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COUNTY LINE	---
TOWN LINE	---
LIMITS OF ACCESS	---
POINT OF ACCESS	X
FENCE LINE	---
STONE WALL	---
TRAVEL WAY	---
GUARD RAIL	---
RAMP	---
SURVEY LINE	---
CAVEAT	---
POWER POLE	---
TELEPHONE POLE	---
TRUCK	---
CONTROL OF ACCESS	---
PROPERTY LINE	---
ROAD TOWN LINE	---
SLOPE HEIGHT	---
TOP OF CUT	---
TOP OF SLOPE	---

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

DATUM	N/A
VERTICAL	N/A
HORIZONTAL	N/A

STATE OF VERMONT AGENCY OF TRANSPORTATION

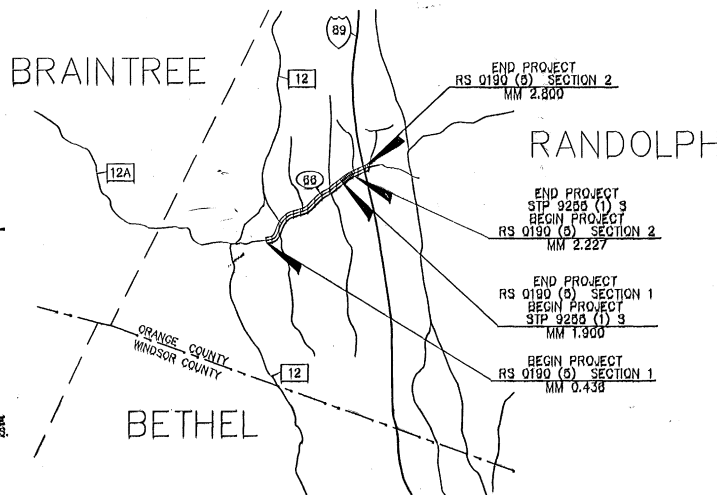


PROPOSED IMPROVEMENT TOWN OF RANDOLPH COUNTY OF ORANGE VERMONT ROUTE 66 (F.A.S.)

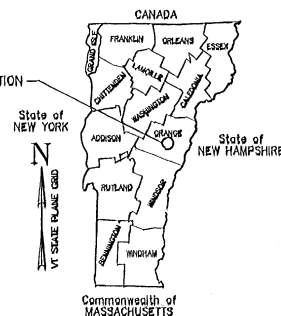
RS 0190 (5) SECTION 1	: BEGINNING AT MM 0.438 AND EXTENDING EASTERLY ALONG VERMONT ROUTE 66 FOR A DISTANCE OF 1.484 MILES TO MM 1.900.
STP 9255 (1) S	: BEGINNING AT MM 1.900 AND EXTENDING EASTERLY ALONG VERMONT ROUTE 66 FOR A DISTANCE OF 0.327 MILES TO MM 2.227.
RS 0190 (5) SECTION 2	: BEGINNING AT MM 2.227 AND EXTENDING EASTERLY ALONG VERMONT ROUTE 66 FOR A DISTANCE OF 0.573 MILES TO MM 2.800.

LENGTH OF PROJECT: RS 0190 (5) SECTION 1	7729.92 FEET = 1.484 MILES
LENGTH OF PROJECT: STP 9255 (1) S	1728.58 FEET = 0.327 MILES
LENGTH OF PROJECT: RS 0190 (5) SECTION 2	3025.44 FEET = 0.573 MILES
LENGTH OF ROADWAY	12481.92 FEET = 2.384 MILES

WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES RESURFACING OF THE EXISTING HIGHWAY WITH A SHIM/LEVELING COURSE, RECLAIMED STABILIZED BASE, WEARING COURSE, PAVEMENT MARKINGS, INSTALLATION OF SIGNS, UPGRADING GUARDRAIL, AND RELATED ITEMS.



PROJECT LOCATION



RECORD PLANS

CONTRACTOR: PIKE INDUSTRIES, INC.
TILTON, NH.

RESIDENT ENGINEER: CHRIS BARKER

CONSTRUCTION BEGAN: 4/30/93
CONSTRUCTION COMPLETED: 8/24/93

RECORD PLANS BY: JAMES MARSCHELL

I hereby certify that all the construction required by this set of drawings has been accomplished as indicated herein.

By: *Chris Barker* Resident Engineer
Date: 9/15/94

(NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found on drawings in central files.)

TRAFFIC DATA

	1991	1996
RS 0190 (5) SECTION 1	ADT = 5851	6403
	DHV = 770	825
	% T =	
STP 9255 (1) S	ADT = 5512	6032
	DHV = 730	790
	% T =	
RS 0190 (5) SECTION 2	ADT = 4516	4942
	DHV = 615	665
	% T =	



TYLIN INTERNATIONAL

STATE OF VERMONT

APPROVED: *Robert M. M. M.* DATE: 9-15-94

DIRECTOR

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____ DATE: _____

DIVISION ADMINISTRATOR

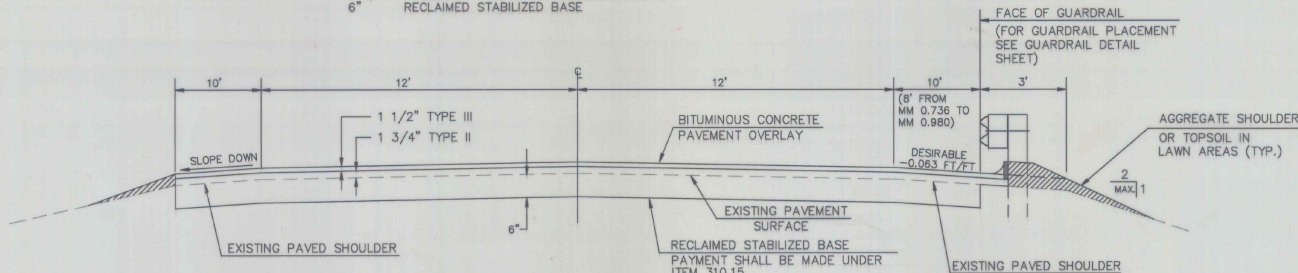
PROJECTS: RANDOLPH RS 0190 (5) (SECTION 1)
RANDOLPH STP 9255 (1) S
RANDOLPH RS 0190 (5) (SECTION 2)

SHEET 1 OF 22 SHEETS

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

TYPICAL SECTIONS

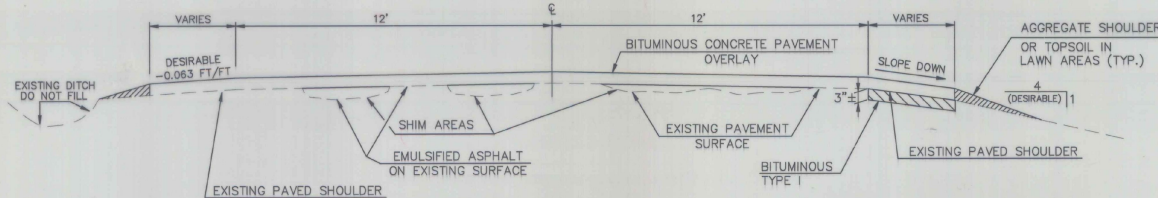
1 1/2" BITUMINOUS CONCRETE PAVEMENT, TYPE III
1 3/4" BITUMINOUS CONCRETE PAVEMENT, TYPE II
6" RECLAIMED STABILIZED BASE



RECLAIMED STABILIZED BASE AND BITUMINOUS CONCRETE PAVEMENT OVERLAY

MM 1.178 TO MM 1.291
MM 1.490 TO MM 1.613

1 1/2" BITUMINOUS CONCRETE PAVEMENT, TYPE III
668 TONS PER MILE LEVELING COURSE OF BITUMINOUS CONCRETE PAVEMENT EMULSIFIED ASPHALT, TO BE APPLIED AT THE RATE OF 0.015 GAL./SQ. YD. OR AS DIRECTED BY THE ENGINEER.



BITUMINOUS CONCRETE PAVEMENT OVERLAY WITH LEVELING COURSE

MM 0.436 TO MM 1.178
MM 1.291 TO MM 1.490
MM 1.613 TO MM 2.227

PROJECT PAVEMENT LIMITS

TOWN	BEGINNING MILE MARKER	ENDING MILE MARKER	LANE TYPICAL	WEARING DEPTH	LEVELING TONS	SHOULDER TYPICAL	NOTES
RANDOLPH SECTION I	0.436	0.496	10-12-12-10	1-1/2"	40	10 FT	LEVEL & OVERLAY ENTIRE ROADWAY
RANDOLPH SECTION I	0.496	0.590	10-12-12-10	1-1/2"	63	10 FT	REPLACE RT. SHOULDER W/3" BIT., TYPE I LEVEL LT. SHOULDER AND TRAVEL LANES, OVERLAY ENTIRE ROADWAY
RANDOLPH SECTION I	0.590	0.736	10-12-12-10	1-1/2"	98	10 FT	LEVEL & OVERLAY ENTIRE ROADWAY
RANDOLPH SECTION I	0.736	0.980	10-12-12-8	1-1/2"	156	10 FT	LEVEL & OVERLAY ENTIRE ROADWAY
RANDOLPH SECTION I	0.980	1.178	10-12-12-10	1-1/2"	132	10 FT	LEVEL & OVERLAY ENTIRE ROADWAY
RANDOLPH SECTION I	1.178	1.291	10-12-12-10	1-1/2"	0	10 FT	RECLAIMED STABILIZED BASE - ENTIRE ROADWAY TO 6" AND OVERLAY
RANDOLPH SECTION I	1.291	1.405	10-12-12-10	1-1/2"	76	10 FT	REPLACE RT. SHOULDER W/3" BIT., TYPE I LEVEL LT. SHOULDER AND TRAVEL LANES, OVERLAY ENTIRE ROADWAY
RANDOLPH SECTION I	1.405	1.490	10-12-12-10	1-1/2"	57	10 FT	LEVEL & OVERLAY ENTIRE ROADWAY
RANDOLPH SECTION I	1.490	1.613	10-12-12-10	1-1/2"	0	10 FT	RECLAIMED STABILIZED BASE - ENTIRE ROADWAY TO 6" AND OVERLAY
RANDOLPH SECTION I	1.613	1.642	10-12-12-10	1-1/2"	19	10 FT	REPLACE RT. SHOULDER W/3" BIT., TYPE I LEVEL LT. SHOULDER AND TRAVEL LANES, OVERLAY ENTIRE ROADWAY
RANDOLPH SECTION I	1.642	1.900	10-12-12-10	1-1/2"	172	10 FT	LEVEL & OVERLAY ENTIRE ROADWAY
RANDOLPH STP 9255 (1) S	1.900	1.945	10-12-12-10	1-1/2"	30	10 FT	LEVEL & OVERLAY ENTIRE ROADWAY
RANDOLPH STP 9255 (1) S	1.945	1.985	VARIES	1-1/2"	20	VARIES	LEVEL & OVERLAY ENTIRE ROADWAY
RANDOLPH STP 9255 (1) S	1.985	2.227	2-11-11-2	1-1/2"	98	2 FT	LEVEL & OVERLAY ENTIRE ROADWAY
RANDOLPH SECTION 2	2.227	2.290	2-11-11-2	1-1/2"	0	VARIES	COLD PLANE & OVERLAY ENTIRE ROADWAY
RANDOLPH SECTION 2	2.290	2.399	VARIES	1-1/2"	0	VARIES	COLD PLANE & OVERLAY ENTIRE ROADWAY
RANDOLPH SECTION 2	2.399	2.800	12 FT	1-1/2"	0	VARIES	COLD PLANE & OVERLAY ENTIRE ROADWAY

NOTES:

- THE PAVEMENT WEARING COURSE WILL BE TYPE III.
- THE LEVELING COURSE MAY BE TYPE III OR IV, AS DIRECTED BY THE ENGINEER.
- EXISTING SHOULDER MATERIAL DEEMED UNSUITABLE BY THE RESIDENT ENGINEER, SHALL BE EXCAVATED TO A DEPTH OF 3"± OR AS DIRECTED BY THE ENGINEER.
- EXCAVATION SHALL BE PAID FOR AS ALL PURPOSE EXCAVATOR OR GRADER RENTAL.
- MATERIAL REMOVED WILL BE REPLACED WITH 3" BITUMINOUS CONCRETE PAVEMENT, TYPE II.
- EXCAVATED MATERIAL TO BE SPREAD ON THE ADJACENT SLOPES OR REMOVED FROM PROJECT AS DIRECTED BY THE ENGINEER.
- COLD PLANING TO BE COMPLETED ACCORDING TO TYPICAL SHOWN, OR AS NOTED OTHERWISE ON THE PLANS.
- ALL PERMANENT MARKINGS SHALL BE DURABLE.
- ALL SHOULDER SHALL BE PAVED.
- CHANGING ELEVATIONS OF SMH DONE BY OTHERS. SEE SPECIAL PROVISIONS.

SEEDING FORMULA - URBAN AREAS				
% Weight	Lbs./Acre	Name	Pur %	Seeds
42.5	34.0	Creeping Red Fescue	98	85
10.0	8.0	Parthenal Rye Grass	95	90
42.5	34.0	Kentucky Blue Grass	85	85
5.0	4.0	Annual Rye Grass	95	85

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

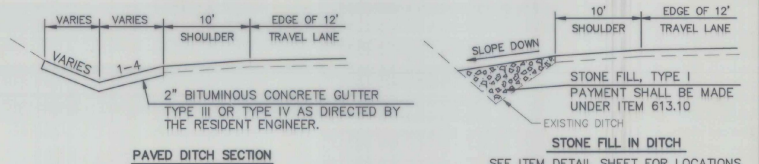
SEED- TO BE APPLIED PER SEEDING FORMULAS DIRECTED BY THE ENGINEER.

FERTILIZER- FORMULA 10-20-10 TO BE USED WITH SEED, APPLIED AT THE RATE OF 500 LBS./ACRE.

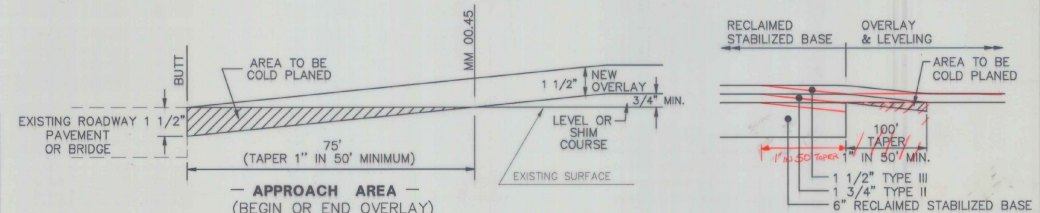
AGRICULTURAL LIMESTONE- TO BE APPLIED AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.

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.

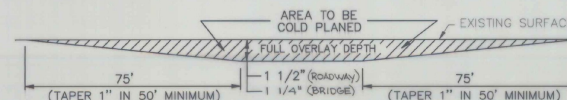


PAVED DITCH SECTION



APPROACH AREA - (BEGIN OR END OVERLAY)

LOCATION (MILE MARKER) 0.436



COLD PLANING TYPICALS FULL ROADWAY WIDTH

PROJECT RS 0190 (5) SECTION 2
LOCATION (MILE MARKER) 2.227 TO 2.800

TRANSITION FROM RECLAIMED STABILIZED BASE TO OVERLAY AND LEVELING SECTIONS
MM 1.178 TO MM 1.490
MM 1.291 TO MM 1.613

TYPICAL SECTIONS

DRAWN BY TSK DATE 10-91
PROJ. NAME RANDOLPH
PROJ. NO. RS 0190 (5) SECTION 1
STP 9255 (1) S
RS 0190 (5) SECTION 2
SHEET 2 OF 30 SHEETS

*NOTE FROM 402.12 (MOD) OUT OF SEQUENTIAL ORDER.

QUANTITY SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

SUMMARY OF ESTIMATED QUANTITIES

EROSION CONTROL RS 0190 (5)	NON FEDERAL PARTICIPATING RS 0190 (5) SECTION 1	STP 9255 (1) S	RS 0190 (5) SECTION 1	STP 9255 (1) S	RS 0190 (5) SECTION 2	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NO.	ROUNDING
			1285			1285	CY	EARTH BORROW	203.30	EST.
			200			200	CY	TRENCH EXCAVATION OF EARTH	204.20	EST.
			14	1		15	CY	TRENCH EXCAVATION OF ROCK	204.21	-
			350		15050	15400	SY	COLD PLANING-BIT. PAVEMENT	210.10	57
			6150			6150	SY	RECLAIMED STABILIZED BASE (MOD)	310.15	58
			500	75	25	400	TON	AGGREGATE SHOULDERS	402.12	31
			42	8	20	70	CWT	EMULSIFIED ASPHALT	404.65	5
			4275	625	1300	6200	TON	BITUMINOUS CONCRETE PAVEMENT	406.25	71
			30	2	3	3	CY	CONCRETE CLASS A	501.22	-
			2088	160	172	2420	LB	REINFORCING STEEL	501.25	0.5
					30	30	LF	DRILLING AND GROUTING DOWELS	507.16	-
					35	35	GAL	WATER REPELLENT	514.10	2
					8	8	GAL	JOINT SEALER, POLYURETHANE	524.20	EST.
					1	1	EA	PARTIAL REMOVAL OF STRUCTURE	529.20	-
			6			6	LF	15" CSP .064	601.0010	-
			48			48	LF	18" CSP .064	601.0015	-
			30			30	LF	24" PCCSP .064	601.0425	-
			2			2	LF	18" PCCSP(P1) .064	601.0815	-
			10			10	LF	18" RCP CLASS III	601.0815	-
			6			6	LF	24" RCP CLASS III	601.0825	-
			5			5	EA	CHANGING ELEVATION OF DI, CB, OR MH	604.40	EST.
			2			2	EA	CAST IRON GRATE WITH FRAME, TYPE A	604.45	-
			9	1		10	EA	CAST IRON GRATE WITH FRAME, TYPE B	604.46	-
			550			550	LF	6" UNDERDRAIN	605.10	-
			110	20		130	LF	12" UNDERDRAIN	605.13	4
			2			2	EA	UNDERDRAIN FLUSHING BASINS	605.95	-
			1	10	1	12	HR	POWER GRADER RENTAL, TYPE I	608.15	EST.
			20	10	1	31	HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25	EST.
			12	3	5	20	HR	POWER BROOM RENTAL	608.30	EST.
			20	10	1	31	HR	TRUCK RENTAL	608.37	EST.
			1	10	1	12	HR	LOADER RENTAL TYPE I	608.40	EST.
700				75		775	CY	STONE FILL, TYPE I	613.10	14
			2370			2370	LF	TREATED TIMBER CURB	616.35	8
			15			15	TON	BIT. CONCRETE GUTTERS AND TRAFFIC ISLANDS	616.47	3
			9	2		11	EA	RELOCATE MAILBOX, SINGLE SUPPORT	617.10	EST.
			1			1	EA	RELOCATE MAILBOX, MULTIPLE SUPPORT	617.12	EST.
			25	1		26	EA	WOOD MARKER POSTS	619.15	EST.
			300			300	TON	AGGREGATE SHOULDERS (MOD)	402.12	3
			4175		781	4956	LF	STEEL BEAM GUARDRAIL W/STEEL POSTS	621.20	12.5
			970			970	LF	STEEL BEAM GUARDRAIL(MOD) W/8" STEEL POSTS	621.20	7.5
			12		3	15	EA	BREAKAWAY CABLE TERMINAL W/STEEL POSTS	621.50	-
					1	1	EA	MANUFACTURED TERMINAL SECTION	621.505	-
			2			6	EA	ANCHOR FOR STEEL BEAM GUARDRAIL	621.60	-
					100	100	LF	ALUMINUM APPROACH RAILING	621.74	-
			4175		875	5050	LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	EST.
			400	60	110	570	HR	UNIFORMED TRAFFIC OFFICERS	630.10	EST.
			520	70	130	720	HR	FLAGGERS	630.15	EST.
			0.3	0.3	0.4	1	LS	TESTING EQUIPMENT-CONCRETE	631.16	EST.
			0.3	0.3	0.4	1	LS	TESTING EQUIPMENT-BITUMINOUS	631.17	EST.
			0.3	0.3	0.4	1	LS	MOBILIZATION	635.10	EST.
					250	250	LF	PAINTED CURB	646.27	5
			15100	3475	6225	24800	LF	DURABLE 4" WHITE LINE	646.40	73
			14800	3200	6550	24550	LF	DURABLE 4" YELLOW LINE	646.41	83
			20			20	LF	DURABLE 24" STOP BAR	646.46	-
			4		20	24	EA	DURABLE LETTER OR SYMBOL	646.50	-
			3100	700	1250	5050	LF	TEMPORARY 4" WHITE LINE	646.60	EST.
			15500	3500	6100	25100	LF	TEMPORARY 4" YELLOW LINE	646.61	EST.
			20			20	LF	TEMPORARY 24" STOP BAR	646.66	-
1475				25		1500	SY	GEOTEXTILE FOR SILT FENCE	649.51	EST.
10				5		15	LB	SEED	651.15	EST.
90				10		100	LB	FERTILIZER	651.18	EST.
0.4				0.1		0.5	TON	AGRICULTURAL LIMESTONE	651.20	EST.
0.4				0.1		0.5	TON	HAY MULCH	651.25	EST.
190				10		200	EA	HAY BALES FOR EROSION CONTROL	651.28	EST.
60						60	CY	TOPSOIL	651.35	EST.
			221	9	35	265	SF	TRAFFIC SIGNS, TYPE A	675.20	1.5
			1100	45	264	1409	LB	FLANGED CHANNEL SIGN POSTS	675.30	EST.
			780			780	LB	TUBULAR STEEL SIGN POSTS	675.33	EST.
			6			6	EA	FOUNDATION FOR TUBULAR STEEL POSTS	675.43	-
			63	2	7	72	EA	REMOVING SIGNS	675.50	-
			8		1	9	EA	ERECTING SALVAGED SIGNS	675.60	-
						88	SF	TRAVEL INFORMATION SIGNS (MOD)	680.20	-

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		BIT. CONCRETE PAVEMENT
		SECTION 1
3095	TON	MAINLINE
250	TON	APPROACHES, DRIVES AND SHOULDER REHAB.
93	TON	TOWN HIGHWAYS
813	TON	LEVELING
24	TON	ROUNDING
4275	TON	TOTAL
		STP 9255 (1) S
471	TON	MAINLINE
147	TON	LEVELING
7	TON	ROUNDING
625	TON	TOTAL
		SECTION 2
1247	TON	MAINLINE
13	TON	TOWN HIGHWAYS
40	TON	ROUNDING
1300	TON	TOTAL
		COLD PLANING
		SECTION 1
328	SY	BEGINNING OF PROJECT
22	SY	ROUNDING
350	SY	TOTAL
		SECTION 2
15015	SY	MAINLINE
35	SY	ROUNDING
15050	SY	TOTAL
		TEMP. EROSION CONTROL
		RS 0190 (5)
1475	SY	649.51 - GEOTEXTILE FOR SILT FENCE
190	EA	651.26 - HAY BALES FOR EROSION CONTROL
		STP 9255 (1) S
25	SY	649.51 - GEOTEXTILE FOR SILT FENCE
10	EA	651.26 - HAY BALES FOR EROSION CONTROL

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		WATER REPELLENT
5	GAL.	ABUTMENT 1
6		ABUTMENT 2
9		PIER
13		SUPERSTRUCTURE
35		ROUNDING
		TOTAL

FILE NAME: P:\PROJECTS\2000\000001_1.BY: JTB: 1 DATE: 10-02-99-05

SURVEYED BY _____ DATE _____
 DRAWN BY TSK DATE 11-91
 SQUAD LEADER JSR
 DESIGN FILE NO. _____
 PRF FILE _____ DATE PLOTTED _____
 PROJ. NAME RANDOLPH RS 0190 (5) SECT. 1
 PROJ. NO. STP 9255 (1) S
 RS 0190 (5) SECT. 2
 SHEET 3 OF 30 SHEETS

REVISED 2-18-93
QUANTITY SHEET

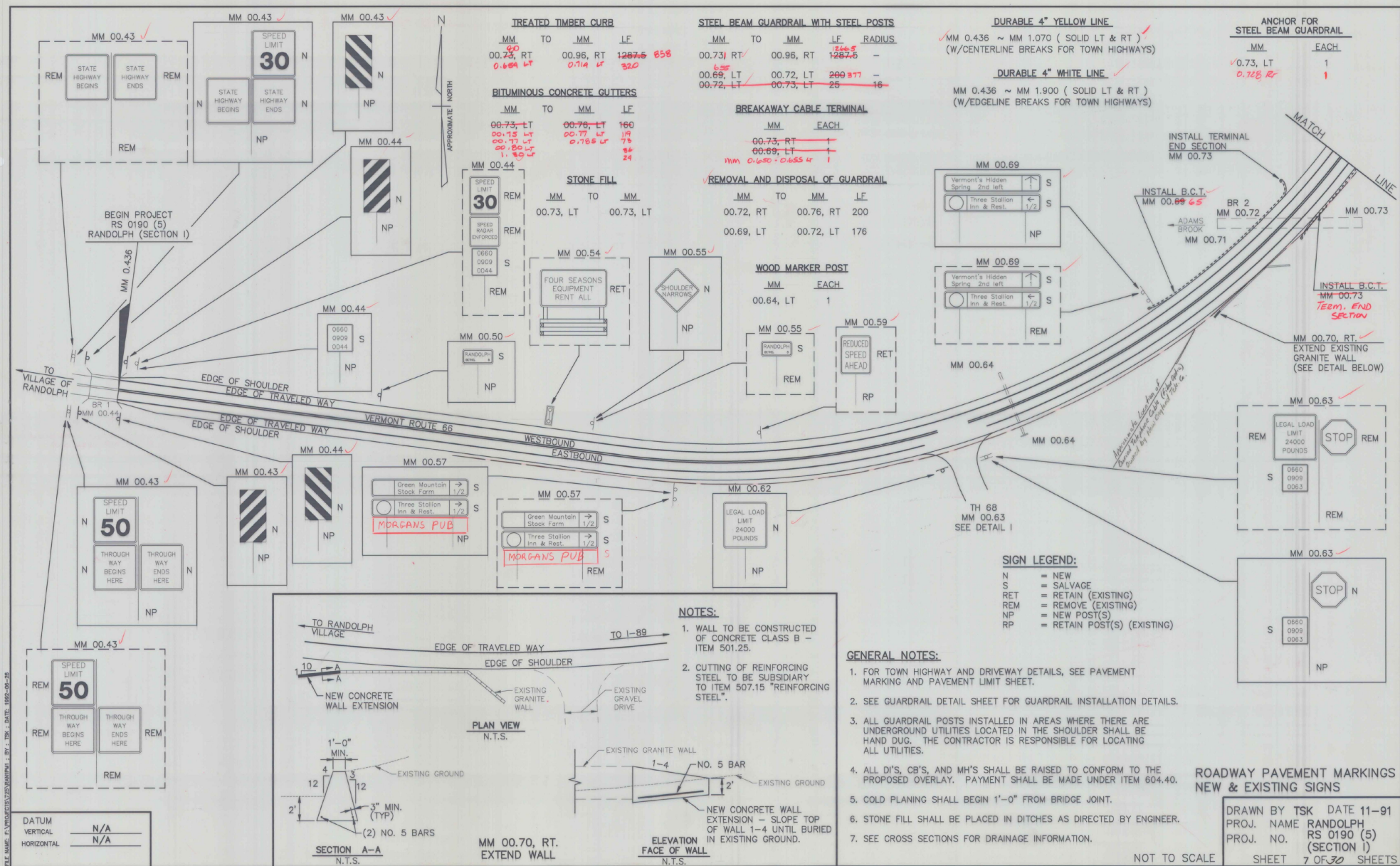
STATE OF VERMONT
AGENCY OF TRANSPORTATION[illegible]

FILE NAME: F:\PROJECTS\725\PLAN101 : BY : TSK : DATE: 1992-04-26

STATE OF VERMONT
AGENCY OF TRANSPORTATION

MILE MARKER	MILE MARKER	POS.	TRENCH EARTH	TRENCH ROCK	EARTH BORROW	BIT. GUTTER	STONE FILL	WOOD MARKER POST	DEUN-EATOR POST	MAILBOX SUP. S M	TIMBER CURB	UNDER-DRAIN 6" 12"	(A) CSP (B) PCCSP	D L TH	REINFORCED CONC. PIPE	CONC. CLASS	REINF. STEEL	GRATE TYPE A B	CHANGE EL. D.J. EA	DROP INLET EA	DEPTH	MOD.	GUARDRAIL ITEMS					REMARKS
RS 0190 (5) SECTION 1																												
1.336		RT								1																		
1.366		RT								1																		
1.374																												
1.380	1.780	RT									526											2187.5						
1.400		LT		1	36			1				6			18"	2'	III	2.6	231	1	1	5'-0"				1163	BCT AT MM 1.380; RT, 0-1d TERMINAL SECTION AT MM 1.780 FOR TH (2 PANELS) W/ANCHOR @ 178 RY + BCT C MM 1.780 RT	
1.440	1.500	LT					119																			1235	REMOVE EXISTING HEADWALL, INSTALL NEW DI OVER EXISTING PIPE RAISE DITCH ELEVATION W/STONE FILL TYPE I	
1.566		RT								1																		
1.570		LT	10	1	12			1							18"	8'	III										REMOVE EXISTING HEADWALL, EXTEND EXISTING PIPE	
1.590		LT						2																				
1.611	1.650	LT																				187.5				240	BCT AT MM 1.620; LT AND MM 1.650, LT	
1.770		RT			10																						REGRADE SLOPE	
1.780	1.780	RT																								21	ON TH#59	
1.790	1.790	RT																								32	ON TH#59	
1.800		RT						1																				
1.800	1.840	RT			81			1																			REGRADE SLOPE	
1.820	1.840	LT			163																	187.5		2		240	BCT AT MM 1.840, LT AND MM 1.840, LT, REGRADE -50" EACH SIDE OF BOTH BCT'S, EXTEND GUARD RAIL 75' DOWN T.H. 28 W/ANCHOR @ RADIUS POINT	
1.846		RT								1																		
1.860		RT						1																				
1.860		RT		1	26												1.9	158	1	1	3'-6"						REMOVE EXISTING HEADWALL, INSTALL NEW DI OVER EXISTING PIPE	
1.890		RT	1	2	2		9	2						18"(A)	30'	.064											REMOVE DRIVEWAY HEADWALLS AND EXTEND DRIVE PIPE ON BOTH ENDS	

STATE OF VERMONT
AGENCY OF TRANSPORTATIONFILE NAME: F:\PROJECTS\725\RÁNGIOI | BY : TSK | DATE: 1992-06-26



STONE FILL

MM	TO	MM
00.87, LT		00.91, LT
00.98, LT		01.06, LT
97		

WOOD MARKER POSTS

MM	EACH
00.79, LT	1
00.83, LT	1
00.87, LT	1
00.97, LT	1

BREAKAWAY CABLE TERMINAL

MM	EACH
00.96, RT	1
1.030-1.035 RT	

REMOVAL AND DISPOSAL OF GUARDRAIL

MM	TO	MM	LF
00.79, RT		00.97, RT	928

TREATED TIMBER CURB

MM	TO	MM	LF
00.73, RT		00.96, RT	1287.5
80		942	858

STEEL BEAM GUARDRAIL WITH STEEL POSTS

MM	TO	MM	LF	RADIUS
00.73, RT		00.96, RT	1287.5	-
1.035 RT		1.041 RT	427	
(ALSO USED 925 LF OF 8" POSTS)				

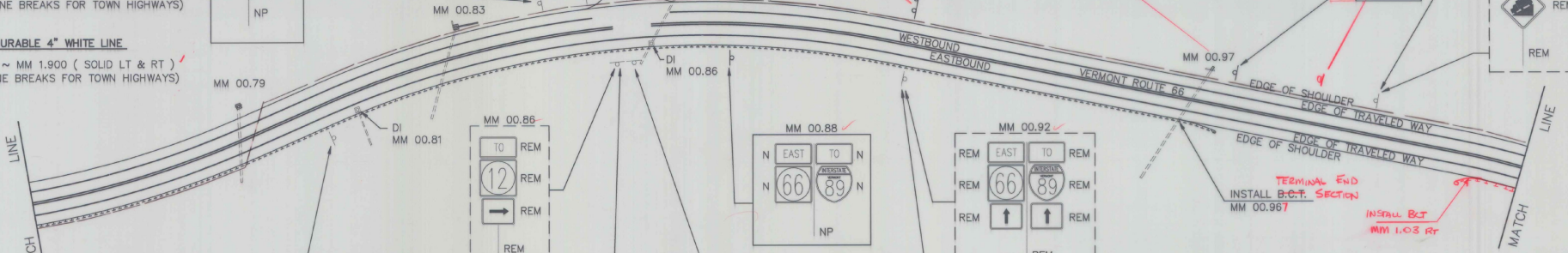
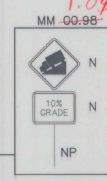
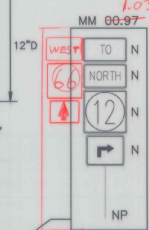
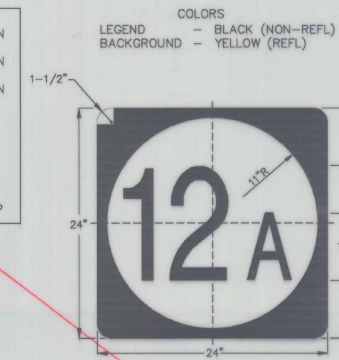
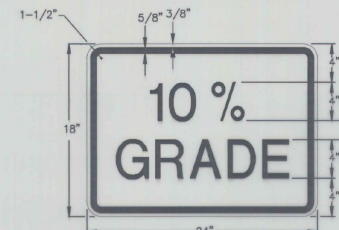
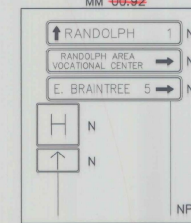
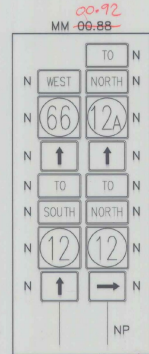
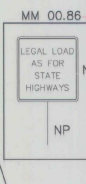
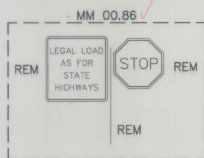
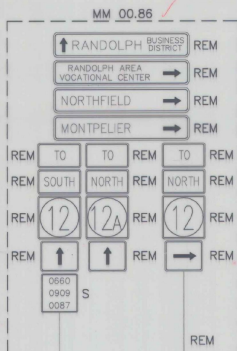
DURABLE 4" YELLOW LINE

MM 0.436 ~ MM 1.070 (SOLID LT & RT)
(W/CENTERLINE BREAKS FOR TOWN HIGHWAYS)

DURABLE 4" WHITE LINE

MM 0.436 ~ MM 1.900 (SOLID LT & RT)
(W/EDGE LINE BREAKS FOR TOWN HIGHWAYS)

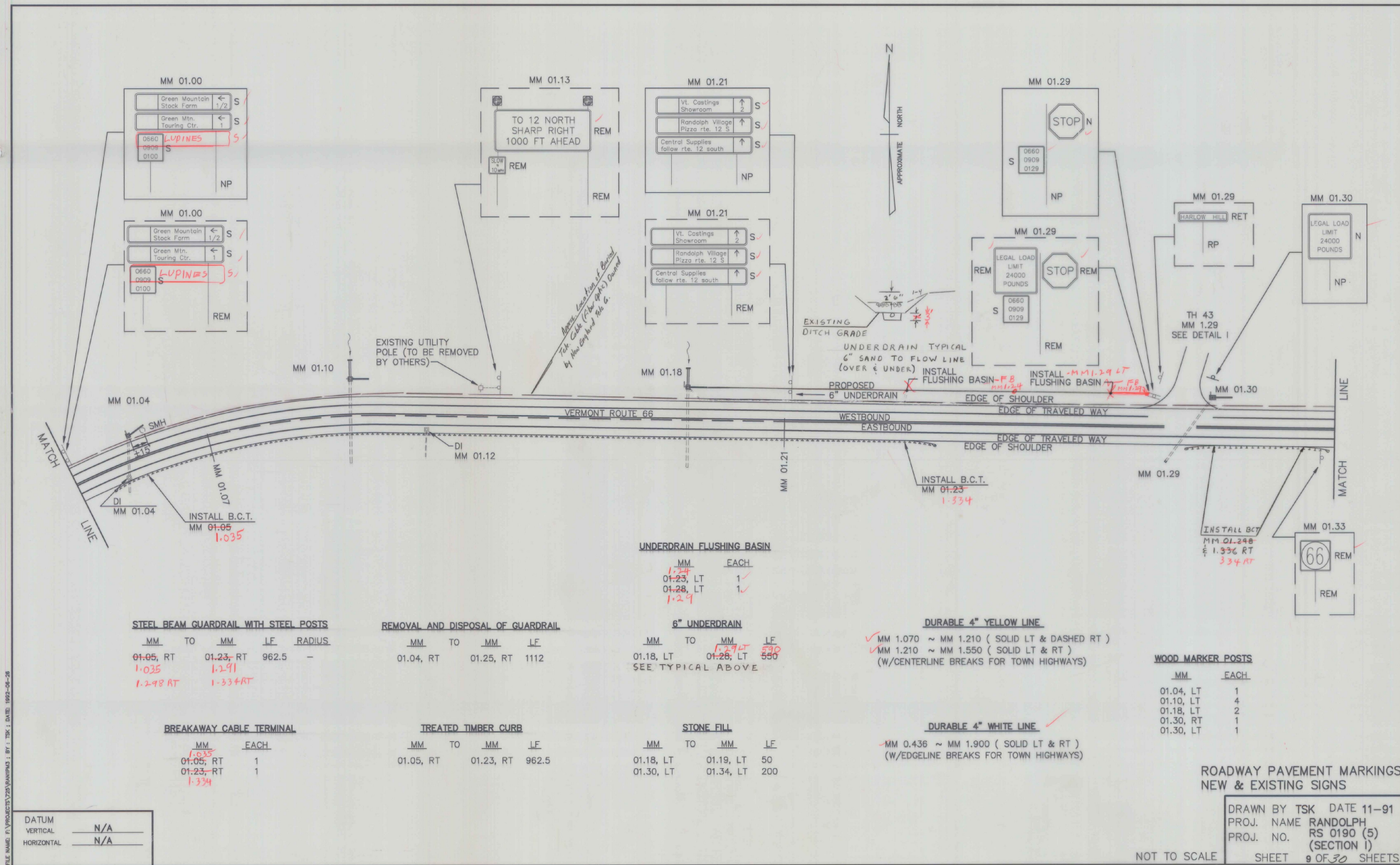
ANCHOR FOR STEEL BEAM GUARDRAIL
MM 0.967 RT



ROADWAY PAVEMENT MARKINGS NEW & EXISTING SIGNS

DRAWN BY TSK DATE 11-91
PROJ. NAME RANDOLPH
PROJ. NO. RS 0190 (5)
(SECTION I)
SHEET 8 OF 30 SHEETS

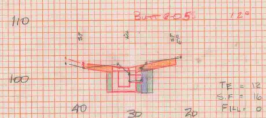
NOT TO SCALE



DATE	BY	CHKD	APP'D

DATE	BY	CHKD	APP'D

MM 1.93 RT DI

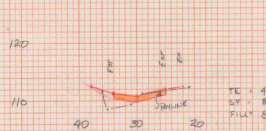


DI @ MM 1.93 RT

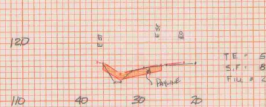
MM 1.93 + 50 RT



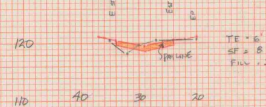
MM 1.93 + 100 RT



MM 1.93 + 150 RT



MM 1.93 + 200 RT



CALCULATIONS

STATION	TRENCH EARTH		STONE FILL		FIN	
	AREA	VOL	AREA	VOL	AREA	VOL
-5	12	0	12	0	0	0
1.93+00	12	0	12	0	0	0
+50	6	250	6	400	0	100
+100	4	250	8	400	0	200
+150	6	250	8	400	0	200
+200	6	250	8	400	0	200
+250	4	250	8	400	0	200
+286	7	190	5	294	0	100
+313	0	0	0	0	0	0
TOTAL		1910.5		2695		1000
		70.84		94.1		43.1

TRENCH EARTH

$$1) \text{ DI @ MM 1.93 } [(1.5 \times 5)(4) + (1.5 \times 2)(6) - (2)(1.5 \times 12)] \times (1/27) = 3.9 \text{ cu}$$

$$2) \text{ HEADWALL @ MM 1.93 } (5+5)(4) \times (1/27) = 1.5 \text{ cu}$$

$$3) \text{ DITCH @ MM 1.93 + 1.99 RT } \text{ SEE TABLE } = 20.4 \text{ cu}$$

TRENCH ROCK

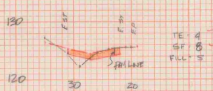
$$(5+5)(4.5 \times 1) \times (1/27) = 1.3 \text{ cu C&G APPROX}$$

STONE FILL

SEE TABLE

$$14.4 \text{ cu} = (4.5 \times 4) \times (1/27) = 93.5 \text{ cu C&G APPROX}$$

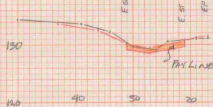
MM 1.93 + 250 RT



MM 1.93 + 286 RT



MM 1.93 + 313 RT



EARTH BORROW

SEE TABLE

FILL = 43.1 cu

TRENCH EARTH = 16.7 cu

EXCESS OF (43.1 - 16.7) cu = 26.4 cu C&G APPROX

NO EARTH BORROW NEEDED

EXCESS Hauled TO STATE
GARAGE @ RANDOLPH

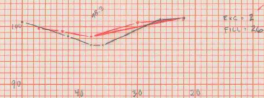
LEGEND

- TRENCH EXCAVATION OF EARTH
- TRENCH EXCAVATION OF ROCK
- STONE FILL (ORANGE)

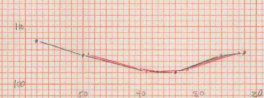
RANDOLPH STP 9255 (1)s
DRAINAGE SHEET #1

Scale: 1"=10'-0"

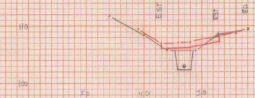
MM 1.0 + 100 w



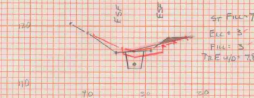
MM 1.0 + 350 w



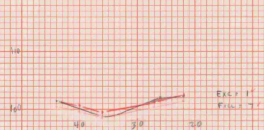
MM 1.0 + 550 w



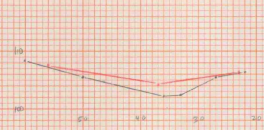
MM 1.0 + 800 w

DI & HEADWALL
C. MM 1.0 w

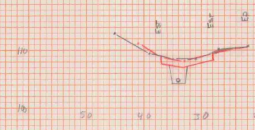
MM 1.0 + 150 w



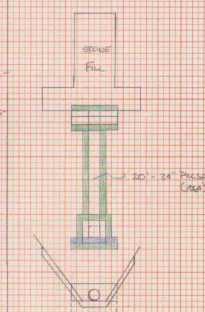
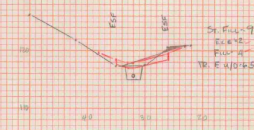
MM 1.0 + 400 w



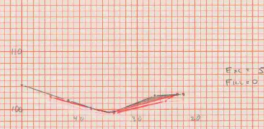
MM 1.0 + 600 w



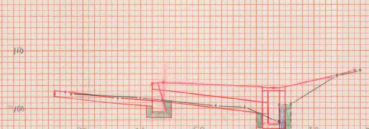
MM 1.0 + 850 w



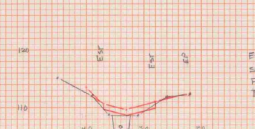
MM 1.0 + 200 w



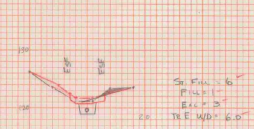
MM 1.0 + 418 w DI & HEADWALL



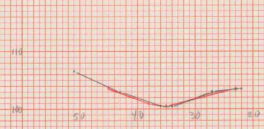
MM 1.0 + 650 w



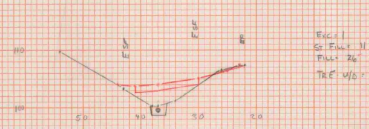
MM 1.0 + 900 w

TRENCH ROCK
(8' x 5' x 10') = 16.67
0.68/1.175

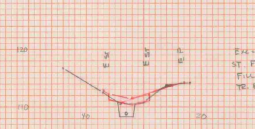
MM 1.0 + 250 w



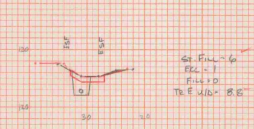
MM 1.0 + 450 w



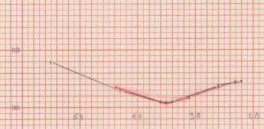
MM 1.0 + 700 w



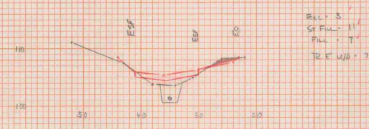
MM 1.0 + 950 w

STONE FILL
(4' x 17') + (13' x 17') (1' x 17')
= 5.96
0.68/1.175

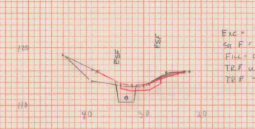
MM 1.0 + 300 w



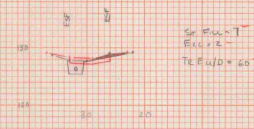
MM 1.0 + 500 w



MM 1.0 + 750 w



MM 1.0 + 990 w

TRENCH EARTH
(1) EXIST. ROAD
(8' x 5' x 10') = 1.87
(2) NEW DI
(2) (4' x 4') (1' x 17') = 1.87
(3) NEW PIPE
(8' x 4') (1' x 17') = 1.22
(4) NEW ROAD
(3' x 25') (8' x 4') = 5.83
(5) STONE FILL
(4' x 17') + (13' x 17') (1' x 17') = 5.96
0.68/1.175

LEGEND

- TRENCH EXCAVATION OF EARTH
- TRENCH EXCAVATION OF ROCK
- EXCAVATION PAID FOR AS AN PURPOSE EXCAVATOR RENTAL

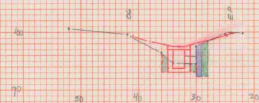
MM 1.0 + 990 w END STONE FILL

RANDOLPH
RS 010(5) DRAINAGE
SHEET #3

DATE	BY	CHKD	APP'D

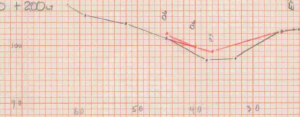
DATE	BY	CHKD	APP'D

MM 1.40 + 1r



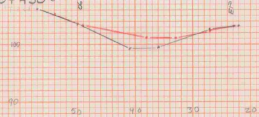
Exc. 1
Fill = 28

MM 1.40 + 200r



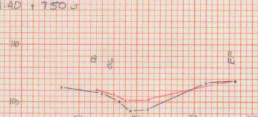
Exc. 1
Fill = 28

MM 1.40 + 450r



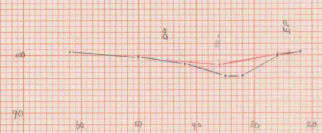
Exc. 1
Fill = 28

MM 1.40 + 750r



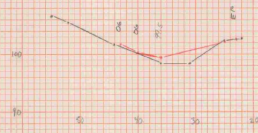
Exc. 1
Fill = 28

MM 1.40 + 25r



Exc. 1
Fill = 28

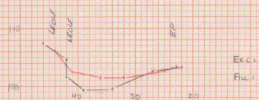
MM 1.40 + 250r



Exc. 1
Fill = 28

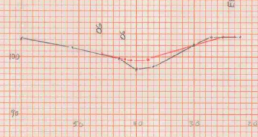
MM 1.40 + 450r DRIVE TO CHURCH
MM 1.40 + 515r DRIVE TO CHURCH

MM 1.40 + 550r



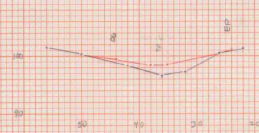
Exc. 1
Fill = 28

MM 1.40 + 800r



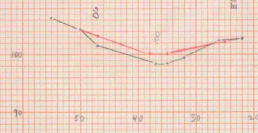
Exc. 1
Fill = 28

MM 1.40 + 50r



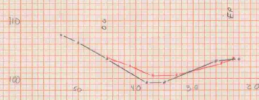
Exc. 1
Fill = 28

MM 1.40 + 300r



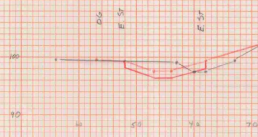
Exc. 1
Fill = 28

MM 1.40 + 600r



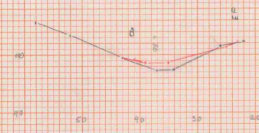
Exc. 1
Fill = 28

MM 1.40 + 850r



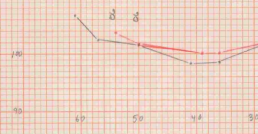
Exc. 1
Fill = 28

MM 1.40 + 100r



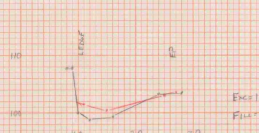
Exc. 1
Fill = 28

MM 1.40 + 350r



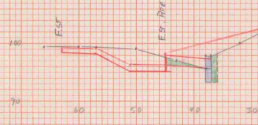
Exc. 1
Fill = 28

MM 1.40 + 650r



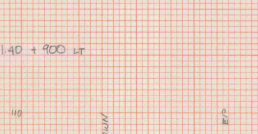
Exc. 1
Fill = 28

MM 1.40 + 865r EXTEND PIPE



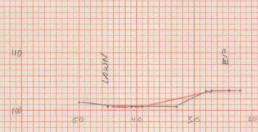
Exc. 1
Fill = 28

MM 1.40 + 890r END STONE FILL



Exc. 1
Fill = 28

MM 1.40 + 900r



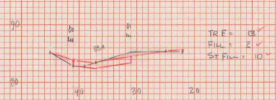
Exc. 1
Fill = 28

LEGEND

- TRENCH EXCAVATION OF EARTH
- TRENCH EXCAVATION OF ROCK
- EXCAVATION PAID FOR AS AN PURPOSE EXCAVATOR RENTAL

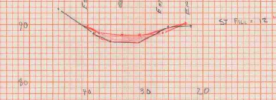
RANDOLPH RS 090(S)
DRAINAGE SHEET # 4

MM 0.97 LT - 20

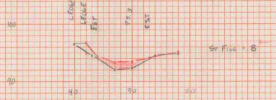


-20 END STONE FIN

MM 0.97 LT + 200

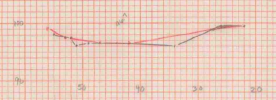


MM 0.97 + 400 LT



MM 0.97 + 420 END STONE FIN

MM 1.10 - 60 LT



Exc. 10
Exc. 5

DI @ MM 0.97 LT

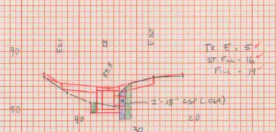


TRENCH ROCK (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

TRENCH EARTH (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

DI @ DI (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

MM 0.97 LT DI



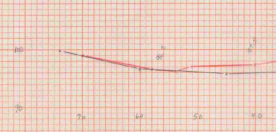
MM 0.97 LT + 250



MM 0.97 + 450 LT = MM 1.10 - 235 LT



MM 1.10 - 10 LT



Exc. 3
Exc. 21

DI @ MM 1.04 LT



ENCLOSURE LINE

TRENCH ROCK (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

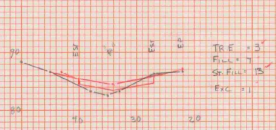
TRENCH EARTH (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

DI @ DI (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

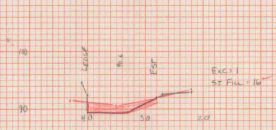
TRENCH EARTH @ HEADWALL (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

DI @ DI (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

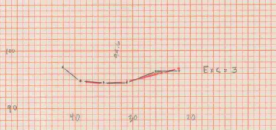
MM 0.97 LT + 50



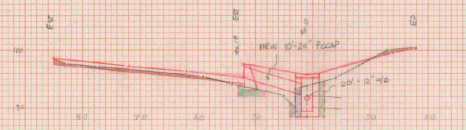
MM 0.97 LT + 300



MM 1.10 - 210 LT



MM 1.10 LT DI + HEADWALL



Exc. 4
Exc. 10

TRENCH ROCK (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

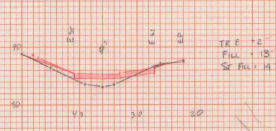
TRENCH EARTH (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

DI @ DI (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

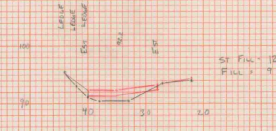
TRENCH EARTH @ HEADWALL (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

DI @ DI (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

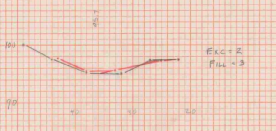
MM 0.97 LT + 100



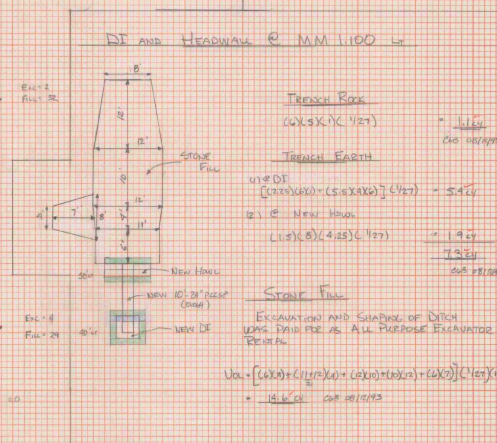
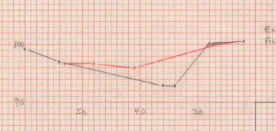
MM 0.97 + 350 LT



MM 1.10 - 180 LT



MM 1.10 + 25 LT



TRENCH ROCK (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

TRENCH EARTH (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

DI @ DI (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

TRENCH EARTH @ HEADWALL (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

DI @ DI (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

TRENCH EARTH @ HEADWALL (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

DI @ DI (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

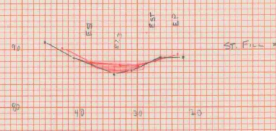
TRENCH EARTH @ HEADWALL (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

DI @ DI (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

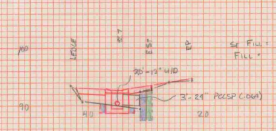
TRENCH EARTH @ HEADWALL (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

DI @ DI (0.5X1.0)(1/21) = 1.00 cu. m. 08/10/93

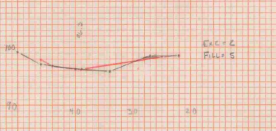
MM 0.97 LT + 150



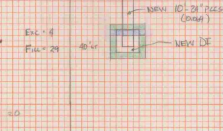
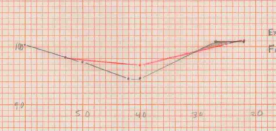
MM 0.97 LT + 370 = MM 1.04 LT DI



MM 1.10 - 110 LT



MM 1.10 + 50 LT



Exc. 4
Exc. 21

Exc. 10
Exc. 21

Exc. 10
Exc. 21

Exc. 10
Exc. 21

Exc. 10
Exc. 21

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Exc. 10
Exc. 21

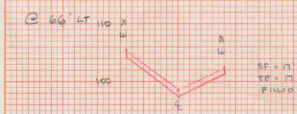
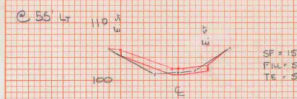
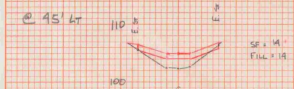
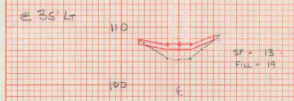
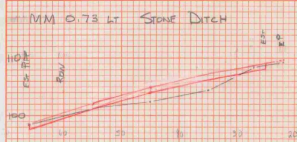
- LEGEND:
- TRENCH EXCAVATION OF EARTH
 - TRENCH EXCAVATION OF ROCK
 - EXCAVATION PAD FOR AS-PAUL PAPER EXCAVATOR

RANDOLPH RS090(S)
DRAINAGE SHEET #2

0.00 2.00

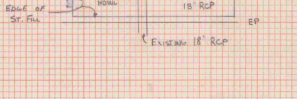
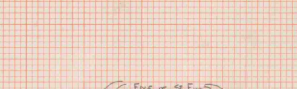
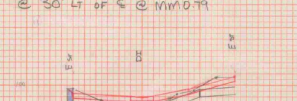
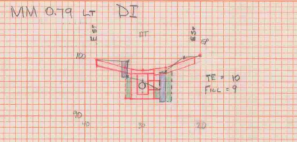
STATION	DATE	TIME	BY	CHKD
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

STATION	DATE	TIME	BY	CHKD
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				



STATION	DISTANCE	STONE FILL	TE. EARTH
25' LT	10	130	13
35' LT	10	130	13
45' LT	10	130	13
55' LT	10	130	13
65' LT	10	130	13
75' LT	10	130	13
85' LT	10	130	13
95' LT	10	130	13
TOTAL		1300	130

EARTH BORROW
 FILL = TE. EARTH
 = 1300 - 130 = 1170 CY
 NO EARTH BORROW REQUIRED



DI @ MM 0.79 LT

TRENCH ROCK
 (1) CONC. WALL = (25' + 10') (2.5' X 1') (1/2) = 32.5 CY
 (2) HEADWALL = (10' X 5' X 1') (1/2) = 25 CY
 TOTAL = 57.5 CY

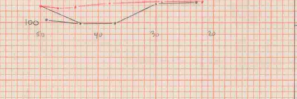
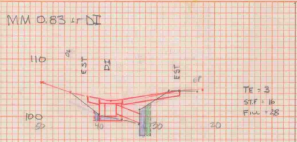
STONE FILL
 VOL = [(10' X 20' X 1') - (25' X 1' X 1')] (1/2) = 17.5 CY

TRENCH EARTH
 (1) E. DI = (2.5' X 6' X 1') (1/2) = 7.5 CY
 (2) E. DI = (5' X 6' X 1') (1/2) = 15 CY
 TOTAL = 22.5 CY

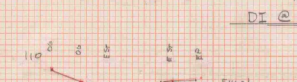
SEE TABLE
 USING SPACING 30' LT OF 6'

STATION	DISTANCE	AREA	VOL
12' LT	10	120	12
22' LT	10	120	12
32' LT	10	120	12
42' LT	10	120	12
52' LT	10	120	12
62' LT	10	120	12
72' LT	10	120	12
82' LT	10	120	12
92' LT	10	120	12
TOTAL		1200	120

EARTH BORROW
 FILL = (9' X 1') (1/2) = 4.5 CY
 EARTH BORROW = 1200 - 4.5 = 1195.5 CY
 NO EARTH BORROW REQUIRED



MM 0.83 + 15

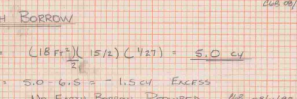
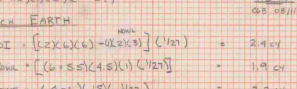
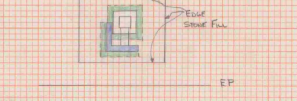
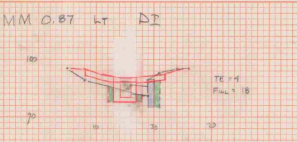


MM 0.83 + 30

TRENCH ROCK
 E. DI = (2.5' X 6' X 1') (1/2) = 7.5 CY
 E. DI = (5' X 6' X 1') (1/2) = 15 CY
 TOTAL = 22.5 CY

STATION	DISTANCE	AREA	VOL
12' LT	10	120	12
22' LT	10	120	12
32' LT	10	120	12
42' LT	10	120	12
52' LT	10	120	12
62' LT	10	120	12
72' LT	10	120	12
82' LT	10	120	12
92' LT	10	120	12
TOTAL		1200	120

EARTH BORROW
 FILL = (9' X 1') (1/2) = 4.5 CY
 EARTH BORROW = 1200 - 4.5 = 1195.5 CY
 NO EARTH BORROW REQUIRED



DI @ MM 0.87 LT

TRENCH ROCK
 (1) CONC. WALL = (25' + 10') (2.5' X 1') (1/2) = 32.5 CY
 (2) HEADWALL = (10' X 5' X 1') (1/2) = 25 CY
 TOTAL = 57.5 CY

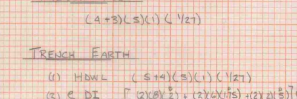
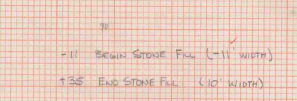
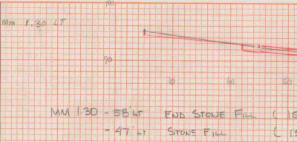
STONE FILL
 VOL = [(10' X 20' X 1') - (25' X 1' X 1')] (1/2) = 17.5 CY

TRENCH EARTH
 (1) E. DI = (2.5' X 6' X 1') (1/2) = 7.5 CY
 (2) E. DI = (5' X 6' X 1') (1/2) = 15 CY
 TOTAL = 22.5 CY

SEE TABLE
 USING SPACING 30' LT OF 6'

STATION	DISTANCE	AREA	VOL
12' LT	10	120	12
22' LT	10	120	12
32' LT	10	120	12
42' LT	10	120	12
52' LT	10	120	12
62' LT	10	120	12
72' LT	10	120	12
82' LT	10	120	12
92' LT	10	120	12
TOTAL		1200	120

EARTH BORROW
 FILL = (9' X 1') (1/2) = 4.5 CY
 EARTH BORROW = 1200 - 4.5 = 1195.5 CY
 NO EARTH BORROW REQUIRED



MM 1.30 + 15

TRENCH ROCK
 (1) CONC. WALL = (25' + 10') (2.5' X 1') (1/2) = 32.5 CY
 (2) HEADWALL = (10' X 5' X 1') (1/2) = 25 CY
 TOTAL = 57.5 CY

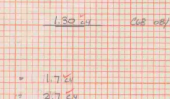
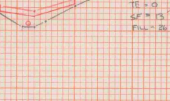
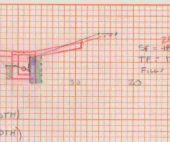
STONE FILL
 VOL = [(10' X 20' X 1') - (25' X 1' X 1')] (1/2) = 17.5 CY

TRENCH EARTH
 (1) E. DI = (2.5' X 6' X 1') (1/2) = 7.5 CY
 (2) E. DI = (5' X 6' X 1') (1/2) = 15 CY
 TOTAL = 22.5 CY

SEE TABLE
 USING SPACING 30' LT OF 6'

STATION	DISTANCE	AREA	VOL
12' LT	10	120	12
22' LT	10	120	12
32' LT	10	120	12
42' LT	10	120	12
52' LT	10	120	12
62' LT	10	120	12
72' LT	10	120	12
82' LT	10	120	12
92' LT	10	120	12
TOTAL		1200	120

EARTH BORROW
 FILL = (9' X 1') (1/2) = 4.5 CY
 EARTH BORROW = 1200 - 4.5 = 1195.5 CY
 NO EARTH BORROW REQUIRED



MM 1.30 + 15

TRENCH ROCK
 (1) CONC. WALL = (25' + 10') (2.5' X 1') (1/2) = 32.5 CY
 (2) HEADWALL = (10' X 5' X 1') (1/2) = 25 CY
 TOTAL = 57.5 CY

STONE FILL
 VOL = [(10' X 20' X 1') - (25' X 1' X 1')] (1/2) = 17.5 CY

TRENCH EARTH
 (1) E. DI = (2.5' X 6' X 1') (1/2) = 7.5 CY
 (2) E. DI = (5' X 6' X 1') (1/2) = 15 CY
 TOTAL = 22.5 CY

SEE TABLE
 USING SPACING 30' LT OF 6'

STATION	DISTANCE	AREA	VOL
12' LT	10	120	12
22' LT	10	120	12
32' LT	10	120	12
42' LT	10	120	12
52' LT	10	120	12
62' LT	10	120	12
72' LT	10	120	12
82' LT	10	120	12
92' LT	10	120	12
TOTAL		1200	120

EARTH BORROW
 FILL = (9' X 1') (1/2) = 4.5 CY
 EARTH BORROW = 1200 - 4.5 = 1195.5 CY
 NO EARTH BORROW REQUIRED

STATION	DATE	TIME	BY
100			
101			
102			
103			
104			
105			
106			
107			
108			
109			
110			

STATION	DATE	TIME	BY
111			
112			
113			
114			
115			
116			
117			
118			
119			
120			

DITCH @ MM 1097.1 - MM 1063.4

STATIONS	DIST	TR. EARTH AREA VOL	STONE FILL AREA VOL	TR. ROCK AREA VOL	EXCAVATION AREA VOL
MM 1097.1	20	13	18	0	20
+ 50	50	5	10	0	0
+ 100	50	3	13	0	0
+ 150	50	2	14	0	0
+ 200	50	0	50	0	0
+ 250	50	11	0	0	0
+ 300	50	11	0	0	0
+ 350	50	16	0	0	0
+ 400	50	12	0	0	0
+ 450	50	14	0	0	0
+ 500	50	12	0	0	0
+ 550	50	12	0	0	0
+ 600	50	12	0	0	0
+ 650	50	12	0	0	0
+ 700	50	12	0	0	0
+ 750	50	12	0	0	0
+ 800	50	12	0	0	0
+ 850	50	12	0	0	0
+ 900	50	12	0	0	0
+ 950	50	12	0	0	0
+ 1000	50	12	0	0	0
TOTAL		655.14	500.00	0.00	150.00

TRENCH EARTH

$$\text{SEE TABLE VOL} = 655.14 = 23.5 \text{ CY}$$

STONE FILL

$$\text{SEE TABLE VOL} = 500.00 = 18.2 \text{ CY}$$

EARTH BORROW

$$\text{VOL} = \text{FILL} - \text{TR. EARTH} - \text{EXCAVATION}$$

$$= (23.5 - 655.14 - 150.00) \text{ CY}$$

$$= -581.64 \text{ CY}$$

DITCH @ MM 1063.4 - MM 1016.4

STATIONS	DIST	TR. EARTH AREA VOL	STONE FILL AREA VOL	TR. ROCK AREA VOL	EXCAVATION AREA VOL
+ 235	20	0	0	0	0
+ 250	15	0	0	0	0
+ 265	15	0	0	0	0
+ 280	15	0	0	0	0
+ 295	15	0	0	0	0
+ 310	15	0	0	0	0
+ 325	15	0	0	0	0
+ 340	15	0	0	0	0
+ 355	15	0	0	0	0
+ 370	15	0	0	0	0
+ 385	15	0	0	0	0
+ 400	15	0	0	0	0
+ 415	15	0	0	0	0
+ 430	15	0	0	0	0
+ 445	15	0	0	0	0
+ 460	15	0	0	0	0
+ 475	15	0	0	0	0
+ 490	15	0	0	0	0
+ 505	15	0	0	0	0
+ 520	15	0	0	0	0
+ 535	15	0	0	0	0
+ 550	15	0	0	0	0
+ 565	15	0	0	0	0
+ 580	15	0	0	0	0
+ 595	15	0	0	0	0
+ 610	15	0	0	0	0
+ 625	15	0	0	0	0
+ 640	15	0	0	0	0
+ 655	15	0	0	0	0
+ 670	15	0	0	0	0
+ 685	15	0	0	0	0
+ 700	15	0	0	0	0
+ 715	15	0	0	0	0
+ 730	15	0	0	0	0
+ 745	15	0	0	0	0
+ 760	15	0	0	0	0
+ 775	15	0	0	0	0
+ 790	15	0	0	0	0
+ 805	15	0	0	0	0
+ 820	15	0	0	0	0
+ 835	15	0	0	0	0
+ 850	15	0	0	0	0
+ 865	15	0	0	0	0
+ 880	15	0	0	0	0
+ 895	15	0	0	0	0
+ 910	15	0	0	0	0
+ 925	15	0	0	0	0
+ 940	15	0	0	0	0
+ 955	15	0	0	0	0
+ 970	15	0	0	0	0
+ 985	15	0	0	0	0
+ 1000	15	0	0	0	0
TOTAL		1193.14	0.00	0.00	0.00

EARTH BORROW

$$\text{VOL} = \text{FILL} - \text{TR. EARTH} - \text{EXCAVATION}$$

$$= (0.00 - 1193.14 - 0.00) \text{ CY}$$

$$= -1193.14 \text{ CY}$$

DITCH @ MM 1163.4 - MM 1293.4

STATION	DIST	TR. EARTH AREA VOL	STONE FILL AREA VOL	TR. ROCK AREA VOL	EXCAVATION AREA VOL
+ 300	50	13	18	0	20
+ 350	50	5	10	0	0
+ 400	50	3	13	0	0
+ 450	50	2	14	0	0
+ 500	50	0	50	0	0
+ 550	50	11	0	0	0
+ 600	50	11	0	0	0
+ 650	50	16	0	0	0
+ 700	50	12	0	0	0
+ 750	50	12	0	0	0
+ 800	50	12	0	0	0
+ 850	50	12	0	0	0
+ 900	50	12	0	0	0
+ 950	50	12	0	0	0
+ 1000	50	12	0	0	0
+ 1050	50	12	0	0	0
+ 1100	50	12	0	0	0
+ 1150	50	12	0	0	0
+ 1200	50	12	0	0	0
+ 1250	50	12	0	0	0
+ 1300	50	12	0	0	0
+ 1350	50	12	0	0	0
+ 1400	50	12	0	0	0
+ 1450	50	12	0	0	0
+ 1500	50	12	0	0	0
+ 1550	50	12	0	0	0
+ 1600	50	12	0	0	0
+ 1650	50	12	0	0	0
+ 1700	50	12	0	0	0
+ 1750	50	12	0	0	0
+ 1800	50	12	0	0	0
+ 1850	50	12	0	0	0
+ 1900	50	12	0	0	0
+ 1950	50	12	0	0	0
+ 2000	50	12	0	0	0
TOTAL		800.00	347.14	0.00	1247.14

NOTE (1) UNDER EXCAVATION AT
1850' - 1900' 50% EARTH 50% ROCK
1900' - 1950' 100% ROCK
1950' - 2000' 75% EARTH 25% ROCK

NOTE (2) AT +1500' - +1900'

ORIGINALLY, DUE TO RIGHT OF WAY PROBLEMS STONE FILL WAS STOPPED @ +1750' AND THE DITCH @ +1750' - +1900' WAS BUILT BY EXCAVATION. LATER, DUE TO FILLING IN DITCH TO OBTAIN 1:1.5 SLOPE (BROWN LINE), AFTERWARDS THE PROPERTY REQUESTED THE COMPLETE DITCH BE FILLED WITH STONE FILL. THIS WAS DONE USING AN EXCAVATOR AND TRUCK RENTAL AND THE MATERIAL WAS HAULED TO DISTRICT GARAGE.

TRENCH ROCK

$$\text{VOL} = \text{FILL} - \text{TR. EARTH} - \text{EXCAVATION}$$

$$= (0.00 - 800.00 - 1247.14) \text{ CY}$$

$$= -2047.14 \text{ CY}$$

SEE TABLE (600.00) (1/2) = 300.00

SEE TABLE (600.00) (1/2) = 300.00

TRENCH EARTH

$$\text{SEE TABLE (800.00) (1/2) = 400.00}$$

$$\text{UNDER DRAIN SEE TABLE (347.14) (1/2) = 173.57$$

STONE FILL

$$\text{SEE TABLE (1193.14) (1/2) = 596.57$$

EARTH BORROW

SEE TABLE

$$\text{VOL} = \text{FILL} - \text{TR. EARTH} - \text{EXCAVATION}$$

$$= (596.57 - (800.00 + 347.14) - 1247.14) \text{ CY}$$

$$= -1890.61 \text{ CY}$$

DITCH @ MM 140 - MM 149



TRENCH ROCK

$$(4 \times 5 \times 5) (1/2) = 50 \text{ CY}$$

TRENCH EARTH

$$\text{SEE TABLE (5 \times 5 \times 5) (1/2) = 37.5 \text{ CY}}$$

$$\text{SEE TABLE (10 \times 5 \times 5) (1/2) = 75 \text{ CY}}$$

$$\text{SEE TABLE (15 \times 5 \times 5) (1/2) = 112.5 \text{ CY}}$$

$$\text{SEE TABLE (20 \times 5 \times 5) (1/2) = 150 \text{ CY}}$$

$$\text{SEE TABLE (25 \times 5 \times 5) (1/2) = 187.5 \text{ CY}}$$

$$\text{SEE TABLE (30 \times 5 \times 5) (1/2) = 225 \text{ CY}}$$

$$\text{SEE TABLE (35 \times 5 \times 5) (1/2) = 262.5 \text{ CY}}$$

$$\text{SEE TABLE (40 \times 5 \times 5) (1/2) = 300 \text{ CY}}$$

$$\text{SEE TABLE (45 \times 5 \times 5) (1/2) = 337.5 \text{ CY}}$$

$$\text{SEE TABLE (50 \times 5 \times 5) (1/2) = 375 \text{ CY}}$$

$$\text{SEE TABLE (55 \times 5 \times 5) (1/2) = 412.5 \text{ CY}}$$

$$\text{SEE TABLE (60 \times 5 \times 5) (1/2) = 450 \text{ CY}}$$

$$\text{SEE TABLE (65 \times 5 \times 5) (1/2) = 487.5 \text{ CY}}$$

$$\text{SEE TABLE (70 \times 5 \times 5) (1/2) = 525 \text{ CY}}$$

$$\text{SEE TABLE (75 \times 5 \times 5) (1/2) = 562.5 \text{ CY}}$$

$$\text{SEE TABLE (80 \times 5 \times 5) (1/2) = 600 \text{ CY}}$$

$$\text{SEE TABLE (85 \times 5 \times 5) (1/2) = 637.5 \text{ CY}}$$

$$\text{SEE TABLE (90 \times 5 \times 5) (1/2) = 675 \text{ CY}}$$

$$\text{SEE TABLE (95 \times 5 \times 5) (1/2) = 712.5 \text{ CY}}$$

$$\text{SEE TABLE (100 \times 5 \times 5) (1/2) = 750 \text{ CY}}$$

$$\text{SEE TABLE (105 \times 5 \times 5) (1/2) = 787.5 \text{ CY}}$$

$$\text{SEE TABLE (110 \times 5 \times 5) (1/2) = 825 \text{ CY}}$$

$$\text{SEE TABLE (115 \times 5 \times 5) (1/2) = 862.5 \text{ CY}}$$

$$\text{SEE TABLE (120 \times 5 \times 5) (1/2) = 900 \text{ CY}}$$

$$\text{SEE TABLE (125 \times 5 \times 5) (1/2) = 937.5 \text{ CY}}$$

$$\text{SEE TABLE (130 \times 5 \times 5) (1/2) = 975 \text{ CY}}$$

$$\text{SEE TABLE (135 \times 5 \times 5) (1/2) = 1012.5 \text{ CY}}$$

$$\text{SEE TABLE (140 \times 5 \times 5) (1/2) = 1050 \text{ CY}}$$

$$\text{SEE TABLE (145 \times 5 \times 5) (1/2) = 1087.5 \text{ CY}}$$

$$\text{SEE TABLE (150 \times 5 \times 5) (1/2) = 1125 \text{ CY}}$$

$$\text{SEE TABLE (155 \times 5 \times 5) (1/2) = 1162.5 \text{ CY}}$$

$$\text{SEE TABLE (160 \times 5 \times 5) (1/2) = 1200 \text{ CY}}$$

$$\text{SEE TABLE (165 \times 5 \times 5) (1/2) = 1237.5 \text{ CY}}$$

$$\text{SEE TABLE (170 \times 5 \times 5) (1/2) = 1275 \text{ CY}}$$

$$\text{SEE TABLE (175 \times 5 \times 5) (1/2) = 1312.5 \text{ CY}}$$

$$\text{SEE TABLE (180 \times 5 \times 5) (1/2) = 1350 \text{ CY}}$$

$$\text{SEE TABLE (185 \times 5 \times 5) (1/2) = 1387.5 \text{ CY}}$$

$$\text{SEE TABLE (190 \times 5 \times 5) (1/2) = 1425 \text{ CY}}$$

$$\text{SEE TABLE (195 \times 5 \times 5) (1/2) = 1462.5 \text{ CY}}$$

$$\text{SEE TABLE (200 \times 5 \times 5) (1/2) = 1500 \text{ CY}}$$

$$\text{SEE TABLE (205 \times 5 \times 5) (1/2) = 1537.5 \text{ CY}}$$

$$\text{SEE TABLE (210 \times 5 \times 5) (1/2) = 1575 \text{ CY}}$$

$$\text{SEE TABLE (215 \times 5 \times 5) (1/2) = 1612.5 \text{ CY}}$$

$$\text{SEE TABLE (220 \times 5 \times 5) (1/2) = 1650 \text{ CY}}$$

$$\text{SEE TABLE (225 \times 5 \times 5) (1/2) = 1687.5 \text{ CY}}$$

$$\text{SEE TABLE (230 \times 5 \times 5) (1/2) = 1725 \text{ CY}}$$

$$\text{SEE TABLE (235 \times 5 \times 5) (1/2) = 1762.5 \text{ CY}}$$

$$\text{SEE TABLE (240 \times 5 \times 5) (1/2) = 1800 \text{ CY}}$$

$$\text{SEE TABLE (245 \times 5 \times 5) (1/2) = 1837.5 \text{ CY}}$$

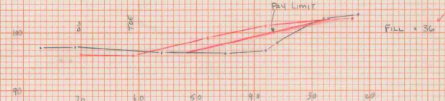
DITCH @ MM 140 - MM 149

STATIONS	DIST	TR. EARTH AREA VOL	STONE FILL AREA VOL	TR. ROCK AREA VOL	EXCAVATION AREA VOL
+ 5	5	0	0	0	0
+ 10	5	0	0	0	0
+ 15	5	0	0	0	0

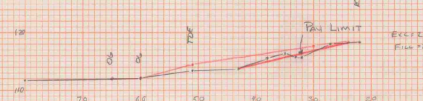
DATE	TIME	BY	REVISION	REMARKS

DATE	TIME	BY	REVISION	REMARKS

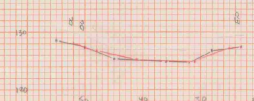
MM 1.80 R



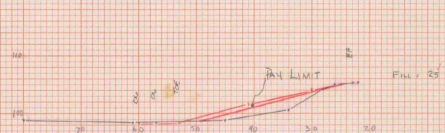
MM 1.80 + 250 Rt



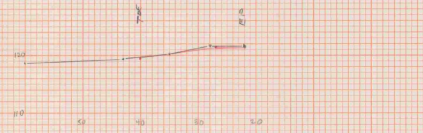
MM 1.80 + 375 Rt



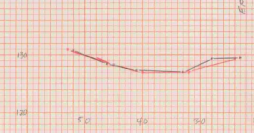
MM 1.80 + 50 Rt



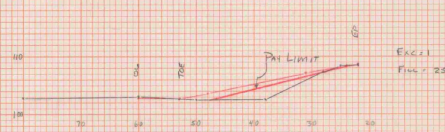
MM 1.80 + 300 Rt



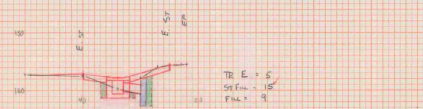
MM 1.80 + 400 Rt



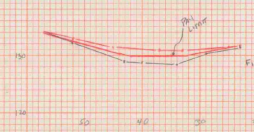
MM 1.80 + 100 Rt



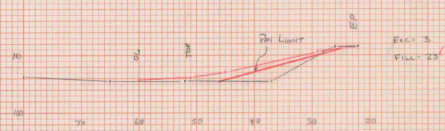
MM 1.80 + 340 Rt



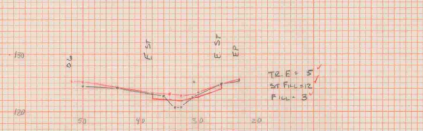
MM 1.80 + 425 Rt



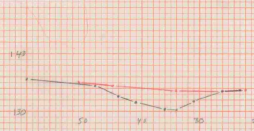
MM 1.80 + 150 Rt



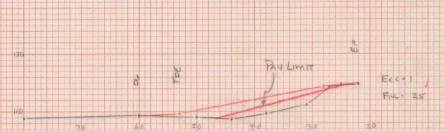
MM 1.80 + 350 Rt



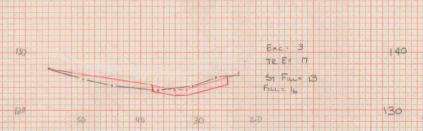
MM 1.80 + 450 Rt



MM 1.80 + 200 Rt

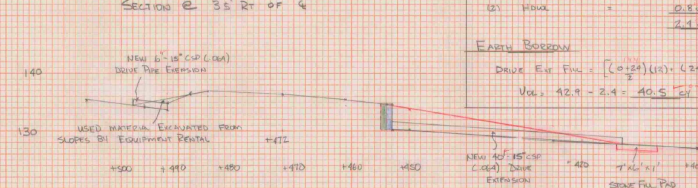


MM 1.80 + 360 Rt END STONE FILL



MM 1.80 + 472 Rt DRIVE

SECTION @ 3% RT OF 4



LEGEND

- TRENCH EXCAVATION OF EARTH
- TRENCH EXCAVATION OF ROCK
- EXCAVATION PAID FOR AS ALL PURPOSE EXCAVATOR RENTAL

DT @ MM 1.80 R - DITCH @ MM 1.80 - 189 Rt
(MM 1.80 + 340) (MM 1.80 + 340 - MM 1.80 + 375)

STATIONS	DISPERSE	STONE FILL	FILL	TR. EXCAV.	EXCAVATION
1.335	10	10	10	10	10
1.340	15	15	15	15	15
1.350	10	10	10	10	10
1.360	10	10	10	10	10
1.375	15	15	15	15	15
1.400	25	25	25	25	25
1.425	25	25	25	25	25
TOTALS	300	300	300	300	300

TRENCH ROCK

$$VOL = 1.6 + 2.5(5)(10/100) = 1.6 + 1.25 = 2.85 \text{ cu yd}$$

TRENCH EARTH

$$1) \text{ @ } 100\% \text{ VOL} = (7 + 3.5)(5)(10/100) = 1.9 \text{ cu yd}$$

$$2) \text{ @ } 20\% \text{ VOL} = (2)(5)(10/100) = 0.2 \text{ cu yd}$$

$$3) \text{ @ } 100\% \text{ SEE TABLE VOL} = 190/100 = 1.9 \text{ cu yd}$$

STONE FILL

$$SEE TABLE VOL = (300 - 190)(10/100) = 11.0 \text{ cu yd}$$

EARTH BORROW

$$VOL = (300/100) - (190/100) = 1.1 \text{ cu yd}$$

EXCESS, NO EARTH BORROW REQUIRED

DRIVE CURB EXTENSION @ MM 1.80 R - 189 Rt

(MM 1.80 + 472 - MM 1.80 + 450 Rt)

STONE FILL

$$VOL = (7 + 3.5)(10/100) = 1.05 \text{ cu yd}$$

TRENCH ROCK

$$VOL = (5)(1.5)(10/100) = 0.75 \text{ cu yd}$$

TRENCH EARTH

$$1) \text{ STONE FILL} = 1.05 \text{ cu yd}$$

$$2) \text{ EARTH} = 0.75 \text{ cu yd}$$

EARTH BORROW

$$DRIVE EXT. FILL = (0.10)(10) + (0.20)(10) + (0.30)(10) = 0.6 \text{ cu yd}$$

$$VOL = 0.6 + 0.6 = 1.2 \text{ cu yd}$$

RANDOLPH RS 00005

DRAINAGE SHEET #6

Rev. 2-10-94

Full Slope @ MM 1.80 R - 1.86 R

All EXCESS EXCAVATION MATERIAL AND ALL TRENCH ROCK EXCAVATION QUANTITIES DISPOSED OF IN THIS FULL SCOPE.

EXCESS MATERIAL & TRENCH ROCK

STATION	EXCESS TRENCH ROCK
MM 0.72 R	-
MM 0.79 R	17.9
MM 0.85 R	-
MM 0.86 R	1.8
MM 0.98 R	3.9
MM 1.04 R	1.5
MM 1.10 R	7.5
MM 1.18 R	13.9
MM 1.20 R	4.9
MM 1.37 R	25.2
MM 0.97 - MM 1.06 R	-
MM 1.06 - MM 1.10 R	-
MM 1.10 - MM 1.18 R	0.9
MM 1.18 - MM 1.20 R	-
MM 1.20 - MM 1.37 R	-
MM 1.37 - MM 1.80 R	16.2
MM 1.80 - MM 1.86 R	-
MM 1.86 - MM 1.87 R	0.8
MM 1.87 R	1.5
MM 0.92 R	0.7
MM 1.30 R	3.10
MM 1.30 R	2.24.3

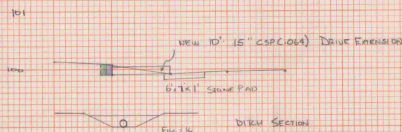
STATION	DISTANCE	AREA	VOL	EXCESS
- 25	0	0	0	0
MM 1.80 R	25	36	1800	0
+ 50	50	72	3600	0
+ 100	100	144	7200	0
+ 150	150	216	10800	0
+ 200	200	288	14400	0
+ 250	250	360	18000	0
+ 300	300	432	21600	0
TOTALS			63500	250

EARTH BORROW

$$VOL = [(6350 - 350) \times 1.17] = (95.6 + 24.3)$$

$$= 120.9 \text{ cu yd}$$

DRIVE EXTENSION @ MM 0.92 LT



TRENCH ROCK

$$VOL = (10)(2)(1)(1/2) = 0.76 \text{ cu yd}$$

TRENCH EARTH

$$1) \text{ E. HOLE } VOL = (10)(2)(1)(1/2) = 0.76 \text{ cu yd}$$

$$2) \text{ GRAVEL FILL } VOL = (6)(12)(1/2) = 1.6 \text{ cu yd}$$

STONE FILL

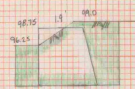
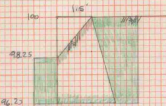
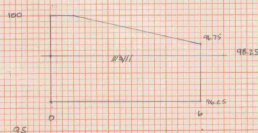
$$VOL = (10)(10)(1/2) = 1.6 \text{ cu yd}$$

EARTH BORROW

$$FILL = (16+10)(12)(1/2) = 3.6 \text{ cu yd}$$

$$VOL = 3.6 + 2.5 = 6.1 \text{ cu yd}$$

CONCRETE WALL EXTENSION @ MM 0.700 R



$$TR E = (2)(1) + (2)(3)(1.5) + (2)(3)(1.5)$$

$$= 11.06 \text{ cu yd}$$

$$CONCRETE = (370)(1.5)(2.5) = 7.5 \text{ cu yd}$$

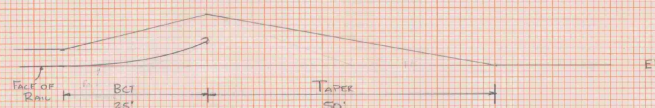
TRENCH EARTH

$$VOL = [(13.8)(1) + (13.8)(1.14)(5) + (1.04)(1)] (1/2) = 3.2 \text{ cu yd}$$

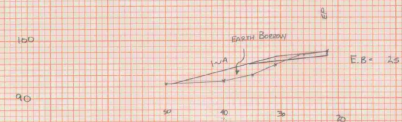
CONCRETE CURB &

$$VOL = [(1.5)(1) + (1.5)(1.14)(2)] (1/2) = 1.38 \text{ cu yd}$$

BCT BUBBLES



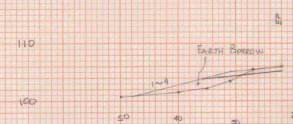
(1) @ MM 1.66 LT



EARTH BORROW

$$VOL = (25 \text{ cu yd}) (1.17) = 29.7 \text{ cu yd}$$

(2) @ MM 1.66 LT



EARTH BORROW

$$VOL = (19 \text{ cu yd}) (1.17) = 22.4 \text{ cu yd}$$

LEGEND

- TRENCH EXCAVATION OF EARTH
- TRENCH EXCAVATION OF ROCK
- EXCAVATION PAID FOR AS ALL PURPOSE EXCAVATOR RENTAL

E. RD

E. RD

E. MDS

E. DR

E. DR

E. MDS

E. MDS

STONE FILL TYPE I

7-77
FS-347
11/2/87

121+00 =
REV 120+99.86

798.25

1.85' RT.

-0.010 +0.000 +0.020 -0.030

F-517

796.18

3.51' RT.

121+44.20 =
REV 121+44.74
ASKEW 67'-33' RT.

REV. 121+44.74 &
REMOVE EXIST. 18" R.C.P. w/ HEADWALL
& INLET & OUTLET

SCALE 1" = 10 FEET

FROM STA.	121+00	TO STA.	121+44.20
PROJECT NAME	BRATTLEBRO REV		
NO.	HES010-1(30)		
SURVEYED BY	FALL		
SHEET	69 OF 128	SHEETS	1787 0084
		PLOTTED 12/09/87	

STEEL BEAM GUARDRAIL W/ 8' STEEL POSTS (MOD)

MM	TO	MM	LF
01.035 RT		1.291 RT	925 LF (SEE NOTE)

NOTE: GUARDRAIL RUN AT MM 1.035 RT - 1.291 RT
CONSISTS OF 427 LF OF 6' STEEL POSTS &
925 LF OF 8' STEEL POSTS.

STEEL BEAM GUARDRAIL WITH STEEL POSTS

MM	TO	MM	LF	RADIUS
01.38 RT		01.78 RT	2400	-
01.62 LT		01.65 LT	187.5	-
01.035 RT		01.291 RT	427	(SEE NOTE)
01.291 RT		01.334 RT	164.5	

BREAKAWAY CABLE TERMINAL

MM	TO	MM	LF
01.374		01.38 RT	1
01.334		01.62 LT	1
01.334		01.334 RT	1

ANCHOR FOR STEEL BEAM GUARDRAIL

MM	TO	MM	LF
MM 1.291 RT		MM 1.291 RT	
MM 1.291 RT		MM 1.291 RT	
MM 1.611 LT		MM 1.611 LT	

STONE FILL

MM	TO	MM	LF
01.44 LT		01.50 LT	920
01.16 LT		01.27 LT	500

REMOVAL AND DISPOSAL OF GUARDRAIL

MM	TO	MM	LF
01.38 RT		01.40 RT	80
01.49 RT		01.56 RT	395
01.61 RT		01.64 RT	240
01.61 LT		01.66 LT	240

DURABLE 4" YELLOW LINE

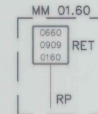
MM 1.550 ~ MM 1.670 (SOLID LT & DASHED RT)

DURABLE 4" WHITE LINE

MM 0.436 ~ MM 1.900 (SOLID LT & RT)
(W/EDGE LINE BREAKS FOR TOWN HIGHWAYS)

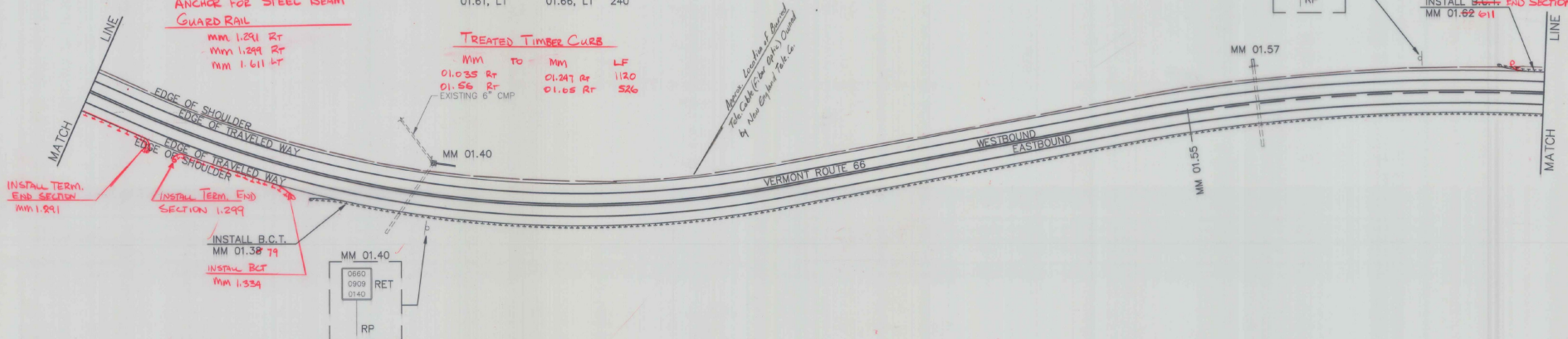
WOOD MARKER POSTS

MM	EACH
01.40, LT	1
01.57, LT	1
01.58, LT	1

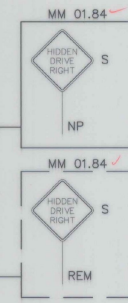
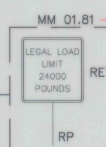
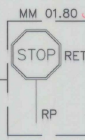
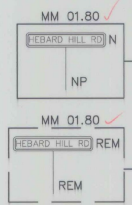
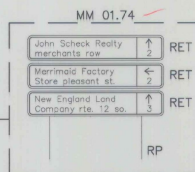
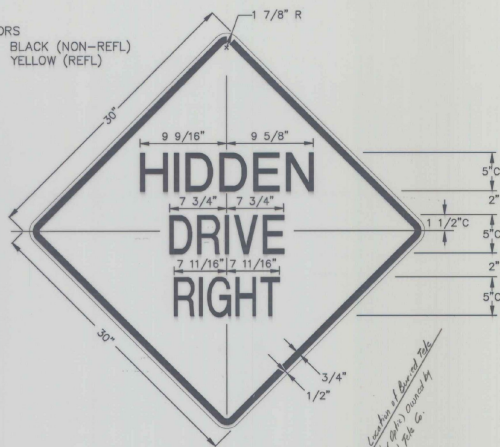


SEE NOTE 1 BELOW

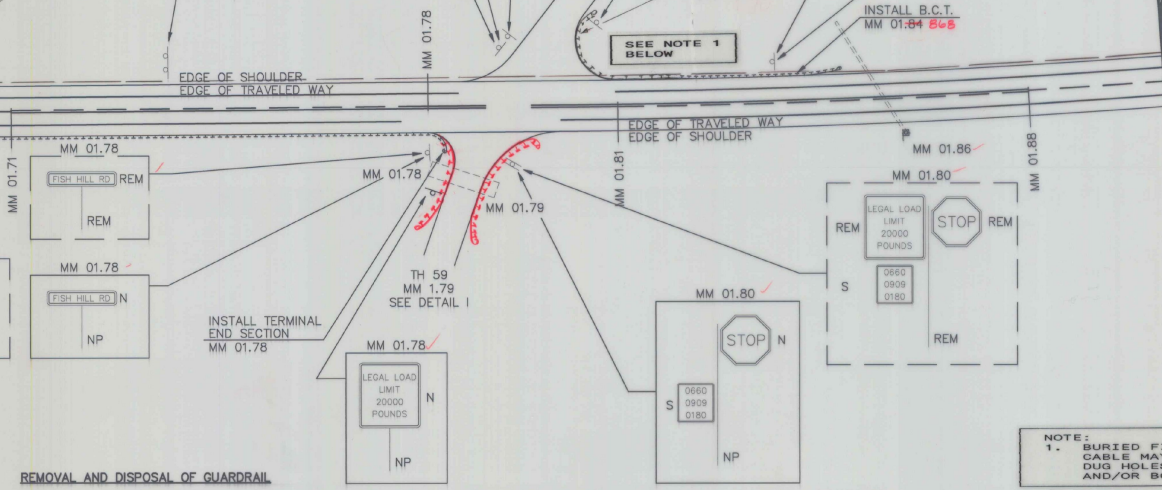
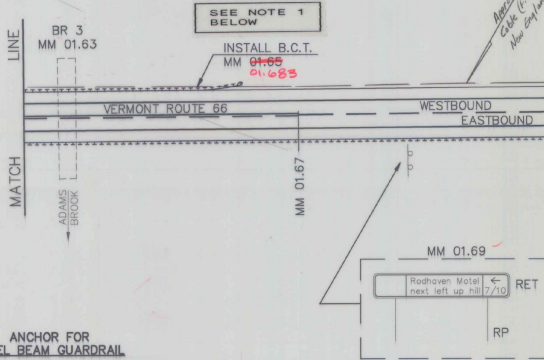
INSTALL B.C.T. END SECTION
MM 01.62 611



COLORS
TEXT AND BORDER - BLACK (NON-REFL)
BACKGROUND - YELLOW (REFL)



END PROJECT
RS 0190 (5)
RANDOLPH (SECTION I)
BEGIN PROJECT
STP 9255 (1) S



NOTE:
1. BURIED FIBER OPTIC CABLE MAY REQUIRE HAND DUG HOLES FOR ANCHOR AND/OR BCT

ANCHOR FOR STEEL BEAM GUARDRAIL

MM.	EACH
01.78, RT	1
01.74, RT	1
01.80, LT	1

WOOD MARKER POSTS

MM.	EACH
01.80, RT	1
01.85, RT	1
01.89, RT	2
01.80, LT	1

STEEL BEAM GUARDRAIL WITH STEEL POSTS

MM.	TO	MM.	LF	RADIUS
01.78, RT	01.78, RT	26	16	
01.84, LT	01.84, LT	112.5		
01.79, RT	01.79, RT	52		
01.61, LT	01.63, LT	327		

REMOVAL AND DISPOSAL OF GUARDRAIL

MM.	TO	MM.	LF
01.69, RT	01.78, RT	448	
01.78, RT	01.78, RT	32*	
01.79, RT	01.79, RT	32*	
01.81, LT	01.86, LT	240	

*LOCATED ON FISH HILL ROAD

DURABLE 4" YELLOW LINE

MM 01.67 ~ MM 1.710 (DASHED CENTERLINE)
MM 1.710 ~ MM 1.780 (DASHED LT & SOLID RT)
MM 1.780 ~ MM 1.810 (SOLID LT & RT)
MM 1.810 ~ MM 1.880 (SOLID LT & DASHED RT)
MM 1.880 ~ MM 1.900 (DASHED CENTERLINE)
(W/CENTERLINE BREAKS FOR TOWN HIGHWAYS)

STONE FILL

MM.
01.78, RT (OVER PIPE ARCH)
01.79, RT (OVER PIPE ARCH)

TREATED TIMBER CURB

MM.	TO	MM.	LF
01.82, LT	01.84, LT	112.5	285
01.55, RT	01.65, RT	526	

DURABLE 4" WHITE LINE

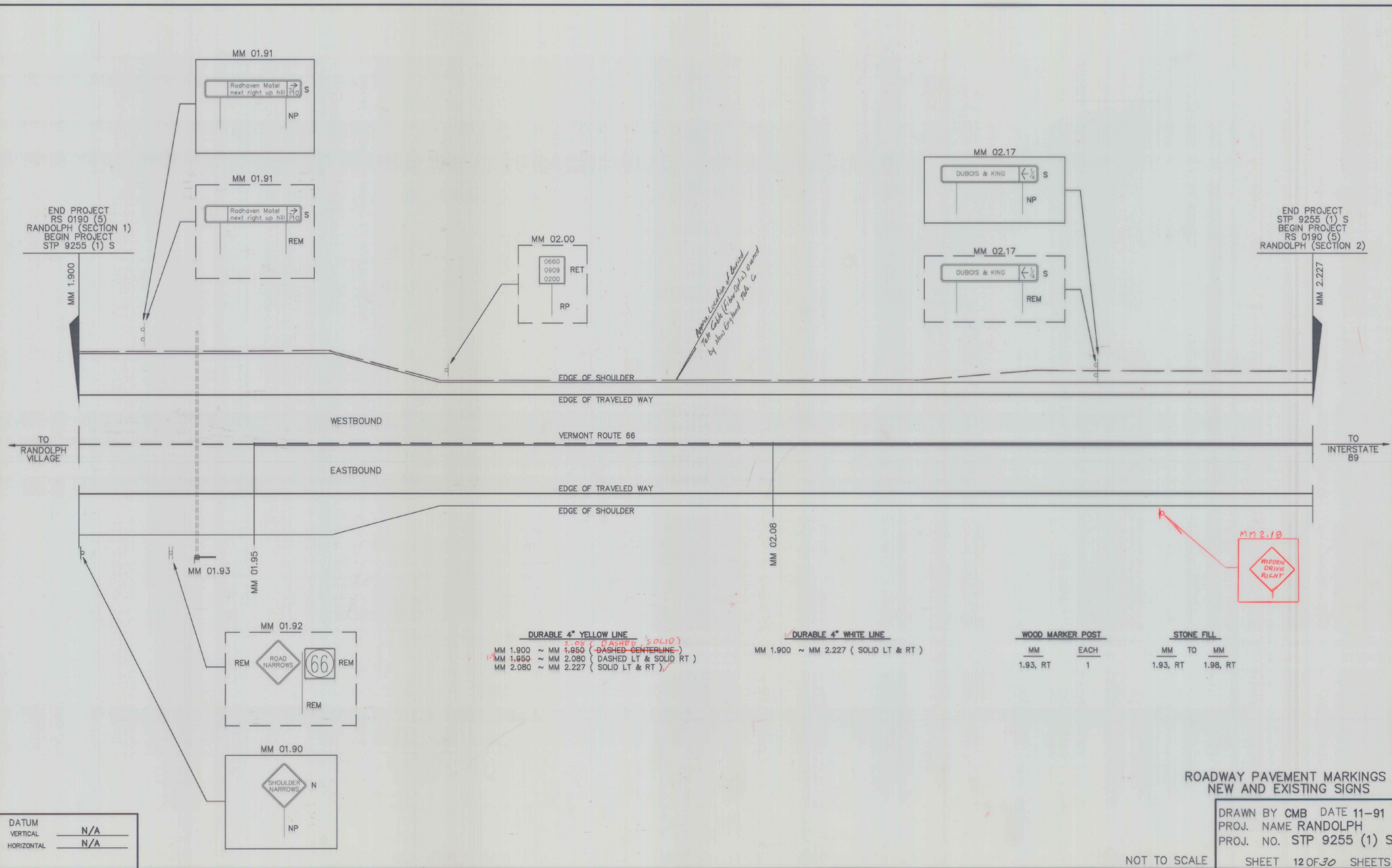
MM 0.436 ~ MM 1.900 (SOLID LT & RT)
(W/EDGE LINE BREAKS FOR TOWN HIGHWAYS)

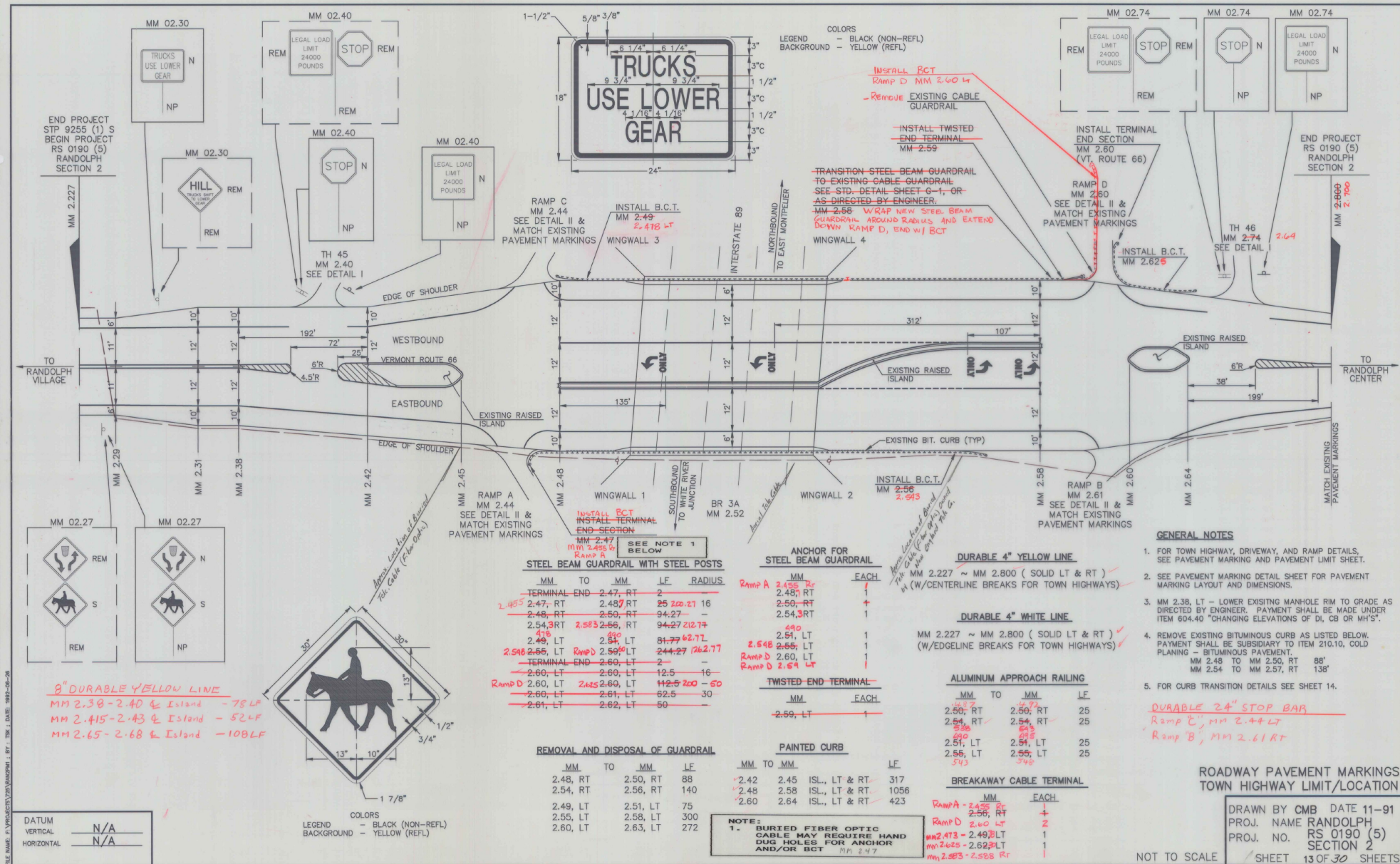
ROADWAY PAVEMENT MARKINGS
NEW & EXISTING SIGNS

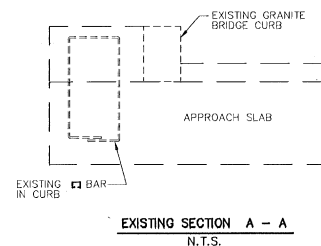
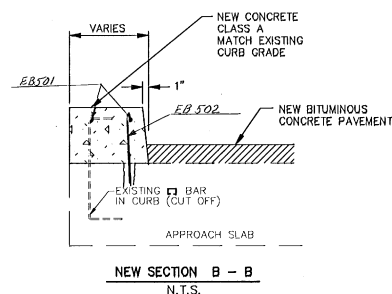
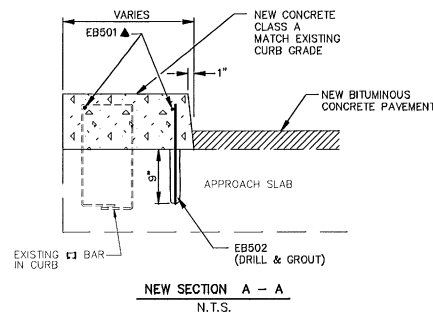
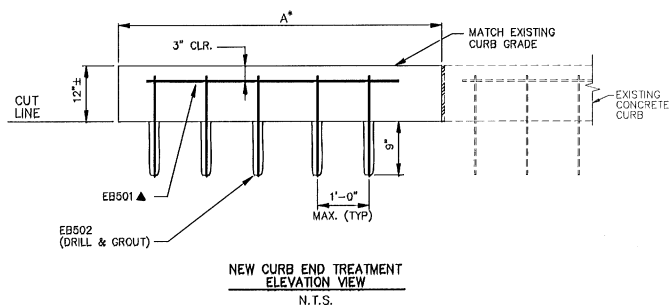
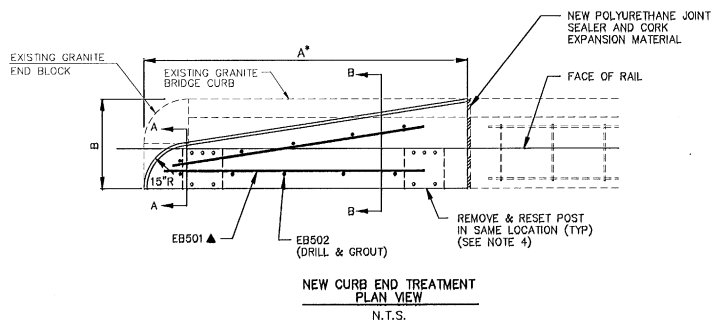
DRAWN BY TSK DATE 11-91
PROJ. NAME RANDOLPH
PROJ. NO. RS 0190 (5)
(SECTION I)

NOT TO SCALE

SHEET 11 OF 30 SHEETS







NEW CURB END TREATMENT NOTES:

1. LOCATION OF U-BARS IS NOT KNOWN. RETAIN EXISTING REINFORCING STEEL WHERE POSSIBLE. DRILL AND GROUT EB502 AS SHOWN IN END TREATMENT DETAILS. AS DIRECTED BY THE ENGINEER, ANY U-BARS RUSTED OR BROKEN OFF DURING THE REMOVAL OF CONCRETE SHALL BE REMOVED AND REPLACED BY EB502 DOWELS AS REQUIRED TO PROVIDE THE NECESSARY VERTICAL REINFORCEMENT.
2. WHEN POURING THE CONCRETE CURBS, THE CONCRETE WILL BE POURED BACK TO THE ORIGINAL CURB GRADE.
3. THE EXISTING BRIDGE RAIL POSTS THAT ARE WITHIN THE LIMITS OF THE NEW CURB END TREATMENT SHALL BE REMOVED AND RESET. REMOVING AND RESETTING THE EXISTING POSTS FURNISHING AND INSTALLING NEW ANCHOR BOLTS AND ANCHOR PLATE (FABRIC PAD AND ALUMINUM SHIM PLATES IF NECESSARY) SHALL BE SUBSIDIARY TO THE ITEM 524.20 "PARTIAL REMOVAL OF STRUCTURE".
4. SET NEW ANCHOR BOLTS SO AS TO MAINTAIN FACE OF RAIL ALIGNMENT. RESET BOLTS, IF NECESSARY, IN NEW LOCATION TO PROVIDE A MINIMUM OF 3" OF NEW CONCRETE AROUND BOLTS.
5. REMOVAL OF THE EXISTING JOINT MATERIAL, GRANITE AND CONCRETE CURBING, TO THE LIMITS SHOWN, SHALL BE PAID FOR AS THE ITEM 527.20 "PARTIAL REMOVAL OF STRUCTURE". THE RUBBLE CREATED BY THIS REMOVAL SHALL NOT BE LEFT AT THE BRIDGE SITE, BUT SHALL BE DISPOSED OF PROPERLY, AS DIRECTED BY THE RESIDENT ENGINEER.
6. THE NEW JOINT MATERIAL WILL BE PAID AS "JOINT SEALER, POLYURETHANE", WITH BACKING MATERIAL TO BE SUBSIDIARY.
7. ▲ DENOTES BARS TO BE CUT IN THE FIELD.
8. WATER REPELLENT SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES (NEW AND OLD) EXCEPT THE UNDERSIDE OF THE DECK BETWEEN DRIP BEADS. IT SHALL BE APPLIED TO THE EXPOSED CONCRETE ON THE ABUTMENTS, WINGWALLS, AND PIERS.

* PARTIAL REMOVAL OF STRUCTURE

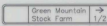
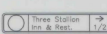
WING-WALL NO.	A*	B	EB501		EB502	
			NO. OF PIECES	SIZE	NO. OF PIECES	SIZE
1	9'-9 1/2"	2'-7"	2	#5	10'-0"	#5
2	9'-3 1/2"	2'-7"	2	#5	10'-0"	#5
3	10'-10 3/4"	2'-7"	2	#5	11'-0"	#5
4	9'-2 1/2"	2'-7"	2	#5	10'-0"	#5

CURB END TREATMENT DETAILS

DRAWN BY TSK DATE 11-91
 PROJ. NAME RANDOLPH
 PROJ. NO. RS 0190 (5)
 SECTION 2
 SHEET 14 OF 32 SHEETS

NOT TO SCALE

TRAFFIC SIGN SUMMARY SHEET

TRAFFIC SIGN SUMMARY SHEET																																	
MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	NEW AND SALVAGED SIGNS				EXISTING POSTS				NO. OF POSTS	NEW SIGN POSTS														REMARKS	SIGN DETAIL						
			"A"	"B"	SALV. SIGN	SALV. T.I.S.	RET.	DRILL	REM.	SALV.		FLANGED CHANNEL LB./FT.				TUBULAR ALUMINUM		TUBULAR STEEL				W SHAPED STEEL		FTG. SIZE			SIGN FRAME	PLAN SHEET NUMBER	STD. SHEET NUMBER				
												1.12	2.0	2.5	3.0	3.0" x 4.0"	FOUND- ATION	3" x 3"	3.5" x 3"	4.0" x 3"	5.0" x 3"	POST SIZE	WEIGHT	24"	30"								
MM 00.43, RT ✓		24" x 30"	5																														E-142
	 	2 @ 24" x 24"	8								1					X																E-141	
MM 00.43, LT ✓		24" x 30" ✓	5																														E-142
	 	2 @ 24" x 18" ✓	6								1					X																	E-141
MM 00.43, RT ✓		12" x 36"	3								1					X																	E-120
MM 00.43, LT ✓		12" x 36"	3								1					X																	E-120
MM 00.44, RT ✓		12" x 36"	3								1					X																	E-120
MM 00.44, LT ✓		12" x 36"	3								1					X																	E-120
MM 00.44, LT ✓					1						1					X																	E-138
MM 00.50, LT					1						1					X																	
MM 00.55, LT ✓		36" x 36"	9								1					X																	E-151
MM 00.57, RT					8																												E-125
					8																												E-125
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S " SIGN POST DESIGN MANUAL ".			SF. 45	SF.	EA.	SF. 16					314				EA.					LBS.	EA.	EA.			SEE SHEET 19 FOR GENERAL NOTES.		PREPARED BY: CMB DATE 11-91 CHECKED BY: JSR DATE 11-91 DESIGN SUPERVISOR: DATE PROJ. RANDOLPH RS 0190 (5) SECTION 1 TRAFFIC SHEET NO. 1 OF 6 SHEET 15 OF 30 SHEETS						
SUBTOTAL ROUNDING			—			—																											
TOTALS			45		2	16					314																						

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	NEW AND SALVAGED SIGNS				EXISTING POSTS				NEW SIGN POSTS																	REMARKS	SIGN DETAIL	
			"A"	"B"	SALV. SIGN	SALV. T.I.S.	RET.	DRILL	REM.	SALV.	NO. OF POSTS	FLANGED CHANNEL LB./FT.				TUBULAR ALUMINUM		TUBULAR STEEL				W SHAPED STEEL		FTG. SIZE		SIGN FRAME	PLAN SHEET NUMBER		STD. SHEET NUMBER	
												1.12	2.0	2.5	3.0	3.0" x 4.0"	4.0" x 4.0"	FOUND- ATION	3" x 3"	3.5" x 3"	4.0" x 3"	5.0" x 3"	POST SIZE	WEIGHT	24"					30"
MM 00.82, RT		24" x 30"	5								1					X													E-141	
MM 00.83, RT		30" x 30"	6.25																										E-143	
					1						1					X													E-138	
MM 00.89, LT						8																							E-125	
						8																							E-125	
MM 00.85, LT		24" x 12"	2																										E-136	
		24" x 24"	4								1					X													E-136	
MM 00.86, LT		30" x 30"	6.25																										E-143	
					1						1					X													E-138	
MM 00.88, LT		24" x 30"	5								1					X												8		
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S " SIGN POST DESIGN MANUAL ".			SF. 28.5 +0.5	SF.	EA.	SF. 16 -					204				EA.						LBS.		EA.	EA.	SEE SHEET 19 FOR GENERAL NOTES.		PREPARED BY: TSK DATE: 11-91 CHECKED BY: JSR DATE: 11-91 DESIGN SUPERVISOR: _____ DATE: _____ PROJ. RANDOLPH RS 0190 (5) SECTION 1 TRAFFIC SHEET NO. 2 OF 8 SHEET 18 OF 30 SHEETS			
TOTALS			29		2	16					204																			

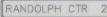
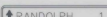
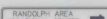
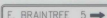
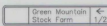
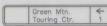
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FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD.
 POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED
 ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S
 " SIGN POST DESIGN MANUAL ".

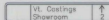
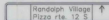
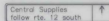
TRAFFIC SIGN SUMMARY SHEET

TRAFFIC SIGN SUMMARY SHEET																															
MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	NEW AND SALVAGED SIGNS				EXISTING POSTS				NEW SIGN POSTS														REMARKS	SIGN DETAIL					
			"A"	"B"	SALV. SIGN	SALV. T.I.S.	RET.	DRILL.	REM.	SALV.	NO. OF POSTS	FLANGED CHANNEL LB./FT.				TUBULAR ALUMINUM		TUBULAR STEEL				W SHAPED STEEL		FTG. SIZE		SIGN FRAME	PLAN SHEET NUMBER	STD. SHEET NUMBER			
												1.12	2.0	2.5	3.0	3.0"Ø	4.0"Ø	FOUND- ATION	3"Ø	3.5"Ø	4.0"Ø	5.0"Ø	POST SIZE	WEIGHT					24"	30"	
MM 00.86, RT	EAST TO WEST	3 @ 24" x 12"	6																												E-136
	66 89 66	3 @ 24" x 24"	12																												E-136 E-135 E-136
	← ← →	3 @ 21" x 15"	6.57								2						2	X									X				E-136
MM 00.88, RT	EAST TO	2 @ 24" x 12"	4																												E-136
	66 89	2 @ 24" x 24"	8								1				X													X			E-136 E-135
00.92 LT MM 00.88, LT	TO	24" x 12"	2																												E-136
	WEST NORTH	2 @ 24" x 12"	4																												E-136
	66 12A	2 @ 24" x 24"	8																											8	E-136
	↑ ↑	2 @ 21" x 15"	4.38																												E-136
	SOUTH NORTH	2 @ 24" x 12"	4																												E-136
	TO TO	2 @ 24" x 12"	4																												E-136
	12 12	2 @ 24" x 24"	8																												E-135 E-136
	↑ →	2 @ 21" x 15"	4.38								2						2	X										X			E-136
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S " SIGN POST DESIGN MANUAL ".			SF. 75.33 +0.67	SF.	EA.	SF.					54				EA.	547.2					LBS.	EA.	EA.	SEE SHEET 19 FOR GENERAL NOTES.		PREPARED BY: TSK DATE 11-91 CHECKED BY: JSR DATE 11-91 DESIGN SUPERVISOR: DATE PROJ. RANDOLPH RS 0190 (5) SECTION 1 TRAFFIC SHEET NO. 3 OF 6 SHEET 17 OF 30 SHEETS					
TOTALS			76								54				4		+4.80 552														

TRAFFIC SIGN SUMMARY SHEET

TRAFFIC SIGN SUMMARY SHEET																													
MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	NEW AND SALVAGED SIGNS				EXISTING POSTS				NEW SIGN POSTS														REMARKS	SIGN DETAIL			
			"A"	"B"	SALV. SIGN	SALV. T.I.S.	RET.	DRILL	REM.	SALV.	NO. OF POSTS	FLANGED CHANNEL LB./FT.				TUBULAR ALUMINUM		TUBULAR STEEL				W SHAPED STEEL		FTG. SIZE		SIGN FRAME	PLAN SHEET NUMBER	STD. SHEET NUMBER	
												1.12	2.0	2.5	3.0	3.0" x 4.0"	4.0" x 4.0"	FOUND- ATION	3" x 3"	3.5" x 3"	4.0" x 4"	5.0" x 4"	POST SIZE	WEIGHT					24"
MM 00.92, RT		72" x 10"	5								2				X												SEE GENERAL NOTE 1		E-125
00.97 LT MM 00.92, LT		72" x 10"	5																										E-125
		72" x 10"	5																										E-125
		72" x 10"	5																										E-125
		24" x 24"	4																										E-132
		21" x 15"	2.19								2						2	X											E-135
1.03 LT MM 00.97, LT		24" x 12"	2																										E-136
		2 @ 24" x 12"	4.2																										E-136
		2 @ 24" x 24"	2.4																										E-136
		2 @ 21" x 15"	2.19 4.38								1				X														E-136
1.03 LT MM 00.98, LT		30" x 30"	6.25																										E-152
		24" x 18"	3								1				X													8	
MM 01.00, LT						8																							E-125
						8																							E-125
					1																								E-138
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S "SIGN POST DESIGN MANUAL".			SF.	SF.	EA.	SF.					207				EA.	228					LBS.	EA.	EA.			SEE SHEET 19 FOR GENERAL NOTES.		PREPARED BY: CMB DATE 11-91 CHECKED BY: JSR DATE 11-91 DESIGN SUPERVISOR: DATE PROJ. RANDOLPH RS 0190 (5) SECTION 1 TRAFFIC SHEET NO. 4 OF 6 SHEET 18 OF 30 SHEETS	
SUBTOTAL ROUNDING			45.63 +0.37			16 -																							
TOTALS			46		1	16					207				2		228												

TRAFFIC SIGN SUMMARY SHEET

TRAFFIC SIGN SUMMARY SHEET																													
MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	NEW AND SALVAGED SIGNS				EXISTING POSTS				NEW SIGN POSTS													REMARKS	SIGN DETAIL				
			"A"	"B"	SALV. SIGN	SALV. T.I.S.	RET.	DRILL	REM.	SALV.	NO. OF POSTS	FLANGED CHANNEL LB./FT.				TUBULAR ALUMINUM	TUBULAR STEEL				W SHAPED STEEL		FTG. SIZE		SIGN FRAME	PLAN SHEET NUMBER	STD. SHEET NUMBER		
											1.12	2.0	2.5	3.0	3.0"Ø 4.0"Ø	FOUND- ATION	3"Ø	3.5"Ø	4.0"Ø	5.0"Ø	POST SIZE	WEIGHT	24"	30"					
MM 01.21, LT						8																						E-125	
						8																						E-125	
						8																						E-125	
MM 01.29, LT		30" x 30"	6.25																									E-143	
					1					1					X													E-138	
MM 01.30, LT		24" x 30"	5							1					X													E-141	
MM 01.78, RT		24" x 9"	1.5							1					X											SEE GENERAL NOTE 2		E-123	
MM 01.78, RT		24" x 30"	5							1					X													E-141	
MM 01.80, RT		30" x 30"	6.25																									E-143	
					1					1					X													E-138	
MM 01.80, LT		24" x 9"	1.5							1					X											SEE GENERAL NOTE 2		E-123	
MM 01.84, LT					1					1					X												11		
MM 2.18 RT		30" x 30"	6.25							1					X														
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S " SIGN POST DESIGN MANUAL "			SF. 25.50 +0.50 TOTALS	SF.	EA. 3	SF. 24 — 24					306				EA.					LBS.	EA.	EA.				SEE SHEET 19 FOR GENERAL NOTES.		PREPARED BY TSK DATE 11-91 CHECKED BY JSR DATE 11-91 DESIGN SUPERVISOR DATE _____ PROJ. RANDOLPH RS 0190 (5) SECTION 1 TRAFFIC SHEET NO. 5 OF 6 SHEET 19 OF 30 SHEETS	

TRAFFIC SIGN SUMMARY SHEET

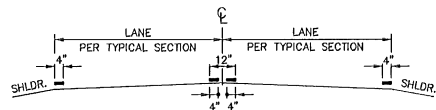
MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS	NEW AND SALVAGED SIGNS				EXISTING POSTS				NEW SIGN POSTS														REMARKS	SIGN DETAIL				
			"A"	"B"	SALV. SIGN	SALV. T.I.S.	RET.	DRILL	REM.	SALV.	NO. OF POSTS	FLANGED CHANNEL LB./FT.				TUBULAR ALUMINUM		TUBULAR STEEL				W SHAPED STEEL		FTG. SIZE		SIGN FRAME	PLAN SHEET NUMBER	STD. SHEET NUMBER		
												1.12	2.0	2.5	3.0	3.0"Ø	4.0"Ø	FOUND- ATION	3"Ø	3.5"Ø	4.0"Ø	5.0"Ø	POST SIZE	WEIGHT					24"	30"
MM 01.90, RT		36" x 36"	9								1				X															E-151
MM 01.91, LT						8																								E-125
MM 02.17, LT						8																								E-125
STP 9255 (1) S																														
RS 0190 (5), SECTION 2																														
MM 02.27, RT		36" x 36"	9																											E-151
					1						1				X														13	
MM 02.30, LT		24" x 18"	3								1				X														13	
MM 02.40, LT		30" x 30"	6.25								1				X															E-143
MM 02.40, LT		24" x 30"	5								1				X															E-141
MM 02.74, LT		30" x 30"	6.25								1				X															E-143
MM 02.74, LT		24" x 30"	5								1				X															E-141
STP 9255 (1) S TOTALS			9			16									45															
RS 0190 (5) SECTION 2 TOTALS			34.5		1										264															
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE DESIGN DIVISION'S " SIGN POST DESIGN MANUAL ".			SF. 43.5 — TOTALS 44	SF. 1	EA. 1	SF. 16 — TOTALS 16					309				EA.								LBS.	EA.	EA.					

GENERAL NOTES:

- ADD 2 FEET EMBEDMENT TO LENGTH OF SIGN POST FOR STABILITY.
- SEE STANDARD SHEET E-123 FOR VERTICAL CLEARANCE AND SIGN MOUNTING SPECIFICATIONS.
- REMOVAL OF EXISTING SIGN POSTS AND SIGN SUPPORT STRUCTURES INCLUDING FOOTINGS SHALL BE SUBSIDIARY TO SIGN REMOVALS. FOOTINGS SHALL BE COMPLETELY REMOVED WHEN THEY INTERFERE WITH OTHER CONSTRUCTION ITEMS, OTHERWISE THEY SHALL BE CUT DOWN 2 FEET BELOW GRADE AND THE HOLE FILLED WITH EARTH BORROW MATERIAL. THE LOCATION OF FOOTINGS REMAINING IN PLACE SHALL BE NOTED ON THE PLANS FOR FUTURE REFERENCE.
- THE EXISTING SIGNS, POSTS AND STRUCTURES (INCLUDING RELATED HARDWARE) ARE THE PROPERTY OF THE TOWN OF RANDOLPH AND SHALL BE RETURNED TO TOWN OF RANDOLPH STORAGE FACILITY. ANY REMOVED MATERIALS WHICH TOWN OF RANDOLPH DOES NOT WANT, SHALL BE MADE AVAILABLE TO THE V.A.O.T. DISTRICT 4 FORCES. ALL REMAINING UNWANTED MATERIAL SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR, PAYMENT SUBSIDIARY TO OTHER ITEMS.

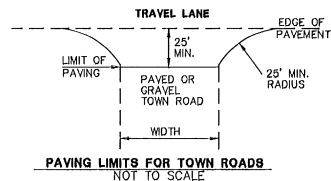
- THE NUMBER AND TEXT OF THE EXISTING SIGNS ARE THOSE PRESENT DURING THE DESIGN PROCESS. THE RESIDENT ENGINEER SHOULD REVIEW THE EXISTING SIGNS PRIOR TO BEGINNING THE PROJECT.
- SIGN LOCATIONS MAY BE ADJUSTED BY THE RESIDENT ENGINEER AS FIELD CONDITIONS DICTATE. IN ACCORDANCE WITH THE M.U.T.C.D. AND STANDARD SHEETS E-123, AND E-125. SIGNS SHALL BE LOCATED TO ENSURE MAXIMUM VISIBILITY.
- ALL NEW SIGNS INSTALLED ON THIS PROJECT, EXCEPT STREET SIGNS, SHALL HAVE PRINTED ON THE BACK THE "TOWN OF RANDOLPH" (ABBREVIATED), MONTH AND YEAR OF FABRICATION AND THE STREET WHERE THE SIGN IS INSTALLED. THE LETTERS AND NUMBERS SHALL BE 1" HIGH AND SHALL BE NEATLY PRINTED.
EXAMPLE: RANDOLPH
05/92
TH 69
- ALL NEW GROUND MOUNTED SIGNS SHALL BE INSTALLED WITH VANDAL PROOF HARDWARE. ANY NEW SIGNS OR POSTS WHICH HAVE BEEN INSTALLED PER PLAN AND ARE SUBSEQUENTLY STOLEN, BENT OR VANDALIZED PRIOR TO THE ACCEPTANCE OF THE PROJECT SHALL BE REPLACED BY THE CONTRACTOR AS OUTLINED IN STANDARD SPECIFICATION SECTION 107.18.

PREPARED BY: TSK DATE 11-91
 CHECKED BY: JSR DATE 11-91
 DESIGN SUPERVISOR: DATE
 PROJ. RANDOLPH
 STP 9255 (1) S
 RS 0190 (5), SECTION 2
 TRAFFIC SHEET NO. 8 OF 8
 SHEET 20 OF 22 SHEETS



**PAVEMENT MARKING PLACEMENT DETAIL
TYPICAL**

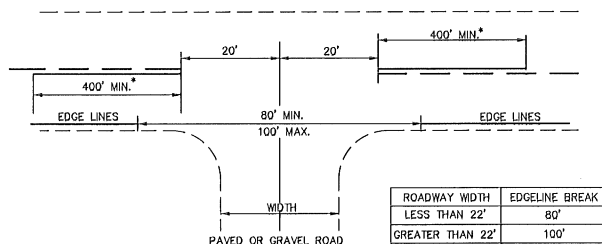
DETAIL I



**PAVING LIMITS FOR TOWN ROADS
NOT TO SCALE**

GENERAL NOTES

1. SPECIAL TREATMENTS WILL BE NOTED ON THE PLAN OR DETAIL SHEETS AND WILL SUPERSEDE TYPICAL OR STANDARD SHEETS.
2. ALL APPROACH SYSTEMS WILL CONFORM TO GRADES OR ELEVATIONS AS NOTED ON VAOT STANDARD B-71 AND B-71A, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

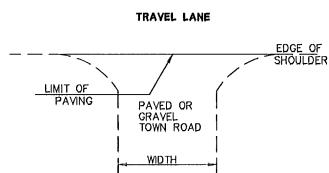


A SOLID LINE IN THE DIRECTION OF TRAVEL IS BEGUN AT A LOCATION 400 FEET IN ADVANCE OF THE INTERSECTION. THE DISTANCE IS MEASURED FROM A POINT 20 FEET IN ADVANCE OF THE CENTERLINE OF THE INTERSECTING ROADWAY.

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

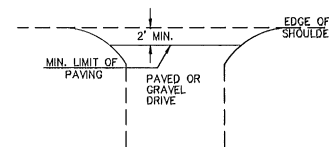
**APPROACH TO A SIDE ROAD INTERSECTION
TYPICAL**

DETAIL II

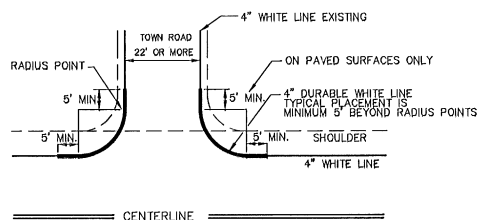


**PAVING LIMITS FOR TOWN ROADS
NOT TO SCALE**

ALL DRIVES

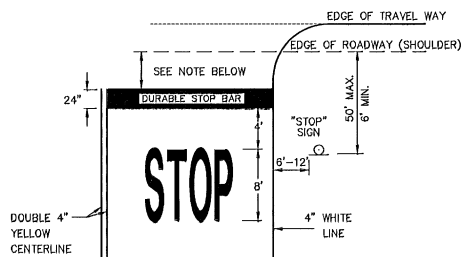


**PAVING LIMITS FOR DRIVES
NOT TO SCALE**



NOTE: EDGELINE RADIUS WILL BE 35' UNLESS OTHERWISE NOTED.

**DURABLE EDGELINE RADIUS LAYOUT TYPICAL FOR TOWN ROADS
TYPICAL**



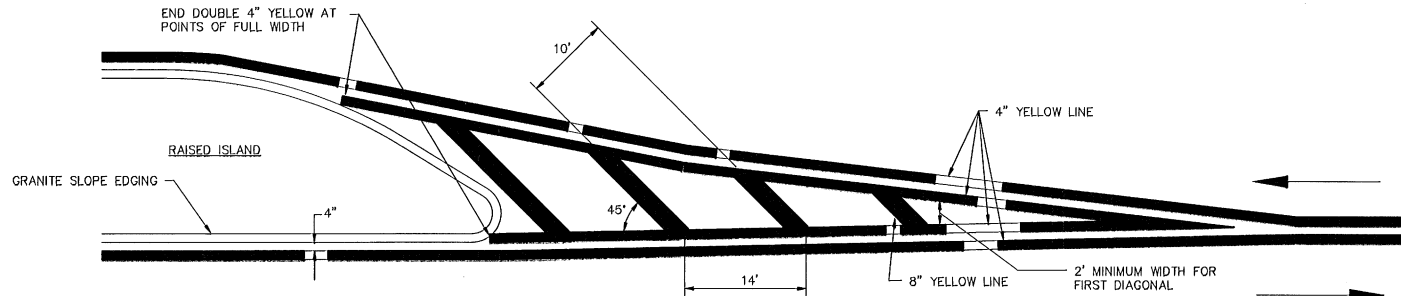
NOTE: THE "DESIRED STOPPING POINT" IS THE LOCATION BASED ON SITE CONDITIONS THAT BEST ALLOWS THE STOPPED VEHICLE TO VIEW THE APPROACHING TRAFFIC, IN NO CASE MORE THAN 30 FEET OR LESS THAN 4 FEET FROM THE NEAREST TRAVELLED EDGE OF THE INTERSECTING ROADWAY.

**STOP BAR DETAILS
(MAJOR HIGHWAYS)**

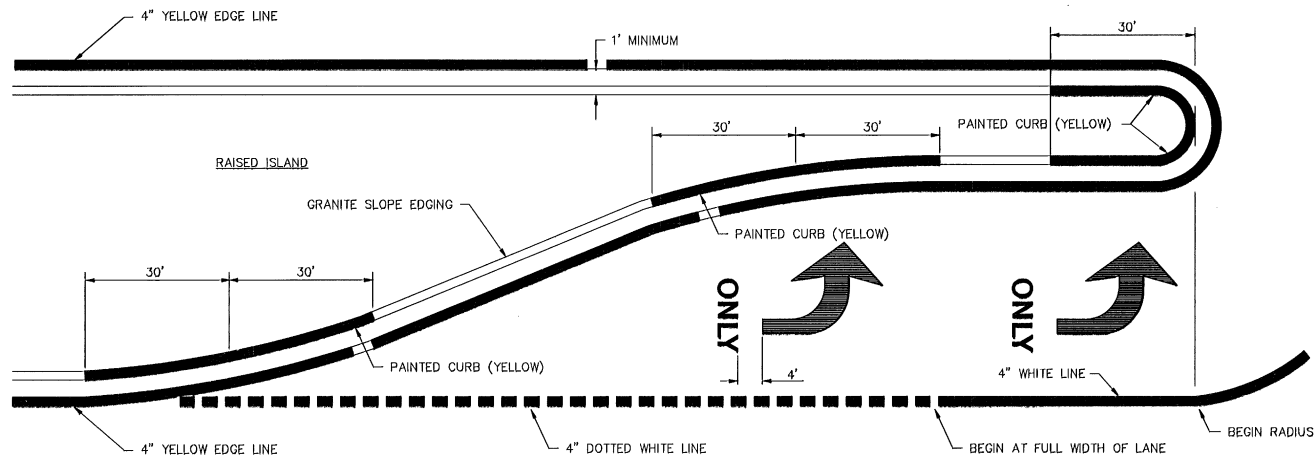
NOT TO SCALE

DRAWN BY TSK DATE 11-91
PROJ. NAME RANDOLPH
PROJ. NO. RS 0190 (5) SECTION 1
STP 9255 (1) S
RS 0190 (5) SECTION 2
SHEET 21 OF 30 SHEETS

**PAVEMENT MARKING
&
PAVEMENT LIMIT
SHEET**



CURBED ISLAND APPROACH DETAIL



TURN LANE AND PAINTED CURB DETAIL

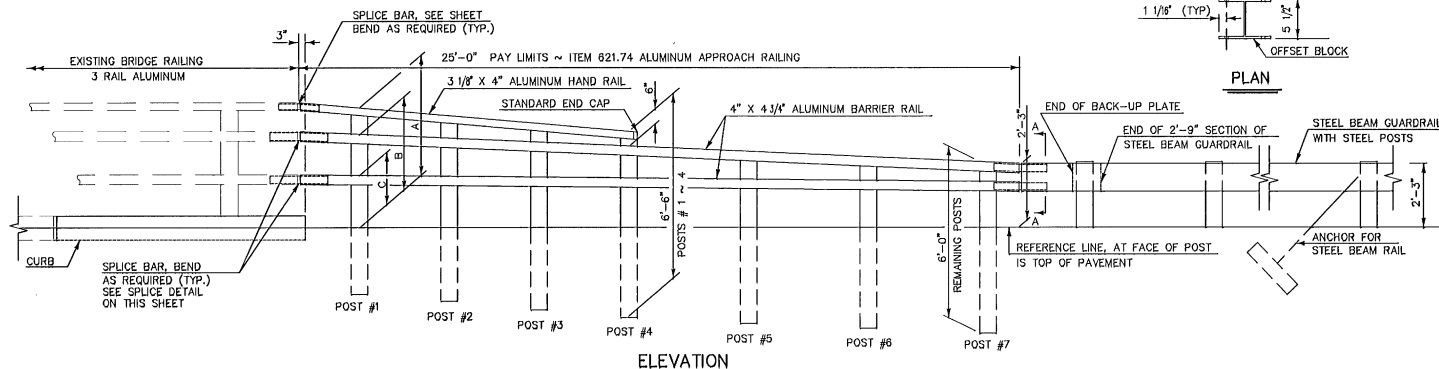
GENERAL NOTES

1. SEE VERMONT STANDARD DETAIL E-191 FOR DETAILS ON LANE ARROWS AND TEXT.

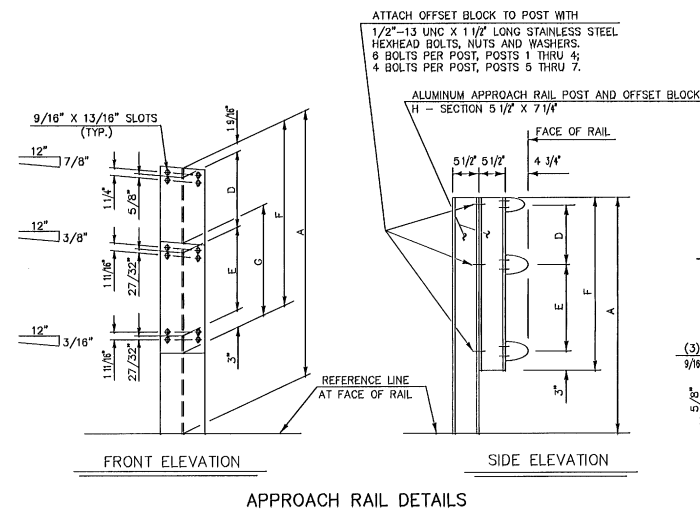
PAVEMENT MARKING DETAILS

DRAWN BY CMB DATE 11-91
 PROJ. NAME RANDOLPH
 PROJ. NO. RS 0190 (5)
 SECTION 2
 SHEET 22 OF 30 SHEETS

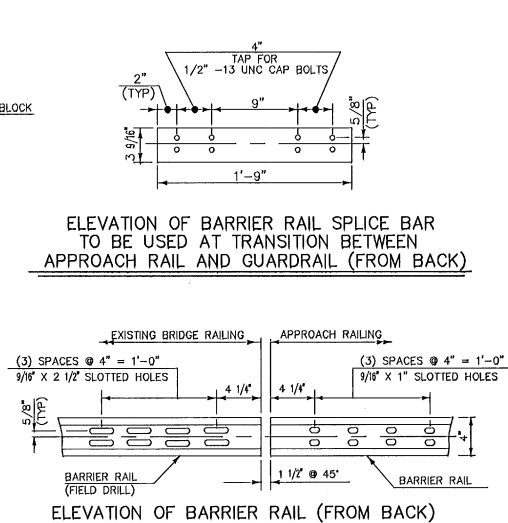
NOT TO SCALE



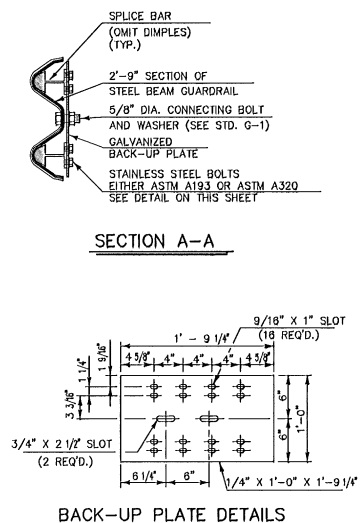
ELEVATION



APPROACH RAIL DETAILS



ELEVATION OF BARRIER RAIL (FROM BACK)

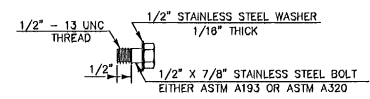


BACK-UP PLATE DETAILS

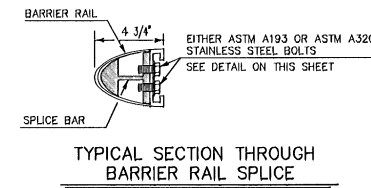
- NOTES:**
1. POSTS 1 THROUGH 7 SHALL BE EXTRUDED ALUMINUM.
 2. ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 36 GALVANIZED AFTER FABRICATION.
 3. ALL ITEMS NOT OTHERWISE INDICATED SHALL MEET THE SPECIFICATION REQUIREMENTS OF THE STANDARD SHEETS ON WHICH THEY ARE DETAILED.
 4. SEE STANDARD G-1 FOR STEEL BEAM GUARDRAIL DETAILS.
 5. THE COST OF ALL MATERIALS AND LABOR FOR THE SPICE BETWEEN THE ALUMINUM APPROACH RAILING AND THE STEEL BEAM GUARDRAIL SHALL BE SUBSIDIARY TO ITEM 621.74, ALUMINUM APPROACH RAILING.
 6. DIMENSIONS SHOWN ARE FROM A REFERENCE LINE AT THE FACE OF POST FOR A NORMAL CROWNED SECTION. APPROPRIATE CORRECTIONS SHALL BE MADE FOR CROSS SLOPES OTHER THAN A NORMAL SECTION.

ALUMINUM APPROACH RAIL RAIL DIMENSIONS FOR A CURB CONDITION

RAIL DIMENSIONS FOR A CURVE CONDITION									
RAIL HEIGHT DIMENSIONS				OFFSET BLOCK DIMENSIONS					
POST NO.	A	B	C	D	E	F	G		
1	3'-9 7/8"	3'-0 1/8"	1'-11 5/8"	0'-10 1/4"	1'-0 1/2"	2'-3 5/8"	1'-5 1/2"		
2	3'-7 3/8"	2'-10 7/8"	1'-10 15/8"	0'-9"	0'-11 15/8"	2'-1 1/2"	1'-4 5/8"		
3	3'-4 13/8"	2'-9 1/8"	1'-10 3/8"	0'-7 3/4"	0'-11 3/8"	1'-11 1/2"	1'-3 1/2"		
4	3'-2 5/8"	2'-8 5/8"	1'-9 13/8"	0'-8 1/2"	0'-10 1/2"	1'-9 9/8"	1'-3 1/2"		
5		2'-6 3/8"	1'-8 15/8"			1'-8 3/8"	1'-2 5/8"		
6		2'-4 3/8"	1'-8 1/8"			0'-8 3/4"	1'-1 3/8"		
7		2'-2 1/8"	1'-7 1/4"			0'-7 3/8"	1'-0 1/8"		



STAINLESS STEEL BOLT DETAILS



TYPICAL SECTION THROUGH
BARRIER RAIL SPLICE

ALUMINUM APPROACH RAILING DETAILS

DRAWN BY TSK DATE 05-92
SQUAD LEADER JSR
DESIGN FILE NO. _____ DATE PLOTTED _____
PROJ. NAME **RANDOLPH**
PROJ. NO. **RS 0190 (5)**
(SECTION 2)
SHEET **24** OF **32** SHEETS

POST CONNECTION HAND RAIL SECTION

(2) 1/2"-13 UNC THREADED HOLES FOR (2) 1/2"-13 UNC X 1" STAINLESS
STEEL HEX HEAD BOLTS WITH 1 1/16" O.D. X 17/32" I.D.
X 3/32" THICK ALUMINUM WASHERS.

POST CONNECTION
ELEVATION

POST CONNECTION
BARRIER RAIL SECTION

PLAN VIEW OF
OFFSET BLOCK

(TO USED ON SUPERSTRUCTURE
ON CURB SIDE)

HAND RAIL
SPlice SECTION

ELEVATION OF HAND RAIL SPLICE BAR

BARRIER RAIL
SPLICE SECTION

ELEVATION OF STD. BARRIER RAIL SPLICE BAR
(FROM BACK)

HAND RAIL END CAP

BARRIER RAIL END CAP

HAND RAIL SECTION

BARRIER RAIL SECTION

POST ANCHOR ASSEMBLY

ANCHOR PLATE

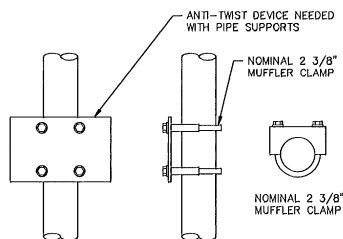
NOTES:

1. ANCHOR BOLTS, WASHERS AND HEAVY HEX NUTS MAY BE ANY OF THE FOLLOWING:
 - A. ASTM A449 GALVANIZED, OR
 - B. AASHTO M164 (ASTM A325) GALVANIZED
 - C. BOLTS AND WASHERS OF STAINLESS STEEL ASTM A276, TYPE 304 (MINIMUM ULTIMATE STRENGTH OF 100,000 PSI) WITH STAINLESS STEEL NUTS OF ASTM A194, GRADE 8N.
2. ALUMINUM POSTS, POST BASES, SPICE BARS, CONNECTION BARS, RAILS AND BALUSTER FRAMES SHALL CONFORM TO ASTM B221 ALLOY 6061-T8 OR ALLOY 6351-T5. MINIMUM ALLOWABLE STRESS $F_y = 35,000$ PSI.
3. ALUMINUM BALUSTER TUBES SHALL CONFORM TO ASTM B210 ALLOY 6061-T5 OR 6063-T5.
4. ALUMINUM RAIL END CAPS SHALL CONFORM TO ASTM B26 ALLOY 356-T6.
5. THE POST, RAIL, AND OFFSET BLOCK CONNECTION BOLTS SHALL BE EITHER ASTM A193 OR ASTM A320. EITHER ONE SHALL BE CLASS 1, B8 OR B8C, 304 WITH AN ULTIMATE TENSILE STRENGTH OF 75,000 PSI. NUTS FOR EITHER OF THE ABOVE BOLTS SHALL BE ASTM A194, GRADE 8, STAINLESS STEEL WITH AN ULTIMATE TENSILE STRENGTH OF 75,000 PSI.
6. SET SCREWS FOR ATTACHING BALUSTERS TO RAILING SHALL BE ASTM F880, TYPE 303 MATERIAL.
7. RIVETS SHALL BE COLD DRIVEN HIGH BUTTON HEAD "CONE POINT", CONFORMING TO ASTM B319 ALLOY 6061-T8.
8. THE ANCHOR PLATE FOR THE POST ANCHOR ASSEMBLY SHALL BE ASTM A36 STRUCTURAL STEEL.
9. WELDING SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 506.10 USING THE GMAW-INERT GAS PROCESS AND AWS E 5356 ELECTRODE WIRE.
10. UNLESS OTHERWISE SPECIFIED, ANCHOR BOLTS SHALL BE CAST INTO THE CONCRETE AS DETAILLED.
11. ENDS OF RAILS SHALL BE CUT SQUARE AND GROUND FREE OF BURRS OR RAGGED EDGES. EXPOSED ENDS SHALL BE CAPPED.
12. THE CONCRETE CONTACT SURFACE AT THE POST BASE SHALL BE BUSH COVERED AND/OR SHIMMED AS REQUIRED FOR PROPER POST ALIGNMENT. POST GATE ADJUSTMENTS LESS THAN 1/4" SHALL BE WITH 1/16" AND 1/8" SHIMS. CORRECTIONS EXCEEDING 1/4" SHALL BE WITH EPOXY MORTAR CONFORMING WITH SECTION 530. FABRIC BEARING PADS AND ANY REQUIRED SHIMS OR EPOXY MORTAR ARE SUBSIDIARY TO THE UNIT PRICE BID FOR THE RAILING.
13. SHIMS AND 1/8" FABRIC BEARING PADS SHALL BE 10 3/4" SQUARE WITH GNOTED HOLES AND LOCATED THE SAME AS THE POST BASE DETAIL. FABRIC BEARING PADS SHALL CONFORM TO SUBSECTION 731.01 OR 731.02. SHIM MATERIAL SHALL BE ASTM B209 ALLOY 1100-O.
14. EXTRUDED SECTIONS ARE DETAILLED TO COMPLY WITH CURRENT AASHTO-ACCRITBA STANDARDS. MINOR VARIATIONS OF THE DETAILS SHOWN MAY BE CONSIDERED PROVIDING THEY DO NOT REDUCE THE STRENGTH CAPACITY OF THE RAIL SYSTEM.
15. ALUMINUM WASHERS SHALL BE ASTM B209 ALLOY ALCLAD 2024-T4.

ALUMINUM APPROACH RAILING DETAILS

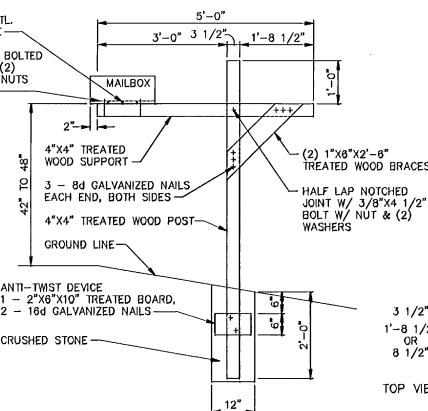
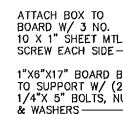
DRAWN BY TSK DATE 06-92
SQUAD LEADER JSR
DESIGN FILE NO. _____ DATE PLOTTED _____
PROJ. NAME **RANDOLPH**
PROJ. NO. **RS 0190 (5)**
(SECTION 2)
SHEET **25** OF **30** SHEETS

1. ONLY LIGHTWEIGHT MAILBOXES MADE OF LIGHT SHEET METAL OR PLASTIC SHALL BE USED. MAILBOXES SHALL MEET REQUIREMENTS AND APPROVAL OF THE U.S. POSTAL SERVICE.
2. AN ALTERNATIVE MAILBOX SUPPORT STRUCTURE DESIGN AND CONSTRUCTION MAY BE USED AS LONG AS PROVEN CRASHWORTHY AND MEETS ANY GUIDELINES SET OUT IN THE NOTES FOR THE ERECTING MAILBOXES ON HIGHWAYS. APPROVED STRUCTURE SHALL ALSO MEET REQUIREMENTS OF THE U.S. POSTAL SERVICE.
3. MAILBOX TURNOUT SHALL MEET B-17 STANDARD AS SET OUT IN "STATE OF VERMONT AGENCY OF TRANSPORTATION DESIGN STANDARDS FOR ROAD AND BRIDGE CONSTRUCTION".
4. IF THE STANDARD TURNOUT OFFSE CANNOT BE ACHIEVED DUE TO EIGHT-FOOT MAXIMUM TURNOUT WIDTH, OTHER THAN THE TURNOUT SHALL BE MODIFIED AS DIRECTED BY THE ENGINEER.

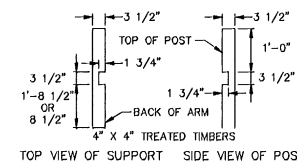


ANTI-TWIST DEVICE DETAIL
FOR METAL PIPE

ANTI-TWIST DEVICE ASSEMBLY FOR METAL PIPES (USED FOR SINGLE AND MULTIPLE INSTALLATIONS)



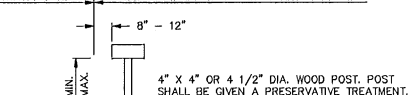
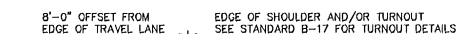
OPTIONAL BRACE DESIGN



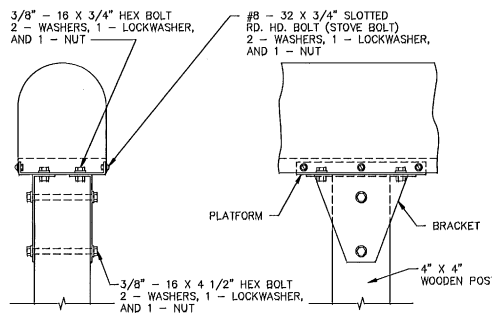
DIMENSIONS ARE ACTUAL SIZE

NOTE: ALL WOOD DIMENSIONS ARE NOMINAL SIZE

CANTILEVER TYPE MAILBOX SINGLE SUPPORT

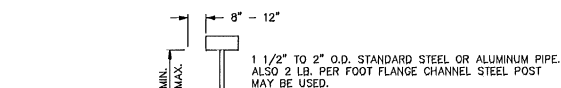


24" MAX. DEPTH. TO BE BACKFILLED WITH
SUITABLE GRANULAR MATERIAL. SUPPORT
POST SHALL NOT BE SET IN CONCRETE.



PLATFORM — BRACKET

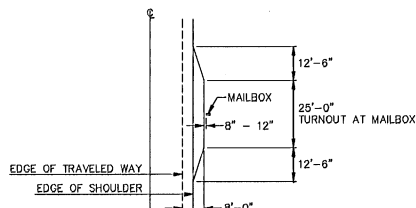
WOODEN POST



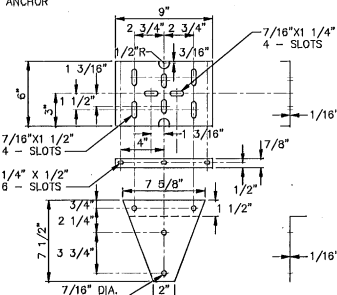
1 1/2" TO 2" O.D. STANDARD STEEL OR ALUMINUM PIPE.
ALSO 2 LB. PER FOOT FLANGE CHANNEL STEEL POST
MAY BE USED.

ANTI-TWIST DEVICE
TO BE USED WITH METAL POST.
DEVICE SHALL NOT EXTEND MORE
THAN 10" BELOW GROUND LINE.

24" MAX. DEPTH. TO BE BACKFILLED WITH
SUITABLE GRANULAR MATERIAL. SUPPORT
POST SHALL NOT BE SET IN CONCRETE.
POST SHALL NOT BE FITTED WITH ANCHOR
PLATE.

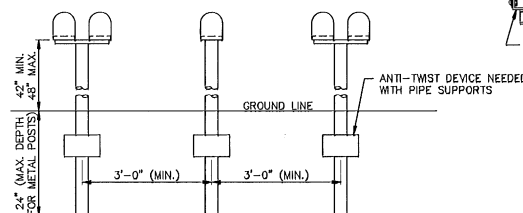


TURNOUT AT MAILBOX NOT NECESSARY IF
SHOULDER WIDTH IS 8'-0" OR GREATER.

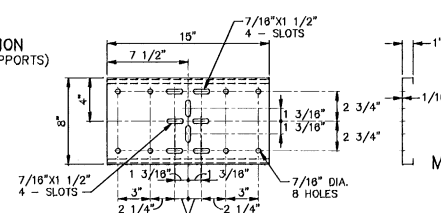


4 HOLES
PLATFORM AND BRACKET DETAIL FOR METAL OR WOOD POSTS
(USED FOR SINGLE AND MULTIPLE BOXES)

SINGLE MAILBOX SUPPORT



SPACING FOR MULTIPLE POST INSTALLATION
(APPLIES TO BOTH SINGLE AND MULTIPLE MAILBOX SUPPORTS)



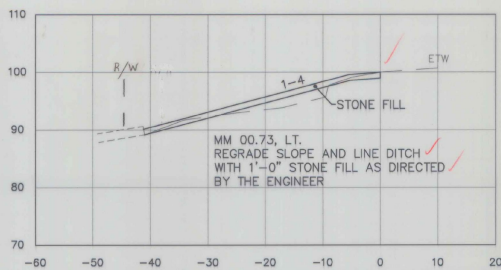
SHELF FOR TWO BOXES

MAILBOX SUPPORT HARDWARE

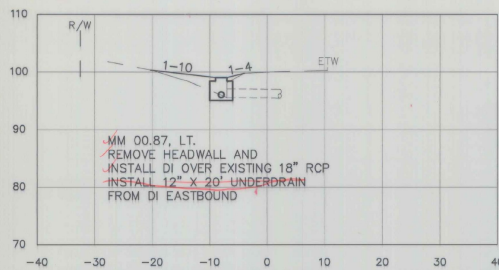
SURVEYED BY _____ DATE _____
DRAWN BY TSK DATE 1-92
SQUAD LEADER JSR
DESIGN FILE NO. _____ DATE PLOTTED _____
PROJ. NAME RANDOLPH RS 0190 (5)
PROJ. NO. RANDOLPH (SECTION 1)
STP 9255 (1)
SHEET 26 OF 30 SHEETS

MAILBOX SUPPORT HARDWARE

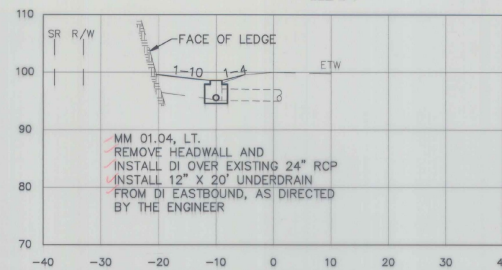
(SINGLE AND MULTIPLE SUPPORT)



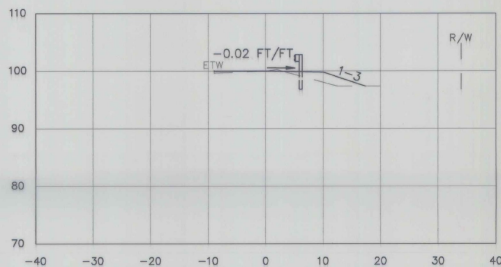
MM 00.73



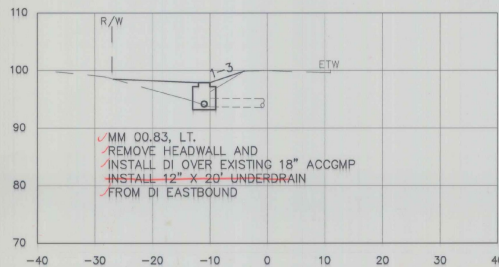
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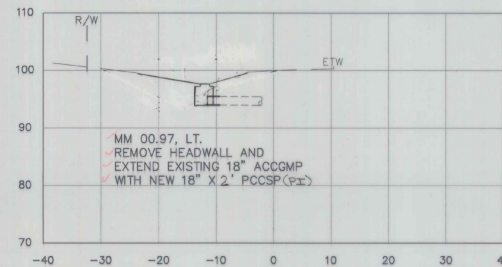
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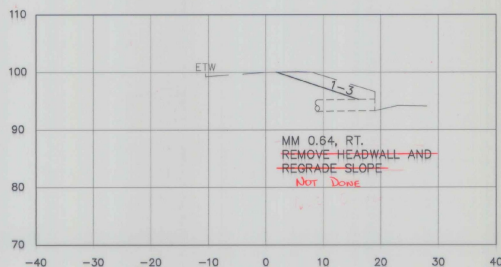
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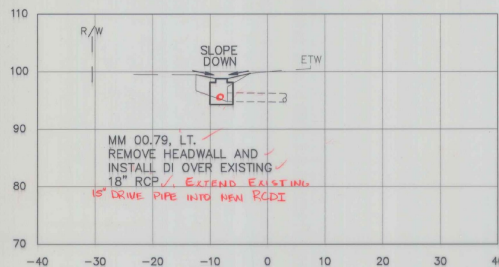
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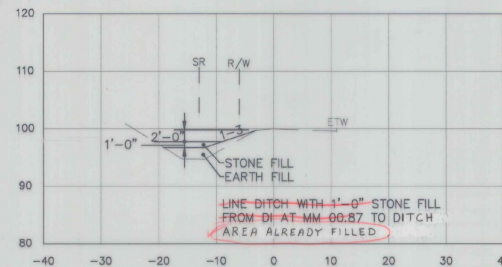
MM 00.97



MM 00.64



MM 00.79



MM 00.89

NOTES:

- ALL DRIVEWAY APPROACHES WITH SIDE SLOPES STEEPER THAN 1-6, SHALL BE FLATTENED TO 1-6 MAX. PAYMENT SHALL BE MADE UNDER ITEM 608.25, "ALL PURPOSE EXC. RENTAL, TYPE 1"
- EXTEND EXISTING DRIVEWAY CULVERTS WITH NEW 15" CSP IN LOCATIONS AND LENGTHS AS LISTED BELOW OR AS DIRECTED BY THE ENGINEER:

MM 1.36, RT EXTEND 6' (RIGHT SIDE OF DRIVE)

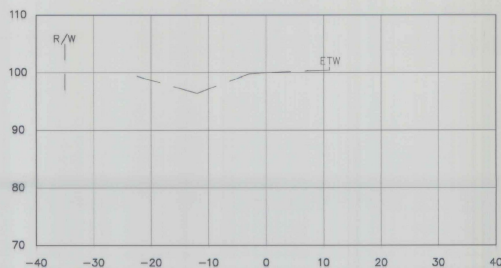
- ON CROSS SECTIONS WHERE R/W IS NOT SHOWN, THE R/W LINE IS BEYOND THE LIMIT OF THE CROSS SECTION.

DATUM	ASSUMED
VERTICAL	N/A
HORIZONTAL	N/A

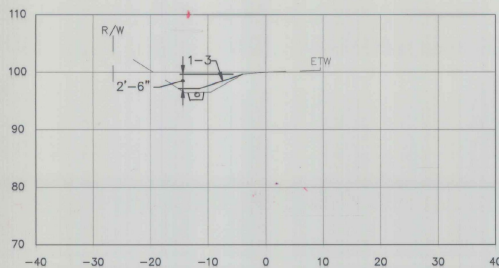
SCALE: 1" = 10' HORIZ.
1" = 10' VERT.

CROSS SECTIONS
MM 00.64 TO MM 01.04

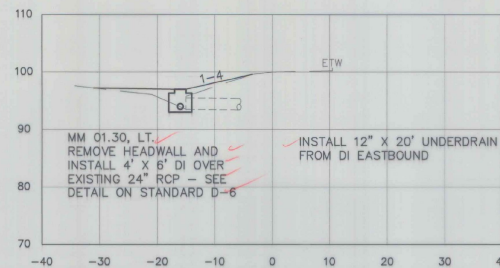
SURVEYED BY	TSK/JSR	DATE	11-91
DRAWN BY	CMB	DATE	11-91
SQUAD LEADER	JSR		
DESIGN FILE NO.		DATE PLOTTED	
PROJ. NAME	RANDOLPH		
PROJ. NO.	RS 0190 (5)		
	(SECTION 1)		
SHEET	27 of 30	SHEETS	



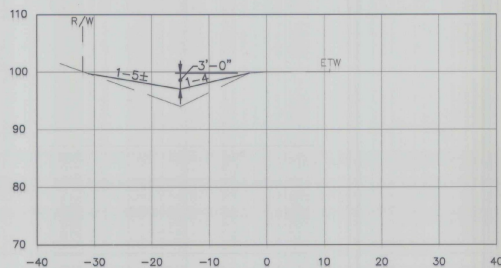
MM 01.14



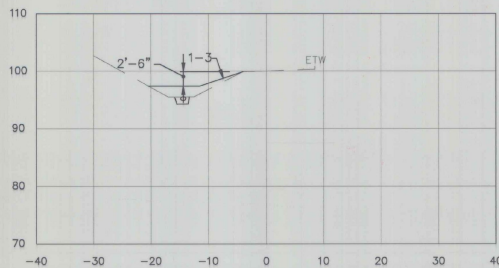
MM 01.23



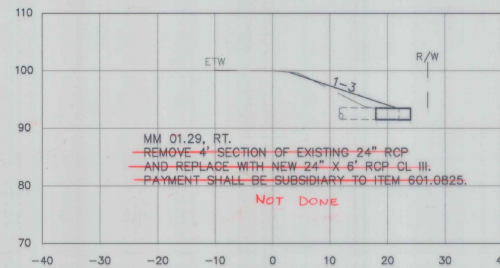
MM 01.30, LT.



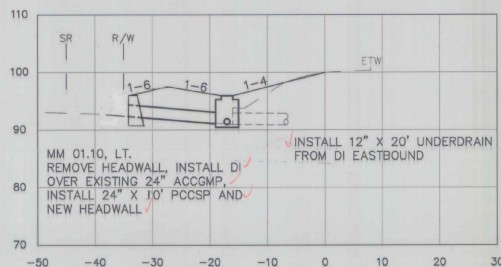
MM 01.13



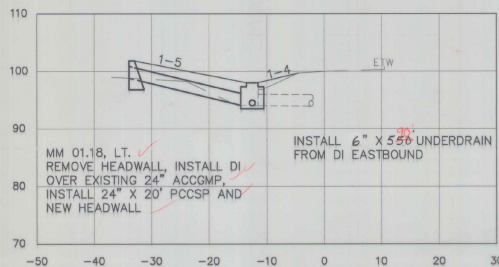
MM 01.20



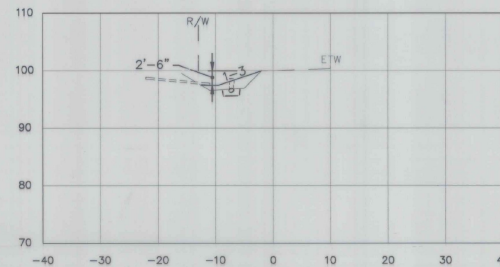
MM 01.29



MM 01.10



MM 01.18



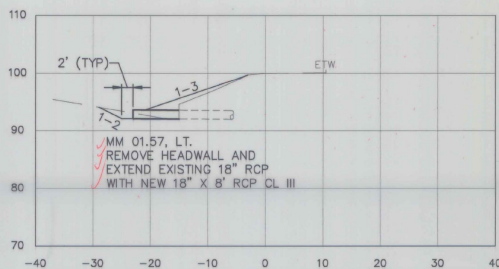
MM 01.27

CROSS SECTIONS
MM 01.10 TO MM 01.30, LT.

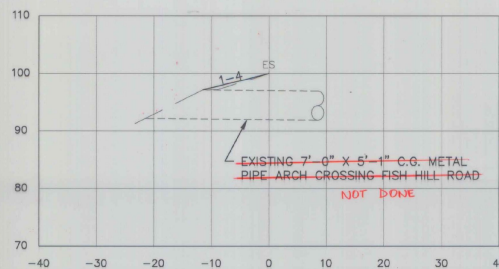
SURVEYED BY	TSK/JSR	DATE	11-91
DRAWN BY	CMB	DATE	11-91
SQUAD LEADER	JSR		
DESIGN FILE NO.		DATE PLOTTED	
PROJ. NAME	RANDOLPH		
PROJ. NO.	RS 0190 (5)		
	(SECTION 1)		
SHEET	28 OF 30	SHEETS	

DATUM	
VERTICAL	ASSUMED
HORIZONTAL	N/A

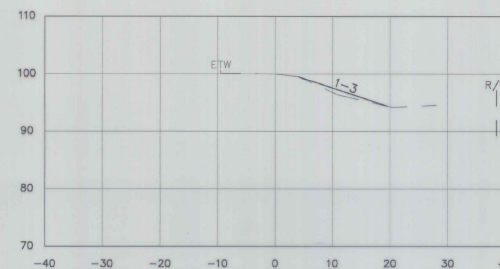
SCALE: 1" = 10' HORIZ.
1" = 10' VERT.



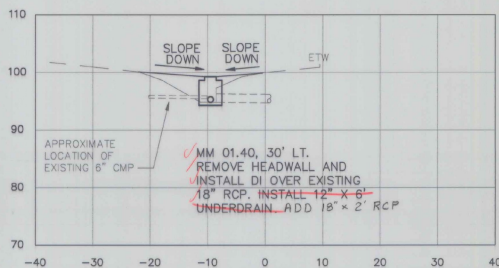
MM 01.57



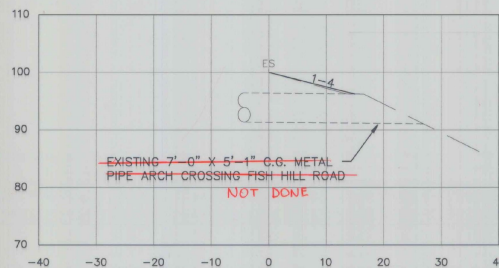
MM 01.79, RT.



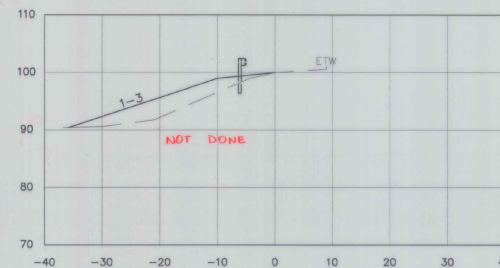
MM 01.84



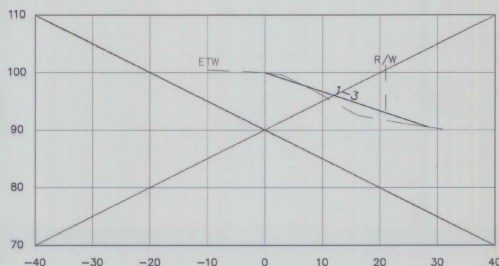
MM 01.40



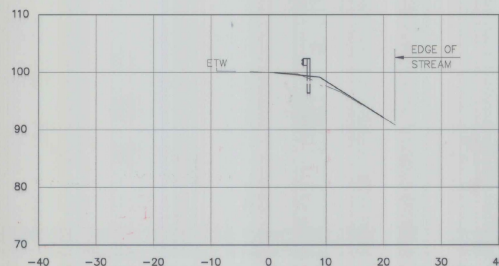
MM 01.78, RT.



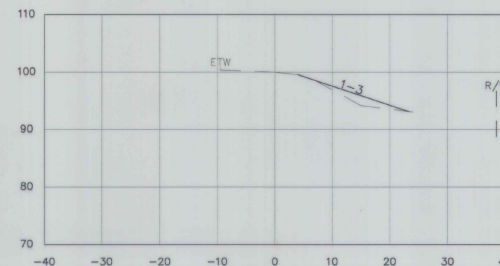
MM 01.82



MM 01.30, RT.



MM 01.77



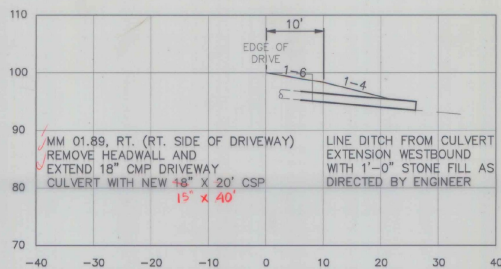
MM 01.80

DATUM
VERTICAL ASSUMED
HORIZONTAL N/A

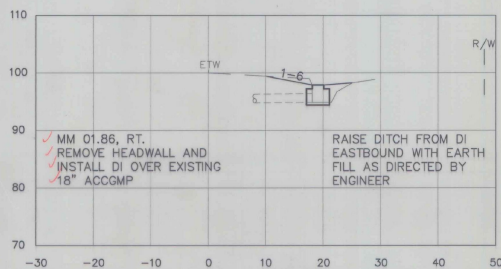
SCALE: 1" = 10' HORIZ.
1" = 10' VERT.

CROSS SECTIONS
MM 01.30, RT. TO MM 01.84

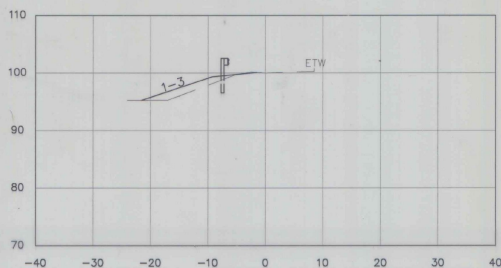
SURVEYED BY	TSK/JSR	DATE	11-91
DRAWN BY	CMB	DATE	11-91
SQUAD LEADER	JSR		
DESIGN FILE NO.		DATE PLOTTED	
PROJ. NAME	RANDOLPH		
PROJ. NO.	RS 0190 (5) (SECTION 1)		
SHEET	29 OF 30	SHEETS	



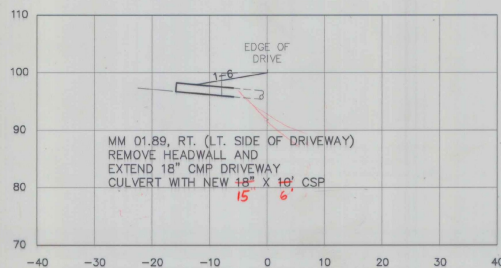
MM 01.89, RT.



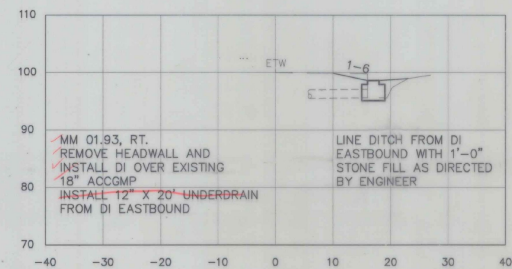
MM 01.86



MM 01.85



MM 01.89, RT.



MM 01.93
 STP 9255 (1)S

DATUM	
VERTICAL	ASSUMED
HORIZONTAL	N/A

SCALE: 1" = 10' HORIZ.
 1" = 10' VERT.

CROSS SECTIONS
 MM 01.85 TO MM 01.93

SURVEYED BY	TSK/JSR	DATE	11-91
DRAWN BY	CMB	DATE	11-91
SQUAD LEADER	JSR		
DESIGN FILE NO.		DATE	
		PLOTTED	
PROJ. NAME	RANDOLPH		
PROJ. NO.	RS 0190 (5)		
	(SECTION 1)		
SHEET	30 OF 30	SHEETS	

Vermont Agency of
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Randolph
RS-0190(5) SECT 1+2

STP-9255(1)S

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