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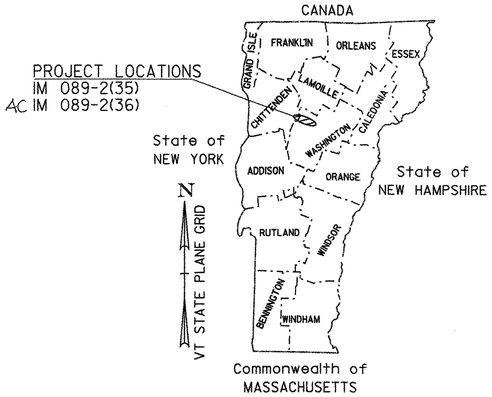
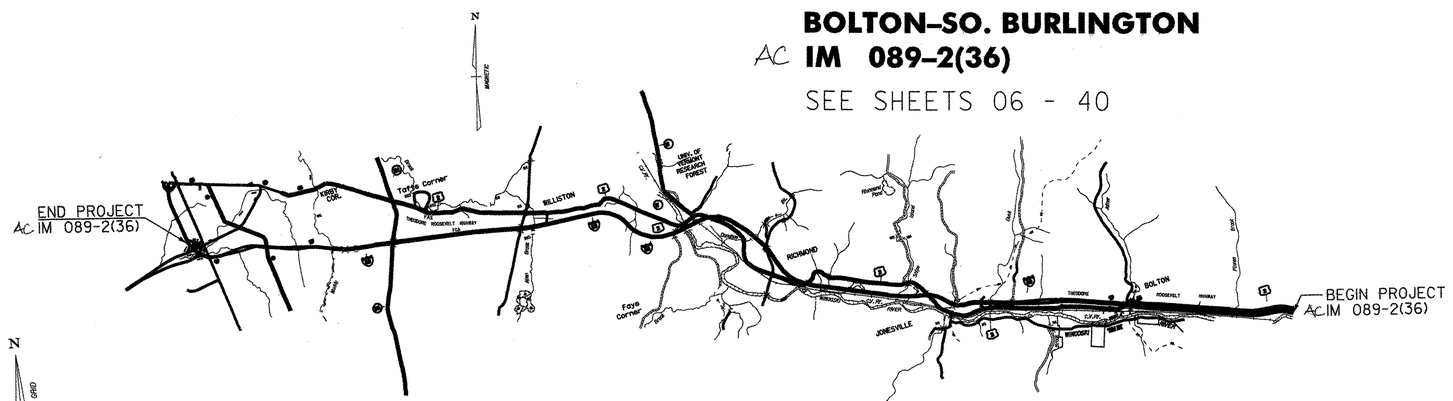
STATE OF VERMONT
AGENCY OF TRANSPORTATION

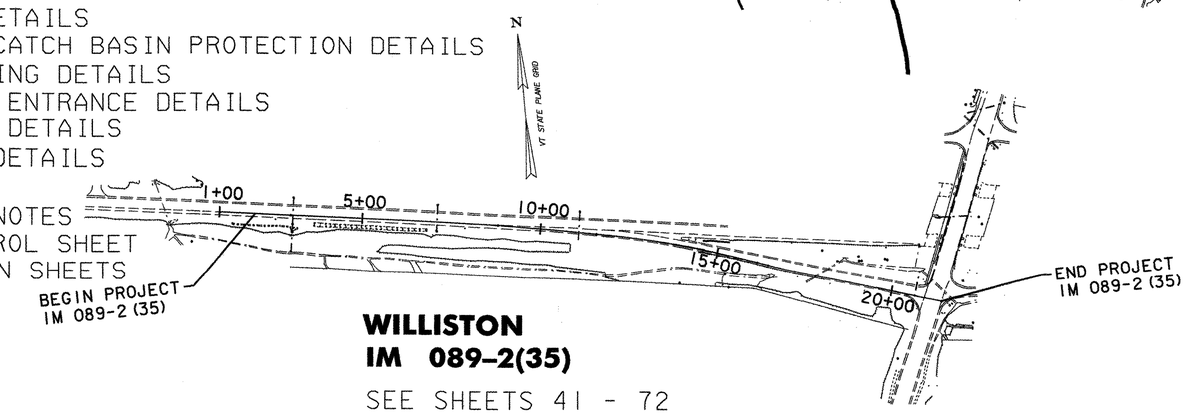


PROPOSED IMPROVEMENT
TOWNS OF
BOLTON, RICHMOND,
WILLISTON, & SO. BURLINGTON
COUNTY OF CHITTENDEN
INTERSTATE ROUTE 89 SB



BOLTON-SO. BURLINGTON
AC IM 089-2(36)

SEE SHEETS 06 - 40



WILLISTON
IM 089-2(35)

SEE SHEETS 41 - 72

/pave/04all4/04all4.dgn IPARM NAME: p04all4cts.I

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

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JANUARY 4, 2001 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATOR
APPROVED _____ DATE 5/23/05

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE 5/19/05

PROJECT MANAGER :

PROJECT NAME : BOLTON-SO. BURLINGTON
WILLISTON
PROJECT NUMBER : AC IM 089-2(36) IM 089-2(35)
SHEET 1 OF 76 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

COMPOSITE QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES

WILLISTON IM 089-2(35) ROADWAY	BOLTON-SO. BURLINGTON AC IM 089-2(36) BRIDGE	BOLTON-SO. BURLINGTON AC IM 089-2(36) ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
1			1	LS	CLEARING AND GRUBBING (INCL. INDV. TREES & STUMPS)	201.10	
1,800		1,200	3,000	CY	COMMON EXCAVATION	203.15	
		1	1	CY	SOLID ROCK EXCAVATION	203.16	
1,000		1,800	2,800	CY	EARTH BORROW	203.30	
400		39	439	CY	SAND BORROW	203.31	
4,500		250	4,750	SY	FINE GRADING - SUBGRADE	203.40	
		43,000	43,000	LF	SHOULDER BERM REMOVAL	203.99	
		1	1	CY	TRENCH EXCAVATION OF EARTH (N.A.B.I.)	204.20	
3,100		385,000	388,100	SY	COLD PLANING - BIT. PAVEMENT	210.10	
		144,000	144,000	LF	MILLED RUMBLE STRIPS	213.10	
1,200		250	1,450	CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	
250		3,600	3,850	TON	AGGREGATE SHOULDERS (MOD.)	402.12	
1		480	481	CWT	EMULSIFIED ASPHALT	404.65	
		1	1	LU	PRICE ADJUSTMENT ASPHALT CEMENT (N.A.B.I.)	406.50	
1,300		39,000	40,300	TON	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (PG 64-28)	490.30	
	1,550		1,550	LF	BRIDGE EXPANSION JOINT (ASPHALTIC PLUG)	516.10	
	100		100	CF	RAPID SETTING CONC. REPAIR MATERIAL W/COARSE AGGREGATE	580.20	
		60	60	LF	18" CPEP	601.0915	
		2	2	EA	18" CPEPES	601.7015	
		20	20	EA	REHABING DI.CB OR MH CLASS I	604.412	
		1	1	EA	CAPPING EXISTING DROP INLETS	604.60	
		500	500	HR	POWER GRADER RENTAL	608.15	
		500	500	HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25	
		300	300	HR	POWER BROOM RENTAL	608.30	
		300	300	HR	POWER BROOM RENTAL, TYPE II	608.31	
		500	500	HR	TRUCK RENTAL	608.37	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

PROJECT : BOLTON - SO. BURLINGTON, WILLISTON

PROJECT NO.:
AC IM 089-2(36)
IM 089-2(35)

DESIGN FILE NAME: /pave/04all4/p04all4.dgn
IPARM FILE NAME: p04all4cqsl.i
SURVEYED BY: _____
SQUAD LEADER: _____

PLOT DATE: 17-MAY-2005
SURVEY DATE: _____
DRAWN BY: _____
SHEET: 2 OF 76

STATE OF VERMONT
AGENCY OF TRANSPORTATION

COMPOSITE QUANTITY SHEET 2

WILLISTON IM 089-2(35)		BOLTON-SO. BURLINGTON AC IM 089-2(36)			SUMMARY OF ESTIMATED QUANTITIES				
EROSION CONTROL	ROADWAY	EMPLOYEE TRAINEESHIP	BRIDGE	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
				500	500	HR	LOADER RENTAL, TYPE I	608.40	
				149	149	HR	LOADER RENTAL, TYPE II (MOD.-REHAB CABLE RAIL)	608.41	
25				5	30	CY	STONE FILL, TYPE I	613.10	
50					50	CY	STONE FILL, TYPE II	613.11	
				400	400	LF	TREATED TIMBER CURB	616.35	
				620	620	LF	REMOVAL OF EXISTING CURB	616.41	
				100	100	TON	BITUMINOUS CONCRETE GUTTERS AND TRAFFIC ISLANDS	616.47	
2,400				700	3,100	LF	SNOW FENCE (MOD. - PDF)	620.70	
	450			9250	9,700	LF	STEEL BEAM GUARDRAIL (GALVANIZED)	621.20	
	2			47	49	EA	MANUFACTURED TERMINAL SECTION (FLARED)	621.505	
	1			16	17	EA	TRAILING END TERMINAL	621.52	
	1				1	EA	ENERGY ABSORPTION ATTENUATOR (SAND FILLED PLASTIC BARREL)	621.56	
				548	548	EA	ANCHOR FOR CABLE RAIL (MOD.-CABLE RAIL HARDWARE)	621.65	
				1250	1250	EA	REPLACE GUARD RAIL POST ASSEMBLY	621.76	
				550	550	EA	REPLACE GUARD RAIL BEAM UNIT	621.77	
				7200	7200	LF	ADJUST HEIGHT OF GUARD RAIL	621.79	
	54			3600	3654	LF	REMOVAL AND DISPOSAL OF GUARD RAIL	621.80	
	700				700	LF	TEMPORARY TRAFFIC BARRIER	621.90	
				2000	2000	HR	UNIFORMED TRAFFIC OFFICERS	630.10	
				3,000	3,000	HR	FLAGGERS	630.15	
				1	1	LS	FIELD OFFICE - ENGINEERS	631.10	
				1	1	LS	TESTING EQUIPMENT - BITUMINOUS	631.17	
				1	1	LU	FIELD OFFICE - TELEPHONE (N.A.B.I.)	631.25	
		520			520	HR	EMPLOYEE TRAINEESHIP	634.10	
				1	1	LS	MOBILIZATION/DEMOBILIZATION	635.11	
				1	1	LS	TRAFFIC CONTROL	641.10	
				1	1	LS	PUBLIC RELATIONS OFFICER	641.12	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

REVISED 06-10-05 LSW

PROJECT : BOLTON - SO. BURLINGTON
WILLISTON

PROJECT NO.:
AC IM 089-2(36)
IM 089-2(35)

DESIGN FILE NAME: /pave/04all4/p04all4.dgn
IPARM FILE NAME: p04all4cqs2.i
SURVEYED BY: _____
SQUAD LEADER: _____

PLOT DATE: 13-JUN-2005
SURVEY DATE: _____
DRAWN BY: _____
SHEET: 3 OF 76

STATE OF VERMONT
AGENCY OF TRANSPORTATION

COMPOSITE QUANTITY SHEET 3

	WILLISTON IM 089-2(35)			BOLTON-SO. BURLINGTON AC IM 089-2(36)			SUMMARY OF ESTIMATED QUANTITIES				
		EROSION CONTROL	ROADWAY	EROSION CONTROL	BRIDGE	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
						6	6	EA	PORTABLE CHANGEABLE MESSAGE SIGNS	641.15	
						4	4	EA	PORTABLE ARROW BOARDS	641.16	
			3,000			119,000	122,000	LF	DURABLE 6" WHITE LINE (MOD.-RETROREFLECTIVITY/INLAID)	646.414	
			640			93,100	93,740	LF	DURABLE 6" YELLOW LINE (MOD.-RETROREFLECTIVITY/INLAID)	646.415	
			1,300			1,800	3,100	LF	DURABLE 12" WHITE LINE (MOD.-RETROREFLECTIVITY/INLAID)	646.44	
			80			110	190	LF	DURABLE 24" STOP BAR	646.46	
			40			68	108	EA	DURABLE LETTER OR SYMBOL	646.50	
			120								
			3,000			119,000	122,000	LF	TEMPORARY 6" WHITE LINE (PAINT)	646.614	
			130			2,400	2,530	LF	TEMPORARY 6" WHITE LINE (TAPE, TYPE II)	646.614	
			640			93,100	93,740	LF	TEMPORARY 6" YELLOW LINE (PAINT)	646.615	
						2,200	2,200	LF	TEMPORARY 6" YELLOW LINE (TAPE, TYPE II)	646.615	
			1,300			1,800	3,100	LF	TEMPORARY 12" WHITE LINE (PAINT)	646.64	
			730			70	800	LF	TEMPORARY 12" WHITE LINE (TAPE, TYPE II)	646.64	
			50			108	158	LF	TEMPORARY 24" STOP BAR (PAINT)	646.66	
			40			68	108	EA	TEMPORARY LETTERS OR SYMBOLS (PAINT)	646.70	
						7000	7000	EA	LINE STRIPING TARGETS	646.76	
			380			731	1,111	SF	REMOVAL OF EXISTING PAVEMENT MARKINGS	646.85	
						500	500	SF	BLACK PAVEMENT MARKING MASKING TAPE	646.86	
		45					45	SY	GEOTEXTILE UNDER STONE FILL	649.31	
		500				250	750	SY	GEOTEXTILE FOR SILT FENCE	649.51	
			50			30	80	LB	SEED	651.15	
						100	100	LB	SEED (MOD.)	651.15	
			400			250	650	LB	FERTILIZER	651.18	
			2			1	3	TON	AGRICULTURAL LIMESTONE	651.20	
			2			1	3	TON	HAY MULCH	651.25	
			10			75	85	CY	TOPSOIL	651.35	
		0.5		0.5			1	LS	EROSION PREVENTION & SEDIMENT CONTROL PLAN	652.10	
		20		20			40	HR	MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN	652.20	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

PROJECT : BOLTON - SO. BURLINGTON
WILLISTON

PROJECT NO.:
AC IM 089-2(36)
IM 089-2(35)

DESIGN FILE NAME: /pave/04all4/p04all4.dgn
IPARM FILE NAME: p04all4cqs3.i
SURVEYED BY: _____
SQUAD LEADER: _____

PLOT DATE: 17-MAY-2005
SURVEY DATE: _____
DRAWN BY: _____
SHEET: 4 OF 76

STATE OF VERMONT
AGENCY OF TRANSPORTATION

COMPOSITE QUANTITY SHEET 4

	WILLISTON IM 089-2(35)			BOLTON-SO. BURLINGTON AC IM 089-2(36)			SUMMARY OF ESTIMATED QUANTITIES				
		EROSION CONTROL	ROADWAY	EROSION CONTROL	BRIDGE	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
		0.5		0.5			1	LU	MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN	652.30	
									(N.A.B.I.)		
		1300					1300	SY	EROSION MATTING	654.10	
			176			400	576	SF	TRAFFIC SIGNS, TYPE A	675.20	
									BEGIN OPTION ITEMS		
			100			850	950	LF	FLANGED CHANNEL SIGN POSTS	675.301	
			100			850	950	LF	SQUARE TUBE STEEL POSTS AND ANCHORS	675.341	
									END OPTION ITEMS		
						21	21	LB	TUBULAR ALUMINUM SIGN POSTS	675.32	
			200			403	603	LB	TUBULAR STEEL SIGN POSTS	675.33	
			2				2	EA	FOUNDATIONS FOR W-SHAPE STEEL POSTS, 24" DIAMETER	675.41	
			2			4	6	EA	FOUNDATIONS FOR TUBULAR STEEL POSTS	675.43	
			1				1	EA	FOUNDATIONS FOR TUBULAR STEEL POSTS (MOD.-CONCRETE PAD)	675.43	
			30			48	78	EA	REMOVING SIGNS	675.50	
			6				6	EA	ERECTING SALVAGED SIGNS	675.60	
			7				7	EA	SETTING SALVAGED POSTS	675.61	
			10			1,000	1,010	EA	DELINEATORS W/STEEL POSTS	676.10	
						760	760	EA	REMOVAL OF EXISTING DELINEATORS	676.12	
			1				1	EA	OVERHEAD TRAFFIC SIGN SUPPORT, TUBULAR BEAM	677.11	
			1				1	EA	TRAFFIC CONTROL SIGNAL SYSTEM - INTERSECTION (MOD.)	678.15	
			1				1	EA	FLASHING BEACON-GROUND MOUNTED (MOD.-ACTUATED SIGN)	678.16	
			100				100	LF	VEHICLE LOOP DETECTOR	678.22	
			4500				4500	LF	WIRED CONDUIT (2" PVC)	678.23	
			11				11	EA	PULL BOX - STANDARD	678.25	
			1				1	EA	JUNCTION BOX	678.26	
			60				60	LF	ELECTRICAL CONDUIT SLEEVE (6" DIA.)	678.30	
						1	1	LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50	
						1	1	LU	INCENTIVE/DISINCENTIVE WORK ORDER (N.A.B.I.)	995.10	

DETAILED SUMMARY OF QUANTITIES		
QUANTITIES	UNIT	ITEMS

DETAILED SUMMARY OF QUANTITIES		
QUANTITIES	UNIT	ITEMS

REVISED 06-10-05 LSW

PROJECT : BOLTON - SO. BURLINGTON
WILLISTON

PROJECT NO. :
AC IM 089-2(36)
IM 089-2(35)

DESIGN FILE NAME: /pave/04all4/p04all4.dgn
IPARM FILE NAME: p04all4cqs4.1
SURVEYED BY:
SQUAD LEADER:

PLOT DATE: 14-JUN-2005
SURVEY DATE:
DRAWN BY:
SHEET: 5 OF 76

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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.

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STATE OF VERMONT
AGENCY OF TRANSPORTATION

PROPOSED IMPROVEMENT
TOWNS OF
BOLTON, RICHMOND, WILLISTON, & SO. BURLINGTON
COUNTY OF CHITTENDEN
INTERSTATE ROUTE 89 SB

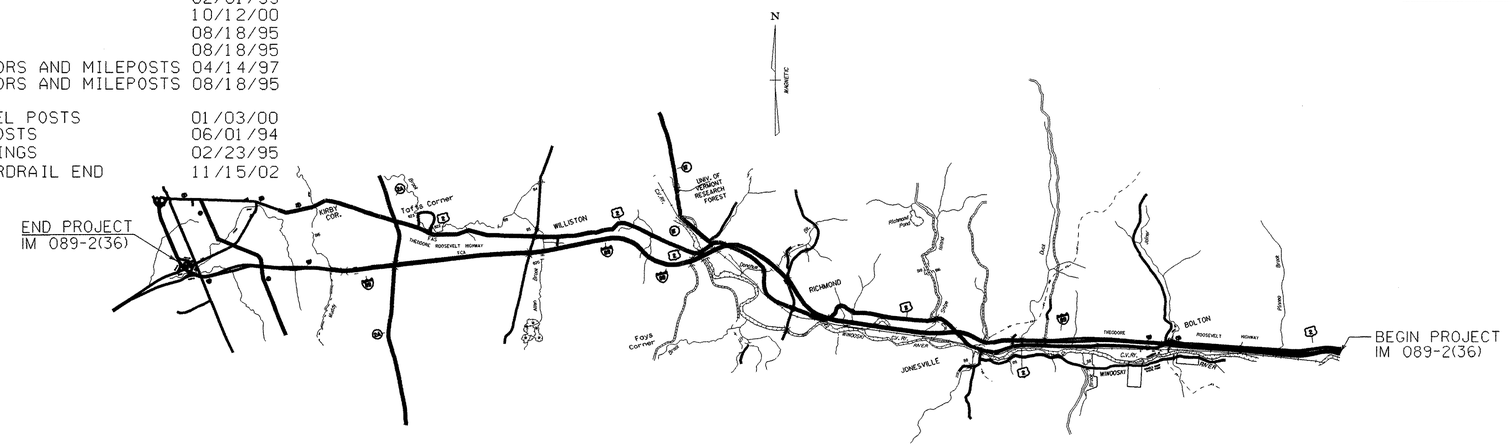
BEGINNING IN THE TOWN OF BOLTON ON INTERSTATE I-89 IN THE SOUTHBOUND BARREL AT STATION 3780+68 (MM 71.604) AND EXTENDING NORTHERLY A DISTANCE OF 85.368 FEET (16.168 MILES) TO STATION 4634+36 (MM 87.772) IN THE CITY OF SOUTH BURLINGTON

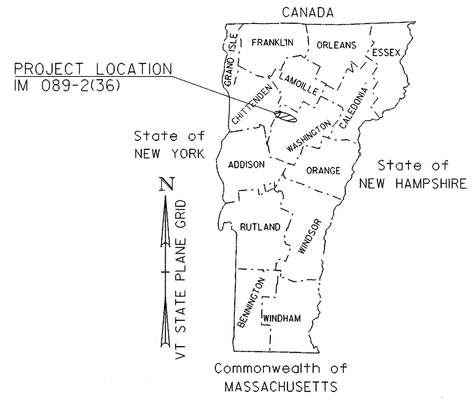
PROJECT DATA

FROM	TO
STA 3780+68 (MM 71.604) SB	STA 4634+34 (MM 87.772) SB

LENGTH OF ROADWAY = 85,368 FEET (16.168 MILES)
LENGTH OF PROJECT = 85,368 FEET (16.168 MILES)

WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES COLD PLANING AND RESURFACING OF THE SOUTHBOUND LANE INCLUDING INTERCHANGE RAMPS WITH NEW PAVEMENT MARKINGS, GUARDRAIL, SIGNS AND INCIDENTAL ITEMS AS SHOWN IN THE PROJECT QUANTITIES.





TRAFFIC DATA

(BEGIN OF PROJECT) M.M. 71.604 TO EXIT 11 SB

2005	ADT	=	14,000
2005	DHV	=	1,600
2015	ADT	=	17,500
2015	DHV	=	2,000
2005-2015	ESALS	=	5,978,000
2005-2025	ESALS	=	16,923,000

EXIT # 11 TO EXIT # 12 SB

2005	ADT	=	14,900
2005	DHV	=	1,900
2015	ADT	=	18,400
2015	DHV	=	2,300
2005-2015	ESALS	=	5,752,000
2005-2025	ESALS	=	16,305,000

EXIT 12 TO M.M. 87.772 (END OF PROJECT)

2005	ADT	=	19,200
2005	DHV	=	2,400
2015	ADT	=	23,800
2015	DHV	=	3,000
2005-2015	ESALS	=	7,483,000
2005-2025	ESALS	=	21,577,000

BITUMINOUS CONCRETE PAVEMENT SUPERPAVE MIXTURE DESIGN CRITERIA	
DESIGN LANE/DESIGN LIFE ESAL	21,577,000
DESIGN NUMBER OF GYRATIONS	100
PERFORMANCE GRADED ASPHALT BINDER	PG 64-28

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/pave/04all4/04all4.dgn IPARM NAME: p04all4ts.1

PROJECT MANAGER : WOOLAVER

PROJECT NAME : BOLTON-SO. BURLINGTON
PROJECT NUMBER : AC IM 089-2(36)

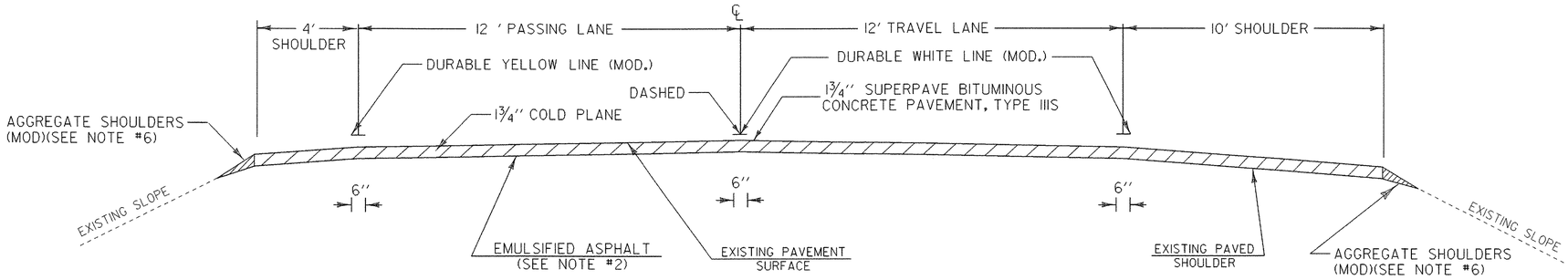
SHEET 6 OF 76 SHEETS

SEEDING FORMULA
RURAL AREAS

% WT.	LBS./A.	NAME	PUR %	GERM %
37.5	22.5	CREEPING RED FESCUE	98	85
37.5	22.5	TALL FESCUE	95	90
5.0	3.0	RED TOP	95	90
5.0	9.0	BIRDSFOOT TREFOIL	98	85
5.0	3.0	ANNUAL RYEGRASS	95	85
100.0	60.0			

NOTES:

1. THE PAVEMENT WEARING COURSE SHALL BE TYPE IIIS AS SHOWN ON THE TYPICALS. ALL ASPHALT CEMENT USED IN SUPERPAVE BITUMINOUS CONCRETE PAVEMENT SHALL BE PG 64-28.
2. EMULSIFIED ASPHALT SHALL BE APPLIED ON ALL EXISTING PAVEMENT SURFACES AND ON COLD PLANED SURFACES, AT THE RATE OF 0.015 GAL./SY. OR AS DIRECTED BY THE RESIDENT ENGINEER.
3. SUPERPAVE BITUMINOUS CONCRETE PAVEMENT TOLERANCE = 1/4'' +/- (TOTAL THICKNESS).
4. COLD PLANING SHALL BE COMPLETED ACCORDING TO TYPICAL OR AS DENOTED OTHERWISE ON THE PLANS. A FULL DEPTH BUTT JOINT SHALL BE CONSTRUCTED AT THE PROJECT BEGIN/END AND AT ALL RAMP APPROACHES AS SHOWN ON THE PROJECT PLANS OR AS OTHERWISE DIRECTED BY THE RESIDENT ENGINEER.
5. AN ESTIMATE QUANTITY OF EARTH BORROW HAS BEEN INCLUDED FOR THE PROVISION OF CONSTRUCTING MTS FLARES WHICH SHALL BE CAPPED WITH AN ESTIMATED 3'' DEPTH OF AGGREGATE SHOULDER (MOD.) MATERIAL UNLESS OTHERWISE DIRECTED BY THE RESIDENT ENGINEER. THE QUANTITIES INCLUDED REFLECT 26 CUBIC YARDS OF EARTH BORROW AND 6 TONS OF AGGREGATE SHOULDER (MOD.) MATERIAL FOR EACH GUARDRAIL TERMINAL.
6. ALL EDGES OF PAVEMENT SHALL BE BACKED UP FULL HEIGHT WITH COLD PLANE GRINDINGS AS DIRECTED BY THE RESIDENT ENGINEER AND WILL BE PAID FOR UNDER ITEM 402.12. AGGREGATE SHOULDERS (MOD).
7. ITEM 616.47, BITUMINOUS CONCRETE GUTTERS AND TRAFFIC ISLANDS WILL BE PAID ONLY WHERE SPECIFIED IN THE PLANS. ALL OTHER BITUMINOUS CONCRETE PAVEMENT WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR ITEM 490.30, SUPERPAVE BITUMINOUS CONCRETE PAVEMENT.
8. SEED MIXTURE: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
9. FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 500 LBS./ACRE. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).
10. AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.
11. HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.
12. TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
13. MARKER POSTS: TO BE PLACED AS INDICATED OR AS DIRECTED BY THE ENGINEER.
14. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID THE ACCUMULATION OF DEBRIS IN THE DRAINAGE STRUCTURES LOCATED AT THE CURB LINE AND IN THE EXPANSION JOINTS. BRIDGE DRAIN TROUGHS SHALL ALSO BE CLEANED WHEN COLD PLANING AND RUMBLE STRIPS ARE COMPLETED. PAYMENT SHALL BE INCLUDED UNDER ITEM 210.10, COLD PLANING.

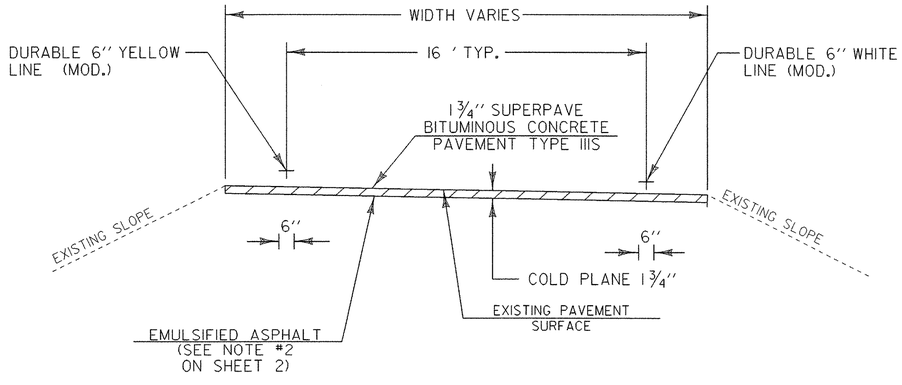


MAINLINE TYPICAL SECTION

BOLTON
STA 3780+68 (M. M. 71. 604) TO STA 3875+58 (M. M. 73. 401) SB
RICHMOND
STA 3875+58 (M. M. 73. 401) TO STA 4199+89 (M. M. 79. 543) SB
WILLISTON
STA 4199+89 (M. M. 79. 543) TO STA 4487+53 (M. M. 84. 991) SB
SO. BURLINGTON
STA 4487+53 (M. M. 84. 991) TO STA 4634+36 (M. M. 87. 772) SB

PROJECT PAVING LIMITS

TOWN	BEGIN STATION	END STATION	LANE TYPICAL	WEARING DEPTH				NOTES
INTERSTATE-89								
SOUTHBOUND								
BOLTON	3780+68	3875+58	10'-12'-12'-4'	1 3/4 ''				COLD PLANE 1 3/4'', OVERLAY 1 3/4''
RICHMOND	3875+58	3884+18	10'-12'-12'-4'	1 3/4 ''				COLD PLANE 1 3/4'', OVERLAY 1 3/4''
RICHMOND	3884+18	3885+55	10'-12'-12'-4'					COLD PLANE 1 1/4'', OVERLAY 1 1/4'', TYPE IVS, BRIDGE # 52 S
RICHMOND	3885+55	3902+98	10'-12'-12'-4'	1 3/4 ''				COLD PLANE 1 3/4'', OVERLAY 1 3/4''
RICHMOND	3902+98	3905+62	2'-12'-12'-2'					COLD PLANE 1 1/4'', OVERLAY 1 1/4'', TYPE IVS, BRIDGE # 53 S
RICHMOND	3905+62	4069+77	10'-12'-12'-4'	1 3/4 ''				COLD PLANE 1 3/4'', OVERLAY 1 3/4''
RICHMOND	4069+77	4071+36	2'-12'-12'-2'					COLD PLANE 1 1/4'', OVERLAY 1 1/4'', TYPE IVS, BRIDGE # 55 S
RICHMOND	4071+36	4137+67	10'-12'-12'-4'	1 3/4 ''				COLD PLANE 1 3/4'', OVERLAY 1 3/4''
RICHMOND	4137+67	4140+05	2'-12'-12'-2'					COLD PLANE 1 1/4'', OVERLAY 1 1/4'', TYPE IVS, BRIDGE # 56 S
RICHMOND	4140+05	4143+48	10'-12'-12'-4'	1 3/4 ''				COLD PLANE 1 3/4'', OVERLAY 1 3/4''
RICHMOND	4143+48	4146+33	2'-12'-12'-12'-2'					COLD PLANE 1 1/4'', OVERLAY 1 1/4'', TYPE IVS, BRIDGE # 57 S
RICHMOND	4146+33	4152+67	10'-12'-12'-4'	1 3/4 ''				COLD PLANE 1 3/4'', OVERLAY 1 3/4''
RICHMOND	4152+67	4158+53	2'-12'-12'-2'					COLD PLANE 1 1/4'', OVERLAY 1 1/4'', TYPE IVS, BRIDGE # 58 S
RICHMOND	4158+53	4168+77	10'-12'-12'-4'	1 3/4 ''				COLD PLANE 1 3/4'', OVERLAY 1 3/4''
RICHMOND	4168+77	4170+67	2'-12'-12'-2'					COLD PLANE 1 1/4'', OVERLAY 1 1/4'', TYPE IVS, BRIDGE # 59 S
RICHMOND	4170+67	4199+89	10'-12'-12'-4'	1 3/4 ''				COLD PLANE 1 3/4'', OVERLAY 1 3/4''
WILLISTON	4199+89	4432+03	10'-12'-12'-4'	1 3/4 ''				COLD PLANE 1 3/4'', OVERLAY 1 3/4''
WILLISTON	4432+03	4433+83	2'-12'-12'-2'					DO NOT COLD PLANE BRIDGE # 63 S
WILLISTON	4433+83	4487+47	10'-12'-12'-4'	1 3/4 ''				COLD PLANE 1 3/4'', OVERLAY 1 3/4''
WILLISTON	4487+47	4488+00	10'-12'-12'-4'					COLD PLANE 1 1/4'', OVERLAY 1 1/4'', TYPE IVS, BRIDGE # 63 S
SO. BURLINGTON	4487+53	4603+32	10'-12'-12'-4'	1 3/4 ''				COLD PLANE 1 3/4'', OVERLAY 1 3/4''
SO. BURLINGTON	4603+32	4604+37	2'-12'-12'-12'-2'					COLD PLANE 1 1/4'', OVERLAY 1 1/4'', TYPE IVS, BRIDGE # 65 S
SO. BURLINGTON	4604+37	4613+35	10'-12'-12'-4'	1 3/4 ''				COLD PLANE 1 3/4'', OVERLAY 1 3/4''
SO. BURLINGTON	4613+35	4614+98	2'-12'-12'-2'					COLD PLANE 1 1/4'', OVERLAY 1 1/4'', TYPE IVS, BRIDGE # 66 S
SO. BURLINGTON	4614+98	4634+36	10'-12'-12'-4'	1 3/4 ''				COLD PLANE 1 3/4'', OVERLAY 1 3/4''
RAMPS								
EXIT 11	A, B, C, D, F		VARIES	1 3/4 ''				COLD PLANE 1 3/4'', OVERLAY 1 3/4''
EXIT 12	B		VARIES	1 3/4 ''				COLD PLANE 1 3/4'', OVERLAY 1 3/4''
EXIT 13	A, B		VARIES	1 3/4 ''				COLD PLANE 1 3/4'', OVERLAY 1 3/4''



RAMP PAVEMENT TYPICAL

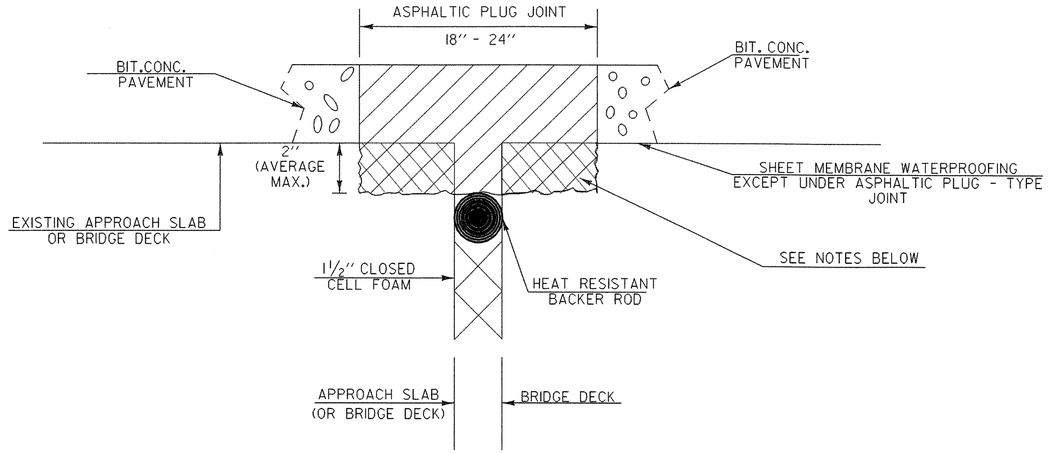
LOCATION
EXIT 11 OFF & ON RAMPS SB - SEE SHEET 22 FOR DETAILS
EXIT 11 OFF & ON RAMPS NB - SEE SHEET 22 FOR DETAILS
EXIT 12 ON RAMPS SB - SEE SHEET 22 FOR DETAILS
EXIT 13 OFF & ON RAMPS SB - SEE SHEET 22 FOR DETAILS

NOT TO SCALE

PROJECT TYPICAL SHEET 1

PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM NAME: p04all4pt1.i
PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 7 OF 76

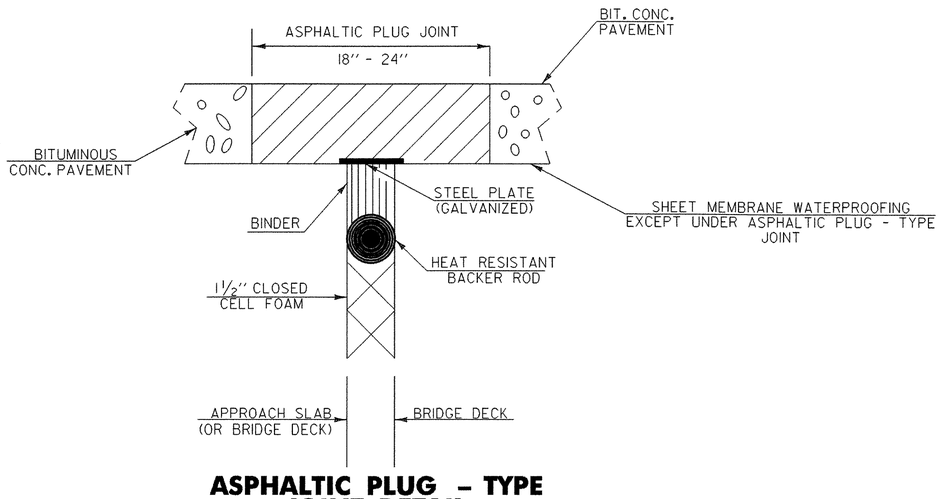


ASPHALTIC PLUG – TYPE JOINT DETAIL REMOVAL OF UP TO 2" DETERIORATED CONCRETE

NOTES:

1. UPON ENCOUNTERING UP TO 2" AVERAGE OF DETERIORATED CONCRETE, THE CONTRACTOR SHALL REMOVE THE DETERIORATED MATERIAL AND REPLACE IT WITH THE ASPHALTIC PLUG JOINT MATERIAL AS DIRECTED BY THE RESIDENT ENGINEEER.
2. REMOVAL OF THE DETERIORATED CONCRETE WILL NOT BE PAID SEPARATELY BUT WILL BE CONSIDERED INCIDENTAL TO THE UNIT BID PRICE FOR THE ITEM 516.10. THE ADDITIONAL PLUG JOINT MATERIAL BELOW THE DESIGN DEPTH TO REPLACE THE DETERIORATED CONCRETE WILL BE CONSIDERED INCIDENTAL TO THE UNIT BID PRICE FOR THE ITEM 516.10.
3. THE STEEL PLATE IN THE ASPHALTIC PLUG JOINT MAY BE OMITTED AS SHOWN IN THE DETAIL ABOVE IF DIRECTED BY THE RESIDENT ENGINEER.

* REFER TO SPECIAL PROVISIONS FOR BASIS OF PAYMENT



ASPHALTIC PLUG – TYPE JOINT DETAIL

LOCATION

NOTE: REFER TO NOTE UNDER DETAIL AT TOP.

TOWN	BRIDGE	EXISTING CONDITION AS PER BRIDGE INVENTORY	TREATMENT	LENGTHS
RICHMOND M. M. 73.55 STA. 3883+42	BR. # 52S 3 SIMPLE SPAN	2 1/2'' +/- OF EXISTING PAVEMENT WITH MEMBRANE ON BRIDGE	5 PLUG JOINTS REQUIRED COLD PLANE 1 1/4 ''	5 @ 38 '
RICHMOND M. M. 74.00 STA. 3907+01	BR. # 53S 3 SIMPLE SPAN	2'' +/- OF EXISTING PAVEMENT WITH MEMBRANE ON BRIDGE	6 PLUG JOINTS REQUIRED COLD PLANE 1 1/4 ''	6 @ 32 '
RICHMOND M. M. 77.10 STA. 4070+00	BR. # 55S 3 SIMPLE SPAN	3'' +/- OF EXISTING PAVEMENT WITH NO MEMBRANE ON BRIDGE	6 PLUG JOINTS REQUIRED COLD PLANE 1 1/4 ''	6 @ 32 '
RICHMOND M. M. 78.41 STA. 4140+06	BR. # 56S 3 SIMPLE SPAN	3'' +/- OF EXISTING PAVEMENT WITH NO MEMBRANE ON BRIDGE	6 PLUG JOINTS REQUIRED COLD PLANE 1 1/4 ''	6 @ 32 '
RICHMOND M. M. 78.53 STA. 4146+64	BR. # 57S 4 SPAN BRIDGE	3'' +/- OF EXISTING PAVEMENT WITH NO MEMBRANE ON BRIDGE	6 PLUG JOINTS REQUIRED COLD PLANE 1 1/4 ''	6 @ 42 '
RICHMOND M. M. 78.75 STA. 4157+90	BR. # 58S 3 SPAN CONTINUOUS 2 FINGER PLATE JOINTS	3'' +/- OF EXISTING PAVEMENT WITH NO MEMBRANE ON BRIDGE	2 PLUG JOINTS REQUIRED COLD PLANE 1 1/4 '' UP TO AND BEYOND FINGER PLATE JOINTS	2 @ 30 '
RICHMOND M. M. 78.98 STA. 4170+01	BR. # 59S 3 SIMPLE SPAN BEAM BRIDGE	3'' +/- OF EXISTING PAVEMENT WITH MEMBRANE ON BRIDGE	3 PLUG JOINTS REQUIRED COLD PLANE 1 1/4 ''	5 @ 32 '
WILLISTON M. M. 83.96 STA. 4432+98	BR. # 61S 3 SIMPLE SPAN BEAM BRIDGE	3'' +/- OF EXISTING PAVEMENT WITH NO MEMBRANE ON BRIDGE	COLD PLANE 1 1/4 '' UP TO AND BEYOND FINGER PLATE JOINTS	2 @ 31'
WILLISTON M. M. 84.99 STA. 4487+52	BR. # 63S 3 SIMPLE SPAN ROLLED BRIDGE	3'' +/- OF EXISTING PAVEMENT WITH MEMBRANE ON BRIDGE	1 PLUG JOINT REQUIRED COLD PLANE 1 1/4 ''	2 @ 38 '
SO. BURL. M. M. 87.205 STA. 4604+45	BR. # 65S 3 SIMPLE SPAN	3'' +/- OF EXISTING PAVEMENT WITH MEMBRANE ON BRIDGE	1 PLUG JOINT REQUIRED COLD PLANE 1 1/4 ''	2 @ 46 '
SO. BURL. M. M. 87.327 STA. 4610+89	BR. # 66S 3 SIMPLE SPAN	3'' +/- OF EXISTING PAVEMENT WITH MEMBRANE ON BRIDGE	1 PLUG JOINT REQUIRED COLD PLANE 1 1/4 ''	2 @ 31'
				TOTAL 1,530'

NOTE: EXISTING PAVEMENT THICKNESSES ARE BASED ON BRIDGE INSPECTION AND FILE INFORMATION WHICH HAVE NOT BEEN FIELD VERIFIED.

RESIDENT ENGINEER SHALL AT HIS/HER DISCRETION, SAW CUT THE FIXED JOINT AND FILL WITH HOT POURED MATERIALS.

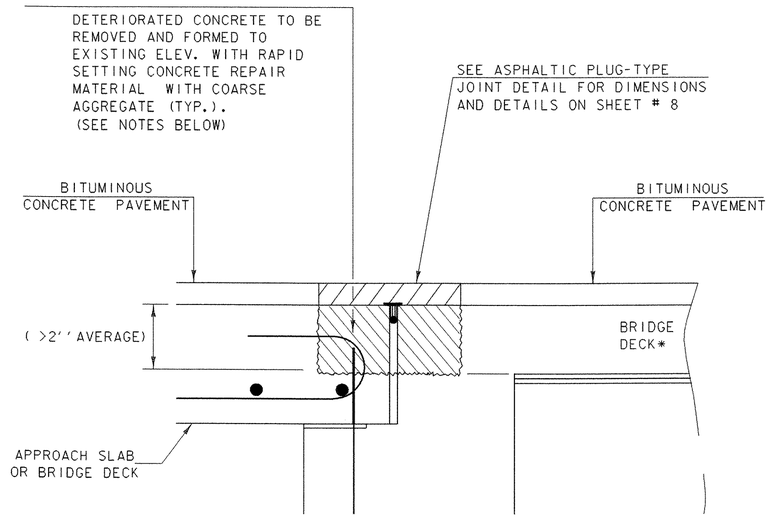
NOT TO SCALE

PROJECT TYPICAL SHEET 2

PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM NAME: p04all4pt2.i

PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 8 OF 76



*BRIDGE DECK REINFORCEMENT
NOT SHOWN FOR CLARITY

ASPHALTIC PLUG - TYPE JOINT DETAIL REMOVAL OF >2" DETERIORATED CONCRETE

NOTES:

1. UPON ENCOUNTERING GREATER THAN 2" AVERAGE OF DETERIORATED CONCRETE, THE CONTRACTOR SHALL REMOVE THE DETERIORATED MATERIAL AND REPLACE IT WITH RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE.
2. REMOVAL OF THE DETERIORATED CONCRETE WILL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 580.20 "RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE".
3. THE STEEL PLATE IN THE ASPHALTIC PLUG JOINT MAY BE OMITTED ONLY IF THE REPAIRED SURFACE IS SO IRREGULAR IT WILL CAUSE VERTICAL MOVEMENT AND IT IS DIRECTED BY THE RESIDENT ENGINEER.

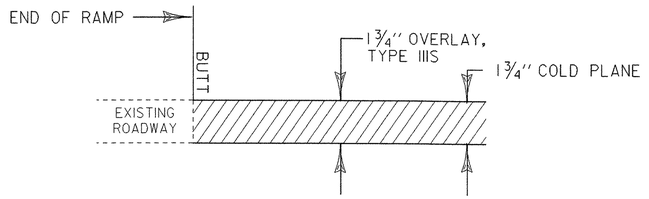
NOT TO SCALE

PROJECT TYPICAL SHEET 3

PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM NAME: p04all4pt3.i

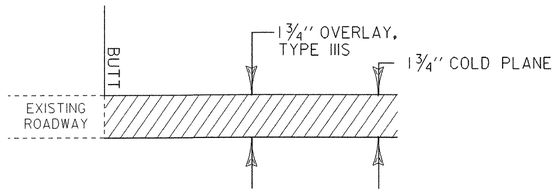
PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 9 OF 72



RAMP APPROACH AREA DETAIL

LOCATION

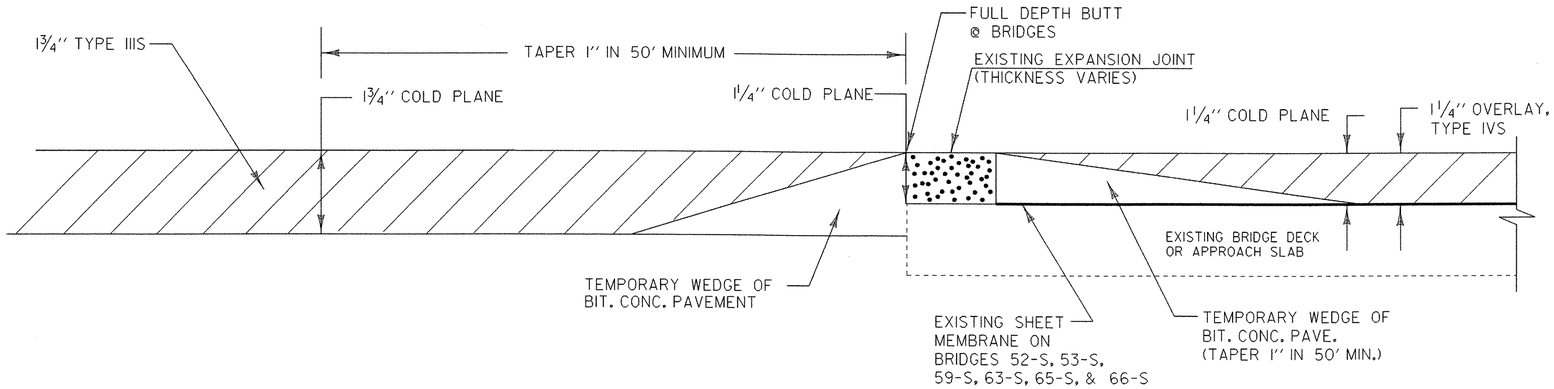
EXIT 11 - END OF SOUTHBOUND OFF RAMP IN RICHMOND ON U.S. ROUTE 2
EXIT 11 - BEGIN OF SOUTHBOUND ON RAMP IN RICHMOND ON U.S. ROUTE 2
EXIT 11 - END OF NORTHBOUND OFF RAMP IN RICHMOND ON U.S. ROUTE 2
EXIT 11 - BEGIN OF NORTHBOUND ON RAMP IN RICHMOND ON U.S. ROUTE 2
EXIT 12 - BEGIN OF SOUTHBOUND ON RAMPS IN WILLISTON ON VT. ROUTE 2A
EXIT 13 - END OF SOUTHBOUND OFF RAMPS IN SO. BURLINGTON ON THE I-189 INTERCHANGE
EXIT 12 - BEGIN OF SOUTHBOUND ON RAMPS IN SO. BURLINGTON ON THE I-189 INTERCHANGE



MAINLINE APPROACH AREA DETAIL

LOCATION

BEGINNING OF PROJECT - STA 3780 + 68 (M.M. 71.604) SOUTHBOUND
END OF PROJECT - STA. 4634 + 35 (M.M. 87.772) SOUTHBOUND



BRIDGE APPROACH DETAIL

SB BR # 52-S	STA 3883+18 TO STA 3884+18	SB BR # 59-S	STA 4167+77 TO STA 4168+77
SB BR # 52-S	STA 3885+76 TO STA 3886+76	SB BR # 59-S	STA 4170+67 TO STA 4171+67
SB BR # 53-S	STA 3901+98 TO STA 3902+98	SB BR # 61-S	STA 4431+03 TO STA 4432+03
SB BR # 53-S	STA 3905+62 TO STA 3906+62	SB BR # 61-S	STA 4433+83 TO STA 4434+83
SB BR # 55-S	STA 4068+77 TO STA 4069+77	SB BR # 63-S	STA 4486+47 TO STA 4487+47
SB BR # 55-S	STA 4071+36 TO STA 4072+36	SB BR # 63-S	STA 4488+00 TO STA 4489+00
SB BR # 56-S	STA 4136+14 TO STA 4137+14	SB BR # 65-S	STA 4602+32 TO STA 4603+32
SB BR # 56-S	STA 4140+05 TO STA 4141+05	SB BR # 65-S	STA 4604+37 TO STA 4605+37
SB BR # 57-S	STA 4142+48 TO STA 4143+48	SB BR # 66-S	STA 4613+93 TO STA 4612+93
SB BR # 57-S	STA 4146+07 TO STA 4147+07	SB BR # 66-S	STA 4614+99 TO STA 4615+99
SB BR # 58-S	STA 4151+67 TO STA 4152+67		
SB BR # 58-S	STA 4158+53 TO STA 4159+53		

NOT TO SCALE

PROJECT TYPICAL SHEET 4

PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM NAME: p04all4pt4.i

PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 10 OF 76

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES

BRIDGE	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
	1,200	1,200	CY	COMMON EXCAVATION	203.15	13
	1	1	CY	SOLID ROCK EXCAVATION	203.16	EST
	1,800	1,800	CY	EARTH BORROW	203.30	33
	39	39	CY	SAND BORROW	203.31	-
	250	250	SY	FINE GRADING - SUBGRADE	203.40	28
	43,000	43,000	LF	SHOULDER BERM REMOVAL	203.99	322.5
	1	1	CY	TRENCH EXCAVATION OF EARTH (N.A.B.I.)	204.20	EST
	385,000	385,000	SY	COLD PLANING - BIT. PAVEMENT	210.10	481
	144,000	144,000	LF	MILLED RUMBLE STRIPS	213.10	87
	250	250	CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	18
	3,600	3,600	TON	AGGREGATE SHOULDERS (MOD.)	402.12	114
	480	480	CWT	EMULSIFIED ASPHALT	404.65	1
	1	1	LU	PRICE ADJUSTMENT ASPHALT CEMENT (N.A.B.I.)	406.50	-
	39,000	39,000	TON	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (PG 64-28)	490.30	117
1,550		1,550	LF	BRIDGE EXPANSION JOINT (ASPHALTIC PLUG)	516.10	20
100		100	CF	RAPID SETTING CONC. REPAIR MATERIAL W/COARSE AGGREGATE	580.20	EST
	60	60	LF	18" CPEP	601.0915	
	2	2	EA	18" CPEPES	601.7015	
	20	20	EA	REHABING DI,CB OR MH CLASS I	604.412	EST
	1	1	EA	CAPPING EXISTING DROP INLETS	604.60	
	500	500	HR	POWER GRADER RENTAL	608.15	EST
	500	500	HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25	EST
	300	300	HR	POWER BROOM RENTAL	608.30	EST
	300	300	HR	POWER BROOM RENTAL, TYPE II	608.31	EST
	500	500	HR	TRUCK RENTAL	608.37	EST
	500	500	HR	LOADER RENTAL, TYPE I	608.40	EST

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		COLD PLANING BIT. PAVEMENT
360,443	SY	SOUTHBOUND MAINLINE
13,493	SY	EXIT # 11 RAMPS
3,216	SY	EXIT # 12 RAMPS
5,562	SY	EXIT # 13 RAMPS
1,805	SY	U-TURNS
384,519	SY	SUBTOTAL
481	SY	ROUNDING
385,000	SY	TOTAL
		AGGREGATE SHOULDERS (MOD)
2,068	TON	SOUTHBOUND MAINLINE
203	TON	EXIT # 11 RAMPS
49	TON	EXIT # 12 RAMPS
84	TON	EXIT # 13 RAMPS
288	TON	GUARDRAIL TERMINALS
16	TON	U-TURNS
3,486	TON	SUBTOTAL
114	TON	ROUNDING
3,600	TON	TOTAL
		SUPERPAVE BITUMINOUS
		CONCRETE PAVEMENT (PG 64-28) TYPE II S
40	TON	U-TURN
364	TON	WIDENING SHOULDER
		SUPERPAVE BITUMINOUS
		CONCRETE PAVEMENT (PG 64-28) TYPE III S
34,944	TON	SOUTHBOUND MAINLINE
1,359	TON	EXIT # 11 RAMPS
322	TON	EXIT # 12 RAMPS
558	TON	EXIT # 13 RAMPS
196	TON	U-TURNS
		SUPERPAVE BITUMINOUS
		CONCRETE PAVEMENT (PG 64-28) TYPE IV S
1,100	TON	BRIDGES
38,883	TON	SUBTOTAL
117	TON	ROUNDING
39,000	TON	TOTAL

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

PROJECT : BOLTON - SO. BURLINGTON

PROJECT NO. : AC IM 089-2(36)

DESIGN FILE NAME: /pave/04all4/p04all4.dgn
IPARM FILE NAME: p04all4gsl.i
SURVEYED BY:
SQUAD LEADER:

PLOT DATE: 14-JUN-2005
SURVEY DATE:
DRAWN BY:
SHEET: 11 OF 76

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES

				EMPLOYEE TRAINEESHIP	BRIDGE	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
						149	149	HR	LOADER RENTAL, TYPE II (MOD.-REHAB. CABLE RAIL)	608.41	EST
						5	5	CY	STONE FILL, TYPE I	613.10	
						400	400	LF	TREATED TIMBER CURB	616.35	5
						620	620	LF	REMOVAL OF EXISTING CURB	616.41	8
						100	100	TON	BITUMINOUS CONCRETE GUTTERS AND TRAFFIC ISLANDS	616.47	EST
						700	700	LF	SNOW FENCE (MOD.-PDF)	620.70	
						9,250	9,250	LF	STEEL BEAM GUARDRAIL (GALVANIZED)	621.20	13
						47	47	EA	MANUFACTURED TERMINAL SECTION (FLARED)	621.505	3
						16	16	EA	TRAILING END TERMINAL	621.52	-
						548	548	EA	ANCHOR FOR CABLE RAIL (MOD.-CABLE RAIL HARDWARE)	621.65	EST
						1,250	1,250	EA	REPLACE GUARD RAIL POST ASSEMBLY	621.76	18
						550	550	EA	REPLACE GUARD RAIL BEAM UNIT	621.77	28
						7,200	7,200	LF	ADJUST HEIGHT OF GUARD RAIL	621.79	44
						3,600	3,600	LF	REMOVAL AND DISPOSAL OF GUARD RAIL	621.80	36
						2,000	2,000	HR	UNIFORMED TRAFFIC OFFICERS	630.10	EST
						3,000	3,000	HR	FLAGGERS	630.15	EST
						1	1	LS	FIELD OFFICE - ENGINEERS	631.10	-
						1	1	LS	TESTING EQUIPMENT - BITUMINOUS	631.17	-
						1	1	LU	FIELD OFFICE - TELEPHONE (N.A.B.I.)	631.25	-
				520			520	HR	EMPLOYEE TRAINEESHIP	634.10	-
						1	1	LS	MOBILIZATION/DEMOBILIZATION	635.11	-
						1	1	LS	TRAFFIC CONTROL	641.10	-
						1	1	LS	PUBLIC RELATIONS OFFICER	641.12	-
						6	6	EA	PORTABLE CHANGEABLE MESSAGE SIGNS	641.15	-
						4	4	EA	PORTABLE ARROW BOARDS	641.16	-
						119,000	119,000	LF	DURABLE 6" WHITE LINE (MOD.-RETROREFLECTIVITY/INLAID)	646.414	317
						93,100	93,100	LF	DURABLE 6" YELLOW LINE (MOD.-RETROREFLECTIVITY/INLAID)	646.415	73

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

PROJECT : BOLTON - SO. BURLINGTON

PROJECT NO. : AC IM 089-2(36)

DESIGN FILE NAME: /pave/04all4/p04all4.dgn
IPARM FILE NAME: p04all4qs2.I
SURVEYED BY:
SQUAD LEADER:

PLOT DATE: 14-JUN-2005
SURVEY DATE:
DRAWN BY:
SHEET: 12 OF 76

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 3

SUMMARY OF ESTIMATED QUANTITIES

				EROSION CONTROL	BRIDGE	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
						1,800	1,800	LF	DURABLE 12" WHITE LINE (MOD.-RETROREFLECTIVITY/INLAID)	646.44	10
						110	110	LF	DURABLE 24" STOP BAR	646.46	-
						68	68	EA	DURABLE LETTER OR SYMBOL	646.50	-
						119,000	119,000	LF	TEMPORARY 6" WHITE LINE (PAINT)	646.614	317
						2,400	2,400	LF	TEMPORARY 6" WHITE LINE (TAPE,TYPE II)	646.614	-
						93,100	93,100	LF	TEMPORARY 6" YELLOW LINE (PAINT)	646.615	73
						2,200	2,200	LF	TEMPORARY 6" YELLOW LINE (TAPE, TYPE II)	646.615	
						1,800	1,800	LF	TEMPORARY 12" WHITE LINE (PAINT)	646.64	10
						70	70	LF	TEMPORARY 12" WHITE LINE (TAPE, TYPE II)	646.64	-
						108	108	LF	TEMPORARY 24" STOP BAR (PAINT)	646.66	-
						68	68	EA	TEMPORARY LETTERS OR SYMBOLS (PAINT)	646.70	-
						7,000	7,000	EA	LINE STRIPING TARGETS	646.76	-
						731	731	SF	REMOVAL OF EXISTING PAVEMENT MARKINGS	646.85	-
						500	500	SF	BLACK PAVEMENT MARKING MASKING TAPE	646.86	-
						250	250	SY	GEOTEXTILE FOR SILT FENCE	649.51	
						30	30	LB	SEED	651.15	EST
						100	100	LB	SEED (MOD.)	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
						75	75	CY	TOPSOIL	651.35	EST
				0.5			0.5	LS	EROSION PREVENTION & SEDIMENT CONTROL PLAN	652.10	
				20			20	HR	MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN	652.20	
				0.5			0.5	LS	MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN (N.A.B.I.)	652.30	
						400	400	SF	TRAFFIC SIGNS, TYPE A	675.20	13
									BEGIN OPTION ITEMS		
						850	850	LF	FLANGED CHANNEL SIGN POSTS	675.301	EST
						850	850	LF	SQUARE TUBE STEEL POSTS AND ANCHORS	675.341	EST
									END OPTION ITEMS		

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

PROJECT : BOLTON - SO. BURLINGTON

PROJECT NO. : AC IM 089-2(36)

DESIGN FILE NAME: /pave/04all4/p04all4.dgn
IPARM FILE NAME: p04all4qs3.i
SURVEYED BY:
SQUAD LEADER:

PLOT DATE: 17-MAY-2005
SURVEY DATE:
DRAWN BY:
SHEET: 13 OF 76

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 4

SUMMARY OF ESTIMATED QUANTITIES

					BRIDGE	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
						21	21	LB	TUBULAR ALUMINUM SIGN POSTS	675.32	
						403	403	LB	TUBULAR STEEL SIGN POSTS	675.33	
						4	4	EA	FOUNDATION FOR TUBULAR STEEL POSTS	675.43	
						48	48	EA	REMOVING SIGNS	675.50	-
						1,000	1,000	EA	DELINEATORS W/STEEL POSTS	676.10	39
						760	760	EA	REMOVAL OF EXISTING DELINEATORS	676.12	8
						1	1	LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50	
						1	1	LU	INCENTIVE/DISINCENTIVE WORK ORDER (N.A.B.I.)	995.10	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

PROJECT : BOLTON - SO. BURLINGTON

PROJECT NO. : AC IM 089-2(36)

DESIGN FILE NAME: /pave/04all4/p04all4.dgn
IPARM FILE NAME: p04all4qs4.i
SURVEYED BY:
SQUAD LEADER:

PLOT DATE: 17-MAY-2005
SURVEY DATE:
DRAWN BY:
SHEET: 14 OF 76

LOCATION			DROP INLETS					GUARDRAIL														REMARKS
STATION	STATION	POS.	203.15 COMM. EXCAV.	203.16 SOLID ROCK EXCAV.	301.35 SUBBASE OF DENSE CR. STONE	604.40 CHANGE ELEV. D.I.	604.412 REHAB. D.I. CLASS 1	203.99 SHOULDER BERM REMOVAL	608.41 LOADER RENTAL FOR CABLE RAIL TYPE II (MOD.)	616.35 TIMBER CURB	621.20 STEEL BEAM G.R.	621.21 H.D. BEAM G.R.	621.505 M.T.S.	621.52 M.T.S. (TRAILING END TERMINAL)	621.60 ANCHOR FOR G.R.	621.65 ANCHOR FOR CABLE RAIL (MOD.)		621.75 REMOVE &RESET G.R.	621.76 REPLACE GUARD RAIL POST ASSEMBLY	621.77 REPLACE GUARD RAIL BEAM UNIT (12.5')	203.30 EARTH BORROW	621.79 ADJUST HEIGHT OF GUARD RAIL	621.80 REMOVE & DISP. G.R.	
INTERSTATE ROUTE 89 SB			CY	CY	CY	EA	EA	LF	HR	LF	LF	LF	EA	EA	EA	EA		LF	EA	EA	CY	LF	LF	
3780+68	4634+34	LT&RT																			1,222			TO BE USED TO CONSTRUCT MTS FLARES
3779+64	3788+35	LT						871′	~~9~~ 5							~~33~~ 7			~~10~~ 3			~~175′~~		18 OCT 05 1CREW HR = 5 HR
3794+42	3809+78	LT						1536′	~~16~~ 5							~~58~~ 5			~~20~~ 2			~~307′~~		18 OCT 05 ONE REFLECTOR = 5 J HOOKS 1CREW HR
3796+53	3800+23	RT						307′	~~3~~ 5							~~12~~ 20			~~4~~			~~61′~~		J BOLT REFLECTOR 14 OCT 05 0 + (5 X 4) 20 = 20
3824+83	3841+46	LT						1663′											~~53~~	~~26~~ 9		~~12.5333′~~		18 OCT 05 TRAILING END LOW 62.5′
3841+08.5	3841+46	LT											1										37.5′	
3853+03	3868+60	RT						1557′											~~50~~	~~25~~ 16		300 ~~316′~~		14 OCT 05
3868+22.5	3868+60	RT											1										37.5′	14 OCT 05
3853+56	3871+56	LT						950′											~~58~~ 2	~~29~~ 37		150 ~~360′~~		17 & 18 OCT 05
3853+82	3862+32	LT								170′														17 & 18 OCT 05
3856+25		LT					1																	
3858+84		LT					1																	
3859+10		LT					1																	
3871+18.5	3871+56	LT											1										37.5′	18 OCT 05 17 OCT 05
3883+44	3884+18	LT						74′			2								~~2~~	1		~~15′~~		17 OCT 05 PD 2′ SB FOR END CAP ON RAIL
3883+70	3884+18	LT								10′														17 OCT 05
3883+44	3884+18	RT						74′											~~2~~	~~1~~		~~15′~~		
3885+55	3888+19	LT																	~~9~~	~~5~~ 1		~~53′~~ 137.5		17 OCT 05
3885+55	3886+34	LT						210′		16′														17 OCT 05
3887+81.5	3888+19	LT																					37.5′	17 OCT 05
3887+81.5	3889+06.5	LT									125′													17 OCT 05
3889+06.5	3888+44	LT											1										~~37.5′~~	17 OCT 05
3885+55	3887+23.5	RT																	~~27~~	~~14~~		~~34′~~		13 OCT 05
3887+23.5	3887+61	RT																					37.5′	13 OCT 05
3887+23.5	3889+86	RT									262.5′													MATCH EXISTING S-BEAM @ 3887+23.5 RT 13 OCT 05
3889+86	3890+23.5	RT											1											13 OCT 05
3892+36	3895+85	LT						349′	~~4~~ 5							~~13~~			~~4~~ 8			~~70′~~		18 OCT 05 5 MAN HR - 1HR OF TIME
3901+39	3902+66	LT						127′											~~4~~	~~2~~ 4		~~25′~~ 62.5		17 OCT 05 ADDED 12.5 ADJ FOR 6" BOLT ON BRIDGE
3902+40	3902+66	LT								26′									~~4~~	~~2~~		~~25′~~		17 OCT 05
3902+40	3903+19	RT						79′			27								~~2~~	~~1~~		~~16~~ 50	27	LAST 2 PANELS REPLACED W/ NEW 13 OCT 05
3905+62	3908+88.5	LT						132′											~~4~~	~~2~~ 4		~~27′~~		
3905+62	3907+94	LT								47′														
3907+94		LT																						
3908+88.5	3909+26	LT											1										37.5	6 OCT 05
3905+83	3910+26	RT						232′											~~8~~	~~4~~		~~47′~~ 25		13 OCT 05
3905+83	3907+94	RT								42′														
3910+26	3910+63.5	RT											1										37.5′	13 OCT 05
SHEET 09 TOTALS							3	8,162′	~~16~~ 20	311′	~~387.5′~~ 416.5		~~6~~ 7			~~32~~ 71			~~261~~ 15	~~112~~ 68	1,222	~~1874′~~ 837.5	262.5′	

ITEM DETAIL SHEET 1

PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM NAME: p04all4idl.i

PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 15 OF 76

LOCATION			DROP INLETS					GUARDRAIL															REMARKS
STATION	STATION	POS.	203.15 COMM. EXCAV.	203.16 SOLID ROCK EXCAV.	301.35 SUBBASE OF DENSE CR. STONE	604.40 CHANGE ELEV. D.I.	604.412 REHAB. D.I. CLASS I	203.99 SHOULDER BERM REMOVAL	608.41 LOADER RENTAL FOR CABLE RAIL, TYPE II (MOD.)	616.35 TIMBER CURB	621.20 STEEL BEAM G.R.	621.21 H.D. BEAM G.R.	621.505 M.T.S.	621.52 M.T.S. (TRAILING END TERMINAL)	621.60 ANCHOR FOR G.R.	621.66 ANCHOR FOR CABLE RAIL (MOD.)		621.75 REMOVE & RESET G.R.	621.76 REPLACE GUARD RAIL POST ASSEMBLY	621.77 REPLACE GUARD RAIL BEAM UNIT (12.5')	203.30 EARTH BORROW FOR FLARE	621.79 ADJUST HEIGHT OF GUARD RAIL	621.80 REMOVE & DISP. G.R.	
INTERSTATE ROUTE 89 SB			CY	CY	CY	EA	EA	LF	HR	LF	LF	LF	EA	EA	EA	EA		LF	EA	EA	CY	LF	LF	
3907+94		RT					1																	
3937+51	3941+10	LT						359'											~~12~~	~~6~~ 8		~~72'~~ 37.5		17 OCT 05
3941+10	3941+47.5	LT											1										37.5'	17 OCT 05
3980+86	4016+50	LT						3,564'	~~36~~ 50							~~134~~ 27			~~45~~ 30					REFLECTORS 12 & 17 OCT 05 19 J HOOK + (5 X 11) 55 = 74
4025+21	4027+74	RT						253'											~~8~~	~~4~~ 1				22 SEP 05
4027+74	4028+11.5	RT																					37.5'	22 SEP 05
4027+74	4030+74	RT									300'													22 SEP 05
4030+74	4031+11.5	RT											1								14			22 SEP 05 FLARECONS 6 OCT 05
4025+95	4028+00.5	LT						205.5'											~~16~~	~~8~~ 5		~~41'~~ 125	37.5	12 OCT 05
4028+00.5	4030+25.5	LT									225'													12 OCT 05
4030+25.5	4030+63	LT											1											12 OCT 05
4036+24	4038+77.5	LT						253.5'																12 OCT 05 BCT HD 2-25' SECTIONS REPLACE W/ MTS & 12-6 BEAM UNIT
4038+77.5	4039+15	LT											1										37.5'	12 OCT 05
4045+01	4053+40	RT						839'	~~9~~ 6							~~32~~ 19			~~11~~					J HOOK REFLECTOR 22 SEP 05 4 + (5X3) 15 = 19
4052+88	4069+51	LT						1610'											~~54~~	~~27~~ 36		~~333'~~ 137.5		24 11 & 12 OCT 05
4068+98	4069+51	LT								53'														11 OCT 05
4069+38		LT					1																	
4068+98	4069+51	RT						53'											~~2~~	~~1~~		~~11'~~		
4071+36	4076+26.5	LT						490.5'											~~16~~	~~8~~ 13		~~106'~~ 75		11 OCT 05
4071+36	4071+88	LT						52'																11 OCT 05
4071+88		LT					1																	
4076+26.5	4076+64	LT											1										37.5	11 OCT 05
4071+62	4074+67.5	RT						305.5'											~~10~~ 2	~~5~~ 1		~~61'~~		22 SEP 05
4074+67.5	4075+05	RT																					37.5'	22 SEP 05
4074+67.5	4075+92.5	RT									125'													22 SEP 05
4075+92.5	4076+30	RT											1								13			22 SEP 05 FLARECONS 6 OCT 05
4085+40	4108+10	LT						2270'	~~23~~ 10							~~85~~ 36			~~28~~					J-HOOK REF. 11 OCT 05 16 + (5X4) 20 = 36
4136+04	4137+14	LT						110'											~~4~~	~~2~~ 4		~~22'~~		11 OCT 05
4136+83		LT					1																	
4136+83	4137+14	LT								31'														11 OCT 05
4136+83	4137+14	RT						111'											~~4~~	~~2~~		~~23'~~		11 OCT 05
4140+05	4141+63	LT						158'											~~6~~	~~3~~		~~32'~~ 150		11 OCT 05 RAISE GR FROM BULLNOSE AT RAMP D TO ML BRIDGE (150 LF)
4140+31		LT					1																	
4140+31	4143+22	RT						291'											10	5		58'		
4142+95		LT					1																	
4146+07	4152+67	LT						660'											~~21~~	~~10~~ 16		~~132'~~ 100	7 OCT 05	
SHEET 10 TOTALS							6	11,585'	68	84'	650'		6			251			247	81		891'	150'	

ITEM DETAIL SHEET 2

PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM NAME: p04all4id2.i

PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 16 OF 76

LOCATION			203.05	203.31	301.35	601.0915	601.7015	GUARDRAIL 203.99	608.41	616.35	621.20	621.21	621.505	621.52	621.60	621.65	621.75	621.76	621.77	621.79	621.80	203.30	203.40	REMARKS
STATION	STATION	POS.	COMM. EXCAV.	SAND BORROW	SUBBASE OF DENSE CR. STONE	18" CPEP	18" CPEPES	SHOULDER BERM REMOVAL	LOADER RENTAL FOR CABLE RAIL, TYPE H (MOD.)	TIMBER CURB	STEEL BEAM G.R.	H.D. BEAM G.R.	M.T.S.	M.T.S. (TRAILING END TERMINAL)	ANCHOR FOR G.R.	ANCHOR FOR CABLE RAIL (MOD.)	REMOVE & RESET G.R.	REPLACE GUARD RAIL POST ASSEMBLY	REPLACE GUARD RAIL BEAM UNIT (12.5')	ADJUST HEIGHT OF GUARD RAIL	REMOVE & DISP. G.R.	EARTH BORROW	FINE GRADING SUB-GRADE	
INTERSTATE ROUTE 89 SB			CY	CY	CY	LF	EA	LF	HR	LF	LF	LF	EA	EA	EA	EA	LF	EA	EA	LF	LF	CY	SY	
4146+07	4146+60	RT						53'										~~2~~	6 +	37.5 ~~11~~				6 OCT 05
4146+60	4147+12	RT																			127 ~~52'~~			6 OCT 05
4146+60	4152+~~60~~ 10	RT									~~600'~~ 550							2	2					6 OCT 05
4148+97		CL	370																					REMOVAL OF EXISTING U-TURN
4151+93	4152+45	RT																			212.5 ~~52'~~			6 OCT 05
4152+45	4152+67	RT						25'												37.5 ~~5'~~				5 OCT 05
4158+53	4160+79.5	LT						226.5'										~~7~~	2 ~~3~~	~~45'~~				7 OCT 05
4160+79.5	4161+17	LT																			37.5'			7 OCT 05
4160+79.5	4161+79.5	LT									100'													7 OCT 05
4161+79.5	4162+16	LT											1											7 OCT 05
4158+79	4159+04	RT						25'										~~1~~		37.5 ~~5'~~				5 OCT 05
4159+04	4160+38	RT																			165 ~~134'~~			5 OCT 05 BULLNOSE IN MEDIAN
4159+04	4163+04	RT									400'													5 OCT 05
4161+79.5	4162+16	LT									50		1											
4163+04	4163+41.5	RT											1									13		5 OCT 05 CONST FLARE 10/6/05
4167+72	4168+90	LT						118'										~~4~~	~~2~~	24'				
4167+72	4168+52	RT																			190 ~~80'~~			5 OCT 05 BULLNOSE IN MEDIAN
4168+27	4168+39.5	RT												1										4 OCT 05
4168+52	4168+77	RT						25'										1	1	~~5'~~				4 OCT 05
4170+67	4174+21	LT						354'										~~11~~	1 ~~5~~	71'				
4174+21	4174+58.5	LT											1								37.5'			30 SEPT
4170+67	4170+92	RT						25'										1		37.5 ~~5'~~				4 OCT 05
4170+92	4171+94	RT																			178 ~~102'~~			4 OCT 05 BULLNOSE IN MEDIAN
4170+92	4174+92	RT									400'													4 OCT 05
4174+92	4175+29.5	RT											1									9		4 OCT 05 5 OCT 05 FLARE
4179+38		CL		39	156	60'	2															545	222	SEE STD. B-17 FOR DETAILS 42' X 50' DIMENSION TO BE USED (TO CONSTRUCT NEW U-TURN)
4196+23	4199+34	LT						311'													62'			
4199+34	4199+71.5	LT											1								37.5	10		5 OCT 05 FLARE
4211+33	4219+41	LT						808'										~~26~~	15 ~~13~~	200	162'			
4219+41	4219+78.5	LT											1								37.5'			5 OCT 05 FLARE
4213+92	4228+81	RT						1489'			87.5			1				1 ~~48~~	16 ~~24~~	~~298'~~	100			9/21/05
4228+01.5	4228+39	LT									12.5													
4228+81	4229+18.5	RT											1								37.5'	4		9/21/05 4 OCT 05 FLARE
4230+92								1879'																
~~4233+24~~	4249+71	RT						~~647'~~										0 ~~21~~	40 ~~10~~	125 ~~129'~~				9/13/05
4249+71	4250+08.5	RT											1								37.5'	5		9/13/05 4 OCT 05 FLARE
4301+88	4309+48	LT						760'	~~8~~ 6							29 ~~18~~		1 ~~48~~		~~152'~~				9/6/05 POST INSTALLED 9/29/05 3 REFLECTORS X 5 = 15 + 3 J'S = 18
4301+88	4309+38	RT						750'										~~24~~	2 ~~12~~	~~150'~~				4 OCT 05
4309+38	4309+75.5	RT											1								37.5'	5	4 OCT 05 FLARE	
4315+87	4318+09	LT						222'										~~7~~	1 ~~3~~	12.5 ~~44'~~			09/29/05	
4318+09	4318+46.5	LT																			37.5'		09/29/05	
SHEET 11 TOTALS			370	39	156	60'	2	5838.5'	8		~~1500'~~ 1600		~~8~~ 10	~~1~~ 2		29		204	73	944'	906.5'	545	222	

ITEM DETAIL SHEET 3

PROJECT NAME: BOLTON - SO. BURLINGTON

PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM NAME: p04all4td3.1

PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:

LOCATION			DROP INLETS					GUARDRAIL															REMARKS
STATION	STATION	POS.	203.15 COMM. EXCAV.	203.16 SOLID ROCK EXCAV.	301.35 SUBBASE OF DENSE CR. STONE	604.40 CHANGE ELEV. D.I.	604.412 REHAB. D.I. CLASS I	203.99 SHOULDER BERM REMOVAL	608.41 LOADER RENTAL FOR CABLE RAIL, TYPE II (MOD.)	616.35 TIMBER CURB	621.20 STEEL BEAM G.R.	621.21 H.D. BEAM G.R.	621.505 M.T.S.	621.52 M.T.S. (TRAILING END TERMINAL)	621.60 ANCHOR FOR G.R.	621.65 ANCHOR FOR CABLE RAIL (MOD.)		621.75 REMOVE & RESET G.R.	621.76 REPLACE GUARD RAIL POST ASSEMBLY	621.77 REPLACE GUARD RAIL BEAM UNIT (12.5')	203.30 EARTH BORROW FOR FLARES	621.79 ADJUST HEIGHT OF GUARD RAIL	621.80 REMOVE & DISP. G.R.	
INTERSTATE ROUTE 89 SB			CY	CY	CY	EA	EA	LF	HR	LF	LF	LF	EA	EA	EA	EA		LF	EA	EA	CY	LF	LF	
4318+09	4324+21.5	LT									612.5'													ATTACH TO EXISTING GUARDRAIL @ STA. 4318+09 9/29/05
4324+21.5	4324+59	LT											1								10			9/29/05 5 OCT 05 FLARE
4315+87	4320+20	RT						433'											~~14~~	10 ~~7~~		~~87'~~		3 OCT 05
4320+20	4320+37.5	RT																					37.5'	3 OCT 05
4320+37.5	4320+87.5	RT									50'													3 OCT 05
4320+87.5	4321+25	RT											1								5			3 OCT 05 4 OCT 05 FLARE
4333+51		LT					1																	
4347+24	4363+55	RT						1631'											~~52~~	24 ~~26~~		300 ~~326'~~		3 OCT 05 TRUCK W/ COMPRESSOR IN ACCIDENT W/ CAR BETWEEN EXIT 13 - EXIT 12 COMING TO WORKSITE CAR AT FAULT
4363+55	4363+92.5	RT											1								5		37.5'	28 SEPT 05 4 OCT 05 FLARE
4349+88	4359+27	LT																	2 ~~30~~	20 ~~15~~		~~188'~~		9/6/05
4359+27	4359+64.5	LT ~~RT~~											1								10		37.5'	9/6/05 5 OCT 05 FLARE
4372+10	4386+20	RT						1410'											2 ~~45~~	9 ~~23~~		475 ~~282'~~		28 SEP 05
4386+20	4386+57.5	RT											1								5		37.5'	28 SEP 05 4 OCT 05 FLARE
4377+60	4393+17	LT						1557'	~~16~~ 6							23 ~~58~~				9 ~~20~~		~~311'~~		29 SEP 05 4 REFLECTORS X 5 = 20 + 3 J'S = 23
4400+04	4405+63	RT						559'	6							24 ~~21~~			~~7~~			~~112'~~		28 SEP 05 4 REFLECTORS X 5 = 20 J HOOKS + 4 J'S = 24
4429+66	4432+03	RT						237'			12.5			1					0 ~~8~~	9 ~~4~~		0 ~~47'~~	37.5	16 AUG 05
4430+~~18~~ 08	4432+03	LT						185'						1					4 ~~6~~	7 ~~3~~		~~37'~~	12.5	31 JUL 05
4433+70	4439+05	LT						535'											0 ~~17~~	3 ~~8~~	6	~~107'~~		31 JUL 05 FLARE 9/30/05
4439+05	4339+42.5	4 LT ~~RT~~											1								5		37.5'	31 JUL 05 FLARE 9/30/05
4475+00.5	4475+13	LT									25			1									25 ~~12.5'~~	27 JUL 05
4475+13	4477+28	LT						215'											1 ~~34~~	7 ~~17~~		43'		28 JUL 05
4477+28	4479+90.5	LT									262.5'												37.5'	27 & 28 JUL 05
4479+90.5	4480+28	LT											1								6			28 JUL 05
4476+07.5	4476+20	RT												1									~~12.5'~~	8/9/05
4476+20	4477+55	RT						135'																
4477+55	4477+92.5	RT												1									25 ~~37.5'~~	
4477+55	4481+17.5	RT									362.5'													8/9/05 BROWNELL RD
4481+17.5	4481+55	RT											1								6		37.5	FLARE 9/30/05
4486+93.5	4487+07	LT												1									25 ~~12.5'~~	8/9/05
4487+07	4487+47	LT						40'											~~2~~	~~1~~		~~8'~~		
4486+55.5	4486+68	RT												1									37.5 ~~12.5'~~	
4486+68	4487+47	RT						79'											1 ~~3~~	2 ~~1~~		~~16'~~		8/9/05
4488+00	4490+27	LT						227'											~~7~~	3		~~45'~~		27 JUL 05
4490+27	4490+64.5	LT																					37.5'	27 JUL 05
4490+27	4491+27	LT									100													27 JUL 05
4491+27	4491+64.5	LT											1								6			27 JUL 05
SHEET 12 TOTALS								7243'	22		~~1387.5'~~ 1425		9	~~4~~ 6		79			225	148		1609'	337.5'	

ITEM DETAIL SHEET 4

PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM NAME: p04all4d4.i

PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 18 OF 76

LOCATION			DROP INLETS					GUARDRAIL															REMARKS
STATION	STATION	POS.	203.15 COMM. EXCAV.	203.16 SOLID ROCK EXCAV.	203.31 SAND BORROW	203.40 FINE GRADING SUB-GRADE	301.35 SUBBASE OF DENSE CR. STONE	203.99 SHOULDER BERM REMOVAL	608.41 LOADER RENTAL FOR CABLE RAIL, TYPE B (MOD.)	616.35 TIMBER CURB	621.20 STEEL BEAM G.R.	621.21 H.D. BEAM G.R.	621.505 M.T.S.	621.52 M.T.S. (TRAILING END TERMINAL)	621.60 ANCHOR FOR G.R.	621.65 ANCHOR FOR CABLE RAIL (MOD.)		621.75 REMOVE &RESET G.R.	621.76 REPLACE GUARD RAIL POST ASSEMBLY	621.77 REPLACE GUARD RAIL BEAM UNIT (12.5')	203.30 EARTH BORROW	621.79 ADJUST HEIGHT OF GUARD RAIL	621.80 REMOVE & DISP. G.R.	
INTERSTATE ROUTE 89 SB			CY	CY	CY	SY	CY	LF	HR	LF	LF	LF	EA	EA	EA	EA		LF	EA	EA		LF	LF	
4488+79	4490+80	RT						201'											6	3		40'		
4490+80	4491+17.5	RT																					37.5'	
4490+80	4493+05	RT									225'												37.5'	8/9/05
4493+05	4493+42.5	RT											1								6			FLARE CONS 9/30/05 8/9/05 GR
4535+47	4542+91	LT						744'	8 3							28			10			450'		J BOLTS + REFLECTORS 28 + 5 (6) 30 = 58 J BOLTS 7/27/05
4549+19.5	4549+32	LT												1									12.5 37.5	27 JUL 05
4549+32	4550+66	LT						134'			37.5	25+12.5							21	10 2		27'		27 JUL 05 AA 4552+42
4550+66	4551+03.5	LT																					37.5'	26 JUL 05
4550+66	4553+28.5	LT									262.5'													26 JUL 05
4553+28.5	4553+66	LT											1								6			FLARE CONS 9/30/05
4549+46	4551+04 53+51	RT																					357 158'	OLD BULLNOSE 8 AUG 05
4549+45.5	4549+58	RT												1										8 AUG 05
4553+87	4554+00	LT												1										REVISED AMBER ALERT RAIL 28 OCT 05
4549+58	4553+58	RT								425	400'													SET GUARDRAIL @ NORMAL EDGE OF PAVEMENT 8 AUG 05
4554+00	4558+00	LT									400													NEW AMBER ALERT RAIL 28 OCT 05
4553+58	4553+95.5	RT											1								6			FLARE CONST 9/30/05 8 AUG 05
4558+00	4558+37.5	LT											1											NEW AMBER RAIL 28 OCT 05
4557+70		LT		1																				ITEM USED TO KNOCK TOP OF HEADWALL DOWN TO GRADE
4595+58	4602+58	RT LT	817		182	1,089	726														228.9			ITEMS TO BE USED FOR SHOULDER WIDENING
4602+30.5	4602+43	LT												1							17		12.5'	EXIT 13 RAMP A (SB ON RAMP) FAIR CONSTRUCTED 28 SEP 05
4602+43	4602+84	LT						41'											2	1		8'		
4602+05	4602+67.5	RT																					108 62.5'	OLD BULLNOSE 8 AUG 05
4602+67.5	4602+80	RT												1										8 AUG 05
4602+80	4603+05	RT						25'											1			5'		
4604+95	4605+50	RT						25'											1			5'		
4605+20	4606+22	RT																					162.5 102'	OLD BULLNOSE 7 AUG 05
4605+20	4609+20	RT									400'													7 AUG 05
4609+20	4609+57.5	RT											1								6			FLARE CONSTR 9/30/05 26 JUL 05
4609+64.5	4609+77	LT									12.5			1									25 12.5'	26 JUL 05
4609+77	4613+35	LT						358'											12	6		72'		
4612+29	4613+41	RT																					127 112'	OLD BULLNOSE 7 AUG 05
4613+28.5	4613+41	RT												1									25	7 AUG 05
4613+41	4613+66	RT						25'											1			5'		
4615+25	4620+88.5	LT						564'											18 0	9 16		113' 50		11 REFLECTORS
4620+88.5	4621+26	LT																					37.5'	
4621+26	4622+76	LT									200 150'													
4622+76	4623+13.5	LT											1								17			FLARE CONSTUCTED 28 SEP 05
4615+51	4615+76	RT						25'											1			5'		
4615+76	4616+57	RT																					225 81'	
4615+76	4623+88.5 4624+01	RT									812.5 825'													
SHEET 13 TOTALS			817	1	182	1,089	726	2142'	8		2775 2262.5'		5 6	6 7		28			73	29		430'	703'	

ITEM DETAIL SHEET 5

PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM NAME: p04all4id5.i

PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:

LOCATION			DROP INLETS					GUARDRAIL															REMARKS
STATION	STATION	POS.	203.15 COMM. EXCAV.	203.16 SOLID ROCK EXCAV.	301.35 SUBBASE OF DENSE CR. STONE	604.40 CHANGE ELEV. D.I.	604.412 REHAB. D.I. CLASS I	203.99 SHOULDER BERM REMOVAL	608.41 LOADER RENTAL FOR CABLE RAIL, TYPE II (MOD.)	616.35 TIMBER CURB	621.20 STEEL BEAM G.R.	621.21 H.D. BEAM G.R.	621.505 M.T.S.	621.52 M.T.S. (TRAILING END TERMINAL)	621.60 ANCHOR FOR G.R.	621.65 ANCHOR FOR CABLE RAIL (MOD.)		621.75 REMOVE &RESET G.R.	621.76 REPLACE GUARD RAIL POST ASSEMBLY	621.77 REPLACE GUARD RAIL BEAM UNIT (12.5')	203.30 EARTH BORROW FOR FLARES	621.79 ADJUST HEIGHT OF GUARD RAIL	621.80 REMOVE & DISP. G.R.	
INTERSTATE ROUTE 89 SB			CY	CY	CY	EA	EA	LF	HR	LF	LF	LF	EA	EA	EA	EA		LF	EA	EA		LF	LF	
4624+01	4624+38.5	RT											1											
4618+68	4620+26	RT																					158'	
INTERSTATE ROUTE 89 NB																								
3900+46	3900+83.5	LT											1								45 CY			9/7/05
3900+83.5	3902+08.5	LT									125'													9/7/05
3901+71	3902+08.5	LT																					37.5'	9/7/05
3902+08.5	3905+14	LT						305.5'											~~10~~ 4	~~5~~ 6		~~61'~~ 25		9/7/05
4019+75	4020+12.5	LT											1								45 CY			9/8/05
4020+12.5	4021+62.5	LT									150'													9/7/05
4021+50	4021+62.5	LT																					37.5'	9/7/05
4021+62.5	4025+53	LT						390.5'											~~13~~ 0	~~6~~ 1		78'		9/8/05
4062+42	4064+79.5	LT											1								48 CY			9/8/05
4064+79.5	4066+29.5	LT									150'													9/8/05
4064+79.5	4065+92	LT																					37.5'	9/8/05
4065+92	4069+09	LT						317'											~~10~~	~~5~~		~~63'~~ 12.5		9/8/05
4133+28	4133+65.5	LT											1								28 CY			9/19/05
4133+65.5	4135+40.5	LT									175'													9/8/05
4135+03	4135+40.5	LT																					37.5'	9/8/05
4135+40.5	4137+99	LT						258.5'											~~8~~	~~4~~		~~52'~~		
4140+84	4143+27	LT						243'											~~8~~	~~4~~		~~49'~~		
4146+01	4146+26	LT						25'											1			5'		
4146+26	4146+91	LT						65'											~~2~~	~~1~~		~~13'~~ 12.5	37.5	21 SEP 05
4146+26	4152+51	LT									650 ~~625'~~													
4159+11	4159+90	LT																					~~79'~~ 37.5	9/20/05 BULLNOSES WILL BE REMOVED W/ SB GR
4159+11	4159+23.5	LT												1										9/20/05
4163+82.5	4164+20	LT											1								42 CY			21 SEP 05
4164+20	4168+20	LT									375 ~~400'~~													
4167+24	4168+20	LT																					~~96'~~ 12.5	21 SEP 05 BULLNOSES WILL BE REMOVED W/ SB GR
4168+20	4168+45	LT						25'											+ 5	2		~~5'~~ 12.5		21 SEP 05 2 - 10 GA PANEL REPLACED + 5 POSTS
4169+93	4170+18	LT																	1			5'		
4170+18	4170+30.5	LT												1										
4170+18	4171+20	LT																					~~102'~~	
4311+17	4315+67	LT						450'											~~14~~	~~7~~		~~90'~~		
4426+51.5	4426+89	LT											1								11		3 OCT 05	
SHEET 14 TOTALS								2079.5'			1625'		~~6~~ 7	2					68	32		421'	585'	

ITEM DETAIL SHEET 6

PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pove/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM NAME: p04all4id6.1

PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 20 OF 76

LOCATION			DROP INLETS					GUARDRAIL															REMARKS
			203.15	203.31	301.35	604.40	604.412	203.99	608.41	616.35	621.20	621.21	621.505	621.52	621.60	621.65		621.75	621.76	621.77	203.30	621.79	621.80	
STATION	STATION	POS.	COMM. EXCAV.	SAND BORROW	SUBBASE OF DENSE CR. STONE	CHANGE ELEV. D.I.	REHAB. D.I. CLASS I	SHOULDER BERM REMOVAL	LOADER RENTAL FOR CABLE RAIL, TYPE II (MOD.)	TIMBER CURB	STEEL BEAM G.R.	H.D. BEAM G.R.	M.T.S.	M.T.S. (TRAILING END TERMINAL)	ANCHOR FOR G.R.	ANCHOR FOR CABLE RAIL (MOD.)		REMOVE & RESET G.R.	REPLACE GUARD RAIL POST ASSEMBLY	REPLACE GUARD RAIL BEAM UNIT (12.5')	EARTH BORROW FOR FLARES	ADJUST HEIGHT OF GUARD RAIL	REMOVE & DISP. G.R.	
INTERSTATE ROUTE 89 NB			CY	CY	CY	EA	EA	LF	HR	LF	LF	LF	EA	EA	EA	EA		LF	EA	EA	CY	LF	LF	
	4427+39																							
4426+89	~~4426+39~~	LT								~~150'~~	150													31 JUL 05
4428+01.5	4428+39	LT									12.5			1									37.5'	1 AUG 05
4428+39	4431+24	LT						285'											~~9~~ 0	~~4~~ 5		~~57'~~ 62.5		EXIT 12 1 AUG 05
4432+88	4439+42	LT						654'											21	10		131'		
4473+80	4475+38	LT						158'			225		1						~~5~~	~~2~~	11	~~32'~~	37.5	UNDER PASS MM 84.75 LEADING 1 AUG 05 30 OCT FLARE
4475+38	4475+50.5	LT									12.5			1								37.5	~~12.5'~~ 25	UNDER PASS MM 84.75 TRAILING 1 AUG 05
4485+26	4485+63.5																							
~~4481+26~~	~~4481+63.5~~	LT											1								11			3 OCT 05 FLARE
5	7																							
4481+63.5	4483+88.5	LT									225'													NB 84.87
7	7																							
4483+51	4483+88.5	LT																					37.5'	NB 84.91
7	7																							
4483+88.5	4485+92	LT						203.5'											~~7~~	~~3~~ 2		~~41'~~		18 NOV 05
4488+53	4489+32	LT						79'						1					~~3~~	~~1~~		~~16'~~	25	
4546+20.5	4546+58	LT											1								11			3 OCT 05 FLARE 2 AUG 05 GR
4546+58	4550+58	LT									400'													2 AUG 05
4550+58	4550+70.5	LT												1										
4549+30	4550+89	LT																					159'	
4599+32.5	4599+70	LT											1								11			3 OCT 05 FLARE 8 AUG 05 GR
4599+70	4603+70	LT									400'													3 AUG 05
4603+70	4603+95	LT						25'											~~1~~			~~5'~~ 25		3 AUG 05
4602+63	4603+70	LT																					~~107'~~ 87.5	3 AUG 05
4605+53	4605+78	LT						25'											1			5'		
4605+78	4606+54	LT																					76'	
4605+78	4605+90.5	LT												1										3 AUG 05
9																								
4606+03.5	4609+41	LT											1								11			3 OCT 05 FLARE 4 AUG 05 GR
4609+41	4613+41	LT									400'													BRIDGE 66 N 3 & 4 AUG 05
4612+66	4613+41	LT																					~~75'~~ 62.5	3 AUG 05
4613+41	4613+41	LT						25'											1			5'		
4615+50	4619+26	LT						375'											12	6		75'		
4472+34	4472+71.5	LT											1											1 AUG 05
SHEET 15 TOTALS								1,829.5'		150'	~~1,425'~~ 1825		~~4~~ 6	~~3~~ 5					60	26		367'	504.5'	

ITEM DETAIL SHEET 7

PROJECT NAME: BOLTON - SO. BURLINGTON

PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
tPARM NAME: p04all4id7.t

PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 20 OF 76

LOCATION			DROP INLETS					GUARDRAIL															REMARKS
STATION	STATION	POS.	203.15 COMM. EXCAV.	203.16 SOLID ROCK EXCAV.	402.12 AGGREGATE SHOULDERS (MOD.)	604.60 CAPPING EXISTING DROP INLETS	604.412 REHAB. D.I. CLASS I	203.99 SHOULDER BERM REMOVAL	608.41 LOADER RENTAL FOR CABLE RAIL, TYPE II (MOD.)	616.35 TIMBER CURB	621.20 STEEL BEAM G.R.	621.21 H.D. BEAM G.R.	621.505 M.T.S.	621.52 M.T.S. (TRAILING END TERMINAL)	621.60 ANCHOR FOR G.R.	621.65 ANCHOR FOR CABLE RAIL (MOD.)	616.41 REMOVAL OF EXISTING CURB	621.75 REMOVE &RESET G.R.	621.76 REPLACE GUARD RAIL POST ASSEMBLY	621.77 REPLACE GUARD RAIL BEAM UNIT (12.5')		621.79 ADJUST HEIGHT OF GUARD RAIL	621.80 REMOVE & DISP. G.R.	
EXIT # 11 RICHMOND			CY	CY	TONS	EA	EA	LF	HR	LF	LF	LF	EA	EA	EA	EA	LF	LF	EA	EA		LF	LF	
RAMP "A"																								
1+06	3+72	RT						266'	~~3~~ 1							~~10~~			~~4~~			~~53'~~		27 OCT 05
13+75		LT					1																	
14+29	14+66.5	RT											1										37.5'	25 OCT 05
14+66.5	20+24	RT						557.5'											~~20~~	~~10~~ 23		~~120'~~		25 OCT 05 12 BEAM UNITS 11 MORE NEEDED 27 OCT
17+96		LT					1																	
RAMP "B"																								
1+50	5+82	RT	48		~~21~~ 29.8												447 ~~432~~							
1+59		RT				1																		
RAMP "C"																								
2+10	6+85	RT						475'											~~15~~	~~7~~ 16		~~95'~~		27 OCT 05
3+15		RT					1																	
4+73		RT					1																	
9+48		RT					1																	
14+23	14+60.5	RT											1										37.5'	27 OCT 05
14+60.5	16+88	RT						227.5'											~~9~~	4		~~53'~~		27 OCT 05
14+76		RT					1																	
RAMP "D"																								
6+06	11+09	RT																		4				25 OCT 05
6+32		RT					1	317'											~~10~~	~~5~~		~~63'~~		
7+92	10+81	LT						289'											~~9~~	~~4~~ 18		~~58'~~ 75		(10) 7 OCT 05 & 18 OCT 05
9+00		RT					1																	
EXIT # 12 WILLISTON																								
RAMP "C"																								
4+76	5+13.5	RT					1																	
5+13.5	8+46	RT						332.5'											~~12~~	~~6~~		~~74'~~		
RAMP "D"																								
5+28	12+17	RT						~~689'~~	~~7~~							~~26~~			~~9~~			~~138'~~		
EXIT # 13 I-189																								
RAMP "A"																								
6+91	10+05	LT						314'	~~3~~ 6							~~12~~ 5			~~4~~ 0			~~63~~ 48		4 AUG
13+25	13+62.5	RT											1										62.5 ~~37.5'~~	4 AUG
13+62.5	16+93	RT						330.5'											~~11~~	~~5~~ 2		~~66'~~ 48		
SHEET 16 TOTALS							9	3798'	13				3			48			103	41		783'	112.5'	

ITEM DETAIL SHEET 8

PROJECT NAME: BOLTON - SO. BURLINGTON

PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM NAME: p04all4id8.i

PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 22 OF 76

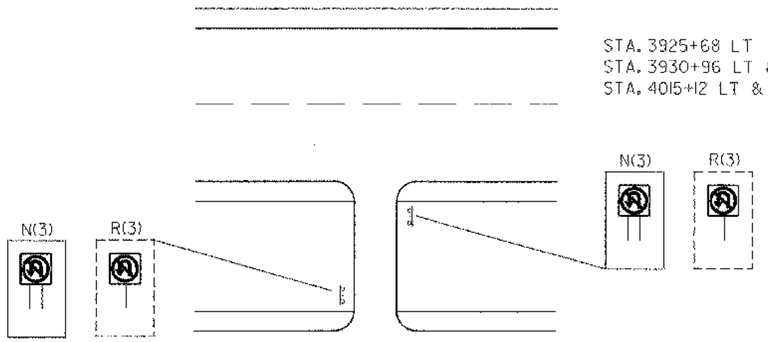
LOCATION			DROP INLETS					GUARDRAIL																676.10				REMARKS
STATION	STATION	POS.	203.15 COMM. EXCAV.	203.16 SOLID ROCK EXCAV.	203.30 EARTH BORROW	301.35 SUBBASE OF DENSE CR. STONE	604.412 REHAB. D.I. CLASS I	203.99 SHOULDER BERM REMOVAL	608.41 LOADER RENTAL FOR CABLE RAIL, TYPE II (MOD.)	616.35 TIMBER CURB	621.20 STEEL BEAM G.R.	621.21 N.D. BEAM G.R.	621.505 M.T.S.	621.52 M.T.S. (TRAILING END TERMINAL)	621.65 ANCHOR FOR CABLE RAIL (MOD.)	621.76 REPLACE GUARD RAIL POST ASSEMBLY	621.77 REPLACE GUARD RAIL BEAM UNIT (12.5')	203.31 SAND BORROW	621.79 ADJUST HEIGHT OF GUARD RAIL	621.80 REMOVE & DISP. G.R.	604.0915 18" CPEP	607.7015 18" CPEPES	203.40 FINE GRADING SUB-GRADE	TYPE I	TYPE II	TYPE III	TYPE I @ M.T.S. LOCATIONS	
SHEET TOTALS			CY	CY	CY	CY	EA	LF	HR	LF	LF	LF	EA	EA	EA	EA	EA	CY	LF	LF	LF	EA	SY					
SHEET ~~09~~ 15					4,222		3	8,162'	16	38'	~~387.5'~~ 416.5		~~6~~ 7		71	261	112		1,874'	262.5'							
SHEET 10 16							6	11,585'	68	84'	650'		6		251	247	81		891'	150'							
SHEET 11 17			370		545	156		5,838.5'	8		~~1,500'~~ 1600		~~8~~ 9	~~1~~ 2	29	204	73	39	944'	906.5'	60	2	222					
SHEET 12 18							1	7,243'	22		~~1,387.5'~~ 1425		9	~~4~~ 6	79	225	148		1,609'	337.5'							
SHEET 13 19			817	1		726		2,142'	8		~~2,262.5'~~ 2775		~~5~~ 6	6	28	73	28	182	430'	703'			1,089					
SHEET 14 20								2,079.5'			1,625'		~~6~~ 7	2		68	32		421'	585'							
SHEET 15 21								1829.5'		150'	~~1,425'~~ 1825		~~4~~ 6	3		60	26		367'	504.5'							
SHEET 16 22							9	3798'	13				3		48	103	41		783'	82.5'							
SHEET 17																											
3780+68 - 4634+36 INCLUDING RAMPS																								850	56	8	47	
WILLISTON IM 089-2(35)											WILLISTON IM 089-2(35)																	
WILLISTON IM 089-2(35)																												
14+47.5	14+85	RT											1							37.5								
14+85	18+10	RT															4											
15+97	16+37.5	LT											1															
16+37.5	20+75	LT									437.5																	
20+75	20+87.5	LT												1														
SHEET 17 TOTALS			1,187	1	1,767	882	19	42,677.5'	135	545'	~~9,237.5'~~ 10,454		~~47~~ 54	16	506	1,241	541	221	7319'	3561.5'	60	2	1,311	961				
	ROUNDING		13	-	33	18	-	322.5'	-	-	62.5'		-	-	-	9	9	29	81'	38.5'	-	-	39	39				
	TOTAL		1,200	1	1,800	900	19	43,000'	135	545'	9,300'		47	16	506	1,250	550	250	7400'	3600'	60	2	1,350	1,000				

ITEM DETAIL SHEET 9

PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM NAME: p04all4id9.1

PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 23 OF 76



STA. 3925+68 LT & RT 74.35
STA. 3930+96 LT & RT 74.45
STA. 4015+12 LT & RT 76.044

U-TURN SIGNAGE DETAIL

REFER TO SHEETS 15-23 FOR LOCATIONS AND QUANTITIES OF GUARDRAIL ITEMS.

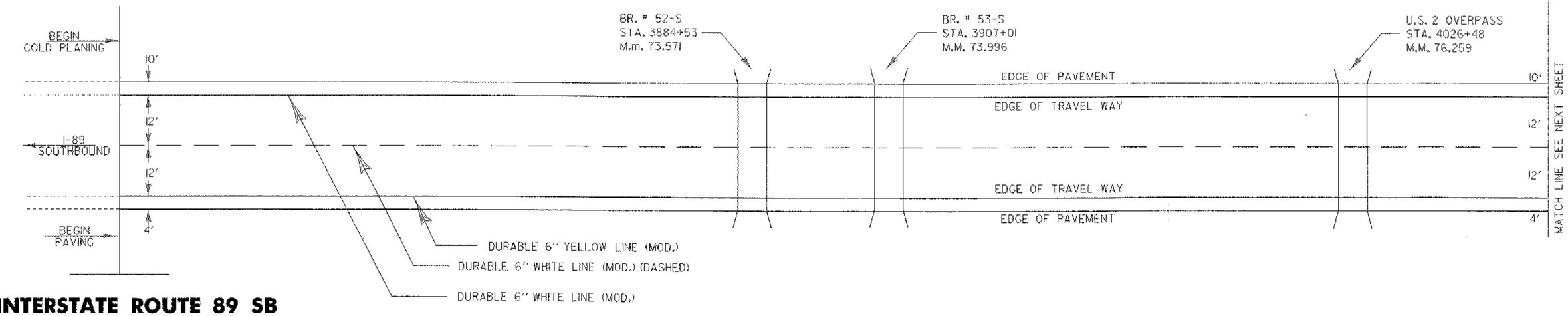
646.414 DURABLE 6" WHITE LINE (MOD.)
3780+68 TO 4065+23 SOLID LT
3780+68 TO 4065+23 DASHED CL

646.614 TEMPORARY 6" WHITE LINE
3780+68 TO 4065+23 SOLID LT
3780+68 TO 4065+23 DASHED CL

646.415 DURABLE 6" YELLOW LINE (MOD.)
3780+68 TO 4065+23 SOLID RT

646.615 TEMPORARY 6" YELLOW LINE
3780+68 TO 4065+23 SOLID RT

STA 4065+23
(MM 76.993)



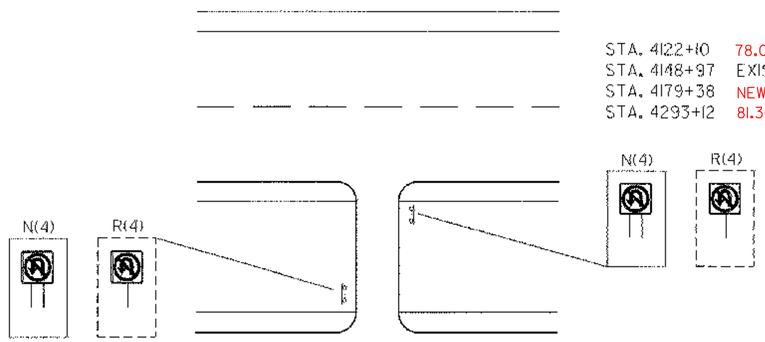
INTERSTATE ROUTE 89 SB
STA 3780+68
(MM 71.604)
BEGIN PROJECT
IM 089-2(36)

NOT TO SCALE

PAVING PROJECT LAYOUT # 1

PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM NAME: p04il4101.i
PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 24 OF 76



STA. 4122+10 78.07
STA. 4148+97 EXISTING U-TURN TO BE REMOVED 78.579
STA. 4179+38 NEW U-TURN 79.155
STA. 4293+12 81.309

U-TURN SIGNAGE DETAIL

REFER TO SHEETS 15-23 FOR LOCATIONS AND QUANTITIES OF GUARDRAIL ITEMS.

646.414 DURABLE 6" WHITE LINE (MOD.)
4065+23 TO 4349+82 SOLID LT
4065+23 TO 4349+82 DASHED CL

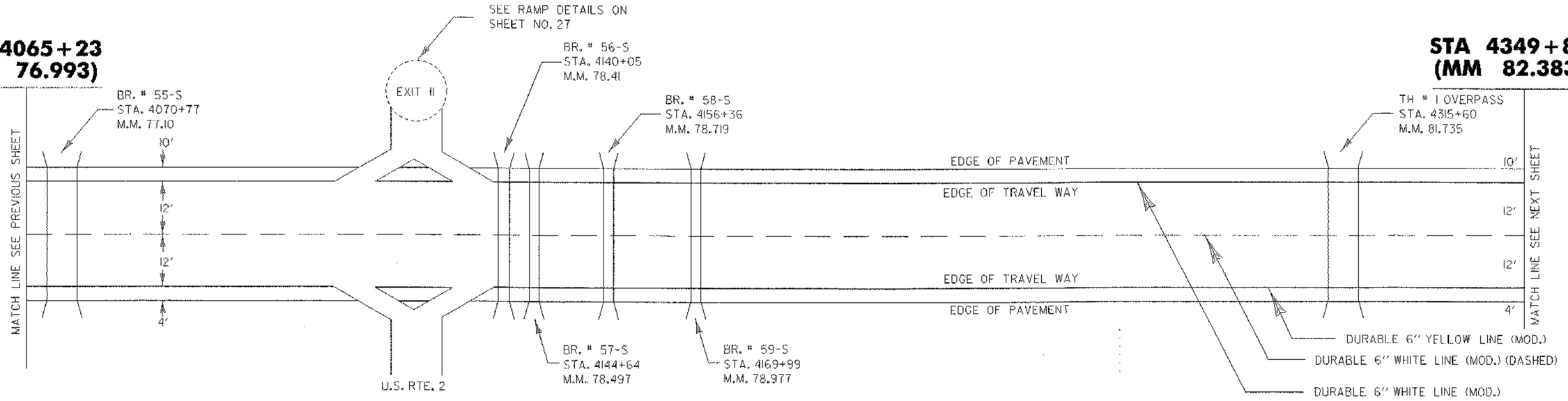
646.614 TEMPORARY 6" WHITE LINE
4065+23 TO 4349+82 SOLID LT
4065+23 TO 4349+82 DASHED CL

646.415 DURABLE 6" YELLOW LINE (MOD.)
4065+23 TO 4349+82 SOLID RT

646.615 TEMPORARY 6" YELLOW LINE
4065+23 TO 4349+82 SOLID RT

STA 4065+23
(MM 76.993)

STA 4349+82
(MM 82.383)



NOT TO SCALE

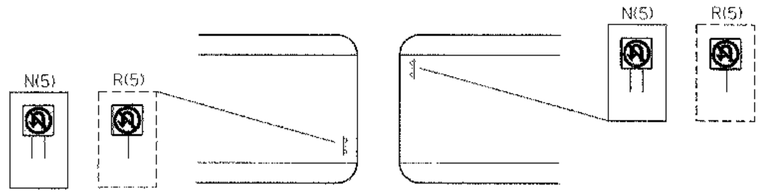
PAVING PROJECT LAYOUT # 2

PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM NAME: p04ll4102.i

PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 25 OF 76

STA. 4410+65 83.535
STA. 4457+38 84.420
~~STA. 4179+38 NEW U TURN~~ SHEET 25
~~STA. 4293+12~~ SHEET 25
STA. 4595+66 87.039



U-TURN SIGNAGE DETAIL

REFER TO SHEETS 15-23 FOR LOCATIONS AND QUANTITIES OF GUARDRAIL ITEMS.

646.414 DURABLE 6" WHITE LINE (MOD.)
4349+82 TO 4634+36 SOLID LT
4349+82 TO 4634+36 DASHED CL

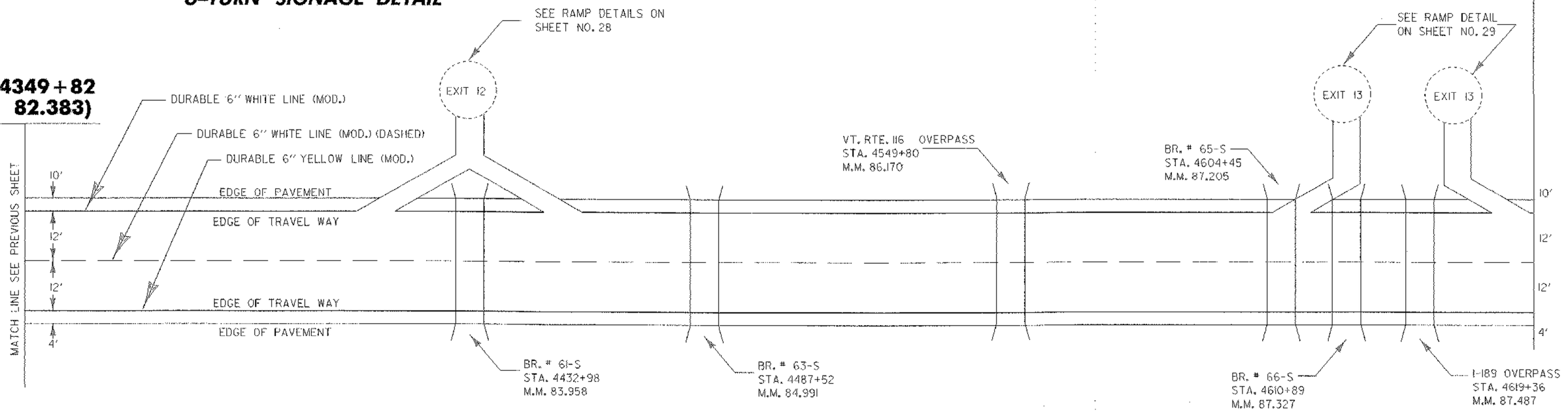
646.614 TEMPORARY 6" WHITE LINE
4349+82 TO 4634+36 SOLID LT
4349+82 TO 4634+36 DASHED CL

646.415 DURABLE 6" YELLOW LINE (MOD.)
2801+04 TO 3078+66 SOLID RT

646.615 TEMPORARY 6" YELLOW LINE
2801+04 TO 3078+66 SOLID RT

END PROJECT
STA 4634+36
(MM 87.772)
IM 089-2(36)

STA 4349+82
(MM 82.383)

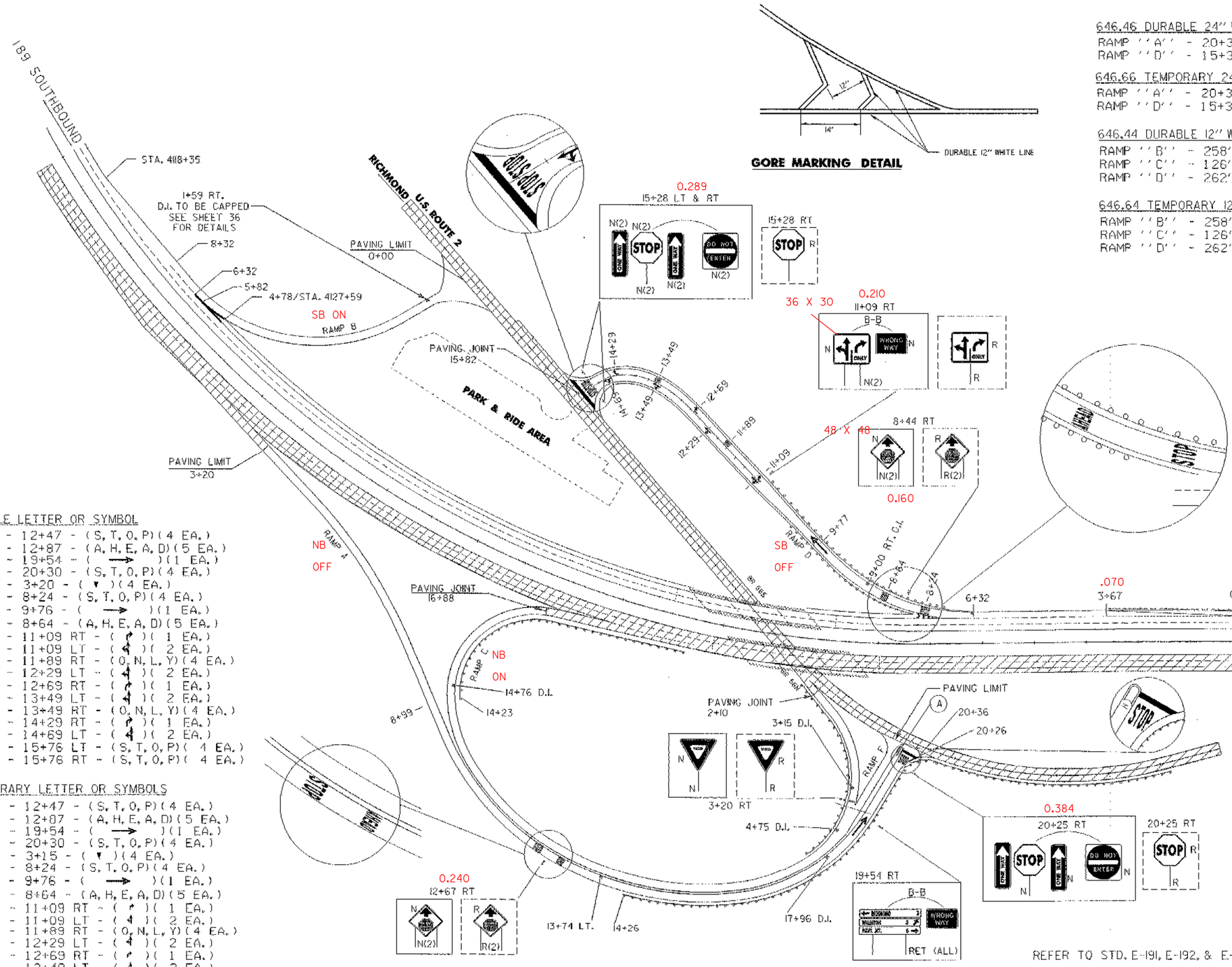


NOT TO SCALE

PAVING PROJECT LAYOUT # 3

PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM NAME: p04ll4l03.i
PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 26 OF 76



GORE MARKING DETAIL

646.46 DURABLE 24" WHITE LINE
RAMP ''A'' - 20+36 - 24'
RAMP ''D'' - 15+38 - 84'

646.66 TEMPORARY 24" WHITE LINE
RAMP ''A'' - 20+36 - 24'
RAMP ''D'' - 15+38 - 84'

646.44 DURABLE 12" WHITE LINE (MOD.)
RAMP ''B'' - 258'
RAMP ''C'' - 126'
RAMP ''D'' - 262'

646.64 TEMPORARY 12" WHITE LINE
RAMP ''B'' - 258'
RAMP ''C'' - 126'
RAMP ''D'' - 262'

646.414 DURABLE 6" WHITE LINE (MOD.)
RAMP ''A'' RT. EDGELINE - 1716'
RAMP ''A'' DOTTED LINE - 14'
RAMP ''B'' RT. EDGELINE - 557'
RAMP ''B'' DASH LINE - 50'
RAMP ''C'' RT. EDGELINE - 1478'
RAMP ''D'' RT. EDGELINE - 1582'
RAMP ''D'' LANE LINE - 421'
RAMP ''D'' DOTTED LINE - 92'
RAMP ''D'' DASH LINE - 67'
RAMP ''F'' RT. EDGELINE - 150'

646.614 TEMPORARY 6" WHITE LINE
RAMP ''A'' RT. EDGELINE - 1716'
RAMP ''A'' DOTTED LINE - 14'
RAMP ''B'' RT. EDGELINE - 557'
RAMP ''B'' DASH LINE - 50'
RAMP ''C'' RT. EDGELINE - 1478'
RAMP ''D'' RT. EDGELINE - 1582'
RAMP ''D'' LANE LINE - 421'
RAMP ''D'' DOTTED LINE - 92'
RAMP ''D'' DASH LINE - 67'
RAMP ''F'' RT. EDGELINE - 150'

646.415 DURABLE 6" YELLOW LINE (MOD.)
RAMP ''A'' LT. EDGELINE - 1716'
RAMP ''B'' LT. EDGELINE - 478'
RAMP ''C'' LT. EDGELINE - 1478'
RAMP ''D'' LT. EDGELINE - 787'
RAMP ''F'' LT. EDGELINE - 150'

646.615 TEMPORARY 6" YELLOW LINE
RAMP ''A'' LT. EDGELINE - 1716'
RAMP ''B'' LT. EDGELINE - 478'
RAMP ''C'' LT. EDGELINE - 1478'
RAMP ''D'' LT. EDGELINE - 787'
RAMP ''F'' LT. EDGELINE - 150'

646.50 DURABLE LETTER OR SYMBOL
RAMP ''A'' - 12+47 - (S, T, O, P) (4 EA.)
RAMP ''A'' - 12+87 - (A, H, E, A, D) (5 EA.)
RAMP ''A'' - 19+54 - (⟶) (1 EA.)
RAMP ''A'' - 20+30 - (S, T, O, P) (4 EA.)
RAMP ''C'' - 3+20 - (▼) (4 EA.)
RAMP ''D'' - 8+24 - (S, T, O, P) (4 EA.)
RAMP ''D'' - 9+76 - (⟶) (1 EA.)
RAMP ''D'' - 8+64 - (A, H, E, A, D) (5 EA.)
RAMP ''D'' - 11+09 RT - (↱) (1 EA.)
RAMP ''D'' - 11+09 LT - (↰) (2 EA.)
RAMP ''D'' - 11+89 RT - (O, N, L, Y) (4 EA.)
RAMP ''D'' - 12+29 LT - (↰) (2 EA.)
RAMP ''D'' - 12+69 RT - (↱) (1 EA.)
RAMP ''D'' - 13+49 LT - (↰) (2 EA.)
RAMP ''D'' - 13+49 RT - (O, N, L, Y) (4 EA.)
RAMP ''D'' - 14+29 RT - (↱) (1 EA.)
RAMP ''D'' - 14+69 LT - (↰) (2 EA.)
RAMP ''D'' - 15+76 LT - (S, T, O, P) (4 EA.)
RAMP ''D'' - 15+76 RT - (S, T, O, P) (4 EA.)

646.70 TEMPORARY LETTER OR SYMBOLS
RAMP ''A'' - 12+47 - (S, T, O, P) (4 EA.)
RAMP ''A'' - 12+87 - (A, H, E, A, D) (5 EA.)
RAMP ''A'' - 19+54 - (⟶) (1 EA.)
RAMP ''A'' - 20+30 - (S, T, O, P) (4 EA.)
RAMP ''C'' - 3+15 - (▼) (4 EA.)
RAMP ''D'' - 8+24 - (S, T, O, P) (4 EA.)
RAMP ''D'' - 9+76 - (⟶) (1 EA.)
RAMP ''D'' - 8+64 - (A, H, E, A, D) (5 EA.)
RAMP ''D'' - 11+09 RT - (↱) (1 EA.)
RAMP ''D'' - 11+09 LT - (↰) (2 EA.)
RAMP ''D'' - 11+89 RT - (O, N, L, Y) (4 EA.)
RAMP ''D'' - 12+29 LT - (↰) (2 EA.)
RAMP ''D'' - 12+69 RT - (↱) (1 EA.)
RAMP ''D'' - 13+49 LT - (↰) (2 EA.)
RAMP ''D'' - 13+49 RT - (O, N, L, Y) (4 EA.)
RAMP ''D'' - 14+29 RT - (↱) (1 EA.)
RAMP ''D'' - 14+69 LT - (↰) (2 EA.)
RAMP ''D'' - 15+76 LT - (S, T, O, P) (4 EA.)
RAMP ''D'' - 15+76 RT - (S, T, O, P) (4 EA.)

REFER TO STD. E-191, E-192, & E-193 FOR FURTHER MARKING PLACEMENT DETAILS

INTERCHANGE # 11 PAVEMENT MARKINGS & SIGNS

PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM NAME: p04all4int11.i

PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 27 OF 76

646.415 DURABLE 6'' YELLOW LINE (MOD.)
RAMP ''B'' LT. EDGELINE - 1006'

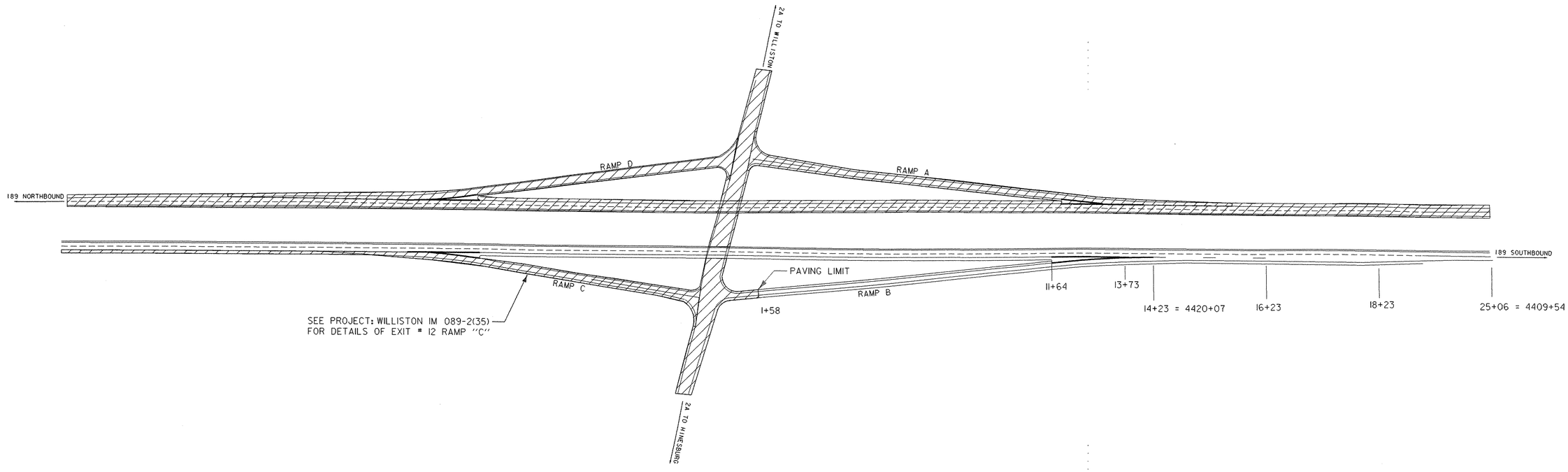
646.615 TEMPORARY 6'' YELLOW LINE
RAMP ''B'' LT. EDGELINE - 1006'

646.414 DURABLE 6'' WHITE LINE (MOD.)
RAMP ''B'' RT. EDGELINE - 2247'
RAMP ''B'' DASH LINE - 50'

646.614 TEMPORARY 6'' WHITE LINE
RAMP ''B'' RT. EDGELINE - 2247'
RAMP ''B'' DASH LINE - 50'

646.44 DURABLE 12'' WHITE LINE (MOD.)
RAMP ''B'' - 468'

646.64 TEMPORARY 12'' WHITE LINE
RAMP ''B'' - 468'



AREA NOT TO BE PAVED

REFER TO STD. E-191, E-192, & E-193 FOR FURTHER MARKING PLACEMENT DETAILS

INTERCHANGE # 12 PAVEMENT MARKINGS & SIGNS

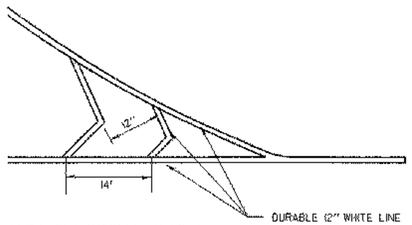
PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM NAME: p04all4int12.i

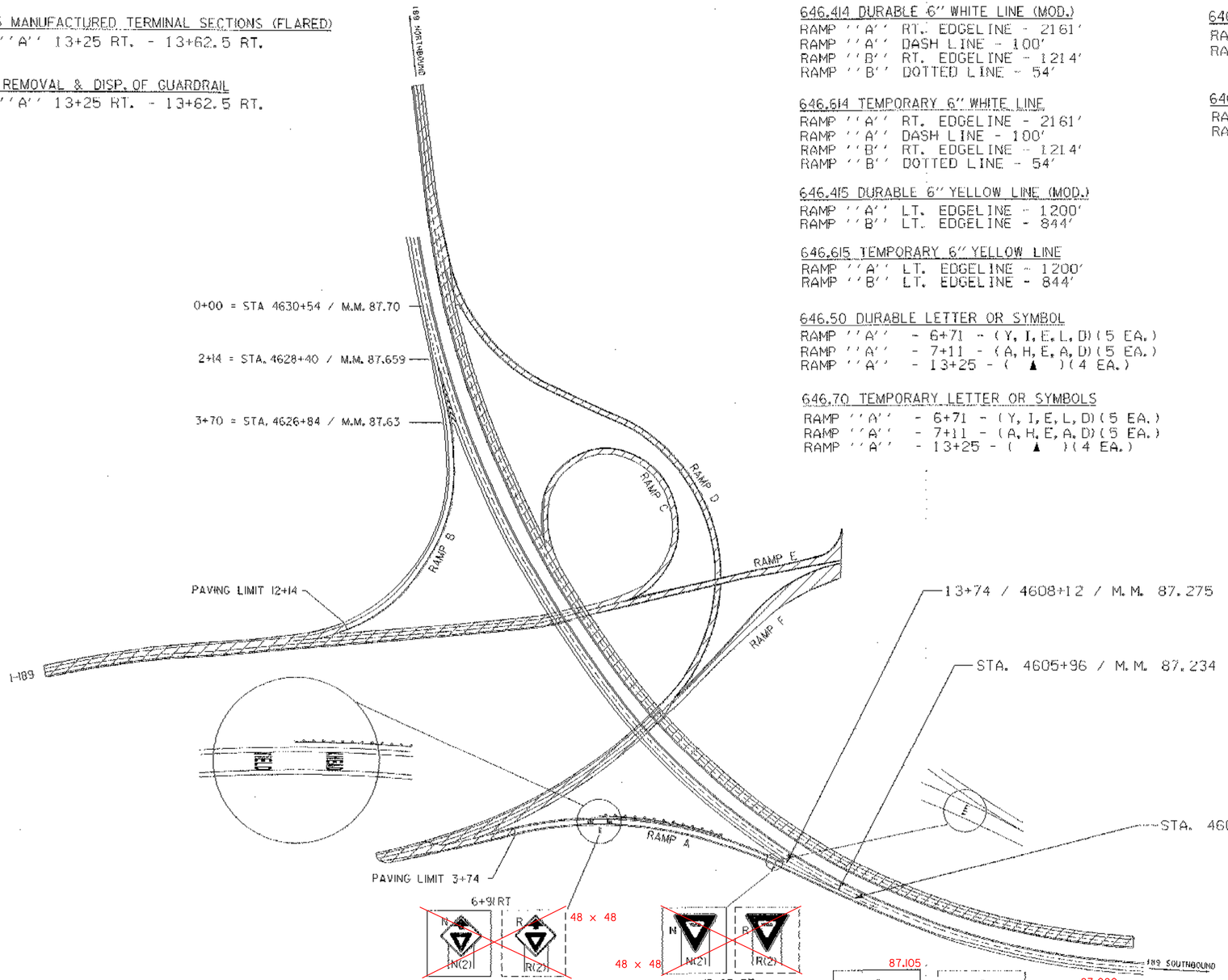
PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 28 OF 76

621.505 MANUFACTURED TERMINAL SECTIONS (FLARED)
RAMP ''A'' 13+25 RT. - 13+62.5 RT.

621.80 REMOVAL & DISP. OF GUARDRAIL
RAMP ''A'' 13+25 RT. - 13+62.5 RT.



GORE MARKING DETAIL



646.414 DURABLE 6" WHITE LINE (MOD.)
RAMP ''A'' RT. EDGELINE - 2161'
RAMP ''A'' DASH LINE - 100'
RAMP ''B'' RT. EDGELINE - 1214'
RAMP ''B'' DOTTED LINE - 54'

646.614 TEMPORARY 6" WHITE LINE
RAMP ''A'' RT. EDGELINE - 2161'
RAMP ''A'' DASH LINE - 100'
RAMP ''B'' RT. EDGELINE - 1214'
RAMP ''B'' DOTTED LINE - 54'

646.415 DURABLE 6" YELLOW LINE (MOD.)
RAMP ''A'' LT. EDGELINE - 1200'
RAMP ''B'' LT. EDGELINE - 844'

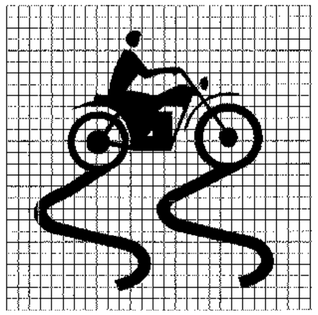
646.615 TEMPORARY 6" YELLOW LINE
RAMP ''A'' LT. EDGELINE - 1200'
RAMP ''B'' LT. EDGELINE - 844'

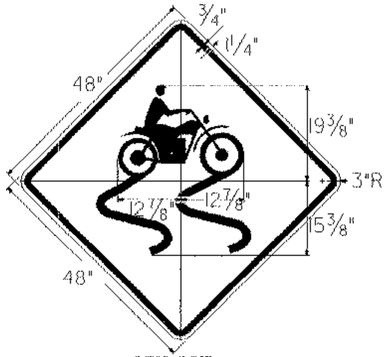
646.50 DURABLE LETTER OR SYMBOL
RAMP ''A'' - 6+71 - (Y, I, E, L, D)(5 EA.)
RAMP ''A'' - 7+11 - (A, H, E, A, D)(5 EA.)
RAMP ''A'' - 13+25 - (▲)(4 EA.)

646.70 TEMPORARY LETTER OR SYMBOLS
RAMP ''A'' - 6+71 - (Y, I, E, L, D)(5 EA.)
RAMP ''A'' - 7+11 - (A, H, E, A, D)(5 EA.)
RAMP ''A'' - 13+25 - (▲)(4 EA.)

646.44 DURABLE 12" WHITE LINE (MOD.)
RAMP ''A'' - 364'
RAMP ''B'' - 312'

646.64 TEMPORARY 12" WHITE LINE
RAMP ''A'' - 364'
RAMP ''B'' - 312'





VW-397
BLACK SYMBOL & BORDER
WITH YELLOW BACKGROUND

AREA NOT TO BE PAVED

REFER TO STD. E-191, E-192, & E-193 FOR FURTHER MARKING PLACEMENT DETAILS

87.129
2 - 3" TUBE STEEL
48 x 60
SPEED LIMIT 65
MINIMUM 40
36 x 48
N(2)
R(2)
4600+41 RT
2 - 3" TUBE STEEL

87.105
N(2)
R(2)
4599+14 RT

87.080
30 x 15
SOUTH
89
36 x 36
4597+82 RT

SIGNS AT STA. 4600+41 RT, 4599+14 RT, AND 4597+82 RT WILL NEED TO RELOCATED FOLLOWING THE RAMP WORK

INTERCHANGE # 13 PAVEMENT MARKINGS & SIGNS

PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
PARM NAME: p04all4int13.1

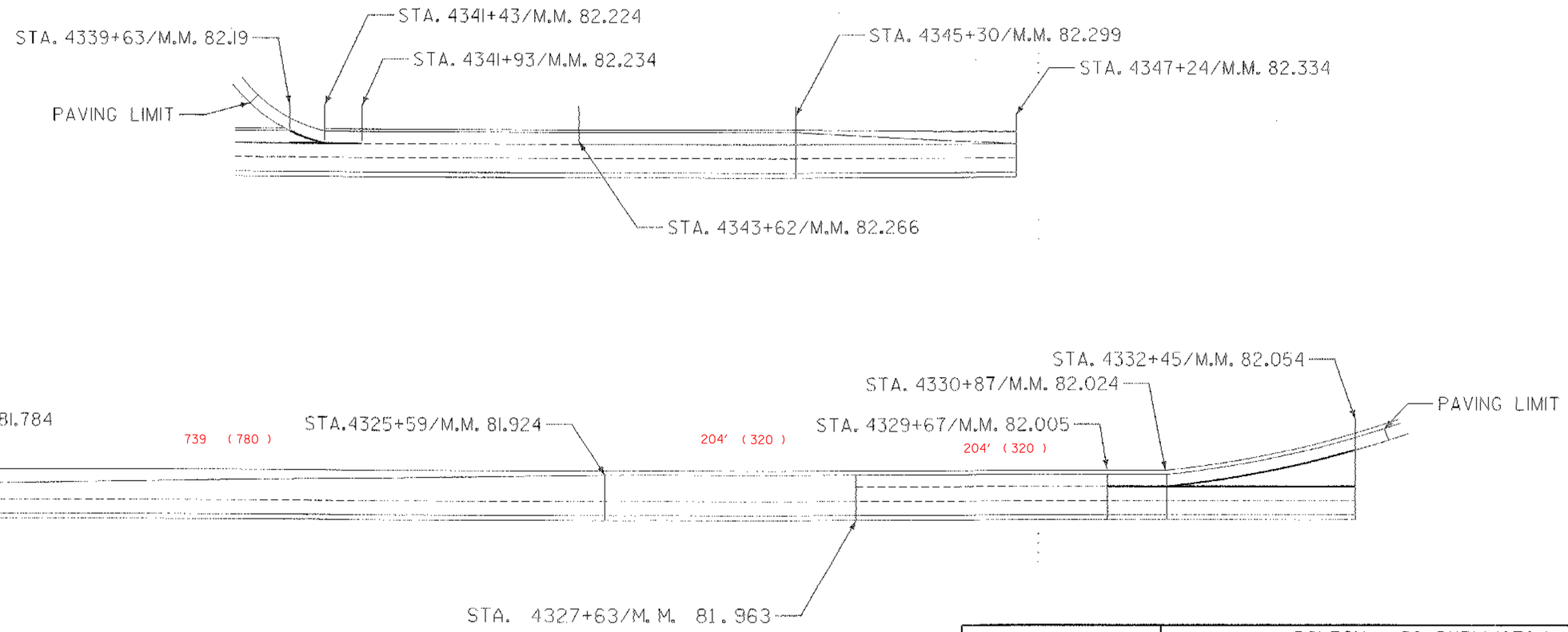
PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 29 OF 76

646.414 DURABLE 6" WHITE LINE (MOD.)
OFF RAMP RT. EDGELINE - 761'
OFF RAMP RT. DOTTED LINE - 92'
OFF RAMP DASH LINE - 43'
ON RAMP RT. EDGELINE - 1425'
ON RAMP DASH LINE - 51'

646.614 TEMPORARY 6" WHITE LINE
OFF RAMP RT. EDGELINE - 761'
OFF RAMP RT. DOTTED LINE - 92'
OFF RAMP DASH LINE - 43'
ON RAMP RT. EDGELINE - 1425'
ON RAMP DASH LINE - 51'

646.44 DURABLE 12" WHITE LINE (MOD.)
OFF RAMP - 410'
ON RAMP - 436'

646.64 TEMPORARY 12" WHITE LINE
OFF RAMP - 410'
ON RAMP - 436'



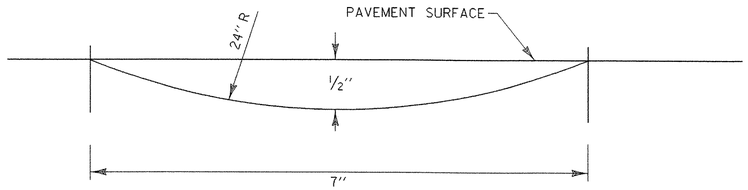
SOUTHBOUND REST AREA PAVEMENT MARKING DETAILS & PAVING LIMITS

PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

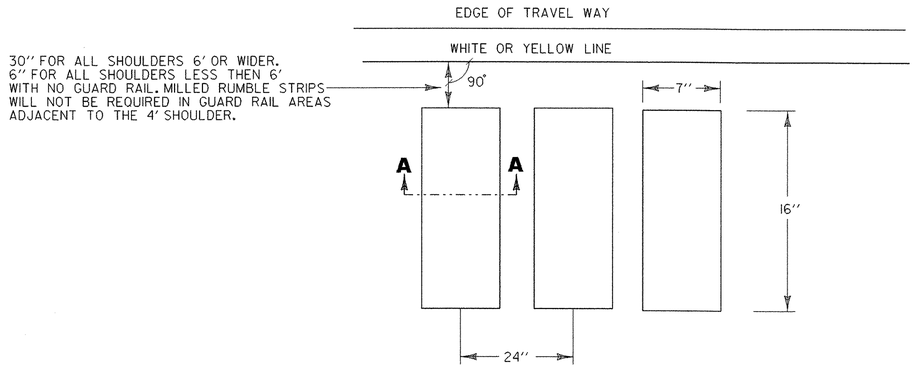
FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM FILE NAME: p04all4sbra.i

PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 30 OF 76

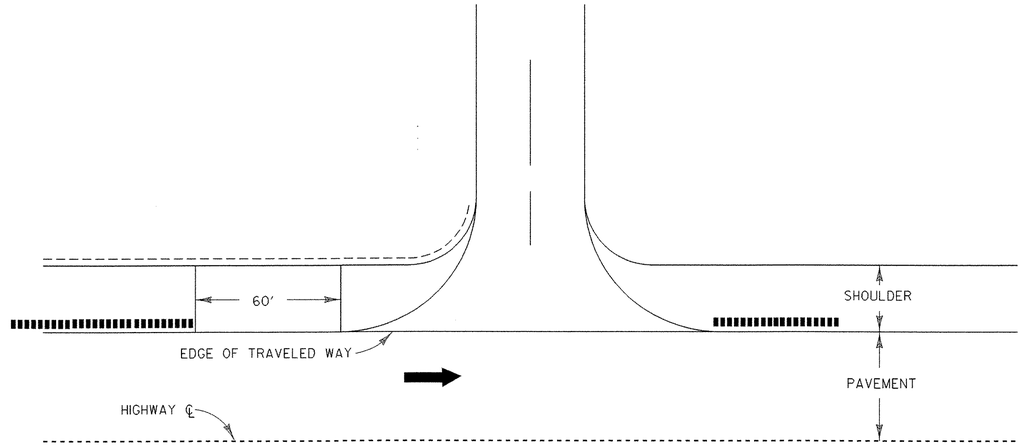
TYPICAL MILLING DETAIL



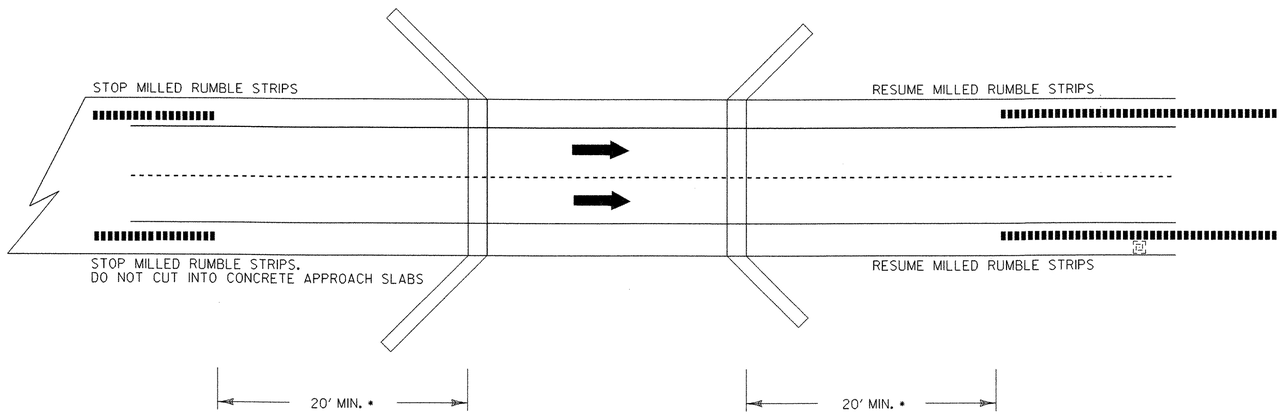
SECTION A-A



U TURN DETAIL



BRIDGE DETAIL



* NOTE: BRIDGE RAIL WILL DETERMINE MINIMUM DISTANCE IN SOME CASES.

LEGEND

DIRECTION OF TRAFFIC FLOW

MILLED RUMBLE STRIPS

NOT TO SCALE

MILLED RUMBLE STRIPS DETAIL #1

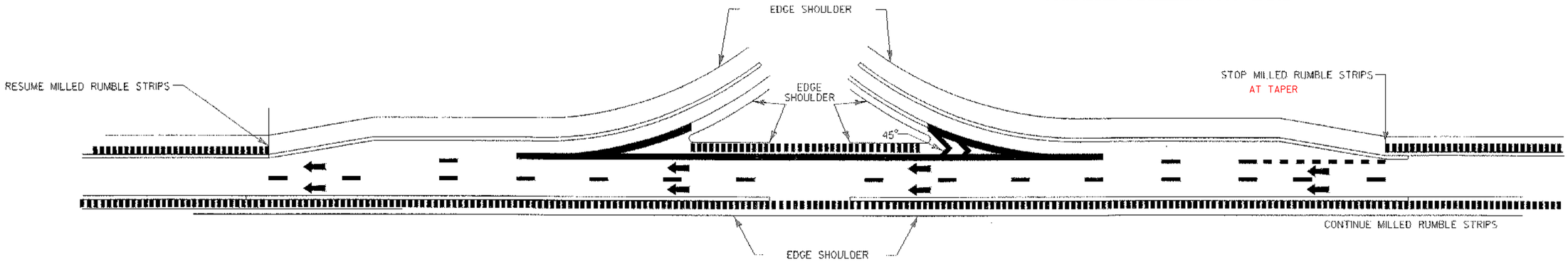
PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM FILE NAME: p04all4mr1.i

PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 31 OF 76

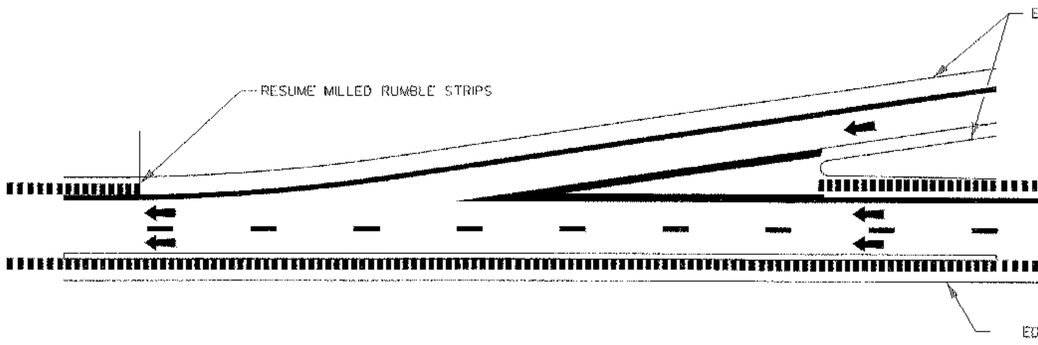
TYPICAL MILLED RUMBLE STRIPS AT INTERCHANGES & REST AREAS

PARALLEL ACCELERATION LANE



PARALLEL DECELERATION LANE

TAPERED ACCELERATION LANE



TAPERED DECELERATION LANE

LEGEND

- DIRECTION OF TRAFFIC FLOW
- MILLED RUMBLE STRIPS

NOT TO SCALE

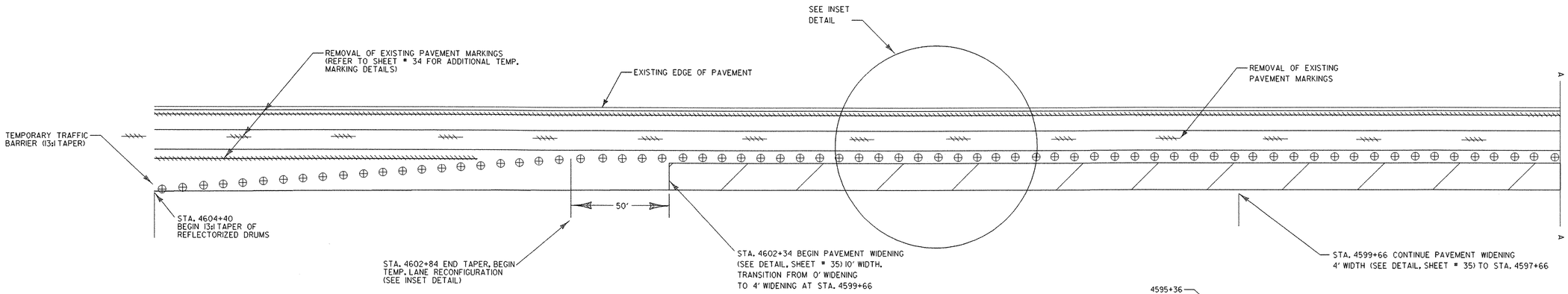
NOTES:

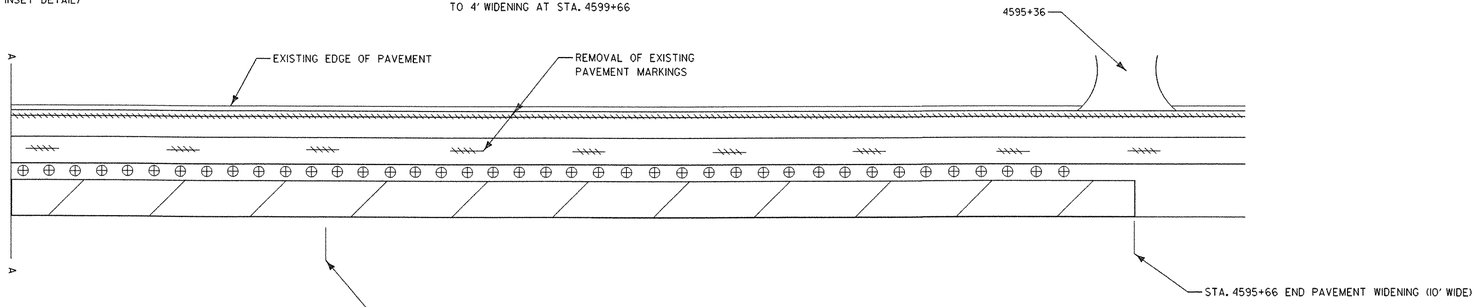
1) THIS TYPICAL MAYBE MODIFIED AT THE RESIDENT ENGINEER DISCRETION IF THE ACTUAL FIELD CONDITIONS NECESSITATE SUCH ACTIONS.

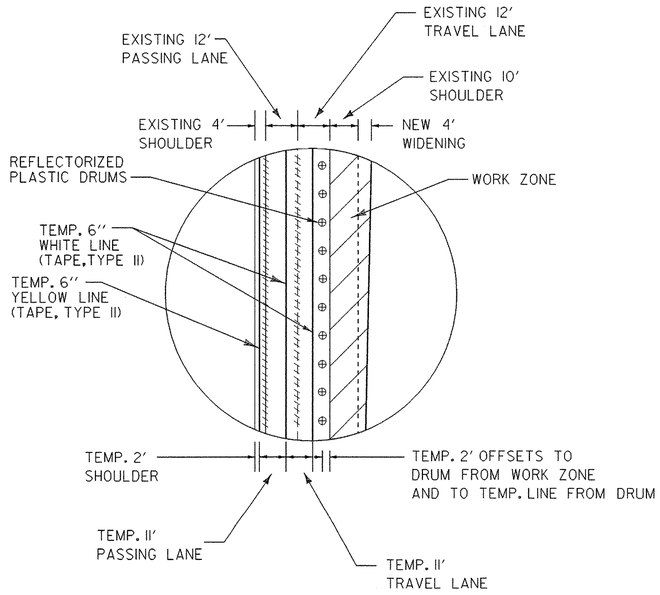
MILLED RUMBLE STRIPS DETAIL #2

PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pove/04all4/p04all4.dgn
PLOT DATE: 17-MAY-2005
PROJECT LEADER:
DRAWN BY:
DESIGNED BY:
CHECKED BY:
IPARM FILE NAME: p04all4mr2.1
SHEET 32 OF 76







INSET DETAIL

N.T.S.

SEE STD. E-103 & E-106 FOR BARREL PLACEMENT AND TAPER LENGTHS

LEGEND

⊕ - REFLECTORIZED PLASTIC DRUMS

\\\\\ - REMOVAL OF EXISTING PAVEMENT MARKINGS

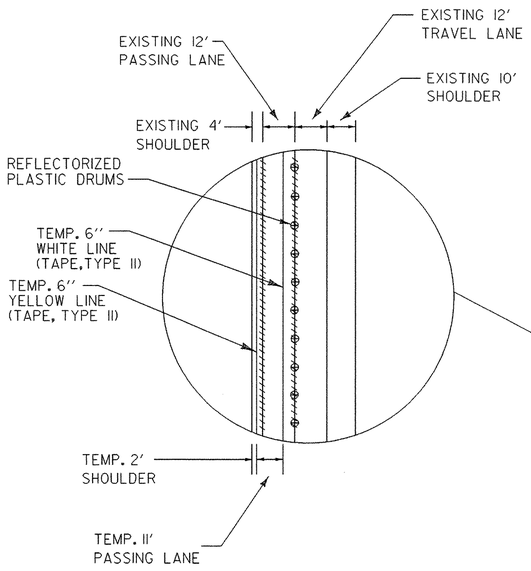
TRAFFIC CONTROL PLAN EXIT 13 RAMP "A"

PROJECT NAME: BOLTON - SO. BURLINGTON

PROJECT NUMBER: AC IM 089-2(36)

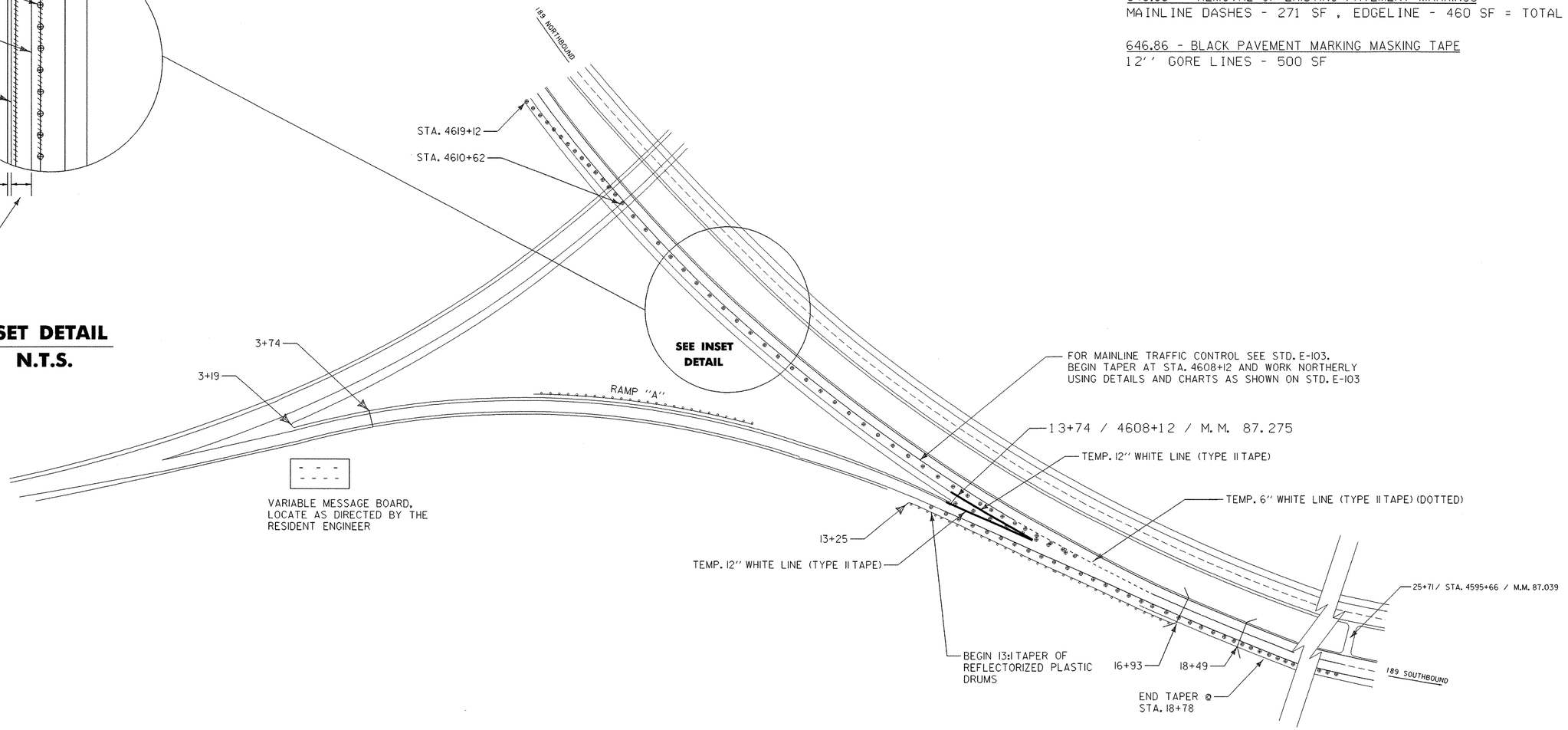
FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM NAME: p04all4tcp01.i

PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 33 OF 76



INSET DETAIL

N.T.S.



646.614 - TEMPORARY 6'' WHITE LINE (TAPE, TYPE II)
2,400'

646.615 - TEMPORARY 8'' YELLOW LINE (TAPE, TYPE II)
2,200'

646.64 - TEMPORARY 12'' WHITE LINE (TAPE, TYPE II)
GORE AREA - 70'

646.85 - REMOVAL OF EXISTING PAVEMENT MARKINGS
MAINLINE DASHES - 271 SF , EDGELINE - 460 SF = TOTAL 731 SF

646.86 - BLACK PAVEMENT MARKING MASKING TAPE
12'' GORE LINES - 500 SF

NOTE: THIS DETAIL SHALL BE IMPLEMENTED ONLY DURING THE NON-PEAK TRAFFIC FLOW PERIODS. DURING THE PERIODS OF 7:00 AM - 9:00 AM AND 3:00 PM -7:00 PM, BOTH LANES OF TRAFFIC SHALL BE AVAILABLE FOR USE AT ALL TIMES.

= VARIABLE MESSAGE BOARD

⊕ = REFLECTORIZED PLASTIC DRUM

TRAFFIC CONTROL PLAN @ EXIT 13

PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

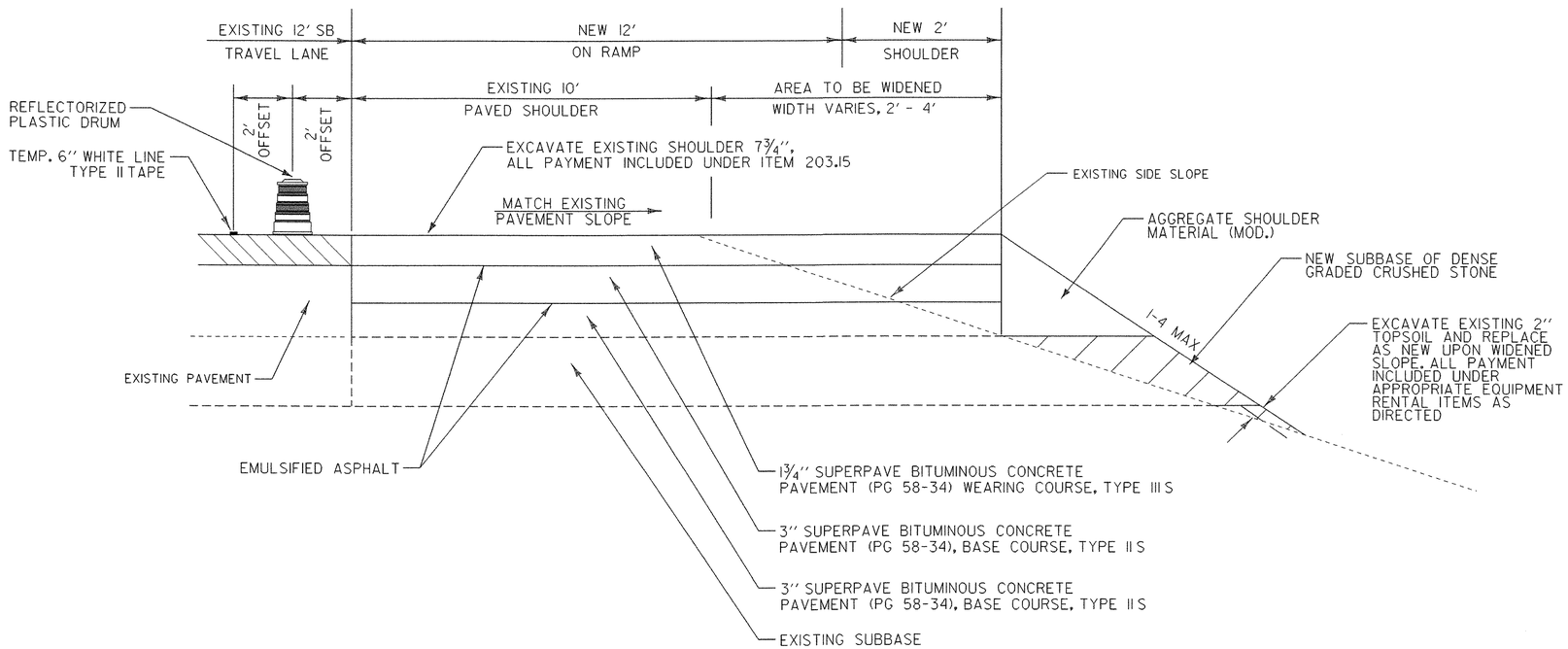
FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM FILE NAME: p04all4tcl3.i

PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 34 OF 76

NOTES:

1. THE PAVEMENT WIDENING SHALL BE CONSTRUCTED USING TWO 3" LIFTS OF TYPE II S BASE COURSE AND ONE 1¾" LIFT OF TYPE III S WEARING COURSE. THE SECOND BASE COURSE SHALL BE PLACED TO MATCH THE ELEVATION OF THE ADJOINING SURFACE OF THE I-89 SB TRAVEL LANE.
2. EMULSIFIED ASPHALT SHALL BE APPLIED ON ALL EXISTING PAVEMENT SURFACES AND BETWEEN ALL COURSES OF PAVEMENT AT THE RATE OF 0.015 GAL./SY OR AS DIRECTED BY THE RESIDENT ENGINEER.
3. EXISTING SHOULDER PAVEMENT SHALL BE REMOVED UNDER ITEM 203.15, COMMON EXCAVATION . ALL EXCAVATION ASSOCIATED WITH THE PAVEMENT WIDENING SHALL BE PERFORMED UNDER ITEM 203.15, COMMON EXCAVATION.
4. REFER TO STD. B-5 FOR CONSTRUCTING AN EMBANKMENT ON A EARTH SLOPE.
5. FINE GRADING HAS BEEN INCLUDED ADDED FOR WORK IN THE AREA OF WIDENING.
6. THE CONTRACTOR SHALL SAW CUT THE PAVEMENT AT THE EDGE OF THE SB SHOULDER PRIOR TO EXCAVATING. THE PAYMENT FOR SAW CUTTING SHALL BE CONSIDERED INCLUDED UNDER ITEM 203.15.
7. RUMBLE STRIPS SHALL BE PAVED PRIOR TO IMPLEMENTING TRAFFIC CONTROL PACKAGE, PAYMENT SHALL BE INCLUDED UNDER ITEM 641.10, TRAFFIC CONTROL.

STATION 4595+58 TO 4602+58



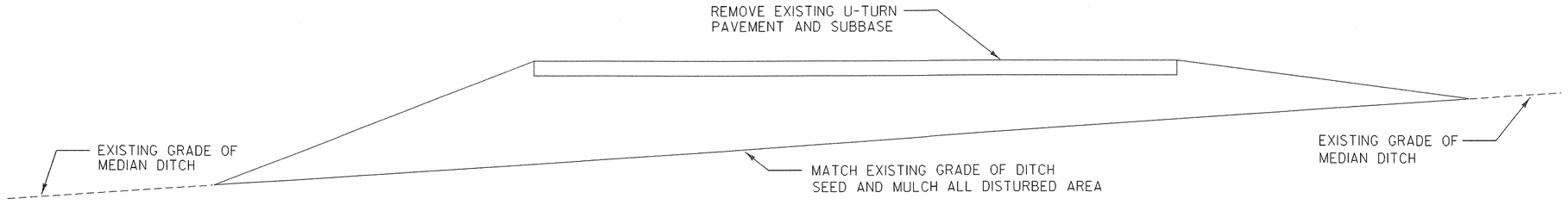
PAVEMENT WIDENING DETAIL
N.T.S.

EXISTING U-TURN--REMOVE PAVEMENT AND SUBBASE TO MATCH THE GRADE OF THE EXISTING MEDIAN DITCH.

PAYMENT TO REMOVE THE EXISTING PAVEMENT AND SUBBASE SHALL BE MADE UNDER ITEM 203.15, COMMON EXCAVATION.

THE CONTRACTOR SHALL SAW CUT THE PAVEMENT AT THE EDGE OF THE NB AND SB SHOULDERS PRIOR TO EXCAVATING. THE COST OF SAW CUTTING SHALL BE INCIDENTAL TO ITEM 203.15. EXISTING MATERIAL DEEMED SUITABLE BY THE RESIDENT ENGINEER SHALL BE USED AS SUBBSAE MATERIAL TO CONSTRUCT THE NEW U-TURN AT STA. 4179+38. PAYMENT FOR THE USE OF ANY REMOVED MATERIAL FOR THE PURPOSE OF CONSTRUCTING THE NEW U-TURN WILL BE THE AMOUNT OF IN-PLACE MATERIAL REMOVED AND USED MULTIPLIED BY A FACTOR OF 1.15.

ITEM 651.35 - TOPSOIL, WILL BE SPREAD 6" THICK AFTER U-TURN IS EXCAVATED



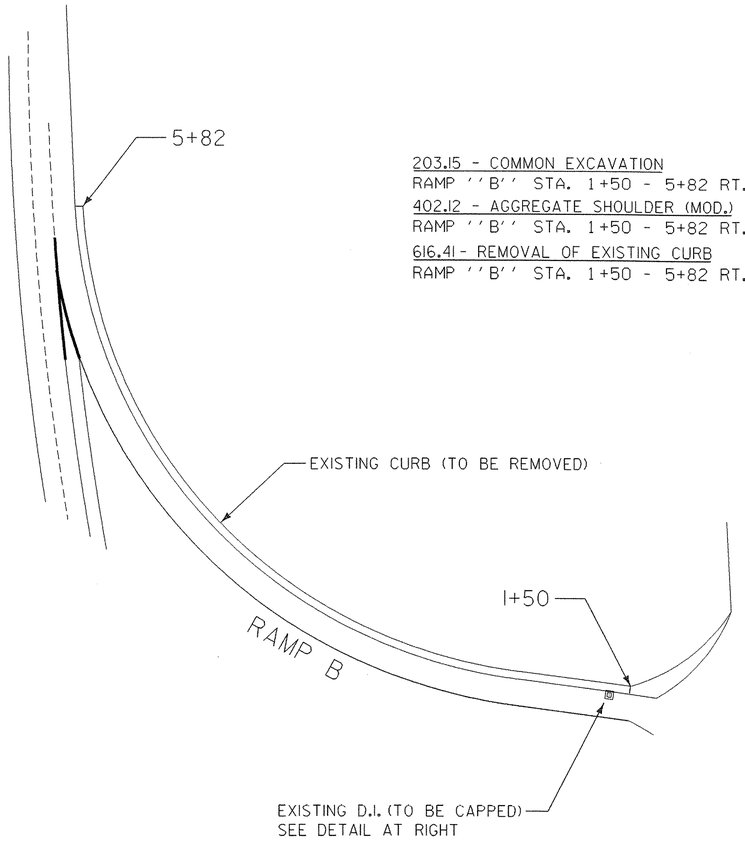
U-TURN REMOVAL DETAIL (SB MM 78.579 /4148+97)

DETAIL SHEET # 1

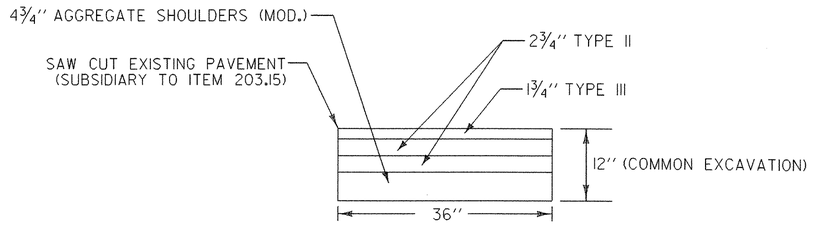
PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM NAME: p04all4dsl.i

PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 35 OF 76

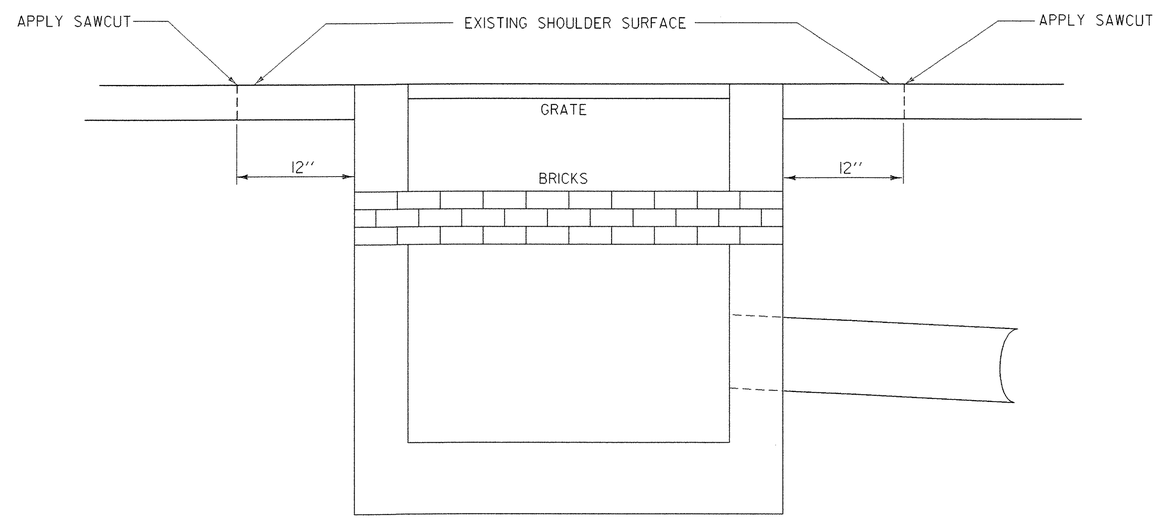


203.15 - COMMON EXCAVATION
RAMP ''B'' STA. 1+50 - 5+82 RT.
402.12 - AGGREGATE SHOULDER (MOD.)
RAMP ''B'' STA. 1+50 - 5+82 RT.
616.41 - REMOVAL OF EXISTING CURB
RAMP ''B'' STA. 1+50 - 5+82 RT.



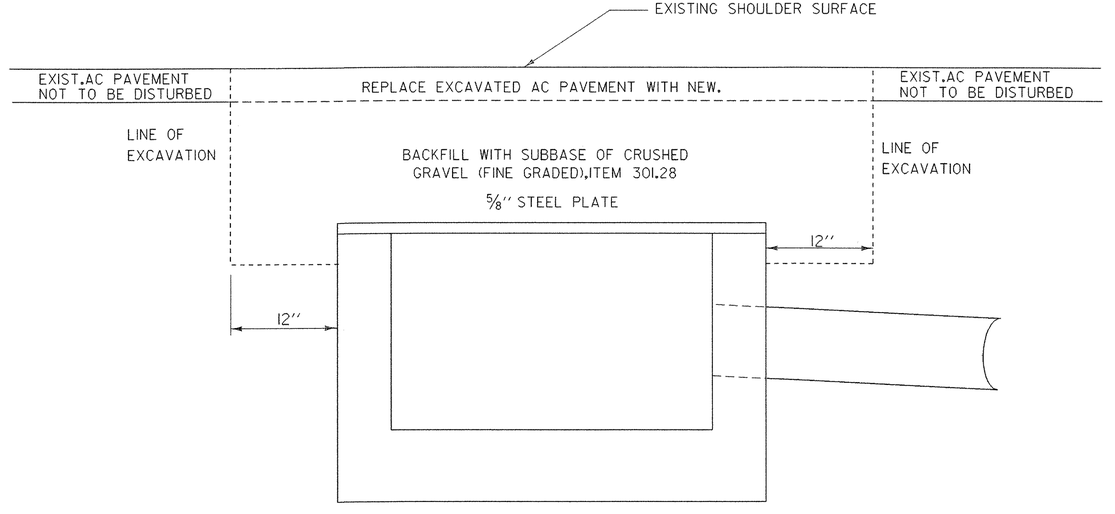
RAMP ''B'' STA. 1+50 - 5+82 RT.

CURB REMOVAL & SHOULDER WIDENING
@ EXIT 11 RAMP "B" RT.



EXISTING CURB DROP INLET
AT RAMP STA. 1+59 RT.

1



PROPOSED TREATMENT OF CURB DROP INLET

2

DETAIL SHEET # 2

PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM NAME: p04all4ds2.i

PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 36 OF 76

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (In)	HEIGHT (In)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN (REMOVE)	SALVAGE	NO. OF POSTS	NEW SIGN POSTS: FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL (In) 1.75 lb/ft 1.88	2.0 lb/ft 2.16	2.5 lb/ft 3.35	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (In) 3.0 lb/ft 1.3	4.0 lb/ft 1.7	4.0 MOD lb/ft 1.7	TUBULAR STEEL Ø (In) FOUNDATION	3.0 lb/ft 7.6	3.5 lb/ft 9.0	4.0 lb/ft 10.8	5.0 lb/ft 14.6	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL: DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																									
MM 74.35 STA. 3925+68		2	36	36	18				2		4	14-0 14-6 14-0 14-6		X		X																	2 REMOVE		E-143
MM 74.45 STA. 3930+96		2	36	36	18				2		4	14-0 14-6 14-0 14-6		X		X																	2 REMOVE		E-143
76.04 STA. 4015+12		2	36	36	18				2		4	14-0 14-6 14-0 14-6		X		X																	2 REMOVE		E-143
78.07 STA. 4122+10		2	36	36	18				2		4	14-0 14-6 14-0 14-6		X		X																	2 REMOVE		E-143
79.15 STA. 4179+38		2	36	36	18				2		4	13-6 14-0 13-6 14-0		X		X																	2 REMOVE		E-143
81.30 STA. 4293+12		2	36	36	18				2		4	14-0 14-6 14-0 14-6		X		X																	2 REMOVE		E-143
83.53 STA. 4410+65		2	36	36	18				2		4	14-0 14-0 14-6 15-0		X		X																	2 REMOVE		E-143
84.42 ~~STA. 4179+38~~ STA. 4457+38		2	36	36	18				2		4	14-0 15-0 14-6 15-0		X		X																	2 REMOVE		E-143
STA. ~~4293+12~~		~~2~~	~~36~~	~~36~~	~~18~~						~~4~~			~~X~~		~~X~~																			E-143
87.04 STA. 4595+66		2	36	36	18				2		4	14-6 15-0 15-0 14-0		X		X																	2 REMOVE		E-143
EXIT II RAMP ~~"A"~~ D OFF RAMP RT		1	~~36~~ 48	~~36~~ 48	~~9~~ 16						~~2~~	USED EXISTING POSTS		~~X~~		~~X~~																	I REMOVE		E-150
EXIT II RAMP "A" OFF RAMP RT	STOP DO NOT ENTER	2	30	30	12.50						~~1~~	USED EXISTING POSTS		~~X~~		~~X~~																	3NN05 USED EXISTING POSTS 2 REMOVE		E-143
	ONE WAY ONE WAY	2	36	12	6																												3NN05 2 REMOVE		E-142
EXIT II RAMP "A" OFF RAMP LT	OK USED EXISTING STOP OK USED EXISTING	1 ~~1~~	~~30~~ ~~24~~	~~30~~ 30	~~6.25~~ ~~5.00~~						~~1~~	USED EXISTING POSTS		~~X~~		~~X~~																	USED EXISTING SIGNS AOT 04 INSTALLED USED EXISTING POSTS 3NN05		E-143 E-144
		1	18	18	2.25																												NEW SIGN 3NN05 I REMOVE		E-150
EXIT II RAMP "C" OFF RAMP RT	YIELD OK USED EXISTING		~~36~~	~~36~~	~~5~~						~~1~~	USED EXISTING SIGN & POSTS		~~X~~		~~X~~																	USED EXISTING SIGN 3NN05		E-146
												FT	FT	FT 504	FT	FT 504	FT		EA	LB	LB	LB		LB	LB	LB	LB								
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."		**TOTALS** SHEET 1	SF ~~229~~ 198.75	SF	EA.	SF		FT ~~514.5~~ ~~640~~		FT ~~640~~		LB	EA.	LB			EA.	EA.	LB																

REMOVAL 24

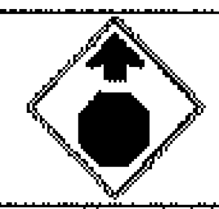
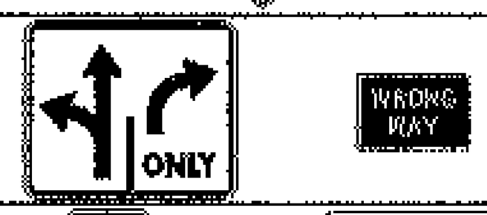
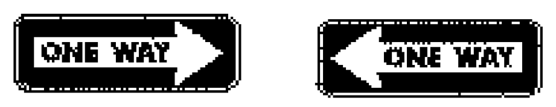
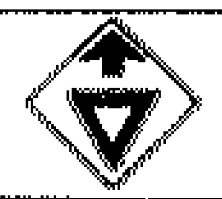
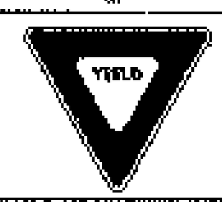
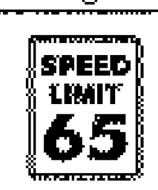
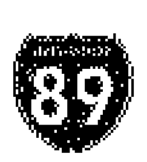
PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM FILE NAME: p04all4ssl.l

PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 37 OF 76

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (in)	HEIGHT (in)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NO. OF POSTS	FLANGED CHANNEL 1.12 lb/ft	2.0	3.0	SQUARE STEEL (in) 1.75 (1.88 lb/ft)	2.0 (2.16)	2.5 (3.35)	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) 3.0 (1.3 lb/ft)	4.0 (1.7)	4.0 MOD (1.7)	675.43 FOUNDATION	TUBULAR STEEL Ø (in) 3.0 (7.6 lb/ft)	3.5 (9.0)	4.0 (10.8)	5.0 (14.6)	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	SIGN FRAME	REQUIRED	REMARKS	SIGN DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																								
EXIT 11 RAMP "A" OFF RAMP RT		1	36	36	9						2	12-6 13-0		X		X																		1 REMOVAL		E-150
EXIT 11 RAMP "D" OFF RAMP RT 9 LT		1 ~~2~~ 2	36 36	30 24	7.5 ~~6~~ 12				RT LT		2 ~~2~~ 2	13-6 14-0 12-0 12-0		X		X																		WRONG WAY DOUBLE POSTED RT & LT SIDE 3NN05 1 REMOVAL		E-145A
EXIT 11 RAMP "D" OFF RAMP LT & RT		4	30	30	25				RT LT		1 + 1	12-0 12-0		X		X																		3NN05 2 REMOVE RT 2 REMOVE RT		E-143
		4	36	12	12																													2 REMOVE RT 2 REMOVE RT		E-142
EXIT 13 RAMP "A" ON RAMP RT		1	48	48	16						2	16-0 16-0		X		X																		INSTALLED REMOVE NEW SIGN 1 REMOVAL 1 REMOVAL		E-150
EXIT 13 RAMP "A" ON RAMP RT		1	48	48	16						2	16-0 14-6		X		X																		INSTALLED REMOVE NEW SIGN 1 REMOVAL 1 REMOVAL		E-146
EXIT 13 RAMP "A" ON RAMP RT		1	48	60	20																													1 REMOVAL		
		1	36	48	12						2												2	X	17' 17-6	129.2 133								1 REMOVAL		
EXIT 13 RAMP "A" ON RAMP RT			48	48	16																													1 REMOVAL	29	
			24	18	3						2												2	X	13-3 12-6	100.7 95								1 REMOVAL		E-153B
EXIT 13 RAMP "A" ON RAMP RT			30	15	3.125																													1 REMOVAL		
		1	36	36	9						1									X	16-6'	21.45#												1 REMOVAL		
EXIT 11 OFF RAMP D	13+47 RT																																	1 REMOVAL		

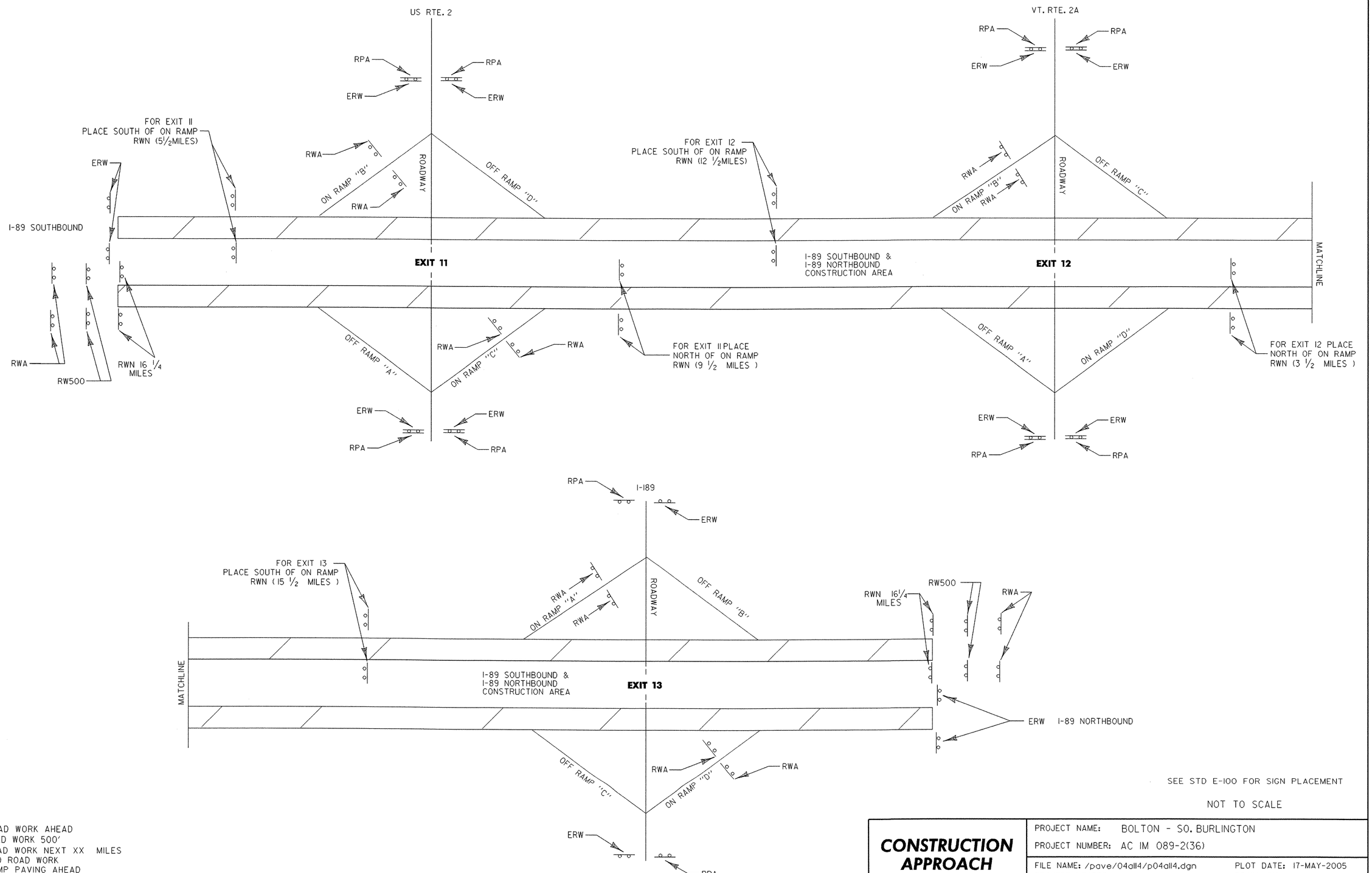
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."

	"A"	"B"	SALV SIGN	SALV TIS	EXIST POST	FLANGED CHANNEL	SQUARE STEEL	ANCHOR	SLEEVE	TUBULAR ALUMINUM	FOUNDATION	TUBULAR STEEL	W-SHAPE 24"	30"	WEIGHT	REMARKS
Units						FT FT FT	FT FT FT		EA	LB LB LB		LB LB LB LB				
SHEET 2 TOTAL	160.625					163.5 ~~210~~	~~210~~			~~20.8~~ 21.45	4	~~402.8~~ 457.9				21 REMOVE
TOTALS	SF 121.125	SF	EA.	SF		FT 210	FT ~~210~~			LB ~~20.8~~	EA. 4	LB ~~402.8~~	EA.	EA.	LB	

PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM FILE NAME: p04all4ssl.t

PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 38 OF 76



LEGEND

RWA = ROAD WORK AHEAD
RW500 = ROAD WORK 500'
RWN = ROAD WORK NEXT XX MILES
ERW = END ROAD WORK
RPA = RAMP PAVING AHEAD

SEE STD E-100 FOR SIGN PLACEMENT

NOT TO SCALE

CONSTRUCTION APPROACH SIGNING

PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM NAME: p04all4casl.i

PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 39 OF 76

NOTES:

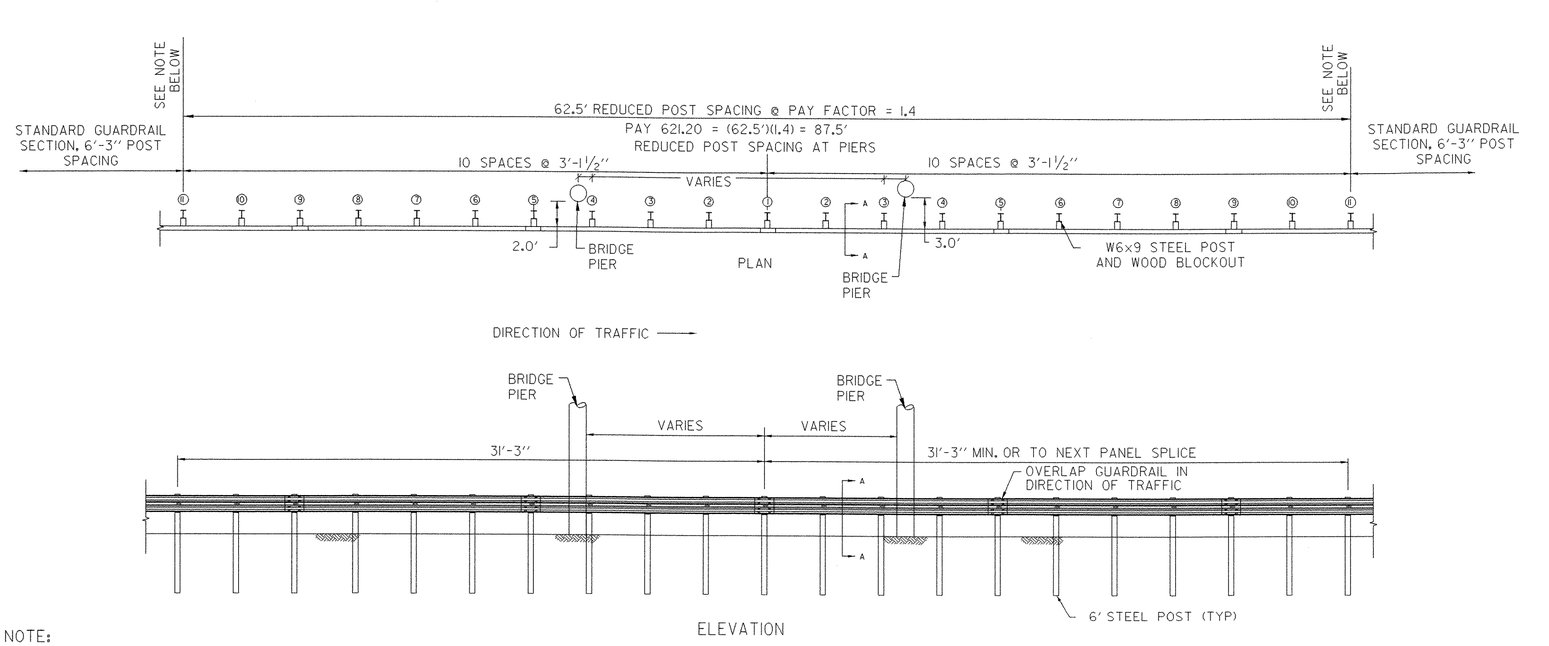
1. ADDITIONAL RAMP SIGNING MAY BE REQUIRED AS DIRECTED BY THE RESIDENT ENGINEER.

2. THE BID PRICE FOR TRAFFIC CONTROL - ITEM 641.10, SHALL INCLUDE ALL APPROACH AND ON-PROJECT CONSTRUCTION SIGNING, BARRIERS, BARRELS, CONES, BARRICADES, TEMPORARY REGULATORY AND WARNING SIGNS, POSTS AS DETAILED IN STANDARD E-103. ALL ADJUSTING, RELOCATING AND REMOVING OF THESE DEVICES AS DIRECTED BY THE RESIDENT ENGINEER, SHALL BE INCLUDED. THE FOLLOWING ITEMS WILL BE PAID UNDER THEIR SPECIFIC BID PRICES:

   646.614, 646.615, AND 646.70 - TEMPORARY MARKINGS
   630.10, 630.15 - UNIFORMED TRAFFIC OFFICERS AND FLAGGERS

3. SIX (6) PORTABLE CHANGEABLE MESSAGE SIGNS WILL BE PROVIDED FOR USE ALONG THE NORTHBOUND AND SOUTHBOUND LANES AND ON - RAMP OF INTERSTATE 89. THE PLACEMENT OF THESE MESSAGE SIGNS AS WELL AS THEIR MESSAGES WILL BE AS APPROVED BY THE RESIDENT ENGINEER. THIS QUANTITY IS PAID FOR AS PART OF ITEM 641.15 - PORTABLE CHANGEABLE MESSAGE SIGN.

TOWN/STATE HIGHWAY NAME	ROAD WORK AHEAD	END ROAD WORK	ROAD WORK 500'	ROAD WORK NEXT 7½ MILES	ROAD WORK NEXT 12 ¼MILES	ROAD WORK NEXT 15¾MILES	ROAD WORK NEXT 16¼MILES	RAMP PAVING AHEAD
SOUTH OF EXIT 11	2	2	2					1
BEGINNING OF PROJECT SB		2						
RTE. 2 @ EXIT 11	4	2	4					2
EXIT 11 SB MAINLINE				1				
RTE. 2A @ EXIT 12	2	2	2					2
EXIT 12 RAMP "B"					1			
I-189 @ EXIT 13	2	1	2					
EXIT 13 RAMP "A"		2				1		
END OF PROJECT SB	2		2					1
TOTAL	12	11	12	1	1	1		6



NOTE:
TO BE PLACED AT THE FOLLOWING LOCATIONS:
STA. 4025+68 ~ 4027+00 RT(SB)
STA. 4023+62 ~ 4024+94 LT(NB)

NON-YIELDING OBJECT APPROACH DETAIL

CONSTRUCTION APPROACH SIGNING SHEET # 2

PROJECT NAME: BOLTON - SO. BURLINGTON
PROJECT NUMBER: AC IM 089-2(36)

FILE NAME: /pave/04all4/p04all4.dgn
PROJECT LEADER:
DESIGNED BY:
IPARM NAME: p04all4cas2.i

PLOT DATE: 17-MAY-2005
DRAWN BY:
CHECKED BY:
SHEET 40 OF 76

EROSION CONTROL NARRATIVE

1.1 DESCRIPTION OF PROJECT

THIS PROJECT CONSISTS OF LENGTHENING THE EXISTING INTERSTATE 89 (I-89) SOUTHBOUND EXIT 13 ON-RAMP (RAMP A) ACCELERATION LANE AND ASSOCIATED SLOPE WORK. THIS PROJECT MAINTAINS THE EXISTING ALIGNMENT OF INTERSTATE 89 (I-89).

LENGTHENING OF THE ACCELERATION LANE BEGINS AT I-89 STATION 4602+34 (MM 87.17), AND CONTINUES 668 FEET SOUTHEASTERLY TO STATION 4595+66 (MM 87.04). PRIOR TO CONSTRUCTION, TRAFFIC CONTROL WILL INCLUDE BLOCKING OFF THE RIGHT TRAVEL LANE OF I-89 SOUTHBOUND PRIOR TO THE PROJECT AREA USING TEMPORARY TRAFFIC BARRIERS. THIS PROJECT IS EXPECTED TO LAST ONE CONSTRUCTION SEASON.

THE MATERIAL TO BE EXCAVATED FROM THE SITE WILL INCLUDE REMOVAL OF EXISTING PAVEMENT AND SUBBASE, TO A DEPTH OF 37.75-INCHES BELOW EXISTING GRADE. STOCKPILING OF ANY EXCAVATED MATERIAL TO BE REUSED IS EXPECTED TO TAKE PLACE WITHIN THE PROJECT LIMITS OF THE MAINLINE PAVEMENT RESURFACING PROJECT. LIKEWISE, STOCKPILING OF ANY NEW MATERIAL TO BE USED IS EXPECTED TO TAKE PLACE WITHIN THE PROJECT LIMITS. THE LIMIT OF CONSTRUCTION AND ASSOCIATED MAXIMUM SOIL DISTURBANCE AREA FOR THE LENGTHENED ACCELERATION LANE IS APPROXIMATELY 0.2 ACRES.

THERE ARE NO ENVIRONMENTAL RESOURCE ELEMENTS IN THE VICINITY OF THE LENGTHENED ACCELERATION LANE.

1.2 SITE INVENTORY AND ANALYSIS

1.2.1 OFFSITE DRAINAGE CHARACTERISTICS

THIS PROJECT SITE IS LOCATED IN AN URBAN, HIGHLY TRAVELED AREA IN THE CITY OF SOUTH BURLINGTON. THE AREA TO THE SOUTH OF THE PROJECT AREA IS MODERATELY SLOPED. TO THE NORTH OF THE SOUTHBOUND MAINLINE IS THE NORTHBOUND MAINLINE. RUNOFF FROM THE PROJECT AREA DRAINS INTO A DROP INLET ON THE SOUTH SIDE OF BRIDGE 65S OVER DORSET STREET.

1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER

THERE ARE NO WATERWAYS WITHIN THE PROJECT AREA. DRAINAGE STRUCTURES ARE LOCATED WITHIN THE PROJECT AREA TO COLLECT RUNOFF FROM I-89.

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE TOPOGRAPHY OF THE PROJECT AREA CONSISTS OF MODERATE SLOPES. THERE ARE NO BUILDINGS OR KNOWN UTILITIES WITHIN THE PROJECT AREA.

1.2.4 VEGETATION

THE PROJECT AREA OUTSIDE OF I-89 TRAVEL LANES CONSISTS OF GRASSED SIDE-SLOPES. THE DITCH ON THE SOUTH SIDE OF I-89 SOUTHBOUND CONTAINS CATTAILS. IMPACTS TO VEGETATED AREAS WILL BE LIMITED TO THE SIDE SLOPES OF THE ROAD. FOLLOWING THE COMPLETION OF CONSTRUCTION, THE GRASSY VEGETATION WILL BE RE-ESTABLISHED USING STANDARD SEED AND MULCH PRACTICES.

1.2.5 SOILS

THE NATURAL RESOURCES CONSERVATION SERVICE (NRCS) HAS MAPPED THE SOILS THROUGHOUT CHITTENDEN COUNTY. SOIL TYPES IDENTIFIED FOR THIS PROJECT INCLUDE TERRACE ESCARPMENTS, SILTY AND CLAYEY, HINESBURG FINE SANDY LOAM 8 TO 15 PERCENT SLOPES (POTENTIALLY HIGHLY ERODIBLE) AND HINESBURG FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES (HIGHLY ERODIBLE). SOILS HAVE BEEN PREVIOUSLY DISTURBED WITH THE CONSTRUCTION OF THE INTERSTATE.

1.2.6 SENSITIVE RESOURCE AREAS

THERE ARE NO KNOWN ARCHEOLOGICAL OR HISTORICAL AREAS, THREATENED AND ENDANGERED SPECIES, OR OTHER CRITICAL HABITATS WTHIN THE PROJECT AREA FOR LENGTHENING OF THE ACCELERATION LANE. THERE IS A STATEWIDE PRIME SOIL IN THE PROJECT AREA (HINESBURG FINE SANDY LOAM 8 TO 15 PERCENT SLOPES). SOILS IN THE PROJECT AREA HAVE BEEN PREVIOUSLY DISTURBED WITH THE CONSTRUCTION OF I-89.

1.2.7 PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

THE ONLY WATER FEATURES WITHIN THE PROJECT AREA INCLUDE DITCHES ALONG THE TOES OF SLOPE TO CARRY RUNOFF FROM I-89. THESE DITCHES CARRY WATER TO AN EXISTING DROP INLET SOUTH OF THE BRIDGE OVER DORSET STREET. THIS EROSION PREVENTION AND SEDIMENT CONTROL PLAN CONTAINS MEASURES TO PREVENT THE MOBILIZATION AND TRANSPORT OF SEDIMENT INTO DITCHES AND CATCH BASINS WITHIN THE PROJECT AREA.

1.3 TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL

PROJECT DEMARCATION FENCE SHALL BE INSTALLED TO DELINEATE THE LIMITS THE CONTRACTOR CAN ACCESS WITH CONSTRUCTION EQUIPMENT. THIS MEASURE LIMITS THE AREA THAT CAN BE DISTURBED AND EXPOSED TO EROSION.

TO MINIMIZE THE POTENTIAL FOR STORM WATER RUNOFF TO TRANSPORT SEDIMENT, SEVERAL KEY EROSION CONTROL DEVICES AND GENERAL PRACTICES WILL BE USED. DETAILS OF THE DEVICES AND THE LOCATION OF THEIR PLACEMENT CAN BE FOUND IN THE EROSION CONTROL PLANS AND DETAILS.

SILT FENCE, AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN, SHALL BE PLACED PARALLEL TO, OR ALONG, THE CONTOUR, SO THE STORM WATER WILL RUN PERPENDICULAR TO THE SILT FENCE. THE ENDS SHALL BE "J" HOOKED UP GRADIENT TO CREATE A PONDING EFFECT FOR WATER TRYING TO RUN ALONG THE FENCE AND AROUND THE ENDS.

THE CATCH BASIN WITHIN THE PROJECT AREA SHALL RECEIVE TEMPORARY SILT FENCE PROTECTION (UNPAVED AREAS). THE DROP INLET SHALL RECEIVE TEMPORARY ROCK BARRIER PROTECTION. THESE TEMPORARY MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS IN THESE PLANS.

TEMPORARY STONE CHECK DAMS WILL BE PLACED ALONG THE DITCH TO THE SOUTH OF THE MAINLINE. THE TEMPORARY STONE CHECK DAMS WILL REDUCE THE VELOCITIES OF THE WATER, ALLOWING SEDIMENT TO SETTLE AND REDUCE THE POTENTIAL FOR EROSION.

EROSION MATTING IS NOT ANTICIPATED FOR THIS PROJECT. IF REQUIRED BY THE RESIDENT ENGINEER, THE CONTRACTOR SHALL USE SUCH MATTING ON SLOPES STEEPER THAN 3H:1V. MATTING WILL REDUCE SEDIMENT TRANSPORT FROM THE SIDE SLOPES, AS IT WILL SLOW DOWN THE RAIN PARTICLES AND ALLOW FOR RAIN TO DISSIPATE INTO THE SOIL, RATHER THAN FLOWING INTO THE CONSTRUCTION AREA. THESE TEMPORARY MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS IN THESE PLANS. IF MATTING IS NEEDED, IT SHALL BE PAID FOR UNDER ITEM 652.10, "EROSION AND SEDIMENT CONTROL PLAN".

THE EROSION CONTROL MEASURES SHALL BE PERIODICALLY INSPECTED AND MAINTAINED ON A REGULAR BASIS. INSPECTION OF THE EROSION CONTROL MEASURES SHALL TAKE PLACE BEFORE AND AFTER MAJOR STORM EVENTS TO INSURE THEY ARE IN GOOD CONDITION AND TO REMOVE EXCESSIVE BUILDUP OF SILT AND DEBRIS AFTER THE STORM EVENTS. A REPORT ON THE EFFECTIVENESS OF THE EROSION CONTROL MEASURES SHALL BE PRESENTED TO THE RESIDENT ENGINEER AND ONSITE COORDINATOR UPON THE COMPLETION OF EACH INSPECTION. MODIFICATIONS OR IMPROVEMENTS TO THE EROSION CONTROL PLAN SHOULD BE COORDINATED WITH THE RESIDENT ENGINEER AND ON-SITE COORDINATOR.

ALL EROSION CONTROL MEASURES SHALL BE PLACED IN ACCORDANCE WITH THE EROSION CONTROL DETAILS IN THESE PLANS.

STAGING AND STOCKPILING AREAS WILL BE LOCATED ALONG THE I-89 MAINLINE RESURFACING PROJECT. THESE AREAS WILL BE COMPLETELY WITHIN THE PROJECT LIMITS AND WILL UTILIZE THE AFOREMENTIONED TEMPORARY EROSION CONTROL MEASURES. NO ADDITIONAL TEMPORARY EROSION CONTROL MEASURES WILL BE NEEDED.

IN THE EVENT THAT A SEPARATE OR TEMPORARY STOCKPILE AREA IS USED OUTSIDE THE LIMITS OF CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THESE PLANS. THE CONSTRUCTION ENTRANCE SHALL BE APPROVED BY THE RESIDENT ENGINEER AND ONSITE COORDINATOR.

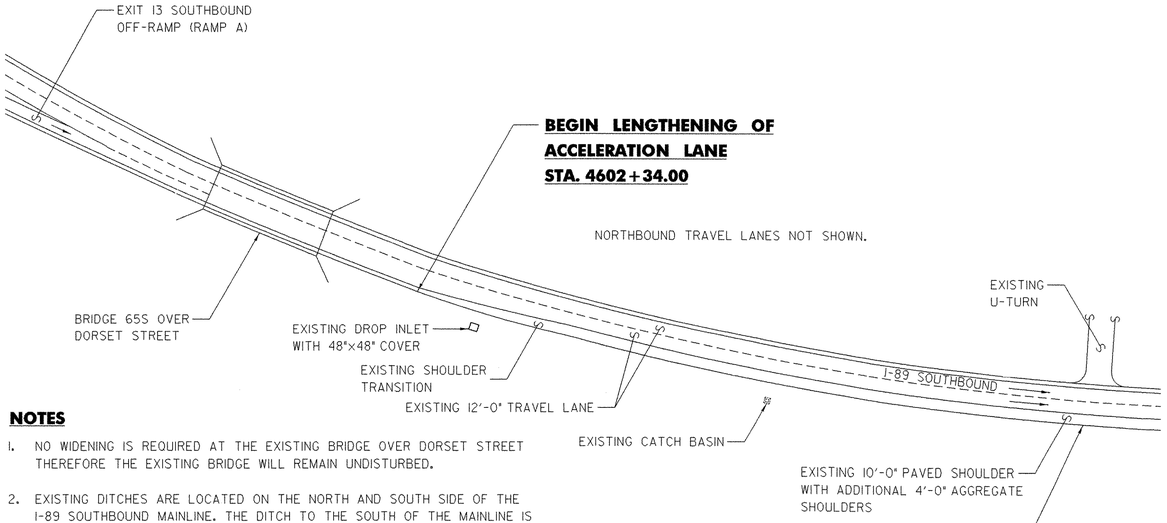
1.4 FINAL EROSION CONTROL MEASURES

ALL DISTURBED AREA OUTSIDE OF THE ROADWAY SHALL RECEIVE TOPSOIL, SEED AND MULCH TO REESTABLISH GRASS AND VEGETATION. TOPSOILING, SEEDING AND MULCHING SHALL BE IN ACCORDANCE WITH THE SEEDING FORMULA FOR RURAL AREAS AND ASSOCIATED NOTES AS SHOWN IN THE CONTRACT PLANS. THIS SHALL BE COMPLETED IMMEDIATELY FOLLOWING FINAL GRADING.

GENERAL EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL SUBMIT AN EROSION PREVENTION & SEDIMENT CONTROL PLAN AT THE PRE-CONSTRUCTION CONFERENCE WITH A SCHEDULE OF EVENTS. THIS PLAN WILL BE SITE SPECIFIC.
2. THE CONTRACTOR SHALL DESIGNATE THE RESPONSIBILITIES FOR IMPLEMENTING THE EROSION PREVENTION & SEDIMENT CONTROL PLAN TO ONE INDIVIDUAL. THE CONTRACTOR SHALL ENSURE THAT ALL WORKERS UNDERSTAND THE MAJOR PROVISIONS OF THE EROSION PREVENTION & SEDIMENT CONTROL PLAN. PHYSICALLY MARK OFF LIMITS OF NECESSARY ON-SITE LAND DISTURBANCE WITH CONSTRUCTION BARRIER FENCING AND REVIEW WITH WORKERS AND SUBCONTRACTORS SO THAT ALL WORKERS CAN SEE THE AREAS TO BE PROTECTED.
3. TEMPORARY EROSION CONTROL MEASURES ARE REQUIRED THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL THE PROJECT HAS BEEN COMPLETED. INSTALL PERIMETER SILT FENCE PRIOR TO CLEARING AND GRUBBING AND INSTALL NECESSARY EROSION AND SEDIMENT CONTROL PRACTICES AS WORK TAKES PLACE.
4. EROSION CONTROL MEASURES SHALL BE PERIODICALLY INSPECTED TO ENSURE THEY ARE IN GOOD CONDITION AND THAT AN EXCESSIVE BUILDUP OF SILT AND DEBRIS HAS NOT OCCURRED.
5. THE CONTRACTOR SHALL MINIMIZE THE AMOUNT OF DISTURBED SOIL EXPOSED TO EROSION FROM WIND AND WATER BY USING VEGETATIVE AND STRUCTURAL CONTROLS AND PROPER TIMING AND SEQUENCING OF CONSTRUCTION ACTIVITIES.
6. IF NEEDED, DIVERT OFF-SITE STORMWATER RUNOFF FROM HIGHLY ERODIBLE AREAS AND STEEP SLOPES AND CONVEY OFF-SITE STORMWATER RUNOFF TO STABLE AREAS.
7. APPLY TEMPORARY OR PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS WHERE WORK IS DELAYED OR COMPLETED.
8. ANY EARTH STOCKPILES SHALL BE PROTECTED BY A SILT FENCE AT THE PERIMETER AND COVERED WITH A BLANKET OF MULCH.
9. EROSION CHECKS SHALL BE INSTALLED AS INDICATED AND WHERE DESIGNATED ON THE DRAWINGS AND AS NECESSARY TO PREVENT EROSION DAMAGE FROM ANY CONSTRUCTION ACTIVITY.
10. TEMPORARY EROSION CONTROL MEASURES SHALL BE IMMEDIATELY INSPECTED BEFORE AND AFTER RAINFALL EVENTS TO INSURE THEY ARE IN GOOD CONDITION BEFORE RAINFALL AND TO REMOVE EXCESSIVE BUILDUP OF SILT AND DEBRIS AFTER THE STORM EVENT.
11. ALL EROSION CONTROL MEASURES SHALL COMPLY WITH STANDARD VERMONT AGENCY OF NATURAL RESOURCES PERMIT. THE "VERMONT HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL" DATED 2003, SHALL BE UTILIZED AS A GUIDE FOR THE CONTROL OF EROSION ON THE SITE. THE CONTRACTOR SHALL BE FAMILIAR WITH THE STANDARDS AND SPECIFICATIONS IN THIS PUBLICATION.
12. EROSION MATTING SHALL BE INSTALLED IN PLACE OF MULCH FOR ANY AREAS NOT SEEDED AND MULCHED BY OCTOBER 1 OF THE CONSTRUCTION YEAR.
13. ANY EROSION CONTROL MEASURES THAT WILL BE NECESSARY DURING THE WINTER CONSTRUCTION PERIOD (OCTOBER 15 TO MAY 10) SHALL BE INSTALLED BEFORE THE GROUND FREEZES AND FREQUENTLY INSPECTED AND MAINTAINED THROUGHOUT THE WINTER.
14. EROSION MEASURES SHALL REMAIN IN PLACE UNTIL PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED AND APPROVED BY THE RESIDENT ENGINEER.
15. UNLESS OTHERWISE NOTED IN THE PLANS, ALL MATERIALS, INSTALLATION, MAINTENANCE AND REMOVAL OF THOSE EROSION CONTROL MEASURES WHICH ARE ITEMS IN THE CONTRACT WILL BE PAID FOR AT THE APPROPRIATE CONTRACT UNIT PRICE BID. ALL MATERIALS, INSTALLATION, MAINTENANCE AND REMOVAL FOR ALL OTHER EROSION CONTROL ITEMS REQUIRED BY THE PLANS AND THE RESIDENT ENGINEER WILL BE PAID FOR UNDER ITEM 652.30.

PROJECT NAME:	BOLTON - SO. BURLINGTON
PROJECT NUMBER:	AC IM 089-2(36)
FILE NAME:	I8800F4ECP01.dgn
PROJECT LEADER:	EPD
DESIGNED BY:	JDA
EROSION CONTROL NARRATIVE	
PLOT DATE:	17-MAY-2005
DRAWN BY:	JDA
CHECKED BY:	EPD
SHEET	41 OF 76



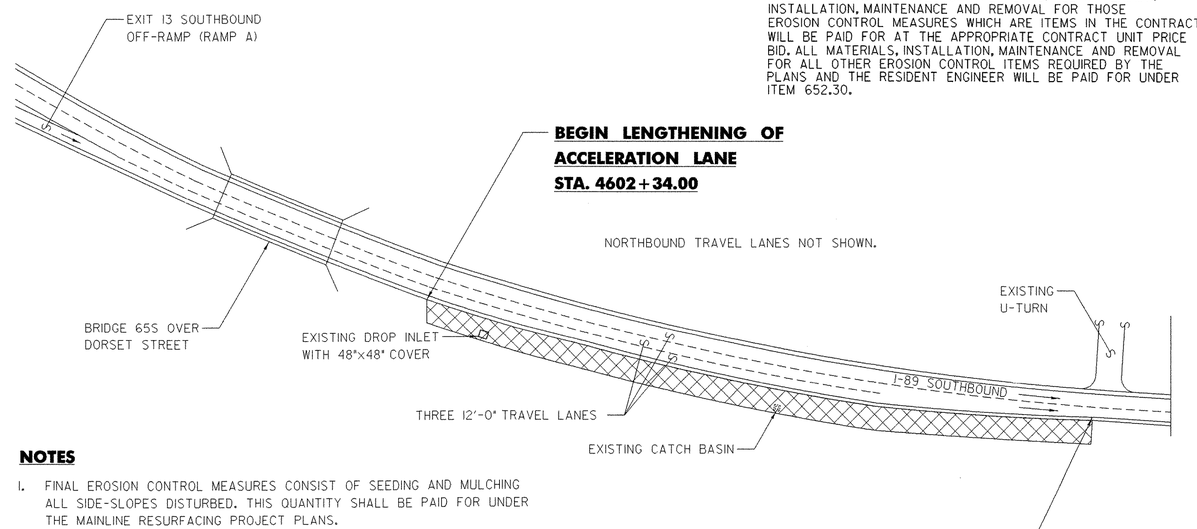
NOTES

1. NO WIDENING IS REQUIRED AT THE EXISTING BRIDGE OVER DORSET STREET THEREFORE THE EXISTING BRIDGE WILL REMAIN UNDISTURBED.
2. EXISTING DITCHES ARE LOCATED ON THE NORTH AND SOUTH SIDE OF THE I-89 SOUTHBOUND MAINLINE. THE DITCH TO THE SOUTH OF THE MAINLINE IS APPROXIMATELY 12' (DISTANCE VARIES) FROM THE EDGE OF THE AGGREGATE SHOULDER. THE WIDTH OF THE DITCH VARIES. AVERAGE DITCH WIDTH IS APPROXIMATELY 5-FEET. THE DITCH ON THE SOUTH SIDE OF I-89 SOUTHBOUND FLOWS NORTHEASTERLY TO THE DROP INLET AND THEN TO THE NORTHEAST TOWARD DORSET STREET.

EROSION CONTROL EXISTING CONDITIONS

NOT TO SCALE

NOTE:
UNLESS OTHERWISE NOTED ON THE PLANS, ALL MATERIALS, INSTALLATION, MAINTENANCE AND REMOVAL FOR THOSE EROSION CONTROL MEASURES WHICH ARE ITEMS IN THE CONTRACT WILL BE PAID FOR AT THE APPROPRIATE CONTRACT UNIT PRICE BID. ALL MATERIALS, INSTALLATION, MAINTENANCE AND REMOVAL FOR ALL OTHER EROSION CONTROL ITEMS REQUIRED BY THE PLANS AND THE RESIDENT ENGINEER WILL BE PAID FOR UNDER ITEM 652.30.



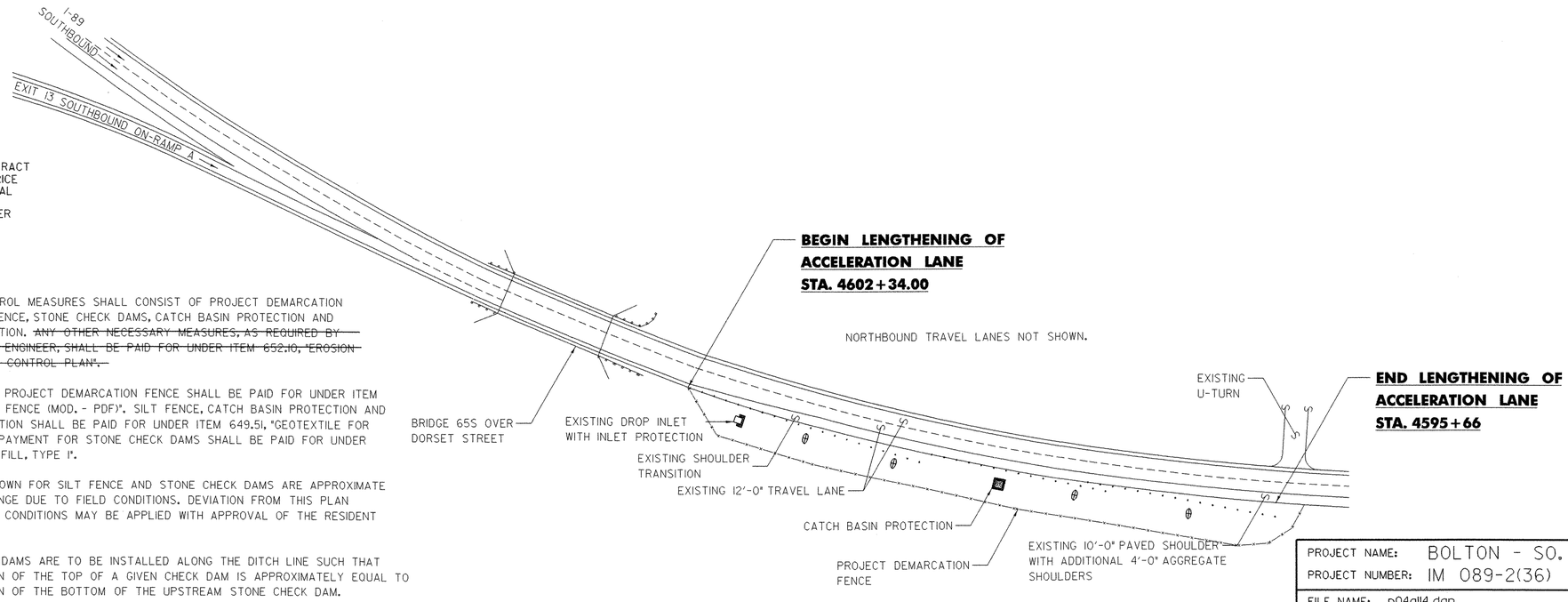
NOTES

1. FINAL EROSION CONTROL MEASURES CONSIST OF SEEDING AND MULCHING ALL SIDE-SLOPES DISTURBED. THIS QUANTITY SHALL BE PAID FOR UNDER THE MAINLINE RESURFACING PROJECT PLANS.
2. ~~ANY ADDITIONAL FINAL EROSION MEASURES NEEDED SHALL BE PAID FOR UNDER ITEM 652.10, "EROSION AND SEDIMENT CONTROL PLAN".~~
3. EXISTING AND PROPOSED CONTOURS ARE NOT SHOWN. FINAL GRADE OF THE MAINLINE SHALL BE THE SAME AS EXISTING ELEVATIONS. GRADING OF SLOPES WILL CHANGE FROM EXISTING CONDITIONS.

EROSION CONTROL FINAL CONDITIONS

NOT TO SCALE

NOTE:
UNLESS OTHERWISE NOTED ON THE PLANS, ALL MATERIALS, INSTALLATION, MAINTENANCE AND REMOVAL FOR THOSE EROSION CONTROL MEASURES WHICH ARE ITEMS IN THE CONTRACT WILL BE PAID FOR AT THE APPROPRIATE CONTRACT UNIT PRICE BID. ALL MATERIALS, INSTALLATION, MAINTENANCE AND REMOVAL FOR ALL OTHER EROSION CONTROL ITEMS REQUIRED BY THE PLANS AND THE RESIDENT ENGINEER WILL BE PAID FOR UNDER ITEM 652.30.



NOTES

1. EROSION CONTROL MEASURES SHALL CONSIST OF PROJECT DEMARCATION FENCE, SILT FENCE, STONE CHECK DAMS, CATCH BASIN PROTECTION AND INLET PROTECTION. ~~ANY OTHER NECESSARY MEASURES, AS REQUIRED BY THE RESIDENT ENGINEER, SHALL BE PAID FOR UNDER ITEM 652.10, "EROSION AND SEDIMENT CONTROL PLAN".~~
2. PAYMENT FOR PROJECT DEMARCATION FENCE SHALL BE PAID FOR UNDER ITEM 620.70, "SNOW FENCE (MOD. - PDF)". SILT FENCE, CATCH BASIN PROTECTION AND INLET PROTECTION SHALL BE PAID FOR UNDER ITEM 649.51, "GEOTEXTILE FOR SILT FENCE". PAYMENT FOR STONE CHECK DAMS SHALL BE PAID FOR UNDER 613.10, "STONE FILL, TYPE I".
3. LOCATIONS SHOWN FOR SILT FENCE AND STONE CHECK DAMS ARE APPROXIMATE AND MAY CHANGE DUE TO FIELD CONDITIONS. DEVIATION FROM THIS PLAN DUE TO FIELD CONDITIONS MAY BE APPLIED WITH APPROVAL OF THE RESIDENT ENGINEER.
4. STONE CHECK DAMS ARE TO BE INSTALLED ALONG THE DITCH LINE SUCH THAT THE ELEVATION OF THE TOP OF A GIVEN CHECK DAM IS APPROXIMATELY EQUAL TO THE ELEVATION OF THE BOTTOM OF THE UPSTREAM STONE CHECK DAM.
5. PROJECT DEMARCATION FENCE TO BE PLACED TEN-FEET OUTSIDE OF THE PROJECT LIMITS.

LEGEND

- EDGE OF PAVEMENT
- CATCH BASIN
- GUARDRAIL
- STONE CHECK DAM
- SILT FENCE
- PROJECT DEMARCATION FENCE
- SEED AND MULCH

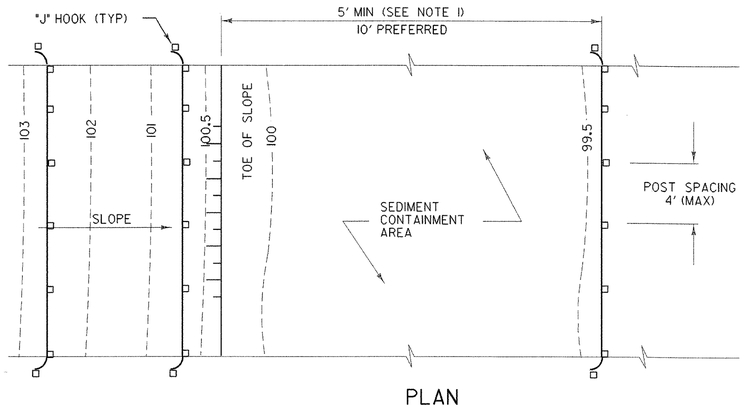
EROSION AND SEDIMENT CONTROL PLAN

NOT TO SCALE

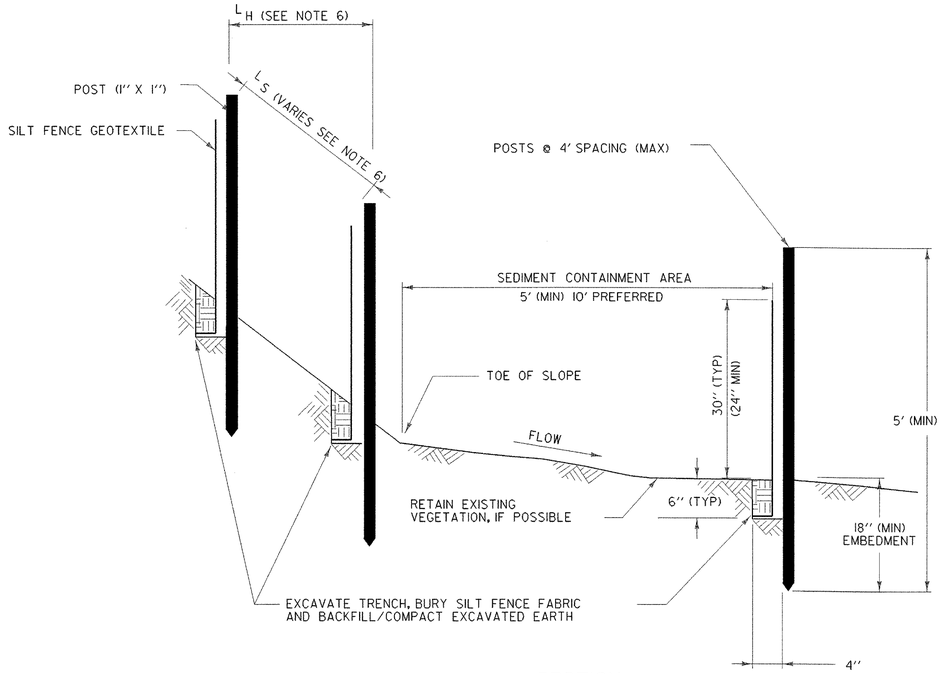
N

VT STATE PLANE GRID

PROJECT NAME:	BOLTON - SO. BURLINGTON
PROJECT NUMBER:	IM 089-2(36)
FILE NAME: p04all4.dgn	PLOT DATE: 17-MAY-2005
PROJECT LEADER: EPD	DRAWN BY: JDA
DESIGNED BY: JDA	CHECKED BY: EPD
EROSION CONTROL PLANS	SHEET 42 OF 76



PLAN



SECTION

SILT FENCE - TEMPORARY

SILT FENCE

APPLICATION NOTES:

A. THE PRIMARY PURPOSE OF SILT FENCE IS TO REDUCE RUNOFF VELOCITY AND TRAP SEDIMENT. VELOCITY IS REDUCED, WATER IS IMPOUNDED BEHIND THE MEASURE, AND SEDIMENT FALLS OUT OF SUSPENSION.

B. SILT FENCE SHALL BE INSTALLED ON A LINE OF EQUAL ELEVATION (CONTOUR). IT MAY BE INSTALLED AT INTERMEDIATE POINTS UP SLOPES AS WELL AS AT THE BOTTOM, AS SHOWN IN THE DETAIL.

C. SILT FENCE SHALL NOT BE USED ACROSS CONCENTRATED FLOW.

GENERAL NOTES:

1. SILT FENCE SHALL GENERALLY BE PLACED A MINIMUM OF 5 FEET BEYOND TOE OF SLOPE, 10 FEET PREFERRED, TO PROVIDE ADEQUATE AREA FOR SEDIMENT STORAGE AND FACILITATE MAINTENANCE OF SEDIMENT CONTAINMENT AREA.

2. ALL ENDS SHALL BE "J" HOOKED TO TRAP SEDIMENT.

3. IN AREAS WITH TWO SLOPES, SILT FENCE SHALL BE USED TO ERECT A DAM AND TRAP SEDIMENT AT THE BASE OF THE STEEPER SLOPE.

4. THE BOTTOM EDGE OF SILT FENCE SHALL BE BURIED A MINIMUM OF 6 INCHES BELOW GROUND, AND KEYED IN 4 INCHES. THE FENCE SHALL BE INSTALLED WITH THE POSTS ON THE DOWNSTREAM SIDE OF THE FABRIC.

5. MAXIMUM DRAINAGE AREA TRIBUTARY TO 100 FEET OF SILT FENCE SHALL BE 0.25 ACRES.

6. THE FOLLOWING ARE MAXIMUM SLOPE LENGTHS FOR THESE MEASURES:

CONSTRUCTED SLOPE	SLOPE LENGTH (LS) FT	HORIZONTAL LENGTH (LH) FT
3 : 1	80	75
4 : 1	130	125
5 : 1	200	200
> 5 : 1	250	250

7. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.

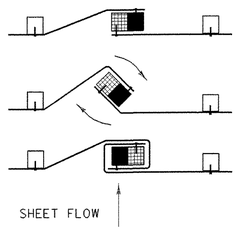
8. MEASURES SHALL BE CLEANED AND REPAIRED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.

9. SILT FENCE SHALL BE REMOVED WHEN THE AREA HAS BEEN STABILIZED. AT TIME OF REMOVAL OF THE SILT FENCE, THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.

10. PAYMENT FOR INSTALLATION AND REMOVAL OF SILT FENCE SHALL BE MADE UNDER THE GEOTEXTILE FOR SILT FENCE ITEM.

11. PAYMENT FOR MONITORING SILT FENCE SHALL BE MADE UNDER THE MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.

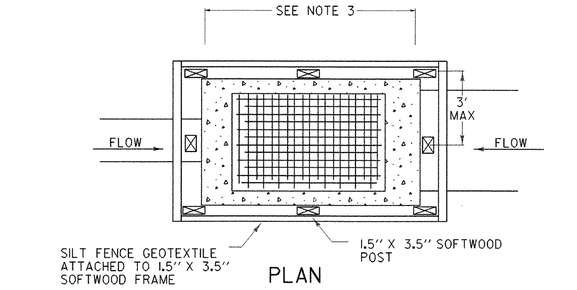
12. PAYMENT FOR MAINTAINING SILT FENCE SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM, UNLESS IN THE OPINION OF THE RESIDENT ENGINEER MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES, WHEREAS IT WILL THEN BE REPAIRED AT THE CONTRACTORS SOLE EXPENSE.



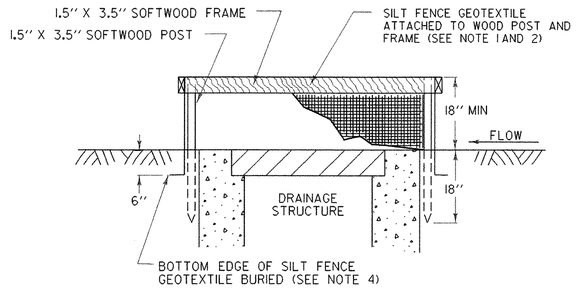
1. PLACE THE END POST OF ONE FENCE INSIDE THE END POST OF THE OTHER FENCE.
2. ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL
3. DRIVE BOTH POSTS 18 INCHES INTO THE GROUND AND BURY THE FLAP IN THE TRENCH.

SPLICING DETAIL

PROJECT NAME:	BOLTON - SO. BURLINGTON
PROJECT NUMBER:	AC IM 089-2(36)
FILE NAME: I8800F4ECP03.dgn	PLOT DATE: 17-MAY-2005
PROJECT LEADER: EPD	DRAWN BY: JDA
DESIGNED BY: JDA	CHECKED BY: EPD
SILT FENCE DETAILS	SHEET 43 OF 76



PLAN



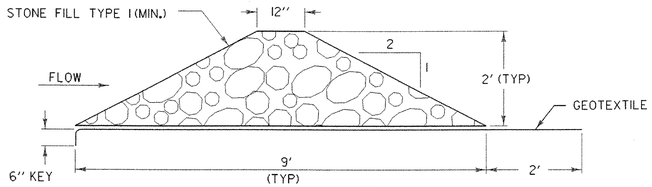
SECTION

SILT FENCE DROP INLET PROTECTION

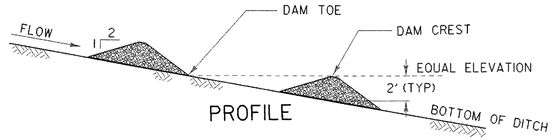
DROP INLET PROTECTION

GENERAL NOTES:

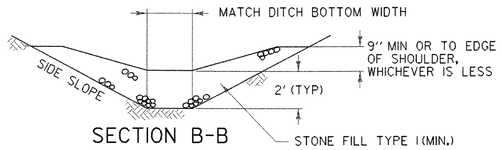
1. THE TOP OF THE INLET PROTECTION SHALL BE SET AT THE MAXIMUM DESIRED WATER LEVEL, BASED ON FIELD LOCATION AND CONDITIONS.
2. SILT FENCE GEOTEXTILE SHALL BE A SINGLE CONTINUOUS PIECE TO ELIMINATE JOINTS.
3. SPACE SILT FENCE POSTS EVENLY AROUND INLET WITH A MAXIMUM SPACING OF 3 FEET. DRIVE POSTS A MINIMUM OF 18 INCHES INTO GROUND. WIRE MESH MAY BE REQUIRED BEHIND GEOTEXTILE TO PROVIDE SUPPORT.
4. SILT FENCE GEOTEXTILE SHALL BE EMBEDDED A MINIMUM OF 6 INCHES AND BACKFILLED. GEOTEXTILE SHALL BE SECURELY FASTENED TO POSTS AND FRAME.
5. BLANK
6. BLANK
7. SECURE THE ENDS OF THE APRON FOR THE PREFABRICATED DRAINAGE STRUCTURE INLET PROTECTION WITH STAPLES AS DETAILED IN THE PLAN VIEW OR AS RECOMMENDED BY THE MANUFACTURERS LITERATURE.
8. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
9. MEASURES SHALL BE CLEANED AND REPAIRED AS NEEDED, SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
10. PAYMENT OF INLET PROTECTION SHALL BE MADE UNDER APPLICABLE ITEMS INCLUDED IN THE CONTRACT PLANS.
11. PAYMENT FOR MONITORING INLET PROTECTION SHALL BE MADE UNDER THE MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.
12. PAYMENT FOR MAINTAINING INLET PROTECTION SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM, UNLESS IN THE OPINION OF THE RESIDENT ENGINEER MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES, WHEREAS IT WILL BE REPAIRED AT THE CONTRACTORS SOLE EXPENSE.



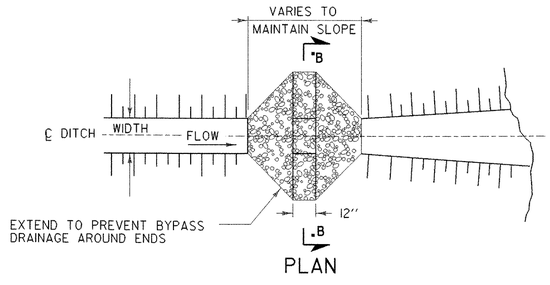
CROSS SECTION



PROFILE



SECTION B-B



PLAN

CHECK DAM - TEMPORARY (STONE)

CHECK DAMS

GENERAL NOTES:

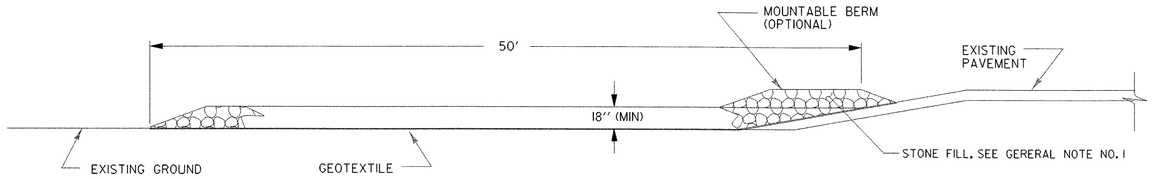
1. GEOTEXTILE SHALL BE INSTALLED UNDER STONE FILL. IT SHALL BE KEYED IN ON THE UP HILL END AND SHALL EXTEND 2 FEET BEYOND THE STONE ON THE DOWN HILL END.
2. CORE MATERIAL FOR THE STONE CHECK DAM SHALL MEET THE GRADATION REQUIREMENTS OF STONE FILL TYPE I (MIN.). STONE SIZE SHOULD BE INCREASED WITH INCREASED SLOPE AND VELOCITY.
3. THE UPHILL END OF THE APRON FOR THE PREFABRICATED CHECK DAM SHALL BE STAPLED AND BURIED AS SHOWN IN DETAIL "A" OR AS RECOMMENDED BY THE MANUFACTURERS LITERATURE.
4. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
5. MEASURES SHALL BE CLEANED AND REPAIRED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
6. AT TIME OF REMOVAL OF THE CHECK DAMS, THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.
7. PAYMENT FOR INSTALLATION AND REMOVAL OF CHECK DAMS SHALL BE MADE UNDER APPLICABLE ITEMS INCLUDED IN THE CONTRACT PLANS.
8. PAYMENT FOR MONITORING CHECK DAMS SHALL BE MADE UNDER THE MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.
9. PAYMENT FOR MAINTAINING CHECK DAMS SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM, UNLESS IN THE OPINION OF THE RESIDENT ENGINEER MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES WHEREAS IT WILL BE REPAIRED AT THE CONTRACTORS SOLE EXPENSE.

STONE CHECK DAM PLACEMENT INTERVAL

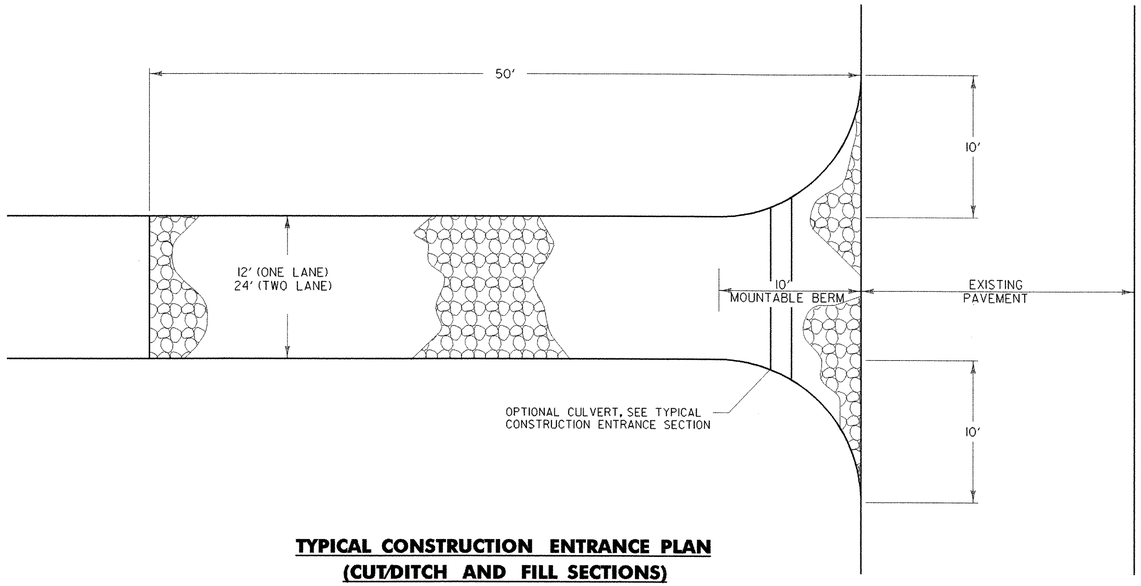
DITCH SLOPE	PLACEMENT INTERVAL **
1 %	200 FT
2 %	100 FT
3 %	65 FT
4 %	50 FT
5 %	40 FT
6 %	30 FT
8 %	25 FT
10 %	20 FT

** BASED ON 2' TYPICAL HEIGHT

PROJECT NAME:	BOLTON - SO. BURLINGTON
PROJECT NUMBER:	AC IM 089-2(36)
FILE NAME: I8800F4ECP04.dgn	PLOT DATE: 17-MAY-2005
PROJECT LEADER: EPD	DRAWN BY: JDA
DESIGNED BY: JDA	CHECKED BY: EPD
INLET PROTECTION AND CHECK DAM DETAILS	SHEET 44 OF 76



TYPICAL CONSTRUCTION ENTRANCE PROFILE (CUT AND DITCH SECTIONS)



TYPICAL CONSTRUCTION ENTRANCE PLAN (CUT/DITCH AND FILL SECTIONS)

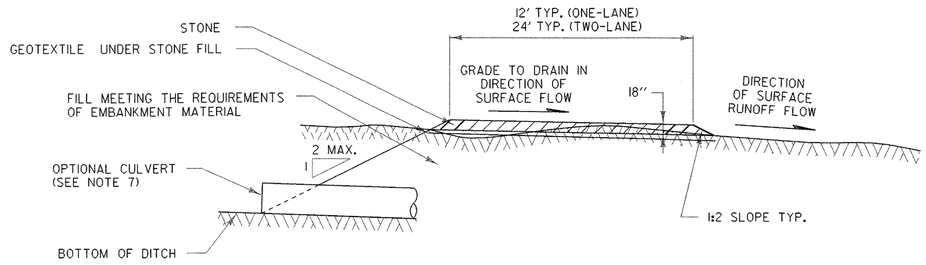
STABILIZED CONSTRUCTION ENTRANCE

APPLICATION NOTES:

A. THE PURPOSE OF A STABILIZED CONSTRUCTION ENTRANCE IS TO REDUCE OR ELIMINATE THE TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY OR STREETS.

GENERAL NOTES:

1. STONE SIZE - USE CLEAN STONE WITH GRADATION BETWEEN 2 INCHES AND 4 INCHES.
2. LENGTH - 50 FEET (MIN)
3. THICKNESS - 18 INCHES (MIN)
4. WIDTH - 12 FEET (MIN)
5. GEOTEXTILE UNDER STONE WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE AS DIRECTED BY THE ENGINEER AND ON-SITE COORDINATOR. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. PROPOSED DRAINAGE PIPES SHALL BE SIZED WITH SUFFICIENT CAPACITY TO CARRY DITCH FLOWS. ALTERNATIVE WAYS OF TRANSPORTING DITCH DRAINAGE ACROSS CONSTRUCTION ENTRANCES MAY BE PROPOSED BY THE CONTRACTOR FOR APPROVAL BY THE ENGINEER AND ON-SITE COORDINATOR.
8. WHEN WASHING OF VEHICLE IS NECESSARY, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
10. MAINTENANCE- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
11. AT THE TIME OF REMOVAL OF THE STABILIZED CONSTRUCTION ENTRANCE THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.
12. PAYMENT FOR CONSTRUCTING THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE MADE UNDER ITEM 652.30, "FIELD MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN".
13. PAYMENT FOR MONITORING STABILIZED CONSTRUCTION ENTRANCES SHALL BE MADE UNDER THE MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.
14. PAYMENT FOR MAINTAINING THE CONSTRUCTION ENTRANCE SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.



TYPICAL CONSTRUCTION ENTRANCE SECTION

PROJECT NAME:	BOLTON - SO. BURLINGTON
PROJECT NUMBER:	AC IM 089-2(36)
FILE NAME: I8800F4ECP05.dgn	PLOT DATE: 17-MAY-2005
PROJECT LEADER: EPD	DRAWN BY: JDA
DESIGNED BY: JDA	CHECKED BY: EPD
CONSTRUCTION ENTRANCE DETAIL	SHEET 45 OF 76

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STATE OF VERMONT
AGENCY OF TRANSPORTATION

PROPOSED IMPROVEMENT

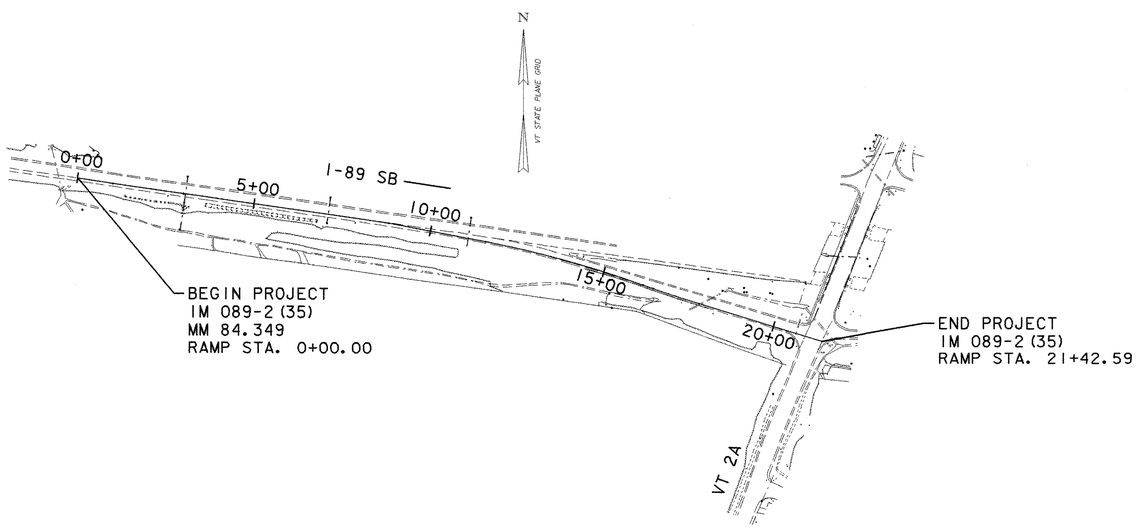
TOWN OF WILLISTON
COUNTY OF CHITTENDEN
INTERSTATE ROUTE 89 SB EXIT 12

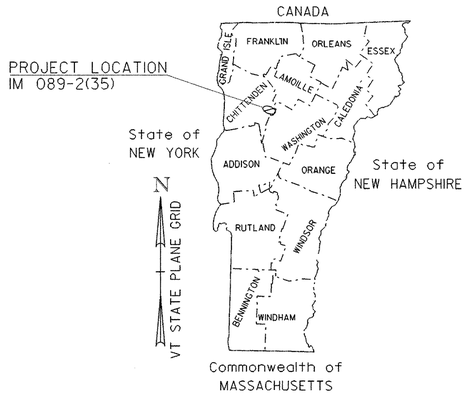
BEGINNING IN THE TOWN OF WILLISTON ON INTERSTATE I-89 IN THE SOUTHBOUND BARREL AT STATION 4453+62, MM 84.349, (STA. 0+00.00 ON THESE PLANS) AND EXTENDING SOUTHEASTERLY A DISTANCE OF 2,143 FEET (0.406 MILE) DOWN THE EXIT 12 SOUTHBOUND OFF-RAMP.

PROJECT DATA

LENGTH OF ROADWAY = 2,143 FEET (0.406 MILE)
LENGTH OF PROJECT = 2,143 FEET (0.406 MILE)

WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES COLD PLANING, LENGTHENING, WIDENING, & RESURFACING OF THE EXISTING SOUTHBOUND INTERCHANGE OFF-RAMP WITH NEW PAVEMENT MARKINGS, GUARDRAIL, SIGNS AND INCIDENTAL ITEMS AS SHOWN IN THE PROJECT QUANTITIES.





TRAFFIC DATA

EXIT # 12 SB RAMP

2005	ADT	=	10,000
2005	DHV	=	1,100
2015	ADT	=	12,200
2015	DHV	=	1,300

BITUMINOUS CONCRETE PAVEMENT SUPERPAVE MIXTURE DESIGN CRITERIA	
DESIGN LANE/DESIGN LIFE ESAL	21,577,000
DESIGN NUMBER OF GYRATIONS	100
PERFORMANCE GRADED ASPHALT BINDER	PG 64-28

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.

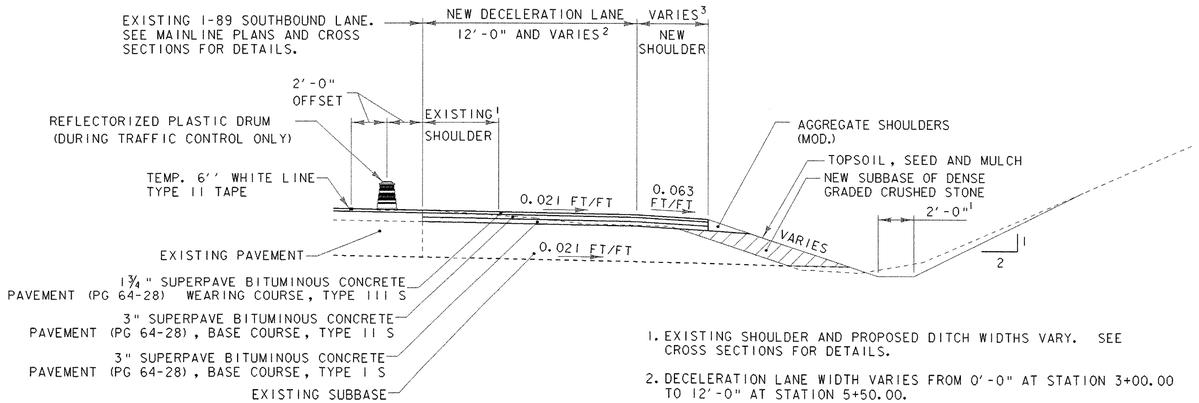
THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JANUARY 4, 2001 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

PROJECT MANAGER : WOOLAVER

PROJECT NAME : WILLISTON
PROJECT NUMBER : IM 089-2(35)

SHEET 46 OF 76 SHEETS

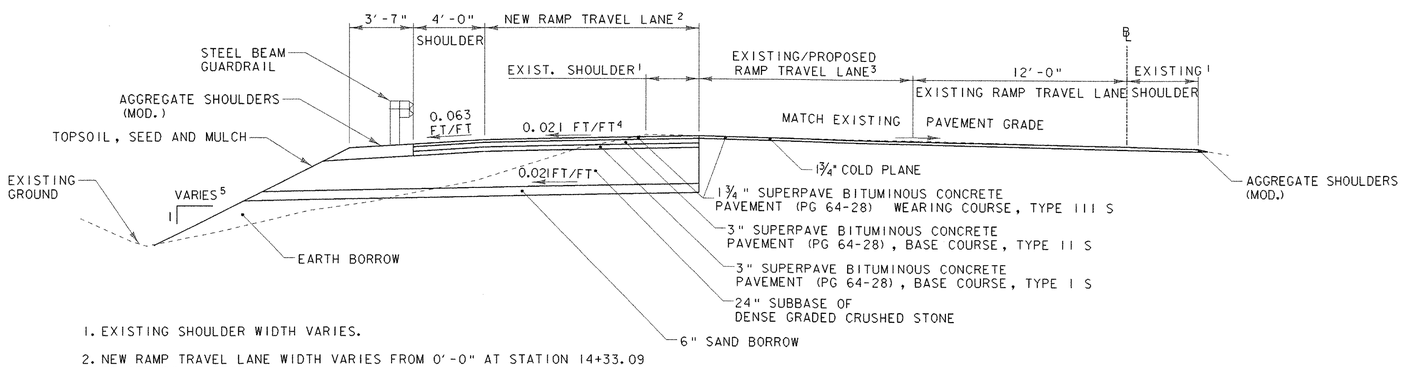


1. EXISTING SHOULDER AND PROPOSED DITCH WIDTHS VARY. SEE CROSS SECTIONS FOR DETAILS.
2. DECELERATION LANE WIDTH VARIES FROM 0'-0" AT STATION 3+00.00 TO 12'-0" AT STATION 5+50.00.
3. SHOULDER VARIES FROM 2'-0" ON THE MAINLINE TO 4'-0" ON THE RAMP. SEE CROSS SECTIONS FOR DETAILS.
4. EXCAVATE EXISTING SHOULDER 7 3/4". EXCAVATION TO BE PAID FOR UNDER ITEM 203.15, "COMMON EXCAVATION".

DECELERATION LANE TYPICAL SECTION

STA. 3+00.00 TO STA. 11+64.61

SCALE 1/4" = 1'-0



1. EXISTING SHOULDER WIDTH VARIES.
2. NEW RAMP TRAVEL LANE WIDTH VARIES FROM 0'-0" AT STATION 14+33.09 TO 12'-0" AT STATION 15+56.19.
3. EXISTING RAMP TRAVEL LANE VARIES. PROPOSED RAMP TRAVEL LANE VARIES. SEE PLAN SHEETS AND CROSS SECTIONS FOR DETAILS.
4. SLOPE OF NEW RAMP TRAVEL LANE VARIES IN THE GORE AREA. SEE CROSS SECTIONS FOR SLOPES AT THIS AREA.
5. SLOPE VARIES. SEE CROSS SECTIONS FOR SLOPES.

RAMP WIDENING TYPICAL SECTION

STA. 11+64.61 TO STA. 21+42.59

SCALE 1/4" = 1'-0

MATERIAL ITEM	TOLERANCE
PAVEMENT	±1/4" TOTAL THICKNESS
AGGREGATE SURFACE COURSE	± 1/2"
BASE COURSE	± 1/2"
SUBBASE	± 1"
SAND BORROW	± 1"
GRANULAR BORROW	± 1"

NOTES:

1. THE CONTRACTOR SHALL SAW CUT THE PAVEMENT AT THE EDGE OF THE I-89 SB SHOULDER PRIOR TO EXCAVATING. THE COST OF SAW CUTTING SHALL BE INCIDENTAL TO ITEM 203.15, "COMMON EXCAVATION".
2. COLD PLANING SHALL BE COMPLETED ACCORDING TO TYPICAL OR AS DENOTED OTHERWISE ON THE PLANS. A FULL DEPTH BUTT JOINT SHALL BE CONSTRUCTED AT THE PROJECT END AND AT ALL RAMP APPROACHES AS SHOWN ON THE PROJECT PLANS OR AS OTHERWISE DIRECTED BY THE RESIDENT ENGINEER.
3. PAVEMENT WIDENING SHALL BE CONSTRUCTED USING ONE 3" LIFT OF TYPE I S BASE COURSE, ONE 3" LIFT OF TYPE II S BASE COURSE AND ONE 1 3/4" LIFT OF TYPE III S WEARING COURSE. THE SECOND BASE COURSE SHALL BE PLACED TO MATCH THE ELEVATION OF THE ADJOINING SURFACE OF THE I-89 SB TRAVEL LANE.
4. SUPERPAVE BITUMINOUS CONCRETE PAVEMENT TOLERANCE =1/4" +/- (TOTAL THICKNESS).
5. EMULSIFIED ASPHALT SHALL BE APPLIED ON ALL EXISTING PAVEMENT SURFACES AND BETWEEN ALL COURSES OF PAVEMENT AT THE RATE OF 0.015 GAL/SY OR AS DIRECTED BY THE RESIDENT ENGINEER.
6. ALL EXCAVATION ASSOCIATED WITH THE PAVEMENT WIDENING, INCLUDING REMOVAL OF EXISTING SHOULDER PAVEMENT, SHALL BE PAID FOR UNDER ITEM 203.15, "COMMON EXCAVATION".
7. ALL EDGES OF PAVEMENT SHALL BE BACKED UP FULL HEIGHT WITH COLD PLANE GRINDINGS AS DIRECTED BY THE RESIDENT ENGINEER AND WILL BE PAID FOR UNDER ITEM 402.12, "AGGREGATE SHOULDERS (MOD.)".
8. REFER TO STD. B-5 FOR CONSTRUCTING AN EMBANKMENT ON AN EARTH SLOPE.
9. AN ESTIMATE FOR "FINE GRADING - SUBGRADE", ITEM 203.40, HAS BEEN INCLUDED IN THE QUANTITIES FOR WORK IN THE AREA OF WIDENING.

SEEDING FORMULA RURAL AREAS

% WT.	LBS./A.	NAME	PUR %	GERM %
37.5	22.5	CREEPING RED FESCUE	98	85
37.5	22.5	TALL FESCUE	95	90
5.0	3.0	RED TOP	95	90
15.0	9.0	BIRDSFOOT TREFOIL	98	85
5.0	3.0	ANNUAL RYEGRASS	95	85
100.0	60.0			

GENERAL NOTES

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 19-19-19 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 WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

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

SLOPE ROUNDING: ALL CUT SLOPES TO BE ROUNDED IN ACCORDANCE WITH STANDARD SHEET B - 5.

PAY LIMITS OF SAND BORROW: WHEN USED IN CONJUNCTION WITH UNDERDRAIN - SEE STANDARD SHEET D - 2.

PROJECT NAME: I-89 EXIT 12 SB OFF RAMP
PROJECT NUMBER: IM 089-2(35)

FILE NAME: I8800F4TY01.dgn
PROJECT LEADER: EPD
DESIGNED BY: JDA
TYPICAL SECTION SHEET

PLOT DATE: 17-MAY-2005
DRAWN BY: JDA / PGJ
CHECKED BY: EPD
SHEET 47 OF 76

QUANTITY SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	TRAFFIC CONTROL	EROSION CONTROL	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NO.	ROUNDING
1			1	LS	CLEARING AND GRUBBING (INCL. INDV. TREES & STUMPS)	201.10	-
1600			1800	CY	COMMON EXCAVATION	203.15	147
1000			1000	CY	EARTH BORROW	203.30	87
400			400	CY	SAND BORROW	203.31	16
4500			4500	SY	FINE GRADING - SUBGRADE	203.40	-
3100			3100	SY	COLD PLANING - BIT. PAVEMENT	210.10	30
1200			1200	CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	136
250			250	TON	AGGREGATE SHOULDERS (MOD.)	402.12	17
1			1	CWT	EMULSIFIED ASPHALT	404.65	-
1300			1300	TON	SUPERPAVE BITUMINOUS CONTRETE PAVEMENT (PG 64-28)	490.30	141
		25	25	CY	STONE FILL, TYPE I	613.10	3.7
		50	50	CY	STONE FILL, TYPE II	613.11	5.8
		2400	2400	LF	SNOW FENCE (MOD. - PDF)	620.70	42
450			450	LF	STEEL BEAM GUARDRAIL (GALVANIZED)	621.20	21
2			2	EA	MANUFACTURED TERMINAL SECTION (FLARED)	621.505	0
1			1	EA	TRAILING END TERMINAL	621.52	0
	1		1	EA	ENERGY ABSORPTION ATTENUATOR (SAND FILLED PLASTIC BARREL)	621.56	0
54			54	LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	0
700			700	LF	TEMPORARY TRAFFIC BARRIER	621.90	
3000			3000	LF	DURABLE 6" WHITE LINE (MOD.-RETROREFLECTIVITY/INLAID)	646.414	131
640			640	LF	DURABLE 6" YELLOW LINE (MOD.-RETROREFLECTIVITY/INLAID)	646.415	54
1300			1300	LF	DURABLE 12" WHITE LINE (MOD.-RETROREFLECTIVITY/INLAID)	646.44	80
80			80	LF	DURABLE 24" STOP BAR	646.46	9
40			40	EA	DURABLE LETTER OR SYMBOL	646.50	4
	130		130	LF	TEMPORARY 6" WHITE LINE (TAPE, TYPE II)	646.614	13
	3000		3000	LF	TEMPORARY 6" WHITE LINE (PAINT)	646.614	131
	640		640	LF	TEMPORARY 6" YELLOW LINE (PAINT)	646.615	54
	730		730	LF	TEMPORARY 12" WHITE LINE (TAPE, TYPE II)	646.64	13
	1300		1300	LF	TEMPORARY 12" WHITE LINE (PAINT)	646.64	80
	50		50	LF	TEMPORARY 24" STOP BAR (PAINT)	646.66	2

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		REVISED 06-10-05 LSW

PROJECT NAME: I-89 EXIT 12 SB OFF RAMP
PROJECT NUMBER: IM 089-2(35)

FILE NAME: 618800F40S.dgn
PROJECT LEADER: EPD
DESIGNED BY: JDA
QUANTITY SHEET

PLOT DATE: 14-JUN-2005
DRAWN BY: JDA / PGJ
CHECKED BY: EPD
SHEET 48 OF 76

QUANTITY SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	TRAFFIC CONTROL	EROSION CONTROL	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NO.	ROUNDING
	40		40	EA	TEMPORARY LETTER OR SYMBOL (PAINT)	646.70	4
200	180		380	SF	REMOVAL OF EXISTING PAVEMENT MARKINGS	646.85	21
		45	45	SY	GEOTEXTILE UNDER STONE FILL	649.31	6
		500	500	SY	GEOTEXTILE FOR SILT FENCE	649.51	50
50			50	LB	SEED	651.15	4
400			400	LB	FERTILIZER	651.18	17
2			2	TON	AGRICULTURAL LIMESTONE	651.20	0.5
2			2	TON	HAY MULCH	651.25	0.5
10			10	CY	TOPSOIL	651.35	3
		0.5	0.5	LS	EROSION PREVENTION & SEDIMENT CONTROL PLAN	652.10	-
		20	20	HR	MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN	652.20	-
		0.5	0.5	LU	FIELD MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN (NABI)	652.30	-
		1300	1300	SY	EROSION MATTING	654.10	57.8
176			176	SF	TRAFFIC SIGNS, TYPE A	675.20	0.3
100			100	LF	FLANGED CHANNEL SIGN POST (BEGIN OPTION ITEMS)	675.301	20
100			100	LF	SQUARE TUBE SIGN POST AND ANCHOR (END OPTION ITEMS)	675.341	20
200			200	LB	TUBULAR STEEL SIGN POSTS	675.33	18
2			2	EA	FOUNDATION FOR W-SHAPE STEEL POSTS, 24" DIAMETER	675.41	0
2			2	EA	FOUNDATION FOR TUBULAR STEEL POSTS	675.43	
1			1	EA	FOUNDATION FOR TUBULAR STEEL POSTS (MOD.-CONCRETE PAD)	675.43	0
30			30	EA	REMOVING SIGNS	675.50	0
6			6	EA	ERECTING SALVAGED SIGNS	675.60	0
7			7	EA	SETTING SALVAGED POSTS	675.61	0
10			10	EA	DELINEATORS WITH STEEL POSTS	676.10	2
1			1	EA	OVERHEAD TRAFFIC SIGN SUPPORT, TUBULAR BEAM	677.11	0
1			1	EA	TRAFFIC CONTROL SIGNAL SYSTEM - INTERSECTION (MOD.)	678.15	0
1			1	EA	FLASHING BEACON - GROUND MOUNTED (MOD. - ACTUATED SIGN)	678.16	0
100			100	LF	VEHICLE LOOP DETECTOR	678.22	20
4500			4500	LF	WIRED CONDUIT (2'' PVC)	678.23	
11			11	EA	PULL BOX - STANDARD	678.25	
1			1	EA	JUNCTION BOX	678.26	
60			60	LF	ELECTRICAL CONDUIT SLEEVE (6'' DIA.)	678.30	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		REVISED 06-10-05 LSW

PROJECT NAME: I-89 EXIT 12 SB OFF RAMP
PROJECT NUMBER: IM 089-2(35)

FILE NAME: 618800F40S.dgn
PROJECT LEADER: EPD
DESIGNED BY: JDA
QUANTITY SHEET

PLOT DATE: 14-JUN-2005
DRAWN BY: JDA / PGJ
CHECKED BY: EPD
SHEET 49 OF 76

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (in)	HEIGHT (in)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	SALVAGE	NO. OF POSTS	NEW SIGN POSTS: FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL (in) 1.75 lb/ft 1.88	2.0 lb/ft 2.16	2.5 lb/ft 3.35	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) 3.0 lb/ft 1.3	4.0 lb/ft 1.7	4.0 MOD 1.7	TUBULAR STEEL Ø (in) FOUND-ATION	3.0 lb/ft 7.6	3.5 lb/ft 9.0	4.0 lb/ft 10.8	5.0 lb/ft 14.6	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	SIGN REMOVED	REMARKS	SIGN DETAIL: DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																									
M.M. 84.39 RT	VERMONT 2A	1	36	36	9.0				2																				2					I REMOVE SEE NOTES ON SHEET 6.		E-136B
STA. 0+00.00 RT	RAMP TRAFFIC STOPPED AHEAD	1	48	48	16.0						2												2	X	14-3 13-6	108.3# 102.6#						ATTACH 2 FLASHING BEACONS TO TOP OF SIGN	6	E-106
STA. 0+00.00 RT	WHEN FLASHING	1	48	20	6.7																												S4-4 SEE SIGN DETAIL NOTE	6	E-153
STA. 16+00.00 LT	WRONG WAY	1	36	24	6.0						1	12-0		X																			R5-1A		E-143
STA. 16+00.00 RT	WRONG WAY	1	36	24	6.0						1	12-6		X																			R5-1A		E-143
STA. 17+00.00 LT	ONLY	1	48	60	20.0																												R3-5L ATTACHED TO OVERHEAD		E-144
STA. 17+00.00 LT		1	48	60	20.0																												R3-6 ATTACHED TO OVERHEAD		E-144
STA. 17+00.00 LT	ONLY	1	48	60	20.0																												R3-5R ATTACHED TO OVERHEAD		E-144
STA. 18+27.45 LT	STATE POLICE	1	72	12	6.0						2	13-0 14-0		X																			I REMOVE		E-123
STA. 18+27.45 LT	WILLISTON T	1	72	12	6.0																														E-123
STA. 18+27.45 LT	ESSEX JCT. 4	1	72	12	6.0																														E-123
STA. 18+27.45 LT	WRONG WAY	1	36	24	6.0																												R5-1A		E-143
STA. 18+27.45 RT	HINESBURG 8	1	72	12	6.0						2	12-6 13-6		X																			5 REMOVE		E-123
STA. 18+27.45 RT	BRISTOL 25	1	72	12	6.0																														E-123
STA. 18+27.45 RT	WRONG WAY	1	36	24	6.0																												R5-1A		E-143
NOTE 15+62 LT		1	18	18	2.25						1	9.5																							

SIGNS ON SIGN BRIDGE AT STATION 17+00.00 SHALL BE FABRICATED ON ASTM TYPE IX SILVER SHEETING WITH BLACK SYMBOLS AND TEXT. ALL OTHER GROUND MOUNTED SIGNS SHALL BE ASTM TYPE III.

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."

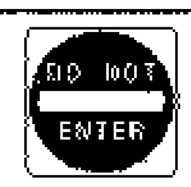
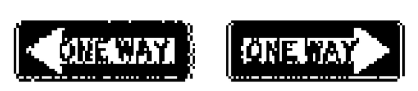
TOTALS SHEET 1	SF ~~145.7~~ 147.95	SF	EA.	SF		FT ~~60~~ 87.0	FT	LB	EA. 2	LB ~~200~~ 210.90	EA. 2	EA.	LB

PROJECT NAME: I-89 EXIT 12 SB OFF RAMP
PROJECT NUMBER: IM 089-2(35)

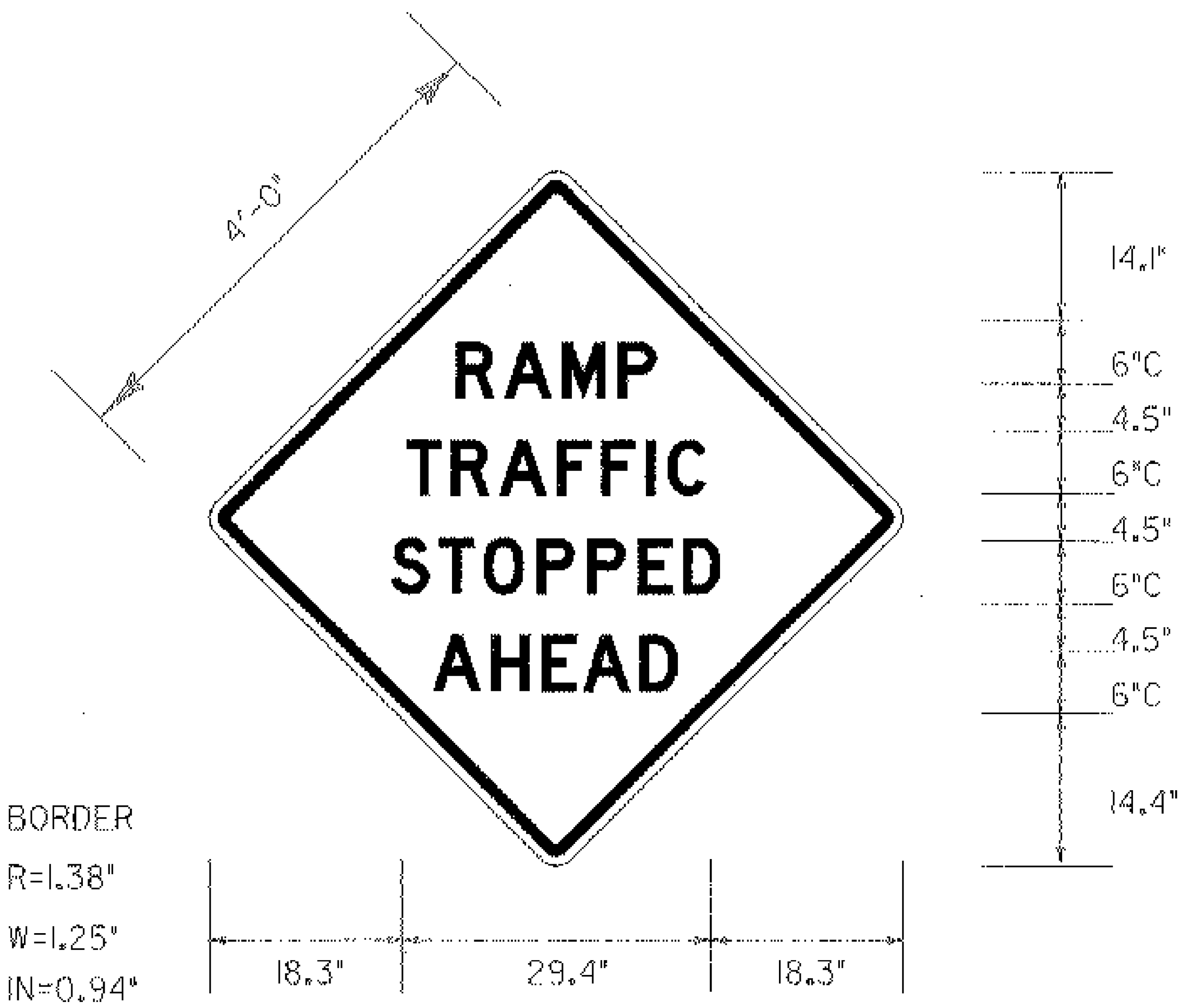
FILE NAME: I880F4TS02.dgn
PROJECT LEADER: EPD
DESIGNED BY: JDA
SIGN SUMMARY SHEET
PLOT DATE: 17-MAY-2005
DRAWN BY: JDA / PGJ
CHECKED BY: EPD
SHEET 50 OF 76

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (In)	HEIGHT (In)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST (REMOVE) RETAIN	SALVAGE	NO. OF POSTS	FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL 1.75 (1.88 lb/ft)	2.0 (2.16)	2.5 (3.35)	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (In) 3.0 (1.3 lb/ft)	4.0 (1.7)	4.0 MOD (1.7)	FOUNDATION	TUBULAR STEEL Ø (In) 3.0 (7.6 lb/ft)	3.5 (9.0)	4.0 (10.8)	5.0 (14.6)	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	SIGN MOUNT REQUIRED	REMARKS	REMOVE SIGN	SIGN DETAIL: DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
STA. 20+67.38 LT		1	36	36	9.0				1		1	13-6		X																			R5-1	1		E-143
STA. 20+67.38 LT		2	36	12	6.0																												R6-1L, R6-1R	2		E-142
STA. 20+68.38 RT		1	36	36	9.0				1		1	12-6		X																			R5-1	1		E-143
STA. 20+68.38 RT		2	36	12	6.0																												R6-1L, R6-1R	2		E-142
												FT	FT	FT 20	FT	FT	FT		EA	LB	LB	LB		LB	LB	LB	LB									
TOTALS					SF 30.0	SF	EA.	SF				FT ~~20~~ 26			FT					LB			EA.	LB				EA.	EA.	LB						

OPTION ITEMS

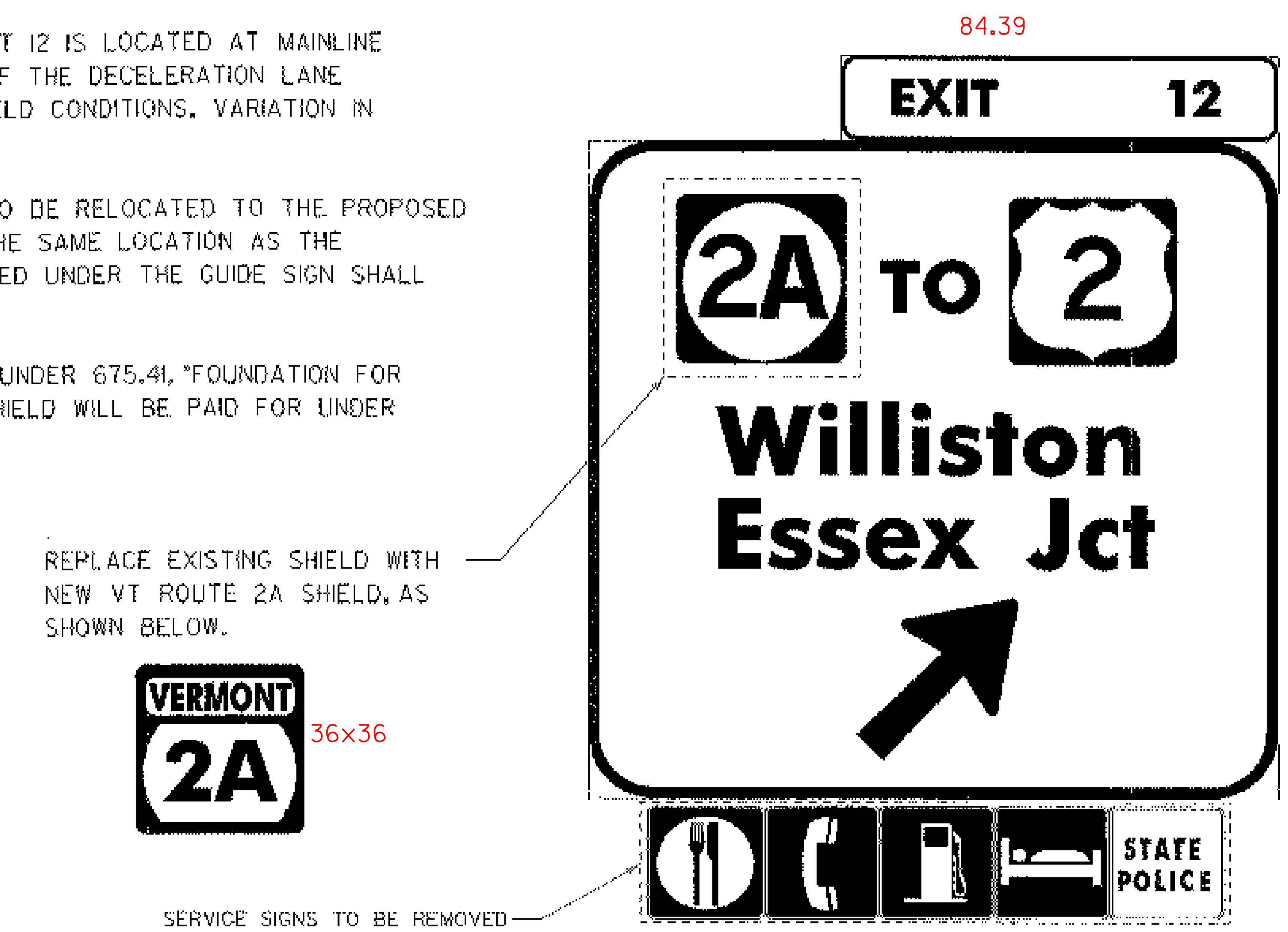


SIGN DETAIL NOTE (STA. 0+00)

THE "RAMP TRAFFIC STOPPED AHEAD" AND "WHEN FLASHING" SIGNS SHALL BE FABRICATED ON ASTM TYPE III YELLOW SHEETING.

ADVANCED EXIT 12 TYPE B SIGN NOTES

1. THE PROPOSED LOCATION FOR THE TYPE B ADVANCE SIGN FOR EXIT 12 IS LOCATED AT MAINLINE STATION 4455+62 (M.M. 84.39), 500 FEET BEFORE THE BEGINNING OF THE DECELERATION LANE TAPER. ACTUAL FIELD PLACEMENT MAY VARY SLIGHTLY DUE TO FIELD CONDITIONS. VARIATION IN PLACEMENT MUST BE APPROVED BY THE RESIDENT ENGINEER.
2. EXISTING "EXIT 12" AND TYPE B SIGN AND POSTS AT STA. 6+99.01 TO BE RELOCATED TO THE PROPOSED LOCATION. A NEW "VT ROUTE 2A" SHIELD WILL BE ATTACHED AT THE SAME LOCATION AS THE EXISTING VT ROUTE 2A SHIELD. EXISTING SERVICE SYMBOLS MOUNTED UNDER THE GUIDE SIGN SHALL BE REMOVED.
3. PAYMENT FOR NEW FOUNDATIONS FOR THIS SIGN TO BE PAID FOR UNDER 675.41, "FOUNDATION FOR W-SHAPE STEEL POSTS, 24" DIAMETER". PLACEMENT OF THE NEW SHIELD WILL BE PAID FOR UNDER ITEM 675.20, "TRAFFIC SIGNS, TYPE A".



FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."

	SF	SF	EA.	SF		FLANGED CHANNEL FT	SQUARE STEEL FT	TUBULAR ALUMINUM LB	FOUNDATION EA.	TUBULAR STEEL LB	W-SHAPE 24" EA.	30" EA.	WEIGHT LB
GRAND TOTAL	~~175.7~~ 177.95					80 113			2	~~200~~ 210.9	2		
	BK #1 P81					BK #1 P83			BK #1 P115	BK #1 P85	BK #1 P115		

PROJECT NAME: I-89 EXIT 12 SB OFF RAMP
PROJECT NUMBER: IM 089-2(35)
FILE NAME: 18800F4TS03.dgn
PLOT DATE: 17-MAY-2005
PROJECT LEADER: EPD
DRAWN BY: JDA / PGJ
DESIGNED BY: JDA
CHECKED BY: EPD
SIGN SUMMARY AND DETAIL SHEET

GPS CONTROL POINTS

HVCTRL #1

STANDARD DISC STAMPED

"LONE PINE 1943"

** N = 713794.9995

E = 1469420.1680

ELEV. = 416.1100

GENERAL LOCATION, SOUTH BURLINGTON, VT. OWNERSHIP, LEO OBRIEN, JR., OLD FARM ROAD, SOUTH BURLINGTON, VT. 05403. PHONE 802-864-4677 OR 802-863-2773. TO REACH FROM THE NORTH END OF THE VT ROUTE 116 BRIDGE OVER I-89 GO NORTH ALONG VT ROUTE 116 FOR 0.1 MI (0.2 KM) TO THE INTERSECTION OF OLD FARM ROAD RIGHT. TURN RIGHT AND GO NORTH ALONG OLD FARM ROAD FOR 0.5 MI (0.8 KM) TO THE MARK ON THE RIGHT IN AN OLD PASTURE. TO REACH FROM THE INTERSECTION OF U.S. ROUTE 2 (WILLISTON ROAD) AND VT ROUTE 116 IN SOUTH BURLINGTON GO EAST ALONG U.S. ROUTE 2 FOR 0.9 MI (1.4 KM) TO THE INTERSECTION OF KENNEDY DRIVE RIGHT. TURN RIGHT AND GO SOUTH ALONG KENNEDY DRIVE FOR 0.15 MI (0.24 KM) TO THE INTERSECTION OF KIMBALL AVENUE LEFT. TURN LEFT AND GO SOUTHEAST ALONG KIMBALL AVENUE FOR 0.05 MI (0.08 KM) TO THE INTERSECTION OF OLD FARM ROAD RIGHT. TURN RIGHT AND GO SOUTH ALONG OLD FARM ROAD FOR 0.25 MI (0.40 KM) TO THE MARK ON THE LEFT. THE MARK IS SET FLUSH WITH GROUND SURFACE IN THE TOP OF A NORTH SOUTH ROCK LEDGE. IT IS 49.4 M (162.1FT) EAST OF AND ABOUT 3 M (9.8 FT) HIGHER THAN THE CENTERLINE OF OLD FARM ROAD, 56.1 M (184.1 FT) SOUTHWEST OF A 30 CM CHERRY, 13.6 M (44.6 FT) NORTHEAST OF A LONE DOUBLE TRUNK APPLE, AND 2.0 M (6.6 FT) NORTHWEST OF A FIBERGLASS WITNESS POST IN A STONE PILE.

HVCTRL #2

STANDARD DISC STAMPED

"EXIT 12-189 1995"

** N = 707578.2862

E = 1479708.0570

ELEV. = 453.9200

GENERAL LOCATION, WILLISTON, VT. AT THE NORTHWEST QUADRANT OF THE INTERSECTION OF I-89 AND VT ROUTE 2A AT EXIT 12. THE MARK IS SET FLUSH WITH GROUND SURFACE IN THE TOP OF A 30 CM DIAMETER CONCRETE MONUMENT. IT IS 22.4 M (73.5 FT) WEST OF AND ABOUT 6 M (19.7 FT) HIGHER THAN THE WEST EDGE OF PAVEMENT OF VT ROUTE 2A, 1.9 M (6.2 FT) NORTH OF THE NORTH EDGE OF PAVEMENT OF I-89 NORTHBOUND, 4.8 M (15.7) WEST OF THE NORTHWEST CORNER OF THE WEST ABUTMENT OF THE I-89 NORTHBOUND BRIDGE OVER VT ROUTE 2A, AND 1.4 M (4.6 FT) SOUTH OF A FIBERGLASS WITNESS POST.

* DESCRIPTION PROVIDED BY VERMONT AGENCY OF TRANSPORTATION GEODETIC SURVEY UNIT

TRAVERSE TIES

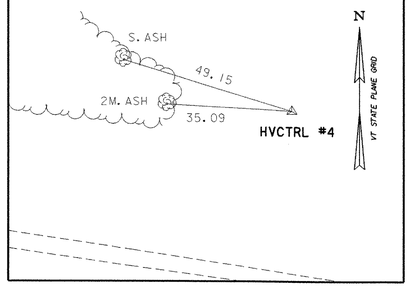
HVCTRL #3

NORTH = 707642.9557
EAST = 1478549.202
ELEV. = 422.9550

NOT TIED

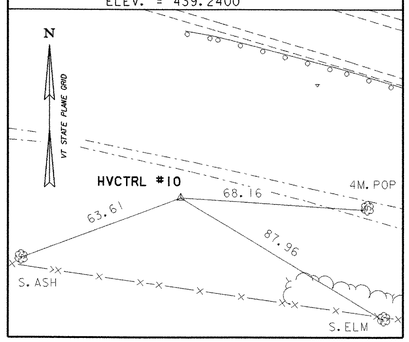
HVCTRL #4

NORTH = 707754.9228
EAST = 1477702.062
ELEV. = 388.5350



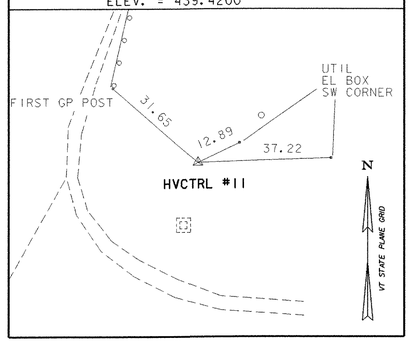
HVCTRL #10

NORTH = 707379.9354
EAST = 1479032.289
ELEV. = 439.2400



HVCTRL #11

NORTH = 707309.2381
EAST = 1479767.685
ELEV. = 439.4200

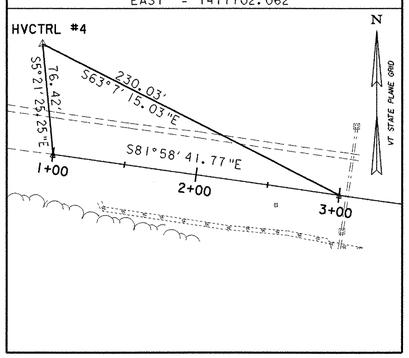


* MAIN TRAVERSE COMPLETED: MAY 5, 2004 BY L.ORVIS PC/ J.HULETT

ALIGNMENT TIES

HVCTRL #4

NORTH = 707754.9228
EAST = 1477702.062

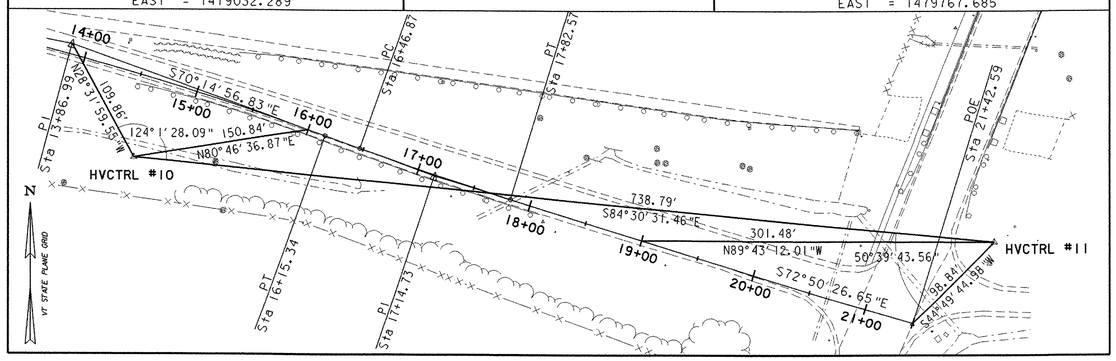


HVCTRL #10

NORTH = 707379.9354
EAST = 1479032.289

HVCTRL #11

NORTH = 707309.2381
EAST = 1479767.685



Type		Station		Northing (Y)	Easting (X)
POB		1+00.00		707678.8336	1477709.1973
		200.0000	S 81°58'41.77" E		
PI		3+00.00		707650.9239	1477907.2403
		580.7494	S 82°03'10.02" E		
PI		8+80.75		707570.6290	1478482.4121
		276.9288	S 79°16'43.87" E		
PC		11+57.68		707519.1122	1478754.5068
	LC= 457.6663		CD= 9°01'47.04"		
	RC= 2904.0000		DC= 1°58'22.78"		
PI		13+86.99		707476.4542	1478979.8120
PT		16+15.34		707398.9639	1479195.6300
		31.5304	S 70°14'56.83" E		
PC		16+46.87		707388.3087	1479225.3055
	LC= 135.6967		CD= 2°35'29.82"		
	RC= -3000.0000		DC= 1°54'35.49"		
PI		17+14.73		707365.3768	1479289.1733
PT		17+82.57		707345.3561	1479354.0127
		360.0167	S 72°50'26.65" E		
POE		21+42.59		707239.1408	1479698.0045

DATUM

VERTICAL NAVD 88
HORIZONTAL NAD-83(96)
ADJUSTMENT COMPASS

PROJECT NAME: I-89 EXIT 12 SB OFF RAMP
PROJECT NUMBER: IM 089-2(35)

FILE NAME: 18800F4TIE.dgn
PROJECT LEADER: EPD
DESIGNED BY: JDA
TIE SHEET

PLOT DATE: 17-MAY-2005
DRAWN BY: JDA / PGJ
CHECKED BY: EPD
SHEET 52 OF 76

MANUFACTURED TERMINAL SECTION (FLARED)

STA. 15+38.96, 45.60 LT - STA. 15+75.33, 55.21LT
STA. 16+~~54~~42. 43.93 LT - STA. 16+92.66. 39.98 LT
~~04~~ 42

STEEL BEAM GUARDRAIL

STA. 16+92.66. ~~39.98~~ 42.66 LT - STA. 20+72.70. 40.00 LT 437.5

REMOVAL AND DISPOSAL OF GUARDRAIL

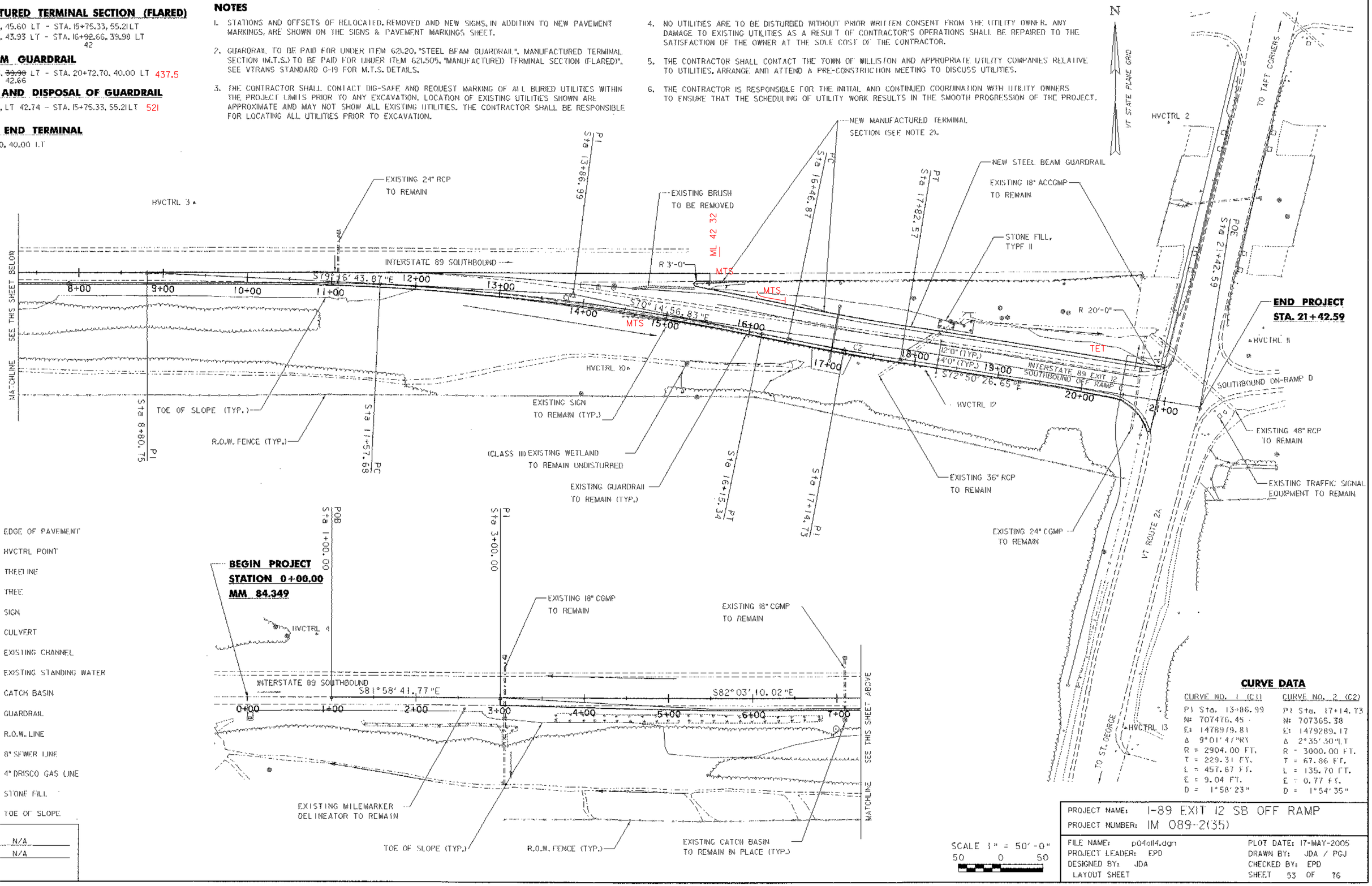
STA. 15+23.84, LT 42.74 - STA. 15+75.33. 55.21LT 521

TRAILING END TERMINAL

STA. 20+72.70, 40.00 LT

NOTES

1. STATIONS AND OFFSETS OF RELOCATED, REMOVED AND NEW SIGNS, IN ADDITION TO NEW PAVEMENT MARKINGS, ARE SHOWN ON THE SIGNS & PAVEMENT MARKINGS SHEET.
2. GUARDRAIL TO BE PAID FOR UNDER ITEM 623.20, "STEEL BEAM GUARDRAIL", MANUFACTURED TERMINAL SECTION (M.T.S.) TO BE PAID FOR UNDER ITEM 621.505, "MANUFACTURED TERMINAL SECTION (FLARED)". SEE VTRANS STANDARD G-19 FOR M.T.S. DETAILS.
3. THE CONTRACTOR SHALL CONTACT DIG-SAFE AND REQUEST MARKING OF ALL BURIED UTILITIES WITHIN THE PROJECT LIMITS PRIOR TO ANY EXCAVATION. LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE AND MAY NOT SHOW ALL EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES PRIOR TO EXCAVATION.
4. NO UTILITIES ARE TO BE DISTURBED WITHOUT PRIOR WRITTEN CONSENT FROM THE UTILITY OWNER. ANY DAMAGE TO EXISTING UTILITIES AS A RESULT OF CONTRACTOR'S OPERATIONS SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER AT THE SOLE COST OF THE CONTRACTOR.
5. THE CONTRACTOR SHALL CONTACT THE TOWN OF WILLISTON AND APPROPRIATE UTILITY COMPANIES RELATIVE TO UTILITIES. ARRANGE AND ATTEND A PRE-CONSTRUCTION MEETING TO DISCUSS UTILITIES.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE INITIAL AND CONTINUED COORDINATION WITH UTILITY OWNERS TO ENSURE THAT THE SCHEDULING OF UTILITY WORK RESULTS IN THE SMOOTH PROGRESSION OF THE PROJECT.



LEGEND

- EDGE OF PAVEMENT
- HVCTRL POINT
- TREELINE
- TREE
- SIGN
- CULVERT
- EXISTING CHANNEL
- EXISTING STANDING WATER
- CATCH BASIN
- GUARDRAIL
- R.O.W. LINE
- 8" SEWER LINE
- 4" DRISCO GAS LINE
- STONE FILL
- TOE OF SLOPE

DATUM
VERTICAL N/A
HORIZONTAL N/A

CURVE DATA

CURVE NO. 1 (C1)	CURVE NO. 2 (C2)
PI Sta. 13+86.99	PI Sta. 17+14.73
N: 707476.45	N: 707365.38
E: 1478979.81	E: 1479289.17
Δ 9°01'47"RT	Δ 2°35'30"LT
R = 2904.00 FT.	R = 3000.00 FT.
T = 229.31 FT.	T = 67.86 FT.
L = 457.67 FT.	L = 135.70 FT.
E = 9.04 FT.	E = 0.77 FT.
D = 1°58'23"	D = 1°54'35"

SCALE 1" = 50'-0"
50 0 50

PROJECT NAME: I-89 EXIT 12 SB OFF RAMP
PROJECT NUMBER: IM 089-2(35)

FILE NAME: p04all4.dgn
PROJECT LEADER: EPD
DESIGNED BY: JDA
LAYOUT SHEET

PLOT DATE: 17-MAY-2005
DRAWN BY: JDA / PGJ
CHECKED BY: EPD
SHEET 53 OF 76

NOTES

1. LOCATION OF EXISTING STRIPING ON VT ROUTE 2A SHOWN IS APPROXIMATE. ALL CONFLICTING EXISTING MARKINGS SHALL BE REMOVED BY GRINDING OR BURNING. REMOVAL OF EXISTING MARKINGS SHALL BE PAID FOR UNDER ITEM 646.85, "REMOVAL OF EXISTING PAVEMENT MARKINGS".
2. TEMPORARY LINES, SYMBOLS AND LETTERS ARE TO BE USED AT THE SAME LOCATIONS AS DURABLE LINES. SEE QUANTITY SHEETS FOR ITEM NUMBERS USED FOR PAYMENT OF ALL LINE TYPES.
3. PLACEMENT OF RELOCATED SIGNS SHALL FOLLOW VTRANS AND 2003 MUTCD STANDARDS. SIGNS ON THIS SHEET ARE NOT DRAWN TO SCALE.
4. NEW DELINEATORS WITH REFLECTORS SHALL BE PLACED ALONG BOTH SIDES OF THE RAMP. REFLECTORS ON LEFT SIDE SHALL BE YELLOW WITH RED ON BACK. ON THE RIGHT SIDE THE REFLECTORS SHALL BE SILVER WITH RED ON THE BACK. SEE VTRANS STANDARDS E-197 AND E-198 FOR PLACEMENT AND DETAILS OF DELINEATORS. TO BE PAID FOR UNDER ITEM 676.10, "DELINEATORS WITH STEEL POSTS".
5. NEW "RAMP TRAFFIC STOPPED AHEAD" SIGN SHALL INCLUDE DUAL ALTERNATING FLASHING BEACONS ON TOP OF THE SIGN. SEE VTRANS STANDARD E-106 FOR DETAILS ON ATTACHING BEACONS.
6. SEE SIGN ACTUATION NOTES AND DETAILS SHEET FOR INFORMATION ON THE CONDUIT AND LOOP FOR THE SIGN ACTUATION. LOOP DETECTORS ARE PAID UNDER ITEM 678.22, "VEHICLE LOOP DETECTOR".

DURABLE 6" WHITE LINE (MOD.)

STA. 3+00.00, 0.00 LT - STA. 8+22.20, 0.00 LT (DOTTED)
STA. 3+00.00, 0.00 RT - STA. 20+90.59, 67.81 RT
STA. 8+22.20, 0.00 LT - STA. 10+81.14, 10.34 LT (DASHED)
STA. 15+56.19, 24.00 LT - STA. 20+66.38, 24.00 LT
STA. 17+82.48, 12.00 LT - STA. 20+66.38, 12.00 LT

DURABLE 12" WHITE LINE (MOD.)

STA. 10+94.14, 10.34 LT - STA. 15+14.56, 53.11 LT
STA. 10+94.14, 10.34 LT - STA. 15+17.27, 32.76 LT
STA. 11+64.61, 14.27 LT - STA. 15+17.27, 53.11 LT (GORE AREA)

DURABLE 4" WHITE LINE (MOD.)

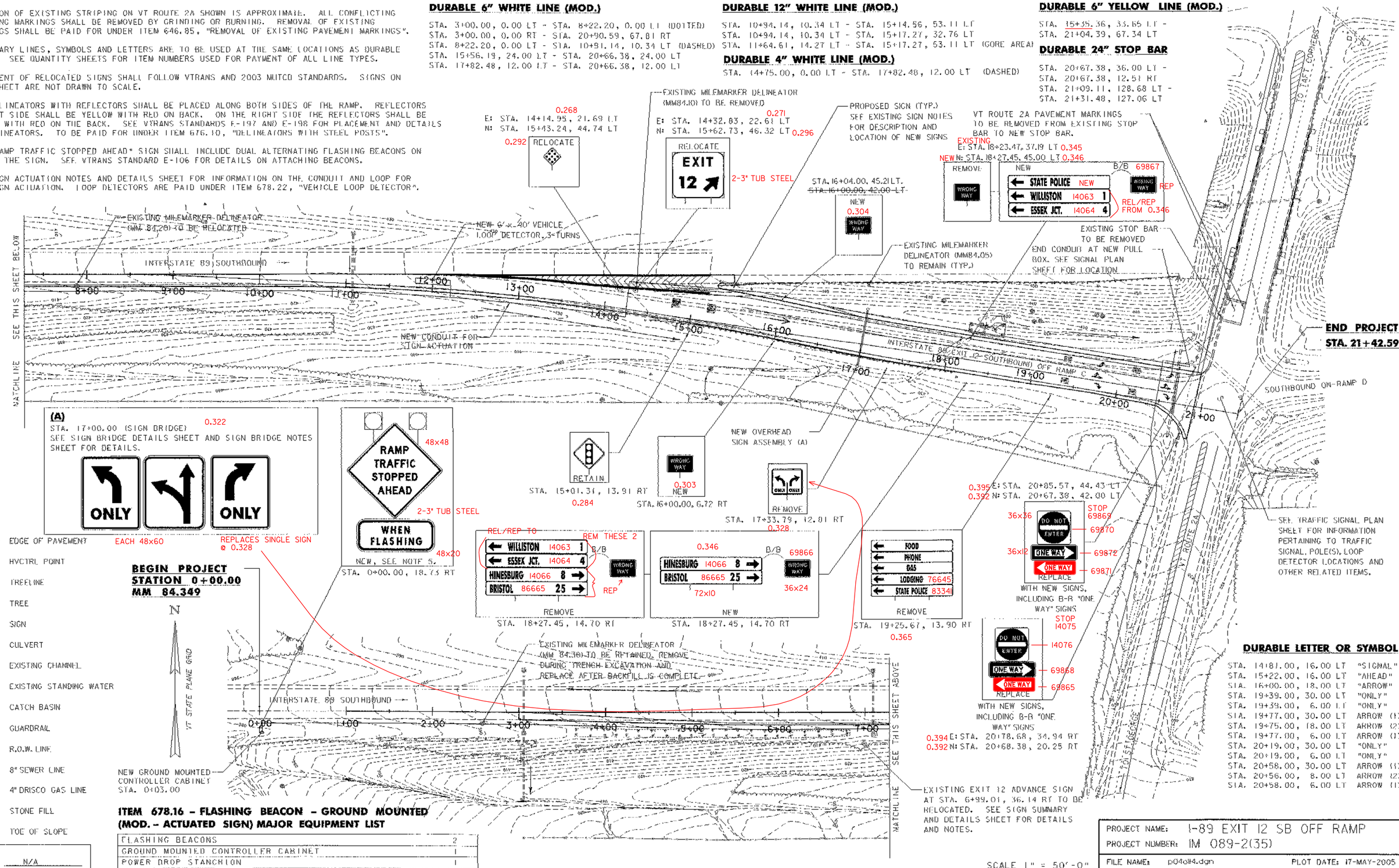
STA. 14+75.00, 0.00 LT - STA. 17+82.48, 12.00 LT (DASHED)

DURABLE 6" YELLOW LINE (MOD.)

STA. 15+35.36, 33.65 LT -
STA. 21+04.39, 67.34 LT

DURABLE 24" STOP BAR

STA. 20+67.38, 36.00 LT -
STA. 20+67.38, 12.51 RT
STA. 21+09.11, 128.68 LT -
STA. 21+31.48, 127.06 LT



DURABLE LETTER OR SYMBOL

STA. 14+81.00, 16.00 LT	"SIGNAL"
STA. 15+22.00, 16.00 LT	"AHEAD"
STA. 16+00.00, 18.00 LT	"ARROW"
STA. 19+39.00, 30.00 LT	"ONLY"
STA. 19+39.00, 6.00 LT	"ONLY"
STA. 19+77.00, 30.00 LT	ARROW (1)
STA. 19+75.00, 18.00 LT	ARROW (2)
STA. 19+77.00, 6.00 LT	ARROW (1)
STA. 20+19.00, 30.00 LT	"ONLY"
STA. 20+19.00, 6.00 LT	"ONLY"
STA. 20+58.00, 30.00 LT	ARROW (1)
STA. 20+56.00, 8.00 LT	ARROW (2)
STA. 20+58.00, 6.00 LT	ARROW (1)

LEGEND

- EDGE OF PAVEMENT
- HVCTRL POINT
- TREELINE
- TREE
- SIGN
- CULVERT
- EXISTING CHANNEL
- EXISTING STANDING WATER
- CATCH BASIN
- GUARDRAIL
- R.O.W. LINE
- 8" SEWER LINE
- 4" DRISCO GAS LINE
- STONE FILL
- TOE OF SLOPE

DATUM
VERTICAL N/A
HORIZONTAL N/A

ITEM 678.16 - FLASHING BEACON - GROUND MOUNTED (MOD. - ACTUATED SIGN) MAJOR EQUIPMENT LIST

FLASHING BEACONS	2
GROUND MOUNTED CONTROLLER CABINET	1
POWER DROP STANCHION	1
ALL OTHER MISCELLANEOUS HARDWARE NECESSARY TO COMPLETE INSTALLATION	

SCALE 1" = 50'-0"
50 0 50

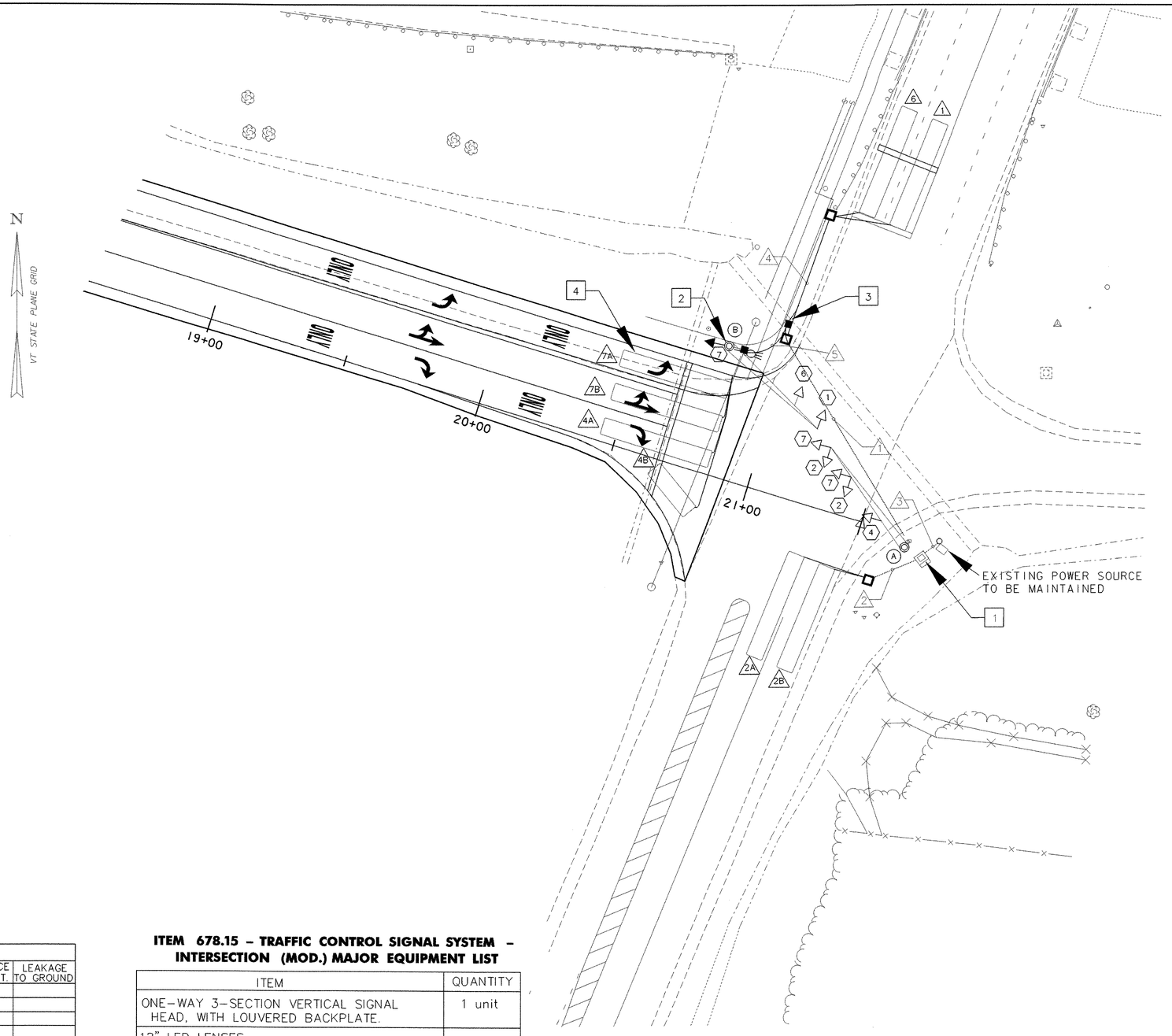
PROJECT NAME: I-89 EXIT 12 SB OFF RAMP
PROJECT NUMBER: IM 089-2(35)

FILE NAME: p04sh4.dgn
PROJECT LEADER: EPD
DESIGNED BY: JDA
SIGNS & PAVEMENT MARKINGS SHEET

PLOT DATE: 17-MAY-2005
DRAWN BY: JDA / PGJ
CHECKED BY: EPD
SHEET 54 OF 76

GENERAL NOTES

1. LOCATIONS OF ALL UNDERGROUND UTILITIES ARE APPROXIMATE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS AND VERIFY ALL CONDITIONS ON THE JOB SITE.
2. ALL POLES, CONDUITS, JUNCTION BOXES, STRIPING, AND LOOP DETECTOR LOCATIONS SHOWN ON PLANS ARE APPROXIMATE. ACTUAL LOCATIONS SHALL BE DETERMINED BY FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND AS DIRECTED BY THE RESIDENT ENGINEER OR TOWN OF WILLISTON.
3. THE CONTRACTOR SHALL ACQUIRE ALL NECESSARY LOCAL PERMITS AND MAKE ALL NECESSARY ARRANGEMENTS PRIOR TO THE COMMENCEMENT OF WORK.
4. ALL TRAFFIC SIGNAL CONDUIT SHALL BE 2" PVC UNLESS OTHERWISE SPECIFIED.
5. JUNCTION BOXES SHALL COMPLY WITH VTRANS STANDARD E-173. MINIMUM BOX SIZE SHALL BE 18" X 12" X 12".
6. THE LOGO ON JUNCTION BOXES SHALL BE "SIGNAL".
7. VEHICLE DETECTOR LOOPS SHALL COMPLY WITH VTRANS STANDARD E-172.
8. EXISTING TIMINGS WILL BE USED. NECESSARY ADJUSTMENTS TO TIMINGS WILL BE MADE AFTER COMPLETION OF THE PROJECT.
9. SIGNAL OPERATION:
   SWITCH-OVER FROM EXISTING TO REPLACEMENT SIGNALS SHALL NOT BE DONE DURING PEAK TRAFFIC PERIODS. UNIFORMED TRAFFIC OFFICERS SHALL CONTROL TRAFFIC DURING SWITCH-OVER.
   THE VT 2A PHASE SHALL BE USED FOR THE START-UP PHASE FOLLOWING FLASHING OPERATION.
10. WORK IMPROVEMENTS CONSISTING OF THOSE SHOWN ON PLANS SHALL BE PERFORMED ACCORDING TO SPECIFICATIONS AND STANDARD DRAWINGS OF VERMONT AGENCY OF TRANSPORTATION.
11. INSTALLATION OF THE SIGNAL HEAD TO THE EXISTING POLE SHALL BE PAID FOR UNDER ITEM 678.15, "TRAFFIC CONTROL SIGNAL SYSTEM - INTERSECTION (MOD.)". INSTALLATION PROCEDURE FOR ATTACHING THE NEW SIGNAL HEAD TO THE EXISTING POLE AND WIRING OF THE NEW SIGNAL HEAD SHALL BE APPROVED BY VTRANS PRIOR TO INSTALLATION. THE CONTRACTOR SHALL COORDINATE WITH VTRANS ON SUCH PROCEDURES. ONCE INSTALLATION OF THE NEW SIGNAL HEAD AND WIRINGIS COMPLETE, THE EXISTING POLE AND NEW SIGNAL HEAD SHALL BE INSPECTED AND FOUND SATISFACTORY BY THE RESIDENT ENGINEER.



CONSTRUCTION NOTES:

1. RETAIN EXISTING CONTROLLER IN EXISTING CABINET. INSTALL LOOP DETECTOR.
2. NEW CONDUIT AND SWEEPS INTO EXISTING CONDUIT RUN. EXISTING CONDUCTORS SHALL BE USED. INSTALL NEW SIGNAL HEAD ON POST OF EXISTING MAST ARM. RETAIN ALL CONDUCTORS AND SIGNAL HEADS. CONDUIT RUNS AND SIGNAL HEAD LOCATION SHALL COMPLY WITH VTRANS STANDARDS E-170, E-171A, E-171B, AND E-171C.
3. RELOCATE EXISTING JUNCTION BOX INTO EXISTING CONDUIT RUN. INSTALLATION SHOULD FOLLOW VTRANS STANDARD DRAWING E-173. NEW SWEEPS FROM EXISTING CONDUIT RUN INTO PULL BOX.
4. INSTALL DETECTOR LOOP PER VTRANS STANDARD DRAWING E-172. LOOP SHALL BE IN CENTER OF LANE.

EXISTING	NEW	LEGEND
		UTILITY POLE
		LUMINAIRE
		LIGHT OR WOOD POLE
		STRAIN POLE
		CONTROLLER CABINET
		JUNCTION BOX
		SIGNAL HEAD
		CONDUIT
		VEHICLE LOOPS
		PEDESTAL POST
		STANCHION
		SWEEP

VEHICLE DETECTOR LOOPS

LOOP NO.	LANE	CALL Ø	SIZE	TYPE & NO. TURNS	DELAY OR PRESENCE	INDUCTANCE CALC.	INDUCTANCE ACT.	RESISTANCE CALC.	RESISTANCE ACT.	LEAKAGE TO GROUND
1	SB LT	1&6	6x40	QUAD 2	PRESENCE	395		1.30		
2A	NB TH	2&6	6x40	QUAD 2	PRESENCE	351		0.73		
2B	NB THRT	2&6	6x40	QUAD 2	PRESENCE	348		0.69		
4A	EB RT	4&7	6x40	QUAD 2	5 SEC. DELAY	388		1.21		
4B	EB RT	4&7	6x20	QUAD 2	5 SEC. DELAY	234		1.02		
6	SB TH	2&6	6x40	QUAD 2	PRESENCE	392		1.26		
7A	EB LT	4&7	6x40	QUAD 3	PRESENCE	323		0.376		
7B	EB LT	4&7	6x40	QUAD 2	PRESENCE	384		1.15		

DATUM
VERTICAL N/A
HORIZONTAL N/A

ITEM 678.15 – TRAFFIC CONTROL SIGNAL SYSTEM – INTERSECTION (MOD.) MAJOR EQUIPMENT LIST

ITEM	QUANTITY
ONE-WAY 3-SECTION VERTICAL SIGNAL HEAD, WITH LOUVERED BACKPLATE.	1 unit
12" LED LENSES	
1-GREEN ARROW	1 unit
1-YELLOW ARROW	1 unit
1-RED ARROW	1 unit

SCALE 1" = 20'-0
20 0 20

PROJECT NAME: WILLISTON
PROJECT NUMBER: IM 089-2(35)

FILE NAME: 618800F4RSGTS.dgn
PROJECT LEADER: EPD
DESIGNED BY: JDA
TRAFFIC SIGNAL PLAN SHEET

PLOT DATE: 17-MAY-2005
DRAWN BY: JLS
CHECKED BY: RMC
SHEET 55 OF 76

SIGN ACTUATION NOTES

1. NEW GROUND MOUNTED CONTROLLER CABINET TO BE PAID FOR UNDER ITEM 678.16, "FLASHING BEACON - GROUND MOUNTED (MOD. - ACTUATED SIGN)". SEE VTRANS STANDARD DETAIL E-171B FOR DETAILS ON THE CABINET. CABINET AND ALL EQUIPMENT MUST BE COMPATIBLE WITH EXISTING ECONOLITE SIGNAL EQUIPMENT AND WIRING AT THE INTERSECTION WITH VT ROUTE 2A.

2. ALL EQUIPMENT MUST COMPLY WITH VTRANS STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2001, INCLUDING SECTION 752.06, "TRAFFIC SIGNAL CONTROLLERS", SECTION 752.07, "FLASHING BEACONS", AND ANY OTHER SECTIONS THAT MAY APPLY.

3. GENERAL NOTES ON THE TRAFFIC SIGNAL PLAN SHEET APPLY TO THE ENTIRE LENGTH OF CONDUIT, FROM THE CABINET AT STA. 0+03.00 TO THE LOOP DETECTOR AT STATION 12+00 AND TO THE SIGNAL SYSTEM AT THE EXIT 12 INTERSECTION WITH VT ROUTE 2A.

4. REFER TO SIGNS & PAVEMENT MARKINGS SHEET AND TRAFFIC SIGNAL PLAN SHEET FOR LOCATION OF CONDUIT. REFER TO TRAFFIC SIGNAL PLAN SHEET FOR SIZE OF CONDUIT.

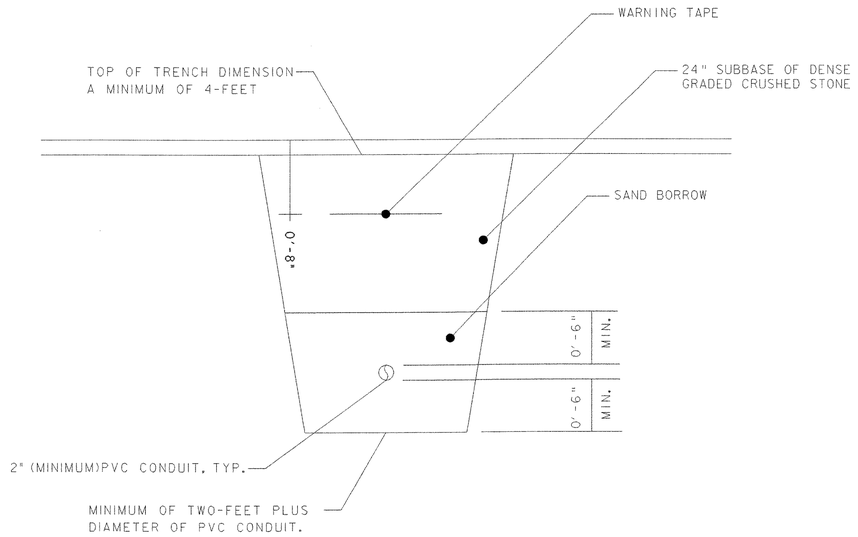
5. PAYMENT FOR WARNING TAPE IN THE TRENCH TO BE PAID SUBSIDIARY TO ITEM 678.23,''WIRED CONDUIT (6'' DIA.)''.

6. PAYMENT FOR WIRING SHALL BE PAID SUBSIDIARY TO ITEM 678.16, "FLASHING BEACON - GROUND MOUNTED", (MOD. - ACTUATED SIGN)."

7. THE POWER SOURCE FOR THE ACTUATED SIGN SHALL BE AT THE OFF-RAMP INTERSECTION WITH VT 2A.

8. CONDUIT FOR THE LOOP SYSTEM SHALL BE ON THE LEFT SIDE OF THE CONDUIT TO THE POWER SOURCE FROM STA. 0+00 TO STA. 14+25, FROM STA.14+25 TO THE INTERSECTIONWITH VT 2A, THE CONDUIT FOR THE LOOP SYSTEM SHALL BE ON THE RIGHT SIDE OF THE CONDUIT FOR THE POWER.

9. THE LOOP AT STA. 12+00.00 SHALL HAVE THE SAME PARAMETERS AS LOOP 7A THAT ARE LISTED IN THE "VEHICLE DETECTOR LOOPS" TABLE ON THE TRAFFIC SIGNAL PLAN SHEET, EXCEPT THE LOOP AT STA. 12+00.00 SHALL HAVE A 5 SEC. DELAY.



CONDUIT TRENCH DETAIL

NOT TO SCALE

PROJECT NAME:	WILLISTON
PROJECT NUMBER:	IM 089-2(35)
FILE NAME:	18800F4TS03.dgn
PROJECT LEADER:	EPD
DESIGNED BY:	JDA
SIGN ACTUATION NOTES AND DETAILS	
PLOT DATE:	14-JUN-2005
DRAWN BY:	JDA / PGJ
CHECKED BY:	EPD
SHEET	56 OF 76

EROSION CONTROL NARRATIVE

1.1 DESCRIPTION OF PROJECT

THIS PROJECT CONSISTS OF LENGTHENING THE EXISTING INTERSTATE 89 (I-89) SOUTHBOUND EXIT 12 OFF-RAMP (RAMP C) AND WIDENING THIS RAMP TO PROVIDE AN ADDITIONAL TRAVEL LANE. ADDITIONAL WORK INCLUDES NEW SIGNS, GUARDRAIL, AND ASSOCIATED SLOPE WORK. THIS PROJECT MAINTAINS THE EXISTING ALIGNMENT.

THE PROJECT IS LOCATED ON I-89 SOUTHBOUND AND BEGINS AT MILEMARKER 84.24. THE PROJECT EXTENDS SOUTHEASTERLY A DISTANCE OF 1,943 FEET DOWN THE EXIT 12 SOUTHBOUND RAMP. PRIOR TO CONSTRUCTION, TRAFFIC CONTROL WILL INCLUDE BLOCKING OFF THE RIGHT TRAVEL LANE OF I-89 SOUTHBOUND PRIOR TO THE PROJECT AREA USING TEMPORARY TRAFFIC BARRIERS. TEMPORARY TRAFFIC BARRIERS WILL ALSO BE PLACED ALONG THE LEFT SIDE OF THE EXISTING RAMP (NORTH SIDE) TO ALLOW FOR CONSTRUCTION ON THIS SIDE OF THE RAMP. THIS PROJECT IS EXPECTED TO LAST ONE CONSTRUCTION SEASON.

THE MATERIAL TO BE EXCAVATED FROM THE SITE WILL INCLUDE COLD PLANING OF EXISTING BITUMINOUS CONCRETE PAVEMENT SURFACE ALONG THE EXISTING RAMP AND FULL DEPTH CONSTRUCTION ALONG PORTIONS WHERE WIDENING OCCURS. STOCKPILING OF ANY EXCAVATED MATERIAL TO BE REUSED IS EXPECTED TO TAKE PLACE WITHIN THE PROJECT LIMITS OF THE PAVEMENT RESURFACING PROJECT FOR THE I-89 MAINLINE. LIKEWISE, STOCKPILING OF ANY NEW MATERIAL TO BE USED IS EXPECTED TO TAKE PLACE WITHIN THE PROJECT LIMITS. THE LIMIT OF CONSTRUCTION AND ASSOCIATED MAXIMUM SOIL DISTURBANCE AREA FOR THIS PROJECT IS APPROXIMATELY 2.0 ACRES.

THE ONLY EXISTING ENVIRONMENTAL RESOURCE ELEMENT IN THE VICINITY OF THE PROJECT IS A WETLAND ON THE RIGHT SIDE (SOUTH SIDE) OF THE OFF-RAMP. THIS WETLAND IS NOT BEING IMPACTED AS PART OF THIS PROJECT.

1.2 SITE INVENTORY AND ANALYSIS

1.2.1 OFFSITE DRAINAGE CHARACTERISTICS

THIS PROJECT SITE IS LOCATED IN AN URBAN, HIGHLY TRAVELED AREA IN THE TOWN OF WILLISTON. THE AREA TO THE SOUTH OF THE PROJECT AREA IS MODERATELY SLOPED AND DEVELOPED TO THE NORTH. ESTABLISHED VEGETATION AND TREE LINE EXISTS ON THE SOUTH SIDE OF THE PROJECT AREA. ON THE NORTH SIDE OF THE PROJECT AREA IS THE I-89 MAINLINE AND BRIDGE OVER VT ROUTE 2A. RUNOFF FROM THE PROJECT AREA DRAINS INTO A 48-INCH DIAMETER CULVERT UNDER THE I-89 MAINLINE.

1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER

THERE ARE NO WATERWAYS WITHIN THE PROJECT AREA. DRAINAGE STRUCTURES ARE LOCATED WITHIN THE PROJECT AREA TO COLLECT RUNOFF FROM I-89 AND THE I-89 EXIT 12 SOUTHBOUND OFF-RAMP.

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE TOPOGRAPHY OF THE PROJECT AREA CONSISTS OF MODERATE SLOPES. THERE ARE NO BUILDINGS WITHIN THE PROJECT AREA. SIGNAL EQUIPMENT, INCLUDING MAST ARMS, PULL BOX AND OTHER SIGNAL EQUIPMENT IS LOCATED AT THE INTERSECTION WITH VT ROUTE 2A. THERE ARE NO OTHER KNOWN UTILITIES WITHIN THE PROJECT AREA.

1.2.4 VEGETATION

THE PROJECT AREA OUTSIDE OF I-89 TRAVEL LANES CONSISTS OF GRASSED SIDE-SLOPES WITH TREES NEAR THE RIGHT-OF-WAY FENCE. IMPACTS TO VEGETATED AREAS WILL BE LIMITED TO THE SIDE SLOPES OF THE ROAD AND SLOPE WORK ON THE OUTSIDE OF DITCHES ALONG THE SOUTH SIDE OF THE INTERSTATE AND THE NORTH SIDE OF THE OFF-RAMP. FOLLOWING THE COMPLETION OF CONSTRUCTION, THE GRASSY VEGETATION WILL BE RE-ESTABLISHED USING STANDARD SEED AND MULCH PRACTICES.

1.2.5 SOILS

THE NATURAL RESOURCES CONSERVATION SERVICE (NRCS) HAS MAPPED THE SOILS THROUGHOUT CHITTENDEN COUNTY. SOIL TYPES IDENTIFIED FOR THIS PROJECT INCLUDE PERU EXTREMELY STONY LOAM, CABOT EXTREMELY STONY SILT LOAM, PERU STONY LOAM, SCANTIC SILT LOAM, AND MUNSON AND RAYNHAM SILT LOAMS. ALL OF THESE SOILS ARE POTENTIALLY HIGHLY ERODIBLE. SOILS HAVE BEEN PREVIOUSLY DISTURBED WITH THE CONSTRUCTION OF THE INTERSTATE AND OFF-RAMP.

1.2.6 SENSITIVE RESOURCE AREAS

THERE IS A WETLAND ON THE SOUTH SIDE OF THE OFF-RAMP. THIS WETLAND IS NOT BEING IMPACTED WITH THIS PROJECT. RESULTS OF AN ARCHEOLOGICAL ASSESSMENT INDICATED LIMITED CONCERNS FOR HISTORIC ARCHEOLOGICAL FEATURES ALONG THE RIGHT-OF-WAY FENCE AT THE OFF-RAMP. THIS ASSESSMENT INDICATED A BUFFER OF 16.4-FEET FROM THE FENCE LINE AT THE OFF-RAMP IS SUFFICIENT TO PROTECT ANY ARCHEOLOGICALLY SENSITIVE LOCATIONS ON THIS RAMP. THERE ARE THREE STATEWIDE (B) SOIL TYPES ALONG THE OFF-RAMP. SOILS IN THIS VICINITY HAVE BEEN PREVIOUSLY DISTURBED WITH THE CONSTRUCTION OF I-89 AND THE OFF-RAMP. THERE ARE NO OTHER CRITICAL HABITATS OR THREATENED AND ENDANGERED SPECIES WITHIN THE PROJECT AREA.

1.2.7 PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

THE ONLY WATER FEATURES WITHIN THE PROJECT AREA INCLUDE DITCHES ALONG THE TOE OF SLOPE TO CARRY RUNOFF FROM I-89 AND THE OFF-RAMP. THESE DITCHES CARRY WATER TO AN EXISTING 48-INCH DIAMETER CULVERT UNDER I-89. THIS EROSION PREVENTION AND SEDIMENT CONTROL PLAN CONTAINS MEASURES TO PREVENT THE MOBILIZATION AND TRANSPORT OF SEDIMENT INTO DITCHES AND CULVERTS WITHIN THE PROJECT AREA.

1.3 TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL

PROJECT DEMARCATION FENCE SHALL BE INSTALLED TO DELINEATE THE LIMITS THE CONTRACTOR CAN ACCESS WITH CONSTRUCTION EQUIPMENT. THIS MEASURE LIMITS THE AREA THAT CAN BE DISTURBED AND EXPOSED TO EROSION.

TO MINIMIZE THE POTENTIAL FOR STORM WATER RUNOFF TO TRANSPORT SEDIMENT, SEVERAL KEY EROSION CONTROL DEVICES AND GENERAL PRACTICES WILL BE USED. DETAILS OF THE DEVICES AND THE LOCATION OF THEIR PLACEMENT CAN BE FOUND IN THE EROSION CONTROL PLANS AND DETAILS.

SILT FENCE, AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN, SHALL BE PLACED PARALLEL TO, OR ALONG, THE CONTOUR, SO THE STORM WATER WILL RUN PERPENDICULAR TO THE SILT FENCE. THE ENDS SHALL BE "J" HOOKED UP GRADIENT TO CREATE A PONDING EFFECT FOR WATER TRYING TO RUN ALONG THE FENCE AND AROUND THE ENDS.

EACH CATCH BASIN SHALL RECEIVE TEMPORARY SILT FENCE PROTECTION (UNPAVED AREAS). INLETS AND OUTLETS OF CULVERTS WITHIN THE PROJECT AREA SHALL RECEIVE TEMPORARY ROCK BARRIER PROTECTION. THESE TEMPORARY MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS IN THESE PLANS.

TEMPORARY STONE CHECK DAMS WILL BE PLACED ALONG DITCHES IN THE VICINITY OF THE PROJECT AREA. THE TEMPORARY STONE CHECK DAMS WILL REDUCE THE VELOCITIES OF THE WATER, ALLOWING SEDIMENT TO SETTLE AND REDUCE THE POTENTIAL FOR EROSION.

EROSION MATTING WILL BE PLACED ON SLOPES STEEPER THAN 3H:1V. MATTING WILL REDUCE SEDIMENT TRANSPORT FROM THE SIDE SLOPES, AS IT WILL SLOW DOWN THE RAIN PARTICLES AND ALLOW FOR RAIN TO DISSIPATE INTO THE SOIL, RATHER THAN FLOWING INTO THE CONSTRUCTION AREA. THESE TEMPORARY MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS IN THESE PLANS.

THE EROSION CONTROL MEASURES SHALL BE PERIODICALLY INSPECTED AND MAINTAINED ON A REGULAR BASIS. INSPECTION OF THE EROSION CONTROL MEASURES SHALL TAKE PLACE BEFORE AND AFTER MAJOR STORM EVENTS TO INSURE THEY ARE IN GOOD CONDITION AND TO REMOVE EXCESSIVE BUILDUP OF SILT AND DEBRIS AFTER THE STORM EVENTS. A REPORT ON THE EFFECTIVENESS OF THE EROSION CONTROL MEASURES SHALL BE PRESENTED TO THE RESIDENT ENGINEER AND ONSITE COORDINATOR UPON THE COMPLETION OF EACH INSPECTION. MODIFICATIONS OR IMPROVEMENTS TO THE EROSION CONTROL PLAN SHOULD BE COORDINATED WITH THE RESIDENT ENGINEER AND ONSITE COORDINATOR.

ALL EROSION CONTROL MEASURES SHALL BE PLACED IN ACCORDANCE WITH THE EROSION CONTROL DETAILS IN THESE PLANS.

STAGING AND STOCKPILING AREAS WILL BE LOCATED ALONG THE I-89 MAINLINE PROJECT, IM 089-2(36). THESE AREAS WILL BE COMPLETELY WITHIN THE PROJECT LIMITS AND WILL UTILIZE THE AFOREMENTIONED TEMPORARY EROSION CONTROL MEASURES. NO ADDITIONAL TEMPORARY EROSION CONTROL MEASURES WILL BE NEEDED.

IN THE EVENT THAT A SEPARATE OR TEMPORARY STOCKPILE AREA IS USED OUTSIDE THE LIMITS OF CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THESE PLANS. THE CONSTRUCTION ENTRANCE SHALL BE APPROVED BY THE RESIDENT ENGINEER AND ONSITE COORDINATOR.

SEE EROSION CONTROL DETAILS FOR PAY ITEMS OF TEMPORARY EROSION CONTROL MEASURES.

1.4 FINAL EROSION CONTROL MEASURES

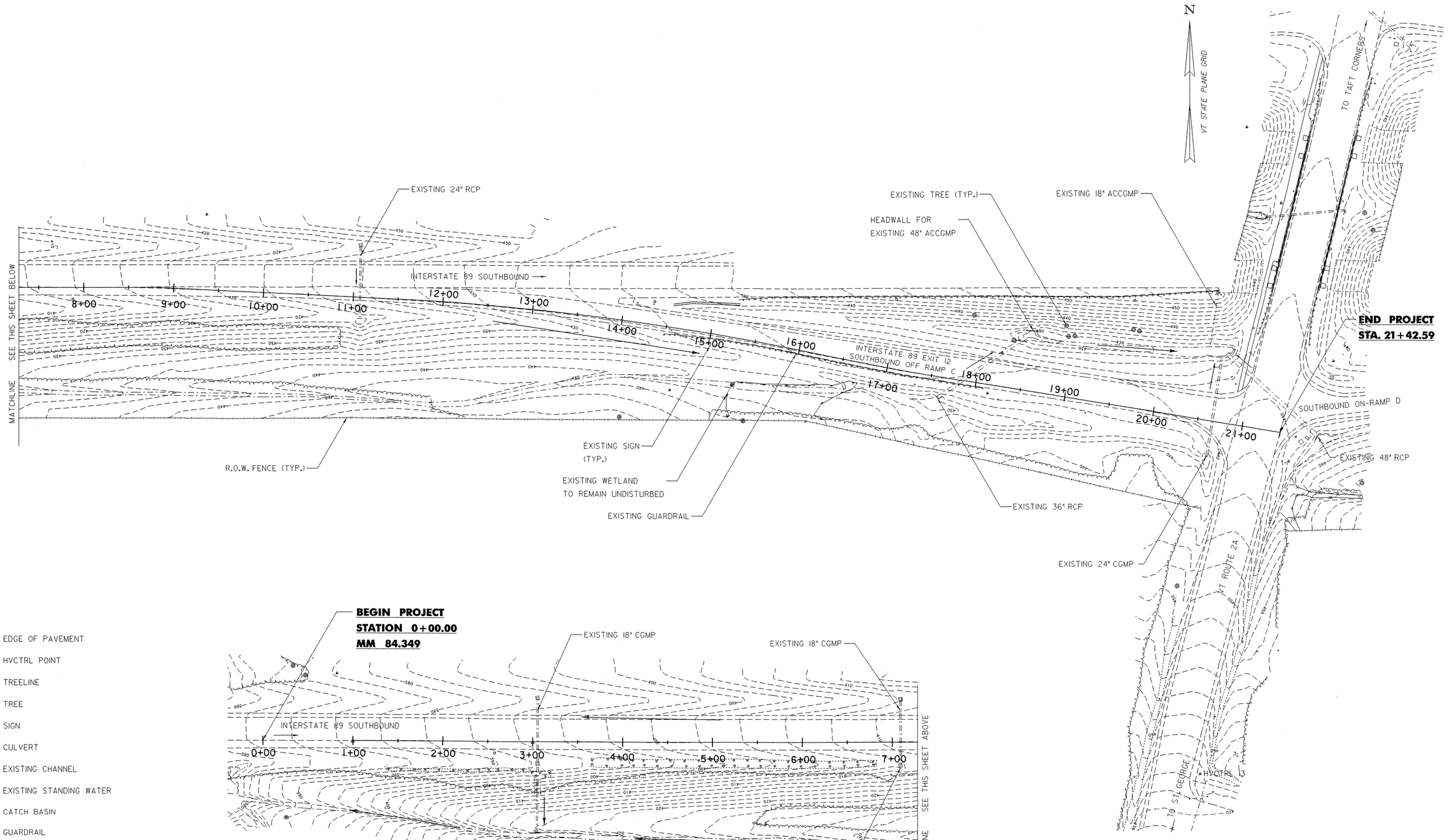
STONE FILL, TYPE II, WILL BE PLACED ALONG ALL SLOPES STEEPER THAN 2H:1V.

ALL DISTURBED AREA OUTSIDE OF THE ROADWAY SHALL RECEIVE TOPSOIL, SEED AND MULCH TO REESTABLISH GRASS AND VEGETATION. TOPSOILING, SEEDING AND MULCHING SHALL BE IN ACCORDANCE WITH THE SEEDING FORMULA FOR RURAL AREAS AND ASSOCIATED NOTES AS SHOWN IN THE CONTRACT PLANS. THIS SHALL BE COMPLETED IMMEDIATELY FOLLOWING FINAL GRADING.

GENERAL EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL SUBMIT AN EROSION PREVENTION & SEDIMENT CONTROL PLAN AT THE PRE-CONSTRUCTION CONFERENCE WITH A SCHEDULE OF EVENTS. THIS PLAN WILL BE SITE SPECIFIC.
2. THE CONTRACTOR SHALL DESIGNATE THE RESPONSIBILITIES FOR IMPLEMENTING THE EROSION PREVENTION & SEDIMENT CONTROL PLAN TO ONE INDIVIDUAL. THE CONTRACTOR SHALL ENSURE THAT ALL WORKERS UNDERSTAND THE MAJOR PROVISIONS OF THE EROSION PREVENTION & SEDIMENT CONTROL PLAN. PHYSICALLY MARK OFF LIMITS OF NECESSARY ON-SITE LAND DISTURBANCE WITH CONSTRUCTION BARRIER FENCING AND REVIEW WITH WORKERS AND SUBCONTRACTORS SO THAT ALL WORKERS CAN SEE THE AREAS TO BE PROTECTED.
3. TEMPORARY EROSION CONTROL MEASURES ARE REQUIRED THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL THE PROJECT HAS BEEN COMPLETED. INSTALL PERIMETER SILT FENCE PRIOR TO CLEARING AND GRUBBING AND INSTALL NECESSARY EROSION AND SEDIMENT CONTROL PRACTICES AS WORK TAKES PLACE.
4. EROSION CONTROL MEASURES SHALL BE PERIODICALLY INSPECTED TO ENSURE THEY ARE IN GOOD CONDITION AND THAT AN EXCESSIVE BUILDUP OF SILT AND DEBRIS HAS NOT OCCURRED.
5. THE CONTRACTOR SHALL MINIMIZE THE AMOUNT OF DISTURBED SOIL EXPOSED TO EROSION FROM WIND AND WATER BY USING VEGETATIVE AND STRUCTURAL CONTROLS AND PROPER TIMING AND SEQUENCING OF CONSTRUCTION ACTIVITIES.
6. IF NEEDED, DIVERT OFF-SITE STORMWATER RUNOFF FROM HIGHLY ERODIBLE AREAS AND STEEP SLOPES AND CONVEY OFF-SITE STORMWATER RUNOFF TO STABLE AREAS.
7. APPLY TEMPORARY OR PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS WHERE WORK IS DELAYED OR COMPLETED.
8. ANY EARTH STOCKPILES SHALL BE PROTECTED BY A SILT FENCE AT THE PERIMETER AND COVERED WITH A BLANKET OF MULCH.
9. EROSION CHECKS SHALL BE INSTALLED AS INDICATED AND WHERE DESIGNATED ON THE DRAWINGS AND AS NECESSARY TO PREVENT EROSION DAMAGE FROM ANY CONSTRUCTION ACTIVITY.
10. TEMPORARY EROSION CONTROL MEASURES SHALL BE IMMEDIATELY INSPECTED BEFORE AND AFTER RAINFALL EVENTS TO INSURE THEY ARE IN GOOD CONDITION BEFORE RAINFALL AND TO REMOVE EXCESSIVE BUILDUP OF SILT AND DEBRIS AFTER THE STORM EVENT.
11. ALL EROSION CONTROL MEASURES SHALL COMPLY WITH STANDARD VERMONT AGENCY OF NATURAL RESOURCES PERMIT. THE "VERMONT HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL" DATED 2003, SHALL BE UTILIZED AS A GUIDE FOR THE CONTROL OF EROSION ON THE SITE. THE CONTRACTOR SHALL BE FAMILIAR WITH THE STANDARDS AND SPECIFICATIONS IN THIS PUBLICATION.
12. EROSION MATTING SHALL BE INSTALLED IN PLACE OF MULCH FOR ANY AREAS NOT SEEDED AND MULCHED BY OCTOBER 1 OF THE CONSTRUCTION YEAR.
13. ANY EROSION CONTROL MEASURES THAT WILL BE NECESSARY DURING THE WINTER CONSTRUCTION PERIOD (OCTOBER 15 TO MAY 10) SHALL BE INSTALLED BEFORE THE GROUND FREEZES AND FREQUENTLY INSPECTED AND MAINTAINED THROUGHOUT THE WINTER.
14. EROSION MEASURES SHALL REMAIN IN PLACE UNTIL PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED AND APPROVED BY THE RESIDENT ENGINEER.
15. UNLESS OTHERWISE NOTED IN THE PLANS, ALL MATERIALS, INSTALLATION, MAINTENANCE AND REMOVAL OF THOSE EROSION CONTROL MEASURES WHICH ARE ITEMS IN THE CONTRACT WILL BE PAID FOR AT THE APPROPRIATE CONTRACT UNIT PRICE BID. ALL MATERIALS, INSTALLATION, MAINTENANCE AND REMOVAL FOR ALL OTHER EROSION CONTROL ITEMS REQUIRED BY THE PLANS AND THE RESIDENT ENGINEER WILL BE PAID FOR UNDER ITEM 652.30.

PROJECT NAME: WILLISTON	
PROJECT NUMBER: IM 089-2(35)	
FILE NAME: I8800F4ECP01.dgn	PLOT DATE: 17-MAY-2005
PROJECT LEADER: EPD	DRAWN BY: JDA / PGJ
DESIGNED BY: JDA	CHECKED BY: EPD
EROSION CONTROL NARRATIVE	SHEET 57 OF 76



LEGEND

- EDGE OF PAVEMENT
- HVCTRL POINT
- TREELINE
- TREE
- SIGN
- CULVERT
- EXISTING CHANNEL
- EXISTING STANDING WATER
- CATCH BASIN
- GUARDRAIL
- R.O.W. LINE

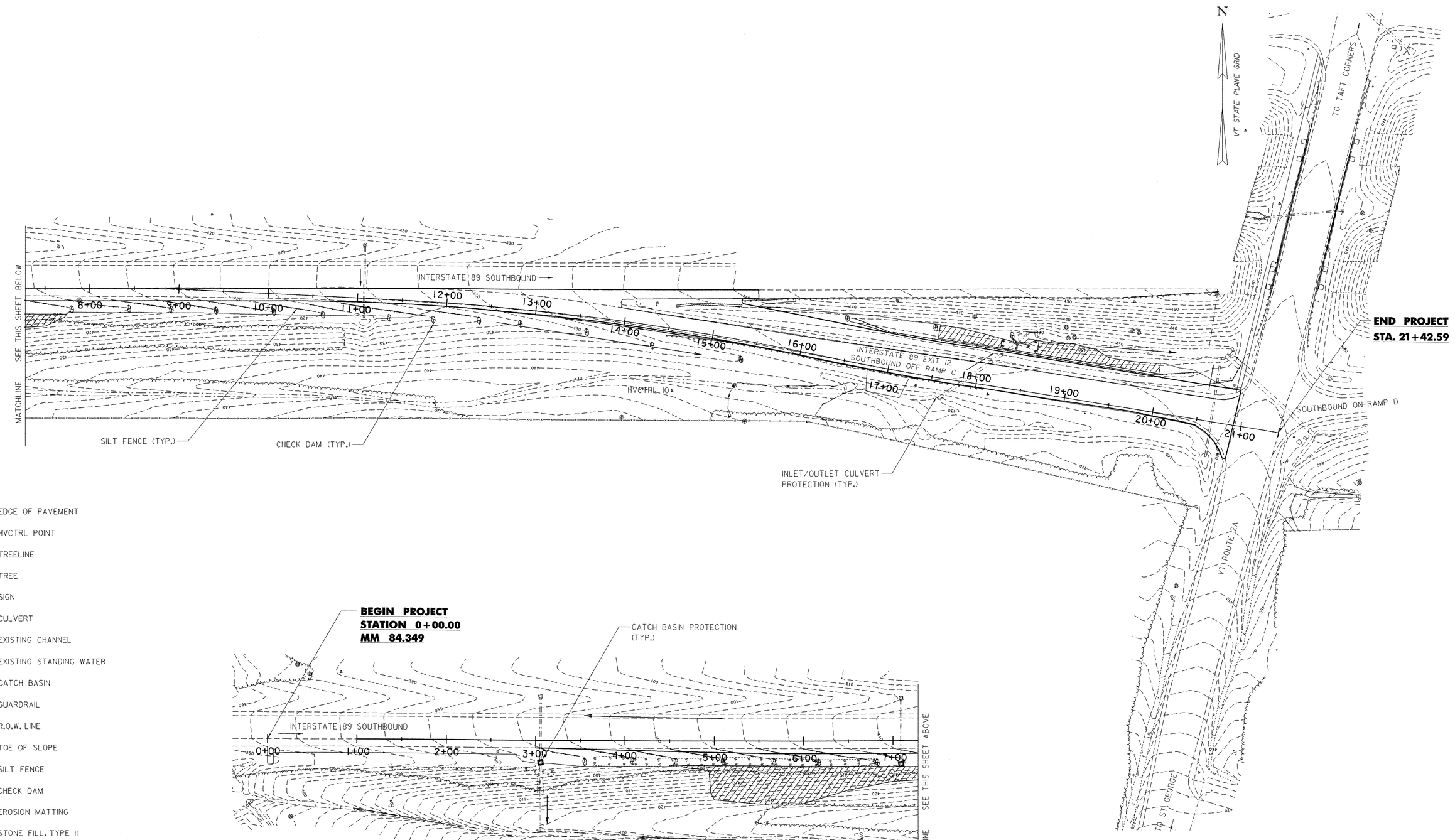
DATUM
VERTICAL N/A
HORIZONTAL N/A

SCALE 1" = 50'-0"
50 0 50

PROJECT NAME: WILLISTON
PROJECT NUMBER: IM 089-2(35)

FILE NAME: p04all4.dgn
PROJECT LEADER: EPD
DESIGNED BY: JDA
EROSION CONTROL EXISTING CONDITIONS

PLOT DATE: 17-MAY-2005
DRAWN BY: JDA / PGJ
CHECKED BY: EPD
SHEET 58 OF 76



LEGEND

- EDGE OF PAVEMENT
- HVCTRL POINT
- TREELINE
- TREE
- SIGN
- CULVERT
- EXISTING CHANNEL
- EXISTING STANDING WATER
- CATCH BASIN
- GUARDRAIL
- R.O.W. LINE
- TOE OF SLOPE
- SILT FENCE
- CHECK DAM
- EROSION MATTING
- STONE FILL, TYPE II
- CATCH BASIN PROTECTION

DATUM
VERTICAL N/A
HORIZONTAL N/A

SCALE 1" = 50'-0"
50 0 50

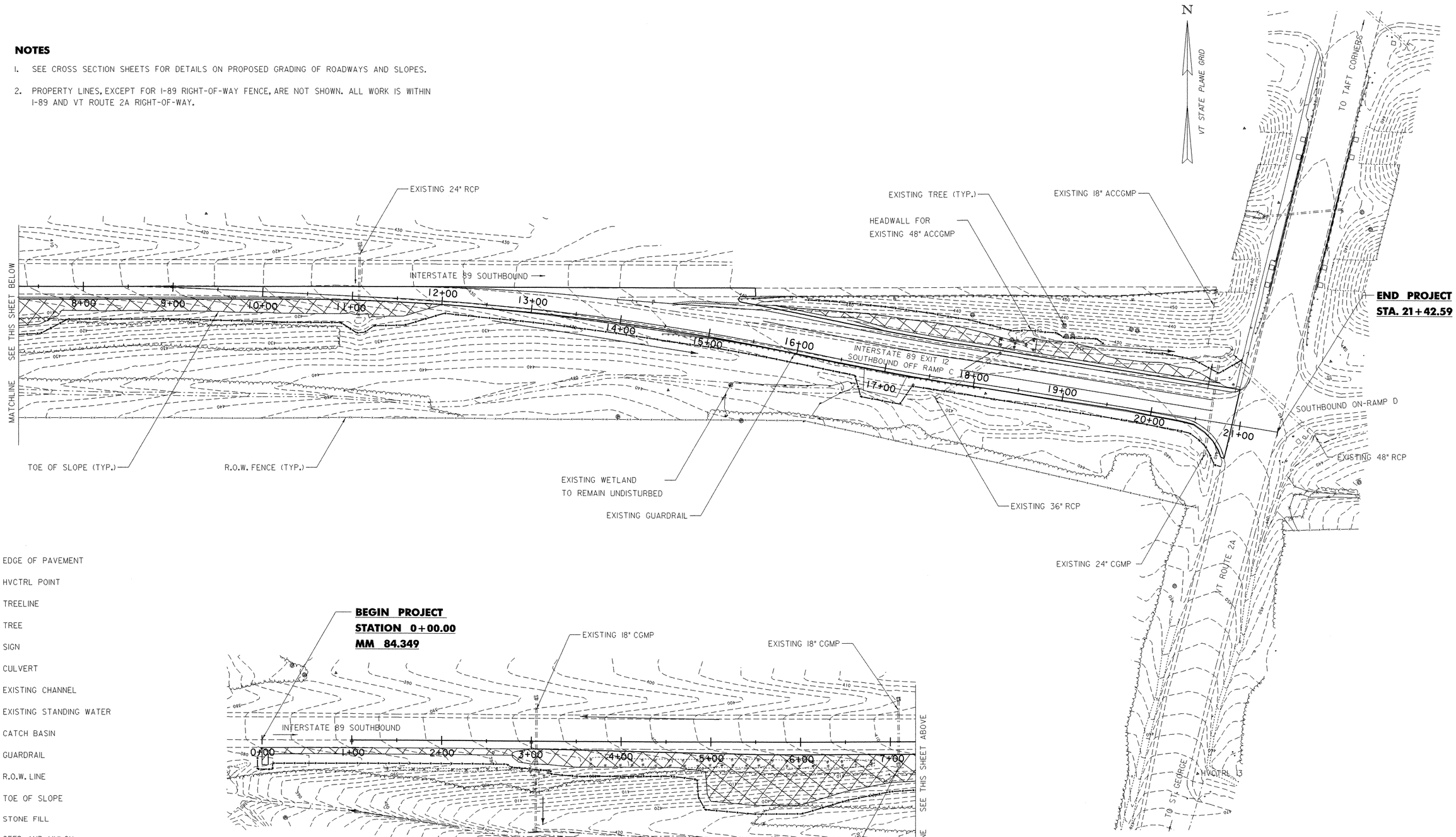
PROJECT NAME: WILLISTON
PROJECT NUMBER: IM 089-2(35)

FILE NAME: p04all4.dgn
PROJECT LEADER: EPD
DESIGNED BY: JDA
EROSION AND SEDIMENT CONTROL PLAN

PLOT DATE: 17-MAY-2005
DRAWN BY: JDA / PGJ
CHECKED BY: EPD
SHEET 59 OF 78

NOTES

1. SEE CROSS SECTION SHEETS FOR DETAILS ON PROPOSED GRADING OF ROADWAYS AND SLOPES.
2. PROPERTY LINES, EXCEPT FOR I-89 RIGHT-OF-WAY FENCE, ARE NOT SHOWN. ALL WORK IS WITHIN I-89 AND VT ROUTE 2A RIGHT-OF-WAY.



LEGEND

- EDGE OF PAVEMENT
- HVCTRL POINT
- TREELINE
- TREE
- SIGN
- CULVERT
- EXISTING CHANNEL
- EXISTING STANDING WATER
- CATCH BASIN
- GUARDRAIL
- R.O.W. LINE
- TOE OF SLOPE
- STONE FILL
- SEED AND MULCH
- PROJECT DEMARCATION FENCE

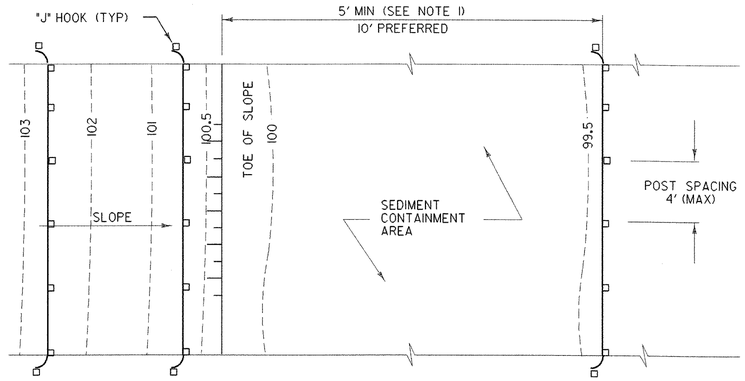
DATUM
VERTICAL N/A
HORIZONTAL N/A

SCALE 1" = 50'-0"
50 0 50

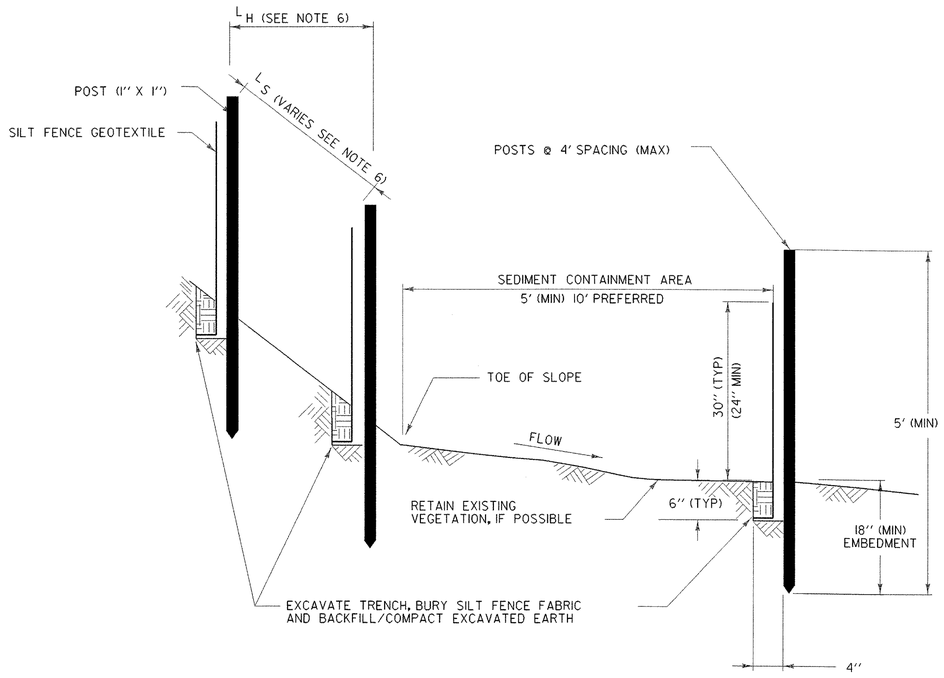
PROJECT NAME: I-89 EXIT 12 SB OFF RAMP
PROJECT NUMBER: IM 089-2(35)

FILE NAME: p04all4.dgn
PROJECT LEADER: EPD
DESIGNED BY: JDA
EROSION CONTROL FINAL CONDITIONS PLAN

PLOT DATE: 17-MAY-2005
DRAWN BY: JDA / PGJ
CHECKED BY: EPD
SHEET 60 OF 76



PLAN



SECTION

SILT FENCE - TEMPORARY

SILT FENCE

APPLICATION NOTES

A. THE PRIMARY PURPOSE OF SILT FENCE IS TO REDUCE RUNOFF VELOCITY AND TRAP SEDIMENT. VELOCITY IS REDUCED, WATER IS IMPOUNDED BEHIND THE MEASURE, AND SEDIMENT FALLS OUT OF SUSPENSION.

B. SILT FENCE SHALL BE INSTALLED ON A LINE OF EQUAL ELEVATION (CONTOUR). IT MAY BE INSTALLED AT INTERMEDIATE POINTS UP SLOPES AS WELL AS AT THE BOTTOM, AS SHOWN IN THE DETAIL.

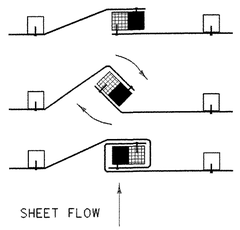
C. SILT FENCE SHALL NOT BE USED ACROSS CONCENTRATED FLOW.

GENERAL NOTES

1. SILT FENCE SHALL GENERALLY BE PLACED A MINIMUM OF 5 FEET BEYOND TOE OF SLOPE, 10 FEET PREFERRED, TO PROVIDE ADEQUATE AREA FOR SEDIMENT STORAGE AND FACILITATE MAINTENANCE OF SEDIMENT CONTAINMENT AREA.
2. ALL ENDS SHALL BE "J" HOOKED TO TRAP SEDIMENT.
3. IN AREAS WITH TWO SLOPES, SILT FENCE SHALL BE USED TO ERECT A DAM AND TRAP SEDIMENT AT THE BASE OF THE STEEPER SLOPE.
4. THE BOTTOM EDGE OF SILT FENCE SHALL BE BURIED A MINIMUM OF 6 INCHES BELOW GROUND, AND KEYED IN 4 INCHES. THE FENCE SHALL BE INSTALLED WITH THE POSTS ON THE DOWNSTREAM SIDE OF THE FABRIC.
5. MAXIMUM DRAINAGE AREA TRIBUTARY TO 100 FEET OF SILT FENCE SHALL BE 0.25 ACRES.
6. THE FOLLOWING ARE MAXIMUM SLOPE LENGTHS FOR THESE MEASURES:

CONSTRUCTED SLOPE	SLOPE LENGTH (LS) FT	HORIZONTAL LENGTH (LH) FT
3 : 1	80	75
4 : 1	130	125
5 : 1	200	200
> 5 : 1	250	250

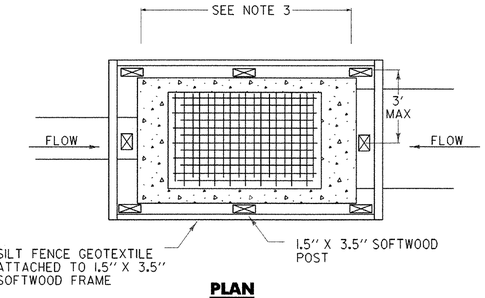
7. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
8. MEASURES SHALL BE CLEANED AND REPAIRED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
9. SILT FENCE SHALL BE REMOVED WHEN THE AREA HAS BEEN STABILIZED. AT TIME OF REMOVAL OF THE SILT FENCE, THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.
10. PAYMENT FOR INSTALLATION AND REMOVAL OF SILT FENCE SHALL BE MADE UNDER THE GEOTEXTILE FOR SILT FENCE ITEM.
11. PAYMENT FOR MONITORING SILT FENCE SHALL BE MADE UNDER THE MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN PAY ITEM.
12. PAYMENT FOR MAINTAINING SILT FENCE SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM, UNLESS IN THE OPINION OF THE RESIDENT ENGINEER MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES, WHEREAS IT WILL THEN BE REPAIRED AT THE CONTRACTORS SOLE EXPENSE.



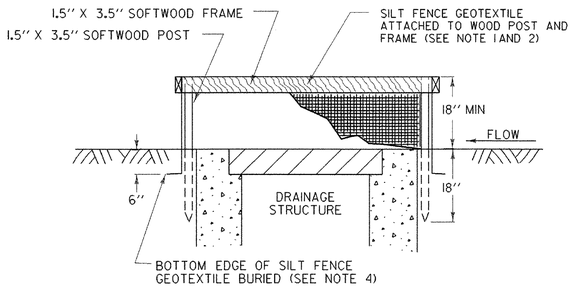
1. PLACE THE END POST OF ONE FENCE INSIDE THE END POST OF THE OTHER FENCE.
2. ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL
3. DRIVE BOTH POSTS 18 INCHES INTO THE GROUND AND BURY THE FLAP IN THE TRENCH.

SPLICING DETAIL

PROJECT NAME:	I-89 EXIT 12 SB OFF RAMP
PROJECT NUMBER:	IM 089-2(35)
FILE NAME: I8800F4ECP05.dgn	PLOT DATE: 17-MAY-2005
PROJECT LEADER: EPD	DRAWN BY: JDA / PGJ
DESIGNED BY: JDA	CHECKED BY: EPD
SILT FENCE DETAILS	SHEET 61 OF 76



PLAN

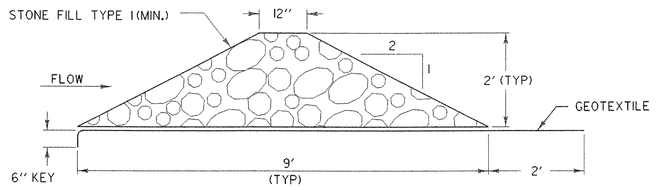


SECTION

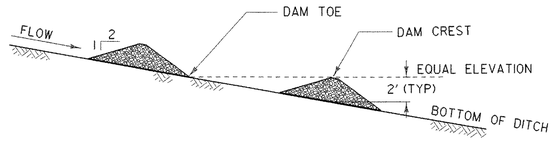
SILT FENCE CATCH BASIN PROTECTION

CATCH BASIN PROTECTION GENERAL NOTES

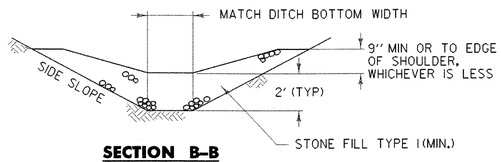
1. THE TOP OF THE INLET PROTECTION SHALL BE SET AT THE MAXIMUM DESIRED WATER LEVEL, BASED ON FIELD LOCATION AND CONDITIONS.
2. SILT FENCE GEOTEXTILE SHALL BE A SINGLE CONTINUOUS PIECE TO ELIMINATE JOINTS.
3. SPACE SILT FENCE POSTS EVENLY AROUND INLET WITH A MAXIMUM SPACING OF 3 FEET. DRIVE POSTS A MINIMUM OF 18 INCHES INTO GROUND. WIRE MESH MAY BE REQUIRED BEHIND GEOTEXTILE TO PROVIDE SUPPORT.
4. SILT FENCE GEOTEXTILE SHALL BE EMBEDDED A MINIMUM OF 6 INCHES AND BACKFILLED. GEOTEXTILE SHALL BE SECURELY FASTENED TO POSTS AND FRAME.
5. SECURE THE ENDS OF THE APRON FOR THE PREFABRICATED DRAINAGE STRUCTURE INLET PROTECTION WITH STAPLES AS DETAILED IN THE PLAN VIEW OR AS RECOMMENDED BY THE MANUFACTURERS LITERATURE.
6. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
7. MEASURES SHALL BE CLEANED AND REPAIRED AS NEEDED, SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
8. PAYMENT OF CATCH BASIN PROTECTION SHALL BE MADE UNDER ITEM 613.10, "STONE FILL, TYPE I".
9. PAYMENT FOR MONITORING INLET PROTECTION SHALL BE MADE UNDER THE MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.
10. PAYMENT FOR MAINTAINING INLET PROTECTION SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM, UNLESS IN THE OPINION OF THE RESIDENT ENGINEER MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES, WHEREAS IT WILL BE REPAIRED AT THE CONTRACTORS SOLE EXPENSE.



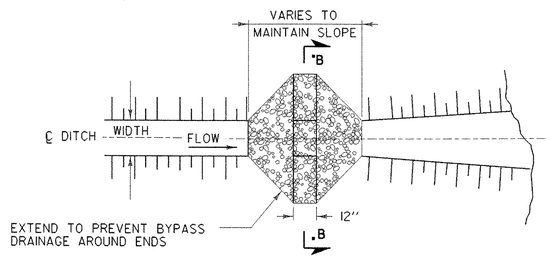
CROSS-SECTION



PROFILE



SECTION B-B



PLAN

CHECK DAM - TEMPORARY (STONE)

CHECK DAM GENERAL NOTES

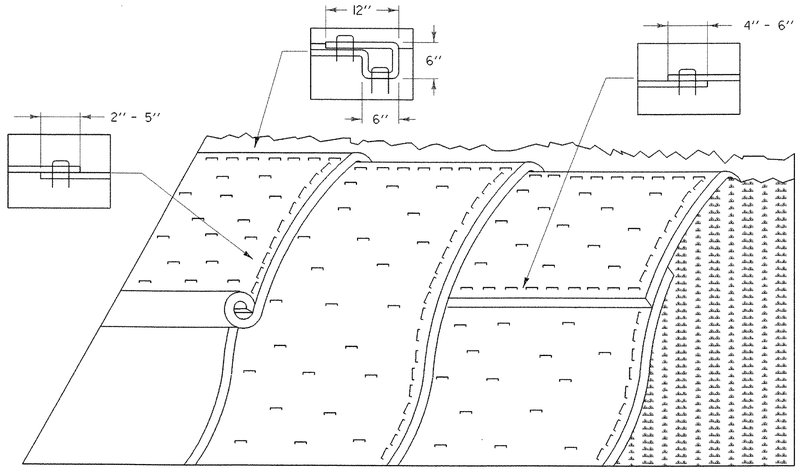
1. GEOTEXTILE SHALL BE INSTALLED UNDER STONE FILL. IT SHALL BE KEYED IN ON THE UP HILL END AND SHALL EXTEND 2 FEET BEYOND THE STONE ON THE DOWN HILL END.
2. CORE MATERIAL FOR THE STONE CHECK DAM SHALL MEET THE GRADATION REQUIREMENTS OF STONE FILL TYPE I(MIN.). STONE SIZE SHOULD BE INCREASED WITH INCREASED SLOPE AND VELOCITY.
3. THE UPHILL END OF THE APRON FOR THE PREFABRICATED CHECK DAM SHALL BE STAPLED AND BURIED AS SHOWN IN DETAIL "A" OR AS RECOMMENDED BY THE MANUFACTURERS LITERATURE.
4. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
5. MEASURES SHALL BE CLEANED AND REPAIRED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
6. AT TIME OF REMOVAL OF THE CHECK DAMS, THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.
7. PAYMENT FOR INSTALLATION AND REMOVAL OF CHECK DAMS SHALL BE MADE UNDER PAY ITEM 613.10, "STONE FILL, TYPE I".
8. PAYMENT FOR MONITORING CHECK DAMS SHALL BE MADE UNDER THE MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.
9. PAYMENT FOR MAINTAINING CHECK DAMS SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM, UNLESS IN THE OPINION OF THE RESIDENT ENGINEER MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES WHEREAS IT WILL BE REPAIRED AT THE CONTRACTORS SOLE EXPENSE.

STONE CHECK DAM PLACEMENT INTERVAL	
DITCH SLOPE	PLACEMENT INTERVAL **
1 %	200 FT
2 %	100 FT
3 %	65 FT
4 %	50 FT
5 %	40 FT
6 %	30 FT
8 %	25 FT
10 %	20 FT

** BASED ON 2' TYPICAL HEIGHT

PROJECT NAME: I-89 EXIT 12 SB OFF RAMP
PROJECT NUMBER: IM 089-2(35)

FILE NAME: I8800F4ECP05.dgn PLOT DATE: 17-MAY-2005
PROJECT LEADER: EPD DRAWN BY: JDA / PGJ
DESIGNED BY: JDA CHECKED BY: EPD
CHECK DAM & CATCH BASIN PROTECTION DETAILS SHEET 62 OF 76

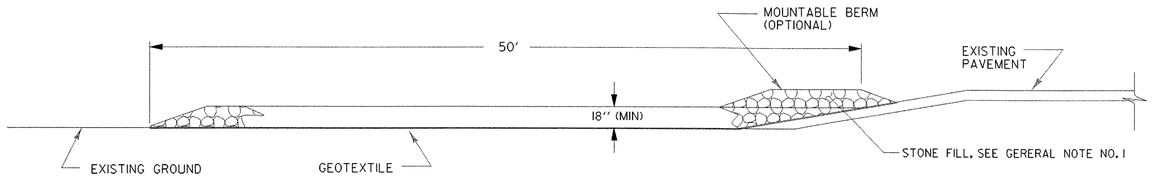


EROSION MATTING SIDE SLOPE APPLICATION

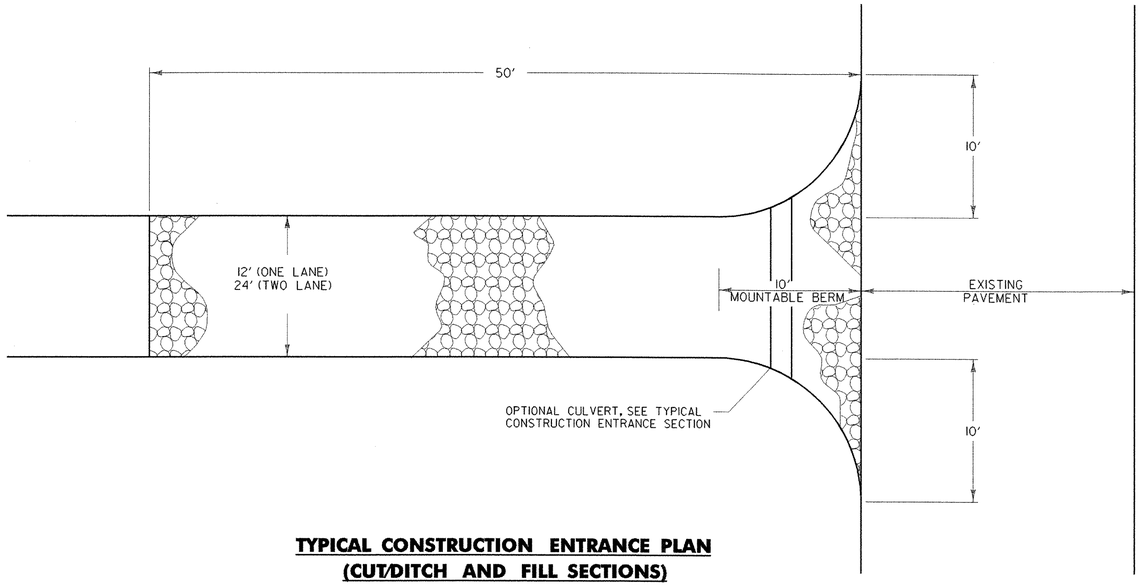
GENERAL NOTES:

1. GRADE AND SMOOTH THE SLOPE TO PROVIDE GOOD MATTING TO SOIL SURFACE CONTACT.
2. APPLY FERTILIZER, LIME, AND SEED PRIOR TO PLACING MATTING.
3. ANCHOR MATTING AS SHOWN, UTILIZING ANCHOR STAPLES. STAPLE PLACEMENT SHALL BE DETERMINED BY THE MANUFACTURER'S INTALLATION INSTRUCTIONS.
4. UNROLL MATTING VERTICALLY DOWN SLOPE IN THE DIRECTION OF WATER FLOW.
5. OVERLAP UPPER MATTING OVER LOWER MATTING AS SHOWN.
6. OVERLAP ADJACENT MATTING AS SHOWN.
7. CUT EXCESS MATTING AT END OF SLOPE AND ANCHOR THE END.
8. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
9. MATTING SHALL BE REPAIRED AND RESTAPLED AS NECESSARY TO ENSURE PROPER FUNCTION.
10. PAYMENT FOR INSTALLATION OF MATTING SHALL BE MADE UNDER ITEM 654.10 "EROSION MATTING".
11. PAYMENT FOR MONITORING EROSION CONTROL MATTING SHALL BE MADE UNDER THE MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.
12. PAYMENT FOR MAINTAINING SLOPE PROTECTION SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM, UNLESS IN THE OPINION OF THE RESIDENT ENGINEER MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES WHEREAS IT WILL BE REPAIRED AT THE CONTRACTORS SOLE EXPENSE.

PROJECT NAME: I-89 EXIT 12 SB OFF RAMP	
PROJECT NUMBER: IM 089-2(35)	
FILE NAME: I8800F4ECP05.dgn	PLOT DATE: 17-MAY-2005
PROJECT LEADER: EPD	DRAWN BY: JDA / PGJ
DESIGNED BY: JDA	CHECKED BY: EPD
EROSION MATTING DETAILS	SHEET 63 OF 76



TYPICAL CONSTRUCTION ENTRANCE PROFILE
(CUT AND DITCH SECTIONS)



TYPICAL CONSTRUCTION ENTRANCE PLAN
(CUT/DITCH AND FILL SECTIONS)

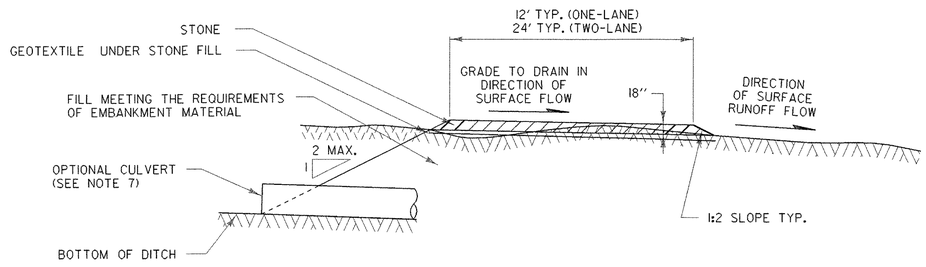
STABILIZED CONSTRUCTION ENTRANCE

APPLICATION NOTES:

A. THE PURPOSE OF A STABILIZED CONSTRUCTION ENTRANCE IS TO REDUCE OR ELIMINATE THE TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY OR STREETS.

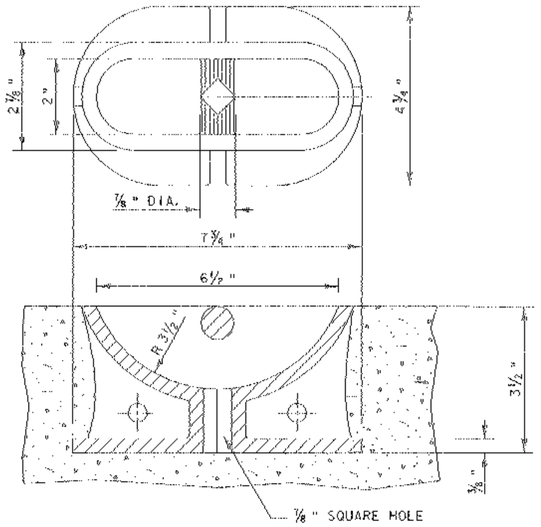
GENERAL NOTES:

1. STONE SIZE - USE CLEAN STONE WITH GRADATION BETWEEN 2 INCHES AND 4 INCHES.
2. LENGTH - 50 FEET (MIN)
3. THICKNESS - 18 INCHES (MIN)
4. WIDTH - 12 FEET (MIN)
5. GEOTEXTILE UNDER STONE WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE AS DIRECTED BY THE ENGINEER AND ON-SITE COORDINATOR. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. PROPOSED DRAINAGE PIPES SHALL BE SIZED WITH SUFFICIENT CAPACITY TO CARRY DITCH FLOWS. ALTERNATIVE WAYS OF TRANSPORTING DITCH DRAINAGE ACROSS CONSTRUCTION ENTRANCES MAY BE PROPOSED BY THE CONTRACTOR FOR APPROVAL BY THE ENGINEER AND ON-SITE COORDINATOR.
8. WHEN WASHING OF VEHICLE IS NECESSARY, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
10. MAINTENANCE- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
11. AT THE TIME OF REMOVAL OF THE STABILIZED CONSTRUCTION ENTRANCE THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.
12. PAYMENT FOR CONSTRUCTING THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE MADE UNDER ITEM 652.30, "FIELD MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN".
13. PAYMENT FOR MONITORING STABILIZED CONSTRUCTION ENTRANCES SHALL BE MADE UNDER THE MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.
14. PAYMENT FOR MAINTAINING THE CONSTRUCTION ENTRANCE SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.



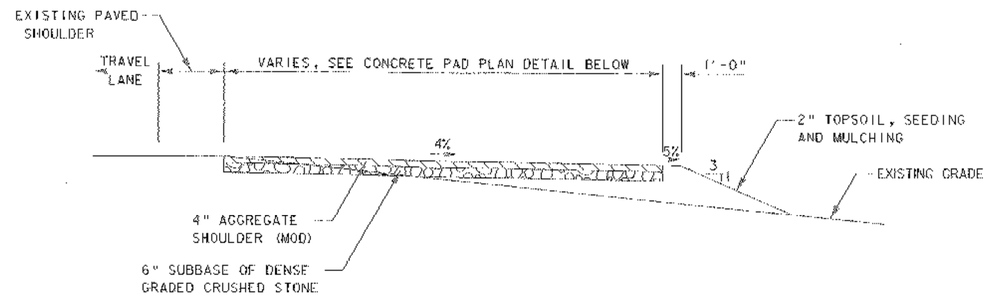
TYPICAL CONSTRUCTION ENTRANCE SECTION

PROJECT NAME: I-89 EXIT 12 SB OFF RAMP	
PROJECT NUMBER: IM 089-2(35)	
FILE NAME: I8800F4ECP05.dgn	PLOT DATE: 17-MAY-2005
PROJECT LEADER: EPD	DRAWN BY: JDA / PGJ
DESIGNED BY: JDA	CHECKED BY: EPD
CONSTRUCTION ENTRANCE DETAIL	SHEET 64 OF 76



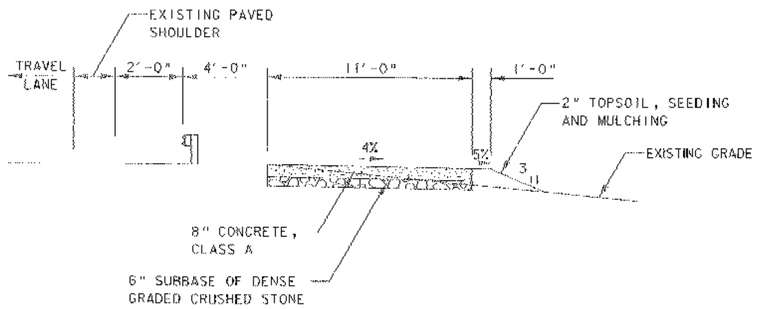
CONCRETE PAD – SIGN ANCHOR DETAIL

NOT TO SCALE



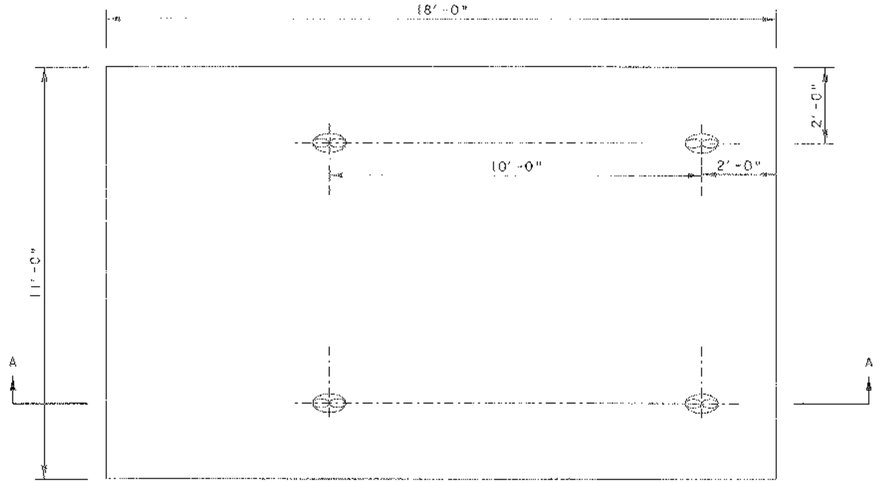
TYPICAL SECTION THROUGH APPROACH TO CONCRETE PAD

NOT TO SCALE



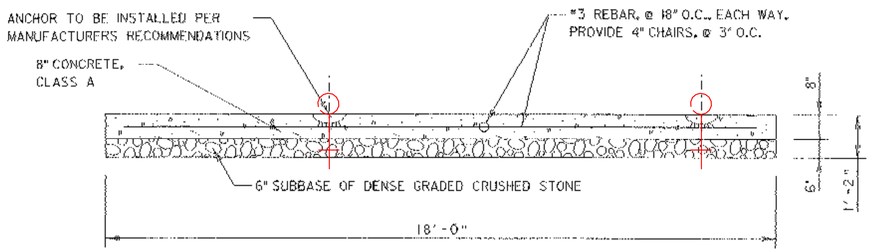
TYPICAL SECTION THROUGH CONCRETE SLAB

NOT TO SCALE



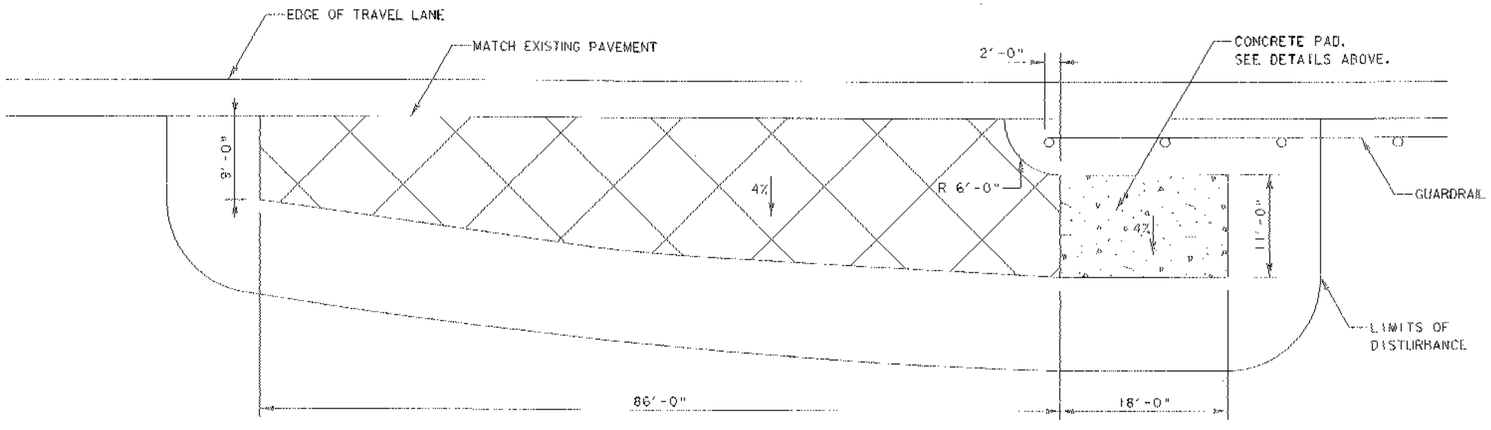
FOUNDATION FOR TUBULAR STEEL POSTS (MOD. – CONCRETE PAD)

NOT TO SCALE



SECTION A-A

NOT TO SCALE



CONCRETE PAD PLAN

NOT TO SCALE

NOTES

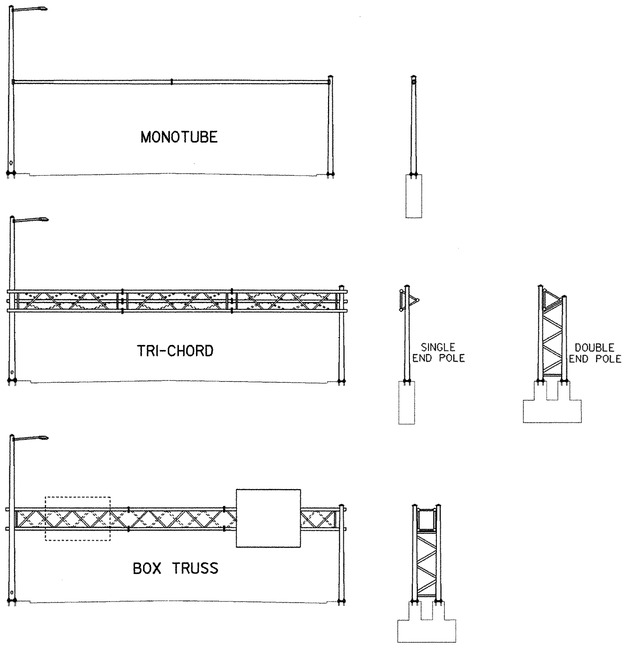
1. CONCRETE PAD TO BE PLACED FOR THE NEW "AMBER ALERT" DYNAMIC MESSAGE SIGN LOCATED AT M.M. 86.220 (MAINLINE STATION 4552+41.6).

2. ANCHORS SHALL BE NEENAH R-3490 AIRPORT MOORING EYES OR APPROVED EQUAL.

3. COST OF CONCRETE, REBAR AND ANCHORS SHALL BE PAID FOR INCIDENTAL TO ITEM 675.43, "FOUNDATION FOR TUBULAR STEEL POSTS (MOD. - CONCRETE PAD)".

PROJECT NAME: I-89 EXIT 12 SB OFF RAMP
PROJECT NUMBER: IM 089-2(35)

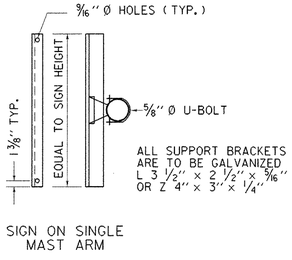
FILE NAME: 18800F4DT01.dgn	PLOT DATE: 14-JUN-2005
PROJECT LEADER: EPD	DRAWN BY: JDA / PGJ
DESIGNED BY: JDA	CHECKED BY: EPD
CONCRETE PAD DETAILS	SHEET 65 OF 76



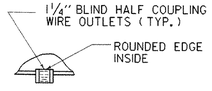
SIGN BRIDGE OPTIONS

NOTES:

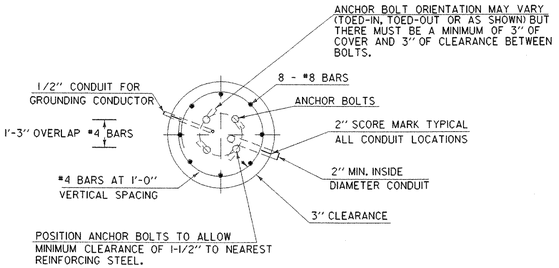
1. MANUFACTURER TO DETERMINE TYPE OF STRUCTURE REQUIRED.
2. MONOTUBES SHALL NOT BE USED FOR SIGNS OVER 10' IN HEIGHT.
3. MINIMUM CLEARANCE FROM SIGNS TO ROADWAY IS 17'.



SIGN BRACKET DETAILS

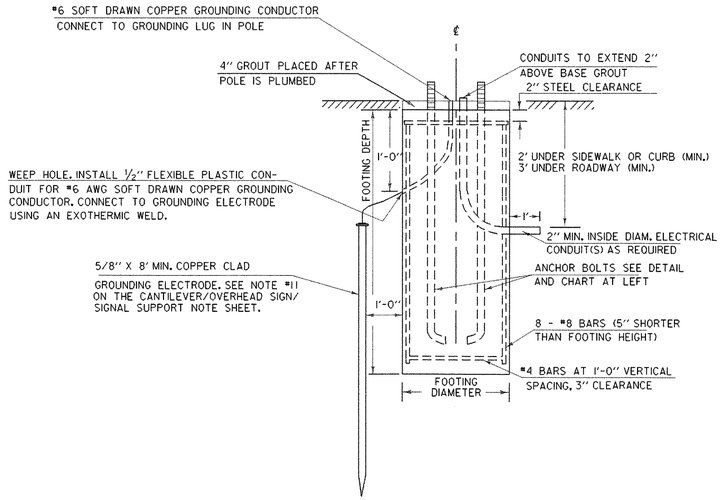


DETAIL A

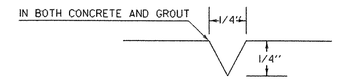


OVERHEAD TRAFFIC SIGN BRIDGE FOOTING DETAIL

(SPREAD FOOTINGS OR PILES ARE OPTIONAL)



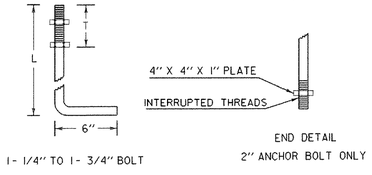
ELEVATION



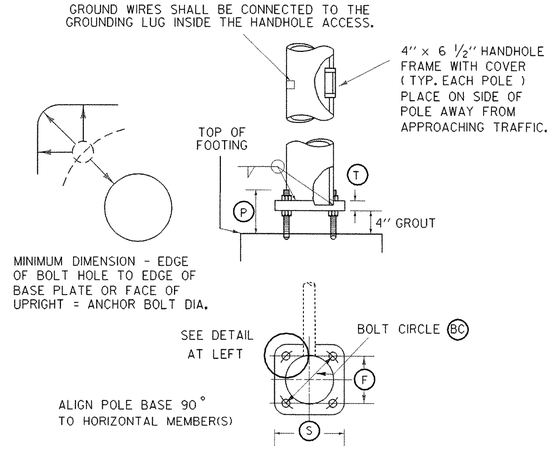
USED FOR CONDUIT LOCATION. SEE SECTION DETAIL AT LEFT

2" SCORE MARK DETAIL

ANCHOR BOLT DETAIL		
SIZE	L(IN)	T(IN)
1- 1/4" X 48"	42	8
1- 1/2" X 60"	54	9
1- 3/4" X 90"	84	9
2" X 96"	96	9



ANCHOR BOLT DETAIL



POLE BASE AND BASE PLATE DETAIL

PROJECT NAME: I-89 EXIT 12 SB OFF RAMP
PROJECT NUMBER: IM 089-2(35)

FILE NAME: 618800F4DT02.dgn
PROJECT LEADER: EPD
DESIGNED BY: JDA
SIGN BRIDGE DETAILS

PLOT DATE: 17-MAY-2005
DRAWN BY: JDA / PGJ
CHECKED BY: EPD
SHEET 66 OF 76

SIGN BRIDGE NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION'S ''STANDARD SPECIFICATIONS FOR CONSTRUCTION'', DATED 2001, WITH CURRENT MODIFICATIONS.

2. OVERHEAD SIGN/SIGNAL SUPPORTS SHALL CONFORM TO AASHTO'S PUBLICATION ENTITLED ''STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS'', DATED 1985 OR ITS LATEST REVISION.

3. ADDITIONAL DESIGN CRITERIA ARE AS FOLLOWS:

   CONCRETE f_c = 1400 PSI f'_c = 3500 PSI
   REINFORCING f_s = 24000 PSI (GRADE 60)
   FOOTING SOIL PRESSURE : 3000 PSF (MAXIMUM)

   WIND LOAD AND ICE LOAD PER AASHTO ''STANDARD SPECIFICATIONS''

4. ANCHOR BOLTS

   FOUR STAINLESS STEEL ANCHOR BOLTS WITH TWO HEXAGON NUTS, ONE WASHER AND ONE LOCK WASHER PER BOLT SHALL BE FURNISHED WITH EACH POLE. ANCHOR BOLT PLATES, WHEN USED, SHALL ALSO BE STAINLESS STEEL. SEE SUB-SECTION 714.09.

5. FLANGE BOLTS

   ALL FLANGE BOLTS AND HEX NUTS SHALL BE HIGH STRENGTH STEEL AND SHALL CONFORM TO ASTM A325. THE FLANGE BOLTS SHALL BE CAPABLE OF RESISTING 133% OF THE FULL DESIGN STRESS OF THE TUBE AT ITS YIELD STRENGTH STRESS.

6. HORIZONTAL AND VERTICAL MEMBERS

   STEEL TUBES SHALL BE FORMED AND WELDED WITH ONE CONTINUOUS LONGITUDINAL WELD ONLY. AFTER FORMING AND WELDING THEY SHALL BE COLD ROLLED TO ENSURE UNIFORMITY OF SIZE AND SMOOTHNESS OF WELD. THEY SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 PSI. THERE SHALL BE NO TRANSVERSE WELDING EXCEPT AT THE FLANGE CONNECTIONS AND POLE BASE PLATES, WHERE THE TUBES SHALL TELESCOPE THE FLANGES AND PLATES AND BE CONTINUOUSLY WELDED BOTH SIDES INSIDE AND OUT TO WITHSTAND THE FULL TRANSFER OF THE BENDING STRENGTH TO THE BOLTS. OPTIONALLY, THE MEMBERS MAY BE A SERIES OF TWO OR THREE DIFFERENT DIAMETER PIPES WELDED TOGETHER.

7. GALVANIZING

   ALL STEEL COMPONENTS, EXCEPT CONCRETE REINFORCING AND STAINLESS STEEL HARDWARE, ARE TO BE HOT DIPPED GALVANIZED AFTER FABRICATION. THE ASSEMBLIES SHALL BE DESIGNED AND FABRICATED TO PERMIT GALVANIZING ON ALL INTERIOR AND EXTERIOR SURFACES AND SHALL BE FREE OF POCKETS AND OTHER STRUCTURAL OBSTRUCTIONS THAT WILL NOT PERMIT PROPER DEPOSITION OF ZINC COATING. GALVANIZING SHALL BE IN ACCORDANCE WITH ASTM A123 AND A153.

8. WELDING

   A. ALL DESIGN DETAILS, WORKMANSHIP, PROCEDURES AND INSPECTION SHALL CONFORM WITH SUB-SECTION 506.10.

   B. ALL WELDS SHALL BE AT LEAST AS STRONG AS THE MATERIAL(S) BEING WELDED.

9. FOOTINGS

   A. FOOTINGS SHALL BE DESIGNED TO RESIST LOADS EQUAL TO, OR GREATER THAN, THE MAXIMUM LOADS THAT THE POLE IS DESIGNED FOR.

   B. THREE TYPES OF FOUNDATIONS, AS OUTLINED IN AASHTO STANDARD SPECIFICATIONS (SEE NOTE 2) SECTION 1.8.2 (C) SHALL BE ALLOWED.

      1. DRILLED SHAFTS
      2. SPREAD FOOTINGS
      3. PILES.

   C. DRILLED SHAFT FOOTINGS SHALL BE POURED IN DRILLED SHAFTS AGAINST UNDISTURBED MATERIAL. THE TOP TWO FEET OF SOIL SHALL BE NEGLECTED FOR DESIGN PURPOSES. THE MAXIMUM FOOTING DIAMETER SHALL BE THREE FEET AND THE MAXIMUM DEPTH SHALL BE TWELVE FEET. IF THESE LIMITS ARE EXCEEDED OR IF THE SOIL IS NOT CAPABLE OF A BEARING PRESSURE OF 3000 PSF, A SPREAD FOOTING SHALL BE USED.

   D. AS AN ALTERNATIVE TO THE DRILLED HOLES, FOOTINGS MAY BE POURED IN EXCAVATED HOLES USING THE PROPER FORMS, WHICH MUST BE REMOVED. THE EXCAVATED HOLES SHALL BE AT LEAST TWO FEET CLEAR OF THE FOOTING SIDES AND ONE FOOT DEEPER THAN THE FOOTING. CARE SHALL BE TAKEN TO AVOID EXCAVATING AROUND THE TOP OF THE FOOTING. THE BACKFILL MATERIAL SHALL BE COMPACTED AS DESCRIBED IN SUB-SECTION 204.12. DESIGN LIMITS AS FOR AUGERED FOOTING APPLY.

   E. WHEN THE DESIGN DEPTH OF A FOOTING CANNOT BE OBTAINED DUE TO UNFORSEEN FIELD CONDITIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND OBTAIN A REVISED FOOTING DETAIL FROM THE ENGINEER.

   F. ANY BACKFILL PLACED ADJACENT TO THE FOOTING SHALL BE GRANULAR MATERIAL MEETING THE REQUIREMENTS FOR GRANULAR BACKFILL FOR STRUCTURES, SUB-SECTION 704.08. CONCRETE FOR FOOTING SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE, CLASS B, SECTION 501, STRUCTURAL CONCRETE. GROUT MATERIAL SHALL BE NON-SHRINKING MORTAR CONFORMING TO SUB-SECTION 707.03 (MORTAR TYPE IV).

   G. SIGNALS/SIGNS SHALL BE INSTALLED AND LEVELED AND POLES SHALL BE PLUMB PRIOR TO PLACING GROUT UNDER POLE BASE.

10. SHOP DRAWINGS (6 COPIES OF EACH) SHALL BE SUBMITTED TO THE STATE OF VERMONT, AGENCY OF TRANSPORTATION, STRUCTURES DIVISION FOR APPROVAL PRIOR TO FABRICATION. THE SHOP DRAWINGS SHALL INCLUDE THE FOLLOWING INFORMATION:

    A. DETAILED DRAWING OF EACH COMPONENT OF THE STRUCTURE.

    B. MATERIAL SPECIFICATION FOR EACH COMPONENT OF THE STRUCTURE, EITHER BY COMPLETE SPECIFICATION OR REFERENCE TO APPLICABLE ASTM STANDARDS.

    C. NOTATION OF PROJECT NAME, PROJECT NUMBER, ROUTE NUMBER, AND STRUCTURE STATIONING (TO BE INCLUDED ON EACH SHEET).

    D. DETAILS FOR LOCATION OF SIGNS/SIGNALS AND ATTACHMENT HARDWARE FOR THE SUPPORT STRUCTURE.

    E. ALL ELEVATIONS AND DIMENSIONS NECESSARY TO PROVIDE A COMPLETE SET OF RECORD PLANS.

    F. DEAD LOAD DEFLECTION AND CAMBER INFORMATION.

    G. WELDING DETAILS AND PROCEDURES ARE REQUIRED FOR ALL WELDS. PROCEDURES SHALL BE SUBMITTED FOR APPROVAL WITH REFERENCE TO EACH WELD IDENTIFIED ON THE SHOP DRAWINGS. (SEE SUB-SECTION 506.10)

11. EACH OVERHEAD TRAFFIC SIGNAL/SIGN SUPPORT SHALL BE GROUNDED. THE GROUND SHALL CONSIST OF:
    A) AN INTERNAL GROUND LUG OPPOSITE THE HAND HOLE.
    B) A #6 (MIN.) SOFT DRAWN COPPER GROUNDING ELECTRODE CONDUCTOR.
    C) A 5/8'' X 8' (MIN.) COPPER CLAD GROUNDING ELECTRODE. THE RESISTANCE TO GROUND SHALL BE 25 OHMS OR LESS. ADDITIONAL GROUNDING ELECTRODES MAY BE REQUIRED (MINIMUM SPACING SHALL BE 6').
    WHEN A POWER SERVICE, METER AND DISCONNECT ARE ATTACHED TO A POLE, THERE SHALL BE A CONTINUOUS GROUNDING ELECTRODE CONDUCTOR FROM THE METER AND DISCONNECT WHICH MAY RUN INTERNAL TO THE UPRIGHT, THROUGH THE 1/2'' FLEXIBLE TUBING IN THE CONCRETE BASE TO THE REQUIRED GROUNDING ELECTRODE(S). THE GROUNDING ELECTRODE CONDUCTOR FROM THE POLE GROUNDING LUG, CONTROLLER CABINET AND/OR LUMINAIRE MAY ATTACH TO THIS CONTINUOUS GROUNDING ELECTRODE CONDUCTOR FROM THE SERVICE METER AND DISCONNECT. THE CONTRACTOR SHALL PERFORM A RESISTANCE TO GROUND TEST ON THE CONTINUOUS GROUNDING ELECTRODE CONDUCTOR FROM THE SERVICE METER AND DISCONNECT AND PROVIDE A WRITTEN STATEMENT TO THE AREA ELECTRICAL INSPECTOR THAT THE GROUNDING ELECTRODE CONDUCTOR IS CONTINUOUS FROM THE SERVICE METER AND DISCONNECT AND THE RESISTANCE TO GROUND IS 25 OHMS OR LESS.

12. THE COST OF SIGNAL/SIGN SUPPORTS, INCLUDING ALL HARDWARE, SIGN BRACKETS, FOOTINGS AND LUMINAIRE ARMS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 677.11, 677.12, 677.13 OR 678.15, WHICHEVER IS APPLICABLE. THESE COMPONENTS SHALL CONFORM TO ALL APPLICABLE PROVISIONS OF SECTIONS 677, 678, AND 679.

13. HORIZONTAL MEMBERS SHALL BE CAMBERED AND THE VERTICAL POLES BACK-RAKED (WHERE APPLICABLE) TO THE ANTICIPATED DEAD LOAD DEFLECTION PLUS THE CAMBER, IF ANY, SPECIFIED ON THE PLANS.

14. AN EQUIVALENT ALTERNATE DESIGN MAY BE SUBSTITUTED FOR THE DETAILS AND MATERIALS SHOWN.

15. THE DETAILS OF DESIGN FOR THE STRUCTURE AND FOOTINGS ARE TO BE SUPPLIED BY THE CONTRACTOR AND/OR BY THE MANUFACTURER. THE STRUCTURE SHALL BE DESIGNED TO RESIST THE MAXIMUM LOADING AS OUTLINED IN THE AASHTO STANDARD SPECIFICATIONS (SEE NOTE 2). ALL DETAILS OF THE STRUCTURE AND THE FOOTING SHALL BE CHECKED AND STAMPED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF VERMONT PRIOR TO SUBMITTAL OF THE SHOP DRAWINGS TO THE VERMONT AGENCY OF TRANSPORTATION.

16. IN ADDITION TO THE SHOP DRAWINGS OUTLINED IN NOTE 10 THE CONTRACTOR SHALL SUBMIT ALL DESIGN CALCULATIONS TO THE VERMONT AGENCY OF TRANSPORTATION, STRUCTURES DIVISION, SHOWING THE FOLLOWING INFORMATION FOR EACH OF THE VERTICAL AND HORIZONTAL COMPONENTS OF THE STRUCTURE AND FOOTING:

    A. THE DESIGN AXIAL AND SHEAR FORCES AND BENDING AND TORSIONAL MOMENTS.

    B. THE DESIGN AXIAL, BENDING AND SHEAR STRESSES AND THE COMBINED STRESS RATIO.

    C. VIBRATION AND FATIGUE CALCULATIONS AS SET FORTH IN SECTION 9 OF THE AASHTO PUBLICATION REFERENCED IN NOTE 2.

    D. THE ALLOWABLE AXIAL, BENDING, AND SHEAR STRESSES.

    E. ITEMS A, B, D - SHALL BE SHOWN FOR EACH OF THE GROUP LOADINGS (I, II, III) AND FOR THE BASIC WIND LOAD APPLIED TO THE TWO CASES OUTLINED IN THE AASHTO STANDARD SPECIFICATIONS (SEE NOTE 2) SECTION 1.2.5 (D)(4).

    F. FAILURE TO SUPPLY THE PROPER DESIGN INFORMATION SHALL BE CAUSE FOR REJECTION OF THE STRUCTURE.

    G. A MINIMUM OF FOUR (4) WEEKS SHALL BE REQUIRED FOR REVIEW BY THE VERMONT AGENCY OF TRANSPORTATION, STRUCTURES DIVISION.

17. THE CONTRACTOR/MANUFACTURER SHALL BE RESPONSIBLE FOR COMPLETION OF THE STRUCTURE AND FOOTING DATA ON THE DETAIL SHEET(S).

18. FOR INSTALLATIONS WHERE BOTH ''EXISTING'' AND ''FUTURE'' CONDITIONS ARE SHOWN, THE SUPPORTS SHALL BE DESIGNED FOR THE MORE SEVERE OF THE TWO LOADING CONDITIONS. THE INFORMATION OUTLINED IN NOTE 16 ABOVE SHALL BE PROVIDED FOR BOTH THE LOADING CONDITIONS.

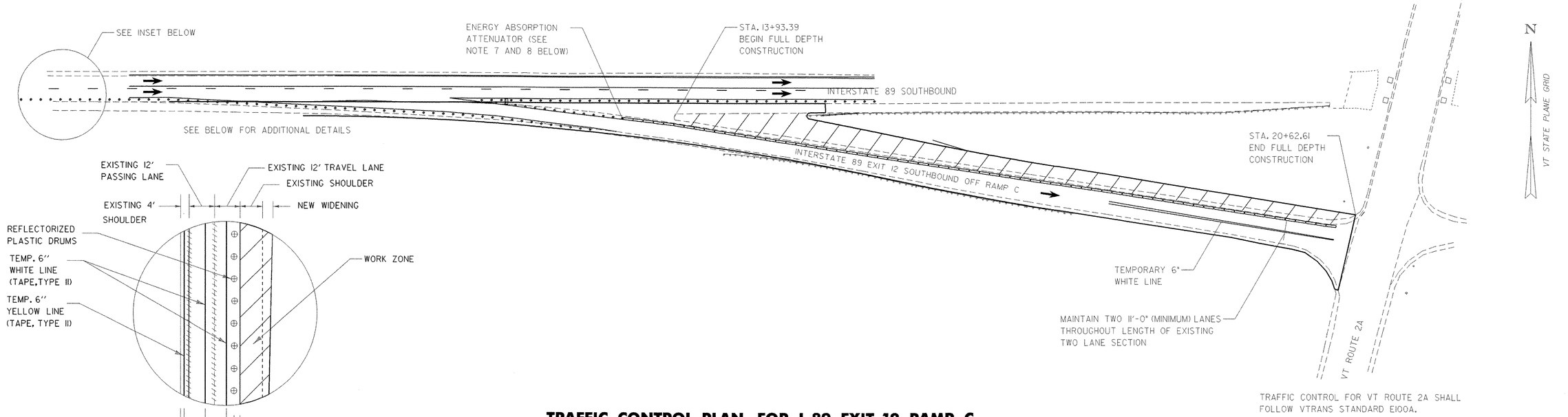
19. THE TRAFFIC SIGNALS SHALL BE MOUNTED TO THE ARM OR POLE USING A FIXED MOUNT SYSTEM AS SHOWN ON STANDARD E-171C, UNLESS OTHERWISE NOTED ON THE CROSS SECTION SHEET.

20. BASE PLATES SHALL BE STAMPED WITH THE VERTICAL POLE DIAMETER, HEIGHT, YIELD STRENGTH, GAUGE AND THE HORZONTAL MEMBER DIAMETER, LENGTH, YIELD STRENGTH, GAUGE. ALTERNATELY, THE INFORMATION MAY BE STAMPED ON A METAL TAG RIVETED TO THE POLE NEAR THE HANDHOLE.

21. SEE STANDARD E-171A FOR ADDITIONAL NOTES.

22. SEE LAYOUT SHEET FOR INTERSECTION LAYOUT.

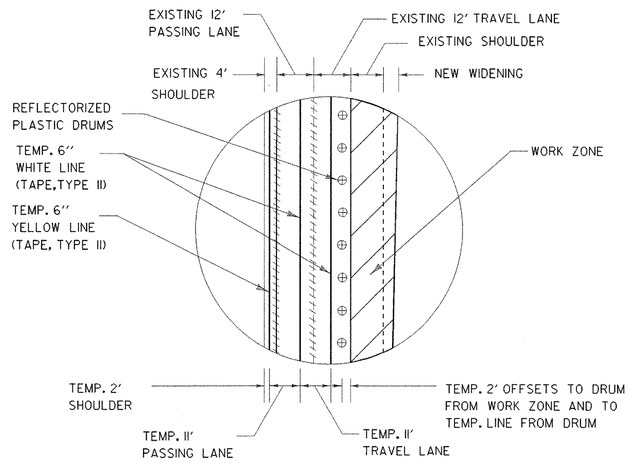
PROJECT NAME:	I-89 EXIT 12 SB OFF RAMP
PROJECT NUMBER:	IM 089-2(35)
FILE NAME: 618800F4DT03.dgn	PLOT DATE: 17-MAY-2005
PROJECT LEADER: EPD	DRAWN BY: JDA / PGJ
DESIGNED BY: JDA	CHECKED BY: EPD
SIGN BRIDGE NOTES	SHEET 67 OF 76



TRAFFIC CONTROL PLAN FOR I-89 EXIT 12 RAMP C

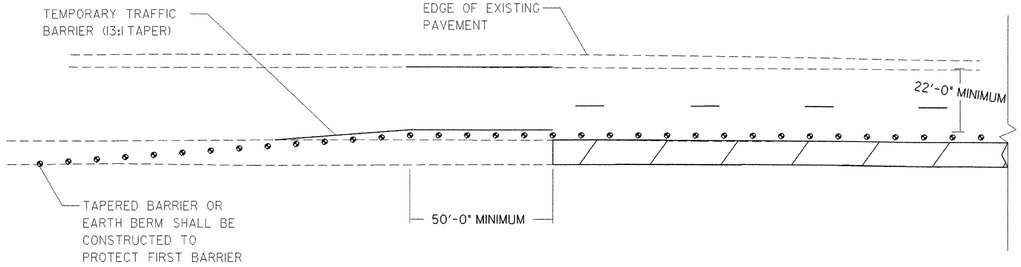
SCALE 1" = 50'-0

50 0 50



INSET DETAIL

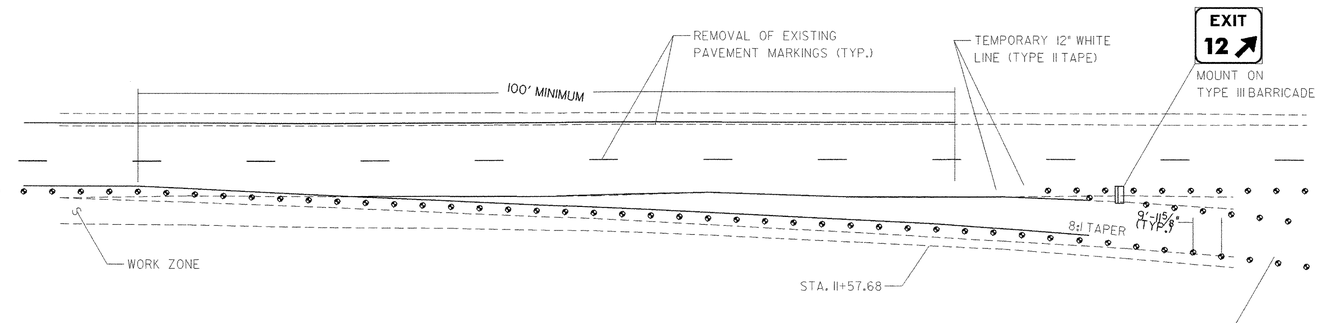
NOT TO SCALE



BEGINNING OF DECELERATION LANE

SCALE 1" = 25'-0

25 0 25



GORE AREA

SCALE 1" = 25'-0

25 0 25

LEGEND

- EDGE OF PAVEMENT
- REFLECTIVE PLASTIC DRUMS
- PAVEMENT MARKING REMOVAL
- TRAFFIC FLOW
- CONSTRUCTION AREA
- TEMPORARY TRAFFIC BARRIER

DATUM
VERTICAL N/A
HORIZONTAL N/A

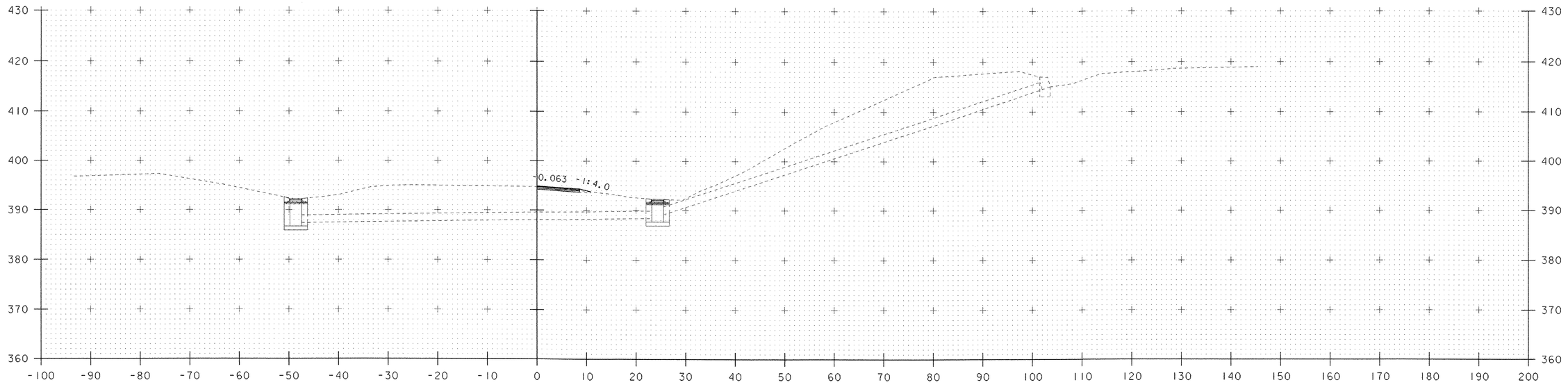
NOTES

1. EXIT SIGN SHALL BE MOUNTED A MINIMUM OF THREE-FEET ABOVE THE GROUND AND HIGH ENOUGH TO BE SEEN ABOVE CHANNELIZING DEVICES.
2. ALL DISTANCES ARE DESIRABLE MINIMUMS. FIELD CONDITIONS SHALL CONTROL THE ACTUAL PLACEMENT.
3. SEE VTRANS STANDARDS E-103 AND E-106 FOR ADDITIONAL TRAFFIC CONTROL DETAILS, INCLUDING BARREL PLACEMENT AND TAPER LENGTHS.
4. SEE I-89 MAINLINE PLANS FOR MAINLINE TRAFFIC CONTROL PLANS AND DETAILS.
5. REFLECTIVE PLASTIC DRUMS ARE TO BE PAID FOR INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL".
6. REMOVAL OF EXISTING AND PLACEMENT OF NEW TEMPORARY ARROW PAVEMENT MARKINGS MAY BE NECESSARY, AS DETERMINED BY THE RESIDENT ENGINEER. PAYMENT FOR SUCH SHALL BE INCLUDED UNDER ITEM 641.10, "TRAFFIC CONTROL".
6. PAYMENT FOR TEMPORARY 6" WHITE AND 6" YELLOW LINES ON THE MAINLINE ARE INCLUDED AS PART OF THE MAINLINE PLANS. TEMPORARY LINES ON THE RAMP ARE PAID FOR UNDER THIS PROJECT. SEE QUANTITY SHEET FOR ITEM NUMBERS.
7. LOCATION OF TEMPORARY TRAFFIC BARRIERS AND ENERGY ABSORPTION ATTENUATORS SHALL BE PLACED AS SHOWN ON THIS SHEET, IN CONJUNCTION WITH APPLICABLE VAOT STANDARD DRAWINGS AND AT THE DISCRETION OF THE RESIDENT ENGINEER. ATTENUATORS AND BARRIER ENDS SHALL BE ADJUSTED AS NECESSARY AND WITH APPROVAL OF THE RESIDENT ENGINEER.
8. ENERGY ABSORPTION ATTENUATORS WILL BE PLACED AS SHOWN ON THIS SHEET AND PAID FOR UNDER ITEM 621.56, "ENERGY ABSORPTION ATTENUATOR". THE ATTENUATORS SHALL MEET REQUIREMENTS OF THE 2002 AASHTO ROADSIDE DESIGN GUIDELINE.

PROJECT NAME: WILLISTON
PROJECT NUMBER: IM 089-2(35)

FILE NAME: I8800F4TC01.dgn
PROJECT LEADER: EPD
DESIGNED BY: JDA
TRAFFIC CONTROL SHEET

PLOT DATE: 17-MAY-2005
DRAWN BY: JDA / PGJ
CHECKED BY: EPD
SHEET 68 OF 76



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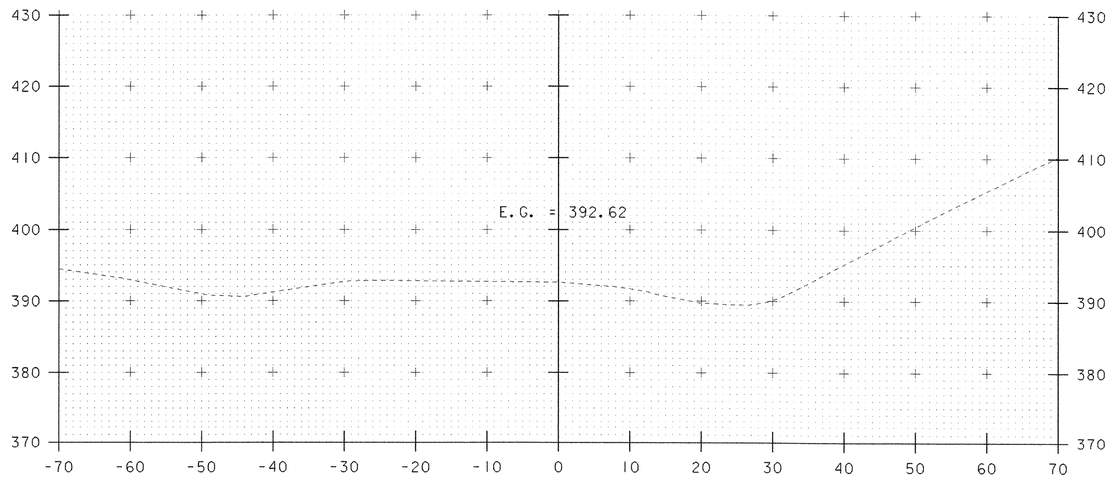
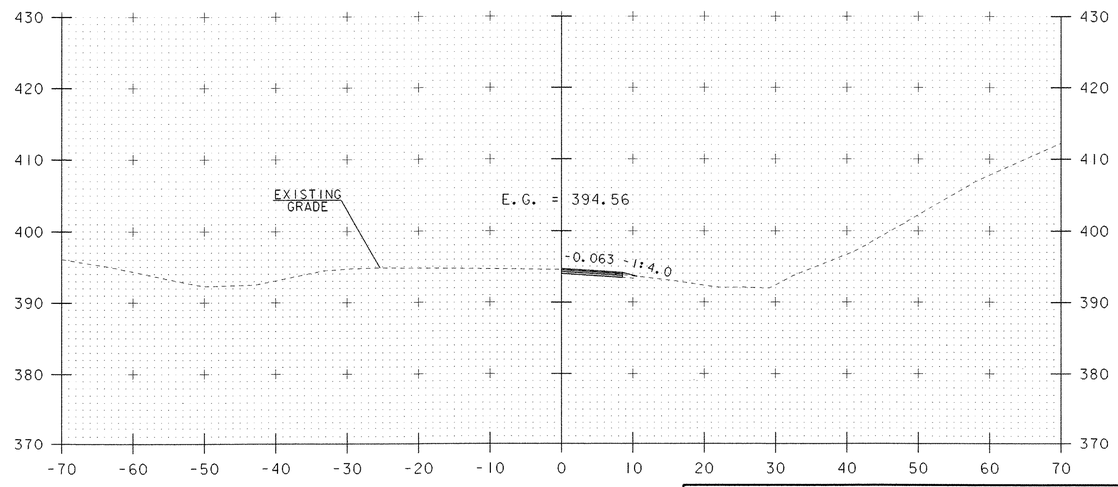


2+50



3+00

NOTE: STA. 2+50 - 3+00 RT - GRADE DITCH TO DRAIN

DATUM
VERTICAL N/A
HORIZONTAL N/A

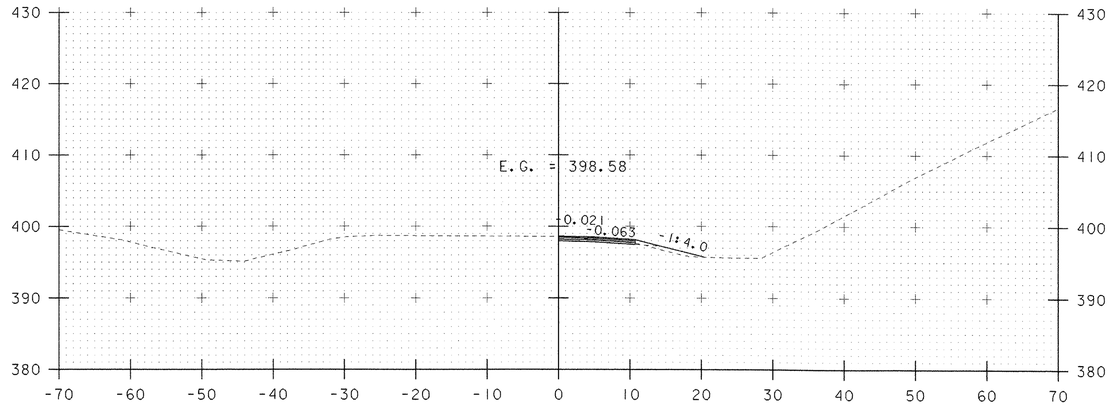
NOTE: SEE LAYOUT SHEET AND TRENCH DETAIL ON SIGN ACTUATION NOTES AND DETAILS SHEET FOR PLACEMENT OF CONDUIT.

SCALE 1" = 10'-0"
10 0 10

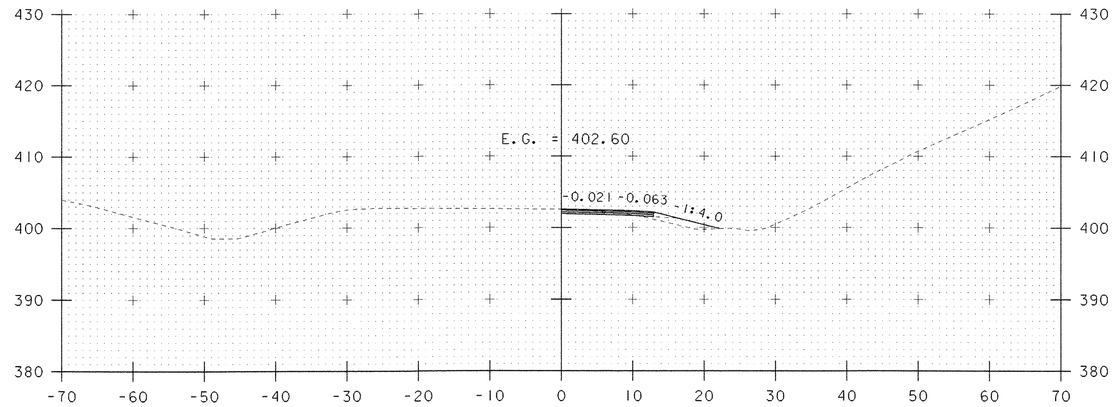
PROJECT NAME: I-89 EXIT 12 SB OFF RAMP
PROJECT NUMBER: IM 089-2(35)

FILE NAME: 618800F4XS01.dgn
PROJECT LEADER: EPD
DESIGNED BY: JDA
STA. 2+50 TO STA. 3+05

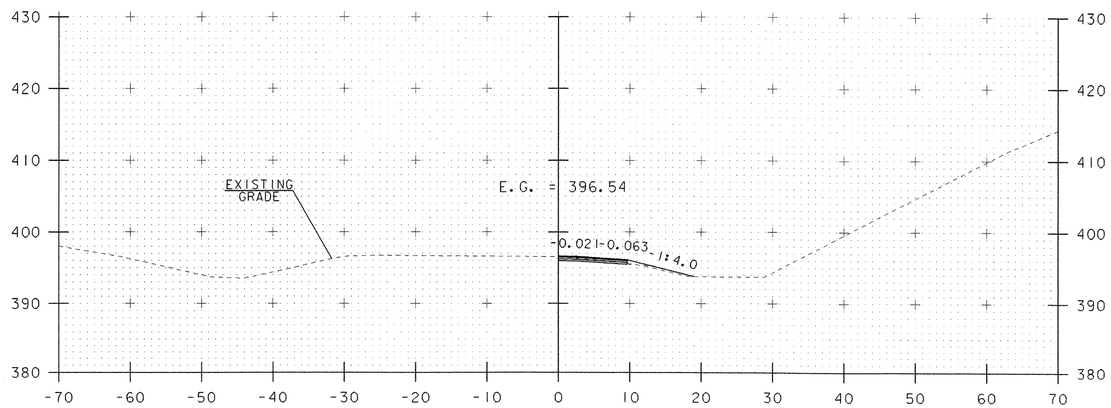
PLOT DATE: 17-MAY-2005
DRAWN BY: JDA / PGJ
CHECKED BY: EPD
SHEET 69 OF 76



4+00



5+00



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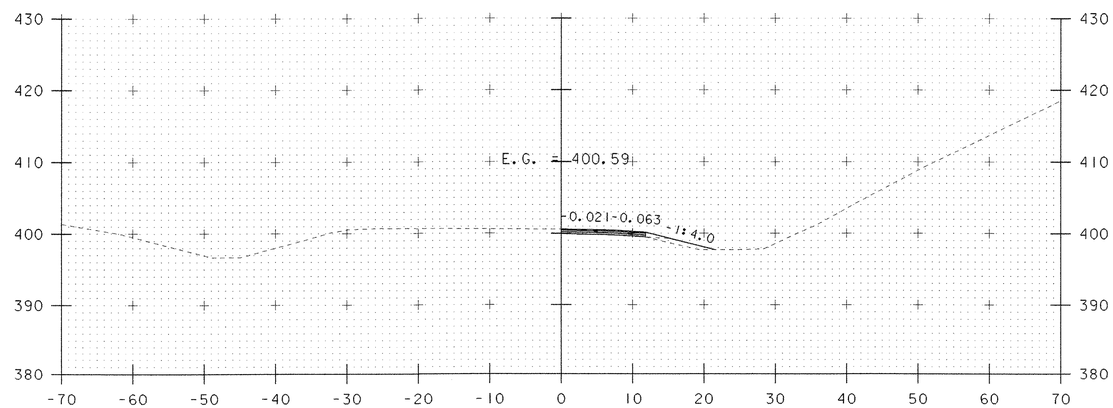


4+50

SCALE 1" = 10'-0"

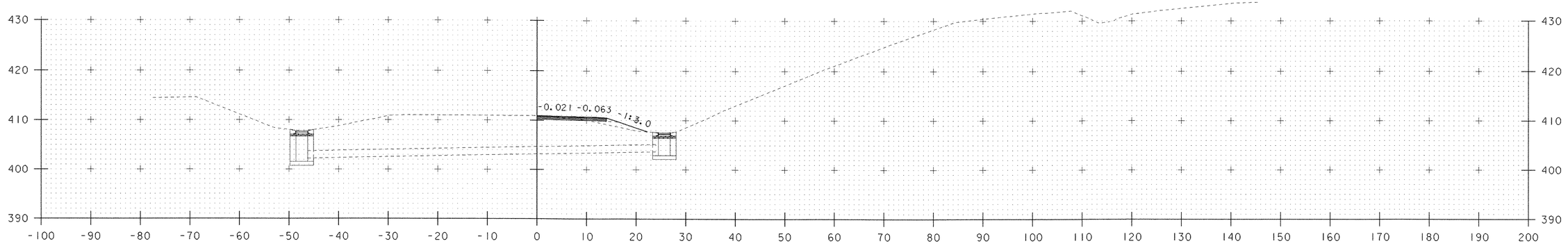
10 0 10

DATUM
VERTICAL N/A
HORIZONTAL N/A

PROJECT NAME: I-89 EXIT 12 SB OFF RAMP
PROJECT NUMBER: IM 089-2(35)

FILE NAME: 618800F4XS01.dgn
PROJECT LEADER: EPD
DESIGNED BY: JDA
STA. 3+50 TO STA. 5+00

PLOT DATE: 17-MAY-2005
DRAWN BY: JDA / PGJ
CHECKED BY: EPD
SHEET 70 OF 76



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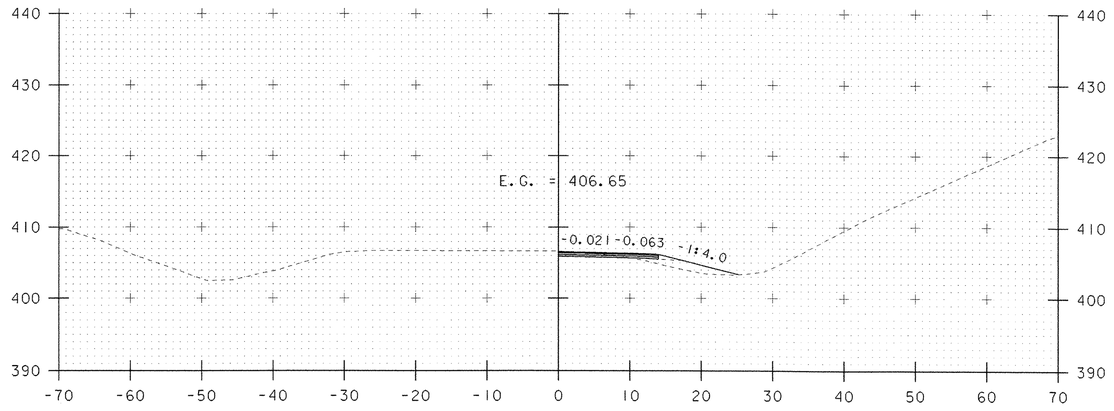

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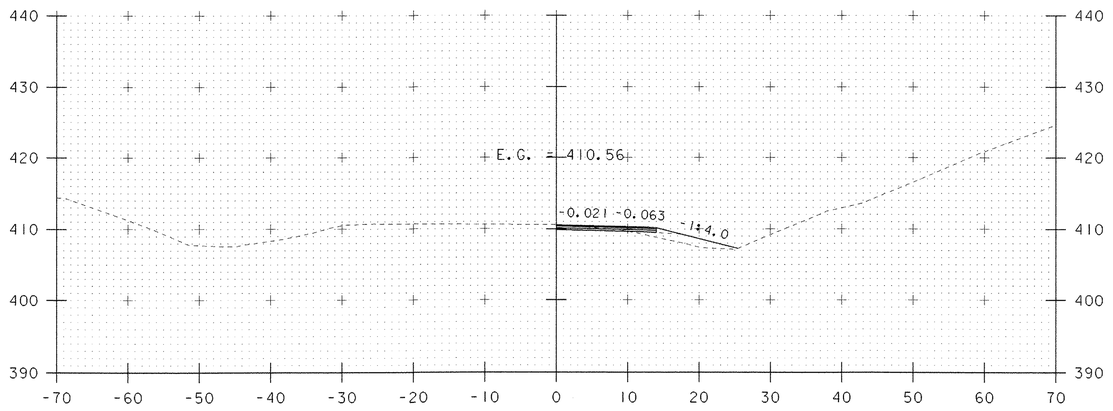

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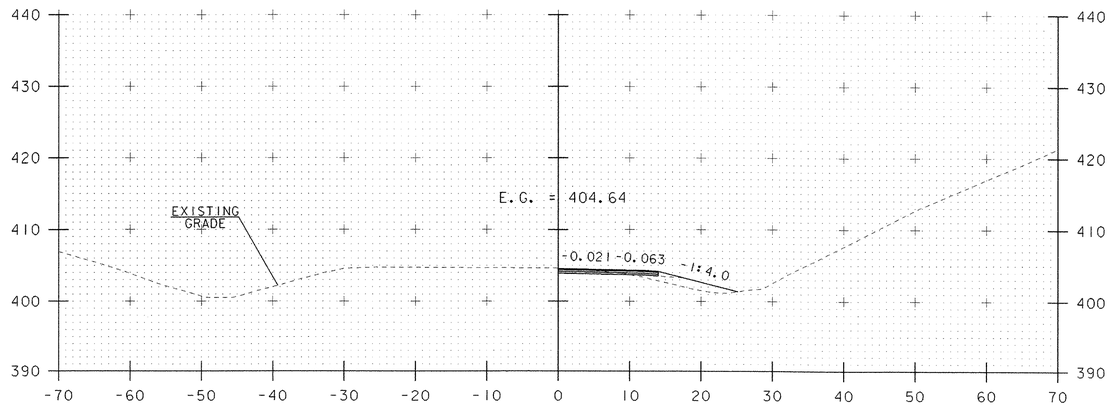

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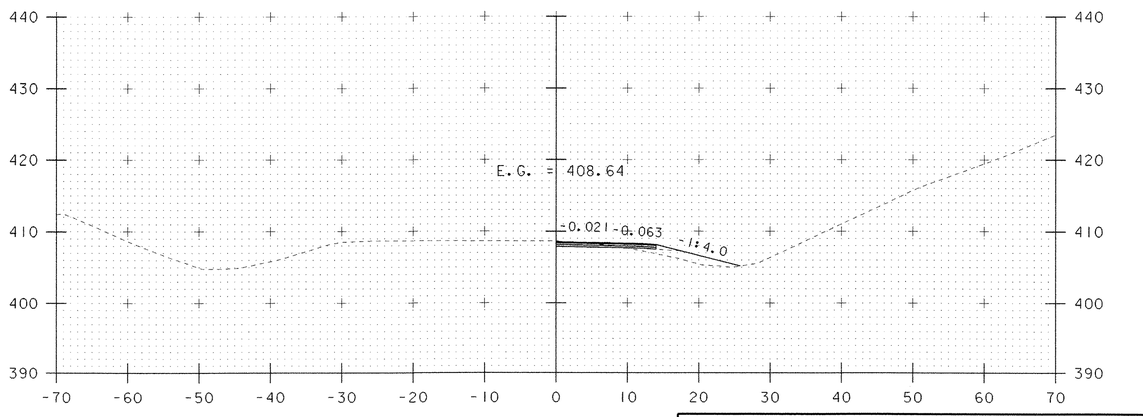


6+50

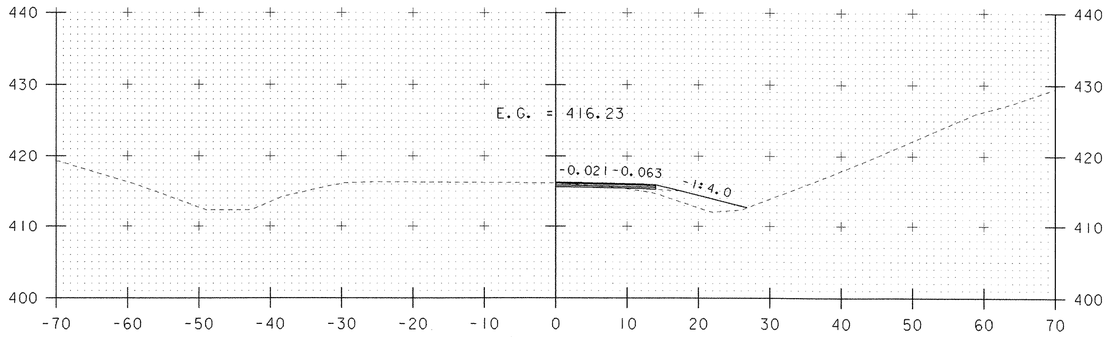
DATUM
VERTICAL N/A
HORIZONTAL N/A

SCALE 1" = 10'-0"
10 0 10

PROJECT NAME: I-89 EXIT 12 SB OFF RAMP
PROJECT NUMBER: IM 089-2(35)

FILE NAME: 618800F4XS01.dgn
PROJECT LEADER: EPD
DESIGNED BY: JDA
STA. 5+50 TO STA. 7+00

PLOT DATE: 17-MAY-2005
DRAWN BY: JDA / PGJ
CHECKED BY: EPD
SHEET 71 OF 76



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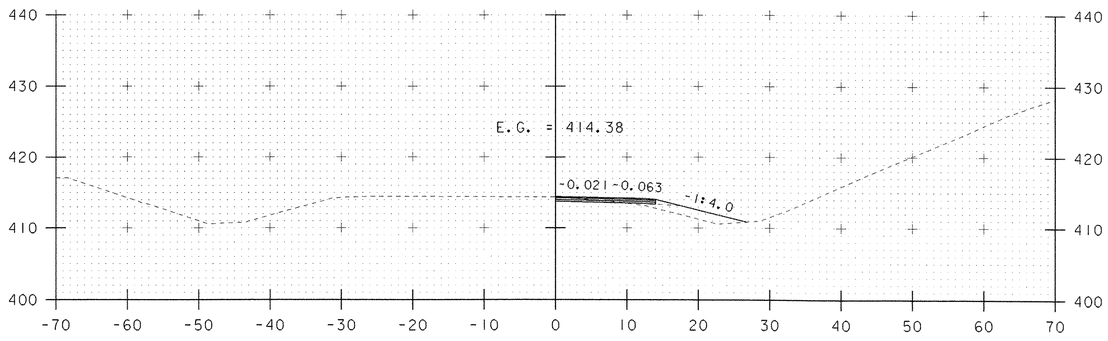

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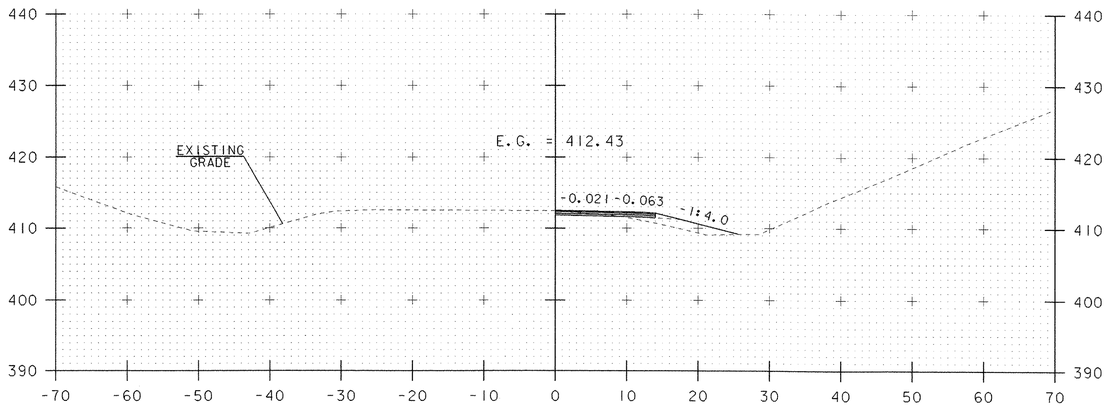

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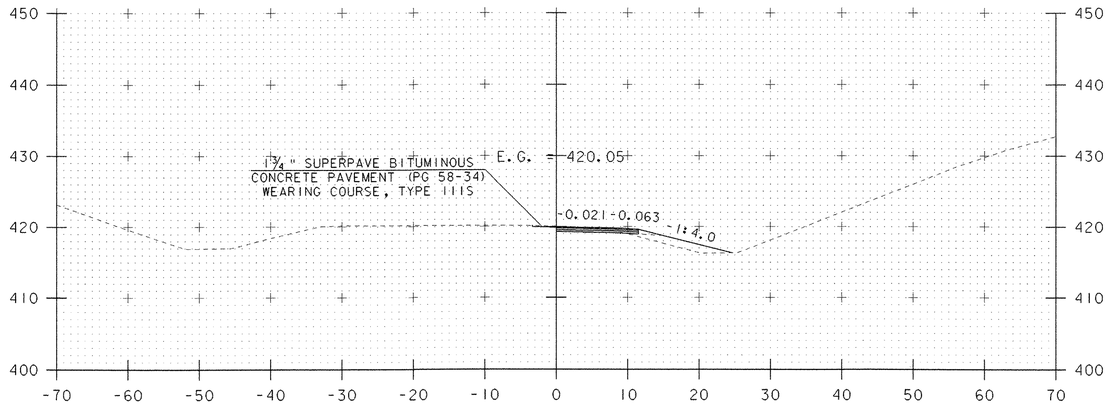
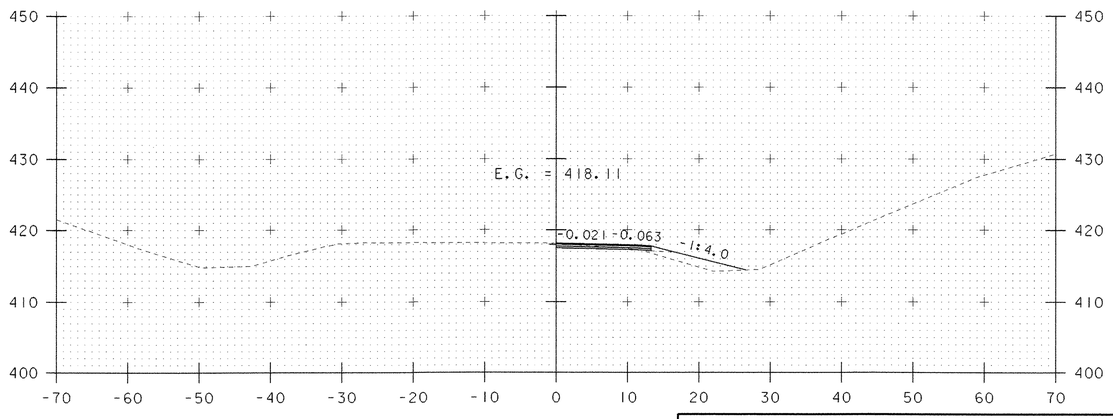


9+50



9+00

SCALE 1" = 10'-0"

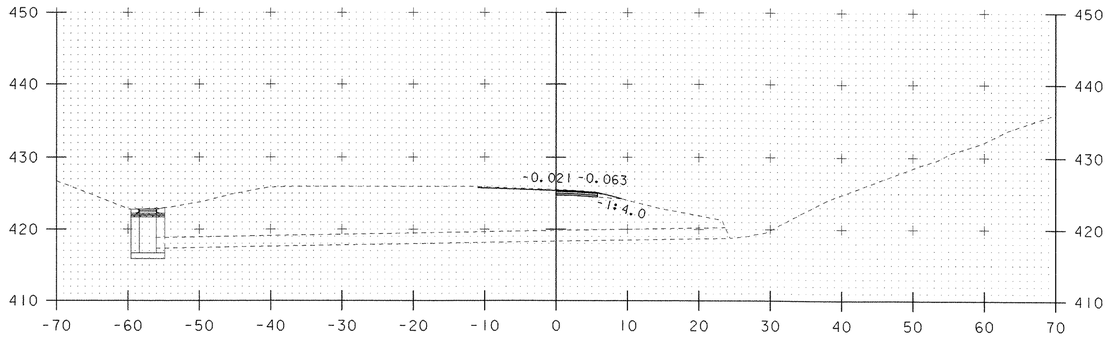
10 0 10

DATUM
VERTICAL N/A
HORIZONTAL N/A

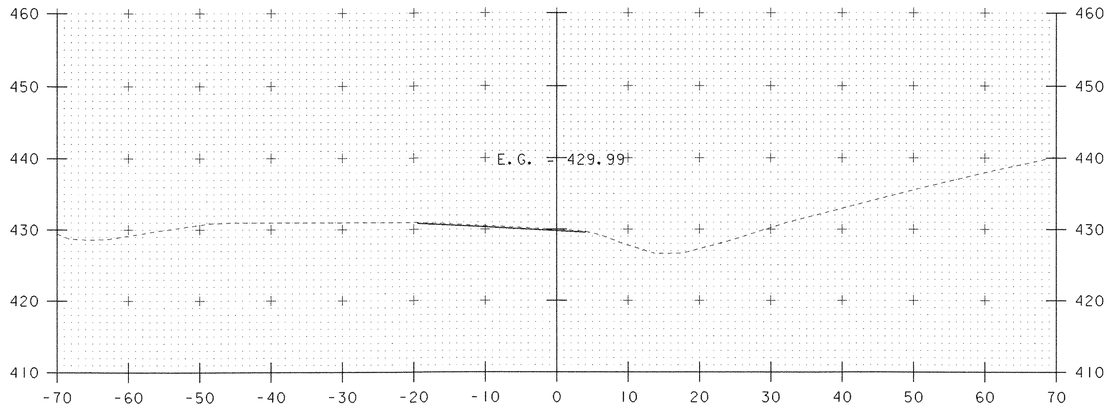
PROJECT NAME: I-89 EXIT 12 SB OFF RAMP
PROJECT NUMBER: IM 089-2(35)

FILE NAME: 618800F4XS01.dgn
PROJECT LEADER: EPD
DESIGNED BY: JDA
STA. 7+50 TO STA. 9+50

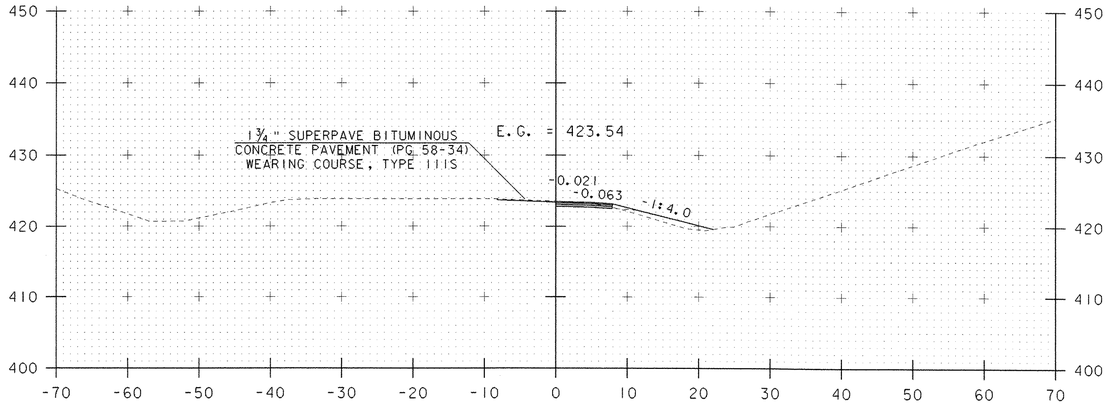
PLOT DATE: 17-MAY-2005
DRAWN BY: JDA / PGJ
CHECKED BY: EPD
SHEET 72 OF 76



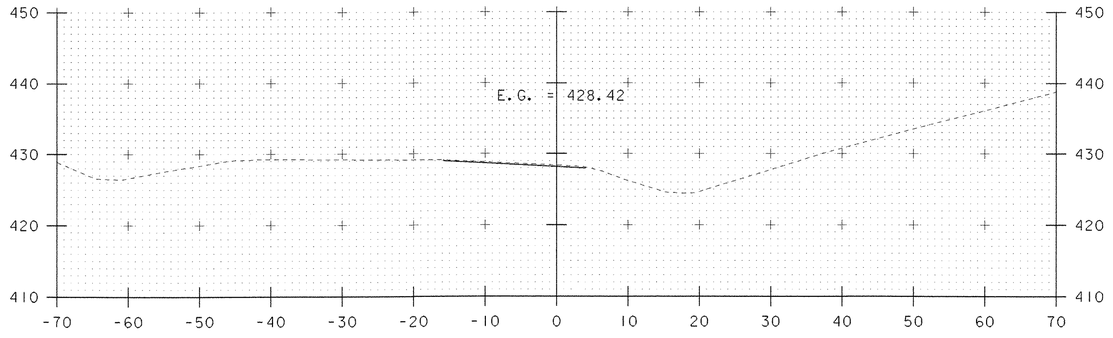
11+08



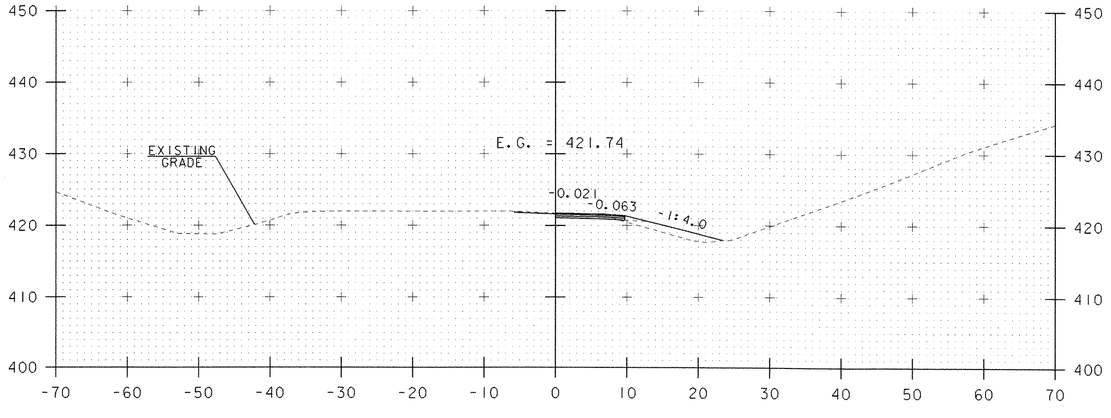
12+50



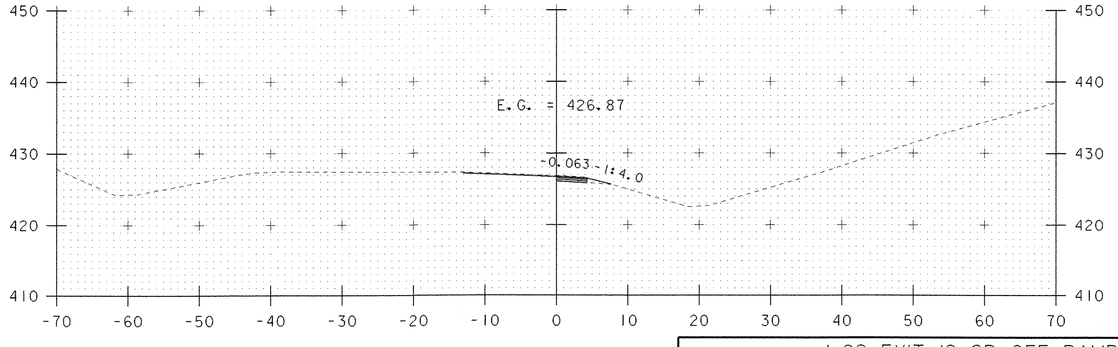
10+50



12+00



10+00



11+50

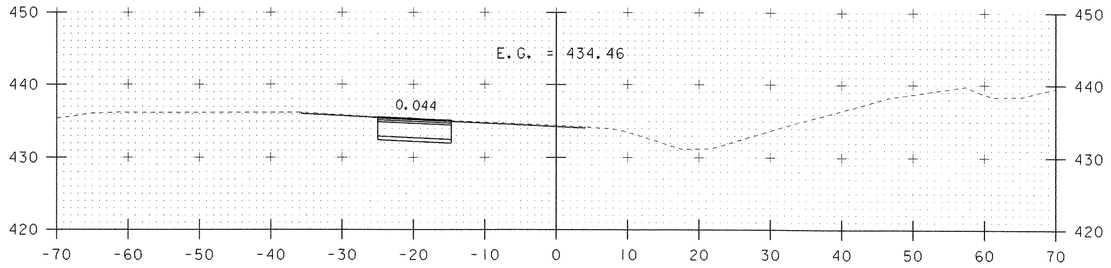
DATUM
VERTICAL N/A
HORIZONTAL N/A

SCALE 1" = 10'-0"
10 0 10

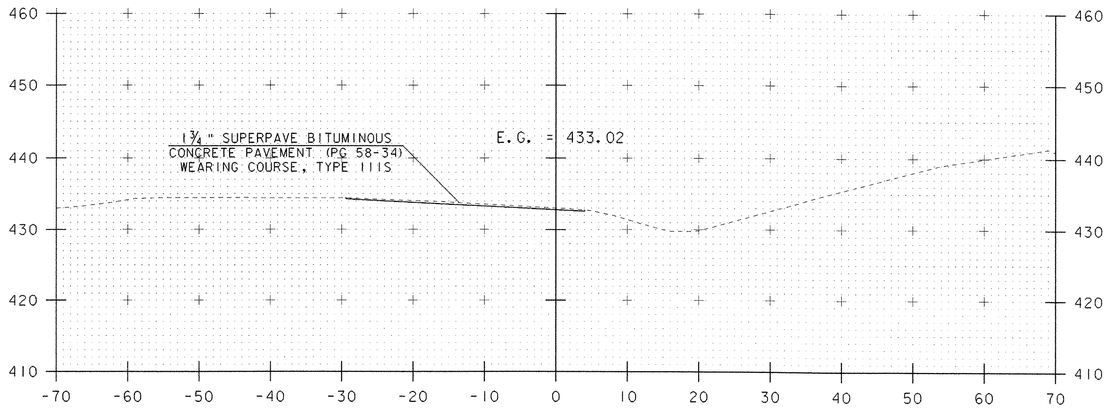
PROJECT NAME: I-89 EXIT 12 SB OFF RAMP
PROJECT NUMBER: IM 089-2(35)

FILE NAME: 618800F4XS01.dgn
PROJECT LEADER: EPD
DESIGNED BY: JDA
STA. 10+00 TO STA. 12+50

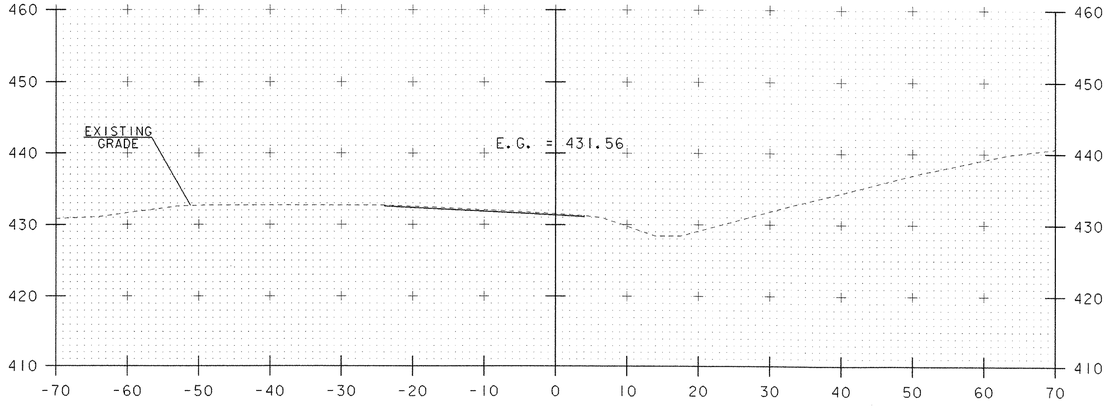
PLOT DATE: 17-MAY-2005
DRAWN BY: JDA / PGJ
CHECKED BY: EPD
SHEET 73 OF 76



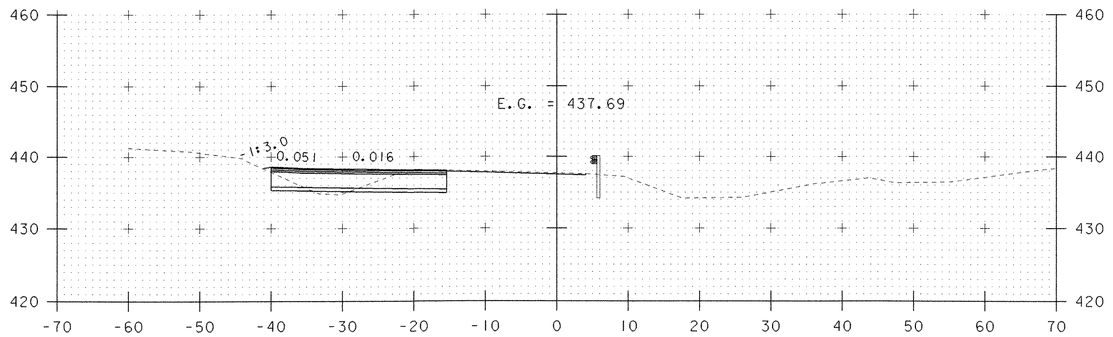
14+00



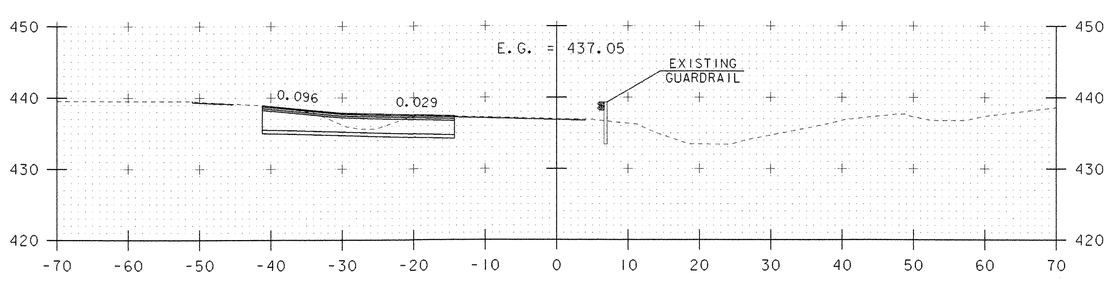
13+50



13+00



15+50



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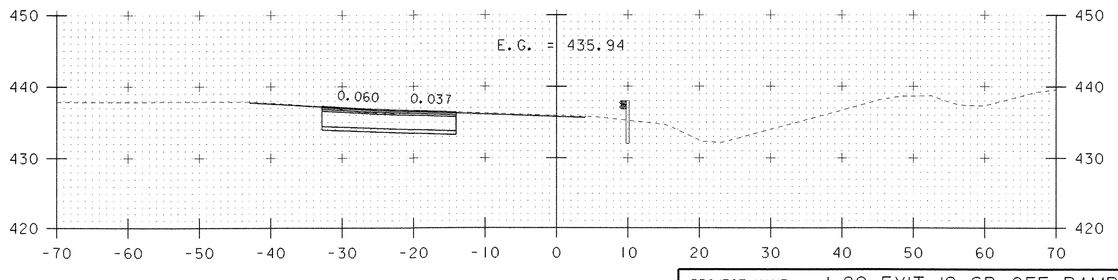


14+50

SCALE 1" = 10'-0"

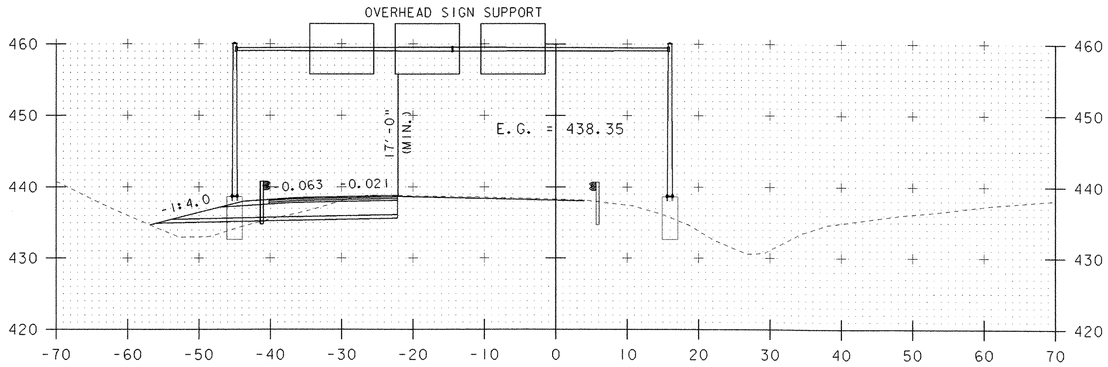
10 0 10

DATUM
VERTICAL N/A
HORIZONTAL N/A

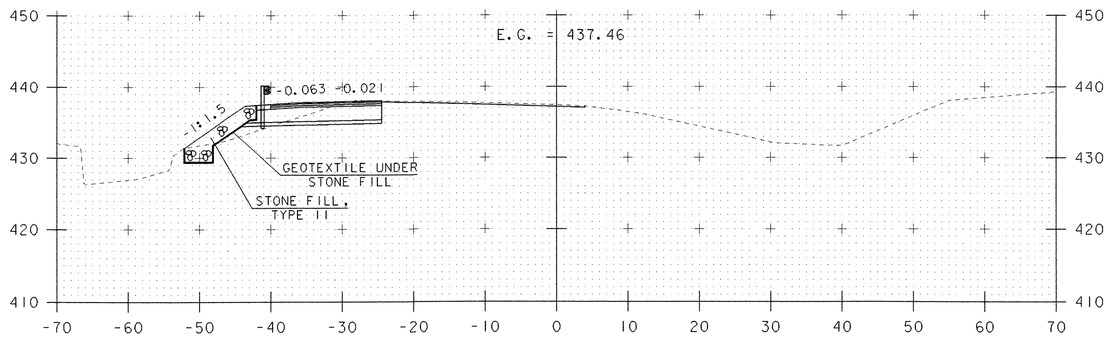
PROJECT NAME: I-89 EXIT 12 SB OFF RAMP
PROJECT NUMBER: IM 089-2(35)

FILE NAME: 618800F4XS01.dgn
PROJECT LEADER: EPD
DESIGNED BY: JDA
STA. 13+00 TO STA. 15+50

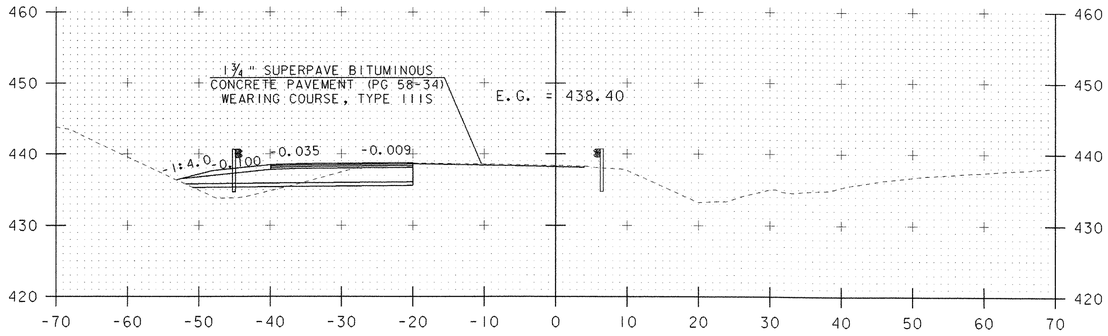
PLOT DATE: 17-MAY-2005
DRAWN BY: JDA / PGJ
CHECKED BY: EPD
SHEET 74 OF 76



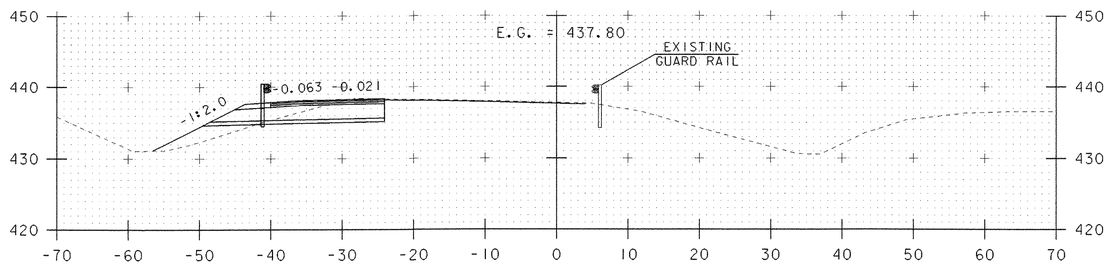
17+00



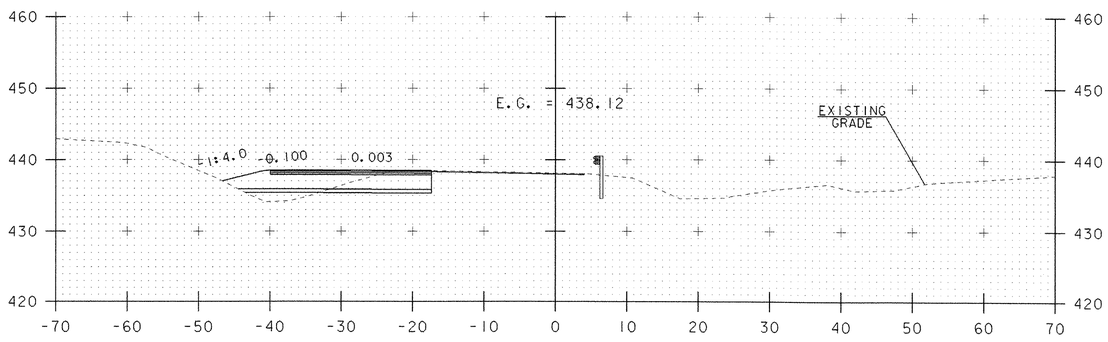
18+50



16+50



18+00



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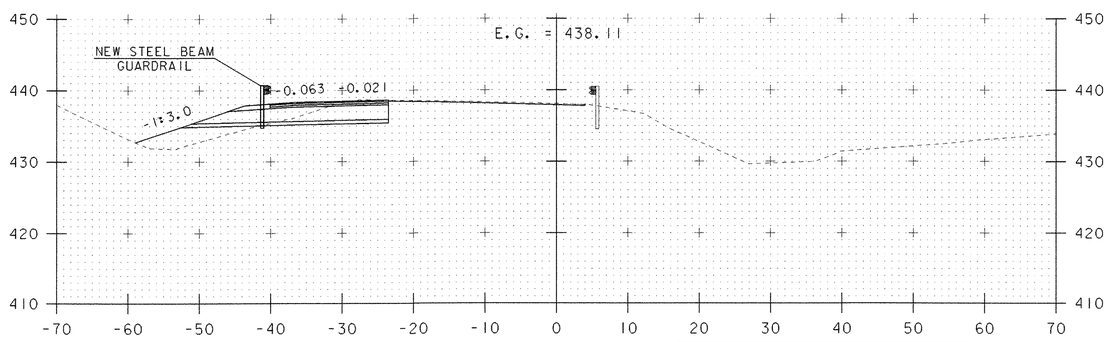


17+50

SCALE 1" = 10'-0"

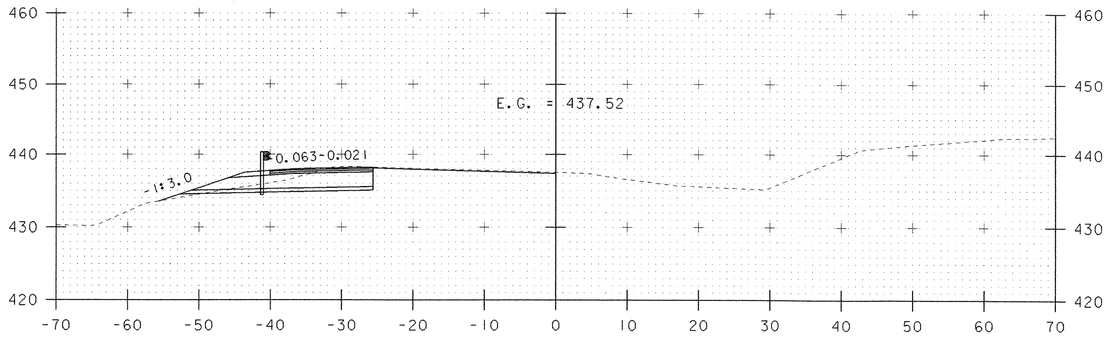
10 0 10

DATUM
VERTICAL N/A
HORIZONTAL N/A

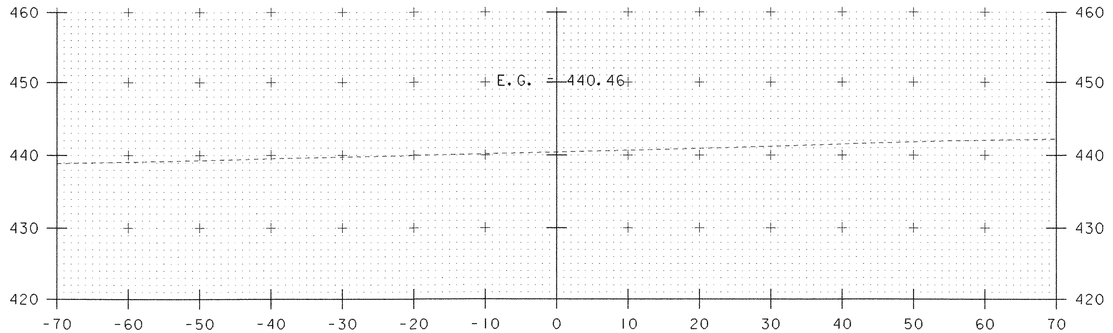
PROJECT NAME: I-89 EXIT 12 SB OFF RAMP
PROJECT NUMBER: IM 089-2(35)

FILE NAME: 618800F4XS01.dgn
PROJECT LEADER: EPD
DESIGNED BY: JDA
STA. 16+00 TO STA. 18+50

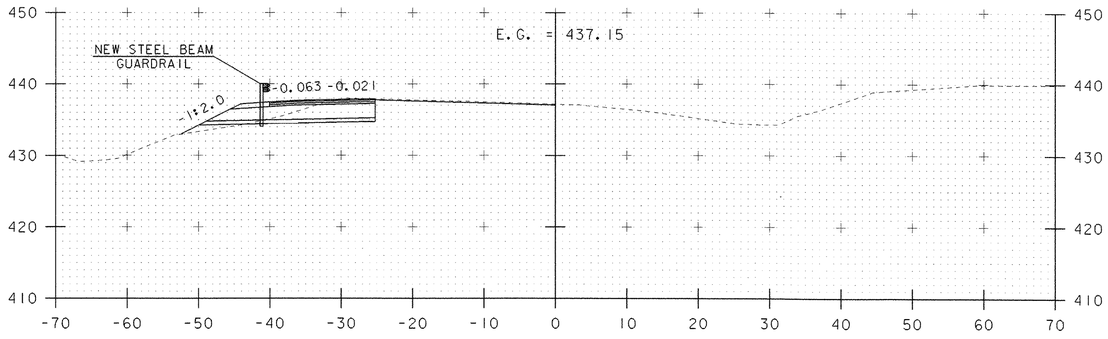
PLOT DATE: 17-MAY-2005
DRAWN BY: JDA / PGJ
CHECKED BY: EPD
SHEET 75 OF 76



20+00



21+43



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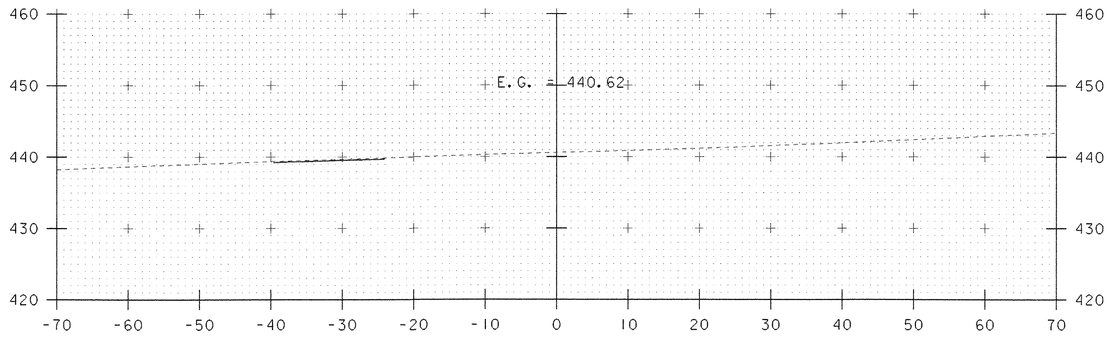
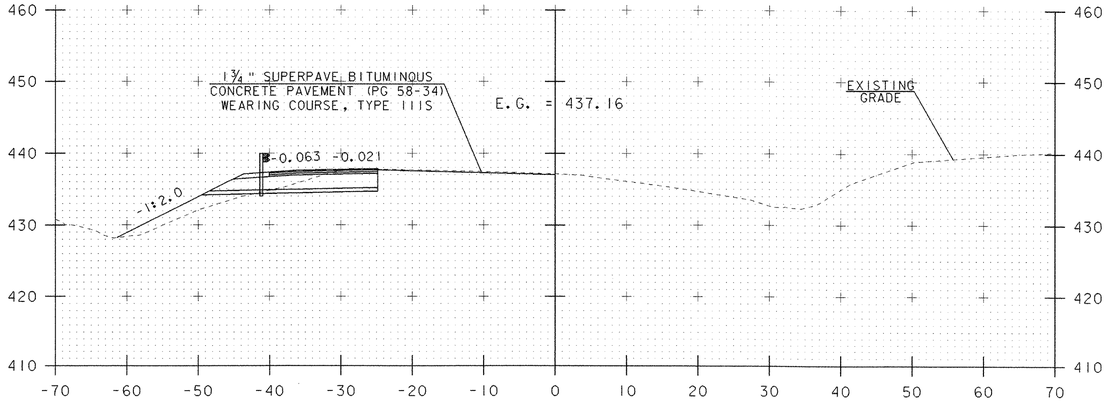
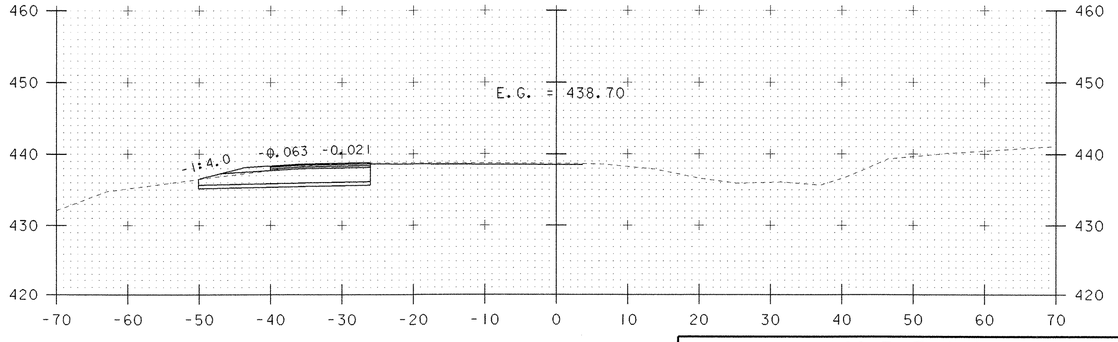


21+00



19+00



20+50

SCALE 1" = 10'-0"

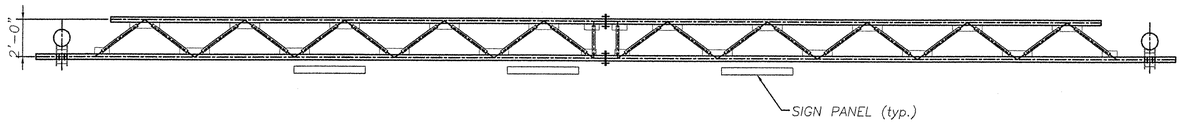
10 0 10

DATUM
VERTICAL N/A
HORIZONTAL N/A

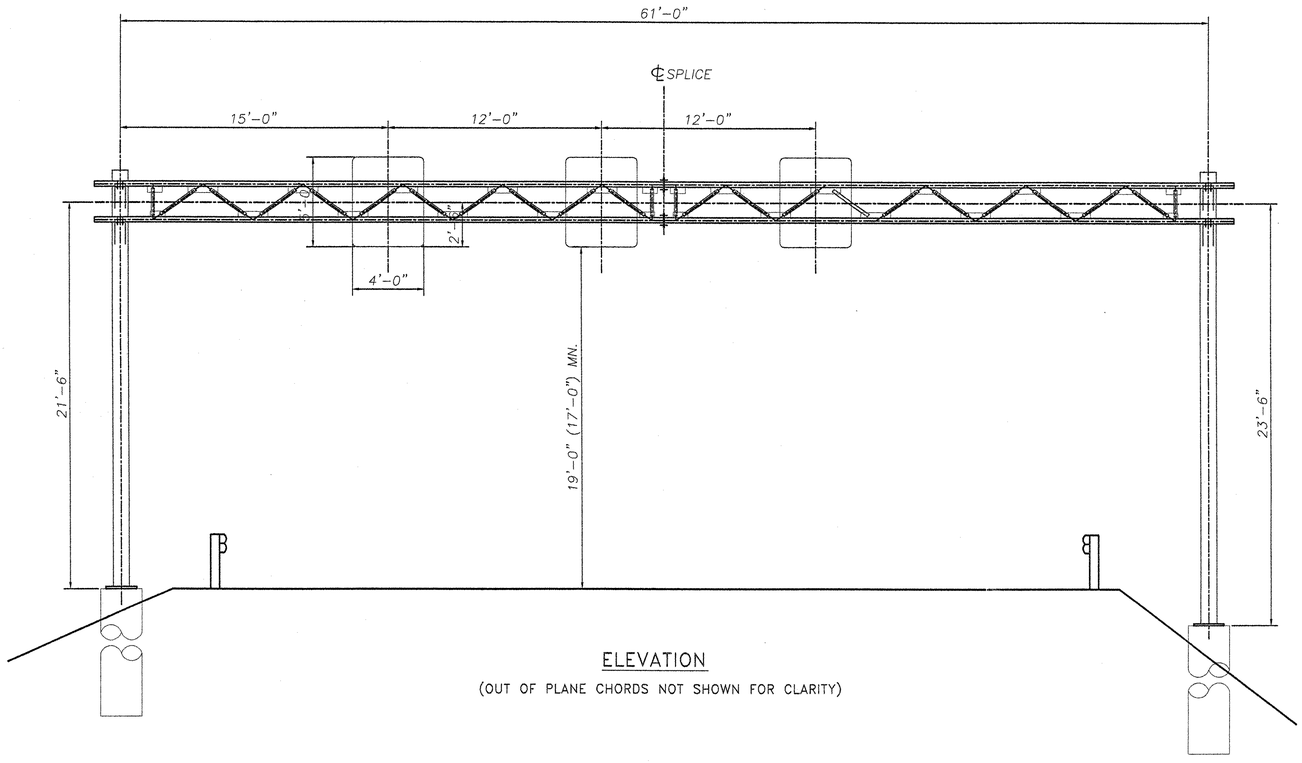
PROJECT NAME: I-89 EXIT 12 SB OFF RAMP
PROJECT NUMBER: IM 089-2(35)

FILE NAME: 618800F4XS01.dgn
PROJECT LEADER: EPD
DESIGNED BY: JDA
STA. 19+00 TO STA. 21+43

PLOT DATE: 17-MAY-2005
DRAWN BY: JDA / PGJ
CHECKED BY: EPD
SHEET 76 OF 76

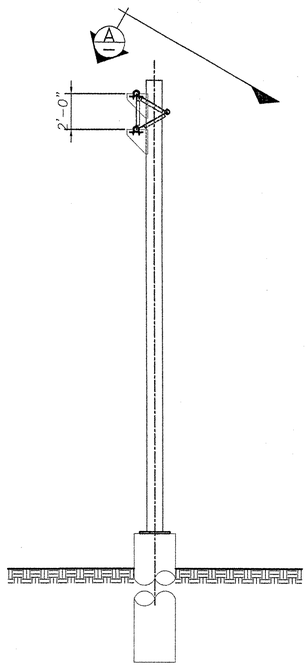


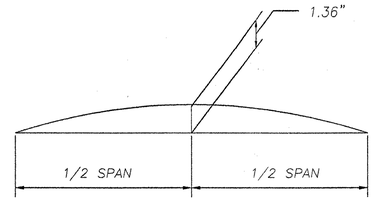
A SECTION



ELEVATION

(OUT OF PLANE CHORDS NOT SHOWN FOR CLARITY)





CAMBER DIAGRAM

NOTE:

CAMBER WILL BE ACHIEVED BY SHORTENING LOWER CHORD PIPES BY AN AMOUNT SUCH THAT POSITIVE UPWARD DEFLECTION IS PRODUCED WHEN TRUSSES ARE BROUGHT TOGETHER AT SPLICES.

REVISIONS		
No.	Remarks	Date
0	Initial submittal	7-19-05

HIGHWAY SAFETY CORP.

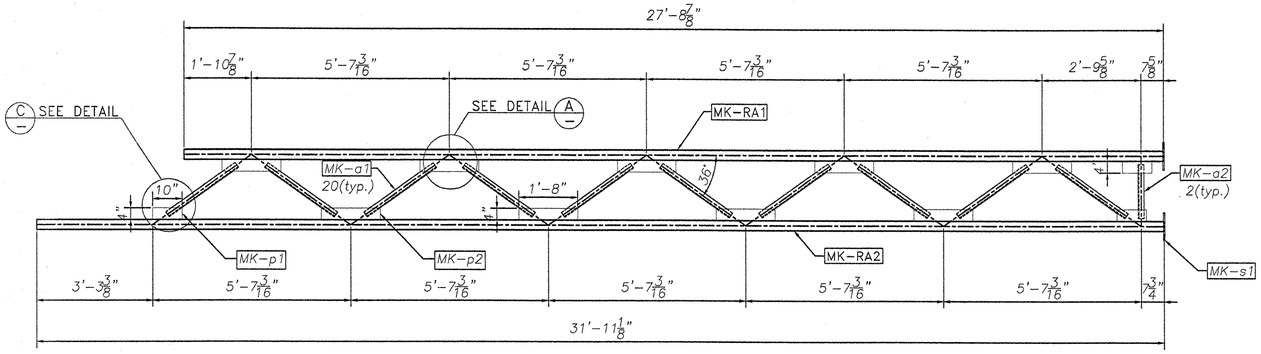
GLASTONBURY, CT

TRI-CHORD SIGN STRUCTURE
I-89 EXIT 12 SB OFF RAMP
CHITTENDEN COUNTY, VERMONT
PROJECT No. IM 089-2(35)

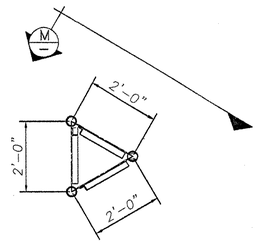
GENERAL CONTRACTOR

SUB CONTRACTOR F.R. LAFAYETTE

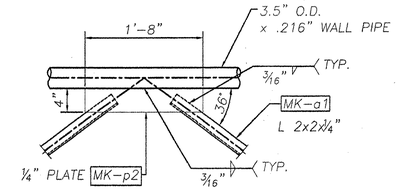
DRAWN MHM
CHECKED
DATE 7/8/05
SCALE N.T.S.
HSC REFERENCE NO. 1515
SIZE D REVISION 0
SHEET NO. 1 of 8



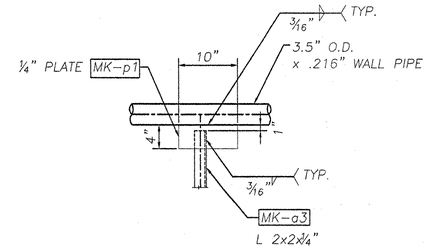
M VIEW



SIDE VIEW



DETAIL "A"



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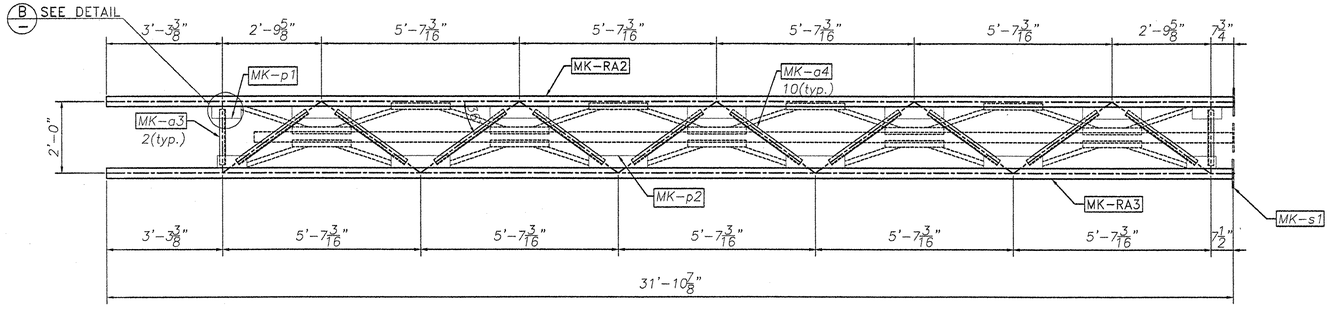
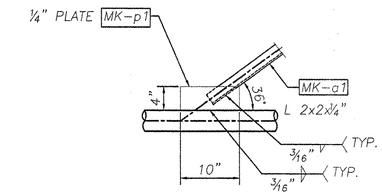
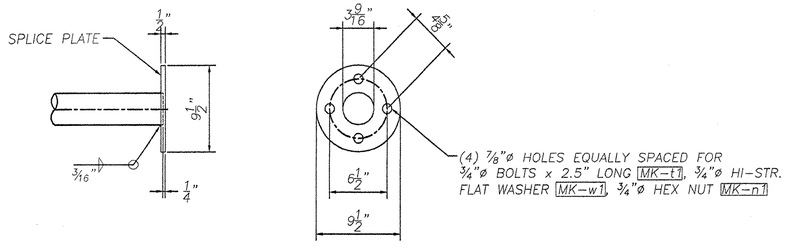


FRONT VIEW



DETAIL "C"



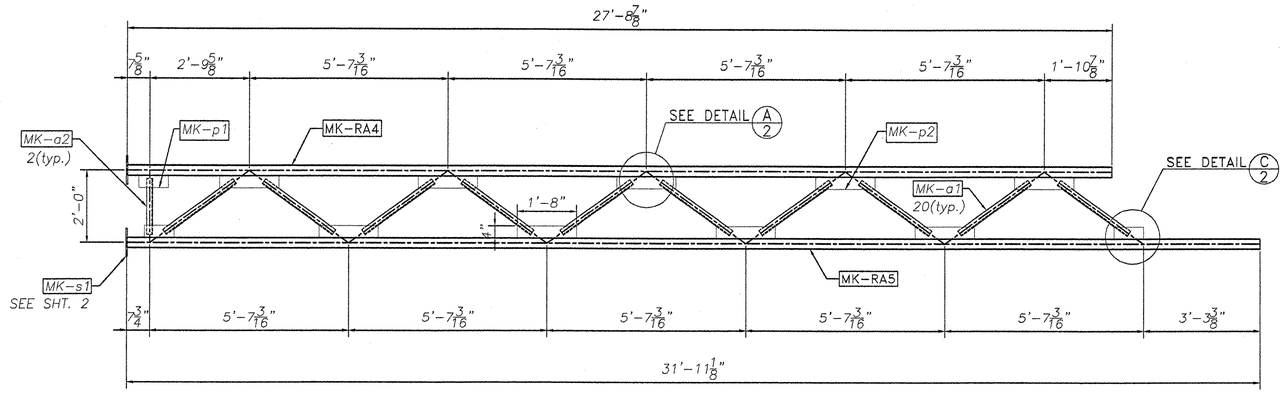
SPLICE DETAIL
MK-s1

REVISIONS		
No.	Remarks	Date
0	Initial submittal	

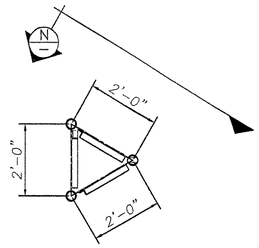
HIGHWAY SAFETY CORP.
GLASTONBURY, CT

TRI-CHORD SIGN STRUCTURE
I-89 EXIT 12 SB OFF RAMP
CHITTENDEN COUNTY, VERMONT
PROJECT No. IM 089-2(35)

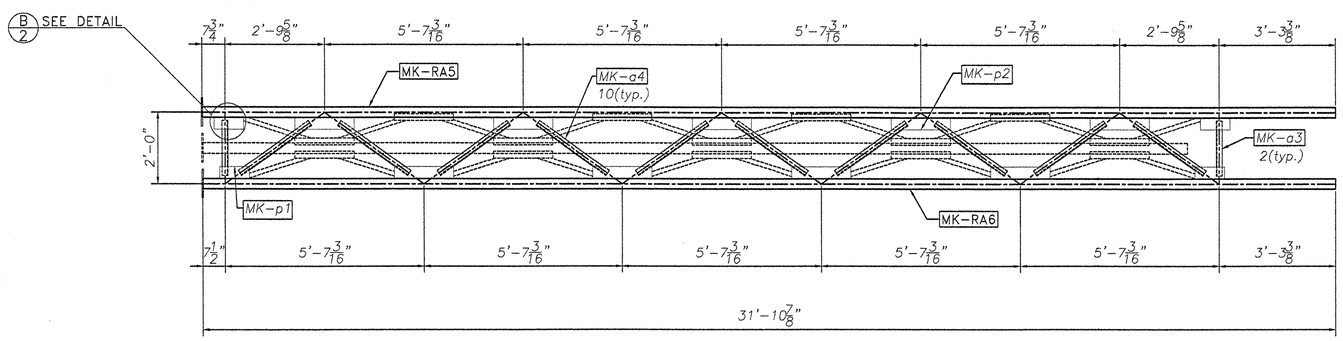
DRAWN	MHM
CHECKED	
DATE	11/8/05
SCALE	NTS
HSC REFERENCE NO.	1515
GENERAL CONTRACTOR	
SIZE	D
REVISION	0
SUB CONTRACTOR	F.R. LAFAYETTE
SHEET NO.	2 of 8



N VIEW



SIDE VIEW



FRONT VIEW

REVISIONS		
No.	Remarks	Date
0	Initial submittal	

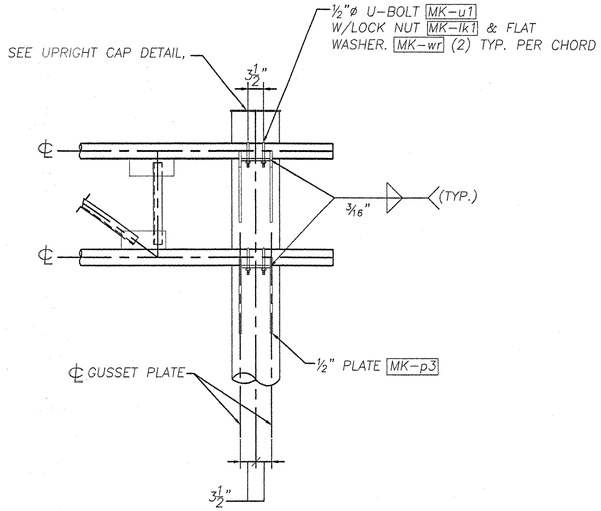
HIGHWAY SAFETY CORP.
GLASTONBURY, CT

TRI-CHORD SIGN STRUCTURE
I-89 EXIT 12 SB OFF RAMP
CHITTENDEN COUNTY, VERMONT
PROJECT No. IM 089-2(35)

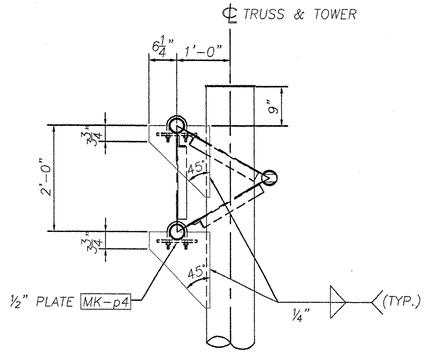
DRAWN	MHM
CHECKED	
DATE	7/8/05
SCALE	NTS
HSC REFERENCE NO.	1515
SIZE	D
REVISION	0
SHEET NO.	3 of 8

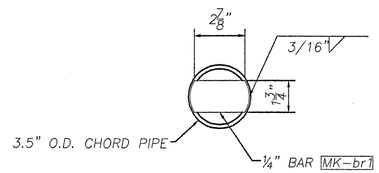
GENERAL CONTRACTOR

SUB CONTRACTOR F.R. LAFAYETTE

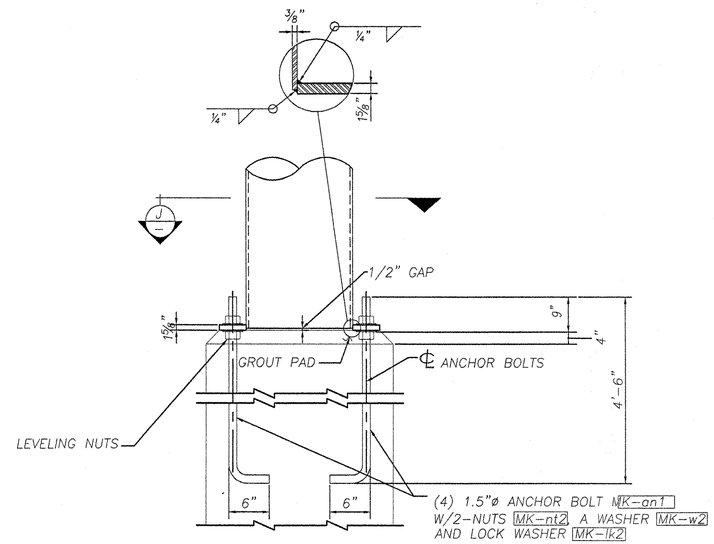


TRUSS CONNECTION DETAIL

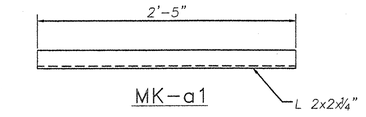




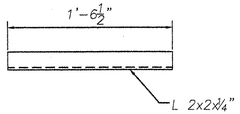
PLUG DETAIL
(EACH END OF TRUSS CHORD)



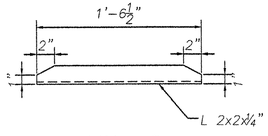
ANCHORAGE ASSEMBLY



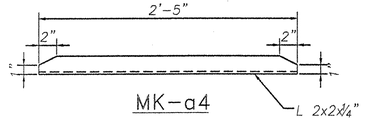
MK-a1



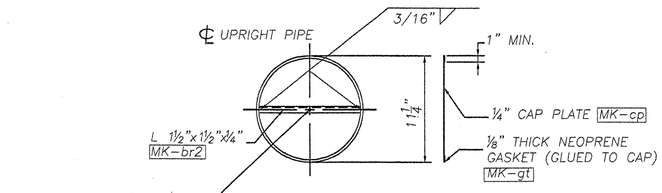
MK-a2

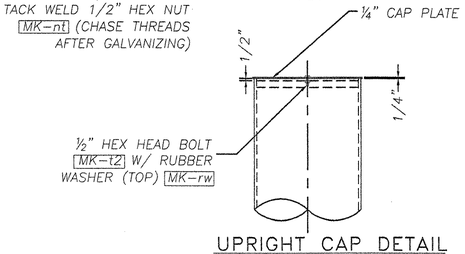


MK-a3

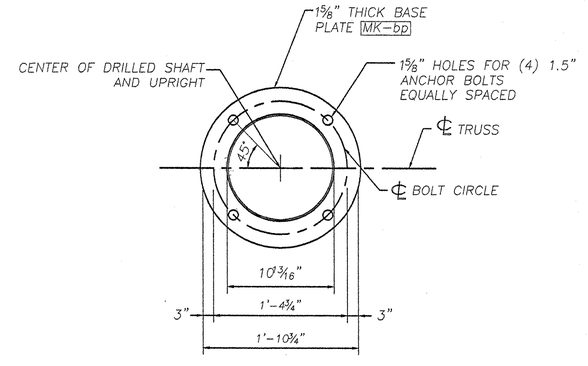


MK-a4





UPRIGHT CAP DETAIL



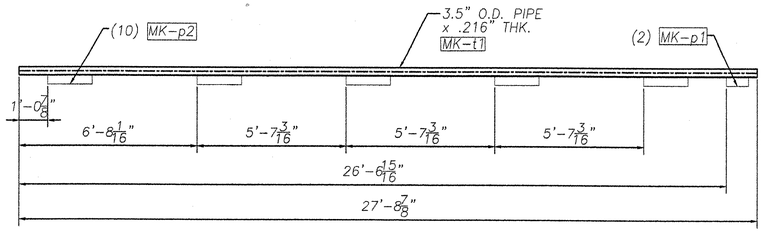
J — SECTION

REVISIONS		
No.	Remarks	Date
0	Initial submittal	

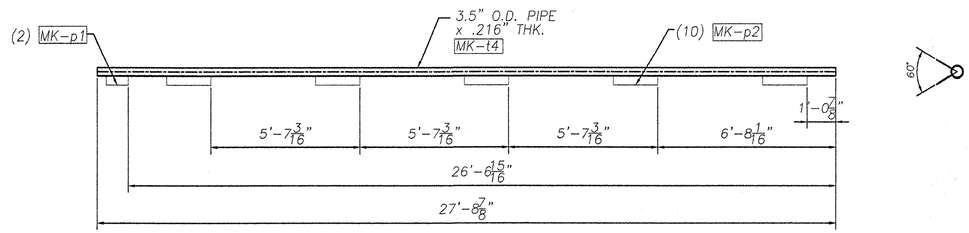
HIGHWAY SAFETY CORP.
GLASTONBURY, CT

TRI-CHORD SIGN STRUCTURE
I-89 EXIT 12 SB OFF RAMP
CHITTENDEN COUNTY, VERMONT
PROJECT No. IM 089-2(35)

DRAWN	MHM
CHECKED	
DATE	7/8/05
SCALE	N.T.S.
HSC REFERENCE NO.	1515
GENERAL CONTRACTOR	
SIZE	D
REVISION	0
SUB CONTRACTOR	F.R. LAFAYETTE
SHEET NO.	4 of 8



MK-RA1



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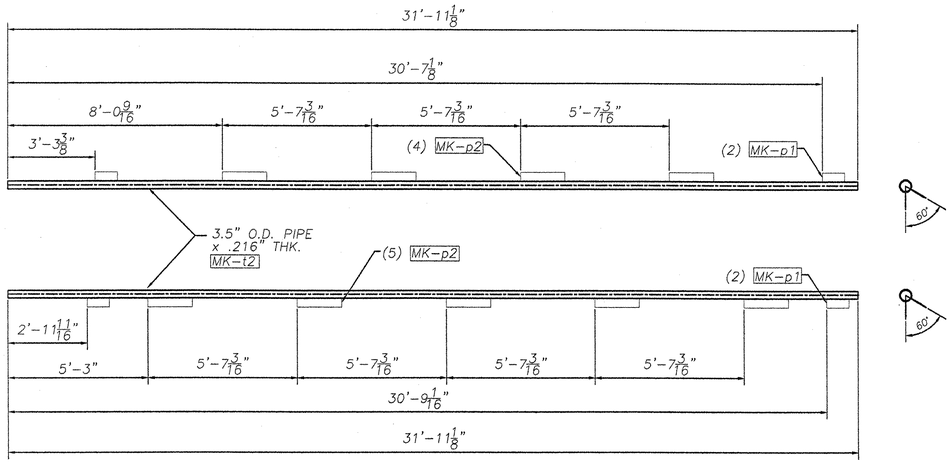

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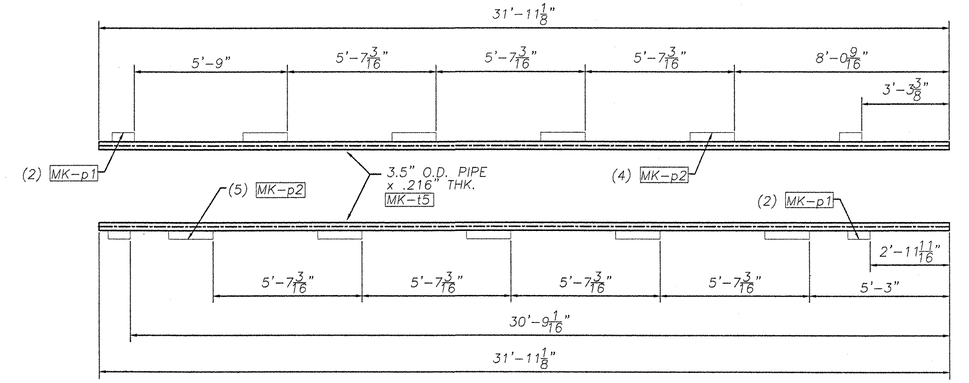

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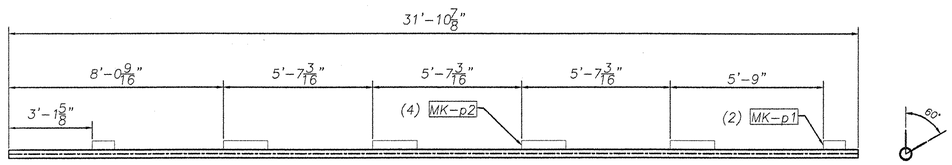

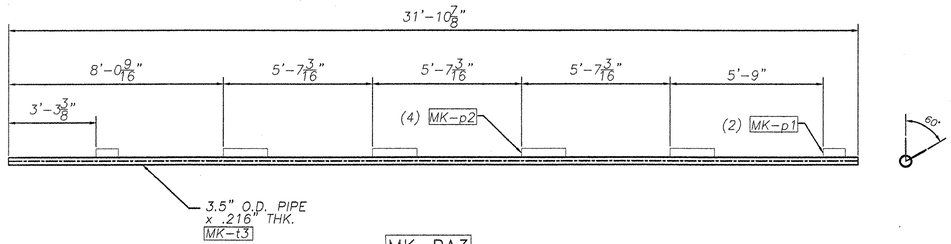

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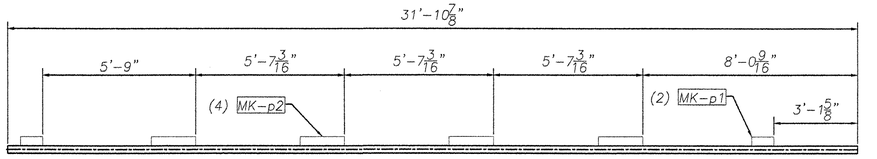
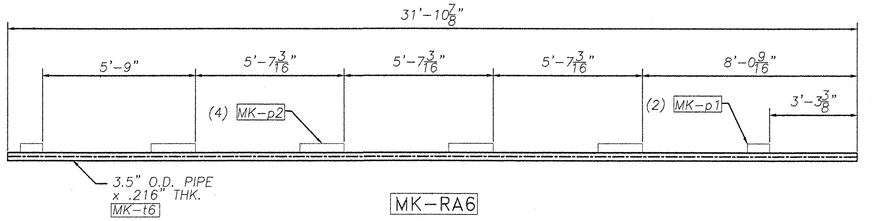




MK-RA6

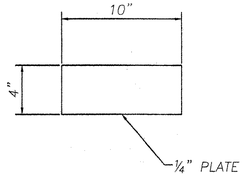
REVISIONS		
No.	Remarks	Date
0	Initial submittal	

HIGHWAY SAFETY CORP.

GLASTONBURY, CT

TRI-CHORD SIGN STRUCTURE
I-89 EXIT 12 SB OFF RAMP
CHITTENDEN COUNTY, VERMONT
PROJECT No. IM 089-2(35)

DRAWN	MHM
CHECKED	
DATE	7/8/05
SCALE	NTS
NSC REFERENCE NO.	1515
GENERAL CONTRACTOR	
SIZE	D
REVISION	0
SUB CONTRACTOR	F.R. LAFAYETTE
SHEET NO.	5 of 8



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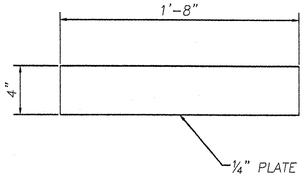

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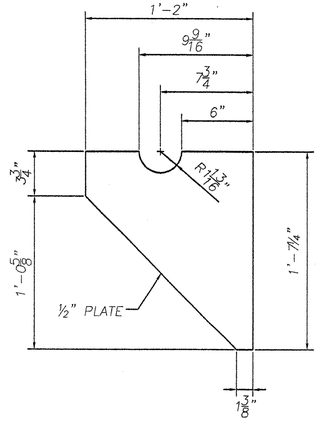

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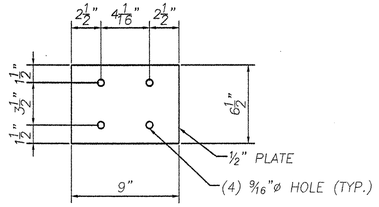

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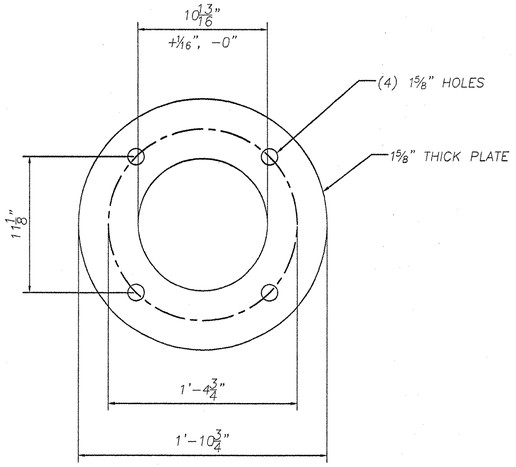
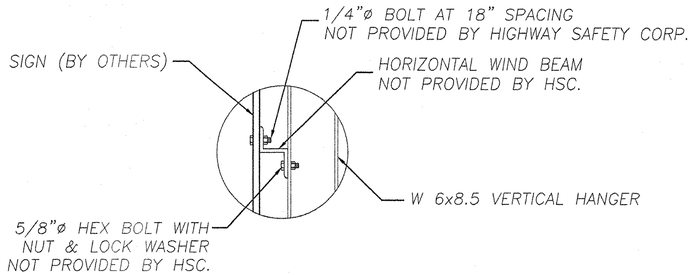
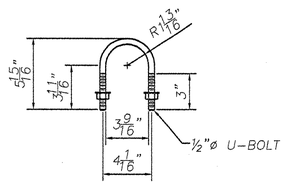


MK–bp



SIGN ATTACHMENT DETAIL



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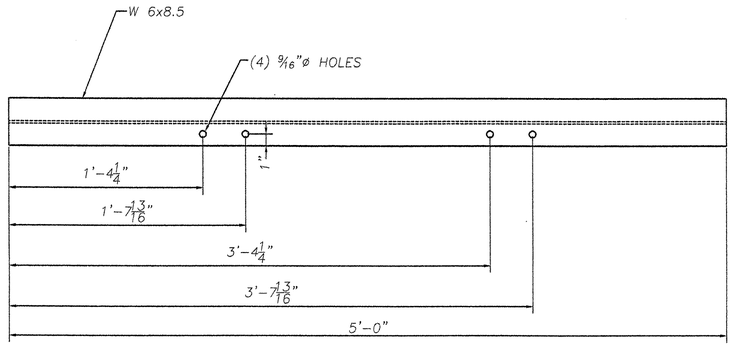
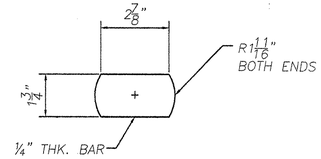
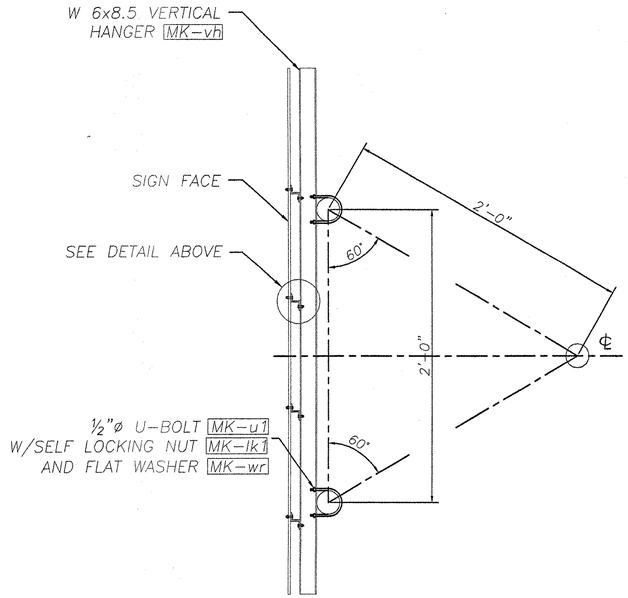


MK–vh



MK–br1



SIGN MOUNTING DETAIL

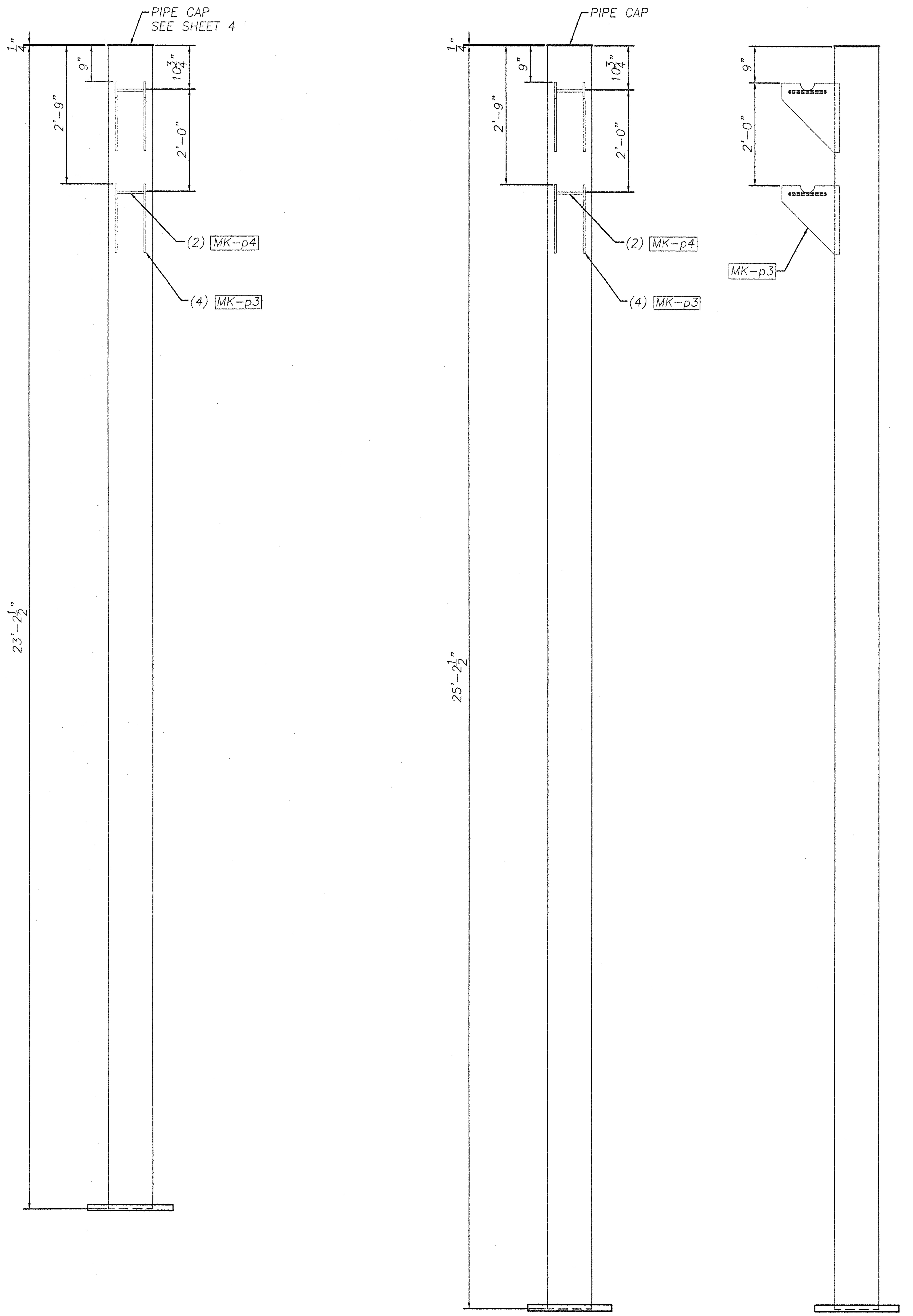
VERTICAL HANGER BEAMS & U–BOLTS INCLUDED

REVISIONS		
No.	Remarks	Date
0	initial submittal	

HIGHWAY SAFETY CORP.
GLASTONBURY, CT

TRI–CHORD SIGN STRUCTURE
I–89 EXIT 12 SB OFF RAMP
CHITTENDEN COUNTY, VERMONT
PROJECT No. IM 089–2(35)

DRAWN	MHM
CHECKED	
DATE	7/8/05
SCALE	NTS
HSC REFERENCE NO.	1515
SIZE	D
REVISION	0
SHEET NO.	6 of 8
GENERAL CONTRACTOR	
SUB CONTRACTOR	F.R. LAFAYETTE



MK-UL
POST

MK-UR
POST

SIDE VIEW

Mk.	Mk.	Qty.	Description	Length	Material
			ENGLISH BILL OF MATERIAL FOR REFERENCE ONLY		
RA1,RA4		2	CHORD TRUSS ASSEMBLY		
	t1,t4	2	CHORD PIPE 3.5" O.D. x .216" THICK	27'-8.875"	A500 Gr. B
	p1	4	TRUSS TO CHORD CONN. PLATE .250"x4"	10"	A709 Gr. 50
	p2	20	TRUSS TO CHORD CONN. PLATE .250"x4"	1'-8"	A709 Gr. 50
	s1	2	0.5" THICK CHORD SPLICE PLATE	9.5" DIA.	A709 Gr. 50
	br1	2	PLUG BAR .250"x1.750"	2.875"	A709 Gr. 50
RA2,RA5		2	CHORD TRUSS ASSEMBLY		
	t2,t5	2	CHORD PIPE 3.5" O.D. x .216" THICK	31'-11.125"	A500 Gr. B
	p1	8	TRUSS TO POST CONN. PLATE .250"x4"	10"	A709 Gr. 50
	p2	18	TRUSS TO POST CONN. PLATE .250"x4"	1'-8"	A709 Gr. 50
	s1	2	0.5" THICK CHORD SPLICE PLATE	9.5" DIA.	A709 Gr. 50
	br1	2	PLUG BAR .250"x1.750"	2.875"	A709 Gr. 50
RA3,RA6		2	CHORD TRUSS ASSEMBLY		
	t3,t6	2	CHORD PIPE 3.5" O.D. x .216" THICK	31'-10.875"	A500 Gr. B
	p1	8	TRUSS TO POST CONN. PLATE .250"x4"	10"	A709 Gr. 50
	p2	16	TRUSS TO POST CONN. PLATE .250"x4"	1'-8"	A709 Gr. 50
	s1	2	0.5" THICK CHORD SPLICE PLATE	9.5" DIA.	A709 Gr. 50
	br1	2	PLUG BAR .250"x1.750"	2.875"	A709 Gr. 50
	a1	40	L 2x2x1/4"	2'-5"	A709 Gr. 36
	a2	4	L 2x2x1/4"	1'-6.50"	A709 Gr. 36
	a3	4	L 2x2x1/4"	1'-6.5"	A709 Gr. 36
	a4	20	L 2x2x1/4"	2'-5"	A709 Gr. 36
	t1	12	.750"ø HEX BOLT	2.5"	A325
	n1	12	.750"ø HEX NUT	---	A563DH
	w1	12	.750"ø FLAT WASHER	---	F436
UL		1	LEFT POST ASSEMBLY		
		1	UPRIGHT PIPE 10.75" O.D. x .365" THICK	23'-2.50"	A500 Gr. B
	p3	4	TRUSS TO POST CONN. PLATE .50"x1'-2"	1'-7.25"	A709 Gr. 50
	p4	2	TRUSS TO POST CONN. PLATE .50"x6.50"	9"	A709 Gr. 50
	u1	4	.50"ø U-BOLT	5.938"	F1554 Gr 36
	lk1	8	.50"ø SELF LOCKING HEX NUT	---	A563DH
	wr	8	.50"ø FLAT WASHER	---	F436
		1	POST CAP		
	br2	1	L1 1/2x1 1/2x1/4"	10"	A709 Gr. 36
	cp	1	.25" THICK END CAP PLATE	11.25"ø	A709 Gr. 36
	t2	1	.50"ø HEX BOLT	1.5"	A307
	nt	1	.50"ø HEX NUT	---	A563
	rw	1	.50"ø RUBBER WASHER	---	50 DURO. NEOPRENE
	gt	1	.125" THICK NEOPRENE GASKET	11.25"ø	50 DURO. NEOPRENE
		1	BASE PLATE ASSEMBLY		
	bp	1	1 5/8" THICK BASE PLATE	1'-8.75"ø	A709 Gr. 50
	an1	4	1.5"ø ANCHOR BOLT	5'-0"	STAINLESS STEEL TYPE 304
	w2	4	1.5"ø WASHER	---	STAINLESS STEEL TYPE 304
	nt2	8	1.5"ø HEAVY HEX NUT	---	M292 Gr 8
	lk2	4	1.5"ø LOCK WASHER	---	STAINLESS STEEL TYPE 304
UR		1	RIGHT POST ASSEMBLY		
		1	UPRIGHT PIPE 10.75" O.D. x .365" THICK	25'-2.50"	A500 Gr. B
	p3	4	TRUSS TO POST CONN. PLATE .50"x1'-2"	1'-7.25"	A709 Gr. 50
	p4	2	TRUSS TO POST CONN. PLATE .50"x6.50"	9"	A709 Gr. 50
	u1	4	.50"ø U-BOLT	5.938"	F1554 Gr 36
	lk1	8	.50"ø SELF LOCKING HEX NUT	---	A563DH
	wr	8	.50"ø FLAT WASHER	---	F436
		1	POST CAP		
	br2	1	L1 1/2x1 1/2x1/4"	10"	A709 Gr. 36
	cp	1	.25" THICK END CAP PLATE	11.25"ø	A709 Gr. 36
	t2	1	.50"ø HEX BOLT	1.5"	A307
	nt	1	.50"ø HEX NUT	---	A563
	rw	1	.50"ø RUBBER WASHER	---	50 DURO. NEOPRENE
	gt	1	.125" THICK NEOPRENE GASKET	11.25"ø	50 DURO. NEOPRENE
		1	BASE PLATE ASSEMBLY		
	bp	1	1 5/8" THICK BASE PLATE	1'-8.75"ø	A709 Gr. 50
	an1	4	1.5"ø ANCHOR BOLT	5'-0"	STAINLESS STEEL TYPE 304
	w2	4	1.5"ø WASHER	---	STAINLESS STEEL TYPE 304
	nt2	8	1.5"ø HEAVY HEX NUT	---	M292 Gr 8
	lk2	4	1.5"ø LOCK WASHER	---	STAINLESS STEEL TYPE 304
			SIGN ASSEMBLY		
	vh	6	W6x8.5 VERTICAL SIGN HANGER	5'-0"	A709 Gr. 36
	u1	12	.50"ø U-BOLT	5.938"	F1554 Gr 36
	lk1	24	.50"ø SELF LOCKING HEX NUT	---	A563DH
	wr	24	.50"ø FLAT WASHER	---	F436

REVISIONS

No.	Remarks	Date
0	Initial submittal	

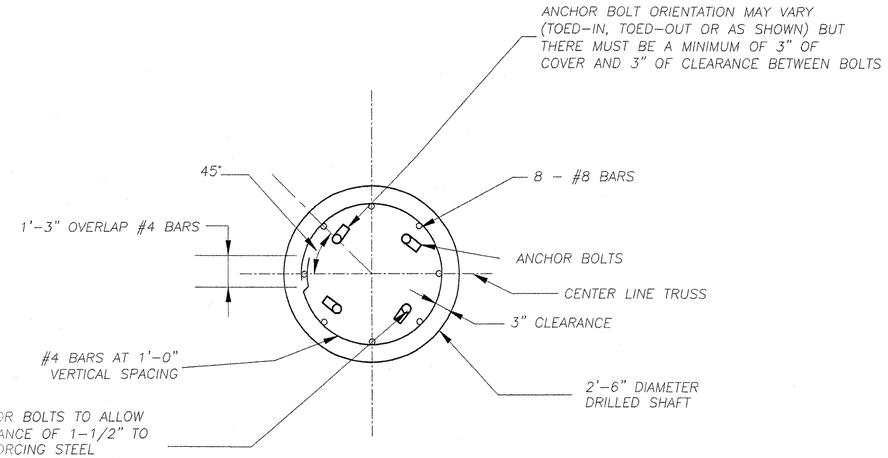
HIGHWAY SAFETY CORP.
GLASTONBURY, CT

TRI-CHORD SIGN STRUCTURE
I-89 EXIT 12 SB OFF RAMP
CHITTENDEN COUNTY, VERMONT
PROJECT No. IM 089-2(35)

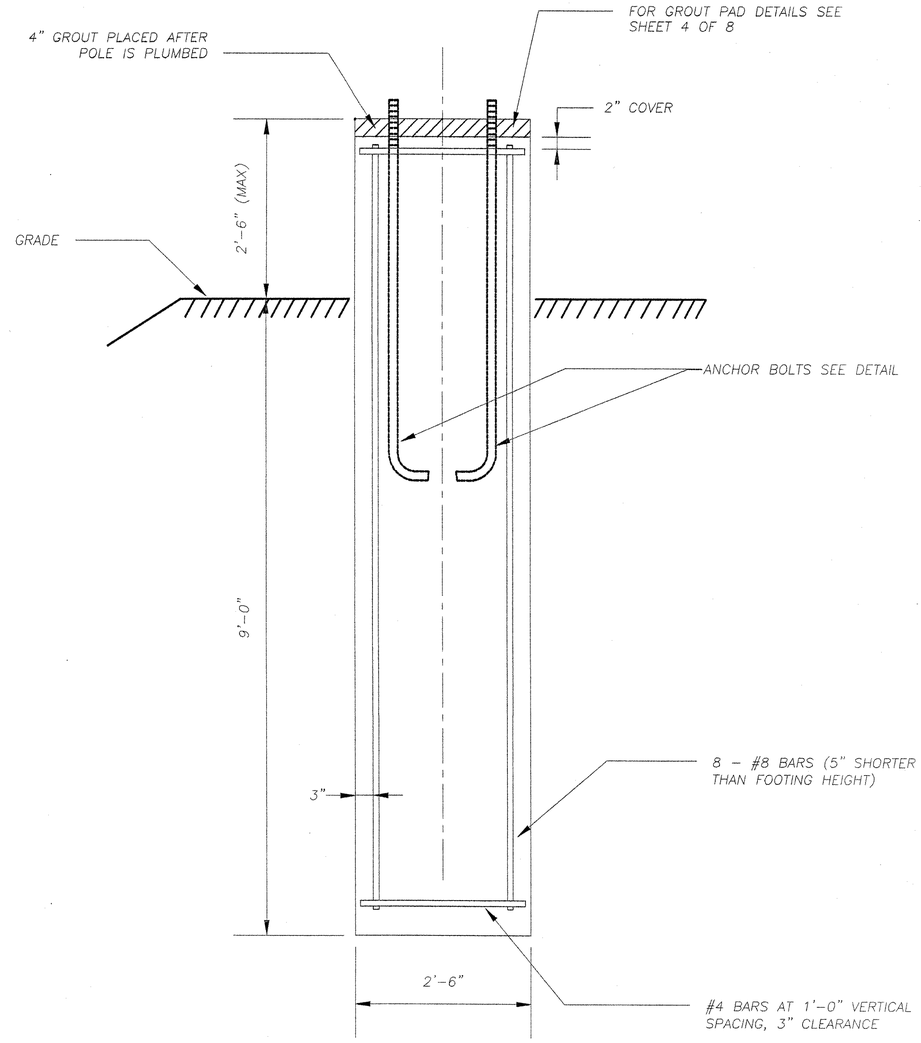
DRAWN	MHM
CHECKED	
DATE	7/8/05
SCALE	N.T.S.
HSC REFERENCE NO.	1515
SIZE	D
REVISION	0
SHEET NO.	7 of 8

GENERAL CONTRACTOR

SUB CONTRACTOR F.R. LAFAYETTE



DRILLED SHAFT SECTION



DRILLED SHAFT ELEVATION

NOTES:

DESIGN CRITERIA ARE AS FOLLOWS:

CONCRETE fc=1400 psi f'c=3500 psi
REINFORCING fs=24000 PSI (GRADE 60)
FOOTING SOIL PRESSURE: 3000 PSF (MAXIMUM)

REVISIONS		
No.	Remarks	Date
0	Initial submittal	

HIGHWAY SAFETY CORP.
GLASTONBURY, CT

TRI–CHORD SIGN STRUCTURE
I–89 EXIT 12 SB OFF RAMP
CHITTENDEN COUNTY, VERMONT
PROJECT No. IM 089–2(35)

DRAWN	
CHECKED	
DATE	11/15/05
SCALE	N.T.S.
HSC REFERENCE NO.	1515
SIZE	D
REVISION	0
SHEET NO.	8 of 8
GENERAL CONTRACTOR	
SUB CONTRACTOR	