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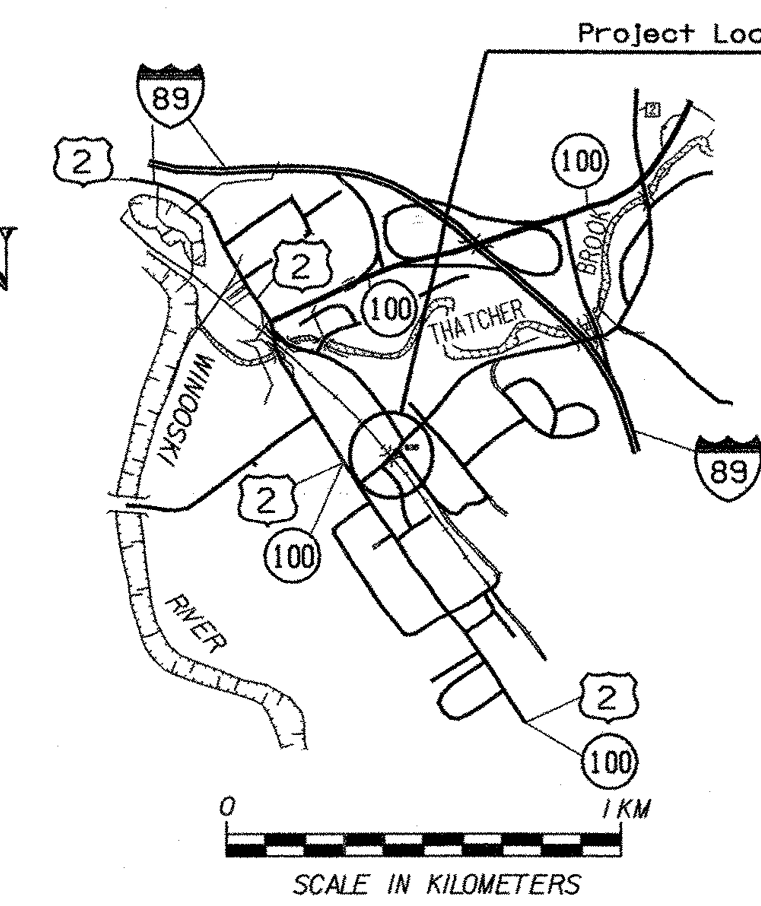
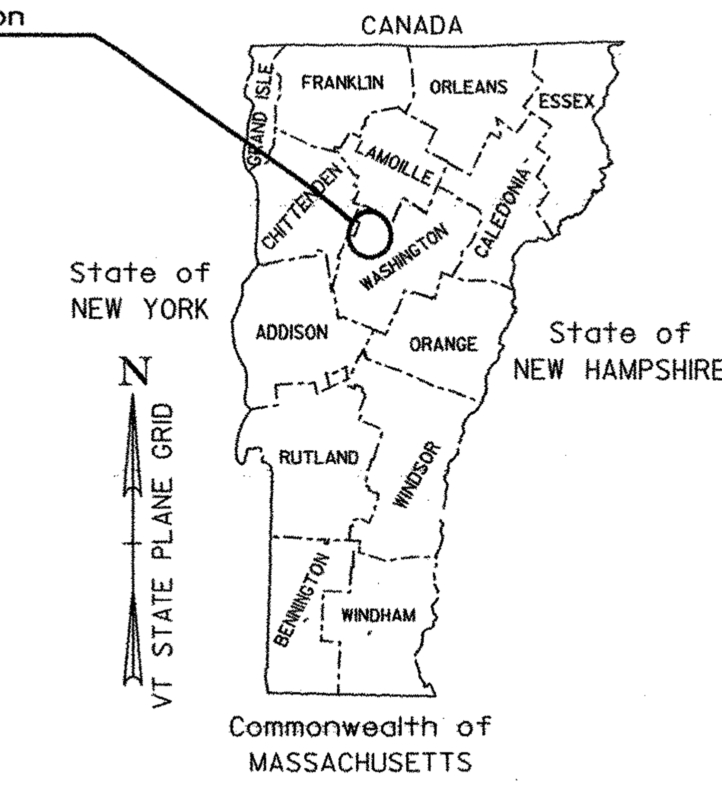
STATE OF VERMONT
AGENCY OF TRANSPORTATION





PROPOSED IMPROVEMENT
TOWN OF WATERBURY
COUNTY OF WASHINGTON
STOWE STREET, BRIDGE 35 (LOCAL ROAD)

BEGINNING AT A POINT APPROXIMATELY 0.059 KILOMETERS NORTHEAST OF THE U.S. ROUTE 2/VT. ROUTE 100 AND TOWN HIGHWAY #2 INTERSECTION, AND EXTENDING NORTHEASTERLY 0.080 KILOMETERS ON TOWN HIGHWAY #2.

WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES THE REMOVAL OF THE EXISTING BRIDGE SUPERSTRUCTURE AND ABUTMENTS, RELOCATION OF RAILROAD STREET, CONSTRUCTION OF THE NEW BRIDGE SUPERSTRUCTURE, ABUTMENTS, ROADWAY APPROACHES, SIDEWALKS, CURBING, DRAINAGE, AND INCIDENTAL ITEMS.

PROJECT DATA	LENGTH (M)	LENGTH (KM)
LENGTH OF ROADWAY	67.97	0.068
LENGTH OF BRIDGE	12.03	0.012
LENGTH OF PROJECT	80.00	0.080

RECORD PLANS

CONTRACTOR: AUSTIN CONSTRUCTION CO., INC. – CONCORD, VT

RESIDENT ENGINEER: RON STANCLIFF

CONSTRUCTION BEGAN: MAY 26, 2004

CONSTRUCTION COMPLETE: NOVEMBER 14, 2006

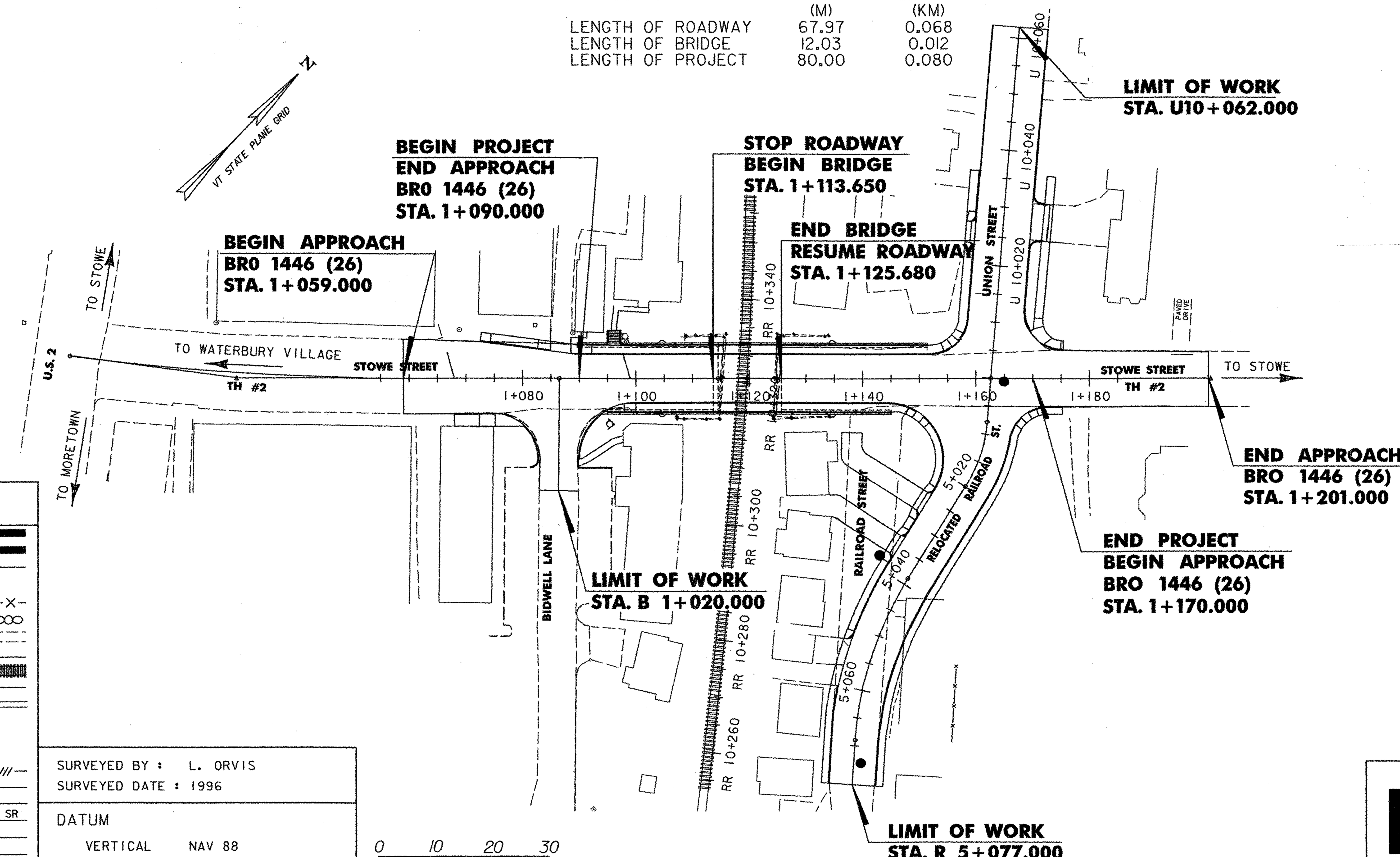
RECORD PLANS BY: RON STANCLIFF & C. PIERCE

I HEREBY CERTIFY THAT ALL THE CONSTUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.

BY Ronald L. Stancliff RESIDENT ENGINEER

DATE 3/9/07

NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.



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

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

VAOT Metric

UNLESS NOTED OTHERWISE

STATIONS ARE IN KILOMETERS

ELEVATIONS ARE IN METERS

DIMENSIONS ARE IN MILLIMETERS

CONVENTIONAL SYMBOLS

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

SURVEYED BY : L. ORVIS

SURVEYED DATE : 1996

DATUM

VERTICAL NAV 88

HORIZONTAL NAD83 (1992)

Dufresne-Henry

DIRECTOR OF PROGRAM DEVELOPMENT

APPROVED [signature] DATE 2/2/04

PROJECT MANAGER : CHRIS WILLIAMS

PROJECT NAME : WATERBURY

PROJECT NUMBER : BRO 1446 (26)

SHEET 1 OF 63 SHEETS

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STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

Metric

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7. QUANTITY SHEET #4
8. BRIDGE QUANTITY SHEET
9. ITEM DETAIL SUMMARY SHEET #1
10. ITEM DETAIL SUMMARY SHEET #2
11. DRAINAGE DETAIL SHEET
12. EARTHWORKS SHEET
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LIST OF STANDARDS

B-5M	SLOPE GRADING, EMBANKMENTS, MUCK	1/3/2000
B-12M	SIDE ROAD INTERSECTION, DEPRESSED RAMP	1/3/2000
B-71M	RESIDENTIAL AND COMMERCIAL DRIVES	3/1/2001
C-1M	CURB DETAILS	1/3/2000
C-2BM	CEMENT CONCRETE SIDEWALK, GRANITE CURB	1/3/2000
*C-3A	SIDEWALK RAMPS	2/2/2004
D-8M	REINFORCED CONCRETE DROP INLET WITH PRECAST COVER & GRATE	1/3/2000
D-9M	REINFORCED CONCRETE DROP INLET TOPS VERTICAL CURB & THROAT ADAPTER	6/13/1997
D-13M	CONCRETE CATCH BASIN	1/3/2000
D-15M	CAST IRON GRATE & FRAME, TYPES D & E	6/13/1997
D-20M	HIGHWAY CROSSING SLEEVES FOR UNDERGROUND UTILITIES	6/13/1997
E-100M	CONSTRUCTION APPROACH SIGNS	6/13/1997
E-100AM	SIDE ROAD CONSTRUCTION APPROACH SIGNS	2/2/1998
E-101M	CONSTRUCTION SIGN DETAILS	5/30/2003
E-102M	CONSTRUCTION SIGN DETAILS	6/30/2003
E-102AM	CONSTRUCTION SIGN DETAILS	6/13/1997
E-106M	TRAFFIC CONTROL MISCELLANEOUS DETAILS	6/13/1997
E-107M	DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS	6/30/2003
E-107AM	BREAKAWAY BARRICADE DETAILS	6/13/1997
E-108M	CONSTRUCTION ZONE LONGITUDAL DROP OFFS	6/13/1997
E-119M	UTILITY WORK ZONE	6/13/1997
E-120M	STANDARD SIGN PLACEMENT EXPRESSWAY AND FREEWAY	6/13/1997
E-121M	STANDARD SIGN PLACEMENT CONVENTIONAL ROAD	6/13/1997
E-142M	REGULATORY SIGN DETAILS	6/13/1997
E-143M	REGULATORY SIGN DETAILS	6/13/1997
E-153M	WARNING SIGN DETAILS	6/13/1997
E-155M	WARNING SIGN DETAILS	6/13/1997
E-160M	FLANGED CHANNEL STEEL SIGN POST	6/13/1997
E-175M	POWER DROP STANCHIONS	6/13/1997
E-191M	PAVEMENT MARKING DETAILS	2/1/1999
E-192M	PAVEMENT MARKING DETAILS	12/28/1998
E-193M	PAVEMENT MARKING DETAILS	6/13/1997
F-2M	CHAIN LINK FENCE (TYPE I)	1/3/2000
G-18	PRECAST CONCRETE TEMPORARY TRAFFIC BARRIER	6/13/1997
J-2M	CONCRETE STEPS-HAND RAILING	6/13/1997
*SB-R4A-82	BRIDGE RAILING, GALVANIZED BOX BEAM	9/19/1989
*C-3B	SIDEWALK RAMPS AND MEDIAN ISLANDS	2/2/2004

*THESE STANDARDS ARE ONLY AVAILABLE IN U.S. CUSTOMARY (ENGLISH) UNITS
CONTRACTOR SHALL SUBMIT SHOP DRAWINGS WITH DIMENSIONS CONVERTED TO METRIC

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: 7/2000

DRAINAGE AREA : N/A
CHARACTER OF TERRAIN : N/A
STREAM CHARACTERISTICS : N/A
NATURE OF STREAMBED : N/A

PEAK FLOW DATA

Q 2.33 = N/A Q 50 = N/A
Q 10 = N/A Q 100 = N/A
Q 25 = N/A Q 500 = N/A

DATE OF FLOOD RECORD : N/A
ESTIMATED DISCHARGE: N/A
WATER SURFACE ELEV.: N/A
NATURAL STREAM VELOCITY : N/A
ICE CONDITIONS : N/A
DEBRIS: N/A
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? N/A
IS ORDINARY RISE RAPID? N/A
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? N/A
IF YES, DESCRIBE: N/A

WATERSHED STORAGE: N/A
HEADWATERS:
UNIFORM: N/A
IMMEDIATELY ABOVE SITE: N/A

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: STEEL GIRDERS ENCASED IN CONCRETE
YEAR BUILT: (1910)
CLEAR SPAN(NORMAL TO STREAM): 9.90 m
VERTICAL CLEARANCE ABOVE STREAMBED: N/A
WATERWAY OF FULL OPENING: N/A
DISPOSITION OF STRUCTURE: Remove
TYPE OF MATERIAL UNDER SUBSTRUCTURE: Unknown

WATER SURFACE ELEVATIONS AT:

Q2.33 = N/A VELOCITY = N/A
Q10 = N/A " N/A
Q25 = N/A " N/A
Q50 = N/A " N/A
Q100 = N/A " N/A

LONG TERM STREAMBED CHANGES: N/A

IS THE ROADWAY OVERTOPPED BELOW Q100: N/A
FREQUENCY: N/A
RELIEF ELEVATION: N/A
DISCHARGE OVER ROAD @Q100: N/A

UPSTREAM STRUCTURE

TOWN: N/A DISTANCE: N/A
HIGHWAY # : N/A STRUCTURE #: N/A
CLEAR SPAN: N/A CLEAR HEIGHT: N/A
YEAR BUILT: N/A FULL WATERWAY: N/A
STRUCTURE TYPE: N/A

DOWNSTRUCTURE STRUCTURE

TOWN: N/A DISTANCE: N/A
HIGHWAY # : N/A STRUCTURE #: N/A
CLEAR SPAN: N/A CLEAR HEIGHT: N/A
YEAR BUILT: N/A FULL WATERWAY: N/A
STRUCTURE TYPE: N/A

LFD LOAD RATING (TONS)

LOADING LEVELS	TRUCK						
	M	MS	3S2	6 AXLE	3A. STR.	4A. STR.	SA. SEMI
INVENTORY	27	46					
POSTED	38	65	86		50	54	87
OPERATING		78	103	129	60	65	

COMMENTS: 0

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2000	3300	460	51	1	55
2020	4450	610	51	1	75

20 year ESAL for flexible pavement 2000 to 2020 : 199,000
40 year ESAL for flexible pavement 2000 to 2040 : 457,000
Design Speed : 25 km/h

PROPOSED STRUCTURE

STRUCTURE TYPE: CONCRETE RIGID FRAME

CLEAR SPAN(NORMAL TO STREAM): 10.330 m
VERTICAL CLEARANCE ABOVE STREAMBED: N/A
WATERWAY OF FULL OPENING: N/A

WATER SURFACE ELEVATIONS AT:

Q2.33 = N/A VELOCITY= N/A
Q10 = N/A " N/A
Q25 = N/A " N/A
Q50 = N/A " N/A
Q100 = N/A " N/A

IS THE ROADWAY OVERTOPPED BELOW Q100: N/A
FREQUENCY: N/A
RELIEF ELEVATION: N/A
DISCHARGE OVER ROAD @Q100: N/A

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 136.470 m
VERTICAL CLEARANCE: 6.3 m

SCOUR: N/A
REQUIRED CHANNEL PROTECTION: N/A

PERMIT INFORMATION

		DEPTH OR ELEVATION:
AVERAGE DAILY FLOW:	N/A	
ORDINARY LOW WATER:	N/A	N/A
ORDINARY HIGH WATER:	N/A	N/A

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: N/R
CLEAR SPAN (NORMAL TO STREAM):
VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

-REQUIRED VERTICAL CLEARANCE ABOVE RAILROAD TRACK IS 6.3 m
-DURING CONST. REQ. CLEARANCE ABOVE RAILROAD TRACK IS 5.79 m
-REQ. HORIZ. CLEARANCE IS 2.74 m FROM CL OF TRACK (EACH SIDE)
-DURING CONST. REQ. HORIZ. CLEARANCE IS 2.74 m FROM CL OF TRACK (EACH SIDE)

DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO MS 22.5 (HS-25)
2. DESIGN SPAN 10.333 meters
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A
   ON LEDGE
4. ALLOWABLE LOAD FOR PILING 746 kN/pile
   TYPE HP 310 x 79
   ESTIMATED LENGTH Frame Leg 1 = 28 m, Frame Leg 2 = 31 m
5. STRUCTURAL STEEL AASHTO GRADE N/A
6. REINFORCING STEEL GRADE 420
7. CONCRETE CLASS A (HPC) f'c : 30 MPa
   CONCRETE CLASS B (HPC) f'c : 25 MPa
   SILICA - FUME CONCRETE f'c : N/A
8. SOIL UNIT WEIGHT
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL N/A

TRAFFIC MAINTENANCE

1. IS TRAFFIC TO BE MAINTAINED? NO
   IF YES, ON EXISTING STRUCTURE
   OR ON TEMPORARY BRIDGE
2. TEMPORARY BRIDGE REQUIREMENTS: ONE OF TWO WAY
   TRAFFIC CONTROL SIGNALS REQUIRED
   MINIMUM CLEAR SPAN (NORMAL TO STREAM):
   WATERWAY OF FULL OPENING:
   VERTICAL CLEARANCE ABOVE STREAMBED:
   ARE SIDEWALKS REQUIRED?
   IF SO, ON WHAT SIDE?
   STRUCTURE TYPE:

PROJECT NAME: **WATERBURY**
PROJECT NUMBER: **BRO 1446 (26)**

FILE NAME: **02-PRELIMINARY INFO.XLS**
PROJECT LEADER: **G. EDWARDS / R. GINGRAS**
DESIGNED BY: **M. MEILLEUR**
PRELIMINARY INFORMATION SHEET

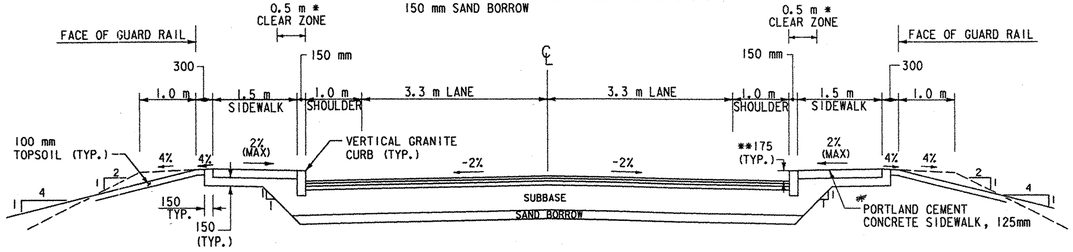
PLOT DATE: **1/15/2004**
DRAWN BY: **M. MEILLEUR**
CHECKED BY: **R. GINGRAS**
SHEET **2** OF **63**

TYPICAL ROADWAY SECTIONS

MATERIAL TOLERANCES

PAVEMENT	+/- 5 mm
SUBBASE	+/-30 mm
SAND	+/-30 mm

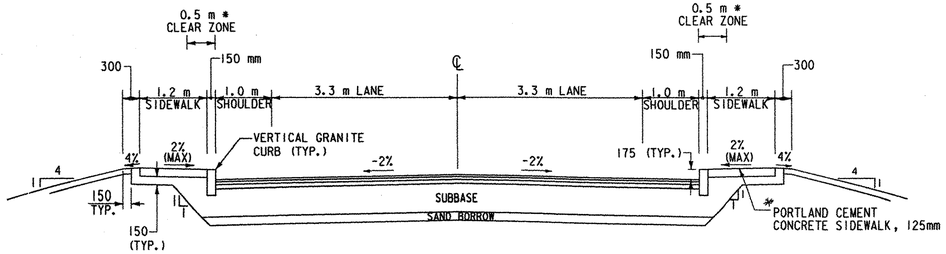
40 mm BITUMINOUS CONCRETE PAVEMENT TYPE III
50 mm BITUMINOUS CONCRETE PAVEMENT TYPE II } (PG 58-34)
70 mm BITUMINOUS CONCRETE PAVEMENT TYPE I
450 mm SUBBASE OF DENSE GRADED CRUSHED STONE
150 mm SAND BORROW



STOWE STREET TYPICAL SECTION

NOT TO SCALE

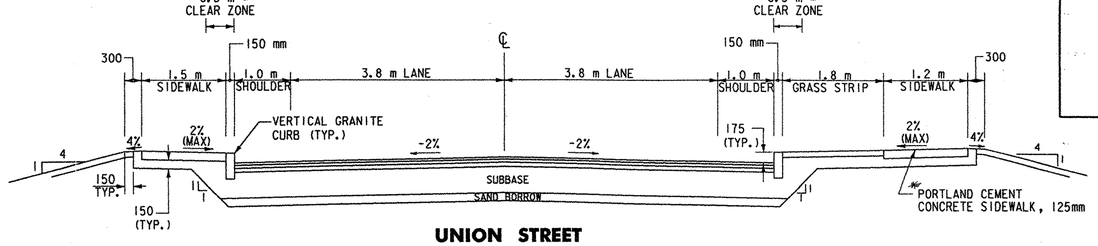
*INCREASE TO 1 m ø TURNING RADII FOR SIDE STREETS
**CURB REVEAL VARIES FROM 175 mm TO 225 mm ON BRIDGE



RAILROAD STREET TYPICAL SECTION

NOT TO SCALE

*INCREASE TO 1 m ø TURNING RADII FOR SIDE STREETS

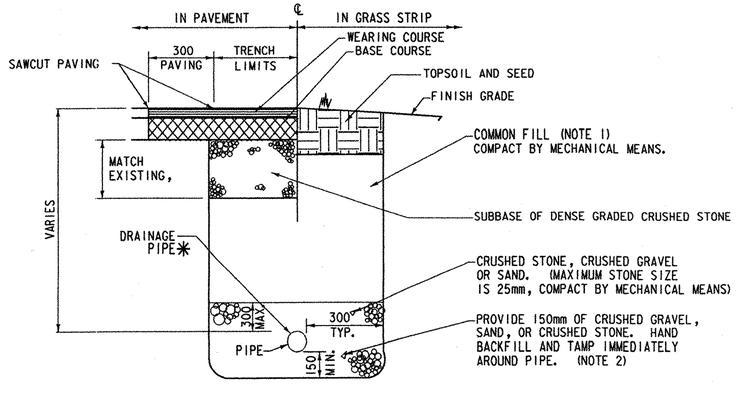


UNION STREET TYPICAL SECTION

NOT TO SCALE

*INCREASE TO 1 m ø TURNING RADII FOR SIDE STREETS

*CONCRETE SIDEWALKS AND CURBS SHALL CONFORM WITH SECTION 501A, CONCRETE, HIGH PERFORMANCE CLASS B.



MATERIALS NOTES:

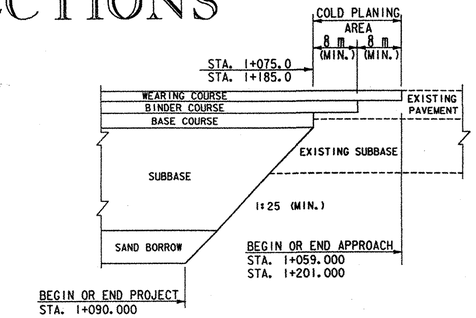
1. COMMON FILL - MATERIAL EXCAVATED ON SITE WHICH IS FRIABLE, NATURAL SOIL COMPOSED OF GRAVEL, SAND, SILTY OR CLAYEY GRAVEL AND SAND; FREE FROM DEBRIS, CONCRETE OR OTHER RUBBLE, ORGANIC MATTER, MUCK, PEAT, EXCAVATED ROCK AND BOULDERS OF 150mm IN MAXIMUM DIMENSION OR GREATER.

2. CRUSHED GRAVEL - CLEAN HARD CRUSHED GRAVEL; FREE FROM SILT, TOPSOIL, CLAY, AND ORGANIC MATTER; UNIFORMLY GRADED FROM COURSE TO FINE WITHIN THE LIMITS WHEN TESTED IN ACCORDANCE WITH 704.05 CRUSHED GRAVEL FOR SUB-BASE (FINE GRADED).

* FOR EXACT LOCATION OF DRAINAGE PIPE, SEE DRAINAGE PLAN SHEET AND CROSS SECTIONS.

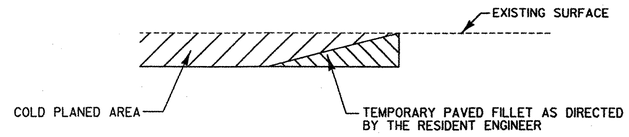
TRENCH EXCAVATION-OUTSIDE ROADWAY RECONSTRUCTION AREA

N. T. S.

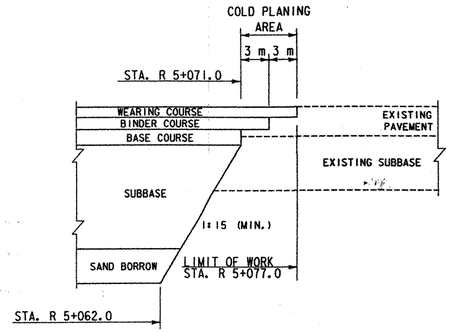


PROJECT TERMINI DETAIL

NOT TO SCALE

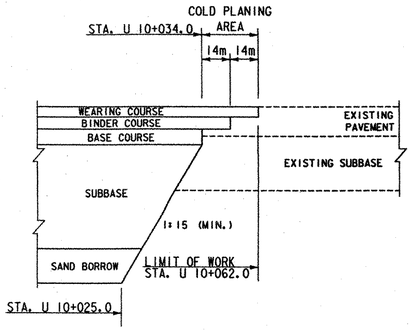


DETAIL AT VERTICAL COLD PLANE JOINTS



RAILROAD STREET TERMINI DETAIL

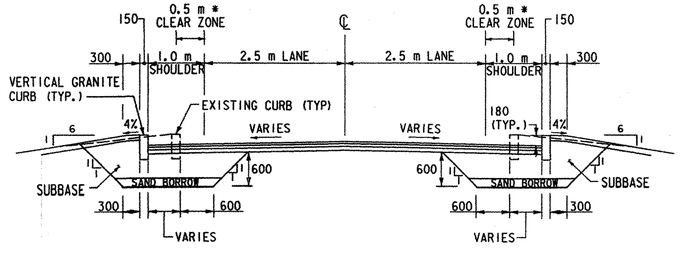
NOT TO SCALE



UNION STREET TERMINI DETAIL

NOT TO SCALE

40 mm BITUMINOUS CONCRETE PAVEMENT TYPE III
50 mm BITUMINOUS CONCRETE PAVEMENT TYPE II } (PG 58-34)
70 mm BITUMINOUS CONCRETE PAVEMENT TYPE I
450 mm SUBBASE OF DENSE GRADED CRUSHED STONE
150 mm SAND BORROW



BIDWELL STREET TYPICAL SECTION

NOT TO SCALE

*INCREASE TO 1 m ø TURNING RADII FOR SIDE STREETS

NOTES: ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

FOR ADDITIONAL ROADWAY AND LANDSCAPING INFORMATION, SEE THE GENERAL NOTES SHEET.

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)

FILE NAME: ...\03-roadway sects.ptf
PROJECT LEADER: G EDWARDS/R GINGRAS
DESIGNED BY: M MEILLEUR
TYPICAL ROADWAY SECTIONS

PLOT DATE: 01/26/2004
DRAWN BY: M MEILLEUR
CHECKED BY: R GINGRAS
SHEET 3 OF 63

...\Willett\ROS\03-roadway sects.dtf 01/26/2004 08:38:16 AM

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

VAOT Metric

SUMMARY OF ESTIMATED QUANTITIES

FULL E&C	EROSION CONTROL	NON-FEDERAL PARTICIPATING	EMPLOYEE TRAINEE-SHIP	UTILITIES	BRIDGE	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
						9	9	EA	REMOVING MEDIUM TREES	201.15	-
						1	1	EA	DEMOLITION AND DISPOSAL OF BUILDING (STA. R 5+050+/- LT.)	202.10	-
						1305	1320	CM	COMMON EXCAVATION	203.15	15
						36	40	CM	EXCAVATION OF SURFACES AND PAVEMENTS	203.28	4
						240	240	CM	SAND BORROW	203.31	
					6		7	CM	GRANULAR BORROW	203.32	1
						10	10	CM	TRENCH EXCAVATION OF EARTH	204.20	
						10	10	CM	TRENCH EXCAVATION OF EARTH (MOD) (NABI)	204.20	
						5	5	CM	TRENCH EXCAVATION OF ROCK	204.21	
					2345		2350	CM	STRUCTURE EXCAVATION	204.25	5
					16		16	CM	GRANULAR BACKFILL FOR STRUCTURES	204.30	-
						752	770	SM	COLD PLANING-BITUMINOUS PAVEMENT	210.10	18
						1071	1080	CM	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	9
					15	619	640	KG	EMULSIFIED ASPHALT	404.65	6
					35	863	910	T	BITUMINOUS CONCRETE PAVEMENT (PG 58-34)	406.25	12
					130		135	CM	CONCRETE, HIGH PERFORMANCE CLASS A	501.33	5
					342	10	360	CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34	8
					1		1	LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10	-
					1300		1315	M	STEEL PILING (HP 310 X 79)	505.15	15
					2		2	EA	DYNAMIC PILE LOADING TEST	505.45	-
						444	450	KG	REINFORCING STEEL	507.15	6
					36 640		37 000	KG	EPOXY COATED REINFORCING STEEL	507.17	60
					162		170	L	WATER REPELLENT	514.10	8
					202		210	SM	SHEET MEMBRANE WATERPROOFING (TORCH APPLIED)	519.20	8
					36		36	M	JOINT SEALER, HOT POURED	524.11	-
					7		7	M	METAL HAND RAILING	525.15	-
					112		112	M	BRIDGE RAILING - 2 RAIL GALV. BOX BEAM (MOD.)	525.31	-
					390		395	SM	MECHANICALLY STABIZILZED EARTH (MSE) WALL	526.30	5
					1		1	EA	REMOVAL OF STRUCTURE (MOD.)	529.15	-
						194	196	M	300 mm CPEP (SL)	601.2605	2

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		COLD PLANING - BITUMINOUS PAVEMENT
364	SM	STOWE STREET AREA
64	SM	BIDWELL LANE AREA
275	SM	UNION STREET AREA
49	SM	RELOCATED RAILROAD STREET AREA
18	SM	ROUNDING
770	SM	TOTAL
		BITUMINOUS CONCRETE PAVEMENT (PG 58-34)
111	T	STOWE STREET WEARING COURSE (TYPE III)
117	T	STOWE STREET BINDER COURSE (TYPE II)
134	T	STOWE STREET BASE COURSE (TYPE I)
133	T	SIDEROAD WEARING COURSE (TYPE III)
147	T	SIDEROAD BINDER COURSE (TYPE II)
179	T	SIDEROAD BASE COURSE (TYPE I)
42	T	DRIVES (TYPE III)
15	T	BRIDGE WEARING COURSE, (TYPE III)
20	T	BRIDGE BINDER COURSE, (TYPE IV)
12	T	ROUNDING
910	T	TOTAL

PROJECT NAME : WATERBURY

PROJECT NO.: BRO 1446(26)

DESIGN FILE NAME: ...\04-QUANTITY1.ptf
IPARM FILE NAME:
SURVEYED BY: VTrans
SQUAD LEADER: R. GINGRAS
QUANTITY SHEET #1

PLOT DATE: 01/27/2004
SURVEY DATE: 1996
DRAWN BY: M. MEILLEUR
SHEET: 4 OF 63

...\Plotfiles\04-QUANTITY1.plt 01/27/2004 03:26:11 PM

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

VAOT Metric

SUMMARY OF ESTIMATED QUANTITIES

FULL E&C	EROSION CONTROL	NON-FEDERAL PARTICIPATING	EMPLOYEE TRAINEE-SHIP	UTILITIES	BRIDGE	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
						7	7	EA	CONCRETE CATCH BASIN WITH CAST IRON GRATE	604.10	-
						1	1	EA	CONCRETE MANHOLE WITH CAST IRON COVER	604.11	-
				4			4	EA	PRECAST REINFORCED CONC. MANHOLE WITH CAST IRON COVER (4 FT. DIA.)	604.21	-
						5	5	EA	CHANGING ELEVATION OF DI'S, CB'S, OR MH'S	604.40	-
						5	5	EA	CHANGING ELEVATION OF SEWER MANHOLE	604.42	-
						4	4	EA	CAST IRON GRATE WITH FRAME, TYPE D	604.47	-
						1	1	EA	CAST IRON GRATE WITH FRAME, TYPE E	604.48	-
						3	3	EA	CAST IRON COVER WITH FRAME	604.55	-
				2		10	12	HR	POWER GRADER RENTAL	608.15	EST
				2		10	12	HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25	EST
				2		10	12	HR	POWER BROOM RENTAL	608.30	EST
				2		10	12	HR	POWER BROOM RENTAL, TYPE II	608.31	EST
				2		10	12	HR	TRUCK RENTAL	608.37	EST
				2		10	12	HR	LOADER RENTAL, TYPE I	608.40	EST
						1	1	T	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15	EST
						2	2	CM	STONE FILL TYPE I (MOD.)	613.10	-
						354	355	M	VERTICAL GRANITE CURB	616.21	1
					24		24	M	GRANITE BRIDGE CURB	616.22	-
						7	7	M	CAST-IN-PLACE CEMENT CONCRETE CURB, TYPE B	616.28	-
						180	184	M	REMOVAL OF EXISTING CURB	616.41	4
						480	490	SM	PORTLAND CEMENT CONCRETE SIDEWALK, 125 mm	618.10	10
						2	3	T	BITUMINOUS CONCRETE SIDEWALK	618.15	0.4
						9	9	SM	DETECTABLE WARNING SURFACE	618.30	
						18	20	M	CHAIN LINK FENCE, 1.2M	620.11	2
						92	95	M	REMOVAL OF EXISTING FENCE	620.55	3
						18	18	M	TEMPORARY TRAFFIC BARRIER	621.90	-
					25		25	M	SLEEVES FOR UTILITIES (125 mm)	625.10	
					85		85	M	SLEEVES FOR UTILITIES (100 mm)	625.10	-
				5			5	M	SLEEVES FOR UTILITIES (400 mm)	625.10	-
				80			80	M	PVC SEWER PIPE (200 mm)	628.35	-

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

PROJECT NAME : WATERBURY

PROJECT NO.: BRO 1446(26)

DESIGN FILE NAME: ...\05-QUANTITY2.ptf
IPARM FILE NAME:
SURVEYED BY: VTrans
SQUAD LEADER: R. GINGRAS
QUANTITY SHEET #2

PLOT DATE: 01/27/2004
SURVEY DATE: 1996
DRAWN BY: M. MEILLEUR
SHEET: 5 OF 63

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STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

Metric

SUMMARY OF ESTIMATED QUANTITIES

FULL E&C	EROSION CONTROL	NON-FEDERAL PARTICIPATING	EMPLOYEE TRAINEE-SHIP	UTILITIES	BRIDGE	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
				60			60	M	PVC SEWER PIPE (150 MM)	628.35	-
				1			1	LS	TRANSFER TO NEW SYSTEM - SANITARY SEWER	628.42	-
						8	8	EA	ADJUST ELEVATION OF VALVE BOX	629.20	-
				10			10	M	SEAMLESS COPPER WATER TUBE (25 mm)	629.23	-
				30			30	M	SEAMLESS COPPER WATER TUBE (20 mm)	629.23	-
				50			50	M	DUCTILE IRON PIPE, CEMENT-LINED (300 mm)	629.24	-
				10			10	M	DUCTILE IRON PIPE, CEMENT-LINED (150 mm)	629.24	-
				3			3	EA	EXTENSION SERVICE BOX AND CURB STOP (20 mm)	629.25	-
				2			2	EA	GATE VALVE WITH VALVE BOX (300 mm)	629.27	-
				1			1	EA	HYDRANTS	629.28	-
				1			1	EA	HYDRANT, REMOVE	629.30	-
				1			1	EA	TAPPING SLEEVE & VALVE WITH VALVE BOX (200mmx150mm)	629.35	-
				1			1	EA	CORPORATION STOP (25mm)	629.39	-
				3			3	EA	CORPORATION STOP (20 mm)	629.39	-
				1			1	LS	TRANSFER TO NEW SYSTEM - WATER	629.42	-
						2000	2000	HR	UNIFORMED TRAFFIC OFFICERS	630.10	EST
						2000	2000	HR	FLAGGERS	630.15	EST
1							1	LS	FIELD OFFICE-ENGINEERS	631.10	-
1							1	LS	TESTING EQUIPMENT - CONCRETE	631.16	-
1							1	LS	TESTING EQUIPMENT - BITUMINOUS	631.17	-
1							1	LU	FIELD OFFICE - TELEPHONE (NOT A BID ITEM)	631.25	-
					1		1	LS	MOBILIZATION	635.10	-
						1	1	LS	TRAFFIC CONTROL	641.10	-
						238	240	M	DURABLE 100 mm WHITE LINE	646.40	2
						496	500	M	DURABLE 100 mm YELLOW LINE	646.41	4
						15	16	M	DURABLE 600 mm STOP BAR	646.46	0.6
						12	12	EA	DURABLE LETTER OR SYMBOL	646.50	-
						49	50	M	DURABLE CROSSWALK W/DIAGONAL LINES (MOD.)	646.51	1
						476	480	M	TEMPORARY 100 mm WHITE LINE	646.60	4

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

PROJECT NAME : WATERBURY

PROJECT NO.: BRO 1446(26)

DESIGN FILE NAME: ...\06-QUANTITY3.ptf
IPARM FILE NAME:
SURVEYED BY: VTrans
SQUAD LEADER: R. GINGRAS
QUANTITY SHEET #3

PLOT DATE: 01/27/2004
SURVEY DATE: 1996
DRAWN BY: M. MEILLEUR
SHEET: 6 OF 63

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STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

VAOT Metric

SUMMARY OF ESTIMATED QUANTITIES

FULL E&C	EROSION CONTROL	NON-FEDERAL PARTICIPATING	EMPLOYEE TRAINEE-SHIP	UTILITIES	BRIDGE	ROADWAY	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NUMBER	RND
						992	1000	M	TEMPORARY 100 mm YELLOW LINE	646.61	8
						31	32	M	TEMPORARY 600 mm STOP BAR	646.66	1
						24	30	EA	TEMPORARY LETTER OR SYMBOL	646.70	6
						98	100	M	TEMPORARY CROSSWALK MARKING W/DIAGONAL LINES (MOD)	646.71	2
						24	30	EA	LINE STRIPING TARGETS	646.76	6
					230		230	SM	GEOTEXTILE FOR UNDERDRAIN TRENCH LINING	649.41	
	155						155	SM	GEOTEXTILE FOR SILT FENCE	649.51	-
						9	10	KG	SEED	651.15	1
						56	60	KG	FERTILIZER	651.18	4
						1	1	T	AGRICULTURAL LIMESTONE	651.20	EST
						1	1	T	HAY MULCH	651.25	EST
						99	110	CM	TOPSOIL	651.35	11
	1						1	LS	EROSION AND SEDIMENT CONTROL PLAN	652.10	-
	40						40	HR	MONITORING EROSION AND SEDIMENT CONTROL PLAN	652.20	-
	1						1	LU	FIELD MAINTENANCE OF EROSION AND SEDIMENT CONTROL PLAN (NABI)	652.30	-
						1	1	EA	DECIDUOUS TREES (SUGAR MAPLE - ACER SACCHARUM 50 mm CAL)	656.30	-
						3	4	SM	TRAFFIC SIGNS, TYPE A	675.20	0.8
						36.8	37	M	FLANGED CHANNEL SIGN POST	675.301	0.2
						15	15	EA	REMOVING SIGNS	675.50	-
						4	4	EA	ERECTING SALVAGED SIGNS	675.60	-
						137	140	M	DIRECT BURIAL CABLE FOR STREET LIGHTING	679.16	3
						1	1	EA	POWER STANCHION	679.28	-
						4	4	EA	LIGHT POLE	679.45	-
						4	4	EA	LUMINAIRE	679.50	-

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

PROJECT NAME : WATERBURY

PROJECT NO.: BRO 1446(26)

DESIGN FILE NAME: ...\zj280frm.dgn
IPARM FILE NAME:
SURVEYED BY: VTrans
SQUAD LEADER: R. GINGRAS
QUANTITY SHEET #4

PLOT DATE: 01/27/2004
SURVEY DATE: 1996
DRAWN BY: M. MEILLEUR
SHEET: 7 OF 63

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BRIDGE QUANTITY SHEET

Metric

ITEM NO.	ITEM	UNIT	QUANTITY BREAKDOWN												TOTAL	FINAL
			FRAME LEG NO. 1		FRAME LEG NO. 2		SUPER-STRUCTURE		APPROACH SLABS		WINGWALLS (MSE WALLS)		CONCRETE STAIR			
203.32	GRANULAR BORROW	CM											6		6	
204.25	STRUCTURE EXCAVATION	CM	375		405						1565				2345	
204.30	GRANULAR BACKFILL FOR STRUCTURES	CM	8		8										16	
404.65	EMULSIFIED ASPHALT	KG					15								15	
406.25	BITUMINOUS CONCRETE PAVEMENT (PG 58-34)	T					35								35	
501.33	CONCRETE, HIGH PERFORMANCE CLASS A	CM					90		40						130	
501.34	CONCRETE, HIGH PERFORMANCE CLASS B	CM	114		122						100		6		342	
504.10	EQUIPMENT FOR PILE DRIVING	EA	0.5		0.5										1	
505.15	STEEL PILING (HP 310x79)	M	615		685										1300	
505.45	DYNAMIC PILE LOADING TEST	EA	1		1										2	
507.17	EPOXY COATED REINFORCING STEEL	KG	9885		10495		7470		2683		5769		338		36640	
514.10	WATER REPELLENT	L	25		28		19				90				162	
519.20	SHEET MEMBRANE WATERPROOFING	SM					104		98						202	
524.11	JOINT SEALER, HOT POURED	M							18						18	
525.15	METAL HAND RAILING	M											7		7	
525.32	BRIDGE RAILING - GALV. BOX BEAM/PED. (MOD.)	M					112								112	
526.30	MECHANICALLY STABILIZED EARTH (MSE) WALL	SM									390				390	
529.15	REMOVAL OF STRUCTURE (MOD.)	EA					1								1	
616.22	GRANITE BRIDGE CURB	M					24								24	
635.10	MOBILIZATION	LS					1								1	
649.41	GEOTEXTILE FOR UNDERDRAIN TRENCH LINING	SM									230				230	

PROJECT NAME : WATERBURY	PROJECT NO.: BRO 1446(26)
DESIGN FILE NAME: ...\08_SSB_BridgeQuantity.dgn	
IPARM FILE NAME:	PLOT DATE: 01/26/2004
SURVEYED BY: VTrans	SURVEY DATE: 1996
SQUAD LEADER: R. GINGRAS	DRAWN BY: A. THIBAULT
BRIDGE QUANTITY SHEET	SHEET: 8 OF 63

...\08_SSB_BridgeQuantity.dgn 01/26/2004 08:32:58 AM

STATE OF VERMONT
AGENCY OF TRANSPORTATION

ITEM DETAIL SUMMARY SHEET

VAOT Metric

STATION BEGIN	STATION END	POS.	301.35 SUBBASE OF DENSE GRADED CRUSHED STONE CM	604.42 CHANGING ELEV. OF SEWER MANHOLE EA	616.21 VERTICAL GRANITE CURB M	616.28 CAST-IN-PLACE CEMENT CONCRETE CURB, TYPE B	616.41 REMOVAL OF EXISTING CURB M	618.10 P.C. CONCRETE SIDEWALK, 125 mm SM	618.15 BITUMINOUS CONCRETE SIDEWALK T	620.55 REMOVAL OF EXISTING FENCE M	629.20 ADJUST ELEV OF VALVE BOX EA	REMARKS
STOWE STREET												
1+068.0	B 1+015.8	RT			16		23					
1+068.0	1+080.0	RT	4.8					21				CONSTRUCT SIDEWALK RAMP, TYPE I AT STA. 1+073.5 LT. & 1+077.0 RT.
1+072.6	1+092.6	LT					20					
1+072.6	1+113.7	LT	20.5		38			62				CONSTRUCT SIDEWALK RAMP, TYPE I AT STA. 1+084.0 & 1+089.5, LT.
1+074.0		LT									1	
1+075.0	1+185.0	LT&RT	385									
1+087.0		LT									1	
1+088.0		LT									1	
1+088.0	1+095.0	LT	0.6						1.3			
1+092.0		RT									1	
1+094.4	1+113.7	RT	9.6					27				CONSTRUCT SIDEWALK RAMP, TYPE I AT STA. 1+097.0, RT.
1+095.7	1+102.3	LT	0.5					9				
1+096.0		℄		1								
1+098.0		LT									1	
1+098.0	1+113.7	RT			15.7							
1+099.8	1+151.2	LT								51.4		
1+099.9	1+136.2	RT								36.3		
1+125.7	U 10+036.0	LT			54							
1+125.7	R 5+077.0	RT	46.5		88			125				CONSTRUCT SIDEWALK RAMP, TYPE VI AT STA. 1+150.2 RT.
1+125.7	U 10+036.0	LT	29.5					92				CONSTRUCT SIDEWALK RAMP, TYPE VI AT STA. 1+156.4, LT.
1+140.3		RT									1	
1+143.0		RT		1			3					
1+146.0		RT		1								
1+151.4	U 10+036.0	LT					34					
1+156.4	1+175.4	RT					19					
1+165.0		RT		1								
SUBTOTALS			497.0	4	211.7		99	336	1.3	87.7	6	

PROJECT NAME : WATERBURY
PROJECT NO.: BRO 1446(26)
DESIGN FILE NAME: ...\09-Item detail.ptf
IPARM FILE NAME:
SURVEYED BY: VTrans
DESIGNED BY: R. GINGRAS
ITEM DETAIL SUMMARY SHEET #1
PLOT DATE: 01/26/2004
SURVEY DATE: 06/07/00
DRAWN BY: M. MEILLEUR
SHEET: 9 OF 63

...\plotfiles\09-item detail.plt 01/26/2004 08:13:17 AM

STATE OF VERMONT
AGENCY OF TRANSPORTATION

ITEM DETAIL SUMMARY SHEET

VAOT Metric

STATION BEGIN	STATION END	POS.	301.35 SUBBASE OF DENSE GRADED CRUSHED STONE CM	604.42 CHANGING ELEV. OF SEWER MANHOLE EA	616.21 VERTICAL GRANITE CURB M	616.28 CAST-IN-PLACE CEMENT CONCRETE CURB, TYPE B	616.41 REMOVAL OF EXISTING CURB M	618.10 P.C. CONCRETE SIDEWALK, 125 mm SM	618.15 BITUMINOUS CONCRETE SIDEWALK T	620.55 REMOVAL OF EXISTING FENCE M	629.20 ADJUST ELEV OF VALVE BOX EA	REMARKS
BIDWELL LANE												
B 1+005.4	B 1+015.8	LT&RT	28.6									
B 1+010.0	B 1+015.0	LT	0.6						1.3			
B 1+014.3	1+094.4	LT-RT			10.3							
B 1+015.8		LT				6	6					
B 1+017.3	1+099.3	LT-RT					15					
UNION STREET												
U 10+004.5	U 10+034.0	LT&RT	137.7									
U 10+009.0		LT									1	
U 10+036.0	1+175.4	RT-LT	35.5					50				CONSTRUCT SIDEWALK RAMP, TYPE VI AT STA. 1+170.6, LT.
U 10+062.0	1+175.4	RT-LT			56		60					
RELOCATED RAILROAD STREET												
R 5+005.0	R 5+071.0	LT&RT	286.7									
R 5+033.0		RT									1	
R 5+064.2	R 5+068.0	LT								3.8		
R 5+073.0		LT		1								
R 5+077.0	1+175.3	LT-RT	35.1		76			94				CONSTRUCT SIDEWALK RAMP, TYPE VI AT STA. 1+169.1, RT.
SUBTOTALS			524.2	1	142.3	6	81	144	1.3	3.8	2	
SHEET 9 SUBTOTALS			497.0	4	211.7	-	99	336	1.3	87.7	6	
SHEET 10 SUBTOTALS			524.2	1	142.3	6	81	144	1.3	3.8	2	
SUBTOTALS			1021.2	5	354	6	180	480	2.6	91.5	8	
ROUNDING			8.8	-	6	1	4	10	0.4	3.5	-	
PROJECT TOTALS			1030	5	360	7	184	490	3	95	8	

PROJECT NAME : WATERBURY
PROJECT NO.: BRO 1446(26)
DESIGN FILE NAME: ...\10-item detail2.ptf
IPARM FILE NAME:
SURVEYED BY: VTrans
DESIGNED BY: R. GINGRAS
ITEM DETAIL SUMMARY SHEET #2
PLOT DATE: 01/26/2004
SURVEY DATE: 06/07/00
DRAWN BY: M. MEILLEUR
SHEET: 10 OF 63

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STATE OF VERMONT
AGENCY OF TRANSPORTATION

DRAINAGE DETAIL SHEET

Metric

STATION km + m	STATION km + m	POS.	DRAINAGE NOTE REFER.	INLET/OUTLET TYPE INLET	OUTLET	DITCH IN	OUT	PIPE ARCH SPAN mm	RISE mm	L m	PIPE D mm	L m	ALLOWABLE OPTIONS PCCSP mm	CAAP mm	RCP CL	CSP mm	CPEP SL mm	PCCSP PI mm	PIPE ELBOW no. deg.	MH ea	CB ea	PRECAST	DEPTH DI mm	CONC CLASS B m^3	REINF STEEL kg	DI GRATE type	CHAN ELEV ea	CRM m^2	TRENCH EXCAVATION EARTH m^3	ROCK m^3	COMM EXC m^3	UNC CHAN EXC m^3	STRUCT EXCAV m^3	GRAN BKFILL STRUCT m^3	GRAN BORR m^3	BROS MATT m^2	STONE FILL m^2	type	MARKER POSTS LT ea	RT ea	REMARKS
Stowe Street																																										
1+066.3	1+071.5	RT.-LT.	A																							SC	1															RETAIN EXIST. DI & PIPE; REMOVE GRATE AND FRAME AT 1+066.3, RT.; NEW FRAME AND COVER AT 1+066.3, RT.
1+071.5	1+084.7	LT.	B																					.25		SC	1															RETAIN EXIST. DI; SAW CUT EXIST. PIPE AT 1+078.4, LT. TO INSTALL CB#1; PLUG & ABANDON REMAINDER OF PIPE; REMOVE GRATE AND FRAME AT 1+071.5, LT.; NEW COVER AND FRAME AT 1+071.5, LT.
1+074.8	1+075.2	RT.-LT.	1	CB#1	CB#2						300	10.2					300				1					D*			38													NEW CATCH BASIN AND PIPE; CONNECT EXIST. 300mm MP TO CB#1
1+074.8	B 1+012.3	RT.-LT.	2	CB#2	DMH#1						300	15.1					300				1					D*			48													NEW CATCH BASIN AND PIPE
1+084.7	B 1+012.3	LT.	C																					.25		SC	1															PLUG & ABANDON EXIST. 300mm PIPE; REMOVE GRATE AND FRAME AT 1+084.7, LT.; NEW COVER AND FRAME AT 1+084.7, LT.
																																									NEW DROP INLET AND PIPE
1+091.4	1+098.4	LT.-RT.	3	CB#3	CB#4						300	9					300				1					E*			30													NEW CATCH BASIN AND PIPE
1+091.4	1+094.0	LT.	13	DI#12	CB#3						300	2.5					300						900	1.46	76	D			9													NEW DROP INLET AND PIPE
1+098.4	B 1+012.3	RT.-LT.	4	CB#4	DMH#1						300	12					300				1					E*			43													NEW CATCH BASIN AND PIPE
1+147.9	1+153.2	RT.-LT.	8	DI#8	CB#9						300	8.4					300						1500	1.78	90	E			17													NEW DROP INLET AND PIPE
1+153.2	1+172.9	LT.	9	CB#9	CB#10						300	18.5					300				1					E*			49													NEW CATCH BASIN AND PIPE
1+155.4	1+171.5	LT.	D																										16	5											REMOVE EXIST. DI & PIPE
1+170.7	1+171.5	RT.-LT.	E																										8	5											REMOVE EXIST. DI & PIPE
1+171.5	U 10+059.6	LT.-RT.	F																					.25						5											REMOVE EXIST. DI; PLUG & ABANDON EXIST. PIPE
1+171.9	1+172.9	RT.-LT.	7	DI#7	CB#10						300	7.9					300						1800	2.43	116	D			31													NEW DROP INLET AND PIPE; SEE GRADING DETAIL ON SHEET 13
Bidwell Lane																																										
B 1+012.3		LT.	12	DMH#1																1						SC*			27													NEW CONCRETE MH WITH CAST IRON COVER OVER EXIST. DRAINAGE PIPE. SEE DRAINAGE NOTE 12 ON DRAINAGE PLAN
Relocated Railroad St.																																									
R 5+049.5	R 5+053.1	LT.-RT.	G																										2	4											REMOVE 2 EXISTING DROP INLETS AND PIPE
R 5+051.5	R 5+053.7	RT-LT.	5	DI#5	DI#6						300	7.1					300						1050	1.62	80	D			3													NEW DROP INLET AND PIPE
R 5+053.7	1+171.9	LT.-RT.	6	DI#6	DI#7						300	51.2					300						1050	1.62	80	D			46													NEW DROP INLET AND PIPE; SEE GRADING DETAIL ON SHEET 13.
Union Street																																									
1+172.9	U 10+023.2	LT-RT.	10	CB#10	CB#11						300	17.1					300				1					E*			46													NEW CATCH BASIN AND PIPE
U 10+023.2	U 10+059.6	RT.	11	CB#11	EXT. CB						300	36.2					300				1					E*			90													NEW CATCH BASIN AND PIPE
U 10+059.6		RT.																									1														CHANGE ELEVATION OF EXISTING DI
U 10+061.5		LT.																									1														CHANGE ELEVATION OF EXISTING DI
SUBTOTALS											300	194.2								1	7			9.66	444	4 D	5		503	19											
ROUNDING												1.8								0	0			0.34	6	1 E	0		7	1											
TOTALS											300	196								1	7			10	450	9 SC	5		510	20											

" - GRATE OR COVER INCLUDED IN COST OF CATCH BASIN OR M.H. NOT ADDED TO PROJECT TOTALS

S.C. - SOLID COVER

NOTE: SEE SHEET 21 OF 63 FOR LOCATION CHANGES

PROJECT NAME: **WATERBURY**
PROJECT NUMBER: **BRO 1446(26)**

FILE NAME: **11-DRAINAGE DETAIL.XLS** PLOT DATE: **1/23/2004**
PROJECT LEADER: **R. GINGRAS** DRAWN BY: **M MEILLEUR**
DESIGNED BY: **S. ROGERS** CHECKED BY: **R GINGRAS**
DRAINAGE DETAIL SHEET SHEET **11** OF **63**

STATE OF VERMONT
AGENCY OF TRANSPORTATION

EARTHWORKS

Metric

STATION	DIST	TOTAL EXCAVATION EARTH AND ROCK AREA	TOTAL EXCAVATION EARTH AND ROCK VOLUME	ROCK EXCAVATION AREA	ROCK EXCAVATION VOLUME	EMBANKMENT AREA	EMBANKMENT VOLUME		
km + m	m	m^2	m^3	m^2	m^3	m^2	m^3	m^2	m^3
Stowe St.									
1+059		0				0			
	16		0				0		
1+075		0				0			
	5		20				0		
1+080		8				0			
	7		68				0		
1+087		11				0			
	3		29				0		
1+090		8				0			
	7		27				11	CUT	157
1+097		0				3		ROCK	0
	3		0				9	R.FAC	0.495
1+100		0				3		FILL	47
	14		0				27	F.FAC	1.15
1+114		0				1		EX. C	103
1+068 RT (sidewalk)			3						
1+072 LT (sidewalk)			9						
1+092 RT (sidewalk)			1						
1+126		0				2			
	14		0				29		
1+140		0				2			
	10		15				11		
1+150		3				0			
	10		48					CUT	272
1+160		7						ROCK	0
	10		99					R.FAC	0.495
1+170		13						FILL	40
	10		85					F.FAC	1.15
1+180		4						EX. C	226
	10		26						
1+190		2							
Union St.									
10+005		8				1			
	5		40				5		
10+010		8				1			
	10		80				5		
10+020		8				0			
	5		43					CUT	207
10+025		9						ROCK	0
	5		25					R.FAC	0.495
10+030		1						FILL	10
	6		6					F.FAC	1.15
10+036		1						EX. C	195
10+005 LT & RT (sidewalk)			13						
Bidwell St.									
1+005		4							
	5		19						
1+010		4						CUT	51
	6		24					ROCK	0
1+016		4						R.FAC	0.495
	4		8					FILL	0
1+020		0						F.FAC	1.15
								EX. C	51
Railroad St.									
5+005		10				0			
	15		152				8		
5+020		10				1			
	6		66				3		
5+026		12				0			
	4		44				2		
5+030		10				1			
	5		50				3		
5+035		10				0			
	5		46				3		
5+040		8				1		CUT	618
	10		86				10	ROCK	0
5+050		9				1		R.FAC	0.495
	3		28				2	FILL	45
5+053		10				0		F.FAC	1.15
	2		19				0	EX. C	566
5+055		9				0			
	5		47				3		
5+060		9				1			
	10		66				8		
5+070		4				1			
	7		14				5		
5+077		0				1			
sidewalk									

SUMMARY AND BALANCES

STATION TO STATION		TOT EXC. EARTH & ROCK	ROCK EXCAV	EMBANK	EXCESSES		ACUMULATIVE EXCESSES	
km + m	km + m	m^3	m^3	m^3	CUT	FILL	CUT	FILL
Stowe St.								
1+059	1+114	157		47	103		103	
1+126	1+190	272		40	226		329	
Union St.								
10+005	10+036	207		10	195		524	
Bidwell St.								
1+005	1+020	51			51		575	
Railroad St.								
5+005	5+077	618		45	566		1141	
Totals		1305		142	1141		1141	

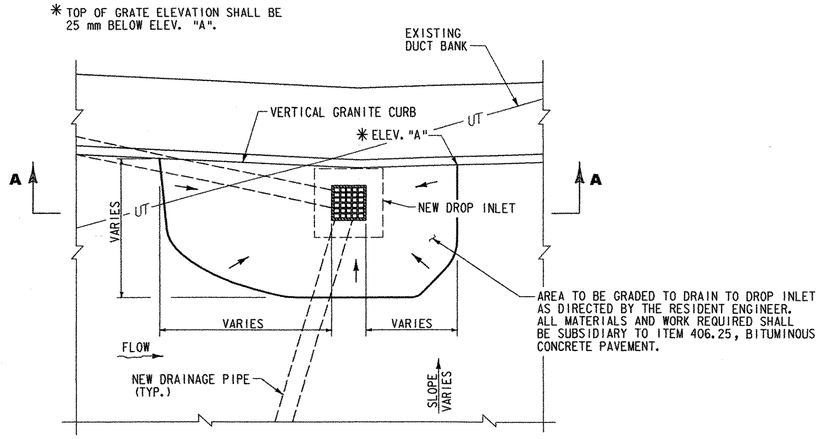
REMARKS

EARTH AND ROCK EXCAVATION	1305
SOLID ROCK EXCAVATION	
EARTH EXCAVATION	1305
PLANIMETERED FILL	142
LESS FACTORED SOLID ROCK	
LESS DISPLACEMENT OF ANY LARGE STRUCTURES	
NEEDED TO FILL IN BASEMENT OF #202 RAILROAD ST.	358
NET PLANIMETERED FILL	500
FACTOR (15%)	1.15
PLANIMETERED FILL INCLUDING FACTOR	575
MATERIALS AVAILABLE FOR FILLS	
EARTH EXCAVATION	1305
CHANNEL EXCAVATION	
UNDERDRAIN EXCAVATION	
STRUCTURE EXCAVATION	2185
TOTAL MATERIAL AVAILABLE FOR FILL	3490
TOTAL FILL INCLUDING FACTOR	575
TOTAL MATERIAL FOR FILL	3490
BORROW	
EXCESS EXCAVATION	2915

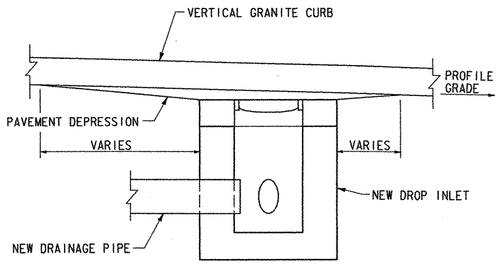
PROJECT NAME: **WATERBURY**
PROJECT NUMBER: **BRO 1446(26)**

FILE NAME: **12-EARTHWORKS.XLS**
PROJECT LEADER: **G. EDWARDS**
DESIGNED BY: **M. MEILLEUR**
EARTHWORKS SHEET

PLOT DATE: **6/2/2003**
DRAWN BY: **M. MEILLEUR**
CHECKED BY: **R. GINGRAS**
SHEET **12** OF **63**



PLAN



SECTION A-A

DRAINAGE STRUCTURE SPECIAL GRADING DETAIL

NOT TO SCALE

ROADWAY NOTES

1. ALL ASPHALT CEMENT USED IN THE BITUMINOUS CONCRETE PAVEMENT SHALL BE PG 58-34.

2. EMULSIFIED ASPHALT SHALL BE APPLIED ON EXISTING PAVEMENT SURFACES, BETWEEN ALL COURSES OF PAVEMENT AND ON COLD PLANED SURFACES, AT THE RATE OF 0.12 L/m² OR AS DIRECTED BY THE ENGINEER. EMULSIFIED ASPHALT SHALL BE APPLIED ON BRIDGE PAVEMENT SURFACES, AT A RATE OF 0.07 L/m² OR AS DIRECTED BY THE ENGINEER.

3. COLD PLANING TO BE COMPLETED ACCORDING TO TYPICAL OR AS NOTED OTHERWISE ON THE PLANS. THE COLD PLANING AND PAVING SHALL MATCH THE EXISTING CONDITIONS AT THE BEGINNING AND END OF CONSTRUCTION AREAS BY THE USE OF A VERTICAL BUTT JOINT. SEE DETAIL ON SHEET 3.

4. CONTRACTOR TO VERIFY THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND REVIEW FINDINGS WITH THE RESIDENT ENGINEER. THIS INFORMATION WILL BE COMPARED WITH THE ASSUMED LOCATIONS SHOWN IN SECTION AND RE-DESIGN OF DRAINAGE INLETS AND OUTLETS MAY BE REQUIRED.

SEEDING FORMULA
URBAN AREAS

% MASS	Kg/ha	NAME	PUR %	GERM %
42.5	38.0	CREEPING RED FESCUE	98	85
10.0	9.0	PERENNIAL RYE GRASS	95	90
42.5	38.0	KENTUCKY BLUE GRASS	85	85
5.0	5.0	ANNUAL RYE GRASS	95	85
100.0	90.0			

GENERAL NOTES

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

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

FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 560 kg/ha. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).

AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 4500 kg/ha, OR AS DIRECTED BY THE ENGINEER.

HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 4500 kg/ha, OR AS DIRECTED BY THE ENGINEER.

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

SLOPE ROUNDING: ALL CUT SLOPES TO BE ROUNDED IN ACCORDANCE WITH STANDARD SHEET B-5M AS DIRECTED BY THE ENGINEER.

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)

FILE NAME: ...\13-generalnotes.ptf
PROJECT LEADER: G EDWARDS/R GINGRAS
DESIGNED BY: M MEILLEUR
GENERAL NOTES

PLOT DATE: 01/26/2004
DRAWN BY: M MEILLEUR
CHECKED BY: R GINGRAS
SHEET 13 OF 63

M 81 18 08 04/05/04 010 plt ses 13-ses1181\13-generalnotes.dgn

NOT Metric

STATE OF VERMONT
AGENCY OF TRANSPORTATION
RIGHT OF WAY PLANS
DETAIL SHEET

TABLE OF PROJECT PROPERTY ACQUISTION

PARCEL NO.	GRANTOR	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKING	REM.	RIGHTS	TITLE TAKEN	DATE	TOWN OR CITY RECORDED	BK.	PG.	REMARKS
1	GREEN MOUNTAIN POWER CORPORATION												UTILITY
2	VERIZON NEW ENGLAND, INC.												UTILITY
3	ADELPHIA CABLE COMMUNICATIONS												UTILITY
156	STIREWALT, ROBERT K. AND STIREWALT, ROBYN L. SKIFF	12	1+172.74 RT.	1+173.89 RT.			INSTALL AND MAINTAIN (P)						UTILITY ANCHOR
158	BARBER, GEORGE E. & CAROL H.	12	RAILROAD STREET R 5+049.7 LT.	RAILROAD STREET R 5+068.0 LT.			INSTALL (T)						FENCE
200	THE ELDREDGE COMPANY, INC.	12	RAILROAD STREET R 5+073.0 RT.	R 5+077.0 RT.									EXCEPT AND RESERVE HOUSE
201	MARTIN, STEVEN A. & DIXIE R.	12	RAILROAD STREET R 5+058.0 RT. R 5+060.9 RT.	R 5+069.2 RT.									DRIVE, 3.8m (12') GRAVEL EXCEPT AND RESERVE HOUSE
202A	A. M. VENTURES (ROBERT W. MURRAY & GALEN D. AINSWORTH)	12	RAILROAD STREET R 5+034.81 LT.	RAILROAD STREET R 5+068.53 LT.	0.03 HA.±	0.00							HOUSE AND LOT AND ALL APPURTENANCES RELATED TO PARCEL (.07A±)
202B			RAILROAD STREET R 5+039.93 LT.	RAILROAD STREET R 5+068.60 LT.	0.02 HA.±		ALL RIGHT, TITLE AND INTEREST						HIGHWAY EASEMENT FOR RAILROAD STREET (0.05A±)
203	ABARE, MICHAEL L. & LAURIE A.	12	RAILROAD STREET R 5+045.6 RT. R 5+055.0 RT.	R 5+052.0 RT.									EXCEPT AND RESERVE HOUSE DRIVE, 4.6m (15') PAVEMENT
204	DUNN, SARA A.	12	RAILROAD STREET R 5+035.0 RT. R 5+037.8 RT.	R 5+043.2 RT.									DRIVE, 3.6m (12') PAVEMENT EXCEPT AND RESERVE HOUSE
205	MAYFLOWER MANAGEMENT, L.L.C.	12	1+123.6 RT. RAILROAD STREET R 5+025.8 RT. R 5+026.0 RT.	1+134.6 RT. R 5+029.8 RT.			SLOPE (T) 0.9 SM±						10 SF± EXCEPT AND RESERVE HOUSE DRIVE, 3.6m (12') PAVEMENT
206A	MAYFLOWER MANAGEMENT, L.L.C.	12	1+170.50 RT.	RAILROAD STREET R 5+039.93 LT.	0.06 HA.±	0.00							LAND-TOTAL TAKE 0.15A±
206B			1+170.50 ℄	R 5+043.15 RT.	0.04 HA.±		ALL RIGHT, TITLE AND INTEREST						HIGHWAY EASEMENT FOR RAILROAD STREET AND STOWE STREET (0.11A±)

REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY
		PAPER PRINTS TO STRUCTURES	1/15/04	G.J.F.	R.P.D.
1	12	PARCEL NO. 299 TILLOTSON. EXTEND LIMITS OF DRIVE. PER C.O. 9327	1/19/04	G.J.F.	R.P.D.

SURVEYED BY _____ DATE _____
DESIGN BY _____ DATE _____
DRAWN BY _____ DATE _____

DESIGN FILE NO. ROW DETAIL.DGN

PRF FILE 6310004 DATE PLOTTED 05/14/2003

DR. (P) - DRAINAGE RIGHT
DIT. (P) - DITCHING RIGHT
CH. (P) - CHANNEL RT.
DRIVE (T) - DRIVE RIGHT
CUL. (P) - CULVERT RIGHT

PRESENT R.O.W.
TAKING WITHOUT ACCESS
TAKING WITHOUT ACCESS ALONG PROPERTY LINE
TAKING WITH ACCESS
(P) PERMANENT EASEMENT
(T) TEMPORARY EASEMENT

LEGEND
CZ (P) CLEAR ZONE
CONST. (T) CONSTRUCTION EASEMENT
SR SR SLOPE RIGHTS
P L PROPERTY LINE
TOP OF CUT
TOE OF SLOPE

R.O.W. PLANS
MARCH, 2003

Dufresne-Henry

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)

FILE NAME: ...\ROW DETAIL.p+f
PROJECT LEADER: G. EDWARDS
DESIGNED BY: G. BOGUE
R.O.W. PLANS

PLOT DATE: 05/14/2003
DRAWN BY: M MEILLEUR
CHECKED BY: G. BOGUE
SHEET 14 OF 63

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PARCEL NO.	GRANTOR	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKING	REM.	RIGHTS	TITLE TAKEN	DATE	TOWN OR CITY RECORDED	BK.	PG.	REMARKS	REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY
207	SIPPLE, PAUL &	12	1+129.0 LT.	1+151.4 LT.			REMOVE (T)						FENCE AND BLOCK WALL						
	FERNANDEZ, ROBERT		1+129.0 LT	1+157.0 LT.			SLOPE (T) 36 SM±						388 SF±						
			1+148.83 LT.	1+156.31 LT.			INSTALL AND MAINTAIN (P)						UTILITY POLE, ANCHORS AND APPURTENANCES						
			UNION STREET	UNION STREET															
			U 10+006.90 LT.	U 10+036.00 LT.			INSTALL AND MAINTAIN (P) 7 SM±						1.5m (5') CONCRETE SIDEWALK 75 SF±						
			U 10+009.0 LT.	U 10+024.3 LT.			INSTALL (T) 15 SM±						EROSION CONTROL (161 SF±)						
			U 10+025.0 LT.				DRIVE (T)						3.6m (12') GRAVEL, INCLUDES REGRADING OF PARKING LOT						
			UNION STREET	UNION STREET															
208	FIDRYCH, PAUL	12	U 10+008.32 RT.	U 10+010.08. RT.			CULVERT (P)												
			U 10+010.0 RT.	U 10+024.7 RT.			INSTALL (T) 44 SM±						EROSION CONTROL (474 SF+)						
			U 10+027.0 RT.				DRIVE (T)						6.3m (21') PAVEMENT 11 SF±						
			U 10+031.0 RT.	U 10+036.0. RT.			SLOPE (T) 1 SM±						EROSION CONTROL (54 SF±)						
			U 10+031.6 RT.	U 10+037.4 RT.			INSTALL (T) 5 SM±						1.5m (5') CONCRETE SIDEWALK 54 SF±						
			1+173.04 LT.	U 10+036.00 RT.			INSTALL AND MAINTAIN (P) 5 SM±						118 SF±						
			1+175.0 LT.	U 10+025.0. RT.			SLOPE (T) 11 SM±						3.3m (11') PAVEMENT 54 SF±						
292	WATERBURY LEGION HOME, INC.	12	1+087.0 LT.				DRIVE (T)						1.5m (5') CONCRETE SIDEWALK 11 SF±						
			1+072.6 LT.	1+082.6. LT.			SLOPE (T) 5 SM±						3.3M (11') PAVEMENT						
			1+072.71 LT.	1+077.10 LT.			INSTALL & MAINTAIN (P) 1 SM±						1.8m (6') BITUMINOUS CONCRETE INCLUDES SLOPE WORK (43 SF±)						
293	STANGEL, PETER & JING JI	12	1+087.0 LT.				DRIVE (T)												
			1+088.0 LT.	1+095.0 LT.			INSTALL (T) 4 SM±												
			1+094.04 LT.				CULVERT & D.I. (P)												
294	TILLOTSON,	12	1+087.0 LT.				DRIVE (T)						3.3m (11') PAVEMENT						
	DWAYNE B. & BETTY A.		1+094.3 LT.	1+108.0 LT.			SLOPE (T) 50 SM±						538 SF±						
			1+095.7 LT.	1+102.3 LT.			INSTALL (T)						0.9m (3') CONCRETE SIDEWALK, INCLUDES STAIRS						
			BIDWELL STREET	BIDWELL STREET									517 SF±						
295	AYLWARD, SYLVIA W.	12	B 1+007.5 LT.	B 1+020.0 LT.			SLOPE (T) 48 SM±						1.2m (4') BITUMINOUS CONC. CURB						
			B 1+010.0 LT.	B 1+015.0 LT.			INSTALL (T)						EROSION CONTROL (129 SF±)						
			B 1+016.0 LT.				REMOVE AND INSTALL (T)												
			1+092.4 RT.	1+098.0 RT.			INSTALL (T) 12 SM±						PLANT TREE 3 SF±						
			1+092.46 RT.	1+093.11 RT.			CULVERT (P)												
			1+092.6 RT.	1+097.6 RT.			LANDSCAPE (T)												
			1+106.6 RT.	1+109.0 RT.			SLOPE (T) 0.3 SM±												
297	WATERBURY MASONIC BUILDING ASSOCIATION, INC.	12	1+068.00 RT.	1+075.12 RT.			INSTALL & MAINTAIN (P) 7 SM±						2.1m (7') CONCRETE SIDEWALK (75 SF±)						
383	C.V. PROPERTIES, INC. JOINED	12	1+108.0 LT.	1+129.0 LT.			CONST. (T) 90 SM±						970 SF±						
	BY NEW ENGLAND CENTRAL RR.		1+108.0 LT.	1+116.8 LT.			SLOPE (T) 7 SM±						75 SF±						
			1+108.03 LT.	1+129.06 LT.			ALL RIGHT, TITLE AND INTEREST						RAILROAD BRIDGE THIS TO INCLUDE FOOTINGS, WALLS, RAILINGS AND ANY OTHER APPURTENANCES.						
			1+109.3 RT.	1+123.6 RT.			CONST. (T) 44 SM±						474 SF±						
			1+124.3 LT.	1+129.0 LT.			SLOPE (T) 5 SM±						54 SF±						

SURVEYED BY _____ DATE _____
DESIGN BY _____ DATE _____
DRAWN BY _____ DATE _____

DESIGN FILE NO. ROW DETAIL.DGN

PRF FILE 6310004 DATE PLOTTED 05/14/2003

DR. (P) - DRAINAGE RIGHT
DIT. (P) - DITCHING RIGHT
CH. (P) - CHANNEL RT.
DRIVE (T) - DRIVE RIGHT
CUL. (P) - CULVERT RIGHT

P
L
(P)
(T)

PRESENT R.O.W.
TAKING WITHOUT ACCESS
TAKING WITHOUT ACCESS ALONG PROPERTY LINE
TAKING WITH ACCESS
PERMANENT EASEMENT
TEMPORARY EASEMENT

LEGEND

CZ (P) CLEAR ZONE
CONST. (T) CONSTRUCTION EASEMENT
SR SR SLOPE RIGHTS
P L PROPERTY LINE
TOP OF CUT
TOE OF SLOPE

R.O.W. PLANS
MARCH, 2003

Dufresne-Henry

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)

FILE NAME: ...\ROW DETAIL.ptf
PROJECT LEADER: G. EDWARDS
DESIGNED BY: G. BOGUE
R.O.W. PLANS

PLOT DATE: 05/14/2003
DRAWN BY: M. MEILLEUR
CHECKED BY: G. BOGUE
SHEET 15 OF 63

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VERTICAL GRANITE CURB
STA. 1+068.0 TO STA. 1+075.6, RT.
STA. 1+072.6 TO STA. 1+085.0, LT.
STA. 1+080.0 TO STA. B 1+015.8, RT.
STA. 1+088.6 TO STA. 1+113.7, LT.
STA. 1+098.0 TO STA. 1+113.7, RT.
STA. 1+125.7 TO STA. 1+155.8, LT.
STA. 1+125.7 TO STA. 1+149.6, RT.
STA. 1+169.8 TO STA. 1+175.3, RT.
STA. 1+171.4 TO STA. 1+175.4, LT.
STA. B 1+014.3, LT TO STA. 1+094.4, RT.
STA. R 5+007.1 TO STA. R 5+077.0, LT.
STA. R 5+007.8 TO STA. R 5+024.0, RT.
STA. R 5+028.3 TO STA. R 5+033.0, RT.
STA. R 5+037.1 TO STA. R 5+051.9, RT.
STA. R 5+060.0 TO STA. R 5+077.0, RT.
STA. U 10+006.0 TO STA. U 10+023.2, LT.
STA. U 10+008.3 TO STA. U 10+024.8, RT.
STA. U 10+027.6 TO STA. U 10+036.0, LT.
STA. U 10+031.2 TO STA. U 10+060.0, RT.

REMOVE MEDIUM TREES
STA. 1+092.2, RT.
STA. 1+099.7, LT.
STA. 1+102.4, LT.
STA. 1+107.6, LT.
STA. 1+110.6, LT.
STA. 1+131.9, LT.
STA. 1+133.7, LT.
STA. R 5+049.2, LT.
STA. R 5+059.8, LT.

DECIDUOUS TREES
STA. B 1+012.0, RT.

REMOVAL OF EXISTING CURB
STA. 1+072.0 TO STA. 1+092.6, LT.
STA. 1+068.0 TO STA. B 1+015.8, RT.
STA. 1+151.4 TO STA. U 10+036.0, LT.
STA. B 1+015.8, LT.
STA. B 1+017.3, LT. TO STA. 1+099.3, RT.
STA. R 5+070.0, LT. TO STA. 1+175.4, RT.
STA. U10+062.0, RT. TO STA. 1+175.4, LT.

CAST-IN-PLACE CEMENT
STA. B 1+015.8, LT.

REMOVAL OF EXISTING FENCE
STA. 1+099.8 TO 1+151.2, LT.
STA. 1+099.9 TO 1+136.2, RT.
STA. R 5+064.2 TO R 5+068.0, LT.

INSTALL NEW FENCE
STA. R 5+049.7 TO R 5+068.0, LT.

CONSTRUCT DRIVE
STA. 1+087.0 LT. 3.3 m PAVED
STA. 1+179.0 RT. 2.8 m GRAVEL
STA. U10+027.0 RT. 6.3 m PAVED
STA. U10+025.0 LT. 3.6 m GRAVEL
STA. R5+026.0 RT. 3.6 m PAVED
STA. R5+035.0 RT. 3.6 m PAVED
STA. R5+055.0 RT. 4.6 m PAVED
STA. R5+058.0 RT. 3.8 m GRAVEL

CONSTRUCT SIDEWALK RAMP TYPE I
(SEE V.A.O.T. STD. C-3M)
STA. 1+073.5, LT.
STA. 1+075.0, RT.
STA. 1+084.0, LT.
STA. 1+089.5, LT.
STA. 1+097.0, RT.

CONSTRUCT SIDEWALK RAMP TYPE VI
(SEE V.A.O.T. STD. C-3M)
STA. 1+150.2 RT.
STA. 1+156.4 LT.
STA. 1+169.1 RT.
STA. 1+170.6 LT.

PORTLAND CEMENT CONCRETE SIDEWALK, 125 mm
STA. 1+068.0 TO 1+080.0, RT.
STA. 1+072.6 TO 1+113.7, LT.
STA. 1+095.7 TO 1+102.3, LT.
STA. 1+094.4 TO 1+113.7, RT.
STA. 1+125.7 TO R 5+077.0, RT.
STA. 1+125.7 TO U10+036.0, LT.
STA. R 5+077.0, LT. TO 1+175.3, RT.
STA. U10+036.0, RT. TO 1+175.4, LT.

BRIDGE RAILING-2RAIL GALV. BOX BEAM
STA. 1+089.6 TO 1+095.0, LT.
STA. 1+097.0 TO 1+151.3, LT.
STA. 1+095.0 TO 1+145.0, RT.

BITUMINOUS CONCRETE SIDEWALK
STA. 1+088.0 TO 1+095.0, LT.
STA. B 1+010.0 TO B 1+015.0, LT.

FOR DRAINAGE, EROSION CONTROL, & UTILITY DETAILS SEE ROW SHEETS 7, 8, AND 9 OF 12

NOTE:
TREES SHOWN WITHIN CONSTRUCTION LIMITS TO BE REMOVED.

TREES SHOWN OUTSIDE CONSTRUCTION LIMITS TO BE SAVED.

* MATCH EXISTING ROADWAY

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES (P/L) ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE TOWN OF WATERBURY'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

SURVEYED BY : VAOT
SURVEYED DATE : 1996

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 83 (1992)

0 10 20 SCALE 1:250

292 WATERBURY LEGION HOME, INC.
294 TILLOTSON, DWAYNE B. & BETTY A.
293 STANGEL, PETER & JING JI
383 C.V. PROPERTIES, INC. JOINED BY NEW ENGLAND CENTRAL RAILROAD
N/F PARKS, NANCY & MILLER, GORDON
207 SIPPLE, PAUL & FERNANDEZ, ROBERT
208 DRIVE (T) & FIDRYCH, PAUL
N/F GRISTMILL PROPERTIES
N/F WATERBURY HOUSING LTD. PARTNERSHIP
297 MASONIC BUILDING ASSOC., INC.
N/F PAUL F. STEINER FAMILY TRUST
295 AYLWARD, SYLVIA W.
205 MAYFLOWER MANAGEMENT LLC
204 DUNN, SARA A.
203 ABARE, MICHAEL L. & LAURIE A.
201 MARTIN, STEVEN A. & DIXIE R.
200 THE ELDREDGE COMPANY, INC
N/F ELDREDGE LINDA F.
206 A.M. VENTURES
156 STIREWALT, ROBERT K. & STIREWALT, ROBYN L. SKIFF
158 BARBER, GEORGE E. & CAROL H.
N/F SCHWARTZ, WILLIAM & CAROL F.
N/F WOOD, SCOTT L. & CINTRA L.

BEGIN PROJECT
END APPROACH
BRO 1446 (26)
STA. 1+090.000

BEGIN R.O.W. PROJECT
BRO 1446(26) STA. 1+068.00
7.6m± (25'±), RT.

BEGIN APPROACH
BRO 1446 (26)
STA. 1+059.000

POWER FOR STREET LIGHTING TO BE COORDINATED WITH ELECTRICAL UTILITIES (TYP.)

1+129.06
7.6M± (25' ±) LT.
STOP ROADWAY
BEGIN BRIDGE
STA. 1+113.650

1+108.03
7.6M± (25' ±) LT.

END BRIDGE
RESUME ROADWAY
STA. 1+125.680

1+142.98
7.6M± (25' ±) LT.

1+149.98
7.6M± (25' ±) RT.

1+109.27
7.6M± (25' ±) RT.

1+123.59
7.6M± (25' ±) RT.

1+170.50
7.6M± (25' ±) RT.

LIMIT OF WORK
STA. B 1+020.000

LIMIT OF WORK
STA. R 5+077.000

LIMIT OF WORK
STA. U10+062.000

END R.O.W. PROJECT
BRO 1446(26) STA. 1+175.0
7.6m± (25'±) LT.

END PROJECT
BEGIN APPROACH
BRO 1446 (26)
STA. 1+170.000

END APPROACH
BRO 1446 (26)
STA. 1+201.000

RAILROAD STREET
R 5+028.64 18.0M± (59' ±) LT.
R 5+034.81 8.6M± (26' ±) LT.
R 5+039.93 1M± (3' ±) LT.
R 5+043.15 5.6M± (18' ±) RT.
R 5+068.53 7.6M± (25' ±) LT.
R 5+067.96 17.0M± (56' ±) LT.
R 5+068.60 0.3M± (1' ±) LT.

STA R 5+005.00 RT-STA 5+053.00 RT ABANDON EXISTING RAILROAD STREET. REMOVE EXISTING BITUMINOUS CONCRETE PAVEMENT AND CONCRETE SIDEWALK REPLACE WITH 100 mm TOPSOIL, SEED, MULCH, AND FERTILIZE PER GENERAL NOTE ON TYPICAL SECTION SHEET.

SEE V.A.O.T. STANDARD C-2AM FOR DRIVE WITH 1220 mm SIDEWALK ADJACENT TO CONCRETE CURB.

STOWE STREET
BIDWELL LANE
UNION STREET
RELOCATED RAILROAD ST.
LOCUST COURT

VILLAGE OF WATERBURY

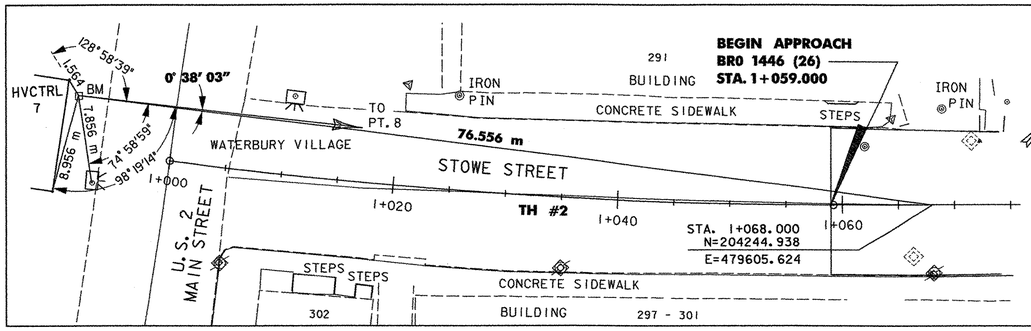
ALL RIGHT TITLE AND INTEREST

VT STATE PLANE GRID

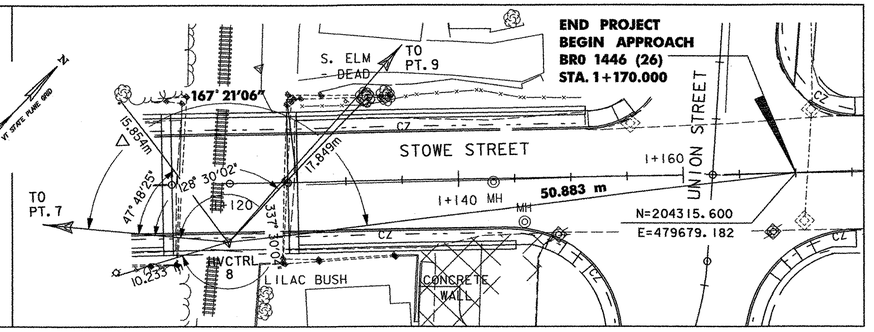
Dufresne Henry

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)
FILE NAME: ...\16 ROW LAYOUT SHEET.ptf
PROJECT LEADER: G EDWARDS/R GINGRAS
DESIGNED BY: R GINGRAS
R.O.W. LAYOUT SHEET
PLOT DATE: 01/14/2004
DRAWN BY: M MEILLEUR
CHECKED BY: R GINGRAS
SHEET 16 OF 63

...\16 ROW LAYOUT SHEET.dtf 01/14/2004 08:30:59 AM



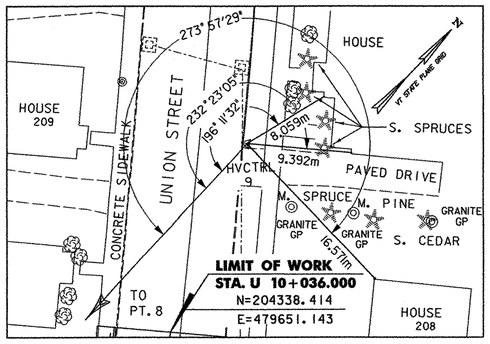
CONTROL POINT 7



CONTROL POINT 8

TRAVERSE TIES

SCALE 1 : 250



CONTROL POINT 9

HORIZONTAL AND VERTICAL CONTROL (HVCTRL.)

PT. #	NORTHING	EASTING	ELEVATION	LOCATION	STATION	OFFSET
07	204199.438 M	479544.056 M	134.562 M	MAIN ST.		
08	204276.766 M	479646.304 M	137.000 M	STOWE ST.	1+119.387	5.228 RT.
09	204355.178 M	479644.441 M	134.011 M	UNION ST.	10+053.235	5.378 RT.
30	204220.439 M	479564.619 M	134.487 M	STOWE ST.	1+020.627	9.113 LT.
31	204247.996 M	479597.702 M	134.946 M	STOWE ST.	1+064.406	7.694 LT.
32	204254.170 M	479625.218 M	134.834 M	STOWE ST.	1+088.527	6.916 LT.
33	204222.583 M	479642.109 M	134.263 M	BIDWELL LN.	1+041.456	7.314 RT.
34	204293.898 M	479589.252 M	134.519 M	STOWE ST.	1+090.112	46.650 LT.
36	204295.497 M	479669.779 M	135.300 M	RAILROAD ST.	5+010.337	12.557 RT.
37	204267.869 M	479692.638 M	134.384 M	RAILROAD ST.	5+047.289	3.003 LT.
40	204328.641 M	479622.467 M	133.557 M	UNION ST.	10+046.512	28.414 LT.
41	204290.098 M	479637.848 M	130.634 M	STOWE ST.	1+122.525	10.244 LT.

HVCTRL ⚠ = TRAVERSE CONTROL POINT

DATUM

VERTICAL NAVD88

HORIZONTAL NAD 83 (1992)

0 10 20 30

SCALE IN METERS

Dufresne-Henry

PROJECT NAME: WATERBURY

PROJECT NUMBER: BRO 1446(26)

FILE NAME: ...\17-tie sheet.ptf

PROJECT LEADER: R GINGRAS

DESIGNED BY: R GINGRAS

TIE SHEET

PLOT DATE: 01/26/2004

DRAWN BY: M MEILLEUR

CHECKED BY: R GINGRAS

SHEET 17 OF 63

...\Data\Files\17-tie sheet.ptf 01/26/2004 08:19:19 AM

VERTICAL GRANITE CURB

STA. 1+068.0 TO STA. 1+075.6, RT.
STA. 1+072.6 TO STA. 1+085.0, LT.
STA. 1+080.0 TO STA. B 1+015.8, RT.
STA. 1+088.6 TO STA. 1+113.7, LT.
STA. 1+098.0 TO STA. 1+113.7, RT.
STA. 1+125.7 TO STA. 1+155.8, LT.
STA. 1+125.7 TO STA. 1+149.6, RT.
STA. 1+169.8 TO STA. 1+175.3, RT.
STA. 1+171.4 TO STA. 1+175.4, LT.
STA. B 1+014.3, LT TO STA. 1+094.4, RT.
STA. R 5+007.1 TO STA. R 5+077.0, LT.
STA. R 5+007.8 TO STA. R 5+024.0, RT.
STA. R 5+028.3 TO STA. R 5+033.0, RT.
STA. R 5+037.1 TO STA. R 5+051.9, RT.
STA. R 5+060.0 TO STA. R 5+077.0, RT.
STA. U 10+006.0 TO STA. U 10+023.2, LT.
STA. U 10+008.3 TO STA. U 10+024.8, RT.
STA. U 10+027.6 TO STA. U 10+036.0, LT.
STA. U 10+031.2 TO STA. U 10+060.0, RT.

REMOVAL OF EXISTING CURB

STA. 1+068.0 TO STA. B 1+015.8, RT.
STA. 1+072.6 TO STA. 1+092.6, LT.
STA. 1+151.4 TO STA. U 10+036.0, LT.
STA. 1+156.4 TO STA. 1+175.3, RT.
STA. B 1+015.8, LT.
STA. B 1+017.3, LT. TO STA. 1+099.3, RT.
STA. R 5+077.0, LT. TO STA. 1+150.6, RT.
STA. U10+062.0, RT. TO STA. 1+175.4, LT.

CAST-IN-PLACE CEMENT CONCRETE CURB, TYPE B

STA. B 1+015.8, LT.

REMOVAL OF EXISTING FENCE

STA. 1+099.8 TO 1+151.2, LT.
STA. 1+099.9 TO 1+136.2, RT.
STA. R 5+064.2 TO R 5+068.0, LT.

CHAIN LINK FENCE, 1.2 M

STA. R 5+049.7 TO R 5+068.0, LT.

REMOVING MEDIUM TREES

STA. 1+092.2, RT.
STA. 1+099.7, LT.
STA. 1+102.4, LT.
STA. 1+107.6, LT.
STA. 1+110.6, LT.
STA. 1+131.9, LT.
STA. 1+133.7, LT.
STA. R 5+049.2, LT.
~~STA. R 5+059.8, LT.~~

DECIDUOUS TREES

STA. B 1+012.0, LT.

Stowe St. Curve 1
Delta 7°33'49.5"
R=448.695
T=29.660
L=59.233
E=0.979

CONSTRUCT DRIVE

STA.	1+087.0	LT.	3.3 m	PAVED
STA.	1+179.0	RT.	2.8 m	GRAVEL
STA.	U10+027.0	RT.	6.3 m	PAVED
STA.	U10+025.0	LT.	3.6 m	GRAVEL
STA.	R5+026.0	RT.	3.6 m	PAVED
STA.	R5+035.0	RT.	3.6 m	PAVED
STA.	R5+055.0	RT.	4.6 m	PAVED
STA.	R5+058.0	RT.	3.8 m	GRAVEL

CONSTRUCT SIDEWALK RAMP TYPE I
(SEE V.A.O.T. STD. C-3A)

STA. 1+073.5, LT.
STA. 1+077.0, RT.
STA. 1+084.0, LT.
STA. 1+089.5, LT.
STA. 1+097.0, RT.

CONSTRUCT SIDEWALK RAMP TYPE VI
(SEE V.A.O.T. STD. C-3B)

STA. 1+150.2 RT.
STA. 1+156.4 LT.
STA. 1+169.1 RT.
STA. 1+170.6 LT.

PORTLAND CEMENT CONCRETE SIDEWALK, 125 mm

STA. 1+068.0 TO 1+080.0, RT.
STA. 1+072.6 TO 1+107.7, LT.
STA. 1+094.4 TO 1+107.7, RT.
STA. 1+095.7 TO 1+102.3, LT.
STA. 1+131.7 TO R 5+077.0, RT.
STA. 1+131.7 TO U10+036.0, LT.
STA. R 5+077.0, LT. TO 1+175.3, RT.
STA. U10+036.0, RT. TO 1+175.4, LT.

BRIDGE RAILING-2RAIL GALV. BOX BEAM

STA. 1+089.6 TO 1+095.0, LT.
STA. 1+097.0 TO 1+151.3, LT.
STA. 1+095.0 TO 1+145.0, RT.

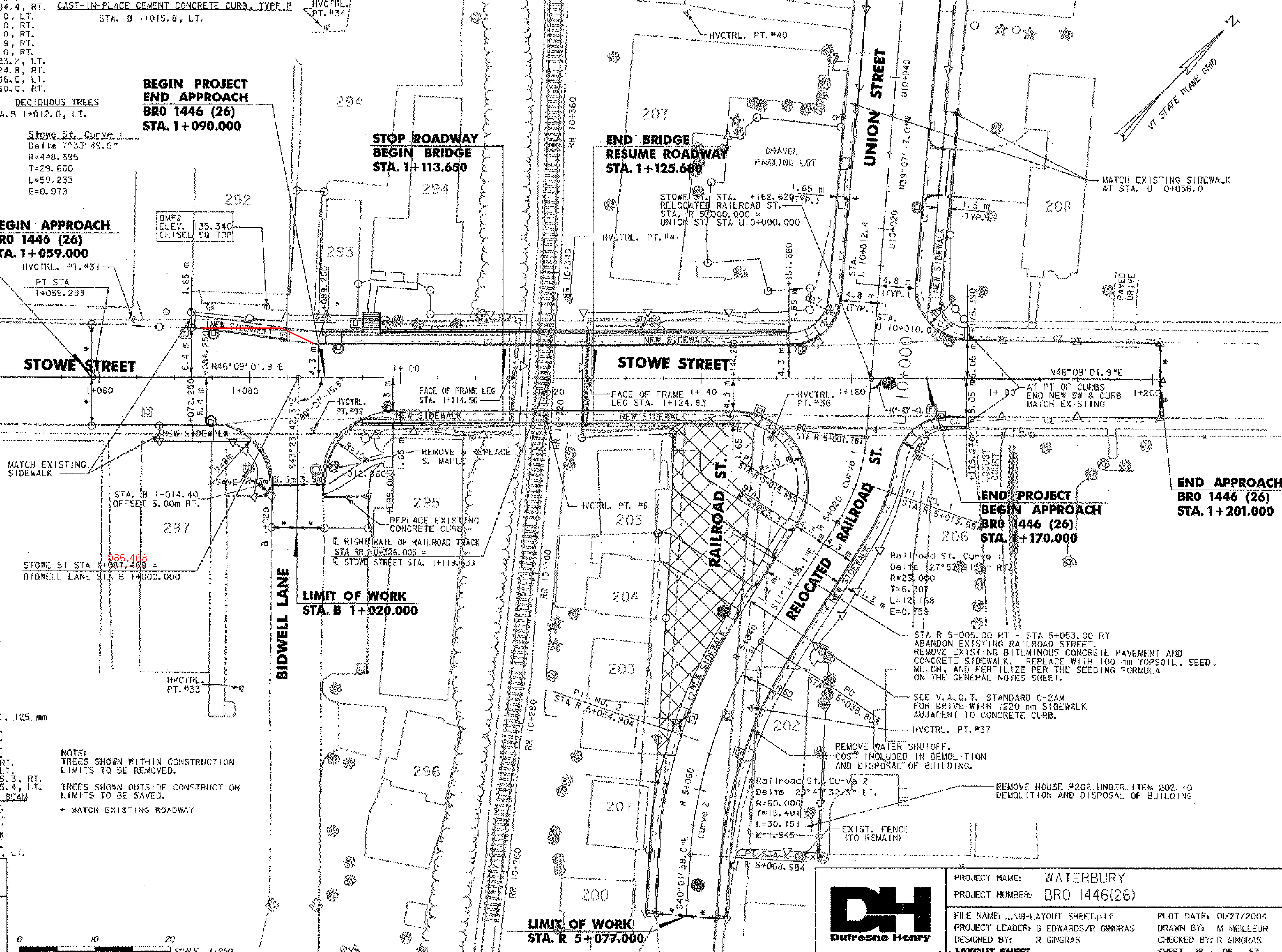
BITUMINOUS CONCRETE SIDEWALK

STA. 1+088.0 TO 1+095.0, LT.
STA. B 1+010.0 TO B 1+015.0, LT.

NOTE:
TREES SHOWN WITHIN CONSTRUCTION LIMITS TO BE REMOVED.

TREES SHOWN OUTSIDE CONSTRUCTION LIMITS TO BE SAVED.

* MATCH EXISTING ROADWAY



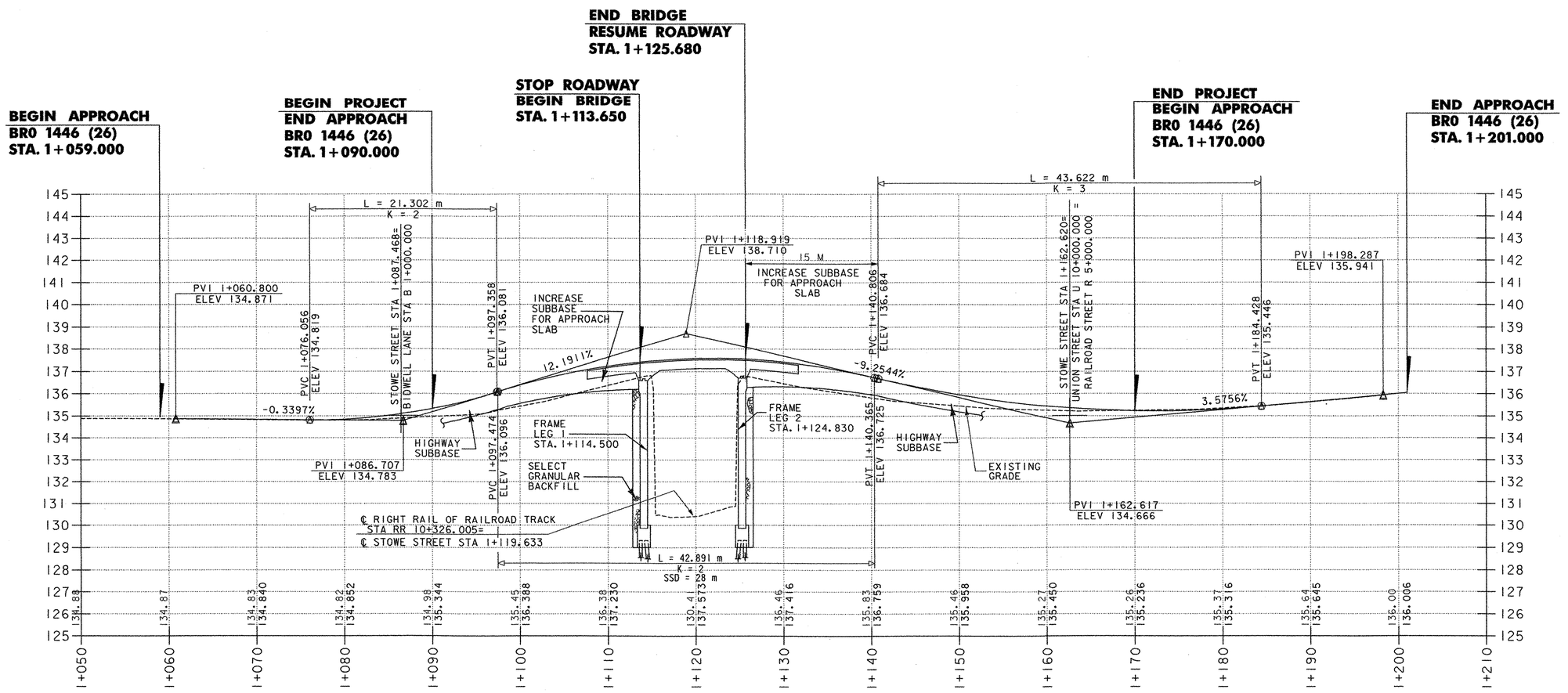
SURVEYED BY : VAOT
SURVEYED DATE : 1996

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 83 (1992)

SCALE 1:250

Dufresne Henry

PROJECT NAME:	WATERBURY		
PROJECT NUMBER:	BRO 1446(26)		
FILE NAME: ...\18-LAYOUT SHEET.ptf		PLOT DATE:	01/27/2004
PROJECT LEADER:	G EDWARDS/R GINGRAS	DRAWN BY:	M MEILLEUR
DESIGNED BY:	R GINGRAS	CHECKED BY:	R GINGRAS
LAYOUT SHEET		SHEET	18 OF 63



GRAPHIC SCALES

0 10 20

HORIZONTAL SCALE 1:250

0 5 10

VERTICAL SCALE 1:100

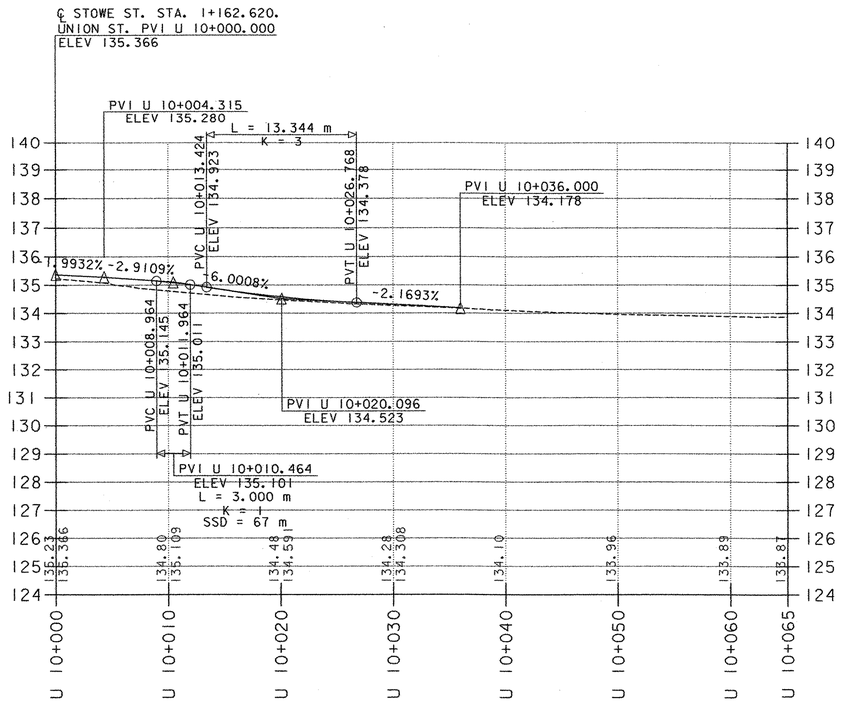
DATUM

VERTICAL	NAV 88
HORIZONTAL	NAD83 (1992)

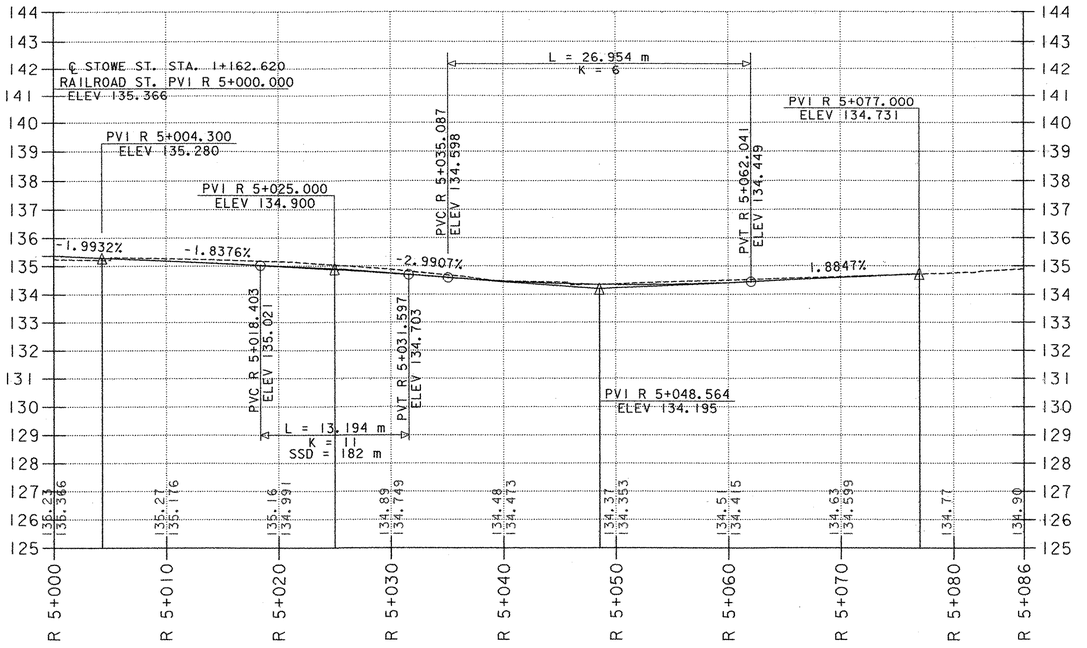
PROJECT NAME:	WATERBURY
PROJECT NUMBER:	BRO 1446(26)
FILE NAME: ...\19-20 profiles.ptf	PLOT DATE: 01/26/2004
PROJECT LEADER: G EDWARDS/R GINGRAS	DRAWN BY: M. MEILLEUR
DESIGNED BY: M. MEILLEUR	CHECKED BY: R GINGRAS
STOWE STREET PROFILE	SHEET 19 OF 63

\\Dot\11VOL-50 profiles.prf 01/26/2004 08:35:21 AM

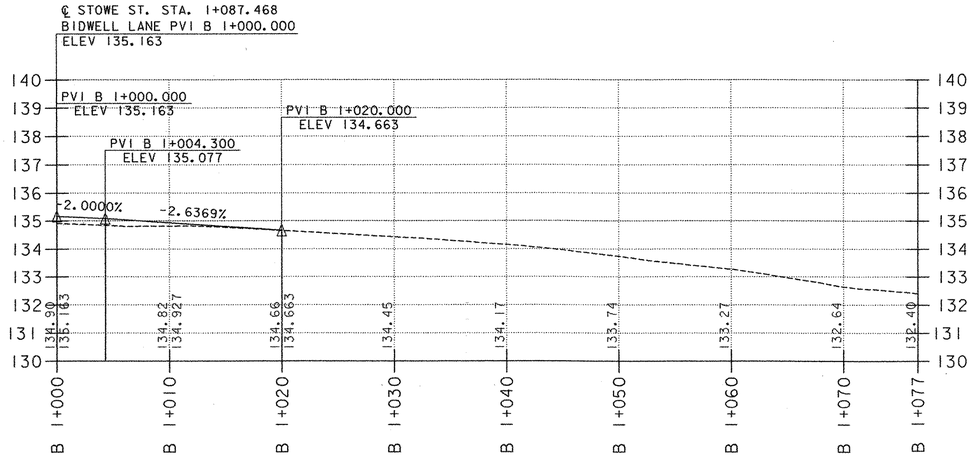
Profiles



UNION STREET



RELOCATED RAILROAD STREET



BIDWELL LANE

GRAPHIC SCALES

0 10 20

HORIZONTAL SCALE 1:250

0 5 10

VERTICAL SCALE 1:100

PROJECT NAME: WATERBURY	
PROJECT NUMBER: BRO 1446(26)	
FILE NAME: ...\19-20 PROFILES.PTF	PLOT DATE: 01/26/2004
PROJECT LEADER: G EDWARDS/R GINGRAS	DRAWN BY: R. WALKER
DESIGNED BY: R WALKER	CHECKED BY: R GINGRAS
SIDEROAD PROFILES	SHEET 20 OF 63

...\Plot Files\19-20 PROFILES.PTF 01/26/2004 10:04:27 AM

NEW DRAINAGE NOTES

1. CONST. ℄ 1+074.8, RT. TO 1+075.2, LT.
NEW 300 mm x10.2m CPEP (SL), INV. IN 132.76 INV. OUT 132.64
CONST. NEW DI#7 AT INLET, RIM ~~134.96~~ 134.709
CONNECT EXIST. 300mm MP TO NEW CB#1

2. CONST. ℄ 1+~~074.8~~ 075.2, RT. TO B 1+012.3, LT.
NEW 300 mm x15.1m CPEP (SL), INV. IN 132.54 INV. OUT 132.47
CONST. NEW CB#2 AT INLET, RIM ~~134.95~~ 134.706

3. CONST. ℄ 1+091.4, LT. TO 1+098.4, RT.
NEW 300 mm x9m CPEP (SL), INV. IN 134.04 INV. OUT 133.61
CONST. NEW CB#3 AT INLET, RIM ~~135.53~~ 135.384

4. CONST. ℄ 1+~~098.4~~ 092.6, RT. TO B 1+012.3, LT.
NEW 300 mm x12m CPEP (SL), INV. IN 133.51 INV. OUT 132.47
CONST. NEW CB#4 AT INLET, RIM ~~136.02~~ 136.025

5. CONST. ℄ R 5+~~051.5~~ 049.6, RT. TO R 5+~~053.7~~ 051.7, LT.
NEW 300 mm x7.1m CPEP (SL), INV. IN 133.50 INV. OUT 133.46
CONST. NEW RCDI#5 AT INLET, RIM ~~134.31~~ 134.277

6. CONST. ℄ R 5+053.7, LT TO 1+171.9, RT.
NEW 300 mm x51.2m CPEP (SL), INV. IN 133.36 INV. OUT 133.11
CONST. NEW RCD(#6 AT INLET, RIM ~~134.31~~ 134.283

CHANGING ELEVATION OF DI's, CB's, OR MH's

STA. 1+066.3, RT. - DI
STA. 1+071.5, LT. - DI
STA. 1+084.7, LT. - DI
STA. U 10+061.5, LT. - DI
STA. U 10+061.5, LT. - DI

7. CONST. ℄ 1+171.9, RT. TO 1+172.9, LT.
NEW 300 mm x7.9m CPEP (SL), INV. IN 133.01 INV. OUT 132.96
CONST. NEW DI#7 AT INLET, RIM ~~135.11~~ 135.129

8. CONST. ℄ 1+147.8, RT. TO 1+153.2, LT.
NEW 300 mm x8.4m CPEP (SL), INV. IN 134.24 INV. OUT 133.85
CONST. NEW RCDI#8 AT INLET, RIM ~~135.26~~ 136.025

9. CONST. ℄ 1+153.2 TO 1+172.9, LT.
NEW 300 mm x18.5m CPEP (SL), INV. IN 133.75 INV. OUT 132.96
CONST. NEW CB#9 AT INLET, RIM ~~134.93~~ 135.684

10. CONST. ℄ 1+172.9, LT. TO U 10+023.2, RT.
NEW 300 mm x17.1m CPEP (SL), INV. IN 132.86 INV. OUT 132.77
CONST. NEW CB#10 AT INLET, RIM ~~135.11~~ 135.130

11. CONST. ℄ U 10+023.2 TO U 10+059.6, RT.
NEW 300 mm x35.2m CPEP (SL), INV. IN 132.67 INV. OUT 132.49
CONNECT OUTLET OF NEW PIPE TO EXIST. DI AT U10+059.6, RT.
CONST. NEW CB#11 AT INLET, RIM 134.39

12. CONST. ℄ B 1+012.3 LT.
NEW CONCRETE MANHOLE WITH CAST IRON COVER, RIM ~~134.91~~ 134.818
INV. IN 132.47, INV. IN 132.47, INV. OUT 132.37
SAW CUT EXISTING 300 mm PIPE AS NECESSARY AT
STA. B 1+012.3, LT. TO INSTALL NEW DRAINAGE MANHOLE.
INVERT OUT OF NEW DMH#1 AT STA. B 1+012.3, LT. TO BE
FIELD VERIFIED BEFORE PIPE IS CUT. THE RESIDENT
ENGINEER WILL REVIEW RESULTS AND REDESIGN THE
STRUCTURE IF NECESSARY.

13. ~~CONST. ℄ 1+091.4 TO 1+094.0, LT.~~
~~NEW 300 mm x2.5m CPEP (SL), INV. IN 134.18 INV. OUT 134.14~~
~~CONST. NEW RCDI#12 AT INLET, RIM 134.85~~ DELETED

EXISTING DRAINAGE NOTES

A. CONST. ℄ 1+066.3, RT. TO 1+071.5, LT.
RETAIN EXIST. 300mm ACP
REMOVE GRATE AND FRAME AT 1+066.3, RT.
CHANGE ELEV. OF DI
NEW COVER AND FRAME AT 1+066.3, RT.

B. CONST. ℄ 1+071.5 TO 1+084.7, LT.
SAWCUT EXIST. 300mm MP AS NECESSARY AT
STA. 1+076.4, LT. TO INSTALL NEW CB (SEE DRAINAGE NOTE 1)
PLUG AND ABANDON REMAINDER OF EXIST. 300mm MP
REMOVE GRATE AND FRAME AT 1+071.5, LT.
CHANGE ELEV. OF DI
NEW COVER AND FRAME AT 1+071.5, LT.

C. CONST. ℄ 1+084.7, LT. TO B 1+012.3, LT.
PLUG AND ABANDON EXIST. 300mm PIPE AT 1+084.7, LT.
SEE DRAINAGE NOTE #12 FOR TREATMENT OF 300mm PIPE
AT B 1+012.3, LT.
VERIFY PURPOSE OF EXIST. STEEL ELBOW IN DI AT 1+084.7, LT.
AND ADJUST UTILITY IF NECESSARY
REMOVE GRATE AND FRAME AT 1+084.7, LT.
CHANGE ELEV. OF DI
NEW COVER AND FRAME AT 1+084.7, LT.

D. CONST. ℄ 1+155.4 TO 1+171.5, LT.
REMOVE EXIST. 300mm PIPE
REMOVE EXIST. DI AT 1+155.4, LT.

E. CONST. ℄ 1+170.7, RT. TO 1+171.5, LT.
REMOVE EXIST. 300mm PIPE
REMOVE EXIST. DI AT 1+170.7, LT.

F. CONST. ℄ 1+171.5, LT. TO U 10+059.6, RT
REMOVE EXIST. DI AT 1+171.5, LT.
PLUG AND ABANDON EXIST. 300mm CPEP

G. CONST. ℄ R 5+048.5, LT. TO R 5+053.1, RT
REMOVE EXIST. DI's AT R 5+049.5, LT. & R 5+053.1, RT.
REMOVE EXIST. 300mm CLAY PIPE
CONFIRM SOURCE OF INCOMING PIPE FROM SOUTH AT
R 5+053.1, RT. AND CONNECT TO NEW DI#5 IF NECESSARY

SURVEYED BY : VAOT
SURVEYED DATE : 1996

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 83 (1992)

0 10 20 SCALE 1:250

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)

FILE NAME: ...\2I-DRAINAGE.plt
PROJECT LEADER: G EDWARDS/R GINGRAS
DESIGNED BY: R GINGRAS
DRAINAGE PLAN

PLOT DATE: 01/27/2004
DRAWN BY: M MEILLEUR
CHECKED BY: R GINGRAS
SHEET 21 OF 63

NOTES:

1. ROCK BARRIER INLET PROTECTION TO BE INSTALLED AT EXISTING CATCH BASIN INLETS PRIOR TO THEIR REMOVAL AS DIRECTED BY THE ENGINEER.

2. SILT FENCE TO BE INSTALLED PRIOR TO EXPOSING ANY SOIL.

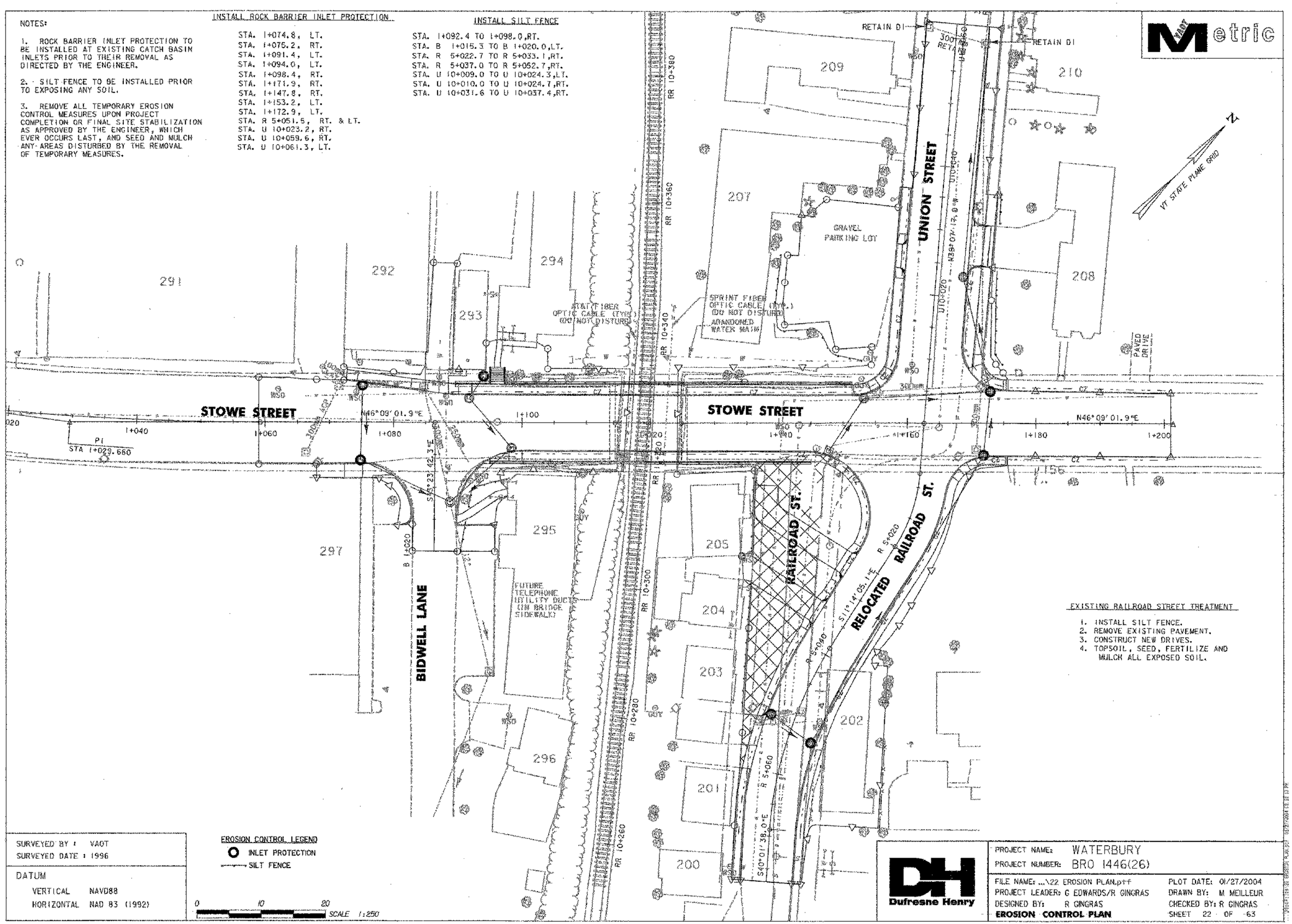
3. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES UPON PROJECT COMPLETION OR FINAL SITE STABILIZATION AS APPROVED BY THE ENGINEER, WHICH EVER OCCURS LAST, AND SEED AND MULCH ANY AREAS DISTURBED BY THE REMOVAL OF TEMPORARY MEASURES.

INSTALL ROCK BARRIER INLET PROTECTION

STA. 1+074.8, LT.
STA. 1+076.2, RT.
STA. 1+091.4, LT.
STA. 1+094.0, LT.
STA. 1+098.4, RT.
STA. 1+171.9, RT.
STA. 1+147.8, RT.
STA. 1+153.2, LT.
STA. 1+172.9, LT.
STA. R 5+051.5, RT. & LT.
STA. U 10+023.2, RT.
STA. U 10+059.6, RT.
STA. U 10+061.3, LT.

INSTALL SILT FENCE

STA. 1+092.4 TO 1+098.0,RT.
STA. B 1+015.3 TO B 1+020.0,LT.
STA. R 5+022.7 TO R 5+033.1,RT.
STA. R 5+037.0 TO R 5+052.7,RT.
STA. U 10+009.0 TO U 10+024.3,LT.
STA. U 10+010.0 TO U 10+024.7,RT.
STA. U 10+031.6 TO U 10+037.4,RT.



EXISTING RAILROAD STREET TREATMENT

1. INSTALL SILT FENCE.
2. REMOVE EXISTING PAVEMENT.
3. CONSTRUCT NEW DRIVES.
4. TOPSOIL, SEED, FERTILIZE AND MULCH ALL EXPOSED SOIL.

SURVEYED BY : VAOT
SURVEYED DATE : 1996

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 83 (1992)

EROSION CONTROL LEGEND
INLET PROTECTION
SILT FENCE

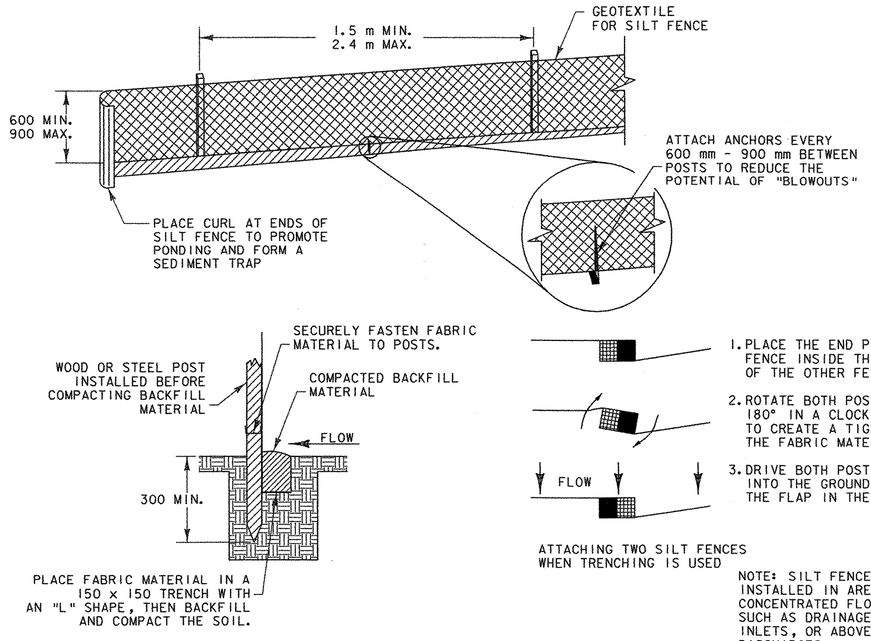
0 10 20 SCALE 1:250

Dufresne Henry

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)

FILE NAME: ...\22 EROSION PLAN.prf
PROJECT LEADER: C EDWARDS/R GINGRAS
DESIGNED BY: R GINGRAS
EROSION CONTROL PLAN

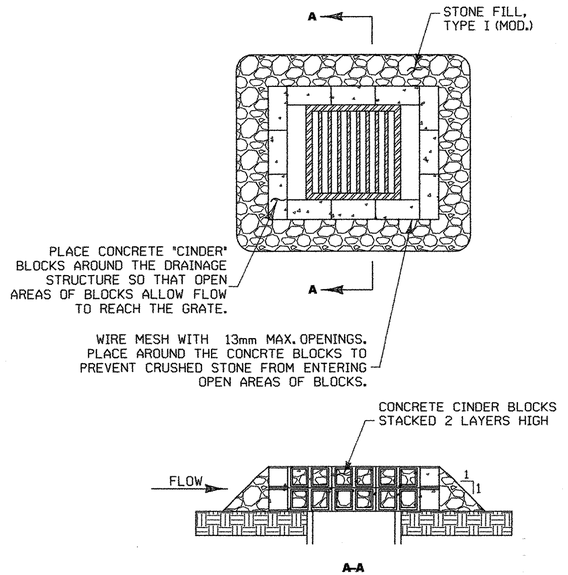
PLOT DATE: 01/27/2004
DRAWN BY: M MEILLEUR
CHECKED BY: R GINGRAS
SHEET 22 OF 63



NOTE: SILT FENCE SHALL NOT BE INSTALLED IN AREAS WHERE CONCENTRATED FLOWS ARE EXPECTED, SUCH AS DRAINAGE DITCHES, AROUND INLETS, OR ABOVE OR BELOW CULVERT DISCHARGES.

SILT FENCE INSTALLATION DETAIL

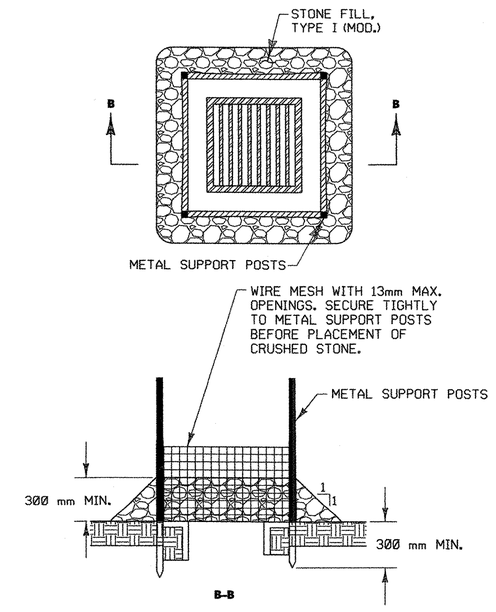
NOT TO SCALE



NOTE: PAYMENT FOR CONCRETE CINDER BLOCKS WILL BE CONSIDERED INCIDENTAL TO ITEM NO. 613.10 - STONE FILL, TYPE I (MOD.)

INLET PROTECTION - PAVED AREAS

NOT TO SCALE



NOTE: PAYMENT FOR METAL SUPPORT POSTS AND WIRE MESH WILL BE CONSIDERED INCIDENTAL TO ITEM NO. 613.10 - STONE FILL, TYPE I (MOD.)

INLET PROTECTION - UNPAVED AREAS

NOT TO SCALE

NOTES:
1. SEE EROSION CONTROL SPECIFICATION IN THE SPECIAL PROVISIONS SECTION OF THE CONTRACT DOCUMENTS FOR INSTALLATION, OPERATION, AND MAINTENANCE OF ALL EROSION CONTROL MEASURES.
2. SEE EROSION CONTROL PLAN FOR LOCATIONS OF EROSION CONTROL MEASURES.

NOT Metric

PROJECT NAME:	WATERBURY
PROJECT NUMBER:	BRO 1446(26)
FILE NAME: ...\23-EROSION DETAILS.ptf	PLOT DATE: 01/28/2004
PROJECT LEADER: G EDWARDS/R GINGRAS	DRAWN BY: M MEILLEUR
DESIGNED BY: M MEILLEUR	CHECKED BY: R GINGRAS
EROSION PREVENTION & SEDIMENT CONTROL	SHEET 23 OF 63

...\23-EROSION DETAILS.ptf 01/28/2004 01:40:02 PM

INSTALL STREET LIGHTING (RA40-16)

STA. 1+105.0, 6.6 LT. & RT. SL-1 & SL-2
STA. 1+135, 6.6 LT. & RT. SL-3 & SL-4

ADJUST ELEVATION OF VALVE BOX

STA. 1+074.0, LT.
STA. 1+087.0, LT.
STA. 1+088.0, LT.
STA. 1+092.0, RT.
STA. 1+098.0, LT
STA. 1+140.3, RT.
STA. U 10+009.0, LT.
STA. R 5+033.0, RT.

SLEEVES FOR UTILITIES

STA. 1+104.6 LT. TO RT.
STA. 1+134.7 LT. TO RT.

DIRECT BURIAL CABLE

STA. 1+068.0 TO 1+153.0, LT. (EST.)
STA. 1+095.0 TO 1+147.0, RT. (EST.)

CHANGE ELEVATION OF SEWER MANHOLE

STA. 1+096.0, ℄
STA. 1+143.0, RT.
STA. 1+146.0, RT.
STA. 1+165.0, RT.
STA. R 5+073.0, LT.

LIGHT POLE

STA. 1+105.0, LT. & RT.
STA. 1+135.0, LT. & RT.

LUMINAIRE

STA. 1+105.0, LT. & RT.
STA. 1+135.0, LT. & RT.

VAOT Metric

N

VT STATE PLANE GRID

STOWE STREET

N46° 09' 01.9"E

P1
STA 1+029.660

1+020 1+040 1+060 1+080 1+100 1+120 1+140 1+160 1+180 1+200

S43° 23' 42.3"E

SL-1 SL-2 SL-3 SL-4

RR 10+380
RR 10+360
RR 10+340
RR 10+320
RR 10+300
RR 10+280
RR 10+260

AT&T FIBER OPTIC CABLE (TYP.) (DO NOT DISTURB)

SPRINT FIBER OPTIC CABLE (TYP.) (DO NOT DISTURB)

ABANDONED WATER MAIN

NEW 45' POLE P#4 "OUTRIG"

NEW 45' POLE P#5 "OUTRIG"

NEW 45' POLE P#6 "OUTRIG"

REMOVE EXISTING POLE (BY OTHERS)

UNION STREET

U 10+060
U 10+040
U 10+020

N39° 07' 17.6"W

PAVED DRIVE

NEED TRIMMING IN PUBLC R.O.W.

NEW ANCHOR

NEW OH LINE

BIDWELL LANE

B 1+020

FUTURE TELEPHONE UTILITY DUCTS (IN BRIDGE SIDEWALK)

RAILROAD ST.

RELOCATED RAILROAD ST.

R 5+020
R 5+040
R 5+060

S11° 14' 05.1"E

S40° 01' 38.0"E

NOTES:
1. UTILITY SERVICES SHOWN ARE BASED ON INFORMATION PROVIDED BY PROPERTY OWNER. ACTUAL LOCATION MAY VARY.

2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO WORK WITH ANY AFFECTED UTILITY REGUARDING POSSIBLE TEMPORARY RELOCATION OR PROTECTION DURING CONSTRUCTION.

SURVEYED BY : VAOT
SURVEYED DATE : 1996

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 83 (1992)

0 10 20
SCALE 1:250

Dufresne Henry

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)

FILE NAME: ...\24-UTILITY.ptf
PROJECT LEADER: G EDWARDS/R GINGRAS
DESIGNED BY: R GINGRAS
UTILITY PLAN

PLOT DATE: 01/27/2004
DRAWN BY: M MEILLEUR
CHECKED BY: R GINGRAS
SHEET 24 OF 63

...\plotfiles\24-UTILITY.plt 01/27/2004 02:43:22 PM

STREET LIGHTING DISCONNECT: CIRCUIT BREAKER ENCLOSURE, 100A, 120/240V, SINGLE PHASE, 3 WIRE, 22 KAIC, BOLT ON, NEME 3R. MAIN CIRCUIT BREAKER - 2 POLE, 30A, 120V, BOLT-ON, 22 KAIC.
GROUNDING - MINIMUM TWO GROUND RODS, #6 GROUND CONDUCTOR, INSTALLATION PER VTRANS STANDARD E-175M #1.
PEDESTAL - (2) 6"x 6"x 10" PRESSURE TREATED POSTS WITH GALVANIZED STEEL UNISTRUT BACKING MATERIAL (HORIZONTAL SUPPORT), INSTALLATION PER VAOT E-175 #1.
CONDUIT - 2" PVC SCHEDULE 80, INSTALLATION INCLUDING SLIP JOINTS PER VTRANS STANDARD E-175M #1.

VT STATE PLANE GRID

3 #6 53 PVC SCHEDULE 80 CONDUIT SERVICE ENTRANCE

AT&T FIBER OPTIC CABLE (DO NOT DISTURB)

STREET LIGHT DUCT WORK

UNION STREET

NEW 35' POLE P#5

NEW 45' POLE P#4 "OUTRIG"

SL-1 SL-3 SL-2 SL-4

N46°09'01.9"E

1+100 1+120 1+140 1+160 1+080

STOWE STREET

NEW 45' POLE P#4 "OUTRIG"

NEW 45' POLE P#5 "OUTRIG"

S43°23'42.3"E

BIDWELL LANE

B 1+020

STREET LIGHT IN RISER AT UTILITY POLE (VTRANS STANDARD E-175M #1) INCLUDING 36" SWEEP, SLIP FITTING, WEATHERHEAD, CONDUIT, AND WIRE AS REQUIRED BY GREEN MOUNTAIN POWER. ALL RISER CONDUITS SHALL BE SCHEDULE 80 PVC. CONTRACTOR SHALL COORDINATE SERVICE CONNECTION WITH GREEN MOUNTAIN POWER.

RAILROAD ST.

RELOCATED RAILROAD ST.

R 5+020

S11°14'05.1"E

NEW ANCHOR

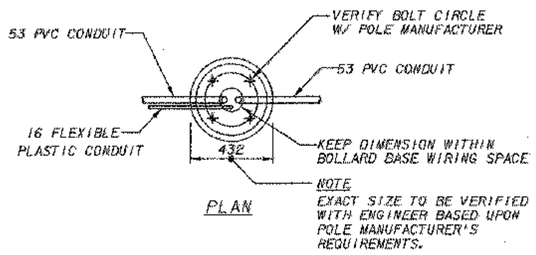
NEW OH LINE

TELEPHONE CONDUIT INSTALLED BY OTHERS

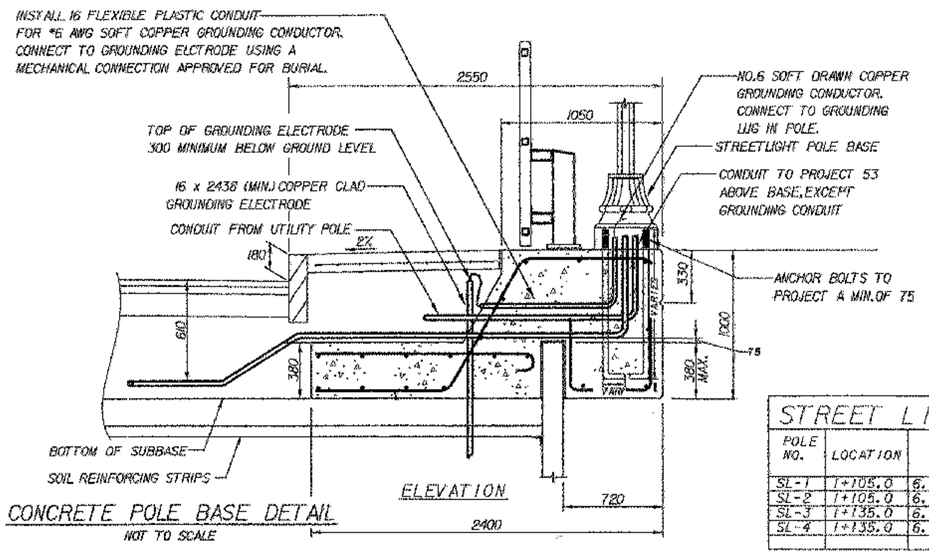
U 10+020

STREET LIGHTING LEGEND

- STREET LIGHT AND DESIGNATION NUMBER
- SL-2 — LUMINAIRE: LUMEC 175W MH-L50-SFR-POFC-SE3-240-PH-BKTX; POLE: LUMEC RA40-16-BKTX; LAMP: 175W MH, MOGUL BASE, COATED, T0 CRI, 3800K
- ---SL--- UNDERGROUND ELECTRICAL CONDUIT AND CONDUCTORS 2#6, #6G, 53 SCHED. 80 PVC CONDUIT
- UTILITY POLE, BY GMP



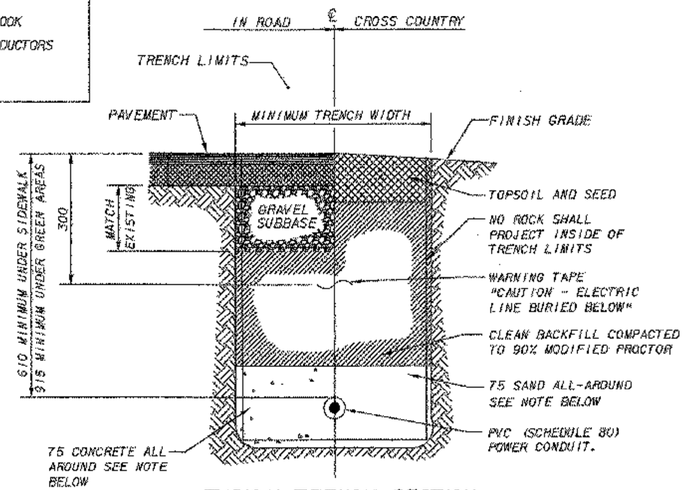
PLAN



CONCRETE POLE BASE DETAIL

NOT TO SCALE

ELEVATION



TYPICAL TRENCH SECTION

NOT TO SCALE

NOTE:
PROVIDE 75 CONCRETE ENCASEMENT AROUND PVC CONDUITS AT ALL DRIVEWAY CROSSINGS TO 1524 BEYOND EDGE OF PAVEMENT. TYPICAL. PVC CONDUITS SHALL PASS THROUGH SLEEVES AT ALL ROAD CROSSINGS.

STREET LIGHTING LOCATIONS

POLE NO.	LOCATION	OFF SET	BREAK-AWAY	LUMINAIRE WATTS	LUMINAIRE TYPE	MOUNTING HEIGHT
SL-1	1+105.0	6.6 LT.	NO	175	III	5.486M
SL-2	1+105.0	6.6 RT.	NO	175	III	5.486M
SL-3	1+135.0	6.6 LT.	NO	175	III	5.486M
SL-4	1+135.0	6.6 RT.	NO	175	III	5.486M

0 10 20

SCALE 1:250

GENERAL NOTES AND SPECIFICATIONS

1. THE SCOPE OF WORK IS TO PROVIDE ALL LABOR, MATERIALS, SERVICES, SUPPLIES, TOOLS, EQUIPMENT, TRANSPORTATION, AND FACILITIES NECESSARY TO FURNISH AND INSTALL COMPLETE ELECTRICAL WORK AS CALLED FOR ON THE DRAWINGS, SPECIFIED, OR AS MAY REASONABLY BE IMPLIED AS BEING INCIDENTAL TO THIS WORK.

2. SECURE AND PAY COSTS OF PERMITS, CERTIFICATES, LICENSES, INSPECTIONS, AND APPROVALS.

3. DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF WORK. BASIC DESIGN CONCEPTS INDICATED ARE TO BE EITHER FOLLOWED OR BETTERED. WORK IS INTENDED TO INCLUDE ITEMS NECESSARY FOR PROPER OPERATION AND COMPLETION. FIELD VERIFY ALL LOCATIONS, ELEVATIONS, AND DIMENSIONS.

4. EXECUTE ALL WORK IN A NEAT AND WORKMANLIKE MANNER IN CONFORMANCE WITH BEST MODERN TRADE PRACTICE, BY COMPETENT, EXPERIENCED MECHANICS, PRESENTING A NEAT APPEARANCE WHEN COMPLETED. REPLACE WORK NOT APPROVED BY OWNER WITHOUT ADDITIONAL CHARGE.

5. ALL MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, AND ALL CODES, REGULATIONS AND REQUIREMENTS OF ALL MUNICIPAL, STATE, FEDERAL AND OTHER PUBLIC OR PRIVATE AUTHORITIES WHICH HAVE JURISDICTION, IN EACH CASE, CODES ARE MINIMUM REQUIREMENTS.

6. SHOP DRAWINGS: SUBMIT COMPLETE CATALOG INFORMATION FOR ALL MATERIALS AND EQUIPMENT TO BE PURCHASED AND USED ON THIS PROJECT, AS SPECIFIED ON THE DRAWINGS. DO NOT INSTALL MATERIALS OR EQUIPMENT WITHOUT APPROVAL BY THE OWNER. INAPPROVED MATERIAL ALREADY INSTALLED SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT WITH APPROVED MATERIALS AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR IS RESPONSIBLE FOR INSURING THAT APPROVED SUBSTITUTE ITEMS WILL FIT INTO AVAILABLE SPACES AND FOR ANY EXTRA CHARGES BY OTHER TRADES.

7. AS THERE MAY BE VARIOUS CONDITIONS AT THE SITE WHICH DO NOT SHOW ON THE ACCOMPANYING DRAWINGS, OR WHICH ARE AT VARIANCE WITH THE CONDITIONS INDICATED ON THE DRAWINGS, IT IS IMPORTANT THAT EACH BIDDER VISIT THE SITE AND AQUAINT HIMSELF WITH EXISTING CONDITIONS AND TAKE THESE CONDITIONS INTO CONSIDERATION WHEN PREPARING HIS BID. EACH BIDDER SHALL OBTAIN INFORMATION OR MAKE ANY MEASUREMENT DESIRED. LACK OF KNOWLEDGE RELATIVE TO EXISTING SITE CONDITIONS WILL NOT BE ALLOWED AS A BASIS FOR EXTRA COMPENSATION.

8. THE FINISHED INSTALLATION SHALL BE COMPLETE IN EVERY RESPECT AND DETAIL, TESTED AND LEFT READY IN PERFECT OPERATING CONDITION FOR THE OWNER'S USE.

9. MATERIALS AND EQUIPMENT SHALL BE LISTED BY UNDERWRITERS' LABORATORIES AND SHALL BE INSTALLED IN ACCORDANCE WITH SUCH LISTINGS.

10. CONTRACTOR SHALL GUARANTEE THAT MATERIALS, EQUIPMENT, AND LABOR PROVIDED BY THE CONTRACTOR SHALL BE FREE FROM DEFECTS IN MATERIALS OR LABOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE OF THE WORK DONE UNDER THIS CONTRACT AND SHALL REPLACE PARTS FOUND TO BE DEFECTIVE WITHIN THE PERIOD COVERED BY SUCH GUARANTEE, WITHOUT COST TO OWNER.

11. INSTALLATION SHALL BE MADE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

12. CONTRACTOR TO CONTACT DIGSAFE IN VERMONT STATE PRIOR TO COMMENCING WORK.

13. CONTRACTOR TO CONTACT UTILITY COMPANY FOR COORDINATION OF NEW ELECTRICAL SERVICE.

14. STREETLIGHT DISTRIBUTION SHALL BE DIRECTED TOWARD CENTERLINE.

15. UTILITY SERVICES SHOWN ARE BASED ON INFORMATION PROVIDED BY PROPERTY OWNER. ACTUAL LOCATION MAY VARY.

CONCRETE POLE BASE NOTES

1. TEMPLATE FOR ANCHOR BOLTS, STAINLESS STEEL ANCHOR BOLTS, NUTS AND WASHERS TO BE OBTAINED BY CONTRACTOR PRIOR TO CONSTRUCTION OF BASES.

2. ALL EXPOSED METAL HARDWARE EXCEPT ANCHOR BOLTS SHALL BE STAINLESS STEEL.

3. GROUT TO ELIMINATE ANY SPACE BETWEEN CONCRETE BASE AND METAL BASE OF FIXTURE.

CONDUIT AND CONDUCTOR NOTES

1. MAXIMUM OF 360 DEG. IN TOTAL BENDS PERMITTED IN A SINGLE RUN OF CONDUIT. THE CONTRACTOR SHALL MAKE EVERY ATTEMPT TO KEEP THE TOTAL DEGREES OF BENDS UNDER 300.

2. LIGHTS SHALL BE FUSED AT BASE WITH Y-TYPE FUSE KIT (EQUAL TO HOMAC (FLOOD SEAL)) FYC-6 AND 10 AMP FUSE. CONDUCTORS IN POLES SHALL BE 2#10, 1#10G.

3. CIRCUIT CONDUCTORS INCLUDING NEUTRAL CONDUCTOR SHALL BE CLEARLY IDENTIFIED AT EVERY POLE BASE.

4. UTILIZE APPROVED DUAL-RATED PARALLEL TAP EQUAL TO ILSCO GTA SERIES WITH INSULATED COVER FOR TAPS AT POLE BASE.

NOTE: ALL DIMENSIONS ARE IN MILLEMETERS UNLESS OTHERWISE NOTED.

Dufresne Henry

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)

FILE NAME: ...\25-lighting plan.ptf
PROJECT LEADER: G EDWARDS/R GINGRAS
DESIGNED BY: L.A. BLACK
DRAWN BY: P.B. HILL
CHECKED BY: R. GINGRAS
PLOT DATE: 01/26/2004

LIGHTING PLAN

SHEET 25 OF 63

REMOVING SIGNS
AS SHOWN - I5

SIGN LEGEND
N = NEW
R = REMOVE
R&S = REMOVE & SALVAGE
S = SALVAGE SIGN
RET = RETAIN
B-B = BACK TO BACK
Ⓘ = RETURN TO TOWN OF WATERBURY

BEGIN APPROACH
BR0 1446 (26)
STA. 1+059.000

STA. 1+064.0, LT.
NO PARKING BETWEEN SIGNS
RET
(MOUNTED ON EXISTING BUILDING)

STA. 1+099.0, LT.
2 HR PARKING 8:00 AM TO 6:00 PM EXCEPT SUNDAY
R

BEGIN PROJECT
END APPROACH
BR0 1446 (26)
STA. 1+090.000

STOP ROADWAY
BEGIN BRIDGE
STA. 1+113.650

STOWE STREET

1+020 1+040 1+060 1+080 1+100 1+120 1+140 1+160 1+180 1+200

P I
STA 1+029.660

RR 10+380
RR 10+360
RR 10+340
RR 10+320
RR 10+300
RR 10+280
RR 10+260

END BRIDGE
RESUME ROADWAY
STA. 1+125.680

STA. U10+033.0, RT.
NO THRU COMMERCIAL VEHICLES
RET

SPEED LIMIT 25
RET

STA. 1+129.0, LT.
NO PARKING ON BRIDGE
R

STA. 1+130.0, LT.
LEGAL LOAD LIMIT 20,000 POUNDS
R

UNION STREET

U10+060
U10+040
U10+020

LIMIT OF WORK
STA. U10+062.000

STA. 1+156.0, LT.
STOP
R

VT STATE PLANE GRID

STA. U10+018.0, RT.
NO PARKING HERE TO CORNER
RET

STA. 1+152.0, LT.
BRIDGE WEIGHT 20,000 POUNDS
R

STA. 1+169.0, LT.
UNION ST
RET

STOWE STREET

END APPROACH
BR0 1446 (26)
STA. 1+201.000

STA. 1+035.0, RT.
2 HR PARKING 9AM - 6PM EXCEPT SUNDAYS and HOLIDAYS
RET
(MOUNTED ON EXISTING UTILITY POLE)

STA. 1+067.0, RT.
BRIDGE WEIGHT 20,000 POUNDS
R

2 HR PARKING 9AM - 6PM EXCEPT SUNDAYS and HOLIDAYS
R&S
R

STA. 1+068.0, RT.
NO PARKING SNOW REMOVAL NOV 15 TO APRIL 15 12 MIDNITE TO 6AM CARS WILL BE TOWED
RET
(MOUNTED ON EXISTING UTILITY POLE)

LIMIT OF WORK
STA. B 1+020.000

BIDWELL LANE

B 1+020

STA. 1+091.0, RT.
STOP
R&S
R

STA. 1+099.0, RT.
LEGAL LOAD LIMIT 20,000 POUNDS
R

STA. 1+111.0, RT.
NO PARKING ON BRIDGE
R

STA. B 1+065.2, LT.
NO PARKING
RET

LIMIT OF WORK
STA. R 5+077.000

R 5+020
R 5+040
R 5+060

RELOCATED RAILROAD STREET

STA. 1+148.0, RT.
RAILROAD ST
R&S
R

STA. R 5+050.0, RT.
2 HR PARKING 9AM - 6PM EXCEPT SUNDAYS and HOLIDAYS
RET

SLOW CHILDREN
RET
(MOUNTED ON EXISTING UTILITY POLE)

STA. 1+147.0, RT.
STOP
R

R

STA. 1+167.0, RT.
R&S

SPEED LIMIT 25
R

END PROJECT
BEGIN APPROACH
BR0 1446 (26)
STA. 1+170.000

LOCUST COURT

0 10 20 SCALE 1:250

SURVEYED BY : VAOT
SURVEYED DATE : 1996

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 83 (1992)

Dufresne Henry

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)

FILE NAME: ...\26-existing signs.ptf
PROJECT LEADER: G EDWARDS/R GINGRAS
DESIGNED BY: R GINGRAS
EXISTING SIGNS PLAN

PLOT DATE: 01/26/2004
DRAWN BY: M MEILLEUR
CHECKED BY: R GINGRAS
SHEET 26 OF 63

\26-existing signs.ptf 01/26/2004 08:23 AM

TEMPORARY & DURABLE 100 mm WHITE LINE
STA. 1+059.0 TO 1+201.0, SOLID LT. & RT.
(WITH EDGELINE BREAKS FOR BIDWELL LANE, UNION STREET & RELOCATED RAILROAD STREET

TEMPORARY & DURABLE CROSSWALK WITH DIAGONAL LINES (MOD.)
STA. B 1+007.0 (BIDWELL LANE)
STA. U1 0+007.0 (UNION ST.)
STA. R 5+007.0 (RELOCATED RAILROAD STREET)

TEMPORARY & DURABLE LETTER OR SYMBOL
STA. B 1+012.5, LT. "STOP" (BIDWELL LANE)
STA. U1 0+012.4, LT. "STOP" (UNION ST.)
STA. R 5+012.8, LT. "STOP" (RELOCATED RAILROAD ST.)

ERECTING SALVAGED SIGNS
AS SHOWN - 4

TEMPORARY & DURABLE 100 mm YELLOW LINE
STA. 1+059.0 TO 1+201.0, SOLID LT. & RT.
(WITH CENTERLINE BREAKS FOR BIDWELL LANE, UNION STREET & RELOCATED RAILROAD STREET
STA. 1+086.0, DOUBLE SOLID RT. (BIDWELL LANE)
STA. 1+163.0, DOUBLE SOLID LT. & RT.
(UNION STREET & RELOCATED RAILROAD STREET)

TEMPORARY & DURABLE 600 mm STOP BAR
STA. B 1+009.8, LT. (BIDWELL LANE)
STA. U1 0+009.7, LT. (UNION ST.)
STA. R 5+010.0, LT. (RELOCATED RAILROAD STREET)

VT STATE PLANE GRID

BEGIN PROJECT
END APPROACH
BR0 1446 (26)
STA. 1+090.000

STOP ROADWAY
BEGIN BRIDGE
STA. 1+113.650

END BRIDGE
RESUME ROADWAY
STA. 1+125.680

LIMIT OF WORK
STA. U10+062.000

100 mm YELLOW LINE
100 mm WHITE LINE

BEGIN APPROACH
BR0 1446 (26)
STA. 1+059.000

STA. 1+064.0, LT.
NO PARKING BETWEEN SIGNS RET
(MOUNTED ON EXISTING BUILDING)

STA. 1+140.0, LT.
15 M. P. H. N

STA. 1+156.0, LT.
STOP N

STA. U1 0+033.0, RT.
NO THRU COMMERCIAL VEHICLES RET
SPEED LIMIT 25 RET

STA. U1 0+018.0, RT.
NO PARKING HERE TO CORNER RET

STA. 1+169.0, LT.
UNION ST RET

STOWE STREET

UNION STREET

RELOCATED RAILROAD STREET

BIDWELL LANE

STA. 1+035.0, RT.
2 HR PARKING 9AM - 6PM EXCEPT SUNDAYS AND HOLIDAYS RET
(MOUNTED ON EXISTING UTILITY POLE)

STA. 1+068.0, RT.
NO PARKING SNOW REMOVAL NOV 15 TO APRIL 15 12 MIDNITE TO 6AM CARS WILL BE TOWED RET
(MOUNTED ON EXISTING UTILITY POLE)

STA. 1+068.0, RT.
2 HR PARKING 9AM - 6PM EXCEPT SUNDAYS AND HOLIDAYS S
N

STA. 1+091.0, RT.
STOP S
N

STA. 1+105.0, RT.
15 M. P. H. N

STA. B 1+065.2, LT.
NO PARKING RET

LIMIT OF WORK
STA. B 1+020.000

STA. R 5+050.0, RT.
2 HR PARKING 9AM - 6PM EXCEPT SUNDAYS AND HOLIDAYS RET
SLOW CHILDREN RET
(MOUNTED ON EXISTING UTILITY POLE)

STA. 1+169.5, RT.
RAILROAD ST S
STOP N

STA. 1+180.0, RT.
SPEED LIMIT 25 N

STA. 1+200.0, RT.
AHEAD S N

END APPROACH
BR0 1446 (26)
STA. 1+201.000

END PROJECT
BEGIN APPROACH
BR0 1446 (26)
STA. 1+170.000

LIMIT OF WORK
STA. R 5+077.000

TEMPORARY & DURABLE CROSSWALK MARKING DETAIL
NOT TO SCALE
450 600 450 600 450
2.4 M
ITEM 646.71 (MOD.)

* MATCH EXISTING CONDITIONS

SURVEYED BY : VAOT
SURVEYED DATE : 1996

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 83 (1992)

0 10 20 SCALE 1:250

PROJECT NAME: WATERBURY
PROJECT NUMBER: BR0 1446(26)
FILE NAME: ...\27-signs_markings.ptf
PROJECT LEADER: G EDWARDS/R GINGRAS
DESIGNED BY: R GINGRAS
PROPOSED SIGNS & MARKINGS PLAN
PLOT DATE: 01/26/2004
DRAWN BY: M MEILLEUR
CHECKED BY: R GINGRAS
SHEET 27 OF 63

...\27-signs_markings.PRT 01/26/2004 08:03:23 AM

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

VAOT Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	SALVAGE	NO. OF POSTS	NEW SIGN POSTS: FLANGED CHANNEL kg/m 1.7	3.0	4.5 (OPTION ITEMS)	SQUARE STEEL (mm) kg/m 44 3.4	50 3.9	63 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) kg/m 75 1.9	100 2.5	100 MOD 2.5	TUBULAR STEEL Ø (mm) FOUNDATION	kg/m 75 11.3	89 13.4	100 16.1	125 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL: DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
STOWE STREET I+068.0, RT.	2 HR PARKING 9AM - 6PM EXCEPT SUNDAYS AND HOLIDAYS						1				1			X																					-	-
I+091.0, RT.	STOP						1				1			X																					-	-
I+105.0, RT.		1	750	750	0.56						1			X																				W2-1		E-155M
	15 M.P.H.	1	450	450	0.20																												W13-1		E-155M
I+140.0, LT.		1	750	750	0.56						1			X																				W2-2		E-155M
	15 M.P.H.	1	450	450	0.20																												W13-1		E-155M
I+156.0, LT.	STOP	1	750	750	0.56						1			X																				R1-1		E-143M
I+169.5, RT.	RAILROAD ST.						1				1			X																					-	-
	STOP	1	750	750	0.56																												INSTALL SALVAGED STREET SIGN 150 mm ABOVE NEW STOP SIGN USING POST TOP MOUNTING BRACKET ON NEW POST. R1-1		E-143M
I+180.0, RT.	SPEED LIMIT 25	1	600	750	0.45						1			X																				R2-1		E-142M
I+200.0, RT.	AHEAD						1				1			X																					-	-
		1	600	250	0.15																												W16-9P BACKGROUND TO BE FLUORESCENT YELLOW - GREEN		-
	SUBTOTALS				3.24		4							36.8																							
	ROUNDING				0.76		-							0.2																							
												m	m	m 37.0	m	m	m		EA	kg	kg	kg		kg	kg	kg	kg								
	TOTALS				m^2 4.0	m^2	EA. 4	m^2				m 37.0			m					kg			EA.	kg				EA.	EA.	kg					

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

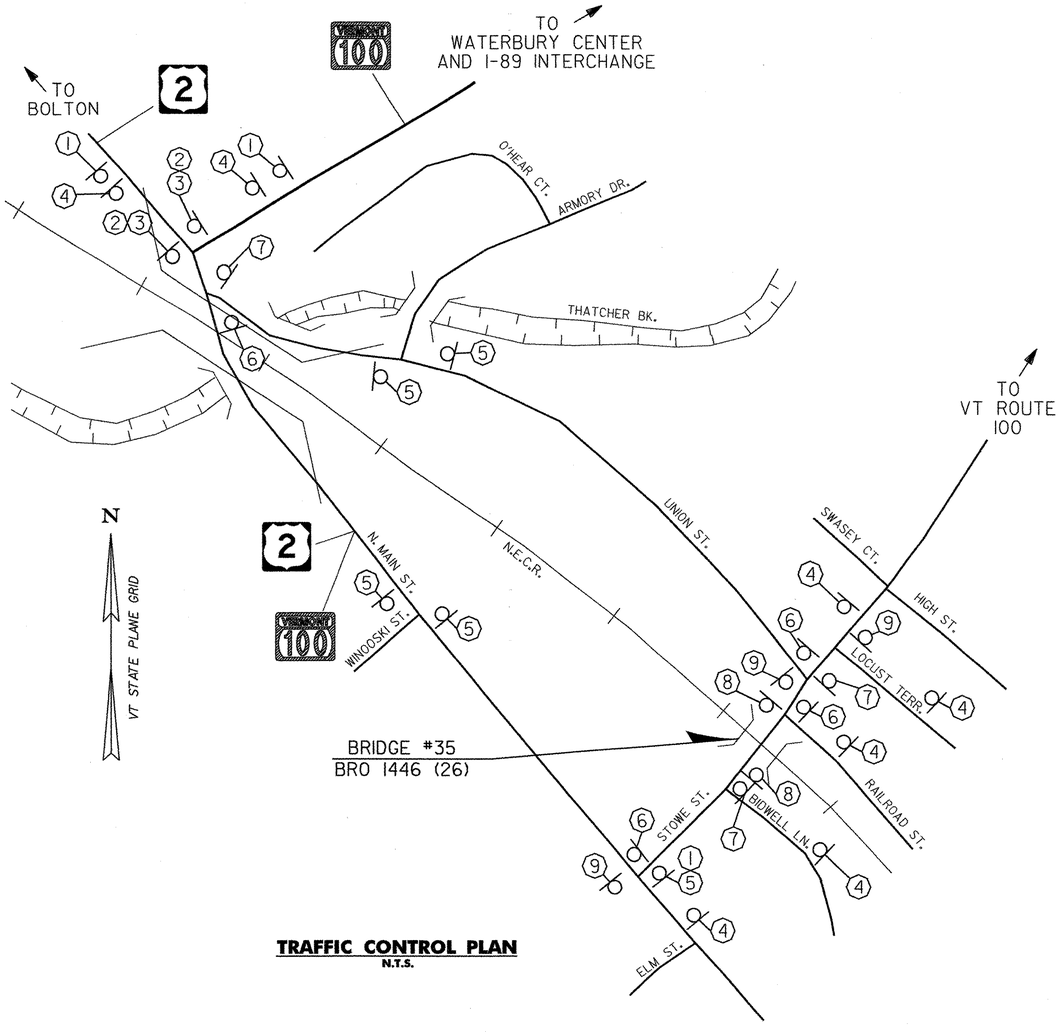
PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)

FILE NAME: ...\28-traffic sign.ptf
PROJECT LEADER: G EDWARDS/R GINGRAS
DESIGNED BY: D-H
TRAFFIC SIGN SUMMARY SHEET

PLOT DATE: 01/26/2004
DRAWN BY: D-H
CHECKED BY: JLL
SHEET 28 OF 63

...\Utilities\28-traffic sign.ptf 01/26/2004 08:18:2 AM

NOT Metric



TRAFFIC CONTROL PLAN
N.T.S.

PLAN REF. SYMBOL	ID NUMBER	SIGN TEXT	SIZE OF SIGN WIDTH	SIZE OF SIGN HEIGHT	NUMBER OF SIGNS REQ'D.	POST SIZE AND NUMBER REQ'D., EACH SIGN	TOTAL AREA (SM)	REMARKS
(1)	---	DRY BRIDGE CLOSED ON STOWE ST.	1800	1200	4	TWO 4.6 M LONG 4.5 KG/M FLANGED CHANNEL STEEL POSTS.	8.64	SEE NOTES 4 & 8
(2)	---	RT. 2 AND RT. 100 TRAFFIC NOT AFFECTED	3000	900	2	TWO 4.6 M LONG 4.5 KG/M FLANGED CHANNEL STEEL POSTS.	5.40	SEE NOTE 4
(3)	---	LOCAL TRAFFIC SEEK ALT. ROUTE	2400	900	2	TWO 4.6 M LONG 4.5 KG/M FLANGED CHANNEL STEEL POSTS.	4.32	SEE NOTE 4
(4)	W20-2	DETOUR AHEAD	1200	1200	7	TWO 4.6 M LONG 4.5 KG/M FLANGED CHANNEL STEEL POSTS.	7.20	SEE VTrans STANDARD E-102M
(5)	M4-9V	STOWE ST. DETOUR ↑	750	750	5	ONE 4.6 M LONG 4.5 KG/M FLANGED CHANNEL STEEL POST.	2.81	---
(6)	M4-9R	STOWE ST. DETOUR →	750	750	4	ONE 4.6 M LONG 4.5 KG/M FLANGED CHANNEL STEEL POST.	2.25	---
(7)	M4-9L	STOWE ST. DETOUR ←	750	750	3	ONE 4.6 M LONG 4.5 KG/M FLANGED CHANNEL STEEL POST.	1.69	---
(8)	R11-2	BRIDGE CLOSED	1200	750	2	---	1.80	SEE NOTES 2 & 3
(9)	M4-8a	END DETOUR	600	450	3	ONE 4.6 M LONG 4.5 KG/M FLANGED CHANNEL STEEL POST.	0.81	---

NOTES:

1. ALL TRAFFIC SIGN PLACEMENT AND SPACING SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2000 EDITION.

2. 'BRIDGE CLOSED' SIGNS SHALL BE MOUNTED AND MAINTAINED ON LIGHTED TYPE III BARRICADES.

3. TEMPORARY TRAFFIC BARRIERS SHALL BE PLACED SO AS TO PHYSICALLY EXCLUDE TRAFFIC FROM THE ENTIRE ROADWAY WIDTH OR AT THE DISCRETION OF THE ENGINEER.

4. ALL SIGNS SHOWN ON THIS SHEET SHALL BE MANUFACTURED USING THE MATERIALS, COLORS AND REFLECTORIZATION AS DESCRIBED ON VTrans STANDARD E-100M.

5. 'BRIDGE CLOSED' SIGN PLACEMENT MAY CHANGE WITH FIELD CONDITIONS OR AT THE DISCRETION OF THE ENGINEER.

6. ALL COSTS OF INSTALLING, MAINTAINING, AND REMOVING THE SIGNS AND BARRICADES IN THIS TRAFFIC CONTROL PLAN AS NECESSARY TO MEET PROJECT CONDITIONS WILL BE SUBSIDIARY TO TRAFFIC CONTROL, ITEM 641.10.

7. REFER TO VTrans STANDARD E-100M FOR CONSTRUCTION APPROACH SIGNING ON U.S. ROUTE 2, VT ROUTE 100, BIDWELL LANE, RAILROAD STREET, UNION STREET, AND STOWE STREET.

8. AT THE NORTHERLY END OF STOWE STREET AT THE VT ROUTE 100 INTERSECTION, INSTALL A #1 SIGN FOR TRAFFIC TURNING ONTO STOWE STREET.

NOTE:
ALL DIMENSIONS IN MILLIMETERS EXCEPT WHERE OTHERWISE INDICATED

Dufresne-Henry

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)

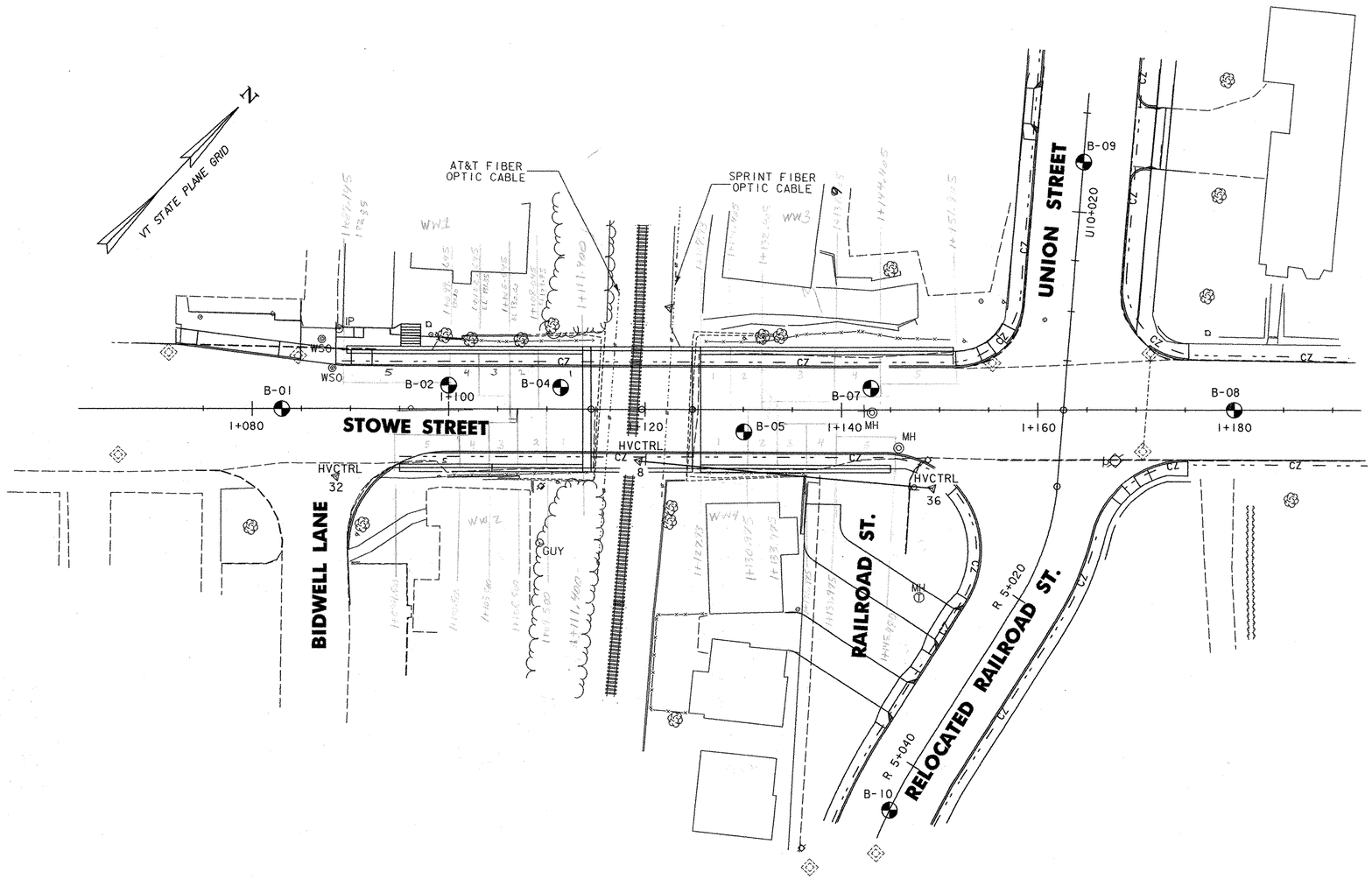
FILE NAME: ...\29-traffic control.ptf
PROJECT LEADER: G EDWARDS/R GINGRAS
DESIGNED BY: R GINGRAS
TRAFFIC CONTROL PLAN

PLOT DATE: 01/26/2004
DRAWN BY: S BURBANK
CHECKED BY: R GINGRAS
SHEET 29 OF 63

01/26/2004 08:38:38 AM \29-traffic control.ptf

BORING No.	ALIGNMENT	STATION	OFFSET
B-01	STOWE STREET	1+083.000	0
B-02	STOWE STREET	1+100.000	2.2 LT
B-04	STOWE STREET	1+111.400	2.2 LT
B-05	STOWE STREET	1+130.000	2.2 RT
B-07	STOWE STREET	1+143.000	2.2 LT
B-08	STOWE STREET	1+180.000	0
B-09	UNION STREET	U 10+025.000	0
B-10	REL. RAILROAD STREET	R 5+045.000	0

B-01 ⊕ = BORING



DATUM

VERTICAL	NAV 88
HORIZONTAL	NAD83 (1992)

0 10 20 30

SCALE IN METERS

Dufresne-Henry

PROJECT NAME:	WATERBURY
PROJECT NUMBER:	BRO 1446(26)
FILE NAME: ...\30-boring layout.ptf	PLOT DATE: 01/26/2004
PROJECT LEADER: R GINGRAS	DRAWN BY: M MEILLEUR
DESIGNED BY: R GINGRAS	CHECKED BY: R GINGRAS
BORING LAYOUT SHEET	SHEET 30 OF 63

...\plotfiles\30-boring layout.plt 01/26/2004 08:25 AM

SOIL CLASSIFICATION

AASHTO

A1	Gravel and Sand
A3	Fine Sand
A2	Silty or Clayey Gravel and Sand
A4	Silty Soil - Low Compressibility
A5	Silty Soil - Highly Compressible
A6	Clayey Soil - Low Compressibility
A7	Clayey Soil - Highly Compressible

ROCK QUALITY DESIGNATION

R.Q.D. (%)	ROCK DESCRIPTION
<25	Very Poor
25 to 50	Poor
51to 75	Fair
76 to 90	Good
>90	Excellent

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN kPa	CONSISTENCY
<12	Very Soft
12-24	Soft
24-48	Med. Stiff
48-96	Stiff
96-192	Very Stiff
>192	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

DENSITY (GRANULAR SOILS) N	DESCRIPTIVE TERM	CONSISTENCY (COHESIVE SOILS) N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COMMONLY USED SYMBOLS

▼	Water Elevation
⊗	Standard Penetration Boring
⊕	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per 300 mm For: 50.8 mm O.D. Sampler 35.0 mm I.D. Sampler Hammer Weight Of 63.5 kg. Hammer Fall Of 762 mm
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 30.1mm
BX	Core Size 42.0 mm
NX	Core Size 54.7 mm
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
Si	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	To Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
RQD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)

COLOR

blk	Black	pnk	Pink
bl	Blue	pu	Purple
brn	Brown	rd	Red
dk	Dark	tn	Tan
gry	Gray	wh	White
gn	Green	yel	Yellow
lt	Light	mltc	Multicolored
or	Orange		

GENERAL NOTES

1. The subsurface explorations shown herein were made between 8/01 and 9/01 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

DEFINITIONS (AASHTO)

BEDROCK (LEDGE) - Rock in its native location of indefinite thickness.

BOULDER - A rock fragment with an average dimension > 304.8 mm.

COBBLE - Rock fragments with an average dimension between 76.2 and 304.8 mm.

GRAVEL - Rounded particles of rock < 76.2 mm and > 2 mm (#10 sieve).

SAND - Particles of rock < 2 mm (#10 sieve) and > 75 μm (#200 sieve).

SILT - Soil < 75 μm (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

CLAY - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.

VARVED - Alternate layers of silt and clay.

HARDPAN - Extremely dense soil, cemented layer, not softened when wet.

MUCK - Soft organic soil (containing > 10% organic material.

MOISTURE CONTENT - Weight of water divided by dry weight of soil.

FLOWING SAND - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.

STRIKE - Angle from magnetic north to line of intersection of bed with a horizontal plane.

DIP - Inclination of bed with a horizontal plane.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-01
SHEET 1 OF 1
DATE STARTED: 9/6/01
DATE COMPLETED: 9/6/01

PROJECT NAME: WATERBURY
SITE NAME: BR 35
STATION: 1+083.00
GROUND EL.: 134.84

PROJECT NUMBER: BRO 1446(26)
SITE NO.: TH 2
OFFSET: -L60
G.W. DEPTH: No Water Found

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
	CONCRE	0.00m-0.14m, Asphalt							
		0.14m-0.28m, Concrete							
		A-4, SaSi, brn, MTW, Rec. = 0.38m	5	23.3	2.8	37.4	59.8		
		A-2-4, Sa, brn, Moist, Rec. = 0.32m	7	12.7	2.6	84.3	13.1		
		A-1-b, GrSa, gry, Moist, Rec. = 0.30m	21	11.1	34.4	57.8	7.8		
		A-1-a, SaGr, gry, Dry, Rec. = 0.48m	32	7	54.5	34.2	11.3		
5		5.00m-5.60m, No Rec.	4						
		Hole stopped @ 5.60m							
10									

DRILLER'S NOTES:
1. No water found
2. Hole caved in @ 4.20m

GEOLOGISTS REPORT:

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-02
SHEET 1 OF 1
DATE STARTED: 9/4/01
DATE COMPLETED: 9/4/01

PROJECT NAME: WATERBURY
SITE NAME: BR 35
STATION: 1+100.00
GROUND EL.: 135.38

PROJECT NUMBER: BRO 1446(26)
SITE NO.: TH 2
OFFSET: -2.20
G.W. DEPTH: 4.62 09/04/01

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

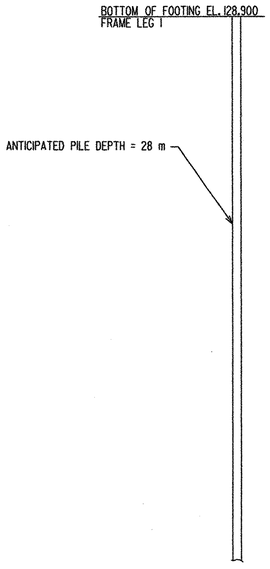
BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
	CONCRE	0.00m-0.15m, Asphalt							
		0.15m-0.28m, Concrete							
		A-4, GrSi, Lt/gry, Moist, Rec. = 0.28m	9	19.5	31.7	18.6	49.7		
		A-3, Sa, brn-gry, Moist, Rec. = 0.39m	11	12.8	14.5	76.3	9.2		
▽		A-1-a, SaGr, gry, Dry, Rec. = 0.32m	15	9.8	50.7	41.2	8.1		
5		A-4, Si, Lt/gry, MTW, Rec. = 0.28m	10	31.1	0.6	4.8	94.6		
		A-4, Si, brn-gry, MTW, Rec. = 0.42m	8	29.3		7.4	92.6		
		A-4, Si, gry, WTW, Rec. = 0.58m	7	35.7		1.2	98.8		
		Hole stopped @ 9.60m							
10									

GEOLOGISTS REPORT:

PROJECT: WATERBURY	PROJECT NO.: BRO 1446 (26)
DESIGN FILE NAME: zj280borings.dgn	
IPARM FILE NAME:	PLOT DATE:
SURVEYED BY:	SURVEY DATE:
SQUAD LEADER: C.C. BENDA	DRAWN BY: J. TOUCHETTE
DATE: 09/01	SHEET: 31 OF 63

MicroStation 95 - [280logs.dgn] 07/26/2004 08:31:30



STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-04
SHEET 1 OF 3
DATE STARTED: 7/19/01
DATE COMPLETED: 8/21/01

PROJECT NAME: WATERBURY
SITE NAME: BR 35
STATION: 1+11.40
GROUND EL.: 136.49

PROJECT NUMBER: BRO 1446(26)
SITE NO.: TH 2
OFFSET: -2.20
G.W. DEPTH: 9.60 08/21/01

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
	CONCRETE	0.00m-0.07m, Asphalt 0.07m-0.20m, Concrete							
		A-1-b, SaGr, brn, Dry, Rec. = 0.25m	15	5.4	53.1	31.9	15		
		A-2-4, SiGr, gry, Moist, Rec. = 0.05m	12	14.7	62.5	11.3	26.2		
		A-4, Si, gry, MTW, Rec. = 0.46m	7	28.9	0.1	8.9	91		
5		A-4, SiSa, brn-gry, MTW, Rec. = 0.13m	4	28.9	17	43.8	39.2		
	A_7_6	A-7-6, Cl, gry, MTW, Rec. = 0.40m	3	34.1	3.3	3.2	93.5	44	20
		A-4, Si, gry-brn, MTW, Rec. = 0.48m	8	30.7		4.5	95.5		
		A-4, Si, Lt/gry, MTW, Rec. = 0.52m	11	32.4		3	97		
10		A-4, Si, Lt/gry, MTW, Rec. = 0.60m	11	30.5		3.8	96.2		
		A-4, Si, gry, MTW, Rec. = 0.48m	12	29	1.1	5.4	93.5		
		A-4, Si, gry, MTW, Rec. = 0.50m	13	30.6		3.1	96.9		

GEOLOGISTS REPORT:

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-04
SHEET 2 OF 3
DATE STARTED: 7/19/01
DATE COMPLETED: 8/21/01

PROJECT NAME: WATERBURY
SITE NAME: BR 35
STATION: 1+11.40
GROUND EL.: 136.49

PROJECT NUMBER: BRO 1446(26)
SITE NO.: TH 2
OFFSET: -2.20
G.W. DEPTH: 9.60 08/21/01

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-4, Si, gry, MTW, Rec. = 0.43m	7	30.3	0.1	4.7	95.2		
		A-4, Si, gry, MTW, Rec. = 0.35m	21	31		12.3	87.7		
		A-4, SaSi, gry, MTW, Rec. = 0.44m	29	26.2		22	78		
20		A-4, Si, gry, MTW, Rec. = 0.45m	7	37.3		1.4	98.6		
		A-4, SiSa, gry, MTW, Rec. = 0.60m	13	24.5	3.5	48.6	47.9		
		A-4, Si, gry, MTW, Rec. = 0.50m	11	28.3		4.8	95.2		
		A-4, Si, gry, MTW, Rec. = 0.55m	20	26.9		3.6	96.4		
25		A-4, Si, gry, MTW, Rec. = 0.58m	23	25.6		18.7	81.3		
		A-4, Si, gry, MTW, Rec. = 0.32m	31	27.5	2.7	2.7	94.6		
		A-4, Si, gry, MTW, Rec. = 0.36m	32	31.3	1.3	2.9	95.8		

GEOLOGISTS REPORT:

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-04
SHEET 3 OF 3
DATE STARTED: 7/19/01
DATE COMPLETED: 8/21/01

PROJECT NAME: WATERBURY
SITE NAME: BR 35
STATION: 1+11.40
GROUND EL.: 136.49

PROJECT NUMBER: BRO 1446(26)
SITE NO.: TH 2
OFFSET: -2.20
G.W. DEPTH: 9.60 08/21/01

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-4, Si, gry, MTW, Rec. = 0.44m	26	37.4		0.4	99.6		
		A-4, Si, gry, MTW, Rec. = 0.50m	17	32.7		1	99		
		33.0m-33.60m, No Rec., Broken basket in split barrel sampler.	20						
		34.5m-34.63m, No Rec.	R	Top of bedrock @ 34.63 m					
35		Run#1: BXGDC, 34.63m-36.15m, Rec. = 1.08m, See Geologist's Report.	RUN 1	REC% 71	RQD% 71	Dip° 65			
		Run#2: BXGDC, 36.15m-37.67m, Rec. = 1.15m, See Geologist's Report.	2	76	76	65			
		Hole stopped @ 37.67m							
40									

GEOLOGISTS REPORT:

Run#1: Quartz-sericite schist, Moderately hard, Unweathered, Mechanical breakage during drilling.

Run#2: Same as Run#1.

PROJECT: WATERBURY	PROJECT NO.: BRO 1446(26)
DESIGN FILE NAME: zj280borings.dgn IPARM FILE NAME: SURVEYED BY: SQUAD LEADER: C.C. BENDA DATE: 09/01	PLOT DATE: 01/26/2004 SURVEY DATE: DRAWN BY: J. TOUCHETTE SHEET: 32 OF 63

...\plotfiles\31-34 borings.plt 01/26/2004 08:19:28 AM

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-05
SHEET 1 OF 3
DATE STARTED: 8/21/01
DATE COMPLETED: 8/29/01

PROJECT NAME: WATERBURY
SITE NAME: BR 35
STATION: 1+130.00
GROUND EL.: 136.42

PROJECT NUMBER: BRO 1446(26)
SITE NO.: TH 2
OFFSET: 2.20
G.W. DEPTH: 8.90 08/29/01

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
	CONCRE	0.00m-0.18m, Asphalt 0.18m-0.35m, Concrete							
		A-4, Si, brn, MTW, Rec. = 0.10m	6	23.8	6.7	15.5	77.8		
		A-4, SaGrSi, brn, Moist, Rec. = 0.04m	3	19.2	26.1	22.7	51.2		
5		A-2-4, Sa, brn-gry, Moist, Rec. = 0.20m	11	17.3	6.5	76.8	16.7		
		6.00m-6.60m, No Rec.	10						
		A-4, Si, Lt/gry, MTW, Rec. = 0.46m	10	28.8		4.7	95.3		
		A-4, Si, gry, MTW, Rec. = 0.44m	11	31		9.8	90.2		
10		A-4, Si, gry, MTW, Rec. = 0.29m	8	23.3		12.4	87.6		
		A-4, Si, gry, MTW, Rec. = 0.25m	9	28.6		11	89		
		A-4, Si, gry, MTW, Rec. = 0.38m	8	33.1		4.2	95.8		

BOTTOM OF FOOTING EL. 128.900
FRAME LEG 2

ANTICIPATED PILE DEPTH = 31m

GEOLOGISTS REPORT:

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-05
SHEET 2 OF 3
DATE STARTED: 8/21/01
DATE COMPLETED: 8/29/01

PROJECT NAME: WATERBURY
SITE NAME: BR 35
STATION: 1+130.00
GROUND EL.: 136.42

PROJECT NUMBER: BRO 1446(26)
SITE NO.: TH 2
OFFSET: 2.20
G.W. DEPTH: 8.90 08/29/01

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-4, Si, gry, MTW, Rec. = 0.34m	9	28.6	1.1	4.4	94.5		
		A-4, Si, gry, MTW, Rec. = 0.30m	9	32.9		3.5	96.5		
		A-4, Si, gry, MTW, Rec. = 0.32m	12	36		1.4	98.6		
20		A-4, Si, gry, MTW, Rec. = 0.23m	9	34.2		0.6	99.4		
		A-4, Si, gry, MTW, Rec. = 0.42m	10	32.8		0.9	99.1		
		A-4, Si, gry, MTW, Rec. = 0.22m	10	31.9		1.6	98.4		
		A-4, Si, gry, MTW, Rec. = 0.26m	12	32.8		0.9	99.1		
25		A-4, Si, gry, MTW, Rec. = 0.28m	16	28.6		6.9	93.1		
		A-4, Si, gry, MTW, Rec. = 0.21m	22	28.6		3.5	96.5		
		A-4, SaSi, gry, MTW, Rec. = 0.38m	18	28	0.3	25.7	74		

GEOLOGISTS REPORT:

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-05
SHEET 3 OF 3
DATE STARTED: 8/21/01
DATE COMPLETED: 8/29/01

PROJECT NAME: WATERBURY
SITE NAME: BR 35
STATION: 1+130.00
GROUND EL.: 136.42

PROJECT NUMBER: BRO 1446(26)
SITE NO.: TH 2
OFFSET: 2.20
G.W. DEPTH: 8.90 08/29/01

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		A-4, SaSi, gry, MTW, Rec. = 0.24m	24	28.2		21.4	78.6		
		A-4, Si, gry, MTW, Rec. = 0.25m	16	25.6	2	16.1	81.9		
		A-4, Si, gry, MTW, Rec. = 0.23m	17	27.4		7.5	92.5		
35		A-4, Si, gry, MTW, Rec. = 0.07m	21	25.2	0.5	16.8	82.7		
		A-4, Si, gry, MTW, Rec. = 0.28m	38	22.6	0.1	6.3	93.6		
		37.50m-37.80m, No Rec.	R	Top of bedrock @ 37.80 m					
		Run#1: BXGDC, 37.80m-39.32m, Rec. = 0.52m, See Geologist's Report.	RUN 1	REC% 34	RQD% 34	Dip° 65			
40		Run#2: BXGDC, 39.32m-40.84m, Rec. = 0.26m, See Geologist's Report.	2	17	17	65			
		Run#3: BXGDC, 40.84m-42.36m, Rec. = 1.52m, See Geologist's Report.	3	100	100	65			
		Hole stopped @ 42.36m							

GEOLOGISTS REPORT:

Run#1: Quartz-sericite schist, Moderately hard, Unweathered, Mechanical breakage during drilling.

Run#2: Same as Run#1. Poor recovery and RQD.

Run#3: Same as Run#1. Competent.

PROJECT: WATERBURY	PROJECT NO.: BRO 1446(26)
DESIGN FILE NAME: z]280borings.dgn	
IPARM FILE NAME:	PLOT DATE: 01/26/2004
SURVEYED BY:	SURVEY DATE:
SQUAD LEADER: C.C. BENDA	DRAWN BY: J. TOUCHETTE
DATE: 09/01	SHEET: 33 OF 63

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STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-07
SHEET 1 OF 1
DATE STARTED: 9/5/01
DATE COMPLETED: 9/5/01

PROJECT NAME: WATERBURY
SITE NAME: BR 35
STATION: 1+143.00
GROUND EL.: 135.63

PROJECT NUMBER: BRO 1446(26)
SITE NO.: TH 2
OFFSET: -3.20
G.W. DEPTH: 4.60 9/5/01

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		0.00m-0.18m, Asphalt							
		A-1-a, SaGr, brn, Moist, Rec. = 0.05m	12	11.1	67.8	24.3	7.9		
		A-4, SaSi, brn, MTW, Rec. = 0.47m	10	26.1	0.3	36.7	63		
▽		A-3, Sa, brn-gry, Moist, Rec. = 0.29m	12	17.6	6.2	86.4	7.4		
5		A-4, Si, gry, MTW, Rec. = 0.14m	4	38.6	6	8.5	85.5		
		A-4, Si, gry, MTW, Rec. = 0.38m	8	27.6	0.2	10.6	89.2		
		A-4, Si, gry, MTW, Rec. = 0.46m	8	30.6	0.5	7.7	91.8		
		Hole stopped @ 9.60m							
10									

DRILLER'S NOTES:

1. Moved hole 1.0m left.

GEOLOGISTS REPORT:

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-08
SHEET 1 OF 1
DATE STARTED: 9/6/01
DATE COMPLETED: 9/6/01

PROJECT NAME: WATERBURY
SITE NAME: BR 35
STATION: 1+180.00
GROUND EL.: 135.35

PROJECT NUMBER: BRO 1446(26)
SITE NO.: TH 2
OFFSET: 2.00
G.W. DEPTH: 3.20 9/6/01

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
	CONCRE	0.00m-0.12m, Asphalt 0.12m-0.25m, Concrete							
		A-2-4, Sa, brn-gry, MTW, Rec. = 0.25m	22	21.8	9.1	75.2	15.7		
		A-4, SaSi, brn, MTW, Rec. = 0.55m	6	23.4	3.5	31	65.5		
▽		A-4, GrSaSi, brn, Moist, Rec. = 0.52m	16	19.4	21.5	29.5	49		
		A-1-b, GrSa, brn-gry, Moist, Rec. = 0.36m	14	13.2	40.1	46.2	13.7		
5		A-4, Si, gry, MTW, Rec. = 0.40m	8	27.3	4.1	11.7	84.2		
		Hole stopped @ 5.60m							
10									

DRILLER'S NOTES:

1. Moved hole due to utilities.

GEOLOGISTS REPORT:

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-09
SHEET 1 OF 1
DATE STARTED: 9/5/01
DATE COMPLETED: 9/5/01

PROJECT NAME: WATERBURY
SITE NAME: BR 35
STATION: U 10+025.00
GROUND EL.: 134.51

PROJECT NUMBER: BRO 1446(26)
SITE NO.: TH 2
OFFSET: L70
G.W. DEPTH: 2.40 9/5/01

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		0.00m-0.04m, Asphalt							
		A-4, SaSi, brn, MTW, Rec. = 0.35m	5	30	1.2	35.1	63.7		
▽		A-2-4, SiSa, brn, MTW, Rec. = 0.08m	10	24.7	0.9	64.3	34.8		
		A-3, Sa, brn, Moist, Rec. = 0.33m	8	15.6	3	92.4	4.6		
		A-1-a, SaGr, gry, Moist, Rec. = 0.29m	14	9.9	52.3	39.7	8		
5		A-4, Si, gry, MTW, Rec. = 0.43m	7	34.2	0.2	3.2	96.6		
		Hole stopped @ 5.60m							
10									

DRILLER'S NOTES:

1. Moved hole due to utilities.

GEOLOGISTS REPORT:

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-10
SHEET 1 OF 1
DATE STARTED: 9/6/01
DATE COMPLETED: 9/6/01

PROJECT NAME: WATERBURY
SITE NAME: BR 35
STATION: R 5+045.00
GROUND EL.: 134.48

PROJECT NUMBER: BRO 1446(26)
SITE NO.: TH 2
OFFSET: 2.00
G.W. DEPTH: No Water Found 9/6/01

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL
ADDITIONAL CREW:

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 0.3 m	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		0.00m-0.20m, Asphalt							
		A-1-a, SaGr (Asphalt was in sample), gry, Moist, Rec. = 0.23m	4	17.7	63.7	29	7.3		
		A-4, Si, gry, MTW, Rec. = 0.41m	7	30.3	1.1	12.4	86.5		
		A-3, Sa, brn, Moist, Rec. = 0.48m	13	14.3	4.5	88.7	6.8		
		A-1-b, SaGr, brn, Moist, Rec. = 0.32m	20	10.7	48.2	39.5	12.3		
5		A-4, Si, gry, MTW, Rec. = 0.29m	5	32.3	1.1	1.9	97		
		Hole stopped @ 5.60m							
10									

DRILLER'S NOTES:

1. Moved hole due to utilities.

GEOLOGISTS REPORT:

PROJECT: WATERBURY	PROJECT NO.: BRO 1446 (26)
DESIGN FILE NAME: zj280borings.dgn	
IPARM FILE NAME:	PLOT DATE: 01/26/2004
SURVEYED BY:	SURVEY DATE:
SQUAD LEADER: C.C. BENDA	DRAWN BY: J. TOUCHETTE
DATE: 09/01	SHEET: 34 OF 63

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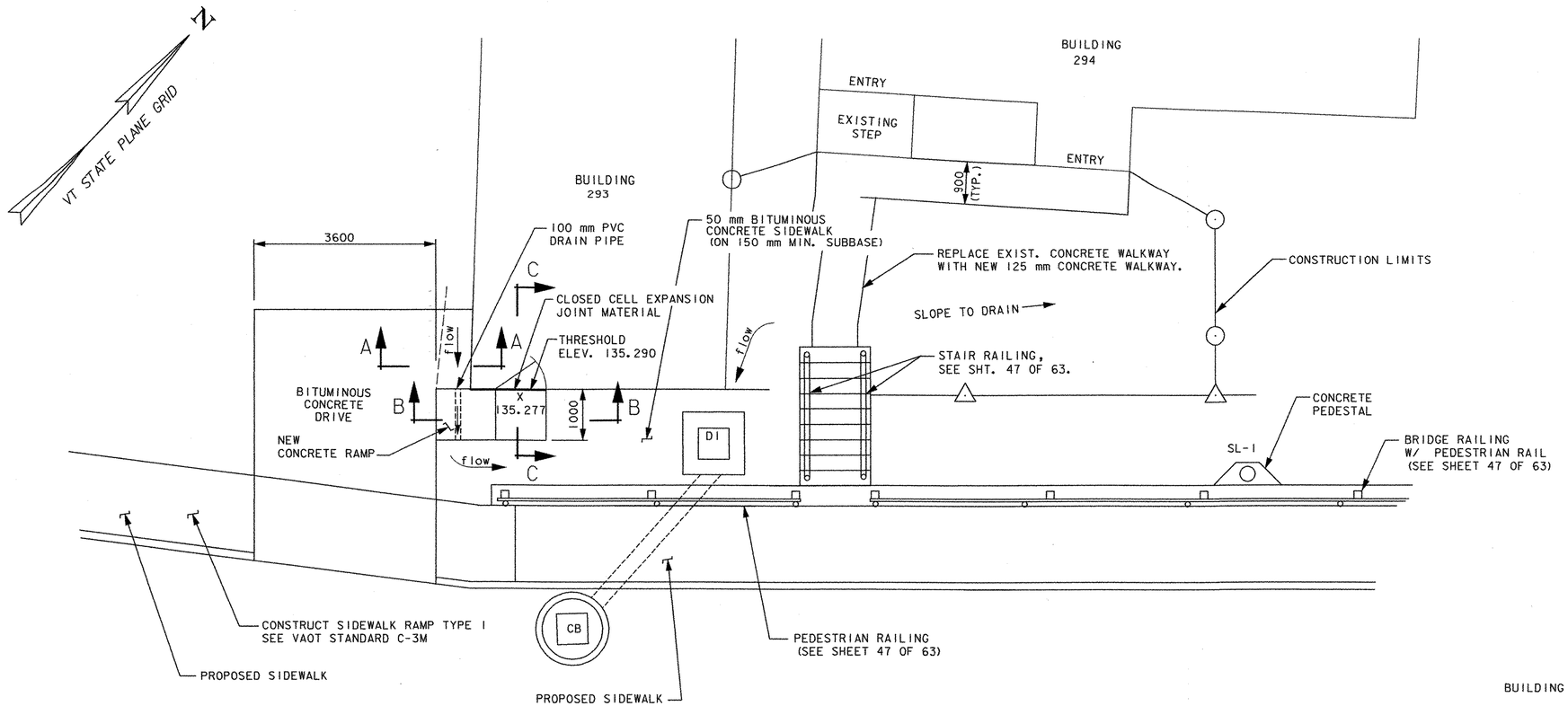
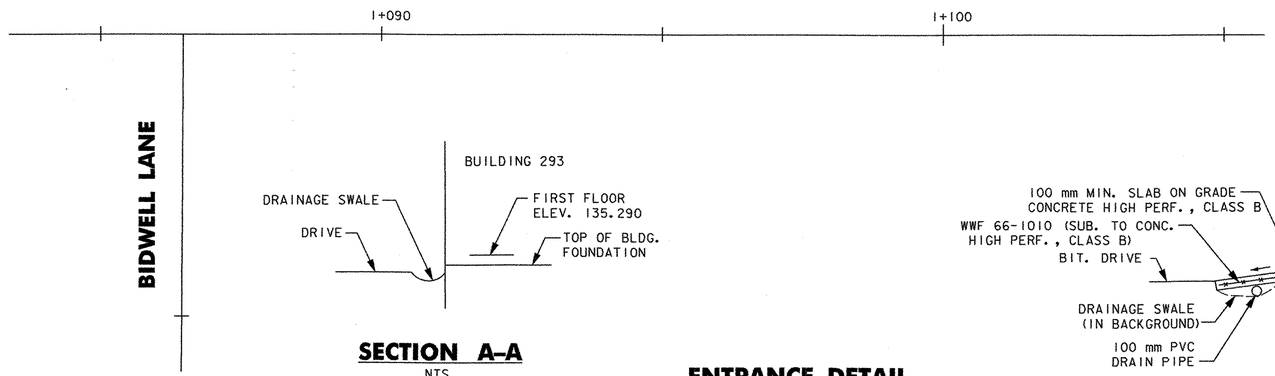
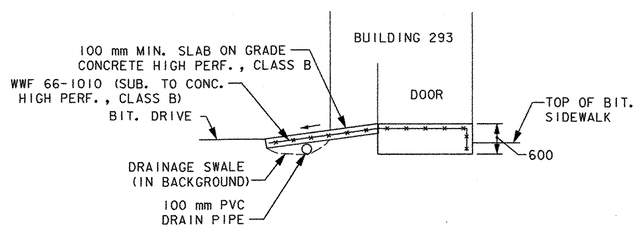
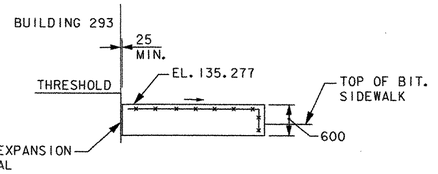




SECTION A-A
NTS



SECTION B-B
NTS



SECTION C-C
NTS

ENTRANCE DETAIL TO BUILDINGS #293 & #294

NOT TO SCALE

PROJECT NAME:	WATERBURY
PROJECT NUMBER:	BRO 1446(26)
FILE NAME: ...\35-entrance detail.ptf	PLOT DATE: 01/26/2004
PROJECT LEADER: G EDWARDS/R GINGRAS	DRAWN BY: M. MEILLEUR
DESIGNED BY: M. MEILLEUR	CHECKED BY: R. GINGRAS
ENTRANCE DETAIL TO HOUSES #293 & #294	SHEET 35 OF 63

Dufresne-Henry

\35-entrance detail.plt 01/26/2004 08:18:26 AM

VT STATE PLANE GRID

HOUSE 294

AT&T FIBER OPTIC CABLE

SPRINT FIBER OPTIC CABLE

HOUSE 207

REMOVAL OF STRUCTURE SHALL INCLUDE REMOVING THE SUPERSTRUCTURE AND ALL PORTIONS OF THE ABUTMENTS AND WINGWALLS NOT REMOVED UNDER STRUCTURE EXCAVATION.

EXISTING CONCRETE BLOCK WALL (TO BE REMOVED TO 1'-0" BELOW FINISHED GRADE UNDER ITEM 529.15 REMOVAL OF STRUCTURE (MOD.)

NEW CONCRETE STAIR

STOP ROADWAY BEGIN BRIDGE STA. 1+113.650

END BRIDGE RESUME ROADWAY STA. 1+125.680

WINGWALL NO.1

WINGWALL NO.3

NEW SIDEWALK

FACE OF BRIDGE RAIL (TYP.)

NEW SIDEWALK

1.650 m

4.3m TO FACE OF CURB

FACE OF FRAME LEG NO.1 STA. 1+114.500 F.G. = 137.447

FACE OF FRAME LEG NO.2 STA. 1+124.830 F.G. = 137.560

90° (TYP.)

1+100

STOWE STREET

1+120

1+140

BEGIN APPROACH SLAB NO.1 STA. 1+107.650

END APPROACH SLAB NO.2 STA. 1+131.680

4.3m TO FACE OF CURB

1.650 m

WINGWALL NO.2

NEW SIDEWALK

NEW SIDEWALK

WINGWALL NO.4

WOOD WALL

℄ RIGHT RAIL OF RAILROAD TRACK STA. RR 10+326.005 =

℄ STOWE STREET STA. 1+119.633

BUILDING 295

POINT OF MINIMUM VERTICAL CLEARANCE (6.350 m PROVIDED)

HOUSE 205

WOOD FENCE

PLAN

NEW STEEL PEDESTRIAN RAILING (COST SUBSIDIARY TO BRIDGE RAIL)

MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALL

BRIDGE RAILING - 2 RAIL GALVANIZED BOX BEAM

CAST-IN-PLACE CONCRETE COPING

APPROX. EXISTING GRADE

APPROXIMATE FINISHED GRADE AT FACE OF WALL (TYP.)

135

130

6.300 m H

5.480 m W

REQUIRED CLEARANCE BOX *

6.350 m VERTICAL CLEARANCE PROVIDED

300 mm WIDE X 150 mm HIGH UNREINFORCED CONCRETE LEVELING PAD (TYP.)

EL. 128.900

EXIST. WOOD WALL (IN FOREGROUND)

EL. 128.900

1 4

1 4

* FINAL CLEARANCE BOX SHOWN FOR CONSTRUCTION CLEARANCE BOX SEE SHEET 38 OF 63.

BEDROCK EL. 101.86 AT B-04

BEDROCK EL. 98.62 AT B-05

ELEVATION

0 2 4 6 8 10

SCALE 1:100

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of WATERBURY	Bridge No. 35
Highway No.	Log Sta. / Surv. Sta.

STOWE ST. BRIDGE OVER CENTRAL VERMONT RAILROAD

PLAN AND ELEVATION

Designed By R. GINGRAS	Drawn By A. THIBAULT
Checked By G. BOGUE Date 3/03	Bridge Design Supervisor Date
PROJECT STOWE STREET	PROJECT NO. BRO 1446(26)
DH CAD Filenames: ...\36_ssb_planelev.dgn	Plot Date: 01/26/2004
Bridge Sheet No. BRI00	Sheet 36 of 63

Dufresne-Henry

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Metric

PROJECT NOTES

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 2002, AND ITS LATEST REVISIONS.

2. THE FOLLOWING TABLE OF ALLOWABLE STRESSES AND WEIGHTS APPLY TO THESE PLANS FOR DESIGN PURPOSES:

   CONCRETE, HIGH PERFORMANCE CLASS A: f'c = 30 MPa fc = 12 MPa

   CONCRETE, HIGH PERFORMANCE CLASS B: f'c = 25 MPa fc = 10 MPa

   REINFORCING STEEL: fy = 420 MPa GRADE 420

3. BRIDGE IS DESIGNED FOR MS 22.5 LIVE LOAD WITH NO ALLOWANCE FOR FUTURE PAVEMENT.

4. NO TRAFFIC SHALL BE ALLOWED ON THE NEW DECK UNTIL THE CURE PERIOD IS UP AND THE 28 DAY DESIGN STRENGTH IS ATTAINED, AS EVIDENCED BY TEST CYLINDERS CURED UNDER FIELD CONDITIONS.

5. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 20 DEGREES CELSIUS, UNLESS OTHERWISE NOTED.

6. REGRADING OF PARKING LOT AT PARCEL No. 207 SHALL BE PAID FOR UNDER ITEM 608.15 POWER GRADER RENTAL.

EARTHWORK AND RELATED ITEMS

7. BACKFILLING BEHIND FRAME LEGS ABOVE THE LEVEL OF THE FILL IN FRONT OF THE LEGS SHALL NOT BEGIN UNTIL THE DECK IS CONSTRUCTED AND THE DECK CONCRETE HAS REACHED ITS 28 DAY DESIGN STRENGTH. BACKFILL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR MSE WALLS. THE DIFFERENCE IN ELEVATION OF FILL BEHIND FRAME LEG 1 AND FRAME LEG 2 AT ANY TIME DURING BACKFILLING OPERATIONS SHALL NOT EXCEED 600 MILLIMETERS

STEEL PILES

8. PILES SHALL BE HP310x79 AASHTO M270/M270M, GRADE 250 (GRADE 36). THE ESTIMATED LENGTH OF EACH PILE AT FRAME LEG NO.1 IS 28 METERS. AT FRAME LEG NO.2 IS 31 METERS, INCLUDING THE 300 MILLIMETERS EMBEDMENT IN THE CONCRETE PILE CAP. NO SUBSTITUTIONS FOR THE NUMBER, SIZE AND GRADE OF THE PILES WILL BE ALLOWED.

9. THE DRIVING POINT OF ALL PILES SHALL BE REINFORCED. POINT REINFORCEMENT SHALL BE CAST STEEL AND SHALL CONFORM TO SUBSECTIONS 505.04 (E) AND 730.01 OF THE STANDARD SPECIFICATIONS.

10. THE PILES SHALL BE DRIVEN TO REFUSAL WITH AN ULTIMATE AXIAL CAPACITY OF 1860 KILONEWTONS AS DIRECTED BY THE RESIDENT ENGINEER.

11. TO ENSURE THAT THE ULTIMATE AXIAL CAPACITY HAS BEEN ATTAINED AND TO PREVENT THE OVERSTRESSING OF THE PILES DURING DRIVING OPERATIONS, DYNAMIC MONITORING SHALL BE PERFORMED FOR THE FIRST PILE AT EACH FRAME LEG. THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SUBSECTION 505.04 (C)-2 OF THE STANDARD SPECIFICATIONS. PAYMENT FOR PILE TESTING SHALL BE MADE UNDER ITEM 505.45, "DYNAMIC PILE LOADING TEST".

12. PILE HEAD CUT-OFF ELEVATION SHALL BE WITHIN 60 MILLIMETERS OF THE ELEVATION DETAILED IN THE PLANS. AT THE CUT-OFF ELEVATION, THE PILE SHALL BE FREE FROM DRIVING DAMAGE AS DETERMINED BY THE RESIDENT ENGINEER.

CONCRETE AND REINFORCING STEEL

13. ALL CONCRETE IN THE RIGID FRAME DECK, APPROACH SLABS, AND SIDEWALKS, SHALL BE HIGH PERFORMANCE CONCRETE, CLASS A, AND SHALL BE PAID FOR UNDER ITEM 501.33, "CONCRETE, HIGH PERFORMANCE CLASS A". ALL CONCRETE IN THE FRAME LEGS, WINGWALL COPINGS, AND FOOTINGS SHALL BE HIGH PERFORMANCE CONCRETE, CLASS B, AND SHALL BE PAID FOR UNDER ITEM 501.34, "CONCRETE, HIGH PERFORMANCE CLASS B."

14. FALSEWORK SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF VERMONT. DESIGN CALCULATIONS AND FABRICATION DRAWINGS FOR THE FALSEWORK SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL IN ACCORDANCE WITH SECTION 105.03 OF THE STANDARD SPECIFICATIONS PRIOR TO CONSTRUCTION (COST SUBSIDIARY TO CONCRETE, HIGH PERFORMANCE CLASS A). ALL FORM WORK AND CONSTRUCTION ACTIVITIES MUST BE OUTSIDE THE CLEARANCE BOX SHOWN ON SHEET 38.

15. THE DECK SHALL BE PLACED IN ONE CONTINUOUS POUR WITH A MAXIMUM DURATION OF EIGHT HOURS.

16. WATER REPELLENT SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF DECK BETWEEN DRIP NOTCHES.

17. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 25 mm x 25 mm.

18. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.

19. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT. ANY UPWARD KEY SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.

20. ALL REINFORCING STEEL SHALL BE EPOXY COATED AND PAID FOR UNDER ITEM 507.17, "EPOXY COATED REINFORCING STEEL". WHEN EPOXY COATED REINFORCING STEEL IS TO BE CUT, THE UNCOATED ENDS SHALL BE REPAIRED WITH MATERIALS AND PROCEDURES APPROVED BY THE COATING MANUFACTURER. FLAME CUTTING OF EPOXY COATED REINFORCING STEEL WILL NOT BE PERMITTED.

21. MINIMUM COVER FOR REINFORCING STEEL SHALL BE AS INDICATED ON THE PLANS.

22. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI).

   REINFORCING PLACEMENT TOLERANCES SHALL BE:
   SPACING +-25 mm
   CLEARANCE +-6 mm

TRAFFIC CONTROL

23. ACCESS TO ALL DRIVES SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.

24. RAILROAD IS TO REMAIN OPEN AND ACTIVE THROUGHOUT CONSTRUCTION.

25. TOWN HIGHWAY 2 (STOWE ST.) IS TO BE CLOSED TO THRU TRAFFIC DURING CONSTRUCTION.

26. THE CONTRACTOR SHALL NOTIFY THE TOWN A MINIMUM OF TWO (2) WEEKS PRIOR TO CLOSING THE ROAD.

27. THE REMOVAL AND/OR RESETTING OF TEMPORARY TRAFFIC SIGNS, AS DEEMED NECESSARY BY THE RESIDENT ENGINEER, WILL BE CONSIDERED SUBSIDIARY TO 641.10, TRAFFIC CONTROL.

MECHANICALLY STABILIZED EARTH (MSE) WALLS

28. 450 mm WIDE STRIPS OF FILTER FABRIC, MEETING VAOT STANDARD SPECIFICATION 720 FOR GEOTEXTILE UNDER FOR UNDERGROUND TRENCH LINING, SHALL BE PLACED ON BACK FACE OF PANEL OVER PANEL JOINTS. FILTER CLOTH SHALL BE ADHERED TO BACK FACE OF PANELS USING AN ADHESIVE COMPOUND SUPPLIED BY THE MANUFACTURER AND APPROVED BY THE PROJECT MANAGER. THE CONTRACTOR SHALL PROVIDE THE RESIDENT ENGINEER WITH THE MANUFACTURER'S TECHNICAL DATA SHEET AND APPLICATION INSTRUCTIONS FOR THE ADHESIVE COMPOUND.

29. WALL DESIGN

FINAL DRAWINGS SHOWING PROPOSED PANEL SIZE, THE REQUIRED NUMBER OF REINFORCEMENT ELEMENTS PER PANEL, THE REINFORCEMENT ELEMENT LENGTHS, REINFORCEMENT ELEMENT LAYOUT, CONCRETE PANEL REINFORCEMENT DETAILS, PANEL TIE-IN DETAILS WITH COPING AND LEVELING PAD SHALL ALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE PROJECT MANAGER FOR APPROVAL. ALL MATERIALS WITHIN THE MECHANICALLY STABILIZED EARTH (MSE) VOLUME, METHODS OF CONSTRUCTION, AND THE QUALITY OF PREFABRICATED MATERIALS SHALL MEET THE REQUIREMENTS OF THE SPECIAL PROVISIONS FOR THIS PROJECT.

30. DESIGN CRITERIA:

Foundation Soil

Allowable Bearing Capacity: 180 kPa
Density: 17.3 KN/m3
Friction angle, ϕ = 30°
Cohesion, c = 0

Retained Soil

Density: 20 KN/m3
Friction angle, ϕ = 32°
Cohesion, c = 0

Select Backfill (Backfill used in the reinforced zone)

Density: 22 KN/m3
Friction angle, ϕ = 34°
Cohesion, c = 0

MSE WALL LOADS:

HORIZONTAL BRIDGE RAILING LOADS: 45 KN/m @ 850 ABOVE PAVEMENT SURFACE

VERTICAL LIVE LOAD SURCHARGE: 13.4 kPa

31. ANY UNSUITABLE FOUNDATION MATERIAL BELOW THE MSE VOLUME, AS DETERMINED BY THE ENGINEER, SHALL BE EXCAVATED AND REPLACED WITH GRANULAR BORROW OR OTHERWISE STABILIZED AS DIRECTED BY THE ENGINEER.

WALL CONSTRUCTION

32. BACKFILL MATERIAL SHALL BE COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR MSE WALLS TO A LEVEL OF THE CENTER OF REINFORCEMENT ELEMENT CONNECTIONS +/- 50. INSTALLATION OF REINFORCING ELEMENTS SHALL BE PERMITTED ONLY AFTER PLACEMENT AND COMPACTION OF THE BACKFILL MATERIAL HAS REACHED THE REQUIRED LEVEL.

33. BACKFILL COMPACTION AND EQUIPMENT OPERATION SHALL BE KEPT TO A MINIMUM FOR A DISTANCE OF 1 METER FROM THE BACK FACE OF THE MSE PANELS. COMPACTION WITHIN 1 METER OF THE PANELS SHALL BE ACHIEVED WITH A MINIMUM OF THREE PASSES OF A LIGHTWEIGHT MECHANICAL TAMPER, ROLLER OR VIBRATORY SYSTEM.

34. THE CONTRACTOR SHALL ACCOMMODATE ANY PIPES, GEOMEMBRANE LINER, DRAINAGE STRUCTURES, FOUNDATIONS AND ANY OTHER SUCH APPURTENANCES THAT ARE WITHIN THE DESIGNED MSE VOLUME.

35. THE CONTRACTOR IS RESPONSIBLE FOR GRADUALLY DEFLECTING UPPER REINFORCING ELEMENTS DOWNWARD TO AVOID CONFLICTS WITH APPROACH SLABS AND/OR BASE SLAB SUBGRADE PREPARATION.

36. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING THE STORM WATER DRAINAGE IN THE VICINITY OF THE WALL DURING CONSTRUCTION. STORM WATER RUNOFF IS TO BE COLLECTED AND DISCHARGED AWAY FROM THE WALL AND THE REINFORCED BACKFILL.

37. THE REQUIRED HORIZONTAL LIMIT OF SELECT GRANULAR BACKFILL SHALL EXCEED THE NOMINAL REINFORCEMENT ELEMENT LENGTH BY 300.

MATERIAL NOTES

38. SELECT GRANULAR BACKFILL QUANTITY SHALL BE CALCULATED FOR BIDDING AND PAYMENT PURPOSES BY MULTIPLYING THE NOMINAL REINFORCEMENT LENGTH (PLUS 300) BY THE TRIBUTARY WALL SURFACE AREA AND CONVERTING THE RESULT TO A NEAT LINE CUBIC METER QUANTITY.

39. THE PRECAST PANELS FOR THIS PROJECT SHALL HAVE AN ASHLAR STONE PATTERN APPROVED BY THE PROJECT MANAGER.

40. CONCRETE FOR BOTH THE CAST-IN-PLACE COPING AND THE LEVELING PAD SHALL BE CONCRETE, HIGH PERFORMANCE CLASS B. CONCRETE FOR THE COPING SHALL BE PAID FOR UNDER THE ITEM 501.34 "CONCRETE, HIGH PERFORMANCE CLASS B". REINFORCEMENT IN THE COPING SHALL BE PAID FOR UNDER THE ITEM 507.17 "EPOXY COATED REINFORCING STEEL". THE COST OF MATERIALS AND INSTALLATION OF THE LEVELING PADS SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 526.30, "MECHANICALLY STABILIZED EARTH (MSE) WALL".

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STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of WATERBURY	Bridge No. 35
Highway No.	Log Sta. / Surv. Sta.

STOWE ST. BRIDGE OVER CENTRAL VERMONT RAILROAD

PROJECT NOTES

Designed By R. GINGRAS	Drawn By A. THIBAULT
Checked By G. BOGUE Date 3/03	Bridge Design Supervisor Date
PROJECT STOWE STREET	PROJECT NO. BRO 1446(26)
DH CAD Filename: ...\37_SSB_ProjNotes.dgn Plot Date: 01/27/2004	
Bridge Sheet No. BRI01	Sheet 37 of 63

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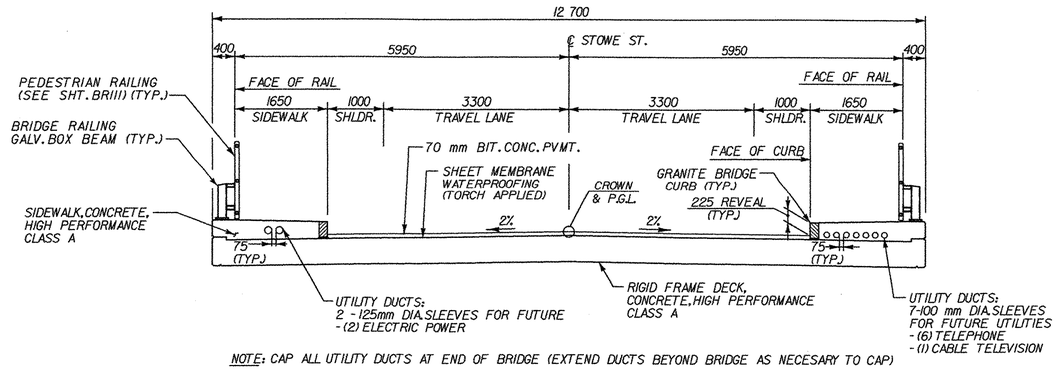
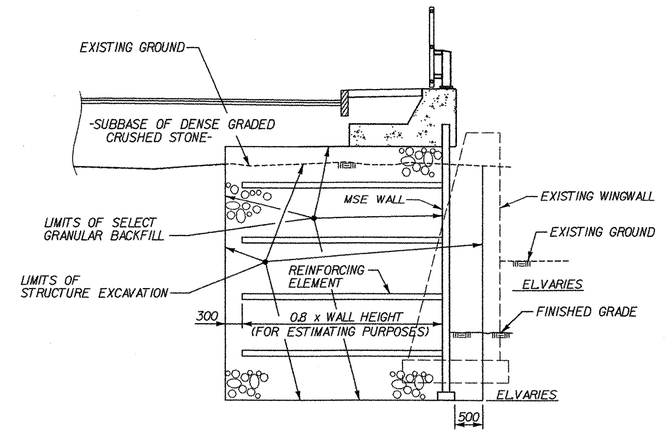


NOTE: CAP ALL UTILITY DUCTS AT END OF BRIDGE (EXTEND DUCTS BEYOND BRIDGE AS NECESARY TO CAP)

TYPICAL BRIDGE SECTION

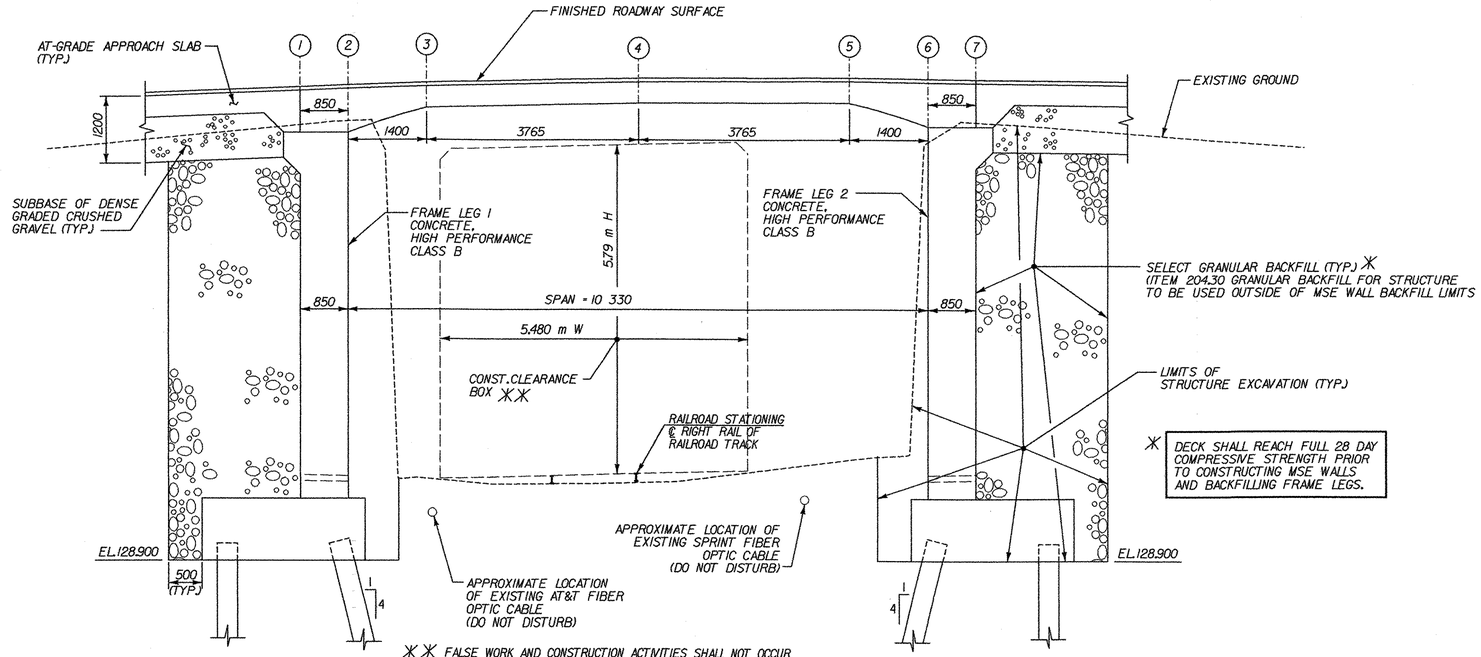
SCALE 1:50



PORTIONS OF THE EXISTING WINGWALLS NOT REMOVED UNDER STRUCTURE EXCAVATION SHALL BE REMOVED UNDER ITEM 529.15 ,REMOVAL OF STRUCTURE (MOD).

TYPICAL WINGWALL EARTHWORK SECTION

SCALE 1:50



✳✳ FALSE WORK AND CONSTRUCTION ACTIVITIES SHALL NOT OCCUR WITHIN THE CONSTRUCTION CLEARANCE BOX. FOR FINAL CLEARANCE BOX SEE SHEET 36 OF 63.

TYPICAL FRAME SECTION

SCALE 1:50

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
STATION	1+13.650	1+14.500	1+15.900	1+19.665	1+23.430	1+24.830	1+25.680
CONCRETE DECK THICKNESS (m)	0.746	0.780	0.380	0.380	0.380	0.780	0.765
BOTTOM OF CONCRETE ELEVATION AT BRIDGE FASCIA (m) ✝	136.470	136.470	136.916	136.993	136.999	136.583	136.583
BOTTOM OF CONCRETE ELEVATION AT ℄ STOWE ST. (m) ✝	136.597	136.597	137.043	137.120	137.126	136.710	136.710

✝ ELEVATIONS SHOWN ARE FINAL ELEVATIONS. FORMWORK ELEVATIONS SHOULD BE ADJUSTED TO ACCOUNT FOR DEAD LOAD DEFLECTION OF FORMS.

STATE OF VERMONT
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Town Of WATERBURY	Bridge No. 35
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STOWE ST. BRIDGE OVER CENTRAL VERMONT RAILROAD

FRAME AND WINGWALL EARTHWORK SECTIONS

Designed By R. GINGRAS	Drawn By A. THIBAULT
Checked By G. BOGUE Date 3/03	Bridge Design Supervisor Date
PROJECT STOWE STREET	PROJECT NO. BRO 1446(26)
DH CAD Filename: ...\38_ssb_earthwksxs.dgn	Plot Date: 01/26/2004
Bridge Sheet No. BRI02	Sheet 38 of 63

Dufresne-Henry

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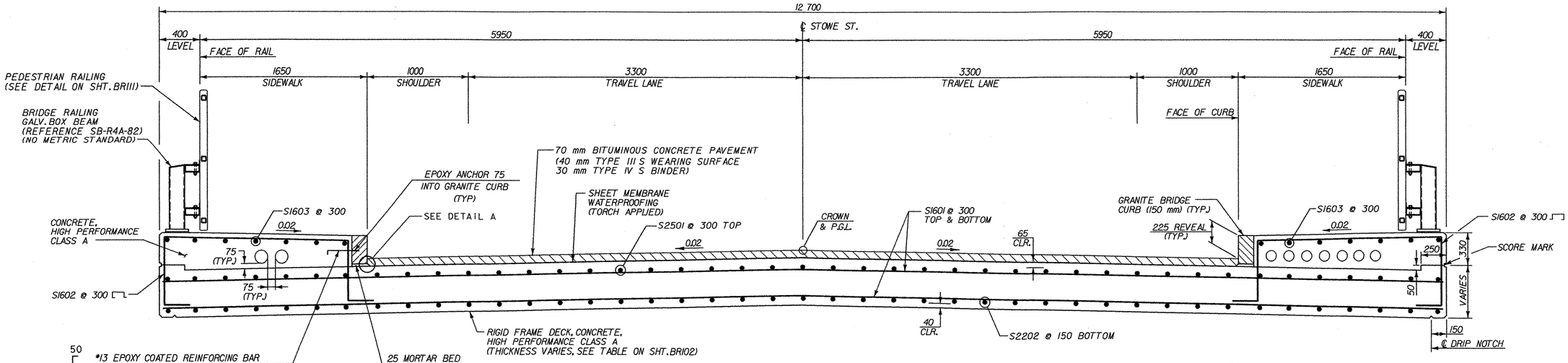
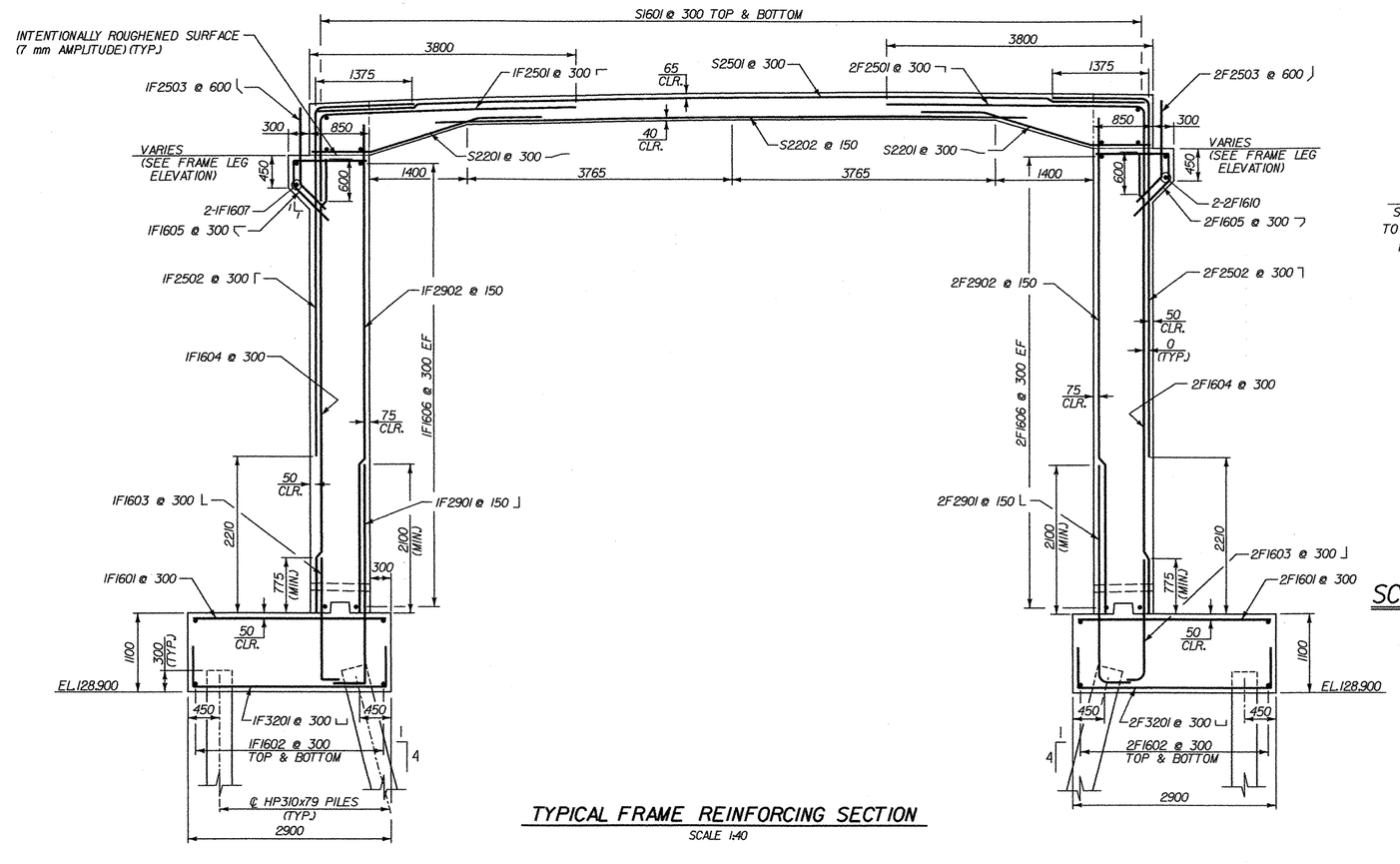
Metric



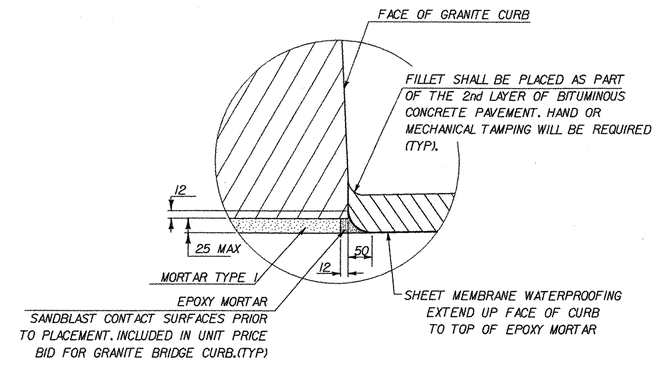
TYPICAL BRIDGE SECTION

SCALE 1:20



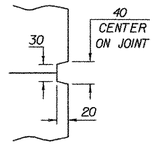
TYPICAL FRAME REINFORCING SECTION

SCALE 1:40



DETAIL A

SCALE N.T.S.



SCORE MARK DETAIL

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
75 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

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STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of WATERBURY	Bridge No. 35
Highway No.	Log Sta. / Surv. Sta.

STOWE ST. BRIDGE OVER CENTRAL VERMONT RAILROAD

TYPICAL DECK AND FRAME LEG SECTIONS

Designed By T. KNIGHT	Drawn By A. THIBAULT
Checked By T. KNIGHT Date 3/03	Bridge Design Supervisor Date
PROJECT STOWE STREET	PROJECT NO. BRO 1446(26)
DH CAD Filename: ...\39_SSB_TypSects.dgn	Plot Date: 01/27/2004
Bridge Sheet No. BRI03	Sheet 39 of 63

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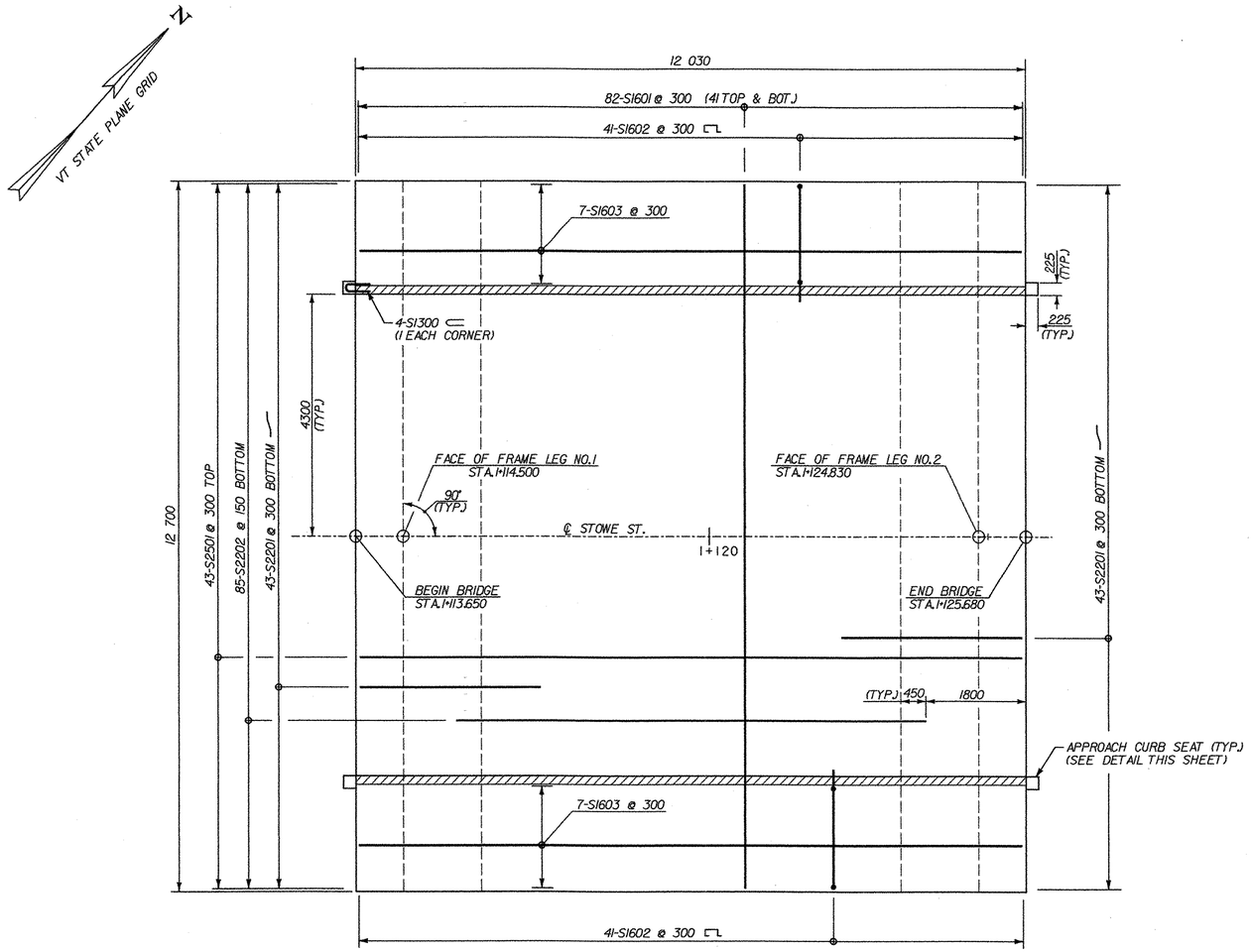
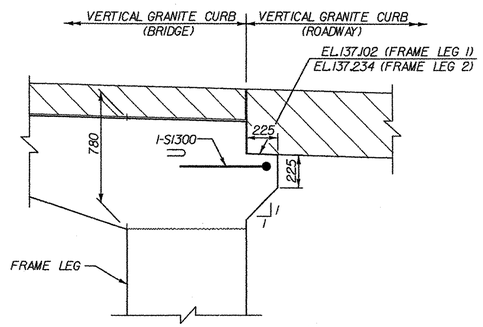


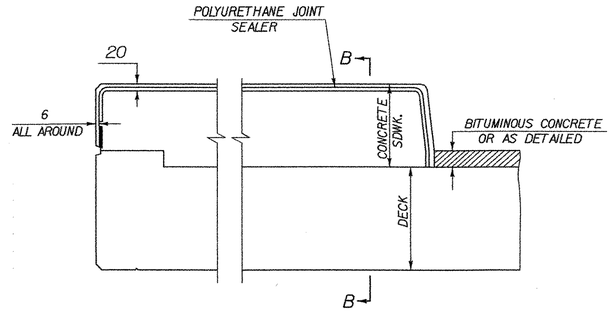
RIGID FRAME DECK REINFORCING PLAN

SCALE 1:50

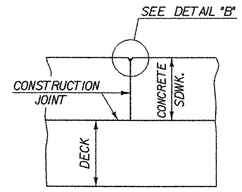


APPROACH CURB SEAT DETAIL

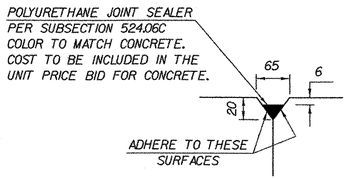
SCALE 1:20



TYPICAL SECTION THROUGH CONCRETE SIDEWALK CONSTRUCTION JOINT



SECTION B - B



DETAIL "B"

NOTES:

1. CONSTRUCTION JOINTS THROUGH CONCRETE SIDEWALK SHALL BE SPACED MAXIMUM 4500 CENTER TO CENTER AND SHALL BE 450 MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. CONCRETE SHALL BE PLACED IN ALTERNATING SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT POURS.
2. LONGITUDINAL REINFORCING SHALL PASS THROUGH CONCRETE CURB CONSTRUCTION JOINTS.
3. JOINTS IN GRANITE CURB SHALL BE LOCATED IN LINE WITH CONSTRUCTION JOINTS IN SIDEWALK.

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STOWE ST. BRIDGE OVER CENTRAL VERMONT RAILROAD

DECK PLAN

Designed By R. GINGRAS	Drawn By A. THIBAULT
Checked By T. KNIGHT Date 3/03	Bridge Design Supervisor Date
PROJECT STOWE STREET	PROJECT NO. BRO 1446(26)
DH CAD Filename: ...\40_ssb_deck.dgn	Plot Date: 01/26/2004
Bridge Sheet No. BR104	Sheet 40 of 63

Dufresne-Henry

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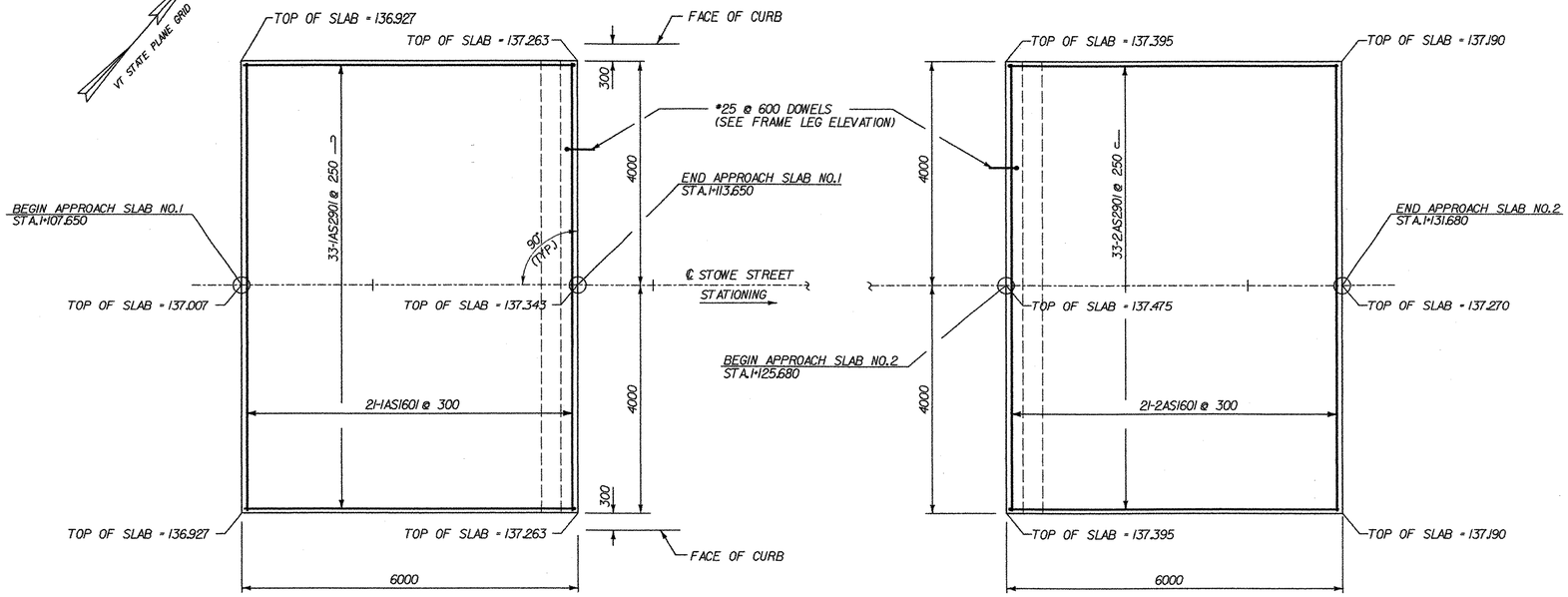
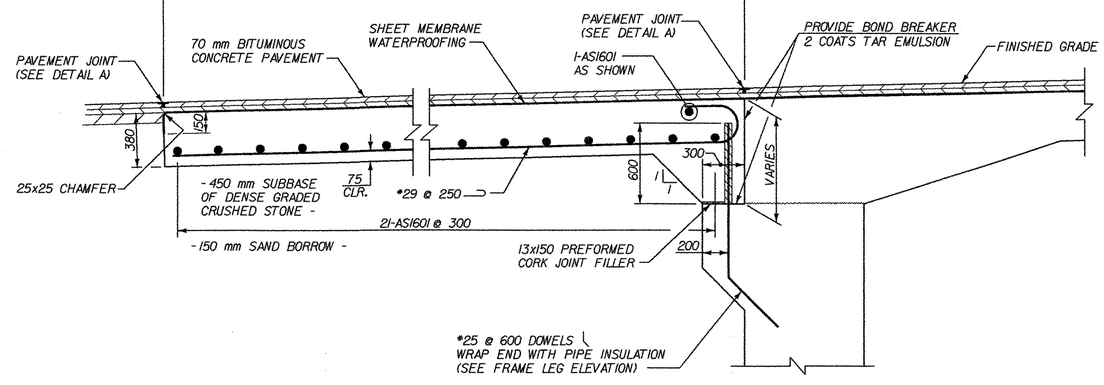
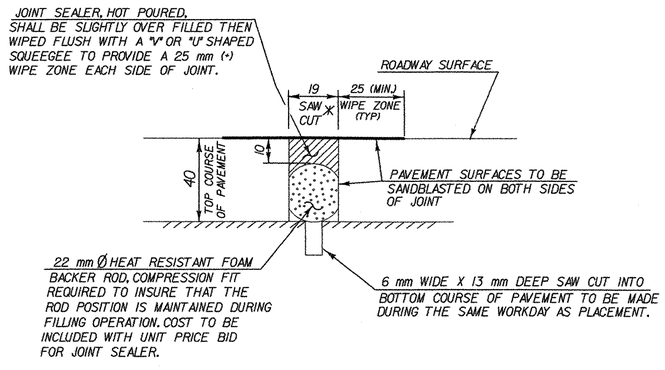
VT STATE PLANE GRID



APPROACH SLAB PLAN
SCALE 1:50



APPROACH SLAB DETAIL
SCALE 1:20



DETAIL "A"

* JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING, OR OTHER MEANS, PRIOR TO PAVING, SO THAT THE SAW CUTS WILL BE MADE DIRECTLY OVER THE END OF APPROACH SLABS. JOINT SHALL BE CUT DRY IN A SINGLE PASS AND BE SEALED WITHIN 24 HOURS OR PRIOR TO EXPOSURE TO TRAFFIC. JOINT SHALL BE CLEANED PRIOR TO APPLYING THE JOINT SEALER. SEE VT. SPECIFICATION 524 AND SPECIAL PROVISIONS.

STATE OF VERMONT
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Town Of WATERBURY	Bridge No. 35
Highway No.	Log Sta. / Surv. Sta.
STOWE ST. BRIDGE OVER CENTRAL VERMONT RAILROAD	
APPROACH SLAB DETAILS	
Designed By R. GINGRAS	Drawn By A. THIBAULT
Checked By T. KNIGHT Date 3/03	Bridge Design Supervisor Date
PROJECT STOWE STREET	PROJECT NO. BRO 1446(26)
DH CAD Filename: ...\4l_ssb_apprslab.dgn	Plot Date: 01/26/2004
Bridge Sheet No. BRI05	Sheet 41 of 63

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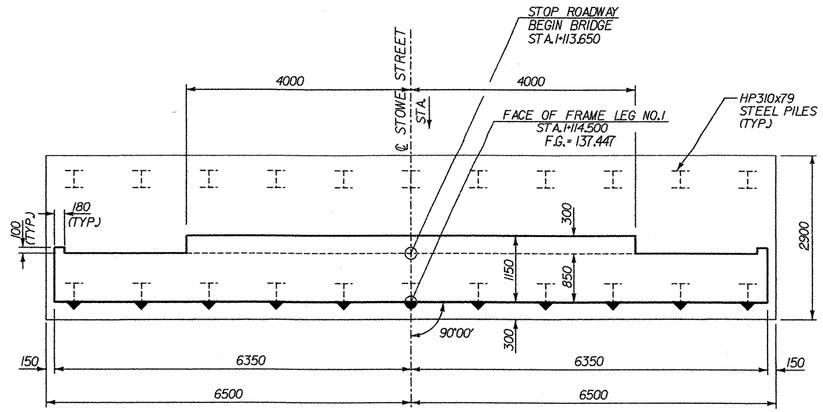
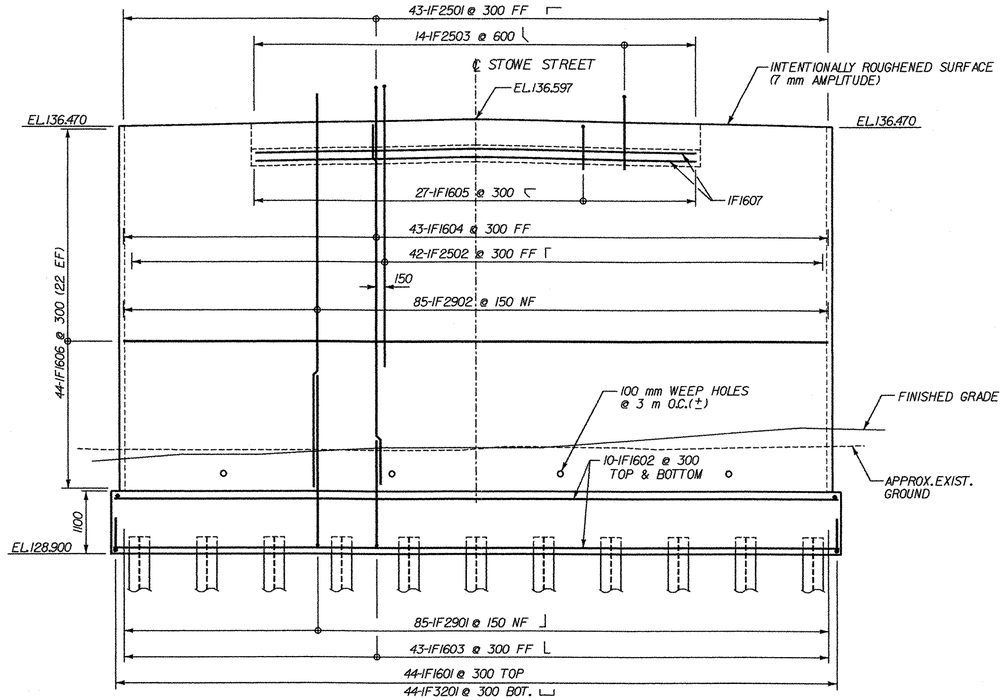
VT STATE PLANE GRID



PLAN
SCALE 1:50



ELEVATION
SCALE 1:50

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
75 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

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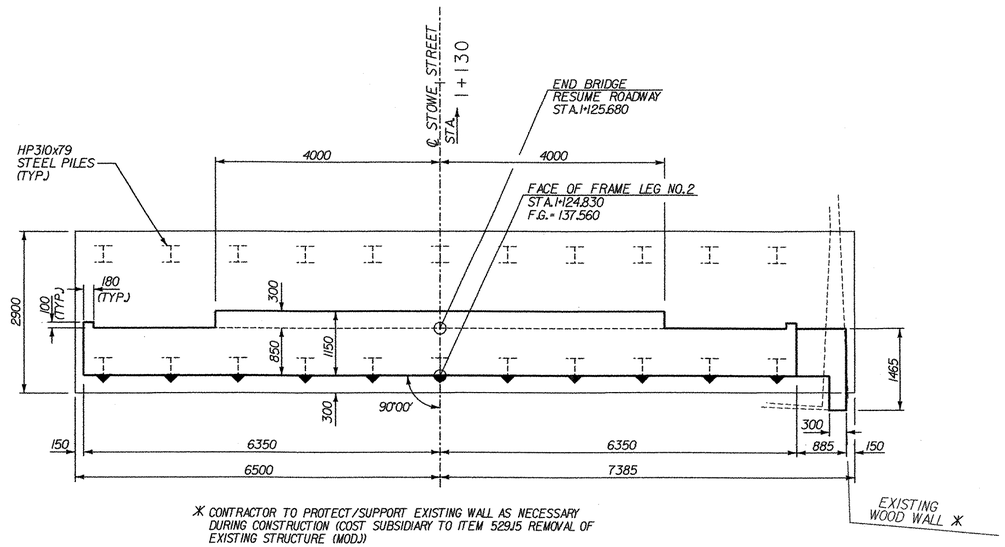
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of WATERBURY	Bridge No. 35
Highway No.	Log Sta. / Surv. Sta.
STOWE ST. BRIDGE OVER CENTRAL VERMONT RAILROAD	
FRAME LEG NO.1 PLAN & ELEVATION	
Designed By T. KNIGHT	Drawn By A. THIBAULT
Checked By G. BOGUE Date 3/03	Bridge Design Supervisor G. BOGUE Date 3/03
PROJECT STOWE STREET	PROJECT NO. BRO 1446(26)
DH CAD Filename: ...\42_ssb_legl.dgn	Plot Date: 01/26/2004
Bridge Sheet No. BRI06	Sheet 42 of 63

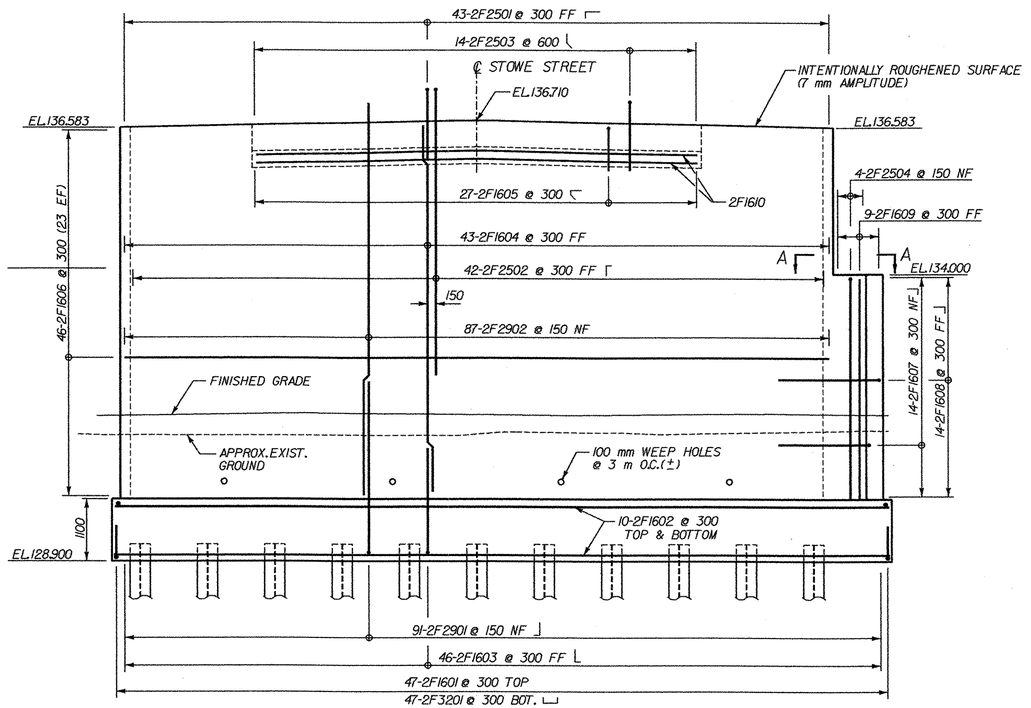
...\Design\42_ssb_legl.dgn 01/26/2004 08:33:01 AM

VT STATE PLANE GRID N

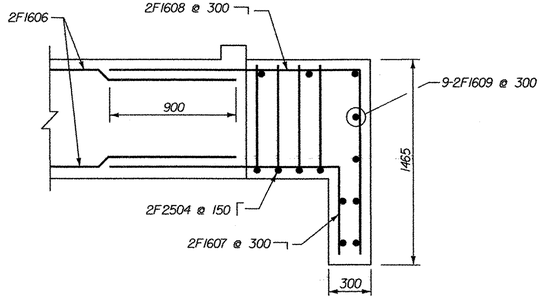


* CONTRACTOR TO PROTECT/SUPPORT EXISTING WALL AS NECESSARY DURING CONSTRUCTION (COST SUBSIDIARY TO ITEM 529.15 REMOVAL OF EXISTING STRUCTURE (MOD.))

PLAN
SCALE 1:50



ELEVATION
SCALE 1:50



SECTION A-A
SCALE 1:20

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
75 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

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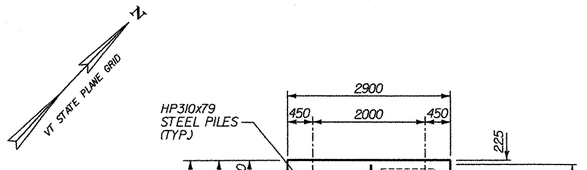
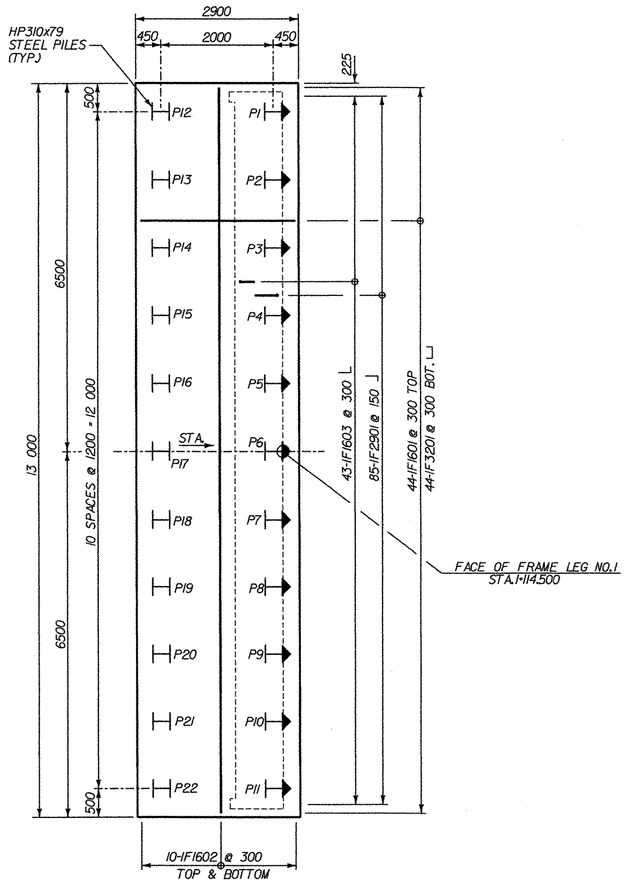
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of WATERBURY	Bridge No. 35
Highway No.	Log Sta. / Surv. Sta.
STOWE ST. BRIDGE OVER CENTRAL VERMONT RAILROAD	
FRAME LEG NO. 2 PLAN & ELEVATION	
Designed By T. KNIGHT	Drawn By A. THIBAULT
Checked By G. BOGUE Date 3/03	Bridge Design Supervisor G. BOGUE Date 3/03
PROJECT STOWE STREET	PROJECT NO. BRO 1446(26)
DH CAD Filename: ...\43_SSB_Leg2.dgn	Plot Date: 01/27/2004
Bridge Sheet No. BR107	Sheet 43 of 63

\Design\43_SSB_Leg2.dgn 01/27/2004 11:25:01 AM

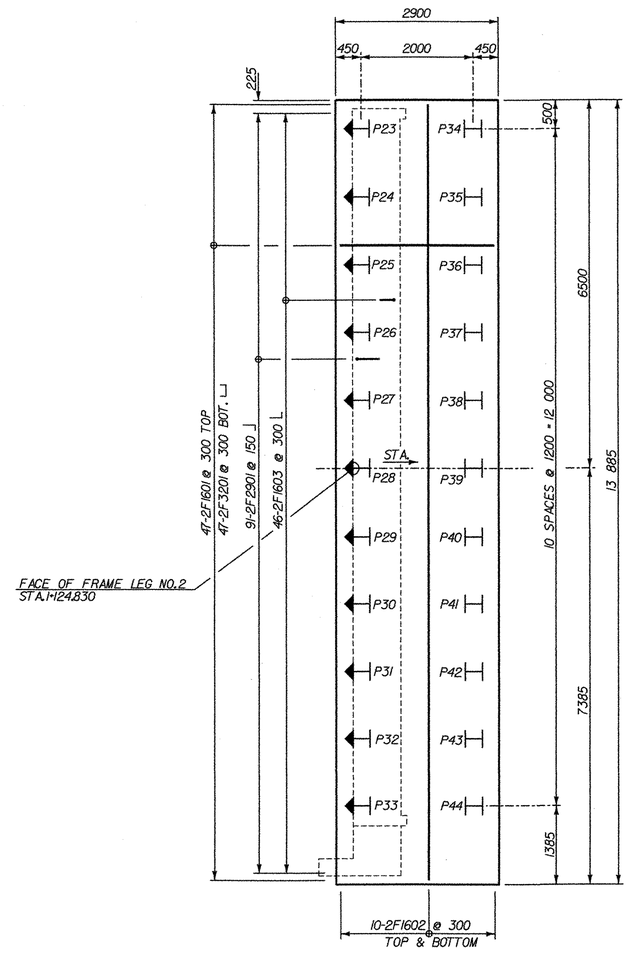




FRAME LEG NO.1 FOOTING REINFORCING PLAN

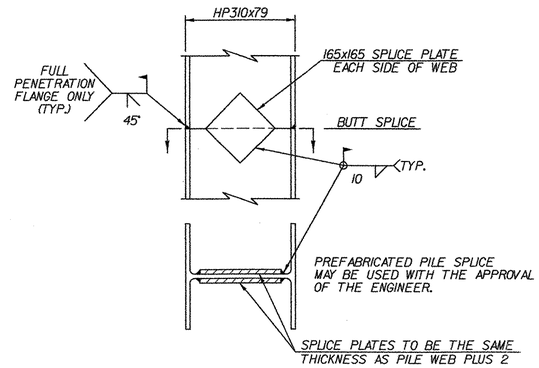
SCALE 1:50

NOTE: SHIFT BOTTOM REINFORCING TO AVOID INTERFERENCE WITH PILES.(TYP.)



FRAME LEG NO.2 FOOTING REINFORCING PLAN

SCALE 1:50



PILE SPLICE DETAIL

NTS

NOTES

1. H - INDICATES LOCATION OF A VERTICAL PILE.
   ↦ - INDICATES LOCATION OF A 4:1 BATTERED PILE.
2. PILE SIZE: HP310x79
3. WELD PROCEDURES TO BE APPROVED BY THE STRUCTURES ENGINEER PRIOR TO WELDING.

NOTE:

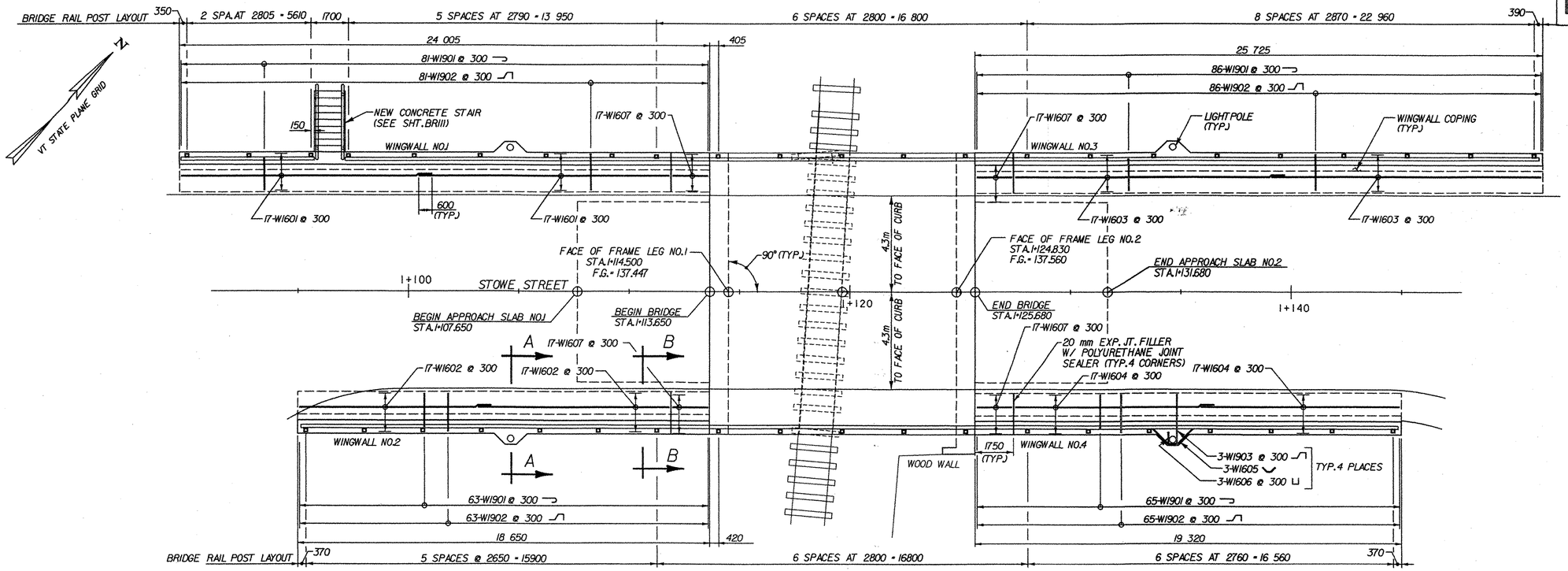
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
75 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

Dufresne-Henry

STATE OF VERMONT
AGENCY OF TRANSPORTATION

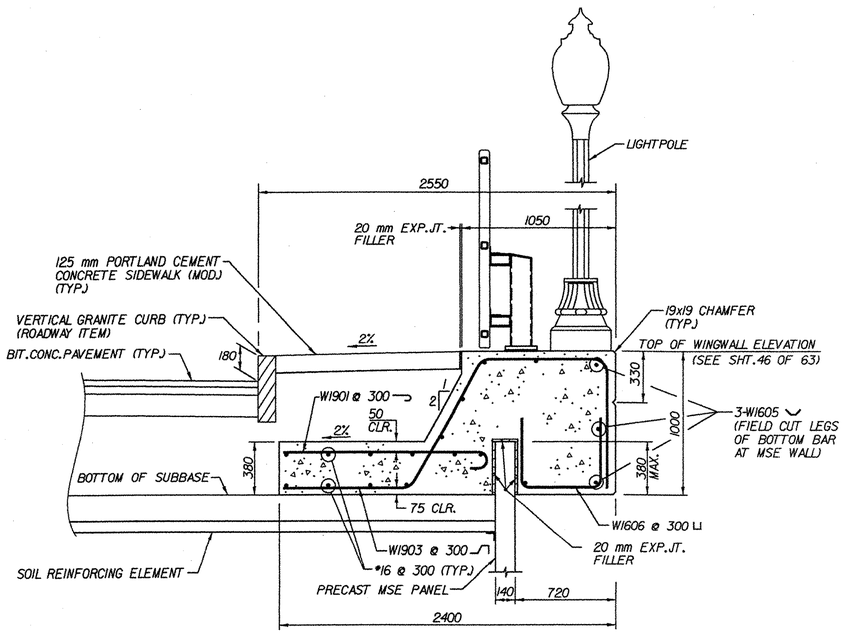
Town Of WATERBURY	Bridge No. 35
Highway No.	Log Sta. / Surv. Sta.
STOWE ST. BRIDGE OVER CENTRAL VERMONT RAILROAD	
FOOTING REINFORCING AND PILE LAYOUT	
Designed By T. KNIGHT	Drawn By A. THIBAULT
Checked By G. BOGUE Date 3/03	Bridge Design Supervisor G. BOGUE Date 3/03
PROJECT STOWE STREET	PROJECT NO. BRO 1446(26)
DH CAD Filename: ...\44_ssb_footing.dgn	Plot Date:01/26/2004
Bridge Sheet No. BRI08	Sheet 44 of 63

...\design\44_ssb_footing.dgn 01/26/2004 08:33:01 AM



PLAN
SCALE 1:100

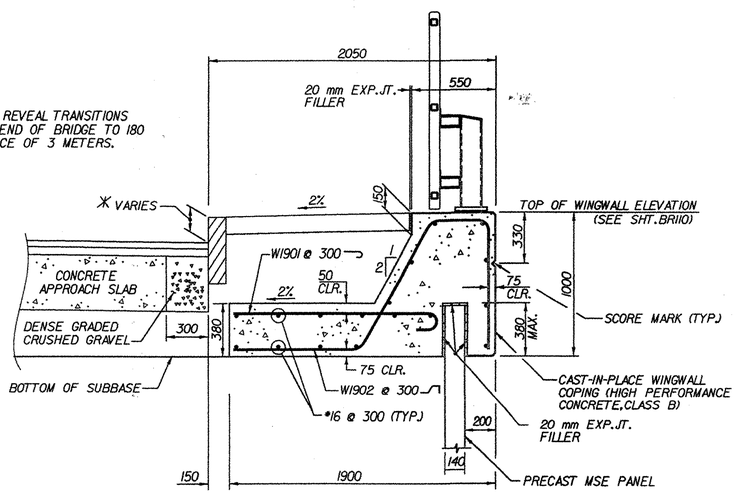
NOTE: PLACE CONSTRUCTION JOINTS IN WINGWALL COPING EVERY 6 m (+/-). LOCATION OF CONSTRUCTION JOINTS SHALL COINCIDE WITH JOINTS IN MSE WALL. JOINT DETAIL TO BE SIMIALR TO SIDEWALK CONSTRUCTION JOINT.



NOTE: ALL REINFORCING SHALL HAVE 50 mm CLR. UNLESS NOTED

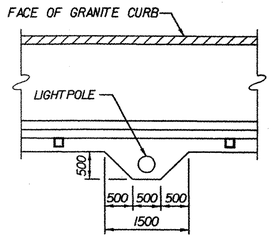
SECTION A-A
SCALE 1:20

* ROADWAY CURB REVEAL TRANSITIONS FROM 225 AT END OF BRIDGE TO 180 OVER A DISTANCE OF 3 METERS.



NOTE: ALL REINFORCING SHALL HAVE 50 mm CLR. UNLESS NOTED

SECTION B-B
SCALE 1:20



PARTIAL SIDEWALK PLAN AT STREET LIGHTPOLE
SCALE 1:50

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of WATERBURY	Bridge No. 35
Highway No.	Log Sta.
	Surv. Sta.

STOWE ST. BRIDGE OVER CENTRAL VERMONT RAILROAD

WINGWALL COPING DETAILS

Designed By R. GINGRAS	Drawn By A. THIBAULT
Checked By T. KNIGHT — Date 3/03	Bridge Design Supervisor G. BOGUE — Date 3/03
PROJECT STOWE STREET	PROJECT NO. BRO 1446(26)
DH CAD Filename: ...\45_SSB_SideWk.dgn	Plot Date: 01/27/2004
Bridge Sheet No. BRIO9	Sheet 45 of 63

Dufresne-Henry

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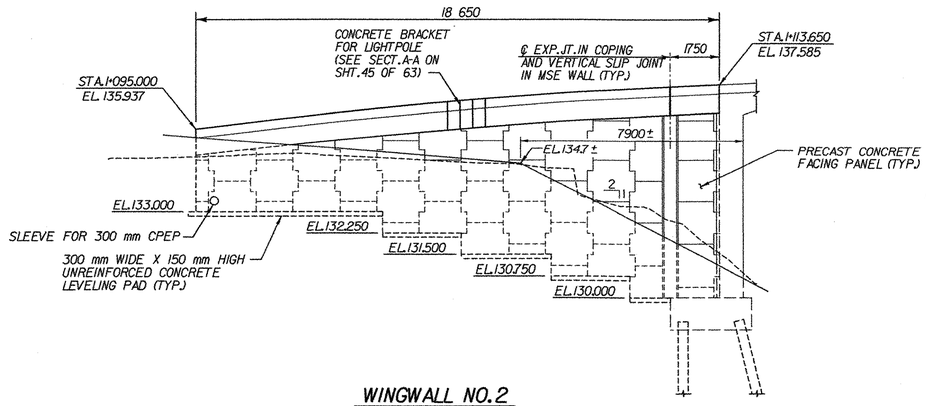
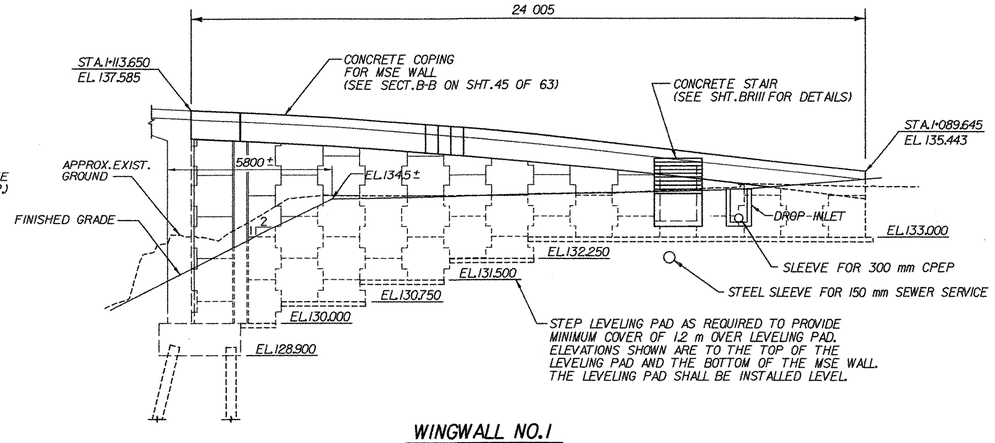


WINGWALL NO.2

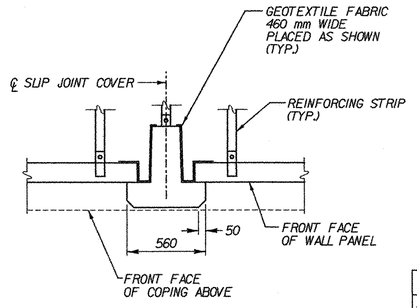


WINGWALL NO.1

FRAME LEG 1 WINGWALL ELEVATIONS

SCALE 1:100

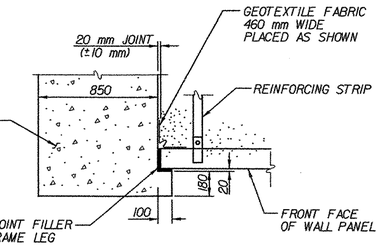
TOP OF WINGWALL COPING ELEVATIONS (FRAME LEG NO.1)										
STATION	1+089.645	1+092.000	1+095.000	1+098.000	1+101.000	1+104.000	1+107.000	1+110.000	1+110.650	1+113.650
ELEVATION (m)	135.443	135.640	135.937	136.286	136.621	136.912	137.157	137.357	137.395	137.585



SLIP JOINT COVER DETAIL

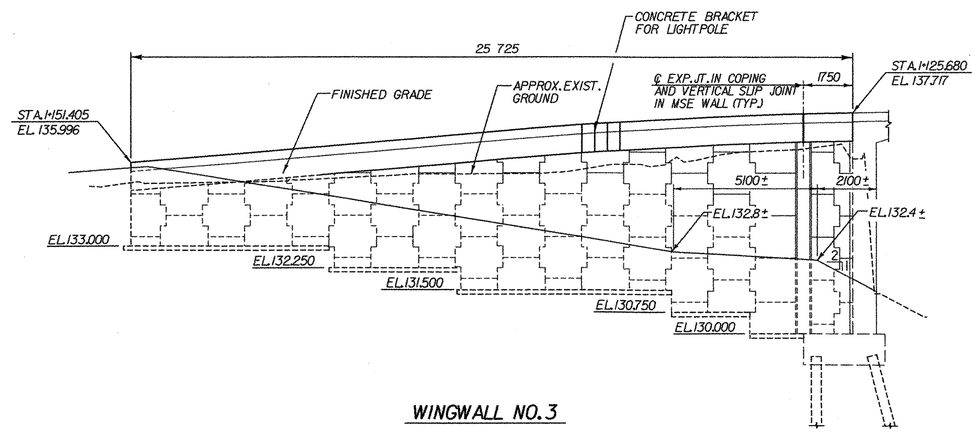
SCALE 1:20

TOP OF WINGWALL COPING ELEVATIONS (FRAME LEG NO.2)												
STATION	1+125.680	1+128.680	1+129.000	1+132.000	1+135.000	1+138.000	1+141.000	1+144.000	1+145.000	1+147.000	1+150.000	1+151.405
ELEVATION (m)	137.717	137.592	137.581	137.452	137.277	137.057	136.794	136.531	136.449	136.295	136.085	135.996

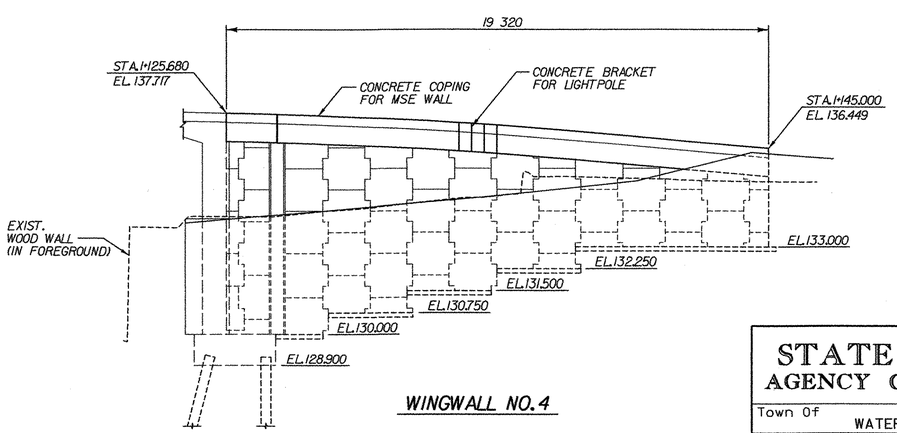


MSE WALL BUTT JOINT AT FRAME LEG

SCALE 1:20



WINGWALL NO.3



WINGWALL NO.4

FRAME LEG 2 WINGWALL ELEVATIONS

SCALE 1:100

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of WATERBURY	Bridge No. 35
Highway No.	Log Sta. / Surv. Sta.

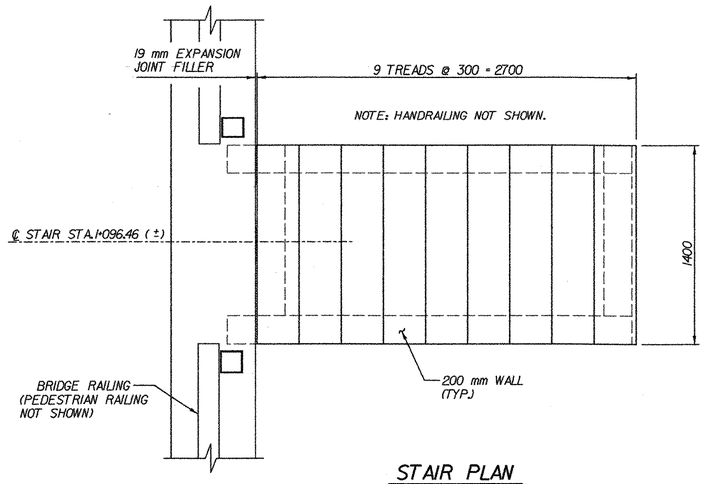
STOWE ST. BRIDGE OVER CENTRAL VERMONT RAILROAD

WINGWALL ELEVATIONS

Designed By R. GINGRAS	Drawn By A. THIBAULT
Checked By G. BOGUE — Date 3/03	Bridge Design Supervisor — Date
PROJECT STOWE STREET	PROJECT NO. BRO 1446(26)
DH CAD Filename: ...\46_SSB_Wings.dgn	Plot Date: 01/27/2004
Bridge Sheet No. BRII0	Sheet 46 of 63

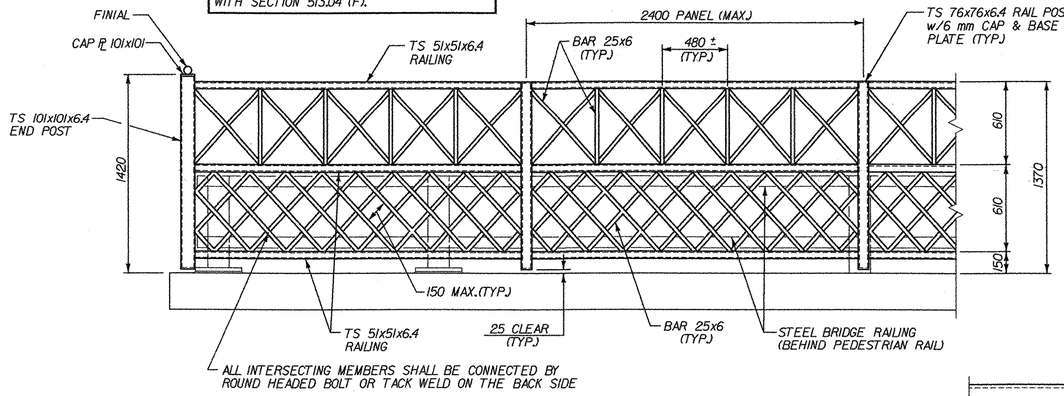
Dufresne-Henry

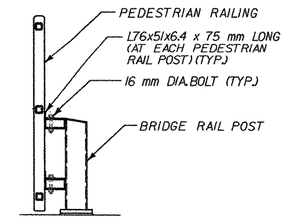
...\Design\46_SSB_Wings.dgn 01/27/2004 11:55:04 AM



STAIR PLAN
SCALE 1:20

ALL COMPONENTS OF THE PEDESTRIAN RAIL SHALL BE HOT DIP GALVANIZED STEEL AND PAINTED FLAT BLACK IN ACCORDANCE WITH SECTION 513.04 (F).

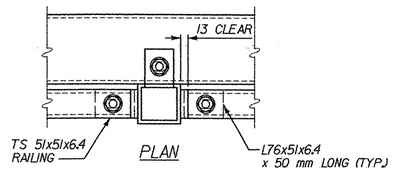




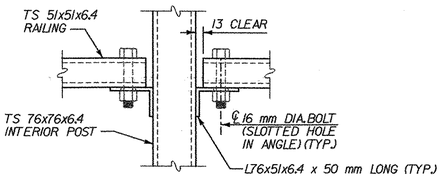
END SECTION

PEDESTRIAN RAILING ELEVATION
SCALE 1:20

NOTES:
1. ALL STEEL EXCEPT TUBE SECTIONS SHALL CONFORM TO AASHTO M 270, GRADE 250.
2. ALL STEEL TUBING SHALL CONFORM TO ASTM A500 B OR ASTM A501.
3. RAIL SHALL BE FABRICATED SUCH THAT POSTS ARE NORMAL TO GRADE.
4. GRILL WORK SHALL BE ATTACHED TO RAILS AT EACH PANEL POINT BY ROUND HEAD BOLT OR WELD.
5. PANELS SHALL BE FABRICATED SUCH THAT INDIVIDUAL PANELS CAN BE REMOVED AND REPAIRED IN THE FUTURE.
6. SHOP DRAWINGS SHOWING FABRICATION DETAILS OF THE PEDESTRIAN RAILING SHALL BE SUBMITTED FOR REVIEW AND APPROVAL.



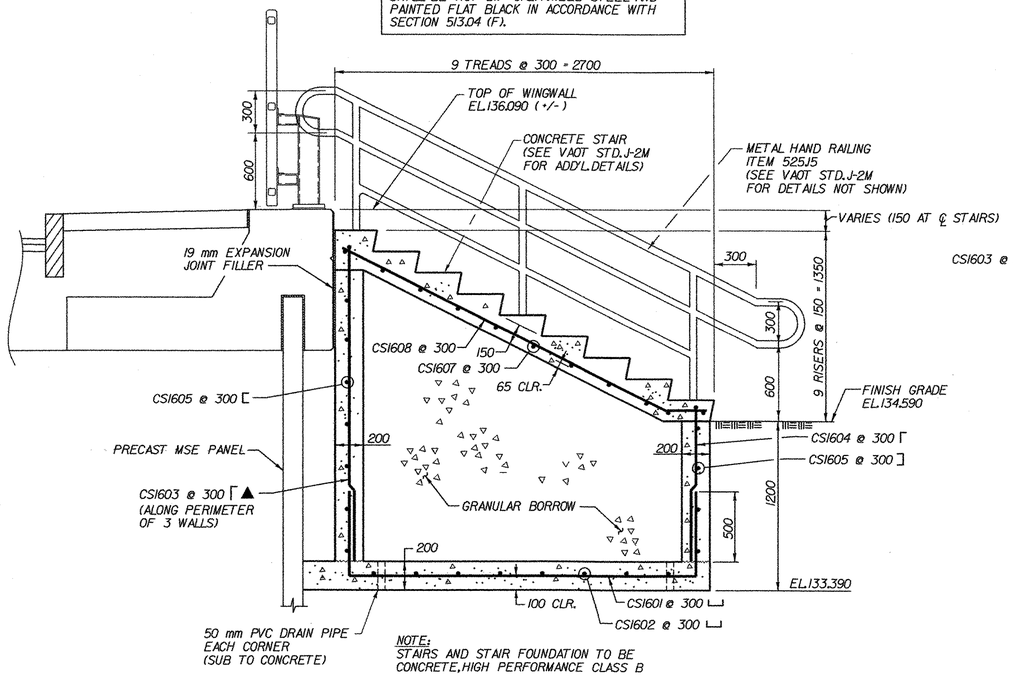
PLAN



ELEVATION

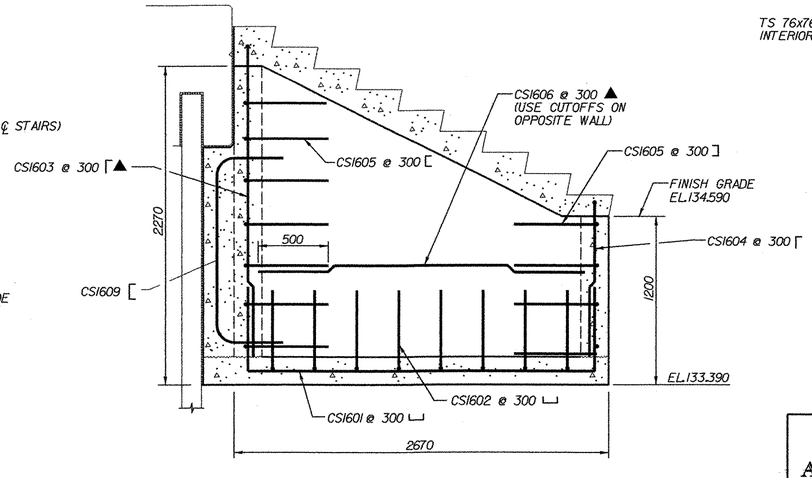
PEDESTRIAN RAILING CONNECTION DETAIL
SCALE 1:5

ALL COMPONENTS OF THE METAL HAND RAILING SHALL BE HOT DIP GALVANIZED STEEL AND PAINTED FLAT BLACK IN ACCORDANCE WITH SECTION 513.04 (F).



NOTE:
STAIRS AND STAIR FOUNDATION TO BE CONCRETE, HIGH PERFORMANCE CLASS B

TYPICAL STAIR SECTION
SCALE 1:20



END WALL ELEVATION
(TYPICAL 2 PLACES)
SCALE 1:20

NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
75 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of WATERBURY	Bridge No. 35
Highway No.	Log Sta. / Surv. Sta.
STOWE ST. BRIDGE OVER CENTRAL VERMONT RAILROAD	
CONCRETE STAIR DETAILS	
Designed By R. GINGRAS	Drawn By A. THIBAULT
Checked By G. BOGUE Date 3/03	Bridge Design Supervisor Date
PROJECT STOWE STREET	PROJECT NO. BRO 1446(26)
DH CAD Filename: ...\47_SSB_Stair.dgn	Plot Date: 01/27/2004
Bridge Sheet No. BRIII	Sheet 47 of 63

Dufresne-Henry

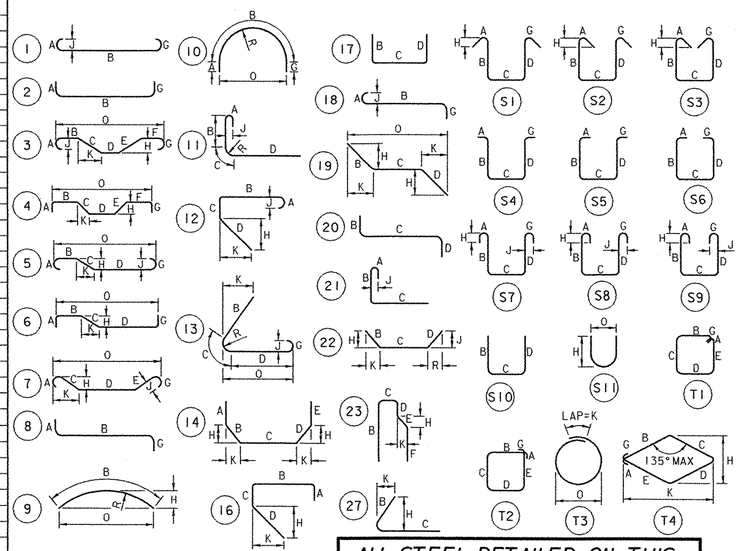
...\Design\47_SSB_Stair.dgn 01/27/2004 02:43:57 PM

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
			FRAME LEG NO.1														
*	45	16	2750	1F1601	STR												
	20	16	12 850	1F1602	STR												
	43	16	2175	1F1603	2	250	1925										
	43	16	6400	1F1604	STR												
	27	16	2100	1F1605	16		1030	350	720								
	44	16	12 550	1F1606	STR												
	2	16	7850	1F1607	STR												
*	44	25	5100	1F2501	17		1350	3750									
	42	25	6475	1F2502	17		5100	1375									
	14	25	1600	1F2503	19		500	1100					500				
	85	29	3725	1F2901	2	475	3250										
	85	29	6920	1F2902	STR												
*	45	32	3850	1F3201	2	550	2750					550					
			FRAME LEG NO.2														
*	48	16	2750	2F1601	STR												
	20	16	13 725	2F1602	STR												
	46	16	2175	2F1603	2	250	1925										
	43	16	6500	2F1604	STR												
	27	16	2100	2F1605	16		1030	350	720								
	46	16	12 550	2F1606	STR												
	14	16	2175	2F1607	17		1575	600									
	14	16	3015	2F1608	17		1705	1310									
	9	16	3725	2F1609	STR												
	2	16	7850	2F1610	STR												
*	44	25	5100	2F2501	17		1350	3750									
	42	25	6575	2F2502	17		5200	1375									
	14	25	1600	2F2503	19		500	1100					500				
	4	25	4000	2F2504	17		3720	280									
△	93	29	3725	2F2901	2	475	3250										
	87	29	6950	2F2902	STR												
*	48	32	3850	2F3201	2	550	2750					550					
			DECK														
*	5	13	1360	S1300	S11								625				110
	82	16	12 600	S1601	STR												
	82	16	3400	S1602	S5	250	550	1800	550			250					
	14	16	11 930	S1603	STR												
△	88	22	3150	S2201	19		825	1500	825				240		790		
	85	22	8430	S2202	STR												
△	45	25	11 930	S2501	STR												
			APPROACH SLAB NO.1														
*	22	16	7850	1AS1601	STR												
*	34	29	6230	1AS2901	1	380	5850							250			
			APPROACH SLAB NO.2														
*	22	16	7850	2AS1601	STR												
*	34	29	6230	2AS2901	1	380	5850							250			
			WINGWALL COPING														
	34	16	11 365	W1601	STR												
△	36	16	8685	W1602	STR												
	34	16	12 205	W1603	STR												
	34	16	9005	W1604	STR												
	12	16	2380	W1605	22		970	440	970				690				
	12	16	1550	W1606	17		500	550	500								
	68	16	1600	W1607	STR												
△	297	19	1590	W1901	1	220	1370							160			
	295	19	3160	W1902	4				900	1010	400	850					
	12	19	3660	W1903	4				900	1010	900	850					
			CONCRETE STAIR														
	7	16	3720	CS1601	17		600	2520	600								
	8	16	2450	CS1602	17		600	1250	600								
▲	23	16	2520	CS1603	2	250	2270										
	7	16	1380	CS1604	2	250	1130										
	11	16	2450	CS1605	17		600	1250	600								
▲	11	16	2330	CS1606	STR												
	11	16	1250	CS1607	STR												
	7	16	2850	CS1608	19		280	2570					130		250		
	2	16	2500	CS1609	17		600	1300	600								

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O

NOTES

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING 55M SHALL CONFROM TO THE REQUIREMENT OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31M (ASTM A 615M-SI). ALL BARS SHALL BE GRADE 420, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS ARE TO BE SHOWN ONLY WHEN NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS ARE TO BE SHOWN ONLY WHEN NECCESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. * DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. ~~"E" IN PREFIX DENOTES EPOXY COATED REINFORCING STEEL.~~



ALL STEEL DETAILED ON THIS SHEET TO BE EPOXY COATED

Dufresne-Henry

ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	NOMINAL MASS kg/m	NOMINAL DIMENSIONS ROUND SECTION DIAMETER mm	CROSS SECTIONAL AREA mm²	PERIMETER mm
10	0.560	9.5	71	29.84
13	0.994	12.7	129	39.90
16	1.552	15.9	199	49.95
19	2.235	19.1	284	60.00
22	3.042	22.2	387	69.74
25	3.973	25.4	510	79.80
29	5.060	28.7	645	90.16
32	6.404	32.3	819	101.47
36	7.907	35.8	1006	112.47
43	11.380	43.0	1452	135.09
57	20.240	57.3	2581	180.01

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of WATERBURY	Bridge No. 35
Highway No.	Log Sta.
	Surv. Sta.

STOWE ST. BRIDGE OVER CENTRAL VERMONT RAILROAD

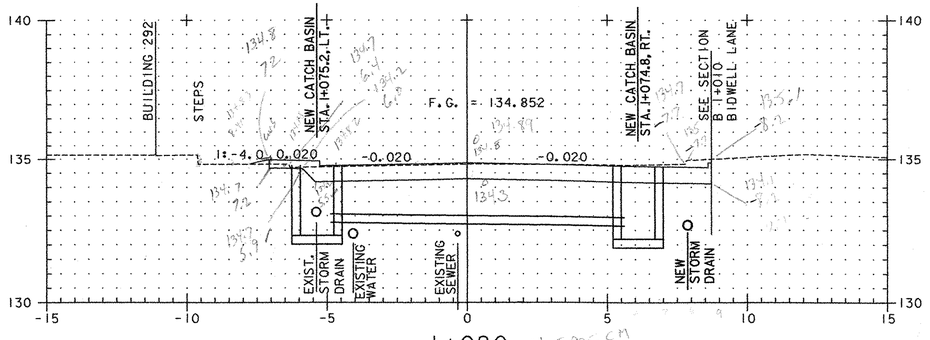
REINFORCING SCHEDULE

Designed By R. GINGRAS	Drawn By A. THIBAULT
Checked By T. KNIGHT Date 3/03	Bridge Design Supervisor Date
PROJECT WATERBURY	PROJECT NO. BRO 1446(26)

DH CAD Filename: ...\48_ssb_reinfsched.dgn Plot Date: 01/26/2004

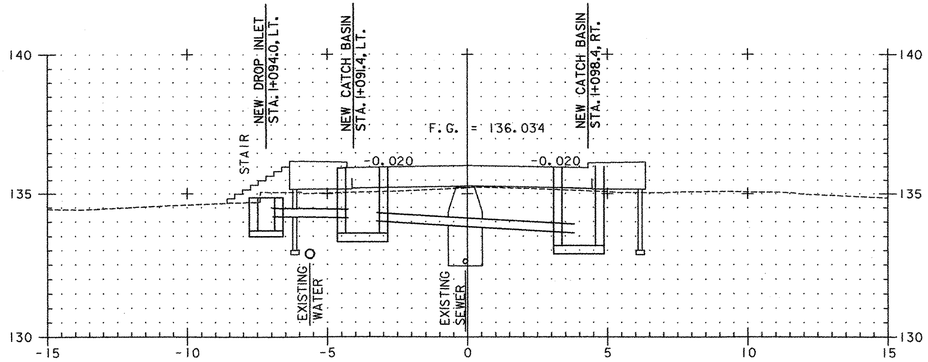
Bridge Sheet No. BRII2 48 63

...\design\48_ssb_reinfsched.dgn 01/26/2004 08:33:03 AM



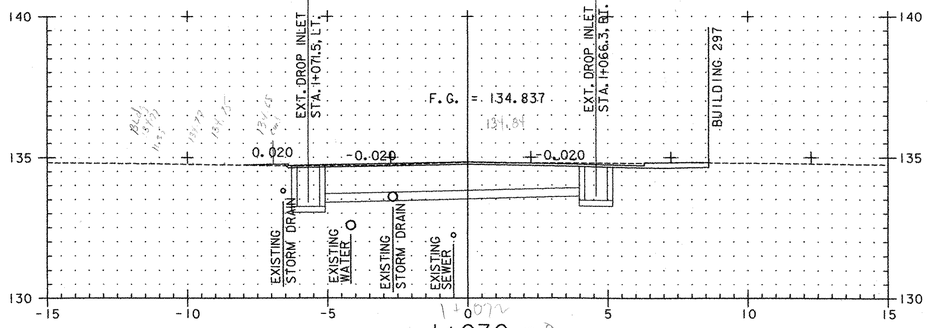
1+080

STOWE STREET



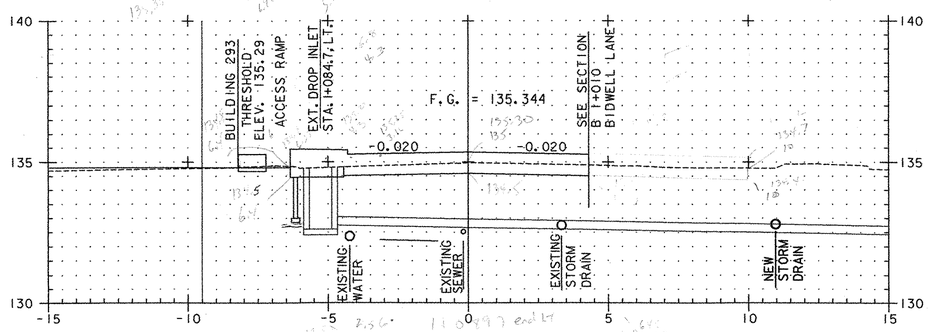
1+097

STOWE STREET



1+070

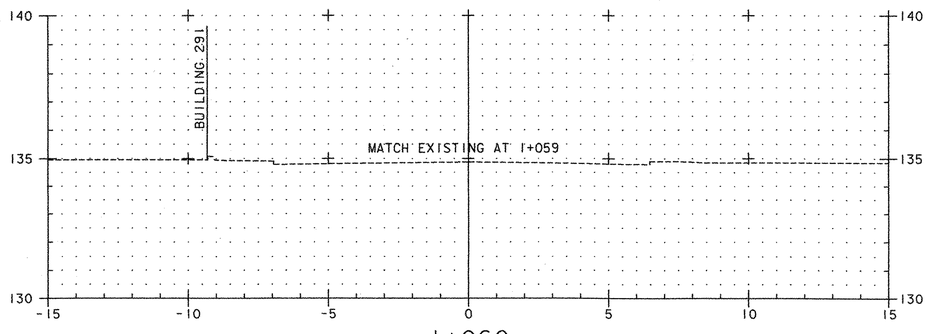
STOWE STREET



1+090

STOWE STREET

END APPROACH, BEGIN PROJECT

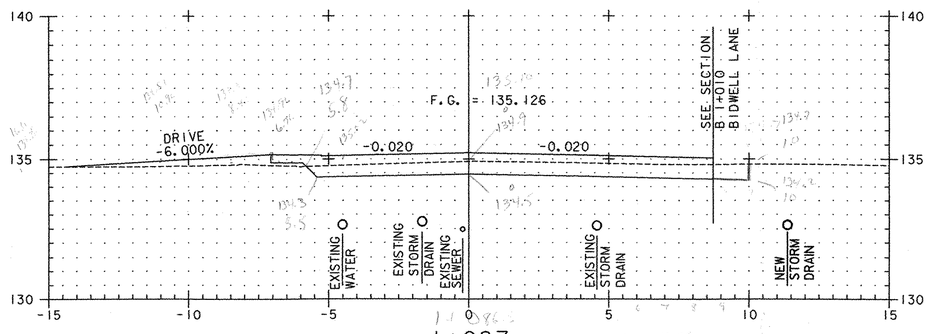


1+060

STOWE STREET

STA. 1+059.000

BEGIN APPROACH



1+087

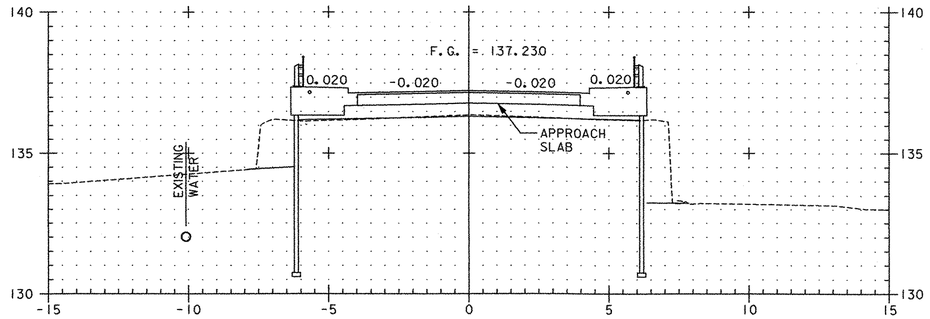
STOWE STREET

0 5 10

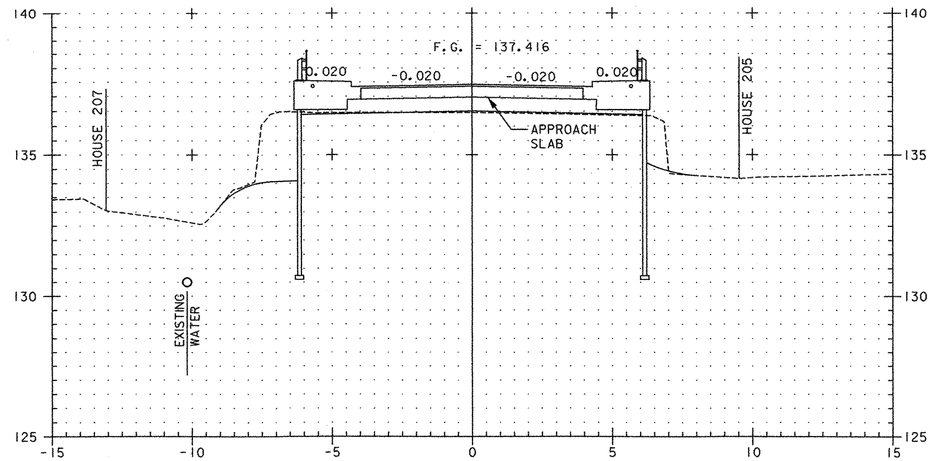
GRAPHIC SCALE 1:100

PROJECT NAME:	WATERBURY
PROJECT NUMBER:	BRO 1446(26)
FILE NAME: ...\49-59 sections.ptf	PLOT DATE: 01/26/2004
PROJECT LEADER: G EDWARDS/R GINGRAS	DRAWN BY: M. MEILLEUR
DESIGNED BY: M. MEILLEUR	CHECKED BY: R GINGRAS
STOWE STREET CROSS SECTIONS	SHEET 49 OF 63

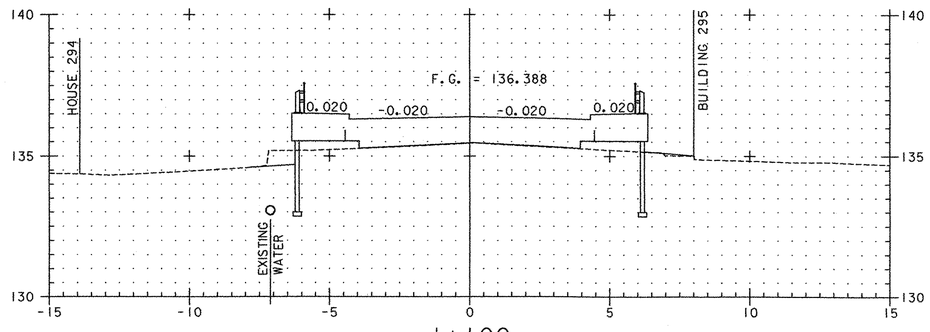
STA. 1+113.650 STOP ROADWAY
BEGIN BRIDGE



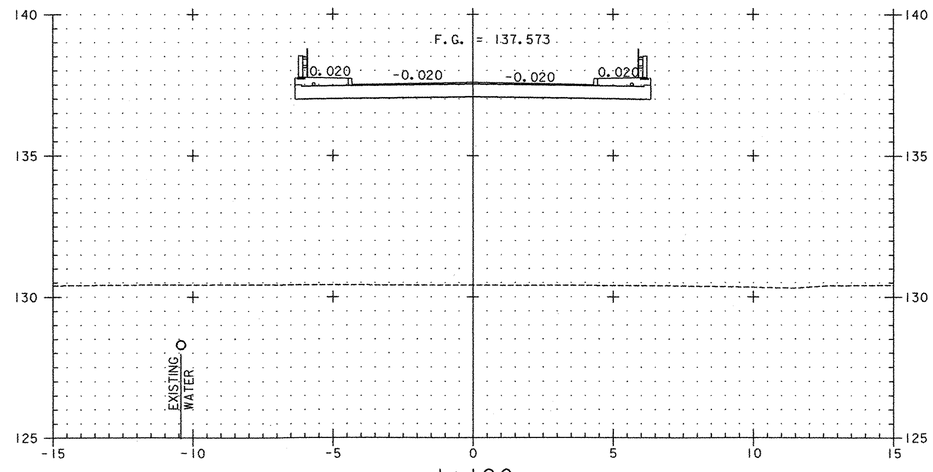
1+110
STOWE STREET



1+130
STOWE STREET
STA. 1+125.680 END BRIDGE
RESUME ROADWAY



1+100
STOWE STREET

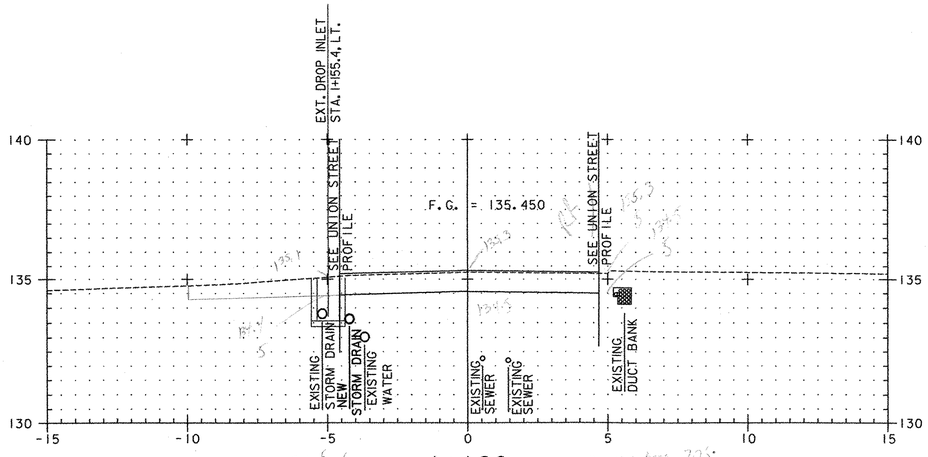


1+120
STOWE STREET

0 5 10
GRAPHIC SCALE 1:100

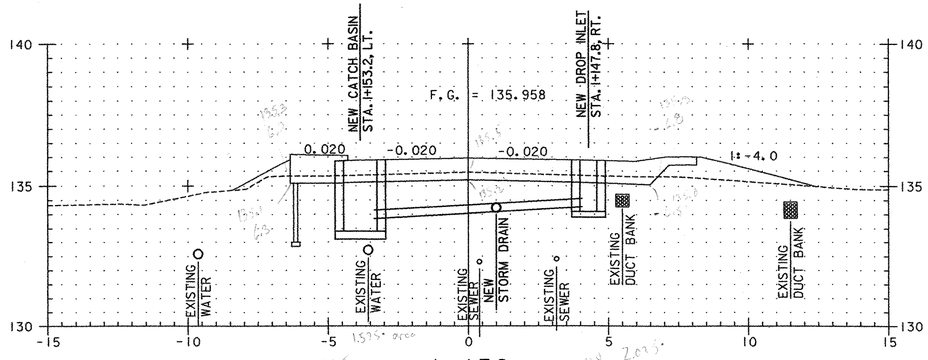
PROJECT NAME: WATERBURY	
PROJECT NUMBER: BRO 1446(26)	
FILE NAME: ...\49-59 sections.ptf	PLOT DATE: 01/26/2004
PROJECT LEADER: G EDWARDS/R GINGRAS	DRAWN BY: M. MEILLEUR
DESIGNED BY: M. MEILLEUR	CHECKED BY: R GINGRAS
STOWE STREET CROSS SECTIONS	SHEET 50 OF 63

\\Dot71\es\49-59 sections.dtf 01/26/2004 08:19:27 AM



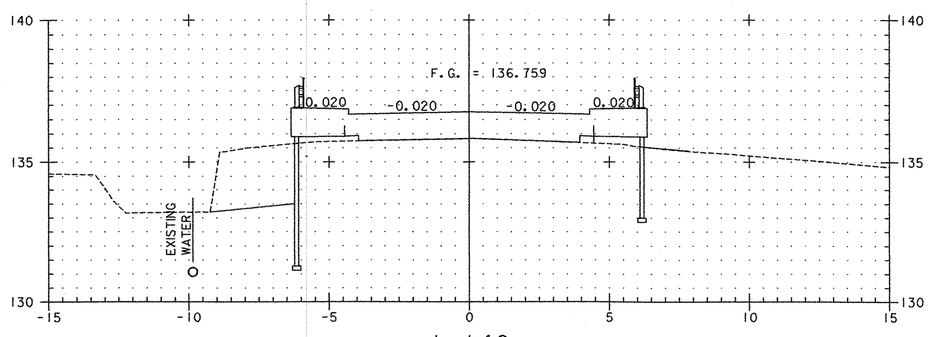
1+160

STOWE STREET



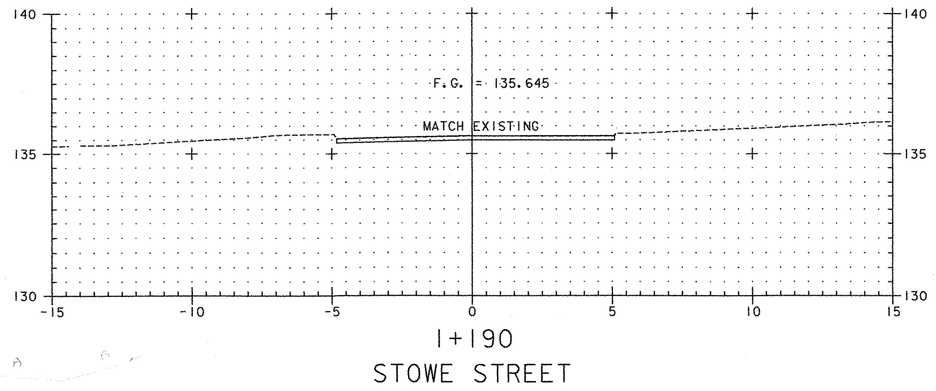
1+150

STOWE STREET



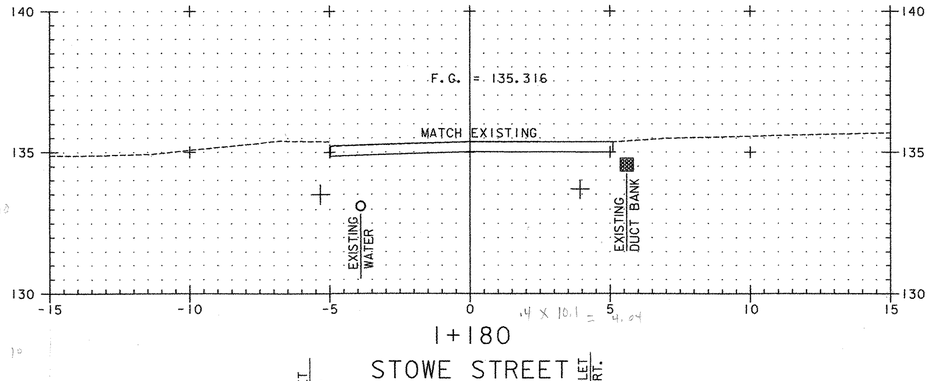
1+140

STOWE STREET



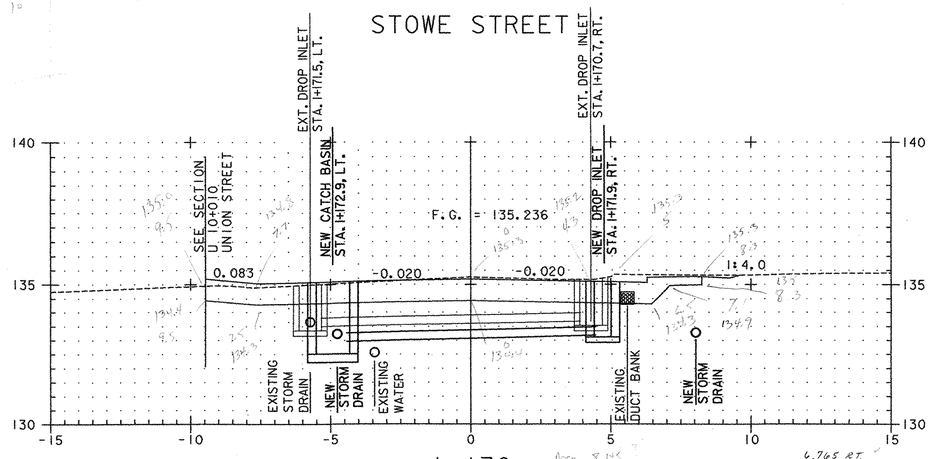
1+190

STOWE STREET



1+180

STOWE STREET



1+170

STOWE STREET

END PROJECT

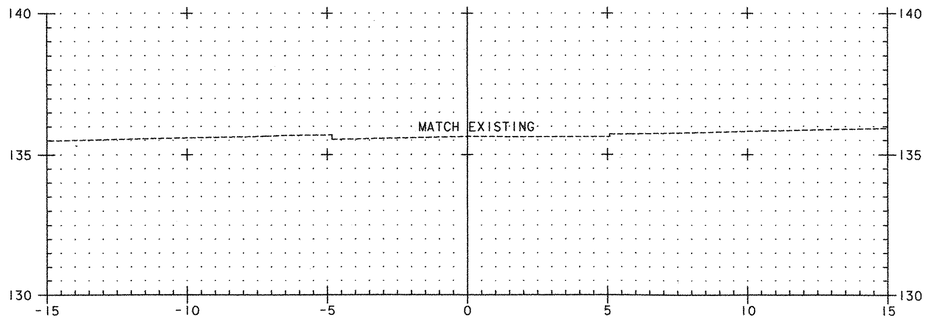
BEGIN APPROACH

0 5 10

GRAPHIC SCALE 1:100

PROJECT NAME:	WATERBURY
PROJECT NUMBER:	BRO 1446(26)
FILE NAME: ...\49-59 sections.ptf	PLOT DATE: 01/26/2004
PROJECT LEADER: G EDWARDS/R GINGRAS	DRAWN BY: M. MEILLEUR
DESIGNED BY: M. MEILLEUR	CHECKED BY: R GINGRAS
STOWE STREET CROSS SECTIONS	SHEET 51 OF 63

...\plotting\49-59 sections.ptf 01/26/2004 08:19:07 AM

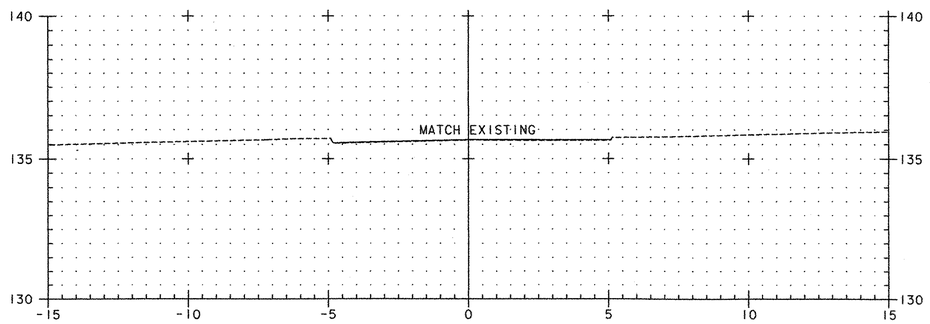


1+210

STOWE STREET

STA. 1+201.000

END APPROACH



1+200

STOWE STREET

0 5 10

GRAPHIC SCALE 1:100

PROJECT NAME: WATERBURY

PROJECT NUMBER: BRO 1446(26)

FILE NAME: ...\49-59 sections.ptf

PROJECT LEADER: G EDWARDS/R GINGRAS

DESIGNED BY: M. MEILLEUR

STOWE STREET CROSS SECTIONS

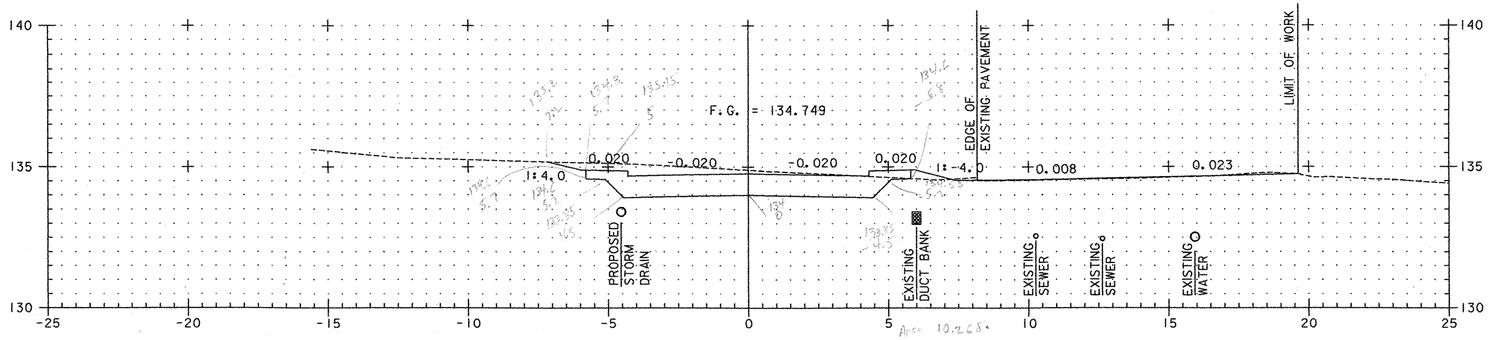
PLOT DATE: 01/26/2004

DRAWN BY: M. MEILLEUR

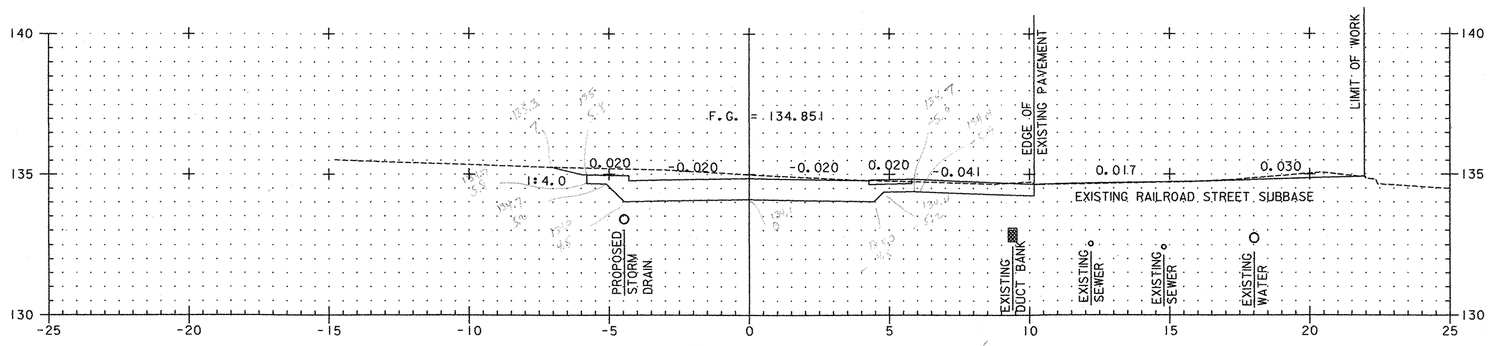
CHECKED BY: R GINGRAS

SHEET 52 OF 63

\\Dfiltrlb\49-59 sections.prf 01/26/2004 08:15:27 AM



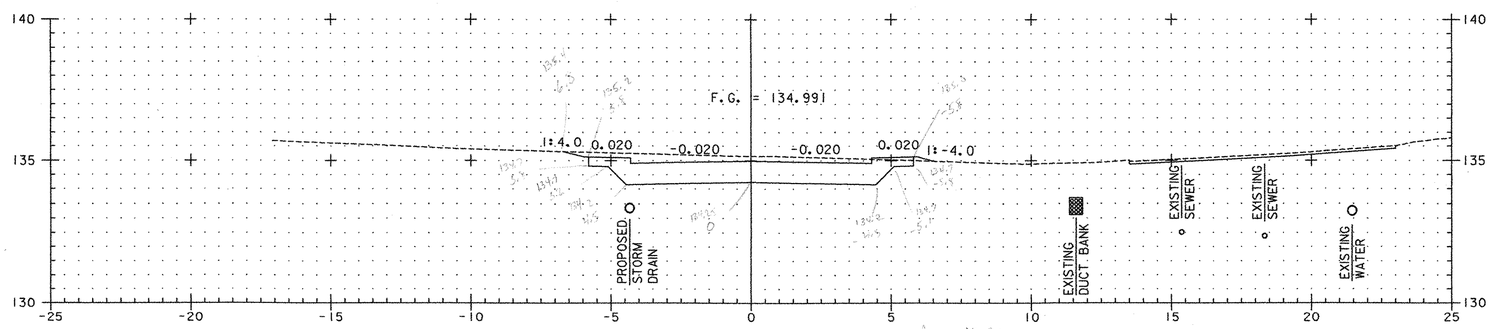
R 5+030
RELOCATED RAILROAD ST.



R 5+026
RELOCATED RAILROAD ST.

9.985

STA. R 5+005.00 - STA. 5+063.00, RT
ABANDON EXISTING RAILROAD STREET
REMOVE EXISTING BITUMINOUS CONCRETE PAVEMENT AND CONCRETE SIDEWALK. REPLACE WITH 100 mm TOPSOIL, SEED, MULCH, AND FERTILIZE PER SEEDING FORMULA ON THE GENERAL NOTES SHEET.

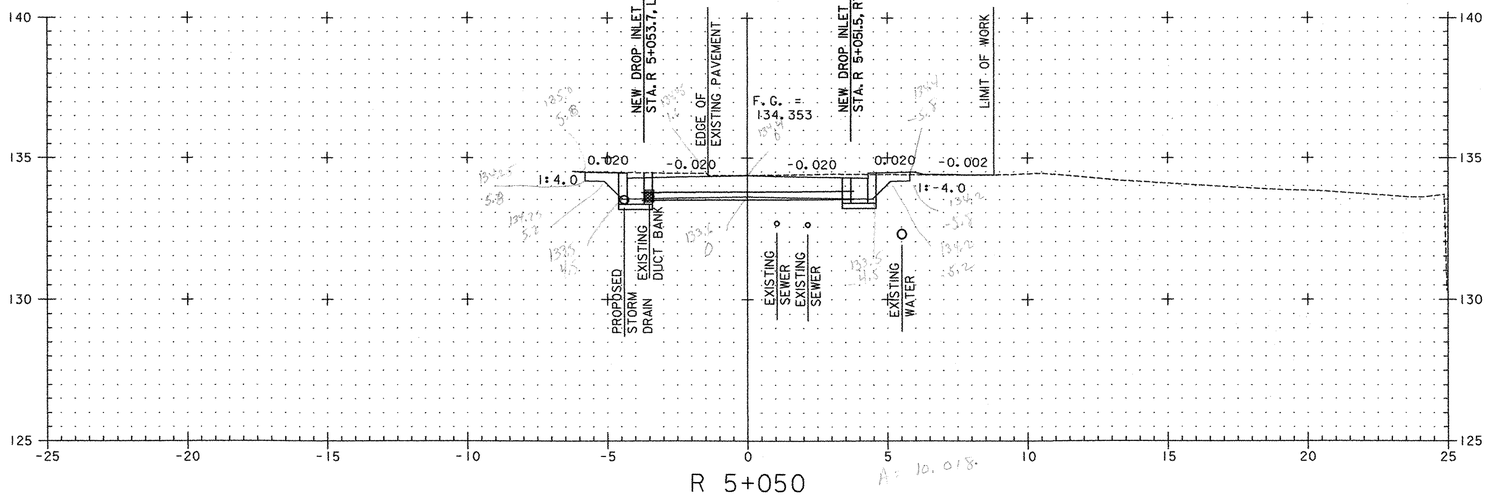


R 5+020
RELOCATED RAILROAD ST.

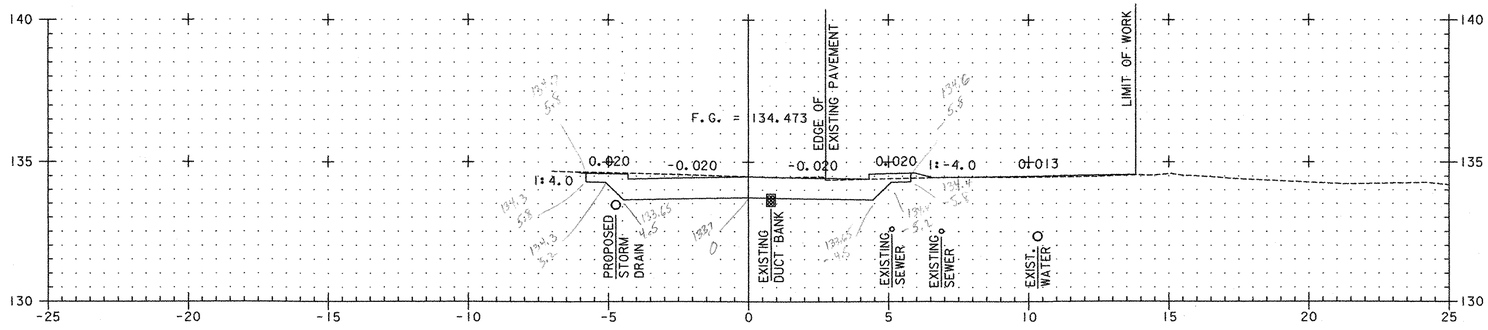
0 5 10
GRAPHIC SCALE 1:100

PROJECT NAME: WATERBURY	
PROJECT NUMBER: BRO 1446(26)	
FILE NAME: ...\49-59 sections.ptf	PLOT DATE: 01/26/2004
PROJECT LEADER: G EDWARDS/R GINGRAS	DRAWN BY: M MEILLEUR
DESIGNED BY: M MEILLEUR	CHECKED BY: R GINGRAS
RAILROAD STREET CROSS SECTIONS	SHEET 53 OF 63

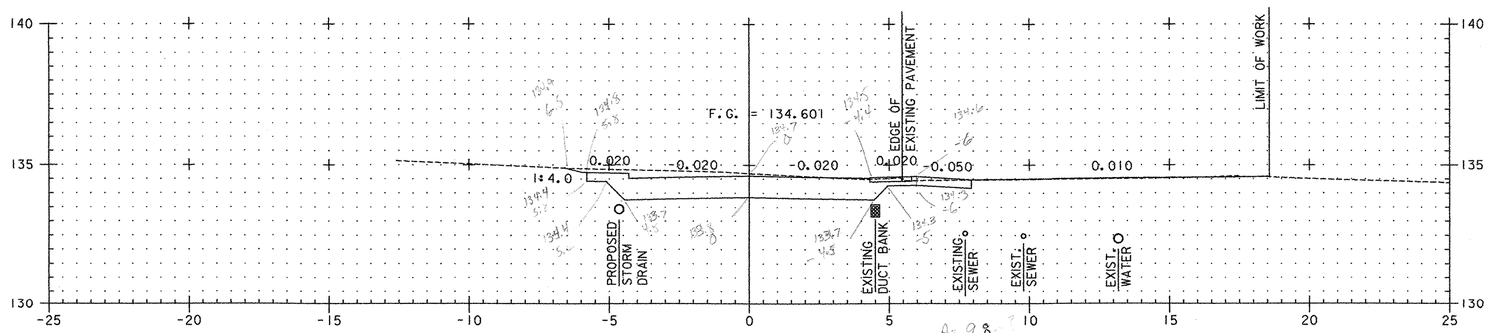
...\plotfiles\49-59 sections.plt 01/26/2004 08:18:27 AM



R 5+050
RELOCATED RAILROAD ST.



R 5+040
RELOCATED RAILROAD ST.

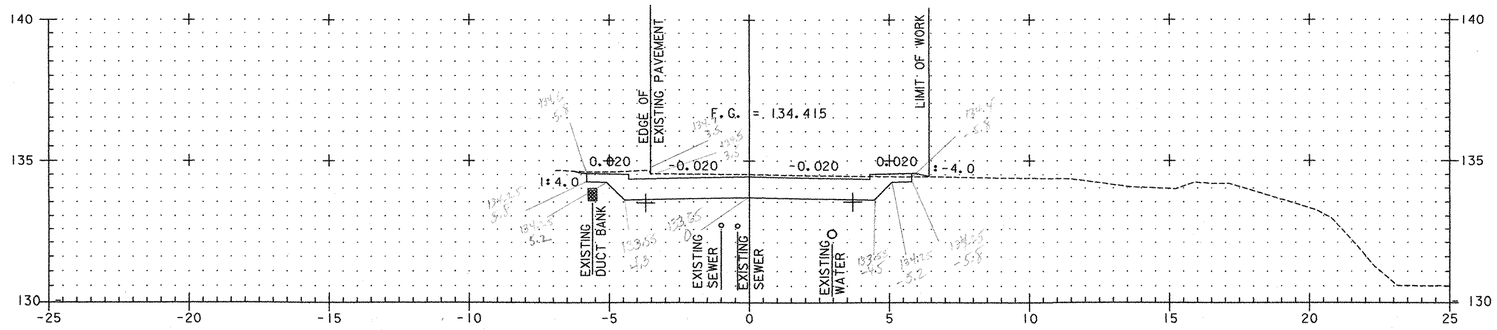


R 5+035
RELOCATED RAILROAD ST.

0 5 10
GRAPHIC SCALE 1:100

PROJECT NAME: WATERBURY	
PROJECT NUMBER: BRO 1446(26)	
FILE NAME: ...\49-59 sections.ptf	PLOT DATE: 01/26/2004
PROJECT LEADER: G EDWARDS/R GINGRAS	DRAWN BY: M MEILLEUR
DESIGNED BY: M MEILLEUR	CHECKED BY: R GINGRAS
RAILROAD STREET CROSS SECTIONS	SHEET 54 OF 63

...\District\45-59 sections.prf 01/26/2004 08:19:27 AM



R 5+060
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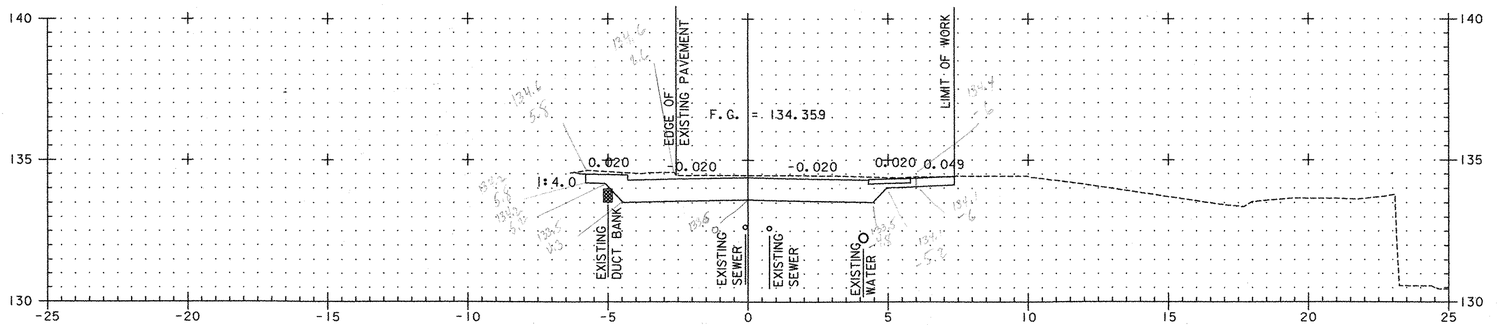

R 5+055
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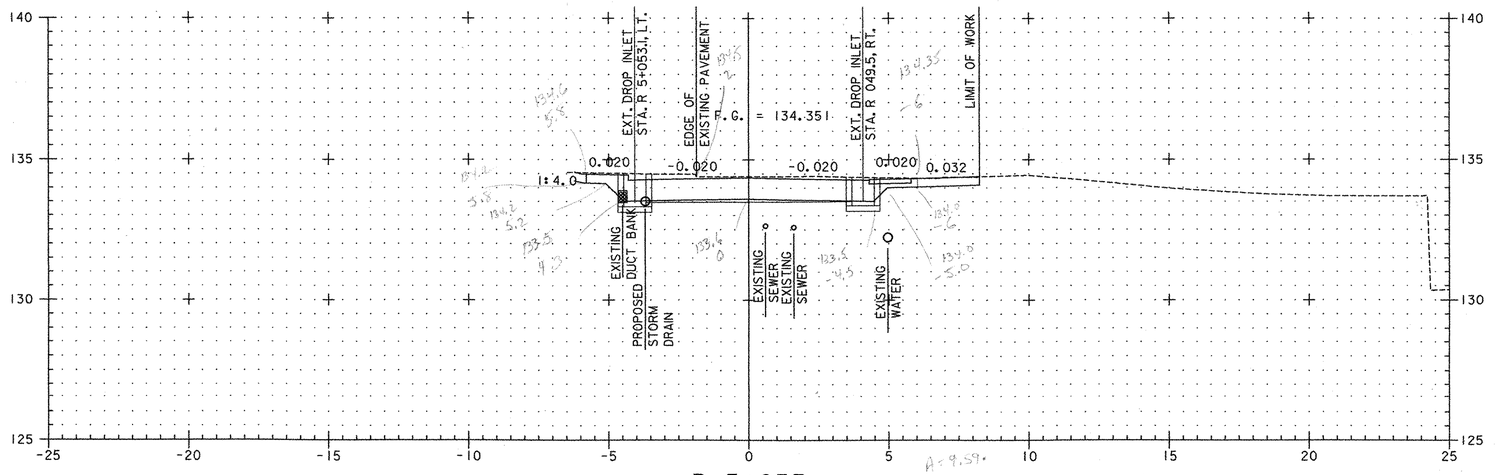
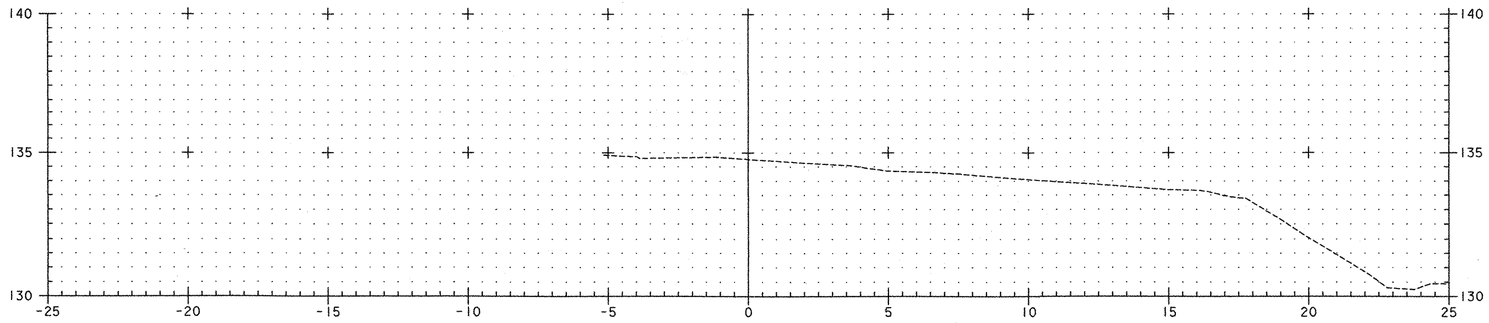


R 5+053
RELOCATED RAILROAD ST.

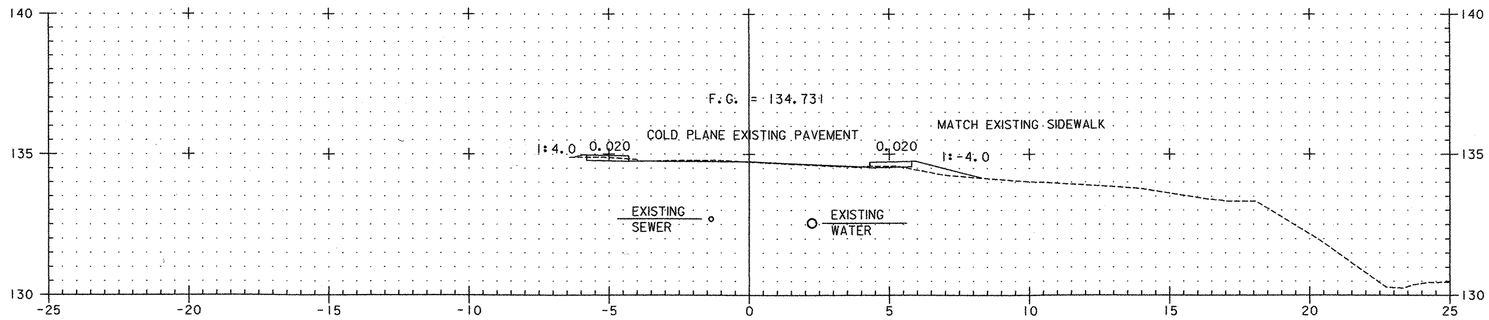
GRAPHIC SCALE 1:100

PROJECT NAME: WATERBURY	
PROJECT NUMBER: BRO 1446(26)	
FILE NAME: ...\49-59 sections.ptf	PLOT DATE: 01/26/2004
PROJECT LEADER: G EDWARDS/R GINGRAS	DRAWN BY: M MEILLEUR
DESIGNED BY: M MEILLEUR	CHECKED BY: R GINGRAS
RAILROAD STREET CROSS SECTIONS	SHEET 55 OF 63

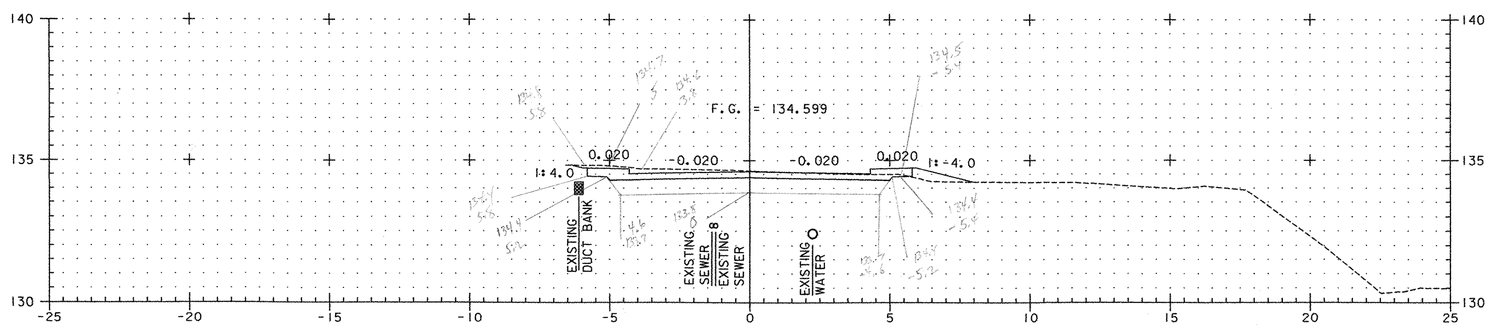
...\01611\RR\49-59 sections.ptf 01/26/2004 08:19:27 AM



R 5+080
RELOCATED RAILROAD ST.



R 5+077
RELOCATED RAILROAD ST.



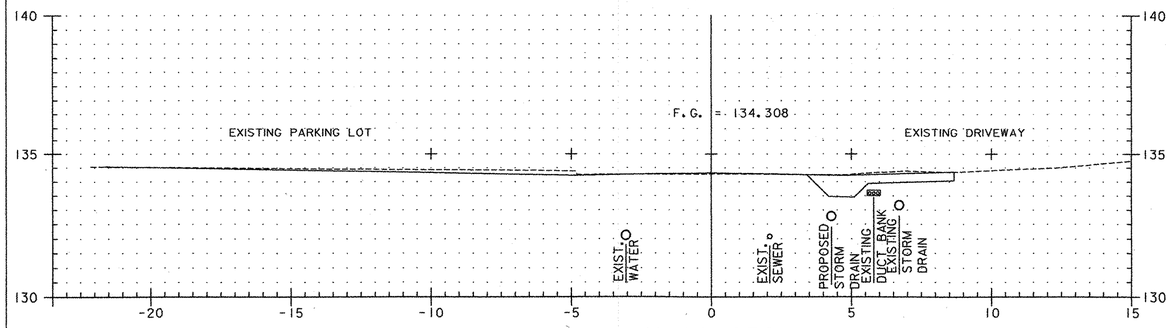
R 5+070
RELOCATED RAILROAD ST.

A= 936.

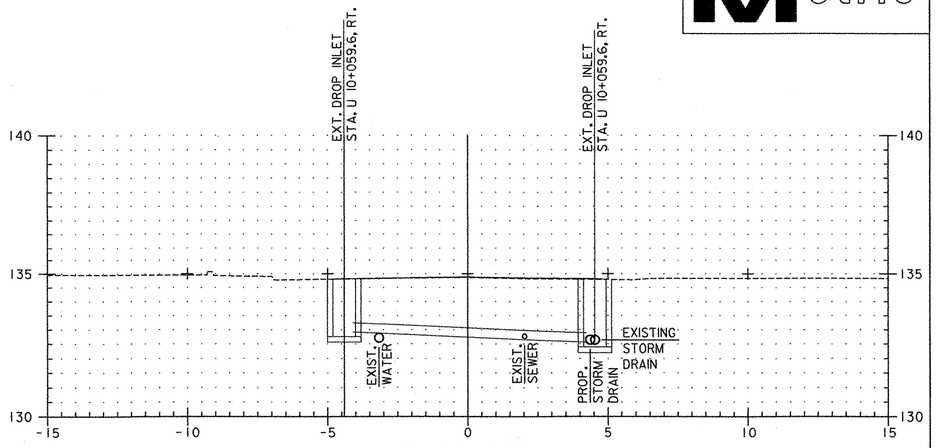
0 5 10
GRAPHIC SCALE 1:100

PROJECT NAME: WATERBURY	
PROJECT NUMBER: BRO 1446(26)	
FILE NAME: ...\49-59 sections.ptf	PLOT DATE: 01/26/2004
PROJECT LEADER: G EDWARDS/R GINGRAS	DRAWN BY: M MEILLEUR
DESIGNED BY: M MEILLEUR	CHECKED BY: R GINGRAS
RAILROAD STREET CROSS SECTIONS	SHEET 56 OF 63

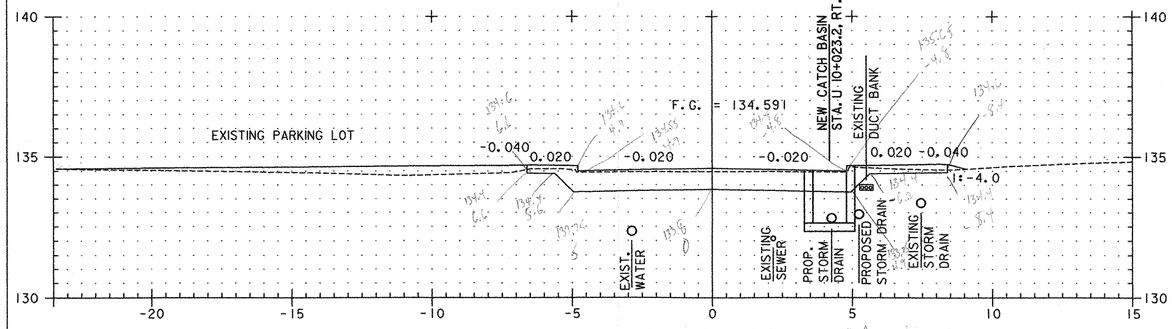
...\plotfiles\49-59 sections.plt 01/26/2004 08:13:27 AM



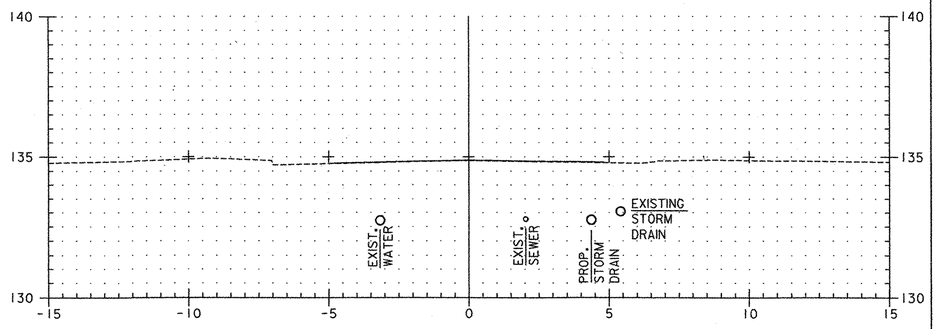
U 10+030
UNION STREET



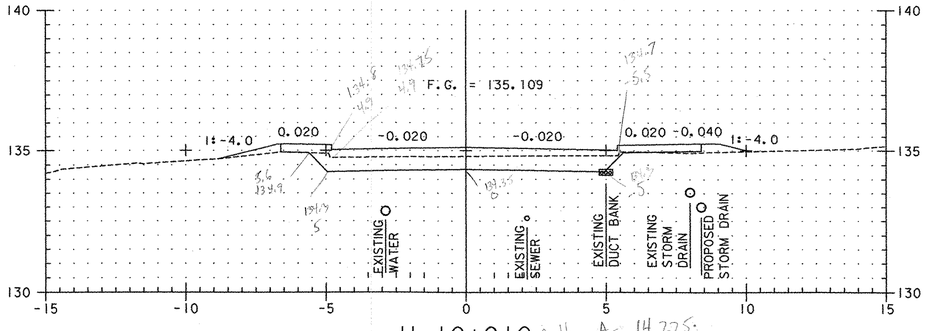
U 10+060
UNION STREET



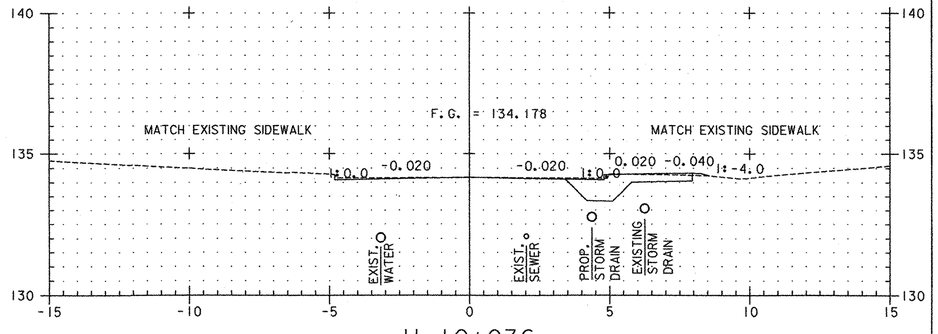
U 10+020
UNION STREET



U 10+040
UNION STREET



U 10+010
UNION STREET

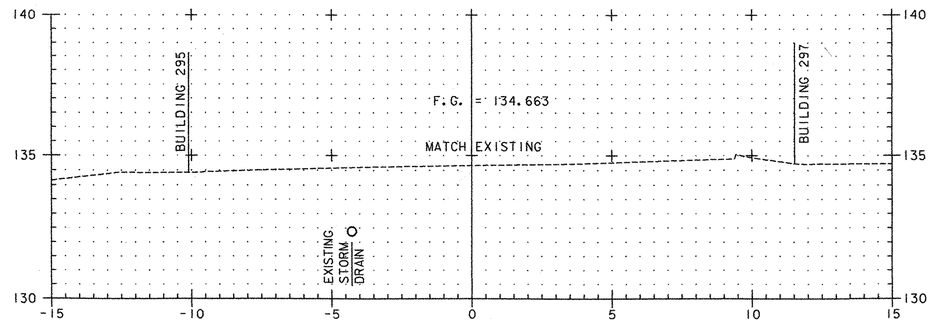


U 10+036
UNION STREET

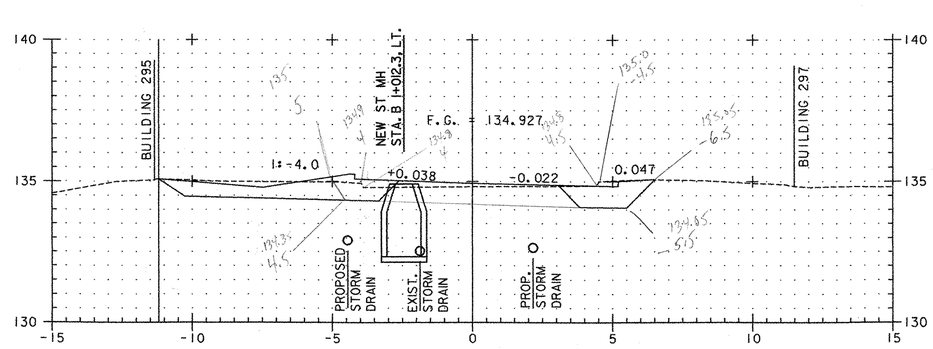
0 5 10
GRAPHIC SCALE 1:100

PROJECT NAME: WATERBURY	
PROJECT NUMBER: BRO 1446(26)	
FILE NAME: ...\49-59 sections.ptf	PLOT DATE: 01/26/2004
PROJECT LEADER: G EDWARDS/R GINGRAS	DRAWN BY: M. MEILLEUR
DESIGNED BY: M. MEILLEUR	CHECKED BY: R GINGRAS
UNION STREET CROSS SECTIONS	SHEET 57 OF 63

...\plotfiles\49-59 sections.stf 01/26/2004 08:12:27 AM



B 1+020
BIDWELL LANE



B 1+010
BIDWELL LANE

A = 6.913

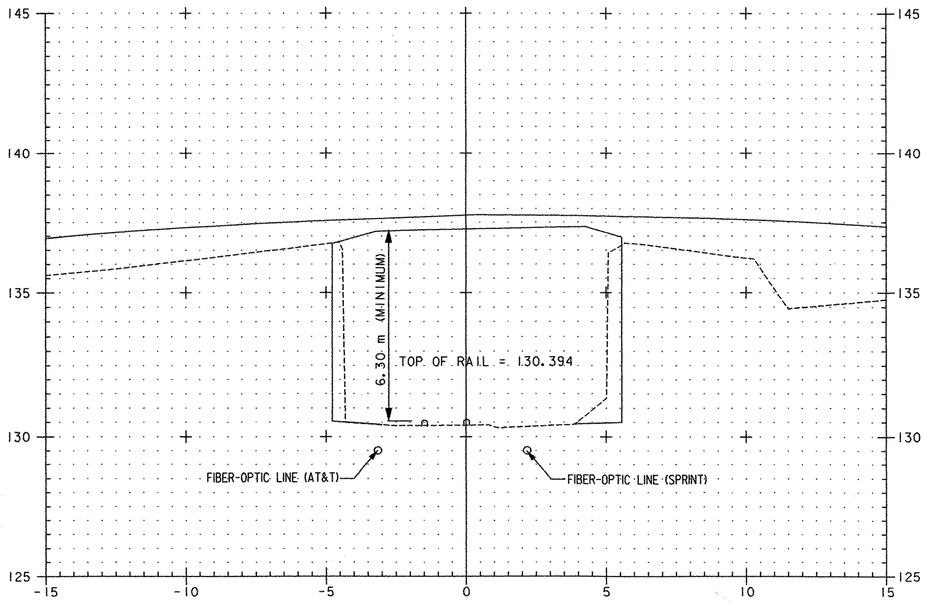
0 5 10
GRAPHIC SCALE 1:100

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)

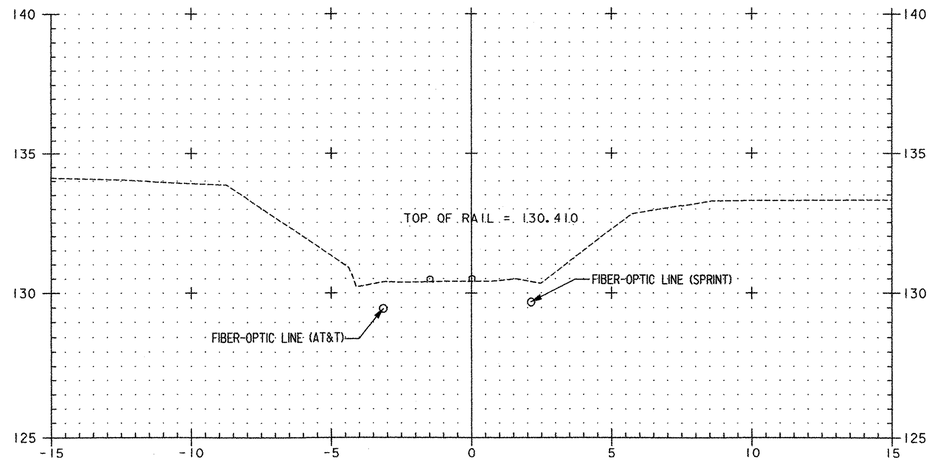
FILE NAME: ...\49-59 sections.ptf
PROJECT LEADER: G EDWARDS/R GINGRAS
DESIGNED BY: M MEILLEUR
BIDWELL LANE CROSS SECTIONS

PLOT DATE: 01/26/2004
DRAWN BY: M MEILLEUR
CHECKED BY: R GINGRAS
SHEET 58 OF 63

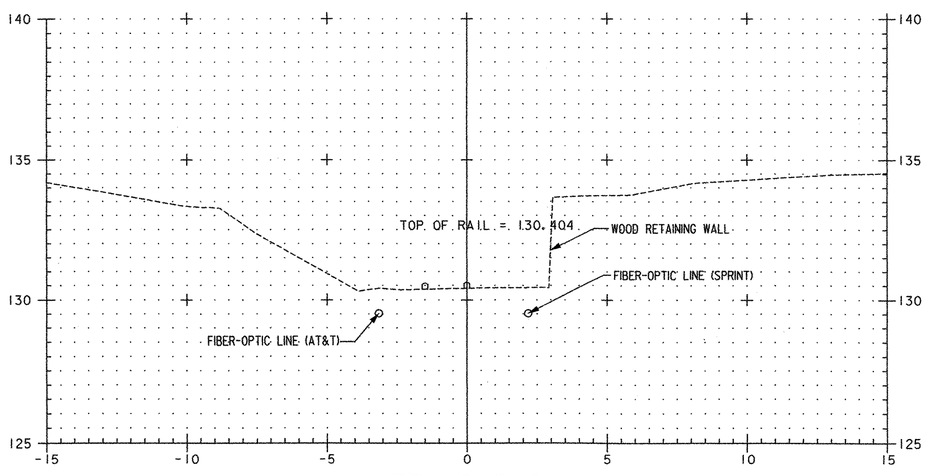
...\Utilities\49-59 sections.ptf 01/26/2004 08:19:27 AM



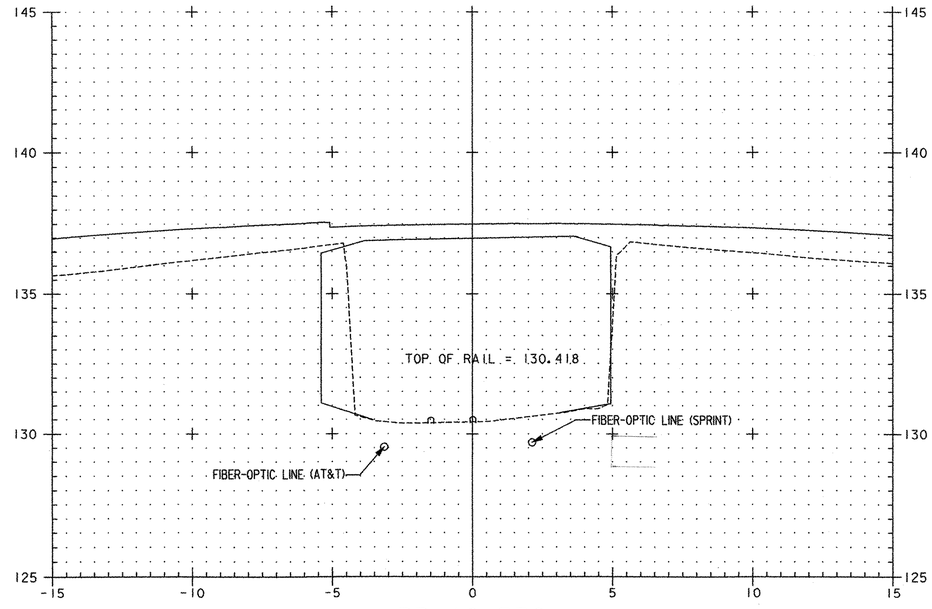
RR 10+320
RAILROAD



RR 10+340
RAILROAD



RR 10+310
RAILROAD



RR 10+330
RAILROAD

0 5 10

GRAPHIC SCALE 1:100

PROJECT NAME: WATERBURY	
PROJECT NUMBER: BRO 1446(26)	
FILE NAME: ...\49-59 sections.ptf	PLOT DATE: 01/26/2004
PROJECT LEADER: G EDWARDS/R GINGRAS	DRAWN BY: M. MEILLEUR
DESIGNED BY: M. MEILLEUR	CHECKED BY: R GINGRAS
RAILROAD CROSS SECTIONS	SHEET 59 OF 63

...\plotfiles\49-59 sections.plt 01/26/2004 08:19:28 AM

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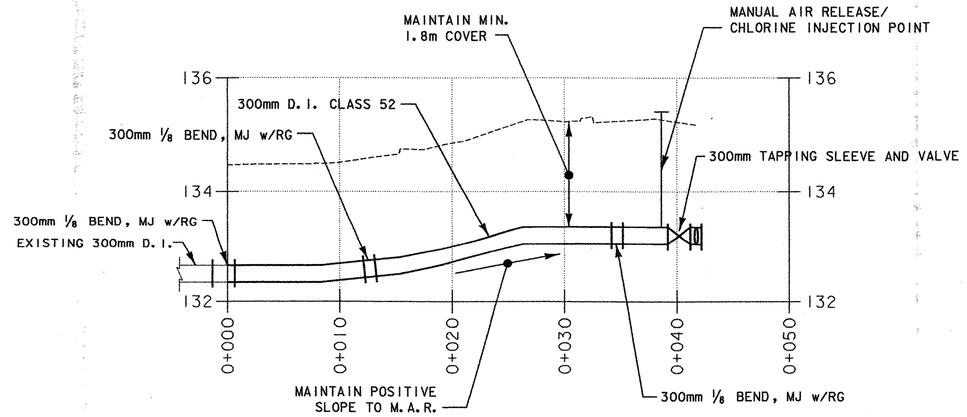
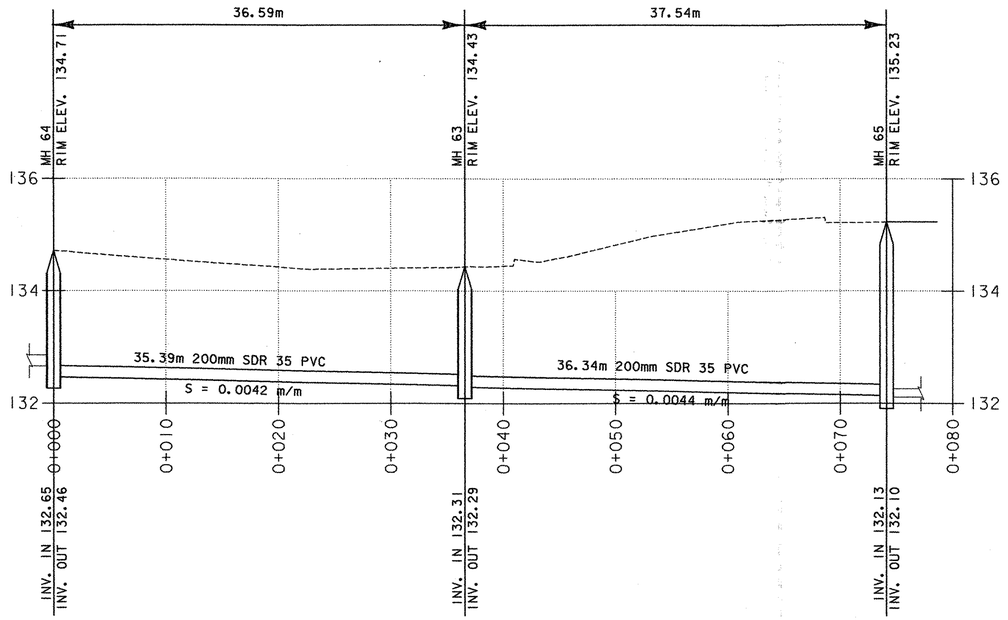


WATER MAIN PROFILE

SCALE HORZ. 1:250
VERT. 1:5



SANITARY SEWER PROFILE

SCALE HORZ. 1:250
VERT. 1:5

Dufresne Henry

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)

FILE NAME: ...\61-Utility Profiles.ptf
PROJECT LEADER: A.T. RICE
DESIGNED BY: A.T. RICE
WATER AND SEWER PROFILES

PLOT DATE: 01/27/2004
DRAWN BY: B.L. BAKER
CHECKED BY: A.T. RICE

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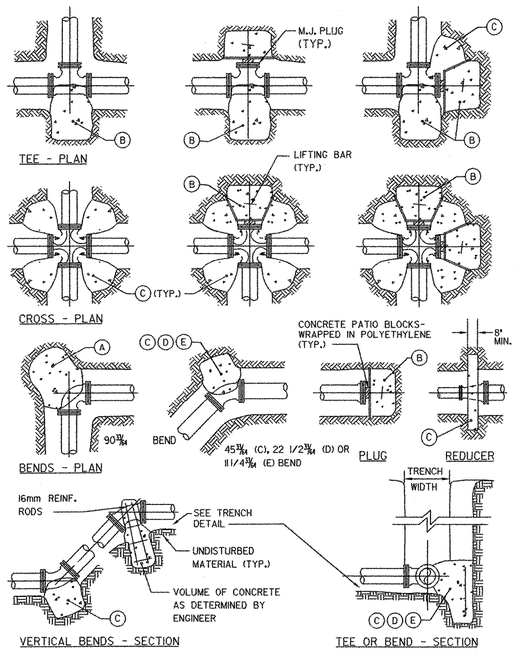


THRUST BLOCK DETAILS

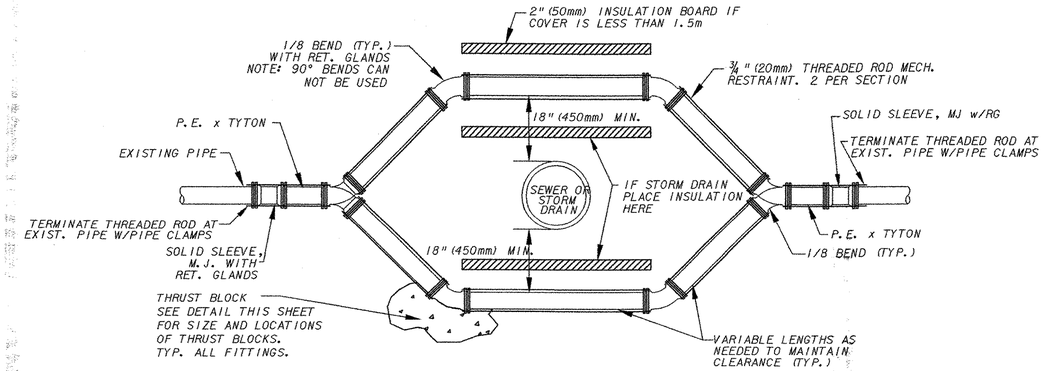
NOT TO SCALE

THRUST BLOCK SCHEDULE
SQUARE FEET(METERS) OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL

REACTION TYPE		PIPE SIZE 4" 100mm	6" 150mm	8" 200mm	10" 250mm	12" 300mm	14" 350mm	16" 400mm	18" 450mm	20" 500mm	24" 600mm	30" 750mm	36" 900mm
TEST PRESSURE= 100 PSI(690 kN/m^2)	(A)	0.89 (0.083)	2.19 (0.203)	3.92 (0.364)	5.57 (0.517)	8.62 (0.801)	10.91 (1.014)	15.41 (1.432)	18.02 (1.674)	24.06 (2.235)	34.64 (3.218)	53.83 (5.001)	77.39 (7.190)
	(B)	0.65 (0.060)	1.55 (0.144)	2.76 (0.256)	4.19 (0.389)	6.09 (0.566)	8.37 (0.778)	10.89 (1.012)	13.87 (1.289)	17.01 (1.580)	24.49 (2.275)	38.06 (3.536)	54.72 (5.084)
	(C)	0.48 (0.045)	1.19 (0.111)	2.12 (0.197)	3.01 (0.280)	4.66 (0.433)	5.91 (0.549)	8.34 (0.775)	9.71 (0.902)	13.02 (1.210)	18.75 (1.742)	29.13 (2.706)	41.88 (3.891)
	(D)	0.25 (0.023)	0.60 (0.056)	1.08 (0.100)	1.54 (0.143)	2.37 (0.220)	3.01 (0.280)	4.25 (0.395)	4.97 (0.462)	6.64 (0.617)	9.56 (0.888)	14.85 (1.380)	21.35 (1.983)
	(E)	0.13 (0.012)	0.30 (0.028)	0.54 (0.050)	0.77 (0.072)	1.19 (0.111)	1.52 (0.141)	2.12 (0.205)	2.51 (0.233)	3.33 (0.309)	4.79 (0.445)	7.45 (0.692)	10.71 (0.995)
Other test pressures for the above reactions		TEST PRESSURE TO BE 200 PSI(1380 kN/m^2) MIN. AT LOW END OF THE TEST SECTION. SQUARE FEET(METERS) OF CONCRETE THRUST BLOCKING FOR OTHER TEST PRESSURES IS DIRECTLY PROPORTIONAL TO THE ABOVE TABLE. FOR INSTANCE, AT 200 PSI(1380 kN/m^2) TEST PRESSURE FOR ABOVE NUMBERS DOUBLE.											

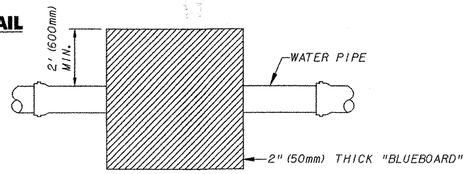
NOTES:

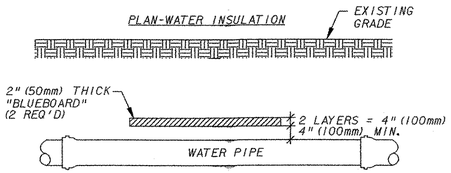
1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE CONCRETE PATIO BLOCKS IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCK.
4. REQUIREMENTS OF THE ABOVE TABLE PRESUME MINIMUM SOIL BEARING OF 1 TON PER SF(96 kN PER SQUARE METER), AND MAY BE VARIED BY THE ENGINEER TO MEET OTHER CONDITIONS ENCOUNTERED.
5. MEGA-LUG RETAINER GLANDS ARE REQUIRED FOR ALL MECHANICAL JOINTS. THESE GLANDS DO NOT REDUCE THE REQUIREMENTS FOR THRUST RESTRAINT.
6. ALL FITTINGS SHALL BE WRAPPED IN POLYETHYLENE OR BUILDING PAPER PRIOR TO INSTALLATION OF CONCRETE RESTRAINT.
7. THREADED ROD SHALL BE ANSI A242 FY50 PIPE RESTRAINT NUTS TO MATCH AWWA C111. THREADED RODS AND NUTS TO BE FIELD COATED WITH BITUMINOUS PAINT.
8. THRUST RESTRAINT IS REQUIRED FOR ALL TEES, BENDS, REDUCERS, CAPS, PLUGS, OR CROSSES.
9. INSTALL LIFT HOOKS INTO THRUST BLOCKS AT END CAPS AND PLUGS.



SECTION - WATER MAIN RELOCATION DETAIL

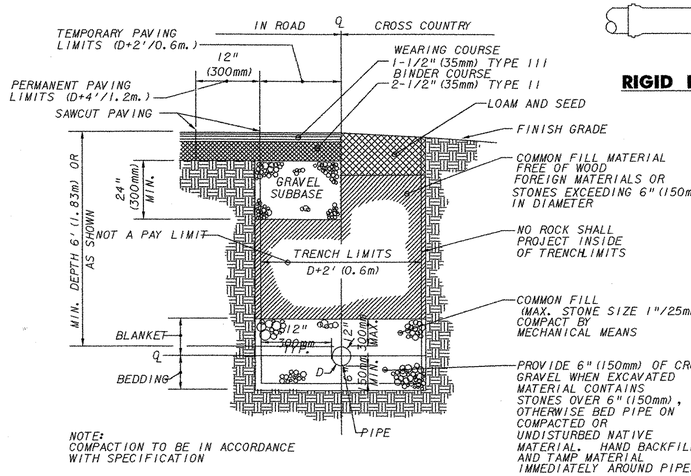
NOT TO SCALE





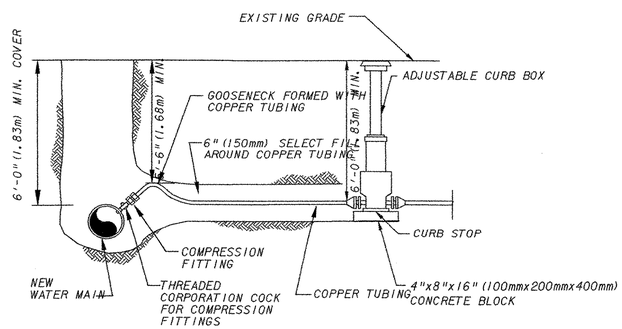
RIGID BOARD INSULATION DETAIL

NOT TO SCALE



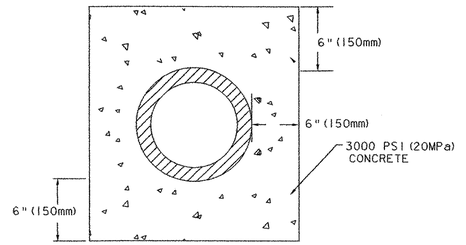
TYPICAL DUCTILE IRON TRENCH DETAIL

NOT TO SCALE



TYPICAL SERVICE CONNECTION DETAIL

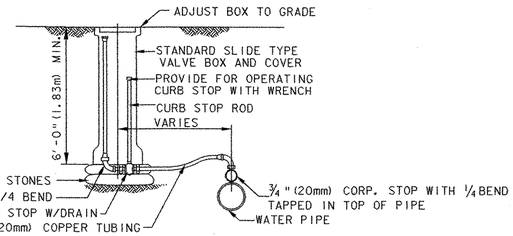
NOT TO SCALE



NOTE: CONCRETE ENCASEMENT OF WATER MAINS WILL BE REQUIRED WHERE THEY CROSS SEWERS AND STORM DRAINS, AND WHERE 18" (450mm) VERTICAL SEPARATION CAN NOT BE MAINTAINED

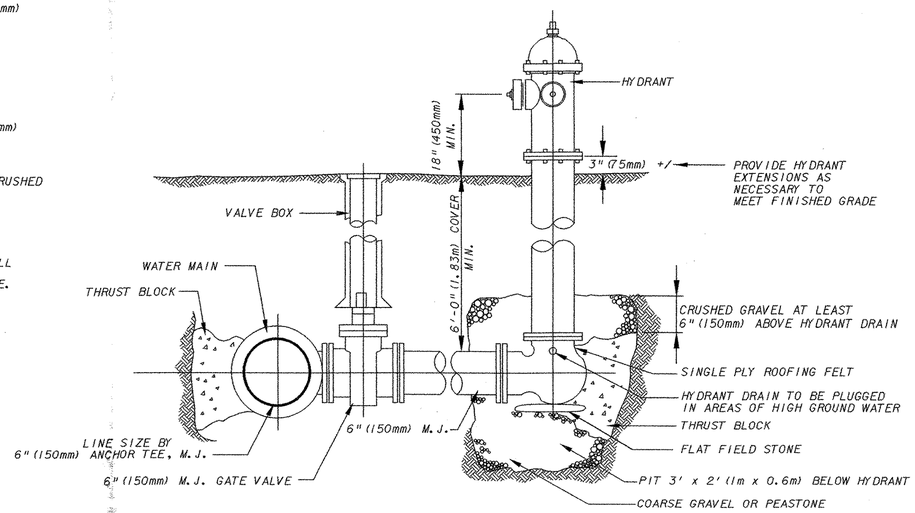
CONCRETE ENCASEMENT TYPICAL PIPE PROTECTION DETAIL

NOT TO SCALE



TYPICAL INSTALLATION-TRAVEL WAY FOR MANUAL AIR RELEASE/CHLORINE INJECTION POINT

NOT TO SCALE



HYDRANT ASSEMBLY DETAIL

NOT TO SCALE

Dufresne Henry

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)

FILE NAME: ...\62-Water Details.ptf
PROJECT LEADER: A.T. RICE
DESIGNED BY: A.T. RICE
PLOT DATE: 01/28/2004
DRAWN BY: B.L. BAKER
CHECKED BY: A.T. RICE

WATER DETAILS

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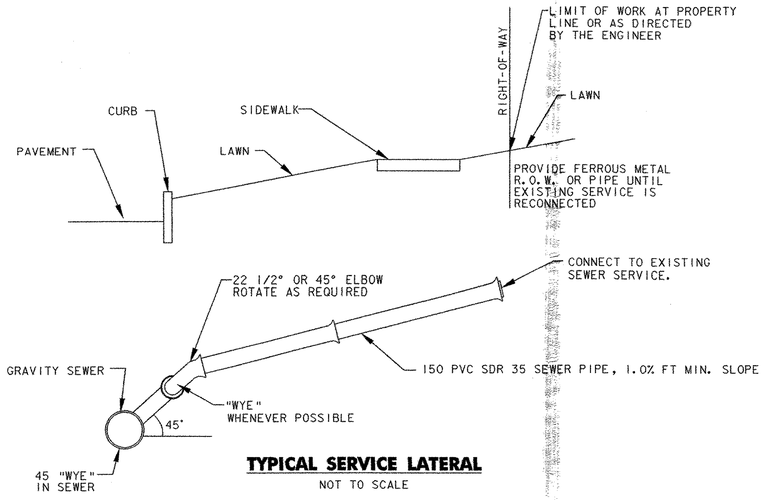

TYPICAL SERVICE LATERAL

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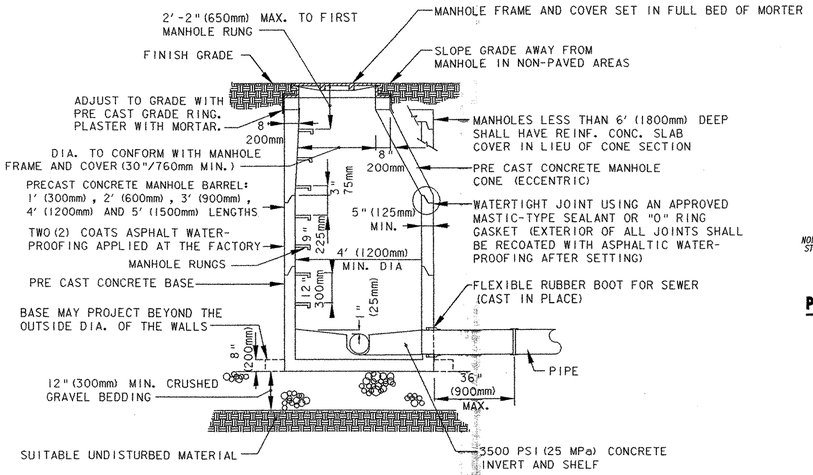
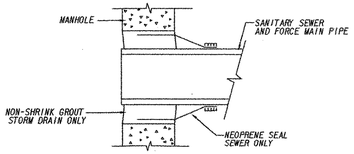


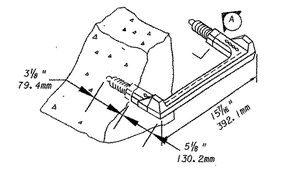
PRE CAST CONCRETE MANHOLE

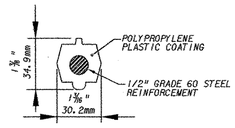
NOT TO SCALE



PIPE TO PRE CAST STRUCTURE DETAIL

NOT TO SCALE

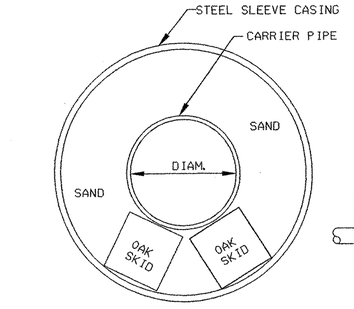


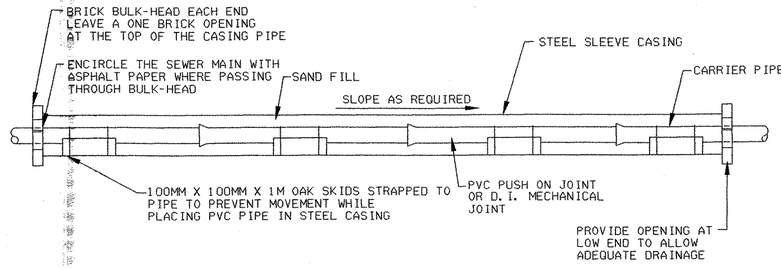


SECTION A NOT TO SCALE

MANHOLE STEP DETAIL

NOT TO SCALE





STEEL SLEEVE DETAIL

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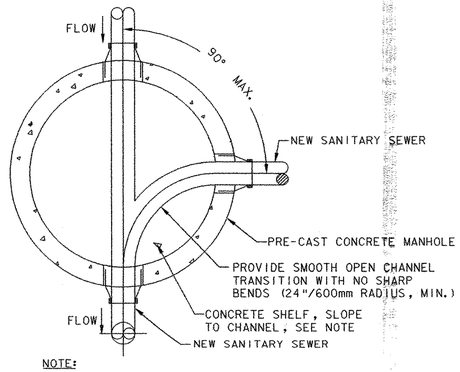
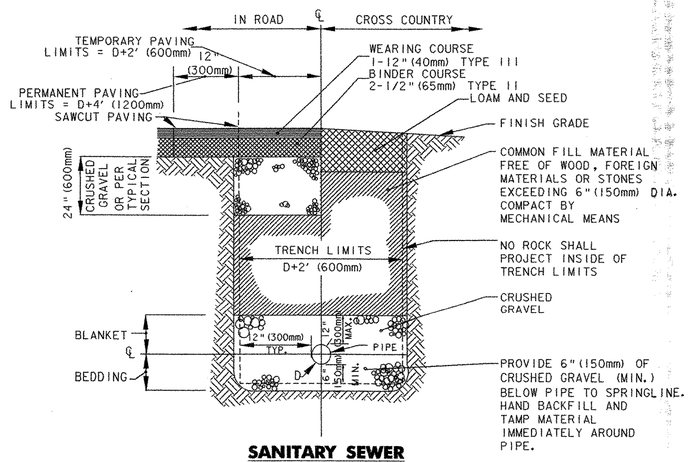


NOTE:
SHELVES CAN BE CONSTRUCTED WITH CLASS B 3500 PSI (25 MPa) CONCRETE AS DEFINED IN SECTION 501 OF THE VERMONT STANDARD SPECIFICATIONS, INVERTS FOR SEWER MANHOLES SHALL BE AS SHWON THE PLANS AND DETAILS AND SHALL BE CONSTRUCTED WITH CLASS B 3500 PSI (25MPa) C

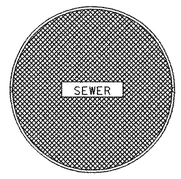
TYPICAL MANHOLE CHANNEL

NOT TO SCALE



SANITARY SEWER TYPICAL TRENCH DETAIL

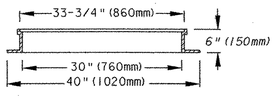
NOT TO SCALE



COVER PLATE

MIN. WEIGHT = 150 LBS (68 KG)

COVER SECTION



FRAME SECTION

MIN. WEIGHT = 250 LBS (114 KG)

MANHOLE FRAME AND COVER DETAIL

NOT TO SCALE

Dufresne Henry

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)

FILE NAME: ...\63-sewer details.ptf
PROJECT LEADER: A.T. RICE
DESIGNED BY: A.T. RICE
PLOT DATE: 01/26/2004
DRAWN BY: B.L. BAKER
CHECKED BY: A.T. RICE

SEWER DETAILS

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The Reinforced Earth Company

133 PARK STREET, NORTH READING, MA 01864 (978) 664-2830

GENERAL NOTES

DESIGN CRITERIA

1. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE REINFORCED EARTH VOLUME, METHODS OF CONSTRUCTION AND QUALITY OF PREFABRICATED MATERIALS SHALL CONFORM TO THE CONTRACTING AGENCY'S TECHNICAL SPECIFICATIONS FOR REINFORCED EARTH WALLS.

2. SOILS CHARACTERISTICS ASSUMED FOR DESIGN (PER NOTE 30, SHT. 37 OF 63):

   SELECT FILL MATERIAL FOR MSE WALLS
   $\emptyset$ = 34 degrees, c = 0 KPa., γ = 22 KN/m^3

   EMBANKMENT BACKFILL (RETAINED SOIL)
   $\emptyset$ = 32 degrees, c = 0 KPa., γ = 20 KN/m^3

   FOUNDATION MATERIAL (ALLOWABLE BEARING CAPACITY = 180 kPa)
   $\emptyset$ = 30 degrees, c = 0 KPa., γ = 17.3 KN/m^3

3. THE MAXIMUM APPLIED BEARING PRESSURE AT THE FOUNDATION LEVEL IS AS SHOWN ON THE WALL ELEVATIONS FOR EACH DESIGN CASE. IT IS THE RESPONSIBILITY OF THE OWNER TO DETERMINE THAT THIS APPLIED BEARING PRESSURE IS ALLOWABLE FOR THAT LOCATION.

4. ANY UNSUITABLE FOUNDATION MATERIAL BELOW THE REINFORCED EARTH VOLUME, AS DETERMINED BY THE VTRANS RESIDENT ENGINEER, SHALL BE EXCAVATED AND REPLACED WITH GRANULAR BORROW OR OTHERWISE STABILIZED AS DIRECTED BY THE VTRANS RESIDENT ENGINEER.

5. REINFORCING STRIPS SHALL BE 50mm WIDE AND 4mm THICK, AND SHALL CONFORM TO THE PHYSICAL AND MECHANICAL PROPERTIES OF ASTM A-572 GRADE 450. GALVANIZATION SHALL BE APPLIED IN ACCORDANCE WITH ASTM A-123 OR AASHTO M111 (610 g/m^2).

WALL CONSTRUCTION

6. STATIONS SHOWN ARE ALONG STOWE STREET BASELINE.

7. REINFORCED EARTH WALLS IN CURVES SHALL BE SET IN CHORDS OF 1.5m EACH TO THE DESIRED WALL ALIGNMENT.

8. FOR LOCATION AND ALIGNMENT OF REINFORCED EARTH WALL. SEE SHEET NO. 2 OF THESE PLANS AND CONTRACT DRAWINGS.

9. IF MANHOLES OR DROP INLETS ARE PRESENT WITHIN THE REINFORCED EARTH VOLUME AND SPECIFIC DETAILS HAVE NOT BEEN INCLUDED IN THESE PLANS, CONTACT THE REINFORCED EARTH COMPANY FOR APPROPRIATE DETAILS.

10. FOR PILES LOCATED WITHIN THE REINFORCED EARTH VOLUME, THEY SHALL BE DRIVEN PRIOR TO CONSTRUCTION OF THE REINFORCED EARTH WALL UNLESS A METHOD TO PROTECT THE STRUCTURE, WHICH IS ACCEPTABLE TO VTRANS AND THE REINFORCED EARTH COMPANY, AND IS PROPOSED AND APPROVED IN WRITING.

11. BACKFILL MATERIAL SHALL BE COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR REINFORCED EARTH WALLS TO A LEVEL OF 5 cm ± ABOVE THE TIE STRIPS EMBEDDED IN THE PANELS. INSTALLATION OF REINFORCING STRIPS SHALL BE PERMITTED ONLY AFTER PLACEMENT AND COMPACTION OF THE BACKFILL MATERIAL HAS REACHED THE REQUIRED LEVEL.

WALL CONSTRUCTION (CONT.)

12. COMPACTION AND OPERATION EQUIPMENT SHALL BE KEPT A MINIMUM DISTANCE OF 1M FROM THE BACK FACE OF THE REINFORCED EARTH PANELS. COMPACTION WITHIN 1M OF THE REINFORCED EARTH PANELS SHALL BE ACHIEVED WITH AT LEAST THREE (3) PASSES OF A LIGHTWEIGHT MECHANICAL TAMPER, ROLLER OR VIBRATORY SYSTEM. NO COMPACTION DENSITY TESTS SHALL BE TAKEN WITHIN THE 1M . ZONE.

13. IF STRUCTURES IN EXCESS OF 6M IN HEIGHT OCCUR, THE FINISHED GRADE IN FRONT OF THE WALL SHALL BE PLACED AND COMPACTED BEFORE WALL CONSTRUCTION EXCEEDS A HEIGHT OF 6M . FINISHED GRADE BACKFILL SHALL BE COMPACTED TO 95% OF ASTM D-698, METHODS 'C' OR 'D', UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

14. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE LOCATION OF ANY GUARDRAIL POSTS BEHIND THE REINFORCED EARTH PANELS. PRIOR TO PLACEMENT OF THE TOP LAYER OF REINFORCING STRIPS, INDIVIDUAL STRIPS MAY BE SKEWED TO AVOID THE POST LOCATIONS IF AUTHORIZED BY THE REINFORCED EARTH COMPANY. ANY DAMAGE DONE TO THE REINFORCING STRIPS DUE TO THE INSTALLATION OF THE GUARDRAIL SHALL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.

15. IF EXISTING OR FUTURE STRUCTURES, PIPES, FOUNDATIONS OR GUARDRAIL POSTS WHICH ARE WITHIN THE REINFORCED EARTH VOLUME INTERFERE WITH THE NORMAL PLACEMENT OF REINFORCING STRIPS AND SPECIFIC DIRECTION HAS NOT BEEN PROVIDED ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE REINFORCED EARTH COMPANY TO DETERMINE WHAT COURSE OF ACTION SHOULD BE TAKEN.

16. ALL DETAILING AND CHECKING OF REINFORCING STEEL FOR ANY C.I.P. CONCRETE WORK IS THE RESPONSIBILITY OF THE CONTRACTOR.

⚠1 17. NOTE DELETED.

18. FOR OTHER INFORMATION PERTAINING TO WALL CONSTRUCTION PLEASE REFER TO THE REINFORCED EARTH CONSTRUCTION MANUAL.

19. THE CONTRACTOR IS RESPONSIBLE FOR GRADUALLY DEFLECTING UPPER REINFORCING STRIPS DOWNWARD TO AVOID CONFLICTS WITH PAVING, FOUNDATIONS AND SUBGRADE PREPARATION. THE CONTRACTOR'S ATTENTION IS DIRECTED ESPECIALLY TO SITUATIONS WHERE ROADWAY SUPERELEVATION, IMPERVIOUS MEMBRANES AND/OR SOIL MIXING ARE ANTICIPATED.

20. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING STORM WATER DRAINAGE IN THE VICINITY OF THE WALL DURING CONSTRUCTION. STORM WATER RUNOFF IS TO BE COLLECTED AND DISCHARGED AWAY FROM THE WALL AND REINFORCED BACKFILL.

MATERIALS NOTES

21. NOMINAL STRIP LENGTHS

THE REINFORCING STRIP LENGTHS SHOWN ON THE PLANS, MEASURED FROM BACK FACE OF PANEL, ARE THE NOMINAL LENGTHS REQUIRED BY CALCULATION. THE ACTUAL FABRICATED STRIP LENGTHS ARE OFTEN LONGER (UP TO 15cm) DUE TO MANUFACTURING TOLERANCES. THE REQUIRED HORIZONTAL LIMIT OF GRANULAR BACKFILL IS EQUAL TO THE NOMINAL STRIP LENGTH. ADDITIONAL GRANULAR BACKFILL BEYOND THE NOMINAL STRIP LENGTH IS NOT REQUIRED BY CALCULATION.

MATERIALS NOTES (CONT.)

22. SELECT BACKFILL QUANTITY

THE SELECT BACKFILL QUANTITY IS CALCULATED BY MULTIPLYING THE NOMINAL STRIP LENGTHS SHOWN ON THE PLANS (PLUS 300mm) BY THEIR TRIBUTARY WALL SURFACE AREA AND CONVERTING THE RESULT TO A NEATLINE CUBIC METER QUANTITY. THE CONTRACTOR MUST CALCULATE HIS OWN EXCAVATION AND BACKFILL QUANTITIES BASED UPON THE SPECIFIC CONDITIONS OF THE PROJECT.

23. PANEL FINISH

PRECAST FACING PANELS FOR SHALL HAVE AN ASHLAR STONE FORM LINER FINISH. PANEL TYPES "B" AND "J" (SLIP JOINT COVER PIECES) SHALL HAVE A PLAIN STEEL FORM FINISH. ALL PRECAST PIECES SHALL BE COLORED WITH BAYFERROX 330 3.5% (HEAT STABLE) PIGMENT DYE.

24. NOTE TO CONTRACTORS

ONLY THE FOLLOWING MATERIALS ARE SUPPLIED BY THE REINFORCED EARTH COMPANY:

- PRECAST CONCRETE FACING PANELS
- REINFORCING STRIPS
- BOLT SETS (FOR ATTACHING REINFORCING STRIPS TO PANELS)
- BEARING BLOKS
- RUBBER SHIMS
- FILTER CLOTH AND ADHESIVE (FOR PANEL JOINTS ONLY)

ANY OTHER MATERIALS CALLED FOR IN THE CONTRACT PLANS OR SPECIFICATIONS ARE TO BE SUPPLIED BY THE CONTRACTOR. ANY JOINT MATERIALS SHOWN AT THE INTERFACE OF PRECAST PANELS AND CAST-IN-PLACE CONCRETE STRUCTURES ARE TO BE SUPPLIED BY THE ERECTION CONTRACTOR. ALL SANDBLASTING, PAINTING, SEALERS OR OTHER SPECIAL APPLIED COATINGS ARE ALSO SUPPLIED/INSTALLED BY THE CONTRACTOR IN THE FIELD FOLLOWING PANEL ERECTION.

ALL GEOTEXTILES, GEOGRIDS, IMPERVIOUS MEMBRANES ARE SUPPLIED BY THE CONTRACTOR.

25. THE REINFORCED EARTH COMPANY SUPPLIES PRECAST CONCRETE FACING PANELS AND ACCESSORIES TO BE USED IN CONJUNCTION WITH OTHER MATERIALS IN THE CONSTRUCTION OF THE REINFORCED EARTH® RETAINING WALLS DETAILED HEREIN. THE CONSTRUCTION AND QUALITY CONTROL PROCEDURES MANUAL FURNISHED BY THE REINFORCED EARTH COMPANY IS INTENDED TO PROVIDE A GENERAL EXPLANATION OF THE SYSTEM. IT IS THE CONTRACTOR'S OBLIGATION TO DEVISE AND EXECUTE A PROJECT SPECIFIC ERECTION SEQUENCE, PANEL UNLOADING, HANDLING AND BRACING SYSTEM, AND FALL PROTECTION SYSTEM. THE BRACING SYSTEM SHOWN IN THE CONSTRUCTION AND QUALITY CONTROL PROCEDURES MANUAL IS GENERAL IN NATURE AND DOES NOT ACCOUNT FOR PROJECT SPECIFIC CRITERIA. COMPLIANCE WITH THE GUIDELINES IN THIS MANUAL DOES NOT RELIEVE THE CONTRACTOR OF ITS RESPONSIBILITY TO ADHERE TO THE PROJECT PLANS, SPECIFICATIONS AND CONTRACT DOCUMENTS OR COMPLIANCE WITH ALL FALL PROTECTION, SAFETY, LAWS, STANDARDS AND PROCEDURES AT THE JOBSITE. CONTRACTORS SHOULD TAKE SPECIAL PRECAUTIONS TO PREVENT THE PANELS FROM SHIFTING OR FALLING DURING THE ERECTION PROCESS.

26. PROJECT NOTES

SEE CONTRACT DRAWINGS 37 OF 63 FOR ADDITIONAL NOTES.
SEE PROJECT SPECIAL PROVISIONS SECTION 526 FOR ADDITIONAL REQUIREMENTS.

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SHEET NO.	CONTENTS
1	GENERAL NOTES
2	PLAN VIEW – REINFORCED EARTH WALLS
3	ELEVATION – MSE WINGWALLS 1 & 2
4	ELEVATION – MSE WINGWALLS 3 & 4
5	DETAILS/TYP. SECTION
6	DETAILS AT DRAINAGE STRUCTURES
7	STANDARD PANEL DETAILS

SUMMARY OF MATERIAL QUANTITIES	
	FACING PANEL AREA
MSE WINGWALL 1	94.7 SM
MSE WINGWALL 2	81.9 SM
MSE WINGWALL 3	111.5 SM
MSE WINGWALL 4	92.8 SM
TOTAL	380.9 SM

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BY CPW DATE 8/13/04

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STATE OF VERMONT
PETER L. ANDERSON
8161
PROFESSIONAL ENGINEER
8/6/04

VT AOT PROJ. NO. BRO 1446(26)

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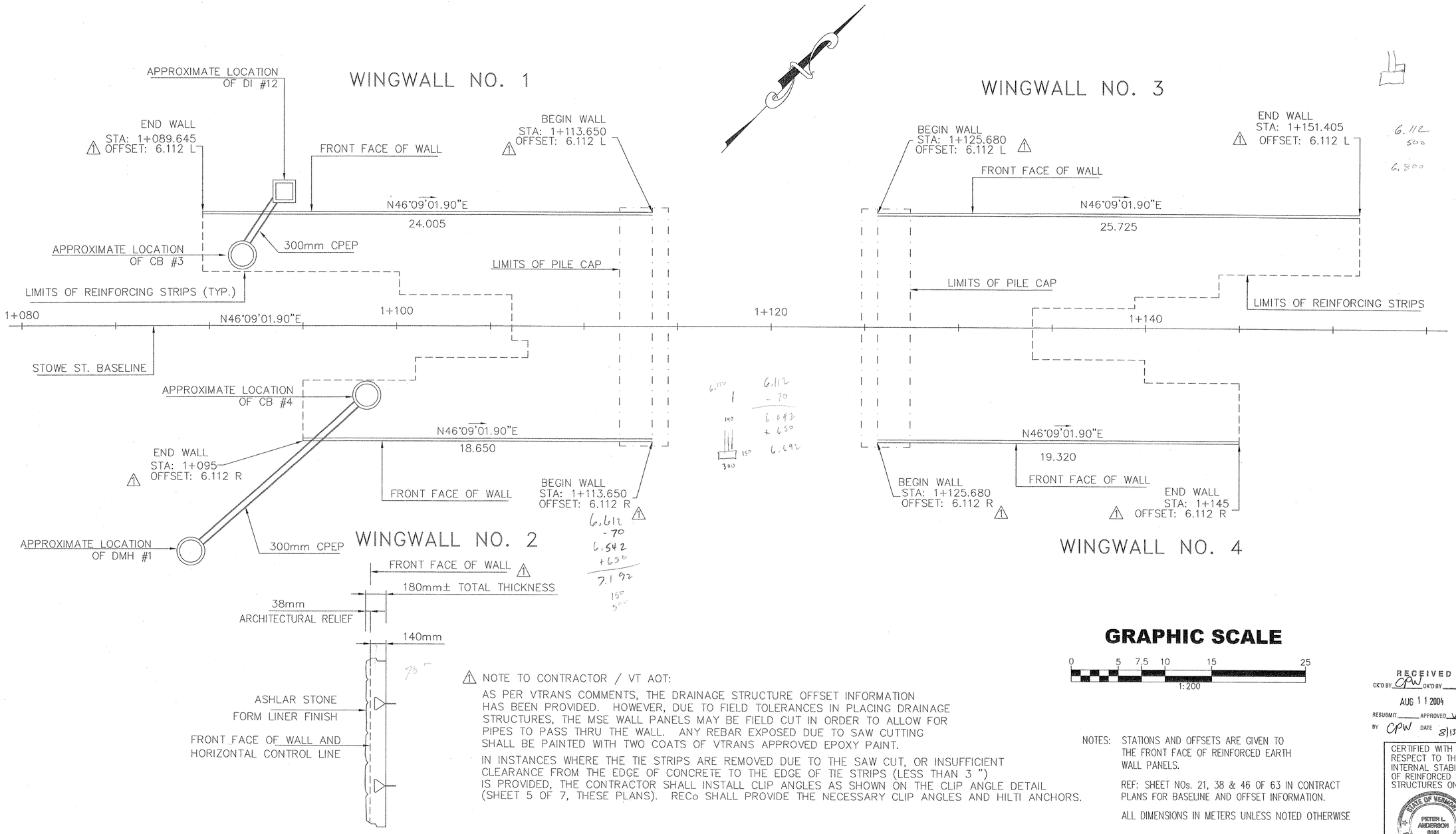
The Reinforced Earth Company
8614 Westwood Center Drive Suite 1100, Vienna, Virginia 22182 (703) 821-1175

"REINFORCED EARTH" is the registered trademark of The Reinforced Earth Company.

DESIGNED BY: KPB				PROJECT NAME	STOWE STREET BRIDGE OVER CENTRAL VT RAILROAD	DATE 6-25-04
PROJECT ENGR: KPB				LOCATION	WATERBURY VERMONT	CONTRACT NO. 11069
CHECKED BY: PLA	⚠1	8/6/04	REV. AS PER VTRANS COMMENTS.	OWNER	VT AOT	DRAWING NO. 1 OF 7
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	GENERAL NOTES – R.E. WALLS	SCALE AS SHOWN

C:\11069\11069_COV.DWG

064 E.W



SECTION THROUGH FACING PANEL

⚠ NOTE TO CONTRACTOR / VT AOT:

AS PER VTRANS COMMENTS, THE DRAINAGE STRUCTURE OFFSET INFORMATION HAS BEEN PROVIDED. HOWEVER, DUE TO FIELD TOLERANCES IN PLACING DRAINAGE STRUCTURES, THE MSE WALL PANELS MAY BE FIELD CUT IN ORDER TO ALLOW FOR PIPES TO PASS THRU THE WALL. ANY REBAR EXPOSED DUE TO SAW CUTTING SHALL BE PAINTED WITH TWO COATS OF VTRANS APPROVED EPOXY PAINT.

IN INSTANCES WHERE THE TIE STRIPS ARE REMOVED DUE TO THE SAW CUT, OR INSUFFICIENT CLEARANCE FROM THE EDGE OF CONCRETE TO THE EDGE OF TIE STRIPS (LESS THAN 3 ") IS PROVIDED, THE CONTRACTOR SHALL INSTALL CLIP ANGLES AS SHOWN ON THE CLIP ANGLE DETAIL (SHEET 5 OF 7, THESE PLANS). RECo SHALL PROVIDE THE NECESSARY CLIP ANGLES AND HILTI ANCHORS.

GRAPHIC SCALE

0 5 7.5 10 15 25

1:200

NOTES: STATIONS AND OFFSETS ARE GIVEN TO THE FRONT FACE OF REINFORCED EARTH WALL PANELS.

REF: SHEET NOs. 21, 38 & 46 OF 63 IN CONTRACT PLANS FOR BASELINE AND OFFSET INFORMATION.

ALL DIMENSIONS IN METERS UNLESS NOTED OTHERWISE

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BY: CPW DATE: 8/13/04

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STATE OF VERMONT
PETER L. ANDERSON
8181
PROFESSIONAL ENGINEER
8/6/04

VT AOT PROJ. NO. BRO 1446(26)

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The Reinforced Earth Company
8614 Westwood Center Drive Suite 1100, Vienna, Virginia 22182 (703) 821-1175

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DESIGNED BY:	REV.	DATE	DESCRIPTION	PROJECT NAME	STOWE STREET BRIDGE OVER CENTRAL VT RAILROAD	DATE
KPB						6-25-04
PROJECT ENGR: KPB				LOCATION	WATERBURY VERMONT	CONTRACT NO. 11069
CHECKED BY: PLA	⚠	8/6/04	REV. AS PER VTRANS COMMENTS.	OWNER	VT AOT	DRAWING NO. 2 OF 7
ENG. MANAGER				DRAWING COVERS	PLAN VIEW– R.E. WALLS	SCALE AS SHOWN

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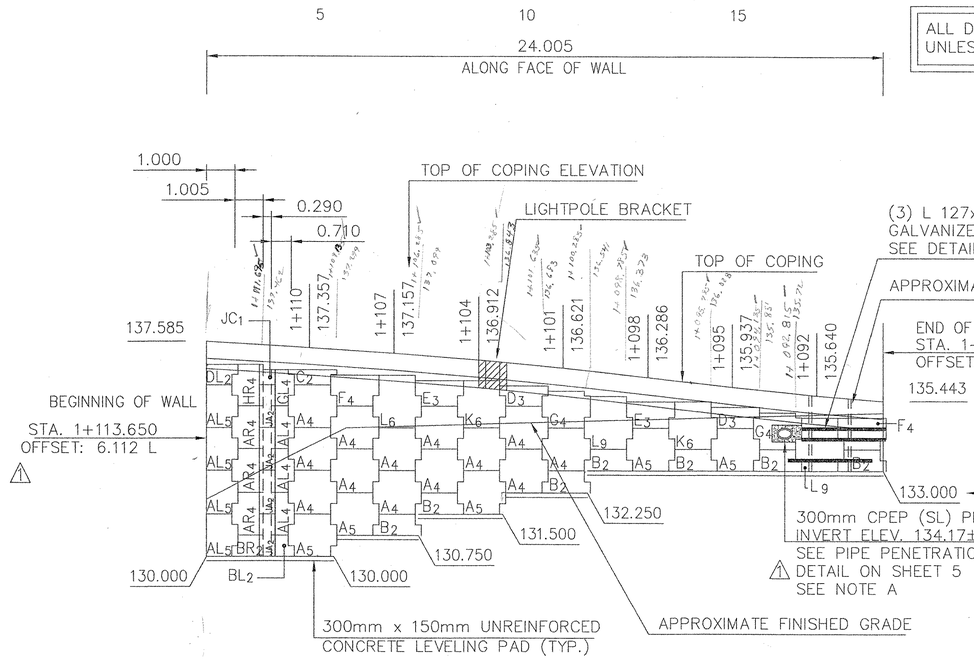
065 E.W.

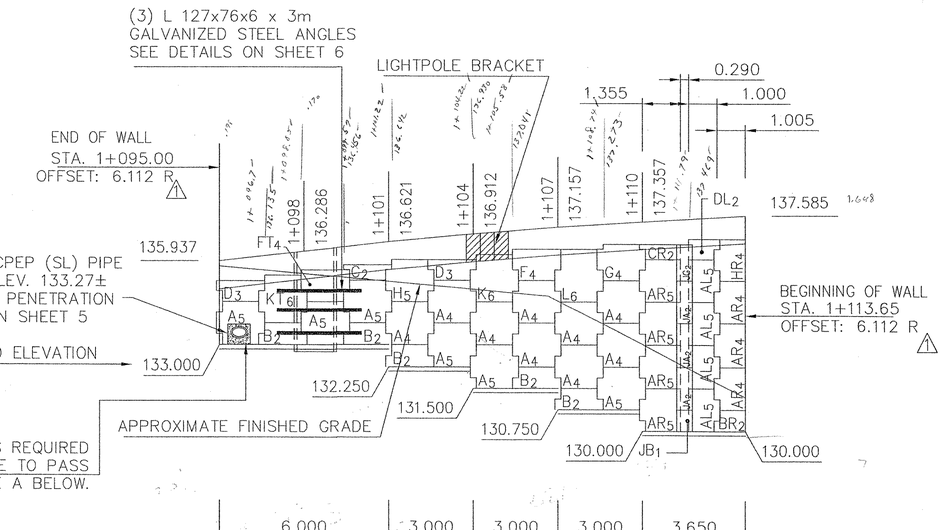
ALL DIMENSIONS ON THIS SHEET ARE IN METERS UNLESS NOTED OTHERWISE.



	4.505	3.000	3.000	3.000	10.500
LENGTH OF 50 X 4 MM REINFORCING STRIPS AND MAXIMUM APPLIED WALL BEARING PRESSURE.	9.760m 180 kPa	6.710m 178 kPa	4.270m 178 kPa	3.050m 137 kPa	

ELEVATION – FRONT FACE – WINGWALL NO. 1

SCALE = 1 : 100



	6.000	3.000	3.000	3.000	3.650
LENGTH OF 50 X 4 MM REINFORCING STRIPS AND MAXIMUM APPLIED WALL BEARING PRESSURE.	3.050m 137 kPa	4.270m 178 kPa	6.710m 178 kPa	9.760m 180 kPa	

ELEVATION – FRONT FACE – WINGWALL NO. 2

SCALE = 1 : 100

NOTES: LENGTH OF LEVELING PAD IS BASED ON INDIVIDUAL PANEL WIDTHS, ℄ OF EAR TO ℄ OF EAR. USE THE STEP DETAIL ON SHEET No. 4 TO DETERMINE THE ACTUAL LEVELING PAD STEP LOCATION.

FOR TYPICAL WALL SECTIONS SEE SHEET No. 4.

FOR GUIDERAIL AND COPING DETAILS – SEE CONTRACT PLANS (INCL SHEET 45 OF 63).

⚠ NOTE A:

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KEY: PANEL NAME AR–1.355 (MODIFICATION: SPECIAL WIDTH) 4 NO. OF TIE STRIPS

SEE CONTRACT PLANS FOR LOCATIONS AND DETAILS OF CONCRETE BRACKET FOR LIGHTPOLES

VT AOT PROJ. NO. BRO 1446(26)

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BY GPW DATE 8/13/04

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STATE OF VERMONT PIETER L. ANDERSON 6161 PROFESSIONAL ENGINEER
8/6/04

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The Reinforced Earth Company
8614 Westwood Center Drive Suite 1100, Vienna, Virginia 22182 (703) 821-1175

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DESIGNED BY: KPB				PROJECT NAME	STOWE STREET BRIDGE OVER CENTRAL VT RAILROAD	DATE 6–25–04
PROJECT ENGR: KPB				LOCATION	WATERBURY VERMONT	CONTRACT NO. 11069
CHECKED BY: PLA	⚠	8/6/04	REV. AS PER VTRANS COMMENTS.	OWNER	VT AOT	DRAWING NO. 3 OF 7
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	ELEV. VIEW– R.E. WALLS 1 & 2	SCALE AS SHOWN

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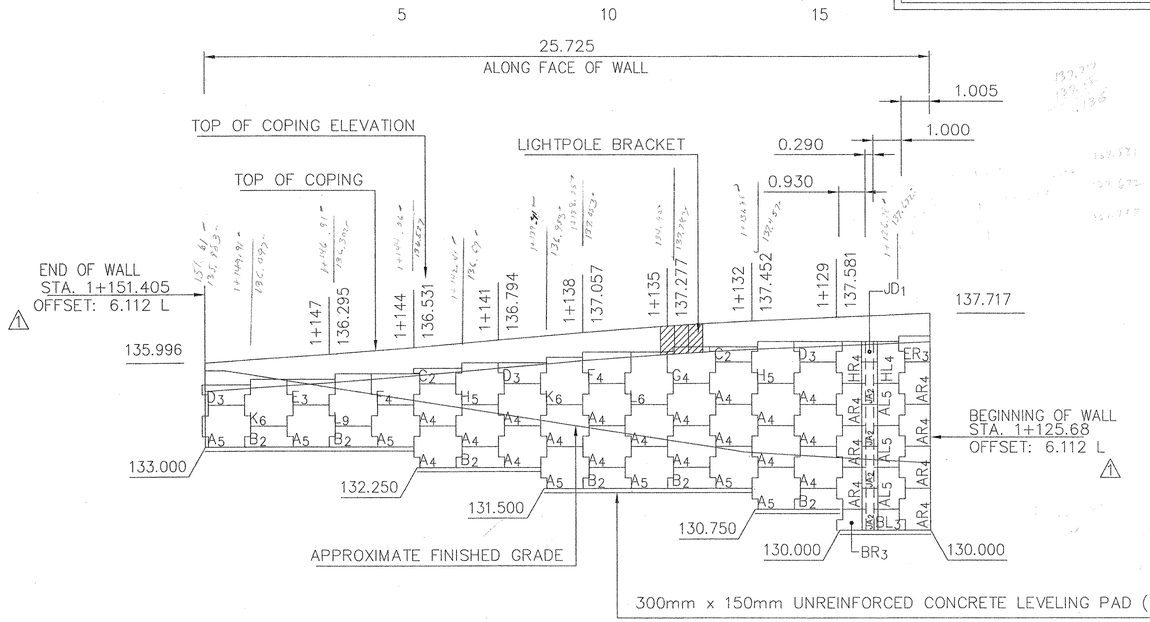
066 E.W.

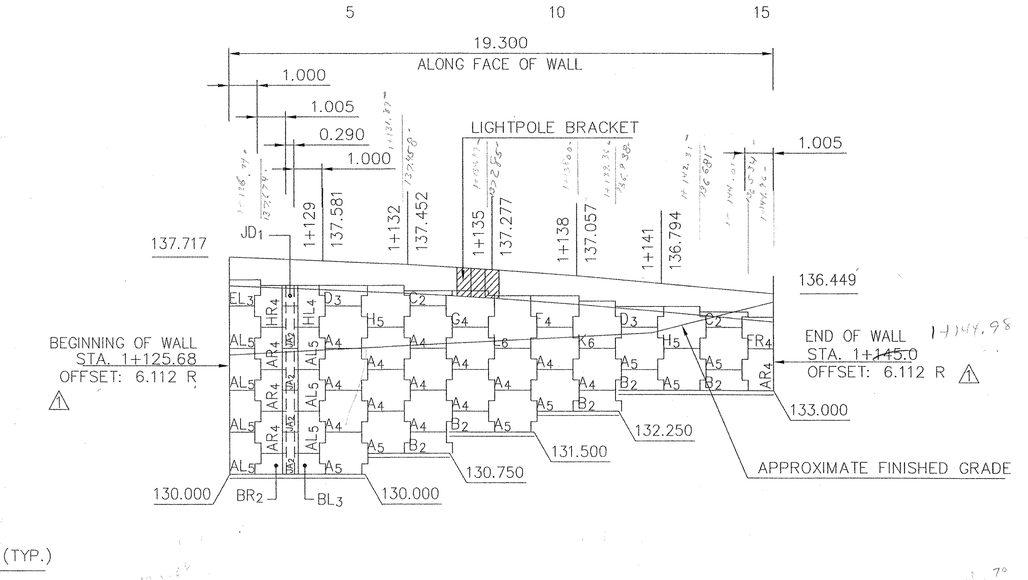
ALL DIMENSIONS ON THIS SHEET ARE IN METERS UNLESS NOTED OTHERWISE.



	7.500	4.500	7.500	3.000	3.225
LENGTH OF 50 X 4 MM REINFORCING STRIPS AND MAXIMUM APPLIED WALL BEARING PRESSURE.	3.050m 137 kPa	4.270m 178 kPa	4.880m 179 kPa	7.930m 180 kPa	9.760m 180 kPa

ELEVATION – FRONT FACE – WINGWALL NO. 3

SCALE = 1 : 100



	4.795	3.000	3.000	3.000	5.505
LENGTH OF 50 X 4 MM REINFORCING STRIPS AND MAXIMUM APPLIED WALL BEARING PRESSURE.	9.760m 180 kPa	7.930m 180 kPa	4.270m 178 kPa	3.050m 137 kPa	

ELEVATION – FRONT FACE – WINGWALL NO. 4

SCALE = 1 : 100

KEY: AR–1.355$_4$ — PANEL NAME; 1.355 = MODIFICATION SPECIAL WIDTH; 4 = NO. OF TIE STRIPS

NOTES: LENGTH OF LEVELING PAD IS BASED ON INDIVIDUAL PANEL WIDTHS, ℄ OF EAR TO ℄ OF EAR. USE THE STEP DETAIL ON SHEET No. 4 TO DETERMINE THE ACTUAL LEVELING PAD STEP LOCATION.

FOR TYPICAL WALL SECTIONS SEE SHEET No. 4.

FOR GUIDERAIL AND COPING DETAILS – SEE CONTRACT PLANS (INCL SHEET 45 OF 63).

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RESUBMIT APPROVED ✓
BY CPW DATE 8/13/04

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STATE OF VERMONT PETER L. ANDERSON 6181 PROFESSIONAL ENGINEER
8/6/04

SEE CONTRACT PLANS FOR LOCATIONS AND DETAILS OF CONCRETE BRACKET FOR LIGHTPOLES

VT AOT PROJ. NO. BRO 1446(26)

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PROJECT ENGR: KPB				LOCATION	WATERBURY VERMONT	CONTRACT NO. 11069
CHECKED BY: PLA	1	8/6/04	REV. AS PER VTRANS COMMENTS.	OWNER	VT AOT	DRAWING NO. 4 OF 7
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	ELEV. VIEW– R.E. WALLS 3 & 4	SCALE AS SHOWN

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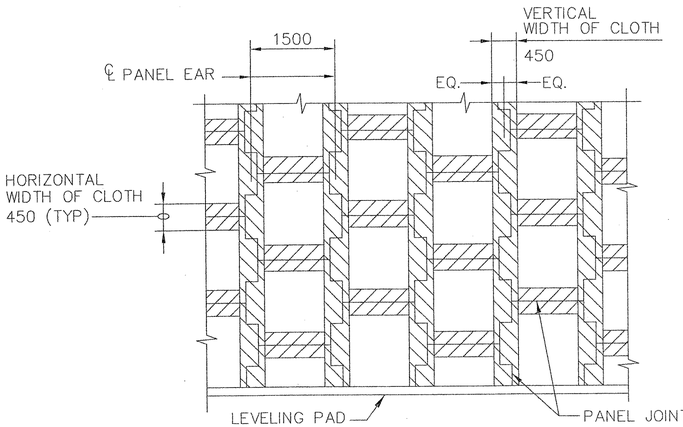
067 E.W.

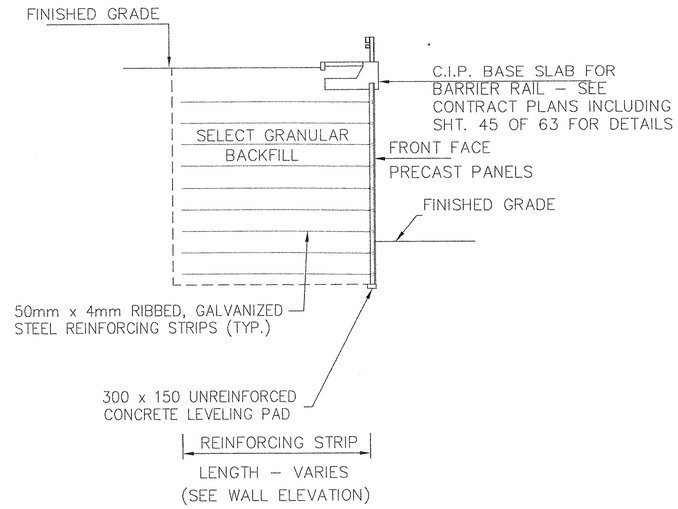


NOTES:

1. STRIPS OF FILTER CLOTH SHALL BE PLACED ON BACK FACE OF PANEL, OVER PANEL JOINTS. FILTER CLOTH SHALL BE ADHERED TO BACK FACE OF PANELS USING AN ADHESIVE COMPOUND SUPPLIED BY THE REINFORCED EARTH COMPANY.
2. THE CONTRACTOR SHALL PROVIDE THE RESIDENT ENGINEER WITH THE MANUFACTURERS TECHNICAL DATA SHEET AND APPLICATION INSTRUCTIONS FOR THE ADHESIVE COMPUND.

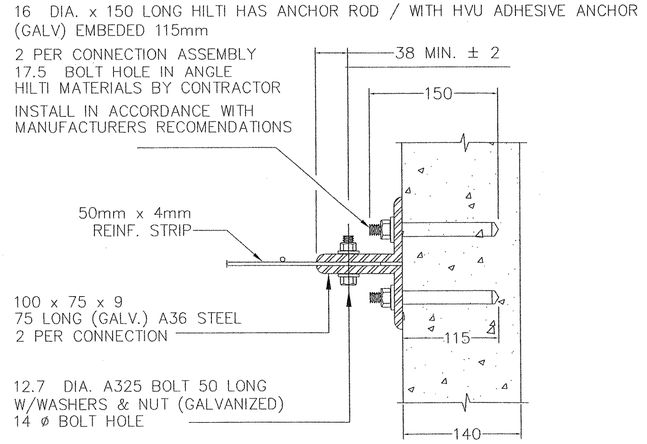
FILTER CLOTH DETAIL
PARTIAL ELEVATION – BACK FACE

SCALE 1:50



TYPICAL SECTION
APPROACH WALLS

SCALE: 1 : 100

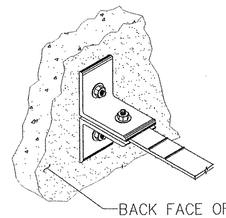


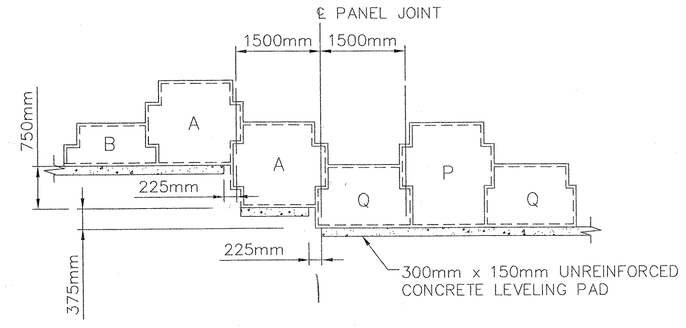
⚠ CLIP ANGLE DETAIL

NTS

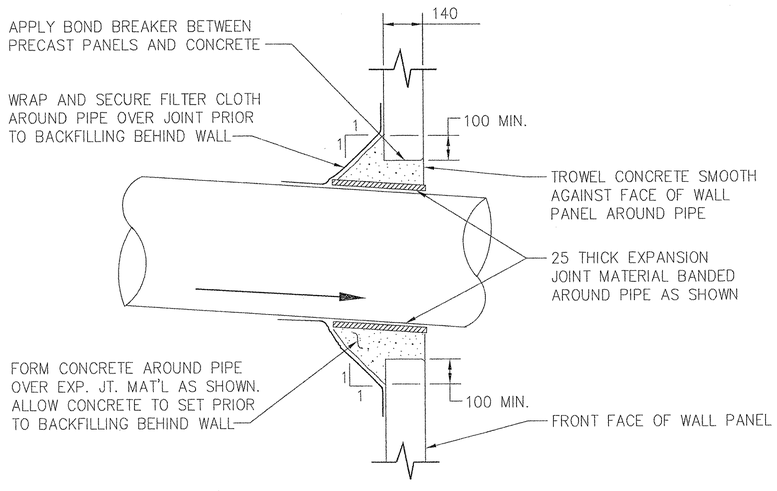
MATERIAL PROPERTIES

1. CLIP ANGLE – A36 STEEL GALVANIZED PER ASTM A-123 OR AASHTO M111
2. 1/2"ø BOLTS – A325 – GALVANIZED PER ASTM A-153
3. FOR REINFORCING STRIP MATERIAL SPECIFICATIONS SEE SHEET 1 OF 7, NOTE NO. 5.
4. HILTI COMPONENTS PER HILTI SPECS.





TYPICAL LEVELING PAD STEP DETAIL



PIPE PENETRATION AT WALL FACE DETAIL

SCALE: 1 : 100

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STATE OF VERMONT
PETER L. ANDERSON
6151
PROFESSIONAL ENGINEER
8/6/04

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PROJECT ENGR: KPB				LOCATION	WATERBURY VERMONT
CHECKED BY: PLA	⚠1	8/6/04	REV. AS PER VTRANS COMMENTS (ADDED CLIP ANGLE DETAIL)	OWNER	VT AOT
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	TYPICAL SECTION AND DETAILS

DATE	6-25-04
CONTRACT NO.	11069
DRAWING NO.	5 OF 7
SCALE	AS SHOWN

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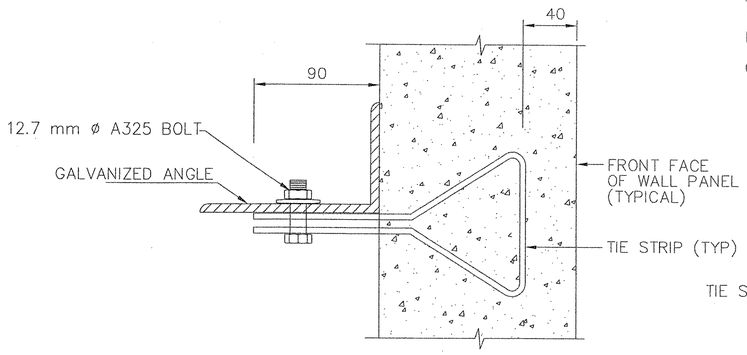
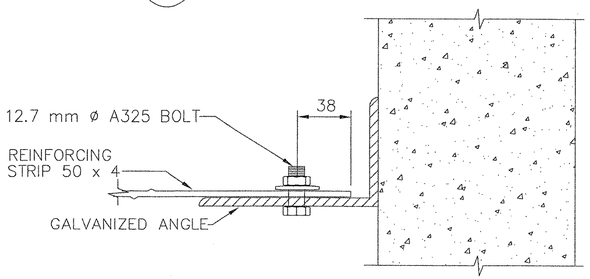
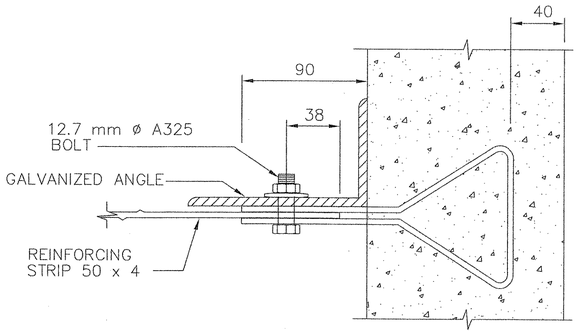
068 E.W.



1 ANGLE BOLTED TO TIE STRIP

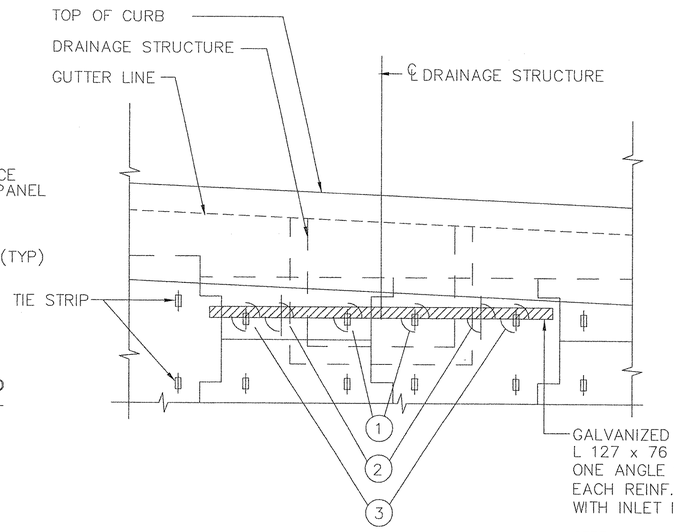


2 SHIFTED REINF. STRIP BOLTED TO ANGLE



3 ANGLE BOLTED TO TIE STRIP WITH REINF. STRIP CONNECTION DETAILS 1 THRU 3

SCALE 1:2

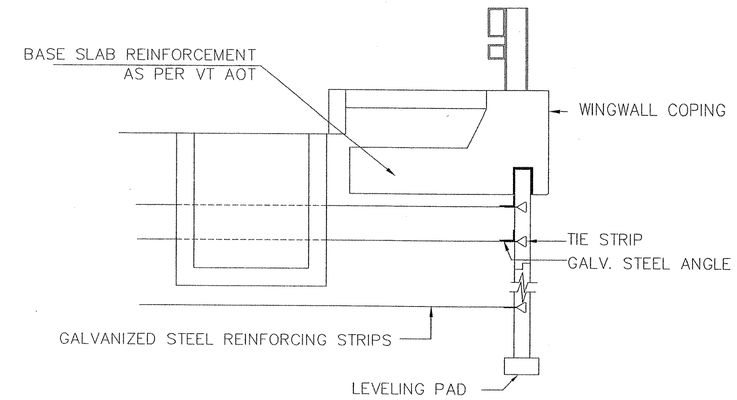


PARTIAL ELEVATION

SCALE 1:25

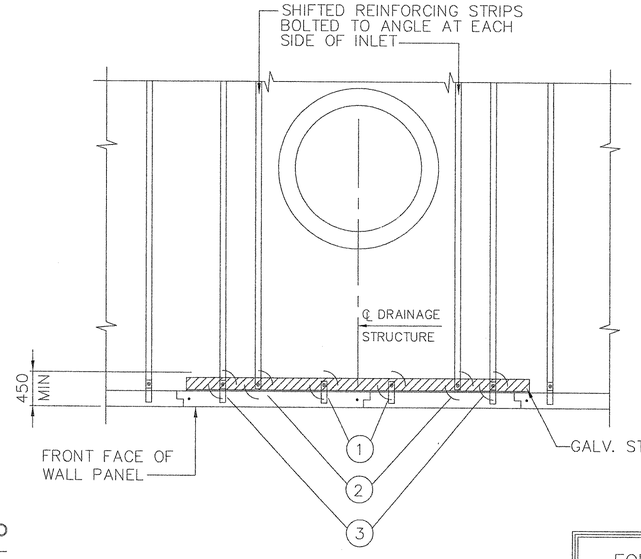
GALVANIZED STEEL ANGLE, L 127 x 76 x 6 x 3050 ONE ANGLE REQUIRED FOR EACH REINF. STRIP LEVEL WITH INLET INTERFERENCE.

STEEL ANGLES SHALL BE ASTM A709M GRADE 250. GALVANIZED PER ASTM A-123 FIELD DRILL 14mm HOLES IN ANGLE AT LOCATIONS REQUIRED FOR BOLTED CONNECTIONS. APPLY TWO COATS OF ZINC-RICH GALVANIZING PAINT TO FIELD DRILLED HOLES.



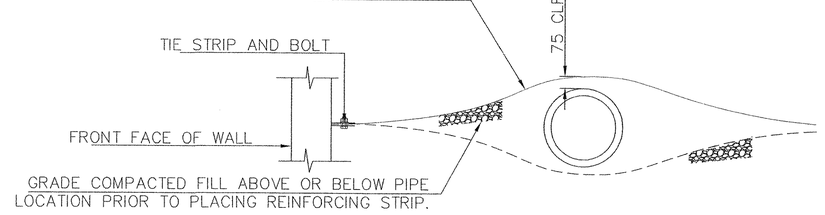
TYPICAL SECTION AT CATCH BASINS

ALL DIMENSIONS ON THIS SHEET ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.



PARTIAL PLAN

SCALE 1:25



REINFORCING STRIP SHALL BE GRADUALLY DEFLECTED EITHER ABOVE OR BELOW PIPE (WHICHEVER CREATES THE LEAST ANGLE OF DEFLECTION). PLACE REINFORCING STRIP ON COMPACTED BACKFILL.

REINFORCING STRIP DEFLECTION AT PIPES BEHIND WALL

FOR EVERY TIE STRIP BLOCKED BY CATCH BASIN, SHIFT ASSOCIATED REINFORCING STRIP TO SIDE OF CATCH BASIN, BOLT REINFORCING STRIP TO ANGLE AND PLACE NORMAL TO WALL.

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CK'D BY CPW CK'D BY
AUG 11 2004
RESUBMIT APPROVED ✓
BY CPW DATE 8/13/04

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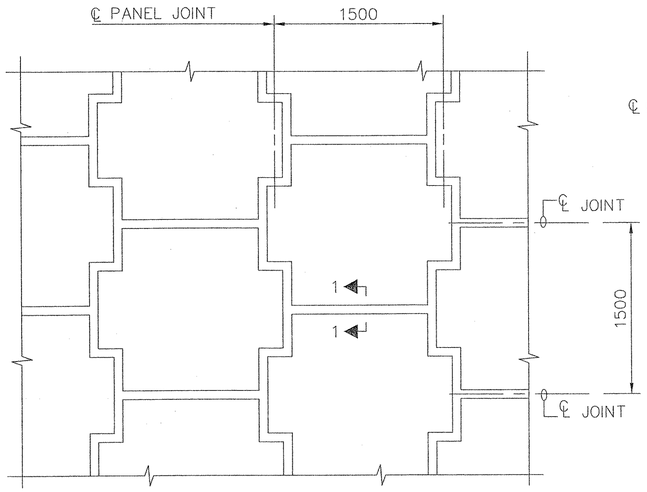
DESIGNED BY: KPB				PROJECT NAME	STOWE STREET BRIDGE OVER CENTRAL VT RAILROAD	DATE 6-25-04
PROJECT ENGR: KPB				LOCATION	WATERBURY VERMONT	CONTRACT NO. 11069
CHECKED BY: PLA				OWNER	VT AOT	DRAWING NO. 6 OF 7
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	DETAILS AT DRAINAGE STRUCTURES	SCALE AS SHOWN

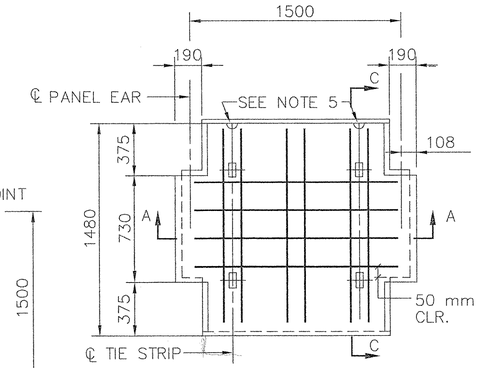
C:\11069\11069_D2.DWG

069 E.W.



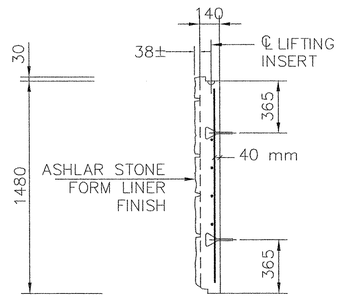
TYPICAL PANEL LAYOUT
PARTIAL ELEVATION - FRONT FACE

SCALE 1:25



PANEL TYPE "A"
WITH R6 REINFORCEMENT
BACK FACE VIEW

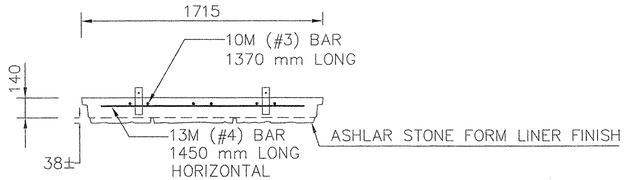
SCALE 1:20



SECTION C-C

SCALE 1:20

PANEL THICKNESS	REINFORCEMENT DESIGNATION	PANEL REINFORCEMENT	MAXIMUM ALLOWABLE HORIZONTAL STRESS AT FACING (KPa)
140+38	R6	6–10M(#3) ø VERT. 4–13M(#4) ø HORIZ.	77 kPa

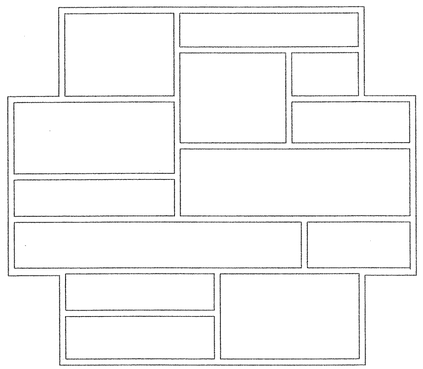


SECTION A-A

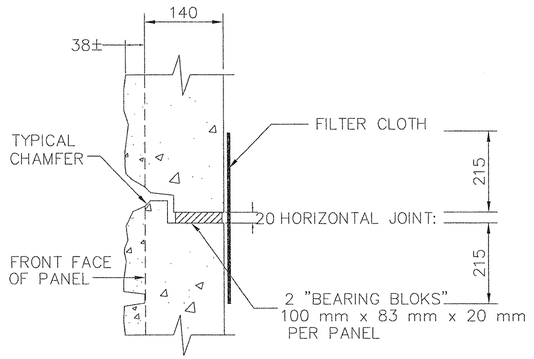
SCALE 1:20

NOTES:

1. REINFORCING STEEL TO BE A615 GRADE 420. EPOXY COATED
2. 28 DAY COMPRESSIVE STRENGTH OF CONCRETE = 27.6 MPa
3. 10 mm x 10 mm CHAMFER SHALL BE PROVIDED ON ALL EXPOSED EDGES (FRONT FACE ONLY).
4. ALL PANEL TYPES AND OTHER RELATED ELEMENTS WILL BE DETAILED ON SHOP DRAWINGS.
5. ALL PANELS SHALL HAVE TWO LIFTING INSERTS OF ONE TON CAPACITY EACH.
6. FACING PANEL FINISH SHALL BE AN ASHLAR STONE FORM LINER FINISH. THE CONCRETE SHALL BE COLORED WITH DYE (BAYFERROX 330, 3.5% – HEAT STABLE). THE FINISHED PRODUCT SHALL BE DISPLAYED AS A TEST PANEL AND SHALL BE APPROVED BY VTRANS PRIOR TO COMMENCING PRECASTING OF THE PANELS TO BE USED IN THE WALL CONSTRUCTION. THE APPROVED TEST PANEL SHALL BE USED AS A BENCHMARK FOR THE CORRECT COLOR, SHADE THROUGHOUT THE PRECASTING OPERATION.
7. PANEL DESIGN THICKNESS IS 140 mm.
8. BEARING BLOKS SHALL BE EPDM RUBBER PADS WITH DUROMETER HARDNESS OF 80±5, CONFORMING TO ASTM D2000.
9. SHIMS SHALL BE EPDM RUBBER PADS WITH DUROMETER HARDNESS OF 80±5, CONFORMING TO ASTM D2000. NOMINAL DIMENSION OF SHIM IS 50mm X 85mm X 5mm THICK.
10. SEE CONSTRUCTION MANUAL FOR ADDITIONAL INFORMATION.

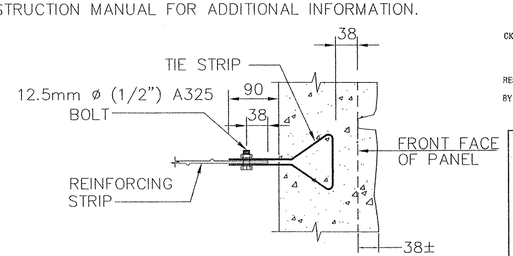


ASHLAR STONE PANEL FINISH
PANEL TYPE A
(LOOKING AT PANEL FACE)



SECTION 1-1

SCALE 1:5



CONNECTION DETAIL

SCALE 1:5

VT AOT PROJ. NO. BRO 1446(26)

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BY CPW DATE 8/13/04

CERTIFIED WITH RESPECT TO THE INTERNAL STABILITY OF REINFORCED EARTH STRUCTURES ONLY

STATE OF VERMONT
PIETER L. ANDERSON
6151
PROFESSIONAL ENGINEER
8/6/04

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The Reinforced Earth Company
8614 Westwood Center Drive Suite 1100, Vienna, Virginia 22182 (703) 821-1175

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DESIGNED BY: KPB				PROJECT NAME	STOWE STREET BRIDGE OVER CENTRAL VT RAILROAD	DATE 6-25-04
PROJECT ENGR: KPB				LOCATION	WATERBURY VERMONT	CONTRACT NO. 11069
CHECKED BY: PLA				OWNER	VT AOT	DRAWING NO. 7 OF 7
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	STANDARD PANEL DETAILS	SCALE AS SHOWN

C:\11069\11069_STD.DWG

070 E.W.

The Reinforced Earth Company

133 PARK STREET, NORTH READING, MA 01864 (978) 664-2830

PRECAST PANEL SHOP DRAWINGS

PANEL GENERAL NOTES

1. REINFORCING BARS SHALL BE STEEL ASTM A615 GRADE 420. EPOXY COATED IN ACCORDANCE WITH SECTIONS 507 AND 713 OF VT AOT STANDARD SPECIFICATIONS.

1A. THE 28 DAY COMPRESSIVE STRENGTH OF CONCRETE SHALL BE 27.6 MPa MINIMUM.

2. TIE STRIPS SHALL BE STEEL ASTM A1011 (FORMERLY ASTM 570) GRADE 50 (GALVANIZED PER ASTM A-123).

2A. LIFTING INSERTS SHALL BE BURKE SPREAD ANCHOR 79050 (OR EQUAL) (GALVANIZED PER ASTM A-123).

3. ALL FRONT EDGES OF PANELS, EXCEPT THE BOTTOM EDGE OF THE BOTTOM PANEL COURSE, SHALL HAVE A 10mm CHAMFER.

4. TIE STRIPS SHALL BE PLACED WITHIN 25mm OF THE DIMENSIONS SHOWN ON THE FABRICATION DRAWINGS.

5. PANEL DESIGN THICKNESS IS 140mm. THE OVERALL THICKNESS OF CONCRETE WILL INCREASE BY UP TO 38 mm FOR THE FORM LINER FINISH.

6. DIMENSIONS SPECIFIED ON INDIVIDUAL FABRICATION DRAWINGS SUPERCEDE THOSE CALLED OUT ON THE STANDARD SECTIONS AND DETAILS.

7. VERTICAL REINFORCING BARS SHALL BE PLACED 38 MIN. - 50 (TYP.) CLEAR FROM THE BACK FACE OF THE 140 PANEL.

8. ALL REINFORCING BARS SHALL BE STOPPED 50 CLEAR FROM ANY EDGE OF PANEL UNLESS NOTED ON INDIVIDUAL FABRICATION DRAWING OR AS INDICATED IN NOTE #9.

9. IN ALL SLOPED PANELS THE TWO (2) VERTICAL REINFORCING BARS ADJACENT TO A COMMON TIE STRIP SHALL BE OF THE SAME LENGTH.

10. ALL INDIVIDUAL FABRICATION DRAWINGS ARE SHOWN BACK FACE.

11. PRECAST FACING PANELS FOR SHALL HAVE AN ASHLAR STONE FORM LINER FINISH. PANEL TYPES "B" AND SLIP JOINT COVERS (TYPE "J") SHALL HAVE A PLAIN STEEL FORM FINISH. THE CONCRETE SHALL BE COLORED WITH DYE (BAYFERROX 330, 3.5% - HEAT STABLE). THE FINISHED PRODUCT SHALL BE DISPLAYED AS A TEST PANEL AND SHALL BE APPROVED BY VTRANS PRIOR TO COMMENCING PRECASTING OF THE PANELS TO BE USED IN THE WALL CONSTRUCTION. THE APPROVED TEST PANEL SHALL BE USED AS A BENCHMARK FOR THE CORRECT COLOR, SHADE THROUGHOUT THE PRECASTING OPERATION.

12. REINFORCING BARS IN A STANDARD "A" PANEL SHALL BE AS FOLLOWS:

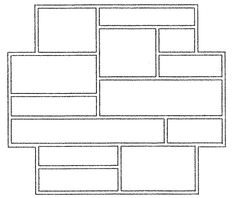
PANEL REINFORCEMENT

PIECE MARK	HORIZONTAL BARS	VERTICAL BARS
XX-XX-R6	4-#13 (#4 US)	6-#10 (#3 US)

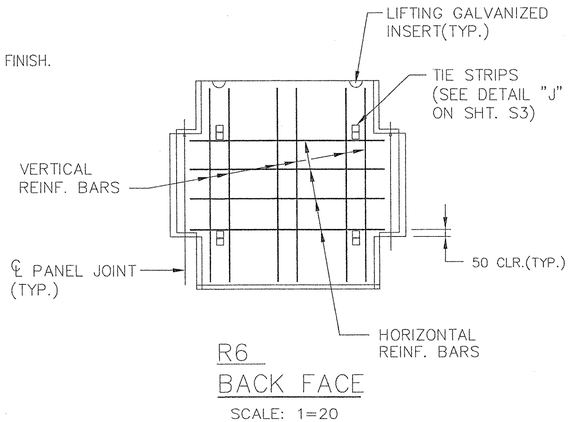
NUMBER OF HORIZONTAL REINFORCEMENT IN THE OTHER PANEL TYPES IS PROPORTIONAL TO THEIR RELATIVE HEIGHT.

13. KEY TO PIECE MARK: AL-4-R4-1.355

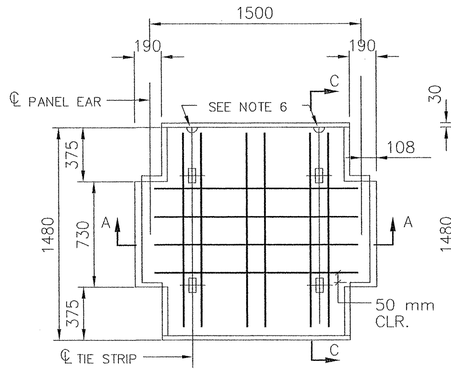
- AL — PANEL TYPE
- 4 — MODIFICATION (ONE OR MORE)
- R4 — NUMBER OF TIE STRIPS
- 1.355 — PANEL REINFORCEMENT TYPE
- MODIFICATION DIMENSION (PANEL WIDTH)



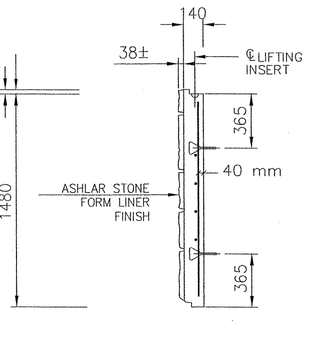
ASHLAR STONE PANEL FINISH
PANEL TYPE A
(LOOKING AT PANEL FACE)



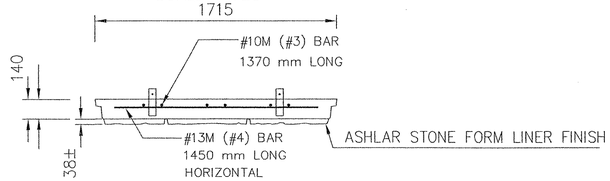
R6
BACK FACE
SCALE: 1=20



PANEL TYPE "A"
WITH R6 REINFORCEMENT
BACK FACE VIEW
SCALE 1:20



SECTION C-C
SCALE 1:20



SECTION A-A
SCALE 1:20

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AUG 11 2004
RESUBMIT APPROVED ✓
BY CPW DATE 8/13/04

ALL DIMENSIONS ARE IN (mm) MILLIMETERS

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STATE OF VERMONT — PETER L. ANDERSON 6161 — PROFESSIONAL ENGINEER
8/6/04

VT AOT PROJ. NO. BRO 1446(26)

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8614 Westwood Center Drive Suite 1100, Vienna, Virginia 22182 (703) 821-1175

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DESIGNED BY:				PROJECT NAME	STOWE STREET BRIDGE OVER CENTRAL VT RAILROAD	DATE
KPB						6-25-04
PROJECT ENGR: KPB				LOCATION	WATERBURY VERMONT	CONTRACT NO. 11069
CHECKED BY: PLA				OWNER	VT AOT	DRAWING NO. S1 OF S7
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	PANEL CASTING NOTES	SCALE AS SHOWN

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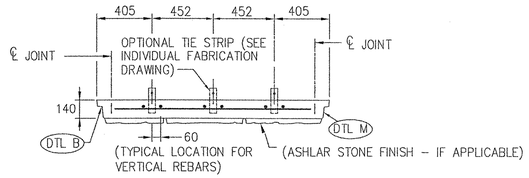
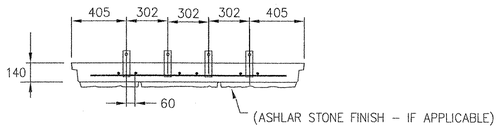
071E-W.



SECTION A–A FOR 2 OR 3 T.S. PER LEVEL
SCALE 1:20



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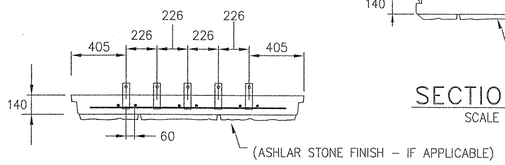
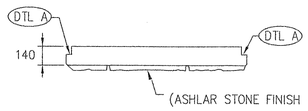
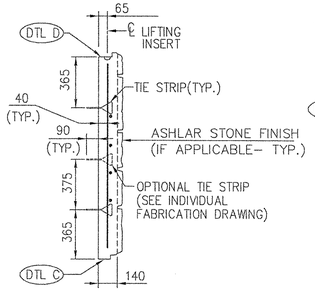


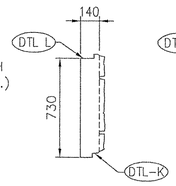
SECTION A–A FOR 5 T.S.



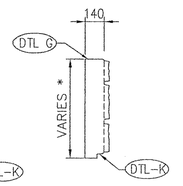
SECTION B–B
SCALE 1:20



SECTION C–C
SCALE 1:20

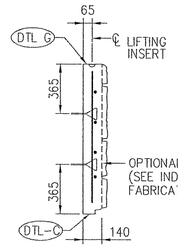


SECTION D–D
SCALE 1:20



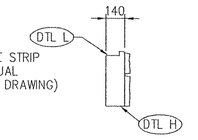
PANEL TYPE	* DIM.
C	170
D	355
E	545
F	730

SECTION E–E
SCALE 1:20



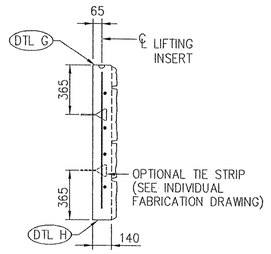
SECTION F–F
SCALE 1:20

DETAIL APPLIES TO PANEL TYPES: C,D,E,F,G,H & K

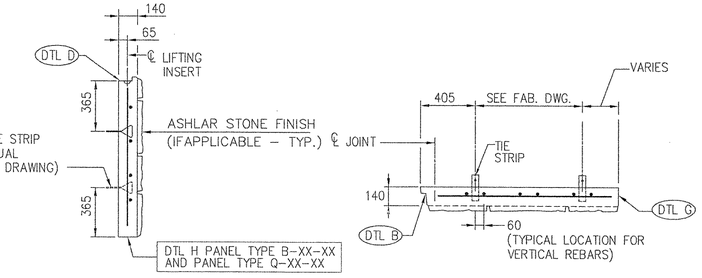


SECTION G–G
SCALE 1:20

DETAIL APPLIES TO PANEL TYPE: B

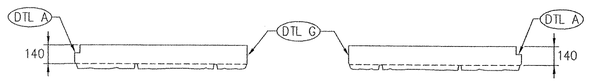


SECTION H–H
SCALE 1:20



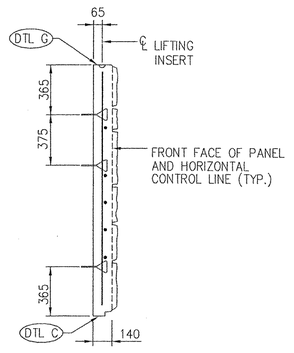
SECTION K–K
SCALE 1:20

SECTION L–L
SCALE 1:20



SECTION M–M
SCALE 1:20

SECTION P–P
SCALE 1:20

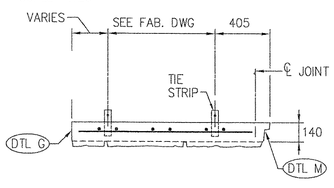


SECTION J–J
SCALE 1:20

FOR DETAILS A,B,C,D,G,H,J,K,L, & M
SEE SHEET S3 OF THESE PLANS.

SEE INDIVIDUAL FABRICATION DRAWING
FOR PLACEMENT OF REBARS.

ALL DIMENSIONS ARE IN MILLIMETERS
UNLESS OTHERWISE NOTED



SECTION R–R
SCALE 1:20

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STATE OF VERMONT · PETER L. ANDERSON 6181 · PROFESSIONAL ENGINEER
8/16/04

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PROJECT ENGR: KPB				LOCATION	WATERBURY VERMONT	CONTRACT NO. 11069
CHECKED BY: PLA				OWNER	VT AOT	DRAWING NO. S2 OF S7
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	PANEL CROSS SECTIONS	SCALE AS SHOWN

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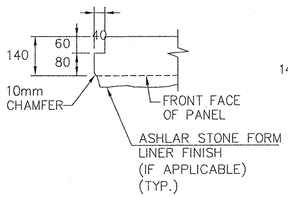
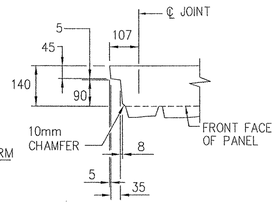
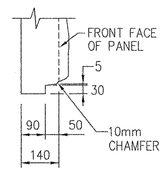
072 82



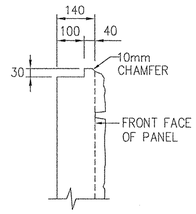
DETAIL "A"
SCALE: 1:10



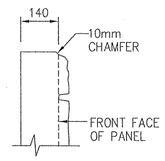
DETAIL "B"
SCALE: 1:10



DETAIL "C"
SCALE: 1:10



DETAIL "D"
SCALE: 1:10



DETAIL "G"
SCALE: 1:10

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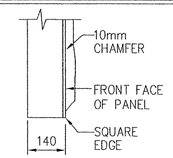
UNLESS OTHERWISE NOTED



DETAIL "H"
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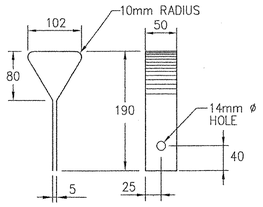
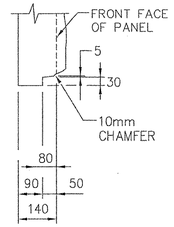
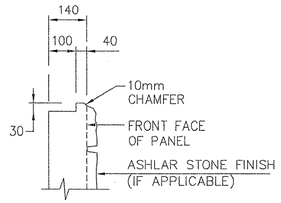


DETAIL "J"
SCALE: NONE
(GENERAL NOTE No. 5)
SHEET S1



DETAIL "K"
SCALE: 1:10



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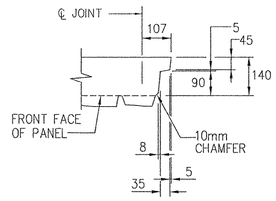

DETAIL "M"
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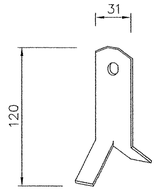
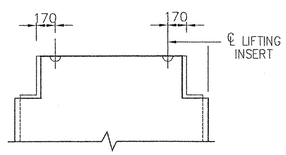


LIFTING INSERT DETAIL
SCALE: 1:5

LIFTING INSERT SHALL BE BURKE SPREAD ANCHOR 79050 OR EQUAL
LIFTING INSERT SHALL BE GALVANIZED
PLASTIC RECESS FOR USE WITH LIFTING INSERT SHALL BE BURKE 79051 OR EQUAL.



DETAIL "N"
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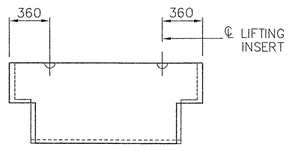

DETAIL "O"
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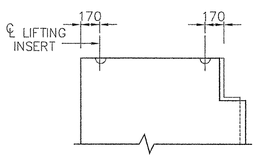

DETAIL "P"
SCALE: 1:20

NOTE: FOR PANELS WITHOUT DOWELS

RECEIVED
CK'D BY CPW OK'D BY
AUG 11 2004
RESUBMIT APPROVED ✓
BY CPW DATE 8/13/04

CERTIFIED WITH
RESPECT TO THE
INTERNAL STABILITY
OF REINFORCED EARTH
STRUCTURES ONLY

STATE OF VERMONT
PETER L. ANDERSON
6161
PROFESSIONAL ENGINEER
8/6/04

VT AOT PROJ. NO. BRO 1446(26)

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The Reinforced Earth Company
8614 Westwood Center Drive Suite 1100, Vienna, Virginia 22182 (703) 821-1175

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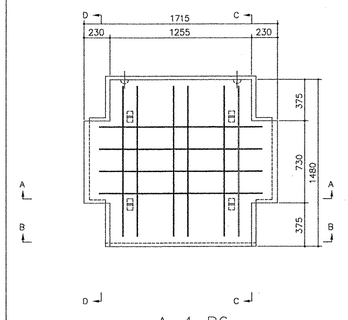
DESIGNED BY: KPB				PROJECT NAME	STOWE STREET BRIDGE OVER CENTRAL VT RAILROAD	DATE 6-25-04
PROJECT ENGR: KPB				LOCATION	WATERBURY VERMONT	CONTRACT NO. 11069
CHECKED BY: PLA				OWNER	VT AOT	DRAWING NO. S3 OF S7
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	PANEL CASTING DETAILS	SCALE AS SHOWN

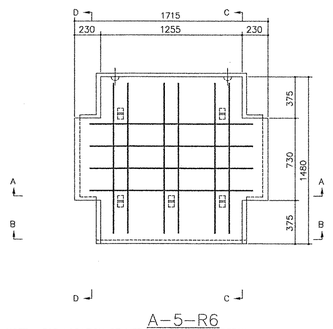
C:\11069\11069_S03.DWG

073 CPW



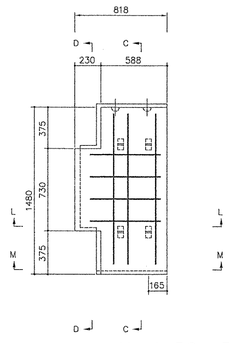
A-4-R6

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL N



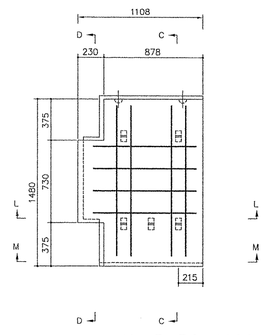
A-5-R6

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL N



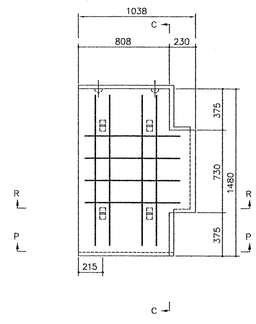
AL-4-R6- 710

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



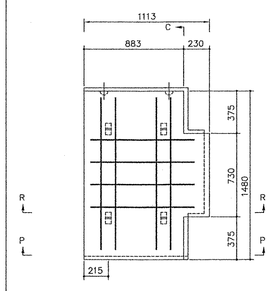
AL-5-R6-1000

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



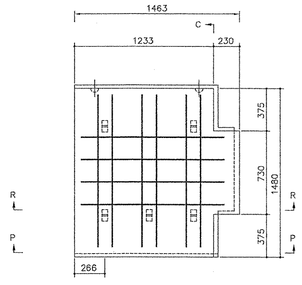
AR-4-R6- 930

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



AR-4-R6-1005

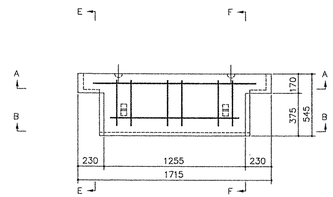
NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



AR-5-R6-1355

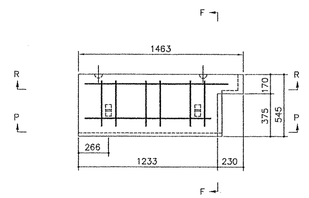
NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P

⚠1 NOTE: PANEL TYPE AX-5 DELETED



C-2-R6

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL O



CR-2-R6-1355

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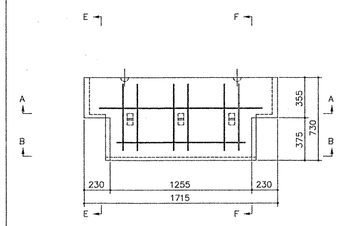
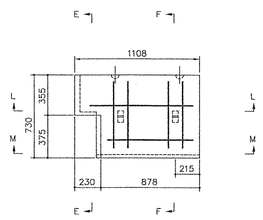


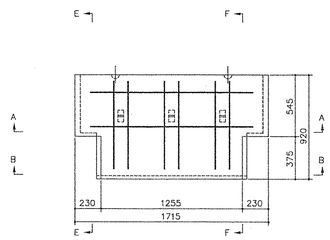
D-3-R6

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL O



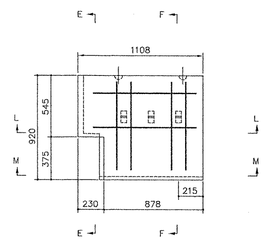
DL-2-R6-1000

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



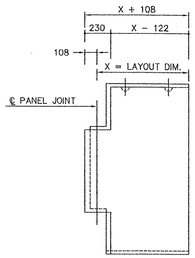
E-3-R6

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL O



EL-3-R6-1000

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



"CUT" PANEL DIMENSION METHOD

NOTE: "LEFT" CUT SHOWN, RIGHT CUT MIRROR IMAGE

ALL PANELS SHOWN BACKFACE

FOR SECTIONS A-A THRU H-H; K-K THRU M-M, P-P, AND R-R THRU U-U SEE SHEET S2

FOR DETAILS N, O AND P, SEE SHEET S3

RECEIVED
CK'D BY CPW OK'D BY
AUG 11 2004
RESUBMIT APPROVED ✓
BY CPW DATE 8/13/04

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STATE OF VERMONT
PIETER L. ANDERSON
6161
PROFESSIONAL ENGINEER
8/16/04

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DESIGNED BY: KPB				PROJECT NAME	STOWE STREET BRIDGE OVER CENTRAL VT RAILROAD	DATE 6-25-04
PROJECT ENGR: KPB				LOCATION	WATERBURY VERMONT	CONTRACT NO. 11069
CHECKED BY: PLA	⚠1	8/6/04	REV. AS PER VTRANS COMMENTS.	OWNER	VT AOT	DRAWING NO. S4 OF S7
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	PANEL CASTING DRAWINGS	SCALE AS SHOWN

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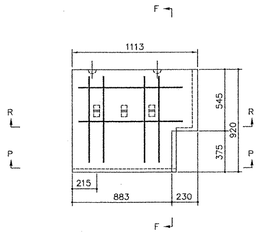
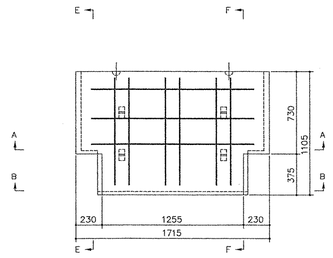
D74 EW



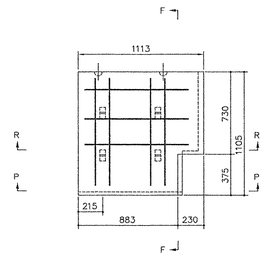
ER-3-R6-1005

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



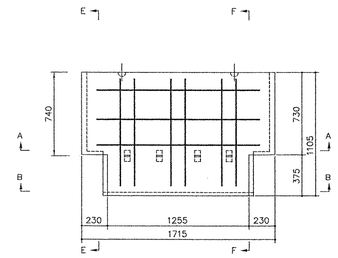
F-4-R6

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL O



FR-4-R6-1005

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



FT-4-R6

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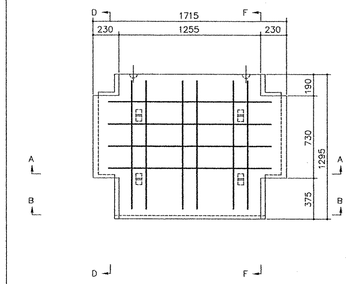
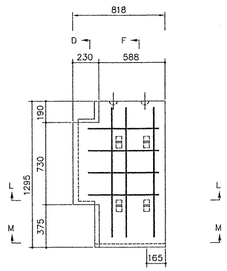


G-4-R6

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL N

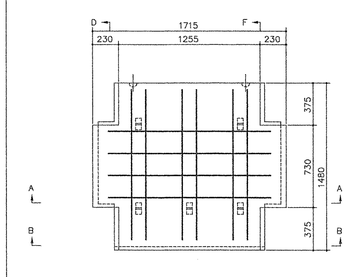


GL-4-R6- 710

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P

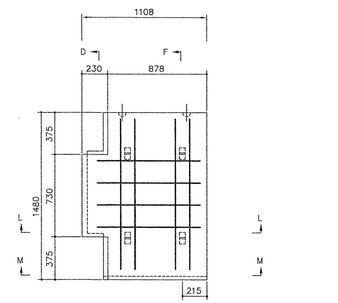
NOTE: GX-4 PANEL TYPE DELETED

1



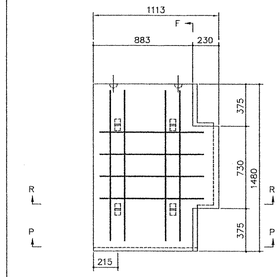
H-5-R6

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL N



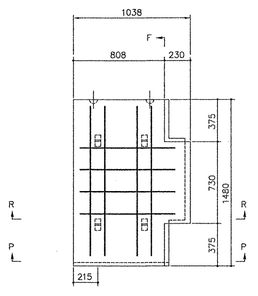
HL-4-R6-1000

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



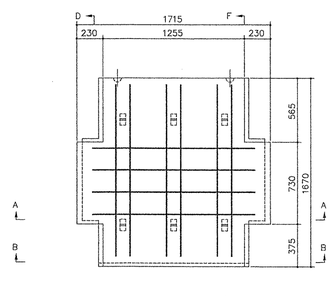
HR-4-R6-1005

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



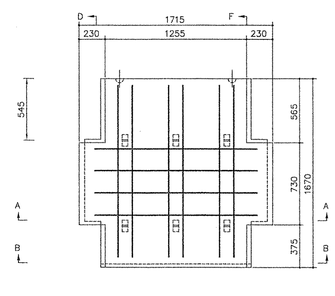
HR-4-R6- 930

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



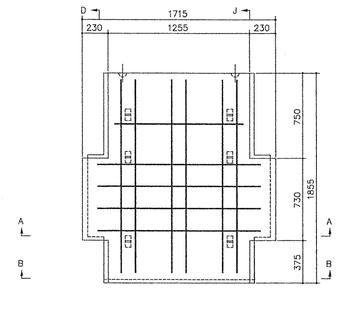
K-6-R6

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL N



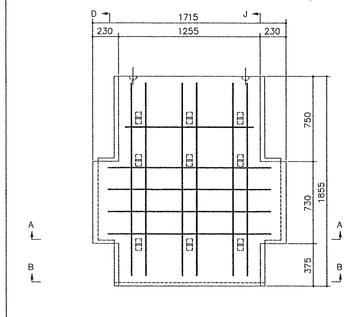
KT-6-R6

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL N



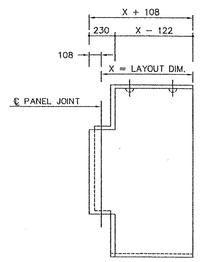
L-6-R6

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL N



L-9-R6

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL N



"CUT" PANEL DIMENSION METHOD

NOTE: "LEFT" CUT SHOWN, RIGHT CUT MIRROR IMAGE

ALL PANELS SHOWN BACKFACE

FOR SECTIONS A-A THRU H-H; K-K THRU M-M, P-P, AND R-R THRU U-U SEE SHEET S2

FOR DETAILS N, O AND P, SEE SHEET S3

RECEIVED
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BY CPW DATE 8/13/04

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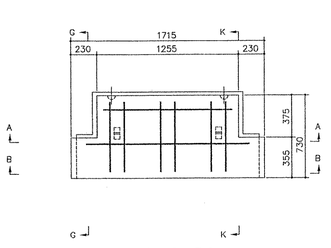
DESIGNED BY:				PROJECT NAME	STOWE STREET BRIDGE OVER CENTRAL VT RAILROAD	DATE
KPB						6-25-04
PROJECT ENGR: KPB				LOCATION	WATERBURY VERMONT	CONTRACT NO. 11069
CHECKED BY: PLA	1	8/6/04	REV. AS PER VTRANS COMMENTS.	OWNER	VT AOT	DRAWING NO. S5 OF S7
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	PANEL CASTING DRAWINGS	SCALE AS SHOWN

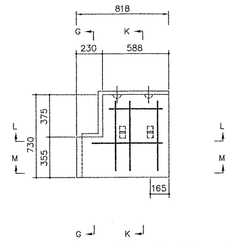
C:\11069\11069_S05.DWG

07 5 EW



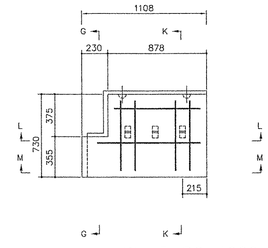
B-2-R6

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL N



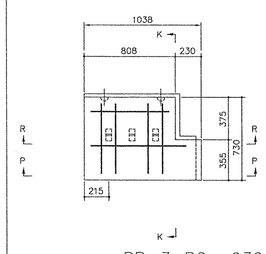
BL-2-R6- 710

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



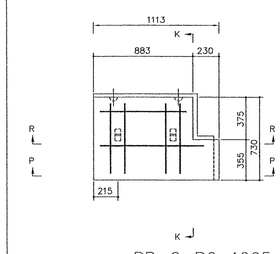
BL-3-R6-1000

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



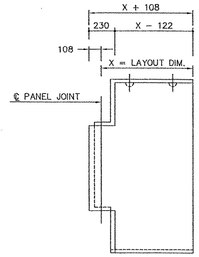
BR-3-R6- 930

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



BR-2-R6-1005

NOTE: FOR LOCATION OF LIFTING INSERTS SEE DETAIL P



"CUT" PANEL DIMENSION METHOD

NOTE: "LEFT" CUT SHOWN, RIGHT CUT MIRROR IMAGE

ALL PANELS SHOWN BACKFACE

FOR SECTIONS A-A THRU H-H; K-K THRU M-M, P-P, AND R-R THRU U-U SEE SHEET S2

FOR DETAILS N, O AND P, SEE SHEET S3

RECEIVED
CK'D BY CPW OK'D BY
AUG 11 2004
RESUBMIT APPROVED ✓
BY CPW DATE 8/13/04

CERTIFIED WITH RESPECT TO THE INTERNAL STABILITY OF REINFORCED EARTH STRUCTURES ONLY

STATE OF VERMONT
PIETER L. ANDERSON
6101
PROFESSIONAL ENGINEER
8/6/04

VT AOT PROJ. NO. BRO 1446(26)

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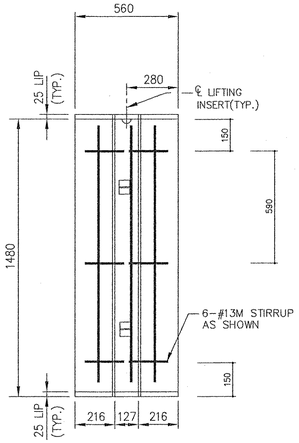
The Reinforced Earth Company
8614 Westwood Center Drive Suite 1100, Vienna, Virginia 22182 (703) 821-1175

"REINFORCED EARTH" is the registered trademark of The Reinforced Earth Company.

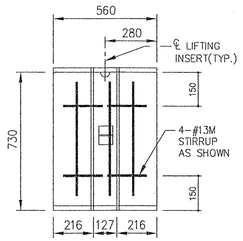
DESIGNED BY: KPB				PROJECT NAME	STOWE STREET BRIDGE OVER CENTRAL VT RAILROAD	DATE 6-25-04
PROJECT ENGR: KPB				LOCATION	WATERBURY VERMONT	CONTRACT NO. 11069
CHECKED BY: PLA				OWNER	VT AOT	DRAWING NO. S6 OF S7
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	PANEL CASTING DRAWINGS	SCALE AS SHOWN

C:\11069\11069_S06.DWG

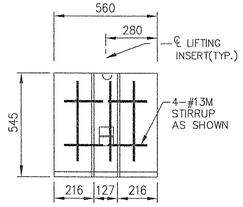
076EW



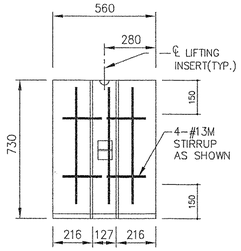
JA-2



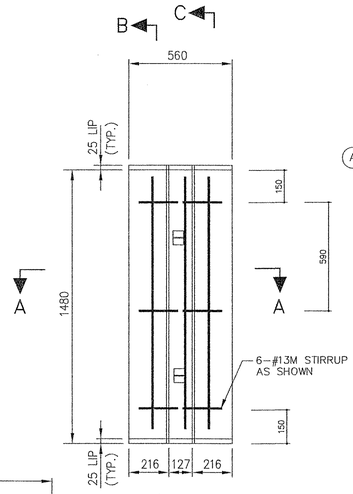
JB-1



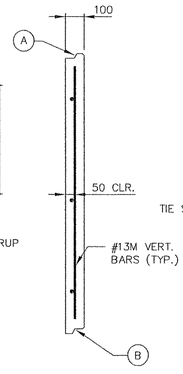
JC-1



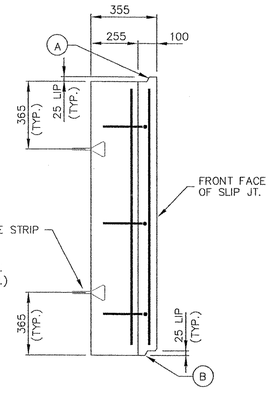
JD-1



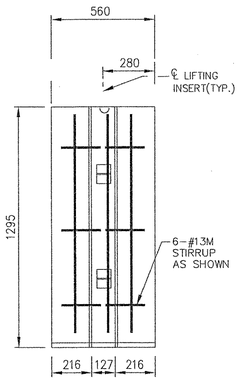
JA-2
BACK FACE



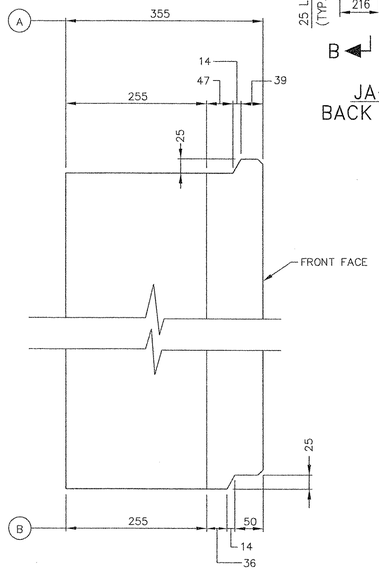
SECTION B-B
SCALE: 1:10



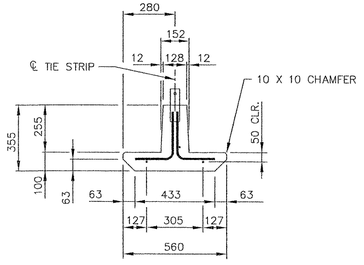
SECTION C-C
SCALE: 1:10



JG-2



TYPICAL JOINT DETAIL
SCALE: 1:5



SECTION A-A
SCALE: 1:10

LEGEND

JA-2-R3
- PANEL REINFORCEMENT TYPE
- NO. OF TIE STRIPS
- PANEL TYPE

ALL REBAR 13M (#4 ENGLISH) - EPOXY COATED

RECEIVED
CK'D BY CPW DK'D BY
AUG 11 2004
RESUBMIT APPROVED ✓
BY CPW DATE 8/13/04

CERTIFIED WITH RESPECT TO THE INTERNAL STABILITY OF REINFORCED EARTH STRUCTURES ONLY

STATE OF VERMONT
PETER L. ANDERSON
6161
PROFESSIONAL ENGINEER
8/6/04

VT AOT PROJ. NO. BRO 1446(26)

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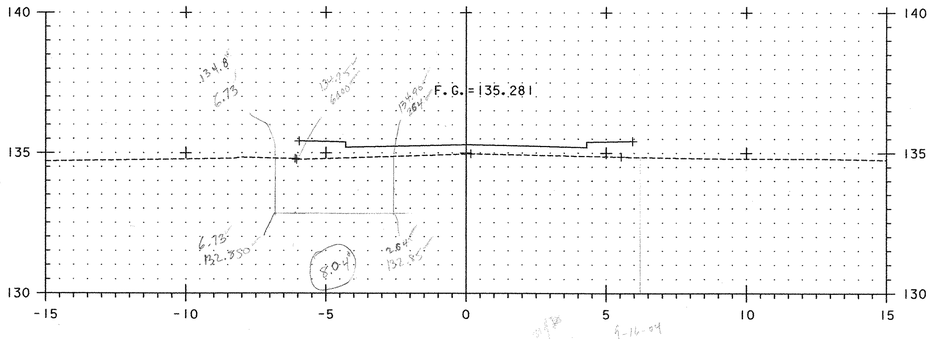
DESIGNED BY: KPB				PROJECT NAME	STOWE STREET BRIDGE OVER CENTRAL VT RAILROAD
PROJECT ENGR: KPB				LOCATION	WATERBURY VERMONT
CHECKED BY: PLA				OWNER	VT AOT
ENG. MANAGER	REV.	DATE	DESCRIPTION	DRAWING COVERS	SLIP JOINT COVER DETAILS

DATE 6-25-04
CONTRACT NO. 11069
DRAWING NO. S7 OF S7
SCALE AS SHOWN

C:\11069\11069_S07.DWG

07EN

MDOT Metric

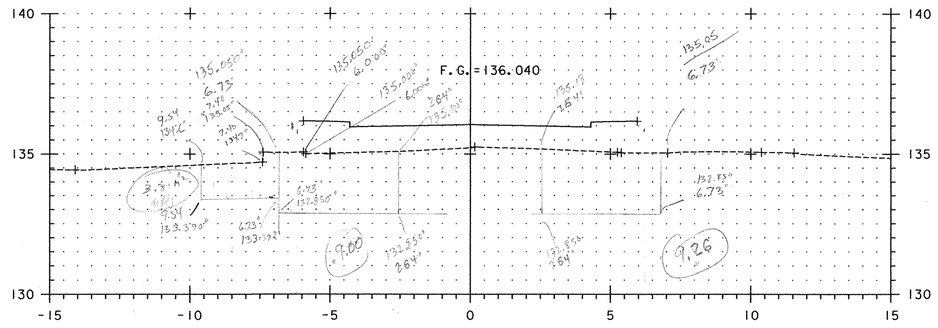


1+089

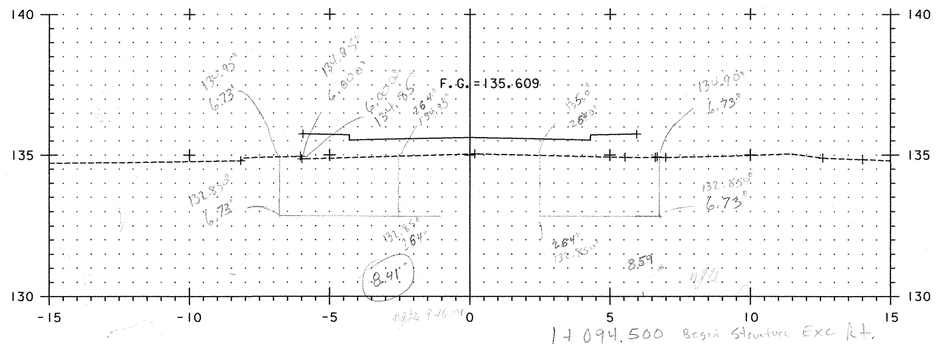
Begin Structure Exc. 1+089.145 @ 132.85
M S E Wall Left

1+000

9.14 cm stairway



1+097



1+093

1+094.500 Begin Structure Exc Rt.

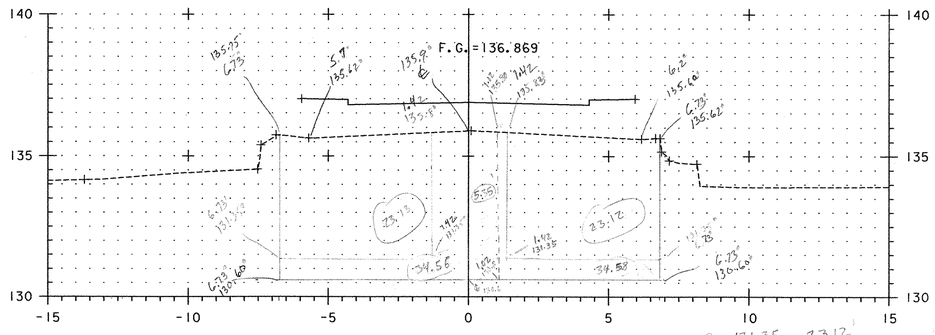
SCALE 1: 100

PROJECT NAME:	WATERBURY
PROJECT NUMBER:	BRO 1446(26)
FILE NAME: ...\SSB-SupXS.dgn	PLOT DATE: 05/14/2004
PROJECT LEADER: G EDWARDS/R GINGRAS	DRAWN BY: T. KNIGHT
DESIGNED BY: T. KNIGHT	CHECKED BY:
SUPPLEMENTAL CROSS SECTIONS	SHEET 1 OF 6

Dufresne-Henry

\SSB-SupXS.dgn 05/14/2004 08:26:56 AM

078 ss



1+105

STRAP LENGTH

42.70

67.30+ (67.30) (FULL WIDTH)

1+105.645° BK @ 131.35° 23.13'

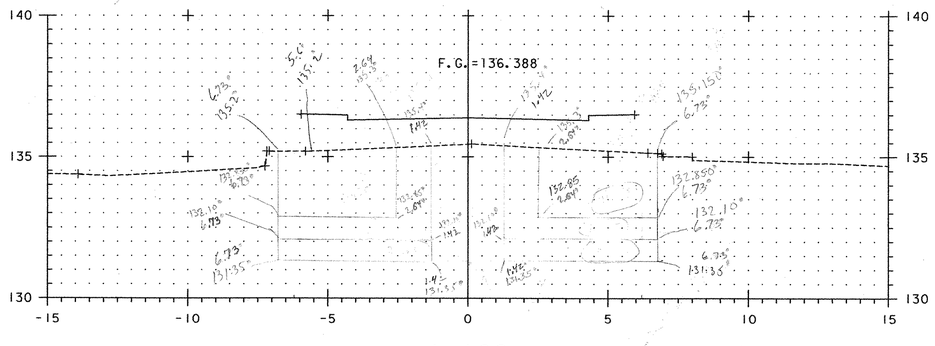
1+105.645° Ahd @ 130.60° 34.58'

1+105.645 BK @ 131.35 23.12'

1+105.645 AH @ 130.60 5.35+ 23.12 = 28.47'

1+106.500° BK @ 130.60 5.35+23.12= 28.47'

1+106.500° Ahd @ 130.60° FULL WIDTH 34.58'



1+100

STRAI LENGTH

3050

42.70

42.70

42.70

LT

1+099.645° BK @ 132.85° 9.76'

1+099.645° Ahd @ 132.10° 16.79'

1+102.645° BK @ 132.10° 16.79'

1+102.645° Ahd @ 131.35° 20.77'

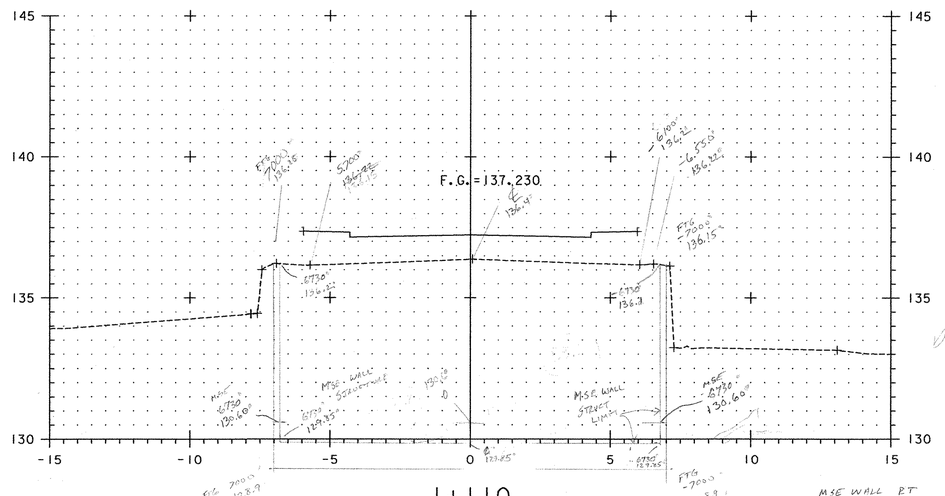
RT

1+100.500° BK @ 132.850° 9.77'

1+100.500° Ahd @ 132.100° 16.75'

1+103.500° BK @ 132.100° 16.75'

1+103.500° Ahd @ 131.35° 20.73'



1+110

1+111.4° AHD FFG 103.481 (103.48)

1+111.4° BK MSE

MSE WALL LT

STA 1+108.645 @ 130.60 BK = 38.09'

1+108.645 @ 129.85 AH = 43.14'

1+111.48 @ 129.85 BK = 43.14'

MSE WALL RT

STA 1+108.500 @ 130.60 BK = 38.30'

1+109.500 @ 129.85 AH = 43.35'

1+111.48 @ 129.85 BK = 43.35'

PROJECT NAME:	WATERBURY
PROJECT NUMBER:	BRO 1446(26)
FILE NAME: ...\SSB-SupXS.dgn	PLOT DATE: 05/14/2004
PROJECT LEADER: G EDWARDS/R GINGRAS	DRAWN BY: T. KNIGHT
DESIGNED BY: T. KNIGHT	CHECKED BY:
SUPPLEMENTAL CROSS SECTIONS	SHEET 2 OF 6

STA	DIST	CM	CM LT	Accum CM	Remarks
1+088.988		8.44			Begin Struct MSE WALL LT
	4.08		35.23		
1+093.00		8.83			MSE WALL LT
1+094.275					Begin Struct MSE WALL RT *
	4.00		36.62	71.85	
1+097		9.48			LT & RT
	2.533		24.98	96.83	
BK 1+099.533		10.24			LT
AH 1+099.53		17.45			LT
BK 1+100.388					RT
AH 1+100.388					RT
	3		52.35	149.18	
BK 1+102.533		17.45			LT
AH 1+102.533		26.88			LT
BK 1+103.388					RT
AH 1+103.388					RT
	3		85.19	234.37	
BK 1+105.533		24.91			LT
AH 1+105.533		35.01			LT
BK 1+106.388					RT
AH 1+106.388					RT
	3		110.66	345.03	
BK 1+108.533		38.72			LT
AH 1+108.533		45.82			LT
BK 1+109.388					RT
AH 1+109.388					RT
	2.869		125.63	470.66	
BK 1+111.4		48.82			LT
BK 1+111.4					RT
AHD 1+111.4					BEGIN MAIN STRUCT LT & RT
1+115					LT & RT
1+115.3					LT & RT END STRUCT

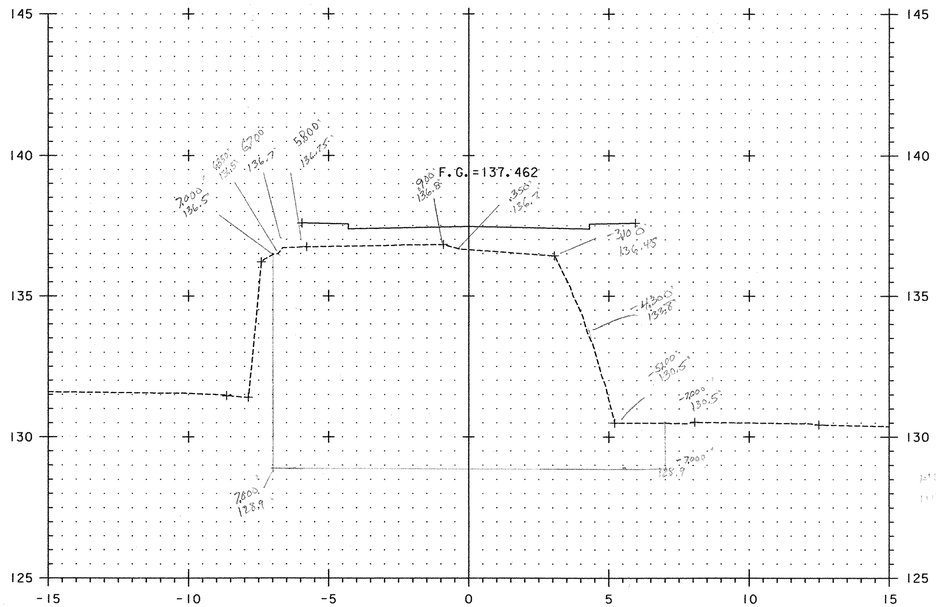
765.06 + 470.66 = 1235.72

FRAME LEG 1 & MSE WALL LT

DIST	SM	CM	ACCUM
	9.01		
2.725		25.57	
	9.72		
2.533		27.24	52.76
	11.77		
	17.45		
3		52.35	105.11
	17.45		
	26.86		
3		85.14	190.25
	29.90		
	35.00		
3		109.50	299.75
	38.00		
	43.78		
2.012		88.09	387.84
	43.78		
	103.48		
3.6		351.7	739.54
	92.02		
0.3		25.39	765.06
	76.80		

MSE WALL RT *

DIST	SM	CM	ACCUM
	9.01		
2.725		25.57	
	9.72		



1+115 92.021 (92.02 SM*)

END STRUCT 1+115.3 (76.88*) Interpolated

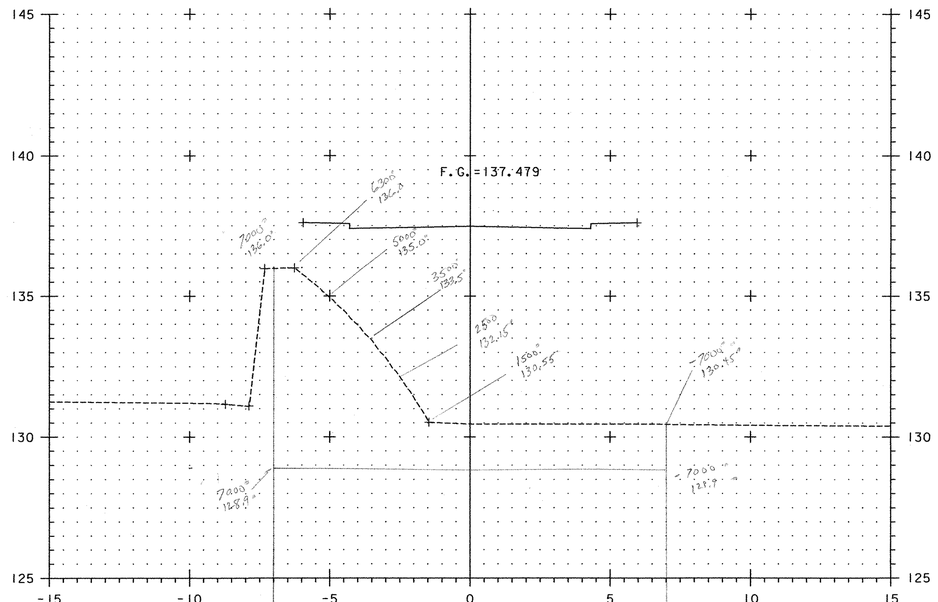
1+115	92.02
	−15.14
1+115.3	76.88
1+116	41.55

$\frac{.3}{x} = \frac{1}{50.49}$

$x = 15.14$

	1+114.80
Begin Fdn	− 2.90
	1+111.90
Begin Struct for Fdn	− .50
	1+111.40

FACE OF FRAME LEG No 1 1+114.500
FACE OF FTG + .300
END STRUCTURE EXC + .500
1+115.300



1+116 41.550 (41.55 SM)

1+115	92.02
	−41.55
	50.47

Dufresne-Henry

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)

FILE NAME: ...\SSB-SupXS.dgn
PROJECT LEADER: G EDWARDS/R GINGRAS
DESIGNED BY: T. KNIGHT
SUPPLEMENTAL CROSS SECTIONS

PLOT DATE: 05/14/2004
DRAWN BY: T. KNIGHT
CHECKED BY:
SHEET 3 OF 6

SSB-SupXS.dgn 05/14/2004 08:12:18 AM

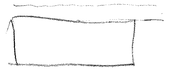
0804S

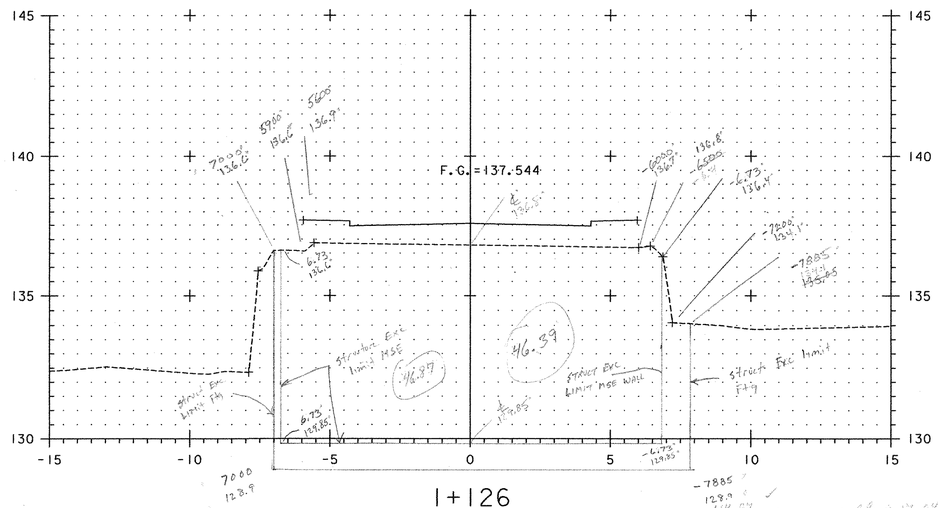
STRUCTURE EXCAVATION ABUT #2

LT / RT

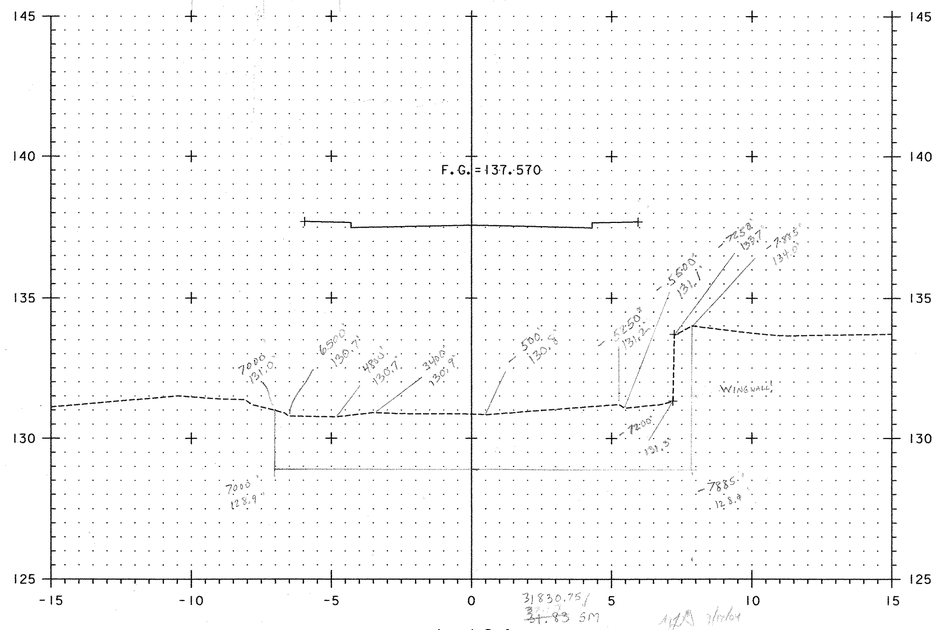
STA	DIST	SM	CM	ACCUM CM	COMMENTS	DIST	SM	CM	ACCUM SM
1+124.03		31.83			LT & RT				
	.97		60.21						
1+125		92.32							
	1.00		103.79	164.00					
1+126		115.26							
	1.93		222.45	386.45					
1+127.93 BK		115.26	—		LT & RT				
1+127.93 AHD		47.35			LT - RT		46.89		
	1.587		73.13	459.58					
1+129.517 BK		461.81			LT				
1+129.517 AHD		39.71			LT				
						3.157		144.23	
1+131.087 BK					RT		44.49		
1+131.087 AHD					RT		39.39		
	3		115.32	574.9					
1+132.517 BK		37.17			LT				
1+132.517 AHD		32.09			LT				
						3		114.62	255.85
1+134.087 BK					RT		32.02		
1+134.087 AHD					RT		31.92		
						3		83.48	339.33
1+137.087 BK					RT		33.73		
1+137.087 AHD					RT		15.13		
	7.5		210.71	785.6					
1+140.017 BK		24.12			LT				
1+140.017 AHD		30.27			LT				
						3		95.37	339.72
1+140.067 BK					RT		15.13		
1+140.067 AHD					RT		11.93		
	4.5		77.58	863.19					
1+144.517 BK		14.18			LT				
1+144.517 AHD		11.28			LT				
						5.615		67.83	
1+145.705 BK	end				RT		11.75		452.55
1+145.705 AHD					RT				
	7.613		93.97	957.16					
1+152.13 BK		10.93			LT				
1+152.13 AHD					LT				

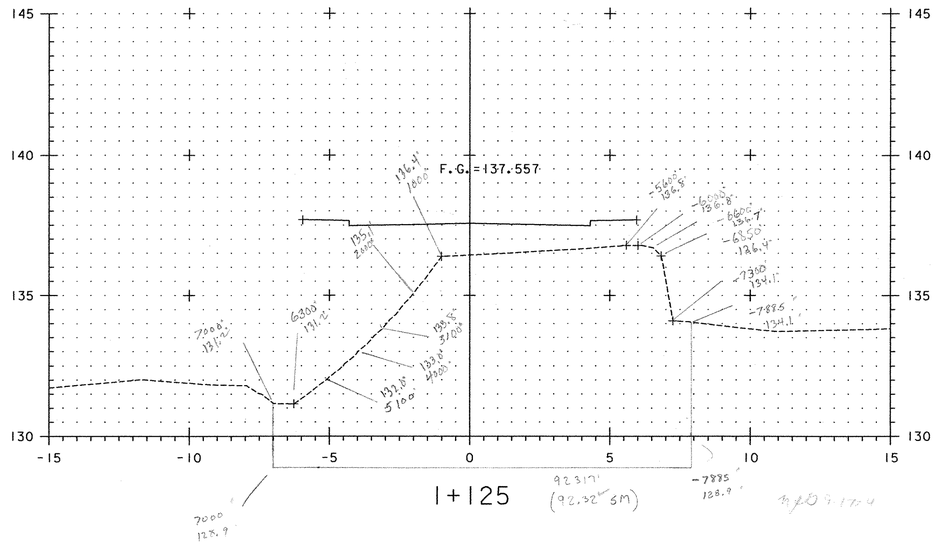
1399.71





2345
13.99.71
12.35.72
2235.43





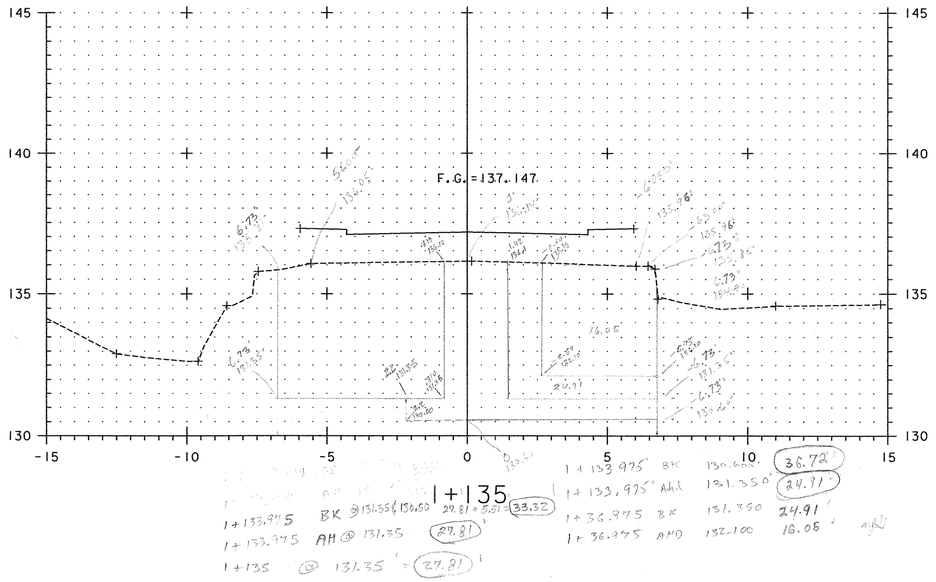
FACE OF FRAME LEG NO. 2 1+124.83
FRONT FACE OF FOOTING - 0.300 1+124.53
BEGIN STRUCTURE EXC. - 0.500
1+124.03

BACK Face of FOOTING + 2.900
END ABUT Structure Exc 1+127.43

PROJECT NAME:	WATERBURY
PROJECT NUMBER:	BRO 1446(26)
FILE NAME: ...\SSB-SupXS.dgn	PLOT DATE: 05/14/2004
PROJECT LEADER: G EDWARDS/R GINGRAS	DRAWN BY: T. KNIGHT
DESIGNED BY: T. KNIGHT	CHECKED BY:
SUPPLEMENTAL CROSS SECTIONS	SHEET 4 OF 6

Dufresne-Henry

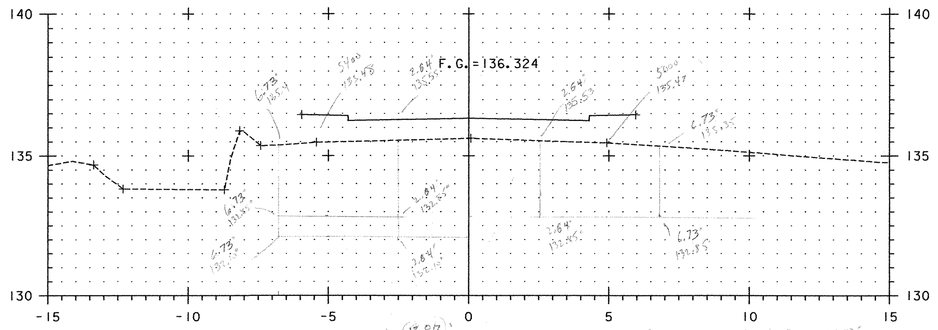
08145



1+135

1+133.975 BK @ 131.35 & 130.60 29.81 + 3.51 = 33.32
1+133.975 AH @ 131.35 29.81
1+135 @ 131.35 = 29.81

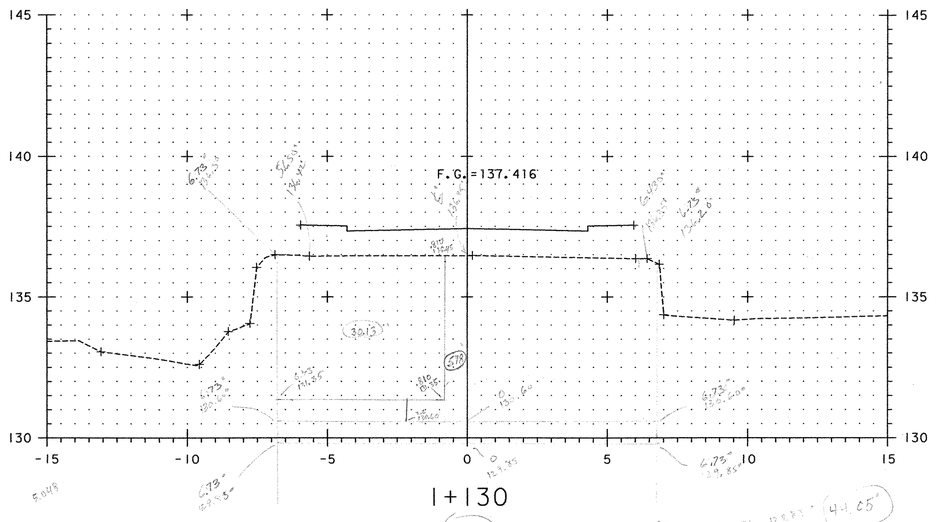
1+133.975 BK 130.60 36.72
1+133.975 AHd 131.350 24.91
1+136.975 BK 131.350 24.91
1+136.975 AHD 132.100 16.06



1+145

BK 1+143.905' 132.30' 13.87'
AHd 1+143.905' 132.250' 10.80'

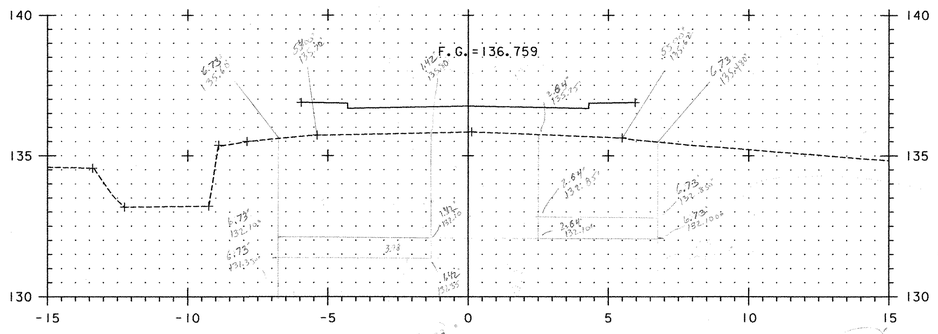
1+145.480' ewl MSE struct @ 132.950' 16.68'



1+130

1+129.405' BK Elev 129.85' 44.34'
1+129.405' AHd Elev 130.60' 39.29'
1+132.405' BK 130.60 39.29'
1+132.405' AHD 131.350 & 131.60 30.13+5.72=35.91'

1+130.975' BK Elev 128.81' 41.05'
1+130.975' AHd Elev 130.60' 39.00'



1+140

1+139.905' BK 131.35 19.25
1+139.905' AHd 132.100

~~See 1+135~~ 1+136.975 BK 131.350 22.96
~~See 1+135~~ 1+136.975 AHd 132.100 14.50
1+139.975' BK 132.100 14.50
1+139.975' AHd 131.850 11.43'

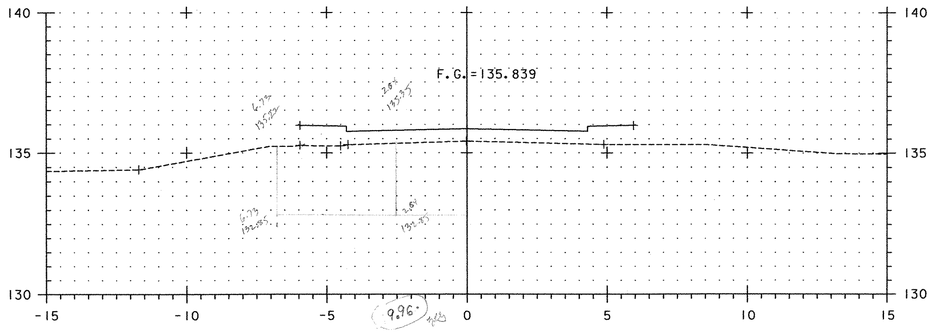
133.4-139.4 5.49
139.5-end 4.27

PROJECT NAME:	WATERBURY
PROJECT NUMBER:	BRO 1446(26)
FILE NAME: ...\SSB-SupXS.dgn	PLOT DATE: 05/14/2004
PROJECT LEADER: G EDWARDS/R GINGRAS	DRAWN BY: T. KNIGHT
DESIGNED BY: T. KNIGHT	CHECKED BY:
SUPPLEMENTAL CROSS SECTIONS	SHEET 5 OF 6

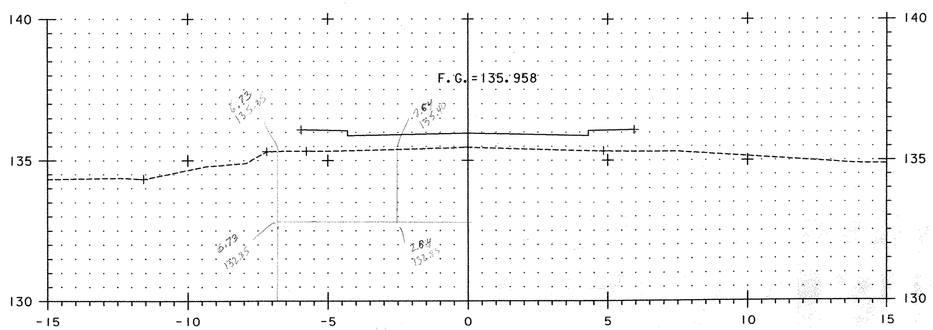
Dufresne-Henry

082+5

Metric

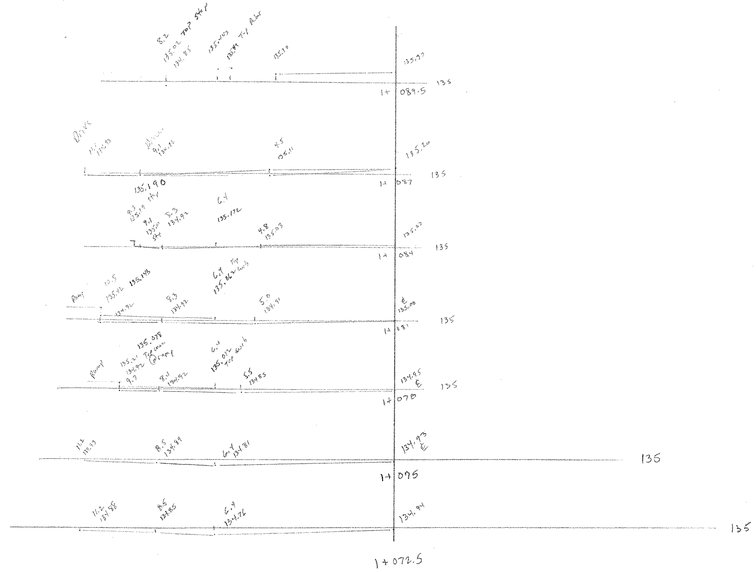


1+151.905 end 9.96' 1+152

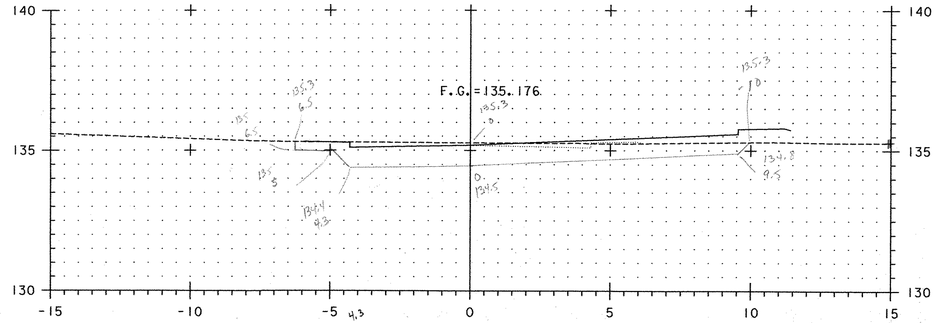


1+150

1+151.905 end 10.33'



FG +40
-12.8
+150



RELOCATED RAILROAD ST. 5+010

AREA 10.825

PROJECT NAME:	WATERBURY
PROJECT NUMBER:	BRO 1446(26)
FILE NAME: ...\SSB-SupXS.dgn	PLOT DATE: 05/14/2004
PROJECT LEADER: G EDWARDS/R GINGRAS	DRAWN BY: T. KNIGHT
DESIGNED BY: T. KNIGHT	CHECKED BY:
SUPPLEMENTAL CROSS SECTIONS	SHEET 6 OF 6

Dufresne-Henry

RLS 9/3/04

083+S

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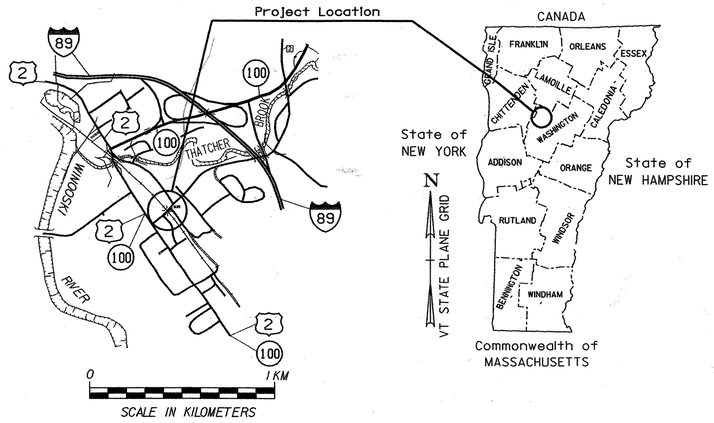
R.O.W. PLANS

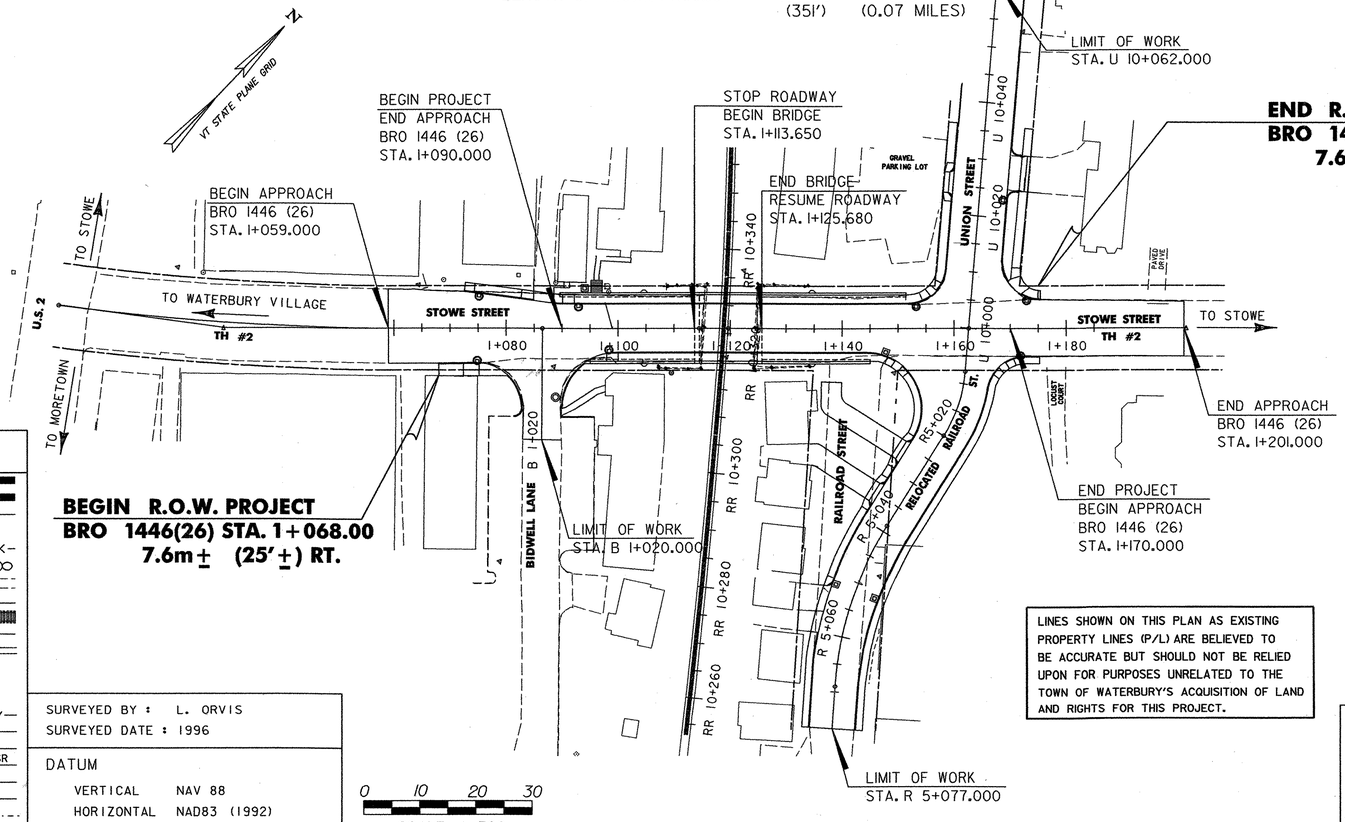
STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
TOWN OF WATERBURY
COUNTY OF WASHINGTON
STOWE STREET, BRIDGE 35 (LOCAL ROAD)

BEGINNING AT A POINT APPROXIMATELY 0.059 KILOMETERS NORTHEAST OF THE U.S. ROUTE 2/VT. ROUTE 100 AND TOWN HIGHWAY #2 INTERSECTION, AND EXTENDING NORTHEASTERLY 0.080 KILOMETERS ON TOWN HIGHWAY #2. WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES THE REMOVAL OF THE EXISTING BRIDGE SUPERSTRUCTURE AND ABUTMENTS, RELOCATION OF RAILROAD STREET, CONSTRUCTION OF THE NEW BRIDGE SUPERSTRUCTURE, ABUTMENTS, ROADWAY APPROACHES, SIDEWALKS, CURBING, DRAINAGE, AND INCIDENTAL ITEMS.

PROJECT DATA	LENGTH (M)	LENGTH (KM)
LENGTH OF ROADWAY	67.97	0.068
LENGTH OF BRIDGE	12.03	0.012
LENGTH OF PROJECT	80.00	0.080
LENGTH OF R.O.W. PROJECT =	107.00 (351')	0.107 (0.07 MILES)



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

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

VAOT Metric

UNLESS NOTED OTHERWISE

STATIONS ARE IN KILOMETERS
ELEVATIONS ARE IN METERS
DIMENSIONS ARE IN MILLIMETERS

RIGHT-OF-WAY PLANS

CONVENTIONAL SYMBOLS

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

SURVEYED BY : L. ORVIS
SURVEYED DATE : 1996

DATUM
VERTICAL NAV 88
HORIZONTAL NAD83 (1992)

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES (P/L) ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE TOWN OF WATERBURY'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

Dufresne-Henry

CHIEF OF R.O.W.
APPROVED Allen D Bleier DATE 3/27/03

DIRECTOR OF PROJECT DEVELOPMENT
APPROVED [signature] DATE 3/27/03

PROJECT MANAGER : CHRIS WILLIAMS

PROJECT NAME : WATERBURY
PROJECT NUMBER : BRO 1446(26)

R.O.W. SHEET 1 OF 12 SHEETS

MAR 30 2004

084 ROW

\\PLOT1\HS1\ROW 1\1\1 Sheet.prt 03/10/2003 09:22:52 AM

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

Metric

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2.	PRELIMINARY INFORMATION SHEET		
3.	TYPICAL ROADWAY SECTIONS		
4.	TIE SHEET		
5.	ROW STOWE STREET PROFILE		
6.	ROW BIDWELL, UNION, AND RELOCATED RAILROAD ST. PROFILES		
7.	ROW DRAINAGE SHEET		
8.	ROW EROSION CONTROL SHEET		
9.	ROW UTILITY SHEET		
10,11	ROW DETAIL SHEETS		
12.	ROW LAYOUT SHEET		
		B-5M	SLOPE GRADING, EMBANKMENTS, MUCK 1/3/2000
		B-12M	SIDE ROAD INTERSECTION, DEPRESSED RAMP 1/3/2000
		B-71M	RESIDENTIAL AND COMMERCIAL DRIVES 3/1/2001
		C-1M	CURB DETAILS 1/3/2000
		C-2AM	PORTLAND CEMENT CONCRETE SIDEWALK, CONCRETE CURB 1/3/2000
		C-3M	SIDEWALK RAMPS 1/3/2000
		D-6M	REINFORCED CONCRETE DROP INLET WITH GRATE 6/13/1997
		D-13M	CONCRETE CATCH BASIN 1/3/2000
		D-15M	CAST IRON GRATE AND FRAME, TYPE D 6/13/1997
		E-100M	CONSTRUCTION APPROACH SIGNS 6/13/1997
		E-100AM	SIDE ROAD CONSTRUCTION APPROACH SIGNS 2/12/1998
		E-101M	CONSTRUCTION SIGN DETAILS 6/13/1997
		E-102M	CONSTRUCTION SIGN DETAILS 6/13/1997
		E-102AM	CONSTRUCTION SIGN DETAILS 6/13/1997
		E-106M	TRAFFIC CONTROL MISCELLANEOUS DETAILS 6/13/1997
		E-107M	DELINEATION - BARRICADES AND DETOURS FOR CONSTRUCTION AREAS 6/13/1997
		E-107AM	BREAKAWAY BARRICADE DETAILS 6/13/1997
		E-108M	CONSTRUCTION ZONE LONGITUDAL DROP OFFS 6/13/1997
		E-120M	STANDARD SIGN PLACEMENT EXPRESSWAY AND FREEWAY 6/13/1997
		E-121M	STANDARD SIGN PLACEMENT CONVENTIONAL ROAD 6/13/1997
		E-142M	REGULATORY SIGN DETAILS 6/13/1997
		E-143M	REGULATORY SIGN DETAILS 6/13/1997
		E-155M	WARNING SIGN DETAILS 6/13/1997
		E-160M	FLANGED CHANNEL STEEL SIGN POST 6/13/1997
		E-191M	PAVEMENT MARKING DETAILS 2/1/1999
		E-192M	PAVEMENT MARKING DETAILS 12/28/98
		E-193M	PAVEMENT MARKING DETAILS 6/13/1997
		J-2M	CONCRETE STEPS WITH HANDRAIL 6/1/1994
		*SB-R4A-8(	BRIDGE RAILING, GALVANIZED BOX BEAM 9/19/1989
		T-1M	TEMPORARY EROSION CONTROL DETAILS 6/13/1997
		T-2M	TEMPORARY EROSION CONTROL DETAILS 6/13/1997

* THIS STANDARD IS ONLY AVAILABLE IN U.S. CUSTOMARY (ENGLISH) UNITS

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: 7/2000

DRAINAGE AREA : N/A
CHARACTER OF TERRAIN : N/A
STREAM CHARACTERISTICS : N/A
NATURE OF STREAMBED : N/A

PEAK FLOW DATA

Q 2.33 = N/A Q 50 = N/A
Q 10 = N/A Q 100 = N/A
Q 25 = N/A Q 500 = N/A

DATE OF FLOOD RECORD : N/A
ESTIMATED DISCHARGE: N/A
WATER SURFACE ELEV.: N/A
NATURAL STREAM VELOCITY : N/A
ICE CONDITIONS : N/A
DEBRIS: N/A
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? N/A
IS ORDINARY RISE RAPID? N/A
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? N/A
IF YES, DESCRIBE: N/A

WATERSHED STORAGE: N/A
HEADWATERS:
UNIFORM: N/A
IMMEDIATELY ABOVE SITE: N/A

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: STEEL GIRDERS ENCASED IN CONCRETE
YEAR BUILT: (1910)
CLEAR SPAN(NORMAL TO STREAM): 9.90 m
VERTICAL CLEARANCE ABOVE STREAMBED: N/A
WATERWAY OF FULL OPENING: N/A
DISPOSITION OF STRUCTURE: Remove
TYPE OF MATERIAL UNDER SUBSTRUCTURE: Unknown

WATER SURFACE ELEVATIONS AT:

Q2.33 = N/A VELOCITY = N/A
Q10 = N/A " N/A
Q25 = N/A " N/A
Q50 = N/A " N/A
Q100 = N/A " N/A

LONG TERM STREAMBED CHANGES: N/A

IS THE ROADWAY OVERTOPPED BELOW Q100: N/A
FREQUENCY: N/A
RELIEF ELEVATION: N/A
DISCHARGE OVER ROAD @Q100: N/A

UPSTREAM STRUCTURE

TOWN: N/A DISTANCE: N/A
HIGHWAY # : N/A STRUCTURE #: N/A
CLEAR SPAN: N/A CLEAR HEIGHT: N/A
YEAR BUILT: N/A FULL WATERWAY: N/A
STRUCTURE TYPE: N/A

DOWNSTRUCTURE STRUCTURE

TOWN: N/A DISTANCE: N/A
HIGHWAY # : N/A STRUCTURE #: N/A
CLEAR SPAN: N/A CLEAR HEIGHT: N/A
YEAR BUILT: N/A FULL WATERWAY: N/A
STRUCTURE TYPE: N/A

LFD LOAD RATING (TONS)

LOADING LEVELS	TRUCK						
	H	HS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY	0	0					
POSTED	0	0	0		0	0	0
OPERATING		0	0	0	0	0	

COMMENTS: 0

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2000	3300	460	51	1	55
2020	4450	610	51	1	75

20 year ESAL for flexible pavement 2000 to 2020 : 199,000
40 year ESAL for flexible pavement 2000 to 2040 : 457,000
Design Speed : 25 km/h

PROPOSED STRUCTURE

STRUCTURE TYPE: CONCRETE RIGID FRAME

CLEAR SPAN(NORMAL TO STREAM): 10.330 m
VERTICAL CLEARANCE ABOVE STREAMBED: N/A
WATERWAY OF FULL OPENING: N/A

WATER SURFACE ELEVATIONS AT:

Q2.33 = N/A VELOCITY= N/A
Q10 = N/A " N/A
Q25 = N/A " N/A
Q50 = N/A " N/A
Q100 = N/A " N/A

IS THE ROADWAY OVERTOPPED BELOW Q100: N/A
FREQUENCY: N/A
RELIEF ELEVATION: N/A
DISCHARGE OVER ROAD @Q100: N/A

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 136.470 m
VERTICAL CLEARANCE: 6.3 m

SCOUR: N/A
REQUIRED CHANNEL PROTECTION: N/A

PERMIT INFORMATION

AVERAGE DAILY FLOW: N/A
ORDINARY LOW WATER: N/A DEPTH OR ELEVATION: N/A
ORDINARY HIGH WATER: N/A N/A

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: N/R
CLEAR SPAN (NORMAL TO STREAM):
VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

-REQUIRED VERTICAL CLEARANCE ABOVE RAILROAD TRACK IS 6.3 m
-DURING CONST. REQ. CLEARANCE ABOVE RAILROAD TRACK IS 5.79 m
-REQ. HORIZ. CLEARANCE IS 2.74 m FROM CL OF TRACK (EACH SIDE)
-DURING CONST. REQ. HORIZ. CLEARANCE IS 2.74 m FROM CL OF TRACK (EACH SIDE)

DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO MS 22.5 (HS-25)
2. DESIGN SPAN 10.333 meters
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A
   ON LEDGE
4. ALLOWABLE LOAD FOR PILING 745 kN/pile
   TYPE HP 360 x 108
   ESTIMATED LENGTH Frame Leg 1 = 29 m, Frame Leg 2 = 32 m
5. STRUCTURAL STEEL AASHTO GRADE N/A
6. REINFORCING STEEL GRADE 420
7. CONCRETE CLASS A f'c : 30 Mpa
   CONCRETE CLASS B f'c : 25 Mpa
   SILICA - FUME CONCRETE f'c : 35 Mpa
8. SOIL UNIT WEIGHT
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL TO BE OBTAINED

TRAFFIC MAINTENANCE

1. IS TRAFFIC TO BE MAINTAINED? NO
   IF YES, ON EXISTING STRUCTURE
   OR ON TEMPORARY BRIDGE
2. TEMPORARY BRIDGE REQUIREMENTS: ONE OF TWO WAY
   TRAFFIC CONTROL SIGNALS REQUIRED
   MINIMUM CLEAR SPAN (NORMAL TO STREAM):
   WATERWAY OF FULL OPENING:
   VERTICAL CLEARANCE ABOVE STREAMBED:
   ARE SIDEWALKS REQUIRED?
   IF SO, ON WHAT SIDE?
   STRUCTURE TYPE:

THIS SHEET FOR ROW USE ONLY

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446 (26)

MAR 3 0 2004

FILE NAME: 02-PRELIMINARY INFO.XLS
PROJECT LEADER: G. EDWARDS / R. GINGRAS
DESIGNED BY: M. MEILLEUR
PRELIMINARY INFORMATION SHEET #1

PLOT DATE: 3/5/2003
DRAWN BY: M. MEILLEUR
CHECKED BY: R. GINGRAS
SHEET 2 OF 12

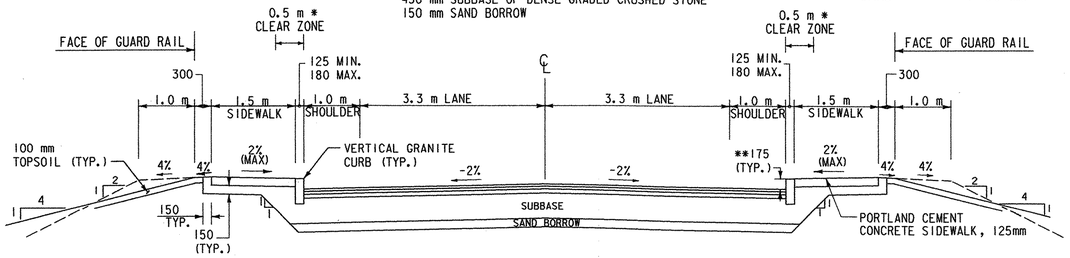
02.5 ROW

TYPICAL ROADWAY SECTIONS

MAT Metric

40 mm BITUMINOUS CONCRETE PAVEMENT TYPE III
50 mm BITUMINOUS CONCRETE PAVEMENT TYPE II } (PG 58-34)
70 mm BITUMINOUS CONCRETE PAVEMENT TYPE I
450 mm SUBBASE OF DENSE GRADED CRUSHED STONE
150 mm SAND BORROW

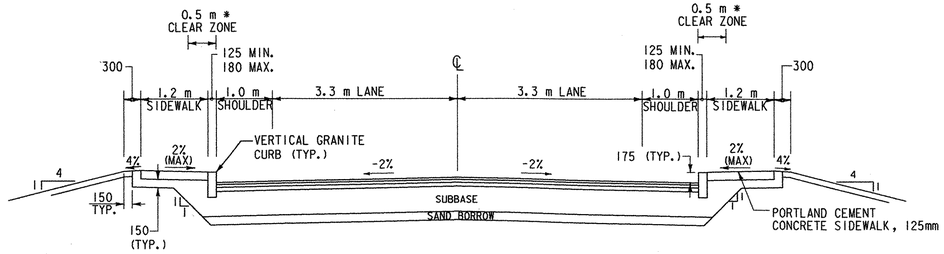
MATERIAL TOLERANCES	
PAVEMENT	+/- 5 mm
SUBBASE	+/-30 mm
SAND	+/-30 mm



STOWE STREET TYPICAL SECTION

NOT TO SCALE

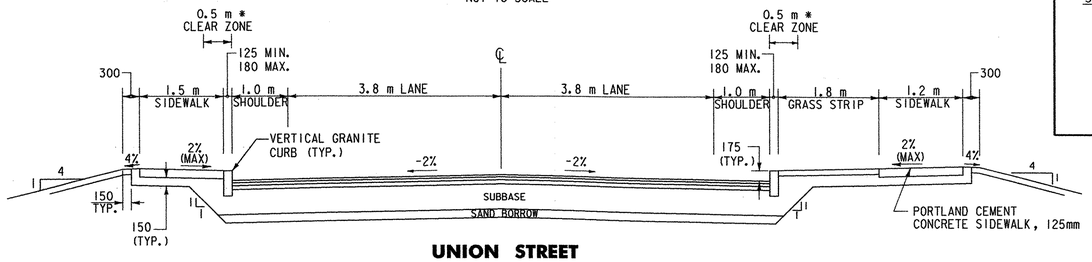
*INCREASE TO 1 m @ TURNING RADII FOR SIDE STREETS
**CURB REVEAL VARIES FROM 175 mm TO 225 mm ON BRIDGE



RAILROAD STREET TYPICAL SECTION

NOT TO SCALE

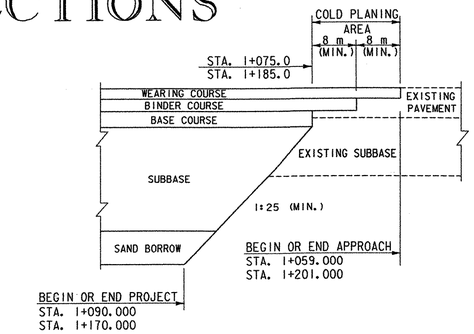
*INCREASE TO 1 m @ TURNING RADII FOR SIDE STREETS



UNION STREET TYPICAL SECTION

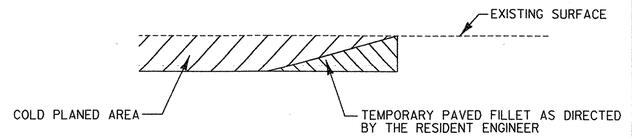
NOT TO SCALE

*INCREASE TO 1 m @ TURNING RADII FOR SIDE STREETS

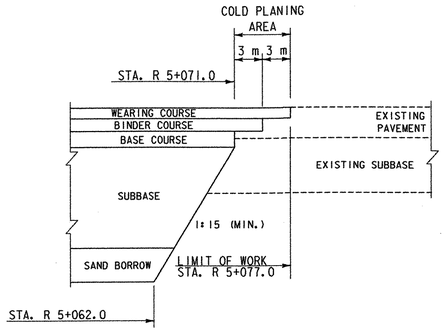


PROJECT TERMINI DETAIL

NOT TO SCALE

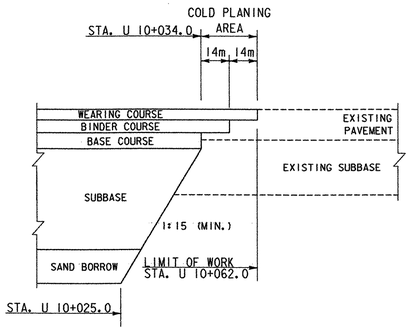


DETAIL AT VERTICAL COLD PLANE JOINTS



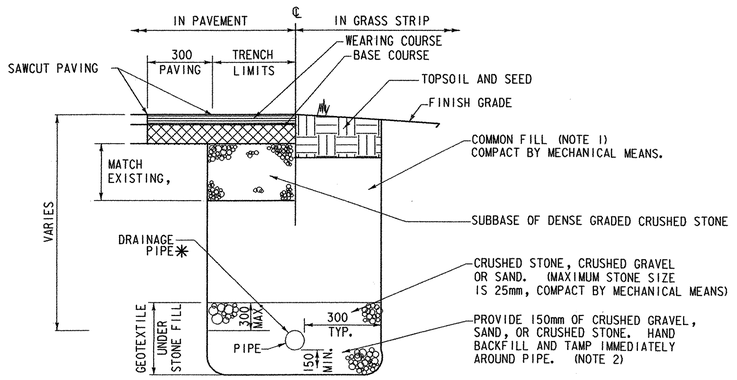
RAILROAD STREET TERMINI DETAIL

NOT TO SCALE



UNION STREET TERMINI DETAIL

NOT TO SCALE



MATERIALS NOTES:

1. COMMON FILL - MATERIAL EXCAVATED ON SITE WHICH IS FRIABLE, NATURAL SOIL COMPOSED OF GRAVEL, SAND, SILTY OR CLAYEY GRAVEL AND SAND; FREE FROM DEBRIS, CONCRETE OR OTHER RUBBLE, ORGANIC MATTER, MUCK, PEAT, EXCAVATED ROCK AND BOULDERS OF 150mm IN MAXIMUM DIMENSION OR GREATER.

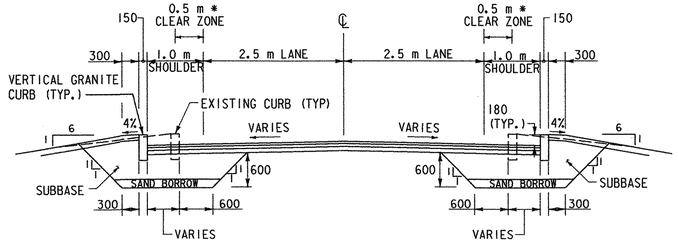
2. CRUSHED GRAVEL - CLEAN HARD CRUSHED GRAVEL; FREE FROM SILT, TOPSOIL, CLAY, AND ORGANIC MATTER; UNIFORMLY GRADED FROM COURSE TO FINE WITHIN THE LIMITS WHEN TESTED IN ACCORDANCE WITH 704.05 CRUSHED GRAVEL FOR SUB-BASE (FINE GRADED).

* FOR EXACT LOCATION OF DRAINAGE PIPE, SEE DRAINAGE PLAN SHEET AND CROSS SECTIONS.

TRENCH EXCAVATION-OUTSIDE ROADWAY RECONSTRUCTION AREA

N. T. S.

40 mm BITUMINOUS CONCRETE PAVEMENT TYPE III
50 mm BITUMINOUS CONCRETE PAVEMENT TYPE II } (PG 58-34)
70 mm BITUMINOUS CONCRETE PAVEMENT TYPE I
450 mm SUBBASE OF DENSE GRADED CRUSHED STONE
150 mm SAND BORROW



BIDWELL STREET TYPICAL SECTION

NOT TO SCALE

*INCREASE TO 1 m @ TURNING RADII FOR SIDE STREETS

THIS PLAN FOR ROW USE ONLY

DRAFT FINAL PLANS FEBRUARY, 2003

NOTES: ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

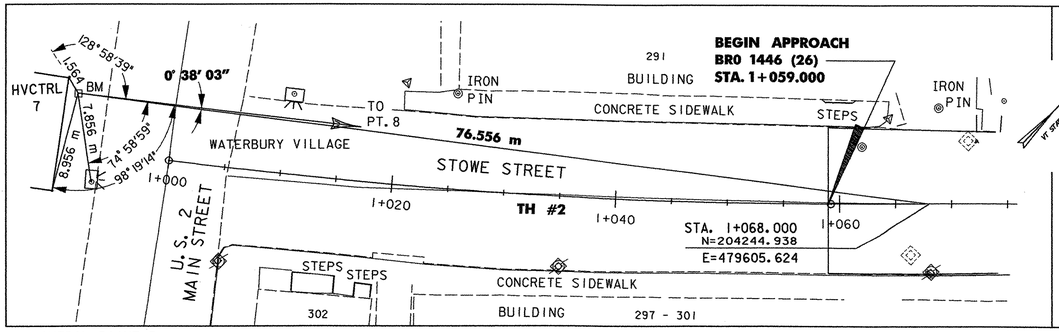
FOR ADDITIONAL ROADWAY AND LANDSCAPING INFORMATION, SEE THE GENERAL NOTES SHEET.

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)

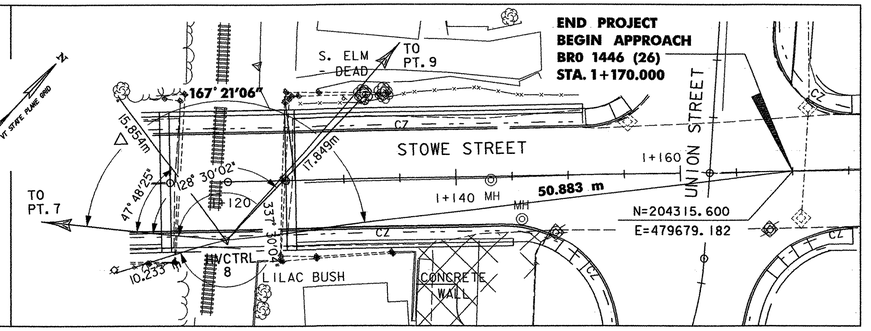
FILE NAME: ...\ROW TYPICALS.ptf — PLOT DATE: 03/10/2003
PROJECT LEADER: G EDWARDS/R GINGRAS — DRAWN BY: M MEILLEUR
DESIGNED BY: M MEILLEUR — CHECKED BY: R GINGRAS
TYPICAL ROADWAY SECTIONS R.O.W. SHEET 3 OF 12

C:\DATA\files\ROW TYPICALS.prt 03/10/2003 08:25:16 AM

086 ROW MAR 30 2004



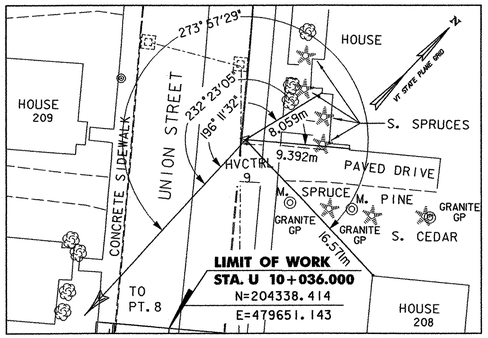
CONTROL POINT 7



CONTROL POINT 8

TRAVERSE TIES

SCALE 1 : 250



CONTROL POINT 9

HORIZONTAL AND VERTICAL CONTROL (HVCTRL.)

PT. #	NORTHING	EASTING	ELEVATION	LOCATION	STATION	OFFSET
07	204199.438 M	479544.056 M	134.562 M	MAIN ST.		
08	204276.766 M	479646.304 M	137.000 M	STOWE ST.	1+119.387	5.228 RT.
09	204355.178 M	479644.441 M	134.011 M	UNION ST.	10+053.235	5.378 RT.
30	204220.439 M	479564.619 M	134.487 M	STOWE ST.	1+020.627	9.113 LT.
31	204247.996 M	479597.702 M	134.946 M	STOWE ST.	1+064.406	7.694 LT.
32	204254.170 M	479625.218 M	134.834 M	STOWE ST.	1+088.527	6.916 LT.
33	204222.583 M	479642.109 M	134.263 M	BIDWELL LN.	1+041.456	7.314 RT.
34	204293.898 M	479589.252 M	134.519 M	STOWE ST.	1+090.112	46.650 LT.
36	204295.497 M	479669.779 M	135.300 M	RAILROAD ST.	5+010.337	12.557 RT.
37	204267.869 M	479692.638 M	134.384 M	RAILROAD ST.	5+047.289	3.003 LT.
40	204328.641 M	479622.467 M	133.557 M	UNION ST.	10+046.512	28.414 LT.
41	204290.098 M	479637.848 M	130.634 M	STOWE ST.	1+122.525	10.244 LT.

HVCTRL △ = TRAVERSE CONTROL POINT

DATUM

VERTICAL NAVD88

HORIZONTAL NAD 83 (1992)

0 10 20 30

SCALE IN METERS

THIS SHEET FOR ROW USE ONLY

DRAFT FINAL PLANS FEBRUARY, 2003

Dufresne-Henry

PROJECT NAME: WATERBURY

PROJECT NUMBER: BRO 1446(26)

FILE NAME: ...\ROW TIE SHEET.ptf

PROJECT LEADER: R GINGRAS

DESIGNED BY: R GINGRAS

TIE SHEET

PLOT DATE: 03/10/2003

DRAWN BY: M MEILLEUR

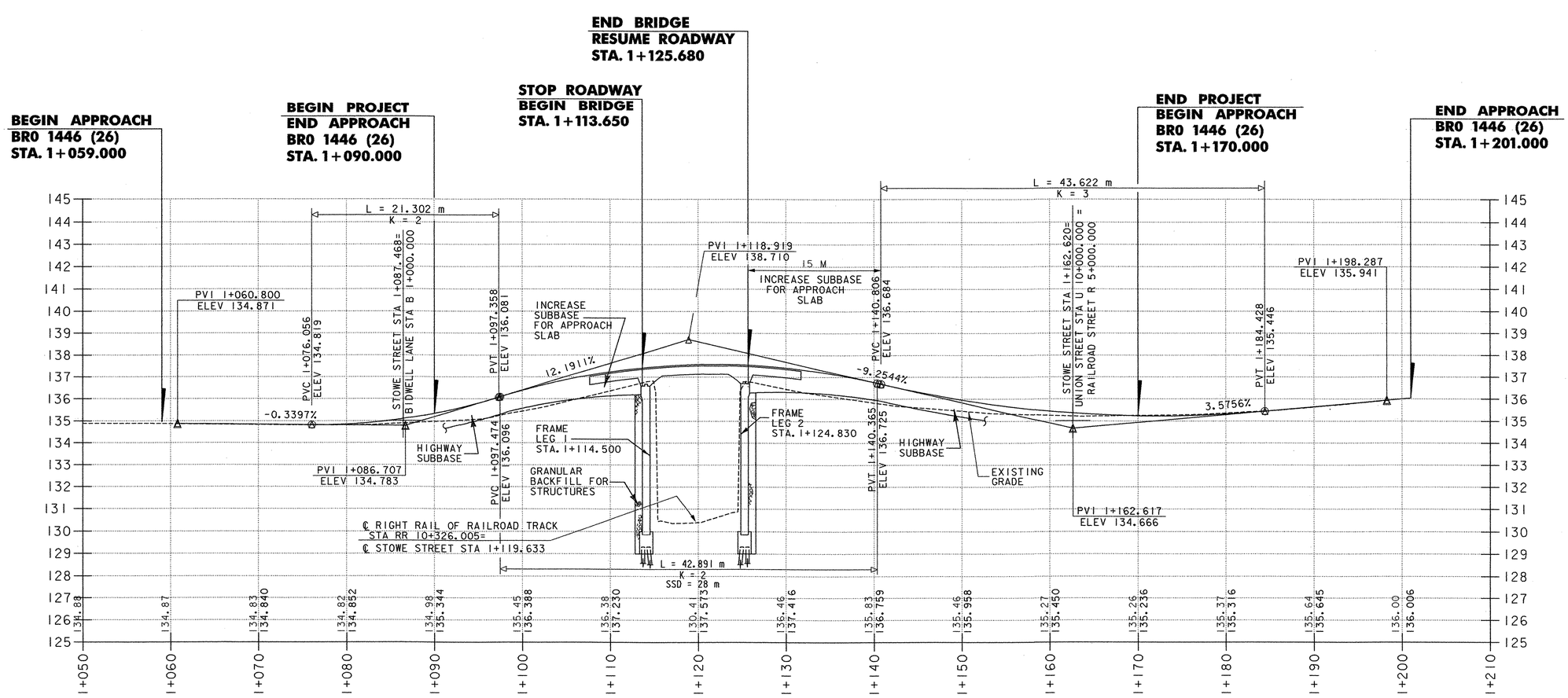
CHECKED BY: R GINGRAS

R.O.W. SHEET 4 OF 12

MAR 30 2004 087 Rad

V:\pltfiles\ROW TIE SHEET.plt 03/10/2003 08:25:40 AM

NOT Metric



GRAPHIC SCALES

0 10 20

HORIZONTAL SCALE 1:250

0 5 10

VERTICAL SCALE 1:100

THIS SHEET FOR ROW USE ONLY

DRAFT FINAL PLANS
FEBRUARY, 2003

DATUM

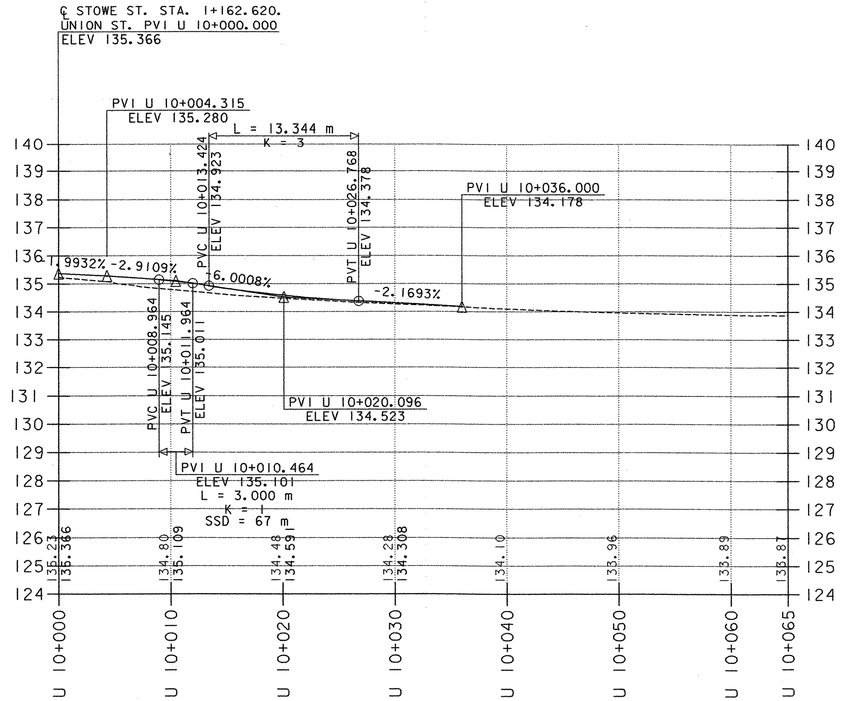
VERTICAL	NAV 88
HORIZONTAL	NAD83 (1992)

PROJECT NAME:	WATERBURY
PROJECT NUMBER:	BRO 1446(26)
FILE NAME: ...\ROW PROFILES.p+f	PLOT DATE: 03/10/2003
PROJECT LEADER: G EDWARDS/R GINGRAS	DRAWN BY: M. MEILLEUR
DESIGNED BY: M. MEILLEUR	CHECKED BY: R GINGRAS
STOWE STREET PROFILE	R.O.W. SHEET 5 OF 12

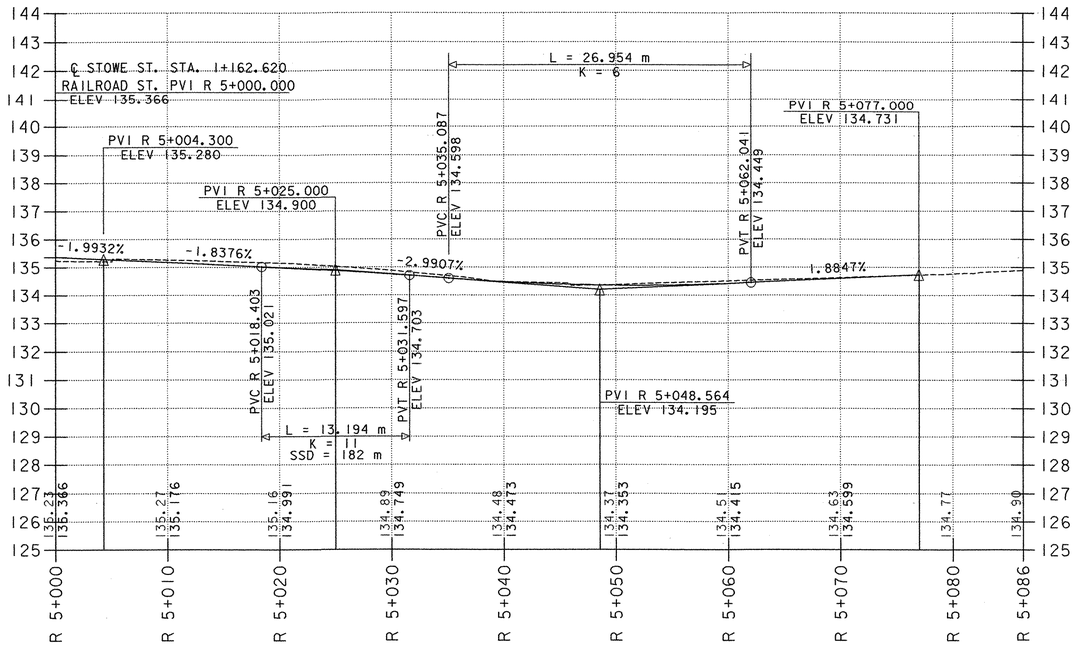
\\Data1\ies\ROW PROFILES.dgn 03/10/2003 09:26:16 AM

MAR 30 2004 088ROW

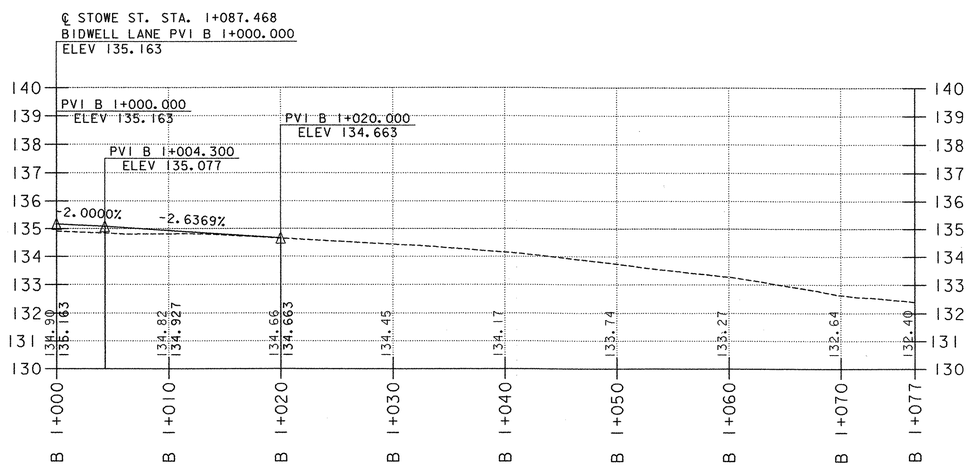
Profiles



UNION STREET



RELOCATED RAILROAD STREET



BIDWELL LANE

GRAPHIC SCALES

0 10 20

HORIZONTAL SCALE 1:250

0 5 10

VERTICAL SCALE 1:100

THIS SHEET FOR ROW USE ONLY

DRAFT FINAL PLANS
FEBRUARY, 2003

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)

FILE NAME: ...\ROW PROFILES.ptf
PROJECT LEADER: G EDWARDS/R GINGRAS
DESIGNED BY: R WALKER
SIDE STREET PROFILES

PLOT DATE: 03/10/2003
DRAWN BY: R. WALKER
CHECKED BY: R GINGRAS
R.O.W. SHEET 6 OF 12

MAR 30 2004 089 Row

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I:\PROJECTS\ROW PROFILES.prt

NOT Metric

NEW DRAINAGE NOTES

1. CONST. ℄ 1+074.8, RT. TO 1+075.2, LT.
NEW 300 mm x10.2m CPEP(SL), INV. IN 132.76 INV. OUT 132.64
CONST. NEW CB#1 AT INLET, RIM 134.94
CONNECT EXIST. 300mm MP TO NEW CB#1

2. CONST. ℄ 1+074.8, RT. TO B 1+012.3, LT.
NEW 300 mm x15.1m CPEP(SL), INV. IN 132.54 INV. OUT 132.47
CONST. NEW CB#2 AT INLET, RIM 134.95

3. CONST. ℄ 1+092.9, LT. TO 1+098.4, RT.
NEW 300 mm x9m CPEP(SL), INV. IN 134.04 INV. OUT 133.61
CONST. NEW CB#3 AT INLET, RIM 135.53

4. CONST. ℄ 1+098.4, RT. TO B 1+012.3, LT.
NEW 300 mm x12m CPEP(SL), INV. IN 133.51 INV. OUT 132.47
CONST. NEW CB#4 AT INLET, RIM 136.02

5. CONST. ℄ R 5+051.5, RT. TO R 5+051.5, LT.
NEW 300 mm x6.8m CPEP(SL), INV. IN 133.50 INV. OUT 133.46
CONST. NEW RCDI#5 AT INLET, RIM 134.31

6. CONST. ℄ R 5+051.6, LT TO 1+171.9, RT.
NEW 300 mm x49m CPEP(SL), INV. IN 133.36 INV. OUT 133.11
CONST. NEW RCDI#6 AT INLET, RIM 134.31

CHANGING ELEVATION OF DI's, CB's, OR MH's

STA. 1+066.3, RT. - DI
STA. 1+071.5, LT. - DI
STA. 1+084.7, LT. - DI
STA. U 10+061.5, LT. - DI
STA. U 10+061.5, LT. - DI

7. CONST. ℄ 1+171.9, RT. TO 1+172.9, LT.
NEW 300 mm x7.9m CPEP(SL), INV. IN 133.01 INV. OUT 132.96
CONST. NEW CB#7 AT INLET, RIM 135.11

8. CONST. ℄ 1+147.8, RT. TO 1+153.2, LT.
NEW 300 mm x8.4m CPEP(SL), INV. IN 134.24 INV. OUT 133.85
CONST. NEW RCDI#8 AT INLET, RIM 135.26

9. CONST. ℄ 1+153.2 TO 1+172.9, LT.
NEW 300 mm x18.5m CPEP(SL), INV. IN 133.75 INV. OUT 132.96
CONST. NEW CB#9 AT INLET, RIM 134.93

10. CONST. ℄ 1+172.9, LT. TO U 10+023.2, RT.
NEW 300 mm x17.1m CPEP(SL), INV. IN 132.86 INV. OUT 132.77
CONST. NEW CB#10 AT INLET, RIM 135.11

11. CONST. ℄ U 10+023.2 TO U 10+059.6, RT.
NEW 300 mm x35.2m CPEP(SL), INV. IN 132.67 INV. OUT 132.49
CONNECT OUTLET OF NEW PIPE TO EXIST. DI AT U10+059.6, RT.
CONST. NEW CB#11 AT INLET, RIM 134.39

12. CONST. ℄ B 1+012.3 LT.
NEW CONCRETE MANHOLE WITH CAST IRON COVER, RIM 134.91
INV. IN 132.47, INV. IN 132.47, INV. OUT 132.37
SAW CUT EXISTING 300 mm PIPE AS NECESSARY AT
STA. B 1+012.3, LT. TO INSTALL NEW DRAINAGE MANHOLE.
INVERT OUT OF NEW DMH#1 AT STA. B 1+012.3, LT. TO BE
FIELD VERIFIED BEFORE PIPE IS CUT. THE RESIDENT
ENGINEER WILL REVIEW RESULTS AND REDESIGN THE
STRUCTURE IF NECESSARY.

13. CONST. ℄ 1+092.9 TO 1+094.0, LT.
NEW 300 mm x2.5m CPEP (SL), INV. IN 134.18 INV. OUT 134.14
CONST. NEW RCDI#12 AT INLET, RIM 134.85

EXISTING DRAINAGE NOTES

A. CONST. ℄ 1+066.3, RT. TO 1+071.5, LT.
RETAIN EXIST. 300mm ACP
REMOVE GRATE AND FRAME AT 1+066.3, RT.
CHANGE ELEV. OF DI
NEW COVER AND FRAME AT 1+066.3, RT.

B. CONST. L 1+071.5 TO 1+084.7, LT.
SAWCUT EXIST. 300mm MP AS NECESSARY AT
STA. 1+076.4, LT. TO INSTALL NEW CB (SEE DRAINAGE NOTE 1)
PLUG AND ABANDON REMAINDER OF EXIST. 300mm MP
REMOVE GRATE AND FRAME AT 1+071.5, LT.
CHANGE ELEV. OF DI
NEW COVER AND FRAME AT 1+071.5, LT.

C. CONST. L 1+084.7, LT. TO B 1+012.3, LT.
PLUG AND ABANDON EXIST. 300mm PIPE AT 1+084.7, LT.
SEE DRAINAGE NOTE #12 FOR TREATMENT OF 300mm PIPE
AT B 1+012.3, LT.
VERIFY PURPOSE OF EXIST. STEEL ELBOW IN DI AT 1+084.7, LT.
AND ADJUST UTILITY IF NECESSARY
REMOVE GRATE AND FRAME AT 1+084.7, LT.
CHANGE ELEV. OF DI
NEW COVER AND FRAME AT 1+084.7, LT.

D. CONST. L 1+155.4 TO 1+171.5, LT.
REMOVE EXIST. 300mm PIPE
REMOVE EXIST. DI AT 1+155.4, LT.

E. CONST. L 1+170.7, RT. TO 1+171.5, LT.
REMOVE EXIST. 300mm PIPE
REMOVE EXIST. DI AT 1+170.7, LT.

F. CONST. L 1+171.5, LT. TO U 10+059.6, RT
REMOVE EXIST. DI AT 1+171.5, LT.
PLUG AND ABANDON EXIST. 300mm CPEP

G. CONST. L R 5+049.5, LT. TO R 5+053.1, RT
REMOVE EXIST. DI's AT R 5+049.5, LT. & R 5+053.1, RT.
REMOVE EXIST. 300mm CLAY PIPE
CONFIRM SOURCE OF INCOMING PIPE FROM SOUTH AT
R 5+053.1, RT. AND CONNECT TO NEW DI#5 IF NECESSARY

STOWE STREET
UNION STREET
BIDWELL LANE
RAILROAD ST.
RELOCATED RAILROAD ST.
GRAVEL PARKING LOT
PAVED DRIVE
SPRINT FIBER OPTIC CABLE (DO NOT DISTURB)
ABANDONED WATER MAIN
AT&T FIBER OPTIC CABLE (DO NOT DISTURB)
FUTURE TELEPHONE UTILITY DUCTS (IN BRIDGE SIDEWALK)
VT STATE PLANE GRID
N39°07'40"W @ 1.000
N46° 09' 01.9"E
S40° 01' 38.0"E
S11° 14' 05.1"E
S49° 23' 42.3"E
P.I. STA 1+029.660
DMH #1
CB#1 CB#2 CB#3 CB#4 CB#5 CB#7 CB#9 CB#10 CB#11
DI#6 DI#8
209 210 207 208 294 291 292 293 295 296 297 205 204 203 202 201 200 156

SURVEYED BY : VAOT
SURVEYED DATE : 1996

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 83 (1992)

0 10 20 SCALE 1:250

DRAFT FINAL PLANS
FEBRUARY, 2003

Dufresne Henry

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)

THIS SHEET FOR ROW USE ONLY

FILE NAME: ...\ROW DRAINAGE.ptf
PROJECT LEADER: G EDWARDS/R GINGRAS
DESIGNED BY: R GINGRAS
RIGHT-OF-WAY PLANS
PLOT DATE: 03/10/2003
DRAWN BY: M MEILLEUR
CHECKED BY: R GINGRAS
R.O.W. SHEET 7 OF 12

C:\PROJECTS\ROW DRAINAGE.prt 03/10/2003 08:36:54 AM

MAR 30 2004 ROW

INSTALL INLET PROTECTION

STA. 1+076.4,	LT.	5 BALES
STA. 1+076.5,	RT.	5 BALES
STA. 1+092.9,	LT.	5 BALES
		5 BALES
STA. 1+096.0,	RT.	5 BALES
STA. R 5+051.5,	RT. & LT.	10 BALES
STA. 1+171.9,	RT.	5 BALES
STA. 1+147.8,	RT.	5 BALES
STA. 1+153.2,	LT.	5 BALES
STA. 1+172.9,	LT.	5 BALES
STA. U 10+023.2,	RT.	5 BALES

NOTE:
INLET PROTECTION TO BE INSTALLED AT EXISTING CATCH BASIN INLETS PRIOR TO THEIR REMOVAL AS DIRECTED BY THE ENGINEER.

INSTALL SILT FENCE

STA. 1+092.4,	RT. TO 1+098.0,	RT. 9.0 M
STA. B 1+015.3,	LT. TO B 1+020.0,	LT. 4.7 M
STA. R 5+009.1,	LT. TO R 5+037.1,	LT. 31.5 M
STA. R 5+022.7,	RT. TO R 5+033.1,	RT. 12.0 M
STA. R 5+037.0.	RT. TO R 5+052.7,	RT. 20.0 M
STA. R 5+060.3,	RT. TO R 5+077.0,	RT. 17.5 M
STA. U 10+009.0,	LT. TO U 10+024.3,	LT. 26.0 M
STA. U 10+010.0,	RT. TO U 10+024.7,	RT. 15.0 M
STA. U 10+031.6,	RT. TO U 10+037.4,	RT. 6.0 M

VAOT Metric

STOWE STREET
UNION STREET
BIDWELL LANE
RAILROAD ST.
RELOCATED RAILROAD ST.
RETAIN DI
INSTALL SILT FENCING GRAVEL PARKING LOT
INSTALL SILT FENCING
SPRINT FIBER OPTIC CABLE (DO NOT DISTURB)
ABANDONED WATER MAIN
AT&T FIBER OPTIC CABLE (DO NOT DISTURB)
FUTURE TELEPHONE UTILITY DUCTS (IN BRIDGE SIDEWALK)
PAVED DRIVE
PI STA 1+029.660
N46° 09' 01.9"E
S40° 01' 38.0"E
S11° 14' 05.1"E
N39° 47' 17.8"W
VT STATE PLANE GRID
RR 10+380
RR 10+360
RR 10+340
RR 10+300
RR 10+280
RR 10+260
1+020
1+040
1+060
1+080
1+100
1+120
1+140
1+160
1+180
1+200
R 5+020
R 5+040
R 5+060
B 1+020
U10+020
U10+040
209
210
208
207
294
291
292
293
295
296
297
205
204
203
202
201
200
156
300mm ACP
250mm
300mm
CLAY
CMP
CZ
W
S
WSO
GUY

SURVEYED BY : VAOT
SURVEYED DATE : 1996

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 83 (1992)

0 10 20 SCALE 1:250

DRAFT FINAL PLANS
FEBRUARY, 2003

Dufresne Henry

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)
THIS SHEET FOR ROW USE ONLY

FILE NAME: ...\ROW EROSION.ptf
PROJECT LEADER: G EDWARDS/R GINGRAS
DESIGNED BY: R GINGRAS
PLOT DATE: 03/10/2003
DRAWN BY: M MEILLEUR
CHECKED BY: R GINGRAS
R.O.W. SHEET 8 OF 12

V:\2003\1446\ROW EROSION.prt 03/10/2003 08:27:14 AM

MAR 30 2004

091 ROW

INSTALL STREET LIGHTING (RA40-16)

STA. 1+105.0, 6.6 LT. & RT. SL-1 & SL-2
STA. 1+135, 6.6 LT. & RT. SL-3 & SL-4

ADJUST ELEVATION OF VALVE BOX

STA. 1+074.0, LT.
STA. 1+087.0, LT.
STA. 1+088.0, LT.
STA. 1+092.0, RT.
STA. 1+098.0, LT
STA. 1+140.3, RT.
STA. U 10+009.0, LT.
STA. R 5+033.0, RT.

SLEEVES FOR UTILITIES

STA. 1+104.6 LT. TO RT.
STA. 1+134.7 LT. TO RT.

DIRECT BURIAL CABLE

STA. 1+068.0 TO 1+153.0, LT. (EST.)
STA. 1+095.0 TO 1+147.0, RT. (EST.)

CHANGE ELEVATION OF SEWER MANHOLE

STA. 1+096.0, &
STA. 1+143.0, RT.
STA. 1+146.0, RT.
STA. 1+165.0, RT.
STA. R 5+073.0, LT.

LIGHT POLE

STA. 1+105.0, LT. & RT.
STA. 1+135.0, LT. & RT.

LUMINAIRE

STA. 1+105.0, LT. & RT.
STA. 1+135.0, LT. & RT.

VAOT Metric

POWER FOR STREET LIGHTING TO BE COORDINATED WITH ELECTRICAL UTILITIES (TYP.)

RAILROAD R.O.W.

RR 10+380
RR 10+360
RR 10+340
RR 10+320
RR 10+300
RR 10+280
RR 10+260

AT&T FIBER OPTIC CABLE (DO NOT DISTURB)

SPRINT FIBER OPTIC CABLE (DO NOT DISTURB)

ABANDONED WATER MAIN

GRAVEL PARKING LOT

UNION STREET

U10+060
U10+040
U10+020
N39°07'17.0"W

NEW 45' POLE P#4 "OUTRIG"

NEW 45' POLE P#50

PAVED DRIVE

STOWE STREET

N46°09'01.9"E

1+020
1+040
1+060
1+080
1+100
1+120
1+140
1+160
1+180
1+200

PI STA 1+029.660

S43°23'42.3"E

REMOVE EXISTING POLE (BY OTHERS)

NEW 45' POLE P#5 "OUTRIG"

NEW 45' POLE P#6 "OUTRIG"

NEED TRIMMING IN PUBLIC R.O.W.

NEW ANCHOR

LOCUST COURT

NEW OH LINE

SL-1
SL-2
SL-3
SL-4

FUTURE TELEPHONE UTILITY DUCTS (IN BRIDGE SIDEWALK)

GUY

WSO

ROW

B 1+020

BIDWELL LANE

RAILROAD ST.

RELOCATED RAILROAD ST.

S11°14'05.1"E

R 5+020
R 5+040
R 5+060

S40°01'38.0"E

VT STATE PLANE GRID

N

THIS SHEET FOR ROW USE ONLY

NOTE:
UTILITY SERVICES SHOWN ARE BASED ON INFORMATION PROVIDED BY PROPERTY OWNER. ACTUAL LOCATION MAY VARY.

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES (P/L) ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE TOWN OF WATERBURY'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

SURVEYED BY : VAOT
SURVEYED DATE : 1996

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 83 (1992)

0 10 20 SCALE 1:250

DRAFT FINAL PLANS
FEBRUARY, 2003

Dufresne Henry

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)

FILE NAME: ...\ROW UTILITY.ptf
PROJECT LEADER: G EDWARDS/R GINGRAS
DESIGNED BY: R GINGRAS
RIGHT-OF-WAY PLANS

PLOT DATE: 03/10/2003
DRAWN BY: M MEILLEUR
CHECKED BY: R GINGRAS
R.O.W. SHEET 9 OF 12

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MAR 30 2004

D92row

Metric

STATE OF VERMONT
AGENCY OF TRANSPORTATION
RIGHT OF WAY PLANS
DETAIL SHEET

TABLE OF PROJECT PROPERTY ACQUISTION

PARCEL NO.	GRANTOR	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKING	REM.	RIGHTS	TITLE TAKEN	DATE	TOWN OR CITY RECORDED	BK.	PG.	REMARKS	REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY
1	GREEN MOUNTAIN POWER CORPORATION												UTILITY			PAPER PRINTS TO STRUCTURES	1/15/04	G.J.F.	R. P. D.
2	VERIZON NEW ENGLAND, INC.												UTILITY	1	12	PARCEL NO. 299 TILLOTSON. EXTEND LIMITS OF DRIVE. PER C.O. 9327	1/19/04	G.J.F.	R.P.D.
3	ADELPHIA CABLE COMMUNICATIONS												UTILITY						
156	STIREWALT, ROBERT K. AND STIREWALT, ROBYN L. SKIFF	12	1+172.74 RT.	1+173.89 RT.			INSTALL AND MAINTAIN (P)						UTILITY ANCHOR						
158	BARBER, GEORGE E. & CAROL H.	12	RAILROAD STREET R 5+049.7 LT.	RAILROAD STREET R 5+068.0 LT.			INSTALL (T)	TUP	1-21-04	WATERBURY	219	364	FENCE						
200	THE ELDREDGE COMPANY, INC.	12	RAILROAD STREET R 5+073.0 RT.	R 5+077.0 RT.									EXCEPT AND RESERVE HOUSE						
201	MARTIN, STEVEN A. & DIXIE R.	12	RAILROAD STREET R 5+058.0 RT. R 5+060.9 RT.	R 5+069.2 RT.									DRIVE, 3.8m (12') GRAVEL EXCEPT AND RESERVE HOUSE						
202A	A. M. VENTURES (ROBERT W. MURRAY & GALEN D. AINSWORTH)	12	RAILROAD STREET R 5+034.81 LT.	RAILROAD STREET R 5+068.53 LT.	0.03 HA.±	0.00		WD	1-23-04	WATERBURY	219	405-406	HOUSE AND LOT AND ALL APPURTENANCES RELATED TO PARCEL (.07A±)						
202B			RAILROAD STREET R 5+039.93 LT.	RAILROAD STREET R 5+068.60 LT.	0.02 HA.±		ALL RIGHT, TITLE AND INTEREST						HIGHWAY EASEMENT FOR RAILROAD STREET (0.05A±)						
203	ABARE, MICHAEL L. & LAURIE A.	12	RAILROAD STREET R 5+045.6 RT. R 5+055.0 RT.	R 5+052.0 RT.									EXCEPT AND RESERVE HOUSE DRIVE, 4.6m (15') PAVEMENT						
204	DUNN, SARA A.	12	RAILROAD STREET R 5+035.0 RT. R 5+037.8 RT.	R 5+043.2 RT.									DRIVE, 3.6m (12') PAVEMENT EXCEPT AND RESERVE HOUSE						
205	MAYFLOWER MANAGEMENT, L.L.C.	12	1+123.6 RT. RAILROAD STREET R 5+025.8 RT. R 5+026.0 RT.	1+134.6 RT. R 5+029.8 RT.			SLOPE (T) 0.9 SM±						10 SF± EXCEPT AND RESERVE HOUSE DRIVE, 3.6m (12') PAVEMENT						
206A	MAYFLOWER MANAGEMENT, L.L.C.	12	1+170.50 RT.	RAILROAD STREET R 5+039.93 LT.	0.06 HA.±	0.00		WD	2-26-04	WATERBURY	220	280-281	LAND-TOTAL TAKE 0.15A±						
206B			1+170.50 ℄	R 5+043.15 RT.	0.04 HA.±		ALL RIGHT, TITLE AND INTEREST						HIGHWAY EASEMENT FOR RAILROAD STREET AND STOWE STREET (0.11A±)						

SURVEYED BY _____ DATE _____
DESIGN BY _____ DATE _____
DRAWN BY _____ DATE _____

DESIGN FILE NO. ROW DETAIL.DGN

PRF FILE 6310004 DATE PLOTTED 05/14/2003

DR. (P) - DRAINAGE RIGHT
DIT. (P) - DITCHING RIGHT
CH. (P) - CHANNEL RT.
DRIVE (T) - DRIVE RIGHT
CUL. (P) - CULVERT RIGHT

P
L
PRESENT R.O.W.
TAKING WITHOUT ACCESS
TAKING WITHOUT ACCESS ALONG PROPERTY LINE
TAKING WITH ACCESS
(P) PERMANENT EASEMENT
(T) TEMPORARY EASEMENT

LEGEND
CZ (P) CLEAR ZONE
CONST. (T) CONSTRUCTION EASEMENT
SR SR SLOPE RIGHTS
P L PROPERTY LINE
TOP OF CUT
TOE OF SLOPE

R.O.W. PLANS
MARCH, 2003

Dufresne-Henry

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)

FILE NAME: ...\ROW DETAIL.p+f
PROJECT LEADER: G. EDWARDS
DESIGNED BY: G. BOGUE
R.O.W. PLANS

PLOT DATE: 05/14/2003
DRAWN BY: M MEILLEUR
CHECKED BY: G. BOGUE
R.O.W. SHEET 10 OF 12

MAR 30 2004
093 ROW

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NHDOT Metric

PARCEL NO.	GRANTOR	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKING	REM.	RIGHTS	TITLE TAKEN	DATE	TOWN OR CITY RECORDED	BK.	PG.	REMARKS	REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY
207	SIPPLE, PAUL &	12	1+129.0 LT.	1+151.4 LT.			REMOVE (T)						FENCE AND BLOCK WALL						
	FERNANDEZ, ROBERT		1+129.0 LT	1+157.0 LT.			SLOPE (T) 36 SM±						388 SF±						
			1+148.83 LT.	1+156.31 LT.			INSTALL AND MAINTAIN (P)						UTILITY POLE, ANCHORS						
			UNION STREET	UNION STREET									AND APPURTENANCES						
			U 10+006.90 LT.	U 10+036.00 LT.			INSTALL AND MAINTAIN (P) 7 SM±						1.5m (5') CONCRETE						
													SIDEWALK 75 SF±						
			U 10+009.0 LT.	U 10+024.3 LT.			INSTALL (T) 15 SM±						EROSION CONTROL (161 SF±)						
			U 10+025.0 LT.				DRIVE (T)						3.6m (12') GRAVEL, INCLUDES						
			UNION STREET	UNION STREET									REGRADING OF PARKING LOT						
208	FIDRYCH, PAUL	12	U 10+008.32 RT.	U 10+010.08. RT.			CULVERT (P)												
			U 10+010.0 RT.	U 10+024.7 RT.			INSTALL (T) 44 SM±						EROSION CONTROL (474 SF+)						
			U 10+027.0 RT.				DRIVE (T)						6.3m (21') PAVEMENT						
			U 10+031.0 RT.	U 10+036.0. RT.			SLOPE (T) 1SM±						11 SF±						
			U 10+031.6 RT.	U 10+037.4 RT.			INSTALL (T) 5 SM±						EROSION CONTROL (54 SF±)						
			1+173.04 LT.	U 10+036.00 RT.			INSTALL AND MAINTAIN (P) 5 SM±						1.5m (5') CONCRETE						
													SIDEWALK 54 SF±						
			1+175.0 LT.	U 10+025.0. RT.			SLOPE (T) 11SM±						118 SF±						
292	WATERBURY LEGION HOME, INC.	12	1+087.0 LT.				DRIVE (T)	WDOE	1-23-04	WATERBURY	219	409 410	3.3m (11') PAVEMENT						
			1+072.6 LT.	1+082.6. LT.			SLOPE (T) 5 SM±						54 SF±						
			1+072.71 LT.	1+077.10 LT.			INSTALL & MAINTAIN (P) 1SM±						1.5m (5') CONCRETE						
													SIDEWALK 11 SF±						
293	STANGEL, PETER & JING JI	12	1+087.0 LT.				DRIVE (T)	WDOE	2-26-04	WATERBURY	220	282-283	3.3M (11') PAVEMENT						
			1+088.0 LT.	1+095.0 LT.			INSTALL (T) 4 SM±						1.8m (6') BITUMINOUS CONCRETE						
													INCLUDES SLOPE WORK (43 SF±)						
			1+094.04 LT.				CULVERT & D.I. (P)												
294	TILLOTSON,	12	1+087.0 LT.				DRIVE (T)						3.3m (11') PAVEMENT						
	DWAYNE B. & BETTY A.		1+094.3 LT.	1+108.0 LT.			SLOPE (T) 50 SM±						538 SF±						
			1+095.7 LT.	1+102.3 LT.			INSTALL (T)						0.9m (3') CONCRETE						
			BIDWELL STREET	BIDWELL STREET									SIDEWALK, INCLUDES STAIRS						
295	AYLWARD, SYLVIA W.	12	B 1+007.5 LT.	B 1+020.0 LT.			SLOPE (T) 48 SM±	WDOE	1-21-04	WATERBURY	219	365 366	517 SF±						
			B 1+010.0 LT.	B 1+015.0 LT.			INSTALL (T)						1.2m (4') BITUMINOUS CONC.						
			B 1+016.0 LT.				REMOVE AND INSTALL (T)						CURB						
			1+092.4 RT.	1+098.0 RT.			INSTALL (T) 12 SM±						EROSION CONTROL (129 SF±)						
			1+092.46 RT.	1+093.11 RT.			CULVERT (P)												
			1+092.6 RT.	1+097.6 RT.			LANDSCAPE (T)						PLANT TREE						
			1+106.6 RT.	1+109.0 RT.			SLOPE (T) 0.3 SM±						3 SF±						
297	WATERBURY MASONIC BUILDING	12	1+068.00 RT.	1+075.12 RT.			INSTALL & MAINTAIN (P) 7 SM±	WDOE	2-26-04	WATERBURY	220	288-289	2.1m (7') CONCRETE						
	ASSOCIATION, INC.												SIDEWALK (75 SF±)						
383	C.V. PROPERTIES, INC. JOINED	12	1+108.0 LT.	1+129.0 LT.			CONST. (T) 90 SM±						970 SF±						
	BY NEW ENGLAND CENTRAL RR.		1+108.0 LT.	1+116.8 LT.			SLOPE (T) 7 SM±						75 SF±						
			1+108.03 LT.	1+129.06 LT.			ALL RIGHT, TITLE AND INTEREST						RAILROAD BRIDGE						
													THIS TO INCLUDE FOOTINGS,						
													WALLS, RAILINGS AND ANY						
													OTHER APPURTENANCES.						
			1+109.3 RT.	1+123.6 RT.			CONST. (T) 44 SM±						474 SF±						
			1+124.3 LT.	1+129.0 LT.			SLOPE (T) 5 SM±						54 SF±						

SURVEYED BY _____ DATE _____
DESIGN BY _____ DATE _____
DRAWN BY _____ DATE _____

DESIGN FILE NO. ROW DETAIL.DGN

PRF FILE 6310004 DATE PLOTTED 05/14/2003

DR. (P) - DRAINAGE RIGHT
DIT. (P) - DITCHING RIGHT
CH. (P) - CHANNEL RT.
DRIVE (T) - DRIVE RIGHT
CUL. (P) - CULVERT RIGHT

P — PRESENT R.O.W.
L — TAKING WITHOUT ACCESS
TAKING WITHOUT ACCESS ALONG PROPERTY LINE
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(P) PERMANENT EASEMENT
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LEGEND
CZ (P) CLEAR ZONE
CONST. (T) CONSTRUCTION EASEMENT
SR SR SLOPE RIGHTS
P L PROPERTY LINE
TOP OF CUT
TOE OF SLOPE

R.O.W. PLANS
MARCH, 2003

Dufresne-Henry

PROJECT NAME: WATERBURY
PROJECT NUMBER: BRO 1446(26)

FILE NAME: ...\ROW DETAIL.ptf
PROJECT LEADER: G. EDWARDS
DESIGNED BY: G. BOGUE
R.O.W. PLANS

PLOT DATE: 05/14/2003
DRAWN BY: M. MEILLEUR
CHECKED BY: G. BOGUE
R.O.W. SHEET 11 OF 12

MAR 30 2004
094 ROW

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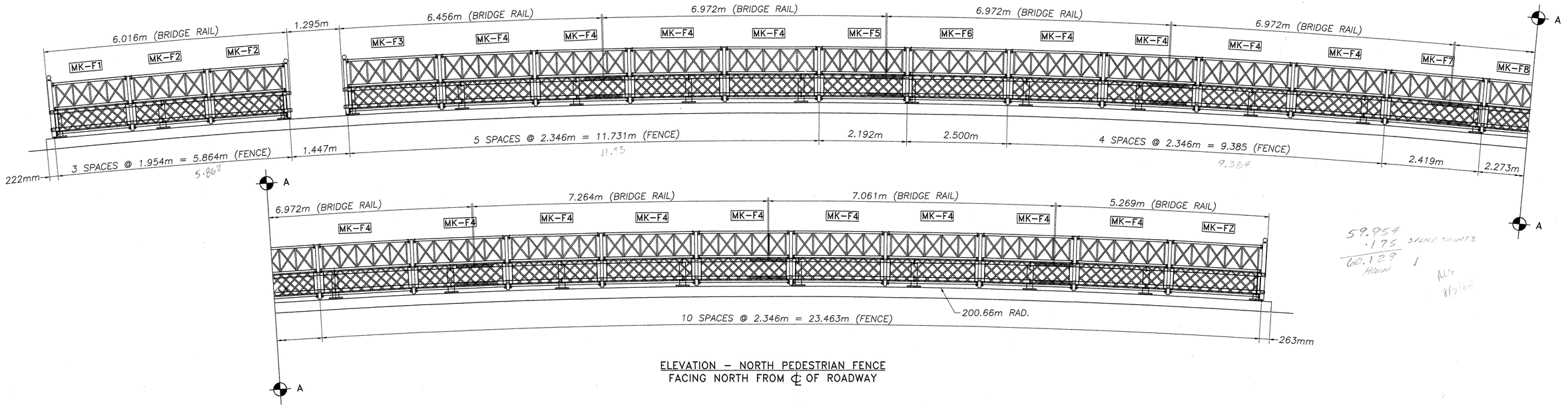
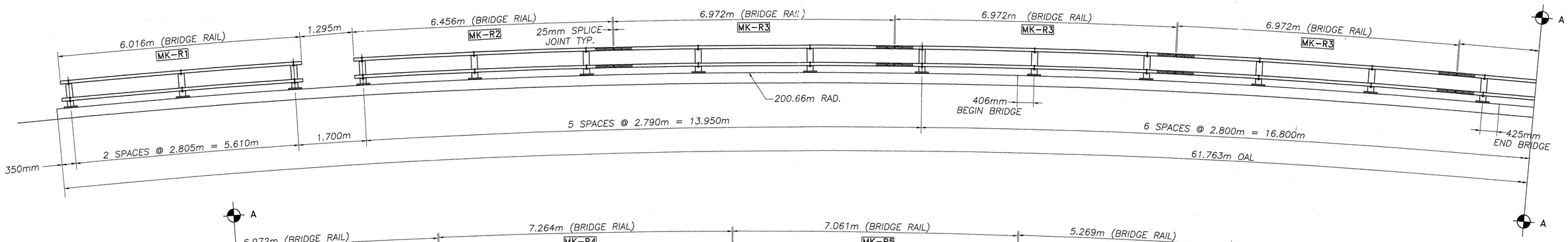


ELEVATION – NORTH PEDESTRIAN FENCE
FACING NORTH FROM ℄ OF ROADWAY



ELEVATION – NORTH BRIDGE RAIL
FACING NORTH FROM ℄ OF ROADWAY

TOTAL PAY LIMIT = 112m

REVISIONS		
No.	Remarks	Date
0	Initial submittal	9/4/04
	Second submittal	10/6/04
	Third submittal	10/18/04

RECEIVED
CK'D BY CPW CK'D BY
OCT 20 2004
RESUBMIT APPROVED
BY CPW DATE 10/21/04

HIGHWAY SAFETY CORP.

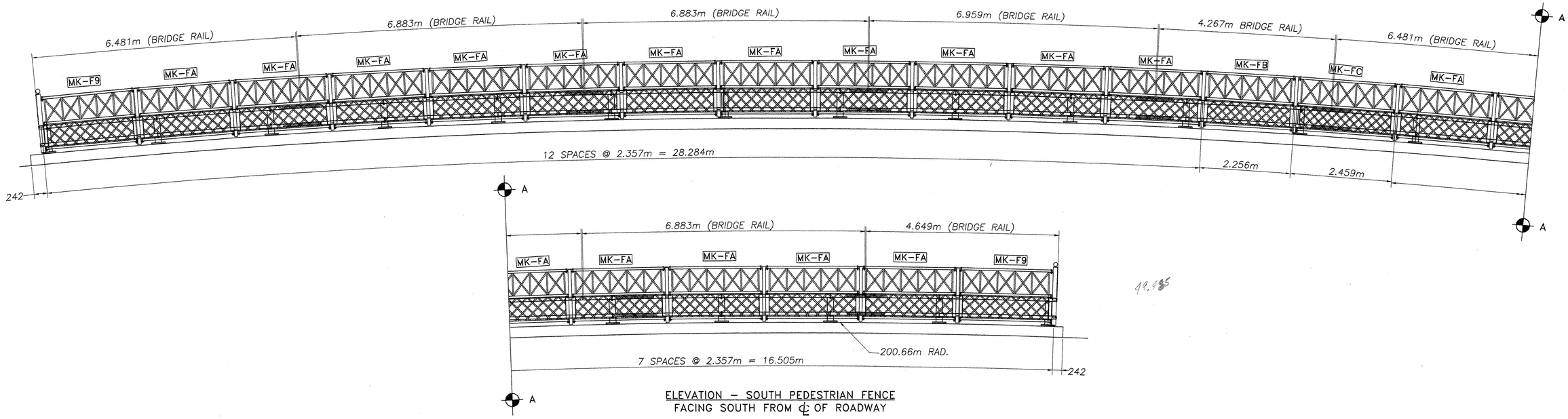
GLASTONBURY, CT

ITEM 525.31 – 2 RAIL BOX BEAM (MOD.)
TOWN OF WATERBURY
STOWE STREET, BRIDGE 35 (LOCAL ROAD)
PROJECT No. BRO 1446(26)
WASHINGTON COUNTY

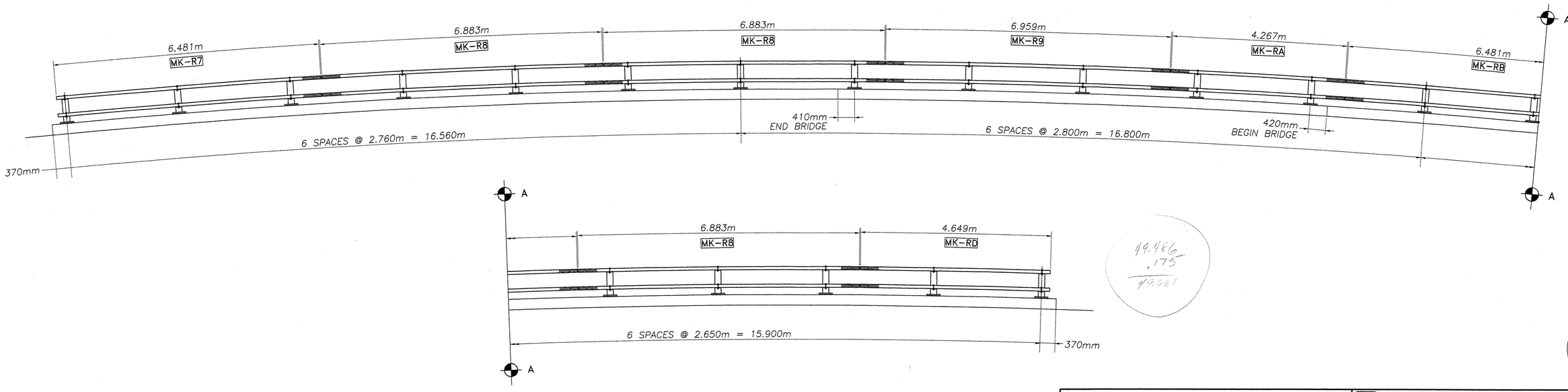
GENERAL CONTRACTOR

SUB CONTRACTOR F.R. LAFAYETTE 075BP

DRAWN	J. Ruiz
CHECKED	
DATE	6/1/04
SCALE	NONE
HSC REFERENCE NO.	1449
SIZE	D
REVISION	0
SHEET NO.	1 of 3



ELEVATION – SOUTH PEDESTRIAN FENCE
FACING SOUTH FROM ℄ OF ROADWAY



ELEVATION – SOUTH BRIDGE RAIL
FACING SOUTH FROM ℄ OF ROADWAY

REVISIONS		
No.	Remarks	Date
0	Initial submittal	9/4/04
	Second submittal	10/6/04
	Third submittal	10/18/04

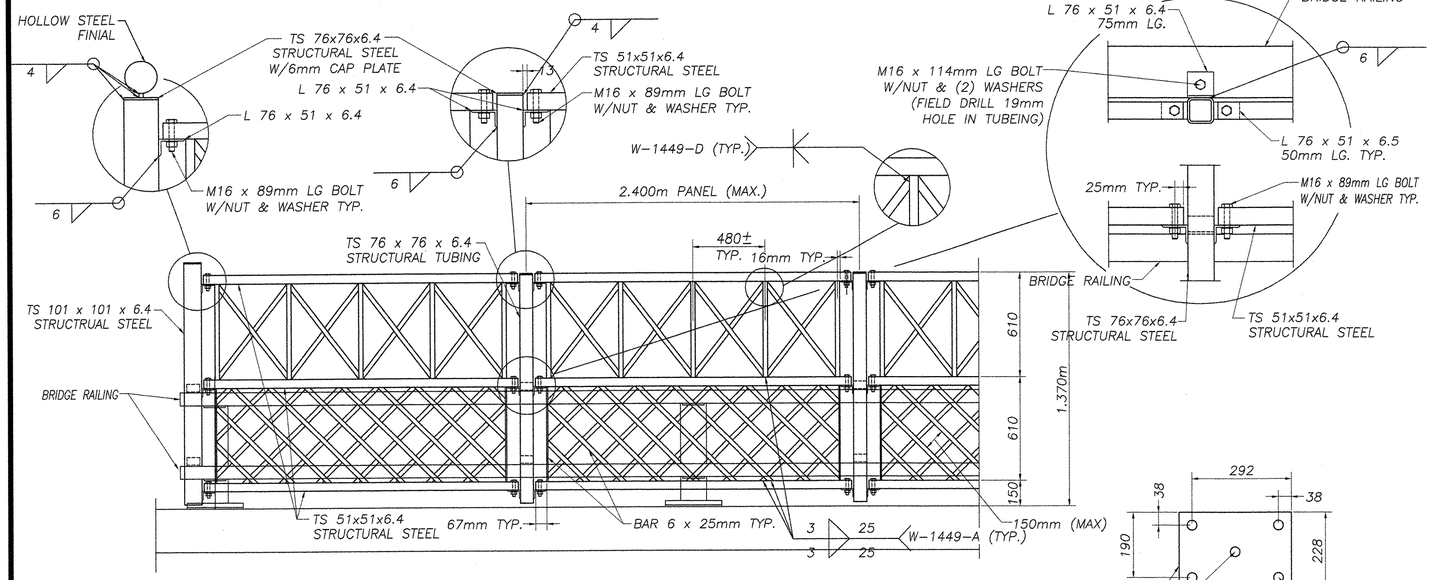
RECEIVED
CK'D BY CPW OK'D BY
OCT 20 2004
RESUBMIT APPROVED
BY CPW DATE 10/21/04

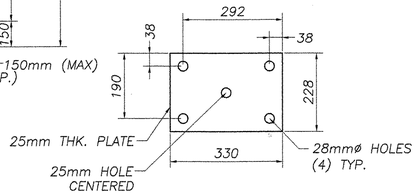
HIGHWAY SAFETY CORP.
GLASTONBURY, CT

ITEM 525.31 – 2 RAIL BOX BEAM (MOD.)
TOWN OF WATERBURY
STOWE STREET, BRIDGE 35 (LOCAL ROAD)
PROJECT No. BRO 1446(26)
WASHINGTON COUNTY

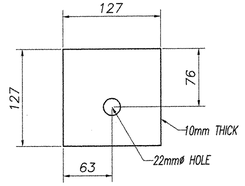
DRAWN	J. Ruiz
CHECKED	
DATE	6/1/04
SCALE	NONE
HSC REFERENCE NO.	1449
SIZE	D
REVISION	0
SHEET NO.	2 of 3

GENERAL CONTRACTOR
SUB CONTRACTOR F.R. LAFAYETTE 096 BR

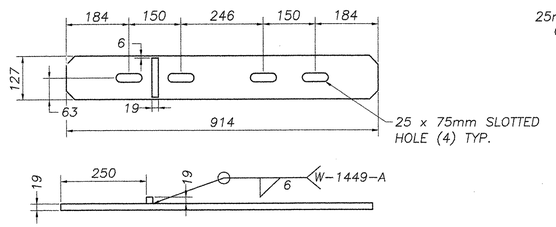




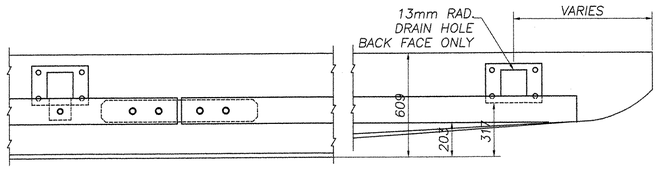
BASE PLATE

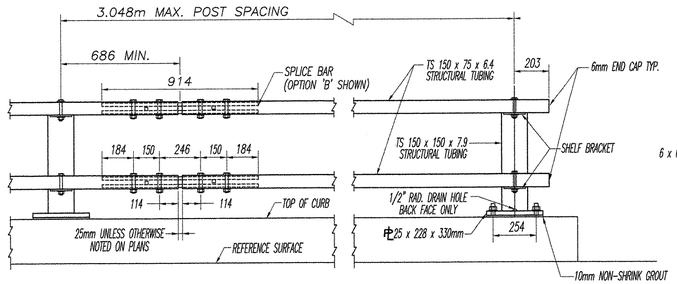


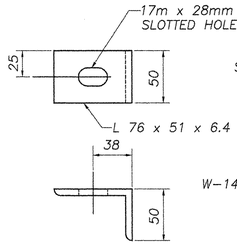
SHELF BRACKET



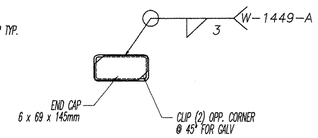
SPLICE BAR
OPTION 'B'



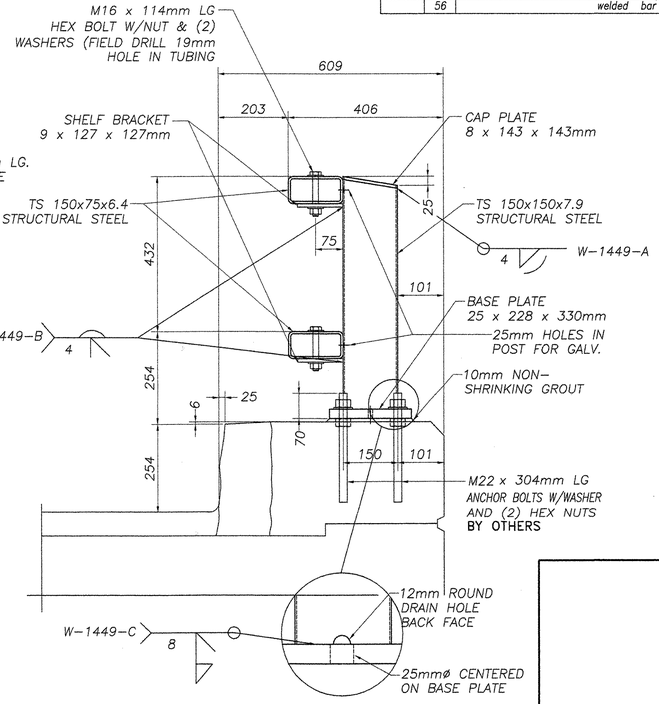




CONNECTIN ANGLE



END CAP



REVISIONS		
No.	Remarks	Date
0	Initial submittal	9/4/04
	Second submittal	10/6/04
	Second submittal	10/18/04

BILL OF MATERIAL					
Mk.	Qty.	Description	Size/Shape	Length	Material
	42	PED POST 626mm OAH			
	42	base plate	PL 25 x 228	330mm	A36m
	42	upright post	TS 150x150x7.9	643mm	A500 Gr. B
	42	cap plate	PL 8 x 143	143mm	A36m
	84	shelf bracket	PL 9 x 127	127mm	A36m
R1	2	BRIDGE RAIL (201m RAD.)	TS 150x75x6.4	6.016m	A500 Gr. B
R2	2	BRIDGE RAIL (201m RAD.)	TS 150x75x6.4	6.456m	A500 Gr. B
R3	8	BRIDGE RAIL (201m RAD.)	TS 150x75x6.4	6.972m	A500 Gr. B
R4	2	BRIDGE RAIL (201m RAD.)	TS 150x75x6.4	7.264m	A500 Gr. B
R5	2	BRIDGE RAIL (201m RAD.)	TS 150x75x6.4	7.061m	A500 Gr. B
R6	2	BRIDGE RAIL (201m RAD.)	TS 150x75x6.4	5.269m	A500 Gr. B
R7	2	BRIDGE RAIL (201m RAD.)	TS 150x75x6.4	6.481m	A500 Gr. B
R8	6	BRIDGE RAIL (201m RAD.)	TS 150x75x6.4	6.883m	A500 Gr. B
R9	2	BRIDGE RAIL (201m RAD.)	TS 150x75x6.4	6.959m	A500 Gr. B
RA	2	BRIDGE RAIL (201m RAD.)	TS 150x75x6.4	4.267m	A500 Gr. B
RB	2	BRIDGE RAIL (201m RAD.)	TS 150x75x6.4	6.481m	A500 Gr. B
RD	2	BRIDGE RAIL (201m RAD.)	TS 150x75x6.4	4.649m	A500 Gr. B
	4	PEDESTRIAN FENCE END POST			
	4	upright post	TS 101x101x6.4	1.395m	A500 Gr. B
	8	attachment angle	L 76x51x6.4	75mm	A36m
	12	connection angle	L 76x51x6.4	51mm	A36m
	8	cap plate	PL 6 x 101	101mm	A36m
	46	PEDESTRIAN INTERMEDIATE POST			
	46	upright post	TS 76x76x6.4	1.345m	A500 Gr. B
	92	attachment angle	L 76x51x6.4	75mm	A36m
	276	connection angle	L 76x51x6.4	51mm	A36m
	92	cap plate	PL 6 x 76	76mm	A36m
F1	1	PEDESTRIAN FENCE ASSEMBLY			
	3	cross tubing	TS 51x51x6.4	1.840m	A500 Gr. B
	13	top bars	6 x 25mm	varies	A36m
	18	bottom bars	6 x 25mm	varies	A36m
F2	2	PEDESTRIAN FENCE ASSEMBLY			
	6	cross tubing	TS 51x51x6.4	1.854m	A500 Gr. B
	26	top bars	6 x 25mm	varies	A36m
	36	bottom bars	6 x 25mm	varies	A36m
F3	1	PEDESTRIAN FENCE ASSEMBLY			
	3	cross tubing	TS 51x51x6.4	2.245m	A500 Gr. B
	16	top bars	6 x 25mm	varies	A36m
	22	bottom bars	6 x 25mm	varies	A36m
FZ	1	PEDESTRIAN FENCE ASSEMBLY		2.232	
	3	cross tubing	TS 51x51x6.4	~~2.245m~~	A500 Gr. B
	16	top bars	6 x 25mm	varies	A36m
	22	bottom bars	6 x 25mm	varies	A36m
	56	SPLICE PLATE W/WELDED BAR			
	56	plate	PL 19 x 127mm	914mm	A500 Gr. B
	56	welded bar	19 x 19mm	114mm	A36m

BILL OF MATERIAL					
Mk.	Qty.	Description	Size/Shape	Length	Material
F4	16	PEDESTRIAN FENCE ASSEMBLY			
	48	cross tubing	TS 51x51x6.4	2.245m	A500 Gr. B
	256	top bars	6 x 25mm	varies	A36m
	352	bottom bars	6 x 25mm	varies	A36m
F5	1	PEDESTRIAN FENCE ASSEMBLY			
	3	cross tubing	TS 51x51x6.4	2.091m	A500 Gr. B
	16	top bars	6 x 25mm	varies	A36m
	20	bottom bars	6 x 25mm	varies	A36m
F6	1	PEDESTRIAN FENCE ASSEMBLY			
	3	cross tubing	TS 51x51x6.4	2.398m	A500 Gr. B
	16	top bars	6 x 25mm	varies	A36m
	24	bottom bars	6 x 25mm	varies	A36m
F7	1	PEDESTRIAN FENCE ASSEMBLY		2.317	
	3	cross tubing	TS 51x51x6.4	~~2.244m~~	A500 Gr. B
	16	top bars	6 x 25mm	varies	A36m
	24	bottom bars	6 x 25mm	varies	A36m
F8	1	PEDESTRIAN FENCE ASSEMBLY			
	3	cross tubing	TS 51x51x6.4	2.171m	A500 Gr. B
	16	top bars	6 x 25mm	varies	A36m
	24	bottom bars	6 x 25mm	varies	A36m
F9	2	PEDESTRIAN FENCE ASSEMBLY			
	6	cross tubing	TS 51x51x6.4	2.244m	A500 Gr. B
	32	top bars	6 x 25mm	varies	A36m
	44	bottom bars	6 x 25mm	varies	A36m
FA	17	PEDESTRIAN FENCE ASSEMBLY			
	51	cross tubing	TS 51x51x6.4	2.257m	A500 Gr. B
	272	top bars	6 x 25mm	varies	A36m
	374	bottom bars	6 x 25mm	varies	A36m
FB	1	PEDESTRIAN FENCE ASSEMBLY			
	3	cross tubing	TS 51x51x6.4	2.155m	A500 Gr. B
	16	top bars	6 x 25mm	varies	A36m
	22	bottom bars	6 x 25mm	varies	A36m
FC	1	PEDESTRIAN FENCE ASSEMBLY			
	3	cross tubing	TS 51x51x6.4	2.358m	A500 Gr. B
	16	top bars	6 x 25mm	varies	A36m
	24	bottom bars	6 x 25mm	varies	A36m
*	168	ANCHOR BOLT W/(2) NUTS & WASHER	M22	304mm	
	84	HEX BOLT W/NUT & (2) WASHERS	M16	114mm	
	112	HEX NUT W/NUT & WASHER	M20	101mm	
	100	HEX NUT W/NUT & WASHER (FENCE)	M16	114mm	
	282	HEX NUT W/NUT & WASHER (FENCE)	M16	89mm	
	28	SPLICE PLATE	PL 19 x 127	914mm	A36m
	6	PIPE SPACER	M25 sch. 40	12mm	A500 Gr. B
	6	HOLLOW STEEL FINIAL	- - -	- - -	

*PROVIDED BY OTHERS

NOTES:
1. RAILING IS DESIGNED IN ACCORDANCE WITH THE 1989 AASHTO SPECIFICATIONS.

2. ALL PLATES, BARS, AND ANGLES SHALL BE ASTM A36 STEEL. UNLESS OTHERWISE SPECIFIED, ALL BOLTS SHALL BE ASTM A307. STRUCTURAL STEEL TUBING SHALL BE ASTM A500 COLD-FORMED GRADE B AS MODIFIED IN SECTION 732.03(a).

3. ALL STEEL COMPONENTS SHALL BE HOT DIPPED GALVANIZED PER ASTM A123 AND SHOP PAINTED FLAT BLACK IN ACCORDANCE WITH VAOT SUPPLEMENTAL SPECIFICATION 513 DATED AUGUST 9, 2000.

ALL HARDWARE SHALL BE GALVANIZED PER ASTM A153 - HARDWARE SHALL NOT BE SHOP PAINTED.

4. THE RAIL SYSTEM SHALL BE CONTINUOS WITH EACH TUBE SECTION ATTACHED TO A MINIMUM OF TWO POSTS. ALL JOINTS SHALL BE SPLICED AS DETAILED, WITH ALL SPLICE CONNECTIONS IN THE SAME PANEL LOCATED ONE DIRECTLY ABOVE THE OTHER.

5. ALL POSTS SHALL BE SET NORMAL TO GRADE, NUTS PLACED IN CONCRETE ARE TO BE ROTATED WITHIN 24 HOURS AFTER CONCRETE IS PLACED TO BREAK BOND BETWEEN NUT AND CONCRETE. NUTS SHALL THEN BE USED TO ALIGN THE POSTS BOTH HORIZONTALLY AND VERTICALLY. AFTER FINAL POSITION HAS BEEN APPROVED, ALL VOIDS BETWEEN THE BASE PLATE AND CONCRETE SURFACE SHALL BE GROUTED WITH NON-SHRINK GROUT CONFORMING WITH SECTION 707.03, MORTAR, TYPE 4.

6. ANCHOR BOLTS SHALL BE PRECAST IN THE CURB SECTION, AND CONFORM WITH THE REQUIREMENTS OF SECTION 714.07.

7. FOR RADII LESS THEN 290m, THE BEAM RAIL SHALL BE SHOP BENT TO FIT THE APPLICABLE CURVE.

8. RAILING JOINT SPLICES SHALL BE PROVIDED FOR ALL SUPERSTRUCTURE JOINTS. THE RAIL JOINT OPENING SHALL BE 25mm OR CAPABLE OF PROVIDING THE MOVEMENT SPECIFIED. SPLICE PLATE DETAILS SHALL BE MODIFIED AS REQUIRED FOR JOINTS REQUIRING MORE THAN 2 INCHES OF TOTAL MOVEMENT.

9. REFER TO PROJECT PLANS FOR CURB DETAILS

10. REFER TO STANDARD SB-R4B-82 FOR GUARD RAIL APPROACH SECTION-TYPE 1 B. TYPE 2 DETAILS

11. WALL THICKNESS OF THE 6" x 6" STRUCTURAL TUBING FOR THE RAIL POST SHALL BE 5/16" INCH MINIMUM , 10mm, 12mm THICKNESS TUBING MAY BE SUBSTITUTED AT THE OPTION OF THE FABRICATOR.

12. PRIOR TO GALVANIZING. ALL CORNERS AND EDGES OF STEEL PLATES, SHAPES, ETC., SHALL BE GROUND TO A 1.6mm RAD.

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CK'D BY CPW OK'D BY
OCT 20 2004
RESUBMIT APPROVED As Noted
BY CPW DATE 10/21/04

HIGHWAY SAFETY CORP.
GLASTONBURY, CT

ITEM 525.31 - 2 RAIL BOX BEAM (MOD.)
TOWN OF WATERBURY
STOWE STREET, BRIDGE 35 (LOCAL ROAD)
PROJECT No. BRO 1446(26)
WASHINGTON COUNTY

GENERAL CONTRACTOR

SUB CONTRACTOR F.R. LAFAYETTE 097BR

DRAWN J. Ruiz
CHECKED
DATE 6/1/04
SCALE NONE
HSC REFERENCE NO. 1449
SIZE D REVISION 0
SHEET NO. 3 of 3

NAUGATUCK 816 Y