INDEX OF SHEETS

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROPOSED IMPROVEMENT

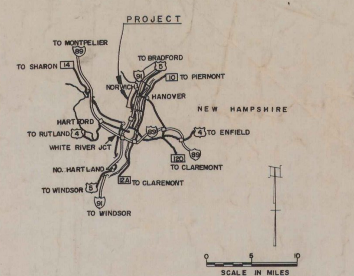
INTERSTATE PROJECT

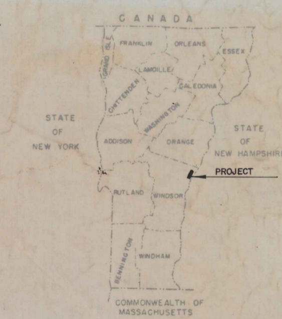
TOWNS OF HARTFORD-NORWICH

COUNTY OF WINDSOR
INTERSTATE ROUTE 91
WINDSOR-BRADFORD-ROAD

BEGINNING AT A POINT 0.653 MILE SOUTH OF THE HARTFORD-NORWICH TOWN LINE AND EXTENDING NORTHERLY 3.199 MILES
LENGTH OF ROADWAY 16,504.03 FEET = 3.125 MILES
LENGTH OF BRIDGES 391.19 FEET = 0.074 MILE
LENGTH OF PROJECT 16,895.22 FEET = 3.199 MILES

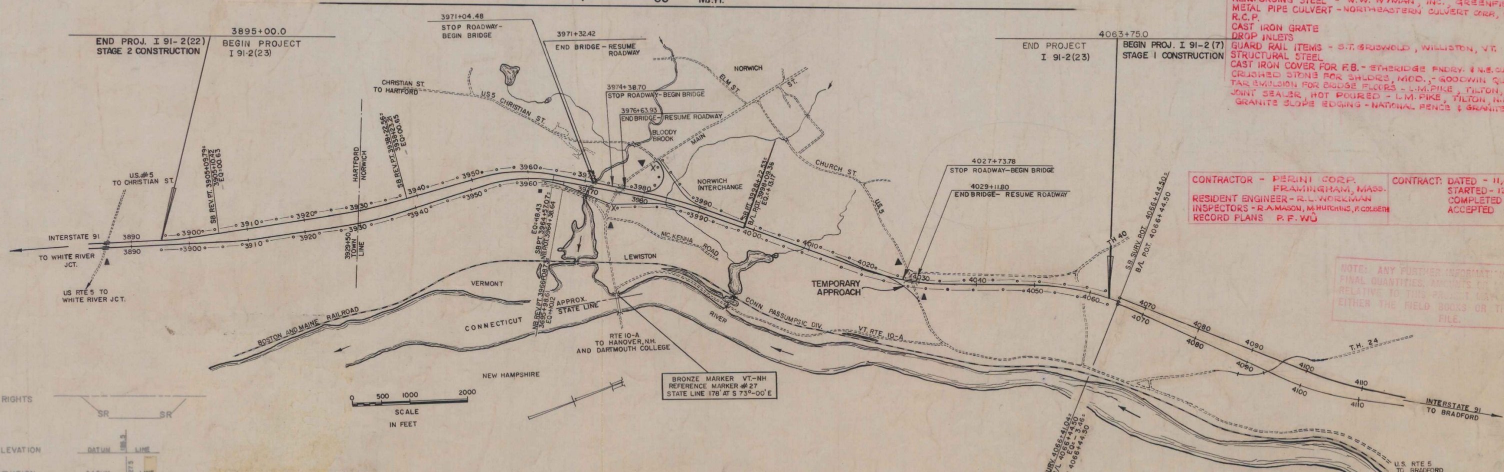
	SOUTH	NORTH
ADT 1962	2600	2440
ADT 1987	7380	6650
DHV 1987	1050	940
D	51%	54%
T	6%	6%
V	60	M.P.H.





AB

PROJECT NAME & NUMBER | TYPE PAVEMENT
HARTFORD-NORWICH I 91-2(23) BIT. CONCRETE
RECORD PLANS
MATERIALS
SUB-BASE OF GRAVEL - FARRELL PIT, NORWICH, VT.
SUB-BASE OF SAND - " " " "
GRAVEL BACKFILL
CRUSHED GRAVEL - L.M. PIKE & SON, INC., W. LEBANON, N.H.
REFINED TAR - HUMBLE OIL & REFINING CO., EVERETT, MASS.
CUTBACK ASPHALT -
SA. GRAVEL OR PEASTONE FOR SEAL
CONCRETE CLASS
BIT. CON. PAVEMENT - L.M. PIKE & SON, INC., TILTON, N.H.
REINFORCING STEEL - W.W. WYMAN, INC., GREENFIELD, MASS.
METAL PIPE CULVERT - NORTHEASTERN CULVERT CORP., WESTMINSTER, VT.
R.C.P.
CAST IRON GRATE
DROP INLETS
GUARD RAIL ITEMS - S.T. GRISWOLD, WILLISTON, VT.
STRUCTURAL STEEL
CAST IRON COVER FOR F.B. - ETHERIDGE FNDRY. & N.E. CULV., WESTMINSTER, VT.
CRUSHED STONE FOR SHLDRS, MOD., - GOODWIN QUARRY, SHARON, VT.
TAR EMULSION FOR BRIDGE FLOORS - L.M. PIKE, TILTON, N.H.
JOINT SEALER, HOT POURED - L.M. PIKE, TILTON, N.H.
GRANITE SLOPE EDGING - NATIONAL FENCE & GRANITE CO., CONCORD, N.H.



CONTRACTOR - PERINI CORP. FRAMINGHAM, MASS.
RESIDENT ENGINEER - R.L. WORKMAN
INSPECTORS - R.A. MASON, M. HUTCHINS, F. COLBETH
RECORD PLANS P.F. WU

CONTRACT: DATED - 11/29/67
STARTED - 12/1/67
COMPLETED - 10/9/68
ACCEPTED - 11/8/68

NOTE: ANY FURTHER INFORMATION CONCERNING FINAL QUANTITIES, AMOUNTS OR UNITS RELATIVE TO THIS PROJECT MAY BE FOUND IN EITHER THE FIELD BOOKS OR THE ESTIMATE FILE.

CONVENTIONAL SIGNS

SLOPE RIGHTS
GROUND ELEVATION
GRADE ELEVATION

CURVE DATA
DEFLECTION OF ANGLE Δ
DEGREE OF CURVE D
RADIUS OF CURVE R
TANGENT DISTANCE T
LENGTH OF CURVE L
EXTERNAL DISTANCE E
POINT OF INTERSECTION P.I.
POINT OF CURVE P.C.
POINT OF TANGENT P.T.
POINT ON TANGENT P.O.T.
POINT ON SUB-TANGENT P.O.S.T.
R.O.W. LIMITS
TREES
HEDGE
F.A. CONSTRUCTION IDENTIFICATION SIGNS

HARTFORD-NORWICH 199 M

THESE PLANS ARE SUBJECT TO SUCH REVISIONS AS MAY BE REQUIRED BY THE BUREAU OF PUBLIC ROADS OR THE COMMISSIONER OF HIGHWAYS.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION DATED APRIL, 1964, AS APPROVED BY THE BUREAU OF PUBLIC ROADS ON OCTOBER 12, 1964, INCLUDING ALL SUBSEQUENT APPROVED REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

DEPARTMENT OF TRANSPORTATION
BUREAU OF PUBLIC ROADS
APPROVED
DIVISION ENGINEER DATE

APPROVED	APPROVED	APPROVED	APPROVED	APPROVED	APPROVED
F.S. Chase, DISTRICT ENGINEER	R.J. Funk, CONSTRUCTION ENGINEER	L.M. Born, BRIDGE ENGINEER	G.M. Lane, HIGHWAY ENGINEER	E.H. Stickney, ASST. CHIEF ENGINEER	R.H. Arnold, CHIEF ENGINEER
DATE 10/10/67	DATE 10/10/67	DATE 10/10/67	DATE 10/10/67	DATE 10/11/67	DATE 10/11/67

SUBMITTED BY ORDER OF THE STATE HIGHWAY BOARD

PROJECT I NO. 91-2(23)
STAGE 2 CONSTRUCTION
SHEET 1 OF 129 SHEETS

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STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROPOSED IMPROVEMENT

INTERSTATE PROJECT

TOWNS OF HARTFORD-NORWICH

COUNTY OF WINDSOR
INTERSTATE ROUTE 91
WINDSOR-BRADFORD-ROAD

BEGINNING AT A POINT 0.653 MILE SOUTH OF THE HARTFORD-NORWICH TOWN LINE AND EXTENDING NORTHERLY 3.199 MILES

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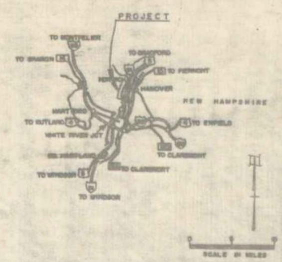


THESE PLANS HAVE BEEN REDUCED PHOTOGRAPHICALLY TO APPROXIMATELY 1/2 SCALE

Dated *29 NOV 67*

PERINI CORPORATION

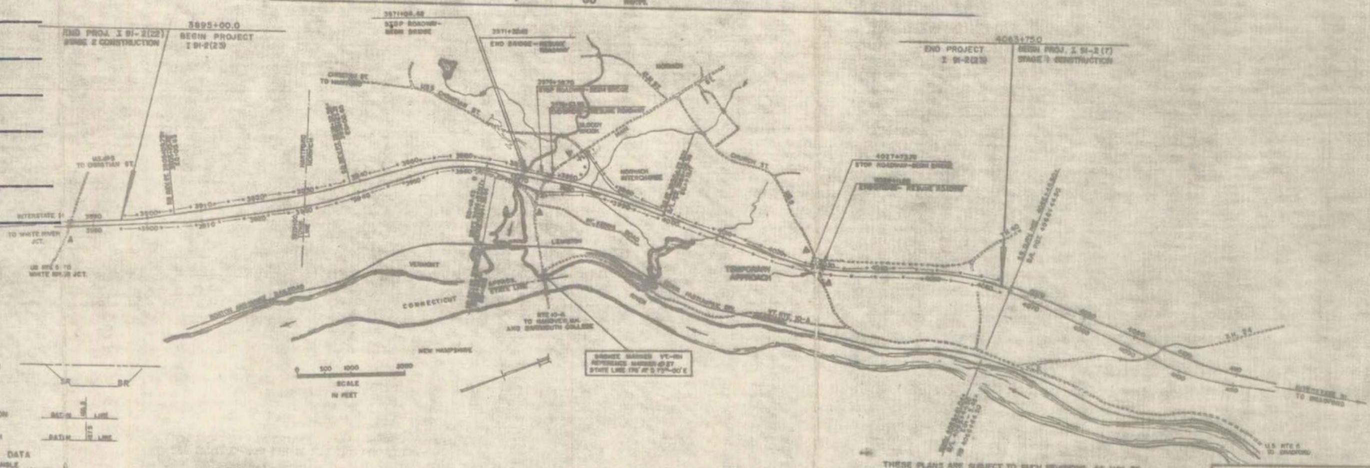
Louis L. Capone

Louis L. Capone, Vice Pres.

Contractor

[signature]

Commissioner of Highways



CONVENTIONAL SIGNS

POINT OF ACCESS
LIMITS OF ACCESS
COUNTY LINE
TOWN LINE
FENCE LINE
STONE WALL
UNFENCED PROPERTY
GUARD RAIL
TRAVELED WAY
RAILROAD
RETAINING WALL
CENTER LINE
SURVEY LINE
CULVERT
DROP INLET
TROLLEY POLE
POWER POLE
TELEPHONE POLE
TREES
HEDGE
F.A. CONSTRUCTION IDENTIFICATION SIGNS

SLOPE RIGHTS
GROUND ELEVATION
GRADE ELEVATION

CURVE DATA
DEFLECTION OF ANGLE ... Δ
DEGREE OF CURVE ... D
RADIUS OF CURVE ... R
TANGENT DISTANCE ... T
LENGTH OF CURVE ... L
EXTERNAL DISTANCE ... E
POINT OF INTERSECTION ... P.I.
POINT OF CURVE ... P.C.
POINT OF TANGENT ... P.T.
POINT ON TANGENT ... P.O.T.
POINT ON SUB-TANGENT ... P.O.S.T.
R.O.W. LIMITS

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APPROVED *T.S. Chase* DISTRICT ENGINEER	APPROVED *R.J. Funk* CONSTRUCTION ENGINEER	APPROVED *L.W. Brown* BRIDGE ENGINEER	APPROVED *G.M. Lane* HIGHWAY ENGINEER	APPROVED *E.H. Stickney* ASST. CHIEF ENGINEER	APPROVED *R.H. Carroll* CHIEF ENGINEER
DATE *10/10/67*	DATE *10/10/67*	DATE *10/10/67*	DATE *10/10/67*	DATE *10/11/67*	DATE *10/11/67*

SUBMITTED BY ORDER OF THE STATE HIGHWAY BOARD

DEPARTMENT OF TRANSPORTATION
BUREAU OF PUBLIC ROADS

APPROVED

DIVISION ENGINEER DATE

PROJECT I NO. 91-2(23)
STAGE 2 CONSTRUCTION
SHEET 1 OF 129 SHEETS

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QUANTITY SHEET

STATE OF VERMONT DEPARTMENT OF HIGHWAYS

PROJECT NO. _____

SUMMARY SHEET NO. _____ OF _____ 19 ____

APPROXIMATE SUMMARY OF QUANTITIES

LANDS-CAPING	EROSION CONTROL	STAGE I CONST. I 91-2(5)	STAGE I CONST. I 91-2(40)	STAGE I CONST. I 91-2(18)	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NO.
		500	1,000	1,000	2,500	C.Y.	Common Excavation, Class I Est.	103-A1
		500	1,000	1,000	2,500	C.Y.	Borrow, Est.	104
		500	500	1,000	2,000	C.Y.	Granular Borrow, Est.	105
		100	100	500	700	C.Y.	Trench Excavation of Earth (Up to 5' Depth)	106-A
		0	20	50	70	C.Y.	Trench Excavation of Rock Est. (Up to 5' Dep.)	106-B
		87,500	57,600	88,600	233,700	S.Y.	Fine Grading-Subgrade, Mod.	107
		100	200	300	600	M/G.	Dust Control w/Water, Est.	112
		1	1	2	4	Ton	Dust & Ice Control w/Cal.Chloride	113
				25	25	Hr.	Bulldozer Rental, Est.	120
				25	25	Hr.	Power Grader Rental, Est.	121
		0	15	30	45	Hr.	All Purpose Excavator Rental, Est.	124
		7,650	5,650	9,100	22,400	C.Y.	Sub-base of Gravel, Mod.	201
		500	0	500	1,000	C.Y.	Sub-base of Sand, Est.	202
		43,300	30,200	43,000	116,500	C.Y.	Sub-base of Crushed Rock	204
		9,500	6,600	9,400	25,500	Ton	Crushed Gravel or Crushed Stone Plant Mixed Base Course	213
	8,000	32600	22,600	38400	101,600	CY/Mi	Overhaul (4.0 Miles)	221
	2,000				2,000	C.Y.	Gravel Backfill for Slope Stabilization	222-A
		1,590	990	1,940	4,520	C.Y.	Stripping of Gravel Pits	223
		1,035	750	1,025	2,810	C.Y.	Crushed Stone Shoulders, Mod.	303
		7,100	4,120	7,200	18,420	Gal.	Tack Coat-Type III, Mod.	315
		0	1,131	673	1,804	Gal.	Tar Emulsion for Bridge Floors	318
		7,050	5100	7,550	19,700	Ton	Bituminous Concrete Pavement, Mod.	361
		30	15	35	80	Hr.	Proof Rolling	365
		0	89	93	182	L.F.	Joint Sealer-Hot Poured	372-A
		0	5	0	5	C.Y.	Concrete-Class B, Est.	401-B
		0	500	0	500	Lbs.	Reinforcing Steel, Est.	402
		0	5	0	5	C.Y.	Cement Rubble Masonry, Est	411
		60	48	64	172	L.F.	8" Asph.Ctd.Corr.Galv.Met.Pipe, 16 Ga.	424-B
		0	0	200	200	L.F.	18" Asph.Ctd.Corr.Galv.Met.Pipe, Est. 16 Ga.	424-H
		13	5	20	38	Ea.	Cast Iron Cover for Asph.Ctd.Corr.Galv.Met. Pipe Flushing Basin	525
		7	11	4	22	Ea.	Changing Elevations of C.B. or Manholes	533
		3,216	3,266	3,643	10,125	L.F.	Three Cable Guard Rail w/Lt. Steel Posts	538
		12	10	18	28	Ea.	Anch.for Three Cable Guard Rail w/Lt.St.Posts	539-A
		0	2	2	4	Ea.	Anch.for Three Cable Guard Rail w/Lt.St.Posts	539-B
		0	4	4	8	Ea.	Anch.for Three Cable Guard Rail w/Steel Posts (For use with Standard Steel Beam Guard Rail with Steel Posts)	544
		0	104	92	196	L.F.	Standard Steel Beam Guard Rail with Steel Posts, Mod.(6'3" spacing)	545-A
		70	35	65	170	Ea.	Steel Marker Posts	547-D
		3	16	12	31	Ton	Bit.Conc.Surf.for Gutters & Traf.Islands,Mod.	554
		60	86	31	177	Ton	Bit.Conc.Curb, Mod.	555
		0	600	0	600	L.F.	Granite Slope Edging	556-A
		1	0	1	2	Ea.	Erection of Project Markers	566
		25	25	25	75	Ea.	Boundary Markers, Est.	567
		0	1487.5	1,600	3087.5	L.F.	Bridge Railing(for Bridge Approaches)	572
		1/3	1/3	1/3	1	L.S.	Field Office-Engineers	598-A
		1/3	1/3	1/3	1	L.S.	Field Office-Asphalt Plants	598-C
5					5	Acre	Selective Thinning and Trimming, Est.	601
	1,550				1,550	Lb.	Seeding	611
	5,000				5,000	S.Y.	Sodding, Est.	612
	37,110				37,110	Lb.	Fertilizer	615
	40				40	Ton	Ground Limestone	616
	4,440				4,440	C.Y.	Topsoil	621
	40				40	Ton	Mulch	622
	2,480				2,480	S.Y.	Jute Matting	623
					3,051	S.F.	Traffic Signs (Rounding 3%)	701
					298	Ea.	Delineators	702
		0	0	1	1	Ea.	Overhead Traffic Sign Support =US 5-Sta.103+95	703
		500	1,000	500	2,000	L.F.	6" Perf.Corr.Galv.Met.Underdrain,Mod. Est.	521-1A
		200	200	200	600	C.Y.	Stone Fill for Slope Protection(Lt.Type)Est.	612
		1	3	1	5	Ea.	Precast Reinforced Conc.Curb Drop Inlets,Est.	531
		100	200	100	400	L.F.	12" Asph.Ctd.Corr.Galv.Met.Pipe,Est.,16 Ga.	424-D

Type Changed Corrected 10/15/67

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

TYPE OF CONSTRUCTION

STATIONS FROM	STATIONS TO	PAVEMENT WIDTHS 24'	38'	42'	37.25 24	EQUATIONS +	EQUATIONS −	
NORTHBOUND								
3895+00	3966+08.73	7108.73						Roadway
						10.12		
3965+98.61	3970+86.03	487.42						Roadway
3970+86.03	3971+13.97				27.94			Bridge
3971+13.97	3974+20.17	306.20						Roadway
3976+20.17	3976+45.30		225.13					Bridge
3976+45.30	4028+00.53	5155.23						Roadway
4028+00.53	4029+37.21			136.68				Bridge
4029+37.21	4063+77.00	3437.79						Roadway
N8 TOTALS		16495.37		389.75				
SOUTHBOUND								
3895+00	3905+09.79	1009.79						Roadway
							0.63	
3905+10.42	3938+22.56	3312.14						Roadway
							0.65	
3938+23.21	3964+57.07	2633.86						Roadway
						18.43		
3964+38.64	3971+22.92	684.28						Roadway
3971+22.92	3971+50.86				27.94			Bridge
3971+50.86	3974+57.23	306.37						Roadway
3974+57.23	3976+82.57		225.34					Bridge
3976+82.57	3998+22.53	2139.96						Roadway
						13.17		
3998+09.36	4027+47.03	2937.67						Roadway
4027+47.03	4028+66.38			139.35				Bridge
4028+66.38	4063+75.00	3488.62						Roadway
S8 TOTALS		16512.69		392.63				
AVERAGES								
ROADWAY		33,008.05 / 2 = 16,504.03						
BRIDGES		782.38 / 2 = 391.19						
TOTALS								

LENGTH OF PROJECT

STATIONS		FEET	MILES	REMARKS
SEE ABOVE		16,504.03	3.125	ROADWAY
		391.19	.074	BRIDGES
TOTALS		16,895.22	3.199	TOTAL

NORWICH STAGE II CONSTRUCTION I 91-2(23)

No. Filed

Sheet 2 of 129 Sheets

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QUANTITY SHEET

STATE OF VERMONT DEPARTMENT OF HIGHWAYS

PROJECT NO. _____

SUMMARY SHEET NO. ___ OF _____ 19___

APPROXIMATE SUMMARY OF QUANTITIES

GOVT. & NON-GOVT. PART.

S 0170(1)	F 041-3(3)	I 91-2(40)	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NO.
100	100	200	400	L.F.	Relaying Pipe Culverts, Est.	428
100	100	200	400	L.F.	Sleeves for Water Pipes, Est.	431
138		34	172	Gal.	Water Repellent	440
1			1	L.S.	Two Way Temporary Bridge (with One 5' Sidewalk)	441-B
		1	1	L.S.	Rem. of Pres. Superstructure Sta.SB 3971+20 Rt	442
	1		1	L.S.	Rem. of Pres. Superstructure Sta. 63+00 Rt. US5	442
1			1	L.S.	Rem. of Pres. Superstructure Sta. 48+00±Vt. 10A	442
Reg		Reg	1	L.S.	Furnishing Equipment for Driving Piling	501
7,400			7,400	L.F.	Treated Timber piling	503-B
		5,490	5,490	L.F.	Steel Piling (12BP53)	503-C
		40	40	Ea.	Splices for Steel Piling	504
4			4	Ea.	Pile Loading Tests	505
		7,200	7,200	C.Y.	Stone Fill for Slope Protection(Hvy.Type)	511
9,085	720	2,075	11,880	C.Y.	Stone Fill for Slope Protection(Lgt.Type)	512
		55	55	C.Y.	Riprap (Light Type)	513-B
2,900	500	2,050	5,450	L.F.	6" Perf.Corr.Galv.Met.Und., Mod.	521-1A
250		350	600	L.F.	6" Perf.Corr.Galv.Met.Pipe, Mod.	521-1H
5	1	2	8	Ea.	Cast Iron Cov.for Asph.Ctd.Corr.Galv.Met. Flushing Basins	525
2		3	5	Ea.	Catch Basin or Manhole, Type I-A	527-A
	2	8	10	Ea.	Drop Inlet, Type II	531
2			2	Ea.	Changing Elevations of Catch Basins or Manholes	533
4	4	17	25	Ea.	Cast Iron Grate, Type A	534-A
9	1	7	17	Ea.	Cast Iron Grate, Type B	534-A
2		3	5	Ea.	Cast Iron Grate, Type C	534-A
80	48	36	164	L.F.	Plank Guard Rail, Est.	540
		640	640	L.F.	Two Cable Guard Rail	541
1,328	2,752	2,160	6,240	L.F.	Three Cable Guard Rail w/Steel Posts	542
		6	6	Ea.	Anchors for Two Cable Guard Rail	543
14	14	14	42	Ea.	Anchors for Three Cable G.R. w/Steel Posts	544
		104	104	L.F.	Std.Steel Beam Guard Rail w/Steel Posts	545-A
	45	85	130	Ea.	Wood Guide Posts	547-A
		15	15	Ea.	Steel Guide Posts	547-B
20	10	20	50	Ea.	Steel Marker Posts	547-D
1,235	156	1,410	2,801	L.F.	Rem. & Disp. of Pres. Guard Rail	549
22	2	125	149	Ton	Bit.Conc.Surf. for Gutters & Traf. Islands,Mod	554
	33	20	53	Ton	Bit.Conc.Curb	555
271		1,000	1,271	L.F.	Granite Bridge Curb, Type A	556-C
272			272	L.F.	Granite Bridge Curb, Type B	556-C
85		130	215	Ton	Bit.Conc.Sidewalk, Mod.	562
2	2		4	Ea.	Erection of Project Markers	566
20	10	20	50	Ea.	Boundary Markers, Est.	567
		998	998	L.F.	Bridge Railing (Standard 3 Rail)	572
258			258	L.F.	Bridge Railing (Alum.w/Spindles)	572
		3,350	3,350	L.F.	Galv. Chain Link Fence (6' High)	581-18
		4,300	4,300	L.F.	Property Line Fence w/St. Posts., Mod.	583-11
		25	25	Ea.	St. Braces for Prop. Line Fence, Mod.	583-1V
		1	1	L.S.	Dem.&Disp. of Bldg. SB3970+80 Lt.	586
		1	1	L.S.	Dem. & Disp. of Bldg. SB3971+50 Lt.	586
		1	1	L.S.	Dem. & Disp. of Bldg. SB3971+90 Lt	586
	1		1	L.S.	Dem. & Disp. of Bldg. US 5 60+30 Rt	586
	1		1	L.S.	Dem. & Disp. of Bldg. US 5 60+75 Rt.	586
	1		1	L.S.	Dem. & Disp. of Bldg. US 5 64+50 Rt.	586
1			1	L.S.	Dem. & Disp. of Bldg. VT 10-A 43+65 Lt	586
1			1	L.S.	Dem. & Disp. of Bldg. VT 10-A 44+15 Lt	586
1			1	L.S.	Dem. & Disp. of Bldg. VT 10-A 44+50 Rt	586
1			1	L.S.	Dem. & Disp. of Bldg. VT 10-A 44+75 lt	586
1			1	L.S.	Dem. & Disp. of Bldg. VT 10-A 44+75 Lt	586
1			1	L.S.	Dem. & Disp. of Bldg. VT 10-A 44+90 Lt	586
1			1	L.S.	Dem. & Disp. of Bldg. VT 10-A 45+40 Rt	586
1			1	L.S.	Dem. & Disp. of Bldg. VT 10-A 45+50 Lt	586
1			1	L.S.	Dem. & Disp. of Bldg. VT 10-A 46+20 Lt	586
1			1	L.S.	Dem. & Disp. of Bldg. VT 10-A 46+60 Rt	586
1			1	L.S.	Dem. & Disp. of Bldg. VT 10-A 47+15 Rt	586
1			1	L.S.	Dem. & Disp. of Bldg. VT 10-A 47+20 Lt	586
1			1	L.S.	Dem. & Disp. of Bldg. VT 10-A 47+25 Lt	586
1			1	L.S.	Dem. & Disp. of Bldg. River Rd. 0+65	586
1			1	L.S.	Dem. & Disp. of Bldg. River Rd. I+20 Lt	586
1			1	L.S.	Dem. & Disp. of Bldg. River Rd. I+65 Lt	586
100	100	200	400	L.F.	3/4" Seamless Copper Water Tube, Est.	594-B
180	100	230	510	Man/Hr	Uniformed Traffic Officers	598
		1	1	L.S.	Field Office-Engineers	599-A
		1	1	L.S.	Field Office-Soils and Materials	599-B
		1	1	Acre	Selective Thinning and Trimming	601
460	510	1,650	2,620	Lb.	Seeding	611
2,650	3,000	9,700	15,350	Lb.	Fertilizer	615
11	12	40	63	Ton	Ground Limestone	616
140	500	350	990	C.Y.	Topsoil	621
11	12	40	63	Ton	Mulch	622
200	200	660	1,060	S.Y.	Jute Matting	623

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

TYPE OF CONSTRUCTION

STATIONS FROM	STATIONS TO	PAVEMENT WIDTHS			EQUATIONS +	EQUATIONS −
TOTALS						

LENGTH OF PROJECT

STATIONS		FEET	MILES	REMARKS
TOTALS				

NORWICH COMPOSITE I 91-2(40) NORWICH F 041-3(3) S 0170(1)

Sheet 3 of 328 Sheets

QUANTITY SHEET

STATE OF VERMONT DEPARTMENT OF HIGHWAYS

PROJECT NO. _____

SUMMARY SHEET NO. ___ OF _____ 19____

APPROXIMATE SUMMARY OF QUANTITIES

GOVT. & NON-GOVT. PART.			QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NO.
S 0170(1)	F 041-3(3)	I 91-2(40)				
						701
190	112	1,115	1,417	S.F.	Traffic Signs	702
8	15	35	58	Ea.	Delineators	
		1	1	Ea.	Overhead Traffic Sign Supports Vt.10-A 67+25	703
		1	1	L.S.	Traffic Control Signals	704
1			1	L.S.	Traffic Signal Conduit	
					WATER MAIN RELOCATION UTILITY CONSTRUCTION ITEMS	
		3,520	3,520	L.F.	8" Cast Iron Pipe	803
		120	120	L.F.	6" Cast Iron Pipe	804
		2,120	2,120	Lb.	Cast Iron Fittings	807
		5	5	Ea.	8" Gate Valve with Box	817
		3	3	Ea.	6" Gate Valve with Box	818
		1	1	Ea.	Remove and Install Hydrant	819
		150	150	C.Y.	Rock and Boulder Excavation	821
		100	100	C.Y.	Bank-run Gravel	831
		100	100	C.Y.	Screened Gravel	832
		50	50	C.Y.	Excavation Below Normal Grade	851
		60	60	S.Y.	Temporary Pavement	861
		60	60	S.Y.	Permanent Pavement	862
		1	1	Ea.	Corporation Cock (2")	871
		1	1	Ea.	Corporation Cock (3/4")	872
		2	2	Ea.	Curb Cock	873
		10	10	L.F.	Copper Tubing (2")	874
		25	25	L.F.	Copper Tubing (3/4")	875
					NORWICH FIRE DISTRICT UTILITY CONSTRUCTION ITEMS	
		400	400	L.F.	Alternate A-Install 18" Dia. Sewer	901-A
		400	400	L.F.	Alternate B-Install 16" Dia. Sewer	901-B
		185	185	C.Y.	Earth Excavation (Up to 5' Depth)	902-A
		50	50	C.Y.	Earth Excavation (Over 5' Depth)	902-A
		5	5	C.Y.	Rock Excavation (Up to 5' Depth) Est.	902-B
		5	5	C.Y.	Rock Excavation (Over 5' Depth) Est.	902-B
		5	5	C.Y.	Sub-base of Sand, Est.	903
		5	5	C.Y.	Gravel Backfill, Est.	904
					OPTIONAL PIPE ELBOWS	
	12	72	84	L.F.	12" Corr.Galv.Met.Pipe Elbow, Ga.16	422-10
	12	72	84	L.F.	12" Corr.Alum.Alloy Pipe Elbow, Ga.16	453-D
		12	12	L.F.	18" Corr.Galv.Met.Pipe Elbow, Ga.16	422-1H
		12	12	L.F.	18" Corr.Alum.Alloy Pipe Elbow, Ga.16	453-H
					OPTIONAL PIPES	
	88	530	618	L.F.	12" Corr.Alum.Alloy Culv.Pipe, Ga.16	420-D
	88	530	618	L.F.	12" Corr.Galv.Met.Pipe, Ga.16	423-D
		16	16	L.F.	12" Corr.Alum.Alloy Culv.Pipe, Ga.16	420-D
		16	16	L.F.	12" Reinf.Conc.Pipe, Class III	421-D
		16	16	L.F.	12" Corr.Galv.Met.Pipe, Ga.16	423-D
	92		92	L.F.	15" Corr.Alum.Alloy Culv.Pipe, Ga.16	420-F
	92		92	L.F.	15" Reinf.Conc.Pipe, Class III	421-F
	92		92	L.F.	15" Corr.Galv.Met.Pipe, Ga.16	423-F
		180	180	L.F.	18" Corr.Alum.Alloy Culv.Pipe, Ga.16	420-H
		180	180	L.F.	18" Corr.Galv.Met.Pipe, Ga.16	423-H
		162	162	L.F.	18" Corr.Alum.Alloy Culv.Pipe, Ga. 16	420-H
		162	162	L.F.	18" Reinf.Conc.Pipe, Class III	421-H
		162	162	L.F.	18" Corr.Galv.Met.Pipe, Ga.16	423-H
		46	46	L.F.	24" Corr.Alum.Alloy Culv.Pipe, Ga.16	420-K
		46	46	L.F.	24" Reinf.Conc.Pipe, Class III	421-K
		46	46	L.F.	24" Corr.Galv.Met.Pipe, Ga16	423-K
					ALTERNATE A	
2,380	1,050	4,000	7,430	TON	Cr.Grav. or Cr.Stone Plant Mixed Base Crse.	213
					ALTERNATE B	
1,470	635	2,500	4,605	C.Y.	Pen.Mac.Cr.Stone Base Crse.	216
36,900	13,250	62,500	112,150	Ga.	Asphalt Cement	323
					ALTERNATE C	
2,360	325	3,900	6,585	L.F.	Granite Slope Edging	556-A
1,850		2,100	3,950	L.F.	Vertical Granite Curb	556-B
					ALTERNATE D	
2,360	325	3,900	6,585	L.F.	Prec.Reinf.Cement Conc.Curb, Type B	556-D
1,850		2,100	3,950	L.F.	Prec.Reinf.Cement Conc.Curb, Type A	556-D
					ALTERNATE E	
6,850	5,950	11,200	24,000	C.Y.	Sub-base of Crushed Rock	204
					ALTERNATE F	
6,850	5,950	11,200	24,000	C.Y.	Sub-base of Crushed Grav.Crse.Graded	205-A

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

TYPE OF CONSTRUCTION

STATIONS FROM	STATIONS TO	PAVEMENT WIDTHS			EQUATIONS +	EQUATIONS −
TOTALS						

LENGTH OF PROJECT

STATIONS	FEET	MILES	REMARKS
TOTALS			

NORWICH COMPOSITE I 91-2(40) F 041-3(3) S 0170(1)

No. Sheet 4 of 328 Sheets

QUANTITY SHEET

STATE OF VERMONT DEPARTMENT OF HIGHWAYS

PROJECT NO. _____

SUMMARY SHEET NO. ___ OF _____ 19____

APPROXIMATE SUMMARY OF QUANTITIES

LANDSCAPING	EROSION CONTROL	BRIDGE	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	Boundary Line	ITEM NO.
			500	500	C.Y.	Common Excavation, Est., Class 1		103-A1
								104
			500	500	C.Y.	Borrow, Est.		105
			500	500	C.Y.	Granular Borrow, Est.		106-A
			100	100	C.Y.	Trench Excavation of Earth (inc.94 Est.)		
			87,500	87,500	S.Y.	Fine Grading, Subgrade	48‡	107
			100	100	M/Gal	Dust Control w/Water		112
			1	1	Ton	Dust Control w/Calcium Chloride		113
			7,650	7,650	C.Y.	Sub-base of Gravel, Mod.		201-A
			500	500	C.Y.	Sub-base of Sand, Est.		202
			43,300	43,300	C.Y.	Sub-base of Crushed Rock	104	204
			9,500	9,500	Ton	Crushed Gravel or Crushed Stone Plant Mixed Base Course	52	213
			32,600	32,600	CY/MI	Overhaul (4.0 Miles)		221
			1,590	1,590	C.Y.	Stripping of Gravel Pits		223
			1,035	1,035	C.Y.	Crushed Stone Shoulders Mod.	7	303
			7,100	7,100	Gal.	Tack Coat, Type III, Mod		316
			7,050	7,050	Ton	Bituminous Concrete Pavement Mod.		361
			30	30	Hr.	Proof Rolling, Est.		365
			100	100	LF	12" Asph Ctd Corr Galv Met Pipe, Est		424-D
			200	200	C.Y.	Stone Fill for Slope Protection, Est.		512
			60	60	L.F.	8" Asph Ctd. Corr. Galv. Met. Pipe	38	424-B
			500	500	L.F.	6" Perf Corr Galv. Met Und, Mod., Est		521-FA
			13	13	Ea.	Cast Iron Cover for Asph. Ctd. Corr. Galv. Met. Pipe Flushing Basins	2	525
			7	7	Ea.	Changing Elevations of Catch Basins or Manholes (Incl. 1 Est.)		533
			1	1	Ea.	Precast Reinf. Conc. Curb Drop Inlet, Est.		531
			3,216	3,216	L.F.	Three Cable Guard Rail w/ Lt. Steel Posts		538
			12	12	Ea.	Anchors for Three Cable Guard Rail w/ Lt. Steel Posts		539-A
			70	70	Ea.	Steel Marker Posts	4	547-D
			3	3	Ton	Bituminous Concrete Surface for Gutters and Traffic Islands, Mod.	1	554
			60	60	Ton	Bituminous Concrete Curb, Mod.	2	555
			1	1	Ea.	Erection of Project Markers		566
			25	25	Ea.	Boundary Markers		567
			1/3	1/3	L.S.	Field Office - Engineers		599-A
			1/3	1/3	L.S.	Field Office - Asphalt Plants		599-C
			Req.	Req.	S.F.	Traffic Signs		701
			Req.	Req.	Ea.	Delineators	6	702
2				2	Acres	Selective Thinning & Trimming, Est.		601
	550			550	Lb.	Seeding	40	611
	2,000			2,000	S.Y.	Sodding, Est.		612
	10,500			10,500	Lu.	Fertilizer		615
	12			12	Ton	Ground Limestone, Est.		616
	1,625			1,625	C.Y.	Topsoil, Est.	11	621
	12			12	Ton	Mulch, Est.		622
	100			100	S.Y.	Jute Matting, Est.		623

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DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		SUB-BASE OF GRAVEL MOD.
7,395	C.Y.	Mainline
2	C.Y.	Curb Drains
204	C.Y.	U-Turn
49	C.Y.	Rounding
7,650	C.Y.	Total
		CRUSHED STONE SHOULDERS
1,002	C.Y.	Mainline
26	C.Y.	U-Turn
7	C.Y.	Rounding
1,035	C.Y.	Total
		Tack Coat, Type III, Mod.
6,775	Gal.	Mainline
290	Gal.	U-Turn
35	Gal.	Rounding
7,100	Gal.	Total
		BITUMINOUS CONCRETE PAVEMENT
6,232	Ton	Mainline
793	Ton	Shoulders
25	Ton	Rounding
7,050	Ton	Total
		TRENCH EXCAVATION OF EARTH
6	C.Y.	Curb Drains
94	C.Y.	Est.
100	C.Y.	TOTAL

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

TYPE OF CONSTRUCTION

STATIONS FROM	STATIONS TO	PAVEMENT WIDTHS			EQUATIONS +	EQUATIONS −
TOTALS						

LENGTH OF PROJECT

STATIONS		FEET	MILES	REMARKS
TOTALS				

HARTFORD-NORWICH I 91-2(23)

STAGE 2 CONSTRUCTION

Sheet 5 of 129 Sheets

QUANTITY SHEET

STATE OF VERMONT DEPARTMENT OF HIGHWAYS

PROJECT NO. _____

SUMMARY SHEET NO. _____ OF _____ 19 ____

APPROXIMATE SUMMARY OF QUANTITIES

LANDSCAPING	EROSION CONTROL	BRIDGE	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NO.	ROUNDING
			1,000	1,000	C.Y.	Common Excavation, Est.	101-A1	
			1,000	1,000	C.Y.	Borrow, Est.	104	
			500	500	C.Y.	Granular Borrow, Est.	105	
			100	100	C.Y.	Trench Excav. of Earth (Incl.69 Est.)	106-A	
			20	20	C.Y.	Trench Excav. of Rock Est.	106-B	
			57,600	57,600	S.Y.	Fine Grading-Subgrade	107	
			200	200	M/G.	Dust Control w/Water, Est.	112	
			1	1	Ton	Dust & Ice Control w/Cal.Chloride, Est.	113	
			15	15	Hr.	All Purpose Excavator Rental, Est.	124	
			5,650	5,650	C.Y.	Sub-base of Gravel, Mod.	201	
			30,200	30,200	C.Y.	Sub-base of Crushed Rock	204	
			6,600	6,600	Ton	Crushed Gravel or Crushed Stone Plant Mixed Base course	213	42
			22600	22,600	CY/Mi	Overhaul, 4.0 Mi.	221	
			990	990	C.Y.	Stripping of Gravel Pits, Est.	223	
			750	750	C.Y.	Crushed Stone Shoulders, Mod.	303	
			4,120	4,120	Gal.	Tack Coat, Type III, Mod.	315	
			1,131	1,131	Gal.	Tar Emulsion for Bridge Floors	318	
			5100	5100	Ton	Bit.Conc.Pavement, Mod.	361	
			15	15	Hr.	Proof Rolling, Est.	365	
			89	89	L.F.	Joint Sealer	372-A	
			5	5	C.Y.	Concrete Class B, Est.	401-B	
			500	500	Lb.	Reinforcing Steel, Est.	402	
			5	5	C.Y.	Cement Rubble Masonry, Est.	411	
			48	48	L.F.	8" Asph.Ctd.Corr.Galv.Met.Pipe,16 Ga. (Incl.30' Est.)	429-B	
			5	5	Ea.	Cast Iron Cover for Asph.Ctd.Corr.Galv.Met. Pipe Flushing Basins (Incl.1 Est.)	525	
			11	11	Ea.	Changing Elevations of Catch Basins or Manholes	532	
			104	104	L.F.	Standard Steel Beam Guard Rail w/W St.Posts (6'-3" Spacing)	535A	
			3,265	3,265	L.F.	Three Cable Guard Rail w/Lt.St.Posts	538	
			4	4	Ea.	Anchors for Three Cable Guard Rail w/St.Posts (To be used with St.Beam Guard Rail)	544	
			35	35	Ea.	Steel Marker Posts (Incl.6 Est.)	547-D	
			16	16	Ton	Bit.Conc.Surf.for Out &Traf. Islands, Mod.	554	2
			86	86	Ton	Bit.Conc.Curb, Mod.	555	0.4
			600	600	L.F.	Granite Slope Edging	556-A	8
			25	25	Ea	Boundary Markers, Est	567	
			14875	14875	L.F.	Bridge Railing for Bridge Approaches	572	
			1/3	1/3	L.S.	Field Office - Asphalt Plants	599.6	
			1/3	1/3	L.S.	Field Office-Engineers	599-A	
1				1	Acre	Selective Thinning & Trimming, Est.	601	
	400			400	Lb.	Seeding	611	41
	11,710			11,710	Lb.	Fertilizer	615	
	9			9	Ton	Ground Limestone	616	0.6
	1,000			1,000	S.Y.	Sodding, Est.	612	
	1,235			1,235	C.Y.	Topsoil	621	10
	9			9	Ton	Mulch	622	0.6
	50			50	S.Y.	Jute Matting, Est.	623	
			Reg	Reg	S.F.	Traffic Signs	701	
			Reg	Reg	Ea.	Delineators	702	
			10	10	Ea.	Anch.for Three Cable G.R. w/Lt.Steel Posts, Type A	539-A	
			2	2	Ea.	Anch.for Three Cable G.R. w/Lt.St.Posts, Type B	539-B	
			1,000	1,000	L.F.	6" Perf.Corr.Galv.Met.Underdrain, Mod., Est.	521-1A	
			200	200	C.Y.	Stone Fill for Slope Protection(Lt.Type)Est.	512	
			3	3	Ea.	Precast Reinforced Conc.Curb Drop Inlets,Est.	531	
			200	200	L.F.	12" Asph.Ctd.Corr.Galv.Met.Pipe,Est., 16 Ga.	424-D	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		TRENCH EXCAVATION OF EARTH
31	C.Y.	Per Drainage Sheet
69	C.Y.	Est.
100	C.Y.	TOTAL
		FINE GRADING-SUBGRADE
41,551	S.Y.	Mainline
15,722	S.Y.	Ramps
221	S.Y.	U-Turn
106	S.Y.	Rounding
57,600	S.Y.	TOTAL
		SUB-BASE OF GRAVEL, MOD.
3,796	C.Y.	Mainline
1,772	C.Y.	Ramps
19	C.Y.	Per Drainage Sheet
34	C.Y.	U-Turn
29	C.Y.	Rounding
5,650	C.Y.	TOTAL
		SUB-BASE OF CRUSHED ROCK
20,586	C.Y.	Mainline
9,583	C.Y.	Ramps
31	C.Y.	Rounding
30,200	C.Y.	TOTAL
		CRUSHED GRAVEL OR CRUSHED STONE BASE COURSE
4,587	Ton	Mainline
1,971	Ton	Ramps
42	Ton	Rounding
6,600	Ton	TOTAL
		CRUSHED STONE SHOULDERS
483	C.Y.	Mainline
221	C.Y.	Ramps
46	C.Y.	Rounding
750	C.Y.	TOTAL
		TACK COAT, TYPE III, MOD.
3,044	Gal.	Mainline
1,071	Gal.	Ramps
5	Gal.	Rounding
4,120	Gal.	TOTAL
		BITUMINOUS CONCRETE PAVEMENT
2,908	Ton	Mainline (Roadway)
1,322	Ton	Ramps (Roadway)
377	Ton	Mainline (Shoulders)
190	Ton	Ramps (Shoulders)
14	Ton	Rounding
289	Ton	Bridge - Vt 10-A over I-91
5100	Ton	TOTAL
		BITUMINOUS CONCRETE SURFACE FOR GUTTERS AND TRAFFIC ISLANDS
15	Ton	Gutters
1	Ton	Rounding
16	Ton	TOTAL

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

TYPE OF CONSTRUCTION

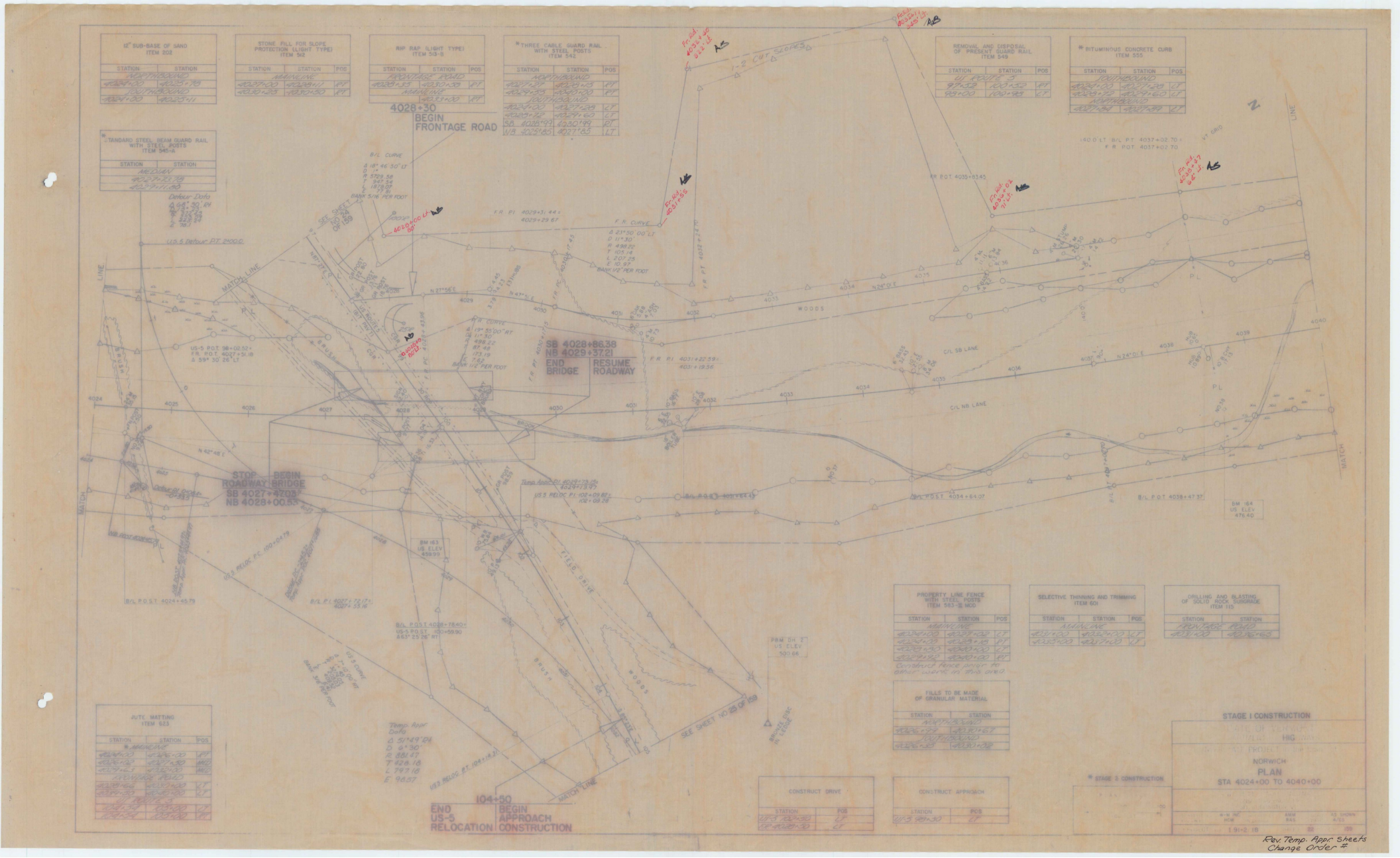
STATIONS FROM	STATIONS TO	PAVEMENT WIDTHS ROADWAY 24'	BRIDGE 24'	BRIDGE 38 42	EQUATIONS +	EQUATIONS −	
NORTHBOUND							
3962+00	3966+08.73	408.73					
3965+98.61	3970+86.03	487.42			10.12		
3970+86.03	3971+13.97		27.94				Bridge
3971+13.97	3974+23.10	309.13					
3974+23.10	3976+43.10			220.00			Bridge
3976+43.10	3996+00	1956.90					
TOTAL NORTHBOUND		3162.18	27.94	220.00			TOTAL NB BRIDGES 247.94
SOUTHBOUND							
3962+00	3964+57.07	257.07			18.43		
3964+58.64	3971+22.93	684.29					
3971+22.93	3971+50.87		27.94				Bridge
3971+50.87	3974+60.28	309.41					
3974+60.28	3976+80.28			220.00			Bridge
3976+80.28	3996+00	1919.72					
TOTAL SOUTHBOUND		3170.49	27.94	220.00			TOTAL SB BRIDGES 247.94
	TOTAL NB	3162.18					
	TOTAL SB	3170.49					
	TOTAL	6332.67 / 2	3166.335				
TOTALS							

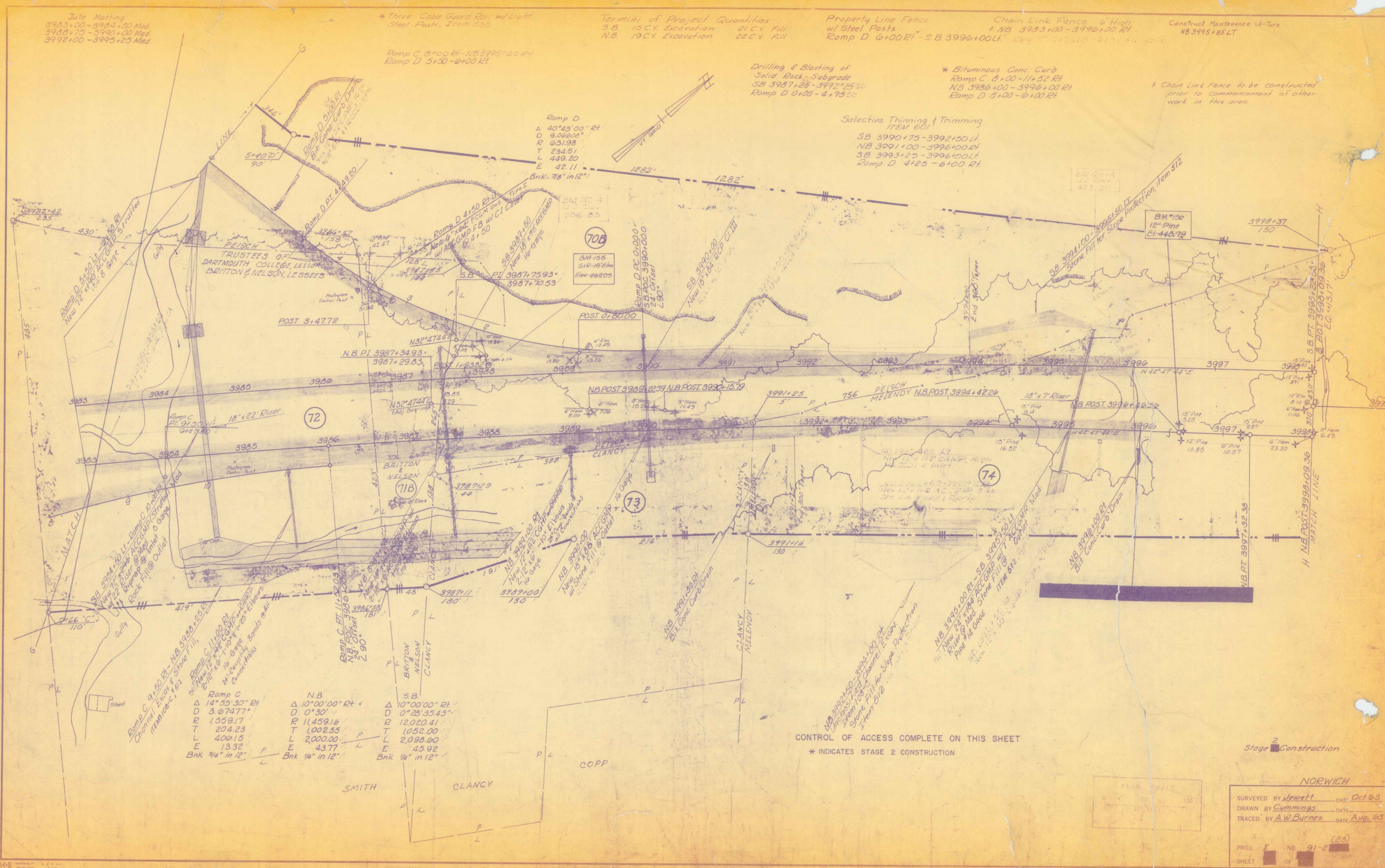
LENGTH OF PROJECT

STATIONS		FEET	MILES	REMARKS
See Above		3166.33	0.600	Roadway
		247.94	0.047	Bridges
TOTALS		3414.27	0.647	

NORWICH STAGE II CONSTRUCTION I 91-2(40)

No. Sheet 21 of 129 Filed Sheets


12" SUB-BASE OF SAND ITEM 202
STONE FILL FOR SLOPE PROTECTION (LIGHT TYPE) ITEM 542
RIP RAP (LIGHT TYPE) ITEM 513-B
*THREE CABLE GUARD RAIL WITH STEEL POSTS ITEM 542
REMOVAL AND DISPOSAL OF PRESENT GUARD RAIL ITEM 549
*BITUMINOUS CONCRETE CURB ITEM 555
*STANDARD STEEL BEAM GUARD RAIL WITH STEEL POSTS ITEM 545-A
4028+30 BEGIN FRONTAGE ROAD
SB 4028+86.38 NB 4029+37.21 END BRIDGE RESUME ROADWAY
STOP BEGIN ROADWAY BRIDGE SB 4027+42.03 NB 4028+00.53
104+50 END US-5 RELOCATION BEGIN APPROACH CONSTRUCT
PROPERTY LINE FENCE WITH STEEL POSTS ITEM 583-II.MOD
SELECTIVE THINNING AND TRIMMING ITEM 601
DRILLING AND BLASTING OF SOLID ROCK SUBGRADE ITEM 115
FILLS TO BE MADE OF GRANULAR MATERIAL
JUTE MATTING ITEM 623
CONSTRUCT DRIVE
CONSTRUCT APPROACH
STAGE I CONSTRUCTION
NORWICH
PLAN
STA 4024+00 TO 4040+00
* STAGE 2 CONSTRUCTION
Rev. Temp. Appr. Sheets
Change Order #



Jute Matting
3983+00 - 3984+50 Med.
3988+75 - 3990+00 Med.
3992+00 - 3995+25 Med.
* Three Cable Guard Rail w/ Light Steel Posts, Item 585
Ramp C 8+00 Rt - NB 3995+20 Rt
Ramp D 5+50 - 6+00 Rt
Termini of Project Quantities
S.B. 15 C.Y. Excavation 21 C.Y. Fill
N.B. 19 C.Y. Excavation 22 C.Y. Fill
Property Line Fence w/ Steel Posts
Ramp D 6+00 Rt - S.B. 3996+00 Lt
Chain Link Fence 6' High
† N.B. 3983+00 - 3996+00 Rt
Construct Maintenance U-Turn
NB 3995+85 LT
Drilling & Blasting of Solid Rock - Subgrade
SB 3987+28 - 3992+25.30
Ramp D 0+00 - 4+75.00
* Bituminous Conc. Curb
Ramp C 8+00 - 11+52 Rt
NB 3986+00 - 3996+00 Rt
Ramp D 5+00 - 6+00 Rt
† Chain Link Fence to be constructed prior to commencement of other work in this area.
Selective Thinning & Trimming
ITEM 601
SB 3990+75 - 3992+50 Lt.
NB 3991+00 - 3996+00 Rt
SB 3993+25 - 3996+00 Lt
Ramp D 4+25 - 6+00 Rt.
Ramp D
Δ 40°43'00" Rt
D 9.06805°
R 631.98
T 234.51
L 449.20
E 42.11
Bnk 7/8" in 12"
PEISCH
TRUSTEES OF DARTMOUTH COLLEGE, LESSOR
BRITTON & NELSON, LESSEES
BM 155
BM 156
12" Pine
El. 448.79
70B
72
71B
73
74
POST 3+47.72
POST 0+60.00
N.B. PI 3987+34.93
S.B. PI 3987+75.93
N.B. POST 3994+42.26
N.B. POST 3996+26.56
PEISCH
MELENDY
CLANCY
BRITTON
NELSON
18" x 22' Riser
18" x 7' Riser
MATCH LINE
N.B. POST 3998+09.36
S.B. PT 3990+25.75
N.B. PT 3997+32.38
Ramp C
Δ 14°55'30" Rt
D 3.67477°
R 1,559.17
T 204.23
L 406.15
E 13.32
Bnk 3/4" in 12"
N.B.
Δ 10°00'00" Rt.
D 0°30'
R 11,459.16
T 1,002.55
L 2,000.00
E 43.77
Bnk 1/4" in 12"
S.B.
Δ 10°00'00" Rt.
D 0°28'35.43"
R 12,020.41
T 1,052.00
L 2,098.00
E 45.92
Bnk 1/4" in 12"
SMITH
CLANCY
COPP
CONTROL OF ACCESS COMPLETE ON THIS SHEET
* INDICATES STAGE 2 CONSTRUCTION
Stage 2 Construction
NORWICH
SURVEYED BY Jewett DATE Oct. '63
DRAWN BY Cummings DATE
TRACED BY A.W. Burnes DATE Aug. '63
PROJ. I NO. 91-2 (28)
SHEET OF

QUANTITY SHEET

STATE OF VERMONT DEPARTMENT OF HIGHWAYS

NORWICH PROJECT NO. I 91-2 ( )

STAGE 2 CONSTRUCTION

SUMMARY SHEET NO. 1 OF 1 19 65

APPROXIMATE SUMMARY OF QUANTITIES

LANDSCAPING	EROSION CONTROL	BRIDGE	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NO.
			1,000	1,000	C.Y.	Common Excavation, Class I, Estimated	103-A1
			1,000	1,000	C.Y.	Borrow, Estimated	104
			1,000	1,000	C.Y.	Granular Borrow, Estimated	105
			500	500	C.Y.	Trench Excavation of Earth, Estimated	106-A
			50	50	C.Y.	Trench Excavation of Rock, Estimated	106-B
			88,600	88,600	S.Y.	Fine Grading-Subgrade (incl. 95 sy rounding)	107
			300	300	M/GAL	Dust Control with Water, Estimated	112
			2	2	TON	Dust and Ice Control with Calcium Chloride, Estimated	113
			30	30	HR.	All Purpose Excavator Rental, Estimated	124
			9,100	9,100	C.Y.	Sub-Base of Gravel, Mod. (incl. 65 cy rounding)	201
			500	500	C.Y.	Sub-Base of Sand, Estimated	202
			43,000	43,000	C.Y.	Sub-Base of Crushed Rock (incl. 92 cy rounding)	204
			38,400	38,400	CY/MI	Overhaul (4.0 miles)	221
			1,940	1,940	C.Y.	Stripping of Gravel Pits, Estimated	223
			1,025	1,025	C.Y.	Crushed Stone Shoulders Mod. (incl. 14 cy rounding)	303
			7,200	7,200	GAL	Tack Coat-Type III, Modified (incl. 68 gal. rounding)	315
			673	673	GAL	Tar Emulsion for Bridge Floors	318
			7,550	7550	TON	Bituminous Concrete Pavement Mod.	361
			35	35	HR.	Proof-Rolling, Estimated	365
			93	93	L.F.	Joint Sealer - Hot Poured	372-A
			64	64	L.F.	8" Asph.Ctd.Corr.Galv.Met.Pipe, 16 Gage	424-B
			200	200	L.F.	18" Asph.Ctd.Corr.Galv.Met.Pipe, 16 Gage, Est.	424-H
			20	20	EA.	Cast Iron Cover for Asph.Ctd.Corr.Galv.Met. Pipe Flushing Basin (incl. 4 ea rounding)	525
			4	4	EA.	Changing Elevation of Catch Basins or Manholes	533
			3,643	3,643	L.F.	Three Cable Guard Rail with Lt.Steel Posts	538
			4	4	EA.	Anchors for Three Cable Guard Rail with Steel Posts (to be used w/Steel Beam Guard Rail)	544
			92	92	L.F.	Standard Steel Beam Guard Rail with Steel Posts (6'3" spacing)	545-A
			65	65	EA.	Steel Marker Posts (incl. ea rounding)	547-B
			12	12	TON	Bituminous Concrete Mod. Surface for Gutters and Traffic Islands (incl. 0.6 ton rounding)	554
			31	31	TON	Bituminous Concrete Mod. (incl. 1 ton rounding)	555
			1	1	EA.	Erection of Project Markers	566
			Reg	Reg	L.S.	Field Office - Asphalt Plants	599-C
			Reg	Reg	L.S.	Field Office-Engineers	599-A
2				2	ACRE	Selective Thinning and Trimming, Estimated	601
	600			600	LB.	Seeding (incl. 35 lb rounding)	611
	14,900			14,900	LB.	Fertilizer (incl. 100 lb rounding)	615
	19			19	TON	Ground Limestone	616
	1,580			1,580	C.Y.	Top Soil (incl. 5 cy rounding)	621
	19			19	TON	Mulch	622
	2,330			2,330	S.Y.	Jute Matting (incl. 6 sy rounding)	623
	2,000			2,000	S.Y.	Sodding, Est.	612
			Reg.	Reg.	S.F.	Traffic Signs (incl. 23 sf rounding)	701
			Reg.	Reg.	EA.	Delineators	702
			9,400	9,400	TON	Crushed Gravel or Crushed Stone Plant Mixed Base course	213
			18	18	Ea.	Anch. for Three Cable Guard Rail w-Light Steel Posts, Type A	539-A
			2	2	Ea.	Anch. for Three Cable Guard Rail w/Light Steel Posts, Type B	539-B
			1,600	1,600	L.F.	Bridge Railing (For Bridge Approaches)	576
			25	25	Hr.	Bulldozer Rental Est.	120
			25	25	Hr.	Power Grader Rental, Est.	121
			25	25	Ea.	Boundary Markers, Est.	567
			1	1	Ea.	Overhead Traffic Sign Support @US 5-Sta. 103+95	703
			500	500	L.F.	Perf.Corr.Galv.Met.Under.Mod., Est.	521-1A
			200	200	C.Y.	Stone Fill for Slope Protection(Lt.Type)Est.	512
			1	1	Ea.	Precast Reinf.Conc.Curb Drop Inlet,Est.	5 1
			100	100	L.F.	12" Asph.Ctd.Corr.Galv.Met.Pipe,Est. 16 Ga.	424-D

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		SUB-BASE OF GRAVEL, MODIFIED
7,136	C.Y.	Mainline
43	C.Y.	In Median @ Bridge Approaches
1,914	C.Y.	SB-NB Crossover and Temporary Approach
7	C.Y.	Rounding
9,100	C.Y.	Total
		BITUMINOUS CONCRETE PAVEMENT MOD.
6,090	TONS	Mainline
74	TONS	Widening @ Bridge
781	TONS	Shoulders
207	TONS	I-91 Bridge over Reloc US-5
382	TONS	SB-NB Crossover and Temporary Approach
16	TONS	Rounding
7,550	TONS	Total
		CRUSHED GRAVEL OR CRUSHED STONE PLANT MIXED BASE COURSE.
9,244	TONS	Mainline
107	TONS	Widening @ Bridge
49	TONS	Rounding
9,400	TONS	Total

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

TYPE OF CONSTRUCTION

3" Bituminous Concrete Pavement Item 361-B

STATIONS FROM	STATIONS TO	PAVEMENT WIDTHS ROADWAY 24	ROADWAY 27.25	BRIDGE 37.25	EQUATIONS +	EQUATIONS −	REMARKS
		NORTHBOUND LANE					
3998+00.00	4027+69.18	3,169.18					Including Transitions
4027+69.18	4028+00.53		31.35				Approach Slab
4028+00.53	4029+37.21			136.68			Bridge
4029+37.21	4029+71.31		34.10				Approach Slab
4029+71.31	4063+75.00	3,403.69					Including Transitions
NORTHBOUND TOTALS ROADWAY		6,572.87	65.45				
BRIDGE				136.68			
		SOUTHBOUND LANE					
3996+00.00	3998+22.53	222.53					
					13.17		
3998+09.35	4027+11.13	2,901.77					Including Transitions
4027+11.13	4027+47.03		35.90				Approach Slab
4027+47.03	4028+86.38			139.35			Bridge
4028+86.38	4029+17.58		31.20				Approach Slab
4029+17.58	4063+75.00	3,457.42					Including Transitions
SOUTHBOUND TOTALS ROADWAY		6,581.72	67.10		13.17		
BRIDGE				139.35			
TOTALS		13,154.59	132.55	276.03	13.17		

LENGTH OF PROJECT

STATIONS		FEET	MILES	REMARKS
3998+00.00	4027+75.78	3,180.57	0.602	Total Equation +8.55
4027+75.78	4029+11.80	136.02	0.026	Bridge
4029+11.80	4062+75.00	3,463.20	0.656	
TOTAL ROADWAY		[illegible]	[illegible]	
TOTAL BRIDGE		136.02	0.026	
TOTAL		[illegible]	[illegible]	

NORWICH

STAGE 2 CONSTRUCTION

No. I 91-2 (23) Filed

Sheet 50 of 129 Sheets

EARTHWORK

V. C.	% GRADE	STATION	ELEVATION ON TANGENT	ELEVATION ON V. CURVES	CORR. V. C.	DIST.	TOTAL EXCAVATION EARTH AND ROCK AREA	TOTAL EXCAVATION EARTH AND ROCK CU. YDS.			EMBANKMENT AREA	EMBANKMENT CU. YDS.	BASE AREA	BASE CU. YDS.
		4024+00	464.44		0									
		+50	465.95	465.93	- 0.02	50								
		4025	467.46	467.39	- 0.07									
		+50	468.96	468.80	- 0.16									
		4026	470.47	470.19	- 0.28									
		+50	471.98	471.55	- 0.43									
		4027	473.48	472.86	- 0.62									
		+50	474.99	474.14	- 0.85	50								
		+73.78	475.71	474.74	- 0.97	23.78								
		4028	476.50	475.39	- 1.11									
		+00.53	476.51	475.40	- 1.11									
		+25	477.25	476.00	- 1.25									
		+50	478.00	476.60	- 1.40									
		4029	478.89	477.78	- 1.11									
		+11.80	479.09	478.05	- 1.04									
900' VC		+37.21	479.54	478.63	- 0.91									
		+50	479.77	478.92	- 0.85									
		4030	480.66	480.04	- 0.62	50								
		+50	481.54	481.11	- 0.43									
		4031	482.43	482.15	- 0.28									
		+50	483.31	483.15	- 0.16									
		4032	484.20	484.13	- 0.07									
		+50	485.08	485.06	- 0.02									
	+1.770%	4033	485.97	485.97	- 0.00									
		+50	486.85											
		4034	487.74											
		+50	488.62											
		4035	489.51											
		+50	490.39											
		4036	491.28											
		+50	492.16											
		4037	493.05											
		+50	493.93											
		4038	494.82											
		+50	495.70											
		4039	496.59											
		+50	497.47											
		4040	498.36											
		+50	499.24											
		4041	500.13											
		+50	501.01											
		4042	501.90											
		+50	502.78											
		4043	503.67											
		+50	504.55											
		4044	505.44											
		+50	506.32											
		4045	507.21											
		+50	508.09											
		4046	508.98			50								

CARRIED FORWARD
COLUMN FOOTINGS

TYPE CHD & CONFIRMED 8/15/67

EARTHWORK

V. C.	% GRADE	STATION	ELEVATION ON TANGENT	ELEVATION ON V. CURVES	CORR. V. C.	DIST.	TOTAL EXCAVATION EARTH AND ROCK AREA	TOTAL EXCAVATION EARTH AND ROCK CU. YDS.			EMBANKMENT AREA	EMBANKMENT CU. YDS.	BASE AREA	BASE CU. YDS.
		4046	508.98											
		+50	509.86			50								
		4047	510.75											
		+50	511.63											
	+7.770%	4048	512.52											
		+50	513.40											
		4049	514.29											
		+50	515.17											
		4050	516.06	516.06	0.00									
		+50	516.94	516.90	- 0.04	50								
		4051	517.83	517.69	- 0.14									
		+31.99				31.99								
		+50	518.71	518.39	- 0.32	18.01								
		4052	519.60	519.03	- 0.57	50								
		+50	520.48	519.59	- 0.89									
		4053	521.37	520.09	- 1.28									
		+50	522.25	520.51	- 1.74									
		4054	523.14	520.86	- 2.28									
		+50	524.02	521.14	- 2.88									
		4055	524.91	521.35	- 3.56									
		+50	525.79	521.48	- 4.31									
		4056	526.68	521.56	- 5.12									
		+50	527.56	521.55	- 6.01									
		4057	528.45	521.48	- 6.97									
1500' VC		+50	529.33	521.32	- 8.01	50								
		4058	528.08	521.11	- 6.97	50								
		+50	526.83	520.82	- 6.01	25								
		+75	526.21	520.65	- 5.56									
		4059	525.58	520.46	- 5.12									
		+25	524.96	520.25	- 4.71									
		+50	524.33	520.02	- 4.31									
		+75	523.71	519.79	- 3.92									
		4060	523.08	519.52	- 3.56									
		+25	522.46	519.25	- 3.21									
		+50	521.83	518.95	- 2.88									
		+75	521.21	518.64	- 2.57									
		4061	520.58	518.30	- 2.28									
		+25	519.96	517.96	- 2.00									
		+50	519.33	517.59	- 1.74									
	-2.500%	+75	518.71	517.21	- 1.50									
		4062	518.08	516.80	- 1.28									
		+25	517.46	516.38	- 1.08									
		+50	516.83	515.94	- 0.89									
		+75	516.21	515.49	- 0.72									
		4063	515.58	515.01	- 0.57									
		+25	514.96	514.52	- 0.44	25								

CARRIED FORWARD
COLUMN FOOTINGS

EARTHWORK SUMMARY

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

SUMMARY OF BALANCES

V. C.	% GRADE	STATION	TANGENT	V. CURVE	CORR. VC	DIST.	FILL	ACCUMULATIVE EXCESSES CUT	ACCUMULATIVE EXCESSES FILL	BASE CUBIC YARDS
VC	SGR									
		4063+25	514.96	514.52	- 0.44					
		+50	514.33	514.01	- 0.32	25				
		+75	513.71	513.50	- 0.21					
		4064	513.08	512.94	- 0.14					
		+25	512.46	512.38	- 0.08					
		+50	511.83	511.79	- 0.04					
		+75	511.21	511.20	- 0.01	25				
	-2.500%	4065	510.58		0					
EQ -3.46		4066+11.04 = 4066+44.50								
		4070+53.46	496.83							

SUMMARY BY COLUMNS

SHEET NO.	COL. NO.	EXCAVATION TOTAL CU. YDS.	EXCAVATION ROCK CU. YDS.	EMBANKMENT CUBIC YARDS		BASE CUBIC YARDS

REMARKS

EARTH AND ROCK EXCAVATION
SOLID ROCK EXCAVATION
EARTH EXCAVATION

PLANIMETERED FILL
LESS FACTORED SOLID ROCK
LESS DISPLACEMENT OF ANY LARGE STRUCTURES
NET PLANIMETERED FILL
FACTOR
PLANIMETERED FILL INCLUDING FACTOR

MATERIALS AVAILABLE FOR FILLS
EARTH EXCAVATION
CHANNEL EXCAVATION
UNDERDRAIN EXCAVATION
STRUCTURE EXCAVATION

TOTAL MATERIAL AVAILABLE FOR FILL

TOTAL FILL INCLUDING FACTOR
TOTAL MATERIAL FOR FILL
BORROW

PROJECT STAGE I CONSTRUCTION REV. GRADE JULY 7, 1967
N O R W I C H -NORTHBOUND

PROJECT I NO. 91-2(18)
SHEET 57 OF 129 SHEETS

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EARTHWORK

V.C.	% GRADE	STATION	ELEVATION ON TANGENT	ELEVATION ON V. CURVES	CORR. V.C.	DIST.	TOTAL EXCAVATION EARTH AND ROCK AREA	TOTAL EXCAVATION EARTH AND ROCK CU. YDS.			EMBANKMENT AREA	EMBANKMENT CU. YDS.	BASE AREA	BASE CU. YDS.
		4024	465.37											
		+50	466.85		0	50								
	+2.960%	4025	468.33	468.31	- 0.02	50								
		+50	469.81	469.73	- 0.08	50								
		4026	471.29	471.11	- 0.18	50								
		+50	472.77	472.45	- 0.32	50								
		4027	474.25	473.75	- 0.50	50								
		+47.03	475.64	474.93	- 0.71	4073								
		+50	475.73	475.01	- 0.72	2.97								
700' VC		4028	477.21	476.23	- 0.98	50								
		+25	477.67	476.83	- 0.84	25								
		+50	478.13	477.41	- 0.72	25								
		+86.38	478.80	478.24	- 0.56	3638								
		4029	479.05	478.55	- 0.50	1362								
		+50	479.97	479.65	- 0.32	50								
		4030	480.90	480.72	- 0.18									
		+50	481.82	481.74	- 0.08									
	-1.8933%	4031	482.74	482.72	- 0.02									
		+50	483.66	483.66	0									
		4032	484.58											
		+50	485.50											
		4033	486.43											
		+50	487.35											
		4034	488.27											
		+50	489.19											
		4035	490.11											
		+50	491.03											
		4036	491.96											
		+50	492.88											
		4037	493.80											
		+50	494.72											
		4038	495.64											
		+50	496.56											
		4039	497.49											
		+50	498.41											
		4040	499.33											
		+50	500.25											
		4041	501.17											
		+50	502.09											
		4042	503.02											
		+50	503.94											
		4043	504.86											
		+50	505.78											
		4044	506.70											
		+50	507.62											
		4045	508.55											
		+50	509.47			50								

CARRIED FORWARD

COLUMN FOOTINGS

TYPE CHK & CORRECTED 12/16/67

EARTHWORK

V.C.	% GRADE	STATION	ELEVATION ON TANGENT	ELEVATION ON V. CURVES	CORR. V.C.	DIST.	TOTAL EXCAVATION EARTH AND ROCK AREA	TOTAL EXCAVATION EARTH AND ROCK CU. YDS.			EMBANKMENT AREA	EMBANKMENT CU. YDS.	BASE AREA	BASE CU. YDS.
		4046	510.39											
		+50	511.31			50								
	-1.8433%	4047	512.23											
		+50	513.15											
		4048	514.08											
		+50	515.00											
		4049	515.92											
		+50	516.84	516.84	0.00									
		4050	517.76	517.73	- 0.03									
		+50	518.68	518.55	- 0.13									
		4051	519.61	519.32	- 0.29	50								
		+31.99				3199								
		+50	520.53	520.01	- 0.52	1801								
		4052	521.45	520.64	- 0.81	50								
		+50	522.37	521.20	- 1.17									
		4053	523.29	521.69	- 1.60									
		+50	524.21	522.13	- 2.08									
		4054	525.14	522.50	- 2.64									
1000' VC		+50	526.06	522.80	- 3.26									
		4055	525.68	523.04	- 2.64									
		+50	525.29	523.21	- 2.08									
		4056	524.91	523.31	- 1.60									
		+50	524.53	523.36	- 1.17									
	-0.7627%	4057	524.15	523.34	- 0.81									
		+50	523.77	523.25	- 0.52									
		4058	523.39	523.10	- 0.29									
		+50	523.01	522.88	- 0.13	50								
		+75	522.82	522.75	- 0.07	25								
		4059	522.63	522.60	- 0.03									
		+25	522.44	522.43	- 0.01									
		+50	522.24	522.24	0.00									
		+75	522.05	522.04	- 0.01									
		4060	521.86	521.82	- 0.04									
		+25	521.67	521.57	- 0.10									
		+50	521.48	521.31	- 0.17									
		+75	521.29	521.02	- 0.27									
		4061	521.10	520.71	- 0.39									
		+25	520.91	520.38	- 0.53									
		+50	520.72	520.03	- 0.69									
		+75	520.53	519.65	- 0.88									
500' VC		4062	520.34	519.25	- 1.09									
		+25	519.72	518.84	- 0.88									
		+50	519.09	518.40	- 0.69									
	-2.500%	+75	518.47	517.94	- 0.53									
		4063	517.84	517.45	- 0.39									
		+25	517.22	516.95	- 0.27	25								
		+50	516.59	516.42	- 0.17									

CARRIED FORWARD

COLUMN FOOTINGS

EARTHWORK SUMMARY

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

SUMMARY OF BALANCES

VC	% GR	STATION	ELEVATION ON TANG.	ELEVATION V. CURVE	CORR VC	DIST	EXCESSES CUT	EXCESSES FILL	ACCUMULATIVE EXCESSES CUT	ACCUMULATIVE EXCESSES FILL	BASE CUBIC YARDS
		4063+75	515.97	515.87	-0.10	25					
		4064	515.34	515.30	-0.04	25					
		+25	514.72	514.71	-0.01	25					
		+50	514.09		0						
EQ -3.46		4066+41.04=									
		4066+44.50									
		4067+53.46	506.59								

SHEET NO.	COL. NO.	SUMMARY BY COLUMNS	EXCAVATION TOTAL CU. YDS.	EXCAVATION ROCK CU. YDS.	EMBANKMENT CUBIC YARDS	BASE CUBIC YARDS	REMARKS
							EARTH AND ROCK EXCAVATION
							SOLID ROCK EXCAVATION
							EARTH EXCAVATION
							PLANIMETERED FILL
							LESS FACTORED SOLID ROCK
							LESS DISPLACEMENT OF ANY LARGE STRUCTURES
							NET PLANIMETERED FILL
							FACTOR
							PLANIMETERED FILL INCLUDING FACTOR
							MATERIALS AVAILABLE FOR FILLS
							EARTH EXCAVATION
							CHANNEL EXCAVATION
							UNDERDRAIN EXCAVATION
							STRUCTURE EXCAVATION
							TOTAL MATERIAL AVAILABLE FOR FILL
							TOTAL FILL INCLUDING FACTOR
							TOTAL MATERIAL FOR FILL
							BORROW

PROJECT STAGE I CONSTRUCTION REV. GRADE JULY 7, 1967
NORWICH SOUTHBOUND

PROJECT I NO 91-2(18)

SHEET 58 OF 150 SHEETS

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EARTHWORK

V. C.	% GRADE	STATION	GRADES ELEVATION ON TANGENT	GRADES ELEVATION ON V. CURVES	CORR. V. C.	DIST.	TOTAL EXCAVATION EARTH AND ROCK AREA	TOTAL EXCAVATION EARTH AND ROCK CU. YDS.	EMBANKMENT AREA	EMBANKMENT CU. YDS.	BASE AREA	BASE CU. YDS.
								TEMPORARY APPROACH				
		4007+50	414.71									
		4016	440.33									
		+50	441.84									
		4017	443.34									
		+50	444.85									
		4018	446.36									
		+50	447.86									
		+50.5	447.88									
		4019	448.37									
		+00.5	449.39									
		+50	450.88									
		+50.5	450.89									
		4020	452.39									
		+01	452.42									
	+3.014%	+50	453.89	453.89	0							
		+51.5	453.94	453.94	- 0.00							
		4021	455.40	455.32	- 0.08							
		+02	455.46	455.37	- 0.09							
		+50	456.91	456.53	- 0.33							
		+52.5	456.98	456.53	- 0.95							
		4022	458.41	457.67	- 0.74							
		+02.5	458.49	457.73	- 0.76		0					
		+50	459.92	458.61	- 1.31	50.5		86				
		+53	460.01	458.66	- 1.35		92					
		4023	461.43	459.38	- 2.05	51		228				
		+04	461.55	459.43	- 2.12		149					
		+50	462.93	459.97	- 2.96	51		343				
		+55	463.08	460.02	- 3.06		214					
		4024	464.44	460.42	- 4.02	50.5		522				
		+05.5	464.61	460.46	- 4.15		344					
		+14	465.86	460.51	- 4.35							
		+50	465.95	460.69	- 5.26	50.5		756				
		+56	465.82	460.72	- 5.10		464					
	800' VC	4025	464.83	460.80	- 4.03	51		999				
		+07	464.67	460.80	- 3.87		594					
		+50	463.71	460.75	- 2.96	51		1254				
		+58	463.53	460.73	- 2.80	42	734	1208				
		4026	462.59	460.54	- 2.05		819					
		+09.5	462.39	460.49	- 1.90							
		+14	462.27	460.44	- 1.83	50		1531				
		+50	461.46	460.15	- 1.31		834					
		+62	461.19	460.03	- 1.16			1646				
		4027	460.34	459.60	- 0.74		944					
		+15	460.01	459.41	- 0.60			1799				
		+50	459.22	458.89	- 0.33		999					
		+70.5	458.76	458.55	- 0.21			1831				
		4028	458.10	458.02	- 0.08		979					
		+14	457.79	457.75	- 0.04							
		+23	457.58	457.56	- 0.02			1734				
		+50	456.98	456.98	0		894					
		+77	456.37					1586				
	-2.243%	4029	455.86				819					
		+30	455.18					1410				
		+50	454.73				704					
		+82.5	454.01			50		1123				
		4030	453.61				509					
		+35	452.83			35		674				
		+50	452.49			51	531	807				
		+86	451.68				323					
		4031	451.37			51		442				
		+37	450.54				145					
		+50	450.25									
		+75	449.70			51.5		238				
	COMPUTED TO US 5	+88.5	449.90				105					
		4032	449.02			50.5		103				
		+39	447.73				5					
		+50	447.28			50		5				
		+89	445.64				0					
		CARRIED FORWARD COLUMN FOOTINGS						20325				

EARTHWORK

V. C.	% GRADE	STATION	GRADES ELEVATION ON TANGENT	GRADES ELEVATION ON V. CURVES	CORR. V. C.	DIST.	TOTAL EXCAVATION EARTH AND ROCK AREA	TOTAL EXCAVATION EARTH AND ROCK CU. YDS.	EMBANKMENT AREA	EMBANKMENT CU. YDS.	BASE AREA	BASE CU. YDS.
		4032+50	447.28									
		+89	445.64				0					
	COMPUTED	4033	445.18									
		+39.5	443.16									
		+41.77	443.06									
		106+01.80										
		+50	440.95									
		107										
		+50										
		108										
								SOUTHBOUND TO NORTHBOUND CROSSOVER				
		PI 4007+50	416.53									
	+2.960%	4016	441.69	441.69	0							
		+50	443.17	443.15	- 0.02							
		4017	444.65	444.57	- 0.08							
	300' VC	+50	446.13	445.90	- 0.23							
		4018	447.42	447.34	- 0.08							
		+50	448.70	448.68	- 0.02							
	+2.574%	4019	449.99	449.99	0							
		+00.5	450.01									
		+50	451.28									
		+51	451.30									
		4020	452.57									
		+03	452.64									
		+50	453.85									
		+55	453.98									
		4021	455.14									
		+07	455.32									
		TEMPORARY RAMP (DETOUR)										
	-0.229%	- 0+77	460.76					75				
		+68	460.74									
		+57	460.71			52		144				
		+50	460.70									
		+25	460.64					75				
		0+00	460.58			63		245				
		+38	460.50					135				
		+50	460.47			56		140				
		+94	460.37					0				
		1+00	460.35									
		+32	460.28									
		+46	460.25									
		+50	460.24									
		+98	460.15									
		2+00	460.14					0				
		+32	460.08									
		+49	460.04			50		2				
	NO VC	+50	460.04					2				
								5				
		3+00	459.94					3				
		+01	459.94									
		+50	459.84					0				
		+61	459.82									
	-0.202%	4+00	459.74					30				
		22	459.69									
		+50	459.64					65				
		+77	459.58			50		60				
		5+00	459.53					0				
		+30	459.47									
		+50	459.43									
		+82	459.37									
		6+00	459.33									
		+32	459.27									
		+50	459.23									
		CARRIED FORWARD COLUMN FOOTINGS						715				

EARTHWORK SUMMARY

STATE OF VERMONT
DEPARTMENT OF
HIGHWAYS

SUMMARY OF BALANCES

STATION TO STATION	TOTAL EXCAV. EARTH & ROCK CUBIC YARDS	ROCK EXCAV. CUBIC YARDS	EMBANKMENT CUBIC YARDS	EXCESSES CUT	EXCESSES FILL	ACCUMULATIVE EXCESSES CUT	ACCUMULATIVE EXCESSES FILL	BASE CUBIC YARDS

ADDITIONAL BIT. CONC. PAVEMENT, ITEM 361 MOD.

1 1/2" ON US 5 DETOUR = 114 TON (607 x 0.12 x 20 x 1/27 x 2)

ADDITIONAL COMMON EXCAVATION = 21,040 C.Y.

ADDITIONAL SUBBASE OF SAND = 1,947 C.Y.

SUMMARY BY COLUMNS

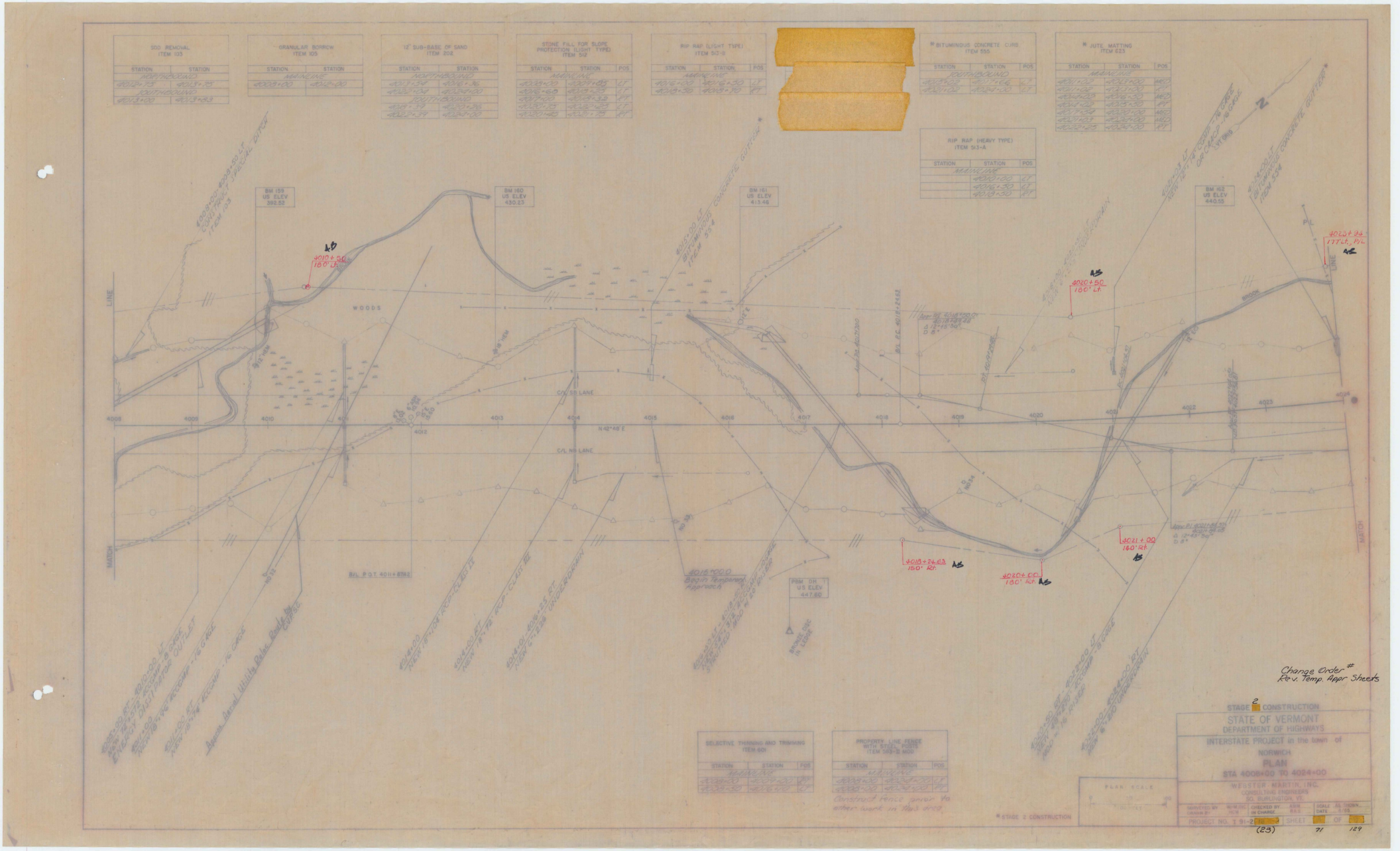
SHEET NO.	COL. NO.	EXCAVATION TOTAL CU. YDS.	EXCAVATION ROCK CU. YDS.	EMBANKMENT CUBIC YARDS	BASE CUBIC YARDS	REMARKS
						EARTH AND ROCK EXCAVATION
						SOLID ROCK EXCAVATION
						EARTH EXCAVATION
						PLANIMETERED FILL
						LESS FACTORED SOLID ROCK
						LESS DISPLACEMENT OF ANY LARGE STRUCTURES
						NET PLANIMETERED FILL
						FACTOR
						PLANIMETERED FILL INCLUDING FACTOR
						MATERIALS AVAILABLE FOR FILLS
						EARTH EXCAVATION
						CHANNEL EXCAVATION
						UNDERDRAIN EXCAVATION
						STRUCTURE EXCAVATION
						TOTAL MATERIAL AVAILABLE FOR FILL
						TOTAL FILL INCLUDING FACTOR
						TOTAL MATERIAL FOR FILL
						BORROW

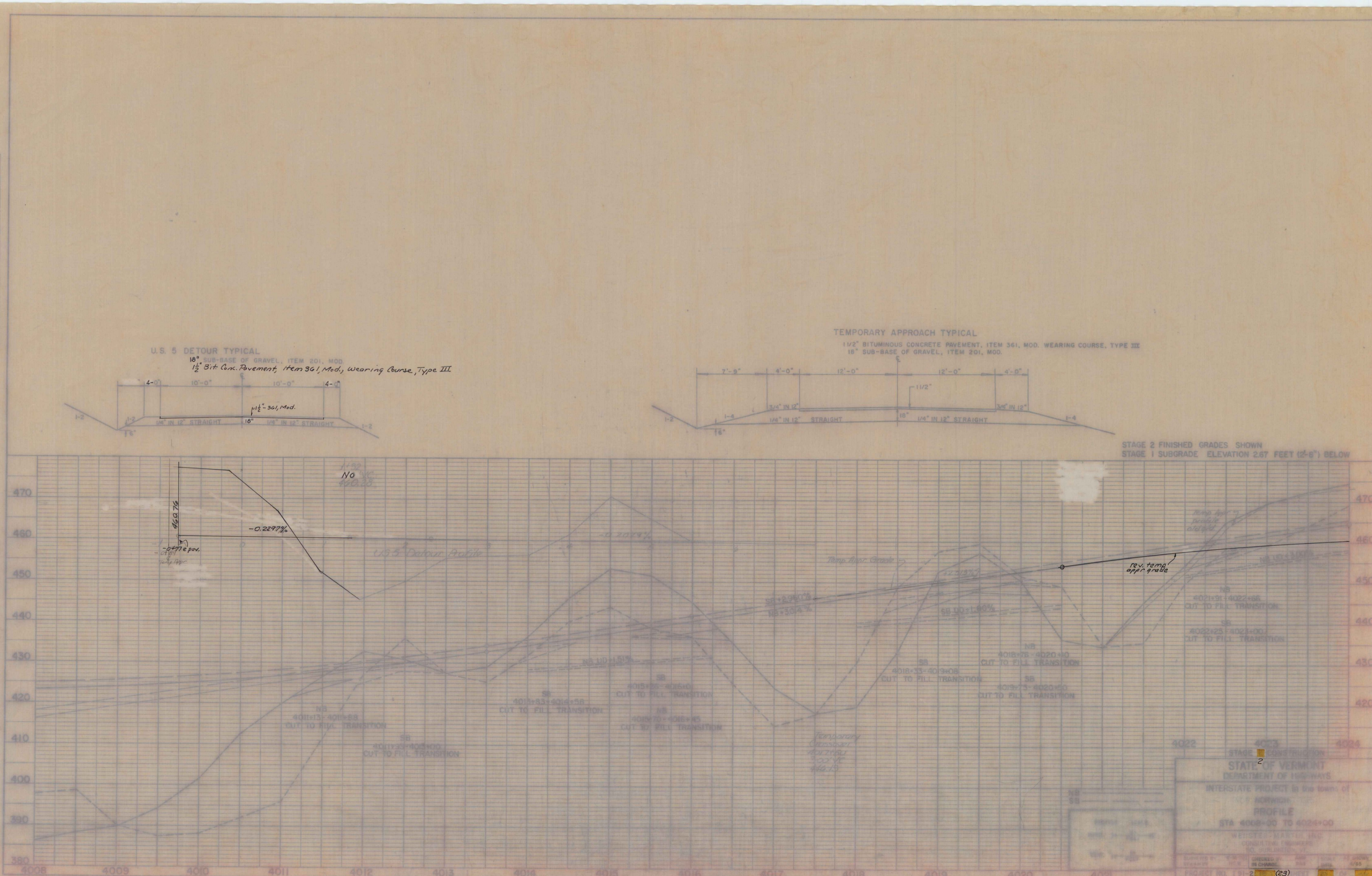
PROJECT STAGE I CONSTRUCTION REV. TEMPORARY APPROACH
N O R W I C H CHANGE ORDER #

PROJECT I NO. 91-2(18)
SHEET 59 OF 129 SHEETS

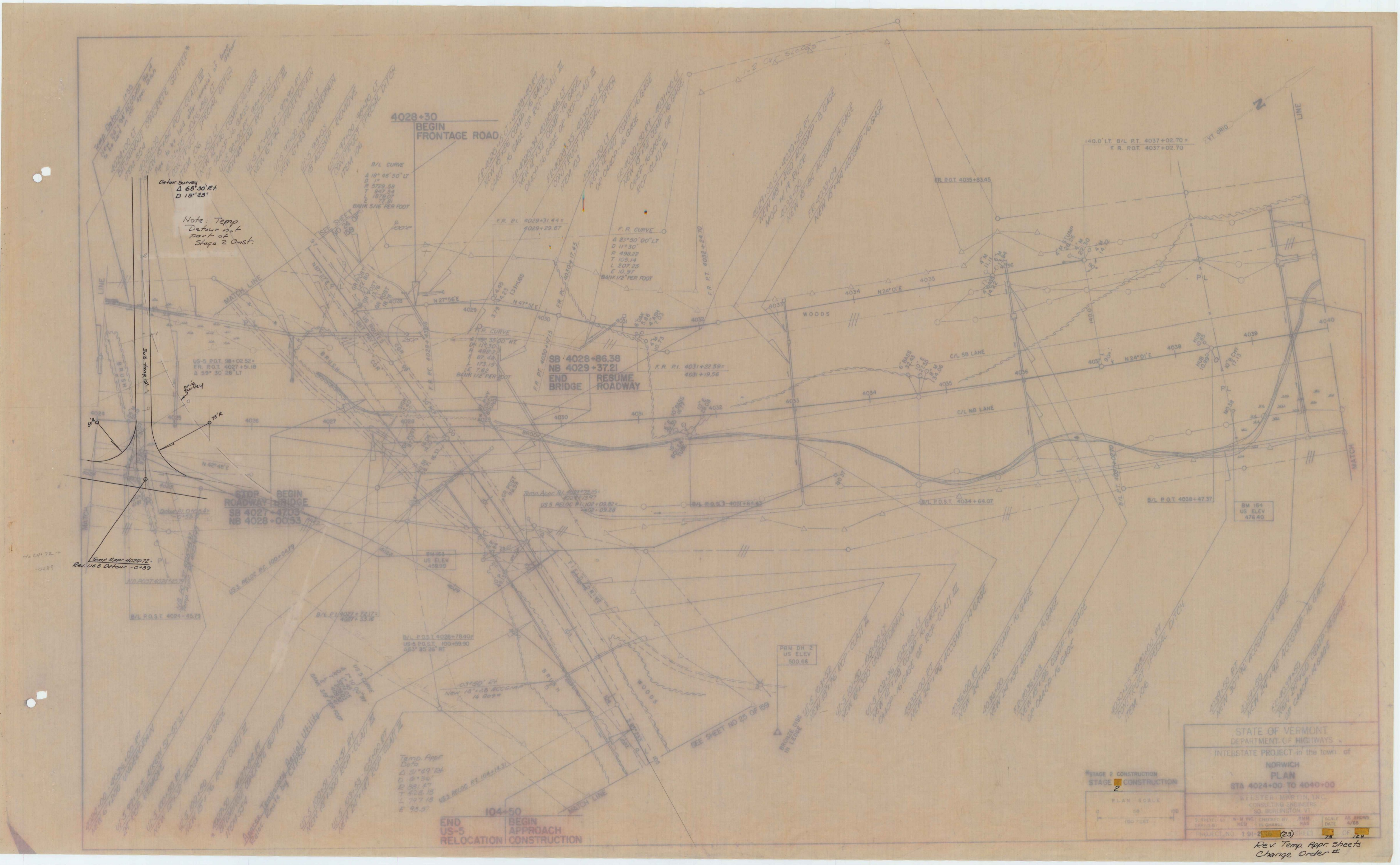
TYPE CHK & CORRECTED 01/5/67

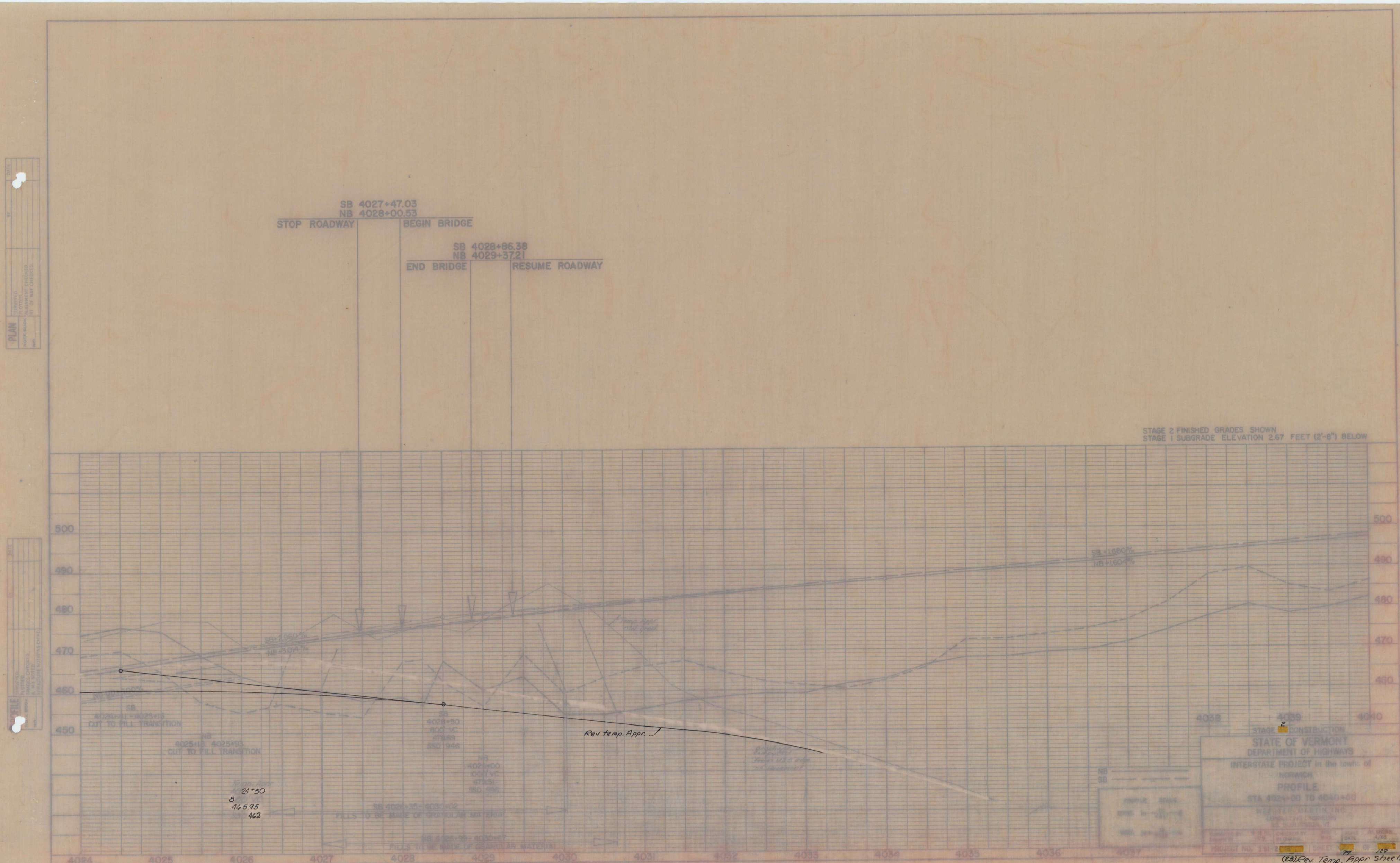
0-2


SOD REMOVAL ITEM 133
GRANULAR BORROW ITEM 105
12" SUB-BASE OF SAND ITEM 202
STONE FILL FOR SLOPE PROTECTION (LIGHT TYPE) ITEM 512
RIP RAP (LIGHT TYPE) ITEM 513-2
* BITUMINOUS CONCRETE CURB ITEM 555
* JUTE MATTING ITEM 623
RIP RAP (HEAVY TYPE) ITEM 513-A
BM 159 US ELEV 392.52
BM 160 US ELEV 430.23
BM 161 US ELEV 413.46
BM 162 US ELEV 440.55
WOODS
C/L SB LANE
C/L NB LANE
N 42°48' E
4008
4009
4010
4011
4012
4013
4014
4015
4016
4017
4018
4019
4020
4021
4022
4023
4024
SELECTIVE THINNING AND TRIMMING ITEM 601
PROPERTY LINE FENCE WITH STEEL POSTS ITEM 613-2 MOD
Construct fence prior to other work in this area.
* STAGE 2 CONSTRUCTION
Change Order # Rev. Temp. Appr. Sheets
STAGE 2 CONSTRUCTION
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS
INTERSTATE PROJECT in the town of
NORWICH
PLAN
STA 4008+00 TO 4024+00
WEBSTER - MARTIN, INC.
CONSULTING ENGINEERS
SO. BURLINGTON, VT.
PROJECT NO. I 91-2
SHEET
OF

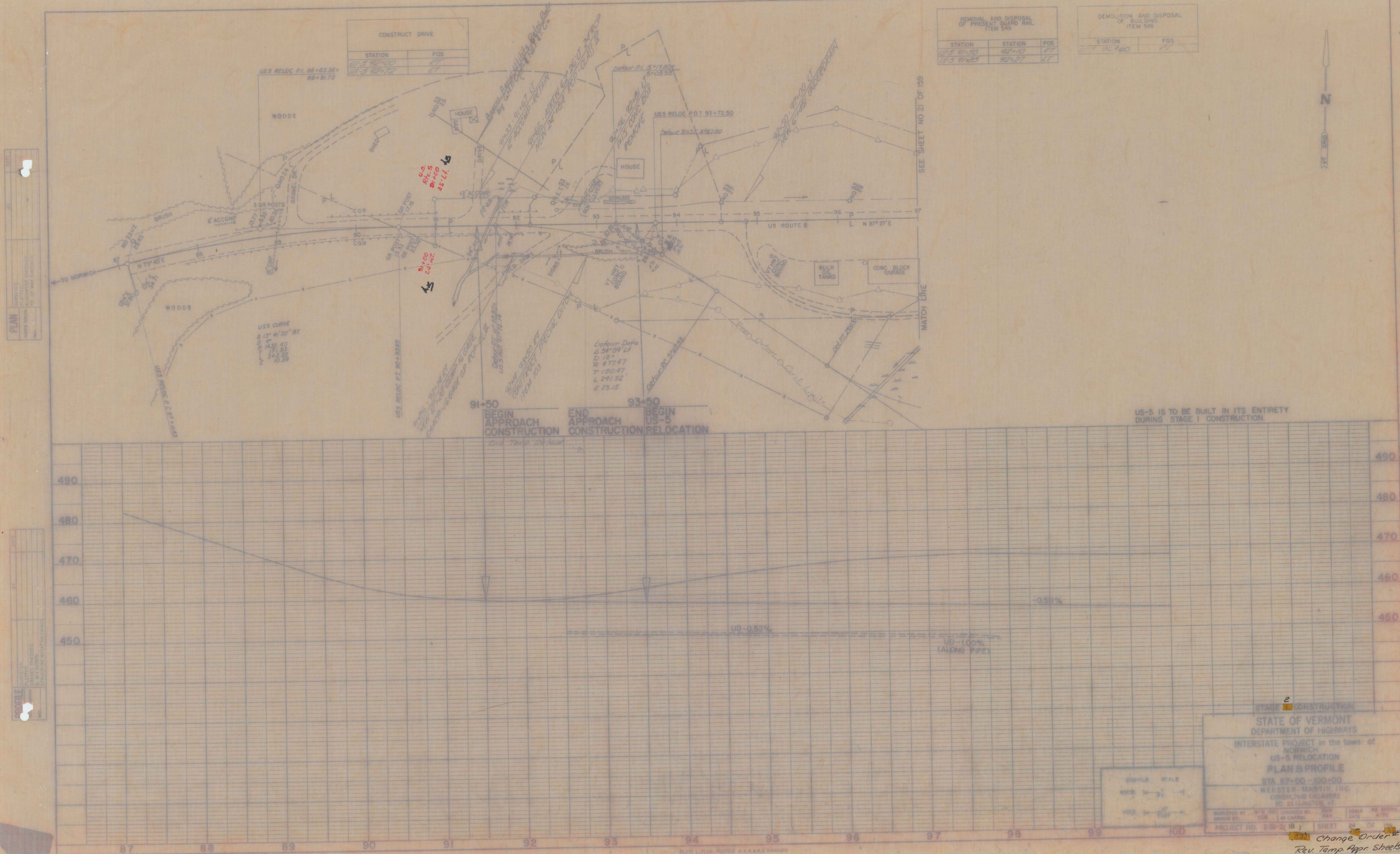


Rev. Temp. Appr. sheets 72 129
Change Order #


4028+30
BEGIN
FRONTAGE ROAD
SB 4028+86.38
NB 4029+37.21
END BRIDGE
RESUME ROADWAY
STOP ROADWAY
BEGIN BRIDGE
SB 4027+47.05
NB 4028+00.53
C/L SB LANE
C/L NB LANE
WOODS
MATCH LINE
Note: Temp. Detour not part of Stage 2 Const.
104+50
END
US-5
RELOCATION
BEGIN
APPROACH
CONSTRUCTION
STAGE 2 CONSTRUCTION
PLAN SCALE
100 FEET
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS
INTERSTATE PROJECT in the town of
NORWICH
PLAN
STA 4024+00 TO 4040+00
WEBSTER-MARTIN, INC.
CONSULTING ENGINEERS
SO. BURLINGTON, VT.
SCALE AS SHOWN
DATE 4/65
PROJECT NO. I 91-2 (23)
SHEET 73 OF 129
Rev. Temp. Appr. Sheets
Change Order II



(23) Rev. Temp. Appr Sheets
Change Order #



CONSTRUCT DRIVE	
STATION	POS
US-5 92+00	RT
US-5 92+72	LT

REMOVAL AND DISPOSAL OF PRESENT GUARD RAIL ITEM 549		
STATION	STATION	POS
US-5 91+50	92+10	RT
US-5 91+85	92+27	LT

DEMOLITION AND DISPOSAL OF BUILDING ITEM 586	
STATION	POS
US-5 96+60	RT

STAGE 2 CONSTRUCTION

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

INTERSTATE PROJECT in the town of NORWICH
US-5 RELOCATION

PLAN & PROFILE

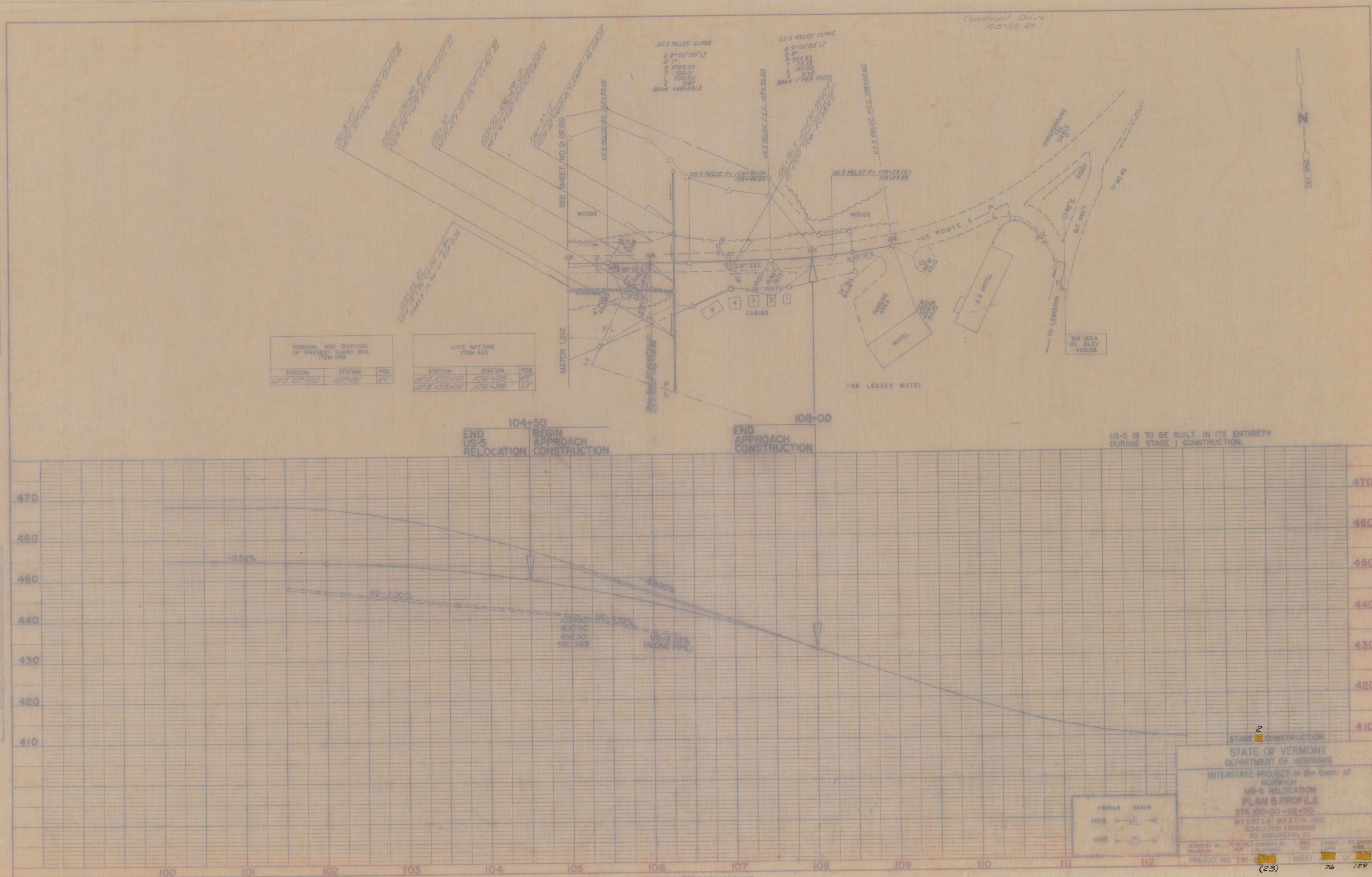
STA 87+00 - 100+00

WEBSTER-MARTIN, INC.
CONSULTING ENGINEERS
SO. BURLINGTON, VT.

SCALE AS SHOWN
DATE 4/69

PROJECT NO. I-91-2(18) SHEET 24 OF 159

(23) Change Order #
Rev. Temp. Appr. Sheets



REMOVAL AND DISPOSAL OF PRESENT GUARD RAIL
ITEM 549

STATION	STATION	POS
US-5 107+00	107+81	RT

JUTE MATTING
ITEM 623

STATION	STATION	POS
US-5 105+00	106+28	RT
US-5 105+00	106+28	LT

2
STAGE CONSTRUCTION

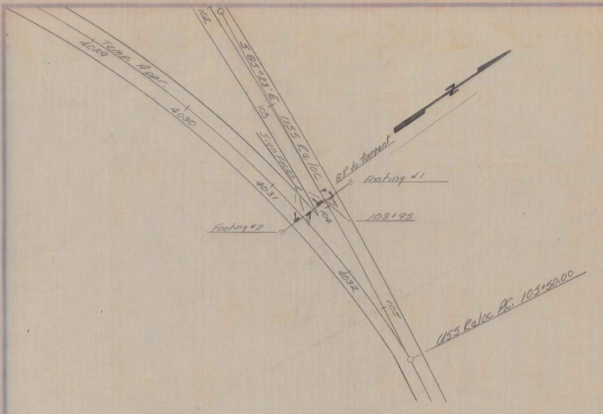
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

INTERSTATE PROJECT in the town of
NORWICH
US-5 RELOCATION
PLAN & PROFILE
STA 100+00 - 112+50

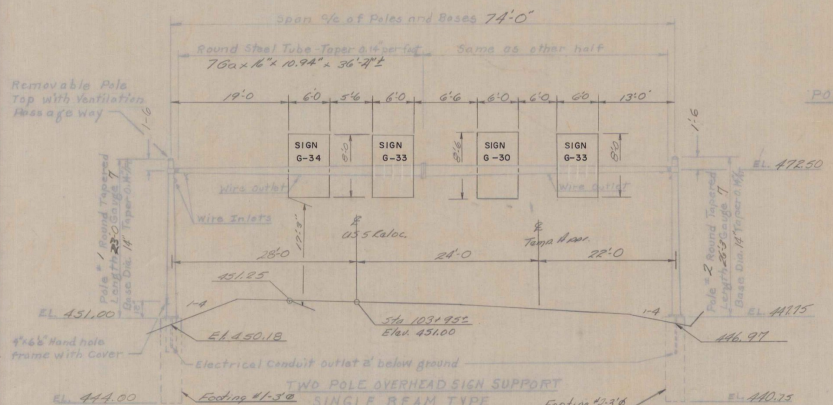
WEBSTER-MARTIN, INC.
CONSULTING ENGINEERS
SO. BURLINGTON, VT.

SCALE AS SHOWN
DATE 4/66

PROJECT NO. I 91-2 (23)
SHEET 76 OF 129

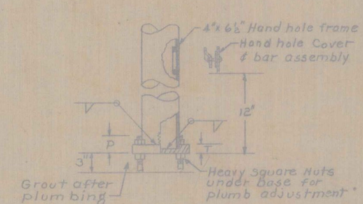


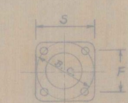
LOCATION PLAN
Scale 1" = 50'



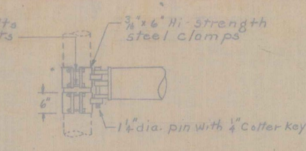
TWO POLE OVERHEAD SIGN SUPPORT
SINGLE BEAM TYPE

ELEVATION VIEW
Not to Scale

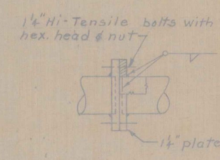




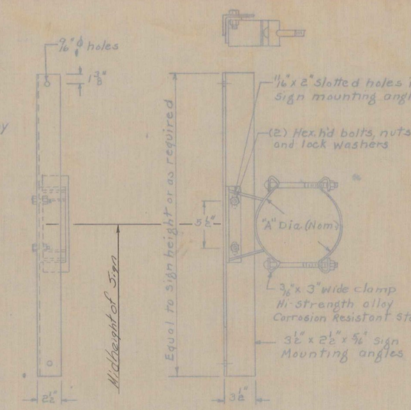
POLE BASE DETAIL



BEAM AND POLE CONNECTION



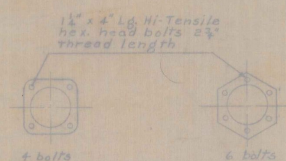
CENTER JOINT DETAIL



GALVANIZED SIGN BRACKET ASSEMBLY

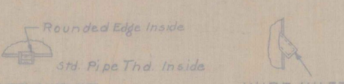
Clamp Range	"A" Nom. Size
4¼" To 5¼"	4½"
4⅞" - 6¼"	5"
5¾" - 7¼"	6"
6¾" - 8⅜"	7"
7¾" - 9⅜"	8"
8¾" - 10⅜"	9"
9¾" - 11⅜"	10"
10¾" - 12⅜"	11"
11¾" - 13⅜"	12"
12¾" - 14⅜"	13"
13¾" - 15⅜"	14"
14¾" - 16⅜"	15"
15¾" - 17⅜"	16"

Sign Height Inches	Max Lin. Ft. Sign Width Per Bracket
30	23
36	15½
42	11½
48	8½
60	5½
72	4



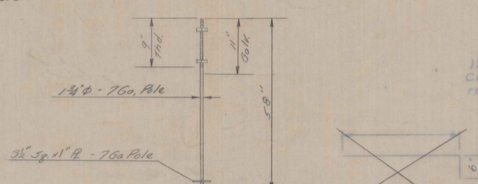
FOR 8.8" THRU 9.5" TUBES · FOR 10" THRU 16" TUBES

CENTER JOINT PLATES



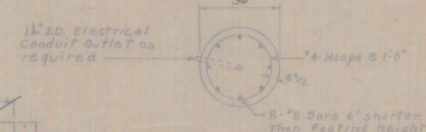
WIRE OUTLET
Blind Half-Coupling

WIRE INLET
1¼" I.D. Insulator

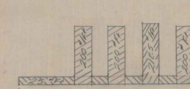


ANCHOR BOLT

~~ANCHOR BOLT~~



CROSS-SECTION CONCRETE FOOTING



WIND LOAD DIAGRAM
Scale 1" = 20'-0" Horiz.
Scale 1" = 200# Vert.

GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT, DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, DATED APRIL 1964, WITH CURRENT MODIFICATIONS.
2. OVERHEAD SIGN SUPPORTS ARE TO BE DESIGNED TO SATISFY REQUIREMENTS OF THE FOLLOWING A.A.S.H.O. PUBLICATION ENTITLED "SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS", DATED NOVEMBER, 1960.
3. ANCHOR BOLTS: FOUR HIGH STRENGTH STEEL ANCHOR BOLTS, HAVING A TYPICAL TENSILE YIELD STRENGTH OF 55,000 P.S.I. AND AN ULTIMATE OF 85,000 P.S.I., AND EACH FITTED WITH BOTH A SQUARE NUT AND A HEXAGON NUT, SHALL BE FURNISHED WITH EACH POLE. EACH ANCHOR BOLT SHALL HAVE AN "L" BEND AT THE BOTTOM AND BE THREADED AT THE TOP END. THREADED ENDS AND ALL NUTS SHALL BE GALVANIZED. THE ANCHOR BOLTS SHALL BE CAPABLE OF RESISTING AT YIELD STRENGTH STRESS THE FULL BENDING MOMENT OF THE SHAFT AT ITS YIELD STRENGTH STRESS.
4. FLANGE BOLTS: ALL FLANGE BOLTS WITH HEX NUTS SHALL BE HIGH STRENGTH STEEL AND CONFORM TO ASTM SPECIFICATIONS A 193-65, GRADE B7, HAVING A MINIMUM TENSILE YIELD STRENGTH OF 105,000 P.S.I., AND A MINIMUM TENSILE ULTIMATE STRENGTH OF 125,000 P.S.I. THESE BOLTS AND ATTACHED NUTS SHALL BE HOT DIP GALVANIZED, PER ASTM A 153-65, WITH THE NUTS TAPPED .015" OVERSIZE TO INSURE PROPER FITTING. THE FLANGE BOLTS SHALL BE CAPABLE OF RESISTING AT 75% OF YIELD STRENGTH STRESS THE FULL BENDING MOMENT OF THE SHAFT AT ITS YIELD STRENGTH STRESS.
5. CROSS BEAM CHORDS AND UPRIGHT POLE MEMBERS: THESE STEEL TUBES SHALL BE FORMED AND WELDED WITH ONE CONTINUOUS LONGITUDINAL WELD ONLY. AFTER FORMING AND WELDING, THEY SHALL BE COLD ROLLED TO INSURE UNIFORMITY OF SIZE, SMOOTHNESS OF WELD, AND SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 P.S.I. THERE SHALL BE NO TRANSVERSE WELDING EXCEPT AT THE FLANGE CONNECTIONS AND POLE BASE PLATES, WHERE THE TUBES SHALL TELESCOPE THE FLANGES AND PLATES AND BE CONTINUOUSLY WELDED BOTH INSIDE AND OUT TO WITHSTAND THE FULL TRANSFER OF TUBE BENDING STRENGTH TO THE BOLTS. WELDING SHALL BE PERFORMED BY THE ELECTRIC ARC PROCESS USING "E60" CLASS COATED ELECTRODES APPROVED BY THE AMERICAN WELDING SOCIETY. ALL WELDING SLAG SHALL BE CHIPPED AND BRUSHED CLEAN PERMITTING ACCURATE WELD INSPECTION. CROSS BEAM TUBES SHALL BE CAMBERED TO PREVENT SAG UNDER DEAD LOAD OF BEAMS AND SIGNS.
6. ALL STEEL EXCEPT CONCRETE REINFORCING BARS TO BE HOT DIP GALVANIZED. THE ASSEMBLIES SHALL BE DESIGNED AND MANUFACTURED TO PERMIT GALVANIZING ON ALL INTERIOR AND EXTERIOR SURFACES, FREE OF POCKETS AND OTHER STRUCTURAL OBSTRUCTIONS THAT WILL NOT PERMIT A MINIMUM AVERAGE ZINC COATING THICKNESS OF 2 1/2 OUNCES PER SQUARE FOOT OF SURFACE AND THEN SHALL BE SO GALVANIZED IN ACCORDANCE WITH ASTM SPECIFICATION A 123-65.
7. DESIGN STRESSES: CONCRETE F_c EQUALS 1,200 P.S.I. REINFORCING STEEL EQUALS 20,000 P.S.I.
   CONCRETE F'_c EQUALS 3,000 P.S.I.
8. WIND LOAD ON EXPOSED TUBES AND SIGNS EQUALS 25# PER SQUARE FOOT.
9. MAXIMUM FOUNDATION PRESSURE EQUALS ONE AND ONE-HALF (1 1/2) TONS PER SQUARE FOOT UNLESS OTHERWISE NOTED.
10. SIGN SUPPORT TUBES MAY BE FABRICATED IN THREE (3) SECTIONS AT THE CONTRACTOR'S OPTION PROVIDED ALTERNATE DESIGN CONFORMS TO ORIGINAL REQUIREMENTS.
11. AN EQUIVALENT ALUMINUM ALLOY SPAN MAY BE SUBSTITUTED WITH SUBMITTAL OF DRAWINGS AND APPROVAL OF THE ENGINEER.
12. CHANGES IN THE DESIGN DETAILS SHOWN HERE OR THE USE OF OTHER MATERIALS OR DESIGNS, MEETING REQUIREMENTS STATED ABOVE, MAY BE PERMITTED WITH THE WRITTEN APPROVAL OF THE ENGINEER.

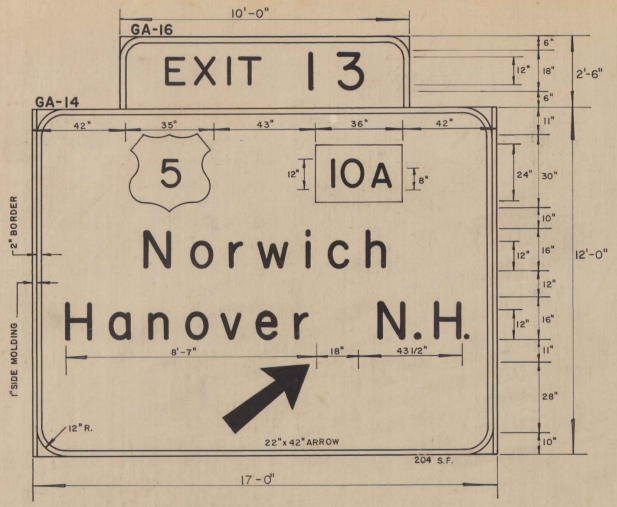
No.	Pole Description	B.C.	F	S	T	P	Anchor Bolt Size
#1	7H 14" x 10.78" x 23'-0	20	14⅛"	20½	2"	3¾"	1¾" x 58"
#2	7H 14" x 10.32" x 26'-3	20	14⅛"	20½	2"	3¾"	1¾" x 58"

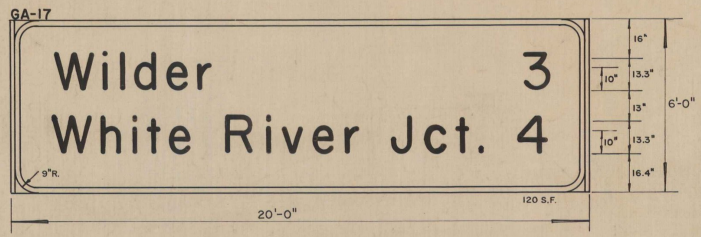
No.	Item	Unit	Total
703	Overhead Traffic Sign Support	Each	1

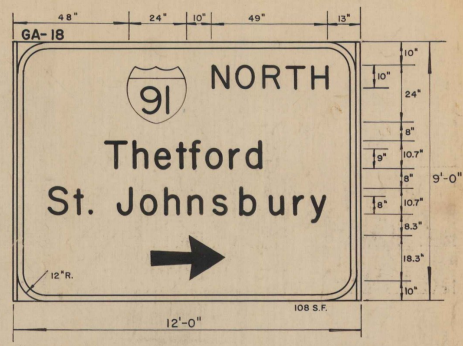
STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

PROJECT NORWICH
TOWN OF NORWICH
ROUTE No U.S.5 Reloc. STA. 103+95
OVERHEAD TRAFFIC SIGN SUPPORT
AT STA. 103+95 U.S. 5 RELOCATION
SCALE As Noted
IN CHARGE W.M. SMITH
DRAWN BY R.H. Flanders CHECKED BY J.A. Richardson
PROJECT No. I91-2(23)
SHEET 87 OF 129

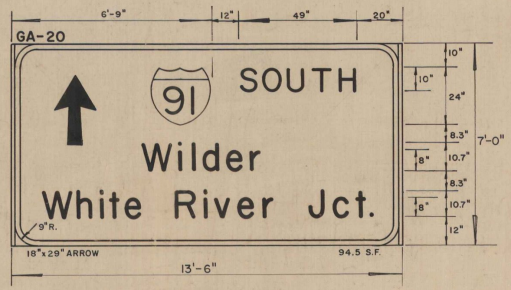
SR-9

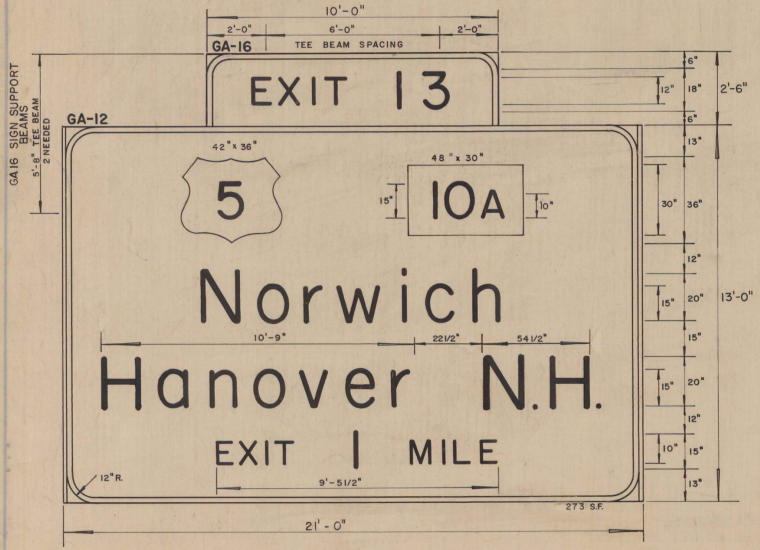






GA-19 – SAME EXCEPT ARROW LEFT





Porcelain enameling panels on this project may have a 1/8" corner radius on their face. They shall be alloy 6061-T4 or a magnesium-silicon type enameling alloy similar to alloy 6061 and with mechanical properties after enameling of 16,000 p.s.i. yield and 30,000 p.s.i. tensile strength.

Plus GA-15, AND GA-31

MATERIALS:

The sign base material used for these signs, except route markers, shall be extruded aluminum panels with a porcelain enamel finish. The reflective text material, except for the route markers, shall be acrylic plastic reflectors in embossed letter frames.

ROUTE MARKERS:

The route markers shall conform with the designs and materials detailed on standard sheets E-11, E-12 and E-13.

COLORS:

The signs, except for route markers, shall have reflectorized white texts on non-reflectorized green backgrounds. The green shall conform with the standard color adopted by the American Association of State Highway Officials and approved by the U.S. Department of Commerce, Bureau of Public Roads.

LETTERING:

Letters and digits, except on route markers, shall conform with Series E of the standard alphabet for highway signs, approved by the National Joint Committee on Uniform Traffic Control Devices, with the stroke widths modified to one-fifth the height.

HARTFORD-NORWICH

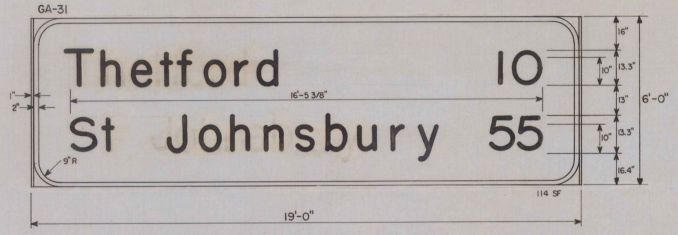
TRAFFIC SIGNS DESIGN AND CONSTRUCTION DETAILS

DESIGNED BY PIRIE DATE 12/65
DRAWN BY PIRIE DATE 12/65
TRACED BY R.L.E. DATE 1/66

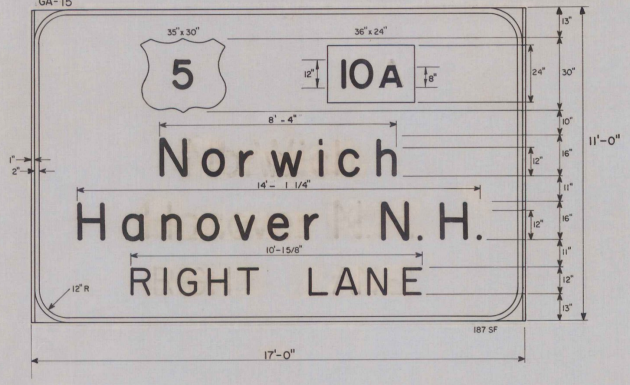
STAGE 2 CONSTRUCTION

PROJ. I NO. 91-2(51)
SHEET 88 OF 129 (23)

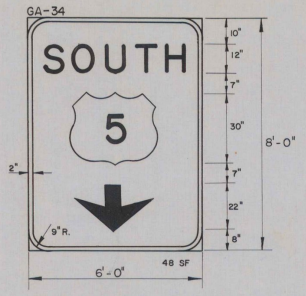
GA-31



GA-15



GA-34



SIGNS G-30, G-33 AND G-34 SHALL HAVE A REFLECTORIZED TEXT ON A REFLECTORIZED GREEN BACKGROUND. THE SILVER WHITE REFLECTIVE SHEETING FOR THE EMBOSSED LETTERS AND ARROWS SHALL HAVE A MINIMUM BRIGHTNESS OF 100 CANDLEPOWER PER FT CANDLE PER SQ. FT. OF MATERIAL AT 0.2° DIVERGENCE ANGLE AND 15° ANGLE OF INCIDENCE.

THE BACKGROUND MATERIAL FOR THESE OVERHEAD SIGNS MAY BE 3/4" HIGH DENSITY OVERLAID PLYWOOD OR 0.125" FLAT SHEET ALUMINUM OR 14 GAUGE GALVANIZED FLAT SHEET STEEL OR EXTRUDED ALUMINUM PANELS. PLYWOOD OR METAL SHEETS MAY BE MOUNTED BY BOLTING THRU THEM AND THEIR SUPPORTING BEAMS OR BRACKETS

ROUTE MARKERS AS TEXT SHALL CONFORM WITH SIZES INDICATED ON THE PLANS AND MATERIALS DETAILED ON STANDARD SHEETS E-11, E-12 AND E-13.

SECTION 3

STAGE 2 CONSTRUCTION

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

INTERSTATE PROJECT in the town of
NORWICH

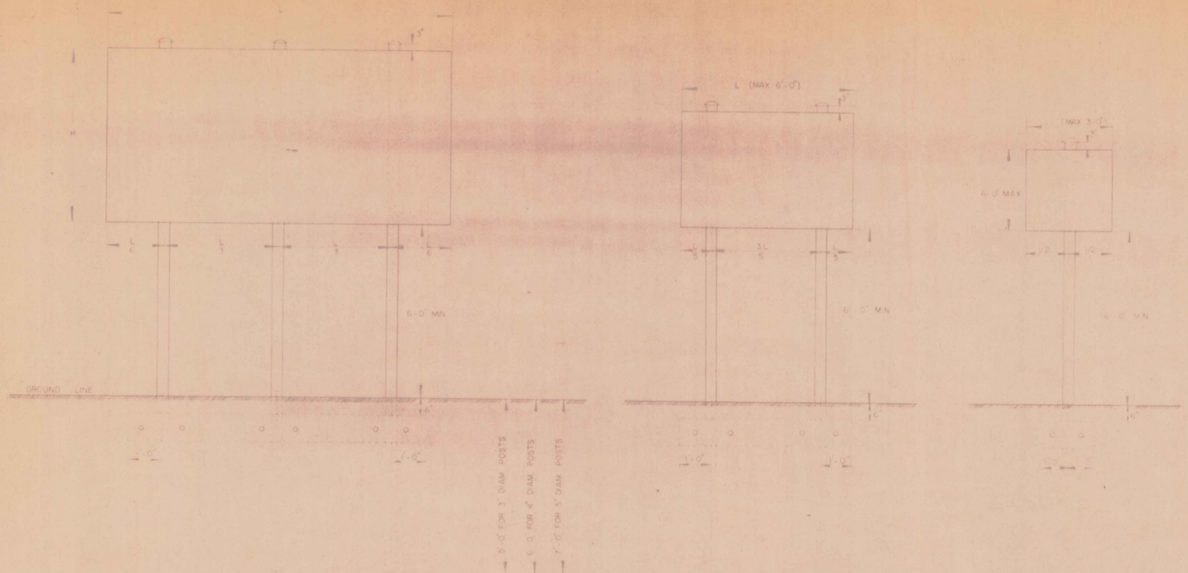
TRAFFIC SIGNS

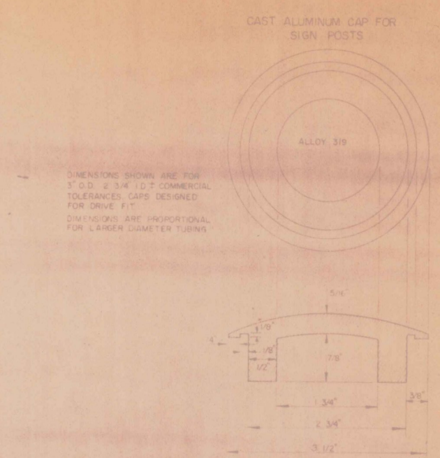
DESIGN AND CONSTRUCTION DETAILS

WEBSTER-MARTIN, INC.
CONSULTING ENGINEERS
SO. BURLINGTON, VT.

SURVEYED BY	W-M, INC.	CHECKED BY	AWM	SCALE	AS SHOWN
DRAWN BY	HCM	IN CHARGE	RAS	DATE	4/65

PROJECT NO I 91-2(23) | SHEET 89 OF 129





POSTS _ THE POSTS FOR THESE INSTALLATION SHALL BE EXTRUDED TUBULAR POSTS OF ALUMINUM ALLOY 6061-T6

HARDWARE _ THE ASSEMBLY HARDWARE USED TO FASTEN A SIGN TO THE POSTS SHALL BE ALUMINUM OR STAINLESS STEEL OF A STANDARD COMMERCIAL DESIGN APPROVED BY THE DEPARTMENT.
THE FABRICATOR SHALL SUBMIT SHOP DRAWINGS TO BE APPROVED BY THE DEPARTMENT.

ANCHORS _ USE TWO (2) PIECES OF 2"X12" ROUGH PLANK WELL SEASONED, STRAIGHT AND SOUND SPRUCE OR OTHER APPROVED SPECIES, CUT FROM LIVE GROWING TIMBER, FREE FROM LOOSE KNOTS OR OTHER DEFECTS AND SHALL HAVE A PRESSURE PRESERVATIVE TREATMENT COVERED BY SUB-ARTICLE 54.02 B OF THE SPECIFICATION FOR TWO CABLE GUARD RAIL, ITEM 54.
THESE PLANKS SHALL BE CLAMPED POST TO POST WITH A MINIMUM OF ONE (1) FOOT OVERHANG TO BE PARALLEL TO THE SIGN FACE.
THE TOP EDGE OF THE [illegible] SHALL BE APPROXIMATELY PARALLEL TO THE GROUND [illegible]
[illegible] THE ANCHORS SHALL BE [illegible] CARRIAGE BOLTS WITH NUTS AND WASHERS AND SHALL BE GALVANIZED BY THE HOT DIPPED PROCESS IN CONFORMANCE WITH ASTM SPECIFICATION A-153 AFTER FABRICATION [illegible] THE REQUIRED JOINT STRENGTH.

ERECTION _ ALL POSTS SHOULD BE [illegible] AS SPECIFIED BY DRAWINGS OR BY THE ENGINEER IN THE FIELD. LOCK NUTS ON [illegible] ALUMINUM [illegible] SHALL BE TORQUED TO 225 INCH POUNDS WHEN USING DRY, CLEAN, UNLUBRICATED THREADS.
WHEN ALUMINUM SURFACES ARE TO BE PLACED IN CONTACT WITH EARTH, THEY SHALL BE GIVEN A THICK COAT OF HEAVY [illegible] ASPHALT PAINT WHICH SHALL BE DRY BEFORE INSTALLATION. SURFACES TO BE PAINTED SHALL BE SOLVENT CLEANED. ALUMINUM ALLOYS SHALL NOT BE PLACED IN CONTACT WITH COPPER, COPPER BASE ALLOYS, LEAD OR NICKLE.

TYPE C FOOTING

TRAFFIC SIGNS

YIELDING TYPE TUBULAR ALUMINUM SIGN SUPPORTS

DESIGNED BY W.H.G. DATE 1/2/68
DRAWN BY W.H.G. DATE 1/2/68
TRACED BY AJA DATE 1/10/68
Hartford - Norwich
STAGE II
PROJ. I NO. 91-2(23)
SHEET 89-A OF 129

Trench Earth Computations

3951+09 - 3956+0   5' Depth to Excav. Line

From Chart   491' x 16.5 x 1/27 = 300 C.Y.

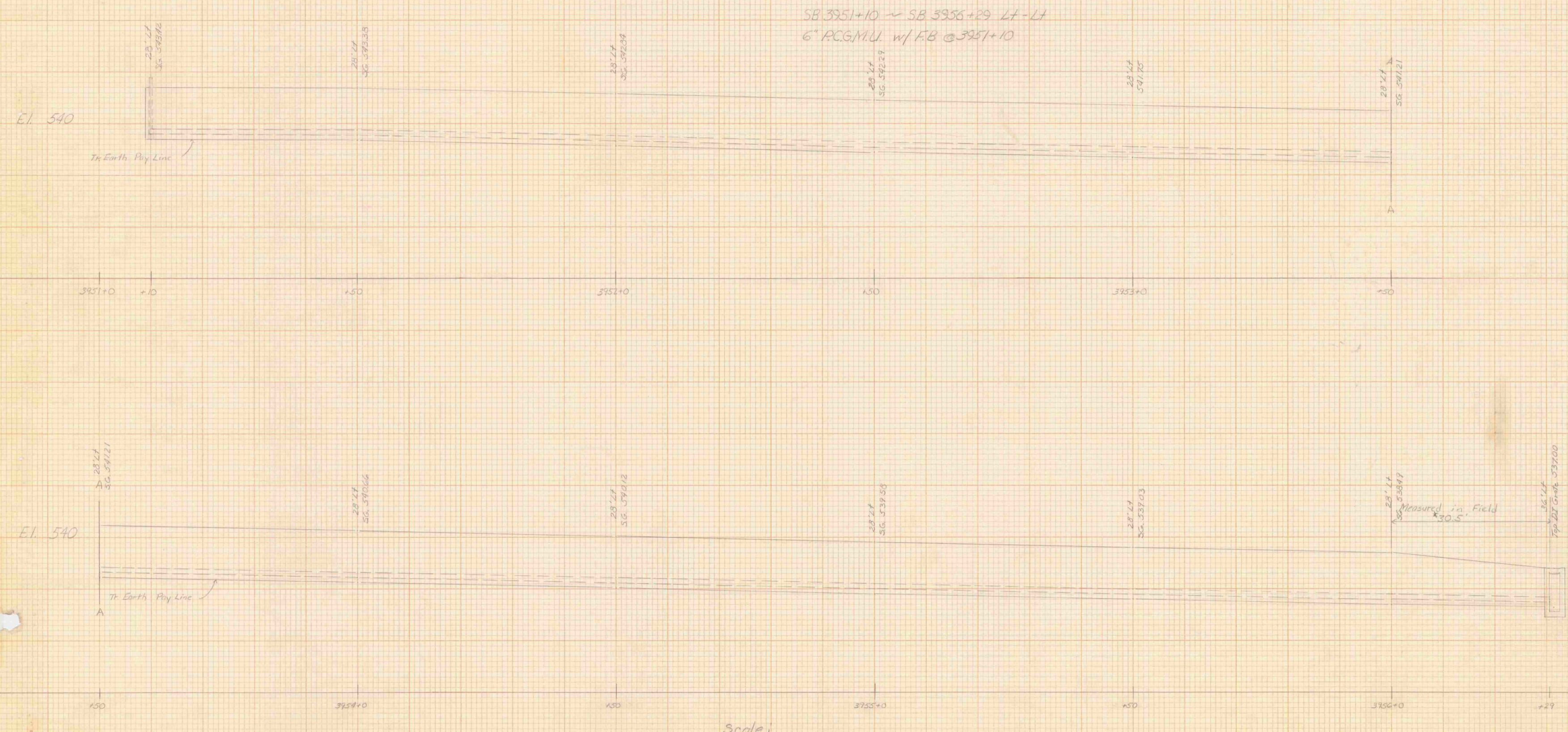
3956+0 - 3956+29

Av. Depth (5.0' + 3.8')/2 = 4.4' = (14.2)

From Chart   30.5' x 14.2 x 1/27 = 16. C.Y.

Total T.E. 316. C.Y.

Sta. 3956+00
- 3951+10
4 90.0 lf.
+ 30.5
520.5
+ 5.0 lf. stand pipe
525.5
+ 2.5 outside of curve (correction)
528.0 lf.

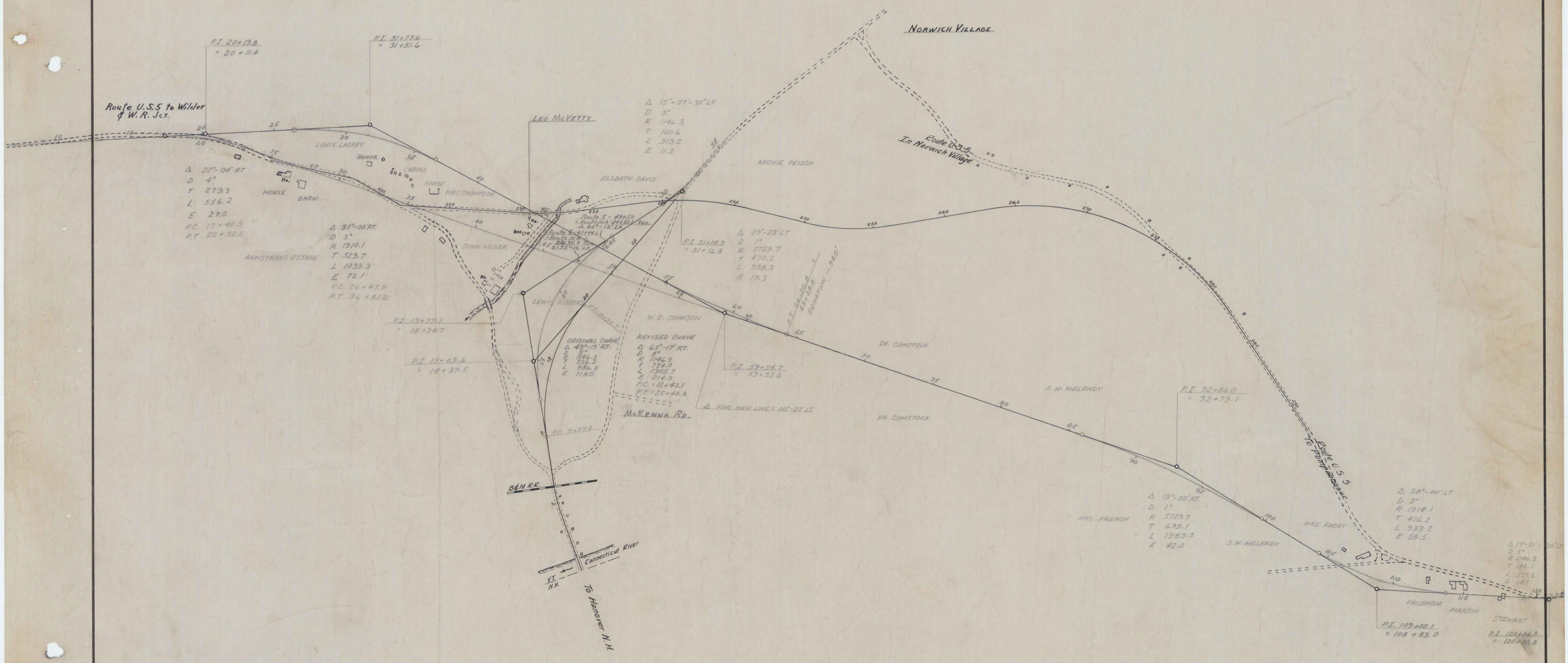


Scale:
Horiz 1" = 10'
Vert 1" = 5'

FIGURED BY RAM 4/15/68
CHECKED BY RLW 4/15/68

Hartford - Norwich
I-91-2(23) Stage II

Drainage Sheet No. 1.



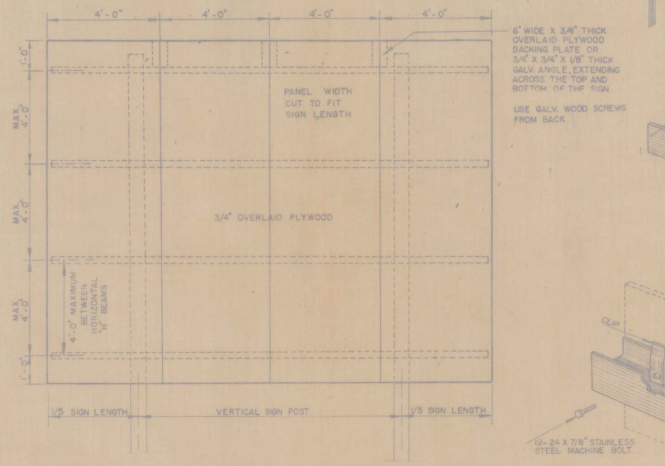
Scale: 1" = 300'

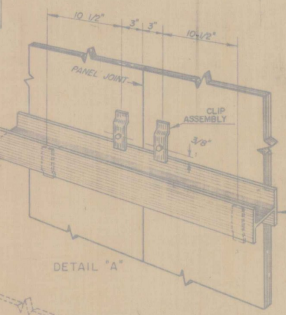
NORWICH 114 (15)

Surveyed by		
Designed by		
Drawn by	F. R. DRURY 1-5-54	
Traced by		
Checked by		
Series	No.	Filed
	Sheet of	Sheets

MAXIMUM SPACINGS FOR HORIZONTAL "H" BEAMS	
HEIGHT OF SIGN	MIN. NO. HORIZONTALS
5'-0"	2
6'-0" – 9'-0"	3
10'-0" – 12'-0"	4
13'-0" – 16'-0"	5
17'-0" – 19'-0"	6

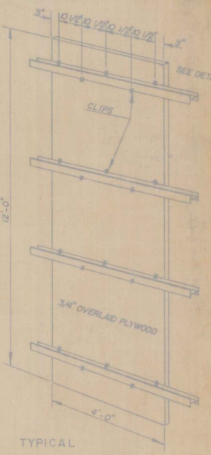
FOR SIGNS OVER 10'-0" IN HEIGHT, THE FULL HEIGHT MAY BE OBTAINED WITH PANELS HAVING A SCARFED JOINT (FACTORY JOINED WITH NO BACKING NECESSARY) OR BY COMBINING STANDARD PANELS WITH OTHER SIZES SUCH AS 4'X4', 4'X6' TO OBTAIN THE REQUIRED HEIGHT. WHEN USING ANY OF THESE COMBINATIONS, HOWEVER, LOCATE HORIZONTAL BUTT JOINT AT "H" BEAM FRAMING MEMBER.





DETAIL "A"

DETAIL "B"



TYPICAL PANEL SECTION

PLYWOOD SIGNS OVER 6' WIDE SHALL BE COMPLETELY REINFORCED BY USE OF STEEL OR ALUMINUM I BEAMS, ANGLE OR TEE GIRTS WITH STAINLESS STEEL OR ALUMINUM CLIPS, DESIGNED TO WITHSTAND A WINDLOAD OF 30 LBS PER SQ. FT.

NOTES:

STAINLESS STEEL OR ALUMINUM CLIPS STARTING 3" FROM SIGN EDGE AND SPACED A MINIMUM OF 5 CLIPS PER 4'-0". CLIPS AND BEAMS TO BE FASTENED BY STAINLESS STEEL OR ALUMINUM ANCHOR NUTS AND STAINLESS STEEL MACHINE SCREWS, BOLTS, NUTS, FLAT AND LOCK WASHERS, LARGE ENOUGH TO CARRY A SIGN LOAD OF 30 LBS PER SQ. FT.

FOR GALVANIZATION, REFER TO SPECIFICATIONS ITEM 545 SECTION 545.02 F

FORMULA FOR DETERMINING SIZE OF ALUMINUM OR STEEL I BEAMS, ANGLE OR TEE GIRTS.

HORIZONTAL SIGN SUPPORTS WITH 2 POSTS, VERTICAL SPACING OF HORIZONTAL SIGN SUPPORT, STRINGERS USED WITH ALL FLAT SHEET SIGNS OF ALUMINUM, STEEL OR PLYWOOD, LONGER THAN SIX FEET, IS AS FOLLOWS:

$$V = \frac{66,667\,S}{WL^2}$$

V = VERTICAL SPACING IN FT. (NOT TO EXCEED 4 FT.)
S = SECTION MODULUS OF HORIZONTAL STRINGER
W = WINDLOAD PER SQUARE FOOT OF SIGN
L = SIGN LENGTH IN FEET
20,000 p.s.i. = ALLOWABLE BENDING STRESS FOR HORIZONTAL STRINGER.

F. Pirie

OVERLAID PLYWOOD THICKNESS	
MAXIMUM SIGN WIDTH	MINIMUM PLYWOOD THICKNESS
24"	1/2"
72"	5/8"
OVER 72"	3/4"

BEFORE ERECTING PLYWOOD SIGNS LARGER THAN 72" WIDE, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL BY THE ENGINEER, A DRAWING OF HIS PROPOSED METHOD OF ATTACHING HORIZONTAL BEAMS TO VERTICAL POSTS.

HARTFORD-NORWICH

STAGE 2 CONSTRUCTION

OVERLAID PLYWOOD SIGN ASSEMBLY AND CONSTRUCTION DETAILS

DRAWN BY: AJA DATE
TRACED BY: AJA DATE

PROJ. I NO. 91-2 (5) (23)
SHEET 90 OF 129

TRAFFIC SIGNS, ITEM 701

IDENTIFICATION	NUMBER OF SIGNS	SIZE WIDTH	SIZE HEIGHT	TEXT	SIGN POSTS SIZE AND TYPE	SIGN POSTS NO. PER SIGN	SIGN POSTS FOOTING	TOTAL SIGN AREA
GA-31	1	19'-0"	6'-0"	THETFORD 10 ST JOHNSBURY 55	10 WF 21 BREAKAWAY	2	A	114 ϕ
GA-12	1	21'-0"	13'-0"	5 I-10-A NORWICH HANOVER N.H. EXIT 1 MILE	~~12 WF 40~~ 12 WF 27 BREAKAWAY	~~3~~	A	273 ϕ
GA-32	1	9'-0"	4'-0"	NEXT EXIT 4 MILES	2-2¼"x2½" ALUMINUM T BEAMS ~~7.5#~~ 7.3# MOUNT BELOW GA-12			36 ϕ
GA-15	1	17'-0"	11'-0"	5 I-10-A NORWICH HANOVER N.H. RIGHT LANE	12 WF 27 BREAKAWAY	2	A	187 ϕ
MILEAGE SIGN	2	8"	18"	7 6	1.3 LBS DELINEATOR POST	1		2 ϕ
G-30	1	6'-0"	8'-6"	SOUTH 91	MOUNT ON US 5 SIGN BRIDGE STA 103+95			51 ϕ
G-33	2	6'-0"	8'-0"	NORTH 5	"			96 ϕ
G-34	1	6'-0"	8'-0"	SOUTH 5	"			48 ϕ
G-16	1	10'-0"	2'-6"	EXIT 13	2 1/4" x 2 1/4" x 1/4" ALUMINUM OR GALVANIZED TEE BEAM	2	MOUNT ABOVE GA-15	25 ϕ
G-50	2	24"	24"	5	4" FLANGED CHANNEL	1	B	8 ϕ
G-53	2	21"	9"	SOUTH				2.6 ϕ
G-57	1	21"	15"	←				2.2 ϕ

COLUMN TOTAL = 844.8 ϕ

TRAFFIC SIGNS, ITEM 701

IDENTIFICATION	NUMBER OF SIGNS	SIZE WIDTH	SIZE HEIGHT	TEXT	SIGN POSTS SIZE AND TYPE	SIGN POSTS NO. PER SIGN	SIGN POSTS FOOTING	TOTAL SIGN AREA
R-1	1	48"	60"	SPEED LIMIT 65	4" O.D. x 1/4" ALUMINUM ~~TUBES~~ TUBES	2	~~C~~ B	20 ϕ
R-2	1	48"	48"	MINIMUM 40	MOUNT BELOW R-1			16 ϕ
R-	0	48"	60"	SLOWER TRAFFIC KEEP RIGHT	4 I 7.7	2	B	ϕ
R-	0	48"	36"	EMERGENCY STOPPING ONLY	4"x3 1/2"x5/16"L	2	B	ϕ
R-17	3	48"	60"	DO NOT PASS	4"x 3 1/2" x 5/16" ANGLE	2	B	60 ϕ
R-18	1	48"	60"	TWO WAY TRAFFIC AHEAD				20 ϕ
R-19	1	48"	48"	KEEP RIGHT				16 ϕ
R-20	1	60"	48"	WRONG WAY (WHITE ON RED)	5" O.D. x 3/16" ~~ALUMINUM TUBES~~	2	~~C~~	20 ϕ
R-21	1	48"	48"	DO NOT ENTER	MOUNT ABOVE R-20			16 ϕ
R-22	1	48"	60"	KEEP → RIGHT	4" FLANGED CHANNEL	2	B	20 ϕ
R-24	1	48"	48"	STOP	4" FLANGED CHANNEL	2	B	16 ϕ
GA-23	1	12'-0"	6'-0"	FOOD-PHONE GAS-LODGING NEXT RIGHT	6 WF 15.5 BREAKAWAY	2	A	72 ϕ
G-37	4	24"	24"	91	4" FLANGED CHANNEL	1	B	16 ϕ
G-42	2	21"	9"	SOUTH				2.6 ϕ
G-43	2	21"	15"	JCT				4.4 ϕ
G-44	1	21"	15"	→				2.2 ϕ

INTERSTATE COLORS

COLUMN TOTAL = 301.2 ϕ
+ COLUMN 1 = 844.8 ϕ
SHEET TOTAL = 1146.0 ϕ

DELINEATORS, ITEM 702

PART	NUMBER OF PLAQUES	SIZE WIDTH	SIZE HEIGHT	TEXT
A	29	3.5"	6"	75
A	20	3.5"	6"	76
TOTAL	49			
B	2	3.5"	6"	05
B	2	3.5"	6"	10
B	2	3.5"	6"	15
B	2	3.5"	6"	20
B	3	3.5"	6"	25
B	4	3.5"	6"	30
B	4	3.5"	6"	35
B	4	3.5"	6"	40
B	4	3.5"	6"	45
B	4	3.5"	6"	50
B	2	3.5"	6"	55
B	2	3.5"	6"	60
B	2	3.5"	6"	65
B	2	3.5"	6"	70

PART	NUMBER OF PLAQUES	SIZE WIDTH	SIZE HEIGHT	TEXT
B	2	3.5"	6"	75
B	2	3.5"	6"	80
B	2	3.5"	6"	85
B	2	3.5"	6"	90
B	2	3.5"	6"	95
TOTAL	49			

SUMMARY OF DELINEATORS, ITEM 702

TYPE I DELINEATORS, WITH PLAQUES	49
TYPE II DELINEATORS, DOUBLE AMBER	0
TYPE III DELINEATORS, TRIPLE AMBER	0
TYPE I DELINEATORS (PLAIN)	~~24~~ 73

IDENTIFICATION OF TRAFFIC SIGNS

Traffic signs are identified on these plans by a number prefixed by a letter which indicates the following general classifications:

- GA – Large size guide signs
- G – Other guide signs
- R – Regulatory signs
- W – Warning signs

Traffic sign assemblies which consist of groups of signs mounted together, are identified by a letter– such as ASSEMBLY "A"– and the individual signs comprising the assembly are identified by their individual sign numbers.

ALL STEEL SIGN POSTS SHALL BE GALVANIZED.

ALL ALUMINUM TUBES SHALL BE 6061-T6 ALUMINUM ALLOY

STA 3996+00 TO STA 4063+75

NORWICH

TRAFFIC SIGN AND DELINEATOR SUMMARY SHEET

DESIGNED BY LKL DATE 4/65
DRAWN BY LKL DATE 4/65
TRACED BY LKL DATE 4/65

STAGE 2
PROJ. I NO. 91-2(23)
SHEET 71 OF 159

TRAFFIC SIGNS, ITEM 701

IDENTIFICATION	NUMBER OF SIGNS	SIZE WIDTH	SIZE HEIGHT	TEXT	SIGN POSTS SIZE AND TYPE	SIGN POSTS NO. PER SIGN	SIGN POSTS FOOTING	TOTAL SIGN AREA
GA-12	1	21'-0"	13'-0"	(5) 10A Norwich Hanover N.H. EXIT 1 MILE	~~12WF 27~~ 12 WF 27 BREAKAWAY	3	A	273 ϕ
GA-14		16'-6"	12'-0"	(5) 10A Norwich Hanover N.H.	12WF 31	2	A	ϕ
GA-15	1	17'-0"	11'-0"	(5) 10A Norwich Hanover N.H. RIGHT LANE	12WF 27 BREAKAWAY	2	A	187 ϕ
GA-18	1	12'-0"	9'-0"	(91) NORTH Thetford St. Johnsbury	~~6 WF 15.5~~ 5" ALUM. TUBES w/ 3/16 WALL 6061 T6 ALLOY	2	A	108 ϕ
GA-19	1	12'-0"	9'-0"	(91) NORTH Thetford St. Johnsbury	5" ALUM. TUBES w/ 3/16" WALL ~~MOUNTED ON BACK OF GA-18 SIGN POSTS~~ 6061 T6 ALLOY	3	C	108 ϕ
GA-20	1	13'-6"	7'-0"	(91) SOUTH Wilder White River Jct.	6WF 15.5 BREAKAWAY	2	A	94.5 ϕ
GA-21	1	13'-0"	6'-0"	Norwich / Hanover N.H. Dartmouth College	6 BL 12 BREAKAWAY	2	A	78 ϕ
GA-22	1	13'-0"	6'-0"	Hanover N.H. Dartmouth College / Norwich	6 BL 12 BREAKAWAY	2	A	78 ϕ
G-47	1	4'-0"	6'-0"	SOUTH (91) RIGHT LANE	4"O.D.x 3/16" ALUMINUM TUBES ~~ALLOY~~ 6061-T6	2	C	24 ϕ
G-48	1	4'-0"	6'-0"	SOUTH (91) LEFT LANE	4"O.D.x 3/16" ALUMINUM ~~ALLOY~~ TUBES	2	C	24 ϕ
G-49		4'-0"	6'-0"	NORTH (91) LEFT LANE	4"O.D.x 3/16" ALUMINUM ~~ALLOY~~ TUBES	2	C	ϕ

COLUMN TOTAL = 974.5 ϕ

BLACK ON WHITE

TRAFFIC SIGNS, ITEM 701

IDENTIFICATION	NUMBER OF SIGNS	SIZE WIDTH	SIZE HEIGHT	TEXT	SIGN POSTS SIZE AND TYPE	SIGN POSTS NO. PER SIGN	SIGN POSTS FOOTING	TOTAL SIGN AREA
GA-13	1	9'-0"	4'-0"	NEXT EXIT 10 MILES	MOUNT BELOW GA-12	2-2 1/2 x 2 1/2 ALUM. "T" BEAMS 7'3"		36 ϕ
GA-17	1	20'-0"	6'-0"	Wilder 3 White River Jct. 4	8 WF 17 BREAKAWAY	2	A	120 ϕ
GA-16	2	10'-0"	2'-6"	EXIT ~~X~~ 12	2 1/4"X2 1/4"X1/4" ALUMINUM OR GALVANIZED TEE BEAM	2	MOUNT ABOVE GA-12, & GA-15	50 ϕ
G-24	2	6'-0"	5'-0"	EXIT 12 ~~X~~	4" x 5.3 ϕ ALUMINUM I BEAM	2	B	60 ϕ
G-25	1	8'-0"	4'-0"	ENTERING TOWN OF Norwich	5"O.D.x 3/16" ~~ALLOY~~ ALUMINUM TUBES	2	C	32 ϕ
G-26	1	8'-0"	4'-0"	ENTERING TOWN OF Hartford	5"O.D.x 3/16" ~~ALLOY~~ ALUMINUM TUBES	2	C	32 ϕ
GA-23	1	12'-0"	6'-0"	FOOD-PHONE GAS-LODGING NEXT RIGHT	6WF 15.5 BREAKAWAY	2	A	72 ϕ
G-39	1	30"	15"	SOUTH				3.1 ϕ
G-38	1	30"	15"	NORTH				3.1 ϕ
G-37	2	36"	36"	(91)	4"X3 1/2X5/16" ANGLE	1	B	18 ϕ
G-40	2	24"	24"					8 ϕ
G-41	1	21"	9"	NORTH				1.3 ϕ
G-42	1	21"	9"	SOUTH				1.3 ϕ
G-44	0	21"	15"	↑				
G-45	1	21"	15"	←			B	2.2 ϕ
MILE 74	2	8"	18"	74	DELINEATOR POST	1	B	2 ϕ
MILE 75	2	8"	18"	75	DELINEATOR POST	1	B	2 ϕ
G-50	3	24"	24"	5				12 ϕ
G-51	3	30"	24"	10A				15 ϕ
G-52	1	21"	9"	NORTH			B	1.3 ϕ
G-53	1	21"	9"	SOUTH			B	1.3 ϕ
G-54	2	21"	9"	EAST			B	2.6 ϕ
G-56	1	21"	15"	↑				2.2 ϕ
G-57	5	21"	15"	←				11 ϕ

INTERSTATE COLORS

WHITE ON BLUE

BLACK ON WHITE

COLUMN TOTAL = 488.4 ϕ
+ COLUMN 1 = 974.5 ϕ
SHEET TOTAL = 1462.9 ϕ

DELINEATORS, ITEM 702

PART	NUMBER OF PLAQUES	SIZE WIDTH	SIZE HEIGHT	TEXT
A	26	3 1/2"	4 1/2"	73
A	32	3 1/2"	4 1/2"	74
A	5	3 1/2"	4 1/2	75
B	3	3 1/2"	6"	05
B	3			10
B	3			15
B	3			20
B	3			25
B	2			30
B	4			35
B	4			40
B	4			45
B	4			50
B	3			55
B	3			60
B	3			65

PART	NUMBER OF PLAQUES	SIZE WIDTH	SIZE HEIGHT	TEXT
B	4	3 1/2"	6"	70
B	4			75
B	3			80
B	3			85
B	3			90
B	4			95

SUMMARY OF DELINEATORS, ITEM 702

TYPE I DELINEATORS, WITH PLAQUES	63
TYPE II DELINEATORS, DOUBLE AMBER	77
TYPE III DELINEATORS, TRIPLE AMBER	
TYPE I DELINEATORS	36
TOTAL =	176

IDENTIFICATION OF TRAFFIC SIGNS

Traffic signs are identified on these plans by a number prefixed by a letter which indicates the following general classifications:

GA – Large size guide signs
G – Other guide signs
R – Regulatory signs
W – Warning signs

Traffic sign assemblies which consist of groups of signs mounted together, are identified by a letter – such as ASSEMBLY "A" – and the individual signs comprising the assembly are identified by their individual sign numbers.

SIGN POST HARDWARE: ALL SIGNS AND ASSEMBLIES ARE TO BE MOUNTED ON SIGN POSTS BY 3/8 DIAM. STAINLESS STEEL BOLTS, WASHERS AND ELASTIC STOP NUTS. ALL FLAT SHEET SIGNS HAVE A 1"O.D. X 7/16" I.D. FLAT WASHER UNDER THE BOLT HEAD AND PLYWOOD SIGNS ALSO HAVE A SPRING LOCK WASHER UNDER THE STOP NUT. COMMERCIAL PANELS KNOWN AS "EXTRUSHEET" IN MULTIPLE WIDTHS AND MEETING THE STRENGTH REQUIREMENTS FOR ALUMINUM SIGNS ON THIS PROJECT MAY BE USED ON THIS PROJECT.

STA 3895+00 TO STA 3996+00

HARTFORD-NORWICH

TRAFFIC SIGN AND DELINEATOR SUMMARY SHEET

DESIGNED BY PIRIE DATE 12/65
DRAWN BY PIRIE DATE 12/65
TRACED BY R.L.E. DATE 1/66

STAGE 2 CONSTRUCTION
PROJ. I NO. 91-2[redacted]
SHEET 92 OF 169

(23)

TRAFFIC SIGNS, ITEM 701

IDENTIFICATION	NUMBER OF SIGNS	SIZE WIDTH	SIZE HEIGHT	TEXT	SIGN POSTS SIZE AND TYPE	SIGN POSTS NO. PER SIGN	SIGN POSTS FOOTING	TOTAL SIGN AREA
W-1	2	18"	18"	EMBOSSED HAZARD MARKER	3U 4.1	1	B	4.5 ϕ
W-5	2	36"	36"	SIGNAL AHEAD	4"X3 1/2"X5/16" ANGLE	1	B	18 ϕ
W-6	2	48"	48"	MERGING TRAFFIC	4"x 3½" x 5/16" ~~6BJ 8.5~~ ~~GALVANIZED~~ ANGLE	2 ~~1~~	B	32 ϕ
W-7	2	30"	30"	(curve arrow)	4"X3 1/2"X5/16" ANGLE	1	B	12.6 ϕ
W-8	2	18"	18"	30 M.P.H.	MOUNT BELOW W-7			4.5 ϕ
W-4	1	36"	36"	DIVIDED HIGHWAY	4"X 3 1/2"X 5/16" ANGLE	1	B	9 ϕ
W-11	2	48"	48"	DIVIDED HIGHWAY ENDS				32 ϕ
W-12	1	48"	60"	EXIT 50 M.P.H.	5" O.D. x 3/16" ALUMINUM ~~5I 10~~ TUBES	2	C ~~B~~	40 ϕ
W20-2	1	48"	48"	DETOUR AHEAD				32 ϕ
W20-3	2	48"	48"	ROAD CLOSED 1/2 MI.	4"X 3 1/2"X 5/16" ANGLE	2	B	32 ϕ
W20-6	1	48"	48"	SINGLE LANE 500 FT.	5" O.D. x 3/16" ALUMINUM ~~5I 10~~ TUBES	2	C ~~B~~	16 ϕ

COLUMN TOTAL = 232.6 ϕ

TRAFFIC SIGNS, ITEM 701

IDENTIFICATION	NUMBER OF SIGNS	SIZE WIDTH	SIZE HEIGHT	TEXT	SIGN POSTS SIZE AND TYPE	SIGN POSTS NO. PER SIGN	SIGN POSTS FOOTING	TOTAL SIGN AREA
R-1	1	48"	60"	SPEED LIMIT 65	4" O.D. x ¼" ALUMINUM ~~5I 10~~ TUBES	2	C ~~B~~	20 ϕ
R-2	1	48"	48"	MINIMUM 40	MOUNT BELOW R-1			16 ϕ
R-	0	72"	48"	WEIGHT LIMITS (STANDARD SHEET E-14)	4I 7.7	2	B	ϕ
R-4	5	30"	30"	STOP	FLANGED CHANNEL	1	B	31.5 ϕ
R-5	1	24"	24"	DO NOT ENTER	MOUNT ABOVE R-14	1	B	4 ϕ
R-7	1	24"	30"	KEEP (arrow) RIGHT	4" FLANGED CHANNEL	1	B	5 ϕ
R-10	1	60" SIDES		YIELD	4" x 3½" x 5/16" ~~6BJ 8.5~~ ANGLE ~~GALVANIZED~~	1	B	10.8 ϕ
R-13	3	36"	36"	TURN BACK 5"C / YOU ARE 5"C / GOING THE 5"C / WRONG WAY 5"C	4"X3 1/2"X5/16" ANGLE	1	B	27 ϕ
R-14	2	36"	24"	WRONG WAY (WHITE ON RED)	4"X 3 1/2"X 5/16" ANGLE	1	B	10 ϕ
R-15L	2	36"	12"	ONE WAY				6 ϕ
R-15 R	4	36"	12"	ONE WAY	4" FLANGED CHANNEL	1	B	12 ϕ
R-16	2	24"	24"	NO TURNS	4" FLANGED CHANNEL	1	B	8 ϕ
W-3	2	30"	30"	ROAD NARROWS	4" FLANGED CHANNEL			12.6 ϕ
W-13	2	48"	48"	STOP AHEAD	4"X 3 1/2"X 5/16" ANGLE	2	B	32 ϕ

COLUMN TOTAL = 194.9 ϕ
+ COLUMN 1 = 232.6 ϕ
SHEET TOTAL = 427.5 ϕ

DELINEATORS, ITEM 702

PART	NUMBER OF PLAQUES	SIZE WIDTH	SIZE HEIGHT	TEXT

PART	NUMBER OF PLAQUES	SIZE WIDTH	SIZE HEIGHT	TEXT

SUMMARY OF DELINEATORS, ITEM 702
TYPE I DELINEATORS, WITH PLAQUES
TYPE II DELINEATORS, DOUBLE AMBER
TYPE III DELINEATORS, TRIPLE AMBER

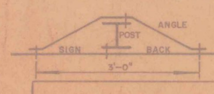
IDENTIFICATION OF TRAFFIC SIGNS

Traffic signs are identified on these plans by a number prefixed by a letter which indicates the following general classifications:

GA – Large size guide signs
G – Other guide signs
R – Regulatory signs
W – Warning signs

Traffic sign assemblies which consist of groups of signs mounted together, are identified by a letter– such as ASSEMBLY "A"– and the individual signs comprising the assembly are identified by their individual sign numbers.

Signs wider than 3 ft. and mounted on a single post shall be stabilized with a length of 1 3/8"x 7/8"x 1/8" angle bolted to the sign back, bent around the post, and back to the sign. 4 bolts indicated, plus one at the top and one at the bottom of the sign.



STA. 3955+00 TO 4063+75

HARTFORD-NORWICH

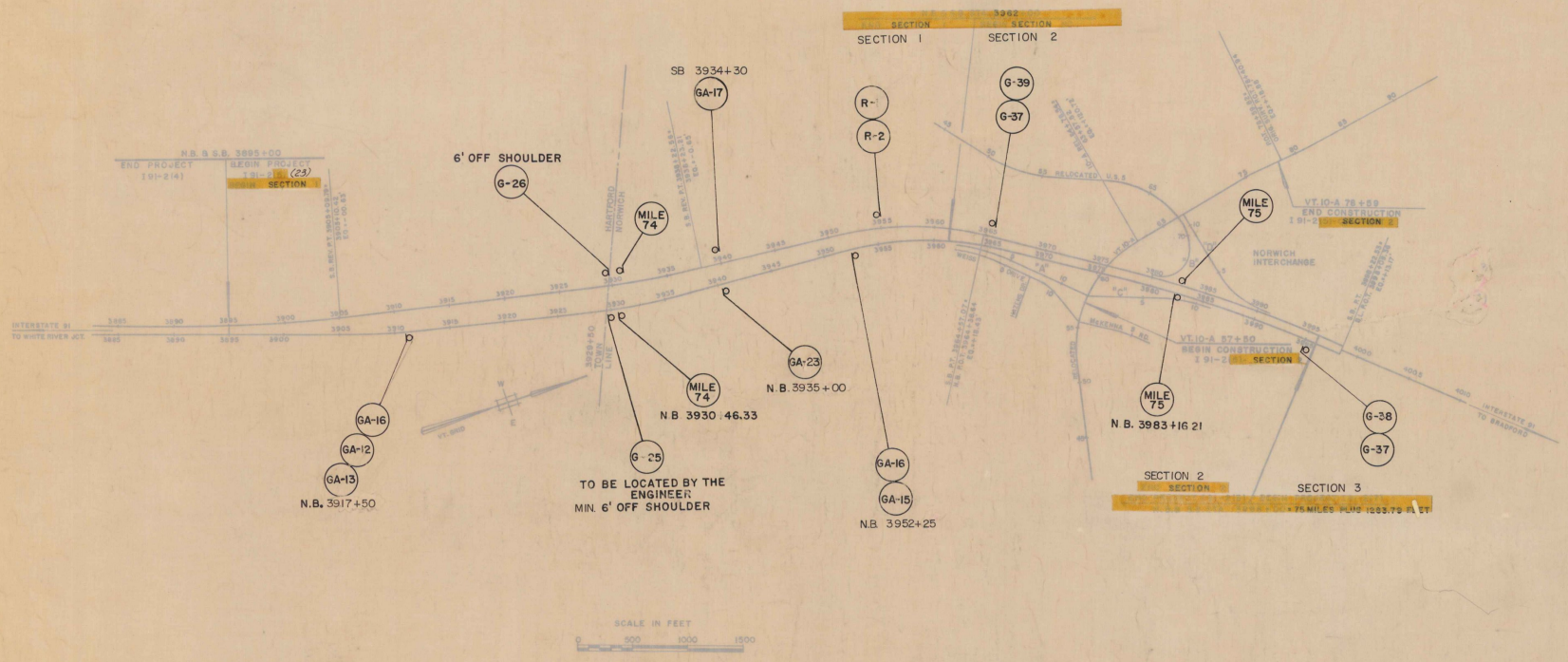
TRAFFIC SIGN AND DELINEATOR SUMMARY SHEET

DESIGNED BY PIRIE DATE 12/65
DRAWN BY PIRIE DATE 12/65
TRACED BY R.L.E. DATE 1/66

STAGE 2 CONSTRUCTION

PROJ. I NO. 91-2[redacted]

SHEET 78 OF 129 (23)



APPROXIMATE SIGN LOCATIONS

GA SIGNS ON THIS PROJECT ADJACENT TO THE THRUWAY, ARE TO BE LOCATED 30 FEET FROM THE EDGE OF THE SLOW SPEED LANE.
LOCATIONS HAVE BEEN FIELD CHECKED.

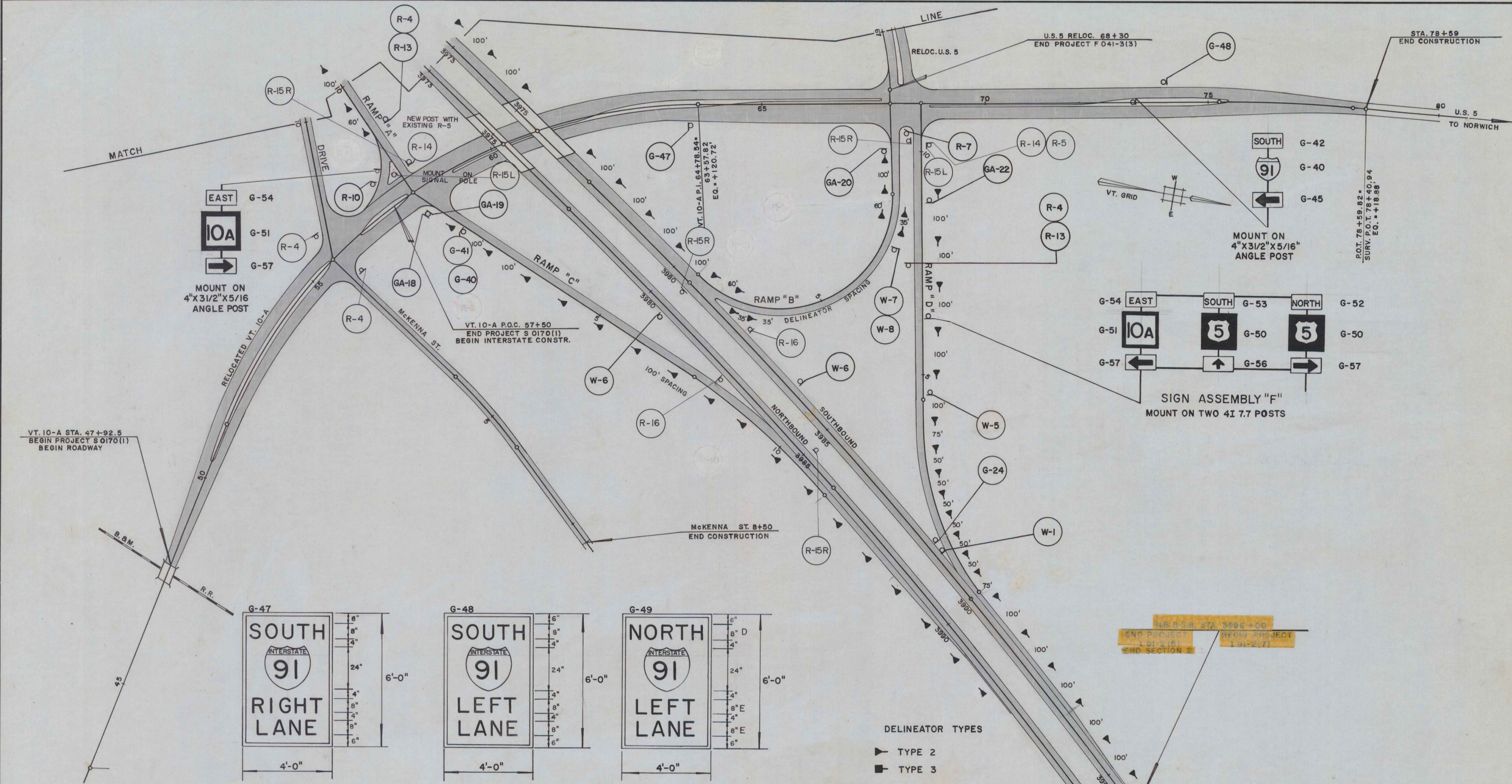
HARTFORD-NORWICH

DESIGNED BY	PIRIE	DATE 11/65
DRAWN BY	PIRIE	DATE 11/65
TRACED BY	R.L.E.	DATE 1/66

STAGE 2 CONSTRUCTION

PROJ. I NO. 91-2 (23)

SHEET 94 OF 129



DELINEATOR TYPES

- TYPE 2
- TYPE 3

SIGNS G-47, G48, AND G-49 SHALL HAVE LETTERS AND BORDERS OF WHITE REFLECTIVE SHEETING ON A GREEN REFLECTORIZED SIGN BACKGROUND. THE ROUTE NUMBERS SHALL BE AS DETAILED ON STANDARD SHEET E-11.

NOTE: ALL REFLECTIVE SHEETING ON THIS PROJECT SHALL BE APPLIED AND TREATED IN CONFORMANCE WITH THE MANUFACTURER'S LATEST RECOMMENDATIONS.

APPROXIMATE SIGN AND DELINEATOR LOCATIONS AND SIGN DESIGN

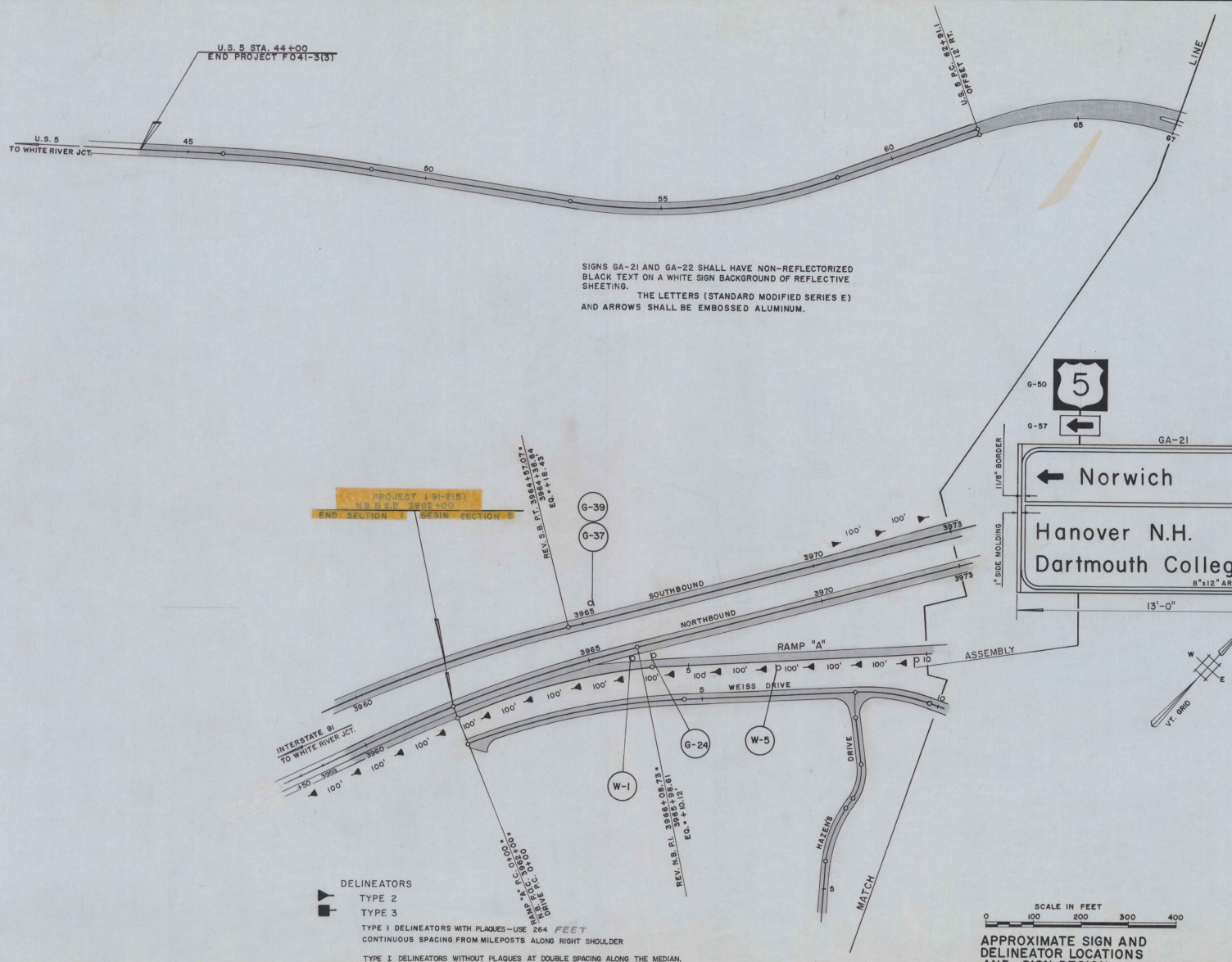
NORWICH
NORWICH INTERCHANGE

DESIGNED BY	PIRIE	DATE	12/65
DRAWN BY	PIRIE	DATE	12/65
TRACED BY	R.L.E.	DATE	1/66

STAGE 2 CONSTRUCTION

PROJ. I NO. 91-2(5)

SHEET 95 OF 129 (23)



APPROXIMATE SIGN AND DELINEATOR LOCATIONS AND SIGN DESIGN.

NORWICH
NORWICH INTERCHANGE

DESIGNED BY	PIRIE	DATE	12/65
DRAWN BY	PIRIE	DATE	12/65
TRACED BY	R.L.E.	DATE	1/66

STAGE 2 CONSTRUCTION (23)

PROJ. I NO. 91-2 (5)

SHEET 96 OF 129

Vermont Agency of
Transportation
PHASE 1-INTERSTATE
#122302-01

INITIALS HANGER 625 PHONE

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