

REVIEWER NOTES:

1. THIS WILL BE A FOUR WEEK CLOSURE. BRIDGE 20 IS A LOCALLY OWNED CLASS 1 TOWN HIGHWAY. THIS PROJECT WILL BE DETOURING TRAFFIC OVER BRIDGE 58. THE SCOPE OF BRIDGE 20 ASSUMES THAT THE REPLACEMENT OF BRIDGE 58 WILL TAKE PLACE PRIOR TO THIS PROJECT.
2. TRAFFIC CONTROL (DETOUR) NOTES WILL NEED TO BE COORDINATED AND CONDENSED AFTER COMBINING THIS PROJECT WITH THE REPLACEMENT OF BRIDGE 58 [BARTON VILLAGE BO 1449 (33)] AT FINAL PLANS SUBMITTAL. AN ALL INCLUSIVE SPECIAL PROVISION ITEM IS INTENDED FOR USE TO COVER BOTH BRIDGES, BUT ITEMS FOR FLAGGERS AND UNIFORMED OFFICERS WILL STILL BE INCLUDED.
3. THE EXISTING SOUTHERN ABUTMENT (STACKED GRANITE) WILL PARTIALLY REMAIN IN PLACE. CURTAIN WALLS WILL BE CAST IN-PLACE EXTENDING FROM THE PROPOSED INTEGRAL ABUTMENT TO THE EXISTING GRANITE WALLS. THE TOP BLOCKS OF THE SOUTHWEST GRANITE RETAINING WALL WILL BE ADJUSTED TO HELP RETAIN FILL.
4. STRIPING IN THE SHOULDERS ACROSS THE BRIDGE IS PROVIDED FOR TRAFFIC CALMING IN-LIEU OF A SIDEWALK.
5. PETROLEUM CONTAMINATED SOILS ARE PRESENT WITHIN THE PROJECT LIMITS. A SPECIAL PROVISION IS INTENDED FOR USE THAT WILL REQUIRE THE CONTRACTOR TO ESTABLISH A HEALTH AND SAFETY PLAN, TEST THE REMOVED SOILS TO DETERMINE SEVERITY OF CONTAMINATION, TREAT REMOVED SOIL, AND PROPERLY DISPOSE OF THE CONTAMINATED SOIL. EXCAVATION FOR ANY DISTURBED SOIL WILL BE MADE UNDER TYPICAL, STANDARD SPECIFICATION PAY ITEMS. THIS WILL ALLOW VTRANS AND THE VILLAGE TO SPLIT COSTS ASSOCIATED WITH PHYSICAL EXCAVATION ACTIVITIES BUT WILL BREAKOUT NON-PARTICIPATING COSTS OF TREATMENT AND HANDLING OF CONTAMINATED SOILS, WHICH IS BORNE BY THE VILLAGE. THE SPECIAL PROVISION WILL BE IMPOSED UPON ANY REMOVED/DISTURBED SOIL, BUT PAYMENT WILL ONLY BE MADE FOR EXCAVATION PAY LIMITS SET BY STANDARD SPECIFICATION ITEMS DEFINED IN THE PLANS.
6. MONITORING WELLS AND OXYGEN RELEASE COMPOUND (ORC) WELLS ARE PRESENT WITHIN THE PROJECT LIMITS. AT THIS POINT, IT APPEARS WELLS MW-R1, ORC-3, AND ORC-4 WILL BE DISTURBED DUE TO PERMANENT AND ANTICIPATED TEMPORARY CONSTRUCTION LIMITS. THESE WELLS WILL BE REMOVED AND NEW WELLS INSTALLED AS A PART OF THIS PROJECT. GENERAL NOTES IN THE FINAL PLANS WILL DETAIL AN AREA IN WHICH WELL REMOVAL/REPLACEMENTS WILL BE PAID BY THIS PROJECT AND WHICH WILL BE AT THE CONTRACTORS EXPENSE.

# STATE OF VERMONT AGENCY OF TRANSPORTATION



## PROPOSED IMPROVEMENT BRIDGE PROJECT

VILLAGE OF BARTON  
COUNTY OF ORLEANS

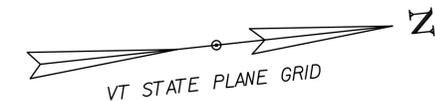
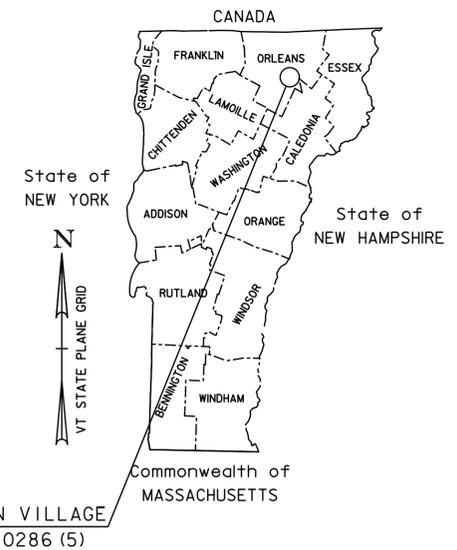
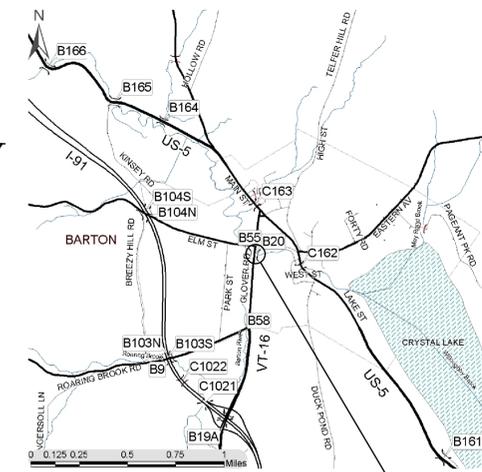
ROUTE NO : TH 2 (GLOVER ROAD), URBAN MAJOR COLLECTOR, CLASS 1 TOWN HIGHWAY

BRIDGE NO : 20

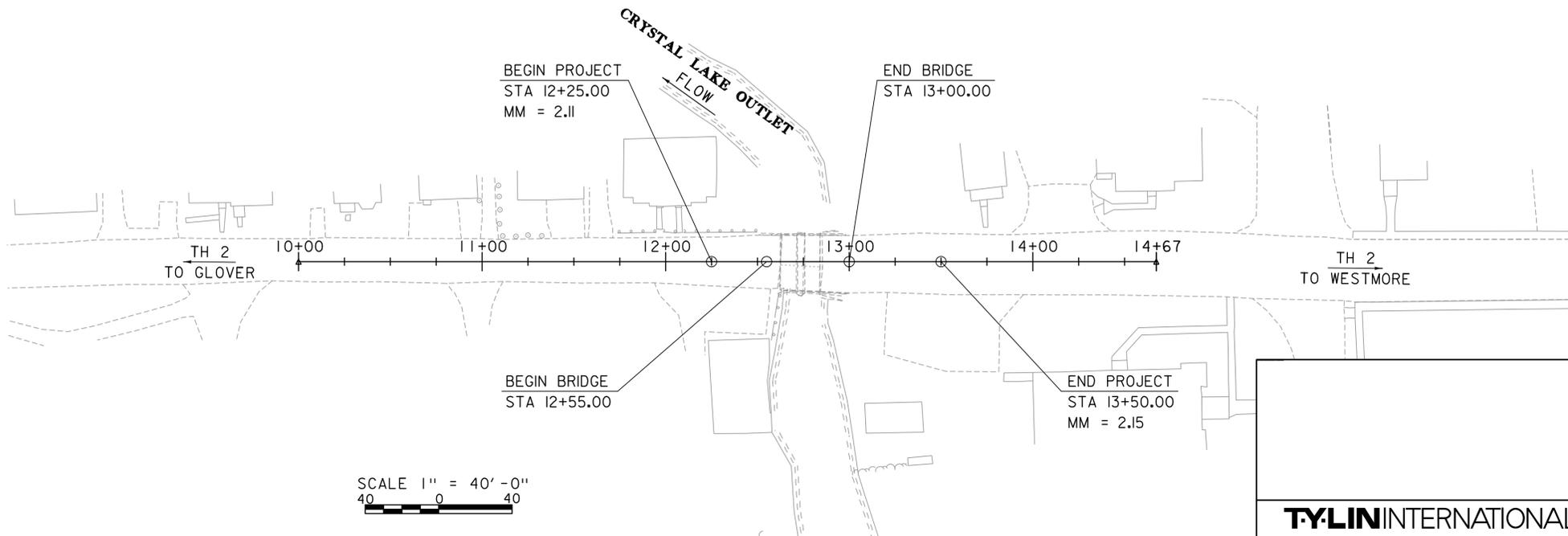
PROJECT LOCATION: 0.2 MILES SOUTH OF JUNCTION WITH US ROUTE 5

PROJECT DESCRIPTION: REMOVAL OF EXISTING STRUCTURE AND REPLACEMENT WITH A NEW STRUCTURE ON EXISTING ALIGNMENT.

LENGTH OF STRUCTURE: 45.00 FEET  
LENGTH OF ROADWAY: 80.00 FEET  
LENGTH OF PROJECT: 125.00 FEET

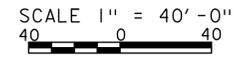


**REVISED  
PRELIMINARY PLANS  
8/8/2014**



CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JULY 20, 2011 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

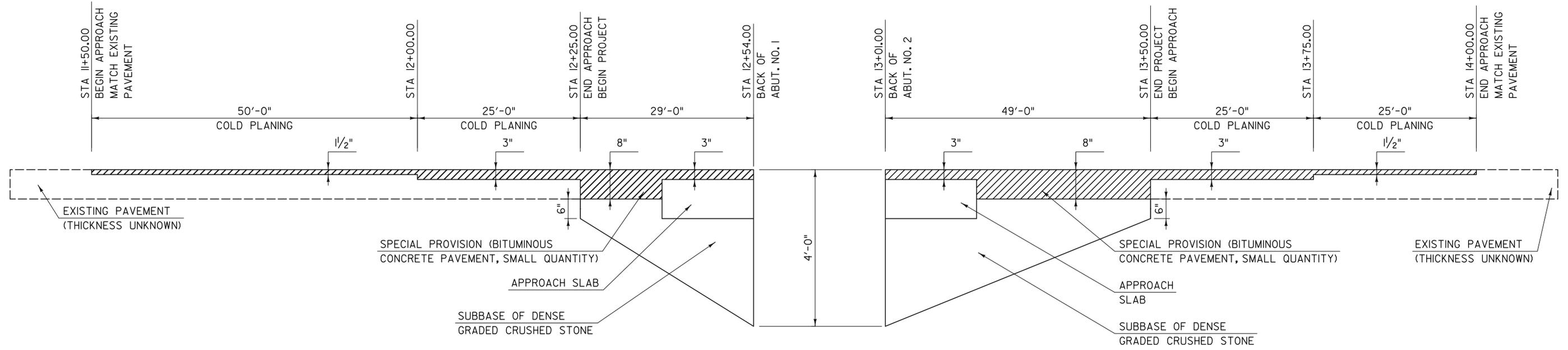
QUALITY ASSURANCE PROGRAM : LEVEL 2	
SURVEYED BY :	R. GILMAN
SURVEYED DATE :	6/01/2012
DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD83 (96)



**TYLIN INTERNATIONAL**

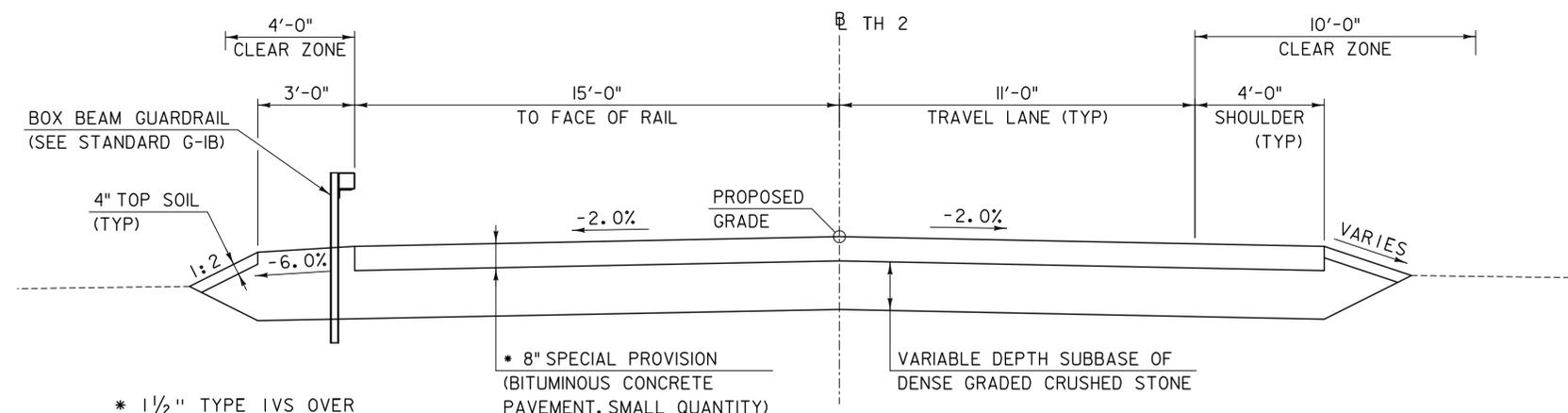
DIRECTOR OF PROJECT DELIVERY	
APPROVED _____	DATE _____
PROJECT MANAGER : JENNIFER FITCH, P.E.	
PROJECT NAME :	BARTON VILLAGE
PROJECT NUMBER :	BHF 0286 (5)
SHEET 1 OF 39 SHEETS	





**SUBBASE TAPER - SOUTH APPROACH**  
NOT TO SCALE  
(ALONG BASELINE)

**SUBBASE TAPER - NORTH APPROACH**  
NOT TO SCALE  
(ALONG BASELINE)

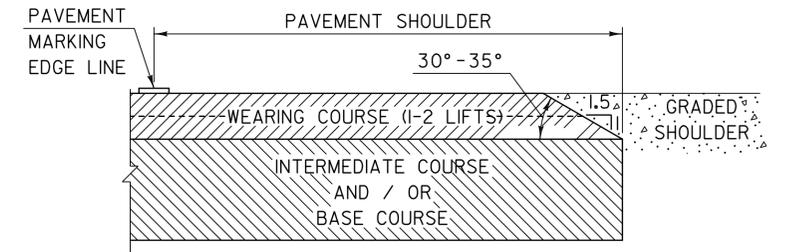


**ROADWAY TYPICAL SECTION**  
SCALE: 3/8" = 1'-0"

\* 1 1/2" TYPE IVS OVER  
1 1/2" TYPE IVS OVER  
2 1/2" TYPE IIS OVER  
2 1/2" TYPE IIS

\* 8" SPECIAL PROVISION  
(BITUMINOUS CONCRETE  
PAVEMENT, SMALL QUANTITY)

VARIABLE DEPTH SUBBASE OF  
DENSE GRADED CRUSHED STONE



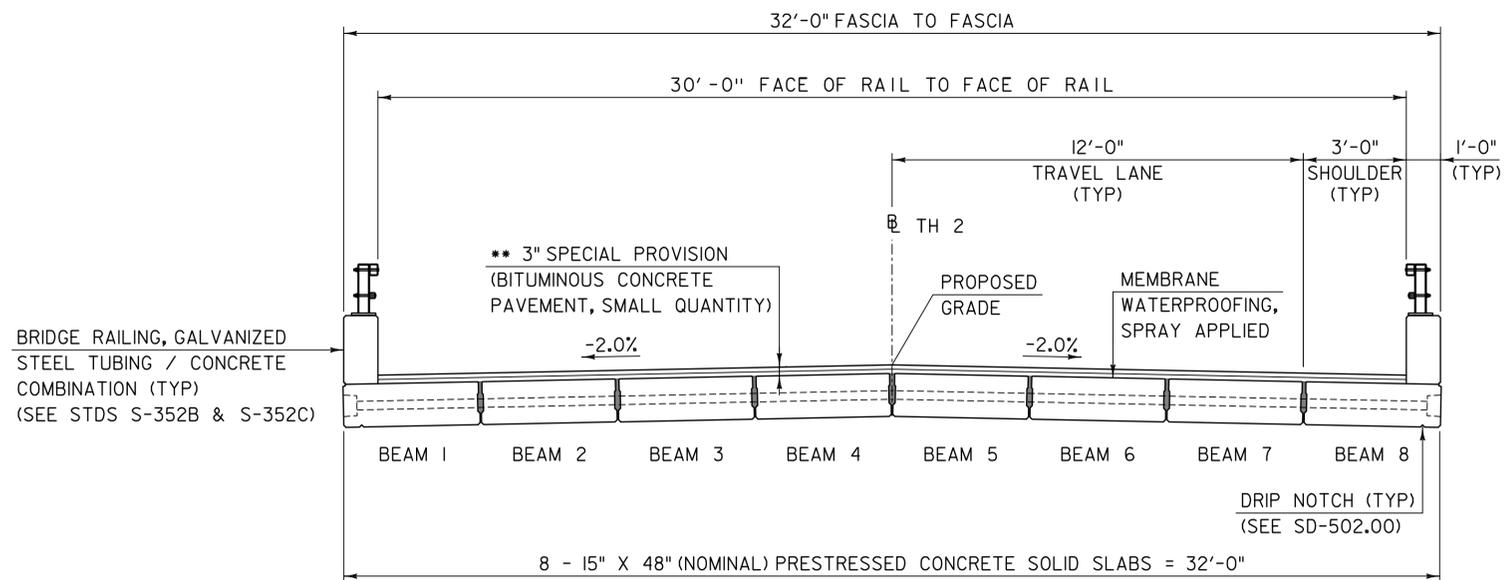
**SAFETY EDGE DETAIL**  
NOT TO SCALE

NOTE: LEVELING COURSE MAY INCLUDE THE "SAFETY EDGE"  
AT THE CONTRACTOR'S CHOICE.

NOTE: EMULSIFIED ASPHALT SHALL BE APPLIED TO ALL COLD  
PLANED BITUMINOUS CONCRETE PAVEMENT SURFACES AT THE  
RATE OF 0.04 GAL/SY OR AS DIRECTED BY THE ENGINEER.  
EMULSIFIED ASPHALT SHALL ALSO BE APPLIED BETWEEN ALL  
LIFTS OF PAVEMENT. THE COST SHALL BE PAID UNDER ITEM  
404.65, "EMULSIFIED ASPHALT".

MATERIAL TOLERANCES (IF USED ON PROJECT)	
SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"

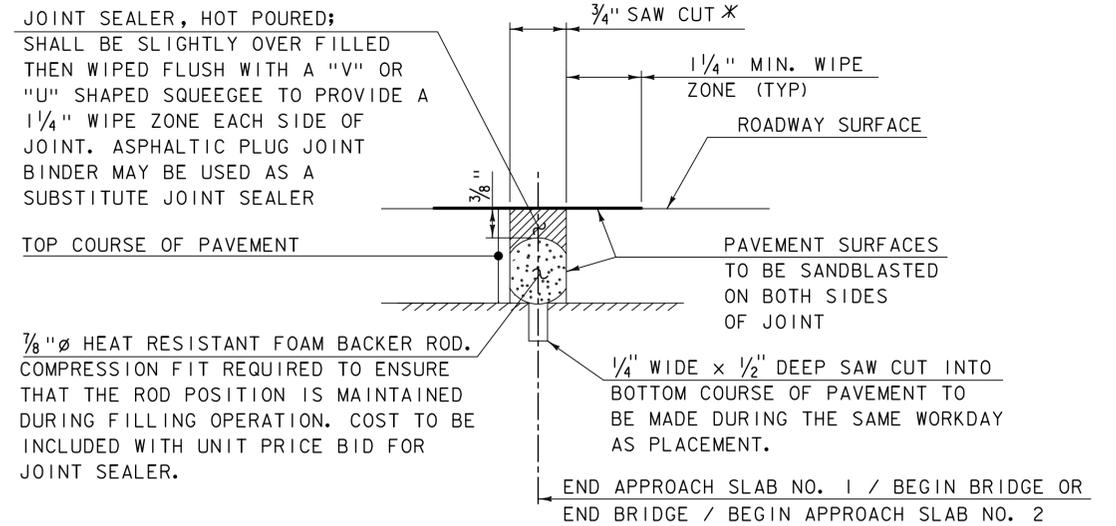
FOR REVIEW ONLY NOT FOR CONSTRUCTION	PROJECT NAME: BARTON VILLAGE	PLOT DATE: 8/8/2014
	PROJECT NUMBER: BHF 0286(5)	
TYLIN INTERNATIONAL	FILE NAME: z12j172+typ1.dgn	DRAWN BY: B. TOOTHAKER
	PROJECT LEADER: J. OLUND	CHECKED BY: J. HOWE
	DESIGNED BY: B. TOOTHAKER	
	ROADWAY TYPICAL SECTION AND DETAILS	SHEET 3 OF 39



**BRIDGE TYPICAL SECTION**

SCALE: 3/8" = 1'-0"

\*\* 1/2" TYPE IVS OVER  
1/2" TYPE IVS

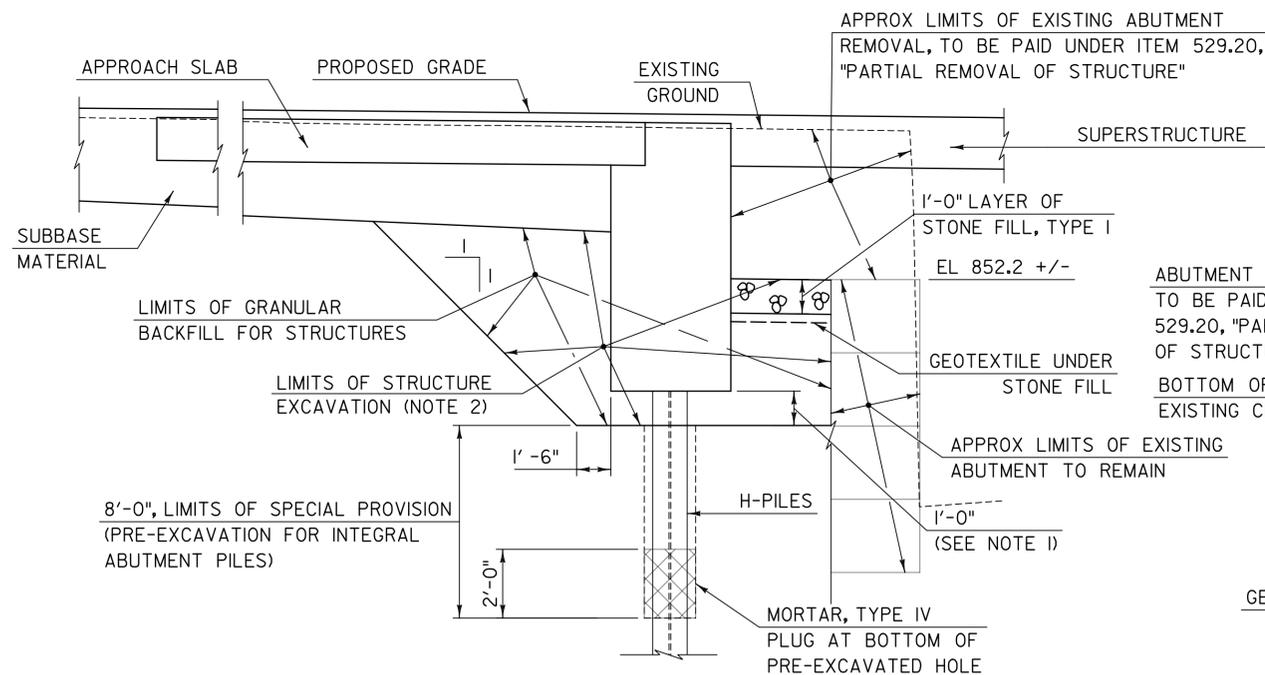


**ITEM 524.11, "JOINT SEALER, HOT POURED"**

**SAWED PAVEMENT JOINT DETAIL**

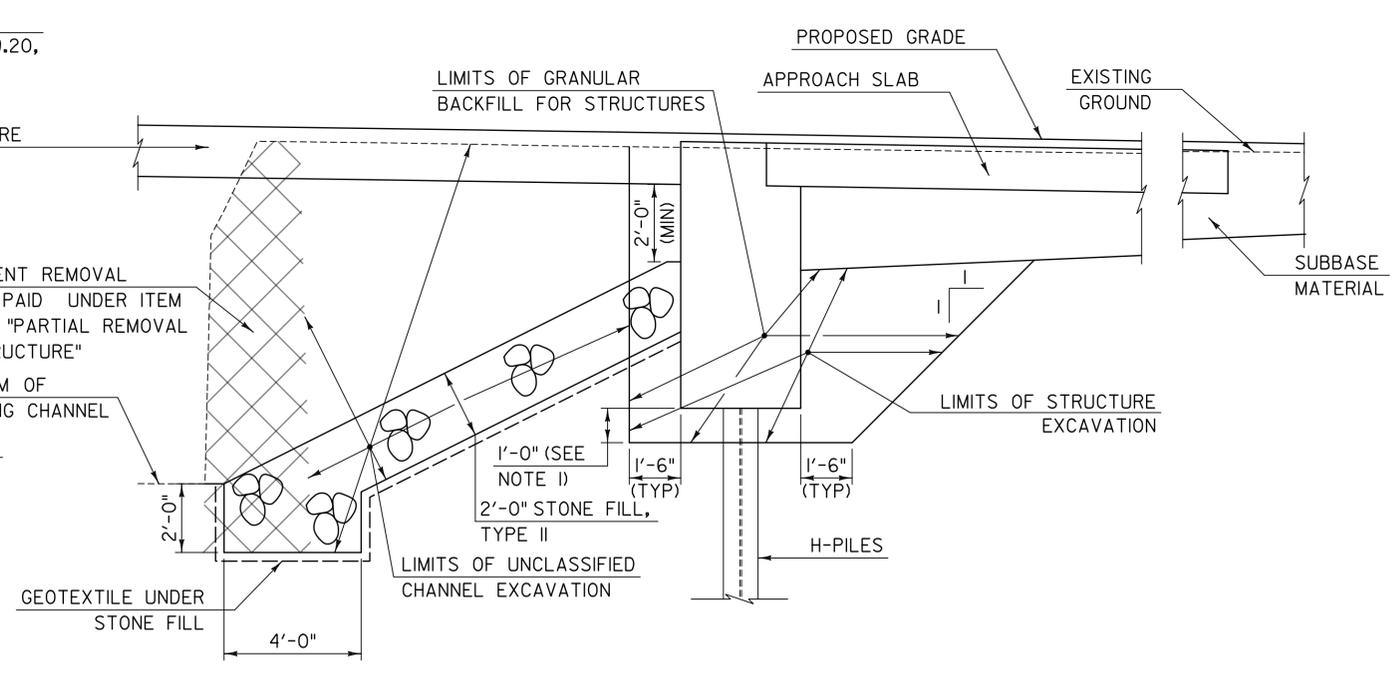
NOT TO SCALE

\* 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 CONCRETE DECK. 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.



**EARTHWORK TYPICAL SECTION - ABUTMENT #1**

NOT TO SCALE



**EARTHWORK TYPICAL SECTION - ABUTMENT #2**

NOT TO SCALE

**NOTES:**

- ONE FOOT UNDERCUT AS DETERMINED NECESSARY BY THE ENGINEER.
- ACTUAL LIMITS OF STRUCTURE EXCAVATION TO BE DETERMINED BY THE CONTRACTOR. HOWEVER, ONLY THE EXCAVATION BETWEEN THE LIMITS SHOWN WILL BE PAID FOR UNDER ITEM 204.25, "STRUCTURE EXCAVATION." EXCAVATION BY THE CONTRACTOR OUTSIDE THESE LIMITS WILL BE AT THE EXPENSE OF THE CONTRACTOR.

FOR REVIEW ONLY  
NOT FOR CONSTRUCTION

**TYLIN**INTERNATIONAL

PROJECT NAME: BARTON VILLAGE  
PROJECT NUMBER: BHF 0286(5)

FILE NAME: z12j172+yp2.dgn  
PROJECT LEADER: J. OLUND  
DESIGNED BY: J. OLUND  
BRIDGE TYPICAL SECTION AND DETAILS

PLOT DATE: 8/8/2014  
DRAWN BY: S. MORGAN  
CHECKED BY: T. POULIN  
SHEET 4 OF 39





GPS CONTROL POINTS

HVCTRL #1  
 ASHTON AZ MK  
 NORTH = 814450.530  
 EAST = 1722647.960  
 ELEV. = 894.620

BARTON, VT. AT THE DISTRICT 9 BARTON GARAGE IN THE LAWN AREA NORTHEAST OF THE FUEL PUMP AND NORTHWEST OF THE GARAGE OFFICE. IT IS 29.8 M N OF THE WEST CORNER OF THE GARAGE, 20.4 M NW OF THE NORTH CORNER OF THE GARAGE, 24.9 M W OF A 10 CM DIAMETER VERTICAL METAL PIPE, 23.3 M NNE OF THE NORTH CORNER OF THE CONCRETE FUEL PUMP ISLAND BASE, 29.5 M E OF POLE NO 1, 20.4 M SW OF A R-O-W FENCE, AND 6.6 M SW OF A FIBERGLASS WITNESS AT AN ELECTRICAL RISER.

HVCTRL #2  
 A06024  
 NORTH = 817121.810  
 EAST = 1723280.340  
 ELEV. = 865.150

BARTON VT. ABOUT 120 M (393.7 FT) SOUTH OF THE VT ROUTE 16 INTERSECTION WITH ROARING BROOK ROAD, 10.9 M (35.8 FT) EAST OF AND ABOUT 1.0 M (3.3 FT) HIGHER THAN THE CL OF VT ROUTE 16, 39.6 M (129.9 FT) SOUTH OF POLE NO B/8/01, 24.6 M (80.7 FT) SOUTH SOUTHWEST OF THE MOST WESTERLY OF TWO POSTS FOR A WELCOME TO BARTON SIGN, 51.2 M (168.0 FT) NORTH OF THE NORTHWEST CORNER OF HOUSE NO 527, AND 1.5 M (4.9 FT) SOUTH OF A BARBED WIRE FENCE CORNER. NOTE, MARK IS INTERVISIBLE WITH MARK ASHTON AZIMUTH MK.

TRAVERSE TIES

HVCTRL #3  
 NORTH = 817902.734  
 EAST = 1723218.425  
 ELEV. = 856.622

NOT TIED

HVCTRL #4  
 NORTH = 818935.664  
 EAST = 1723340.955  
 ELEV. = 858.151

HVCTRL #5  
 NORTH = 819891.510  
 EAST = 1723403.545  
 ELEV. = 860.872

\* MAIN TRAVERSE COMPLETED 6/1/2012 BY R. GILMAN P.C. & P. WINTERS & C. CYR

ALIGNMENT TIES

POB 10+00.00  
 NORTH = 819162.349  
 EAST = 1723342.509

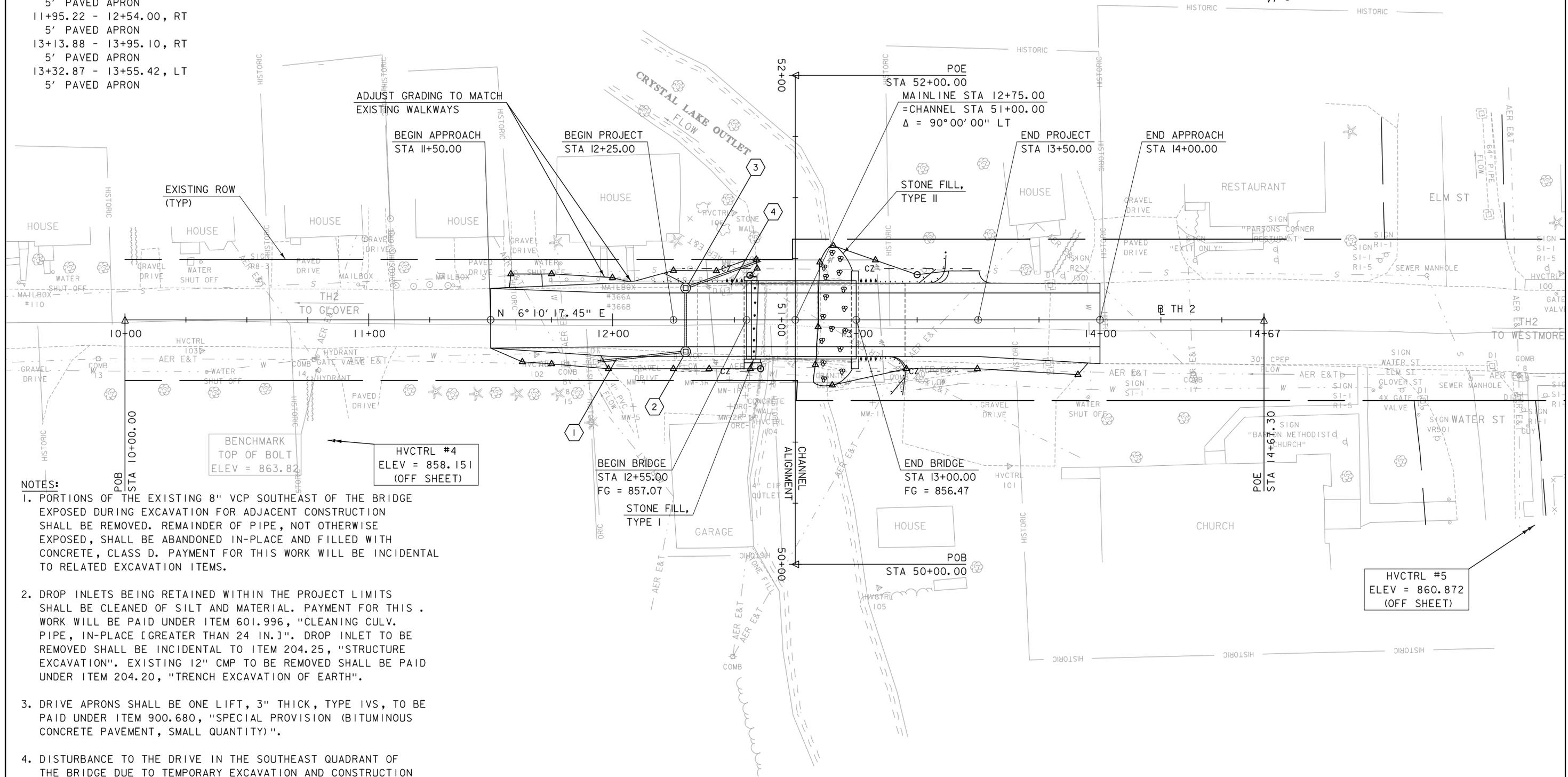
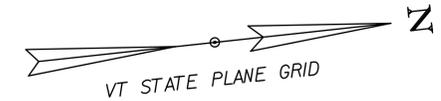
POE 14+67.30  
 NORTH = 819262.995  
 EAST = 1723392.746

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

FOR REVIEW ONLY NOT FOR CONSTRUCTION		PROJECT NAME: BARTON VILLAGE
TYLIN INTERNATIONAL		PROJECT NUMBER: BHF 0286(5)
FILE NAME: z12j1721.dgn	PROJECT LEADER: J. OLUND	PLOT DATE: 8/8/2014
DESIGNED BY: J. HOWE	TIE SHEET	DRAWN BY: S. MORGAN
		CHECKED BY: B. TOOTHAKER
		SHEET 7 OF 39

REMOVAL OF EXISTING FENCE  
 11+73.86 - 12+49.72, LT  
 PARTIAL REMOVAL OF STRUCTURE  
 12+61 - 12+86  
 CLEANING CULV. PIPE, IN-PLACE [GREATER THAN 24 IN.]  
 12+87.41, RT - 13+77.85, RT  
 13+78.68, RT - 13+79.73, LT  
 CONSTRUCT DRIVES  
 11+57.74 - 11+71.27, LT  
 5' PAVED APRON  
 11+95.22 - 12+54.00, RT  
 5' PAVED APRON  
 13+13.88 - 13+95.10, RT  
 5' PAVED APRON  
 13+32.87 - 13+55.42, LT  
 5' PAVED APRON

EXISTING BRIDGE DATA  
 2 SPAN GRANITE SLAB ON LOOSE STONE ABUTMENTS  
 CONSTRUCTED IN 1919  
 BRIDGE LENGTH = 21 FT.  
 WATERWAY AREA = 130 SF



- NOTES:**
1. PORTIONS OF THE EXISTING 8" VCP SOUTHEAST OF THE BRIDGE EXPOSED DURING EXCAVATION FOR ADJACENT CONSTRUCTION SHALL BE REMOVED. REMAINDER OF PIPE, NOT OTHERWISE EXPOSED, SHALL BE ABANDONED IN-PLACE AND FILLED WITH CONCRETE, CLASS D. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO RELATED EXCAVATION ITEMS.
  2. DROP INLETS BEING RETAINED WITHIN THE PROJECT LIMITS SHALL BE CLEANED OF SILT AND MATERIAL. PAYMENT FOR THIS WORK WILL BE PAID UNDER ITEM 601.996, "CLEANING CULV. PIPE, IN-PLACE [GREATER THAN 24 IN.]". DROP INLET TO BE REMOVED SHALL BE INCIDENTAL TO ITEM 204.25, "STRUCTURE EXCAVATION". EXISTING 12" CMP TO BE REMOVED SHALL BE PAID UNDER ITEM 204.20, "TRENCH EXCAVATION OF EARTH".
  3. DRIVE APRONS SHALL BE ONE LIFT, 3" THICK, TYPE IVS, TO BE PAID UNDER ITEM 900.680, "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)".
  4. DISTURBANCE TO THE DRIVE IN THE SOUTHEAST QUADRANT OF THE BRIDGE DUE TO TEMPORARY EXCAVATION AND CONSTRUCTION EFFORTS BEYOND THE PROPOSED PAVED APRON SHALL BE REPAIRED AND/OR RECONSTRUCTED IN ACCORDANCE WITH STANDARD B-71. PAYMENT FOR RECONSTRUCTION OF THE GRAVEL DRIVE SHALL BE MADE UNDER RELATED CONTRACT ITEMS.
  5. SEE DRAINAGE DETAIL SHEET FOR DETAILS ON DRAINAGE FLAGS. SEE TH2 CROSS SECTIONS SHEET 2 FOR ADDITIONAL LAYOUT INFORMATION.

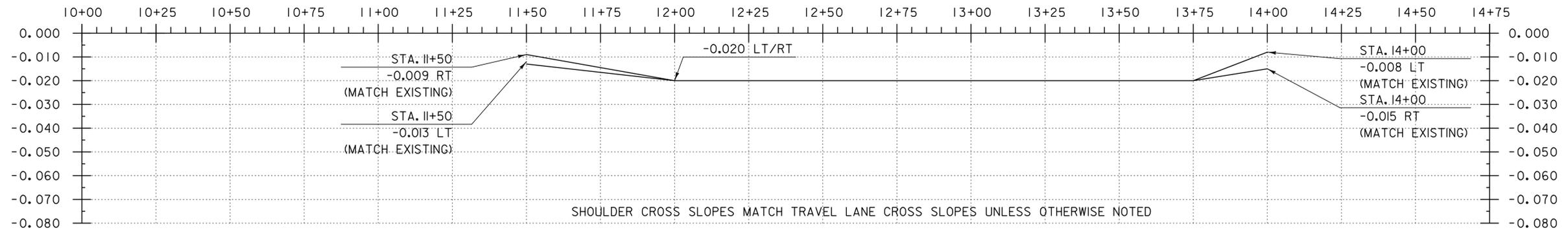
BENCHMARK  
 TOP OF BOLT  
 ELEV = 863.82

HVCTRL #4  
 ELEV = 858.151  
 (OFF SHEET)

HVCTRL #5  
 ELEV = 860.872  
 (OFF SHEET)

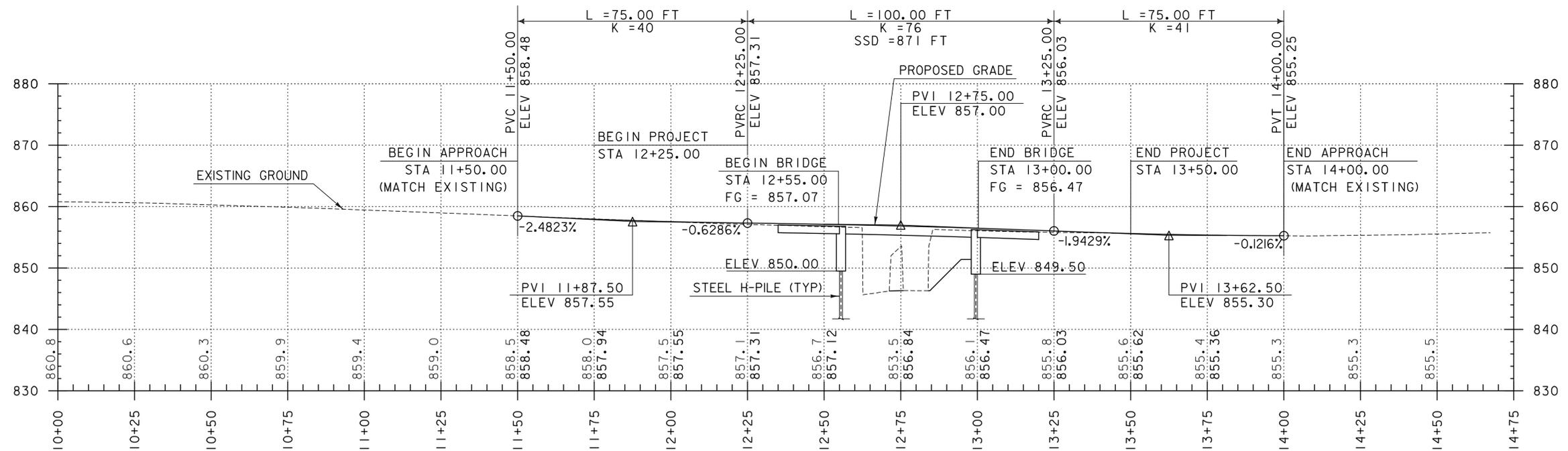


FOR REVIEW ONLY NOT FOR CONSTRUCTION	PROJECT NAME: BARTON VILLAGE	PLOT DATE: 8/8/2014
	PROJECT NUMBER: BHF 0286(5)	
TYLIN INTERNATIONAL	FILE NAME: z12j172bdr.dgn	CHECKED BY: J. HOWE
	PROJECT LEADER: J. OLUND	SHEET 8 OF 39
	DESIGNED BY: B. TOOTHAKER	
LAYOUT SHEET		



**BANKING DIAGRAM - TH 2**

HORIZ: 1"=20'  
NO VERTICAL SCALE



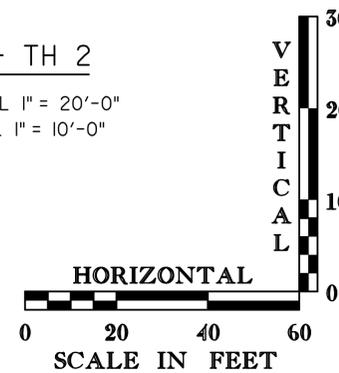
**NOTE:**

GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG

GRADES SHOWN TO THE NEAREST HUNDREDTH ARE PROPOSED GRADE ALONG

**PROFILE - TH 2**

SCALE: HORIZONTAL 1" = 20'-0"  
VERTICAL 1" = 10'-0"



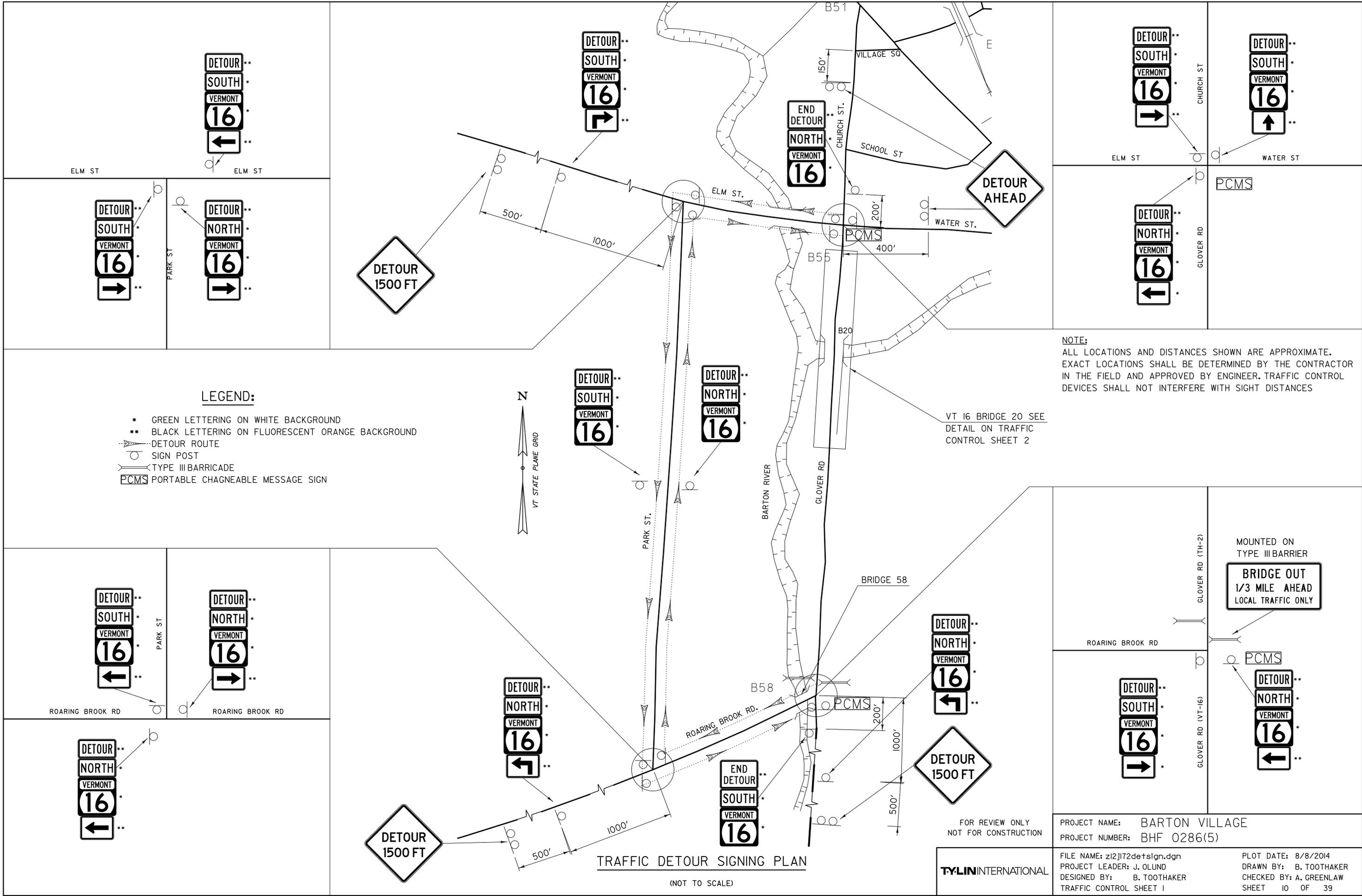
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NOT FOR CONSTRUCTION

**TYLINT** INTERNATIONAL

PROJECT NAME: BARTON VILLAGE  
PROJECT NUMBER: BHF 0286(5)

FILE NAME: z12j172pro.dgn  
PROJECT LEADER: J. OLUND  
DESIGNED BY: B. TOOTHAKER  
PROFILE AND BANKING DETAIL SHEET

PLOT DATE: 8/8/2014  
DRAWN BY: B. TOOTHAKER  
CHECKED BY: J. HOWE  
SHEET 9 OF 39



**LEGEND:**

- \* GREEN LETTERING ON WHITE BACKGROUND
- \*\* BLACK LETTERING ON FLUORESCENT ORANGE BACKGROUND
- DETOUR ROUTE
- SIGN POST
- TYPE III BARRICADE
- PCMS PORTABLE CHAGNEABLE MESSAGE SIGN

**NOTE:**  
 ALL LOCATIONS AND DISTANCES SHOWN ARE APPROXIMATE.  
 EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR  
 IN THE FIELD AND APPROVED BY ENGINEER. TRAFFIC CONTROL  
 DEVICES SHALL NOT INTERFERE WITH SIGHT DISTANCES

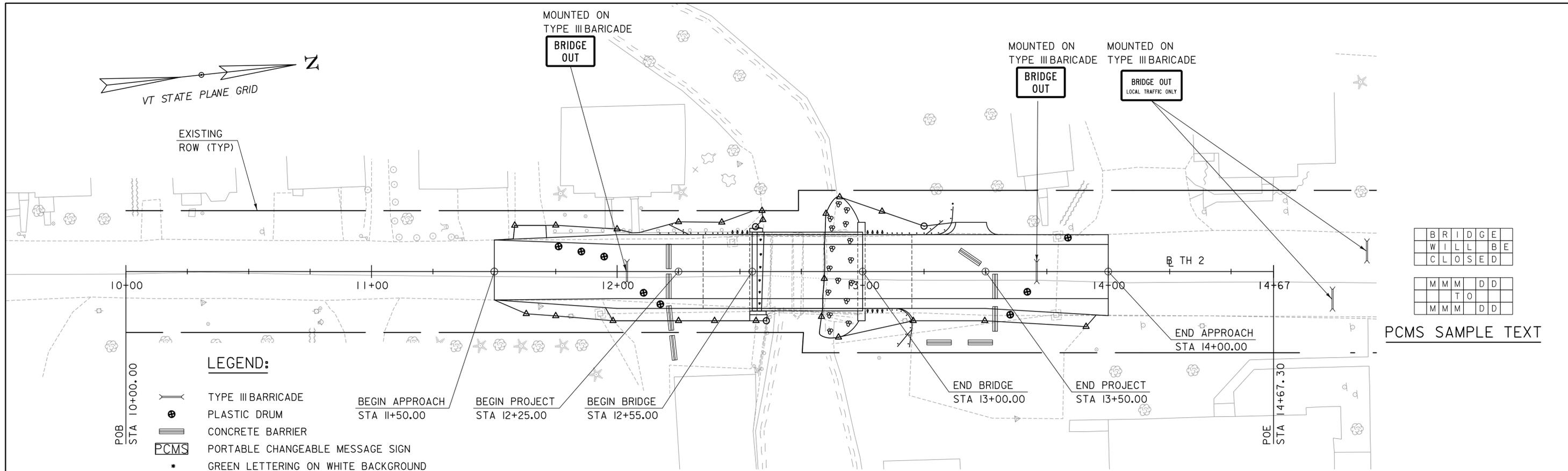
**TRAFFIC DETOUR SIGNING PLAN**

(NOT TO SCALE)

FOR REVIEW ONLY  
 NOT FOR CONSTRUCTION

**TYLIN** INTERNATIONAL

PROJECT NAME: BARTON VILLAGE  
 PROJECT NUMBER: BHF 0286(5)  
 FILE NAME: z12j172de+sign.dgn  
 PROJECT LEADER: J. OLUND  
 DESIGNED BY: B. TOOTHAKER  
 TRAFFIC CONTROL SHEET 1  
 PLOT DATE: 8/8/2014  
 DRAWN BY: B. TOOTHAKER  
 CHECKED BY: A. GREENLAW  
 SHEET 10 OF 39



**BRIDGE SITE CLOSURES DETAIL**

(NOT TO SCALE)

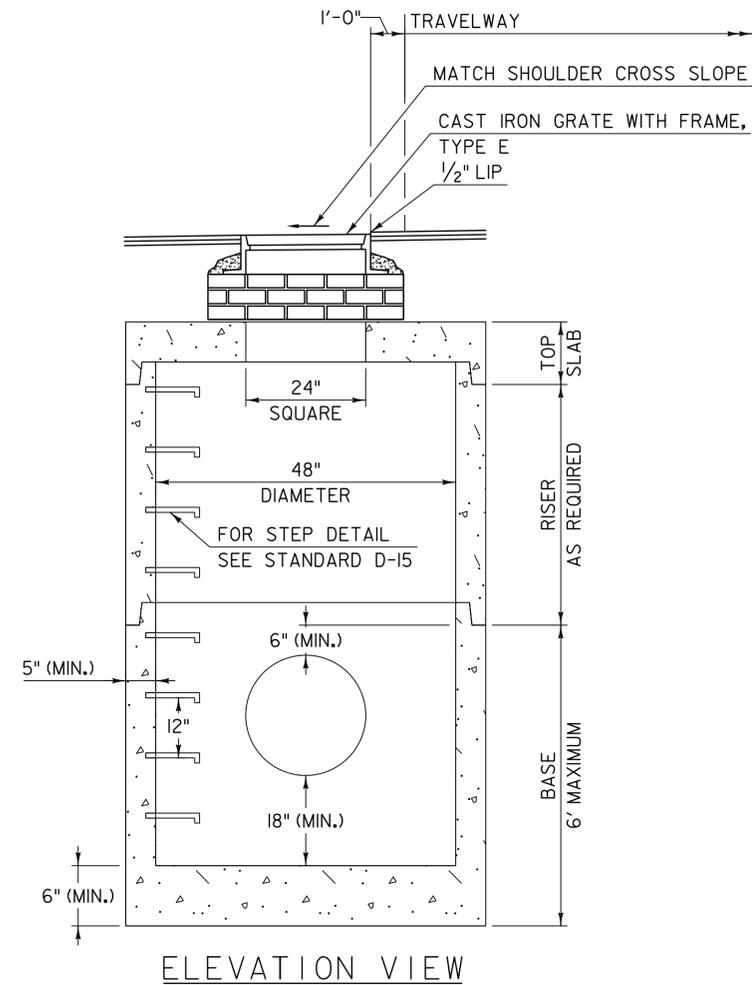
**TRAFFIC CONTROL NOTES:**

- TRAFFIC WILL BE MAINTAINED WITH AN OFFSITE DETOUR ALONG ROARING BROOK RD, PARK ST, AND ELM ST, SUCH AS THE ONE SHOWN ON TRAFFIC CONTROL SHEET I. THE DETOUR SHOWN ON THESE PLANS IS CONCEPTUAL. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL A DETAILED SITE SPECIFIC TRAFFIC CONTROL PLAN IDENTIFYING BRIDGE CLOSURE METHODS AND SIGN LOCATIONS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- A PUBLIC OUTREACH COORDINATOR (NOT IN CONTRACT) WILL BE USED FOR PUBLICIZING AND COORDINATING DETOUR INFORMATION INCLUDING, BUT NOT LIMITED TO, TRAFFIC DELAYS FOR THE PUBLIC ASSOCIATED WITH THIS BRIDGE CLOSURE. THE CONTRACTOR SHALL COORDINATE WITH THE PUBLIC OUTREACH COORDINATOR AS NEEDED.
- BRIDGE 58 SHALL BE CLOSED, CONSTRUCTED, AND FULLY OPENED TO TWO WAY TRAFFIC PRIOR TO CLOSURE OF BRIDGE 20. A MINIMUM OF TWO WEEKS SHALL ELAPSE BETWEEN THE OPENING OF BRIDGE 58 AND THE CLOSURE OF BRIDGE 20. AT NO TIME WILL A PARTIAL OR FULL CLOSURE OF BOTH BRIDGES BE ALLOWED. ACCESS TO ALL EXISTING DRIVES AND SIDE ROADS, EXCEPT DRIVE ACCESS TO GARAGE IN SOUTH EAST QUADRANT, SHALL BE MAINTAINED AT ALL TIMES DURING ALL PHASES OF CONSTRUCTION.
- RELOCATED CONSTRUCTION SIGNS FROM BRIDGE 58 DETOUR SHALL BE COVERED IF PLACED PRIOR TO THE START OF THE BRIDGE 20 CLOSURE AND WILL BECOME THE PROPERTY OF THE STATE ONCE ALL CONSTRUCTION IS COMPLETE. CONSTRUCTION SIGN COVERS SHALL MEET VERMONT STANDARD REQUIREMENTS WITH REGARDS TO MATERIAL AND SIZE. THE RELOCATION AND MAINTENANCE OF CONSTRUCTION SIGNS AND TRAFFIC CONTROL DEVICES REUSED WILL BE PAID FOR UNDER ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".
- ALL SIGNS AND TRAFFIC CONTROL DEVICES FURNISHED FOR THIS PROJECT SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), DATED 2009, AND ITS LATEST REVISIONS, THE LATEST EDITION OF THE STANDARD HIGHWAY SIGNS (SHS) BOOK, AND THE VERMONT STANDARD DRAWINGS.
- ALL SIGNS SHALL BE INSPECTED DAILY FOR DUST, DEBRIS AND DISREPAIR AND MAINTAINED AS NECESSARY IN A MANNER ACCEPTABLE TO THE ENGINEER.
- ALL ONSITE AND OFFSITE PROJECT SIGNS AND TRAFFIC CONTROL DEVICES, INCLUDING ADDITIONAL PROJECT CONSTRUCTION SIGNS REQUIRED BY THE ENGINEER, WILL BE PROVIDED BY THE CONTRACTOR AND SHALL BE PAID UNDER ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)". THE EXACT LOCATIONS WILL BE COORDINATED BETWEEN THE ENGINEER AND THE CONTRACTOR. ALL SIGNS SHALL BE PLACED WITHIN EXISTING VILLAGE RIGHT OF WAY.
- WHERE PRACTICAL, DETOUR ROUTE MARKERS AND ANY ADDITIONAL PROJECT CONSTRUCTION SIGNS SHALL BE INSTALLED ADJACENT TO EXISTING ROUTE MARKERS AND MODIFIED TRAFFIC CONTROL SIGN ASSEMBLIES. NO CONSTRUCTION SIGNS SHALL BE INSTALLED AS TO BLOCK EXISTING TRAFFIC CONTROL SIGN ASSEMBLIES OR TO INTERFERE WITH STOPPING SIGHT DISTANCE AND CORNER SIGHT DISTANCE FROM DRIVES AND TOWN HIGHWAYS. THE CONTRACTOR SHALL MAINTAIN AT LEAST 200 FEET BETWEEN SIGN ASSEMBLIES WHENEVER POSSIBLE.
- EXISTING SIGNS THAT ARE IN CONFLICT WITH THE TRAFFIC FLOW OF THE DETOUR SHALL BE REMOVED OR COVERED BY THE CONTRACTOR. ALL SIGNS REMOVED OR COVERED SHALL BE REPLACED OR UNCOVERED WHEN THE TRAFFIC CONTROL PLAN IS DISASSEMBLED. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".
- TREES AND SHRUBS WITHIN EXISTING RIGHT OF WAY AND OTHERWISE INTERFERING WITH VISIBILITY OF EXISTING OR PROPOSED DETOUR SIGNS SHALL BE TRIMMED ACCORDINGLY. COSTS FOR SUCH TRIMMING SHALL BE PAID UNDER ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".
- PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE PLACED WHERE DESIGNATED BY THE ENGINEER. ONE SIGN EACH SHALL BE PLACED AT THE CHURCH ST/ELM ST INTERSECTION AND ONE AT THE ROARING BROOK RD/GLOVER RD INTERSECTION 14 DAYS PRIOR TO THE START OF CONSTRUCTION TO WARN OF IMPENDING DETOURS. THESE SHALL THEN BE DEPLOYED TO LOCATIONS SPECIFIED BY THE ENGINEER ONCE CONSTRUCTION HAS BEGUN, IF NECESSARY. PAYMENT FOR THESE SIGNS, INCLUDING RELOCATING DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER, SHALL BE INCLUDED IN ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)". SAMPLE TEXT IS INCLUDED ON THIS PAGE.
- TEMPORARY TRAFFIC BARRIER SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 621 AND PLACED AT THE PROJECT EXTENTS. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".
- CONTACT DIG-SAFE AT 1-888-344-7233 PRIOR TO BREAKING GROUND TO INSTALL ANY SIGN POSTS.

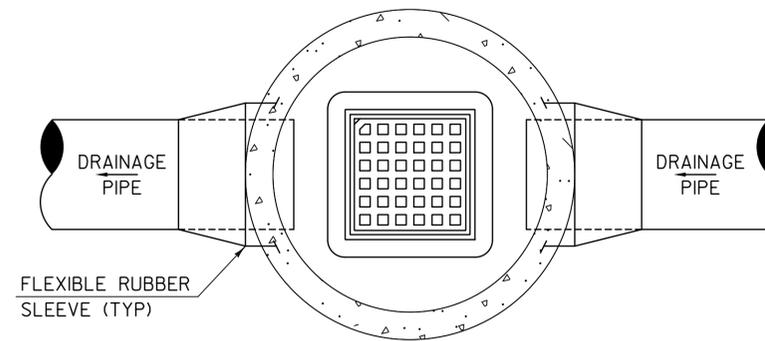
FOR REVIEW ONLY  
NOT FOR CONSTRUCTION

**TYLIN** INTERNATIONAL

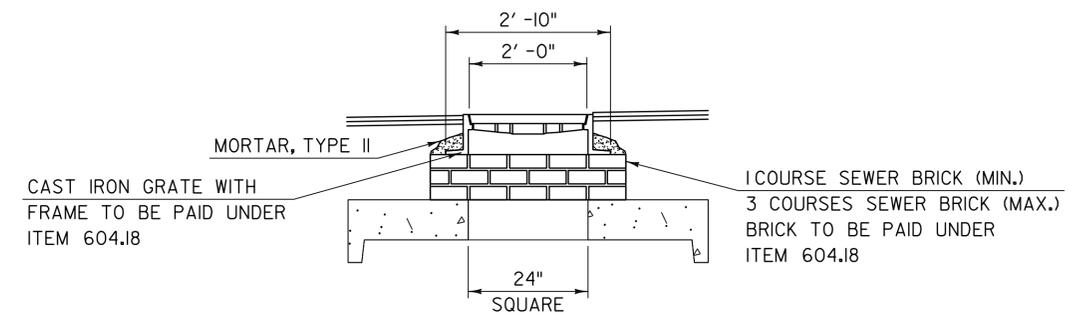
PROJECT NAME: BARTON VILLAGE	FILE NAME: z12j172de+sign2.dgn	PLOT DATE: 8/8/2014
PROJECT NUMBER: BHF 0286(5)	PROJECT LEADER: J. OLUND	DRAWN BY: B. TOOTHAKER
	DESIGNED BY: B. TOOTHAKER	CHECKED BY: A. GREENLAW
	TRAFFIC CONTROL SHEET 2	SHEET 11 OF 39



ELEVATION VIEW



DROP INLET PLAN VIEW



ELEVATION OF GRATE INSTALLATION

PRECAST REINFORCED CONCRETE DROP INLET (PRCDI)  
NOT TO SCALE

PRECAST CONCRETE DROP INLET AND MANHOLE NOTES:

1. PRECAST CONCRETE SECTIONS SHALL CONFORM TO STANDARD SPECIFICATION SECTION 604.
2. CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF SECTION 541 FOR CONCRETE, CLASS A.
3. DROP INLETS SHALL BE DESIGNED FOR HL93 LOADING.
4. MANHOLE STEPS SHALL BE 14" WIDE STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC CONFORMING TO ASTM C-478 AND SHALL BE CAST INTO MANHOLE SECTIONS BY THE PRECAST CONCRETE MANUFACTURER.
5. FACE OF PIPE SHALL NOT PROJECT MORE THAN 2" OR LESS THAN 1" FROM INSIDE WALL OF STRUCTURE.
6. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12" OF OUTSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZONTAL CROSS-SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3" TO JOINTS.
7. FITTING FRAME TO FINAL GRADE MAY BE DONE WITH BRICK OR PRECAST CONCRETE GRADE RINGS OF APPROPRIATE THICKNESS (3 COURSES MAX).
8. FLAT SLAB TOPS SHALL BE USED FOR ALL DROP INLETS, UNLESS OTHERWISE PERMITTED BY THE ENGINEER.
9. ALL PIPE INVERTS AND PENETRATION ANGLES SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
10. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT AND BE ASSEMBLED USING A BUTYL RUBBER OR APPROVED EQUAL SEALANT.
11. PROVIDE FLEXIBLE RUBBER SLEEVES CONFORMING TO ASTM C-923, RESILIENT, OF SIZE REQUIRED, FOR EACH PIPE CONNECTING TO STRUCTURE. SLEEVES SHALL BE CAST INTO PRECAST STRUCTURE BY THE MANUFACTURER FOR ALL PIPE PENETRATIONS.
12. DROP INLET GRATE ORIENTATION SHALL BE IN ACCORDANCE WITH STANDARD DETAIL D-15 FOR TYPE E GRATES.
13. PAYMENT FOR INSTALLATION OF THE DROP INLETS SHALL BE MADE UNDER ITEM 604.18, "PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE."

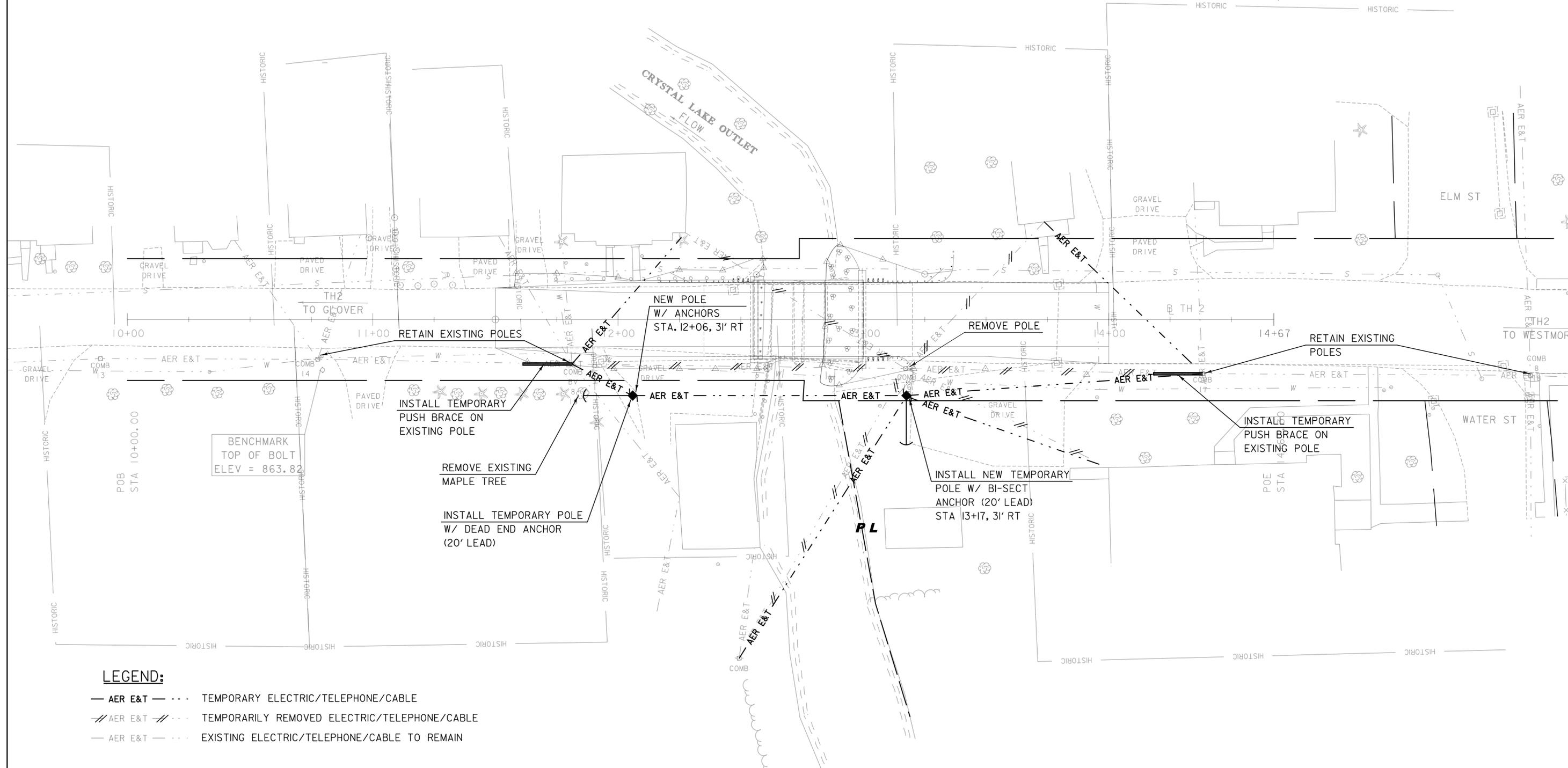
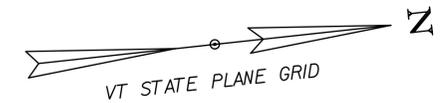
FOR REVIEW ONLY  
NOT FOR CONSTRUCTION

**TYLIN**INTERNATIONAL

PROJECT NAME: BARTON VILLAGE  
PROJECT NUMBER: BHF 0286(5)

FILE NAME: z12j172drndet.dgn  
PROJECT LEADER: J. OLUND  
DESIGNED BY: D. BRYANT  
PRECAST DROP INLET DETAILS

PLOT DATE: 8/8/2014  
DRAWN BY: B. TOOTHAKER  
CHECKED BY: J. HOWE  
SHEET 12 OF 39



**LEGEND:**

- AER E&T — . . . TEMPORARY ELECTRIC/TELEPHONE/CABLE
- //AER E&T// . . . TEMPORARILY REMOVED ELECTRIC/TELEPHONE/CABLE
- AER E&T — . . . EXISTING ELECTRIC/TELEPHONE/CABLE TO REMAIN

NOTE: UTILITY RELOCATION AND TREE REMOVAL EFFORTS SHOWN ON THIS SHEET ARE PERFORMED BY OTHERS AND ARE PROVIDED HEREIN FOR INFORMATION ONLY TO REFLECT CHANGED SITE CONDITIONS.

**UTILITY RELOCATION LAYOUT**

SCALE 1" = 20' -0"  
20 0 20

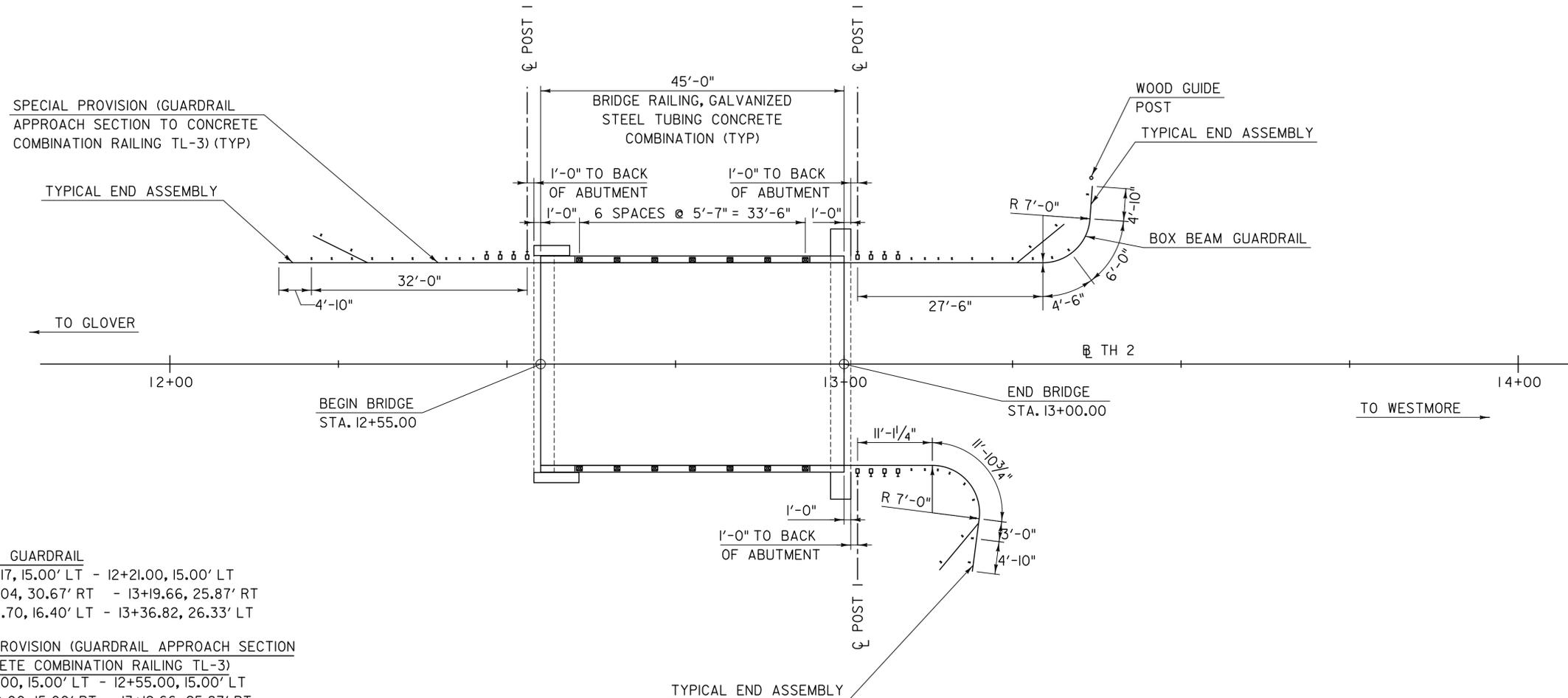
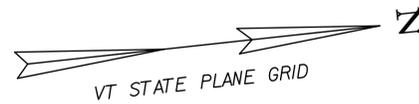
FOR REVIEW ONLY  
NOT FOR CONSTRUCTION

**TYLIN**INTERNATIONAL

PROJECT NAME: BARTON VILLAGE  
PROJECT NUMBER: BHF 0286(5)

FILE NAME: z12j172u+llity.dgn  
PROJECT LEADER: J. OLUND  
DESIGNED BY: S. MORGAN  
UTILITY RELOCATION LAYOUT

PLOT DATE: 8/8/2014  
DRAWN BY: S. MORGAN  
CHECKED BY: J. OLUND  
SHEET 13 OF 39



**BOX BEAM GUARDRAIL**  
 STA. 12+16.17, 15.00' LT - 12+21.00, 15.00' LT  
 STA. 13+19.04, 30.67' RT - 13+19.66, 25.87' RT  
 STA. 13+33.70, 16.40' LT - 13+36.82, 26.33' LT

**SPECIAL PROVISION (GUARDRAIL APPROACH SECTION TO CONCRETE COMBINATION RAILING TL-3)**  
 STA. 12+21.00, 15.00' LT - 12+55.00, 15.00' LT  
 STA. 13+00.00, 15.00' RT - 13+19.66, 25.87' RT  
 STA. 13+00.00, 15.00' LT - 13+33.70, 16.40' LT

**BRIDGE RAILING, GALVANIZED STEEL TUBING CONCRETE COMBINATION**  
 STA. 12+55.00 - 13+00.00, LT  
 STA. 12+55.00 - 13+00.00, RT

**WOOD MARKER POST**  
 STA. 13+36.68, LT

**RAIL LAYOUT**

SCALE: 1' = 10'-0"

NOTE: ALL DIMENSIONS ARE MEASURED HORIZONTALLY ALONG FACE OF RAIL.

FOR REVIEW ONLY  
 NOT FOR CONSTRUCTION

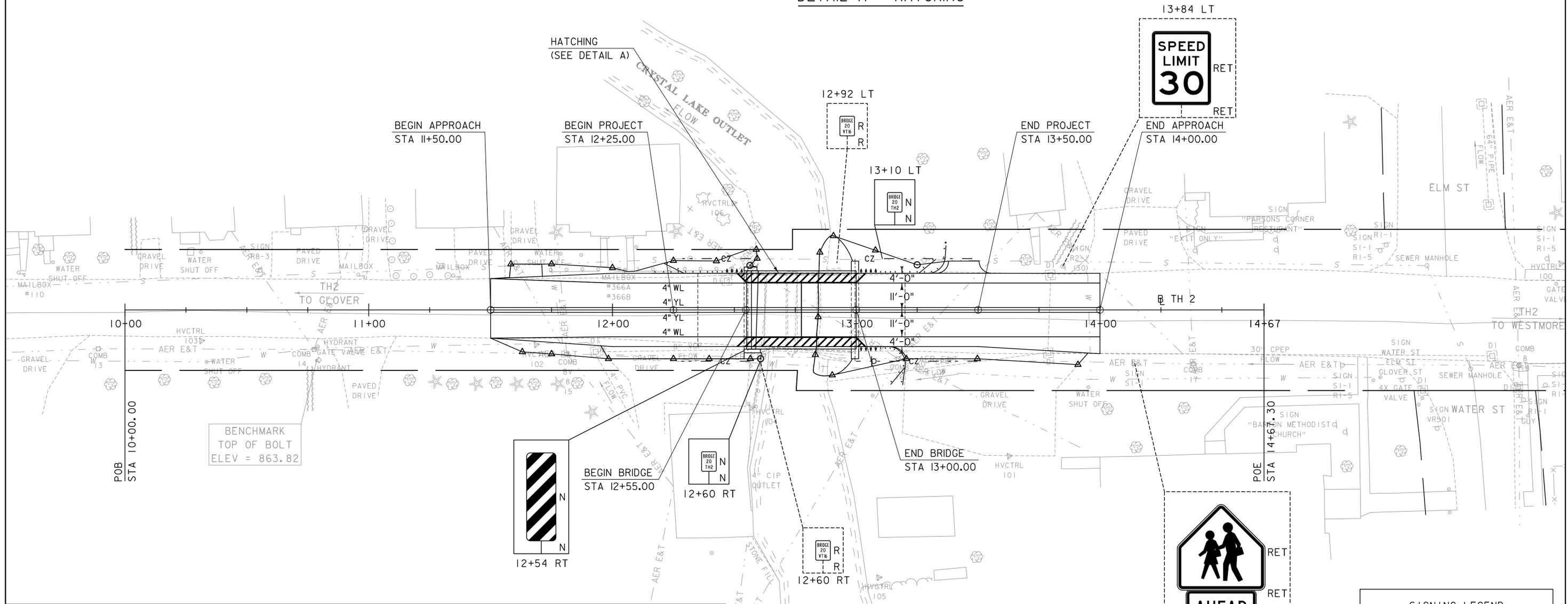
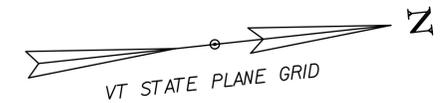
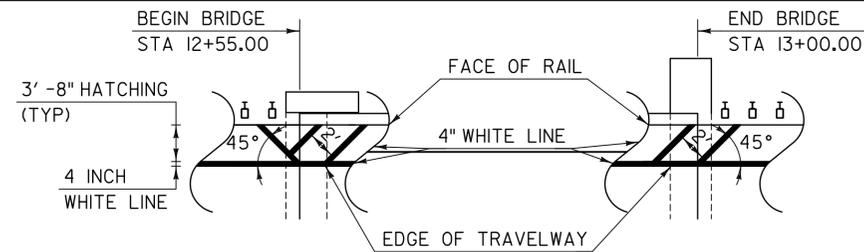


PROJECT NAME: BARTON VILLAGE  
 PROJECT NUMBER: BHF 0286(5)

FILE NAME: z12j172rallay.dgn  
 PROJECT LEADER: J. OLUND  
 DESIGNED BY: J. HOWE  
 RAIL LAYOUT SHEET

PLOT DATE: 8/8/2014  
 DRAWN BY: B. TOOTHAKER  
 CHECKED BY: J. OLUND  
 SHEET 14 OF 39

4 INCH WHITE LINE  
 11+50.00 - 14+00.00, LT  
 11+50.00 - 14+00.00, RT  
 12+51.00 - 13+04.00, LT (79.28 LF HATCHING)  
 12+51.00 - 13+04.00, RT (79.28 LF HATCHING)  
 4 INCH YELLOW LINE  
 11+50.00 - 14+00.00 (DOUBLE CENTERLINE)  
 REMOVING SIGNS  
 12+60, RT  
 12+92, LT



### TRAFFIC SIGN SUMMARY SHEET

MILE MARKER STATION OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS		NEW & SALVAGED SIGNS				EXIST POST	NO OF POST	NEW SIGN POSTS					REMARKS	SIGN DETAIL				
		EACH	WIDTH (in)	HEIGHT (in)	"A"	"B"	SALV SIGN			SALV TIS	RETAIN	SALVAGE	SQUARE STEEL (in)			ANCHOR	SLEEVE	DETAIL ON SHEET NUMBER	STANDARD SHEET NUMBER	
													1.75	2.00						2.50
12+54, RT		1	12.0	36.0	3.0				1.0	10.0		1.0					STANDARD HIGHWAY SIGNS AND MARKINGS, OM3-R			
12+60, RT		1	6.0	8.0	0.3				1.0	6.0		1.0					E-134			
13+10, LT		1	6.0	8.0	0.3				1.0	6.0		1.0					E-134			
TOTALS			SF	SF	EA	SF	XXXXXXXXXXXXXXXXXXXX			FT	22		EA	XXXXXXXXXXXXXXXXXXXX						

TRAFFIC SIGNS AND LINES LAYOUT  
 SCALE 1" = 20'-0"

**SIGNING LEGEND**

- N - NEW
- R - REMOVE
- RET - RETAIN
- R&S - REMOVE AND SALVAGE
- S - ERECT SALVAGED SIGN
- EXISTING ASSEMBLY
- PROPOSED ASSEMBLY

NOTE:  
 ADJUST NEW CENTERLINE AND EDGE LINES TO MATCH EXISTING LINES AT BEGIN/END APPROACH

FOR REVIEW ONLY  
 NOT FOR CONSTRUCTION

PROJECT NAME: BARTON VILLAGE  
 PROJECT NUMBER: BHF 0286(5)

FILE NAME: z12j172sgnlayout.dgn  
 PROJECT LEADER: J. OLUND  
 DESIGNED BY: B. TOOTHAKER  
 TRAFFIC SIGNS AND LINES LAYOUT

PLOT DATE: 8/8/2014  
 DRAWN BY: B. TOOTHAKER  
 CHECKED BY: A. GREENLAW  
 SHEET 15 OF 39

**TYLIN** INTERNATIONAL

**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
51 to 75	Fair
76 to 90	Good
>90	Excellent

**SHEAR STRENGTH**

UNDRAINED SHEAR STRENGTH IN P.S.F.	CONSISTENCY
<250	Very Soft
250-500	Soft
500-1000	Med. Stiff
1000-2000	Stiff
2000-4000	Very Stiff
>4000	Hard

**CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY**

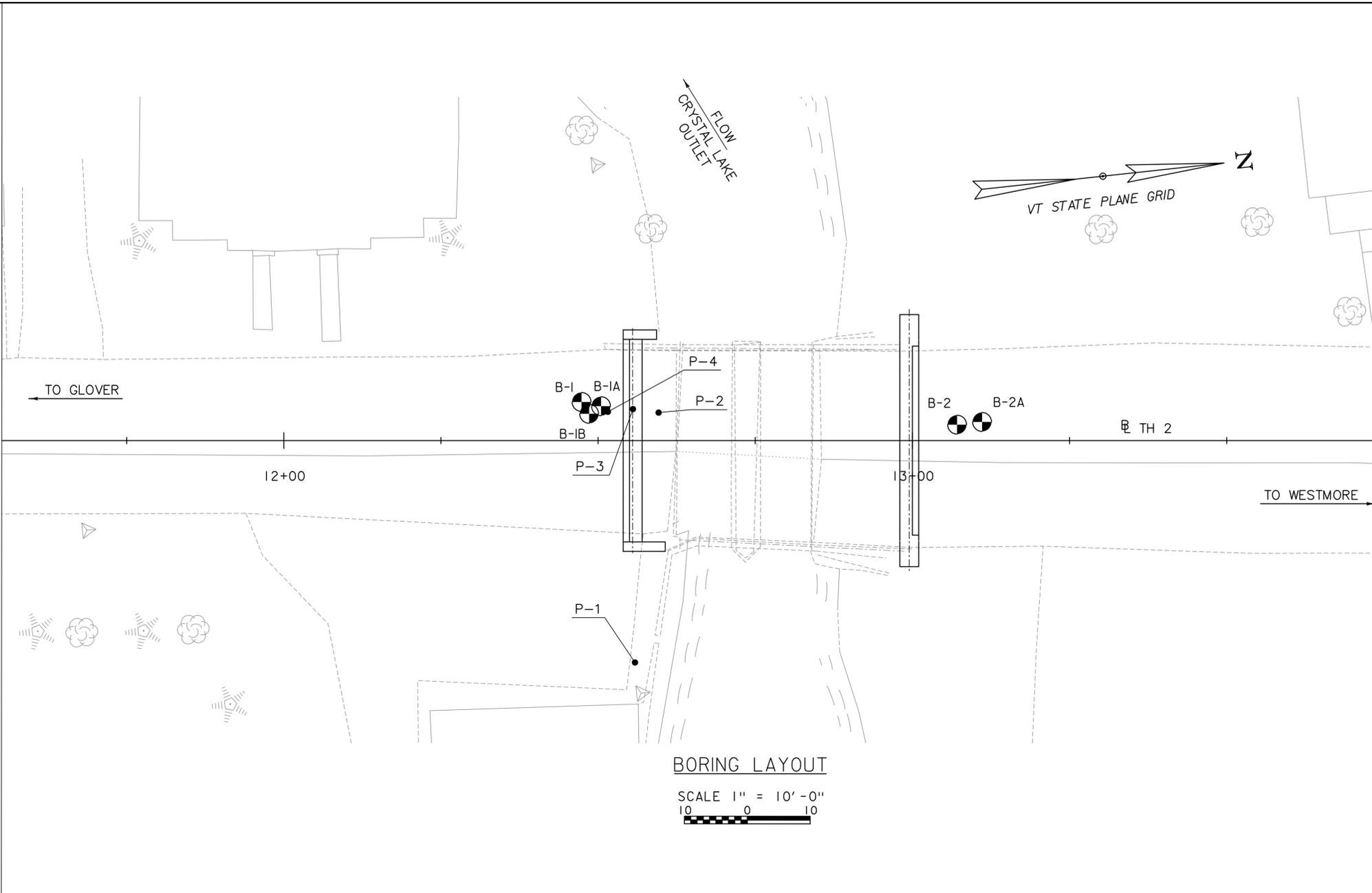
DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

**COMMONLY USED SYMBOLS**

- ▼ Water Elevation
- ⊕ Standard Penetration Boring
- ⊕ Auger Boring
- ⊕ Rod Sounding
- ⊕ Sample
- N Standard Penetration Test Blow Count Per Foot For: 2" O.D. Sampler 1 3/8" I.D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
- 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 1 1/8"
- BX Core Size 1 3/8"
- NX Core Size 2 1/8"
- 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
- ROD 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
gr'y	Gray	wh	White
gn	Green	yel	Yellow
lt	Light	mltc	Multicolored
or	Orange		



**BORING LAYOUT**

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

**GENERAL NOTES**

- The subsurface explorations shown herein were made between February 4, 2014 and February 28, 2014 by GeoDesign, Inc.
- Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by GeoDesign, Inc. and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
- 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.
- 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.
- 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.
- 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 > 12 inches.
- COBBLE** - Rock fragments with an average dimension between 3 and 12 inches.
- GRAVEL** - Rounded particles of rock < 3" and > 0.075" (#10 sieve).
- SAND** - Particles of rock < 0.075" (#10 sieve) and > 0.0029" (#200 sieve).
- SILT** - Soil < 0.0029" (#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.

**BORING LAYOUT**

HOLE NO.	STATION	OFFSET	NORTHING	EASTING	GROUND ELEVATION	ELEVATION TLOB
B-1	12+47.4	6.1, LT	819409.0	1723363.0	856.0	-
B-1A	12+50.5	5.5, LT	819412.0	1723364.0	856.0	-
B-1B	12+48.6	4.3, LT	819410.0	1723365.0	856.0	-
B-2	13+07.1	2.5, LT	819468.0	1723373.0	856.0	-
B-2A	13+11.1	3.0, LT	819472.0	1723373.0	856.0	-
P-1	12+55.9	35.2, RT	819413.0	1723405.0	856.0	-
P-2	12+59.6	4.4, LT	819421.0	1723366.0	856.0	-
P-3	12+55.5	5.0, LT	819417.0	1723365.0	856.0	-
P-4	12+51.6	4.6, LT	819413.0	1723365.0	856.0	-

FOR REVIEW ONLY  
NOT FOR CONSTRUCTION

PROJECT NAME: BARTON VILLAGE  
PROJECT NUMBER: BHF 0286(5)

**TYLIN INTERNATIONAL**

FILE NAME: z12j172bor.dgn  
PROJECT LEADER: J. OLUND  
DESIGNED BY: J. OLUND  
BORING INFORMATION & LAYOUT SHEET

PLOT DATE: 8/8/2014  
DRAWN BY: S. MORGAN  
CHECKED BY: B. TOOTHAKER  
SHEET 16 OF 39

VT Trans		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: B-1					
				Barton Bridge #20 BHF 0286 (5) - TH-2 (VT-16) GeoDesign #888-04.9		Page No.: 1 of 2 Pin No.: 12j172 Checked By: JFW/DTH					
Boring Crew: J.Leonhardt (QC/QA), A. Baribault (GeoDesign)		Casing		Sampler		Groundwater Observations (3)					
Date Started: 2/04/14 Date Finished: 2/07/14		Type: FJ		SS		Date					
VTSPG NAD83: N 819409.00 ft E 1723363.00 ft		I.D.: 4 in		1.38 in		Depth (ft)					
Station: 12+47.4 Offset: 6.1 LT		Hammer Wt: 140 lb.		140 lb.		Notes					
Ground Elevation: 856 ft		Hammer Fall: 30 in.		30 in.		02/04/14 See Remark 2.					
		Hammer/Rod Type: Auto/NWJ		Rig: CME 550X ATV		CE = 1.4					
Depth (ft)	Strat(1)	CLASSIFICATION OF MATERIALS (Description)		Run (Dip deg.)	Core Rec. % (ROD %)	Drill Rate (minutes/ft)	Blows/6" (N Value)(2)	Moisture Content %	Gravel %	Sand %	Fines %
5	XXXX	S1 (0.5' to 2'): Refusal, light brown fine to coarse SAND, some Silt, little fine Gravel, frozen. Rec. = 0.4 ft PID = 6.2 (Ross=0)					100/5" (6)				
	XXXX	S2 (2' to 4'): Dense, brown/tan fine to medium SAND and SILT, little (-) fine to coarse Gravel, frozen. Lower 8" mostly frozen Sand and Silt. Rec. = 1.5 ft PID = 0.1 (Ross=0)					73-17-29-33 (46)		13.0	46.0	41.0
	XXXX	S3 (4' to 6'): Medium dense, brown fine to coarse SAND, some Silt, little fine Gravel, trace (+) Brick, wet. Rec. = 1.3 ft PID = 0.6 (Ross=0.8)					8-6-7-4 (13)				
	XXXX	S4 (6' to 8'): Very dense, brown fine to coarse SAND, some Silt, wet. Rec. = 1.0 ft PID = 0.1 (Ross=0)					1-20-34-47 (54)				
10		S5 (8' to 10'): Loose, gray-brown fine to medium SAND and SILT, trace Brick (in upper 2'), wet. Strong petroleum odor. Rec. = 1.2 ft PID = 1957 (Ross=730)					2-3-2-1 (5)		3.0	74.0	23.0
		S6 (10' to 12'): Loose, gray fine to medium SAND, little (+) Silt, trace fine Gravel, trace Wood/Organic Fibers, wet. Strong petroleum odor. Rec. = 1.5 ft PID = 873 (Ross=327)					2-4-3-4 (7)				
15		S7 (12' to 14'): Loose, gray and brown layered fine to coarse SAND, little (-) Silt, stratified with trace Wood/Organic Fibers, wet. Strong petroleum odor. Rec. = 1.3 ft PID = 1622 (Ross=486)					2-4-6-3 (10)				
		S8 (14' to 16'): Medium dense, gray fine to coarse SAND and SILT, trace Wood, wet. Significant petroleum odor. Rec. = 1.1 ft PID = 44 (Ross=18)					4-5-3-3 (8)		44.0	17.0	39.0
		S9 (16' to 18'): Loose, gray/white fine to coarse GRAVEL, some fine to coarse Sand, trace Silt, trace Wood, wet. Slight petroleum odor. (Probable Slough) Rec. = 0.2 ft PID = 72 (Ross=104)					4-4-4-5 (8)				
25		S10 (18' to 20'): Loose, gray fine to coarse SAND and SILT, some fine Gravel, wet. Rec. = 0.6 ft PID = 58 (Ross=7.5)					4-4-5-5 (9)				
		S11 (20' to 22'): Loose, gray SILT, some fine Sand, wet. Rec. = 1.4 ft PID = 9.5 (Ross=0.6)									
		S12 (24' to 26'): Loose, gray SILT, some fine Sand, wet. Rec. = 0.8 ft PID = 9.2 (Ross=0.6)									
30		S13 (29' to 31'): Loose, gray SILT, some fine Sand, wet. Rec. = 1.1 ft PID = 10.2 (Ross=0)					3-4-4-3 (8)		3.0	23.0	74.0
		S14 (34' to 36'): Medium dense, gray SILT, some fine Sand, wet. Rec. = 1.1 ft PID = 1.1 (Ross=0.1)					5-6-6-7 (12)				
40		S15 (39' to 41'): Medium dense, gray SILT, little fine Sand, wet. Rec. = 1.0 ft PID = 2.8 (Ross=0.2)					5-6-6-5 (12)		5.0	3.0	92.0
45		S16 (44' to 46'): Refusal, gray SILT, little fine Sand, trace fine Gravel (in spoon shoe, likely fractured rock). Rec. = 0.8 ft PID = 0 (Ross=0)		C1	44	1.5	6-60/3" (R)				
		C1A (44.8' to 47'): BOULDER.					1.8				
		C1B (47' to 48.8'): Gray fine SAND and SILT, wet. PID Not Recorded					0.1				
		S17 (49' to 51'): Medium dense, gray SILT, some fine Sand, wet.					0.1	3-6-9-9			
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.											

BOTTOM OF ABUT NO 1  
EL 850.00

GEODESIGN BORING LOG 888-04.7 BARTON BR 20.GPJ VERMONT AOT.GDT 5/12/14

VT Trans		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: B-1					
				Barton Bridge #20 BHF 0286 (5) - TH-2 (VT-16) GeoDesign #888-04.9		Page No.: 2 of 2 Pin No.: 12j172 Checked By: JFW/DTH					
Boring Crew: J.Leonhardt (QC/QA), A. Baribault (GeoDesign)		Casing		Sampler		Groundwater Observations (3)					
Date Started: 2/04/14 Date Finished: 2/07/14		Type: FJ		SS		Date					
VTSPG NAD83: N 819409.00 ft E 1723363.00 ft		I.D.: 4 in		1.38 in		Depth (ft)					
Station: 12+47.4 Offset: 6.1 LT		Hammer Wt: 140 lb.		140 lb.		Notes					
Ground Elevation: 856 ft		Hammer Fall: 30 in.		30 in.		02/04/14 See Remark 2.					
		Hammer/Rod Type: Auto/NWJ		Rig: CME 550X ATV		CE = 1.4					
Depth (ft)	Strat(1)	CLASSIFICATION OF MATERIALS (Description)		Run (Dip deg.)	Core Rec. % (ROD %)	Drill Rate (minutes/ft)	Blows/6" (N Value)(2)	Moisture Content %	Gravel %	Sand %	Fines %
		Rec. = 1.0 ft					(15)				
55		Hole stopped @ 51.5 ft									
60		Remarks: 1) Borehole advanced to 4 feet with 4.25" HSA, then to 29 feet with 4" FJ casing, open hole to 44.8 feet. Telescoped 3" FJ casing to 44.8 feet prior to start of rock core. 2) Moisture observations below 4 feet deep may not accurately reflect insitu conditions due to continuously adding water during borehole advance. 3) Strong petroleum odor observed from 8 to 14 feet, decreasing thereafter. Samples S5 through S8 preserved for VOC laboratory testing. 4) Slight roller bit grinding from 16 to 20 feet deep. 5) Wash water brown, turning gray-brown at approximately 12 feet. 6) Approximately 2.2 feet of boulder cored in C1, total penetration 4 feet (1.8 feet through soil). Also recovered approximately 9" of soil (gray fine SAND and SILT, wet). 7) Advanced 3" casing to refusal at 51.5 feet deep. While attempting to remove casing for attachment of washing tee, shoe wedged and casing broke at approximately 41 feet deep. 8) Borehole abandoned at 51.5 feet deep. Tremie grout to bottom of hole to backfill prior to removing casing. 9) Grout mix consisted on +/- 35 gallons water, 94 pounds Type I/II Portland Cement, 25 pounds Bentonite Powder. 10) Samples S1 through S16 screened in the field with an Ion Science PhoCheck 1000 model PID calibrated to a 100 PPM Isobutylene standard. Samples S1 through S16 also screened by Ross Environmental with PhoCheck Tiger calibrated to a benzene standard. 11) All sample descriptions shown are per the Burmister classification system and are based on visual descriptions made in the field by GeoDesign personnel. Where applicable, laboratory testing results shown are from testing performed by GeoTesting Express, with the Gravel/Sand/Fines breakdown shown per AASHTO M145. 12) Northing, easting, and ground surface elevation are estimated from an electronic site plan provided by TY Lin and taped measurements made from existing features in the field by GeoDesign personnel.									
65											
70											
75											
80											
85											
90											
95											
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.											

GEODESIGN BORING LOG 888-04.7 BARTON BR 20.GPJ VERMONT AOT.GDT 5/12/14

ESTIMATED BOTTOM OF PILE  
AT ABUT NO 1  
EL 732.0

FOR REVIEW ONLY  
NOT FOR CONSTRUCTION

PROJECT NAME: BARTON VILLAGE  
PROJECT NUMBER: BHF 0286(5)

TYLIN INTERNATIONAL

FILE NAME: z12j172blogl.dgn  
PROJECT LEADER: J. OLUND  
DESIGNED BY: J. OLUND  
BORING LOG 1

PLOT DATE: 8/8/2014  
DRAWN BY: S. MORGAN  
CHECKED BY: T. POULIN  
SHEET 17 OF 39



VT Trans		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG			Boring No.: B-1B				
				Barton Bridge #20 BHF 0286 (5) - TH-2 (VT-16) GeoDesign #888-04.9			Page No.: 1 of 2 Pin No.: 12j172 Checked By: JFW/DTH				
Boring Crew: J.Leonhardt (QC/QA), A. Baribault (GeoDesign)		Casing		Sampler		Groundwater Observations (3)					
Date Started: 2/25/14 Date Finished: 2/28/14		Type: FJ SS		I.D.: 4 in 1.38 in		Date Depth Notes					
VTSPG NAD83: N 819410.00 ft E 1723365.00 ft		Hammer Wt: 140 lb. 140 lb.		Hammer Fall: 30 in. 30 in.		02/25/14 See Remark 1.					
Station: 12+48.6 Offset: 4.3 LT		Hammer/Rod Type: Auto/NWJ		Rig: CME 550X ATV CE = 1.4							
Ground Elevation: 856 ft											
Depth (ft)	Strat(1)	CLASSIFICATION OF MATERIALS (Description)			Run (Dip deg.)	Drill Rate (minutes/ft)	Bloves/6" (N Value)(2)	Moisture Content %	Gravel %	Sand %	Fines %
0-10	x x x	Inferred Fill from Boring B-1									
10-20	x x x	Inferred Silty Sand from Boring B-1									
20-80.3	x x x	Inferred Sandy Silt from Boring B-1									
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.											

BOTTOM OF ABUT NO 1  
EL 850.00

GEODESIGN BORING LOG 888-04.7 BARTON BR 20.GPJ VERMONT AOT.GDT 5/12/14

VT Trans		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG			Boring No.: B-1B				
				Barton Bridge #20 BHF 0286 (5) - TH-2 (VT-16) GeoDesign #888-04.9			Page No.: 2 of 2 Pin No.: 12j172 Checked By: JFW/DTH				
Boring Crew: J.Leonhardt (QC/QA), A. Baribault (GeoDesign)		Casing		Sampler		Groundwater Observations (3)					
Date Started: 2/25/14 Date Finished: 2/28/14		Type: FJ SS		I.D.: 4 in 1.38 in		Date Depth Notes					
VTSPG NAD83: N 819410.00 ft E 1723365.00 ft		Hammer Wt: 140 lb. 140 lb.		Hammer Fall: 30 in. 30 in.		02/25/14 See Remark 1.					
Station: 12+48.6 Offset: 4.3 LT		Hammer/Rod Type: Auto/NWJ		Rig: CME 550X ATV CE = 1.4							
Ground Elevation: 856 ft											
Depth (ft)	Strat(1)	CLASSIFICATION OF MATERIALS (Description)			Run (Dip deg.)	Drill Rate (minutes/ft)	Bloves/6" (N Value)(2)	Moisture Content %	Gravel %	Sand %	Fines %
54-56		S1 (54' to 56'): Medium dense, gray SILT, some fine Sand, wet. (PID = 64.5 PPM). Rec. = 1.0 ft					10-13-15-14 (28)				
56-61		S2 (59' to 61'): Medium dense, gray SILT, some fine Sand, wet. (PID = 25.0 PPM). Rec. = 0.8 ft					11-17-9-5 (26)				
61-66		S3 (64' to 66'): Very dense, gray SILT and fine SAND, wet. (PID = 24.9 PPM). Rec. = 1.7 ft					27-40-48-53 (88)	1.0	46.0	53.0	
66-72		S4 (69' to 72'): Very dense, gray SILT, little fine Sand, trace coarse Gravel (1 pc near top of sample, in extra bag), wet. (PID = 1.0 PPM). Rec. = 1.7 ft					13-27-43-67 (70)	1.0	9.0	90.0	
72-75.5		C1A (75'-75.5'): BOULDER. C1B (75.5'-78') Inferred soil.									
75.5-78		C1			1.3	0.4					
78-78.8		S5 (78' to 78.8'): Refusal, gray fine to coarse SAND, some Silt, little fine to coarse Gravel, very moist. (PID = 1.1 PPM). Rec. = 0.5 ft					20-100/4"				
78.8-80.3		S6 (79' top 80.3'): Very dense, gray fine to coarse GRAVEL, some fine to coarse Sand, some Silt, moist. (PID = 2.5 PPM). Rec. = 1.2 ft					5-20-60-100/4" (80)	47.0	23.0	30.0	
Hole stopped @ 80.3 ft											
Remarks: 1) Boring advanced to define depth to bedrock after casing forced termination of B-1. For stratigraphy above 54 feet, refer to log of B-1. Sample moisture observations may not reflect actual insitu conditions due to wash-drive drilling methods. 2) First attempt resulted in auger refusal at 8'; boring advanced to 5 feet deep with HSA, wash and drive to 14 feet and casing moved out of alignment due to possible cobbles or obstruction between 8 and 10 feet deep. Hole reamed with HSA and casing reset prior to continuing. 3) No sampling or environmental screening performed. Strong petroleum odor and sheen on wash water return from approximately 8 to 14 feet deep. 4) Wash water return brown turning gray-brown and then gray by 19 feet. Polymer E-Z Mud added to drilling fluid at approximately 25 feet deep. 5) Driller noted change in roller bit resistance from 61 to 61.5 feet deep. 6) Encountered roller bit resistance at 72.5 feet deep. Switched to a carbide button roller bit and advanced borehole to 75 feet with occasional slight chatter and consistent advancement rate (4 min/foot) through inferred boulder. 7) Installed 3-inch FJ Casing with spin shoe to 62 feet in open hole, advanced while spinning/washing to 75 feet. Advanced rock core to 78 feet through inferred soil from 75.5 to 78 feet. 8) All sample descriptions shown are per the Burmister classification system and are based on visual descriptions made in the field by GeoDesign personnel. Where applicable, laboratory testing results shown are from testing performed by GeoTesting Express, with the Gravel/Sand/Fines breakdown shown per AASHTO M145. 9) Northing, easting, and ground surface elevation are estimated from an electronic site plan provided by TY Lin and taped measurements made from existing features in the field by GeoDesign personnel.											
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.											

GEODESIGN BORING LOG 888-04.7 BARTON BR 20.GPJ VERMONT AOT.GDT 5/12/14

ESTIMATED BOTTOM OF PILE  
AT ABUT NO 1  
EL 732.0

FOR REVIEW ONLY  
NOT FOR CONSTRUCTION

PROJECT NAME: BARTON VILLAGE  
PROJECT NUMBER: BHF 0286(5)

TYLIN INTERNATIONAL

FILE NAME: z12j172bloglb.dgn  
PROJECT LEADER: J. OLUND  
DESIGNED BY: J. OLUND  
BORING LOG 3

PLOT DATE: 8/8/2014  
DRAWN BY: S. MORGAN  
CHECKED BY: T. POULIN  
SHEET 19 OF 39

VT Trans		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: B-2			
		Barton Bridge #20		Page No.: 1 of 3					
		BHF 0286 (5) - TH-2 (VT-16)		Pin No.: 121172					
		GeoDesign #888-04.9		Checked By: JFW/DTH					
Boring Crew: J.Leonhardt (QC/QA), J. Wimet (GeoDesign)		Casing Sampler		Groundwater Observations (3)					
Date Started: 2/11/14 Date Finished: 2/25/14		Type: AUGER SS		Date Depth Notes					
VTSPG NAD83: N 819468.00 ft E 1723373.00 ft		I.D.: 4 in 1.38 in		02/11/14 See Remark 2.					
Station: 13+07.1 Offset: 2.5 LT		Hammer Wt: 140 lb. 140 lb.							
Ground Elevation: 856 ft		Hammer Fall: 30 in. 30 in.							
		Hammer/Rod Type: Auto/NWJ							
		Rig: CME 550X ATV CE = 1.4							
Depth (ft)	Strata (t)	CLASSIFICATION OF MATERIALS (Description)		Run (Dip deg.)	Blow/6" (N Value)(2)	Moisture Content %	Gravel %	Sand %	Fines %
0	6" Asphalt								
0	6" Concrete								
0	S1 (2' to 4'): Very dense, light brown with gray and dark brown fine to coarse SAND, some (+) Silt, trace fine Gravel, frozen to moist. (PID = 4.5 PPM) Rec. = 2.0 ft				25-53-36-24 (89)		9.0	46.0	45.0
5	S2 (4' to 6'): Medium dense, dark brown to brown fine to coarse SAND (grading to fine to medium Sand) and SILT, trace fine Gravel, slightly moist. (PID = 1.9 PPM) Rec. = 2.0 ft				4-5-6-4 (11)				
10	S3 (6' to 8'): Loose, S3A - Top 6": Dark brown fine to coarse SAND and SILT, little fine Gravel, wet. S3B - Bottom 2": Gray fine SAND and SILT, some fine to coarse Gravel, wet. (PID = 1.0 PPM) Rec. = 0.8 ft				50/3" (R)		64.0	24.0	12.0
15	S4 (8' to 10'): Refusal, piece of fractured coarse GRAVEL stuck in spoon tip. (INFERRED BOULDER FILL) Rec. = 0.1 ft				8-58-11 (69)				
15	S5 (10' to 12'): Very dense, dark brown fine to coarse SAND and fine to coarse GRAVEL, little Silt, trace Organics, wet. (PID = 0.6 PPM) Rec. = 0.7 ft				9-26-12 (45)				
20	S6 (12' to 14'): Medium dense, dark brown fine to coarse SAND and fine GRAVEL, little (-) Silt, wet. (PID = 0.5 PPM) Rec. = 0.4 ft				6-5-5-4 (10)				
20	S7 (14' to 16'): Dense, gray-brown fine to coarse SAND and fine GRAVEL, little Silt, wet. (PID = 0.9 PPM) Rec. = 0.4 ft				4-4-5-5 (9)		5.0	30.0	65.0
25	S8 (16' to 18'): Medium dense, gray SILT, some fine Sand, wet. (PID = 0.8 PPM) Rec. = 0.8 ft				5-6-6-6 (12)				
25	S9 (18' to 20'): Loose, gray SILT, some fine Sand, wet. (PID = 0.6 PPM) Rec. = 0.8 ft				5-5-6-4 (11)				
30	S10 (20' to 22'): Medium dense, gray SILT, some fine Sand, wet. (PID = 0.5 PPM) Rec. = 1.1 ft				6-5-5-4 (10)		5.0	10.0	85.0
30	S11 (24' to 26'): Medium dense, gray SILT, some fine Sand, wet. (PID = 0.4 PPM) Rec. = 1.3 ft				5-5-5-4 (10)				
35	S12 (29' to 31'): Medium dense, gray SILT, little fine Sand, wet. (PID = 0.3 PPM) Rec. = 1.4 ft				5-5-5-4 (9)				
40	S13 (34' to 36'): Medium dense, gray SILT, little fine Sand, wet. (PID = 0.3 PPM) Rec. = 1.3 ft				5-5-4-3 (9)				
45	S14 (39' to 41'): Loose, gray SILT, little fine Sand, wet. Rec. = 1.0 ft				10-9-9-8 (18)		2.0	8.0	90.0
45	S15 (44' to 46'): Medium dense, gray SILT, little fine Sand, wet. Rec. = 1.3 ft				5-9-10-				
45	S16 (49' to 51'): Medium dense, gray SILT, little fine Sand, wet. Rec.								

BOTTOM OF ABUT NO 2 EL 849.50

GEODESIGN BORING LOG: 888-04.7 BARTON BR 20.0PJ VERMONT AUT.GDT: 5/12/14

Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual.  
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.  
3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

VT Trans		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: B-2			
		Barton Bridge #20		Page No.: 2 of 3					
		BHF 0286 (5) - TH-2 (VT-16)		Pin No.: 121172					
		GeoDesign #888-04.9		Checked By: JFW/DTH					
Boring Crew: J.Leonhardt (QC/QA), J. Wimet (GeoDesign)		Casing Sampler		Groundwater Observations (3)					
Date Started: 2/11/14 Date Finished: 2/25/14		Type: AUGER SS		Date Depth Notes					
VTSPG NAD83: N 819468.00 ft E 1723373.00 ft		I.D.: 4 in 1.38 in		02/11/14 See Remark 2.					
Station: 13+07.1 Offset: 2.5 LT		Hammer Wt: 140 lb. 140 lb.							
Ground Elevation: 856 ft		Hammer Fall: 30 in. 30 in.							
		Hammer/Rod Type: Auto/NWJ							
		Rig: CME 550X ATV CE = 1.4							
Depth (ft)	Strata (t)	CLASSIFICATION OF MATERIALS (Description)		Run (Dip deg.)	Blow/6" (N Value)(2)	Moisture Content %	Gravel %	Sand %	Fines %
55		= 0.7 ft			10 (19)				
55		S17 (54' to 56'): Dense, gray SILT, little fine Sand, wet. Rec. = 0.6 ft			13-15-16-19 (NA)				
60		S18 (59' to 61'): Dense, gray SILT, little fine Sand, wet. Rec. = 0.8 ft			12-20-22-13 (NA)				
65		S19A (64' to 64.8'): Refusal, gray fine to coarse SAND, some Silt, little fine to coarse Gravel, wet. Rec. = 1.3 ft			7-48-50/5" (R)		23.0	40.0	37.0
65		S19B (64.8' to 65.4'): Refusal, gray SILT, little fine Sand, wet.			24-39-36-75 (95)			13.0	87.0
70		S20 (69' to 71'): Very dense, gray SILT, little fine Sand wet. (PID = 4.7 PPM) Rec. = 1.7 ft							
75		C1A (72.5' to 74.5'): Phyllite & Limestone Boulder.		C1 (20-50)	77	2			
75		C1B (74.5' to 75'): Glacial Till.				1			
75		C2A (75' to 77.1'): Limestone Boulder.		C2 (20-60)	70	1.8			
75		C2B (77.1' to 78'): Inferred soil (no recovery). Hole stopped @ 78.0 ft				1.8			

GEODESIGN BORING LOG: 888-04.7 BARTON BR 20.0PJ VERMONT AUT.GDT: 5/12/14

Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual.  
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.  
3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

VT Trans		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: B-2				
		Barton Bridge #20		Page No.: 3 of 3						
		BHF 0286 (5) - TH-2 (VT-16)		Pin No.: 121172						
		GeoDesign #888-04.9		Checked By: JFW/DTH						
Boring Crew: J.Leonhardt (QC/QA), J. Wimet (GeoDesign)		Casing Sampler		Groundwater Observations (3)						
Date Started: 2/11/14 Date Finished: 2/25/14		Type: AUGER SS		Date Depth Notes						
VTSPG NAD83: N 819468.00 ft E 1723373.00 ft		I.D.: 4 in 1.38 in		02/11/14 See Remark 2.						
Station: 13+07.1 Offset: 2.5 LT		Hammer Wt: 140 lb. 140 lb.								
Ground Elevation: 856 ft		Hammer Fall: 30 in. 30 in.								
		Hammer/Rod Type: Auto/NWJ								
		Rig: CME 550X ATV CE = 1.4								
Depth (ft)	Strata (t)	CLASSIFICATION OF MATERIALS (Description)		Run (Dip deg.)	Blow/6" (N Value)(2)	Moisture Content %	Gravel %	Sand %	Fines %	
105		Remarks: 1) First attempt ended in refusal at 6 inches deep on concrete. Note piece of rebar in drill cuttings. Move 4 feet north and auger through 6 inches of asphalt and 6 inches of concrete. Borehole advanced with 4.25" HSA to 4 feet deep prior to switching to 4" O.D. casing and wash-drive drilling methods. 2) Moisture observations below 6 feet deep may not accurately reflect insitu conditions due to continuously adding water during borehole advance. 3) Note frequent rig chatter from 8 to 10 feet deep through possible bouldery/cobby soils. 4) Driller advanced casing to 20 feet deep. Borehole progressed open-hole with the roller bit below 20 feet deep. 5) Note approximately 8 inches of slough at the bottom of the borehole prior to sampling S17 at 54 feet deep. Pound sampler through slough with 6 blows of the hammer. SPT N-value not per ASTM Standard. 6) After sampling S17, drive 4-inch casing to 40 feet deep prior to continuing advancement of the borehole. 7) Driller notes roller bit appears to be bouncing on denser soils beginning at 59 feet deep. 8) Note approximately 18 inches of slough at the bottom of the borehole prior to sampling S18 at 59 feet deep. Pound sampler through slough with 10 blows of the hammer. SPT N-value not per ASTM Standard. 9) After sampling S18, drive 4-inch casing to 50 feet deep. Driller infers casing to have broken at 35 feet deep during advance. Driller telescopes through 4-inch casing with 3-inch casing and drives to 64 feet deep prior to continuing sampling. Pause drilling from 2/14 through 2/24 due to weather and equipment delays. 10) Inferred Bedrock or possible boulders with soil infilling of joints approximately 6 inches thick below 72.5 feet deep. 11) Borehole backfilled with grout, approximately 50gal water, 188 pounds type 1/II portland cement, and 40 pounds bentonite powder. 12) Samples S1 through S13 screened in the field with an Ion Science PhoCheck 1000 model PID calibrated to a 100 PPM isobutylene standard. 13) All sample descriptions shown are per the Burmister classification system and are based on visual descriptions made in the field by GeoDesign personnel. Where applicable, laboratory testing results shown are from testing performed by GeoTesting Express, with the Gravel/Sand/Fines breakdown shown per AASHTO M145. 14) Northing, easting, and ground surface elevation are estimated from an electronic site plan provided by TY Lin and taped measurements made from existing features in the field by GeoDesign personnel.								
125		ESTIMATED BOTTOM OF PILE AT ABUT NO 2 EL 731.5								

GEODESIGN BORING LOG: 888-04.7 BARTON BR 20.0PJ VERMONT AUT.GDT: 5/12/14

Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual.  
2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor.  
3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

FOR REVIEW ONLY  
NOT FOR CONSTRUCTION

PROJECT NAME: BARTON VILLAGE  
PROJECT NUMBER: BHF 0286(5)

TYLIN INTERNATIONAL

FILE NAME: z12j172blog2.dgn  
PROJECT LEADER: J. OLUND  
DESIGNED BY: J. OLUND  
BORING LOG 4

PLOT DATE: 8/8/2014  
DRAWN BY: S. MORGAN  
CHECKED BY: T. POULIN  
SHEET 20 OF 39

 STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: <u>B-2A</u>													
		Barton Bridge #20 BHF 0286 (5) - TH-2 (VT-16) GeoDesign #888-04.9		Page No.: <u>1 of 1</u>													
Boring Crew: <u>J.Leonhardt (QC/QA), A. Baribault (GeoDesign)</u> Date Started: <u>2/25/14</u> Date Finished: <u>2/25/14</u> VTSPG NAD83: <u>N 819472.00 ft E 1723373.00 ft</u> Station: <u>13+11.1</u> Offset: <u>3.0 LT</u> Ground Elevation: <u>856 ft</u>		Casing Sampler Type: <u>AUGER</u> <u>3" SS</u> I.D.: <u>4.25 in</u> <u>2.5 in</u> Hammer Wt: <u>140 lb.</u> <u>140 lb.</u> Hammer Fall: <u>30 in.</u> <u>30 in.</u> Hammer/Rod Type: <u>Auto/NWJ</u> Rig: <u>CME 550X ATV</u> <u>CE = 1.4</u>		Groundwater Observations (3) <table border="1"> <thead> <tr> <th>Date</th> <th>Depth (ft)</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>02/25/14</td> <td>7.0</td> <td>Wet sample at 7'</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Date	Depth (ft)	Notes	02/25/14	7.0	Wet sample at 7'						
Date	Depth (ft)	Notes															
02/25/14	7.0	Wet sample at 7'															
Depth (ft) 5 10 15 20 25 30 35 40 45	Strat(1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)(2)	Moisture Content %	Gravel %	Sand %	Fines %										
	x x x	S1 (2' to 4'): Light brown fine to coarse SAND, some fine to coarse Gravel, little to some silt, trace Brick, frozen. Rec. = 2.0 ft	35-56-62-67														
	x x x	S2 (4' to 6'): Light brown fine to coarse SAND, some Silt, little fine to coarse Gravel, trace Brick, frozen. Rec. = 1.5 ft	9-10-13-10														
	x x x	S3 (6' to 8'): Loose, brown fine SAND and SILT, moist (upper 12") to wet (lower 12"). Rec. = 2.0 ft	8-6-3-3														
	x x x	S4 (8 to 10'): Very loose, brown to gray-brown SILT, some fine Sand, little Wood and Organics, wet. Inferred recent alluvium. Upper 2" Possible Fill (no separate sample). Rec. = 2.0 ft	1-2-3-2														
Hole stopped @ 10.0 ft																	
Remarks: 1) Split spoon samples were taken using a 3" O.D. split spoon to collect sample for resistivity testing. Sample S4 not cleaned out prior to sampling (augers at 6 feet). 2) Approximately 6" Asphalt, significant auger grinding from 6" to 10" through inferred concrete (no rebar encountered) with smooth drilling thereafter. 3) Borehole backfilled with cuttings and capped with asphalt cold patch. 4) Northing, easting, and ground surface elevation are estimated from an electronic site plan provided by TY Lin and taped measurements made from existing features in the field by GeoDesign personnel.																	
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.																	

BOTTOM OF ABUT NO 2  
EL 849.50

GEODESIGN BORING LOG 888-04.7 BARTON BR 20.GPJ VERMONT AOT.GDT 5/12/14

FOR REVIEW ONLY  
NOT FOR CONSTRUCTION



PROJECT NAME: <b>BARTON VILLAGE</b>	
PROJECT NUMBER: <b>BHF 0286(5)</b>	
FILE NAME: z12j172blog2a.dgn	PLOT DATE: 8/8/2014
PROJECT LEADER: J. OLUND	DRAWN BY: S. MORGAN
DESIGNED BY: J. OLUND	CHECKED BY: T. POULIN
BORING LOG 5	SHEET 21 OF 39

 STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: P-1			
		Barton Bridge #20 BHF 0286 (5) - TH-2 (VT-16) GeoDesign #888-04.9		Page No.: 1 of 1 Pin No.: 12j172 Checked By: JFW/DTH			
Boring Crew: J.Leonhardt (QC/QA), A. Baribault (GeoDesign) Date Started: 2/25/14 Date Finished: 2/25/14 VTSPG NAD83: N 819413.00 ft E 1723405.00 ft Station: 12+55.9 Offset: 35.2 RT Ground Elevation: 856 ft		Casing: S.S.A. Sampler: NA I.D.: 2.25 in Hammer Wt: N.A. Hammer Fall: N.A. Hammer/Rod Type: CME 550X ATV CE =	Groundwater Observations (3)				
Depth (ft)	Strata(1)	CLASSIFICATION OF MATERIALS (Description)	Blews/6" (N Value)(2)	Moisture Content %	Gravel %	Sand %	Fines %
5		No sampling performed. Auger probe only.					
10							
15							
20		Hole stopped @ 18.5 ft No refusal					
25		Remarks: 1) SSA Probe performed to evaluate the heel of existing retaining wall. No samples obtained. 2) Slight grinding in upper 3 feet, smooth advance thereafter. Terminated at 18.5 feet with no refusal 3) Northing, easting, and ground surface elevation are estimated from an electronic site plan provided by TY Lin and taped measurements made from existing features in the field by GeoDesign personnel.					
30							
35							
40							
45							
Notes:		1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.					

GEODESIGN BORING LOG 888-04.7 BARTON BR 20.GPJ VERMONT AOT.GDT 5/12/14

 FOR REVIEW ONLY  
 NOT FOR CONSTRUCTION

 PROJECT NAME: BARTON VILLAGE  
 PROJECT NUMBER: BHF 0286(5)


FILE NAME: z12j172plogl.dgn	PLOT DATE: 8/8/2014
PROJECT LEADER: J. OLUND	DRAWN BY: S. MORGAN
DESIGNED BY: J. OLUND	CHECKED BY: T. POULIN
BORING LOG 6	SHEET 22 OF 39

 STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: P-2	
		Barton Bridge #20 BHF 0286 (5) - TH-2 (VT-16) GeoDesign #888-04.9		Page No.: 1 of 1 Pin No.: 12j172 Checked By: JFW/DTH	
Boring Crew: J.Leonhardt (QC/QA), A. Baribault (GeoDesign) Date Started: 2/25/14 Date Finished: 2/25/14 VTSPG NAD83: N 819421.00 ft E 1723366.00 ft Station: 12+59.6 Offset: 4.4 LT Ground Elevation: 856 ft		Casing: S.S.A. Sampler: NA I.D.: 2.25 in Hammer Wt: N.A. Hammer Fall: N.A. Hammer/Rod Type: Hammer/Rod Type: CE =		Groundwater Observations (3) Date Depth (ft) Notes	
Depth (ft)	Strata(1)	CLASSIFICATION OF MATERIALS (Description)		Blows/6" (N Value)(2)	Moisture Content %
5		No sampling performed. Auger probe only.			
10		Hole stopped @ 5.3 ft Auger Refusal  Remarks: 1) SSA Probe performed to evaluate the footing of existing bridge. No samples obtained. 2) Significant grinding from approximately 2.5 to 3 feet, occasional grinding thereafter. Encountered refusal at approximately 5.3 feet. 3) Northing, easting, and ground surface elevation are estimated from an electronic site plan provided by TY Lin and taped measurements made from existing features in the field by GeoDesign personnel.			
15					
20					
25					
30					
35					
40					
45					
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.					

BOTTOM OF ABUT NO 1  
EL 850.00

GEODESIGN BORING LOG 888-04.7 BARTON BR 20.GPJ VERMONT AOT.GDT 5/12/14

FOR REVIEW ONLY  
NOT FOR CONSTRUCTION

PROJECT NAME: BARTON VILLAGE  
PROJECT NUMBER: BHF 0286(5)

**TYLIN**INTERNATIONAL

FILE NAME: z12j172plog2.dgn  
PROJECT LEADER: J. OLUND  
DESIGNED BY: J. OLUND  
BORING LOG 7

PLOT DATE: 8/8/2014  
DRAWN BY: S. MORGAN  
CHECKED BY: T. POULIN  
SHEET 23 OF 39

 STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: P-3			
		Barton Bridge #20 BHF 0286 (5) - TH-2 (VT-16) GeoDesign #888-04.9		Page No.: 1 of 1 Pin No.: 12j172 Checked By: JFW/DTH			
Boring Crew: J.Leonhardt (QC/QA), A. Baribault (GeoDesign) Date Started: 2/25/14 Date Finished: 2/25/14 VTSPG NAD83: N 819417.00 ft E 1723365.00 ft Station: 12+55.5 Offset: 5.0 LT Ground Elevation: 856 ft		Casing: S.S.A. Sampler: NA I.D.: 2.25 in Hammer Wt: N.A. Hammer Fall: N.A. Hammer/Rod Type: CE = Rig: CME 550X ATV	Groundwater Observations (3)				
Depth (ft)	Strata(1)	CLASSIFICATION OF MATERIALS (Description)	BloWS/6" (N Value)(2)	Moisture Content %	Gravel %	Sand %	Fines %
		No sampling performed. Auger probe only.					
		Hole stopped @ 2.9 ft Auger Refusal					
		Remarks: 1) SSA Probe performed to evaluate the footing of existing bridge. No samples obtained. 2) Significant grinding from approximately 2.5 to 2.9 feet, with refusal at approximately 2.9 feet. 3) Northing, easting, and ground surface elevation are estimated from an electronic site plan provided by TY Lin and taped measurements made from existing features in the field by GeoDesign personnel.					
		Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.					

BOTTOM OF ABUT NO 1  
EL 850.00

GEODESIGN BORING LOG 888-04.7 BARTON BR 20.GPJ VERMONT AOT.GDT 5/12/14

FOR REVIEW ONLY  
NOT FOR CONSTRUCTION

PROJECT NAME: BARTON VILLAGE  
PROJECT NUMBER: BHF 0286(5)

**TYLIN**INTERNATIONAL

FILE NAME: z12j172plog3.dgn  
PROJECT LEADER: J. OLUND  
DESIGNED BY: J. OLUND  
BORING LOG 8

PLOT DATE: 8/8/2014  
DRAWN BY: S. MORGAN  
CHECKED BY: T. POULIN  
SHEET 24 OF 39

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: P-4	
		Barton Bridge #20 BHF 0286 (5) - TH-2 (VT-16) GeoDesign #888-04.9		Page No.: 1 of 1	
Boring Crew: J.Leonhardt (QC/QA), A. Baribault (GeoDesign) Date Started: 2/25/14 Date Finished: 2/25/14 VTSPG NAD83: N 819413.00 ft E 1723365.00 ft Station: 12+51.6 Offset: 4.6 LT Ground Elevation: 856 ft		Casing Sampler Type: S.S.A NA I.D.: 2.25 in Hammer Wt: N.A. N.A. Hammer Fall: N.A. N.A. Hammer/Rod Type: Rig: CME 550X ATV CE =		Groundwater Observations (3) Date Depth (ft) Notes	
Depth (ft)	Strata(1)	CLASSIFICATION OF MATERIALS (Description)	Blows/6" (N Value)(2)	Moisture Content %	Gravel %
5		No sampling performed. Auger probe only.			
10		Hole stopped @ 8.0 ft Auger Refusal			
15		Remarks: 1) SSA Probe performed to evaluate the footing of existing bridge. No samples obtained. 2) Significant grinding from approximately 2.5 to 3 feet, occasional grinding thereafter. Encountered refusal at approximately 8 feet. 3) Northing, easting, and ground surface elevation are estimated from an electronic site plan provided by TY Lin and taped measurements made from existing features in the field by GeoDesign personnel.			
20					
25					
30					
35					
40					
45					
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.					

BOTTOM OF ABUT NO 1  
EL 850.00

GEODESIGN BORING LOG 888-04.7 BARTON BR 20.GPJ VERMONT AOT.GDT 5/12/14

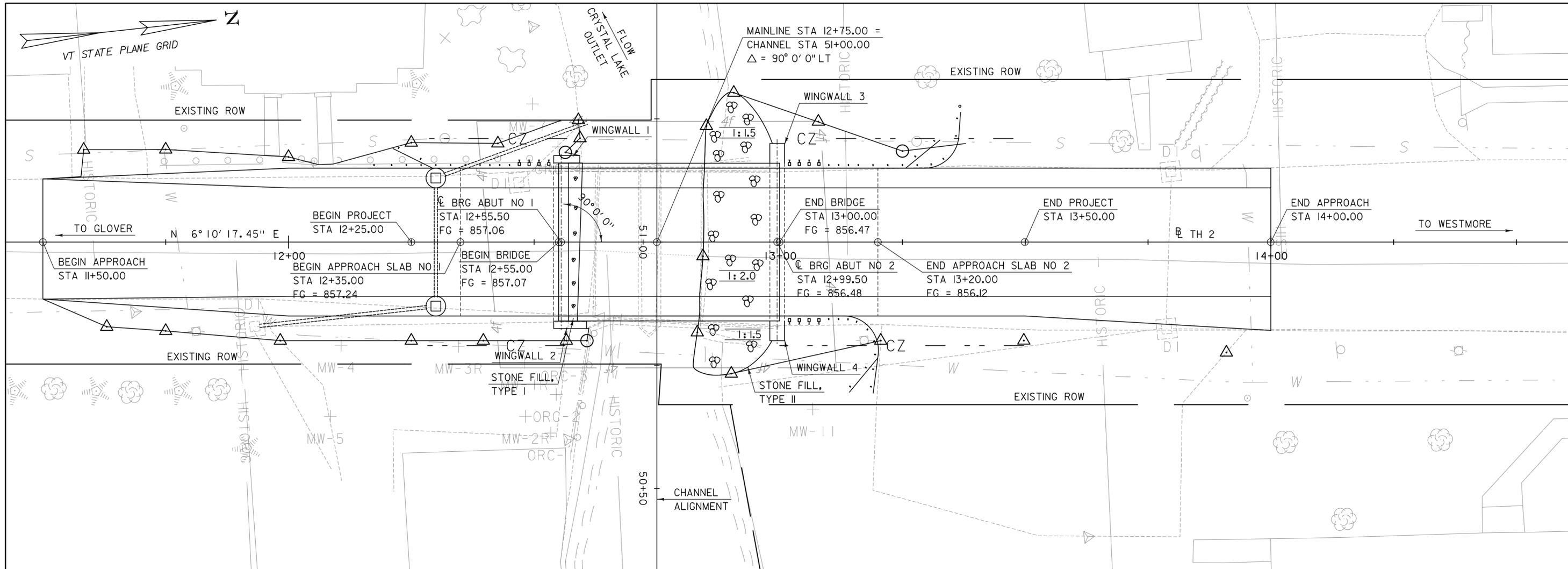
FOR REVIEW ONLY  
NOT FOR CONSTRUCTION

PROJECT NAME: BARTON VILLAGE  
PROJECT NUMBER: BHF 0286(5)

**TYLIN**INTERNATIONAL

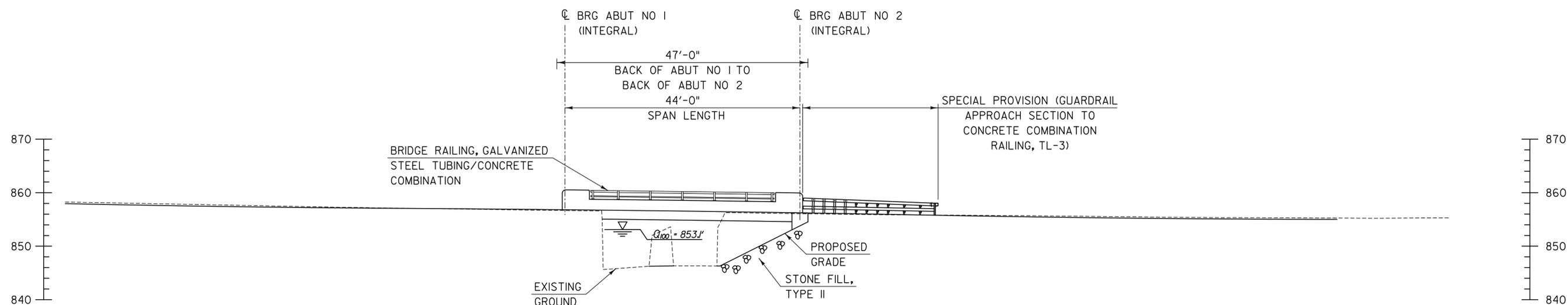
FILE NAME: z12j172plog4.dgn  
PROJECT LEADER: J. OLUND  
DESIGNED BY: J. OLUND  
BORING LOG 9

PLOT DATE: 8/8/2014  
DRAWN BY: S. MORGAN  
CHECKED BY: T. POULIN  
SHEET 25 OF 39



**PLAN**

SCALE: 1" = 10'-0"

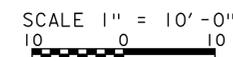


**ELEVATION**

SCALE: 1" = 10'-0"

FOR REVIEW ONLY  
NOT FOR CONSTRUCTION

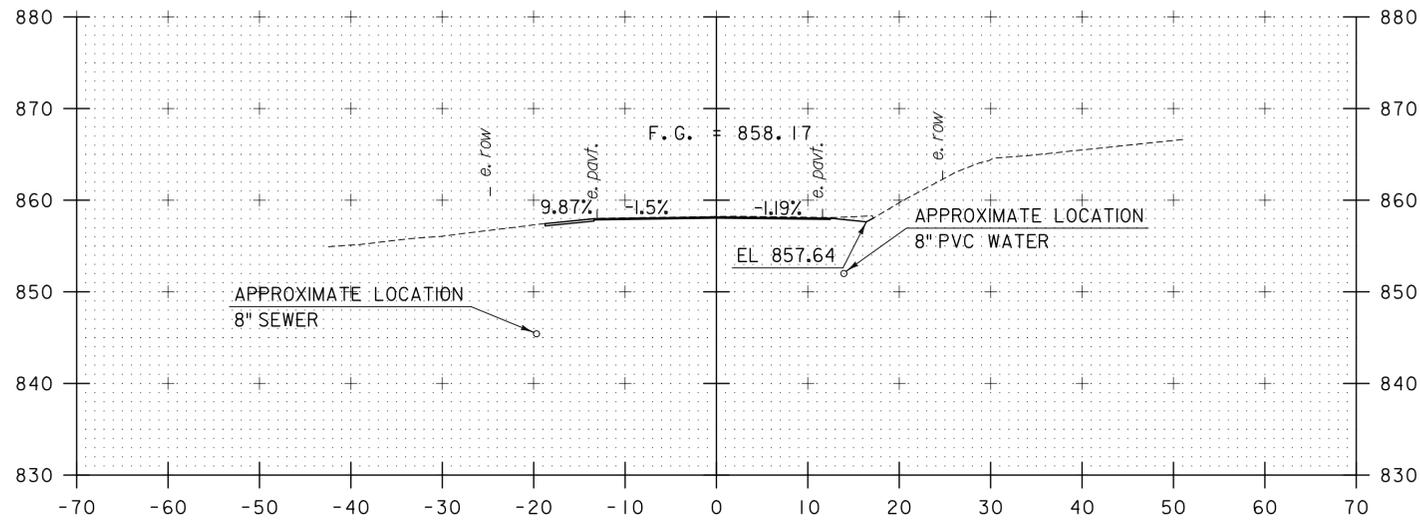
PROJECT NAME: BARTON VILLAGE  
PROJECT NUMBER: BHF 0286(5)



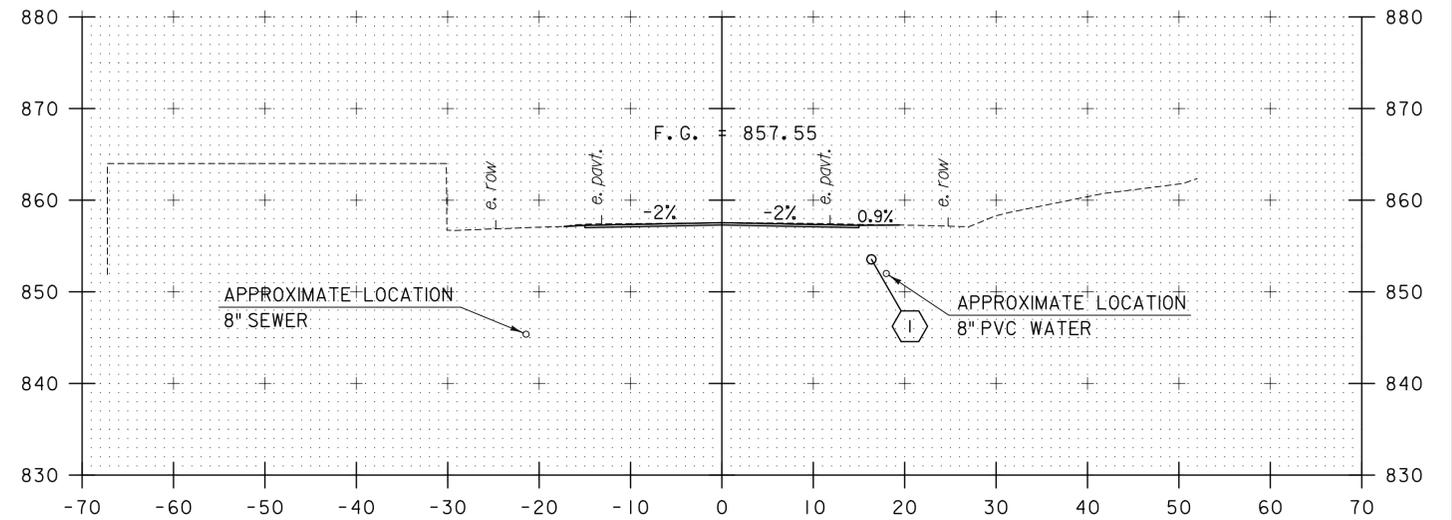
**TYLIN** INTERNATIONAL

FILE NAME: z12j172pe.dgn  
PROJECT LEADER: J. OLUND  
DESIGNED BY: J. OLUND  
PLAN & ELEVATION

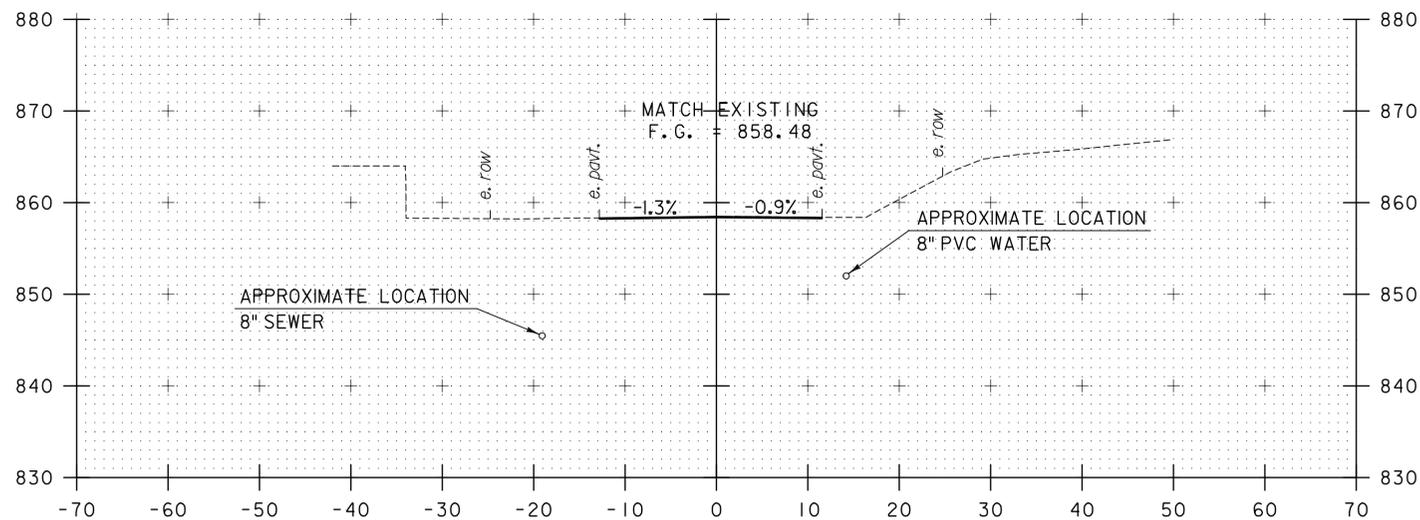
PLOT DATE: 8/8/2014  
DRAWN BY: S. MORGAN  
CHECKED BY: T. POULIN  
SHEET 26 OF 39



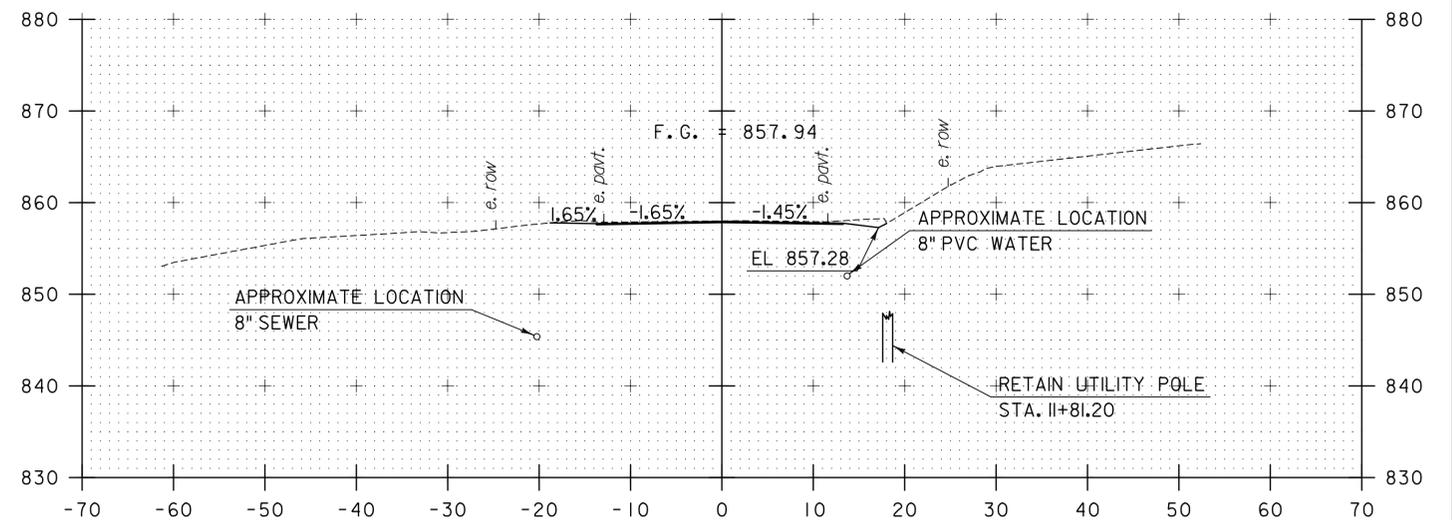
11+63



12+00



11+50  
BEGIN APPROACH



11+75

STA. 11+50 TO STA. 12+00

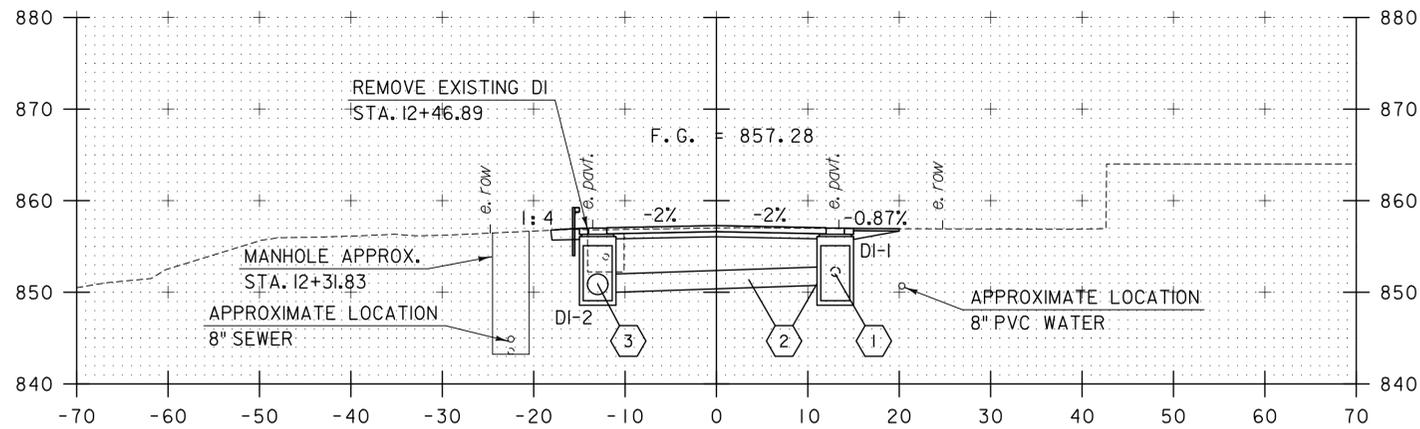
FOR REVIEW ONLY  
NOT FOR CONSTRUCTION

**TYL**IN INTERNATIONAL

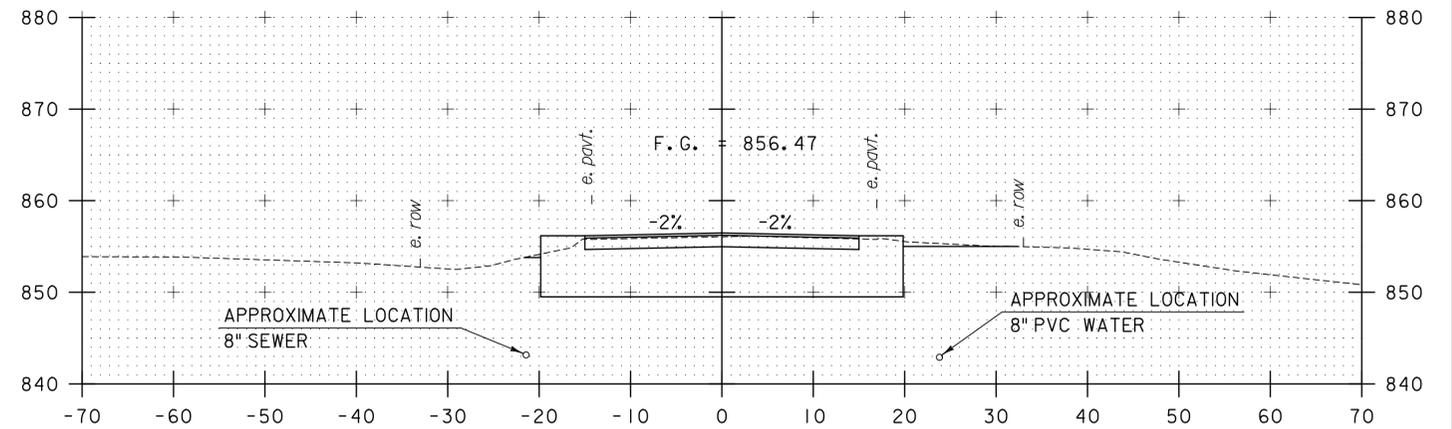
PROJECT NAME: BARTON VILLAGE  
PROJECT NUMBER: BHF 0286(5)

FILE NAME: z12j172xsl.dgn  
PROJECT LEADER: J. OLUND  
DESIGNED BY: B. TOOTHAKER  
TH2 CROSS SECTIONS I

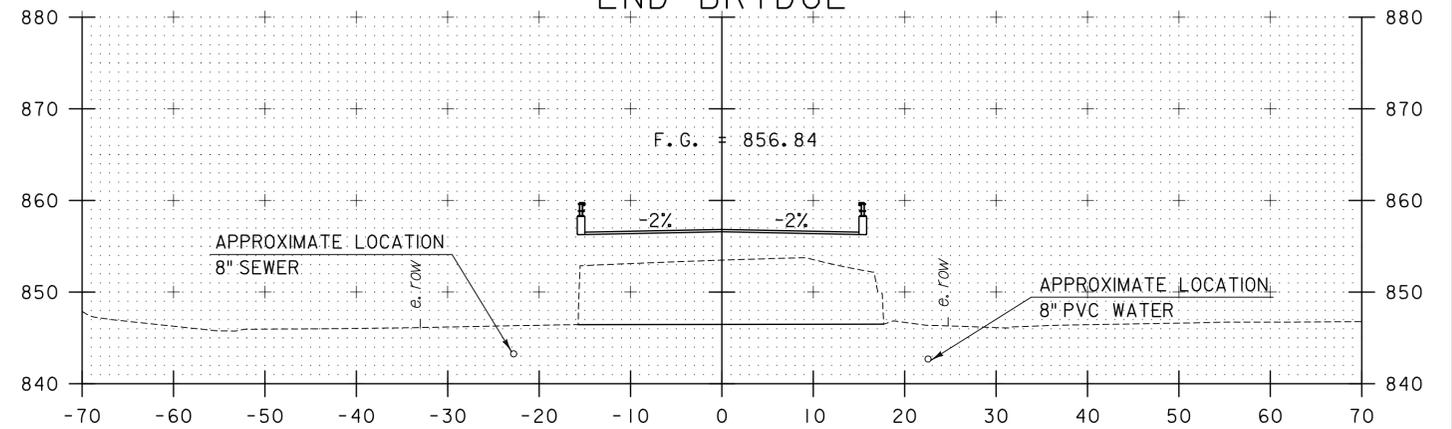
PLOT DATE: 8/8/2014  
DRAWN BY: B. TOOTHAKER  
CHECKED BY: J. HOWE  
SHEET 27 OF 39



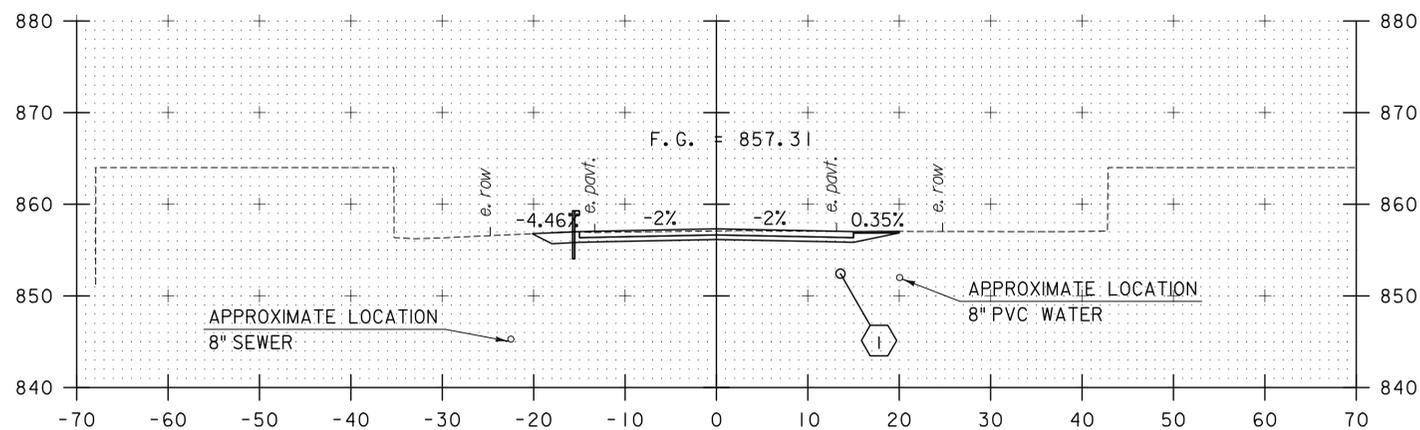
12+30



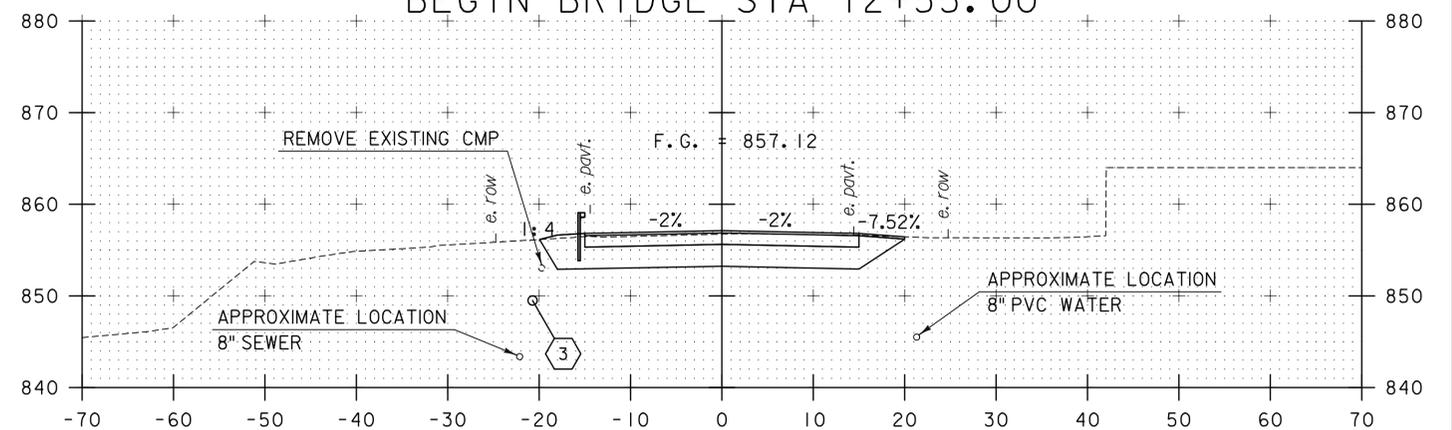
13+00  
END BRIDGE



12+75  
BEGIN BRIDGE STA 12+55.00



12+25  
BEGIN PROJECT



12+50

STA. 12+25 TO STA. 13+00

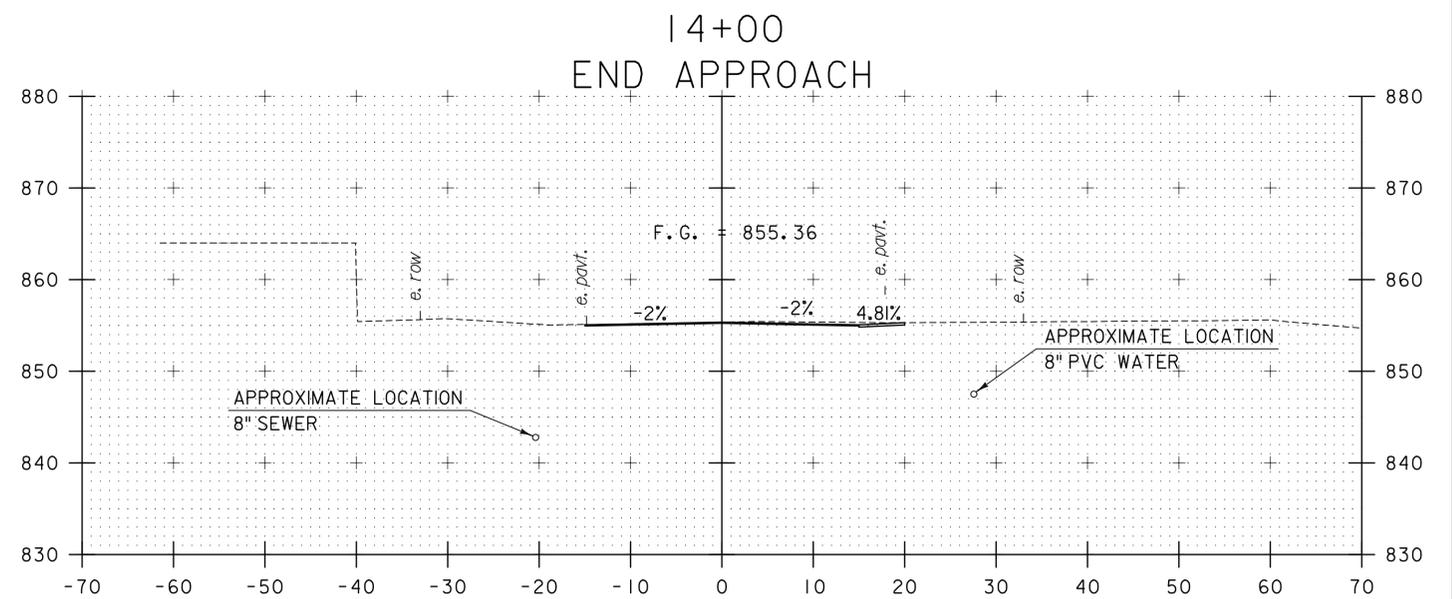
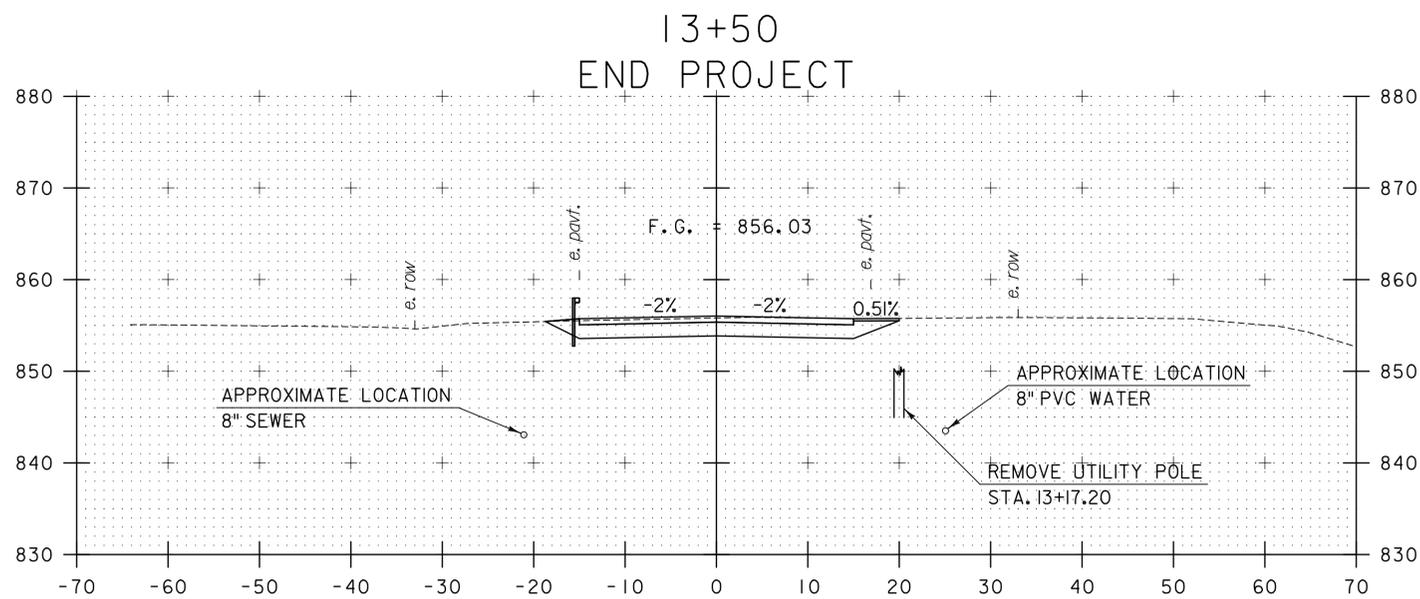
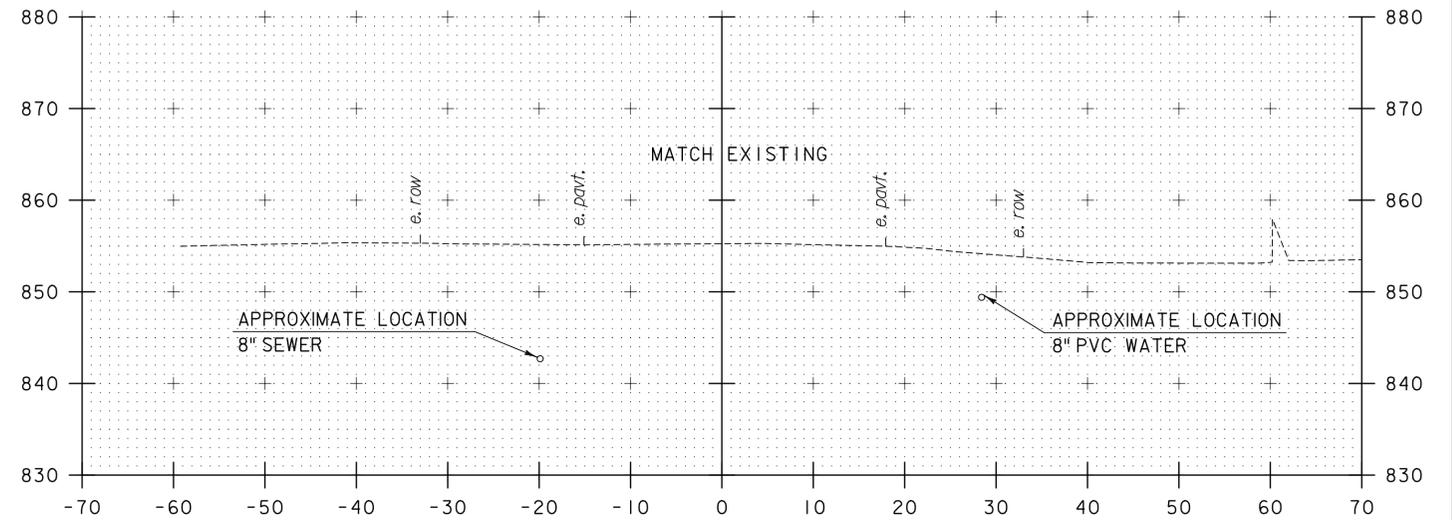
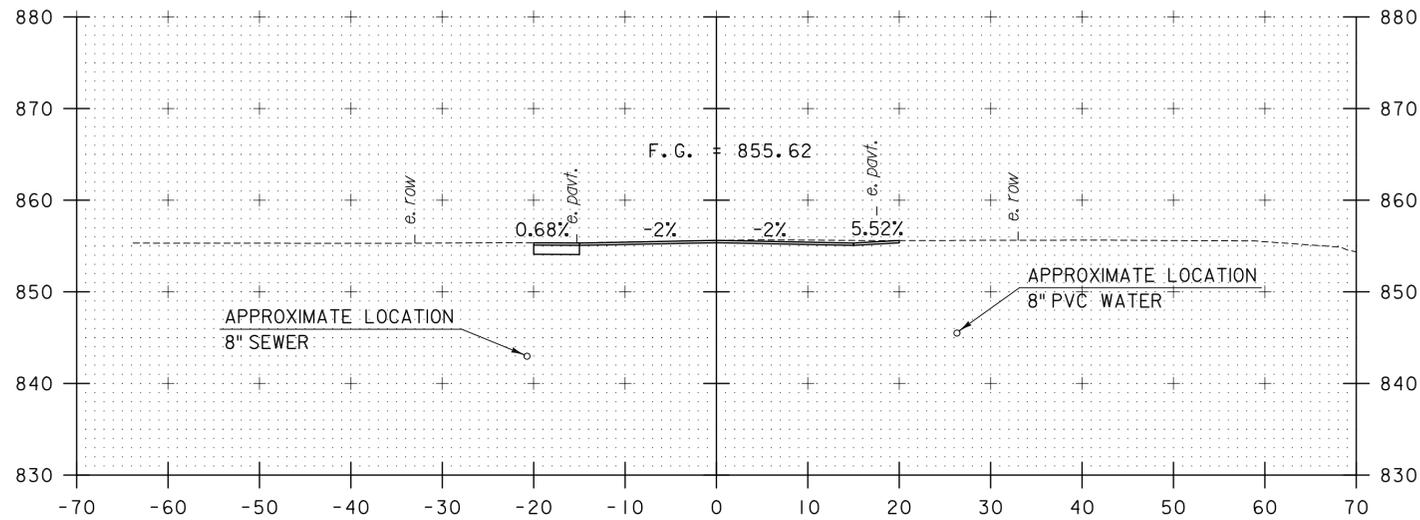
FOR REVIEW ONLY  
NOT FOR CONSTRUCTION

**TYL**INTERNATIONAL

PROJECT NAME: BARTON VILLAGE  
PROJECT NUMBER: BHF 0286(5)

FILE NAME: z12j172xsl.dgn  
PROJECT LEADER: J. OLUND  
DESIGNED BY: B. TOOTHAKER  
TH2 CROSS SECTIONS 2

PLOT DATE: 8/8/2014  
DRAWN BY: B. TOOTHAKER  
CHECKED BY: J. HOWE  
SHEET 28 OF 39



STA. 13+25 TO STA. 14+00

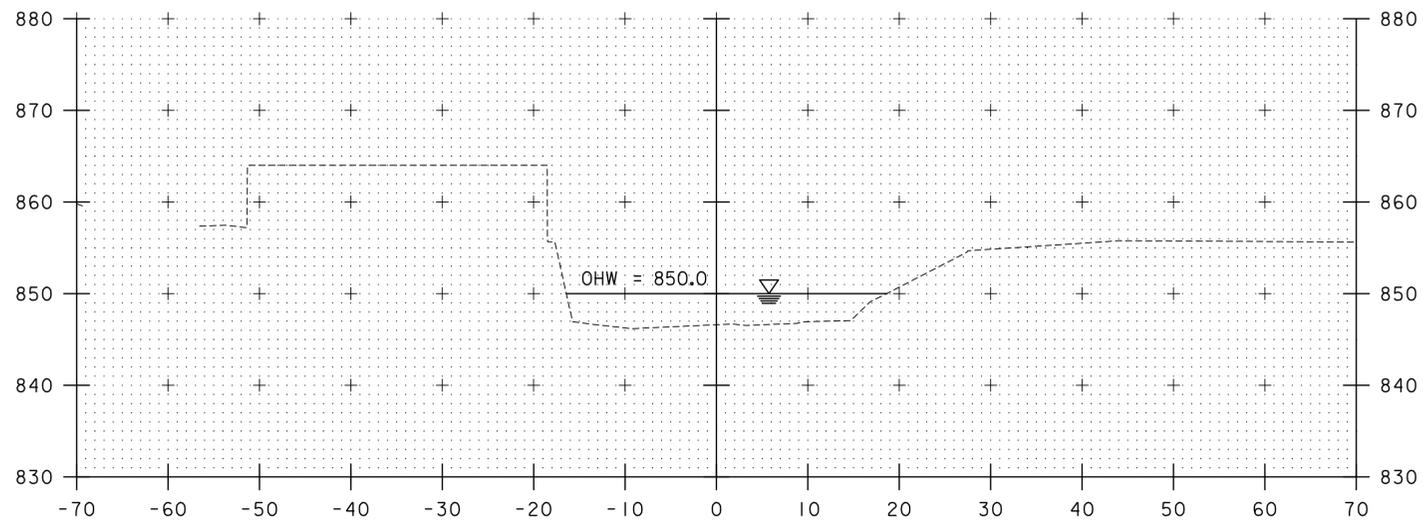
FOR REVIEW ONLY  
NOT FOR CONSTRUCTION

**TYLIN**INTERNATIONAL

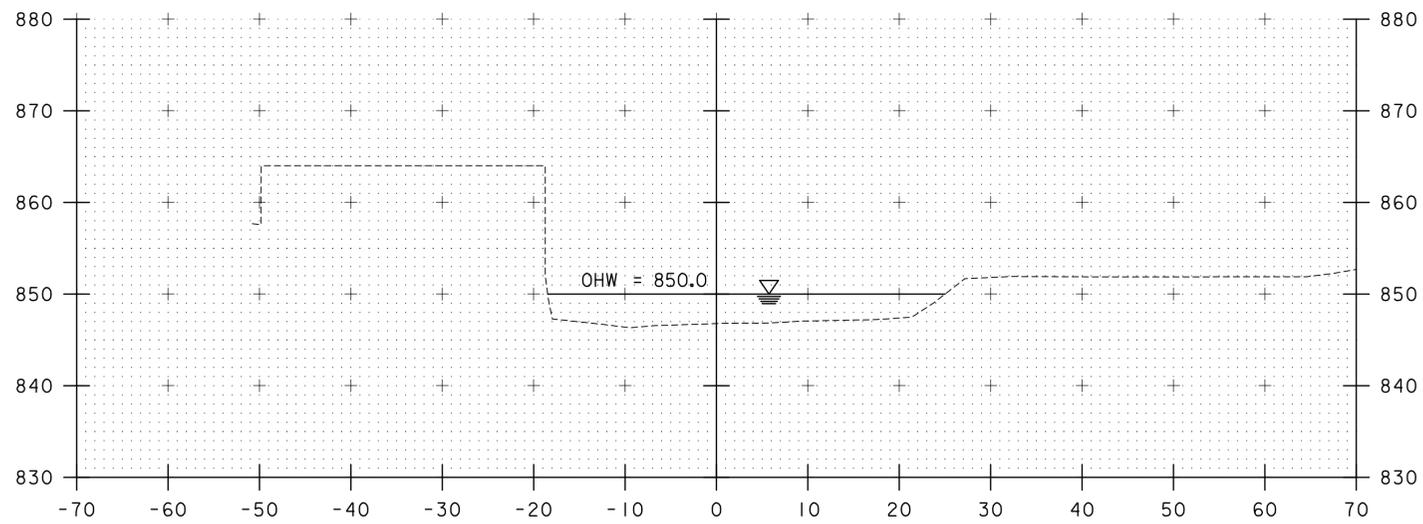
PROJECT NAME: BARTON VILLAGE  
PROJECT NUMBER: BHF 0286(5)

FILE NAME: z12j172xsl.dgn  
PROJECT LEADER: J. OLUND  
DESIGNED BY: B. TOOTHAKER  
TH2 CROSS SECTIONS 3

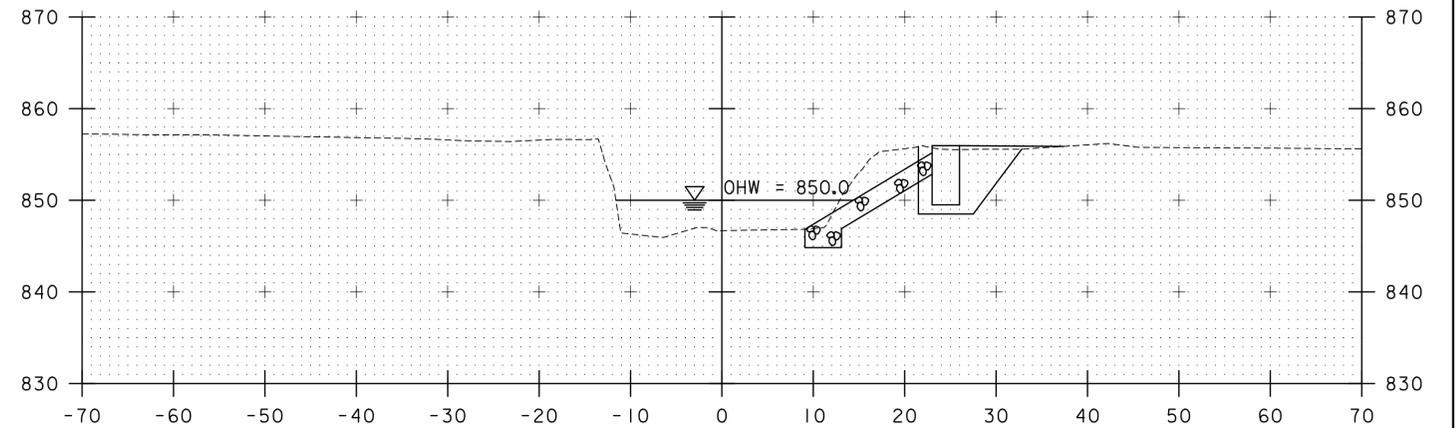
PLOT DATE: 8/8/2014  
DRAWN BY: B. TOOTHAKER  
CHECKED BY: J. HOWE  
SHEET 29 OF 39



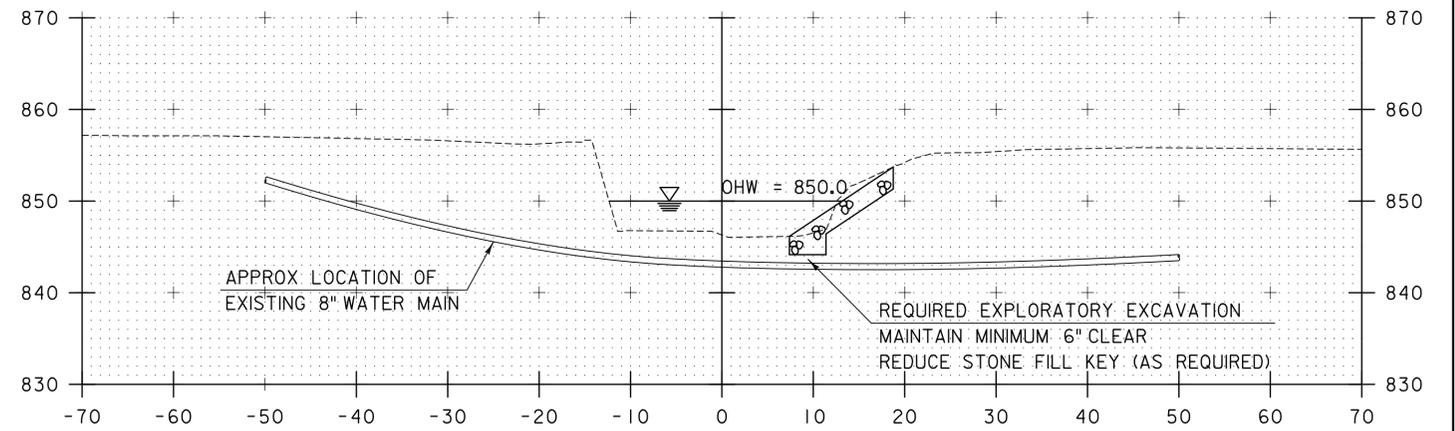
50+50



50+25



50+80



50+75

STATION 50+72.98 RT  
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION  
 BEGIN GEOTEXTILE UNDER STONE FILL  
 BEGIN STONE FILL, TYPE II

STA. 50+25 TO STA. 50+80

FOR REVIEW ONLY  
 NOT FOR CONSTRUCTION

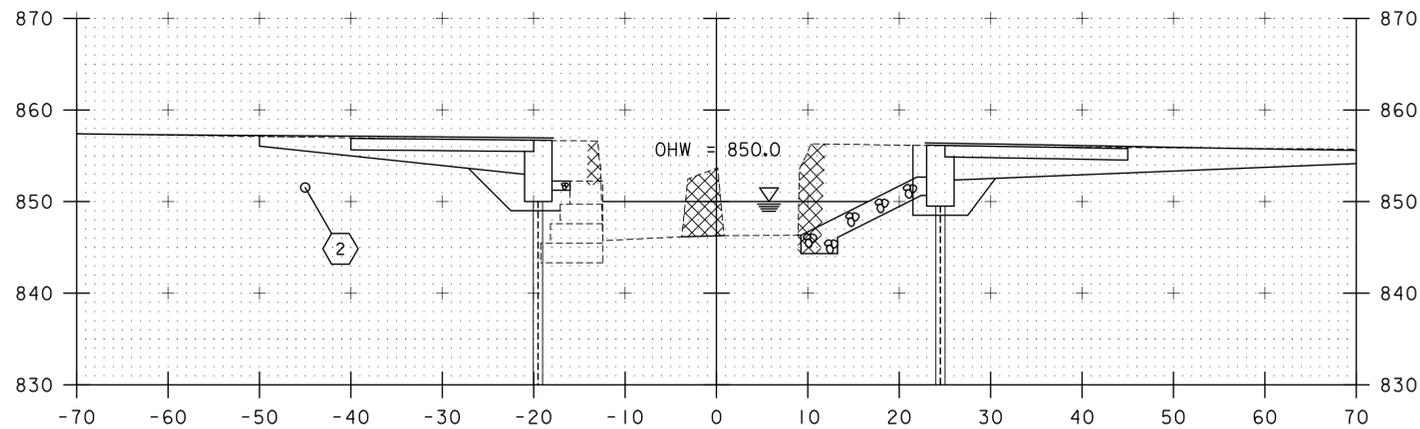
SCALE 1" = 10'-0"  
 10 0 10

TYLIN INTERNATIONAL

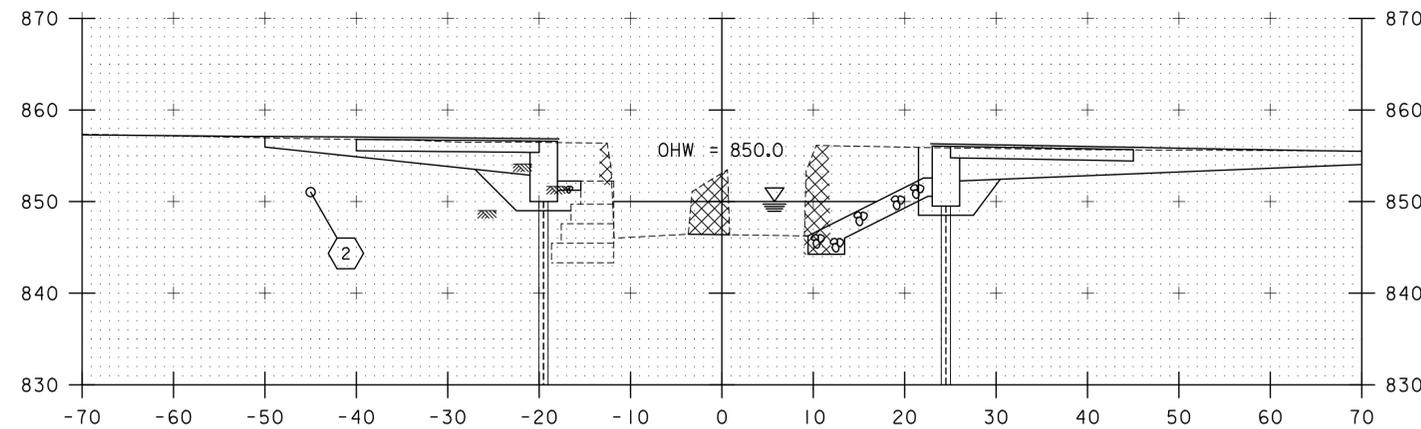
PROJECT NAME: BARTON VILLAGE  
 PROJECT NUMBER: BHF 0286(5)

FILE NAME: z12j172xschnl.dgn  
 PROJECT LEADER: J. OLUND  
 DESIGNED BY: J. OLUND  
 CHANNEL CROSS SECTIONS I

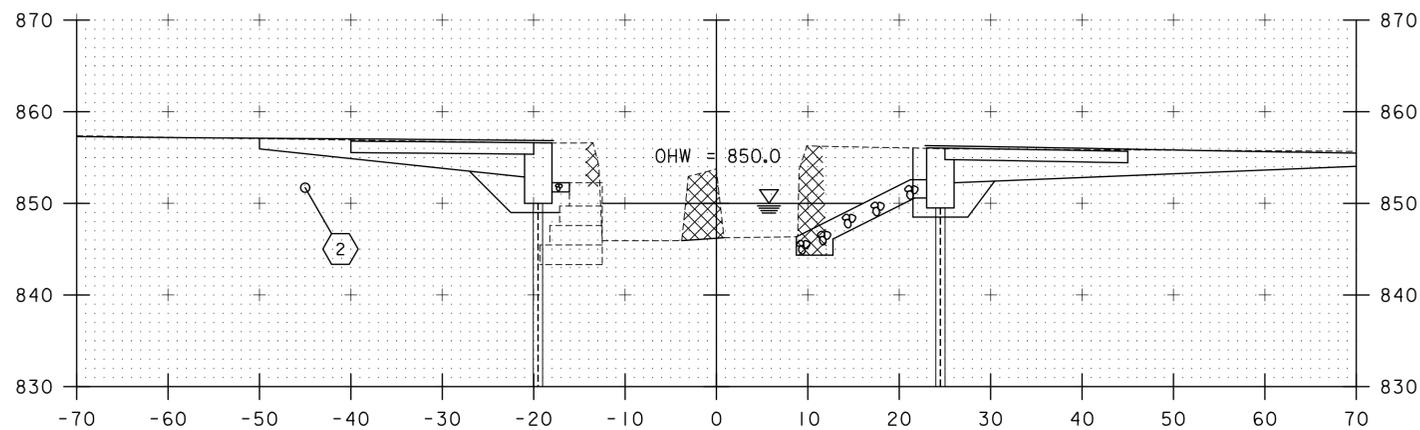
PLOT DATE: 8/8/2014  
 DRAWN BY: S. MORGAN  
 CHECKED BY: T. POULIN  
 SHEET 30 OF 39



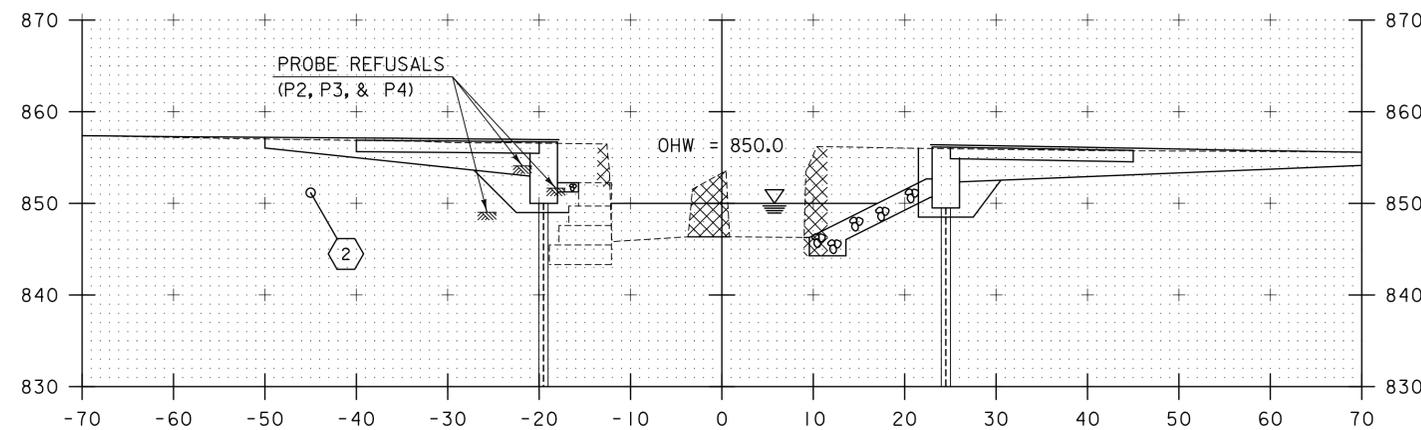
50+95



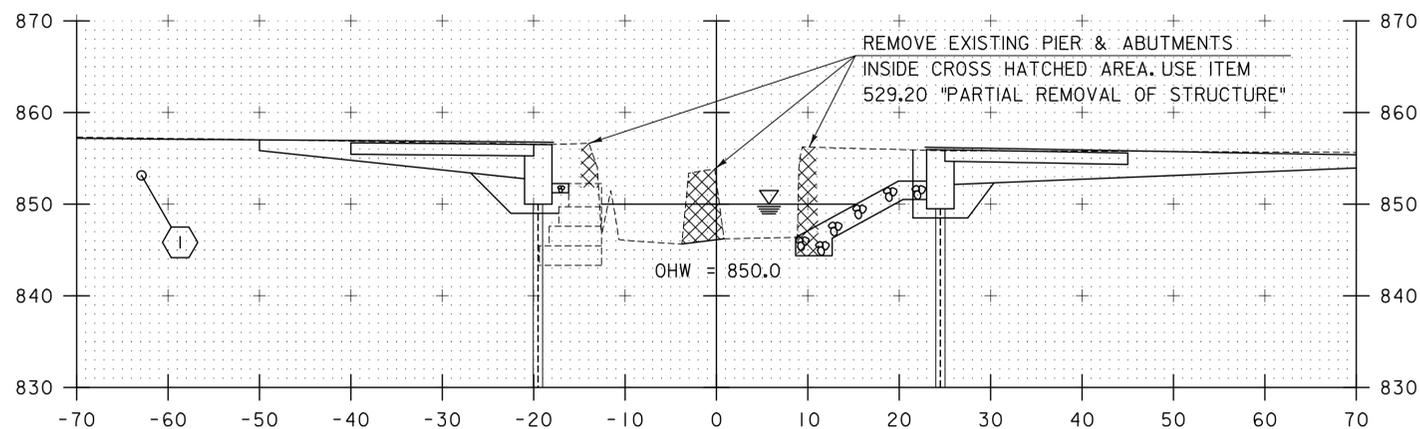
51+10



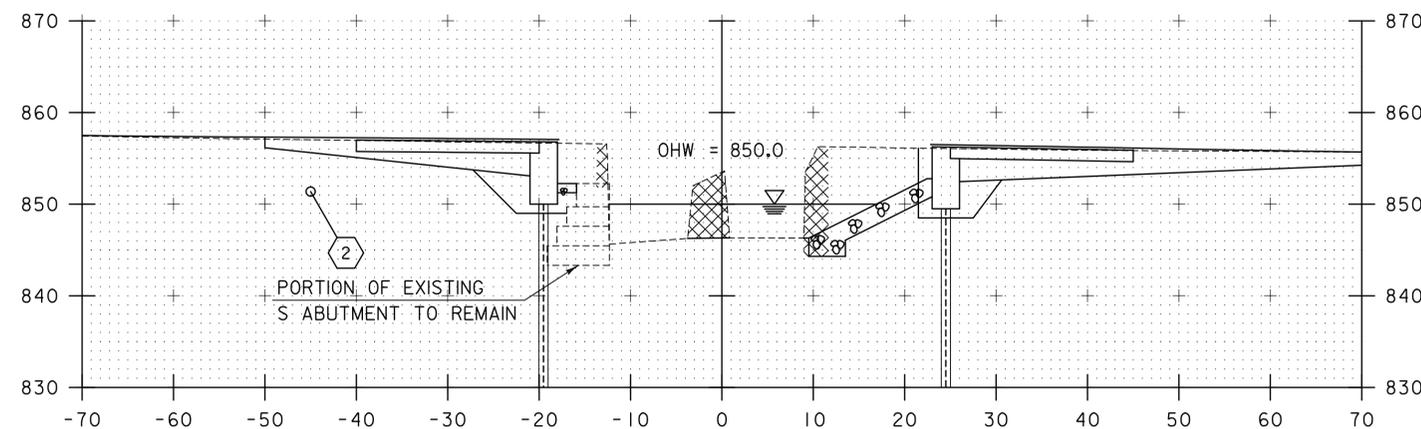
50+90



51+05



50+85



51+00

STATION 50+84.10 LT  
BEGIN STONE FILL, TYPE I

STA. 50+85 TO STA. 51+10

NOTE: GRANITE BLOCKS COMPRISING THE EXISTING SOUTHERN ABUTMENT SHOWN HEREIN ARE GRAPHICAL ONLY. NO ASSURANCE IS GIVEN TO THE DEPTH, WIDTH, OR HEIGHT OF GRANITE BLOCKS.

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

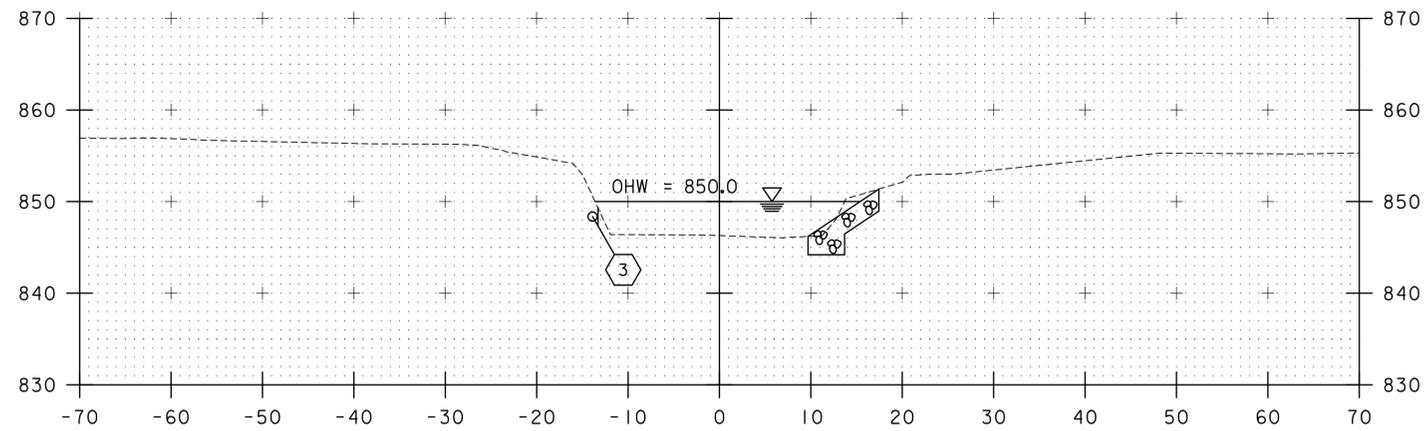
TYLIN INTERNATIONAL

FOR REVIEW ONLY  
NOT FOR CONSTRUCTION

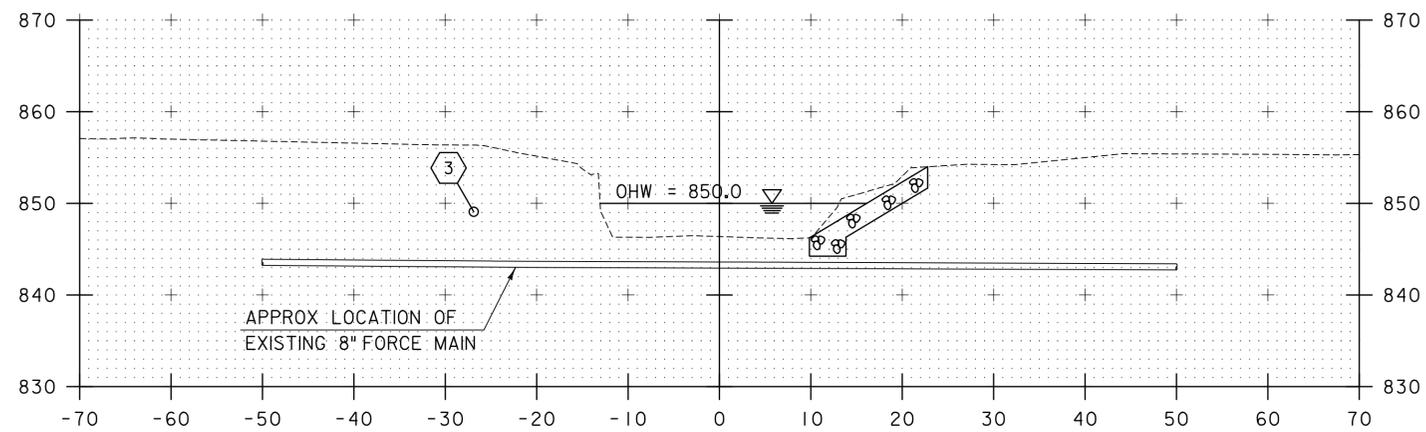
PROJECT NAME: BARTON VILLAGE  
PROJECT NUMBER: BHF 0286(5)

FILE NAME: z12j172xschnl.dgn  
PROJECT LEADER: J. OLUND  
DESIGNED BY: J. OLUND  
CHANNEL CROSS SECTIONS 2

PLOT DATE: 8/8/2014  
DRAWN BY: S. MORGAN  
CHECKED BY: T. POULIN  
SHEET 31 OF 39



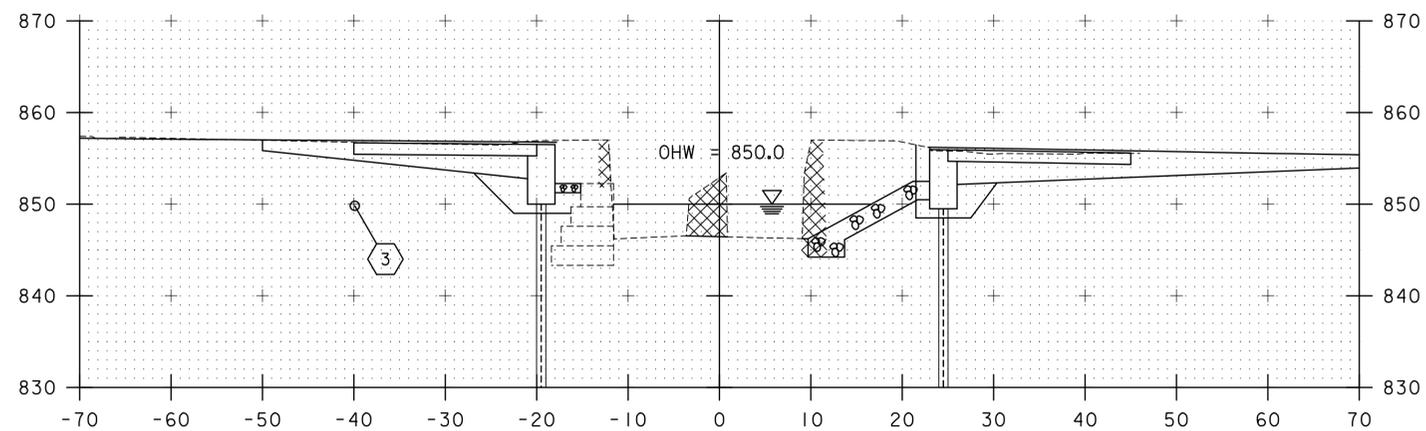
51+25



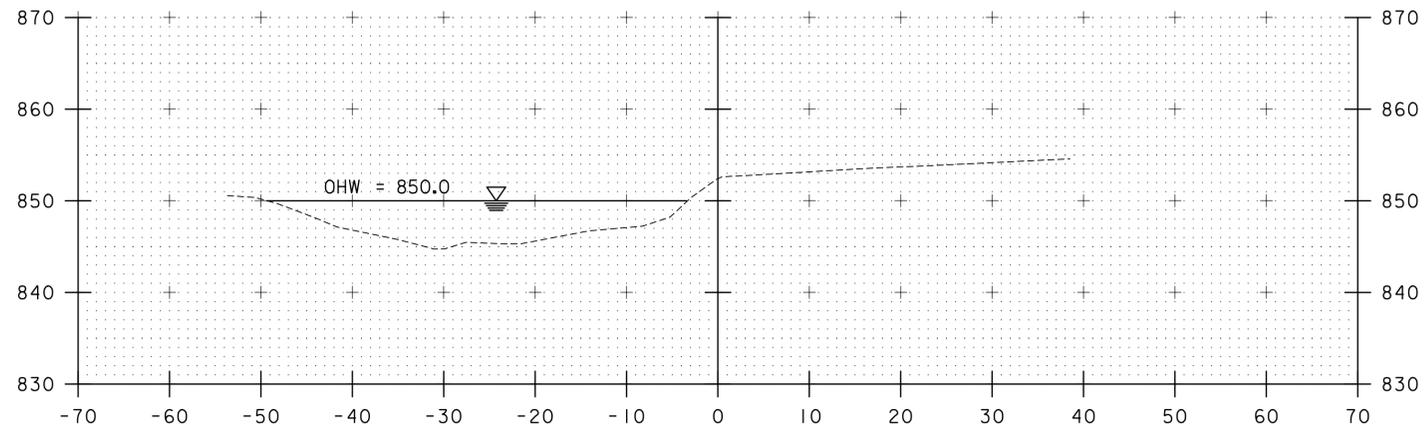
APPROX LOCATION OF  
EXISTING 8" FORCE MAIN

STATION 51+15.89 LT  
END STONE FILL, TYPE I

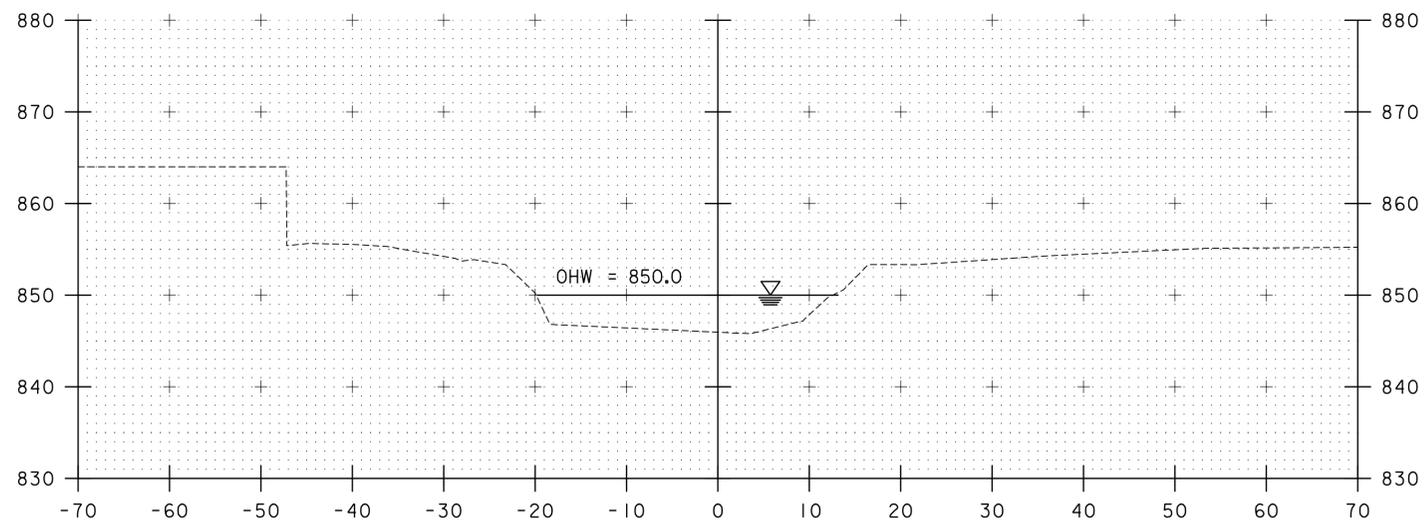
51+20



51+15



51+75



STATION 50+30.40 RT  
END UNCLASSIFIED CHANNEL EXCAVATION  
END GEOTEXTILE UNDER STONE FILL  
END STONE FILL, TYPE II

51+50

STA. 51+15 TO STA. 51+75

NOTE: GRANITE BLOCKS COMPRISING THE EXISTING SOUTHERN  
ABUTMENT SHOWN HEREIN ARE GRAPHICAL ONLY. NO ASSURANCE  
IS GIVEN TO THE DEPTH, WIDTH, OR HEIGHT OF GRANITE BLOCKS.

FOR REVIEW ONLY  
NOT FOR CONSTRUCTION

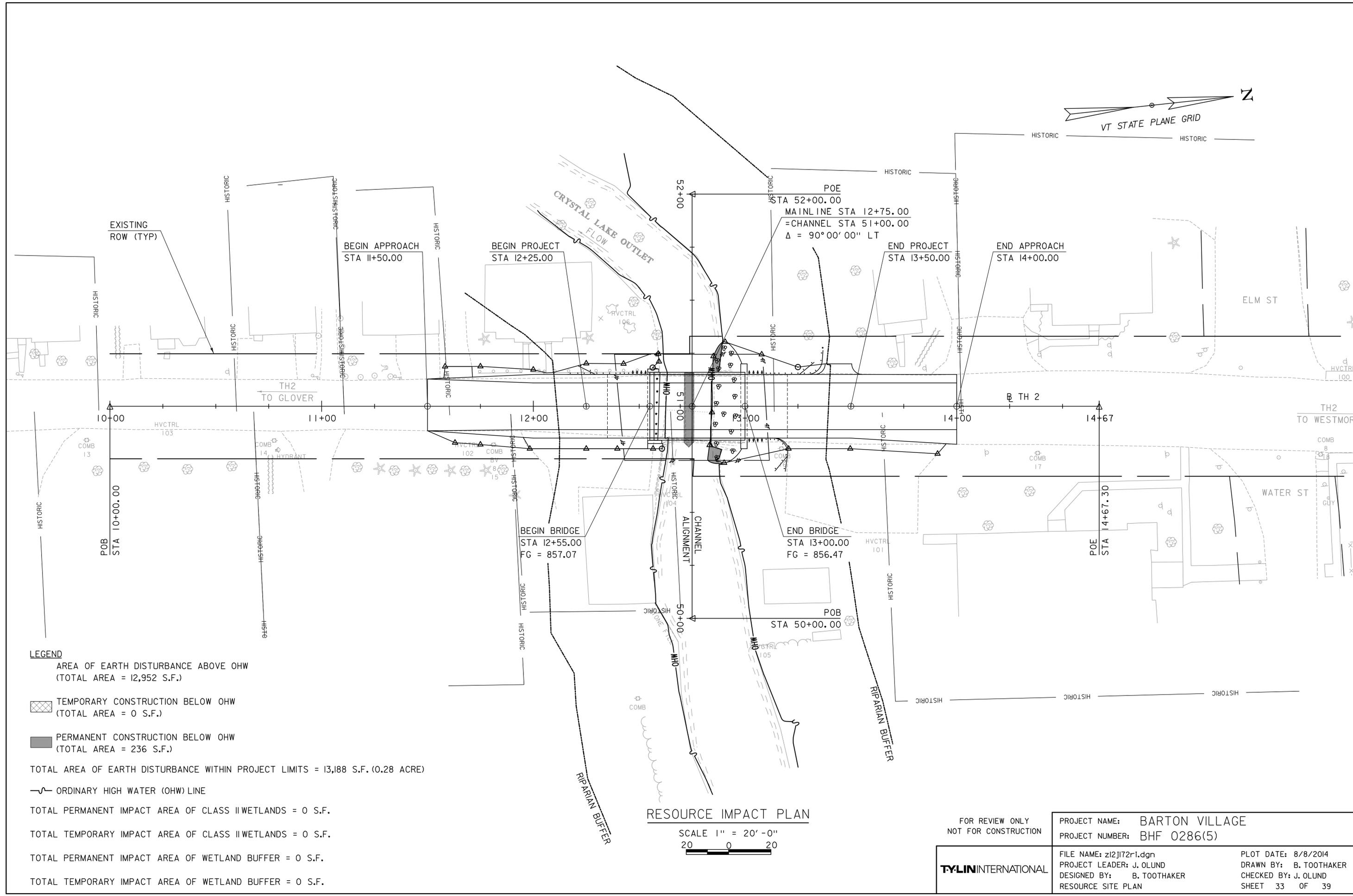
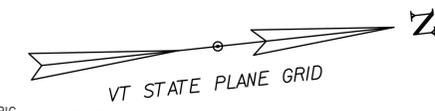
SCALE 1" = 10' - 0"  
10 0 10

TYLIN INTERNATIONAL

PROJECT NAME: BARTON VILLAGE  
PROJECT NUMBER: BHF 0286(5)

FILE NAME: z12j172xschnl.dgn  
PROJECT LEADER: J. OLUND  
DESIGNED BY: J. OLUND  
CHANNEL CROSS SECTIONS 3

PLOT DATE: 8/8/2014  
DRAWN BY: S. MORGAN  
CHECKED BY: T. POULIN  
SHEET 32 OF 39



- LEGEND**
- AREA OF EARTH DISTURBANCE ABOVE OHW  
(TOTAL AREA = 12,952 S.F.)
  - TEMPORARY CONSTRUCTION BELOW OHW  
(TOTAL AREA = 0 S.F.)
  - PERMANENT CONSTRUCTION BELOW OHW  
(TOTAL AREA = 236 S.F.)

TOTAL AREA OF EARTH DISTURBANCE WITHIN PROJECT LIMITS = 13,188 S.F. (0.28 ACRE)

— ORDINARY HIGH WATER (OHW) LINE

TOTAL PERMANENT IMPACT AREA OF CLASS II WETLANDS = 0 S.F.

TOTAL TEMPORARY IMPACT AREA OF CLASS II WETLANDS = 0 S.F.

TOTAL PERMANENT IMPACT AREA OF WETLAND BUFFER = 0 S.F.

TOTAL TEMPORARY IMPACT AREA OF WETLAND BUFFER = 0 S.F.

**RESOURCE IMPACT PLAN**

SCALE 1" = 20'-0"

20 0 20

FOR REVIEW ONLY  
NOT FOR CONSTRUCTION

PROJECT NAME: BARTON VILLAGE  
PROJECT NUMBER: BHF 0286(5)

**TYLIN** INTERNATIONAL

FILE NAME: z12j172r1.dgn  
PROJECT LEADER: J. OLUND  
DESIGNED BY: B. TOOTHAKER  
RESOURCE SITE PLAN

PLOT DATE: 8/8/2014  
DRAWN BY: B. TOOTHAKER  
CHECKED BY: J. OLUND  
SHEET 33 OF 39

# EPSC PLAN NARRATIVE

## 1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF BRIDGE 20 ON TH-2 IN BARTON VILLAGE. BRIDGE 20 WILL BE REPLACED WITH EIGHT PRESTRESSED CONCRETE SOLID SLAB BEAMS, SPANNING 44 FEET OVER THE CRYSTAL LAKE OUTLET, ON NEW ABUTMENTS ALONG THE SAME ALIGNMENT. BRIDGE 20 IS APPROXIMATELY 250 FT SOUTH OF THE INTERSECTION OF ELM ST (TH-5), CHURCH ST (TH-2), WATER ST (TH-5), AND GLOVER RD (TH-2). WORK WILL INVOLVE REMOVAL OF EXISTING BRIDGE STRUCTURE, CONSTRUCTION OF NEW ABUTMENTS AND CONSTRUCTION OF BRIDGE SUPERSTRUCTURE. BRIDGE REPLACEMENT WILL INCLUDE TEMPORARY DETOUR, CHANNEL RECONSTRUCTION, AND APPROACH WORK.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA AS SHOWN ON THE ATTACHED EPSC PLAN. THE AREA OF DISTURBANCE DOES NOT INCLUDE WASTE, BORROW OR STAGING AREAS. THE CONTRACTOR IS RESPONSIBLE FOR WASTE, BORROW, AND STAGING AREAS, AS WELL AS THE MATERIAL STOCKPILE, REFUELING AND MAINTENANCE AREAS. A MAP SHALL BE ATTACHED IF NECESSARY.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.28 ACRES. IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE CONSTRUCTION SEASON.

## 1.2 SITE INVENTORY

### 1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE AREA IS GENERALLY FLAT GROUND ON DEVELOPED LAND. TH-2 GENERALLY RUNS SOUTH TO NORTH. ALL TOWN HIGHWAY ROADS WITHIN OR NEAR THE PROJECT LIMITS ARE BITUMINOUS CONCRETE.

WITHIN THE PROJECT SITE ALONG GLOVER RD (TH-2), THERE ARE TWO GRAVEL DRIVES AND A GRAVEL PARKING AREA FOR A CHURCH. THERE ARE RESIDENCES AND/OR STRUCTURES ON BOTH SIDES OF THE STREET ALONG THE ENTIRE PROJECT.

### 1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

THE CRYSTAL LAKE OUTLET IS THE ONLY WATER SOURCE ON THE PROJECT. THE OUTLET IS CLASSIFIED AS PERENNIAL, SINUOUS, AND ALLUVIAL. THE STREAM BED CONSISTS OF GRAVEL AND COBBLES AND LIKELY CONTAINS SAND AND SILT AT OR NEAR THE SURFACE. THE DRAINAGE AREA IS 23.8 SQUARE MILES. THERE ARE A NUMBER OF DROP INLETS ON SITE DRAINING FROM THE ROADWAY TO THE OUTLET. FLOWS TO THE SITE ARE REDUCED BY STORAGE IN CRYSTAL LAKE UPSTREAM. WATER MAY BACK UP THROUGH THE SITE FROM THE BARTON RIVER DURING HIGH WATER.

### 1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF GRASS AND BRUSH. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY REPLACEMENT OF THE EXISTING BRIDGE. UPON PROJECT COMPLETION, THE CHANNEL WILL BE ARMORED WITH STONE FILL, TYPE II AS SPECIFIED ON THE PLANS. DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

### 1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF ORLEANS, VERMONT. SOILS ON THE PROJECT SITE ARE 104B URBAN LAND-ADAMS-NICHOLVILLE COMPLEX, 15% TO 25% SLOPES, "K FACTOR" = 0.49.

NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING:

0.0-0.23 - LOW EROSION POTENTIAL  
0.24-0.36 - MODERATE EROSION POTENTIAL  
0.37 AND HIGHER - HIGH EROSION POTENTIAL

### 1.2.5 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO  
HISTORICAL OR ARCHEOLOGICAL AREAS: YES (MULTIPLE AREAS - SEE EPSC - EXISTING CONDITIONS LAYOUT FOR LOCATIONS)  
PRIME AGRICULTURAL LAND: NO  
THREATENED AND ENDANGERED SPECIES: NO  
WATER RESOURCE: CRYSTAL LAKE OUTLET  
WETLANDS: NO

## 1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES. SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN ONE OR MORE ACRES OF EARTH DISTURBANCE OR SHOULD THE PROJECT BECOME PART OF A LARGER PLAN OF DEVELOPMENT, THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

## 1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE PRINCIPLES OUTLINED IN THIS NARRATIVE CONSIST OF APPLYING MEASURES THROUGHOUT CONSTRUCTION OF THE PROJECT IN ORDER TO MINIMIZE SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION PRACTICES. THEY HAVE BEEN PROPOSED BY THE DESIGNER AS A BASIS FOR PROTECTING RESOURCES AND WILL NEED TO BE BUILT UPON BASED ON THE SPECIFIC MEANS AND METHODS OF THE CONTRACTOR. REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR SPECIFIC GUIDANCE AND CONSTRUCTION DETAILING.

ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE DISPOSED OF AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

### 1.4.1 MARK SITE BOUNDARIES

SITE BOUNDARIES AND AREAS CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED.

PROJECT DEMARCATION FENCING (PDF) SHALL BE USED TO PHYSICALLY MARK SITE BOUNDARIES.

### 1.4.2 LIMIT DISTURBANCE AREA

PREVENTING INITIAL SOIL EROSION BY MINIMIZING THE EXPOSED AREA IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. EARTH DISTURBANCE CAN BE MINIMIZED THROUGH CONSTRUCTION PHASING BY ONLY OPENING UP EARTH AS NECESSARY. THIS CAN LIMIT THE AREA THAT WILL BE DISTURBED AND EXPOSED TO EROSION. EMPLOY TEMPORARY CONSTRUCTION STABILIZATION PRACTICES IN INCREMENTAL STAGES AS PHASES CHANGE. FOR PROJECTS WHICH FALL UNDER THE CONSTRUCTION GENERAL PERMIT, ONLY THE ACREAGE LISTED ON THE PERMIT AUTHORIZATION MAY BE EXPOSED AT ANY GIVEN TIME.

MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHEREVER POSSIBLE.

### 1.4.3 SITE ENTRANCE/EXIT STABILIZATION

TRACKING OF SEDIMENT ONTO PUBLIC HIGHWAYS SHALL BE MINIMIZED TO REDUCE THE POTENTIAL FOR RUNOFF ENTERING RECEIVING WATERS. INSTALLATION SHALL COINCIDE WITH THE CONTRACTORS PROGRESS SCHEDULE.

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLAN AND ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES.

### 1.4.4 INSTALL SEDIMENT BARRIERS

SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THEY SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK.

SILT FENCE WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN AND DETAIL SHEETS.

FILTER CURTAIN WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN AND DETAIL SHEETS.

DROP INLET PROTECTION WILL BE MAINTAINED THROUGH THE DURATION OF CONSTRUCTION AS PROPOSED ON THE EPSC PLAN AND DETAIL SHEETS

### 1.4.5 DIVERT UPLAND RUNOFF

DIVERSIONARY MEASURES SHALL BE USED TO INTERCEPT RUNOFF FROM ABOVE THE CONSTRUCTION AND DIRECT IT AROUND THE DISTURBED AREA SO THAT CLEAN WATER DOES NOT BECOME MUDDIED WHILE TRAVELING OVER EXPOSED SOILS ON THE CONSTRUCTION SITE.

THE PROJECT AREA IS RELATIVELY FLAT; THEREFORE DIVERSION MEASURES ARE NOT ANTICIPATED TO BE NEEDED.

### 1.4.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK STRUCTURES SHALL BE UTILIZED TO REDUCE THE VELOCITY, AND THUS THE EROSION POTENTIAL, OF CONCENTRATED FLOW IN CHANNELS.

THE PROJECT AREA IS RELATIVELY FLAT; THEREFORE CHECK STRUCTURES ARE NOT ANTICIPATED TO BE NEEDED.

### 1.4.7 CONSTRUCT PERMANENT CONTROLS

PERMANENT STORMWATER TREATMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE PLANS.

SEED AND MULCH WILL BE USED AS PERMANENT CONTROLS TO STABILIZE EXPOSED SOIL. STONE FILL WILL BE USED TO STABILIZE THE SLOPES AND STREAMBED AROUND ABUTMENTS.

### 1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY STABILIZATION IN PLACE WITHIN 48 HOURS OF DISTURBANCE.

THE USE OF SURFACE ROUGHENING OR TEMPORARY EROSION MATTING IS NOT ANTICIPATED FOR THIS PROJECT.

THE FORECAST OF RAINFALL EVENTS SHALL TRIGGER IMMEDIATE PROTECTION OF EXPOSED SOILS.

### 1.4.9 WINTER STABILIZATION

VARIOUS MEASURES SPECIFIC TO WINTER MAY BE NECESSARY SHOULD THE PROJECT EXTEND INTO WINTER (OCTOBER 15 THROUGH APRIL 15). REFER TO THE LOW RISK SITE HANDBOOK FOR GUIDANCE.

SHOULD EARTH DISTURBANCE BE PERFORMED OUTSIDE THE CONSTRUCTION SEASON, A WINTER EROSION AND SEDIMENT CONTROL PLAN DESCRIBING ALTERNATIVE STABILIZATION METHODS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO AUGUST 15 FOR APPROVAL.

### 1.4.10 STABILIZE SOIL AT FINAL GRADE

EXPOSED SOIL MUST BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

SEED, MULCH, FERTILIZER AND LIME SHALL BE USED TO ESTABLISH PERMANENT VEGETATION.

THE USE OF PERMANENT EROSION CONTROL MATTING IS NOT ANTICIPATED FOR THIS PROJECT.

### 1.4.11 DE-WATERING ACTIVITIES

DISCHARGE FROM DEWATERING ACTIVITIES THAT FLOWS OFF OF THE CONSTRUCTION SITE MUST NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF THE VERMONT WATER QUALITY STANDARDS.

TREATMENT OF DEWATERING COFFERDAM IS NOT ANTICIPATED.

### 1.4.12 INSPECT YOUR SITE

INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS.

## 1.5 SEQUENCE AND STAGING

THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

### 1.5.1 CONSTRUCTION SEQUENCE

### 1.5.2 OFF-SITE ACTIVITIES

IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SPECIFICATION 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

WASTE, BORROW, AND STAGING AREAS MUST BE APPROVED BY THE VTRANS ENVIRONMENTAL SECTION.

### 1.5.3 UPDATES

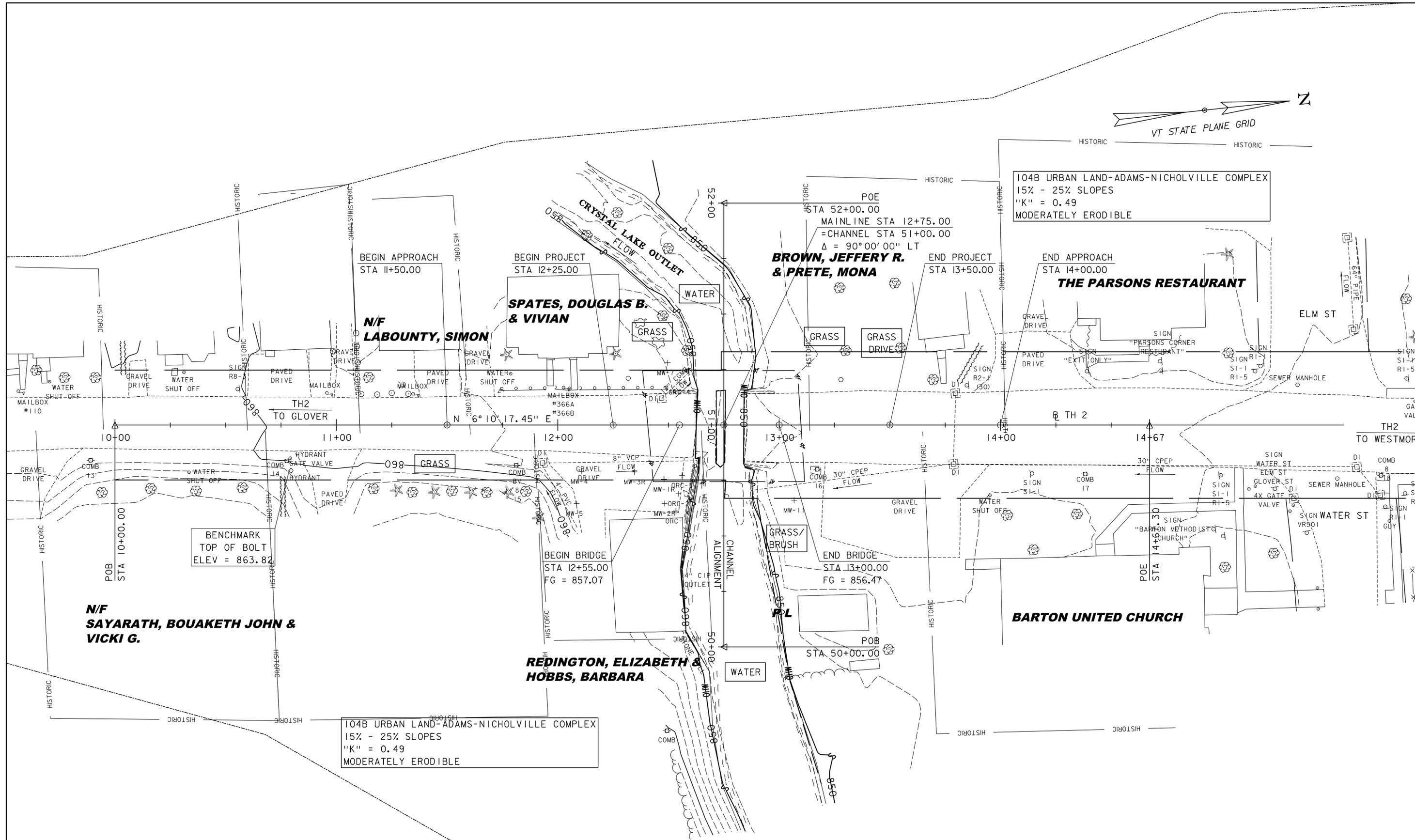
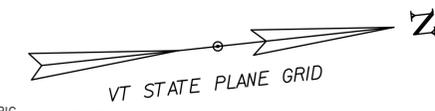
FOR REVIEW ONLY  
NOT FOR CONSTRUCTION

**TYLIN**INTERNATIONAL

PROJECT NAME: BARTON VILLAGE  
PROJECT NUMBER: BHF 0286(5)

FILE NAME: z12j172epschnr.dgn  
PROJECT LEADER: J. OLUND  
DESIGNED BY: B. TOOTHAKER  
EPSC NARRATIVE

PLOT DATE: 8/8/2014  
DRAWN BY: B. TOOTHAKER  
CHECKED BY: J. OLUND  
SHEET 34 OF 39



104B URBAN LAND-ADAMS-NICHOLVILLE COMPLEX  
 15% - 25% SLOPES  
 "K" = 0.49  
 MODERATELY ERODIBLE

BENCHMARK  
 TOP OF BOLT  
 ELEV = 863.82

104B URBAN LAND-ADAMS-NICHOLVILLE COMPLEX  
 15% - 25% SLOPES  
 "K" = 0.49  
 MODERATELY ERODIBLE

EPSC - EXISTING SITE PLAN

SCALE 1" = 20'-0"  
 20 0 20

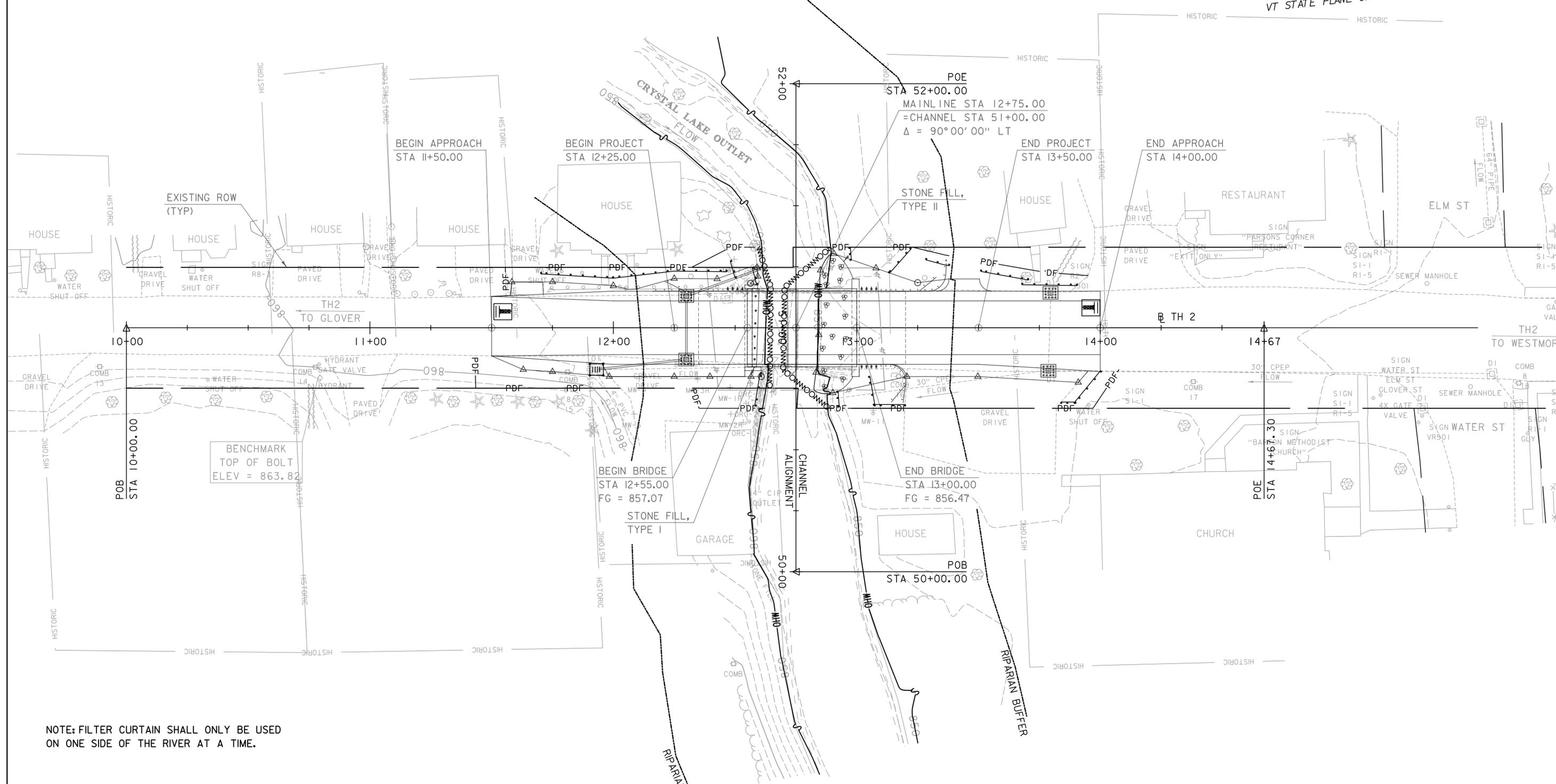
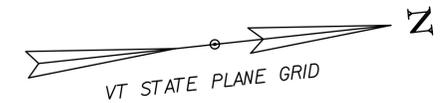
FOR REVIEW ONLY  
 NOT FOR CONSTRUCTION

**TYLIN**INTERNATIONAL

PROJECT NAME: BARTON VILLAGE  
 PROJECT NUMBER: BHF 0286(5)

FILE NAME: z12j172ero.dgn  
 PROJECT LEADER: J. OLUND  
 DESIGNED BY: J. OLUND  
 EPSC EXISTING SITE PLAN

PLOT DATE: 8/8/2014  
 DRAWN BY: S. MORGAN  
 CHECKED BY: D. BRYANT  
 SHEET 35 OF 39



NOTE: FILTER CURTAIN SHALL ONLY BE USED ON ONE SIDE OF THE RIVER AT A TIME.

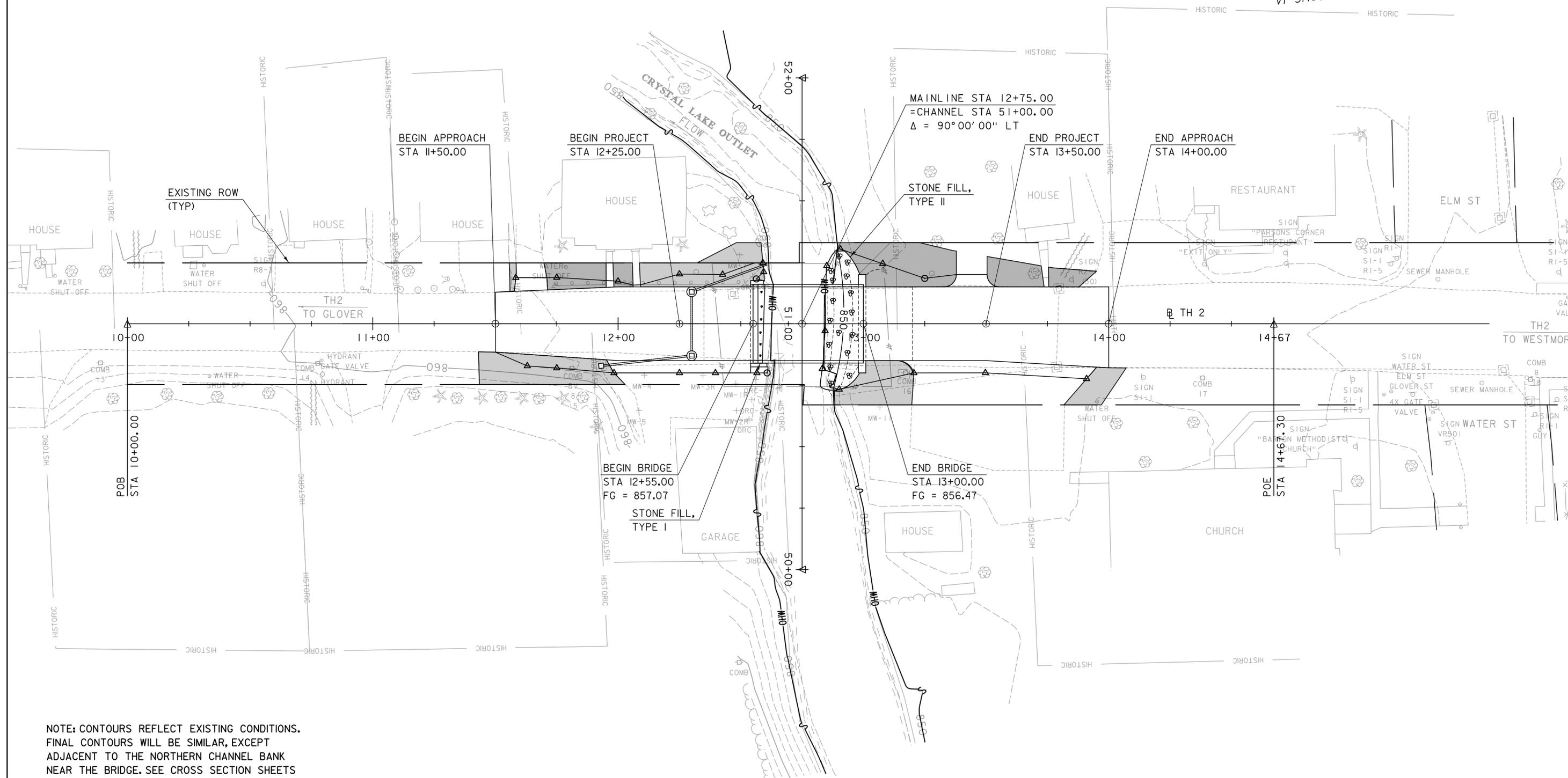
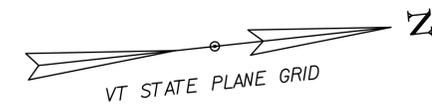
EPSC - CONSTRUCTION SITE PLAN

SCALE 1" = 20'-0"  
 20 0 20

FOR REVIEW ONLY  
 NOT FOR CONSTRUCTION



PROJECT NAME:	BARTON VILLAGE
PROJECT NUMBER:	BHF 0286(5)
FILE NAME:	z12j172ero.dgn
PROJECT LEADER:	J. OLUND
DESIGNED BY:	B. TOOTHAKER
EPSC CONSTRUCTION SITE PLAN	
PLOT DATE:	8/8/2014
DRAWN BY:	B. TOOTHAKER
CHECKED BY:	J. OLUND
SHEET	36 OF 39



NOTE: CONTOURS REFLECT EXISTING CONDITIONS.  
 FINAL CONTOURS WILL BE SIMILAR, EXCEPT  
 ADJACENT TO THE NORTHERN CHANNEL BANK  
 NEAR THE BRIDGE. SEE CROSS SECTION SHEETS  
 FOR FINAL GRADES.

EPSC - FINAL SITE PLAN

SCALE 1" = 20'-0"  
 20 0 20

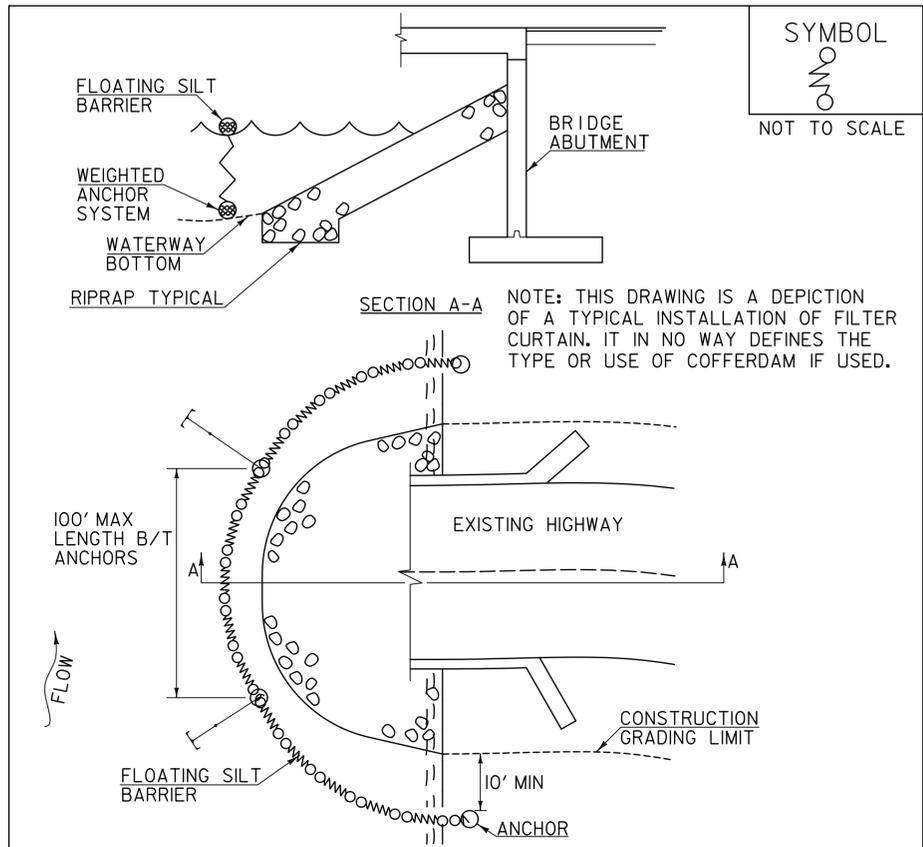
FOR REVIEW ONLY  
 NOT FOR CONSTRUCTION

TYLIN INTERNATIONAL

PROJECT NAME: BARTON VILLAGE  
 PROJECT NUMBER: BHF 0286(5)

FILE NAME: z12j172ero.dgn  
 PROJECT LEADER: J. OLUND  
 DESIGNED BY: B. TOOTHAKER  
 EPSC FINAL SITE PLAN

PLOT DATE: 8/8/2014  
 DRAWN BY: B. TOOTHAKER  
 CHECKED BY: J. OLUND  
 SHEET 37 OF 39



SYMBOL  
  
 NOT TO SCALE

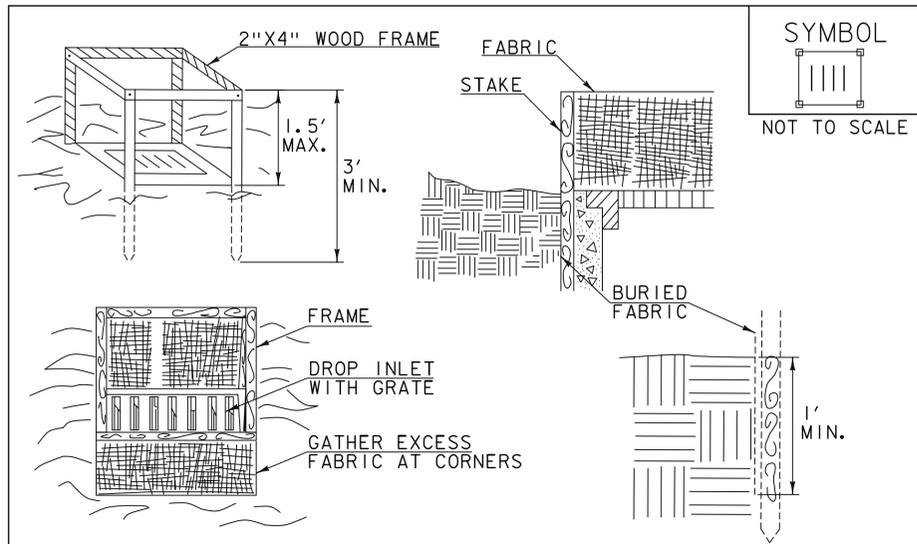
**CONSTRUCTION SPECIFICATIONS**

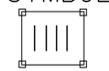
1. FILTER CURTAIN SHALL NOT BE PLACED ACROSS A FLOWING WATERWAY, OR IN A WATERWAY WITH STREAM VELOCITIES GREATER THAN 1.5 FEET/SECOND.
2. MAXIMUM 100' LENGTH BETWEEN ANCHORS.
3. LAST SECTION SHALL TERMINATE A MINIMUM OF 10' BEYOND LIMIT OF DISTURBANCE.
4. THE WEIGHTED ANCHOR SYSTEM SHALL BE A TYPE WHICH ALLOWS THE CURTAIN TO CONFORM TO THE BOTTOM OF THE WATERWAY.
5. THE CURTAIN SHALL BE REMOVED BY SLOWLY PULLING TOWARD THE SHORE MINIMIZING THE ESCAPE OF SEDIMENTS INTO WATERWAY.

**FILTER CURTAIN**

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF
SEPTEMBER 4, 2009	WHF

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 FOR GEOTEXTILE FOR FILTER CURTAIN (PAY ITEM 649.6).



SYMBOL  
  
 NOT TO SCALE

**CONSTRUCTION SPECIFICATIONS**

1. FILTER FABRIC SHALL HAVE AN APPARENT OPENING SIZE OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2" x 4" WOOD OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 3'.
4. SPACE STAKES EVENLY AROUND INLET 3' APART AND DRIVE A MINIMUM 18" DEEP. SPANS GREATER THAN 3' MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1' MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.
7. MAXIMUM DRAINAGE AREA 1 ACRE

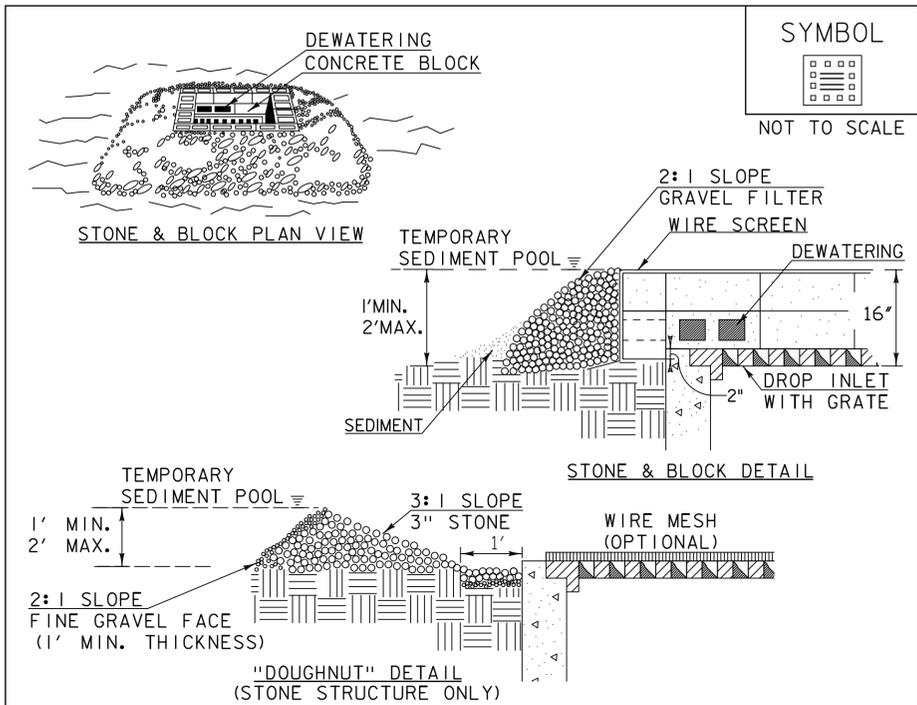
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
 ORIGINALLY DEVELOPED BY USDA-NRCS  
 VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**FILTER FABRIC  
 DROP INLET  
 PROTECTION**

NOTES:  
 REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006-" FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR INLET PROTECTION DEVICE, TYPE 1(PAY ITEM 653.40).

REVISIONS	
MARCH 7, 2008	WHF
JANUARY 13, 2009	WHF



SYMBOL  
  
 NOT TO SCALE

**CONSTRUCTION SPECIFICATIONS**

1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE FOR DEWATERING. FOUNDATION SHALL BE 2" MINIMUM BELOW REST OF INLET AND BLOCKS SHALL BE PLACED AGAINST INLET FOR SUPPORT.
2. HARDWARE CLOTH OR 1/2" WIRE MESH SHALL BE PLACED OVER BLOCK OPENINGS TO SUPPORT STONE.
3. USE CLEAN STONE OR GRAVEL 1/2" - 3/4" IN DIAMETER PLACED 2" BELOW TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER.
4. FOR STONE STRUCTURES ONLY, A 1' THICK LAYER OF THE FILTER STONE WILL BE PLACED AGAINST THE 3" STONE AS SHOWN ON THE DRAWINGS.
5. MAXIMUM DRAINAGE AREA 1 ACRE

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
 ORIGINALLY DEVELOPED BY USDA-NRCS  
 VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**STONE & BLOCK DROP  
 INLET PROTECTION**

NOTES:  
 REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006-" FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR INLET PROTECTION DEVICE, TYPE 1(PAY ITEM 653.40).

REVISIONS	
MARCH 6, 2008	WHF
JANUARY 13, 2009	WHF

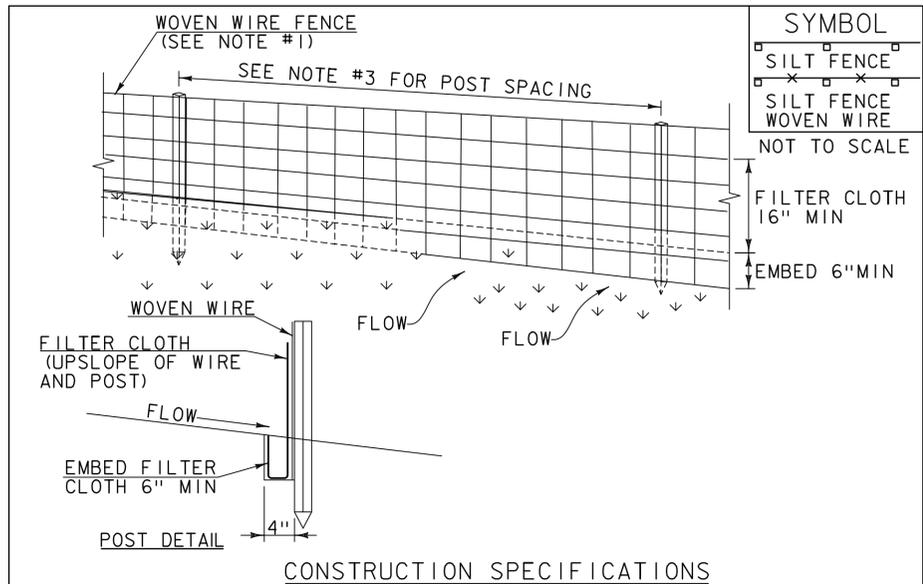
FOR REVIEW ONLY  
 NOT FOR CONSTRUCTION

PROJECT NAME: BARTON VILLAGE  
 PROJECT NUMBER: BHF 0286(5)

**TYLIN** INTERNATIONAL

FILE NAME: z12j172epsdet.dgn  
 PROJECT LEADER: J. OLUND  
 DESIGNED BY: B. TOOTHAKER  
 EPSC DETAIL SHEET 1

PLOT DATE: 8/8/2014  
 DRAWN BY: B. TOOTHAKER  
 CHECKED BY: J. OLUND  
 SHEET 38 OF 39



- CONSTRUCTION SPECIFICATIONS**
- WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
  - FILTER CLOTH SHALL BE EITHER FILTER X, MIRAF1100X, STABILINKA T140N OR APPROVED EQUIVALENT.
  - POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.
  - WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
  - WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
  - MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

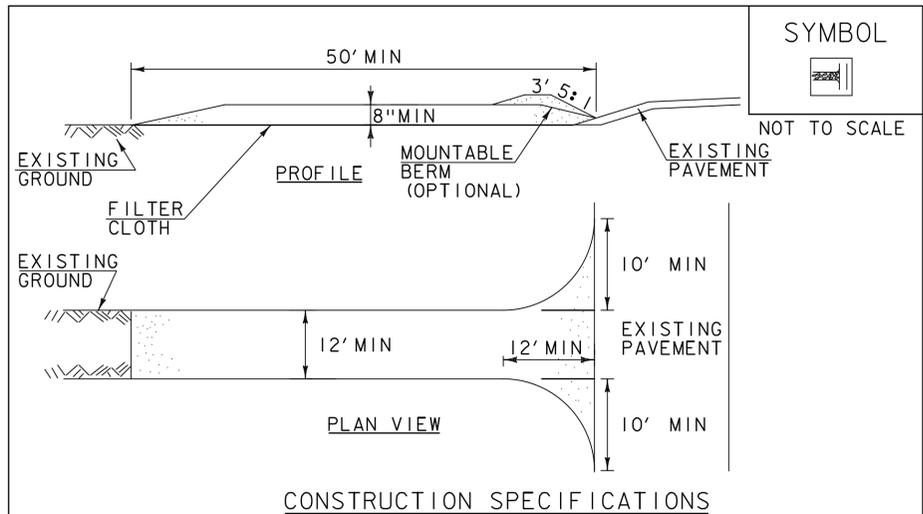
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
ORIGINALLY DEVELOPED BY USDA-NRCS  
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**SILT FENCE**

NOTES:  
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006-" FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

REVISIONS	
MARCH 21, 2008	WHF
DECEMBER 11, 2008	WHF
JANUARY 13, 2009	WHF

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 AND AS SHOWN IN THE PLANS FOR GEOTEXTILE FOR SILT FENCE (PAY ITEM 649.51) OR GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED (PAY ITEM 649.515).



- CONSTRUCTION SPECIFICATIONS**
- STONE SIZE- USE 1-4" STONE, RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
  - LENGTH- NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH APPLIES).
  - THICKNESS- NOT LESS THAN 8".
  - WIDTH- 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24' IF SINGLE ENTRANCE TO SITE.
  - GEOTEXTILE MUST BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
  - SURFACE WATER- ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
  - MAINTENANCE- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
  - WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
  - PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED ACCORDING TO PERMIT REQUIREMENTS.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
ORIGINALLY DEVELOPED BY USDA-NRCS  
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**STABILIZED CONSTRUCTION ENTRANCE**

NOTES:  
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006-" FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR VEHICLE TRACKING PAD (PAY ITEM 653.35) OR AS SPECIFIED IN THE CONTRACT.

**VAOT RURAL AREA MIX**

% WEIGHT	LBS/AC		NAME	GERM %	PURITY %
	BROADCAST	HYDROSEED			
37.5%	22.5	45	CREeping RED FESCUE	85%	98%
37.5%	22.5	45	TALL FESCUE	90%	95%
5.0%	3	6	RED TOP	90%	95%
15.0%	9	18	BIRDSFOOT TREFOIL	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	85%	95%
100%	60	120			

**VAOT URBAN AREA MIX**

% WEIGHT	LBS/AC		NAME	GERM %	PURITY %
	BROADCAST	HYDROSEED			
42.5%	34	68	CREeping RED FESCUE	85%	98%
10.0%	8	16	PERENNIAL RYE GRASS	90%	95%
42.5%	34	68	KENTUCKY BLUE GRASS	85%	85%
5.0%	4	8	ANNUAL RYE GRASS	85%	95%
100%	80	160			

**SOIL AMENDMENT GUIDANCE**

FERTILIZER		LIME	
BROADCAST	HYDROSEED	BROADCAST	HYDROSEED
10-20-10	FOLLOW	PELLETIZED	FOLLOW
500 LBS/AC	MANUFACTURER	2 TONS/AC	MANUFACTURER

- CONSTRUCTION GUIDANCE**
- RURAL SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
  - URBAN SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED LAWN AREAS DISTURBED BY THE CONTRACTOR.
  - ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
  - FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER
  - HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, ACHIEVE 90% GROUND COVER OR AS DIRECTED BY THE ENGINEER.
  - TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
  - HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED
  - TURF ESTABLISHMENT: PLACING SEED, FERTILIZER, LIME AND MULCH PRIOR TO SEPTEMBER 15 AND AFTER APRIL 15 CAN BETTER ENSURE A VIGOROUS GROWTH OF GRASS.

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

**TURF ESTABLISHMENT**

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651.15)

REVISIONS	
JUNE 23, 2009	WHF
JANUARY 15, 2010	WHF
FEBRUARY 16, 2011	WHF

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NOT FOR CONSTRUCTION

PROJECT NAME: BARTON VILLAGE  
PROJECT NUMBER: BHF 0286(5)

FILE NAME: z12j172epsdet.dgn  
PROJECT LEADER: J. OLUND  
DESIGNED BY: B. TOOTHAKER  
EPSC DETAIL SHEET 2

PLOT DATE: 8/8/2014  
DRAWN BY: B. TOOTHAKER  
CHECKED BY: J. OLUND  
SHEET 39 OF 39

**TYLIN INTERNATIONAL**