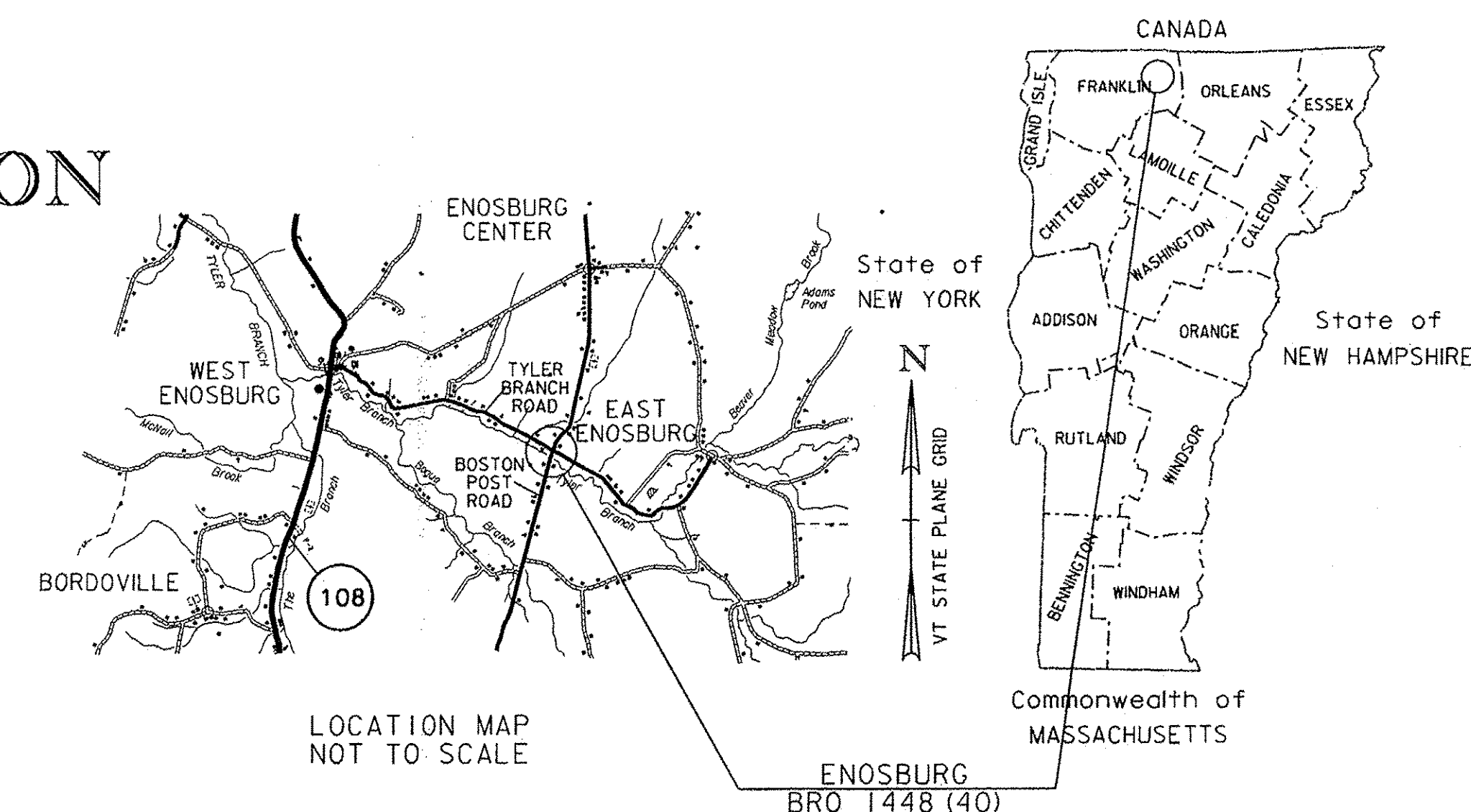


STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF ENOSBURG
COUNTY OF FRANKLIN
BOSTON POST ROAD T.H.2 CLASS 2 BRIDGE NO: 48

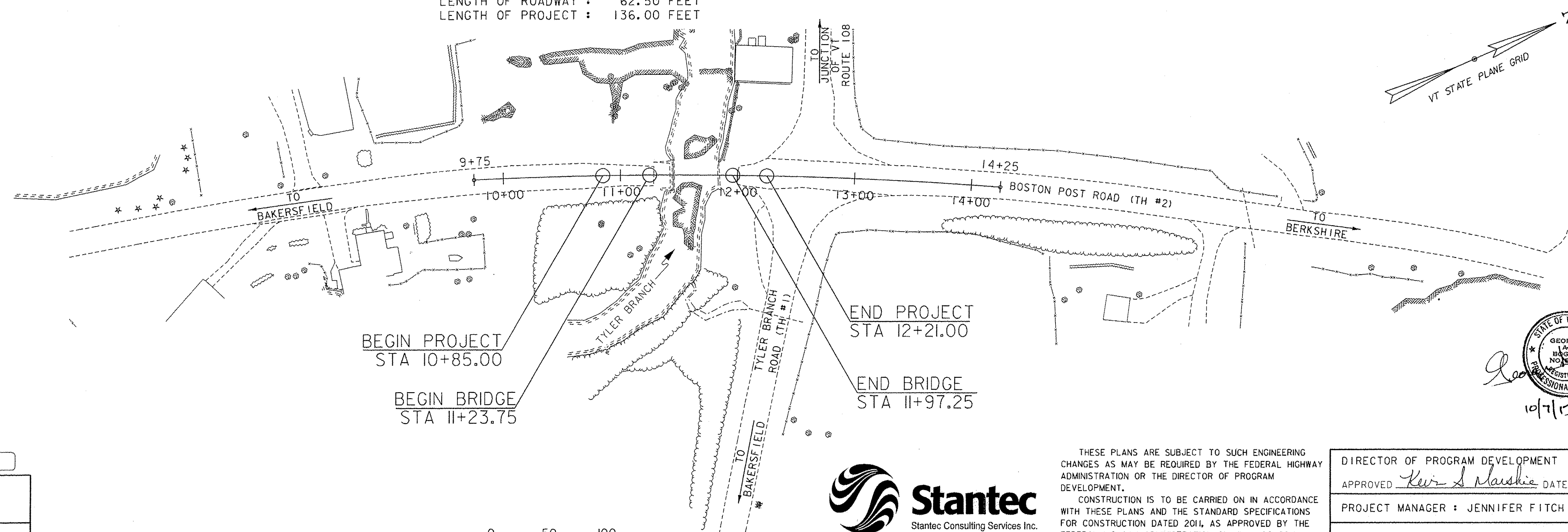


RECORD PLANS	
CONTRACTOR:	A.L. ST. ONGE CONTRACTOR, INC. - MONTGOMERY, VT
RESIDENT ENGINEER:	SCOTT WHEATLEY
CONSTRUCTION BEGAN:	JUNE 12, 2014
CONSTRUCTION COMPLETE:	SEPTEMBER 24, 2014
RECORD PLANS BY:	SCOTT WHEATLEY & JENNA HYDE
I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.	
BY	<i>Scott Wheatley</i> RESIDENT ENGINEER
DATE	1-6-2016
NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.	

PROJECT LOCATION : ON BOSTON POST ROAD (CLASS II TOWN HIGHWAY (TH #2), LOCAL ROAD)
APPROXIMATELY 100' SOUTH OF THE INTERSECTION WITH TYLER BRANCH ROAD (TH #1)

PROJECT DESCRIPTION : THE PROJECT SHALL CONSIST OF THE REPLACEMENT OF
THE EXISTING BRIDGE ALONG WITH RELATED CHANNEL
AND APPROACH WORK.

LENGTH OF STRUCTURE : 73.50 FEET
LENGTH OF ROADWAY : 62.50 FEET
LENGTH OF PROJECT : 136.00 FEET



QUALITY ASSURANCE PROGRAM: LEVEL 2	
SURVEYED BY : VTrans	
SURVEYED DATE : 04/12/2012	
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 1983 (2007)

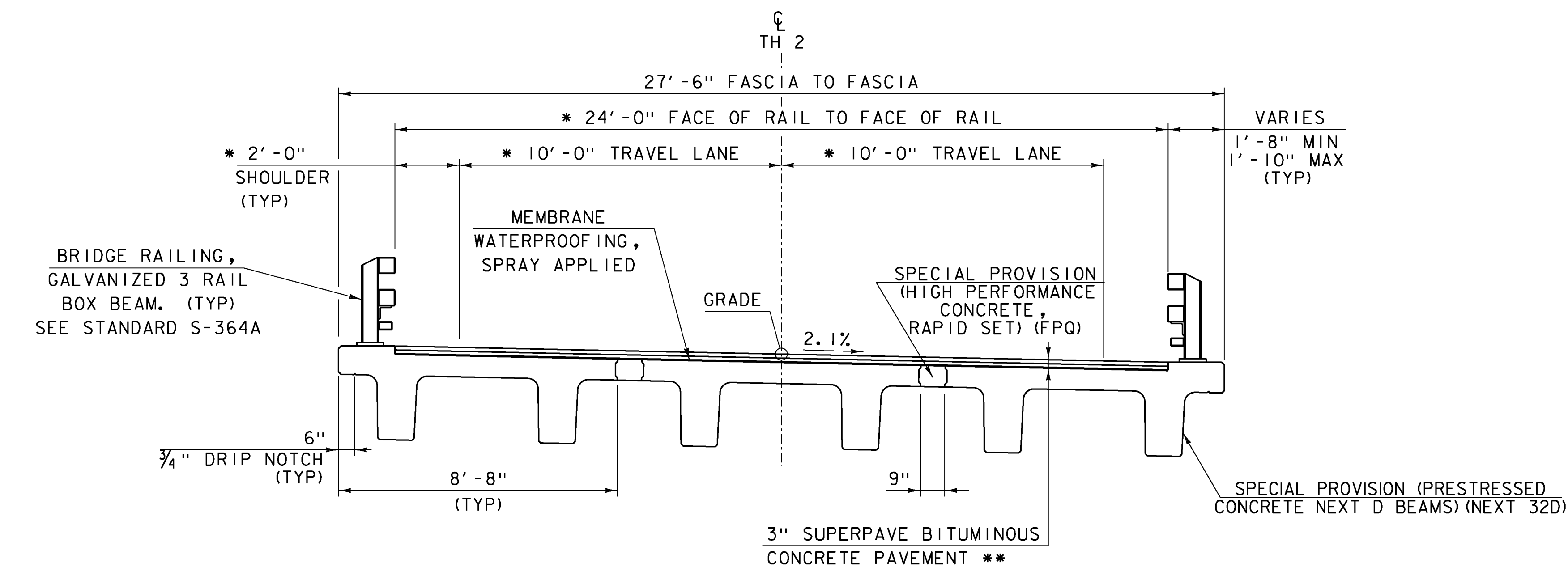
0 50 100
SCALE IN FEET



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

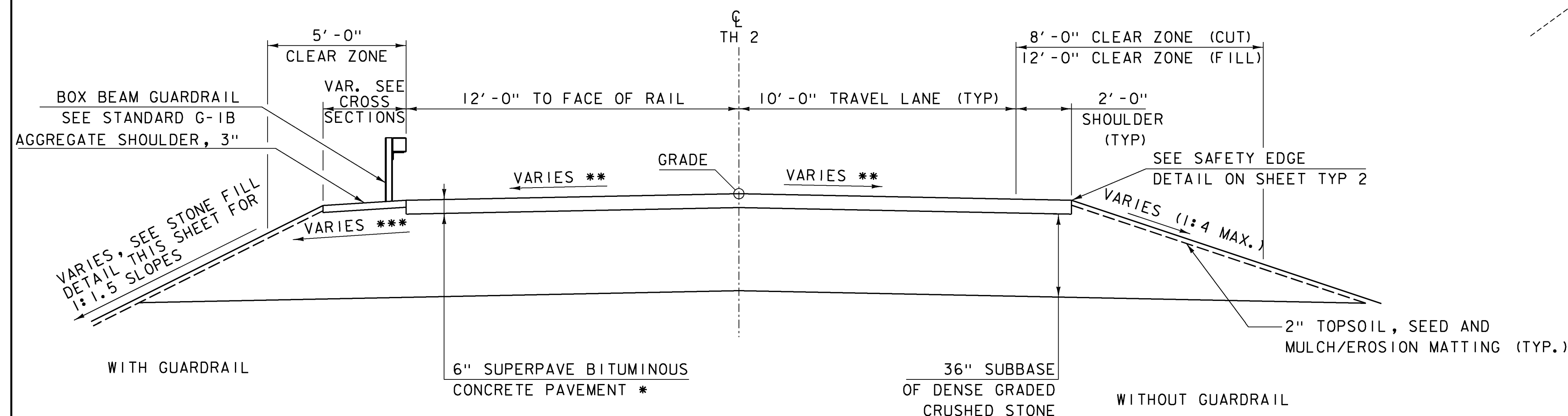
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JULY 20, 2011 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS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

DIRECTOR OF PROGRAM DEVELOPMENT	
APPROVED	<i>Kevin S. Marshie</i> DATE 10/8/13
PROJECT MANAGER : JENNIFER FITCH, PE	
PROJECT NAME : ENOSBURG	
PROJECT NUMBER : BRO 1448 (40)	
SHEET 1 OF 46 SHEETS	



* RADIAL DIMENSIONS
 ** 3" TYPE IVS (TWO 1 1/2" LIFTS)

BRIDGE TYPICAL SECTION
 SCALE 3/8" = 1'-0"



* 3" TYPE IVS (TWO 1 1/2" LIFTS) OVER
 3" TYPE IIS (ONE LIFT)

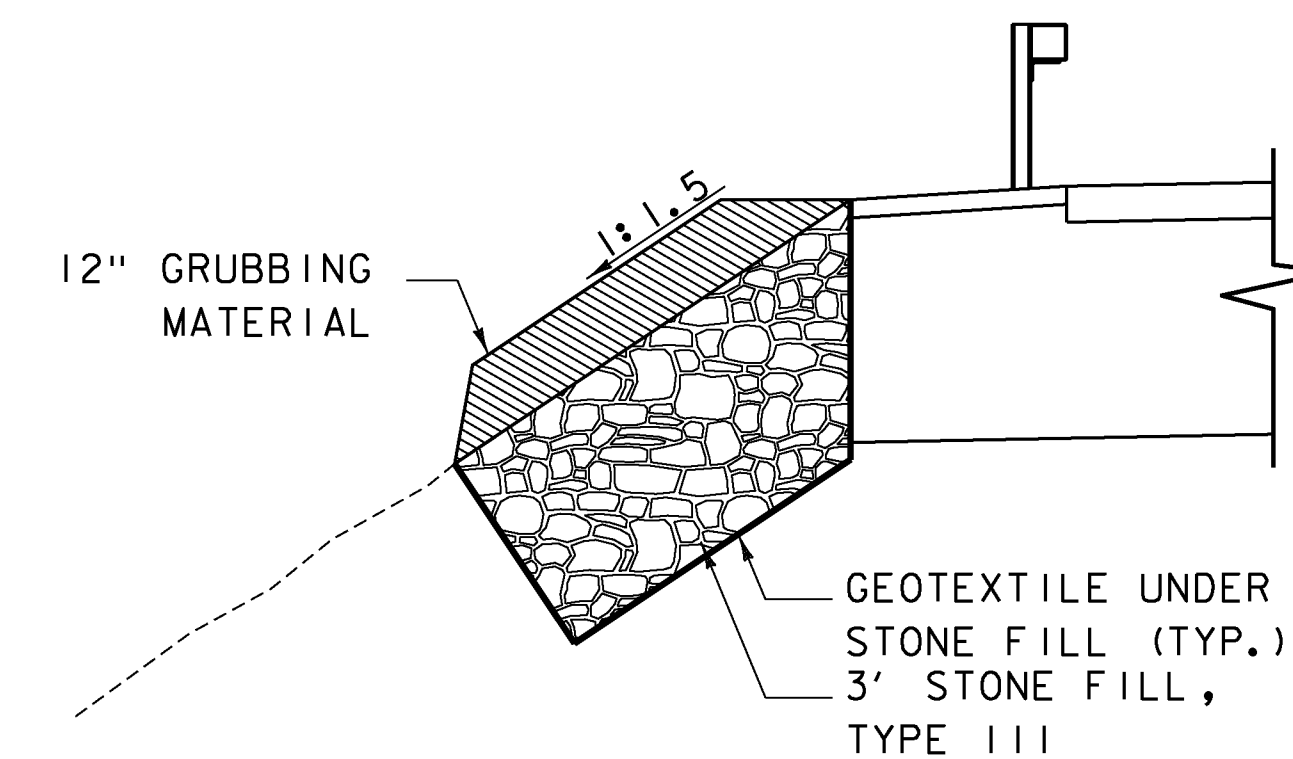
** SEE BANKING DIAGRAM ON SHEET RP 1 AND CROSS-SECTIONS FOR ROADWAY CROSS SLOPES

*** MAX. DIFFERENTIAL BETWEEN ROADWAY AND SHOULDER CROSS-SLOPE = 0.070

ROADWAY APPROACH SECTION
 SCALE 3/8" = 1'-0"

TYPICAL SECTION GENERAL NOTES:

1. EMULSIFIED ASPHALT SHALL BE APPLIED ON EXISTING PAVEMENT SURFACES, BETWEEN ALL COURSES OF PAVEMENT AND ON COLD PLANED SURFACES, AT THE RATE OF 0.025 GAL/SY OR AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE MADE UNDER CONTRACT ITEM 900.683 SPECIAL PROVISION (EMULSIFIED ASPHALT) (RS-1H OR CRS 1-H).
2. TEMPORARY EROSION MATTING SHALL BE INSTALLED ON ALL SLOPES BETWEEN 1:3 AND 1:1.6, TO STABILIZE THE SLOPE. SLOPES 1:1.5 SHALL USE TYPE III STONE SLOPE STABILIZATION PER DETAIL ON THIS SHEET.
3. GRASS GROWING ADJACENT TO PAVEMENT OR THROUGH CRACKS IN THE PAVEMENT WHICH MAY HAMPER THE PLACEMENT OF NEW BITUMINOUS CONCRETE SHALL BE REMOVED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER. PAYMENT FOR THIS WORK WILL NOT BE MADE DIRECTLY, BUT WILL BE CONSIDERED INCIDENTAL TO ITEM 900.680 SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)
4. EXISTING SHOULDER MATERIAL DEEMED UNSUITABLE BY THE ENGINEER SHALL BE EXCAVATED TO A DEPTH OF 3" OR AS DIRECTED BY THE ENGINEER AND PAID FOR AS ITEM 203.15 COMMON EXCAVATION. EXCAVATED SHOULDER MATERIAL SHALL BE REPLACED WITH ITEM 402.10 AGGREGATE SHOULDERS, IN PLACE.
5. FOR PG BINDER REQUIREMENTS, SEE SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY).



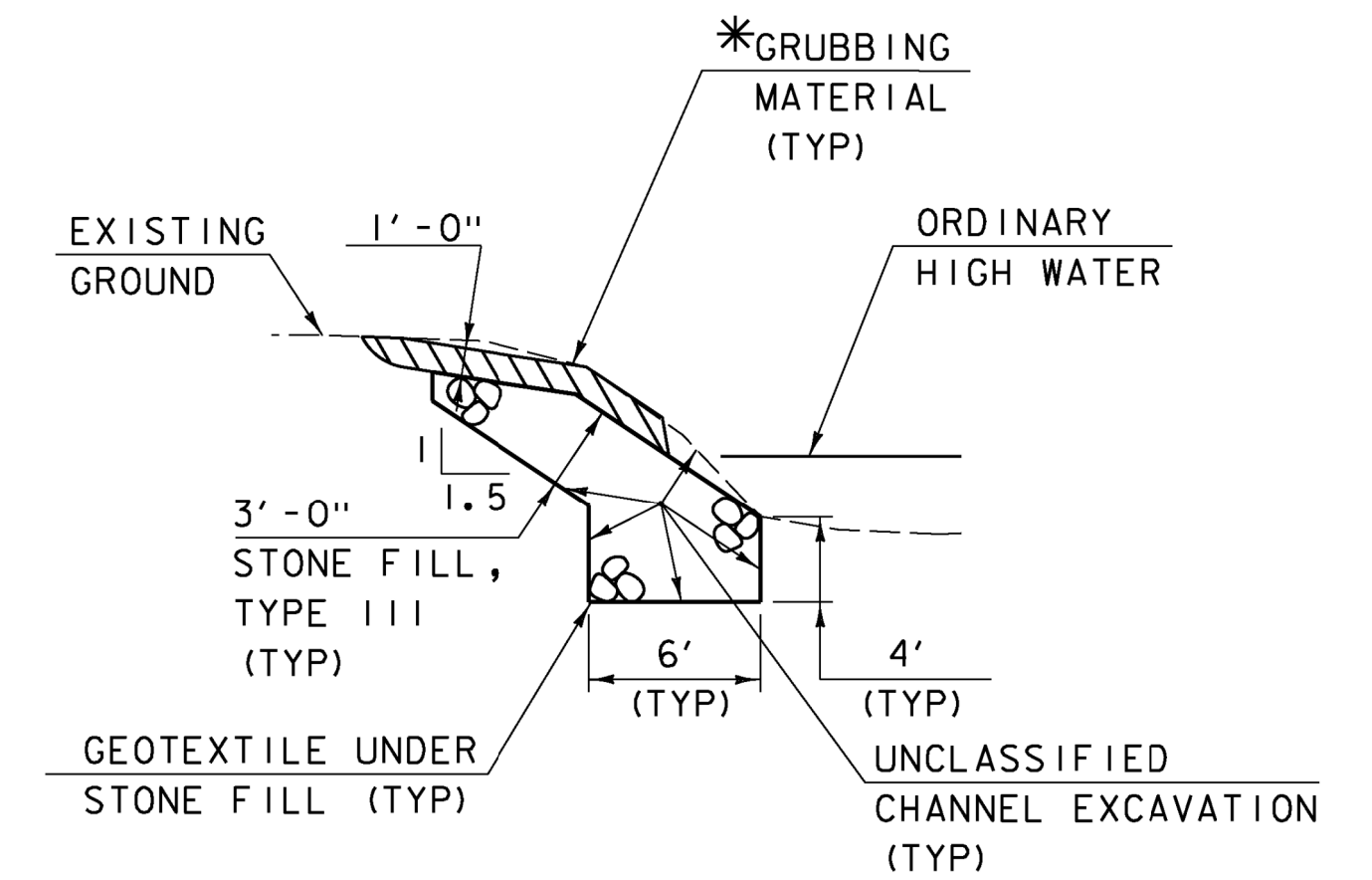
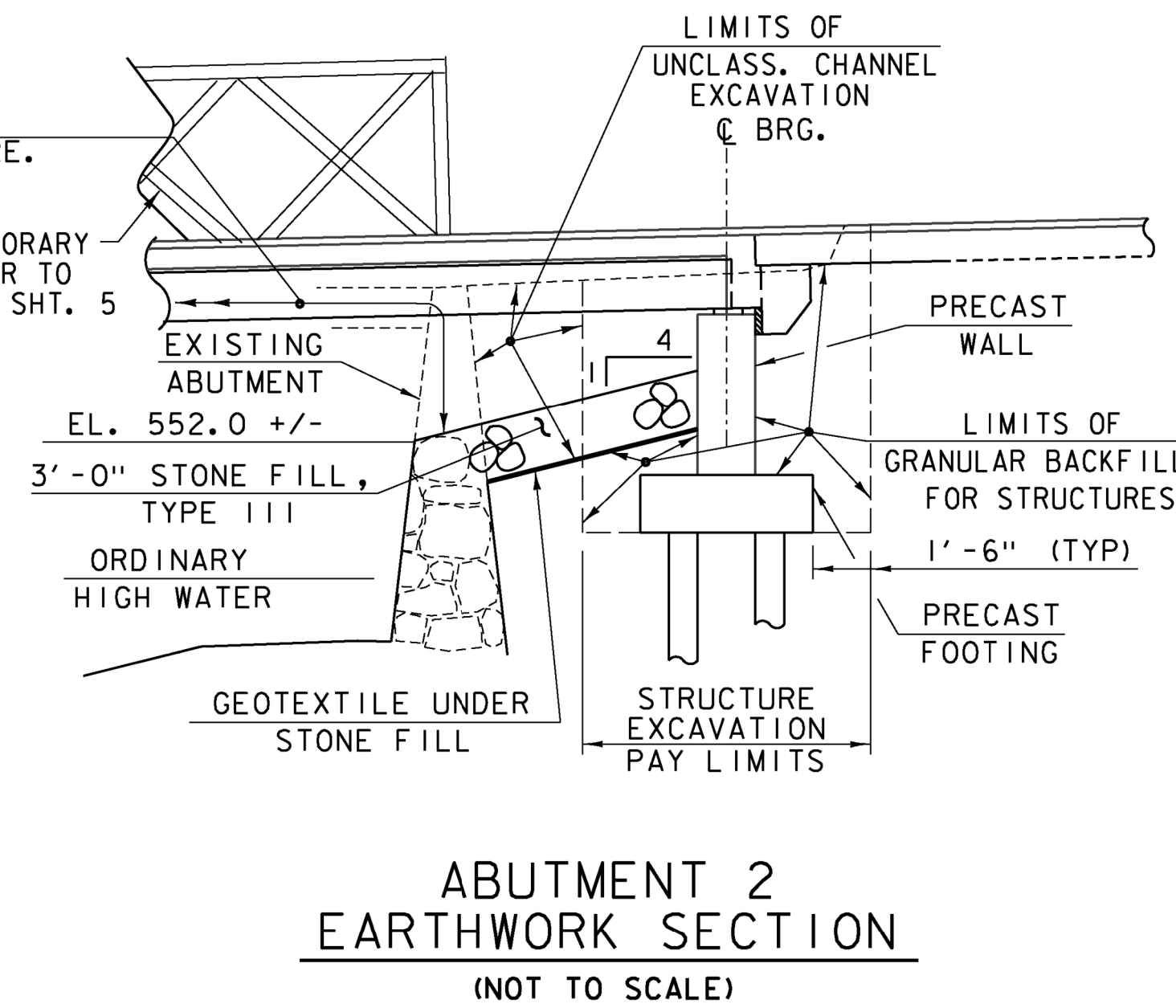
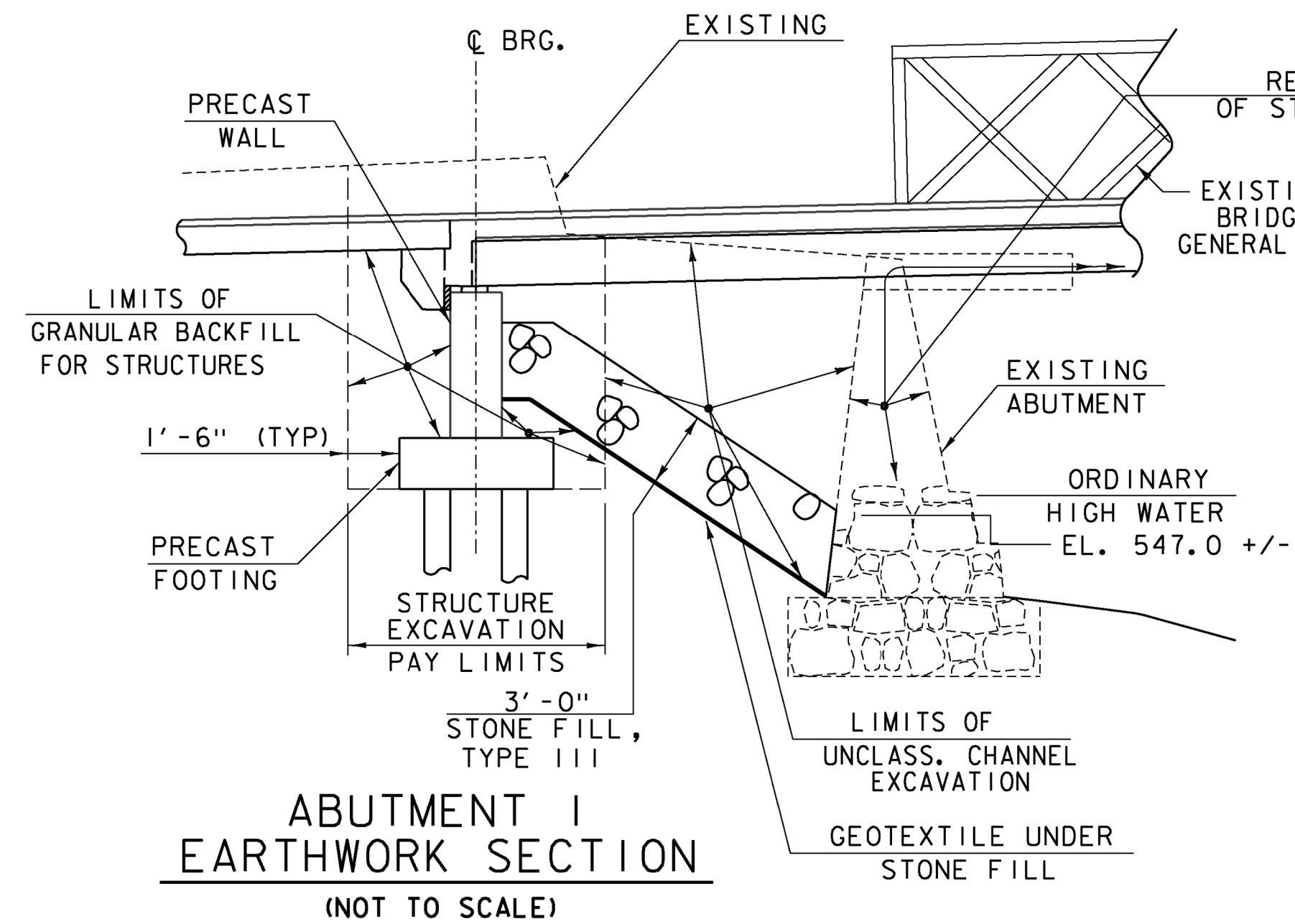
STONE FILL DETAIL
 SCALE 3/8" = 1'-0"

MATERIAL TOLERANCES (IF USED ON PROJECT)

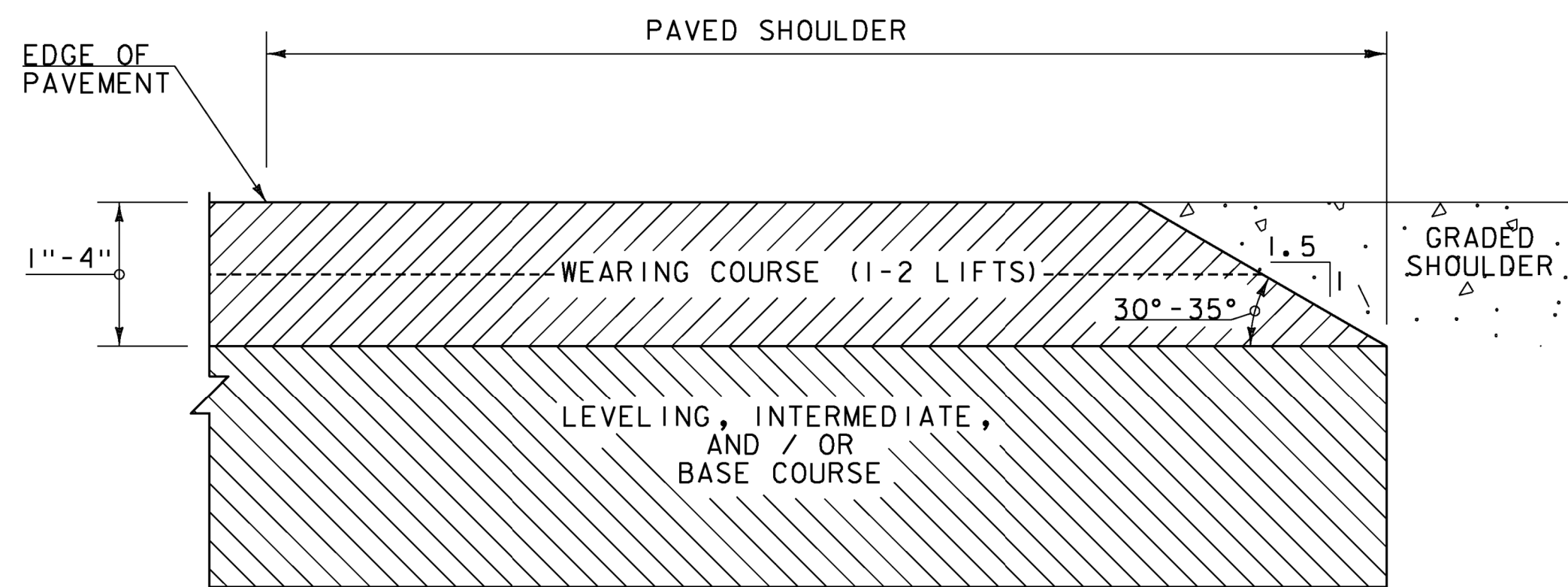
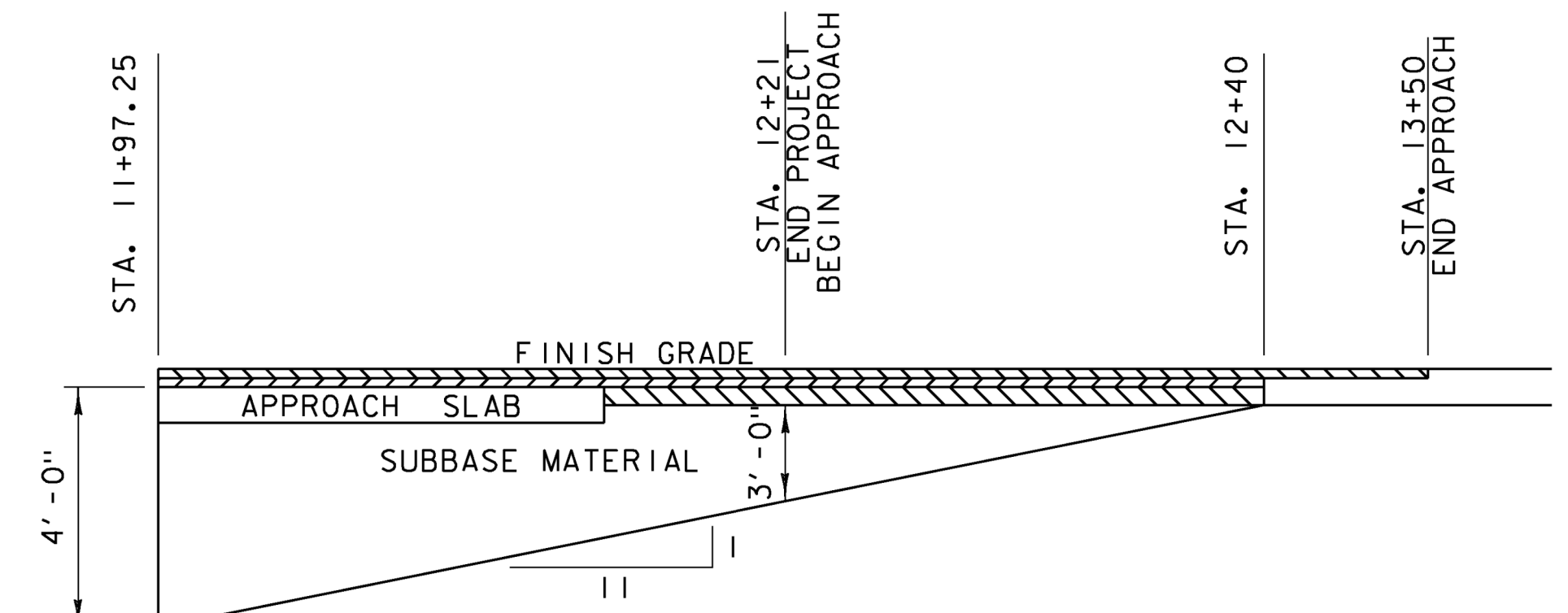
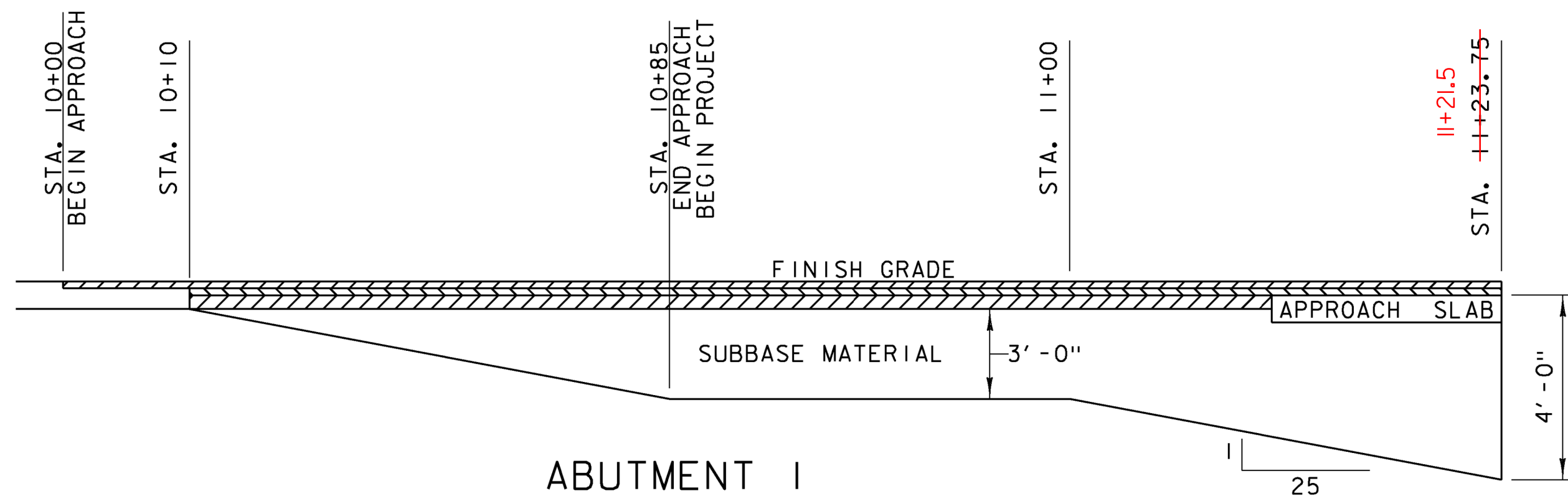
SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"



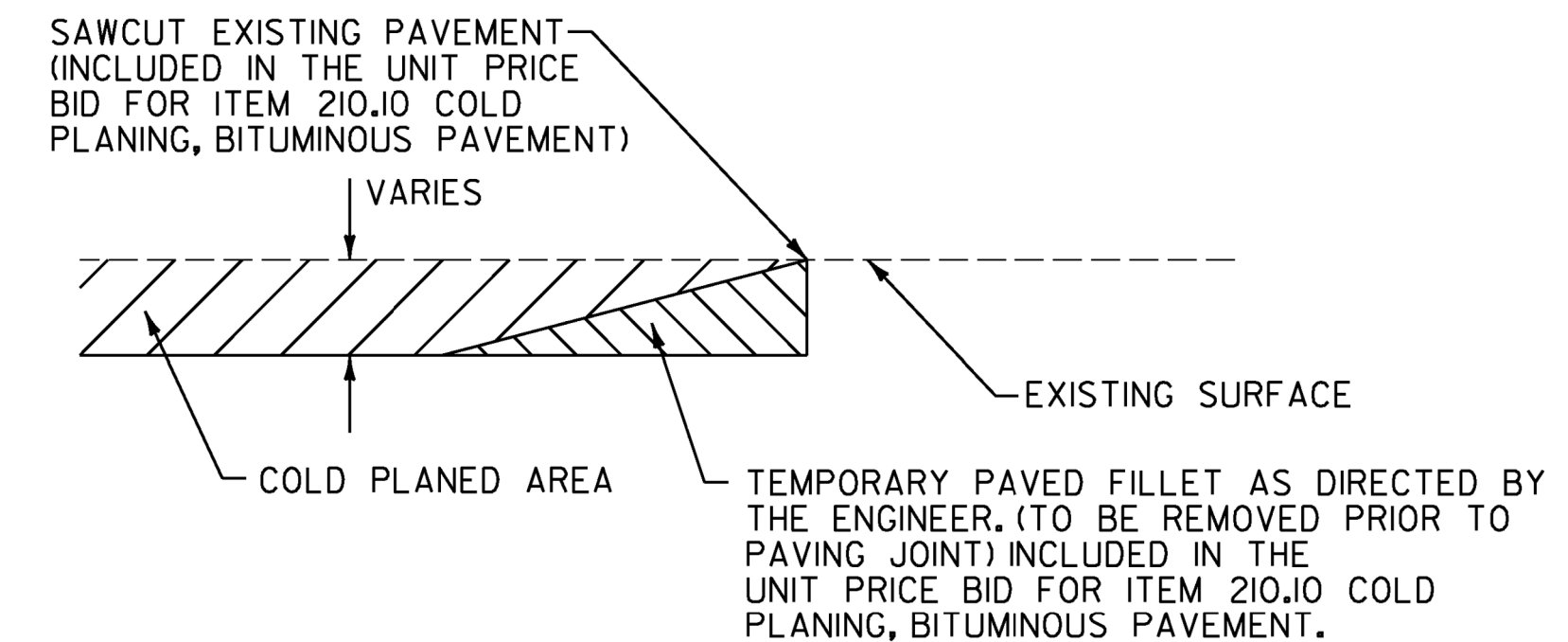
PROJECT NAME:	ENOSBURG
PROJECT NUMBER:	BRO 1448(40)
FILE NAME: ...03 Typical Sections.dgn	PLOT DATE: 10/4/2013
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: G. GOYETTE	CHECKED BY: G. GOYETTE
TYPICAL SECTIONS - TYP 1	SHEET 3 OF 46



*GRUBBING MATERIAL SHALL NOT BE PLACED ON THE STONE FILL IN THE AREA UNDER THE BRIDGE. WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.



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



NOTE: THIS DETAIL SHALL BE USED AT THE LOCATIONS SHOWN ABOVE AS DIRECTED BY THE ENGINEER.



PROJECT NAME: ENOSBURG
PROJECT NUMBER: BRO 1448(40)

FILE NAME: ...\\04 Earthwork Sections.dgn PLOT DATE: 10/4/2013
PROJECT LEADER: G. BOGUE DRAWN BY: E. ALLING
DESIGNED BY: G. GOYETTE CHECKED BY: G. GOYETTE
EARTHWORK SECTIONS - TYP 2 SHEET 4 OF 46

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AND ITS LATEST REVISIONS, THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, DATED 2012, AND ITS LATEST REVISIONS.
2. THE BRIDGE IS DESIGNED FOR HL-93 LIVE LOAD.
3. THE TEMPORARY BRIDGE IS IN PLACE OVER THE EXISTING, FAILED STRUCTURE. REMOVAL OF THIS TEMPORARY BRIDGE SHALL BE PAID FOR UNDER ITEM 900.645, "SPECIAL PROVISION (REMOVAL OF TEMPORARY BRIDGE)". THE TEMPORARY BRIDGE IS THE PROPERTY OF VTRANS AND SHALL BE RETURNED TO THE VTRANS MAINTENANCE FACILITY IN MIDDLESEX, VT. CONTACT HOBERT GATES AT (802) 595-0910 TO MAKE NECESSARY ARRANGEMENTS AS PER THE SPECIAL PROVISIONS.
4. ITEM 529.15 "REMOVAL OF STRUCTURE" SHALL BE USED FOR REMOVAL OF THE EXISTING STEEL BEAM AND CONCRETE DECK BRIDGE UNDER TEMPORARY BRIDGE INCLUDING THE SUPERSTRUCTURE, AND ANY PORTION OF THE ABUTMENTS TO THE DEPTH SHOWN ON SHEET 20.
5. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.
6. THE "STONE FILL, TYPE III" UNDER THE BRIDGE AS SHOWN IN THE PLANS SHALL BE PLACED BEFORE THE NEW BEAMS ARE SET.
7. NO SUBSTITUTION FOR PRECAST CONCRETE WILL BE PERMITTED.
8. ITEM 520.10, "MEMBRANE WATERPROOFING, SPRAY APPLIED" SHALL BE APPLIED TO THE BRIDGE DECK AS PER THE MANUFACTURER'S INSTRUCTIONS AND EXTEND ONTO THE APPROACH SLABS TWO FEET BEYOND THE BEGIN BRIDGE/END OF BRIDGE.
9. THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING AND SUBMITTING EPSC PLAN IN ACCORDANCE WITH SECTION 105 OF THE STANDARD SPECIFICATIONS. THE PLAN SHALL INCLUDE ALL PROPOSED LIMITS OF DISTURBANCE ASSOCIATED WITH THE CONTRACTOR'S MEANS AND METHODS FOR COMPLETING THE WORK INCLUDING CONTRACTOR DESIGNED COMPONENTS SUCH AS THE ACCESS, WASTE, BORROW, STAGING AREAS AND DewaterING. ANY WASTE, BORROW, STAGING AREAS AND HAUL ROADS MAY REQUIRE ADDITIONAL PERMITTING UNDER CONSTRUCTION GENERAL PERMIT 3-9020 (2006-AMENDED 2008), SECTION 1.6 AS "OFF-SITE SUPPORTING ACTIVITIES". IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE THESE SITES REVIEWED BY THE VTRANS ENVIRONMENTAL SECTION AND VTRANS RESIDENT ENGINEER AND TO OBTAIN ANY NECESSARY PERMITS FOR THE AREAS PRIOR TO THEIR USE.
10. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" x 1".
11. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES, EXCEPT THE UNDERSIDE OF THE BRIDGE DECK BETWEEN THE DRIP NOTCHES.
12. THE EXISTING STRUCTURAL STEEL ON THIS PROJECT WAS PAINTED WITH A MATERIAL WHICH MAY CONTAIN LEAD. THE REMOVED STRUCTURAL STEEL IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, IT'S OFFICERS AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE STRUCTURAL STEEL.

MICROPILE FOUNDATIONS

13. THE ABUTMENT 1 MICROPILES ARE DESIGNED TO SUPPORT A MAXIMUM STRENGTH LIMIT STATE AXIAL LOAD OF 230 KIPS PER PILE IN COMPRESSION AND 168 KIPS PER PILE IN TENSION.
14. THE ABUTMENT 2 MICROPILES ARE DESIGNED TO SUPPORT A MAXIMUM STRENGTH LIMIT STATE AXIAL LOAD OF 225 KIPS PER PILE IN COMPRESSION AND 168 KIPS PER PILE IN TENSION.
15. MINIMUM MICROPILE STEEL CASING THICKNESS = 0.408 INCHES
MINIMUM OUTSIDE DIAMETER OF MICROPILE CASING = 7 INCHES
MINIMUM UNCASSED DIAMETER = ~~6.184~~ INCHES
16. EXTEND CASING A MINIMUM OF 2 FEET BELOW TOP OF LEDGE; EXTEND UNCASSED PORTION OF MICROPILE A MINIMUM OF ~~+2'~~ AT ABUTMENT 1 AND ~~+0'~~ AT ABUTMENT 2 BELOW THE BOTTOM OF CASING.

12.510.5
17. ESTIMATED PILE LENGTH:
ABUTMENT 1: 26 FEET
ABUTMENT 2: VARIES 17 FEET TO 27 FEET
18. THE CONTRACTOR IS ADVISED THAT DIFFICULT DRILLING CONDITIONS ARE ANTICIPATED. THE CONTRACTOR SHALL MAKE PROVISIONS TO MAINTAIN THE TOLERANCES FOR LOCATION AND BATTER OF THE MICROPILES ESTABLISHED IN THE SPECIAL PROVISIONS AND AS NECESSARY TO ASSURE COMPATIBILITY WITH THE LOCATION OF THE PRECAST FOOTINGS.

PRECAST ABUTMENTS AND APPROACH SLAB

19. IF VERTICAL CONSTRUCTION JOINTS ARE REQUIRED BY THE CONTRACTOR FOR SHIPMENT OF THE ABUTMENTS, THEN THE SECTIONS SHALL BE KEYED. A JOINT DETAIL SHALL BE SHOWN ON THE FABRICATION DRAWINGS.
20. DESIGN VALUES:
CONCRETE COMPRESSIVE STRENGTH: F'c=5000 PSI
21. THE CONCRETE FOR THE ABUTMENT 1 AND ABUTMENT 2 PILE CAVITIES SHALL MEET THE REQUIREMENTS OF ITEM 900.608, "SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET)".
22. THE CORRUGATED STEEL PIPE SHALL MEET THE REQUIREMENTS OF SUBSECTION 711.01. ALL COSTS ASSOCIATED WITH PLACING THE CORRUGATED STEEL PIPE WILL BE INCLUDED FOR PAYMENT UNDER THE APPROPRIATE 540.10 CONTRACT ITEM.
23. REINFORCING STEEL IN THE PRECAST SUBSTRUCTURES SHALL MEET THE REQUIREMENTS OF SECTION 507 FOR UNCOATED LEVEL 1 REINFORCING STEEL AND WILL BE PAID FOR UNDER THE APPROPRIATE 540.10 CONTRACT ITEM.
24. REINFORCING STEEL IN THE APPROACH SLABS SHALL MEET THE REQUIREMENTS OF SECTION 507 FOR LEVEL II REINFORCING STEEL AND WILL BE PAID FOR UNDER THE APPROPRIATE 540.10 CONTRACT ITEM.
25. ALL CLEAR COVER SHALL BE 2 INCHES UNLESS NOTED OTHERWISE.
26. MECHANICAL SPLICE CONNECTORS SHALL MEET THE REQUIREMENTS OF SUBSECTION 713.02 AND WILL BE INCLUDED FOR PAYMENT UNDER THE APPROPRIATE 540.10 CONTRACT ITEM.

NEXT D BEAMS

27. NEXT D BEAMS ARE A NON-PROPRIETARY SHAPE DEVELOPED BY PCI NORTHEAST (PCINE). STANDARDIZED SECTION PROPERTIES AND DETAILS MAY BE FOUND AT HTTP://WWW.PCINE.ORG.
- DESIGN VALUES:
CONCRETE COMPRESSIVE STRENGTH: F'c = 8,000 PSI.
CONCRETE COMPRESSIVE STRENGTH AT RELEASE: F'CI= 6,000 PSI.
PRESTRESSING STRANDS: 0.6 INCH DIAMETER, 270 KSI, LOW-RELAXATION 7-WIRE STRANDS.
ASSUMED MODULUS OF ELASTICITY = 29,000 KSI
THE JACKING FORCE PER STRAND = 44 KIPS.
SERVICE LOADS PER UNIT
MEMBER DEAD LOAD MOMENT 902 K-FT
SUPERIMPOSED DEAD LOAD MOMENT 246 K-FT
LIVE LOAD AND IMPACT MOMENT 1,498 K-FT
DEAD LOAD REACTION 67 KIPS
LIVE LOAD AND IMPACT REACTION 95 KIPS
TOTAL REACTION 162 KIPS
FINAL CAMBER 3 INCHES
28. ENDS OF FLANGES IN CONTACT WITH GROUT SHALL BE SANDBLASTED PRIOR TO DELIVERY AND POWER WASHED WITH WATER PRIOR TO ERECTION OF THE BEAMS. PAYMENT WILL BE CONSIDERED INCIDENTAL TO CONTRACT ITEM 900.640 SPECIAL PROVISION (PRESTRESSED CONCRETE NEXT D BEAMS) (NEXT 32D).
29. FILL FLANGE CONNECTION WITH SPECIAL PROVISION (HIGH PERFORMANCE, CONCRETE RAPID SET).
30. METHOD OF FORMING FLANGE CONNECTION SHALL BE DETERMINED BY THE CONTRACTOR. THE FORMS SHALL BE REMOVABLE AND ABLE TO ACCOMMODATE DIFFERENTIAL CAMBER. FORM SUPPORTS SHALL NOT PENETRATE THROUGH THE TOP OF POUR UNLESS APPROVED BY THE ENGINEER.
31. THE FABRICATOR MAY ALTER THE DESIGN AS DETAILED IN THESE PLANS TO ACCOMMODATE THEIR SPECIFIC OPERATION. THIS ALTERATION MUST BE DESIGNED BY A PROFESSIONAL ENGINEER, LICENSED IN THE STATE OF VERMONT TO MEET THE ABOVE CRITERIA AND SHALL BE APPROVED BY THE PROJECT MANAGER.
32. ALL SUPERSTRUCTURE REINFORCING STEEL SHALL MEET THE REQUIREMENTS OF SECTION 507 FOR LEVEL II REINFORCING STEEL AND WILL BE PAID FOR UNDER CONTRACT ITEM 900.640 SPECIAL PROVISION (PRESTRESSED CONCRETE NEXT D BEAMS) (NEXT 32 D).



PROJECT NAME: ENOSBURG	
PROJECT NUMBER: BRO 1448(40)	
FILE NAME: ...\\XX General_Notes.dgn	PLOT DATE: 10/22/2013
PROJECT LEADER: G. BOGUE	DRAWN BY: L. BUXTON
DESIGNED BY: T. KNIGHT	CHECKED BY: G. BOGUE
GENERAL NOTES	SHEET 5 OF 46

STATE OF VERMONT AGENCY OF TRANSPORTATION														QUANTITY SHEET 1											
SUMMARY OF ESTIMATED QUANTITIES														TOTALS		DESCRIPTIONS						DETAILED SUMMARY OF QUANTITIES			
									ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS				
									1				1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10				EARTHWORK SUMMARY				
									665				665		CY	COMMON EXCAVATION	203.15		665	CY	COMMON EXCAVATION (665*1.0)				
									35				35		CY	SOLID ROCK EXCAVATION	203.16		150	CY	UNCLASSIFIED CHANNEL EXCAVATION (200*0.75)				
											200		200		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27		210	CY	STRUCTURE EXCAVATION (280*0.75)				
									1				1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22		1025	CY	SUB TOTAL				
											280		280		CY	STRUCTURE EXCAVATION	204.25		5	CY	ROUNDING				
											130		130		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30		1030	CY	TOTAL FILL AVAILABLE				
									1015				1015		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10		40	CY	TOTAL FACTORED FILL REQUIRED				
									505				505		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35		990	CY	TOTAL WASTE				
									25				25		CY	AGGREGATE SHOULDERS, IN PLACE	402.10								
									1				1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50								
											11		11		GAL	WATER REPELLENT, SILANE	514.10								
											55		55		LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10								
											210		210		SY	MEMBRANE WATERPROOFING, SPRAY APPLIED	520.10								
											52		52		LF	JOINT SEALER, HOT POURED	524.11								
											152		152		LF	BRIDGE RAILING, GALVANIZED 3 RAIL BOX BEAM	525.335								
											1		1		EACH	REMOVAL OF STRUCTURE (REMOVAL OF BRIDGE #48)	529.15								
											12		12		EACH	BEARING DEVICE ASSEMBLY, STEEL REINFORCED ELASTOMERIC PAD	531.17								
											1		1		LS	PRECAST CONCRETE STRUCTURE (ABUTMENT #1)	540.10								
											1		1		LS	PRECAST CONCRETE STRUCTURE (ABUTMENT #2)	540.10								
											1		1		LS	PRECAST CONCRETE STRUCTURE (APPROACH SLAB #1)	540.10								
											1		1		LS	PRECAST CONCRETE STRUCTURE (APPROACH SLAB #2)	540.10								
									0.5				0.5		MGAL	DUST CONTROL WITH WATER	609.10								
									0.5				0.5		TON	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	609.15								
										200	330		530		CY	STONE FILL, TYPE III	613.12								
									16				16		LF	WOVEN WIRE FENCE WITH WOOD POSTS	620.26								
									2				2		EACH	WOOD BRACE FOR WOVEN WIRE FENCE	620.41								
									16				16		LF	REMOVAL OF EXISTING FENCE	620.55								
									212				212		LF	BOX BEAM GUARDRAIL	621.30								
									4				4		EACH	GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM	621.725								
									135				135		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80								
												1	1		LS	FIELD OFFICE, ENGINEERS	631.10								
												1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16								
												1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17								
												3000	3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26								
									1				1		LS	MOBILIZATION/DEMOBILIZATION	635.11								
									1				1		LS	TRAFFIC CONTROL	641.10								
									2				2		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15								
									550				550		LF	4 INCH YELLOW LINE	646.21								
									40				40		LF	24 INCH STOP BAR	646.26								
																					PROJECT NAME: ENOSBURG				
																					PROJECT NUMBER: BRO 1448(40)				
																					FILE NAME: ...\\xx Bridge Quantities.dgn				
																					PLOT DATE: 10/4/2013				
																					PROJECT LEADER: G. BOGUE				
																					DRAWN BY: E. ALLING				
																					DESIGNED BY: G. GOYETTE				
																					CHECKED BY: G. GOYETTE				
																					BRIDGE AND ROADWAY QUANTITY SHEET - QS 1 SHEET 6 OF 46				



STATE OF VERMONT AGENCY OF TRANSPORTATION	QUANTITY SHEET 2
--	--

STATE OF VERMONT AGENCY OF TRANSPORTATION	QUANTITY SHEET 2
--	--

[illegible]

PROJECT NAME:	ENOSBURG
PROJECT NUMBER:	BRO I448(40)

FILE NAME: ...\\xx Bridge Quantities.dgn	PLOT DATE: 10/22/2013
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: G. GOYETTE	CHECKED BY: G. GOYETTE
BRIDGE AND ROADWAY QUANTITY SHEET - QS 2	
SHEET 7	OF 46



GENERAL INFORMATION

SYMBOLGY LEGEND NOTE

THE SYMBOLGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLGY. THE SYMBOLGY IS USED FOR EXISTING & PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROJECT ANNOTATION, AS NOTED ON PROJECT PLAN SHEETS. THIS LEGEND SHEET COVERS THE BASICS. SYMBOLGY ON PLANS MAY VARY, PLAN ANNOTATIONS AND NOTES SHOULD BE USED TO CLARIFY AS NEEDED.

R.O.W. ABBREVIATIONS (CODES) & SYMBOLS

POINT	CODE	DESCRIPTION
	CH	CHANNEL EASEMENT
	CONST	CONSTRUCTION EASEMENT
	CUL	CULVERT EASEMENT
	D&C	DISCONNECT & CONNECT
	DIT	DITCH EASEMENT
	DR	DRAINAGE EASEMENT
	DRIVE	DRIVEWAY EASEMENT
	EC	EROSION CONTROL
	I&M	INSTALL & MAINTAIN EASEMENT
	LAND	LANDSCAPE EASEMENT
	SR	SLOPE RIGHT
	UE	UTILITY EASEMENT
	(P)	PERMANENT EASEMENT
	(T)	TEMPORARY EASEMENT
■	BNDNS	BOUND SET
▣	BNDNS	BOUND TO BE SET
●	IPNS	IRON PIN SET
◎	IPNS	IRON PIN TO BE SET
⊠	CALC	CALCULATED ROW POINT
[DISTANCE]		DISTANCE CARRIED ON NEXT SHEET

COMMON TOPOGRAPHIC POINT SYMBOLS

POINT	CODE	DESCRIPTION
##	APL	BOUND APPARENT LOCATION
□	BM	BENCH MARK
▣	BND	BOUND
▣	CB	CATCH BASIN
⊕	COMB	COMBINATION POLE
▣	DITHR	DROP INLET THROATED DNC
⊕	EL	ELECTRIC POWER POLE
⊙	FPOLE	FLAGPOLE
○	GASFIL	GAS FILLER
○	GP	GUIDE POST
×	GSO	GAS SHUT OFF
⊙	GUY	GUY POLE
⊙	GUYW	GUY WIRE
×	GV	GATE VALUE
⊙	H	TREE HARDWOOD
⊙	HCTRL	CONTROL HORIZONTAL
⊙	HVCTRL	CONTROL HORIZ. & VERTICAL
⊙	HYD	HYDRANT
⊙	IP	IRON PIN
⊙	IPIPE	IRON PIPE
⊕	LI	LIGHT - STREET OR YARD
⊕	MB	MAILBOX
○	MH	MANHOLE (MH)
▣	MM	MILE MARKER
⊙	PM	PARKING METER
▣	PMK	PROJECT MARKER
⊙	POST	POST STONE/WOOD
⊙	RRSIG	RAILROAD SIGNAL
⊙	RRSL	RAILROAD SWITCH LEVER
⊙	S	TREE SOFTWOOD
⊙	SAT	SATELLITE DISH
⊙	SHRUB	SHRUB
⊕	SIGN	SIGN
⊕	STUMP	STUMP
⊕	TEL	TELEPHONE POLE
⊙	TIE	TIE
⊕	TSIGN	SIGN W/DOUBLE POST
⊕	VCTRL	CONTROL VERTICAL
⊙	WELL	WELL
×	WSO	WATER SHUT OFF

THESE ARE COMMON VAOT SURVEY POINT SYMBOLS FOR EXISTING FEATURES, ALSO USED FOR PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROPOSED ANNOTATION.

PROPOSED GEOMETRY CODES

CODE	DESCRIPTION
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
CC	CENTER OF CURVE
PT	POINT OF TANGENCY
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSE CURVE
POB	POINT OF BEGINNING
POE	POINT OF ENDING
STA	STATION PREFIX
AH	AHEAD STATION SUFFIX
BK	BACK STATION SUFFIX
D	CURVE DEGREE OF (100FT)
R	CURVE RADUIS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE

UTILITY SYMBOLGY

UNDERGROUND UTILITIES

— UT —	—	—	—	—	TELEPHONE
— UE —	—	—	—	—	ELECTRIC
— UC —	—	—	—	—	CABLE (TV)
— UEC —	—	—	—	—	ELECTRIC+CABLE
— UET —	—	—	—	—	ELECTRIC+TELEPHONE
— UCT —	—	—	—	—	CABLE+TELEPHONE
— UECT —	—	—	—	—	ELECTRIC+CABLE+TELEP.
— G —	—	—	—	—	GAS LINE
— W —	—	—	—	—	WATER LINE
— S —	—	—	—	—	SANITARY SEWER (SEPTIC)

ABOVE GROUND UTILITIES (AERIAL)

— T —	—	—	—	—	TELEPHONE
— E —	—	—	—	—	ELECTRIC
— C —	—	—	—	—	CABLE (TV)
— EC —	—	—	—	—	ELECTRIC+CABLE
— ET —	—	—	—	—	ELECTRIC+TELEPHONE
— AER E&T —	—	—	—	—	ELECTRIC+TELEPHONE
— CT —	—	—	—	—	CABLE+TELEPHONE
— ECT —	—	—	—	—	ELECTRIC+CABLE+TELEP.
—	—	—	—	—	UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLGY

PROJECT DESIGN & LAYOUT SYMBOLGY

— — — CZ — — —	CLEAR ZONE
—————	PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

▲ —▲ —▲ —▲ —	TOP OF CUT SLOPE
○ —○ —○ —○ —○ —	TOE OF FILL SLOPE
⊗ ⊗ ⊗ ⊗ ⊗ ⊗	STONE FILL
-----	BOTTOM OF DITCH
=====	CULVERT PROPOSED
-----	STRUCTURE SUBSURFACE
PDF — PDF —	PROJECT DEMARCATION FENCE
BF — BF —	BARRIER FENCE
XXXXXXXXXXXXXXXXXX	TREE PROTECTION ZONE (TPZ)
//// //// //// ////	STRIPING LINE REMOVAL
~~~~~	SHEET PILES

CONVENTIONAL BOUNDARY SYMBOLGY

BOUNDARY LINES

—————	TOWN LINE	TOWN BOUNDARY LINE
—————	COUNTY LINE	COUNTY BOUNDARY LINE
—————	STATE LINE	STATE BOUNDARY LINE
———	———	PROPOSED STATE R.O.W. (LIMITED ACCESS)
———	———	PROPOSED STATE R.O.W.
———	———	STATE ROW (LIMITED ACCESS)
———	———	STATE ROW
———	———	TOWN ROW
— . . . . .	— . . . . .	PERMANENT EASEMENT LINE (P)
- - - - -	- - - - -	TEMPORARY EASEMENT LINE (T)
+	+	SURVEY LINE
$\frac{P}{L}$	$\frac{P}{L}$	PROPERTY LINE (P/L)
▲ —○ —▲ —○ —	SR	SLOPE RIGHTS
6f ——— 6f ———	6f	6F PROPERTY BOUNDARY
4f ——— 4f ———	4f	4F PROPERTY BOUNDARY
HAZ ——— HAZ ———	HAZ	HAZARDOUS WASTE

EPSC LAYOUT PLAN SYMBOLGY

EPSC MEASURES

ONNOONNOONNO	FILTER CURTAIN
— — — — —	SILT FENCE
— — — — —	SILT FENCE WOVEN WIRE
▶ —▶ —▶ —▶ —▶	CHECK DAM
■	DISTURBED AREAS REQUIRING RE-VEGETATION
⊗	EROSION MATTING

ENVIRONMENTAL RESOURCES

———	WETLAND BOUNDARY
-----	RIPARIAN BUFFER ZONE
-----	WETLAND BUFFER ZONE
-----	SOIL TYPE BOUNDARY
—— T&E ———	THREATENED & ENDANGERED SPECIES
—— HAZ ———	HAZARDOUS WASTE AREA
—— AG ———	AGRICULTURAL LAND
—— HABITAT ———	FISH & WILDLIFE HABITAT
—— FLOOD PLAIN ———	FLOOD PLAIN
—— OHW ———	ORDINARY HIGH WATER (OHW)
—— ———	STORM WATER
—— ———	USDA FOREST SERVICE LANDS
—— ———	WILDLIFE HABITAT SUIT/CONN

ARCHEOLOGICAL & HISTORIC

—— ARCH ———	ARCHEOLOGICAL BOUNDARY
—— HISTORIC DIST ———	HISTORIC DISTRICT BOUNDARY
—— HISTORIC ———	HISTORIC AREA
Ⓜ	HISTORIC STRUCTURE

CONVENTIONAL TOPOGRAPHIC SYMBOLGY

EXISTING FEATURES

-----	ROAD EDGE PAVEMENT
-----	ROAD EDGE GRAVEL
-----	DRIVEWAY EDGE
-----	DITCH
-----	FOUNDATION
— x — x — x — x —	FENCE (EXISTING)
□ —□ —□ —□ —□ —	FENCE WOOD POST
○ —○ —○ —○ —○ —	FENCE STEEL POST
~~~~~	GARDEN
○ —○ —○ —○ —○ —	ROAD GUARDRAIL
	RAILROAD TRACKS
-----	CULVERT (EXISTING)
○○○○○○○○○○○○○○○○	STONE WALL
-----	WALL
~~~~~	WOOD LINE
~~~~~	BRUSH LINE
~~~~~	HEDGE
=====	BODY OF WATER EDGE
=====	LEDGE EXPOSED

PROJECT NAME:	ENOSBURG			
PROJECT NUMBER:	BRO 1448(40)			
FILE NAME: ...03 A Conv Symb Leg Sht.dgn	PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING	PLOT DATE: 10/4/2013	
DESIGNED BY: G. GOYETTE	CHECKED BY: G. GOYETTE			
<b>CONVENTIONAL SYMBOLGY LEGEND</b>		SHEET 8	OF	46



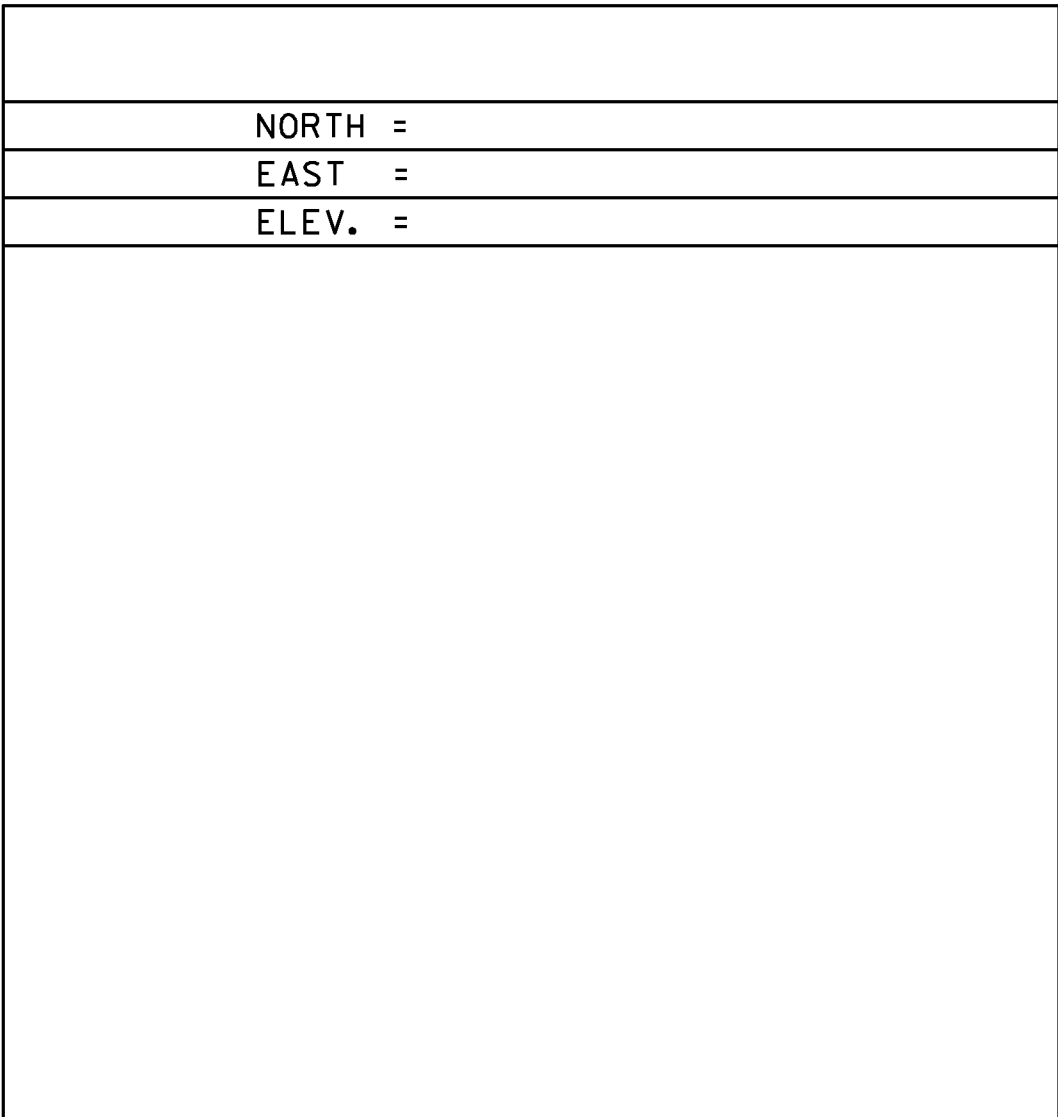
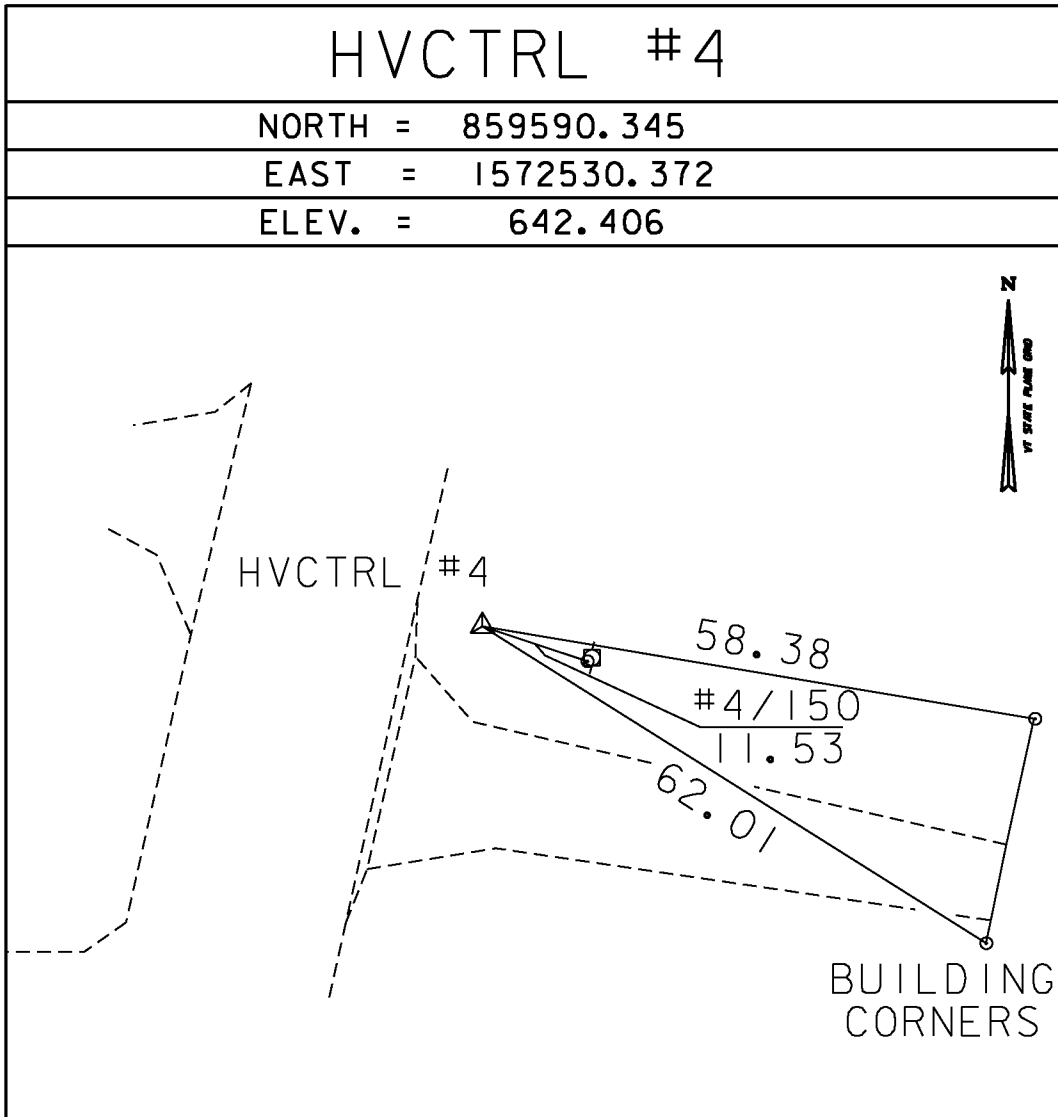
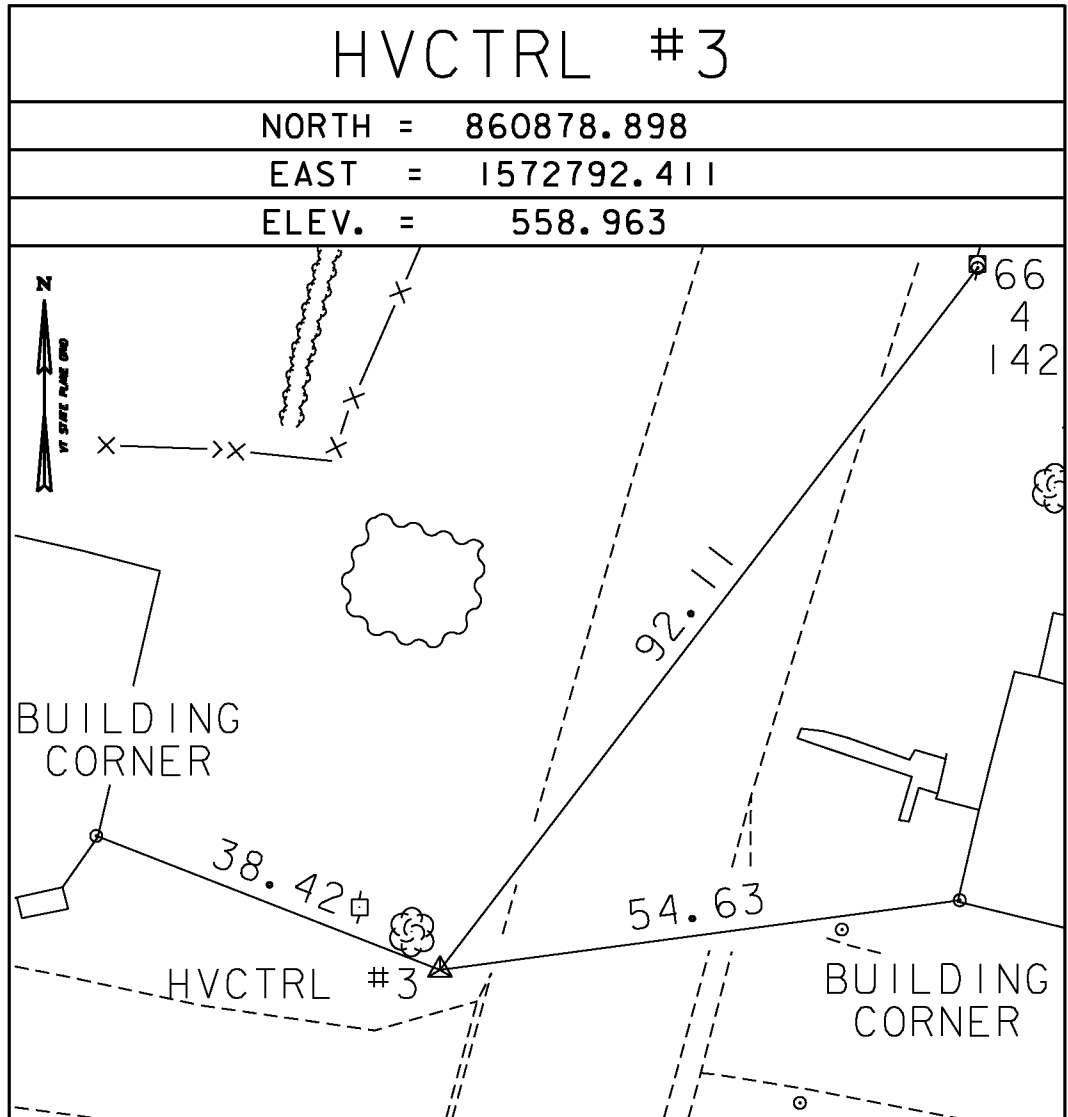
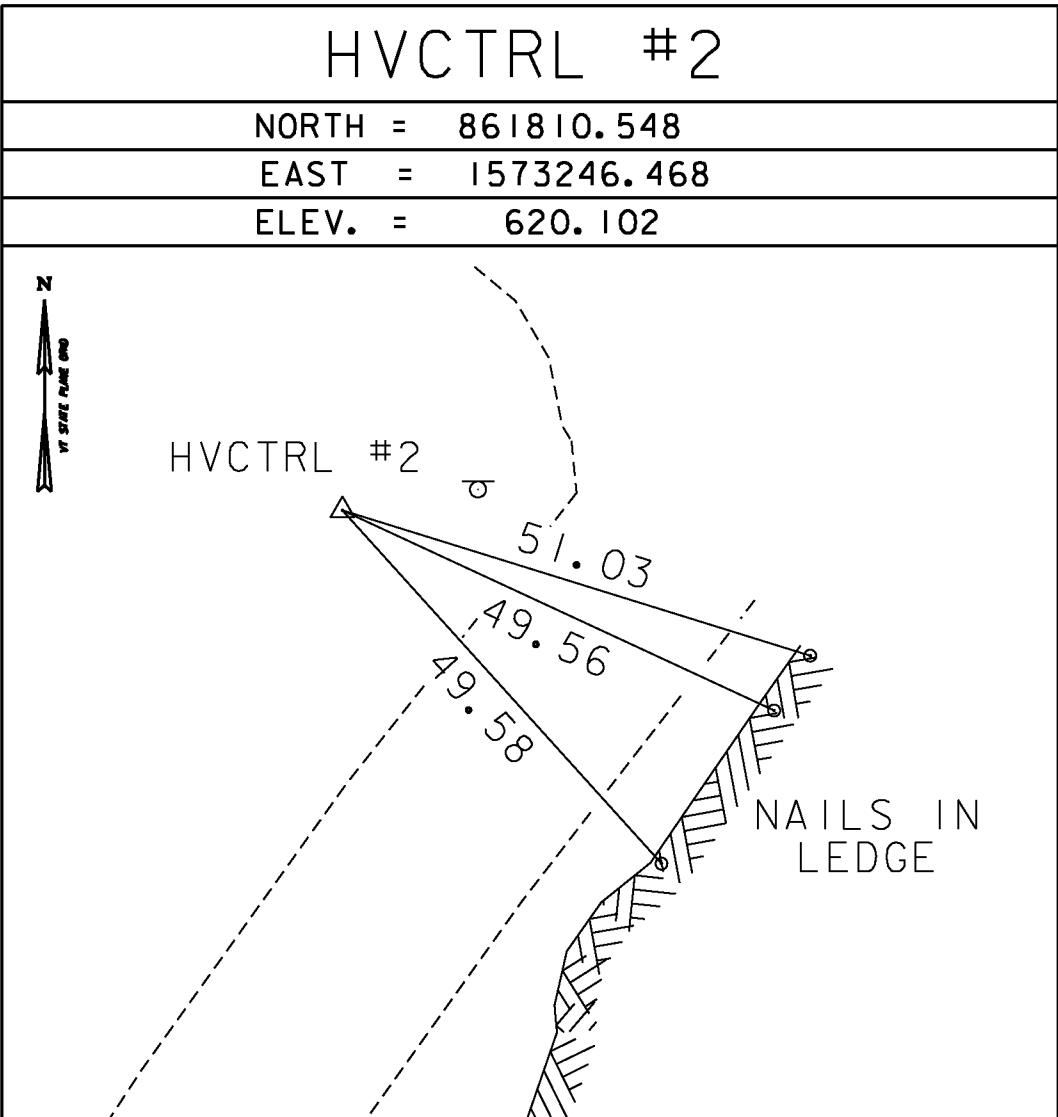
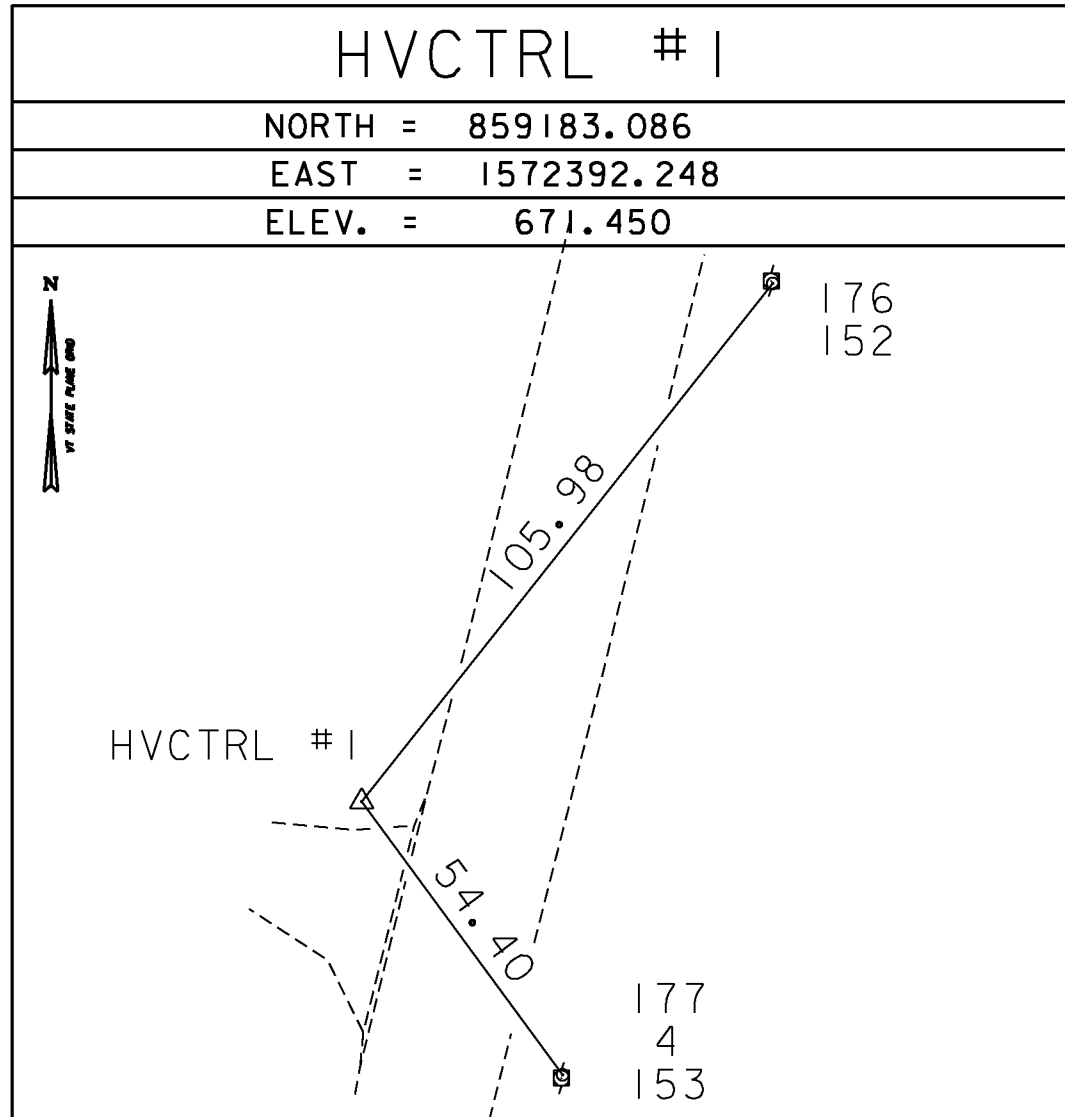


GPS CONTROL POINTS

GENERAL DESCRIPTION: TEMP1  
TO REACH FROM JUNCTION OF VT108 AND TH1 (TYLER BRANCH RD.) IN ENOSBURG PROCEED EAST ALONG TH1  
FOR 2.1 MILES TO JUNCTION WITH TH2 (BOSTON POST RD.) AND TURN RIGHT ON TO TH2 PROCEED SOUTH FOR  
0.4 MILE TO MARK (REBAR WITH PLASTIC CAP [VTAOT TRAV. PT] ON THE RIGHT ON THE NORTH EDGE OF  
GRAVEL DRIVE, 21' WEST OF CENTERLINE TH2, 15' NORTH FROM CENTERLINE GRAVEL DRIVE AND  
54.7' NORTHWEST POLE #171/4/153.  
SEE HVCTRL #1 FOR COORDINATES

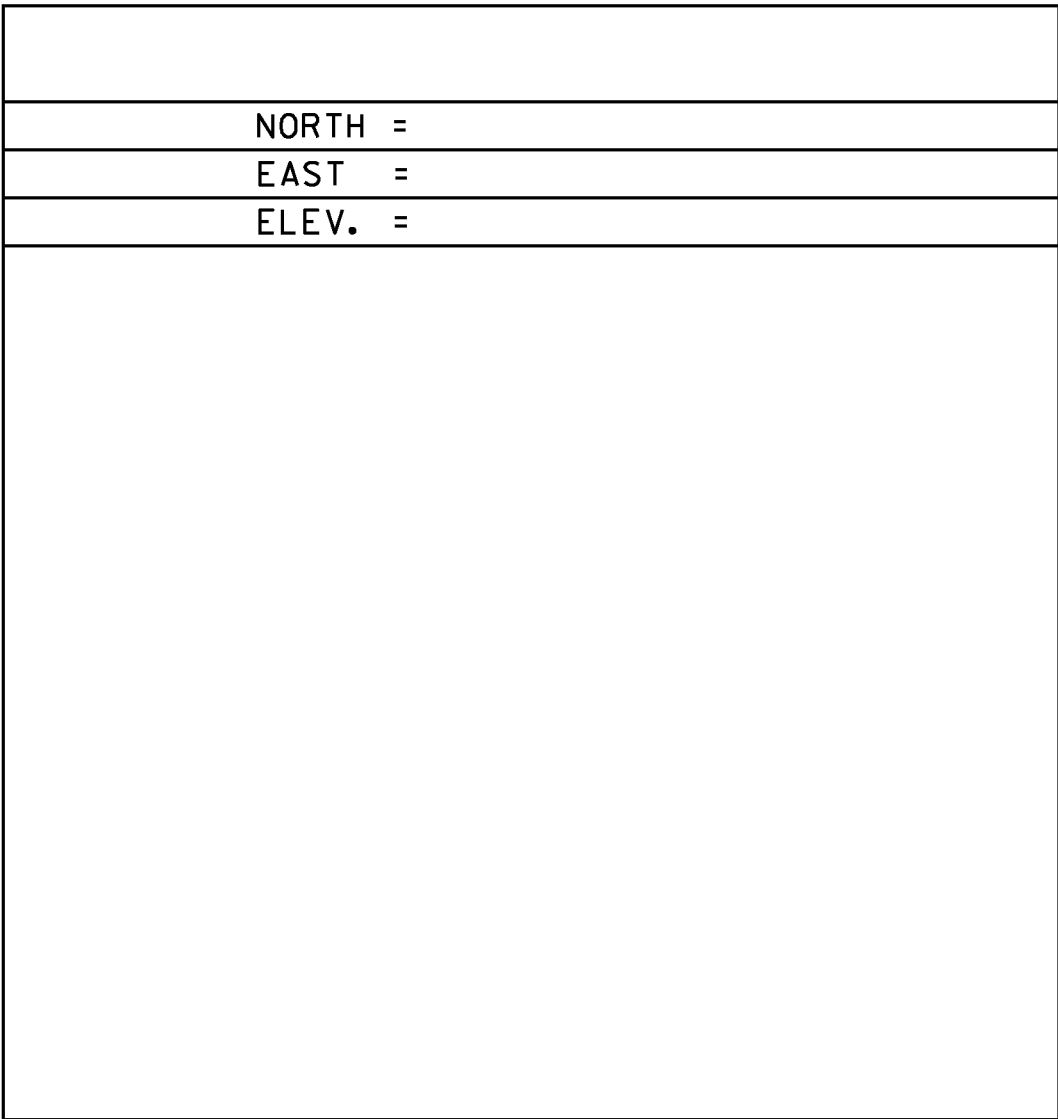
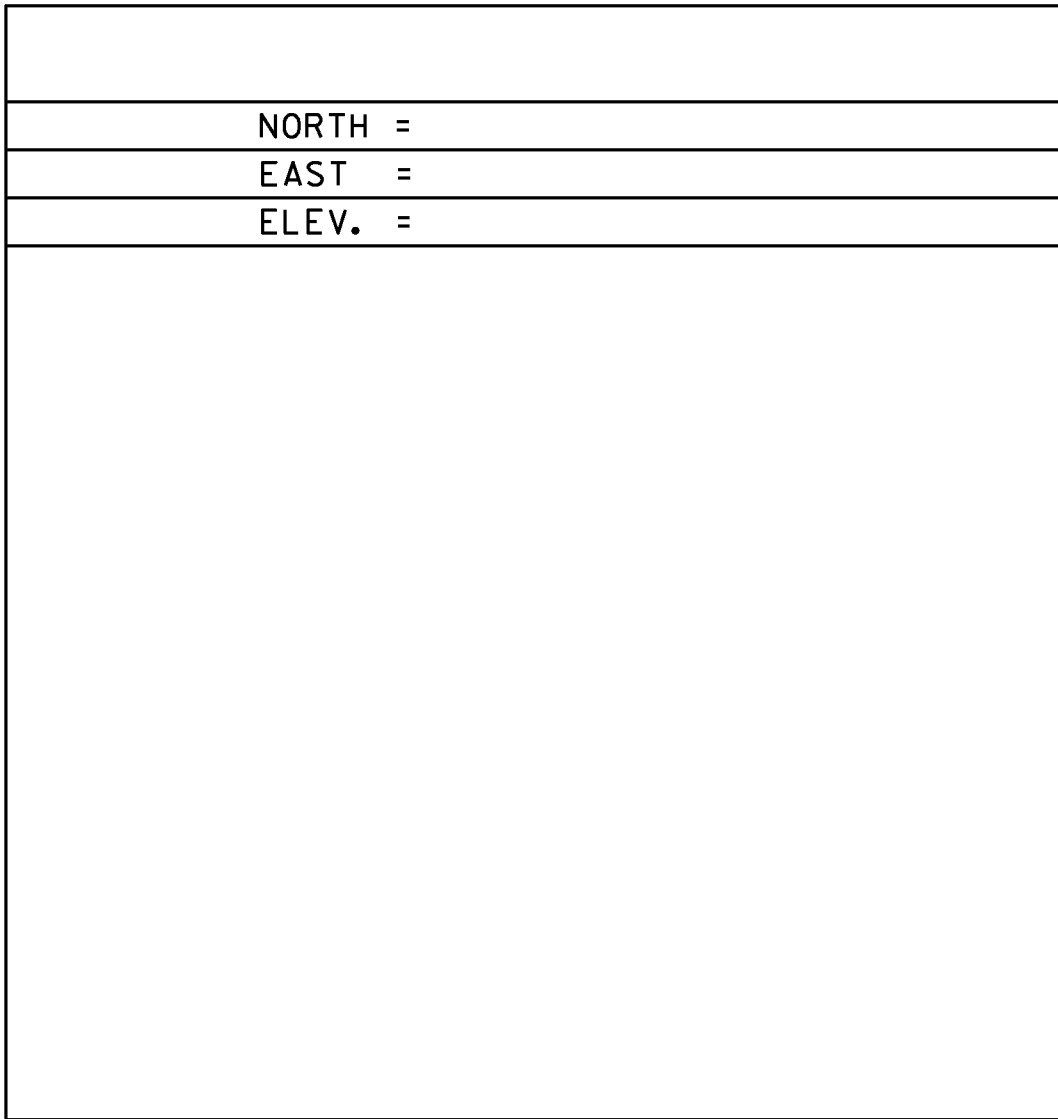
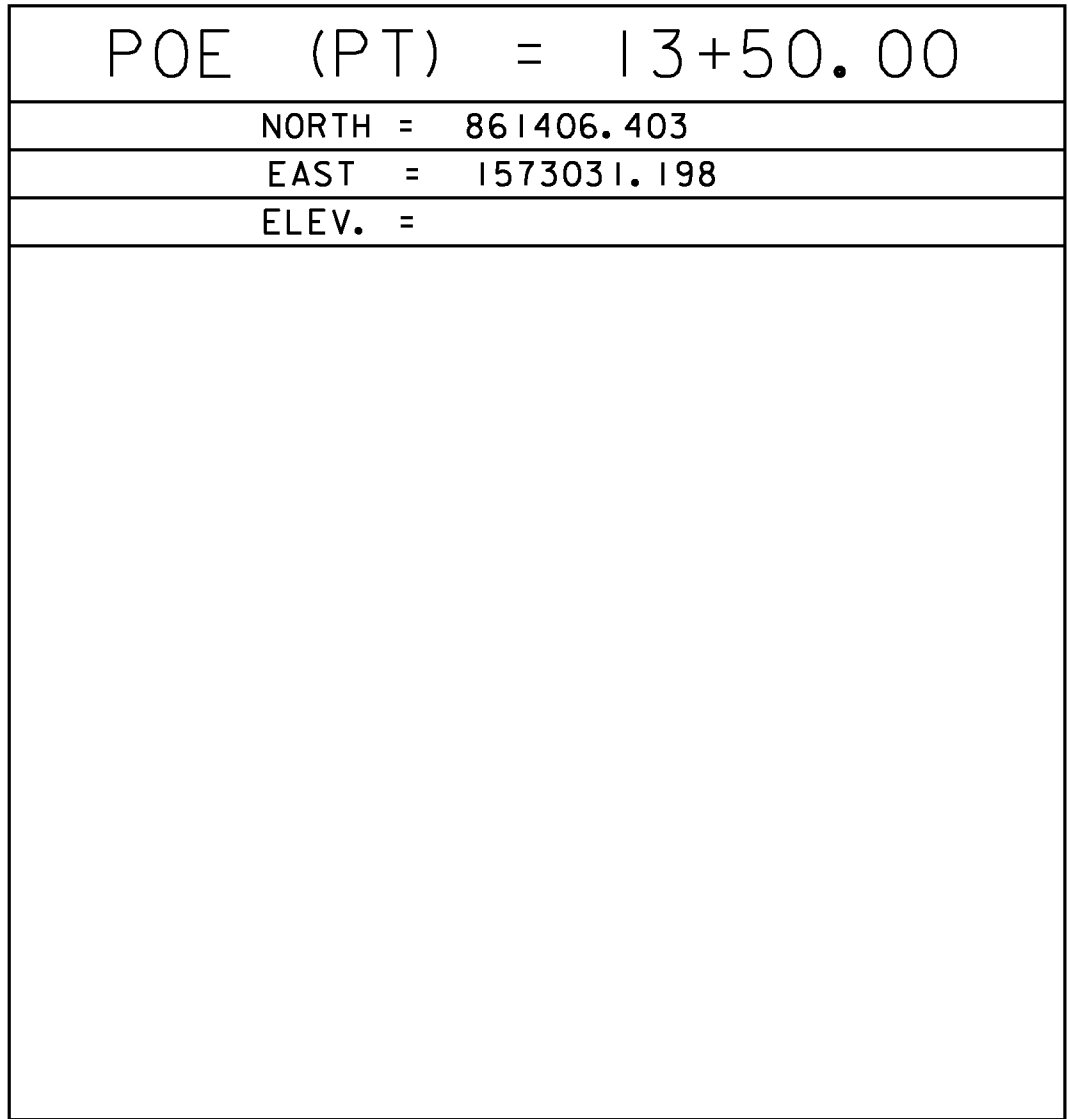
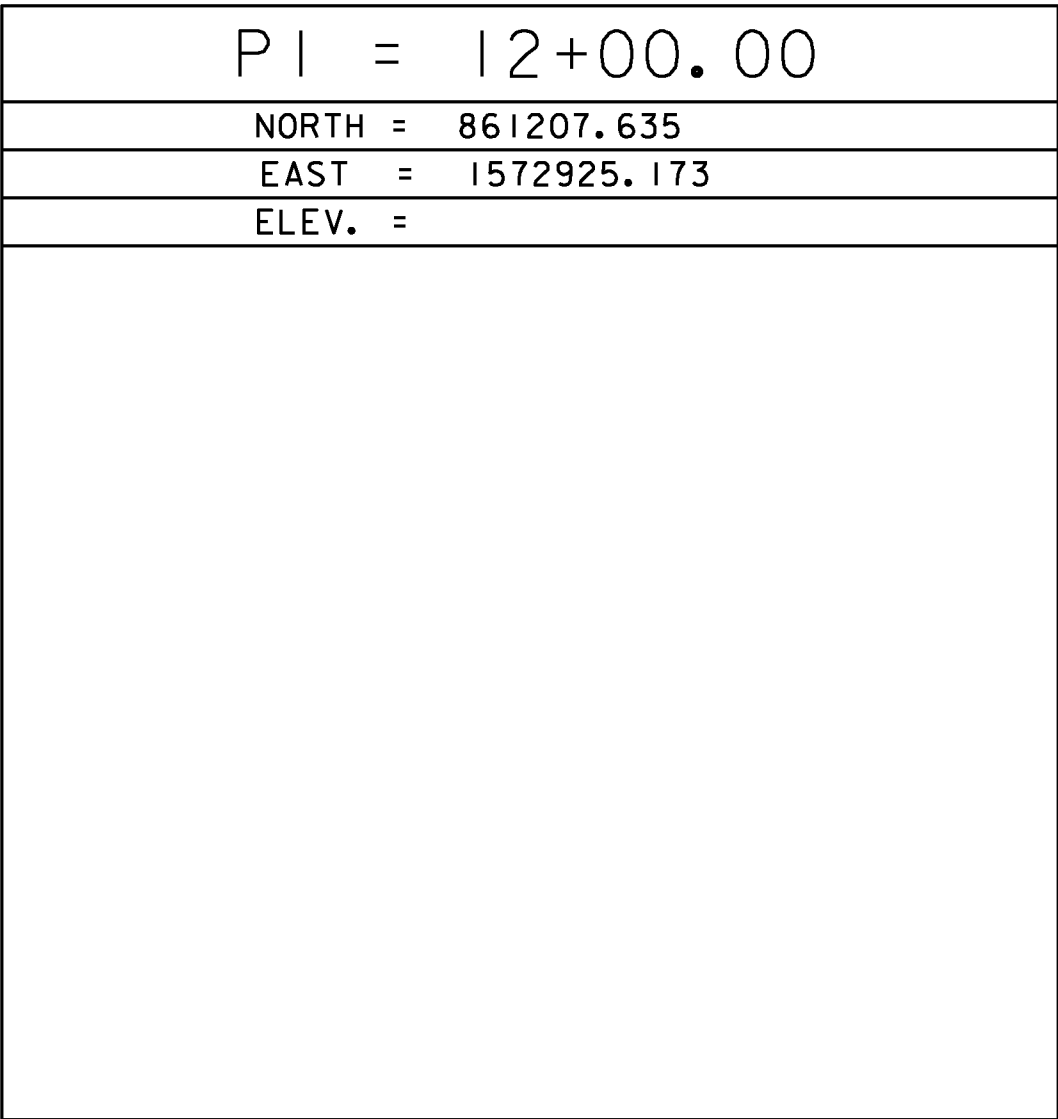
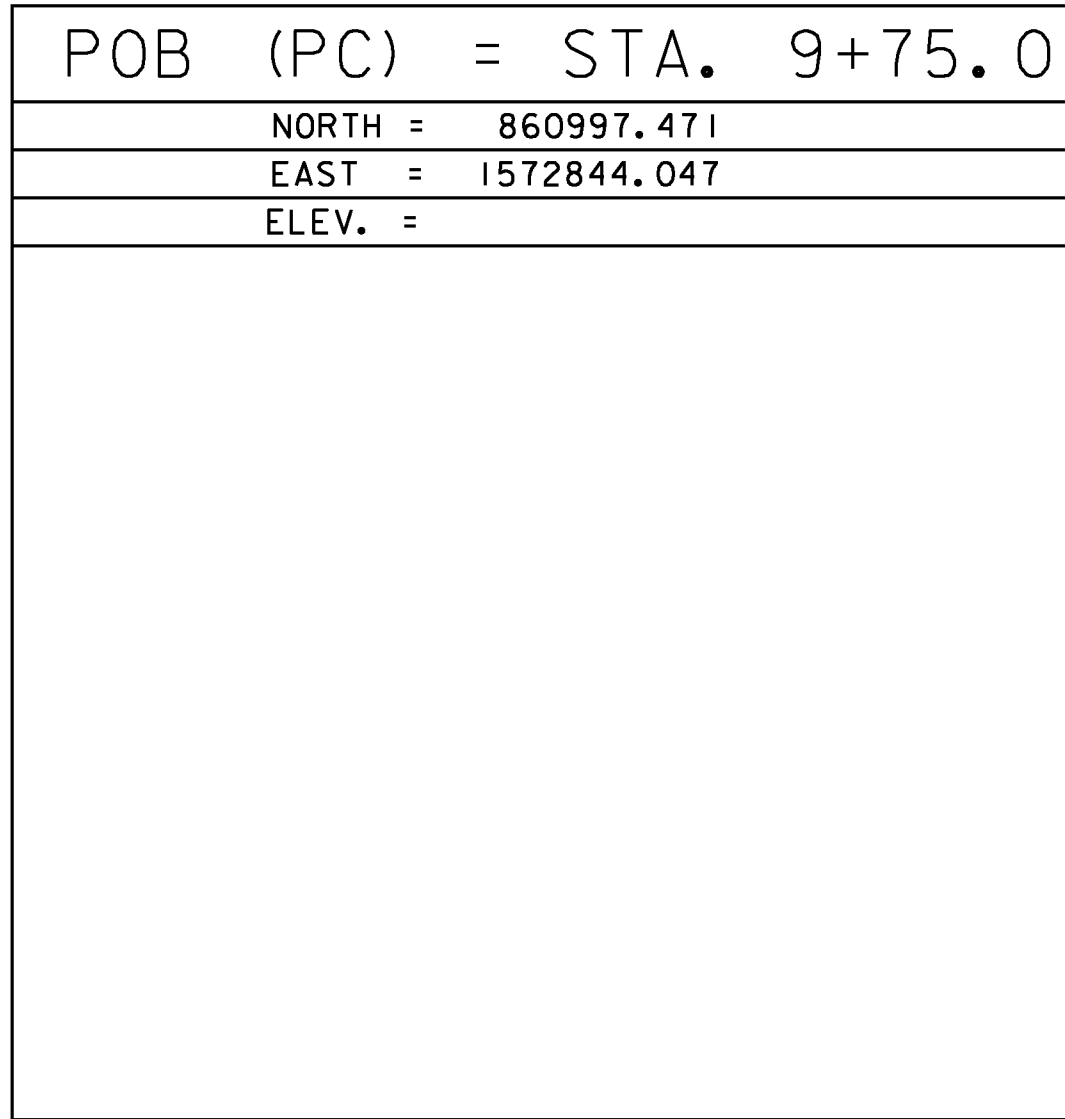
GENERAL DESCRIPTION: TEMP2  
TO REACH FROM JUNCTION OF VT108 AND TH1 (TYLER BRANCH RD.) IN ENOSBURG PROCEED EAST ALONG TH1  
FOR 2.1 MILES TO JUNCTION WITH TH2 (BOSTON POST RD.) AND TURN LEFT AND PROCEED NORTH ALONG TH2  
FOR 0.1 MILE TO MARK (REBAR WITH PLASTIC CAP [VTAOT TRAV PT] ON THE LEFT IN A LAWN, 28' WEST OF  
CENTERLINE TH2, 32' SOUTH OF CENTERLINE GRAVEL DRIVE, 102' SOUTH OF POLE #5/4A AND 106' NORTHWEST  
POLE #3.  
SEE HVCTRL #2 FOR COORDINATES

TRAVERSE TIES



*MAIN TRAVERSE COMPLETED 4/11/2012 BY L. ORVIS P.C. & G. HITCHCOCK

ALIGNMENT TIES



COORDINATE SYSTEM	
NAME:	US STATE PLANE 1983
DATUM:	NAD 1983(2007)
ZONE:	VERMONT 4400
GEOID:	GEOID09 (CONUS)
VERTICAL:	NAVD 88
ADJUSTMENT:	COMPASS

PROJECT NAME: ENOSBURG	
PROJECT NUMBER: BRO 1448(40)	
FILE NAME: ...\\Plot Files\\xx tie sheet.dgn	PLOT DATE: 10/4/2013
PROJECT LEADER: C. WILLIAMS	DRAWN BY: R. BULLOCK
DESIGNED BY:	CHECKED BY:
TIE SHEET - TIE 1	SHEET 9 OF 46



ITEM 621.30 - BOX BEAM GUARDRAIL

STA. 9+60.5 - 10+90.3, RT.  
~~STA. 10+15.5 - 10+90.8, LT.~~  
STA. 12+28.5 - 12+31.4, LT.  
STA. 12+24.2 - 12+25.3, RT.  
10+79.3 AS PER COD #2

ITEM 621.80 - REMOVAL AND DISPOSAL OF GUARDRAIL

STA. 10+75.8 - 11+29.3, RT.  
STA. 11+01.5 - 11+29.7, LT.  
STA. 12+01.8 - 12+24.1, LT.  
STA. 12+02.2 - 12+21.3, RT.

ITEM 621.725 - GUARDRAIL APPROACH SECTION, GALVANIZED 3 RAIL BOX BEAM

STA. 10+90.8 - 11+22.7, LT.  
STA. 10+90.3 - 11+22.5, RT.  
STA. 11+98.3 - 12+28.5, LT.  
STA. 11+98.6 - 12+24.2, RT.

ITEM 613.12 - STONE FILL, TYPE III

STA. 11+07.1 - 11+46.7, LT.  
STA. 10+25.0 - 11+46.9, RT.  
STA. 11+82.0 - 12+28.4, RT.  
STA. 11+83.9 - 12+07.1, LT.

ITEM 649.31 - GEOTEXTILE UNDER STONE FILL

STA. 11+07.1 - 11+46.7, LT.  
STA. 10+25.0 - 11+46.9, RT.  
STA. 11+82.0 - 12+28.4, RT.  
STA. 11+83.9 - 12+07.1, LT.

ITEM 402.10 - AGGREGATE SHOULDERS, IN PLACE

STA. 9+36.0 - 11+24.0, RT.  
STA. 10+21.0 - 11+24.0, LT.  
STA. 11+97.0 - 12+54.3, LT.  
STA. 11+97.0 - 12+30.0, RT.  
STA. 12+53.4 - 13+50.0, LT.  
STA. 12+76.0 - 13+50.0, RT.

ITEM 210.10 - COLD PLANING, BITUMINOUS PAVEMENT

STA. 10+00.0 - 10+10.0  
STA. 12+40.0 - 13+50.0

ITEM 620.55 - REMOVAL OF EXISTING FENCE

STA. 11+90.0 LT.

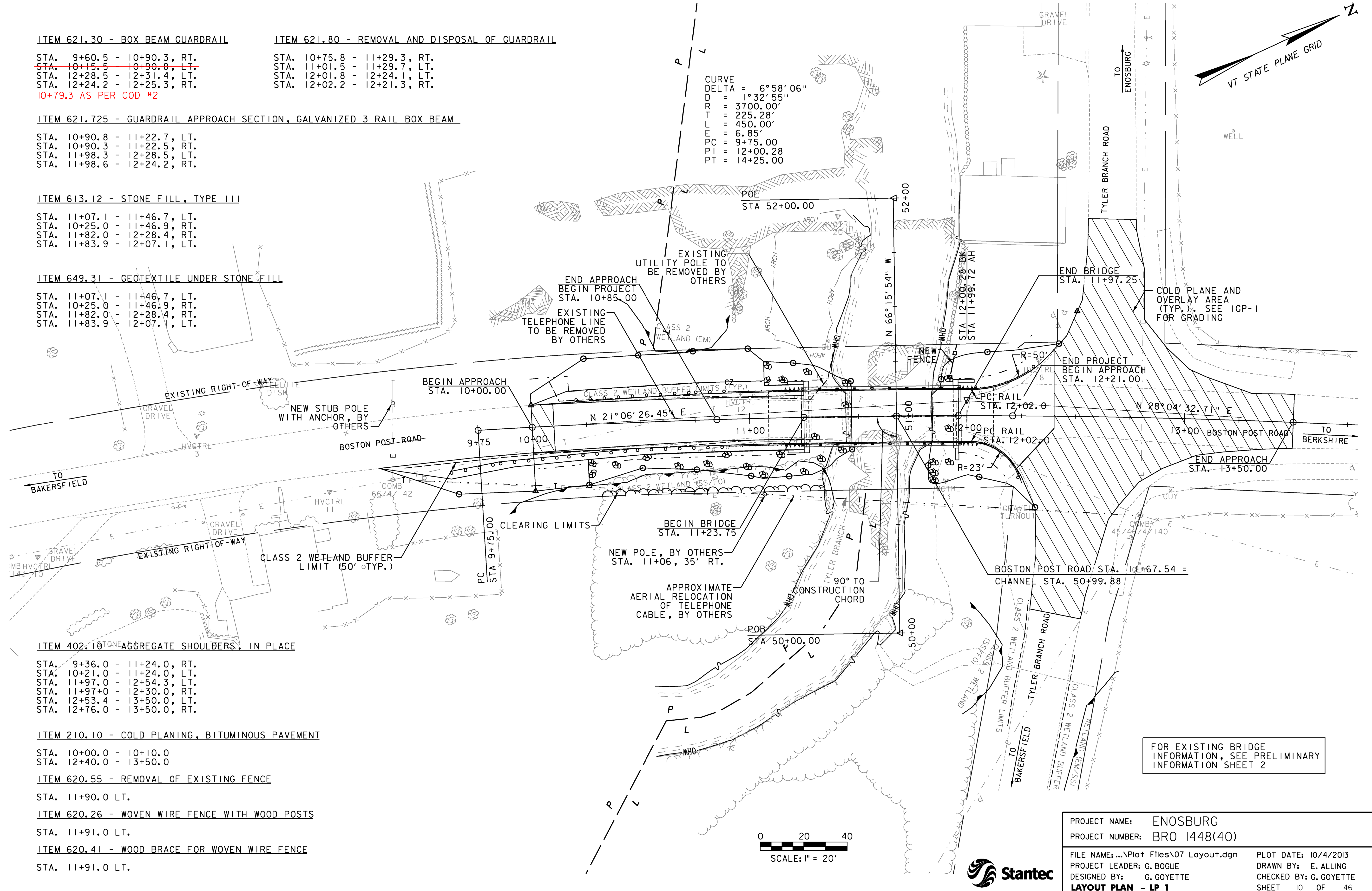
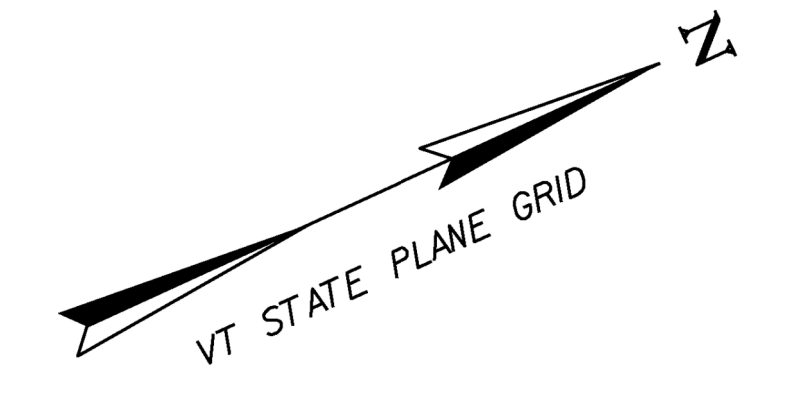
ITEM 620.26 - WOVEN WIRE FENCE WITH WOOD POSTS

STA. 11+91.0 LT.

ITEM 620.41 - WOOD BRACE FOR WOVEN WIRE FENCE

STA. 11+91.0 LT.

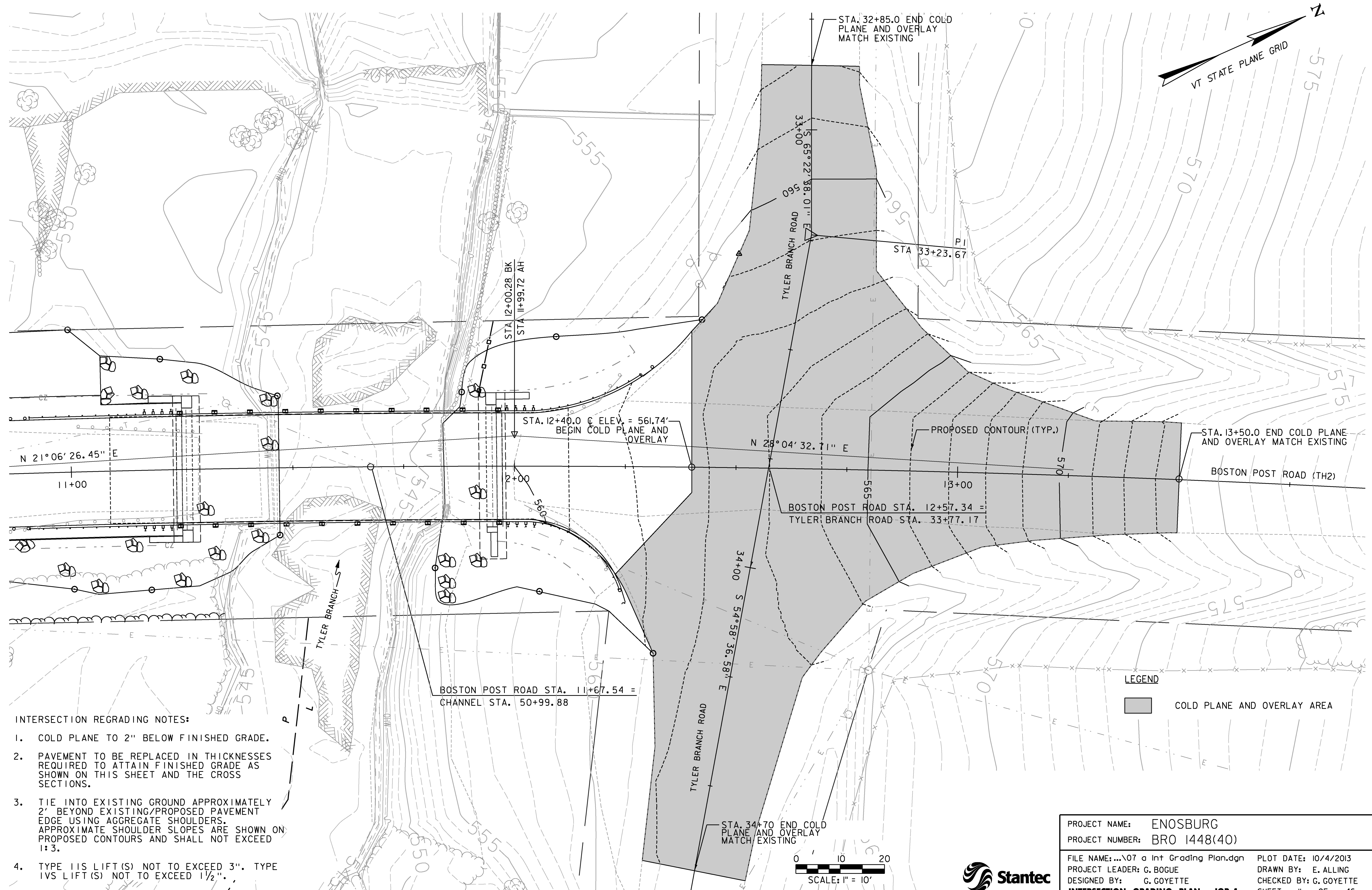
CURVE  
DELTA = 6°58'06"  
D = 1°32'55"  
R = 3700.00'  
T = 225.28'  
L = 450.00'  
E = 6.85'  
PC = 9+75.00  
PI = 12+00.28  
PT = 14+25.00



FOR EXISTING BRIDGE  
INFORMATION, SEE PRELIMINARY  
INFORMATION SHEET 2

PROJECT NAME:	ENOSBURG
PROJECT NUMBER:	BRO 1448(40)
FILE NAME:	...Plot Files\07 Layout.dgn
PROJECT LEADER:	G. BOGUE
DESIGNED BY:	G. GOYETTE
LAYOUT PLAN - LP 1	
PLOT DATE:	10/4/2013
DRAWN BY:	E. ALLING
CHECKED BY:	G. GOYETTE
SHEET	10 OF 46





INTERSECTION REGRADING NOTES:

1. COLD PLANE TO 2" BELOW FINISHED GRADE.
2. PAVEMENT TO BE REPLACED IN THICKNESSES REQUIRED TO ATTAIN FINISHED GRADE AS SHOWN ON THIS SHEET AND THE CROSS SECTIONS.
3. TIE INTO EXISTING GROUND APPROXIMATELY 2' BEYOND EXISTING/PROPOSED PAVEMENT EDGE USING AGGREGATE SHOULDERS. APPROXIMATE SHOULDER SLOPES ARE SHOWN ON PROPOSED CONTOURS AND SHALL NOT EXCEED 1:3.
4. TYPE I LIFT(S) NOT TO EXCEED 3". TYPE IVS LIFT(S) NOT TO EXCEED 1 1/2".

LEGEND

COLD PLANE AND OVERLAY AREA

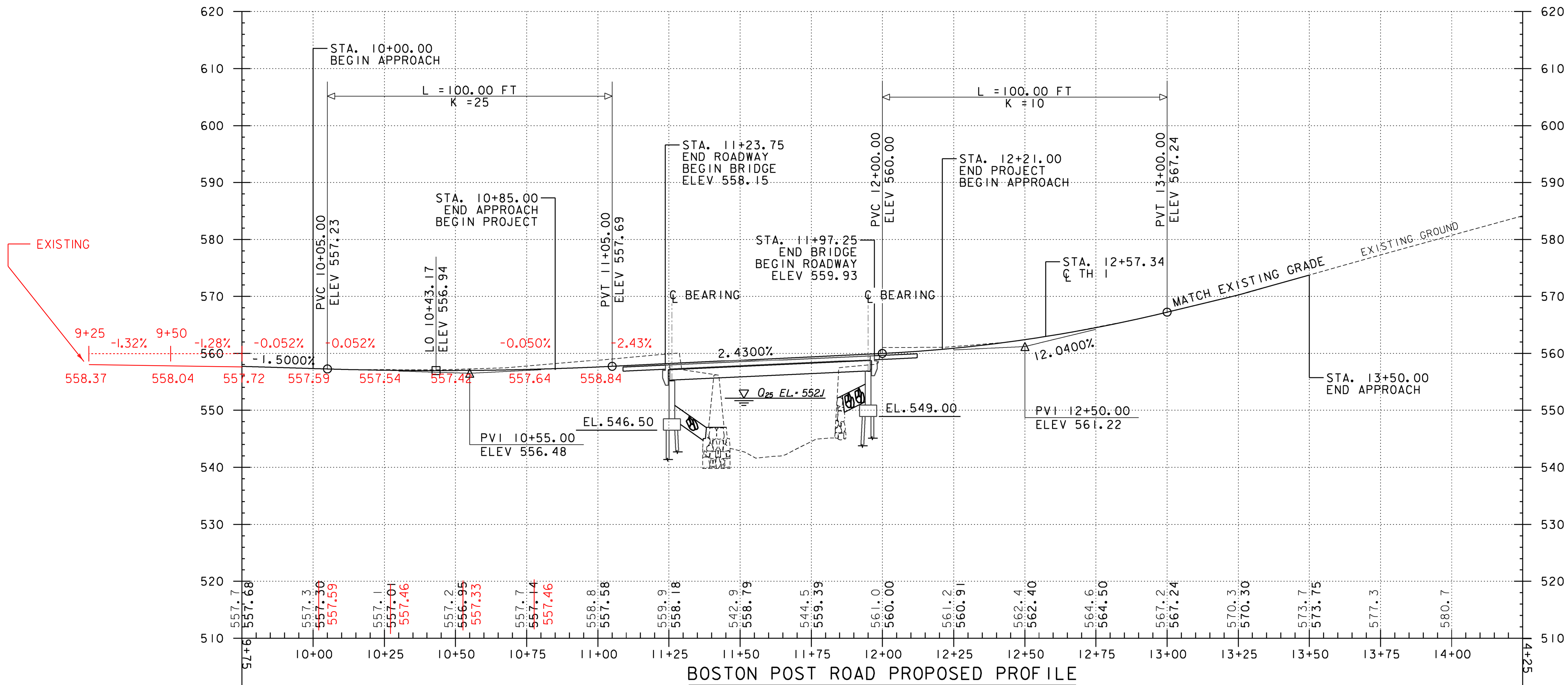
PROJECT NAME: ENOSBURG  
PROJECT NUMBER: BRO 1448(40)

FILE NAME: ...07 a Int Grading Plan.dgn  
PROJECT LEADER: G. BOGUE  
DESIGNED BY: G. GOYETTE  
INTERSECTION GRADING PLAN - IGP 1

PLOT DATE: 10/4/2013  
DRAWN BY: E. ALLING  
CHECKED BY: G. GOYETTE  
SHEET II OF 46

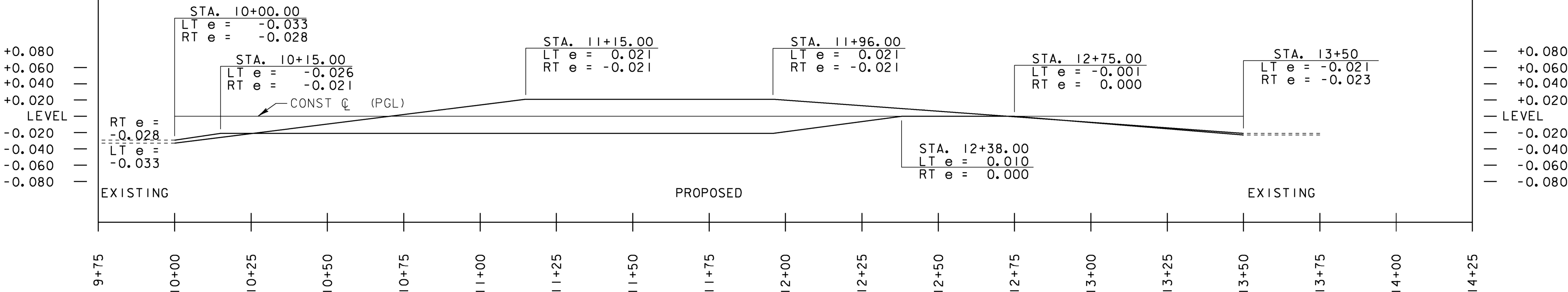






BOSTON POST ROAD PROPOSED PROFILE

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



BOSTON POST ROAD SUPERELEVATION DIAGRAM

HORIZONTAL SCALE: 1' = 20' VERTICAL SCALE: N.T.S.

PROFILE NOTES:

EXISTING SURVEY INFORMATION SHOWN ON THE PLANS INCLUDES THE TEMPORARY BRIDGE

GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG C

GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE ALONG C



PROJECT NAME: ENOSBURG  
PROJECT NUMBER: BRO 1448(40)

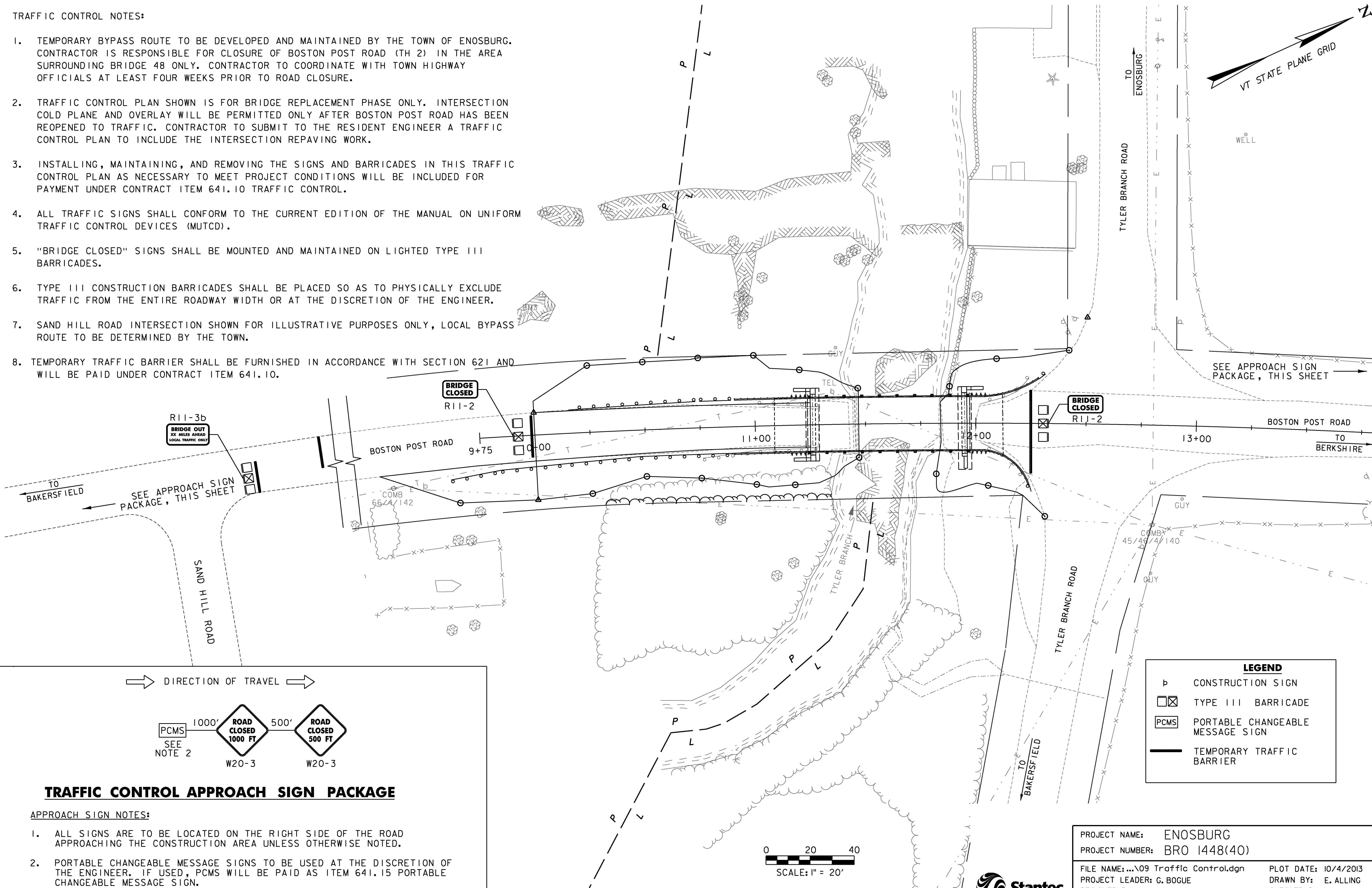
FILE NAME: ...Plot Files\08 Profile.dgn  
PROJECT LEADER: G. BOGUE  
DESIGNED BY: G. GOYETTE  
PLOT DATE: 10/4/2013  
DRAWN BY: E. ALLING  
CHECKED BY: G. GOYETTE  
SHEET 12 OF 46

PROFILE SHEET - RP 1



TRAFFIC CONTROL NOTES:

1. TEMPORARY BYPASS ROUTE TO BE DEVELOPED AND MAINTAINED BY THE TOWN OF ENOSBURG. CONTRACTOR IS RESPONSIBLE FOR CLOSURE OF BOSTON POST ROAD (TH 2) IN THE AREA SURROUNDING BRIDGE 48 ONLY. CONTRACTOR TO COORDINATE WITH TOWN HIGHWAY OFFICIALS AT LEAST FOUR WEEKS PRIOR TO ROAD CLOSURE.
2. TRAFFIC CONTROL PLAN SHOWN IS FOR BRIDGE REPLACEMENT PHASE ONLY. INTERSECTION COLD PLANE AND OVERLAY WILL BE PERMITTED ONLY AFTER BOSTON POST ROAD HAS BEEN REOPENED TO TRAFFIC. CONTRACTOR TO SUBMIT TO THE RESIDENT ENGINEER A TRAFFIC CONTROL PLAN TO INCLUDE THE INTERSECTION REPAVING WORK.
3. INSTALLING, MAINTAINING, AND REMOVING THE SIGNS AND BARRICADES IN THIS TRAFFIC CONTROL PLAN AS NECESSARY TO MEET PROJECT CONDITIONS WILL BE INCLUDED FOR PAYMENT UNDER CONTRACT ITEM 641.10 TRAFFIC CONTROL.
4. ALL TRAFFIC SIGNS SHALL CONFORM TO THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
5. "BRIDGE CLOSED" SIGNS SHALL BE MOUNTED AND MAINTAINED ON LIGHTED TYPE III BARRICADES.
6. TYPE III CONSTRUCTION BARRICADES SHALL BE PLACED SO AS TO PHYSICALLY EXCLUDE TRAFFIC FROM THE ENTIRE ROADWAY WIDTH OR AT THE DISCRETION OF THE ENGINEER.
7. SAND HILL ROAD INTERSECTION SHOWN FOR ILLUSTRATIVE PURPOSES ONLY, LOCAL BYPASS ROUTE TO BE DETERMINED BY THE TOWN.
8. TEMPORARY TRAFFIC BARRIER SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 621 AND WILL BE PAID UNDER CONTRACT ITEM 641.10.



TRAFFIC CONTROL APPROACH SIGN PACKAGE

APPROACH SIGN NOTES:

1. ALL SIGNS ARE TO BE LOCATED ON THE RIGHT SIDE OF THE ROAD APPROACHING THE CONSTRUCTION AREA UNLESS OTHERWISE NOTED.
2. PORTABLE CHANGEABLE MESSAGE SIGNS TO BE USED AT THE DISCRETION OF THE ENGINEER. IF USED, PCMS WILL BE PAID AS ITEM 641.15 PORTABLE CHANGEABLE MESSAGE SIGN.

PROJECT NAME: ENOSBURG  
PROJECT NUMBER: BRO 1448(40)

FILE NAME: ...09 Traffic Control.dgn  
PROJECT LEADER: G. BOGUE  
DESIGNED BY: G. GOYETTE  
TRAFFIC CONTROL SHEET- TCP 1

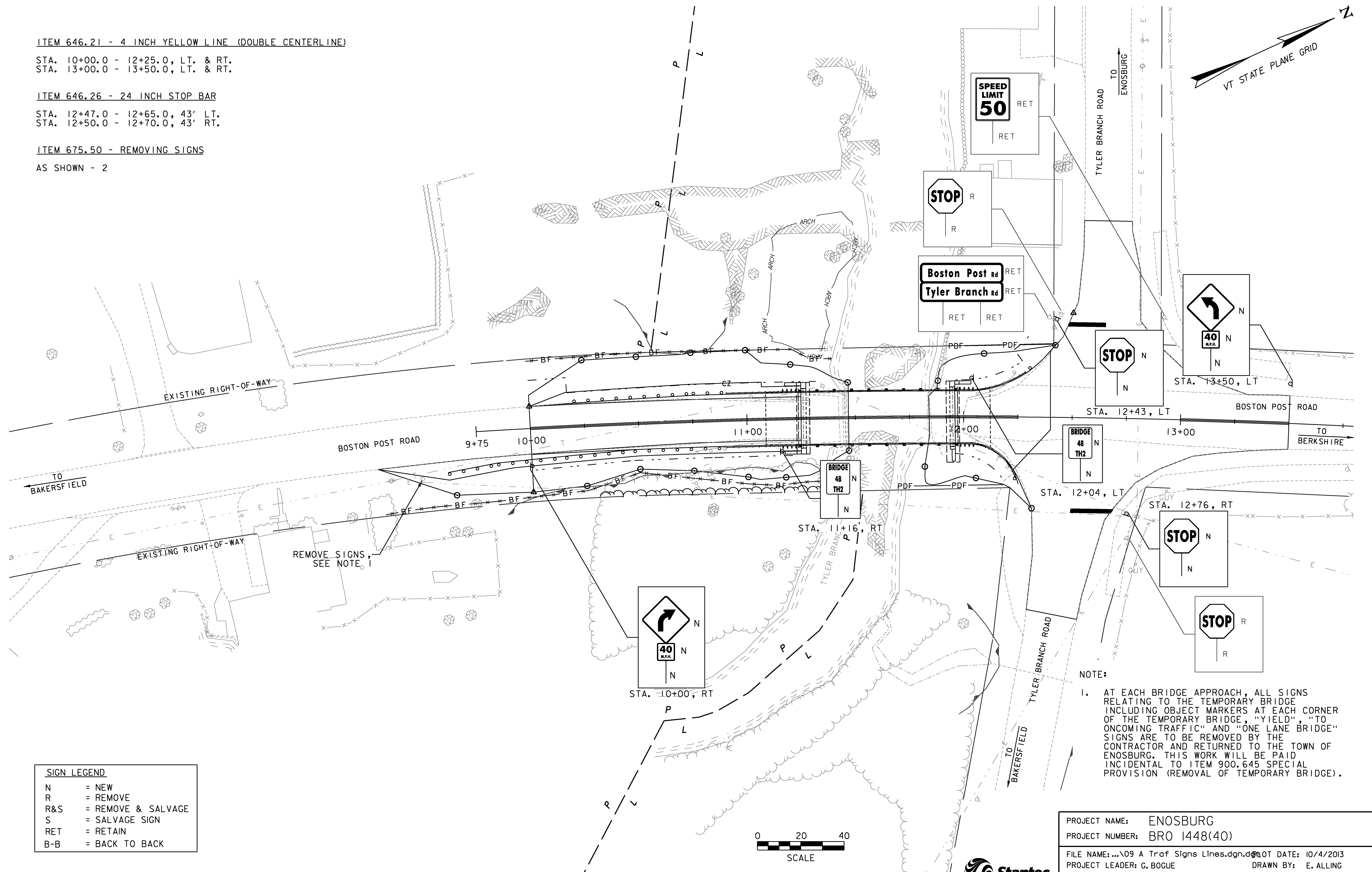
PLOT DATE: 10/4/2013  
DRAWN BY: E. ALLING  
CHECKED BY: G. GOYETTE  
SHEET 13 OF 46



STA. 10+00.0 - 12+25.0, LT. & RT.  
STA. 13+00.0 - 13+50.0, LT. & RT.

STA. 12+47.0 - 12+65.0, 43' LT.  
STA. 12+50.0 - 12+70.0, 43' RT.

AS SHOWN - 2



N	= NEW
R	= REMOVE
R&S	= REMOVE & SALVAGE
S	= SALVAGE SIGN
RET	= RETAIN
B-B	= BACK TO BACK

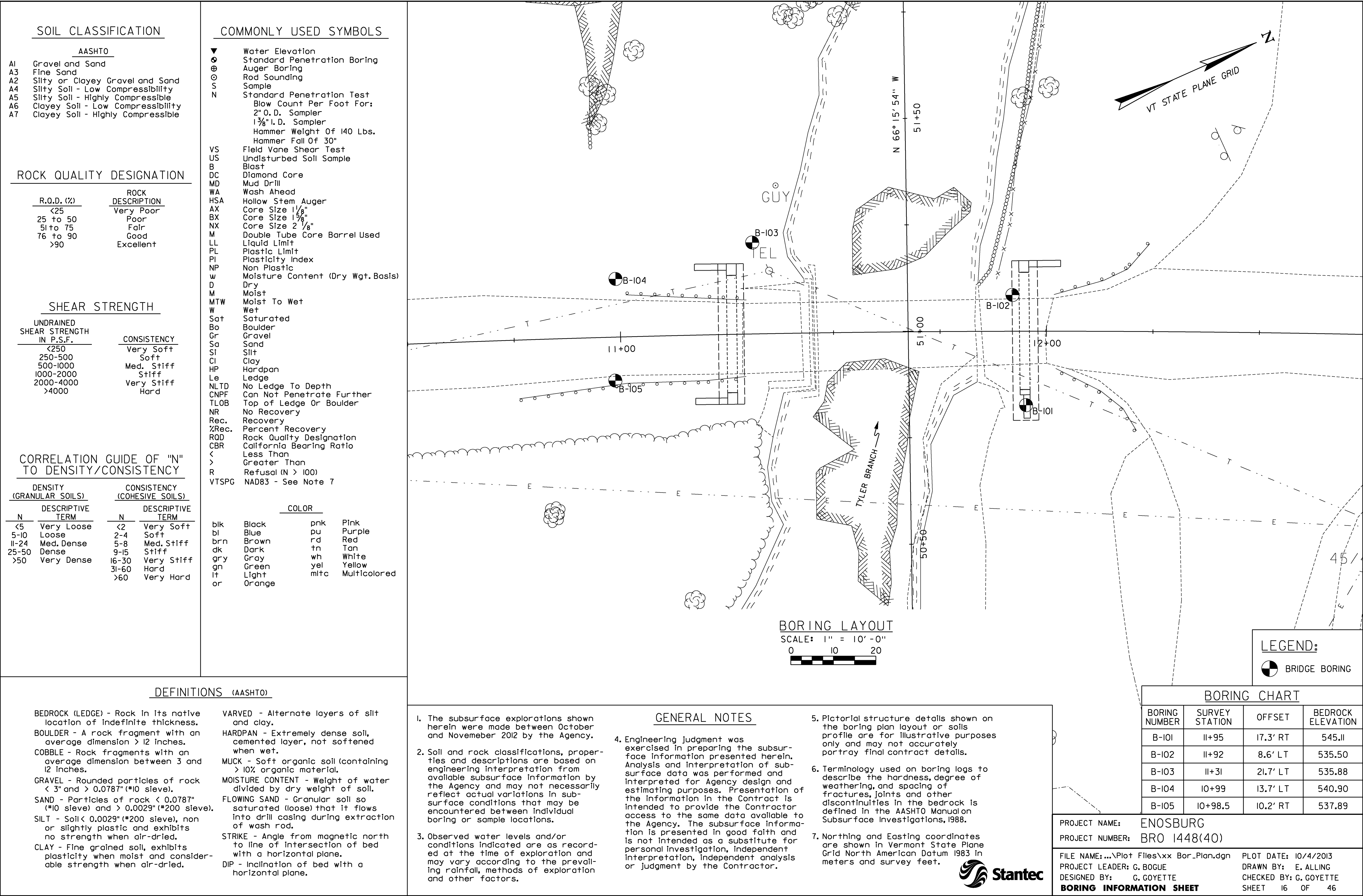
FILE NAME: ...\\09 A Traf Signs Lines.dgn.dgn	NOT DATE: 10/4/2013
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: G. GOYETTE	CHECKED BY: G. GOYETTE
<b>TRAFFIC SIGNS AND LINES LAYOUT - TSL 1</b>	SHEET 14 OF 46



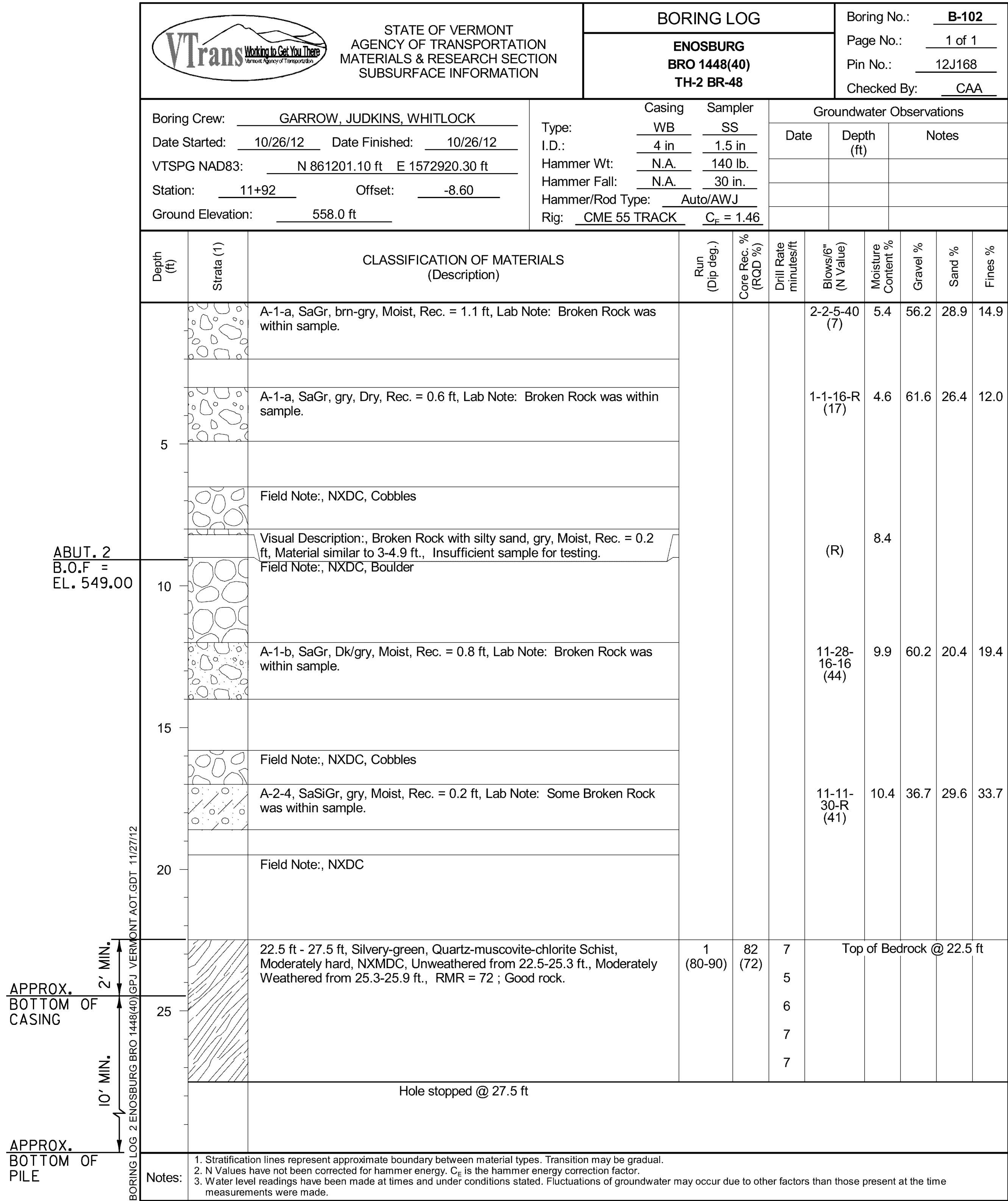
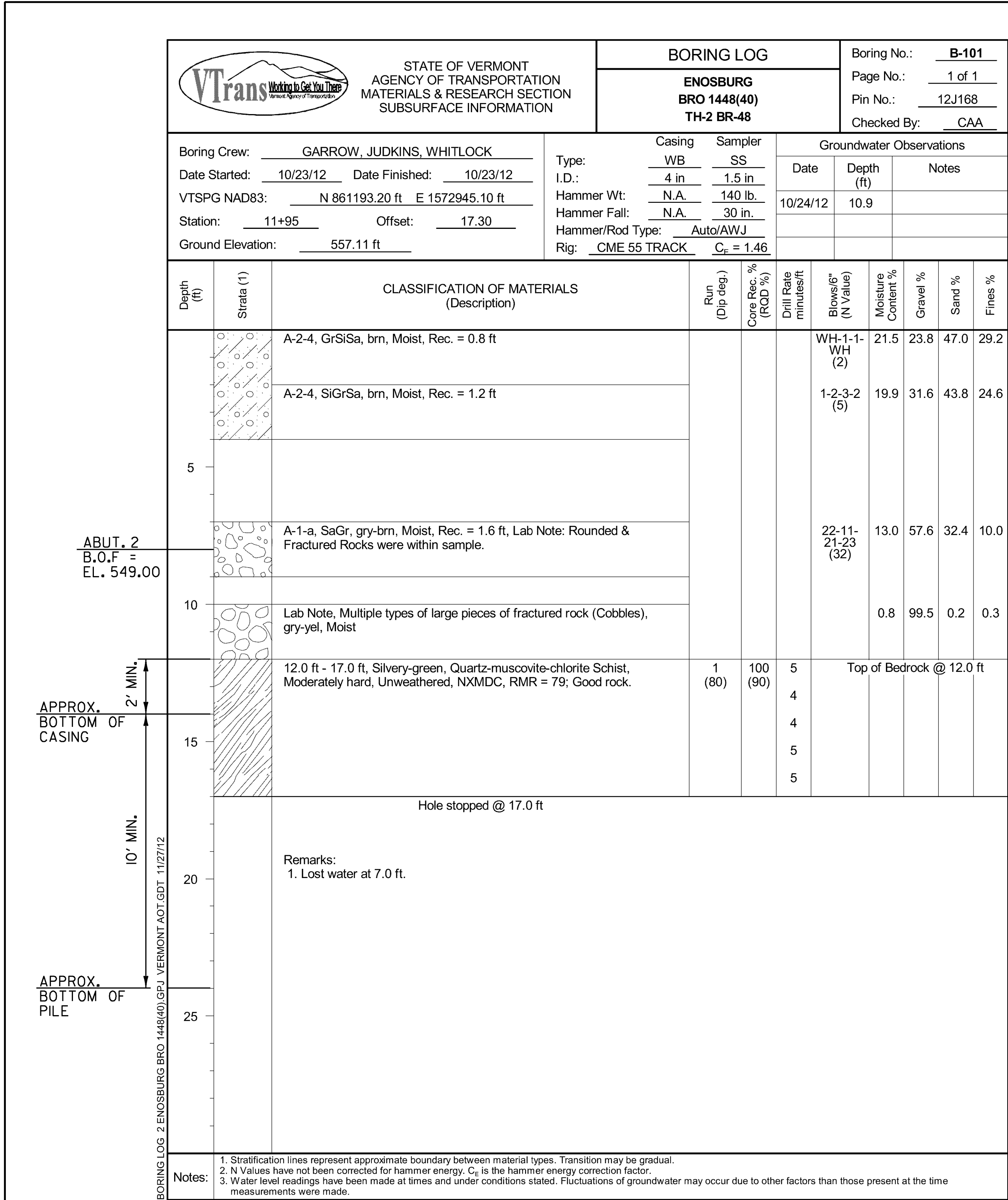
# TRAFFIC SIGN SUMMARY SHEET

PROJECT NAME: ENOSBURG	
PROJECT NUMBER: BRO 1448(40)	
FILE NAME: ...\\drawing\\z12j168†ss.dgn	PLOT DATE: 10/4/2013
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: E. ALLING	CHECKED BY: G. GOYETTE
<b>TRAFFIC SIGN SUMMARY SHEET – TSS 1</b>	SHEET 15 OF 46









PROJECT NAME: ENOSBURG  
PROJECT NUMBER: BRO I448(40)

FILE NAME: ...\\Plo+ Files\\xx Bor_Log.dgn  
PROJECT LEADER: G. BOGUE  
DESIGNED BY: G. GOYETTE  
BORING LOG 1

PLOT DATE: 10/4/2013  
DRAWN BY: E. ALLING  
CHECKED BY: G. GOYETTE  
SHEET 17 OF 46



APPROX.  
BOTTOM OF  
PILE

BORING LOG 2 ENOSBURG BRO 1448(40).GPJ VERMONT AOT.GDT 11/27/12



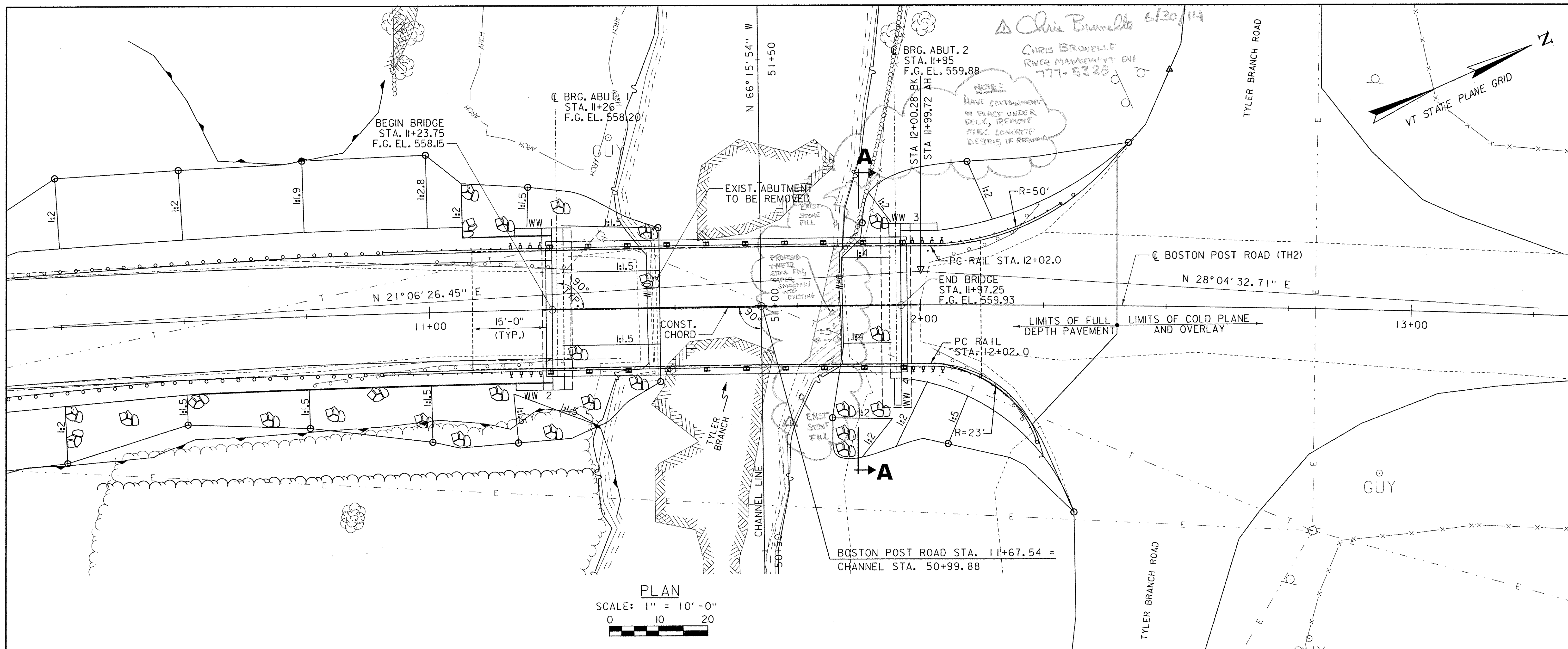
 STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS &amp; RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: <b>B-105</b>						
		ENOSBURG BRO 1448(40) TH-2 BR-48		Page No.: 1 of 1 Pin No.: 12J168 Checked By: CAA						
Boring Crew: GARROW, JUDKINS, WHITLOCK		Casing Type: WB		Sampler SS		Groundwater Observations				
Date Started: 11/02/12 Date Finished: 11/02/12		I.D.: 4 in		1.5 in		Date	Depth (ft)	Notes		
VTSPG NAD83: N 861107.90 ft E 1572899.80 ft		Hammer Wt: N.A.		140 lb.						
Station: 10+98.5 Offset: 10.20		Hammer Fall: N.A.		30 in.						
Ground Elevation: 558.19 ft		Hammer/Rod Type: Auto/AWJ								
Rig: CME 55 TRACK		C _e = 1.46								
Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg.)	Core Rec. % (RAD %)	Drill Rate minutes/ft	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Field Note:, Asphalt Pavement								
		A-1-a, SaGr, brn, Moist, Rec. = 0.3 ft, Asphalt Pavement was within sample.				4-R (R)	7.2	56.5	29.7	13.8
		A-4, GrSaSi, brn, Moist, Rec. = 1.1 ft				6-5-4-5 (9)	15.9	27.1	31.1	41.8
5										
		Field Note:, NXDC, Gravel								
		Visual Description:, GrSaSi, brn, Moist, Rec. = 0.1 ft, Material similar to 2-4 ft., Insufficient sample for testing.				3-2-1-1 (3)	13.8			
10										
		Field Note:, NXDC, Gravel								
		A-1-b, SaGr, brn, Moist, Rec. = 0.8 ft				14-13-24-19 (37)	11.1	53.1	32.1	14.8
15										
		Lab Note, NXDC, Gravel								
		A-1-b, SaGr, brn, Moist, Rec. = 0.5 ft, Lab Note: Broken Rock was within sample.				10-12-7-4 (19)	9.5	49.8	33.2	17.0
20										
		20.3 ft - 25.3 ft, Silvery-green, Quartz-muscovite-chlorite Schist, Moderately hard, Unweathered, NXMDC, RMR = 76; Good rock.	1 (80-90)	92 (76)	3	Top of Bedrock @ 20.3 ft				
					3					
					2					
					3					
					3					
25										
		Hole stopped @ 25.3 ft								
Notes:		1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. C _e 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.								

BORING LOG 2 ENOSBURG BRO 1448(40).GPJ VERMONT AOT GDT 11/27/12

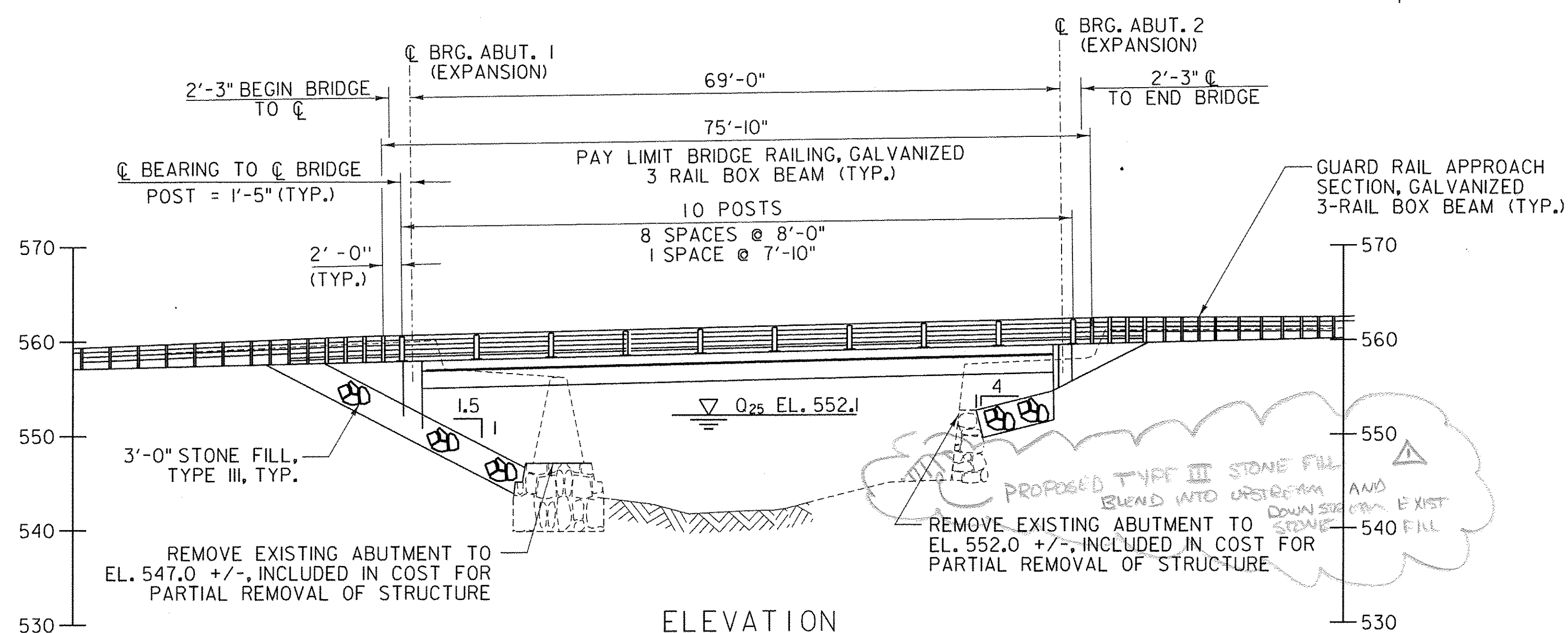


PROJECT NAME: ENOSBURG	
PROJECT NUMBER: BRO 1448(40)	
FILE NAME: ...\\Plot Files\\xx-B Bor-Log3.dgn	PLOT DATE: 10/4/2013
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: C. GOYETTE	CHECKED BY: C. GOYETTE
<b>BORING LOG 3</b>	SHEET 19 OF 46





PLAN  
SCALE: 1" = 10'-0"  
0 10 20



ELEVATION  
SCALE: 1" = 10'-0"  
0 10 20

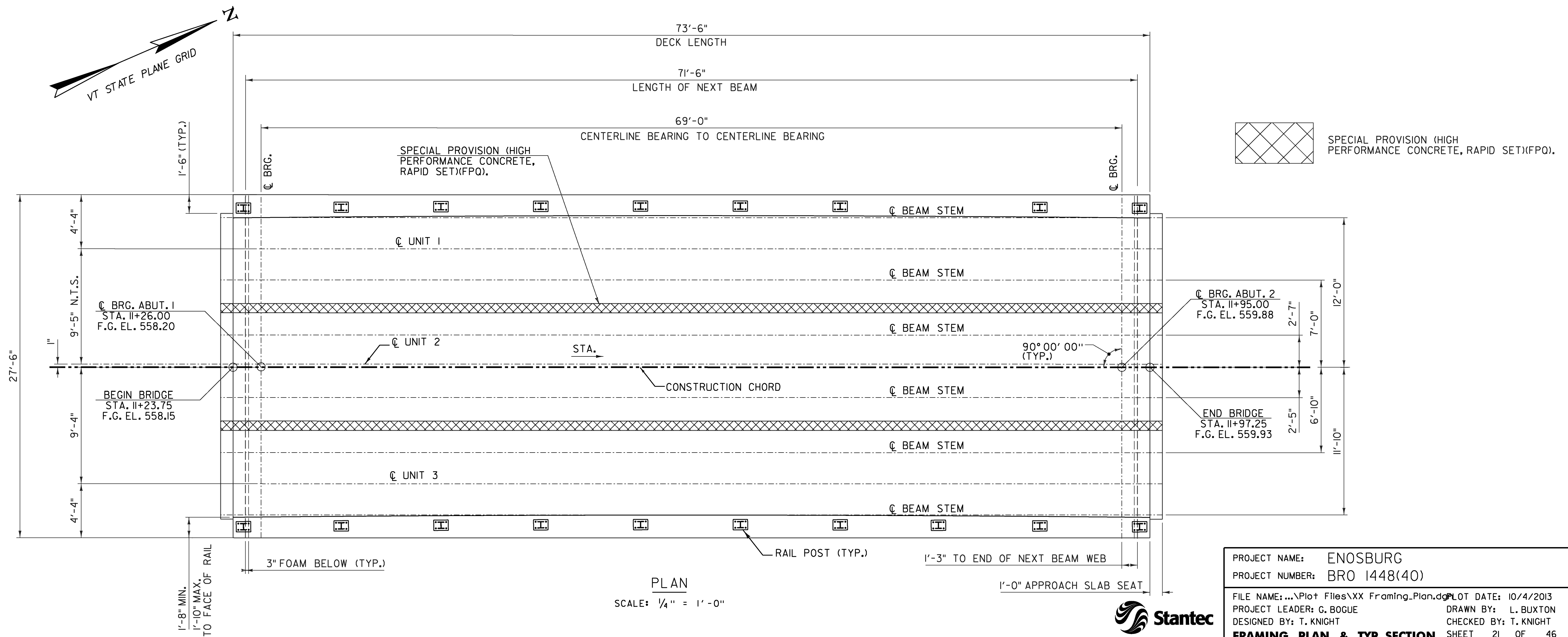
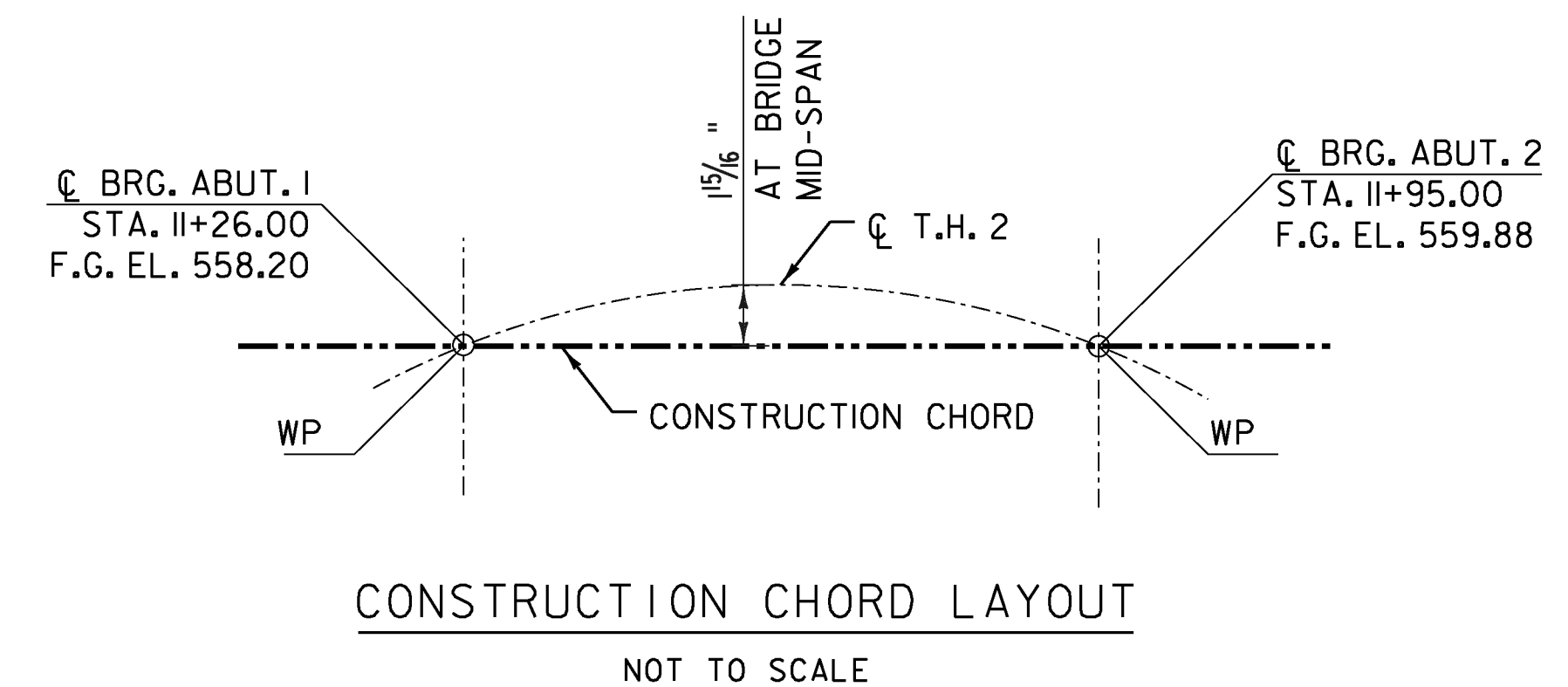
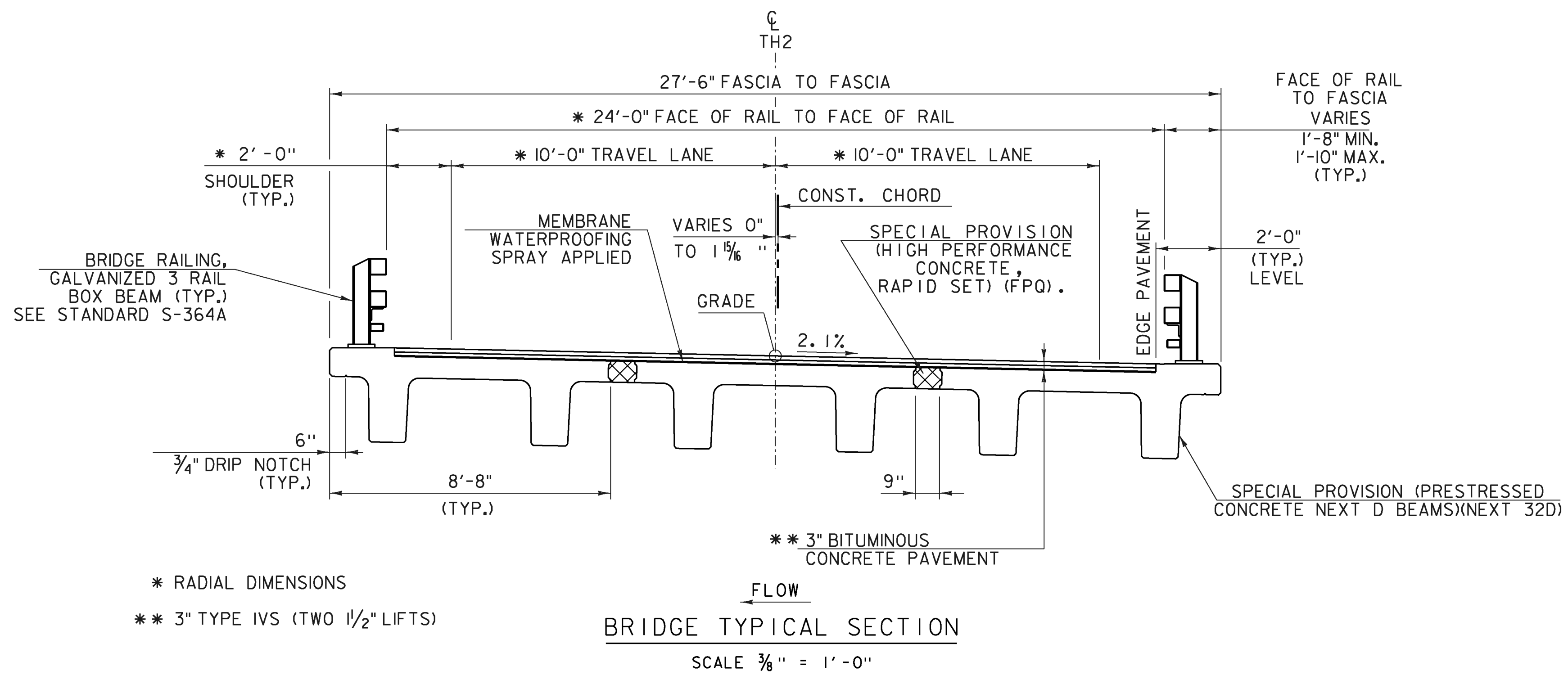
NOTE:  
FOR APPROXIMATE LIMITS OF REMOVAL  
OF EXISTING WALL AT ABUTMENT 2, REFER  
TO VIEW A-A ON SHEET 29.

PROJECT NAME: ENOSBURG  
PROJECT NUMBER: BRO 1448(40)

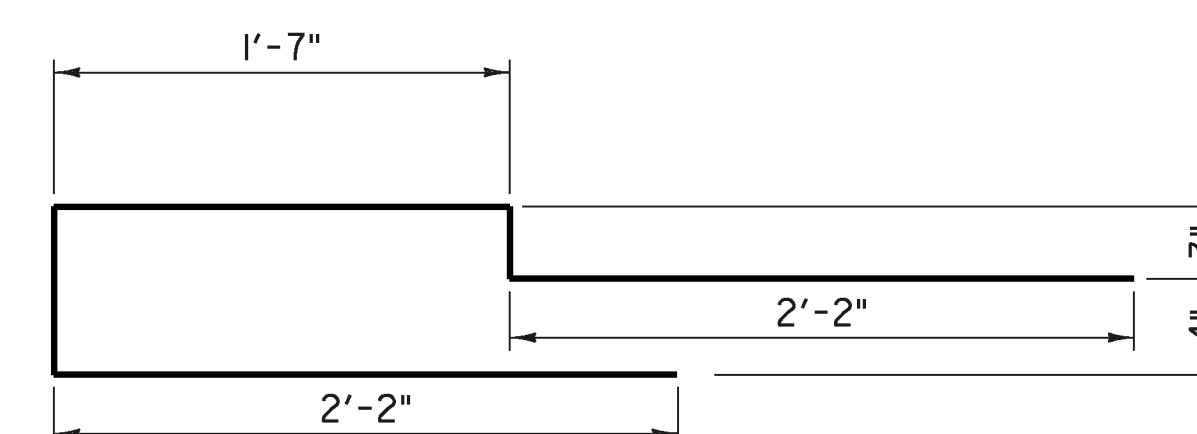
FILE NAME: ...Plot Files\... Plan_Elev.dgn PLOT DATE: 10/4/2013  
PROJECT LEADER: G. BOGUE DRAWN BY: E. ALLING  
DESIGNED BY: G. COYETTE CHECKED BY: G. COYETTE  
PLAN AND ELEVATION SHEET SHEET 20 OF 46



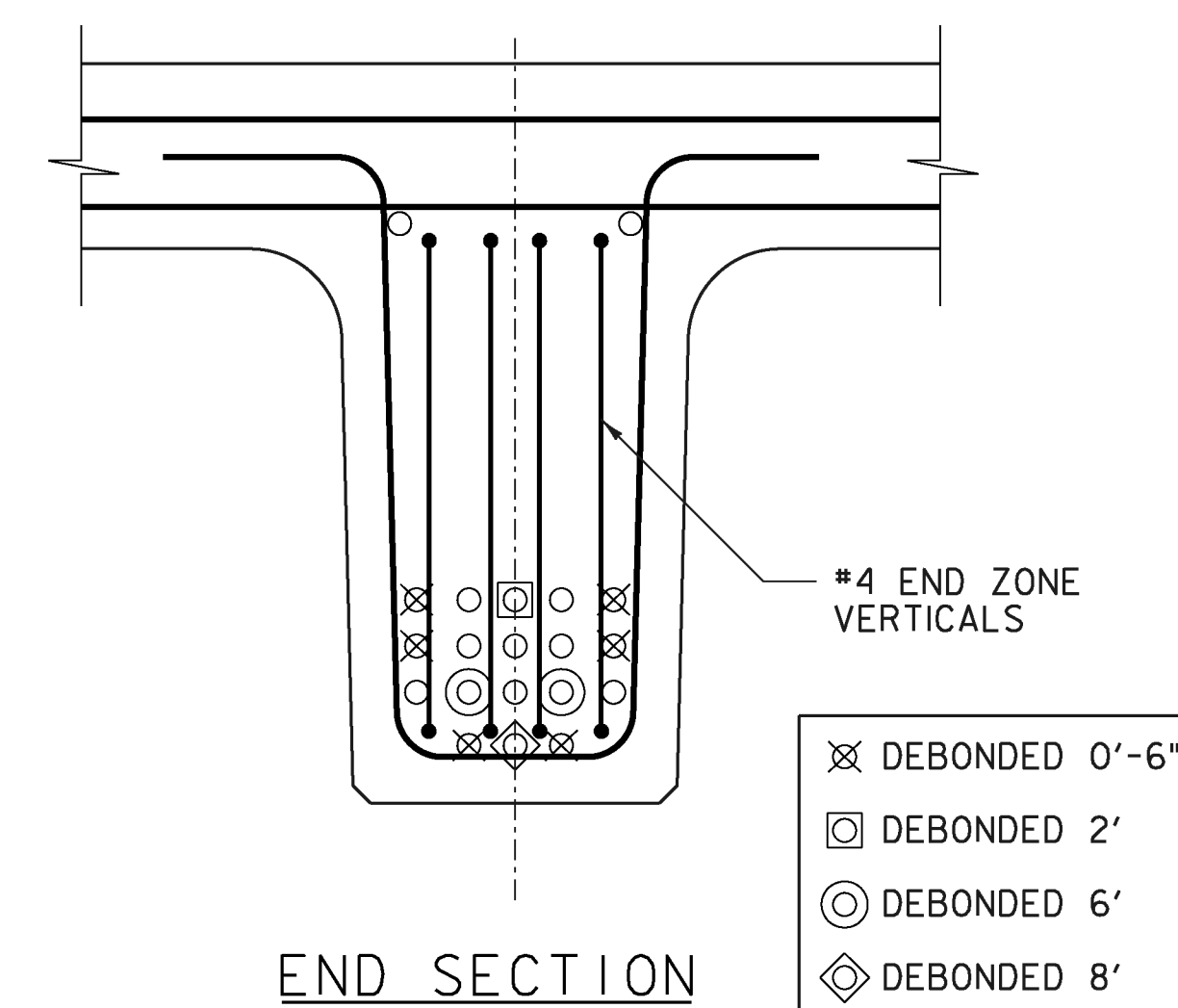




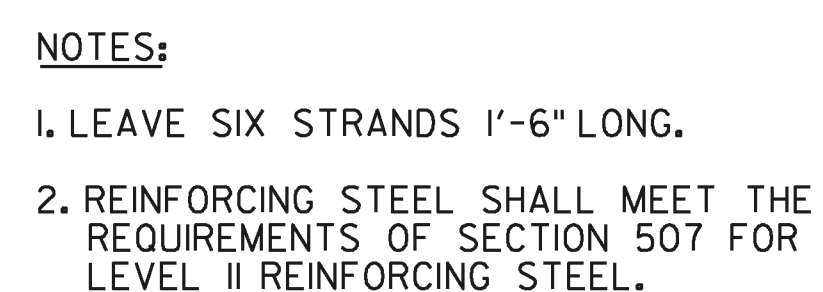




CURB BAR  
SCALE 1 1/2" = 1' - 0"

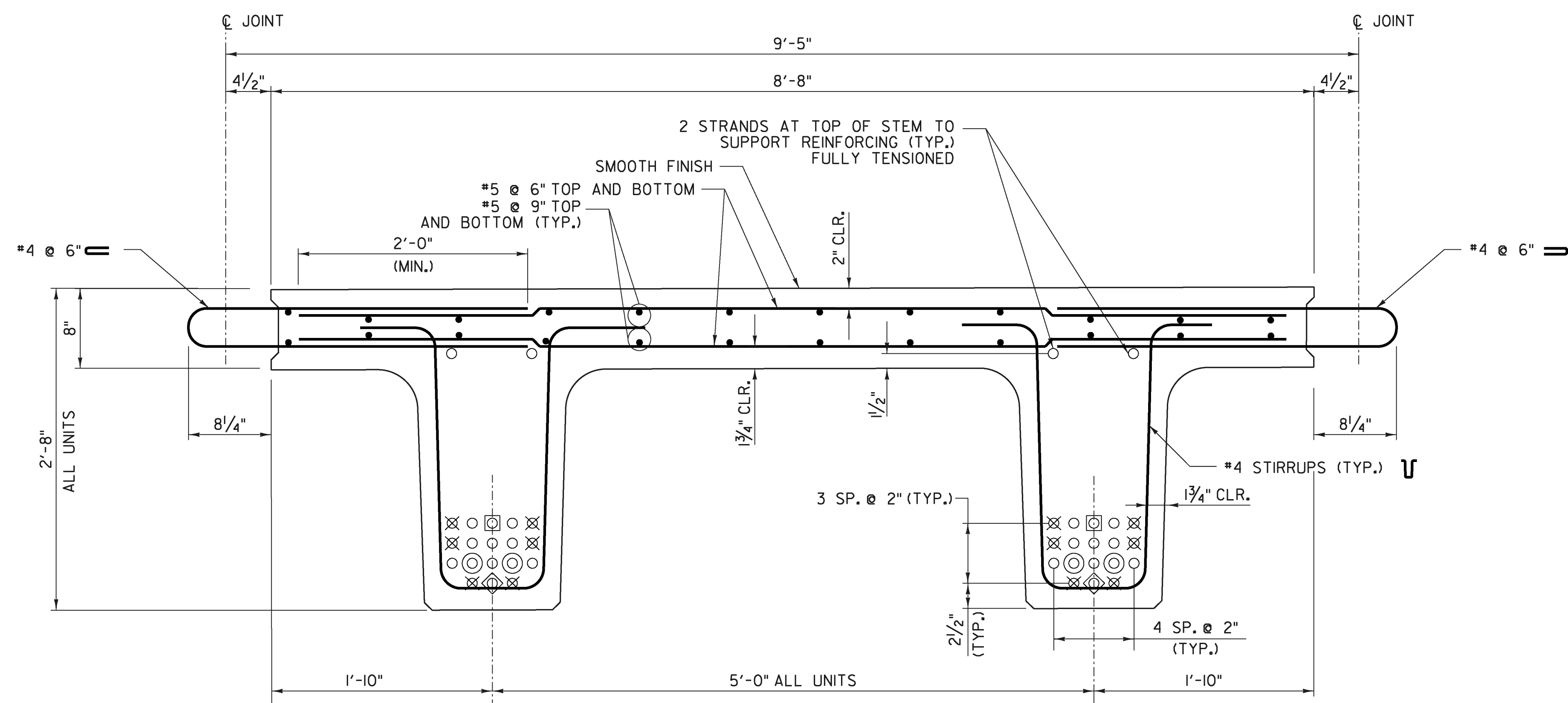


END SECTION  
SCALE 1 1/2" = 1'-0"



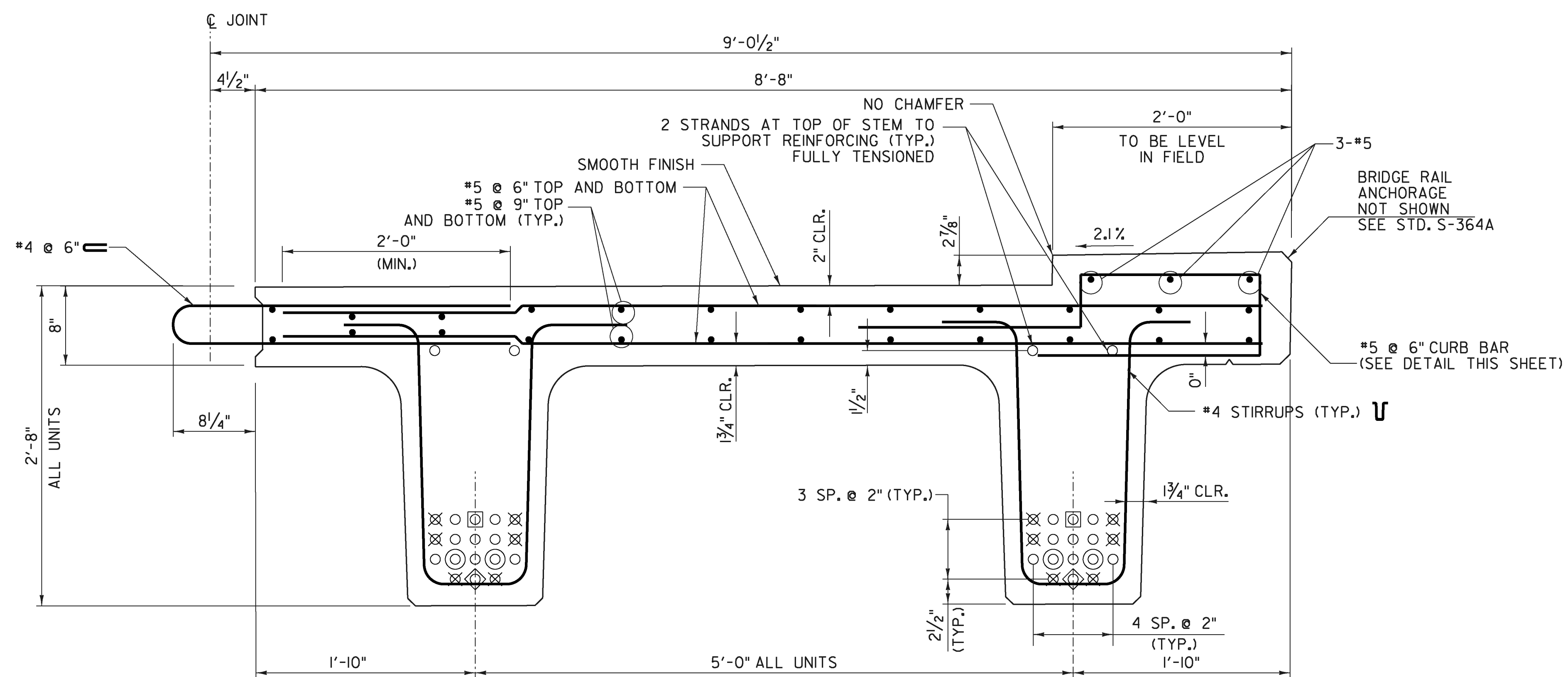
TYPICAL BEAM REINFORCING  
SCALE 1 1/2" = 1' - 0"





UNIT 2  
TYPICAL BEAM REINFORCING  
SCALE 1 1/2" = 1'-0"

- NOTES:
1. LEAVE SIX STRANDS 1'-6" LONG.
  2. REINFORCING STEEL SHALL MEET THE REQUIREMENTS OF SECTION 507 FOR LEVEL II REINFORCING STEEL.



UNIT 3  
TYPICAL BEAM REINFORCING  
SCALE 1 1/2" = 1'-0"

- NOTES:
1. LEAVE SIX STRANDS 1'-6" LONG.
  2. REINFORCING STEEL SHALL MEET THE REQUIREMENTS OF SECTION 507 FOR LEVEL II REINFORCING STEEL.

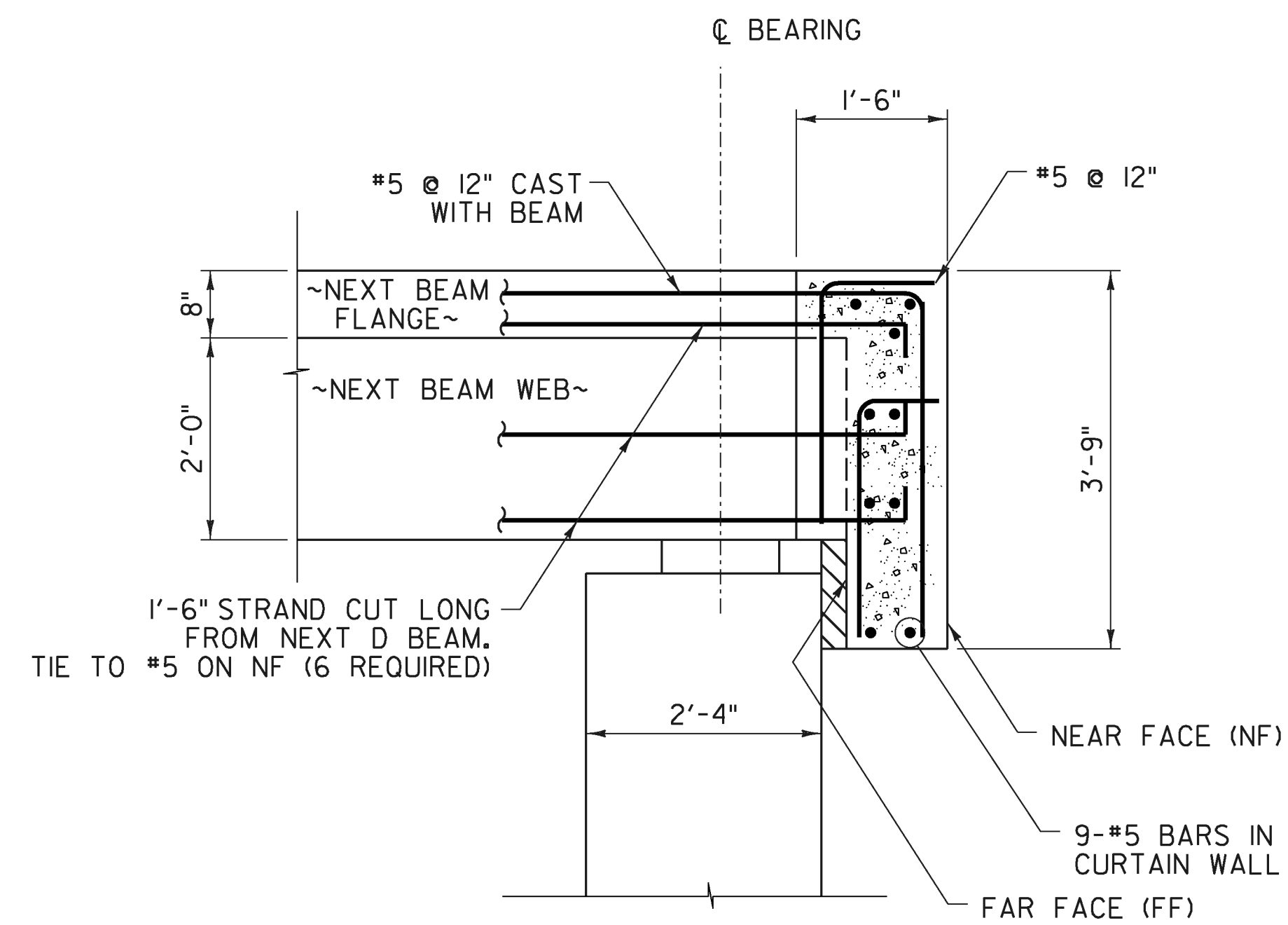


PROJECT NAME: ENOSBURG  
PROJECT NUMBER: BRO 1448(40)

FILE NAME: ...XX Next_Beam_Def_2.dgn  
PROJECT LEADER: G. BOGUE  
DESIGNED BY: T. KNIGHT  
PLOT DATE: 10/4/2013  
DRAWN BY: L. BUXTON  
CHECKED BY: T. KNIGHT  
SHEET 23 OF 46

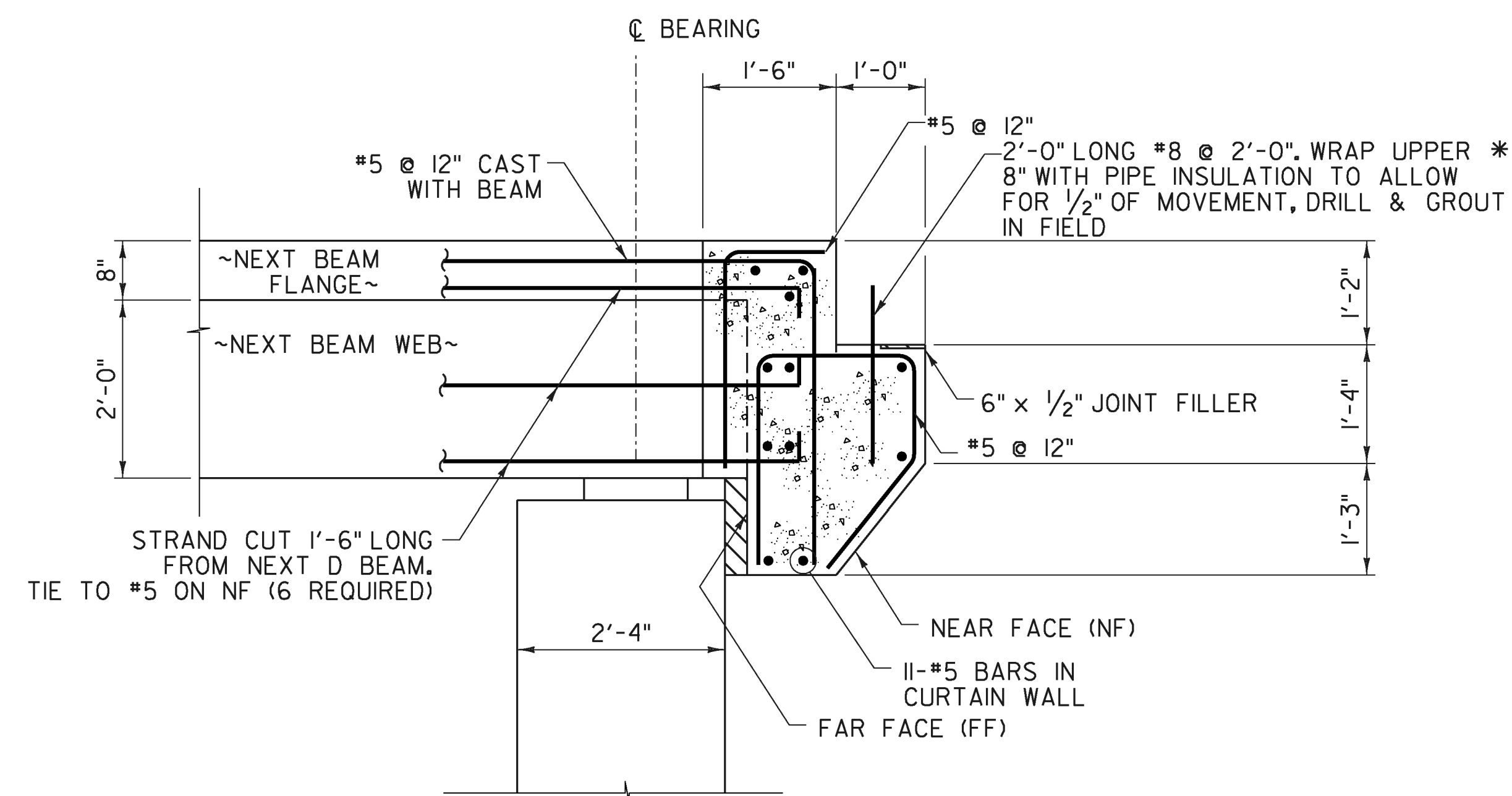
NEXT BEAM DETAILS - 2





PRECAST CURTAIN WALL REINFORCING SECTION A-A

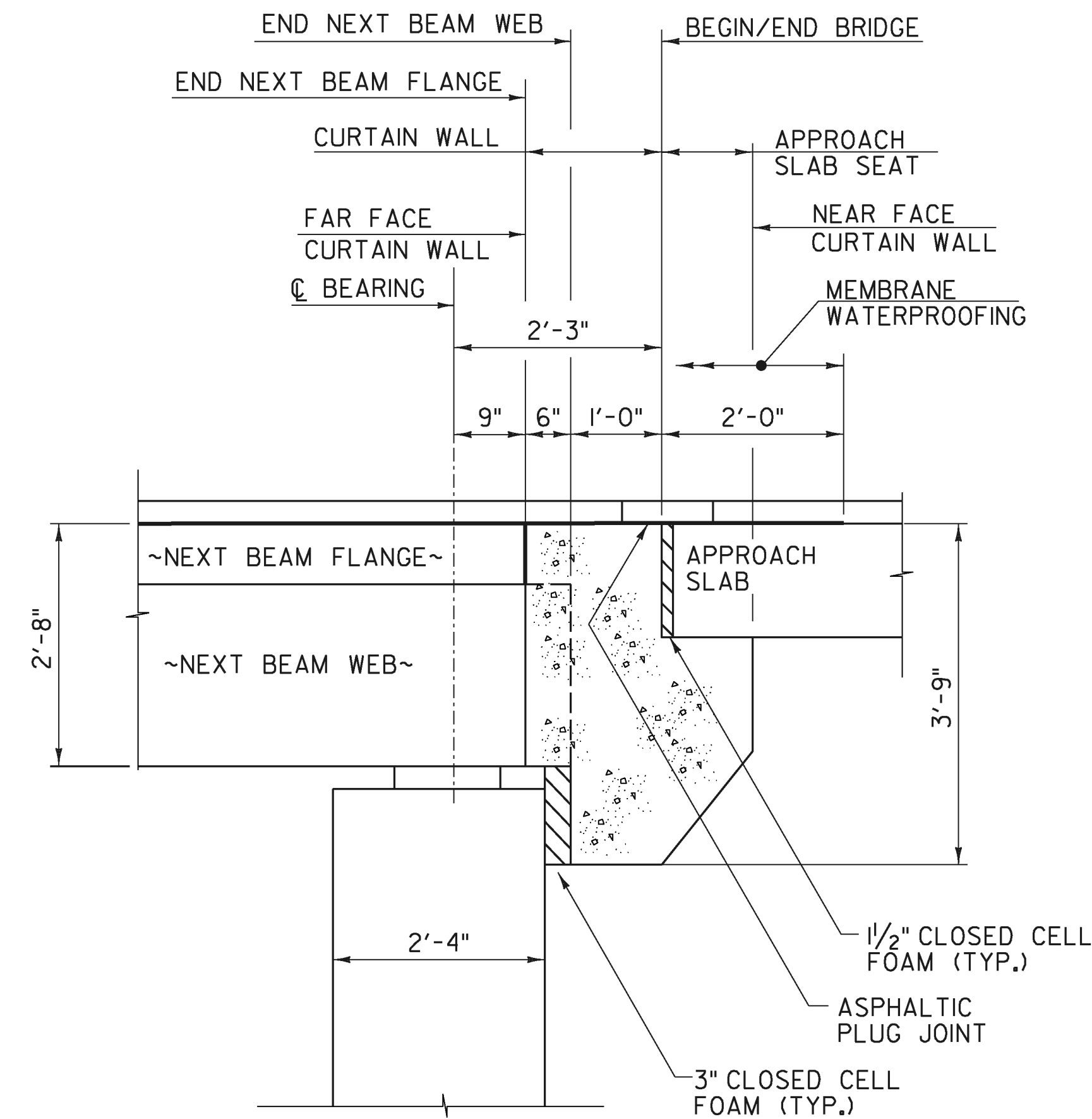
SCALE  $\frac{3}{4}$ " = 1'-0"



* INCIDENTAL TO PRECAST ITEM

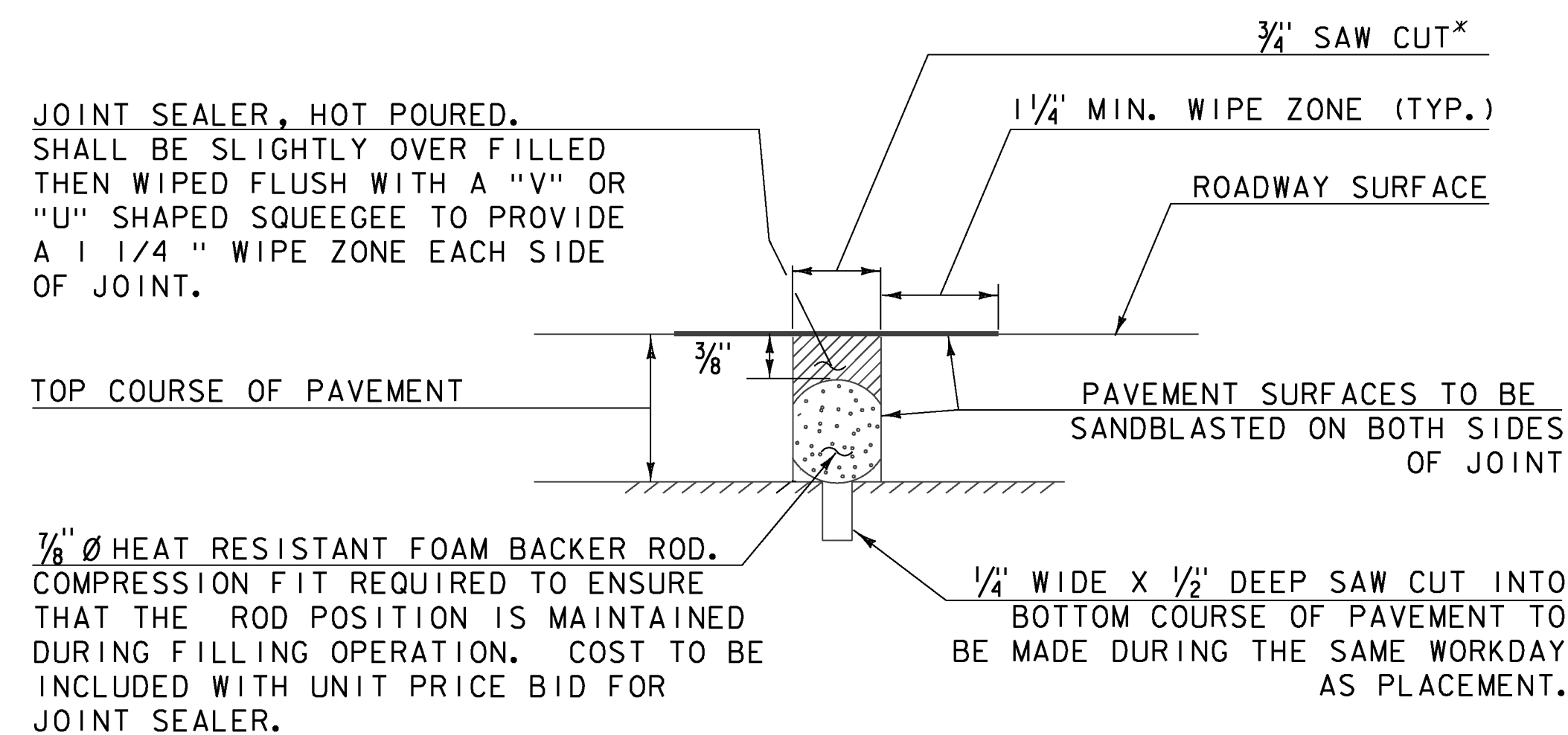
PRECAST CURTAIN WALL REINFORCING SECTION B-B

SCALE  $\frac{3}{4}$ " = 1'-0"



BRIDGE END DETAIL

SCALE  $\frac{3}{4}$ " = 1'-0"



NOTE: PLACE JOINT SEALER, HOT POURED AT THE BEGINNING OF APPROACH SLABS.

SAWED PAVEMENT JOINT DETAIL

N. T. S.

* 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. FOR LOCATION REQUIRED, REFER TO SHEET 26.

NOTE:  
FOR LOCATIONS OF SECTIONS A-A AND B-B,  
REFER TO SHEET 25.

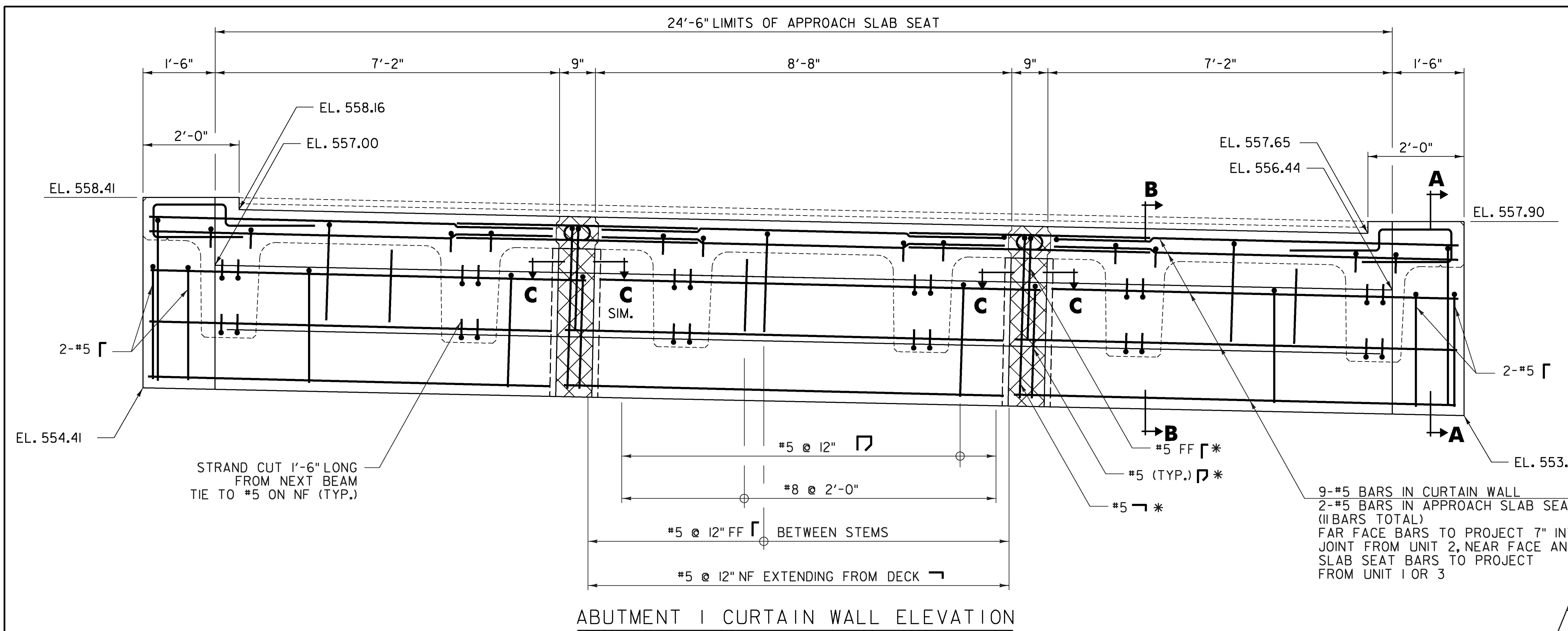
PROJECT NAME: ENOSBURG  
PROJECT NUMBER: BRO 1448(40)

FILE NAME: ...XX Curtain.Wall.Def.Ldgn PLOT DATE: 10/4/2013  
PROJECT LEADER: G. BOGUE DRAWN BY: L. BUXTON  
DESIGNED BY: T. KNIGHT CHECKED BY: T. KNIGHT  
SHEET 24 OF 46

CURTAIN WALL DETAILS - 1



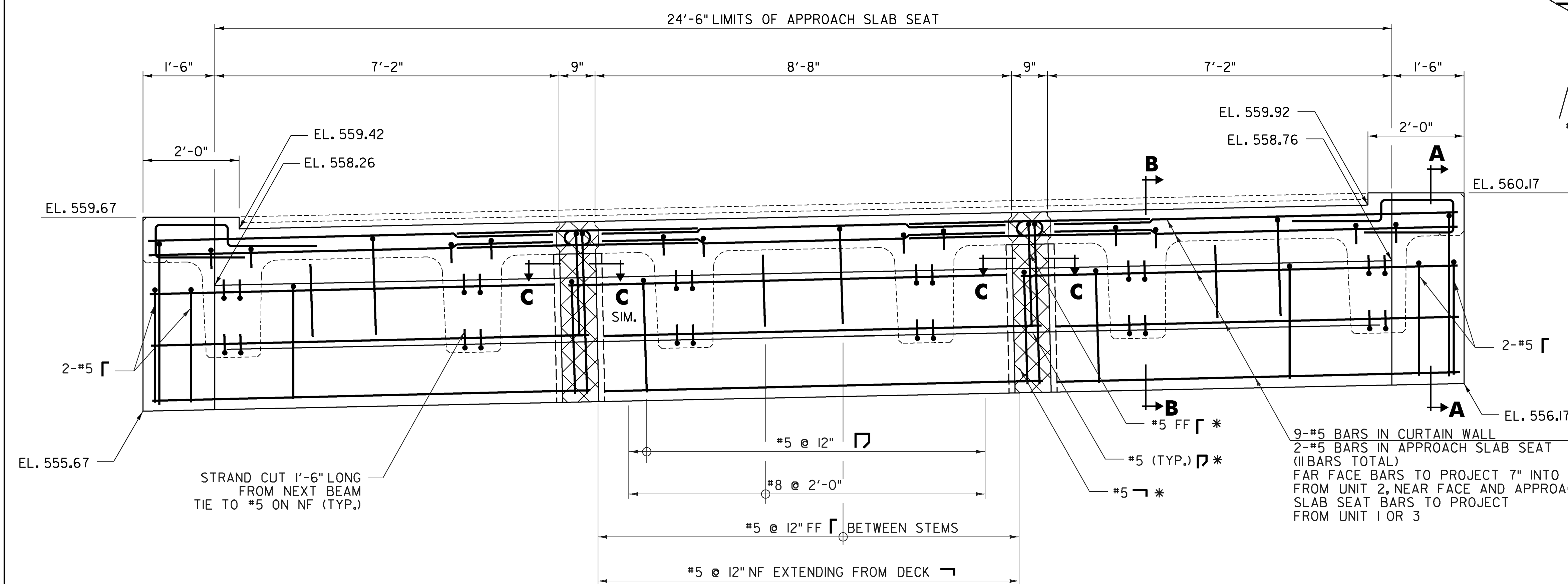




ABUTMENT 1 CURTAIN WALL ELEVATION

SCALE 3/4" = 1'-0"

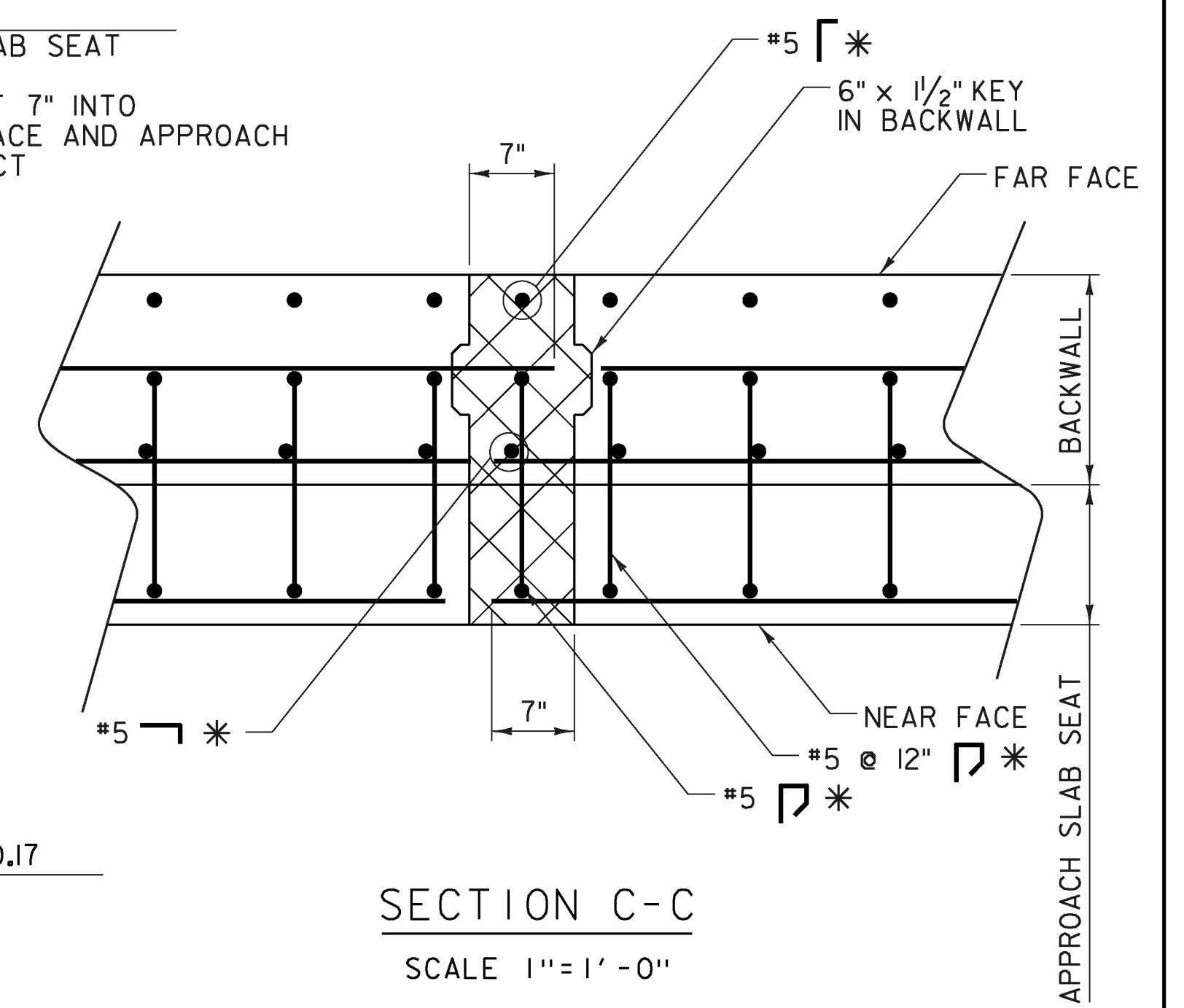
*BARS FOR CLOSURE POUR  
INDICENTAL TO PRECAST ITEM (TYP.)



ABUTMENT 2 CURTAIN WALL ELEVATION

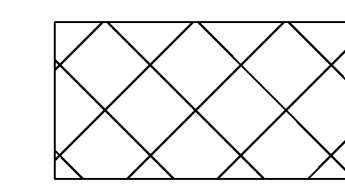
SCALE 3/4" = 1'-0"

*BARS FOR CLOSURE POUR  
INDICENTAL TO PRECAST ITEM (TYP.)



SECTION C-C

SCALE 1" = 1'-0"



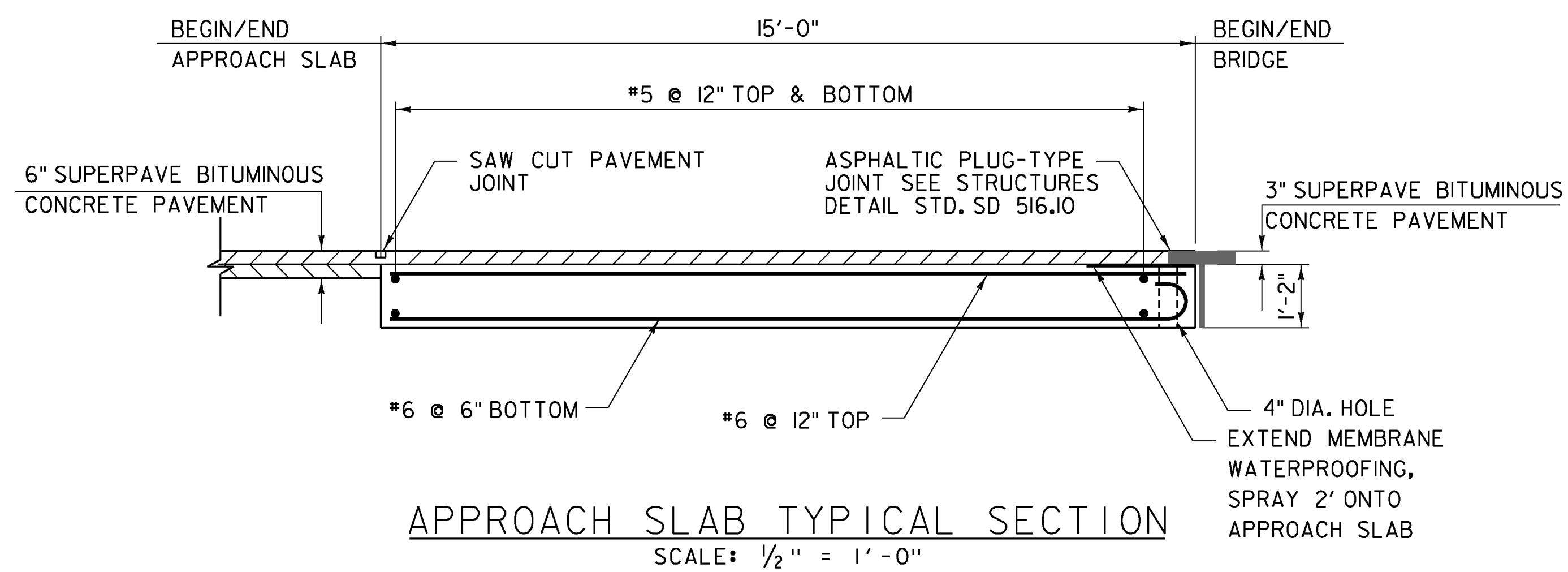
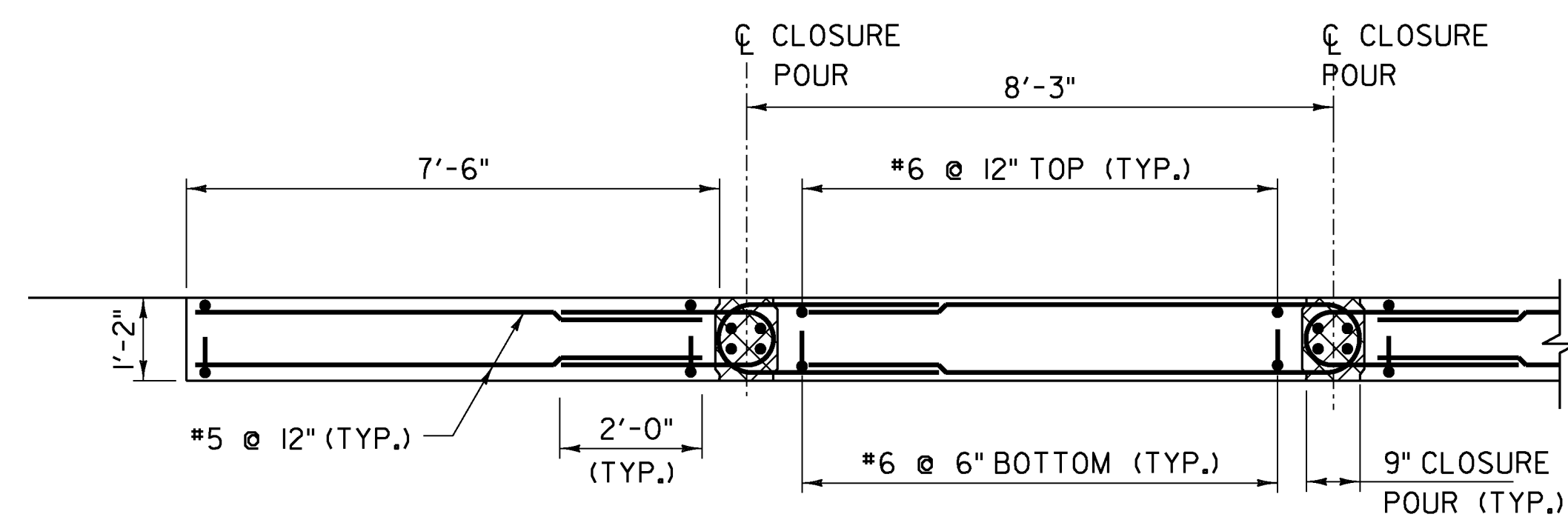
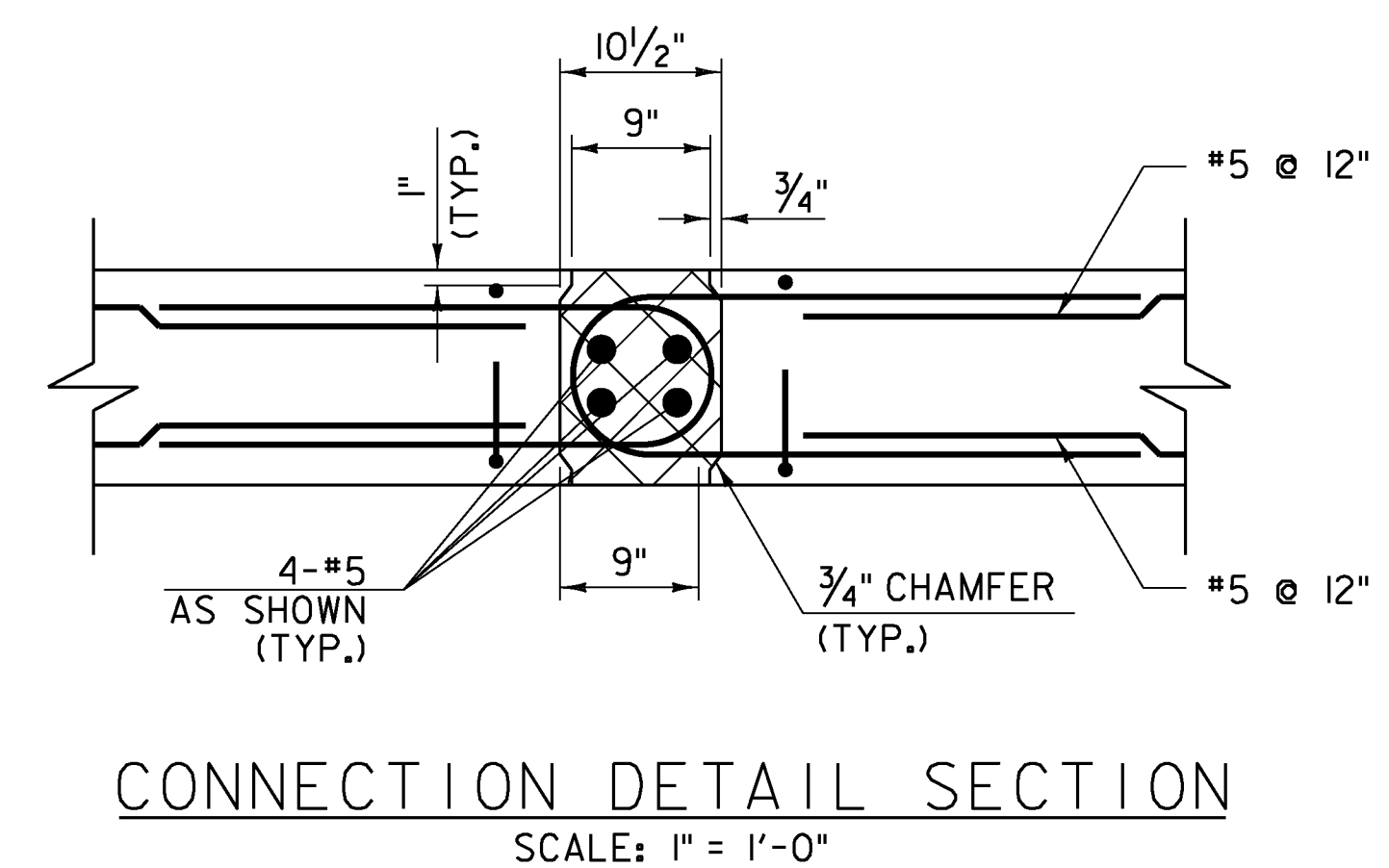
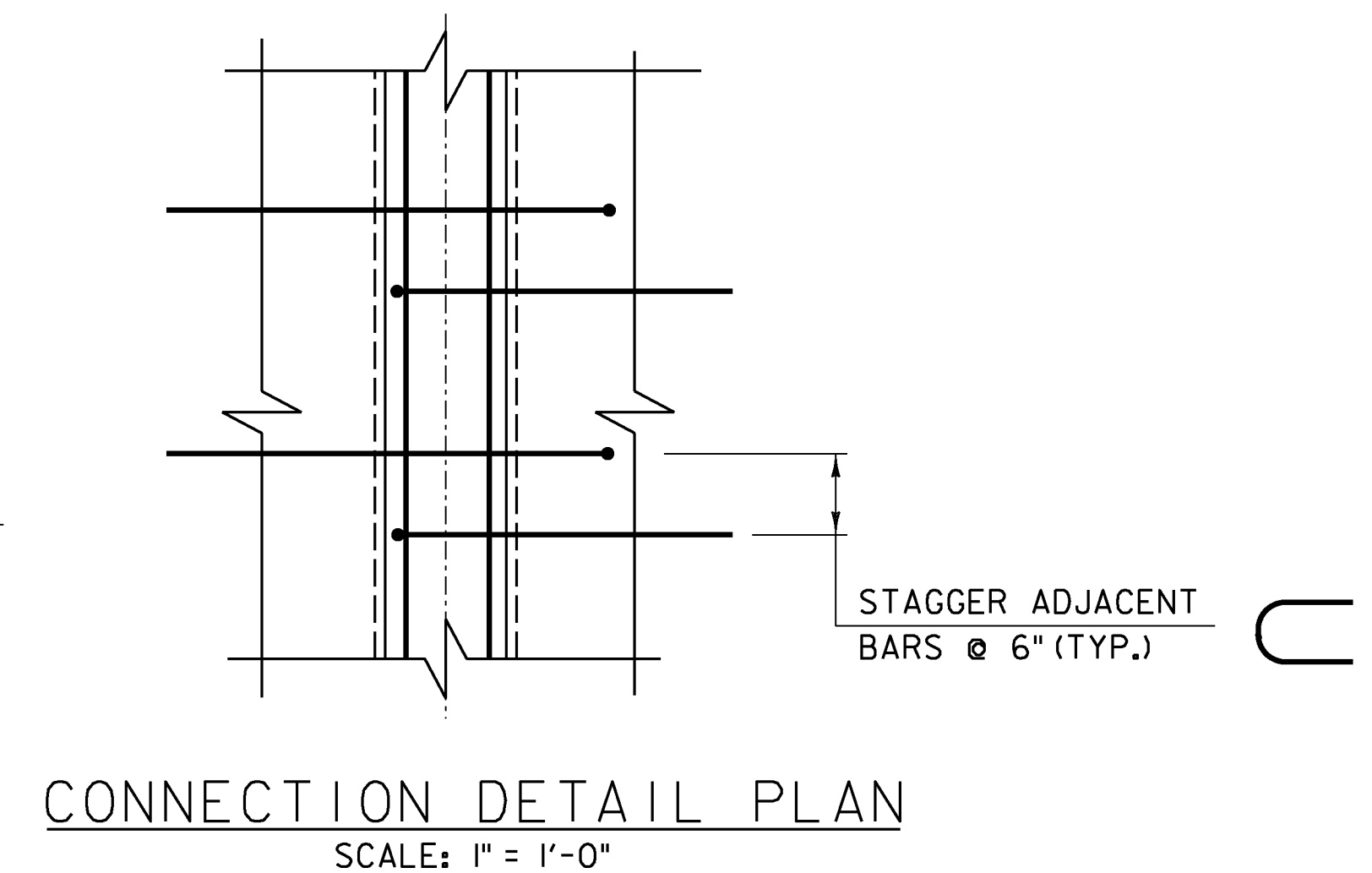
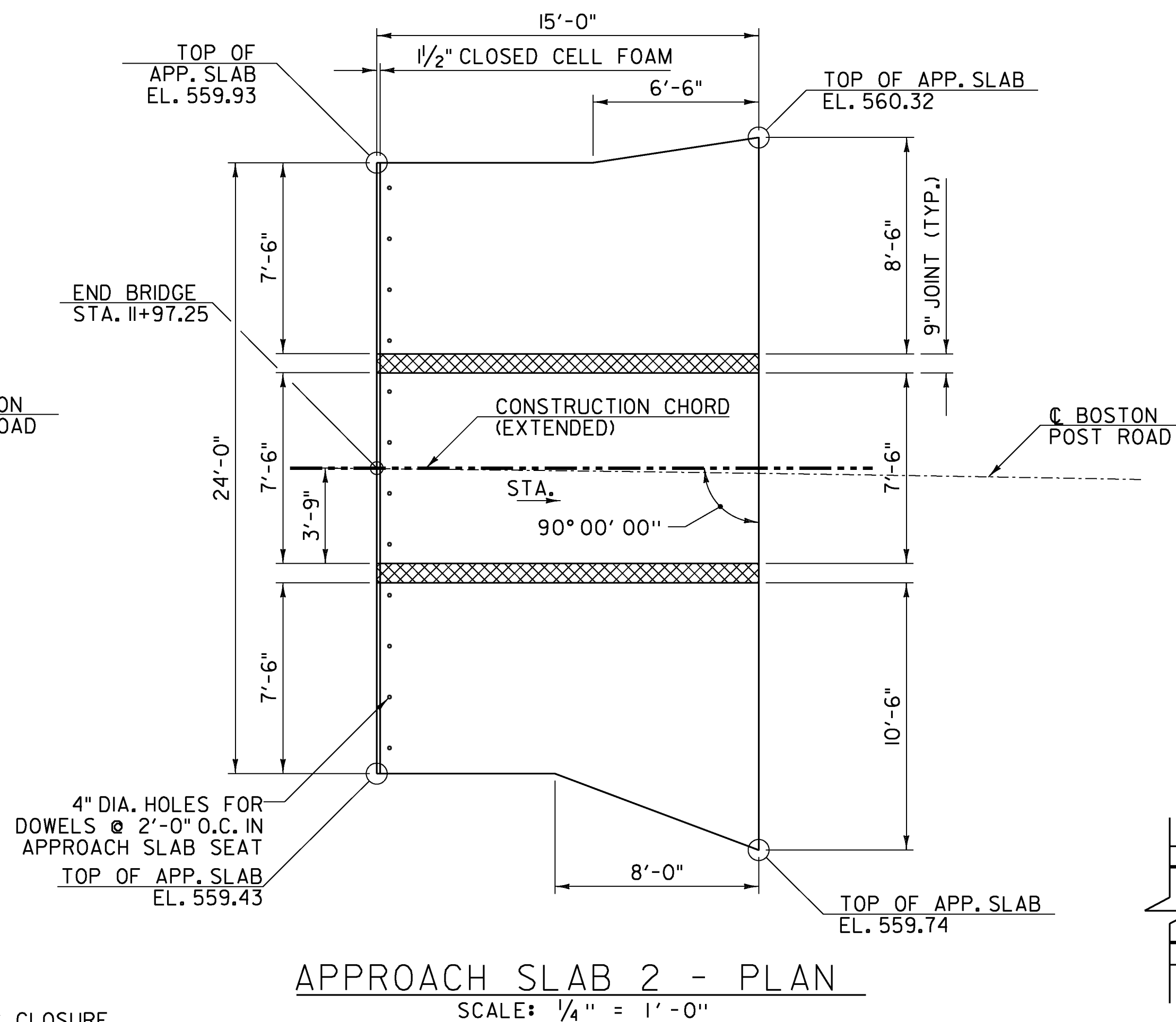
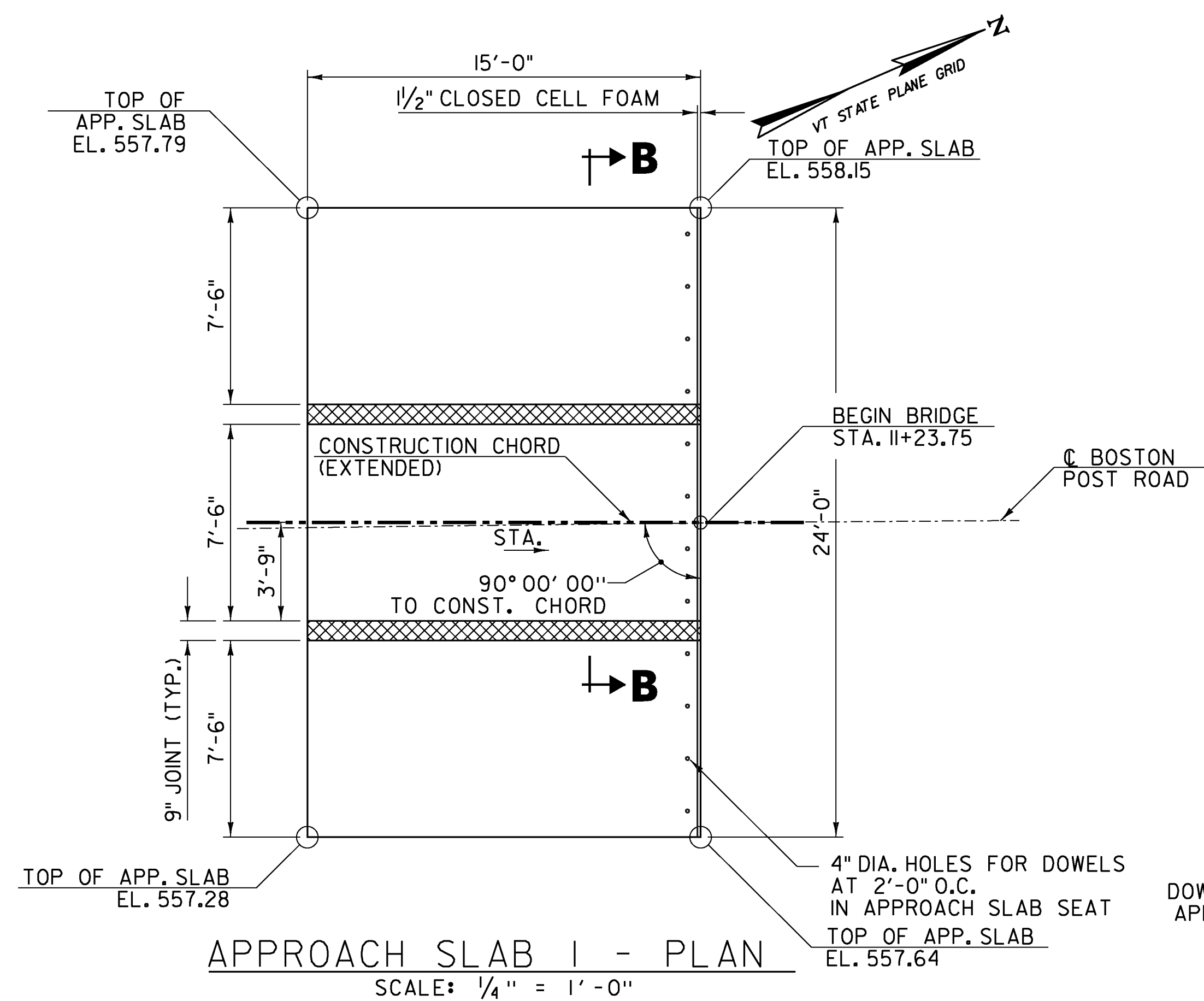
SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET)(FPO).

NOTE:  
FOR SECTIONS A-A AND B-B,  
REFER TO SHEET 24.

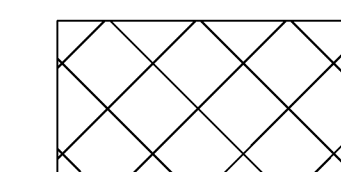
PROJECT NAME:	ENOSBURG
PROJECT NUMBER:	BRO 1448(40)
FILE NAME: ...XX Curtain.Wall.Det_2.dgn	PLOT DATE: 10/4/2013
PROJECT LEADER: G. BOGUE	DRAWN BY: L. BUXTON
DESIGNED BY: T. KNIGHT	CHECKED BY: T. KNIGHT
CURTAIN WALL DETAILS - 2	
SHEET 25 OF 46	







**LEGEND:**



SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET)(FPO).

NOTE:  
FOR SAWCUT PAVEMENT JOINT  
DETAIL REFER TO SHEET 24.

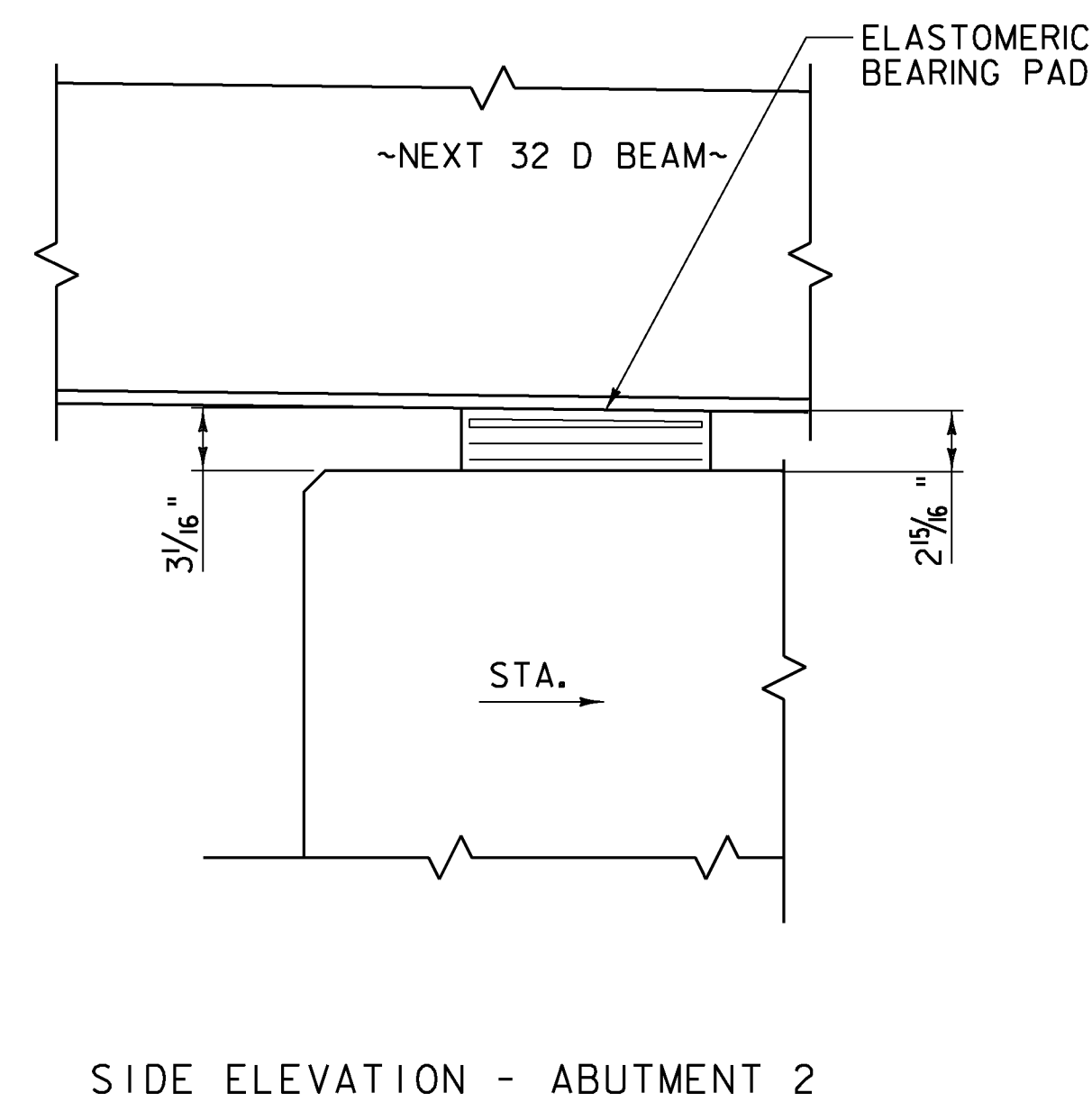
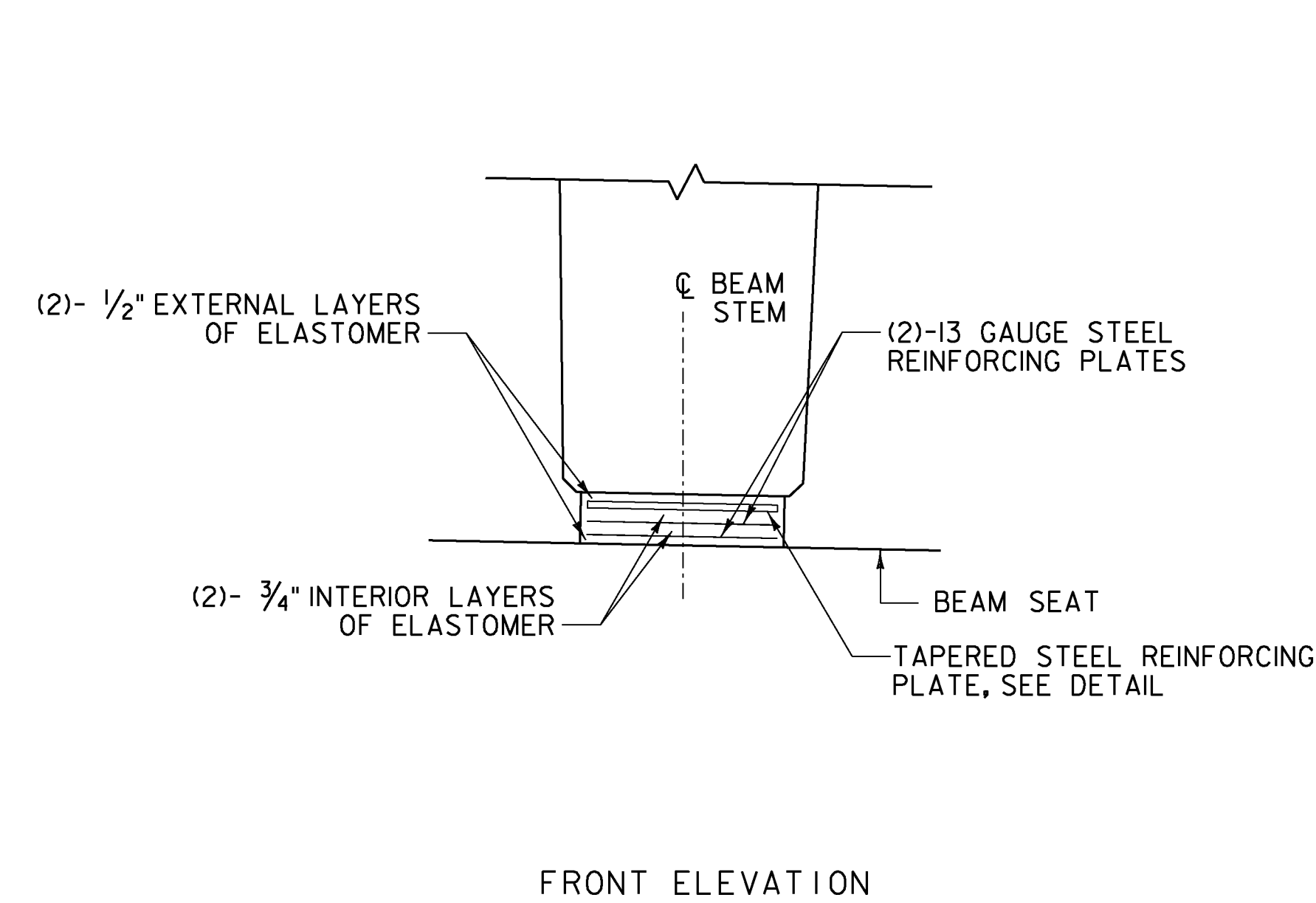
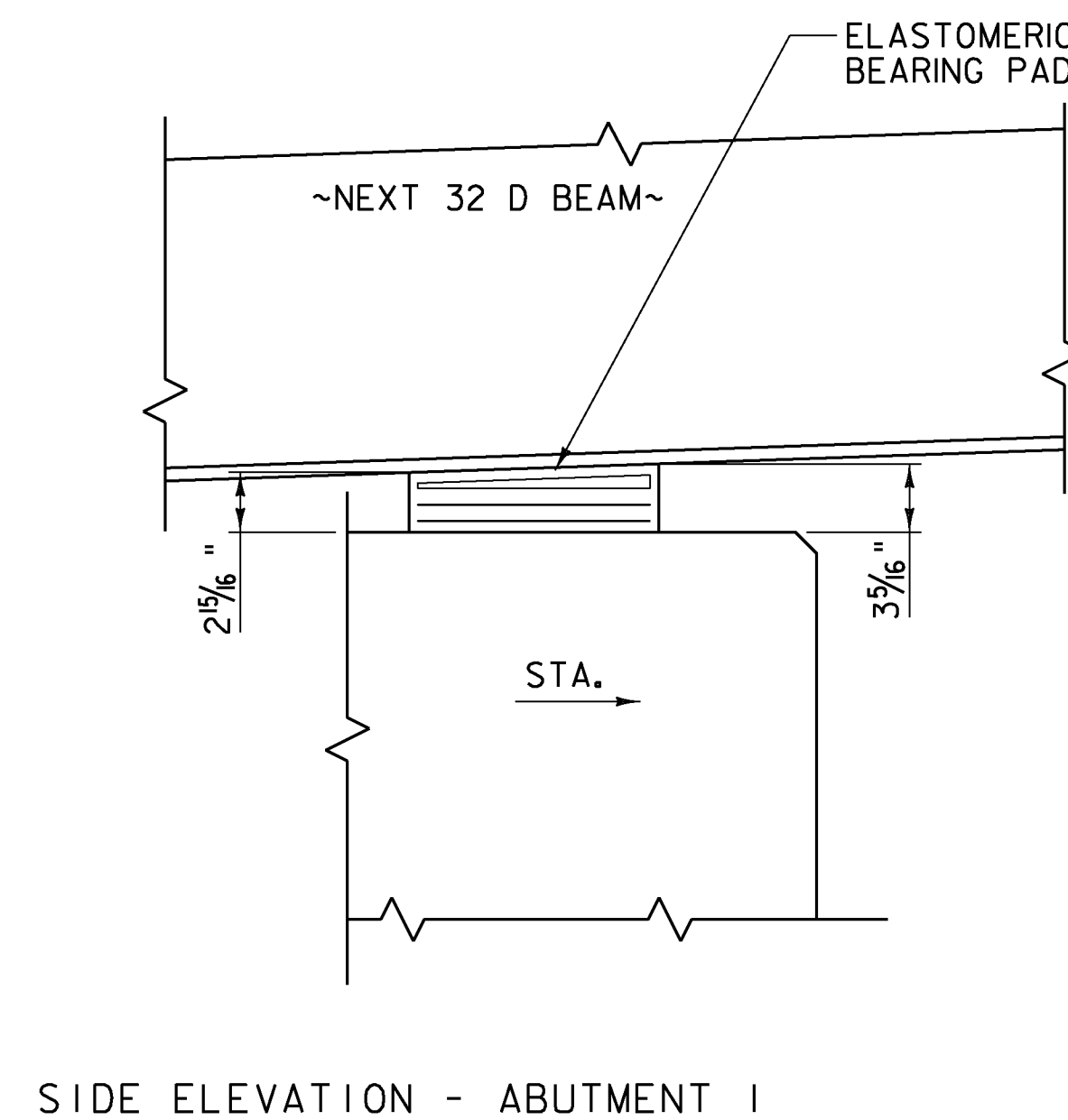
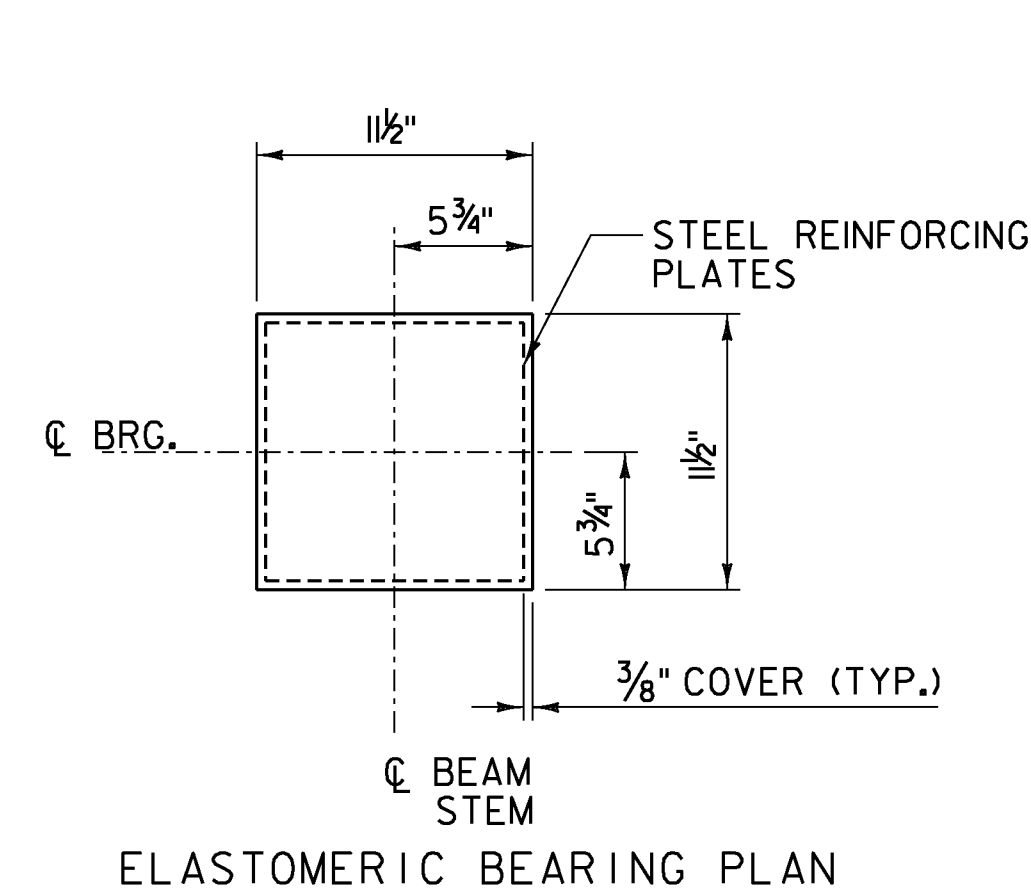
PROJECT NAME: ENOSBURG  
PROJECT NUMBER: BRO 1448(40)

FILE NAME: ...Plo+ Files\XX App slabs.dgn  
PROJECT LEADER: G. BOGUE  
DESIGNED BY: J. HUNGERFORD  
DATE: 10/17/2013  
DRAWN BY: L. BUXTON  
CHECKED BY: T. KNIGHT  
SHEET 26 OF 46



**APPROACH SLABS & DETAILS**

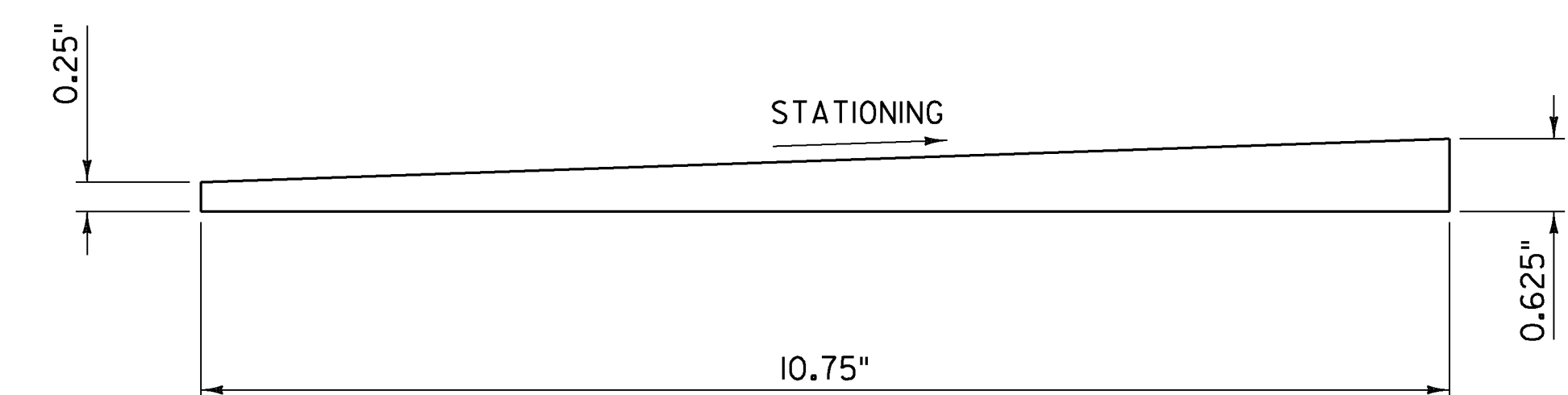




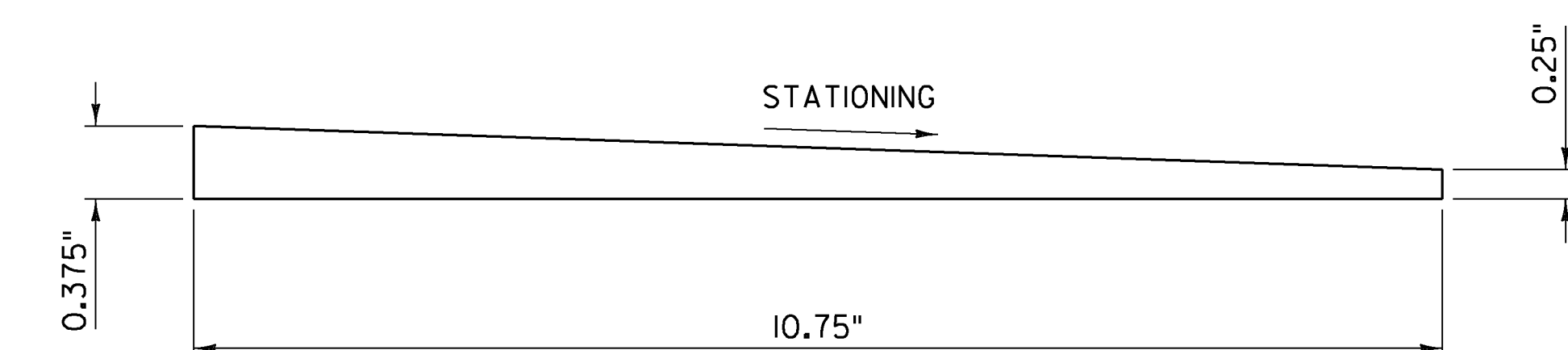
ELASTOMERIC BEARING ASSEMBLY  
SCALE 1 1/2" = 1'-0"

## BEARING NOTES:

- BEARINGS SHALL CONFORM TO THE APPLICABLE SUBSECTIONS OF STANDARD SPECIFICATIONS SECTIONS 531 AND 731.
- ALL REINFORCEMENT BETWEEN LAYERS OF ELASTOMER SHALL BE STEEL MEETING THE REQUIREMENTS OF SUBSECTION 714.02. ALL INTERNAL STEEL PLATES SHALL BE SAND BLASTED AND FREE OF COATING, RUST AND MILL SCALE. THE PLATES SHALL BE FREE OF SHARP EDGES AND BURRS.
- THE BEARINGS ARE DESIGNED SO THAT THE SUPERSTRUCTURE MAY BE ERECTED WHEN THE BEAM TEMPERATURE IS WITHIN THE RANGE OF 20 DEGREES F AND 70 DEGREES F WITHOUT ADJUSTING THE BEARINGS FOR TEMPERATURE. IF THE BEAM TEMPERATURE IS OUTSIDE THIS RANGE, THE BEARINGS SHALL BE RESET AS DIRECTED BY THE RESIDENT.
- STEEL REINFORCED ELASTOMERIC BEARINGS WERE DESIGNED PER METHOD = A.
- THE ELASTOMER WAS DESIGNED WITH A SHEAR MODULUS OF 152 PSI +/- 15%.
- ABUTMENT 1 AND 2 BEARINGS
  - DESIGN DEAD LOAD REACTION = 35.80 KIPS/BEARING
  - DESIGN LIVE LOAD REACTION = 38.80 KIPS/BEARING (NO IMPACT)
  - ROTATION CAPACITY = 0.015 RADIAN
  - LONGITUDINAL DESIGN TRANSLATION = 0.5"
- ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND SHALL BE VISIBLE AFTER THE BEARING IS INSTALLED.
- THE ELASTOMER SHALL BE NEOPRENE MEETING THE REQUIREMENTS OF SUBSECTION 731.03.
- BEARING DESIGN SHALL BE PER THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 5TH EDITION AND ITS LATEST REVISIONS.
- ALTERNATE CONFIGURATIONS FOR BEARINGS MAY BE SUBMITTED FOR APPROVAL. ANY ALTERNATE SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE DESIGN LOADS AND CRITERIA SHOWN ON THE PLANS.
- THE CONTRACTOR IS ADVISED TO HAVE A MINIMUM OF 12- 1/4" x 12 1/2" x 12 1/2" GALVANIZED STEEL SHIMS AVAILABLE FOR USE FOR ELEVATION ADJUSTMENTS UPON THE SETTING OF THE SUPERSTRUCTURE UNITS. THE SHIMS SHALL BE FABRICATED ACCORDING TO SECTION 531 AND SHALL BE INCLUDED UNDER ITEM 531.17, "BEARING DEVICE ASSEMBLY, STEEL REINFORCED ELASTOMERIC PAD".



ABUTMENT 1 STEEL REINFORCING PLATE DETAIL  
NOT TO SCALE

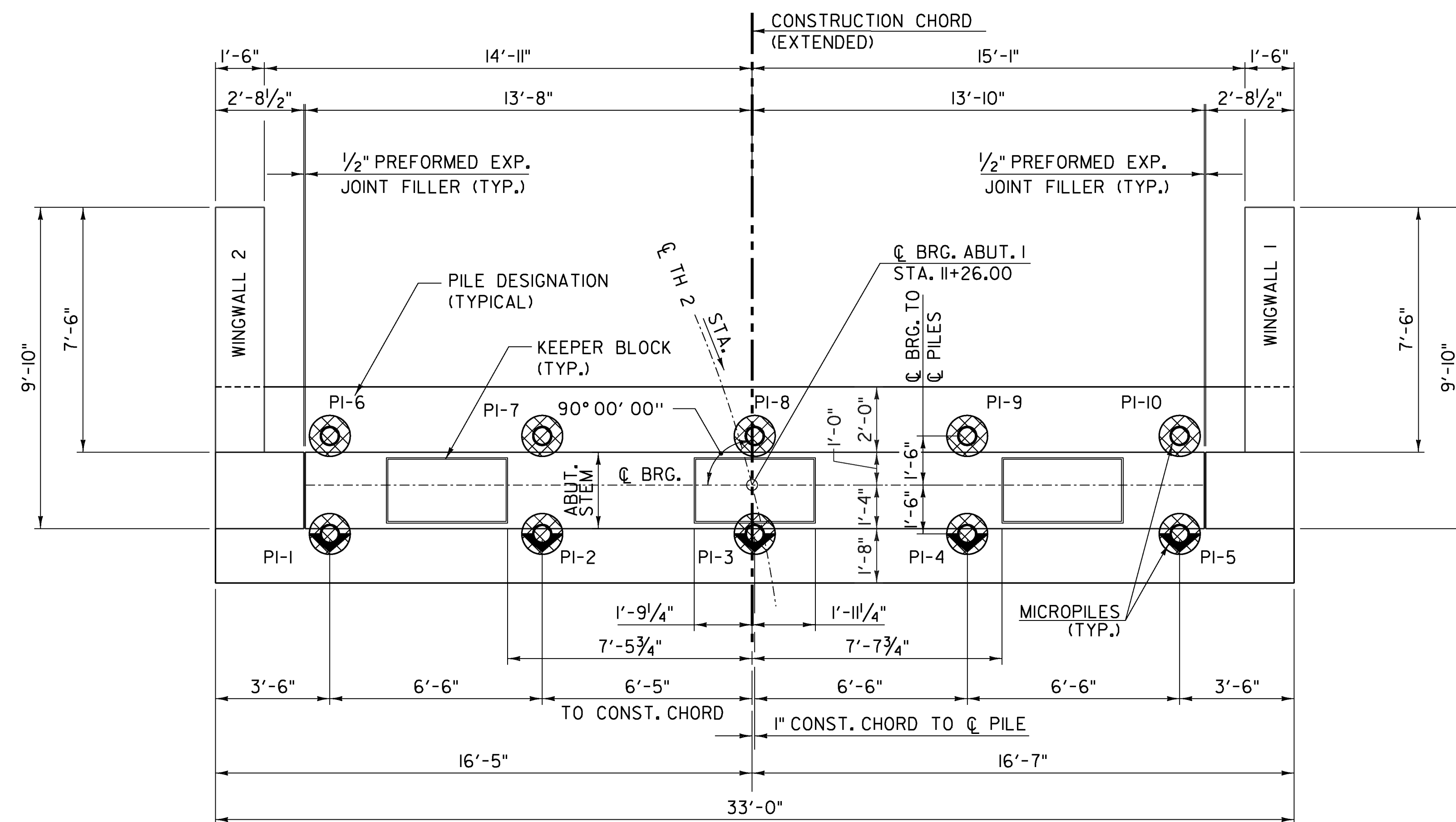
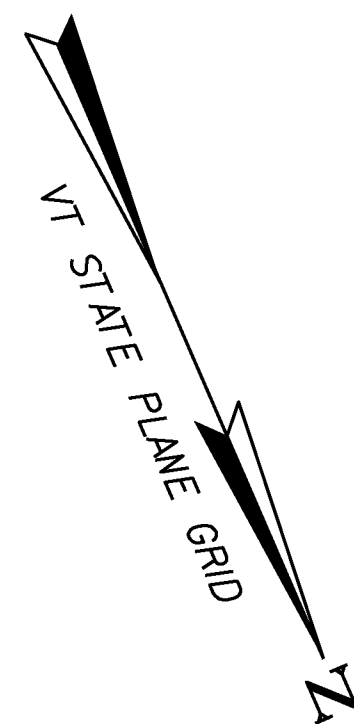


ABUTMENT 2 STEEL REINFORCING PLATE DETAIL  
NOT TO SCALE



PROJECT NAME:	ENOSBURG
PROJECT NUMBER:	BRO 1448(40)
FILE NAME: ...XX Bearing_Dets.dgn	PLOT DATE: 10/4/2013
PROJECT LEADER: G. BOGUE	DRAWN BY: L. BUXTON
DESIGNED BY: T. KNIGHT	CHECKED BY: T. KNIGHT
<b>BEARING DETAILS</b>	SHEET 27 OF 46



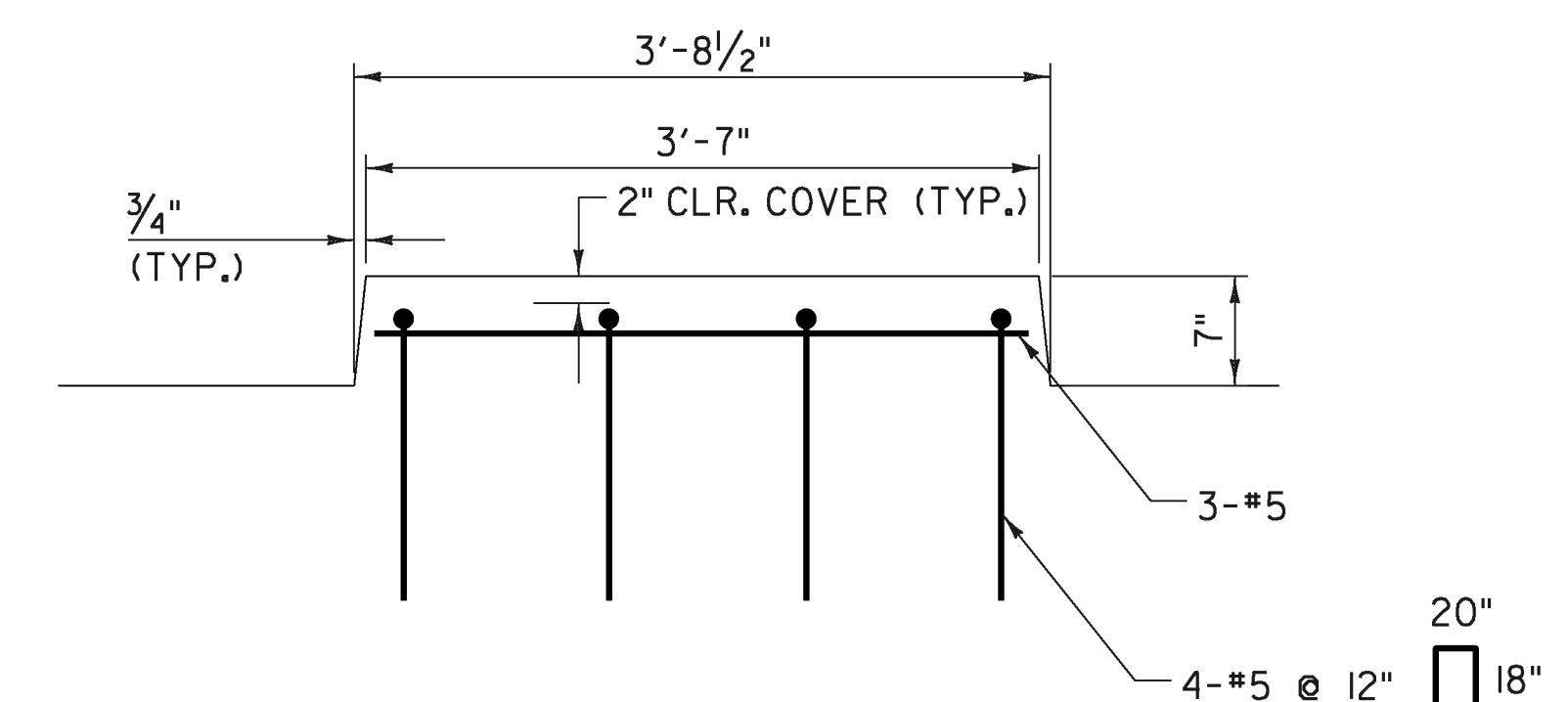
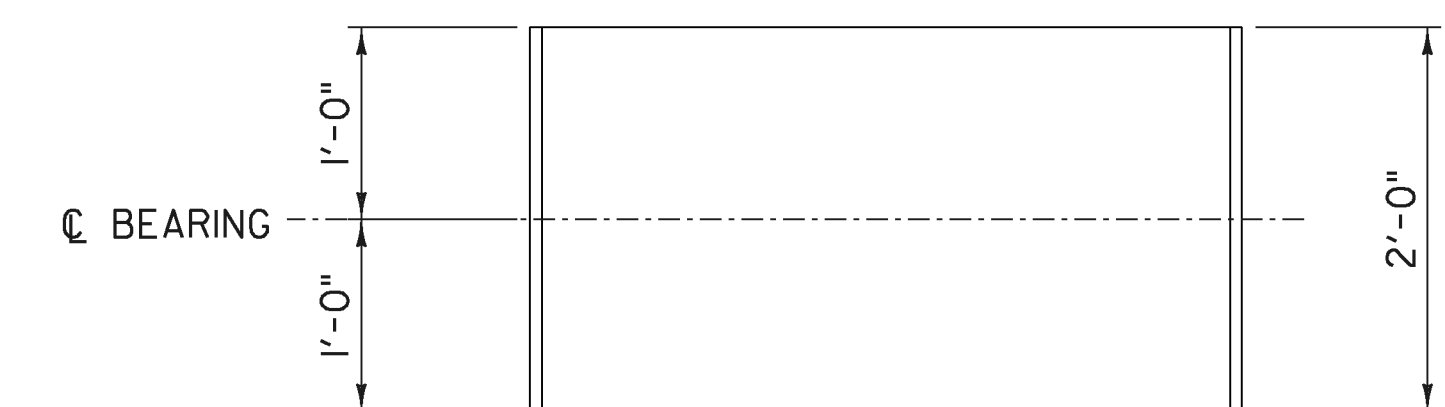


ABUTMENT 1 PLAN

SCALE  $\frac{3}{8}$ " = 1' - 0"

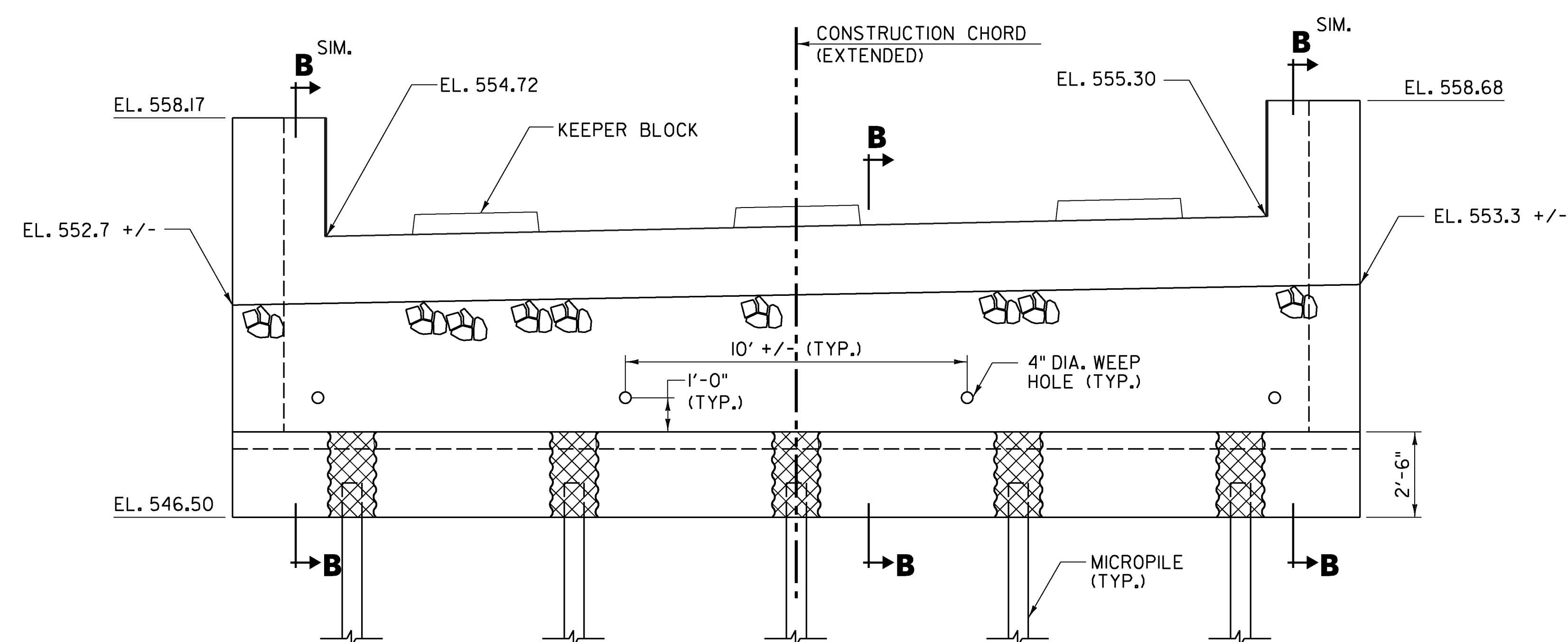
NOTE

- INDICATES VERTICAL MICROPILE
- ⊙ INDICATES MICROPILE BATTERED 1 HORIZ. TO 10 VERT.



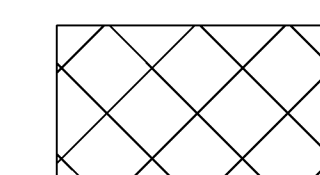
KEEPER BLOCK DETAIL

SCALE 1" = 1' - 0"



ABUTMENT 1 ELEVATION

SCALE  $\frac{3}{8}$ " = 1' - 0"



SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET)(FPQ).

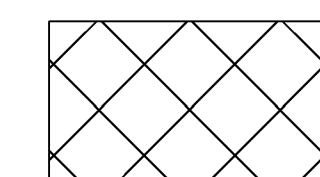
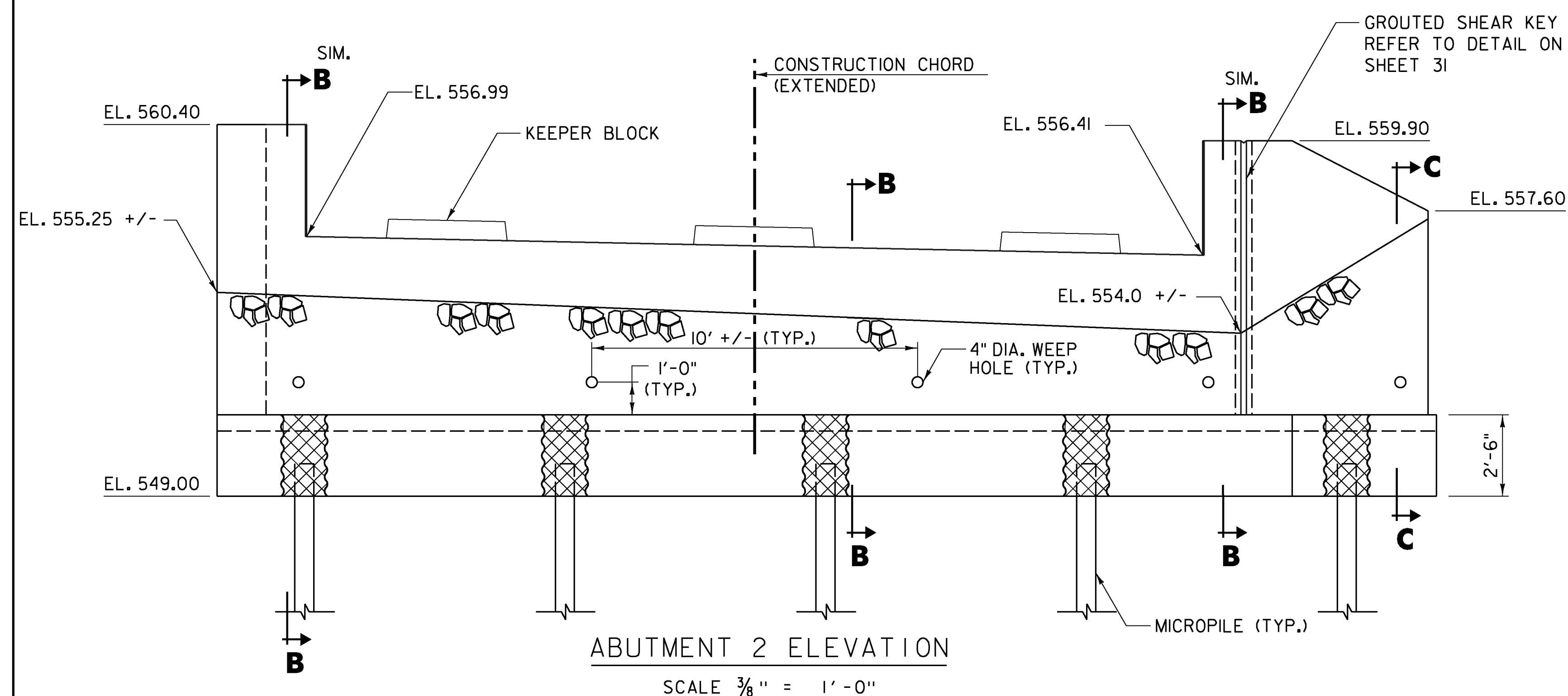
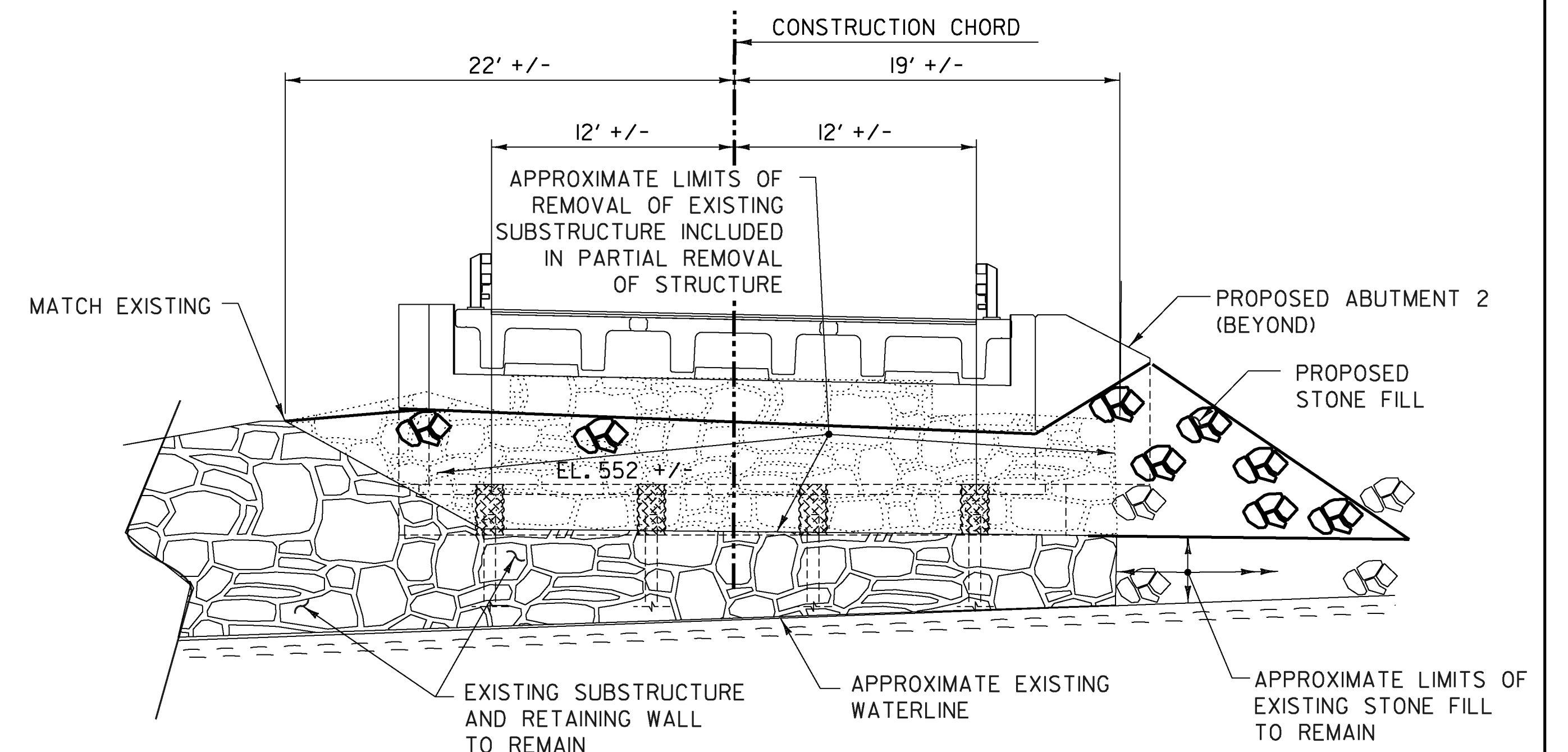
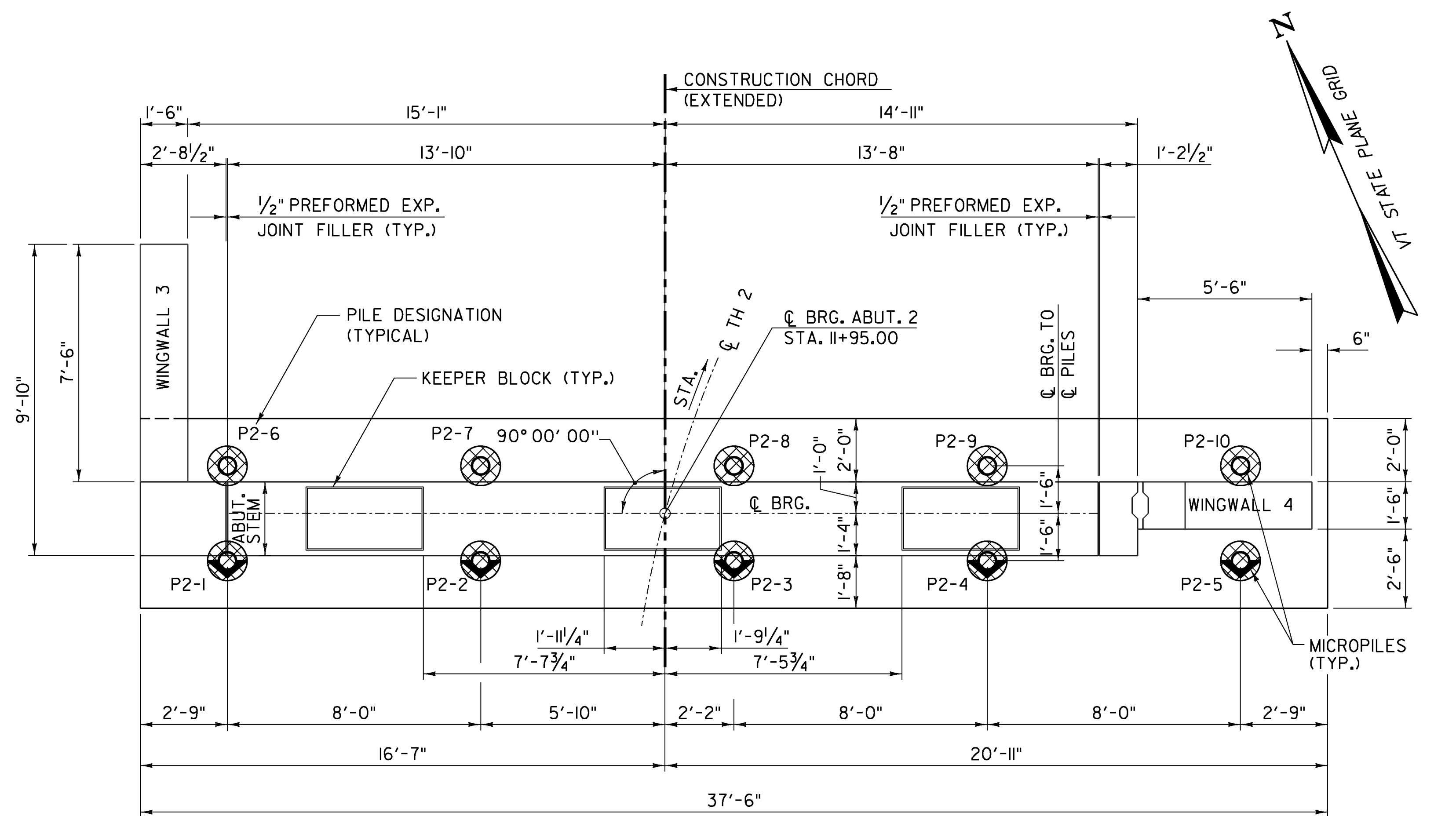
NOTE: FOR SECTION B-B, REFER TO SHEET 30.

PROJECT NAME: ENOSBURG  
PROJECT NUMBER: BRO 1448(40)

FILE NAME: ...XX Abut 1 Plan_Elev.dgn  
PROJECT LEADER: G. BOGUE  
DESIGNED BY: T. KNIGHT  
PLOT DATE: 10/4/2013  
DRAWN BY: L. BUXTON  
CHECKED BY: T. KNIGHT  
ABUTMENT 1 PLAN & ELEVATION SHEET 28 OF 46







SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET)(FPO).

NOTES:

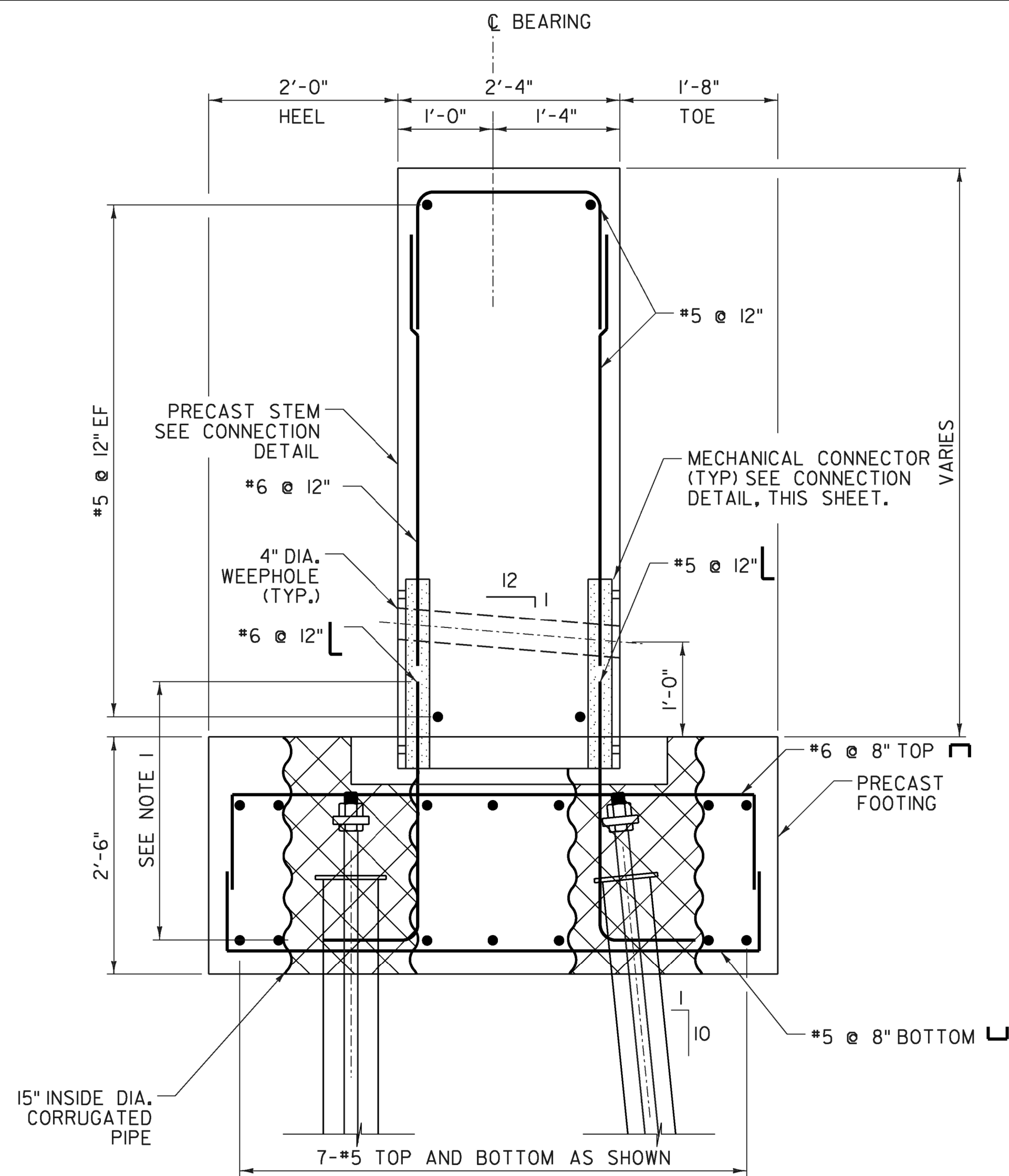
1. FOR KEEPER BLOCK DETAIL, REFER TO SHEET 28.
2. FOR LOCATION OF VIEW A-A, REFER TO SHEET 20.
3. FOR SECTION B-B, REFER TO SHEET 30.
4. FOR SECTION C-C, REFER TO SHEET 30.



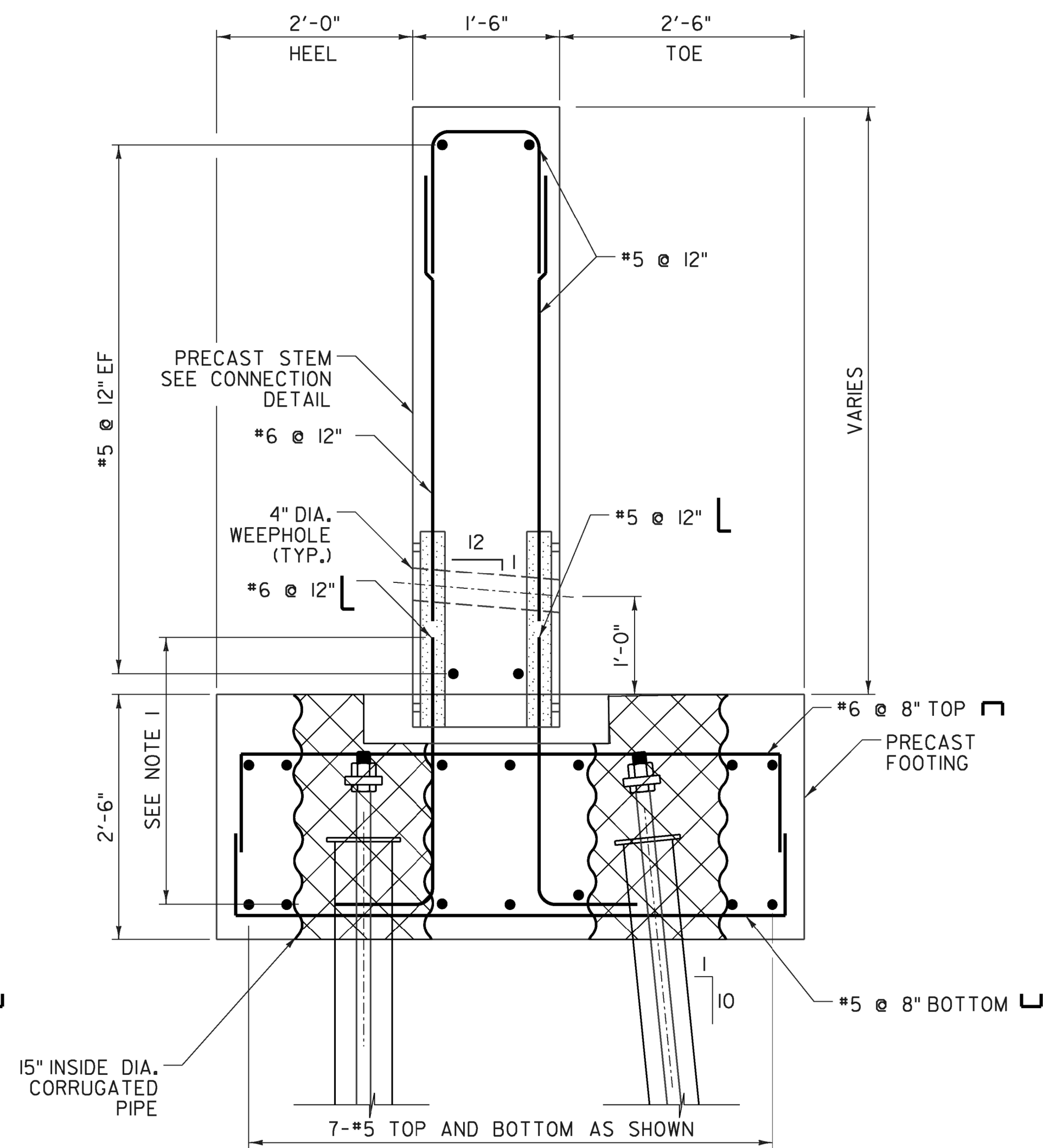
PROJECT NAME: ENOSBURG  
PROJECT NUMBER: BRO 1448(40)

FILE NAME: ...XX Abut 2 Plan_Elev.dgn PLOT DATE: 10/4/2013  
PROJECT LEADER: G. BOGUE DRAWN BY: L. BUXTON  
DESIGNED BY: T. KNIGHT CHECKED BY: T. KNIGHT  
ABUTMENT 2 PLAN & ELEVATION SHEET 29 OF 46



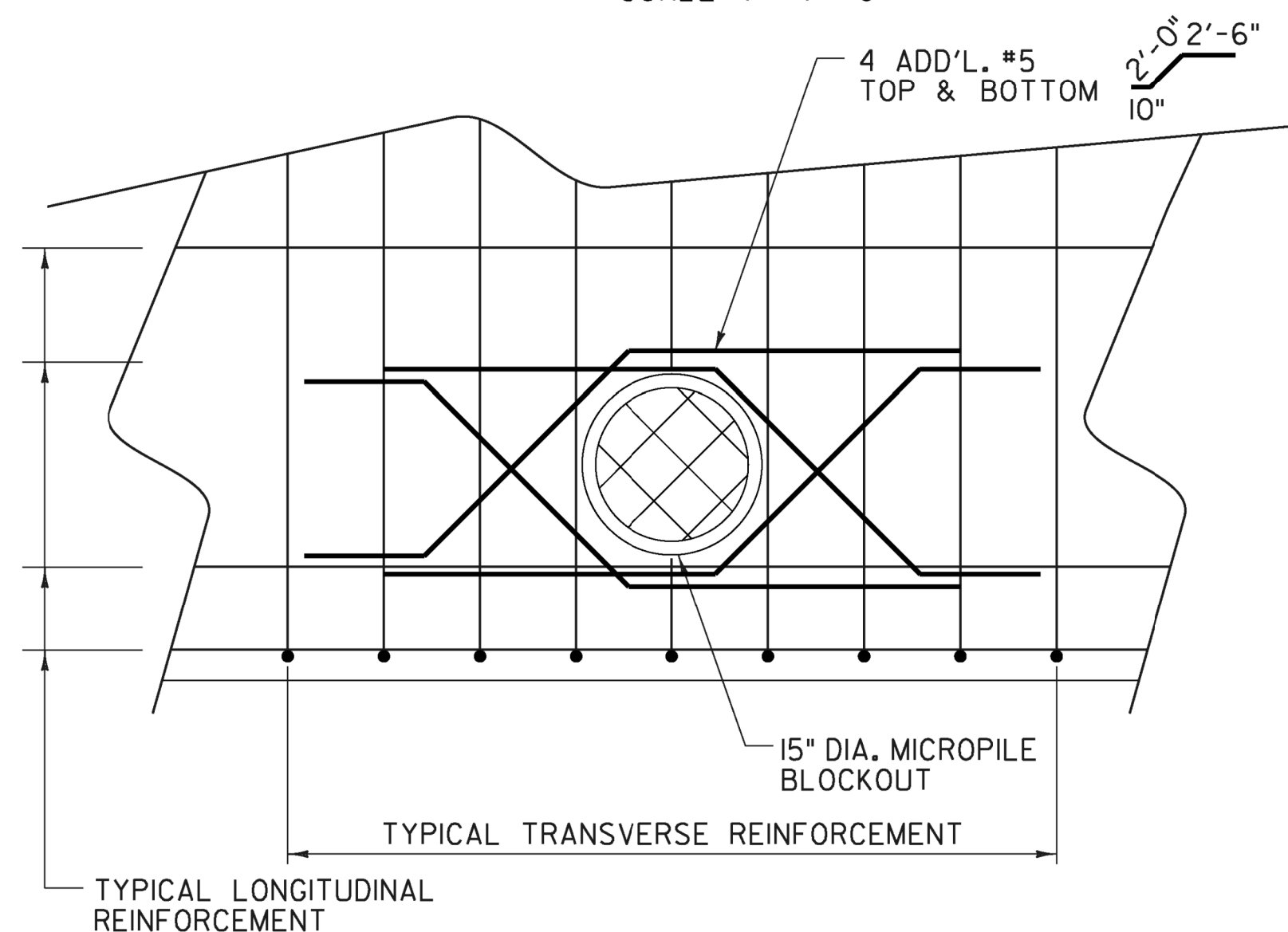


SECTION B-B  
SCALE 1"=1'-0"

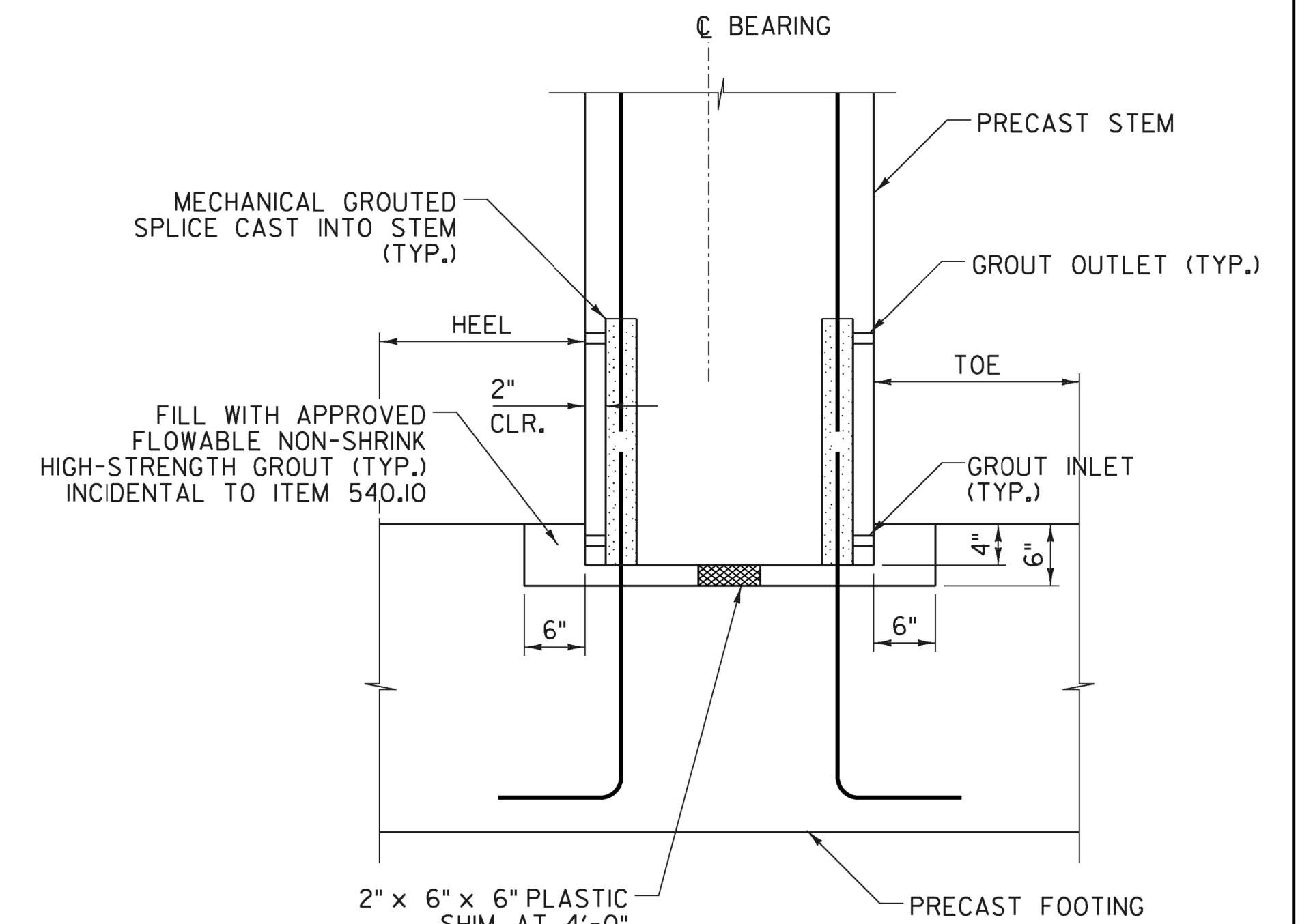


SECTION C-C  
SCALE 1"=1'-0"

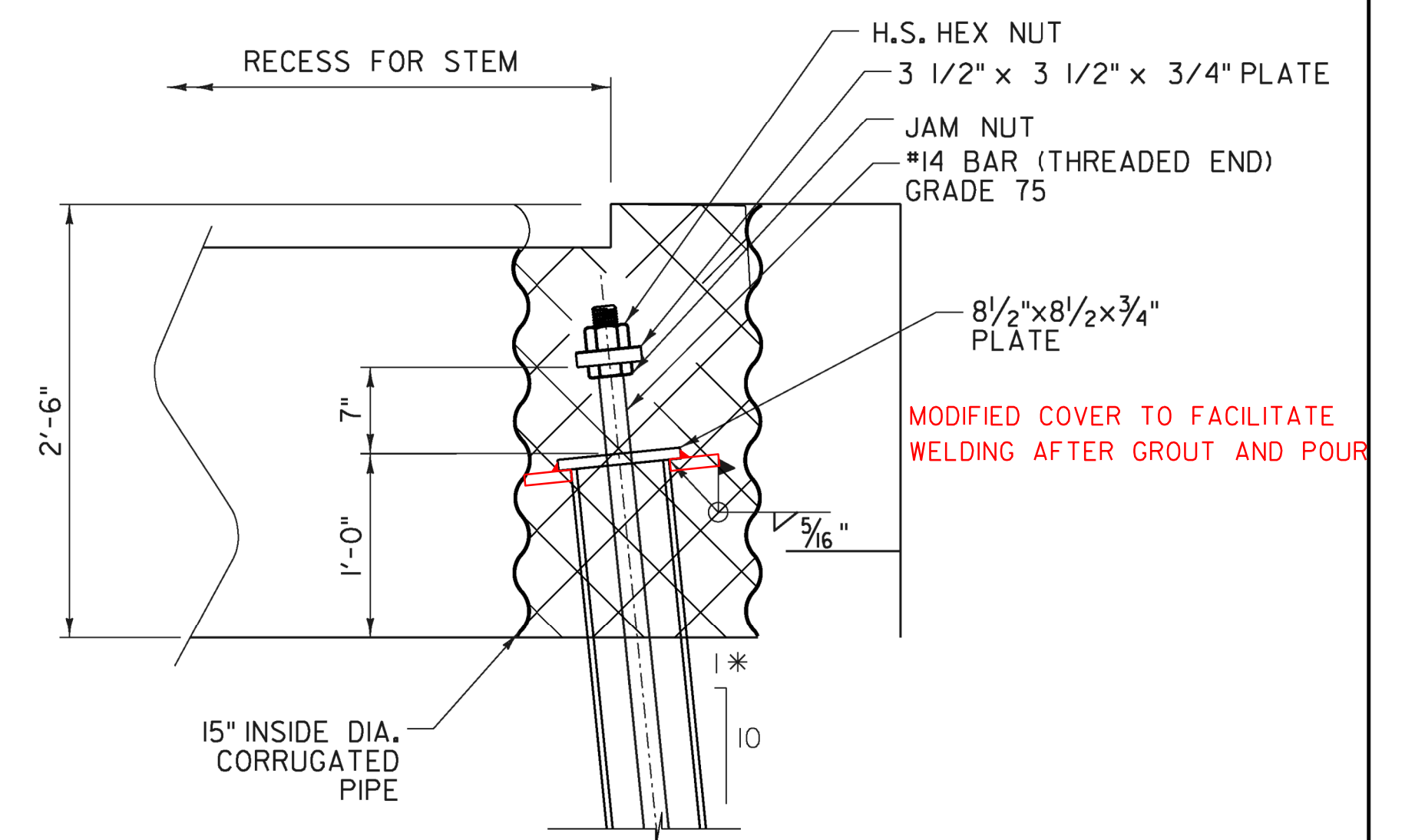
- NOTES:
1. LEG LENGTH SHALL MEET THE REQUIREMENTS OF THE MECHANICAL CONNECTOR.
  2. THE CONNECTION FROM THE PRECAST STEM TO THE FOOTING SHALL BE INCLUDED IN THE FABRICATION DRAWINGS. THE MECHANICAL GROUTED CONNECTION SHALL MEET THE REQUIREMENTS OF ASTM 1034 AND SHALL HAVE A YIELD STRENGTH OF 125% OF THE REINFORCING STEEL YIELD STRENGTH.



ADDITIONAL REINFORCEMENT AT  
MICROPILE BLOCKOUT  
NOT TO SCALE



CONNECTION DETAIL  
SCALE 1"=1'-0"



PILE CAP DETAIL

NOT TO SCALE

* FRONT PILES ONLY; REAR PILES ARE VERTICAL



SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET) (FPQ).

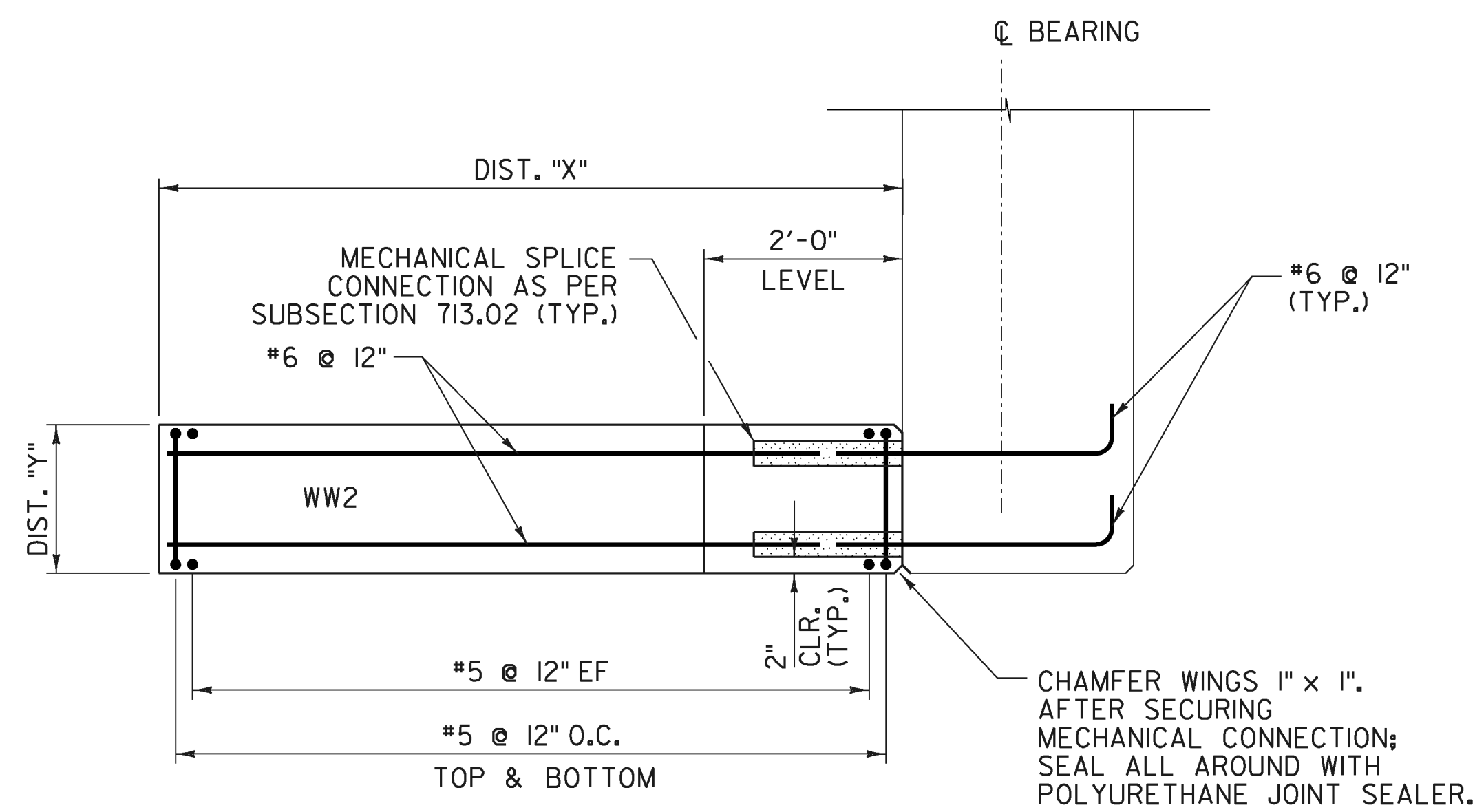
NOTE:  
FOR LOCATION OF SECTIONS B-B AND C-C  
REFER TO SHEETS 28 & 29.

PROJECT NAME: ENOSBURG  
PROJECT NUMBER: BRO 1448(40)

FILE NAME: ...XX Abut_sect_det.dgn PLOT DATE: 10/4/2013  
PROJECT LEADER: G. BOGUE DRAWN BY: L. BUXTON  
DESIGNED BY: T. KNIGHT CHECKED BY: T. KNIGHT  
ABUTMENT SECTIONS & DETAILS SHEET 30 OF 46





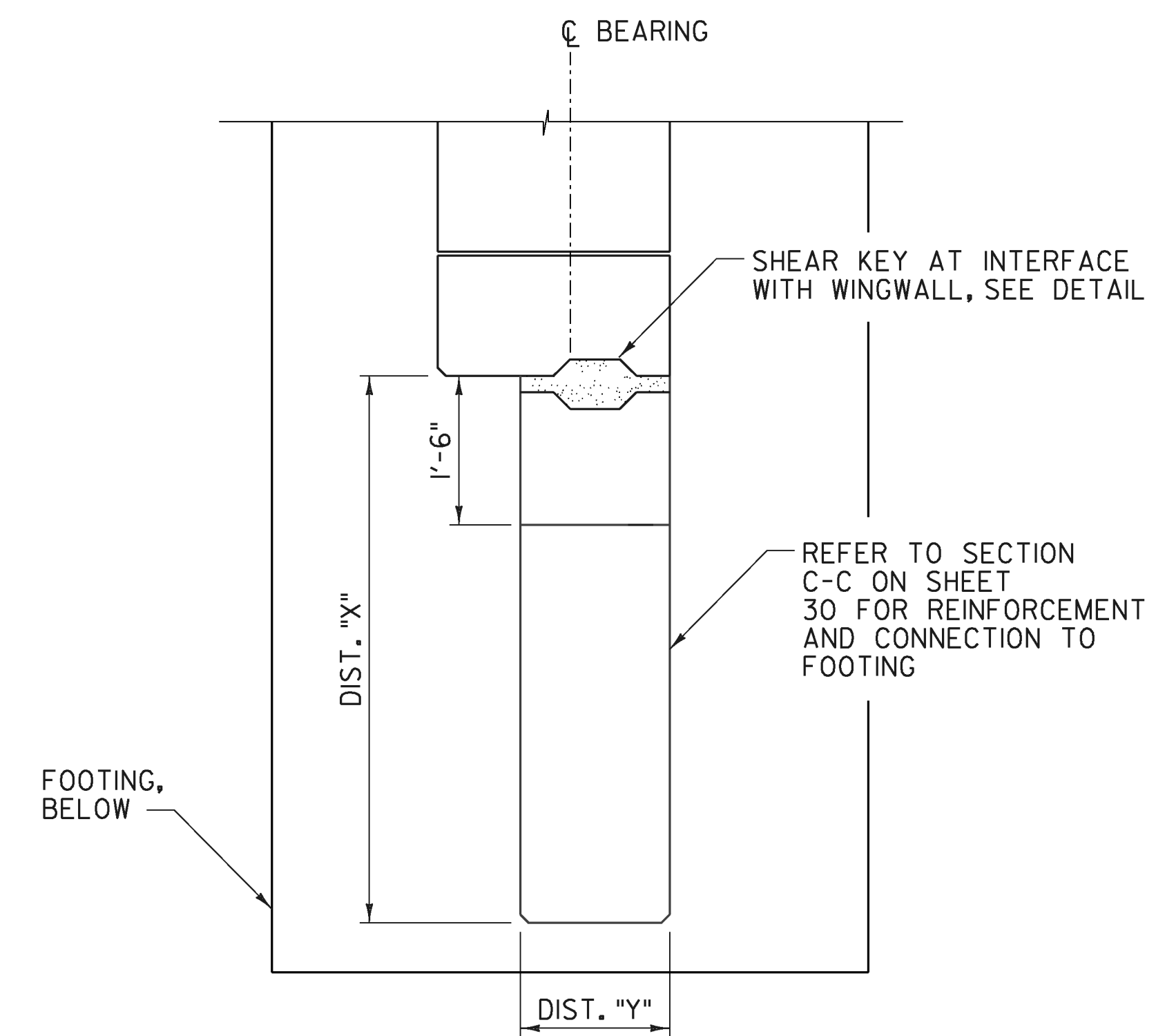


WINGWALLS NO. 1, 2 AND 3 PLAN

NOT TO SCALE

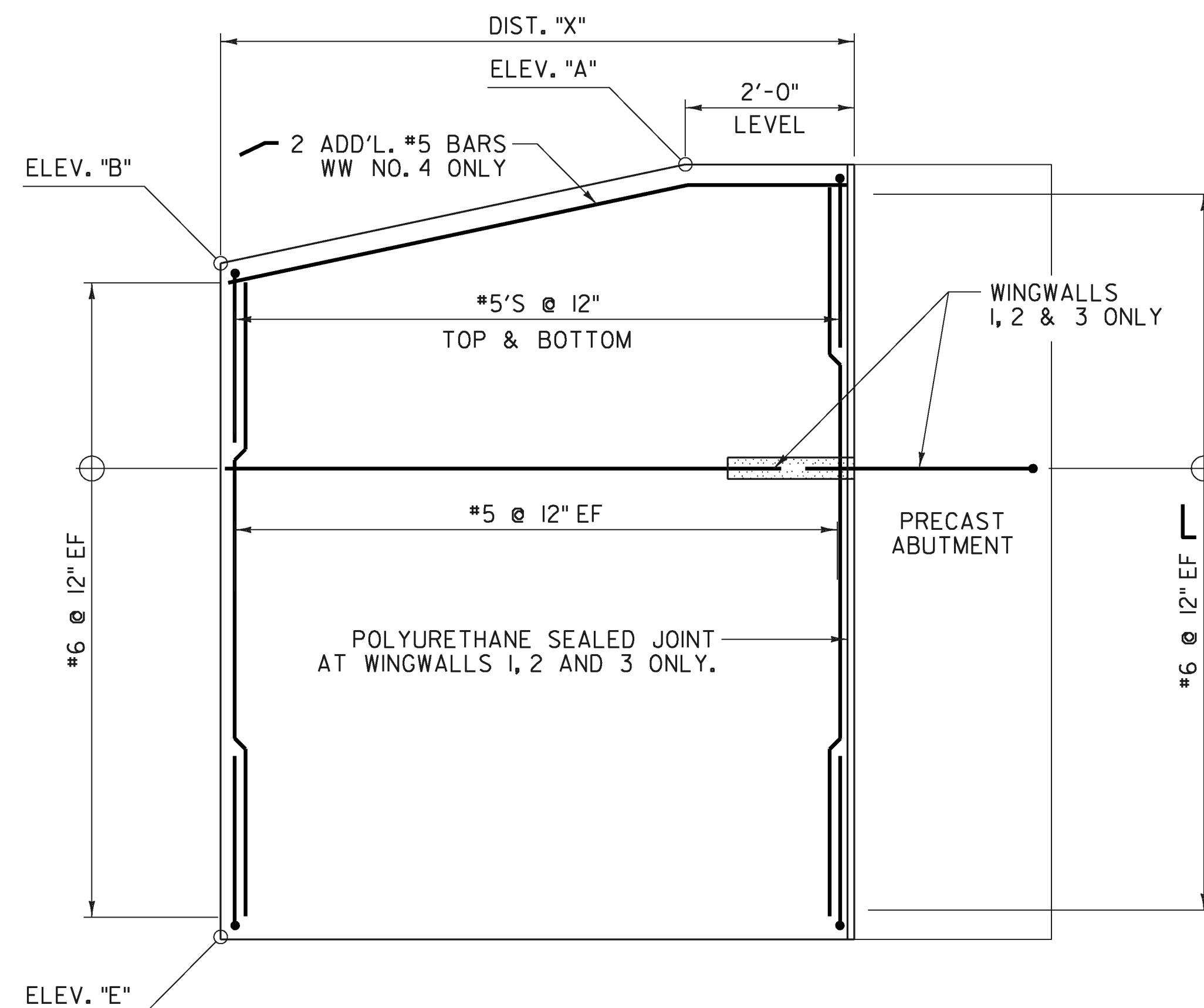
WINGWALL 2 SHOWN, OTHERS SIMILAR  
FOOTING NOT SHOWN

	WW1	WW2	WW3	WW4
ELEV. "A"	558.68	558.17	560.40	559.90
ELEV. "B"	558.35	557.81	560.43	557.60
ELEV. "E"	549.00	549.00	551.50	551.50
DIST. "X"	7'-6"	7'-6"	7'-6"	5'-6"
DIST. "Y"	1'-6"	1'-6"	1'-6"	1'-6"



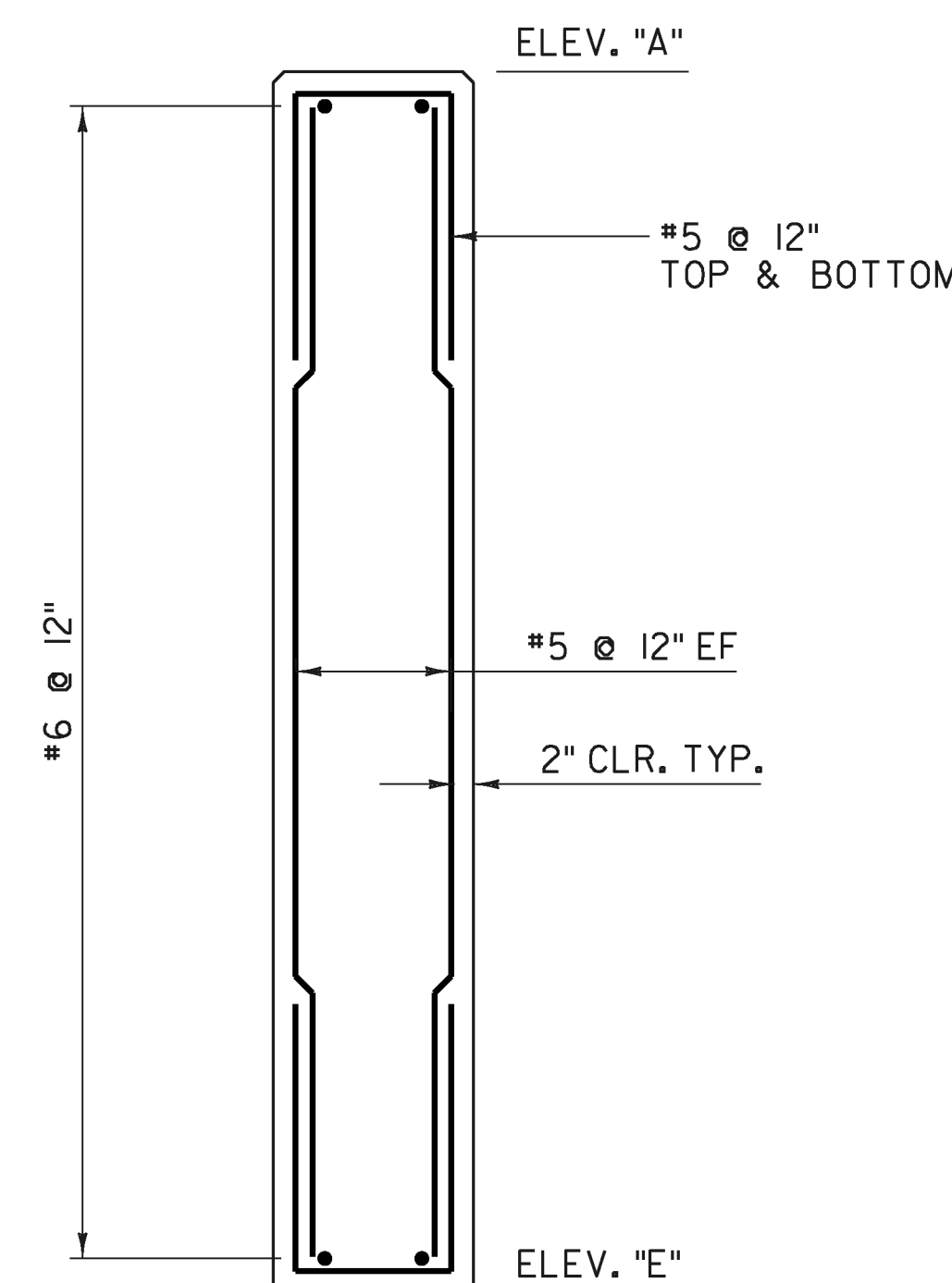
WINGWALLS NO. 4 PLAN

NOT TO SCALE



WINGWALL ELEVATION

NOT TO SCALE

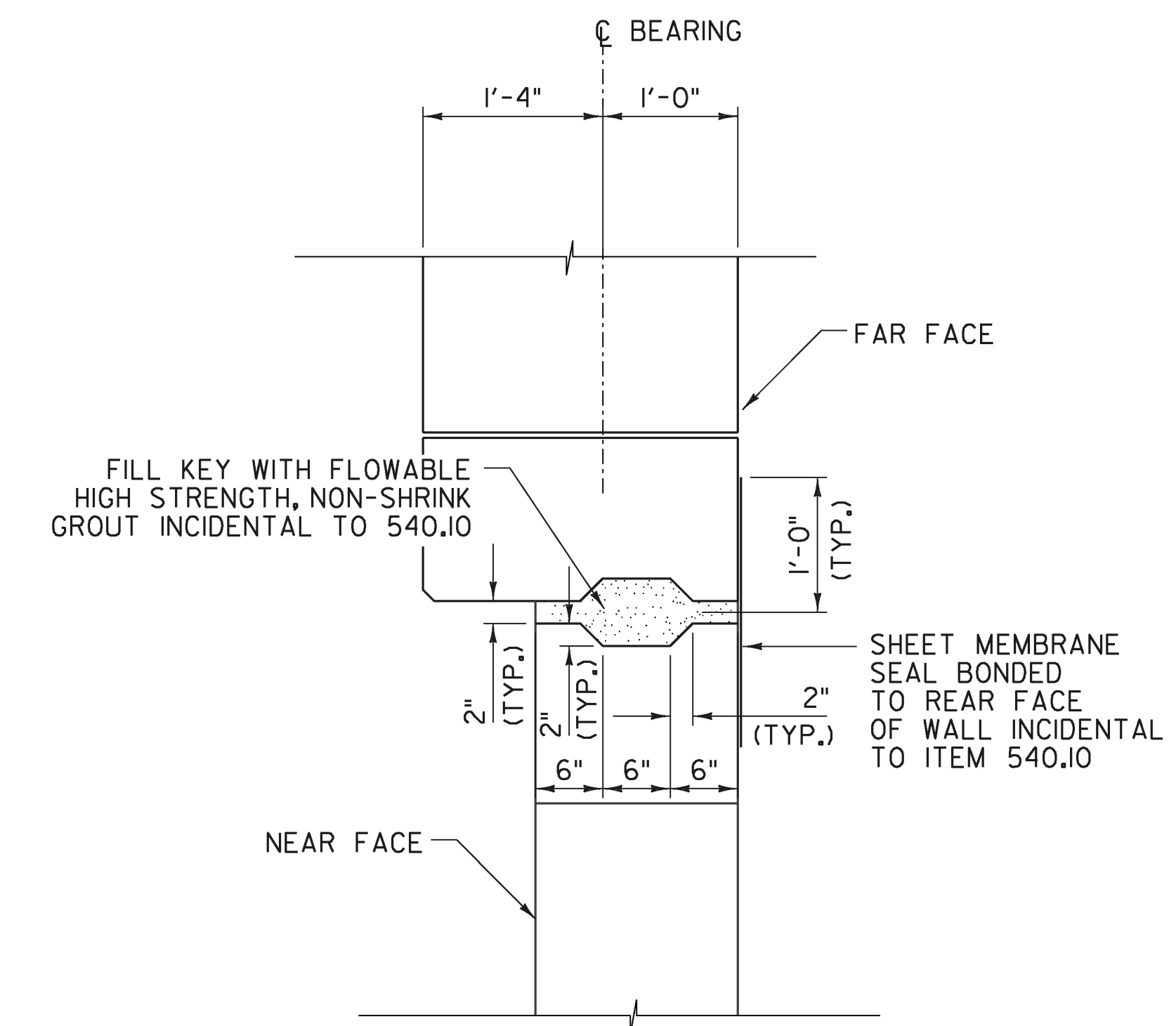


WINGWALLS 1, 2 AND 3 TYPICAL

NOT TO SCALE

NOTE:  
NF = NEAR FACE  
FF = FAR FACE  
EF = EACH FACE

NOTES:  
1. EPOXY SHALL BE INCIDENTAL TO THE PRECAST CONCRETE STRUCTURE.



ABUTMENT/WINGWALL  
SHEAR KEY DETAIL

SCALE 1"=1'-0"

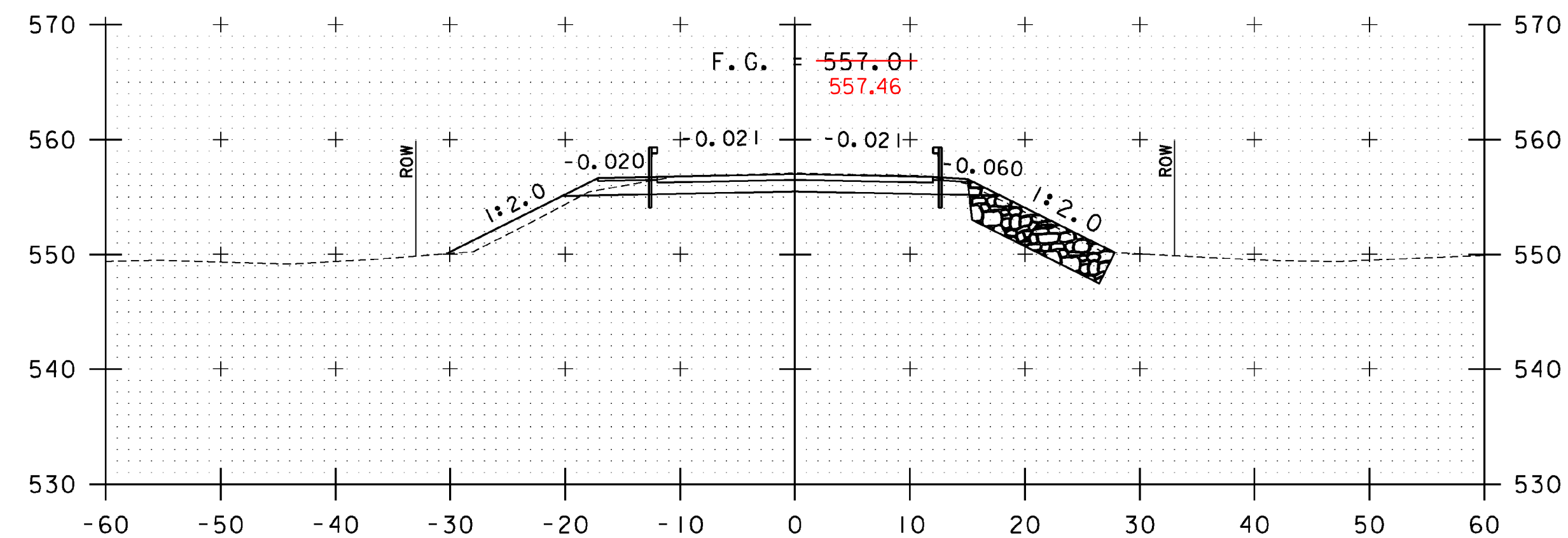


PROJECT NAME: ENOSBURG  
PROJECT NUMBER: BRO 1448(40)

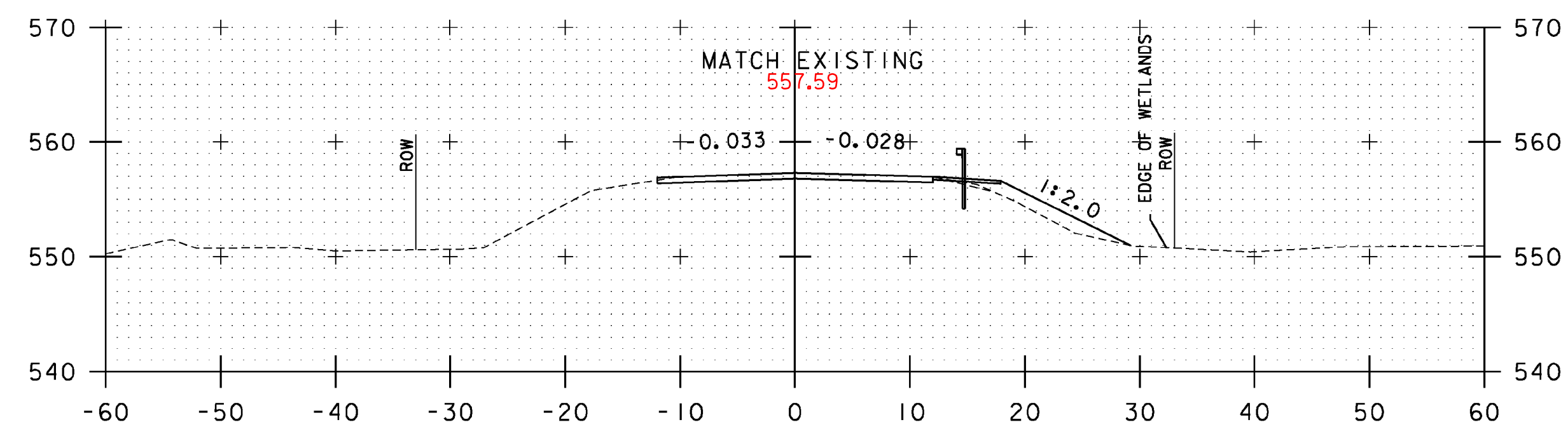
FILE NAME: ...XX Wingwall Det.dgn  
PROJECT LEADER: G. BOGUE  
DESIGNED BY: T. KNIGHT  
**WINGWALL DETAILS**

PLOT DATE: 10/4/2013  
DRAWN BY: L. BUXTON  
CHECKED BY: T. KNIGHT  
SHEET 31 OF 46

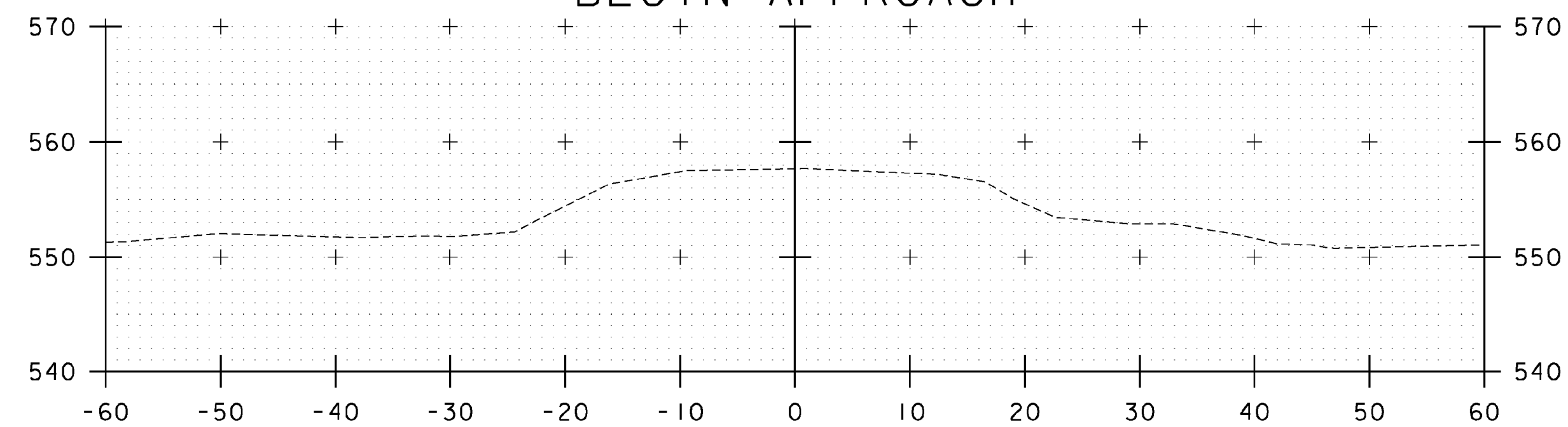




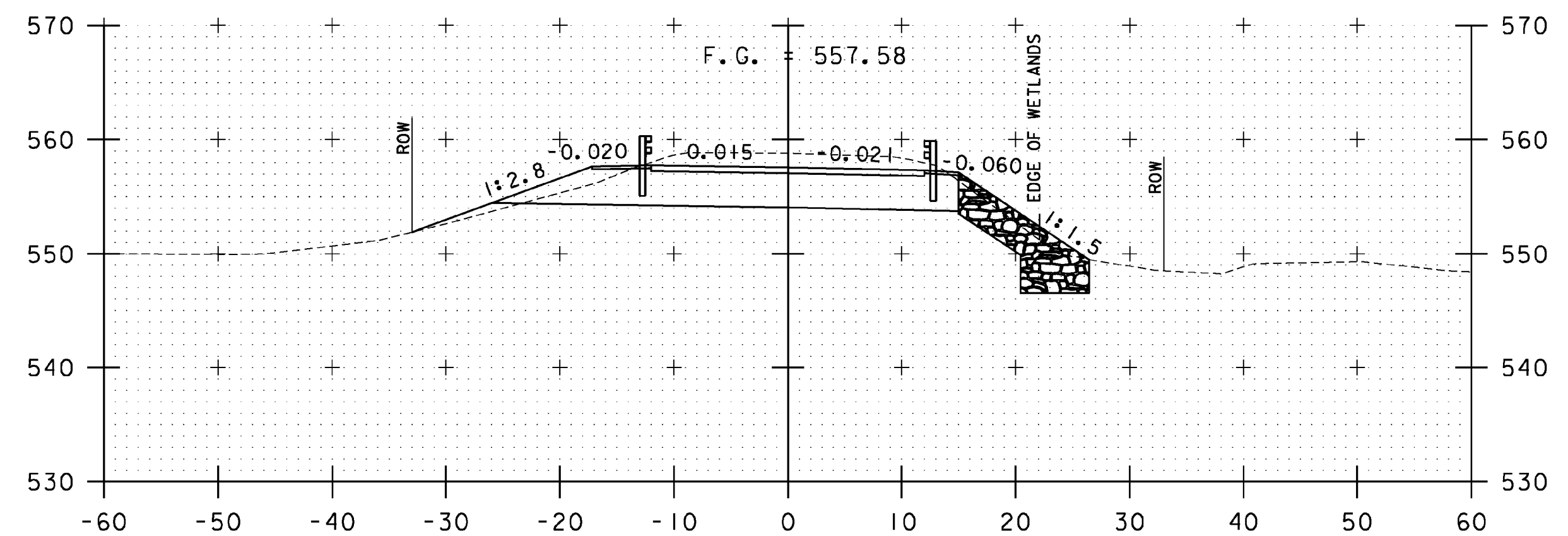
10+25



10+00  
BEGIN APPROACH

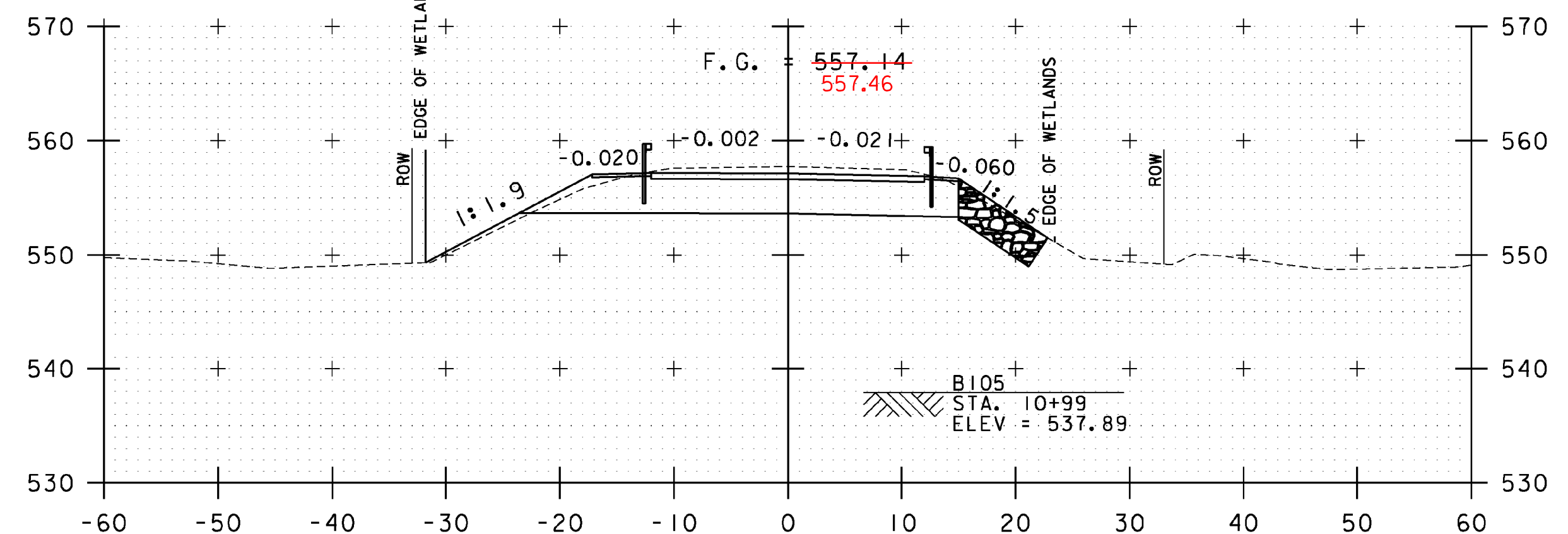


9+75

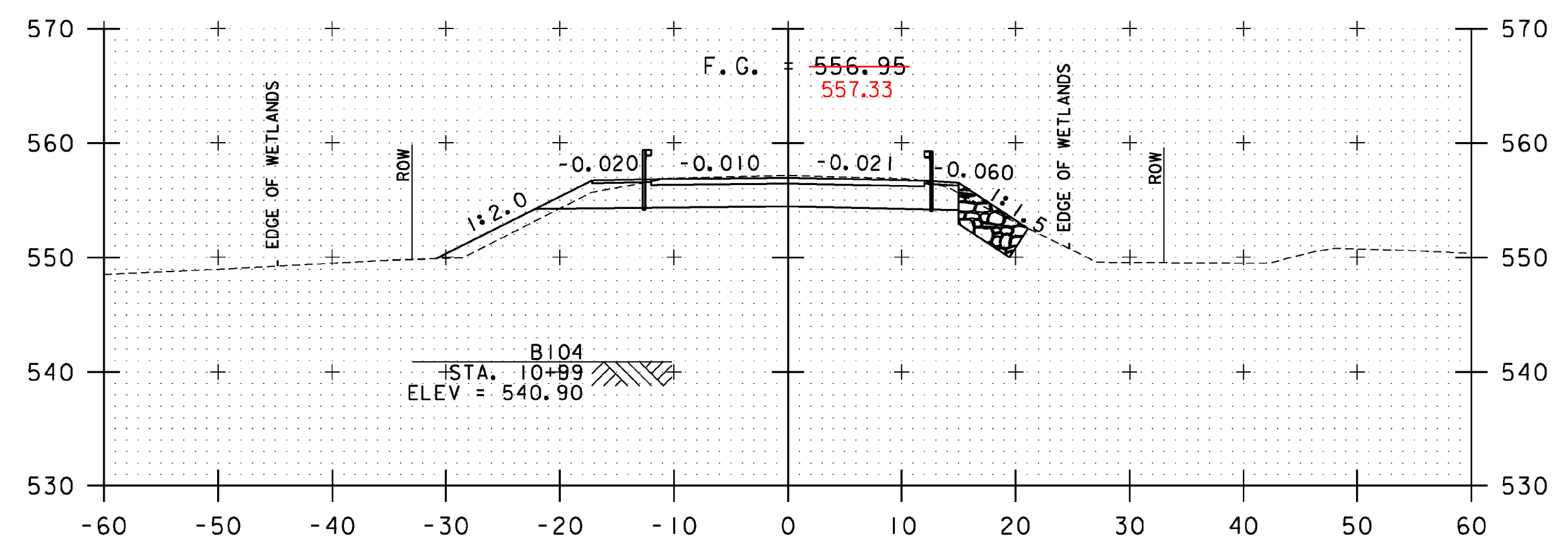


11+00

10+85  
END APPROACH  
BEGIN PROJECT

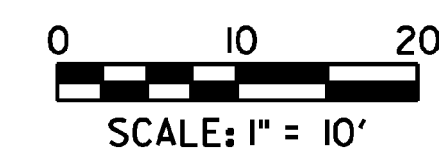


10+75



10+50

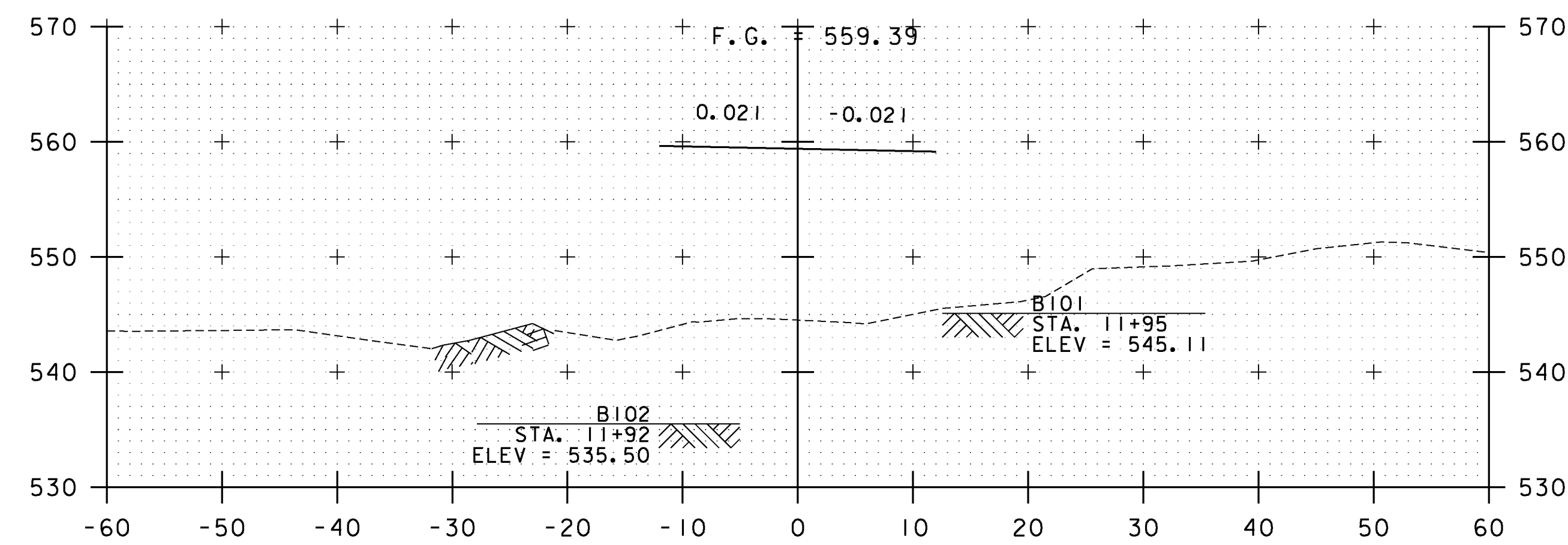
STA. 9+75 TO STA. 11+00



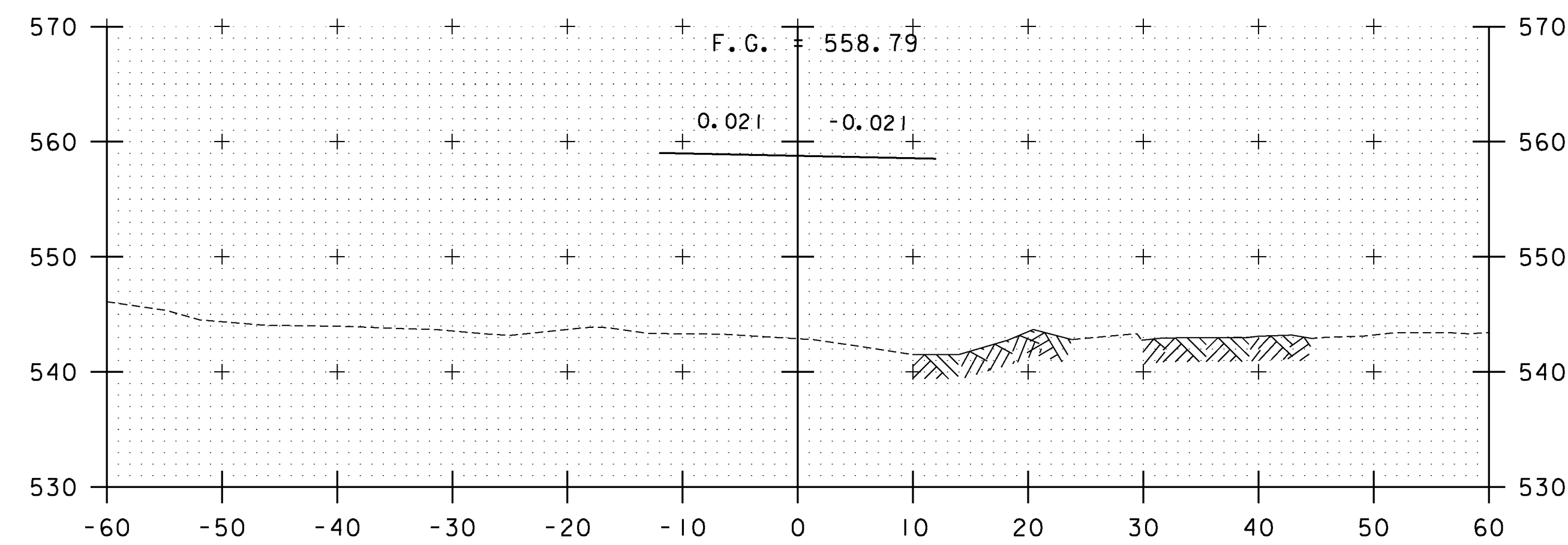
PROJECT NAME:	ENOSBURG
PROJECT NUMBER:	BRO 1448(40)
FILE NAME:	...\\12 Cross Sections.dgn
PROJECT LEADER:	G. BOGUE
DESIGNED BY:	G. GOYETTE
ROADWAY CROSS SECTIONS - RXS 1	
PLOT DATE:	10/4/2013
DRAWN BY:	E. ALLING
CHECKED BY:	G. GOYETTE
SHEET	32 OF 46



# 11+96 END BRIDGE

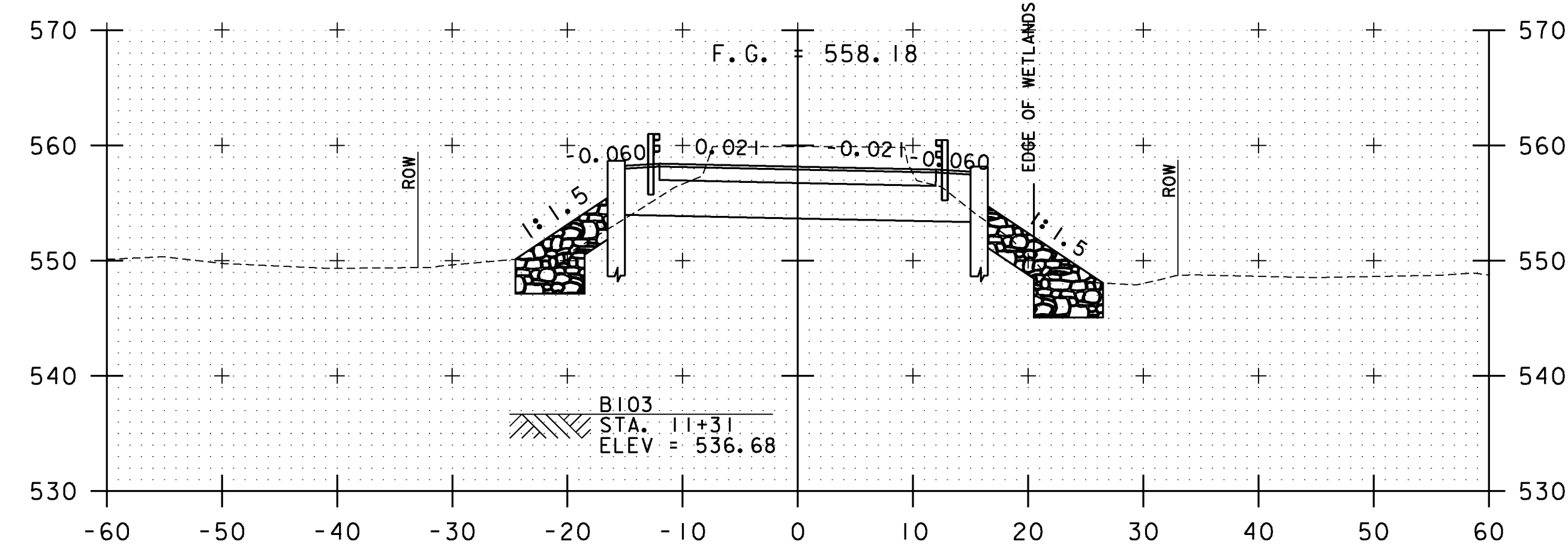


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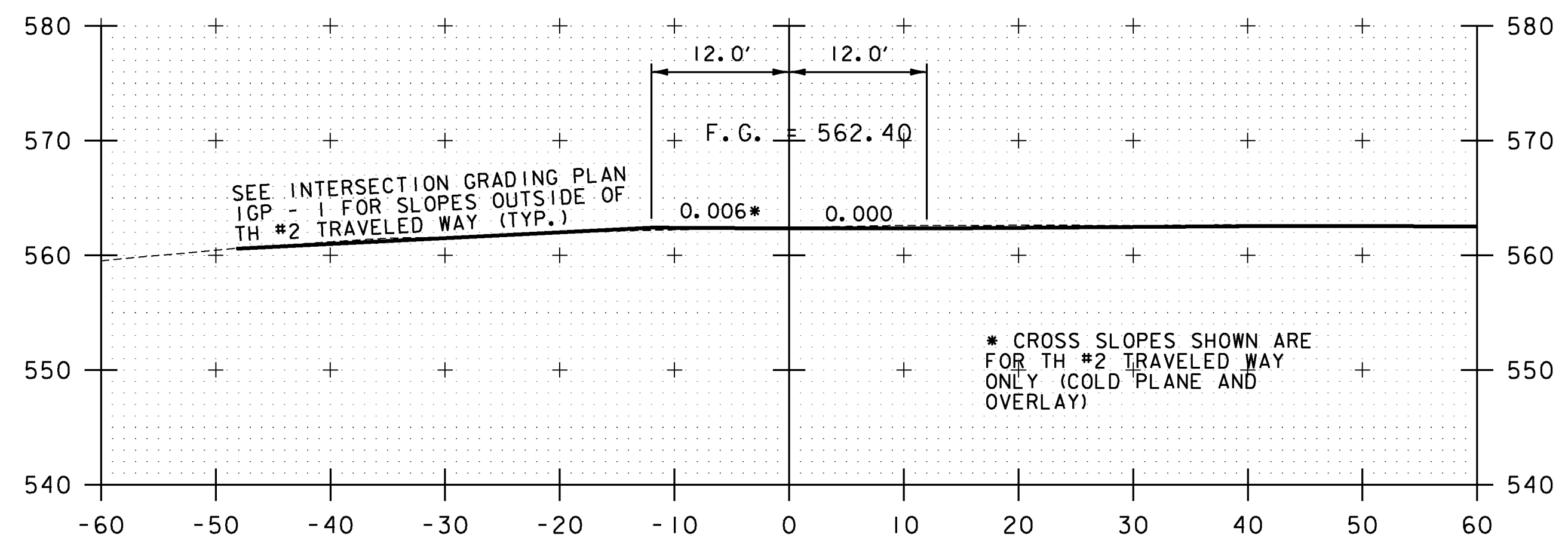


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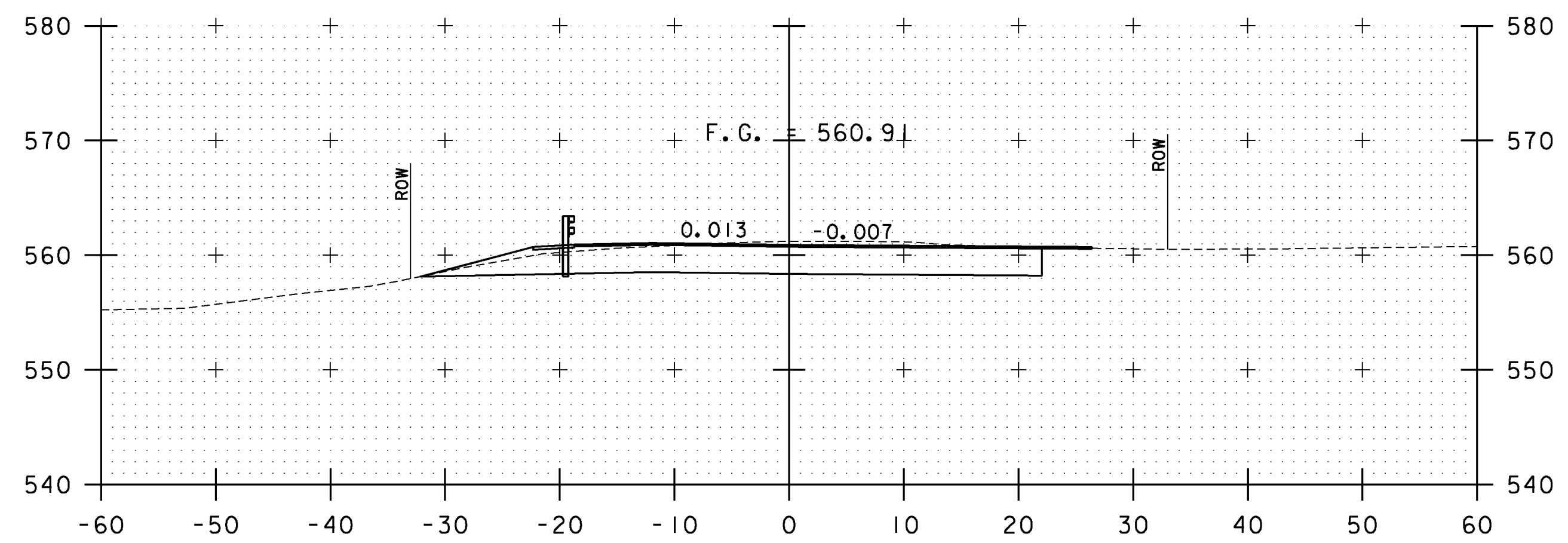
# 11+25 BEGIN BRIDGE



# 11+25

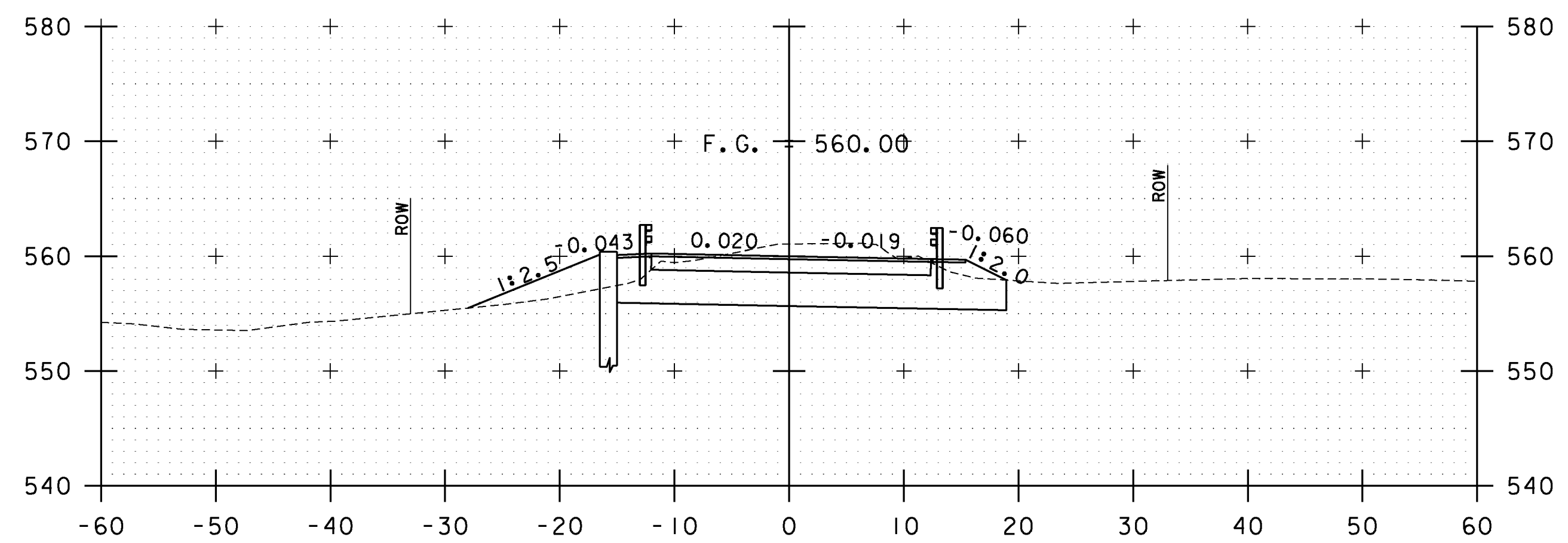


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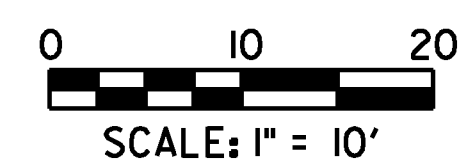
# 12+25

# 12+21 END PROJECT BEGIN APPROACH



# 12+00

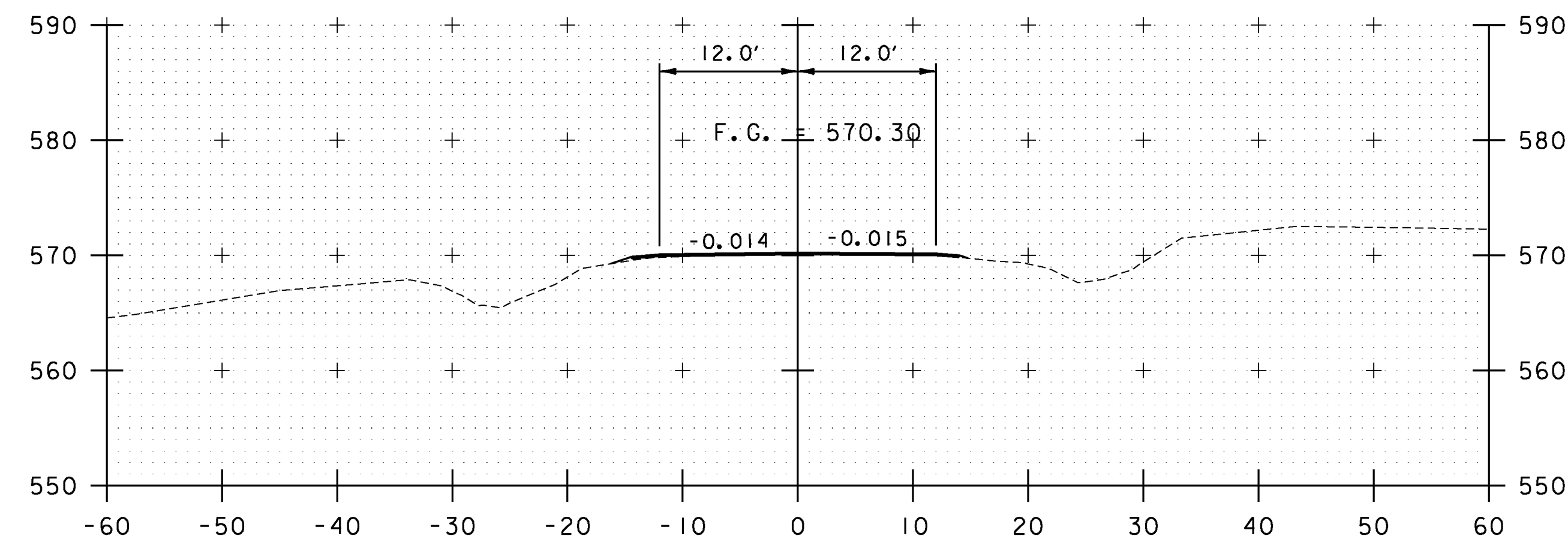
STA. 11+25 TO STA. 12+50



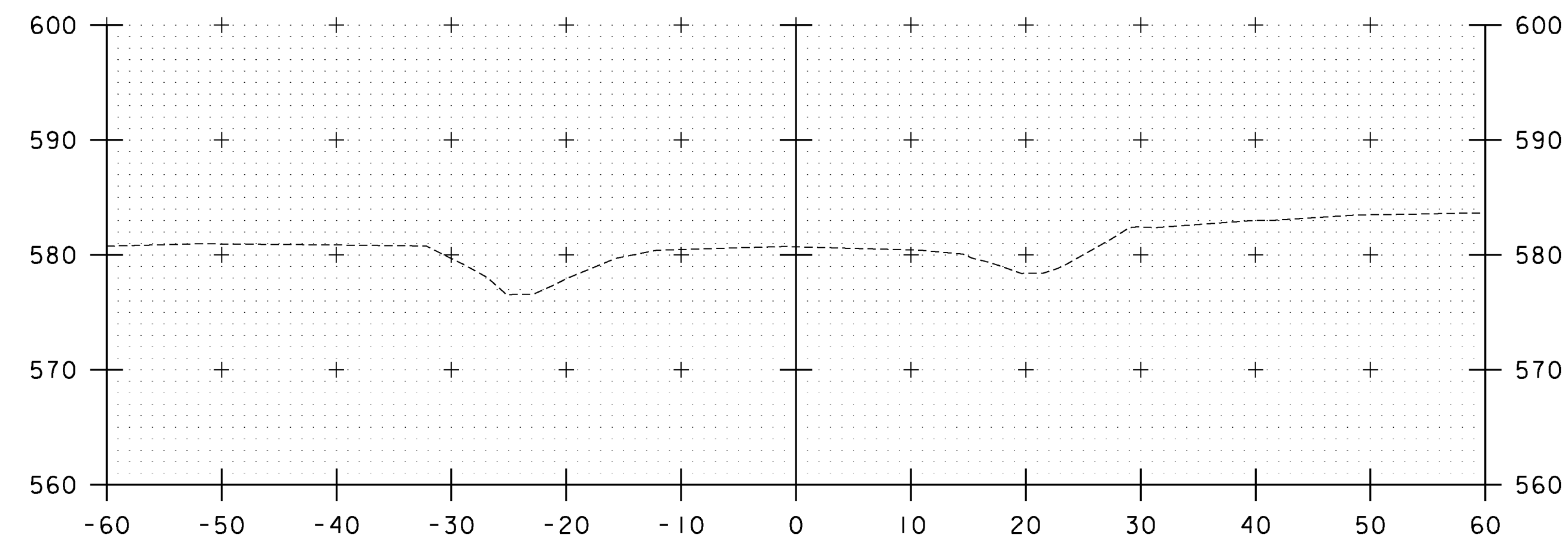
PROJECT NAME: ENOSBURG  
PROJECT NUMBER: BRO 1448(40)  
FILE NAME: ...12 Cross Sections.dgn  
PROJECT LEADER: G. BOGUE  
DESIGNED BY: G. GOYETTE  
**ROADWAY CROSS SECTIONS - RXS 2**

PLOT DATE: 10/4/2013  
DRAWN BY: E. ALLING  
CHECKED BY: G. GOYETTE  
SHEET 33 OF 46

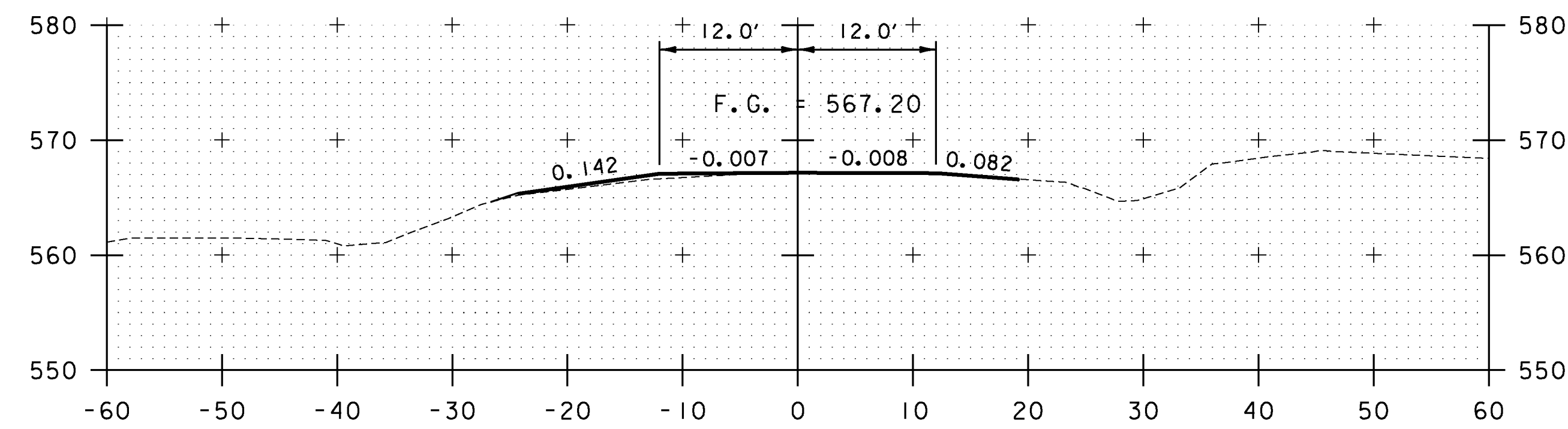




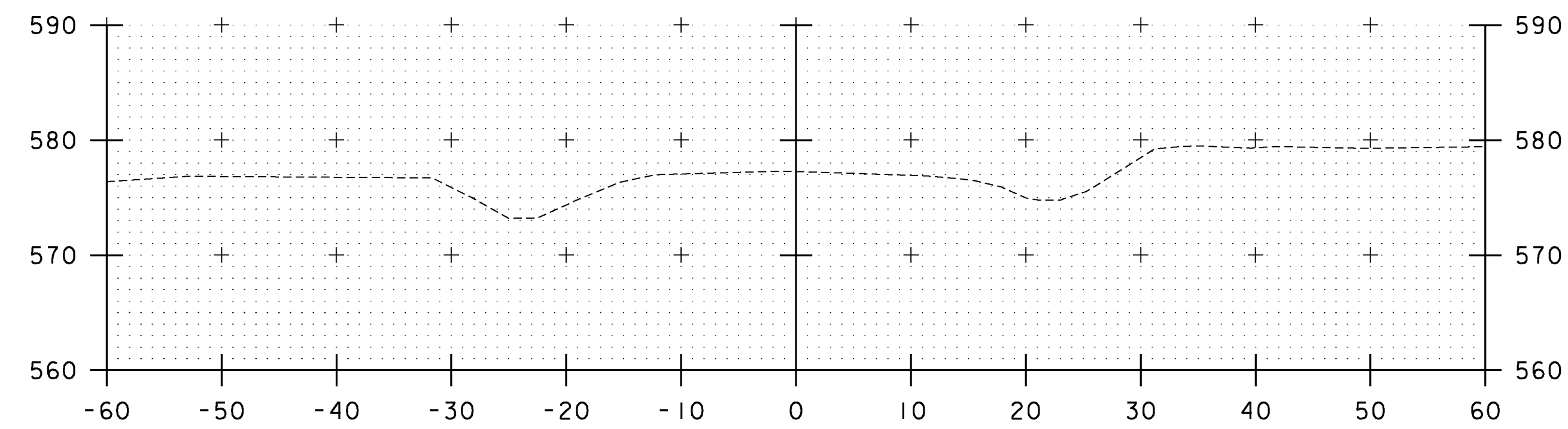
13+25



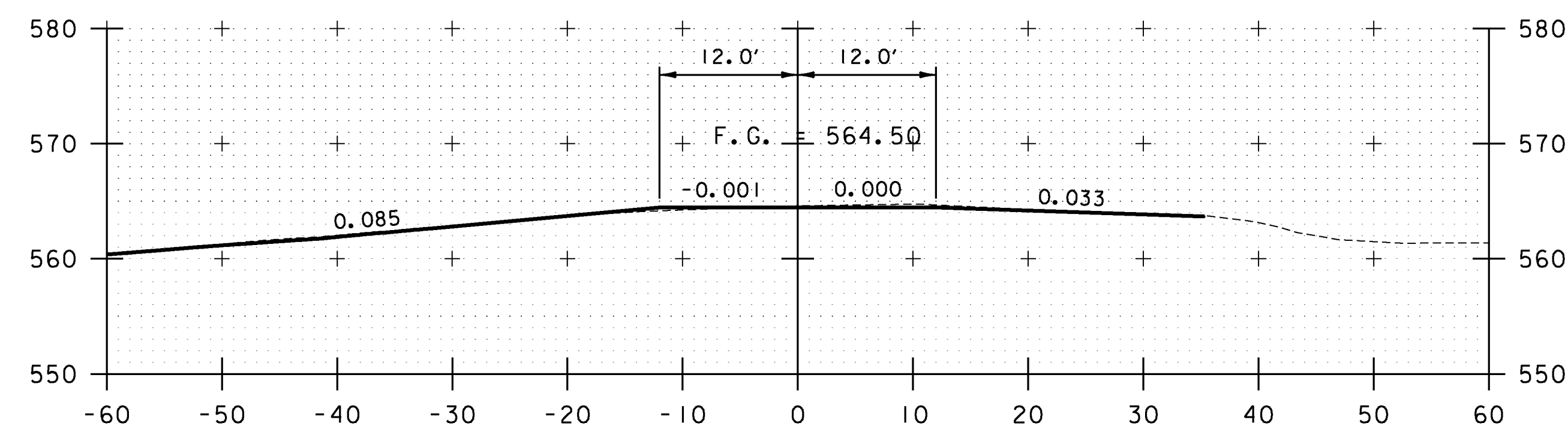
14+00



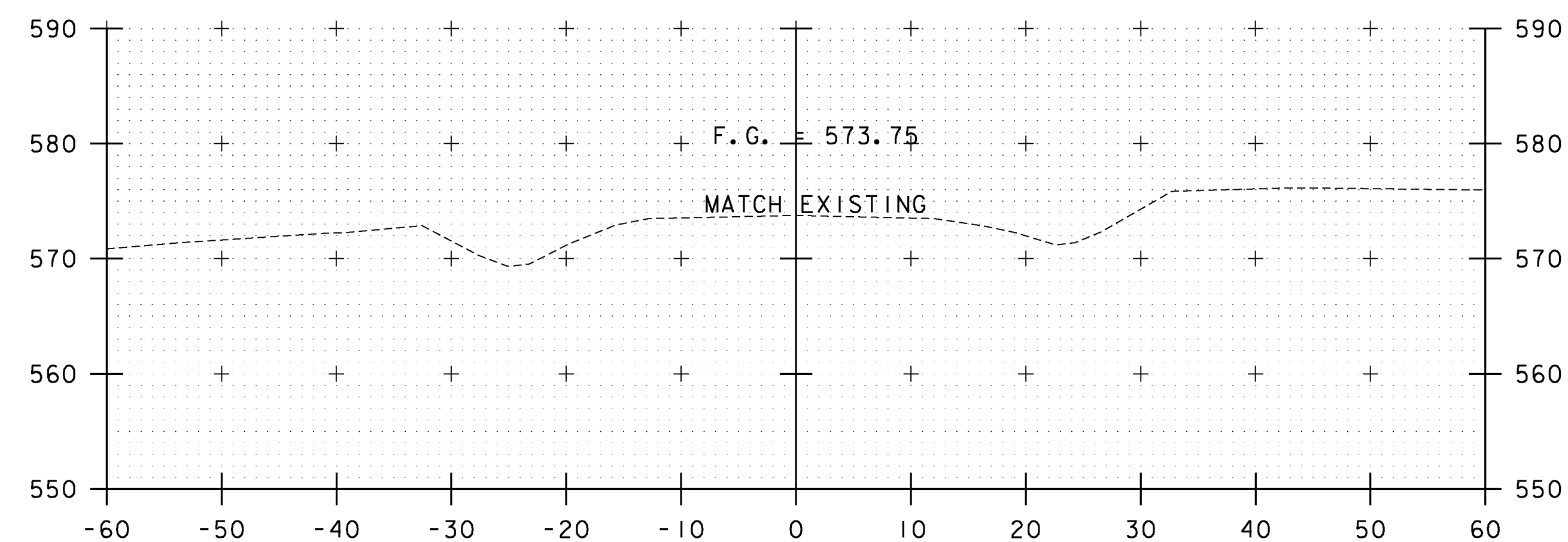
13+00



13+75



12+75



13+50  
END APPROACH

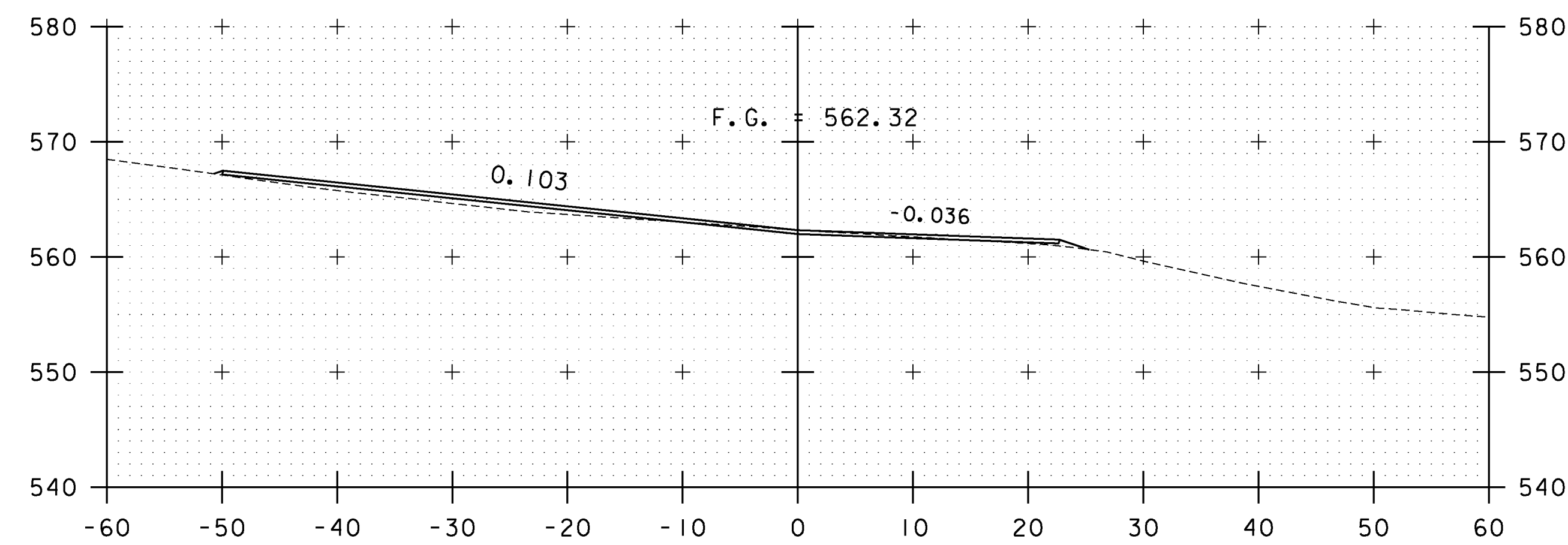
STA. 12+75 TO STA. 14+00

0 10 20  
SCALE: 1" = 10'

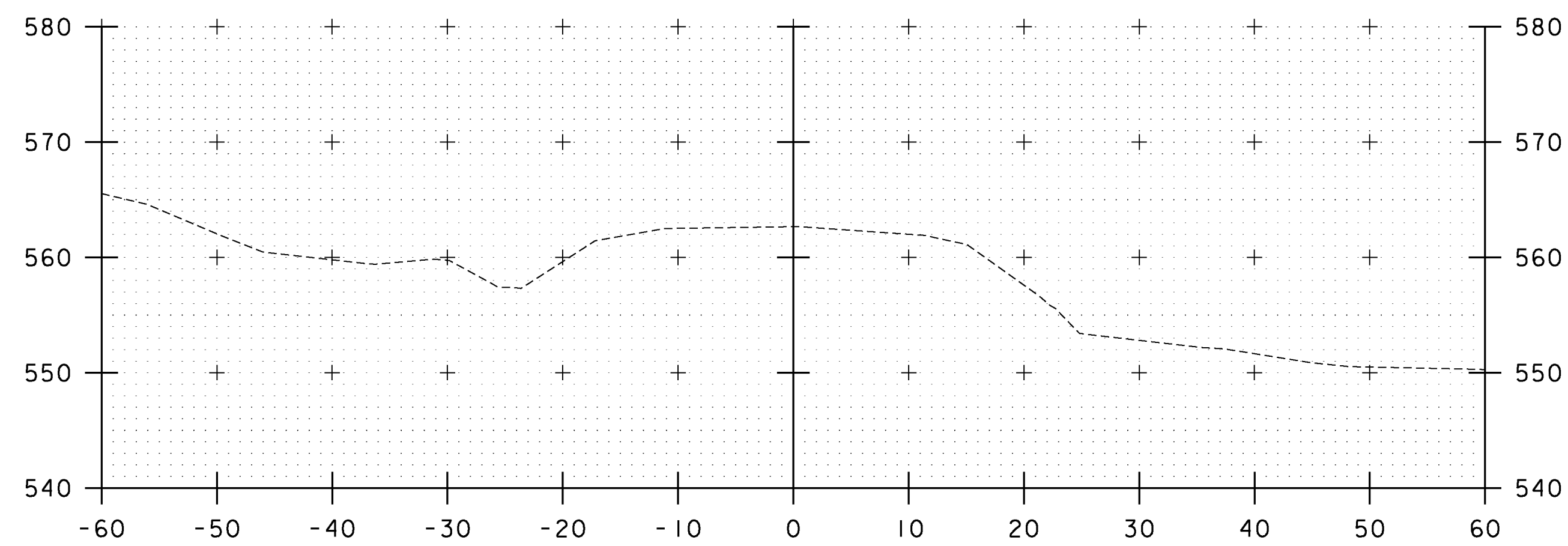


PROJECT NAME: ENOSBURG	PROJECT NUMBER: BRO 1448(40)
FILE NAME: ...12 Cross Sections.dgn	PLOT DATE: 10/4/2013
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: G. GOYETTE	CHECKED BY: G. GOYETTE
ROADWAY CROSS SECTIONS - RXS 3	SHEET 34 OF 46



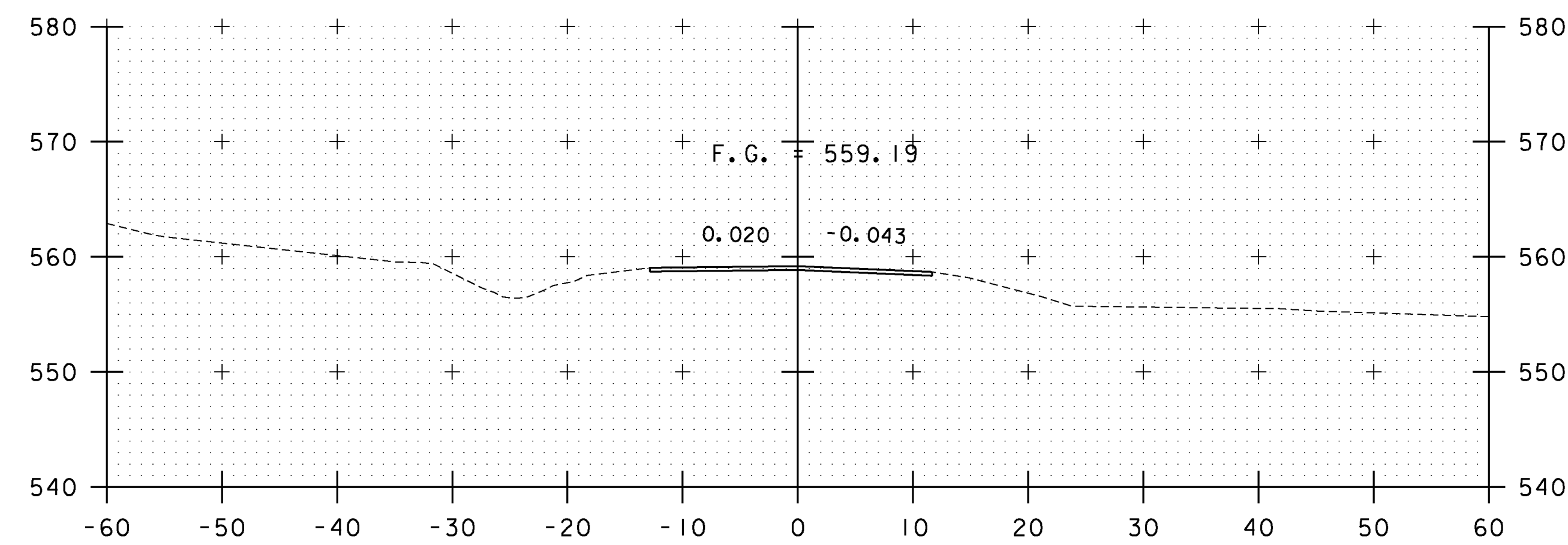


33+50



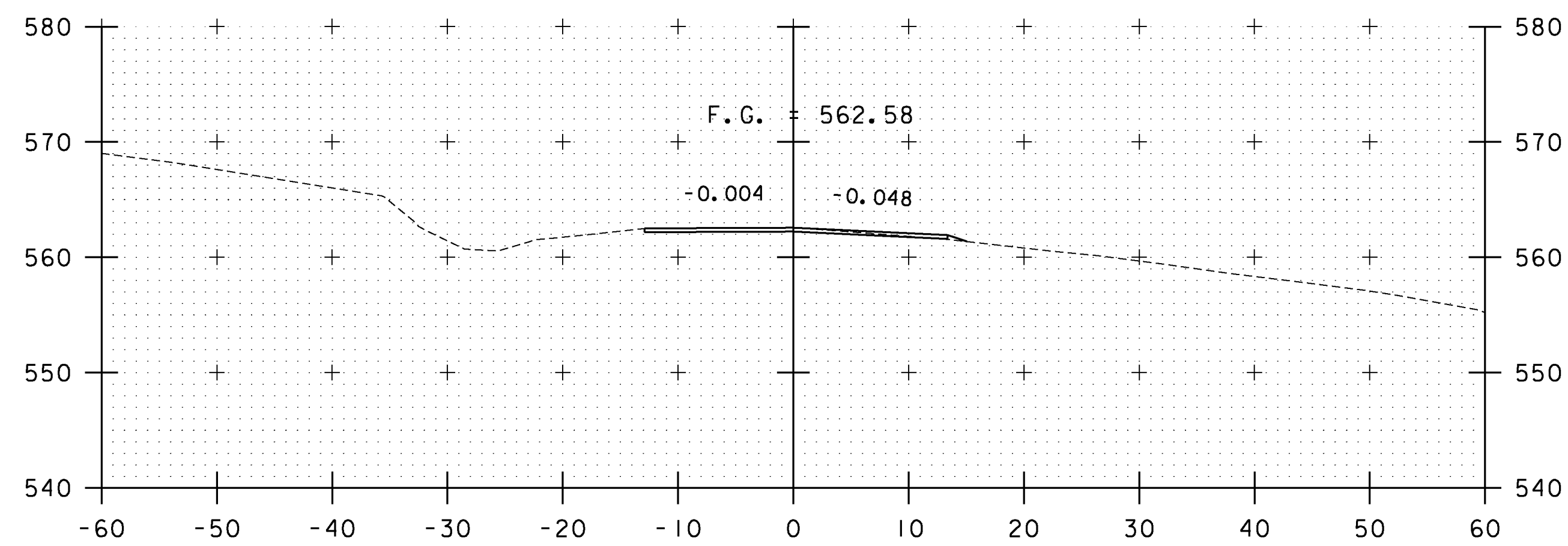
35+00

STA. 34+70  
MATCH EXISTING

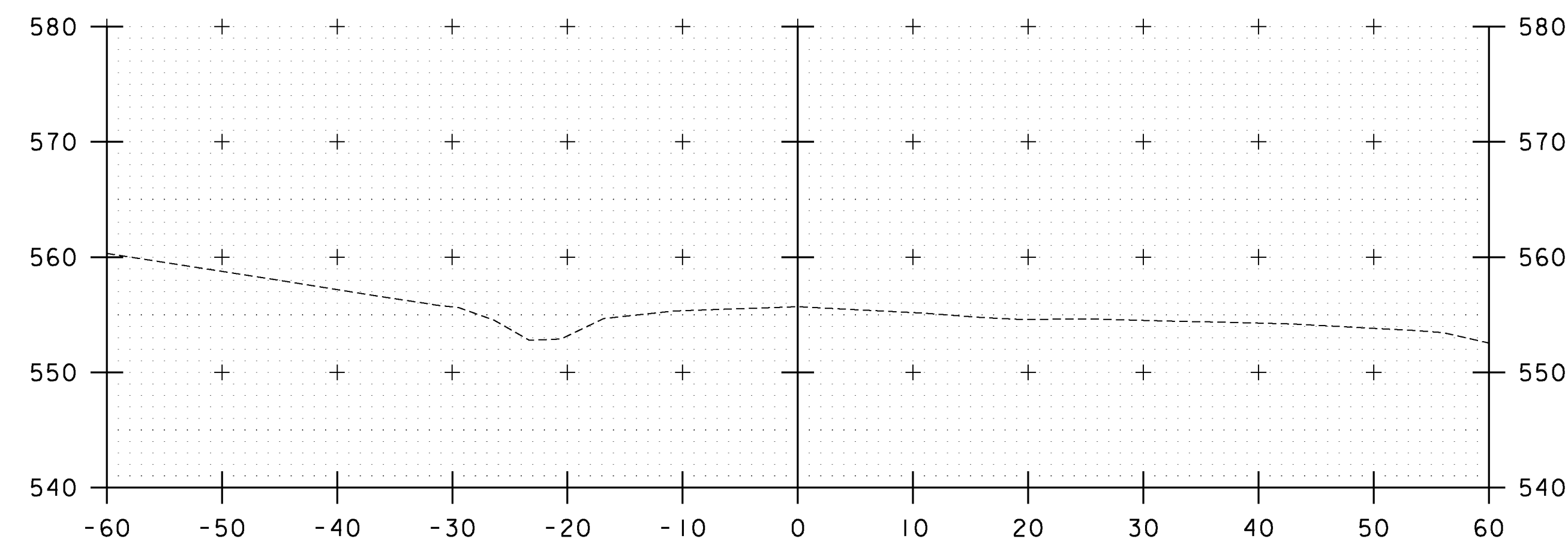


33+00

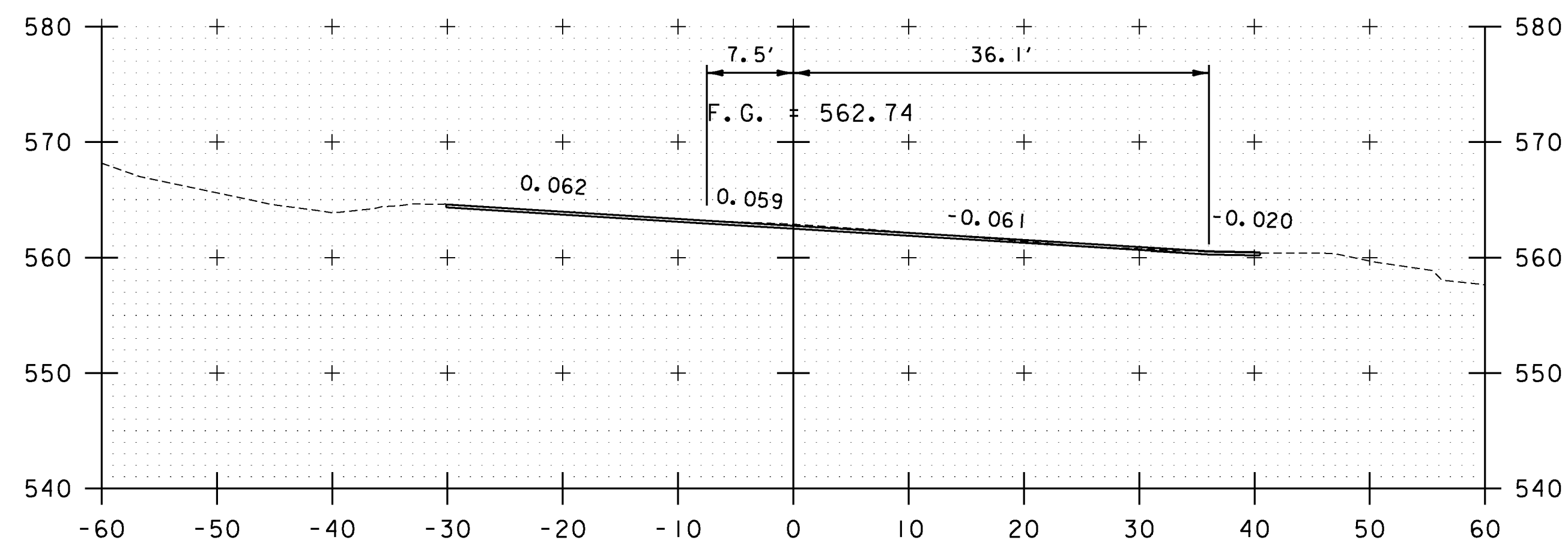
STA. 32+85  
MATCH EXISTING



34+50



32+50



34+00

STA. 32+50 TO STA. 35+00

0 10 20  
SCALE: 1" = 10'

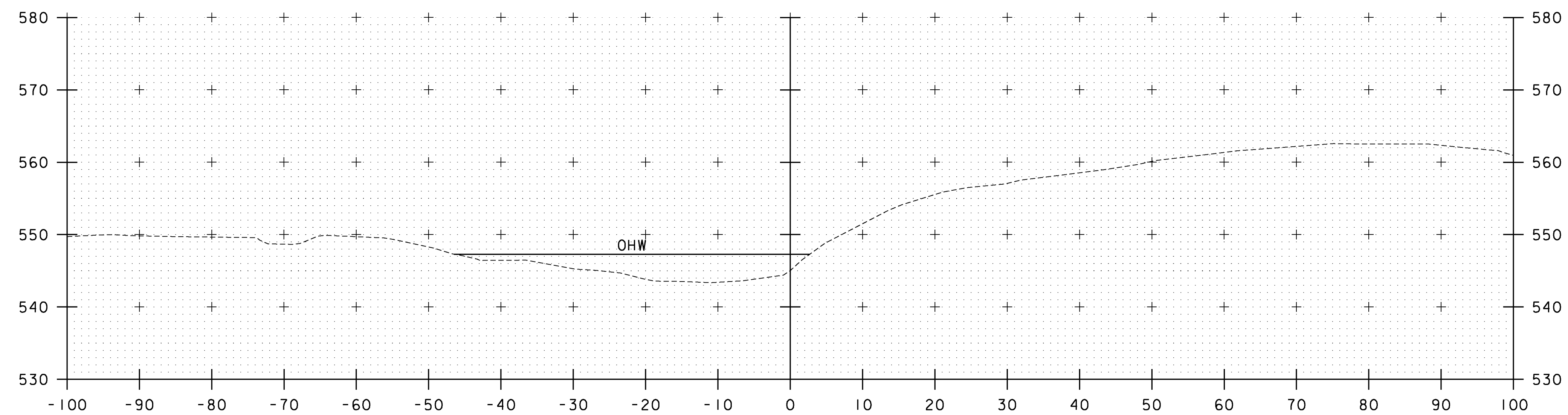


PROJECT NAME: ENOSBURG  
PROJECT NUMBER: BRO 1448(40)

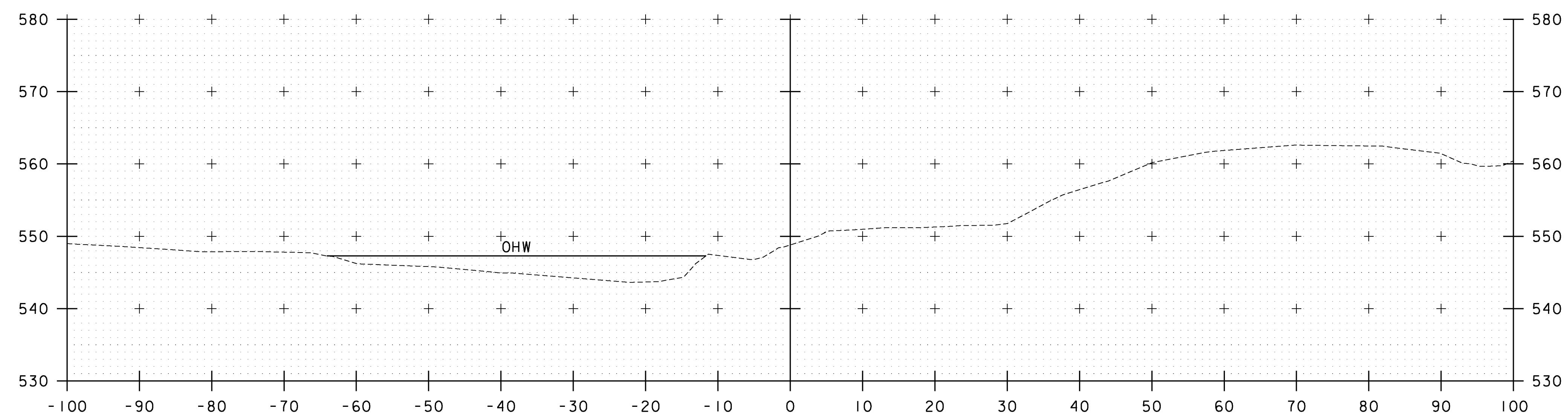
FILE NAME: ...\\12 Cross Sections.dgn  
PROJECT LEADER: G. BOGUE  
DESIGNED BY: G. GOYETTE  
**T.H. 1 CROSS SECTIONS - TXS 1**

PLOT DATE: 10/4/2013  
DRAWN BY: E. ALLING  
CHECKED BY: G. GOYETTE  
SHEET 35 OF 46





50+25



50+00

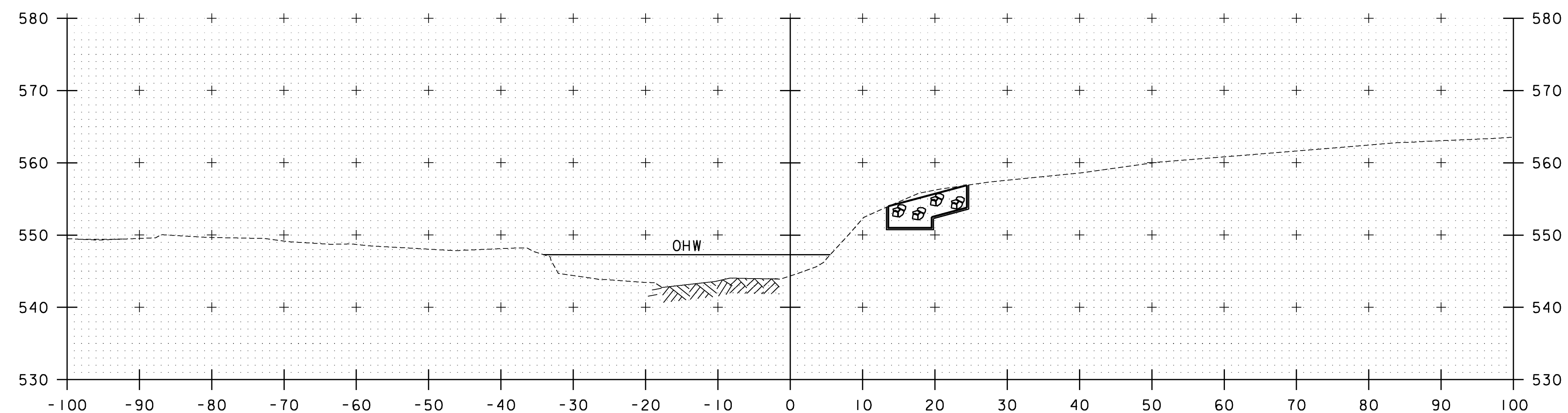
STA. 50+00 TO STA. 50+25

0 10 20  
SCALE: 1" = 10'



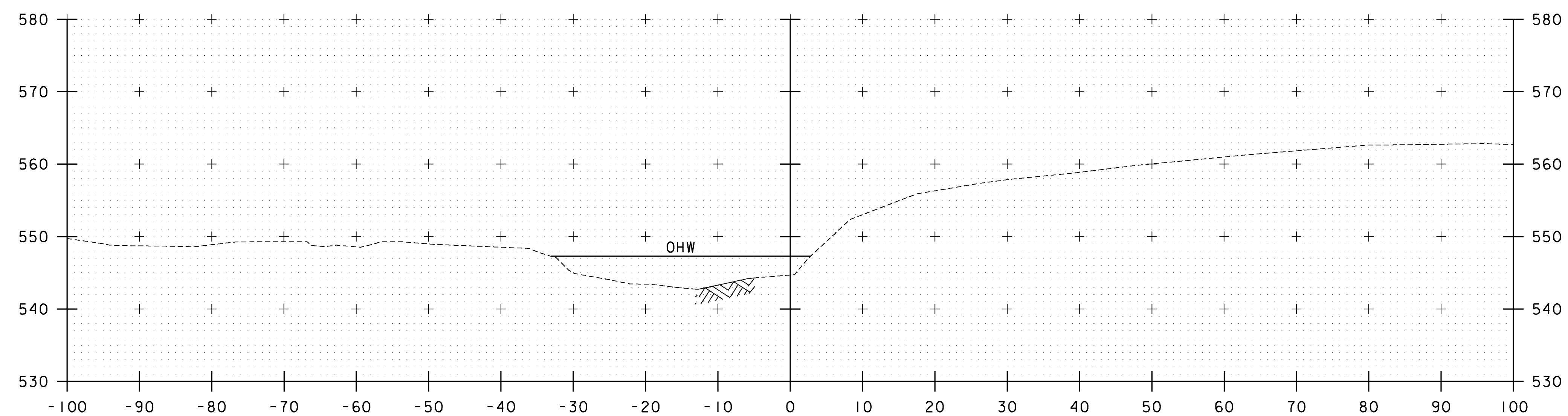
PROJECT NAME:	ENOSBURG
PROJECT NUMBER:	BRO 1448(40)
FILE NAME: ...\\13 ChannelCross Sections.dgn	LOT DATE: 10/4/2013
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: G. GOYETTE	CHECKED BY: G. GOYETTE
<b>CHANNEL CROSS SECTIONS - CXS 1</b>	SHEET 36 OF 46





50+70

STA. 50+68 RT  
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION  
 GEOTEXTILE UNDER STONE FILL  
 STONE FILL, TYPE III  
 GRUBBING MATERIAL



50+50

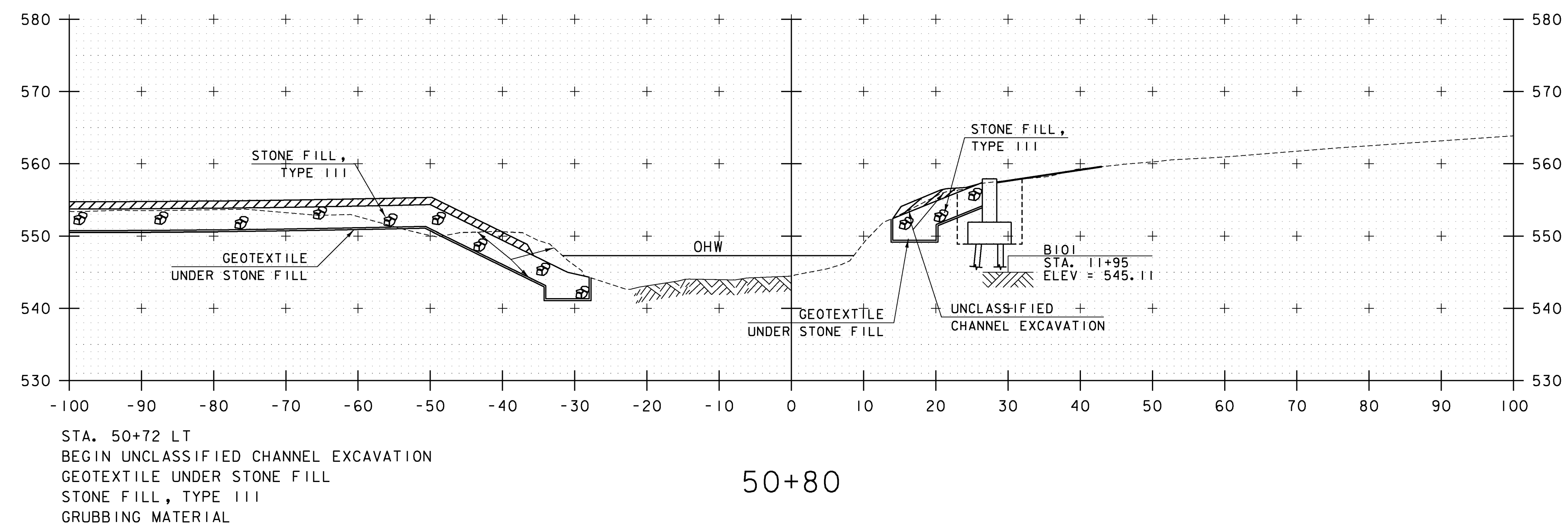
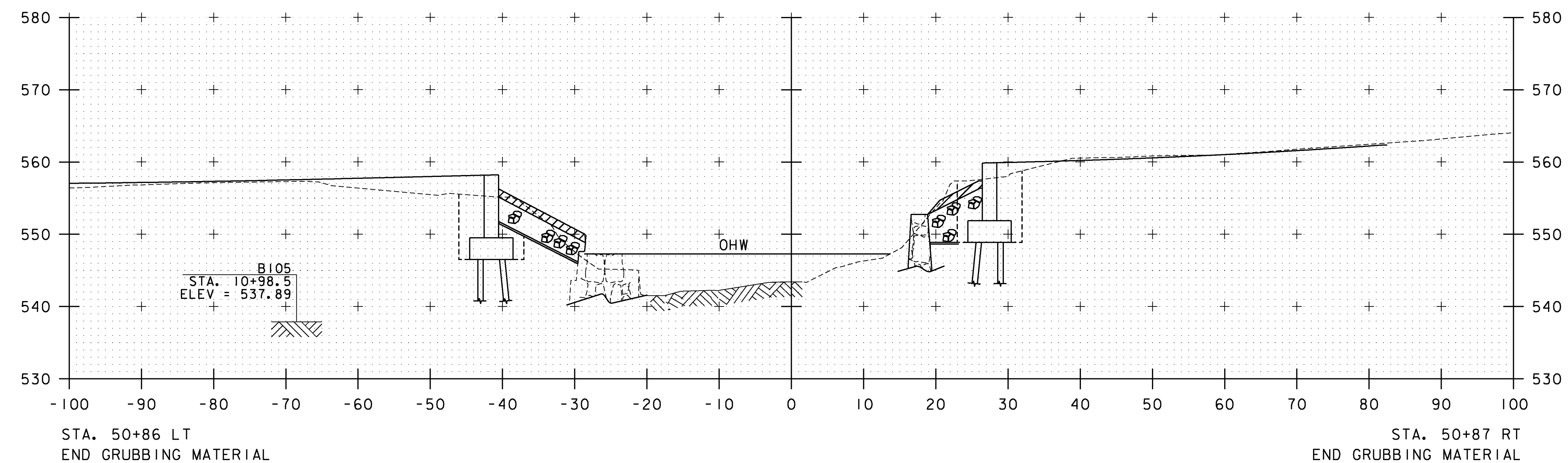
STA. 50+50 TO STA. 50+70

0 10 20  
 SCALE: 1" = 10'



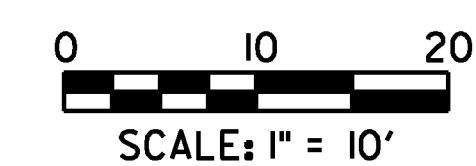
PROJECT NAME: ENOSBURG	
PROJECT NUMBER: BRO 1448(40)	
FILE NAME: ...\\13 ChannelCross Sections.dgn	LOT DATE: 10/4/2013
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: G. GOYETTE	CHECKED BY: G. GOYETTE
<b>CHANNEL CROSS SECTIONS - CXS 2</b>	SHEET 37 OF 46



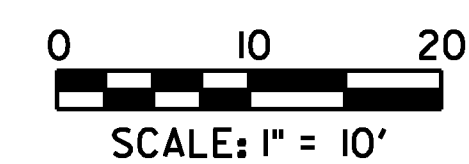
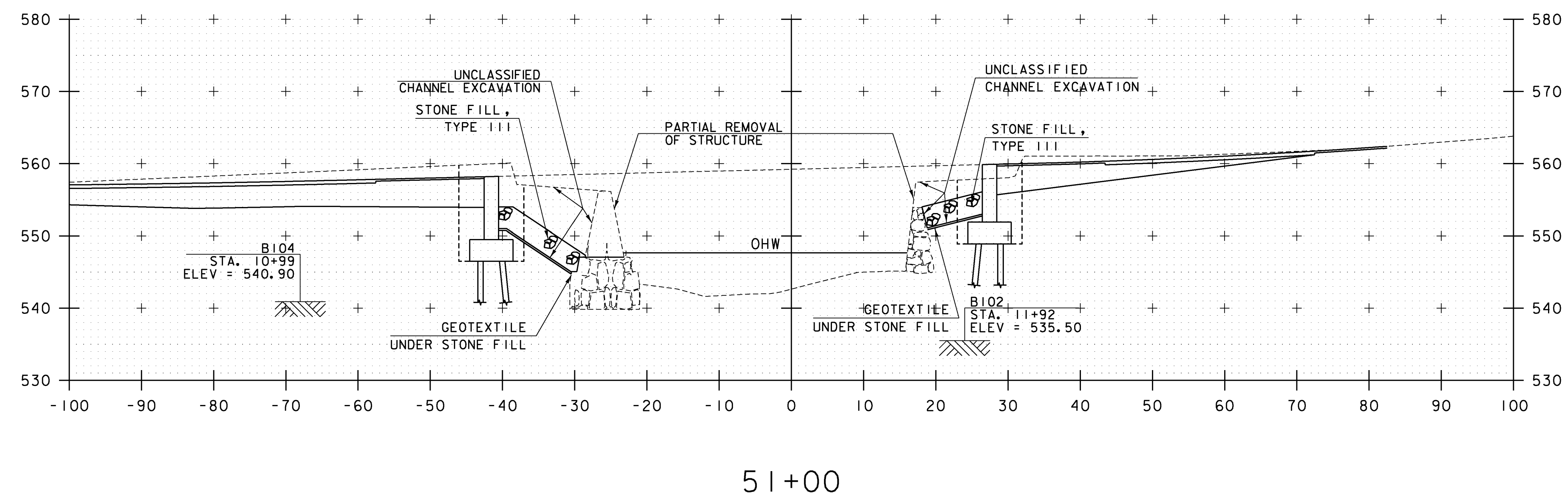
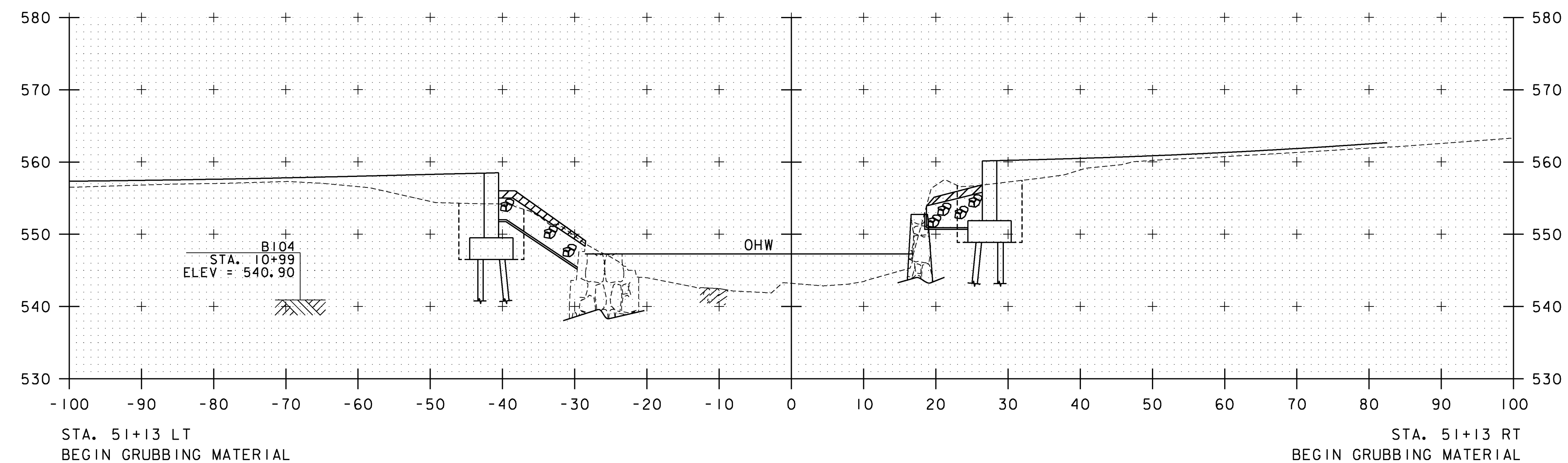


STA. 50+80 TO STA. 50+86

PROJECT NAME:	ENOSBURG
PROJECT NUMBER:	BRO 1448(40)
FILE NAME: ...N13 ChannelCross Sections.dgn	LOT DATE: 10/4/2013
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: G. GOYETTE	CHECKED BY: G. GOYETTE
CHANNEL CROSS SECTIONS - CXS 3	SHEET 38 OF 46

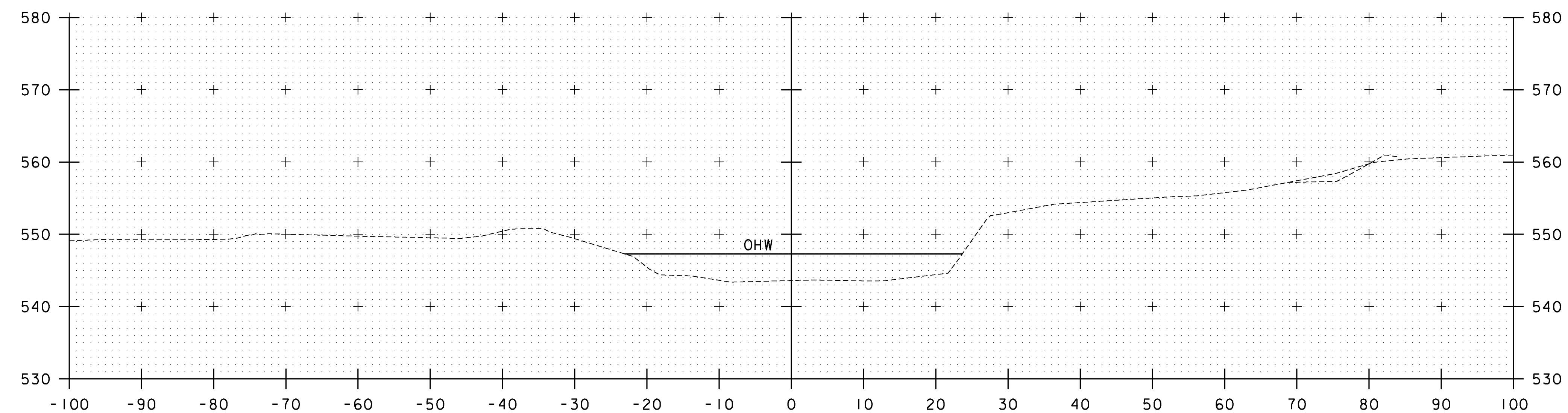




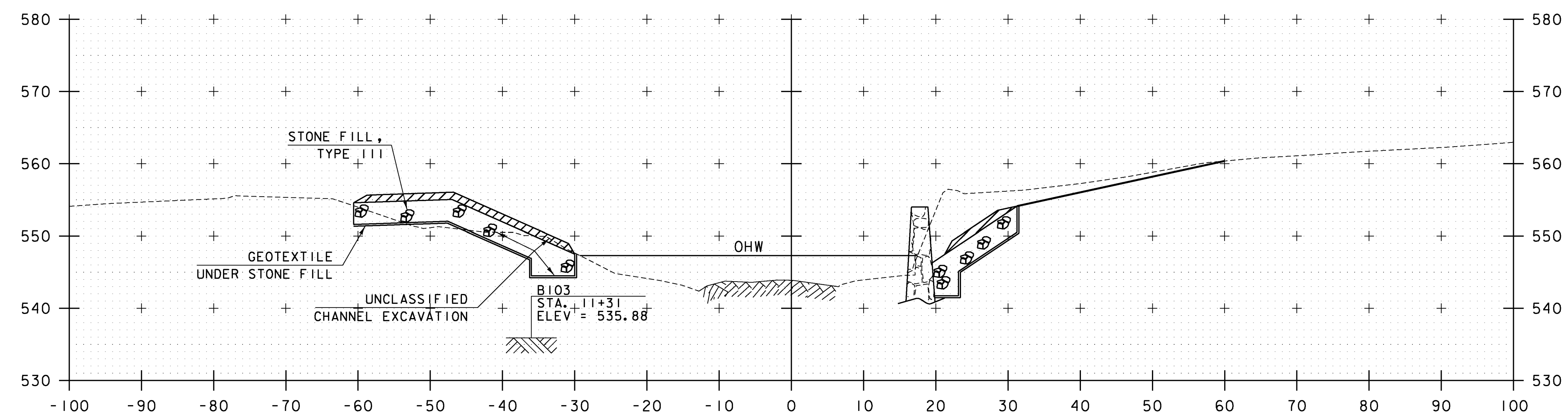


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PROJECT NUMBER: BRO 1448(40)	
FILE NAME: ...N13 ChannelCross Sections.dgn	LOT DATE: 10/4/2013
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: G. GOYETTE	CHECKED BY: G. GOYETTE
<b>CHANNEL CROSS SECTIONS - CXS 4</b>	SHEET 39 OF 46





51+50

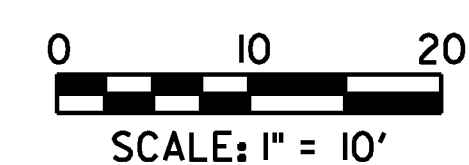


STA. 51+25 LT  
 END UNCLASSIFIED CHANNEL EXCAVATION  
 END STONE FILL, TYPE III  
 END GEOTEXTILE UNDER STONE FILL  
 END GRUBBING MATERIAL

51+20

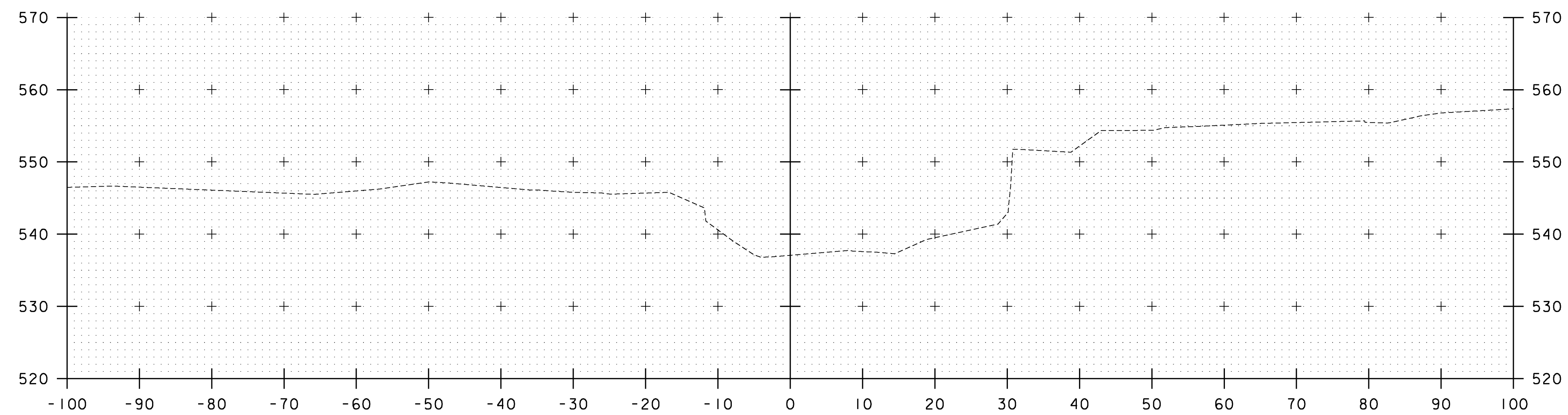
STA. 51+25 RT  
 END UNCLASSIFIED CHANNEL EXCAVATION  
 END STONE FILL, TYPE III  
 END GEOTEXTILE UNDER STONE FILL  
 END GRUBBING MATERIAL

STA. 51+20 TO STA. 51+50

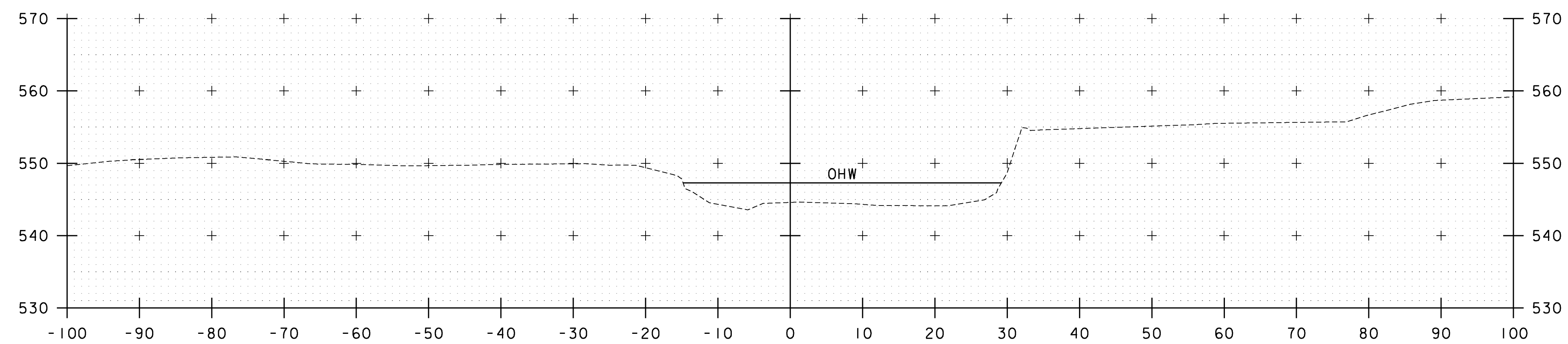


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PROJECT NUMBER: BRO 1448(40)	
FILE NAME: ...N3 ChannelCross Sections.dgn	LOT DATE: 10/4/2013
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: G. GOYETTE	CHECKED BY: G. GOYETTE
<b>CHANNEL CROSS SECTIONS - CXS 5</b>	SHEET 40 OF 46





52+00



51+75

STA. 51+75 TO STA. 52+00

0 10 20  
SCALE: 1" = 10'



PROJECT NAME: ENOSBURG	
PROJECT NUMBER: BRO 1448(40)	
FILE NAME: ...\\13 ChannelCross Sections.dgn	LOT DATE: 10/4/2013
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: G. GOYETTE	CHECKED BY: G. GOYETTE
<b>CHANNEL CROSS SECTIONS - CXS 6</b>	SHEET 41 OF 46



EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF BRIDGE #48, RELATED CHANNEL WORK AND INCIDENTALS. BRIDGE #48 WILL BE REPLACED WITH A PRECAST CONCRETE BRIDGE OVER TYLER BRANCH, ON NEW FOOTINGS ALONG THE SAME ALIGNMENT. BRIDGE #48 IS LOCATED IN THE TOWN OF ENOSBURG, BOSTON POST ROAD, AT THE INTERSECTION WITH TYLER BRANCH ROAD. THE LENGTH OF THE BRIDGE WILL BE INCREASED TO 73.5 FEET.

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, AS WELL AS WASTE, BORROW AND STAGING AREAS, AND OTHER EARTH DISTURBING ACTIVITIES WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS AS SHOWN ON THE ATTACHED EPSC PLAN.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.25 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 A SADDLE THAT IS MOSTLY OPEN GRASSED AREAS WITH SOME MEDIUM-SIZED TREES. BOSTON POST ROAD AND TYLER BRANCH ROAD ARE WITHIN THE PROJECT SITE. THERE ARE THREE ADJACENT HOUSES TO THE SITE, AND A FEW HOUSES UP SLOPE TO THE SOUTHWEST WITH GRASS AND TREE BUFFERS.

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

THE TYLER BRANCH IS THE ONLY WATER SOURCE ON THE PROJECT SITE. THE TYLER BRANCH IS CLASSIFIED AS STRAIGHT AND NARROW, WITH A CONFINED AND PARTIALLY ARMORED CHANNEL AT THE SITE. THE STREAM BED CONSISTS OF FINES, GRAVEL, COBBLES AND BOULDERS. DUE TO THE NATURE OF THE SURROUNDING TERRAIN THE PROJECT SITE COULD RECEIVE RUNOFF WATER FROM A FEW NEARBY SLOPES.

1.2.3 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF OPEN GRASSED AREAS, HARDWOOD TREES AND UNDERGROWTH. THE IMPACT TO VEGETATION WILL BE LIMITED TO THE PROPOSED TOE OF SLOPE SHOWN ON THE PLANS. UPON PROJECT COMPLETION, THE CHANNEL WILL BE ARMORED WITH STONE FILL TYPE III 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 FRANKLIN, VERMONT. SOILS ON THE PROJECT SITE ARE PODUNK VARIANT SILT LOAM, “K FACTOR” = 0.32. THE SOIL IS CONSIDERED MODERATELY ERODIBLE DUE TO K-VALUE.

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: ARCHEOLOGICALLY SENSITIVE AREA IN SOUTHWEST QUADRANT AS SHOWN ON THE PLANS  
PRIME AGRICULTURAL LAND: NO  
THREATENED AND ENDANGERED SPECIES: NO  
WATER RESOURCE: TYLER BRANCH  
WETLANDS: YES

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. BARRIER FENCE SHALL BE USED IN THE LOCATIONS SHOWN ON THE EPSC PLAN.

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 CONTRACTOR’S 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.

WOVEN WIRE REINFORCED SILT FENCE AND FILTER CURTAINS OR OTHER APPROVED IN-STREAM SEDIMENT BARRIER SHALL BE USED IN THE LOCATIONS SHOWN ON THE EPSC PLAN.

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 WITH MINIMAL OFF-SITE RUNOFF FLOWING THROUGH THE SITE. THEREFORE DIVERSION MEASURES WILL NOT BE NECESSARY.

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.

THERE ARE NO DITCHES WITHIN THE PROJECT LIMITS SO IT IS NOT ANTICIPATED THAT CHECK DAMS WILL BE USED.

1.4.7 CONSTRUCT PERMANENT CONTROLS

THERE ARE NO PERMANENT STORMWATER TREATMENT DEVICES TO BE INSTALLED FOR THIS PROJECT.

1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

ALL AREAS OF DISTURBANCE MUST HAVE TEMPORARY STABILIZATION IN PLACE WITHIN 48 HOURS OF DISTURBANCE OR IN ACCORDANCE WITH THE CONSTRUCTION GENERAL PERMIT 3-9020 AUTHORIZATION.

SURFACE ROUGHENING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, SHALL BE UTILIZED ON A REGULAR BASIS. BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3.

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.

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. FOR SLOPES STEEPER THAN 1:3, BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED INSTEAD OF MULCH.

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. DEWATERING SITE TO BE REVIEWED AND APPROVED BY THE RESIDENT ENGINEER.

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 SUBSECTIONS 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

1.5.3 UPDATES



PROJECT NAME: ENOSBURG	
PROJECT NUMBER: BRO 1448(40)	
FILE NAME: ...\\08_A EPSC NARRATIVE.dgn	PLOT DATE: 10/4/2013
PROJECT LEADER: G. BOGUE	DRAWN BY: E. ALLING
DESIGNED BY: G. GOYETTE	CHECKED BY: G. GOYETTE
EPSC NARRATIVE – ECN 1	SHEET 42 OF 46



ITEM 653.55 PROJECT DEMARCATION FENCE

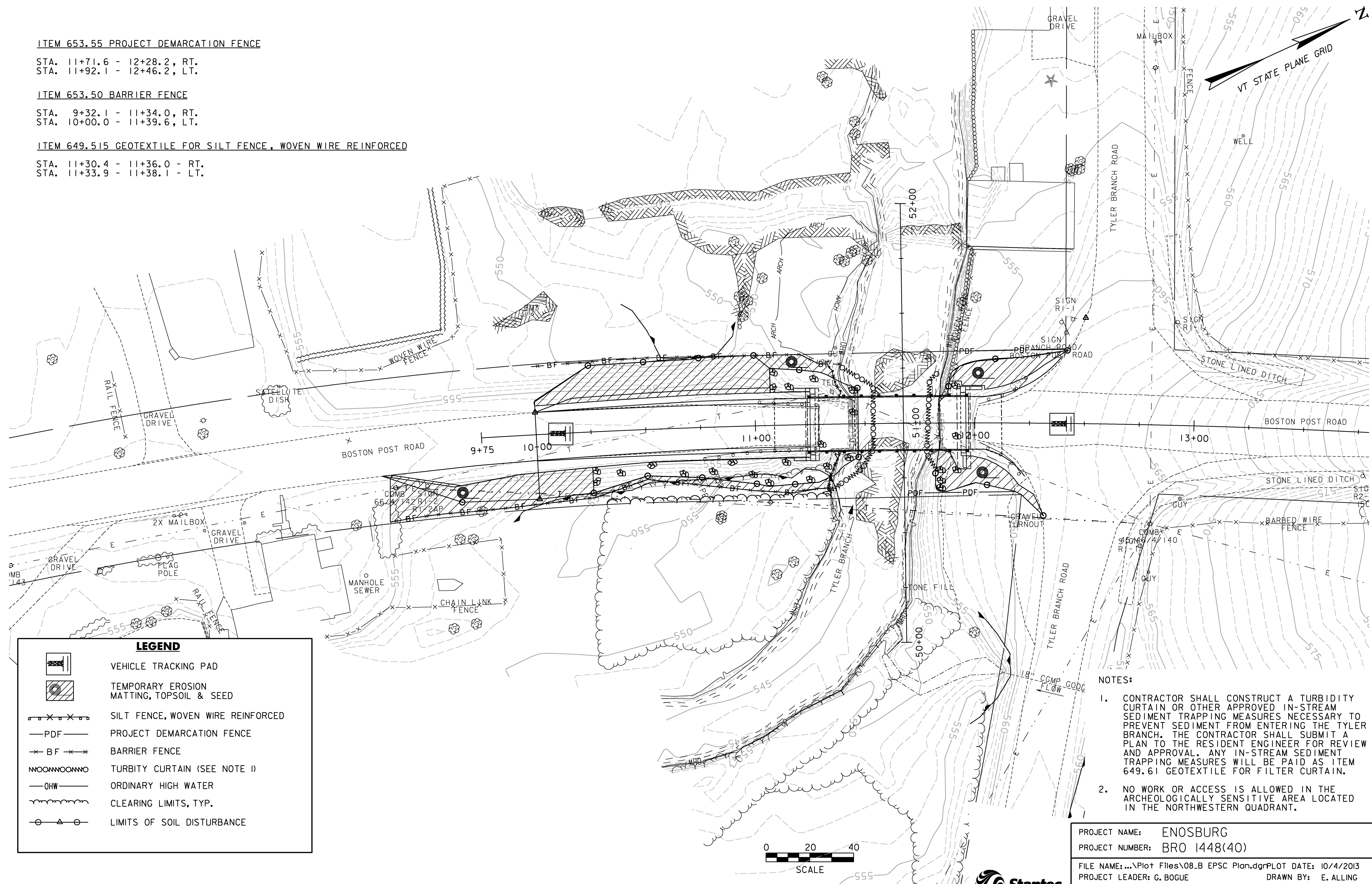
STA. 11+71.6 - 12+28.2, RT.  
STA. 11+92.1 - 12+46.2, LT.

ITEM 653.50 BARRIER FENCE

STA. 9+32.1 - 11+34.0, RT.  
STA. 10+00.0 - 11+39.6, LT.

ITEM 649.515 GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED

STA. 11+30.4 - 11+36.0 - RT.  
STA. 11+33.9 - 11+38.1 - LT.









VAOT RURAL AREA MIX					
LBS/AC					
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
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					
LBS/AC					
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
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

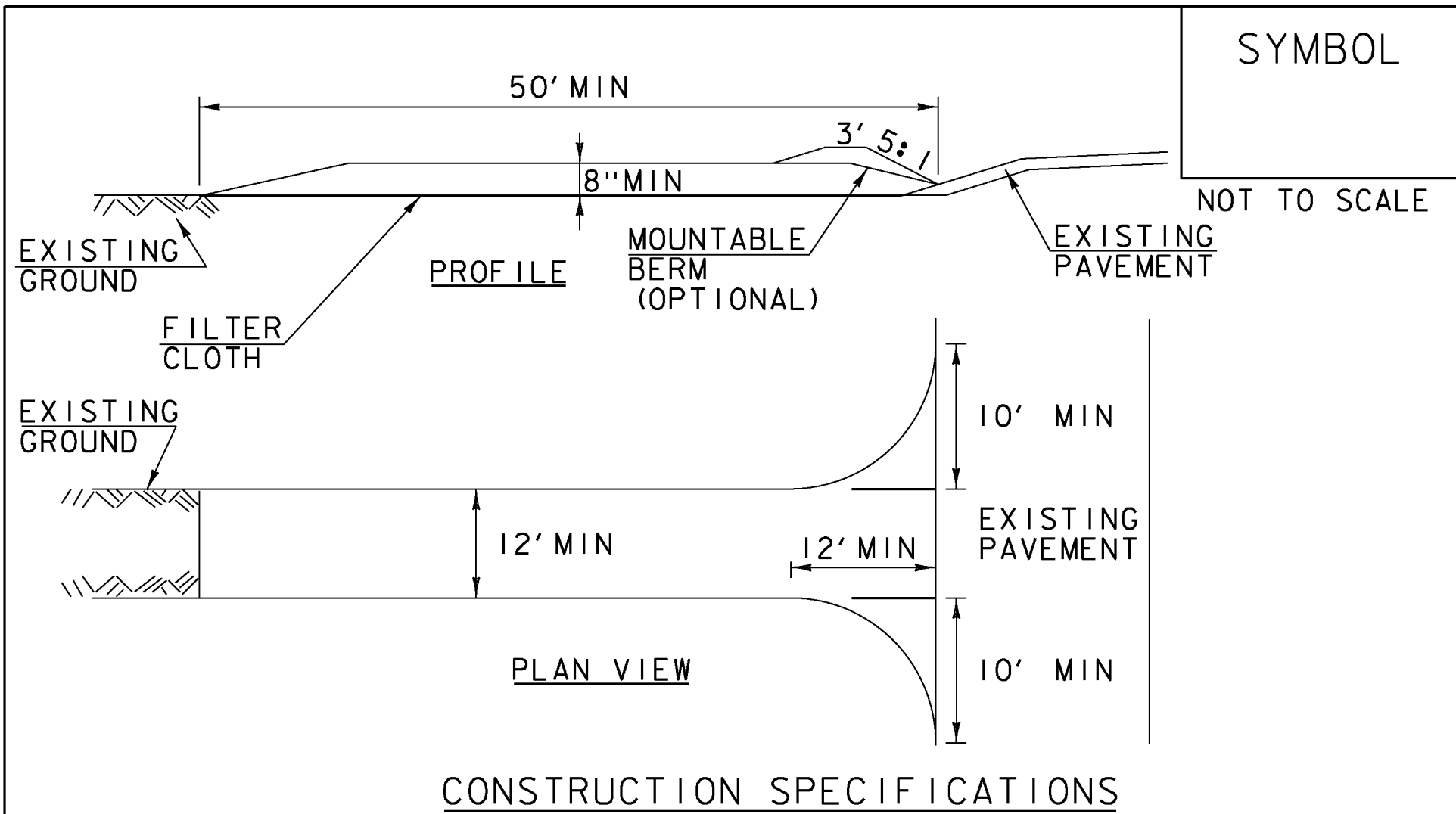
- 1.RURAL SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
- 2.URBAN SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED LAWN AREAS DISTURBED BY THE CONTRACTOR.
- 3.ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
- 4.FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER
- 5.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.
- 6.TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
- 7.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
- 8.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

##### REVISIONS

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



#### CONSTRUCTION SPECIFICATIONS

- 1.STONE SIZE- USE 1-4" STONE, RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
- 2.LENGTH- NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH APPLIES).
- 3.THICKNESS- NOT LESS THAN 8".
- 4.WIDTH- 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24' IF SINGLE ENTRANCE TO SITE.
- 5.GEOTEXTILE MUST BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
- 6.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.
- 7.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.
- 8.WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
- 9.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

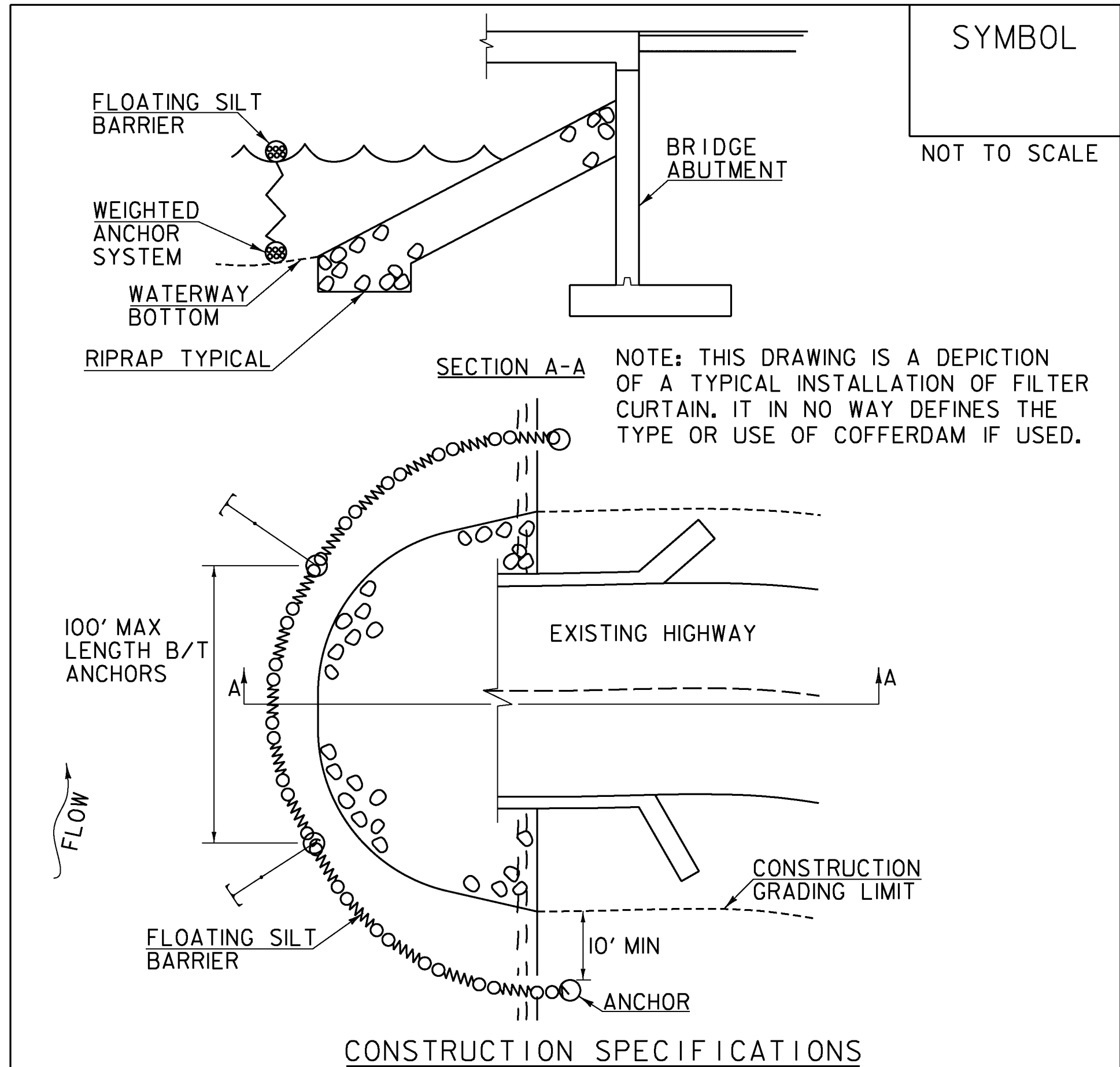
##### NOTES:

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

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

##### REVISIONS

MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF



#### 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 649.61).

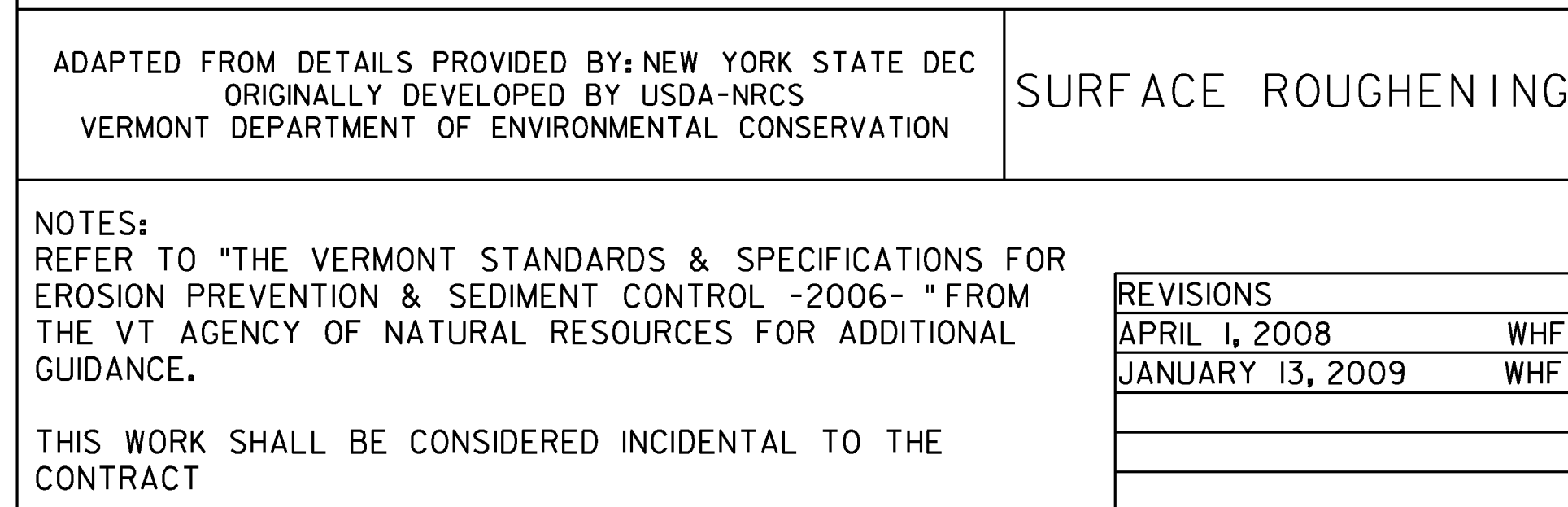


PROJECT NAME: ENOSBURG  
PROJECT NUMBER: BRO 1448(40)

FILE NAME: ...08_C EPSC Details.dgn  
PROJECT LEADER: G. BOGUE  
DESIGNED BY: G. GOYETTE  
EROSION CONTROL DETAILS - ECD 2

PLOT DATE: 10/4/2013  
DRAWN BY: E. ALLING  
CHECKED BY: G. GOYETTE  
SHEET 45 OF 46







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 SURVEYED  
 PLOTTED  
 NOTE BOOK  
 NO.

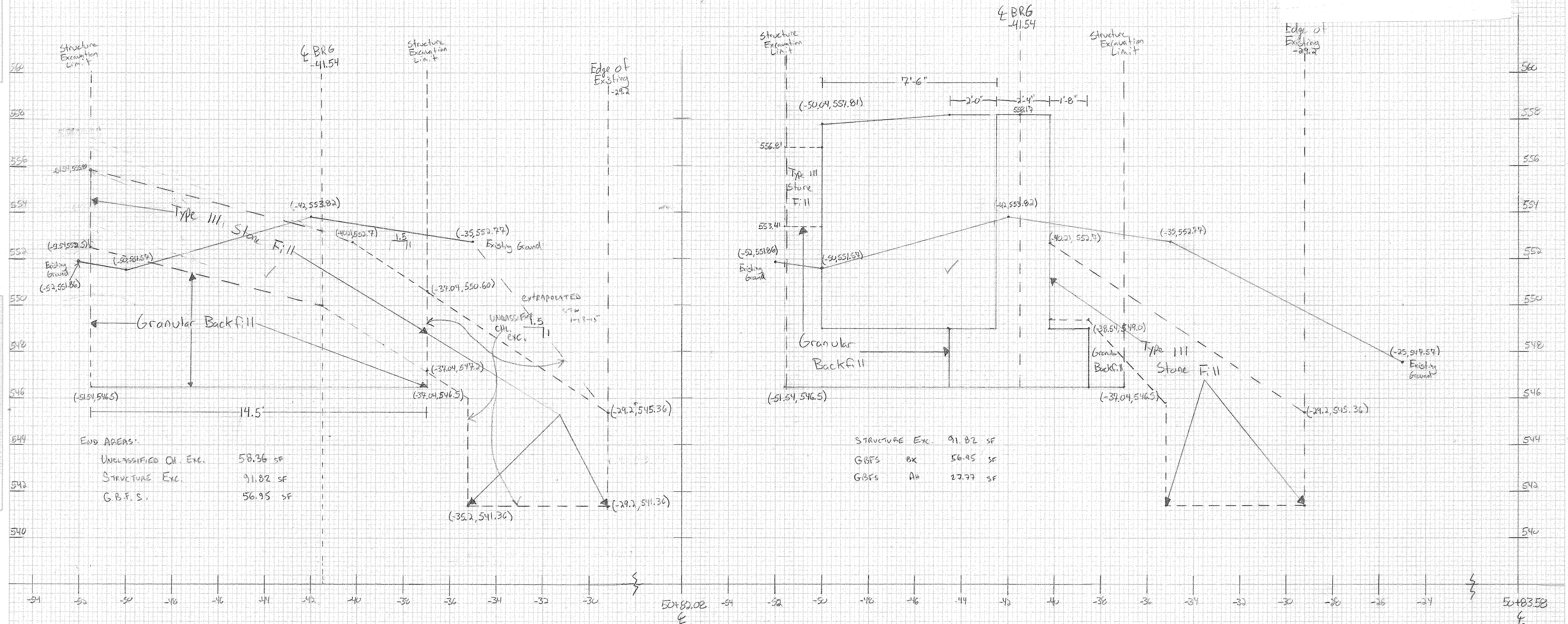
DATE  
 BY  
 ORIGINAL SURVEY  
 SURVEYED  
 PLOTTED  
 NOTE BOOK  
 NO.

Enosburg BRO 1448 (40)  
 Structure Excavation, Granular Backfill  
 Abutment 1  
 Drawn By: Alan Therrien  
 Checked By: Jon Day  
 ENOSBURG BRO 1448(40)

ABUT. #1  
 STRUCTURE EXC.  
 GRANULAR BACKFILL

ABUT. #1

ABUT. #1

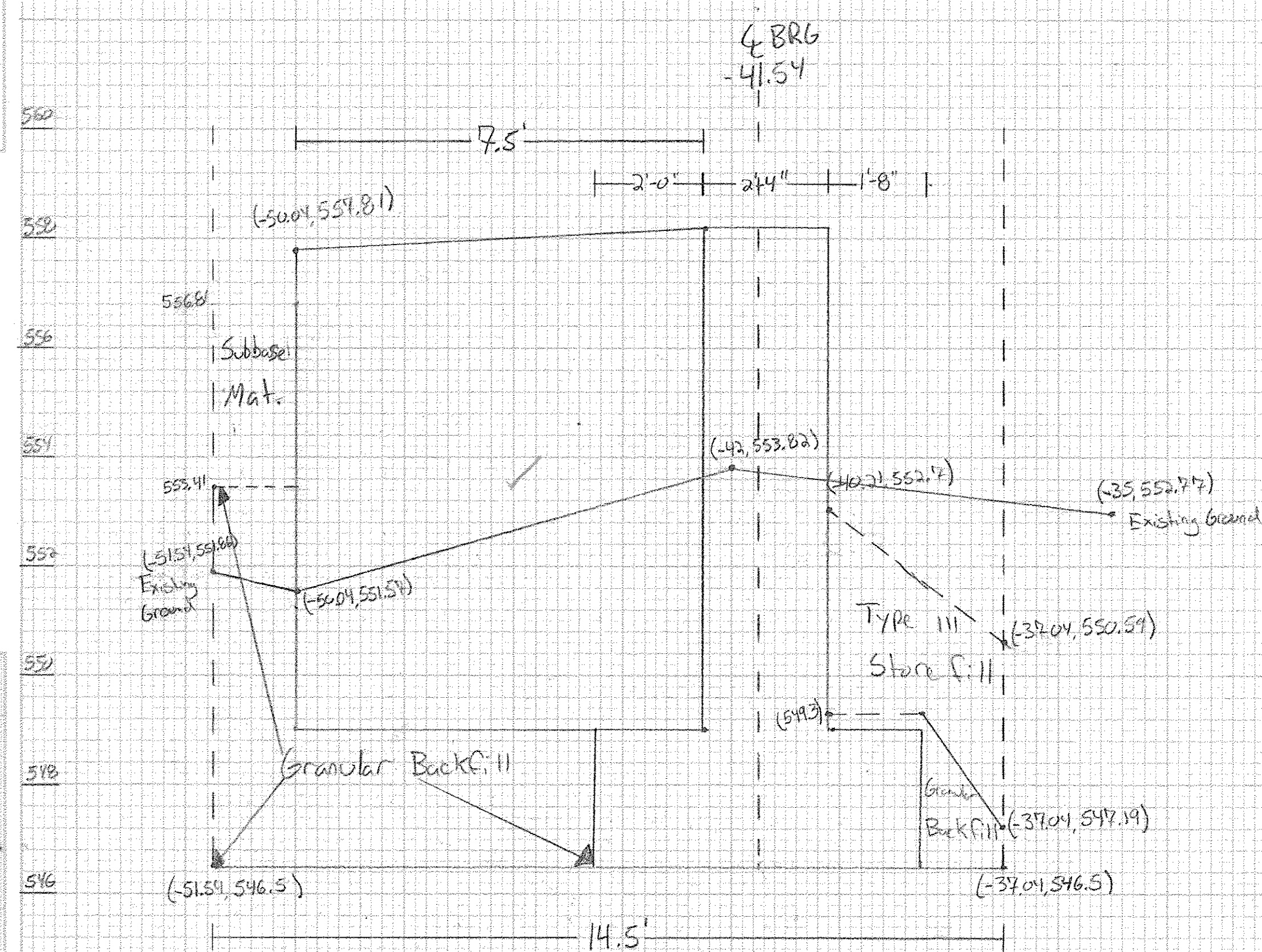




FINAL  
SURVEY  
DATE  
BY  
PROJECT  
NO.

ORIGINAL  
SURVEY  
DATE  
BY  
PROJECT  
NO.

Enosburg BRG 1448 (40)  
Structure Excavation, Granular Backfill  
Abutment 1  
Drawn By: Alan Therrien  
Checked By: Jon Day

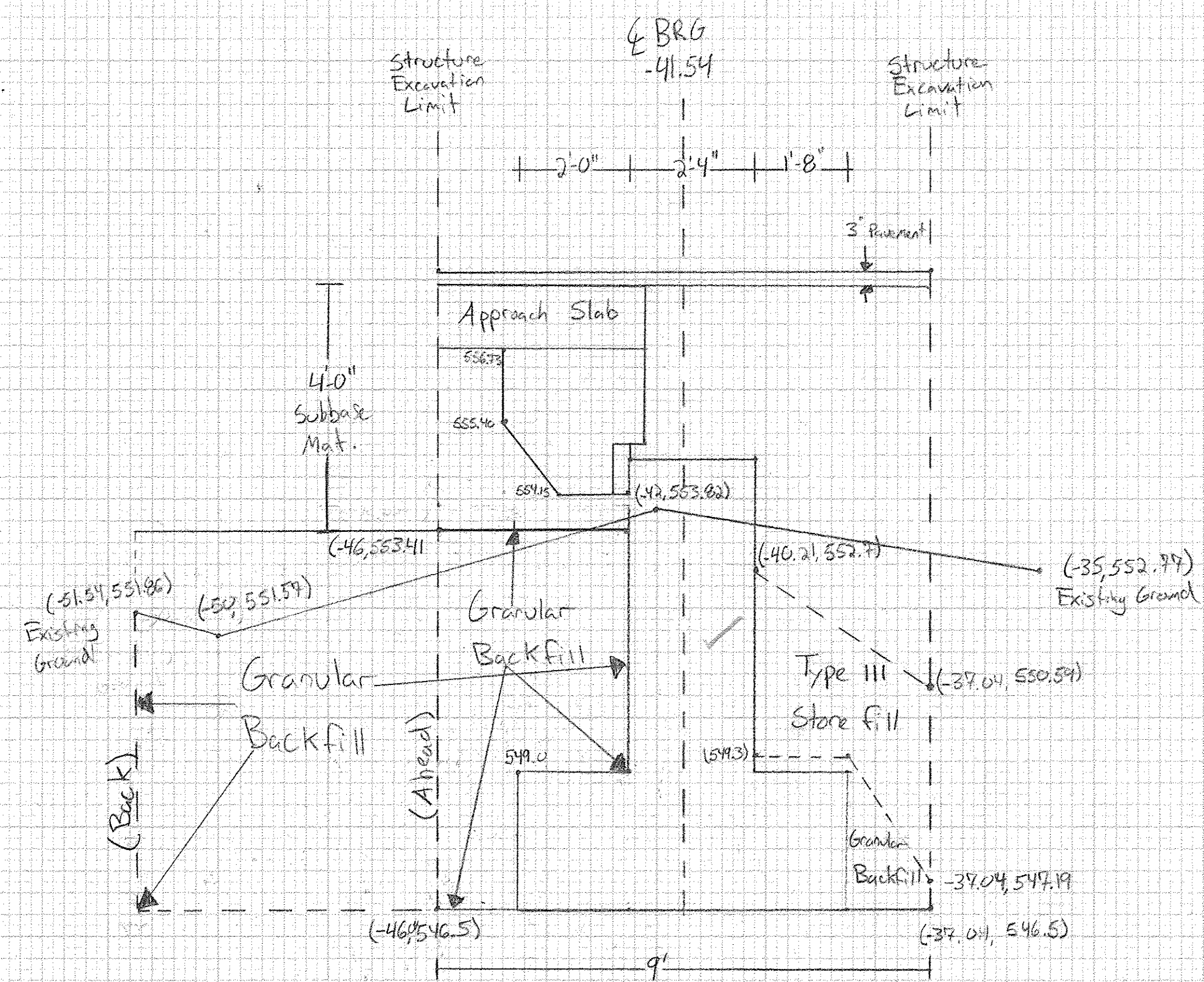


END AREAS:

STRUCTURE Exc.	91.82 SF
GBFS BK	27.77 SF
GBFS AH	60.53 SF

-54 -52 -50 -48 -46 -44 -42 -40 -38 -36 -34 -32 -30

50+85.08



END AREAS:

50+86.58 BK	STRUCTURE Exc.	91.82 SF
50+86.58 AH	STRUCTURE Exc.	61.33 SF
	GBFS AH	27.52 SF
	GBFS BK	60.53 SF

-54 -52 -50 -48 -46 -44 -42 -40 -38 -36 -34 -32 -30 -28 -26

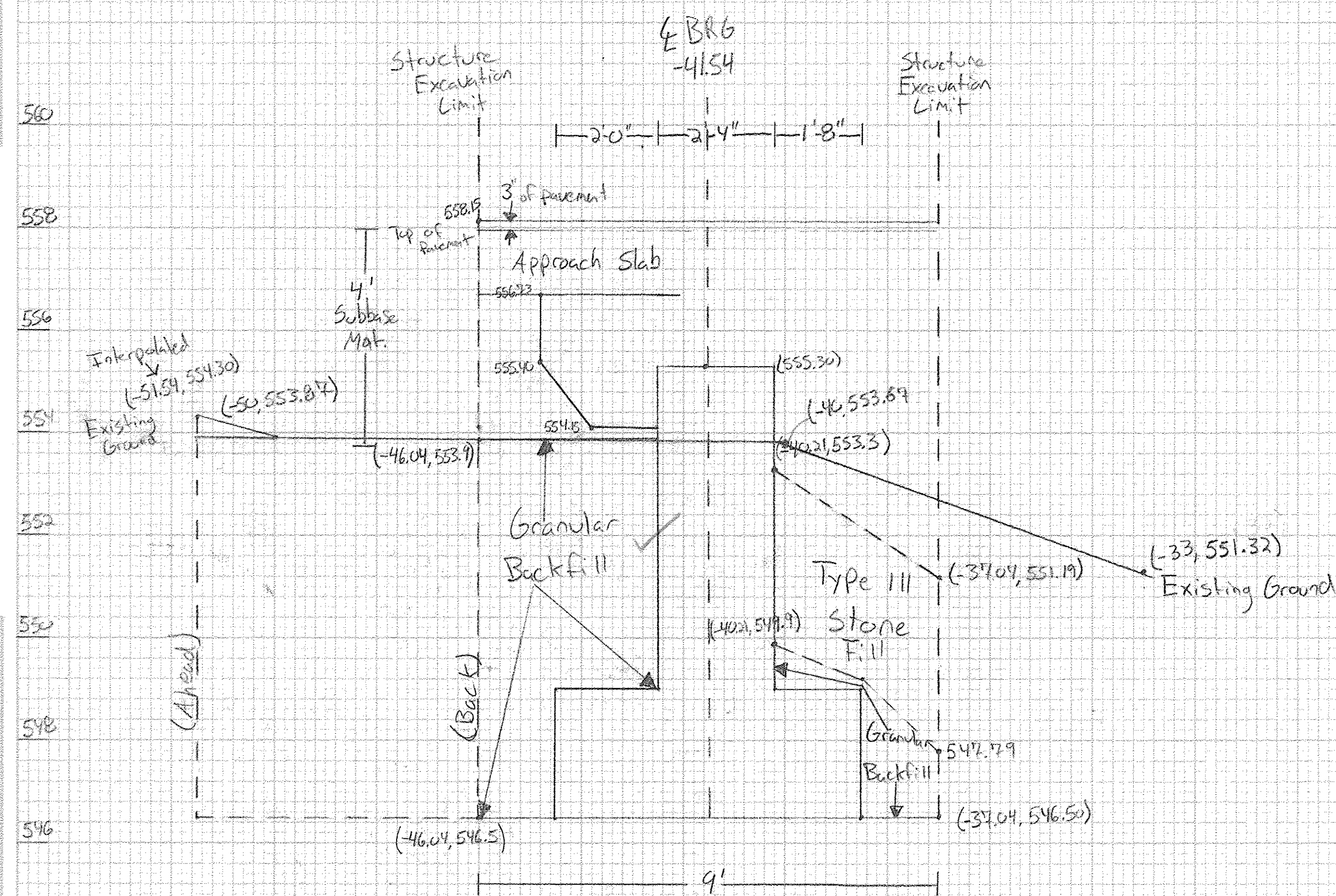
50+86.58



FINAL SURVEY  
 DATE: 08-14-14  
 BY: JPD  
 PROJECT: ENOSBURG BRO 1448 (40)  
 SHEET: 3 OF 3  
 DRAWN BY: ALAN THERRIEN  
 CHECKED BY: JON DAY

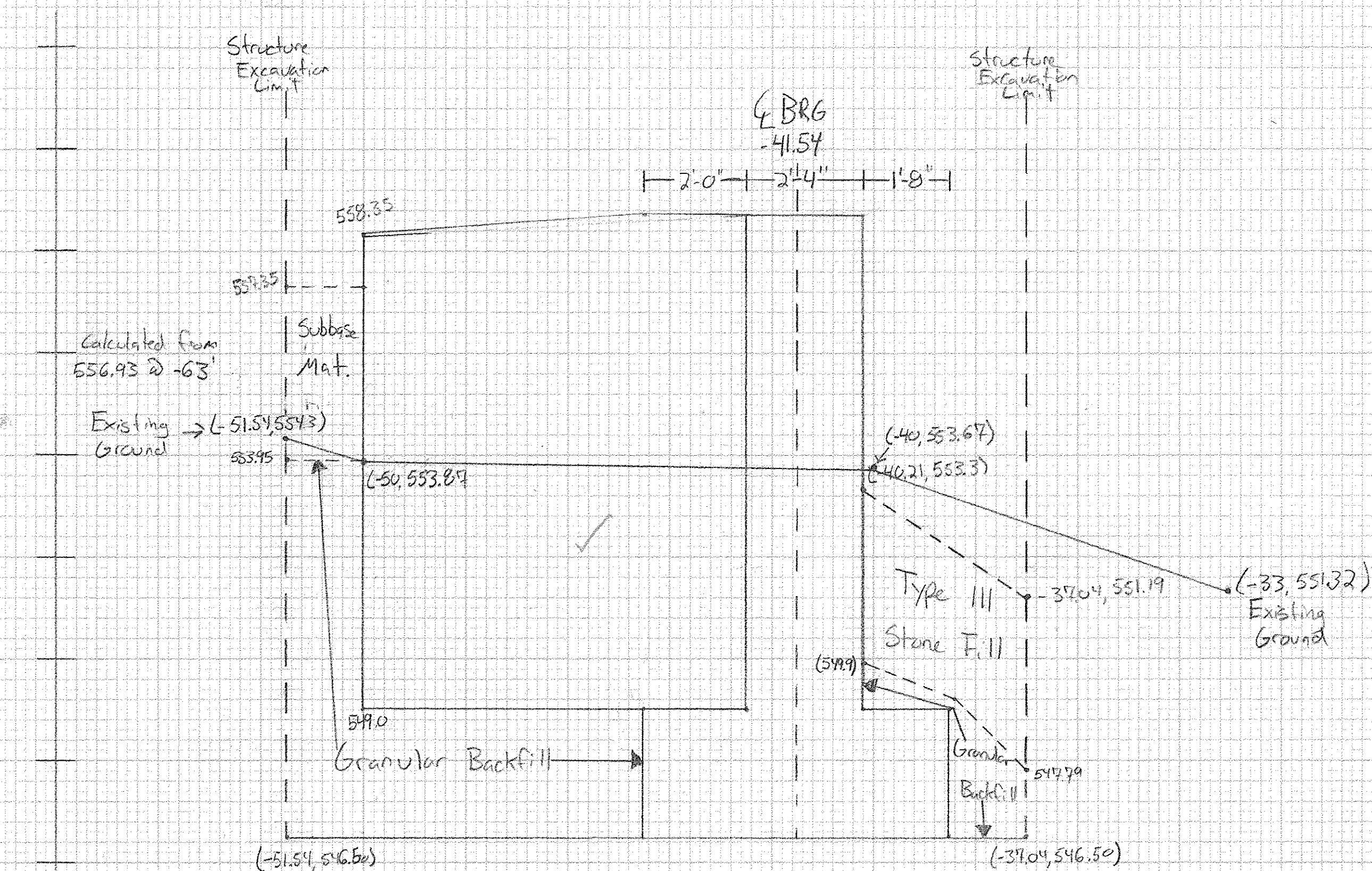
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 BY: JPD  
 PROJECT: ENOSBURG BRO 1448 (40)  
 SHEET: 3 OF 3  
 DRAWN BY: ALAN THERRIEN  
 CHECKED BY: JON DAY

Enosburg BRO 1448 (40)  
 Structure Excavation, Granular Backfill  
 Abutment 1  
 Drawn By: Alan Therrien  
 Checked By: Jon Day



End Areas:

Station	Structure Exc.	GBFS BX	GBFS AH
544	63.79 SF		
542	104.17 SF		
		25.21 SF	
			65.91 SF



End Areas:

Structure Exc.	GBFS BX	GBFS AH
129.22 SF		
	65.91 SF	
		29.23 SF



NO. _____

NAME _____

NOTE BOOK AREA _____

TRANSIT _____

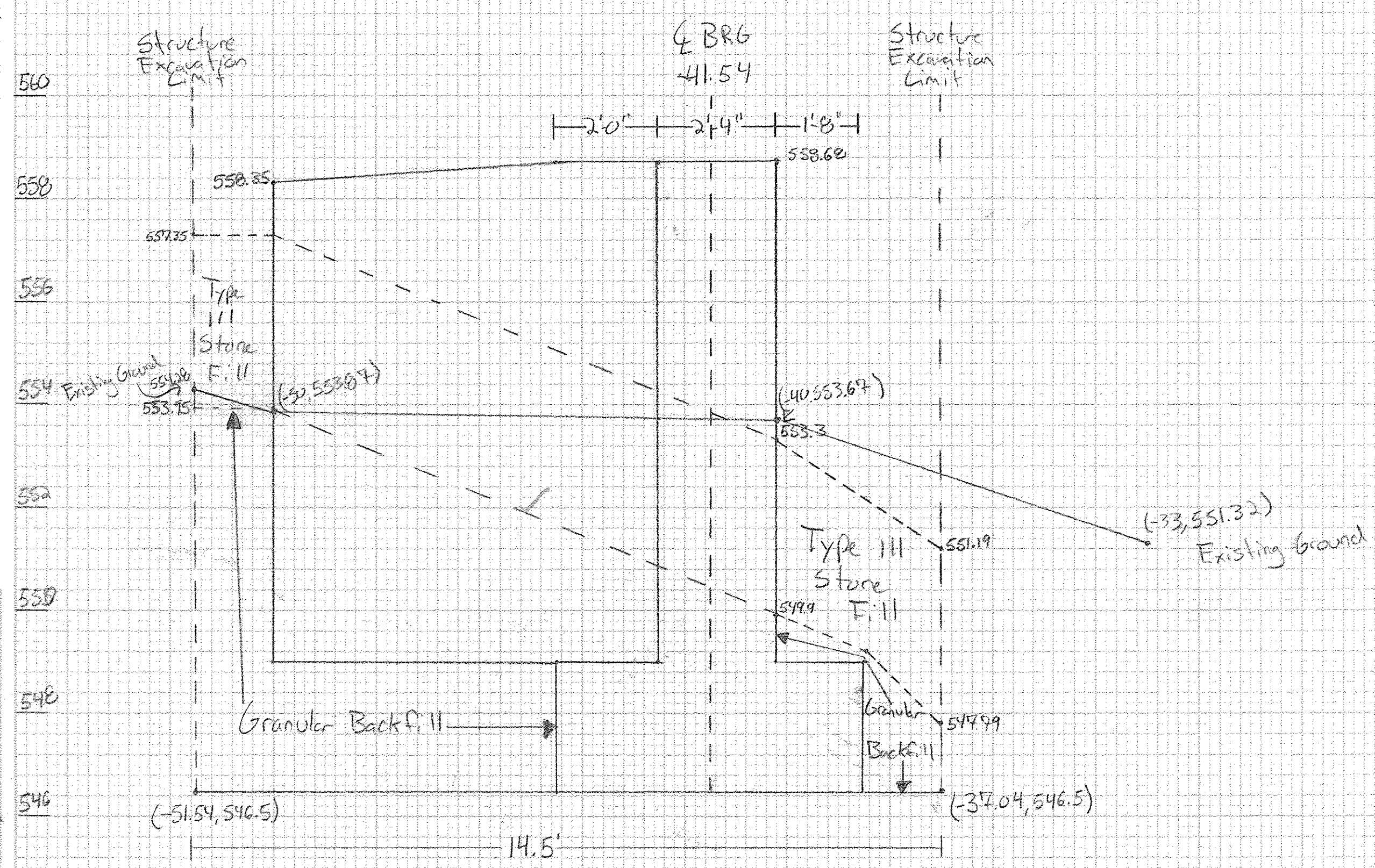
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STATION _____

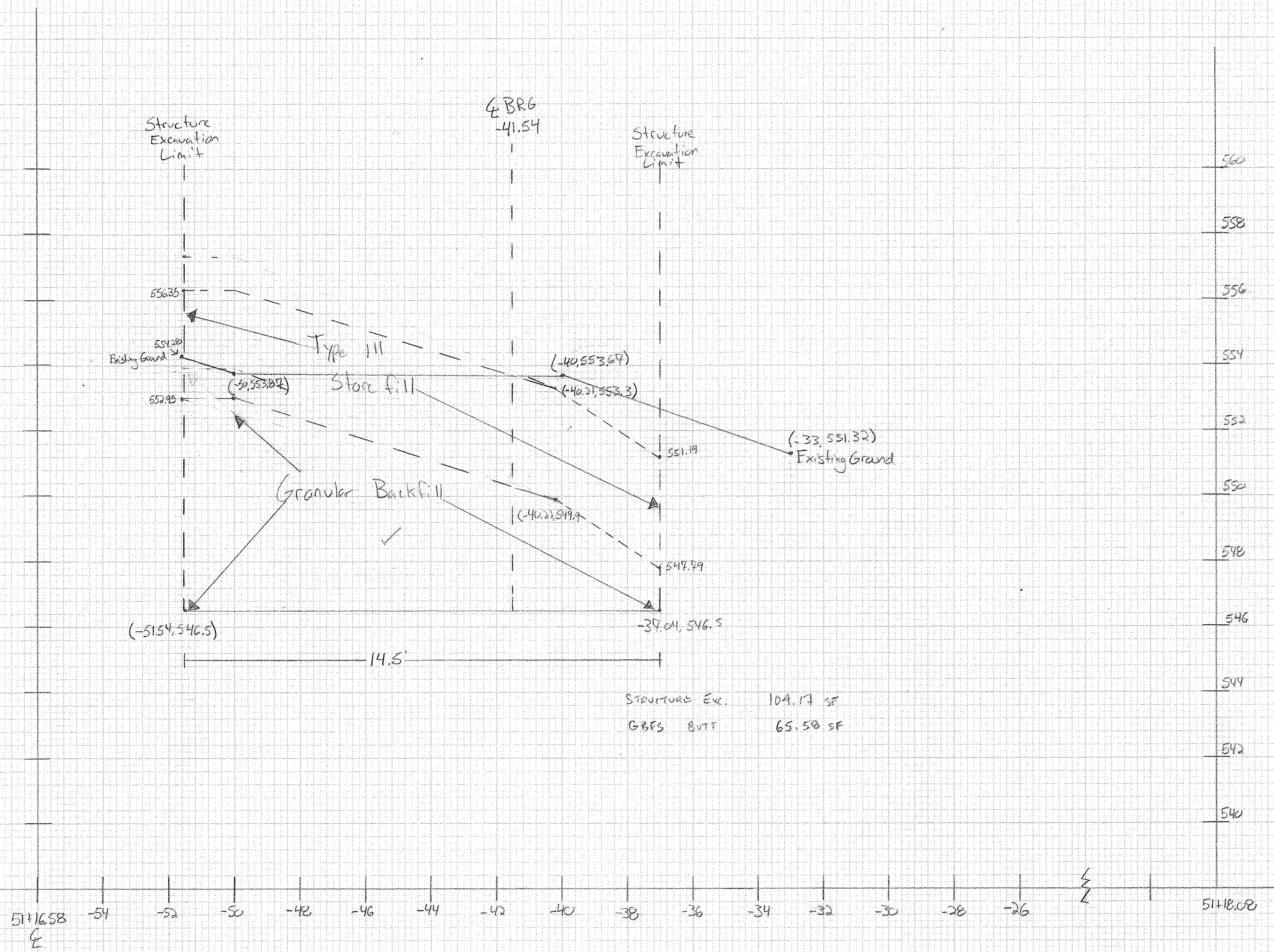
DATE _____

CIVILIAN SURVEY

Enosburg BRD 14U8 (40)  
Structure Excavation, Granular Backfill  
Abutment 1  
Drawn By: Alan Tharrien  
Checked By: Jon Day

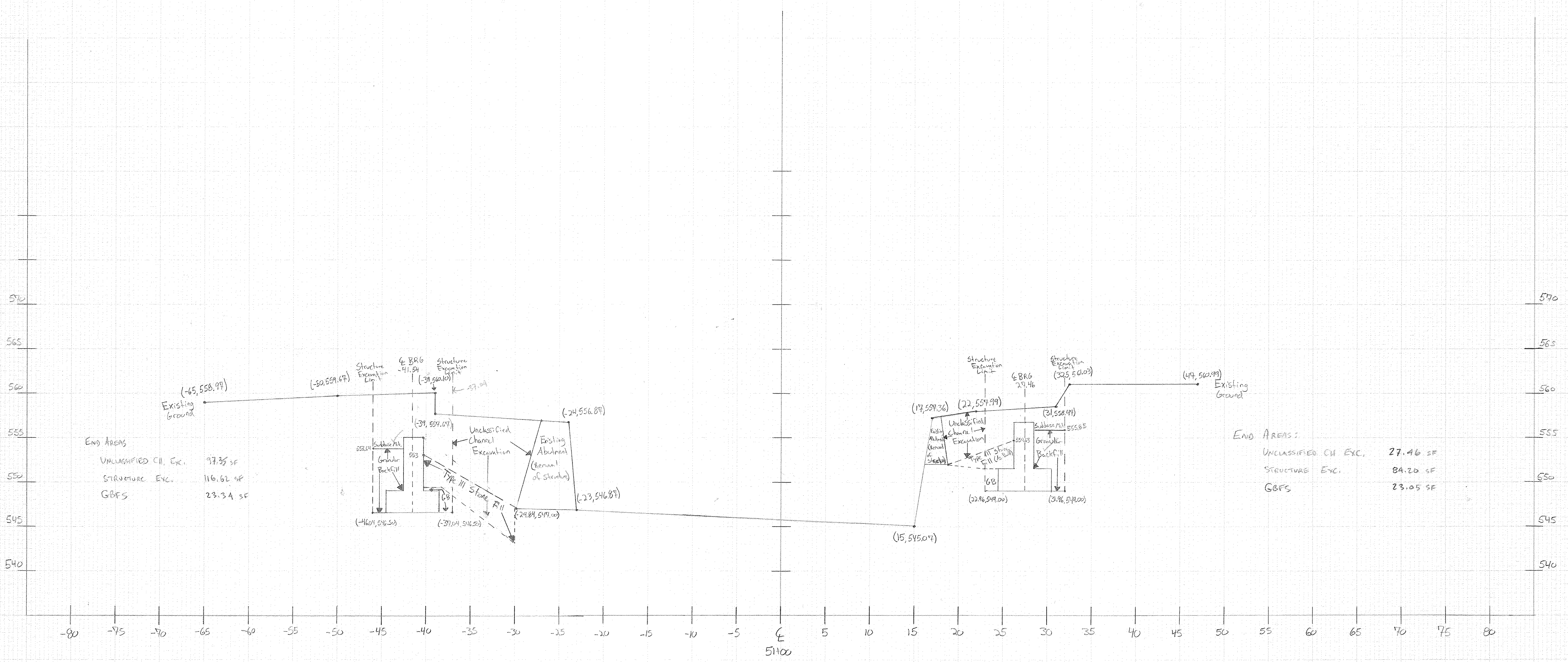


END AREAS:	
STRUCTURAL EXC.	104.17 SF
GBFS BK	29.23 SF
GBFS AH	72.75 SF





Enosburg BR 1448 (40)  
Structure Excavation, Granular Backfill,  
Unclassified Channel Excavation  
Abutment 1 & 2  
Drawn By: Alan Therrien  
Checked By: Jon Day



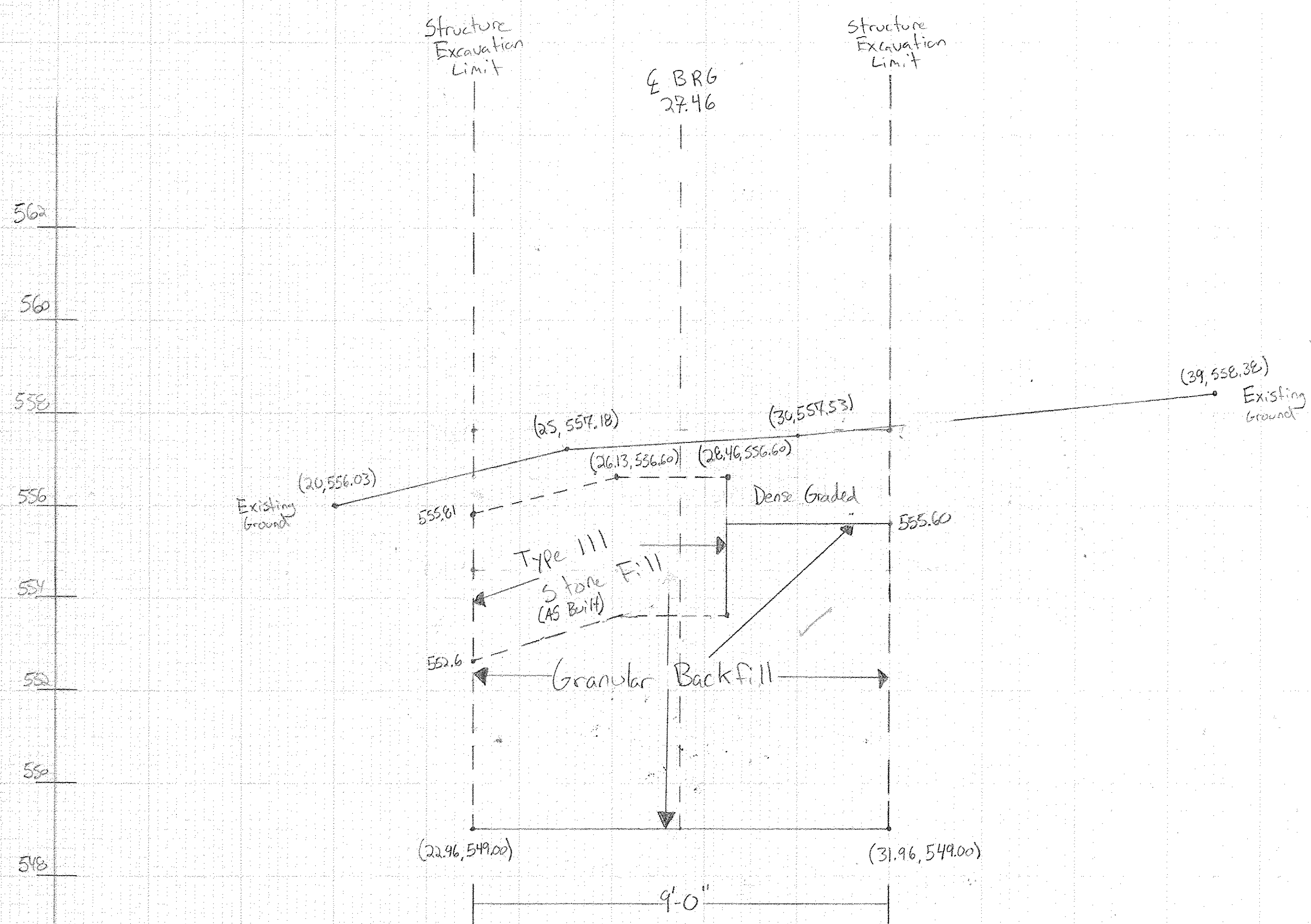
END AREAS:  
UNCLASSIFIED CH. EXC. 97.35 SF  
STRUCTURE EXC. 116.62 SF  
GBFS 23.34 SF

END AREAS:  
UNCLASSIFIED CH. EXC. 27.46 SF  
STRUCTURE EXC. 84.26 SF  
GBFS 23.05 SF

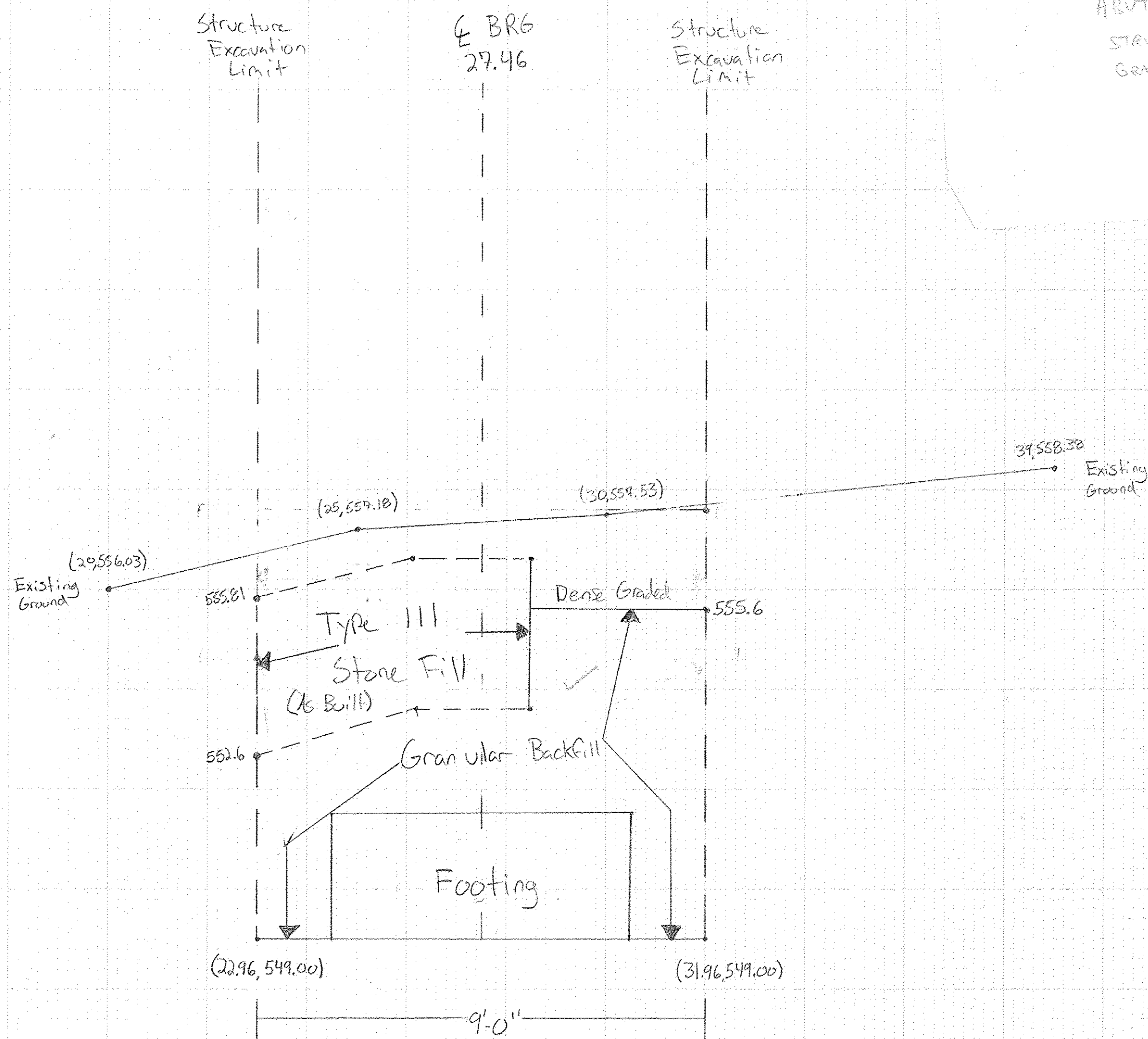


Enosburg BRO 1448 (40)  
 Structure Excavation, Granular Backfill  
 Abutment 2 ✓  
 Drawn By: Alan Therrien  
 Checked By: Jon Day

Enosburg BRO 1448 (40)  
 ABUT #2  
 STRUCTURE EXC.  
 GRANULAR BACKFILL



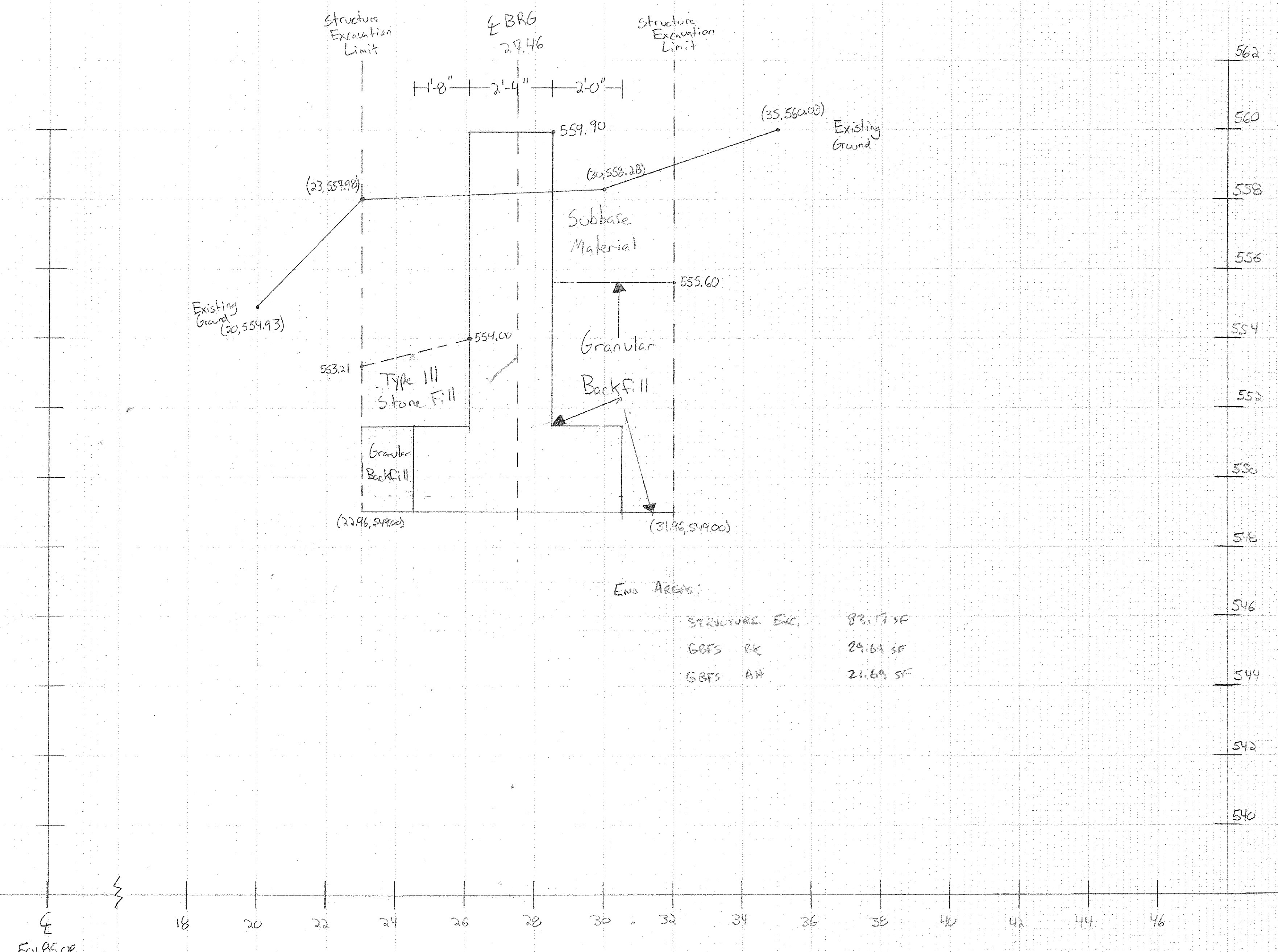
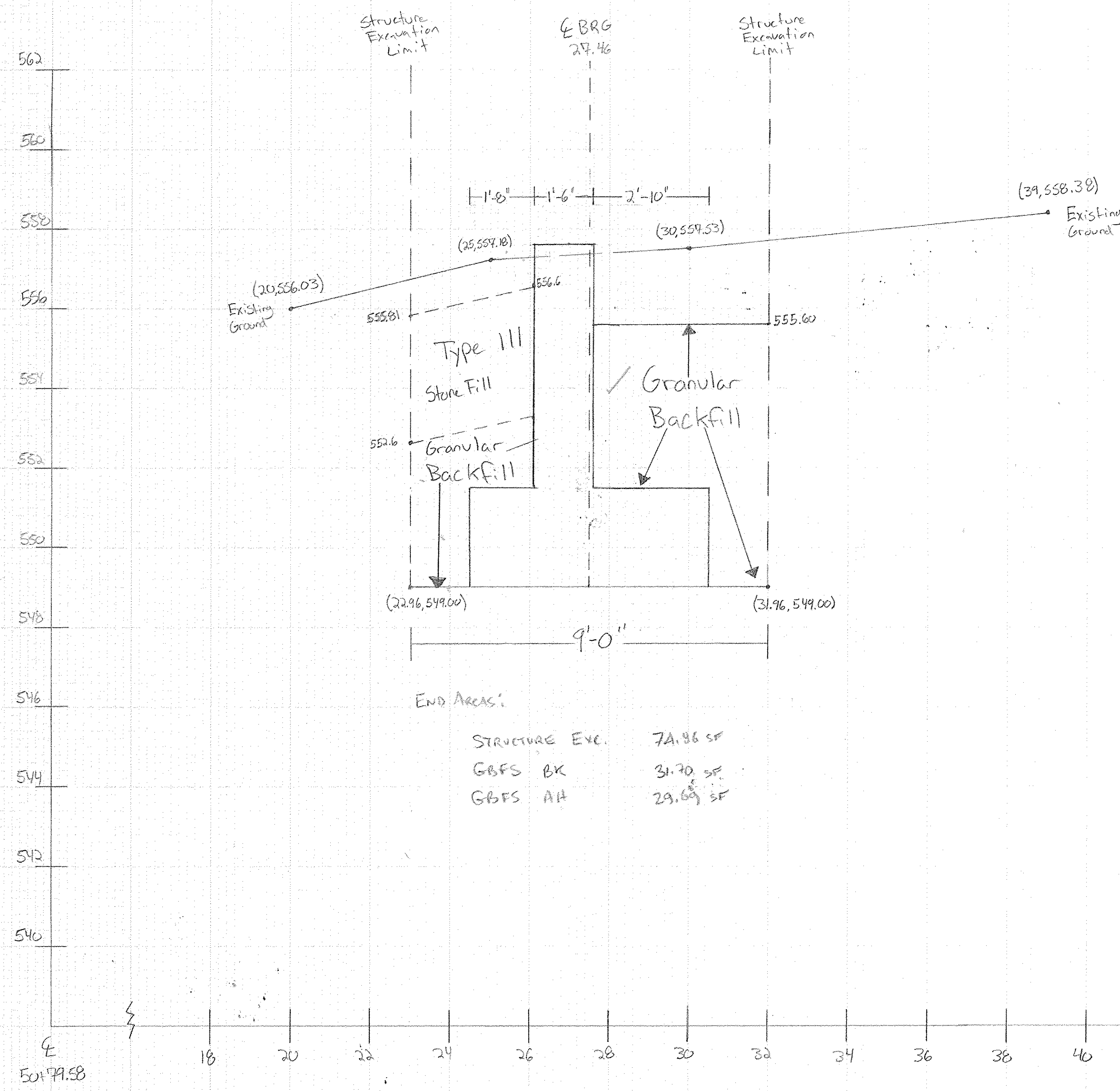
END AREAS:  
 STRUCTURE EXC. 74.86 SF  
 GBFS 46.70 SF



END AREAS:  
 STRUCTURE EXC. 74.86 SF  
 GBFS BK 46.70 SF  
 GBFS AH 31.70 SF

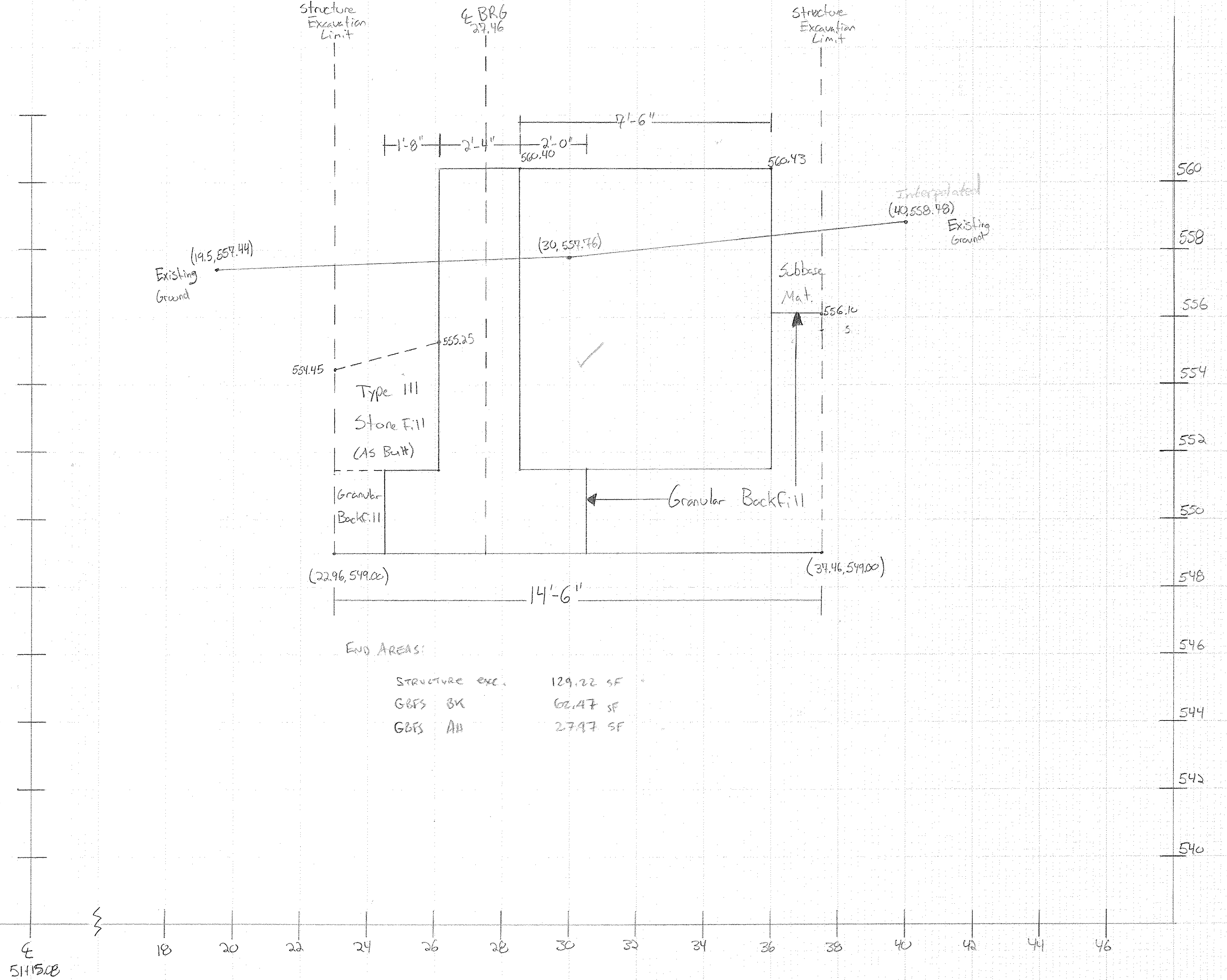
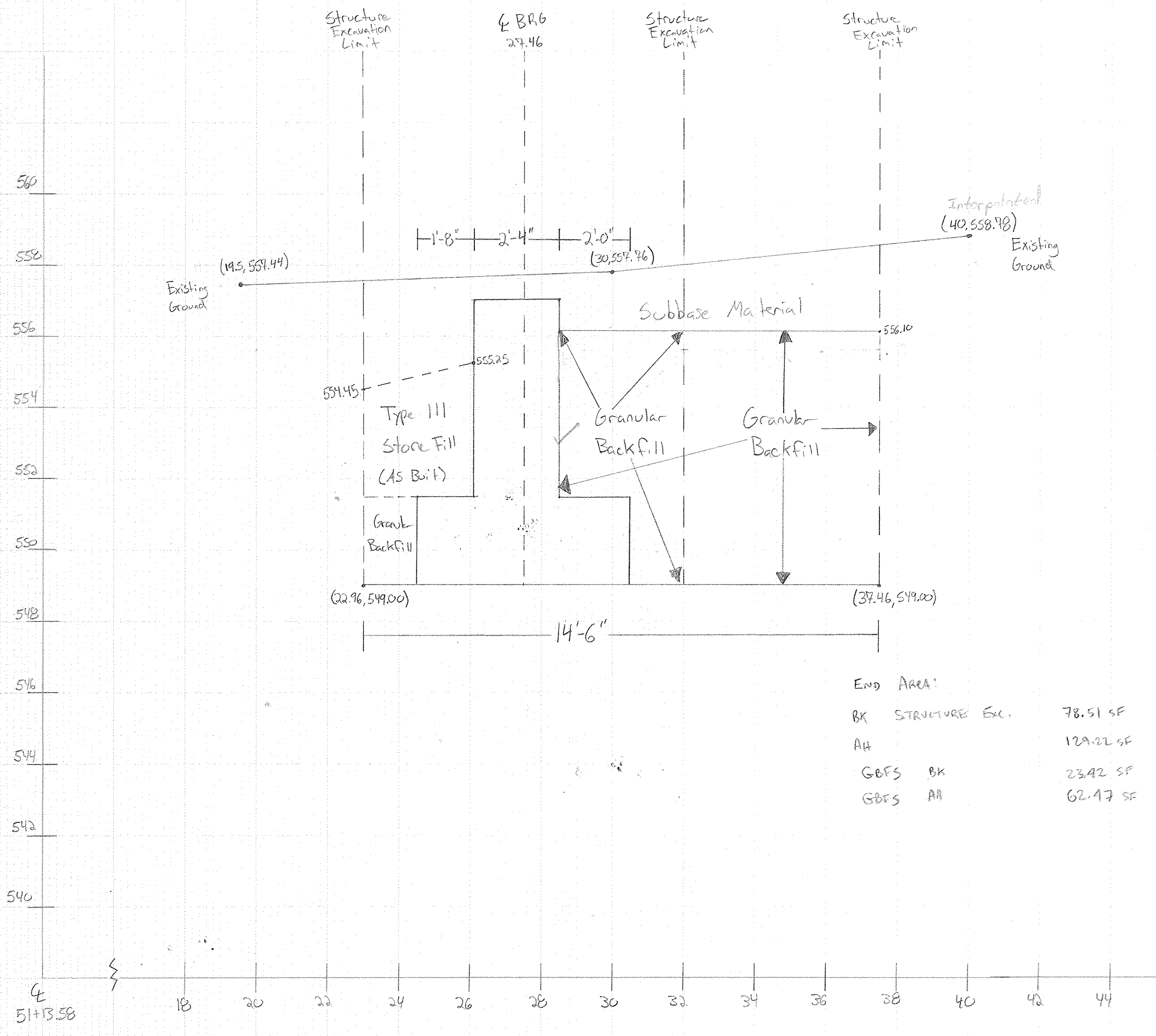


Enosburg BRO 1448 (40)  
 Structure Excavation, Granular Backfill  
 Abutment 2  
 Drawn By: Alan Therrien  
 Checked By: Jon Day



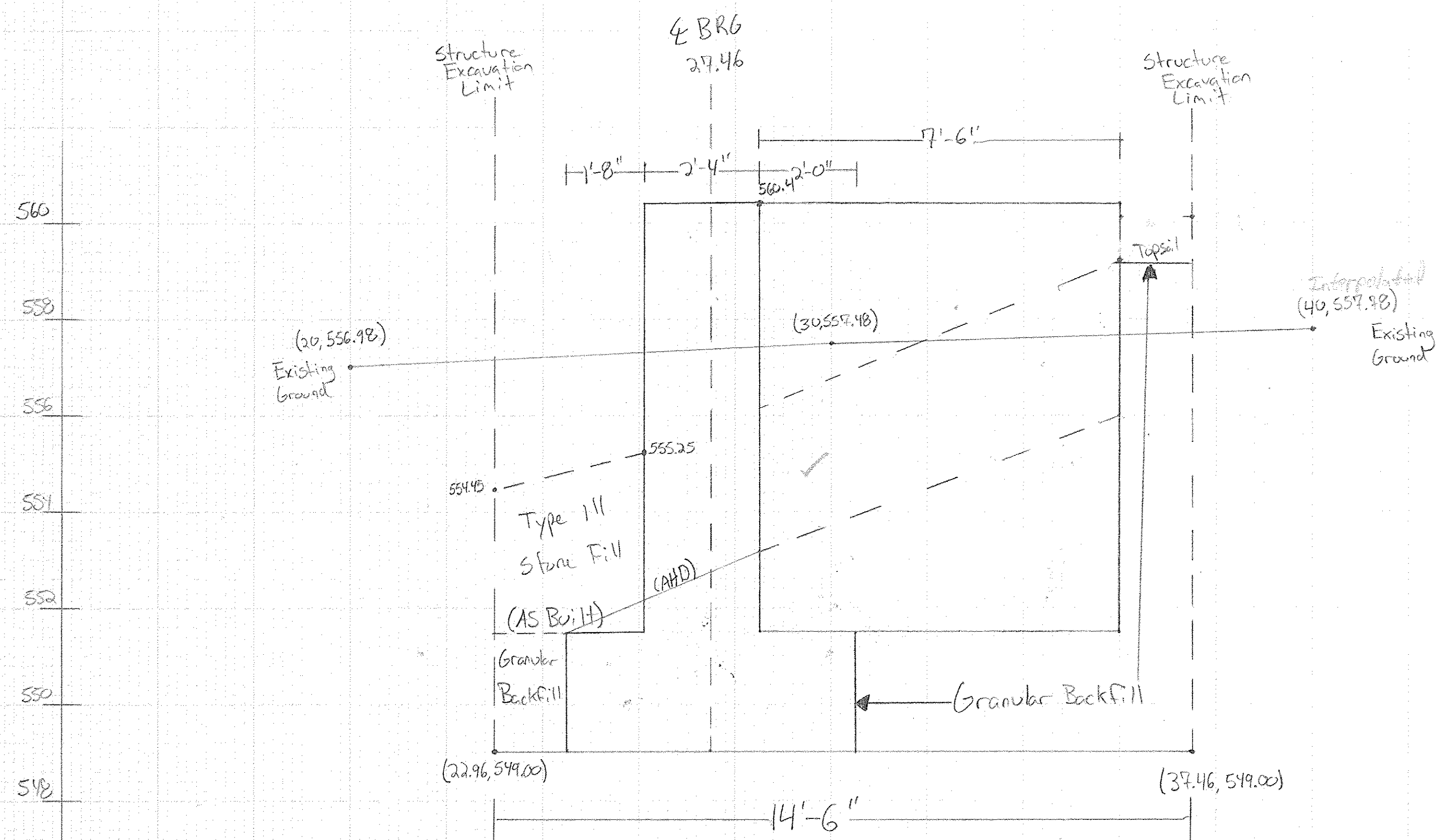


Enosburg BRO 1448 (40)  
 Structure Excavation, Granular Backfill  
 Abutment 2  
 Drawn By: Alan Therrien  
 Checked By: Jon Day



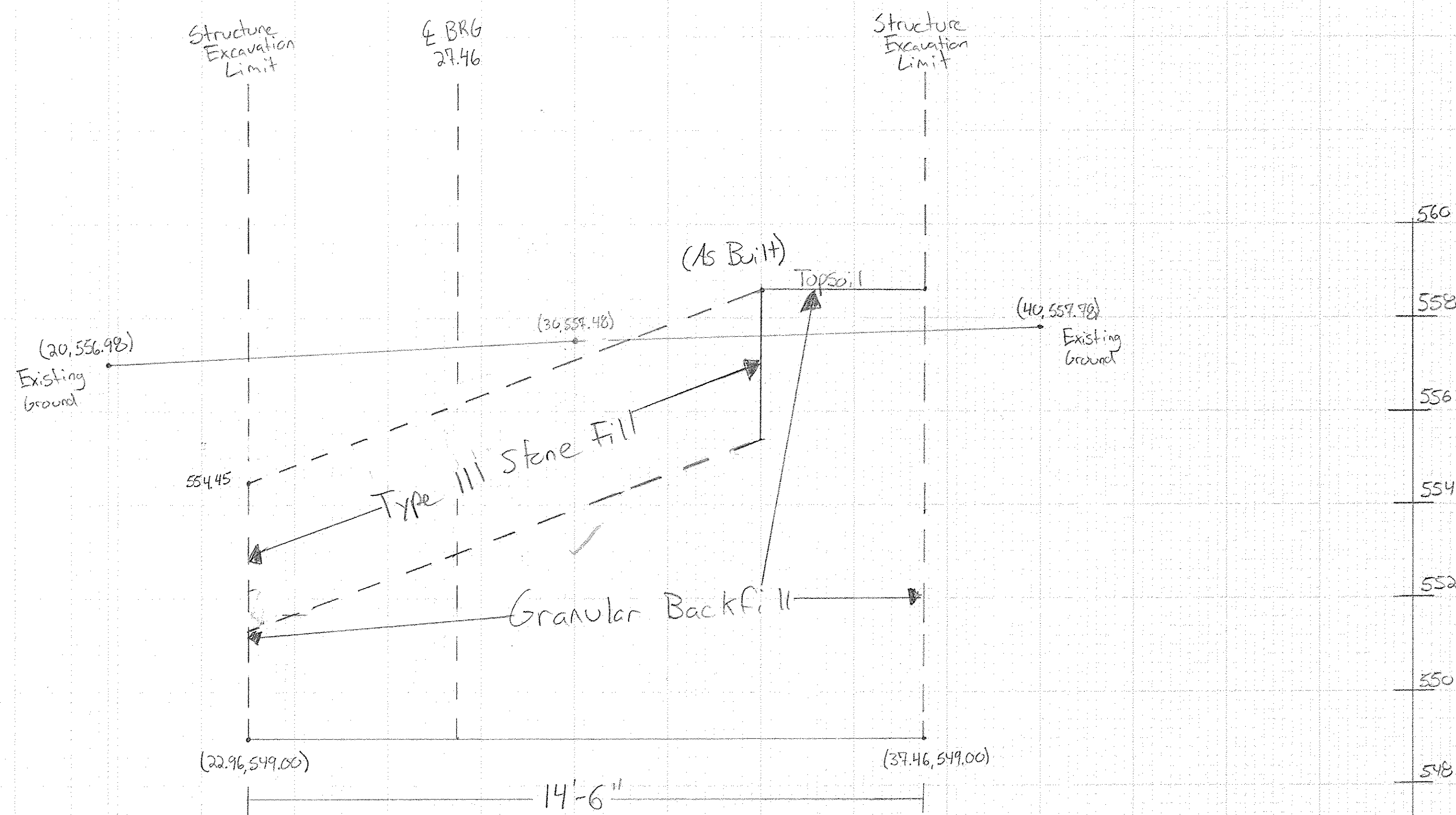


Enosburg BRO 1448 (40)  
 Structure Excavation, Granular Backfill  
 Abutment 2  
 Drawn By: Alan Therrien  
 Checked By: Jon Day



END AREAS:

STRUCTURE EXC.	122.80	SF
GBFS BK	27.97	SF
GBFS AH	73.37	SF

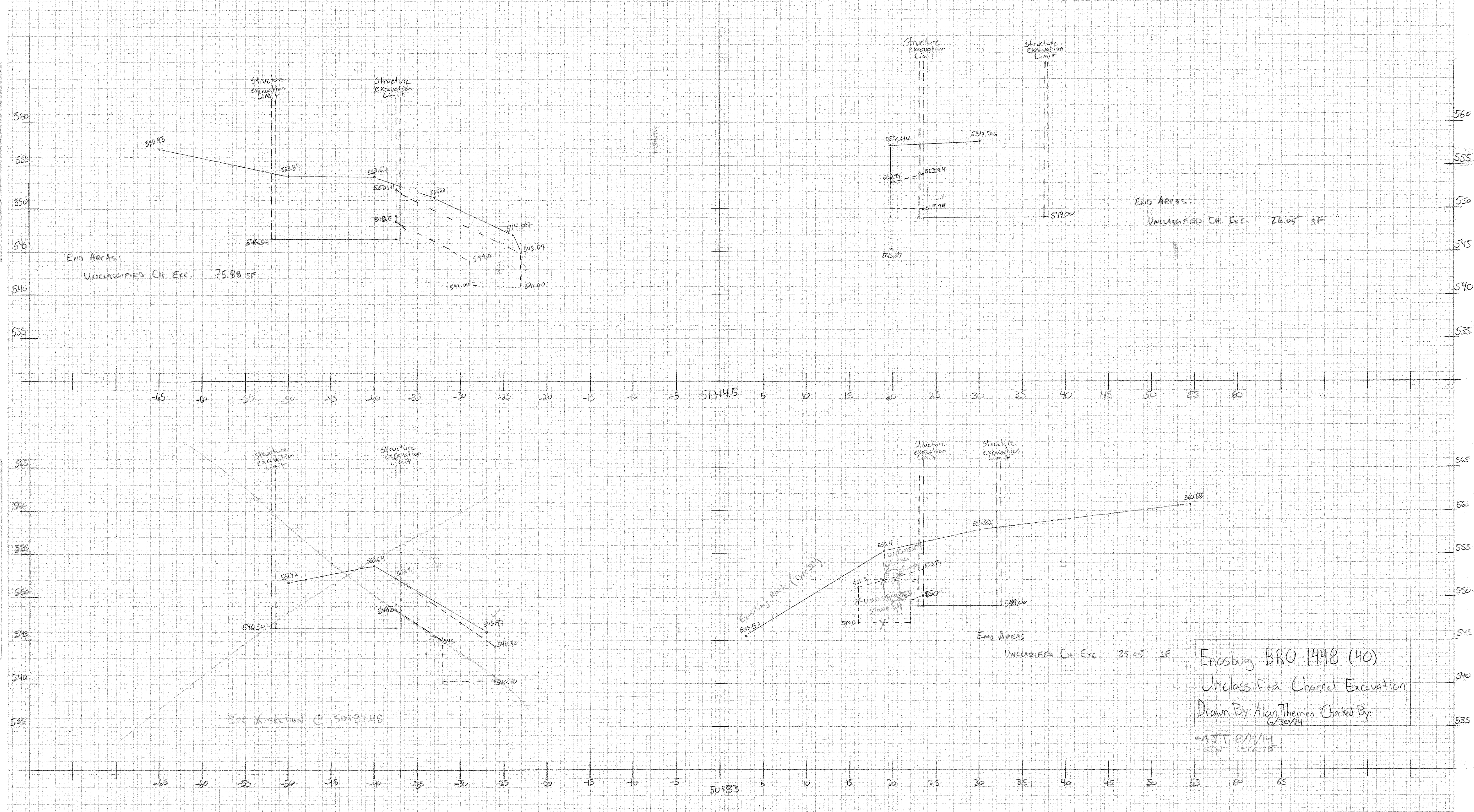


STRUCTURE EXC. 122.80 SF

GBFS	BWT	81.24	SF
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SURVEY	REVIEWER	
	TESTED	
	TEMPERATURE	
NOTE BOOK	AREA 6	
NO. OF COPIES AREAS CHECKED		





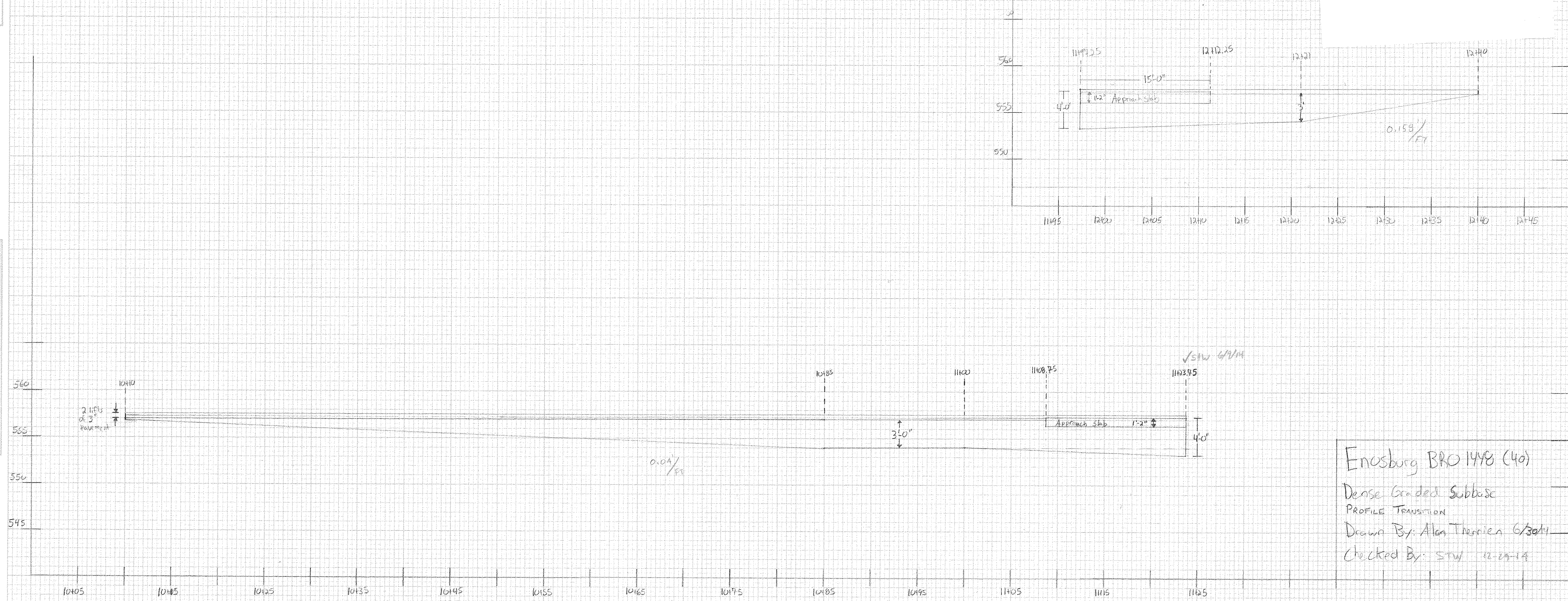
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 BY: _____  
 NO. _____  
 AREA: _____

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 BY: _____  
 NO. _____  
 AREA: _____

ENOSBURG  
 BRO 1448 (40)  
 ROADWAY EARTHWORKS

Revised cross sections

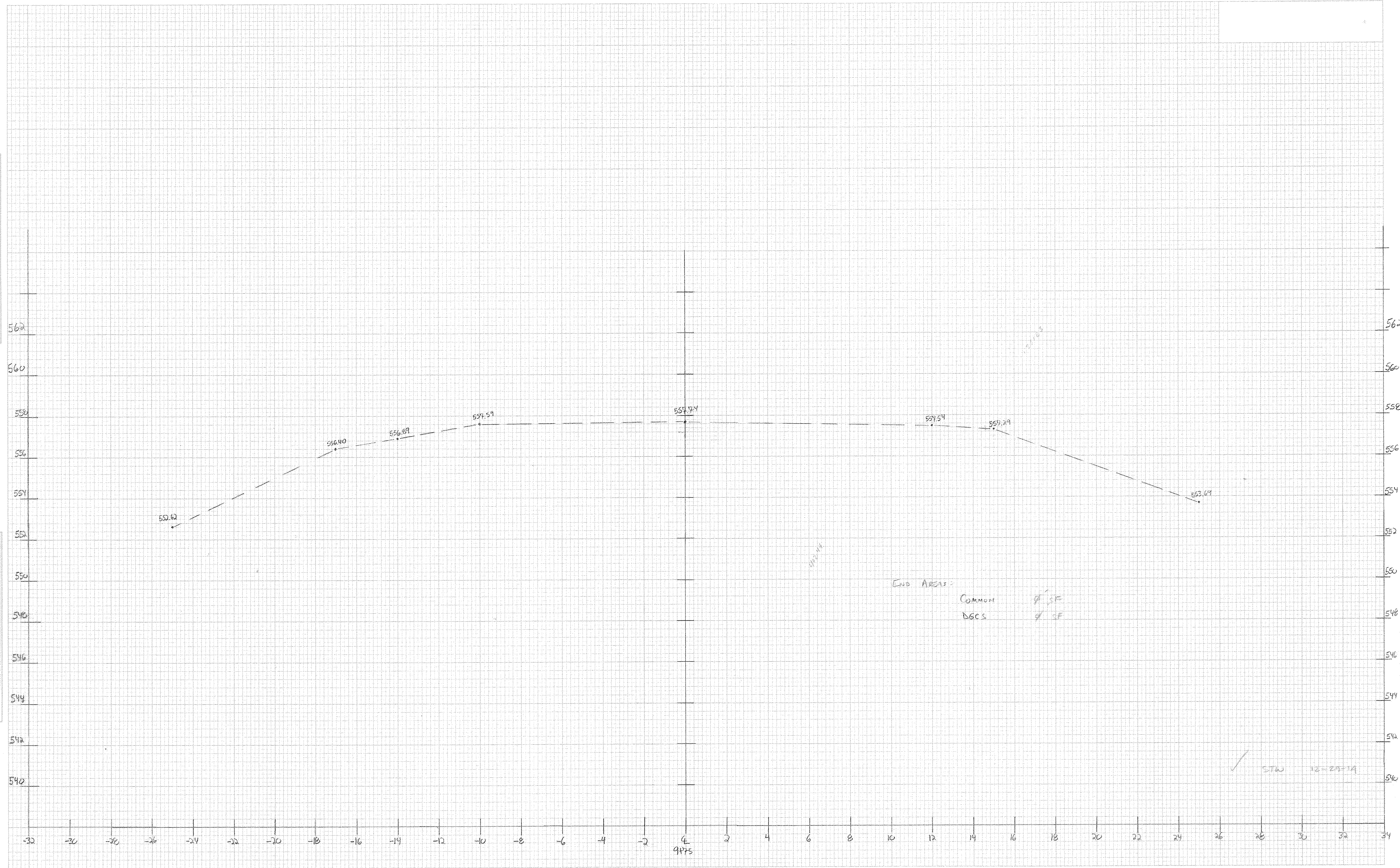
ENOSBURG BRO 1448 (40)  
 13111501  
 Dense graded & PROFILE  
 TRANSITION





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 DATE 10/1/63  
 PROJECTED  
 NOTE BOOK 100  
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 AREA 100

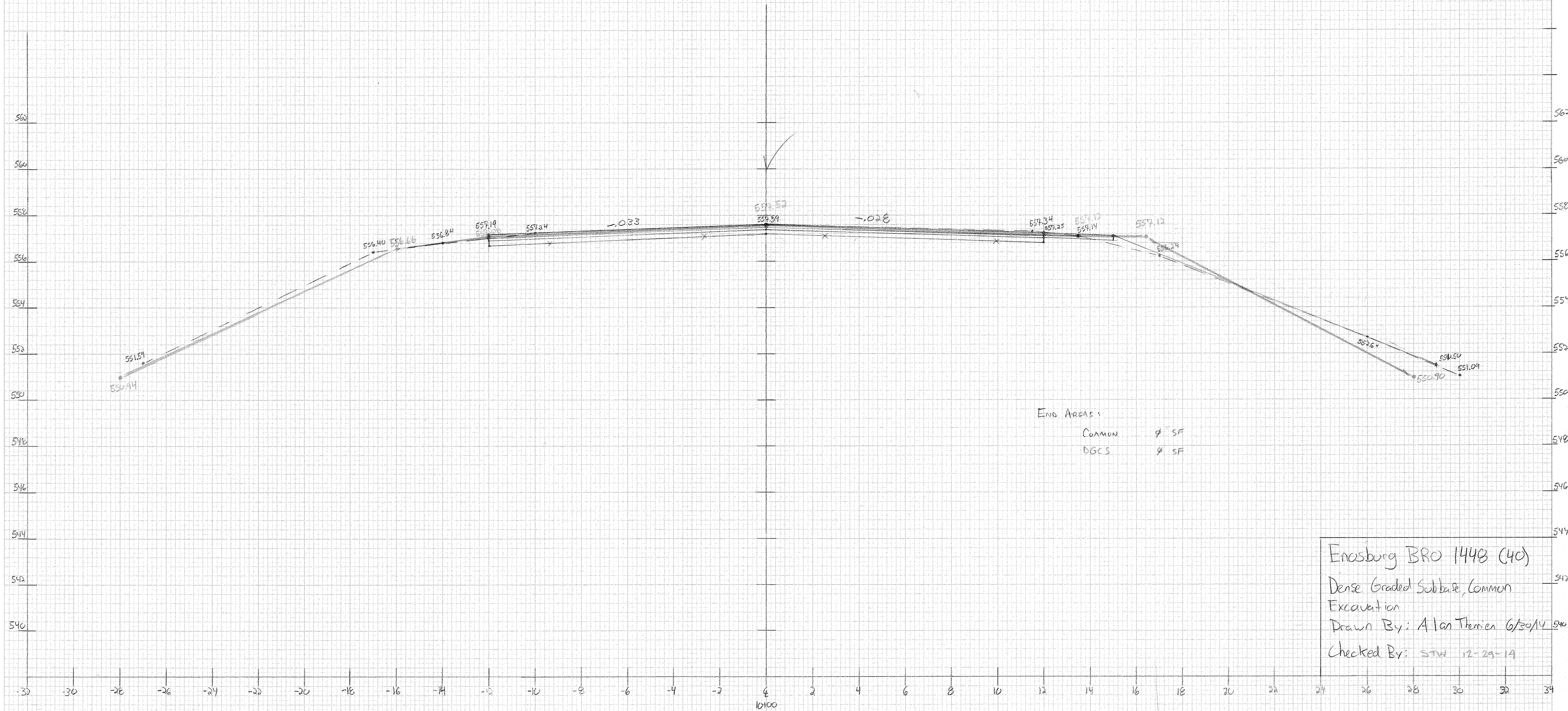
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 NO. _____

ORIGINAL SURVEY  
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 BY: _____  
 NOTE BOOK: _____  
 NO. _____



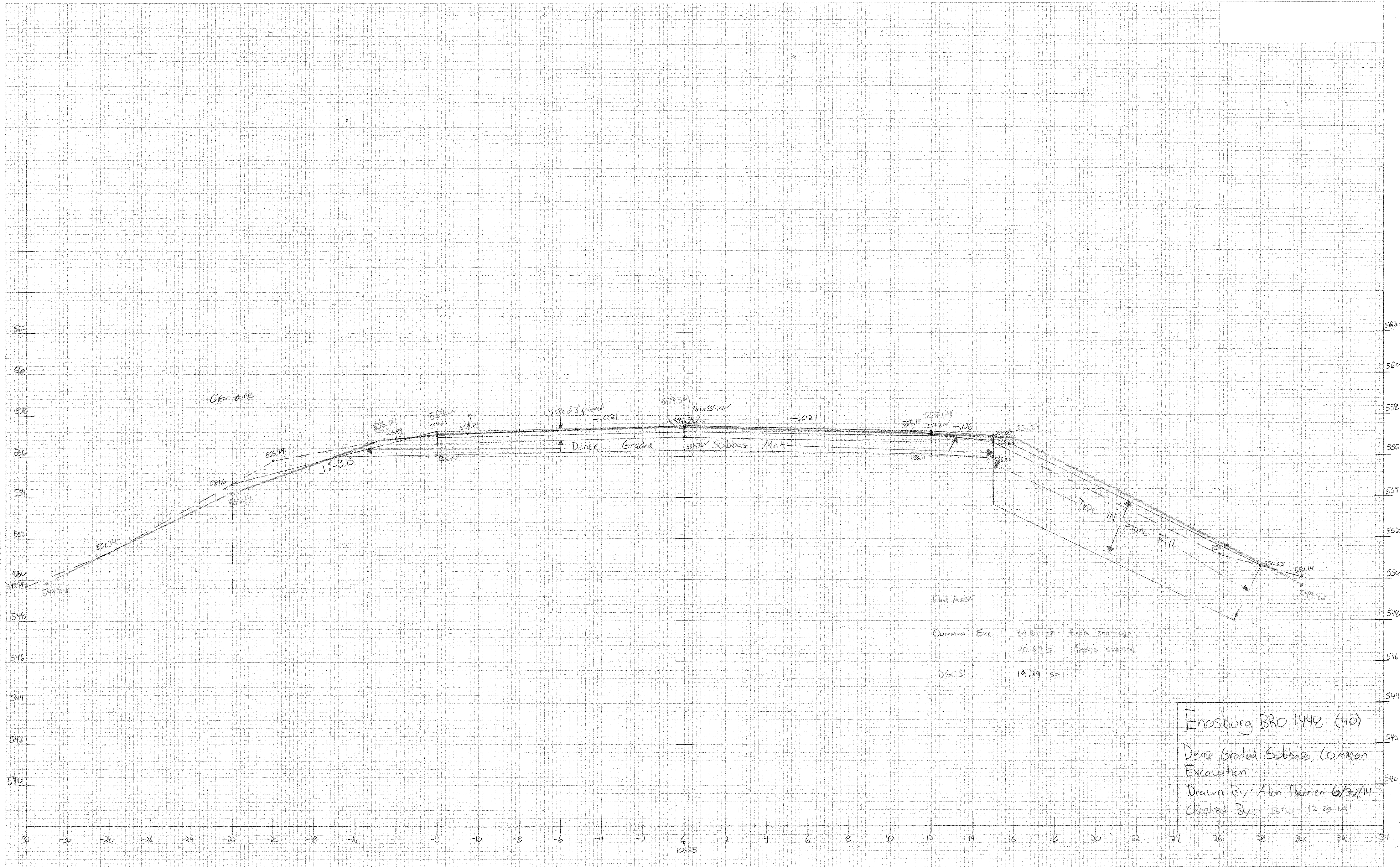
END AREAS:  
 Common 7 SF  
 DGCS 8 SF

Enosburg BRO 1448 (40)  
 Dense Graded Subbase, Common  
 Excavation  
 Drawn By: Alan Thien 6/30/14  
 Checked By: STW 12-29-14



FINAL  
SURVEY  
NO. 1  
DATE 12-29-14

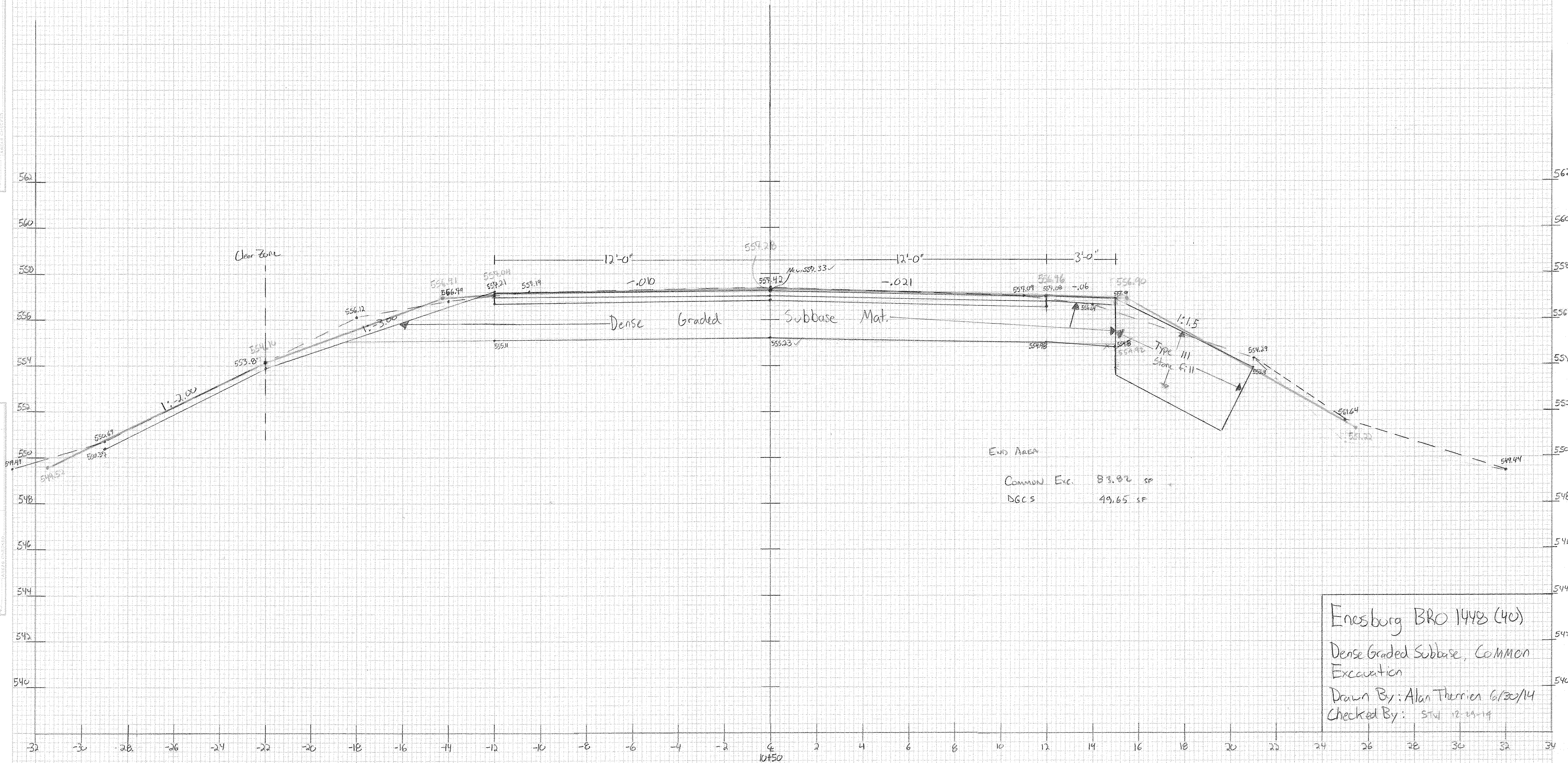
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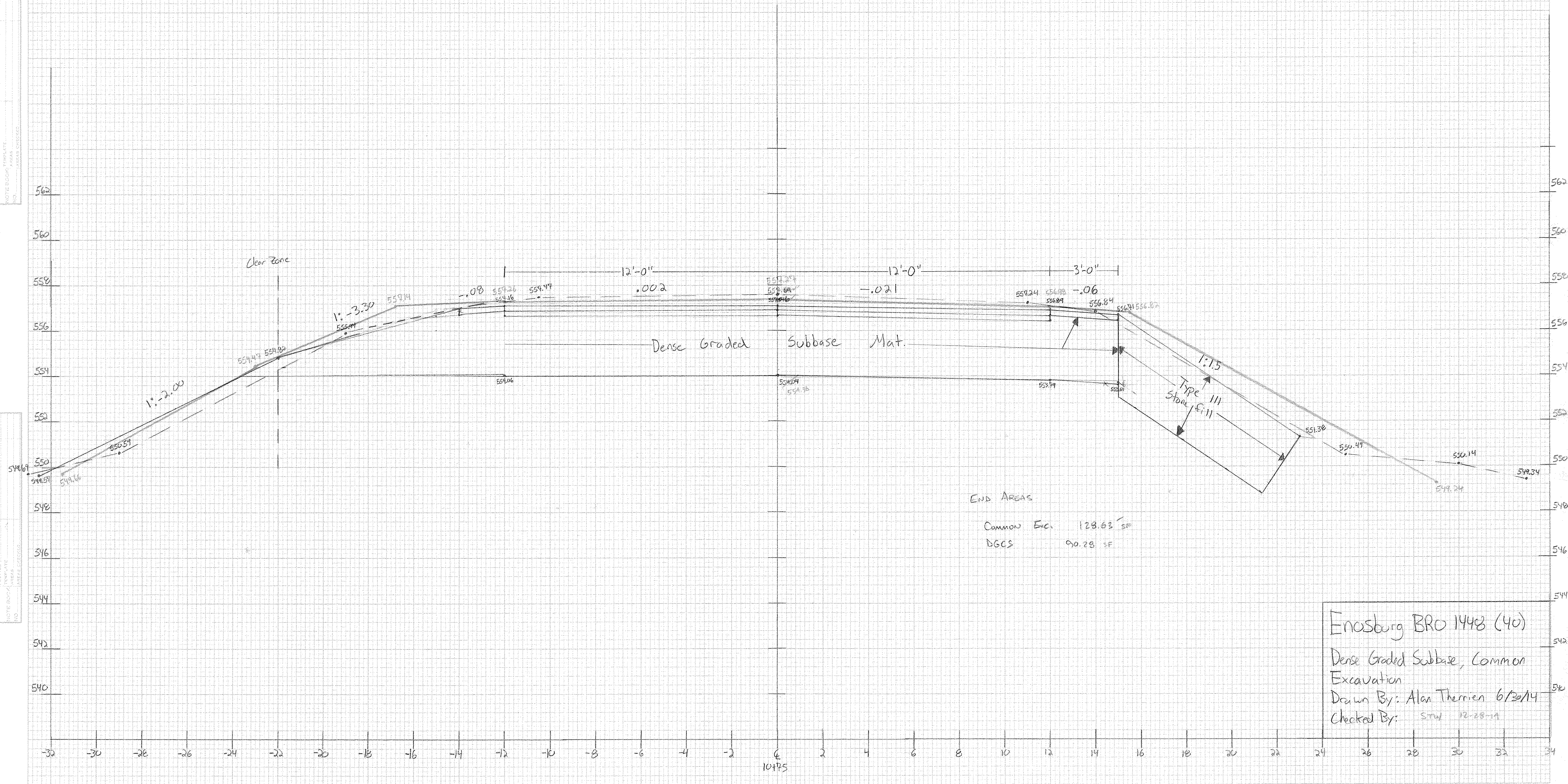
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FINAL SURVEY  
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 BY: _____  
 NO. _____

ORIGINAL SURVEY  
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 BY: _____  
 NO. _____



Enosburg BRO 1448 (40)

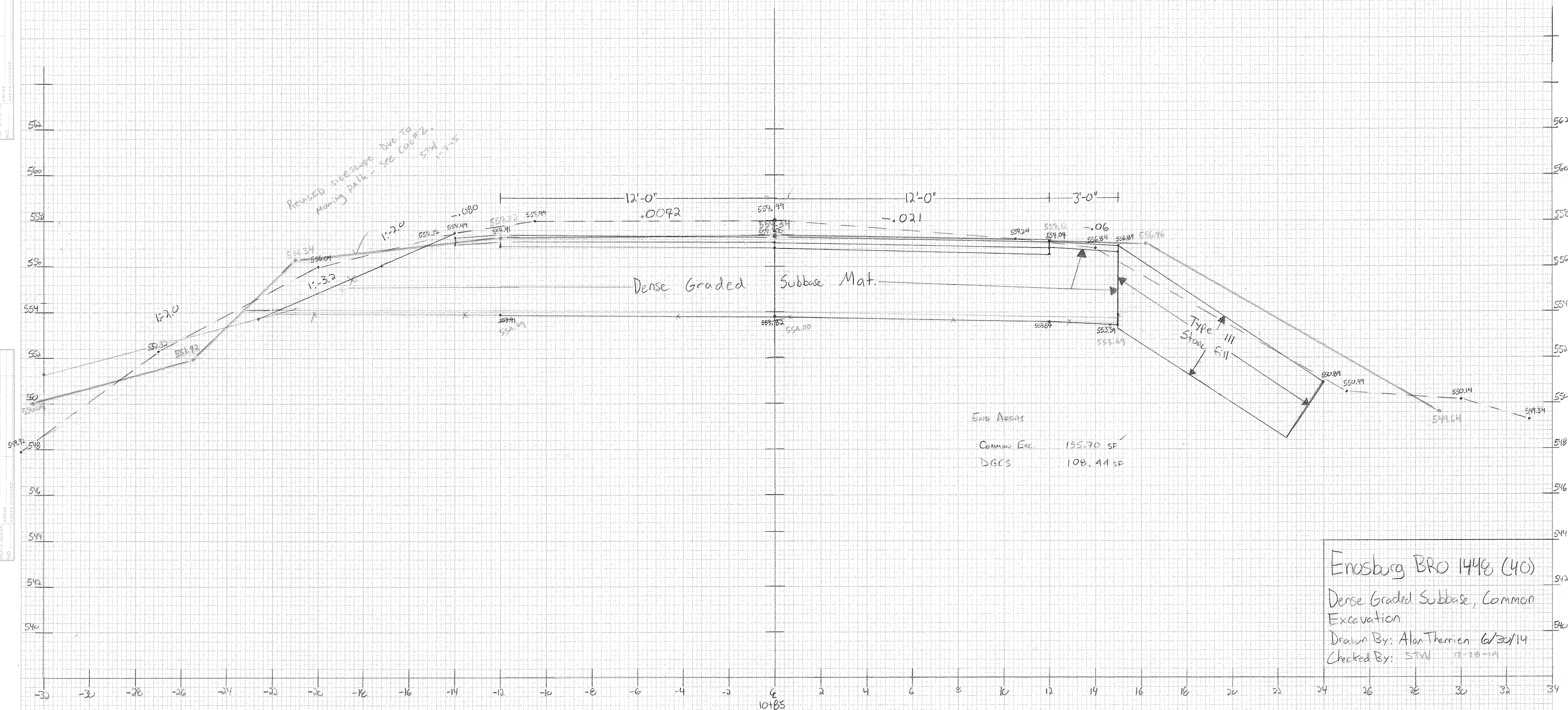
Dense Graded Subbase, Common

Excavation

Drawn By: Alan Therrien 6/30/14

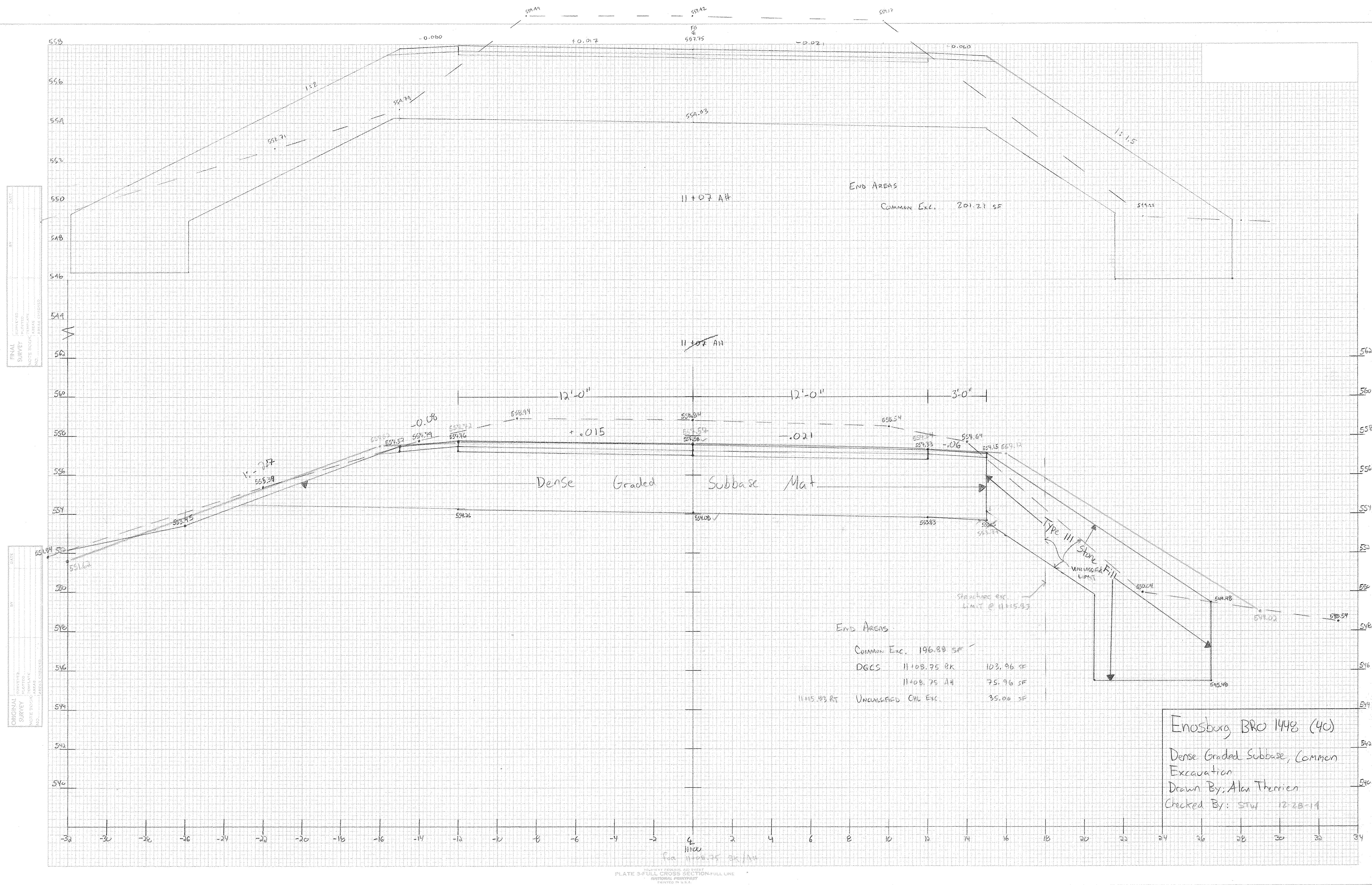
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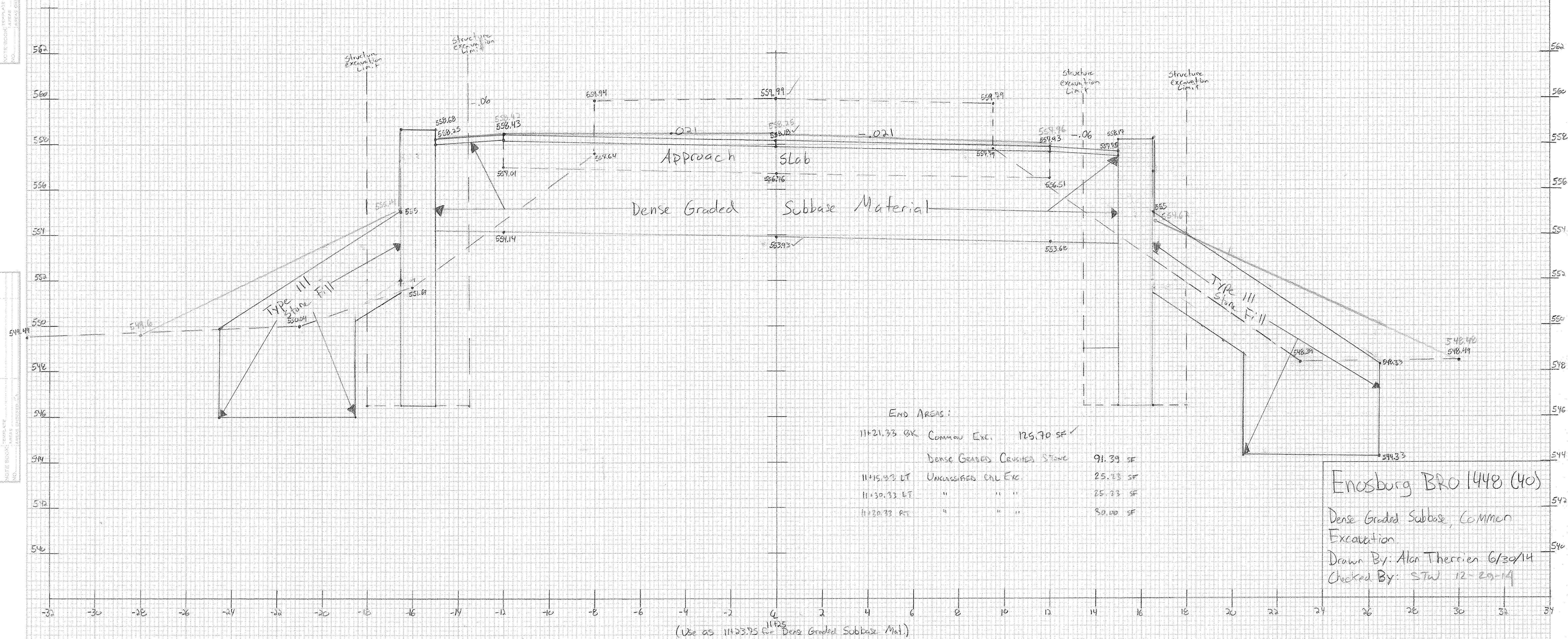
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Checked By: STW 12-22-14







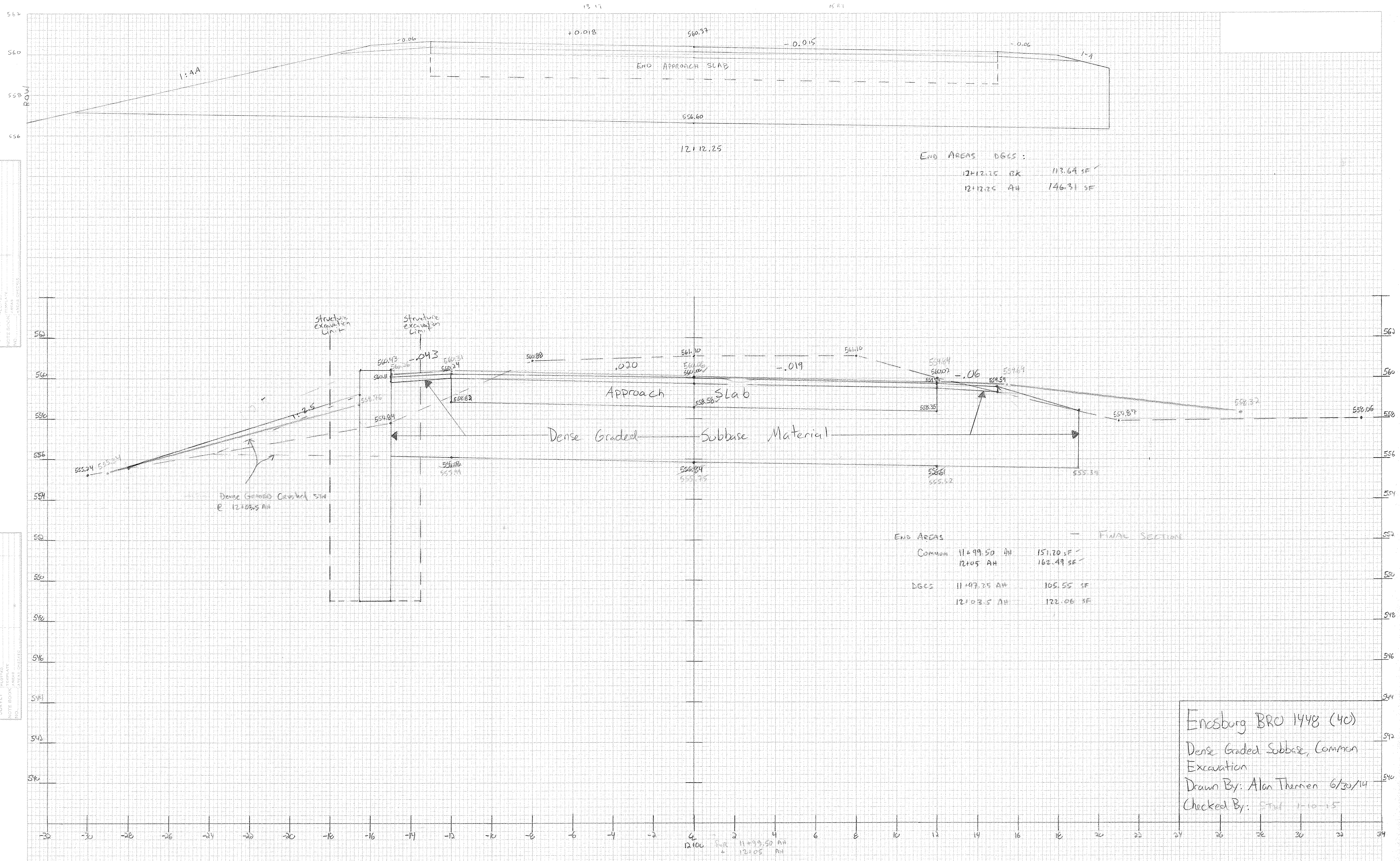


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Checked By: STW 12-29-14



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NOTE BOOK: [Signature]  
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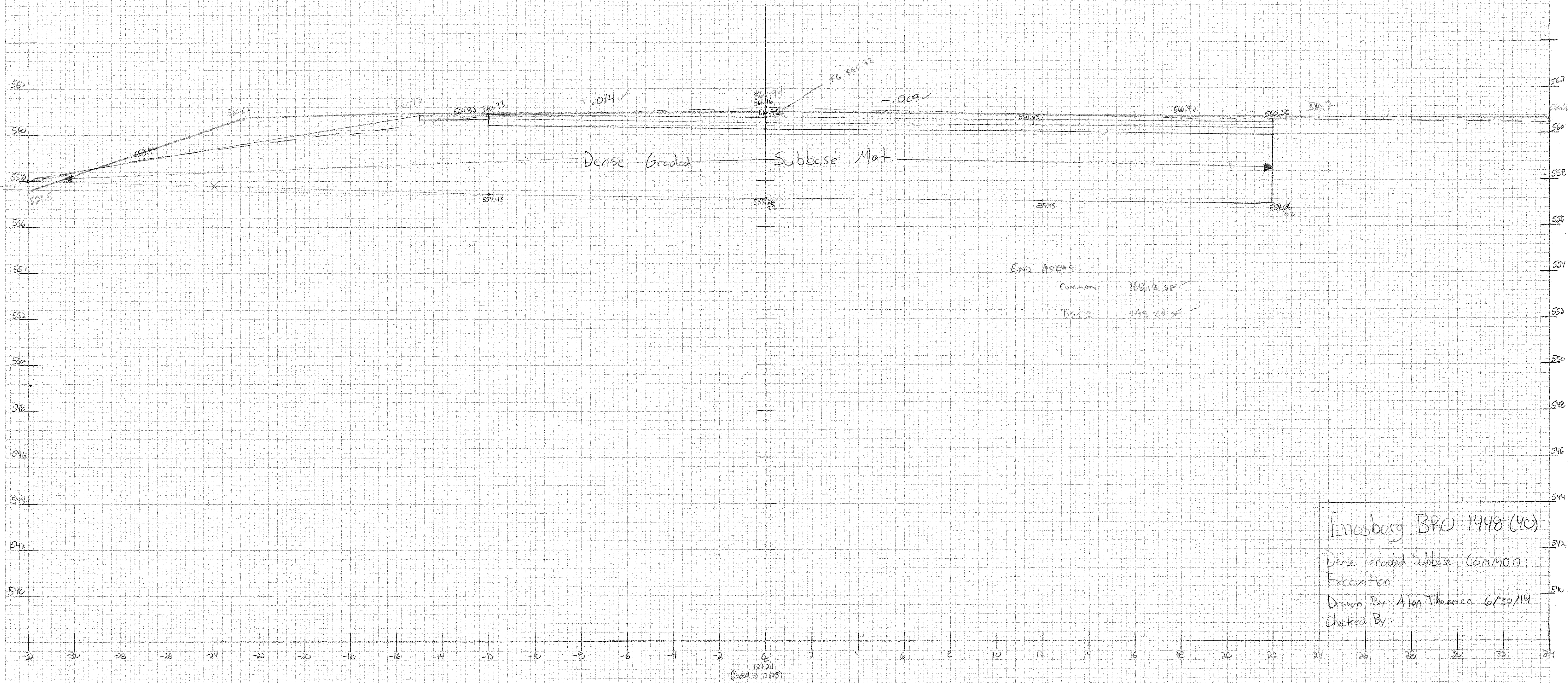
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NOTE BOOK: [Signature]  
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 BY: Alan Thérien  
 NO. 1448

ORIGINAL SURVEY  
 DATE: 6/30/14  
 BY: Alan Thérien  
 NO. 1448



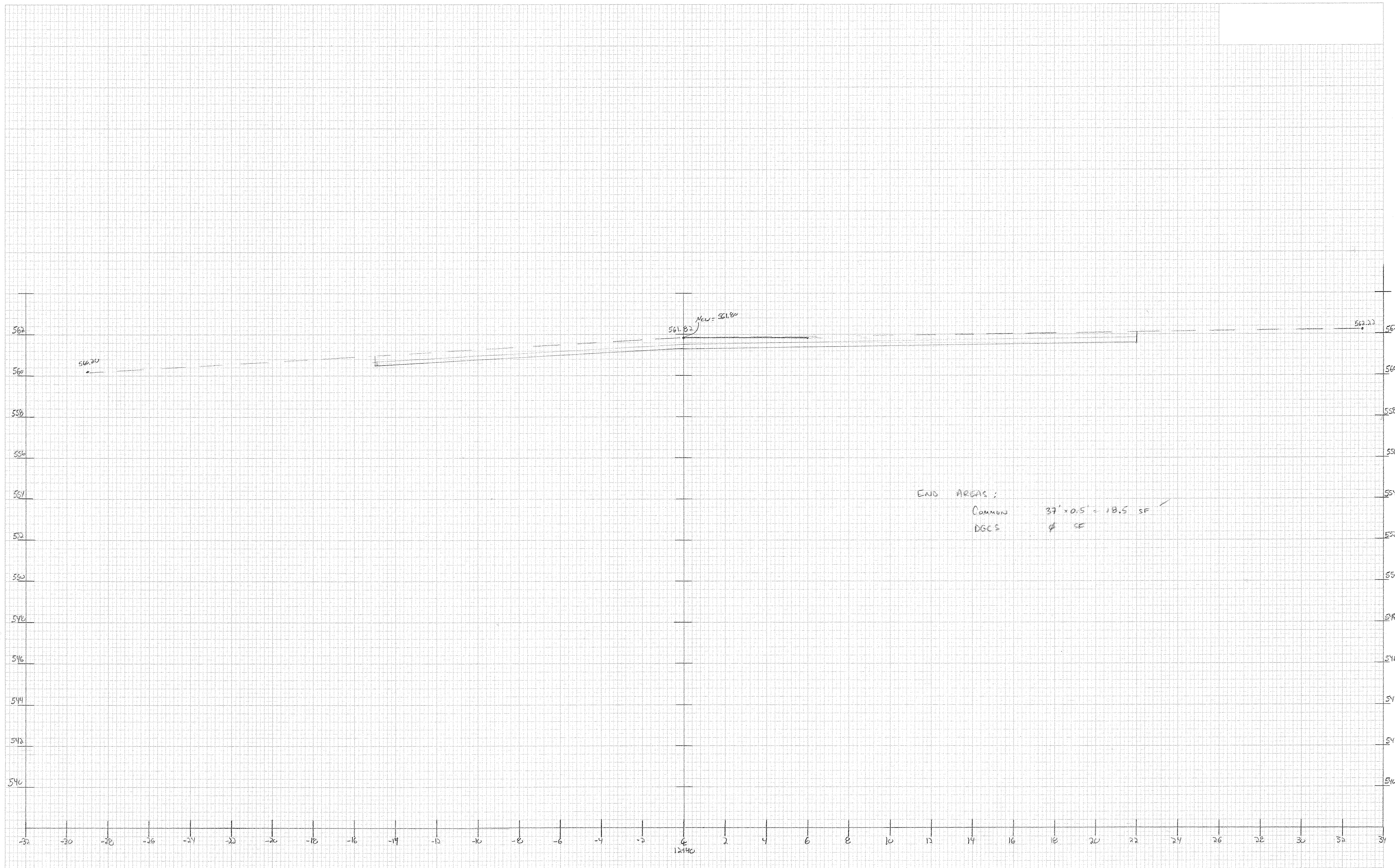
END AREAS:  
 Common 168.18 SF ✓  
 DGCS 143.28 SF ✓

Enosburg BRO 1448 (40)  
 Dense Graded Subbase, Common  
 Excavation  
 Drawn By: Alan Thérien 6/30/14  
 Checked By:



FINAL	SURVEY	DATE	BY
SURVEY	PLATTED	DATE	BY
NOTE BOOK	NO.	DATE	BY
NO.	DATE	BY	DATE

ORIGINAL	SURVEY	DATE	BY
SURVEY	PLATTED	DATE	BY
NOTE BOOK	NO.	DATE	BY
NO.	DATE	BY	DATE





GENERAL NOTES

GENERAL NOTES:

- 1. ALL BEARINGS SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTIONS 531, 714, AND 731 OF THE 2011 VTAOT STANDARD SPECIFICATIONS.
- 2. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND AN ARROW THAT POINTS UPSTATION. MARKS SHALL BE PERMANENT AND SHALL BE VISIBLE AFTER THE BEARING IS INSTALLED.
- 3. SHOP TO MARK ⊗ HIGH SIDE OF THE PAD.
- 4. VTAOT WILL BE NOTIFIED (7) DAYS BEFORE THE START OF FABRICATION.
- 5. ALL DIMENSIONS ARE IN INCHES.
- 6. COSMEC REPRESENTATIVE KERRY MARCHAND: (508) 455-3290

MATERIAL NOTES:

- 1. ELASTOMER: 60 DUROMETER GR. 4 NATURAL RUBBER WITH A SHEAR MODULUS OF 152 PSI +/- 15%
- 2. INTERNAL STEEL SHIMS: ASTM A36, A1011 GR. 36 OR EQUAL
- 3. EXTERNAL SHIM PLATE: AASHTO M270M/M270 GRADE 36 (GALVANIZED)



FINISH NOTES:

- 1. GALVANIZED IN ACCORDANCE WITH SUBSECTION 726.08.

CONTRACTOR NOTES:

- 1. NONE

APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements	<input checked="" type="checkbox"/>	
APPROVED AS NOTED	<input type="checkbox"/>	
REVISE AND RESUBMIT	<input type="checkbox"/>	
NOT REVIEWED	<input type="checkbox"/>	
Date: 5/29/2014		
By:		
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Vermont Agency of Transportation

RECEIVED

ON: May 28, 2014

and Checked for

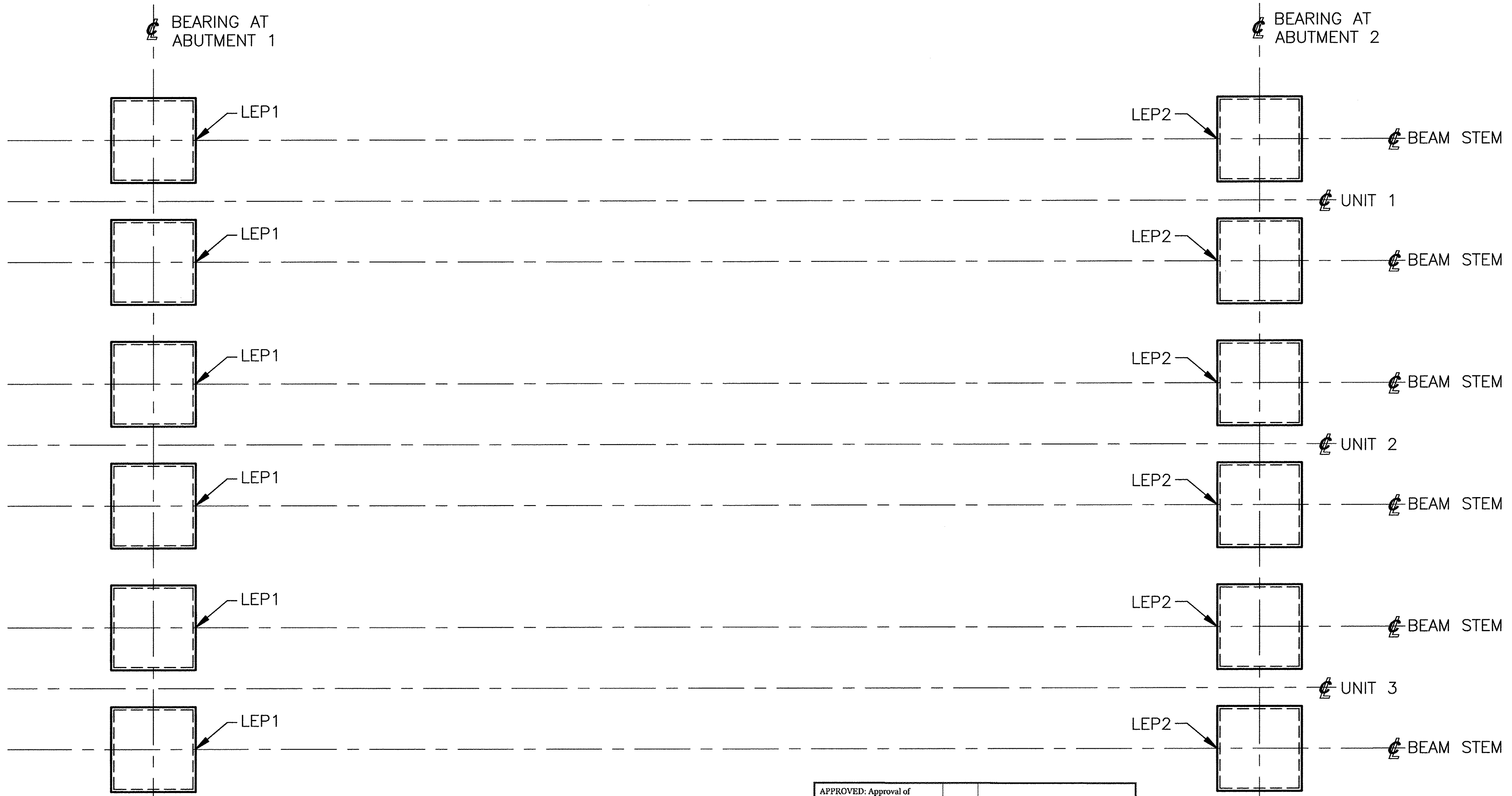
CONFORMANCE

BY: Rob Young DATE: 05/29/2014

STATE OF VERMONT AGENCY OF TRANSPORTATION TOWN OF ENOSBURG BOSTON POST ROAD T.H. 2 CLASS 2, BRIDGE NO: 48		
STATE	COUNTY	CONTROL NO.
VT	FRANKLIN	N/A
PROJ. NO.: BRO 1448 (40)		
DYNAMIC RUBBER: LAMINATED BEARING PADS		
1501 ROCKY RIDGE ROAD P.O. BOX 2159 ATHENS, TEXAS 75751		
SCALE: NONE	DRAWN BY: CV DATE: 3/7/14	CHECKED BY: ELS DATE: 3/11/14
SHEET 01 OF 1		JOB NO.: 12341
CUSTOMER: A.L. ST. ONGE CONTRACTOR INC.	DRAWING NUMBER 12341-GN1	REV. 1

	REVISED ELASTOMER TYPE FROM NEOPRENE TO NATURAL RUBBER PER RFI	JG	5/27/14	SL	5/27/14
REV.	DESCRIPTION	BY	DATE	CK'D	DATE





APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements	✓	
APPROVED AS NOTED		
REVISE AND RESUBMIT		
NOT REVIEWED		
Date: 5/29/2014		
By:		
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SEE SHEET GN1 FOR SHOP NOTES

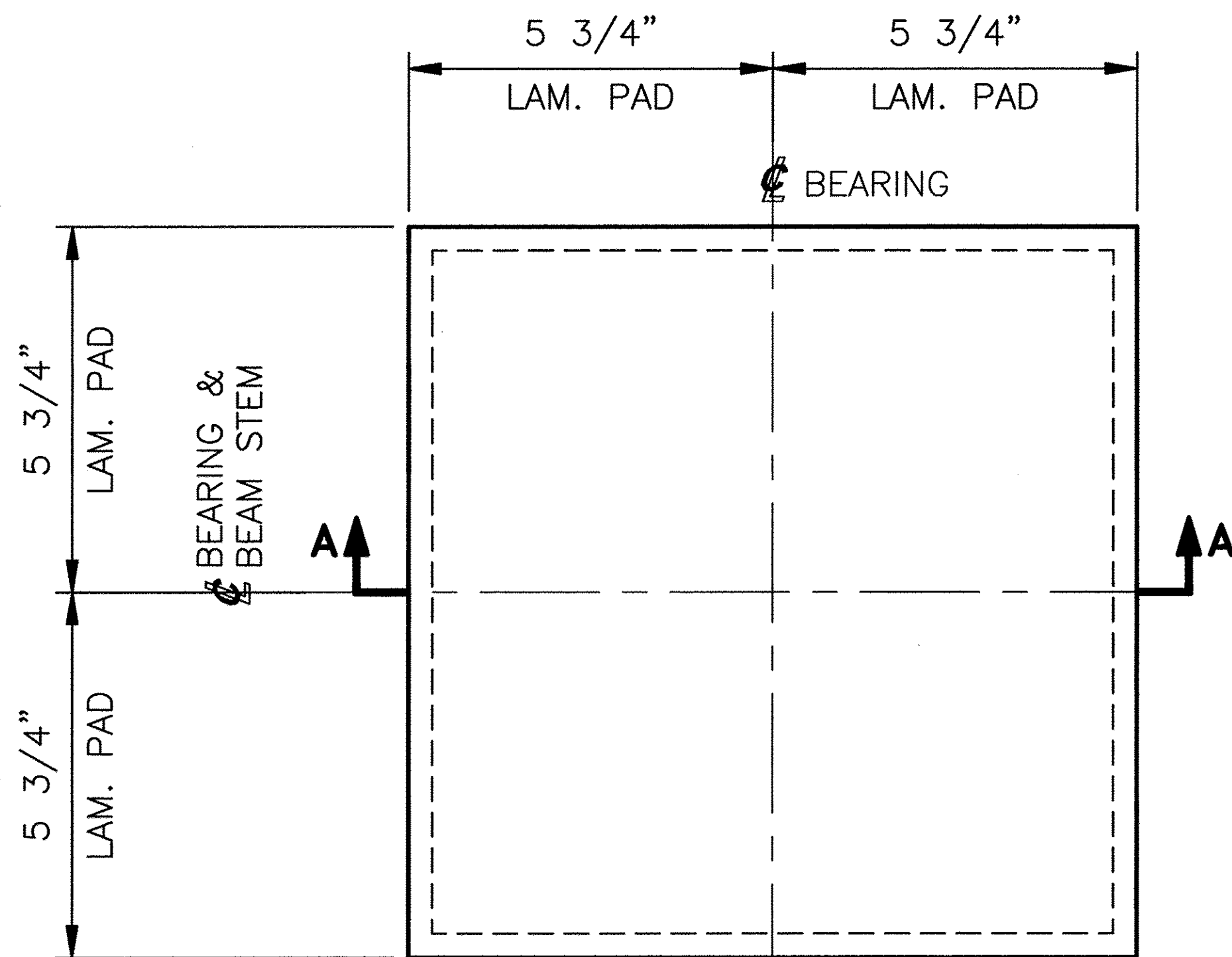
STATE OF VERMONT AGENCY OF TRANSPORTATION TOWN OF ENOSBURG BOSTON POST ROAD T.H. 2 CLASS 2, BRIDGE NO: 48		
STATE	COUNTY	CONTROL NO.
VT	FRANKLIN	N/A
PROJ. NO.: BRO 1448 (40)		
DYNAMIC RUBBER.: LAMINATED BEARING PADS		
1501 ROCKY RIDGE ROAD P.O. BOX 2159 ATHENS, TEXAS 75751		
SCALE: NONE	DRAWN BY: CV DATE: 3/7/14	CHECKED BY: ELS DATE: 3/11/14
SHEET E1 OF 1		JOB NO.: 12341
CUSTOMER: A.L. ST. ONGE CONTRACTOR INC.	DRAWING NUMBER 12341-E1	REV. 0

Vermont Agency of Transportation  
**RECEIVED**  
 ON: May 28, 2014  
 and Checked for  
**CONFORMANCE**  
 BY: Rob Young DATE: 05/29/2014

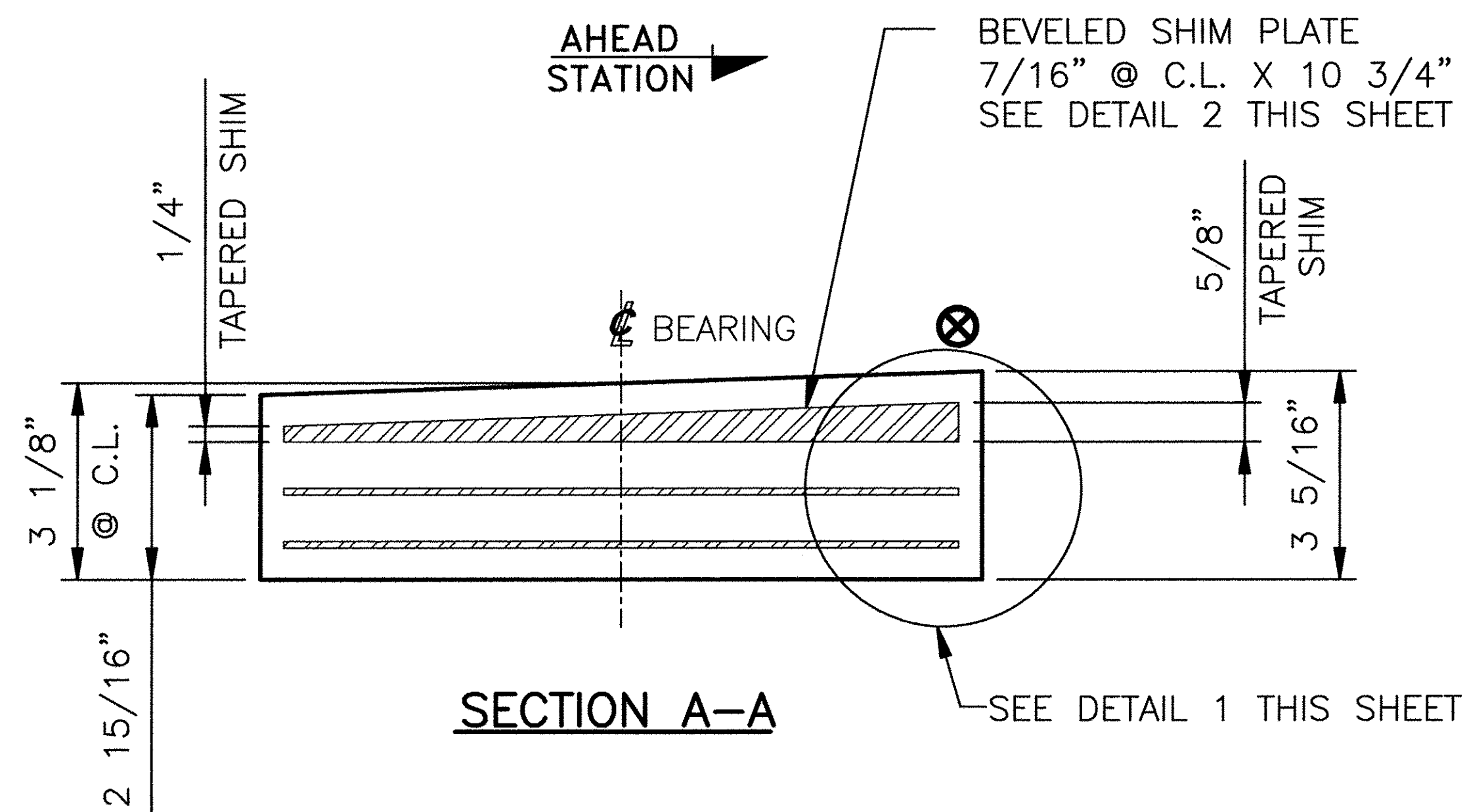
ERECTION DIAGRAM

REV.	DESCRIPTION	BY	DATE	CK'D	DATE





**PLAN VIEW**



**SECTION A-A**

**LAMINATED ELASTOMERIC BEARING PAD**

**LEP1**

(6) REQUIRED ABUTMENT 1

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APPROVED AS NOTED		
REVISE AND RESUBMIT		
NOT REVIEWED		
Date:	5/29/2014	
By:	<i>James Houghton</i>	
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Vermont Agency of Transportation

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ON: **May 28, 2014**

and Checked for

**CONFORMANCE**

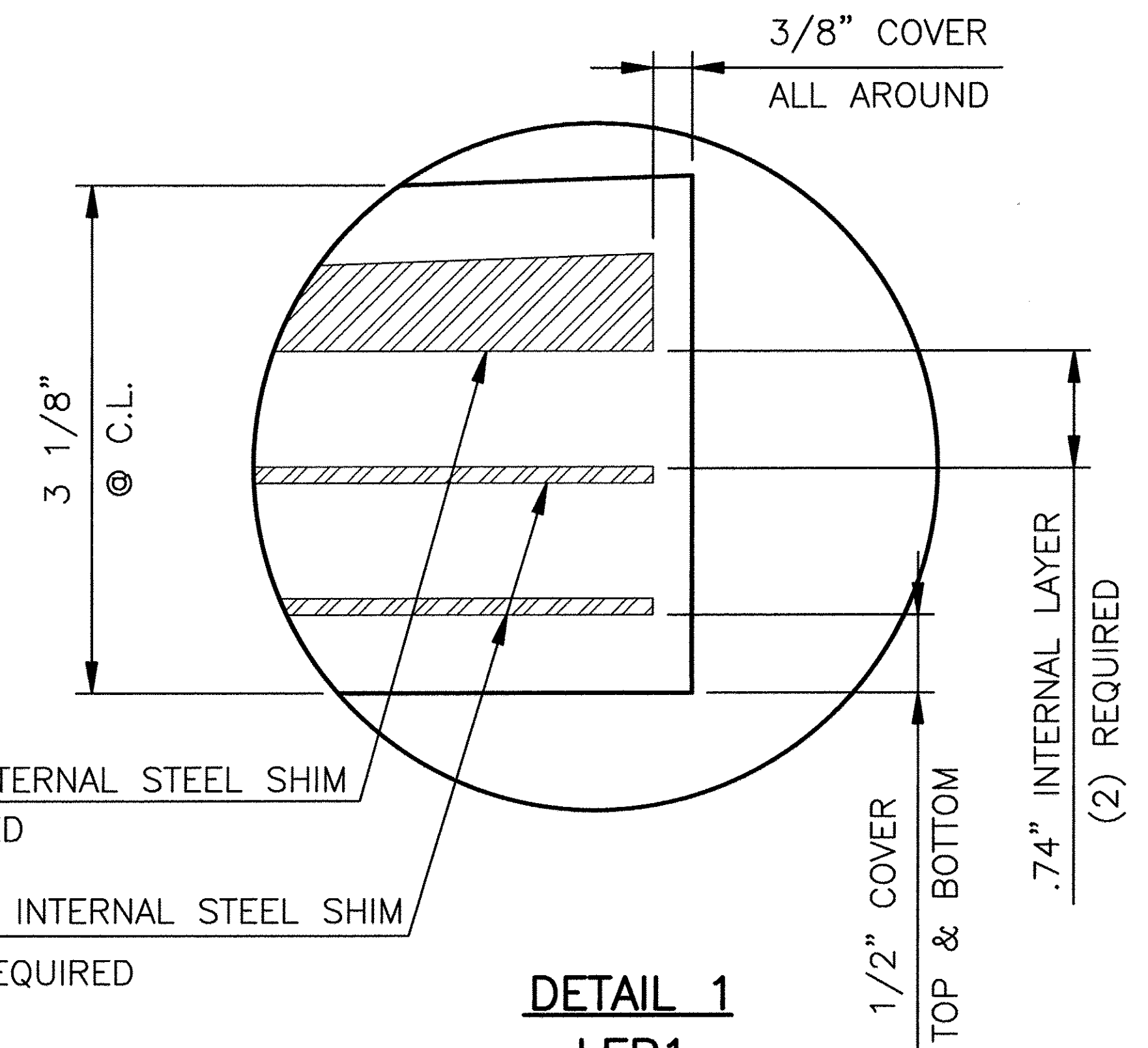
BY: Rob Young DATE: 05/29/2014

1/4" - 5/8" TAPERED INTERNAL STEEL SHIM

(1) REQUIRED

12 GA. (.1046" NOM.) INTERNAL STEEL SHIM

(2) REQUIRED



**DETAIL 1  
LEP1**

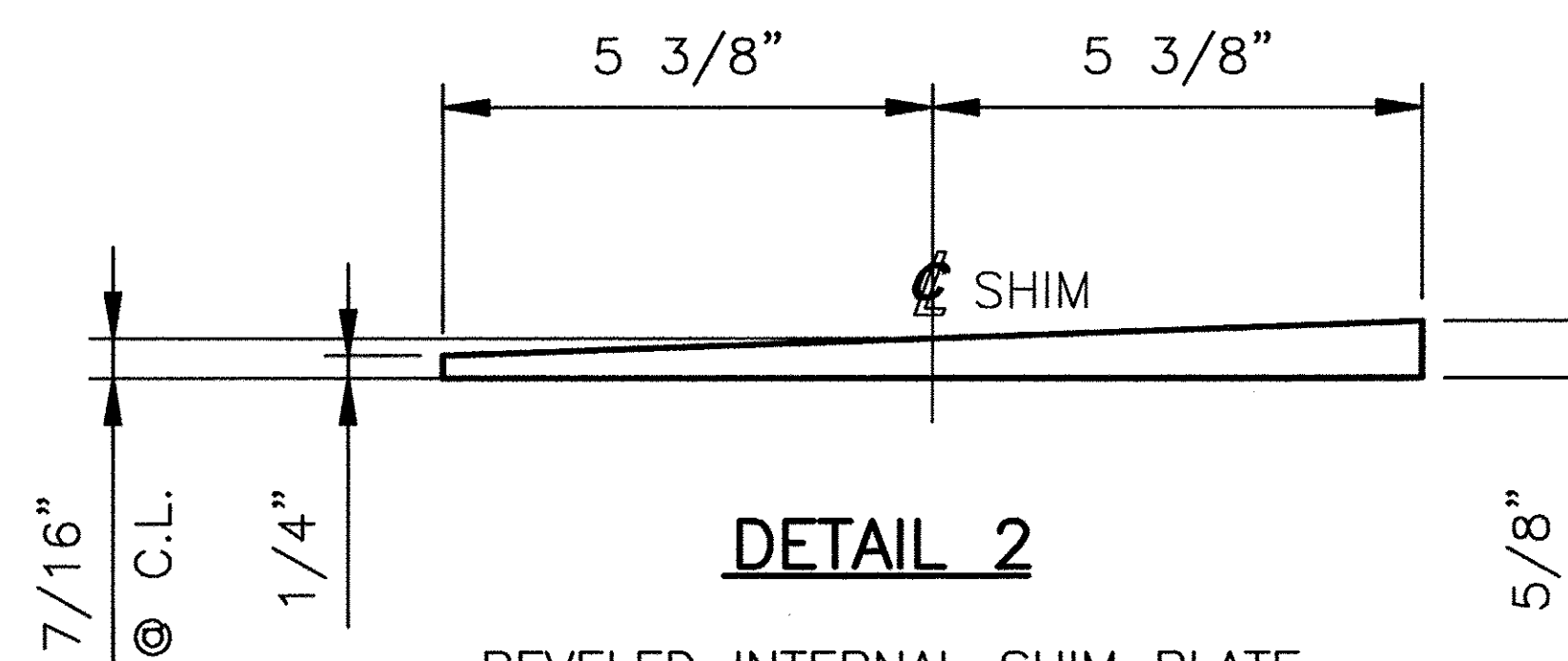
BEVELED LAMINATED BEARING PAD  
3 1/8" @ C.L. X 11 1/2" X 11 1/2" LAMINATED PAD  
WITH A SHEAR MODULUS OF 152 PSI +/-15%  
60 DUROMETER GR. 4 NATURAL RUBBER  
(6) REQUIRED AT ABUTMENT 1

**TEST1**

BEVELED LAMINATED BEARING PAD  
3 1/8" @ C.L. X 11 1/2" X 11 1/2" LAMINATED PAD  
WITH A SHEAR MODULUS OF 152 PSI +/-15%  
60 DUROMETER GR. 4 NATURAL RUBBER  
(2) REQUIRED FOR TESTING

**MAX. DESIGN LOAD**

DEAD LOAD = 35.8 kips  
LIVE LOAD = 38.8 kips



**DETAIL 2**

BEVELED INTERNAL SHIM PLATE  
7/16" @ C.L. X 10 3/4" X 10 3/4"  
AASHTO M270M/M270 GR. 36  
(6) REQUIRED AT ABUTMENT 1

**SEE SHEET GN1 FOR SHOP NOTES**

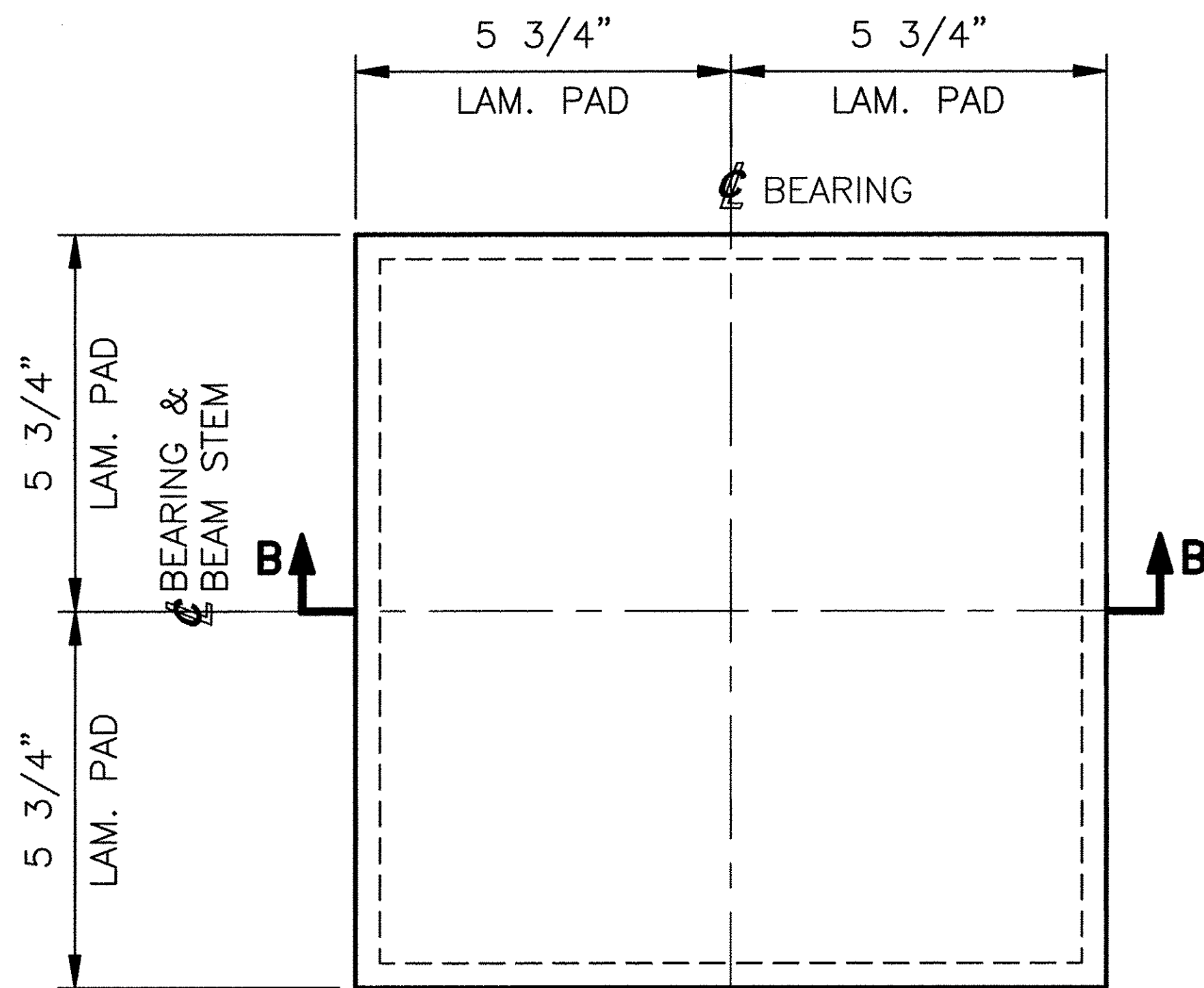
STATE OF VERMONT AGENCY OF TRANSPORTATION		
TOWN OF ENOSBURG BOSTON POST ROAD T.H. 2 CLASS 2, BRIDGE NO: 48		
STATE VT	COUNTY FRANKLIN	CONTROL NO. N/A
PROJ. NO.: BRO 1448 (40)		
<b>DYNAMIC RUBBER: LAMINATED BEARING PADS</b>		
1501 ROCKY RIDGE ROAD P.O. BOX 2159 ATHENS, TEXAS 75751		
SCALE: NONE	DRAWN BY: CV DATE: 3/7/14	CHECKED BY: ELS DATE: 3/11/14
SHEET 1 OF 3		<b>JOB NO.: 12341</b>
CUSTOMER: A.L. ST. ONGE CONTRACTOR INC.		DRAWING NUMBER 12341-D1
REV.		REV. 1

△	REVISED ELASTOMER TYPE FROM NEOPRENE TO NATURAL RUBBER PER RFI	JG	5/27/14	SL	5/27/14
REV.	DESCRIPTION	BY	DATE	CK'D	DATE

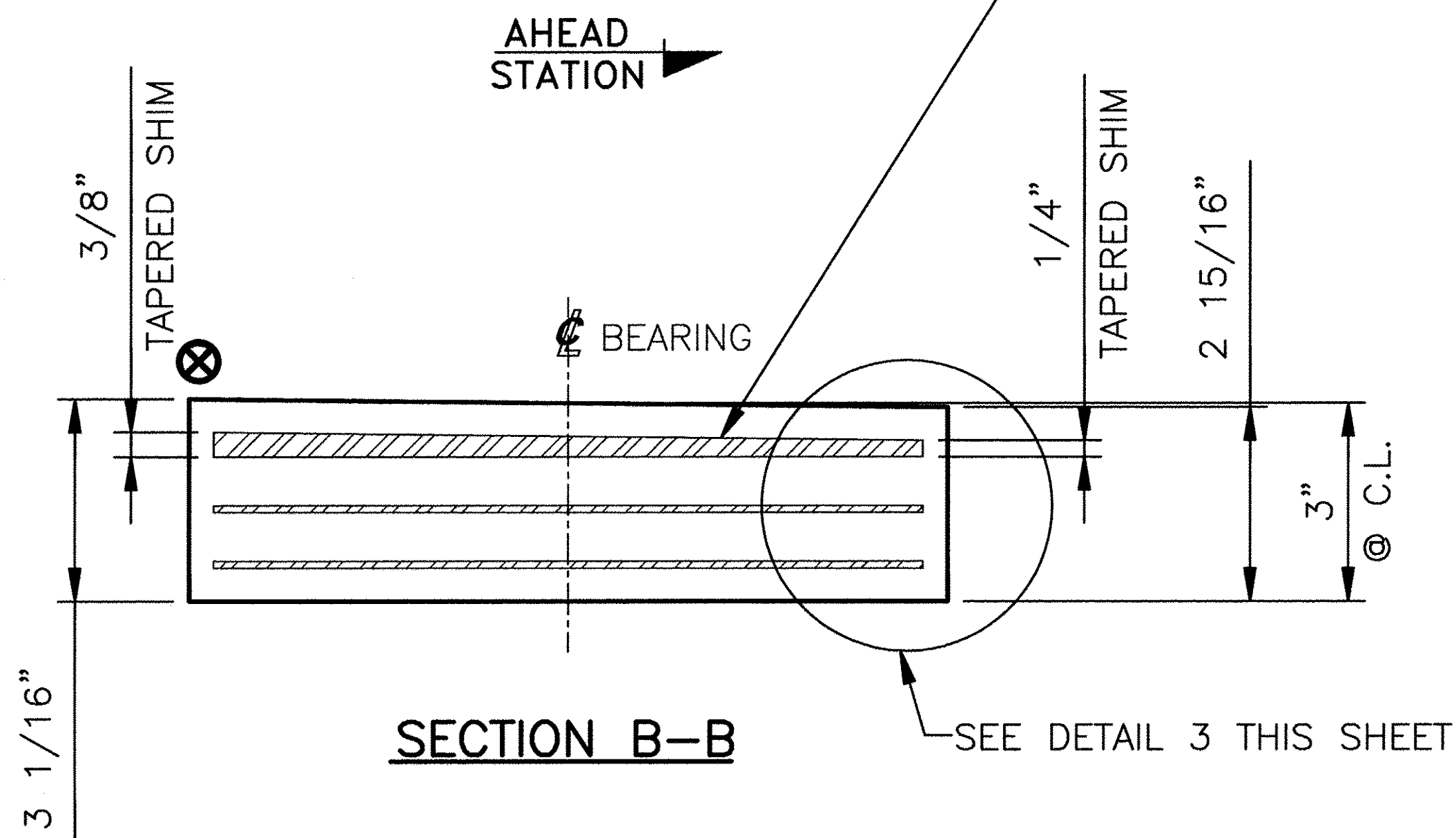


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APPROVED AS NOTED		
REVISE AND RESUBMIT		
NOT REVIEWED		
Date:	5/29/2014	
By:		
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Vermont Agency of Transportation  
**RECEIVED**  
ON: May 28, 2014  
and Checked for  
**CONFORMANCE**  
BY: Rob Young DATE: 05/29/2014

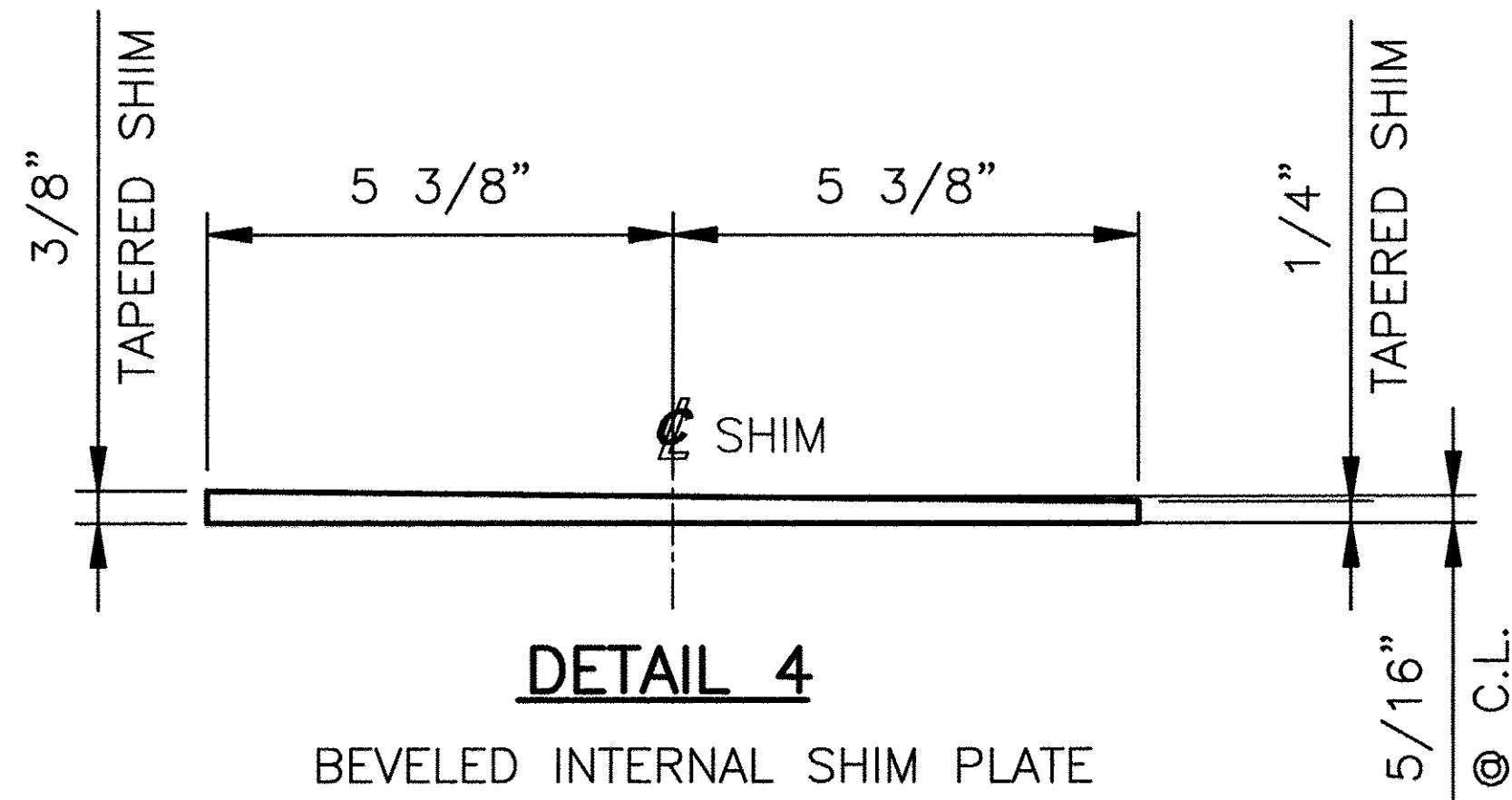


**PLAN VIEW**



**SECTION B-B**

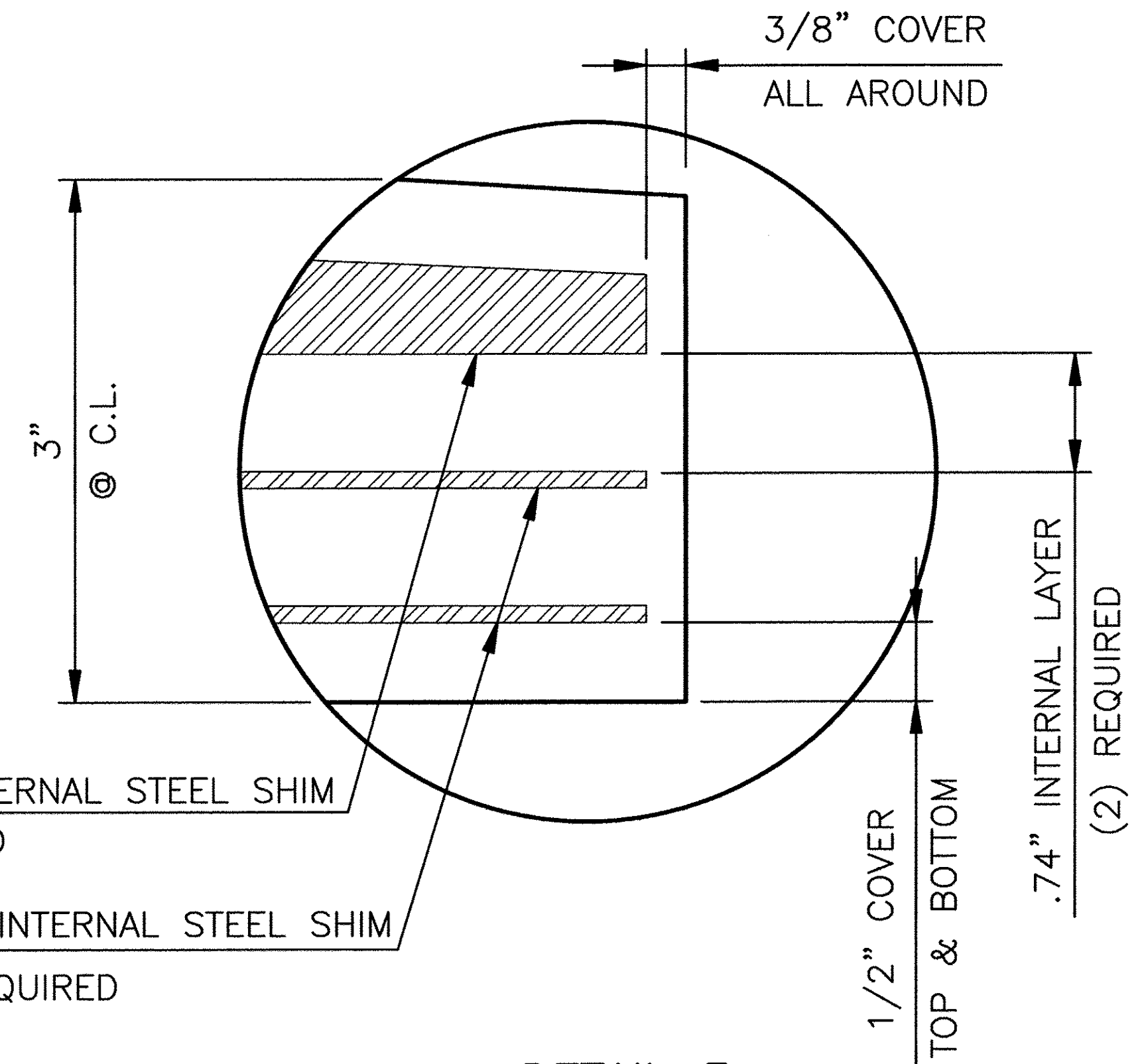
**LAMINATED ELASTOMERIC BEARING PAD**  
**LEP2**  
(6) REQUIRED ABUTMENT 2



**DETAIL 4**

BEVELED INTERNAL SHIM PLATE  
5/16" @ C.L. X 10 3/4" X 10 3/4"  
AASHTO M270M/M270 GR. 36  
(6) REQUIRED AT ABUTMENT 2

1/4" - 5/8" TAPERED INTERNAL STEEL SHIM  
(1) REQUIRED  
12 GA. (.1046" NOM.) INTERNAL STEEL SHIM  
(2) REQUIRED



**DETAIL 3**  
**LEP2**

BEVELED LAMINATED BEARING PAD  
3" @ C.L. X 11 1/2" X 11 1/2" LAMINATED PAD  
WITH A SHEAR MODULUS OF 152 PSI +/-15%  
60 DUROMETER GR. 4 NATURAL RUBBER  
(6) REQUIRED AT ABUTMENT 2

**TEST2**

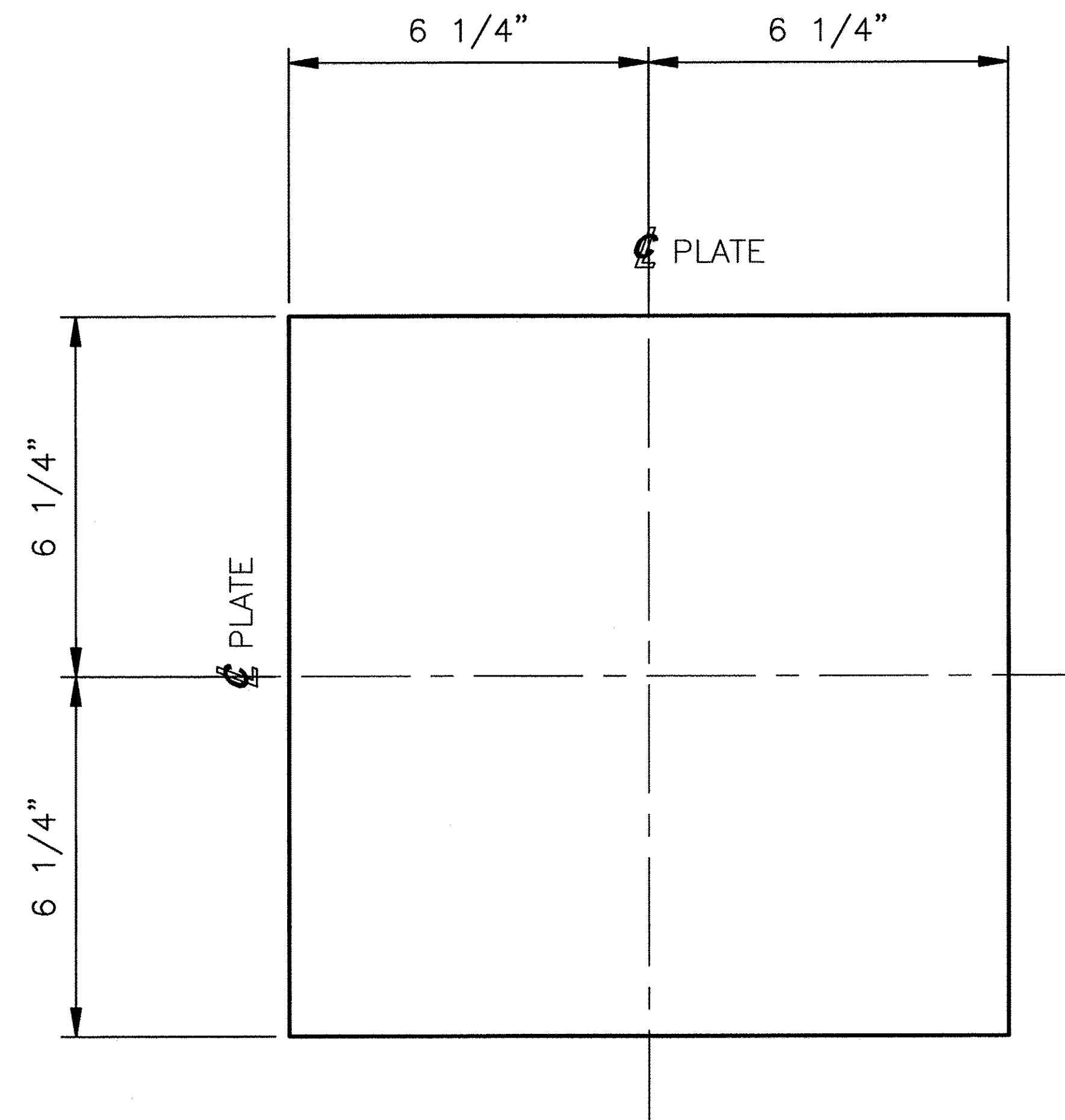
BEVELED LAMINATED BEARING PAD  
3" @ C.L. X 11 1/2" X 11 1/2" LAMINATED PAD  
WITH A SHEAR MODULUS OF 152 PSI +/-15%  
60 DUROMETER GR. 4 NATURAL RUBBER  
(2) REQUIRED FOR TESTING

**SEE SHEET GN1 FOR SHOP NOTES**

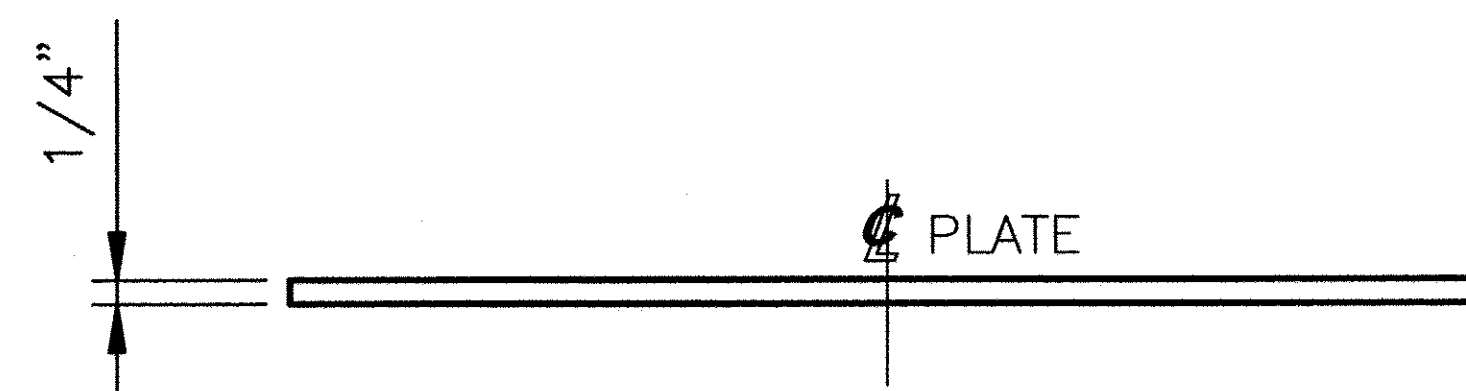
STATE OF VERMONT AGENCY OF TRANSPORTATION TOWN OF ENOSBURG BOSTON POST ROAD T.H. 2 CLASS 2, BRIDGE NO: 48		
STATE	COUNTY	CONTROL NO.
VT	FRANKLIN	N/A
PROJ. NO.: BRO 1448 (40)		
<b>DYNAMIC RUBBER.: LAMINATED BEARING PADS</b>		
 1501 ROCKY RIDGE ROAD P.O. BOX 2159 ATHENS, TEXAS 75751		
SCALE: NONE	DRAWN BY: CV DATE: 3/7/14	CHECKED BY: ELS DATE: 3/11/14
SHEET 2 OF 3 <b>JOB NO.: 12341</b>		
CUSTOMER: A.L. ST. ONGE CONTRACTOR INC.	DRAWING NUMBER 12341-D2	REV. 1

REV.	DESCRIPTION	BY	DATE	CK'D	DATE
	REVISED ELASTOMER FROM NEOPRENE TO NATURAL RUBBER PER RFI	JG	5/27/14	SL	5/27/14





PLAN VIEW



ELEVATION VIEW

EXTERNAL SHIM PLATE  
SHM1

1/4" X 12 1/2" X 12 1/2" SHIM PLATE  
AASHTO M270M/M270 GRADE 36 (GALVANIZED)  
(12) REQUIRED FOR STRUCTURE

Vermont Agency of Transportation

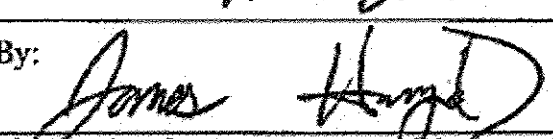
**RECEIVED**

ON: May 28, 2014

and Checked for

**CONFORMANCE**

BY: Rob Young DATE: 05/29/2014

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APPROVED AS NOTED	
REVISE AND RESUBMIT	
NOT REVIEWED	
Date: 5/29/2014	
By: 	
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**SEE SHEET GN1 FOR SHOP NOTES**

STATE OF VERMONT AGENCY OF TRANSPORTATION TOWN OF ENOSBURG BOSTON POST ROAD T.H. 2 CLASS 2, BRIDGE NO: 48		
STATE	COUNTY	CONTROL NO.
VT	FRANKLIN	N/A
PROJ. NO.: BRO 1448 (40)		
<b>DYNAMIC RUBBER: LAMINATED BEARING PADS</b>		
 1501 ROCKY RIDGE ROAD P.O. BOX 2159 ATHENS, TEXAS 75751		
SCALE: NONE	DRAWN BY: CV DATE: 3/7/14	CHECKED BY: ELS DATE: 3/11/14
SHEET 3 OF 3		<b>JOB NO.: 12341</b>
REV.	DESCRIPTION	BY DATE CK'D DATE
	CUSTOMER: A.L. ST. ONGE CONTRACTOR INC.	DRAWING NUMBER: 12341-D3 REV. 0



# ABUTMENT & WING WALL GENERAL NOTES

- MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 5,000 PSI.
- MIN. CONCRETE STRENGTH AT STRESS TRANSFER SHALL BE 3,500 PSI (UNLESS NOTED OTHERWISE).
- REINFORCING STEEL SHALL BE GR-60, ASTM A-615 (AASHTO M31) LEVEL II (DUAL COATED) OR UNCOATED, LEVEL I (BLACK STEEL) (AS NOTED ON SHOP DRAWINGS).
- THE TOP OF ABUTMENTS SHALL RECEIVE A SMOOTH FLOAT FINISH (UNLESS NOTED OTHERWISE).
- THE TOP OF WING WALLS SHALL RECEIVE A SMOOTH FLOAT FINISH (UNLESS NOTED OTHERWISE).
- SHEAR KEY SURFACES SHALL BE SAND BLASTED CLEAN.
- PRECAST CONCRETE UNITS SHALL BE HANDLED AND ERECTED USING THE LIFTING INSERTS ONLY. THE MINIMUM SLING ANGLE FROM THE HORIZONTAL SHALL BE 60°. NON-PRESTRESSED UNITS SHALL BE STORED & TRANSPORTED WITH TIMBER SUPPORTS AT 5ft POINTS, UNLESS APPROVED BY J.P. CARRARA & SONS, INC.
- MATERIAL SPECIFICATION AND MIX DESIGN SHALL CONFORM TO VERMONT SPEC. PS10.02 AND PS10.05 RESPECTIVELY.  
DESIGN MIX:  
WING WALLS: J.P.C. BRIDGE MIX #44BMSCC  
APPROACH SLABS: J.P.C. BRIDGE MIX #44BMSCC  
ABUTMENTS: J.P.C. BRIDGE MIX #44BMSCC  
PILE CAPS: J.P.C. BRIDGE MIX #44BMSCC
- QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI REQUIREMENTS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
- CURING METHOD: AS SOON AS THE TOP OF PRECAST CONCRETE UNITS ARE FINISHED, A COVER OF RIGID INSULATION AND POLY WILL BE PLACED OVER THE UNIT. NATURAL CURE WITH NO EXTERNAL HEAT APPLIED.

# NEXT BEAM GENERAL NOTES

- MIN. CONCRETE STRENGTH AT 28 DAYS SHALL BE 5,000 PSI.
- MIN. CONCRETE STRENGTH AT STRESS TRANSFER SHALL BE 6,000 PSI.
- REINFORCING STEEL SHALL BE GR-60, ASTM A-615 (AASHTO M31) LEVEL II (DUAL COATED).
- PRESTRESSING STRANDS SHALL CONFORM TO ASTM A-416 (AASHTO M209) AND SHALL CONSIST OF 0.60" x 270 KSI 7-WIRE LOW RELAXATION STRANDS.
- PRESTRESSING STRANDS SHALL EACH BE PULLED TO HAVE A NET TENSION OF 44.0 K AFTER ACCOUNTING FOR CHUCK SLIPPAGE. TENSION SHALL BE VERIFIED BY MEASURING STRAND ELONGATION. (SEE EXAMPLE ELONGATION CALCULATION AND TENSIONING PROCEDURE, THIS SHEET.)
- ENDS OF PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH END OF NEXT BEAM STEMS (UNLESS NOTED OTHERWISE) AND EPOXY PAINTED.
- ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4".
- THE TOP OF BEAMS SHALL RECEIVE A SMOOTH FLOAT FINISH (UNLESS NOTED OTHERWISE).
- SHEAR KEY SURFACES SHALL BE SAND BLASTED CLEAN.
- BEAMS SHALL BE HANDLED AND ERECTED USING THE LIFTING LOOPS ONLY. RIGGING SHALL BE CONFIGURED SUCH THAT EQUAL AND VERTICAL FORCES ARE APPLIED TO EACH OF THE TWO LIFTING LOOPS AT EACH END OF THE BEAM. THE PINS OF THE SHACKLES SHALL BE PLACED THROUGH THE LIFTING LOOPS. SEE DETAIL, THIS SHEET. BEAMS SHALL BE STORED AND TRANSPORTED WITH TIMBER SUPPORTS WITHIN 2'-0" OF THE BEAM ENDS, UNLESS APPROVED BY J.P. CARRARA & SONS, INC.
- MATERIAL SPECIFICATION AND MIX DESIGN SHALL CONFORM TO VERMONT SPEC. PS10.02 AND PS10.05 RESPECTIVELY.  
DESIGN MIX: J.P.C. BRIDGE MIX #42BFI
- QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI REQUIREMENTS. J.P. CARRARA & SONS, INC. IS A PCI CERTIFIED PLANT.
- CURING METHOD: AS SOON AS THE TOP OF BEAM IS FINISHED, A COVER OF INSULATED POLY. THE DESIRED CURING TEMPERATURE RANGE SHALL NOT DROP BELOW 70°. THE TEMPERATURE SHALL BE RECORDED BY AUTOMATIC SENSOR INSTRUMENTS ON GRAPH CHARTS, SPACED NOT MORE THAN 100' APART AND WILL CONTINUE UNTIL RELEASE STRENGTH IS ACHIEVED. EACH CHART SHALL BE MARKED WITH THE CASTING DATED AND LOCATION OF THE RECORDER. IF NECESSARY TO MAINTAIN CASTING BED TEMPERATURE PRIOR TO CONCRETE PLACEMENT OR TO ACCELERATE EARLY AGE STRENGTH GAIN, EXTERNAL RADIANT HEAT MAY BE EMPLOYED VIA HOT WATER DUCTS BENEATH AND WITHIN THE PERIPHERY OF THE CASTING BED. MAXIMUM CURING TEMPERATURE SHALL NOT EXCEED PCI SPECIFIED LIMITS.
- OWNER SHALL PROVIDE APPROPRIATE WATERPROOFING TO GROUTED AND/OR EPOXIED SHEAR KEYS. J.P. CARRARA & SONS, INC. SHALL NOT BE HELD LIABLE FOR PROBLEMS ASSOCIATED WITH MOISTURE INFILTRATING GROUTED AND/OR EPOXIED SHEAR KEYS.

## EXAMPLE PRESTRESSING STRAND ELONGATION CALC. AND TENSIONING

(NOT TO BE USED FOR CONSTRUCTION)

SIZE & GRADE: 0.60" x 270 KSI  
AREA: 0.217 IN²  
TENSION: 44,000 LB. EACH STRAND  
GRIP-TO-GRIP: 252'-0" = 252.00'  
Es = 28,600,000 PSI (ASSUMED FOR THESE CALCULATIONS; VALUE TO BE OBTAINED FOR STRAND SPOOL ACTUALLY USED)

EXAMPLE:  
$$\Delta L = \frac{P_L}{A_E} = \frac{(44,000 - 3,000) \times 252.00 \times 12}{0.217 \times 28,600,000} = 19.977"$$

THEREFORE: (TOLERANCES ± 5%)  
 $\Delta$  UPPER LIMIT = 1.05 x 19.977" = 20.98" = 21"  
 $\Delta$  LOWER LIMIT = 0.95 x 19.977" = 18.98" = 19"

EXTRA FORCE REQUIRED TO COMPENSATE FOR 1/2" CHUCK SLIPPAGE:  
$$\Delta P = 0.5 \times \frac{41,000}{19.977} = 1,026 \text{ LBS.}$$

TOTAL TENSIONING FORCE = 44,000 + 1,026 = 45,026 LBS.

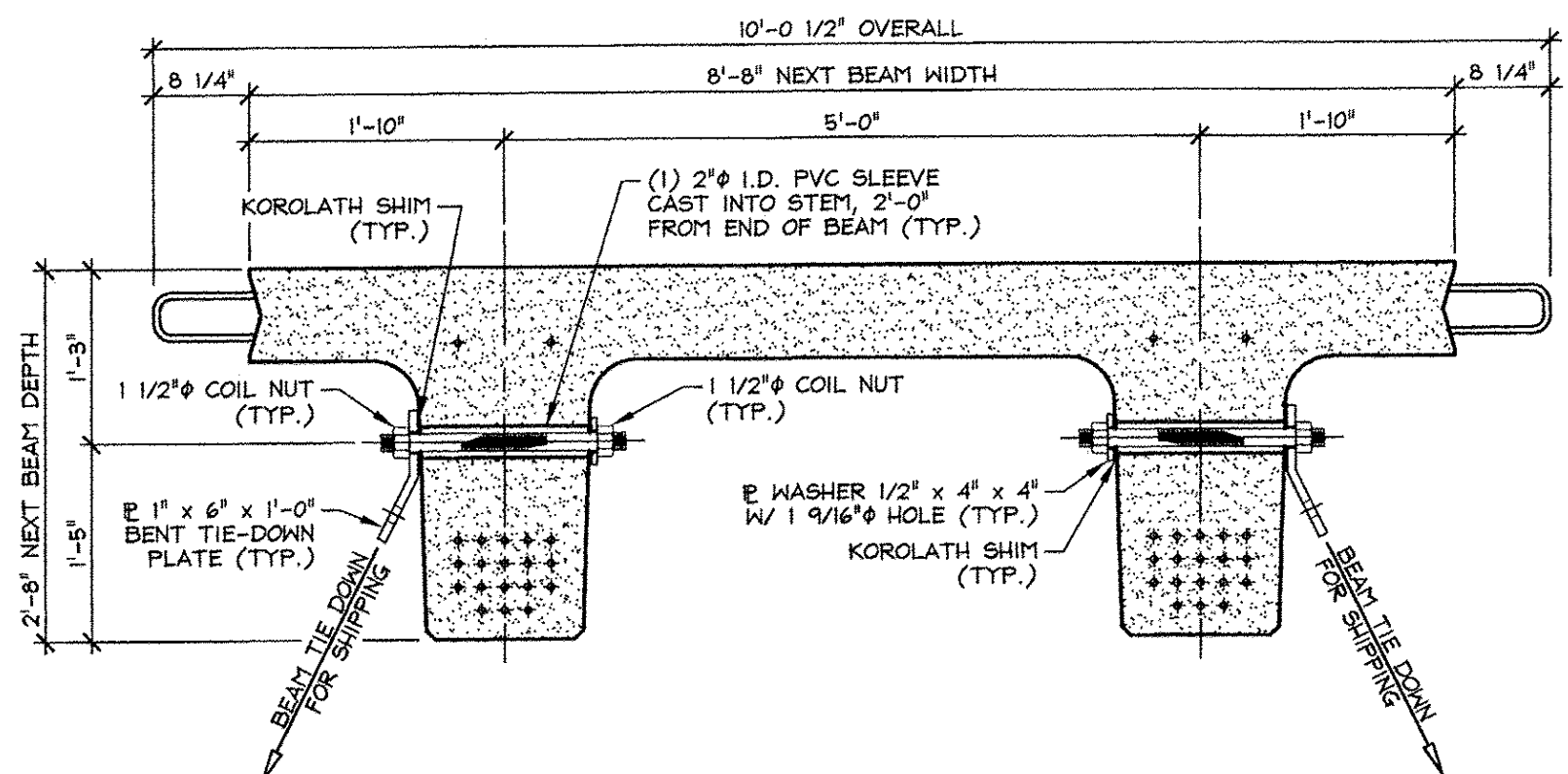
## STRAND TENSIONING PROCEDURE:

- PULL EACH STRAND INITIALLY TO 3,000* LBS. AND MARK STRAND.
  - THEN PULL EACH STRAND TO A TOTAL TENSION OF 45,026* LBS. AND MEASURE ELONGATION AFTER SEATING. IT MUST BE BETWEEN 19" AND 21".
- * NOTE: FORCES READ ON STRESSING JACK GAUGES MUST BE MADE TO CORRESPOND TO ABOVE VALUES BASED ON CALIBRATION DATA FOR SPECIFIC JACK USED.

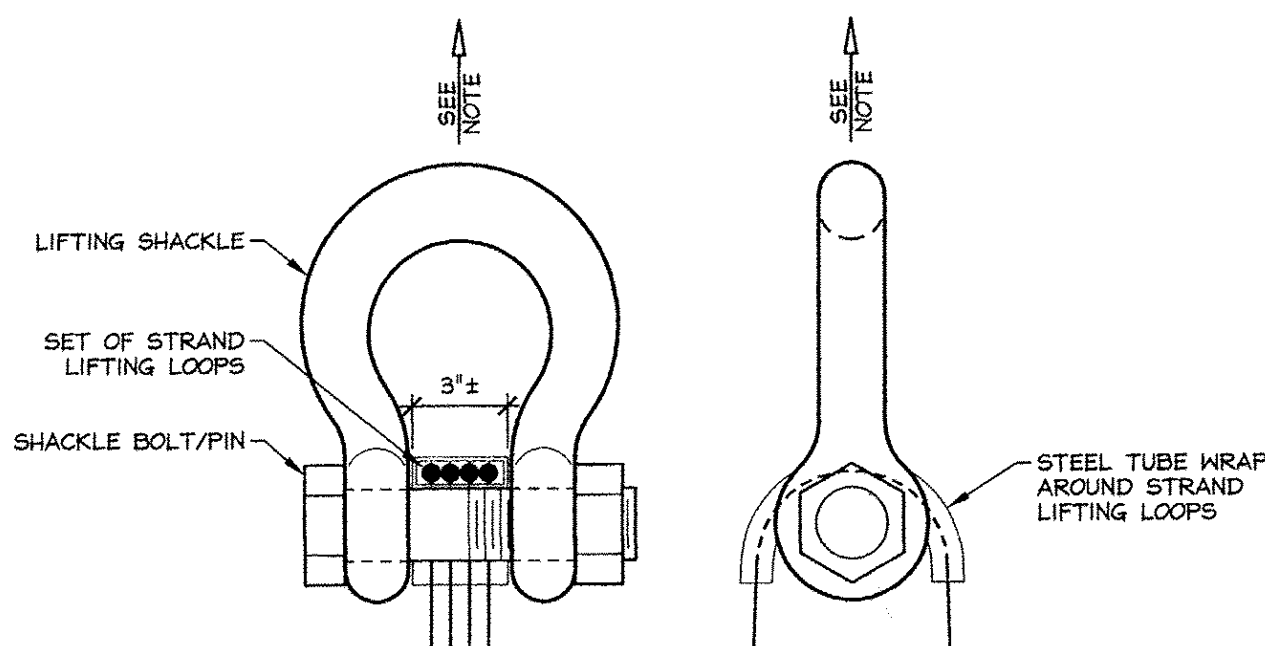
## DRAWING INDEX

SHT. #	DRAWING TITLE	REV. #	REV. DATE
C1	COVER SHEET	1	4-7-14
F1	PRECAST ABUTMENT LAYOUT	1	4-7-14
F2	ABUTMENT #1 ELEVATIONS	1	4-7-14
F3	ABUTMENT #2 ELEVATIONS	1	4-7-14
F4	PRESTRESSED NEXT BEAM & APPROACH SLAB LAYOUT	1	4-7-14
F5	NEXT BEAM SECTION & CURTAIN WALL ELEVATIONS	1	4-7-14
F6	APPROACH SLAB SECTION & BEARING DETAILS	1	4-7-14
NB1	PRESTRESSED NEXT BEAM DETAILS		
NB1.1	PRECAST CURTAIN WALL DETAILS		
NB2	PRESTRESSED NEXT BEAM DETAILS "EN-NB1"		
NB2.1	PRECAST CURTAIN WALL DETAILS "EN-NB1"		
NB3	PRESTRESSED NEXT BEAM DETAILS "EN-NB2"		
NB3.1	PRECAST CURTAIN WALL DETAILS "EN-NB2"		
NB4	PRESTRESSED NEXT BEAM DETAILS "EN-NB3"		
NB4.1	PRECAST CURTAIN WALL DETAILS "EN-NB3"	1	4-7-14
AS1	PRECAST APPROACH SLAB DETAILS "EN-AS1" & "EN-AS3"	1	4-7-14
AS2	PRECAST APPROACH SLAB DETAILS "EN-AS2"	1	4-7-14
AS3	PRECAST APPROACH SLAB DETAILS "EN-AS5" & "EN-AS4"	1	4-7-14
AB1	PRECAST ABUTMENT DETAILS "EN-AB1"	1	4-7-14
AB2	PRECAST ABUTMENT DETAILS "EN-AB2"	1	4-7-14
PC1	PRECAST PILE CAP DETAILS "EN-PC1" & "EN-PC2"	1	4-7-14
WW1	PRECAST WINGWALL DETAILS "EN-WW4"	1	4-7-14
WW2	PRECAST WINGWALL DETAILS "EN-WW1", "EN-WW2" & "EN-WW3"		
M1	MATERIALS LIST (NEXT BEAMS & APPROACH SLABS)	1	4-7-14
M2	MATERIALS LIST (ABUTMENTS, PILE CAPS & WINGWALLS)	1	4-7-14

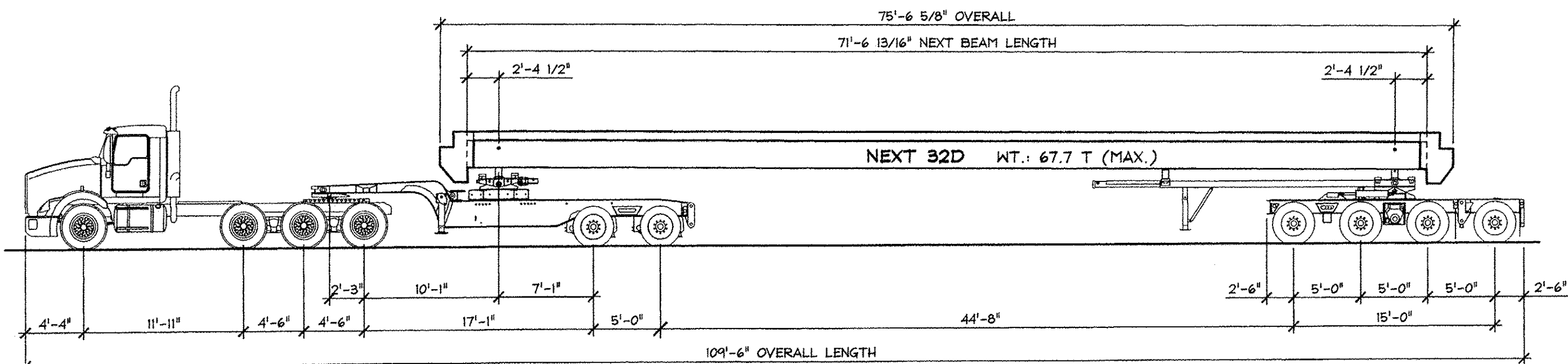
DESIGN LIVE LOAD: HL-93



NEXT BEAM 32D HOLD-DOWN DETAIL FOR SHIPPING  
3/4" = 1'-0"



LIFTING SHACKLE DETAILS  
N.T.S.



SHIPPING ELEVATION  
N.T.S.

APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements	X	Stantec
APPROVED AS NOTED		
REVISE AND RESUBMIT		
NOT REVIEWED		
Date:	4-11-2014	
By:	James H. [Signature]	
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Vermont Agency of Transportation

RECEIVED

ON: April 9, 2014

and Checked for

CONFORMANCE

BY: Rob Young DATE: 04/14/2014

ISSUED FOR PRODUCTION

APR 09 2014

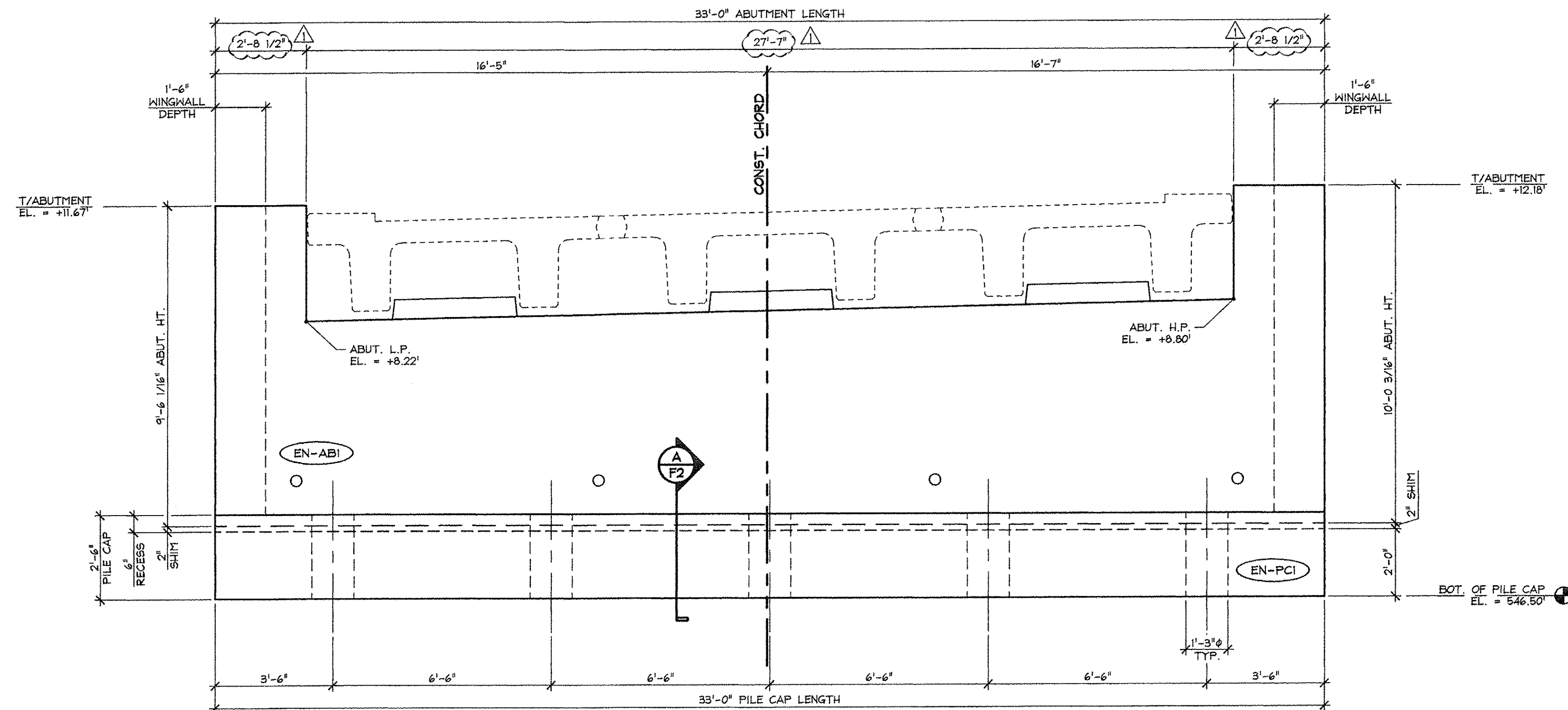
J. P. CARRARA & SONS, INC.  
MIDDLEBURY, VT 05753

J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CASE ST., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-6010	A.L. St. ONGE CONTRACTOR, INC. CONTRACTOR MONTGOMERY CENTER, VERMONT
STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF FRANKLIN	DATE: JAN. 27, 2014 SCALE: NOTED
TOWN OF ENOSBURG BOSTON POST ROAD T.H.2 CLASS 2 BRIDGE NO.: 48 PROJECT NO.: BRO 1448(40)	CHKD: M.W. DFTM: B.L. JOB NO: 23418-013
COVER SHEET	DWG. NO: C1

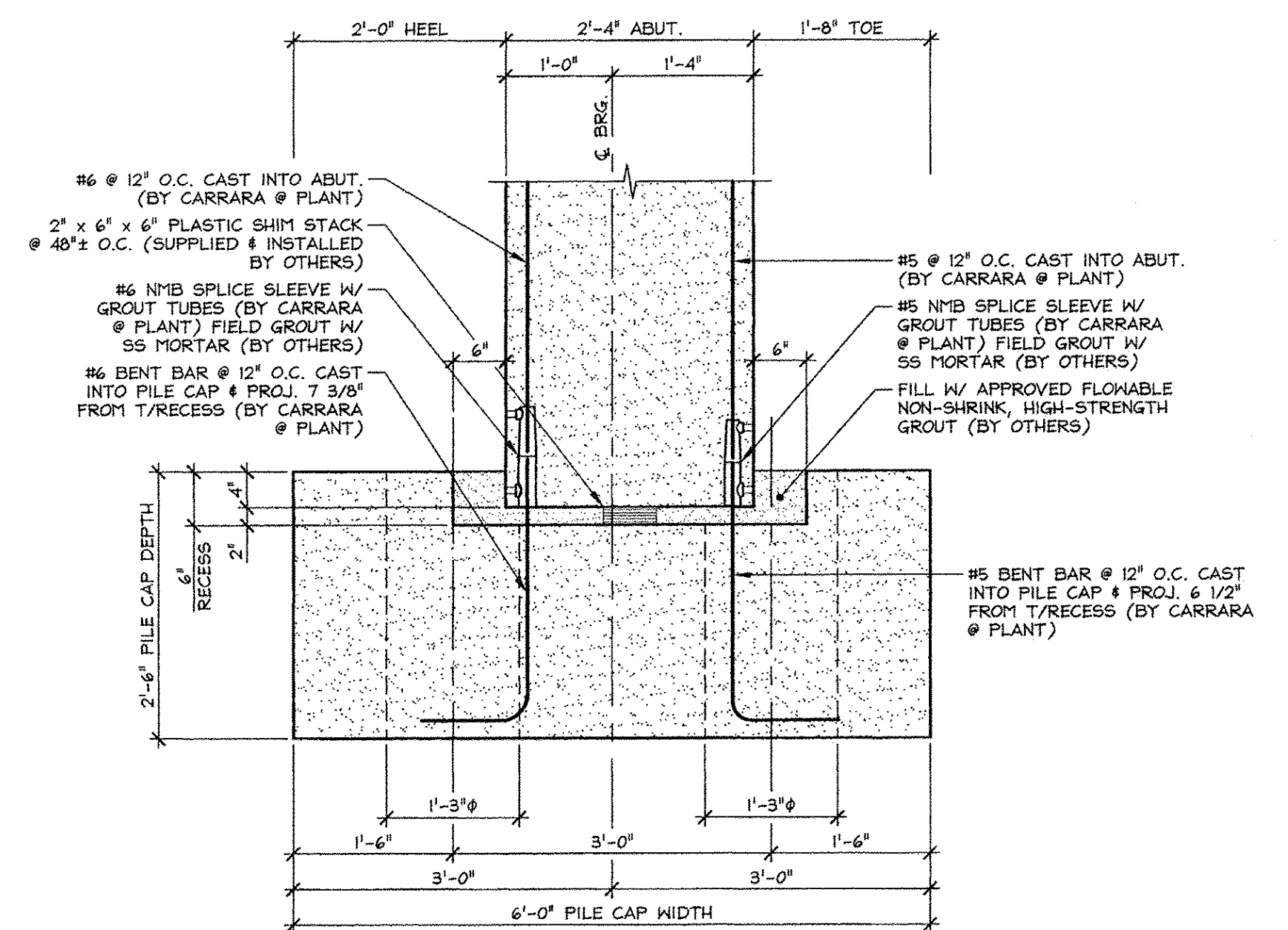




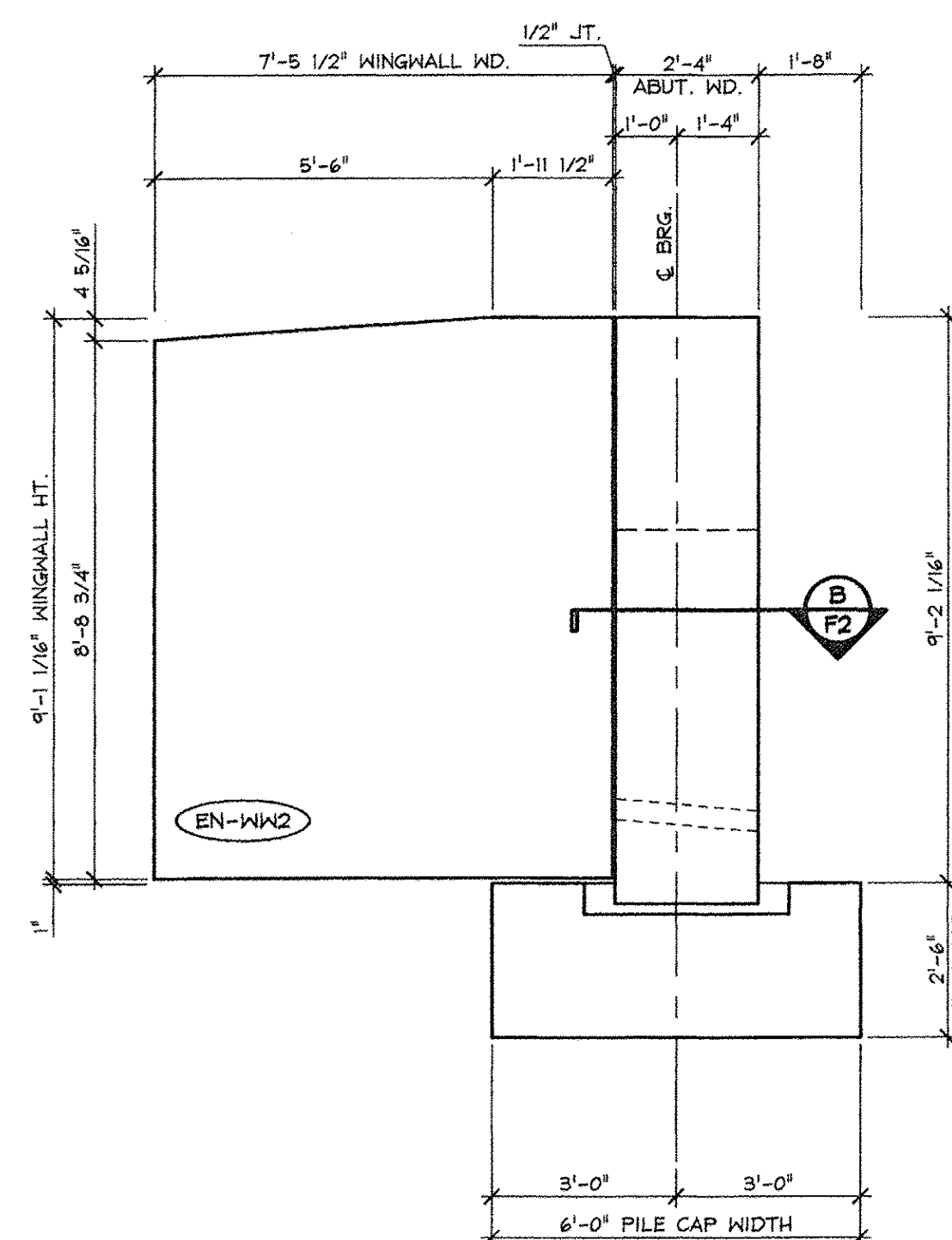




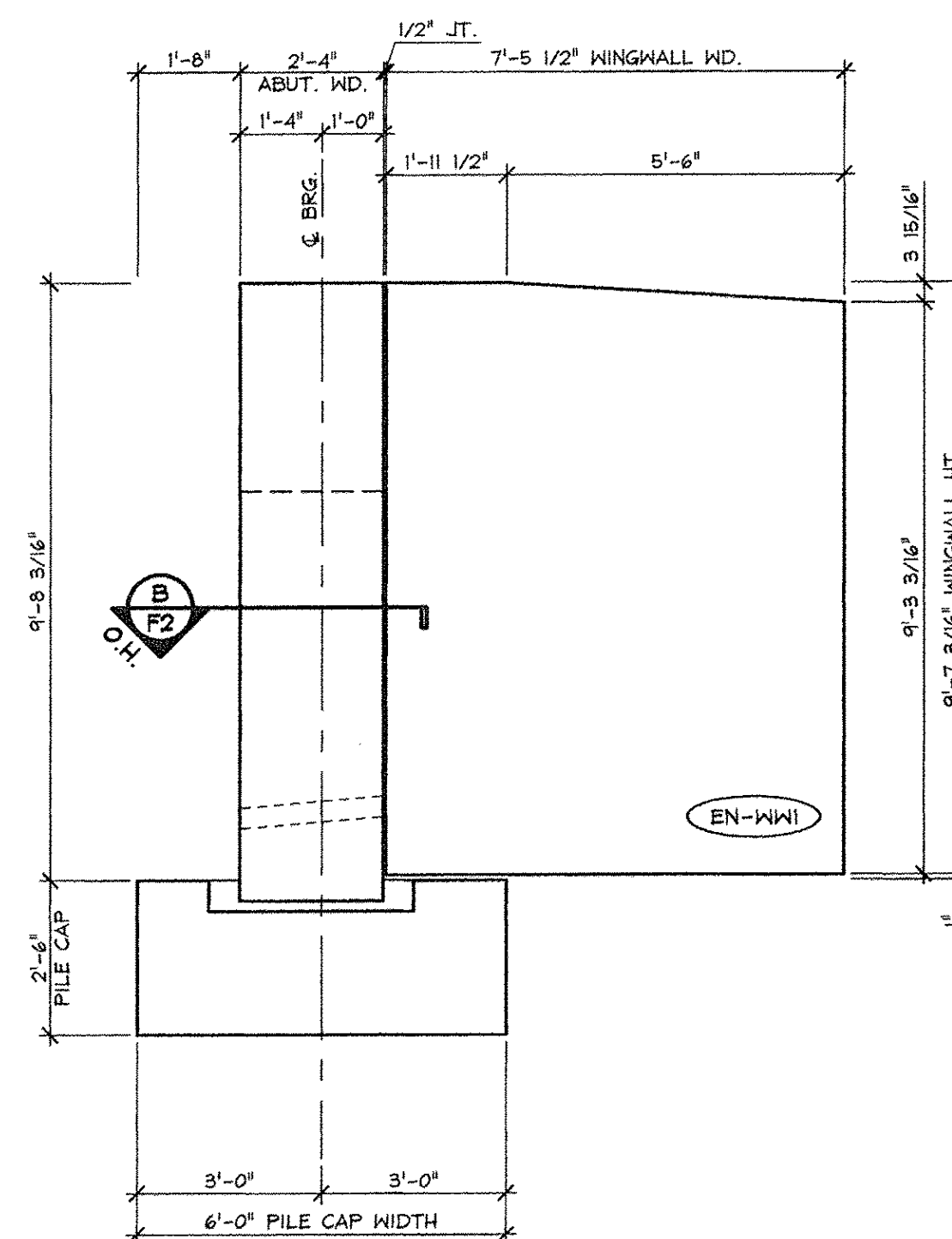
1 ABUTMENT #1 ELEVATION  
F2  
3/8" = 1'-0"



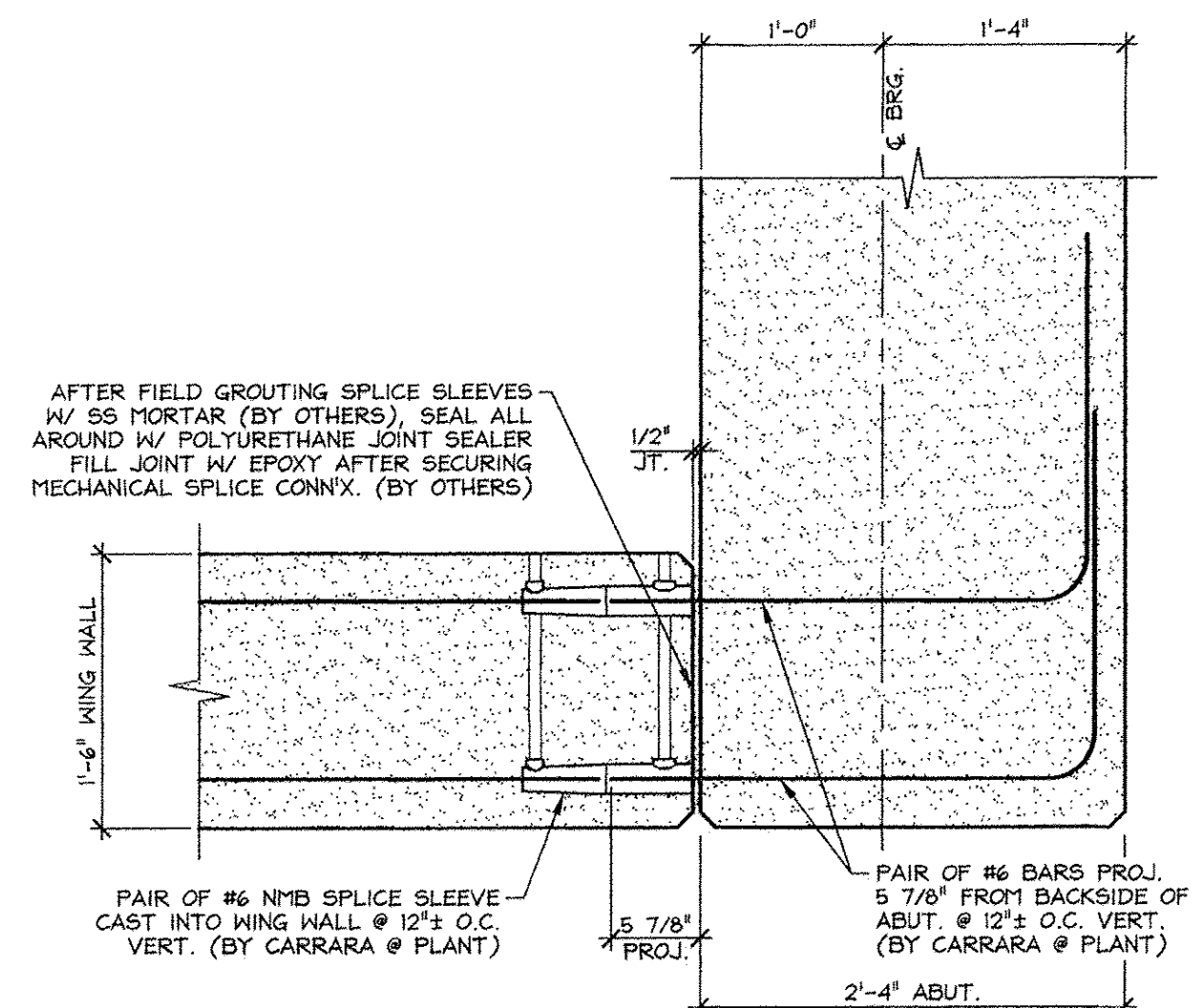
A ABUTMENT CONNECTION DETAIL  
F2  
3/4" = 1'-0"



2 WINGWALL #2 ELEVATION  
F2  
3/8" = 1'-0"



3 WINGWALL #1 ELEVATION  
F2  
3/8" = 1'-0"



B WING WALL CONNECTION DETAIL  
F2  
1" = 1'-0"

Vermont Agency of Transportation  
RECEIVED  
ON: April 9, 2014  
and Checked for  
CONFORMANCE  
BY: Rob Young DATE: 04/14/2014

APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements	X	Stantec
APPROVED AS NOTED		
REVISE AND RESUBMIT		
NOT REVIEWED		
Date:	4-11-2014	
By:	James Hyatt	
This review by Stantec Consulting Services Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that Stantec Consulting Services Inc. approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor. Submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawing or of his responsibility for meeting all requirements of the Contract Documents. The contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or to techniques of construction and installation and for coordination of the work of all subcontractors.		

4-7-14 REVISED AS NOTED

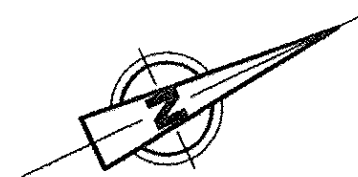
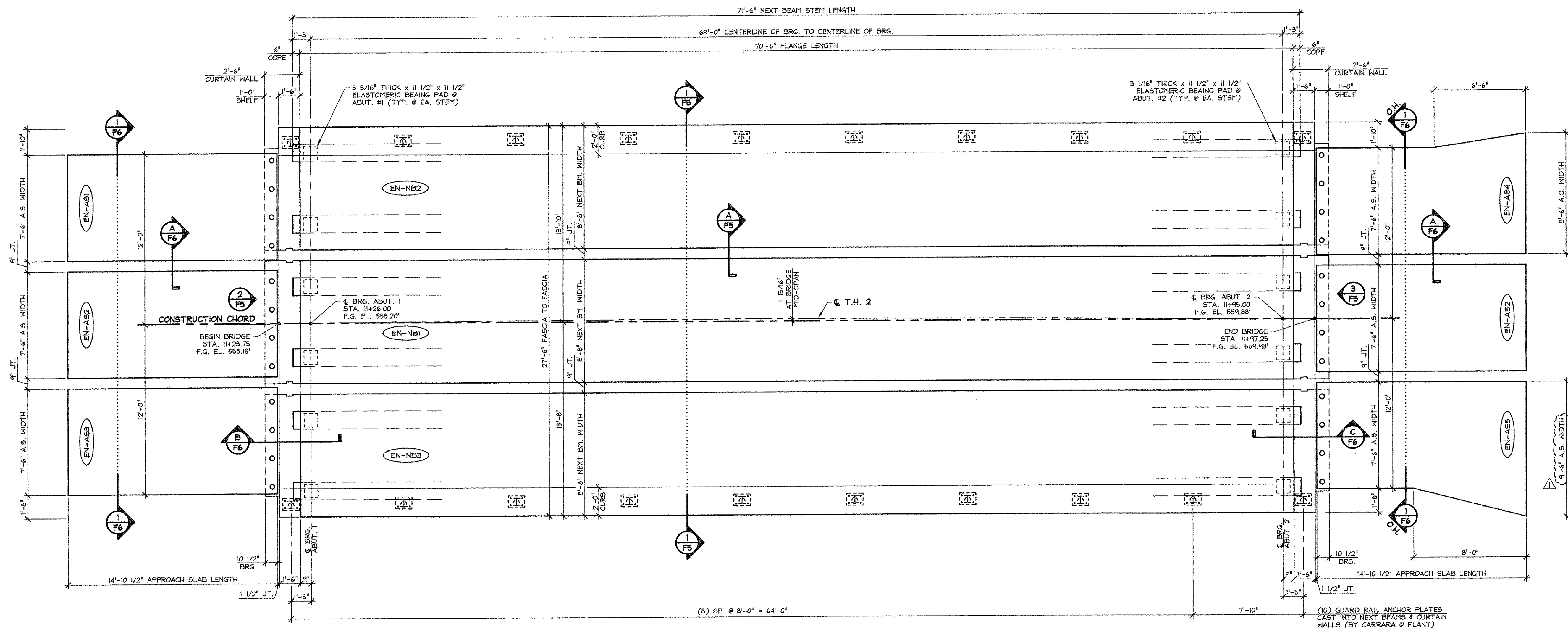
APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 244 CASE ST., MIDDLEBURY, VERMONT 05753 Phone: (802) 388-6361 Fax: (802) 388-8010	A.L. St. ONGE CONTRACTOR, INC. CONTRACTOR MONTGOMERY CENTER, VERMONT
STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF FRANKLIN		DATE: JAN. 27, 2014
TOWN OF ENOSBURG BOSTON POST ROAD T.H.2 CLASS 2 BRIDGE NO.: 48 PROJECT NO.: BRO 1448(40)		SCALE: NOTED
ABUTMENT #1 ELEVATIONS		CHKD: M.W. DFTM: B.L. JOB NO: 23418-013 DWG. NO: F2

ISSUED FOR PRODUCTION  
APR 09 2014  
J.P. CARRARA & SONS, INC.  
MIDDLEBURY, VT 05753









1 NEXT BEAM & APPROACH SLAB LAYOUT  
F4  
1/4" = 1'-0"

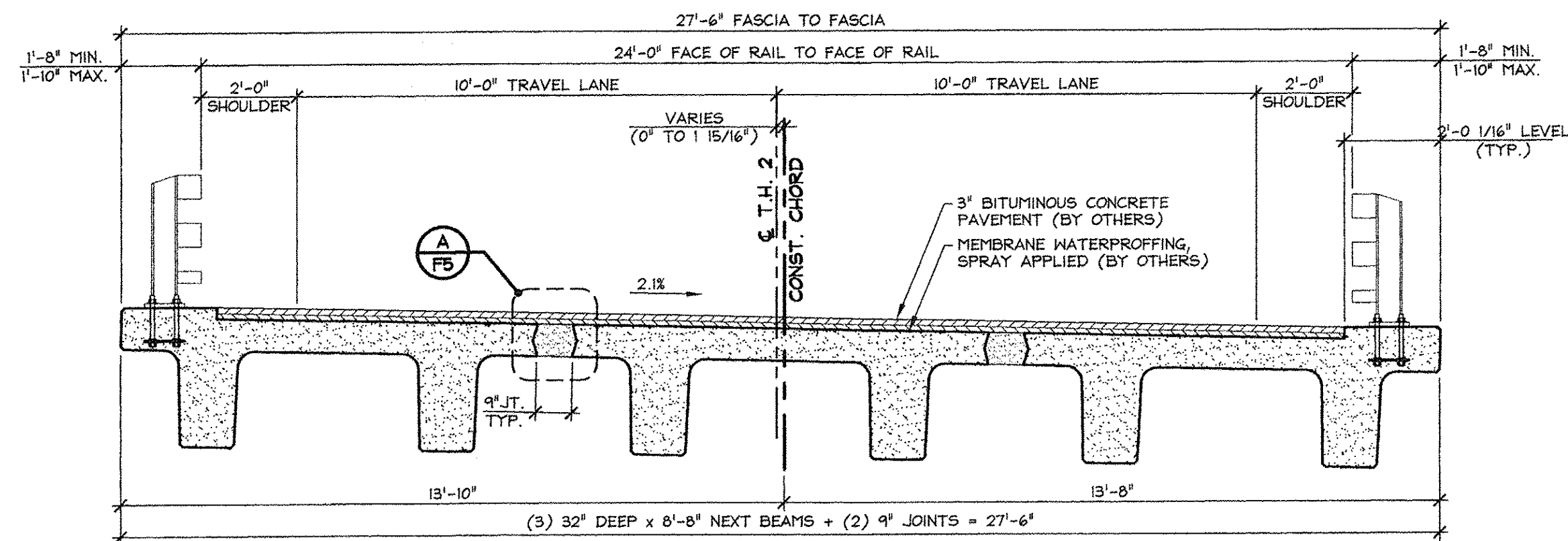
APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements	
APPROVED AS NOTED	
REVISE AND RESUBMIT	
NOT REVIEWED	
Date: 4-11-2014	
By: James H. [Signature]	
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Vermont Agency of Transportation  
**RECEIVED**  
 ON: April 9, 2014  
 and Checked for  
**CONFORMANCE**  
 BY: Rob Young DATE: 04/14/2014

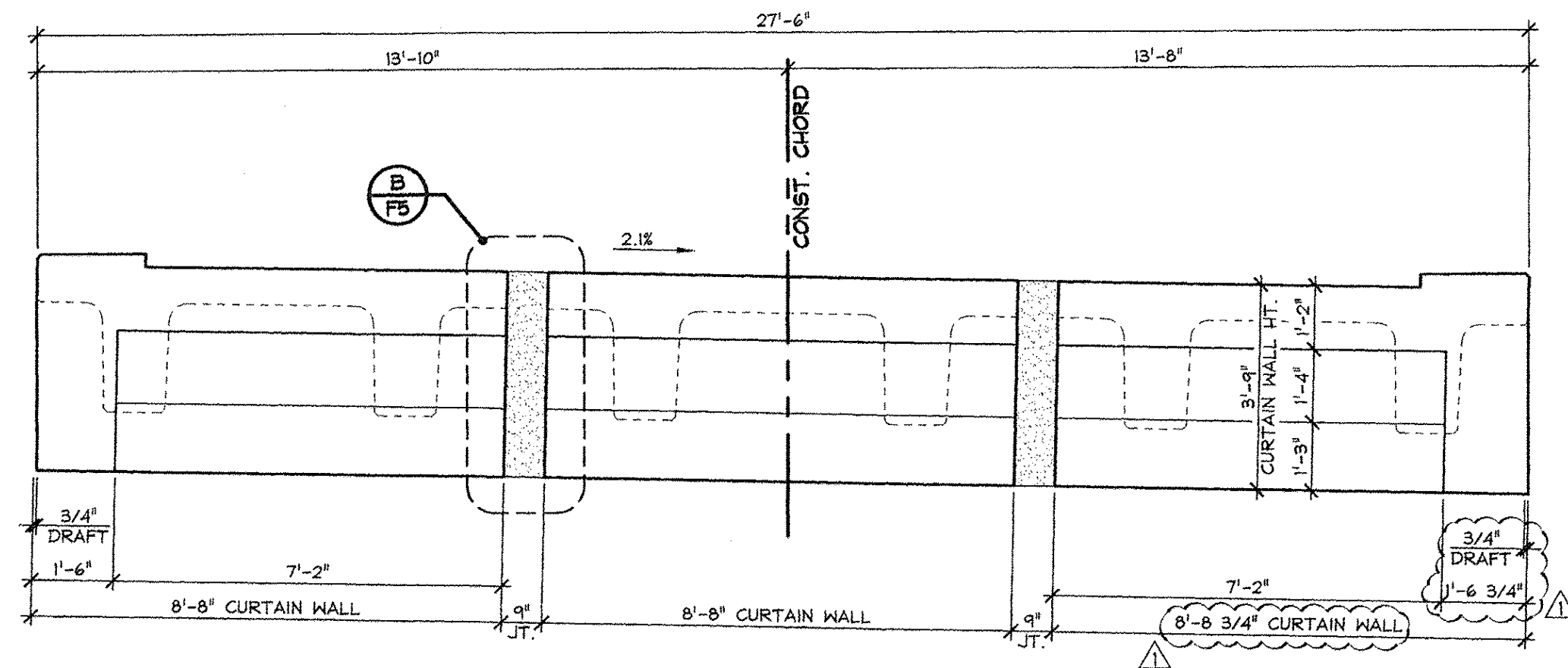
ISSUED FOR PRODUCTION  
 APR 09 2014  
 J. P. CARRARA & SONS, INC.  
 MONTGOMERY CENTER, VT 05753

<b>J.P. CARRARA &amp; SONS INC.</b> Precast & Prestress Manufacturer 2444 CASE ST., MONTGOMERY, VERMONT 05753 Phone: (802) 388-6361 Fax: (802) 388-9010	<b>A.L. ST. ONGE CONTRACTOR, INC.</b> CONTRACTOR MONTGOMERY CENTER, VERMONT
<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b> COUNTY OF FRANKLIN	
TOWN OF ENOSBURG BOSTON POST ROAD T.H.2 CLASS 2 BRIDGE NO.: 48 PROJECT NO.: BRO 1448(40)	DATE: JAN. 27, 2014 SCALE: NOTED CHKD: M.W. DFTM: B.L. JOB NO: 23418-013 DWG. NO: <b>F4</b>
<b>PRESTRESSED NEXT BEAM &amp; APPROACH SLAB LAYOUT</b>	

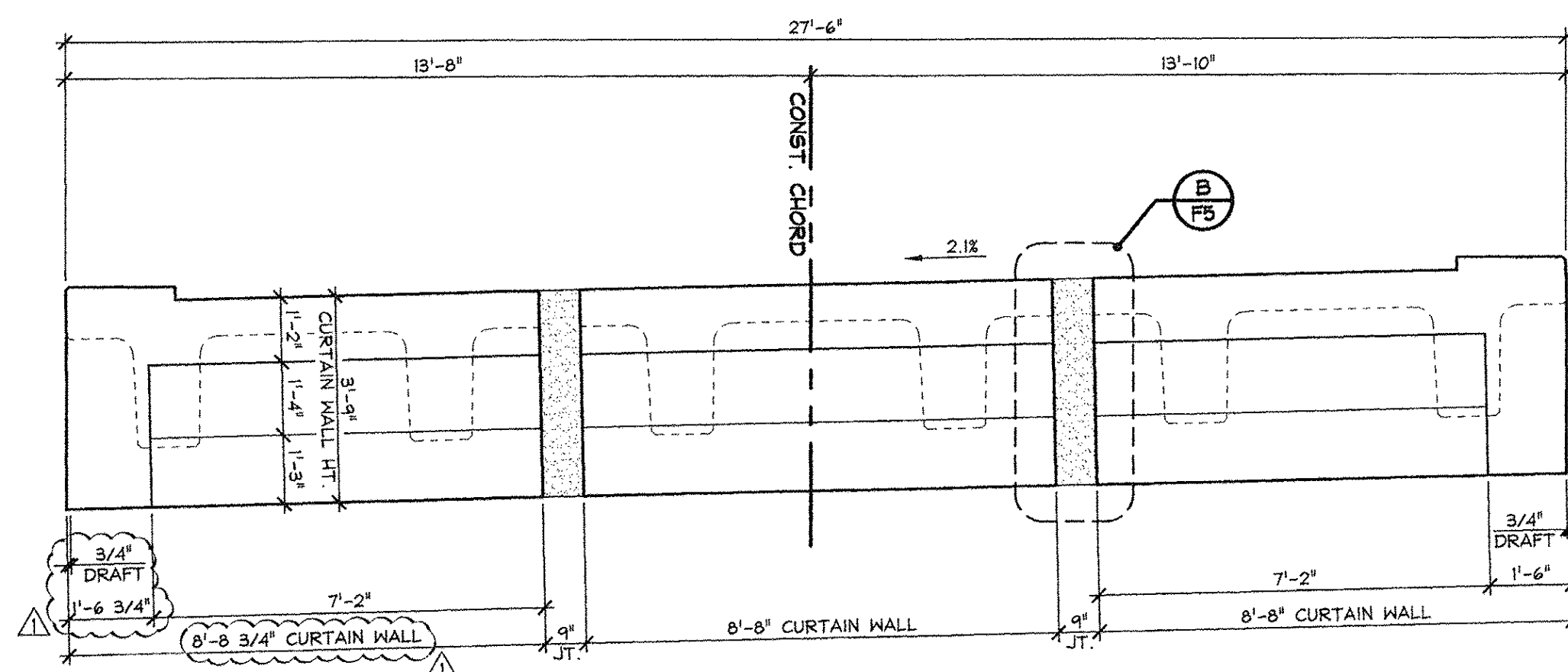




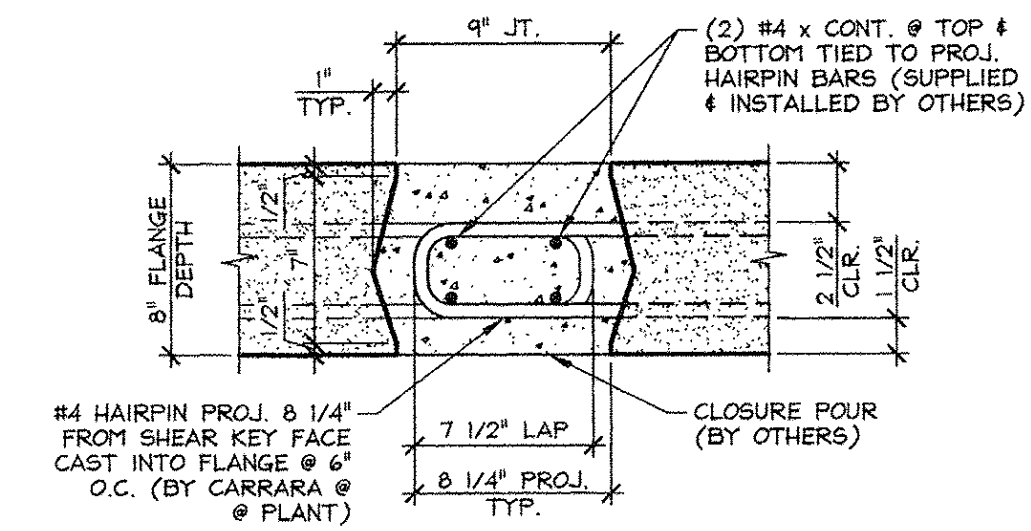
1 TRANSVERSE NEXT BEAM SECTION  
F5  
3/8" = 1'-0"



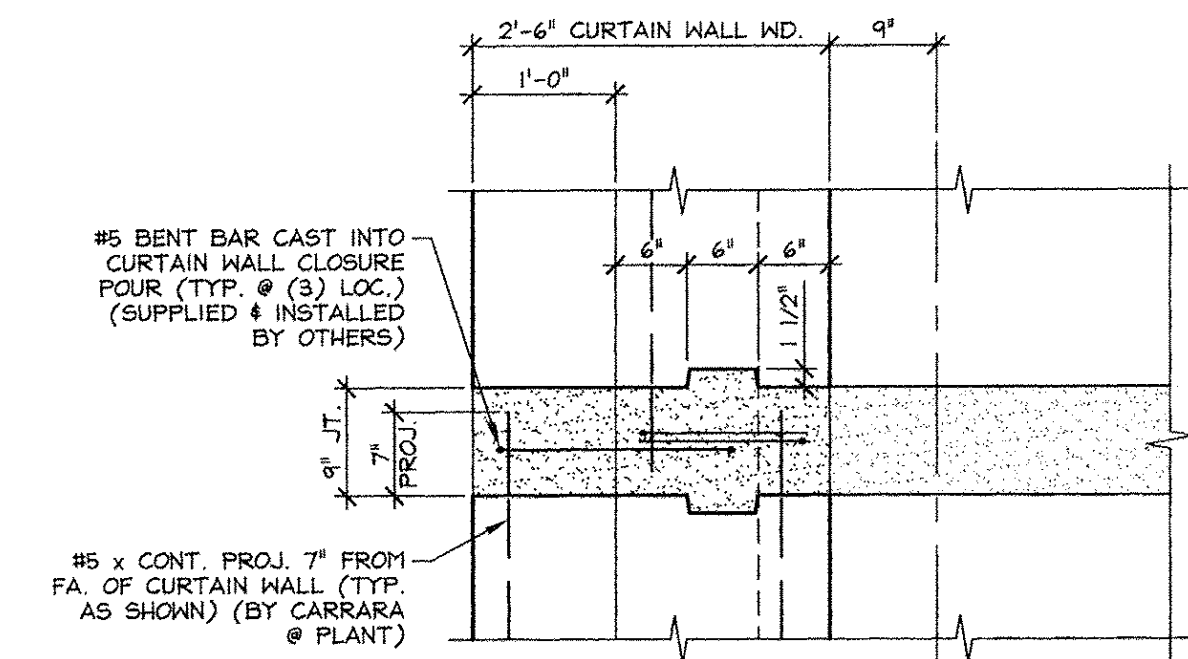
2 CURTAIN WALL ELEVATION - ABUTMENT #1  
F5 (MARK END)  
3/8" = 1'-0"



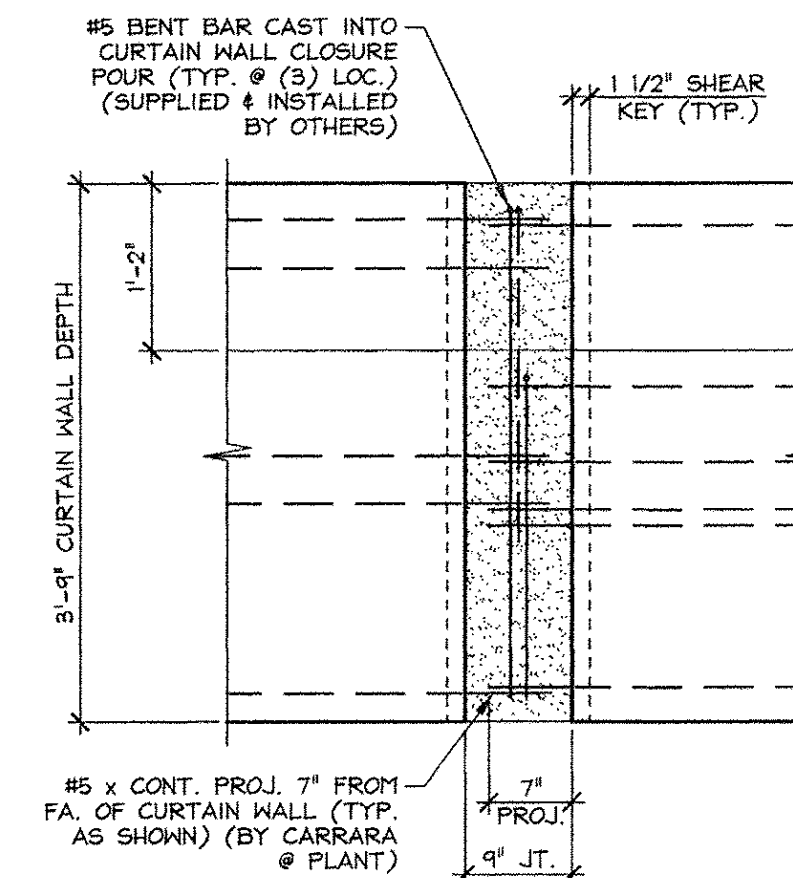
3 CURTAIN WALL ELEVATION - ABUTMENT #2  
F5 (NON-MARK END)  
3/8" = 1'-0"



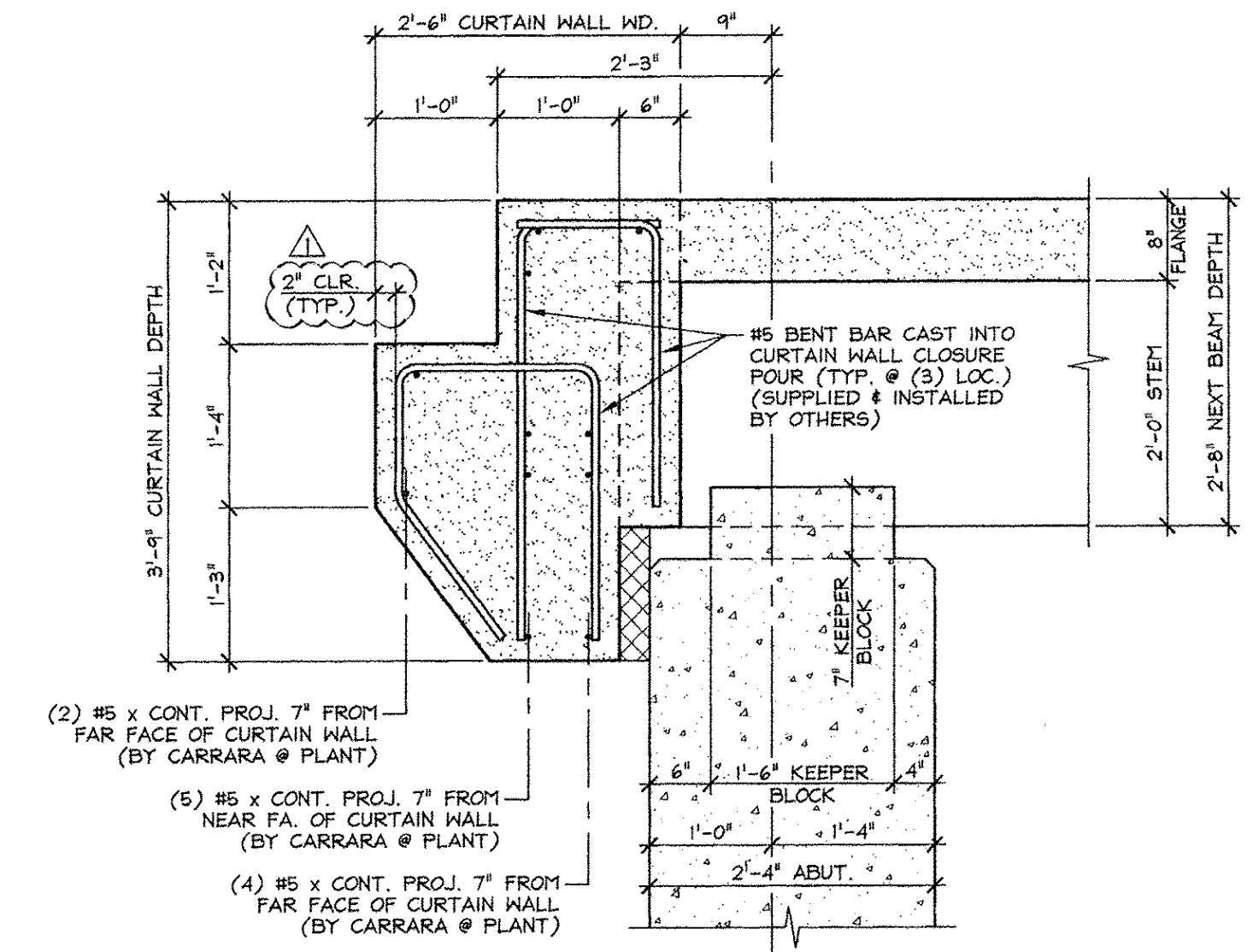
A NEXT BEAM CLOSURE POUR  
F5  
1 1/2" = 1'-0"



PLAN



ELEVATION



SECTION

B CURTAIN WALL CLOSURE POUR DETAILS  
F5  
3/4" = 1'-0"

Vermont Agency of Transportation  
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CONFORMANCE  
BY: Rob Young DATE: 04/14/2014

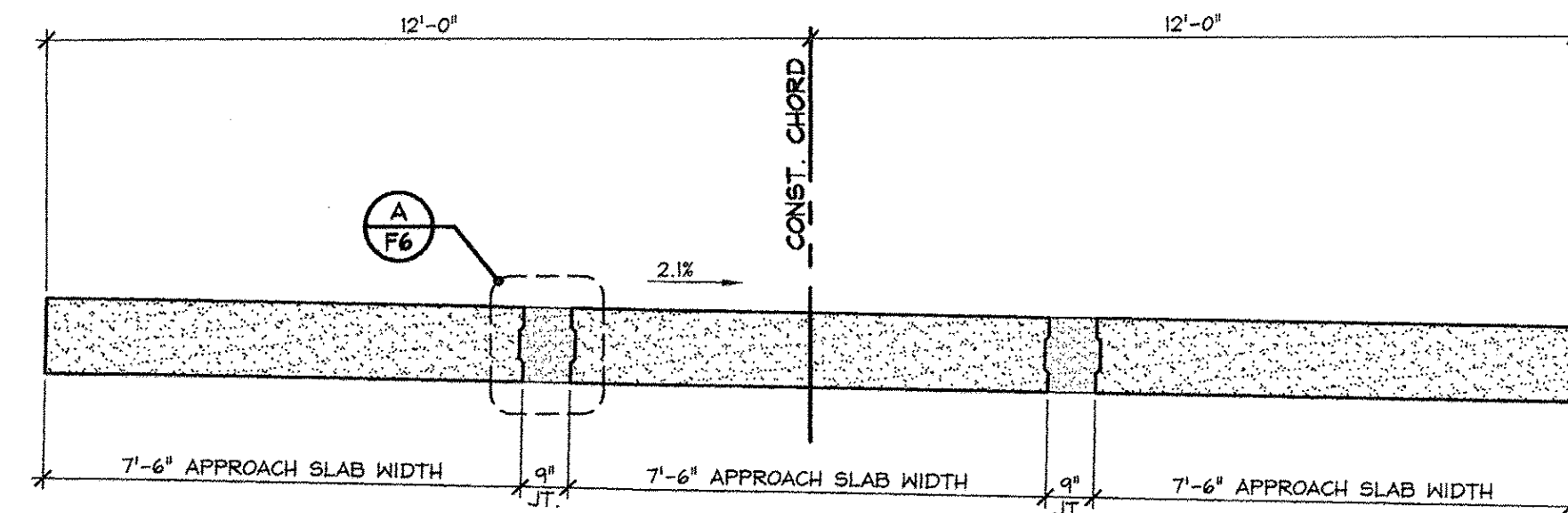
APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements	X	Stantec
APPROVED AS NOTED		
REVISE AND RESUBMIT		
NOT REVIEWED		
Date: 4-11-2014		
By: James H. [Signature]		
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4-7-14 REVISED AS NOTED

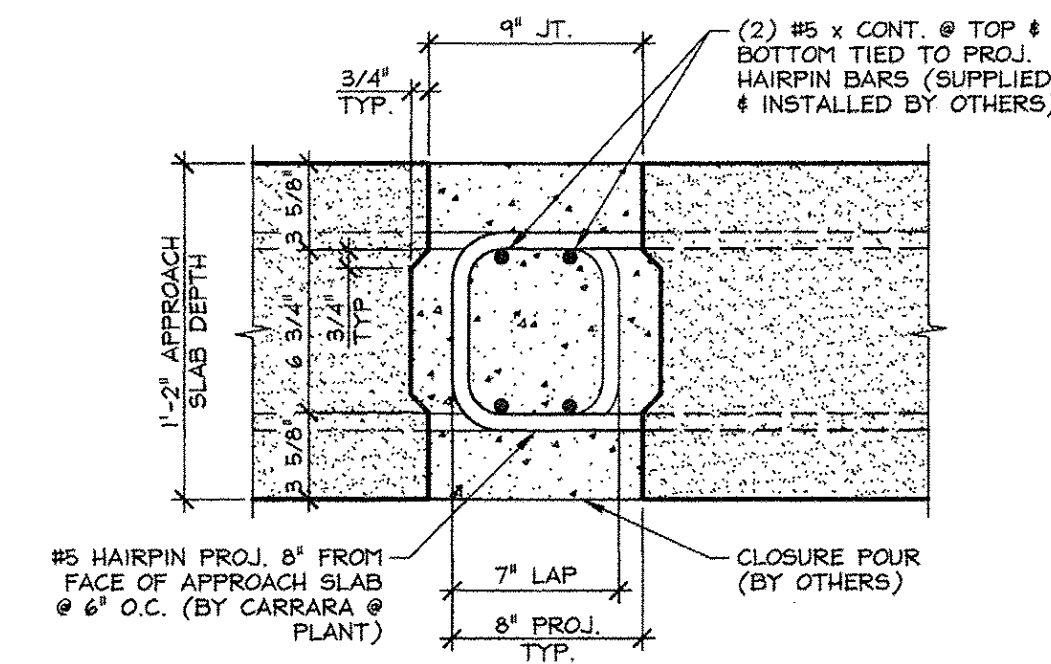
APPROVAL STAMP:	J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2464 CASE ST., MIDDLEBURY, VERMONT 05753 Phone: (802) 388-6361 Fax: (802) 388-8010	A.L. St. ONGE CONTRACTOR, INC. CONTRACTOR MONTGOMERY CENTER, VERMONT
STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF FRANKLIN		DATE: JAN. 27, 2014
TOWN OF ENOSBURG BOSTON POST ROAD T.H.2 CLASS 2 BRIDGE NO.: 48 PROJECT NO.: BRO 1448(40)		SCALE: NOTED
NEXT BEAM SECTION & CURTAIN WALL ELEVATIONS		CHKD: M.W. DFTM: B.L. JOB NO: 23418-013 DWG. NO: F5

ISSUED FOR PRODUCTION  
APR 09 2014  
J.P. CARRARA & SONS, INC.  
MIDDLEBURY, VT 05753

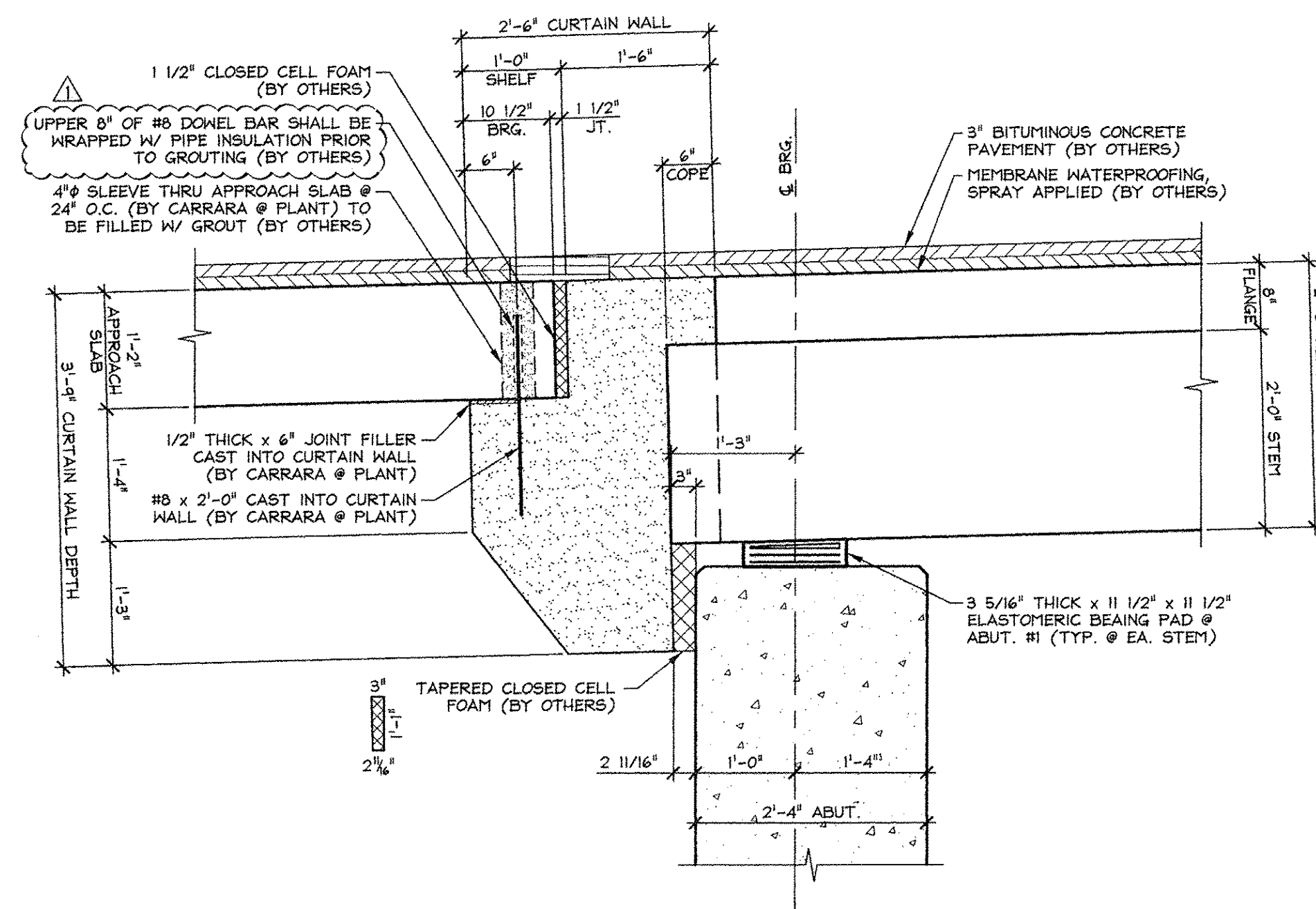




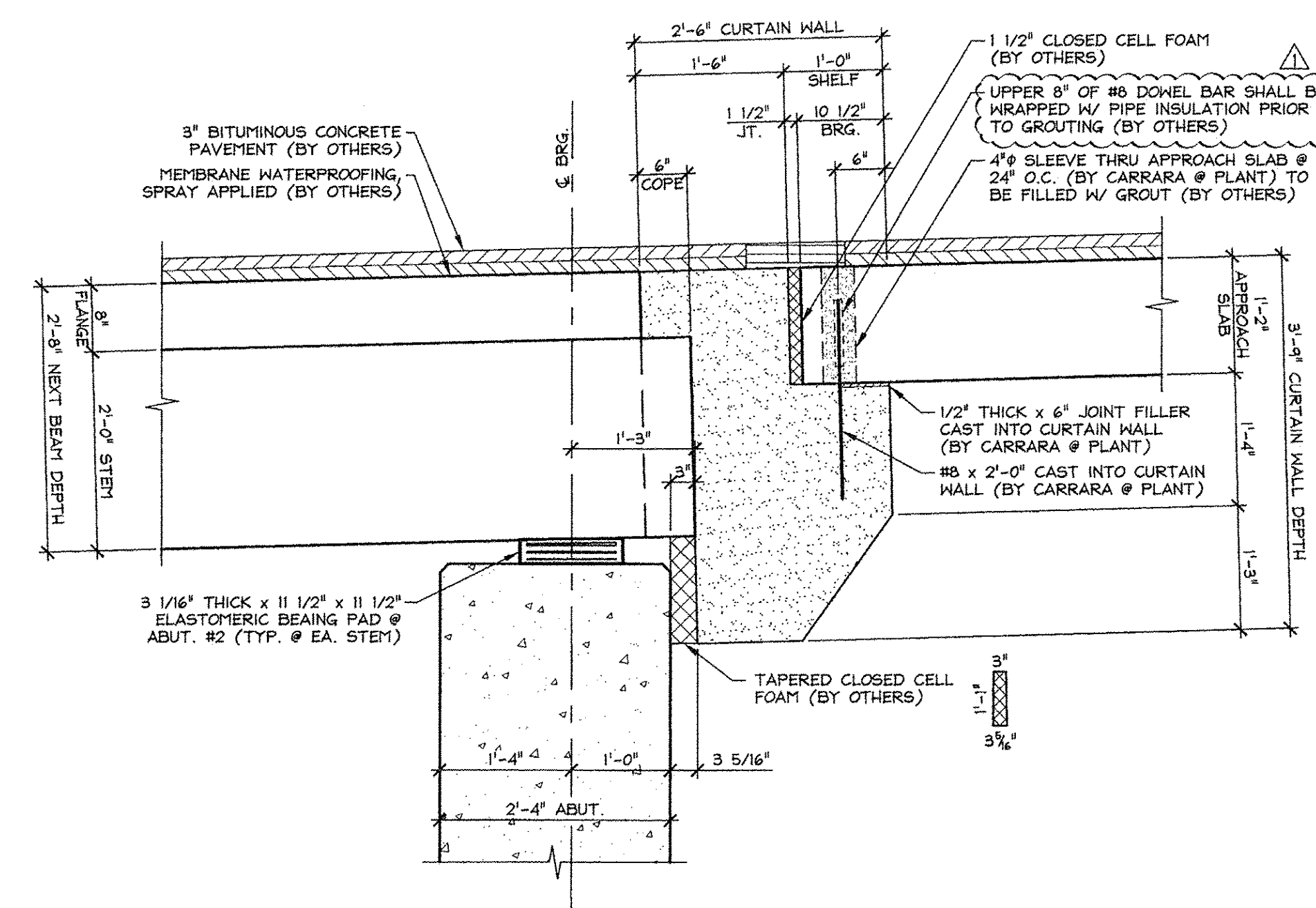
1 TRANSVERSE APPROACH SLAB SECTION  
F6 3/8" = 1'-0"



A APPROACH SLAB CLOSURE POUR  
F6 1 1/2" = 1'-0"



B BEARING SECTION - ABUTMENT #1  
F6 3/4" = 1'-0"



C BEARING SECTION - ABUTMENT #2  
F6 3/4" = 1'-0"

APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements	X	Stantec
APPROVED AS NOTED		
REVISE AND RESUBMIT		
NOT REVIEWED		
Date:	4-11-2014	
By:	<i>James H. [Signature]</i>	
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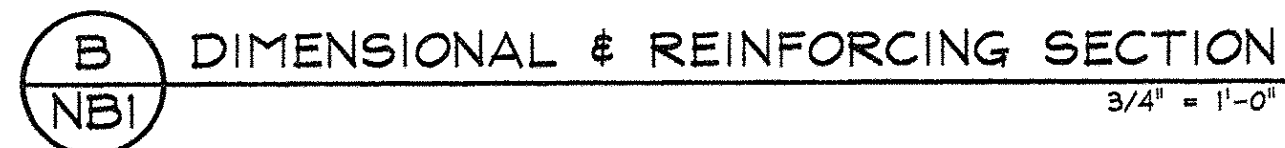
Vermont Agency of Transportation  
**RECEIVED**  
ON: April 9, 2014  
and Checked for  
**CONFORMANCE**  
BY: Rob Young DATE: 04/14/2014

4-7-14 REVISED AS NOTED

APPROVAL STAMP:	J.P. CARRARA & SONS INC. A.L. ST. ONGE CONTRACTOR, INC. Precast & Prestress Manufacturer CONTRACTOR 244 DGE STR., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-8010 MONTGOMERY CENTER, VERMONT	
STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF FRANKLIN		DATE: JAN. 27, 2014 SCALE: NOTED
TOWN OF ENOSBURG BOSTON POST ROAD T.H.2 CLASS 2 BRIDGE NO.: 48 PROJECT NO.: BRO 1448(40)		CHKD: M.W. DFTM: B.L. JOB NO: 23418-013
APPROACH SLAB SECTION & BEARING DETAILS		DWG. NO: <b>F6</b>

ISSUED FOR  
PRODUCTION  
APR 09 2014  
J. P. CARRARA & SONS, INC.  
MIDDLEBURY, VT 05753

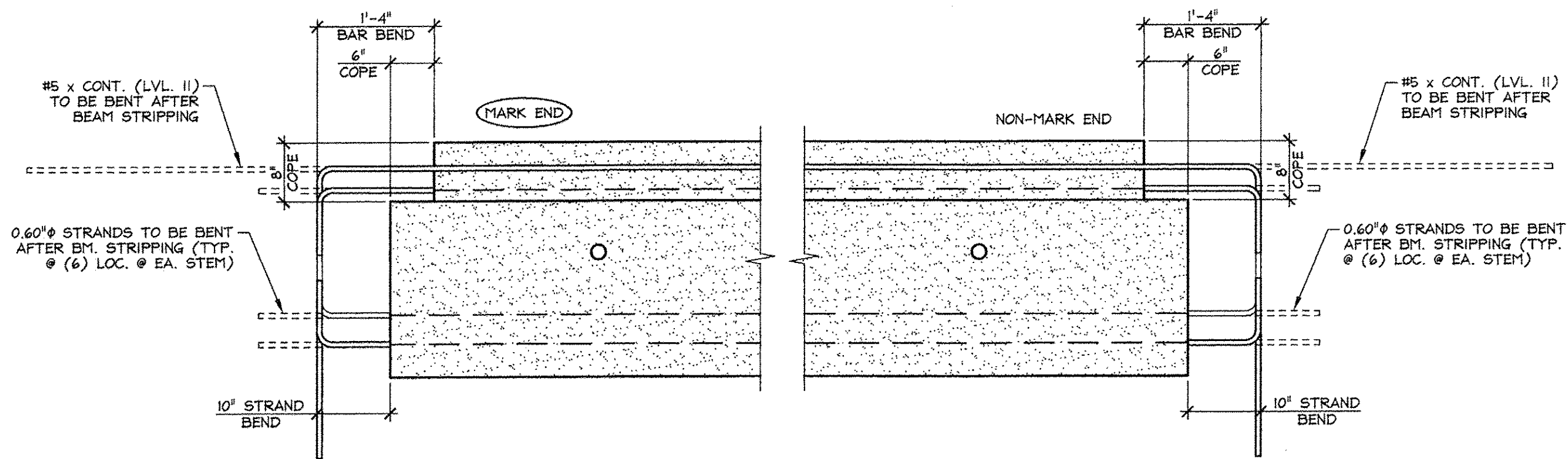




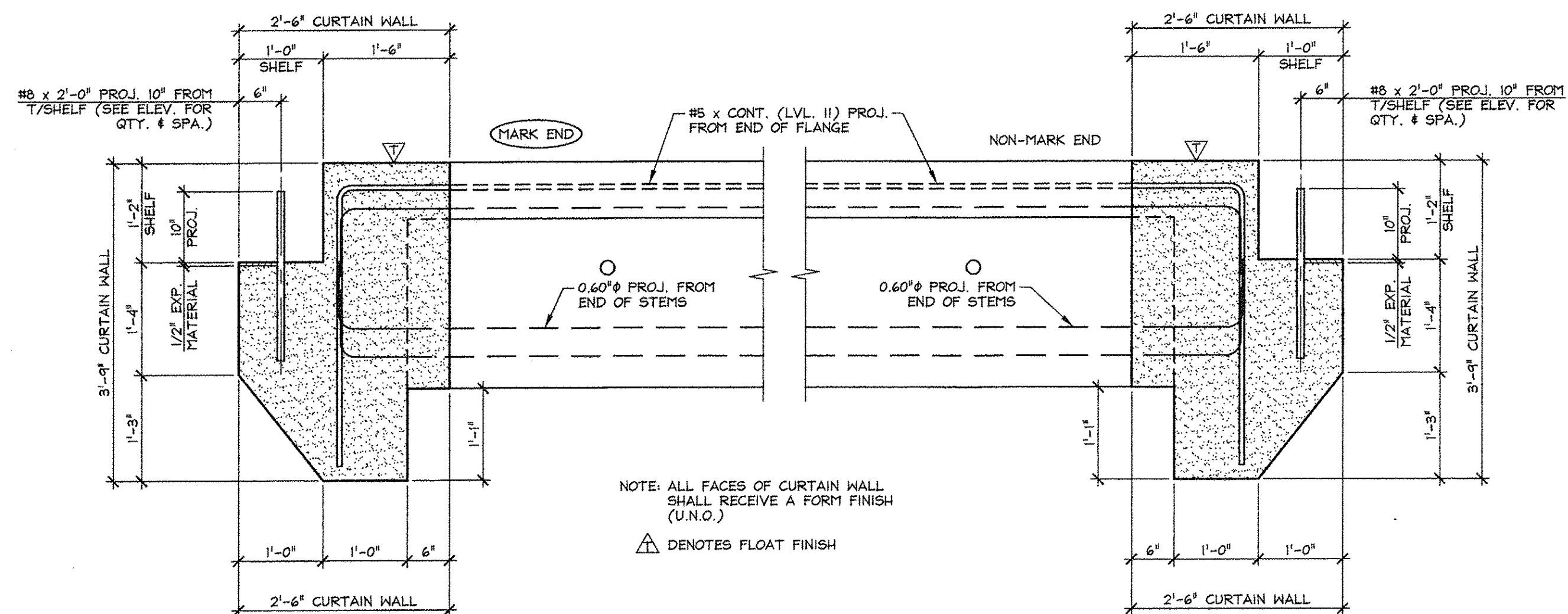
G SHEAR KEY DETAIL  
NB1 1 1/2" = 1'-0"

APPROVAL STAMP:	<b>J.P. CARRARA &amp; SONS INC.</b> Precast & Prestress Manufacturer 2464 CASE ST., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-8010		<b>A.L. ST. ONGE CONTRACTOR, INC.</b> CONTRACTOR MONTGOMERY CENTER, VERMONT	
	<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b> COUNTY OF FRANKLIN			
	<b>TOWN OF ENOSBURG</b> BOSTON POST ROAD T.H.2 CLASS 2 BRIDGE NO.: 48 PROJECT NO.: BRO 1448(40)			
	<b>PRESTRESSED NEXT BEAM DETAILS</b>			
	DATE: JAN. 27, 2014 SCALE: NOTED CHKD: M.W. DFTM: B.L. JOB NO: 23418-01B DWG. NO: NB1			

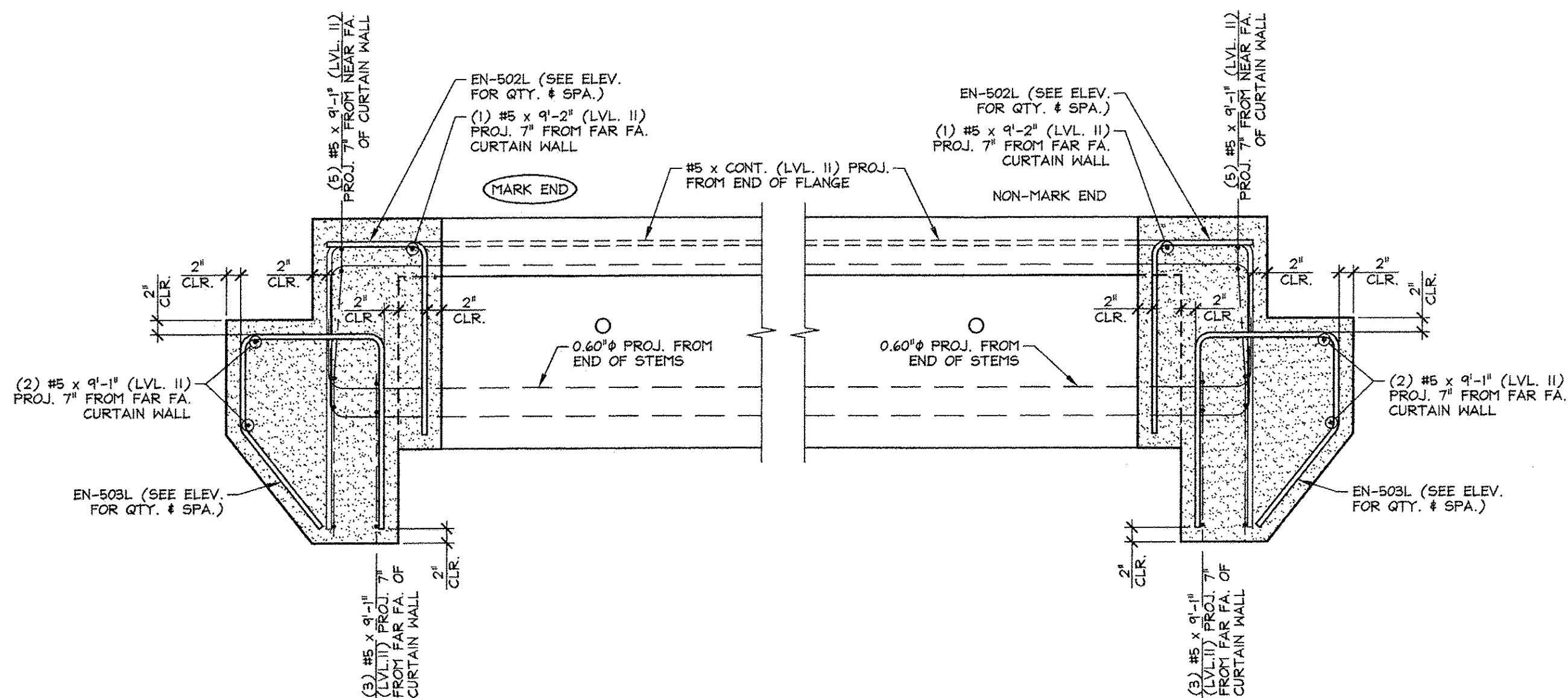




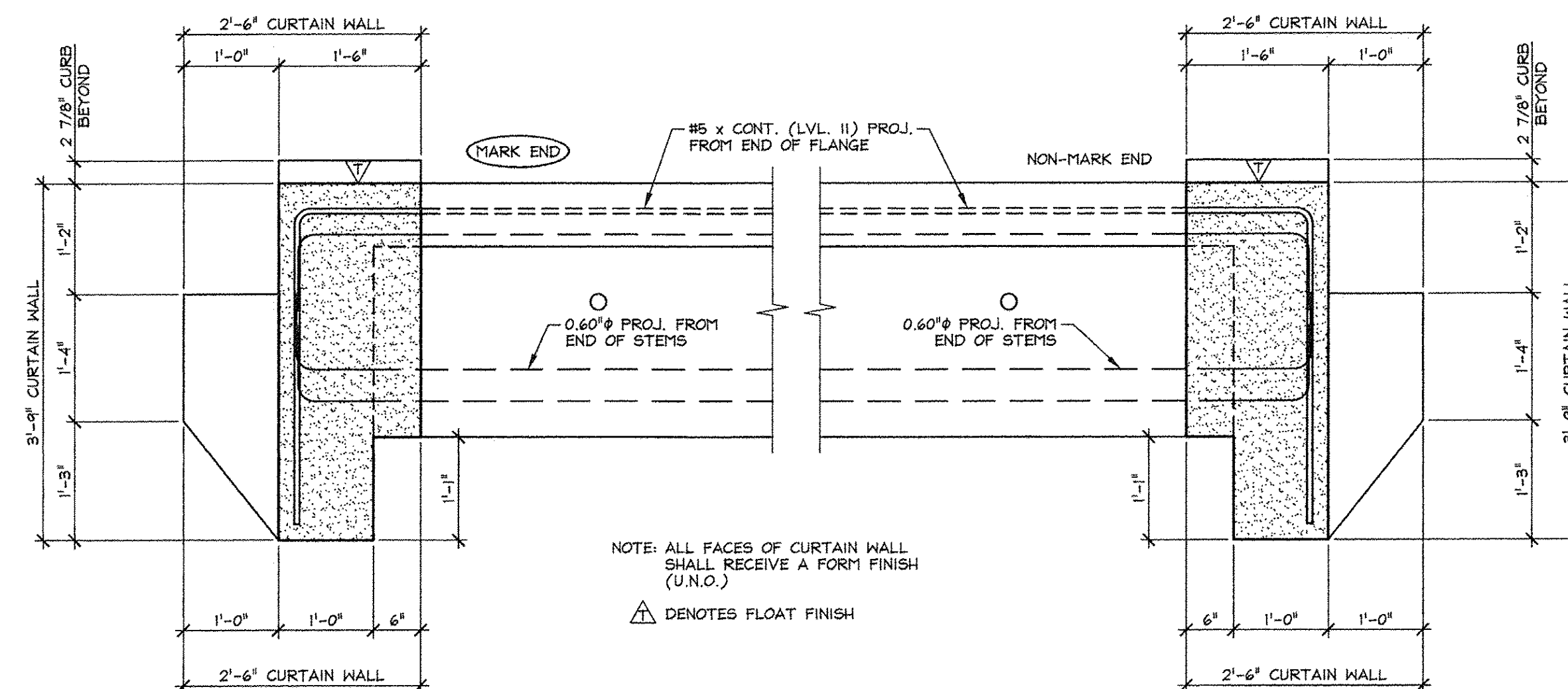
**A PROJECTING STRAND & PROJECTING BAR BEND DETAIL**  
NB1.1 3/4" = 1'-0"



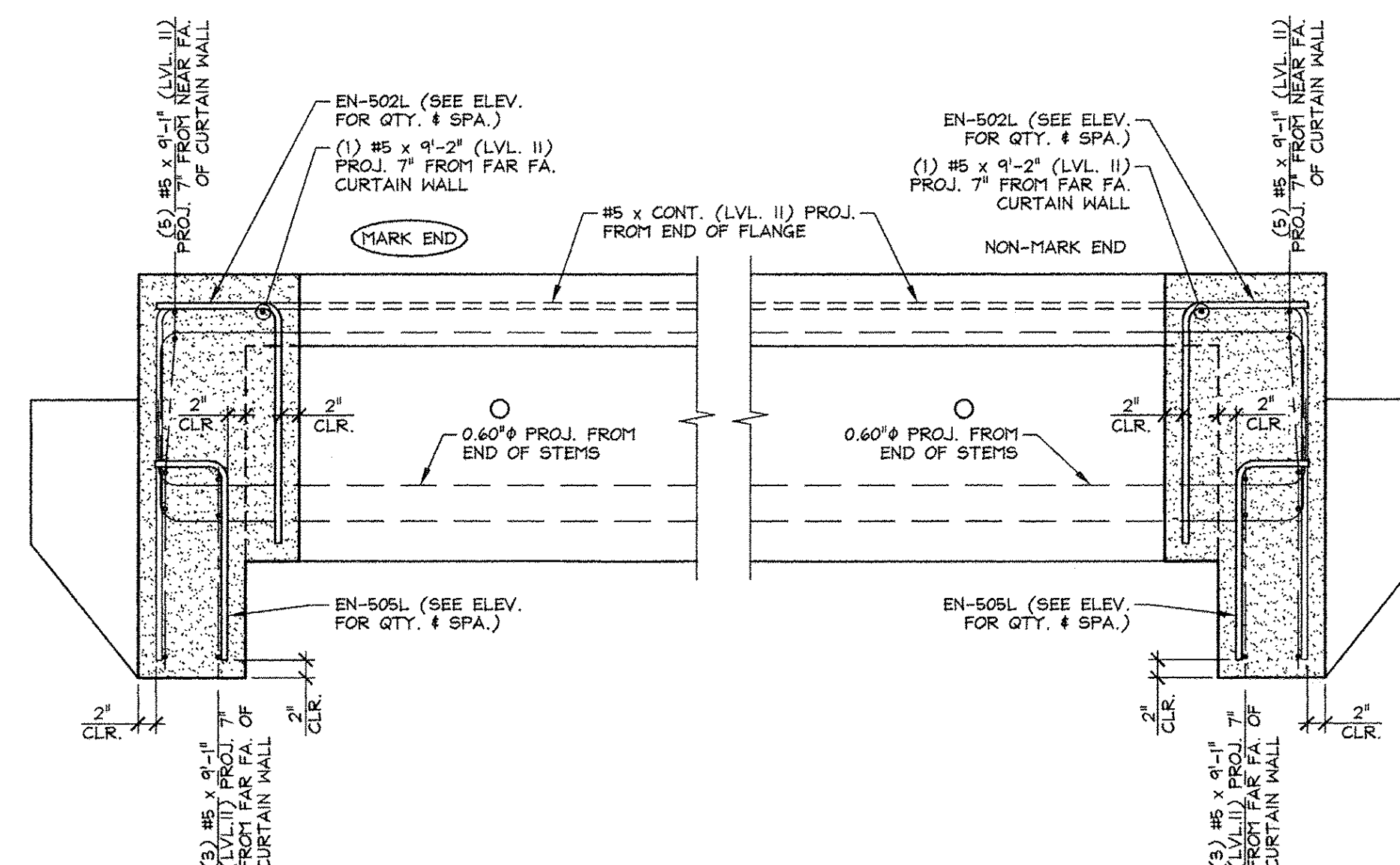
**B CURTAIN WALL DIMENSIONAL SECTIONS**  
NB1.1 3/4" = 1'-0"



**C CURTAIN WALL REINFORCING SECTIONS**  
NB1.1 SEE CURTAIN WALL ELEVATIONS FOR LONGITUDINAL BAR LENGTH CHANGES 3/4" = 1'-0"



**D CURTAIN WALL DIMENSIONAL SECTIONS**  
NB1.1 3/4" = 1'-0"



**E CURTAIN WALL REINFORCING SECTIONS**  
NB1.1 SEE CURTAIN WALL ELEVATIONS FOR LONGITUDINAL BAR LENGTH CHANGES 3/4" = 1'-0"

APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements.	X	Stantec
APPROVED AS NOTED		
REVISE AND RESUBMIT		
NOT REVIEWED		
Date: 4-11-2014		
By: James H. H. H.		
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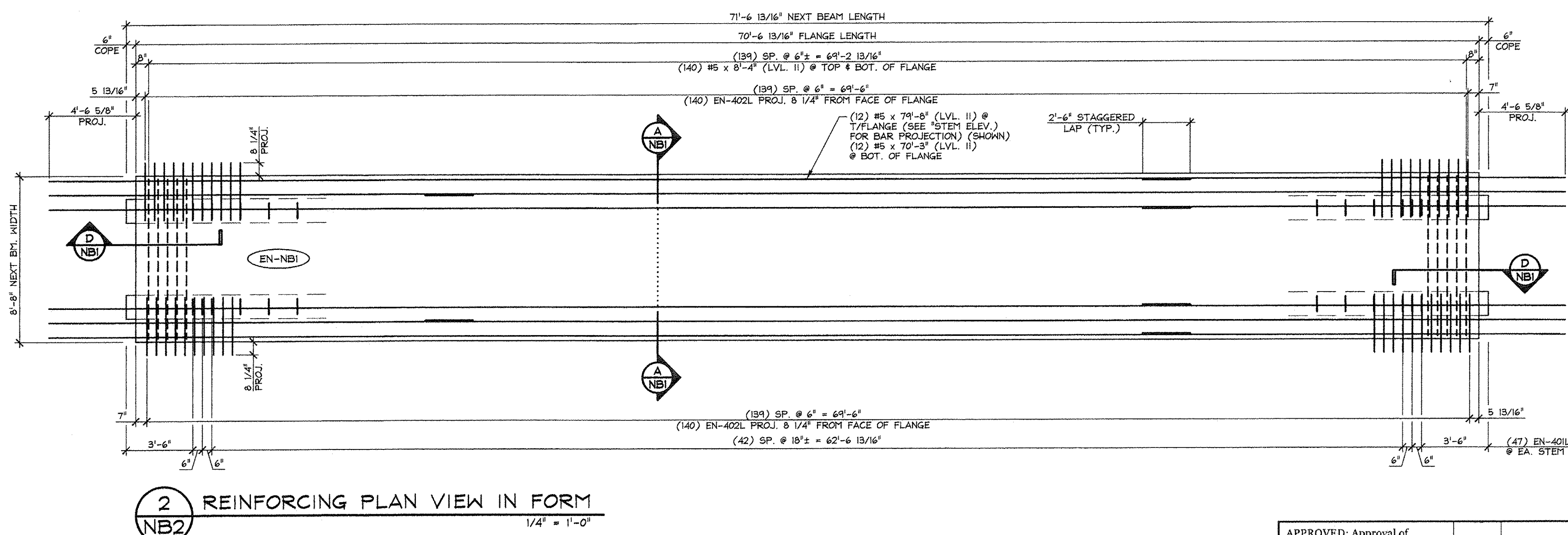
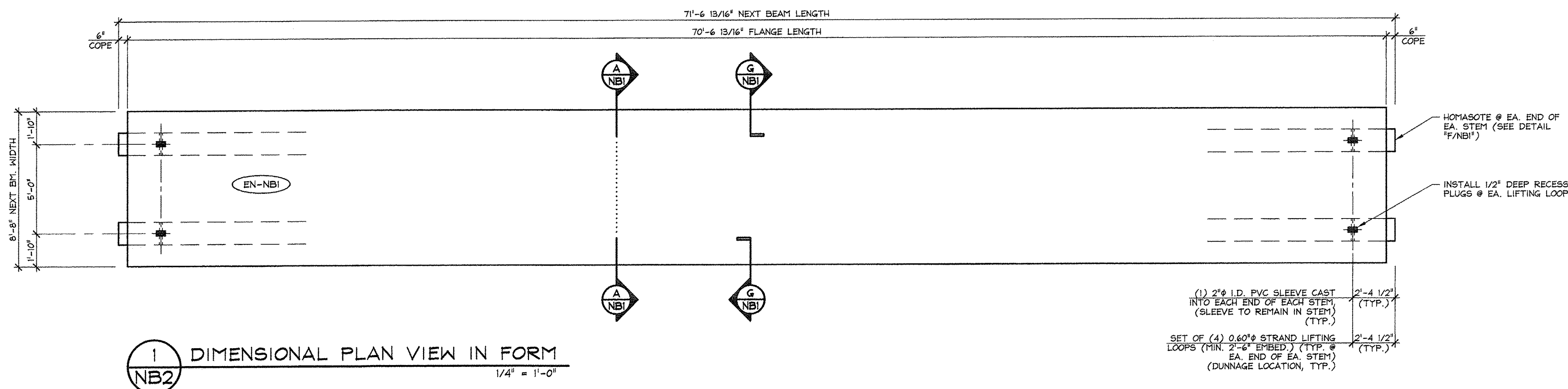
Vermont Agency of Transportation  
**RECEIVED**  
ON: April 9, 2014  
and Checked for  
**CONFORMANCE**  
BY: Rob Young DATE: 04/14/2014

ISSUED FOR PRODUCTION  
APR 09 2014  
J. P. CARRARA & SONS, INC.  
MIDDLEBURY, VT 05753

<b>J.P. CARRARA &amp; SONS INC.</b> Precast & Prestress Manufacturer 2464 CASE ST., MIDDLEBURY, VERMONT 05753 Phone: (802) 388-6361 Fax: (802) 388-9010	<b>A.L. ST. ONGE CONTRACTOR, INC.</b> CONTRACTOR MONTGOMERY CENTER, VERMONT
<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b> COUNTY OF FRANKLIN	DATE: JAN. 27, 2014 SCALE: NOTED CHKD: M.W. DFTM: B.L. JOB NO: 23418-013
<b>TOWN OF ENOSBURG</b> BOSTON POST ROAD T.H.2 CLASS 2 BRIDGE NO.: 48 PROJECT NO.: BRO 1448(40)	DWG. NO: NB1.1

**PRECAST CURTAIN WALL DETAILS**





ISSUED FOR  
PRODUCTION  
APR 09 2014  
J.P. CARRARA & SONS, INC.  
BRIDGEBURY, VT 05752

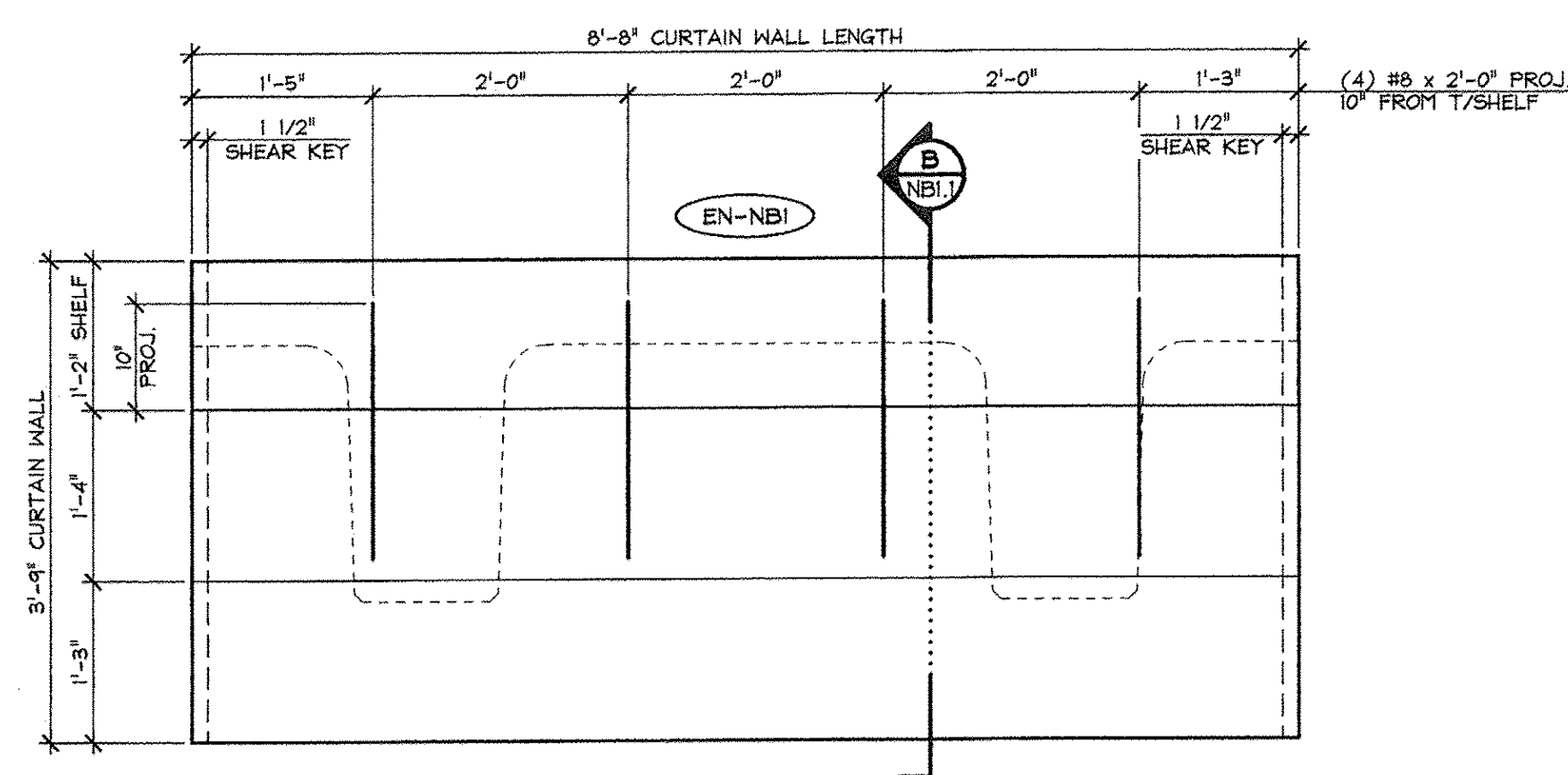
MARK: EN-NB1	QTY.: 1	WT.: 56.25 T	VOL.: 27.78 cy
MATERIAL LIST / NEXT BEAM			
ITEM	MARK	DESCRIPTION	QTY.
1	EN-401L	#4 BENT BAR (LEVEL II, DUAL COATED)	134
2	EN-402L	#4 BENT BAR (LEVEL II, DUAL COATED)	280
3	EN-403L	#4 BENT BAR (LEVEL II, DUAL COATED)	8
4	EN-404L	#4 BENT BAR (LEVEL II, DUAL COATED)	16
5		#4 x 8'-4\"	18
6			
7		#5 x 8'-4\"	282
8		#5 x 7'-8\"	12
9		#5 x 7'-0\"	12
10			
11			
12			
13			
14		SET OF (4) 0.60\"	4
15			

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APPROVED AS NOTED	
REVISE AND RESUBMIT	
NOT REVIEWED	
Date: 4-11-2014	
By: James Hough	
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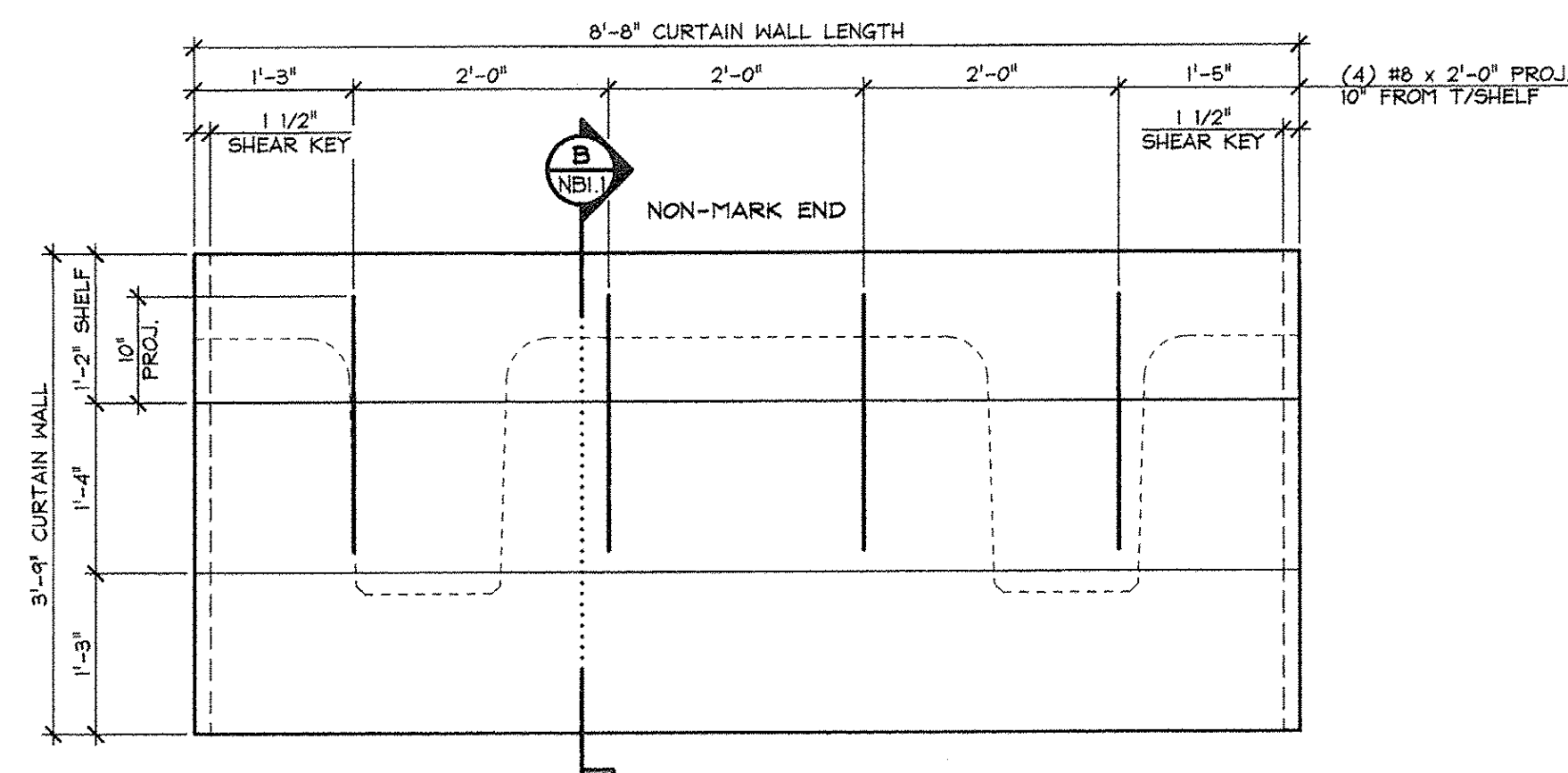
Vermont Agency of Transportation  
**RECEIVED**  
ON: April 9, 2014  
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BY: Rob Young DATE: 04/14/2014

<b>J.P. CARRARA &amp; SONS INC.</b> Precast & Prestress Manufacturer 2464 CASE ST., BRIDGEBURY, VERMONT 05753 Phone: (802) 388-6361 Fax: (802) 388-9010		<b>A.L. ST. ONGE CONTRACTOR, INC.</b> CONTRACTOR MONTGOMERY CENTER, VERMONT	
<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b> COUNTY OF FRANKLIN		DATE: JAN. 27, 2014	
TOWN OF ENOSBURG BOSTON POST ROAD T.H.2 CLASS 2 BRIDGE NO.: 48 PROJECT NO.: BRO 1448(40)		SCALE: NOTED	
PRESTRESSED NEXT BEAM DETAILS		CHKD: M.W. DFTM: B.L.	
		JOB NO: 23418-013	
		DWG. NO: NB2	

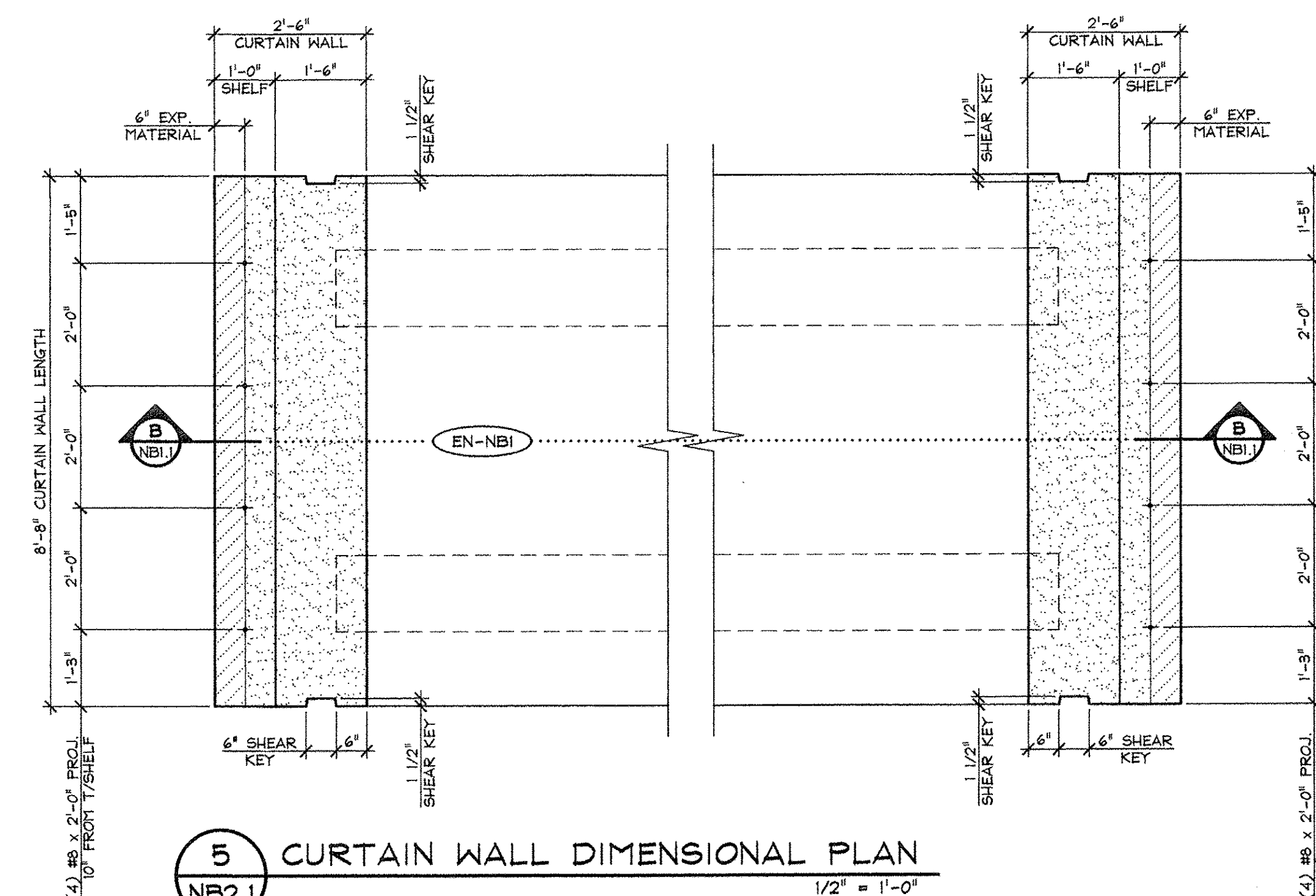




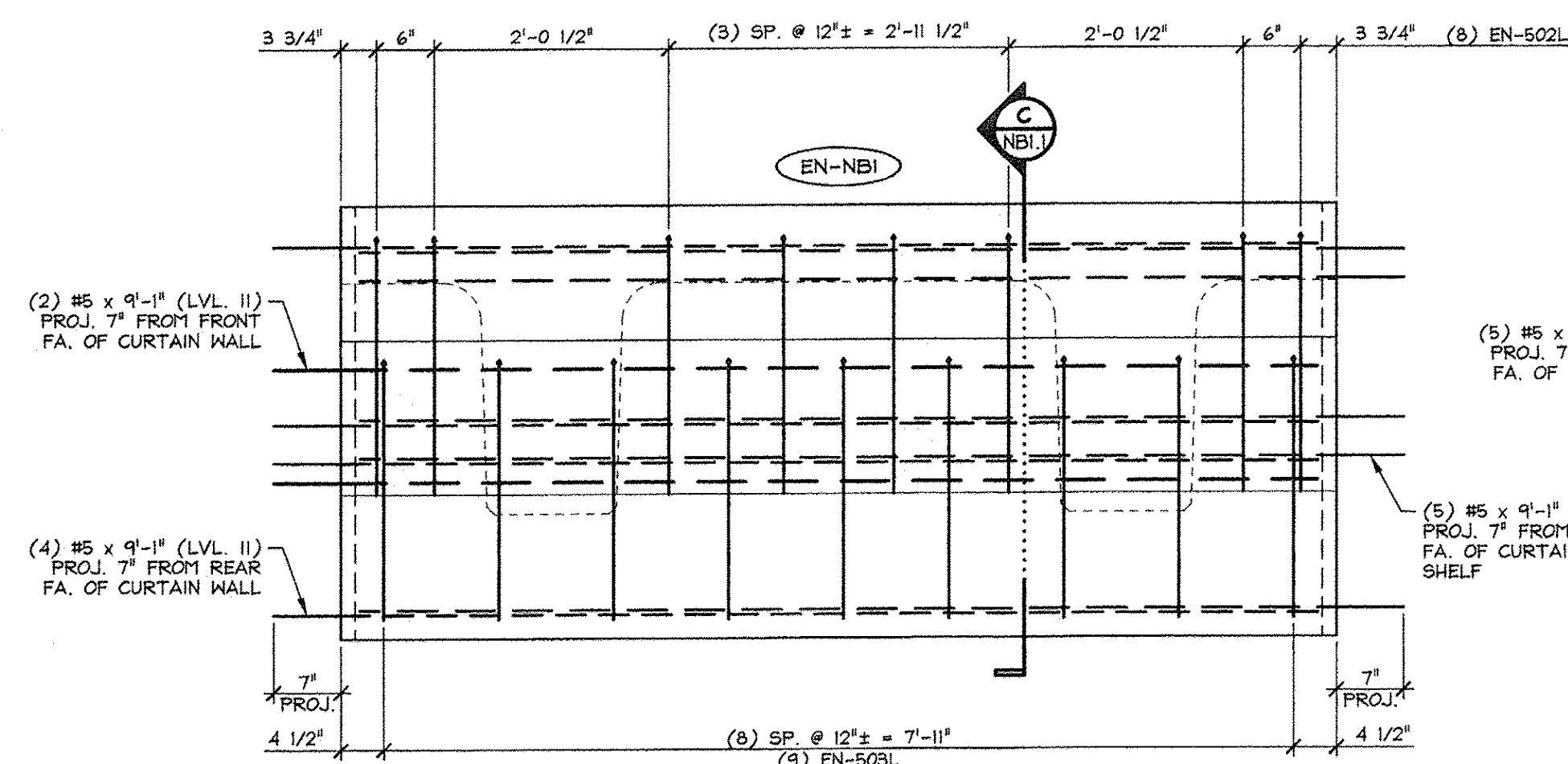
1 CURTAIN WALL DIMENSIONAL ELEVATION  
 NB2.1 VOL.: 2.17 cy WT.: 4.40 T  $3/4" = 1'-0"$



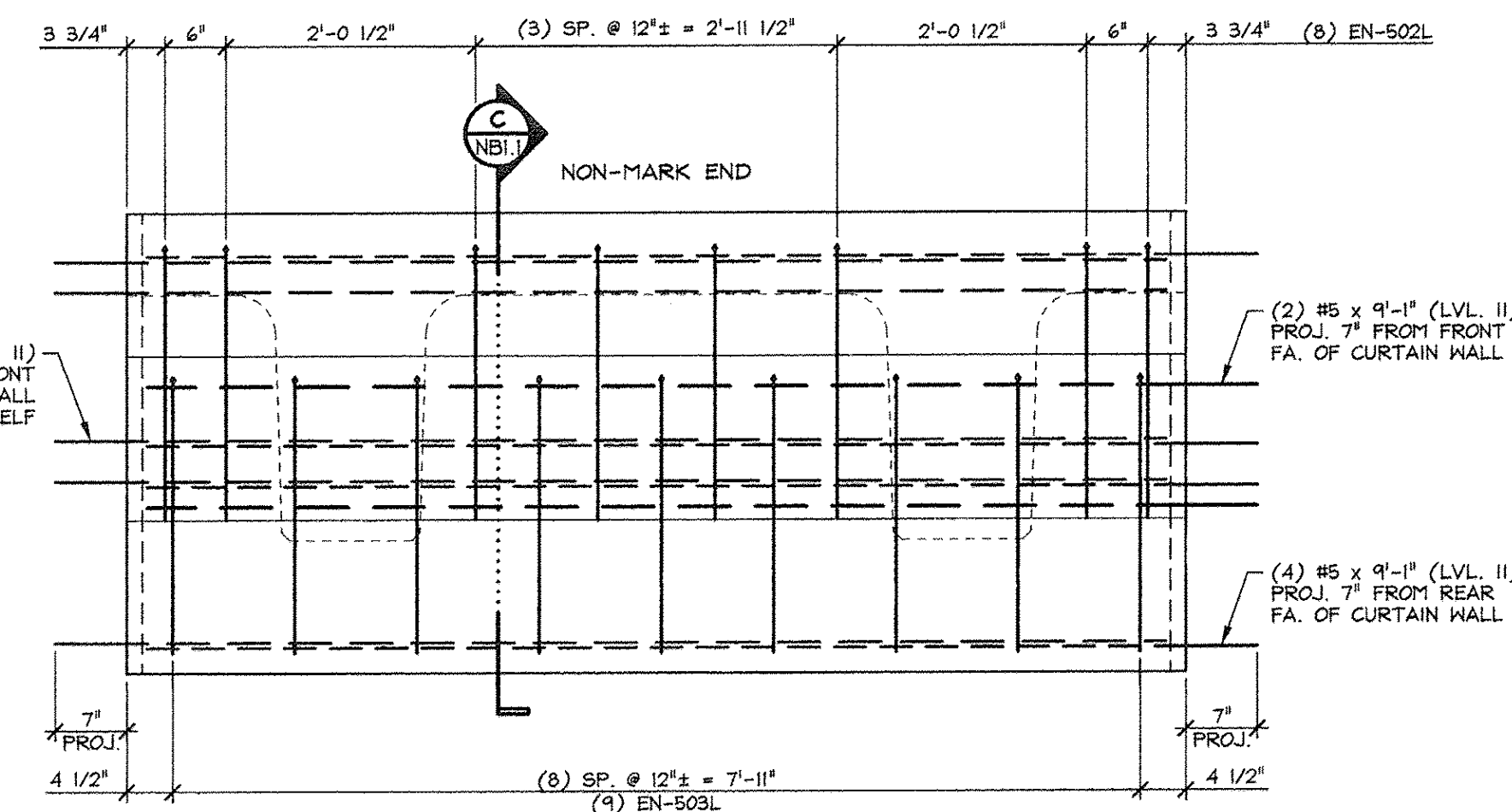
## 3 CURTAIN WALL DIMENSIONAL ELEVATION



5 CURTAIN WALL DIMENSIONAL PLAN  
NB2.1 1/2" = 1'-0"



2 CURTAIN WALL REINFORCING ELEVATION  
NB2.1 3/4" = 1'-0"



4 CURTAIN WALL REINFORCING ELEVATION  
NB2.1  $3/4" = 1'-0"$

56.25 T = NEXT BEAM  
4.40 T = CURTAIN WALL (MARK END)  
4.40 T = CURTAIN WALL (NON-MARK END)  
65.1 T = TOTAL BEAM WT.

ISSUED FOR  
PRODUCTION

APR 09 2014

J. P. CARRARA & SONS, L.  
MIDDLETOWN, VT 05758

MARK: EN-NBI QTY.: 1

MIDDLEBURY, VT 05753

MATERIAL LIST / CURTAIN WALL

ITEM	MARK	DESCRIPTION	QTY./CURTAIN WALL	
			MARK END	NON-MARK END
1	SH-502L	#5 BENT BAR (LEVEL II, DUAL COATED)	8	8
2	SH-503L	#5 BENT BAR (LEVEL II, DUAL COATED)	9	9
3				
4		#5 x 9'-1" (LVL. II, DUAL COATED)	11	11
5				
6				
7				
8		#8 x 2'-0" (LEVEL II, DUAL COATED)	4	4
9				
10				

**APPROVED:** Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements

APPROVED AS NOTED
REVISE AND RESUBMIT
NOT REVIEWED

Date:

4-11-2014

By:

James H. Haveland

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Vermont Agency of Transportation

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STATE OF VERMONT AGENCY OF TRANSPORTATION  
COUNTY OF FRANKLIN

TOWN OF ENOSBURG  
BOSTON POST ROAD T.H.2 CLASS 2  
BRIDGE NO.: 48 PROJECT NO.: BRO 1448(40)

## PRECAST CURTAIN WALL DETAILS

DATE: JAN. 27, 2014

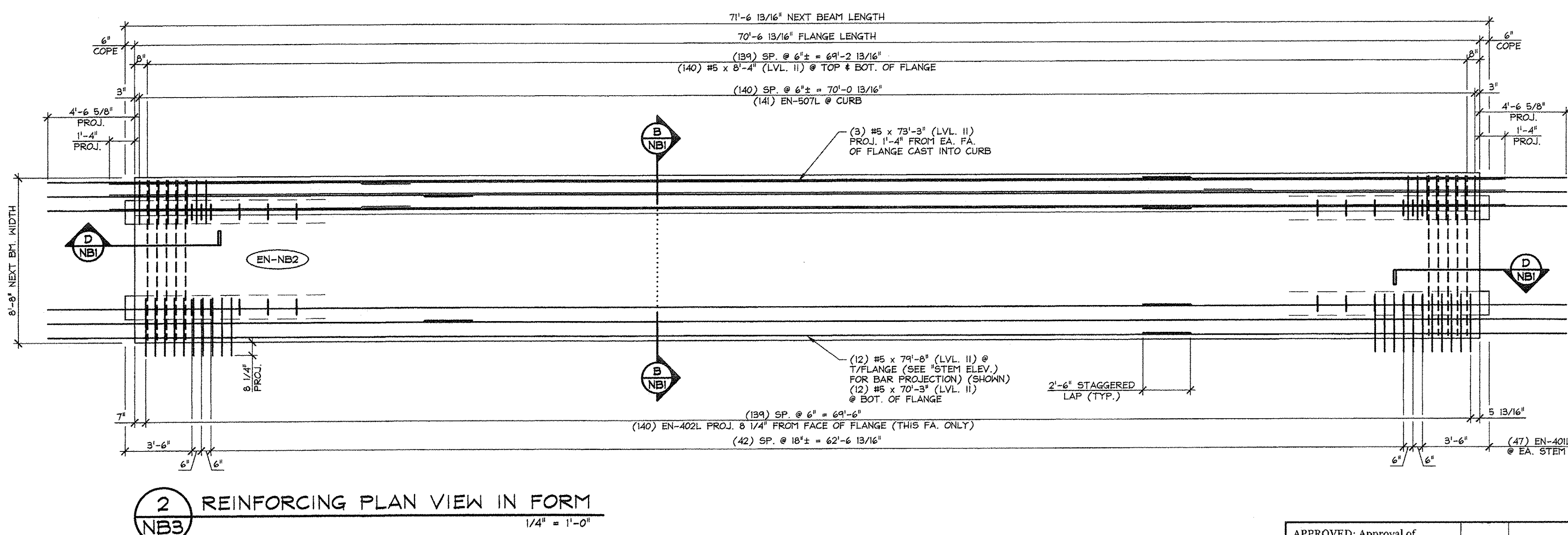
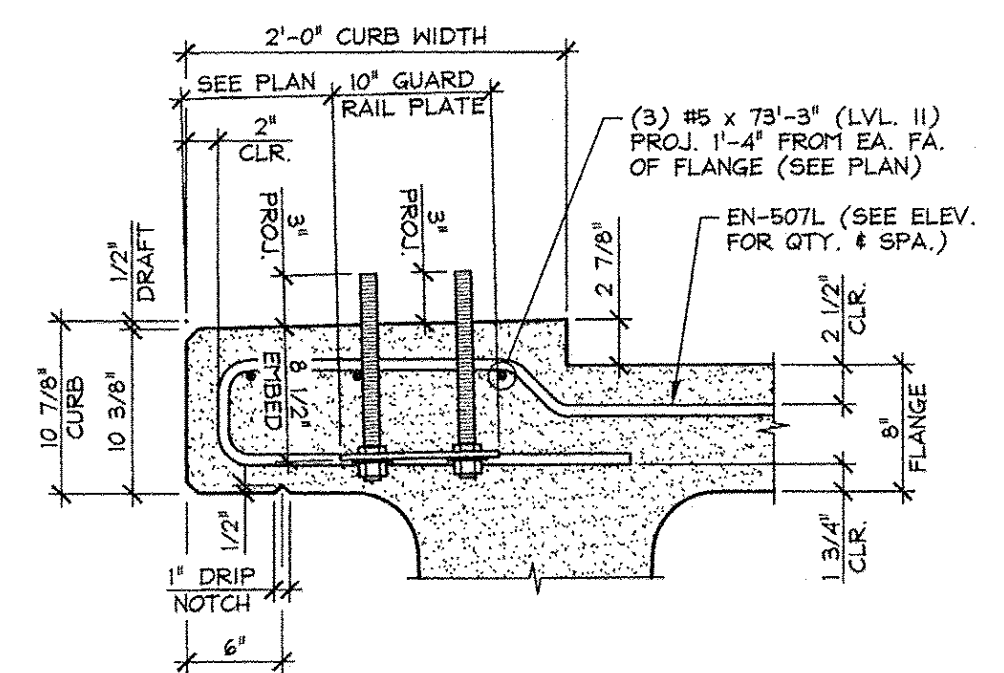
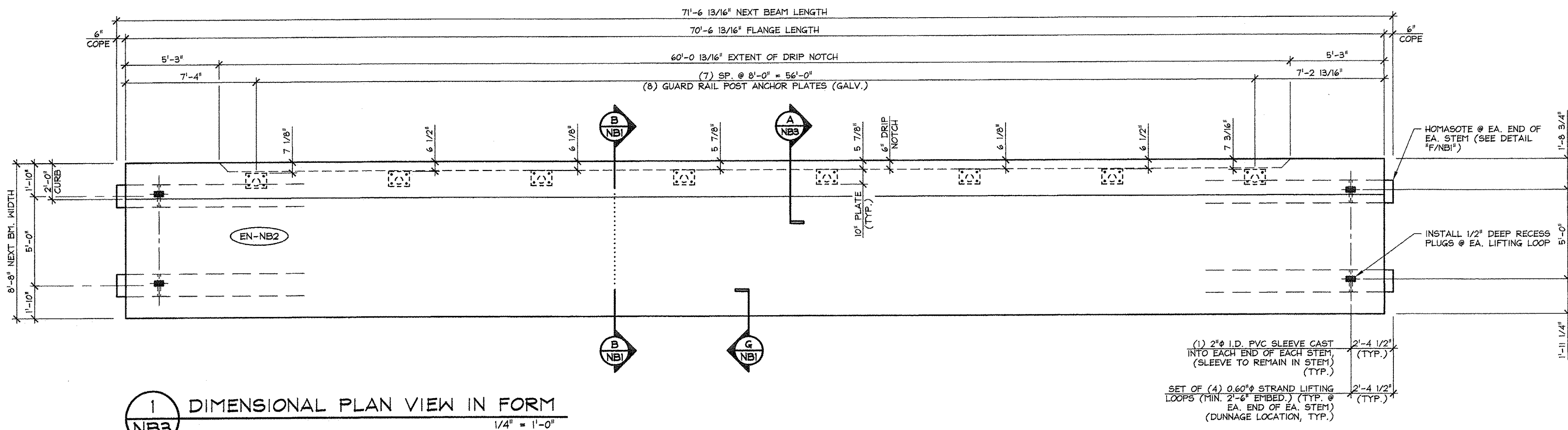
SCALE: NOTED

CHKD: M.W.	DFTM: B.L.
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JOB NO.	DATE
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DWG. NO: NB2.1





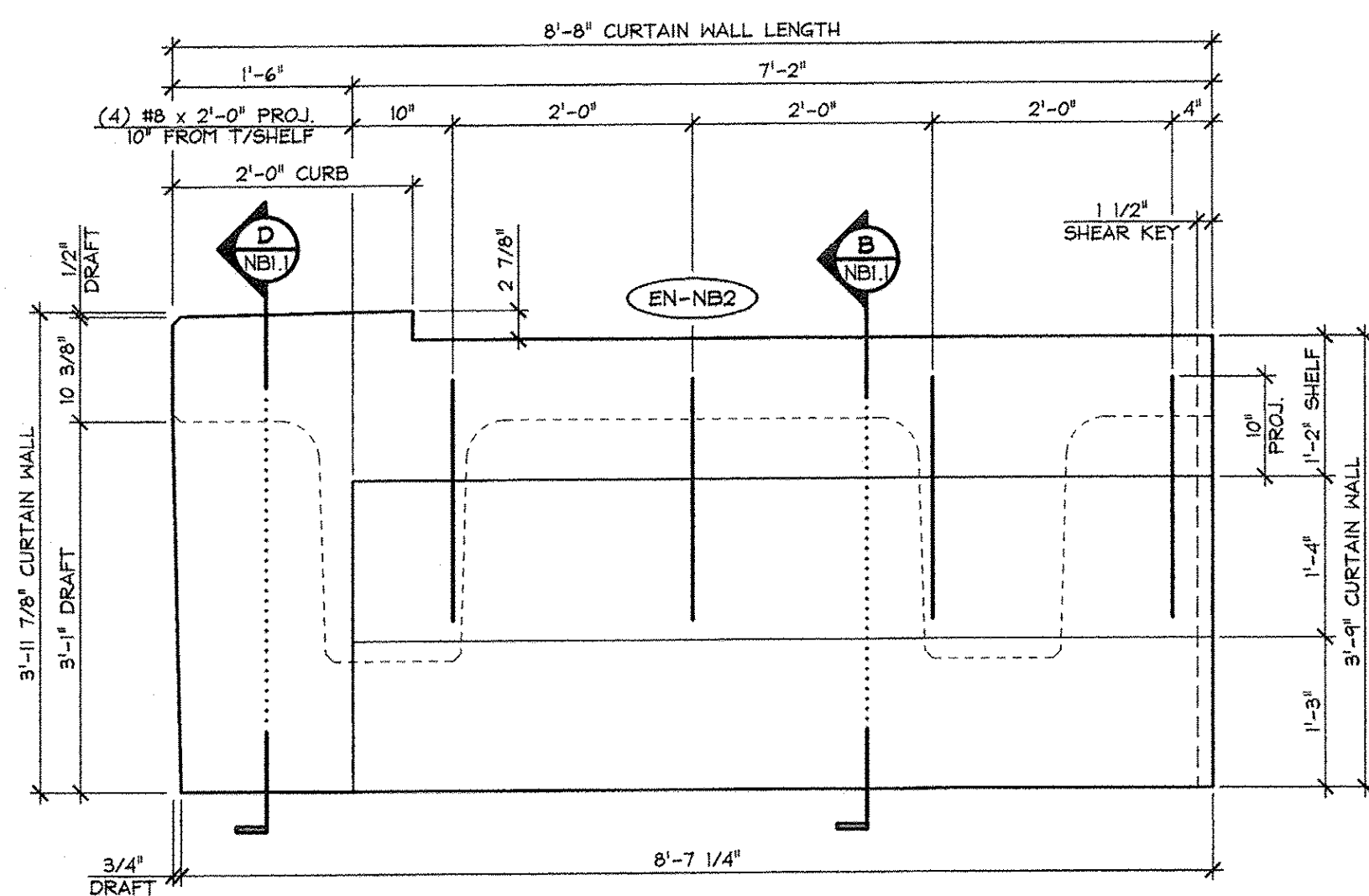
APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements	
APPROVED AS NOTED	
REVISE AND RESUBMIT	
NOT REVIEWED	
Date: 4-11-2014	
By: James H. [Signature]	
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Vermont Agency of Transportation  
**RECEIVED**  
 ON: April 9, 2014  
 and Checked for  
**CONFORMANCE**  
 BY: Rob Young DATE: 04/14/2014

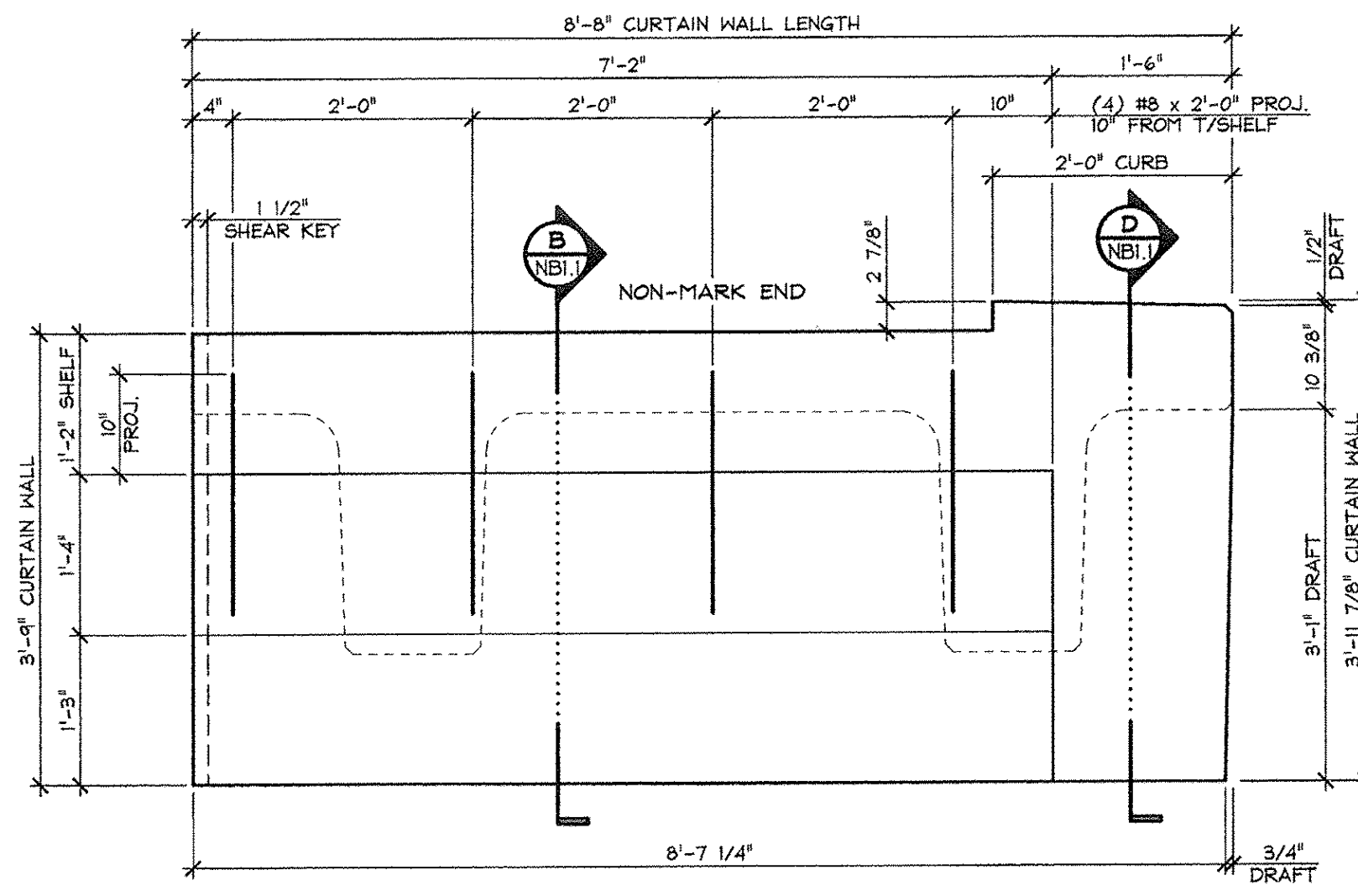
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MATERIAL LIST / NEXT BEAM			
ITEM	MARK	DESCRIPTION	QTY.
1	EN-401L	#4 BENT BAR (LEVEL II, DUAL COATED)	134
2	EN-402L	#4 BENT BAR (LEVEL II, DUAL COATED)	140
3	EN-403L	#4 BENT BAR (LEVEL II, DUAL COATED)	8
4	EN-404L	#4 BENT BAR (LEVEL II, DUAL COATED)	16
5		#4 x 8'-4" (LEVEL II, DUAL COATED)	18
6			
7	EN-507L	#5 BENT BAR (LEVEL II, DUAL COATED)	141
8		#5 x 8'-4" (LEVEL II, DUAL COATED)	282
9		#5 x 7'-9" (W/ (1) 2'-6" STAGGERED LAP) (LVL. II, DUAL COATED)	12
10		#5 x 7'-9" (W/ (1) 2'-6" STAGGERED LAP) (LVL. II, DUAL COATED)	12
11		#5 x 7'-9" (W/ (1) 2'-6" STAGGERED LAP) (LVL. II, DUAL COATED)	3
12			
13		GUARD RAIL ANCHOR PLATE (GALV.) (SUPPLIED BY OTHERS)	8
14		SET OF (4) 0.60" x 270 KSI STRAND LIFTING LOOPS	4
15			

J.P. CARRARA & SONS INC.		A.L. ST. ONGE CONTRACTOR, INC.	
Precast & Prestress Manufacturer		CONTRACTOR	
2454 CASE ST., MONTGOMERY, VERMONT 05753 Phone: (802) 388-6361 Fax: (802) 388-8010		MONTGOMERY CENTER, VERMONT	
STATE OF VERMONT AGENCY OF TRANSPORTATION		DATE: JAN. 27, 2014	
COUNTY OF FRANKLIN		SCALE: NOTED	
TOWN OF ENOSBURG		CHKD: M.W.	DFTM: B.L.
BOSTON POST ROAD T.H.2 CLASS 2		JOB NO: 23418-013	
BRIDGE NO.: 48 PROJECT NO.: BRO 1448(40)			
PRESTRESSED NEXT BEAM DETAILS		DWG. NO: NB3	

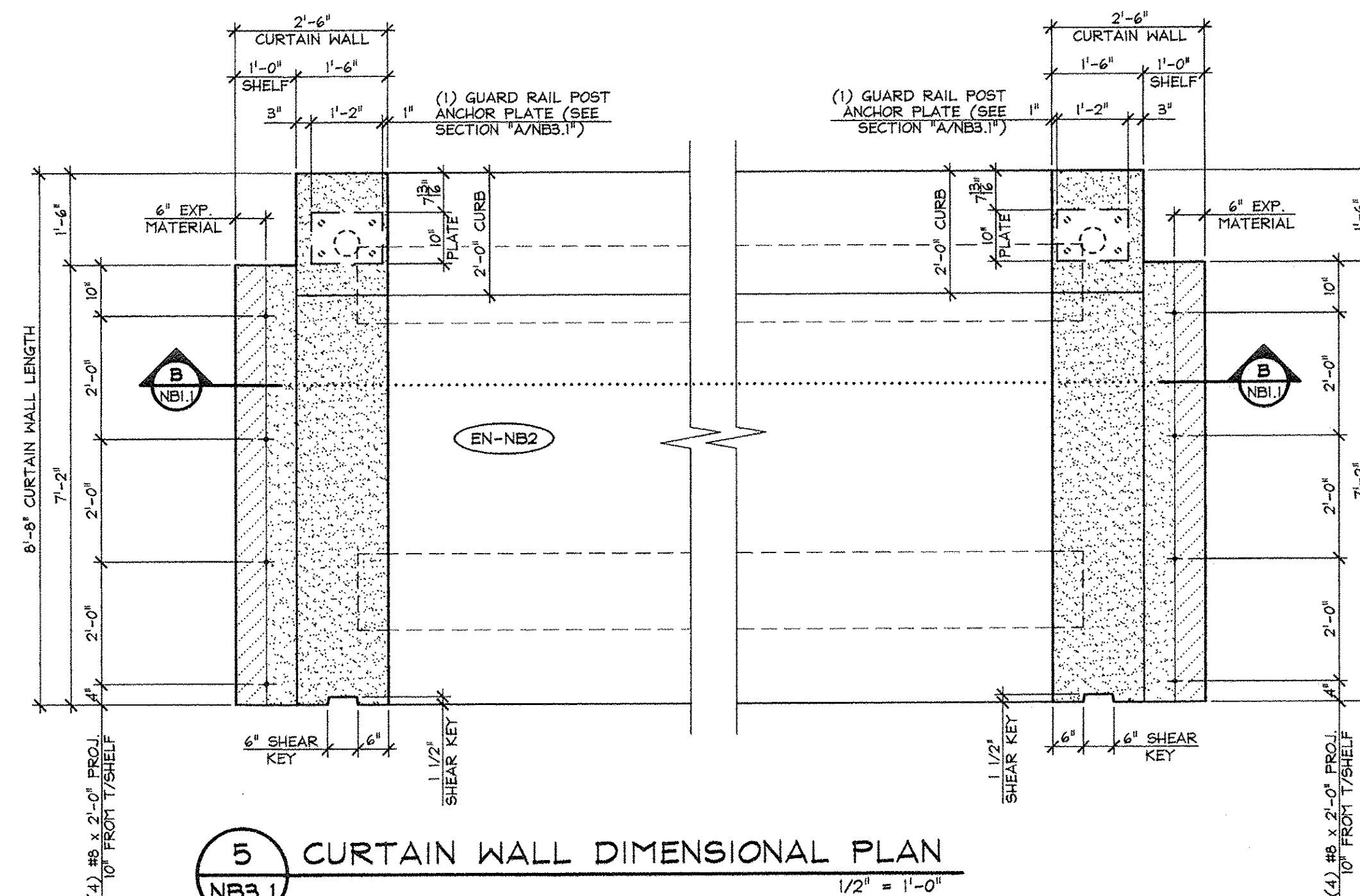




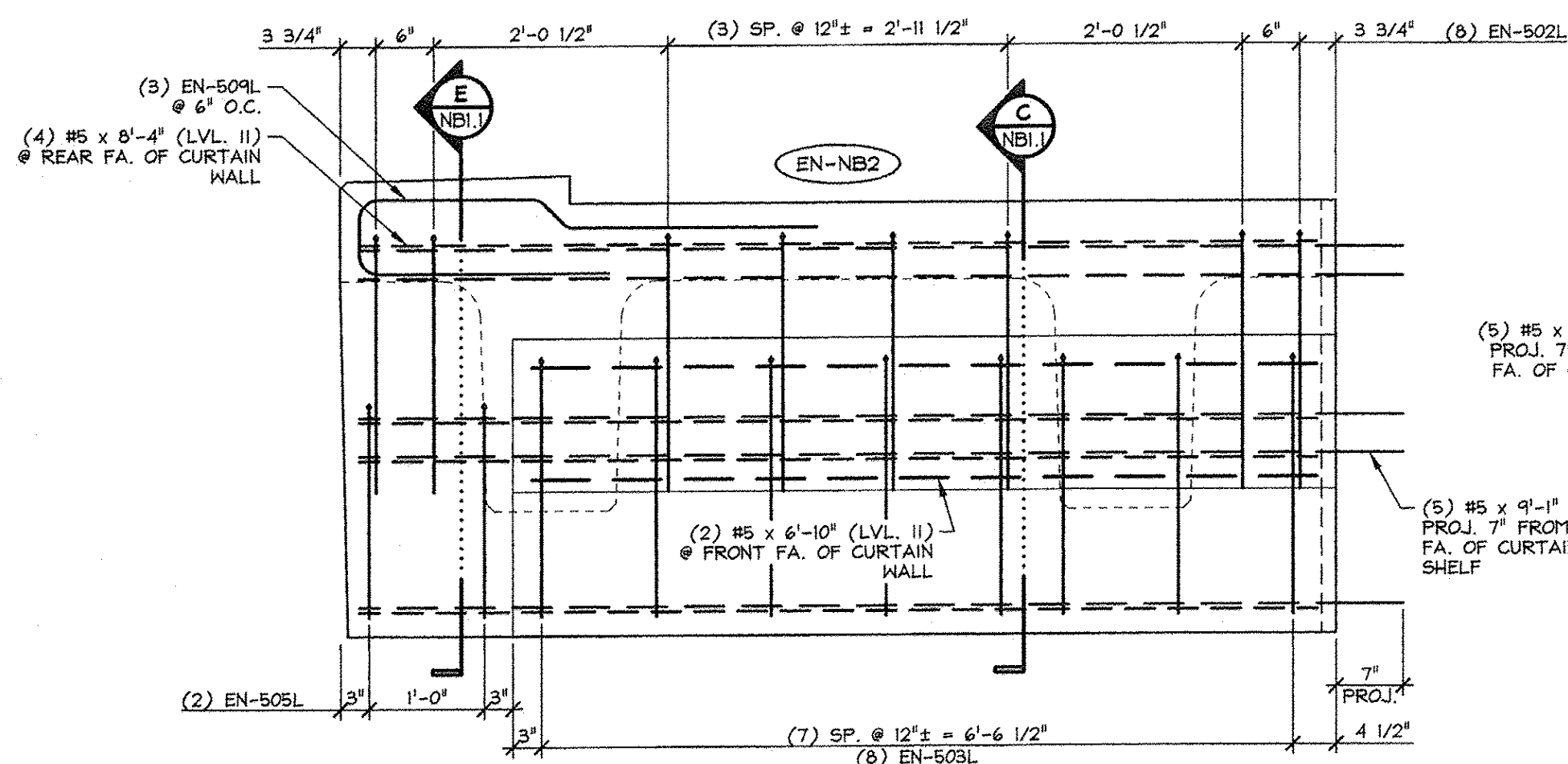
1 CURTAIN WALL DIMENSIONAL ELEVATION  
NB3.1 VOL.: 2.11 cy  
WT.: 4.28 T 3/4" = 1'-0"



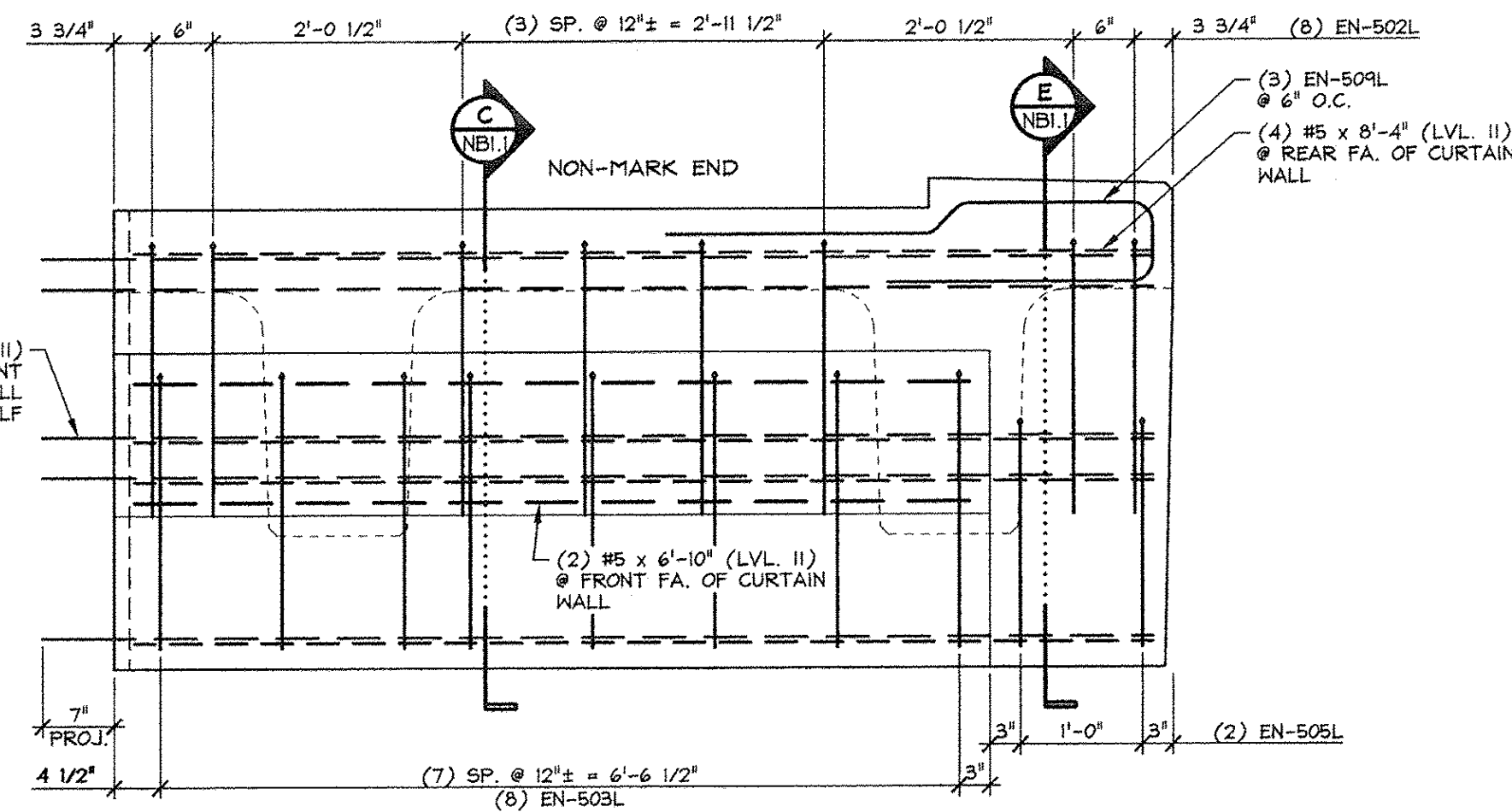
3 CURTAIN WALL DIMENSIONAL ELEVATION  
NB3.1 VOL.: 2.11 cy  
WT.: 4.28 T 3/4" = 1'-0"



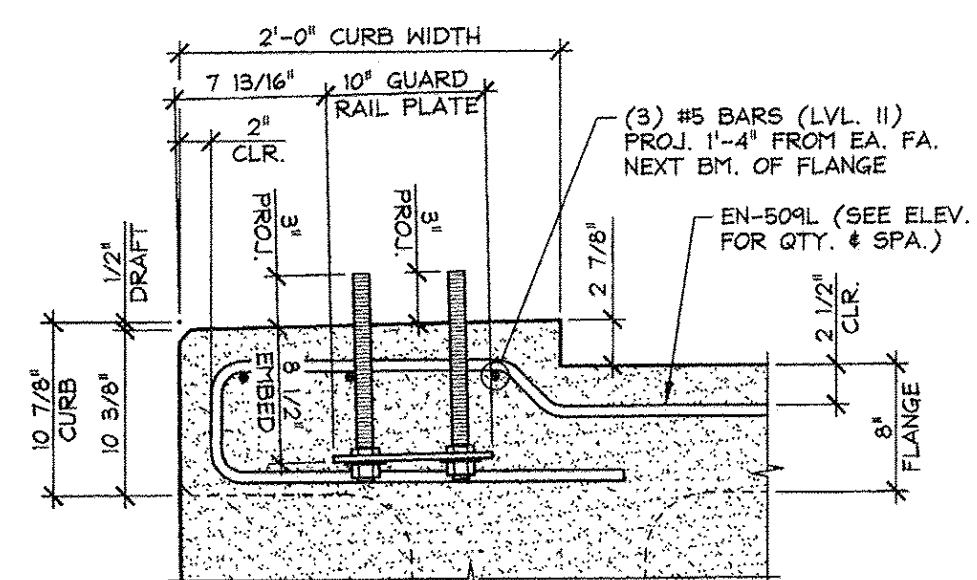
5 CURTAIN WALL DIMENSIONAL PLAN  
NB3.1 1/2" = 1'-0"



2 CURTAIN WALL REINFORCING ELEVATION  
NB3.1 3/4" = 1'-0"



4 CURTAIN WALL REINFORCING ELEVATION  
NB3.1 3/4" = 1'-0"



A CURB & GUARD RAIL ANCHOR  
NB3.1 PLATE SECTION 1" = 1'-0"

58.67 T = NEXT BEAM  
4.28 T = CURTAIN WALL (MARK END)  
4.28 T = CURTAIN WALL (NON-MARK END)  
67.2 T = TOTAL BEAM WT.

ISSUED FOR  
PRODUCTION  
APR 09 2014  
J.P. CARRARA & SONS, INC.  
MIDDLEBURY, VT 05753

MARK: EN-NB2 QTY.: 1

MATERIAL LIST / CURTAIN WALL				
ITEM	MARK	DESCRIPTION	QTY./CURTAIN WALL	
			MARK END	NON-MARK END
1	SH-502L	#5 BENT BAR (LEVEL II, DUAL COATED)	8	8
2	SH-503L	#5 BENT BAR (LEVEL II, DUAL COATED)	8	8
3	SH-505L	#5 BENT BAR (LEVEL II, DUAL COATED)	2	2
4	SH-504L	#5 BENT BAR (LEVEL II, DUAL COATED)	3	3
5				
6		#5 x 6'-10" (LVL. II, DUAL COATED)	2	2
7		#5 x 8'-4" (LVL. II, DUAL COATED)	4	4
8		#5 x 9'-1" (LVL. II, DUAL COATED)	5	5
9				
10				
11				
12				
13		GUARD RAIL ANCHOR PLATE (GALV.) (SUPPLIED BY OTHERS)	1	1
14		#8 x 2'-0" (LEVEL II, DUAL COATED)	4	4
15				

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APPROVED AS NOTED

REVISE AND RESUBMIT

NOT REVIEWED

Date: 4-11-2014

By: James H. [Signature]

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Stantec

Vermont Agency of Transportation  
RECEIVED  
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CONFORMANCE  
BY: Rob Young DATE: 04/14/2014

J.P. CARRARA & SONS INC. A.L. St. ONGE CONTRACTOR, INC.  
Precast & Prestress Manufacturer CONTRACTOR  
2404 GSE STR., MIDDLEBURY, VERMONT 05753 Phone: (802) 388-6361 Fax: (802) 388-9010 MONTGOMERY CENTER, VERMONT

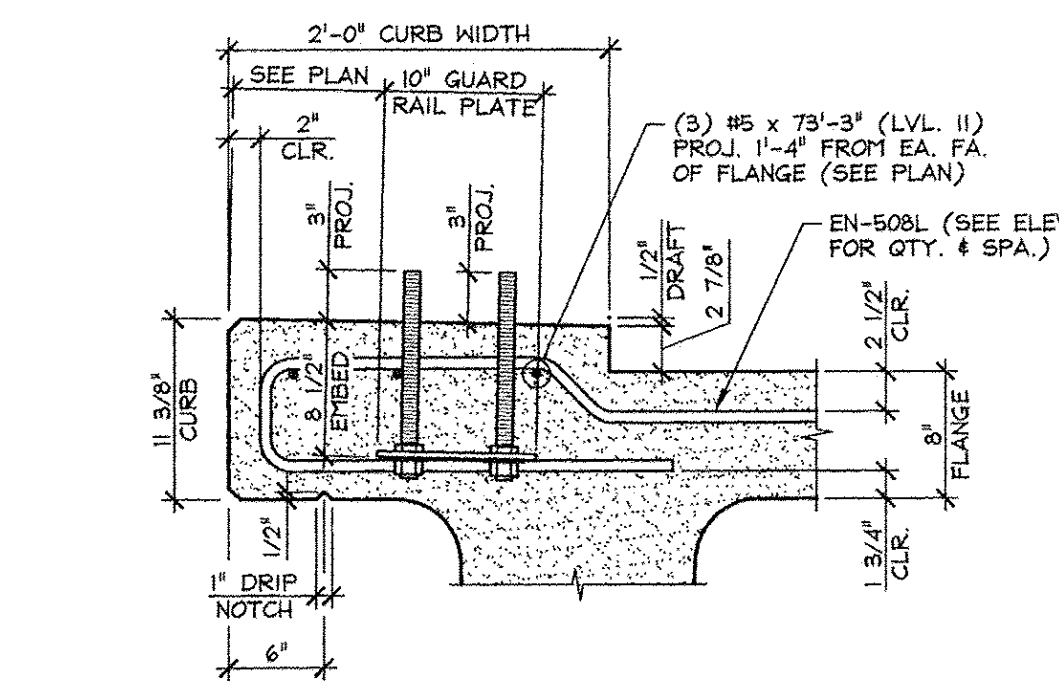
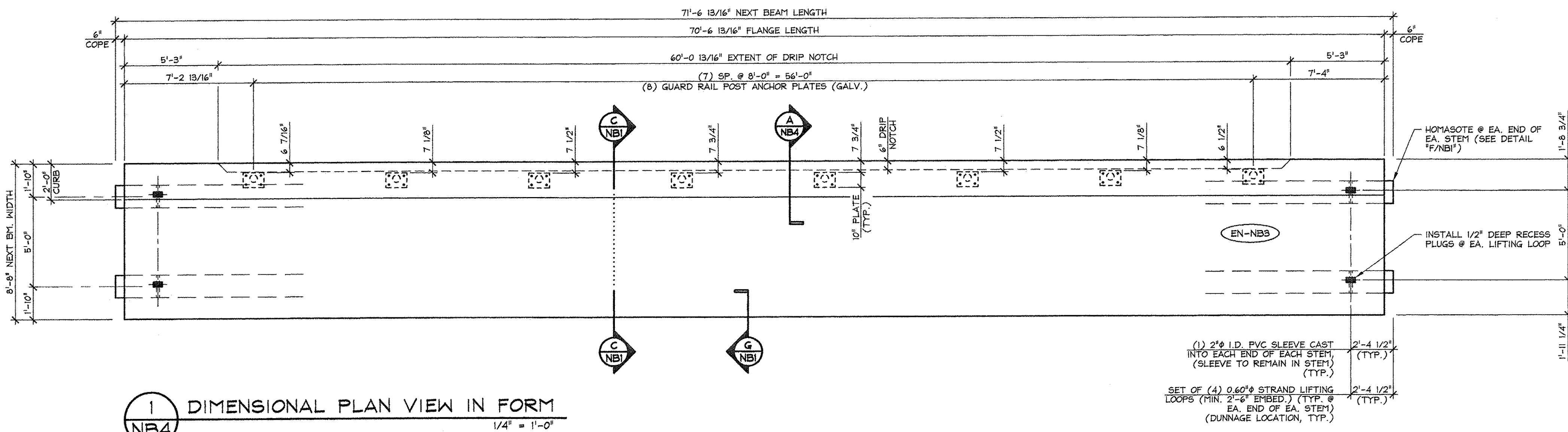
STATE OF VERMONT AGENCY OF TRANSPORTATION  
COUNTY OF FRANKLIN

TOWN OF ENOSBURG  
BOSTON POST ROAD T.H.2 CLASS 2  
BRIDGE NO.: 48 PROJECT NO.: BRO 1448(40)

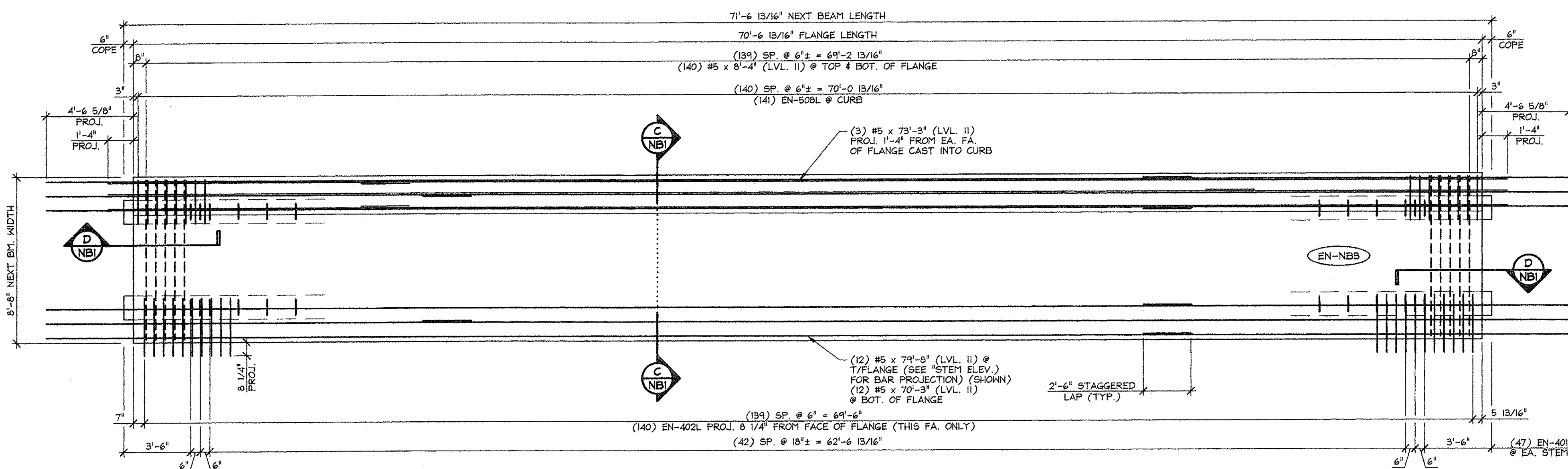
DATE: JAN. 27, 2014  
SCALE: NOTED  
CHKD: M.W. DFTM: B.L.  
JOB NO: 23418-013  
DWG. NO: NB3.1

PRECAST CURTAIN WALL DETAILS





**A CURB & GUARD RAIL ANCHOR  
NB4 PLATE SECTION**  
1" = 1'-0"  
TYP. BEAM REINF. NOT SHOWN FOR CLARITY



**2 REINFORCING PLAN VIEW IN FORM  
NB4**  
1/4" = 1'-0"

APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements	X	Stantec
APPROVED AS NOTED		
REVISE AND RESUBMIT		
NOT REVIEWED		
Date: 4-11-2014		
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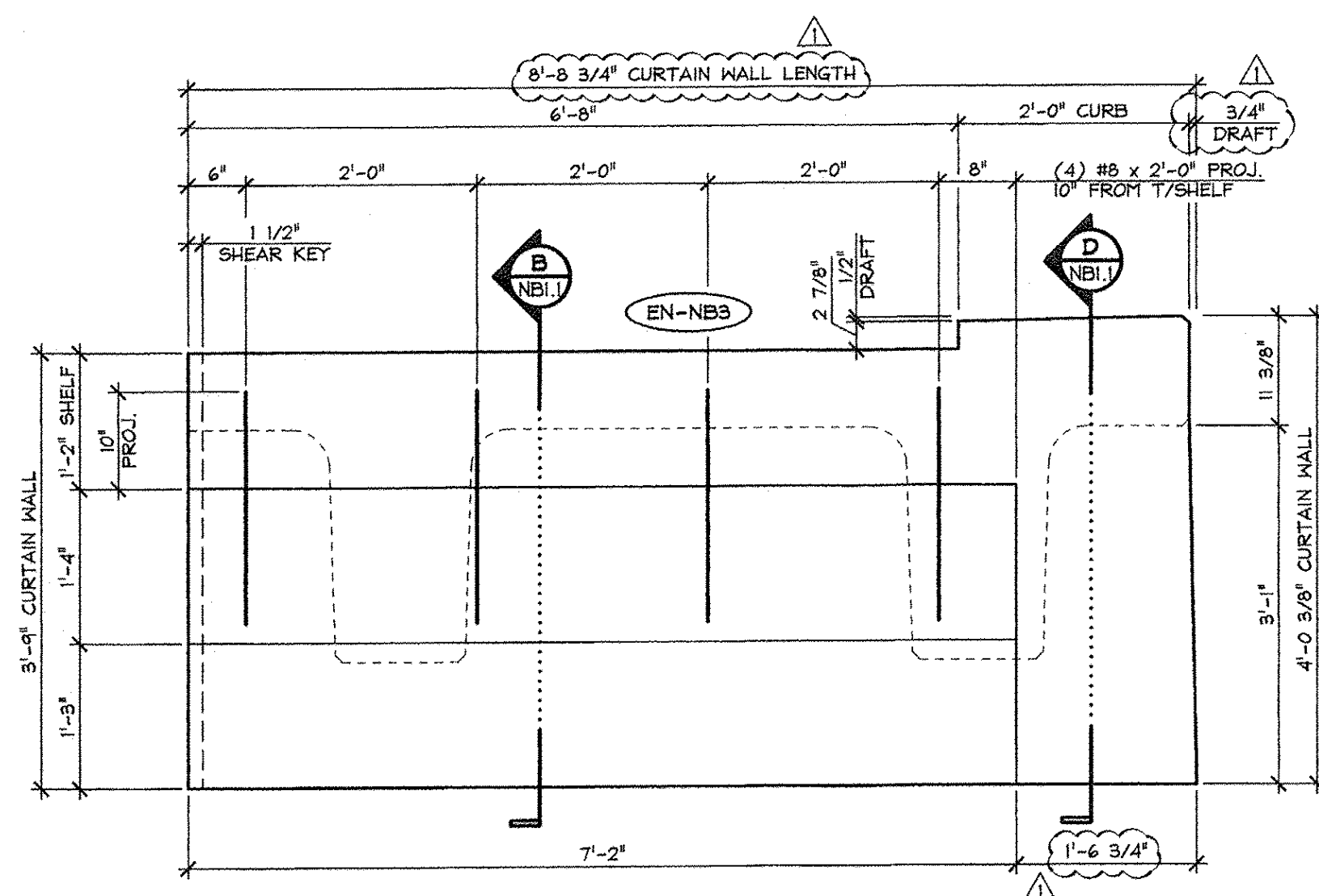
Vermont Agency of Transportation  
**RECEIVED**  
ON: April 9, 2014  
and Checked for  
**CONFORMANCE**  
BY: Rob Young DATE: 04/14/2014

MARK: EN-NB3	QTY.: 1	WT.: 59.12 T	VOL.: 29.19 cy
MATERIAL LIST / NEXT BEAM			
ITEM	MARK	DESCRIPTION	QTY.
1	EN-401L	#4 BENT BAR (LEVEL II, DUAL COATED)	134
2	EN-402L	#4 BENT BAR (LEVEL II, DUAL COATED)	140
3	EN-403L	#4 BENT BAR (LEVEL II, DUAL COATED)	8
4	EN-404L	#4 BENT BAR (LEVEL II, DUAL COATED)	16
5		#4 x 8'-4" (LEVEL II, DUAL COATED)	16
6			
7	EN-508L	#5 BENT BAR (LEVEL II, DUAL COATED)	141
8		#5 x 8'-4" (LEVEL II, DUAL COATED)	282
9		#5 x 7'-8" (W/ (1) 2'-6" STAGGERED LAP) (LVL. II, DUAL COATED)	12
10		#5 x 7'-0" (W/ (1) 2'-6" STAGGERED LAP) (LVL. II, DUAL COATED)	12
11		#5 x 7'-3" (W/ (1) 2'-6" STAGGERED LAP) (LVL. II, DUAL COATED)	3
12			
13		GUARD RAIL ANCHOR PLATE (GALV.) (SUPPLIED BY OTHERS)	8
14		SET OF (4) 0.60" x 270 KSI STRAND LIFTING LOOPS	4
15			

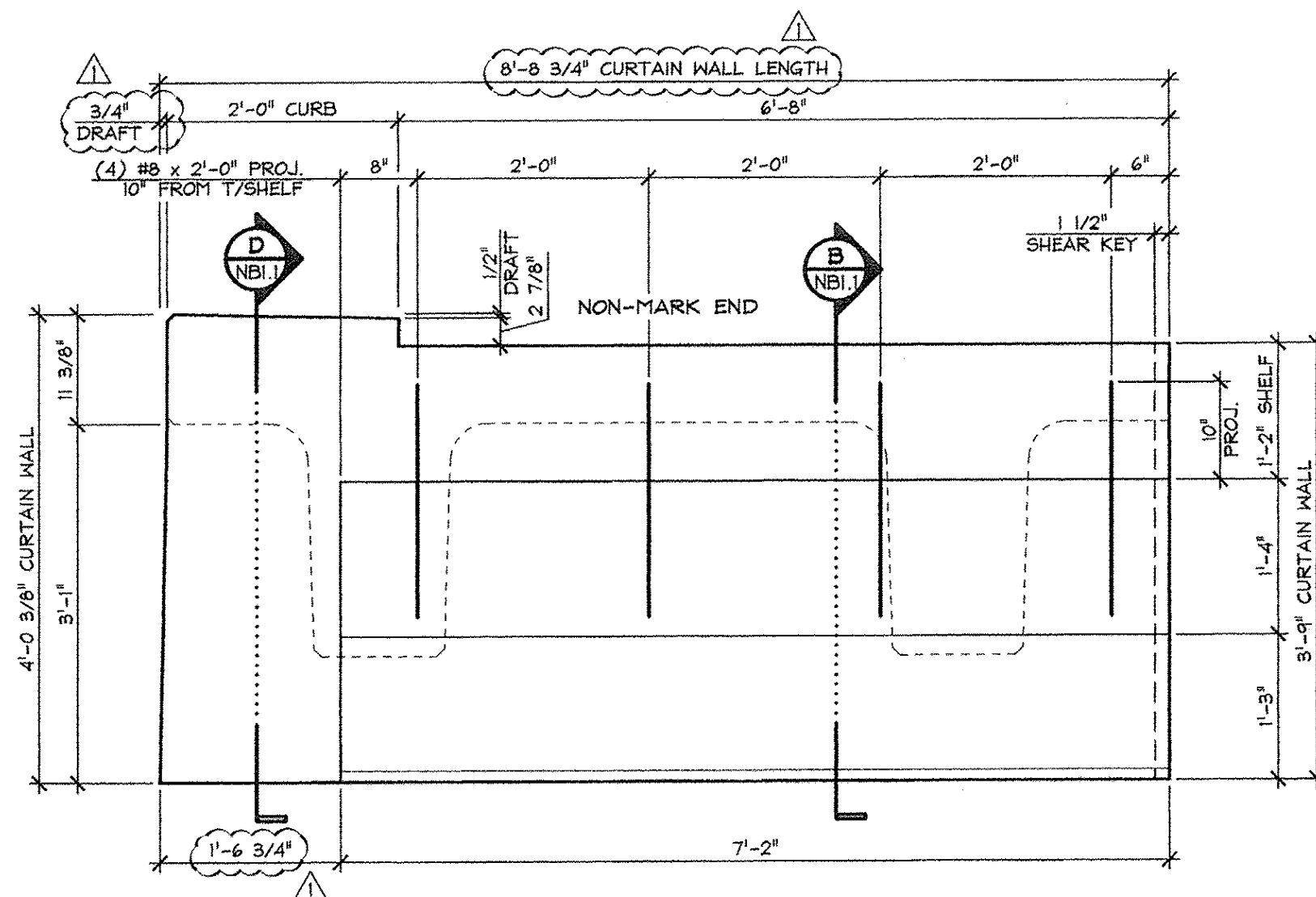
<b>J.P. CARRARA &amp; SONS INC.</b> Precast & Prestress Manufacturer 2464 CASE ST., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-8010		<b>A.L. ST. ONGE CONTRACTOR, INC.</b> CONTRACTOR MONTGOMERY CENTER, VERMONT	
<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b> COUNTY OF FRANKLIN		DATE: JAN. 27, 2014 SCALE: NOTED	
<b>TOWN OF ENOSBURG</b> BOSTON POST ROAD T.H.2 CLASS 2 BRIDGE NO.: 48 PROJECT NO.: BRO 1448(40)		CHKD: M.W. DFTM: B.L. JOB NO: 23418-013	
<b>PRESTRESSED NEXT BEAM DETAILS</b>		DWG. NO: <b>NB4</b>	

ISSUED FOR  
PRODUCTION  
APR 09 2014  
J.P. CARRARA & SONS, INC.  
MIDDLEBURY, VT 05753

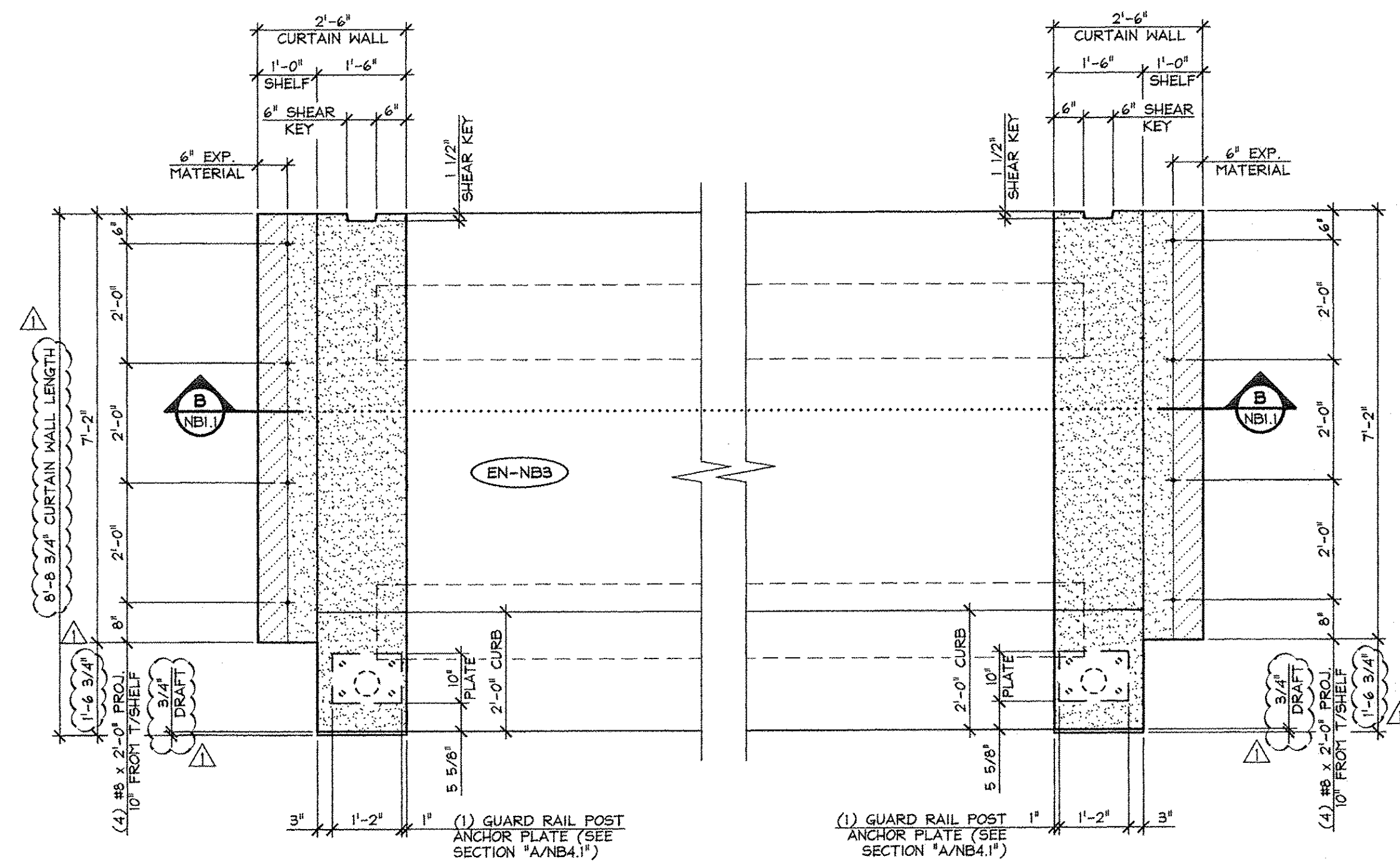




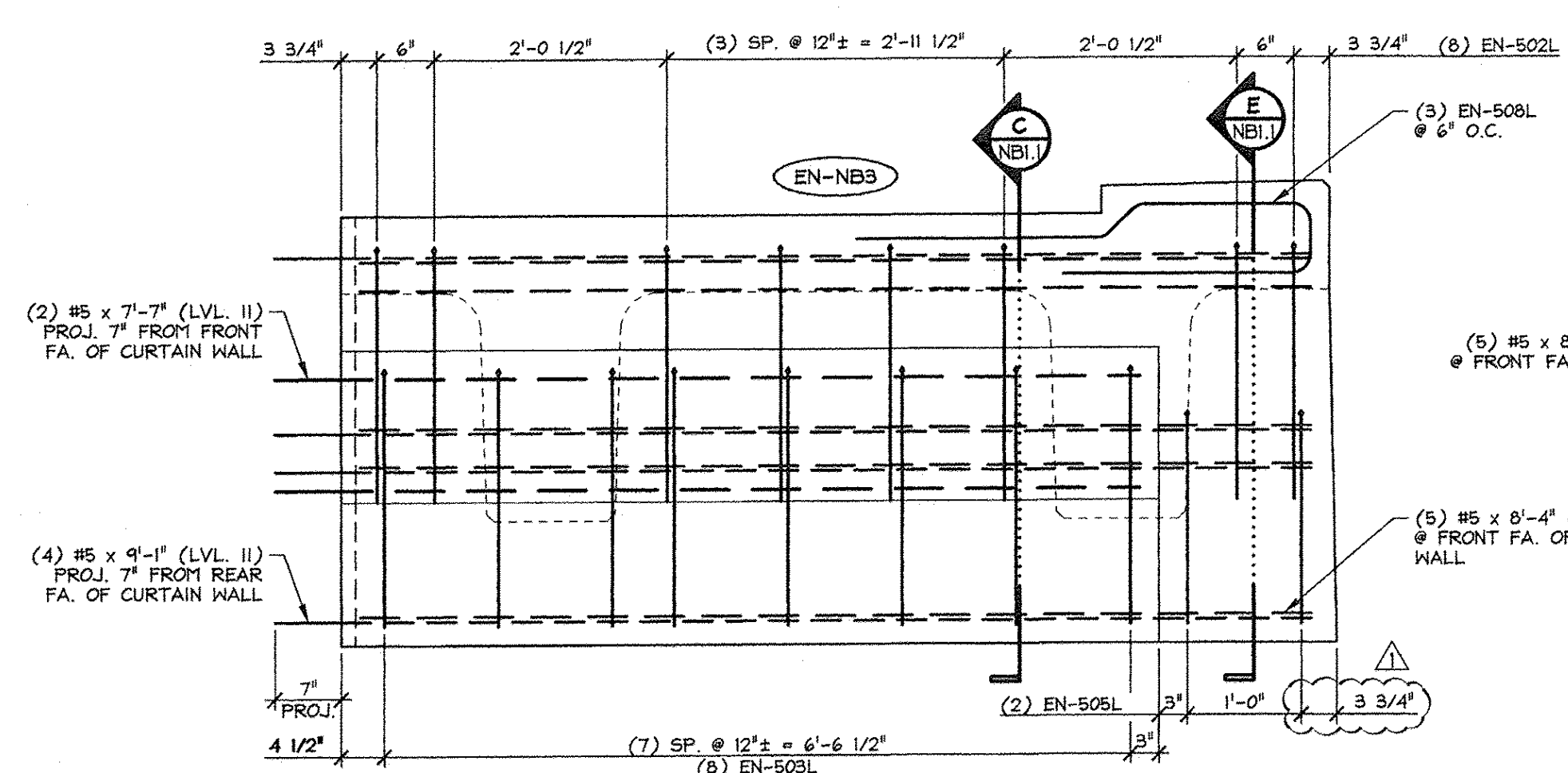
**1 CURTAIN WALL DIMENSIONAL ELEVATION**  
NB4.1 VOL.: 2.12 cy  
WT.: 4.30 T



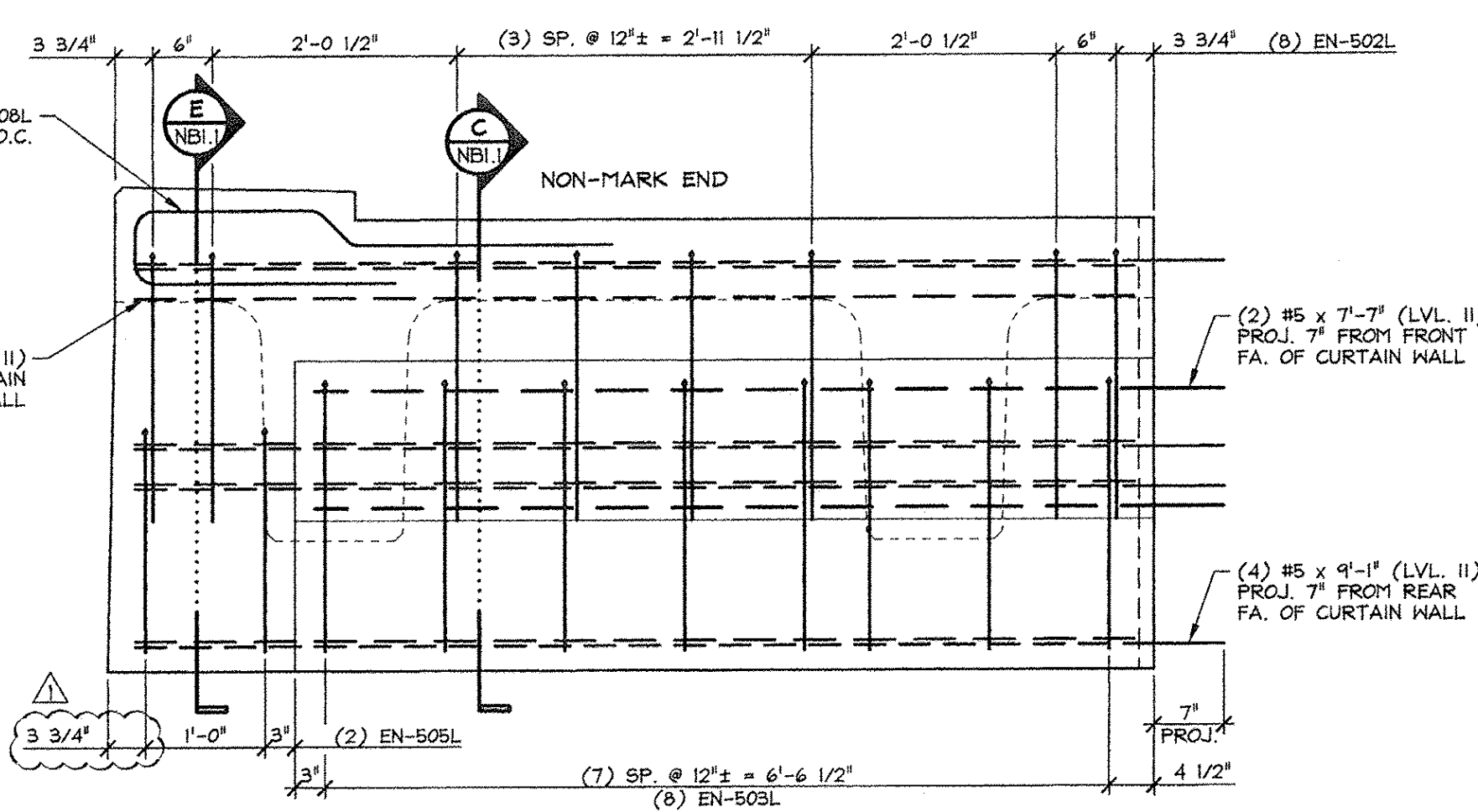
**3 CURTAIN WALL DIMENSIONAL ELEVATION**  
NB4.1 VOL.: 2.12 cy  
WT.: 4.30 T



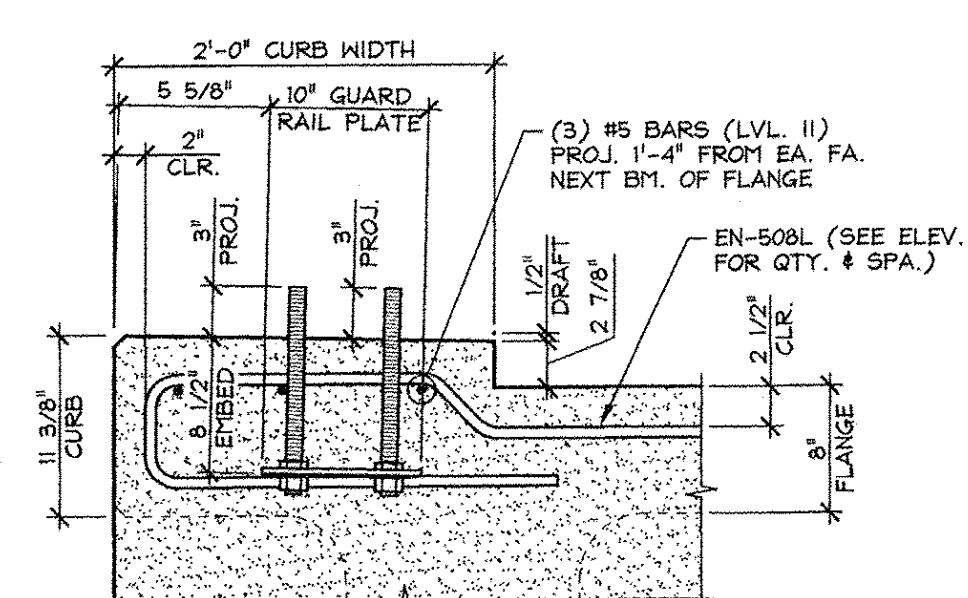
**5 CURTAIN WALL DIMENSIONAL PLAN**  
NB4.1 1/2" = 1'-0"



**2 CURTAIN WALL REINFORCING ELEVATION**  
NB4.1 3/4" = 1'-0"



**4 CURTAIN WALL REINFORCING ELEVATION**  
NB4.1 3/4" = 1'-0"



**A CURB & GUARD RAIL ANCHOR PLATE SECTION**  
NB4.1 1" = 1'-0"

59.12 T = NEXT BEAM  
4.30 T = CURTAIN WALL (MARK END)  
4.30 T = CURTAIN WALL (NON-MARK END)  
67.7 T = TOTAL BEAM WT.

ISSUED FOR PRODUCTION  
APR 09 2014  
J.P. CARRARA & SONS, INC.  
MIDDLEBURY, VT 05753

MARK: EN-NB3		QTY.: 1		
MATERIAL LIST / CURTAIN WALL				
ITEM	MARK	DESCRIPTION	QTY./CURTAIN WALL	
			MARK END	NON-MARK END
1	SH-502L	#5 BENT BAR (LEVEL II, DUAL COATED)	8	8
2	SH-503L	#5 BENT BAR (LEVEL II, DUAL COATED)	8	8
3	SH-505L	#5 BENT BAR (LEVEL II, DUAL COATED)	2	2
4	SH-508L	#5 BENT BAR (LEVEL II, DUAL COATED)	3	3
5				
6		#5 x 7'-7" (LVL. II, DUAL COATED)	2	2
7		#5 x 8'-4" (LVL. II, DUAL COATED)	5	5
8		#5 x 9'-1" (LVL. II, DUAL COATED)	4	4
9				
10				
11				
12				
13		GUARD RAIL ANCHOR PLATE (GALV.) (SUPPLIED BY OTHERS)	1	1
14		#8 x 2'-0" (LEVEL II, DUAL COATED)	4	4
15				

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APPROVED AS NOTED

REVISE AND RESUBMIT

NOT REVIEWED

Date: 4-11-2014

By: James H. [Signature]

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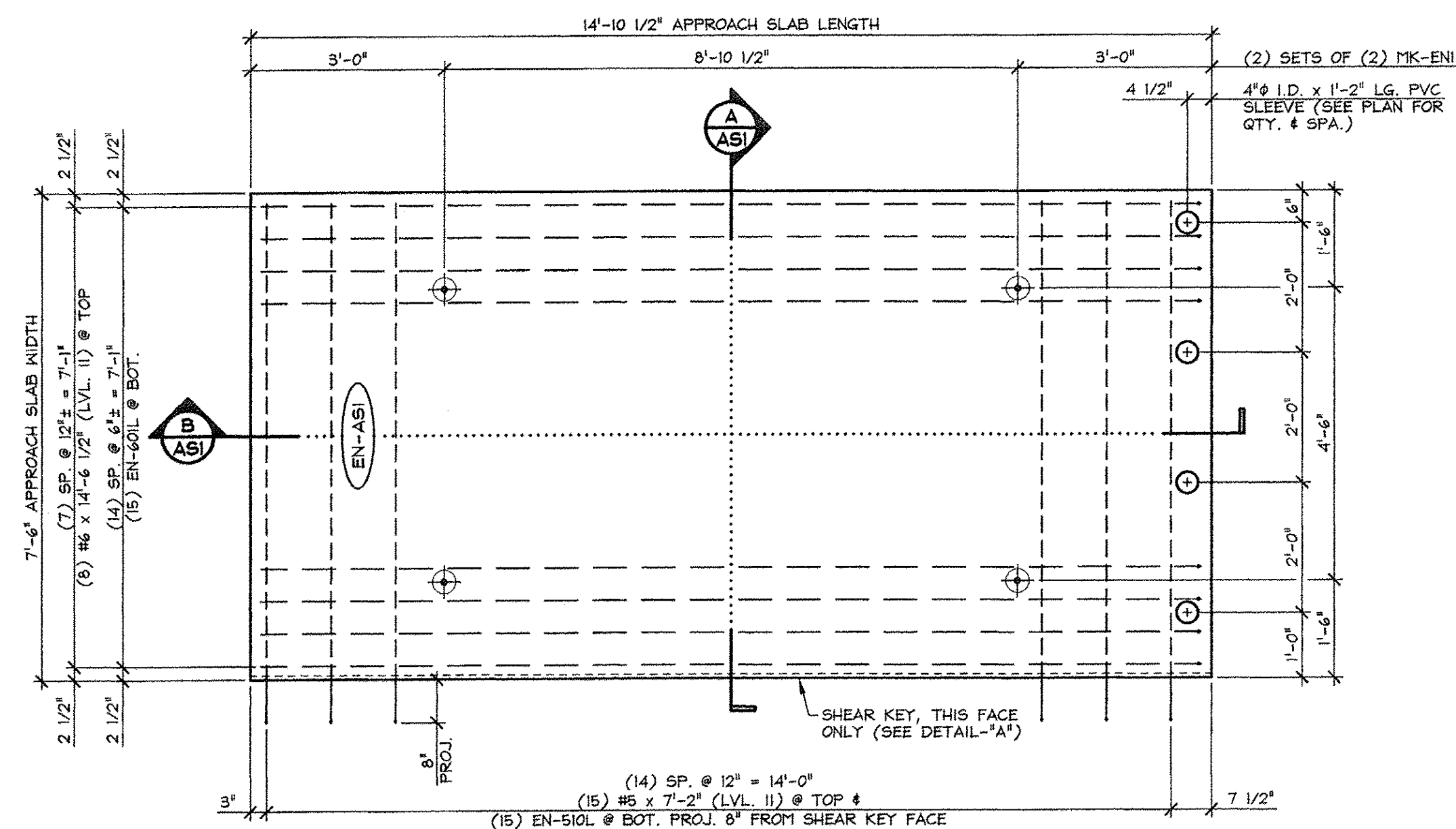
**J.P. CARRARA & SONS INC.** A.L. ST. ONGE CONTRACTOR, INC.  
Precast & Prestress Manufacturer CONTRACTOR  
264 CASE ST., MIDDLEBURY, VERMONT 05753 Phone: (802) 388-6361 Fax: (802) 388-8010 MONTGOMERY CENTER, VERMONT

**STATE OF VERMONT AGENCY OF TRANSPORTATION** DATE: JAN. 27, 2014  
COUNTY OF FRANKLIN SCALE: NOTED

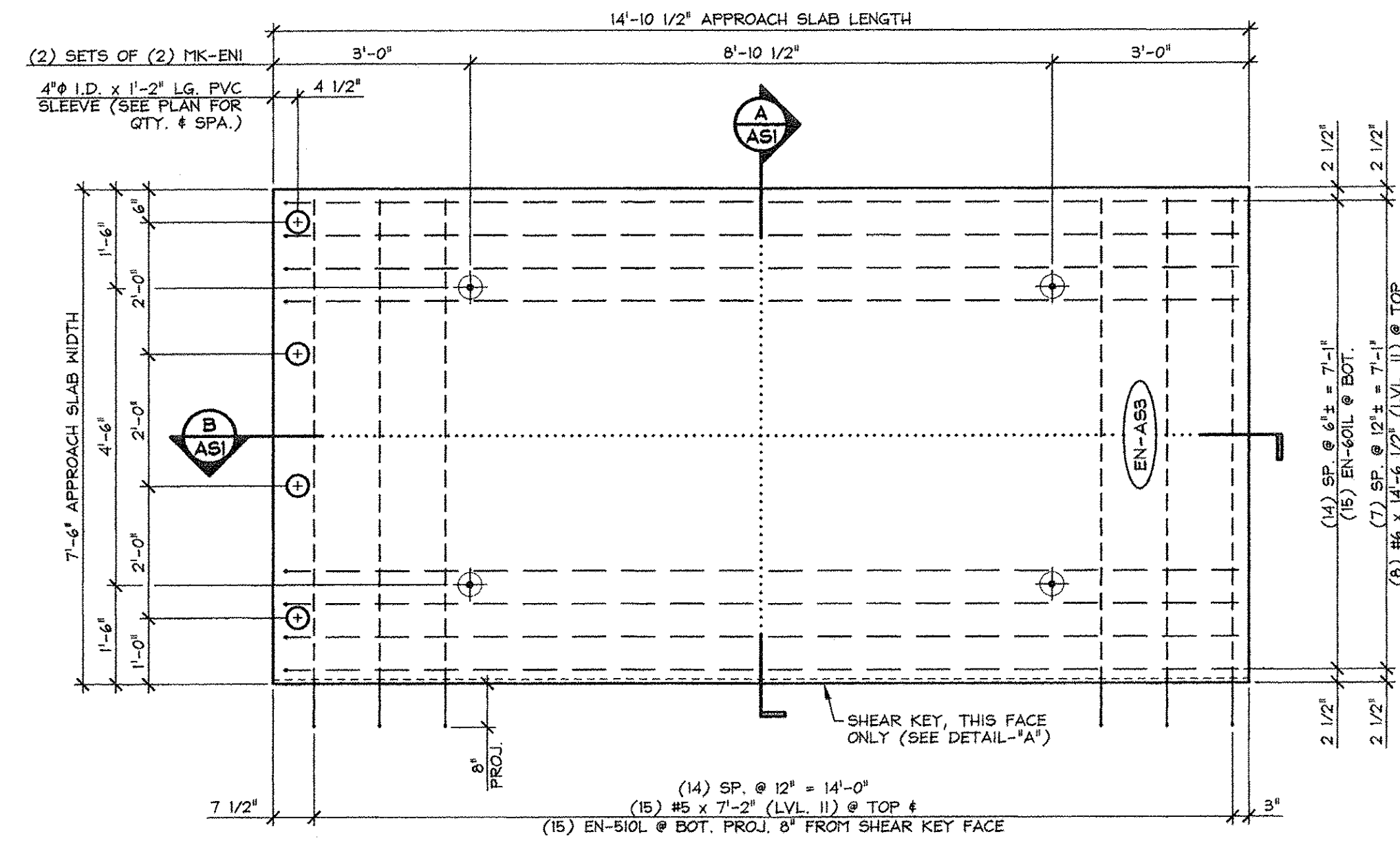
**TOWN OF ENOSBURG** CHKD: M.W. DFTM: B.L.  
BOSTON POST ROAD T.H.2 CLASS 2  
BRIDGE NO.: 48 PROJECT NO.: BRO 1448(40) JOB NO: 23418-013

**PRECAST CURTAIN WALL DETAILS** DWG. NO: NB4.1

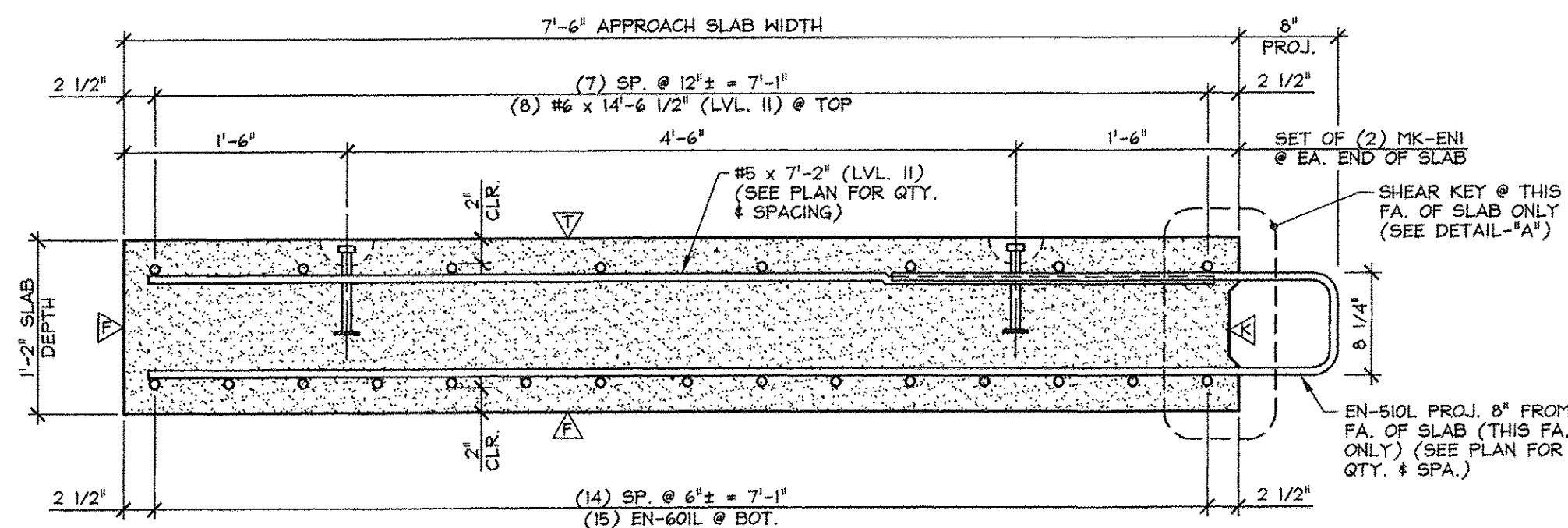




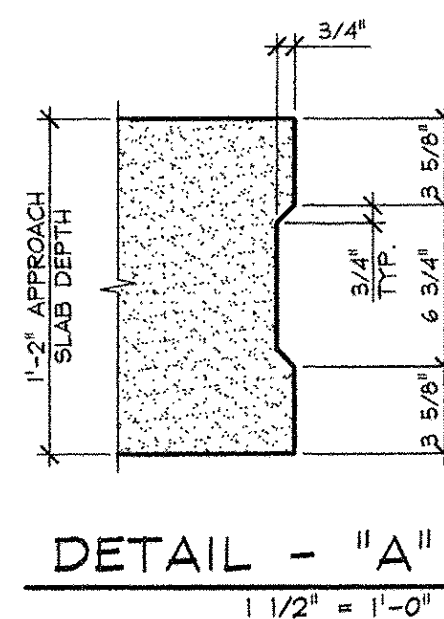
1 APPROACH SLAB PLAN VIEW IN FORM  
1/2" = 1'-0"



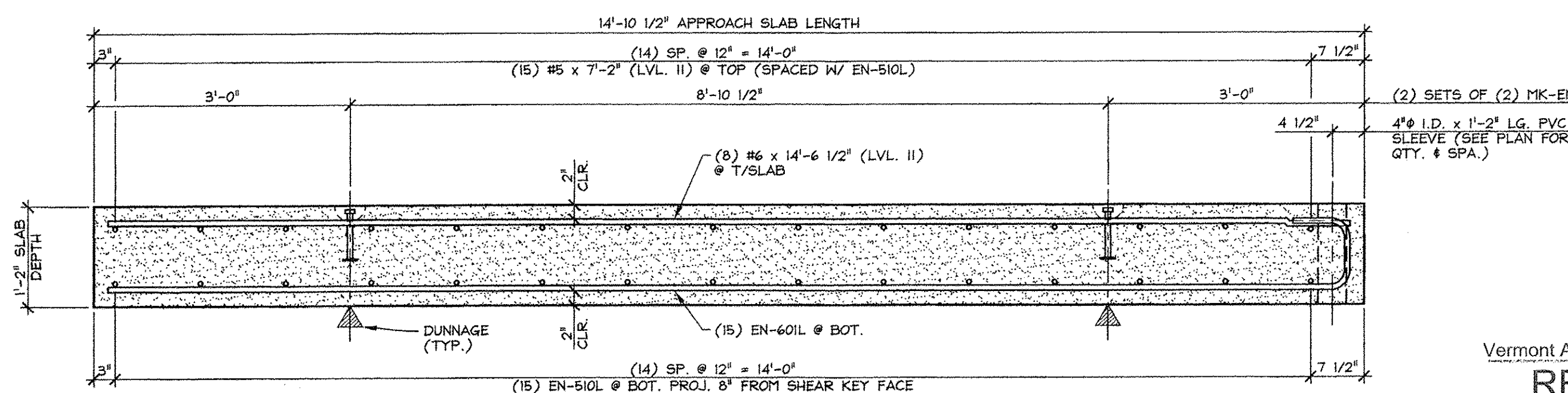
2 APPROACH SLAB PLAN VIEW IN FORM  
1/2" = 1'-0"



A TRANSVERSE SECTION  
1" = 1'-0"



DETAIL - "A"  
1 1/2" = 1'-0"



B LONGITUDINAL SECTION  
3/4" = 1'-0"

Vermont Agency of Transportation  
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BY: Rob Young DATE: 04/14/2014

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APPROVED AS NOTED

REVISE AND RESUBMIT

NOT REVIEWED

Date: 4-11-2014

By: James H. Houghton

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Stantec

MARK: EN-ASI	QTY.: 1	WT.: 9.7 T	VOL.: 4.8 cy
MARK: EN-AS3	QTY.: 1	WT.: 9.7 T	VOL.: 4.8 cy
MATERIAL LIST / APPROACH SLAB			
ITEM	MARK	DESCRIPTION	QTY./SLAB
1	EN-510L	#5 BENT BAR (LEVEL II, DUAL COATED)	15
2		#5 x 7'-2" (LEVEL II, DUAL COATED)	15
3			
4			
5	EN-60IL	#6 BENT BAR (LEVEL II, DUAL COATED)	15
6		#6 x 14'-6 1/2" (LEVEL II, DUAL COATED)	8
7			
8	MK-ENI	4T x 7 1/8" SKIFF LIFT LIFTER (GALVANIZE)	4
9		4" I.D. x 1'-2" PVC SLEEVE	4
10			

J.P. CARRARA & SONS INC. A.L. ST. ONGE CONTRACTOR, INC.  
Precast & Prestress Manufacturer CONTRACTOR  
244 CASE ST., MIDDLEBURY, VERMONT 05753 Phone: (802) 388-6361 Fax: (802) 388-9010 MONTGOMERY CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION  
COUNTY OF FRANKLIN

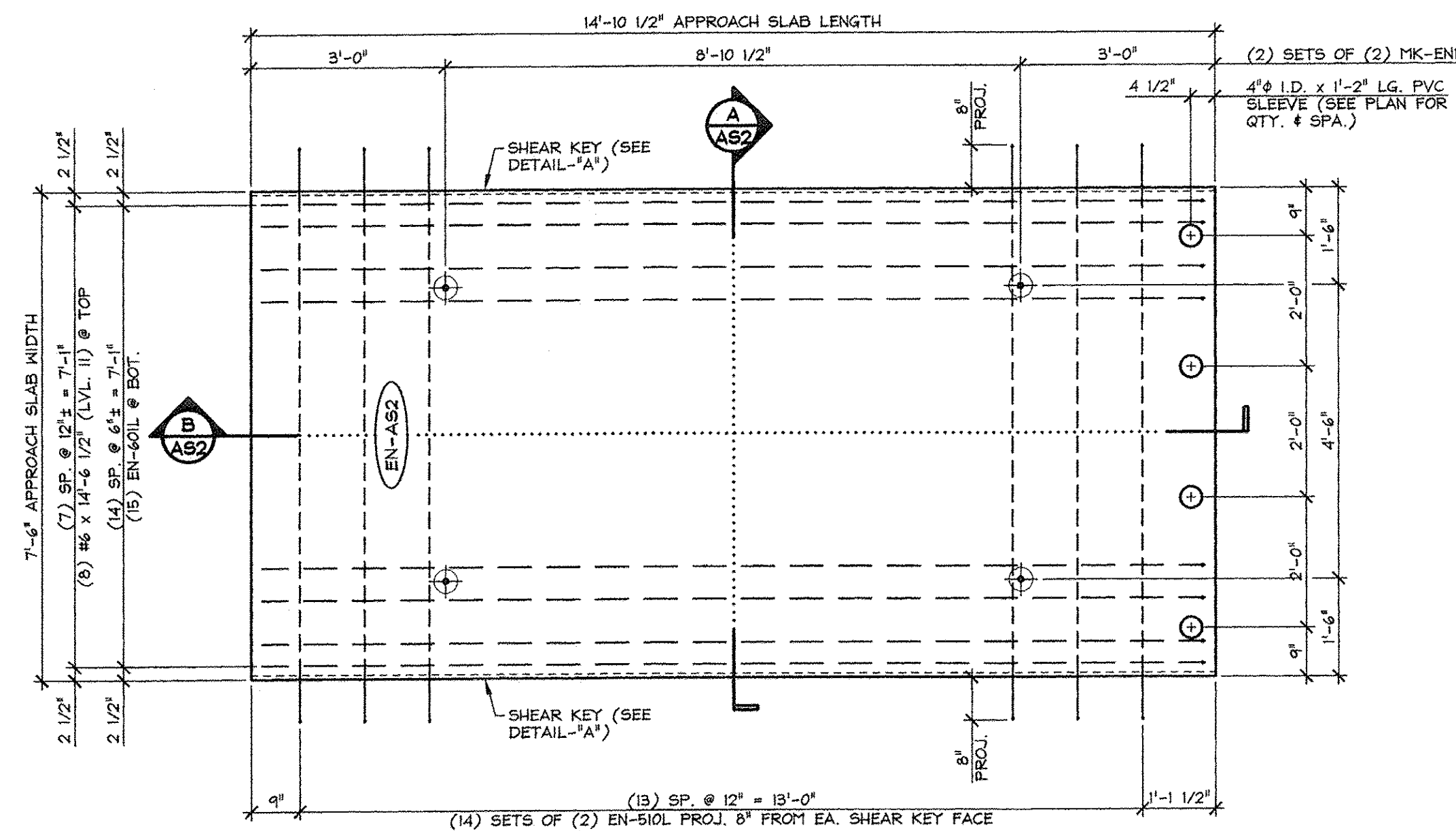
TOWN OF ENOSBURG  
BOSTON POST ROAD T.H.2 CLASS 2  
BRIDGE NO.: 48 PROJECT NO.: BRO 1448(40)

DATE: JAN. 27, 2014  
SCALE: NOTED  
CHKD: M.W. DFTM: B.L.  
JOB NO: 23418-013  
DWG. NO: ASI

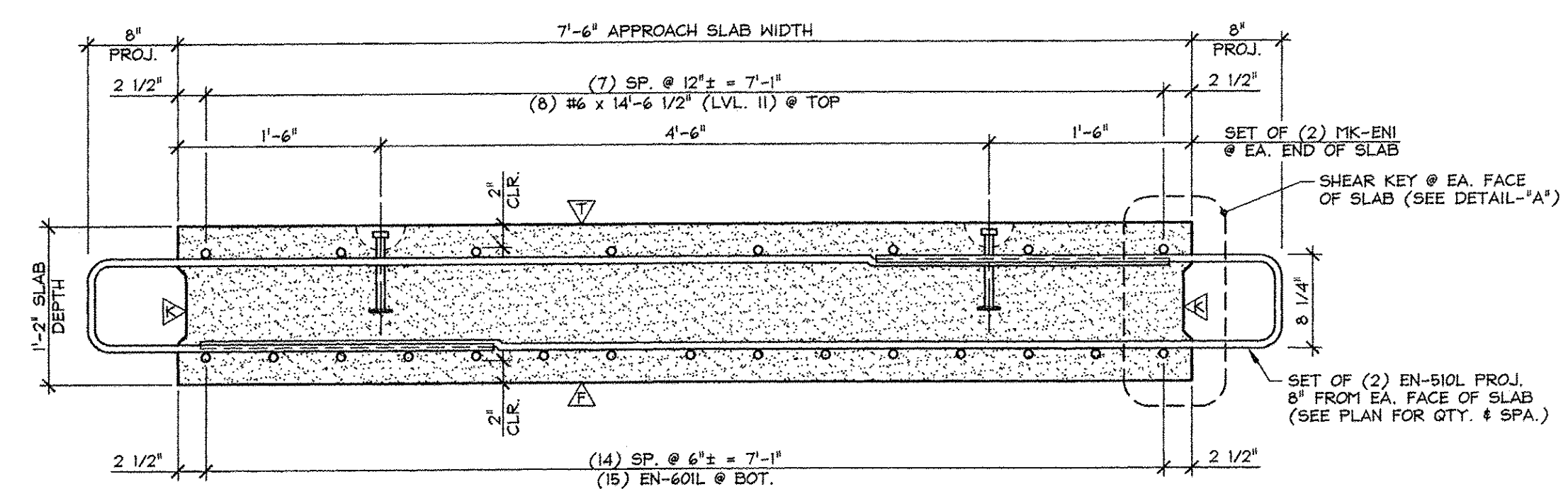
PRECAST APPROACH SLAB DETAILS

ISSUED FOR PRODUCTION  
APR 09 2014  
J.P. CARRARA & SONS, INC.  
MIDDLEBURY, VT 05753



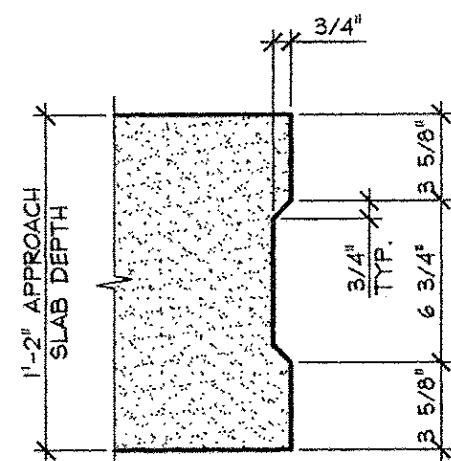


1 APPROACH SLAB PLAN VIEW IN FORM  
AS2  
1/2" = 1'-0"

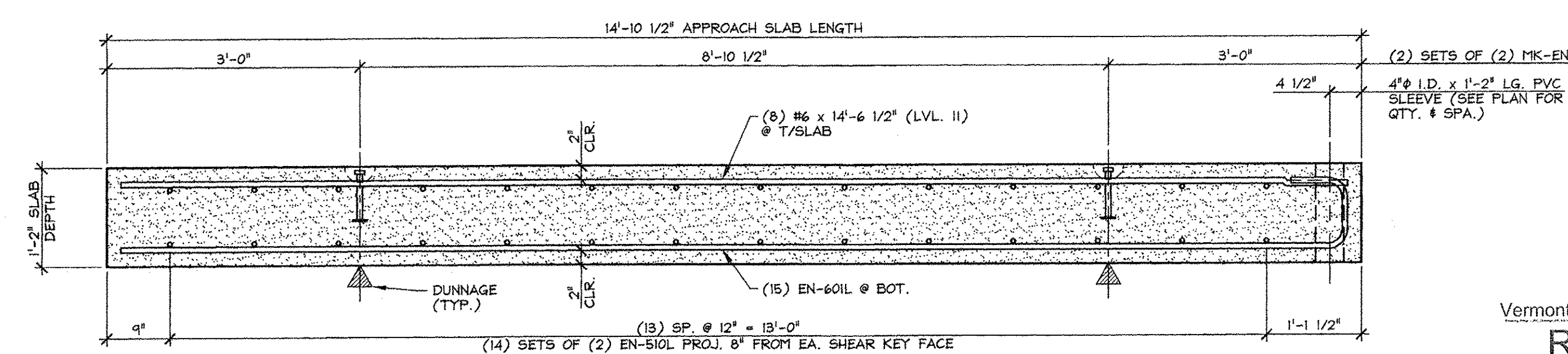


A TRANSVERSE SECTION  
AS2  
1" = 1'-0"

△ DENOTES FORM FINISH  
△ DENOTES FLOAT FINISH  
△ DENOTES ROUGHENED FINISH



DETAIL - "A"  
1 1/2" = 1'-0"



B LONGITUDINAL SECTION  
AS2  
3/4" = 1'-0"

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NOT REVIEWED

Date: 4-11-2014

By: James H. H. H.

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Stantec

Vermont Agency of Transportation  
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ON: April 9, 2014  
and Checked for  
CONFORMANCE  
BY: Rob Young DATE: 04/14/2014

MARK: EN-AS2	QTY.: 2	WT.: 9.7 T	VOL.: 4.8 cy
MARK: -	QTY.: -	WT.: -	VOL.: -
MATERIAL LIST / APPROACH SLAB			
ITEM	MARK	DESCRIPTION	QTY./SLAB
1	EN-510L	#5 BENT BAR (LEVEL II, DUAL COATED)	28
2			
3			
4	EN-60IL	#6 BENT BAR (LEVEL II, DUAL COATED)	15
5		#6 x 14'-6 1/2" (LEVEL II, DUAL COATED)	5
6			
7			
8	MK-ENI	4T x 7 1/8" SWIFT LIFT LIFTER (GALVANIZED)	4
9		4" I.D. x 1'-2" PVC SLEEVE	4
10			

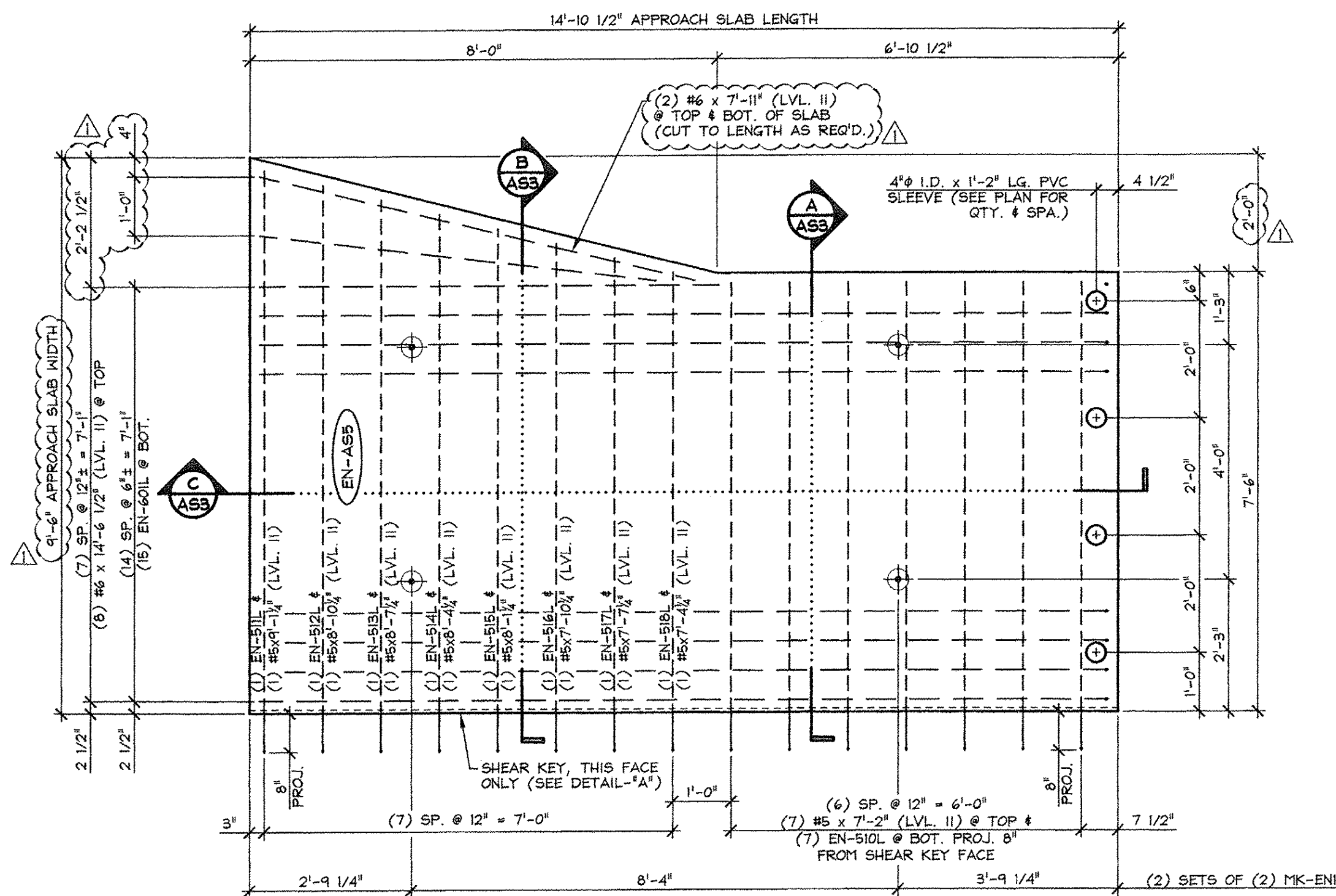
J.P. CARRARA & SONS INC. A.L. ST. ONGE CONTRACTOR, INC.  
Precast & Prestress Manufacturer CONTRACTOR  
2464 ONE ST. MONTGOMERY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010 MONTGOMERY CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF FRANKLIN DATE: JAN. 27, 2014  
SCALE: NOTED

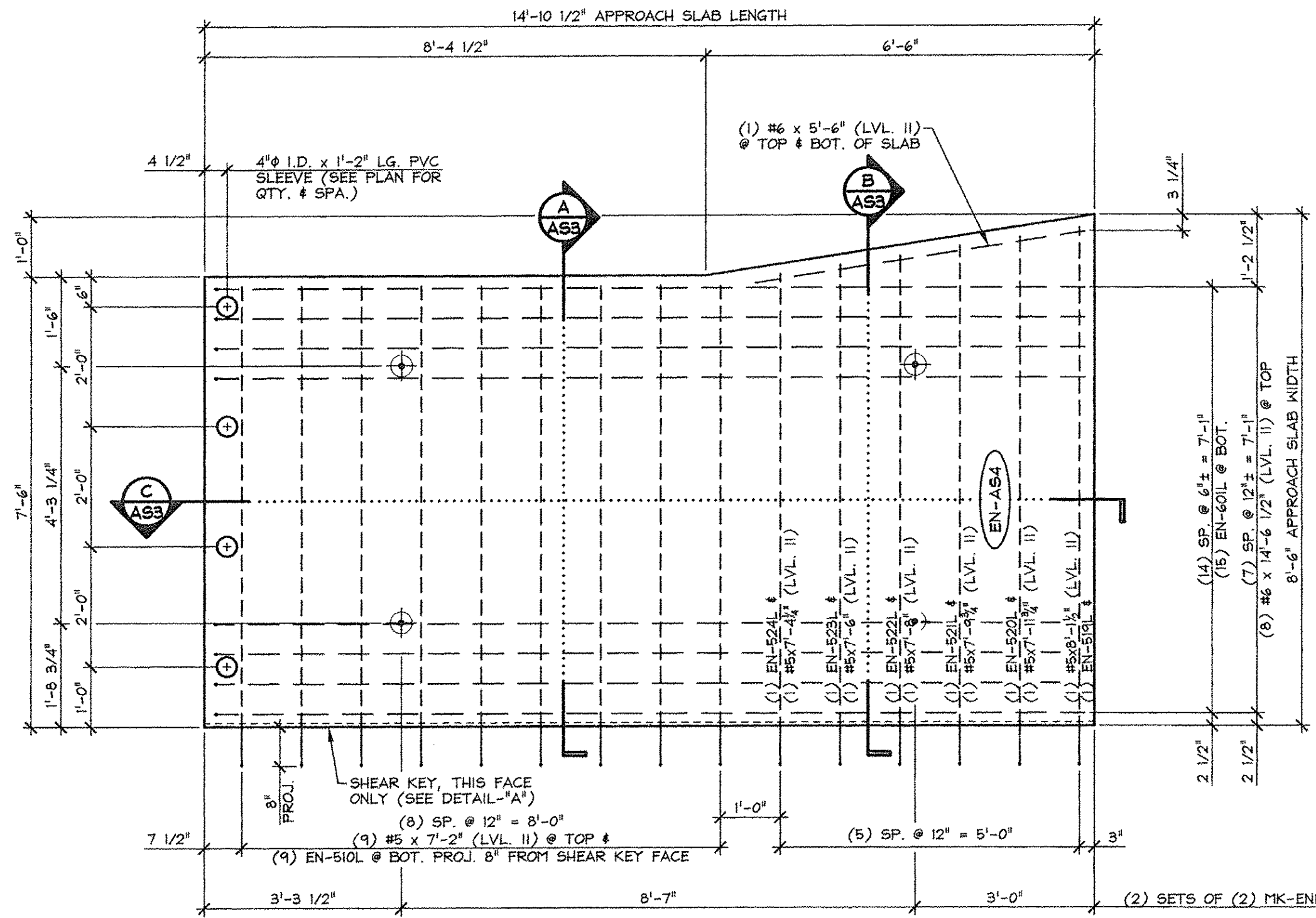
TOWN OF ENOSBURG  
BOSTON POST ROAD T.H.2 CLASS 2  
BRIDGE NO.: 48 PROJECT NO.: BRO 1448(40)  
CHKD: M.W. DFTM: B.L.  
JOB NO: 23418-013

PRECAST APPROACH SLAB DETAILS DWG. NO: AS2

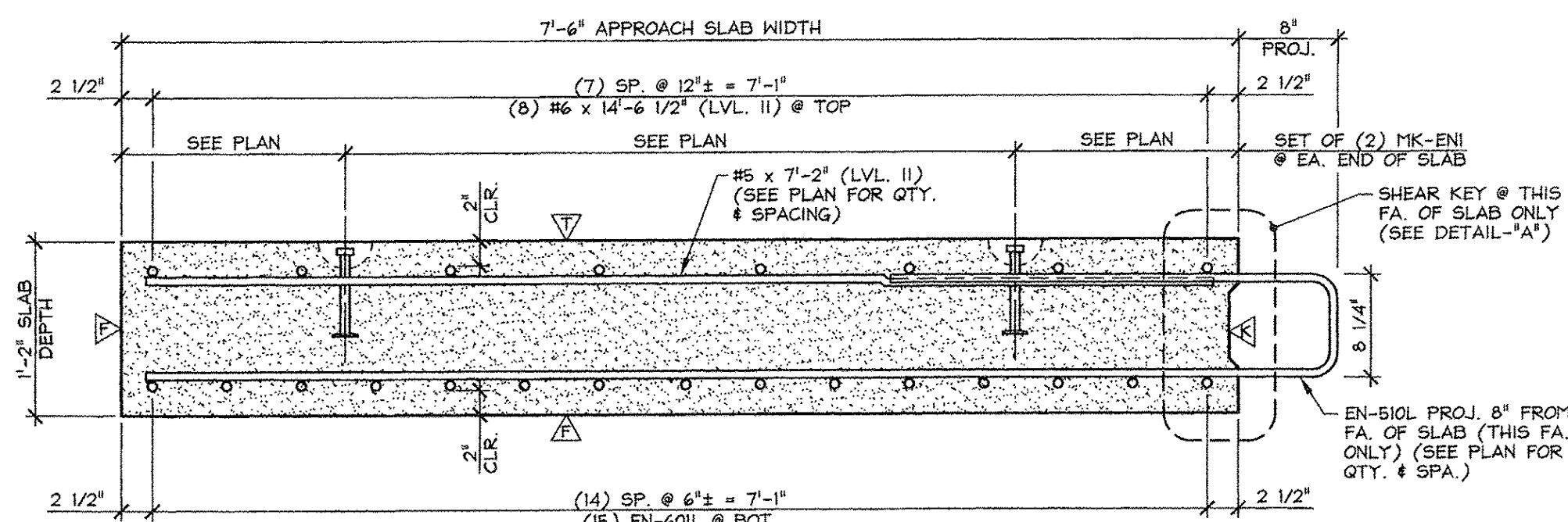




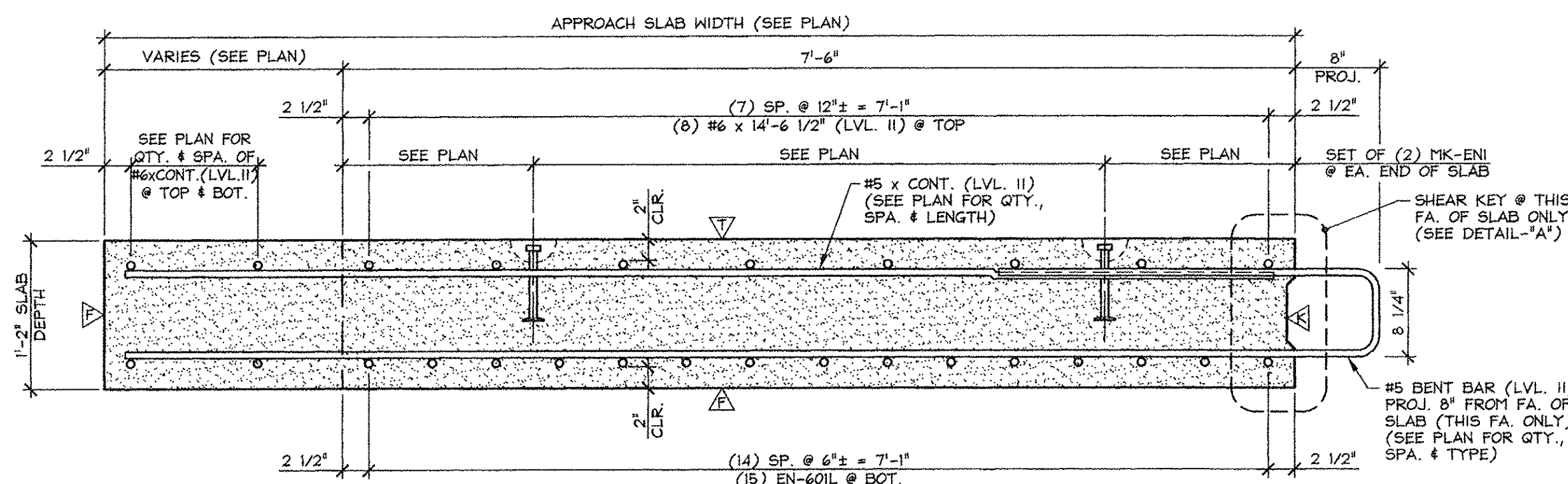
1 APPROACH SLAB PLAN VIEW IN FORM  
AS3  
1/2" = 1'-0"



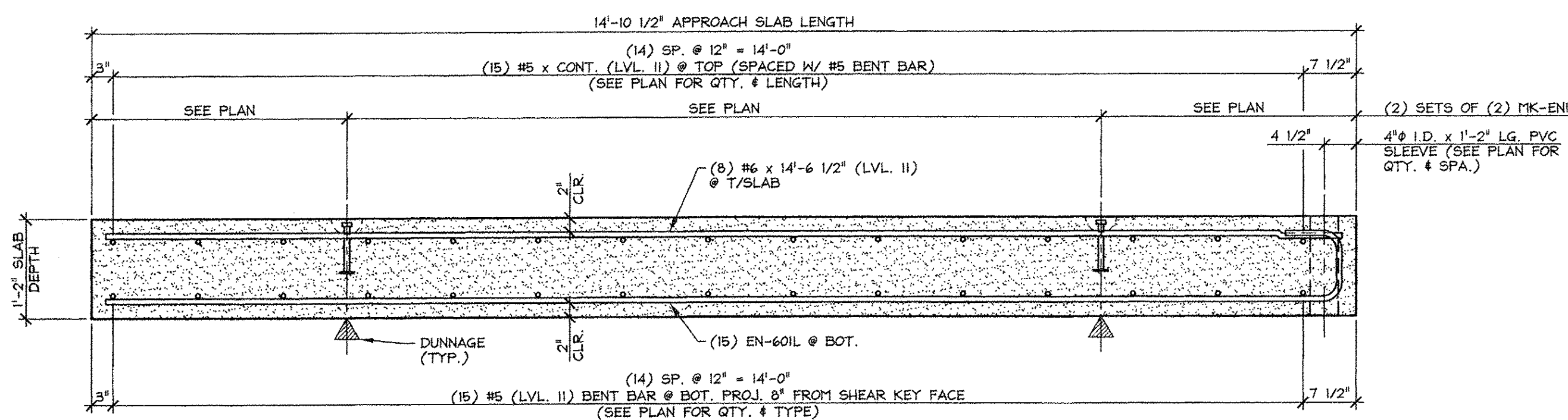
2 APPROACH SLAB PLAN VIEW IN FORM  
AS3  
1/2" = 1'-0"



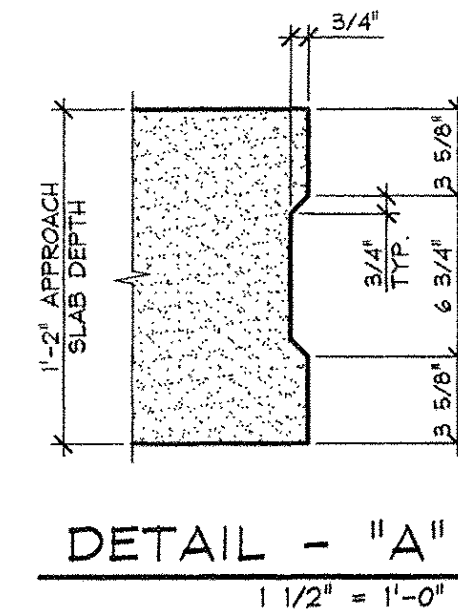
A TRANSVERSE SECTION  
AS3  
1\"/>



B TRANSVERSE SECTION  
AS3  
1\"/>



C LONGITUDINAL SECTION  
AS3  
3/4\"/>



DETAIL - "A"  
1 1/2\"/>

APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements	X	Stantec
APPROVED AS NOTED		
REVISE AND RESUBMIT		
NOT REVIEWED		
By: <i>James H. [Signature]</i>	Date: 4-11-2014	
This review by Stantec Consulting Services Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that Stantec Consulting Services Inc. approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor. Submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawing or of his responsibility for meeting all requirements of the Contract Documents. The contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or to techniques of construction and installation and for coordination of the work of all subtrades.		

Vermont Agency of Transportation  
**RECEIVED**  
 ON: April 9, 2014  
 and Checked for  
**CONFORMANCE**  
 BY: Rob Young DATE: 04/14/2014

ISSUED FOR PRODUCTION  
 APR 09 2014  
 J. P. CARRARA & SONS, INC.  
 MIDDLEBURY, VT 05753

MARK: EN-AS5	QTY.: 1	WT.: 10.81 T	VOL.: 5.34 cy
MARK: EN-AS4	QTY.: 1	WT.: 10.05 T	VOL.: 4.96 cy

MATERIAL LIST / APPROACH SLAB				
ITEM	MARK	DESCRIPTION	QTY./SLAB	
			EN-AS5	EN-AS4
1	EN-510L	#5 BENT BAR (LEVEL II, DUAL COATED)	7	9
2	EN-511L	#5 BENT BAR (LEVEL II, DUAL COATED)	1	
3	EN-512L	#5 BENT BAR (LEVEL II, DUAL COATED)	1	
4	EN-513L	#5 BENT BAR (LEVEL II, DUAL COATED)	1	
5	EN-514L	#5 BENT BAR (LEVEL II, DUAL COATED)	1	
6	EN-515L	#5 BENT BAR (LEVEL II, DUAL COATED)	1	
7	EN-516L	#5 BENT BAR (LEVEL II, DUAL COATED)	1	
8	EN-517L	#5 BENT BAR (LEVEL II, DUAL COATED)	1	
9	EN-518L	#5 BENT BAR (LEVEL II, DUAL COATED)	1	
10	EN-519L	#5 BENT BAR (LEVEL II, DUAL COATED)	1	
11	EN-520L	#5 BENT BAR (LEVEL II, DUAL COATED)	1	
12	EN-521L	#5 BENT BAR (LEVEL II, DUAL COATED)	1	
13	EN-522L	#5 BENT BAR (LEVEL II, DUAL COATED)	1	
14	EN-523L	#5 BENT BAR (LEVEL II, DUAL COATED)	1	
15	EN-524L	#5 BENT BAR (LEVEL II, DUAL COATED)	1	
16		#5 x 7'-2" (LEVEL II, DUAL COATED)	7	9
17		#5 x 9'-1 1/4" (LEVEL II, DUAL COATED)	1	
18		#5 x 8'-10 1/4" (LEVEL II, DUAL COATED)	1	
19		#5 x 8'-7 1/4" (LEVEL II, DUAL COATED)	1	
20		#5 x 8'-4 1/4" (LEVEL II, DUAL COATED)	1	
21		#5 x 8'-1 1/4" (LEVEL II, DUAL COATED)	1	
22		#5 x 7'-10 1/4" (LEVEL II, DUAL COATED)	1	
23		#5 x 7'-7 1/4" (LEVEL II, DUAL COATED)	1	
24		#5 x 7'-4 1/4" (LEVEL II, DUAL COATED)	1	
25		#5 x 8'-1 1/2" (LEVEL II, DUAL COATED)	1	
26		#5 x 7'-11 3/4" (LEVEL II, DUAL COATED)	1	
27		#5 x 7'-9 3/4" (LEVEL II, DUAL COATED)	1	
28		#5 x 7'-8" (LEVEL II, DUAL COATED)	1	
29		#5 x 7'-6" (LEVEL II, DUAL COATED)	1	
30		#5 x 7'-4 1/4" (LEVEL II, DUAL COATED)	1	
31				
32	EN-601L	#6 BENT BAR (LEVEL II, DUAL COATED)	15	15
33		#6 x 14'-6 1/2" (LEVEL II, DUAL COATED)	8	8
34		#6 x 7'-11" (LEVEL II, DUAL COATED)	4	
35		#6 x 5'-6" (LEVEL II, DUAL COATED)	2	
36				
37	MK-ENI	4T x 7 1/8" SHIFT LIFT LIFTER ((GALVANIZE))	4	4
38		4" I.D. x 1'-2" PVC SLEEVE	4	4
39				
40				

J.P. CARRARA & SONS INC. Precast & Prestress Manufacturer 2444 OISE STR., MIDDLEBURY, VERMONT 05753 Phone: (802) 388-6361 Fax: (802) 388-9010	A.L. St. ONGE CONTRACTOR, INC. CONTRACTOR MONTGOMERY CENTER, VERMONT
STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF FRANKLIN	DATE: JAN. 27, 2014 SCALE: NOTED
TOWN OF ENOSBURG BOSTON POST ROAD T.H.2 CLASS 2 BRIDGE NO.: 48 PROJECT NO.: BRO 1448(40)	CHKD: M.W. DFTM: B.L. JOB NO: 23418-013
PRECAST APPROACH SLAB DETAILS	DWG. NO: AS3





**SHOP NOTE:**  
ALL EDGES OF ABUTMENT SHALL  
RECEIVE A 1" CHAMFER (U.N.O.)

**SHOP NOTE:**  
f'c = 5,000 PSI  
f'ci = 4,000 PSI  
MIX: #445MSCC

ISSUED FOR  
PRODUCTION

APR 09 2014

L. P. CARRARA &amp; SONS, INC.

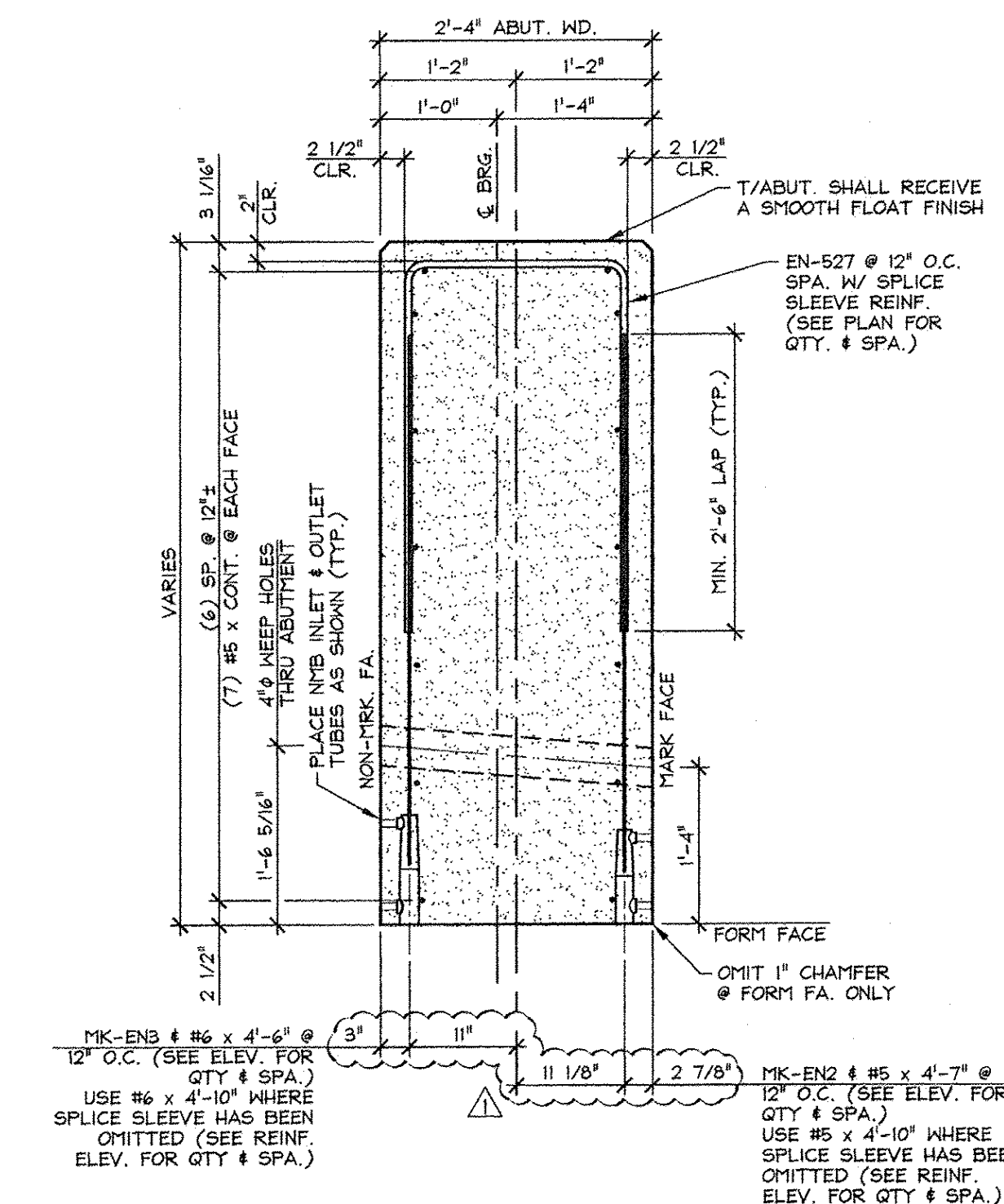
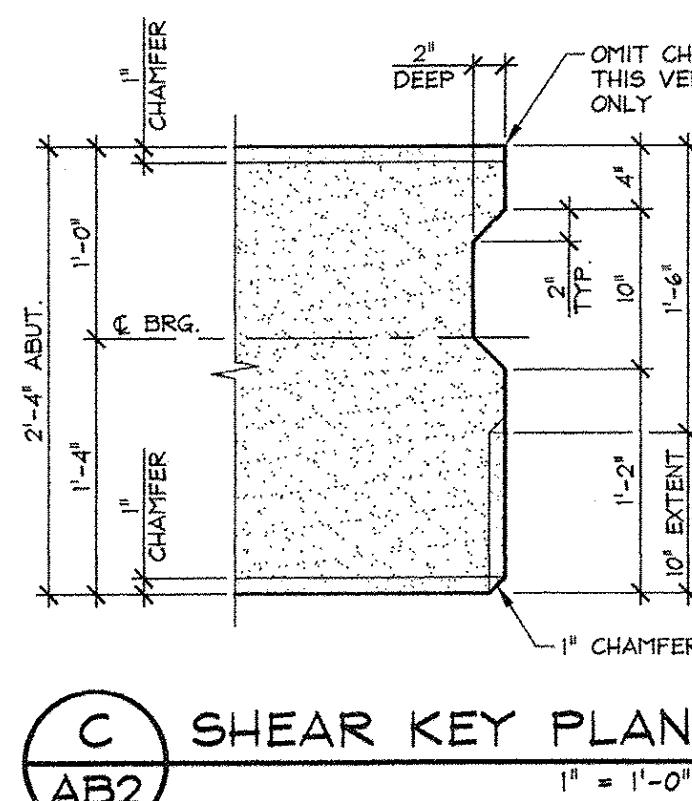
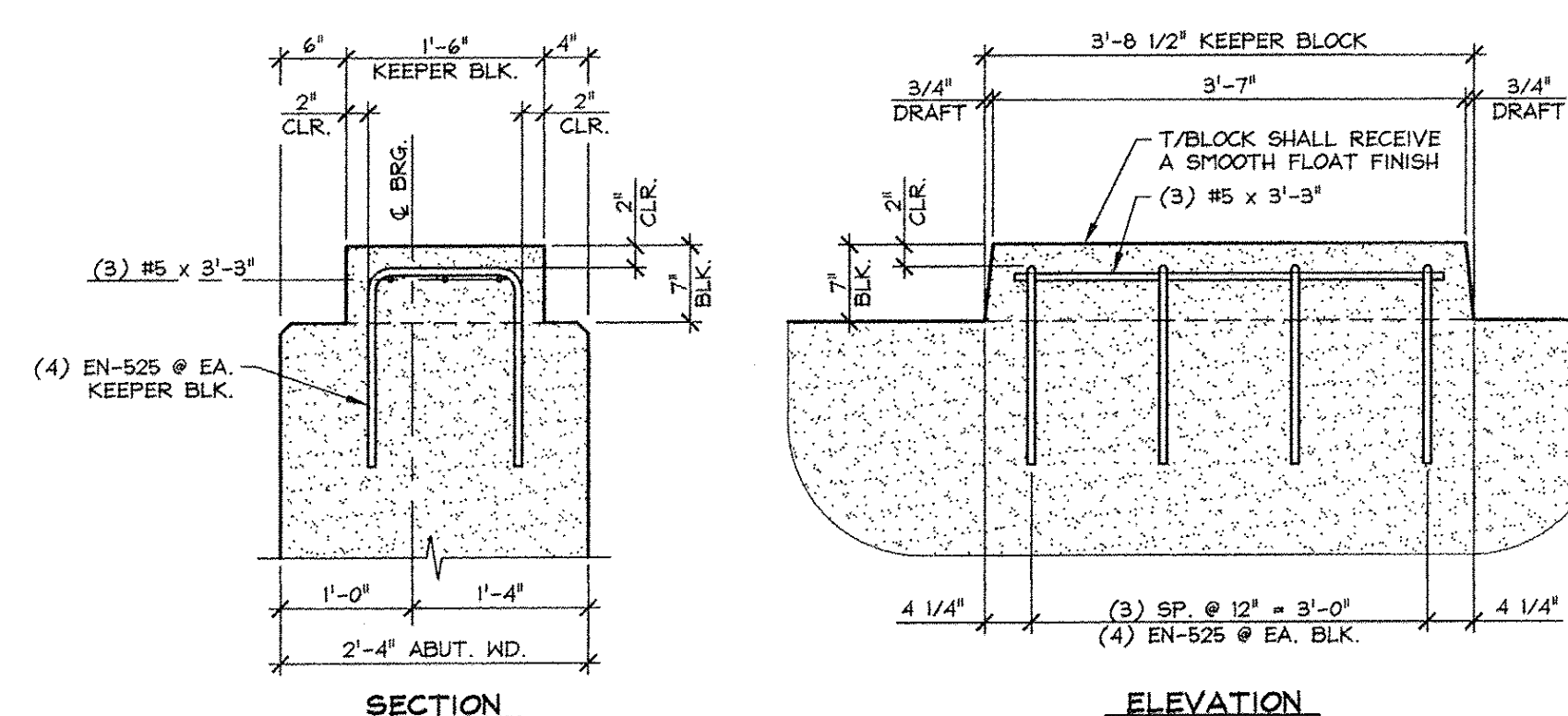
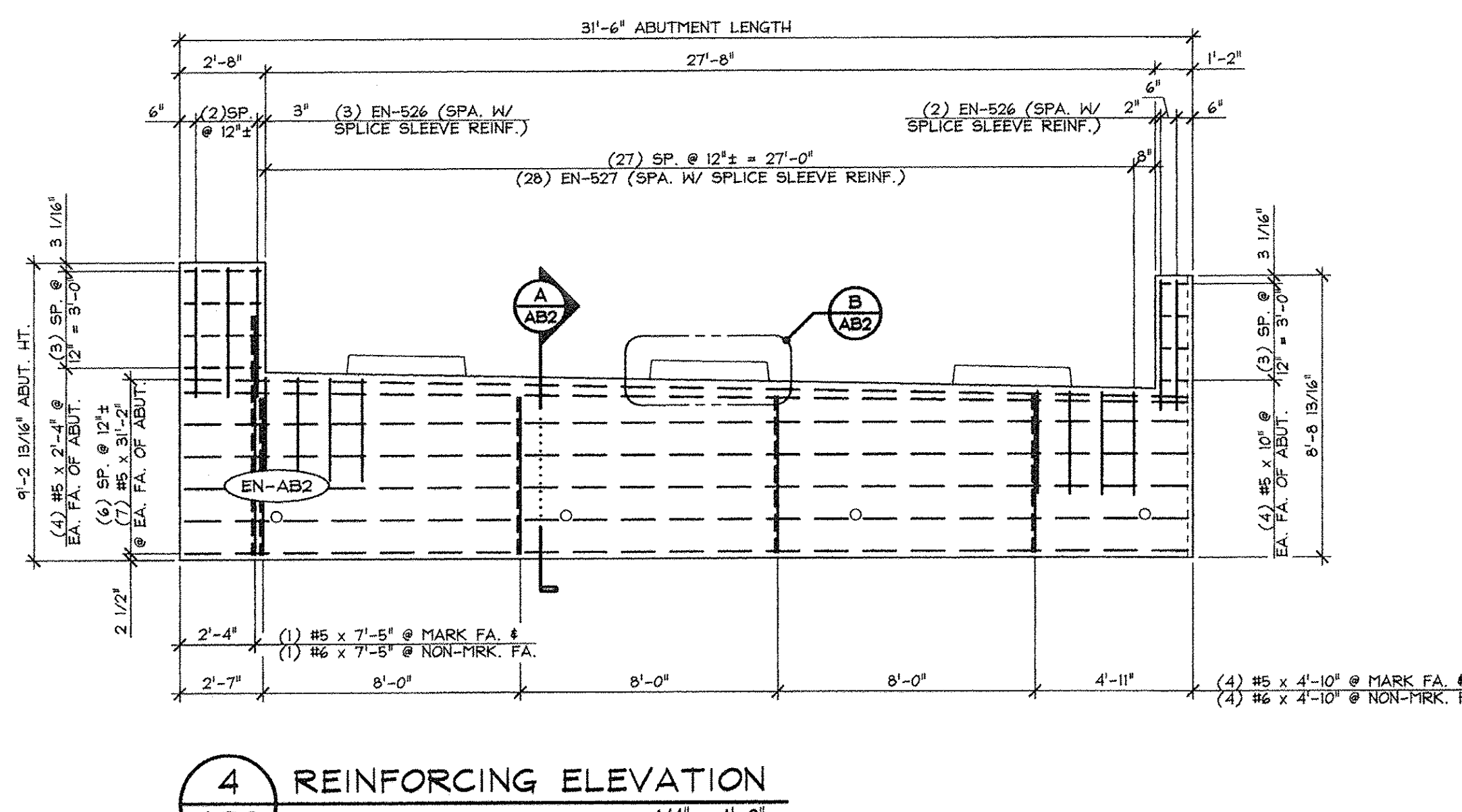
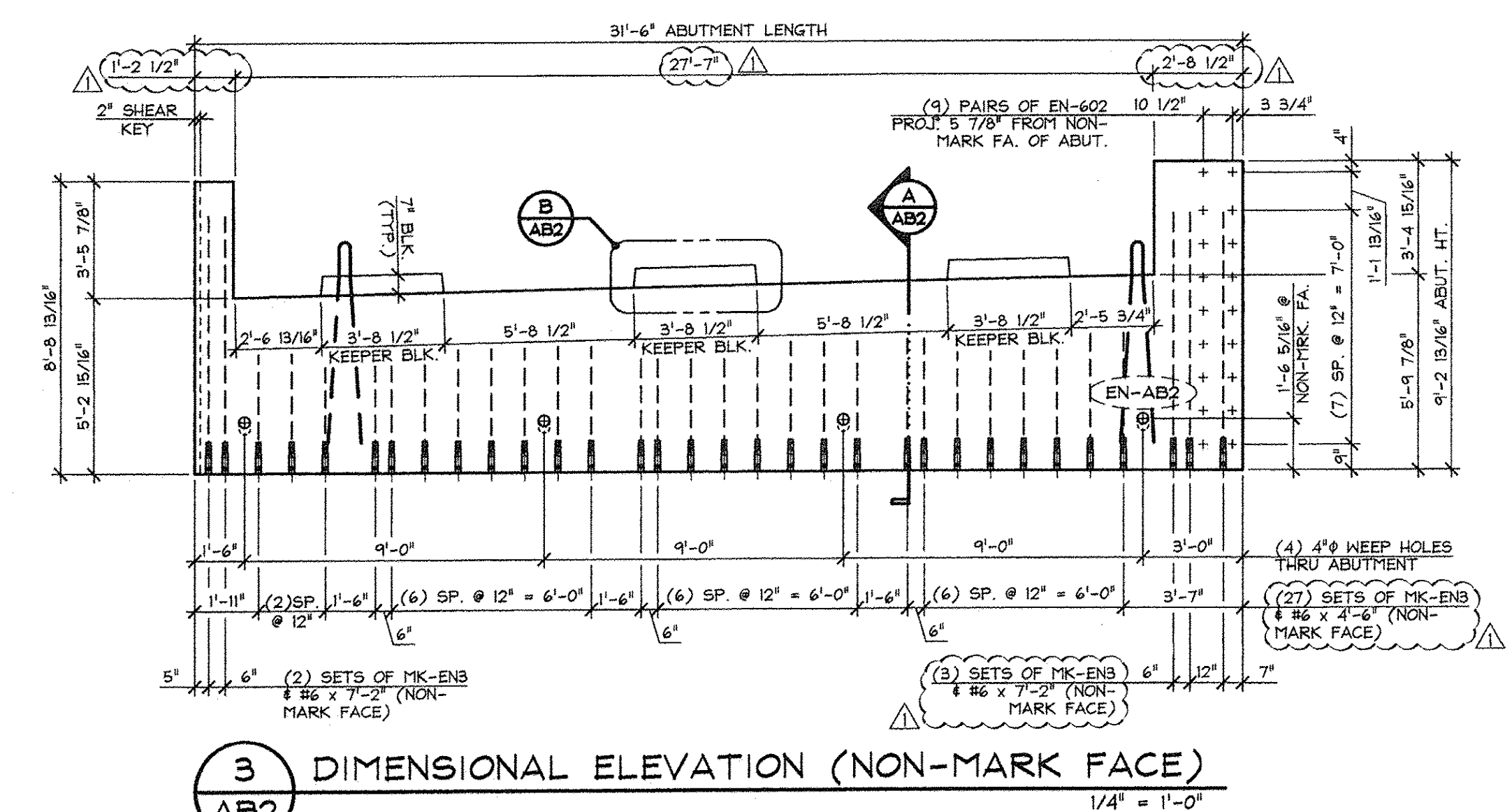
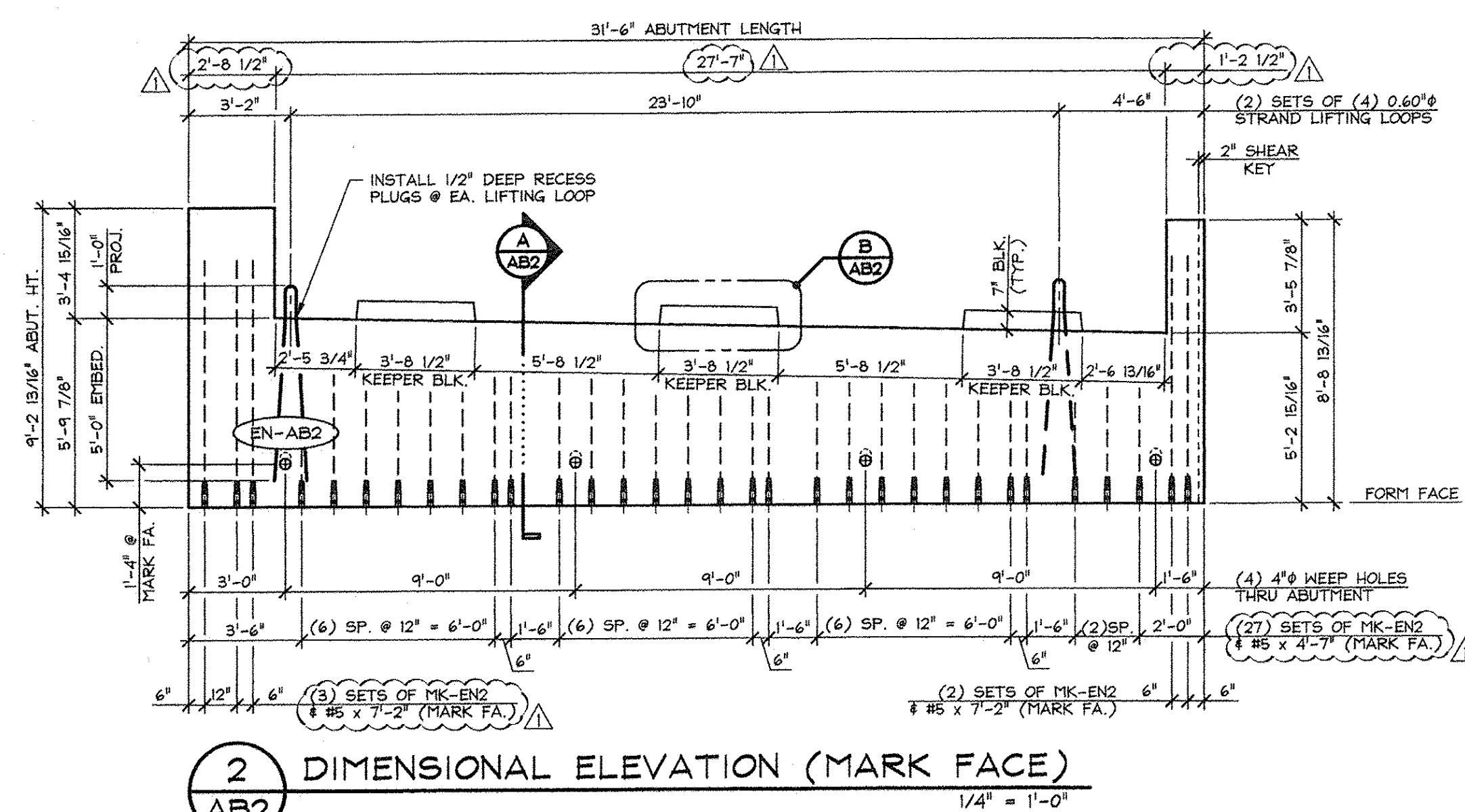
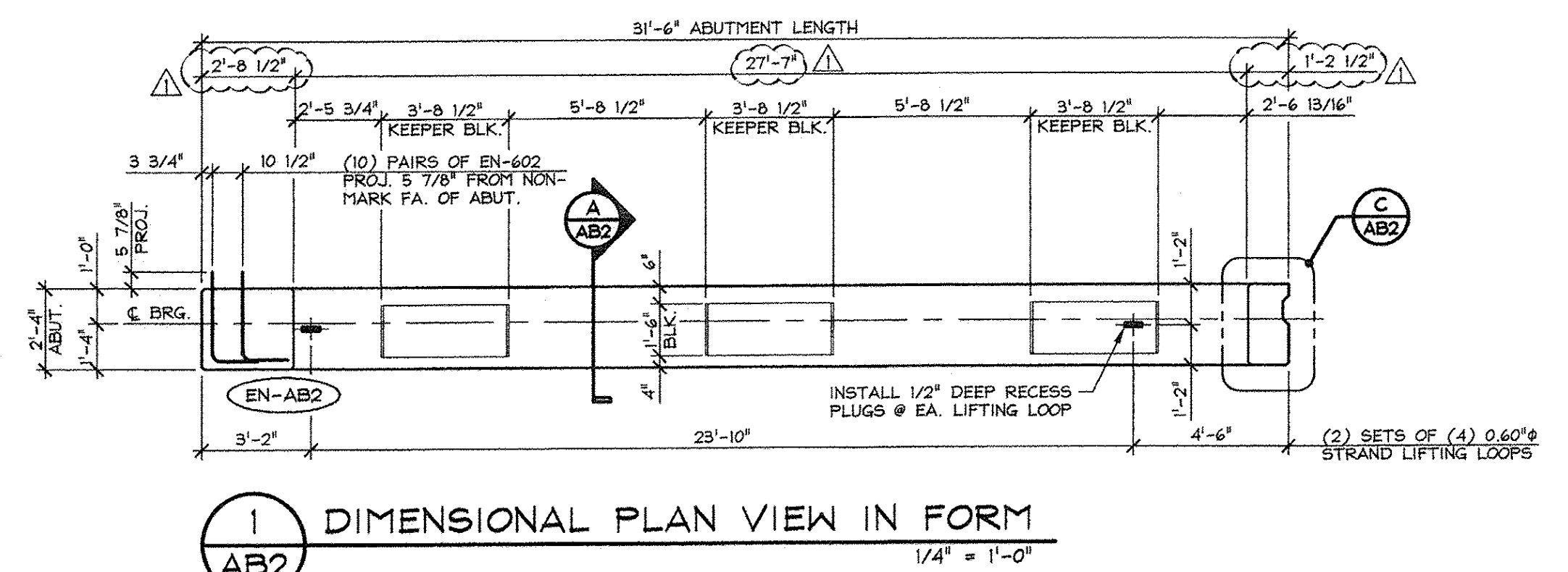
MIDDLEBURY, VT 0575

<b>J.P. CARRARA &amp; SONS INC.</b> Precast & Prestress Manufacturer 2404 GISE STR., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010		<b>A.L. ST. ONGE CONTRACTOR, INC.</b> CONTRACTOR MONTGOMERY CENTER, VERMONT	
<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b> COUNTY OF FRANKLIN		DATE: JAN. 27, 2014 SCALE: NOTED	
<b>TOWN OF ENOSBURG</b> BOSTON POST ROAD T.H.2 CLASS 2 BRIDGE NO.: 48 PROJECT NO.: BRO 1448(40)		CHKD: M.W.	DFTM: B.L.
<b>PRECAST ABUTMENT DETAILS</b>		JOB NO: 23418-013	DWG. NO: <b>AB1</b>

APPROVED: Approval of drawings and for procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements	X	 <b>Stantec</b>
APPROVED AS NOTED		
REVISE AND RESUBMIT		
NOT REVIEWED		
Date: 4-11-2014		
By: James Hargrave		
This review of Stantec Consulting Services Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that Stantec Consulting Services Inc approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor. Submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawing or of his responsibility for meeting all requirements of the Contractor Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or to techniques of construction and installation and for coordination of the work of all subtrades.		

Vermont Agency of Transportation  
RECEIVED  
ON: April 9, 2014  
and Checked for  
CONFORMANCE  
BY: Rob Young DATE: 04/14/2014





**SHOP NOTE:**  
ALL EDGES OF ABUTMENT SHALL RECEIVE A 1" CHAMFER (U.N.O.)

**SHOP NOTE:**  
Pc = 5,000 PSI  
fcd = 4,000 PSI  
MIX: #4451MCC

MARK: EN-AB2 QTY.: 1 WT.: 33.53 T VOL.: 16.56 cy			
MATERIAL LIST / ABUTMENT			
ITEM	MARK	DESCRIPTION	QTY.
1	EN-525	#5 BENT BAR (LEVEL I, BLACK STEEL)	12
2	EN-526	#5 BENT BAR (LEVEL I, BLACK STEEL)	5
3	EN-527	#5 BENT BAR (LEVEL I, BLACK STEEL)	28
4		#5 x 3'-3" (LEVEL I, BLACK STEEL)	9
5		#5 x 4'-7" (LEVEL I, BLACK STEEL)	27
6		#5 x 4'-10" (LEVEL I, BLACK STEEL)	4
7		#5 x 7'-2" (LEVEL I, BLACK STEEL)	5
8		#5 x 3'-2" (LEVEL I, BLACK STEEL)	14
9		#5 x 2'-4" (LEVEL I, BLACK STEEL)	8
10		#5 x 7'-5" (LEVEL I, BLACK STEEL)	1
11		#5 x 10" (LEVEL I, BLACK STEEL)	8
12			
13	EN-602	#6 BENT BAR (LEVEL I, BLACK STEEL)	18
14		#6 x 4'-6" (LEVEL I, BLACK STEEL)	27
15		#6 x 4'-10" (LEVEL I, BLACK STEEL)	4
16		#6 x 7'-2" (LEVEL I, BLACK STEEL)	5
17		#6 x 7'-5" (LEVEL I, BLACK STEEL)	1
18			
19			
20			
21	MK-EN2	N#B SPLICE SLEEVE 5U-X(PG) (BLACK STEEL)	32
22	MK-EN3	N#B SPLICE SLEEVE 6U-X(PG) (BLACK STEEL)	32
23		SET OF (4) 0.60% STRAND LIFTING LOOPS	2
24			
25			

Vermont Agency of Transportation  
**RECEIVED**  
ON: April 9, 2014  
and Checked for  
**CONFORMANCE**  
BY: Rob Young DATE: 04/14/2014

APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements

APPROVED AS NOTED

REVISE AND RESUBMIT

NOT REVIEWED

Date: 4-11-2014

By: James H. [Signature]

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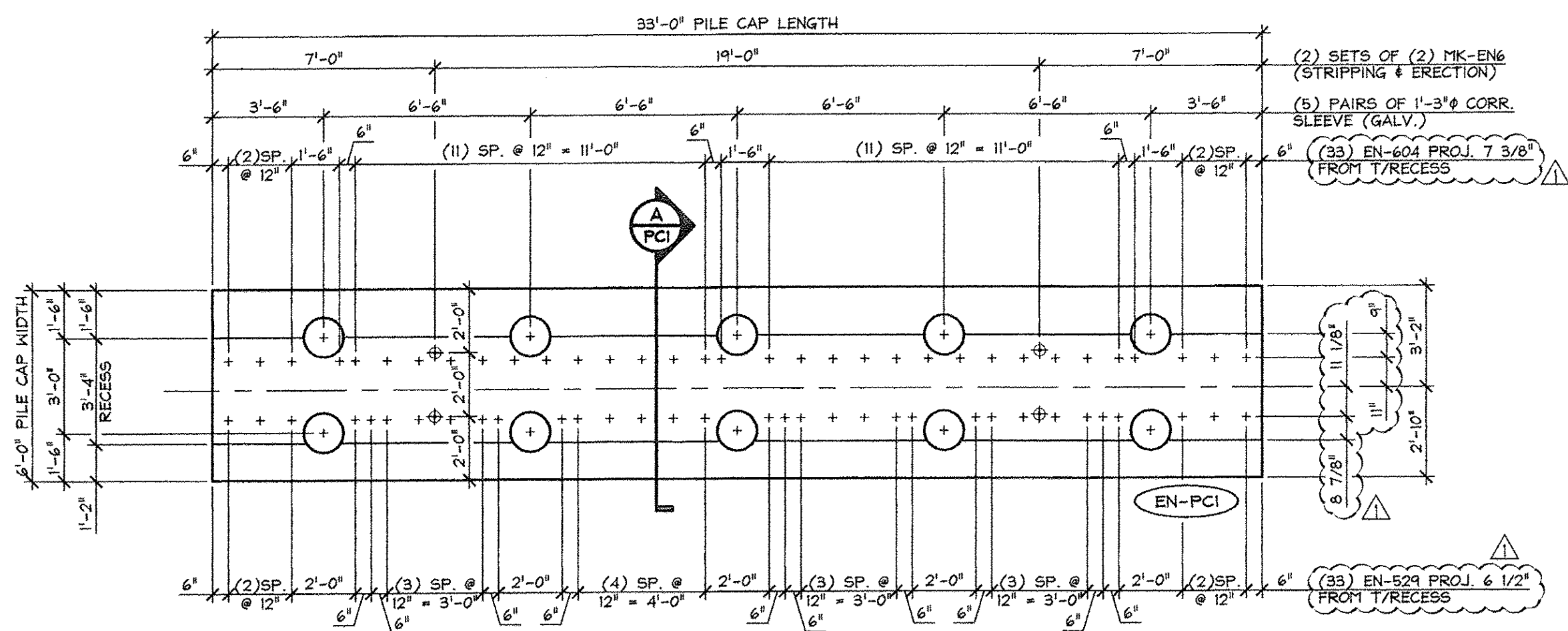
**J.P. CARRARA & SONS INC.** A.L. St. ONGE CONTRACTOR, INC.  
Precast & Prestress Manufacturer CONTRACTOR  
2464 CASE ST., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-6010 MONTGOMERY CENTER, VERMONT

**STATE OF VERMONT AGENCY OF TRANSPORTATION** DATE: JAN. 27, 2014  
COUNTY OF FRANKLIN SCALE: NOTED

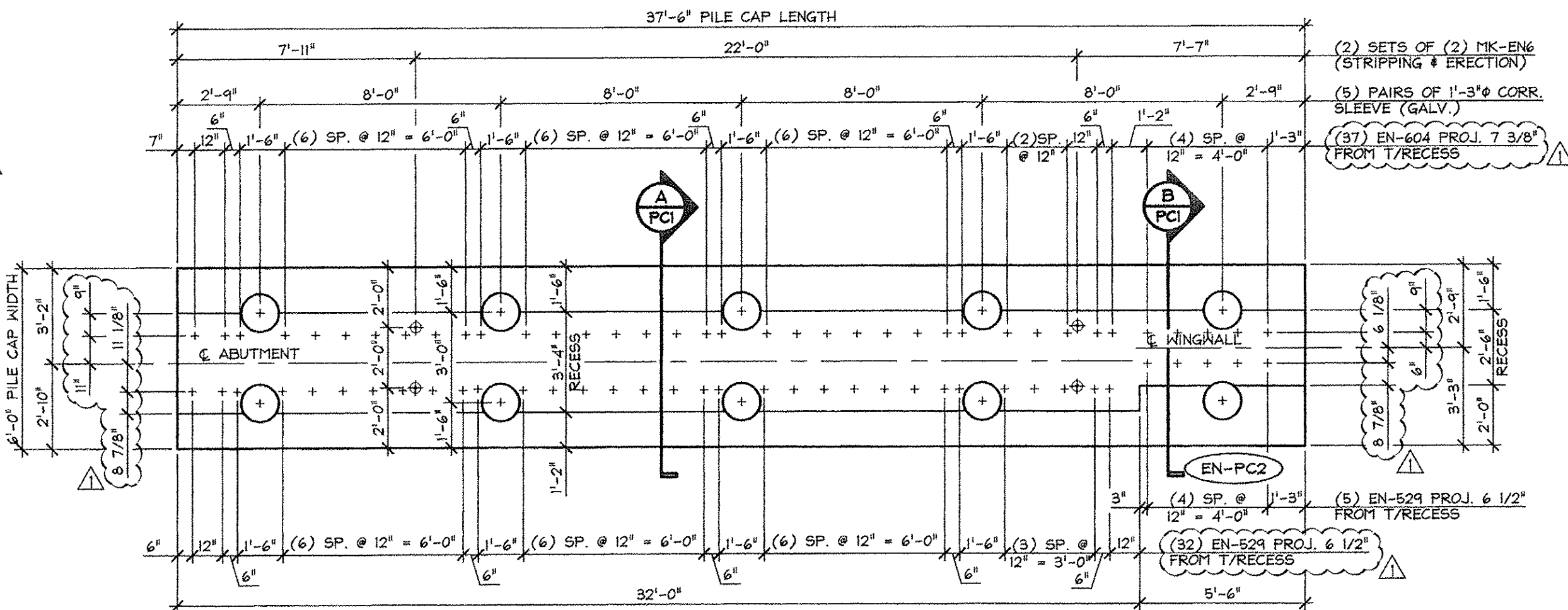
**TOWN OF ENOSBURG** CHKD: M.W. DFTM: B.L.  
BOSTON POST ROAD T.H.2 CLASS 2  
BRIDGE NO.: 48 PROJECT NO.: BRO 1448(40) JOB NO: 23418-013

**PRECAST ABUTMENT DETAILS** DWG. NO: AB2

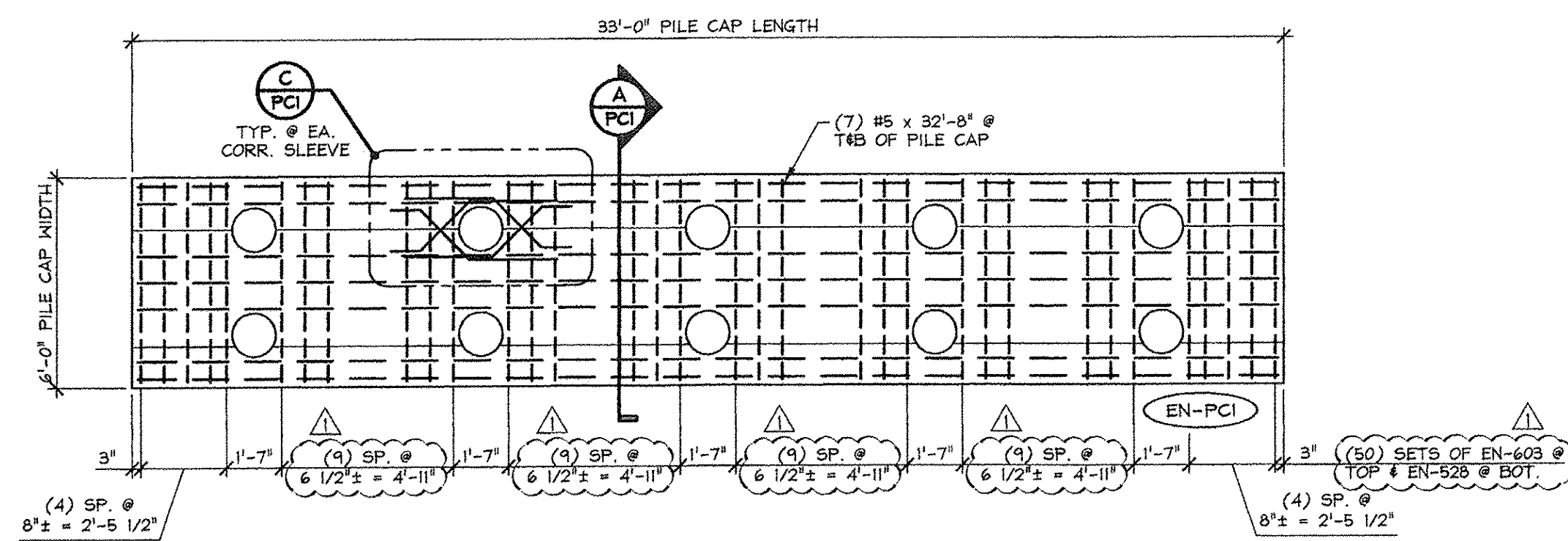




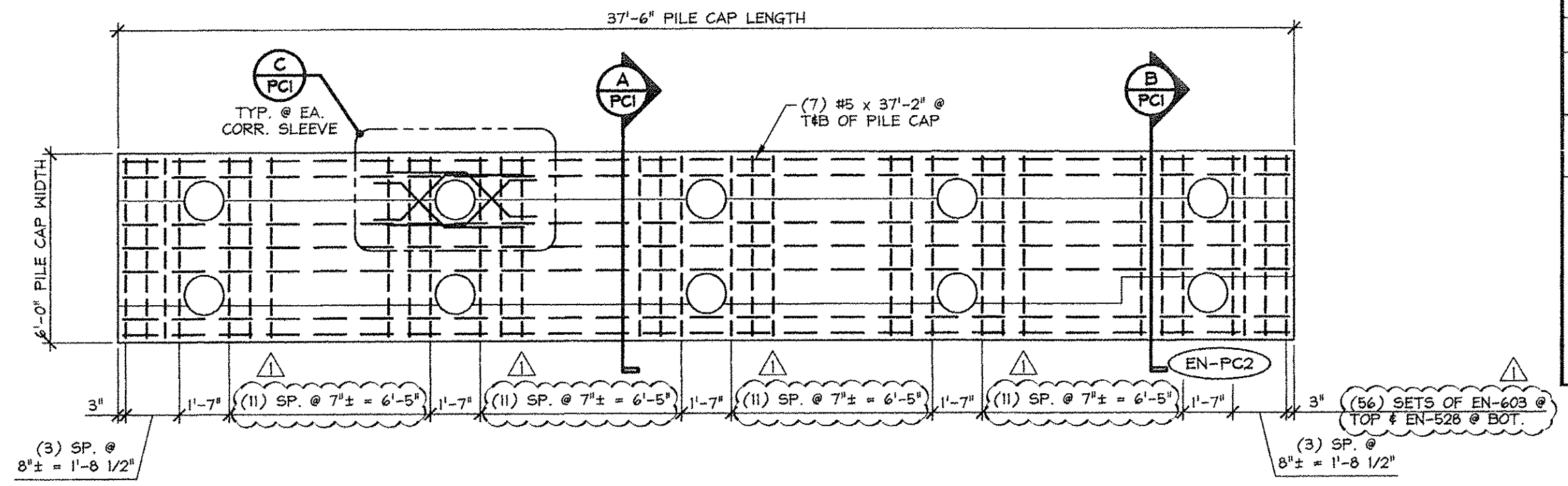
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1/4" = 1'-0"



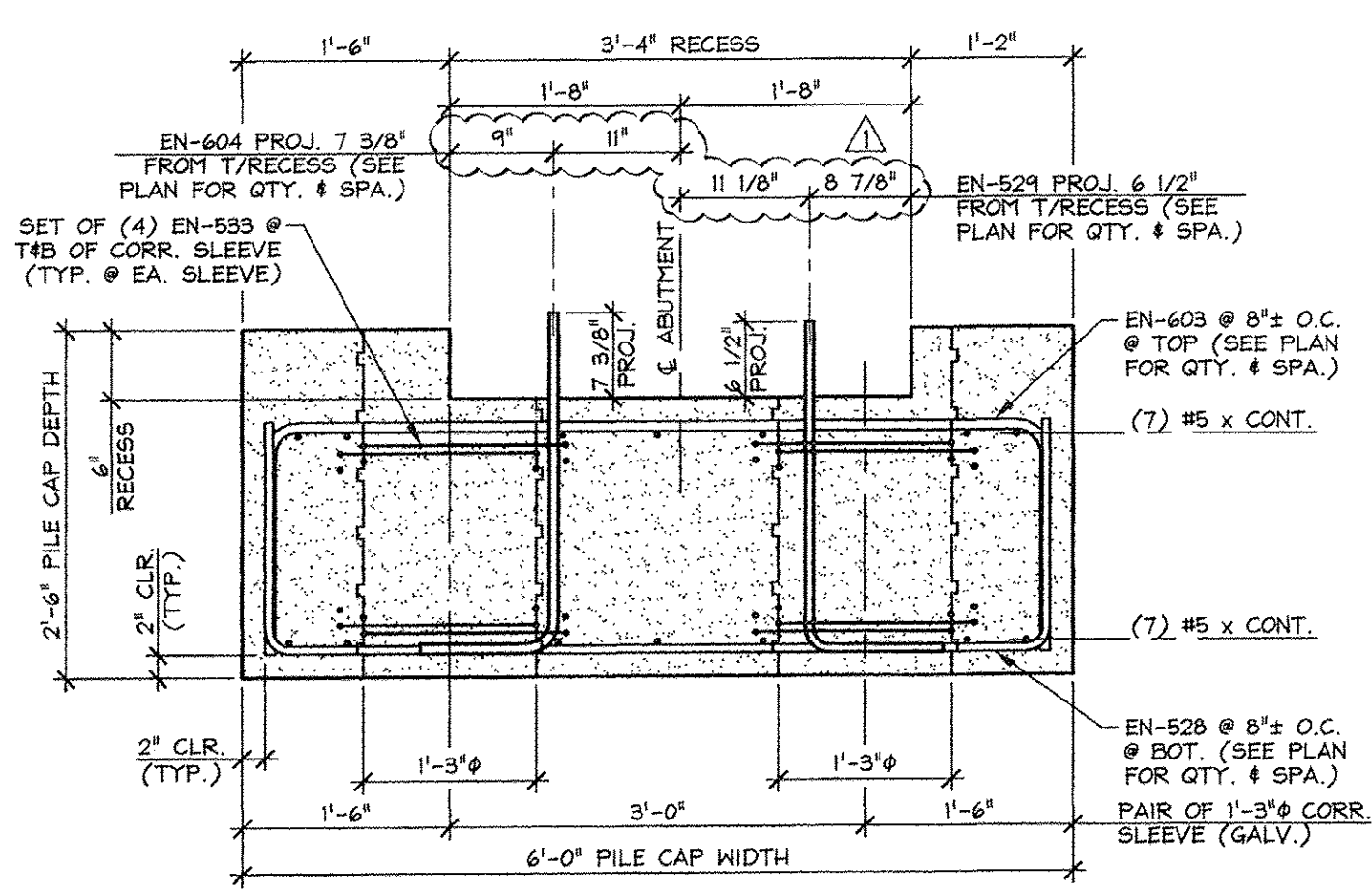
3 DIMENSIONAL PLAN VIEW IN FORM  
1/4" = 1'-0"



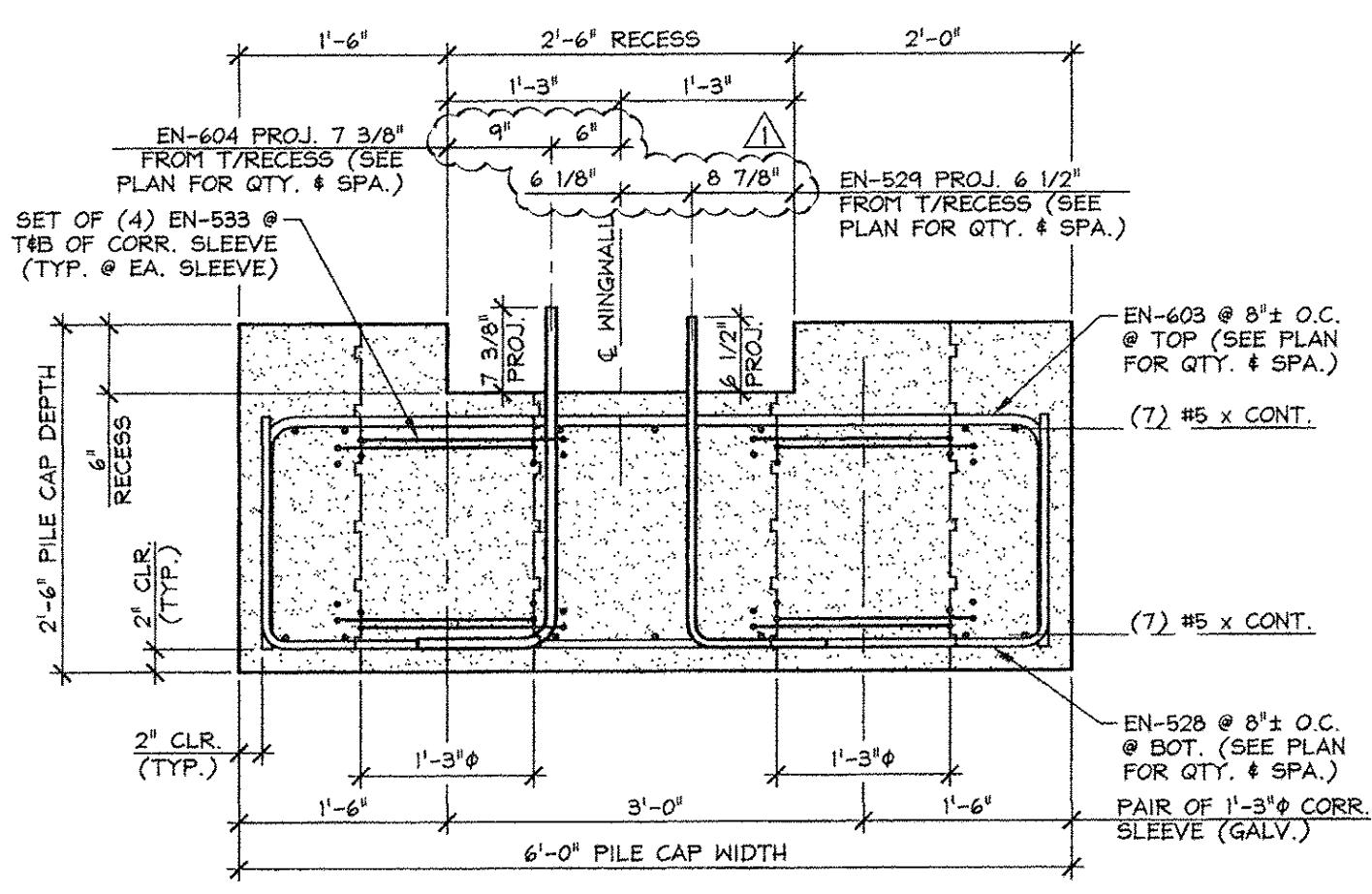
2 REINFORCING PLAN VIEW IN FORM  
1/4" = 1'-0"



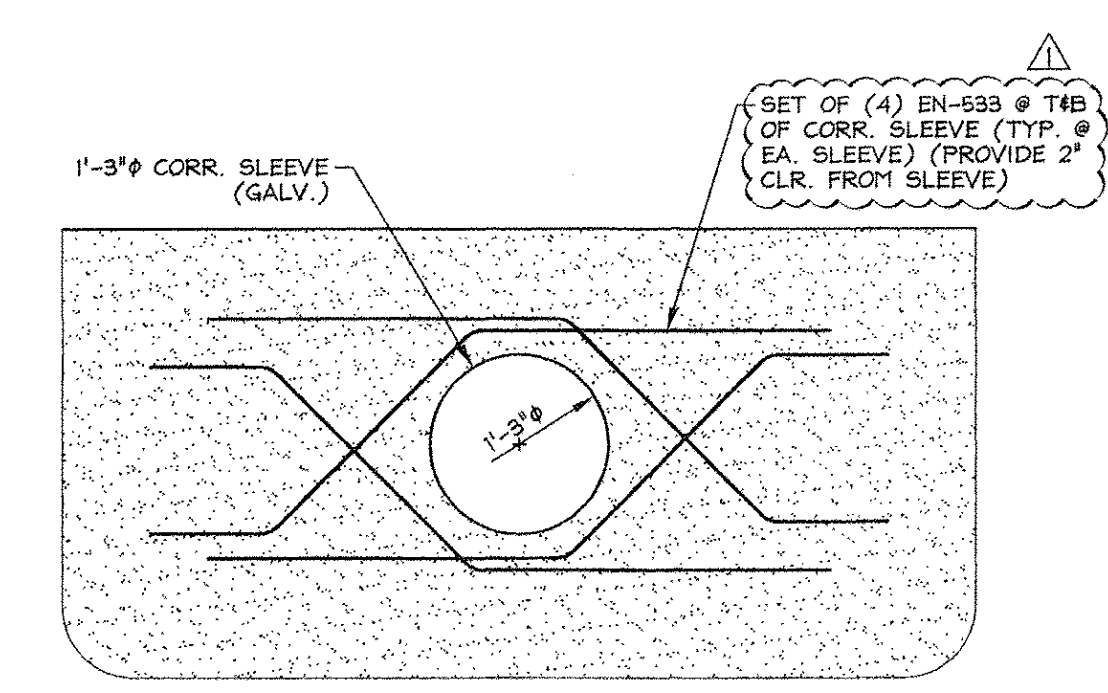
4 REINFORCING PLAN VIEW IN FORM  
1/4" = 1'-0"



A PILE CAP SECTION  
3/4" = 1'-0"



B PILE CAP SECTION  
3/4" = 1'-0"



C CORRUGATED SLEEVE  
REINFORCING DETAIL 3/4" = 1'-0"

APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements

APPROVED AS NOTED

REVISE AND RESUBMIT

NOT REVIEWED

Date: 4-11-2014

By: James Hough

This review of Stantec Consulting Services Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that Stantec Consulting Services Inc. approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor. Submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawing or of his responsibility for meeting all requirements of the Contract Documents. The contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or to techniques of construction and installation and for coordination of the work of all subtrades.

SHOP NOTE:  
F_c = 5,000 PSI  
F_{ci} = 3,500 PSI  
MIX: #445M5CC

ISSUED FOR PRODUCTION  
APR 09 2014  
J.P. CARRARA & SONS, INC.  
MIDDLEBURY, VT 05753

MARK: EN-PC1	QTY.: 1	WT.: 31.2 T	VOL.: 15.4 cy
MARK: EN-PC2	QTY.: 1	WT.: 35.8 T	VOL.: 17.7 cy
MATERIAL LIST / PILE CAP			
ITEM	MARK	DESCRIPTION	QTY./PILE CAP
1	EN-528	#5 BENT BAR (LEVEL 1, BLACK STEEL)	50
2	EN-529	#5 BENT BAR (LEVEL 1, BLACK STEEL)	33
3	EN-533	#5 BENT BAR (LEVEL 1, BLACK STEEL)	80
4		#5 x 32'-8" (LEVEL 1, BLACK STEEL)	14
5		#5 x 37'-2" (LEVEL 1, BLACK STEEL)	14
6			
7	EN-603	#6 BENT BAR (LEVEL 1, BLACK STEEL)	50
8	EN-604	#6 BENT BAR (LEVEL 1, BLACK STEEL)	33
9			
10		1'-3" x 2'-6" CORRUGATED SLEEVE (GALV.)	10
11			
12	MK-EN6	20 T x 19 3/4" SWIFT LIFT LIFTER	4
13			
14			
15			

4-7-14 REVISED AS NOTED

APPROVAL STAMP:

J.P. CARRARA & SONS INC. A.L. ST. ONGE CONTRACTOR, INC.  
Precast & Prestress Manufacturer CONTRACTOR  
2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010 MONTGOMERY CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF FRANKLIN DATE: JAN. 27, 2014  
SCALE: NOTED

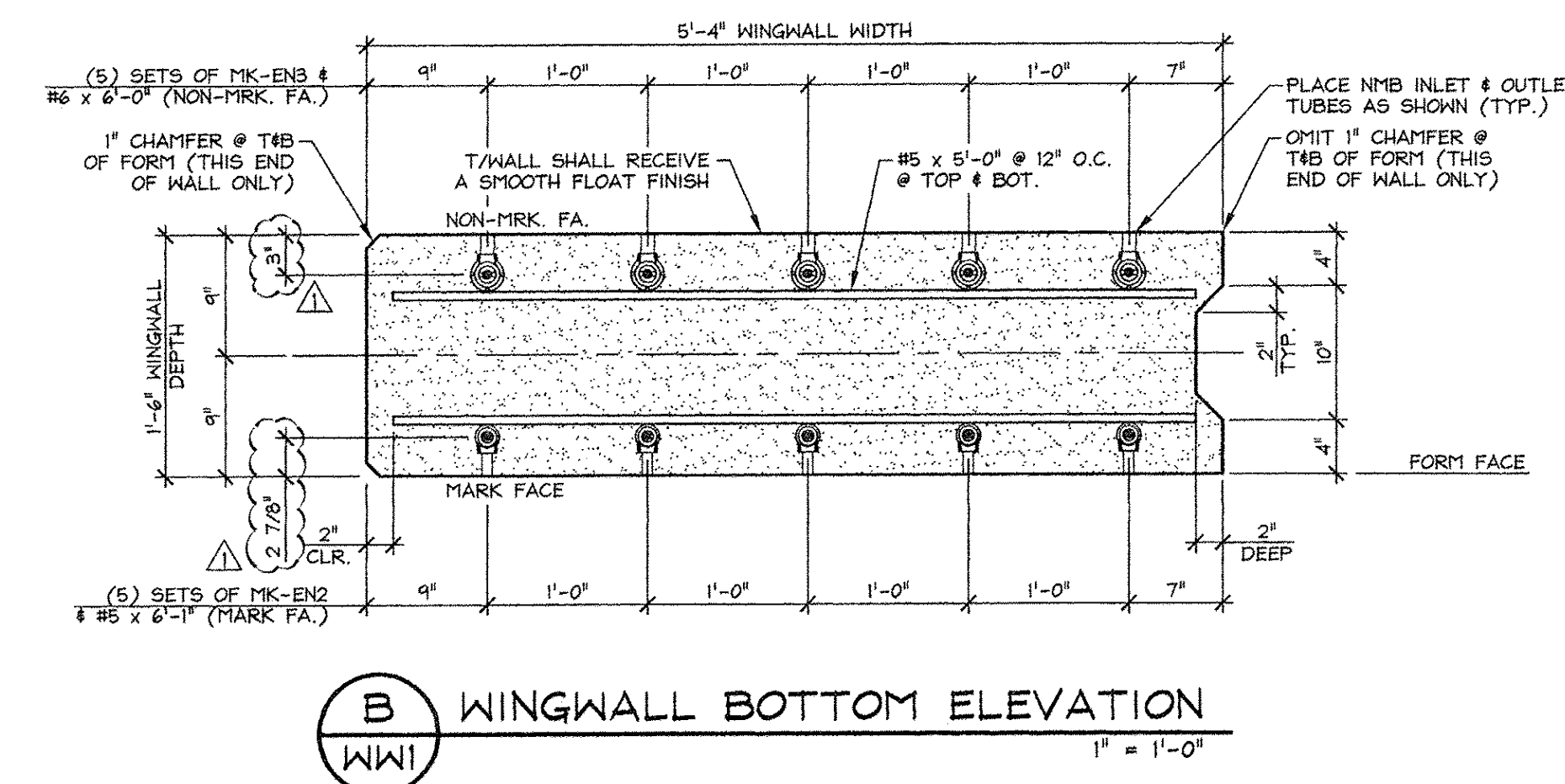
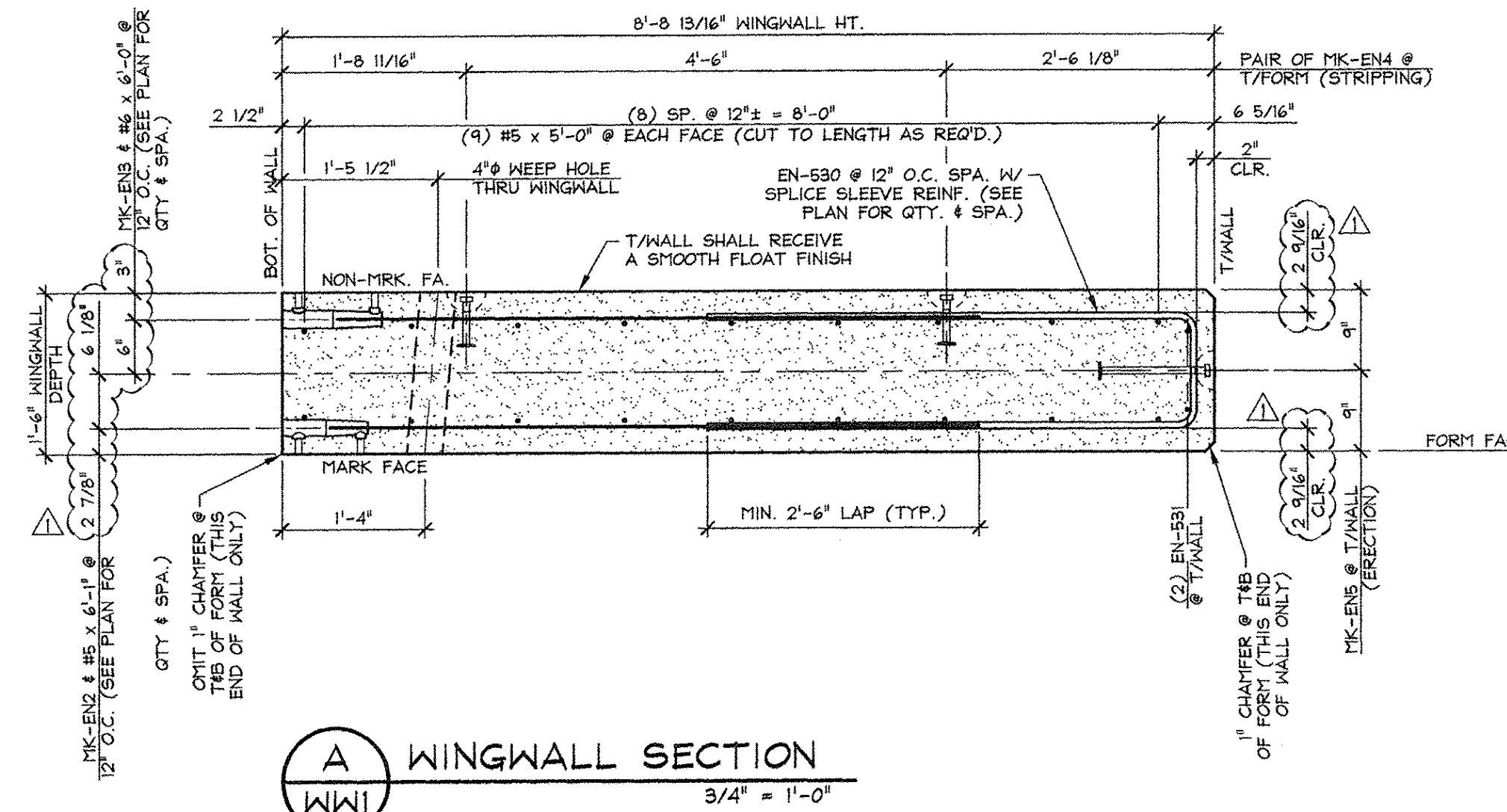
TOWN OF ENOSBURG BOSTON POST ROAD T.H.2 CLASS 2 CHKD: M.W. DFTM: B.L.  
BRIDGE NO.: 48 PROJECT NO.: BRO 1448(40) JOB NO: 23418-013

PRECAST PILE CAP DETAILS DWG. NO: PCI

Vermont Agency of Transportation  
RECEIVED  
ON: April 9, 2014  
and Checked for CONFORMANCE  
BY: Rob Young DATE: 04/14/2014







APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements	X	 <b>Stantec</b>
APPROVED AS NOTED		
REVISE AND RESUBMIT		
NOT REVIEWED		
Date: 4-11-2014		
By: James Hyslop		
This review Stantec Consulting Services Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that Stantec Consulting Services Inc approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor. Submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawing or of his responsibility for meeting all requirements of the Contract Documents. The contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or to techniques of construction and installation and for coordination of the work of all subtrades.		

**SHOP NOTE:**  
ALL EDGES OF WING WALLS,  
FORM FACE & T/WALL FACE,  
SHALL RECEIVE A 1" CHAMFER  
(UNLESS NOTED OTHERWISE)

**SHOP NOTE:**  
f'c = 5,000 PSI  
f'ci = 3,500 PSI  
MIX: #445MSCC

ISSUED FOR  
PRODUCTION

APR 09 2014

J. P. CARRARA & SONS, INC.  
MIDDLEBURY, VT 05753

MARK:	EN-WW4	QTY.: 1	WT.: 4.65 T	VOL.: 2.30 cy
MATERIAL LIST / WINGWALL				
ITEM	MARK	DESCRIPTION	QTY.	
1	EN-530	#5 BENT BAR (LEVEL 1, BLACK STEEL)	5	
2	EN-531	#5 BENT BAR (LEVEL 1, BLACK STEEL)	2	
		#5 x 6'-1" (LEVEL 1, BLACK STEEL)	5	
4		#5 x 5'-0" (LEVEL 1, BLACK STEEL)	18	
5				
6		#6 x 6'-0" (LEVEL 1, BLACK STEEL)	5	
7				
8				
9	MK-EN2	NMB SPLICE SLEEVE 5U-X(PG) (BLACK STEEL)	5	
10	MK-EN3	NMB SPLICE SLEEVE 6U-X(PG) (BLACK STEEL)	5	
11	MK-EN4	4T x 7 1/8" SWIFT LIFT LIFTER	4	
12	MK-EN5	8T x 13 3/8" SWIFT LIFT LIFTER	2	
13				
14				
15				

4-7-14 REVISED AS NOTED

APPROVAL STAMP:

**J.P. CARRARA & SONS INC.**  
Precast & Prestress Manufacturer  
2464 CASE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010

A.L. St. ONGE CONTRACTOR, INC.  
CONTRACTOR  
MONTGOMERY CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION  
COUNTY OF FRANKLIN

DATE: JAN. 27, 2014
SCALE: NOTED

TOWN OF ENOSBURG  
BOSTON POST ROAD T.H.2 CLASS 2  
BRIDGE NO.: 48 PROJECT NO.: BRO 1448(40)

CHKD: M.W.	DFTM: B.L.
JOB NO:	23418-013

## PRECAST WINGWALL DETAILS

DWG. NO: WW1

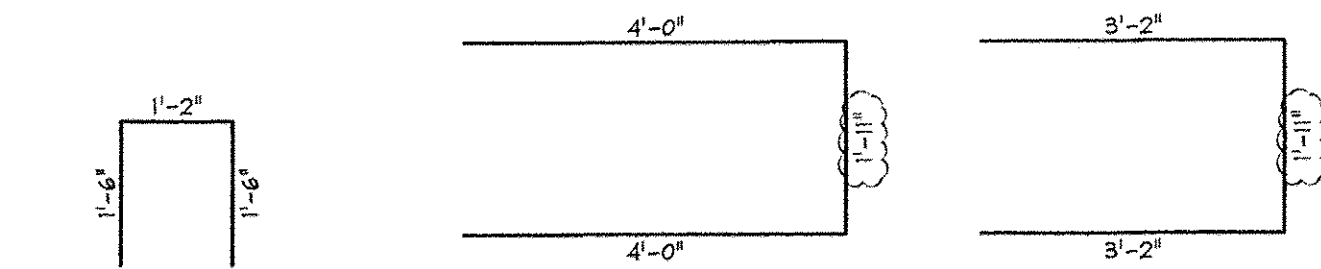




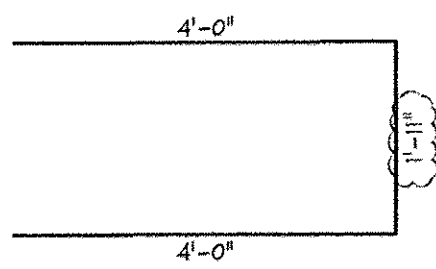




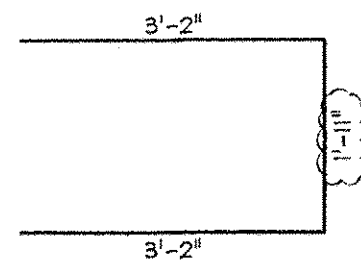




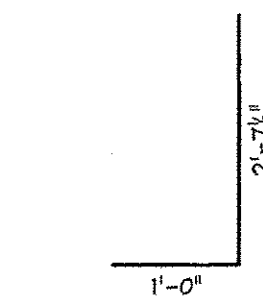
EN-525  
#5 BENT BAR  
LEVEL 1 (BLACK STEEL)  
USE 2 3/4" (70 mm) PIN  
(24) REQ'D.



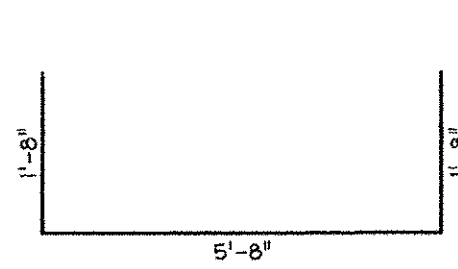
EN-526  
#5 BENT BAR  
LEVEL 1 (BLACK STEEL)  
USE 2 3/4" (70 mm) PIN  
(38) REQ'D.



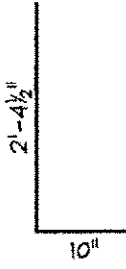
EN-527  
#5 BENT BAR  
LEVEL 1 (BLACK STEEL)  
USE 2 3/4" (70 mm) PIN  
(28) REQ'D.



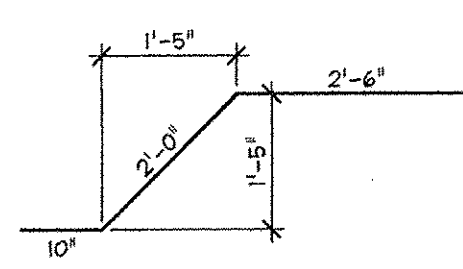
EN-602  
#6 BENT BAR  
LEVEL 1 (BLACK STEEL)  
USE 4" (100 mm) PIN  
(58) REQ'D.



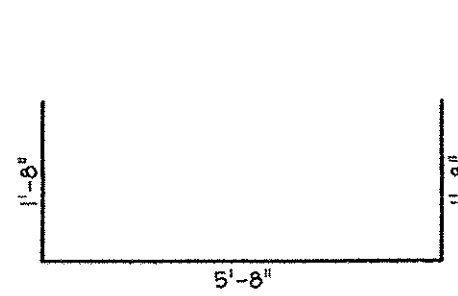
EN-528  
#5 BENT BAR  
LEVEL 1 (BLACK STEEL)  
USE 2 3/4" (70 mm) PIN  
(106) REQ'D.



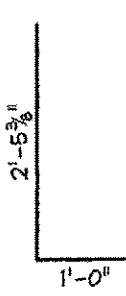
EN-529  
#5 BENT BAR  
LEVEL 1 (BLACK STEEL)  
USE 2 3/4" (70 mm) PIN  
(70) REQ'D.



EN-533  
#5 BENT BAR  
LEVEL 1 (BLACK STEEL)  
USE 2 3/4" (70 mm) PIN  
(160) REQ'D.



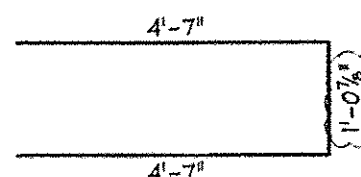
EN-603  
#6 BENT BAR  
LEVEL 1 (BLACK STEEL)  
USE 4" (100 mm) PIN  
(106) REQ'D.



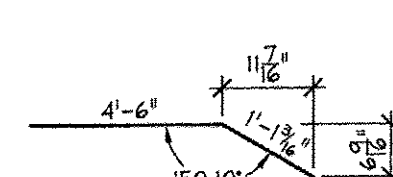
EN-604  
#6 BENT BAR  
LEVEL 1 (BLACK STEEL)  
USE 4" (100 mm) PIN  
(70) REQ'D.

## PRECAST ABUTMENTS

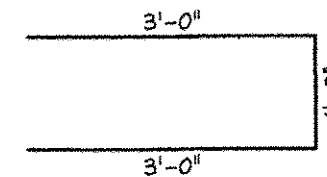
## PRECAST PILE CAPS



EN-530  
#5 BENT BAR  
LEVEL 1 (BLACK STEEL)  
USE 2 3/4" (70 mm) PIN  
(6) REQ'D.



EN-531  
#5 BENT BAR  
LEVEL 1 (BLACK STEEL)  
USE 2 3/4" (70 mm) PIN  
(2) REQ'D.



EN-532  
#5 BENT BAR  
LEVEL 1 (BLACK STEEL)  
USE 2 3/4" (70 mm) PIN  
(48) REQ'D.

## PRECAST WINGWALLS

## ABUTMENT MISCELLANEOUS MATERIALS

ITEM	MARK	QTY.	DESCRIPTION	REMARKS
1		18	#5 x 3'-3" (LEVEL 1, BLACK STEEL)	
2		54	#5 x 4'-7" (LEVEL 1, BLACK STEEL)	
3		11	#5 x 4'-10" (LEVEL 1, BLACK STEEL)	
4		6	#5 x 7'-11" (LEVEL 1, BLACK STEEL)	
5		14	#5 x 32'-8" (LEVEL 1, BLACK STEEL)	
6		16	#5 x 2'-4" (LEVEL 1, BLACK STEEL)	
7		5	#5 x 7'-2" (LEVEL 1, BLACK STEEL)	
8		14	#5 x 31'-2" (LEVEL 1, BLACK STEEL)	
9		1	#5 x 7'-5" (LEVEL 1, BLACK STEEL)	
10		8	#5 x 10" (LEVEL 1, BLACK STEEL)	
11				
12		54	#6 x 4'-6" (LEVEL 1, BLACK STEEL)	
13		7	#6 x 4'-10" (LEVEL 1, BLACK STEEL)	
14		6	#6 x 7'-10" (LEVEL 1, BLACK STEEL)	
15		5	#6 x 7'-2" (LEVEL 1, BLACK STEEL)	
16		1	#6 x 7'-5" (LEVEL 1, BLACK STEEL)	
17				
18				
19	MK-EN2	65	NMB SPLICE SLEEVE 5U-X(PG) (BLACK STEEL)	
20	MK-EN3	65	NMB SPLICE SLEEVE 6U-X(PG) (BLACK STEEL)	
21		4	SET OF (4) 0.60" STRAND LIFTING LOOPS	
22				
23				
24				
25				

## PILE CAP MISCELLANEOUS MATERIALS

ITEM	MARK	QTY.	DESCRIPTION	REMARKS
1		14	#5 x 32'-8" (LEVEL 1, BLACK STEEL)	
2		14	#5 x 37'-2" (LEVEL 1, BLACK STEEL)	
3				
4				
5				
6		20	1'-3" x 2'-6" CORRUGATED SLEEVE (GALV.)	
7				
8	MK-EN6	8	20 T x 19 3/4" SWIFT LIFT LIFTER	
9				
10				

## WINGWALL MISCELLANEOUS MATERIALS

ITEM	MARK	QTY.	DESCRIPTION	REMARKS
1		5	#5 x 6'-1" (LEVEL 1, BLACK STEEL)	
2		18	#5 x 5'-0" (LEVEL 1, BLACK STEEL)	
3		48	#5 x 8'-4" (LEVEL 1, BLACK STEEL)	
4				
5		5	#6 x 6'-0" (LEVEL 1, BLACK STEEL)	
6		58	#6 x 6'-9" (LEVEL 1, BLACK STEEL)	
7				
8				
9	MK-EN2	5	NMB SPLICE SLEEVE 5U-X(PG) (BLACK STEEL)	
10	MK-EN3	63	NMB SPLICE SLEEVE 6U-X(PG) (BLACK STEEL)	
11	MK-EN4	16	4T x 7 1/8" SWIFT LIFT LIFTER	
12	MK-EN5	8	8T x 13 3/8" SWIFT LIFT LIFTER	
13				
14				
15				

APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements

APPROVED AS NOTED

REVISE AND RESUBMIT

NOT REVIEWED

Date: 4-11-2014

By: James H. [Signature]

This review of Stantec Consulting Services Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that Stantec Consulting Services Inc. approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor. Submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawing or of his responsibility for meeting all requirements of the Contract Documents. The contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or to techniques of construction and installation and for coordination of the work of all subtrades.

Stantec

Vermont Agency of Transportation

RECEIVED

ON: April 9, 2014

and Checked for

CONFORMANCE

BY: Rob Young DATE: 04/14/2014

ISSUED FOR PRODUCTION  
APR 09 2014  
J. P. CARRARA & SONS, INC.  
MIDDLEBURY, VT 05753

J.P. CARRARA & SONS INC. A.L. ST. ONGE CONTRACTOR, INC.  
Precast & Prestress Manufacturer CONTRACTOR  
2464 CUSE STR., MIDDLEBURY, VERMONT 05753 Phone:(802)388-6361 Fax:(802)388-9010 MONTGOMERY CENTER, VERMONT

STATE OF VERMONT AGENCY OF TRANSPORTATION COUNTY OF FRANKLIN

TOWN OF ENOSBURG  
BOSTON POST ROAD T.H.2 CLASS 2  
BRIDGE NO.: 48 PROJECT NO.: BRO 1448(40)

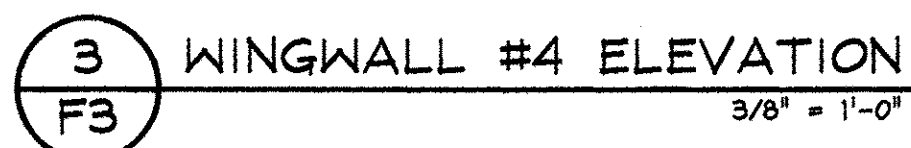
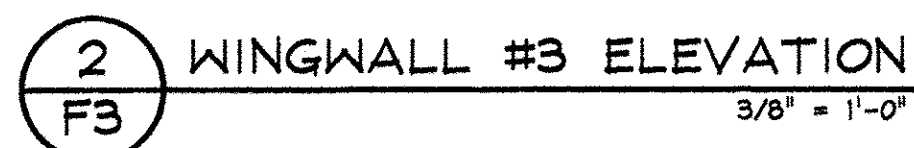
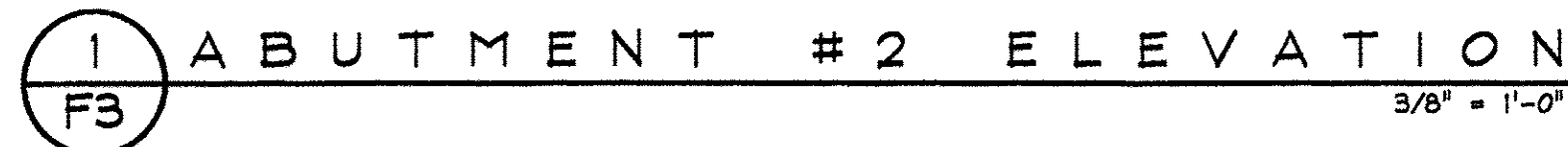
MATERIALS LIST

DATE: JAN. 27, 2014  
SCALE: NOTED  
CHKD: M.W. DFTM: B.L.  
JOB NO: 23418-013  
DWG. NO: M2









2'-4" ABUT.

1'-0"

2'-4"

1'-0"

1'-0" (TYP.)

6"

1'-6" WINGWALL

10'

FILL KEY MAY BE FLOABLE  
HIGH STRENGTH, NON-SHRINK  
GROUT (BY OTHERS)

SHEET MEMBRANE SEAL  
BONDED TO REAR FACE  
OF WALL (BY OTHERS)

D ABUTMENT / WING WALL

F3 SHEAR KEY DETAIL

1" = 1'-0"

Vermont Agency of Transportation  
 Planning Office • 100 Orange Street • 05401 • 202-215-1234

RECEIVED

ON: April 28, 2014

and Checked for  
CONFORMANCE

BY: Rob Young      DATE: 05/01/2014

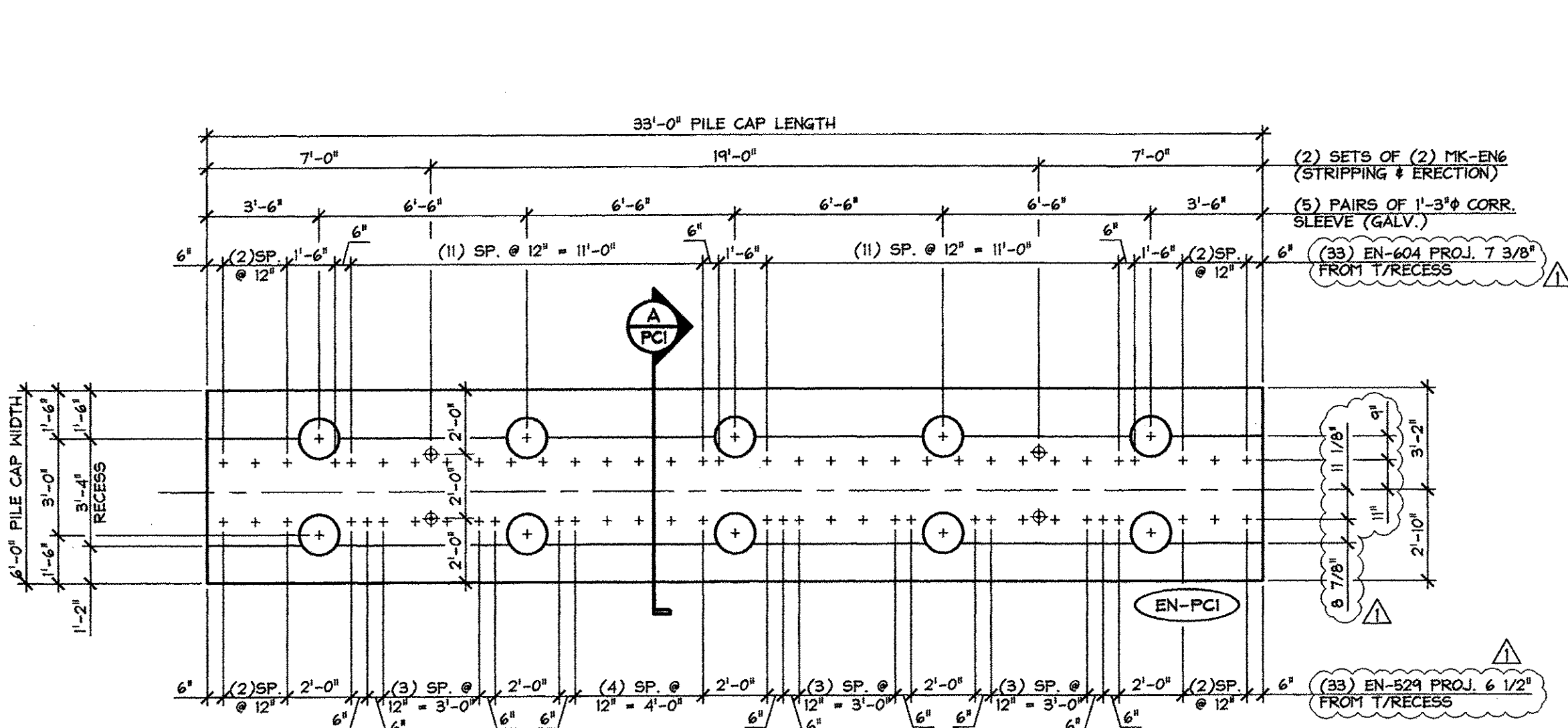
2 4-28-14 REVISED AS NOTED  
 1 4-7-14 REVISED AS NOTED

APPROVAL STAMP:	<b>J.P. CARRARA &amp; SONS INC.</b> Precast & Prestress Manufacturer 2464 ONE CIR., MIDDLEBURY, VERMONT 05753 Phone:(802)368-6361 Fax:(802)368-9010		<b>A.L. ST. ONGE CONTRACTOR, INC.</b> CONTRACTOR MONTGOMERY CENTER, VERMONT	
	STATE OF VERMONT AGENCY OF TRANSPORTATION			DATE: APR. 24, 2014
	COUNTY OF FRANKLIN			SCALE: NOTED
	TOWN OF ENOSBURG BOSTON POST ROAD T.H.2 CLASS 2 BRIDGE NO.: 48 PROJECT NO.: BRO 1448(40)			CHKD: M.W. DFTM: B.L. JOB NO: 23418-013
	ABUTMENT #2 ELEVATIONS			DWG. NO: F3

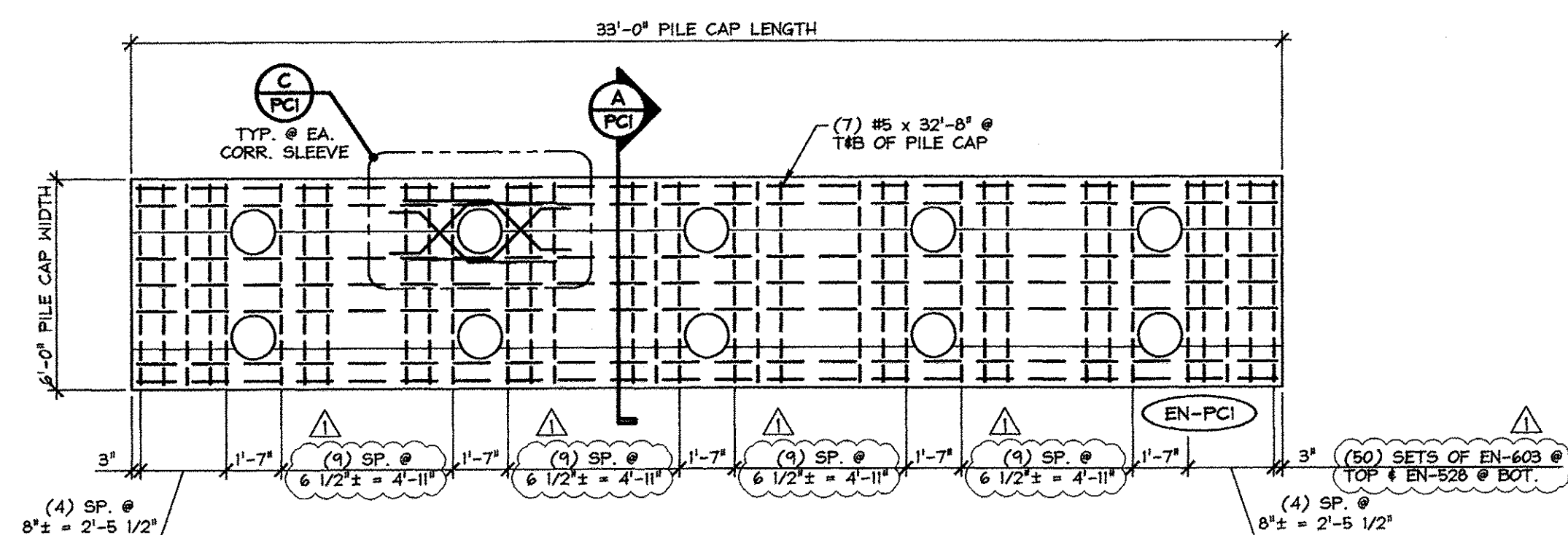




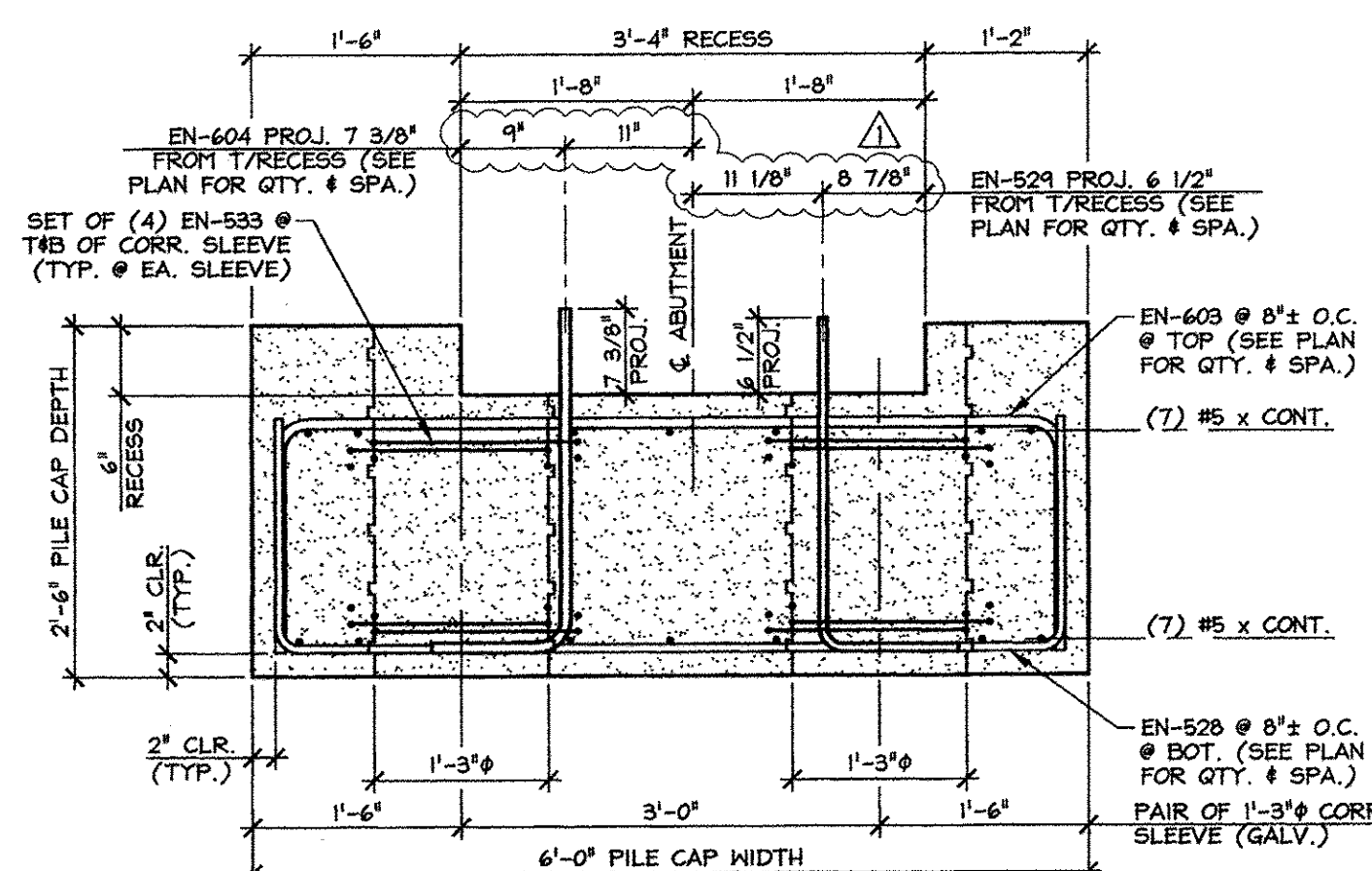




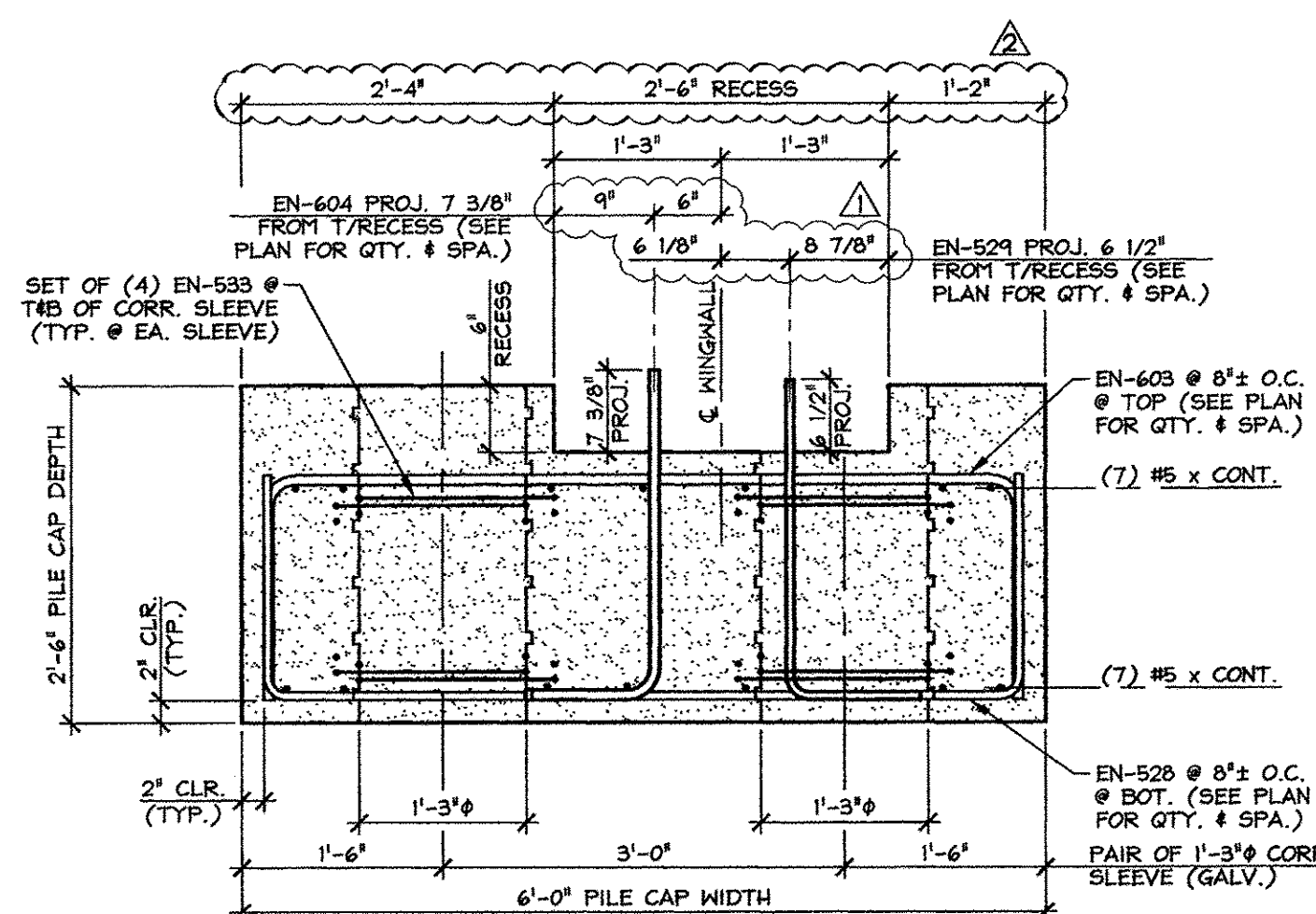
1 DIMENSIONAL PLAN VIEW IN FORM  
PCI  
1/4" = 1'-0"



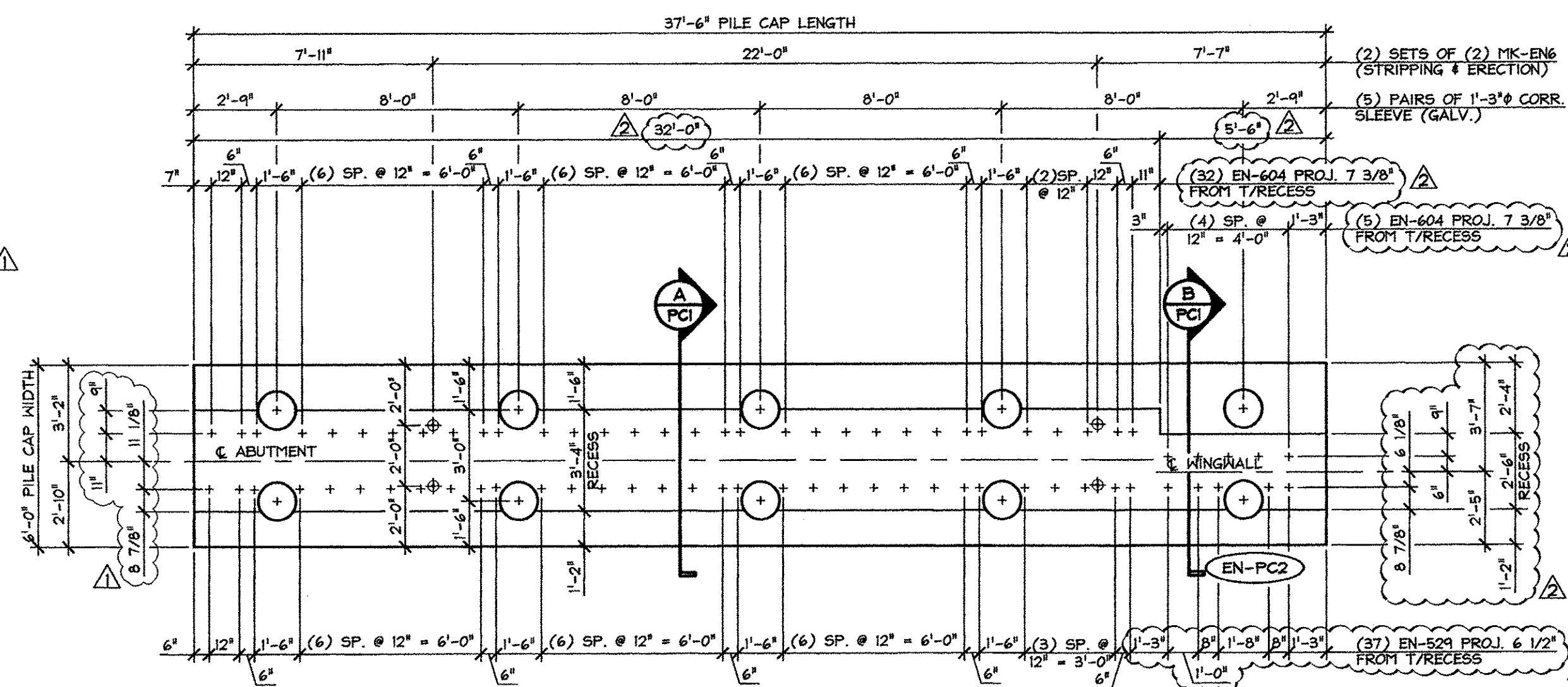
2 REINFORCING PLAN VIEW IN FORM  
PCI  
1/4" = 1'-0"



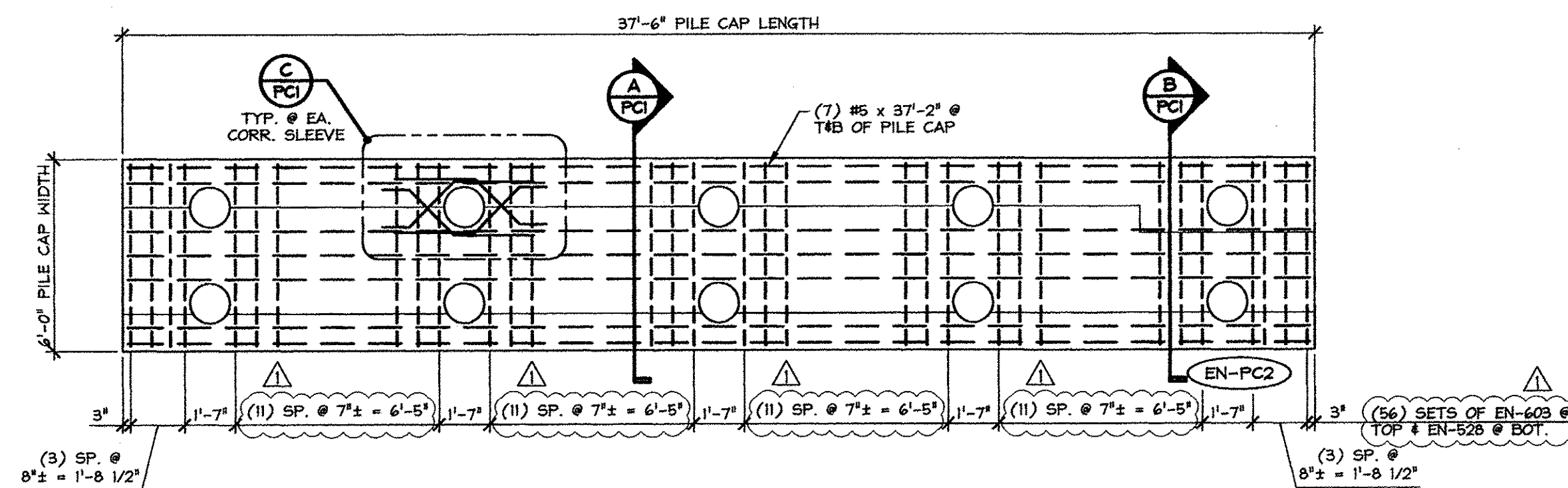
A PILE CAP SECTION  
PCI  
3/4" = 1'-0"



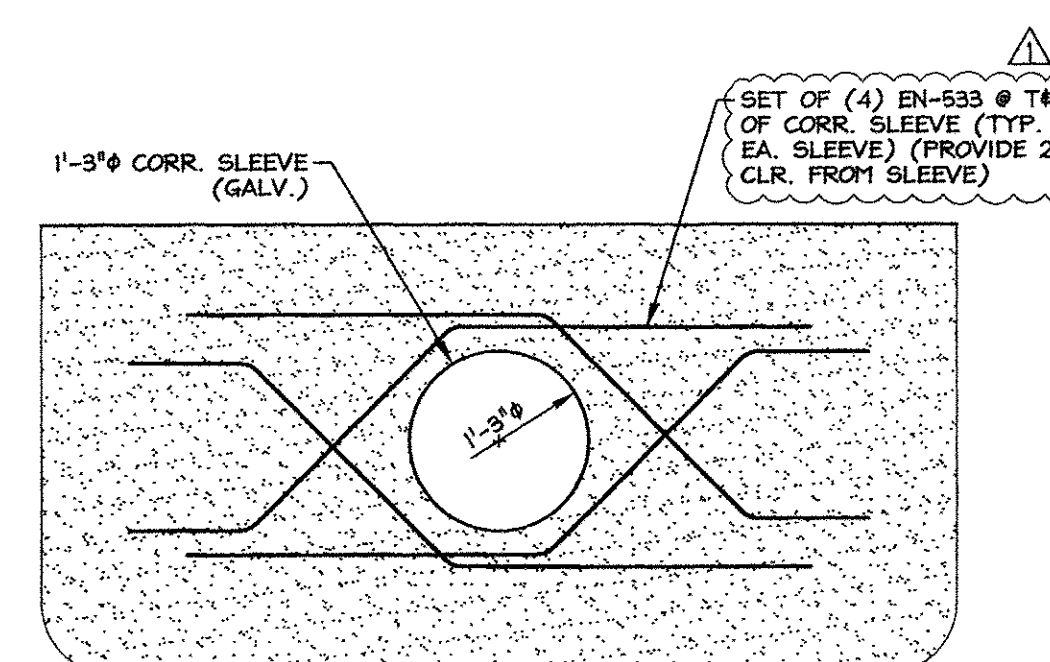
B PILE CAP SECTION  
PCI  
3/4" = 1'-0"



3 DIMENSIONAL PLAN VIEW IN FORM  
PCI  
1/4" = 1'-0"



4 REINFORCING PLAN VIEW IN FORM  
PCI  
1/4" = 1'-0"



C CORRUGATED SLEEVE  
PCI  
3/4" = 1'-0"

4-28-14 REVISED AS NOTED  
4-7-14 REVISED AS NOTED

APPROVAL STAMP:

J.P. CARRARA & SONS INC.

Precast & Prestress Manufacturer

2404 ONE STR. MIDDLEBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010

STATE OF VERMONT AGENCY OF TRANSPORTATION  
COUNTY OF FRANKLIN

TOWN OF ENOSBURG  
BOSTON POST ROAD T.H.2 CLASS 2  
BRIDGE NO.: 48 PROJECT NO.: BRO 1448(40)

PRECAST PILE CAP DETAILS

Vermont Agency of Transportation

RECEIVED

ON: April 28, 2014

and Checked for

CONFORMANCE

BY: Rob Young DATE: 05/01/2014

APPROVED: Approval of drawings and/or procedures indicates concurrence with the information presented and does not relieve the Contractor or Fabricator of compliance with all specifications and code requirements

APPROVED AS NOTED

REVISE AND RESUBMIT

NOT REVIEWED

Date: 4-29-2014

By: *James Hyatt*

This review by Stantec Consulting Services Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that Stantec Consulting Services Inc. approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor. Submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawing or of his responsibility for meeting all requirements of the Contract Documents. The contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or to techniques of construction and installation and for coordination of the work of all subtrades.

SHOP NOTE:  
F_c = 5,000 PSI  
F_{ci} = 3,500 PSI  
MIX: #445HSCC

SUBMITTED

APR 28 2014

J.P. CARRARA & SONS, INC.  
MIDDLEBURY, VT 05753

MARK:	EN-PCI	QTY.:	1	WT.:	31.2 T	VOL.:	15.4 cy
MARK:	EN-PC2	QTY.:	1	WT.:	35.8 T	VOL.:	17.7 cy
MATERIAL LIST / PILE CAP							
ITEM	MARK	DESCRIPTION		QTY./PILE CAP			
		EN-PCI	EN-PC2				
1	EN-528	#5 BENT BAR (LEVEL 1, BLACK STEEL)		50	56		
2	EN-529	#5 BENT BAR (LEVEL 1, BLACK STEEL)		33	37		
3	EN-533	#5 BENT BAR (LEVEL 1, BLACK STEEL)		80	80		
4		#5 x 32'-8" (LEVEL 1, BLACK STEEL)		14			
5		#5 x 37'-2" (LEVEL 1, BLACK STEEL)		14			
6							
7	EN-603	#6 BENT BAR (LEVEL 1, BLACK STEEL)		50	56		
8	EN-604	#6 BENT BAR (LEVEL 1, BLACK STEEL)		33	37		
9							
10		1'-3" x 2'-6" CORRUGATED SLEEVE (GALV.)		10	10		
11							
12	MK-EN6	20 T x 19 3/4" SWIFT LIFT LIFTER		4	4		
13							
14							
15							





APPROVAL STAMP:

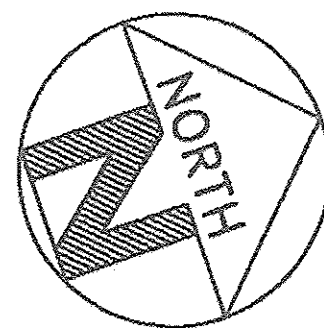
This review by Stantec Consulting Services Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that Stantec Consulting Services Inc approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor. Submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawing or of his responsibility for meeting all requirements of the Contract Documents. The contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or to techniques of construction and installation and for coordination of the work of all subtrades.

SUBMITTED  
APR 28 2014  
J. P. CARRARA & SONS, INC.  
MIDDLEBURY, VT 05753

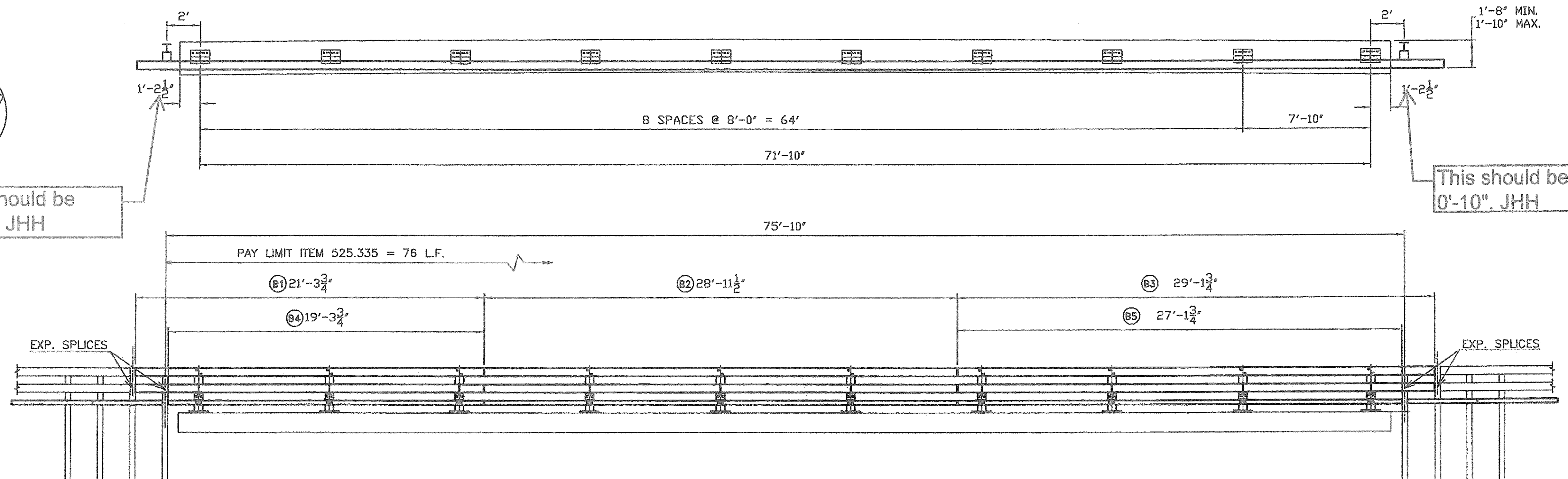
MARK:	EN-WW4	QTY.: 1	WT.: 4.65 T	VOL.: 2.30 cy
MATERIAL LIST / WINGWALL				
ITEM	MARK	DESCRIPTION	QT	
1	EN-530	#5 BENT BAR (LEVEL 1, BLACK STEEL)	5	
2	EN-531	#5 BENT BAR (LEVEL 1, BLACK STEEL)	2	
3		#5 x 6'-1" (LEVEL 1, BLACK STEEL)	5	
4		#5 x 5'-0" (LEVEL 1, BLACK STEEL)	18	
5				
6		#6 x 6'-0" (LEVEL 1, BLACK STEEL)	5	
7				
8				
9	MK-EN2	N#B SPLICE SLEEVE 5U-X(PG) (BLACK STEEL)	5	
10	MK-EN3	N#B SPLICE SLEEVE 6U-X(PG) (BLACK STEEL)	5	
11	MK-EN4	4T x 7 1/8" SWIFT LIFT LIFTER	4	
12	MK-EN5	8T x 13 3/8" SWIFT LIFT LIFTER	2	
13				
14				
15				

PRECAST WINGWALL DETAILS





This should be  
0'-10". JHH



### BRIDGE NO. 48

#### WEST RAIL ELEVATION

LOOKING AT FACE OF RAIL FROM CENTER OF ROAD  
EAST RAIL ELEVATION SIMILAR LOOKING FROM CENTER OF ROAD  
SW & SE APPROACHES TYPICAL  
SEE SHEET 3 OF 6 FOR NW CORNER  
SEE SHEET 4 OF 6 FOR NE CORNER

### BILL OF MATERIAL - BRIDGE NO. 48 (EAST & WEST SIDE)

Qty	mk	Description	Spec.
20		PED POST W6x25 2'-9.000" OAH (GALV) w/ 1.250" x 10" x 14" B.P	A572 gr 50
8		FIXED SPLICE TUBE (6x6) GALV TS 5x5x5/16 x 2'-3" OAL w/ (3) 1/4" fill plates	A500 gr B
8		EXP SPLICE TUBE (6x6) GALV TS 5x5x5/16 x 3'-0" OAL w/ (3) 1/4" fill plates	A500 gr B
4		FIXED SPLICE BAR (5x3) GALV 2.125 x 4.25 x 27.00"	A500 gr B
4		EXPANSION SPLICE BAR (5x3) GALV 2.125 x 4.25 x 36.00	A500 gr B
20		BRIDGE RAIL SHELF ANGLE (GALV) L 5 x 5 x 5/8 x 6" LONG	A572 gr 50
4	B1	TUBE 6 x 6 x 3/16 x 21 ft - 3.750 in LG (GALV) fixed splice 1 end, exp splice 1 end	A500 gr B
4	B2	TUBE 6 x 6 x 3/16 x 28 ft - 11.500 in LG (GALV) fixed splice both ends	A500 gr B
4	B3	TUBE 6 x 6 x 3/16 x 29 ft - 1.750 in LG (GALV) fixed splice 1 end, exp splice 1 end	A500 gr B
2	B4	TUBE 5 x 3 x 1/4 x 19 ft - 3.750 in LG (GALV) fixed splice 1 end, exp splice 1 end	A500 gr B
2	B2	TUBE 5 x 3 x 1/4 x 28 ft - 11.500 in LG (GALV) fixed splice both ends	A500 gr B
2	B5	TUBE 5 x 3 x 1/4 x 27 ft - 1.750 in LG (GALV) fixed splice 1 end, exp splice 1 end	A500 gr B
2		LOWER FLAREBACK TUBE 5 x 3 x 1/4 x 9'-4" oal w/welded cap (GALV) mitered w/exp. slots 1 end	A500 gr B
2		LOWER FLAREBACK TUBE 5 x 3 x 1/4 x 9'-4" oal w/welded cap (GALV) c&w + mitered w/exp. slots 1 end	A500 gr B
20		ANCHOR PLATE (GALV) PL 3/8" x 10.000" x 14.000"	A36
20		BEARING PAD 1/8" x 10.000" x 14.000" (80 durometer +/- 10 neoprene)	aashto M251
80		THREADED STUD (2 1/4" THREAD EACH SIDE) 1.000-08 x 13.000 HDG A449	A449
160		NUT HEX HEAVY (2) HI-STRENGTH 1.000-08 GALV	A563 DH
160		WASHER ROUND SMALL (2) F436 1.000 SAE GALV	F436
80		JAM NUT (1) 1.000-08 GALV	A563 DH
136		7/8 x 8 slotted head bolt w/ HN & LW SQW	A449
20		3/4 x 8 hex bolt w/ HN & LW (A325)	A325
40		3/4 x 2.5 hex bolt w/ HN & LW (A325)	A325
32		3/4 x 4.5 hex bolt w/ HN & 2 FW (A325)	A325
64		3/4 x 7.5 hex bolt w/ HN & 2 FW (A325)	A325
8		RETROREFLECTIVE DELINEATOR with fastening hardware (provided by others)	

No.	Initial	Remarks	Date
0	Initial	submital	2/6/14
REVISIONS			

Vermont Agency of Transportation

RECEIVED

ON: March 20, 2014

and Checked for

CONFORMANCE

BY: Rob Young DATE: 03/26/2014

SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE	
NO EXCEPTION TAKEN	
REVISE AS NOTED	
RESUBMISSION NOT REQUIRED	
REVISE AS NOTED	
RESUBMISSION REQUIRED	
REJECTED	
DATE 3/26/2014	
SIGNATURE Jim Hynd	
REVIEW BY STANTEC IS FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL CONFORMITY WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION AND CONSTRUCTION METHODS, COORDINATION OF SUB-TRADES, DETAIL DESIGN OF COMPONENTS, AND ERRORS OR OMISSIONS ON SHOP DRAWINGS.	

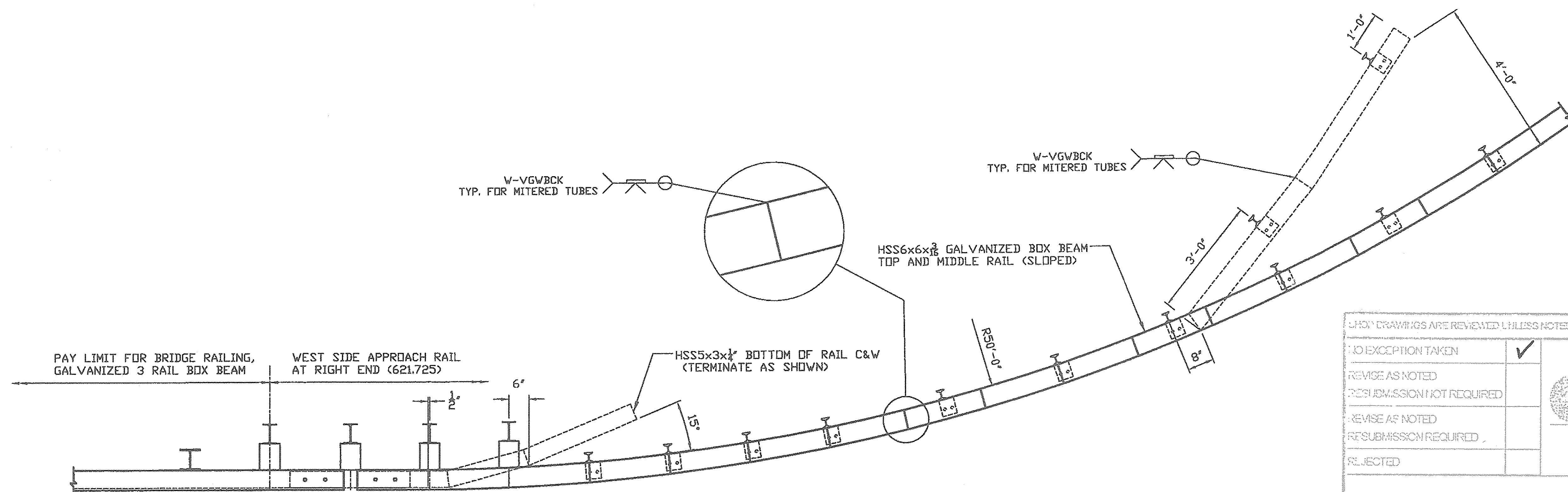
ITEM 525.335 3 RAIL BOX BEAM BRIDGE RAILING(EAST & WEST) = 152 L.F.

GLASTONBURY, CT 860-633-9445	
ITEM 525.335 3-RAIL BOX BEAM TOWN OF ENOSBURG COUNTY OF FRANKLIN BOSTON POST ROAD T.H.2 CLASS 2 BRIDGE NO. 48 PROJECT NO. BRO 1448 (40)	
CERTIFIED FABRICATOR	
JISC JOB NO. 1976	
SHEET NO. 1 of 6	
GENERAL CONTRACTOR	LAFAYETTE
SUB CONTRACTOR	
DRAWN	BJB
CHECKED	
DATE	3-4-14
SCALE	NONE
SIZE	D









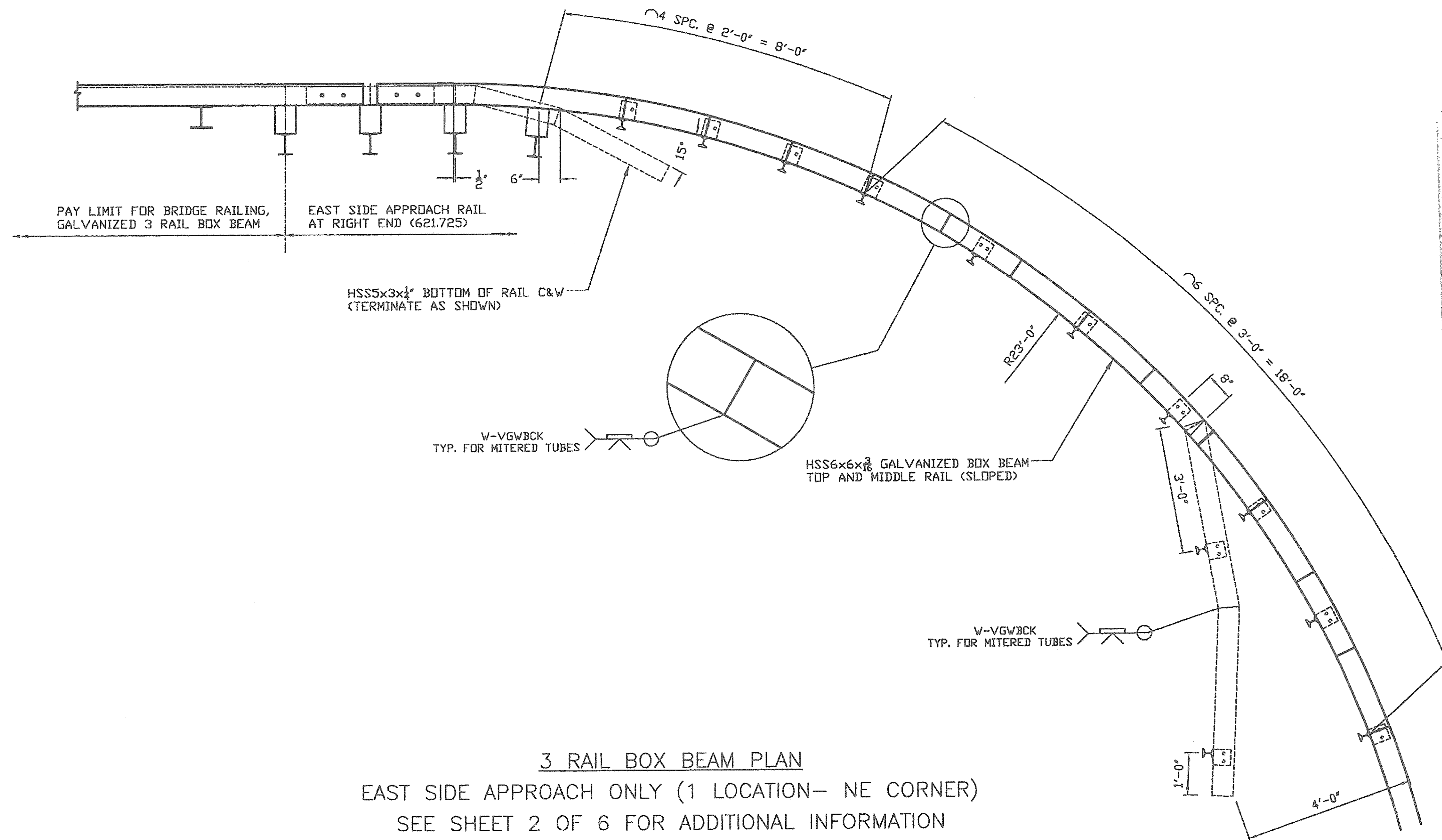
3 RAIL BOX BEAM PLAN  
WEST SIDE APPROACH ONLY (1 LOCATION— NW CORNER)  
SEE SHEET 2 OF 6 FOR ADDITIONAL INFORMATION

Vermont Agency of Transportation  
**RECEIVED**  
ON: March 20, 2014  
and Checked for  
**CONFORMANCE**  
BY: Rob Young DATE: 03/26/2014

ALL DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE	
NO EXCEPTION TAKEN	<input checked="" type="checkbox"/>
REVISE AS NOTED	<input type="checkbox"/>
RESUBMISSION NOT REQUIRED	<input type="checkbox"/>
REVISE AS NOTED	<input type="checkbox"/>
RESUBMISSION REQUIRED	<input type="checkbox"/>
REJECTED	<input type="checkbox"/>
DATE <u>3/26/2014</u>	
SIGNATURE <u>Ji Apple</u>	
REVIEW BY: STANTEC IS FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL CONFORMITY WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION AND CONSTRUCTION METHODS, COORDINATION OF SUB-TRADES, DETAIL DESIGN OF COMPONENTS, AND ERRORS OR OMISSIONS ON SHOP DRAWINGS.	

<b>HIGHWAY SAFETY CORP</b>	
GLASTONBURY, CT 860-633-9445	
ITEM 621.725 APPROACH SECTION TOWN OF ENOSBURG COUNTY OF FRANKLIN BOSTON POST ROAD T.H.2 CLASS 2 BRIDGE NO. 48 PROJECT NO. BRO 1448 (40)	
GENERAL CONTRACTOR	<b>CERTIFIED FABRICATOR</b>
SUB CONTRACTOR	HSC JOB NO. <b>1976</b>
LAFAYETTE	SHEET NO. <b>3 of 6</b>
DRAWN BJB	CHECKED
DATE 3-4-14	SCALE NONE





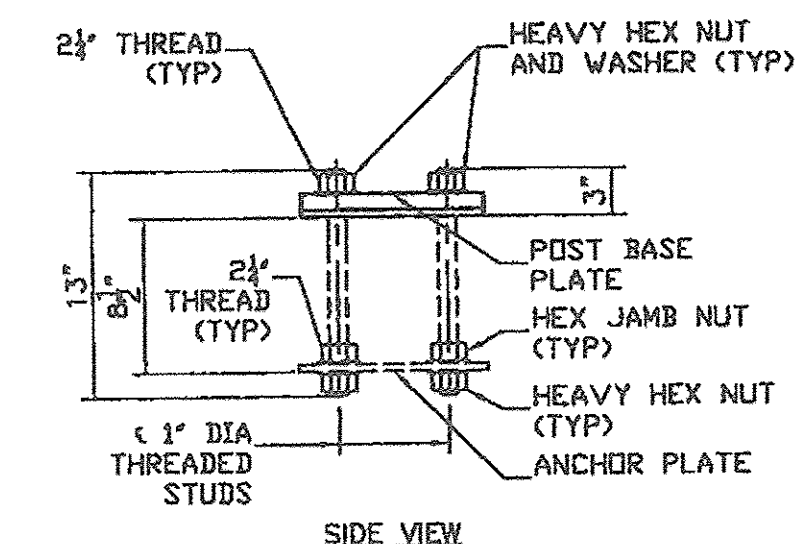
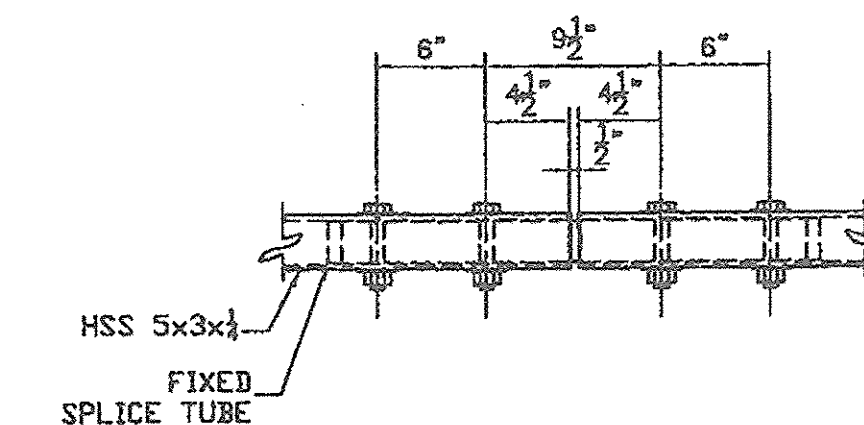
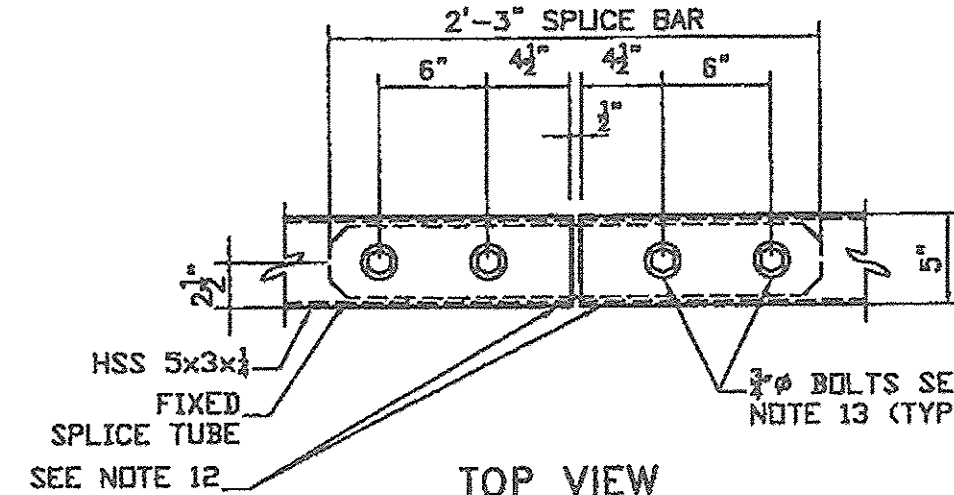
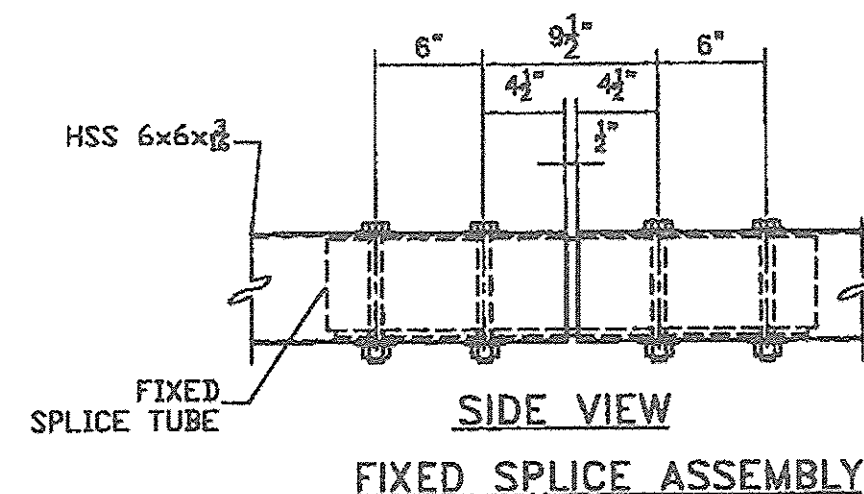
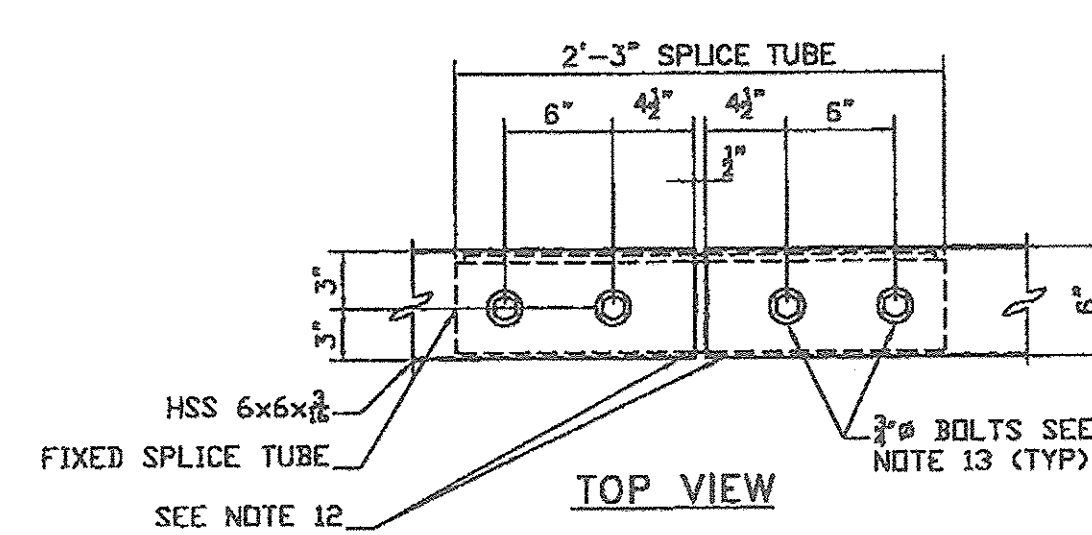
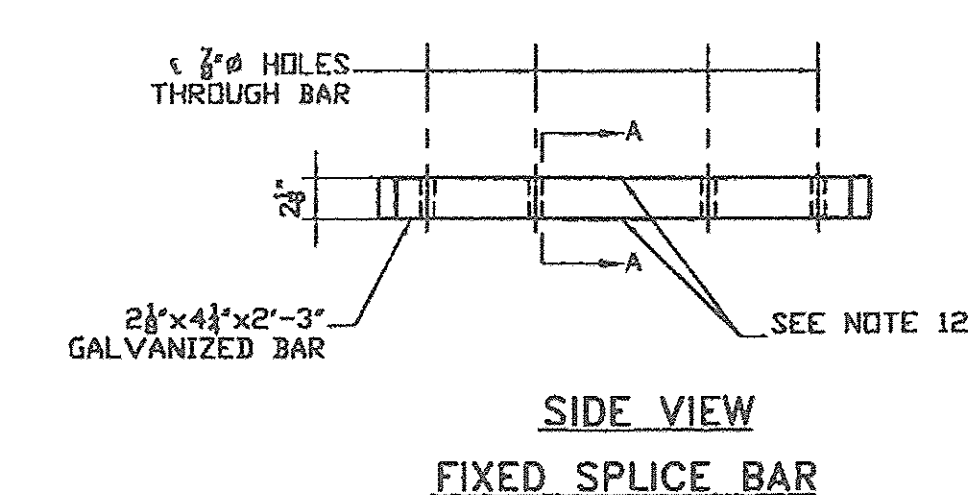
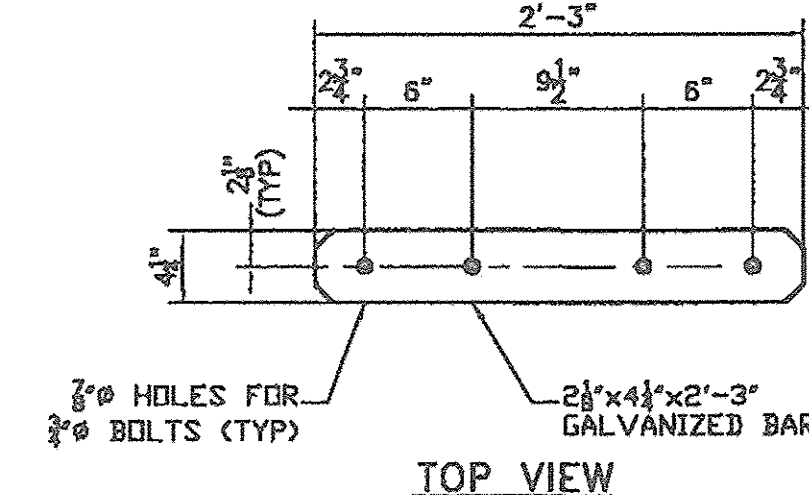
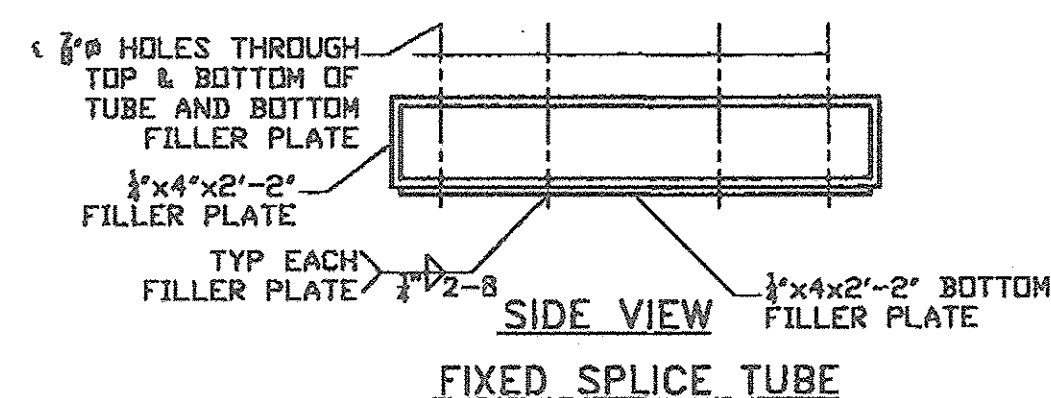
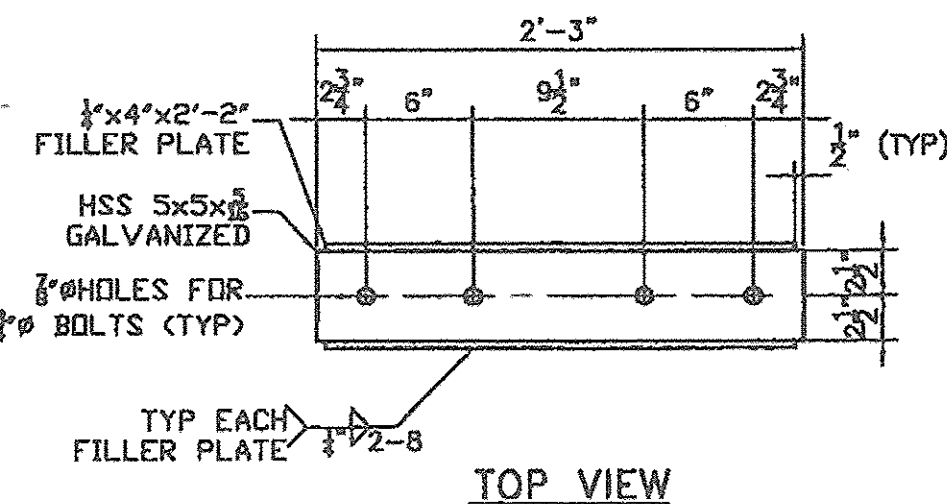
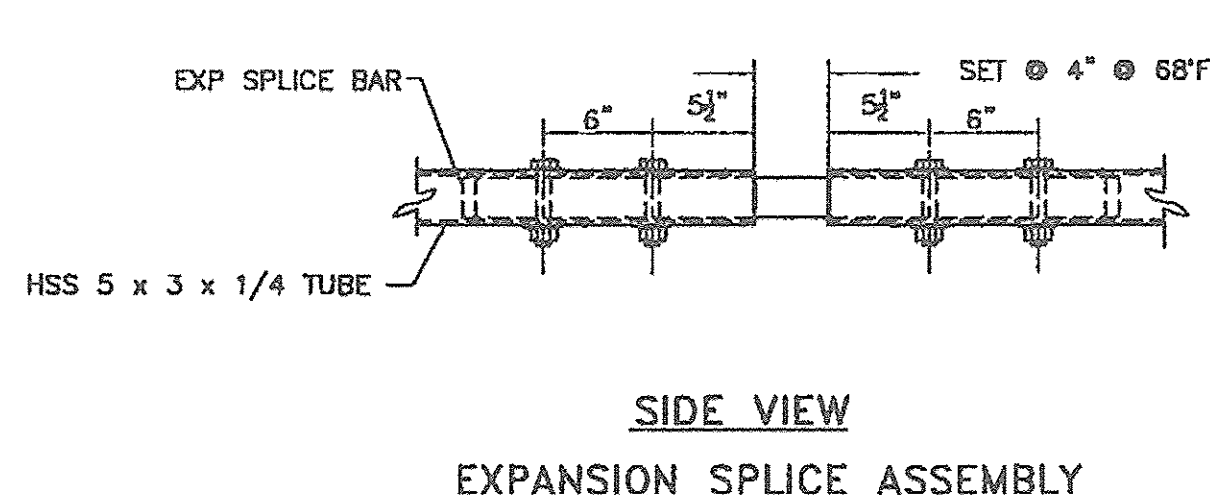
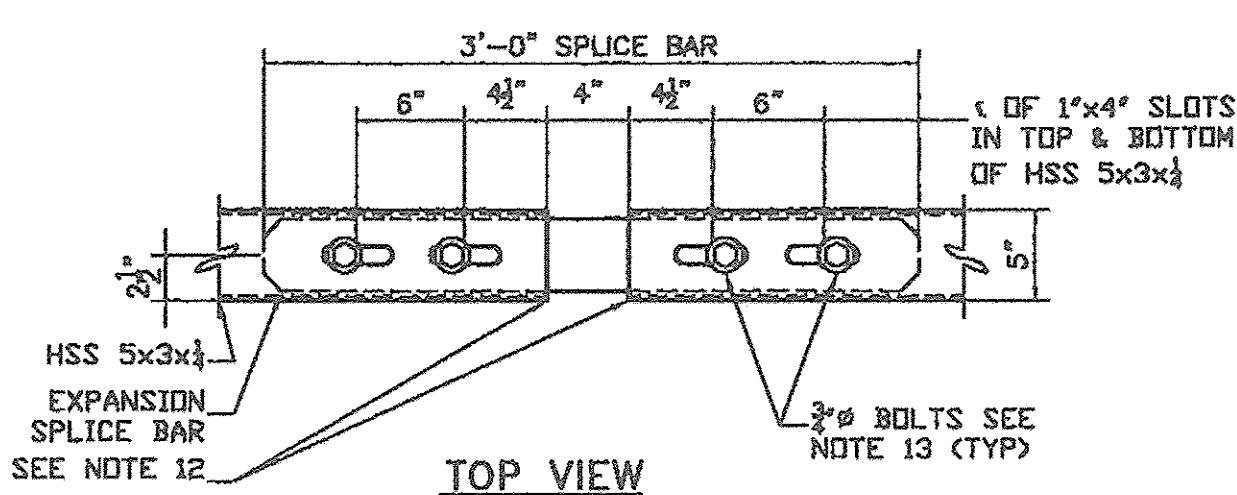
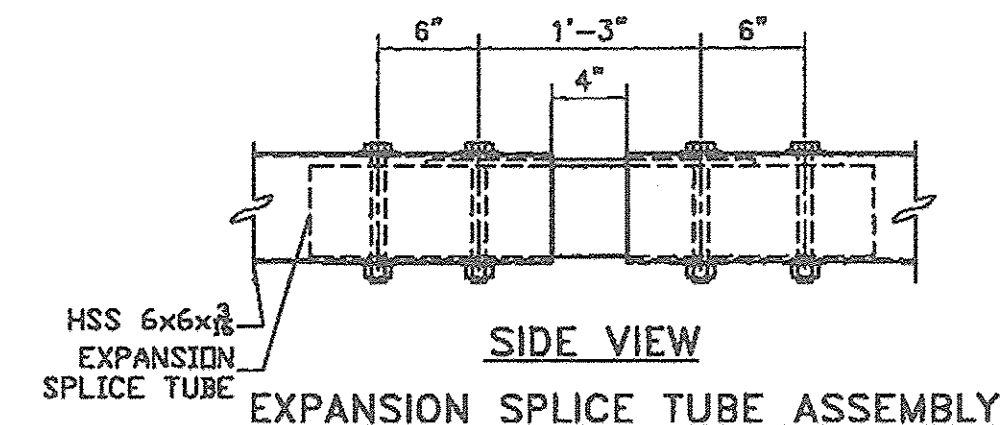
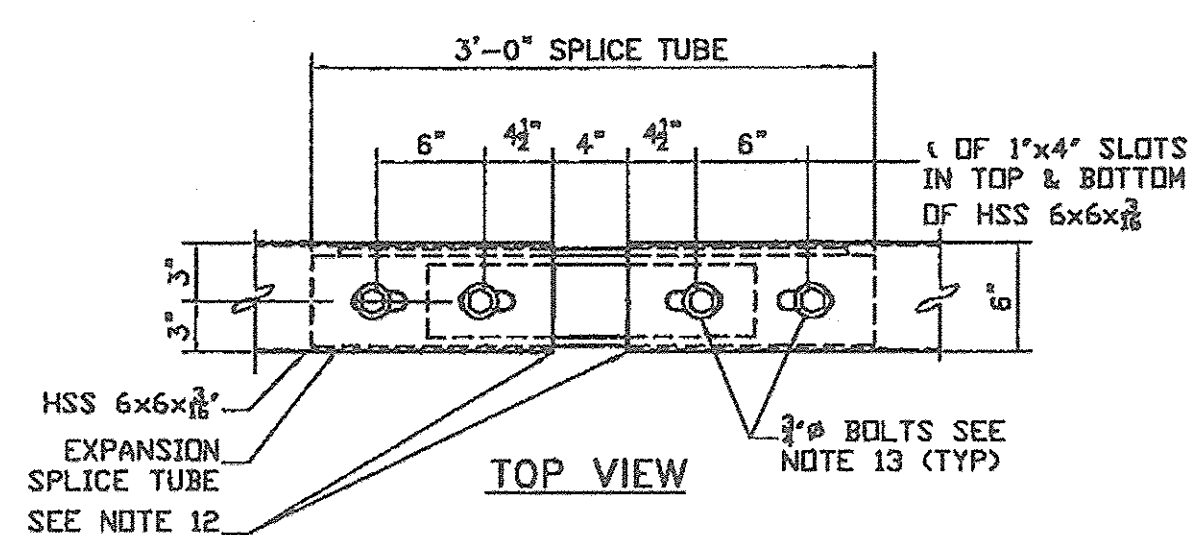
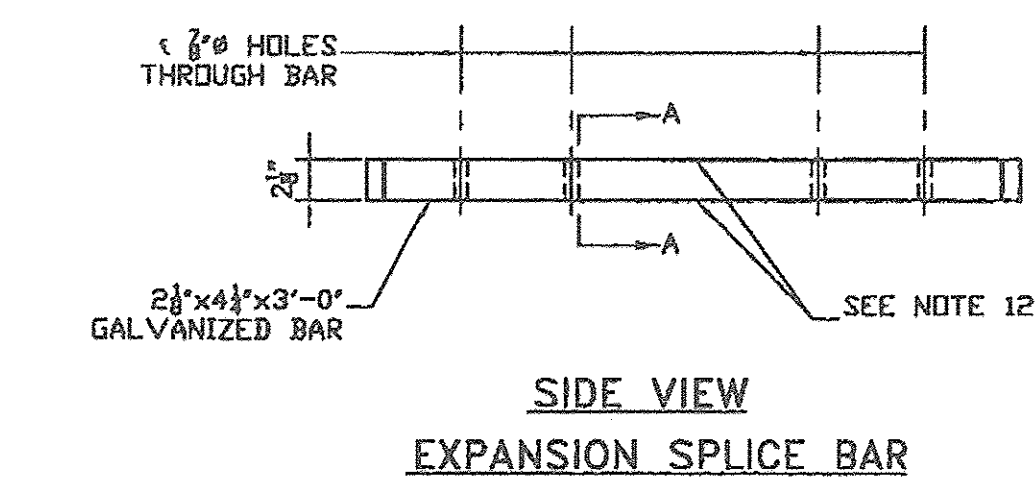
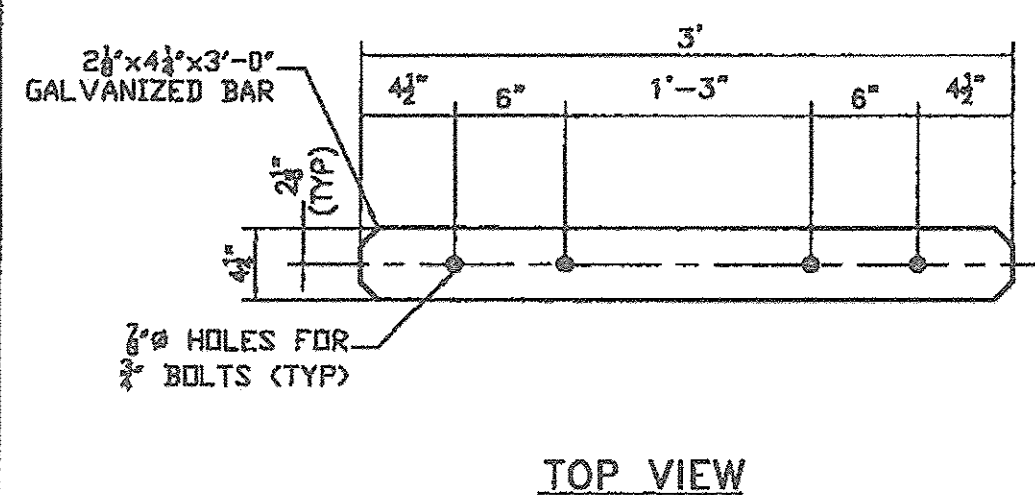
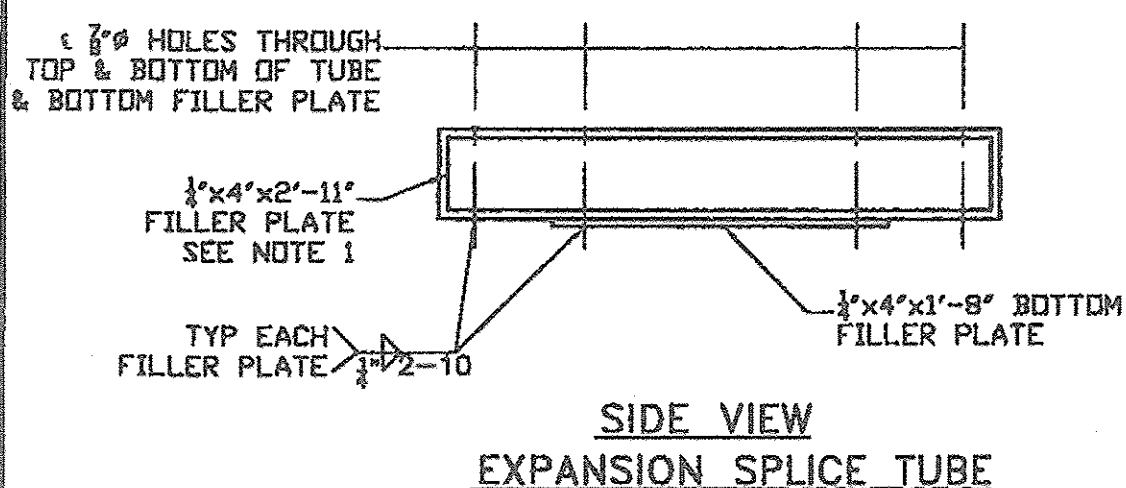
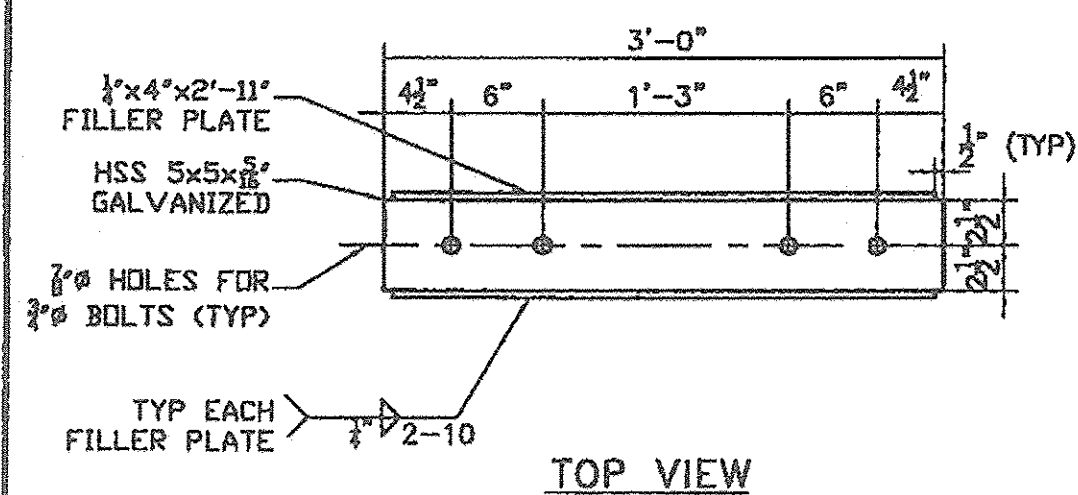
3 RAIL BOX BEAM PLAN  
EAST SIDE APPROACH ONLY (1 LOCATION— NE CORNER)  
SEE SHEET 2 OF 6 FOR ADDITIONAL INFORMATION

PROF EVALUATIONS ARE REVIEWED UNLESS NOTED OTHERWISE	
NO EXCEPTION TAKEN	<input checked="" type="checkbox"/>
REPAIR AS NOTED	<input type="checkbox"/>
REVISION NOT REQUIRED	<input type="checkbox"/>
REUSE AS NOTED	<input type="checkbox"/>
REVISION REQUIRED	<input type="checkbox"/>
REJECTED	<input type="checkbox"/>
DATE <b>3/26/2014</b>	
SIGNATURE <i>Ji Hoyle</i>	
REVIEW BY STANTEC IS FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL CONFORMITY WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION AND CONSTRUCTION METHODS, COORDINATION OF SUB-TRADES, DETAIL DESIGN OF COMPONENTS, AND ERRORS OR OMISSIONS ON SHOP DRAWINGS.	

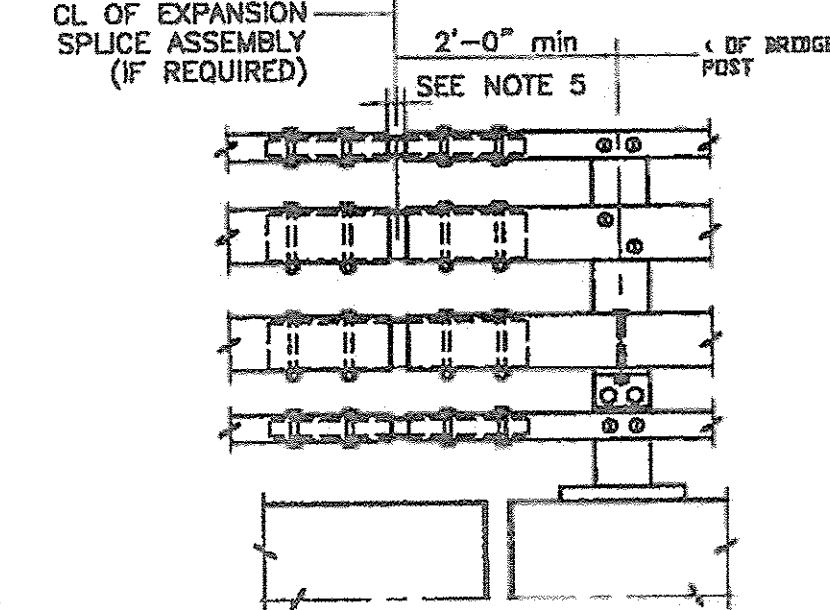
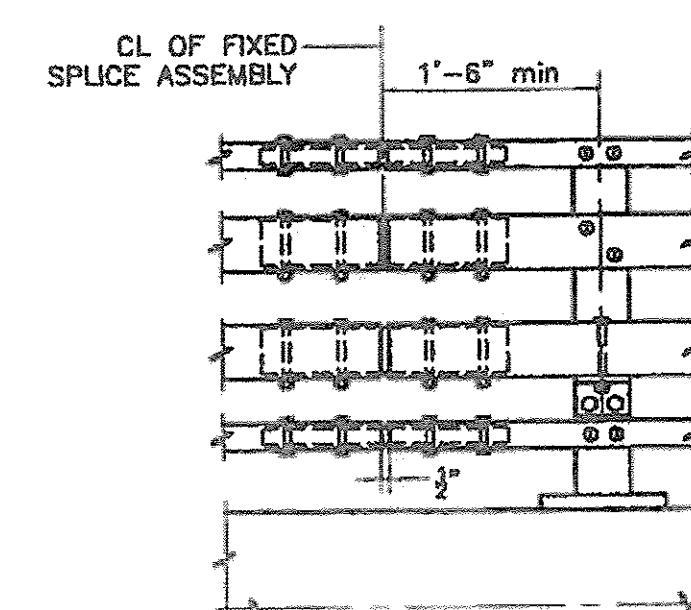
Vermont Agency of Transportation  
**RECEIVED**  
ON: **March 20, 2014**  
and Checked for  
**CONFORMANCE**  
BY: Rob Young DATE: 03/26/2014

<b>HIGHWAY SAFETY CORP</b>	
GLASTONBURY, CT 860-633-9445	
ITEM 621.725 APPROACH SECTION TOWN OF ENOSBURG COUNTY OF FRANKLIN BOSTON POST ROAD T.H.2 CLASS 2 BRIDGE NO. 48 PROJECT NO. BRO 1448 (40)	
GENERAL CONTRACTOR	<b>CERTIFIED FABRICATOR</b>
SUB CONTRACTOR	HSD JOB NO. <b>1976</b>
LAFAYETTE	SHEET NO. <b>4 of 6</b>
DRAWN BJB	CHECKED DATE 3-4-14 SCALE NONE SIZE C





**RAILING POST ANCHORAGE**

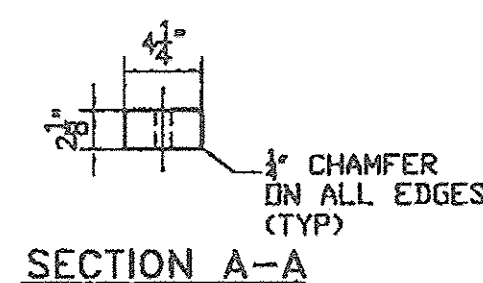


**RAILING SPICE DETAIL ELEVATION**

A RAILING EXPANSION SPICE IS REQUIRED IN ANY POST SPACING THAT CONTAINS A SUPERSTRUCTURE EXPANSION JOINT.

**NOTES:**

- ALL WORK AND MATERIALS SHALL CONFORM TO SECTION 525.
- PRIOR TO GALVANIZING THE ASSEMBLED POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF 1/8".
- ALL POSTS SHALL BE SET NORMAL TO GRADE. THE MAXIMUM CENTER TO CENTER SPACING OF BRIDGE RAIL POSTS IS 8'-3".
- SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO BRIDGE POST AND PREFERABLY TO AT LEAST 4 POSTS.
- RAIL TUBE EXPANSION JOINTS SHALL BE PROVIDED IN ANY RAIL BAY SPANNING THE END OF AN INTEGRAL ABUTMENT BRIDGE AND AT ALL SUPERSTRUCTURE EXPANSION JOINTS. EXPANSION JOINT WIDTH SHALL BE 4" @ 68°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
- HOLES IN RAILS FOR TUBE ATTACHMENT MAY BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO INSTALLATION.
- BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 100 FT-LB).
- SEE STANDARD DRAWING G-1B FOR DETAILS OF DELINEATORS. A DELINEATOR SHALL BE INSTALLED AT 30 FOOT SPACING FOR THE NEAREST POST. WHITE IS TO BE INSTALLED ON THE DRIVER'S RIGHT. FOR ONE WAY BRIDGES, YELLOW IS TO BE INSTALLED ON THE DRIVER'S LEFT. PAYMENT SHALL BE INCIDENTAL TO OTHER ITEMS.
- ANY BENDING OF RAIL SHALL BE DONE AT THE FABRICATION PLANT ACCORDING TO A PROCEDURE PROVIDED BY THE FABRICATOR.
- THE MINIMUM DISTANCE FROM THE POST TO AN EXPANSION JOINT SHALL BE DETERMINED BY THE MINIMUM EDGE DISTANCE OF 5" FROM ANY ANCHORS STUD TO THE END OF THE SLAB, OR TO THE EXPANSION JOINT RECESS POUR, IF ONE IS USED.
- THIS RAILING MEETS THE REQUIREMENTS FOR A TL-4 SERVICE LEVEL.



**NOTES:**

- PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE BOX BEAM RAILS, SPICE TUBES AND FILL PLATES.
- FOUR (4) 3/8" DIAMETER BOLTS, 7 1/2" LONG WITH TWO (2) WASHERS AND HEAVY HEX NUT ON EACH BOLT. NUT TO BE FINGER TIGHT AND THE FIRST THREAD BELOW THE NUT TO BE BURIED TO PREVENT DISLODGING. FOUR (4) BOLTS AT EACH SPICE.

DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE	
REVISION TAKEN	✓
REVISE AS NOTED	
REVISION NOT REQUIRED	
REVISE AS NOTED	
REVISION REQUIRED	
REJECTED	
DATE 3/26/2014	
SIGNATURE <i>[Signature]</i>	
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Vermont Agency of Transportation

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ON: March 20, 2014

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**CONFORMANCE**

BY: Rob Young DATE: 03/26/2014

HIGHWAY SAFETY CORP	
GLASTONBURY, CT 860-633-9445	
BRIDGE RAIL DETAILS 525.335 & 621.725	
TOWN OF ENOSBURG, COUNTY OF FRANKLIN	
BOSTON POST ROAD T.H.2 CLASS 2	
BRIDGE NO. 48	
PROJECT NO. BRO 1448 (40)	
GENERAL CONTRACTOR	1976
SUB CONTRACTOR LAFAYETTE	5 of 6
DRAWN BJB	CHECKED
DATE 3-4-14	SCALE NONE



