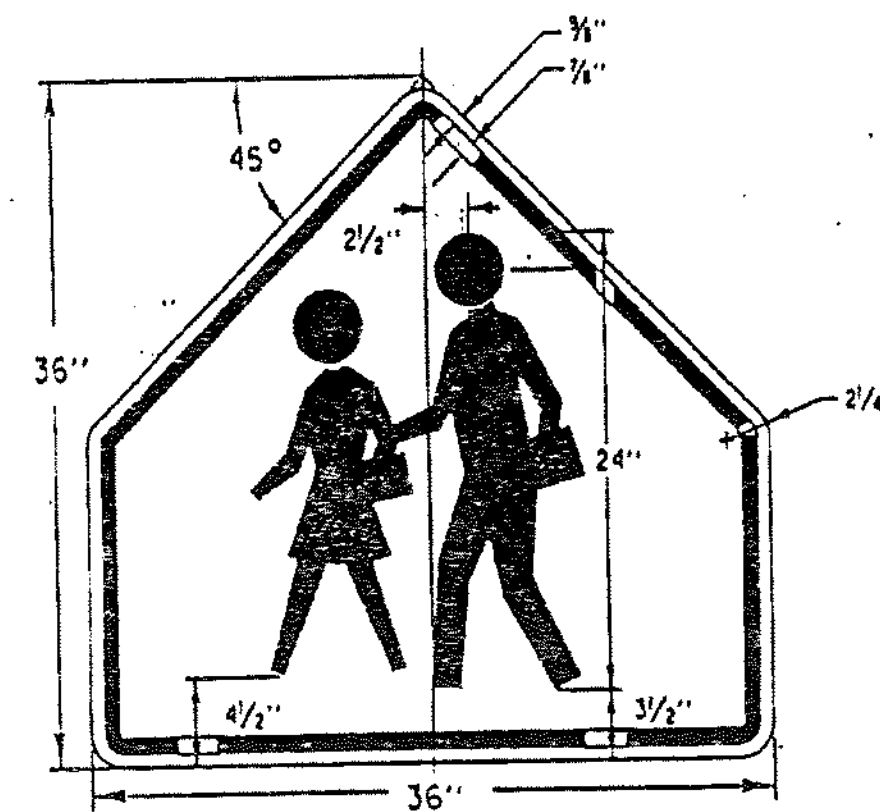
REMOVE EXISTING 2 CABLE GUARDRAIL
FROM MM 6.076 TO MM 6.079, INSTALL
A BCT AT MM 6.076, 50 LF OF NEW
STEEL BEAM GUARDRAIL WITH STEEL
POSTS AND A BCT AT MM 6.095.



COLORS

LEGEND BLACK (NON-REFLECTIVE)
BACKGROUND YELLOW

REFER TO
STANDARD E-150
FOR MATERIALS



COLORS

LEGEND BLACK (NON-REFLECTIVE)
BACKGROUND YELLOW

REFER TO
STANDARD E-150
FOR MATERIALS

TRAFFIC SIGN DETAILS

NOT TO SCALE

FOR TOWN HIGHWAY DETAILS, SEE
PAVEMENT MARKING DETAIL SHEET.

PAVING PROJECT LAYOUT

SURVEYED BY N/A DATE N/A
DRAWN BY WBL DATE 03/93
SQUAD LEADER _____
DESIGN FILE NO. _____
IPARM FILE _____ DATE PLOTTED _____
PROJ. NAME SHEFFIELD-GLOVER
PROJ. NO. STP 9419(1)S
SHEET 08 OF _____ SHEETS
SHEET 14 OF 44

HTA FILE: SHFPMK3

DATUM
VERTICAL N/A
HORIZONTAL N/A

DURABLE 4" YELLOW LINE

MM 6.532 TO MM 7.600 (SOLID LT. & RT.)
MM 7.600 TO MM 7.727 (SOLID LT. & DASHED RT.)
MM 0.000 TO MM 0.105 (GLOVER) (DASHED)
MM 0.105 TO MM 0.220 (DASHED LT. & SOLID RT.)
MM 0.220 TO MM 1.559 (SOLID LT. & RT.)
(WITH CENTERLINE BREAKS FOR TOWN HIGHWAYS)

TEMPORARY 4" YELLOW LINE

MM 6.532 TO MM 7.600 (SOLID LT. & RT.)
MM 7.600 TO MM 7.727 (SOLID LT. & DASHED RT.)
MM 0.000 TO MM 0.105 (GLOVER) (DASHED)
MM 0.105 TO MM 0.220 (DASHED LT. & SOLID RT.)
MM 0.220 TO MM 1.559 (SOLID LT. & RT.)
(WITH CENTERLINE BREAKS FOR TOWN HIGHWAYS)

DURABLE LETTER OR SYMBOL

MM 1.407 (GLOVER), VT. RTE. 122 RT: "STOP AHEAD"
CENTER ON CORRESPONDING EXISTING SIGN AS PER
STANDARD E-120.

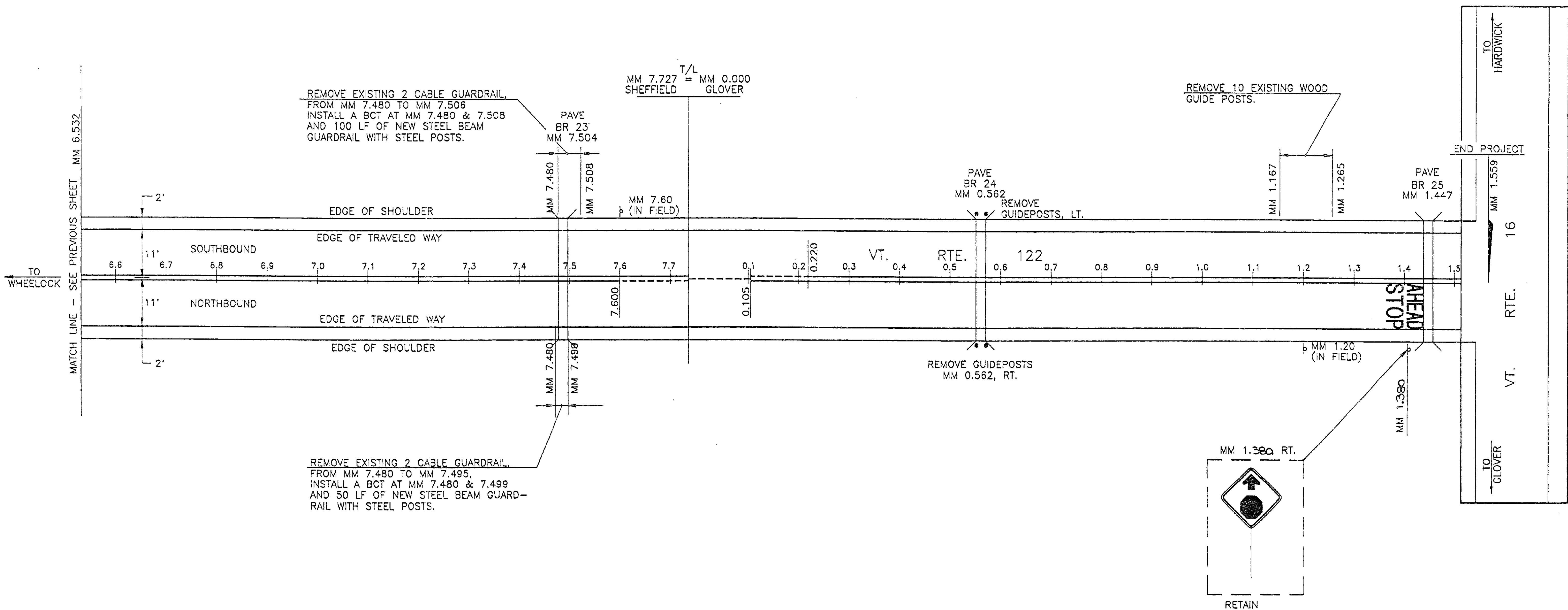
DURABLE 4" WHITE LINE

MM 6.532 TO MM 1.559 (SOLID LT. & RT.)
(WITH EDGE LINE BREAKS FOR TOWN HIGHWAYS)

TEMPORARY 4" WHITE LINE

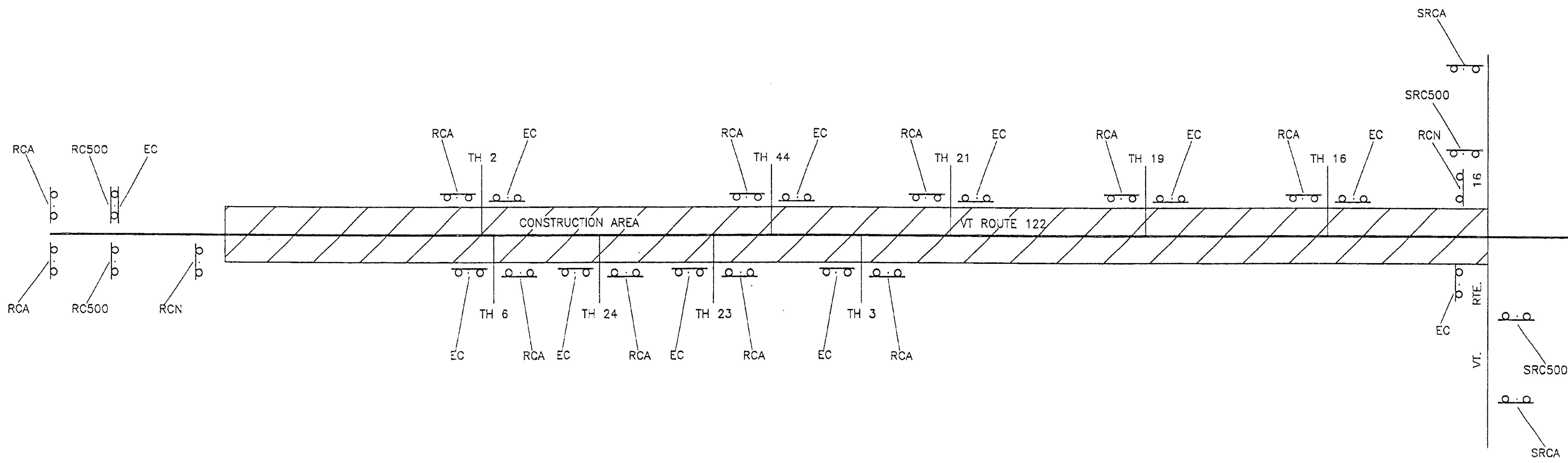
MM 6.532 TO MM 1.559 (SOLID LT. & RT.)
(WITH EDGE LINE BREAKS FOR TOWN HIGHWAYS)

INTERSECTION DETAIL 2
MM 1.540 TO MM 1.559



DATUM	
VERTICAL	N/A
HORIZONTAL	N/A

PAVING PROJECT LAYOUT	SURVEYED BY	N/A	DATE	N/A
	DRAWN BY	WBL	DATE	03/93
	SQUAD LEADER			
	DESIGN FILE NO.			
	IPARM FILE		DATE PLOTTED	
HTA FILE: SHFPMK4	PROJ. NAME	SHEFFIELD-GLOVER		
	PROJ. NO.	STP 9419(1)S		
	SHEET 09 OF	SHEETS		



- LEGEND**
- RCA = ROAD CONSTRUCTION AHEAD
 - RC500 = ROAD CONSTRUCTION 500'
 - EC = END CONSTRUCTION
 - SRCA = SIDE ROAD CONSTRUCTION AHEAD
 - SRC500 = SIDE ROAD CONSTRUCTION 500'
 - RCN = ROAD CONSTRUCTION NEXT

CONSTRUCTION APPROACH SIGNING

SEE STANDARD E-100 FOR SIGN PLACEMENT.

**LIST OF TOWN HIGHWAYS
FOR CONSTRUCTION SIGNS**

TOWN HIGHWAY NUMBER	ROAD CONST. AHEAD	END CONST.	OTHER
TH 2	1	1	-
TH 6	1	1	-
TH 24	1	1	-
TH 23	1	1	-
TH 44	1	1	-
TH 3	1	1	-
TH 21	1	1	-
TH 19	1	1	-
TH 16	1	1	-
TOTAL	9	9	-

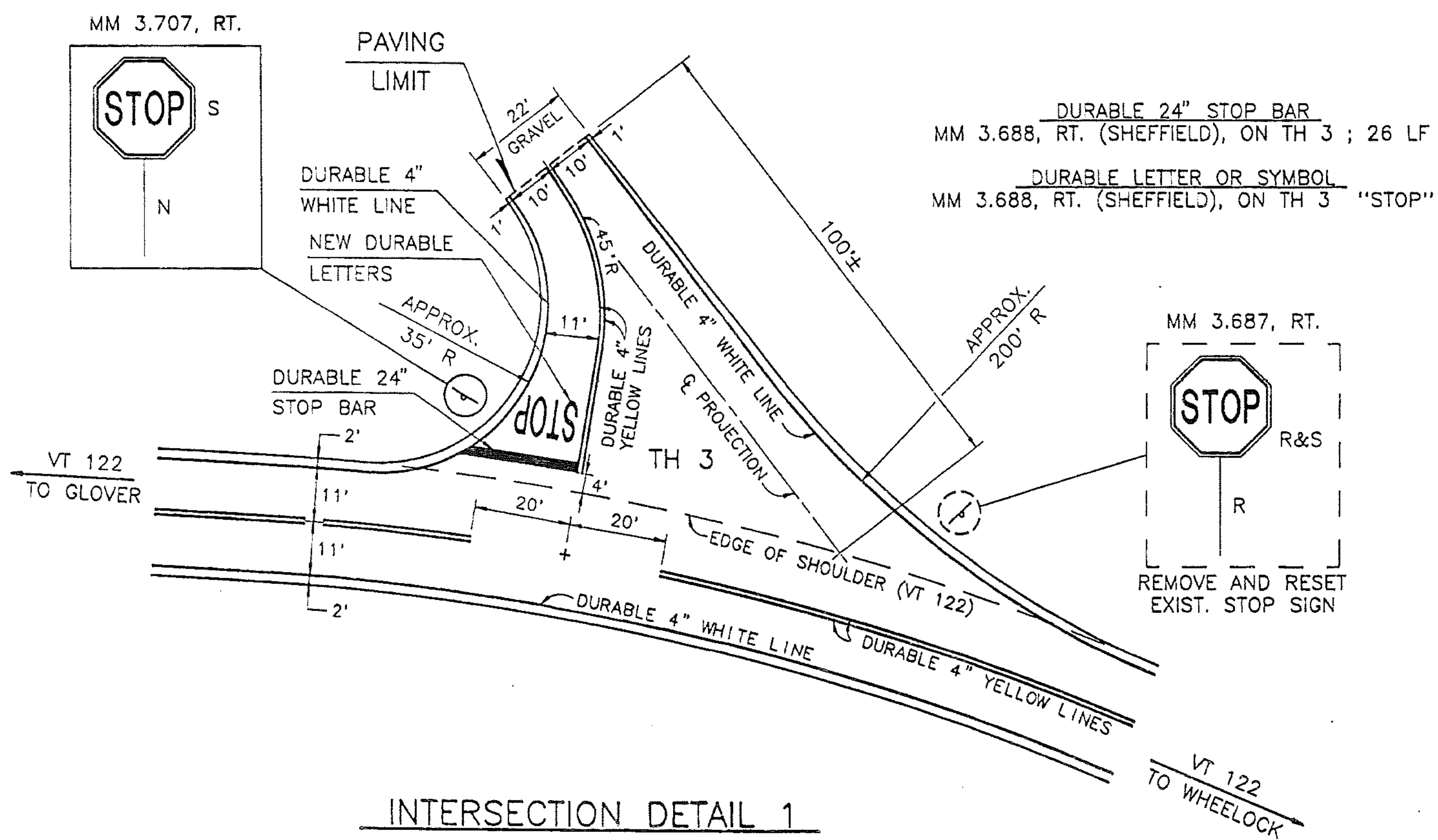
CONSTRUCTION SIGN DETAIL SHEET

SURVEYED BY N/A DATE N/A
 DRAWN BY WBL DATE 03/93
 SQUAD LEADER _____
 DESIGN FILE NO. _____
 IPARM FILE _____ DATE PLOTTED _____
 PROJ. NAME SHEFFIELD-GLOVER
 PROJ. NO. STP 9419(1)S
 SHEET 10 OF _____ SHEETS

HTA FILE: SHFSDTLS

SHEET 10 OF 44

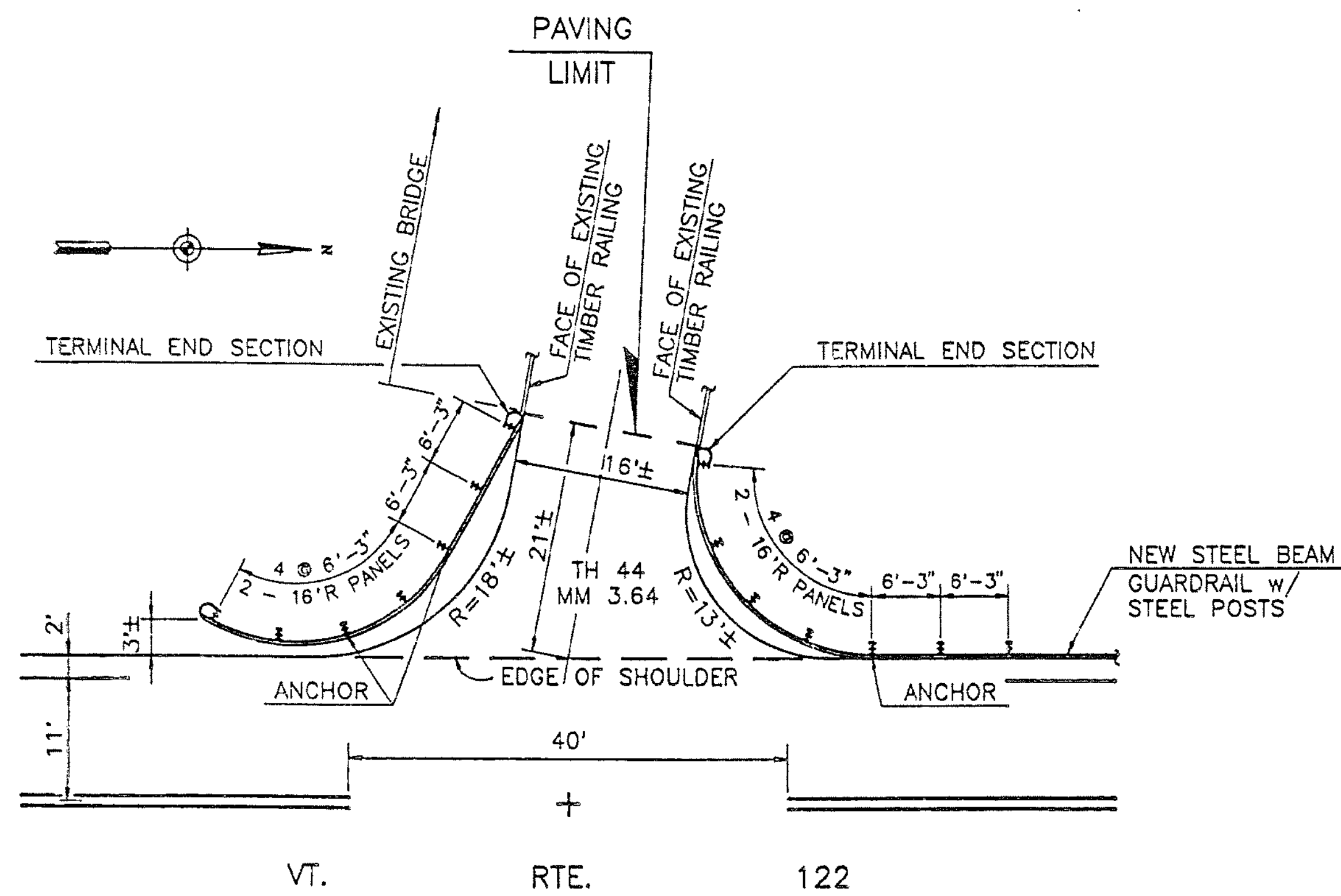
DATUM
 VERTICAL N/A
 HORIZONTAL N/A



INTERSECTION DETAIL 1

MM 3.655 TO MM 3.697

SCALE: 1" = 20'



GUARDRAIL DETAIL AT INTERSECTION

TOWN HIGHWAY 44 - MM 3.64

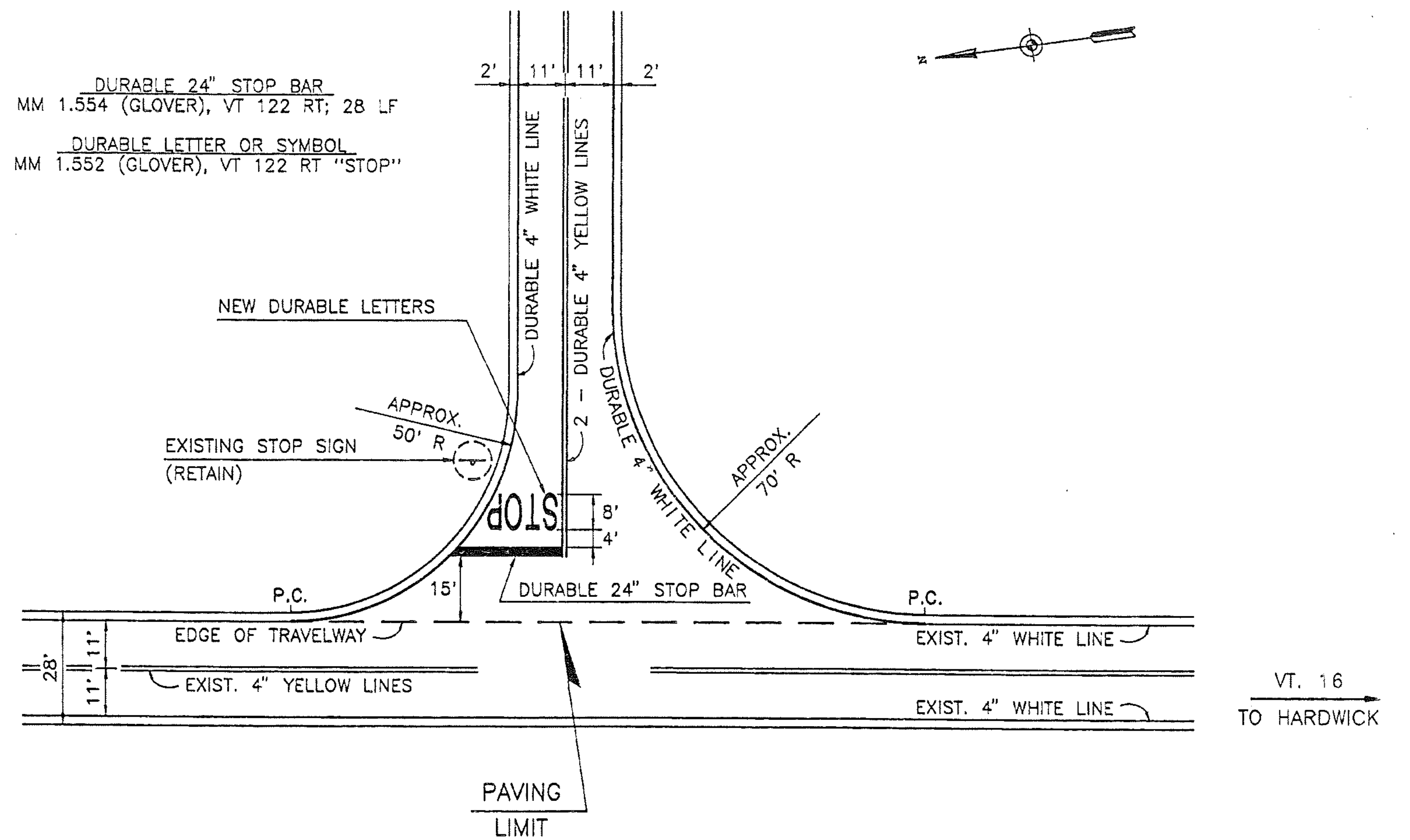
SCALE: 1" = 10'

DATUM

VERTICAL _____

HORIZONTAL _____

VT. 16
TO GLOVER



INTERSECTION DETAIL 2

MM 1.540 TO MM 1.559

SCALE: 1" = 20'

LEGEND:

N = NEW
R = REMOVE
RET = RETAIN
S = SALVAGE

INTERSECTION
DETAIL SHEET

SURVEYED BY N/A DATE N/A

DRAWN BY WBL DATE 03/93

SQUAD LEADER

DESIGN FILE NO.

IPARM FILE DATE PLOTTED

PROJ. NAME SHEFFIELD-GLOVER

PROJ. NO. STP 9419(1)S

SHEET 11 OF SHEETS

HTA FILE: SHFINTS

SHEET 17 OF 44

MILEMARKER	POS.	BRIDGE NO.	OFFSET BLOCK	525.41 MOD 1	525.40 MOD 2	621.20	621.21	621.50	621.60	525.10	621.81	REMARKS
2.293 - 2.317	LT.	16	W6x20	25		50	65		2	120		INSTALL A 16'R END TERMINAL AT MM 2.293 (NORTH OF EXISTING DRIVE), 50 LF OF NEW STEEL BEAM GUARDRAIL WITH STEEL POSTS, 25 LF OF H.D. STEEL BEAM GUARDRAIL, 25 LF OF NEW BRIDGE RAIL, HEAVY DUTY STEEL BEAM FASCIA MOUNTED (MOD. 1), AND A 16'R END TERMINAL AT TH 2. REMOVE EXISTING STEEL BEAM GUARDRAIL.
2.293 - 2.327	RT.	16	W6x20	25		50	65	2		155		INSTALL A BCT AT MM 2.293 RT., 25 LF OF NEW STEEL BEAM GUARDRAIL WITH STEEL POSTS, 25 LF OF NEW H.D. STEEL BEAM GUARDRAIL, 25 LF OF NEW BRIDGE RAIL, HEAVY DUTY STEEL BEAM FASCIA MOUNTED (MOD. 1), 25 LF OF NEW H.D. STEEL BEAM GUARDRAIL, 25 LF OF NEW STEEL BEAM GUARDRAIL WITH STEEL POSTS AND A BCT AT MM 2.327 RT.. REMOVE EXIST. STEEL BEAM GUARDRAIL.
2.942 - 2.963	LT.	17	W6x20	37.5			65	1	1	77		INSTALL 25 LF OF HEAVY DUTY STEEL BEAM GUARDRAIL BEGINNING AT MM 2.942 LT., 37.5 LF OF NEW BRIDGE RAIL, HEAVY DUTY STEEL BEAM FASCIA MOUNTED (MOD. 1), 25 LF OF HEAVY DUTY STEEL BEAM GUARDRAIL AND A BCT AT MM 2.963 LT.. REMOVE EXISTING STEEL BEAM GUARDRAIL.
2.937 - 2.963	RT.	17	W6x20	37.5		50	65	2		88		INSTALL A BCT AT MM 2.937 RT., 25 LF OF STEEL BEAM RAIL 25' H.D. RAIL, 37.5 LF OF NEW BRIDGE RAIL, HEAVY DUTY STEEL BEAM FASCIA MOUNTED (MOD. 1), 25 LF OF H.D. RAIL, 25 LF OF STEEL BEAM RAIL AND A BCT AT MM 2.963, RT.. REMOVE EXISTING STEEL BEAM GUARDRAIL.
SHEET 12 TOTAL				125		150	260	5	3	440		

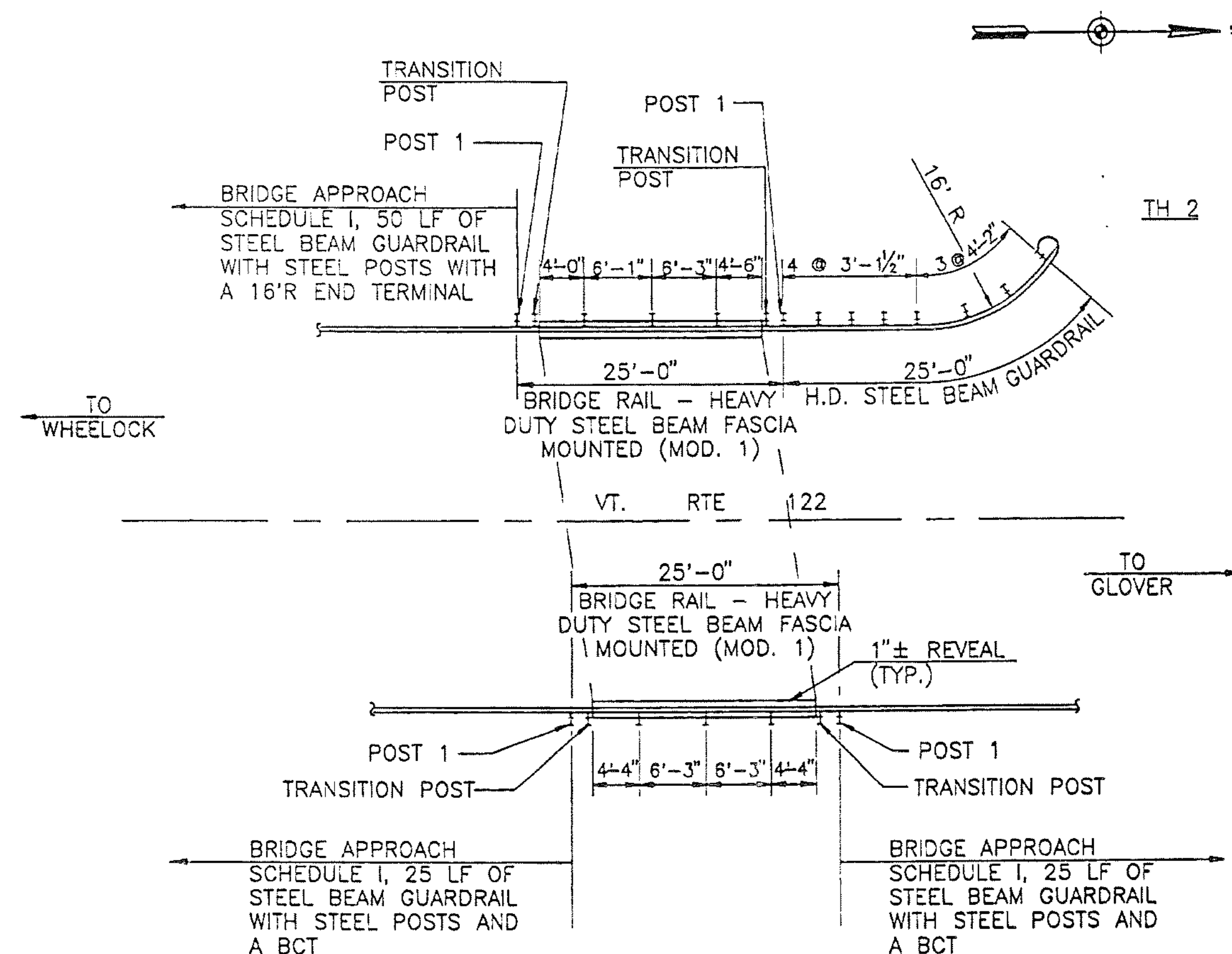
1. BRIDGE RAIL SHALL BE HEAVY DUTY STEEL BEAM RAIL.
2. BRIDGE APPROACH RAIL HEIGHT SHALL BE TRANSITIONED TO NORMAL ROADWAY RAIL HEIGHT IN 25 FEET.
3. FOR BRIDGE RAILING, THE TRANSITION POST SHALL HAVE AN OFFSET BLOCK AND BE LOCATED AS CLOSE AS PRACTICAL TO THE MID-POINT BETWEEN THE BRIDGE END POST AND APPROACH RAIL POST 1.
4. SPLICES SHALL LAP IN DIRECTION OF TRAFFIC FLOW.
5. SEE STANDARD SHEET G-1 FOR DELINEATOR DETAILS AND PLACEMENT.
6. ERECT DELINEATORS ON EVERY FIFTH POST OR APPROXIMATELY 30 FEET APART. PAYMENT SHALL BE SUBSIDIARY TO *THE APPROPRIATE RAIL ITEM.*



WHEN A RAIL PANEL SPLICE OCCURS AT POST NO. 1
USE SCHEDULE I FOR APPROACH RAILING WHEN A RAIL
PANEL SPLICE OCCURS AT BRIDGE END POST USE
SCHEDULE II FOR APPROACH RAILING.

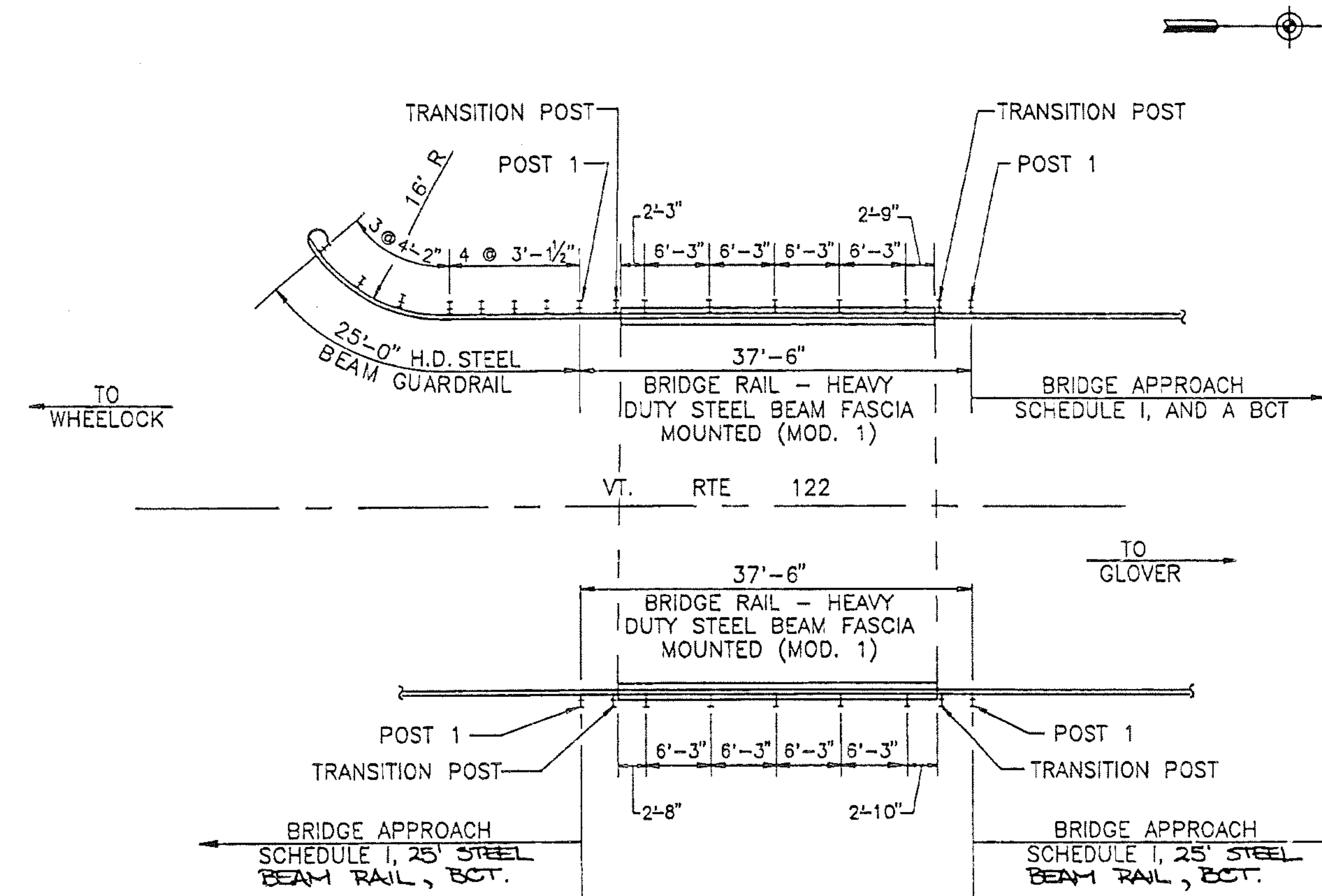
SCHEDULE II		
POST NO.	SPACING	PAYMENT FACTOR
1	3'-11 1/2"	1.4 X 18'-9"
2	3'-11 1/2"	
3	3'-11 1/2"	
4	3'-11 1/2"	
5	3'-11 1/2"	
6	3'-11 1/2"	
7	4'-2"	1.2 x 12'-6"
8	4'-2"	
9	4'-2"	
10	6'-3"	
11	(TYP.)	

SURVEYED BY N/A DATE N/A
DRAWN BY JC DATE 03/93
SQUAD LEADER _____
DESIGN FILE NO. _____
Iparm DATE
FILE PLOTTED _____
PROJ. NAME SHEFFIELD-GLOVER
PROJ. NO. STP 9419(1)S
SHEET 12 OF SHEETS



NOTE: EXISTING BRIDGE POSTS
SHALL REMAIN. NEW 1'-2"
W6x20 OFFSET BLOCKS
SHALL BE PROVIDED WITH
NEW BRIDGE RAIL.

BRIDGE NO. 16 @ MM 2.310
SCALE: 1" = 10'



NOTE: EXISTING BRIDGE POSTS
SHALL REMAIN. NEW 1'-2"
W6x20 OFFSET BLOCKS
SHALL BE PROVIDED WITH
NEW BRIDGE RAIL.

BRIDGE NO. 17 @ MM 2.950
SCALE: 1" = 10'

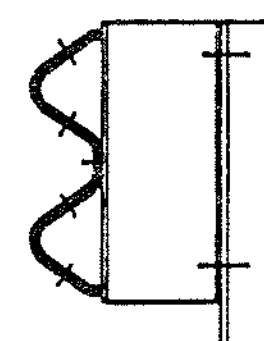
DATUM
VERTICAL N/A
HORIZONTAL N/A

BRIDGE DETAIL
SHEET #2

SURVEYED BY N/A DATE N/A
DRAWN BY CBB DATE 03/93
SQUAD LEADER
DESIGN FILE NO.
IPARM FILE DATE PLOTTED
PROJ. NAME SHEFFIELD-GLOVER
PROJ. NO. STP 9419(1)S
SHEET 13 OF SHEETS

HTA FILE: SHFBDET

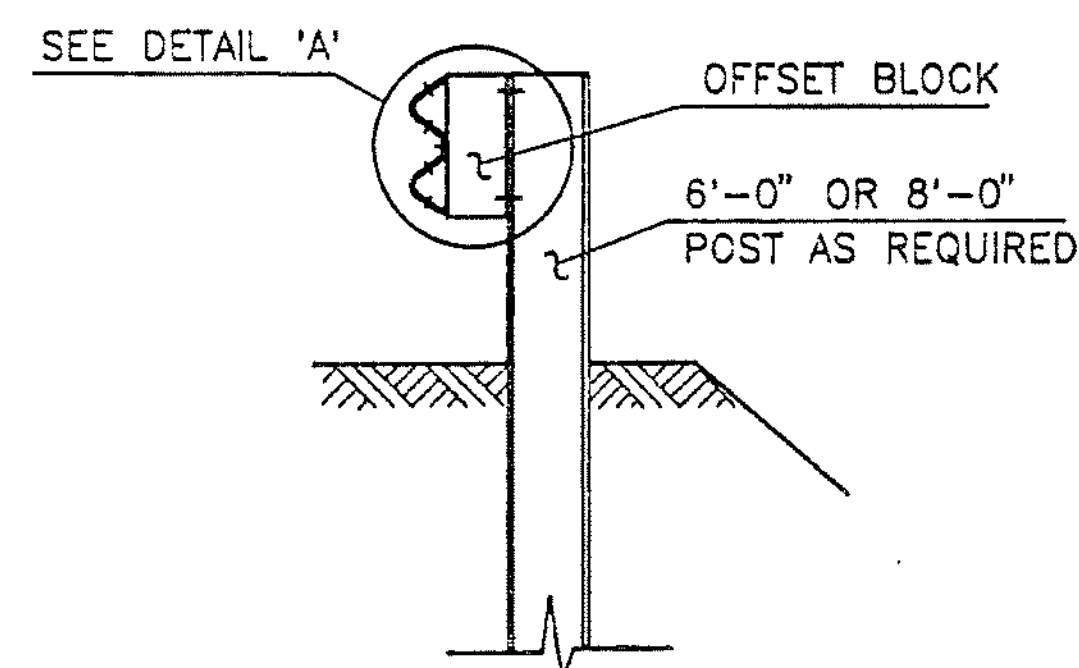
SHEET 13 OF 44



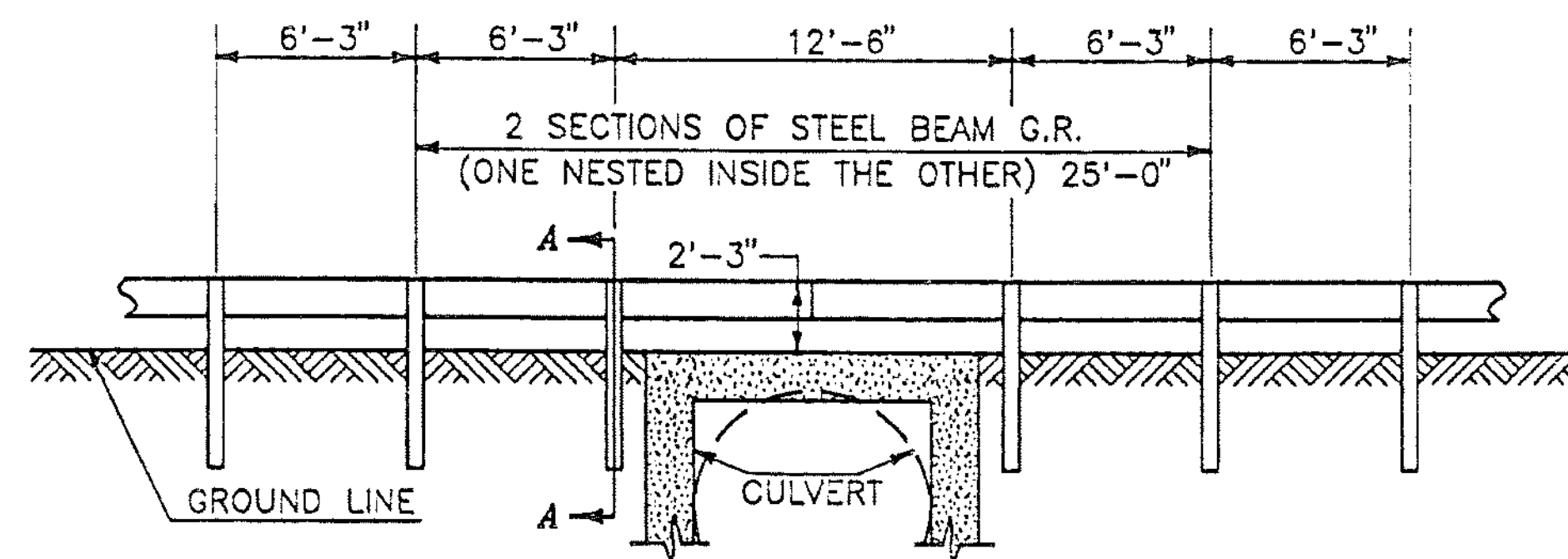
DETAIL A

NOTES:

1. SEE STANDARD G-1 & G-1D FOR STEEL BEAM GUARD RAIL DETAILS
2. THIS WORK SHALL BE PAID UNDER ITEM 621.21 HEAVY DUTY STEEL BEAM GUARD RAIL AT A PAY FACTOR OF 1.0.
3. THIS DETAIL TO BE USED AS INDICATED ON THE ITEM DETAIL AND DRAINAGE SHEET OR AS DIRECTED BY THE ENGINEER.



SECTION A-A



DETAIL OF STEEL BEAM GUARD RAIL AT LARGE CULVERTS

BRIDGE NO. 18
MM 3.689

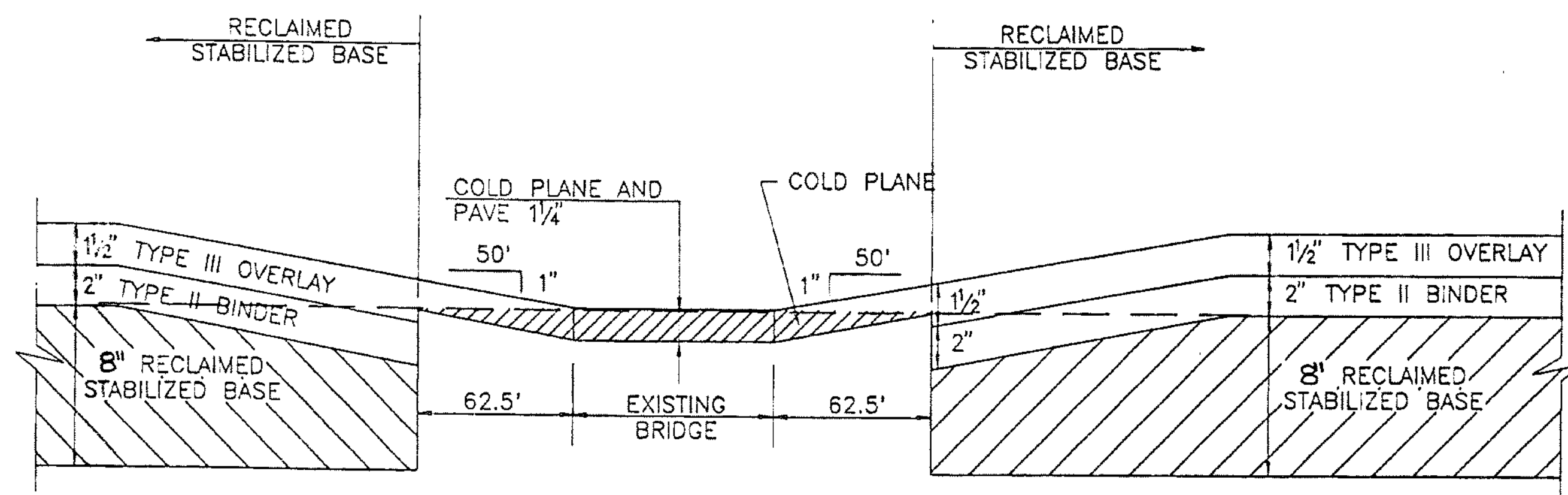
DATUM
VERTICAL N/A
HORIZONTAL N/A

DETAIL OF
STEEL BEAM GUARD RAIL
AT LARGE CULVERTS

SURVEYED BY N/A DATE N/A
DRAWN BY DJ DATE 03/93
SQUAD LEADER _____
DESIGN FILE NO. _____
IPARM FILE _____ DATE PLOTTED _____
PROJ. NAME SHEFFIELD-GLOVER
PROJ. NO. STP 9419(1)S
SHEET 14 OF SHEETS

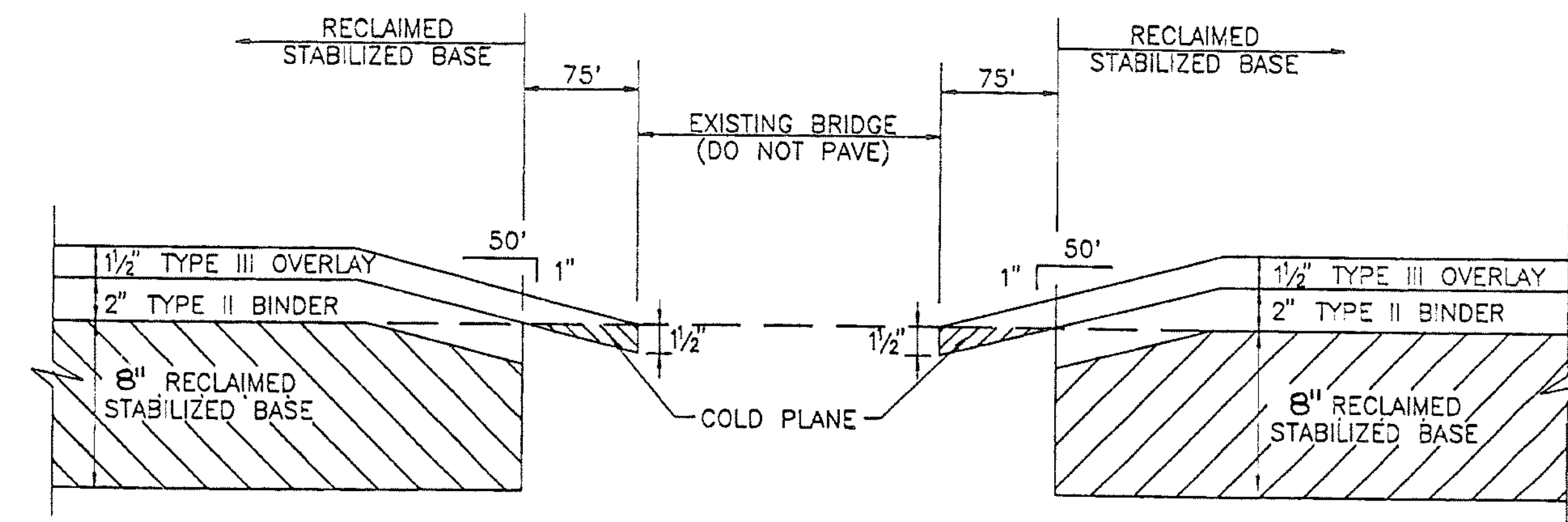
HTA FILE: SHFGDRTL

SHEET 20 OF 44



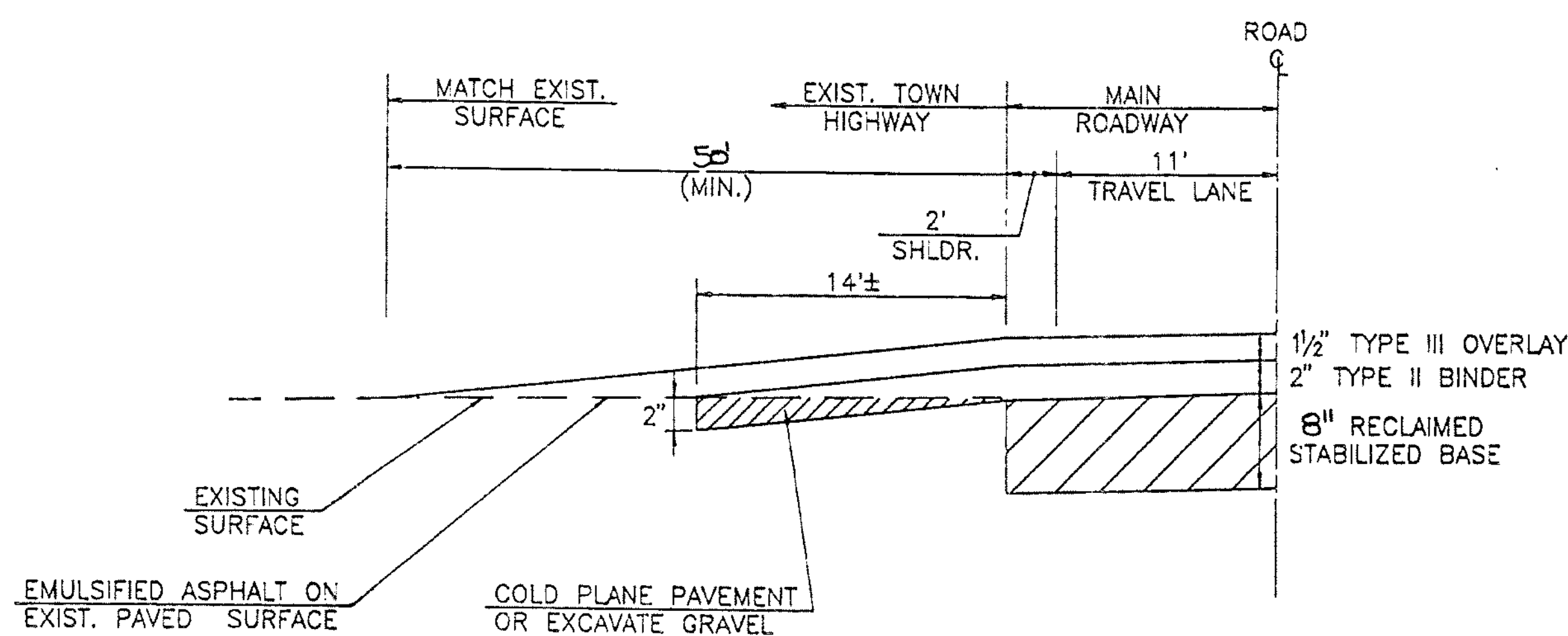
RECLAIMED STABILIZED BASE
TRANSITION AT BRIDGE

BRIDGE NO. 17, MM 2.950

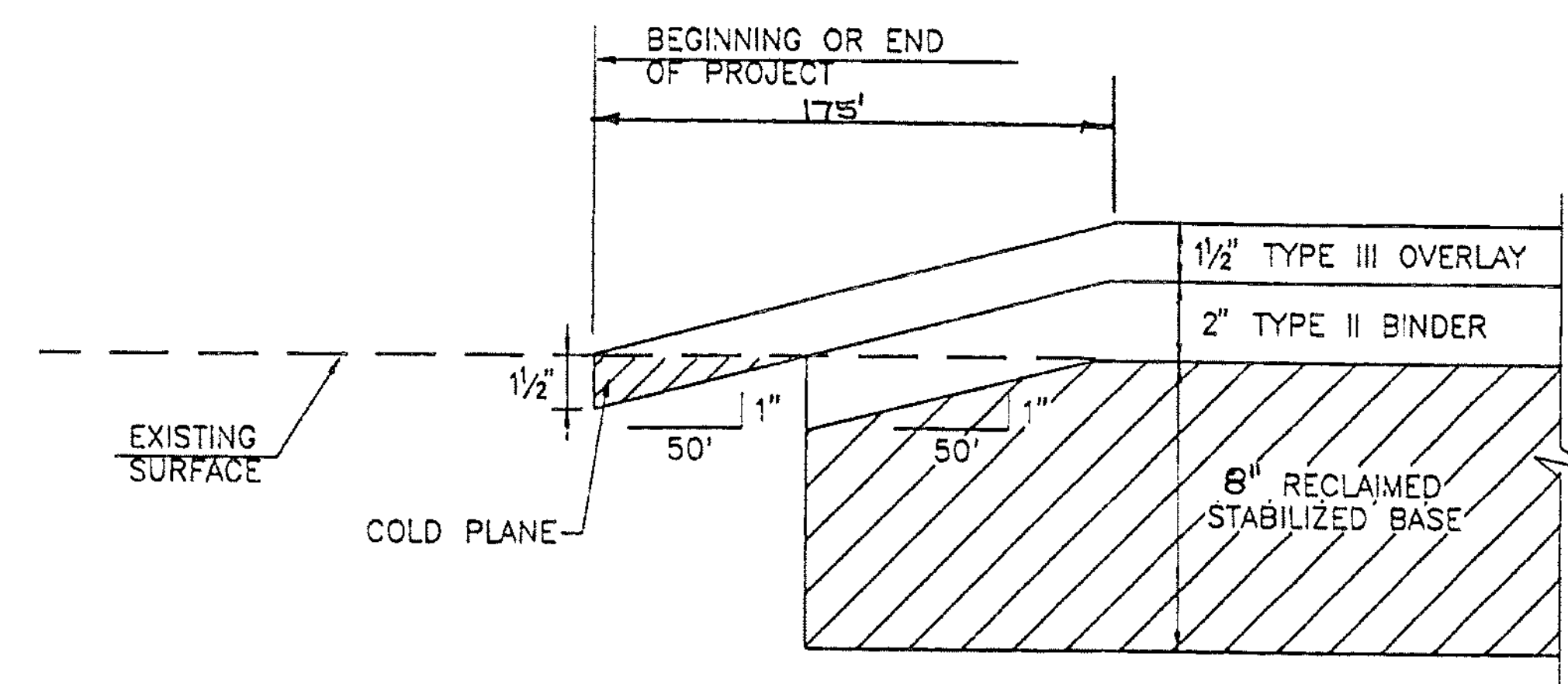


RECLAIMED STABILIZED BASE
TRANSITION AT BRIDGE

BRIDGE NO. 16, MM 2.310



RECLAIMED STABILIZED BASE TRANSITION
AT TOWN HIGHWAYS RECEIVING
DETAIL I TREATMENT



DETAIL FOR RECLAIMED STABILIZED BASE
TRANSITION AT BEGINNING OR END OF PROJECT

PROJECT
DETAIL
SHEET

SURVEYED BY N/A DATE N/A
 DRAWN BY WL DATE 03/93
 SQUAD LEADER _____
 DESIGN FILE NO. _____
 IPARM FILE _____ DATE PLOTTED _____
 PROJ. NAME SHEFFIELD-GLOVER
 PROJ. NO. STP 9419(1)S
 SHEET 15 OF _____ SHEETS

HTA FILE: SHFDETL5

SHEET 21 OF 44

DATUM
 VERTICAL _____
 HORIZONTAL _____

STATE OF VERMONT
AGENCY OF TRANSPORTATION

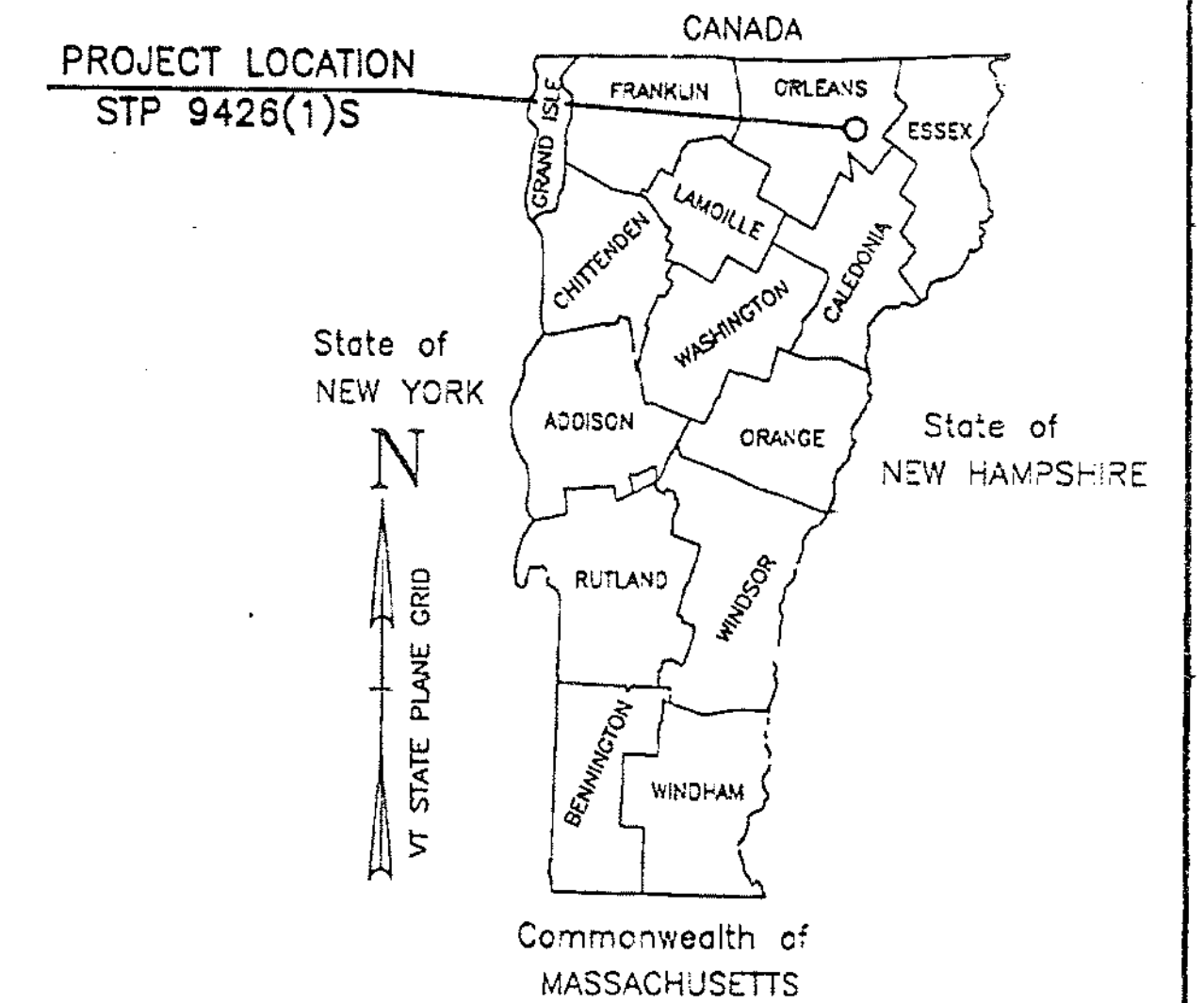


PROPOSED IMPROVEMENT
TOWNS OF BROWNINGTON & CHARLESTON
COUNTY OF ORLEANS
VT. RTE. 5A, F.A.S.

BEGINNING IN BROWNINGTON AT THE INTERSECTION WITH VT. ROUTE 58,
AT MILE MARKER 0.659 AND EXTENDING NORTHERLY ALONG VT. ROUTE 5A
FOR A DISTANCE OF 6.904 MILES TO THE INTERSECTION WITH
VT. ROUTE 105, MILE MARKER 3.850 IN CHARLESTON

LENGTH OF ROADWAY 36,453.12 FEET = 6.904 MILES
LENGTH OF PROJECT 36,453.12 FEET = 6.904 MILES

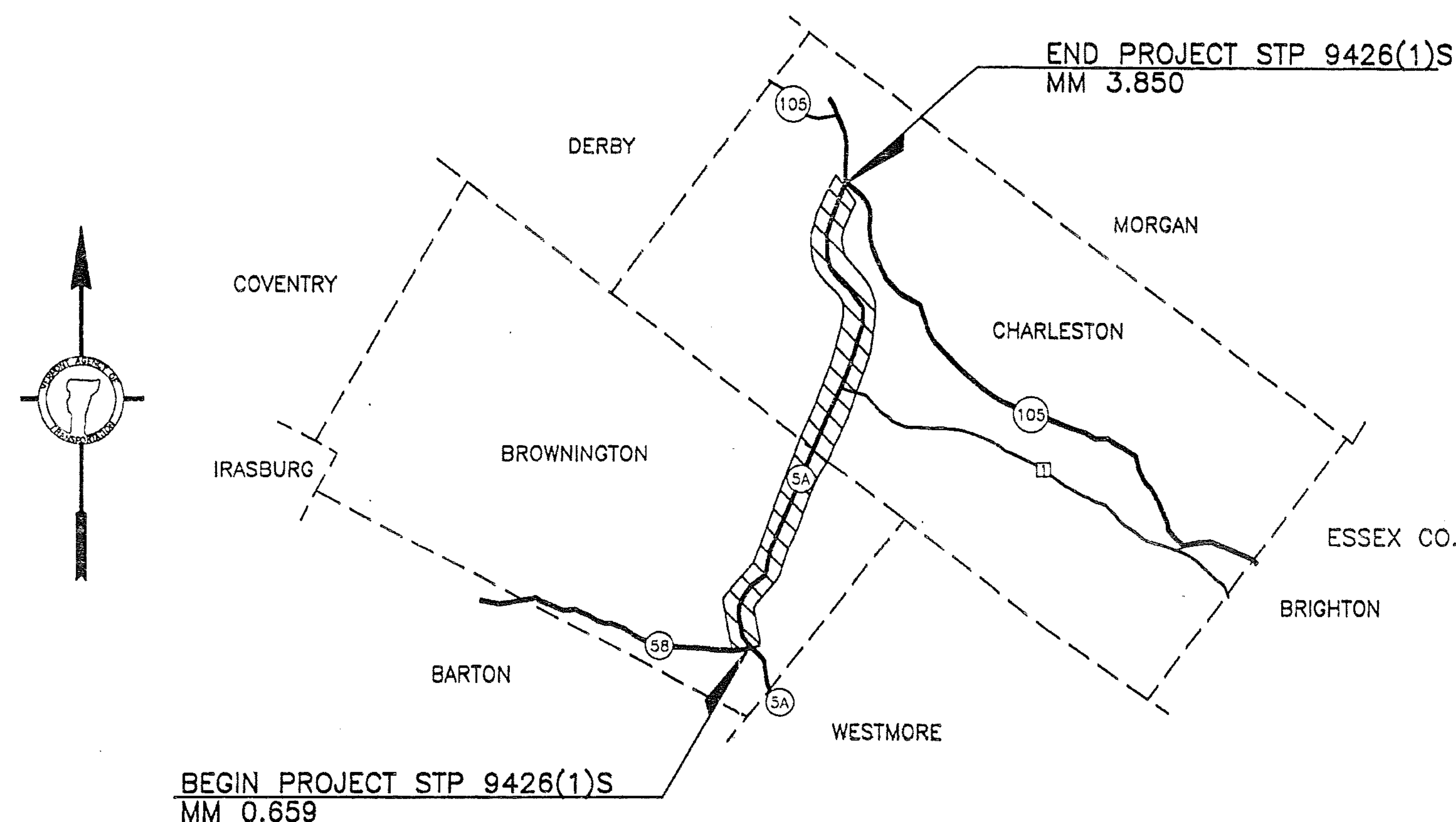
WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES THE CONSTRUCTION OF
A RECLAIMED STABILIZED BASE COURSE, BITUMINOUS CONCRETE BINDER AND WEARING
COURSES, SAFETY IMPROVEMENTS, ASSOCIATED PAVEMENT MARKINGS AND INCIDENTAL ITEMS.



TRAFFIC DATA

1993 ADT = 1060
1993 DHV = 145
2003 ADT = 1270
2003 DHV = 175

1993 - 2003
CUMULATIVE ESAL'S = 238,000

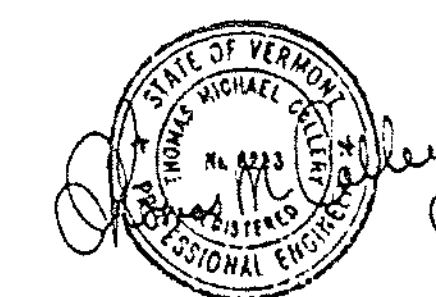


NOTE:
RIGHT-OF-WAY LIMITS, IF APPLICABLE, ARE PROVIDED
SOLELY FOR THE CONVENIENCE OF THE STATE AND ITS
CONTRACTOR DURING THE COURSE OF THIS PAVING
PROJECT. ANY REFERENCES TO OFFSETS ON THESE
PLANS ARE APPROXIMATE AND SHOULD NOT BE RELIED
UPON FOR ANY OTHER PURPOSES.

DATUM
VERTICAL N/A
HORIZONTAL N/A

CONVENTIONAL SIGNS

COUNTY LINE
TOWN LINE
LIMITS OF ACCESS
POINT OF ACCESS
FENCE LINE
STONE WALL
TRAVELED WAY
GUARD RAIL
RAILROAD
SURVEY LINE
CULVERT
POWER POLE
TELEPHONE POLE
TREES
CONTROL OF ACCESS
PROPERTY LINE
R.O.W. TAKING LINE
SLOPE RIGHTS
TOP OF CUT
TOE OF SLOPE



THESE PLANS ARE SUBJECT TO SUCH ENGINEERING
CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY
ADMINISTRATION OR THE DIRECTOR OF CONSTRUCTION
AND MAINTENANCE.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE
WITH THESE PLANS AND THE STANDARD SPECIFICATIONS
FOR CONSTRUCTION DATED 1990, AS APPROVED BY THE
FEDERAL HIGHWAY ADMINISTRATION ON MARCH 15, 1990
FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT
REVISIONS AND SUCH REVISED SPECIFICATIONS AND
SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE
PLANS.

APPROVED _____ DATE _____
DIRECTOR OF CONSTRUCTION AND MAINT.
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED _____ DATE _____
DIVISION ADMINISTRATOR
PROJECT BROWNINGTON-CHARLESTON
STP 9426(1)S

NOTES

1. THE PAVEMENT WEARING COURSE SHALL BE TYPE III, ITEM 406.27. BINDER COURSE SHALL BE TYPE II, ITEM 406.27.
2. COLD PLANING TO BE COMPLETED ACCORDING TO THE DETAILS SHOWN ON THE PROJECT DETAIL SHEET.
3. THREE FEET OF BACKING IS REQUIRED BEHIND THE FACE OF GUARD RAIL WITH 6' POSTS. IF THIS CAN NOT BE OBTAINED THEN 8' POSTS SHALL BE USED.
4. EMULSIFIED ASPHALT SHALL BE APPLIED ON ALL EXISTING SURFACES, ALL COLD PLANED SURFACES, AND BETWEEN ALL COURSES OF PAVEMENT AT THE RATE OF 0.015 GAL/SY OR AS DIRECTED BY THE RESIDENT ENGINEER.
5. BITUMINOUS CONCRETE PAVEMENT TOLERANCE = $\pm 1/4"$ (FOR TOTAL PAVEMENT THICKNESS)

URBAN AREA - SEED MIXTURE				
% WT.	LBS./ACRE	NAME	PUR%	GERM%
42.5	34.0	CREeping RED FESCUE	98	85
10.0	8.0	PERENNIAL RYEGRASS	95	90
42.5	34.0	KENTUCKY BLUEGRASS	85	85
5.0	4.0	ANNUAL RYEGRASS	95	85
100.0	80.0			

SEED MIXTURE:
SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.

SEED:
TO BE APPLIED PER SEEDING FORMULAS OR AS DIRECTED BY THE ENGINEER.

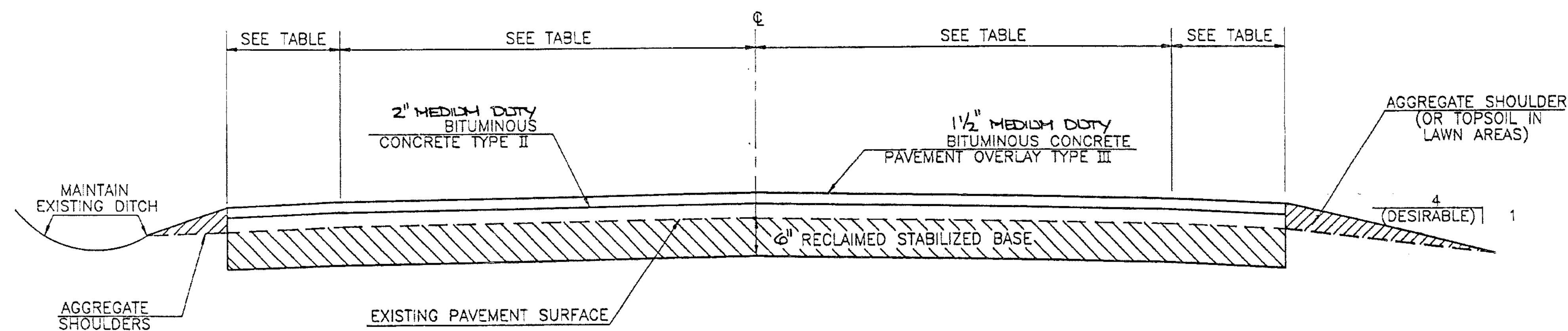
FERTILIZER:
FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 500 LBS./ACRE. (HYDRO-SEEDERS MAY USE 15-15-15 FORMULA)

AGRICULTURAL LIMESTONE:
TO BE APPLIED AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.

HAY MULCH:
TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.

TOPSOIL:
TO BE USED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

MARKER POSTS:
TO BE PLACED AS INDICATED OR AS DIRECTED BY THE ENGINEER.



RECLAIMED TYPICAL SECTION

PROJECT PAVING LIMITS

TOWN	BEGIN MILE MARKER	END MILE MARKER	LANE TYPICAL	WEARING DEPTH	BINDER DEPTH	NOTES
BROWNINGTON	0.659	0.737	2'-11'-11'-2'	1-1/2 - III	-	COLD PLANE/OVERLAY AREA
BROWNINGTON	0.737	3.713	2'-11'-11'-2'	1-1/2 - III	2 - II	RECLAIMED AREA
CHARLESTON	0.000	3.815	2'-11'-11'-2'	1-1/2 - III	2 - II	RECLAIMED AREA
CHARLESTON	3.815	3.850	2'-11'-11'-2'	1-1/2 - III	-	COLD PLANE/OVERLAY AREA
						SEE DETAILS ON SHEET NOS. 09 & 10 FOR COLD PLANE/OVERLAY DETAILS

PROJECT TYPICAL SHEET	SURVEYED BY	N/A	DATE	N/A
	DRAWN BY	WBL	DATE	03/93
	SQUAD LEADER			
	DESIGN FILE NO.			
	IPARM FILE		DATE PLOTTED	
	PROJ. NAME	BROWNINGTON-CHARLESTON		
PROJ. NO.	STP 9426(1)S			
HTA FILE: BRNTYPXS	SHEET	02	OF	SHEETS
	SHEET 24 OF 44			

QUANTITY SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

APPROXIMATE SUMMARY OF QUANTITIES

				EMPLOYEE TRAINEESHIP	BRIDGE	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NO.	ROUNDING
						1800	1800	SY	COLD PLANING-BIT. PAVEMENT	210.10	47
						104000	104000	SY	RECLAIMED STABILIZED BASE	310.20	415
						105	105	MGL	WATER FOR STABILIZATION	310.23	1
						4500	4500	TON	CRUSHED AGGREGATE FOR STABILIZATION	310.24	86
						1775	1775	TON	AGGREGATE SHOULDERS	402.12	2
						135	135	CWT	EMULSIFIED ASPHALT	404.65	4
						26200	26200	TON	MEDIUM DUTY BIT. CONCRETE PAVEMENT	406.27	32
						175	175	HR	POWER GRADER RENTAL	608.15	EST.
						175	175	HR	ALL PURP. EXCAVATOR RENTAL, TYPE I	608.25	EST.
						110	110	HR	POWER BROOM RENTAL	608.30	EST.
						175	175	HR	TRUCK RENTAL	608.37	EST.
						175	175	HR	LOADER RENTAL TYPE I	608.40	EST.
						50	50	TON	BIT. CONC. GUTTERS & TRAFFIC ISLANDS	616.47	-
						8	8	EA	YIELDING MARKER POST	619.17	3
						1000	1000	LF	STEEL BEAM GUARD RAIL	621.20	50
						100	100	LF	STEEL BEAM GUARD RAIL W/ 8" STEEL POSTS (MOD)	621.20	EST.
						8	8	EA	BREAKAWAY CABLE TERMINAL	621.50	-
						925	925	LF	REMOVAL AND DISPOSAL OF GUARD RAIL	621.80	20
						300	300	HR	UNIFORMED TRAFFIC OFFICERS	630.10	EST.
						1040	1040	HR	FLAGGERS	630.15	EST.
						0.40	0.40	LS	TESTING EQUIPMENT - CONCRETE	631.16	EST.
						0.40	0.40	LS	TESTING EQUIPMENT - BITUMINOUS	631.17	EST.
				520			520	HR	EMPLOYEE TRAINEESHIP	634.10	EST.
						0.40	0.40	LS	MOBILIZATION	635.10	EST.
						400	400	HR	TRAFFIC OFFICER W/ FLASHING LIGHT	641.35	EST.
						72100	72100	LF	DURABLE 4" WHITE LINE	646.40	74
						63300	63300	LF	DURABLE 4" YELLOW LINE	646.41	57
						125	125	LF	DURABLE 8" WHITE LINE	646.42	15
						75	75	LF	DURABLE 24" STOP BAR	646.46	7
						25	25	EA	DURABLE LETTER OR SYMBOL	646.50	-
						72100	72100	LF	TEMPORARY 4" WHITE LINE	646.60	74
						63300	63300	LF	TEMPORARY 4" YELLOW LINE	646.61	57
						125	125	LF	TEMPORARY 8" WHITE LINE	646.62	15
						75	75	LF	TEMPORARY 24" STOP BAR	646.66	7
						1000	1000	EA	LINE STRIPING TARGETS	646.73	88
						40	40	LB	SEED	651.15	EST.
						250	250	LB	FERTILIZER	651.18	EST.
						1	1	TON	AGRICULTURAL LIMESTONE	651.20	EST.
						1	1	TON	HAY MULCH	651.25	EST.
						25	25	CY	TOPSOIL	651.35	EST.

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		COLD PLANING - BITUMINOUS PAVEMENT
679	SY	BEGINNING OF PROJECT
1074	SY	END OF PROJECT
47	SY	ROUNDING
1800	SY	TOTAL
		MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT
8776	TON	MAINLINE - WEARING COURSE
17264	TON	MAINLINE - BINDER COURSE
66	TON	TOWN HIGHWAYS
18	TON	APPROACHES AND DRIVES
76	TON	ROUNDING
26200	TON	TOTAL

DETAILED SUMMARY OF QUANTITIES

[illegible][illegible]

9-OCT-1995
/pave/92c176/pc176.dgn

PROJECT NAME BROWNINGTON-CHARLESTON
PROJECT NUMBER STP 9426(1)S

SHEET 3 OF SHEETS
25 OF 44

ITEM DETAIL SUMMARY SHEET

[illegible]

DURABLE 4" YELLOW LINE

BROWNINGTON

MM 0.659 TO MM 1.560 (SOLID LT. & RT.)
MM 1.560 TO MM 1.715 (SOLID LT. & DASHED RT.)
MM 1.715 TO MM 2.105 (SOLID LT. & RT.)
MM 2.105 TO MM 2.242 (SOLID LT. & DASHED RT.)
MM 2.242 TO MM 2.587 (DASHED)
MM 2.587 TO MM 2.723 (DASHED LT. & SOLID RT.)
MM 2.723 TO MM 2.865 (SOLID LT. & DASHED RT.)
MM 2.865 TO MM 3.020 (DASHED)
MM 3.020 TO MM 3.140 (DASHED LT. & SOLID RT.)
MM 3.140 TO MM 3.450 (SOLID LT. & RT.)
(WITH CENTERLINE BREAKS FOR TOWN HIGHWAYS)

DURABLE 4" WHITE LINE

MM 0.659 TO MM 3.450 (SOLID LT. & RT.)
(WITH EDGE LINE BREAKS FOR TOWN HIGHWAYS)

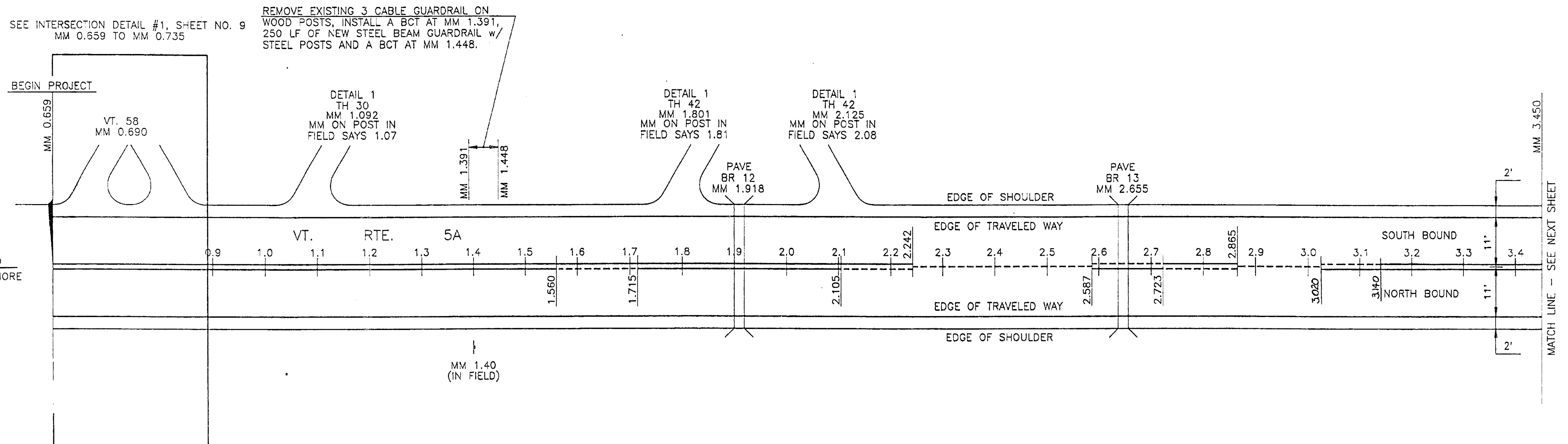
TEMPORARY 4" YELLOW LINE

BROWNINGTON

MM 0.659 TO MM 1.560 (SOLID LT. & RT.)
MM 1.560 TO MM 1.715 (SOLID LT. & DASHED RT.)
MM 1.715 TO MM 2.105 (SOLID LT. & RT.)
MM 2.105 TO MM 2.242 (SOLID LT. & DASHED RT.)
MM 2.242 TO MM 2.587 (DASHED)
MM 2.587 TO MM 2.723 (DASHED LT. & SOLID RT.)
MM 2.723 TO MM 2.865 (SOLID LT. & DASHED RT.)
MM 2.865 TO MM 3.020 (DASHED)
MM 3.020 TO MM 3.140 (DASHED LT. & SOLID RT.)
MM 3.140 TO MM 3.450 (SOLID LT. & RT.)
(WITH CENTERLINE BREAKS FOR TOWN HIGHWAYS)

TEMPORARY 4" WHITE LINE

MM 0.659 TO MM 3.450 (SOLID LT. & RT.)
(WITH EDGE LINE BREAKS FOR TOWN HIGHWAYS)



FOR TOWN HIGHWAY DETAILS, SEE
PAVEMENT MARKING DETAIL SHEET.

DATUM
VERTICAL N/A
HORIZONTAL N/A

PAVING
PROJECT
LAYOUT

HTA FILE: BRNPMK1

SURVEYED BY N/A DATE N/A
DRAWN BY WBL DATE 03/93
SQUAD LEADER _____
DESIGN FILE NO. _____
IPARM FILE _____ DATE PLOTTED _____
PROJ. NAME BROWNINGTON-CHARLESTON
PROJ. NO. STP 9426(1)S
SHEET 05 OF _____ SHEETS

SHEET 27 OF 44

DURABLE 4" YELLOW LINE

BROWNINGTON
MM 3.450 TO MM 3.550 (SOLID LT. & RT.)
MM 3.550 TO MM 3.622 (SOLID LT. & DASHED RT.)
MM 3.622 TO MM 3.713 (DASHED)
CHARLESTON
MM 0.000 TO MM 0.037 (DASHED)
MM 0.037 TO MM 0.153 (DASHED LT. & SOLID RT.)
MM 0.153 TO MM 0.167 (SOLID LT. & RT.)
MM 0.167 TO MM 0.305 (SOLID LT. & DASHED RT.)
MM 0.305 TO MM 0.343 (DASHED)
MM 0.343 TO MM 0.490 (DASHED LT. & SOLID RT.)
MM 0.490 TO MM 0.514 (SOLID LT. & RT.)
MM 0.514 TO MM 0.664 (SOLID LT. & DASHED RT.)
MM 0.664 TO MM 0.683 (DASHED)
MM 0.683 TO MM 0.795 (DASHED LT. & SOLID RT.)
MM 0.795 TO MM 0.853 (SOLID LT. & RT.)
MM 0.853 TO MM 0.965 (SOLID LT. & DASHED RT.)
MM 0.965 TO MM 1.119 (DASHED)
MM 1.119 TO MM 1.234 (DASHED LT. & SOLID RT.)
MM 1.234 TO MM 1.310 (SOLID LT. & RT.)
MM 1.310 TO MM 1.434 (SOLID LT. & DASHED RT.)
MM 1.434 TO MM 1.455 (SOLID LT. & RT.)
MM 1.455 TO MM 1.578 (DASHED LT. & SOLID RT.)
MM 1.578 TO MM 2.608 (SOLID LT. & RT.)
(WITH CENTERLINE BREAKS FOR TOWN HIGHWAYS)
MM 0.850, RT. ON TH 1 (100 LF)

DURABLE 4" WHITE LINE

MM 3.450 (BROWNINGTON) TO MM 2.608 (CHARLESTON)
(SOLID LT. & RT. WITH EDGE LINE BREAKS FOR TOWN
HIGHWAYS)

TEMPORARY 4" YELLOW LINE

BROWNINGTON
MM 3.450 TO MM 3.550 (SOLID LT. & RT.)
MM 3.550 TO MM 3.622 (SOLID LT. & DASHED RT.)
MM 3.622 TO MM 3.713 (DASHED)
CHARLESTON
MM 0.000 TO MM 0.037 (DASHED)
MM 0.037 TO MM 0.153 (DASHED LT. & SOLID RT.)
MM 0.153 TO MM 0.167 (SOLID LT. & RT.)
MM 0.167 TO MM 0.305 (SOLID LT. & DASHED RT.)
MM 0.305 TO MM 0.343 (DASHED)
MM 0.343 TO MM 0.490 (DASHED LT. & SOLID RT.)
MM 0.490 TO MM 0.514 (SOLID LT. & RT.)
MM 0.514 TO MM 0.664 (SOLID LT. & DASHED RT.)
MM 0.664 TO MM 0.683 (DASHED)
MM 0.683 TO MM 0.795 (DASHED LT. & SOLID RT.)
MM 0.795 TO MM 0.853 (SOLID LT. & RT.)
MM 0.853 TO MM 0.965 (SOLID LT. & DASHED RT.)
MM 0.965 TO MM 1.119 (DASHED)
MM 1.119 TO MM 1.234 (DASHED LT. & SOLID RT.)
MM 1.234 TO MM 1.310 (SOLID LT. & RT.)
MM 1.310 TO MM 1.434 (SOLID LT. & DASHED RT.)
MM 1.434 TO MM 1.455 (SOLID LT. & RT.)
MM 1.455 TO MM 1.578 (DASHED LT. & SOLID RT.)
MM 1.578 TO MM 2.608 (SOLID LT. & RT.)
(WITH CENTERLINE BREAKS FOR TOWN HIGHWAYS)
MM 0.850, RT. (ON TH 1), 100 LF

TEMPORARY 4" WHITE LINE

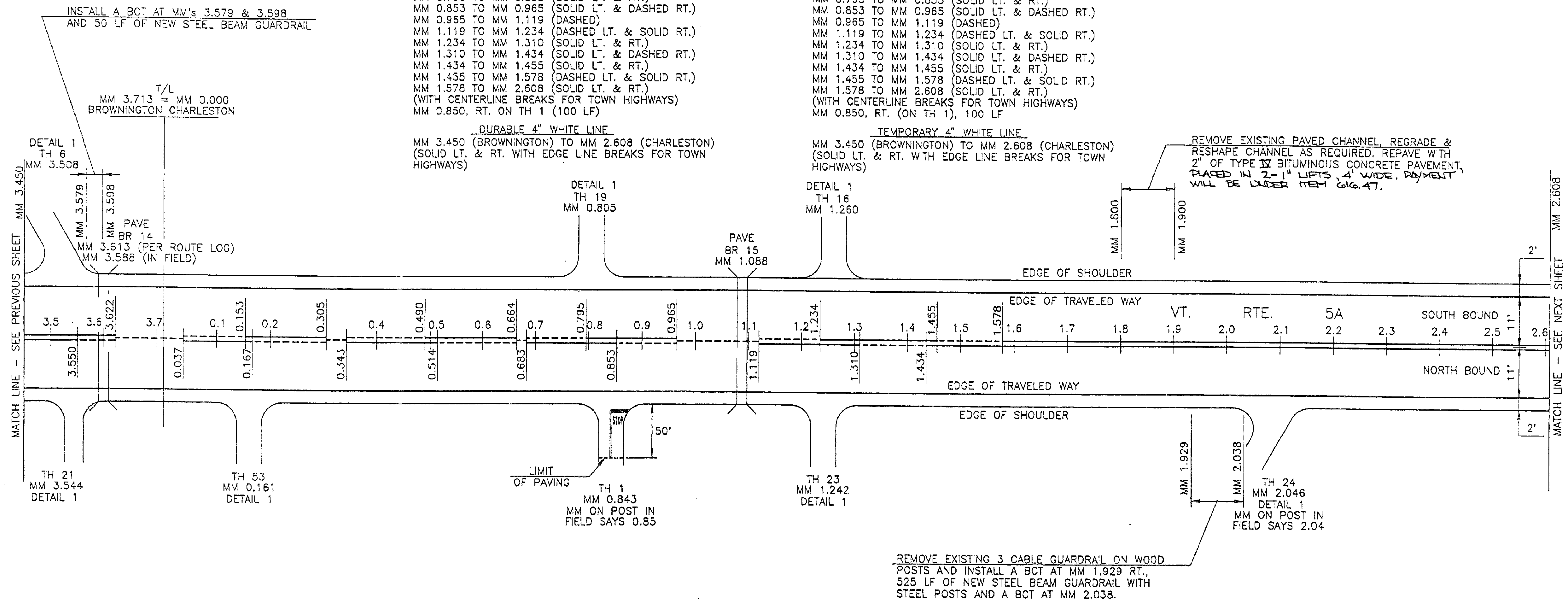
MM 3.450 (BROWNINGTON) TO MM 2.608 (CHARLESTON)
(SOLID LT. & RT. WITH EDGE LINE BREAKS FOR TOWN
HIGHWAYS)

DURABLE 24" STOP BAR

MM 0.850, RT. (ON TH 1), 11 LF

DURABLE LETTER OR SYMBOL

MM 0.850, RT. (ON TH 1), "STOP"



FOR TOWN HIGHWAY DETAILS, SEE
PAVEMENT MARKING DETAIL SHEET.

PAVING PROJECT LAYOUT	SURVEYED BY	N/A	DATE	N/A
	DRAWN BY	WBL	DATE	03/93
	SQUAD LEADER			
	DESIGN FILE NO.			
	IPARM FILE		DATE PLOTTED	
PROJ. NAME BROWNINGTON-CHARLESTON				
PROJ. NO. STP 9426(1)S				
HTA FILE: BRNPMK2				
SHEET 06 OF SHEETS				
SHEET 28 OF 44				

DATUM	
VERTICAL	N/A
HORIZONTAL	N/A

DURABLE 4" YELLOW LINE

CHARLESTON

MM 2.608 TO MM 3.413 (SOLID LT. & RT.)
MM 3.413 TO MM 3.546 (SOLID LT. & DASHED RT.)
MM 3.546 TO 3.596 (DASHED)
MM 3.596 TO MM 3.734 (DASHED LT. & SOLID RT.)
MM 3.734 TO MM 3.850 (SOLID LT. & RT.)
(WITH CENTERLINE BREAKS FOR TOWN HIGHWAYS)

TEMPORARY 4" YELLOW LINE

MM 2.608 TO MM 3.413 (SOLID LT. & RT.)
MM 3.413 TO MM 3.546 (SOLID LT. & DASHED RT.)
MM 3.546 TO 3.596 (DASHED)
MM 3.596 TO MM 3.734 (DASHED LT. & SOLID RT.)
MM 3.734 TO MM 3.850 (SOLID LT. & RT.)
(WITH CENTERLINE BREAKS FOR TOWN HIGHWAYS)

DURABLE 4" WHITE LINE

MM 2.608 TO MM 3.850 (SOLID LT. & RT.)
(WITH EDGE LINE BREAKS FOR TOWN HIGHWAYS)

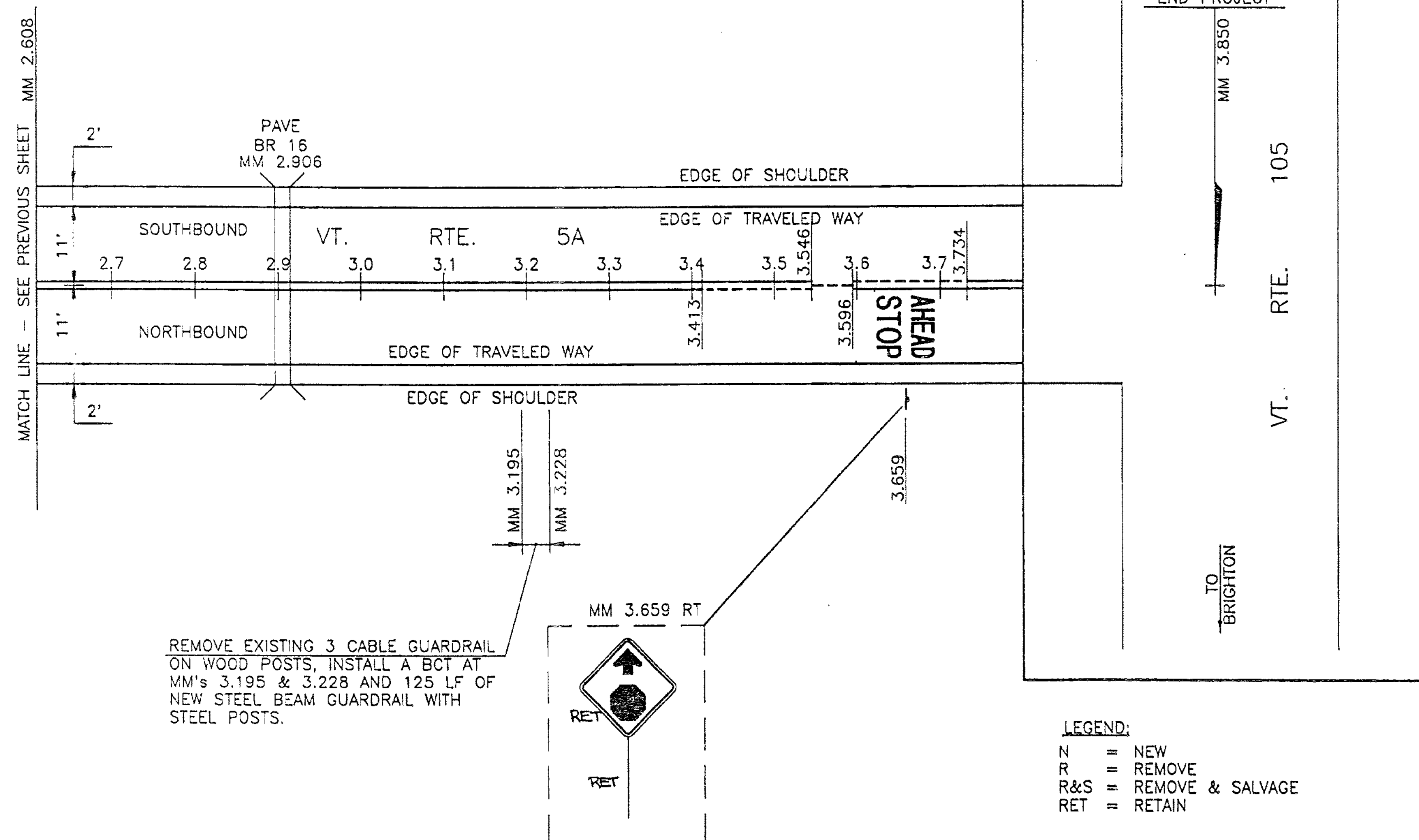
TEMPORARY 4" WHITE LINE

MM 2.608 TO MM 3.850 (SOLID LT. & RT.)
(WITH EDGE LINE BREAKS FOR TOWN HIGHWAYS)

DURABLE LETTER OR SYMBOL

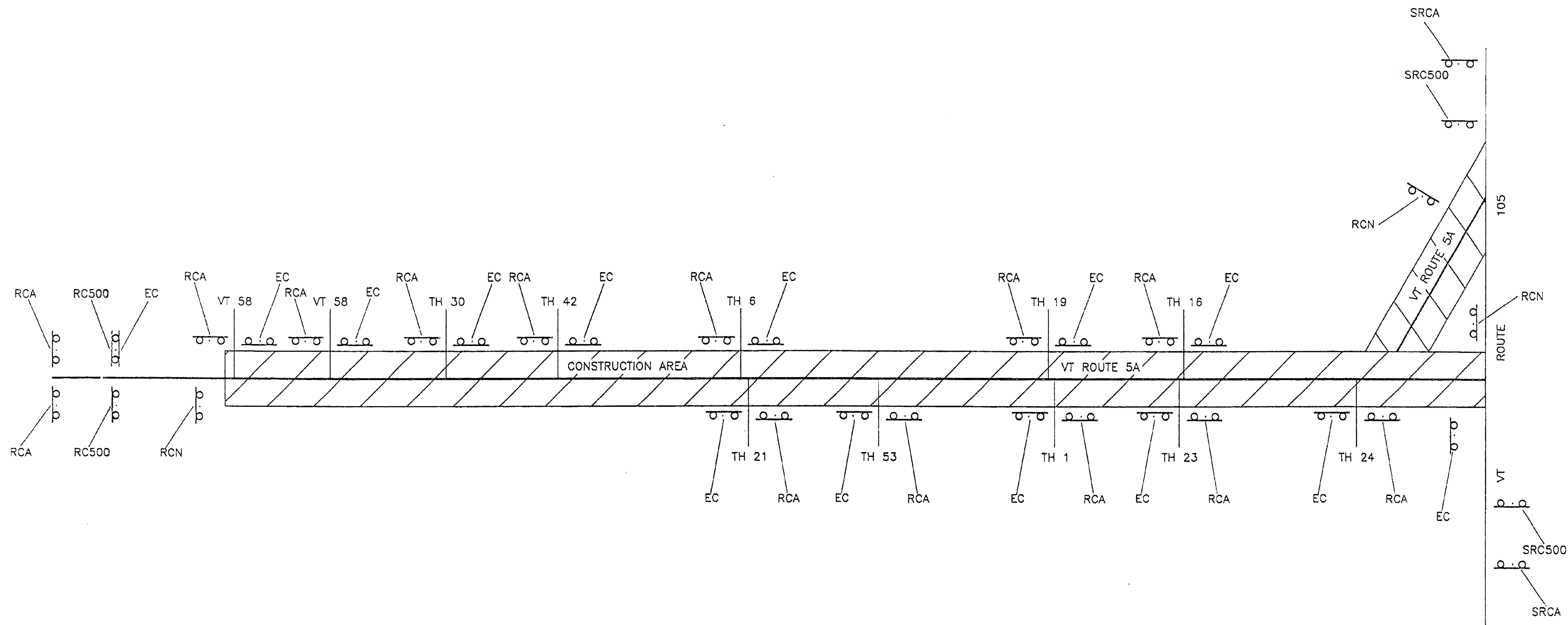
MM 3.659, RT. VT. RTE. 58 "STOP AHEAD"
CENTER ON CORRESPONDING SIGN AS
PER VAOT STANDARD E-120.

SEE INTERSECTION DETAIL #2, SHEET NO. 10
MM 3.812 TO MM 3.850



DATUM
VERTICAL N/A
HORIZONTAL N/A

PAVING PROJECT LAYOUT	SURVEYED BY	N/A	DATE	N/A
	DRAWN BY	WBL	DATE	03/93
	SQUAD LEADER			
	DESIGN FILE NO.		DATE	
	IPARM FILE		PLOTTED	
PROJ. NAME		BROWNINGTON-CHARLESTON		
PROJ. NO.		STP 9426(1)S		
HTA FILE: BRNPMK3		SHEET 07 OF SHEETS		



LEGEND
 RCA = ROAD CONSTRUCTION AHEAD
 RC500 = ROAD CONSTRUCTION 500'
 EC = END CONSTRUCTION
 RCN = ROAD CONSTRUCTION NEXT 7 MILES
 SRCA = SIDE ROAD CONSTRUCTION AHEAD
 SRC500 = SIDE ROAD CONSTRUCTION 500'

CONSTRUCTION APPROACH SIGNING

SEE STANDARD E-100 FOR SIGN PLACEMENT.

LIST OF TOWN HIGHWAYS FOR CONSTRUCTION SIGNS

TOWN HIGHWAY NUMBER	ROAD CONST. AHEAD	END CONST.	OTHER
VT 58	2	2	-
TH 30	1	1	-
TH 42	1	1	-
TH 6	1	1	-
TH 21	1	1	-
TH 53	1	1	-
TH 19	1	1	-
TH 1	1	1	-
TH 16	1	1	-
TH 23	1	1	-
TH 24	1	1	-
TOTAL	12	12	-

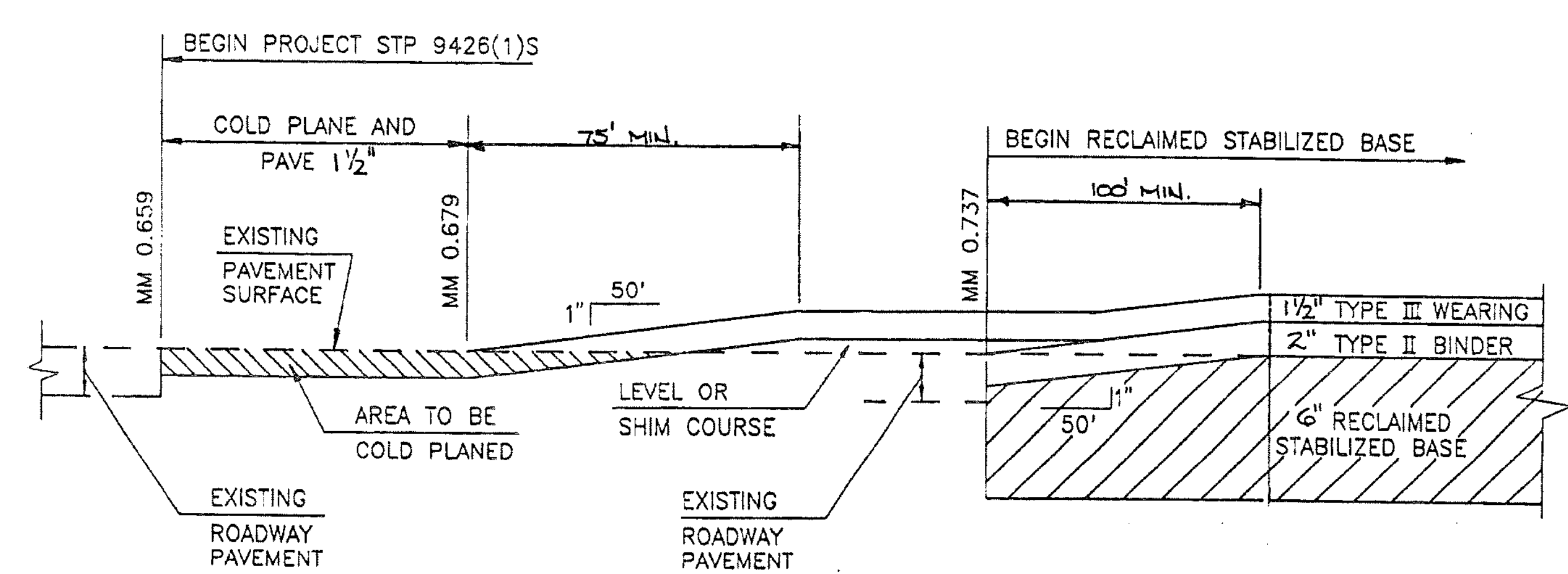
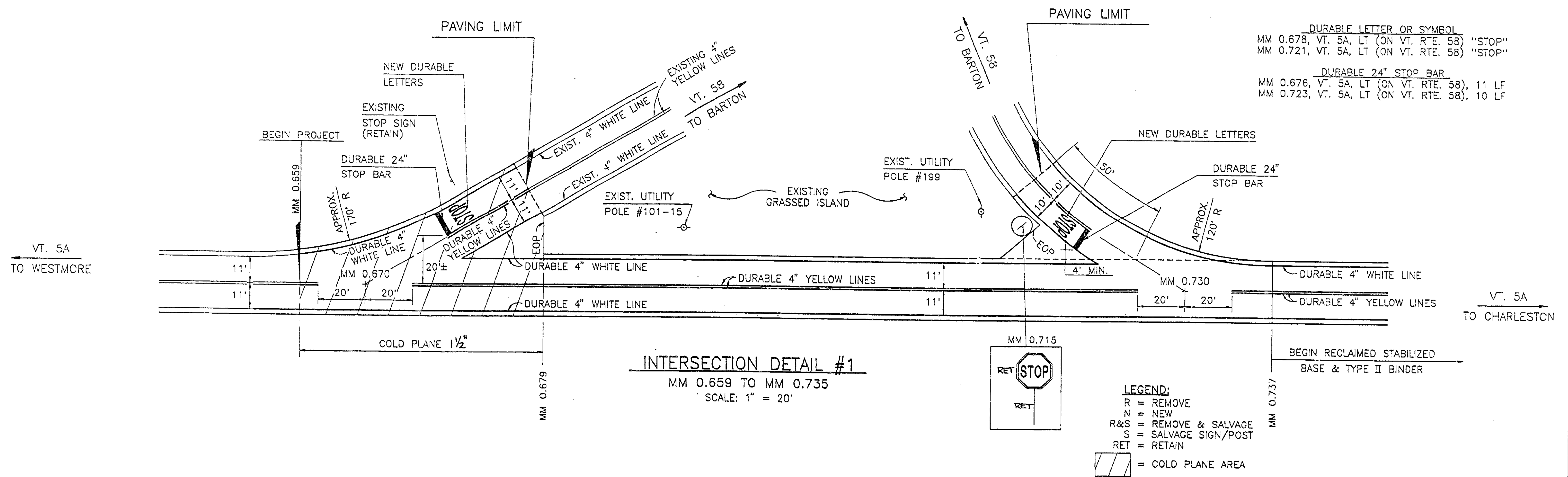
CONSTRUCTION SIGN DETAIL SHEET

SURVEYED BY N/A DATE N/A
 DRAWN BY WBL DATE 03/93
 SQUAD LEADER _____
 DESIGN FILE NO. _____
 IPARM FILE _____ DATE PLOTTED _____
 PROJ. NAME BROWNINGTON-CHARLESTON
 PROJ. NO. STP 9426(1)S
 SHEET 08 OF _____ SHEETS

HTA FILE: BRNSDTLS

SHEET 30 OF 44

DATUM
 VERTICAL N/A
 HORIZONTAL N/A

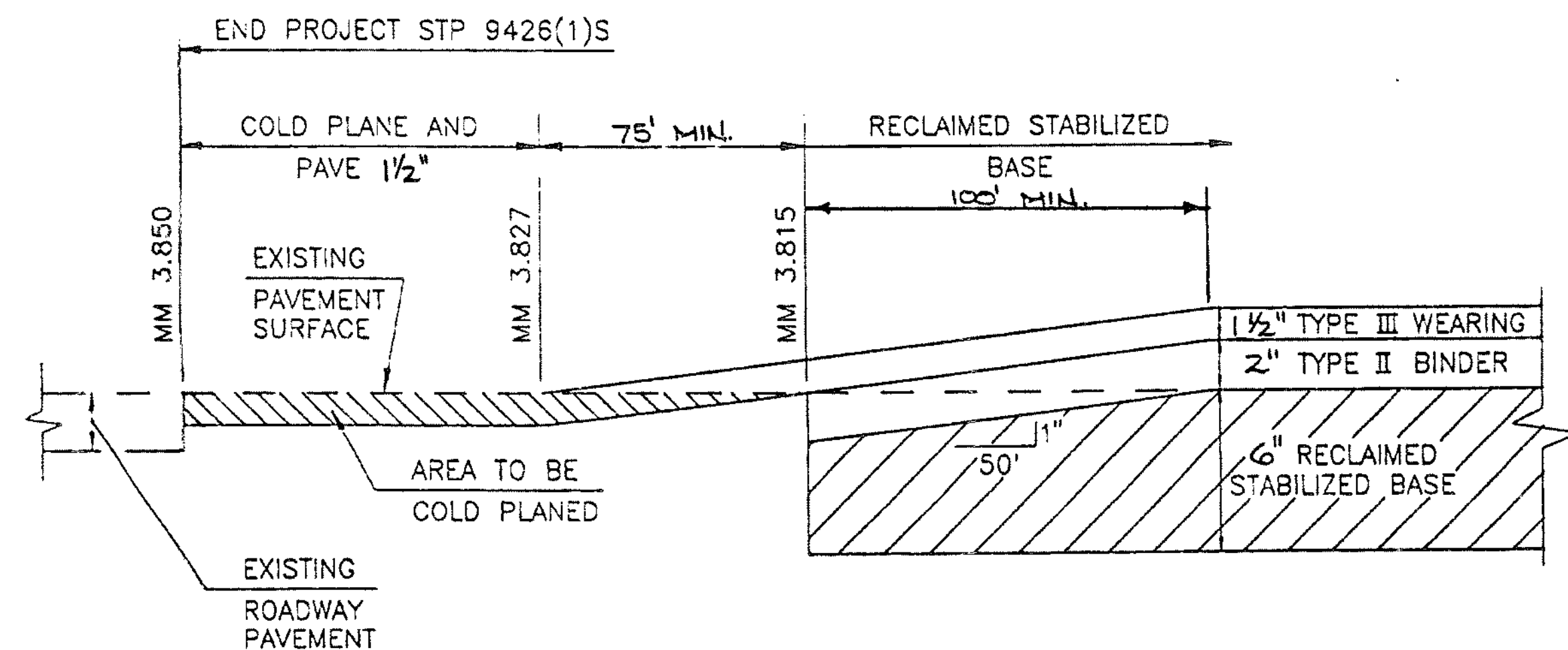
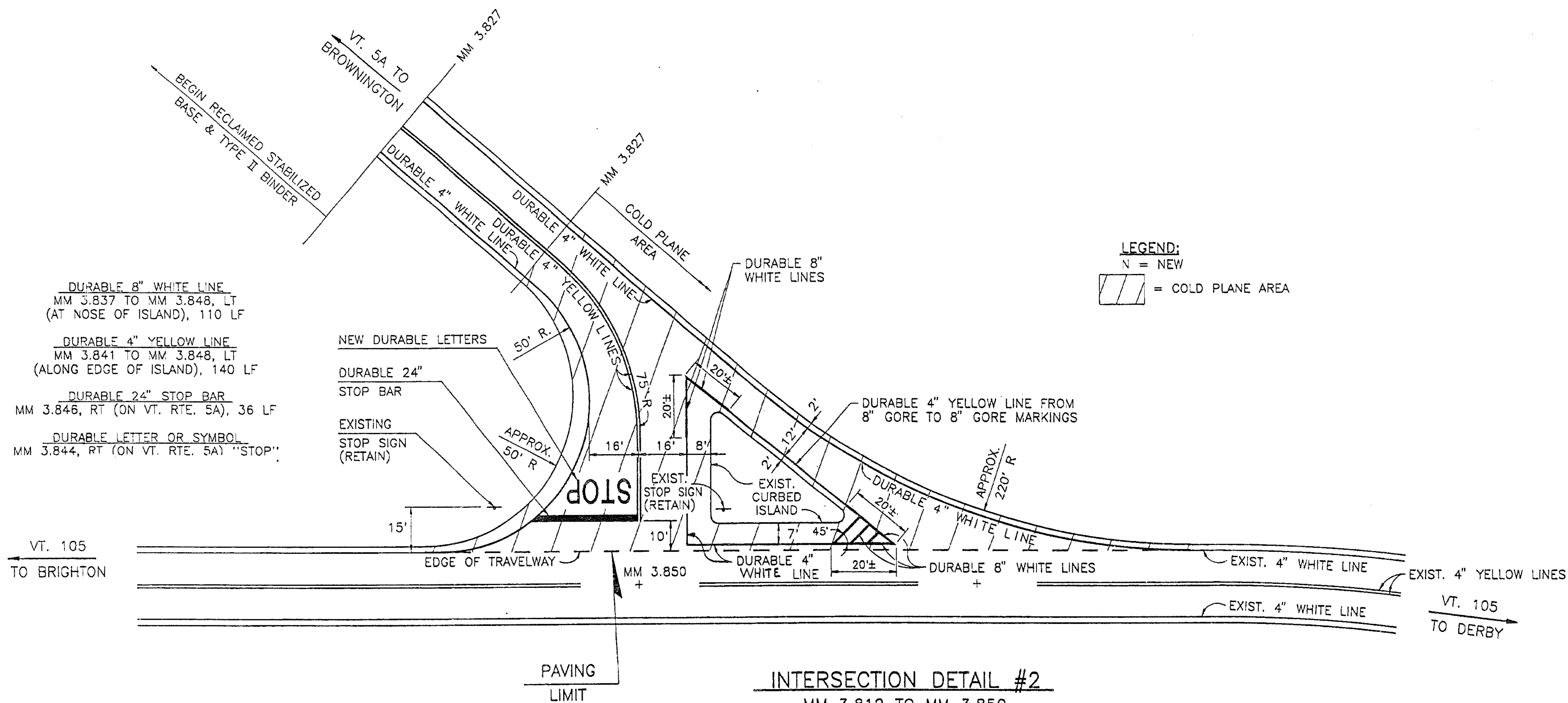


RECLAIMED STABILIZED BASE TRANSITION DETAIL
NOT TO SCALE

INTERSECTION DETAIL SHEET	SURVEYED BY	N/A	DATE	N/A
	DRAWN BY	WBL	DATE	03/93
	SQUAD LEADER			
	DESIGN FILE NO.			
	IPARM FILE		DATE PLOTTED	
PROJ. NAME BROWNINGTON-CHARLESTON				
PROJ. NO. STP 9426(1)S				
SHEET 09 OF SHEETS				

HTA FILE: BRNINTS1

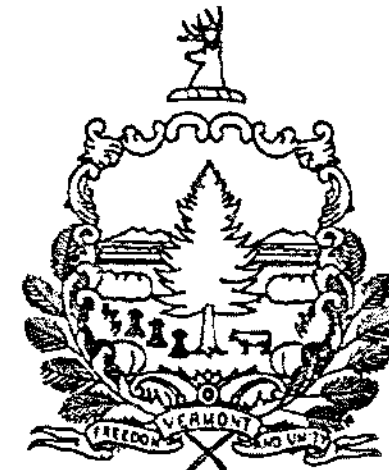
DATUM	
VERTICAL	N/A
HORIZONTAL	N/A



DATUM
 VERTICAL N/A
 HORIZONTAL N/A

INTERSECTION DETAIL SHEET	SURVEYED BY	N/A	DATE	N/A
	DRAWN BY	WBL	DATE	03/93
	SQUAD LEADER			
	DESIGN FILE NO.			
IPARM FILE		DATE PLOTTED		
PROJ. NAME	BROWNINGTON-CHARLESTON			
PROJ. NO.	STP 9426(t)S			
HTA FILE: BRNINTS2	SHEET 10 OF	SHEETS		

STATE OF VERMONT AGENCY OF TRANSPORTATION



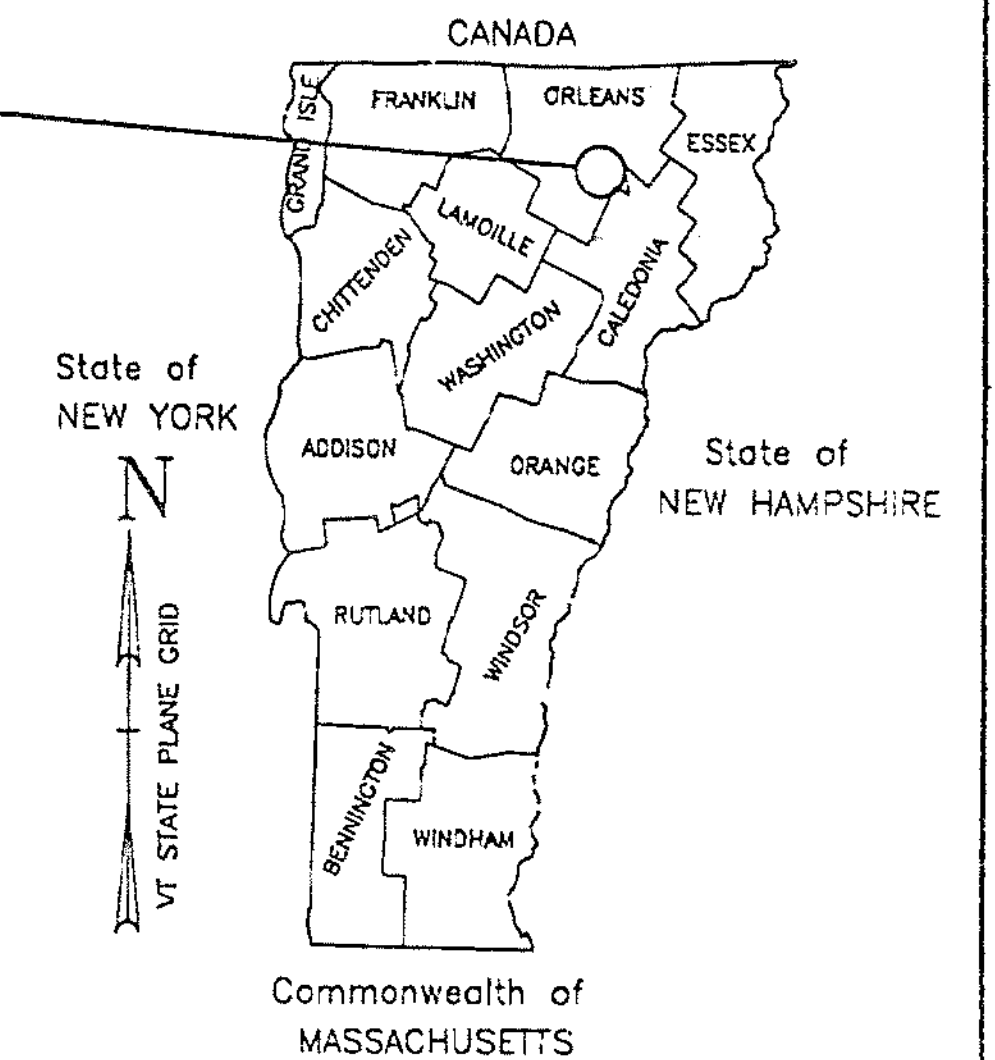
PROPOSED IMPROVEMENT TOWN OF GLOVER COUNTY OF ORLEANS VT. RTE. 16, F.A.P.

BEGINNING IN GLOVER AT A POINT APPROXIMATELY 2.815 MILE NORTH OF
THE GREENSBORO - GLOVER TOWN LINE AND EXTENDING NORTHERLY ALONG
VT. ROUTE 16 FOR A DISTANCE OF 1.700 MILES TO THE INTERSECTION
WITH VT. ROUTE 122, MILE MARKER 4.515 IN GLOVER.

LENGTH OF ROADWAY 8976.00 FEET = 1.700 MILES
LENGTH OF PROJECT 8976.00 FEET = 1.700 MILES

WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES RESURFACING OF THE
EXISTING HIGHWAY WITH A SHIM/LEVELING COURSE, WEARING COURSE, SAFETY
IMPROVEMENTS, ASSOCIATED PAVEMENT MARKINGS AND INCIDENTAL ITEMS

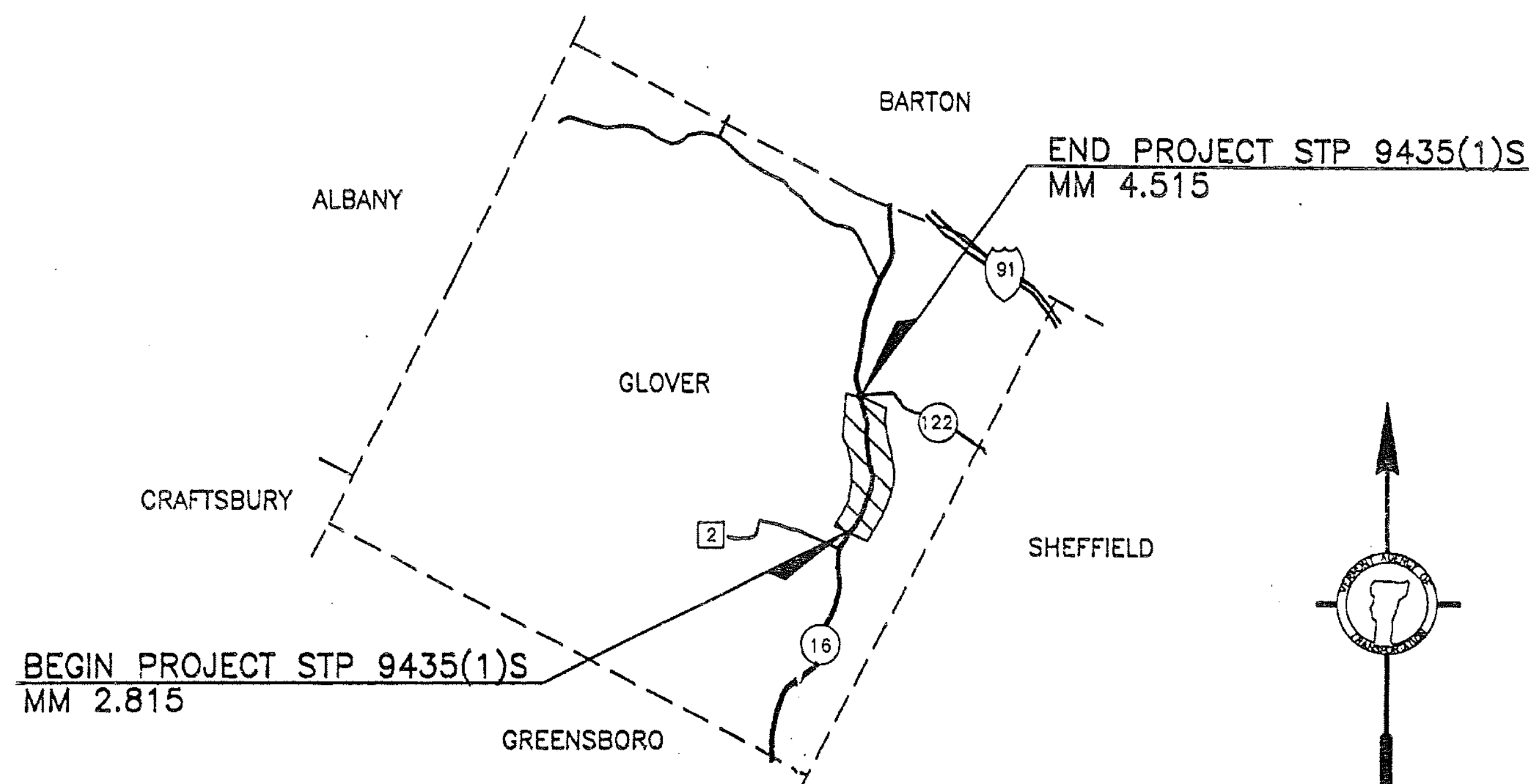
PROJECT LOCATION
STP 9435(1)S



TRAFFIC DATA

1993 ADT = 1900
1993 DVH = 265
2003 ADT = 2270
2003 DHV = 315

1993 - 2003
CUMULATIVE ESAL'S = 659,000



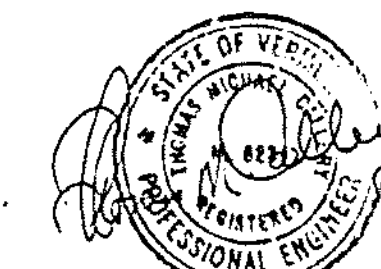
CONVENTIONAL SIGNS

COUNTY LINE	---
TOWN LINE	---
LIMITS OF ACCESS	—o—o—o—
POINT OF ACCESS	—x—x—x—
FENCE LINE	—x—x—x—
STONE WALL	—o—o—o—o—o—o—o—o—o—
TRAVELED WAY	—+—+—+—+—+—+—+—+—+—
GUARD RAIL	—+—+—+—+—+—+—+—+—+—
RAILROAD	—+—+—+—+—+—+—+—+—+—
SURVEY LINE	—+—+—+—+—+—+—+—+—+—
CULVERT	—+—+—+—+—+—+—+—+—+—
POWER POLE	—o—o—o—o—o—o—o—o—o—
TELEPHONE POLE	—o—o—o—o—o—o—o—o—o—
TREES	—o—o—o—o—o—o—o—o—o—
CONTROL OF ACCESS	—+—+—+—+—+—+—+—+—+—
PROPERTY LINE	—+—+—+—+—+—+—+—+—+—
R.O.W. TAKING LINE	—+—+—+—+—+—+—+—+—+—
SLOPE RIGHTS	—+—+—+—+—+—+—+—+—+—
TOP OF CUT	—+—+—+—+—+—+—+—+—+—
TCE OF SLOPE	—+—+—+—+—+—+—+—+—+—

NOTE:

RIGHT-OF-WAY LIMITS, IF APPLICABLE, ARE PROVIDED
SOLELY FOR THE CONVENIENCE OF THE STATE AND ITS
CONTRACTOR DURING THE COURSE OF THIS PAVING
PROJECT. ANY REFERENCES TO OFFSETS ON THESE
PLANS ARE APPROXIMATE AND SHOULD NOT BE RELIED
UPON FOR ANY OTHER PURPOSES.

DATUM
VERTICAL N/A
HORIZONTAL N/A



THESE PLANS ARE SUBJECT TO SUCH ENGINEERING
CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY
ADMINISTRATION OR THE DIRECTOR OF CONSTRUCTION
AND MAINTENANCE.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE
WITH THESE PLANS AND THE STANDARD SPECIFICATIONS
FOR CONSTRUCTION DATED 1990, AS APPROVED BY THE
FEDERAL HIGHWAY ADMINISTRATION ON MARCH 15, 1990.
FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT
REVISIONS AND SUCH REVISED SPECIFICATIONS AND
SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE
PLANS.

APPROVED _____ DATE _____
DIRECTOR OF CONSTRUCTION & MAINTENANCE

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED _____ DATE _____
DIVISION ADMINISTRATOR

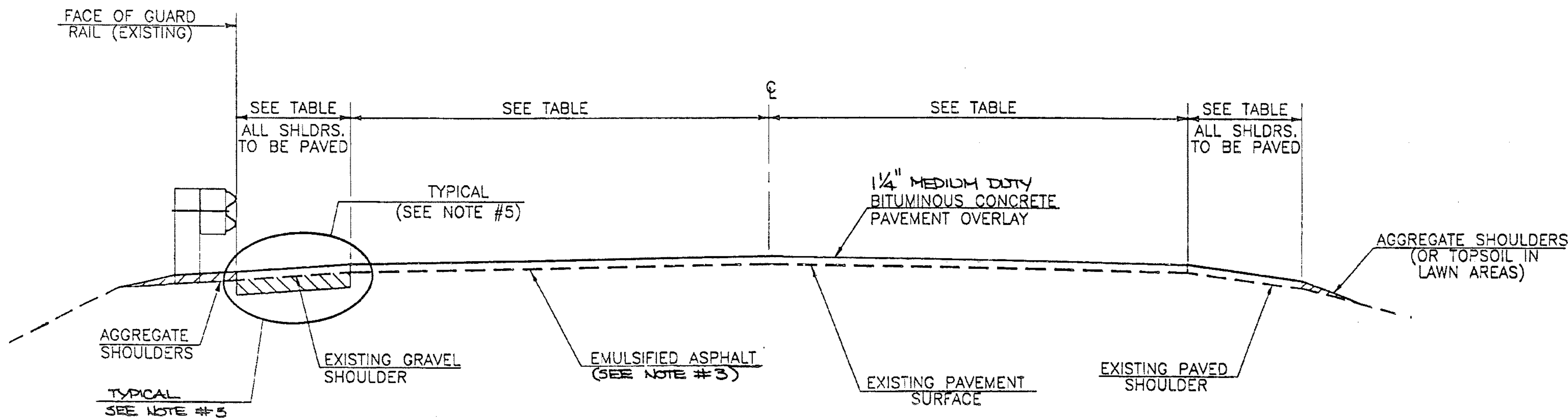
GLOVER
PROJECT STP 9435(1)S

SHEET 01 OF SHEETS

SHEET 35 OF 44

NOTES

1. THE PAVEMENT WEARING COURSE SHALL BE TYPE III, ~~ITEM 406.27~~.
2. THE LEVELING COURSE SHALL BE TYPE III OR TYPE IV, ~~ITEM 406.27~~, DIRECTED BY THE ENGINEER.
3. EMULSIFIED ASPHALT SHALL BE APPLIED ON ALL EXISTING SURFACES, ALL COLD PLANED SURFACES, AND BETWEEN ALL COURSES OF PAVEMENT AT THE RATE OF 0.05 GAL/SY OR AS DIRECTED.
4. BITUMINOUS CONCRETE PAVEMENT TOLERANCE = $\pm 1/4"$ (FOR THE WEARING COURSE ONLY).
5. EXISTING SHOULDER MATERIAL DEEMED UNSUITABLE BY THE RESIDENT ENGINEER, SHALL BE EXCAVATED TO A DEPTH OF 3'± OR AS DIRECTED BY THE ENGINEER. EXCAVATION WILL BE PAID FOR AS ALL PURPOSE EXCAVATOR OR GRADER RENTAL. MATERIAL REMOVED SHALL BE REPLACED WITH SUBBASE OF CRUSHED GRAVEL (FINE GRADED). EXCAVATED MATERIAL SHALL BE SPREAD ON THE ADJACENT SLOPES OR REMOVED FROM THE PROJECT, AS DIRECTED BY THE ENGINEER.
6. COLD PLANING TO BE COMPLETED ACCORDING TO THE DETAIL SHOWN ON THE PROJECT DETAIL SHEET.
7. THREE FEET OF BACKING IS REQUIRED BEHIND THE FACE OF GUARD RAIL WITH 6' POSTS. IF THIS CAN NOT BE OBTAINED THEN 8' POSTS SHALL BE USED.



OVERLAY TYPICAL SECTION

URBAN AREA - SEED MIXTURE

% WT.	LBS./ACRE	NAME	PUR%	GERM%
42.5	34.0	CREeping RED FESCUE	98	85
10.0	8.0	PERENNIAL RYE	95	90
42.5	34.0	KENTUCKY BLUEGRASS	85	85
5.0	4.0	ANNUAL RYEGRASS	95	85
100.0	80.0			

SEED MIXTURE:
SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.

SEED:
TO BE APPLIED PER SEEDING FORMULAS OR AS DIRECTED BY THE ENGINEER.

FERTILIZER:
FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 500 LBS./ACRE. ~~HYDRO SEEDERS MAY USE 15-15-15 FORMULA~~

AGRICULTURAL LIMESTONE:
TO BE APPLIED AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.

HAY MULCH:
TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.

TOPSOIL:
TO BE USED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

MARKER POSTS:
TO BE PLACED AS INDICATED OR AS DIRECTED BY THE ENGINEER.

PROJECT PAVING LIMITS

TOWN	BEGIN MILE MARKER	END MILE MARKER	LANE TYPICAL	WEARING DEPTH	LEVELING TONS/MILE	NOTES
GLOVER	2.815	3.895	3'-11"-11'-3'	1-1/4"	636	
GLOVER	3.895	3.913	SEE NOTE	-	-	BRIDGE NO. 15, DO NOT PAVE
GLOVER	3.913	4.515	3'-11"-11'-3'	1-1/4"	636	

PROJECT TYPICAL SHEET

SURVEYED BY	N/A	DATE	N/A
DRAWN BY	CBB	DATE	03/93
SQUAD LEADER			
DESIGN FILE NO.			
IPARM FILE		DATE PLOTTED	
PROJ. NAME	GLOVER		
PROJ. NO.	STP 9435(1)S		
HTA FILE	GLVTYPXS	SHEET	02 OF SHEETS

QUANTITY SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

APPROXIMATE SUMMARY OF QUANTITIES							
EMPLOYEE TRAINEESHIP	BRIDGE	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NO.	ROUNDING
		1000	1000	SY	COLD PLANING-BIT. PAVEMENT	210.10	64
		775	775	TON	SUBBASE OF CRUSHED GRAVEL (FINE GRADED)	301.28	10
		700	700	TON	AGGREGATE SHOULDERS	402.12	12
		65	65	CWT	EMULSIFIED ASPHALT	404.65	
		3100	3100	TON	MEDIUM DUTY BIT. CONCRETE PAVEMENT	406.27	44
	205		205	LF	REMOVAL OF EXISTING RAILING	525.10	-
	100		100	LF	BRIDGE RAILING HEAVY DUTY STEEL BEAM FASCIA MOUNTED (MOD. 3)	525.41	-
		40	40	LF	15' CSP 0.064 (2-2/3' X 1/2')	601.00	0
		50	50	HR	POWER GRADER RENTAL	608.15	EST.
		50	50	HR	ALL PURP. EXCAVATOR RENTAL, TYPE I	608.25	EST.
		30	30	HR	POWER BROOM RENTAL	608.30	EST.
		50	50	HR	TRUCK RENTAL	608.37	EST.
		50	50	HR	LOADER RENTAL TYPE I	608.40	EST.
		15	15	EA	YIELDING MARKER POST	619.17	3
	50	800	850	LF	STEEL BEAM GUARD RAIL	621.20	25
		100	100	LF	STEEL BEAM GUARD RAIL W/ 8' STEEL POSTS (MOD)	621.20	EST.
	130		130	LF	HEAVY DUTY STEEL BEAM GUARD RAIL	621.21	-
	4	7	11	EA	BREAKAWAY CABLE TERMINAL	621.50	-
		3	3	EA	ANCHOR FOR STEEL BEAM GUARD RAIL	621.60	-
		160	160	LF	REMOVAL AND DISPOSAL OF GUARD RAIL	621.80	4
		20	20	EA	REMOVAL AND DISPOSAL OF GUIDE POSTS	621.81	1
		100	100	HR	UNIFORMED TRAFFIC OFFICERS	630.10	EST.
		300	300	HR	FLAGGERS	630.15	EST.
		0.10	0.10	LS	TESTING EQUIPMENT - CONCRETE	631.16	EST.
		0.10	0.10	LS	TESTING EQUIPMENT - BITUMINOUS	631.17	EST.
520			520	HR	EMPLOYEE TRAINEESHIP	634.10	EST.
		0.10	0.10	LS	MOBILIZATION	635.10	EST.
		100	100	HR	TRAFFIC OFFICER W/ FLASHING LIGHT	641.35	EST.
		17800	17800	LF	DURABLE 4' WHITE LINE	646.40	88
		16800	16800	LF	DURABLE 4' YELLOW LINE	646.41	81
		15	15	LF	DURABLE 24' STOP BAR	646.46	-
		4	4	EA	DURABLE LETTER OR SYMBOL	646.50	-
		17800	17800	LF	TEMPORARY 4' WHITE LINE	646.60	88
		16800	16800	LF	TEMPORARY 4' YELLOW LINE	646.61	81
		15	15	LF	TEMPORARY 24' STOP BAR	646.66	-
		250	250	EA	LINE STRIPING TARGETS	646.73	25
		40	40	LB	SEED	651.15	EST.
		250	250	LB	FERTILIZER	651.18	EST.
		1	1	TON	AGRICULTURAL LIMESTONE	651.20	EST.
		1	1	TON	HAY MULCH	651.25	EST.
		25	25	CY	TOPSOIL	651.35	EST.

[illegible][illegible][illegible]

ITEM DETAIL SUMMARY SHEET

MILE MARKER	MILE MARKER	POS.	DROP INLET	LAT. DITCH	CLEAN INLET DITCH	CLEAN OUTLET DITCH	EARTH BORROW	TIMBER CURB	STONE FILL	NEW PIPE			CSPES			FLUSH PIPES		6" UND.			GRATE TYPE EA	CHAN ELEV EA	REHAB DI EA	MOD GUARDRAIL ITEMS						REMARKS
										D	L	TH/CL	D	TH	QTY	0-24"	>24"							621.20	621.20	621.21	621.50	621.60	621.80	621.81
2.957	2.981	RT.																					125			1	1			INSTALL A 16' R END TERMINAL AT MM 2.957, RT. NORTH OF DRIVE TO BALLFIELD, 125 LF OF NEW STEEL BEAM GUARDRAIL WITH STEEL POSTS AND A BCT AT MM 2.981, RT.
2.957	2.976	LT.																					75			1	1			INSTALL A 16' R END TERMINAL AT MM 2.957 (NORTH OF EXISTING DRIVE), 75 LF OF NEW STEEL BEAM GUARDRAIL WITH STEEL POSTS AND A BCT AT MM 2.976, LT.
3.164	3.221	LT.																					250			2		19		INSTALL A BCT AT MM 3.164, LT., 250 LF OF NEW STEEL BEAM GUARDRAIL WITH STEEL POSTS AND A BCT AT MM 3.221, LT.; REMOVE EXISTING WOOD GUIDE POSTS.
3.282	3.306	RT.																					75			2		74		INSTALL A BCT AT MM 3.282 AND 3.306, 75 LF OF NEW STEEL BEAM GUARDRAIL WITH STEEL POSTS; REMOVE EXISTING 2 CABLE GUARDRAIL WITH WOOD POSTS.
3.246	3.298	LT.								15"	40'	0.064											250			1	1	82		REMOVE EXISTING 2 CABLE GUARDRAIL ON WOOD POSTS. BURY NEW GUARDRAIL INTO BACKSLOPE AT MM 3.246, INSTALL 250 LF OF NEW STEEL BEAM GUARDRAIL WITH STEEL POSTS AND A BCT AT MM 3.298
3.895	3.913	RT. & LT.																												(SEE BRIDGE DETAILS, SHEET NOS. 8 & 9).
SHEET 04 TOTAL										15	40'	0.064											775	-	-	7	3	158	19	
SHEET 08 TOTAL										-	-	-											50	-	130	4	-	-	-	
SUB TOTALS										15	40'	0.064											825	-	130	11	3	158	19	
ROUNDING										-	-	-											25		-	-	-	4	1	
PROJECT TOTALS										15	40	0.064											850		130	11	3	160	20	

ITEM
DETAIL
SHEET

SURVEYED BY N/A DATE N/A

DRAWN BY WBL DATE 03/93

SQUAD LEADER

DESIGN FILE NO.

IPARM FILE DATE PLOTTED

PROJ. NAME GLOVER

PROJ. NO. STP 9435(1)S

SHEET 04 OF SHEETS

HTA FILE: GLVSUM1

SHEET 38 OF 44

DURABLE 4" YELLOW LINE
 MM 2.815 TO MM 3.192 (SOLID LT. & RT.)
 MM 3.192 TO MM 3.306 (SOLID LT. & DASHED RT.)
 MM 3.306 TO MM 3.431 (DASHED)
 MM 3.431 TO MM 3.520 (DASHED LT. & SOLID RT.)
 MM 3.520 TO MM 4.515 (SOLID LT. & RT.)
 (WITH CENTERLINE BREAKS FOR TOWN HIGHWAYS)
 MM 4.340, LT. (ON TH 37), 100 LF

DURABLE 4" WHITE LINE
 MM 2.815 TO MM 4.515 (SOLID LT. & RT.)
 (WITH EDGE LINE BREAKS FOR TOWN HIGHWAYS)

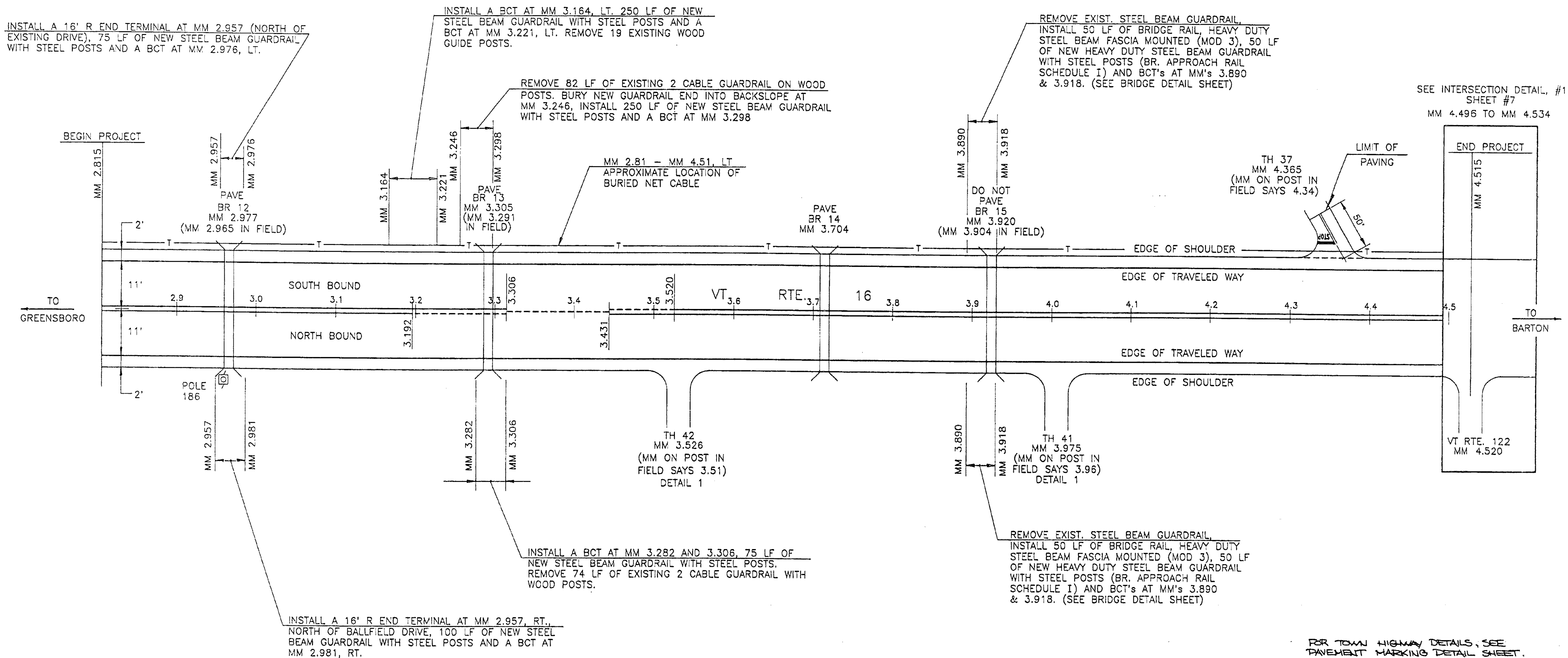
TEMPORARY 4" YELLOW LINE
 MM 2.815 TO MM 3.192 (SOLID LT. & RT.)
 MM 3.192 TO MM 3.306 (SOLID LT. & DASHED RT.)
 MM 3.306 TO MM 3.431 (DASHED)
 MM 3.431 TO MM 3.520 (DASHED LT. & SOLID RT.)
 MM 3.520 TO MM 4.515 (SOLID LT. & RT.)
 (WITH CENTERLINE BREAKS FOR TOWN HIGHWAYS)
 MM 4.340, LT. (ON TH 37), 100 LF

TEMPORARY 4" WHITE LINE
 MM 2.815 TO MM 4.515 (SOLID LT. & RT.)
 (WITH EDGE LINE BREAKS FOR TOWN HIGHWAYS)

DURABLE 24" STOP BAR
 MM 4.340, LT. (ON TH 37), 15 LF

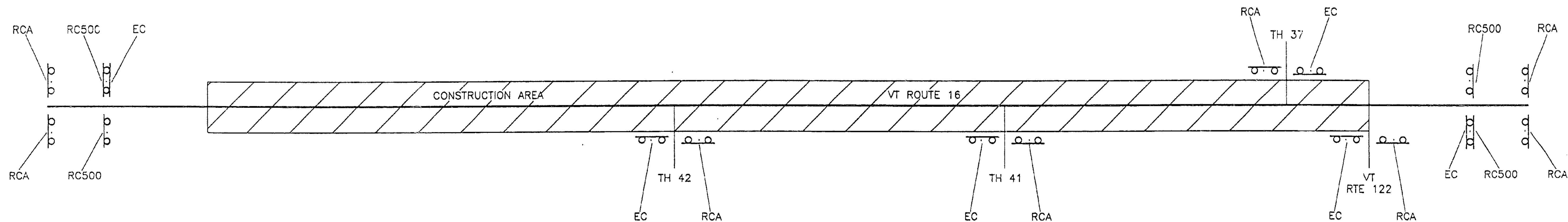
TEMPORARY 24" STOP BAR
 MM 4.340, LT. (ON TH 37), 15 LF

DURABLE LETTER OR SYMBOL
 MM 4.340, LT. (ON TH 37), "STOP"



DATUM
 VERTICAL N/A
 HORIZONTAL N/A

PAVING PROJECT LAYOUT HTA FILE: GLVPMK1	FOR TOWN HIGHWAY DETAILS, SEE PAVEMENT MARKING DETAIL SHEET.	
	SURVEYED BY	N/A DATE N/A
	DRAWN BY	WBL DATE 03/93
	SQUAD LEADER	
	DESIGN FILE NO.	
IPARM FILE	DATE PLOTTED	
PROJ. NAME	GLOVER	
PROJ. NO.	STP 9435(1)S	
SHEET	05 OF	SHEETS



LEGEND
 RCA = ROAD CONSTRUCTION AHEAD
 RC500 = ROAD CONSTRUCTION 500'
 EC = END CONSTRUCTION

CONSTRUCTION APPROACH SIGNING

SEE STANDARD E-100 FOR SIGN PLACEMENT.

LIST OF TOWN HIGHWAYS
FOR CONSTRUCTION SIGNS

TOWN HIGHWAY NUMBER	ROAD CONST. AHEAD	END CONST.	OTHER
TH 42	1	1	-
TH 41	1	1	-
TH 37	1	1	-
VT RTE 122	1	1	-
TOTAL	4	4	-

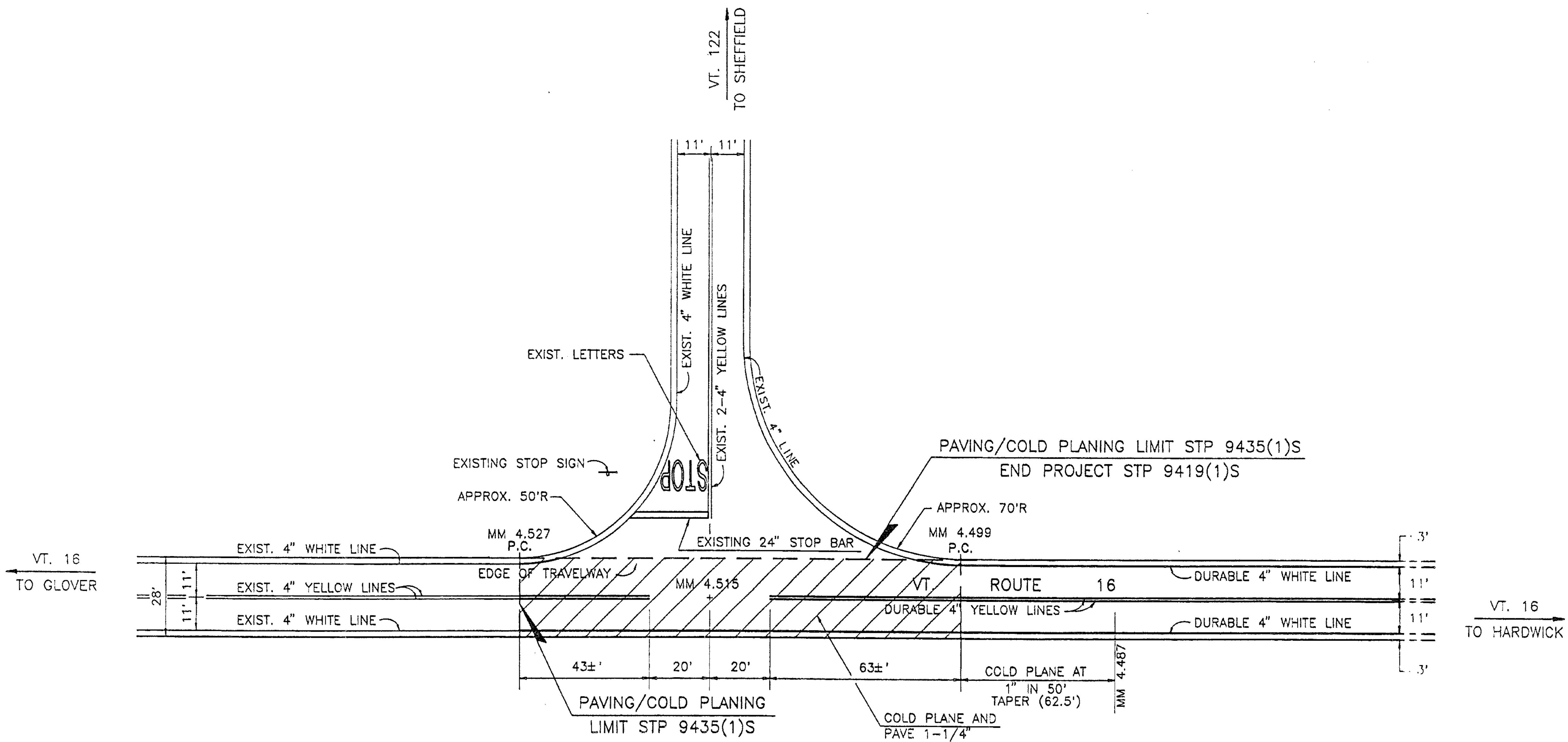
CONSTRUCTION SIGN DETAIL SHEET

SURVEYED BY N/A DATE N/A
 DRAWN BY WBL DATE 03/93
 SQUAD LEADER _____
 DESIGN FILE NO. _____
 IPARM FILE _____ DATE PLOTTED _____
 PROJ. NAME GLOVER
 PROJ. NO. STP 9435(1)S
 SHEET 06 OF _____ SHEETS

HTA FILE: GLVSDTLS

SHEET 40 OF 44

DATUM
 VERTICAL N/A
 HORIZONTAL N/A



NOTE:

THE CONTRACTOR SHALL COLD PLANE AND PAVE 1-1/4" FROM MM 4.527 TO MM 4.499. THE CONTRACTOR SHALL COLD PLANE AT A TAPER OF 1" IN 50' FROM MM 4.487 TO MM 4.499. (SEE DETAIL ON PROJECT DETAIL SHEET).

DATUM	
VERTICAL	N/A
HORIZONTAL	N/A

INTERSECTION DETAIL SHEET	SURVEYED BY	N/A	DATE	N/A
	DRAWN BY	WBL	DATE	03/93
	SQUAD LEADER			
	DESIGN FILE NO.			
	IPARM		DATE	
	FILE		PLOTTED	
	PROJ. NAME	GLOVER		
	PROJ. NO.	STP 9435(1)S		
	SHEET	07	OF	SHEETS

HTA FILE: GLVINTS

SHEET 41 OF 44

[illegible]

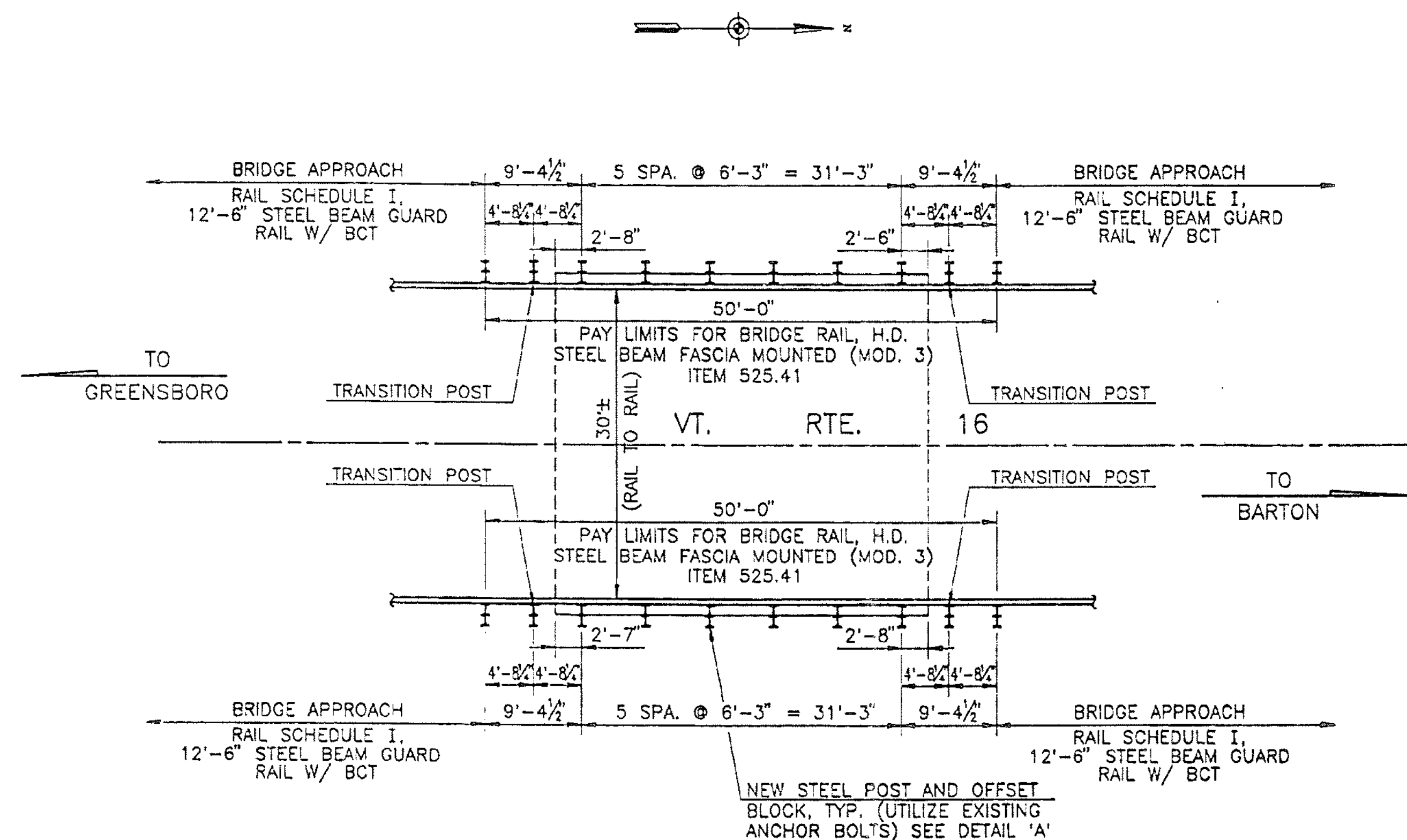
1. BRIDGE RAIL SHALL BE HEAVY DUTY STEEL BEAM RAIL.
2. BRIDGE APPROACH RAIL HEIGHT SHALL BE TRANSITIONED TO NORMAL ROADWAY RAIL HEIGHT IN 25 FEET.
3. FOR BRIDGE RAILING, THE TRANSITION POST SHALL HAVE AN OFFSET BLOCK AND BE LOCATED AS CLOSE AS PRACTICAL TO THE MID-POINT BETWEEN THE BRIDGE END POST AND APPROACH RAIL POST 1.
4. SPLICES SHALL LAP IN DIRECTION OF TRAFFIC FLOW.
5. SEE STANDARD SHEET G-1 FOR DELINEATOR DETAILS AND PLACEMENT.
6. ERECT DELINEATORS ON EVERY FIFTH POST OR APPROXIMATELY 30 FEET APART. PAYMENT SHALL BE SUBSIDIARY TO *THE APPROPRIATE RAIL ITEM.*



WHEN A RAIL PANEL SPLICE OCCURS AT POST NO. 1
USE SCHEDULE I FOR APPROACH RAILING WHEN A RAIL
PANEL SPLICE OCCURS AT BRIDGE END POST USE
SCHEDULE II FOR APPROACH RAILING.

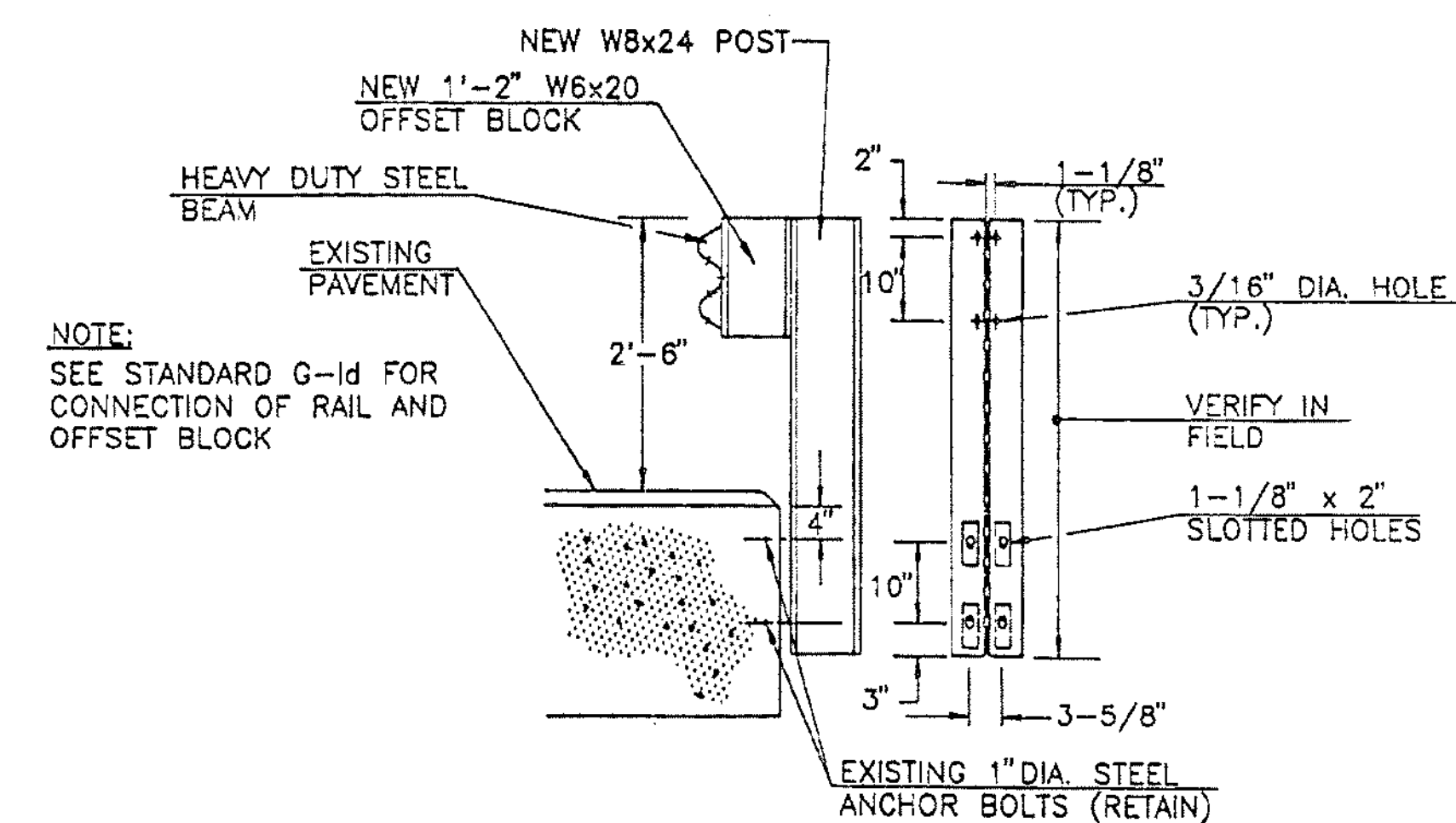
SCHEDULE II		
POST NO.	SPACING	PAYMENT FACTOR
1	3'-11 1/2"	1.4 X 18'-9"
2	3'-11 1/2"	
3	3'-11 1/2"	
4	3'-11 1/2"	
5	3'-11 1/2"	
6	3'-11 1/2"	
7	3'-11 1/2"	1.2 x 12'-6"
8	4'-2"	
9	4'-2"	
10	4'-2"	
11	6'-3" (TYP)	

SURVEYED BY N/A DATE N/A
DRAWN BY JC DATE 03/93
SQUAD LEADER _____
DESIGN FILE NO. _____
IPARM _____ DATE _____
FILE _____ PLOTTED _____
PROJ. NAME GLOVER
PROJ. NO. STP 9435(1)S
SHEET 08 OF SHEETS



BRIDGE NO. 15 @ MM 3.920 (3.904 IN FIELD)

SCALE : 1" = 10'



FASCIA MOUNTED STEEL POST DETAIL

DETAIL 'A'

N.T.S.

NOTES

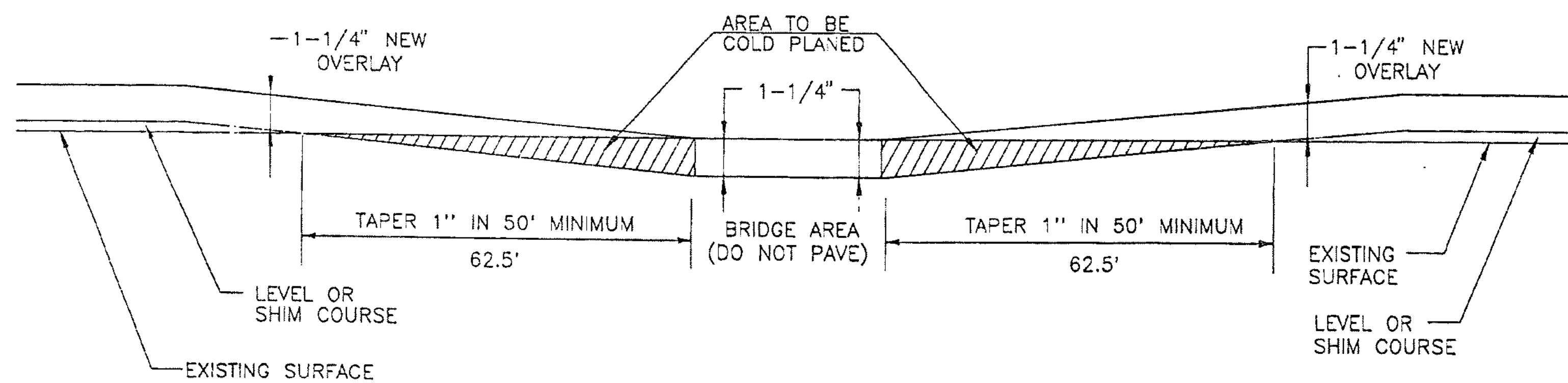
1. SEE STANDARD DRAWING G-1 & G-1d FOR ADDITIONAL DETAILS OF STEEL BEAM GUARD RAIL.
2. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND CONFORM TO SECTION 714.16.
3. HEAVY DUTY STEEL BEAM RAIL SHALL BE AASHTO M 180, CLASS B-TYPE 2. POSTS AND PLATE WASHERS SHALL BE ASTM A 36 STEEL. BOLTS SHALL BE ASTM A 307. ALL MATERIAL SHALL BE GALVANIZED *IN ACCORDANCE WITH SECTION 728.*
4. ALL BRIDGE POSTS, HEAVY DUTY STEEL BEAM BRIDGE RAIL, OFFSET BLOCKS AND RELATED HARDWARE SHALL BE PAID UNDER ITEM 525.41 (MOD. 3) BRIDGE RAIL, HEAVY DUTY STEEL BEAM FASCIA MOUNTED.
5. REMOVAL AND DISPOSAL OF EXISTING BRIDGE RAIL AND POSTS SHALL BE PAID UNDER ITEM 621.80 REMOVAL AND DISPOSAL OF GUARDRAIL.
6. ALL POSTS SHALL BE SET NORMAL TO GRADE.
7. BRIDGE APPROACH RAIL HEIGHT SHALL BE TRANSITIONED TO NORMAL ROADWAY RAIL HEIGHT IN 25 FEET.
8. THE TRANSITION POST SHALL HAVE AN OFFSET BLOCK AND BE LOCATED AS CLOSE AS PRACTICAL TO THE MID-POINT BETWEEN THE BRIDGE END POST AND APPROACH RAIL POST 1.
9. SPLICES SHALL LAP IN DIRECTION OF TRAFFIC FLOW.
10. SEE STANDARD SHEET G-1 FOR DELINEATOR DETAILS AND PLACEMENT.
11. ERECT DELINEATOR ON EVERY FIFTH POST OR APPROXIMATELY 30 FEET APART. PAYMENT SHALL BE SUBSIDIARY TO THE APPROPRIATE RAIL ITEM.

BRIDGE DETAIL
SHEET #2

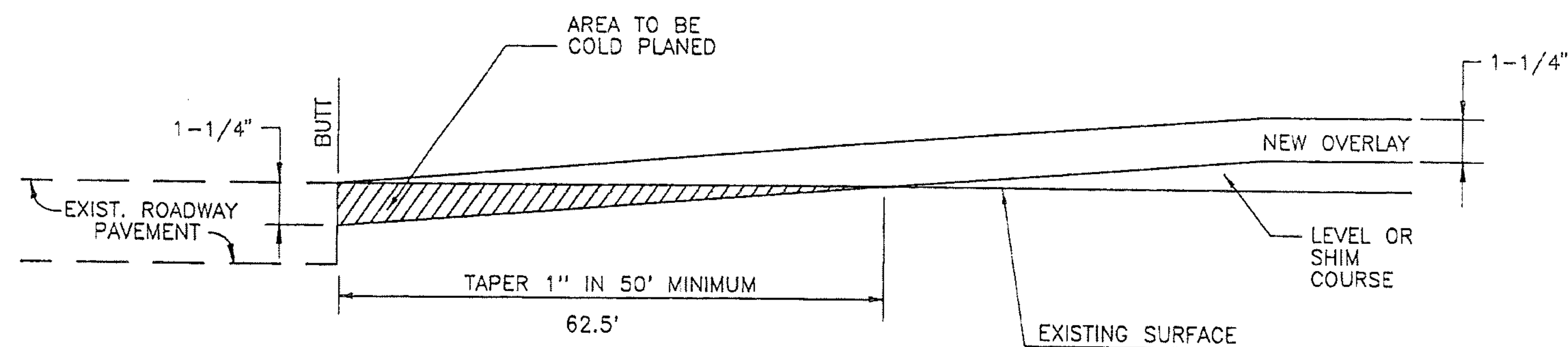
HTA FILE: GLVBROT2

SURVEYED BY	N/A	DATE	N/A
DRAWN BY	WBL	DATE	03/93
SQUAD LEADER			
DESIGN FILE NO.			
IPRAM FILE		DATE PLOTTED	
PROJ. NAME	GLOVER		
PROJ. NO.	STP 9435(1)S		
SHEET	09	OF	SHEETS

SHEET 43 OF 44



BRIDGE DETAIL
 BRIDGE NO. 15, MM 3.920 (3.904 IN FIELD)



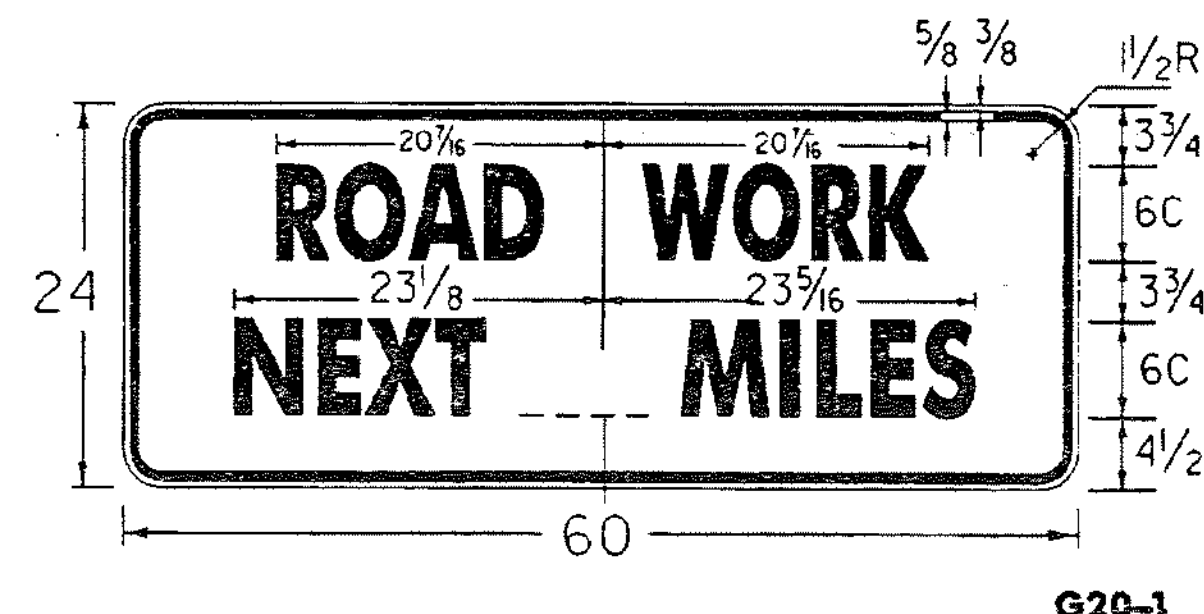
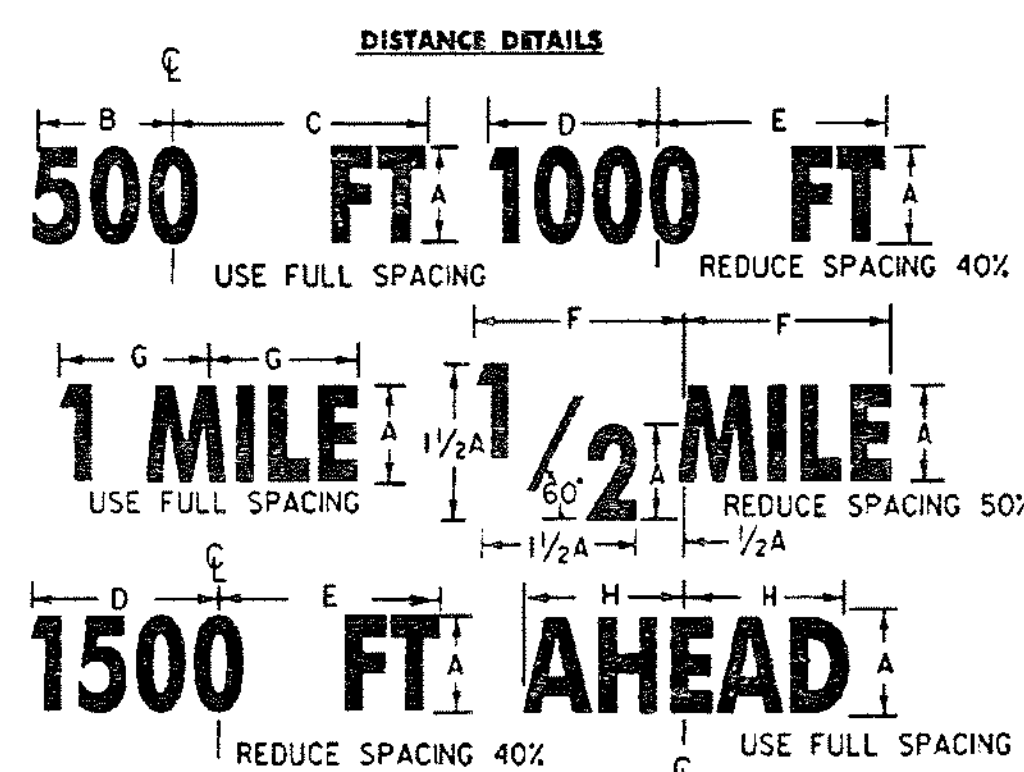
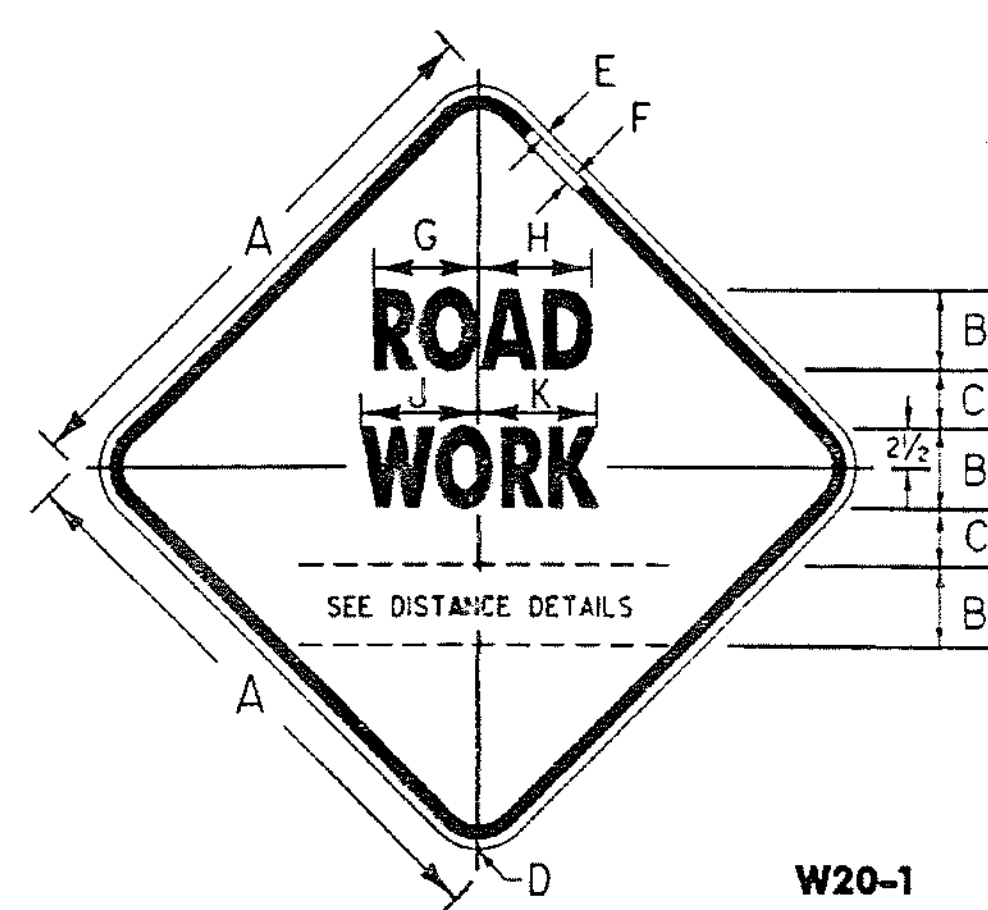
APPROACH AREA DETAIL
 MM'S. 2.815 & 4.499

COLD PLANING DETAILS
 (FULL ROADWAY WIDTH)
 N.T.S.

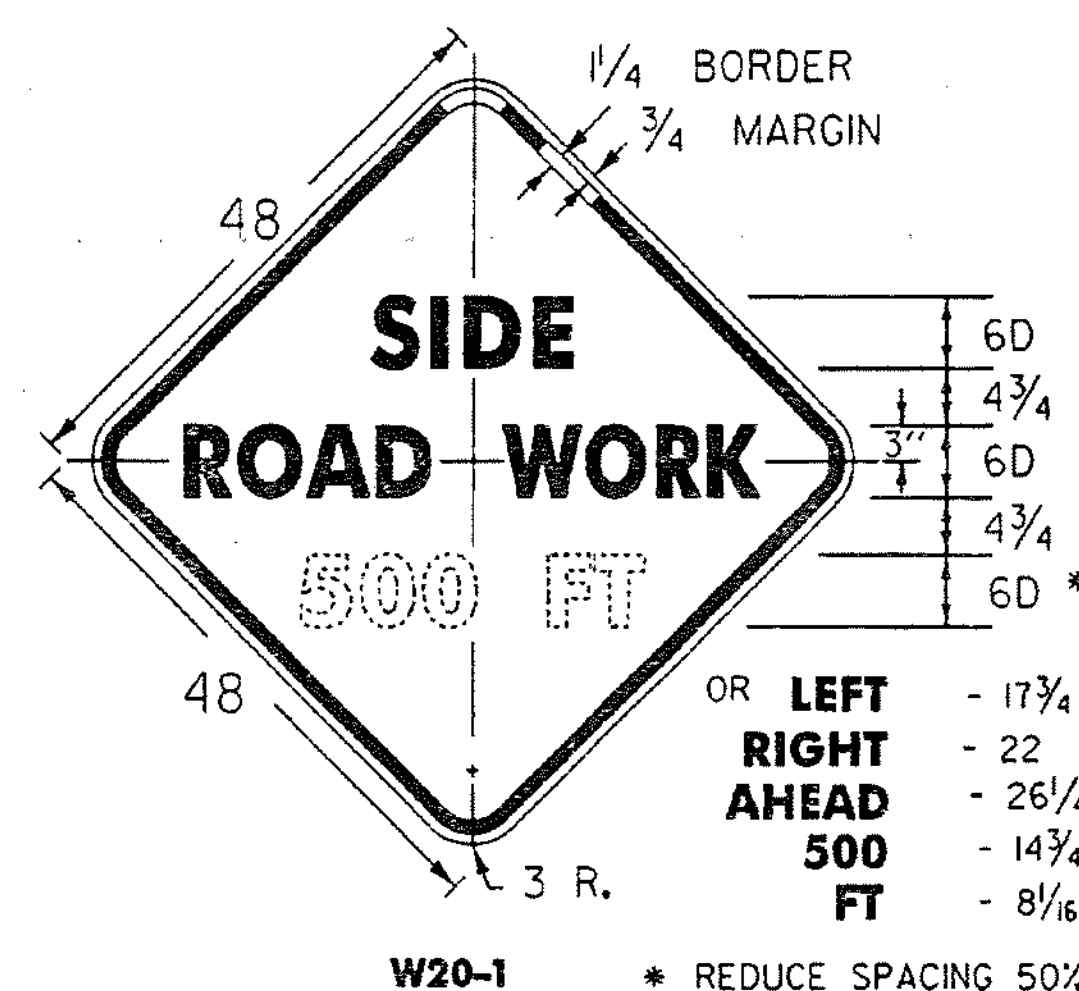
DATUM	
VERTICAL	N/A
HORIZONTAL	N/A

PROJECT DETAIL SHEET	SURVEYED BY	N/A	DATE	N/A
	DRAWN BY	WBL	DATE	03/93
	SQUAD LEADER			
	DESIGN FILE NO.			
	IPARM FILE		DATE PLOTTED	
	PROJ. NAME	GLOVER		
PROJ. NO.	STP 9435(1)S			
HTA FILE: GLVDETLS	SHEET 10 OF	SHEETS		

SHEET 44 OF 44

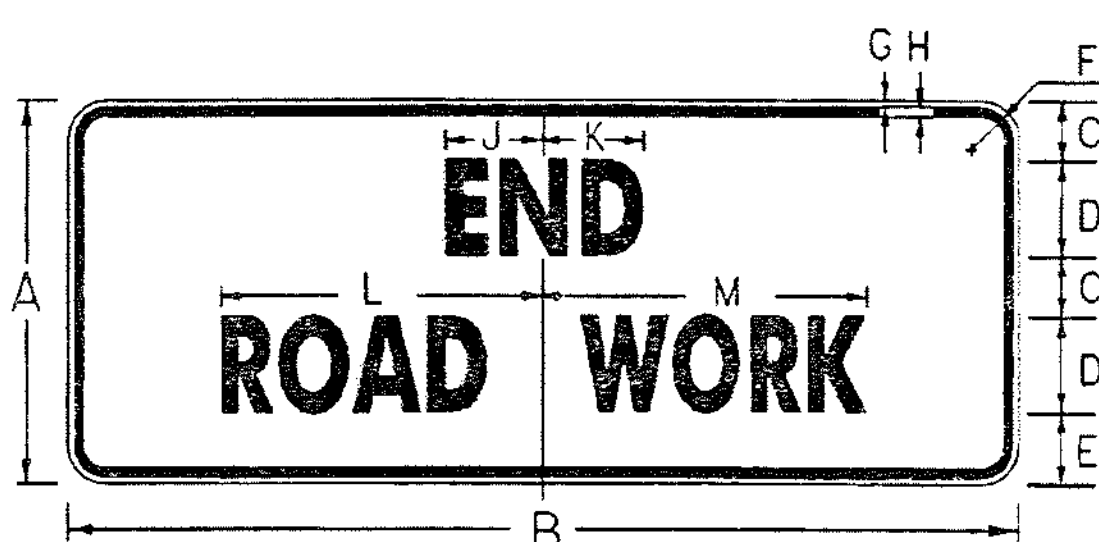


THIS SIGN TO BE USED WHEN PROJECT LENGTH EXCEEDS 2 MILES OR AS REQUESTED BY THE RESIDENT ENGINEER, SHOW MILEAGE TO NEAREST 1/4 MILE USING FRACTIONS, NOT DECIMALS. HAND LETTERING OF MILEAGE WILL NOT BE ALLOWED. (ALL DIMENSIONS SHOWN IN INCHES)



DIMENSIONS (INCHES)										
STD.	A	B	C	D	E	F	G	H	J	K
STD.	48	7C	4 3/4	3" R.	3/4	1 1/4	9 1/2	9 1/8	10 1/2	10 1/8
URBAN	36	5C	3 3/8	2 1/4 R.	3/8	1/8	6 1/8	7 1/8	7 1/2	7 1/8

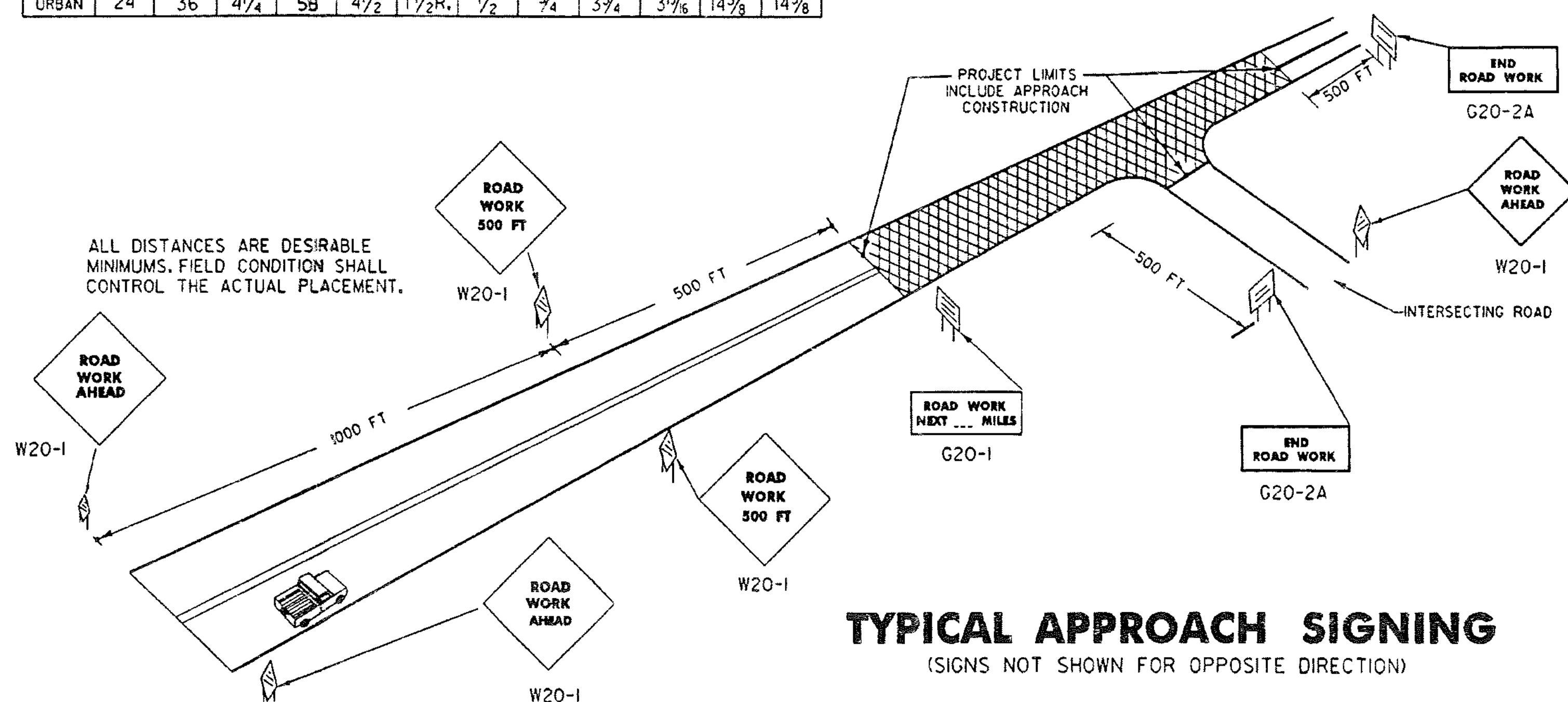
DIMENSIONS (INCHES)							
A	B	C	D	E	F	G	H
5D	10 3/8	10 3/8	11 3/8	11 1/4	11 1/4	9 1/2	10 3/8
6C	10 3/8	10 1/2	11 1/4	12	12 1/2	9 1/8	10 1/2
7C	12	12 3/8	13 3/8	14	14 3/8	10 3/8	12 1/4
8D	16 1/4	17 1/4	17	18	18	14 3/8	17 3/8



G20-2A

DIMENSIONS (INCHES)												
STD.	A	B	C	D	E	F	G	H	J	K	L	M
STD.	24	60	3 3/4	6C	4 1/2	1 1/2 R.	3/8	5/8	6 1/4	6 3/8	20 1/16	20 1/16
URBAN	24	36	4 1/4	5B	4 1/2	1 1/2 R.	1/2	3/4	3 3/4	3 13/16	14 3/8	14 3/8

(ALL DIMENSIONS SHOWN IN INCHES UNLESS OTHERWISE NOTED)



TYPICAL APPROACH SIGNING
(SIGNS NOT SHOWN FOR OPPOSITE DIRECTION)

NOTES

THE SIGNS SHOWN ON THIS SHEET ARE INTENDED FOR USE IN PROVIDING ADVANCE WARNING AND INFORMATION ON CONSTRUCTION PROJECTS OVER WHICH TRAFFIC WILL BE MAINTAINED. WHEN ADDITIONAL APPROACH SIGNS OR OTHER TYPES OF ADVANCE SIGNING OR CONTROL ARE NECESSARY, THE PLANS AND/OR THE SPECIFICATIONS FOR THAT PROJECT WILL GIVE THE DETAILS OF THE SIGNS AND DEVICES REQUIRED. FOR ON-PROJECT CONSTRUCTION SIGNS, REFER TO APPROPRIATE STANDARD SHEETS.

APPLICATION OF STANDARDS

SINCE IT IS NOT POSSIBLE TO PRESCRIBE DETAILED STANDARDS OF APPLICATION FOR ALL OF THE SITUATIONS THAT MAY CONCEIVABLY ARISE ON A CONSTRUCTION PROJECT, REFERENCE SHALL BE MADE TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" FOR THE PRINCIPLES, PROCEDURES, AND STANDARDS THAT WILL BE REQUIRED IN CONNECTION WITH ADVANCED WARNING AND ON-PROJECT CONSTRUCTION SIGNS AND BARRICADES. THE SIGNS SHOWN IN E-101 AND E-102 REPRESENT A SAMPLE OF THOSE MORE COMMONLY USED.

LOCATION

THE SIGNS SHALL BE LOCATED AS DETAILED ON THIS SHEET OR AS OTHERWISE SHOWN ON THE PLANS. THEY SHALL APPEAR AT EACH END OF THE HIGHWAY UNDER CONSTRUCTION AND ON ALL INTERSECTING PUBLIC HIGHWAYS. THE EXACT PLACEMENT OF ANY SIGN WILL DEPEND UPON THE ALIGNMENT INTENDED TO INDICATE THE SEQUENCE TO BE FOLLOWED, AND THE APPROXIMATE SPACING TO BE OBSERVED. THE ENGINEER SHALL DETERMINE THE EXACT LOCATIONS.

DESIGN

THE DESIGN OF THE SIGNS SHALL CONFORM WITH THE DETAILS SHOWN ON THIS SHEET AND WITH THE STANDARDS PRESCRIBED IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

MATERIALS

THE SIGN BASE MATERIAL USED FOR THE SIGNS ON THIS SHEET MAY BE ANY OF THE FOLLOWING, WITH MINIMUM THICKNESS AS NOTED.

FLAT SHEET ALUMINUM	0.125 INCHES
HIGH DENSITY OVERLAYED PLYWOOD	1/2, 5/8, OR 3/4 INCHES
GALVANIZED SHEET STEEL	12 GAGE

REFLECTORIZATION

ALL REFLECTORIZED MATERIAL SHALL CONSIST OF TYPE 11B OR TYPE 111 SHEETING.

COLORS

THE COLORS SHALL CONFORM WITH THE STANDARD COLORS ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION. COLORS SHOWN ON THIS SHEET CONSIST OF BLACK TEXT AND BORDER ON A REFLECTORIZED ORANGE BACKGROUND.

INSTALLATION

THE SIGNS SHALL BE ERECTED BEFORE THE START OF ANY WORK AND SHALL BE COVERED UNTIL WORK COMMENCES. DURING PERIODS OF INACTIVITY, OR UPON COMPLETION OF THE WORK, SIGNS MAY BE REMOVED UPON COMPLETION OF THE WORK AT THE DISCRETION OF THE ENGINEER. EACH SIGN SHALL BE ERECTED IN A NEAT AND WORKMANLIKE MANNER ON POSTS SET SECURELY IN THE GROUND. THE BOTTOM OF A SIGN SHALL BE AT LEAST 7 FEET ABOVE THE EDGE OF PAVEMENT, AND THE NEAREST EDGE OF A SIGN SHALL BE AT LEAST 6 FEET OUTSIDE THE SHOULDER POINT, 4 FEET OUTSIDE GUARD RAIL, OR 2 FEET OUTSIDE CURBING, OR SIDEWALK. THE INSTALLATION OF SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER. IN URBAN AREAS, THE BOTTOM OF THE SIGN SHALL BE AT LEAST 7 FEET ABOVE THE SIDEWALK.

MAINTENANCE

SIGNS SHALL BE MAINTAINED IN A CLEAN AND LEGIBLE CONDITION SATISFACTORY TO THE ENGINEER. THEY SHALL BE COMPLETELY VISIBLE TO APPROACHING TRAFFIC AT ALL TIMES. THEY SHALL BE KEPT PLUMB AND LEVEL, AND ALWAYS PRESENT A NEAT APPEARANCE. DAMAGED, DEFACED, OR DIRTY SIGNS SHALL BE REPAIRED, CLEANED OR REPLACED AS ORDERED BY THE ENGINEER.

NOTES CONT.

GENERAL

THE COST OF FURNISHING, INSTALLING, MAINTAINING AND REMOVING ALL CONSTRUCTION APPROACH SIGNS WILL BE CONSIDERED SUBSIDIARY WORK PERTAINING TO THE PROJECT AS A WHOLE AND SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR VARIOUS ITEMS INVOLVED IN THE CONTRACT. DURING ALL PHASES OF CONSTRUCTION THE REQUIREMENTS SET FORTH IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" SHALL BE MET. WHEN THE PROJECT IS CLOSED DOWN FOR TEMPORARY PERIODS THE SIGNS SHALL BE COVERED IN A WORKMANLIKE MANNER.

SIGN COVERS

SIGN COVERS SHALL CONSIST OF A PANEL PAINTED FLAT BLACK, THE SAME SIZE AS THE SIGN IT COVERS. THE PANEL SHALL BE OF WOOD, PLYWOOD, HARDBOARD OR ANY MATERIAL SATISFACTORY TO THE ENGINEER. NO MATERIAL WILL BE APPROVED THAT WILL DETERIORATE BY EXPOSURE TO THE WEATHER DURING THE PROJECT. MOUNTING THE PANEL SHALL BE DONE IN SUCH A WAY AS NOT TO DAMAGE THE SIGN FACE MATERIAL.

CONTRACTORS SHALL COORDINATE THEIR SIGNING ACTIVITIES WITH OTHER CONTRACTORS WITHIN THE PROJECT LIMITS, AS DIRECTED BY THE REGIONAL CONSTRUCTION ENGINEER.

SIGN POSTS

WHERE CONSTRUCTION SIGN INSTALLATIONS ARE NOT PROTECTED BY GUARD RAIL OR OTHER APPROVED TRAFFIC BARRIERS, THE POSTS ON WHICH THE SIGNS ARE MOUNTED SHALL BE YIELDING METAL POSTS AS DESIGNATED IN THE E SERIES OF STANDARD DRAWINGS OR YIELDING WOODEN POSTS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:

WOODEN POSTS ARE ACCEPTABLE FOR USE WITH CONSTRUCTION SIGNS. THESE POSTS SHALL HAVE A UNIFORM CROSS-SECTION AND SHALL BE MADE FROM GRADE 2, AIR-DRIED SOUTHERN YELLOW PINE OR ANOTHER EQUIVALENT SOFTWOOD. AN ACCEPTABLE EQUIVALENT SOFTWOOD SHALL HAVE AN EXTREME FIBER IN BENDING "FB" DESIGN VALUE NOT TO EXCEED 1400 PSI AND HORIZONTAL SHEAR "FV" DESIGN VALUE NOT TO EXCEED 90 PSI SPECIFICATION; "DESIGN VALUES FOR WOOD CONSTRUCTION" AND RELATED SUPPLEMENT, DATED 1986.

AS ESTABLISHED BY THE NATIONAL FOREST PRODUCTS ASSOCIATION IN THEIR NATIONAL DESIGN THE FOLLOWING ARE CONSIDERED TO BE ACCEPTABLE WOODEN POSTS:

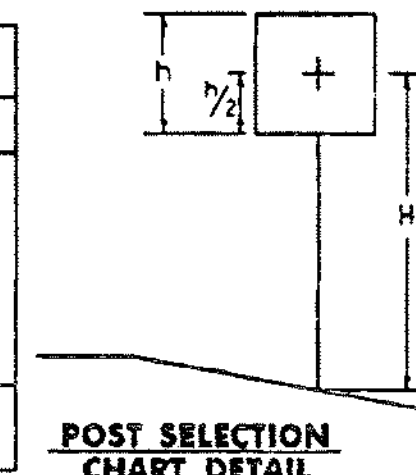
- 4" X 4" (ACTUAL DIMENSIONS ARE 3.5" X 3.5")
 - ACCEPTABLE FOR SINGLE OR DUAL POSTS INSTALLATION WITH NO MODIFICATIONS.
 - ACCEPTABLE FOR THREE POSTS (OR MORE) INSTALLATION ONLY WHEN THERE ARE NO MORE THAN TWO POSTS IN A 7 FOOT PATH.
- 4" X 6" (ACTUAL DIMENSIONS ARE 3.5" X 5.5")
 - ACCEPTABLE FOR SINGLE POST INSTALLATIONS ONLY WHEN MODIFIED BY DRILLING TWO 1 1/2" DIAMETER HOLES, ONE AT 4" AND THE OTHER 18" ABOVE THE GROUND LINE AND PERPENDICULAR TO THE ROADWAY CENTERLINE.
 - ACCEPTABLE FOR MULTIPLE POSTS (TWO OR MORE) INSTALLATIONS ONLY WHEN MODIFIED AS ABOVE AND THE MINIMUM SPACING BETWEEN POSTS IS 7 FEET.
- 6" X 6" (ACTUAL DIMENSIONS ARE 5.5" X 5.5")
 - ACCEPTABLE FOR SINGLE POST INSTALLATIONS ONLY WHEN MODIFIED BY DRILLING TWO 2" DIAMETER HOLES, ONE AT 4" AND THE OTHER AT 18" ABOVE THE GROUND LINE AND PERPENDICULAR TO ROADWAY CENTERLINE.
 - ACCEPTABLE FOR MULTIPLE POST INSTALLATION ONLY WHEN MODIFIED AS ABOVE AND THE MINIMUM SPACING BETWEEN POSTS IS 7 FEET.
- 6" X 8" (ACTUAL DIMENSIONS ARE 5.5" X 7.5")
 - ACCEPTABLE FOR SINGLE POST INSTALLATIONS ONLY WHEN MODIFIED BY DRILLING TWO 3" DIAMETER HOLES, ONE AT 4" AND THE OTHER AT 18" ABOVE THE GROUND LINE AND PERPENDICULAR TO THE ROADWAY CENTERLINE.
 - ACCEPTABLE FOR MULTIPLE POST INSTALLATIONS ONLY WHEN MODIFIED AS ABOVE AND THE MINIMUM SPACING BETWEEN POSTS IS 7 FEET.

ADDITIONAL DESIGN CRITERIA

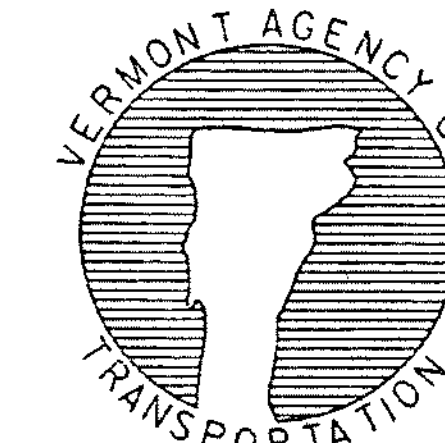
THE LONGER DIMENSION OF THE POST(S), SUCH AS THE 6" DIMENSION OF THE 4" X 6" POST, SHALL BE PLACED PARALLEL TO THE ROADWAY CENTERLINE. ALL WOODEN POSTS SHALL HAVE AN EMBEDMENT DEPTH OF 4 FEET. NO CROSS-BRACING OR BACK-BRACING TO KEEP THE POSTS PLUMB WILL BE ALLOWED. CONCRETE FOUNDATIONS COLLARS OR SOIL BEARING PLATES ARE NOT PERMITTED. CONSTRUCTIONS SIGNS SHALL BE PLACED ON TWO OR MORE POSTS WHEN ANY OF THE FOLLOWING CONDITIONS GOVERN:

- THE SIGN WIDTH (HORIZONTAL DIMENSIONS FOR DIAMOND SHAPED SIGNS) EXCEEDS 3 1/2 FEET.
- THE EXPOSED SIGN AREA OF ANY SINGLE SIGN OR ASSEMBLY EXCEEDS 12 1/2 SQ. FEET.
- THE SV OF A SINGLE POST IS EXCEEDED. (SEE THE POST SELECTION CHART BELOW).

WOOD POST SELECTION CHART		
SIGN AREA (FT ²) X HEIGHT (FT) ≤ Sv (SELECTION VALUE)		
POST SIZE	Sv	DESIGN CRITERIA:
4" X 4"	64	WIND SPEED = 60 MPH (10-YEAR MEAN OCCURENCE INTERVAL)
4" X 6"	147	WIND PRESSURE = 13 psf
6" X 6"	216	ALLOWABLE BENDING STRESS
6" X 8"	389	



OTHER STDS. REQUIRED:



STANDARD
E-100

REVISIONS AND CORRECTIONS

MAY 26, 1989 - DATE OF ORIGINAL ISSUE

OCT 21, 1992 - REVISED WOOD POST REQUIREMENTS, ADDED SIGN DETAILS, & REVISED TITLE BLOCK

AUG 08, 1995 - MINOR NOTE REVISIONS

APPROVED

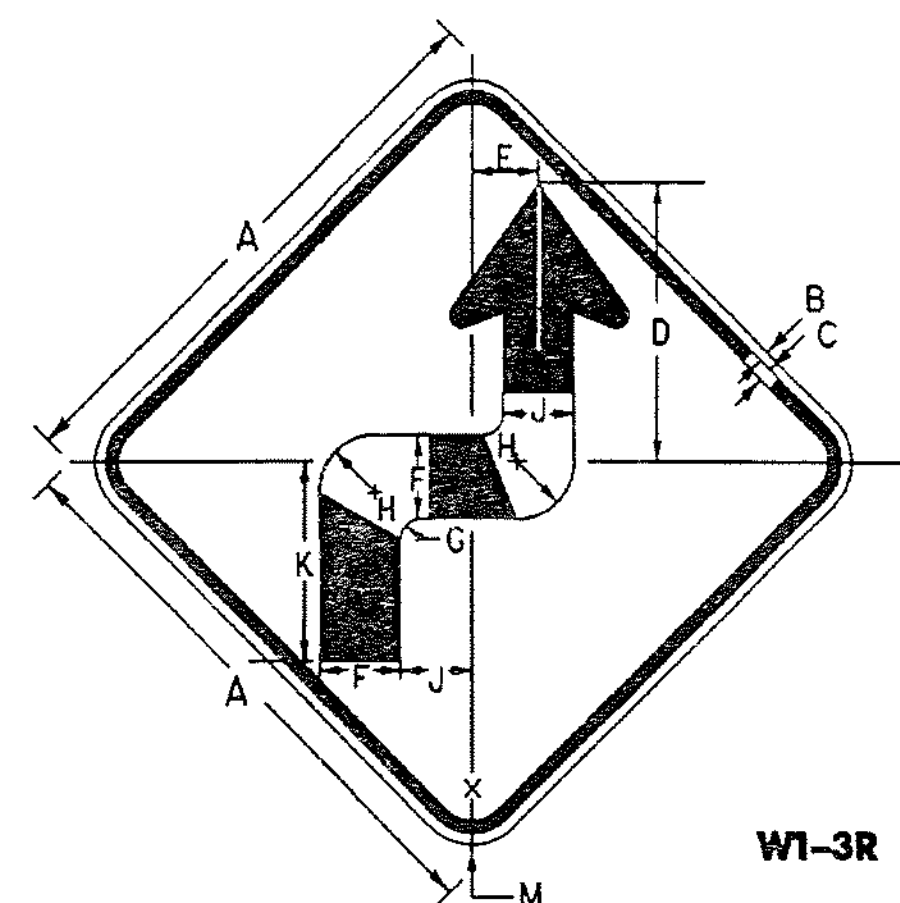
Suzanne M. McArthur
DIRECTOR OF ENGINEERING

David A. Rose
TRAFFIC AND SAFETY ENGINEER

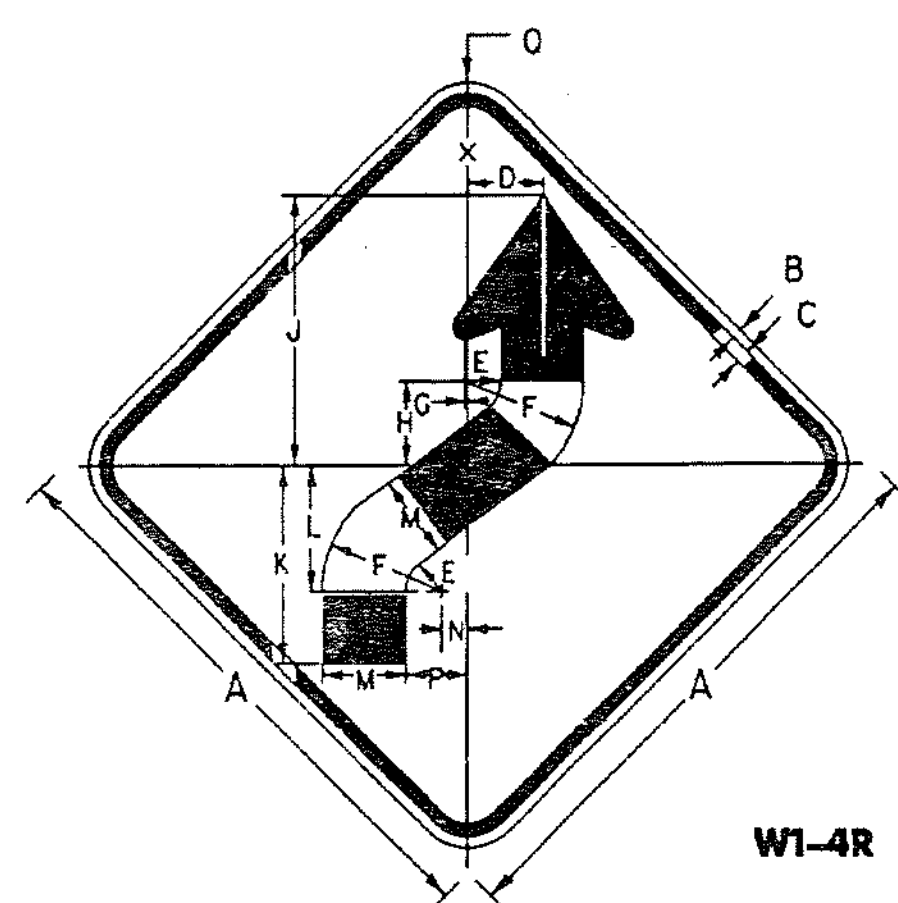
CONSTRUCTION APPROACH SIGNS

/traf/std/stdel00.dgn : stdel00.i

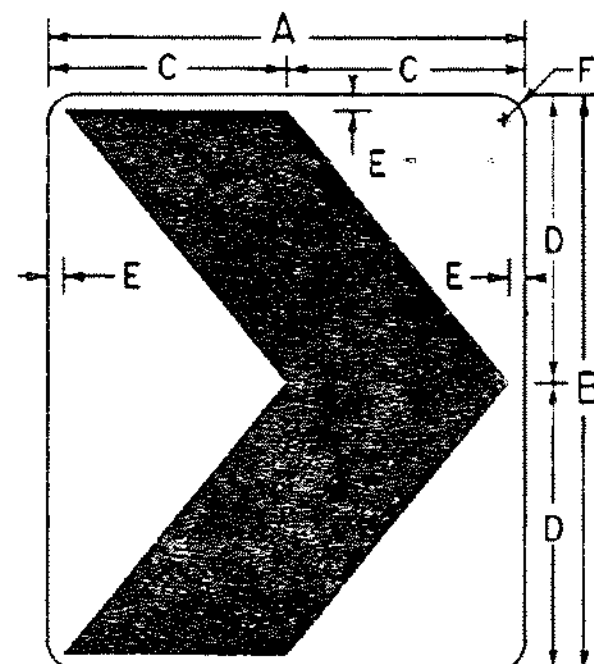
APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.



W1-3R

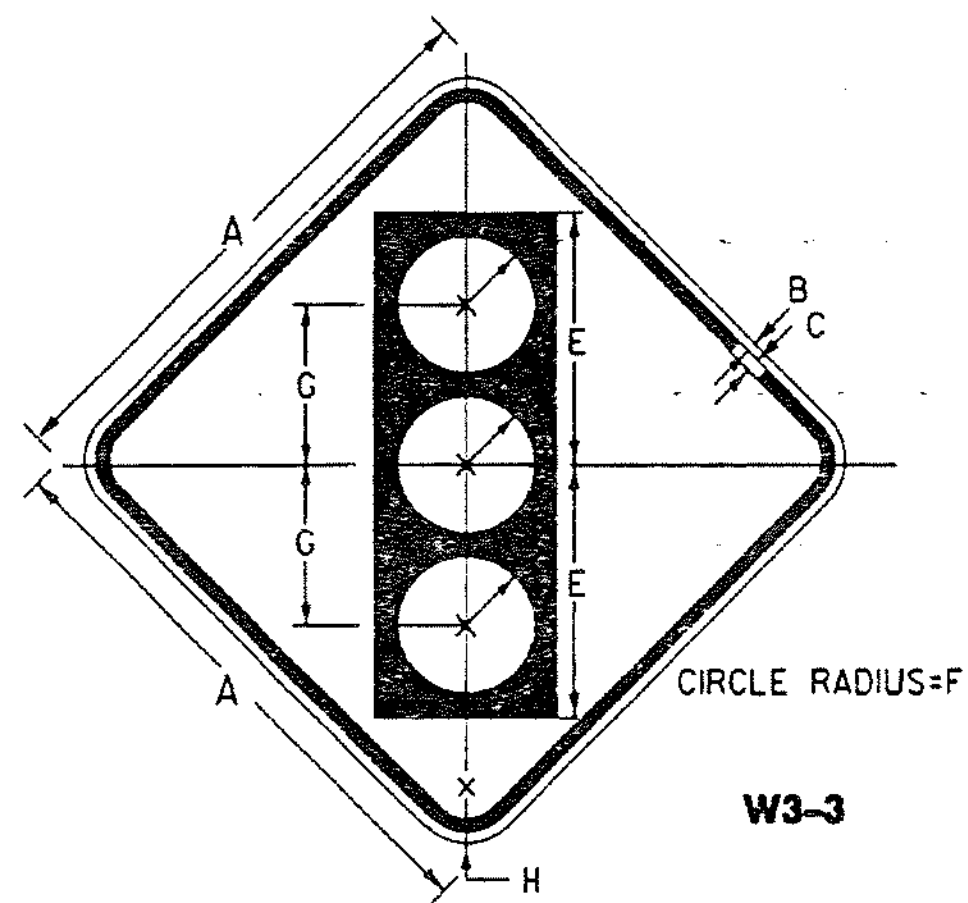


W1-4R



W1-8

DIMENSIONS (INCHES)						
SIGN	A	B	C	D	E	F
STD.	18	24	9	12	3/4	1 1/2
SPECIAL	24	30	12	15	7/8	1 1/2
EXPWY.	30	36	15	18	1	1 7/8
FRWY.	36	48	18	24	1 1/8	2 1/4

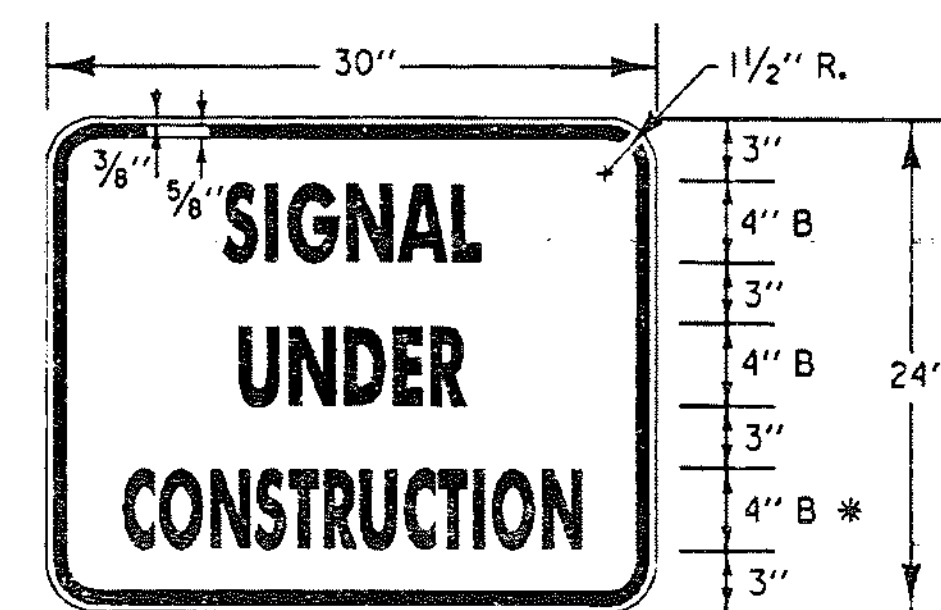


W3-3

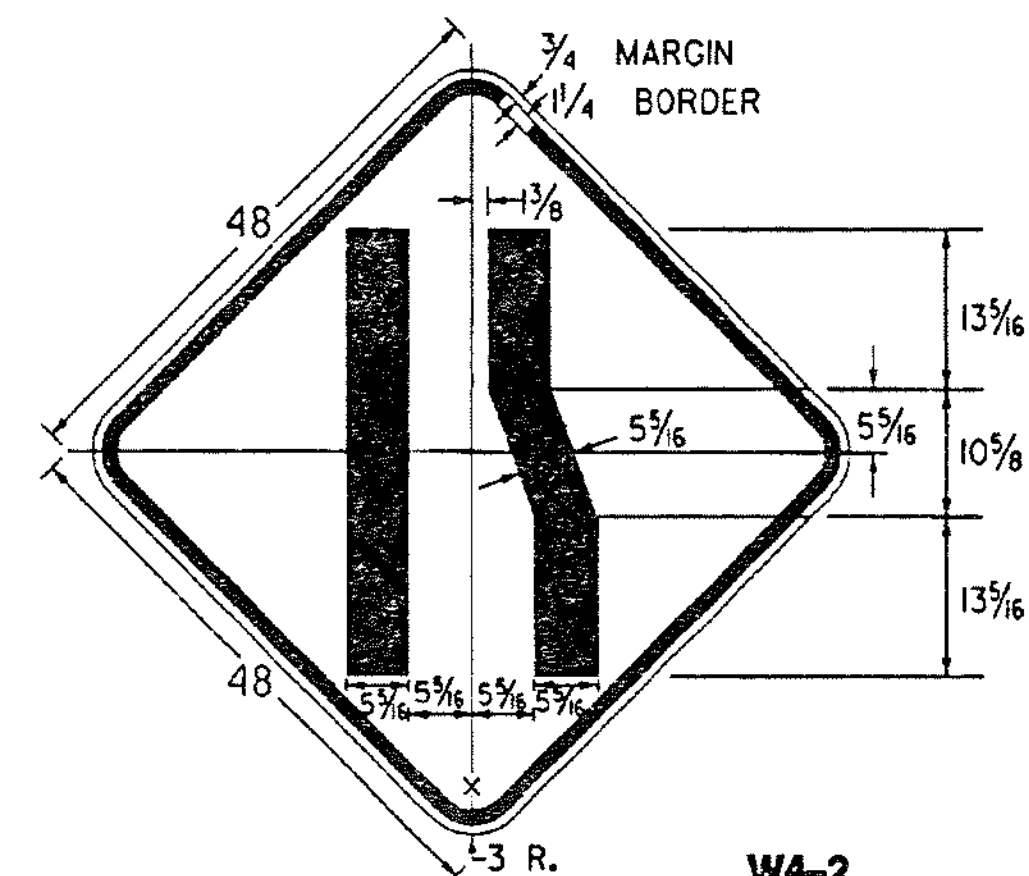
DIMENSIONS (INCHES)							
SIGN	A	B	C	D	E	F	G
STD. & MIN.	36	5/8	7/8	5 3/4	15 3/4	4 1/4	10
SPECIAL	48	3/4	1 1/4	7 1/2	20	5	12 1/2

COLORS

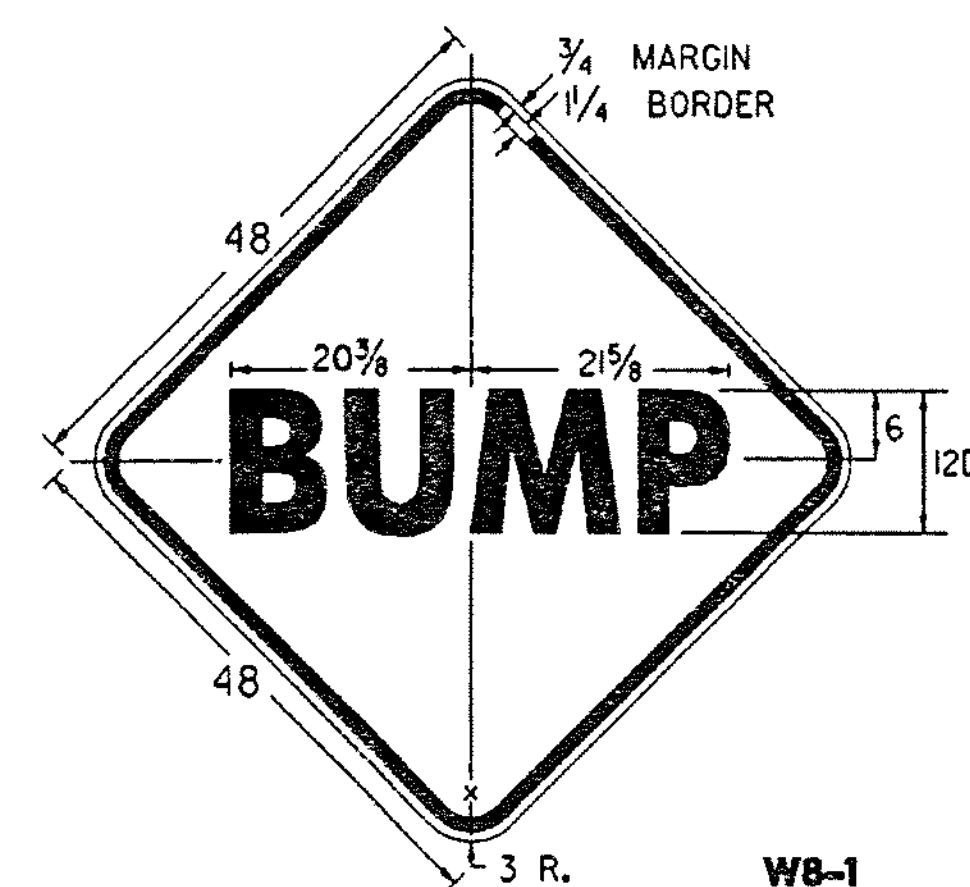
SYMBOL & LEGEND - BLACK (NON-REFL)
BACKGROUND - ORANGE (REFL)
TOP CIRCLE RED (REFL)
MIDDLE CIRCLE YELLOW (REFL)
BOTTOM CIRCLE GREEN (REFL)



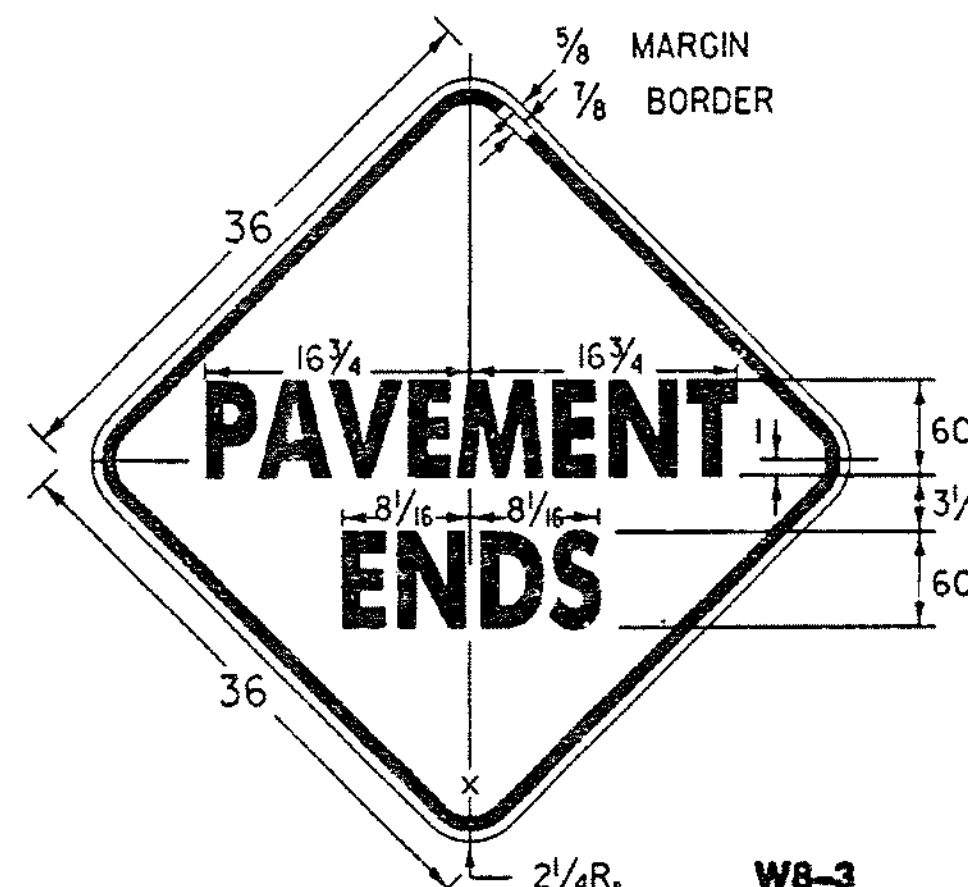
* REDUCE SPACING 50%



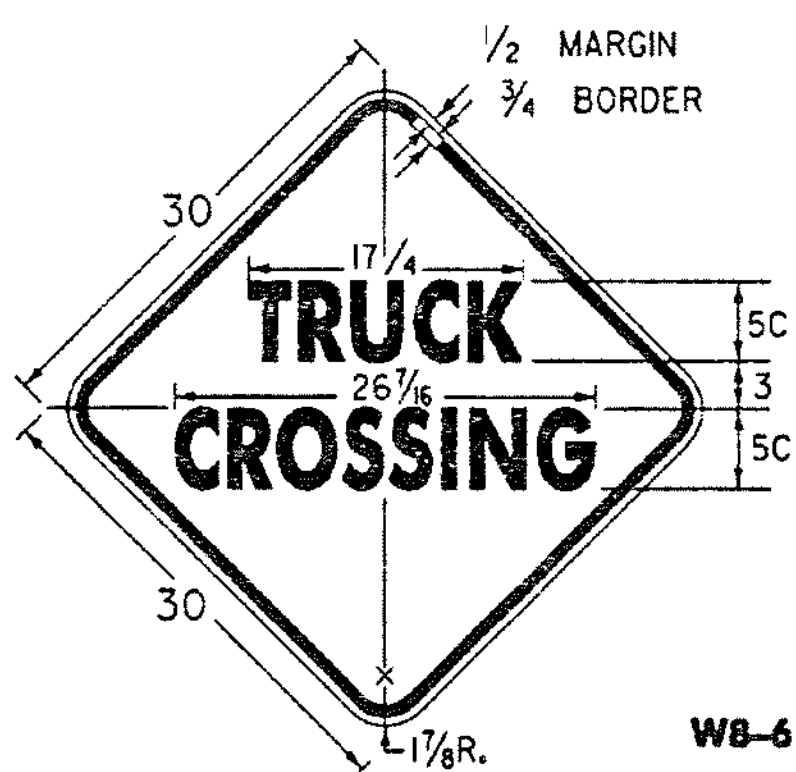
W4-2



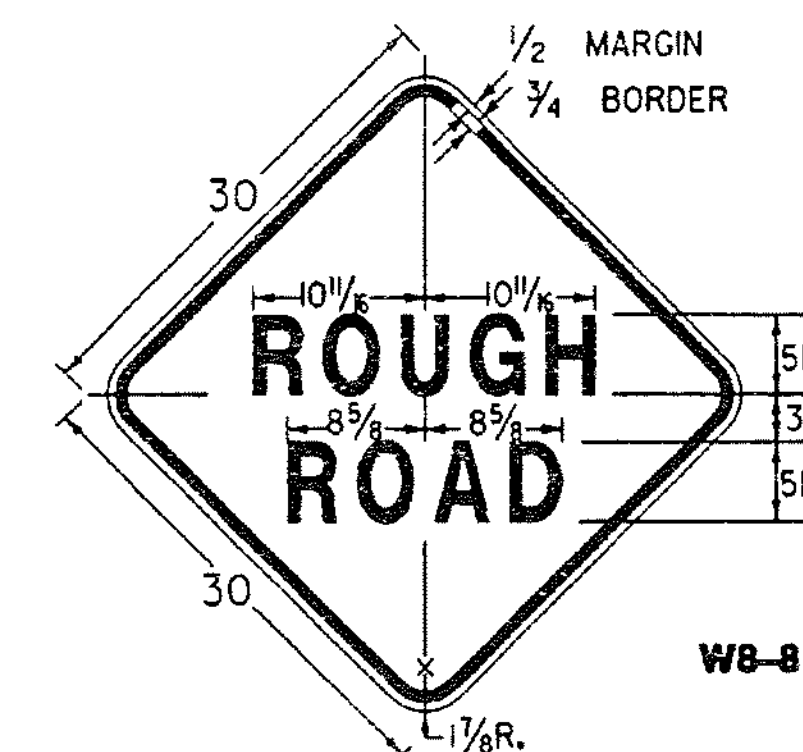
W8-1



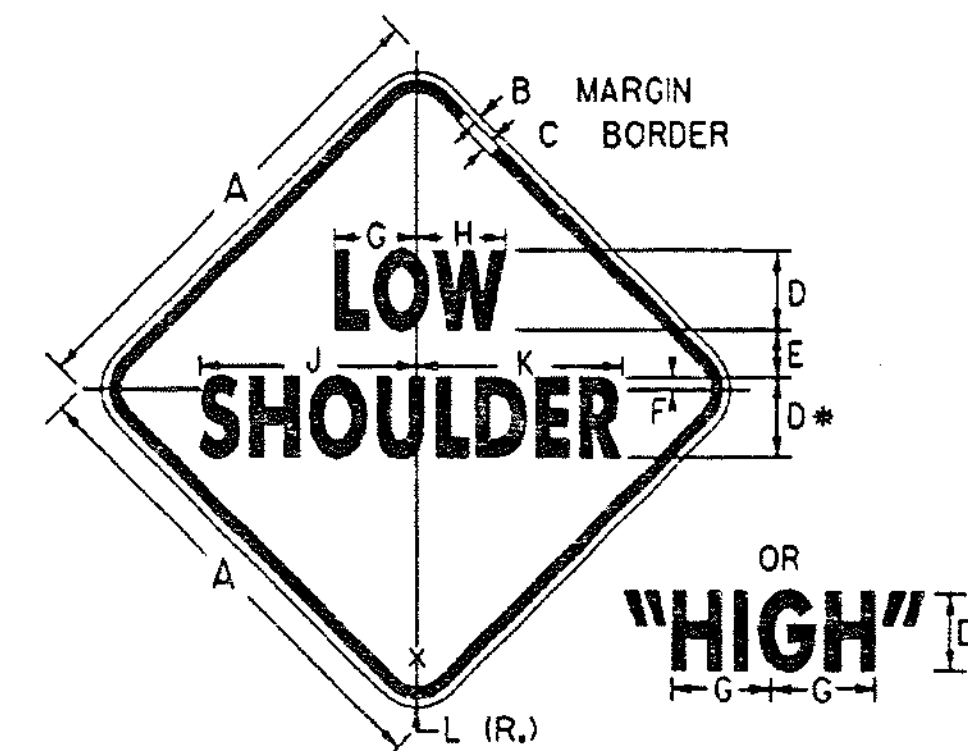
W8-3



W8-6



W8-8



W8-9

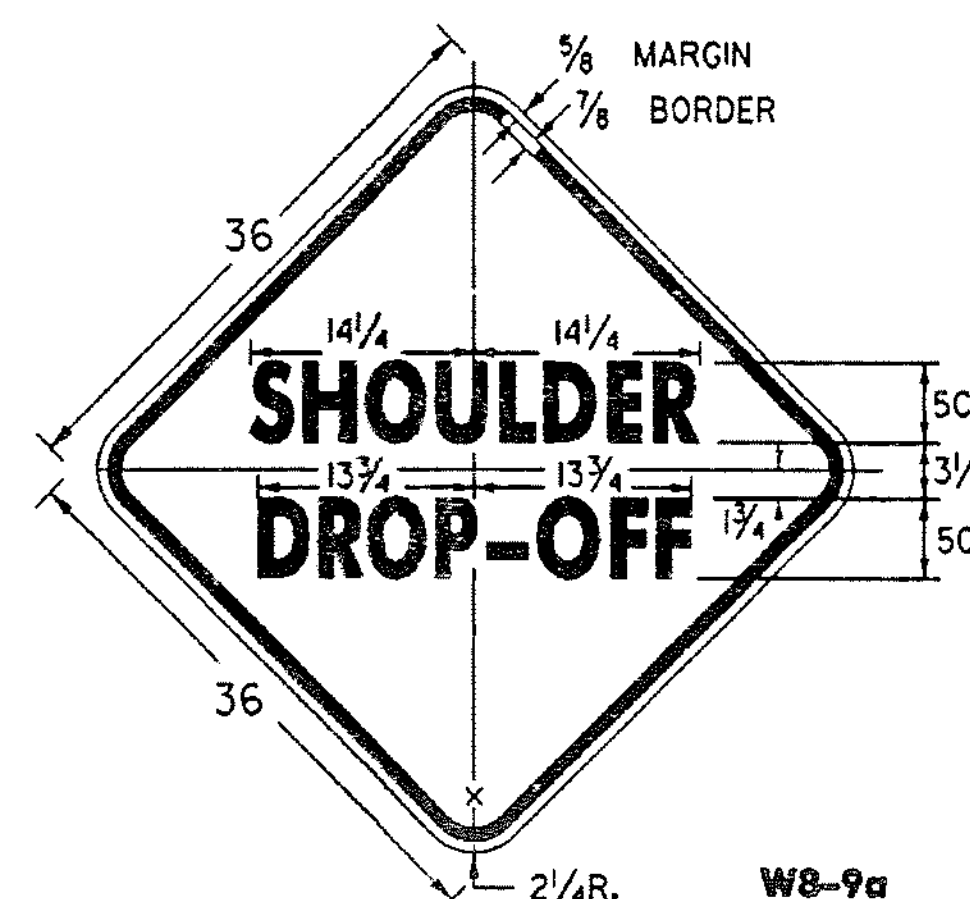
* REDUCE SPACING 25%

DIMENSIONS (INCHES)										
SIGN	A	B	C	D	E	F	G	H	J	K
STD.	30	1 1/2	3/4	5C	3	3/4	5 3/4	5 3/4	13 1/4	13 1/4
FWY.	48	3/4	1 1/4	8C	5	1 1/4	8 1/4	9	21 1/4	20 1/4

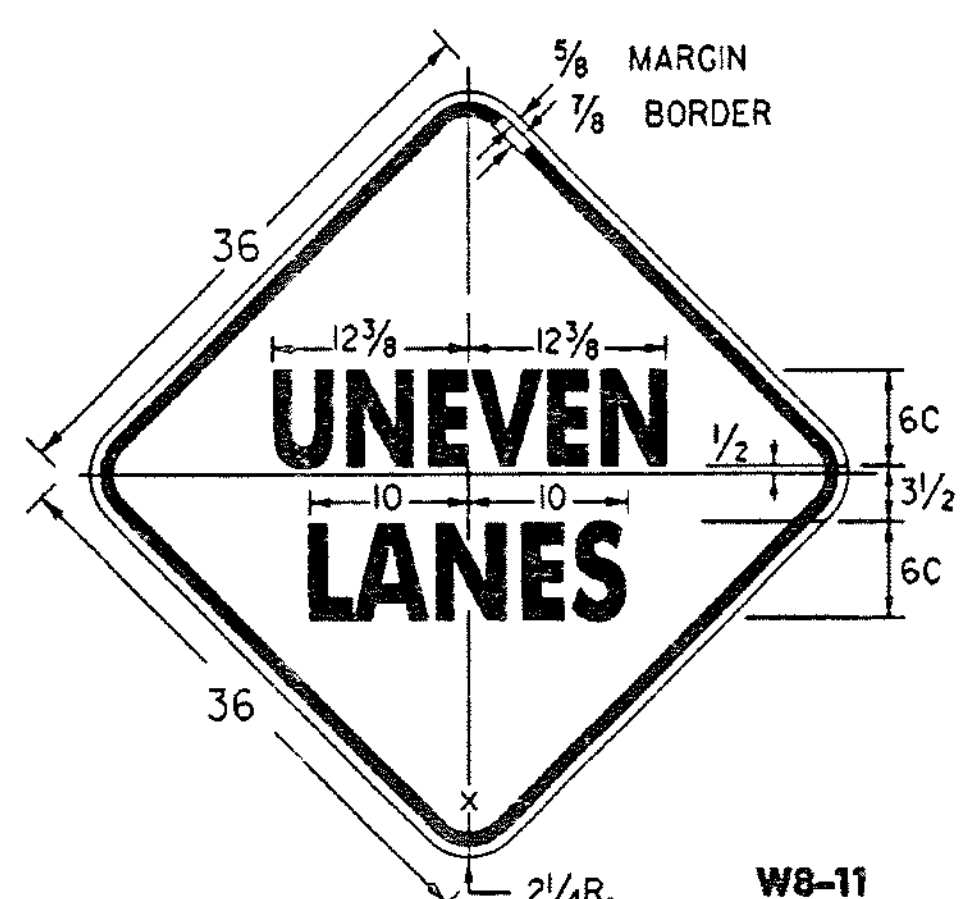
NOTES

SEE STANDARD SHEET E-100 FOR NOTES AND TEXT DETAILS
COLORS FOR SIGNS SHOWN ON THIS SHEET SHALL BE BLACK TEXT, BORDER AND SYMBOLS ON A REFLECTORIZED TYPE II B OR TYPE III ORANGE BACKGROUND, UNLESS OTHERWISE NOTED.

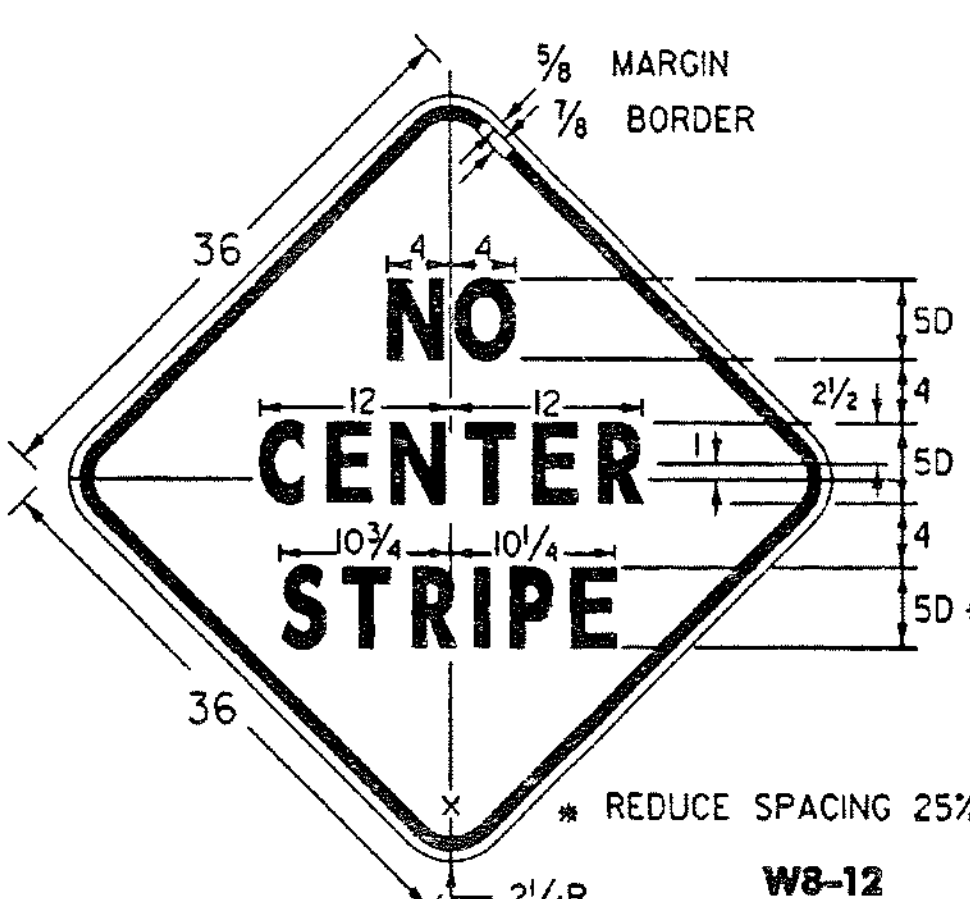
SIGNS USED ONLY FOR DAYTIME MAINTENANCE OPERATIONS DO NOT NEED TO BE REFLECTORIZED, HOWEVER, THESE SIGNS SHALL BE LABELED "DAYTIME USE ONLY" ON THE BACK OF THE SIGN PANEL WITH 3" SERIES C LETTERS.



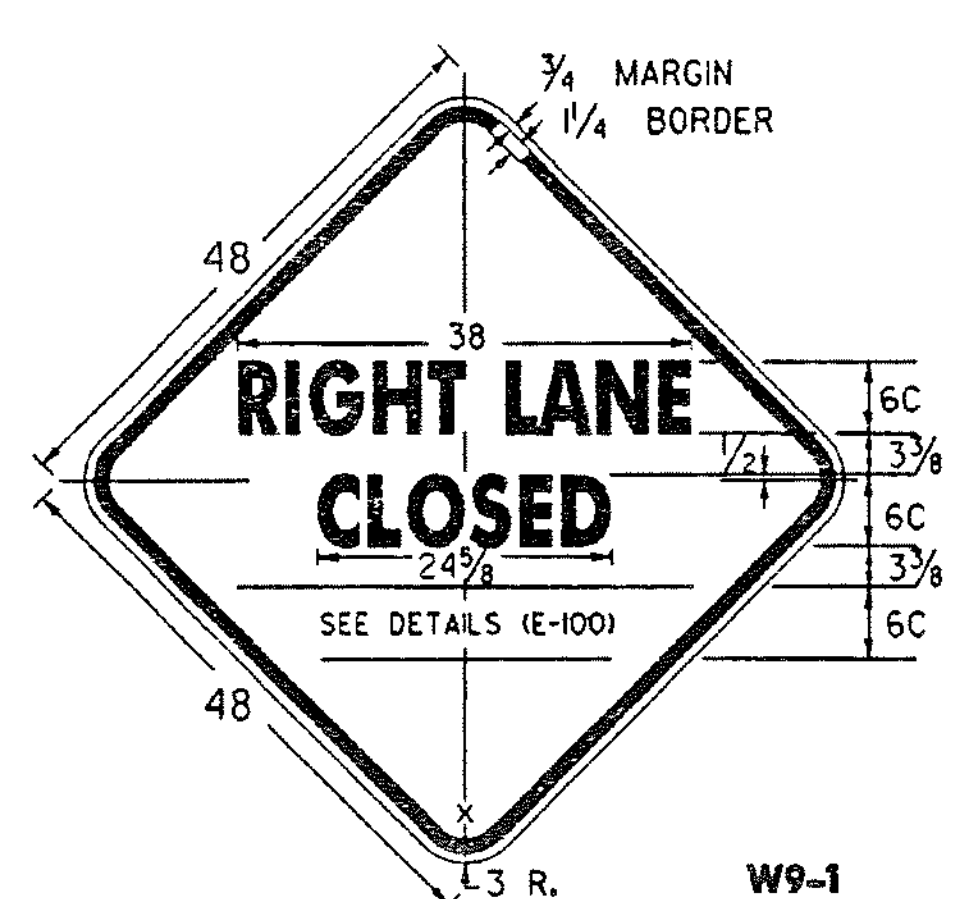
W8-9a



W8-11



W8-12



W9-1

(ALL DIMENSIONS SHOWN IN INCHES)

LEFT LANE

REVISIONS AND CORRECTIONS
OCT. 30, 1987 - DATE OF ORIGINAL ISSUE
OCT. 21, 1992 - ADDED ADDITIONAL SIGN DIMENSIONS, REVISED CHEVRON BACKGROUND TO ORANGE, & REVISED TITLE BLOCK
AUG. 08, 1995 - ADDED AND DELETED VARIOUS SIGN DETAILS

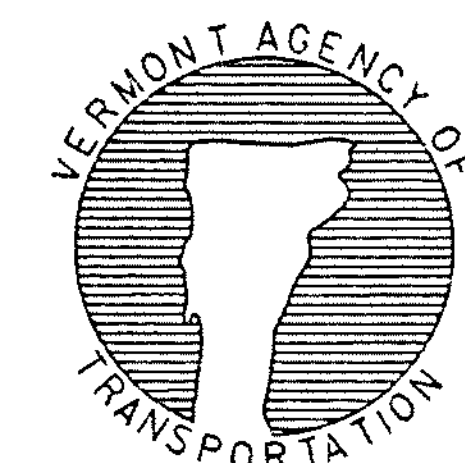
APPROVED

Stephen D. MacArthur
DIRECTOR OF ENGINEERING

David A. Ross
TRAFFIC AND SAFETY ENGINEER

CONSTRUCTION SIGN DETAILS

OTHER STDS. E-100 REQUIRED:

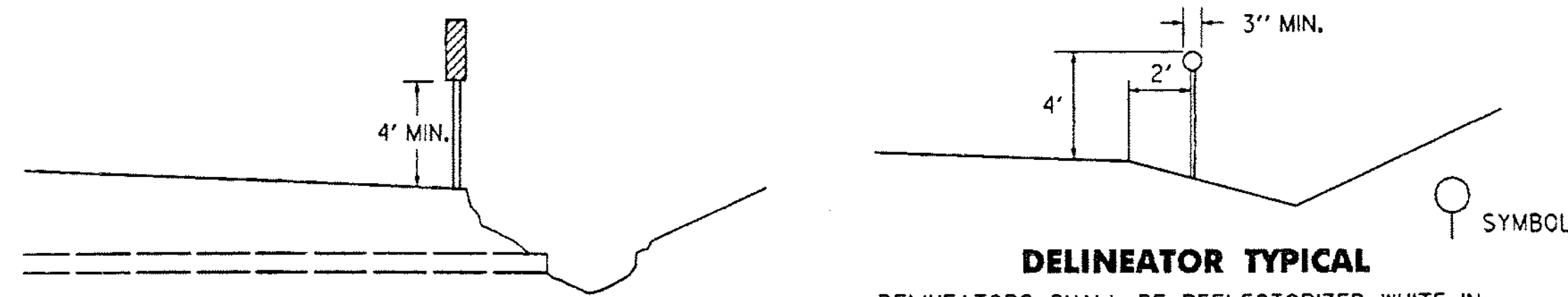


STANDARD E-101

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

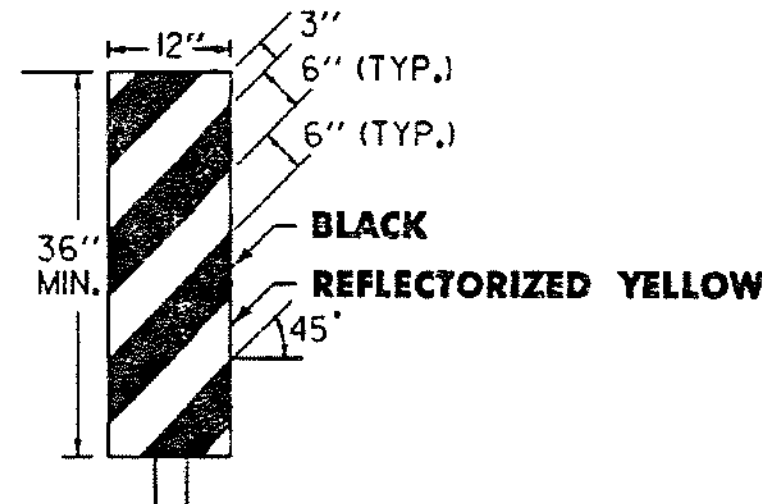
/traf/std/stdel01.dgn : stdel01.i

STANDARD E-106



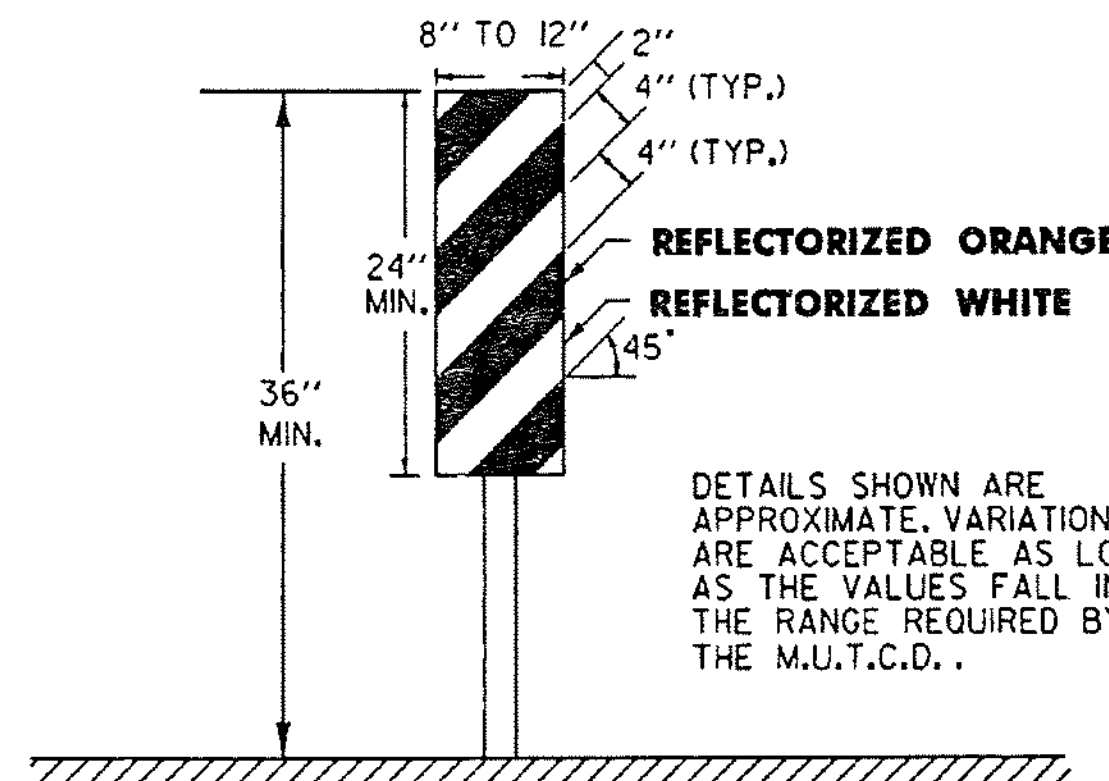
DELINEATOR TYPICAL

DELINEATORS SHALL BE REFLECTORIZED WHITE IN COLOR. THEY SHALL HAVE A MINIMUM OF 7 SQUARE INCHES. THEY MAY BE ROUND, SQUARE, OR OBLONG.



OBJECT MARKER TYPICAL

OBJECT MARKERS ARE USED TO MARK OBSTRUCTIONS WITHIN OR ADJACENT TO THE ROADWAY. IN SOME CASES THERE MAY NOT BE A PHYSICAL OBJECT INVOLVED, BUT OTHER ROADSIDE CONDITIONS SUCH AS NARROW SHOULDER DROP-OFFS, GORES, D.I. EXCAVATIONS, AND ABRUPT CHANGES IN THE ROADWAY ALIGNMENT MAY MAKE IT UNDESIRABLE FOR A DRIVER TO LEAVE THE ROADWAY. THE INSIDE EDGE OF THE OBJECT MARKER SHALL BE IN LINE WITH THE INNER EDGE OF THE OBSTRUCTION, WHENEVER POSSIBLE. OBJECT MARKERS SHALL HAVE ALTERNATING BLACK AND REFLECTORIZED YELLOW STRIPES (SLOPING DOWNWARD IN THE DIRECTION TRAFFIC IS TO PASS).

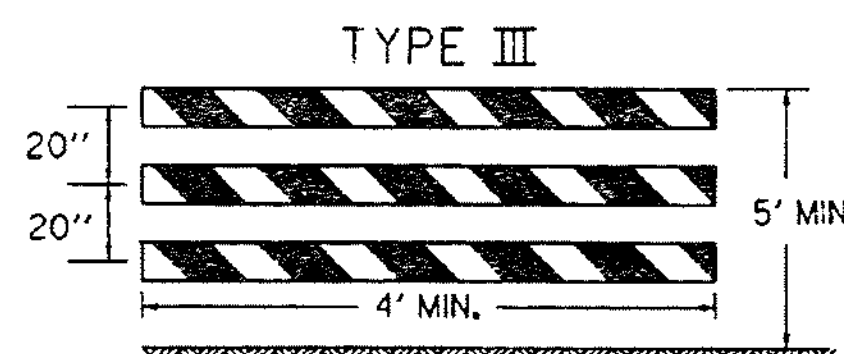
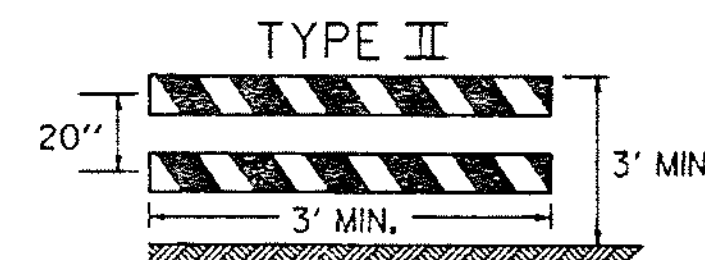
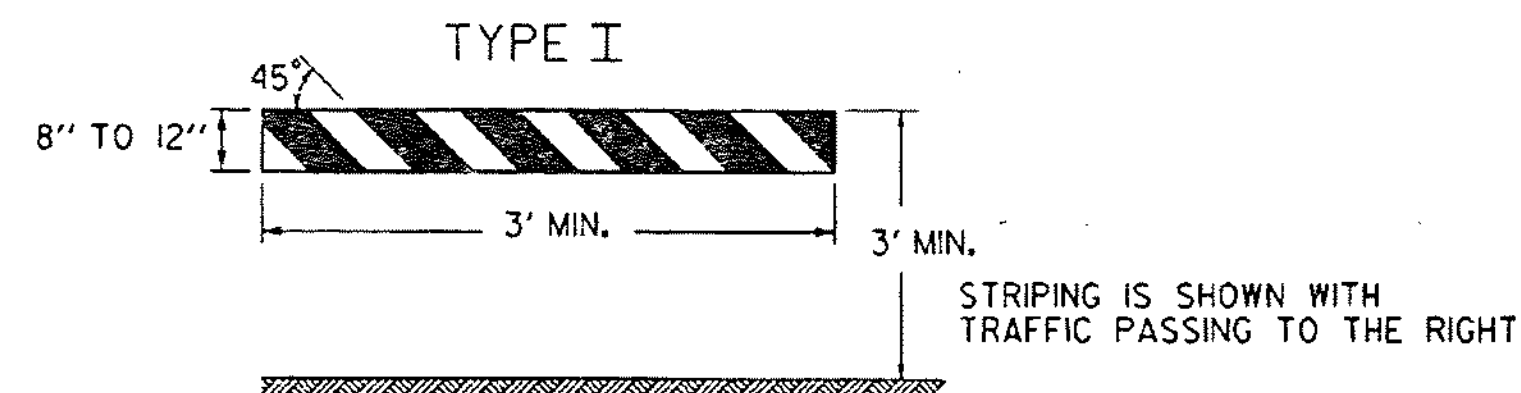


VERTICAL PANEL

VERTICAL PANELS SHALL HAVE ALTERNATING ORANGE AND WHITE REFLECTORIZED STRIPES (SLOPING DOWNWARD IN THE DIRECTION TRAFFIC IS TO PASS). THESE DEVICES MAY BE USED FOR TRAFFIC SEPARATION, CHANNELIZING OR BARRICADING WHERE SPACE IS AT A MINIMUM.

DELINEATOR, VERTICAL PANEL AND OBJECT MARKER DETAILS FOR CONSTRUCTION AREAS WHERE TRAFFIC IS MAINTAINED

ALL SIGN PLACEMENT DISTANCES ARE DESIRABLE SPECIFICATIONS. FIELD CONDITIONS SHALL CONTROL THE ACTUAL PLACEMENT. PROJECT CONSTRUCTION APPROACH SIGNING PLACEMENT SHALL TAKE INTO CONSIDERATION SPACING REQUIREMENTS FOR THE DETOUR SIGN LAYOUT REQUIREMENTS.



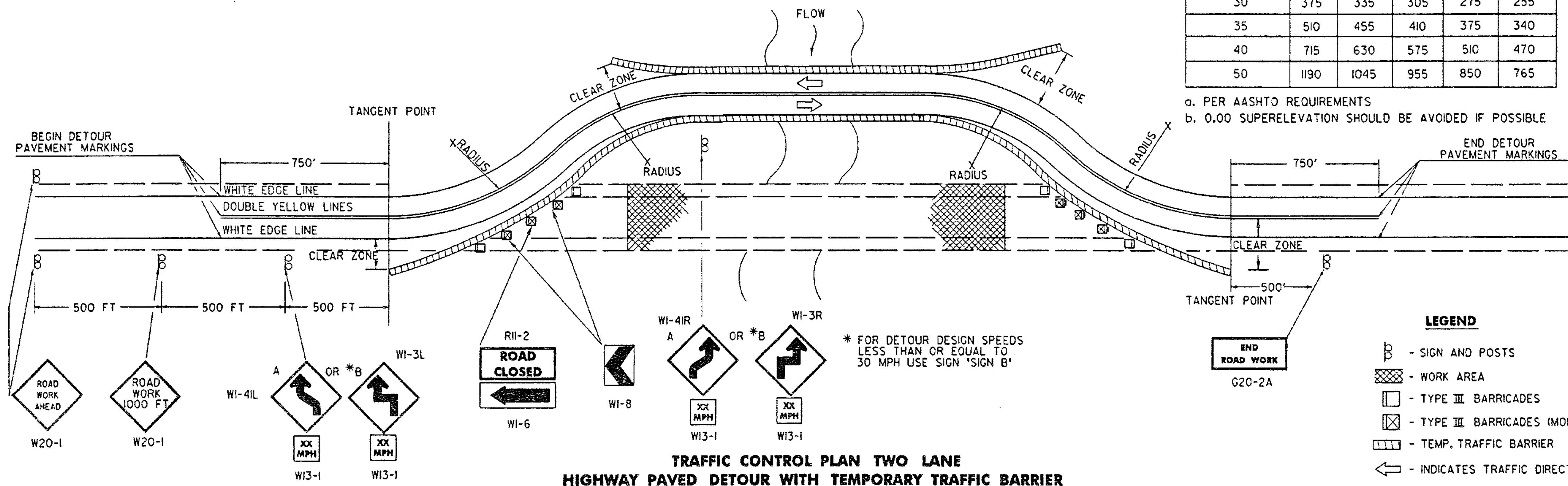
A TYPE III (MODIFIED) BARRICADE SHALL CONSIST OF TYPE II RAILS MOUNTED ON A BREAKAWAY BARRICADE AS SHOWN ON STANDARD SHEET E-107A.

BARRICADE CHARACTERISTICS

BARRICADE CHARACTERISTICS			
	I	II	III
WIDTH OF RAIL	8" MIN. 12" MAX.	8" MIN. 12" MAX.	8" MIN. 12" MAX.
LENGTH OF RAIL	3' MIN.	3' MIN.	4' MIN.
WIDTH OF STRIPES	6"	6"	6"
HEIGHT	3' MIN.	3' MIN.	5' MIN.
TYPE OF FRAME	SEE E-107A	SEE E-107A	SEE E-107A
FLEXIBILITY	PORTABLE	PORTABLE	PORTABLE
ANGLE OF STRIPE	45°	45°	45°
COLOR OF STRIPES	ORANGE AND ORANGE WHITE	ORANGE AND ORANGE WHITE	ORANGE AND ORANGE WHITE

DETOUR DESIGN SPEED (M.P.H.)	MINIMUM RADIUS (FT.) ^a				
	SUPERELEVATION (FT./FT.)				
	0.00 ^b	0.02	0.04	0.06	0.08
20	160	140	130	120	110
25	245	220	200	185	170
30	375	335	305	275	255
35	510	455	410	375	340
40	715	630	575	510	470
50	1190	1045	955	850	765

a. PER AASHTO REQUIREMENTS
b. 0.00 SUPERELEVATION SHOULD BE AVOIDED IF POSSIBLE



TRAFFIC CONTROL PLAN TWO LANE HIGHWAY PAVED DETOUR WITH TEMPORARY TRAFFIC BARRIER

BARRICADES

APPLICATION NOTES

TYPE I BARRICADES SHALL BE USED ON CONVENTIONAL ROADS OR URBAN STREETS AND ARTERIALS TO MARK A SPECIFIC HAZARD.

TYPE II BARRICADES SHALL BE USED ON EXPRESSWAYS AND FREEWAYS, SERVING THE SAME FUNCTIONS AS TYPE I BARRICADES.

TYPE III BARRICADES (SEE STD. E-107A) SHALL ONLY BE USED WHEN A ROAD SECTION OR LANE IS CLOSED TO TRAFFIC AND ARE TO BE ERECTED AT THE POINT OF CLOSURE.

MATERIALS

THE BARRICADES SHOWN ON THIS SHEET SHOULD BE OF LIGHTWEIGHT MATERIAL. IF WOOD IS USED THE FOLLOWING CONDITIONS SHALL APPLY:

- WOODEN BARRICADES (TYPE I AND II)
 - SHALL NOT BE USED TO CHANNELIZE OR DELINEATE WORK AREAS WITHIN THE CLEAR ZONE OF ANY HIGHWAY WHERE OPERATING SPEEDS IN EXCESS OF 20 M.P.H. ARE EXPECTED UNLESS INSTALLED FOR PEDESTRIAN CONTROL BEHIND APPROVED POSITIVE BARRIERS.
 - MAY BE USED WHERE OPERATING SPEEDS OF 20 M.P.H. OR LESS ARE EXPECTED.
- TYPE III WOODEN BARRICADES SHALL NOT BE USED.

COLORS

THE BARRICADE PANELS SHOWN ON THIS SHEET SHALL HAVE AN ALTERNATING REFLECTORIZED WHITE AND ORANGE STRIPES. THE ORANGE SHALL CONFORM WITH THE STANDARD COLORS ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION. THE BARRICADE COMPONENTS SHALL BE WHITE UNLESS UNPAINTED METAL OR ALUMINUM IS USED.

REFLECTORIZATION

THE REFLECTIVE SHEETING ON BARRICADE PANELS SHALL BE TYPE III.

LOCATION

THE BARRICADES SHOWN ON THIS SHEET WILL BE LOCATED BY THE RESIDENT ENGINEER IN THE FIELD OR AS SHOWN ON THE PLANS. THE LOCATION OF THE BARRICADES SHALL FOLLOW THE PROCEDURES SET FORTH IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", OR AS OTHERWISE NOTED.

MAINTENANCE

BARRICADES SHALL BE MAINTAINED IN CLEAN CONDITION, SATISFACTORY TO THE RESIDENT ENGINEER. THEY SHALL BE COMPLETELY VISIBLE TO THE APPROACHING TRAFFIC AT ALL TIMES. DAMAGED, DEFACED, OR DIRTY BARRICADES SHALL BE REPAIRED, CLEANED, OR REPLACED AS ORDERED BY THE RESIDENT ENGINEER.

DETOUR NOTES

- SIGNS AND DELINEATION SHOWN FOR ONE DIRECTION OF TRAFFIC ONLY.
- THE CONTRACTOR IS RESPONSIBLE FOR PAVEMENT MARKING AND SHALL REMOVE ANY CONFLICTING OR CONFUSING EXISTING MARKINGS.
- ADDITIONAL SIGNING MAY BE REQUIRED AT THE DISCRETION OF THE RESIDENT ENGINEER.
- UNPAVED DETOURS REQUIRE PAVEMENT MARKINGS FOR TRANSITIONS FROM EXISTING PAVEMENT.
- THE NUMBER OF CHANNELIZING DEVICES, BARRICADES AND OTHER TRAFFIC CONTROL DEVICES SHOWN ON THIS SHEET ARE FOR ILLUSTRATIVE PURPOSES ONLY. THE ACTUAL NUMBER REQUIRED SHALL BE DETERMINED BASED ON INDIVIDUAL DETOUR CONDITIONS (TAPERS, SPEED LIMITS, LENGTH OF DETOUR CURVE, ETC.).
- AASHTO CLEAR ZONE REQUIREMENTS SHOULD BE MET. IF NOT THEN AN APPROVED ENERGY ABSORPTION ATTENUATOR SUITABLE FOR THE TEMPORARY TRAFFIC BARRIER USED AND FOR THE DESIGN SPEED SHALL BE INSTALLED PER THE CURRENT AASHTO ROADSIDE DESIGN GUIDE.
- THE DETOUR DESIGN SPEED SHOULD BE NO LESS THAN 10 M.P.H. BELOW THE POSTED SPEED LIMIT, UNLESS PHYSICAL RESTRICTIONS PREVENT THIS.
- SEE STANDARD SHEETS E-100, E-101 AND E-102 FOR SIGN DETAIL AND MATERIAL REQUIREMENTS.
- IF THE USE OF TEMPORARY TRAFFIC BARRIER IS NOT REQUIRED, THEN REFLECTORIZED PLASTIC DRUMS SHALL BE USED.

OTHER STDS. REQUIRED: E-100 E-101 E-102 E-102a E-107a

REVISIONS AND CORRECTIONS

SEPT. 10, 1987 - DATE OF ORIGINAL ISSUE
APRIL 29, 1988 - FHWA REVIEW COMMENTS
SEPT. 20, 1993 - NEW RADIUS CHART, BARRICADE ALIGNMENT AND USE OF TEMPORARY TRAFFIC BARRIER
AUG. 08, 1995 - REVISED SIGNING PER MUTCD

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

APPROVED

Jonathan D. MacArthur
DIRECTOR OF ENGINEERING

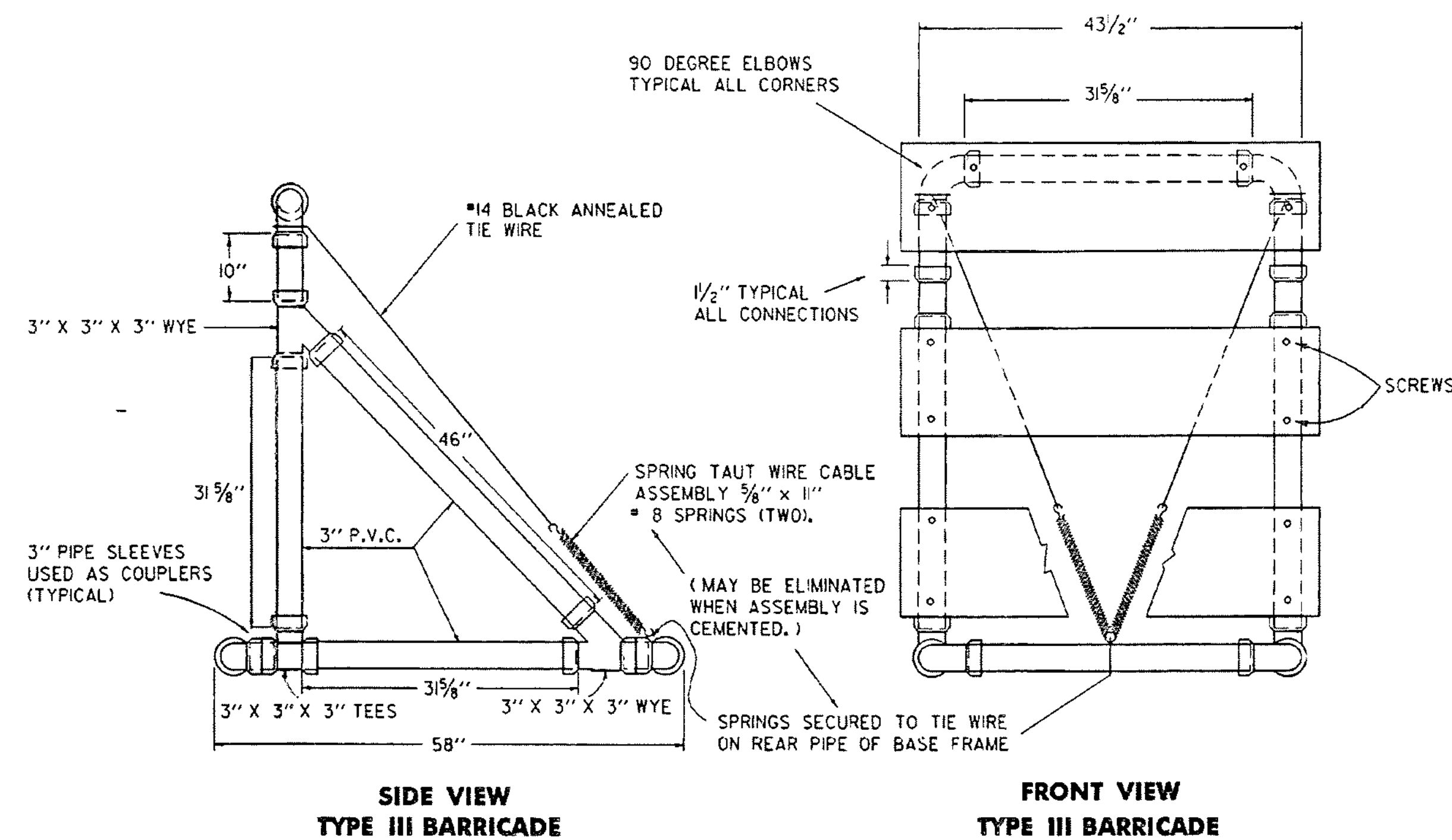
David A. Pass
TRAFFIC AND SAFETY ENGINEER

DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS

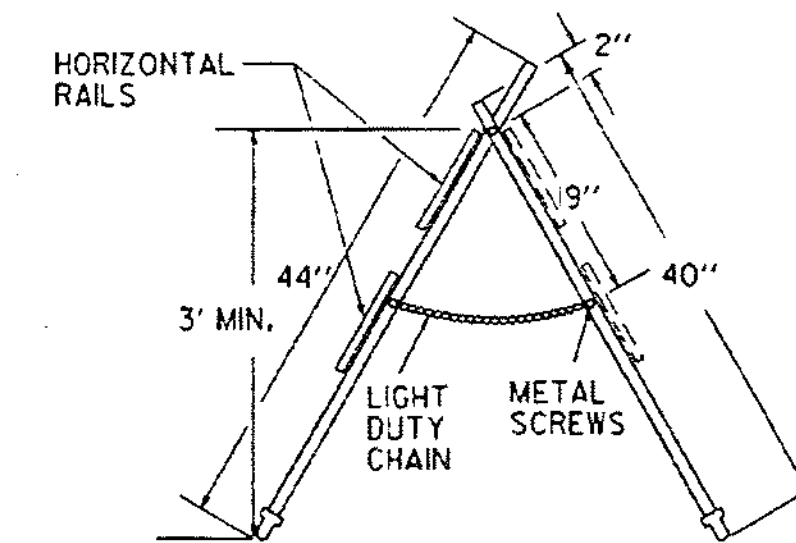
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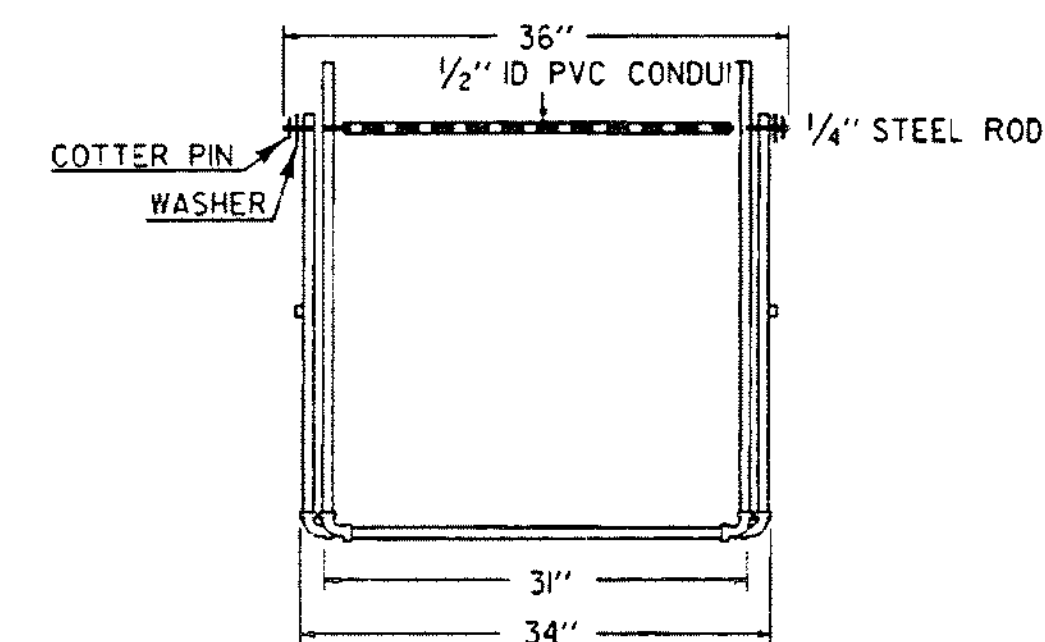
STANDARD E-107



- MATERIALS FOR TYPE I AND II BARRICADES
- 20' - 1" PVC
4 - 1" PVC 90° ELBOWS
30' - 1/2" ID THINWALL PVC CONDUIT
36" - 1/4" STEEL ROD
4 - 1" WASHERS
24" - LIGHT DUTY CHAIN
1/2" - #14 PAN HEAD METAL SCREWS (AS REQUIRED)
2 - 3/4" COTTER PINS
2 OR 4 - 8" OR 12" X 36" X 0.025 "
BARRICADE RAILS (AS REQUIRED)



- | MATERIALS FOR TYPE III BARRICADES | | |
|-----------------------------------|---------|----------------------------|
| 30 | LF - 3' | 1 D. PVC PIPE |
| 6 | 3' | 90 ELBOWS |
| 2 | 3' | TEES |
| 4 | 3' | WYES |
| 3 | 8' | OR 12' X 48' X 0.025" |
| BARRICADE RAILS | | |
| 2 | 5/8" | 18 SPRING |
| (IF ASSEMBLY IS NOT CEMENTED) | | |
| 12 | 1" | 14 PAN HEAD METAL SCREWS |
| 15 | LF - | 14 BALCK ANNEALED TIE WIRE |
| (IF ASSEMBLY IS NOT CEMENTED) | | |



TYPE I AND TYPE II BARRICADE

MATERIALS

THE PIPE, WYES, TEES AND ELBOWS USED TO CONSTRUCT BARRICADES SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION D 2241F0R P.V.C. I220 OR I220 SDR-21, PRESSURE RATING 200 PSI. THE WYES, TEES AND ELBOWS SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION D 2462, TYPE II, GRADE 10. JOINTS SHALL BE SLOPED AND BE LIGHTLY CEMENTED. THE BARRICADE RAILS SHALL BE FABRICATED FROM 0.025" ANODIZED ALUMINUM AND SHALL HAVE REFLECTORIZED ALTERNATING ORANGE AND WHITE STRIPES (SLOPING DOWNWARD AT AN

MAINTENANCE

BARRICADES SHALL BE MAINTAINED IN CLEAN AND LEGIBLE CONDITIONS SATISFACTORY TO THE ENGINEER. THEY SHALL BE COMPLETELY VISIBLE TO APPROACHING TRAFFIC AT ALL TIMES. DAMAGED, DEFACED OR DIRTY BARRICADES SHALL BE REPAIRED, CLEANED OR REPLACED AS ORDERED BY THE ENGINEER. THE P.V.C. PIPE AND FITTINGS SHALL BE WHITE IN COLOR. AT LEAST TWO (2) HOLES SHALL BE DRILLED ($\frac{1}{4}$ " DIAM.) IN EACH SECTION OF PIPE AND FITTINGS IF THE ASSEMBLY IS NOT CEMENTED.

WHICH WILL NOT CONSTITUTE A HAZARD IF THE BARRICADE IS HIT. THESE SHALL BE PLACED ONLY ON THE FRONT AND REAR PIPES OF THE BASE FRAME

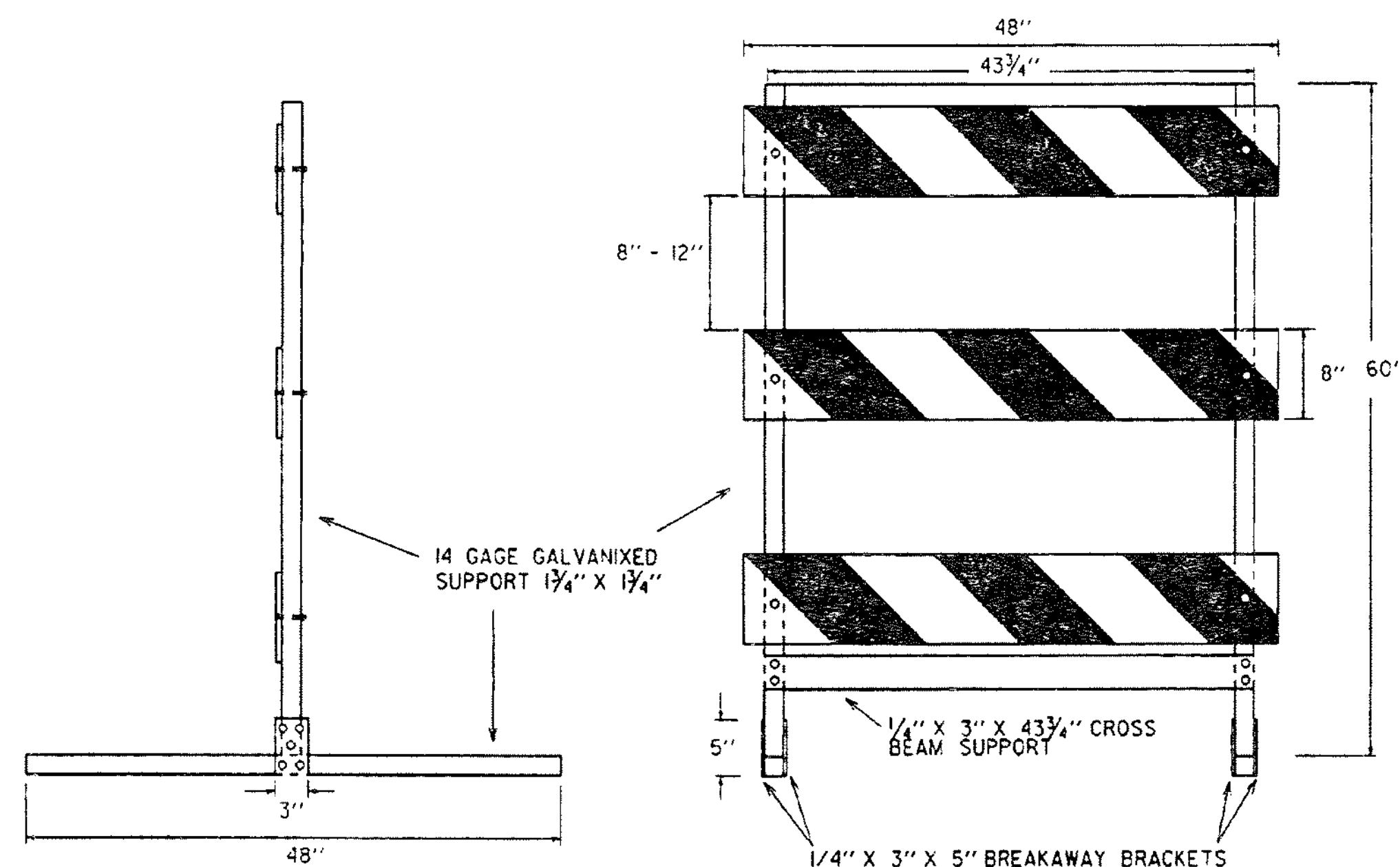
BE A HAZARD TO VEHICLES PASSING ON EITHER SIDE.
GLUED JOINTS MAY PROVIDE ADDITIONAL STABILITY TO THE INSTALLATION.

TYPE I BARRICADES SHALL UTILIZE ONE HORIZONTAL RAIL IN EACH DIRECTION.

TYPE II BARRICADES SHALL BE A TYPE I BARRICADE WITH AN ADDITIONAL HORIZONTAL RAIL MOUNTED BELOW THE OTHER IN EACH DIRECTION.

TYPE III BARRICADES (MODIFIED) SHALL CONSIST OF THE BREAKAWAY
3" PVC DESIGN SHOWN ON THIS SHEET WITH THE TWO RAIL LAYOUT
DETAILED ABOVE LEFT.

SEE STD E-107 FOR ADDITIONAL INFORMATION.



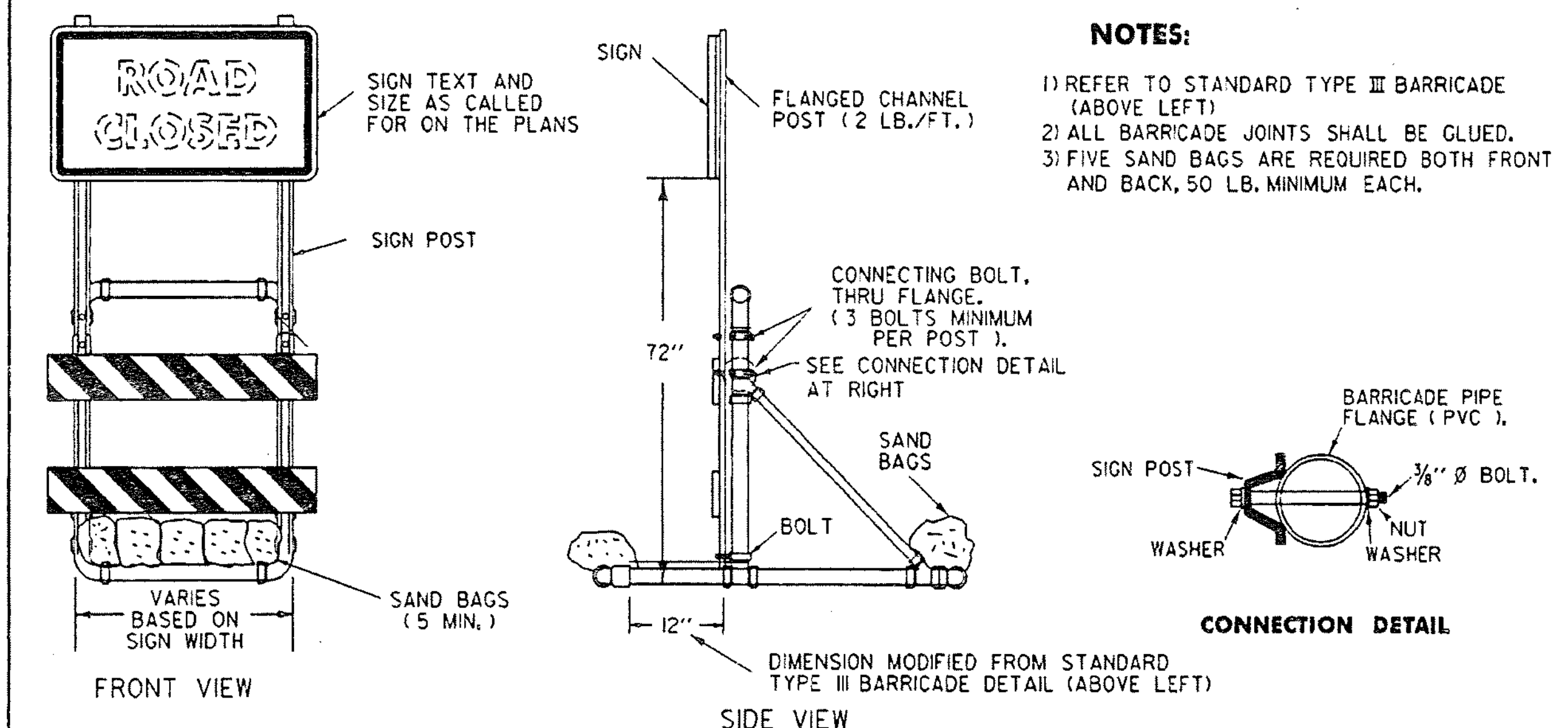
TYPE III (MODIFIED) BARRICADE
(STRIPING IS SHOWN WITH TRAFFIC PASSING TO THE RIGHT).

- MATERIALS FOR METAL TYPE III BARRICADES

PANELS (3):
8' X 48" GALVANIZED STEEL...COVERED
1 OR 2 SIDES WITH WHITE/ORANGE, DIAGONALLY
STRIPED REFLECTIVE SHEETING

VERTICAL SUPPORTS (2): 14 GAGE GALVANIZED
TUBING 1 3/4" X 1 3/4" X 60'
HORIZONTAL SUPPORTS (2): 14 GAGE GALVANIZED
TUBING 1 3/4" X 1 3/4" X 48'
CROSS BEAM SUPPORT (1): COLD GALVANIZED
STEEL 1/4" X 3" X 43 3/4'
BREAKAWAY BRACKETS (4): COLD GALVANIZED
STEEL 1/4" X 3" X 5'

FASTENERS:
 4 - SHEAR BOLTS WITH LOCK NUTS 1/4" D X 2 3/4"
 6 - FULCRUM BOLTS WITH LOCK NUTS 3/8" D X 2 3/4"
 4 - FASTENER BOLTS WITH LOCK NUTS 3/8" D X 2 3/4"
 6 - PANEL BOLTS WITH LOCK NUTS AND WASHERS
 1/4" D X 2"
 ALL FASTENERS GALVANIZED STEEL.
 ALL BOLTS HEX HEAD.



**SIGN MOUNTING ON
TYPE III BARRICADE (MODIFIED)**

OTHER STDS. E-107
REQUIRED:

REVISIONS AND CORRECTIONS

SEPT. 10, 1987 - ADDED METAL TYPE III BARRICADE
SEPT. 20, 1993 - REVISED NOTES AND TYPE III (MOD.)
BARRICADE DETAIL
AUG. 08, 1995 - ADDED METAL TYPE III BARRICADE

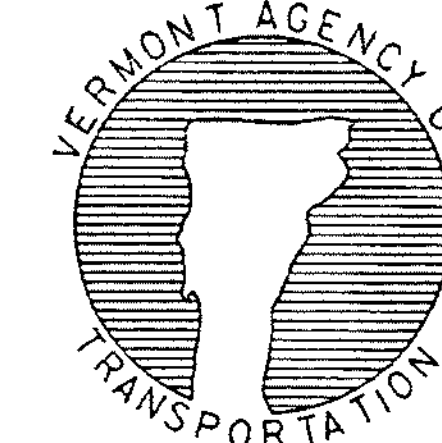
APPROVED

Gordon B. MacArthur
DIRECTOR OF ENGINEERING

David A. Ross
TRAFFIC AND SAFETY ENGINEER

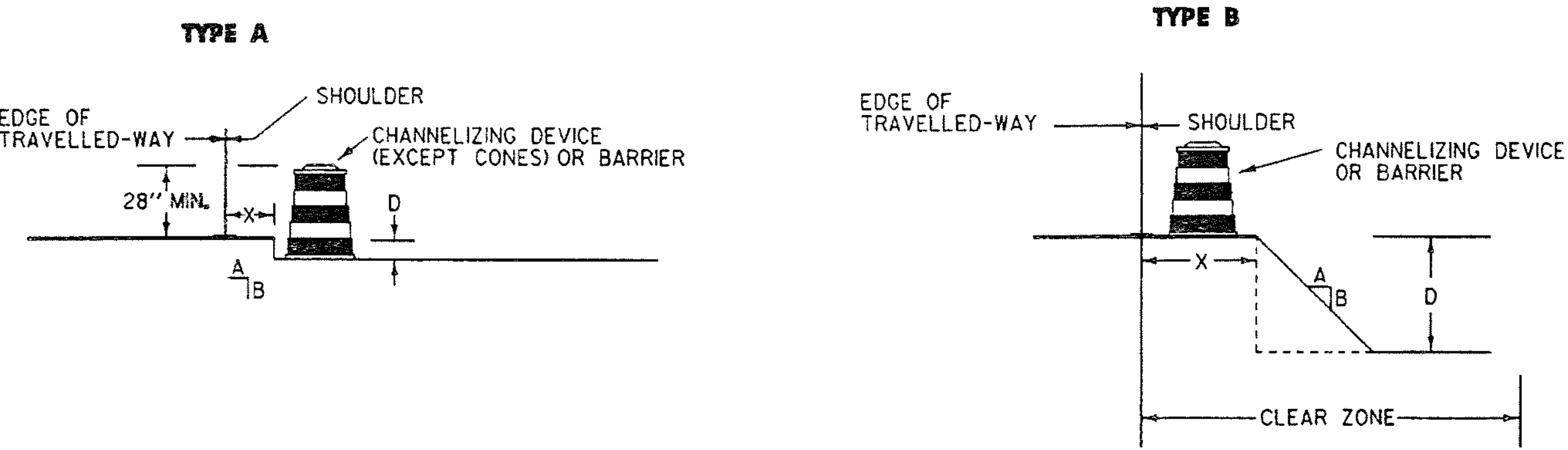
BREAKAWAY BARRICADE DETAILS

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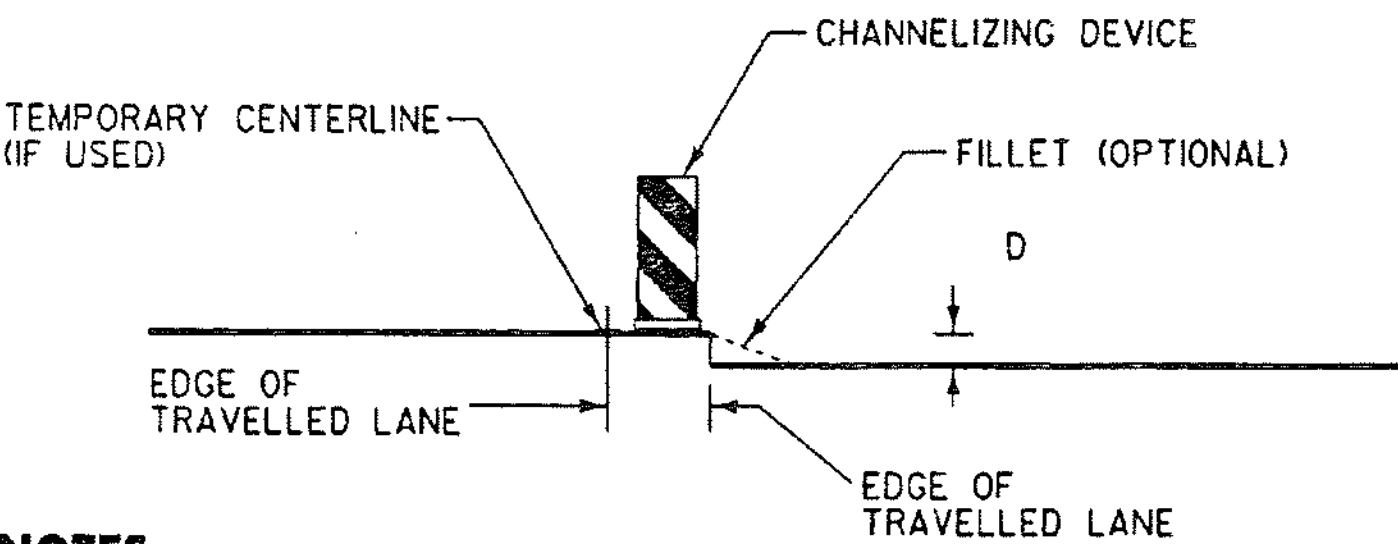
STANDARD E-107 A

CONDITION 1
DROP-OFF ADJACENT TO TRAVELLED-WAY



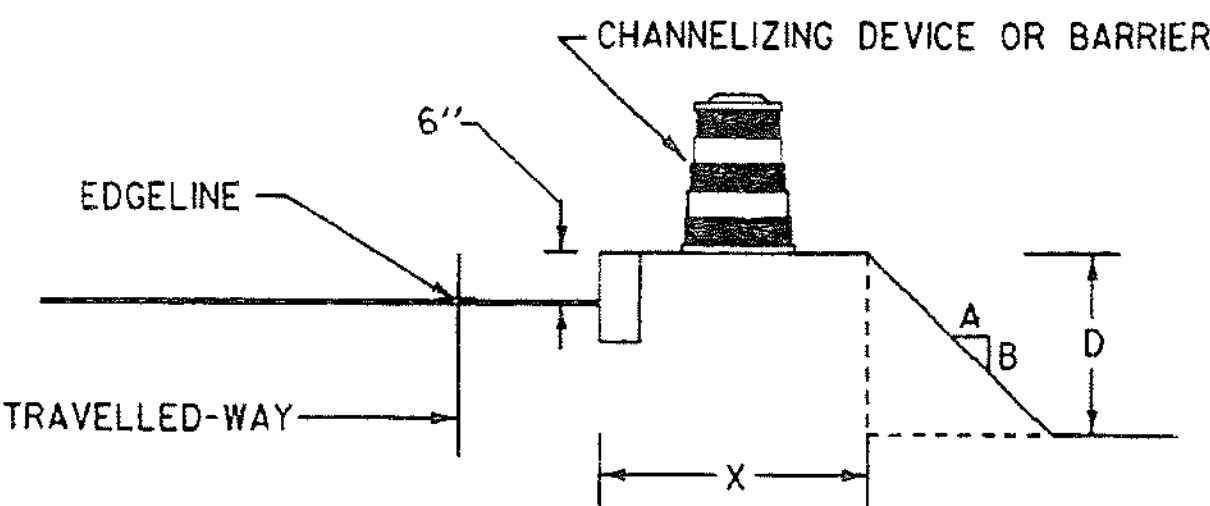
- NOTES:**
- CHANNELIZING DEVICES OR BARRIER SHOULD BE PLACED TO MAXIMIZE THE WIDTH OF THE TRAVELED-WAY.
 - FOR SPECIFIC REQUIREMENTS USE CHART "A".
 - IF THE DROP-OFF REQUIRES CHANNELIZING DEVICES TO REMAIN INPLACE OVERNIGHT THEN "LOW SHOULDER" OR "SHOULDER DROP OFF" SIGNS SHOULD BE INSTALLED.

CONDITION 2
DROP-OFF BETWEEN ADJACENT TRAVELLED LANES



- NOTES:**
- WHENEVER A LONGITUDINAL DROP-OFF BETWEEN ADJACENT TRAVELLED-LANES IS TO BE LEFT OVERNIGHT THEN "UNEVEN LANES" SIGNS AND CHANNELIZING DEVICES SHOULD BE INSTALLED.
 - IF REQUIRED, THE CHANNELIZING DEVICES USED SHOULD BE THOSE WHICH MAXIMIZE THE TRAVELLED LANE (IE. CONES, VERTICAL PANELS OR TUBULAR MARKERS).
 - A BITUMINOUS CONCRETE FILLET WITH A 3:1 SLOPE MAY BE USED IN LIEU OF CHANNELIZING DEVICES, HOWEVER THE "UNEVEN LANES" SIGNS SHOULD BE INSTALLED REGARDLESS.

CONDITION 3
DROP-OFF BEYOND SHOULDER OR CURB



- NOTES:**
- CHANNELIZING DEVICES OR BARRIER SHOULD BE PLACED TO MAXIMIZE THE WIDTH OF THE TRAVELLED WAY.
 - FOR SPECIFIC REQUIREMENTS USE CHART "A" OR "B" AS APPLICABLE.

CHART A
ALL SPEEDS
NO CURB

X (FEET)	DROP (D) (INCHES)	A/B SLOPE	DEVICE REQUIRED
0 TO 4'	LESS THAN 2"	ANY	NONE
	2" TO 5"	3:1 OR FLATTER	NONE
	2" TO 5"	STEEPER THAN 3:1	CHANNELIZING DEVICE
4' TO 10'	GREATER THAN 5"	3:1 OR FLATTER	NONE
	GREATER THAN 5"	STEEPER THAN 3:1	BARRIER
	GREATER THAN 5"	STEEPER THAN 3:1	BARRIER
4' TO 10'	LESS THAN 5"	ANY	NONE
	5" TO 12"	3:1 OR FLATTER	NONE
	5" TO 12"	STEEPER THAN 3:1	BARRIER
10' TO CZ	GREATER THAN 12"	3:1 OR FLATTER	NONE
	GREATER THAN 12"	STEEPER THAN 3:1	BARRIER
	GREATER THAN 12"	STEEPER THAN 3:1	BARRIER

- CLEAR ZONE (CZ) IS TO BE DETERMINED PER THE CURRENT AASHTO ROADSIDE DESIGN GUIDE.
- CHANNELIZING DEVICES MAY BE USED INSTEAD OF BARRIER FOR SHORT TERM (ONE-DAY) OPERATIONS.
- ON BORDERLINE CONDITIONS THE ENGINEER SHALL DETERMINE WHICH TREATMENT IS ADEQUATE FOR THE EXISTING CONDITIONS.

GENERAL NOTES

- THESE CONDITIONS AND TREATMENTS ARE ONLY PART OF THE TRAFFIC CONTROL SYSTEM AND SHALL BE USED IN ADDITION TO THE PROPER WORK ZONE SIGNING.
- THE FOLLOWING ARE ACCEPTABLE CHANNELIZING DEVICES:
SEE STANDARD SHEETS E-106, E-107 AND E-107A FOR FURTHER DETAILS
A. VERTICAL PANEL
B. TYPE I OR TYPE II BARRICADE
C. PLASTIC DRUM
* D. CONE - WHERE APPLICABLE
* CONES SHALL NOT BE USED WHEN THE CHANNELIZING DEVICE IS REQUIRED TO BE PLACED BELOW THE GRADE OF THE TRAVELLED-WAY. (SEE CONDITION 1, TYPE A)
- WHERE BARRIER IS CALLED FOR, EITHER CONCRETE BARRIER (JERSEY SHAPE), STEEL BEAM GUARDRAIL OR OTHER FHWA APPROVED BARRIER MAY BE USED.
-BARRIER ENDS FACING ONCOMING TRAFFIC SHALL BE TAPERED BEYOND THE CLEAR ZONE OR PROTECTED WITH AN APPROVED END TREATMENT DESIGNED FOR THE 85TH PERCENTILE SPEED OR THE POSTED SPEED LIMIT OF THE ROADWAY.
- CHANNELIZING DEVICE SPACING SHALL BE AS FOLLOWS:
TAPERS - CHANNELIZING DEVICES SHALL BE SPACED A MAXIMUM OF 'S' (THE SPEED LIMIT IN FEET, 65 MPH = 65 FT) CENTER TO CENTER.
TANGENT - CHANNELIZING DEVICES SHALL BE SPACED 'S' (THE SPEED LIMIT IN FEET, 65 MPH = 65 FT) TO A MAXIMUM OF '2S' CENTER TO CENTER.
- "LOW SHOULDER" OR "UNEVEN LANES" SIGNS, WHEN USED, SHALL BEGIN PRIOR TO THE DROP-OFF CONDITION AND SHOULD BE REPEATED EVERY 1500 FEET.

CHART B
40 MPH OR LESS
WITH CURB

X (FEET)	DROP (D) (INCHES)	DEVICE REQUIRED
0-10'	LESS THAN OR EQUAL TO 12"	NONE
0-10'	GREATER THAN 12"	CHANNELIZING DEVICE
GREATER THAN 10	ANY	NONE

- NOTES:**
- USE THIS CHART ONLY FOR CONDITION 3.
 - USE THIS CHART FOR VERTICAL CURBS OF 6" OR GREATER FOR LOWER CURBS OR MOUNTABLE USE CHART A.
 - FOR CURBED SECTIONS WITH POSTED SPEEDS ABOVE 40 MPH USE CHART A.

REVISIONS AND CORRECTIONS

SEPT. 20, 1993 - DATE OF ORIGINAL ISSUE
AUG. 18, 1995 - ADDED SHOULDER WARNING NOTE

APPROVED FOR THIS PROJECT
AND/OR DESIGN IMPLEMENTATION.
FHWA FINAL APPROVAL PENDING.

APPROVED

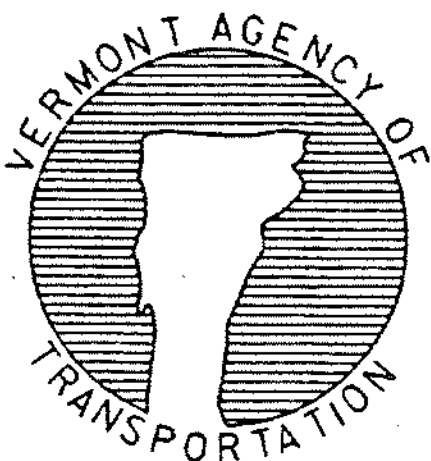
Samuel M. McCall
DIRECTOR OF ENGINEERING

David O. Ross
TRAFFIC AND SAFETY ENGINEER

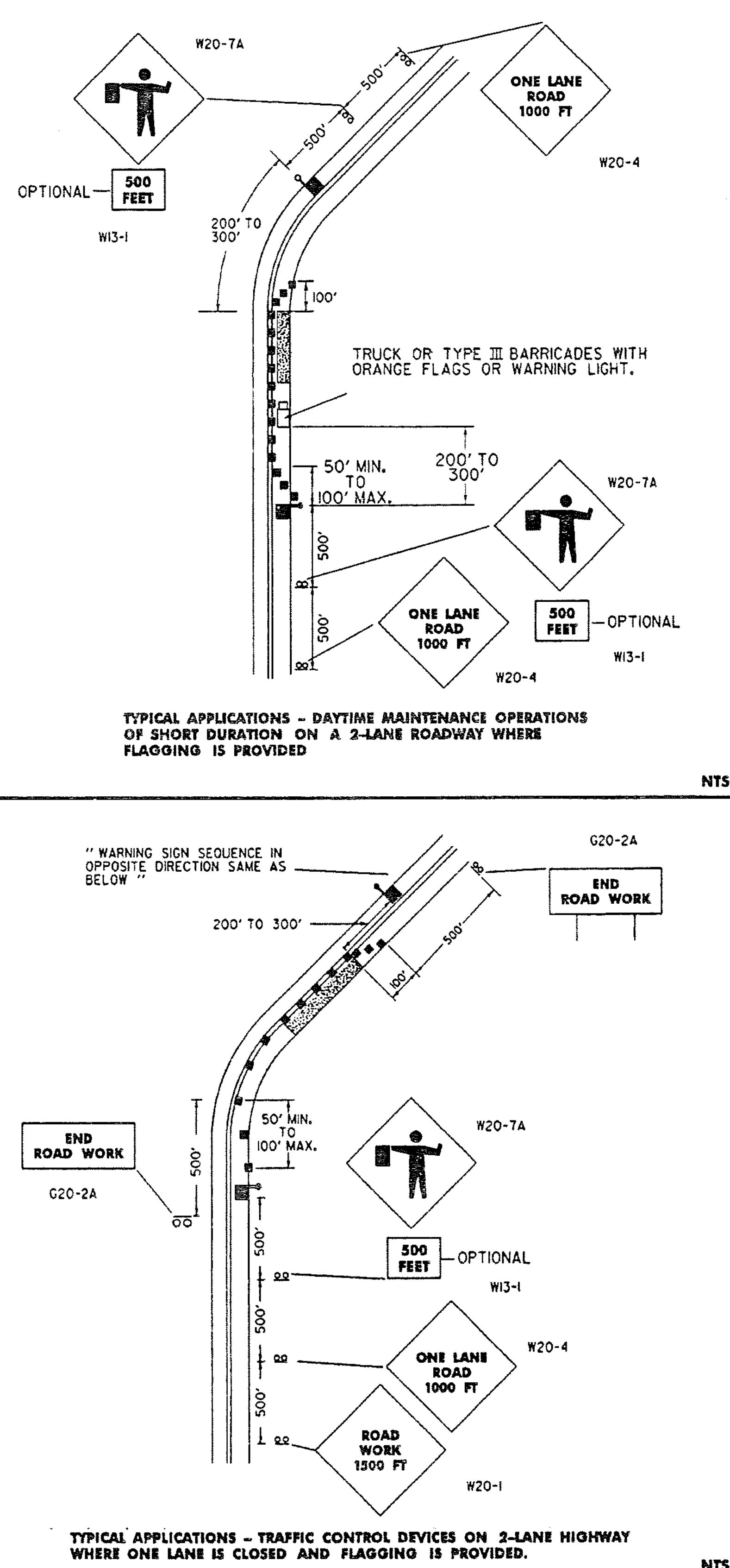
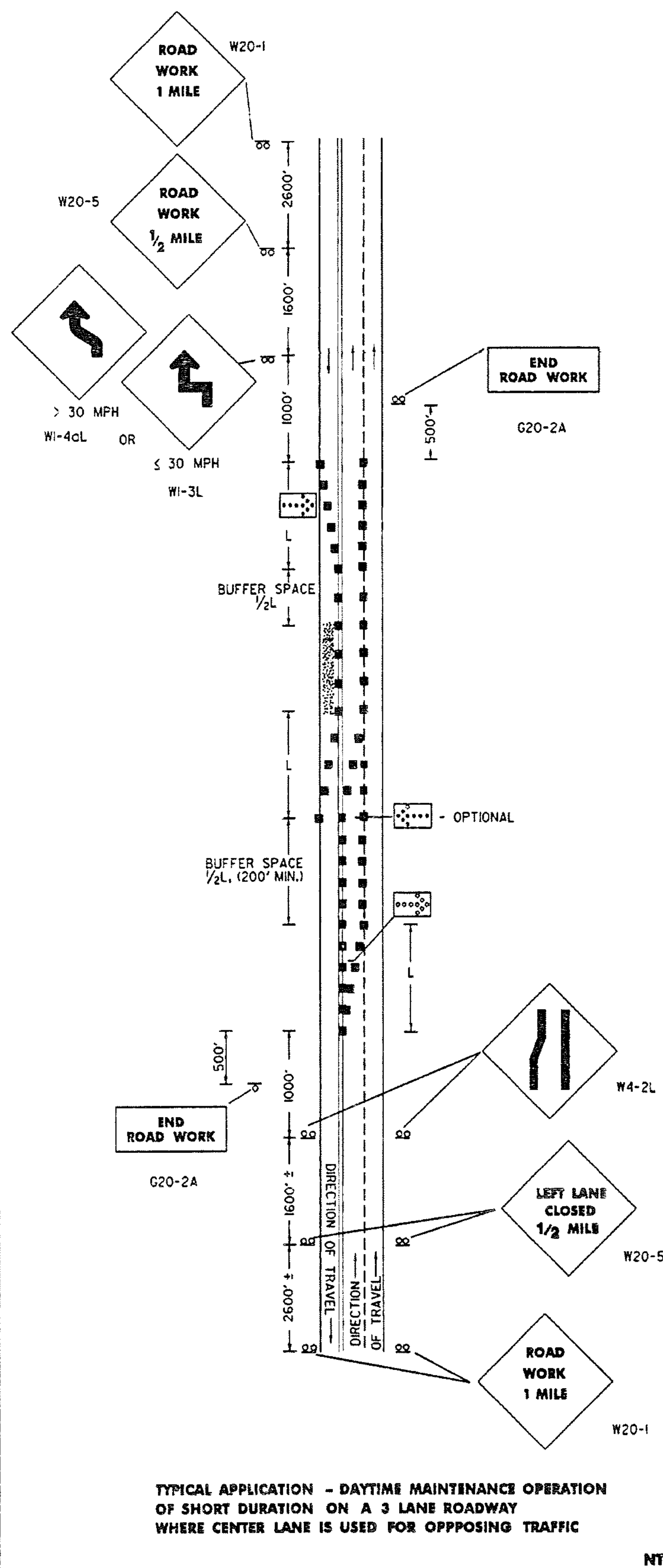
CONSTRUCTION ZONE
LONGITUDINAL DROP OFFS

/traf/std/stdel08.dgn : stdel08.1

OTHER STDS. E-101 E-107
REQUIRED: E-106 E-107A



STANDARD
E-108



- ### NOTES
- REFLECTORIZATION**
ALL SIGNS USED DURING THE HOURS OF DARKNESS SHALL BE REFLECTORIZED (TYPE 11 OR 111). CONES USED FOR TRAFFIC CONTROL AT NIGHT SHALL COMPLY WITH STANDARD E-106.
- COLORS**
THE WARNING SIGNS SHOWN ON THIS SHEET SHALL HAVE BLACK TEXT, BORDER, AND SYMBOLS ON AN ORANGE BACKGROUND. THE TEXT AND BORDERS MAY BE SCREENED, LETTERING FILM, OR HAND PAINTED. THE ORANGE SHALL CONFORM WITH THE STANDARD COLORS ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION.
- TEXT DESIGN**
LETTERS, DIGITS, SPACING, AND TEXT DIMENSIONS SHALL CONFORM WITH THE "STANDARD ALPHABETS FOR HIGHWAY SIGNS" AS REFERENCED IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
- SPECIFICATIONS**
WARNING SIGNS SHALL MEET THE STANDARD STATE SPECIFICATIONS FOR TRAFFIC SIGNS.
- SIGN BASE MATERIAL**
THE SIGN BASE MATERIAL USED FOR THE WARNING SIGNS ON THIS SHEET MAY BE OF ANY OF THE FOLLOWING, WITH MINIMUM THICKNESS AS NOTED:
FLAT STEEL OR ALUMINUM 0.125 INCHES
HIGH DENSITY OVERLAYED PLYWOOD 1/2, 5/8, OR 3/4 INCHES
GALVANIZED SHEET STEEL 12 GAGE
- SIGNS WITH "ROAD WORK 1500 FT. AND "END ROAD WORK" TEXT SHALL BE USED WHEN THE WORK IS NOT COMPLETE AND A HAZARD REMAINS OVERNIGHT.
 - THE FLAGPERSON SHALL USE THE SIGN PADDLE DETAILED ON STANDARD SHEET E-102.
 - ALL SIGNS SHALL BE COVERED OR REMOVED AT THE END OF THE WORKING DAY UNLESS REQUIRED FOR THE PROTECTION AND SAFETY OF THE TRAVELING PUBLIC.
 - INSTALLATION: SIGNS AND BARRICADES SHALL BE IN PLACE PRIOR TO THE START OF THE MAINTENANCE OPERATION TO WHICH THEY APPLY AND SHALL BE REMOVED PROMPTLY WHEN THE NEED NO LONGER EXISTS. EACH SIGN SHALL BE ERECTED IN A NEAT AND WORKMANLIKE MANNER ON YIELDING WOOD OR METAL POSTS SET SECURELY IN THE GROUND IN ACCORDANCE WITH STD. E-121, OR ON PORTABLE SUPPORTS WHEN APPROPRIATE. THE INSTALLATION OF SIGNS AND BARRICADES SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
 - ALTHOUGH LISTED AS A MAINTENANCE OPERATION STANDARD SIGN SHEET, THE APPROACH SIGNS SHOWN SHALL BE USED BY CONTRACTORS WHEN WORKING WITHIN OR OUTSIDE PROJECT LIMITS.
 - ALL DISTANCES ARE DESIRABLE SPECIFICATIONS. FIELD CONDITIONS SHALL CONTROL THE ACTUAL PLACEMENT.
 - SIGN DETAILS NOT SHOWN ON THIS SHEET CAN BE FOUND ON STANDARD SHEETS E-100, E-101, AND E-102.
 - TAPER FORMULA
 $L = \frac{WS^2}{60}$ FOR SPEEDS OF 45 OR MORE
 $L = \frac{WS^2}{80}$ FOR SPEEDS OF 40 OR LESS
WHERE:
L = MINIMUM LENGTH OF TAPER
S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85 PERCENTILE SPEED.
W = WIDTH OF OFFSET.
 - THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT IN M.P.H. ON TANGENT SECTIONS THE MAXIMUM SPACING SHOULD BE APPROXIMATELY EQUAL TO TWICE THE POSTED SPEED LIMIT.
 - FLOOD LIGHTS SHOULD BE PROVIDED TO MARK THE FLAGPERSON STATIONS AT NIGHT AS NEEDED.
 - AT SHORT WORK ZONES WHERE ADEQUATE SIGHT DISTANCE IS AVAILABLE FOR THE SAFE HANDLING OF TRAFFIC ONE FLAGGER MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
 - CHANNELIZING DEVICES SHALL BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
 - THE NUMBER OF CHANNELIZING AND OTHER TRAFFIC CONTROL DEVICES SHOWN ON THIS SHEET ARE FOR ILLUSTRATIVE PURPOSES ONLY. THE ACTUAL NUMBER REQUIRED SHALL BE DETERMINED BASED ON INDIVIDUAL DETOUR CONDITIONS (TAPERS, SPEED LIMITS, LENGTH OF DETOUR CURVE, ETC.).
- LEGEND:**
- | | |
|---------------------------------------|---------------------|
| FLAGPERSON | WORK AREA |
| CHANNELIZING DEVICES (CONES OR DRUMS) | SIGN & POSTS |
| FLASHING ARROW PANEL | TYPE III BARRICADES |
- OTHER STDS. REQUIRED:** E-100 E-101 E-102 E-106

REVISIONS AND CORRECTIONS

SEPT 10, 1987 - DATE OF ORIGINAL ISSUE
MAR 01, 1988 - FHWA REVIEW COMMENTS

SEP 20, 1993 - REVISED NOTES & MISC. DETAILS

AUG 08, 1995 - DELETED SIGN DETAILS

APPROVED FOR THIS PROJECT
AND/OR DESIGN IMPLEMENTATION,
FHWA FINAL APPROVAL PENDING.

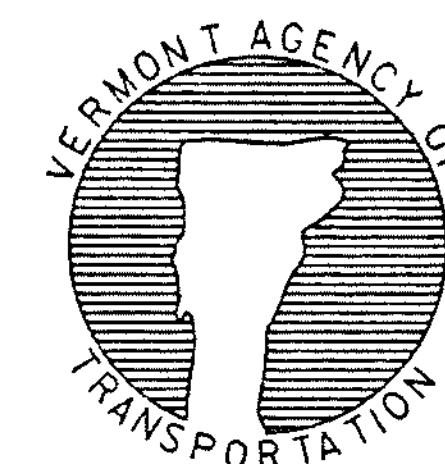
APPROVED

Stephen D. McArthur
DIRECTOR OF ENGINEERING

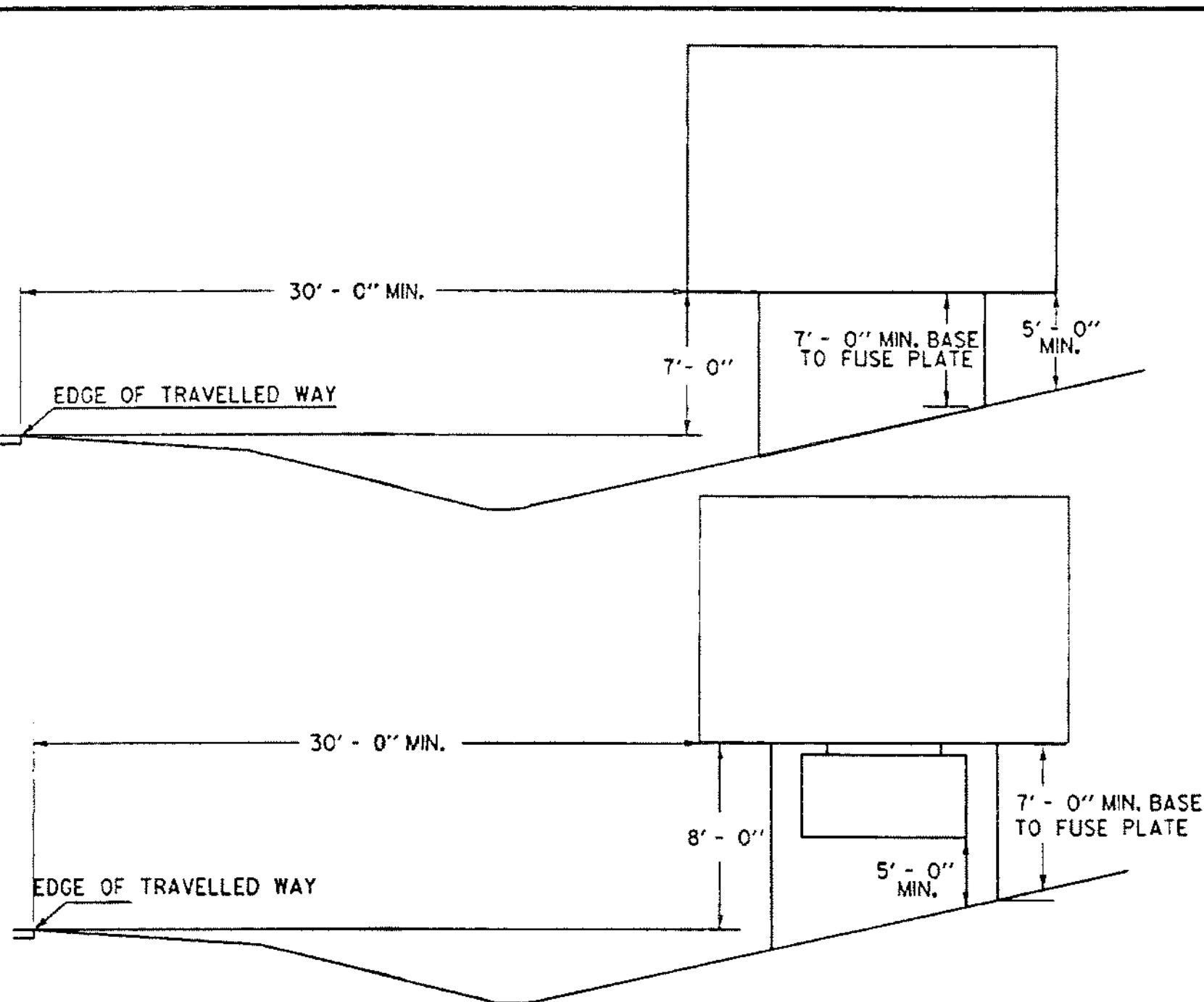
David A. Ross
TRAFFIC AND SAFETY ENGINEER

MAJOR MAINTENANCE OPERATION LANE CLOSURE

/traf/std/stdell0.dgn : stdell0.1



STANDARD E-110



GUARDRAIL DEFLECTION CHART
(PER AASHTO - ROADSIDE DESIGN GUIDE - 1988)

TYPE	SPACING	DEFLEC.
Three Cable w/Steel Posts	16'-0"	12 ft.
w/Wooden Posts	12'-6"	12 ft.
W-Beam w/WEAK Posts	12'-6"	7 ft.
w/Strong Posts	6'-3"	3 ft.
Box Beam	6'-0"	5 ft.
Three Beam w/Weak Posts	12'-6"	4 ft.
w/Strong Posts	6'-3"	2 ft.

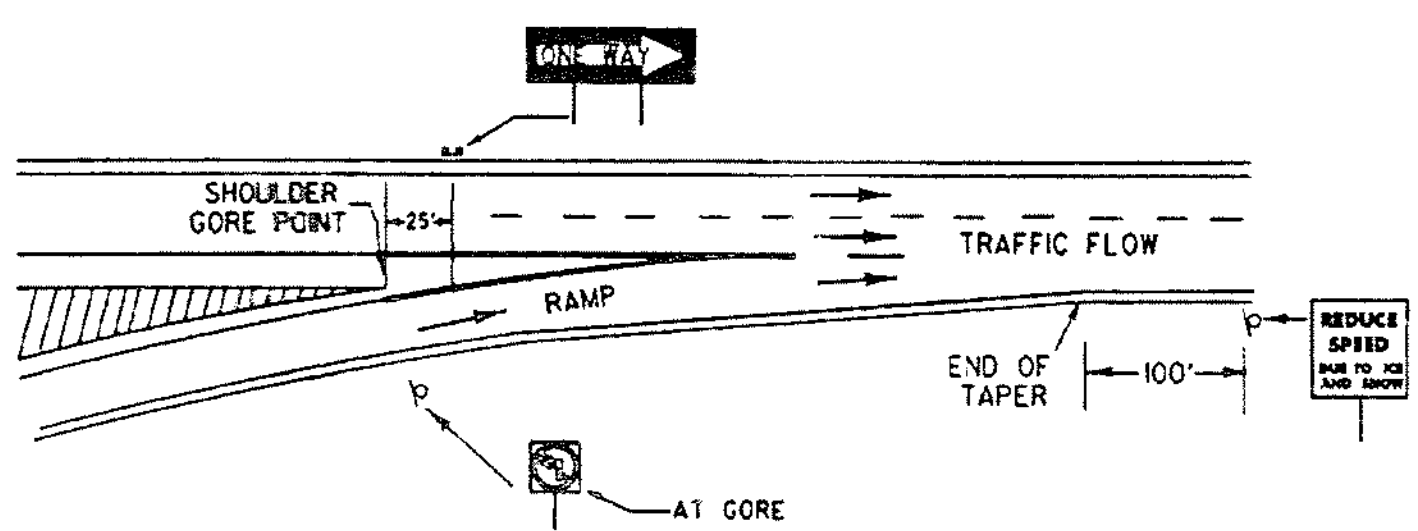
This chart lists the theoretical deflection distance upon impact of various guardrail with different type and post spacing.

WHEN PLACED BEHIND GUARDRAIL AND BEYOND THE DEFLECTION DISTANCE FOR THAT PARTICULAR RAIL, SIGN POSTS DO NOT HAVE TO BE PLACED ON YIELDING SUPPORTS. SIGN POSTS SHALL BE PLACED ON YIELDING SUPPORTS WHEN THEY CAN BE STRUCK BY AN ERRANT VEHICLE LEAVING THE ROADWAY AT AN ENCROACHMENT ANGLE OF APPROXIMATELY 15 DEGREES OR LESS.

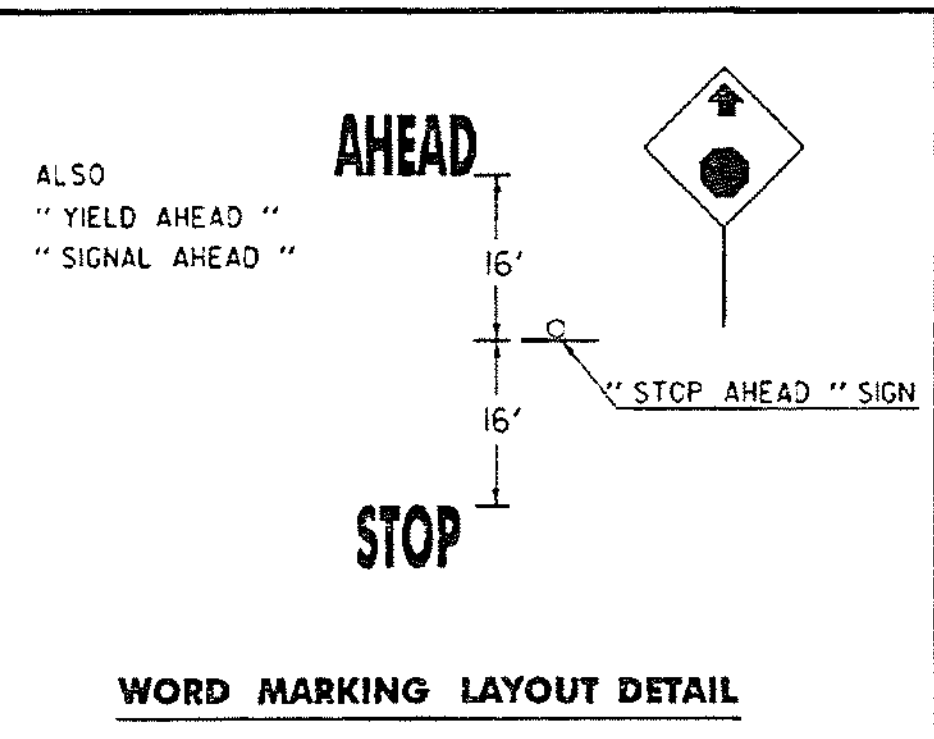
INSTALLATION DETAILS

NORMALLY SIGNS SHOULD BE MOUNTED AT 93° TO THE DIRECTION OF TRAFFIC, ON CURVED ALIGNMENT THE ANGLE OF PLACEMENT SHOULD BE DETERMINED BY THE PATH OF APPROACHING TRAFFIC RATHER THAN BY THE ROADSIDE EDGE AT THE POINT WHERE THE SIGN IS LOCATED. WHEN INSTALLING OVERHEAD SIGNS, CANT THE SIGN FROM THE TOP TOWARD APPROACHING TRAFFIC AT A THREE DEGREE TILT ANGLE.

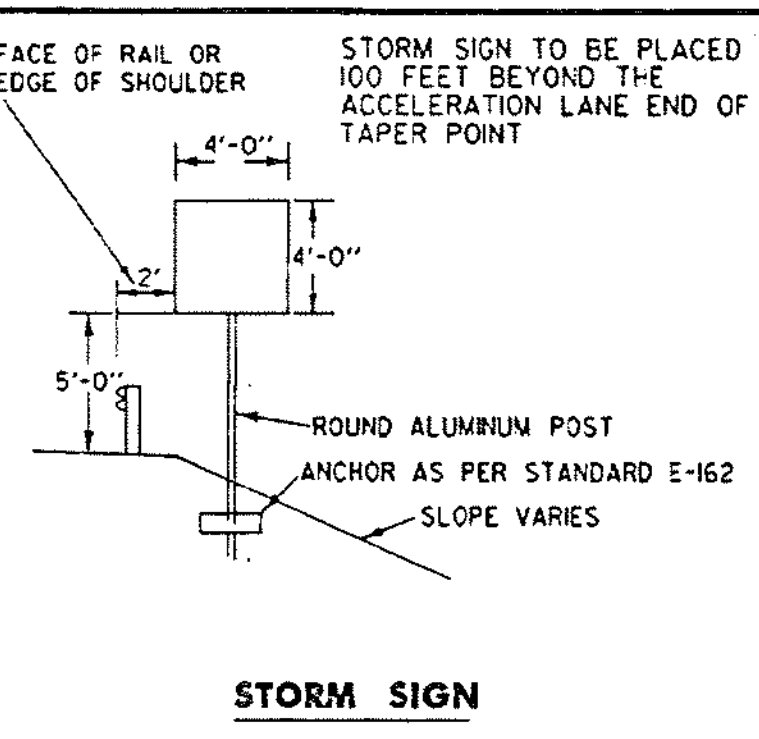
GUIDE SIGNS



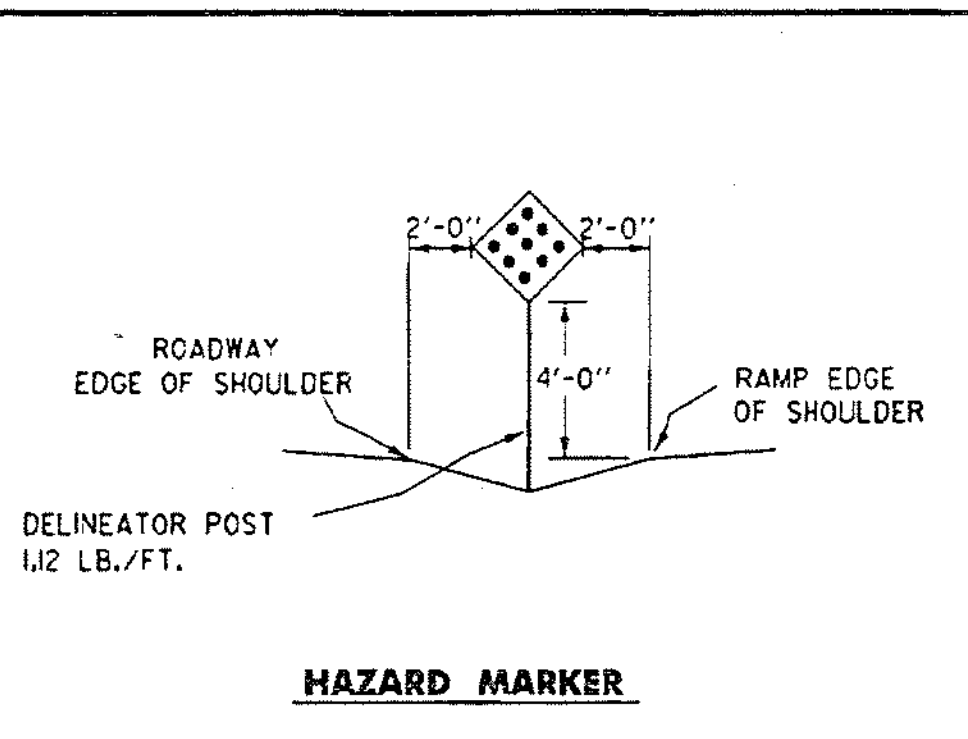
SIGN PLACEMENT AT END OF RAMP



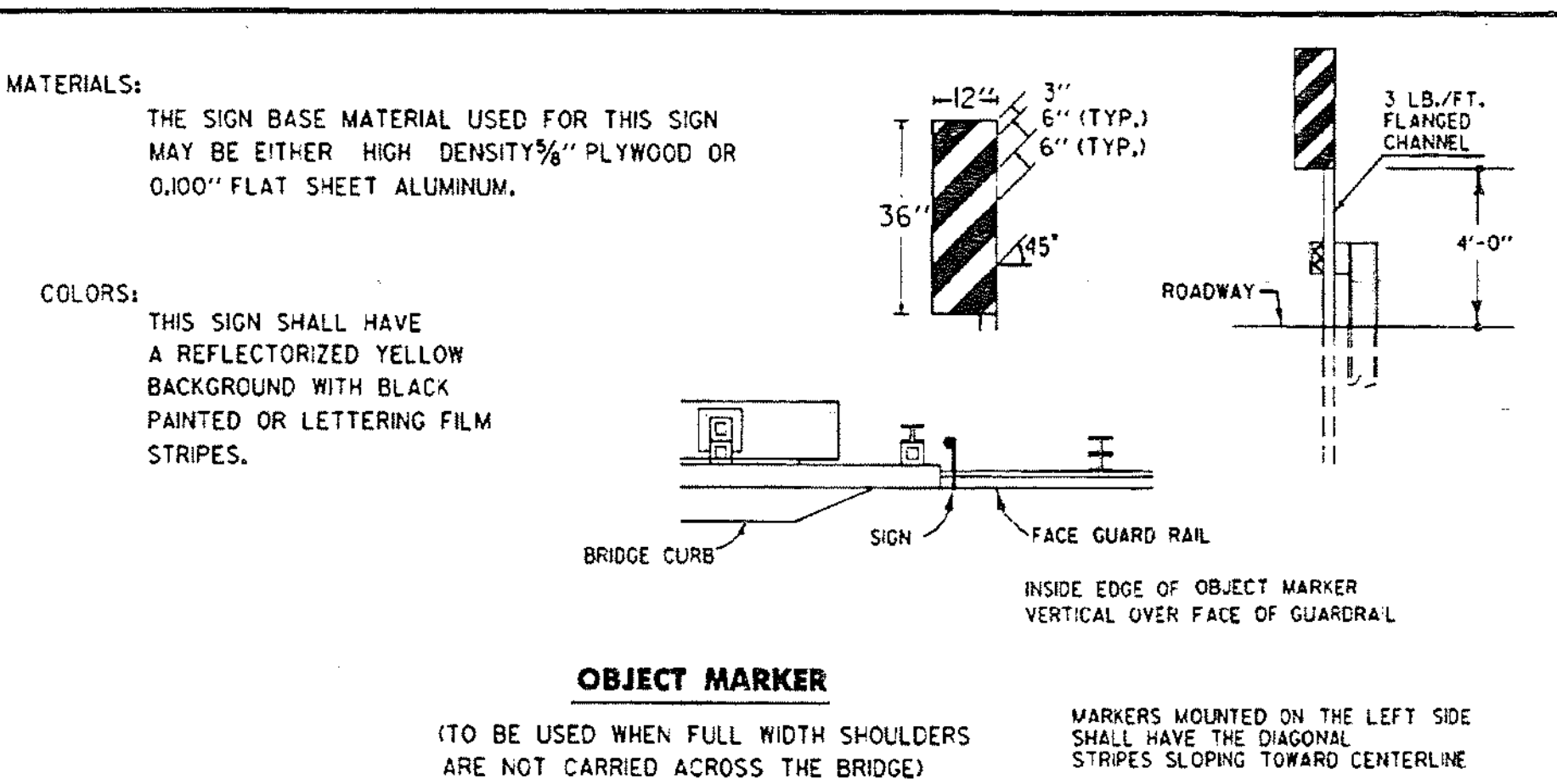
WORD MARKING LAYOUT DETAIL



STORM SIGN

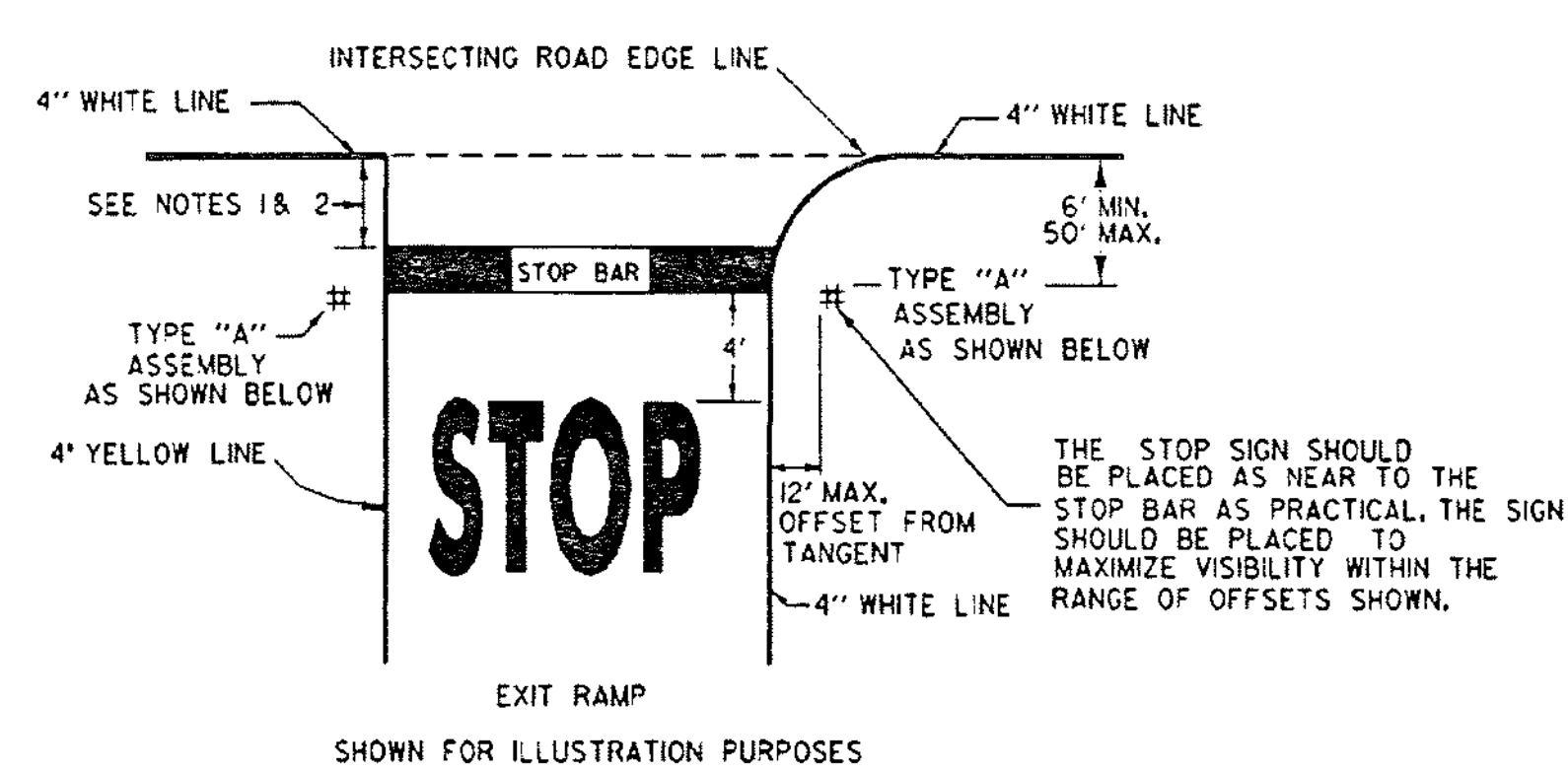


HAZARD MARKER



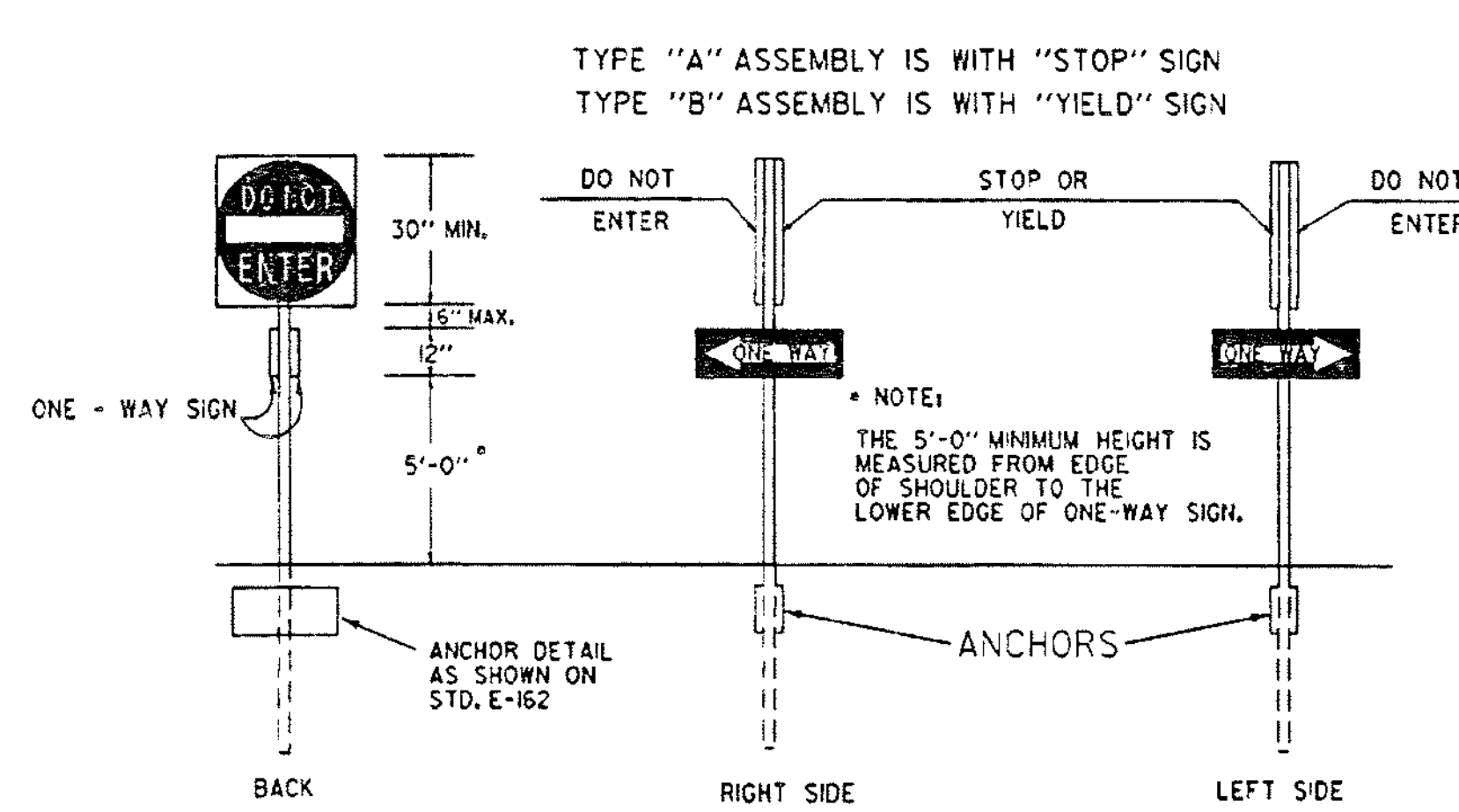
OBJECT MARKER

(TO BE USED WHEN FULL WIDTH SHOULDERS ARE NOT CARRIED ACROSS THE BRIDGE) MARKERS MOUNTED ON THE LEFT SIDE SHALL HAVE THE DIAGONAL STRIPES SLOPING TOWARD CENTERLINE

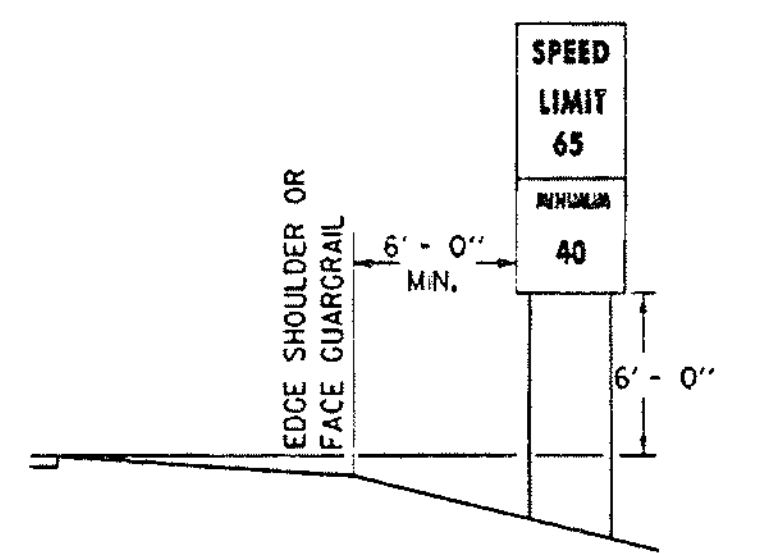


PAVEMENT MARKING & STOP SIGN LOCATION DETAILS FOR OFF RAMP

- NOTES:**
1. THE STOP BAR SHOULD BE PLACED AT THE DESIRED STOPPING POINT, IN NO CASE MORE THAN 30' OR LESS THAN 4' FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY.
 2. AT A SIGNALIZED INTERSECTION, DELETE WORDING "STOP" AND THE STOP SIGN AND PLACE STOP BAR A MINIMUM OF 40' FROM THE NEAREST SIGNAL HEAD FOR THE APPROACH.
 3. EXCLUDE THE STOP BAR FOR A YIELD CONDITION.

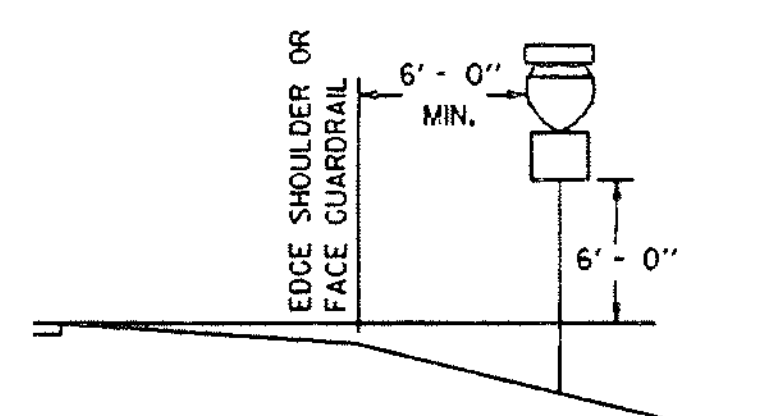


REGULATORY SIGN ASSEMBLY DETAIL FOR OFF RAMP



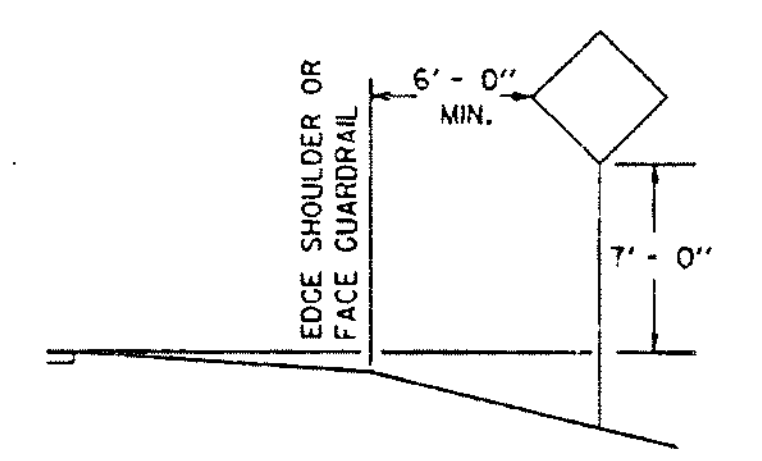
REGULATORY SIGN

SPEED LIMIT SIGN TO BE PLACED 1600 FEET BEYOND THE END OF THE ACCELERATION LANE TAPER POINT.

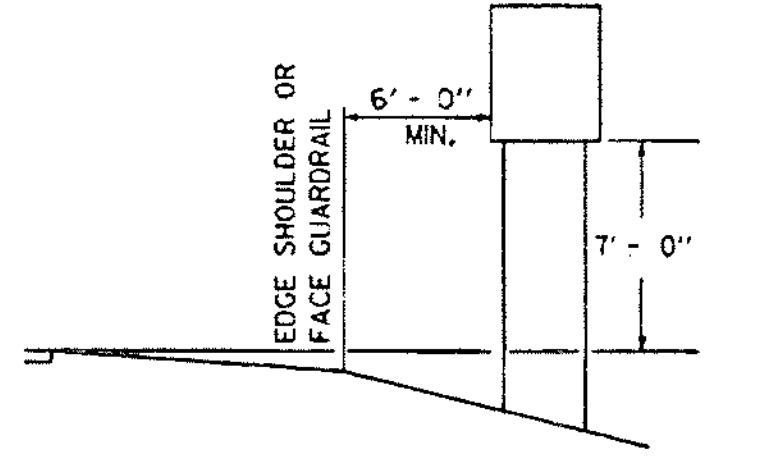


ROUTE MARKER

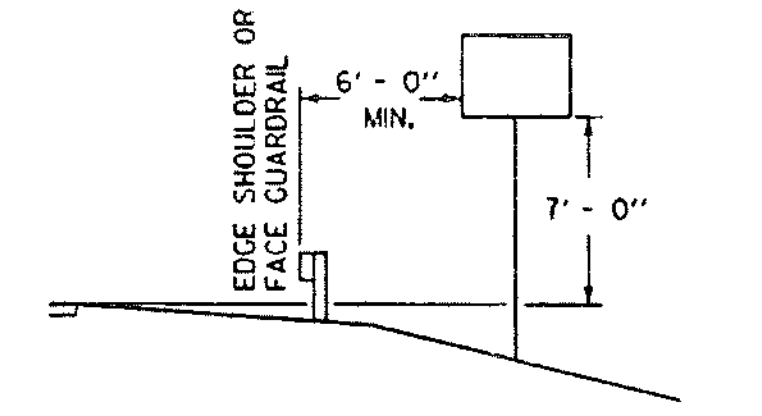
ROUTE REASSURANCE MARKER TO BE PLACED 600' BEYOND THE END OF THE ACCELERATION LANE TAPER POINT



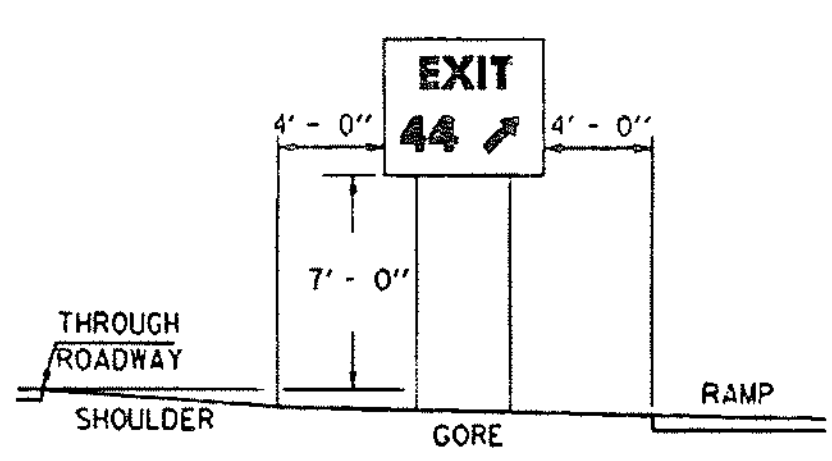
WARNING SIGN



REGULATORY SIGN



GUIDE SIGN



GORE SIGN

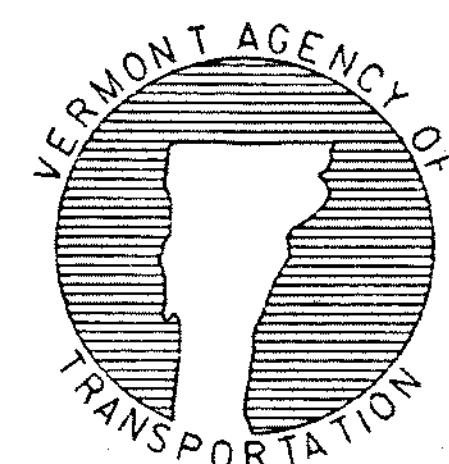
STANDARD SIGN PLACEMENT MAINLINE

OTHER STDs. E-160 E-161 E-162 E-163 REQUIRED:

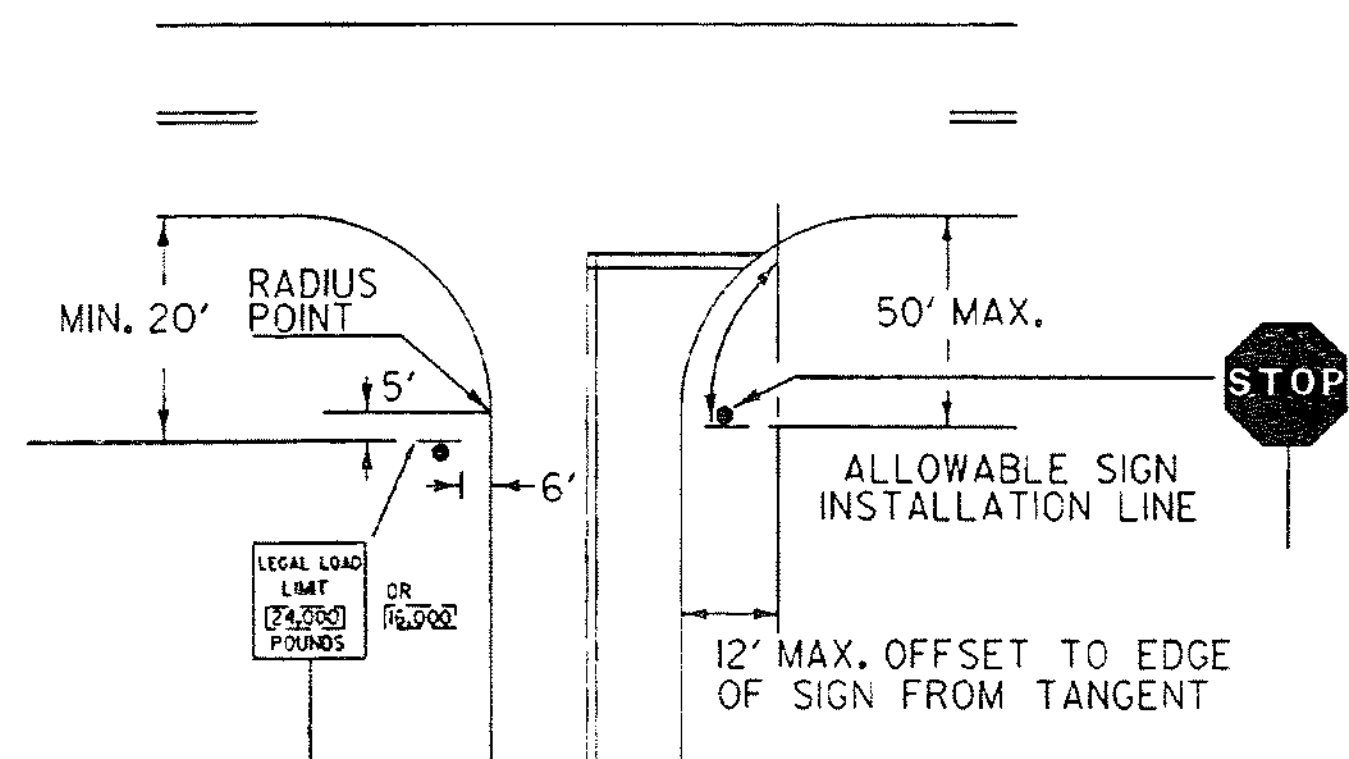
REVISIONS AND CORRECTIONS
APR. 01, 1988 - DATE OF ORIGINAL ISSUE
JUNE 21, 1989 - FHWA - CHANGE TO 7" FUSE PLATE CLEARANCE
AUG. 08, 1995 - DELETED TWO RAIL ALUMINUM FROM DEFLECTION CHART AND MINOR NOTE REVISIONS
APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION, FHWA FINAL APPROVAL PENDING.

APPROVED
Stephen D. MacCathran
DIRECTOR OF ENGINEERING
David A. Ross
TRAFFIC AND SAFETY ENGINEER

STANDARD SIGN PLACEMENT EXPRESSWAY AND FREEWAY

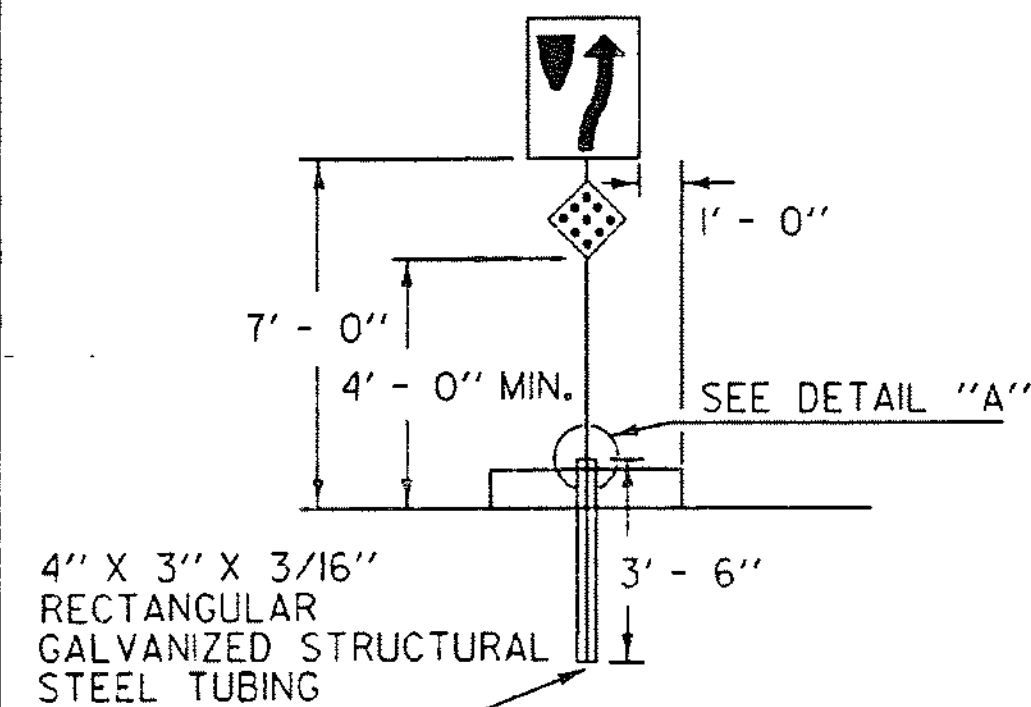


STANDARD E-120



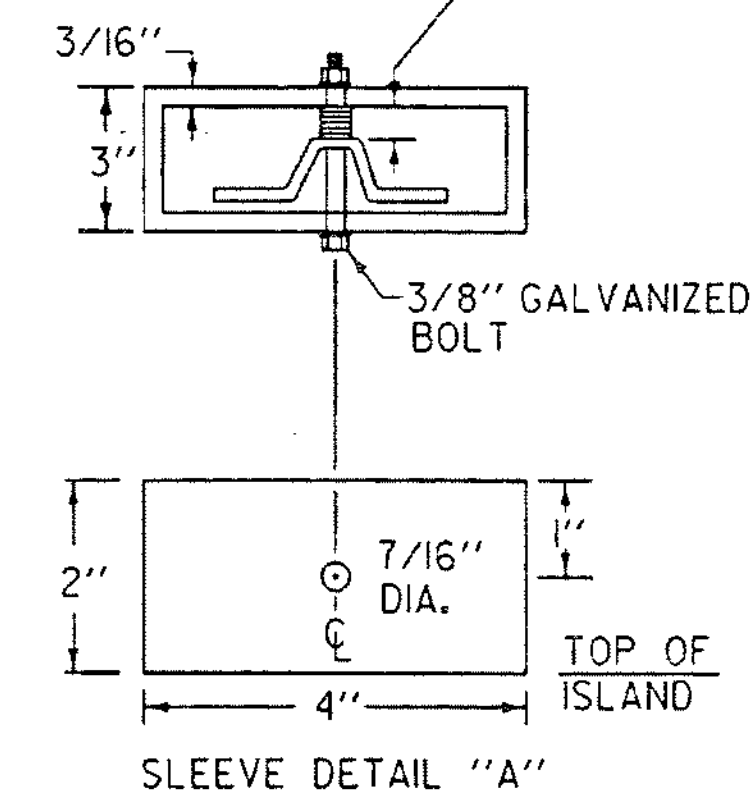
STOP SIGN SHALL BE PLACED ON DRIVERS RIGHT, MAINTAINING MAXIMUM VISIBILITY. CLEARANCE SHALL BE A MINIMUM OF 6' AND A MAXIMUM OF 50' FROM EDGE LINE OF INTERSECTING ROADWAY AND DOES NOT HAVE TO BE ADJACENT TO THE STOP BAR.

LEGAL LOAD LIMIT AND STOP SIGNS AT INTERSECTIONS WITH TOWN HIGHWAYS



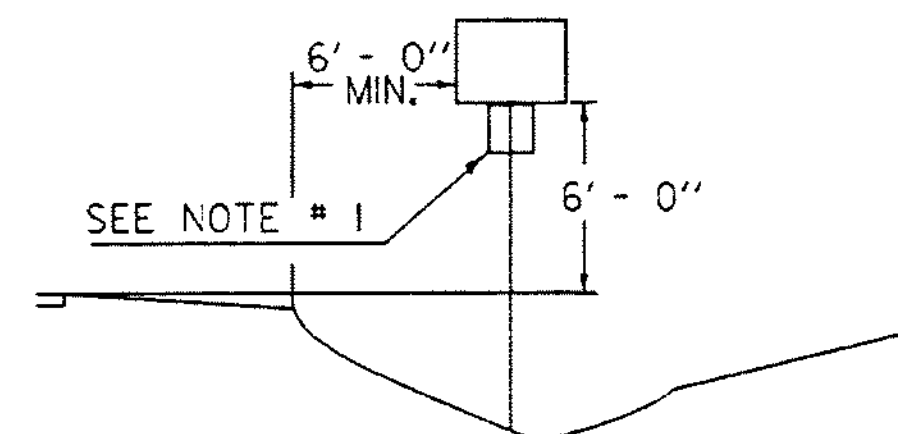
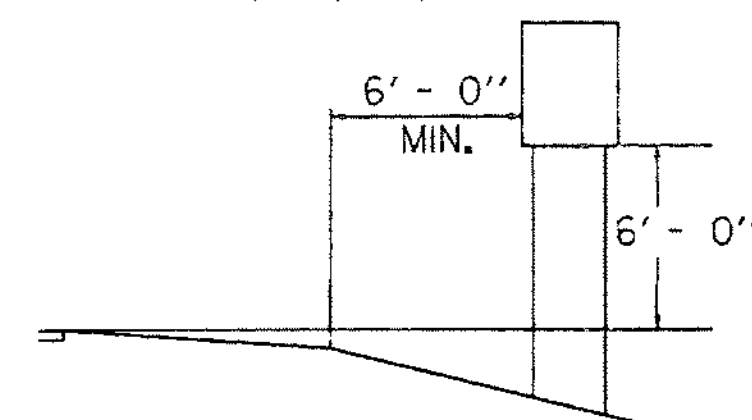
4" X 3" X 3/16" RECTANGULAR GALVANIZED STRUCTURAL STEEL TUBING

TO INSURE A TIGHT CONNECTION GALVANIZED WASHERS SHALL BE USED AS SPACERS.

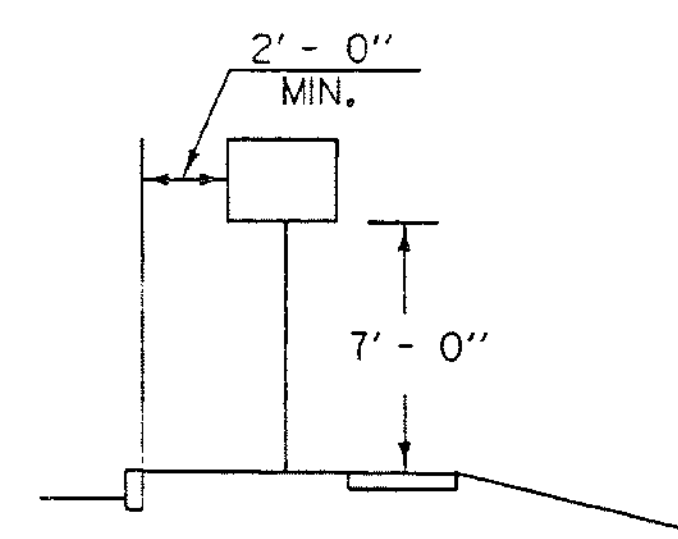
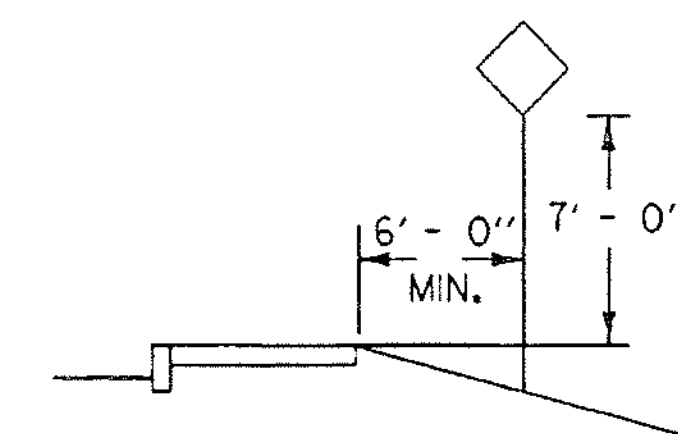
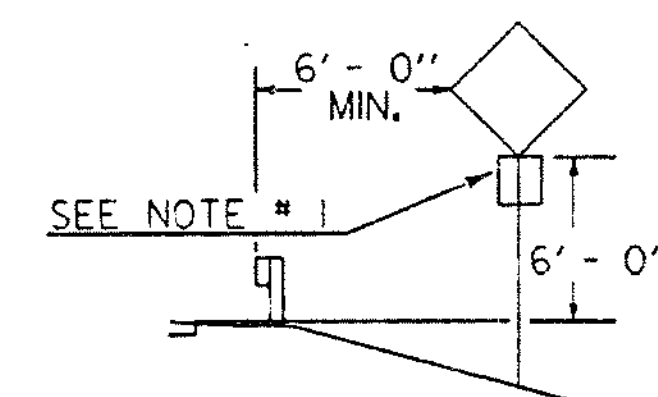


SIGNS ON MEDIAN ISLANDS IN THE LINE OF TRAFFIC

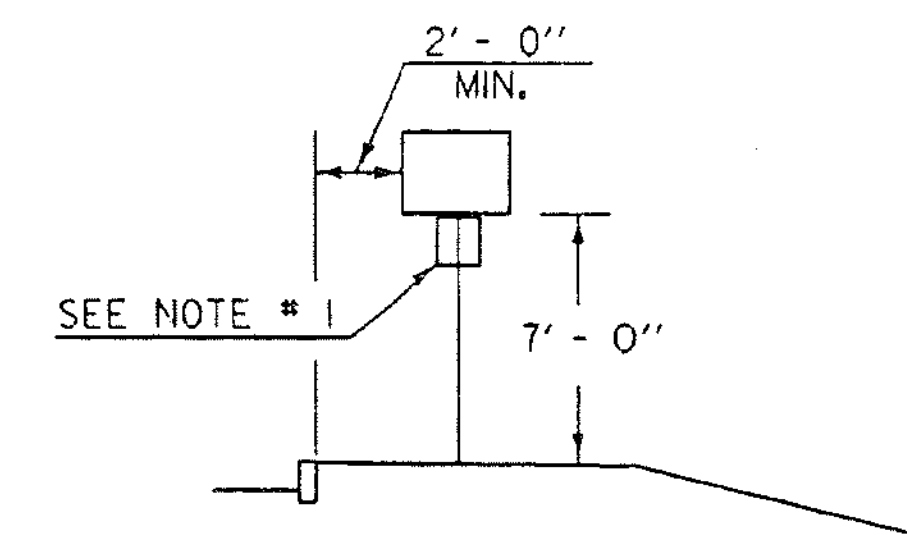
INCREASE VERTICAL CLEARANCE TO 7' IN AREAS OF FREQUENT ROADSIDE PARKING OR PEDESTRIAN ACTIVITY



RURAL



IF SUFFICIENT CLEARANCE IS NOT AVAILABLE BETWEEN CURB AND SIDEWALK MOUNT SIGN BEHIND SIDEWALK AS SHOWN AT TOP. CHECK FOR ADEQUATE R.O.W..



URBAN

NOTES:

1. IN BOTH RURAL AND URBAN LOCATIONS, IF A SECONDARY SIGN IS MOUNTED BELOW ANOTHER SIGN, THE MINIMUM CLEARANCE MAY BE REDUCED BY ONE FOOT.
2. IN RURAL AREAS WITH NO OR MINIMAL SHOULDER, THE LATERAL CLEARANCE TO THE EDGE OF A SIGN SHOULD BE A MINIMUM OF 12' FROM THE EDGE OF THE TRAVELED WAY.
3. ALSO SEE OTHER STANDARD SHEETS FOR MOUNTING CLEARANCE AND SPACING OF DESTINATION AND ROUTE MARKER ASSEMBLIES AND TOWN LINE SIGNS.

POST REFERENCE:

REFER TO THE DETAILS ON THE APPROPRIATE STANDARD DRAWING FOR INFORMATION CONCERNING THE PROPER MOUNTING OF SIGNS ON APPROPRIATE POSTS.

OTHER STDs. E-160 E-161 E-162 E-163 E-164
REQUIRED:

REVISIONS AND CORRECTIONS

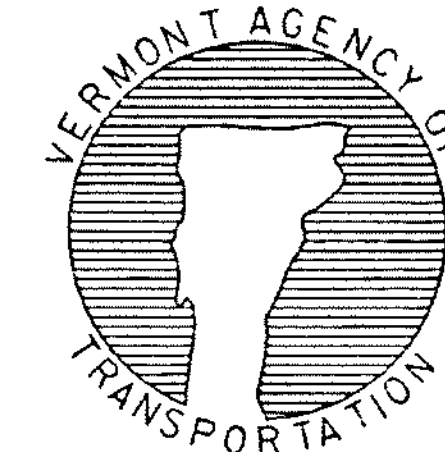
JAN. 23, 1995 - DATE OF ORIGINAL ISSUE
AUG. 08, 1995 - VARIOUS MINOR NOTE REVISIONS

APPROVED

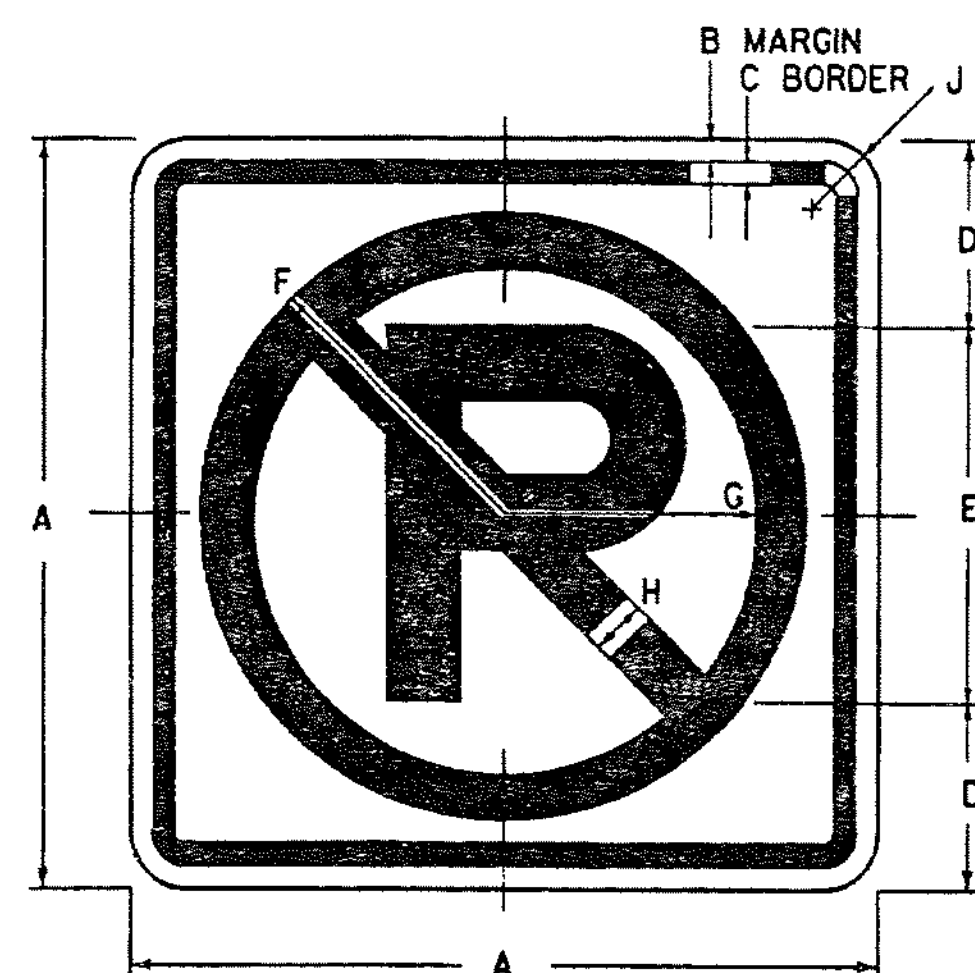
Stephen D. McArthur
DIRECTOR OF ENGINEERING

David A. Bass
TRAFFIC AND SAFETY ENGINEER

STANDARD SIGN PLACEMENT CONVENTIONAL ROAD



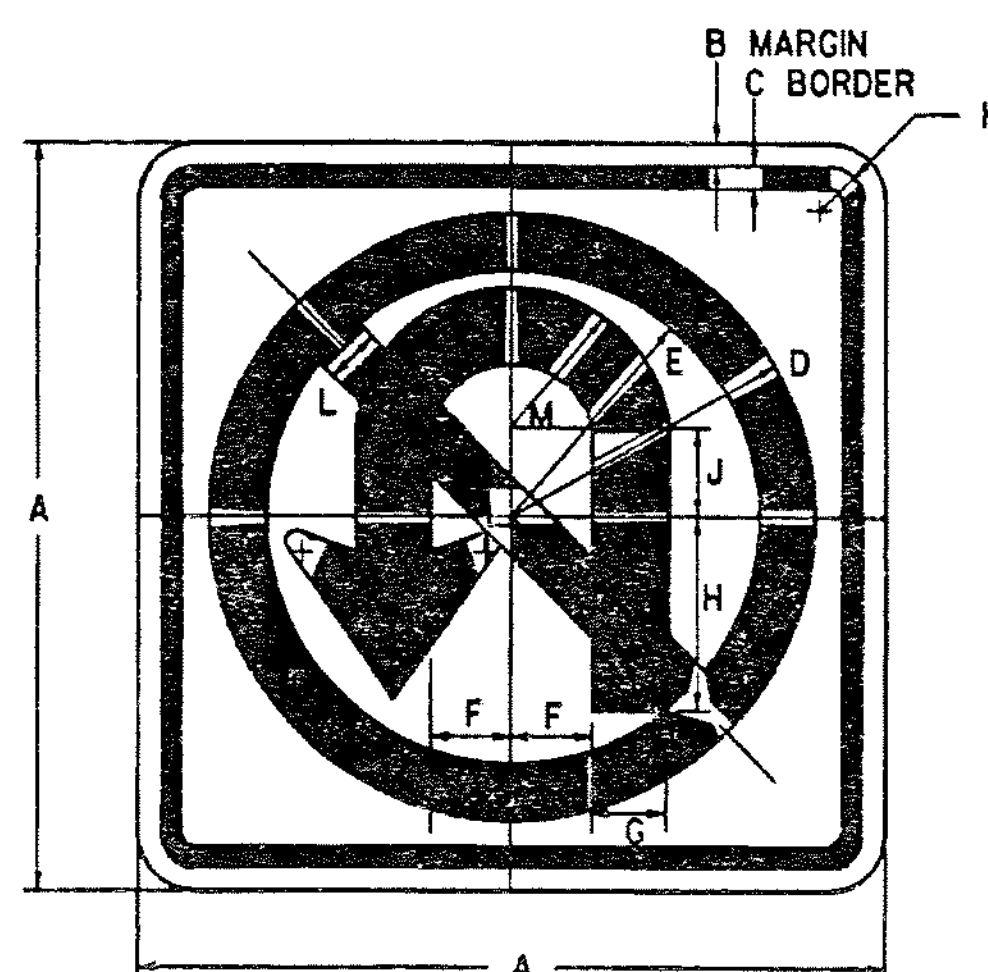
STANDARD E-121



COLORS
CIRCLE AND DIAGONAL - RED (REFL - RURAL)
SYMBOL AND BORDER - BLACK (NON - REFL)
BACKGROUND - WHITE (REFL - RURAL)

R8-3A

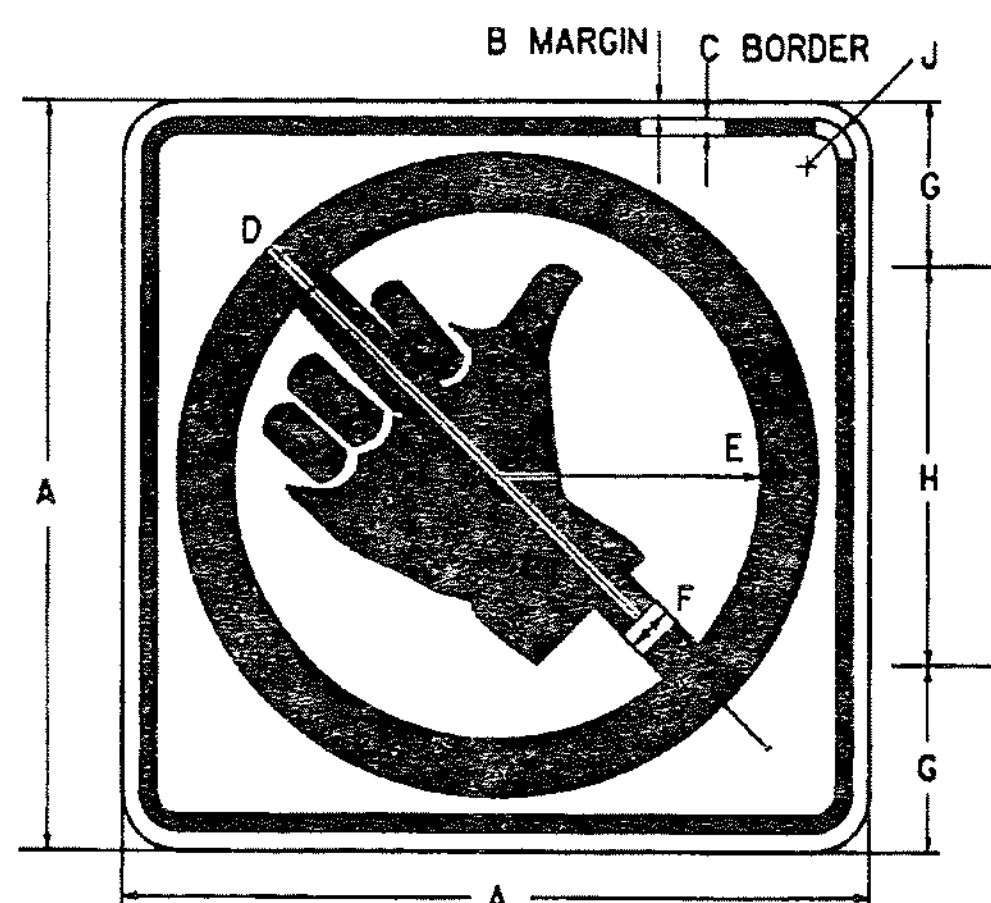
SIGN	DIMENSIONS (INCHES)									
	A	B	C	D	E	F	G	H	J	
URBAN MIN. AND STD.	12	3/8	3/8	3	6E(M)	4 1/8	3 3/8	1	1 1/2	
RURAL MIN. AND STD.	24	3/8	3/8	6	12E(M)	10 1/2	8 1/2	2	1 1/2	
EXPWY.	36	5/8	1/8	9	18E(M)	15 3/4	12 3/4	3	2 1/4	
FWY.	48	3/4	1/4	12	24E(M)	21	17	4	3	



COLORS
CIRCLE AND DIAGONAL - RED (REFL)
ARROW AND BORDER - BLACK (NON - REFL)
BACKGROUND - WHITE (REFL)

R3-4

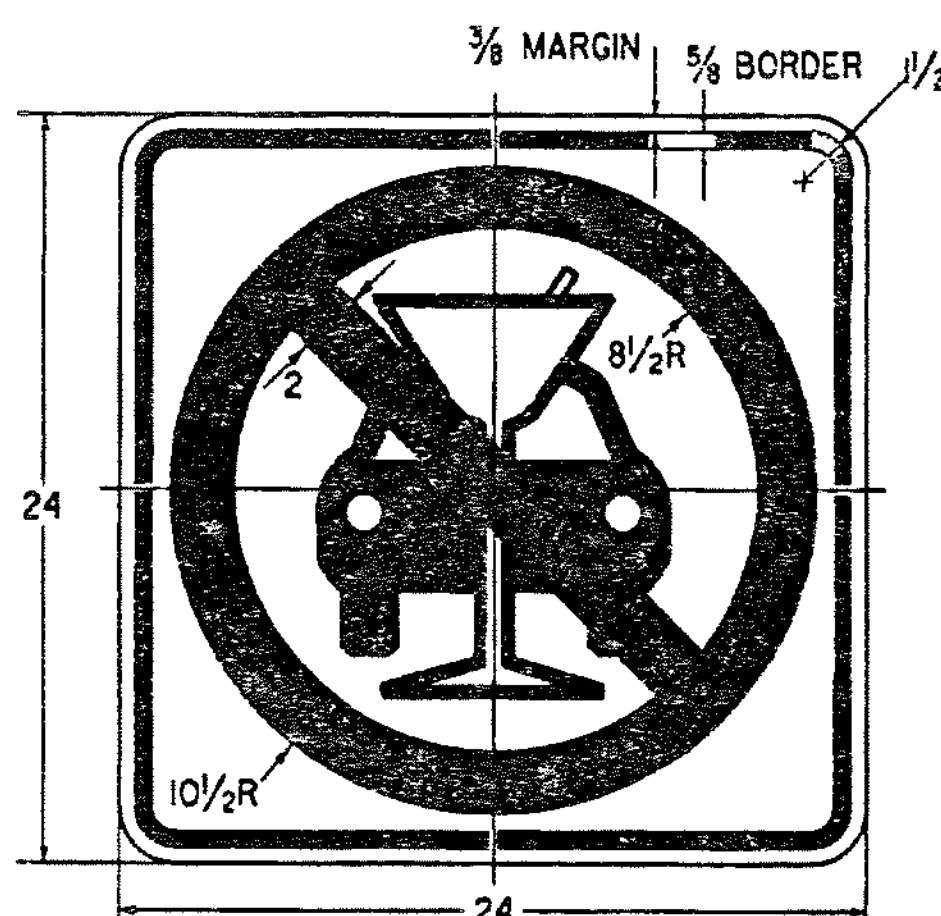
SIGN	DIMENSIONS (INCHES)												
	A	B	C	D	E	F	G	H	J	K	L	M	
MIN. AND STD.	24	3/8	5/8	10 1/2	8 1/2	2 1/2	2 1/2	6	2 1/4	1 1/2	2	5	
SPECIAL	30	1/2	3/4	13 1/4	10 3/4	3 3/4	3 3/4	7 1/2	2 3/4	1 3/4	2 1/2	6 1/4	
EXPWY.	36	5/8	1/8	15 3/4	12 3/4	3 3/4	3 3/4	9	3 3/8	2 1/4	3	7 1/2	
SPECIAL	48	3/4	1/4	21	17	5	5	12	4 1/2	3	4	10	



COLORS
CIRCLE AND DIAGONAL - RED (REFL)
SYMBOL AND BORDER - BLACK (NON - REFL)
BACKGROUND - WHITE (REFL)

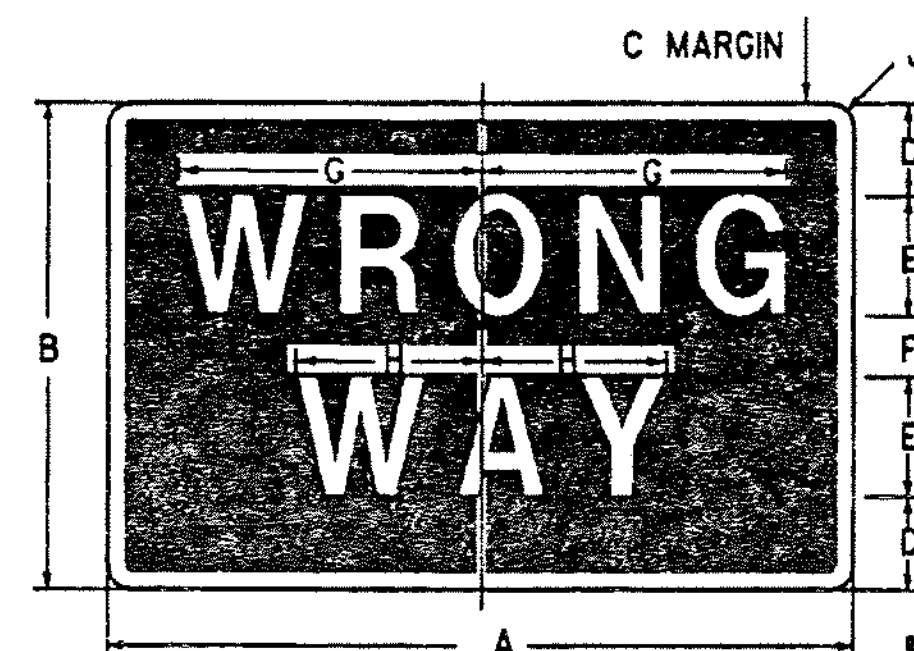
R9-4A

SIGN	DIMENSIONS (INCHES)									
	A	B	C	D	E	F	G	H	J	
MIN.	18	3/8	5/8	7 1/8	6 3/8	1 1/2	3 3/4	10 1/2	1 1/2	
STD.	24	3/8	5/8	10 1/2	8 1/2	2	5	14	1 1/2	

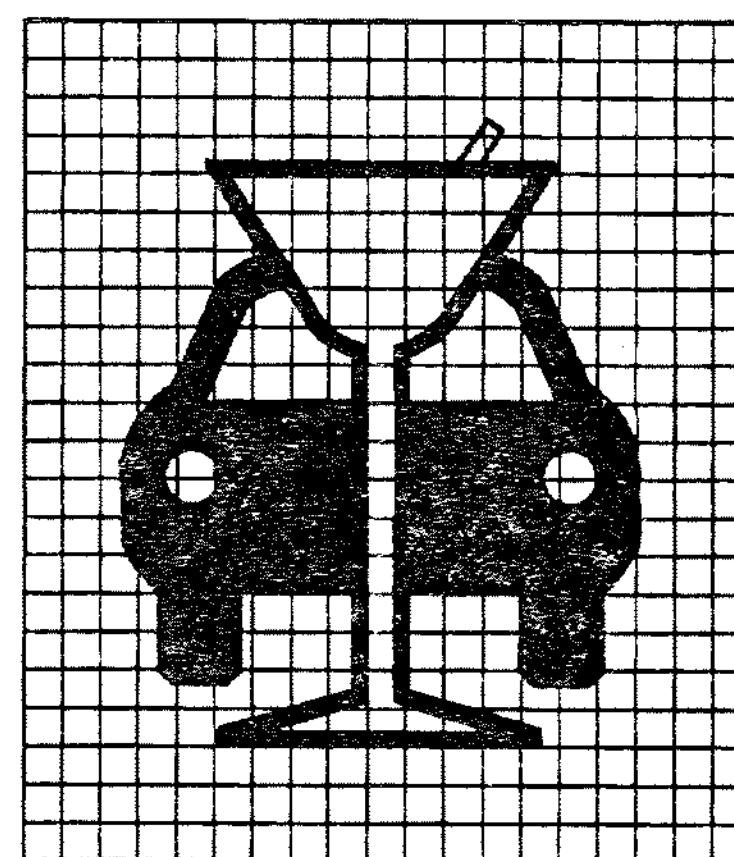


COLORS
CIRCLE AND DIAGONAL - RED (REFL)
SYMBOL AND BORDER - BLACK (NON - REFL)
BACKGROUND - WHITE (REFL)

VR-654



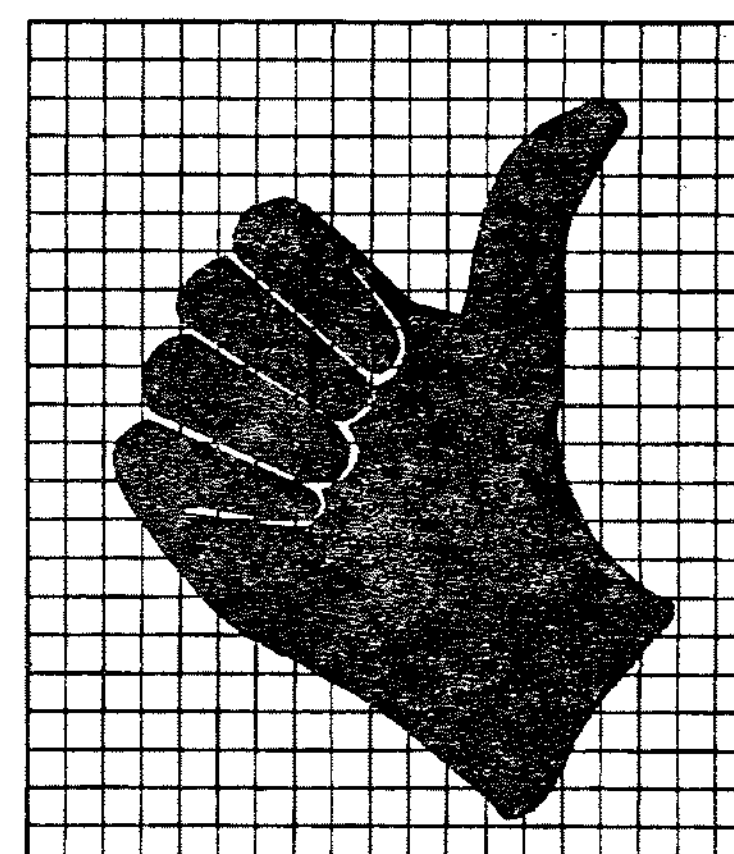
R5-1A



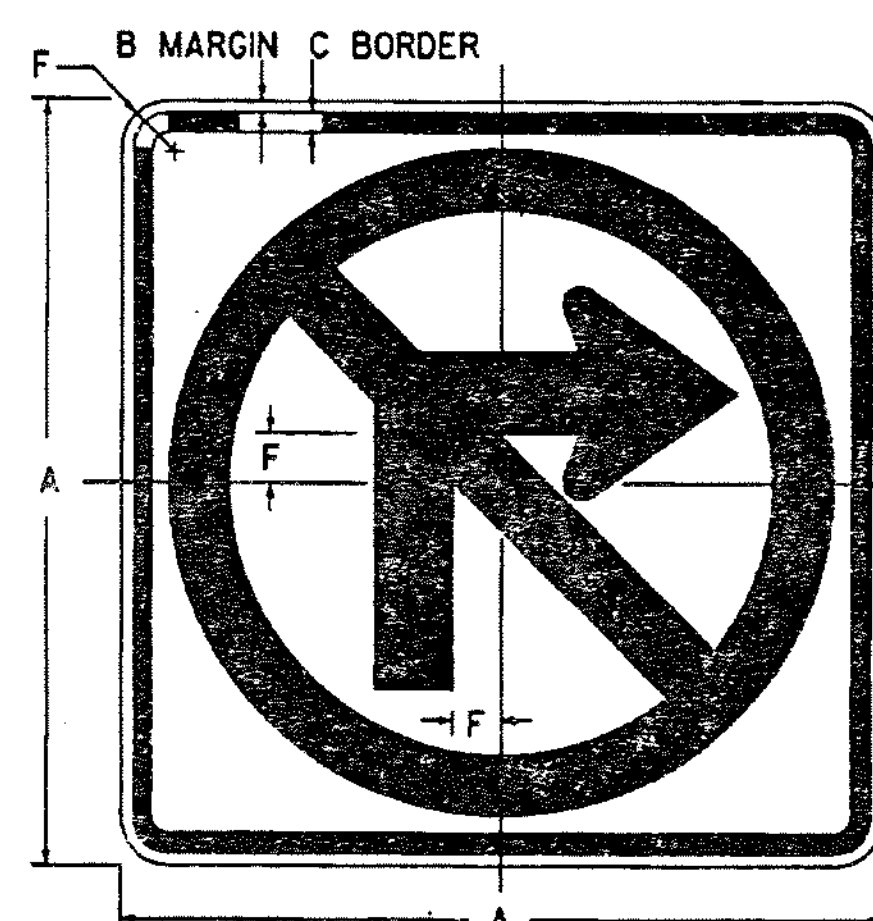
NOTE:
USE SAME ARROW DETAIL FOR R3-1 AND R3-2

COLORS
CIRCLE AND DIAGONAL - RED (REFL)
ARROW AND BORDER - BLACK (NON - REFL)
BACKGROUND - WHITE (REFL)

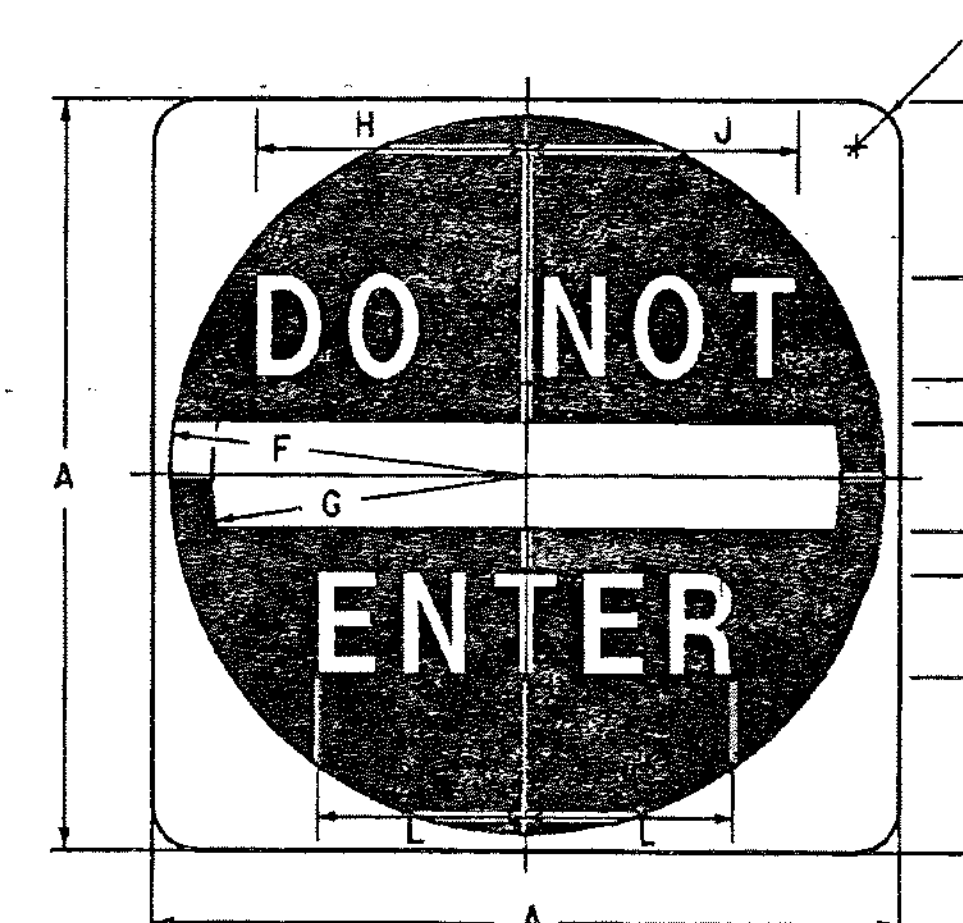
SIGN	DIMENSIONS (INCHES)										
	A	B	C	D	E	F	G	H	J	K	L
MIN. AND STD.	24	3/8	5/8	10 1/2	8 1/2	1 1/2	2 1/2	10 1/2	1 1/2	2	1 1/2
SPECIAL	30	1/2	3/4	13 1/4	10 3/4	1 3/4	3 3/4	13 1/4	1 3/4	2 1/2	3/4
EXPWY.	36	5/8	1/8	15 3/4	12 3/4	2 1/4	3 3/4	15 3/4	1 3/4	3	3/4
SPECIAL	48	3/4	1/4	21	17	3	5	21	23	4	1



R3-2



R3-1



COLORS
SYMBOL - RED (REFL)
LEGEND AND BACKGROUND - WHITE (REFL)
ENCAPSULATED LENS

R5-1

SIGN	DIMENSIONS (INCHES)										
	A	B	C	D	E	F	G	H	J	K	L
MIN. AND STD.	30	6 1/2	4D	2	5	14 1/2	12 1/2	9 3/4	10	1 7/8	7 7/8
EXPWY.	36	7 1/2	5D	2 1/2	6	17 1/2	15	12	12 3/8	2 1/4	8 3/8
SPECIAL	48	11	6D	3	8	23 1/2	20	14 1/2	15	3	11 3/4

GENERAL:

1. ALL DIMENSIONS IN INCHES.
2. SEE STANDARD E-144 FOR ARROWHEAD DETAILS.

COLORS:

THE REGULATORY SIGNS SHOWN ON THIS SHEET SHALL HAVE BLACK TEXT ON REFLECTORIZED THE COLORS SHALL CONFORM WITH THE COLORS ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND APPROVED BY THE DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION.

MATERIALS:

THE SIGN BASE MATERIALS USED FOR REGULATORY SIGNS SHOWN ON THIS SHEET MAY BE ANY OF THE FOLLOWING OF THE MINIMUM THICKNESS NOTED.

	12' X 12'	24' X 24'	36' X 24'
FLAT SHEET ALUMINUM	0.060"	0.080"	0.100"
HIGH DENSITY OVERLAP PLYWOOD	1/2"	1/2"	5/8"
GALVANIZED FLAT SHEET STEEL	18 GAGE	16 GAGE	14 GAGE

THE REFLECTIVE MATERIAL SHALL BE AASHTO TYPE II OR III WHITE REFLECTIVE SHEETING APPLIED TO THE ENTIRE BACKGROUND OF THE SIGN, THE BLACK PORTIONS OF THE SIGNS MAY BE LETTERING FILM, SILK SCREENED OR HAND PAINTED. HAND PAINTING MUST BE COMPARABLE IN QUALITY TO THE RESULTS OBTAINED BY SILK SCREENING. ENCAPSULATED LENS REFLECTIVE SHEETING SHALL BE USED FOR THE SIGN BACKGROUND WHERE NOTED.

SPECIFICATIONS:

REGULATORY SIGNS SHALL MEET THE VERMONT STANDARD SPECIFICATIONS FOR TRAFFIC SIGNS.

TEXT DESIGN:

LETTERS, DIGITS, ARROWS, SPACING AND TEXT DIMENSIONS SHALL CONFORM WITH THE 'STANDARD ALPHABET FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS' AND DESIGNS PRESCRIBED IN THE STANDARD HIGHWAY SIGNS AS SPECIFIED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

REVISIONS AND CORRECTIONS

OCT. 30, 1987 - DATE OF ORIGINAL ISSUE
SEPT. 20, 1995 - ADDED AND DELETED SIGN DETAILS,
ADDED SIGN ID NUMBERS, MINOR NOTE
REVISIONS.

APPROVED FOR THIS PROJECT
AND/OR DESIGN IMPLEMENTATION,
FHWA FINAL APPROVAL PENDING.

APPROVED

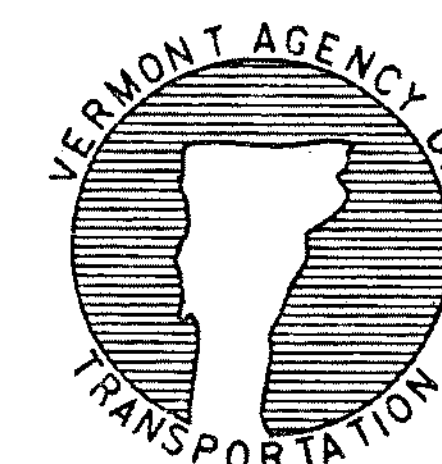
Frederick B. McArthur
DIRECTOR OF ENGINEERING

David A. Barr
TRAFFIC AND SAFETY ENGINEER

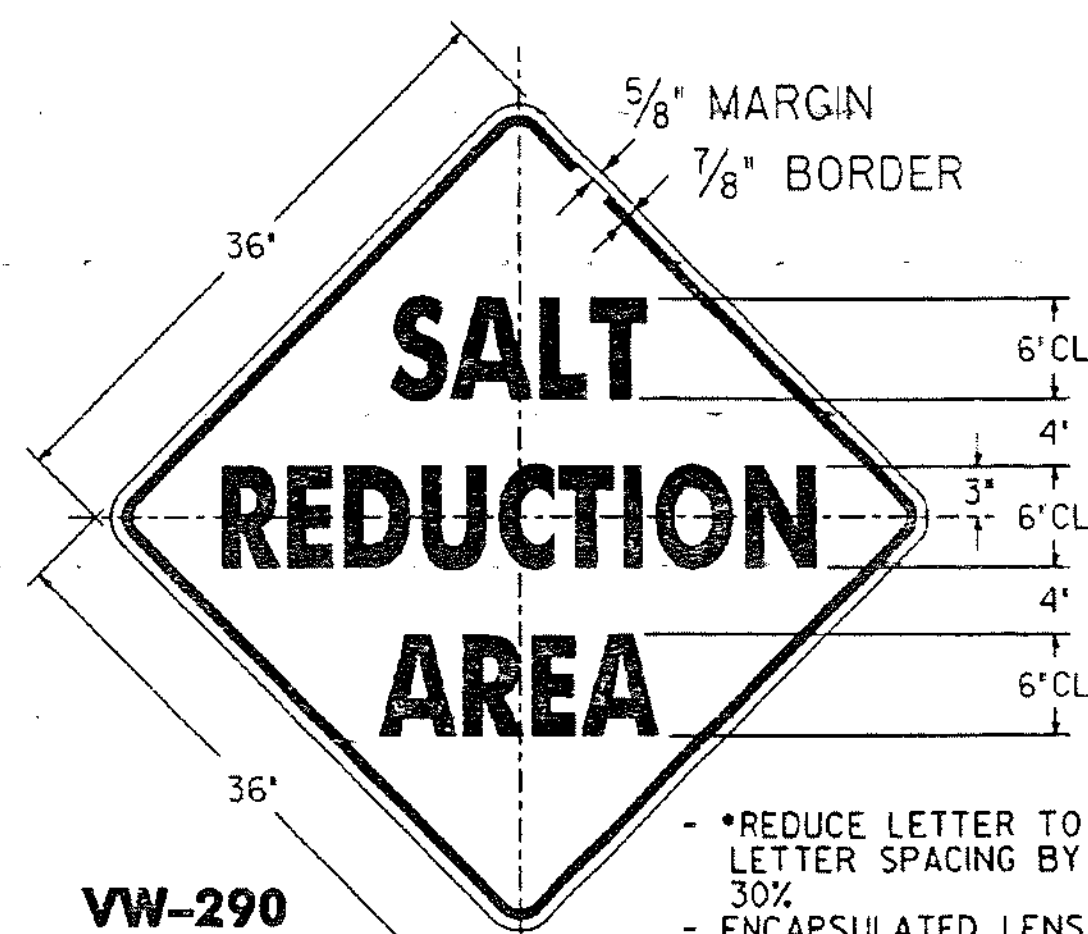
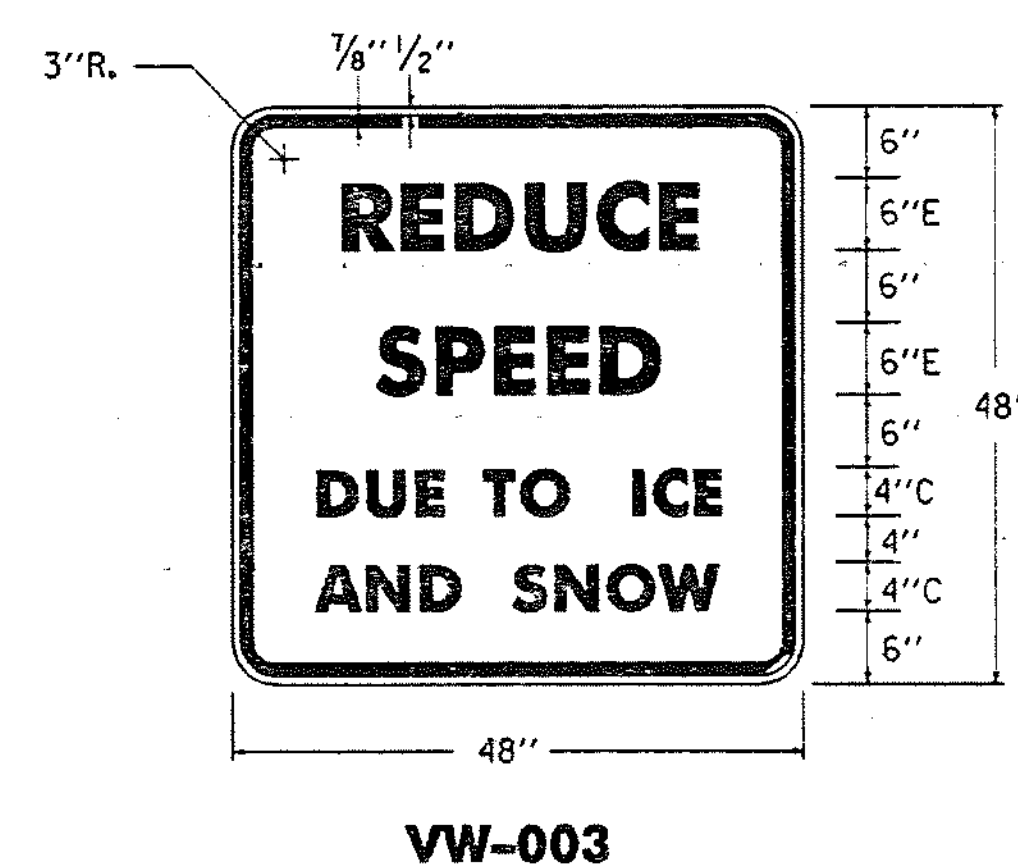
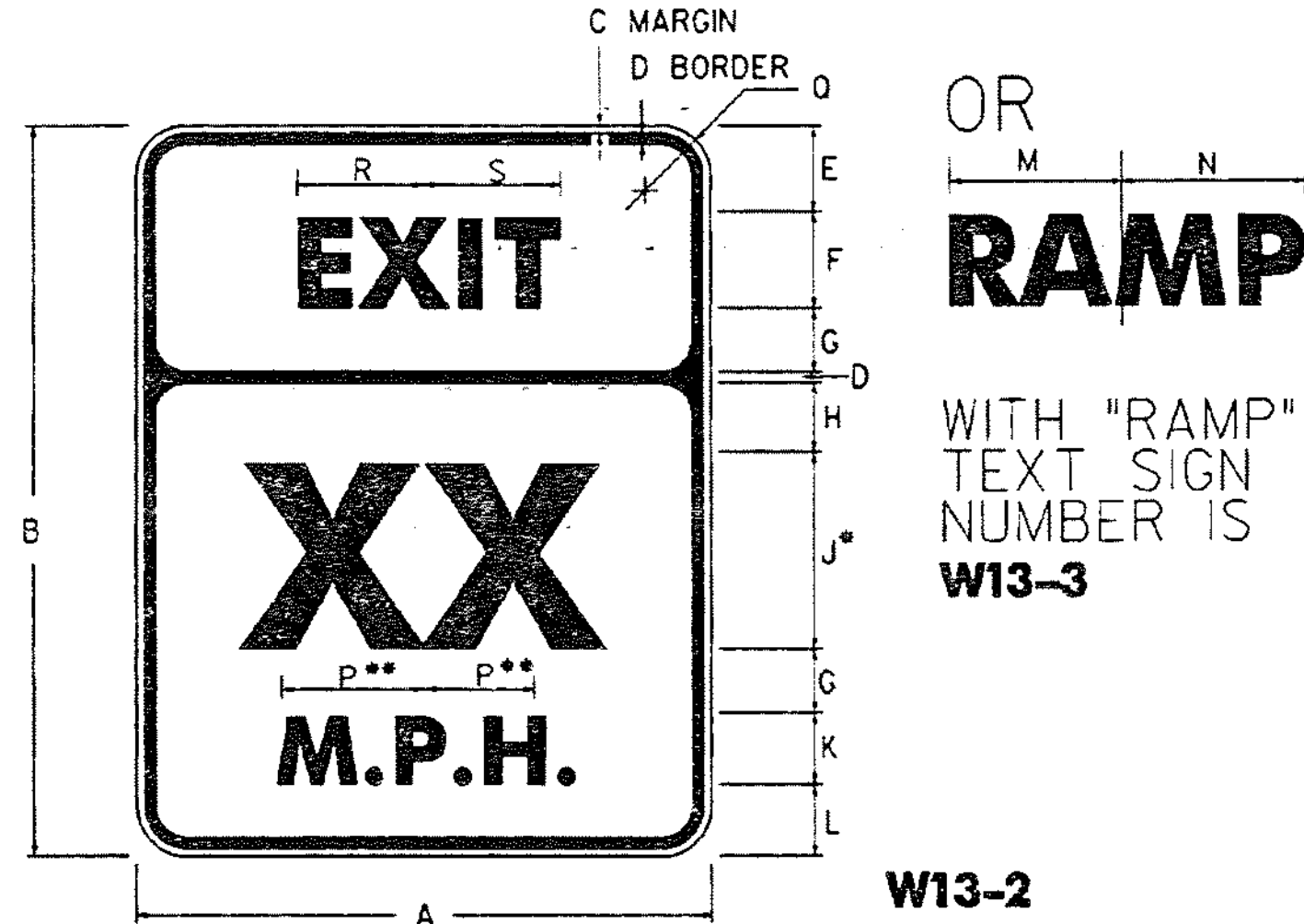
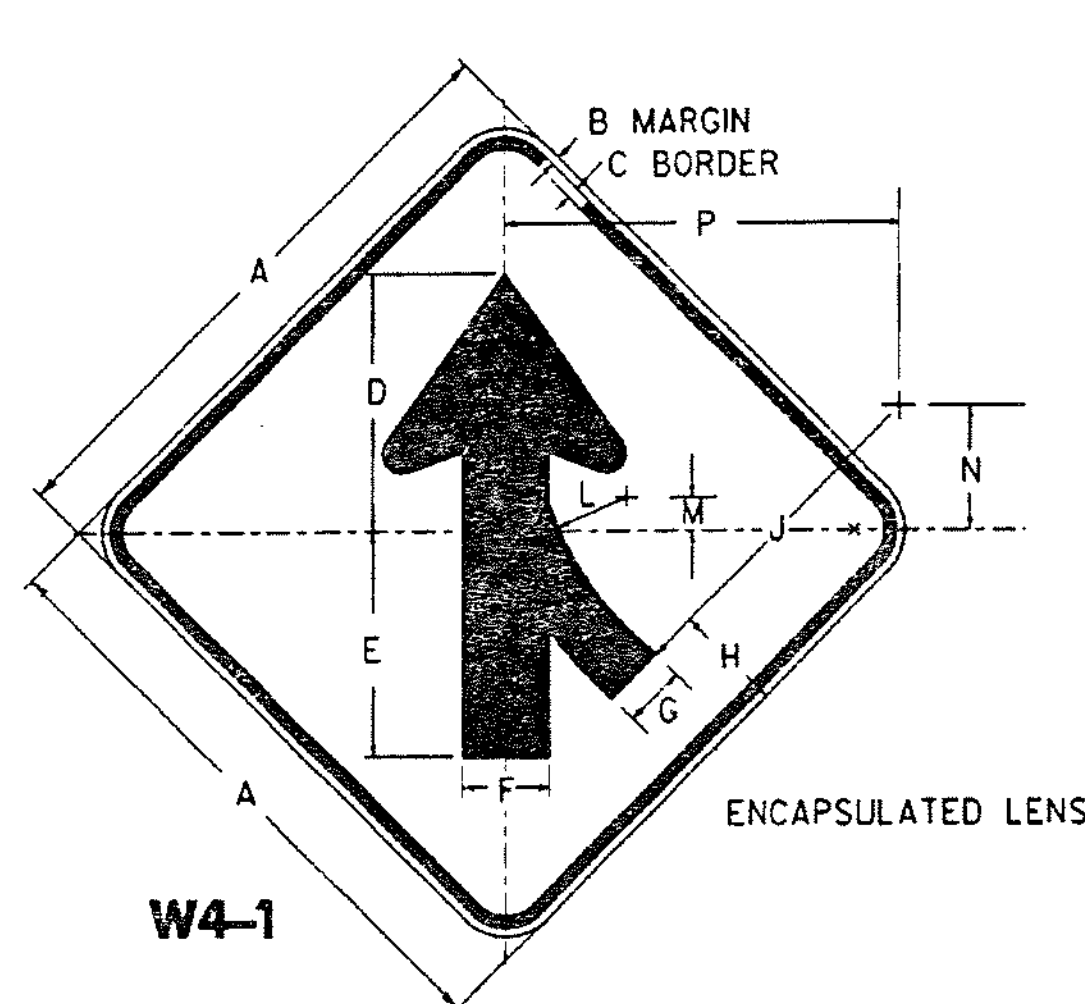
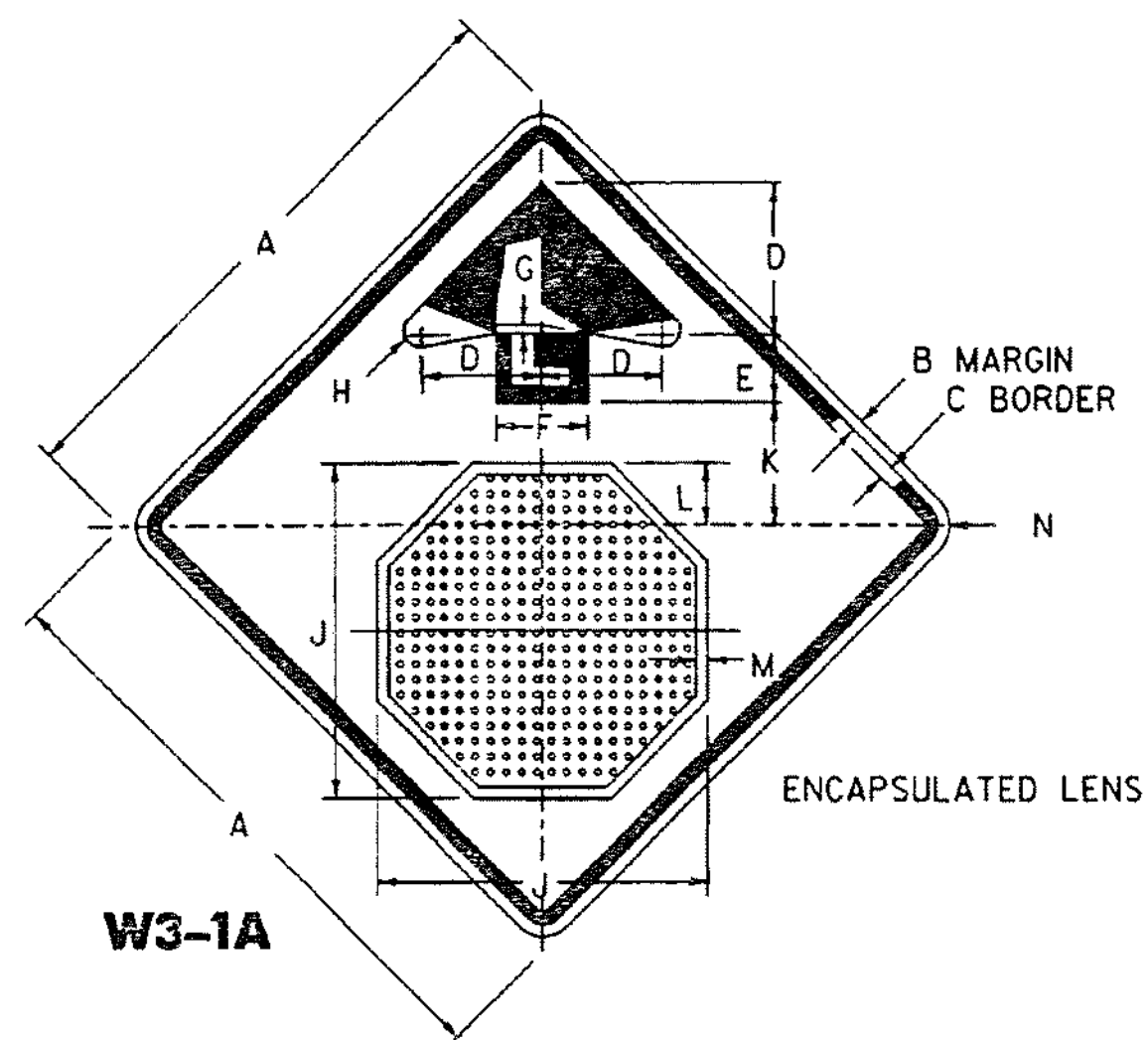
REGULATORY SIGN DETAILS

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OTHER STDS.: E-144
REQUIRED



STANDARD
E-143

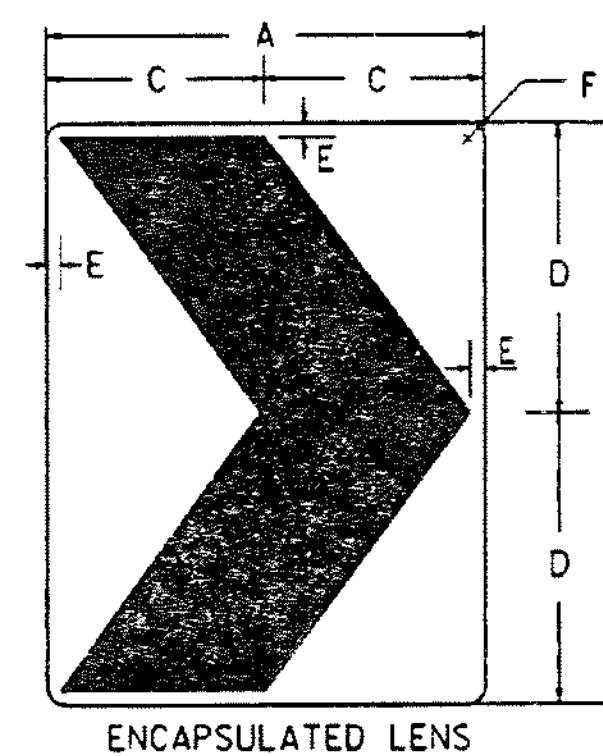
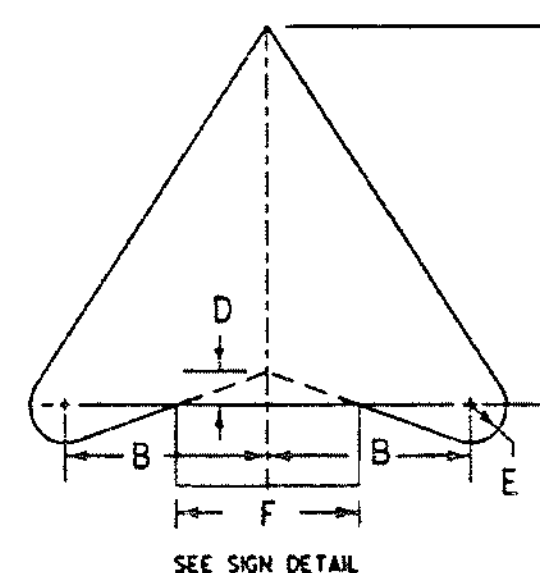
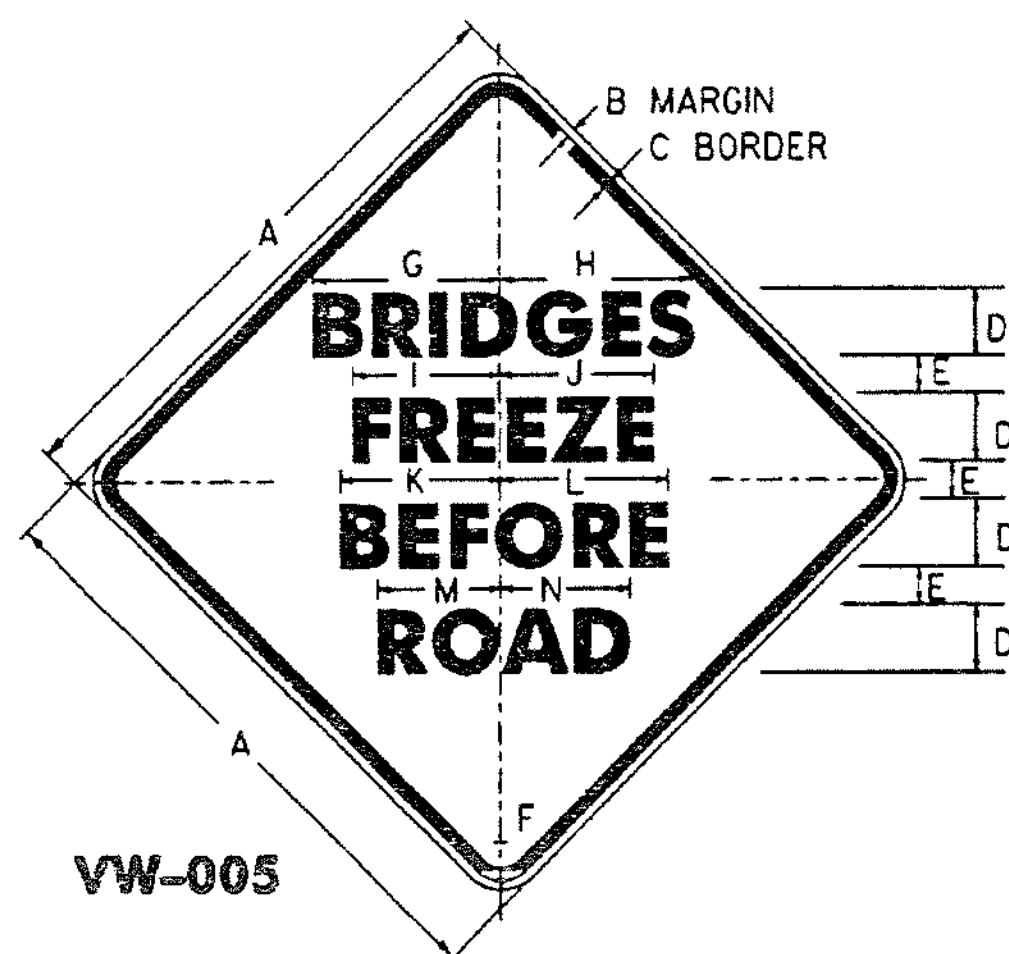
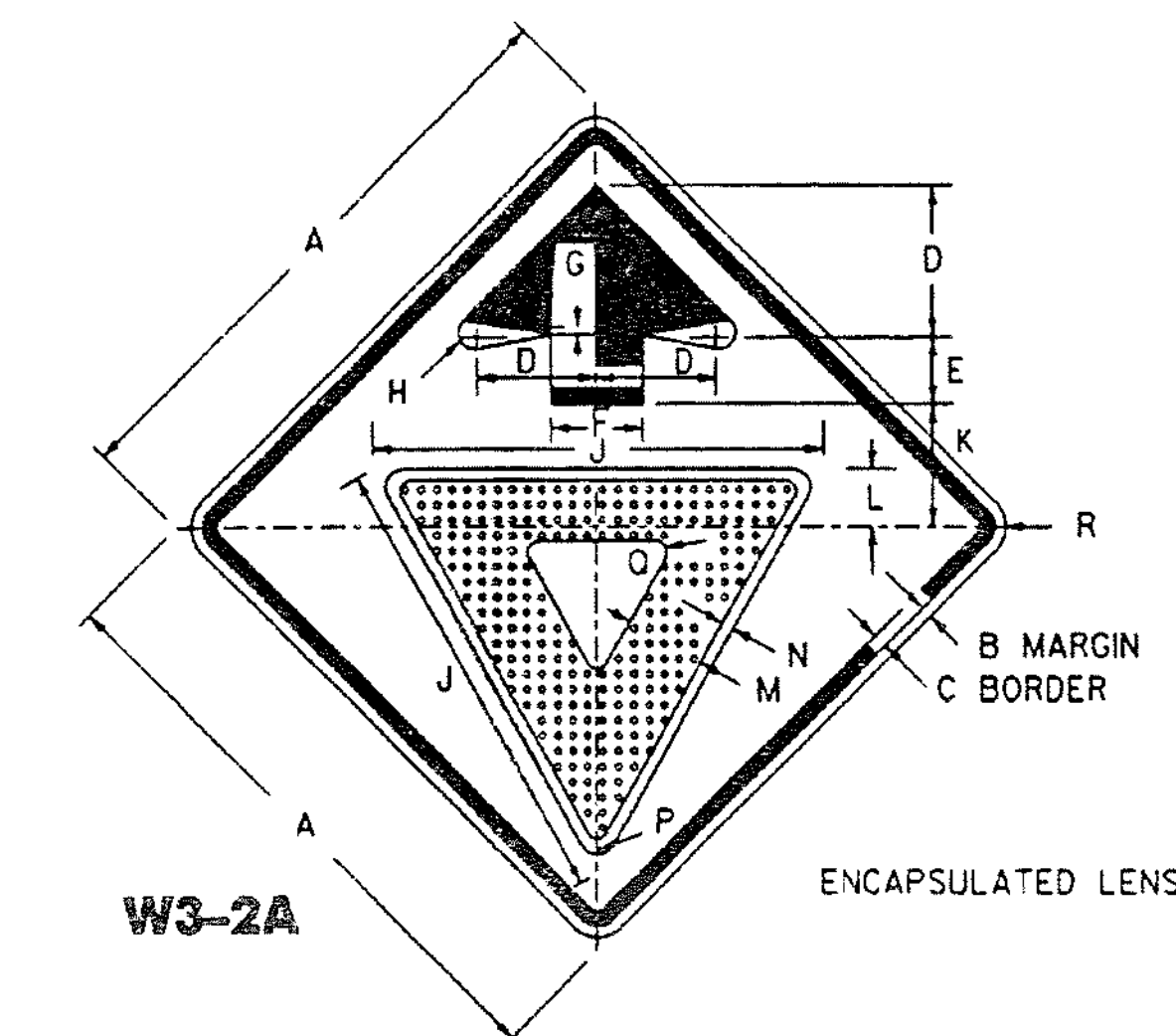
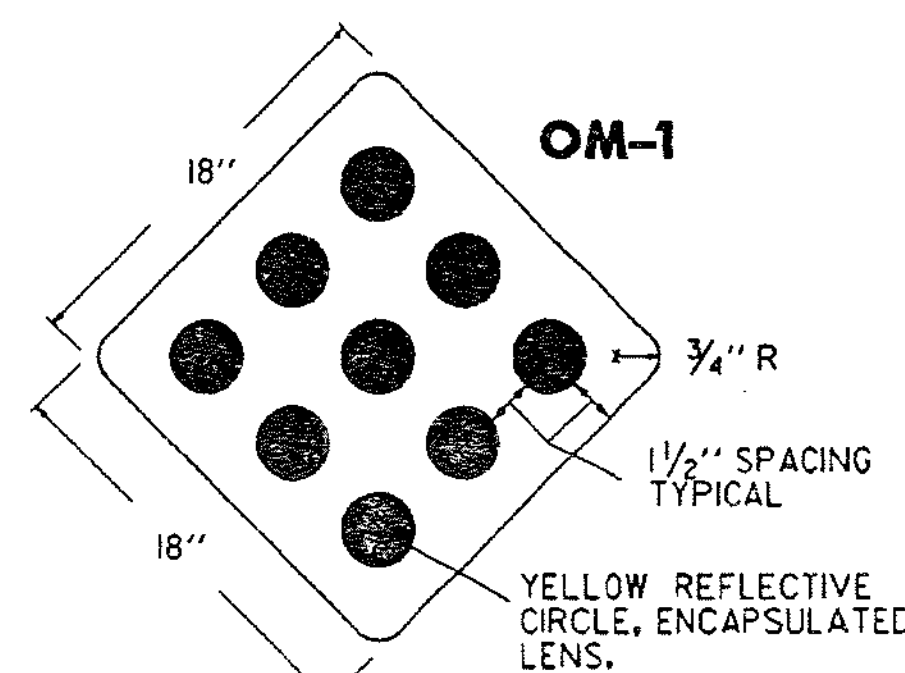
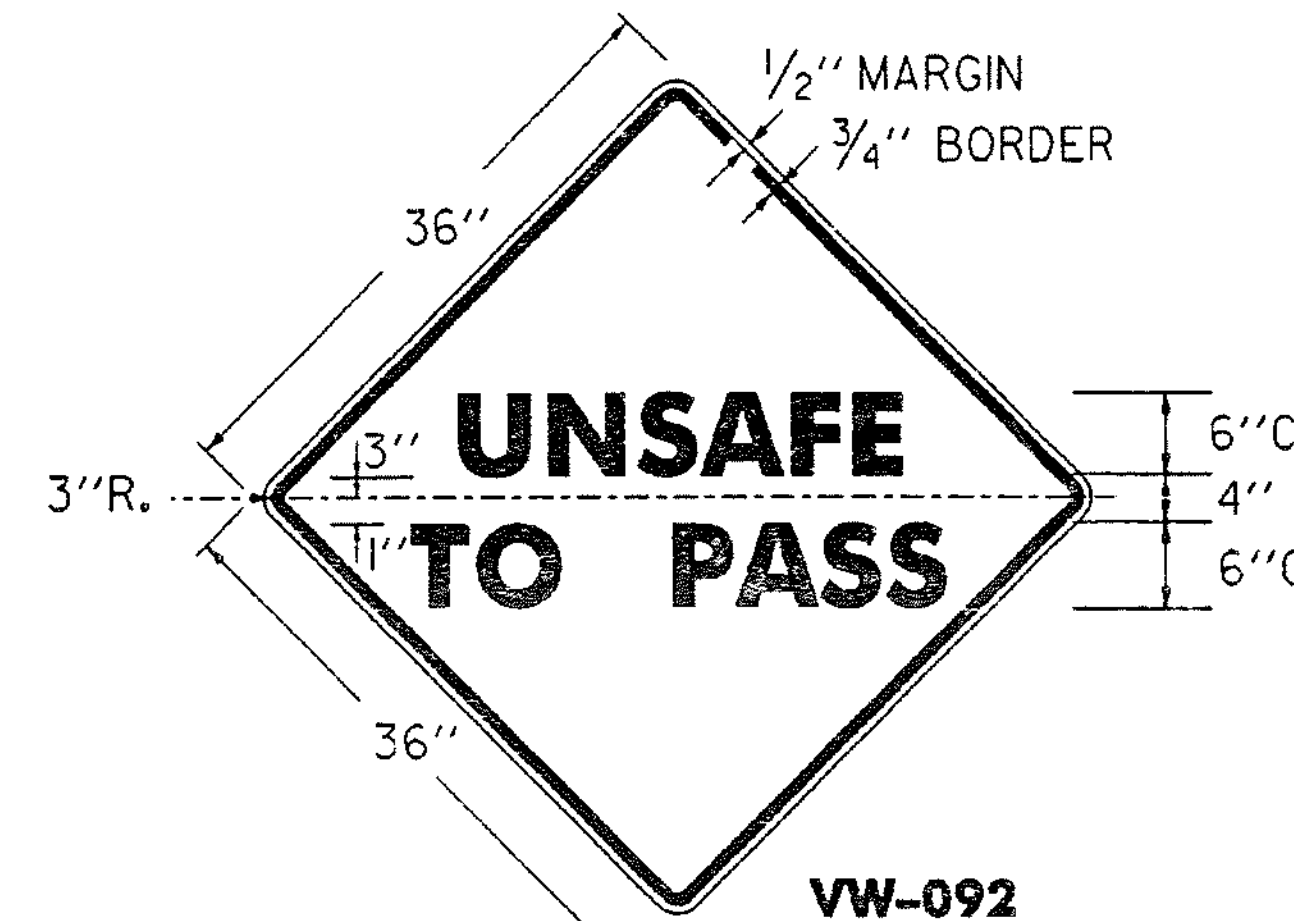


COLORS
BORDER AND ARROW - BLACK (NON-REFL)
SYMBOL - WHITE BORDER ON RED BACKGROUND (REFL)

SIGN	DIMENSIONS (INCHES)													
	A	B	C	D	E	F	G	H	J	K	L	M	N	P
MIN.	30	1/2	3/4	7/2	3 3/4	5	5/8	5/8	15 3/4	6 1/4	2 7/8	1/2	1 1/8	
STD.	36	5/8	1	9	4 1/2	6	3/4	3/4	19	7 1/2	3 1/2	5/8	2 1/4	
SPECIAL	48	3/4	1 1/4	12	6	8	1	1 1/2	25 5/8	10	4 1/2	3/4	3	

SIGN	DIMENSIONS (INCHES)													
	A	B	C	D	E	F	G	H	J	K	L	M	N	P
MIN.	24	3/8	5/8	10 1/4	8 3/4	3 1/2	2 3/4	4 3/4	22 1/4	1 1/2	6 3/8	2 5/8	10 3/8	22 3/8
STD.	30	1/2	3/4	13	11	4 3/8	3	5 1/4	28	1 7/8	8	3	13	27 3/4
EXPWY.	36	5/8	1	15 3/4	13 1/4	5 1/4	3 3/8	6 3/8	33 3/4	2 1/4	9 3/4	4	15 3/8	33 3/8
FWY.	48	3/4	1 1/4	20 1/2	17 1/2	7	4 3/4	8 3/4	45	3	12 3/4	5 1/4	20 3/4	44 3/8

SIGN	DIMENSIONS (INCHES)													
	A	B	C	D	E	F	G	H	J	K	L	M	N	P
MIN. & STD.	24	30	3/8	5/8	3 1/2	4E	2 1/2	2 3/4	8E	3E	3	8 1/4	8 1/2	5 3/8
EXPWY.	36	48	5/8	7/8	6	6E	4	5 1/8	12E	4E	6	12 3/8	12 3/4	7 1/8
FWY.	48	60	3/4	1 1/4	7	8E	5	5 3/4	16E	6E	6	16 1/2	17	10 3/8



COLORS
BORDER AND ARROW - BLACK (NON-REFL)
SYMBOL - RED BORDER ON WHITE BACKGROUND (REFL)

SIGN	DIMENSIONS (INCHES)													
	A	B	C	D	E	F	G	H	J	K	L	M	N	P
MIN.	30	1/2	3/4	7 1/2	3 3/4	5	5/8	5/8	25	6 1/4	3	3 3/8	1/2	1 1/8
STD.	36	5/8	1	9	4 1/2	6	3/4	3/4	28	7 1/2	3 3/8	3 3/4	5/8	2 1/4
SPECIAL	48	3/4	1 1/4	12	6	8	1	1 1/2	38	10	4 1/2	5	3/4	3

SIGN	DIMENSIONS (INCHES)													
	A	B	C	D	E	F	G	H	J	K	L	M	N	P
STD.	36	3/8	5/8	5C	2	2	11 1/2	11 1/2	9 3/8	9 3/8	10 1/4	10 1/4	6 7/8	6 7/8
FWY./EXP.	48	3/4	1 1/4	6C	3	3	13 1/2	13 1/2	11 3/8	11 3/8	12 1/4	12 3/8	8 3/8	8 3/8

ARROW HEAD	DIMENSIONS (INCHES)				
	SIZE	B	C	D	E
MIN. AND STD.	24x24	4	7 1/8	3/16	1 1/16
SPECIAL	30x30	5	8 3/8	1/8	7/8
EXPWY.	36x36	6	10 3/8	1/8	1 1/16
SPECIAL	48x48	8	14 3/8	1/16	1 3/8

SIGN	DIMENSIONS (INCHES)					
	A	B	C	D	E	F
MIN.	12	18	6	9	1/2	1 1/2
STD.	18	24	9	12	3/4	1 1/2
SPECIAL	24	30	12	15	1	1 1/2
EXPWY.	30	36	15	18	1 1/8	
FWY.	36	48	18	24	1 1/8	2 1/4

COLORS
ALL THE WARNING SIGNS SHOWN ON THIS SHEET SHALL HAVE BLACK TEXT AND SYMBOLS ON REFLECTORIZED YELLOW BACKGROUND EXCEPT AS OTHERWISE NOTED. THE COLORS SHALL CONFORM WITH THE COLORS ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND APPROVED BY THE DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION.

MATERIALS
THE SIGN BASE MATERIALS USED FOR THE WARNING SIGNS SHOWN ON THIS SHEET MAY BE ANY OF THE FOLLOWING, OF THE MINIMUM THICKNESS NOTED.

FLAT SHEET ALUMINUM	HIGH DENSITY OVERLAP PLYWOOD	GALVANIZED FLAT SHEET STEEL
24" x 24"	24" x 30"	36" x 36"
12" x 18"	30" x 30"	48" x 48"
18" x 24"	30" x 36"	48" x 60"
0.060"	0.080"	0.100"
1/2"	1/2"	5/8"
18 GAGE	16 GAGE	14 GAGE
		12 GAGE

THE TEXT, BORDER, AND SYMBOL SHALL BE LETTERING FILM, SILK SCREENED OR HAND PAINTED. WHEN HAND PAINTED, POOR WORKMANSHIP SHALL BE CAUSE FOR REJECTION. ENCAPSULATED LENS REFLECTIVE SHEETING SHALL BE USED FOR THE SIGN BACKGROUND WHERE NOTED.

TEXT DESIGN
LETTERS, DIGITS, SYMBOLS, SPACINGS, AND TEXT DIMENSIONS SHALL CONFORM WITH THE STANDARD ALPHABETS AND DESIGNS PRESCRIBED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

SPECIFICATIONS
WARNING SIGNS SHALL MEET THE VERMONT STANDARD SPECIFICATIONS FOR "TRAFFIC SIGNS".

OTHER STDS.
REQUIRED:

REVISIONS AND CORRECTIONS

OCT. 30, 1987 - DATE OF ORIGINAL ISSUE
AUG. 08, 1995 - ADDED SIGN DETAIL AND I.D. NUMBER FOR EACH DETAIL

APPROVED FOR THIS PROJECT
AND/OR DESIGN IMPLEMENTATION
FHWA FINAL APPROVAL PENDING.

APPROVED

Stephen B. McArthur
DIRECTOR OF ENGINEERING

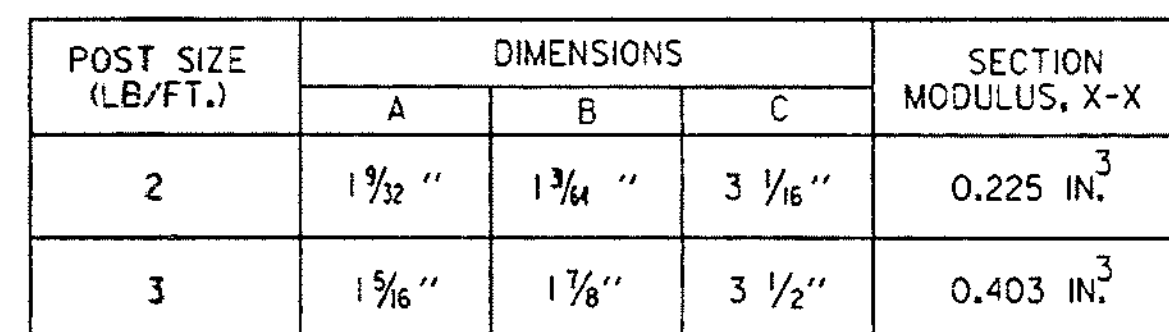
David A. Ross
TRAFFIC AND SAFETY ENGINEER

WARNING SIGN DETAILS

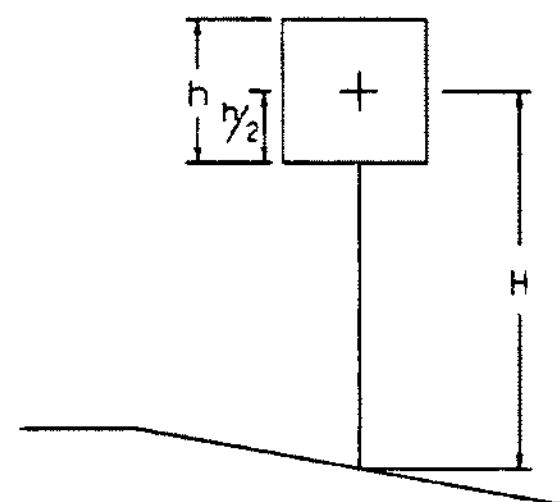
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STANDARD
E-150

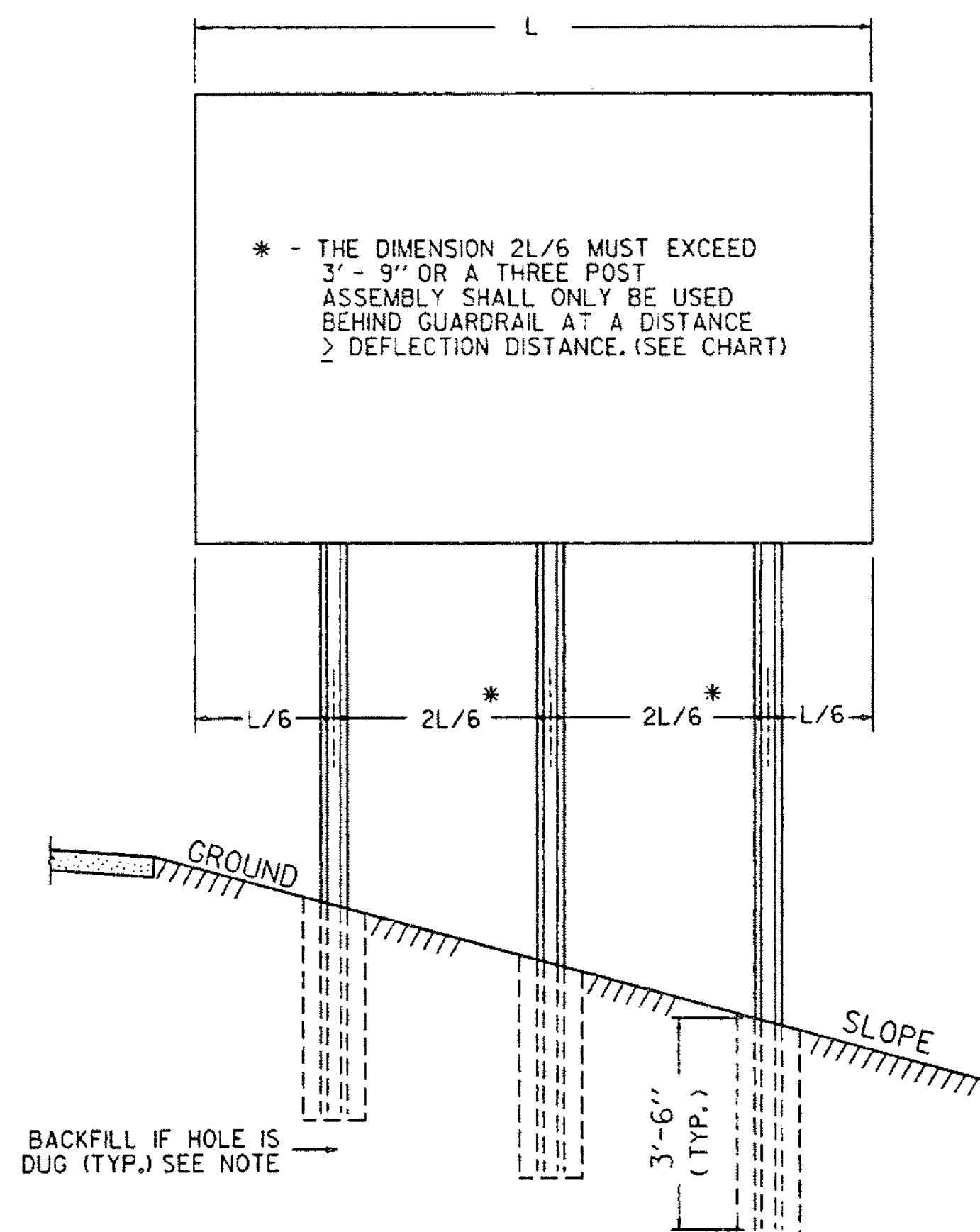


SIMILAR DIMENSIONS ARE ACCEPTABLE, HOWEVER
SECTION MODULUS VALUES SHALL NOT BE EXCEEDED.



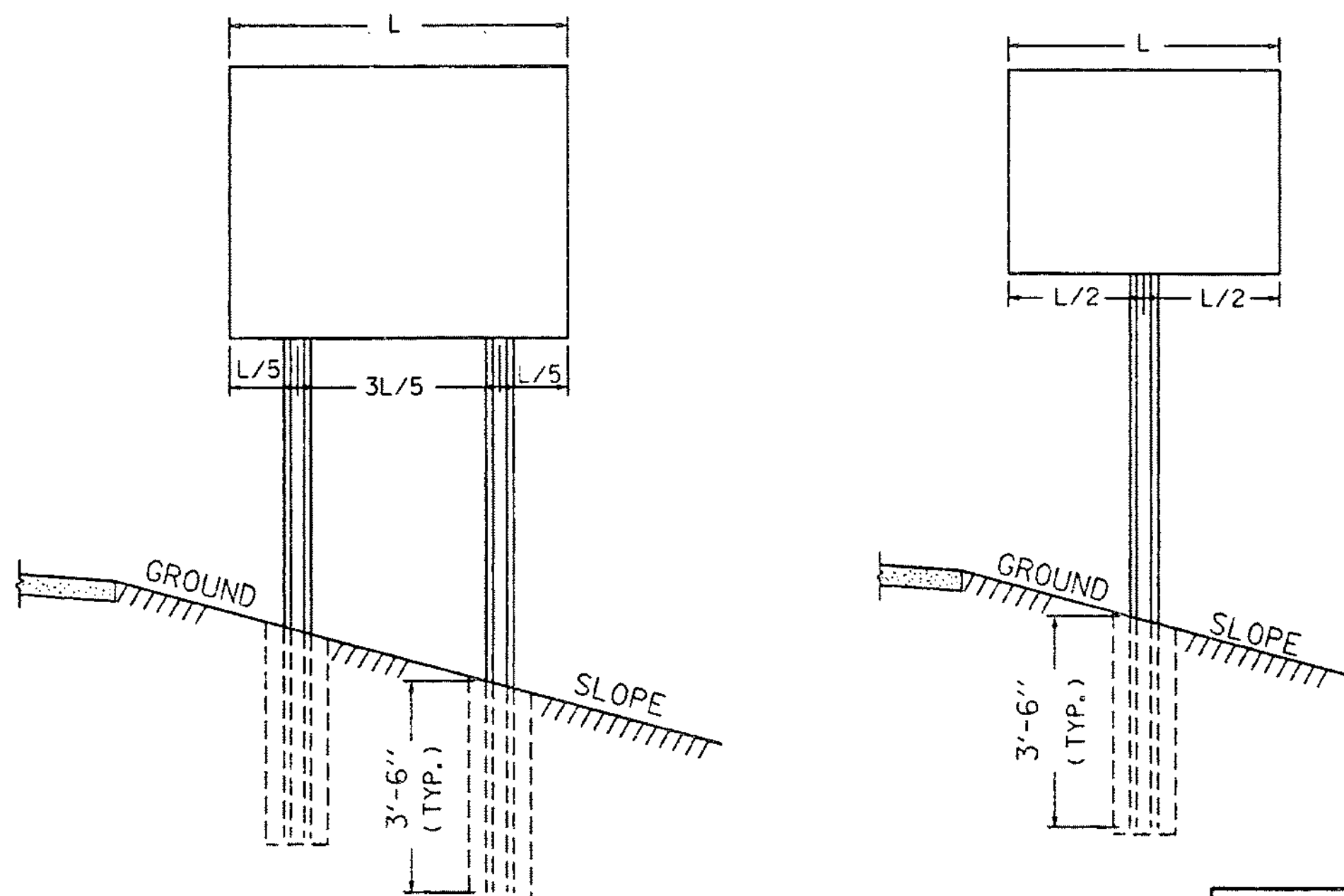
POST SELECTION CHART		
SIGN AREA (FT ²) × H (FT) ≤ SSV (SELECTION VALUE)		
POST SIZE	Sv	DESIGN CRITERIA
2 LB/FT. (ONE POST INSTALLATION)	32	WIND SPEED = 60 MPH (10-YEAR MEAN RECURRENCE INTERVAL)
2 LB/FT. (TWO POST INSTALLATION)	62	WIND PRESSURE = 13 PSF
3 LB/FT.	107	STEEL MIN YIELD F _y = 50,000 PSI ALLOWABLE STRESS = (1.4) 0.60 F _y

SINGULAR 2 LB./FT. POSTS SHALL ONLY TO BE USED IN URBAN AREAS.

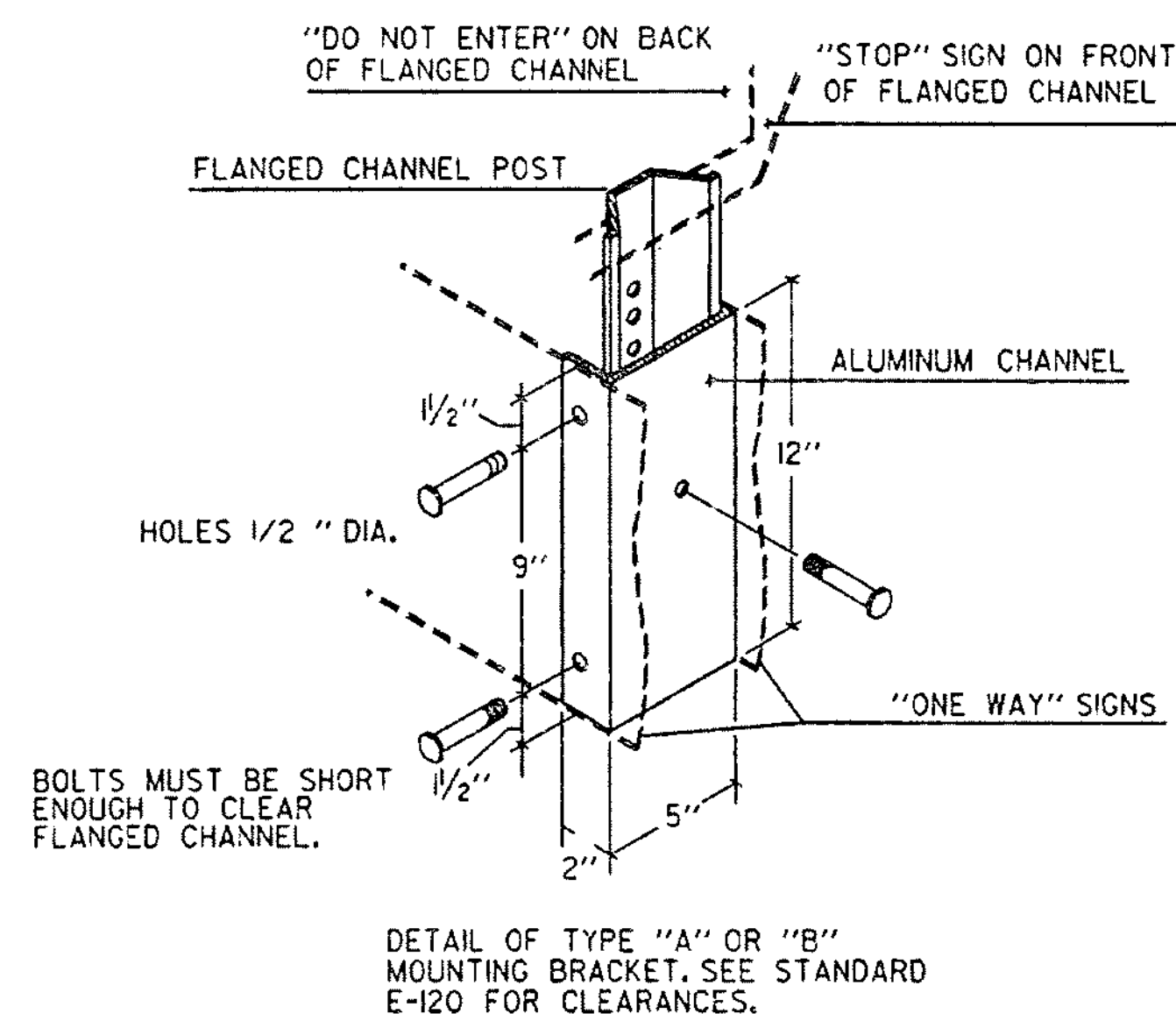


MULTI-POST INSTALLATIONS

WHEN SIGN POSTS ARE INSTALLED WITH A POST SPACING OF LESS THAN 8 FEET, POST SIZES MUST BE SELECTED TO INSURE THAT WHEN ACTING TOGETHER THE POSTS DO NOT CREATE A HAZARD. REFER TO V.A.O.T. SIGN POST DESIGN GUIDELINE FOR ADDITIONAL DETAILS.

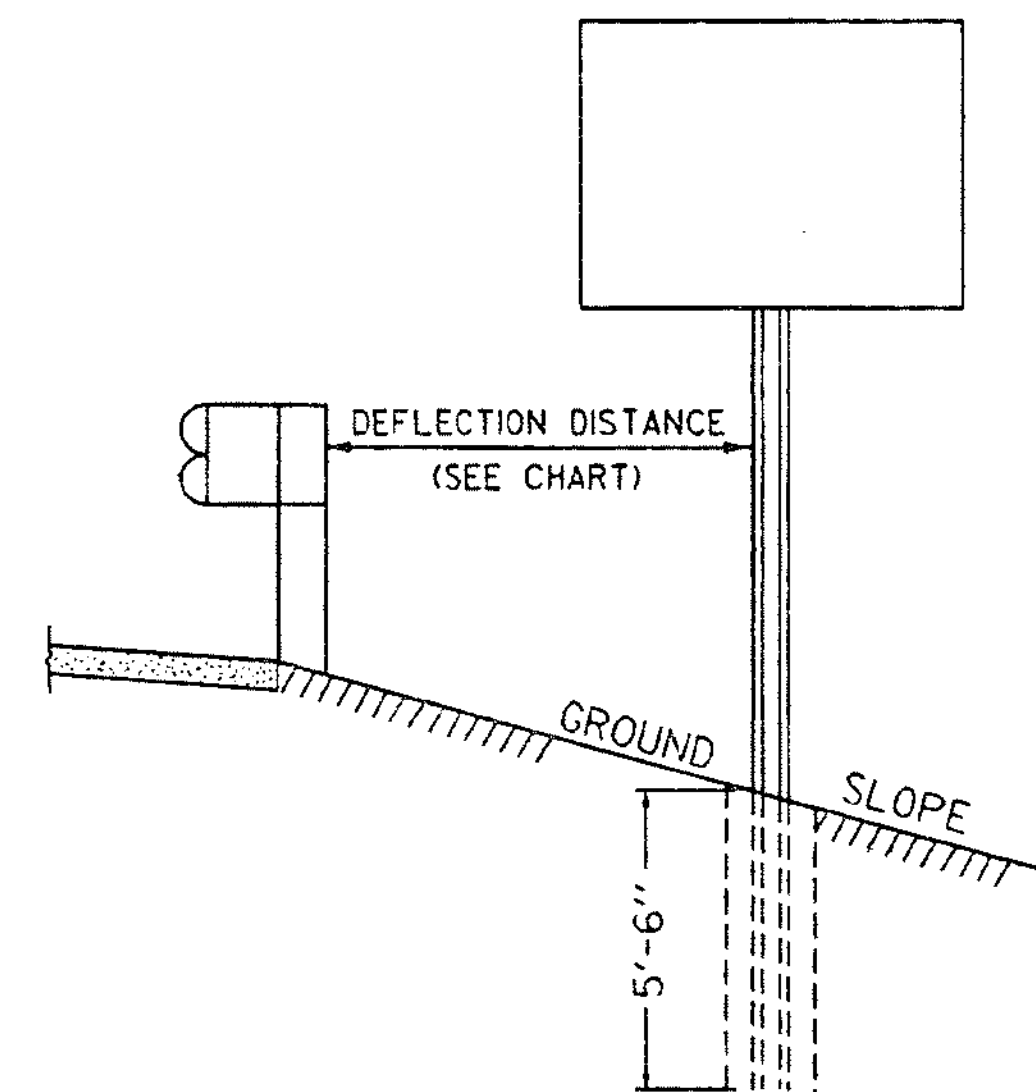


POST SPACING DETAILS



TYPE	GR POST SPACING	DEFLECTION
THREE CABLE W/STEEL POSTS	16' - 0"	12'
W/WOODEN POSTS	12' - 6"	12'
W-BEAM W/WEAK POST	12' - 6"	7'
W/STRONG POST	6' - 3"	3'
BOX BEAM	6' - 0"	5'
THRIE BEAM W/WEAK POST	12' - 6"	4'
W/STRONG POST	6' - 3"	2'

THIS CHART LISTS THE THEORETICAL DEFLECTION DISTANCE UPON IMPACT OF VARIOUS GUARDRAIL WITH DIFFERENT TYPES AND SPACING OF POSTS.



GENERAL NOTES

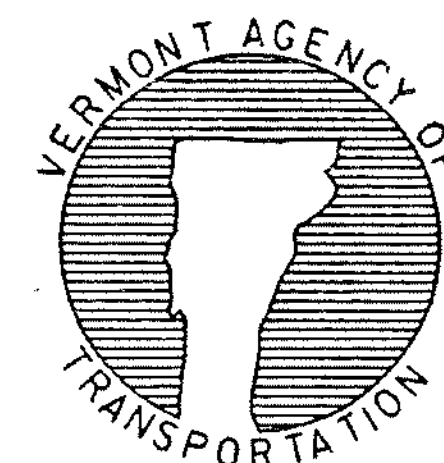
CONSTRUCTION METHODS - POSTS MAY BE
DRIVEN OR SET IN A DUG HOLE AND BACKFILLED.
IF DRIVEN, A DRIVING CAP SHALL BE USED.
THE DUG HOLE INSTALLATION SHALL BE USED IN
AREAS OF POOR SOIL CONDITIONS OR AS
DIRECTED BY THE RESIDENT ENGINEER. BACKFILL
SHALL BE COMPACTED AS DIRECTED BY THE
RESIDENT ENGINEER.

IN AREAS WHERE LEDGE ROCK IS ENCOUNTERED, POSTS WILL BE SET IN A HOLE WITH 2" CLEARANCE AND GROUTED WITH TYPE 4 MORTAR 24" BELOW THE SURFACE OF THE SOLID ROCK, UNLESS THE POSTS PENETRATE THE GROUND A MINIMUM OF 3'-6". THE PORTION OF THE POST IN CONTACT WITH THE MORTAR SHALL BE COATED WITH AN APPROVED COATING.

SIGN CLEARANCES - HORIZONTAL AND VERTICAL
SIGN CLEARANCES SHALL BE SHOWN ON THE PLANS
OR THE APPROPRIATE STD. SHEETS.

SINGLE POST INSTALLATIONS SHALL BE LIMITED TO A SIGN AREA OF 12-1/2 SQ. FT. OR LESS.

**OTHER STDs,
REQUIRED:**



STANDARD E-160

REVISIONS AND CORRECTIONS

SEP. 10, 1987 - DATE OF ORIGINAL ISSUE
MAR. 01, 1988 - FHWA REVIEW COMMENTS
OCT. 21, 1992 - ADDED DETAILS, REVISED NOTES &
REVISED TITLE BLOCK
AUG. 18, 1995 - DELETION OF 2.5 #/FT. POST AND TWO-
RAIL ALUMINUM. ADDED ADDITIONAL NOTE.

APPROVED FOR THIS PROJECT
AND/OR DESIGN IMPLEMENTATION.
FHWA FINAL APPROVAL PENDING.

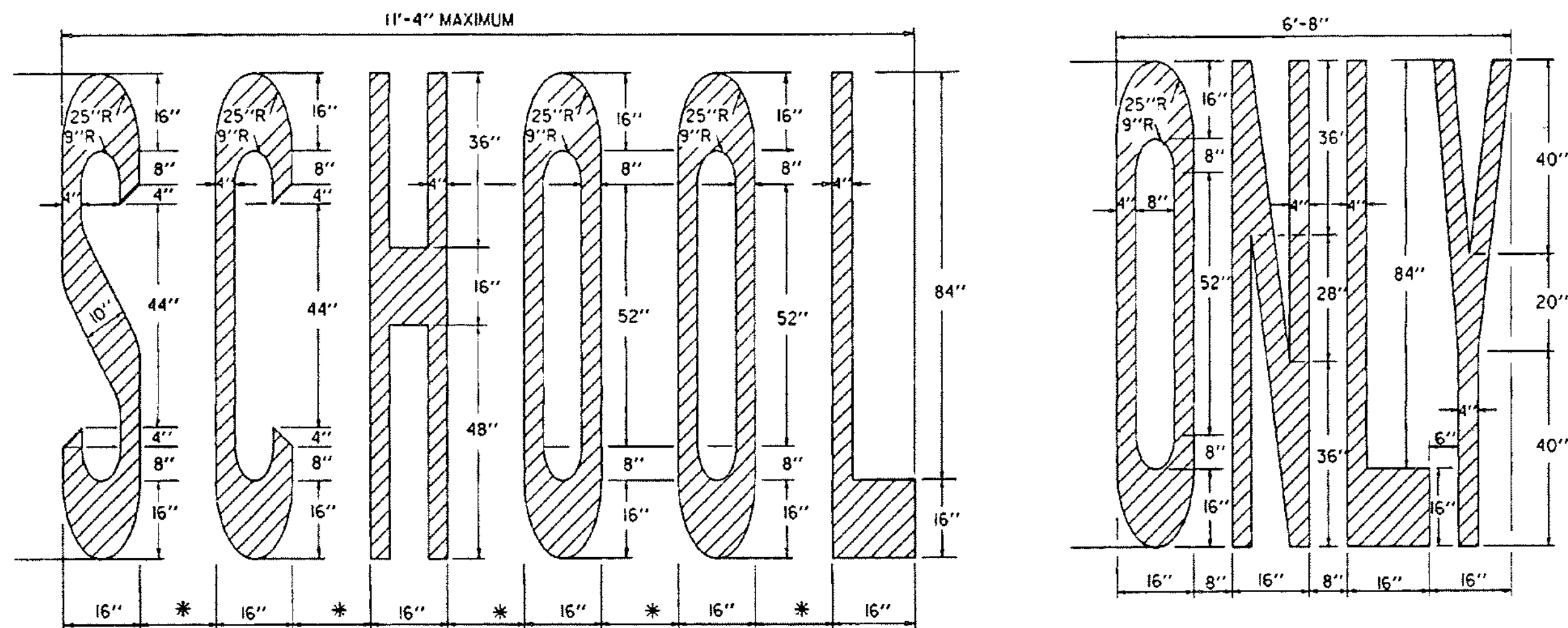
APPROVED

Frank P. McCutchen
DIRECTOR OF ENGINEERING

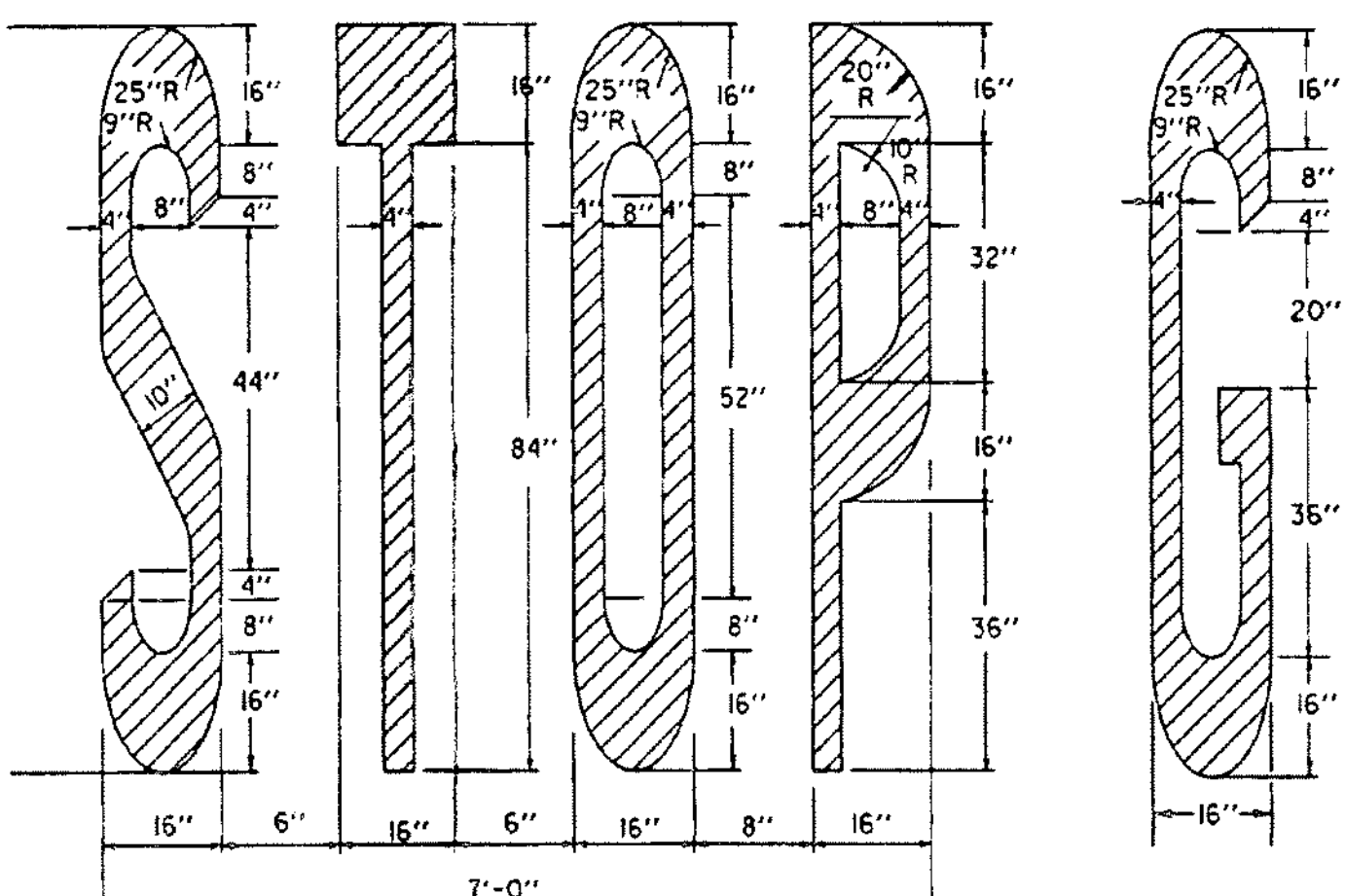
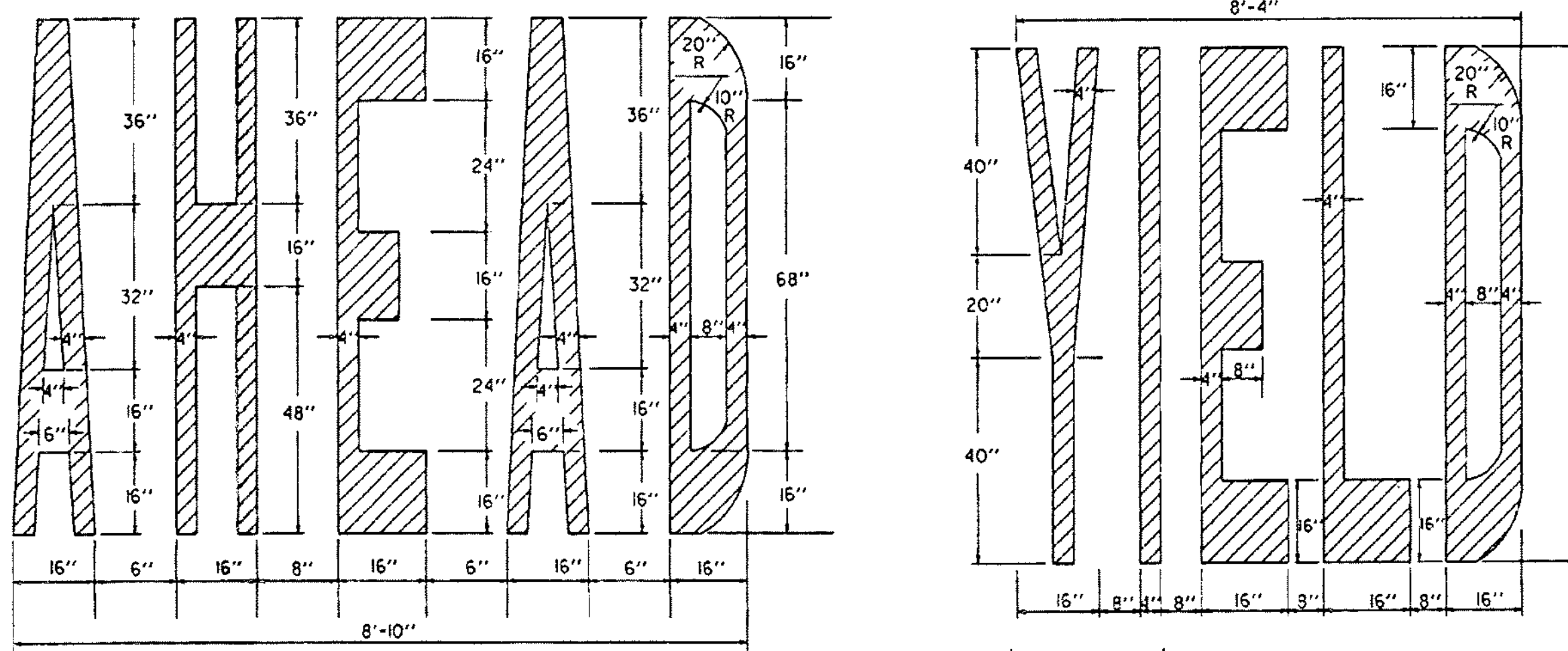
David C. Ross
TRAFFIC AND SAFETY ENGINEER

FLANGED CHANNEL STEEL SIGN POST

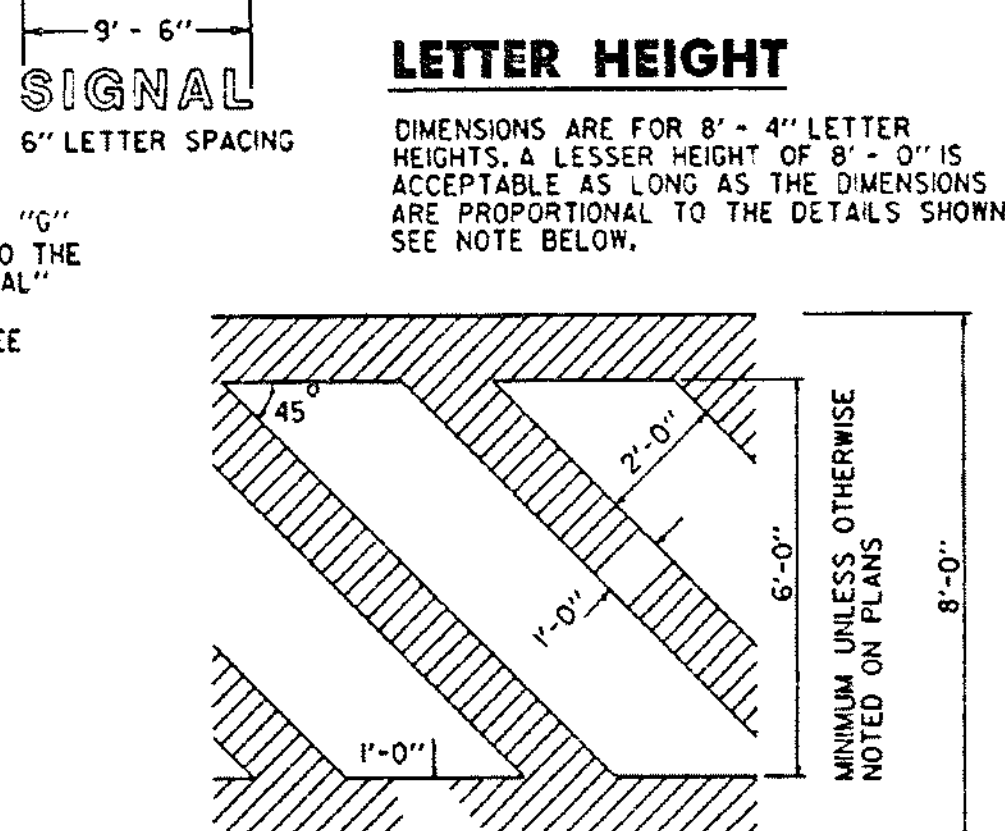
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* (4'-8") - ADJUST TO AVAILABLE PAVEMENT WIDTH

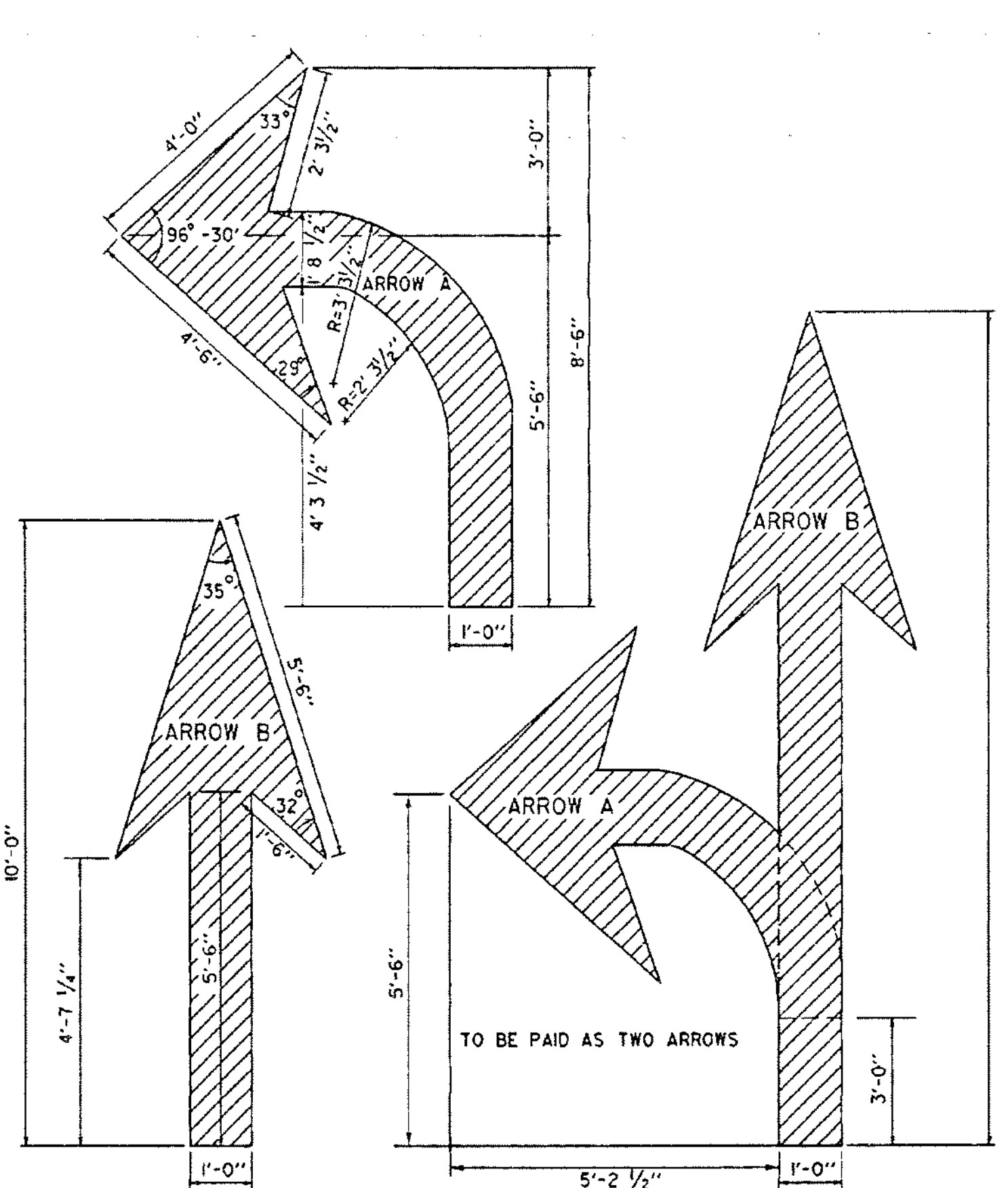


THE LETTER "C" PERTAINS TO THE WORD "SIGNAL" FOR OTHER LETTERS, SEE ABOVE.

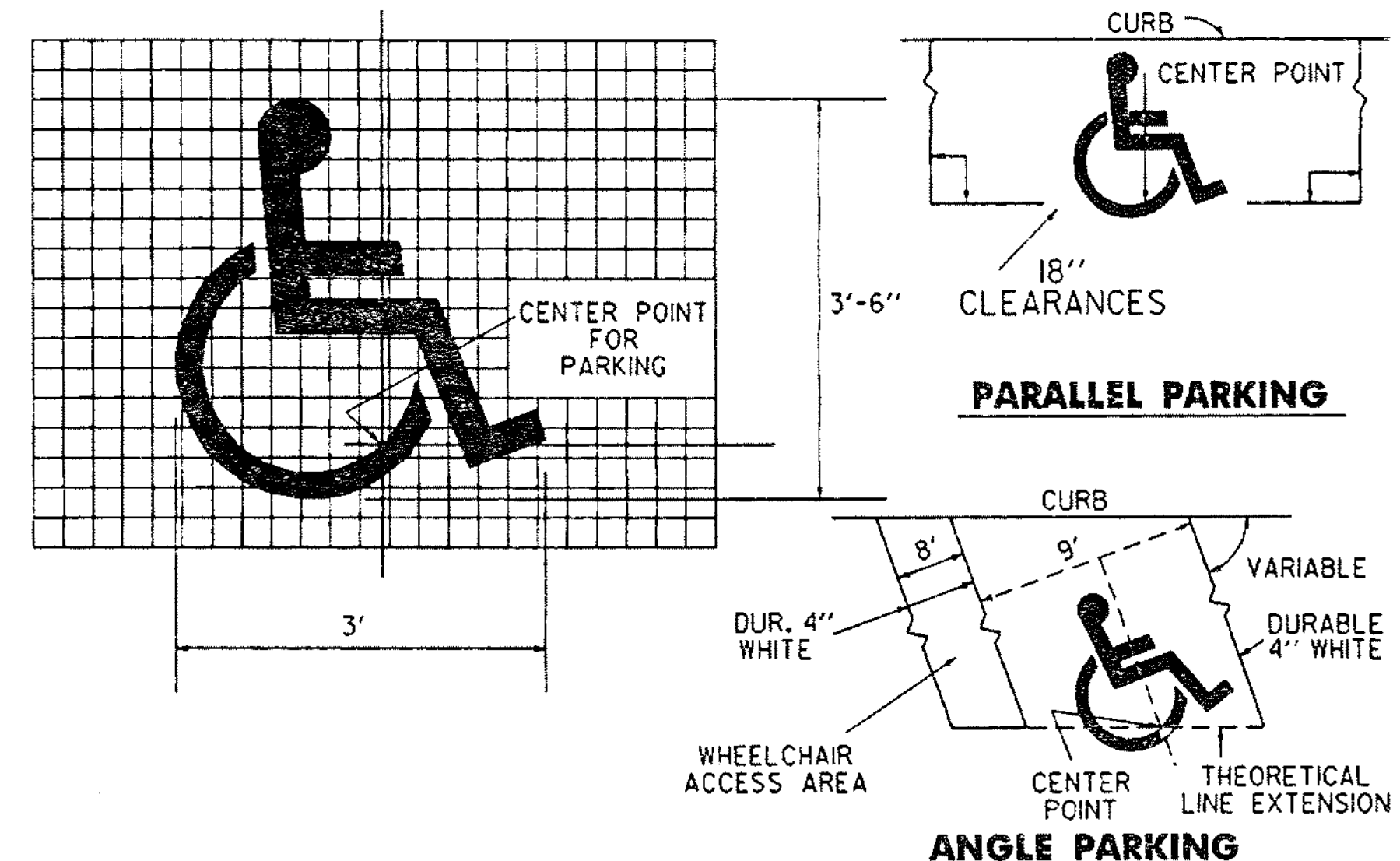


ARROWS AND WORD MARKINGS THAT CONFORM TO THE DIMENSIONS SHOWN ON THIS SHEET OR AS DETAILED IN THE BOOKLET ENTITLED "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" AND THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (CURRENT EDITION) PREPARED BY THE FEDERAL HIGHWAY ADMINISTRATION WILL BE ACCEPTABLE.

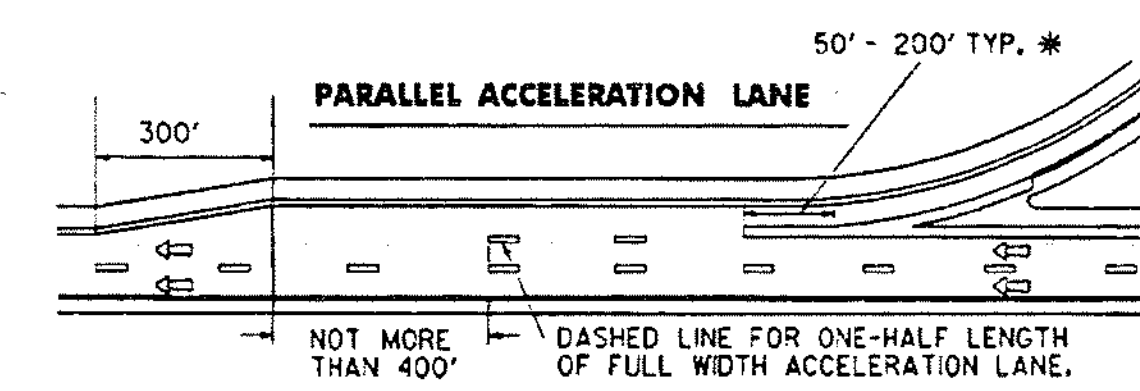
LETTER IN WORD MARKING AND CROSSWALK DETAILS



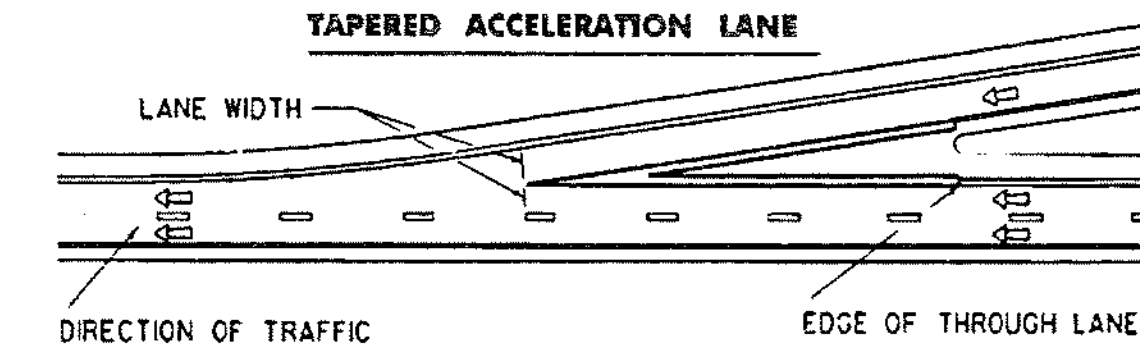
ARROW DETAILS



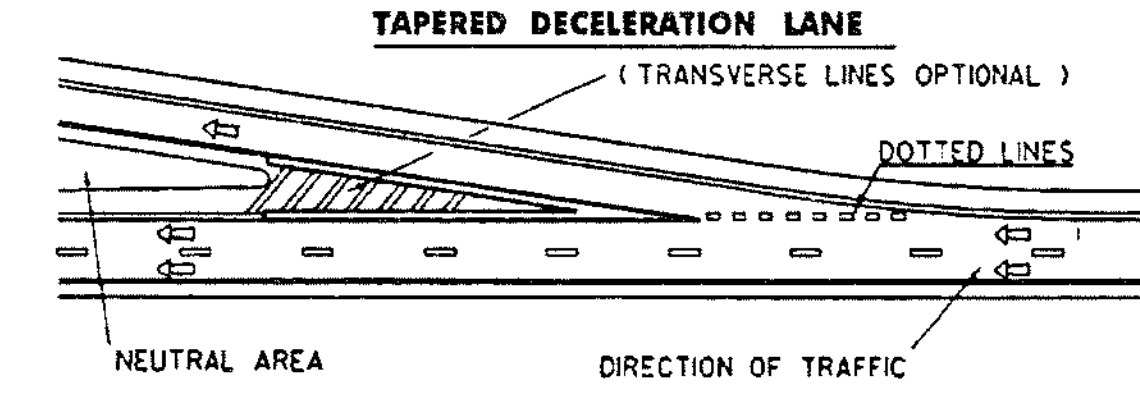
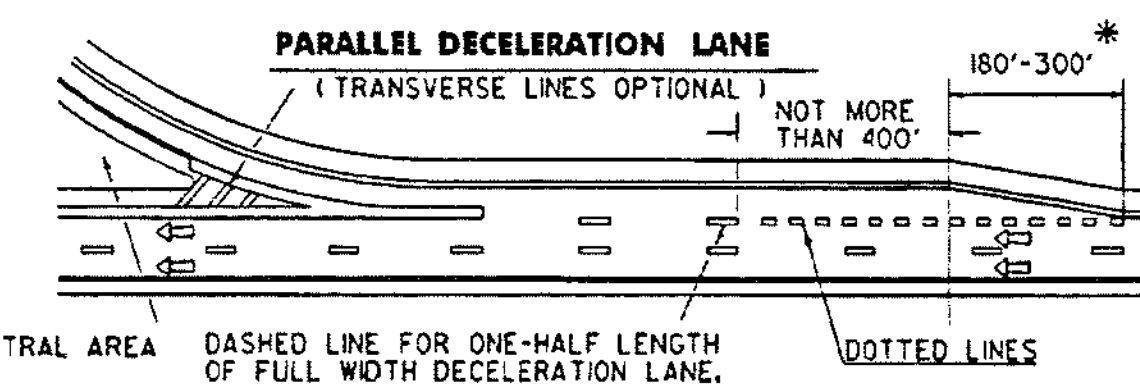
HANDICAPPED PAVEMENT MARKING DETAILS



* USE LONGER LENGTH TO EMPHASIZE SITUATIONS WHERE THE CROSSING REQUIRES UNUSUAL CARE SUCH AS HIGH VOLUME MERGE AREAS.



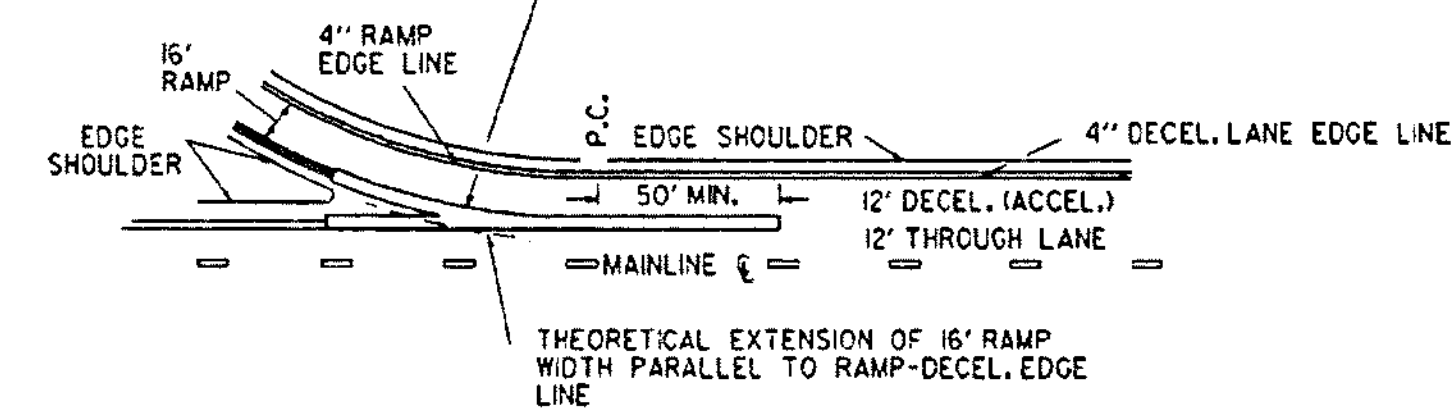
* SHORTER TAPERS GIVE A BETTER TARGET VALUE, HOWEVER ALIGNMENT MAY DICTATE A LONGER TAPER. RESIDENT ENGINEER SHALL ESTIMATE LENGTH.



- LEGEND**
- 4" WHITE LINES
 - 4" YELLOW LINES
 - 8" CHANNELIZATION WHITE LINES
 - 4" WHITE DOTTED LINES (2" SOLID - 4" GAP)
 - DIRECTION OF TRAFFIC FLOW

RAMP MARKINGS

IMPORTANT NOTE
ACTUAL LOCATION OF 8" GORE MARKING TRANSITION CURVE MUST BE OFFSET FROM THE THEORETICAL RAMP EXTENSION LINE TO PROVIDE A VISUALLY SMOOTH RAMP ENTRANCE.



DETAIL - GORE MARKING TRANSITION CURVE

REVISIONS AND CORRECTIONS

SEPT. 10, 1987 - DATE OF ORIGINAL ISSUE
JAN. 23, 1989 - ADDED DOTTED LINES, "SIGNAL" DIMENSIONS, CLARIFIED LETTER HEIGHT.
AUG. 18, 1995 - MISC. NOTE CHANGES

APPROVED

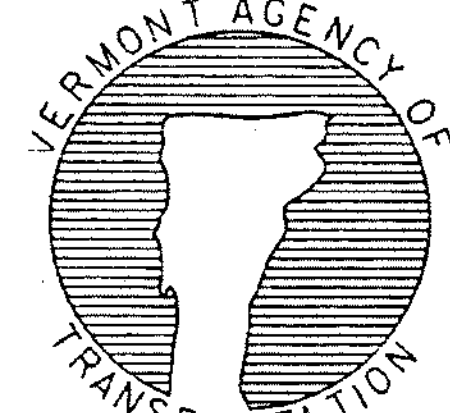
Seamus P. McArthur
DIRECTOR OF ENGINEERING

Scott A. Bass
TRAFFIC AND SAFETY ENGINEER

PAVEMENT MARKING DETAILS

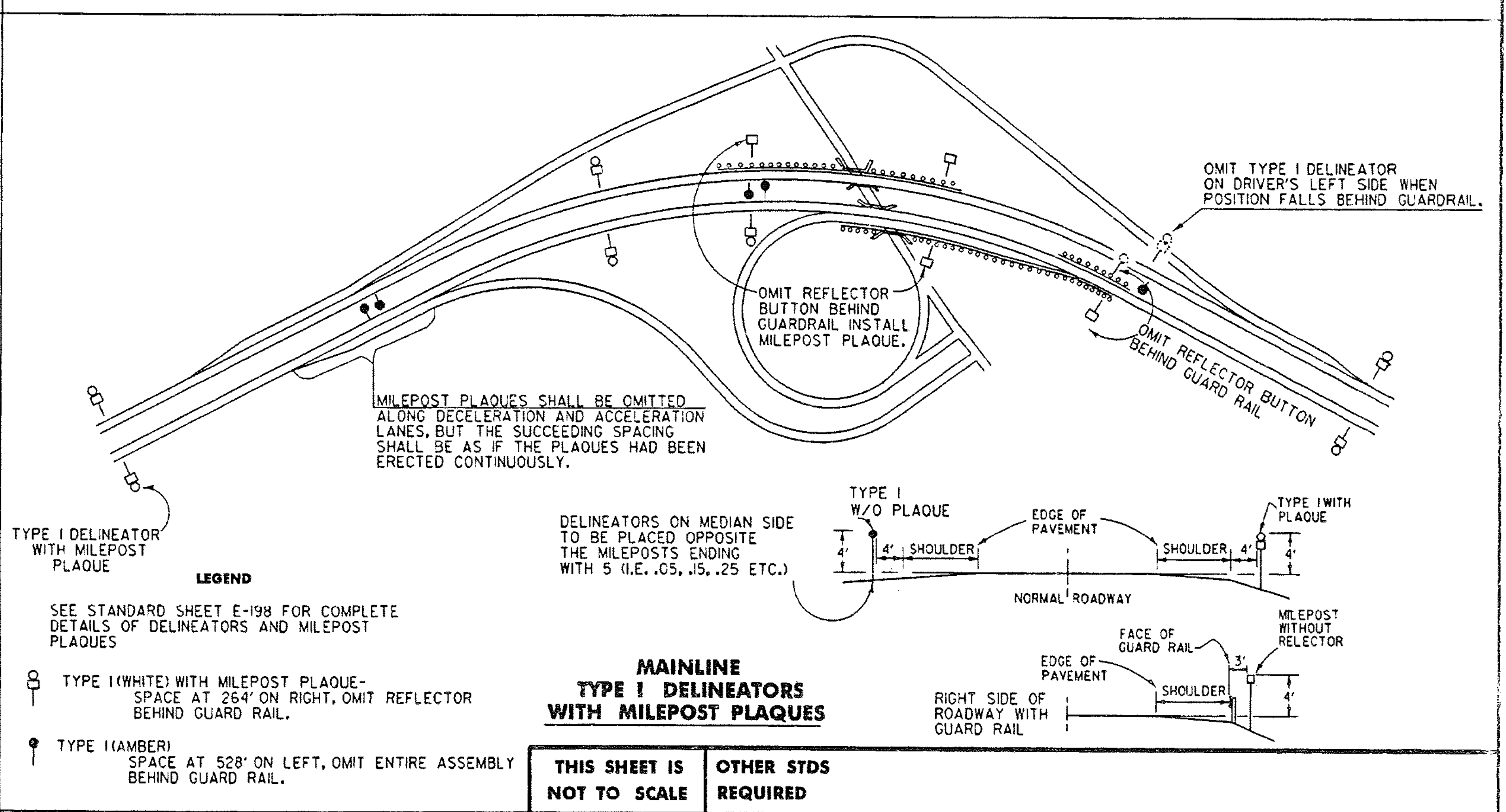
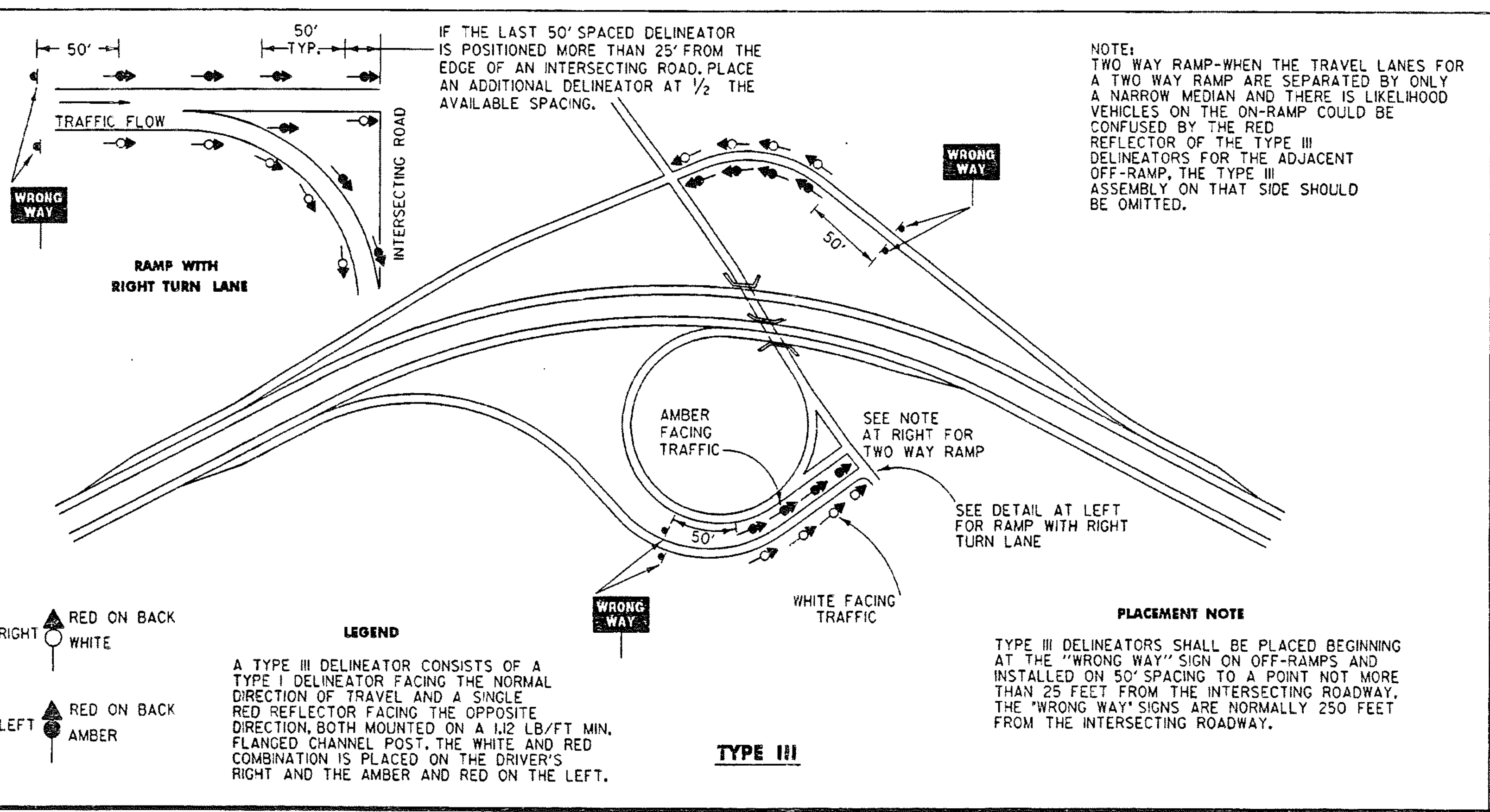
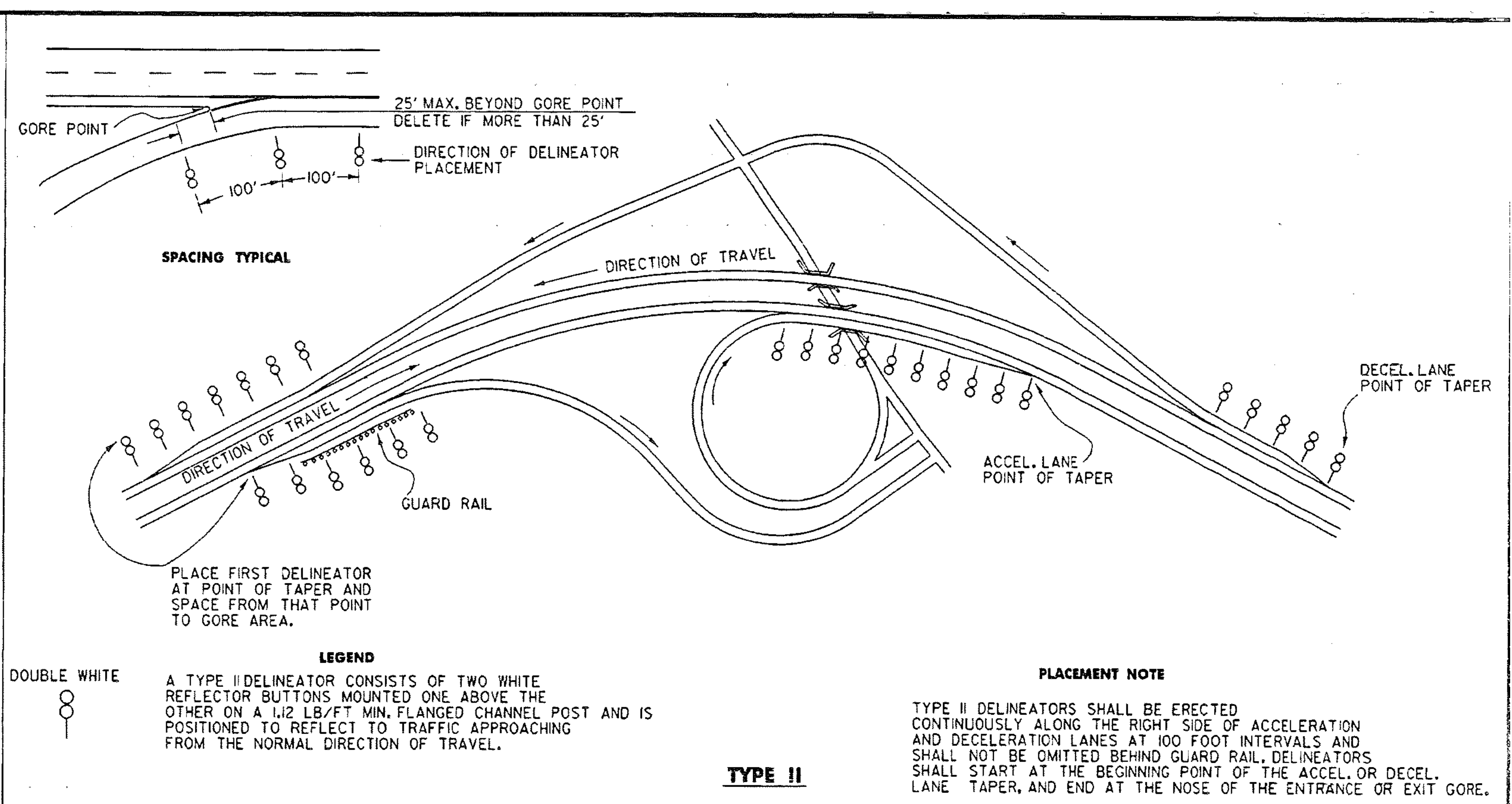
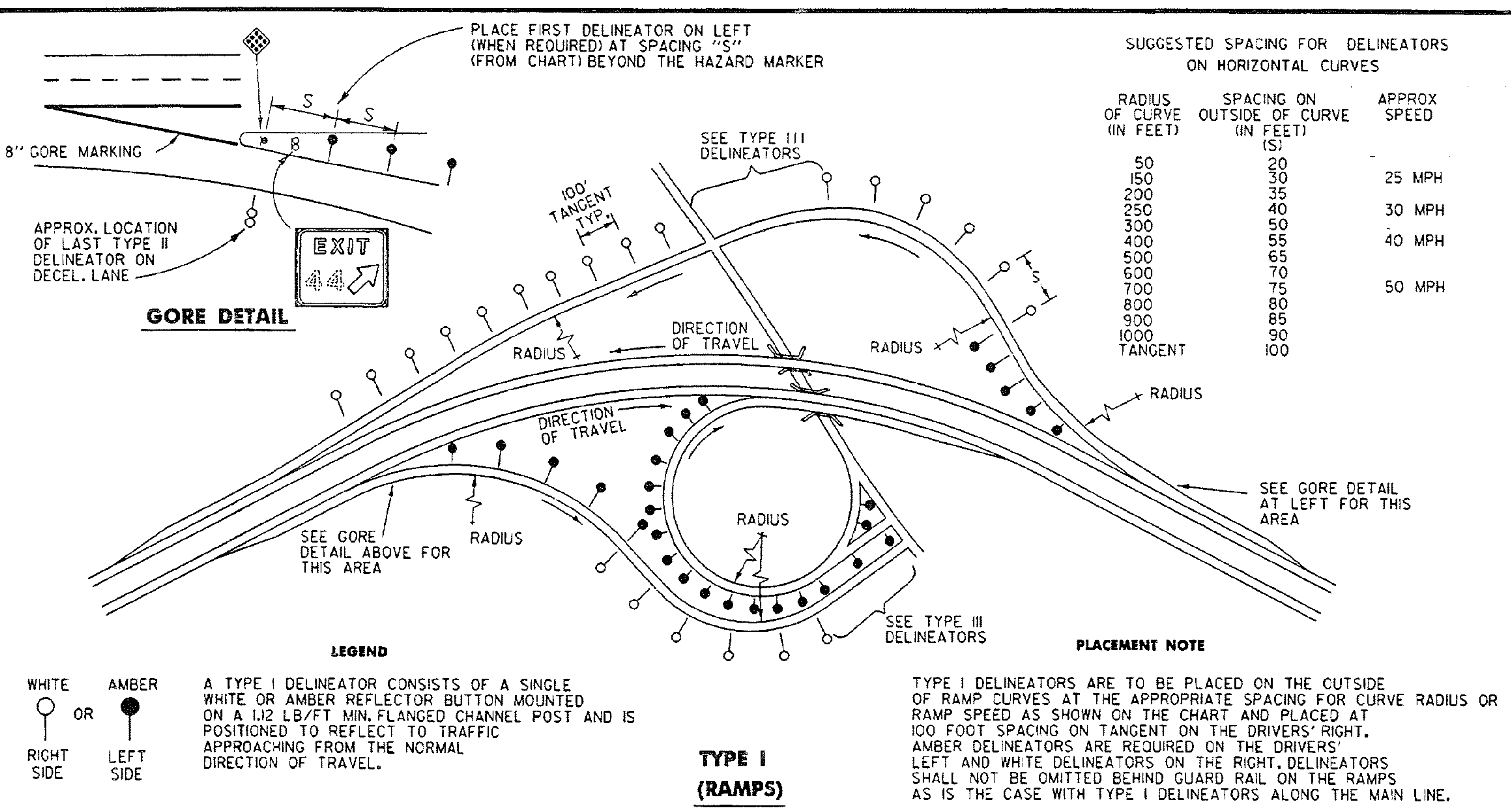
THIS SHEET IS
NOT TO SCALE

OTHER STDS.
REQUIRED



STANDARD
E-191

/traf/std/stdel9l.dgn/stdel9l.l



REVISIONS AND CORRECTIONS

JAN. 23, 1989 - DATE OF ORIGINAL ISSUE

AUG. 18, 1995 - REVISED NOTES

APPROVED

Samuel H. McArthur
DIRECTOR OF ENGINEERING

Dale A. Ross
TRAFFIC AND SAFETY ENGINEER

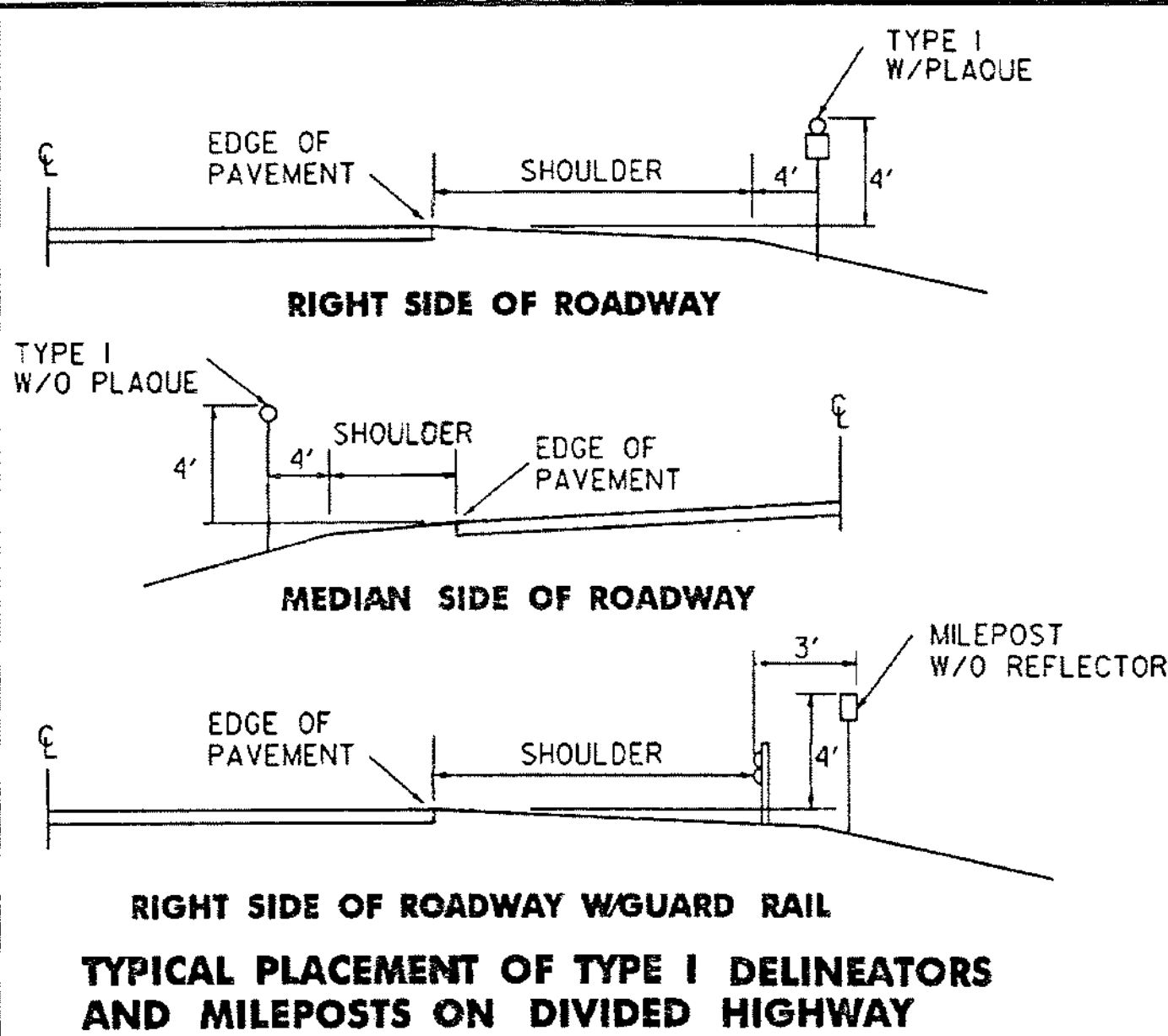
DELINEATOR PLACEMENT TYPICAL

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VERMONT AGENCY OF TRANSPORTATION

STANDARD E-197

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

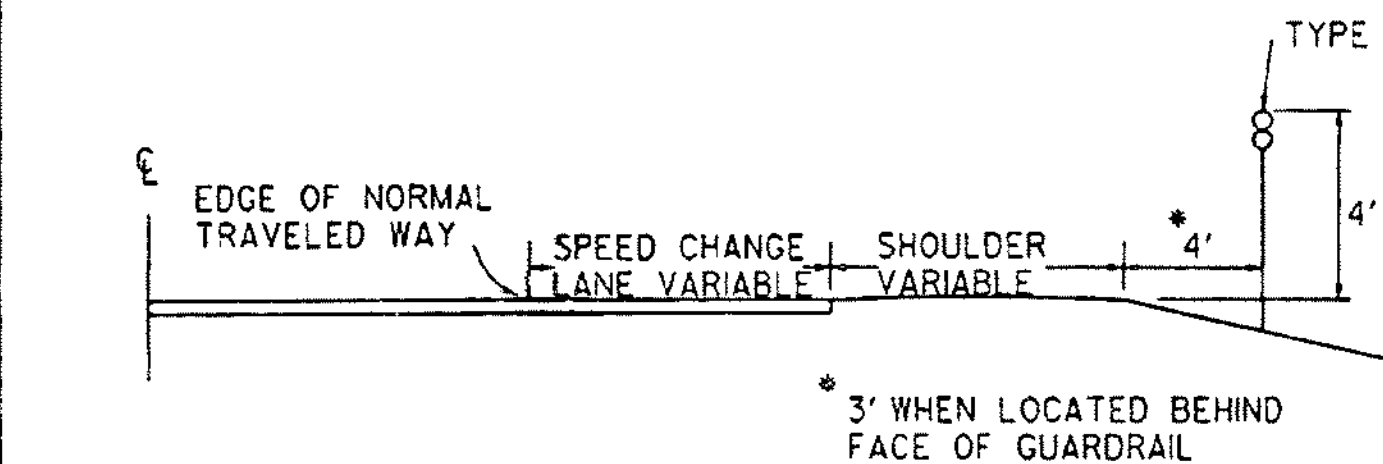


TYPE I DELINEATORS WITH WHITE REFLECTOR UNITS AND THE APPROPRIATE MILEPOST PLAQUES SHALL BE ERECTED CONTINUOUSLY ALONG THE RIGHT SIDE OF THE DIVIDED HIGHWAYS BETWEEN MILEMARKERS, EXCEPT THAT BEHIND GUARD RAIL MILEPOSTS WITHOUT REFLECTORS SHALL BE ERECTED.

THE TYPE I DELINEATORS WITH OR WITHOUT MILEPOST PLAQUES SHALL BE OMITTED ALONG DECELERATION AND ACCELERATION LANES, BUT THE SUCCEEDING SPACING SHALL BE AS IF THE DELINEATORS HAD BEEN ERECTED CONTINUOUSLY AND SHALL BE SO INDICATED.

THE LOCATION OF TYPE I DELINEATORS AND MILEPOSTS ARE TO BE COMPUTED AND MARKED IN THE FIELD BY THE ENGINEER IN ACCORDANCE WITH THE LATEST REVISION OF THE AGENCY'S "POLICY ON LOCATION MARKING FOR VERMONT DIVIDED HIGHWAYS."

TYPE I AMBER DELINEATORS WITHOUT MILEPOST PLAQUES SHALL BE ERECTED CONTINUOUSLY ALONG THE LEFT OR MEDIAN SIDE ON THE DIVIDED HIGHWAYS EXCEPT BEHIND GUARD RAIL, AND CONTINUED AT APPROXIMATELY THE SAME SPACING THROUGH INTERCHANGES AND REST AREAS WHERE THERE MAY NOT BE ANY TYPE I DELINEATORS ON THE RIGHT SIDE. THE SAME LATERAL PLACEMENT SHALL BE FOLLOWED ON THE LEFT AS ON THE RIGHT. TYPE I DELINEATORS WITHOUT MILEPOST PLAQUE SHALL BE INSTALLED ON INTERSTATE RAMP AS SHOWN ON THE PLANS.



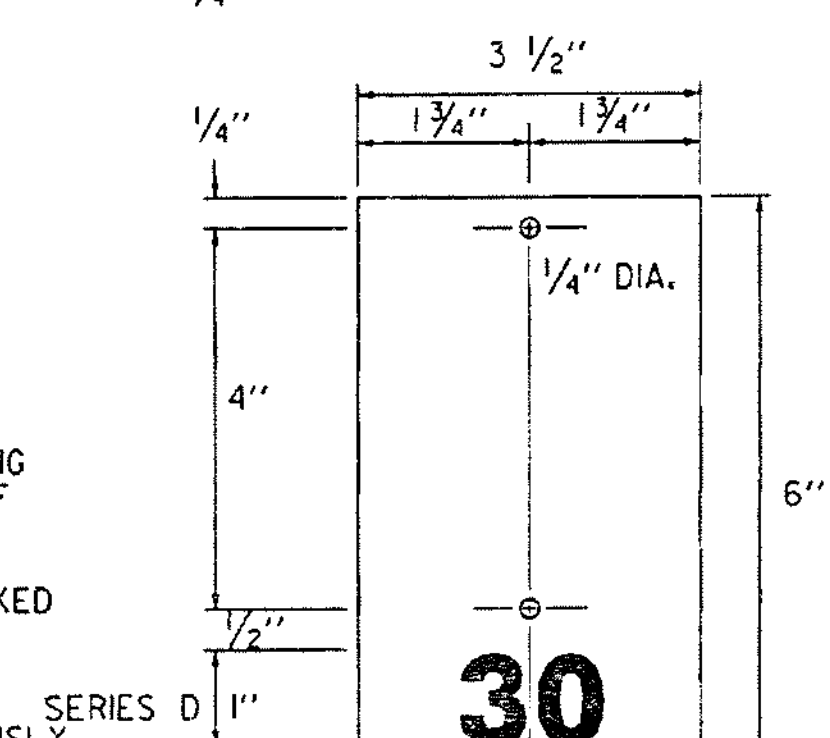
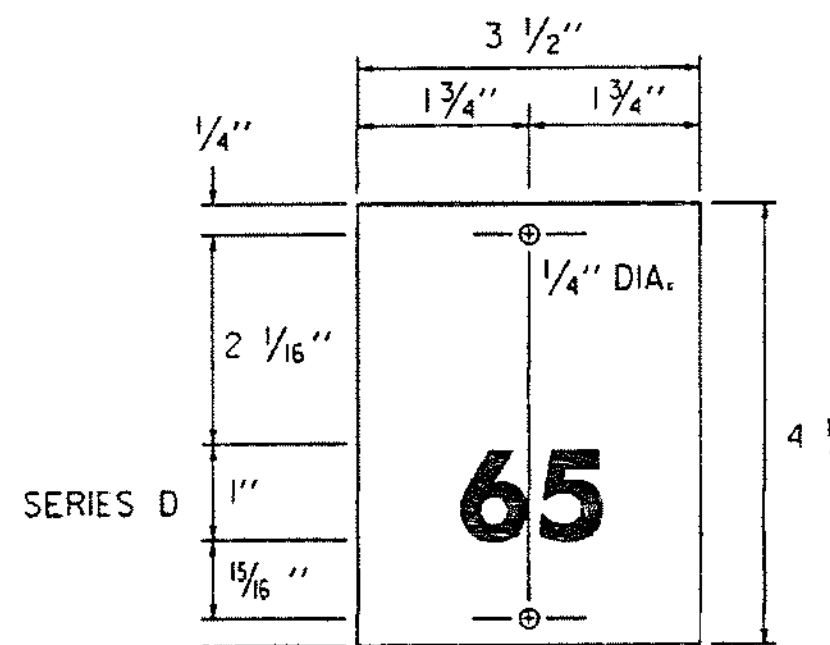
TYPICAL PLACEMENT OF TYPE II DELINEATORS ON SPEED CHANGE LANES

TYPE II DELINEATORS SHALL BE ERECTED CONTINUOUSLY ALONG THE RIGHT SIDE OF THE DECELERATION AND ACCELERATION LANES AT 100' INTERVALS INCLUDING GUARDRAIL SECTIONS THE DELINEATORS SHALL START AT THE BEGINNING OF THE TAPER AND END AT THE NOSE OF THE EXIT OR ENTRANCE CORE. THEY SHALL HAVE WHITE REFLECTOR UNITS.

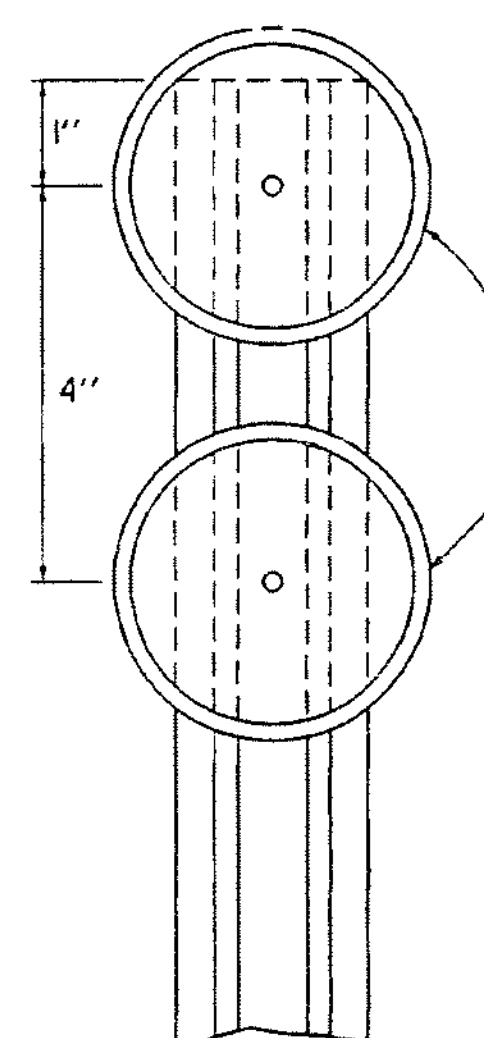
TYPE III DELINEATORS - SEE NOTE # 1

TYPE III DELINEATORS SHALL BEGIN 50' FROM WRONG WAY SIGNS AND EXTEND EVERY 50' TO A POINT NOT LESS THAN 25' FROM THE DIVIDED HIGHWAY AND BE MOUNTED ON BOTH SIDES OF THE ROAD AS SHOWN ON THE PLANS.

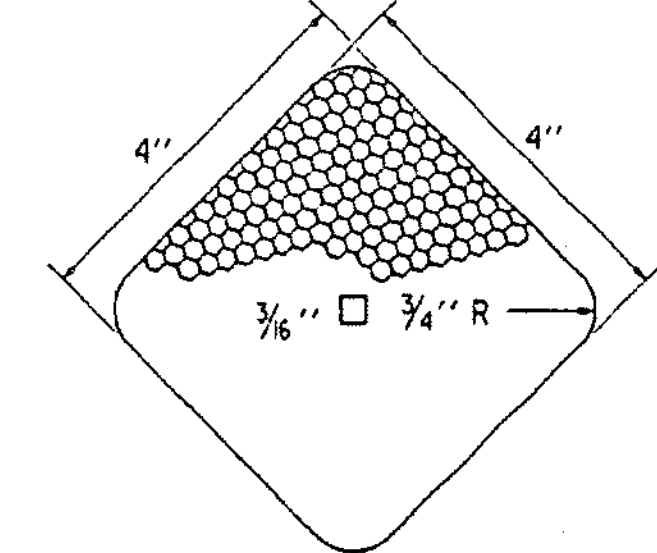
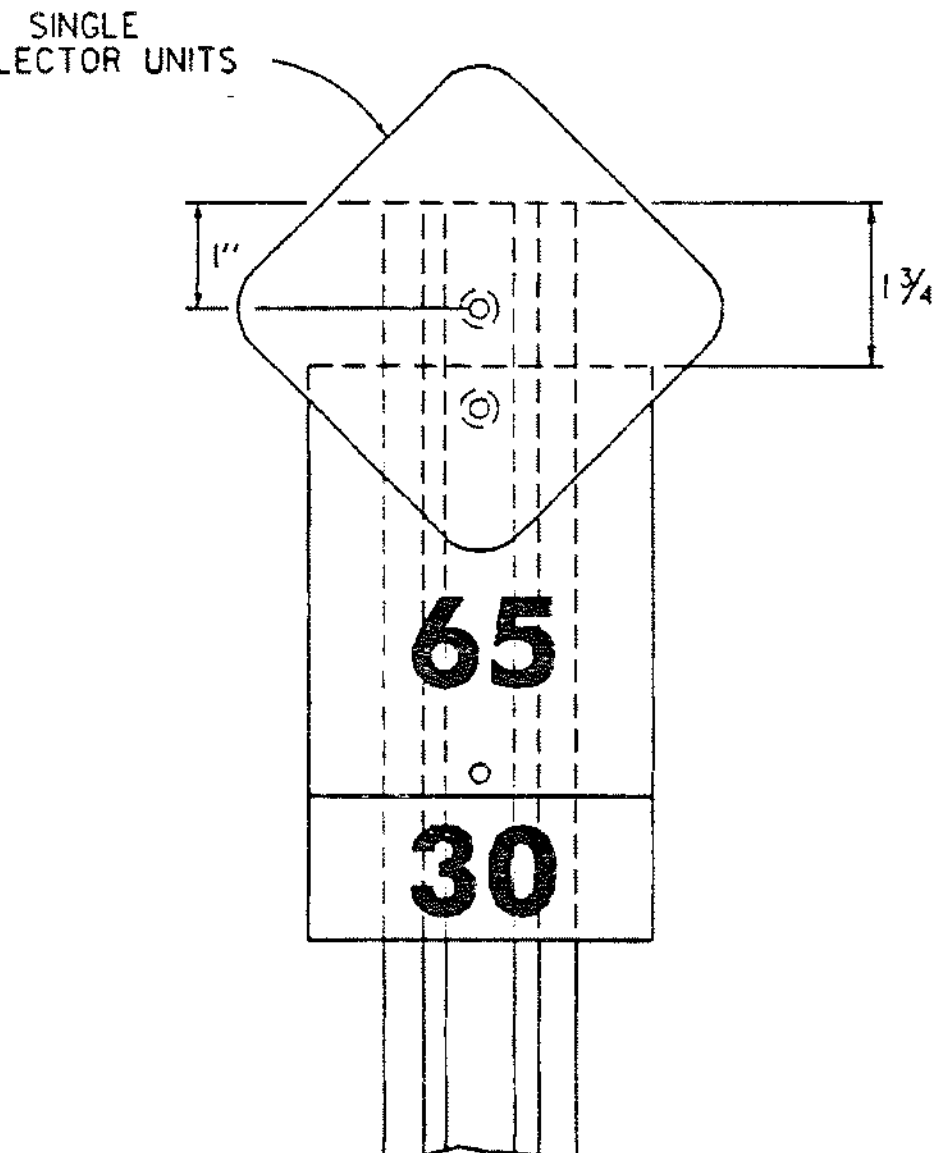
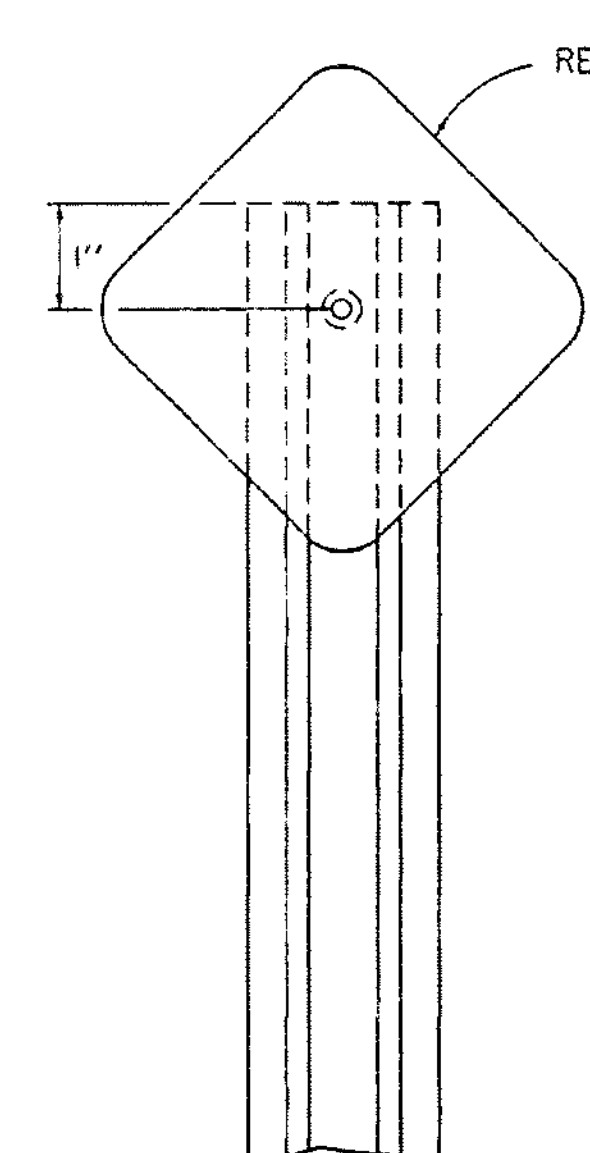
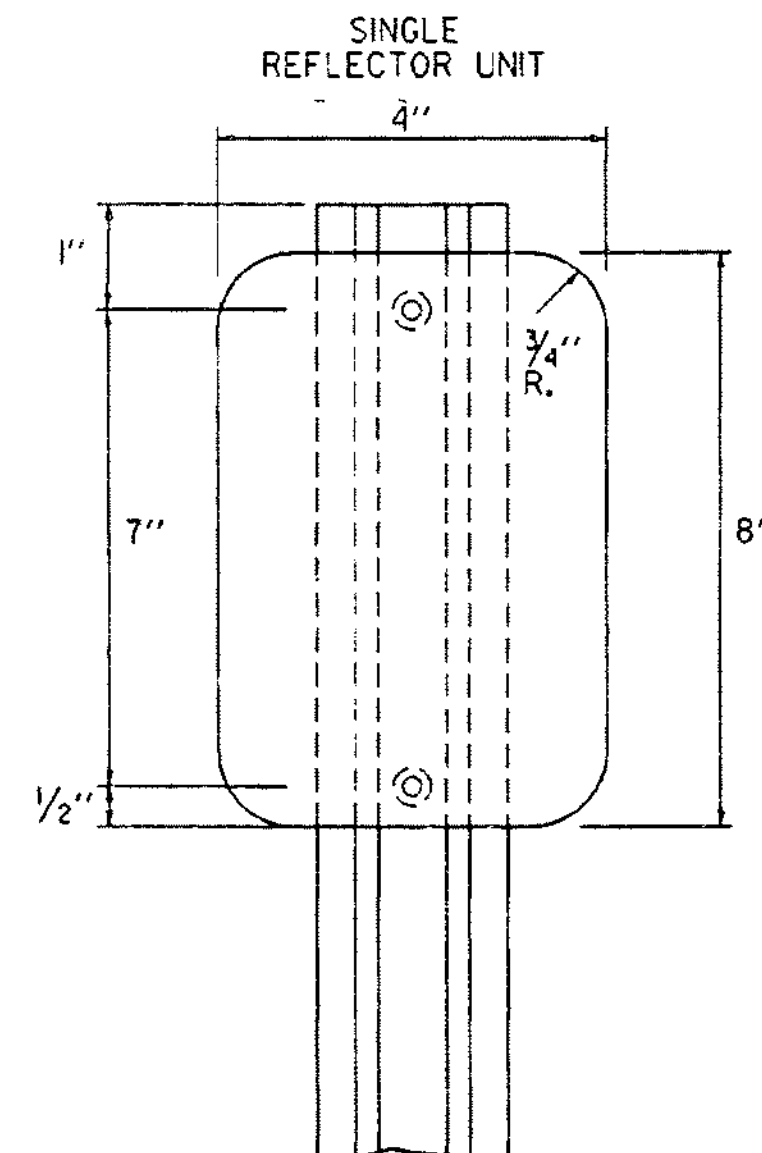
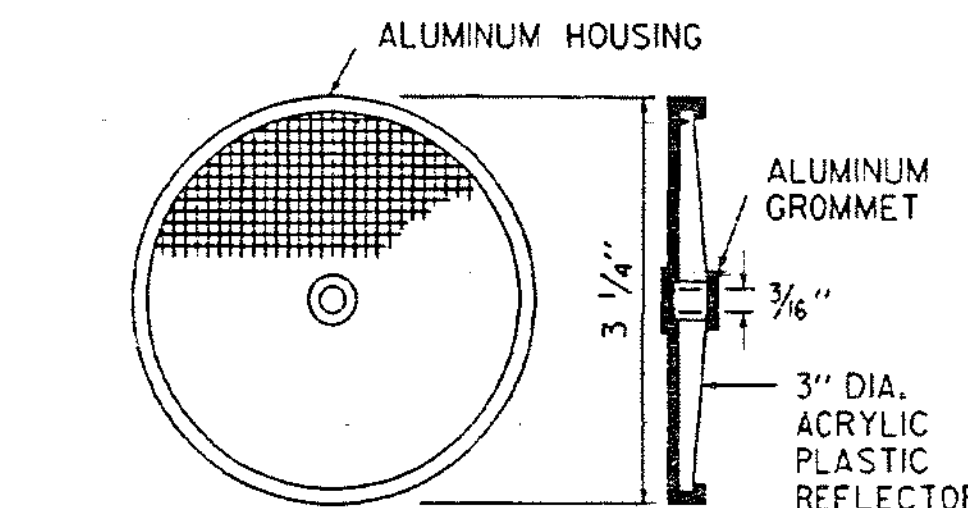
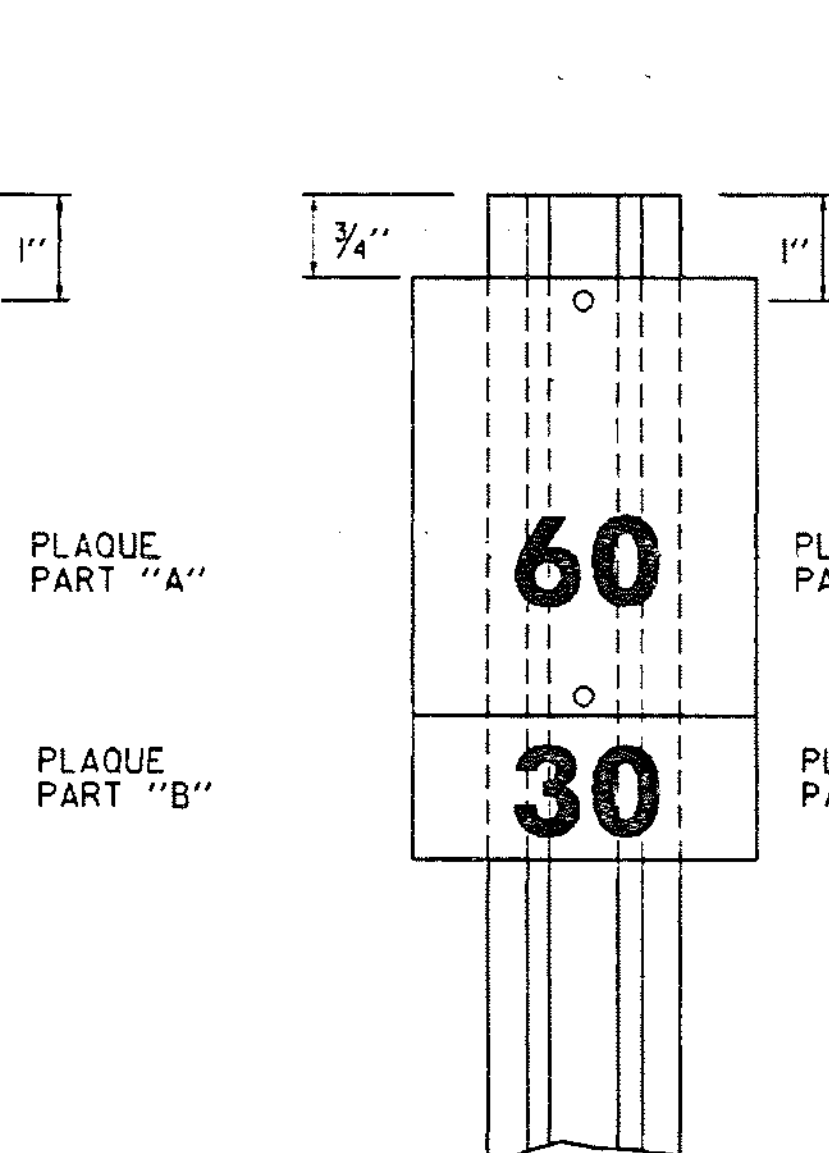
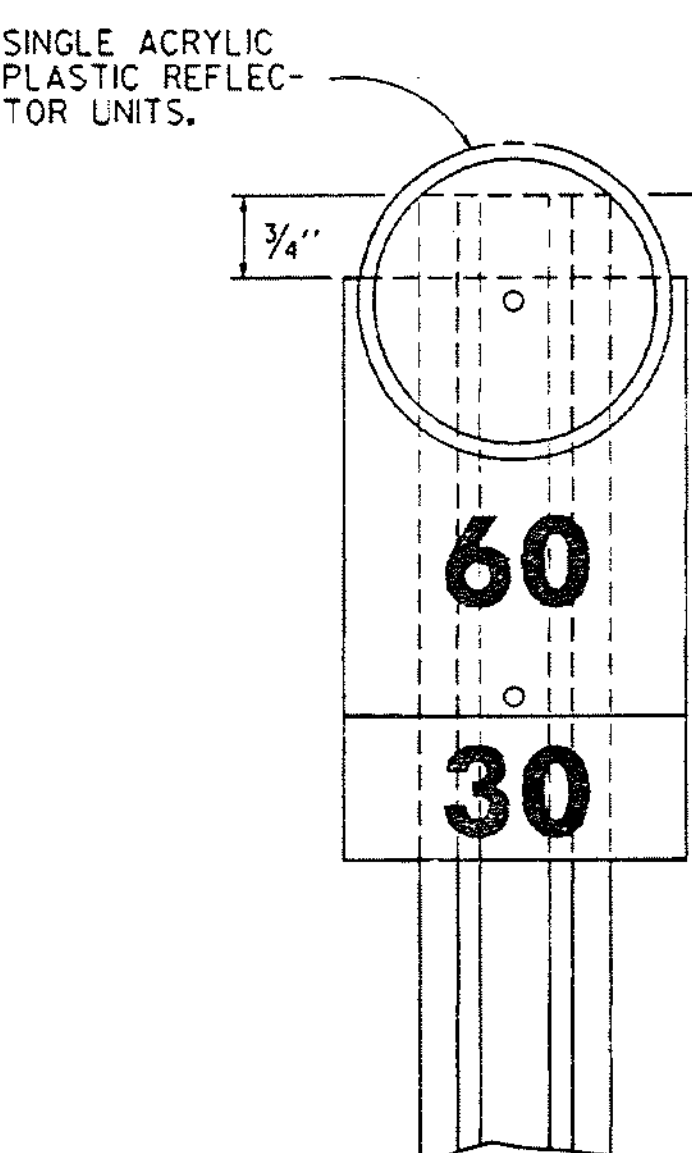
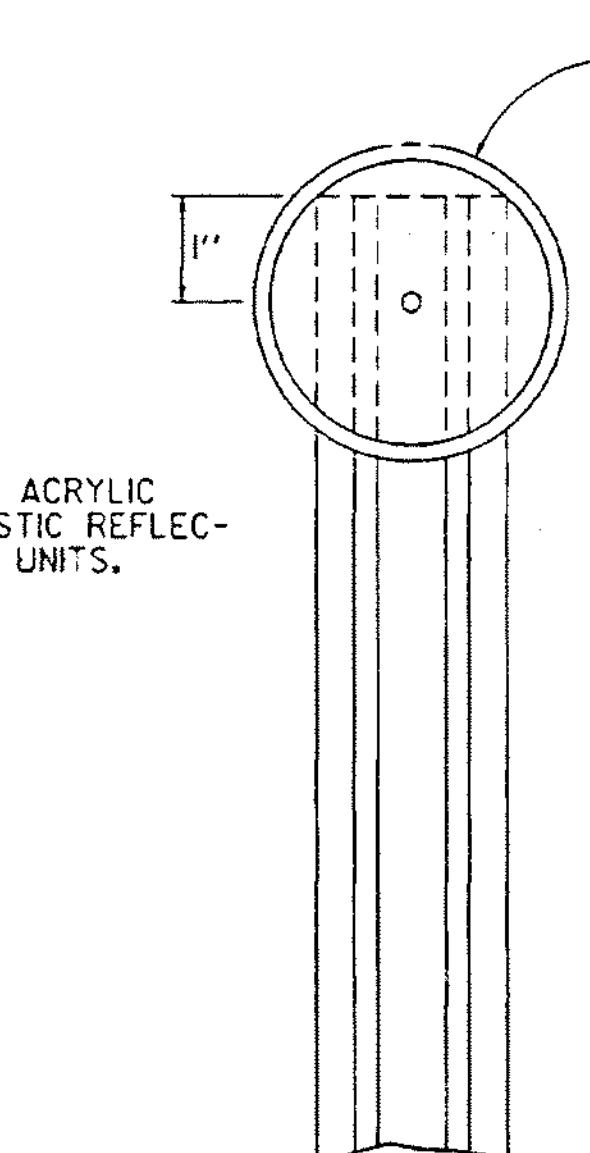
MILEPOST PLAQUE "A"
(THE NUMERALS ON PART "A" INDICATE THE MILE.)



MILEPOST PLAQUE PART "B"
(THE NUMERAL ON PART "B" INDICATES IN FIVE ONE-HUNDREDTHS OF A MILE BETWEEN MILE INCREMENTS.)



DELINEATORS WITH ACRYLIC PLASTIC REFLECTORS

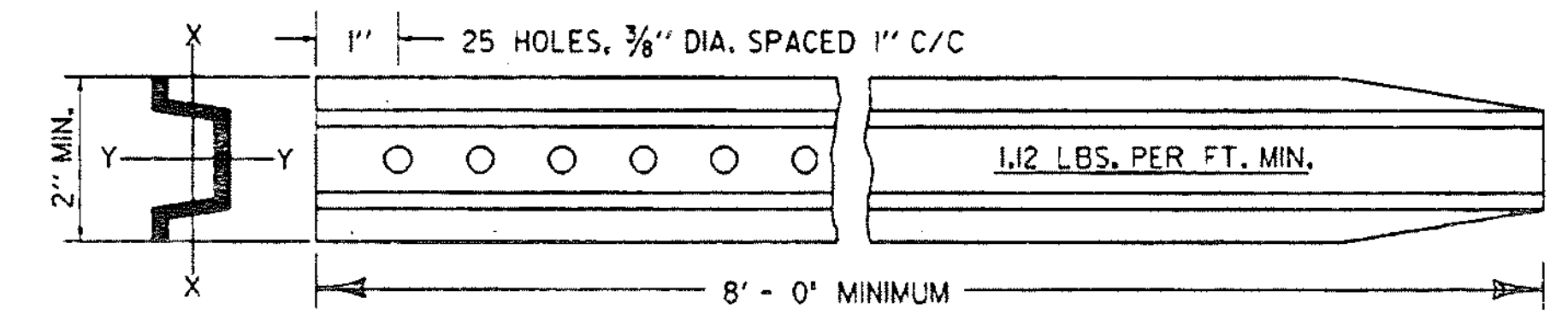


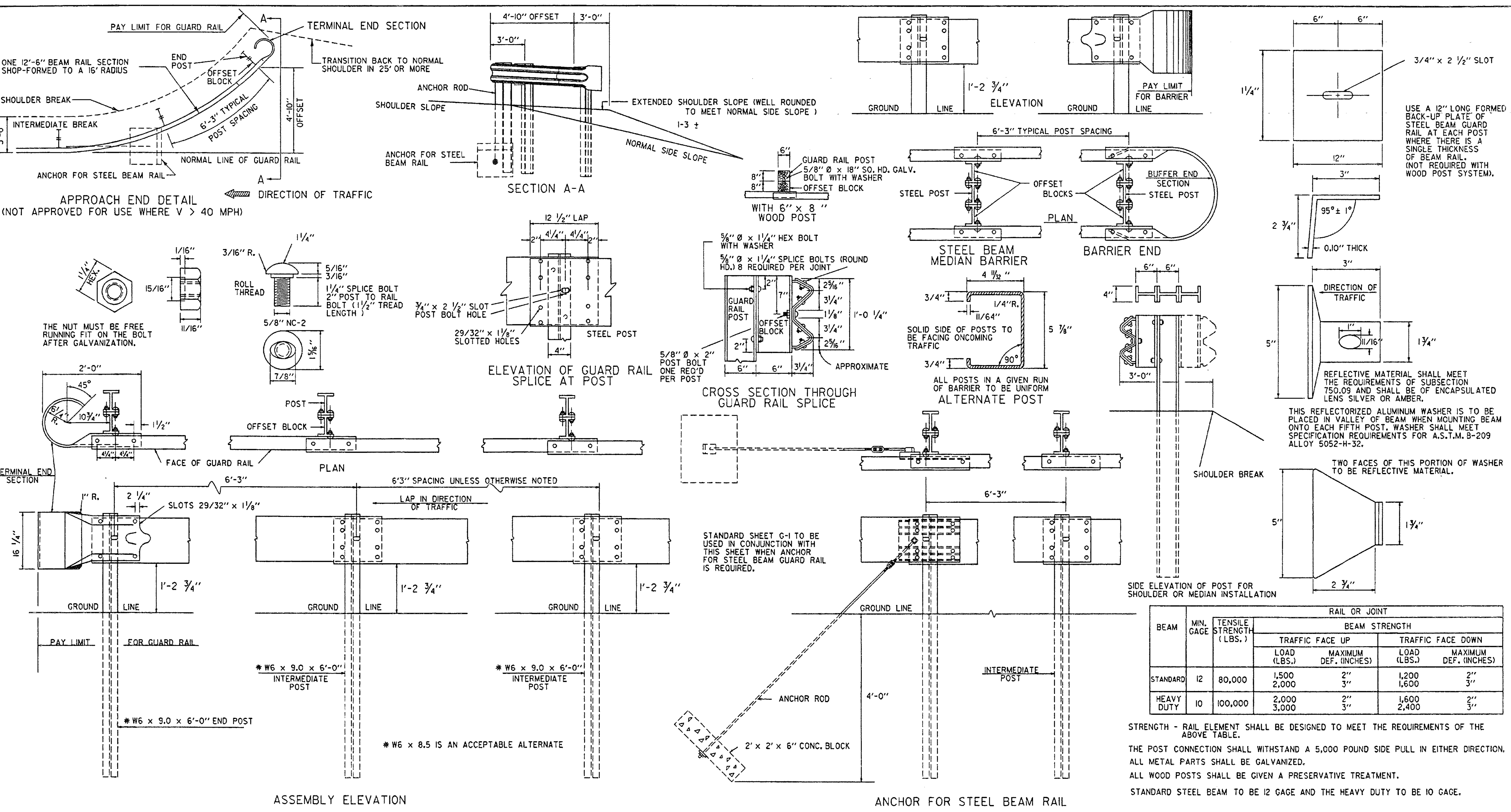
MATERIAL FOR REFLECTIVE SHEETING DELINEATORS SHALL BE A 0.063" ALUMINUM BACKING WITH A SILVER, AMBER OR RED HIGH INTENSITY REFLECTIVE SHEETING.

- NOTES**
1. TYPE III DELINEATORS WILL BE TYPE I DELINEATORS WITH AN ADDITIONAL RED REFLECTIVE UNIT MOUNTED ON THE REVERSE SIDE. THEY SHALL BE ERECTED ON THE RIGHT AND LEFT SIDE OF THE RAMP AS INDICATED ON THE PLANS.
 2. EACH UNIT COMPLETE IN PLACE OF DELINEATOR TYPE I WITH OR WITHOUT PLAQUE, DELINEATOR TYPE II, DELINEATOR TYPE III, OR MILEPOST WITHOUT REFLECTOR SHALL BE PAID FOR AS "DELINEATOR."
 3. FOR MOUNTING DELINEATORS AND MILEPOSTS ON BRIDGES, SEE STANDARD E-199.
 4. DELINEATOR POSTS SHALL HAVE A MINIMUM EMBEDMENT OF 2' IN THE GROUND.

DELINEATORS WITH REFLECTIVE SHEETING

MILEPOST PLAQUES WITH OR A WITHOUT REFLECTOR UNIT SHALL BE MOUNTED ON THE POST WITH TWO OR THREE 3/8" DIA. BY 1 1/2" LONG ALUMINUM BOLTS WITH 1/2" DIA. ALUMINUM VANDAL RESISTANT NUTS, OR 3/8" DIA. BY 1 1/2" LONG VANDAL RESISTANT FASTENERS.





REVISIONS AND CORRECTIONS

MAY 6, 1976 - ORIGINAL APPROVAL DATE

SEP. 10, 1976 - MINIMUM LENGTH & ADVANCE OF NEED NOTES REMOVED

MAR. 2, 1977 - ROUND WOOD POSTS REMOVED

SEPT. 12, 1977 - REFERENCE TO ROUND WOOD POSTS REMOVED

MAY 29, 1979 - NOTE ON REFLECTIVE MATERIAL CHANGED

APRIL 28, 1980 - APPROACH END DETAILS REDRAWN

DEC. 16, 1980 - INCREASED SHOULDER WIDENING FOR GUARD RAIL

JUNE 5, 1984 - POST SIZE AND BACK UP PLATE NOTE CHANGED

DEC. 21, 1984 - REMOVED POST WASHER

OCT. 31, 1985 - REVISED TO CONFORM TO 1986 SPECIFICATIONS

JUNE 1, 1994 - REISSUED, WITHOUT CHANGE, UNDER NEW SIGNATURES.

APPROVED

George D. McArthur, P.E.
DIRECTOR OF ENGINEERING

Robert M. Murphy, P.E.
DESIGN ENGINEER

STEEL BEAM GUARD RAIL

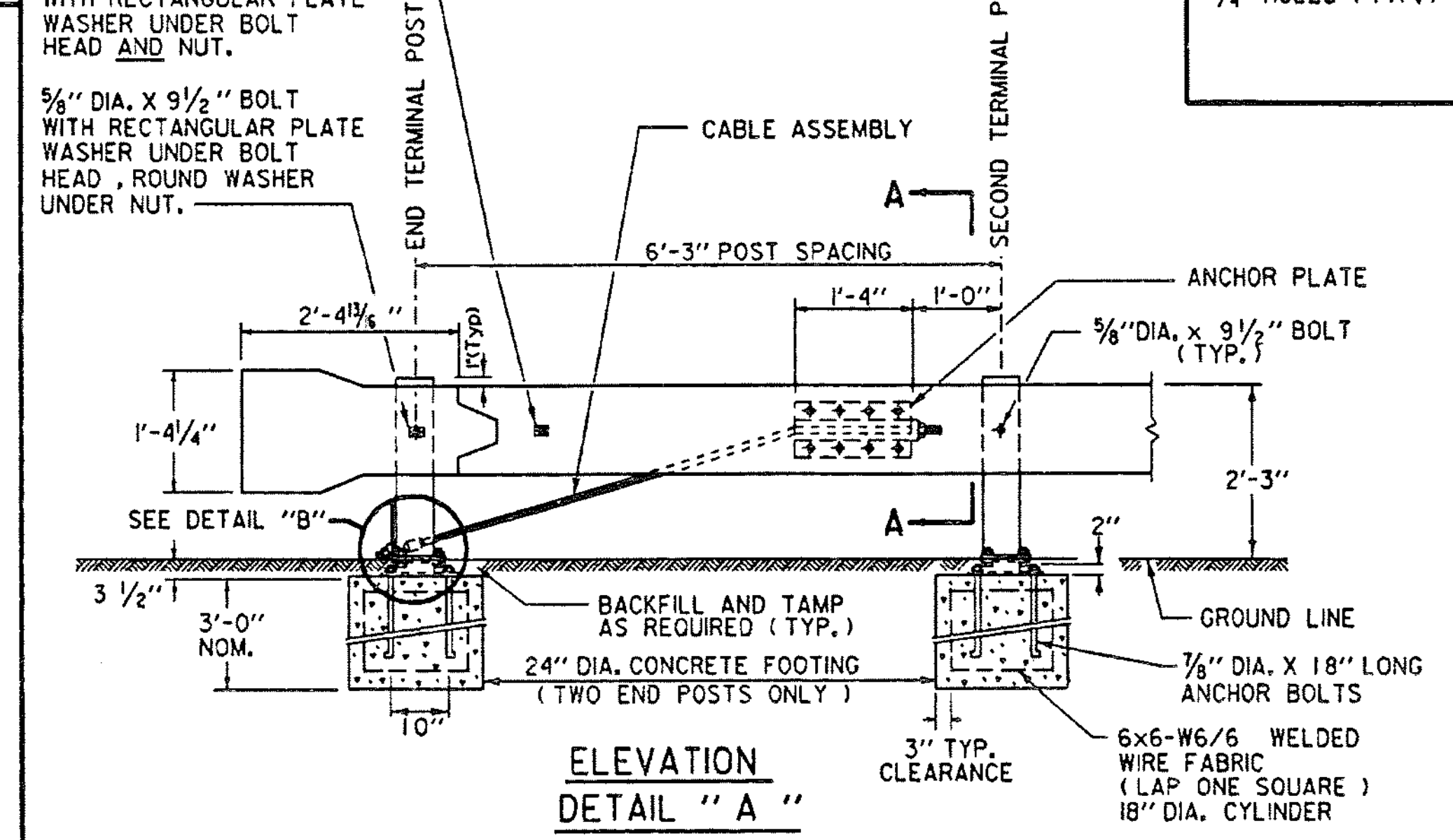
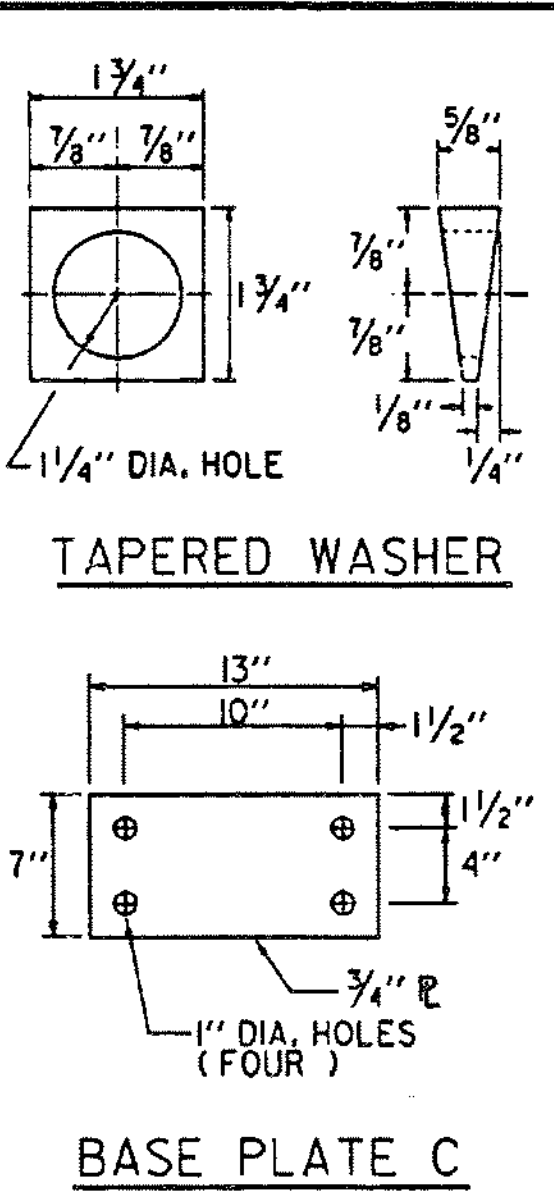
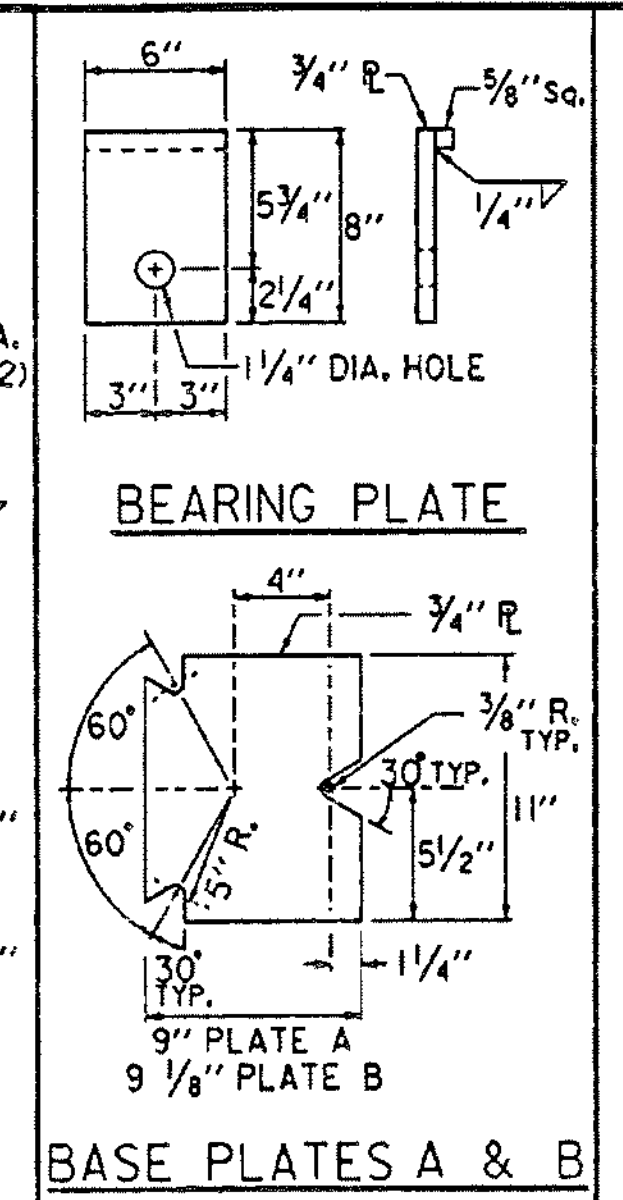
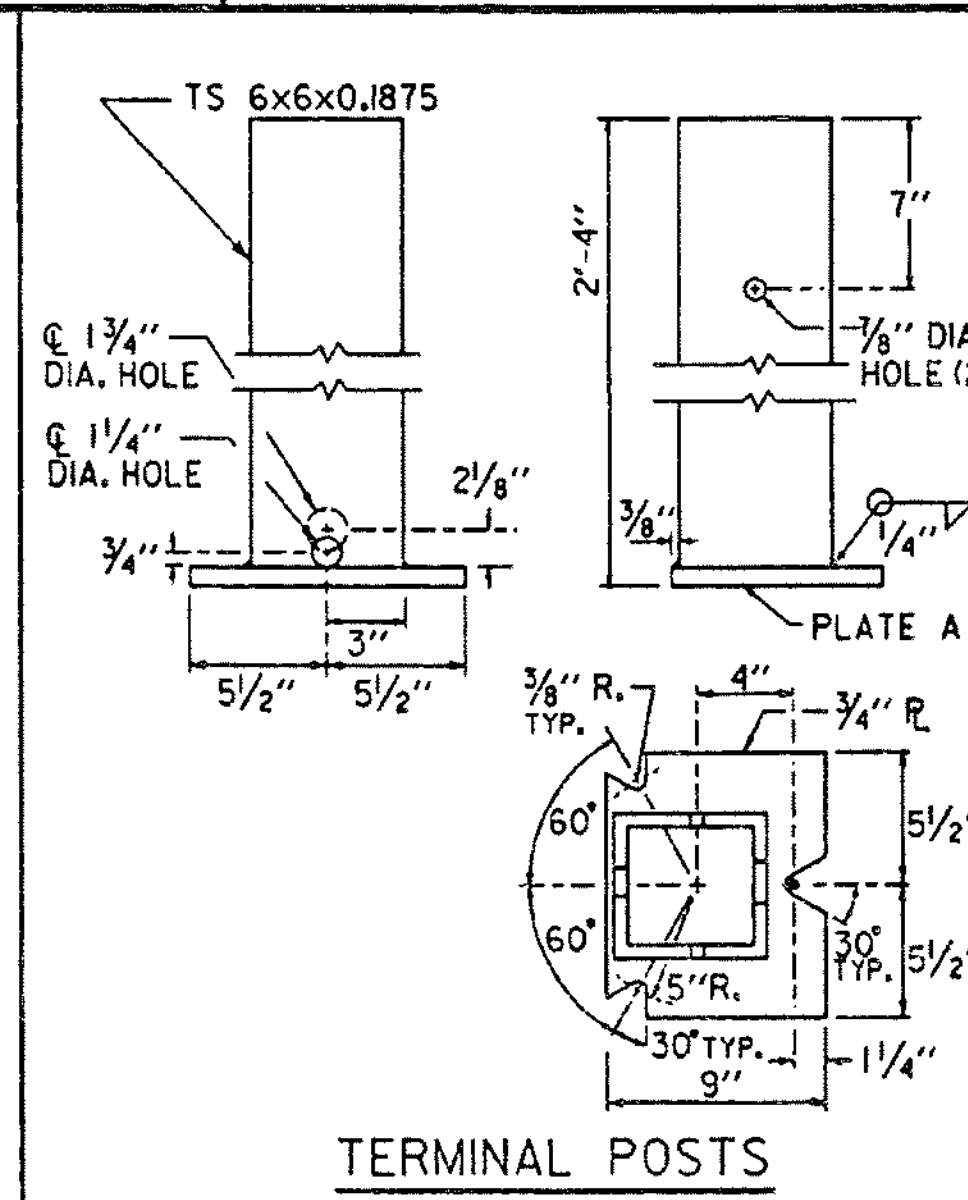
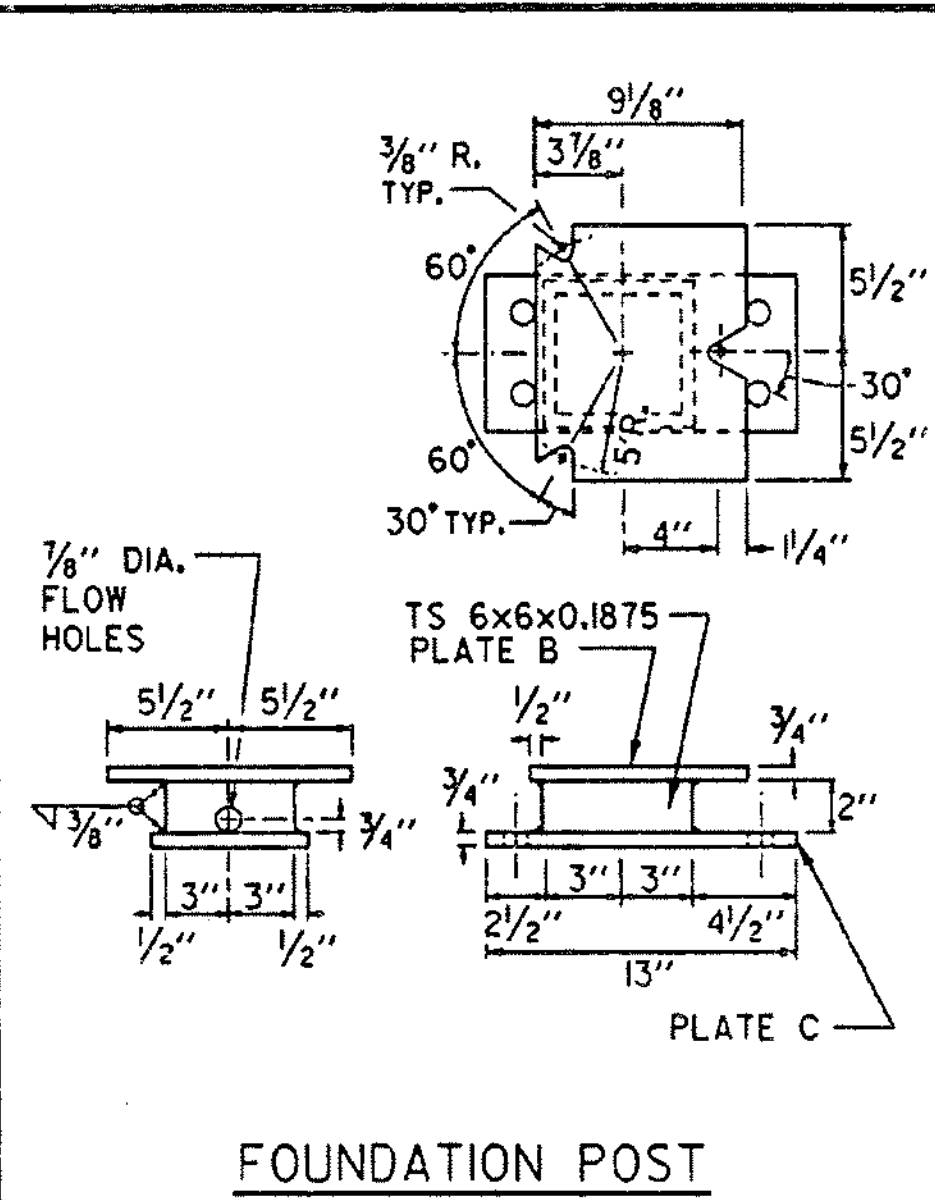
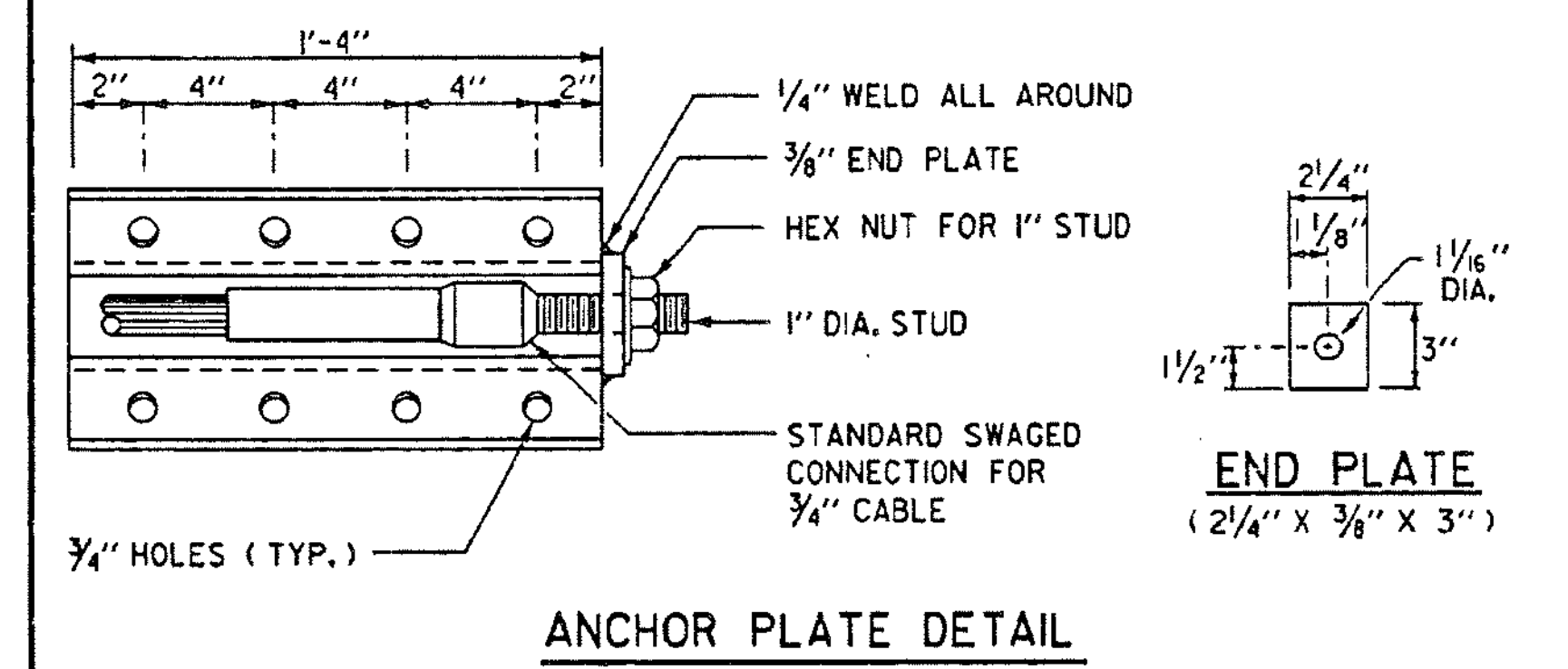
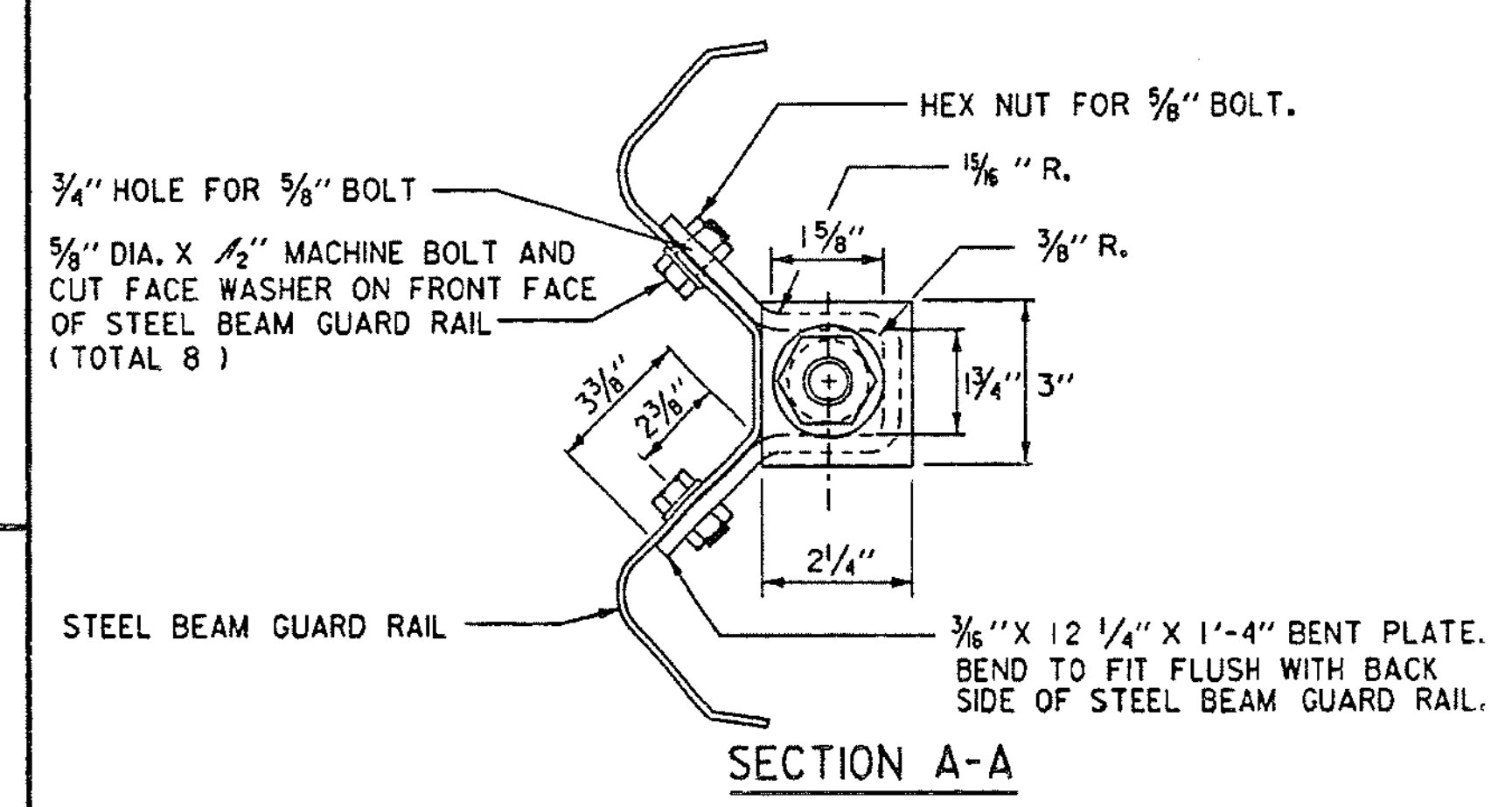
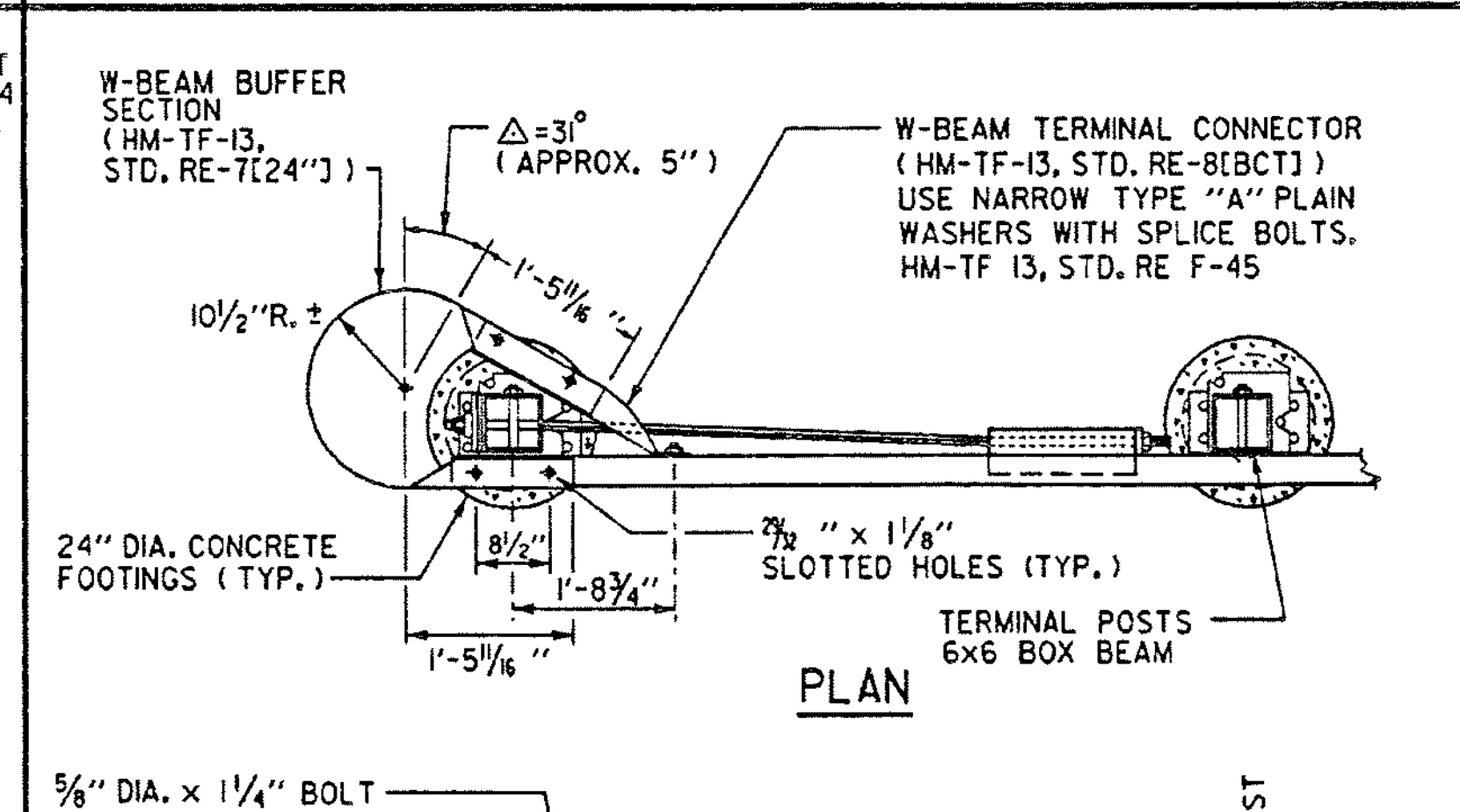
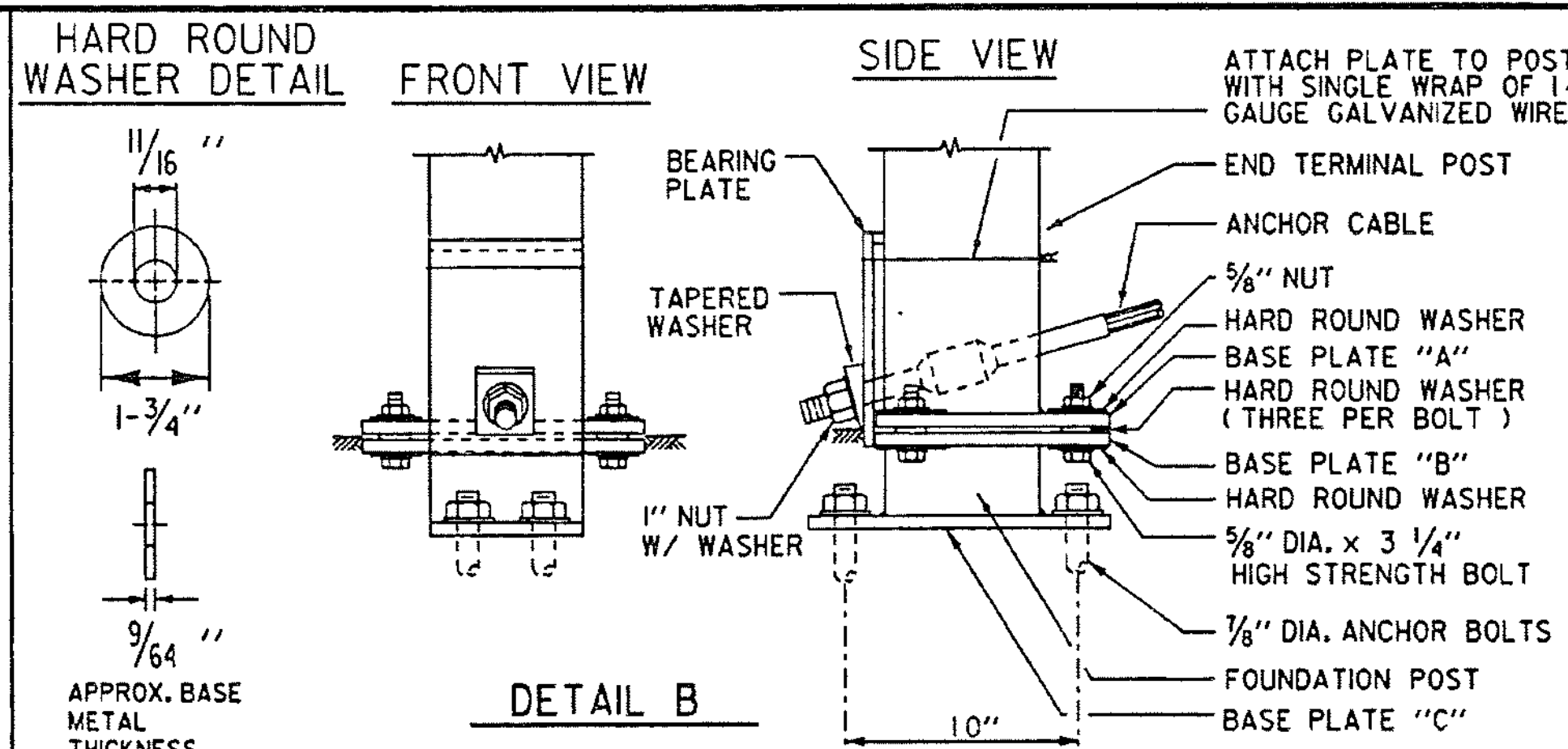
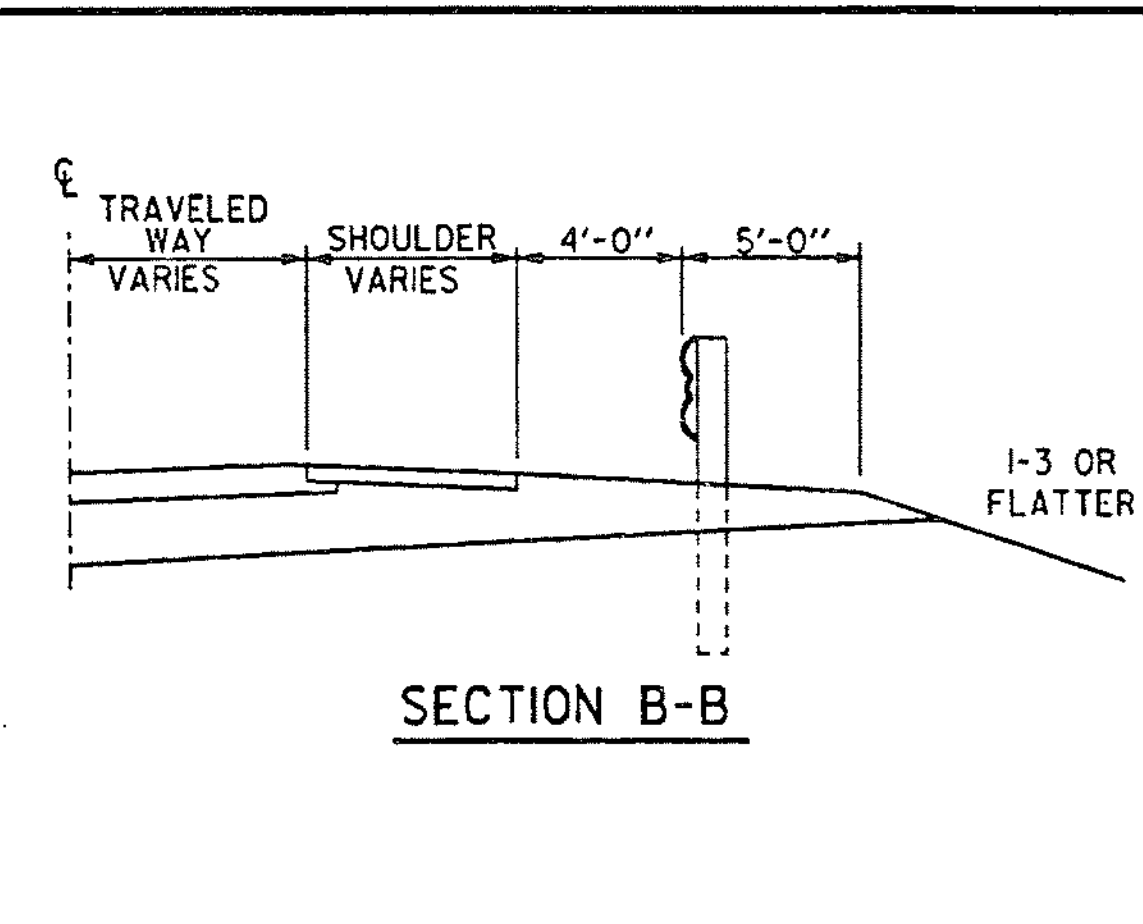
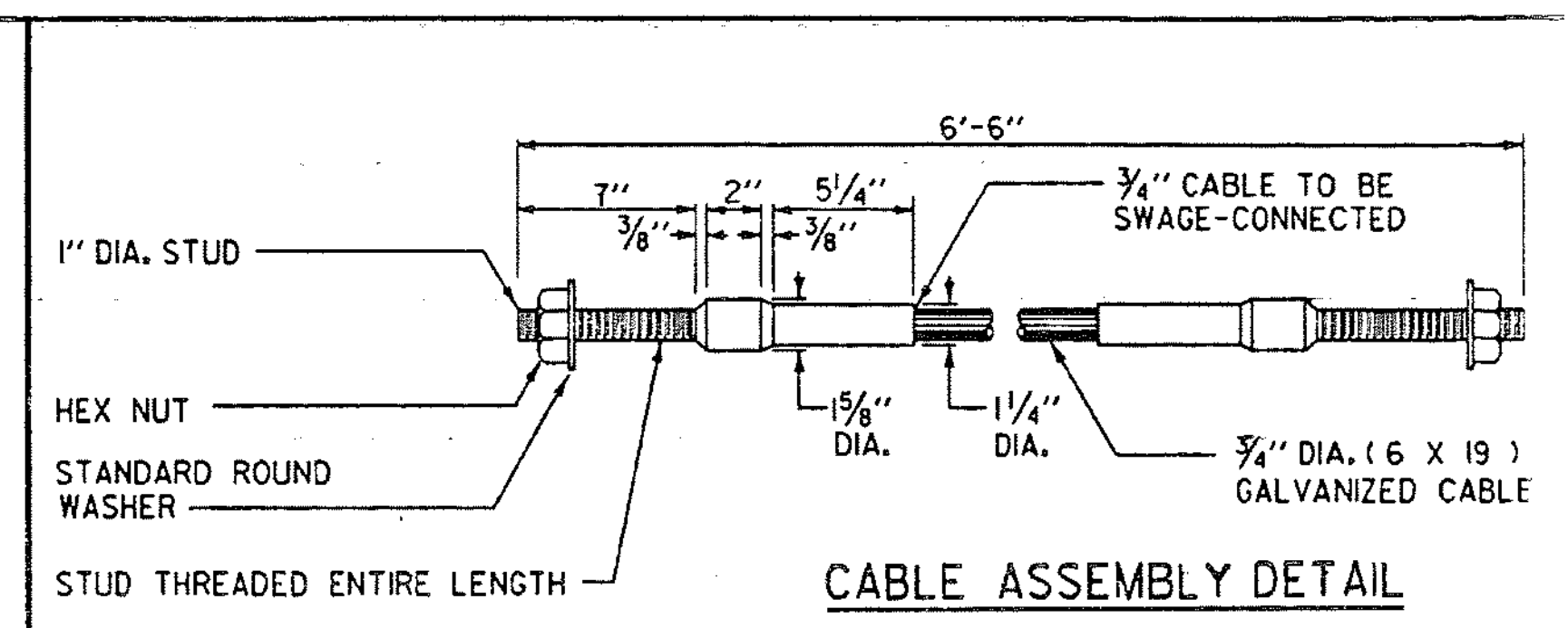
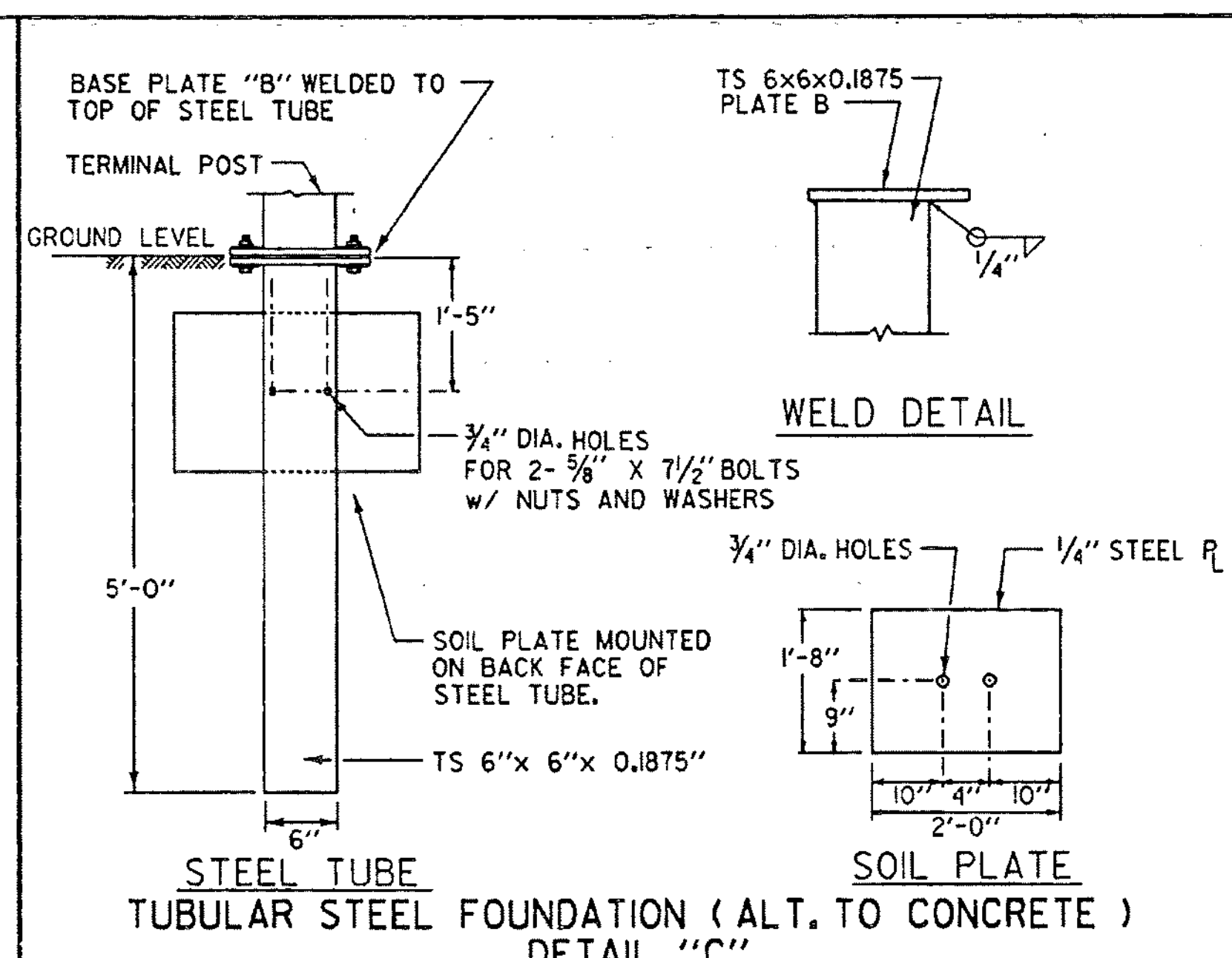
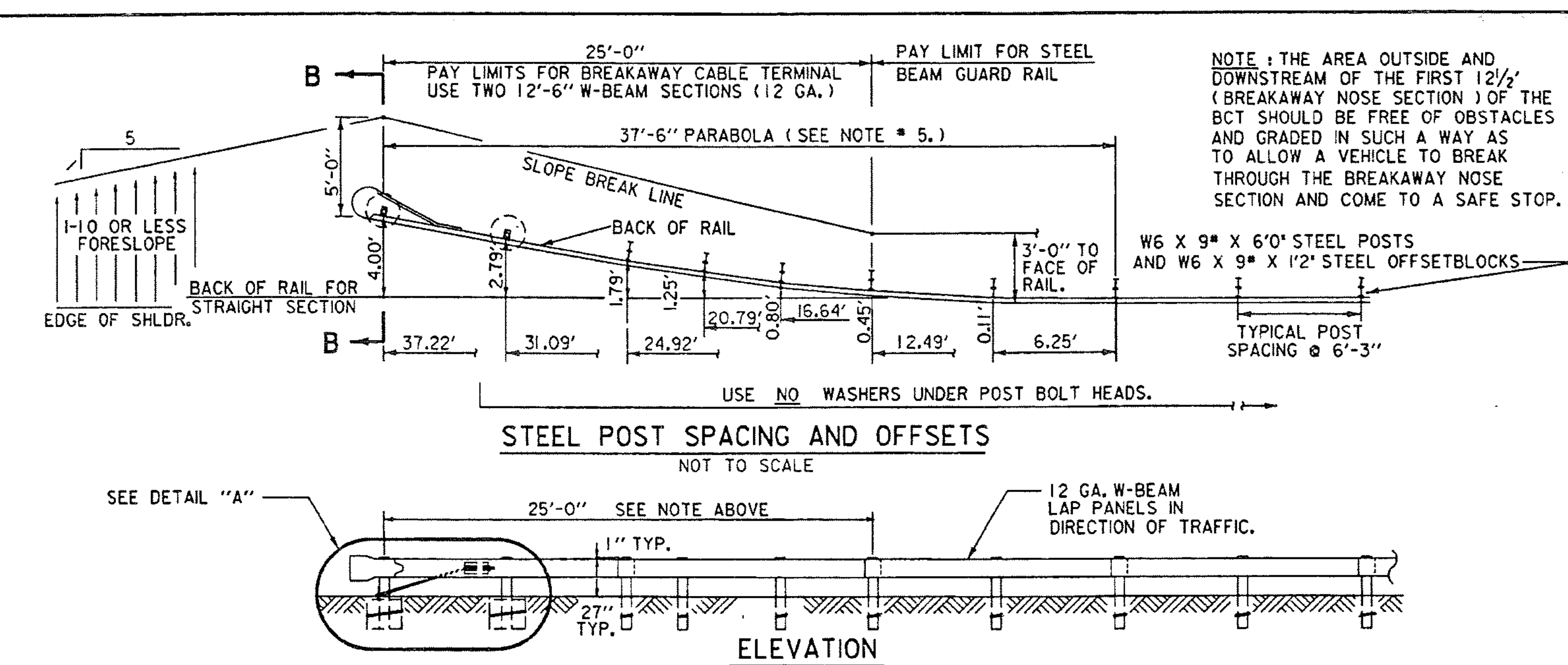
HEAVY DUTY STEEL BEAM GUARD RAIL

STEEL BEAM MEDIAN BARRIER

ANCHOR FOR STEEL BEAM RAIL

VERMONT AGENCY OF TRANSPORTATION

STANDARD G-1d



- NOTES**
1. OTHER ANCHOR CABLE ASSEMBLIES MAY BE USED. MINIMUM BREAKING STRENGTH OF ASSEMBLY SHALL BE 40,000 LBS.
 2. CONCRETE FOR FOOTINGS SHALL BE CLASS B. TUBULAR STEEL FOUNDATION MAY BE USED AS AN ALTERNATIVE TO CONCRETE FOOTINGS. (SEE DETAIL "C")
 3. FOR CONCRETE FOOTINGS IN SANDY AREAS, CONSIDERATION FOR INCREASING THE SIZE OF THE FOOTING IS SUGGESTED.
 4. THE SLIP BASE SHALL BE CONTROLLED BY THE USE OF NUTS WITH A BUILT-IN TORQUE OR BY A TORQUE WRENCH CAPABLE OF ESTABLISHING A TORQUE OF 155 TO 170 FT-LBS.
 5. STANDARD SHEET G-1 WILL BE USED IN CONJUNCTION WITH THIS STANDARD.
 6. USE 12" LONG W-BEAM BACK-UP PLATE AT POSTS WHERE W-BEAM SPLICE DOES NOT OCCUR.
 7. FOR ADDITIONAL DETAILS ON HARDWARE, SEE THE LATEST EDITION OF AASHTO-AGC-ARTBA PUBLICATION "A GUIDE TO STANDARDIZED HIGHWAY BARRIER RAIL HARDWARE".

REVISIONS AND CORRECTIONS

JULY 15, 1976 - ORIGINAL APPROVAL DATE

NOV. 13, 1989 - REMOVED NOTE ABOUT FLAT PLATE WASHERS

APR. 4, 1990 - ADDED DETAIL FOR HARD ROUND WASHER

JUNE 1, 1994 - REISSUED, WITHOUT CHANGE, UNDER NEW SIGNATURES.

APPROVED

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

James B. MacArthur, P.E.
DIRECTOR OF ENGINEERING

Sheila M. Murphy, P.E.
DESIGN ENGINEER

BREAKAWAY CABLE TERMINAL WITH STEEL POSTS

NOT TO SCALE