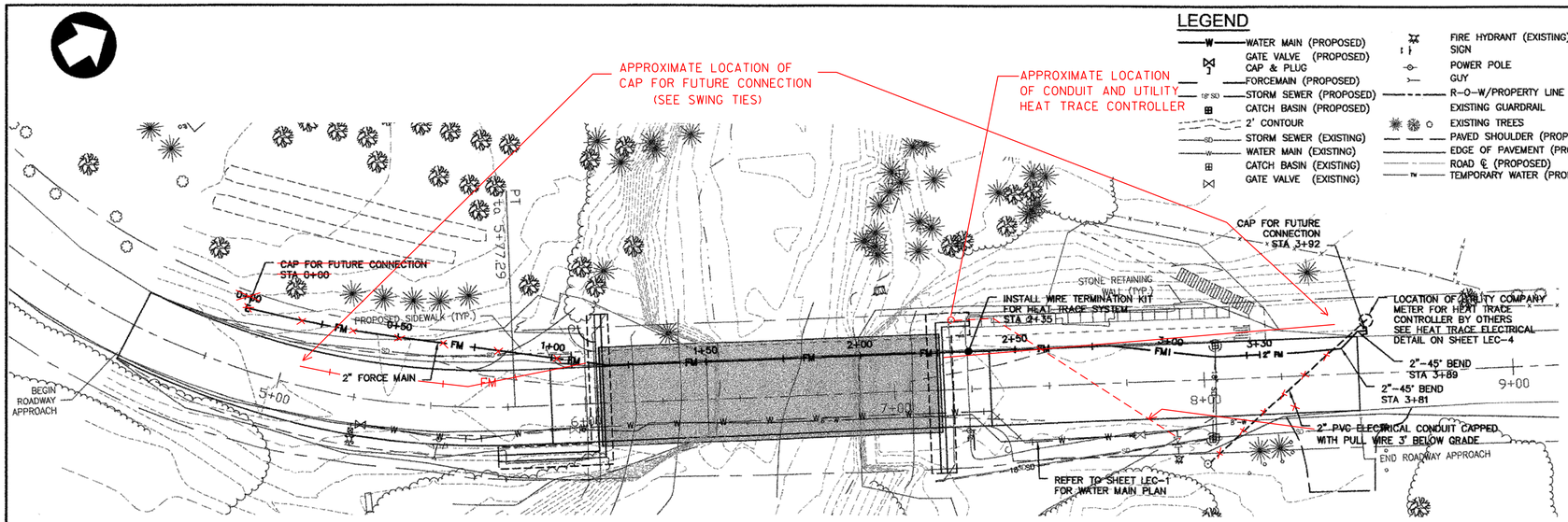
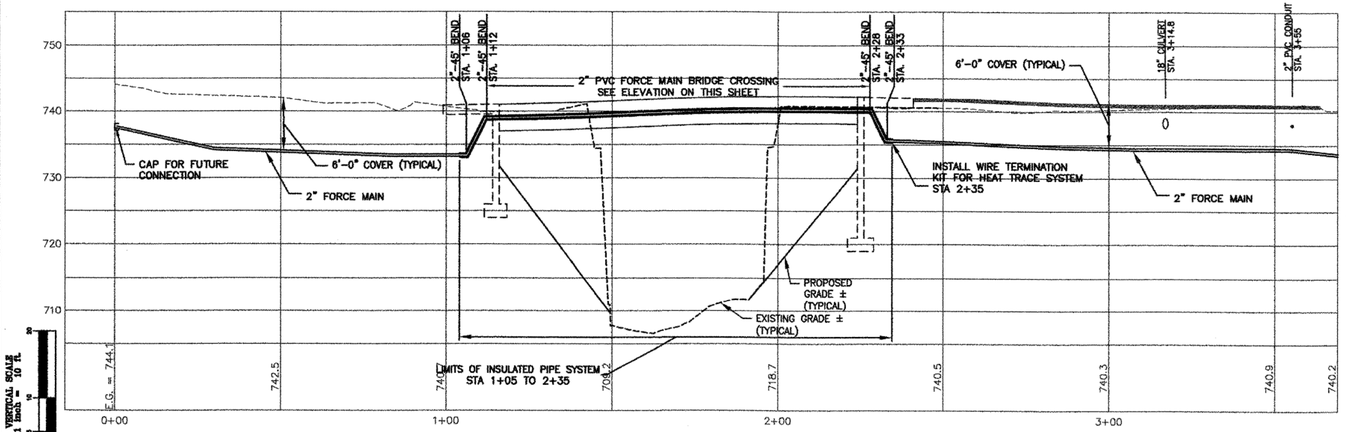


SEWER FORCE MAIN PLAN

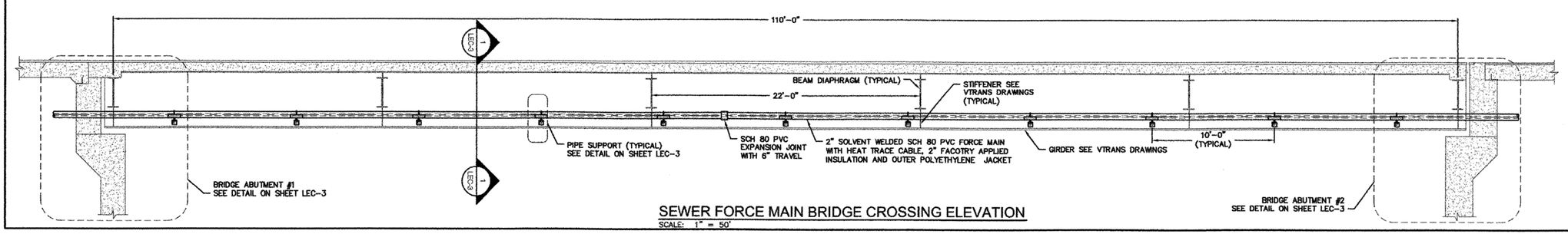
SCALE: 1" = 20'



SEWER FORCE MAIN PROFILE

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 10'

GRAPHIC SCALE



SEWER FORCE MAIN BRIDGE CROSSING ELEVATION

SCALE: 1" = 50'

LEGEND

- WATER MAIN (PROPOSED)
- GATE VALVE (PROPOSED)
- CAP & PLUG
- FORCEMAIN (PROPOSED)
- STORM SEWER (PROPOSED)
- CATCH BASIN (PROPOSED)
- 2' CONTOUR
- STORM SEWER (EXISTING)
- WATER MAIN (EXISTING)
- CATCH BASIN (EXISTING)
- GATE VALVE (EXISTING)
- FIRE HYDRANT (EXISTING)
- SIGN
- POWER POLE
- GUY
- R-O-W/PROPERTY LINE
- EXISTING GUARDRAIL
- EXISTING TREES
- PAVED SHOULDER (PROPOSED)
- EDGE OF PAVEMENT (PROPOSED)
- ROAD ℄ (PROPOSED)
- TEMPORARY WATER (PROPOSED)

GENERAL NOTES

1. THE CONTRACTOR SHALL NOTE THAT THE DRAWINGS PROVIDED ARE DIAGRAMMATIC AND THAT THE CONTRACTOR IS REQUIRED TO PROVIDE ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT REQUIRED TO COMPLETE THE WORK IN ACCORDANCE WITH THE INTENT OF THE DRAWINGS AND SPECIFICATIONS. ALL PIPING SHALL BE COMPLETE, INCLUDING CONNECTIONS TO STRUCTURES AND PIPELINES BUILT BY OTHERS.
2. TOPOGRAPHIC AND PROPOSED BRIDGE IMPROVEMENTS INFORMATION WERE PROVIDED BY VTRANS DRAWINGS DATED MAY 2, 2003.
3. EXISTING UTILITIES AND UNDERGROUND STRUCTURES SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY. ALL UTILITIES SHALL BE LOCATED IN THE FIELD BY THE CONTRACTOR. NEITHER THE ENGINEER NOR THE OWNER WARRANTS OR GUARANTEES THE CONDITIONS SHOWN ON THE DRAWINGS. CONTRACTOR MUST CONTACT AND COORDINATE WITH "DIG-SAFE" AND THE VILLAGE FOR UTILITY LOCATION MARKINGS.
4. NO SINGLE PIECE OF PIPE SHALL BE LAID UNLESS IT IS GENERALLY STRAIGHT AND IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS AND VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION SECTION 628.06. THE CENTERLINE OF THE PIPE SHALL NOT DEVIATE FROM A STRAIGHT LINE BETWEEN CENTERS OF THE OPENINGS AT THE ENDS OF THE PIPE BY MORE THAN 1/16" PER FOOT OF PIPE. IF A PIECE OF PIPE CAN NOT MEET THESE REQUIREMENTS IT SHALL BE REJECTED AND REMOVED FROM THE SITE.
5. ALL WORK SHALL BE WITHIN THE ROAD RIGHT-OF-WAY, UNLESS SPECIFICALLY INDICATED OTHERWISE.
6. FORCE MAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATION SECTION 628.
7. SEWER FORCE MAIN FOR BRIDGE CROSSING SHALL BE SOLVENT WELDED SCHEDULE 80 PVC. A TRIPLE O-RING SEALED TELESCOPING EXPANSION JOINT SHALL BE INSTALLED AT ANY POINT BETWEEN THE CENTER MOST BEAM DIAPHRAGMS. SDR 21 PVC SHALL TRANSITION TO SCH 80 PVC AT VERTICAL BENDS BEFORE/AFTER ABUTMENT PENETRATIONS
8. ALL PIPE SHALL BE FROM A SINGLE MANUFACTURER AND SHIPPED TO THE SITE IN ITS ORIGINAL PACKAGE WITH MARKINGS TO SHOW QUALITY OF CONTENTS AND BEARING LABELS. INSPECTION OF THE PIPE AND MATERIALS MAY BE MADE BY THE PROJECT RESENTATIVE AND SHALL BE SUBJECT TO REJECTION AT ANY TIME ON ACCOUNT OF FAILURE TO MEET SPECIFICATIONS. ANY MATERIALS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTORS EXPENSE
9. PIPE, WHERE SPECIFIED, SHALL HAVE 2" RIGID POLYURETHANE FOAM INSULATION FACTORY APPLIED BY A VOID FREE INSULATION PROCESS. INSULATION SHALL MEET ASTM D1622 DENSITY AND ASTM D2856 FOR CLOSED CELL CONTENT AND PROTECTED BY A POLYETHYLENE OUTER JACKET. INSULATION OF ASSOCIATED JOINTS, FITTINGS AND ACCESSORIES SHALL BE PER MANUFACTURERS RECOMMENDATIONS. PIPE INSULATION SHALL BE INSTALLED IN ACCORDANCE WITH VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATION SECTION 629.15.
10. POLYETHYLENE OUTER JACKET SHALL BE UV INHIBITED BLACK, FACTORY APPLIED JACKET WITH ENHANCED COLD CLIMATE HANDLING PROPERTIES. THE JACKET SEALANT SHALL BE BUTYL RUBBER ADHESIVE TO ENSURE POSITIVE ADHESION TO THE FOAM INSULATION AND SHALL BE APPLIED HOT IN TWO COUNTER WOUND AND OVERLAPPING LAYERS. JACKET THICKNESS SHALL BE 50 MILS SERVICE TEMPERATURE RANGE SHALL BE -30℉ TO 180℉ FOR INSTALLATION AND -49℉ TO 185℉ FOR SERVICE.
11. HEAT TRACE CONDUITS SHALL CONSIST OF AN EXTRUDED MOLDING AND SHALL BE APPLIED TO THE PIPE PRIOR TO APPLICATION OF THE INSULATION.
12. PIPES SHALL BE SUPPORTED BY PIPE ROLLERS DESIGNED TO ALLOW HORIZONTAL MOVEMENT DUE TO EXPANSION AND CONTRACTION OF PIPE. SUPPORT SHALL EQUALLY DISBURSE THE LOAD OF THE PIPE ACROSS THE BRIDGE SPAN USING THE PARAMETERS THAT 2"-C900 PVC PIPE WEIGHS 1.0 LBS/FT AND CONTAINS 1.4 LBS/FT OF FORCE MAIN SEWER. FOR SAFETY PURPOSES 5 LBS/FT SHALL BE THE TOTAL DESIGN WEIGHT.
13. PIPE ROLLER SYSTEM SHALL BE CAST IRON WITH LOW CARBON STEEL AXLES. ALL BRACKETS FOR SUPPORT OF THE ROLLERS SHALL BE MADE FROM B-A53 STEEL AND BOLTS SHALL BE MADE FROM A325N STEEL. PIPE ROLLER SUPPORT SHALL COMPLY WITH FEDERAL SPECIFICATION A-A-1192A, TYPE 41 AND MANUFACTURERS STANDARDIZATION SOCIETY AP-69, TYPE 41.
14. RODS, WASHERS, NUTS, ETC REQUIRED FOR THE COMPLETE INSTALLATION OF PIPE ROLLER SUPPORT ASSEMBLY SHALL BE PROVIDED BY THE MANUFACTURER. ALL THREADED PARTS SHALL BE ELECTRO-PLATED ZINC PER ASTM B633, ALL OTHER COMPONENTS SHALL BE HOT-DIPPED GALVANIZED PER ASTM D123.
15. HEATING CABLE SHALL PROVIDE 3 WATTS/LF AT 240V/1ø/60 HZ AND A MAXIMUM CIRCUIT LENGTH OF 800 FEET. PROVIDE SYSTEM WITH THERMOSTAT, TEMPERATURE SENSORS AND POWER FEED KIT.

NO.	REVISIONS	DATE

PLAN AND PROFILE
SEWER FORCE MAIN
BRIDGE #61, TH #3

TOWN OF BARTON, VILLAGE OF ORLEANS, VERMONT

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36 EASTERN AVENUE, SUITE 6
ST. JOHNSBURY, VERMONT 05819
PHONE: (802) 748-9008 FAX: (802) 748-9023

DRAWN:	EAE
CH'D:	NPS
APP'D:	GAL
DATE:	08/14/06
SCALE:	1" = 20'

LEC-2

BARTON
BRO 1449(29)

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