

STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT

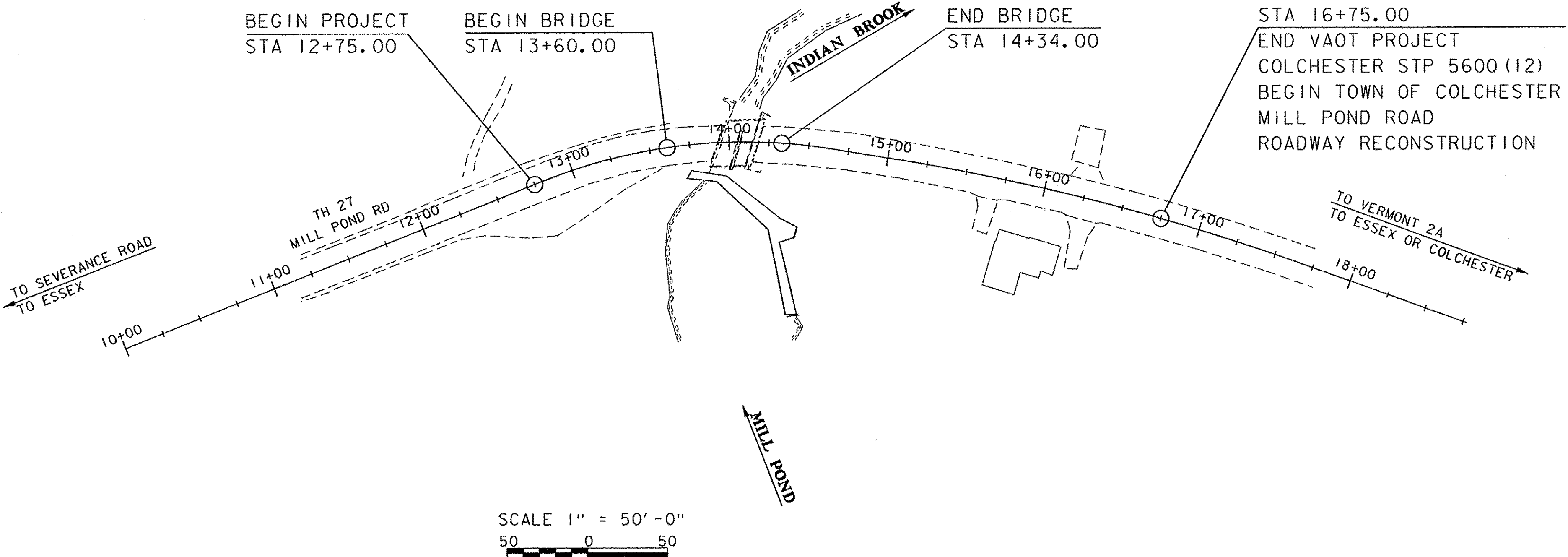
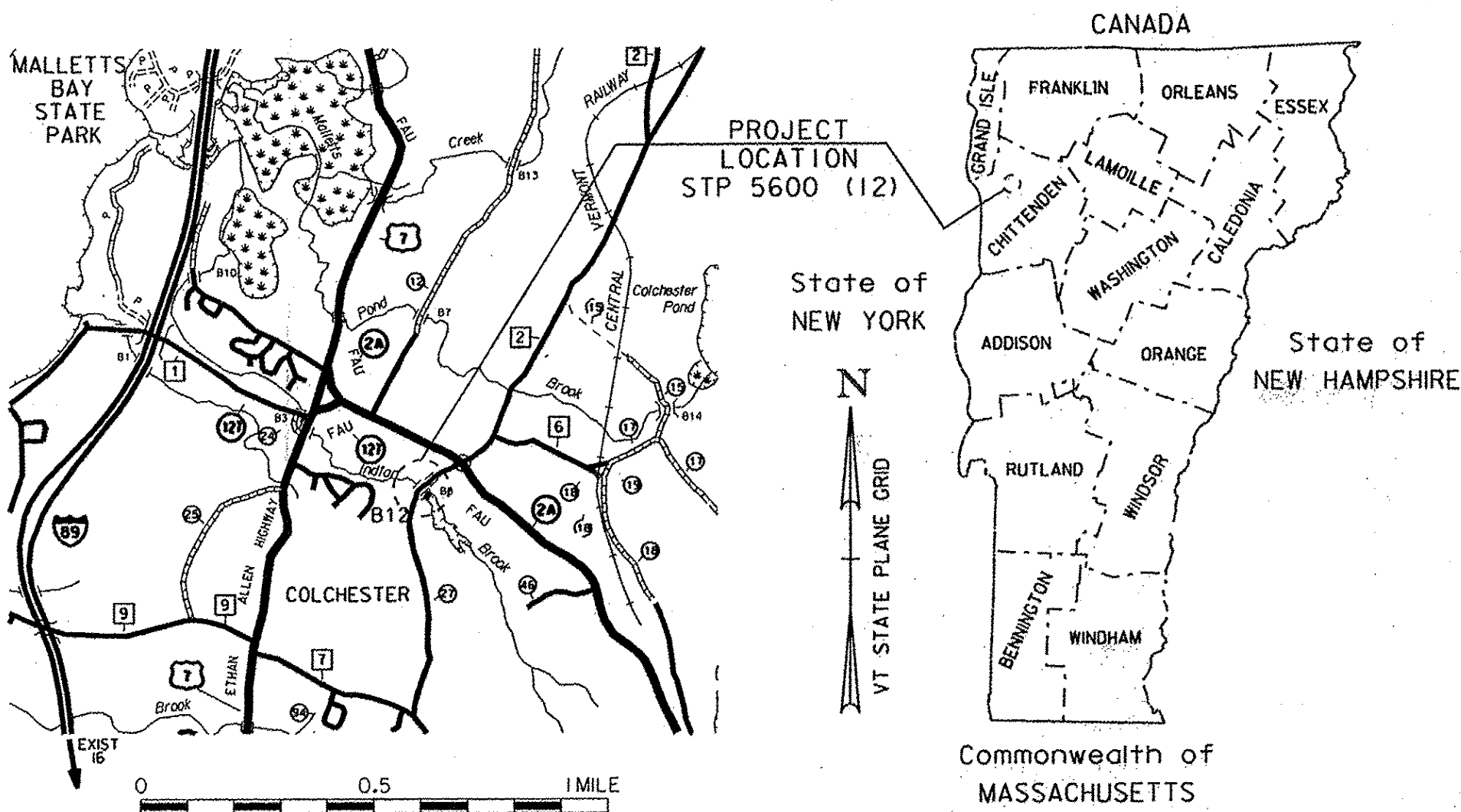
TOWN OF COLCHESTER
COUNTY OF CHITTENDEN

ROUTE NO : TH 27 (URBAN COLLECTOR) BRIDGE NO : 12

PROJECT LOCATION : PROJECT IS LOCATED AT THE TH27 CROSSING OVER THE INDIAN BROOK ON THE NORTH END OF MILL POND ROAD AND ADJACENT TO THE MILL POND DAM. THE BRIDGE IS 0.4 MILES SOUTH OF THE VERMONT 2A & TH27 INTERSECTION.

PROJECT DESCRIPTION : PROJECT IS FOR REPLACEMENT OF BRIDGE NO. 12 ON TH27 INCLUDING APPROACH ROADWAY AND CHANNEL WORK.

LENGTH OF STRUCTURE : 74.00 FEET
LENGTH OF ROADWAY : 326.00 FEET
LENGTH OF PROJECT : 400.00 FEET



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

QUALITY ASSURANCE PROGRAM : LEVEL 2	
SURVEYED BY :	R. D. GILMAN
SURVEYED DATE :	07-09-1997
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (1992)

DIRECTOR OF PROJECT DELIVERY	
APPROVED	DATE 1/9/2015
PROJECT MANAGER : CAROLYN CARLSON, P.E.	
PROJECT NAME : COLCHESTER	
PROJECT NUMBER : STP 5600 (12)	
SHEET 1 OF 53 SHEETS	

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version

LRFD

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R.O.W. LAYOUT SHEET

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C-10

CURBING

02-11-2008

E-153

WARNING SIGN DETAILS

05-01-2004

E-193

PAVEMENT MARKING DETAILS

08-18-1995

G-1

STEEL BEAM GUARDRAIL DETAILS (POST, DELINEATOR, TYPICALS)

02-10-2014

G-1D

STEEL BEAM GUARDRAIL DETAILS (END TERMINAL, ANCHOR, MEDIAN)

02-10-2014

S-352A

BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION

08-22-2012

S-352B

BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION

08-22-2012

S-352C

BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION

08-22-2012

S-352D

GUARDRAIL APPROACH SECTION TO CONCRETE COMBINATION BRIDGE RAILING, TL-3

08-22-2012

T-1

TRAFFIC CONTROL GENERAL NOTES

08-06-2012

T-10

CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNING

08-06-2012

T-28

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08-06-2012

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08-06-2012

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CONSTRUCTION SIGN DETAILS

08-06-2012

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BRIDGE NUMBER PLAQUE

04-09-2014

T-45

SQUARE TUBE SIGN POST AND ANCHOR

01-02-2013

STRUCTURES DETAIL SHEETS

SD-501.00

CONCRETE DETAILS AND NOTES

02-09-2012

SD-502.00

CONCRETE DETAILS AND NOTES

10-10-2012

SD-516.10

BRIDGE JOINT ASPHALTIC PLUG

08-29-2011

SD-601.00

STRUCTURAL STEEL DETAILS AND NOTES

08-04-2010

SD-602.00

STRUCTURAL STEEL PLATE GIRDER DETAILS AND NOTES

05-02-2011

TRAFFIC DATA

YEAR

ADT

DHV

% D

% T

ADTT

20 year ESAL for flexible pavement

2015 to 2035 : 198000

2015

2300

370

76

3.3

70

40 year ESAL for flexible pavement

2015 to 2055 : 449000

2035

2500

400

46

4.1

100

Design Speed : 35 mph

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: July 2011

DRAINAGE AREA : 10.29 sq mi

CHARACTER OF TERRAIN : Hilly to Mountainous

STREAM CHARACTERISTICS : Meandering

NATURE OF STREAMBED : Cobbles With Some Ledge Through Structure

PEAK FLOW DATA

Q 2.33 = 310 cfs

Q 50 = 1300

Q 10 = 775

Q 100 = 1550

Q 25 = 1025

Q 500 = 2125

DATE OF FLOOD OF RECORD

ESTIMATED DISCHARGE:

WATER SURFACE ELEV.:

NATURAL STREAM VELOCITY : @ Q50 =

ICE CONDITIONS :

DEBRIS:

DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY?

IS ORDINARY RISE RAPID?

IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS?

IF YES, DESCRIBE:

WATERSHED STORAGE:

HEADWATERS:

UNIFORM:

IMMEDIATELY ABOVE SITE: X

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Two Span Concrete Slab Bridge

YEAR BUILT:

CLEAR SPAN(NORMAL TO STREAM): 19 ft

VERTICAL CLEARANCE ABOVE STREAMBED: 11 ft

WATERWAY OF FULL OPENING: 200 sq ft

DISPOSITION OF STRUCTURE: To be removed

TYPE OF MATERIAL UNDER SUBSTRUCTURE: Ledge

WATER SURFACE ELEVATIONS AT:

Q2.33 = **See Additional Information**

VELOCITY =

Q10 =

"

Q25 =

"

Q50 =

"

Q100 =

"

LONG TERM STREAMBED CHANGES:

IS THE ROADWAY OVERTOPPED BELOW Q100:

FREQUENCY:

RELIEF ELEVATION:

DISCHARGE OVER ROAD @Q100:

UPSTREAM STRUCTURE

TOWN: Essex

DISTANCE: 14,700 ft

HIGHWAY #: TH3

STRUCTURE #: Br22

CLEAR SPAN: 10 ft

CLEAR HEIGHT: 10 ft

YEAR BUILT: 1994

FULL WATERWAY: 64 sq ft

STRUCTURE TYPE: CGMPP

DOWNSTREAM STRUCTURE

TOWN: Colchester

DISTANCE: 5,000 ft

HIGHWAY #: US7

STRUCTURE #: Br155

CLEAR SPAN: 18 ft

CLEAR HEIGHT: 20 ft

YEAR BUILT: 1929

FULL WATERWAY: 358 sq ft

STRUCTURE TYPE: Concrete Box

LRFR LOAD RATING FACTORS

LOADING LEVELS

TRUCK

H-20

HL-93

3S2

6 AXLE

3A STR

4A STR

5A SEM

TONNAGE

20

36

36

66

30

34.5

38

INVENTORY

2.29

1.25

POSTING

OPERATING

2.97

1.62

2.38

1.69

2.25

2.03

2.11

COMMENTS:

PROPOSED STRUCTURE

STRUCTURE TYPE: Single Span Curved Girder Bridge

CLEAR SPAN(NORMAL TO STREAM): 70 ft

VERTICAL CLEARANCE ABOVE STREAMBED: 12.5 ft

WATERWAY OF FULL OPENING: 530 sq ft

WATER SURFACE ELEVATIONS AT:

Q2.33 = **See Additional Information**

VELOCITY=

Q10 =

"

Q25 =

"

Q50 =

"

Q100 =

"

IS THE ROADWAY OVERTOPPED BELOW Q100:

FREQUENCY:

RELIEF ELEVATION:

DISCHARGE OVER ROAD @Q100:

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE:

VERTICAL CLEARANCE: @ Q50 =

SCOUR:

REQUIRED CHANNEL PROTECTION: Stone Fill, Type III

PERMIT INFORMATION

AVERAGE DAILY FLOW:

DEPTH OR ELEVATION:

ORDINARY LOW WATER:

ORDINARY HIGH WATER: 3.5' Depth

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: N/A

CLEAR SPAN (NORMAL TO STREAM):

VERTICAL CLEARANCE ABOVE STREAMBED:

WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

**No water surface elevations were calculated due to the proximity of the dam upstream.
It is assumed elevations and velocities will be decreased by the proposed longer and higher single span bridge.

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN TRAFFIC ON AN OFF SITE DETOUR.

2. TRAFFIC SIGNALS ARE NOT NECESSARY.

3. SIDEWALKS ARE NOT NECESSARY

DESIGN VALUES

1. DESIGN LIVE LOAD

HL-93

2. FUTURE PAVEMENT

d_p: 3.0 INCH

3. DESIGN SPAN

L: 70.00 FT

4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)

Δ: ---

5. PRESTRESSING STRAND

f_y: ---

6. PRESTRESSED CONCRETE STRENGTH

f'_c: ---

7. PRESTRESSED CONCRETE RELEASE STRENGTH

f'_{cr}: ---

8. CONCRETE, HIGH PERFORMANCE CLASS AA

f'_c: ---

9. CONCRETE, HIGH PERFORMANCE CLASS A

f'_c: 4.0 KSI

10. CONCRETE, HIGH PERFORMANCE CLASS B

f'_c: 3.5 KSI

11. CONCRETE, CLASS C

f'_c: 3.0 KSI

12. REINFORCING STEEL

f_y: 60 KSI

13. STRUCTURAL STEEL AASHTO M270

f_y: 50 KSI

14. NOMINAL BEARING RESISTANCE OF SOIL

q_n: 4.0 KSF

15. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)

φ: 0.45

16. NOMINAL BEARING RESISTANCE OF ROCK

q_n: 20.0 KSF

17. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)

φ: 0.45

18. PILE RESISTANCE FACTOR

φ: ---

19. LATERAL PILE DEFLECTION

Δ: ---

20. BASIC WIND SPEED

V_{3s}: 90 MPH

21. MINIMUM GROUND SNOW LOAD

p_g: ---

22. SEISMIC DATA

PGA: 0

S_s: ---

S₁: ---

23.

24.

25.

26.

PROJECT NAME: COLCHESTER

PROJECT NUMBER: STP 5600 (12)

FILE NAME: s95j298pi.xls

PLOT DATE: 1/30/2015

PROJECT LEADER: C. CARLSON

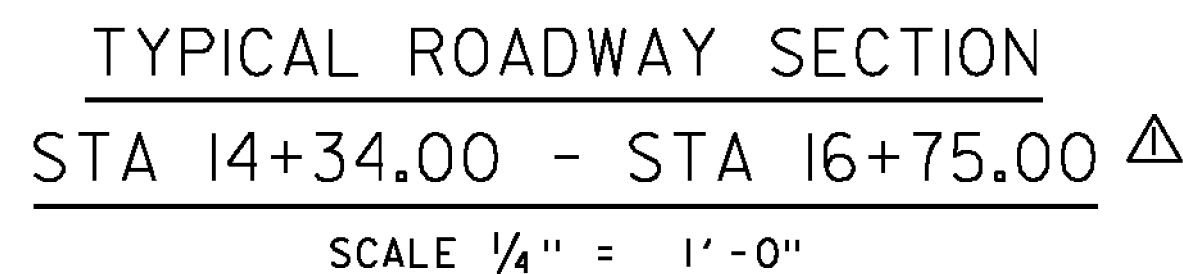
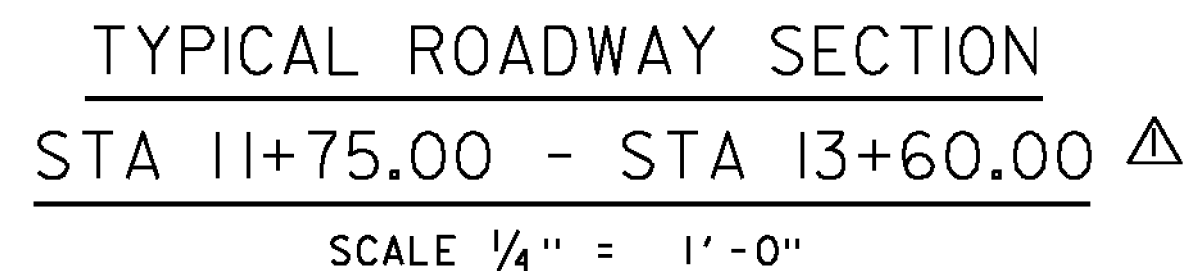
DRAWN BY: R. PELLET

DESIGNED BY: N. VANDENBERG

CHECKED BY: N. VANDENBERG

PRELIMINARY INFORMATION SHEET

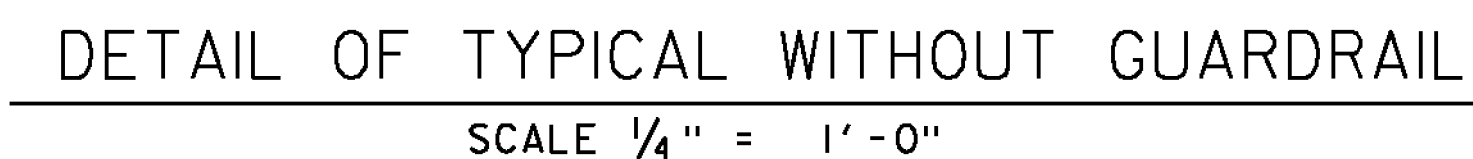
SHEET 2 OF 53



*** TOP 1 1/2" LIFT DONE BY OTHERS
(SEE SPECIAL PROVISIONS)

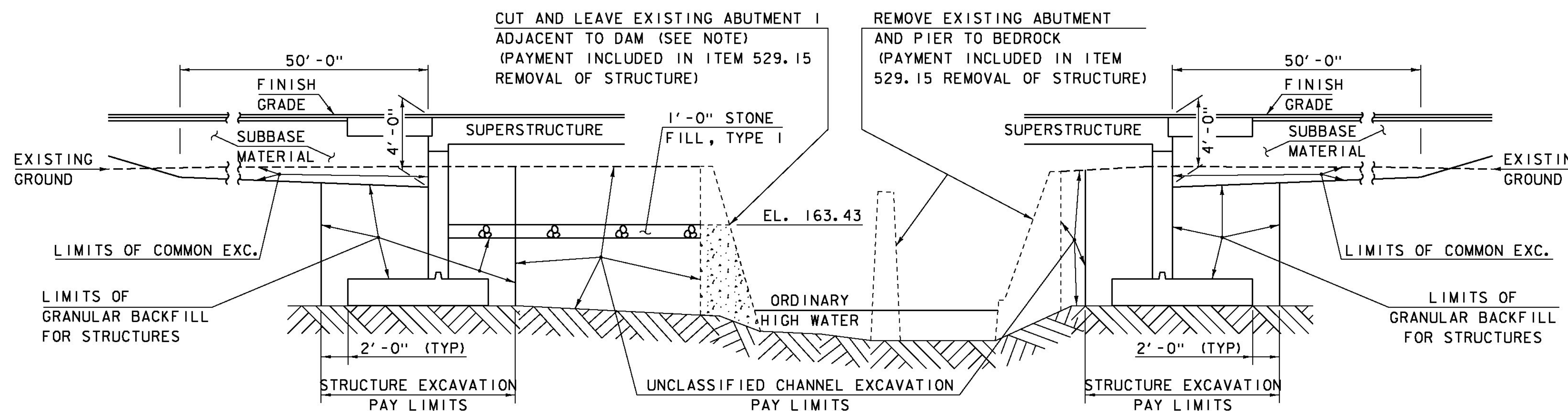
PAVEMENT SHALL BE PAID FOR UNDER ITEM 900.680
"SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT,
SMALL QUANTITY)".

TACK COAT: EMULSIFIED ASPHALT IS TO BE APPLIED AT A RATE OF 0.025 GAL/SY BETWEEN SUCCESSIVE COURSES OF PAVEMENT AND 0.080 GAL/SY ON COLD PLANED SURFACES AS DIRECTED BY THE ENGINEER.

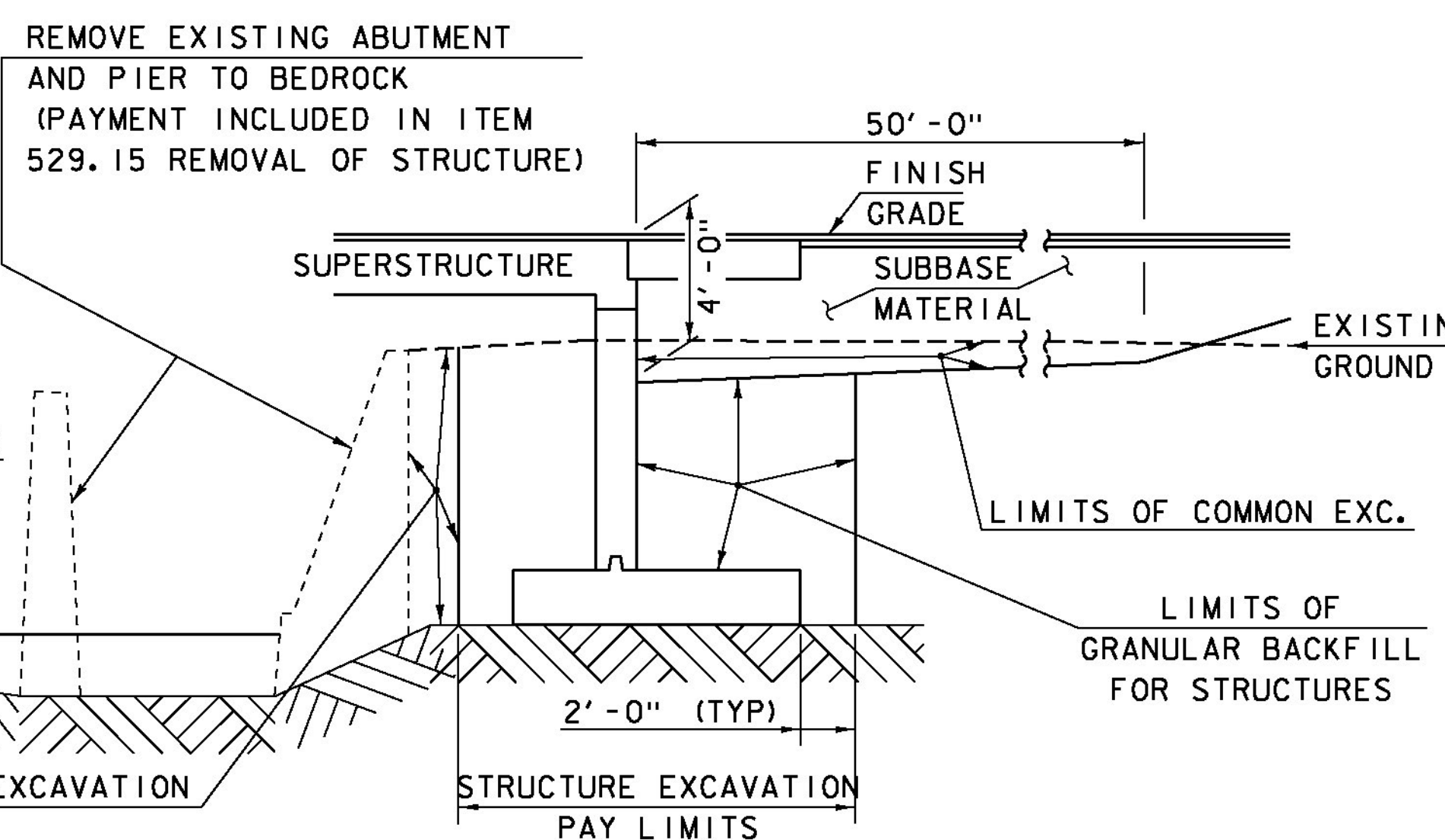


1. THE EDGE OF PAVEMENT SHALL BE FORMED IN SUCH A WAY THAT THE BITUMINOUS CONCRETE PAVEMENT IS EXTRUDED OR COMPRESSED TO FORM THE 30 TO 35 DEGREE ANGLE. DEVICES THAT SIMPLY STRIKE-OFF THE MIX WITHOUT PROVIDING ANY COMPACTIVE EFFORT WILL NOT BE ALLOWED.
2. THE PAVED SHOULDER EXTENDS FROM THE EDGE OF TRAVELED WAY TO THE EDGE OF THE WEARING COURSE, INCLUDING THE "SAFETY EDGE".

				PROJECT NAME: COLCHESTER	
				PROJECT NUMBER: STP 5600 (I2)	
KEY	DATE	BY	REVISION	FILE NAME: s95j298+yp.dgn	
△	02/23/2015	VAOT	ADDED ROADWAY TYPICAL SECTION.	PLOT DATE: 01-SEP-2015	
△	09/01/2015	VAOT	MODIFIED SIDEWALK AND WALKWAY WIDTHS.	PROJECT LEADER: C. CARLSON	
				DESIGNED BY: N. VANDERBERG	
				TYPICAL SECTIONS 1	
				DRAWN BY: G. ROKES	
				CHECKED BY: D. PETERSON	
				SHEET 3 OF 53	

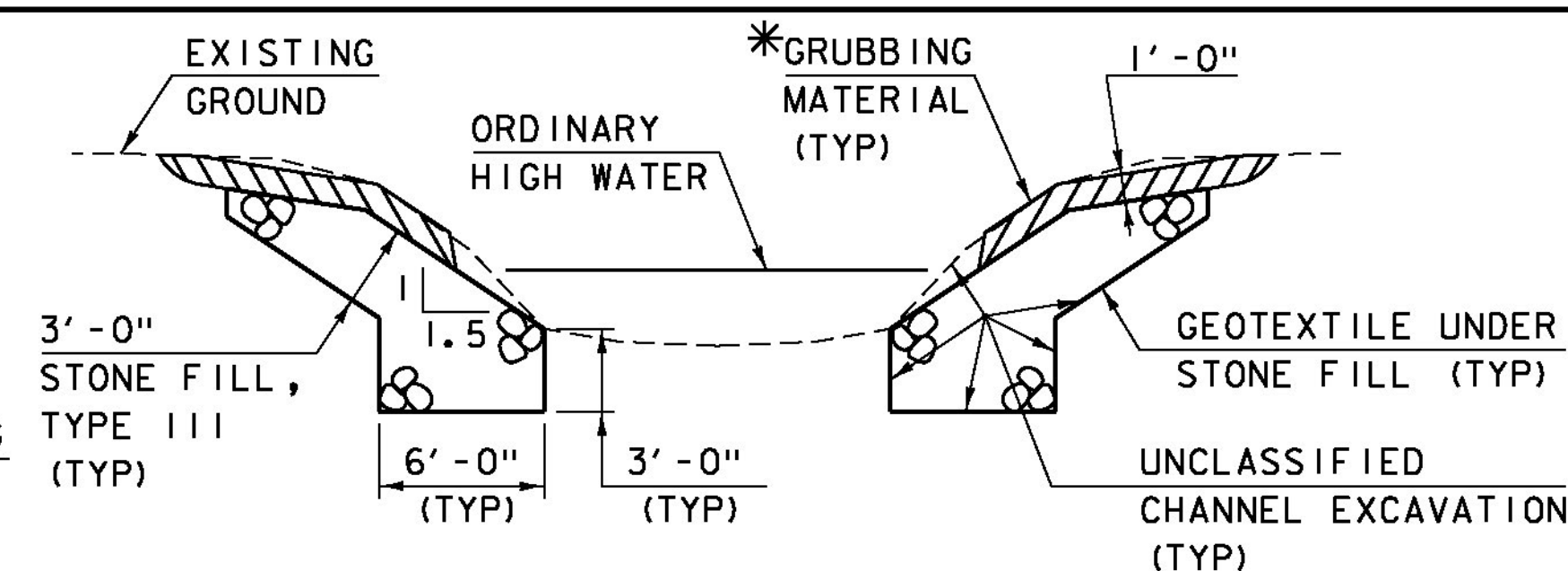


ABUTMENT 1 AND WINGWALL 1 SECTION
(NEAR DAM)
(NOT TO SCALE)



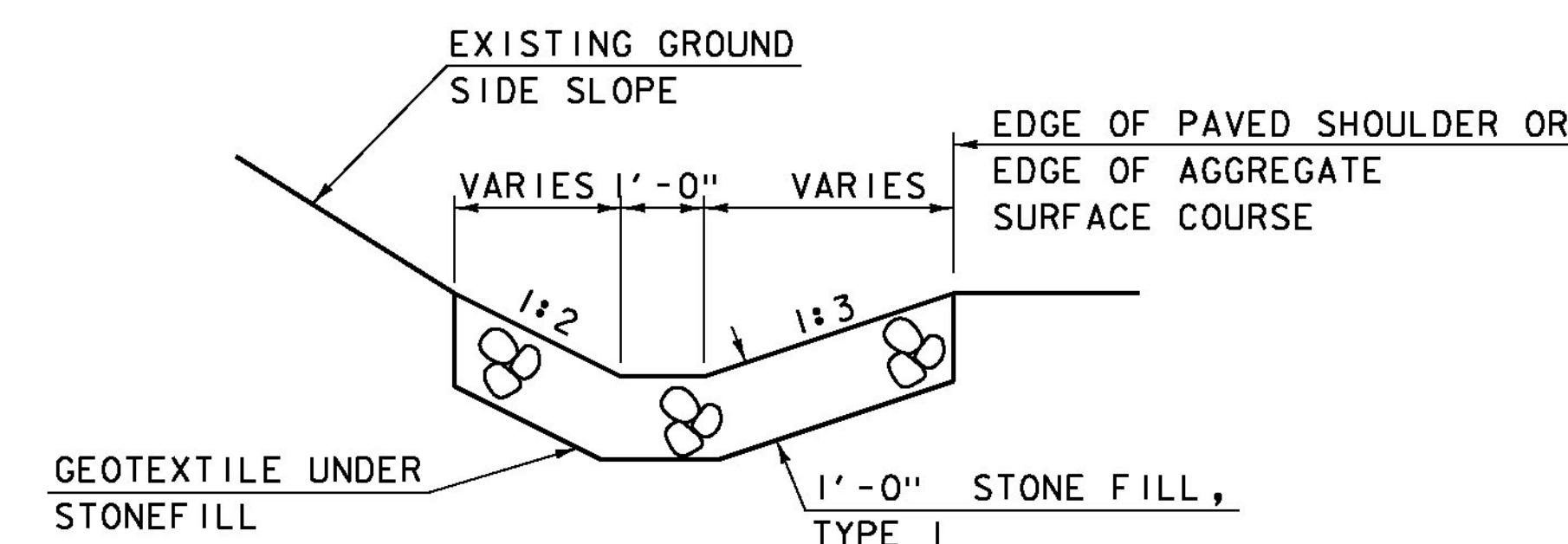
ABUTMENT 2 SECTION
(NOT TO SCALE)

NOTE: SEE "FRONT VIEW OF ABUTMENT 1 STRUCTURE REMOVAL" THIS SHEET



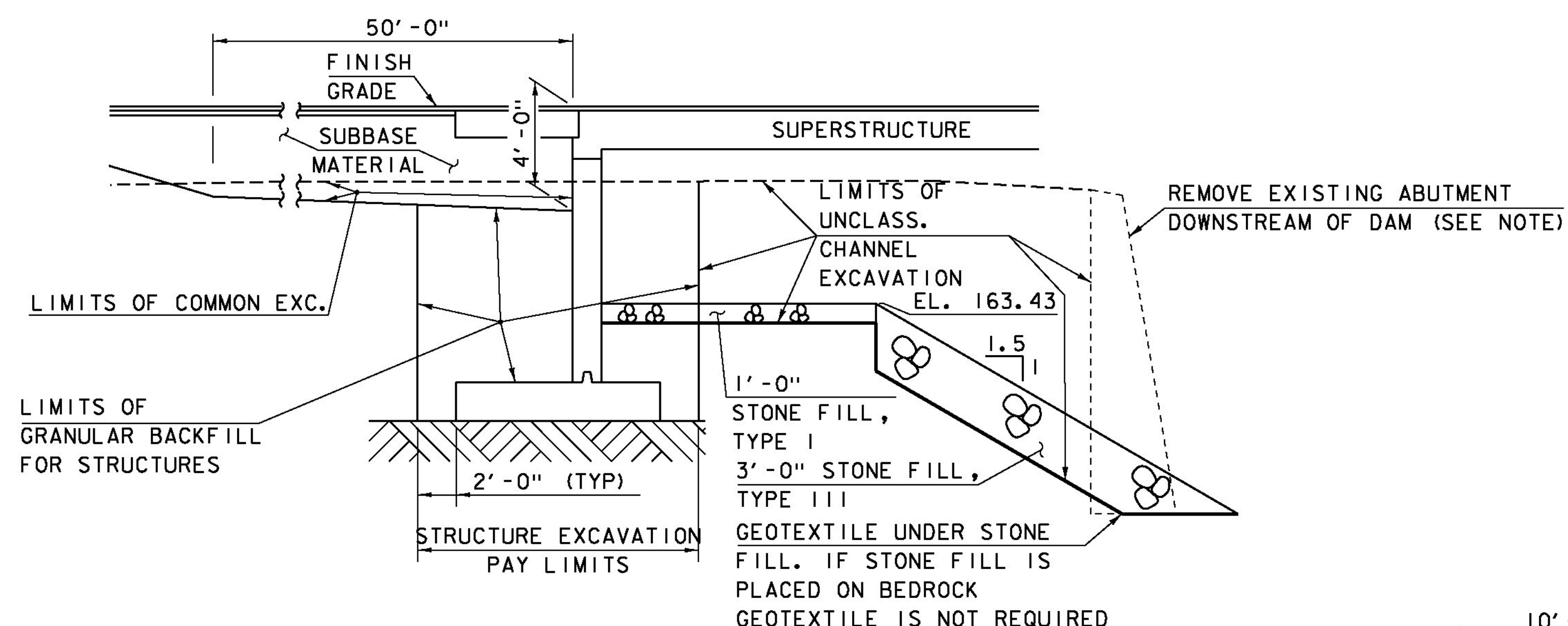
TYPICAL CHANNEL SECTION
(NOT TO SCALE)

*WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.

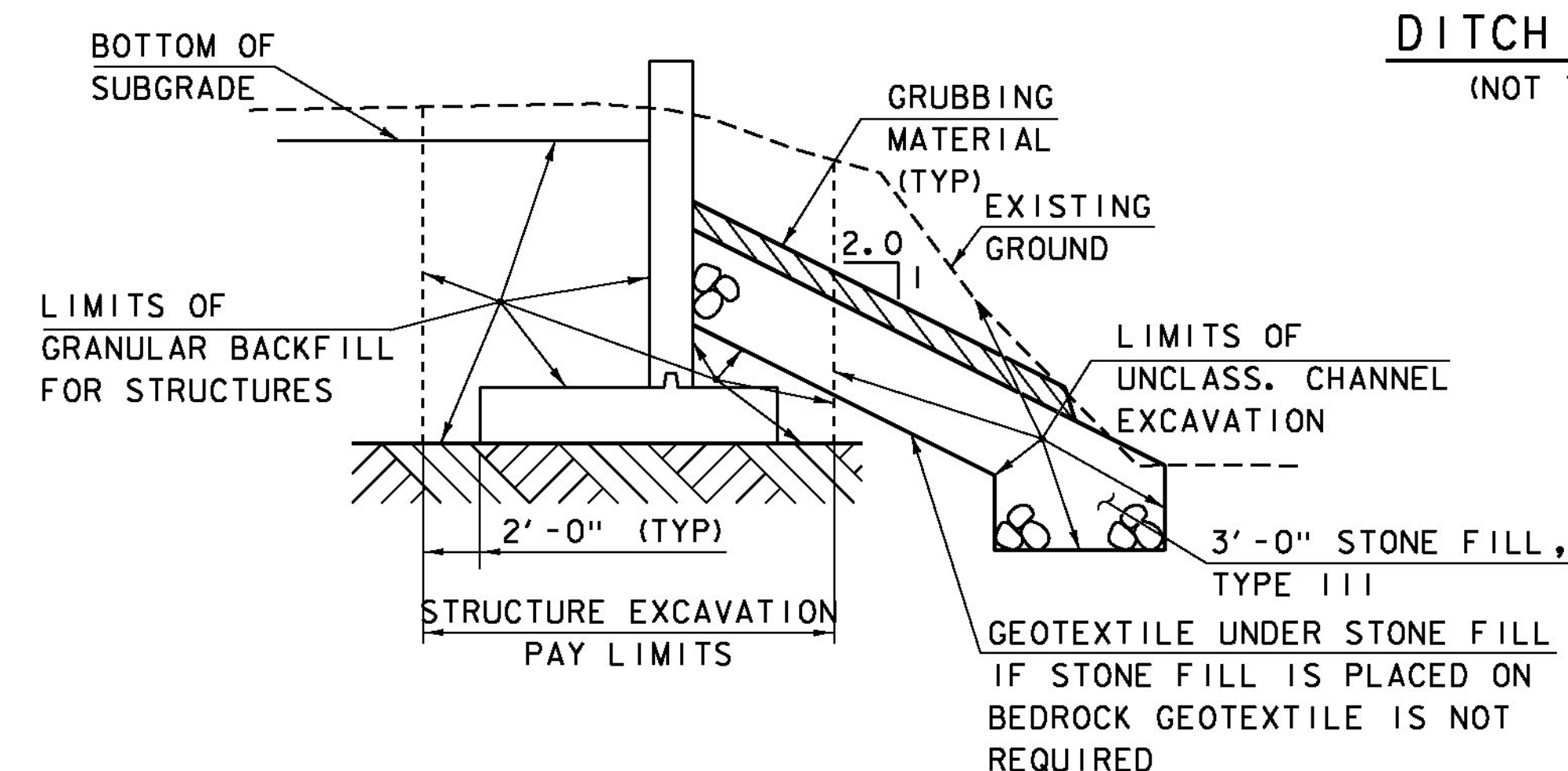


DITCH TYPICAL
(NOT TO SCALE)

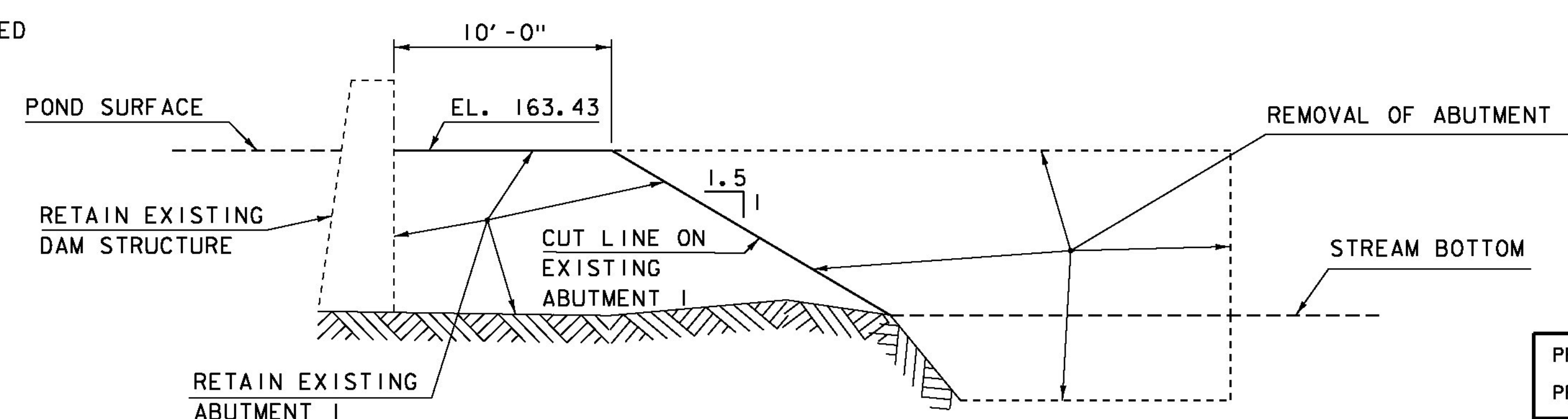
NOTE: STA 12+64.00LT - STA 13+73.75LT



ABUTMENT 1 AND WINGWALL 2 SECTION
(DOWNSTREAM OF DAM)
(NOT TO SCALE)



TYPICAL WINGWALL 3 & 4 SECTION
(NOT TO SCALE)



FRONT VIEW OF ABUTMENT 1 STRUCTURE REMOVAL
(NOT TO SCALE)

PROJECT NAME: COLCHESTER
PROJECT NUMBER: STP 5600 (12)

FILE NAME: s95j2981yp.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: N. VANDERBERG
TYPICAL SECTIONS 2

PLOT DATE: 29-JAN-2015
DRAWN BY: G. ROKES
CHECKED BY: D. PETERSON
SHEET 4 OF 53

GENERAL

- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AND ITS LATEST REVISIONS, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, DATED 2010, AND ITS LATEST REVISIONS.
- DURING CONSTRUCTION, TRAFFIC SHALL BE MAINTAINED ON AN OFF SITE DETOUR. THE CONTRACTOR SHALL ERECT AND MAINTAIN ALL TEMPORARY ON-PROJECT SIGNS AND BARRICADES AS SHOWN IN THE PLANS AND AS DIRECTED BY THE RESIDENT ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO SPECIAL PROVISION ITEM 900.645 (TRAFFIC CONTROL, ALL-INCLUSIVE). THE TOWN WILL BE RESPONSIBLE FOR ALL OFF-PROJECT DETOUR SIGNS.
- FULL ACCESS TO DRIVES WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES. IF THE CONTRACTOR NEEDS TO MINIMIZE ACCESS, THE PROPERTY OWNERS MUST BE NOTIFIED TWO DAYS IN ADVANCE. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO SPECIAL PROVISION ITEM 900.645 (TRAFFIC CONTROL, ALL-INCLUSIVE).
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DOCUMENT THE CONDITION OF THE ADJACENT MILL POND DAM, WHICH HAS THE POTENTIAL FOR DAMAGE FROM CONSTRUCTION ACTIVITIES. THIS DOCUMENTATION SHALL BE IN THE FORM OF VIDEO OR PICTURES, WITH SUFFICIENT DESCRIPTION, AND SHALL BE SUPPLIED TO THE ENGINEER PRIOR TO ANY EXCAVATION OR REMOVAL OF EXISTING STRUCTURES. THE COST OF PREPARING THIS DOCUMENTATION WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED INCIDENTAL TO ALL CONTRACT ITEMS. ANY DAMAGE TO THE EXISTING DAM AS THE RESULT OF THE CONTRACTOR'S OPERATIONS, AS DETERMINED BY THE ENGINEER SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE OR MUNICIPALITY.
- ITEM 529.15 REMOVAL OF STRUCTURE SHALL INCLUDE THE REMOVAL AND DISPOSAL OF EXISTING BRIDGE SUPERSTRUCTURE AND THE REMOVAL OF THE ABUTMENTS AND PIER AS SHOWN IN THE PLANS, WHERE THEIR REMOVAL IS NOT COVERED BY ANY OF THE EXCAVATION ITEMS.
- FOR INFORMATION REGARDING UTILITIES, SEE THE 'UTILITIES LAYOUT' SHEET AND THE SPECIAL PROVISIONS.
- ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.
- ALL EXISTING SIGNS AND SIGN POSTS NOT RE-USED SHALL REMAIN THE PROPERTY OF THE TOWN. THE CONTRACTOR SHALL CONTACT THE TOWN WHEN THESE ITEMS ARE READY FOR REMOVAL FROM THE PROJECT SITE. CONTACT INFORMATION FOR THE COLCHESTER PUBLIC WORKS DEPARTMENT (802) 264-5620.
- THE EXISTING STRUCTURAL STEEL IS PAINTED WITH A MATERIAL THAT MAY CONTAIN LEAD. THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE REGULATIONS WHEN HANDLING AND WORKING WITH THIS STEEL. THE REMOVED STRUCTURAL STEEL IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS, AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE REMOVED EXISTING STRUCTURAL STEEL.
- THE ELEVATION AND LOCATION OF MUNICIPAL WATER LINE SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO ANY WORK IN THE AREA OF THE WATER LINE. THERE WILL BE NO EXTRA COMPENSATION PAID TO THE CONTRACTOR FOR ANY INCONVENIENCE CAUSED BY WORKING AROUND AND WITH THE MUNICIPALITY AND UTILITY COMPANIES. SEE UTILITIES SPECIAL PROVISION FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

EARTHWORK AND RELATED ITEMS

- THE CONTRACTOR MAY SUBSTITUTE SUBBASE MATERIAL FOR THE SAND BORROW SHOWN ON THE PLANS. THE SUBBASE MATERIAL SHALL BE THE TYPE SPECIFIED IN THE CONTRACT AND SHALL BE PLACED TO MEET THE SUBBASE SPECIFICATIONS. IF SUBBASE IS PLACED IN LIEU OF SAND BORROW, A GEOTEXTILE MEETING THE REQUIREMENTS OF SECTION 649 "GEOTEXTILE FOR ROAD BED SEPARATOR" SHALL BE PLACED BETWEEN THE SUBGRADE AND THE SUBBASE MATERIAL. ALL COSTS ASSOCIATED WITH THE SUBSTITUTION INCLUDING THE GEOTEXTILE SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 203.31 "SAND BORROW".
- THE HEIGHT OF FILL BEHIND ABUTMENTS WILL BE LIMITED TO THE BRIDGE SEAT ELEVATION UNTIL THE DECK HAS BEEN POURED AND THE CURING PERIOD IS UP.
- THE STONE FILL ITEMS LOCATED UNDER THE BRIDGE AS SHOWN IN THE PLANS SHALL BE PLACED BEFORE THE NEW SUPERSTRUCTURE IS SET.

STRUCTURAL STEEL

- ANY CONNECTIONS THAT ARE NOT DETAILED ON THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL.

- ANY HOLES IN THE WEBS OF THE FASCIA GIRDERS THAT ARE NOT OTHERWISE FILLED, SHALL BE FILLED WITH BUTTON HEAD BOLTS. THESE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.19.
- ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER HIGH STRENGTH BOLTS IN 15/16" DIAMETER HOLES, PER SECTION 506 UNLESS OTHERWISE NOTED.
- FLEMING BRACKETS OR SIMILAR FALSEWORK SHALL BE PLACED AT A MAXIMUM SPACING OF 4 FEET. THE BRACKETS SHALL BEAR NEAR THE BOTTOM FLANGE AND IN NO CASE SHALL THEY BEAR ABOVE THE BOTTOM QUARTER OF THE WEB.
- AFTER THE GIRDERS HAVE BEEN ERECTED, ELEVATIONS SHALL BE TAKEN ALONG THE TOP OF THE GIRDERS, AS DIRECTED BY THE RESIDENT ENGINEER, FOR USE IN DETERMINING THE REQUIRED HAUNCH DIMENSIONS.
- STRUCTURAL STEEL MEMBERS DESIGNATED "CVN" IN THE PLANS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH SUBSECTION 714.01.
- ALL STRUCTURAL STEEL SHALL BE PAINTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE FINAL COLOR SHALL BE BROWN IN ACCORDANCE WITH SUBSECTION 708.03. GREASE SHALL BE APPLIED FOR A DISTANCE OF 10'-0" STARTING AT THE ABUTMENT #1 END OF THE SPAN. ALL CHANNELS AND CONNECTION PLATES LOCATED IN THIS AREA SHALL ALSO BE GREASED. THE GREASE SHALL BE BROWN. THIS WORK WILL BE PAID FOR UNDER ITEM 900.645 "SPECIAL PROVISION QC/QA CLEANING AND PAINTING STRUCTURAL COMPONENTS". ANY DAMAGE CAUSED TO THE PAINT, INCLUDING THAT CAUSED BY THE CONCRETE OPERATIONS, SHALL BE REPAIRED AND THE COST SHALL BE INCIDENTAL TO ITEM 506.56, STRUCTURAL STEEL, CURVED PLATE GIRDER.
- CONCRETE
- NO TRAFFIC SHALL BE ALLOWED ON THE NEW DECK UNTIL THE CURE PERIOD IS UP AND THE 28 DAY DESIGN STRENGTH IS ATTAINED, AS EVIDENCED BY TEST CYLINDERS CURED UNDER FIELD CONDITIONS AND IN ACCORDANCE WITH SUBSECTION 501.18(B).
- SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL; OTHER BRIDGE SEAT AREAS SHALL BE SLOPED 4.0% TOWARDS MID-SPAN. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTHED WITH A MAGNESIUM FLOAT.
- WATER REPELLENT SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF THE DECK BETWEEN THE DRIP NOTCHES.
- NO CONCRETE IN THE ABUTMENTS OR WINGWALLS SHALL BE PLACED ABOVE THE BRIDGE SEAT ELEVATIONS UNTIL THE GIRDERS HAVE BEEN PROFILED AND THE FINISHED GRADE OF THE DECK HAS BEEN DETERMINED.
- ALL APPROACH SLAB AND SUBSTRUCTURE CONCRETE SHALL BE CONCRETE, HIGH PERFORMANCE CLASS B UNLESS OTHERWISE NOTED AND WILL BE PAID FOR UNDER ITEM 501.34, "CONCRETE, HIGH PERFORMANCE CLASS B". THE DECK AND BRIDGE SIDEWALK CONCRETE SHALL BE CONCRETE, HIGH PERFORMANCE CLASS A AND WILL BE PAID FOR UNDER ITEM 501.33, "CONCRETE, HIGH PERFORMANCE CLASS A". ANY CONCRETE REQUIRED FOR SUBFOOTINGS SHALL BE CONCRETE, CLASS C AND WILL BE PAID FOR UNDER ITEM 541.30 "CONCRETE, CLASS C. BRIDGE RAILING CONCRETE SHALL BE CONCRETE, HIGH PERFORMANCE CLASS A AND WILL BE PAID FOR UNDER ITEM 525.45 BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION.
- ALL REINFORCING STEEL ABOVE THE BRIDGE SEAT SHALL BE CORROSION PROTECTION LEVEL II AND ALL REINFORCING STEEL BELOW THE BRIDGE SEAT, IN WINGWALLS AND IN THE APPROACH SLABS SHALL BE CORROSION PROTECTION LEVEL I. PAYMENT FOR REINFORCING STEEL, WITH THE EXCEPTION OF BRIDGE RAILING REINFORCING STEEL, WILL BE MADE UNDER THE APPROPRIATE 507 CONTRACT ITEM. SUBFOOTING DOWEL BARS WILL BE PAID SEPARATELY UNDER CONTRACT ITEM 507.11.
- BRIDGE RAILING REINFORCING STEEL, INCLUDING THOSE BARS THAT CONNECT THE BRIDGE RAILING TO THE DECK OR SIDEWALK, SHALL BE PAID FOR UNDER ITEM 525.45 BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION.
- RELATIVE TO GRADE, ALL DECK POURS SHALL BEGIN FROM THE LOW ELEVATION END AND PROCEED TOWARDS THE HIGH ELEVATION END.
- THE DECK IS TO BE POURED IN ONE CONTINUOUS POUR WITH A MAXIMUM DURATION OF EIGHT HOURS. IF CIRCUMSTANCES BEYOND THE CONTRACTOR'S CONTROL PREVENT THIS FROM BEING ACCOMPLISHED, A TRANSVERSE CONSTRUCTION JOINT SHALL BE USED BETWEEN ADJACENT POURS. A MINIMUM 96 HOUR DELAY BETWEEN ADJACENT POURS SHALL BE OBSERVED.
- JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS SHOWN IN THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.
- THE VERTICAL KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT.

- REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE:
SPACING: +/- 1 INCH
CLEARANCE: +/- 1/4 INCH

SUBSTRUCTURES ON BEDROCK

- FOOTINGS OR SUBFOOTINGS FOR SUBSTRUCTURES FOUNDED ON BEDROCK SHALL BE PLACED ON CLEAN COMPETENT ROCK. ALL LOOSE ROCK AND DEBRIS SHALL BE REMOVED.
- UPON COMPLETION OF THE EXCAVATION FOR SUBSTRUCTURES FOUNDED ON BEDROCK AND PRIOR TO PLACING FORMWORK, THE RESIDENT ENGINEER SHALL NOTIFY THE PROJECT MANAGER AND THE VTRANS GEOTECHNICAL ENGINEERING MANAGER. THE GEOTECHNICAL ENGINEERING MANAGER WILL DETERMINE IF THE BEDROCK IS COMPETENT TO OBTAIN THE NOMINAL BEARING RESISTANCE AS SHOWN ON THE PLANS. FIVE (5) WORKING DAYS FROM NOTIFICATION SHALL BE ALLOWED TO MAKE THE INSPECTION AND THE DETERMINATION FOR THE COMPETENCY OF THE BEDROCK.
- ONCE THE ELEVATION OF COMPETENT BEDROCK HAS BEEN DETERMINED, THE CONTRACTOR SHALL PROVIDE A BEDROCK PROFILE TO THE PROJECT MANAGER TO DETERMINE WHETHER THE DESIGN BOTTOM OF FOOTING ELEVATION SHALL BE RAISED OR LOWERED AND WHETHER A SUBFOOTING SHALL BE REQUIRED. FOOTING ELEVATIONS SHALL NOT BE ADJUSTED WITHOUT APPROVAL OF THE PROJECT MANAGER. THREE (3) WORKING DAYS FROM RECEIPT OF THE BEDROCK PROFILE SHALL BE ALLOWED TO MAKE THIS DETERMINATION. NO WORK SHALL BE DONE ON THE FOOTINGS UNTIL A REPLY IS RECEIVED.
- THE LIMITS OF SUBFOOTINGS SHALL BE 12" OUTSIDE OF THE HORIZONTAL LIMITS OF THE FOOTING. THE TOP SURFACE OF ALL SUBFOOTINGS SHALL BE INTENTIONALLY ROUGHENED TO 1/4" AMPLITUDE.
- ANY BEDROCK THAT NEEDS TO BE REMOVED SHALL BE PAID FOR WITH THE CORRESPONDING EXCAVATION ITEM INCLUDED IN THE CONTRACT.
- OVERBREAKAGE BEYOND THE AVERAGE MAXIMUM ALLOWANCE SPECIFIED IN SUBSECTION 204.09(B) (1) SHALL BE AT THE CONTRACTOR'S EXPENSE.
- DOWELS SHALL BE DRILLED AND GROUTED INTO BEDROCK WHEN SHOWN ON THE PLANS OR AS ORDERED BY THE ENGINEER. THE DOWELS SHALL HAVE A 1'-6" MINIMUM EMBEDMENT IN THE BEDROCK AND SHALL EXTEND IN THE FOOTING OR SUBFOOTING A MINIMUM OF 1'-6", UNLESS NOTED OTHERWISE.

PROJECT NAME: COLCHESTER	
PROJECT NUMBER: STP 5600 (I2)	
FILE NAME: s95j298gnotes.dgn	PLOT DATE: 30-JAN-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: G. ROKES
DESIGNED BY: N. VANDENBERG	CHECKED BY: D. PETERSON
PROJECT NOTES	SHEET 5 OF 53

STATE OF VERMONT AGENCY OF TRANSPORTATION														QUANTITY SHEET 1										
SUMMARY OF ESTIMATED QUANTITIES												TOTALS		DESCRIPTIONS						DETAILED SUMMARY OF QUANTITIES				
								ROADWAY	ROADWAY (NO FED/STATE PARTICIPATION)	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	-			EARTHWORKS SUMMARY			
							△	910					910		CY	COMMON EXCAVATION	203.15	6.03	△	546	CY	FILL AVAILABLE		
								10					10		CY	SOLID ROCK EXCAVATION	203.16	EST.	126	CY	COMMON EXCAVATION (910 x 0.6)			
											420		420		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27	5.6	36	CY	UNCLASSIFIED CHANNEL EXCAVATION (420 x 0.3)			
							△	30					30		CY	SAND BORROW	203.31	1.47	213	CY	TRENCH EXCAVATION OF EARTH (60 x 0.6)			
								60					60		CY	TRENCH EXCAVATION OF EARTH	204.20	4.78	9	CY	STRUCTURE EXCAVATION (710 x 0.3)			
								5					5		CY	TRENCH EXCAVATION OF ROCK	204.21	EST.	△	930	CY	ROUNDING		
								1					1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	-	TOTAL FILL AVAILABLE					
								110			600		710		CY	STRUCTURE EXCAVATION	204.25	11.17	FILL REQUIRED					
								60			410		470		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	16.82	242	CY	FACTORED FILL (210 x 1.15)			
								160					160		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10	2.81	8	CY	ROUNDING			
							△	150					150		CY	SUBBASE OF CRUSHED GRAVEL, FINE GRADED	301.26	7.76	TOTAL FILL REQUIRED					
							△	1010		10			1020		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	2.11	△	680	CY	TOTAL WASTE		
								60					60		CY	AGGREGATE SURFACE COURSE	401.10	8.42			N.A.B.I. = NOT A BID ITEM			
							△	2					2		CWT	EMULSIFIED ASPHALT	404.65	0.05						
								1					1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	-						
											148		148		CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33	0.98						
								16			209		225		CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34	2.65						
											81100		81100		LB	STRUCTURAL STEEL, CURVED PLATE GRDER	506.56	15.88						
								1480			19180		20660		LB	REINFORCING STEEL, LEVEL I	507.11	25.12						
											30910		30910		LB	REINFORCING STEEL, LEVEL II	507.12	17.57						
											54		54		LF	DRILLING AND GROUTING DOWELS	507.16	-						
											1		1		LS	SHEAR CONNECTORS (860 - 7/8" X 7")	508.15	-						
											231		231		SY	LONGITUDINAL DECK GROOVING	509.10	0.68						
								2			41		43		GAL	WATER REPELLENT, SILANE	514.10	0.82						
											28		28		LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10	-						
											28		28		LF	JOINT SEALER, HOT POURED	524.11	-						
											150		150		LF	BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION	525.45	0.85						
											1		1		EACH	REMOVAL OF STRUCTURE (725 SF - EST.)	529.15	-						
											8		8		EACH	BEARING DEVICE ASSEMBLY, STEEL REINFORCED ELASTOMERIC PAD	531.17	-						
											48		48		CY	CONCRETE, CLASS C	541.30	0.03						
								126					126		LF	18" CPEP(SL)	601.2615	-						
								1					1		MGAL	DUST CONTROL WITH WATER	609.10	EST.						
								60			50		110		CY	STONE FILL, TYPE I	613.10	15.41						
								90			180		270		CY	STONE FILL, TYPE III	613.12	16.4						
								50					50		LF	CAST-IN-PLACE CONCRETE CURB, TYPE B	616.28	-						
								1					1		EACH	RELOCATE MAILBOX, SINGLE SUPPORT	617.10	-						
								10					10		TON	BITUMINOUS CONCRETE SIDEWALK	618.15	0.75						
								21					21		SF	DETECTABLE WARNING SURFACE	618.30	0.74						
								2					2		EACH	YIELDING MARKER POSTS	619.17	-						
																		PROJECT NAME: COLCHESTER						
																		PROJECT NUMBER: STP 5600 (12)						
																		FILE NAME: s95j298qs.dgn				PLOT DATE: 23-FEB-2015		
																		PROJECT LEADER: C. CARLSON				DRAWN BY: G. ROKES		
																		DESIGNED BY: N. VANDENBERG				CHECKED BY: N. VANDENBERG		
																		QUANTITY SHEET 1				SHEET 6 OF 53		
															KEY	DATE	BY	REVISION						
															△	02/23/2015	VAOT	REVISED QUANTITIES AND ADDED PAY ITEM 301.26.						

STATE OF VERMONT AGENCY OF TRANSPORTATION														QUANTITY SHEET 2											
SUMMARY OF ESTIMATED QUANTITIES												TOTALS		DESCRIPTIONS						DETAILED SUMMARY OF QUANTITIES					
							ROADWAY	ROADWAY (NO FED/STATE PARTICIPATION)	EROSION CONTROL	BRIDGE	FULL C. E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS					
							310					310		LF	HD STEEL BEAM GUARDRAIL, GALVANIZED	621.21	2								
							4					4		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60	-								
							4					4		EACH	GUARDRAIL APPROACH SECTION, CONC COMB BRIDGE RAILING TL-3	621.748	-								
							250					250		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	1								
							500					500		HR	FLAGGERS	630.15	EST.								
											1	1		LS	FIELD OFFICE, ENGINEERS	631.10	-								
											1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16	-								
											1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17	-								
											3000	3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26	EST.								
							1					1		LS	MOBILIZATION/DEMOBILIZATION	635.11	-								
							520					520		LF	4 INCH WHITE LINE	646.20	2			N.A.B.I. = NOT A BID ITEM					
							520					520		LF	4 INCH YELLOW LINE	646.21	2								
						△	1060					1060		SY	GEOTEXTILE FOR ROADBED SEPARATOR	649.11	8.06								
									570			570		SY	GEOTEXTILE UNDER STONE FILL	649.31	7.13								
									100			100		SY	GEOTEXTILE FOR SILT FENCE	649.51	0.46								
									70			70		SY	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	649.515	9.08								
									100			100		SY	GEOTEXTILE FOR FILTER CURTAIN	649.61	9.5								
									10			10		LB	SEED	651.15	2.55								
									10			10		LB	SEED, WINTER RYE	651.17	2.55								
									70			70		LB	FERTILIZER	651.18	7.92								
									0.3			0.3		TON	AGRICULTURAL LIMESTONE	651.20	0.05								
									0.3			0.3		TON	HAY MULCH	651.25	0.05								
									80			80		CY	TOPSOIL	651.35	5.3								
									250			250		SY	GRUBBING MATERIAL	651.40	2.53								
									1			1		LS	EPSC PLAN	652.10	-								
									40			40		HR	MONITORING EPSC PLAN	652.20	EST.								
									1			1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30	-								
									230			230		SY	TEMPORARY EROSION MATTING	653.20	7.38								
									10			10		CY	TEMPORARY STONE CHECK DAM, TYPE I	653.25	EST.								
									30			30		CY	VEHICLE TRACKING PAD	653.35	-								
									750			750		LF	BARRIER FENCE	653.50	1.87								
									230			230		LF	PROJECT DEMARCATION FENCE	653.55	1.88								
							6.91					6.91		SF	TRAFFIC SIGNS, TYPE A	675.20	-								
							46					46		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341	-								
							2					2		EACH	REMOVING SIGNS	675.50	-								
								2				2		EACH	SPECIAL PROVISION (PRECAST REINFORCED CONCRETE PERFORATED CATCH BASIN WITH CAST IRON GRATE)	900.620	-								
								40				40		LF	SPECIAL PROVISION (15 INCH UNDERDRAIN PIPE)	900.640	-								
							1					1		LS	SPECIAL PROVISION (CPM SCHEDULE)	900.645	-								
										1		1		LS	SPECIAL PROVISION (QC/QA CLEANING AND PAINTING STRUCTURAL COMPONENTS)	900.645	-								
							1					1		LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)	900.645	-								
																		PROJECT NAME: COLCHESTER PROJECT NUMBER: STP 5600 (12)							
																		FILE NAME: s95j298qs.dgn PROJECT LEADER: C. CARLSON DESIGNED BY: N. VANDENBERG QUANTITY SHEET 2				PLOT DATE: 23-FEB-2015 DRAWN BY: G. ROKES CHECKED BY: N. VANDENBERG SHEET 7 OF 53			
KEY		DATE		BY		REVISION																			
△		02/23/2015		VAOT		ADDED PAY ITEM 649.11.																			

**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

QUANTITY SHEET 3

[illegible]

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BRIDGE QUANTITY SHEET 1

[illegible]

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
HWY	HIGHWAY EASEMENT
I&M	INSTALL & MAINTAIN EASEMENT
LAND	LANDSCAPE EASEMENT
R&RES	REMOVE & RESET
R&REP	REMOVE & REPLACE
SR	SLOPE RIGHT
UE	UTILITY EASEMENT
(P)	PERMANENT EASEMENT
(T)	TEMPORARY EASEMENT
■	BNDNS
▣	BNDNS
●	IPNS
⊙	IPNS
⊠	CALC
○	PROW
[LENGTH]	LENGTH CARRIED ON NEXT SHEET

COMMON TOPOGRAPHIC POINT SYMBOLS

POINT CODE	DESCRIPTION
⊕	APL
◦	BM
▣	BND
▣	CB
⊕	COMB
▣	DITHR
⊕	EL
◦	FPOLE
○	GASFIL
○	GP
✕	GSO
◦	GUY
◦	GUYW
✕	GV
⊕	H
△	HCTRL
▲	HVCTRL
◇	HYD
◦	IP
◦	IPIPE
⊕	LI
⊕	MB
◦	MH
▣	MM
◦	PM
▣	PMK
◦	POST
⊕	RRSIG
⊕	RRSL
⊕	S
⊕	SAT
⊕	SHRUB
⊕	SIGN
⊕	STUMP
⊕	TEL
◦	TIE
⊕	TSIGN
⊕	VCTRL
◦	WELL
✕	WSO

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

— UGU —	UTILITY (GENERIC-UNKNOWN)
— 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)

— AGU —	UTILITY (GENERIC-UNKNOWN)
— 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
XXXXXXXXXXXX	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. (LIMITED ACCESS)
———	STATE ROW (LIMITED ACCESS)	STATE ROW (LIMITED ACCESS)
———	STATE ROW	STATE ROW
———	TOWN ROW	TOWN ROW
-----	PERMANENT EASEMENT LINE (P)	PERMANENT EASEMENT LINE (P)
-----	TEMPORARY EASEMENT LINE (T)	TEMPORARY EASEMENT LINE (T)
+	SURVEY LINE	SURVEY LINE
$\frac{P}{L}$	PROPERTY LINE (P/L)	PROPERTY LINE (P/L)
▲ SR ○ SR ▲ SR ○	SLOPE RIGHTS	SLOPE RIGHTS
6f — 6f —	6F PROPERTY BOUNDARY	6F PROPERTY BOUNDARY
4f — 4f —	4F PROPERTY BOUNDARY	4F PROPERTY BOUNDARY
HAZ — HAZ —	HAZARDOUS WASTE	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

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLGY

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:	COLCHESTER
PROJECT NUMBER:	STP 5600 (12)
FILE NAME:	s95j298legend.dgn
PROJECT LEADER:	C. CARLSON
DESIGNED BY:	N. VANDENBERG
CONVENTIONAL SYMBOLGY - LEGEND	
PLOT DATE:	12-JAN-2015
DRAWN BY:	G. ROKES
CHECKED BY:	D. PETERSON
SHEET	10 OF 53



GPS CONTROL POINTS

## HVCTRL #1

STANDARD DISK STAMPED  
Union Memorial School  
N = 747263.8860  
E = 1468506.5380  
ELEV. = 235.1308

DESCRIBED BY VERMONT AGENCY OF TRANSPORTATION 1996 (CHR) GENERAL LOCATION, COLCHESTER, VT. TO REACH FROM THE INTERSECTION OF VT ROUTE 2A AND U.S. ROUTES 2+7 JUST WEST OF COLCHESTER VILLAGE GO SOUTHEAST ALONG VT ROUTE 2A FOR 0.3 MI (0.5 KM) TO THE MOST SOUTHEASTERLY DRIVE TO THE UNION MEMORIAL SCHOOL AND THE MARK ON THE LEFT, IMMEDIATELY SOUTHEAST OF THE SCHOOL, BETWEEN A SIDEWALK AND A PAVED PARKING AREA. THE MARK IS A CENTERPUNCHED 6 CM DIAMETER BLANK BRASS DISK SET IN THE TOP OF A 30 CM DIAMETER CONCRETE MONUMENT, 1.2 M (3.9 FT) DEEP, AND ABOUT 3 CM BELOW GROUND SURFACE. IT IS 5.9 M (19.4FT) NORTHEAST OF THE NORTHEAST EDGE OF PAVEMENT OF VT ROUTE 2A, 39.6 M (129.9 FT) NORTHWEST OF THE NORTHWEST EDGE OF MIDDLE ROAD, 0.9 M (3.0FT) NORTHEAST OF THE NORTHEAST EDGE OF A CONCRETE SIDEWALK, AND 6.7 M (22.0 FT) SOUTHEAST OF A FIBERGLASS WITNESS POST AND POLE NO.11-01GMP.

• DESCRIPTION PROVIDED BY VERMONT AGENCY OF TRANSPORTATION GEODETIC SURVEY UNIT

## HVCTRL #2

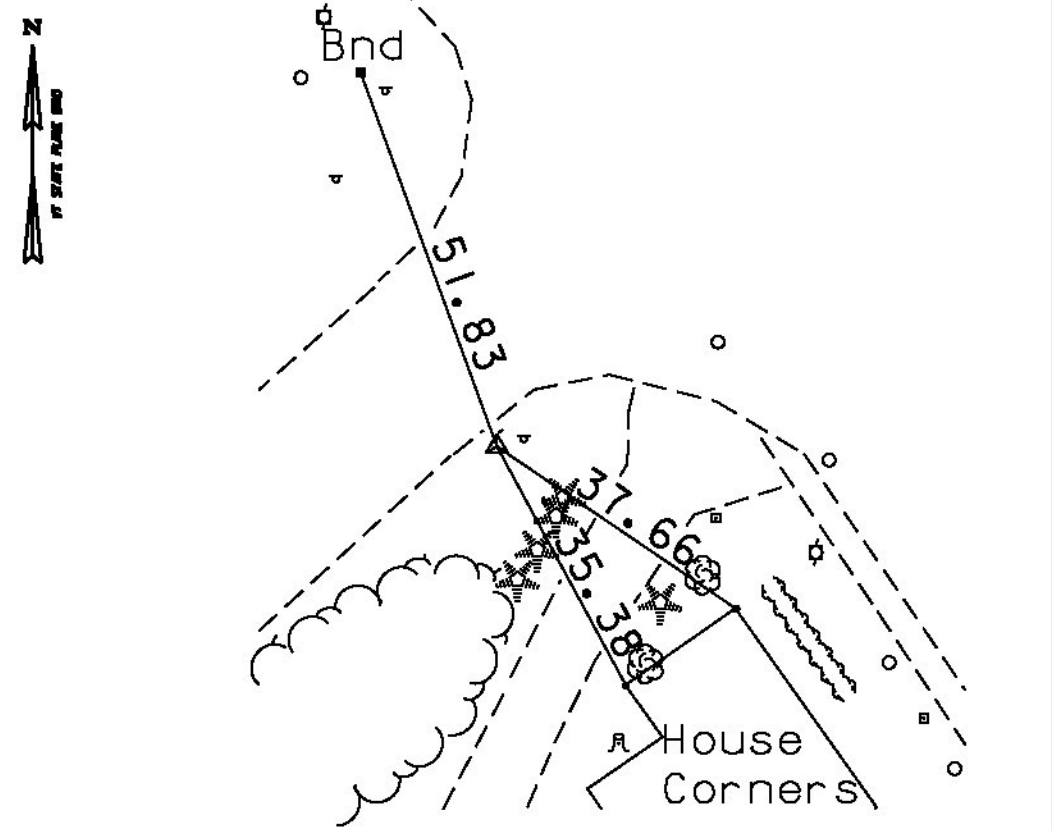
STANDARD DISK STAMPED  
Burnham Library  
N = 745757.4225  
E = 1471170.2138  
ELEV. = 271.2134

DESCRIBED BY VERMONT AGENCY OF TRANSPORTATION 1996 (CHR) GENERAL LOCATION, COLCHESTER, VT. TO REACH FROM THE INTERSECTION OF VT ROUTE 2A AND U.S. ROUTES 2+7 JUST WEST OF COLCHESTER VILLAGE GO SOUTHEAST ALONG VT ROUTE 2A FOR 0.9 MI (1.4 KM) TO THE MARK ON THE RIGHT, IMMEDIATELY NORTHWEST OF A PAVED DRIVE TO THE BURNHAM MEMORIAL LIBRARY AND COLCHESTER UNITED CHURCH. THE MARK IS A CENTERPUNCHED 6CM DIAMETER BLANK BRASS DISK SET IN THE TOP OF A 30 CM DIAMETER CONCRETE MONUMENT, 1.2 M (3.9 FT) DEEP, AND 6 CM BELOW GROUND SURFACE IN A LAWN. IT IS 7.0 M (23.0 FT) SOUTHWEST OF AND ABOUT LEVEL WITH THE CENTERLINE OF VT ROUTE 2A, 6.5 M (21.3 FT) NORTHWEST OF THE CENTERLINE OF THE PAVED DRIVE TO THE LIBRARY AND CHURCH, 1.5 M (4.9FT) NORTHWEST OF THE NORTHWEST EDGE OF A CONCRETE SIDEWALK, 31.1 M (102.0 FT) NORTH OF THE NORTH CORNER OF THE CHURCH, AND 34.8 M (114.2FT) EAST OF THE EAST CORNER OF THE LIBRARY.

TRAVERSE TIES

## HVCTRL #3

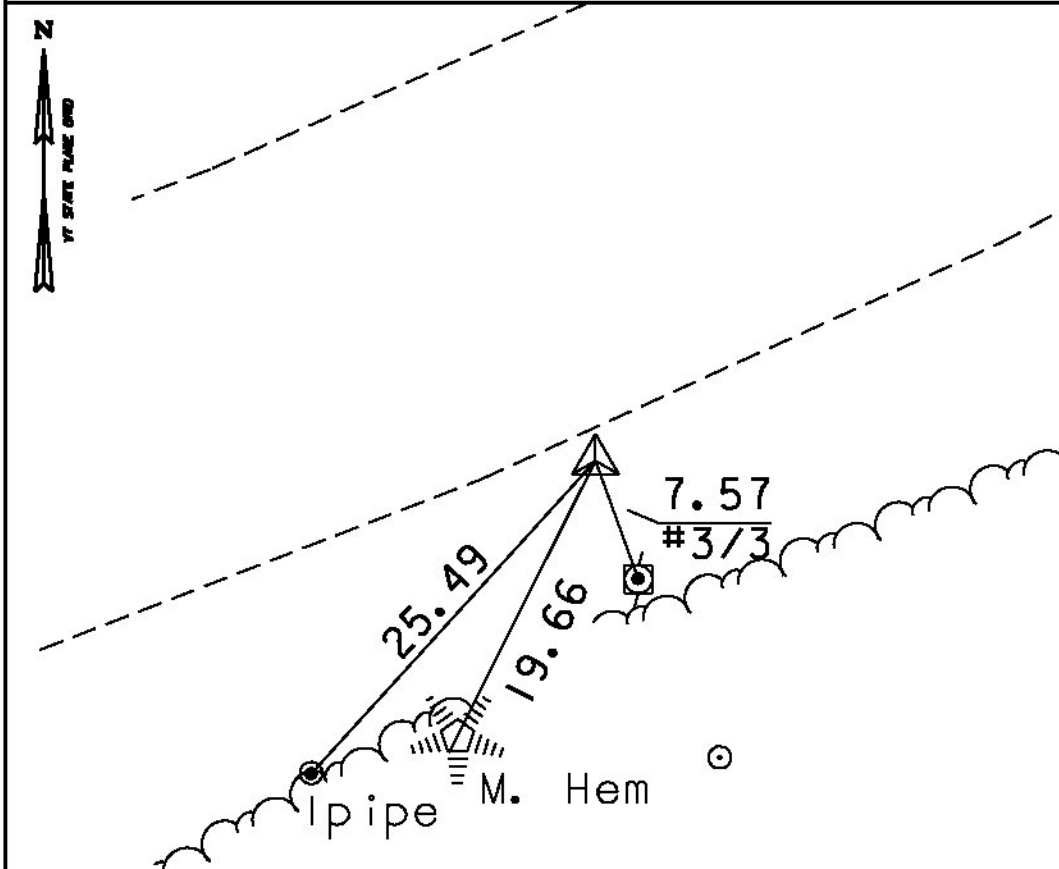
NORTH = 745588.5584  
EAST = 1471382.6996  
ELEV. = 268.8085



TRAVERSE TIES

## HVCTRL #4

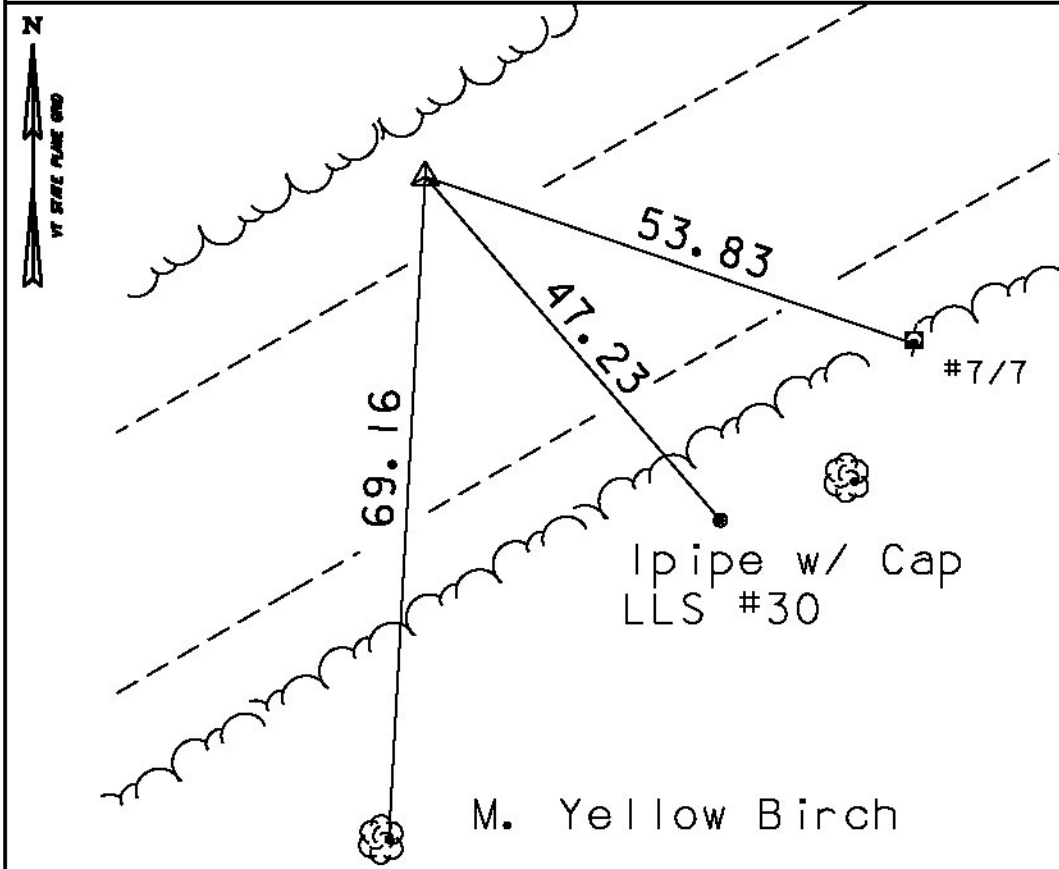
NORTH = 745377.2087  
EAST = 1471110.3189  
ELEV. = 237.9949



* MAIN TRAVERSE COMPLETED: JULY 9, 1997 BY: R.D.GILMAN PC & T.J.COMPANION

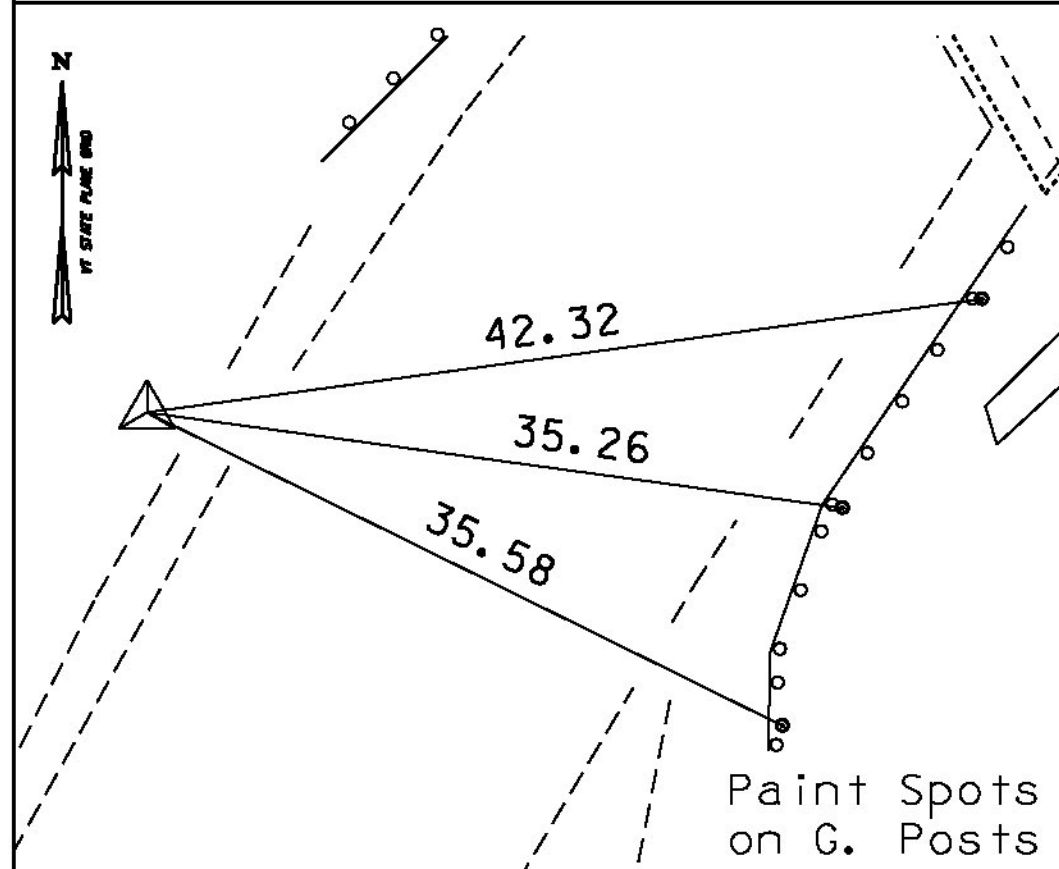
## HVCTRL #5

NORTH = 745218.9069  
EAST = 1470606.1729  
ELEV. = 187.4176



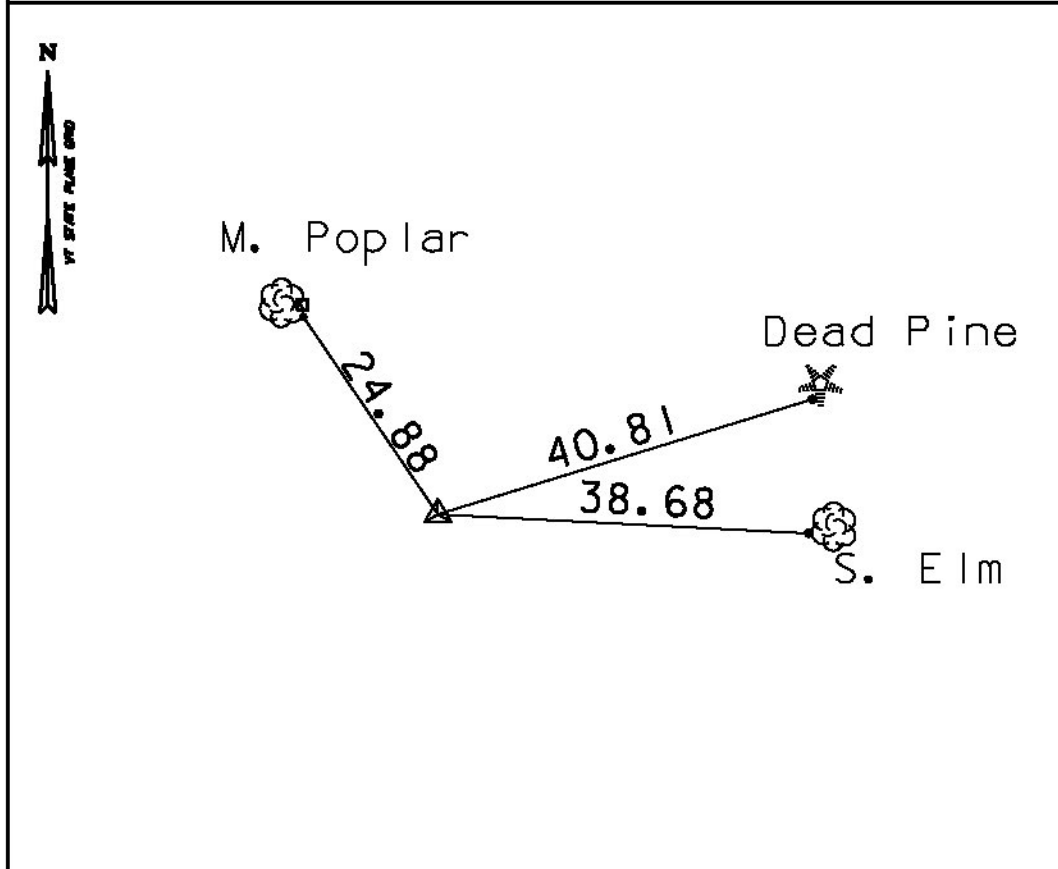
## HVCTRL #6

NORTH = 744904.7211  
EAST = 1470211.3187  
ELEV. = 172.7752



## HVCTRL #7

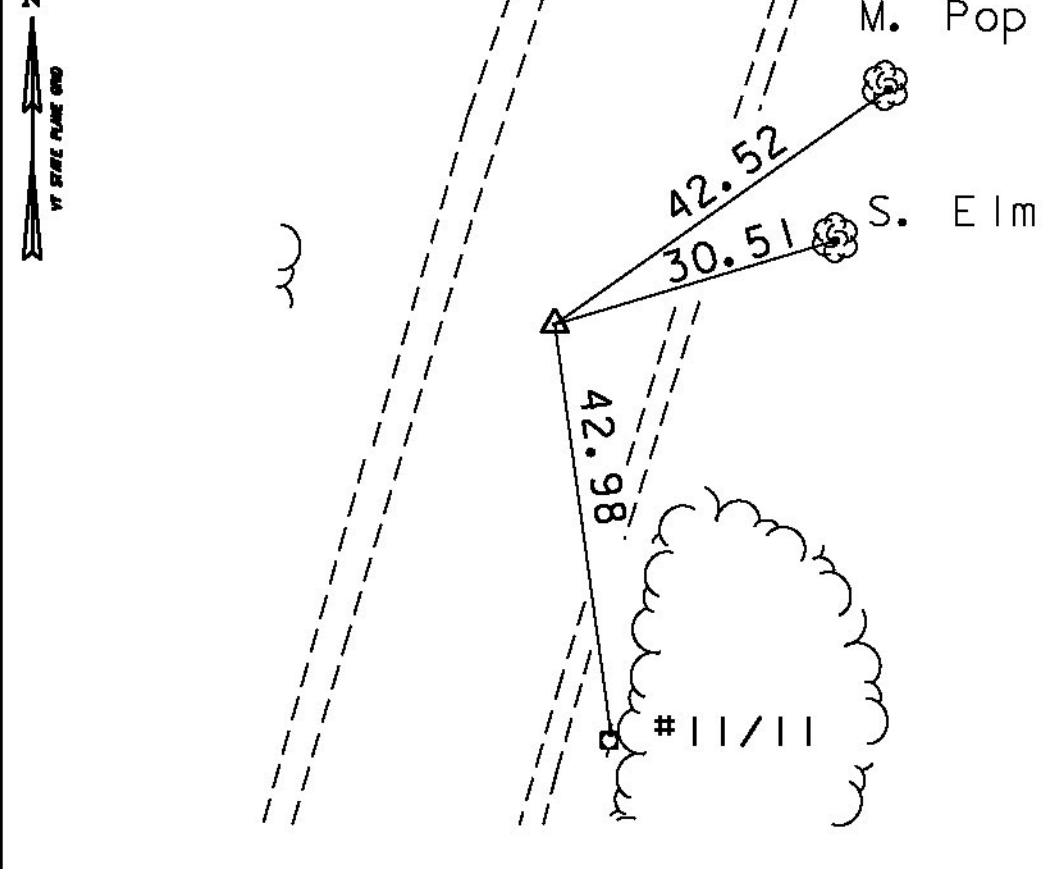
NORTH = 743950.6545  
EAST = 1469944.4512  
ELEV. = 225.5737



ALIGNMENT TIES

## POB 10+00.00

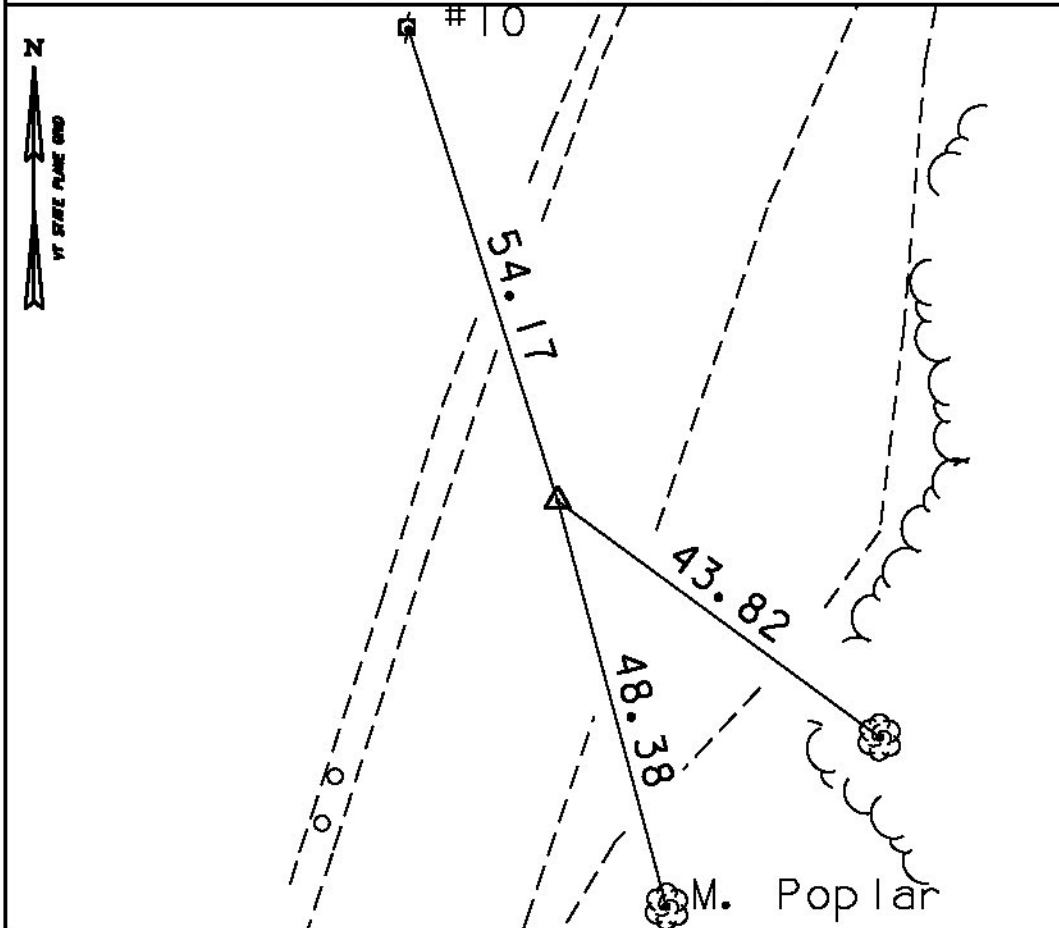
NORTH = 744563.7316  
EAST = 1470108.7217



ALIGNMENT TIES

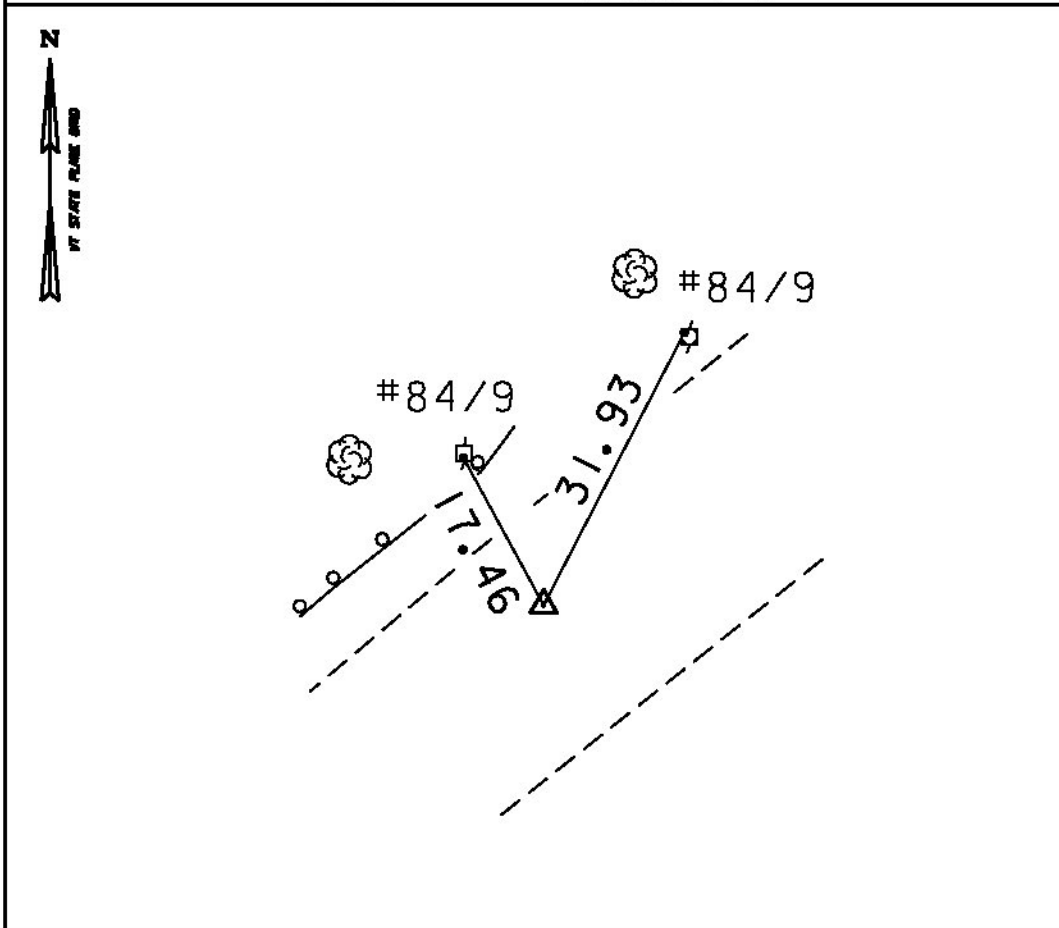
## PC 12+68.34

NORTH = 744818.5933  
EAST = 1470192.6848



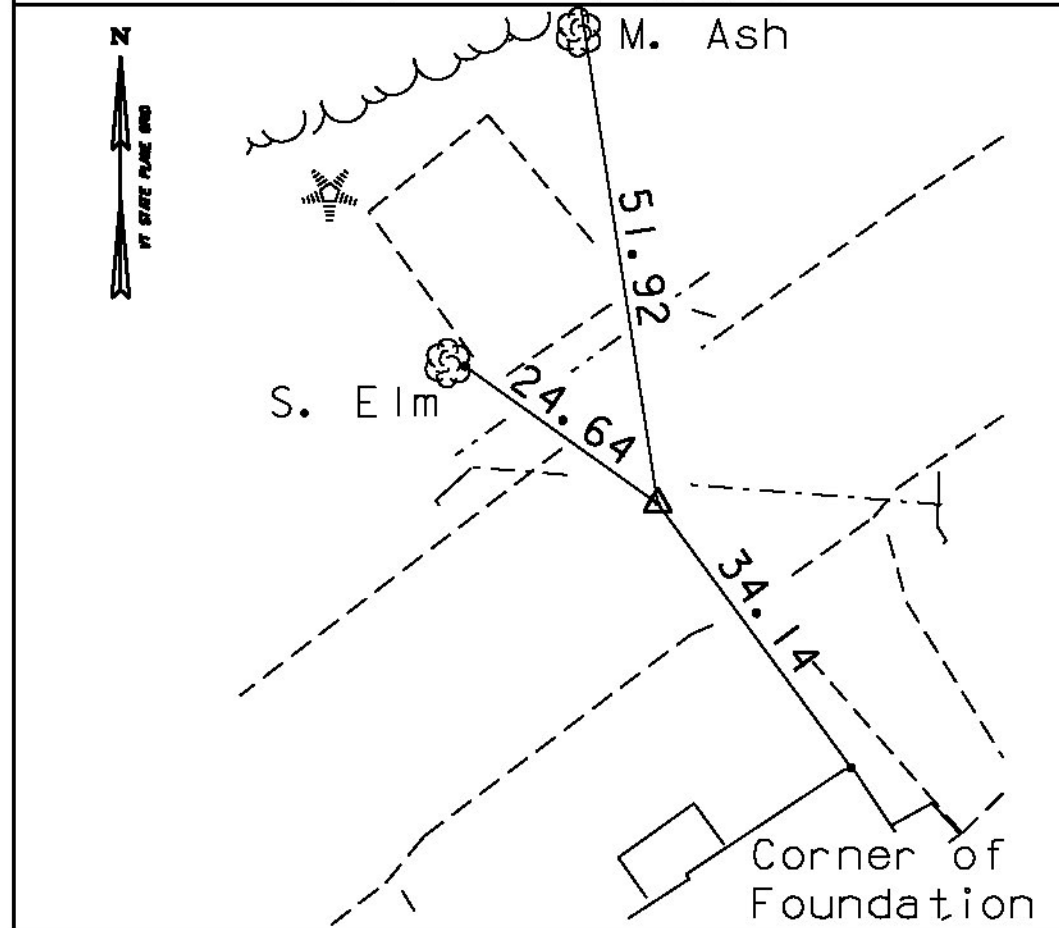
## PT 15+17.27

NORTH = 745017.8472  
EAST = 1470335.4575



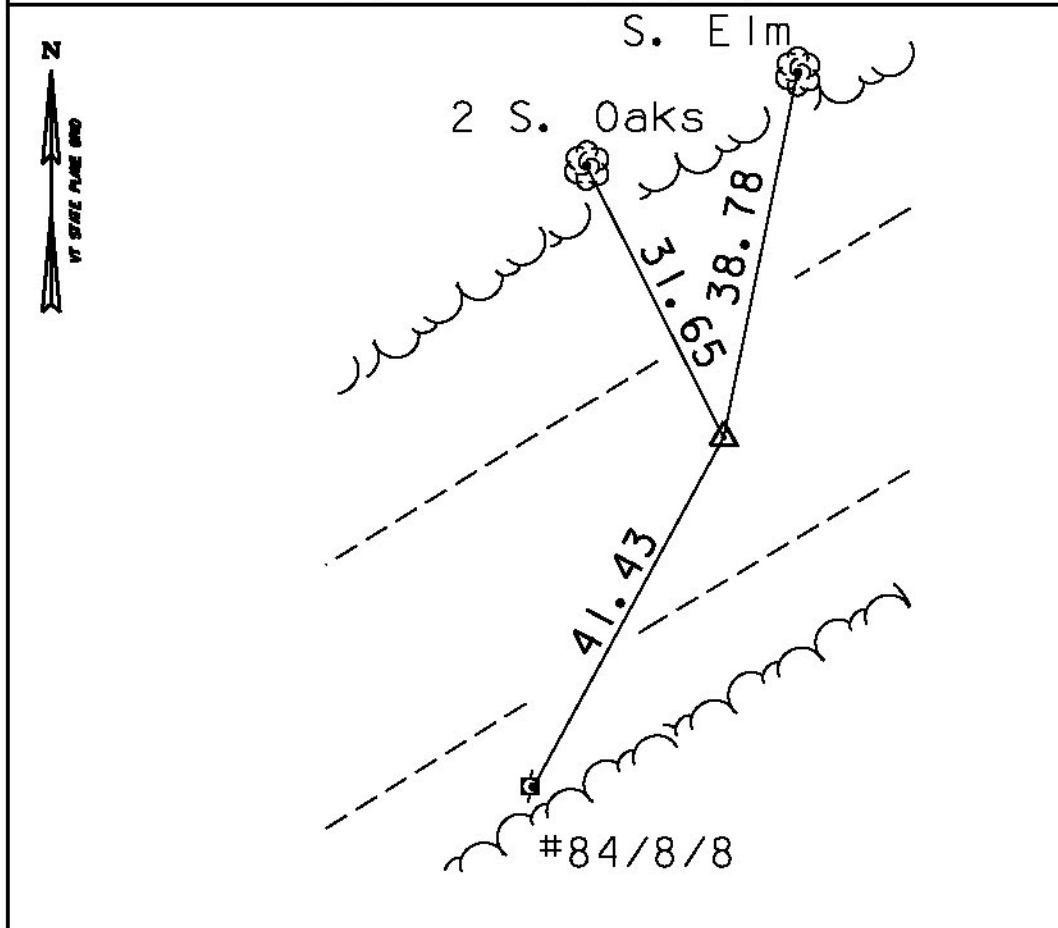
## PC 16+18.39

NORTH = 745078.6909  
EAST = 1470416.2342



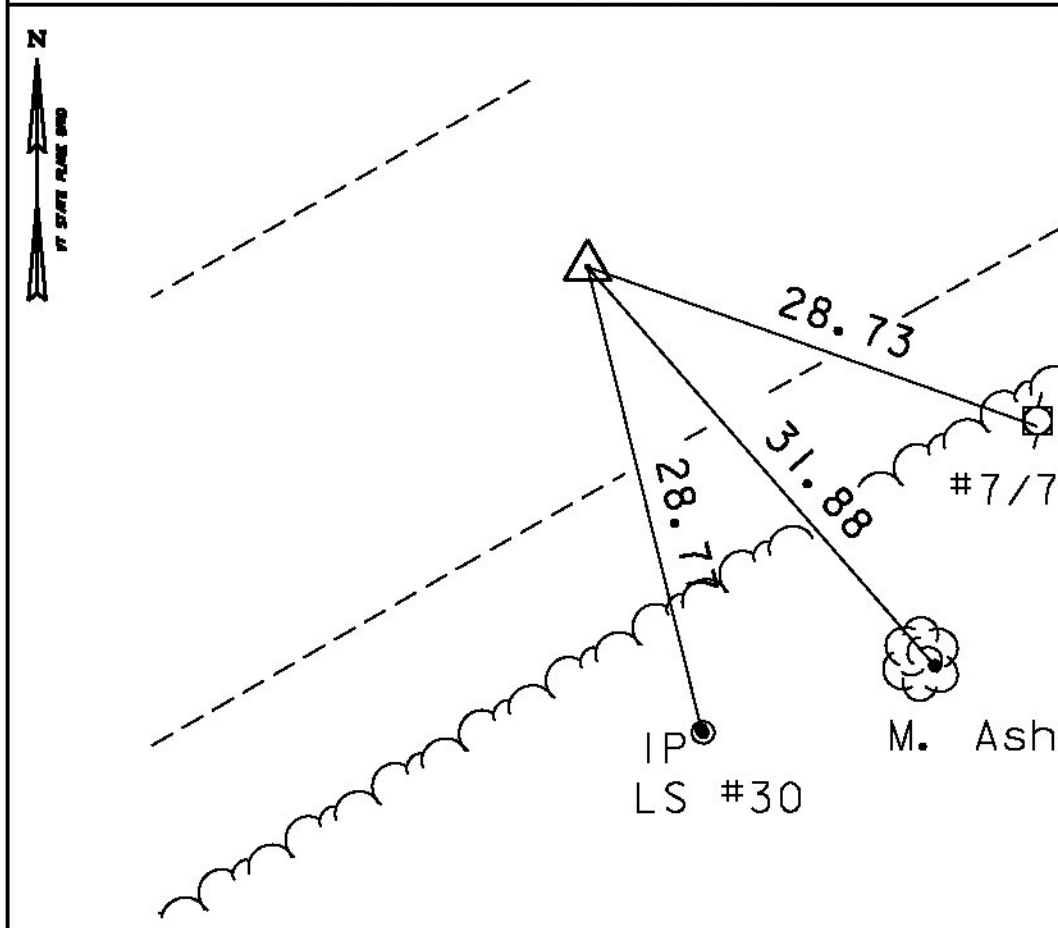
## PT 17+65.32

NORTH = 745159.3498  
EAST = 1470538.9206



## POE 18+70.08

NORTH = 745211.1896  
EAST = 1470629.9625



DATUM

VERTICAL NAVD 88

HORIZONTAL NAD 83(92)

ADJUSTMENT COMPASS

* ALIGNMENT STAKED: ON DEC. 21, 2004 BY R.GILMAN PC & P.WINTERS

PROJECT NAME: COLCHESTER  
PROJECT NUMBER: STP 5600 (12)

FILE NAME: x95j298+1 e.dgn  
PROJECT LEADER: M. EVANS-MONGEON  
DESIGNED BY: VTRANS  
TIE SHEET

PLOT DATE: 12-JAN-2015  
DRAWN BY: R. Bullock  
CHECKED BY: M. LONGSTREET  
SHEET 11 OF 53



CONSTRUCT BITUMINOUS CONCRETE APRON

DRIVE @ 15+67.00 RT (LENGTH 18'-0")  
DRIVE @ 16+21.00 LT (LENGTH 9'-6")  
DRIVE @ 16+27.00 RT (LENGTH 9'-3")

COLD PLANING, BITUMINOUS PAVEMENT

11+75.00 - 12+25.00  
10+63.00

BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION

13+60.95 RT - 14+33.05 RT  
13+61.05 LT - 14+32.95 LT

CAST-IN-PLACE CONCRETE CURB, TYPE B

13+48.36 LT - 13+60.00 LT  
14+34.00 LT - 14+45.64 LT  
13+46.97 RT - 13+60.00 RT  
14+34.00 RT - 14+47.03 RT

RELOCATE MAILBOX, SINGLE SUPPORT

15+54.00 RT - 15+75.00 RT

BITUMINOUS CONCRETE SIDEWALK

13+48.36 LT - 13+60.00 LT  
14+34.00 LT - 14+45.64 LT

DETECTABLE WARNING SURFACE

13+48.85 LT - 13+50.76 LT  
14+43.24 LT - 14+45.15 LT

HD STEEL BEAM GUARDRAIL, GALV.

12+47.45 RT - 13+42.80 RT  
13+16.16 LT - 13+42.90 LT  
14+51.20 RT - 15+32.30 RT  
14+51.10 LT - 15+40.82 LT

ANCHOR FOR STEEL BEAM RAIL

12+54.84 RT  
13+23.00 LT  
15+24.95 RT  
15+33.70 LT

TH 27 CURVE (1)  
DELTA = 31°05'40"  
D = 17°06'12"  
R = 335.00'  
T = 93.20'  
L = 181.81'  
E = 12.72'

CONSTRUCT STONE-LINED DITCH, TYPE 1

12+64.0 LT - 13+77.6 LT  
15+53.4 LT - 16+04.0 LT

16+04.43 LT - 16+42.46 RT  
REMOVE EXISTING 18" PIPE AND CONCRETE HEADWALLS AT INLET AND OUTLET

16+04.48 LT - 16+36.62 LT  
REMOVE EXISTING 24" CGMP

MAINLINE 13+83.69 AH =  
MAINLINE 13+79.10 BK =  
CHANNEL LINE 20+61.97 =  
75°05'53" LT

16+03.15 LT - 16+61.38 RT  
NEW 18" X 70' CPEP (SL)

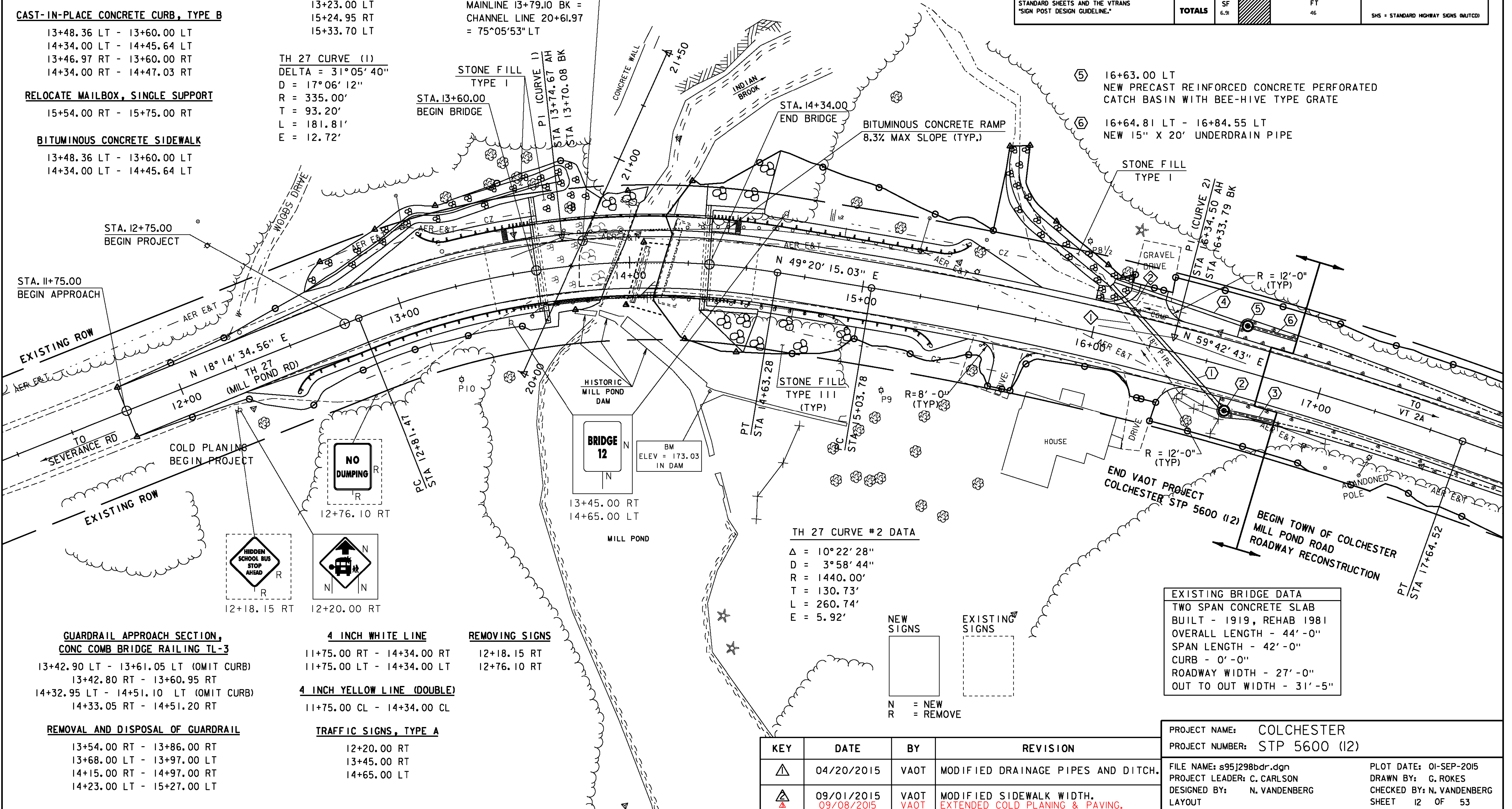
16+63.00 RT  
NEW PRECAST REINFORCED CONCRETE PERFORATED CATCH BASIN WITH BEE-HIVE TYPE GRATE

16+64.85 RT - 16+85.07 RT  
NEW 15" X 20' UNDERDRAIN PIPE

16+04.21 LT - 16+61.19 LT  
NEW 18" X 58' CPEP (SL)

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS		NEW SIGN "A"	EXISTING SIGN "B"	NO. OF POSTS	NEW SIGN POSTS SQUARE STEEL (ft)						REMARKS	SIGN DETAIL		
		WIDTH (ft)	HEIGHT (ft)				1.75 2.0 2.5 lb/ft			A N S I S I M E T R I C	S T R E E T	DETAIL ON SHEET NUMBER		STD. SHEET NUMBER		
							1.75	2.0	2.5							
							1.88	2.42	3.35							
12+20.00 RT		30	30	6.25		2		15			X		S3-1		E-153	
13+45.00 RT		6	8	0.33		1	8				X		VD-701		T-42	
14+65.00 LT		6	8	0.33		1	8				X		VD-701		T-42	
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."								FT	FT	FT		EA				
TOTALS					SF	6.91		FT				46	SWS = STANDARD HIGHWAY SIGNS (AUTOCAD)			

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."



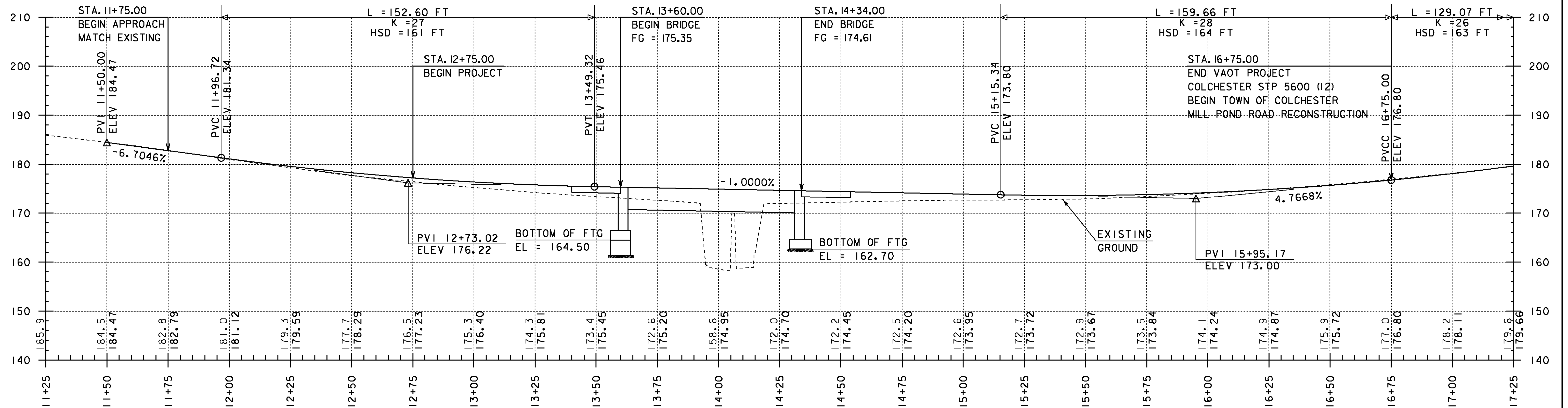
TH 27 CURVE #2 DATA  
Δ = 10°22'28"  
D = 3°58'44"  
R = 1440.00'  
T = 130.73'  
L = 260.74'  
E = 5.92'

EXISTING BRIDGE DATA  
TWO SPAN CONCRETE SLAB  
BUILT - 1919, REHAB 1981  
OVERALL LENGTH - 44'-0"  
SPAN LENGTH - 42'-0"  
CURB - 0'-0"  
ROADWAY WIDTH - 27'-0"  
OUT TO OUT WIDTH - 31'-5"

PROJECT NAME:	COLCHESTER	FILE NAME:	s95j298bdr.dgn	PLOT DATE:	01-SEP-2015
PROJECT NUMBER:	STP 5600 (12)	PROJECT LEADER:	C. CARLSON	DRAWN BY:	G. ROKES
		DESIGNED BY:	N. VANDENBERG	CHECKED BY:	N. VANDENBERG
		LAYOUT		SHEET	12 OF 53

KEY	DATE	BY	REVISION
	04/20/2015	VAOT	MODIFIED DRAINAGE PIPES AND DITCH.
	09/01/2015 09/08/2015	VAOT VAOT	MODIFIED SIDEWALK WIDTH. EXTENDED COLD PLANING & PAVING.





TH 27 PROFILE  
HORIZONTAL SCALE = 1" = 20'  
VERTICAL SCALE = 1" = 10'

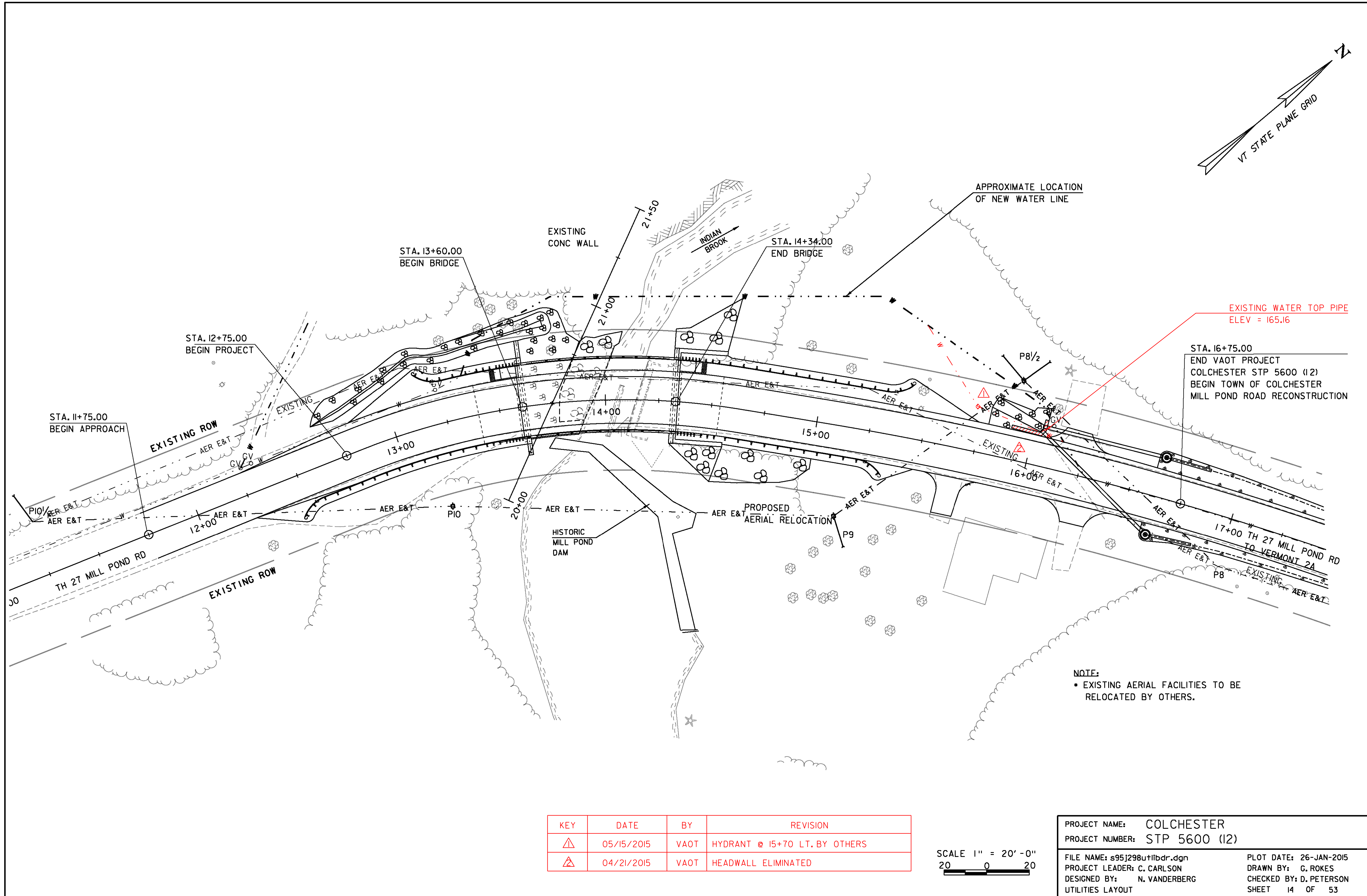
THE GRADES SHOWN TO THE NEAREST TENTH ARE THE ORIGINAL GROUND ELEVATIONS ALONG THE PROPOSED ALIGNMENT.

THE GRADES SHOWN TO THE NEAREST HUNDREDTH ARE THE FINISH GRADES ALONG THE PROPOSED ALIGNMENT.

KEY	DATE	BY	REVISION
△	08/21/2015	VAOT	MODIFIED VERTICAL ALIGNMENT.

PROJECT NAME: COLCHESTER	FILE NAME: s95j298pro.dgn	PLOT DATE: 01-SEP-2015
PROJECT NUMBER: STP 5600 (12)	PROJECT LEADER: C. CARLSON	DRAWN BY: G. ROKES
	DESIGNED BY: N. VANDENBERG	CHECKED BY: N. VANDENBERG
	PROFILE	SHEET 13 OF 53





NOTE:  
• EXISTING AERIAL FACILITIES TO BE RELOCATED BY OTHERS.

KEY	DATE	BY	REVISION
	05/15/2015	VAOT	HYDRANT @ 15+70 LT. BY OTHERS
	04/21/2015	VAOT	HEADWALL ELIMINATED

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

PROJECT NAME: COLCHESTER	PLOT DATE: 26-JAN-2015
PROJECT NUMBER: STP 5600 (12)	DRAWN BY: G. ROKES
FILE NAME: s95j298utilbdr.dgn	CHECKED BY: D. PETERSON
PROJECT LEADER: C. CARLSON	SHEET 14 OF 53
DESIGNED BY: N. VANDERBERG	
UTILITIES LAYOUT	



SOIL CLASSIFICATION

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

ROCK QUALITY DESIGNATION

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

SHEAR STRENGTH

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

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

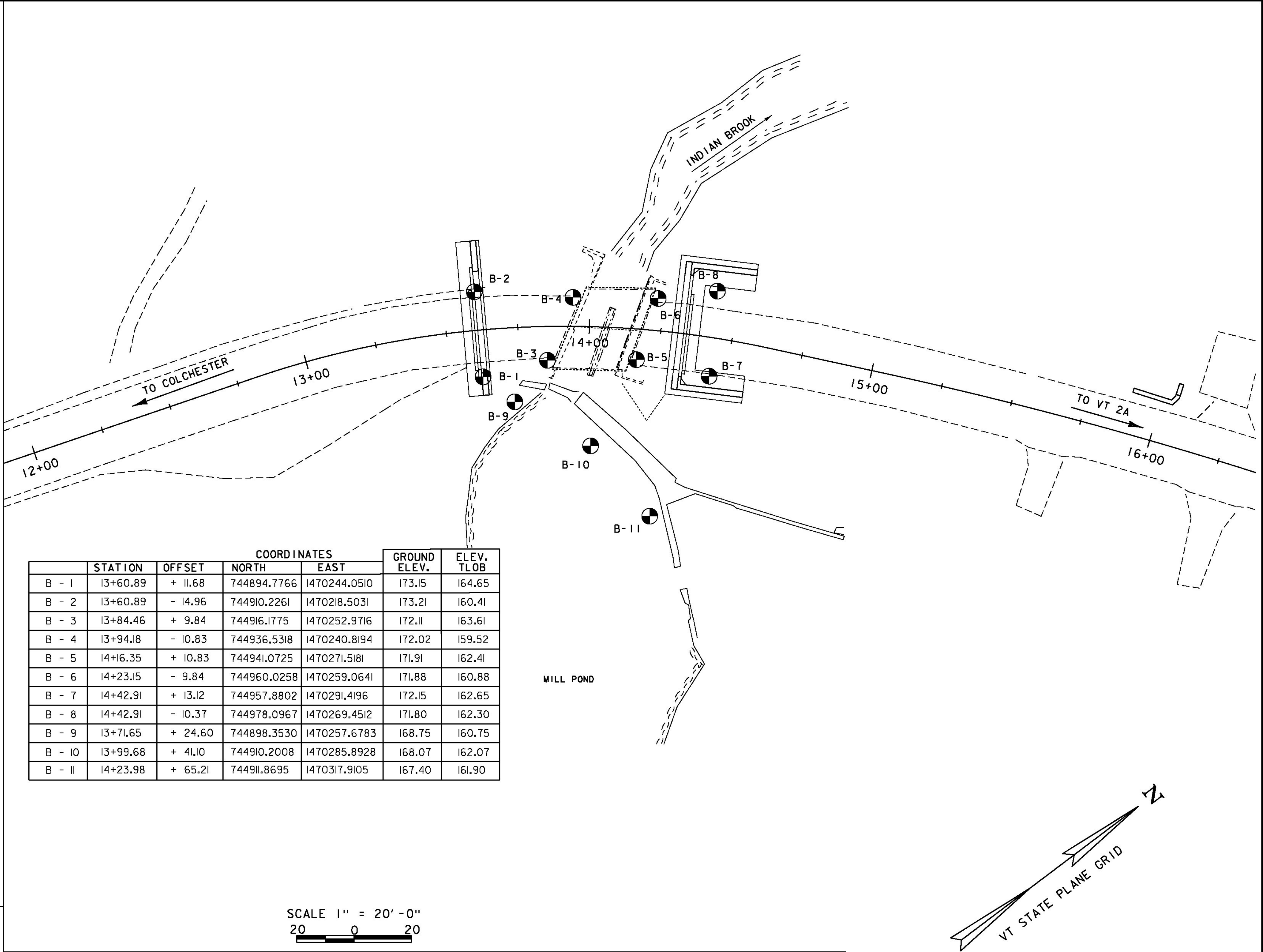
DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COMMONLY USED SYMBOLS

▼	Water Elevation
⊙	Standard Penetration Boring
⊕	Auger Boring
⊖	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per Foot For: 2" O. D. Sampler 1 3/8" I. D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 1 1/8"
BX	Core Size 1 3/8"
NX	Core Size 2 1/8"
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
Sl	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	Top of Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
RQD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)
VTSPG	NAD83 - See Note 7

COLOR

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



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

GENERAL NOTES

- The subsurface explorations shown herein were made between 03-01-2002 and 03-22-2005 by the Agency.
- Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
- Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
- Engineering Judgment was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgment by the Contractor.
- Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
- Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.
- Northing and Easting coordinates are shown in Vermont State Plane Grid North American Datum 1983 in meters and survey feet.

PROJECT NAME: COLCHESTER  
PROJECT NUMBER: STP 5600 (12)

FILE NAME: s95j298bor.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: N. VANDENBERG  
BORING LAYOUT

PLOT DATE: 26-JAN-2015  
DRAWN BY: G. ROKES  
CHECKED BY: D. PETERSON  
SHEET 15 OF 53





ABUTMENT #1  
ON BEDROCK  
TOP OF FTG  
ELEV. 166.50

LOG OF BORING COLCHESTER TH3 9521.GPJ VT AOT.GDT 9/2/05

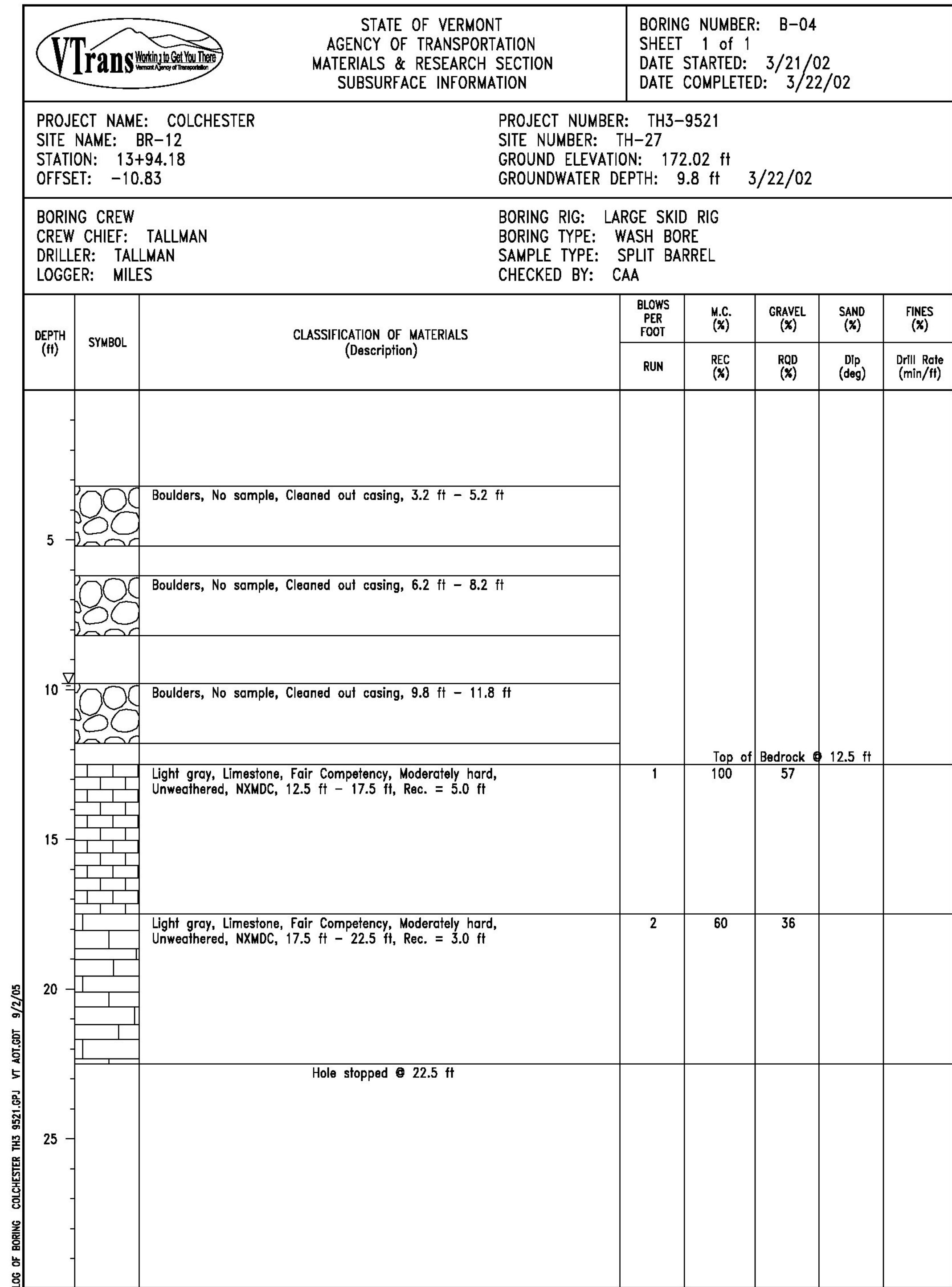
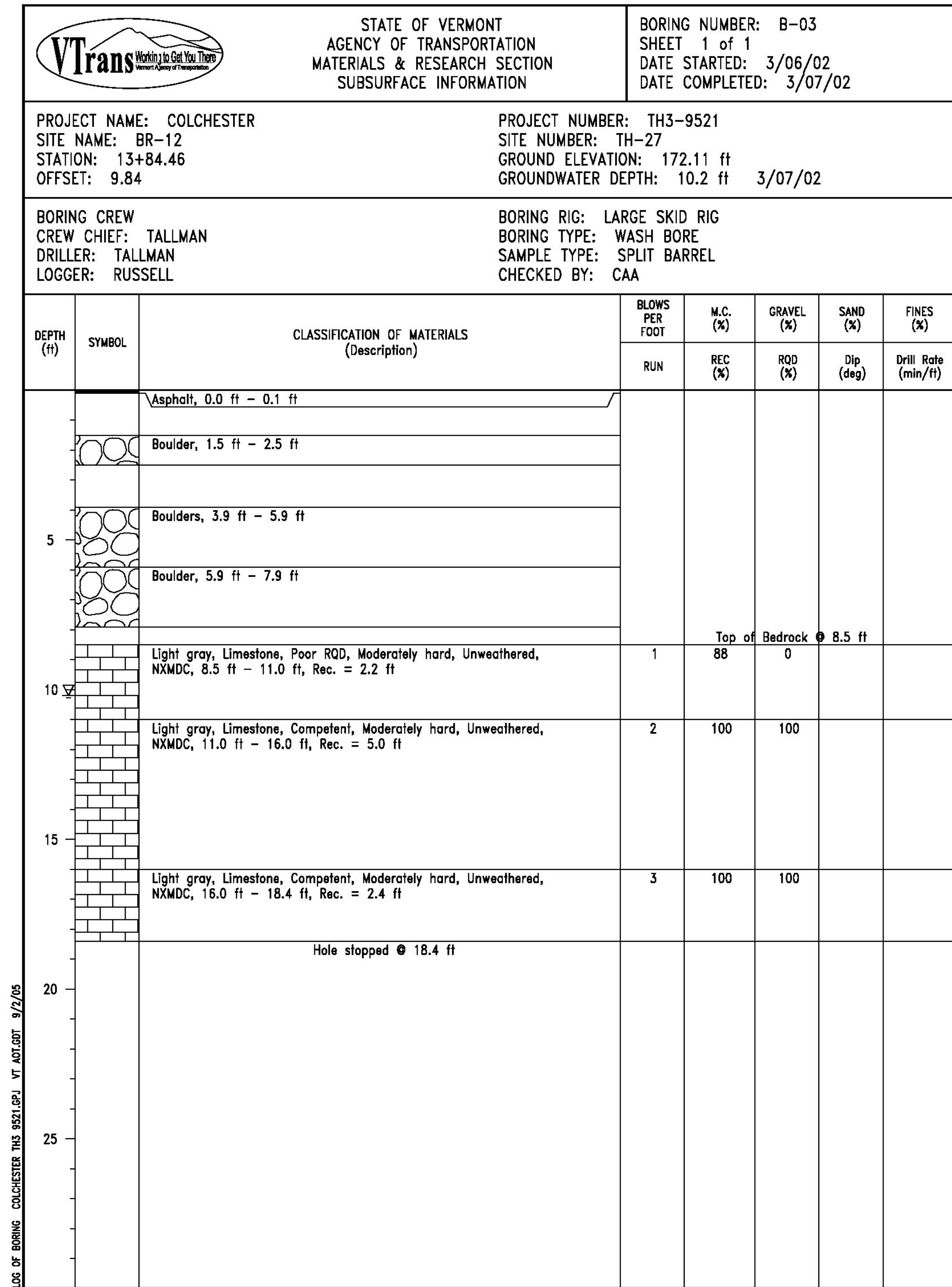


ABUTMENT #1  
ON BEDROCK  
TOP OF FTG  
ELEV. 166.50

LOG OF BORING COLCHESTER TH3 9521.GPJ VT AOT.GDT 9/2/05

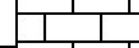
PROJECT NAME: COLCHESTER	
PROJECT NUMBER: STP 5600 (I2)	
FILE NAME: s951298bor.dgn	PLOT DATE: 12-JAN-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: G. ROKES
DESIGNED BY: N. VANDENBERG	CHECKED BY: D. PETERSON
BORING LOG I	SHEET 16 OF 53







ABUTMENT #2  
ON BEDROCK  
TOP OF FTG  
ELEV. 164.70

		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING NUMBER: B-05 SHEET 1 of 1 DATE STARTED: 3/14/02 DATE COMPLETED: 3/14/02			
PROJECT NAME: COLCHESTER SITE NAME: BR-12 STATION: 14+16.35 OFFSET: 10.83				PROJECT NUMBER: TH3-9521 SITE NUMBER: TH-27 GROUND ELEVATION: 171.91 ft GROUNDWATER DEPTH: No Water Showing 3/14/02			
BORING CREW CREW CHIEF: TALLMAN DRILLER: TALLMAN LOGGER: RUSSELL				BORING RIG: LARGE SKID RIG BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL CHECKED BY: CAA			
DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
			RUN	REC (%)	RQD (%)	Dip (deg)	Drill Rate (min/ft)
5		Asphalt, 0.0 ft - 0.1 ft					
		Boulders with various small breaks, No sample, 1.5 ft - 9.3 ft					
10		Light gray, Limestone, Competent, Moderately hard, Unweathered, NXMDC, 9.5 ft - 14.5 ft, Rec. = 5.0 ft	1	100	96	Top of Bedrock @ 9.5 ft	
15		Light gray, Limestone, Competent, Last bottom of core in hole, Poor Recovery due to equipment failure, Moderately hard, Unweathered, NXMDC, 14.5 ft - 19.5 ft, Rec. = 2.3 ft	2	46	46		
20		Hole stopped @ 19.5 ft					
25							

LOG OF BORING COLCHESTER THS 9521.DPJ VT A01.GBT 9/2/05

ABUTMENT #2  
ON BEDROCK  
TOP OF FTG  
ELEV. 164.70

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

BORING NUMBER: B-06  
SHEET 1 of 1  
DATE STARTED: 3/25/02  
DATE COMPLETED: 3/26/02

PROJECT NAME: COLCHESTER  
SITE NAME: BR-12  
STATION: 14+23.15  
OFFSET: -9.84

PROJECT NUMBER: TH3-9521  
SITE NUMBER: TH-27  
GROUND ELEVATION: 171.88 ft  
GROUNDWATER DEPTH: 8.5 ft 3/26/02

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

BORING RIG: LARGE SKID RIG  
BORING TYPE: WASH BORE  
SAMPLE TYPE: SPLIT BARREL  
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
			RUN	REC (%)	RQD (%)	Dip (deg)	Drill Rate (min/ft)
5		Asphalt, 0.0 ft - 0.07 ft					
10		Boulder, Cleaned out casing, 6.5 ft - 8.0 ft					
15		Boulder, Cleaned out casing, 9.8 ft - 10.8 ft					
20		Light gray, Limestone, Competent, Moderately hard, Unweathered, NXMDC, 11.0 ft - 16.0 ft, Rec. = 5.0 ft	1	100	100	Top of Bedrock @ 11.0 ft	
25		Light gray, Limestone, Competent, Last bottom of core in hole, Poor Recovery due to equipment failure, Moderately hard, Unweathered, NXMDC, 16.0 ft - 21.0 ft, Rec. = 2.3 ft	2	46	46		
		Hole stopped @ 21.0 ft					

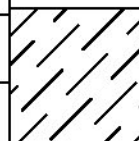
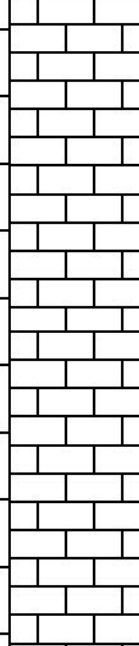
LOG OF BORING COLCHESTER TH3 9521.GPJ VT AUT.GDT 3/26/05

LOG OF BORING COLCHESTER THS 9521.DPJ VT A01.GBT 9/2/05

PROJECT NAME: COLCHESTER	
PROJECT NUMBER: STP 5600 (12)	
FILE NAME: s95j298bor.dgn	PLOT DATE: 12-JAN-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: G. ROKES
DESIGNED BY: N. VANDENBERG	CHECKED BY: D. PETERSON
BORING LOG 3	SHEET 18 OF 53



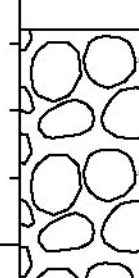
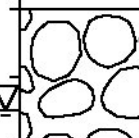
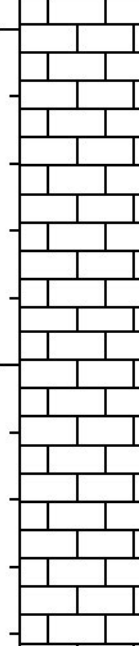
ABUTMENT #2  
ON BEDROCK  
TOP OF FTG  
ELEV. 164.70

			STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION			BORING NUMBER: B-07 SHEET 1 of 1 DATE STARTED: 3/07/02 DATE COMPLETED: 3/11/02		
PROJECT NAME: COLCHESTER SITE NAME: BR-12 STATION: 14+42.91 OFFSET: 13.12			PROJECT NUMBER: TH3-9521 SITE NUMBER: TH-27 GROUND ELEVATION: 172.15 ft GROUNDWATER DEPTH: 8.0 ft 3/11/02					
BORING CREW CREW CHIEF: TALLMAN DRILLER: TALLMAN LOGGER: RUSSELL			BORING RIG: LARGE SKID RIG BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL CHECKED BY: CAA					
DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)	
			RUN	REC (%)	RQD (%)	Dip (deg)	Drill Rate (min/ft)	
		Asphalt, 0.0 ft - 0.1 ft						
5		A-4, SiSa, Lt/gry, Moist, Rec. = 0.8 ft	6	15.5	6.8	54.4	38.8	
10		Light gray, Limestone, Competent, Moderately hard, Unweathered, NXMDC, 9.5 ft - 14.5 ft, Rec. = 4.2 ft	1	84	65	Top of Bedrock @ 9.5 ft		
15		Light gray, Limestone, Competent, Moderately hard, Unweathered, NXMDC, 14.5 ft - 19.5 ft, Rec. = 4.2 ft	2	84	70			
20		Hole stopped @ 19.5 ft						
25								

LOG OF BORING COLCHESTER TH3 9521.GPJ VT LOT 001 9/2/05

LOG OF BORING COLCHESTER TH3 9521.DPJ VT AUT.GBT 9/2/05

ABUTMENT #2  
ON BEDROCK  
TOP OF FTG  
ELEV. 164.70

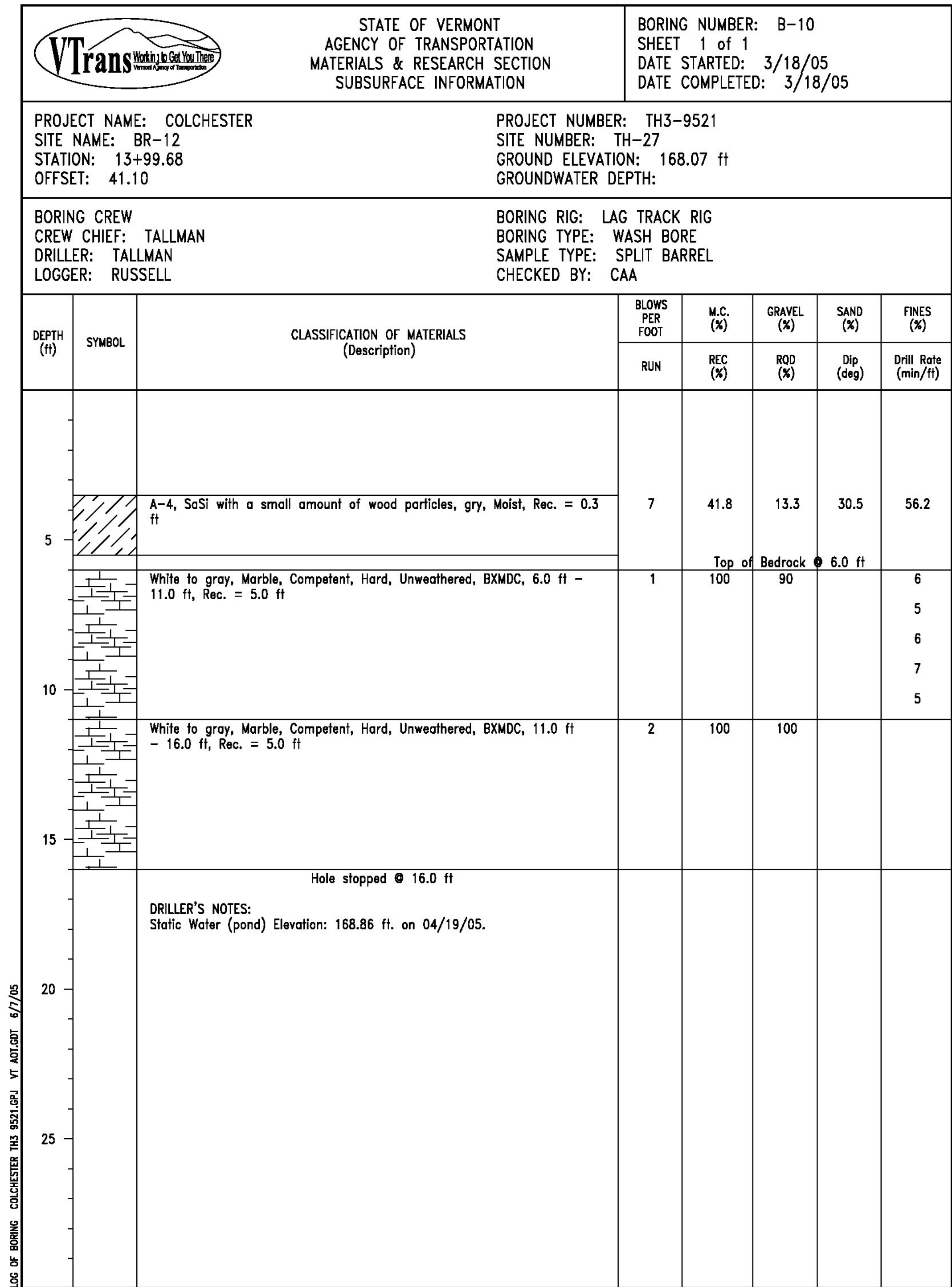
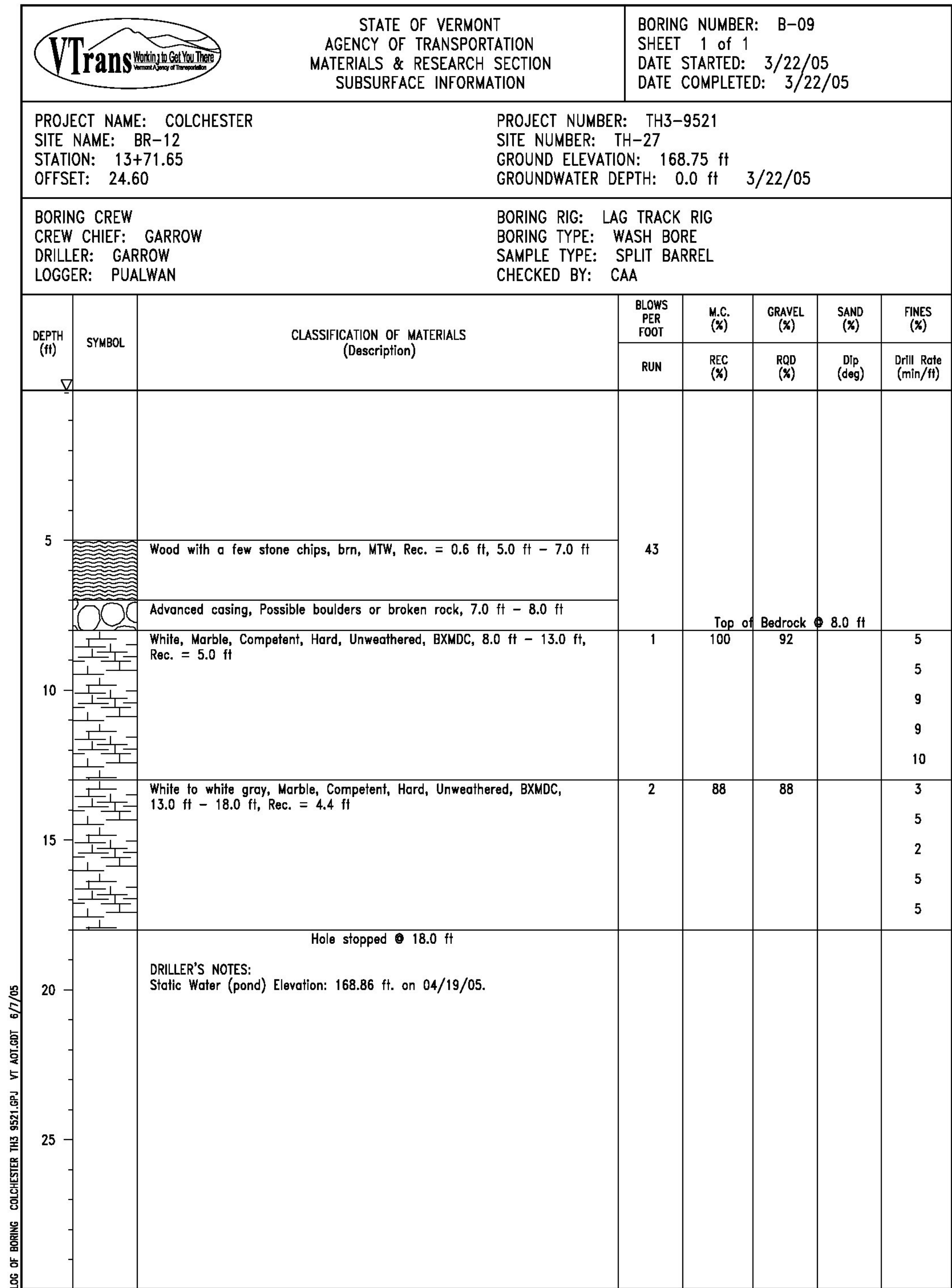
		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING NUMBER: B-08 SHEET 1 of 1 DATE STARTED: 3/11/02 DATE COMPLETED: 3/13/02			
PROJECT NAME: COLCHESTER SITE NAME: BR-12 STATION: 14+42.91 OFFSET: -10.37			PROJECT NUMBER: TH3-9521 SITE NUMBER: TH-27 GROUND ELEVATION: 171.8 ft GROUNDWATER DEPTH: 8.5 ft 3/13/02				
BORING CREW CREW CHIEF: TALLMAN DRILLER: TALLMAN LOGGER: RUSSELL			BORING RIG: LARGE SKID RIG BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL CHECKED BY: CAA				
DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
			RUN	REC (%)	RQD (%)	Dip (deg)	Drill Rate (min/ft)
5		Boulders, No sample, 1.8 ft - 6.0 ft					
		Boulder, Cleaned out casing, 7.0 ft - 9.0 ft					
10		Light gray, Limestone, Competent, Moderately hard, Unweathered, NXMDC, 9.5 ft - 14.5 ft, Rec. = 5.0 ft	1	100	96	Top of Bedrock @ 9.5 ft	
15		Light gray, Limestone, Competent, Moderately hard, Unweathered, NXMDC, 14.5 ft - 19.5 ft, Rec. = 4.9 ft	2	98	70		
20		Hole stopped @ 19.5 ft					
25							

LOG OF BORING COLCHESTER TH3 9521.GPJ VT AUT 2017 9/2/05

LOG OF BORING COLCHESTER TH3 9521.DPJ VT AUT.GBT 9/2/05

PROJECT NAME: COLCHESTER	
PROJECT NUMBER: STP 5600 (12)	
FILE NAME: s95j298bor.dgn	PLOT DATE: 12-JAN-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: G. ROKES
DESIGNED BY: N. VANDENBERG	CHECKED BY: D. PETERSON
BORING LOG 4	SHEET 19 OF 53







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

BORING NUMBER: B-11  
SHEET 1 of 1  
DATE STARTED: 3/21/05  
DATE COMPLETED: 3/21/05

PROJECT NAME: COLCHESTER  
SITE NAME: BR-12  
STATION: 14+23.98  
OFFSET: 65.21

PROJECT NUMBER: TH3-9521  
SITE NUMBER: TH-27  
GROUND ELEVATION: 167.4 ft  
GROUNDWATER DEPTH: 0.0 ft 3/21/05

BORING CREW  
CREW CHIEF: GARROW  
DRILLER: GARROW  
LOGGER: PUALWAN

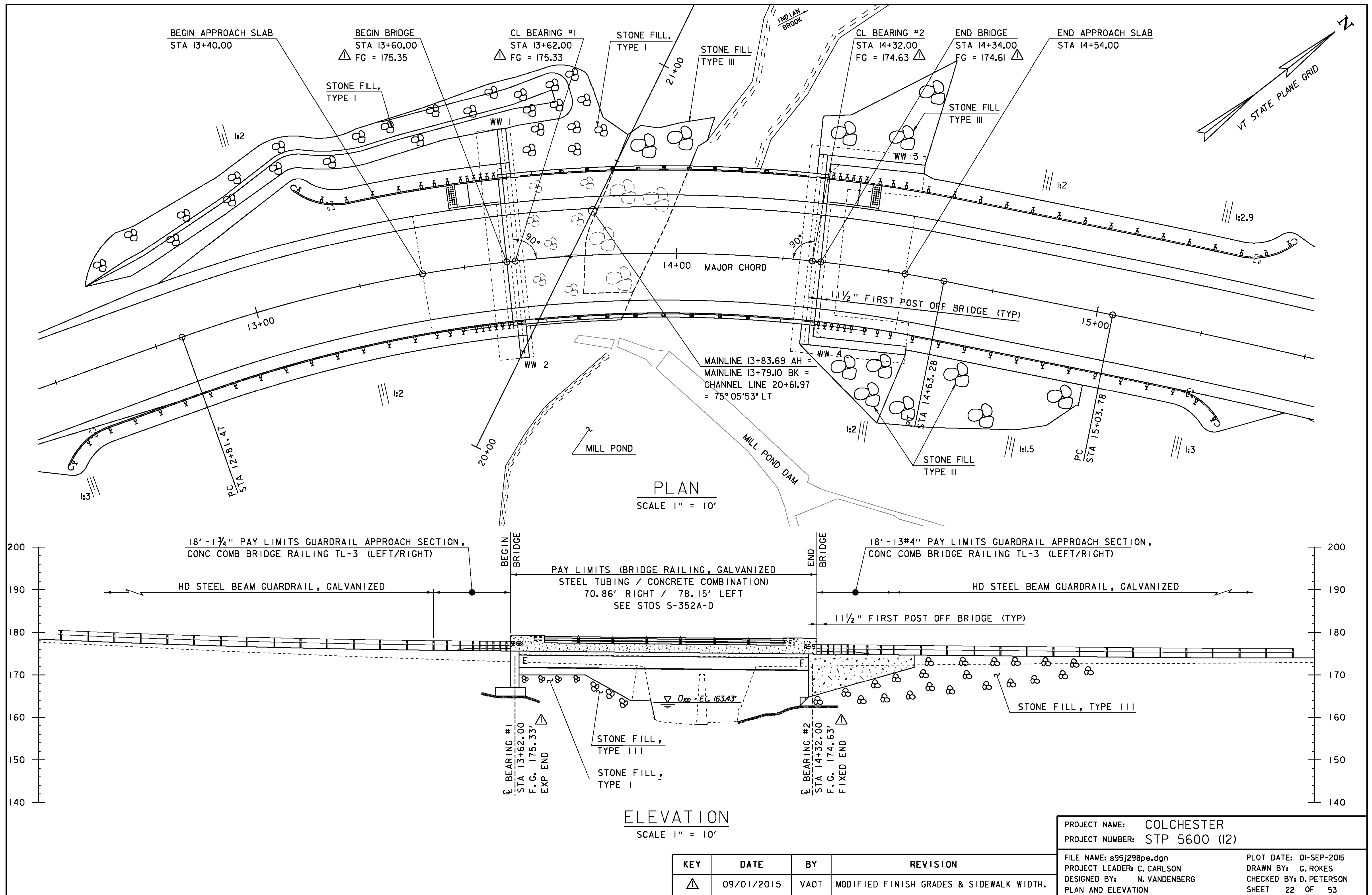
BORING RIG: LAG TRACK RIG  
BORING TYPE: WASH BORE  
SAMPLE TYPE: SPLIT BARREL  
CHECKED BY: CAA

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
			RUN	REC (%)	RQD (%)	Dip (deg)	Drill Rate (min/ft)
0							
5		Visual Class: A-4, SaSi, Dk/gr, MTW, Rec. = 0.2 ft, 3.5 ft - 3.7 ft, Insufficient sample for testing. Visual Class: Weathered Concrete, gry, Moist, Rec. = 0.3 ft, 3.7 ft - 4.0 ft, Chemical tested: Ph 11.0 White to gray, Marble, Competent, Hard, Unweathered, BXMDC, 5.5 ft - 10.5 ft, Rec. = 5.0 ft	R  1	45.0 21.7  100	  Top of Bedrock @ 5.5 ft 98		11 9 5 11 12
10		White to gray, Marble, Competent, Hard, Unweathered, BXMDC, 10.5 ft - 15.5 ft, Rec. = 5.0 ft	2	100	97		7 8 6 4 8
15		Hole stopped @ 15.5 ft					
20		DRILLER'S NOTES: Static Water (pond) Elevation: 168.86 ft. on 04/19/05.					
25							

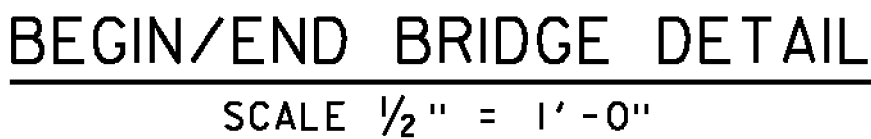
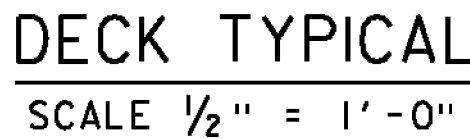
LOG OF BORING COLCHESTER TMS 9521.GPJ VT AOT 001 5/7/05

PROJECT NAME:	COLCHESTER
PROJECT NUMBER:	STP 5600 (12)
FILE NAME: s95j298bor.dgn	PLOT DATE: 12-JAN-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: G. ROKES
DESIGNED BY: N. VANDENBERG	CHECKED BY: D. PETERSON
BORING LOG 6	SHEET 21 OF 53









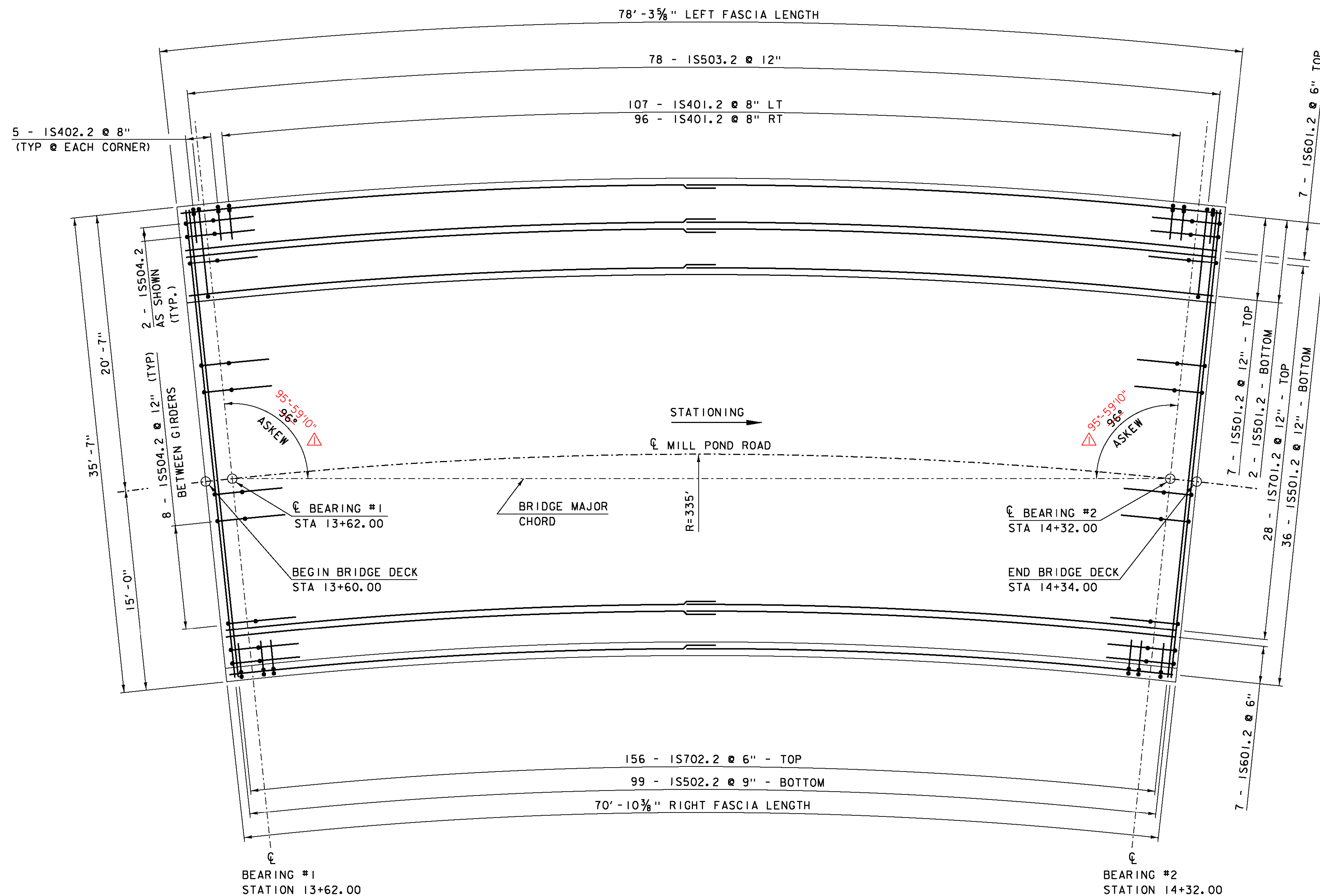
**NOTE:**

NF = NEAR FACE  
FF = FAR FACE  
EF = EACH FACE  
▲ = CUT TO FIT IN FIELD  
3" CLEAR, UNLESS OTHERWISE  
SPECIFIED ON THE PLANS.  
2'-2" BAR LAP UNLESS OTHERWISE  
SPECIFIED ON THE PLANS.

KEY	DATE	BY	REVISION
	09/01/2015	VAOT	MODIFIED SIDEWALK WIDTH.

PROJECT NAME: COLCHESTER	
PROJECT NUMBER: STP 5600 (12)	
FILE NAME: s95J298sup.dgn	PLOT DATE: 01-SEP-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: D. KARABEGOVIC
DESIGNED BY: N. VANDENBERG	CHECKED BY: M. LONGSTREET
DECK TYPICAL	SHEET 23 OF 53





# NOTE:

NF = NEAR FACE  
 FF = FAR FACE  
 EF = EACH FACE  
 ▲ = CUT TO FIT IN FIELD  
 3" CLEAR, UNLESS OTHERWISE  
 SPECIFIED ON THE PLANS.  
 2'-2" BAR LAP UNLESS OTHERWISE  
 SPECIFIED ON THE PLANS.

## DECK REINFORCING PLAN

SCALE 1/4" = 1'-0"

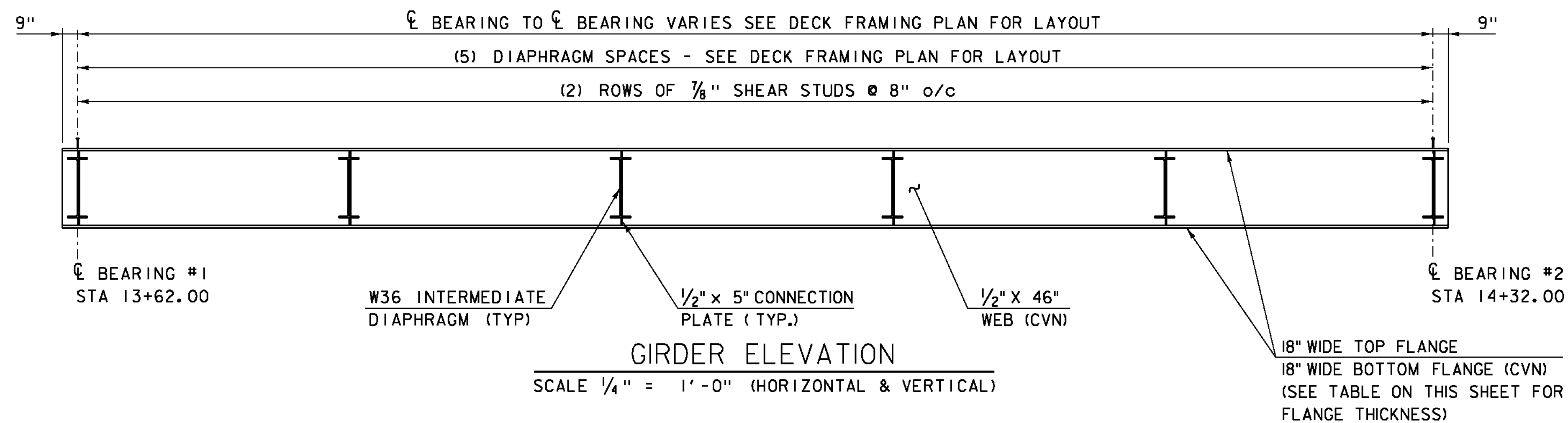
KEY	DATE	BY	REVISION
▲	03/26/2015	VAOT	CORRECTED GIRDER DIMENSIONS

PROJECT NAME: COLCHESTER  
 PROJECT NUMBER: STP 5600 (I2)

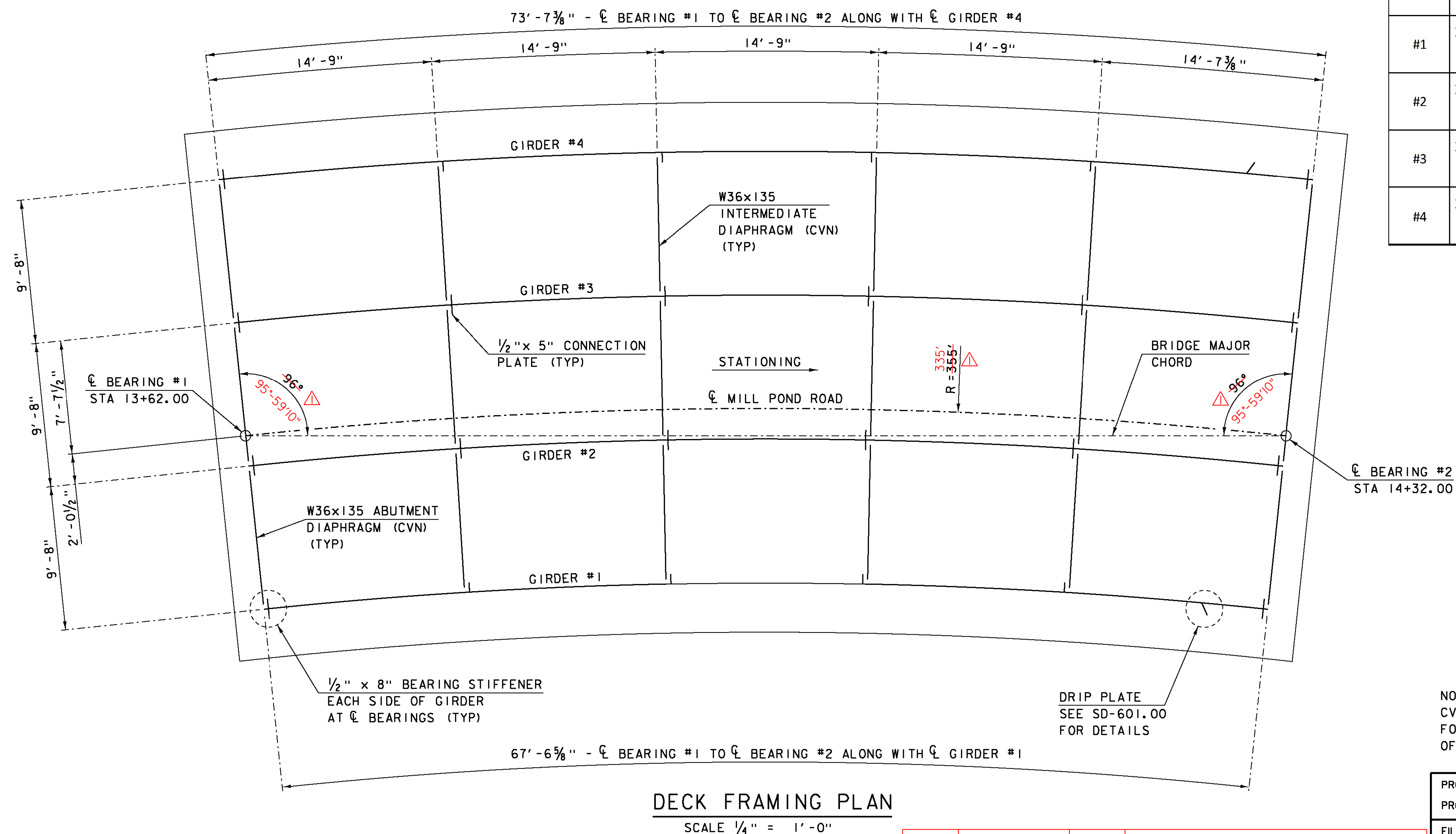
FILE NAME: s95j298sup.dgn  
 PROJECT LEADER: C. CARLSON  
 DESIGNED BY: N. VANDENBERG  
 DECK REINFORCING PLAN

PLOT DATE: 12-JAN-2015  
 DRAWN BY: D. KARABEGOVIC  
 CHECKED BY: M. LONGSTREET  
 SHEET 24 OF 53





GIRDER DIMENSION TABLE				
GIRDER	RADIUS	(LENGTH)	TOP FLANGE PLATE THICKNESS	BOTTOM FLANGE PLATE THICKNESS
#1	323.292' 323.284' △	69'-0 5/8"	7/8"	7/8"
#2	332.958' 332.950' △	71' - 0 7/8" 71'-1 3/16" △	7/8"	7/8"
#3	342.625' 342.617' △	73' - 1 1/8" 73'-1 3/16" △	7/8"	1 1/4"
#4	352.292' 352.284' △	75' - 1 3/8" 75'-1 7/16" △	7/8"	1 1/4"



NOTE:  
CVN - SHALL MEET CHARPY V-NOTCH REQUIREMENTS  
FOR MAIN MEMBERS AS INDICATED IN SECTION 714  
OF THE STANDARD SPECIFICATION

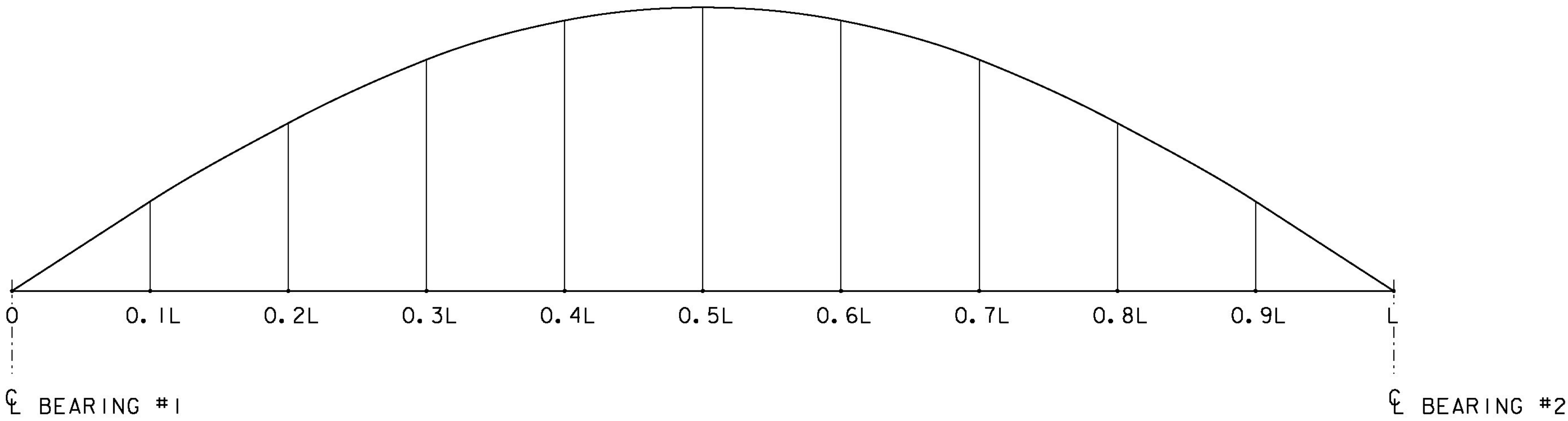
PROJECT NAME: COLCHESTER  
PROJECT NUMBER: STP 5600 (I2)

FILE NAME: s95j298sup.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: N. VANDENBERG  
DECK FRAMING PLAN

PLOT DATE: 12-JAN-2015  
DRAWN BY: D. KARABEGOVIC  
CHECKED BY: M. LONGSTREET  
SHEET 25 OF 53

KEY	DATE	BY	REVISION
△	03/26/2015	VAOT	CORRECTED GIRDER DIMENSIONS





CAMBER DIAGRAM  
NOT TO SCALE

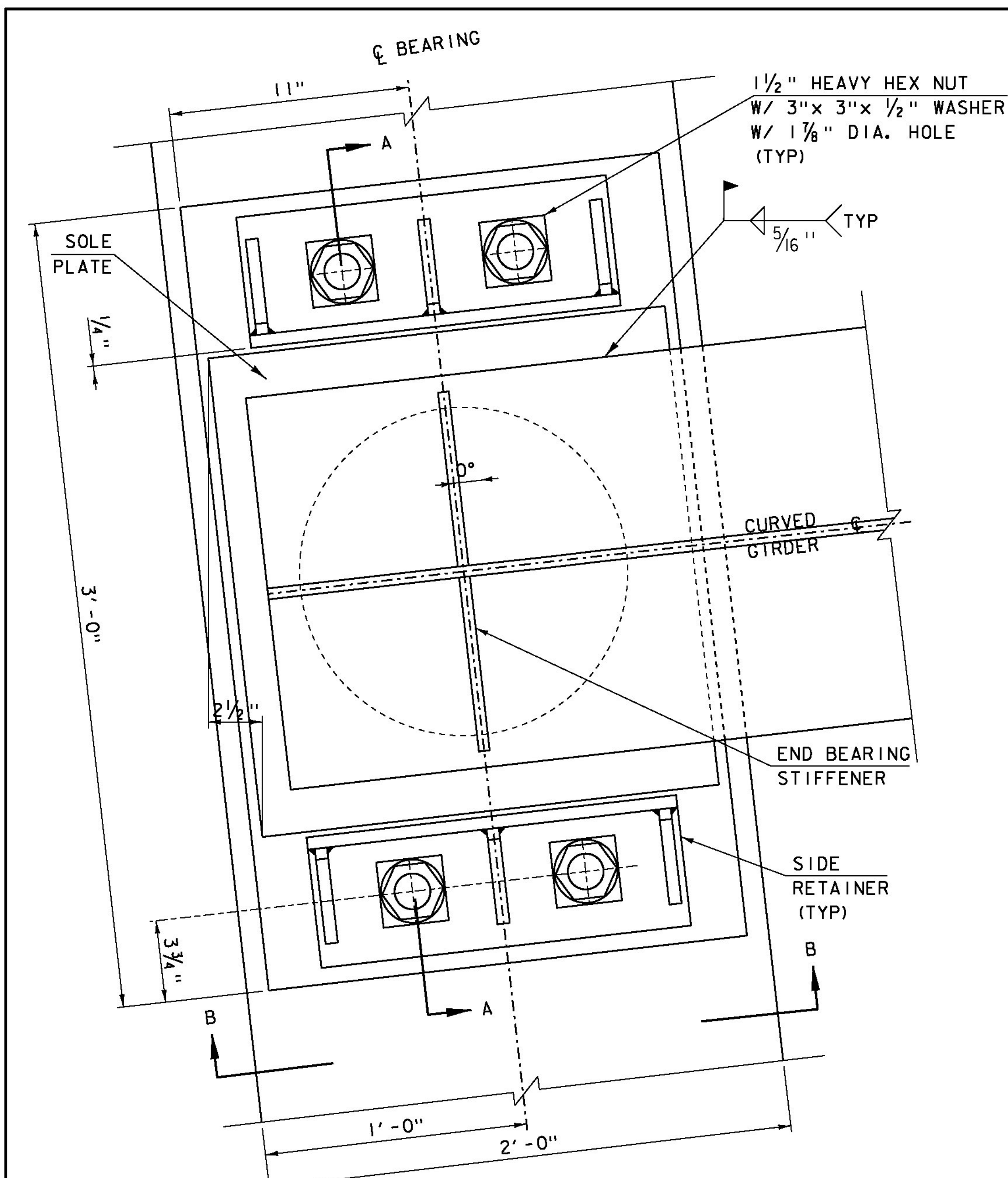
CAMBER (INCHES)									
GIRDER	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L
#1	12/16	1 5/16	1 12/16	2	2 1/16	2	1 12/16	1 5/16	12/16
#2	14/16	1 8/16	2	2 4/16	2 6/16	2 4/16	2	1 8/16	14/16
#3	15/16	1 11/16	2 3/16	2 8/16	2 10/16	2 8/16	2 3/16	1 11/16	15/16
#4	1 1/16	1 14/16	2 7/16	2 13/16	2 15/16	2 13/16	2 7/16	1 14/16	1 1/16

DEAD LOAD DEFLECTION INCLUDING GIRDER SELF WEIGHT (INCHES)									
GIRDER	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L
#1	- 6/16	- 10/16	- 14/16	-1	-1 1/16	-1	- 14/16	- 10/16	- 6/16
#2	- 7/16	- 13/16	-1 2/16	-1 5/16	-1 6/16	-1 5/16	-1 2/16	- 13/16	- 7/16
#3	- 8/16	- 15/16	-1 5/16	-1 9/16	-1 10/16	-1 9/16	-1 5/16	- 15/16	- 8/16
#4	- 10/16	-1 2/16	-1 9/16	-1 13/16	-1 15/16	-1 13/16	-1 9/16	-1 2/16	- 10/16

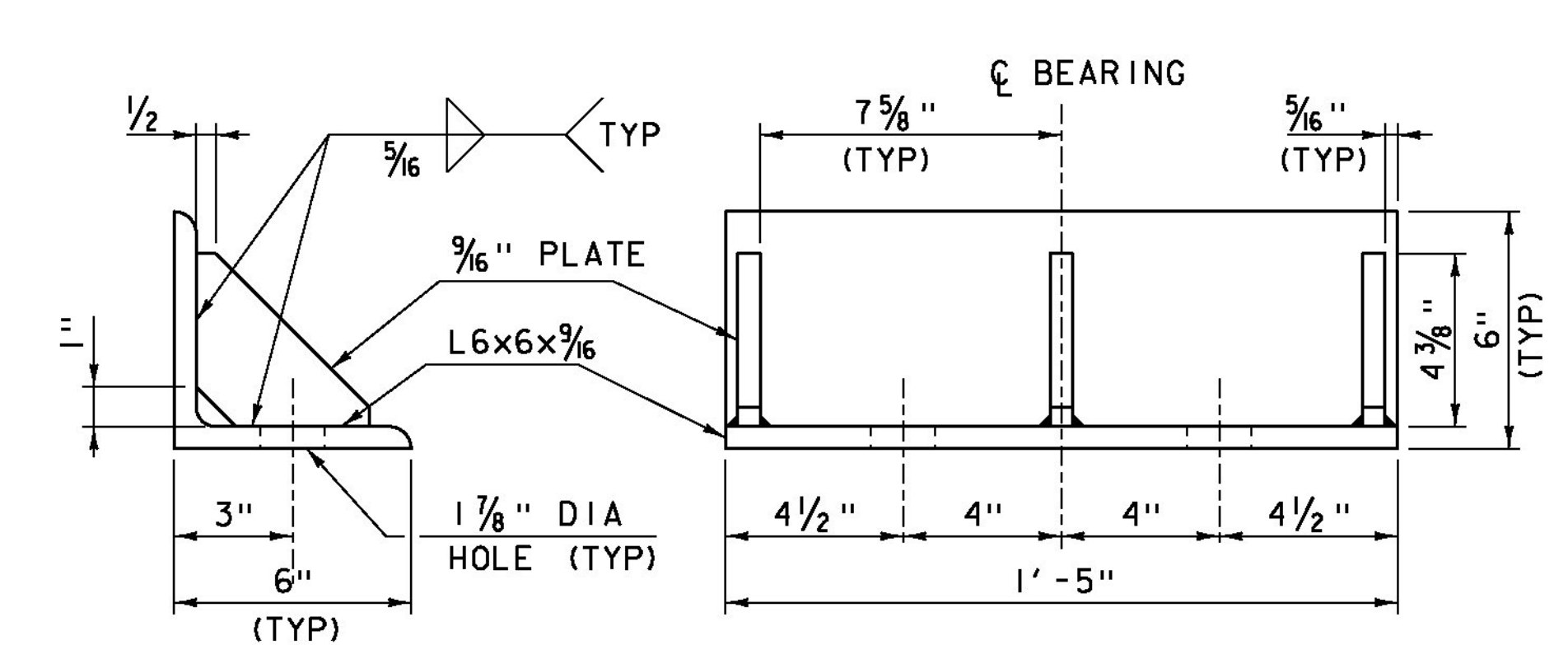
- NOTES:
- 1. DIMENSIONS SHOWN ARE ALONG THE ARC OF THE GIRDER.
  - 2. GIRDERS AND CROSSFRAMES SHALL BE WEB-PLUMB AT FULL DEAD LOAD CONDITION.

PROJECT NAME: COLCHESTER	
PROJECT NUMBER: STP 5600 (12)	
FILE NAME: s95j298sup.dgn	PLOT DATE: 12-JAN-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: N. VANDENBERG
DESIGNED BY: N. VANDENBERG	CHECKED BY: M. LONGSTREET
CAMBER DIAGRAM	SHEET 26 OF 53

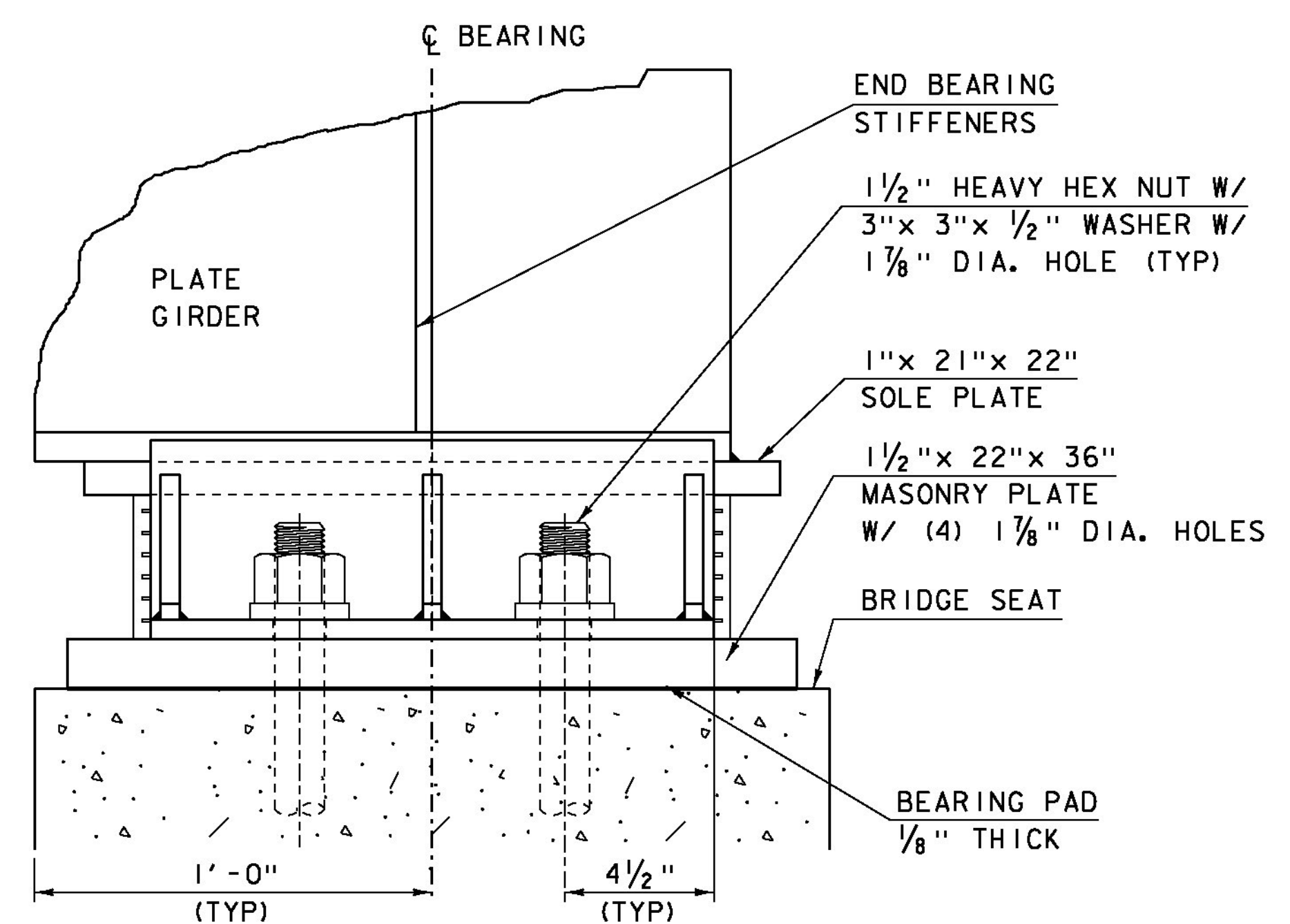




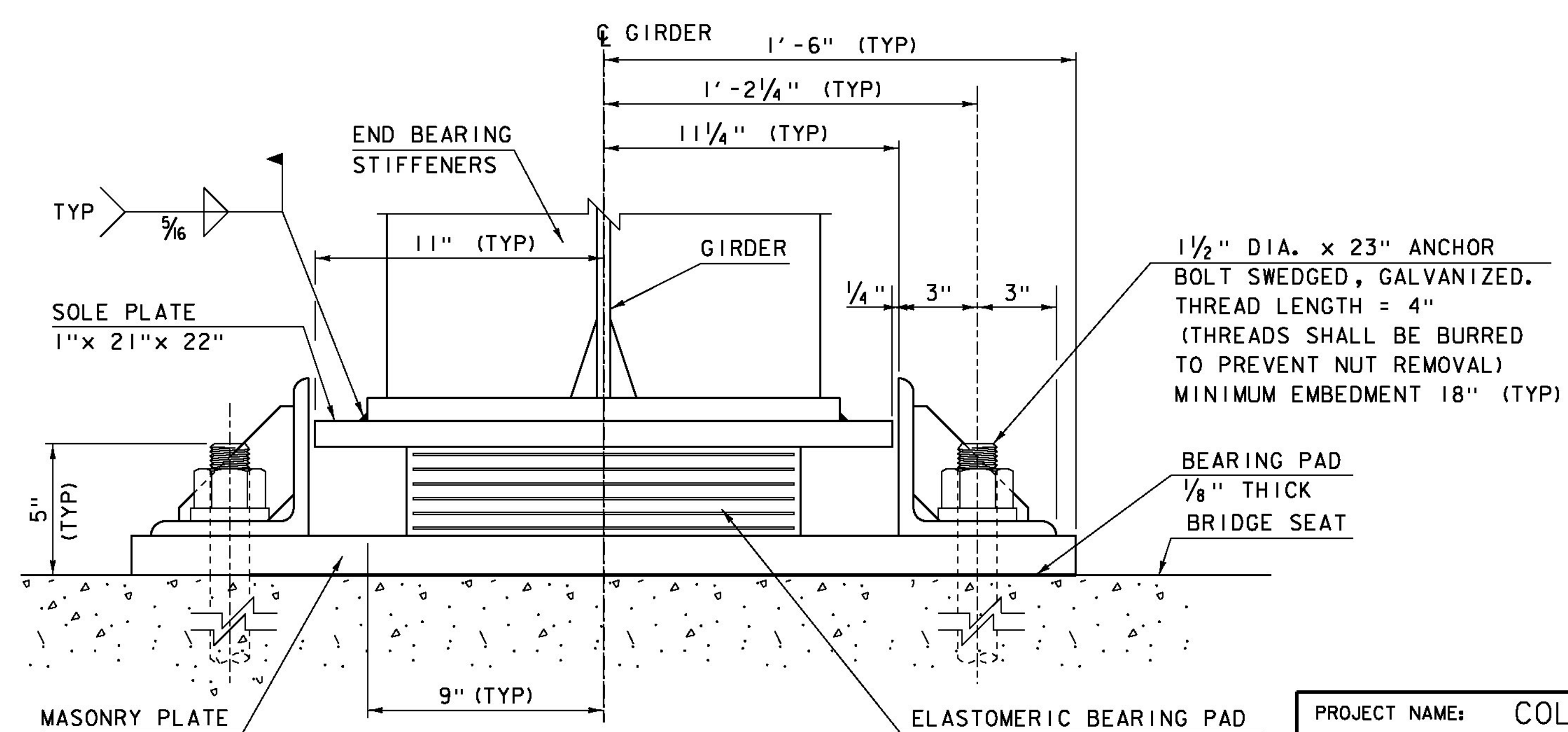
**PLAN VIEW**  
SCALE 3" = 1'-0"



**SIDE RETAINER DETAIL**  
SCALE 3" = 1'-0"



**SECTION B-B**  
SCALE 3" = 1'-0"



**SECTION A-A**  
SCALE 3" = 1'-0"

NOTE: EXPANSION BEARINGS LOCATED AT BEGIN BRIDGE

**BEARING NOTES**

- BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.17 "BEARINGS DEVICE ASSEMBLY, STEEL REINFORCED ELASTOMERIC PAD" AND SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTIONS 531 AND 731.
- THE FIELD WELD CONNECTING THE BOTTOM FLANGE WITH THE BEARING DEVICE SHALL BE MADE WITH E7018 RODS. AREAS OF METALIZING DAMAGED BY WELDING AND/OR HANDLING SHALL BE REPAIRED IN ACCORDANCE WITH SUBSECTION 726.09.
- ALL STEEL COMPONENTS SHALL BE METALIZED AS PER SUBSECTIONS 531.04 (b) AND 506.14.
- DESIGN CRITERIA, LOADS GIVEN AS PER BEARING:

DESIGN LOAD EFFECTS (KIP)	SERVICE LIMIT STATE	VERTICAL	DEAD	52.0
			SUPER DEAD	21.0
		TRANSVERSE	LIVE LOAD	114.0
ROTATION (RAD)	SERVICE LIMIT STATE	LONGITUDINAL	14.6	
		LONGITUDINAL	22.8	
TRANSLATIONS (in)	SERVICE LIMIT STATE	IRREVERSIBLE	TRANSVERSE	0.000
			LONGITUDINAL	0.007
		REVERSIBLE	TRANSVERSE	0.005
			LONGITUDINAL	0.006
		IRREVERSIBLE	TRANSVERSE	*
			LONGITUDINAL	*
REVERSIBLE	TRANSVERSE	0.070		
	LONGITUDINAL	0.687		
- ALL REINFORCEMENT BETWEEN LAYERS OF ELASTOMER SHALL BE SAND BLASTED AND FREE OF COATINGS, RUST, AND MILL SCALE. THE PLATES SHALL BE FREE OF SHARP EDGES AND BURRS.
- STEEL REINFORCED ELASTOMERIC BEARINGS SHALL HAVE A MINIMUM OF 1/8" EDGE SEAL OF ELASTOMER INTEGRAL WITH THE BEARING OVER ALL INTERNAL PLATES.
- BRIDGE SEAT ELEVATIONS MAY BE REVISED TO ACCOMMODATE AN ALTERNATE CONFIGURATION. THE CONCRETE SURFACES UNDER THE BEARING DEVICES SHALL BE LEVEL.

PROJECT NAME:	COLCHESTER
PROJECT NUMBER:	STP 5600 (I2)
FILE NAME:	s95J298brg.dgn
PROJECT LEADER:	C. CARLSON
DESIGNED BY:	N. VANDENBERG
EXPANSION BEARING DETAILS	
PLOT DATE:	30-JAN-2015
DRAWN BY:	D. KARABEGOVIĆ
CHECKED BY:	M. LONGSTREET
SHEET	27 OF 53





NOTE:  
* SLOTTED ALONG THE CENTER LINE OF BEARING



PLAN VIEW  
SCALE 3" = 1'-0"



SCALE 3" = 1'-0"

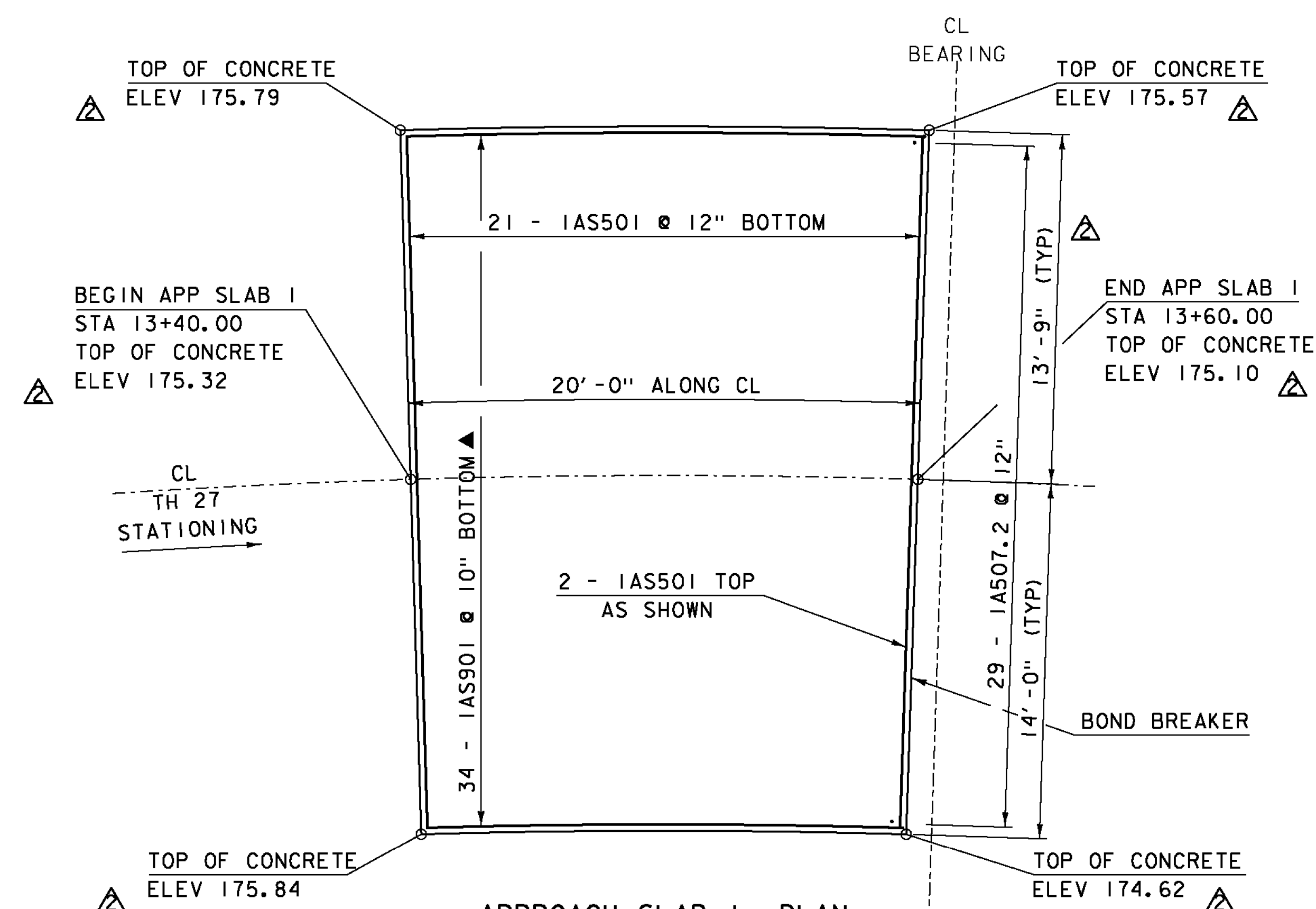


SCALE 3" = 1'-0"

PLOT DATE: 12-JAN-2015  
DRAWN BY: D. KARABEGOVIC  
CHECKED BY: M. LONGSTREET  
SHEET 28 OF 53

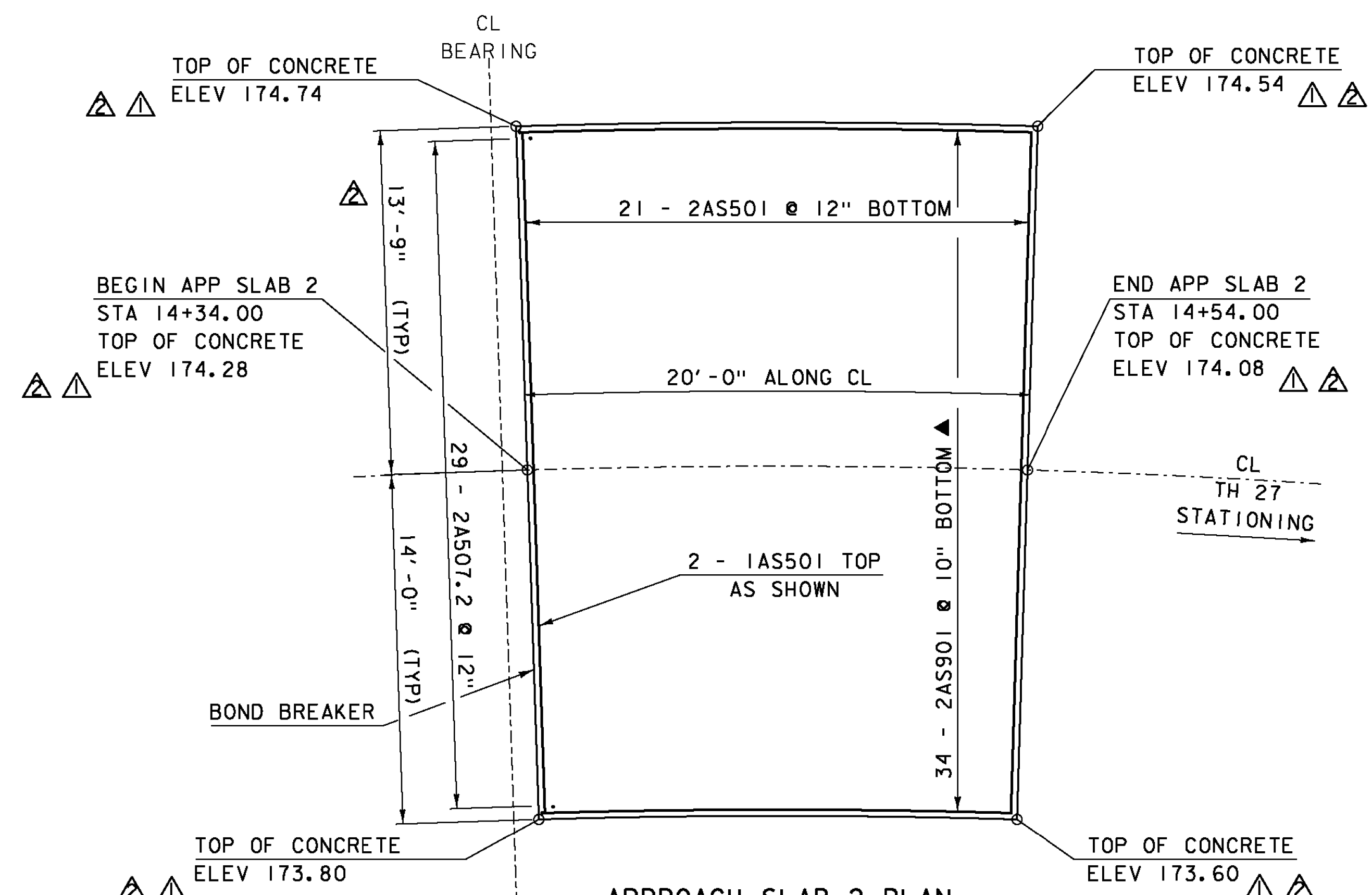
NOTE: FIXED BEARINGS LOCATED AT END BRIDGE





APPROACH SLAB 1 PLAN

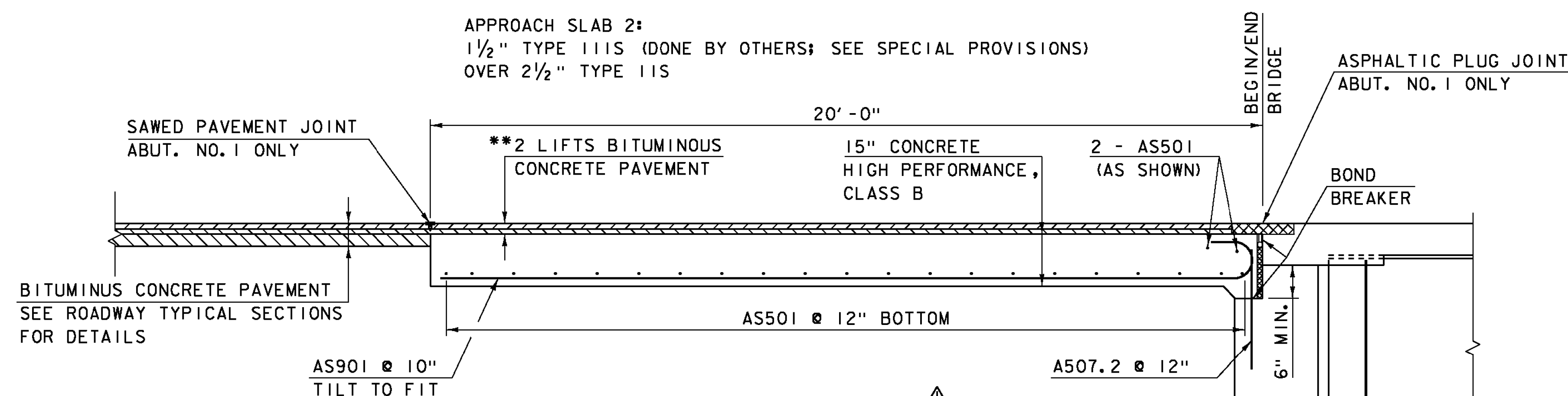
SCALE 1/4" = 1'-0"



APPROACH SLAB 2 PLAN

SCALE 1/4" = 1'-0"

- ** APPROACH SLAB 1:**  
1 1/2" TYPE IVS OVER 1 1/2" TYPE IVS
- APPROACH SLAB 2:**  
1 1/2" TYPE IIIS (DONE BY OTHERS; SEE SPECIAL PROVISIONS)  
OVER 2 1/2" TYPE IIS



APPROACH SLAB DETAIL

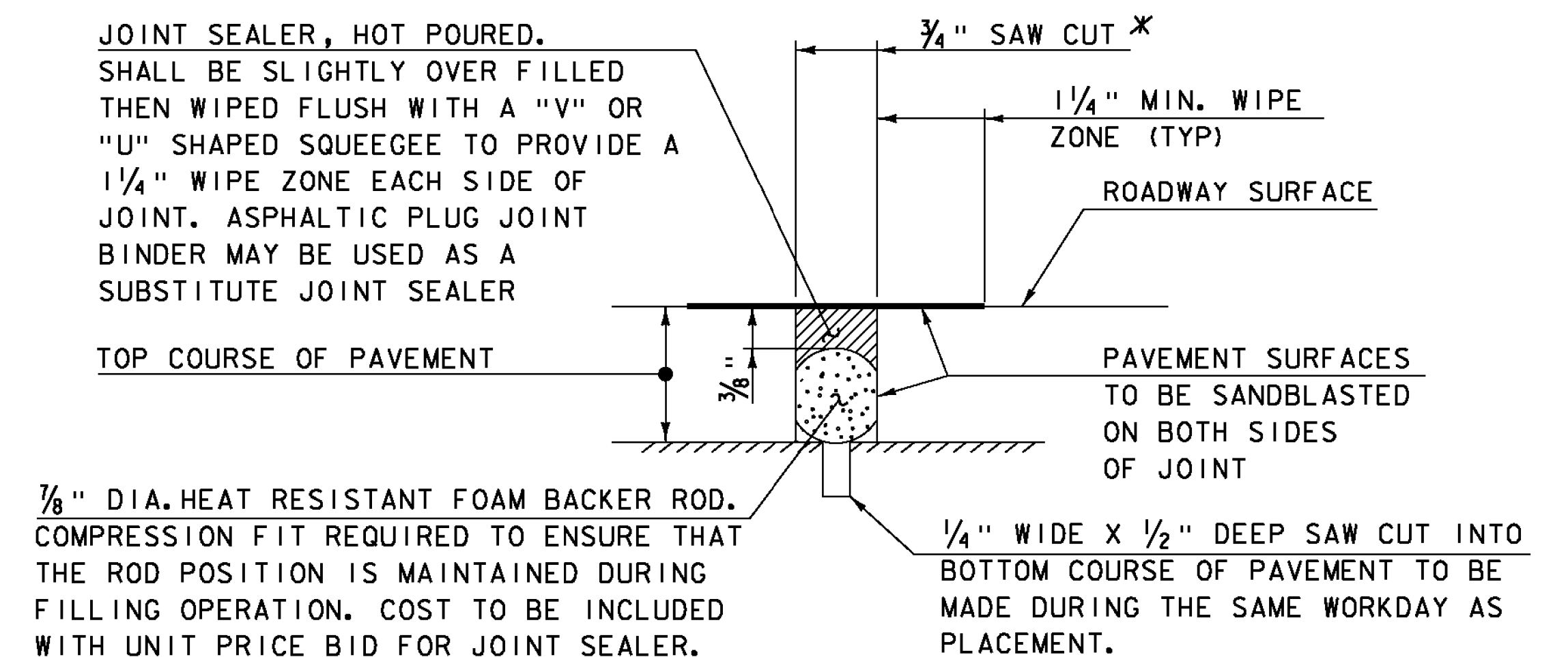
SCALE 1/2" = 1'-0"

NOTES:

1. COMPACT THE SUBBASE IN THE AREA UNDER THE APPROACH SLAB TO A SMOOTH SURFACE.
2. POUR APPROACH SLAB CONCRETE IN THE EARLY MORNING BEFORE THE SUPERSTRUCTURE EXPANDS.
3. PLACE HOOKED ENDS OF BOTTOM STEEL AT ABUTMENT END OF SLAB.

NOTE:

NF = NEAR FACE  
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EF = EACH FACE  
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2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.



SAWED PAVEMENT JOINT DETAIL

(NOT TO SCALE)

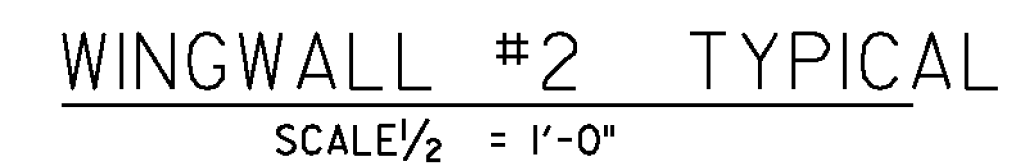
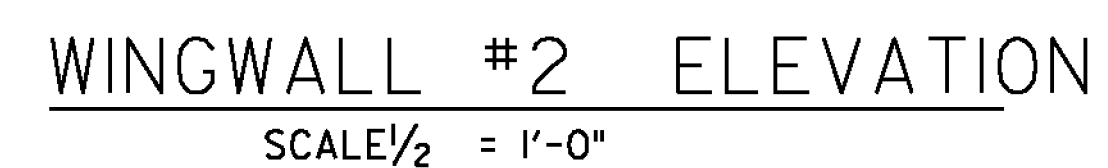
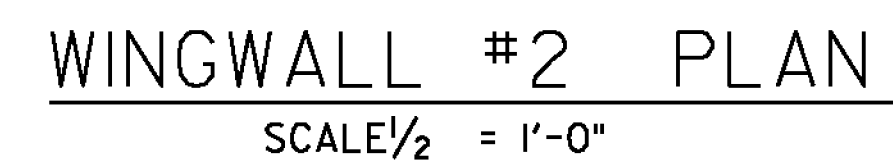
- * JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING, OR OTHER MEANS, PRIOR TO PAVING, SO THAT THE SAW CUTS WILL BE MADE DIRECTLY OVER THE END OF CONCRETE DECK. JOINT SHALL BE CUT DRY IN A SINGLE PASS AND BE SEALED WITHIN 24 HOURS OR PRIOR TO EXPOSURE TO TRAFFIC. JOINT SHALL BE CLEANED PRIOR TO APPLYING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

KEY	DATE	BY	REVISION	PROJECT NAME:	COLCHESTER
▲	02/23/2015	VAOT	MODIFIED APPROACH SLAB 2 ELEVATIONS.	PROJECT NUMBER:	STP 5600 (I2)
▲	09/01/2015	VAOT	MODIFIED APPROACH SLAB WIDTHS & ELEV.	FILE NAME:	s95j298sup.dgn
				PROJECT LEADER:	C. CARLSON
				DESIGNED BY:	N. VANDENBERG
				APPROACH SLABS	
				PLOT DATE:	01-SEP-2015
				DRAWN BY:	D. KARABEGOVIC
				CHECKED BY:	M. LONGSTREET
				SHEET	29 OF 53





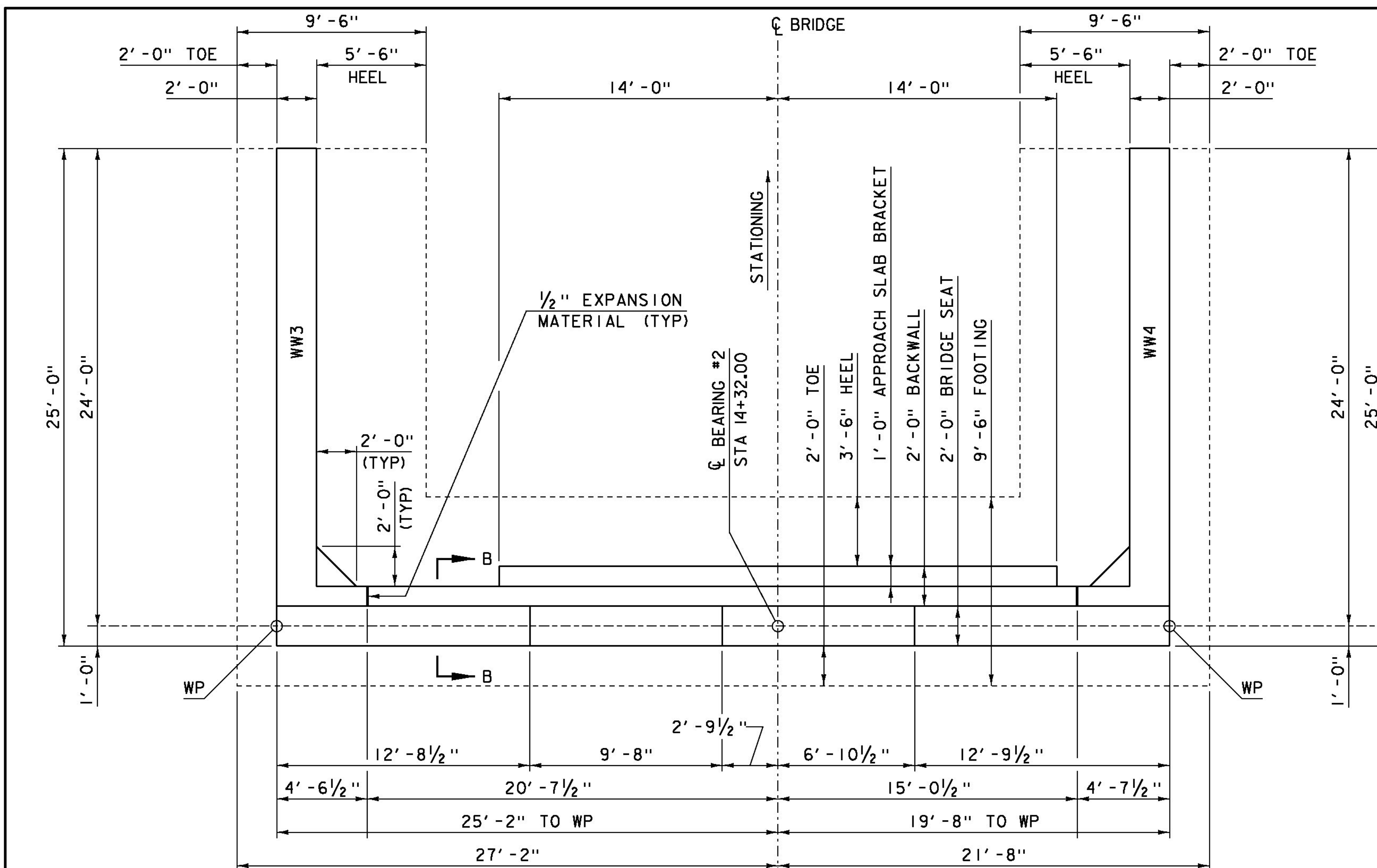




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EF = EACH FACE  
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SPECIFIED ON THE PLANS.  
2'-2" BAR LAP UNLESS OTHERWISE  
SPECIFIED ON THE PLANS.

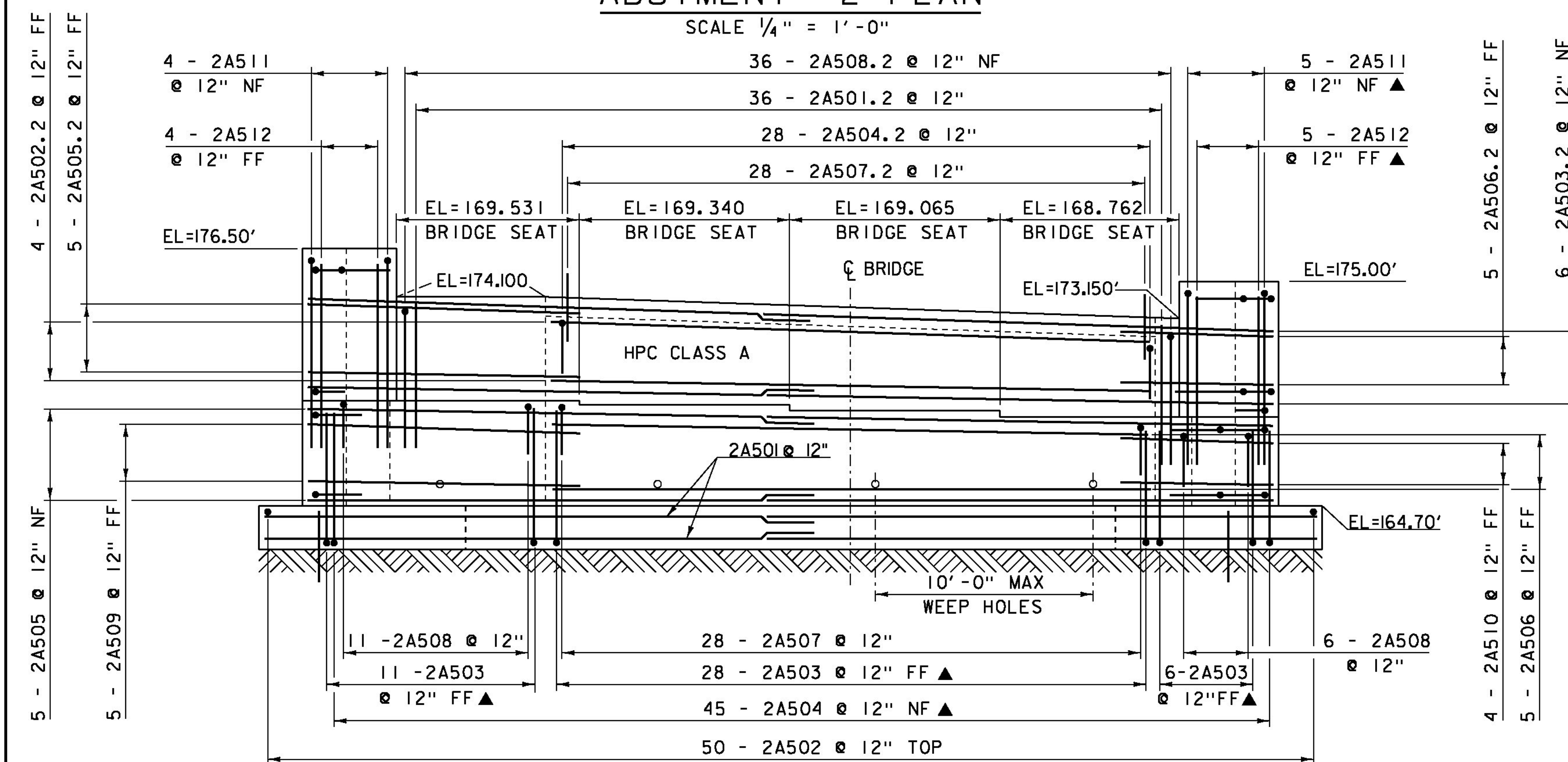
PROJECT NAME: COLCHESTER	
PROJECT NUMBER: STP 5600 (I2)	
FILE NAME: s95j298sub.dgn	PLOT DATE: 20-MAY-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: M. VAMBERGER
DESIGNED BY: J. GRIFFIN	CHECKED BY: N. VANDENBERG
WINGWALL "I" PLAN & ELEVATION	SHEET 30A OF 153





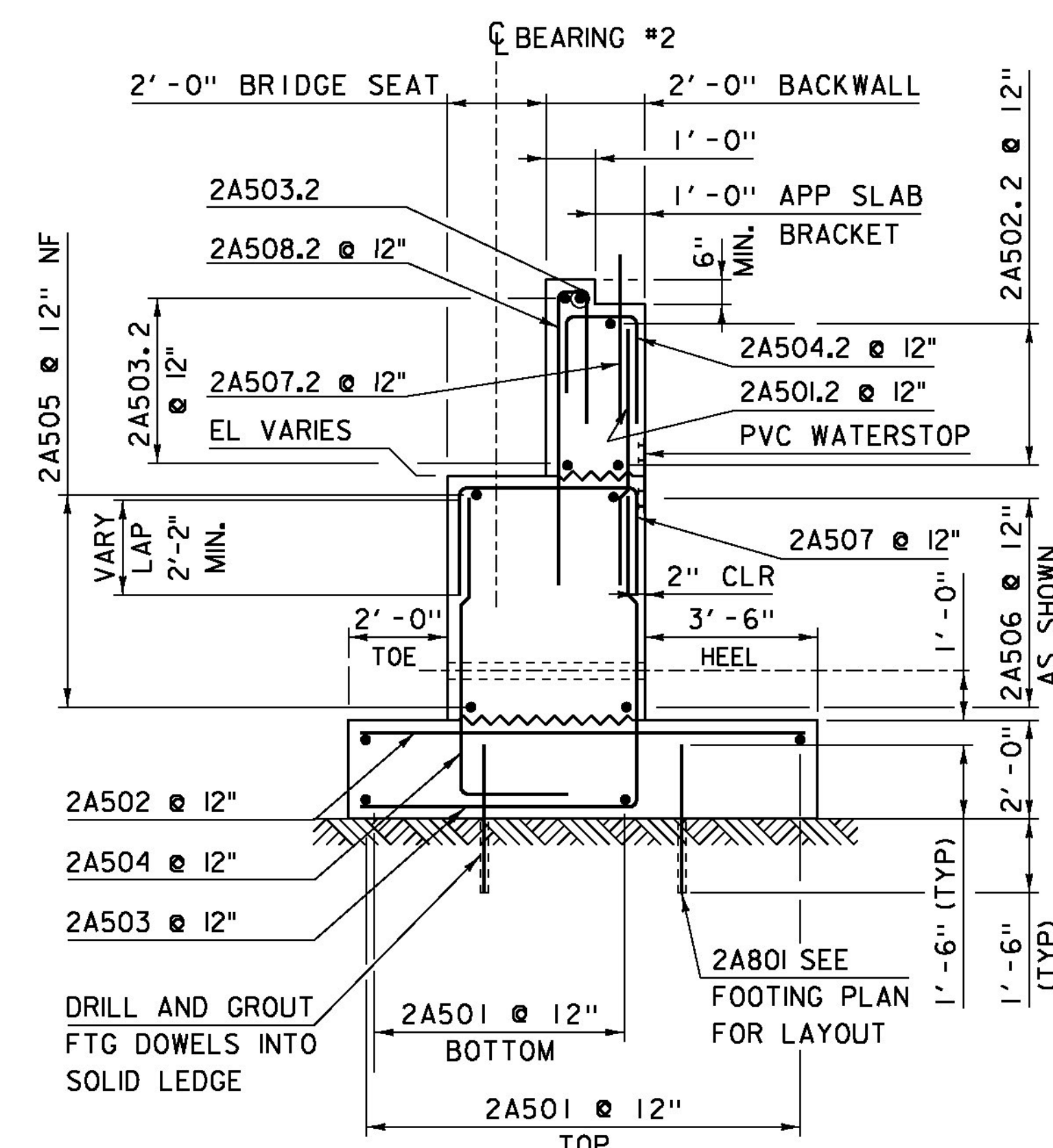
**ABUTMENT #2 PLAN**

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



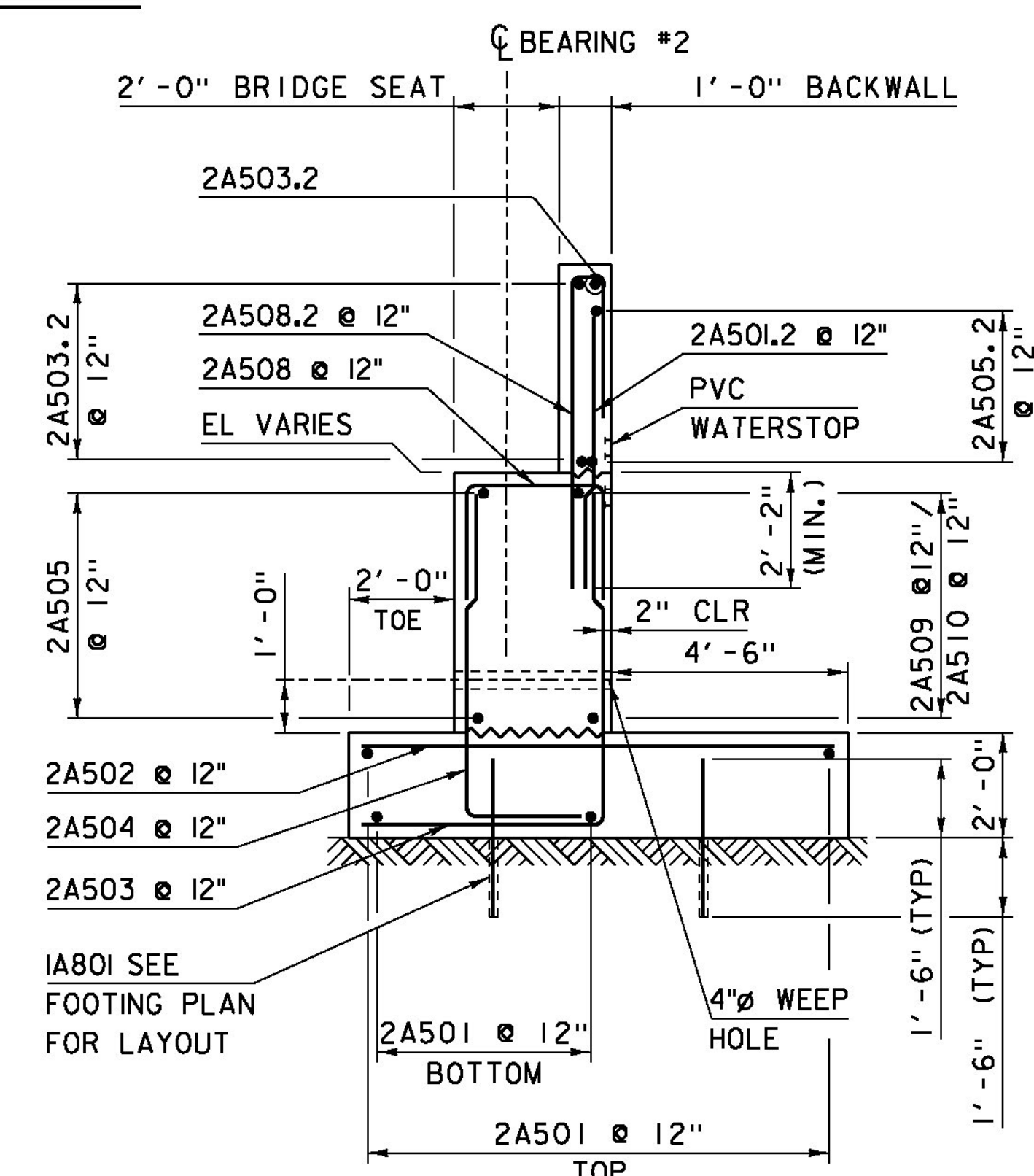
**ABUTMENT #2 ELEVATION**

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



**ABUTMENT #2 TYPICAL**

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



**SECTION B-B**

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

**NOTE:**

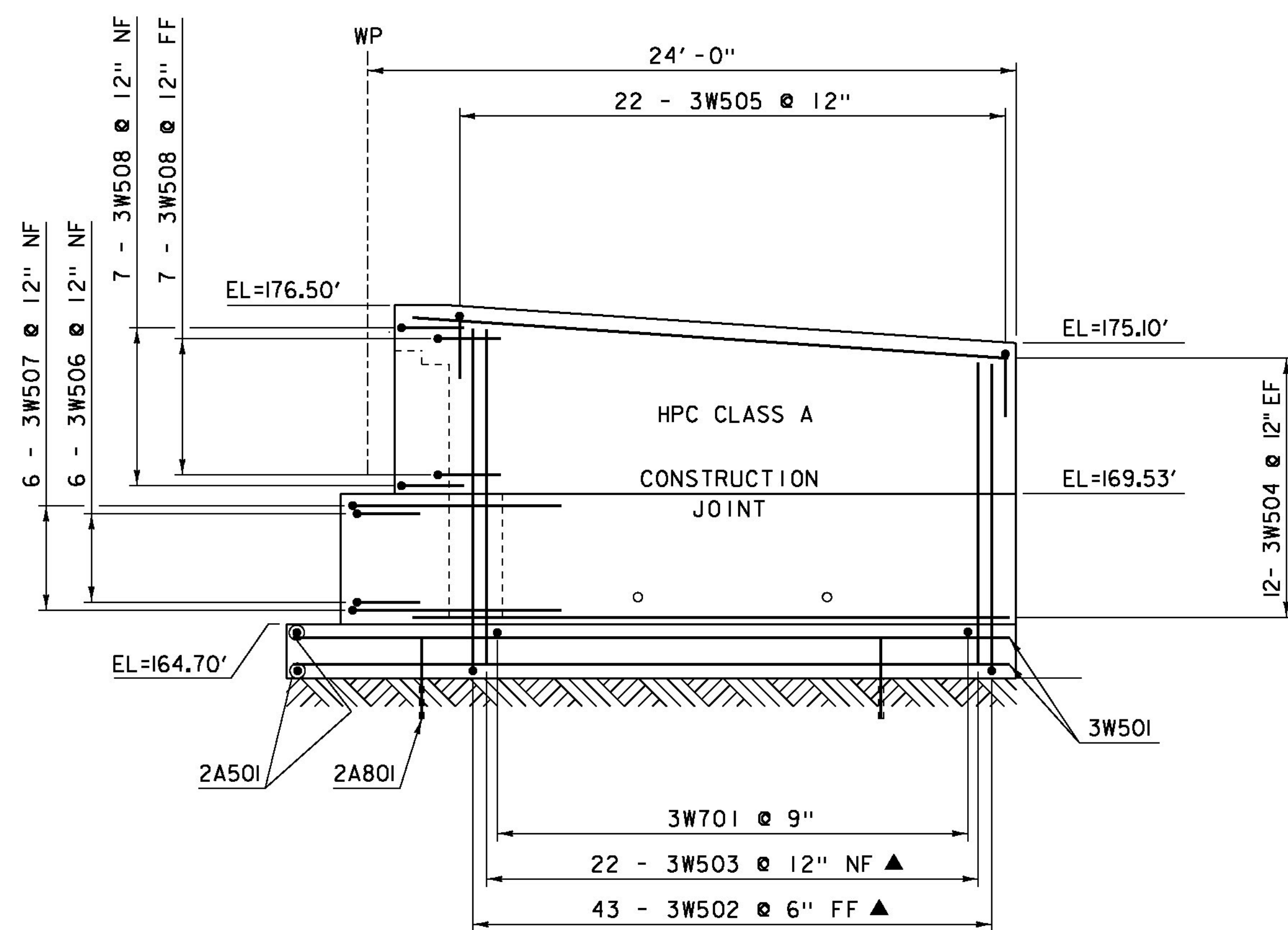
NF = NEAR FACE  
FF = FAR FACE  
EF = EACH FACE  
▲ = CUT TO FIT IN FIELD  
3" CLEAR, UNLESS OTHERWISE  
SPECIFIED ON THE PLANS.  
2'-2" BAR LAP UNLESS OTHERWISE  
SPECIFIED ON THE PLANS.

PROJECT NAME: COLCHESTER  
PROJECT NUMBER: STP 5600 (12)

FILE NAME: s95j298sub.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: J. GRIFFIN  
ABUTMENT #2 PLAN & ELEVATION

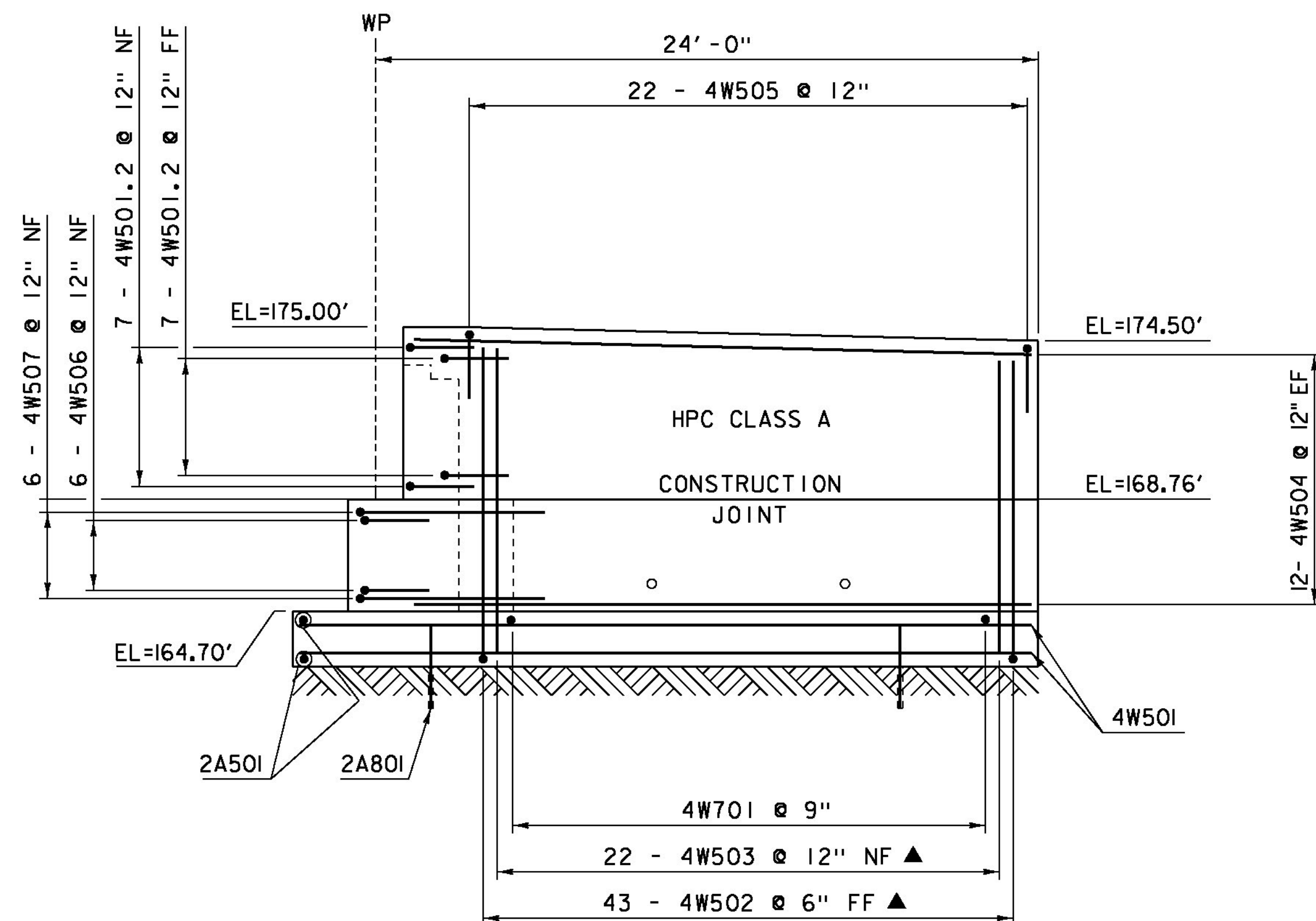
PLOT DATE: 12-JAN-2015  
DRAWN BY: M. UMBERGER  
CHECKED BY: N. VANDENBERG  
SHEET 31 OF 53





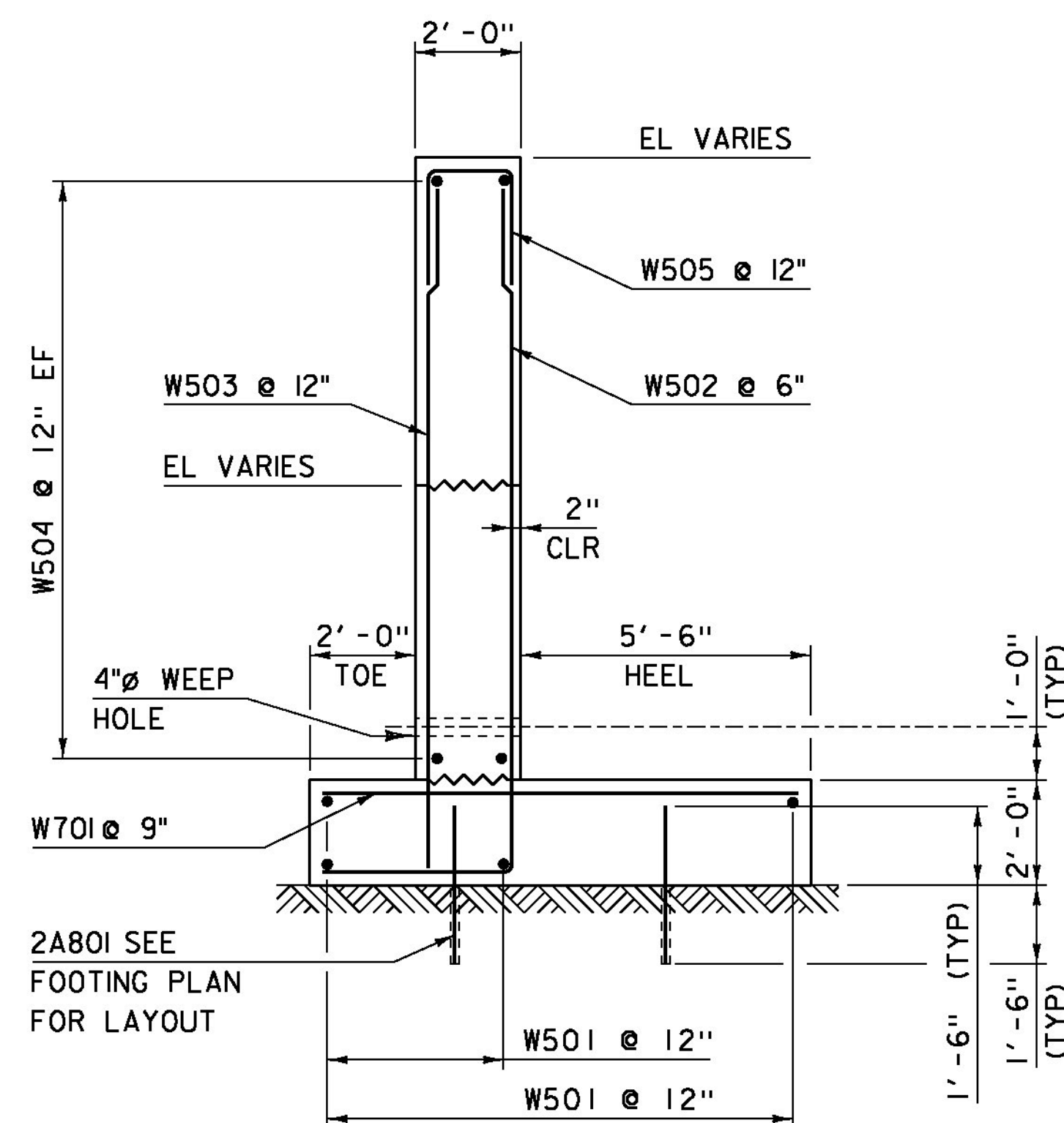
WINGWALL #3 REINFORCING ELEVATION

SCALE 1/4" = 1'-0"



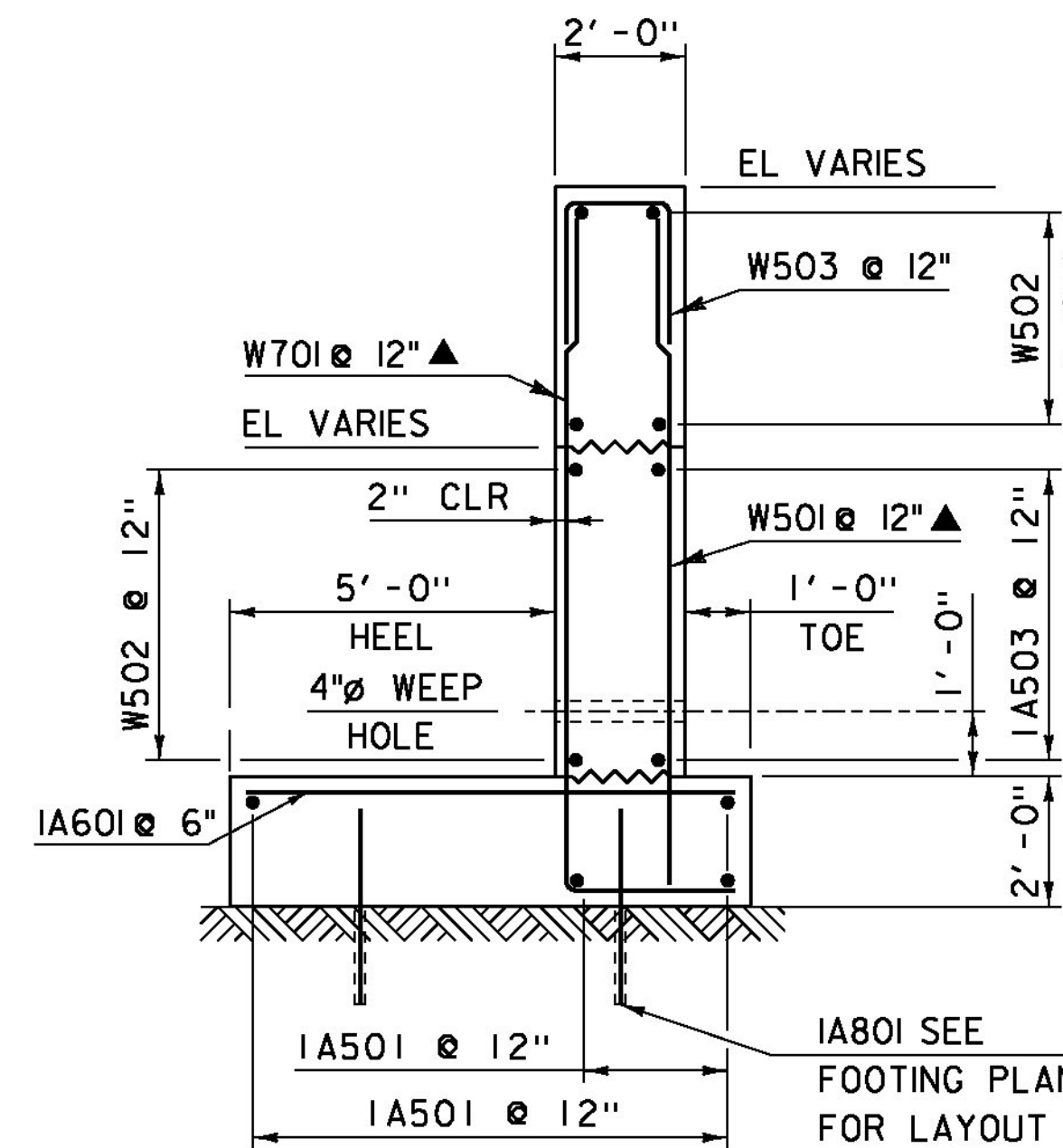
WINGWALL #4 REINFORCING ELEVATION

SCALE 1/4" = 1'-0"



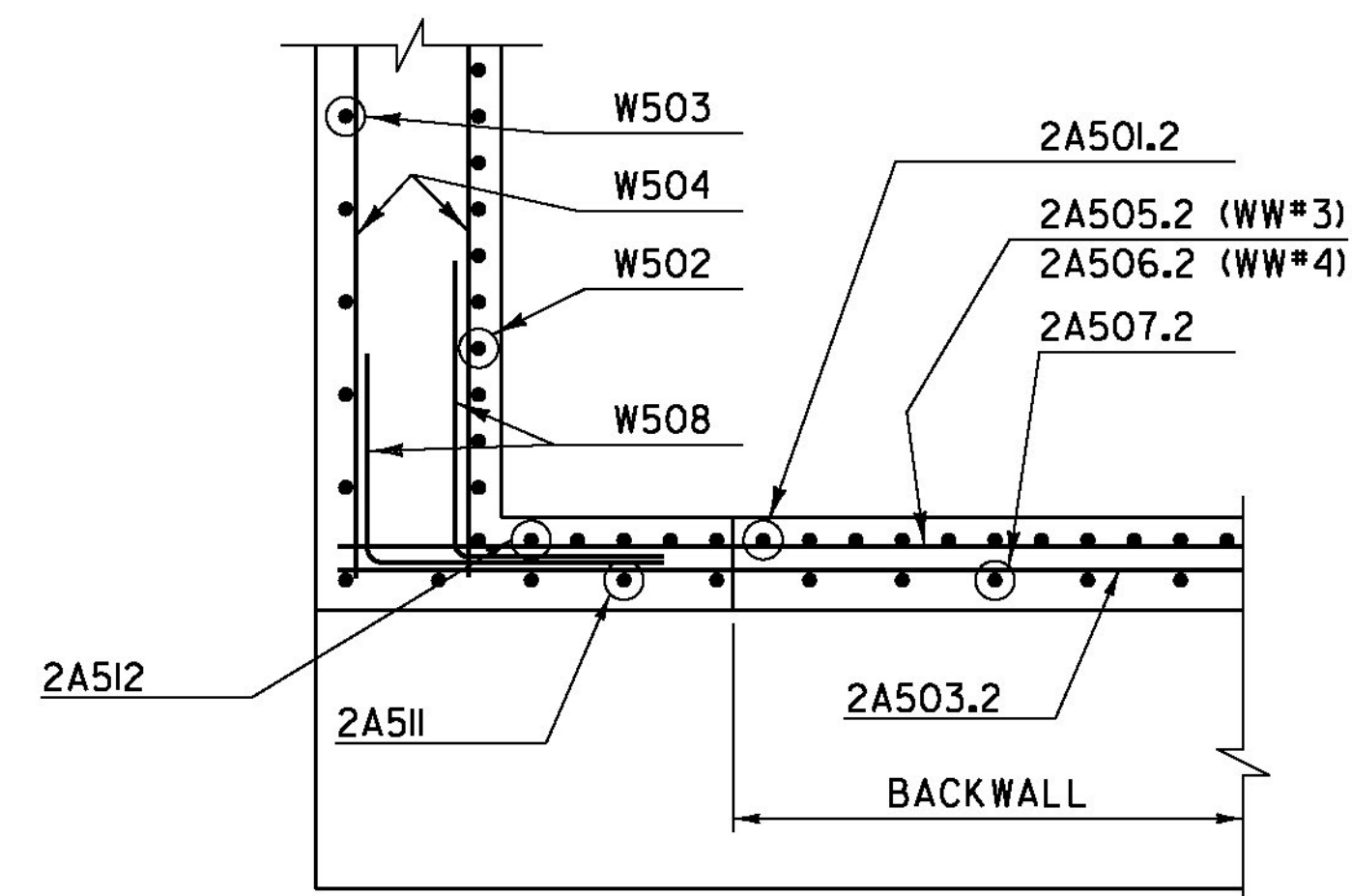
WINGWALL #3 & #4 TYPICAL

SCALE 3/8" = 1'-0"



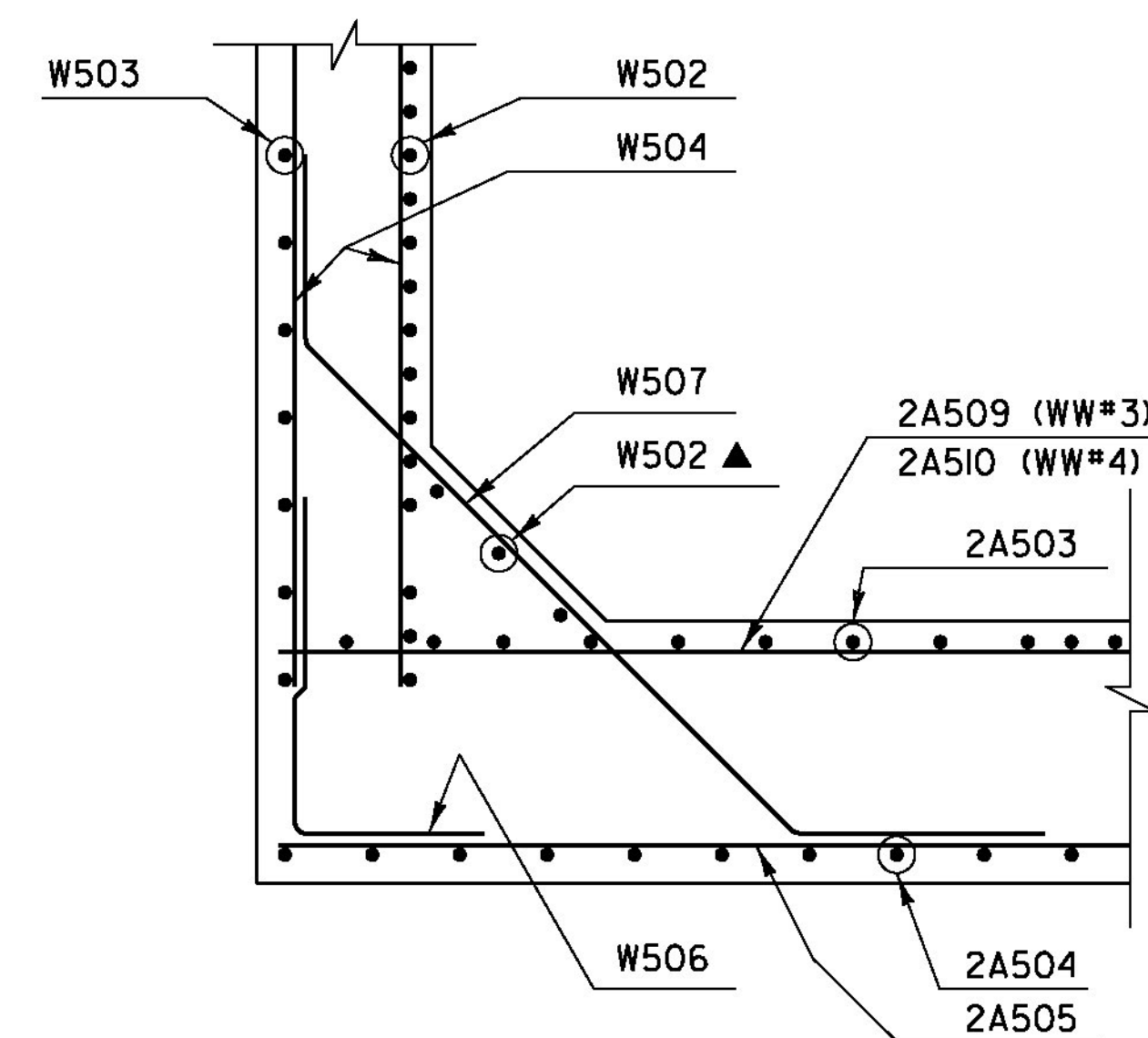
WINGWALL #1 & #2 TYPICAL

SCALE 3/8" = 1'-0"



WINGWALL #3 & #4  
CORNER DETAIL  
(ABOVE BRIDGE SEAT)

SCALE: 1/2" = 1'-0"



WINGWALL #3, #4  
CORNER DETAIL  
(BELOW BRIDGE SEAT)

SCALE: 1/2" = 1'-0"

NOTE:

NF = NEAR FACE  
FF = FAR FACE  
EF = EACH FACE  
▲ = CUT TO FIT IN FIELD  
3" CLEAR, UNLESS OTHERWISE  
SPECIFIED ON THE PLANS.  
2'-2" BAR LAP UNLESS OTHERWISE  
SPECIFIED ON THE PLANS.

PROJECT NAME: COLCHESTER  
PROJECT NUMBER: STP 5600 (12)

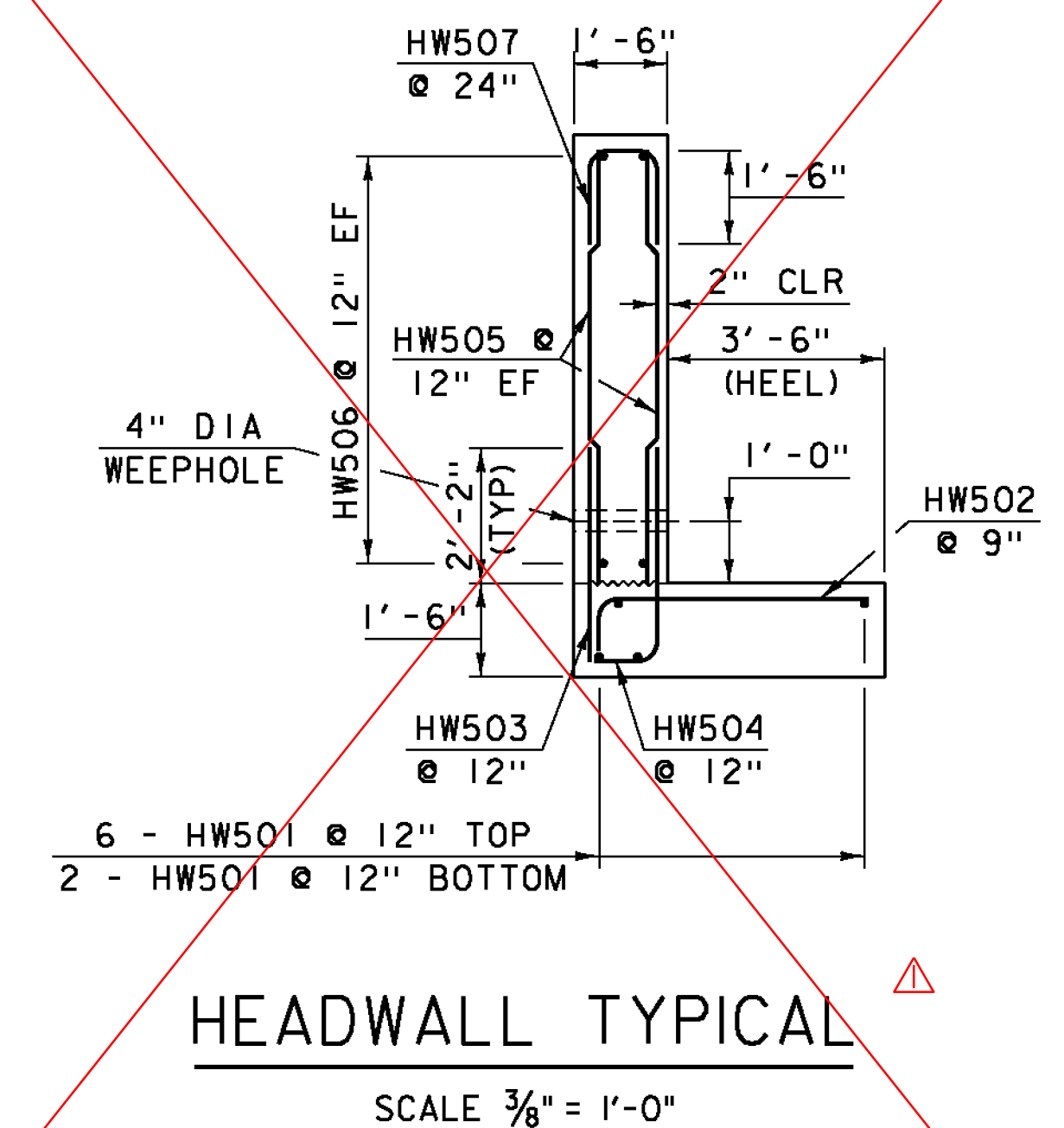
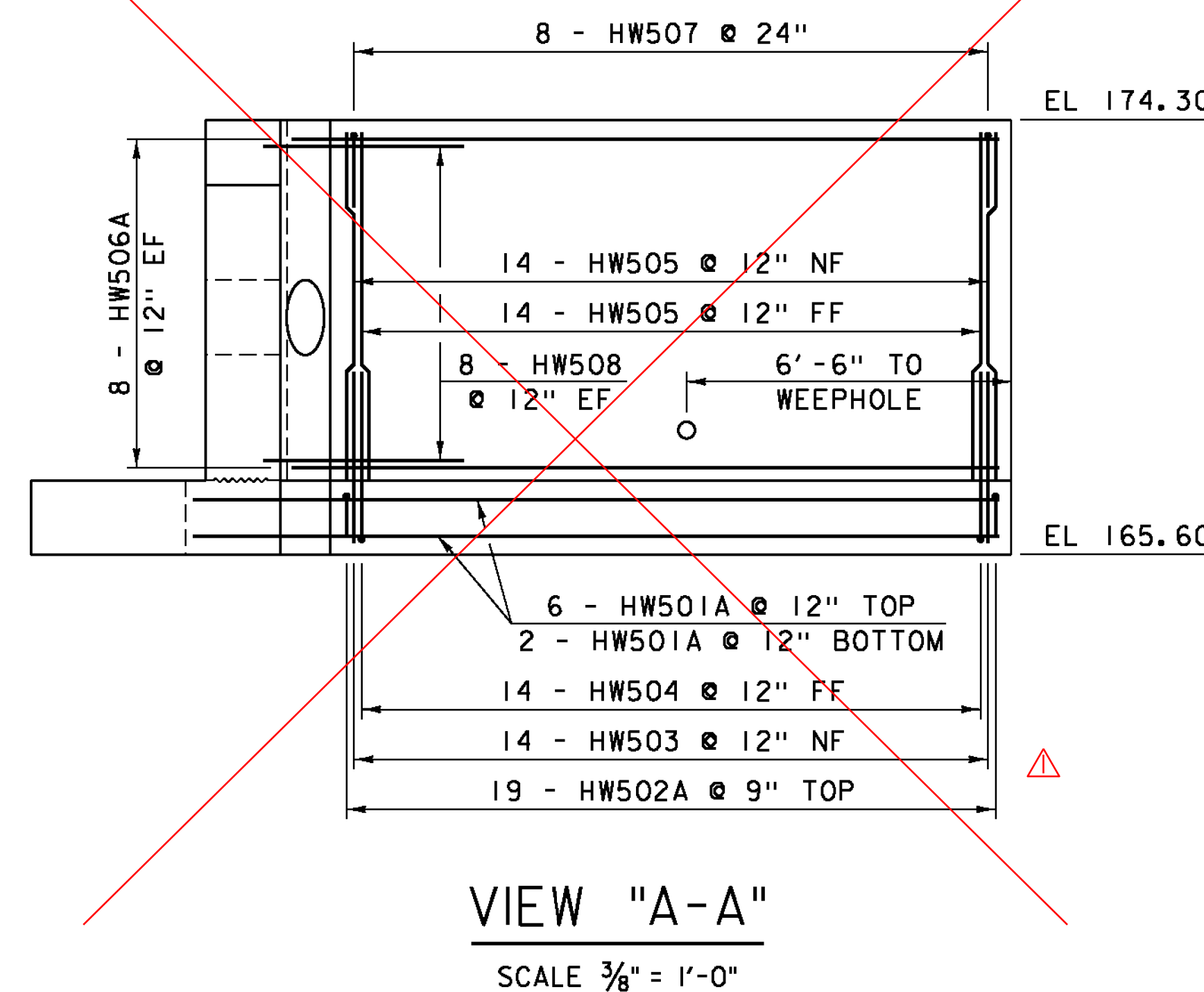
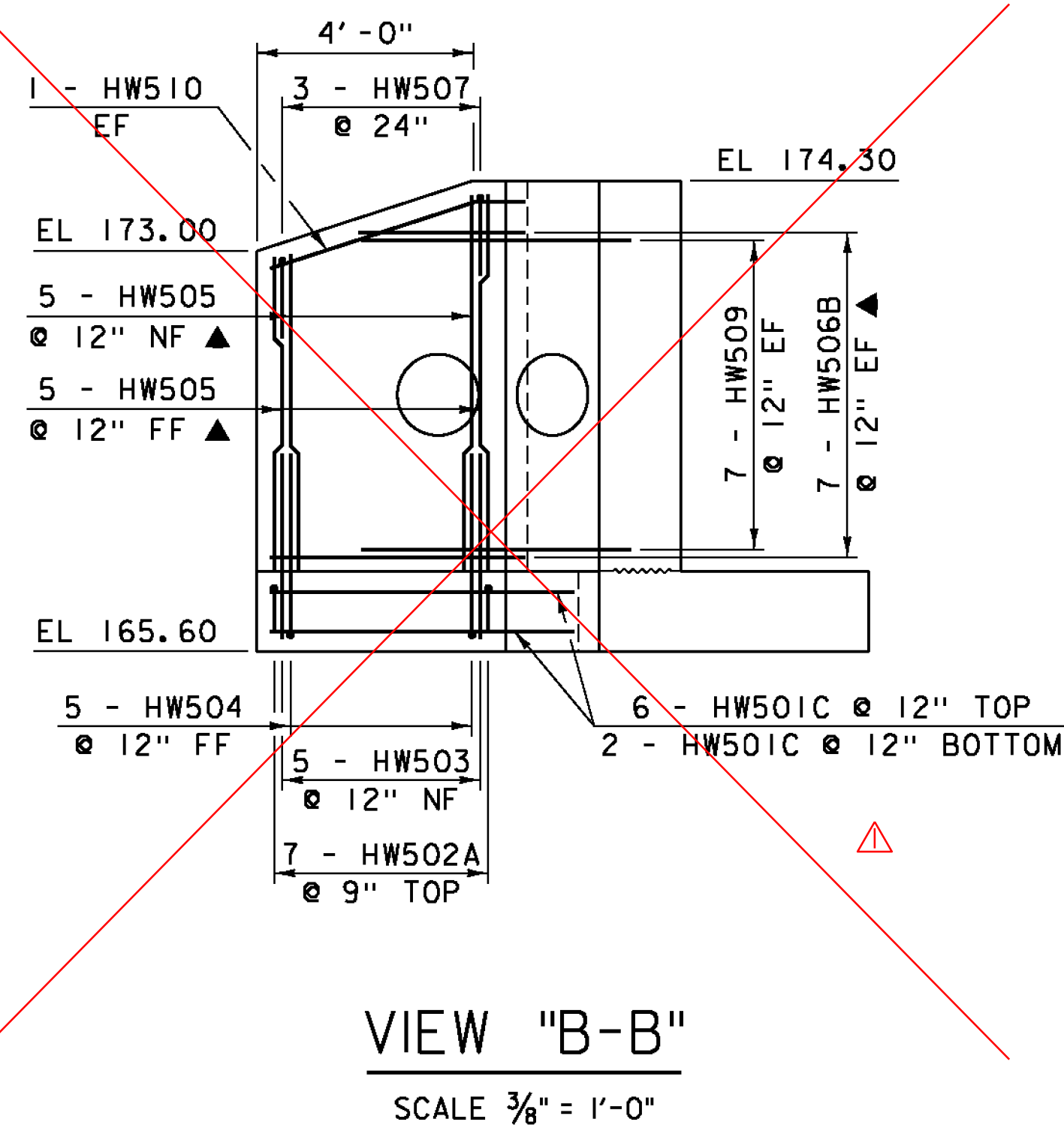
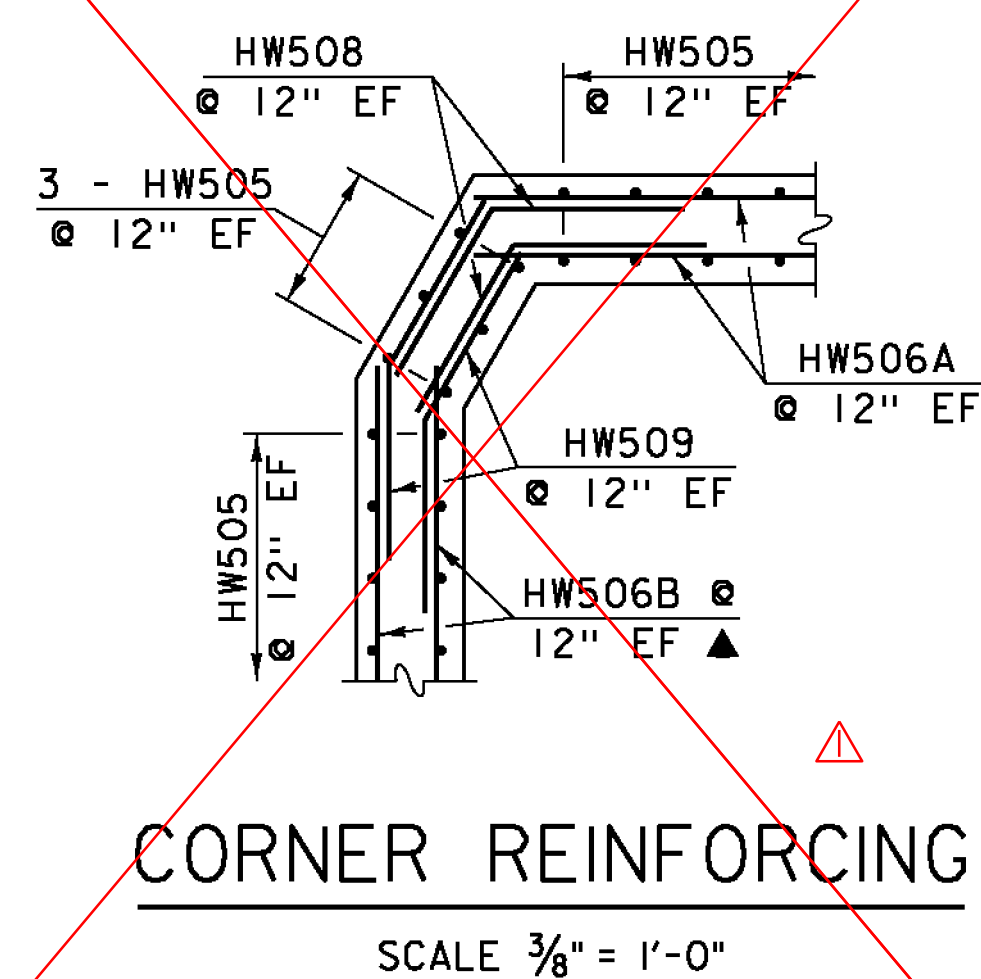
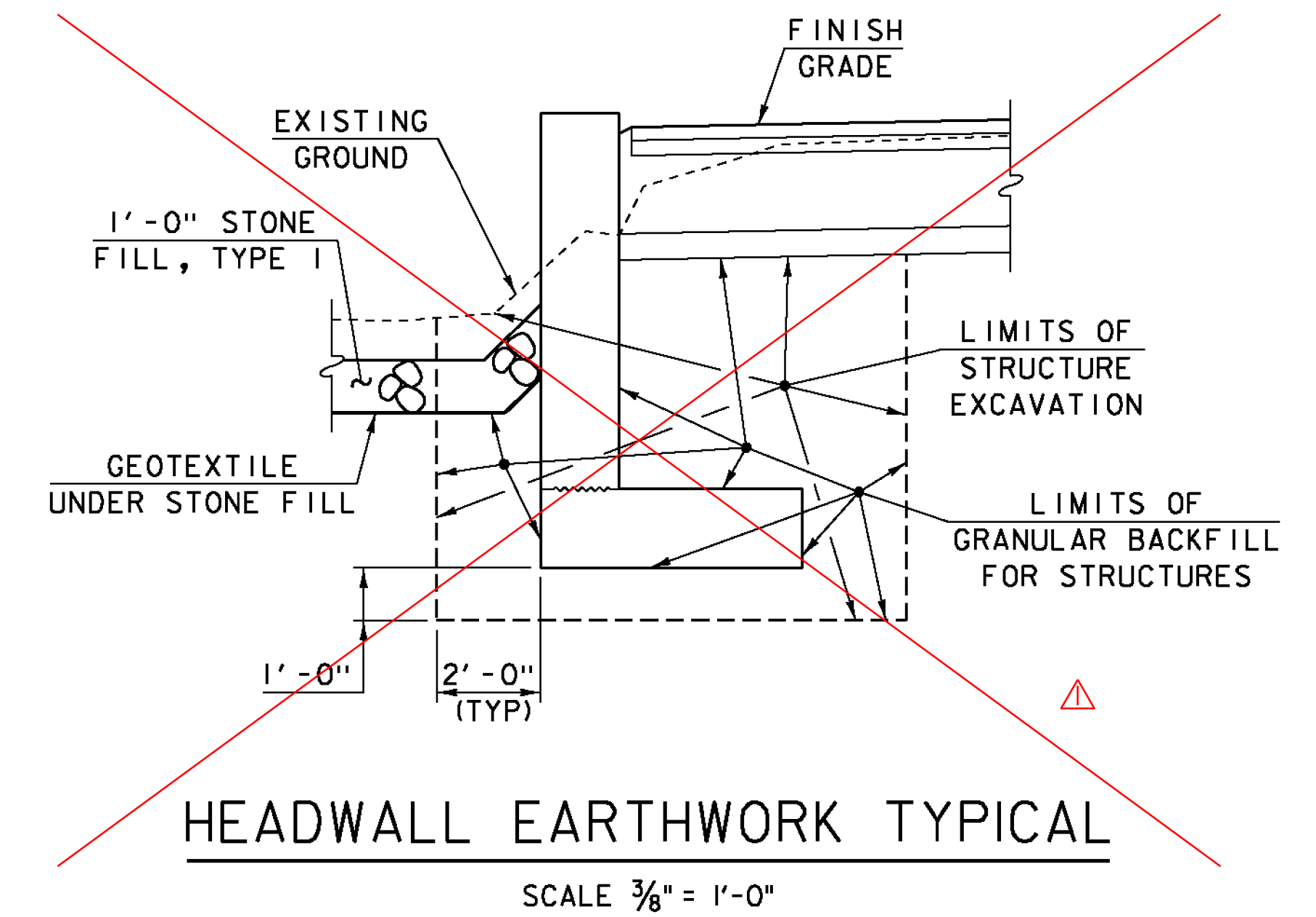
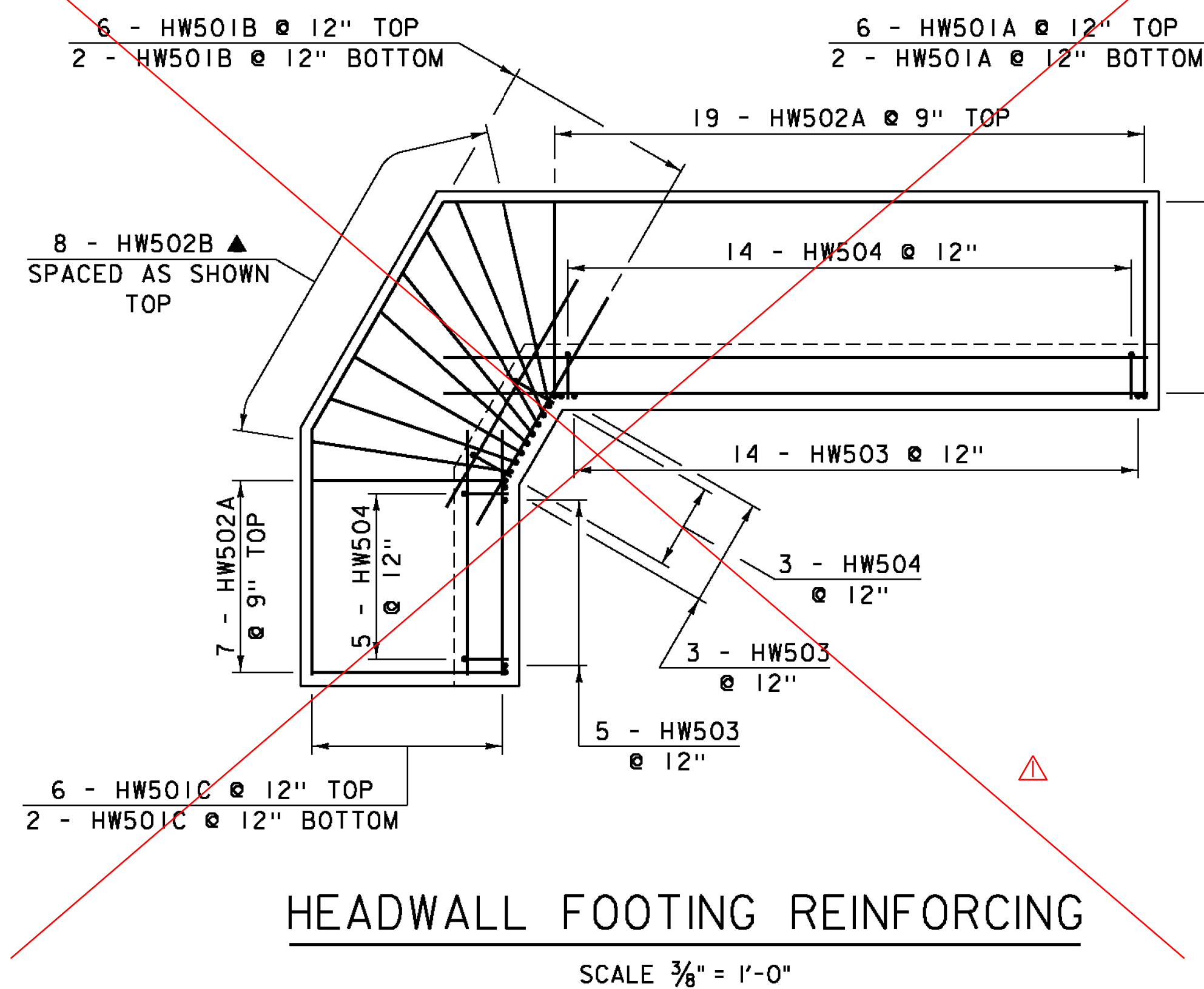
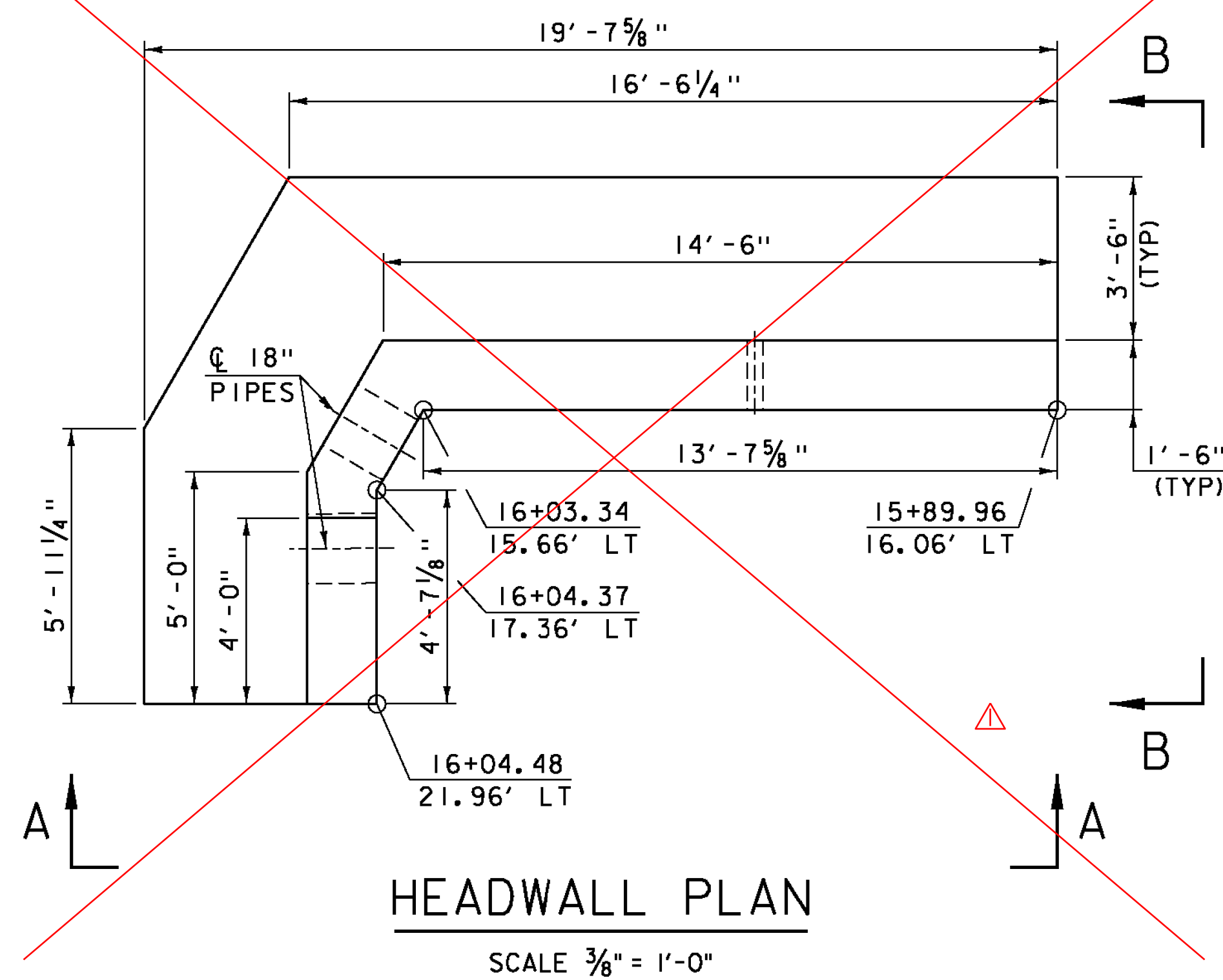
FILE NAME: s95j298sub.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: J. GRIFFIN  
WINGWALL #3 & #4 ELEVATIONS

PLOT DATE: 26-JAN-2015  
DRAWN BY: M. UMBERGER  
CHECKED BY: N. VANDENBERG  
SHEET 32 OF 53









**NOTE:**  
NF = NEAR FACE  
FF = FAR FACE  
EF = EACH FACE  
▲ = CUT TO FIT IN FIELD  
3" CLEAR, UNLESS OTHERWISE  
SPECIFIED ON THE PLANS.  
2'-2" BAR LAP UNLESS OTHERWISE  
SPECIFIED ON THE PLANS.

KEY	DATE	BY	REVISION
△	04/21/2015	VAOT	ELIMINATE HEADWALL

PROJECT NAME:	COLCHESTER
PROJECT NUMBER:	STP 5600 (I2)
FILE NAME:	s95j298xs.dgn
PROJECT LEADER:	C. CARLSON
DESIGNED BY:	G. ROY
HEADWALL DETAILS	
PLOT DATE:	12-JAN-2015
DRAWN BY:	G. ROY
CHECKED BY:	H. SALLS
SHEET	34 OF 53



# REINFORCING STEEL SCHEDULE

## ~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-SI). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. * DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.

ASTM STANDARD REINFORCING BARS				
BAR SIZE (IN)	YIELD STRENGTH (KSI)	TENSILE STRENGTH (KSI)	ELONGATION (IN)	WELDING EQUIV.
#3	0.376	0.375	0.11	1.178
#4	0.668	0.500	0.20	1.571
#5	1.043	0.625	0.31	1.963
#6	1.502	0.750	0.44	2.356
#7	2.04	0.875	0.60	2.749
#8	2.670	1.000	0.79	3.14
#9	3.400	1.13	1.00	3.54
#10	4.3	1.270	1.27	3.990
#11	5.31	1.410	1.56	4.430
#14	7.65	1.69	2.25	5.32
#18	13.60	2.26	4.00	7.09

## ~ REINFORCING STEEL CORROSION RESISTANCE LEVEL ~

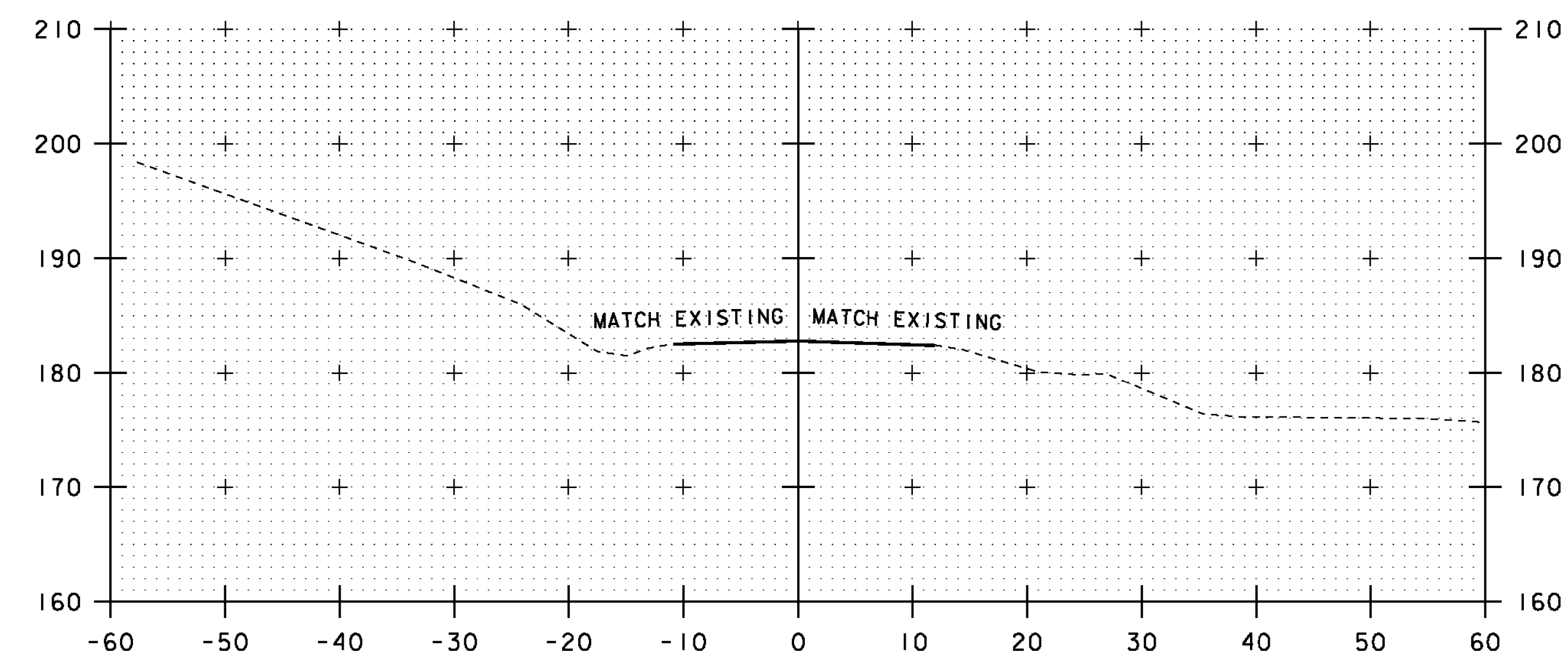
THE REINFORCING STEEL MARKS IN THIS SCHEDULE INDICATE THE REQUIRED BAR CORROSION RESISTANCE LEVEL. CORROSION RESISTANCE LEVEL IS DENOTED WITH A .2 FOR LEVEL TWO SUFFIX OR .3 FOR LEVEL THREE SUFFIX. .1 FOR LEVEL ONE IS TO BE OMITTED. THE BAR MATERIAL TYPE AND BAR STEEL GRADE PROVIDED FOR EACH CORROSION LEVEL WILL BE RECORDED ON THE PLAN SET PI SHEET FOR AS-BUILT RECORD PLAN ARCHIVES.

PROJECT NAME: **COLCHESTER**  
PROJECT NUMBER: **STP 5600 (12)**

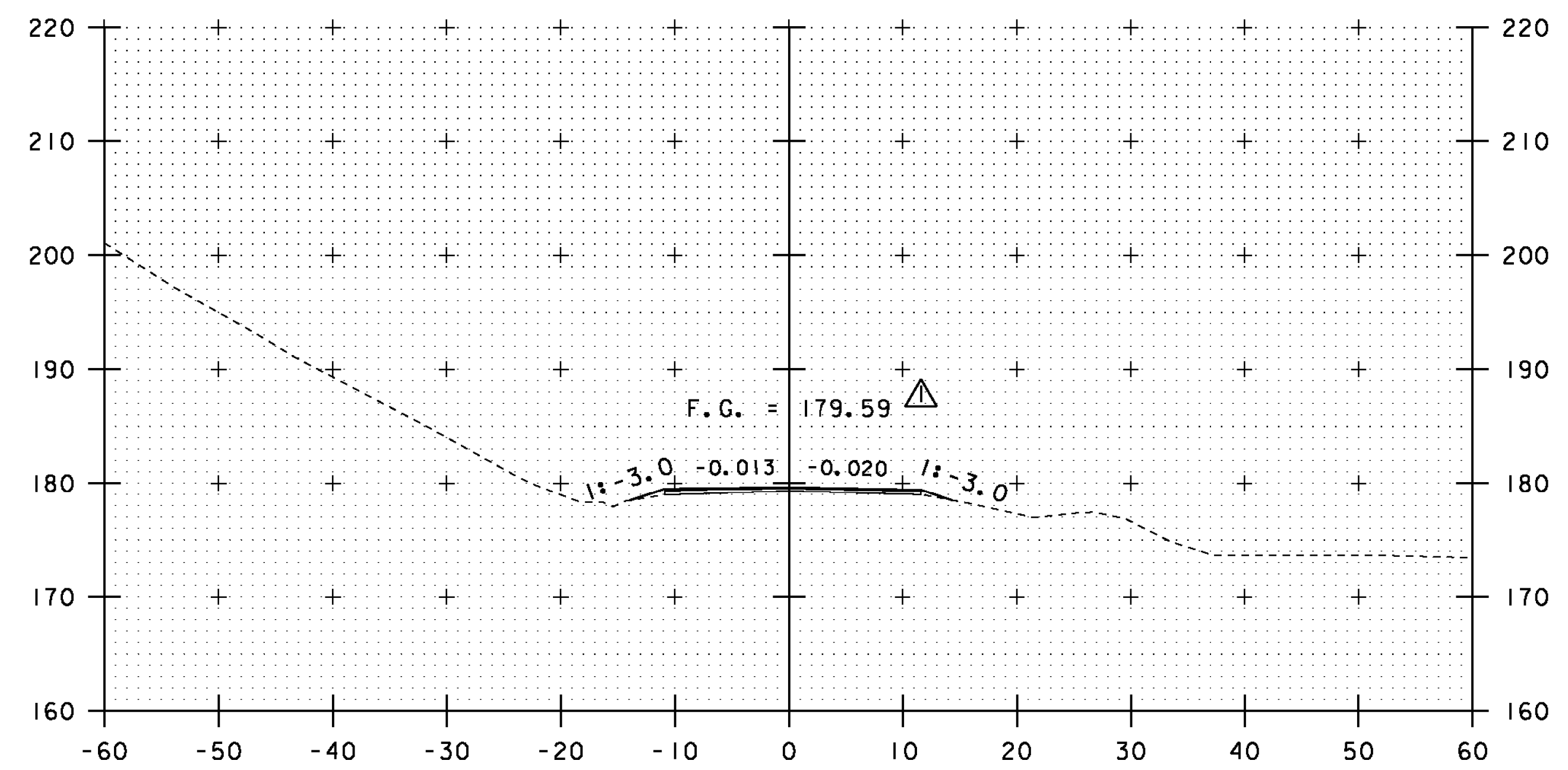
FILE NAME: **s95j298rss.xls**  
PROJECT MANAGER: **C. CARLSON**  
DESIGNED BY: **N. VANDENBURG**  
**REINFORCING STEEL SCHEDULE**

PLOT DATE: **12-JAN-2015**  
DRAWN BY: **R. PELLET**  
CHECKED BY: **N. VANDENBURG**  
SHEET **35** OF **53**

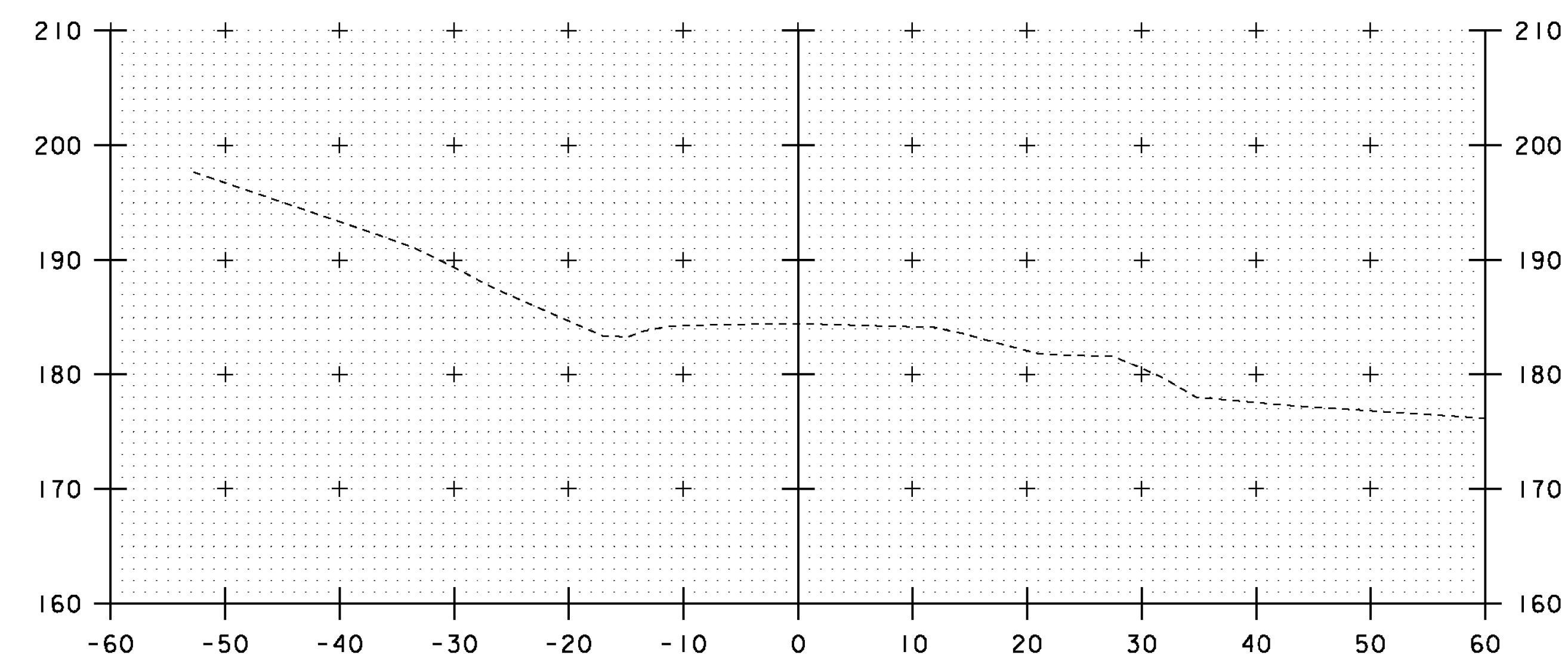




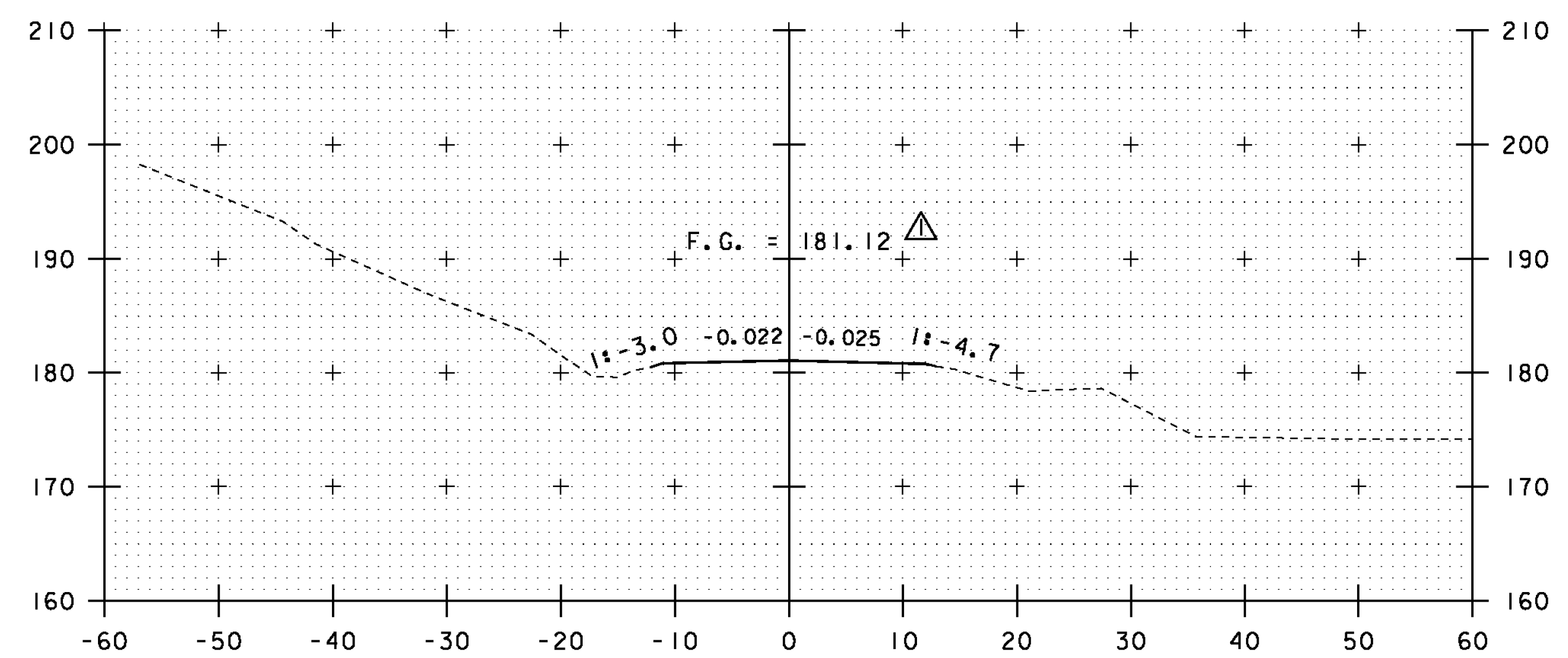
BEGIN APPROACH  
11+75



12+25



11+50



12+00

KEY	DATE	BY	REVISION
△	09/01/2015	VAOT	MODIFIED FINISH GRADE.

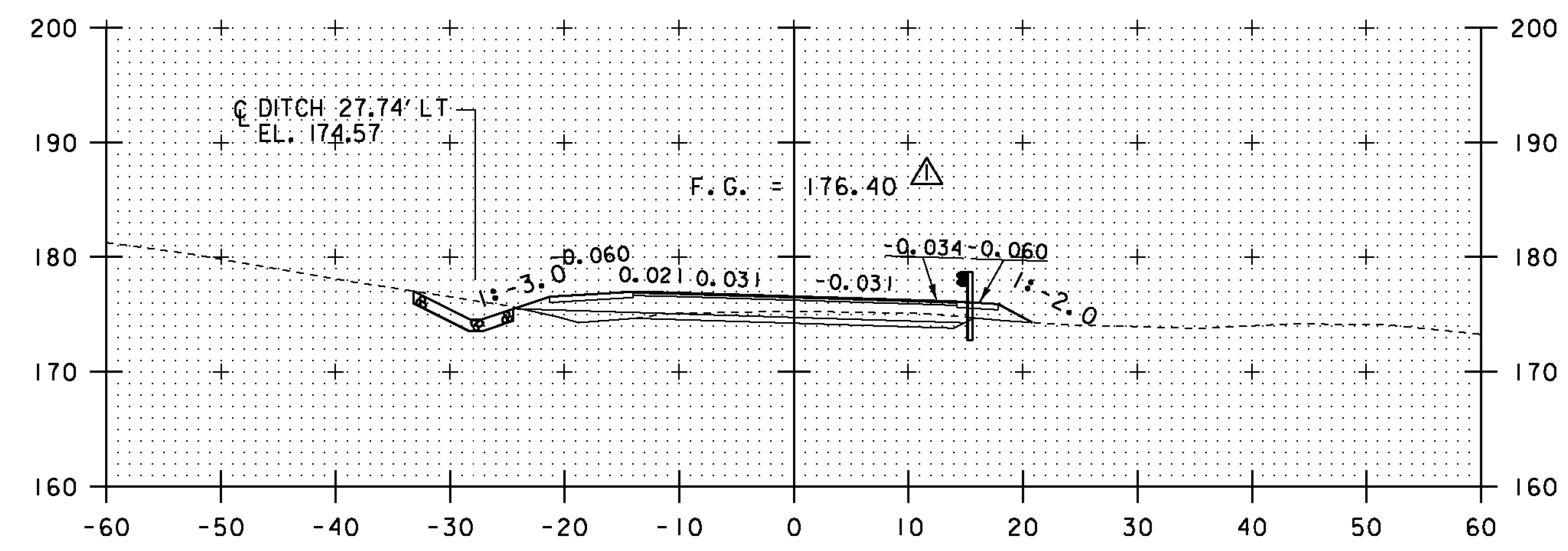
STA. 11+50 TO STA. 12+25

PROJECT NAME: COLCHESTER  
PROJECT NUMBER: STP 5600 (12)

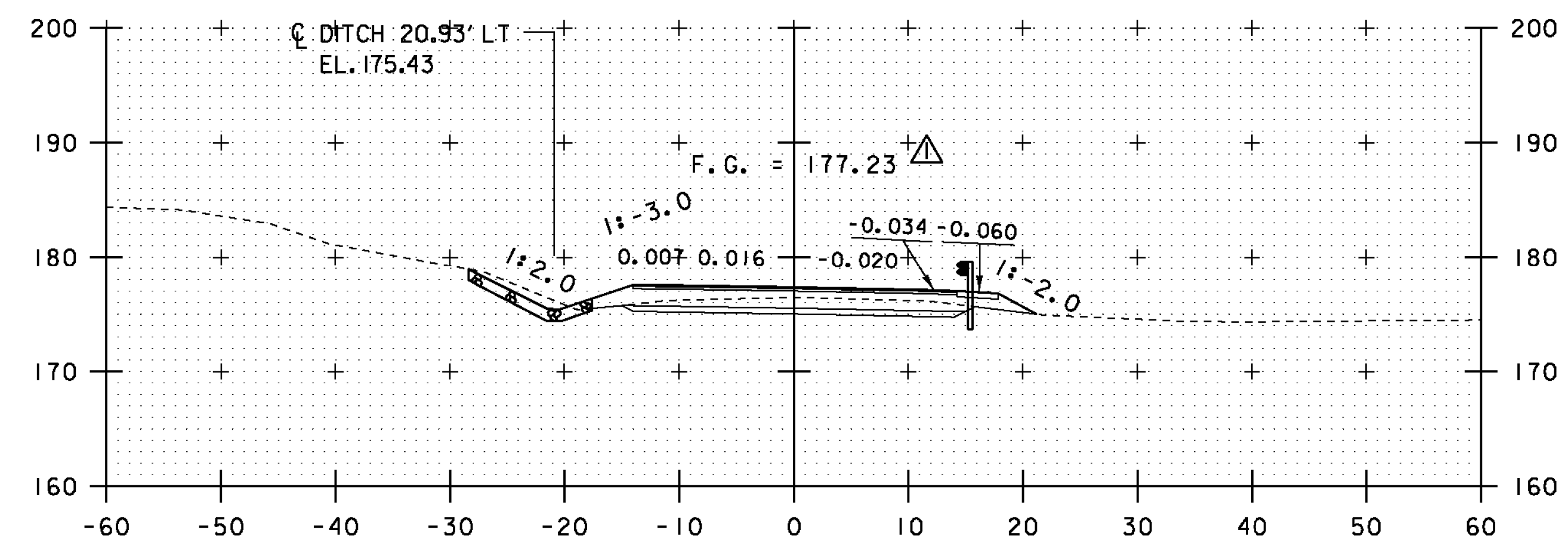
FILE NAME: s95j298xs.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: N. VANDERBERG  
ROADWAY CROSS SECTIONS I

PLOT DATE: 01-SEP-2015  
DRAWN BY: G. ROKES  
CHECKED BY: D. PETERSON  
SHEET 36 OF 53

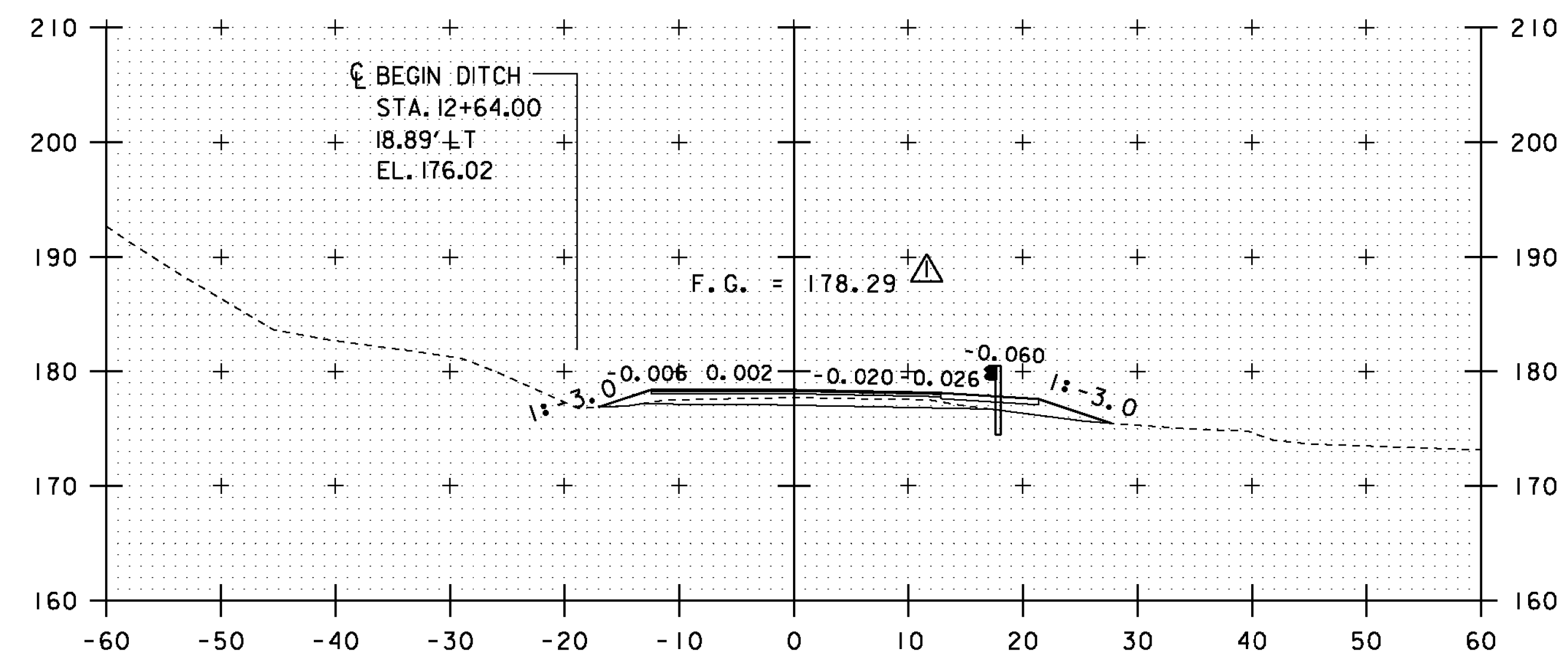




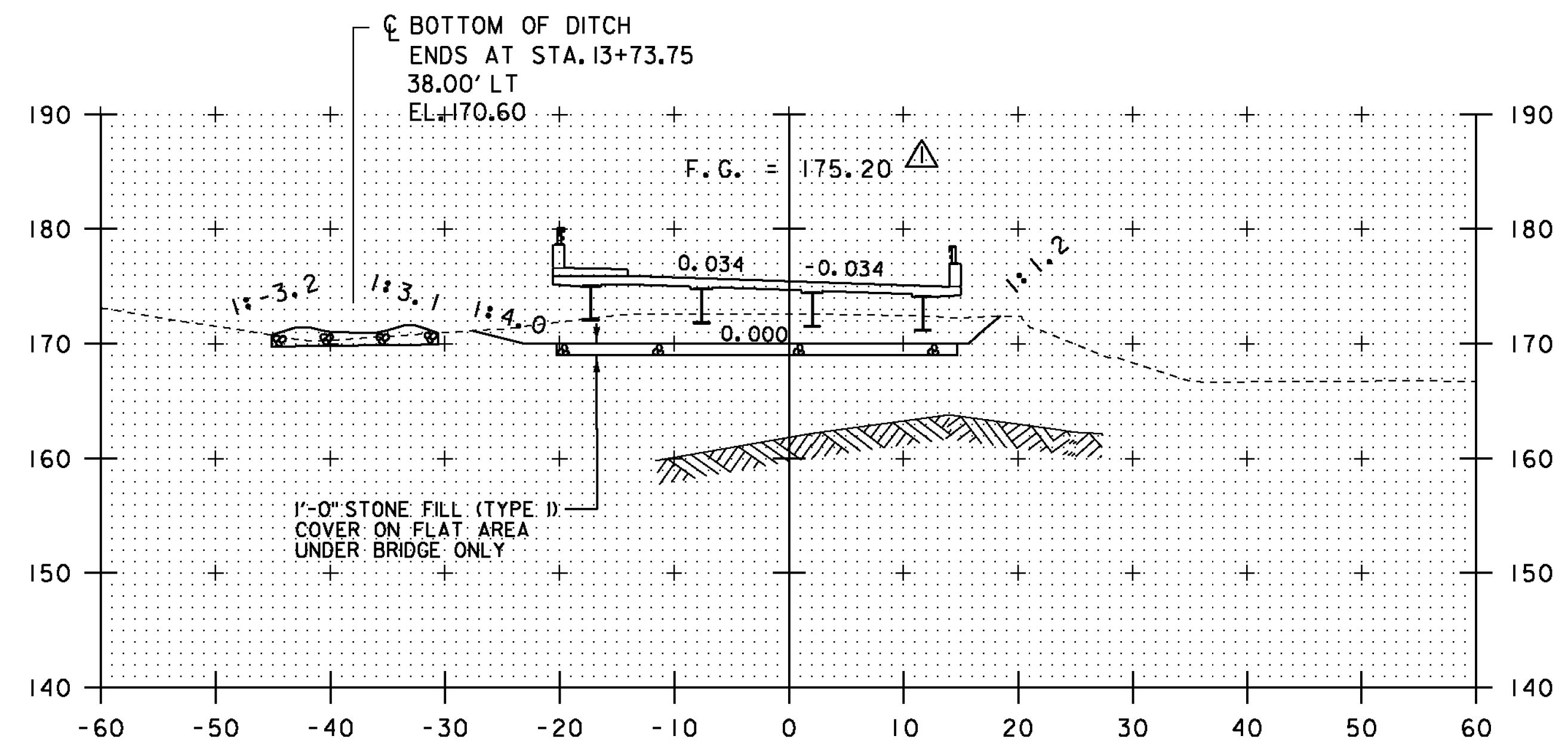
13+00



BEGIN PROJECT  
12+75

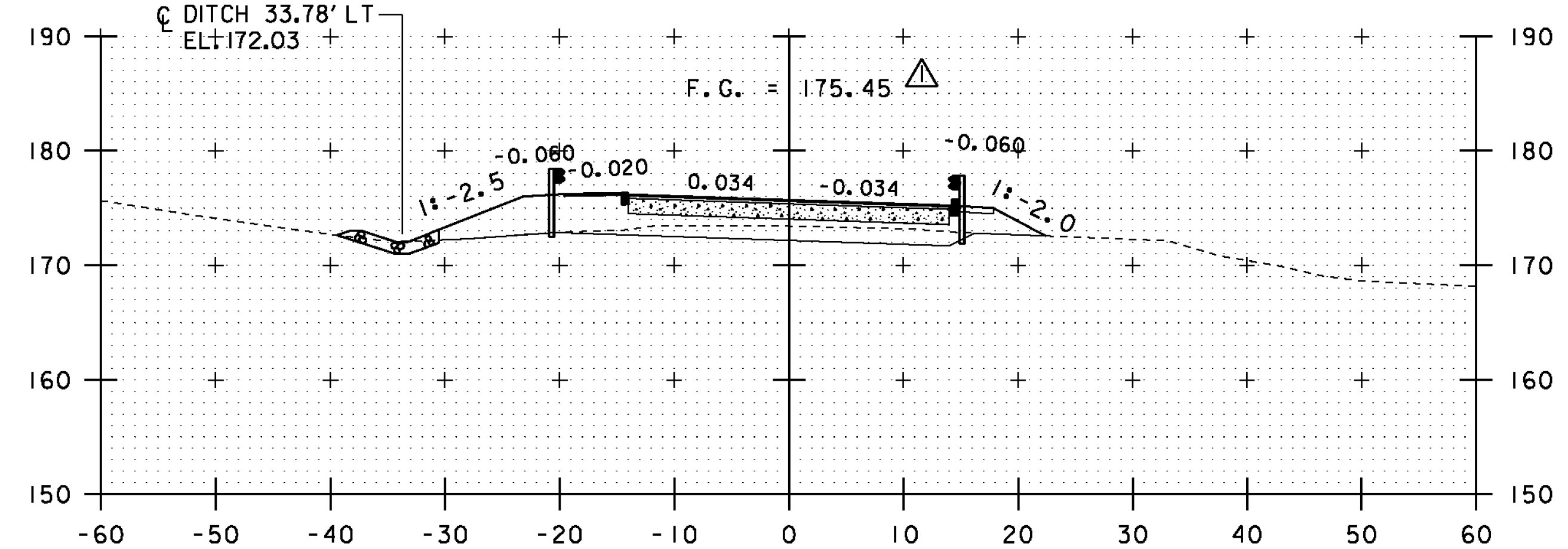


12+50

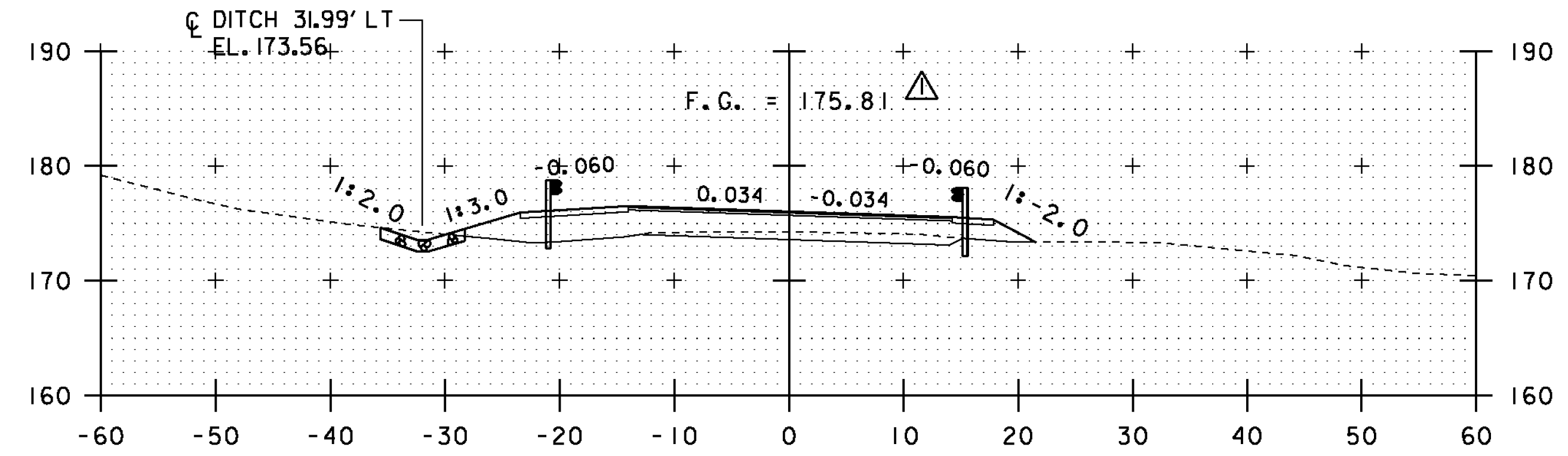


13+75

BEGIN BRIDGE STA. 13+60.00



13+50



13+25

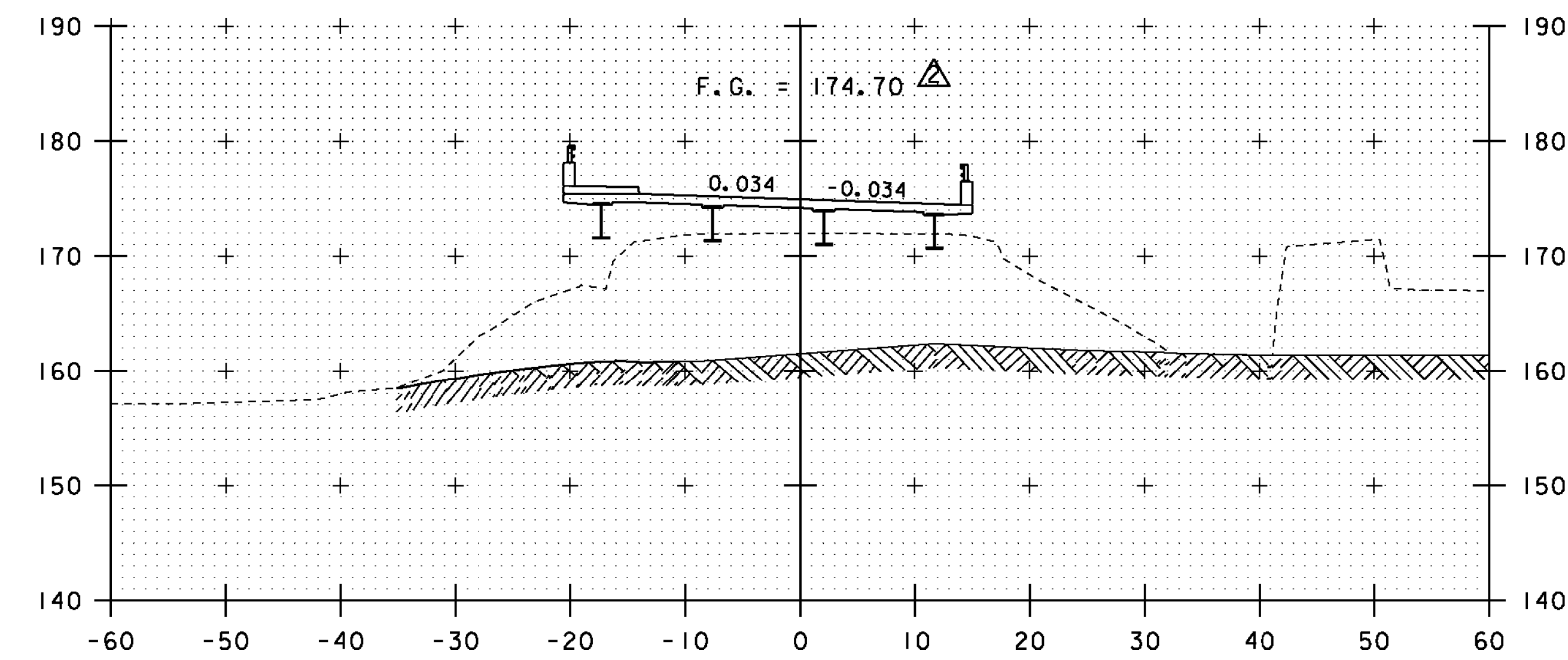
KEY	DATE	BY	REVISION
△	09/01/2015	VAOT	MODIFIED FINISH GRADE.

PROJECT NAME:	COLCHESTER
PROJECT NUMBER:	STP 5600 (I2)
FILE NAME:	s95j298xs.dgn
PROJECT LEADER:	C. CARLSON
DESIGNED BY:	N. VANDERBERG
ROADWAY CROSS SECTIONS 2	
PLOT DATE:	01-SEP-2015
DRAWN BY:	G. ROKES
CHECKED BY:	D. PETERSON
SHEET	37 OF 53

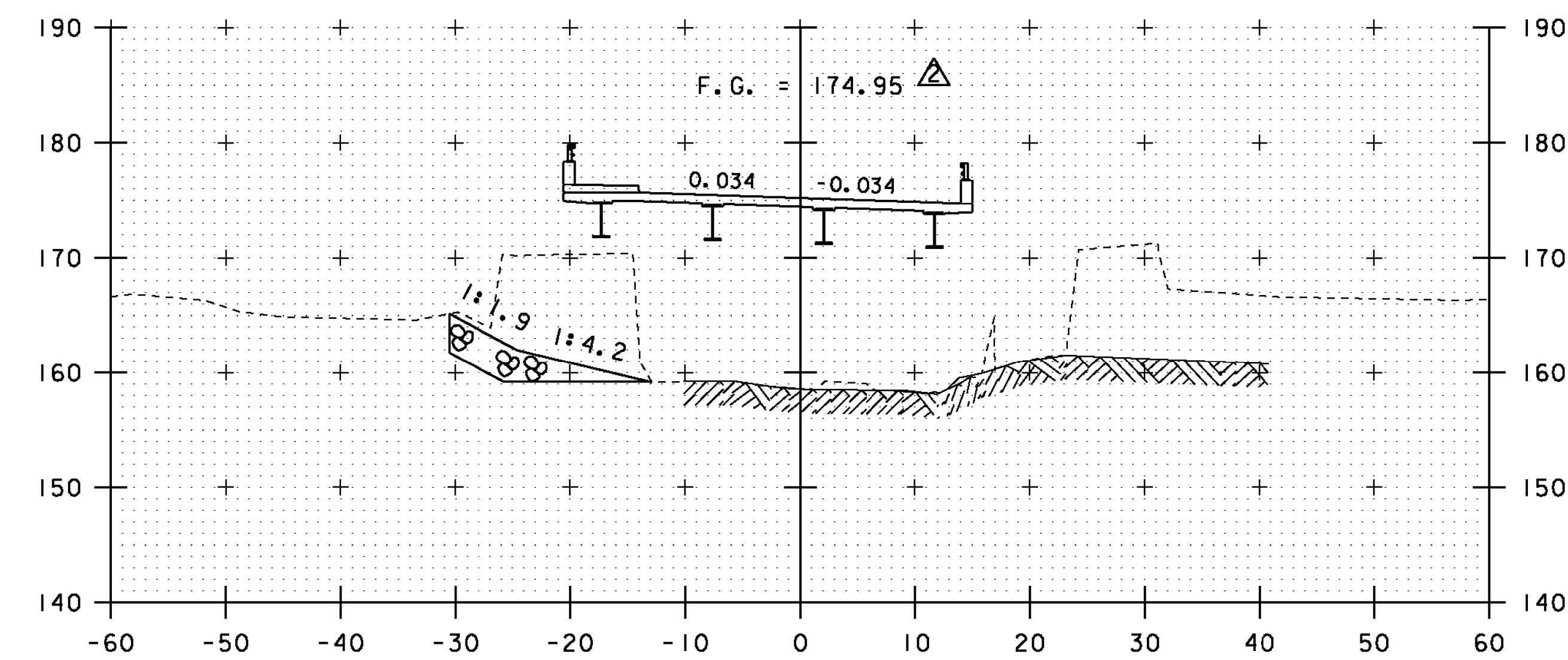
STA. 12+50 TO STA. 13+75



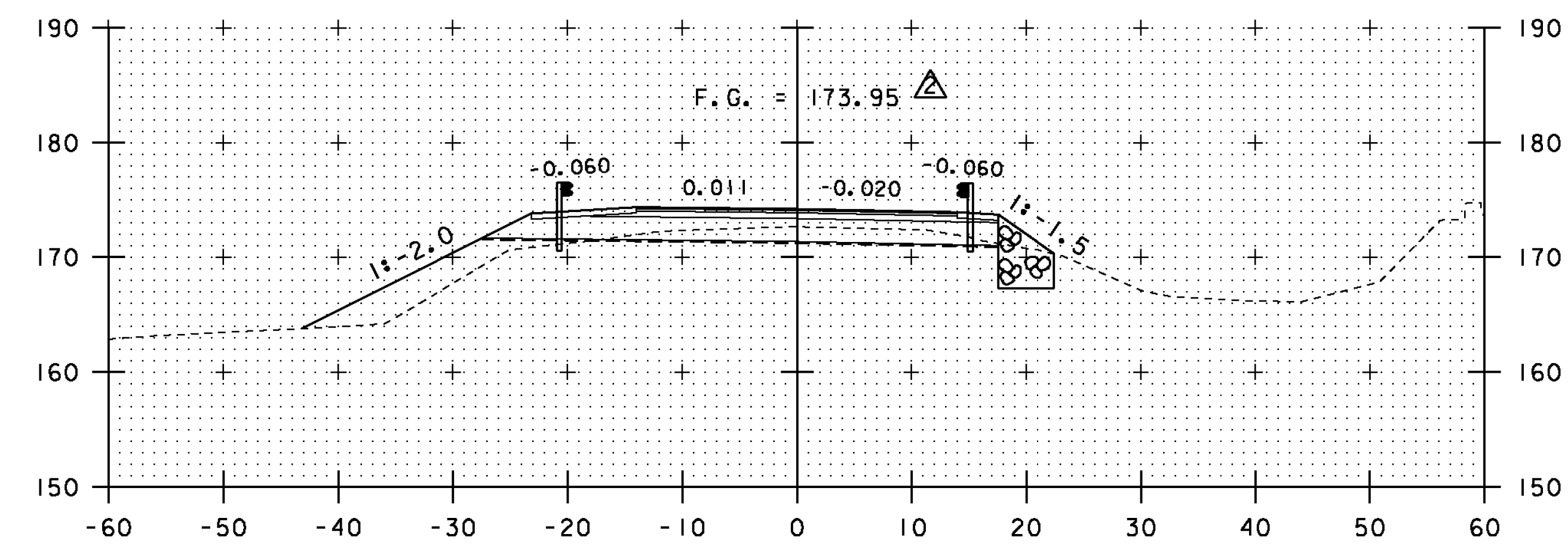
END BRIDGE STA. 14+34.00



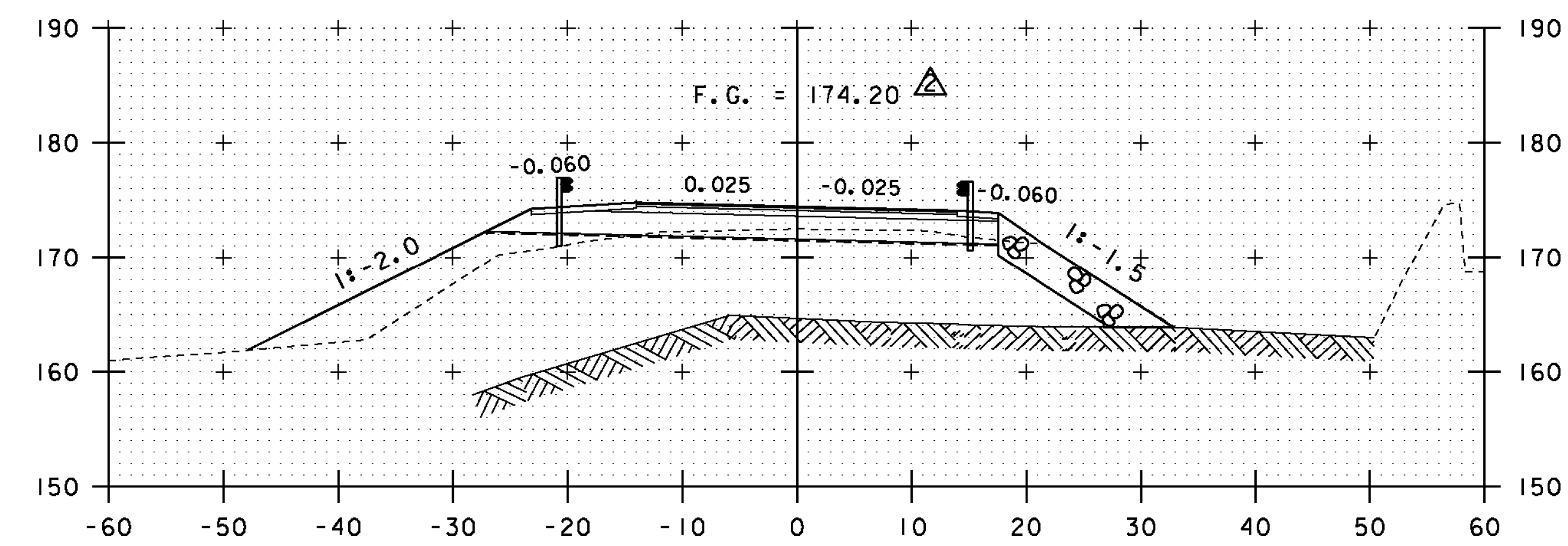
14+25



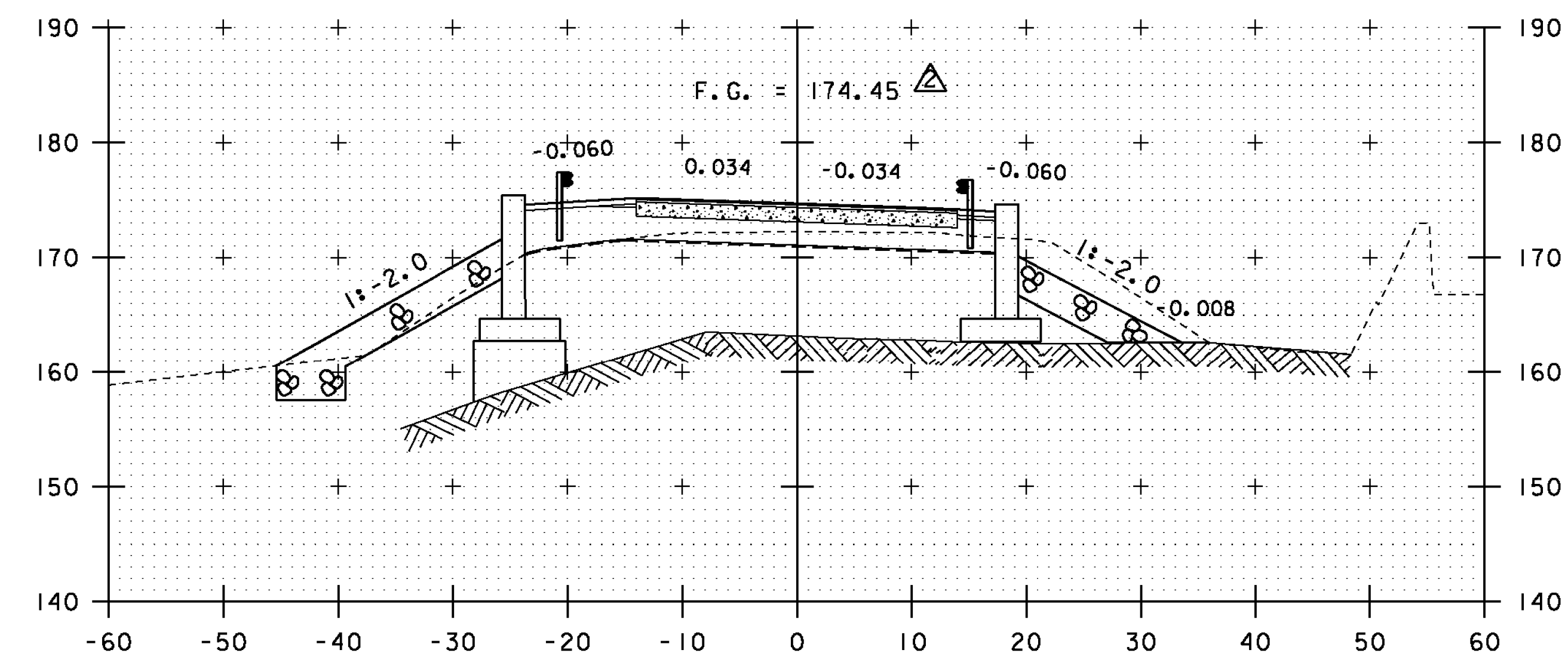
14+00



15+00



14+75



14+50

KEY	DATE	BY	REVISION
△	02/23/2015	VAOT	MODIFIED ROADWAY MATERIAL DEPTHS.
△	09/01/2015	VAOT	MODIFIED FINISH GRADE.

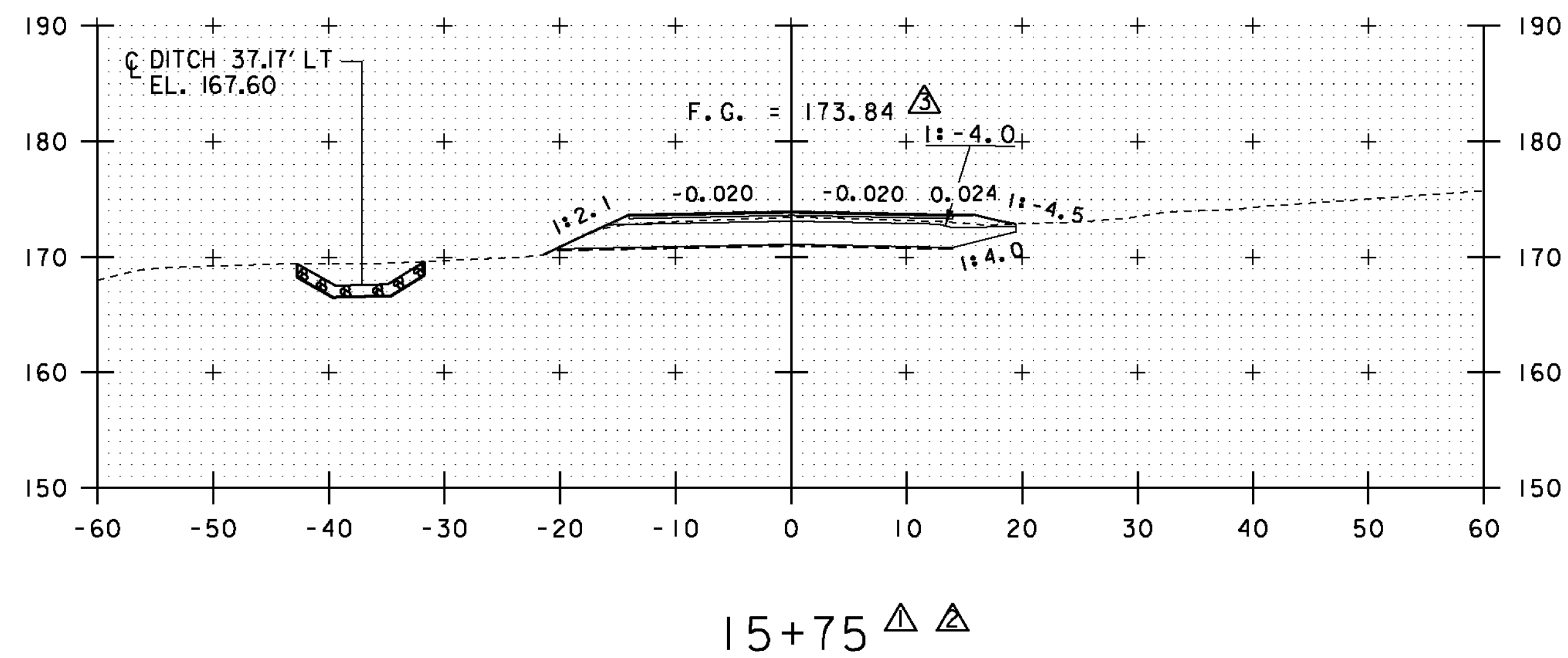
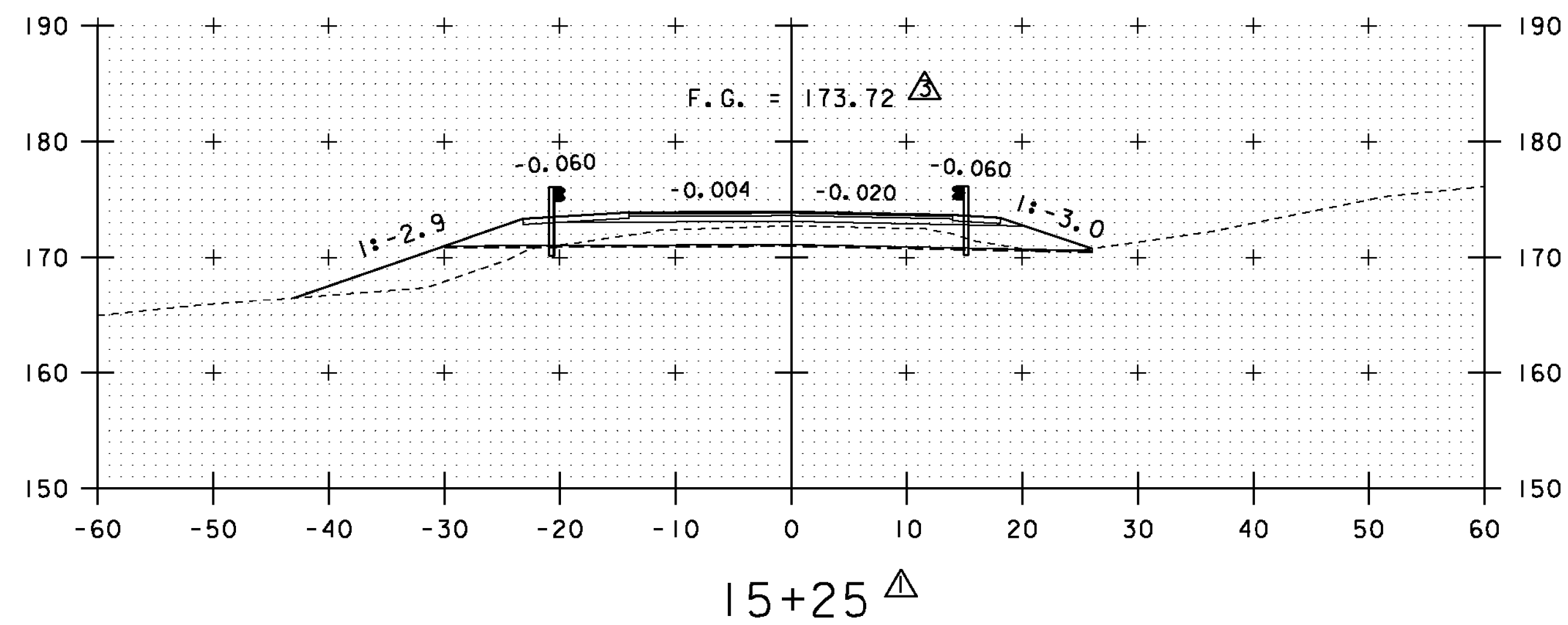
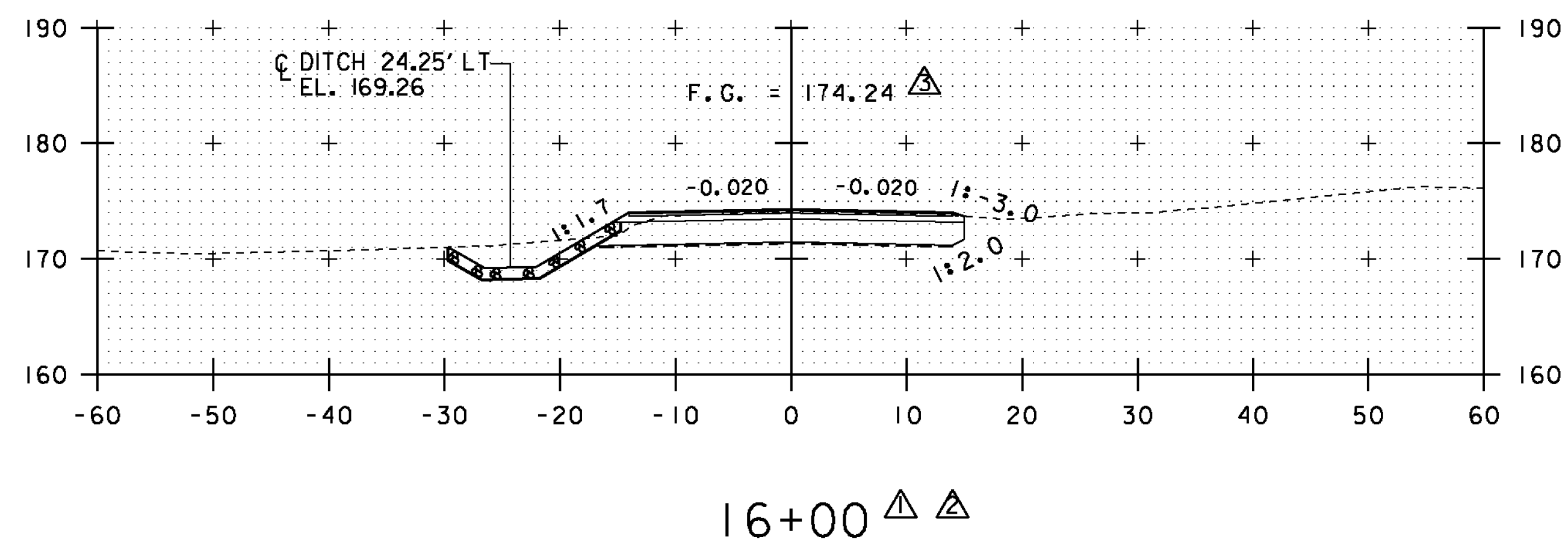
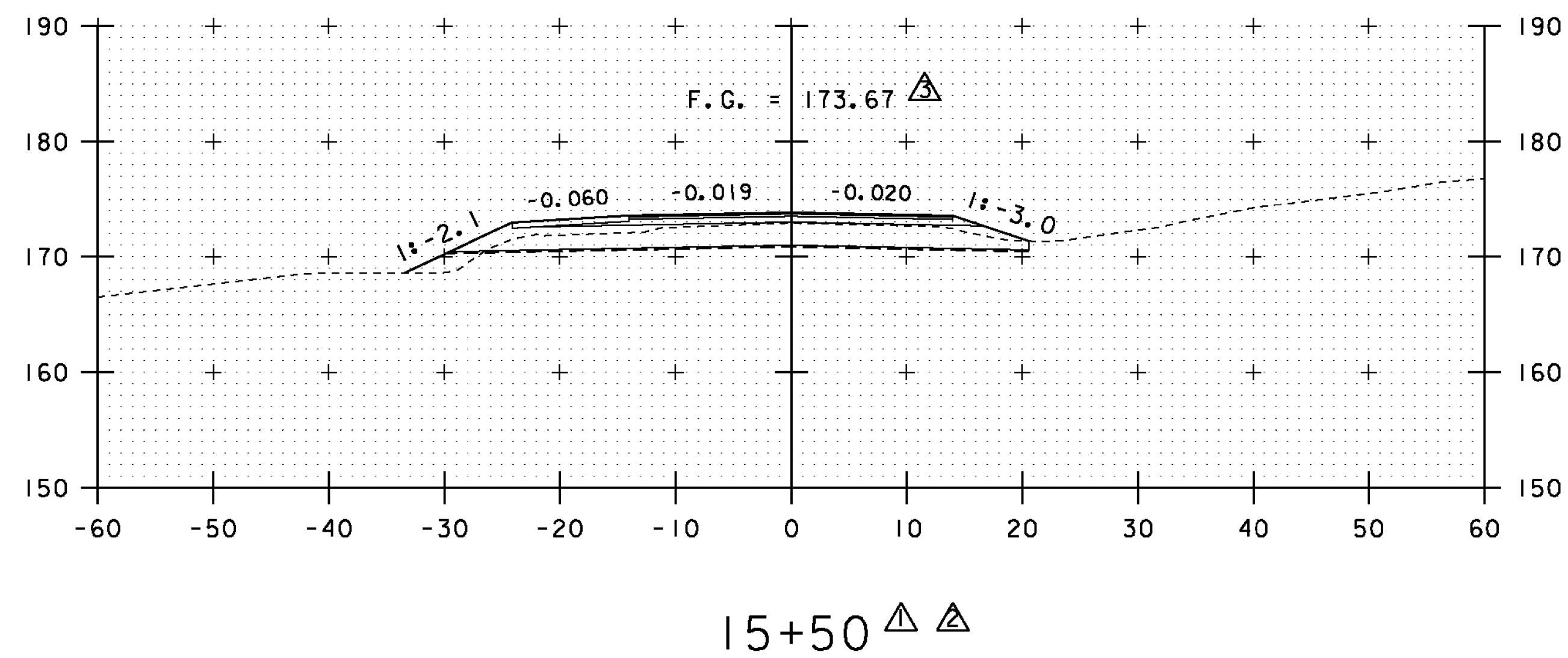
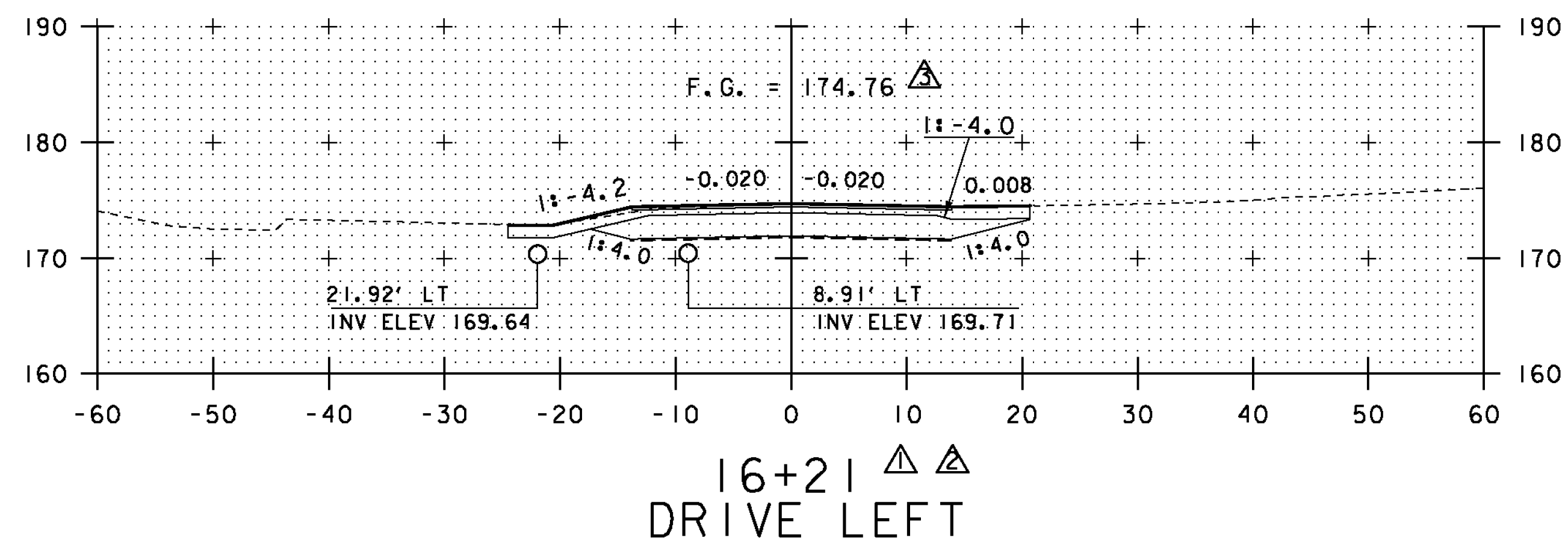
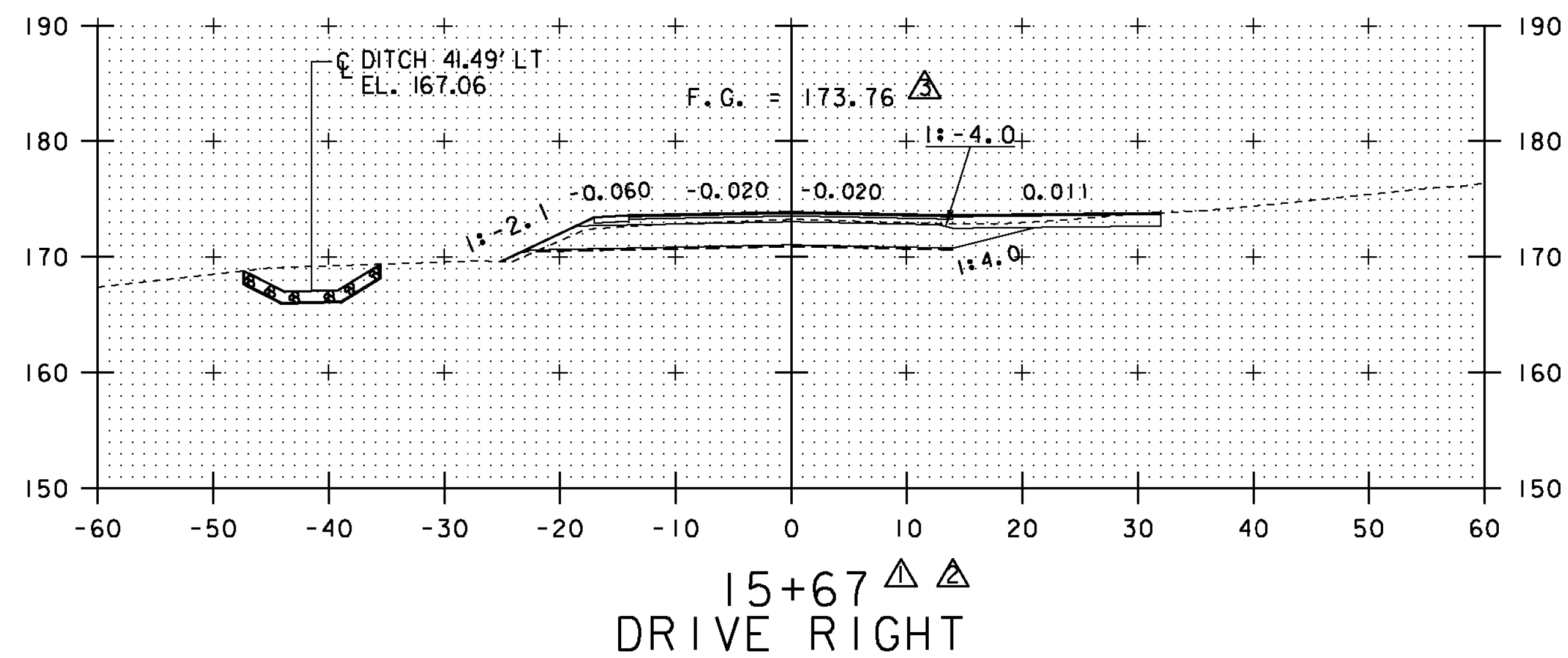
STA. 14+00 TO STA. 15+00

PROJECT NAME: COLCHESTER  
PROJECT NUMBER: STP 5600 (12)

FILE NAME: s95j298xs.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: N. VANDERBERG  
ROADWAY CROSS SECTIONS 3

PLOT DATE: 01-SEP-2015  
DRAWN BY: G. ROKES  
CHECKED BY: D. PETERSON  
SHEET 38 OF 53



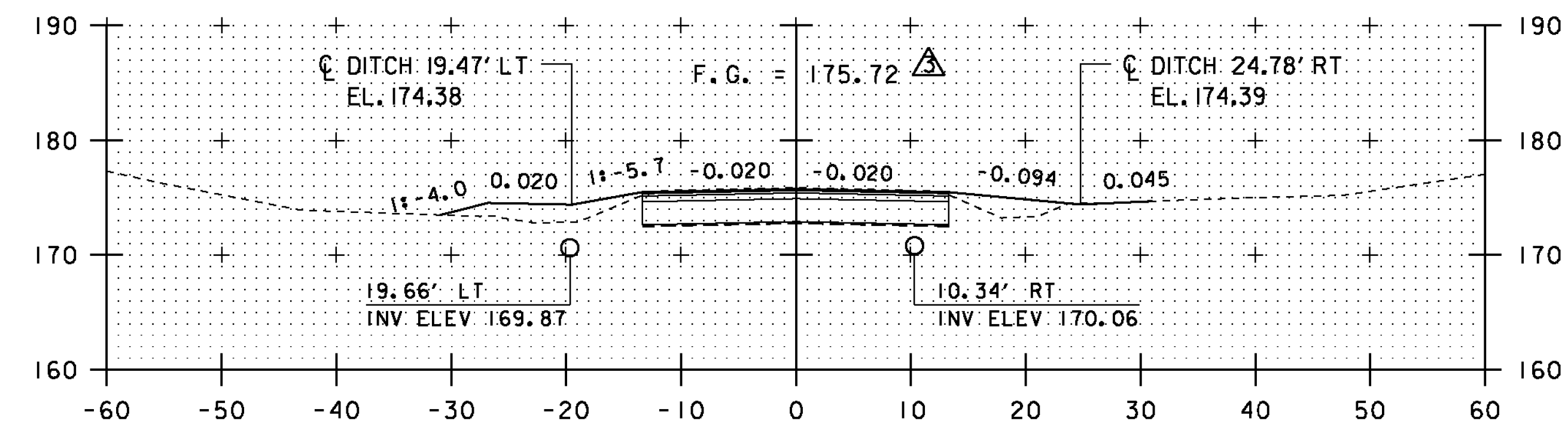


KEY	DATE	BY	REVISION
$\triangle$	02/23/2015	VAOT	MODIFIED ROADWAY MATERIAL DEPTHS.
$\triangle$	04/20/2015	VAOT	MODIFIED DRAINAGE PIPES AND DITCH.
$\triangle$	09/01/2015	VAOT	MODIFIED FINISH GRADE.

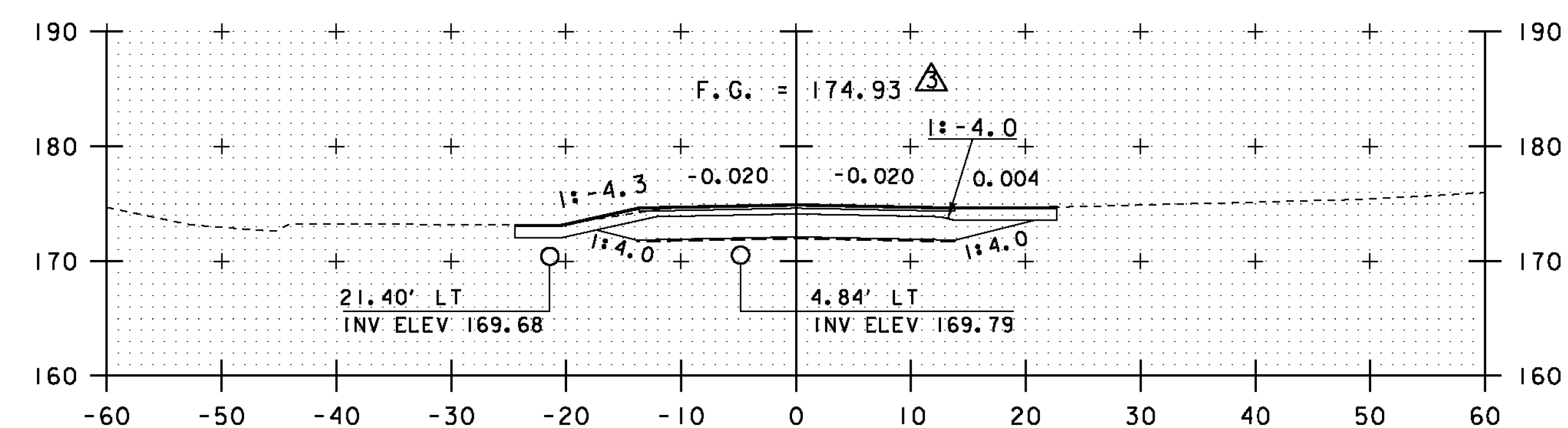
STA. 15+25 TO STA. 16+21

PROJECT NAME:	COLCHESTER
PROJECT NUMBER:	STP 5600 (I2)
FILE NAME:	s95j298xs.dgn
PROJECT LEADER:	C. CARLSON
DESIGNED BY:	N. VANDERBERG
ROADWAY CROSS SECTIONS 4	
PLOT DATE:	01-SEP-2015
DRAWN BY:	G. ROKES
CHECKED BY:	D. PETERSON
SHEET	39 OF 53

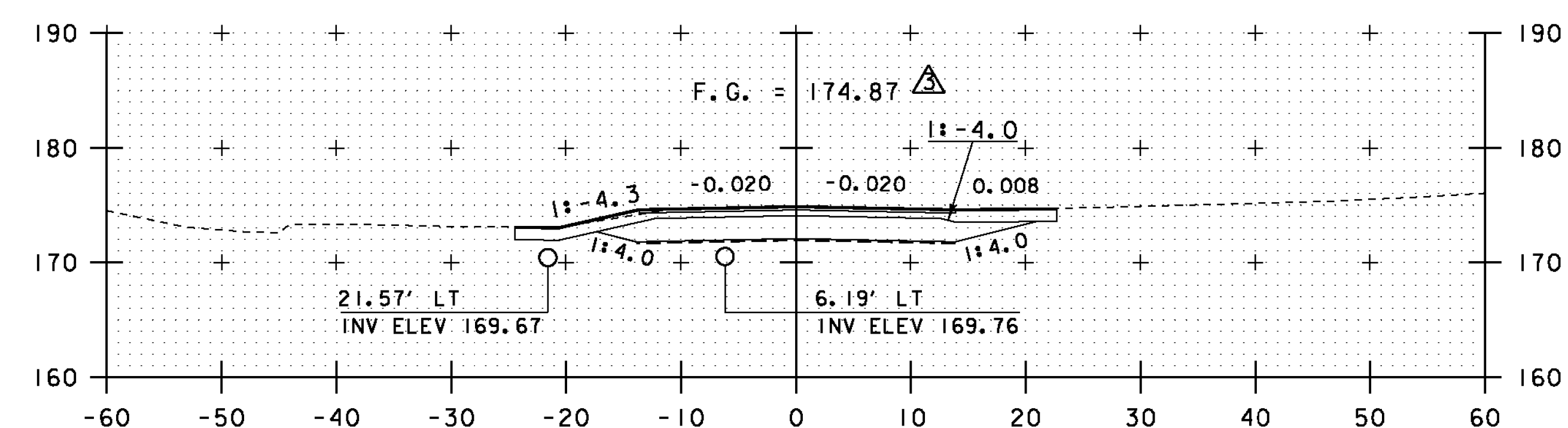




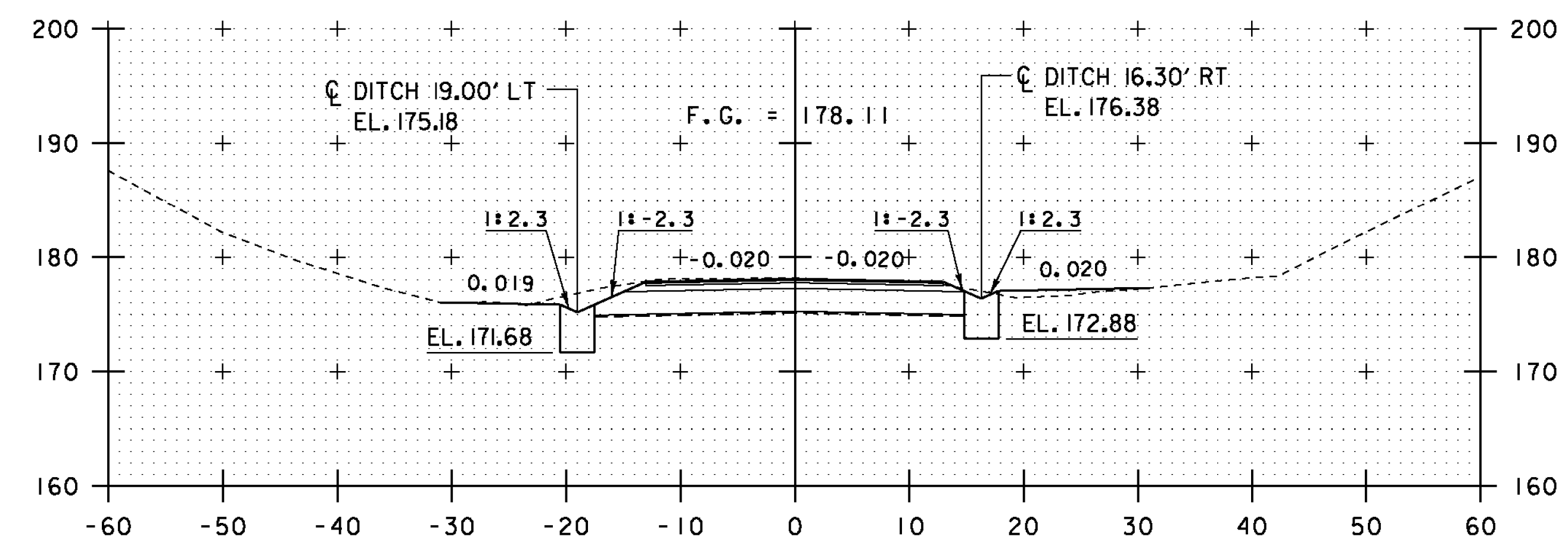
16+50



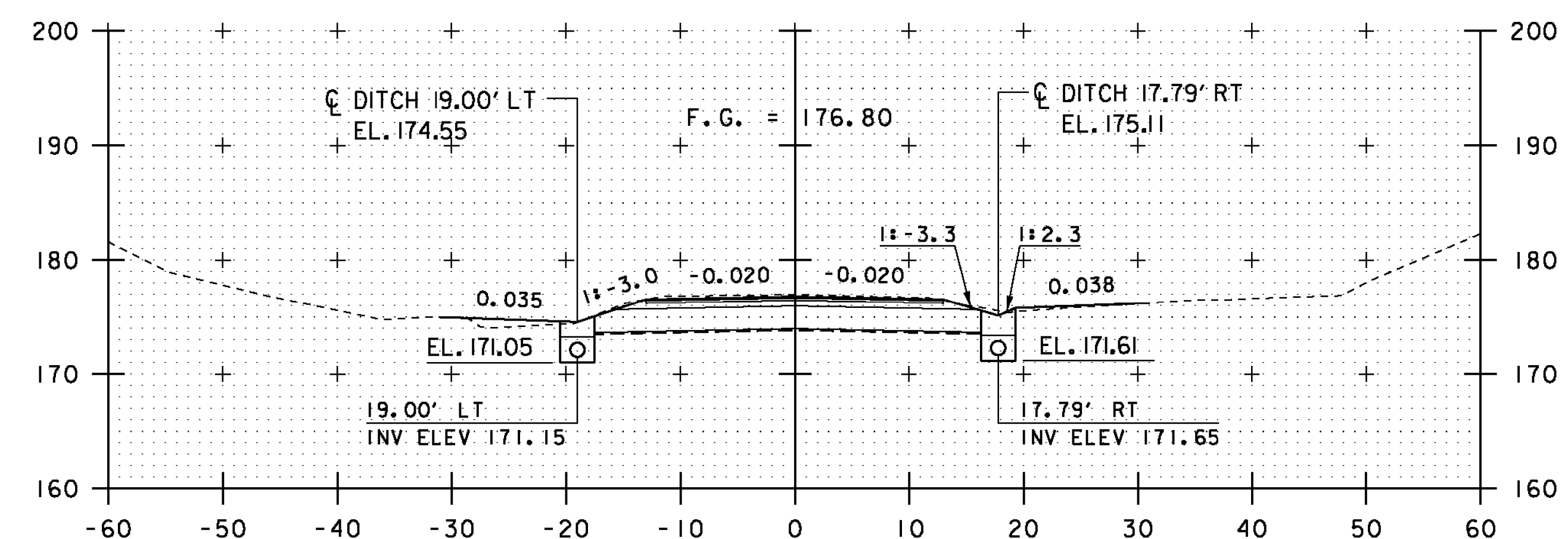
16+27  
DRIVE RIGHT



16+25



17+00



16+75

END VAOT PROJECT  
COLCHESTER STP 5600 (12)  
BEGIN TOWN OF COLCHESTER  
MILL POND ROAD  
ROADWAY RECONSTRUCTION

STA. 16+25 TO STA. 17+00

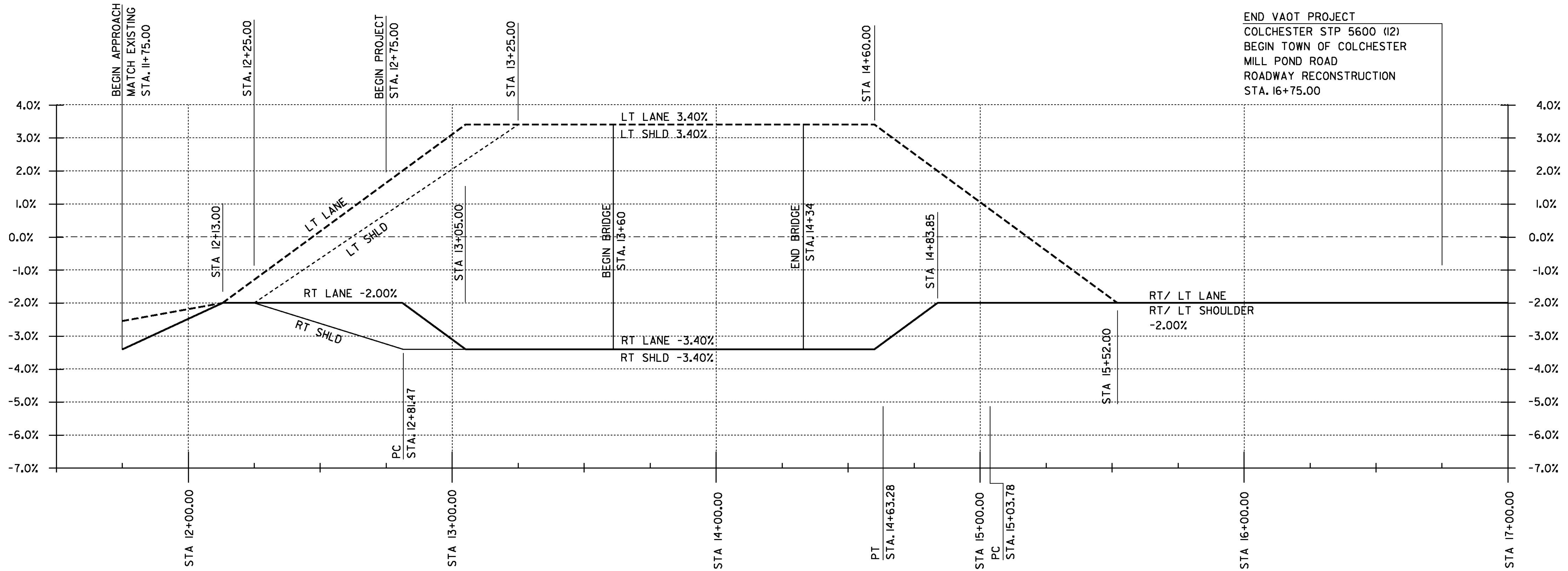
KEY	DATE	BY	REVISION
△	02/23/2015	VAOT	MODIFIED ROADWAY MATERIAL DEPTHS.
△	04/20/2015	VAOT	MODIFIED DRAINAGE PIPES AND DITCH.
△	09/01/2015	VAOT	MODIFIED FINISH GRADE.

PROJECT NAME: COLCHESTER  
PROJECT NUMBER: STP 5600 (12)

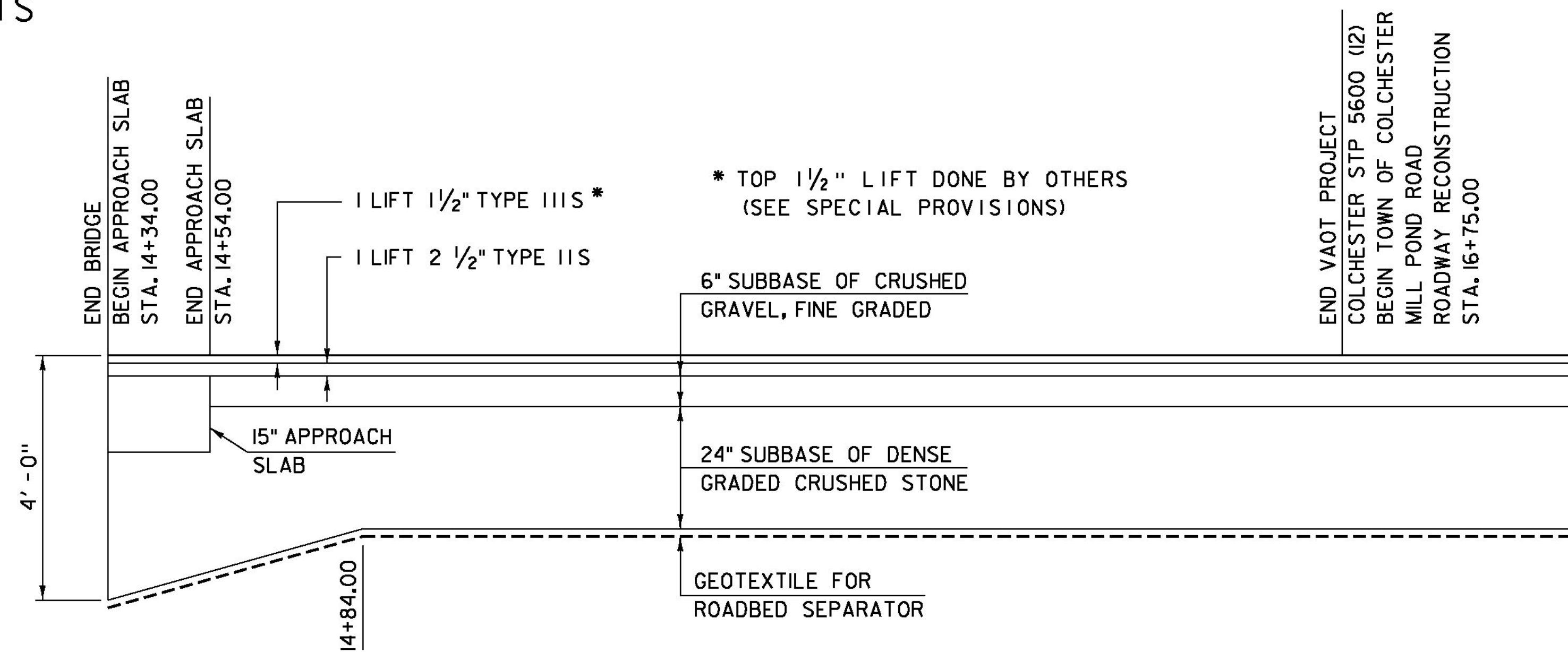
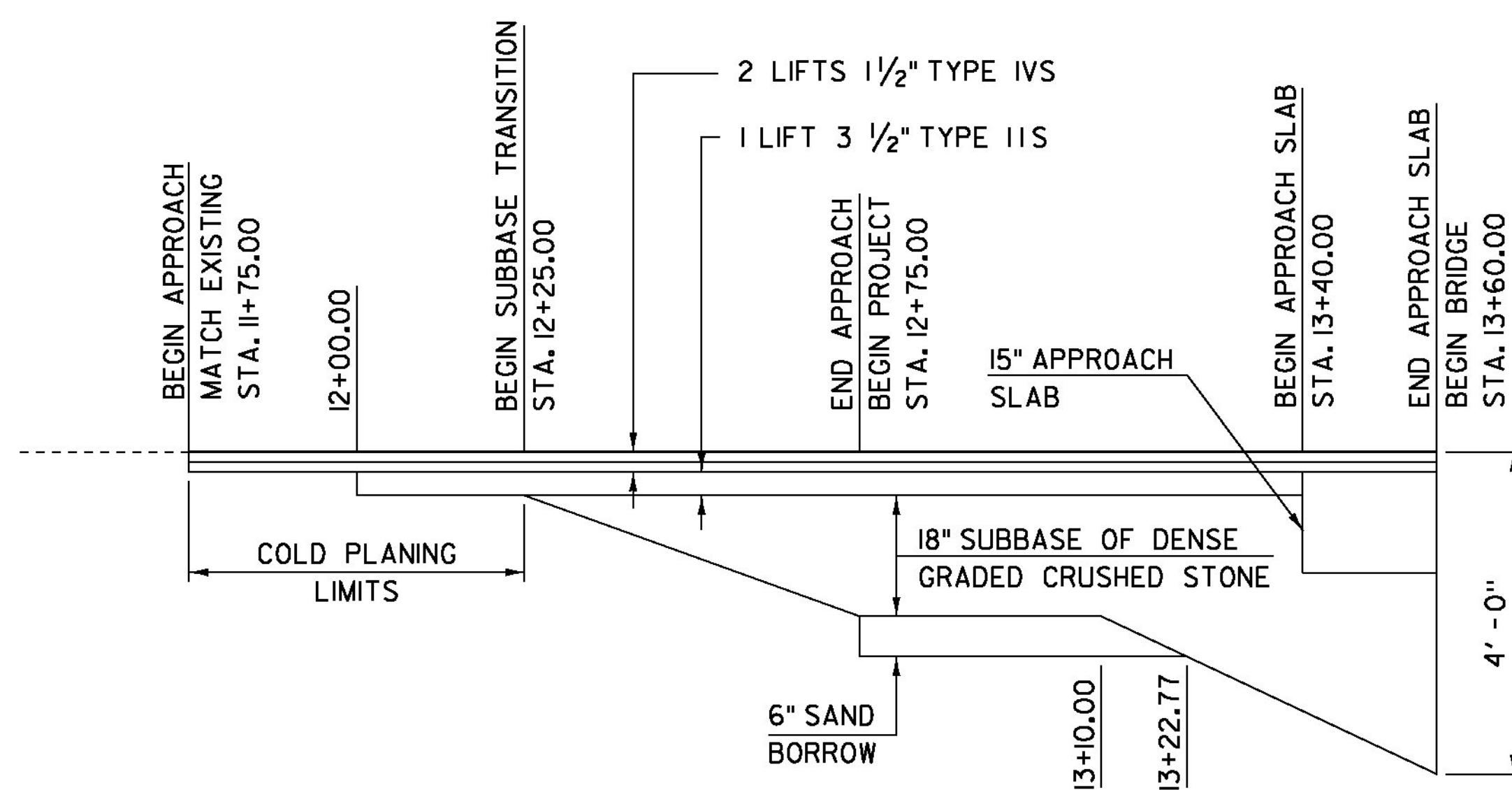
FILE NAME: s95j298xs.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: N. VANDERBERG  
ROADWAY CROSS SECTIONS 5

PLOT DATE: 01-SEP-2015  
DRAWN BY: G. ROKES  
CHECKED BY: D. PETERSON  
SHEET 40 OF 53





BANKING DIAGRAM  
NTS



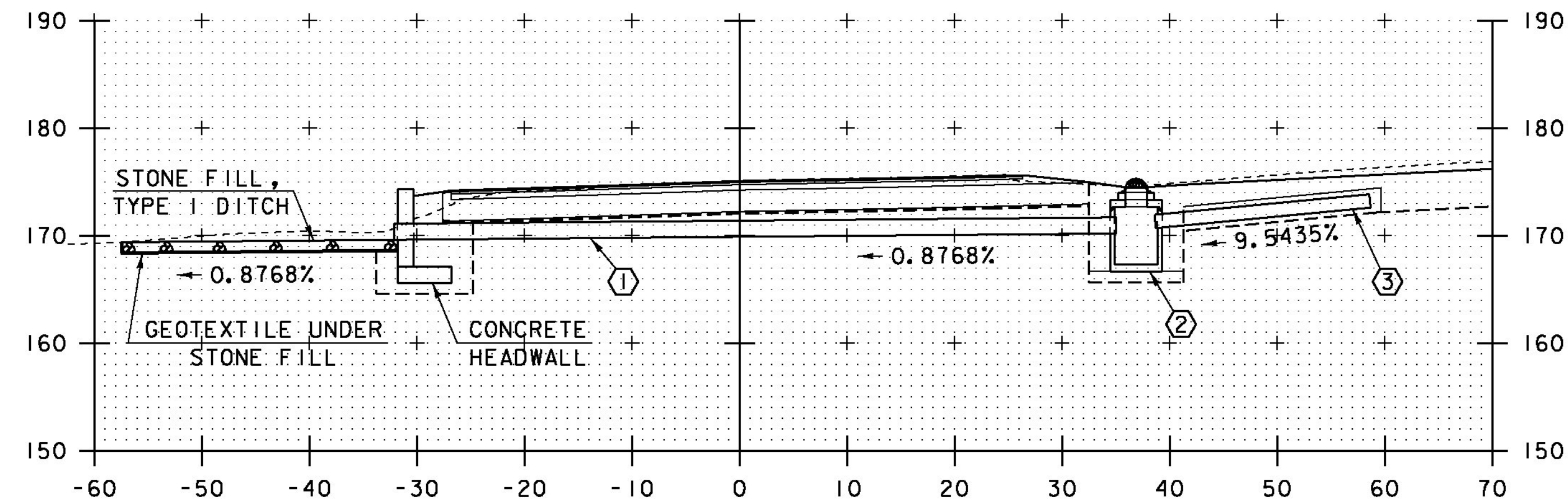
MATERIAL TRANSITION  
NTS

PROJECT NAME: COLCHESTER		PLOT DATE: 23-FEB-2015	
PROJECT NUMBER: STP 5600 (I2)		DRAWN BY: G. ROKES	
FILE NAME: s95j298xs.dgn		DESIGNED BY: N. VANDERBERG	
PROJECT LEADER: C. CARLSON		CHECKED BY: N. VANDERBERG	
MATERIAL TRANSITION AND BANKING DIAGRAM		SHEET 41 OF 53	

KEY	DATE	BY	REVISION
△	02/23/2015	VAOT	MODIFIED MATERIAL TRANSITION AFTER BRIDGE.



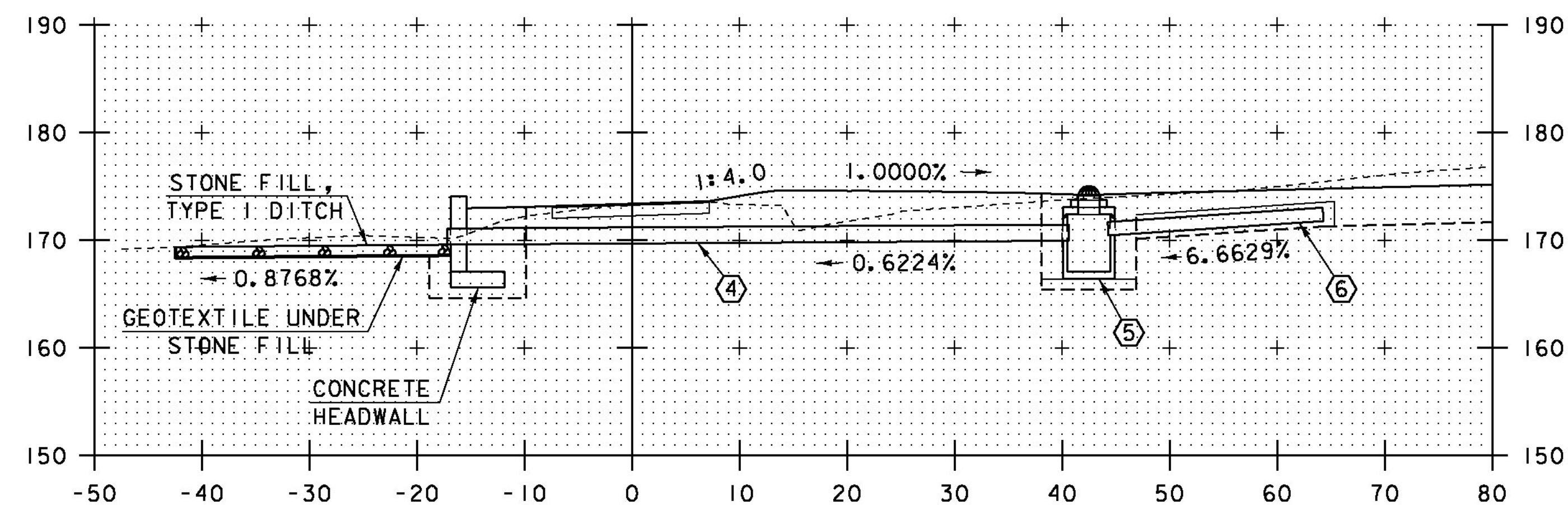
- ① STA 16+03.58, 16.69' LT - STA 16+61.38, 17.60' RT  
NEW 18" X 68' CPEP (SL)  
INLET INV ELEV 170.19; OUTLET INV ELEV 169.60
- ② STA 16+63.00, 18.50' RT  
NEW PRECAST REINFORCED CONCRETE PERFORATED CATCH  
BASIN WITH BEE-HIVE TYPE GRATE  
RIM ELEV 174.50; SUMP ELEV 167.34
- ③ STA 16+64.85, 18.40' RT - STA 16+85.07, 17.24' RT  
NEW 15" X 20' UNDERDRAIN PIPE  
INLET INV ELEV 172.60; OUTLET INV ELEV 170.69



**DRAINAGE 1 PROFILE**

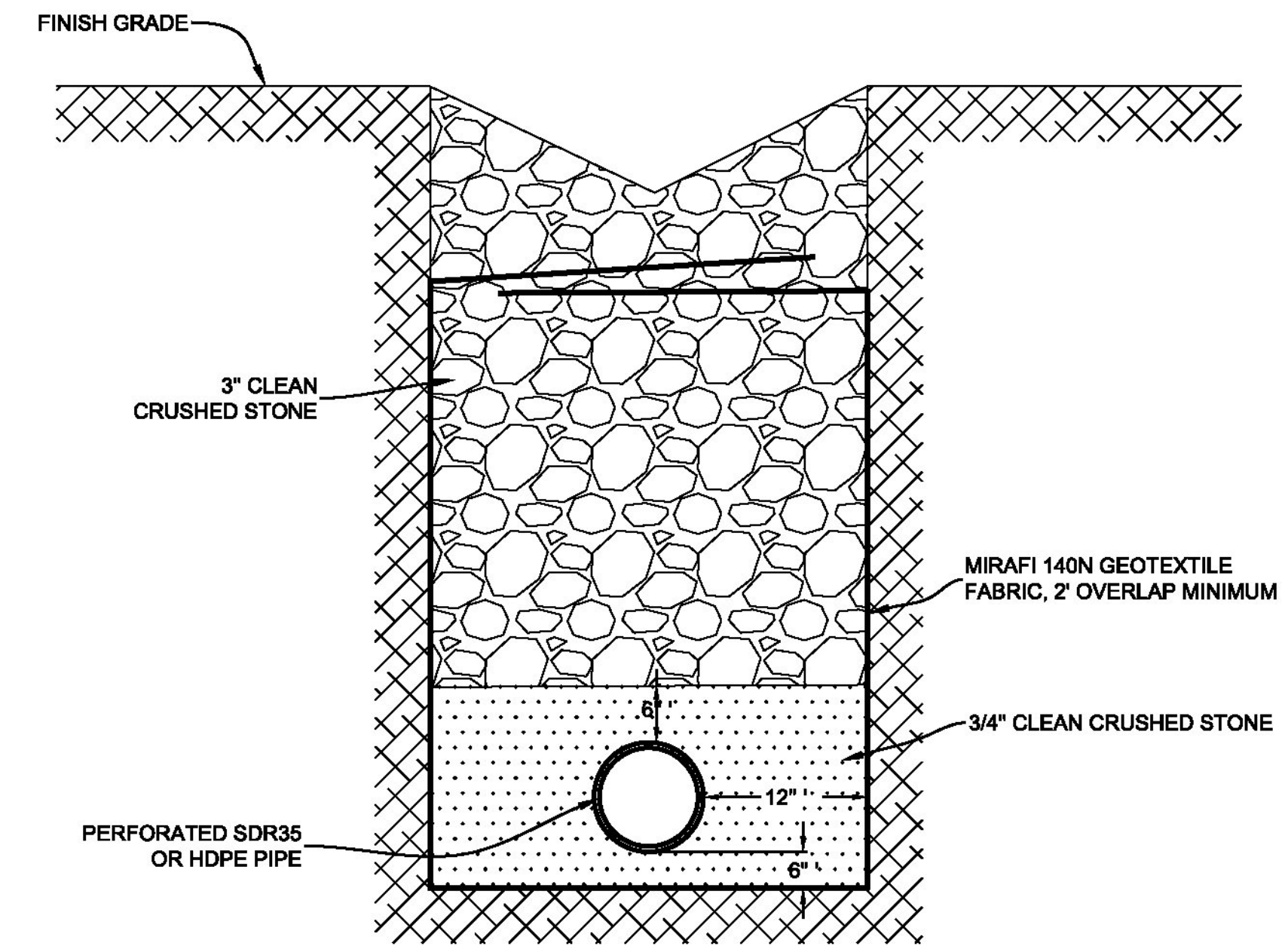
SCALE: 1" = 10'-0"  
10 0 10

- ④ STA 16+04.08, 18.62' LT - STA 16+61.19, 18.95' LT  
NEW 18" X 58' CPEP (SL)  
INLET INV ELEV 169.96; OUTLET INV ELEV 169.60
- ⑤ STA 16+63.00, 19.00' LT  
NEW PRECAST REINFORCED CONCRETE PERFORATED CATCH  
BASIN WITH BEE-HIVE TYPE GRATE  
RIM ELEV 174.25; SUMP ELEV 167.09
- ⑥ STA 16+64.81, 18.99' LT - STA 16+84.55, 18.95' LT  
NEW 15" X 20' UNDERDRAIN PIPE  
INLET INV ELEV 171.79; OUTLET INV ELEV 170.46



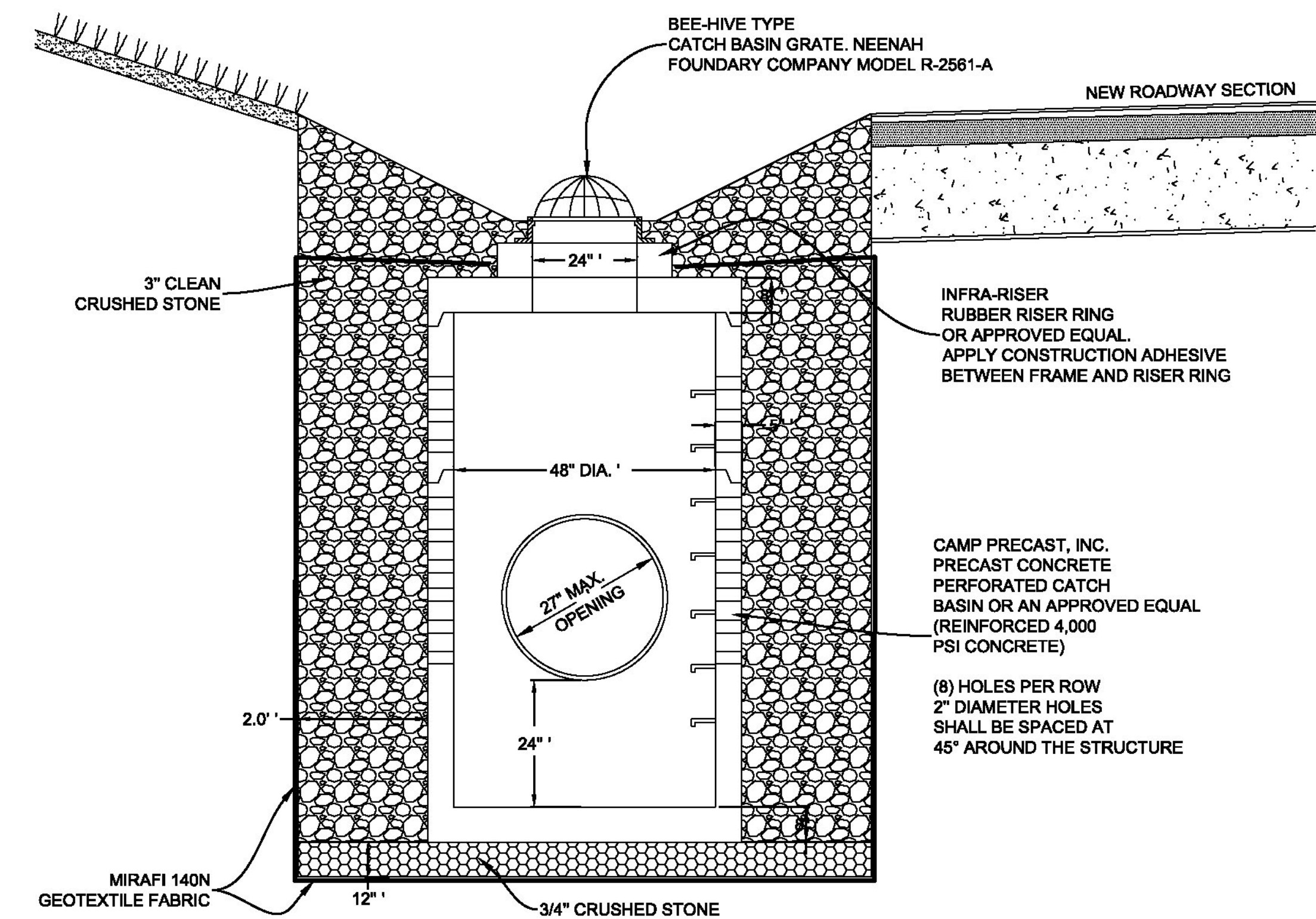
**DRAINAGE 2 PROFILE**

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



**TYPICAL TRENCH DETAIL  
UNDERDRAIN PIPE**

NTS  
PAY ITEM 900.640, SPECIAL PROVISION (15 INCH UNDERDRAIN PIPE)



**TYPICAL 48" DIA. CATCH BASIN**

NTS  
PAY ITEM 900.620, SPECIAL PROVISION (PRECAST REINFORCED CONCRETE PERFORATED CATCH BASIN WITH CAST IRON GRATE)

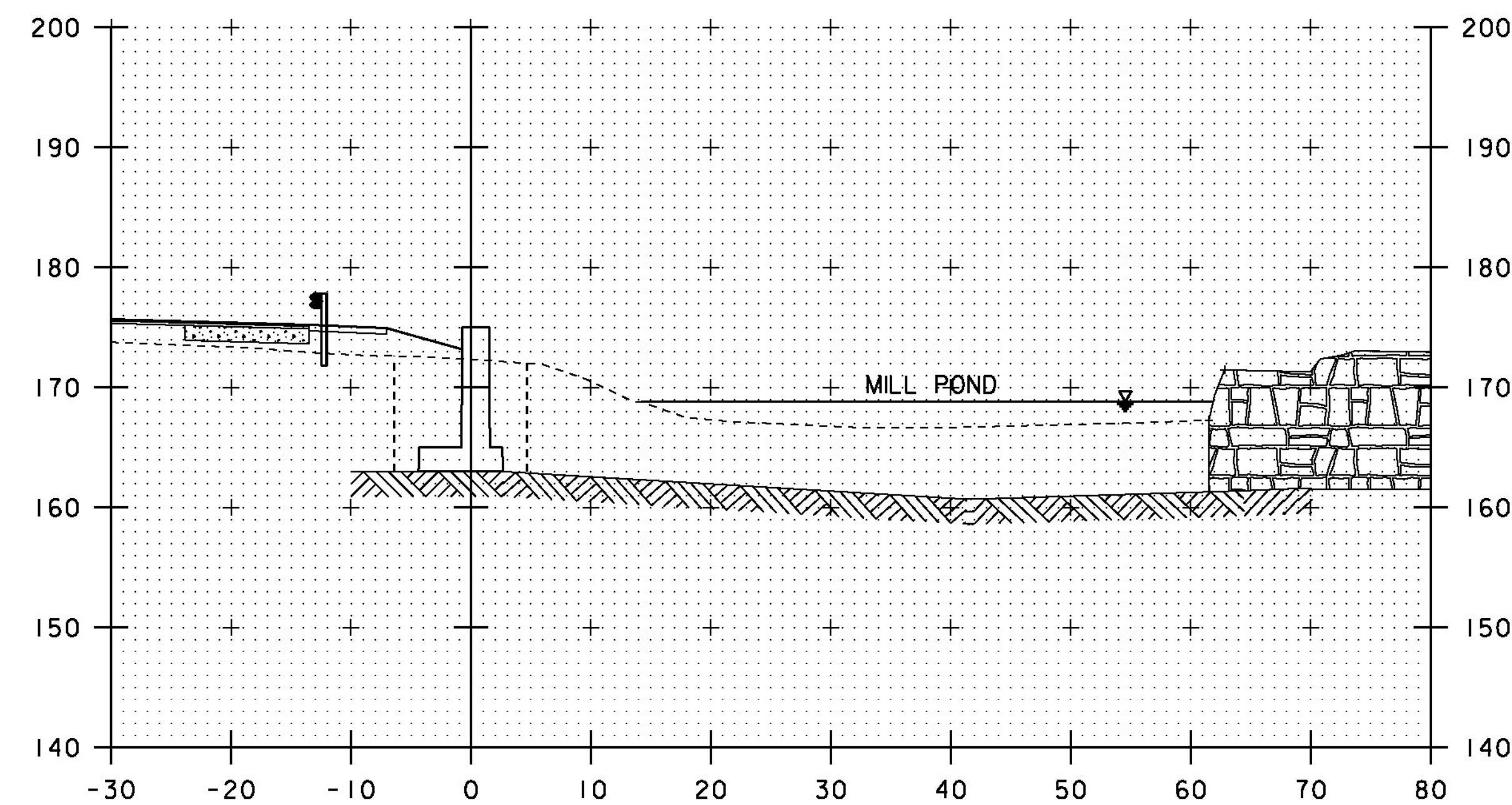
PROJECT NAME: COLCHESTER  
PROJECT NUMBER: STP 5600 (12)

FILE NAME: s95j298xs.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: G. ROY  
DRAINAGE PROFILES

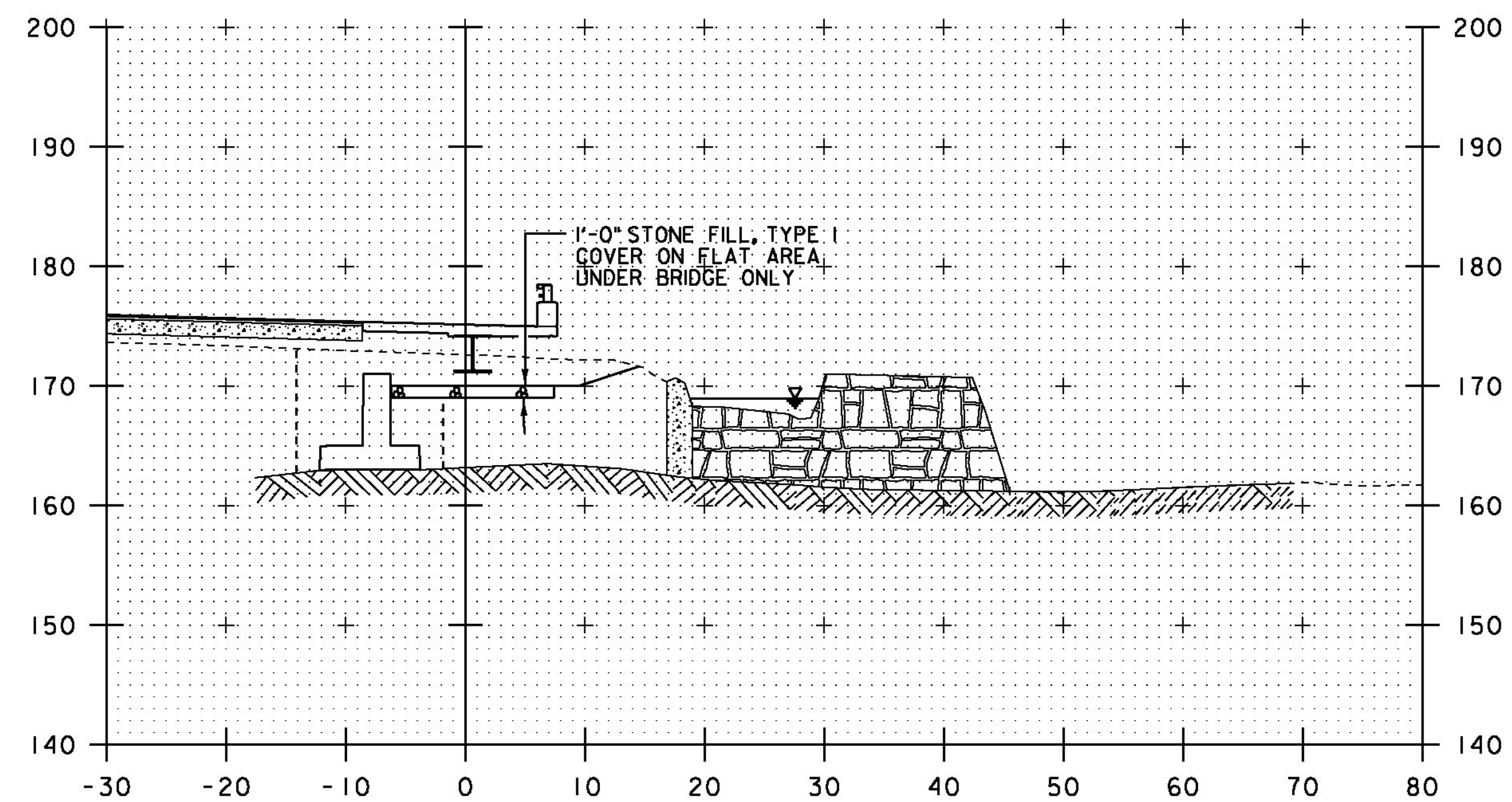
PLOT DATE: 23-FEB-2015  
DRAWN BY: G. ROY  
CHECKED BY: D. PETERSON  
SHEET 42 OF 53

KEY	DATE	BY	REVISION
△	02/23/2015	VAOT	MODIFIED ROADWAY MATERIAL DEPTHS.



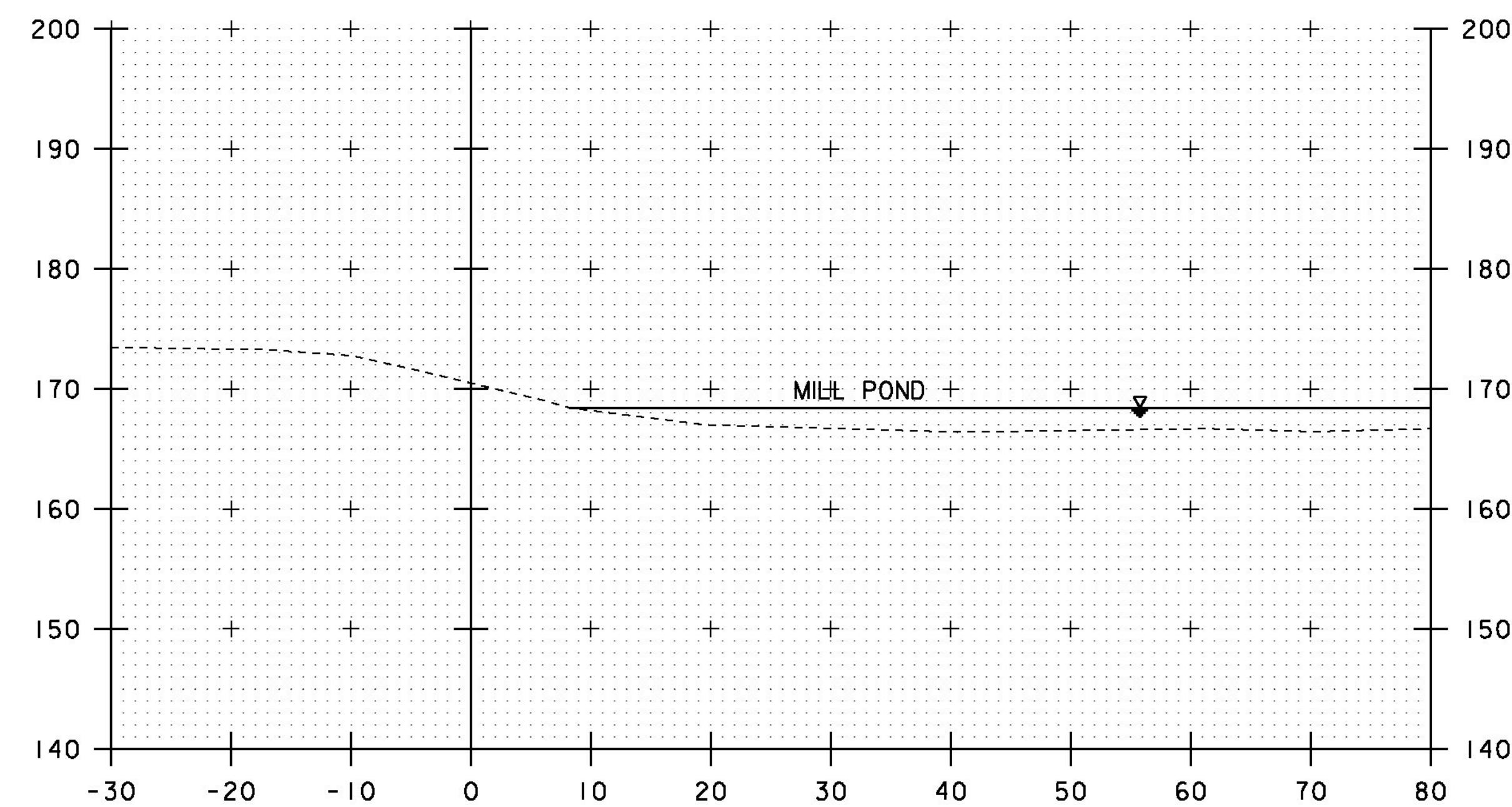


20+25

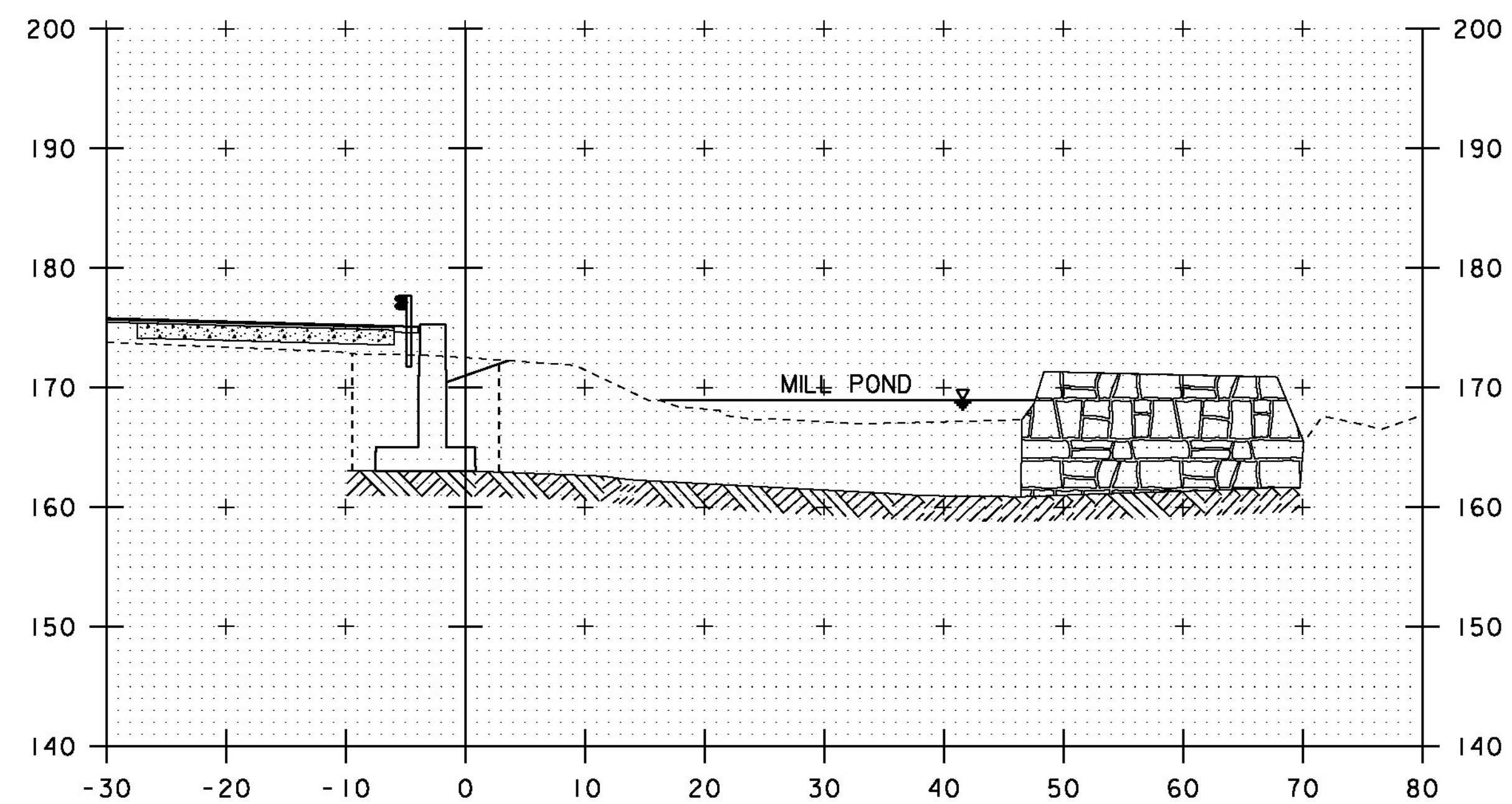


STA. 20+34.50 BEGIN ITEMS LT  
UNCLASSIFIED CHANNEL EXCAVATION  
STONE FILL, TYPE I  
GEOTEXTILE UNDER STONE FILL

20+37



20+00



20+30

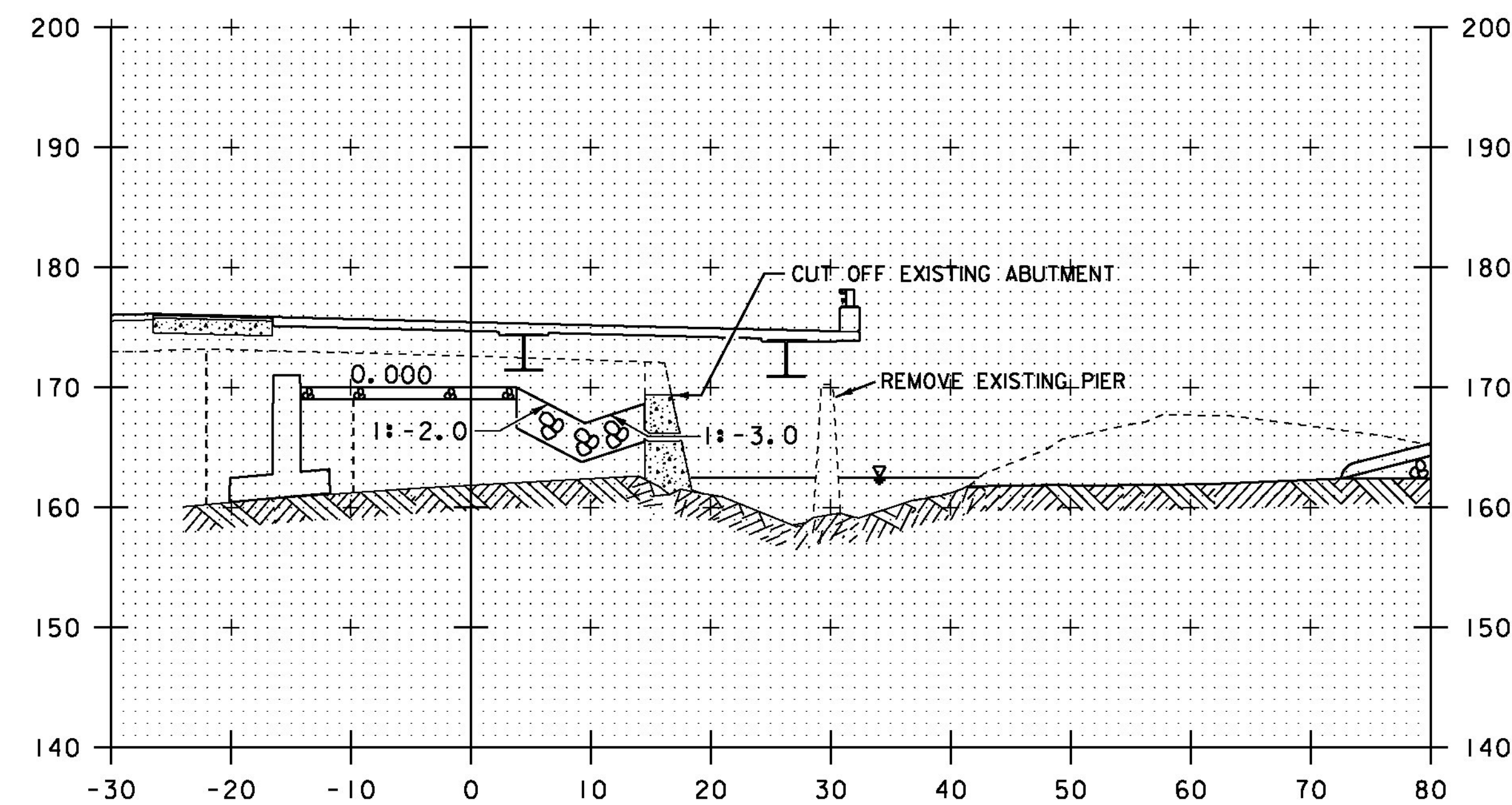
STA. 20+00 TO STA. 20+37

PROJECT NAME: COLCHESTER  
PROJECT NUMBER: STP 5600 (12)

FILE NAME: s95j298xs.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: N. VANDERBERG  
CHANNEL CROSS SECTIONS I

PLOT DATE: 12-JAN-2015  
DRAWN BY: G. ROKES  
CHECKED BY: D. PETERSON  
SHEET 43 OF 53

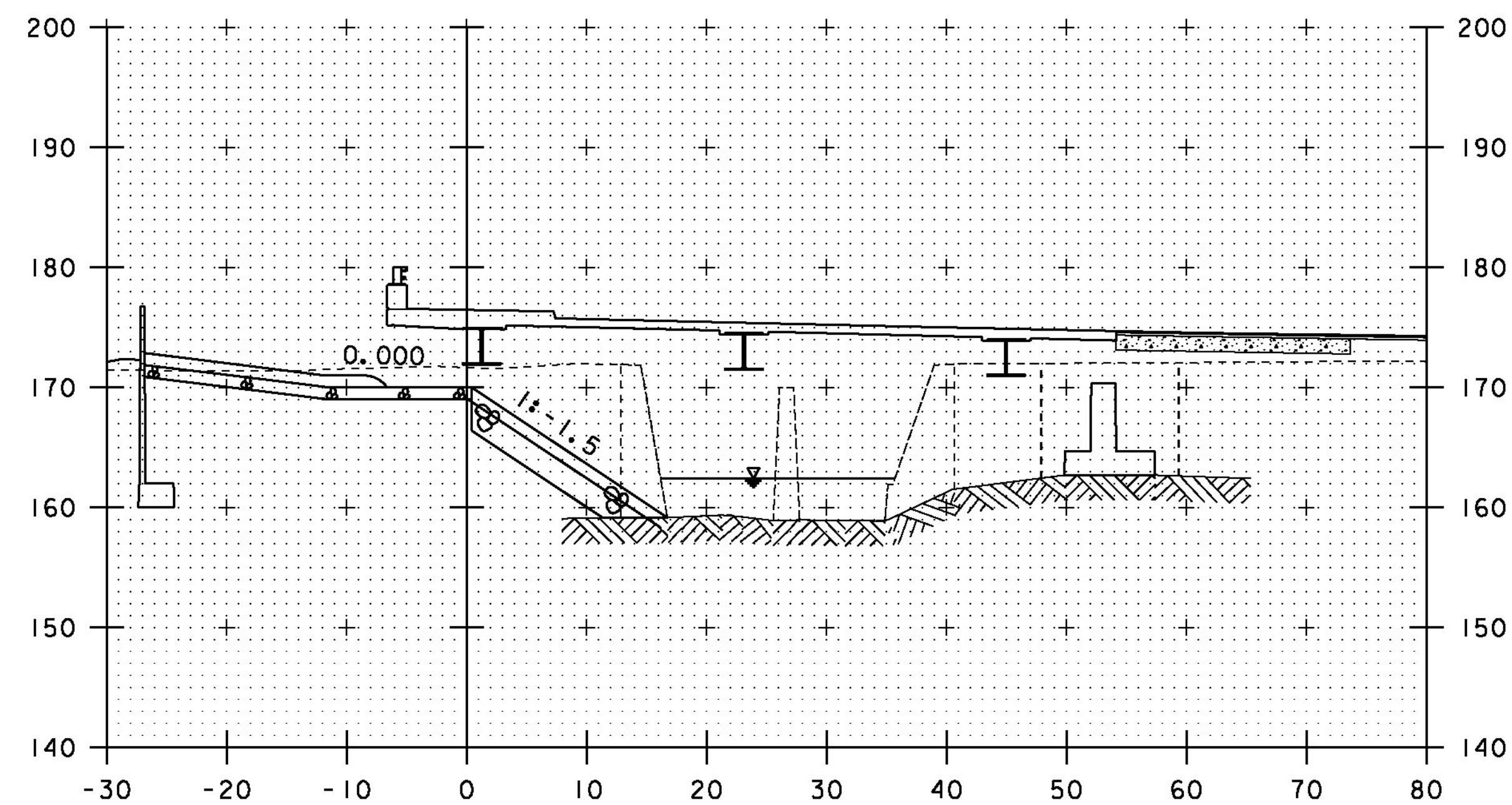




STA. 20+43.48 BEGIN ITEMS LT  
STONE FILL, TYPE III  
GEOTEXTILE UNDER STONE FILL

20+50

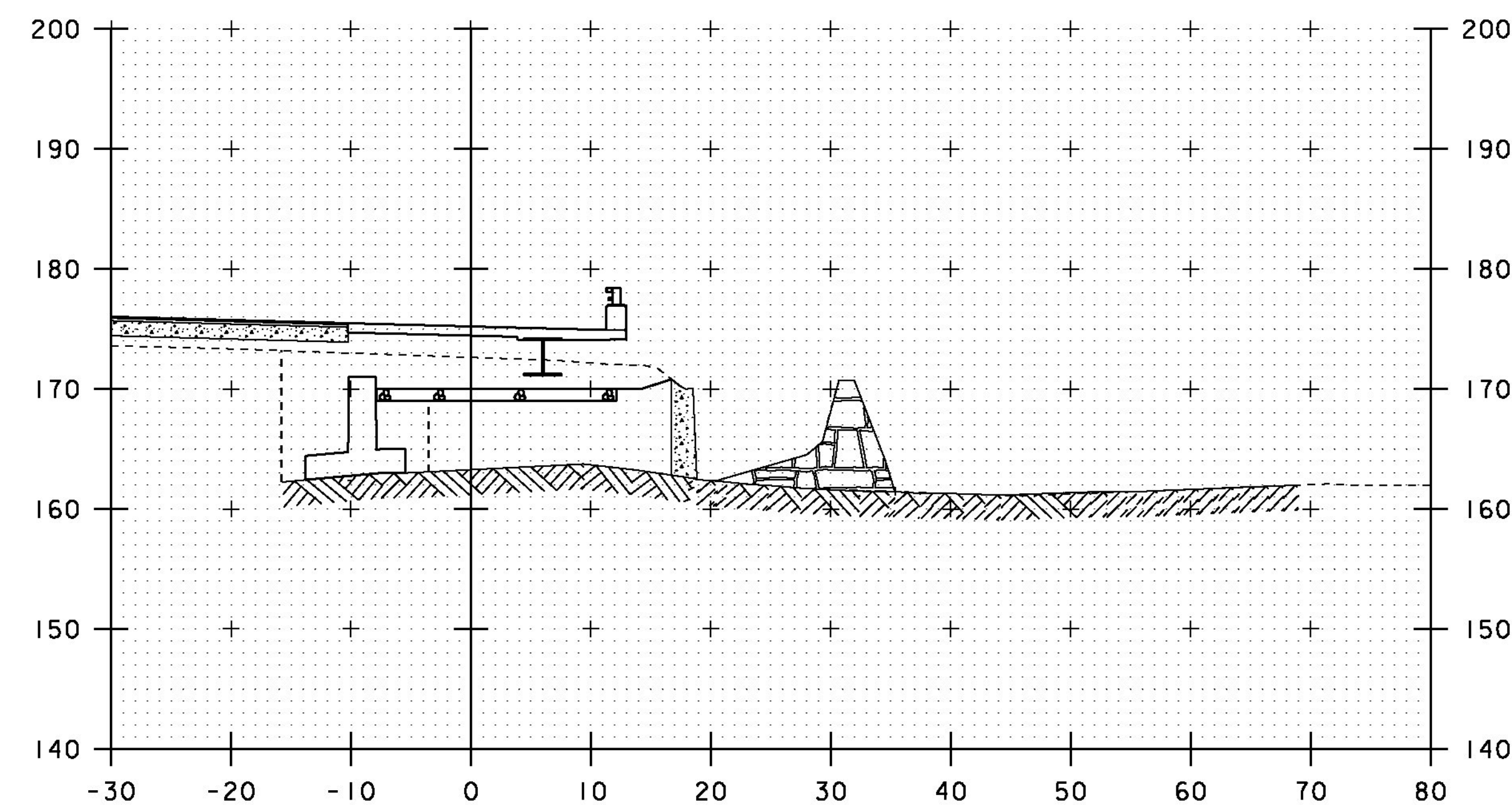
STA 20+46.68 BEGIN ITEMS RT  
MATCH EXISTING GROUND AND TRANSITION  
UNCLASSIFIED CHANNEL EXCAVATION  
STONE FILL, TYPE III  
GEOTEXTILE UNDER STONE FILL  
GRUBBING MATERIAL



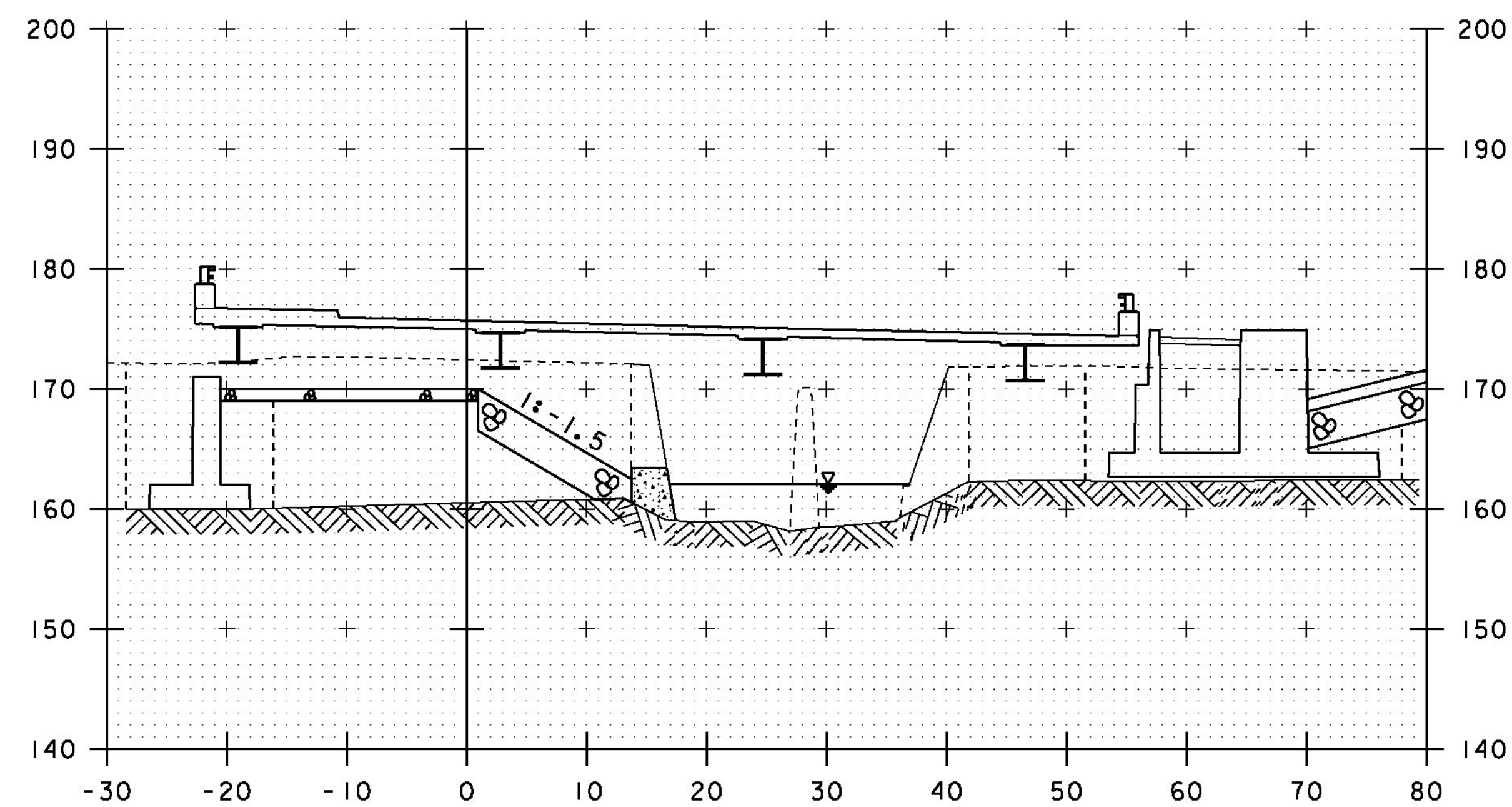
STA. 20+61.25 BEGIN ITEM LT  
GRUBBING MATERIAL

20+70

STA. 20+63.97 END ITEMS RT  
STONE FILL, TYPE III  
GEOTEXTILE UNDER STONE FILL  
GRUBBING MATERIAL



20+40



20+60

STA. 20+40 TO STA. 20+70

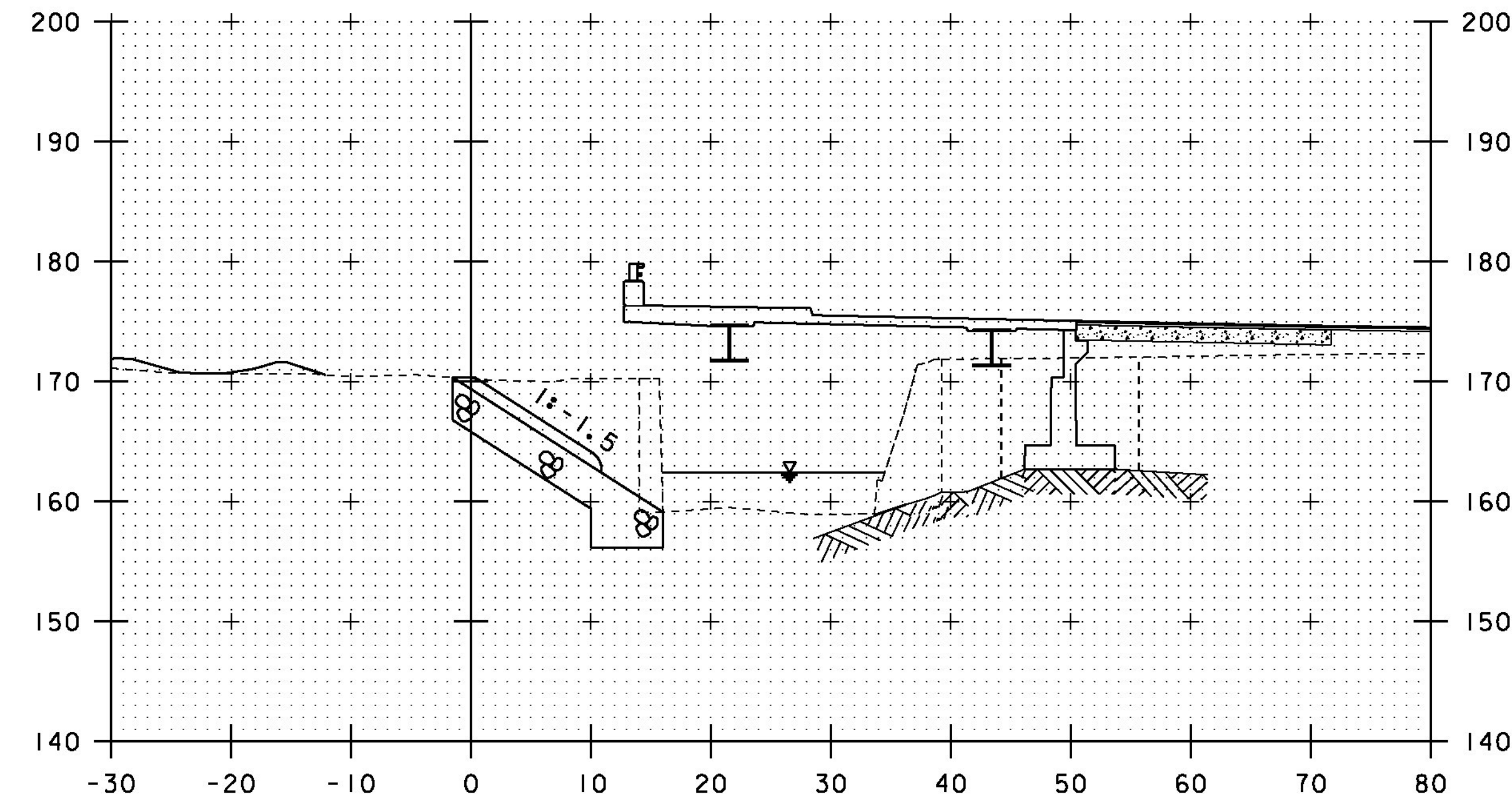
PROJECT NAME: COLCHESTER  
PROJECT NUMBER: STP 5600 (12)

FILE NAME: s95j298xs.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: N. VANDERBERG  
CHANNEL CROSS SECTIONS 2

PLOT DATE: 12-JAN-2015  
DRAWN BY: G. ROKES  
CHECKED BY: D. PETERSON  
SHEET 44 OF 53

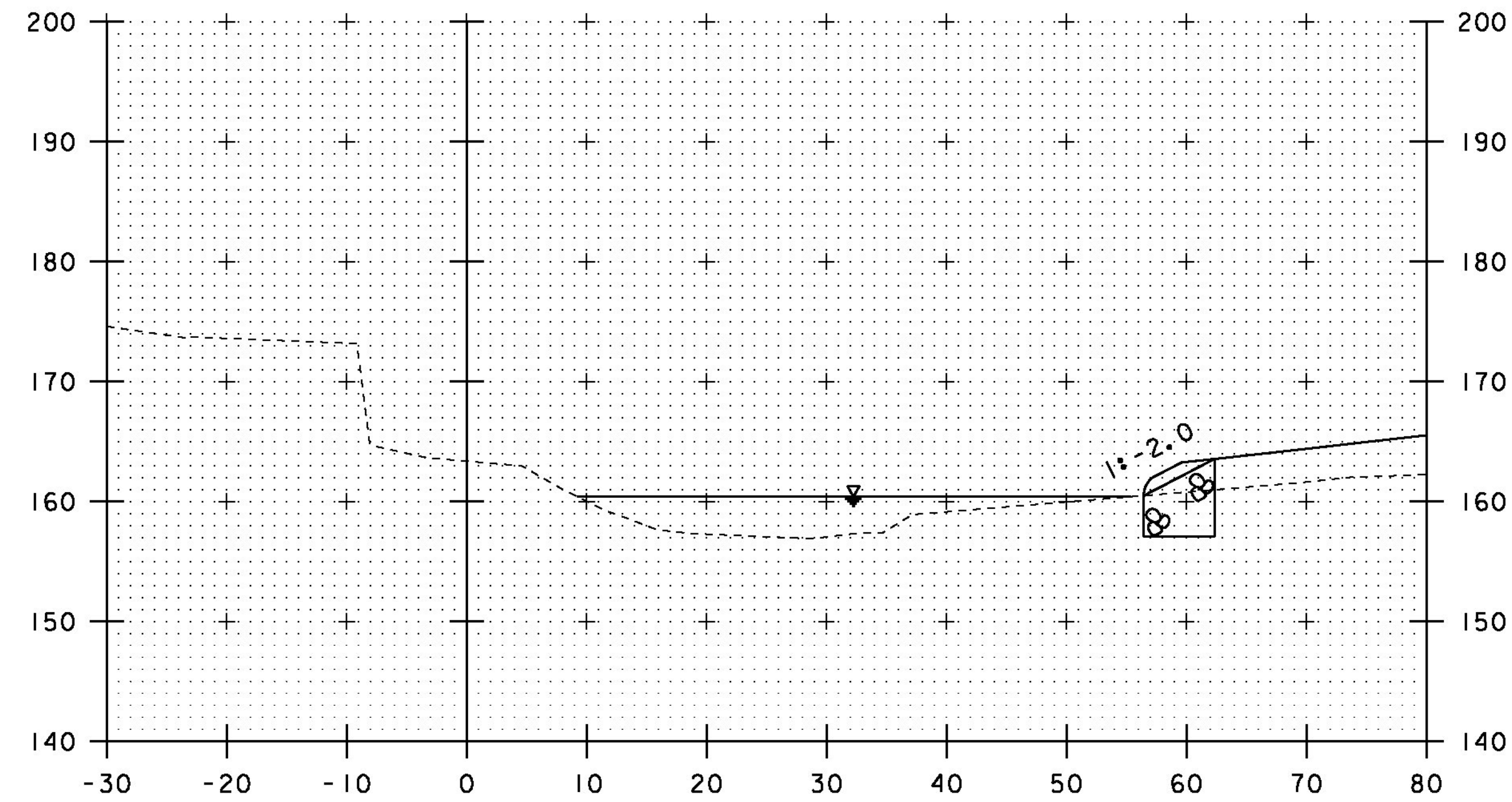


STA. 20+94.32 END ITEMS LT  
UNCLASSIFIED CHANNEL EXCAVATION  
STONE FILL, TYPE III  
GEOTEXTILE UNDER STONE FILL  
GRUBBING MATERIAL



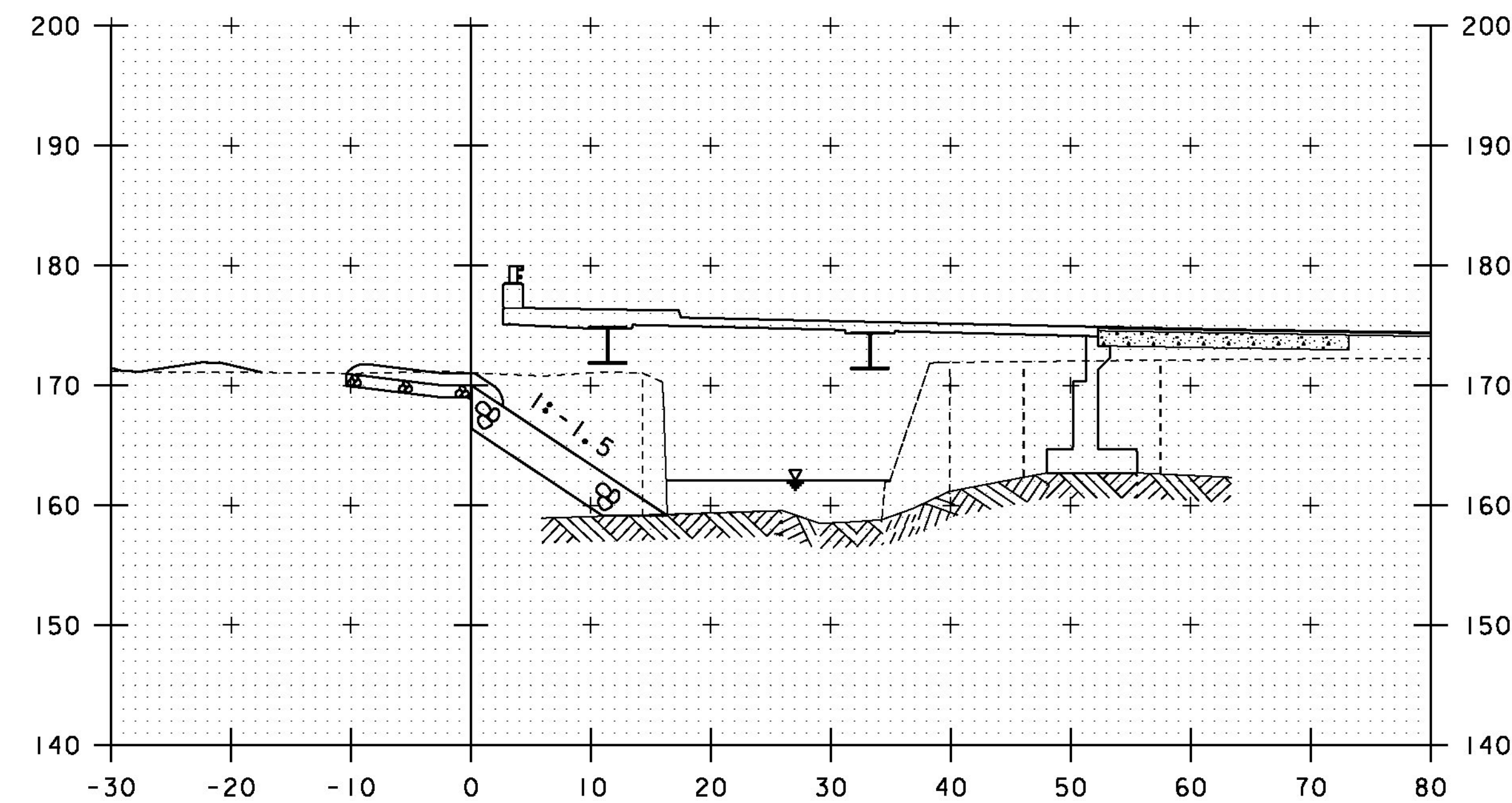
20+80

STA. 20+81.30 BEGIN ITEMS RT  
UNCLASSIFIED CHANNEL EXCAVATION  
STONE FILL, TYPE III  
GEOTEXTILE UNDER STONE FILL  
GRUBBING MATERIAL



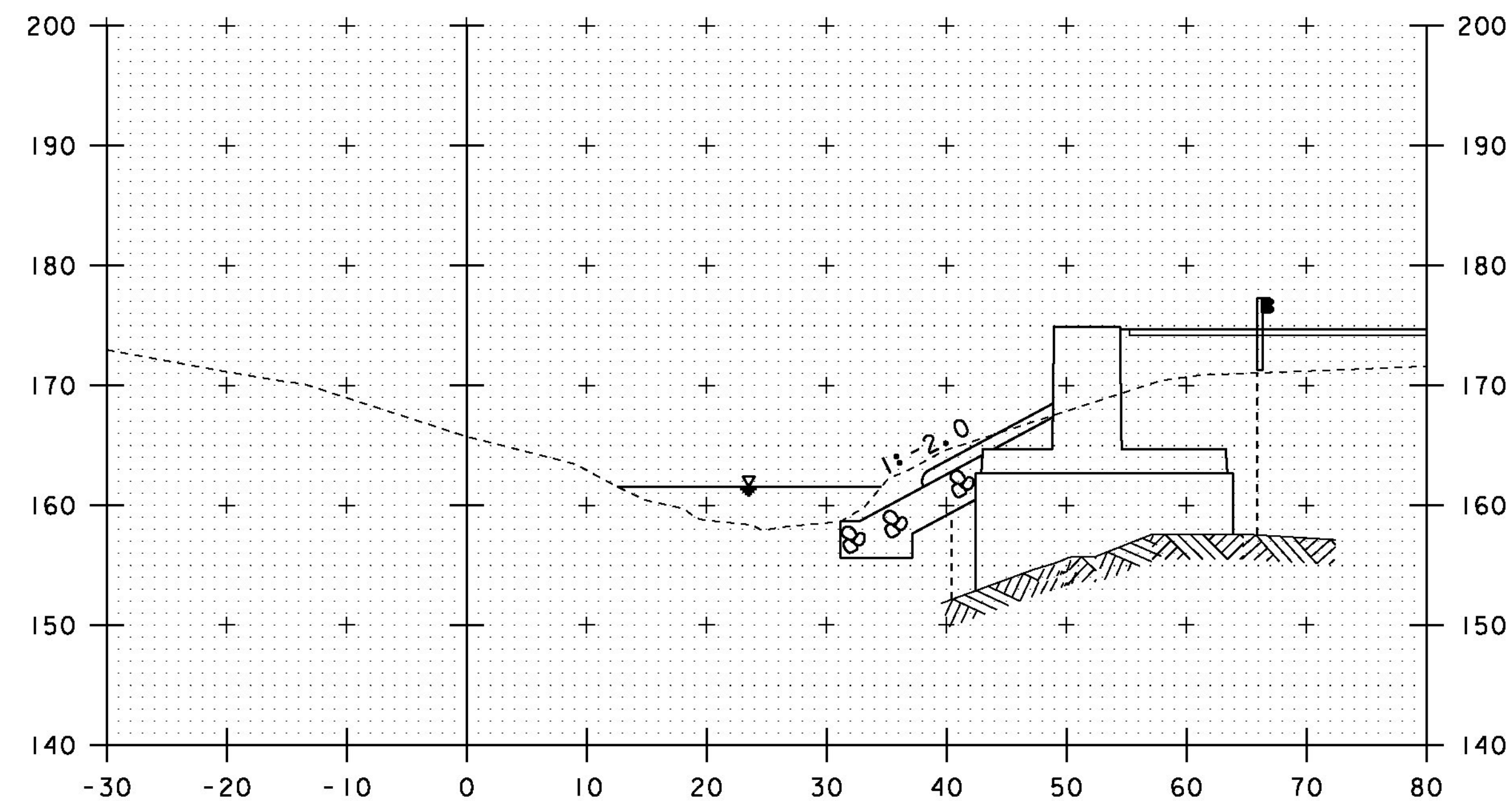
21+25

STA. 21+31.54 END ITEMS RT  
UNCLASSIFIED CHANNEL EXCAVATION  
STONE FILL, TYPE III  
GEOTEXTILE UNDER STONE FILL  
GRUBBING MATERIAL



20+75

STA. 20+73.70 BEGIN ITEM LT  
GRUBBING MATERIAL



21+00

PROJECT NAME: COLCHESTER  
PROJECT NUMBER: STP 5600 (12)

FILE NAME: s95j298xs.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: N. VANDERBERG  
CHANNEL CROSS SECTIONS 3

PLOT DATE: 12-JAN-2015  
DRAWN BY: G. ROKES  
CHECKED BY: D. PETERSON  
SHEET 45 OF 53

STA. 20+75 TO STA. 21+25



EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF A TWO SPAN CONCRETE BRIDGE OVER THE INDIAN BROOK. THE PROJECT IS ON TH 27 (MILL POND ROAD) A PAVED, RURAL COLLECTOR IN THE TOWN OF COLCHESTER. NO TEMPORARY BRIDGE WILL BE CONSTRUCTED. A DETOUR WILL BE SIGNED TO REROUTE TRAFFIC ONTO US ROUTE 7 AND TH 7 (SEVERANCE ROAD). THE DETOUR ROUTE WILL BE APPROXIMATELY 3.4 MILES IN LENGTH. WORK INCLUDING BOTH APPROACHES IS APPROXIMATELY 500.00 FEET.THE LIMITS OF CONSTRUCTION APPROACH BUILDINGS AND OTHER STRUCTURES. AN EXISTING ABUTMENT RESTS AGAINST A HISTORIC DAM, THE HISTORIC DAM IS SHOWN IN THE EPSC FINAL CONDITIONS SHEET.

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 0.57 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE CONSTRUCTION SEASON.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE PROJECT SITE IS RELATIVELY FLAT. AFTER THE BRIDGE AT APPROXIMATELY STA. 16+00 THERE ARE THREE DRIVES, ONE ON THE LEFT AND TWO ON THE RIGHT. THERE IS A RESIDENCE LOCATED APPROXIMATELY 160 FEET TO THE NORTHEAST OF THE BRIDGE. THERE IS A SLIGHT HORIZONTAL CURVE OVER THE BRIDGE AND A SIGNIFICANT VERTICAL SAG CURVE OVER THE BRIDGE. THERE ARE UTILITIY POLES ON THE WEST SIDE OF THE ROAD, BOTH NORTH AND SOUTH OF THE BRIDGE WITH OVERHEAD LINES PASSING DIRECTLY OVER THE BRIDGE. IMMEDIATELY ADJACENT TO THE BRIDGE IS THE MILL POND DAM.

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

THE PROPERTY SURROUNDING THE PROJECT SITE CONSISTS OF WELL ESTABLISHED VEGETATION, MODERATE TO STEEPLY SLOPING, MIXED SOFTWOOD AND HARDWOOD FOREST WITH WELL DEFINED DRAINAGE WAYS. DUE TO THE NATURE OF THE SURROUNDING TERRAIN, RUNOFF WATER ENTERING THE PROJECT SITE WILL BE PRIMARILY LIMITED TO THAT WHICH IS CONVEYED ALONG ROADWAY DITCHES, AND THAT WHICH FOLLOWS MILL POND ROAD ALONG THE GRADE AT THE END OF THE PROJECT LIMITS. THE CURRENT ROADWAY DITCHES ARE NOT WELL DEFINED AND ARE LINED WITH STONE IN SOME AREAS.

INDIAN BROOK IS LOCATED IN THE PROJECT AREA. THE ONLY OTHER WATER BODY NEAR THE PROJECT AREA IS MILL POND. THE INDIAN BROOK IS CLASSIFIED AS PERENNIAL, SINUOUS, NOT BRAIDED AND EQUIWIDTH CONTAINING A STREAMBED OF SOME LEDGE WITH SOME BOULDERS, COBBLES AND GRAVEL. THE CONTRIBUTING DRAINAGE AREA AT THE BRIDGE CROSSING IS 10.3 SQ. MI.

DISTURBANCE OF SOILS NEAR NATURAL OR MAN-MADE WATERWAYS CONSISTS OF THAT WHICH IS NECESSARY TO CONSTRUCT TWO NEW CONCRETE BRIDGE ABUTMENTS AND APPLICABLE ROADWAY APPROACHES AS WELL AS THE REMOVAL OF THE EXISTING CROSSING. STABILIZATION OF DISTURBANCES TO STREAM BANKS WILL BE ACCOMPLISHED WITH STONE FILL, TYPE I AND TYPE III.

1.2.3 VEGETATION

A MIX OF HARDWOOD AND SOFTWOOD TREES OF ALL SIZES EXIST ALONG TH27. THE RESIDENCE NEAR THE BRIDGE SITE HAS SMALL AREAS OF LAWN. IMPACTS TO VEGETATION WILL BE LIMITED TO THOSE WHICH ARE EFFECTED BY THE CONSTRUCTION OF THE NEW BRIDGE.

FOLLOWING REMOVAL OF THE EXISTING BRIDGE, ROADWAY APPROACHES WILL BE REBUILT AND THE SLOPES STABILIZED WITH STONE FILL AND VEGETATION REESTABLISHED WITH STANDARD SEED & MULCH PRACTICES.

1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF CHITTENDEN, VERMONT. SOILS ON THE PROJECT SITE ARE UDORTHENTS N/A SLOPES, “K FACTOR” = N/A; THE SOIL IS CONSIDERED UNKNOWN FOR ERODIBILITY. ADAMS/WINDSOR 12% TO 30% SLOPES, “K FACTOR” = 0.17; THE SOIL IS CONSIDERED LOW ERODIBLE. LIMERICK 0% TO 3% SLOPES, “K FACTOR” = 0.49; THE SOIL IS CONSIDERED HIGHLY ERODIBLE. AND SCANTIC 2% TO 6% SLOPES, “K FACTOR” = 0.32; THE SOIL IS CONSIDERED MODERATELY ERODIBLE.

NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING:  
0.0-0.23 = LOW EROSION POTENTIAL  
0.24-0.36 = MODERATE EROSION POTENTIAL  
0.37 AND HIGHER = HIGH EROSION POTENTIAL

1.2.5 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO  
HISTORICAL OR ARCHEOLOGICAL AREAS: YES  
PRIME AGRICULTURAL LAND: NO  
THREATENED AND ENDANGERED SPECIES: YES  
WATER RESOURCE: INDIAN BROOK  
WETLANDS: YES, CLASS II WETLANDS ARE LOCATED ON ALL SIDES OF THE PROJECT SLOPES.

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.

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.

1.4.5 DIVERT UPLAND RUNOFF

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

THE PROJECT AREA IS RELATIVELY FLAT. THEREFORE IT IS NOT ANTICIPATED THAT DIVERSION MEASURES WILL BE NECESSARY.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

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

STONE CHECK DAMS WILL BE INSTALLED AS PROPOSED ON THE EPSC PLAN, AT A MINIMUM.

1.4.7 CONSTRUCT PERMANENT CONTROLS

PERMANENT STORMWATER TREATMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH PERMIT CONDITIONS.

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 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 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.

TREATMENT OF DEWATERING IS ANTICIPATED. A LOCATION FOR TREATMENT HAS BEEN PROPOSED AND IS SHOWN ON THE PLANS. HOWEVER THE SPECIFIC MEANS FOR TREATMENT OF DISCHARGE SHALL BE PROVIDED BY THE CONTRACTOR.

1.4.12 INSPECT YOUR SITE

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 SEQUENCE AND STAGING

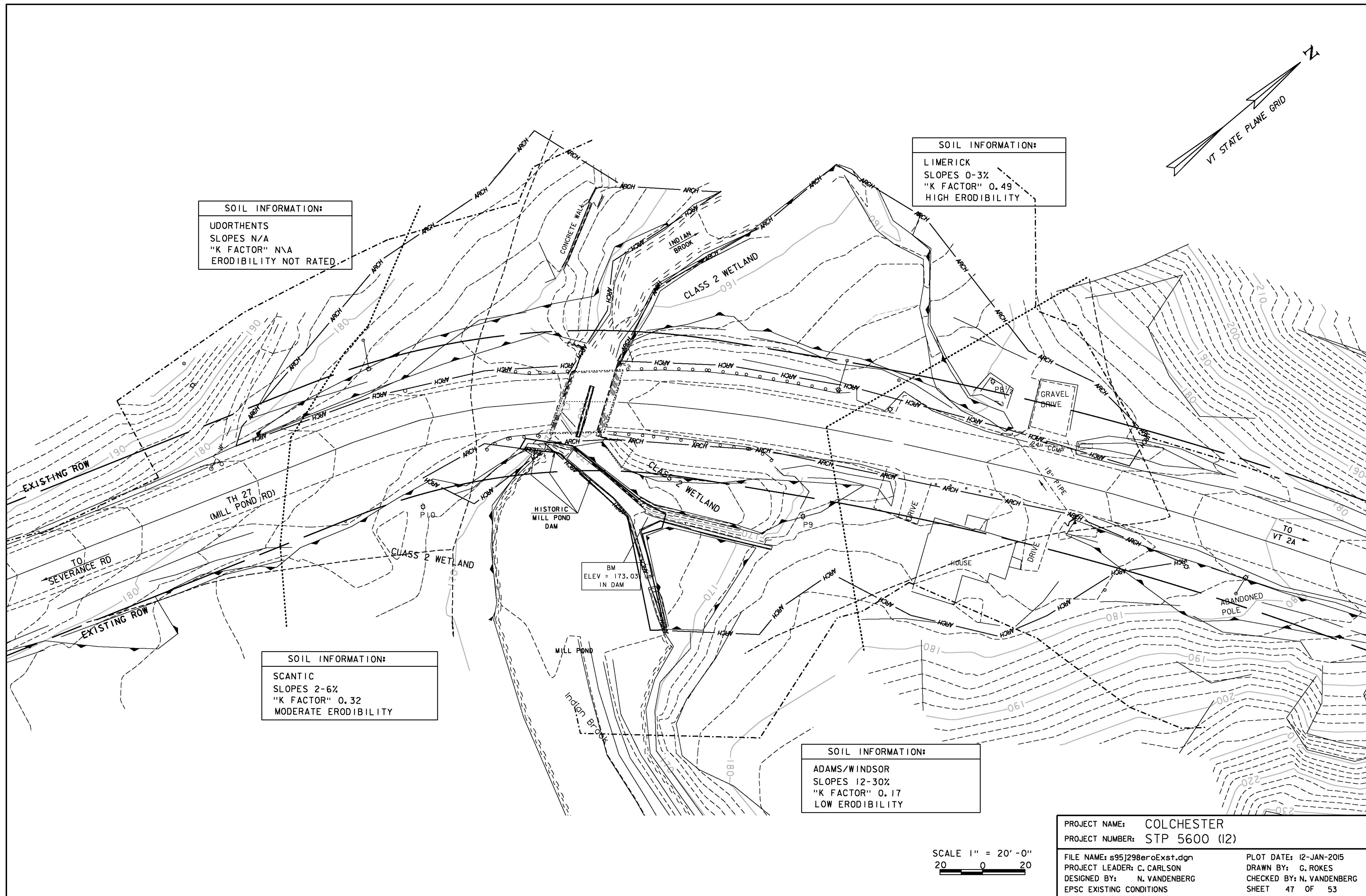
THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

1.5.1 OFF-SITE ACTIVITIES

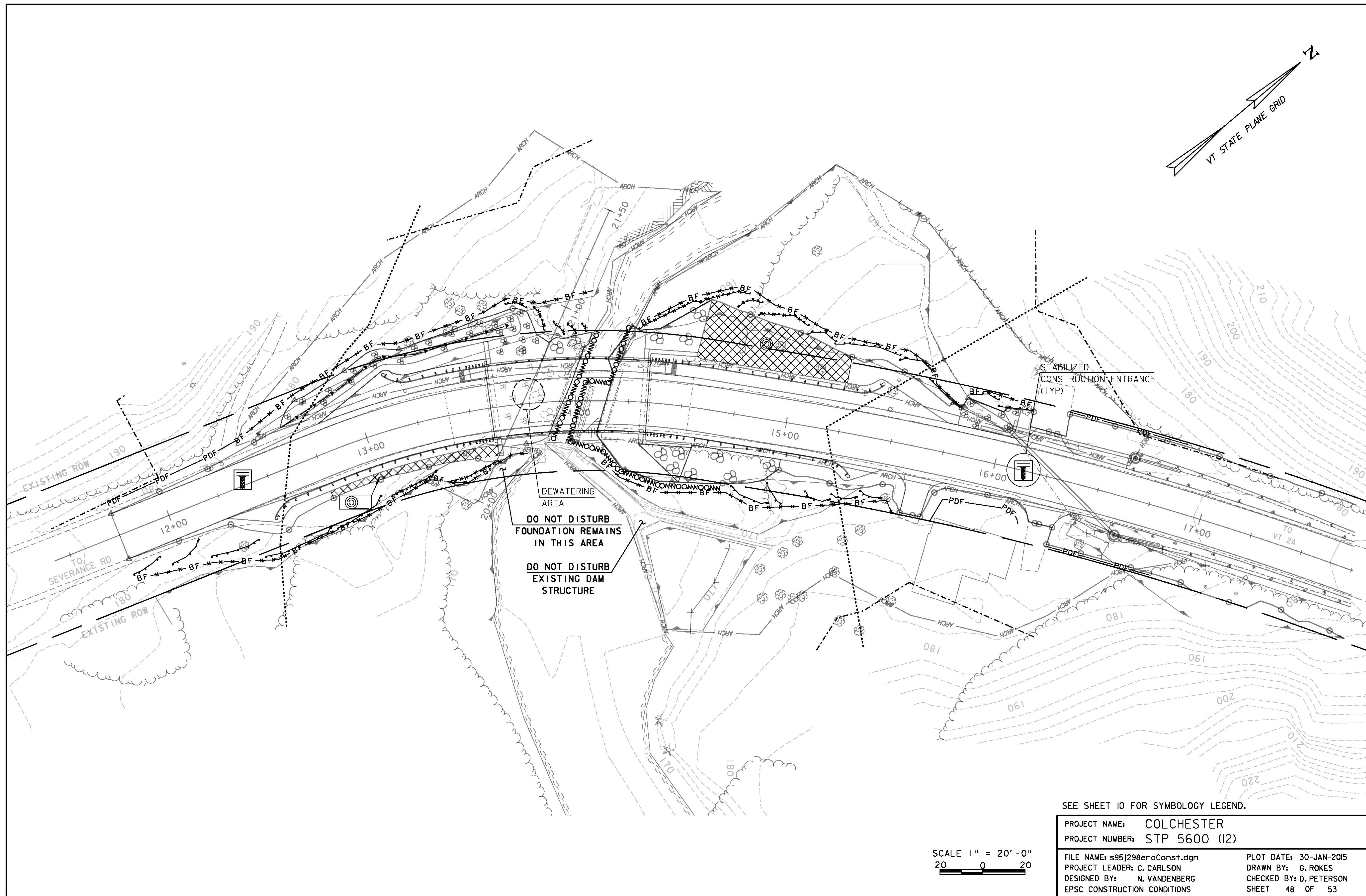
IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SUBSECTIONS 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

PROJECT NAME: COLCHESTER	
PROJECT NUMBER: STP 5600 (12)	
FILE NAME: s95j298eronarr.dgn	PLOT DATE: 12-JAN-2015
PROJECT LEADER: C. CARLSON	DRAWN BY: G. ROKES
DESIGNED BY: N. VANDENBERG	CHECKED BY: N. VANDENBERG
EPSC NARRATIVE	SHEET 46 OF 53









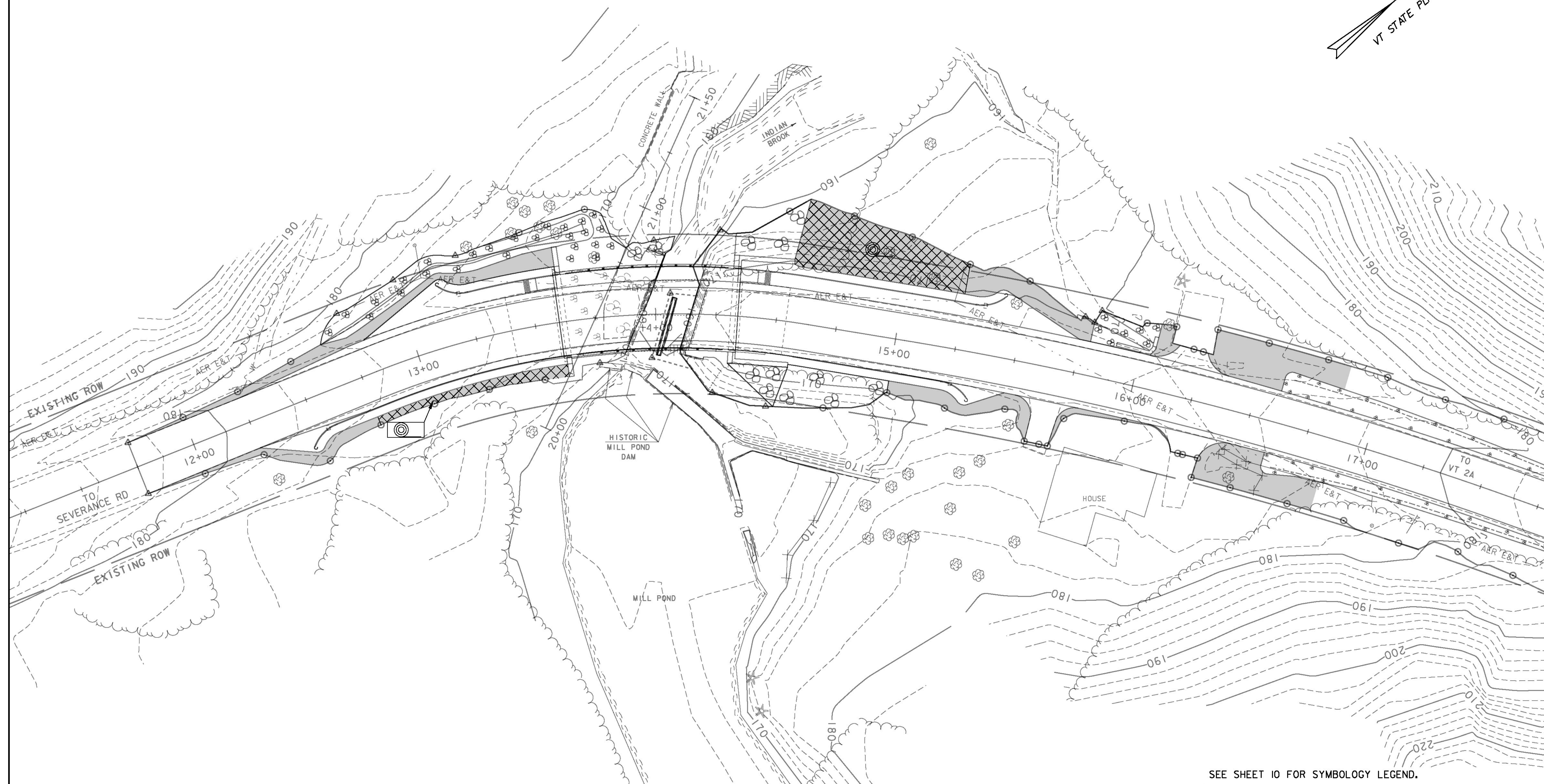
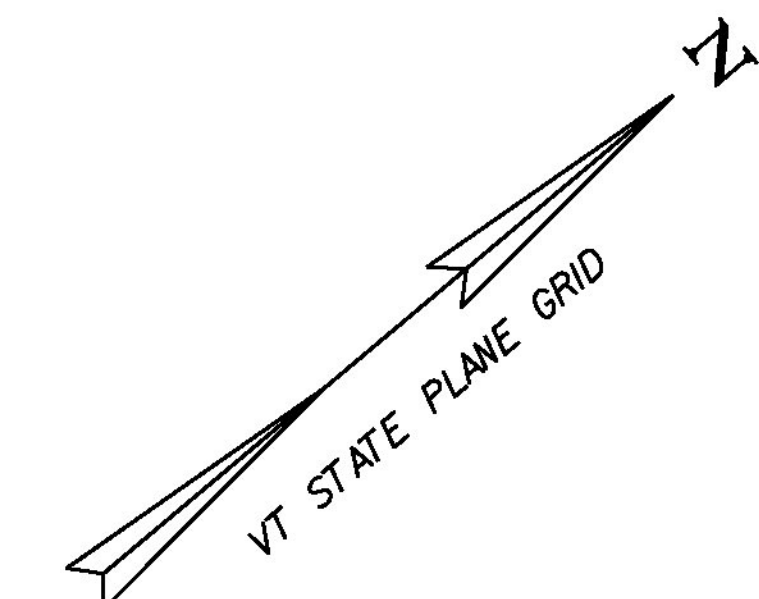
SEE SHEET 10 FOR SYMBOLOGY LEGEND.

PROJECT NAME: COLCHESTER  
PROJECT NUMBER: STP 5600 (I2)

FILE NAME: s95j298eroConst.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: N. VANDENBERG  
EPSC CONSTRUCTION CONDITIONS

PLOT DATE: 30-JAN-2015  
DRAWN BY: G. ROKES  
CHECKED BY: D. PETERSON  
SHEET 48 OF 53



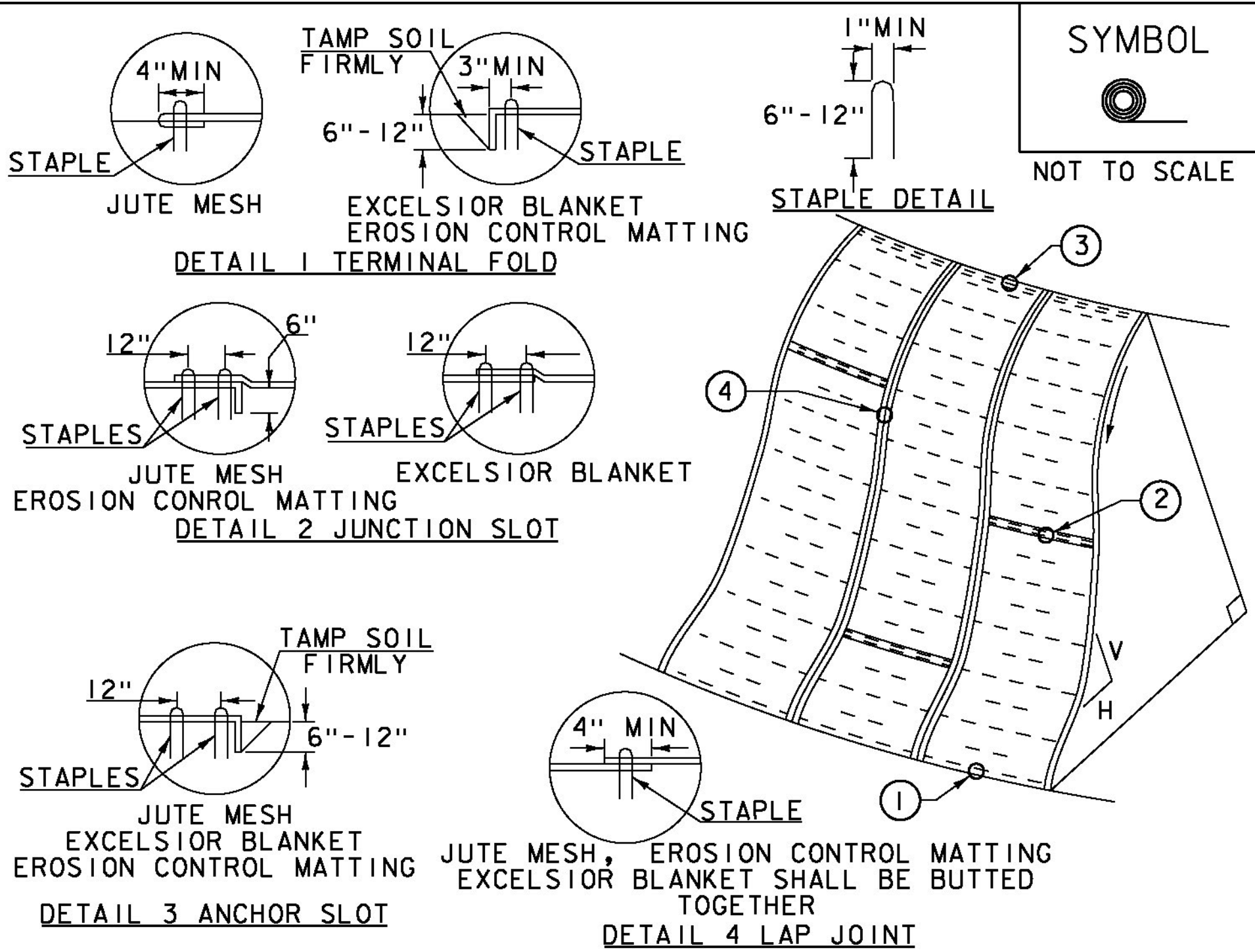


SCALE 1" = 20' - 0"  
20 0 20

SEE SHEET 10 FOR SYMBOLGY LEGEND.

PROJECT NAME:	COLCHESTER	PLOT DATE:	26-JAN-2015
PROJECT NUMBER:	STP 5600 (12)	DRAWN BY:	G. ROKES
FILE NAME:	s95j298e01.dgn	CHECKED BY:	D. PETERSON
PROJECT LEADER:	C. CARLSON	SHEET	49 OF 53
DESIGNED BY:	N. VANDENBERG		
EPSC FINAL CONDITIONS			





CONSTRUCTION SPECIFICATIONS

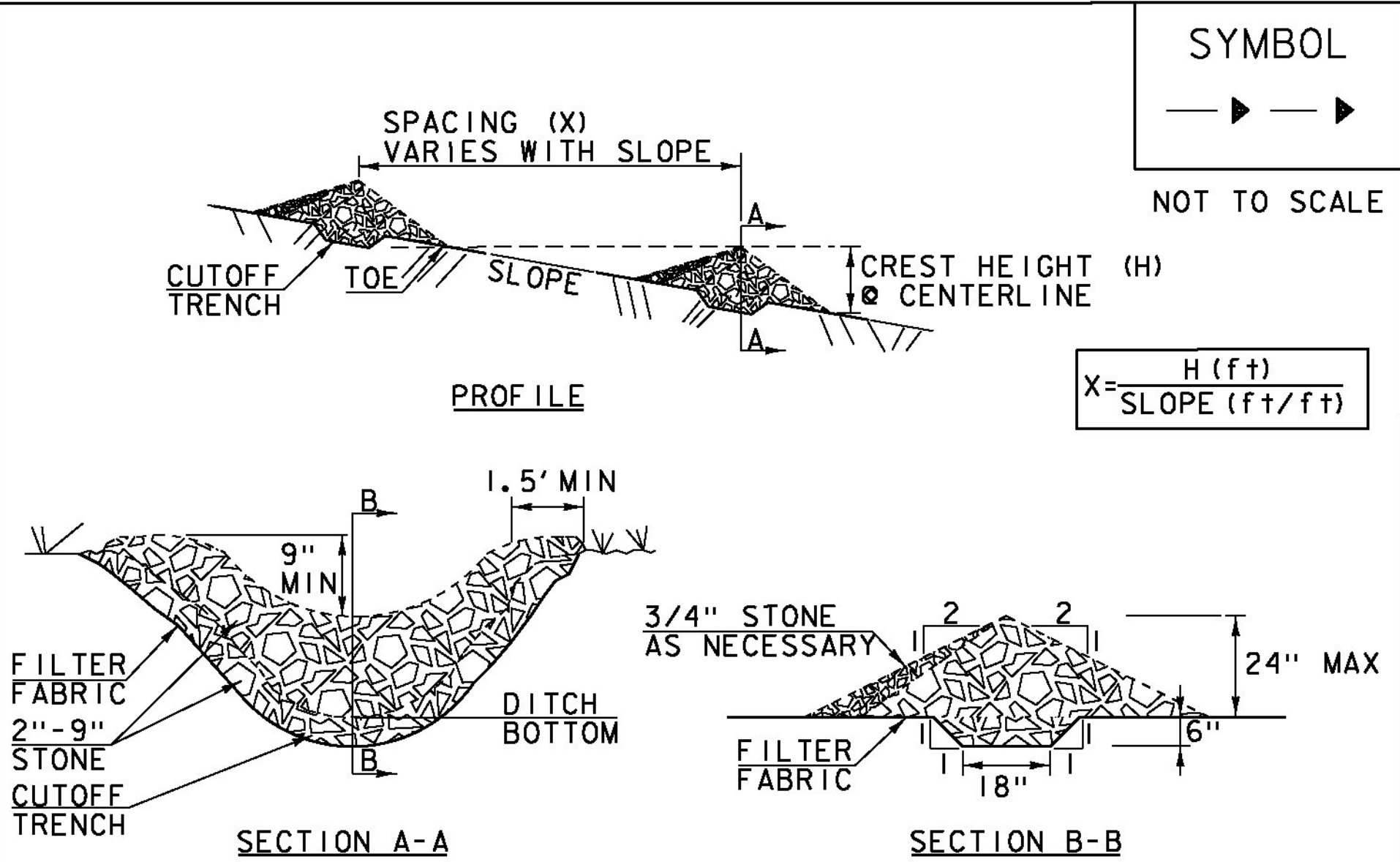
1. APPLY TO SLOPES GREATER THAN 3H: IV OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

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

ROLLED EROSION  
CONTROL PRODUCT  
(RECP) SIDE SLOPE

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 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION  
MATTING (PAY ITEM 653.20) OR PERMANENT EROSION MATTING  
(PAY ITEM 653.21).

REVISIONS		
APRIL 16, 2007	JMF	
JANUARY 13, 2009	WHF	



CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION.
2. CHECK DAMS SHALL BE SPACED SO THAT THE ELEVATION OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
3. 3/4" FILTERING STONE MAY BE ADDED TO THE FACE OF THE CHECK DAM AS NECESSARY.
4. EXTEND THE STONE A MINIMUM OF 1.5' BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
5. PROTECT CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
6. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.
7. MAXIMUM DRAINAGE AREA 2 ACRES.

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

CHECK DAM

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 TEMPORARY STONE CHECK DAM, TYPE I (PAY  
ITEM 653.25)

REVISIONS		
MARCH 21, 2008	WHF	
JANUARY 8, 2009	WHF	

VAOT LOW GROW/FINE FESCUE MIX						
	LBS/AC					
WEIGHT	BROADCAST	HYDROSEED	NAME	LATIN NAME	GERM	PURITY
38%	57	95	CREeping RED FESCUE	FESTUCA RUBRA VAR. RUBRA	90%	98%
29%	43.5	72.5	HARD FESCUE	FESTUCA LONGIFOLIA	85%	95%
15%	22.5	37.5	CHEWINGS FESCUE	FESTUCA RUBRA VAR. COMMUTATA	87%	95%
15%	22.5	37.5	ANNUAL RYEGRASS	LOLIUM MULTIFLORUM	90%	95%
3%	4.5	7.5	INERTS			
100%	150	250				

VAOT RURAL AREA MIX

	LBS/AC					
WEIGHT	BROADCAST	HYDROSEED	NAME	LATIN NAME	GERM	PURITY
37.5%	22.5	45	CREeping RED FESCUE	FESTUCA RUBRA VAR. RUBRA	85%	98%
37.5%	22.5	45	TALL FESCUE	FESTUCA ARUNDINACEA	90%	95%
5.0%	3	6	RED TOP	AGROSTIS GIGANTEA	90%	95%
15.0%	9	18	WHITE FIELD CLOVER	TRIFOLIUM REPENS	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	LOLIUM MULTIFLORUM	85%	95%
100%	60	120				

GENERAL AMENDMENT GUIDANCE

FERTILIZER	LIME	
10/20/10	AG LIME	PELLITIZED
500 LBS/AC	2 TONS/AC	1 TONS/AC

CONSTRUCTION GUIDANCE

1. SEED MIX: THE CONTRACTOR SHALL COORDINATE WITH THE RESIDENT ENGINEER ON WHICH SEED MIX TO USE.
2. SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) 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. HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED PROPOSED FOR USE WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED.
7. TURF ESTABLISHMENT: PLACING SEED, FERTILIZER, LIME AND MULCH PRIOR TO SEPTEMBER 15 AND AFTER APRIL 15 CAN BETTER ENSURE A VIGOROUS GROWTH OF GRASS.

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR  
ROADWAYS AND TRANSPORTATION FACILITIES

TURF ESTABLISHMENT

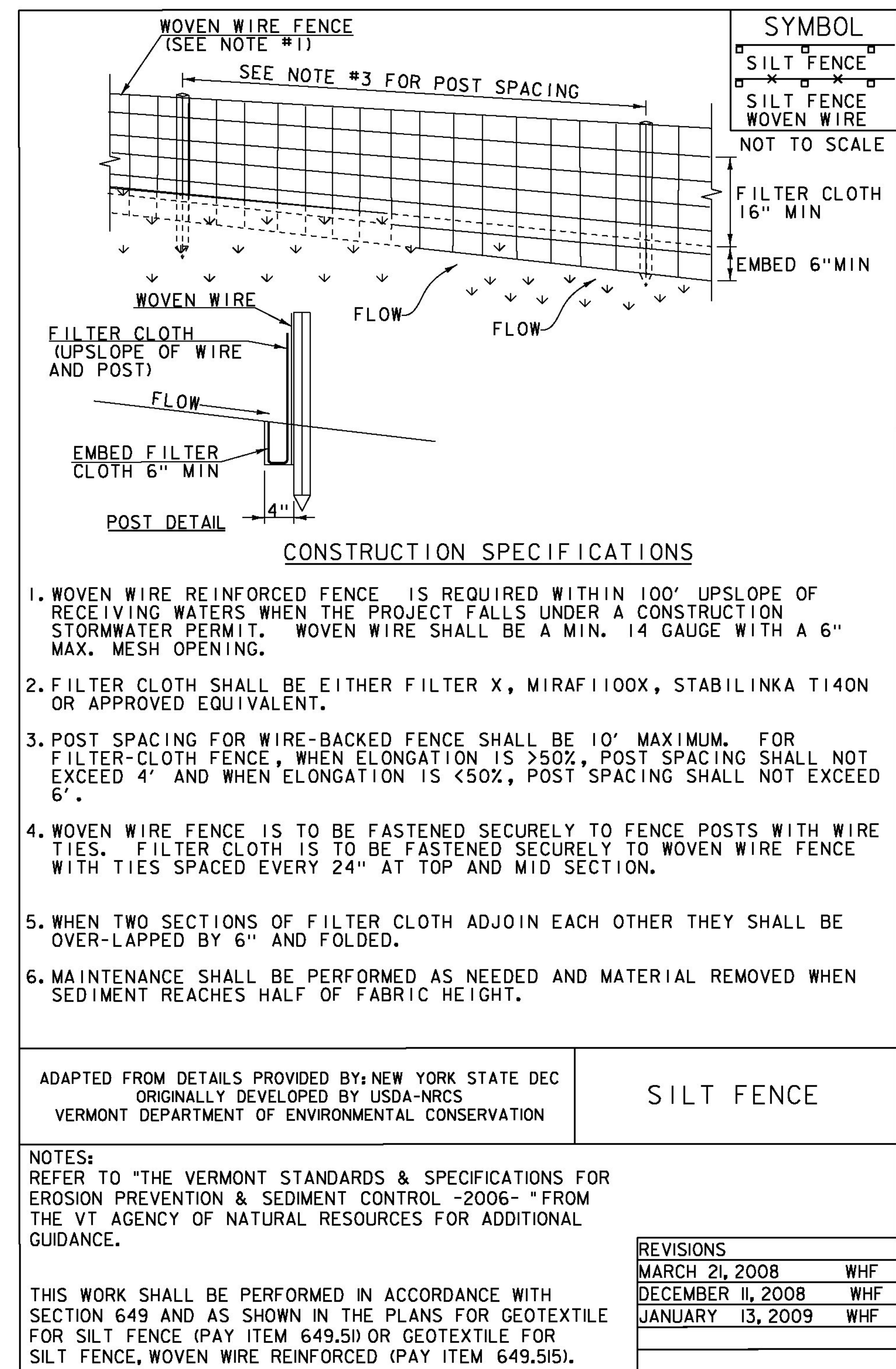
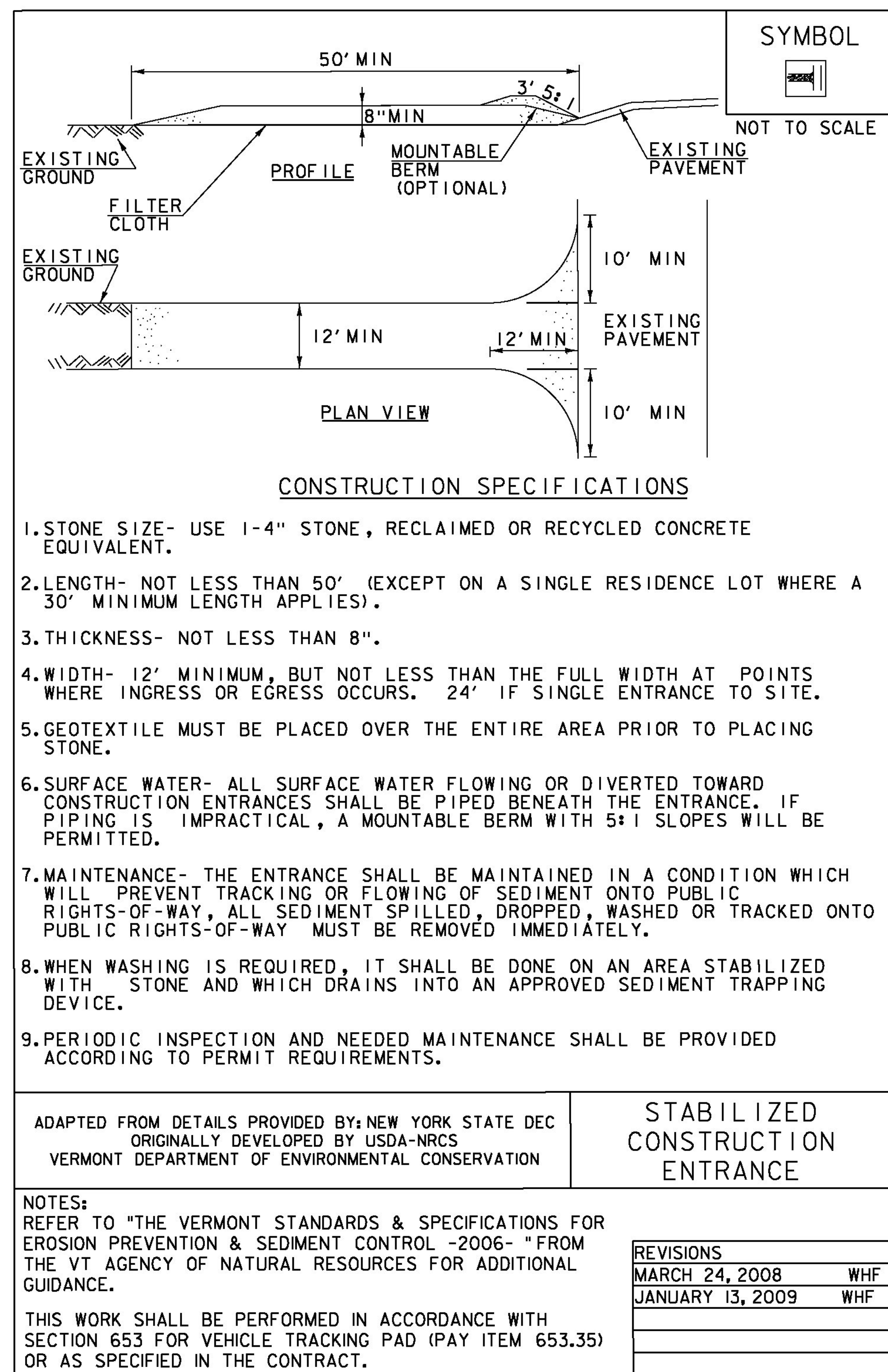
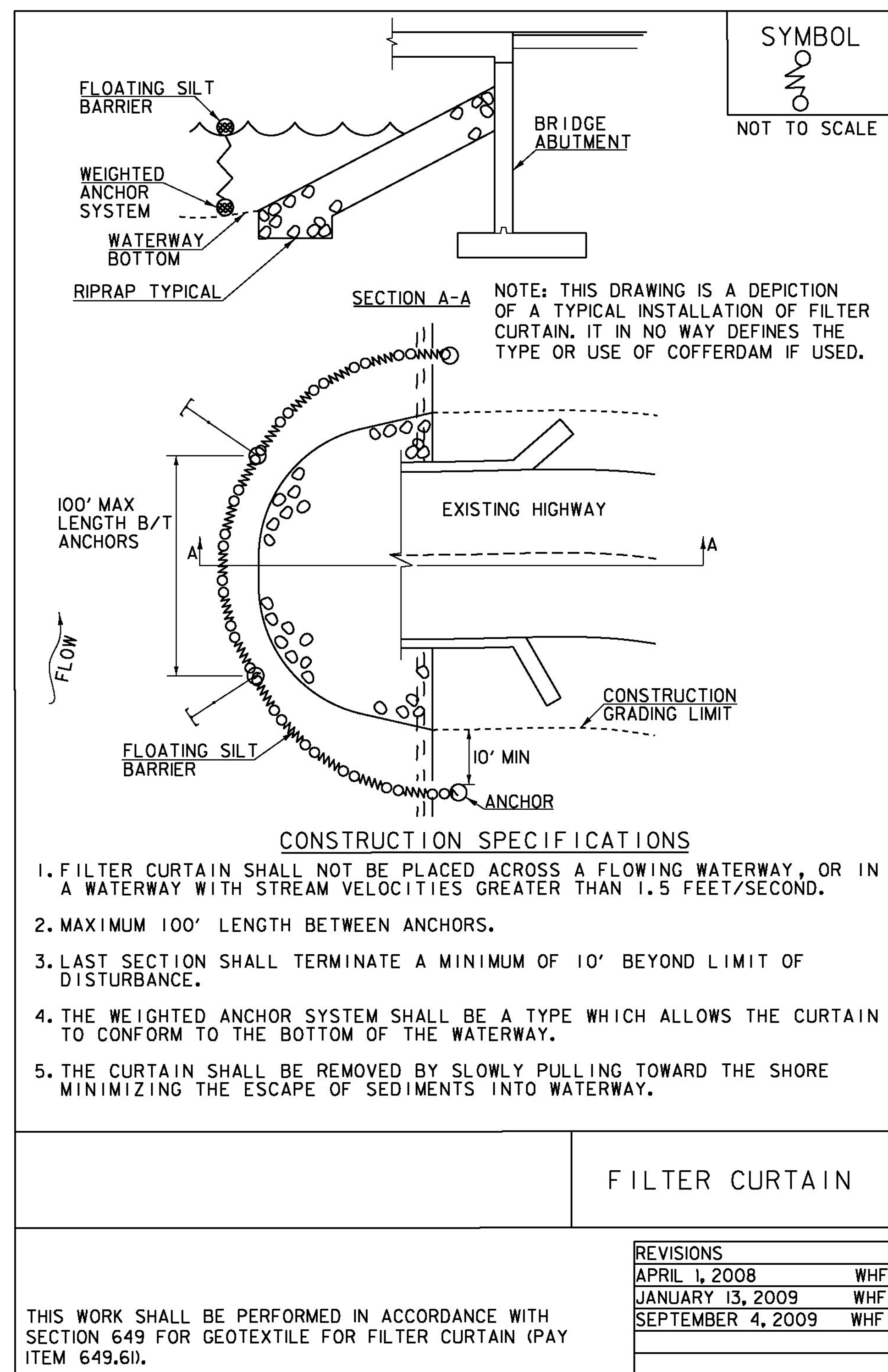
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH  
SECTION 651

REVISIONS		
JANUARY 12, 2015	WHF	

PROJECT NAME: COLCHESTER  
PROJECT NUMBER: STP 5600 (12)

FILE NAME: s95j298eroDetails.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: N. VANDENBERG  
EPSC DETAILS I  
PLOT DATE: 26-JAN-2015  
DRAWN BY: G. ROKES  
CHECKED BY: D. PETERSON  
SHEET 50 OF 53







[illegible]

APPROVED: RYAN CLOUTIER DATE: 03-12-14  
CHIEF, PLANS & TITLES



**CONSTRUCT BITUMINOUS CONCRETE APRON**

DRIVE @ 15+67.00 RT (LENGTH 18'-0")  
DRIVE @ 16+21.00 LT (LENGTH 9'-6")  
DRIVE @ 16+27.00 RT (LENGTH 9'-3")

**COLD PLANING, BITUMINOUS PAVEMENT**

11+75.00 - 12+25.00

**BRIDGE RAILING, GALVANIZED STEEL  
TUBING/CONCRETE COMBINATION**

13+60.95 RT - 14+33.05 RT  
13+61.05 LT - 14+32.95 LT

**CAST-IN-PLACE CONCRETE CURB, TYPE B**

13+48.36 LT - 13+60.00 LT  
14+34.00 LT - 14+45.64 LT  
13+46.97 RT - 13+60.00 RT  
14+34.00 RT - 14+47.03 RT

**RELOCATE MAILBOX, SINGLE SUPPORT**

15+54.00 RT - 15+75.00 RT

**BITUMINOUS CONCRETE SIDEWALK**

13+48.36 LT - 13+60.00 LT  
14+34.00 LT - 14+45.64 LT

**DETECTABLE WARNING SURFACE**

13+48.85 LT - 13+50.76 LT  
14+43.24 LT - 14+45.15 LT

**HD STEEL BEAM GUARDRAIL, GALV.**

12+47.45 RT - 13+42.80 RT  
13+16.16 LT - 13+42.90 LT  
14+51.20 RT - 15+32.30 RT  
14+51.10 LT - 15+40.82 LT

**ANCHOR FOR STEEL BEAM RAIL**

12+54.84 RT  
13+23.00 LT  
15+24.95 RT  
15+33.70 LT

**CONSTRUCT STONE-LINED DITCH, TYPE I**

12+64.0 LT - 13+77.6 LT  
15+79.1 LT - 16+06.1 LT

16+04.43 LT - 16+42.46 RT  
REMOVE EXISTING 18" PIPE AND  
CONCRETE HEADWALLS AT INLET  
AND OUTLET

16+04.48 LT - 16+36.62 LT  
REMOVE EXISTING 24" CGMP

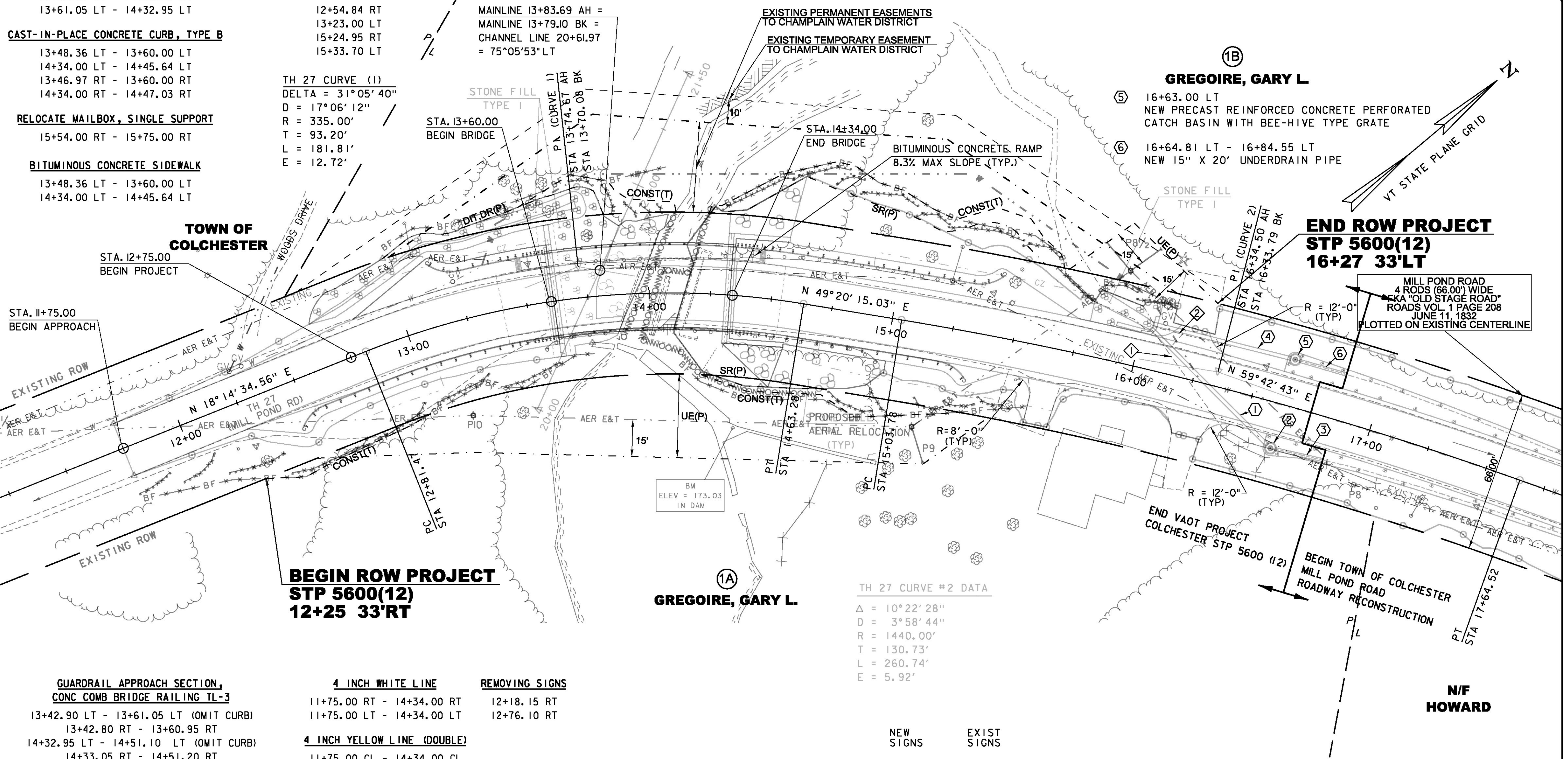
MAINLINE 13+83.69 AH =  
MAINLINE 13+79.10 BK =  
CHANNEL LINE 20+61.97  
= 75°05'53" LT

① 16+03.58 LT - 16+61.38 RT  
NEW 18" X 68' CPEP (SL) WITH  
CONCRETE HEADWALL AT OUTLET

② 16+63.00 RT  
NEW PRECAST REINFORCED CONCRETE PERFORATED  
CATCH BASIN WITH BEE-HIVE TYPE GRATE

③ 16+64.85 RT - 16+85.07 RT  
NEW 15" X 20' UNDERDRAIN PIPE

④ 16+04.08 LT - 16+61.19 LT  
NEW 18" X 58' CPEP (SL) WITH  
CONCRETE HEADWALL AT OUTLET



**GUARDRAIL APPROACH SECTION,  
CONC COMB BRIDGE RAILING TL-3**

13+42.90 LT - 13+61.05 LT (OMIT CURB)  
13+42.80 RT - 13+60.95 RT  
14+32.95 LT - 14+51.10 LT (OMIT CURB)  
14+33.05 RT - 14+51.20 RT

**REMOVAL AND DISPOSAL OF GUARDRAIL**

13+54.00 RT - 13+86.00 RT  
13+68.00 LT - 13+97.00 LT  
14+15.00 RT - 14+97.00 RT  
14+23.00 LT - 15+27.00 LT

**4 INCH WHITE LINE**

11+75.00 RT - 14+34.00 RT  
11+75.00 LT - 14+34.00 LT

**4 INCH YELLOW LINE (DOUBLE)**

11+75.00 CL - 14+34.00 CL

**TRAFFIC SIGNS, TYPE A**

12+20.00 RT  
13+45.00 RT  
14+65.00 LT

**REMOVING SIGNS**

12+18.15 RT  
12+76.10 RT

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

**FOR R.O.W.  
USE ONLY**

**TH 27 CURVE #2 DATA**

Δ = 10°22'28"  
D = 3°58'44"  
R = 1440.00'  
T = 130.73'  
L = 260.74'  
E = 5.92'

NEW SIGNS      EXIST SIGNS

N = NEW  
R = REMOVE

SCALE 1" = 20'-0"  
20      0      20

PROJECT NAME: COLCHESTER  
PROJECT NUMBER: STP 5600(12)

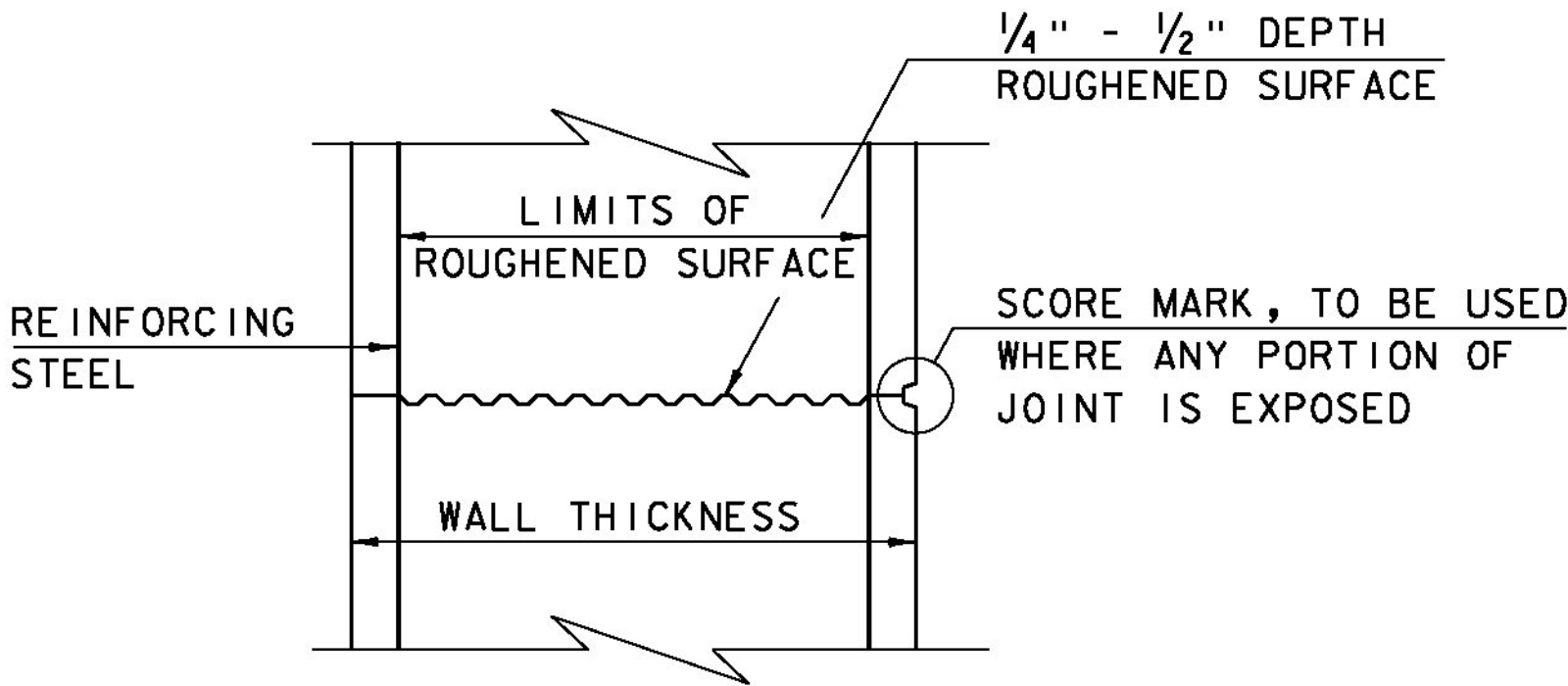
FILE NAME: r95j298lay.dgn  
PROJECT LEADER: C. CARLSON  
DESIGNED BY: N. VANDENBURG  
R.O.W. LAYOUT SHEET 1 OF 1

PLOT DATE: 12-JAN-2015  
DRAWN BY: E. PIERCE  
CHECKED BY: R. CLOUTIER  
SHEET 53 OF 53



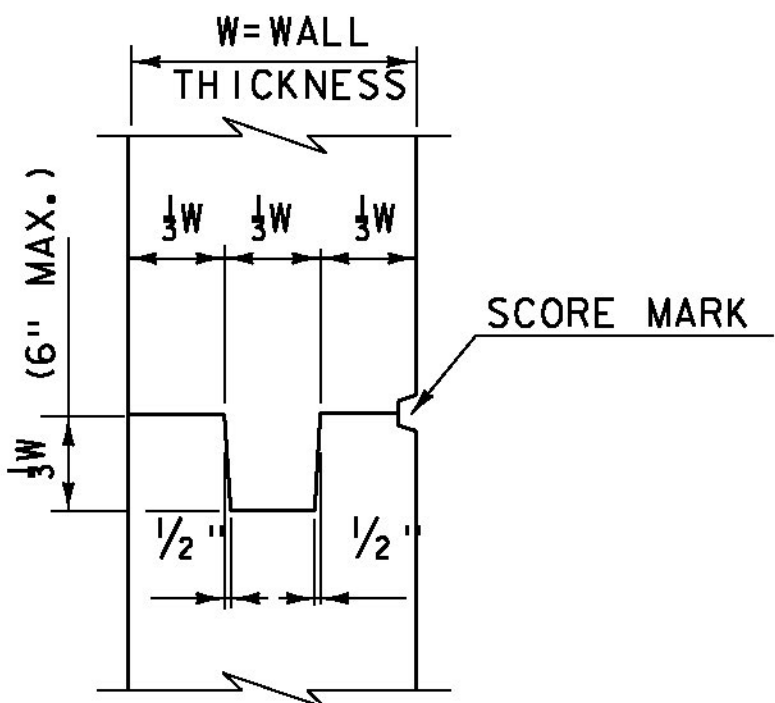
CONCRETE GENERAL NOTES

- 1. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" x 1"
- 2. REINFORCING STEEL SIZE AND SPACING SHOWN IN THE PLANS IS BASED ON 60 KSI STEEL, UNLESS NOTED OTHERWISE. WITH THE ENGINEER'S PERMISSION, BAR SIZE AND SPACING MAY BE MODIFIED ACCORDING TO THE LATEST AASHTO LRFD BRIDGE DESIGN SPECIFICATION AND STRUCTURES DESIGN MANUAL WHEN USING HIGHER STRENGTH STEEL.

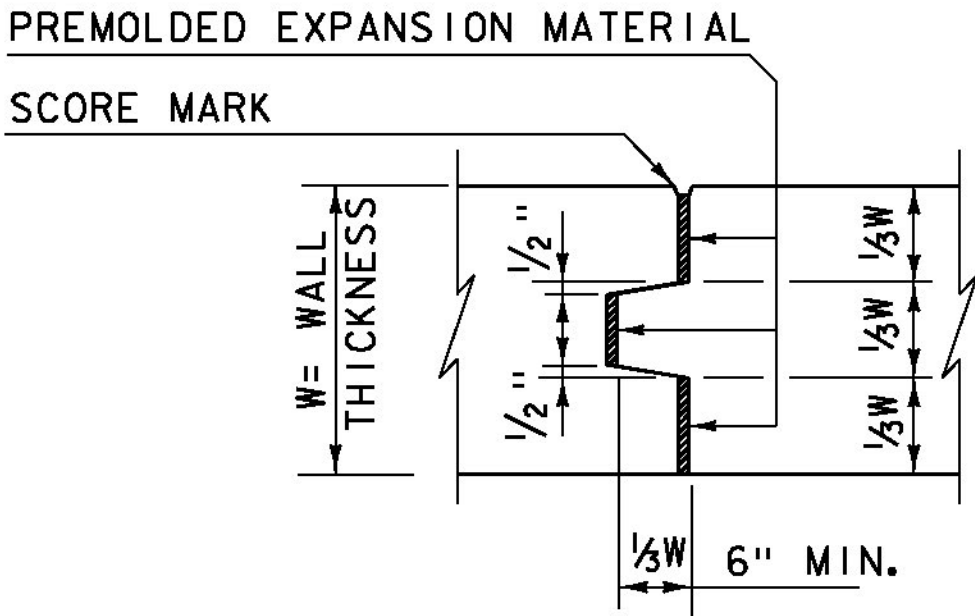
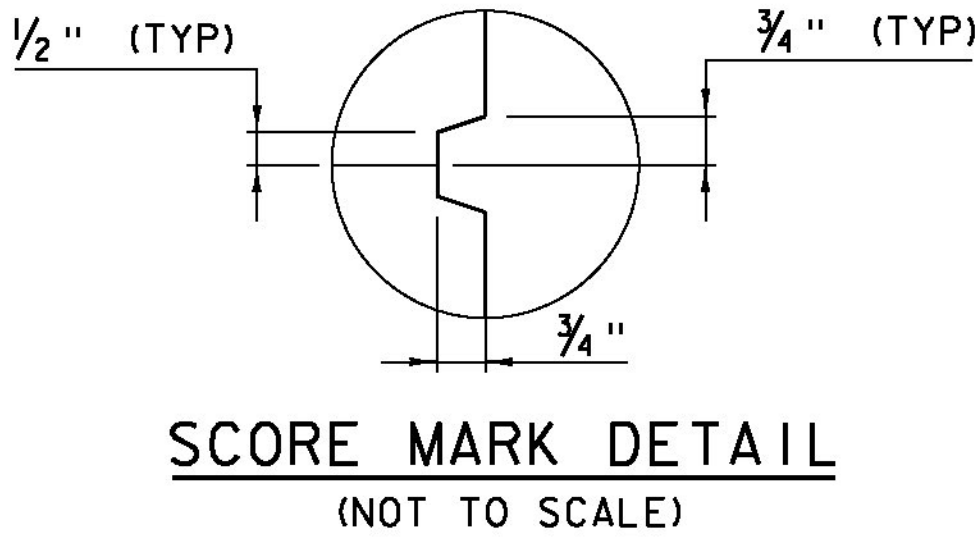


TYPICAL HORIZONTAL CONSTRUCTION JOINT  
(NOT TO SCALE)

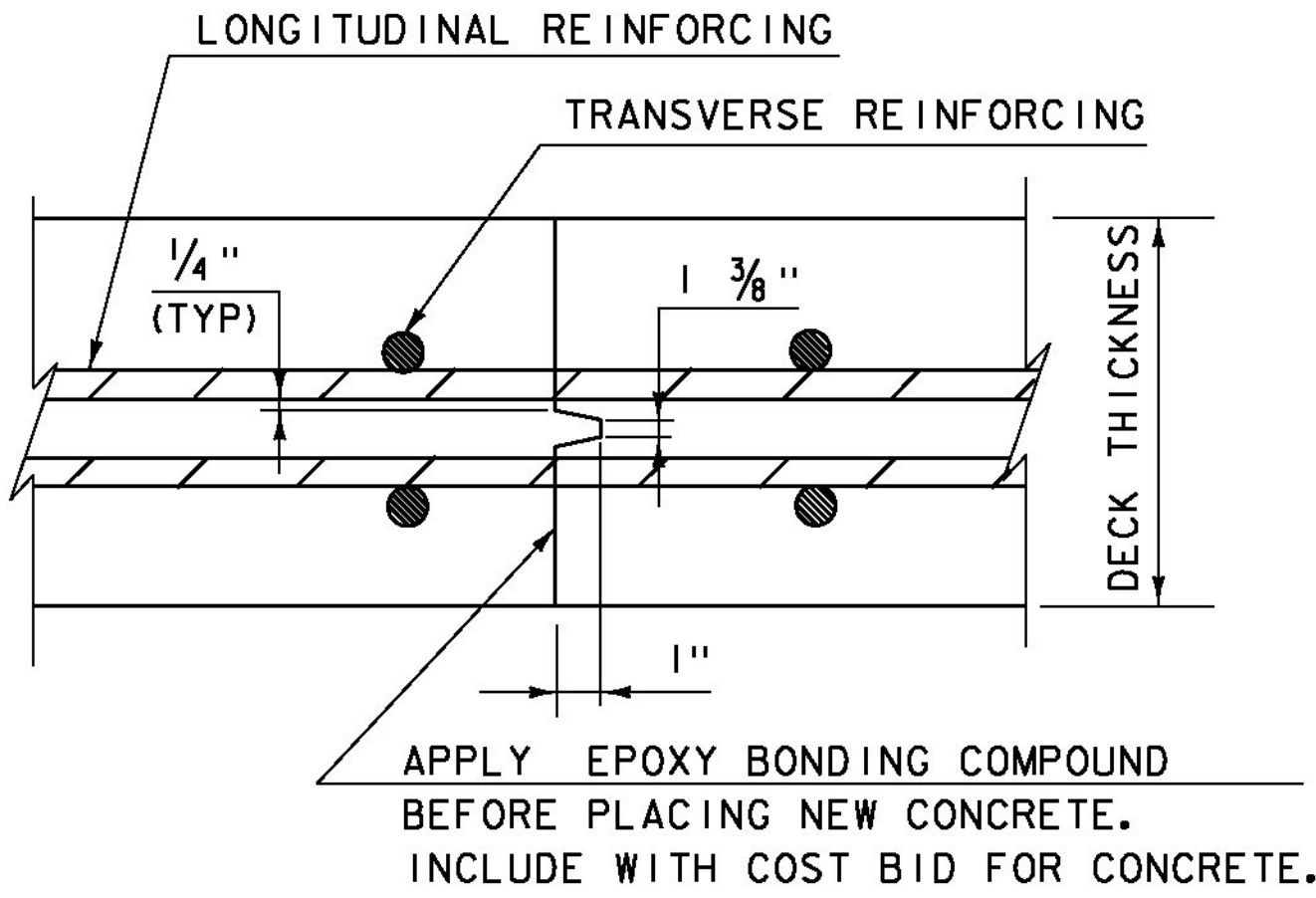
- 1. THE SURFACE OF THE CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND FREE OF LAITANCE.
- 2. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.



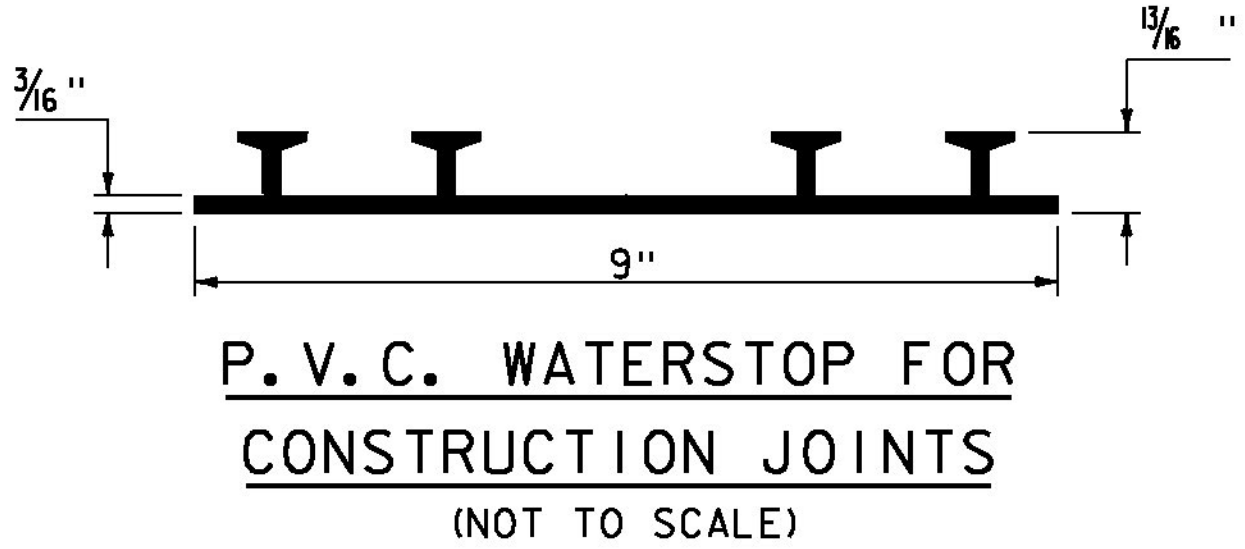
TYPICAL CONCRETE CONSTRUCTION JOINT  
(NOT TO SCALE)



TYPICAL CONCRETE EXPANSION JOINT  
(NOT TO SCALE)

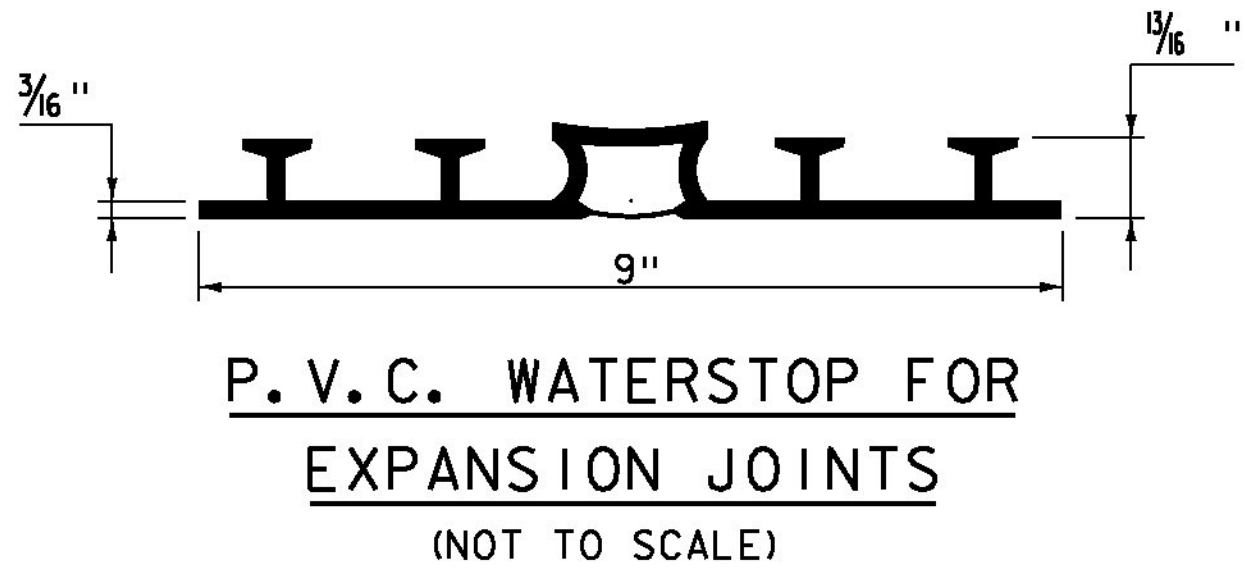


TRANSVERSE BRIDGE SLAB  
CONSTRUCTION JOINT DETAILS  
(NOT TO SCALE)



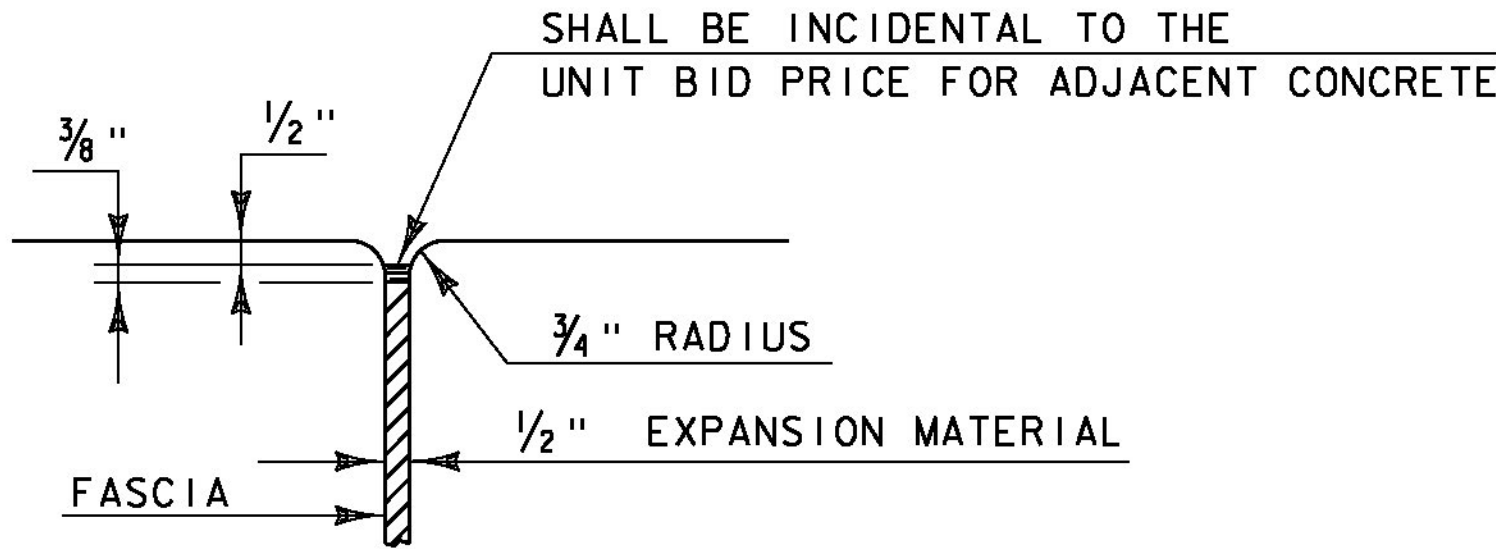
PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.



PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

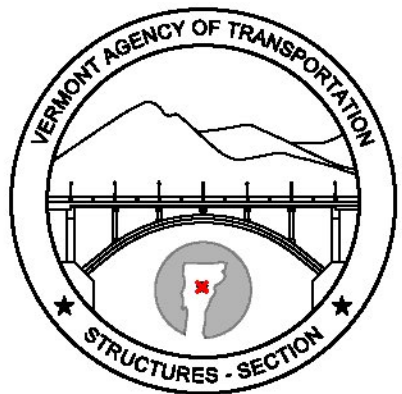
OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.



JOINT BETWEEN FASCIA  
AND WINGWALL  
(NOT TO SCALE)

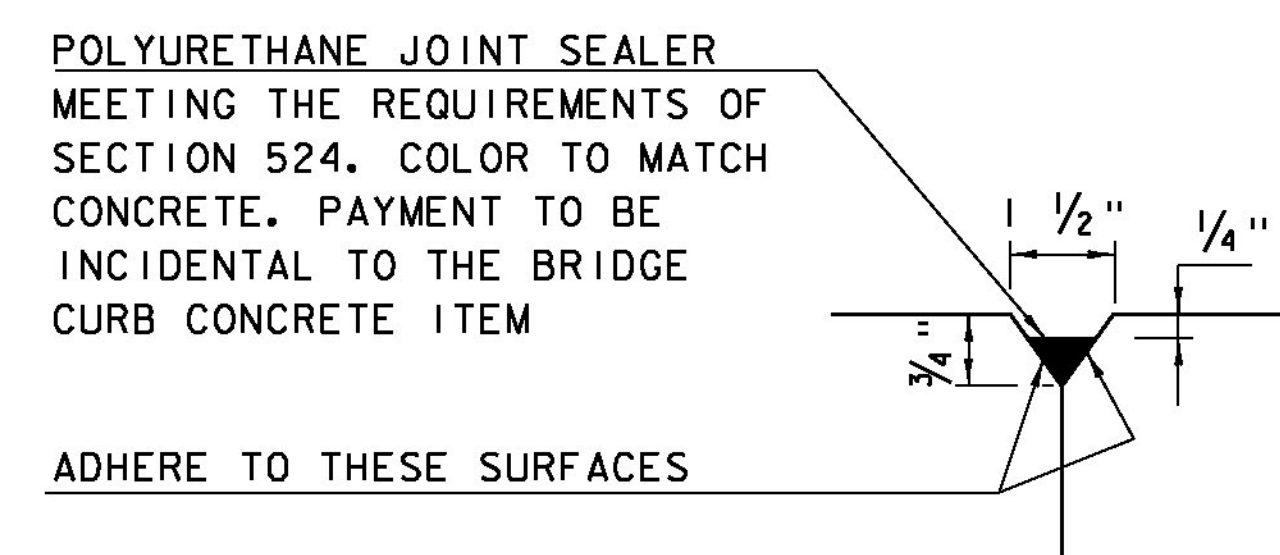
REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
FEBRUARY 9, 2012	REBAR SUBSTITUTION ALLOWANCE ADDED TO CONCRETE GENERAL NOTES.

CONCRETE  
DETAILS AND NOTES

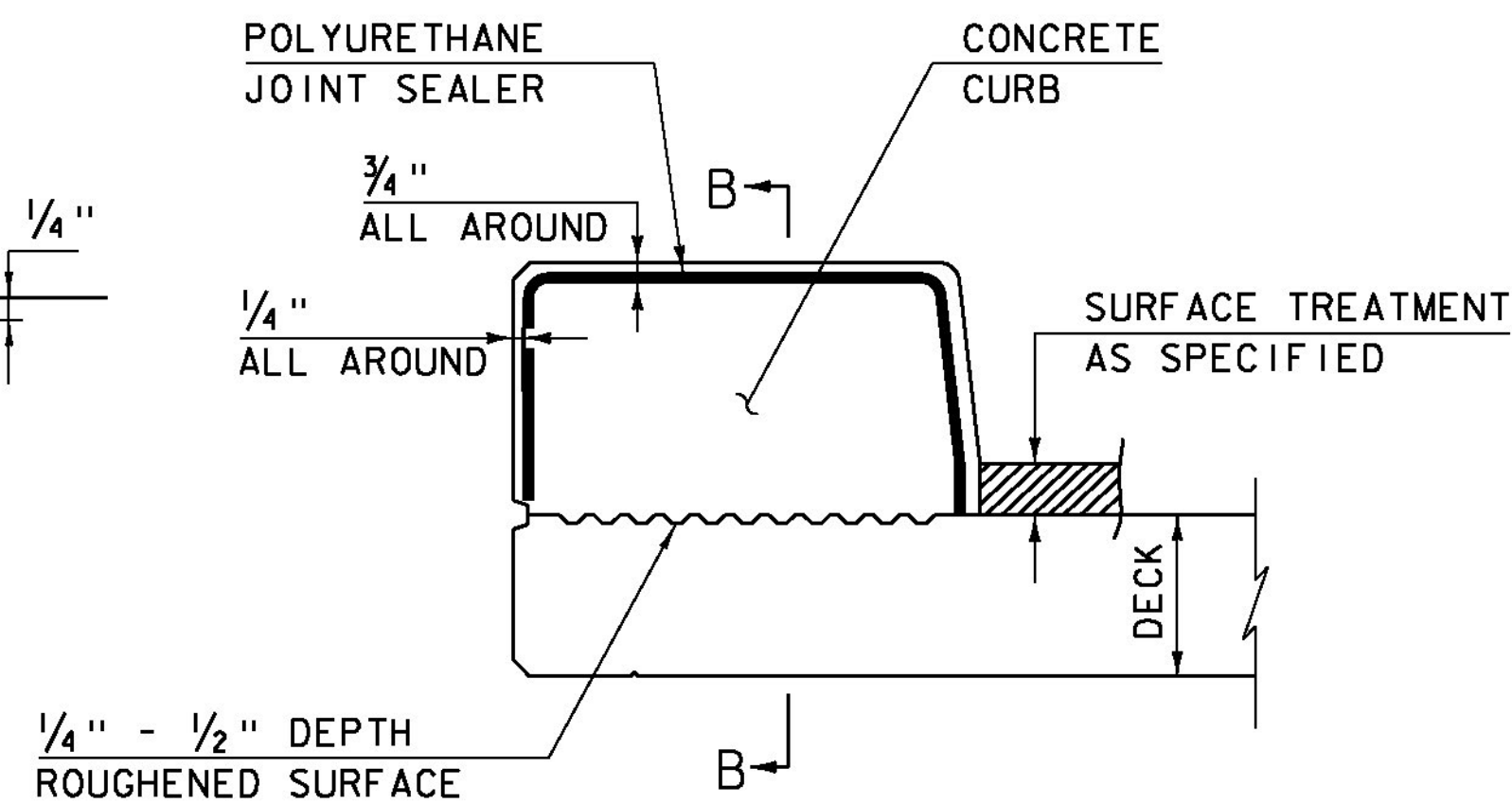


STRUCTURES  
DETAIL  
SD-501.00



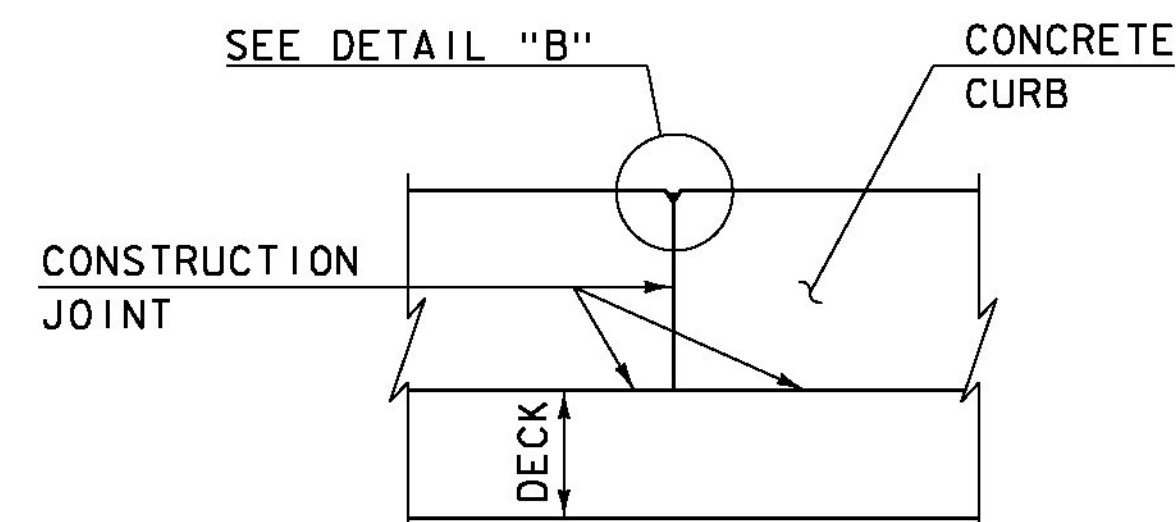


DETAIL "B"  
(NOT TO SCALE)

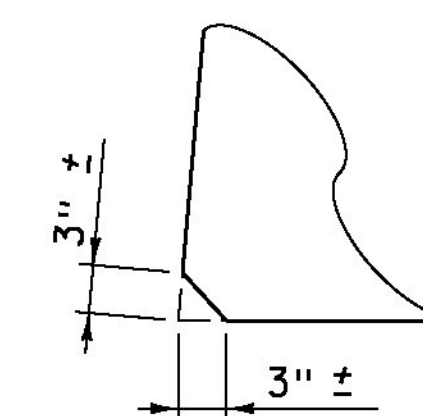


CONCRETE CURB JOINT SECTION  
(NOT TO SCALE)

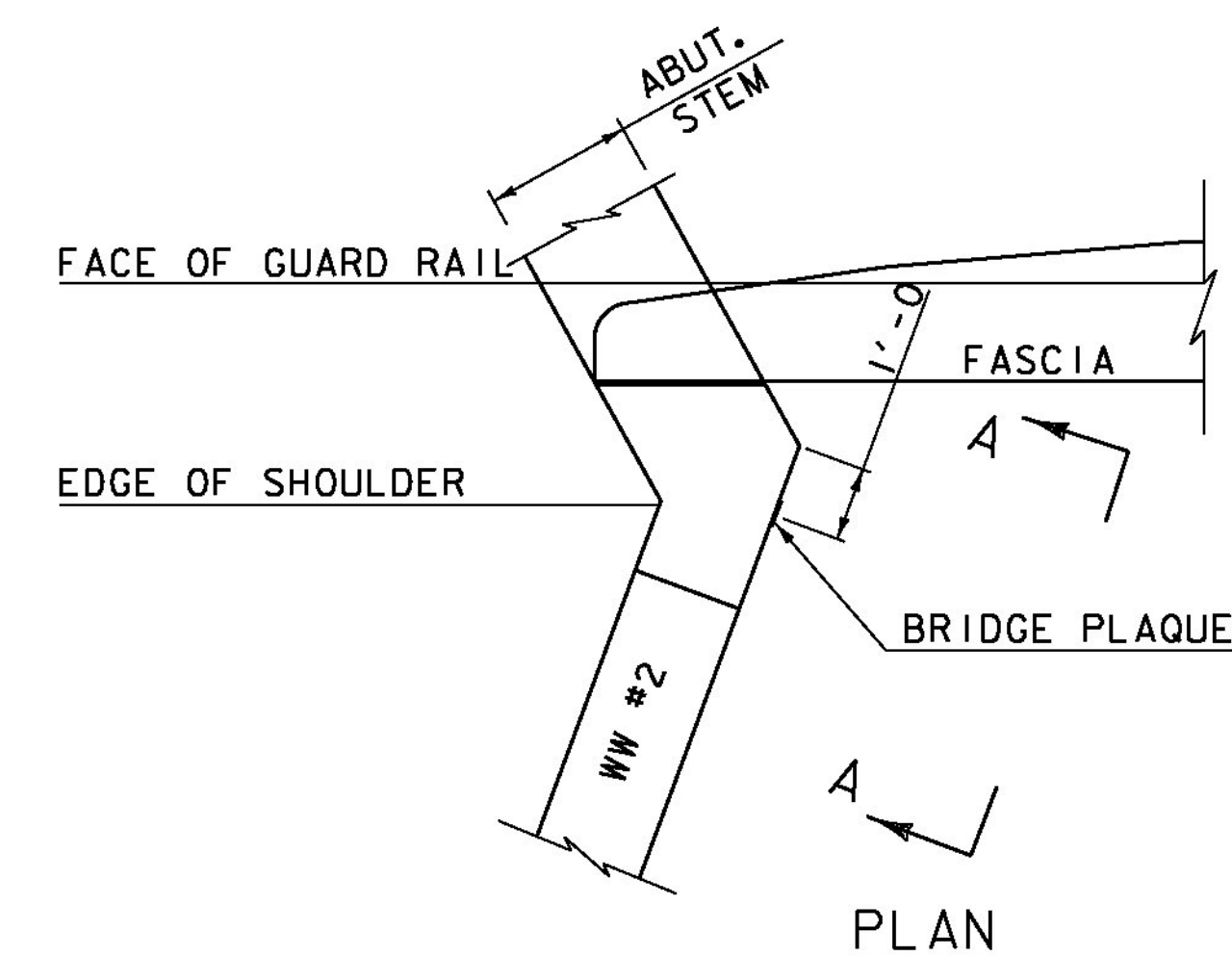
1. SEE TYPICAL HORIZONTAL CONSTRUCTION JOINT DETAIL FOR ADDITIONAL INFORMATION



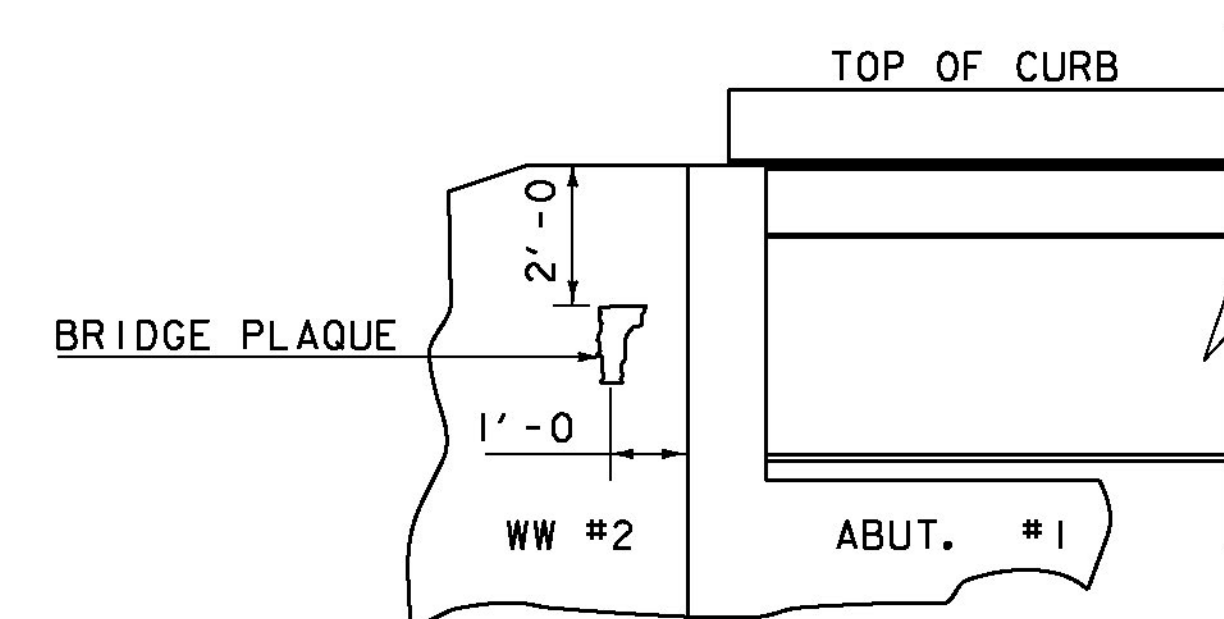
SECTION B - B  
(NOT TO SCALE)



ACUTE ANGLE  
CLIP DETAIL  
(NOT TO SCALE)



PLAN



VIEW "A - A"

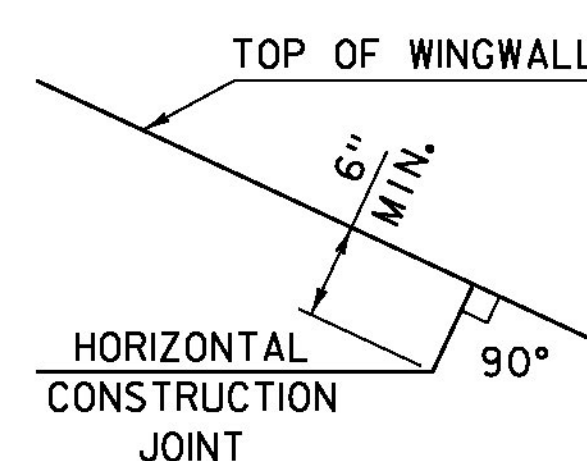
BRIDGE PLAQUE  
(NOT TO SCALE)

THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER.

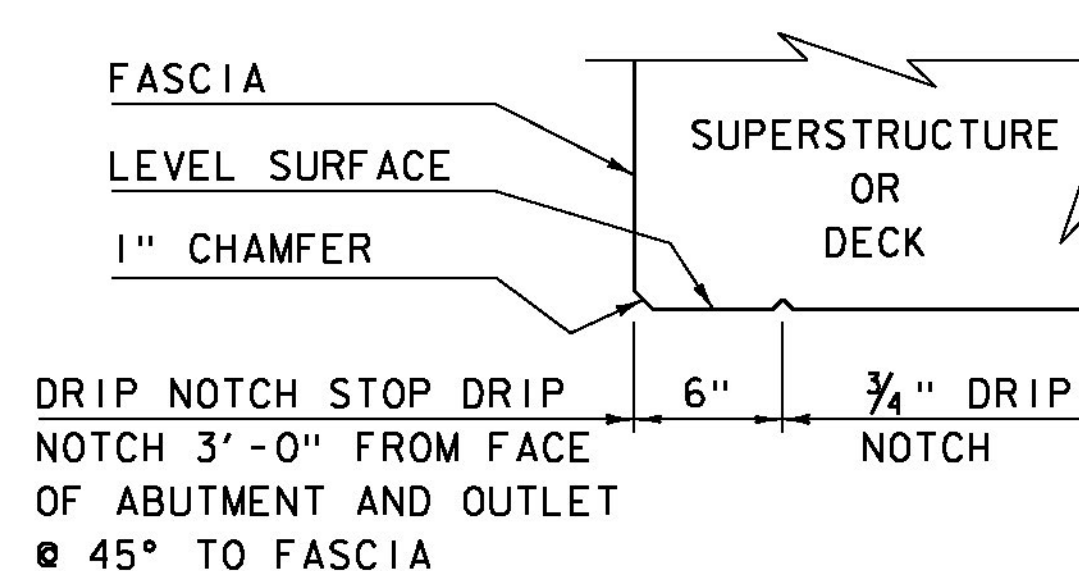
PAYMENT FOR INSTALLATION OF THE BRIDGE PLAQUE SHALL BE INCIDENTAL TO THE ADJACENT CONCRETE.

## CONCRETE CURB JOINT NOTES

1. CONCRETE CURBS MAY BE PLACED IN ONE CONTINUOUS OPERATION IF AN APPROVED SHRINKAGE REDUCING ADMIXTURE LISTED IN THE SPECIAL PROVISIONS IS USED WITH THE CONCRETE MIX DESIGN. PAYMENT FOR THE SHRINKAGE REDUCING ADMIXTURE WILL BE INCIDENTAL TO THE BRIDGE CURB CONCRETE ITEM.
2. IF THE CONTRACTOR CHOOSES NOT TO USE AN APPROVED SHRINKAGE REDUCING ADMIXTURE, THE CURBS SHALL BE CONSTRUCTED WITH CONSTRUCTION JOINTS SPACED AT A MAXIMUM OF 15'-0" CENTER TO CENTER AND 2'-0" MINIMUM FROM THE CENTER OF NEAREST BRIDGE RAILING POST.
3. ON MULTI-SPAN CONTINUOUS SUPERSTRUCTURES, REGARDLESS OF WHETHER APPROVED SHRINKAGE REDUCING ADMIXTURE IS USED, CURB JOINTS SHALL BE LOCATED OVER THE CENTERLINE OF PIERS AND 7'-0" EACH SIDE OF THE CENTERLINE OF EACH PIER.
4. WHEN CURB JOINTS ARE USED THE CURBS SHALL BE PLACED IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOUR DELAY BETWEEN ADJACENT PLACEMENTS.
5. LONGITUDINAL REINFORCING SHALL BE CONTINUOUS THROUGH CURB CONSTRUCTION JOINTS. CURB STIRRUP BARS SHALL BE TURNED AS NECESSARY TO MAINTAIN COVER IN THE FLARED CURB ENDS.
6. THE JOINT SPACING AND DETAILS SHOWN SHALL APPLY TO SIDEWALKS WHEN SHOWN IN THE PLANS.

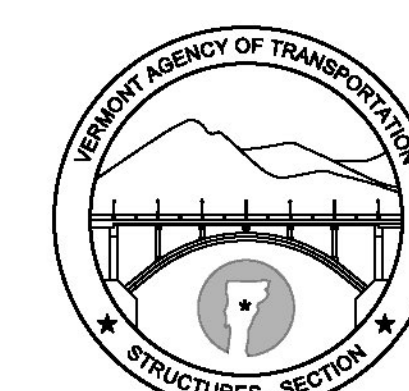


HORIZONTAL WINGWALL  
CONSTRUCTION JOINT  
(NOT TO SCALE)



DRIP NOTCH DETAIL  
(NOT TO SCALE)

# CONCRETE DETAILS AND NOTES

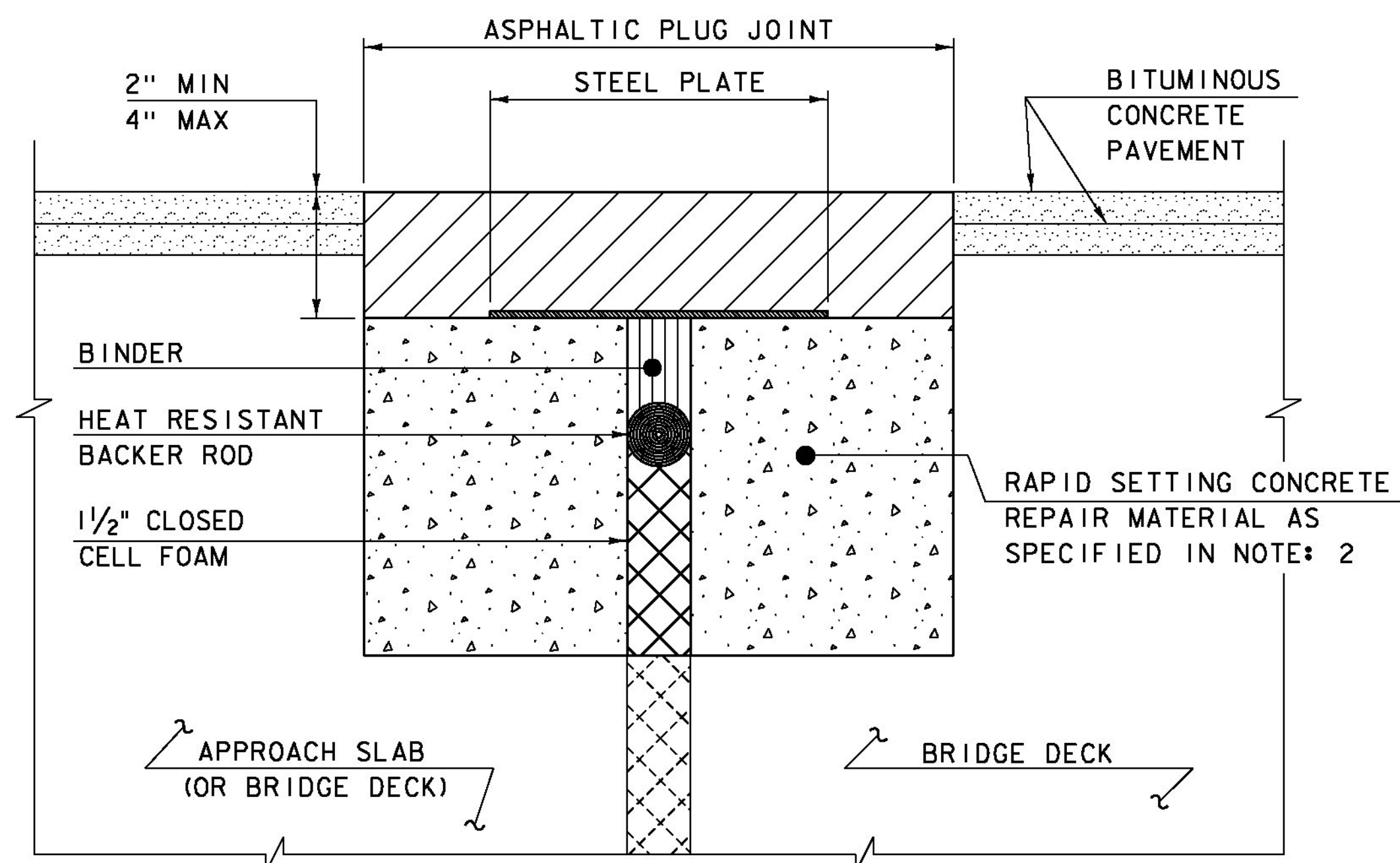


STRUCTURES  
DETAIL  
SD-502.00

## REVISIONS

MAY 7, 2010	APPROVED FOR USE BY VAO T STRUCTURES SECTION
JUNE 4, 2010	MODIFIED AND ADDED TWO DETAILS
OCTOBER 10, 2012	MODIFIED HORZ. JOINT WINGWALL ADD 6" MIN. DIMENSION

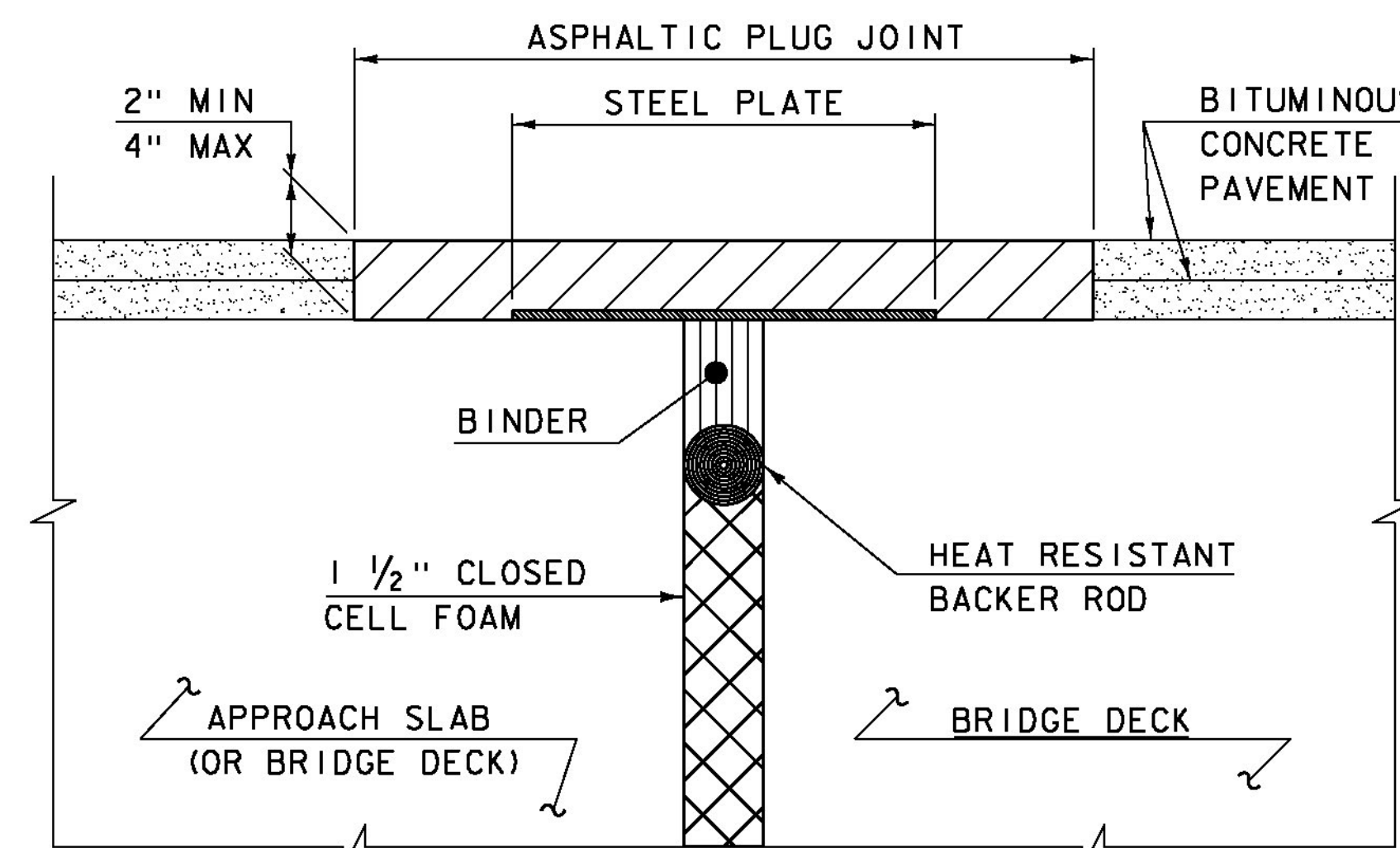




ASPHALTIC PLUG JOINT DETAIL - REHAB

NOTES:

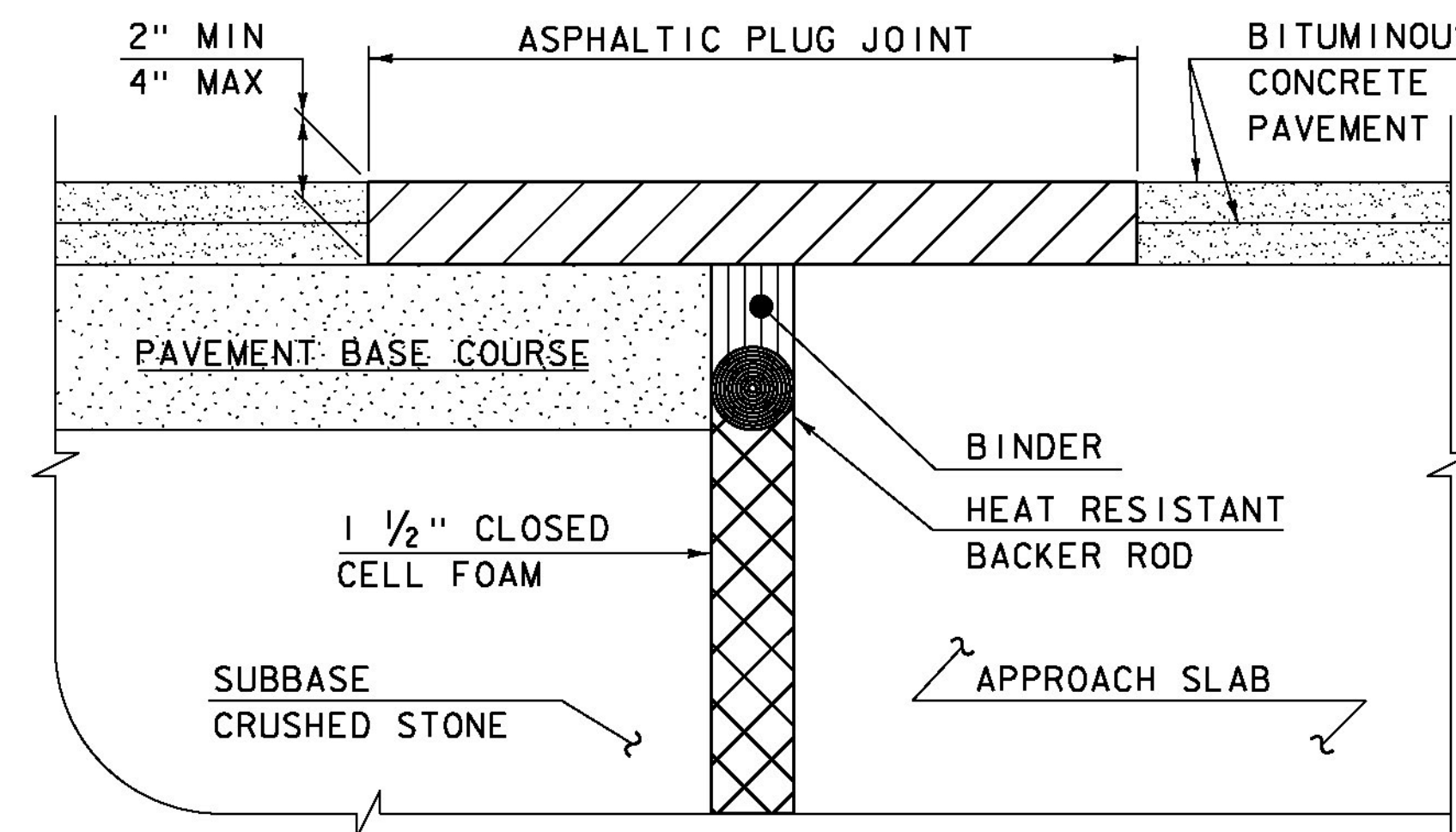
1. THE CONTRACTOR SHALL REMOVE ALL ASPHALTIC PLUG JOINT MATERIAL AND DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER. REMOVAL OF THE FIRST 4 INCHES OF MATERIAL SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 516.10 BRIDGE EXPANSION JOINT, ASPHALTIC PLUG. ANY REMOVAL OF MATERIAL GREATER THAN 4 INCHES SHALL BE INCLUDED IN THE BID PRICE OF ITEM 580.20 RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE.
2. THE CONTRACTOR SHALL REPLACE REMOVED MATERIAL THAT IS LESS THAN 4" FROM FINISHED GRADE WITH ASPHALTIC PLUG JOINT MATERIAL MEETING THE REQUIREMENTS OF SUBSECTION 707.15. ALL REMOVED MATERIAL THAT IS GREATER THAN 4 INCHES FROM FINISHED GRADE SHALL BE REPLACED WITH RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE MEETING THE REQUIREMENTS OF SUBSECTION 780.04.
3. REINFORCING STEEL NOT SHOWN FOR CLARITY.
4. PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER. THE STEEL PLATES MAY BE OMITTED WHERE THE ENGINEER DETERMINES THAT THE APPROACH SLAB OR BRIDGE DECK WILL PROVIDE INADEQUATE SUPPORT AND WHERE VERTICAL MOVEMENT OF THE PLATES MIGHT OCCUR.



ASPHALTIC PLUG JOINT DETAIL "A" - NEW

NOTE:

PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER.



ASPHALTIC PLUG JOINT DETAIL "B" - NEW

ASPHALTIC PLUG JOINT NOTES

INSTALLATION:

1. LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT, MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.
2. REMOVE THE BITUMINOUS CONCRETE PAVEMENT FULL DEPTH AS SHOWN ON THE PLANS. THE PAVEMENT SHALL BE DRY AND SAW CUT TO THE LIMITS REQUIRED TO PLACE THE JOINT. A PNEUMATIC HAMMER AND CHISEL MAY BE USED ADJACENT TO THE CURB ONLY WHEN SAW CUTTING IS NOT POSSIBLE.
3. BLAST CLEAN THE JOINT AREA OF DEBRIS, ASPHALT AND SHEET MEMBRANE. THOROUGHLY DRY THE JOINT AREA WITH COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.
4. PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 1" +/- OF BINDER ABOVE THE ROD.
5. HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.
6. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.

WEATHER LIMITATIONS

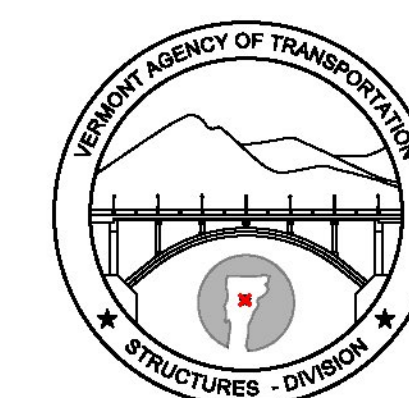
APPLY BINDER MATERIAL ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL OR AS RECOMMENDED BY THE MANUFACTURER:

1. THE AMBIENT AIR TEMPERATURE IS AT LEAST 10 DEG C (50 DEG F) AND RISING.
2. THE ROAD SURFACE IS DRY.
3. WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.

DETAILS ON THIS SHEET ARE NOT TO SCALE.

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
AUGUST 29, 2011	ADD DETAIL "B" AND REV. NOTES

BRIDGE JOINT  
ASPHALTIC PLUG

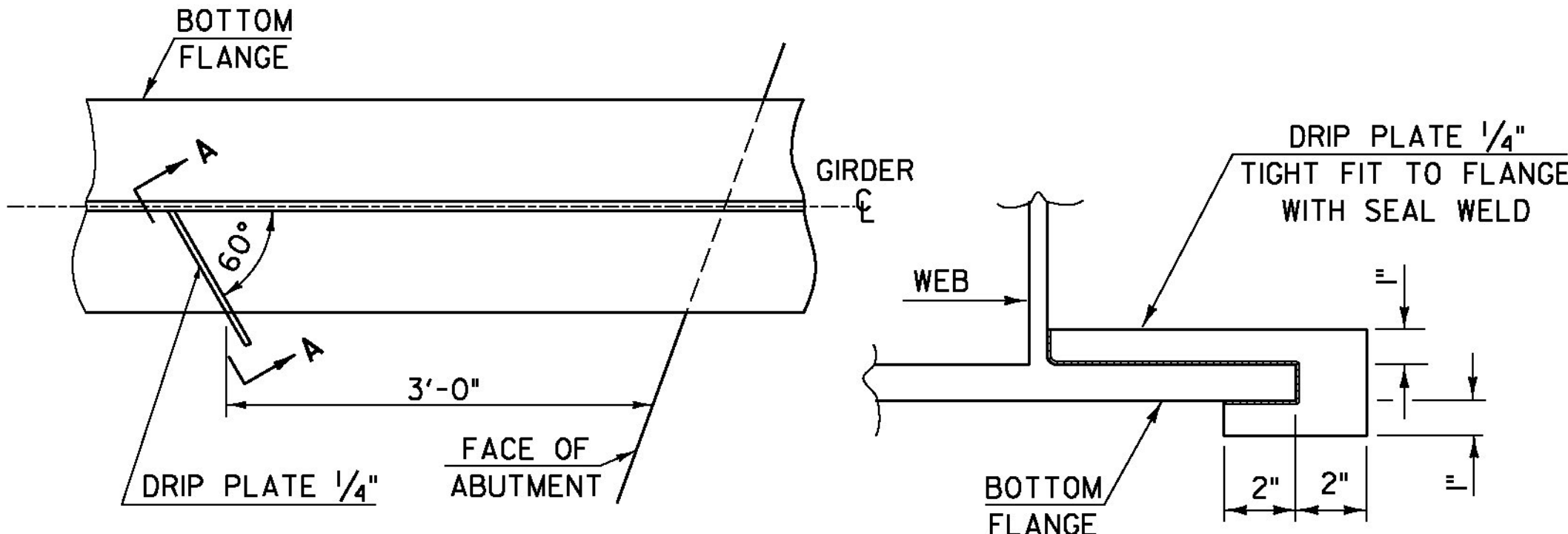


STRUCTURES  
DETAIL  
SD-516.10



STRUCTURAL STEEL GENERAL NOTES:

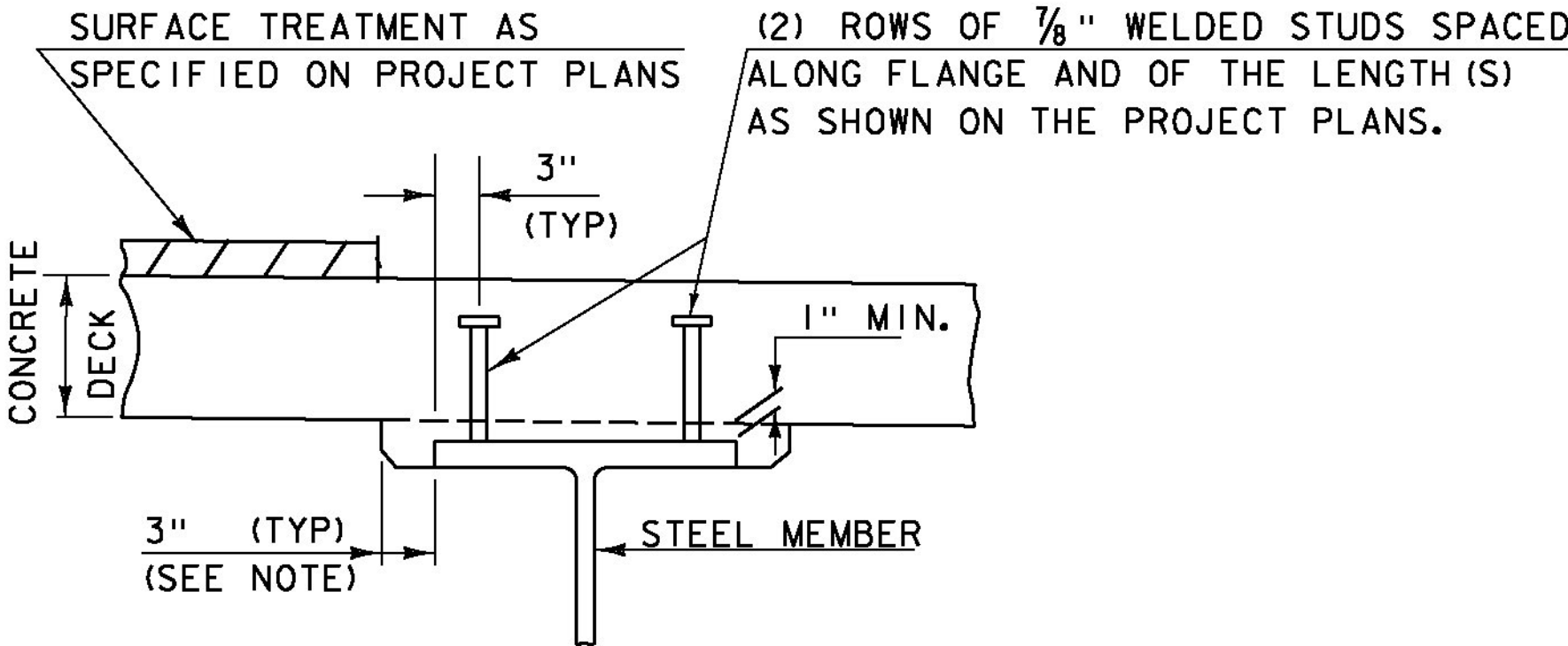
- 1. ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER HIGH-STRENGTH BOLTS IN 15/16" DIAMETER HOLES, PER SUBSECTION 506.I9, UNLESS OTHERWISE SPECIFIED.
- 2. ALL HOLES IN THE WEBS OF THE FASCIA GIRDERS THAT ARE NOT OTHERWISE FILLED, SHALL BE FILLED WITH EITHER BUTTON HEAD OR HEX HEAD BOLTS. THESE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.I9.
- 3. ALL WELDING SHALL CONFORM TO THE PROVISIONS OF SUBSECTION 506.I0.
- 4. ANY CONNECTIONS THAT ARE NOT DETAILED ON THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL.
- 5. STRUCTURAL STEEL MEMBERS DESIGNATED "CVN" IN THE PLANS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH SUBSECTION 714.01 OF THE STANDARD SPECIFICATIONS.
- 6. ENDS OF GIRDERS ARE TO BE VERTICAL IN THEIR FINAL POSITION.
- 7. AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF THE GIRDERS SHALL BE TAKEN AS DIRECTED BY THE RESIDENT ENGINEER FOR USE IN DETERMINING FINISHED GRADES.



PLAN DRIP PLATE

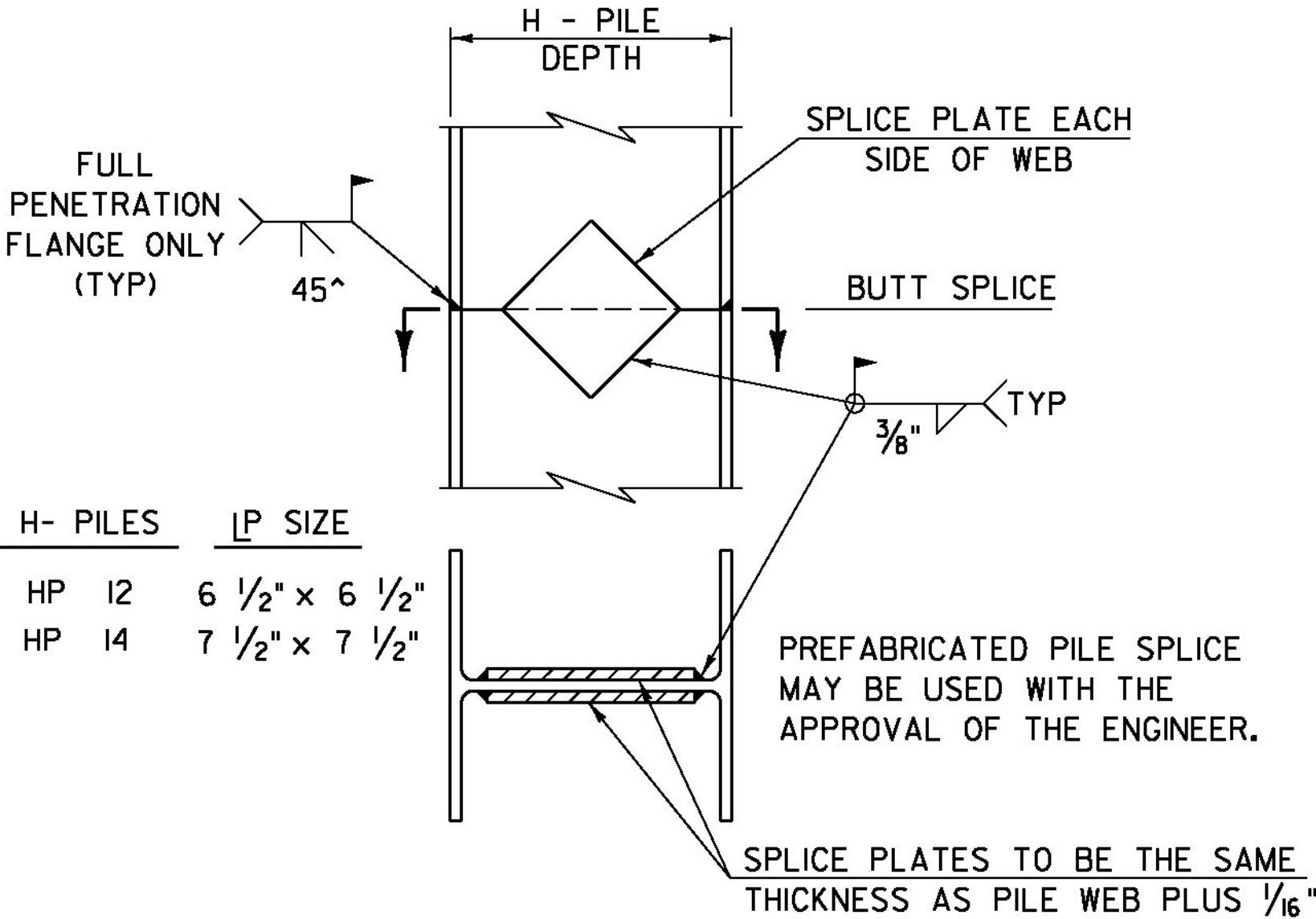
SECTION A - A

NOTE: DRIP PLATES SHALL BE PLACED ON OUTSIDE EDGE OF FASCIA GIRDERS ON THE HIGH SIDE OF ALL PIERS AND ABUTMENTS OR AS INDICATED ON PROJECT PLANS.



NOTE:  
THE 3" HORIZONTAL SECTION MAY BE ELIMINATED FOR FORMING SYSTEMS DESIGNED FOR THE CONSTRUCTION OF VERTICAL HAUNCHES. ANY VOIDS RESULTING FROM FORMING SYSTEM ELEMENTS SHALL BE FILLED WITH JOINT SEALER, POLYURETHANE MEETING THE REQUIREMENTS OF SECTION 524. THE COST OF THE JOINT SEALER, POLYURETHANE SHALL BE INCIDENTAL TO THE ADJACENT CONCRETE.

HAUNCH AND SHEAR CONNECTOR DETAIL

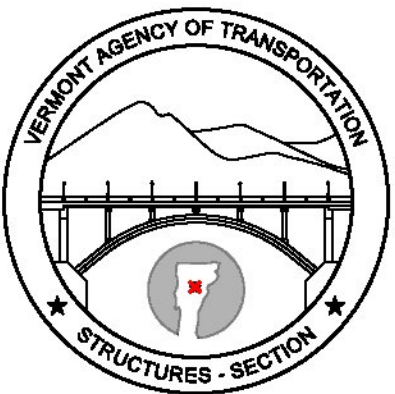


DETAIL OF PILE SPLICE

DETAILS ON THIS SHEET ARE "NOT TO SCALE" UNLESS NOTED OTHERWISE.

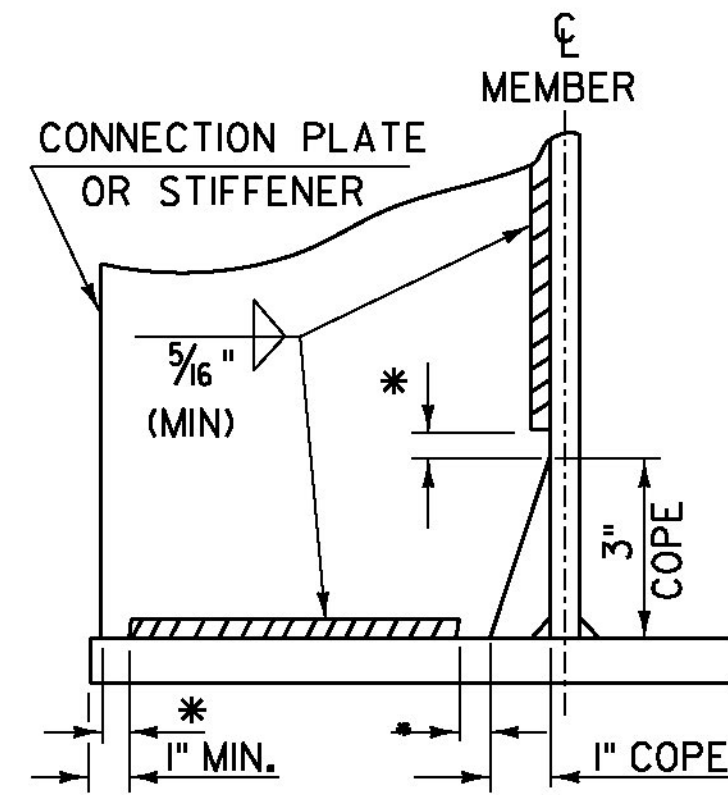
REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
JUNE 4, 2010	MODIFIED NOTES

STRUCTURAL STEEL  
DETAILS & NOTES



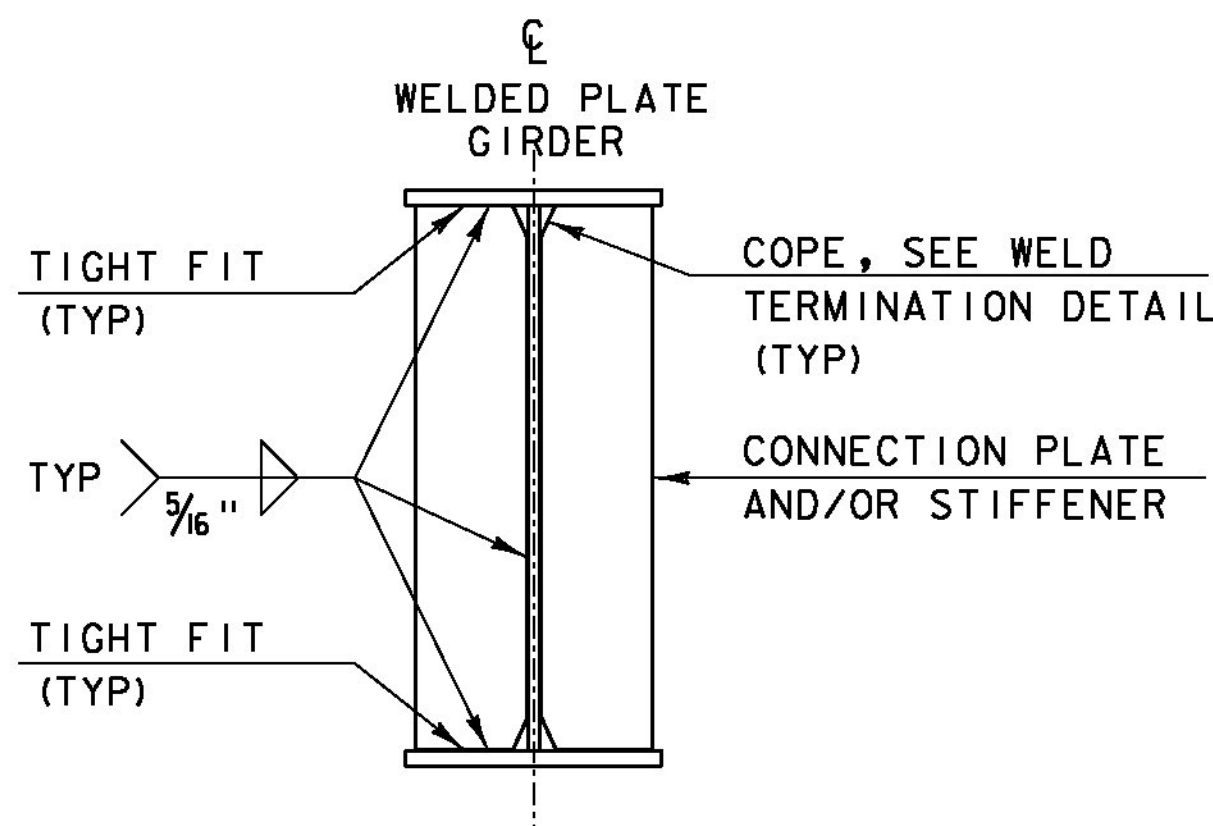
STRUCTURES  
DETAIL  
SD-601.00





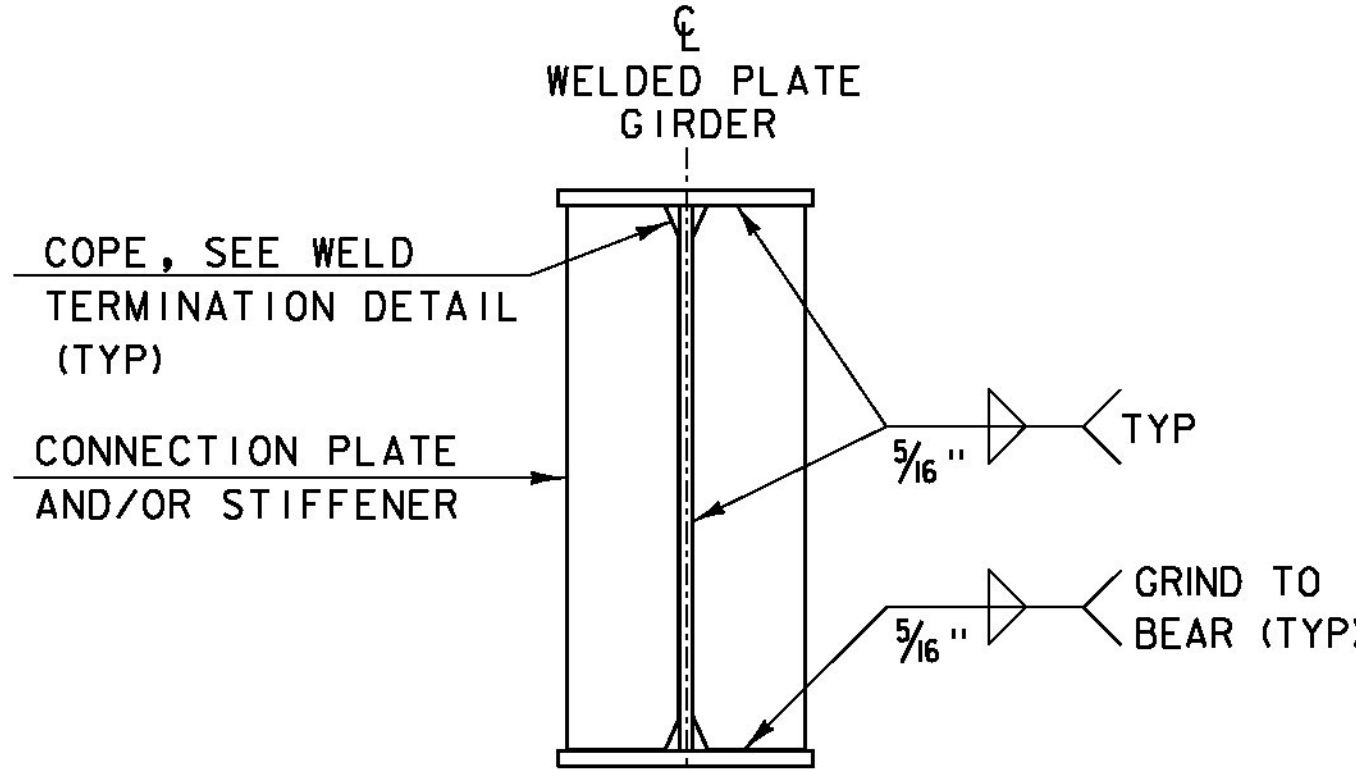
WELD TERMINATION AND COPING  
DETAILS FOR STEEL MEMBERS

*NO WELD FOR 3/8" MIN. 7/8" MAX. (EXCEPT MUST  
MAINTAIN 1" MINIMUM FROM EDGE OF FLANGE)

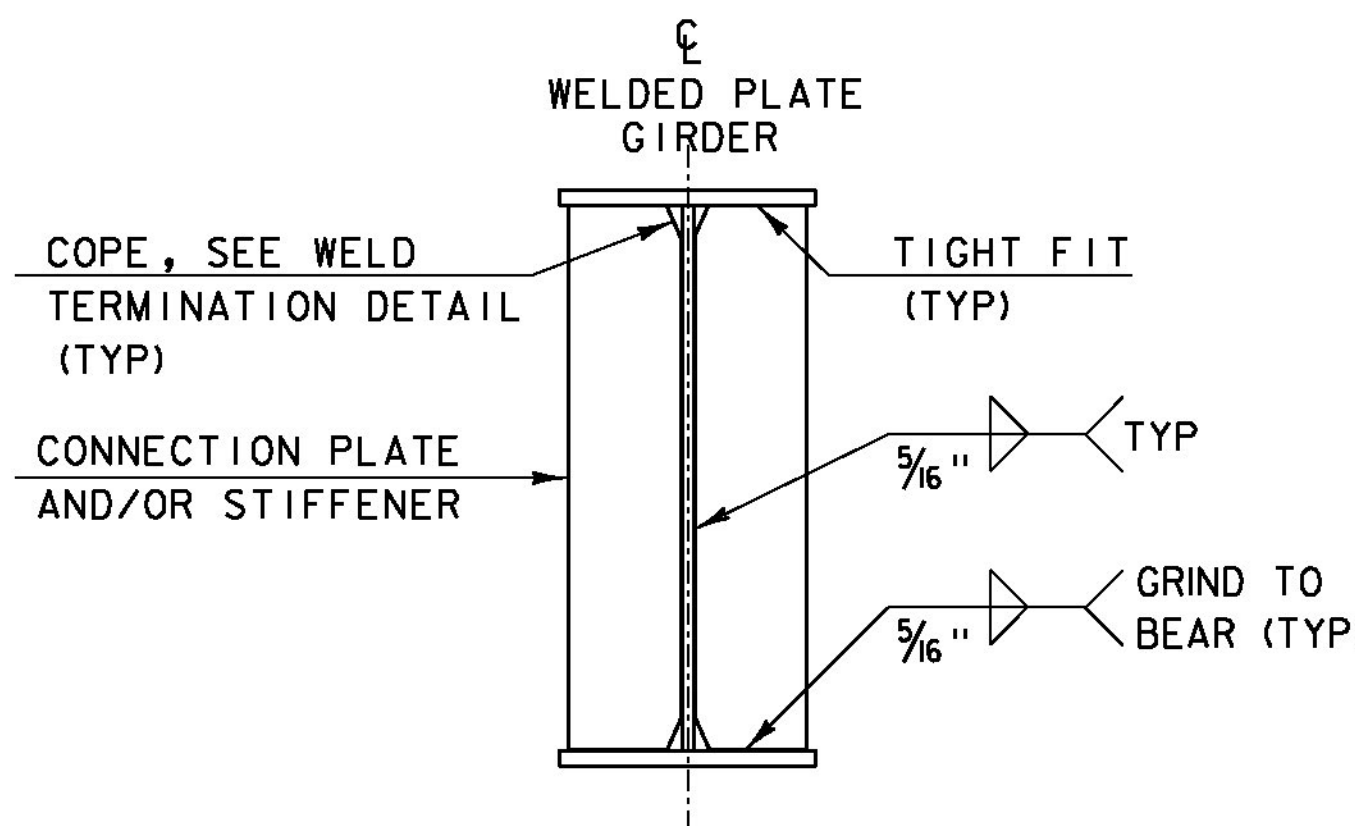


INTERMEDIATE CONNECTION PLATES  
AND/OR STIFFENERS FOR WELDED  
PLATE GIRDERS

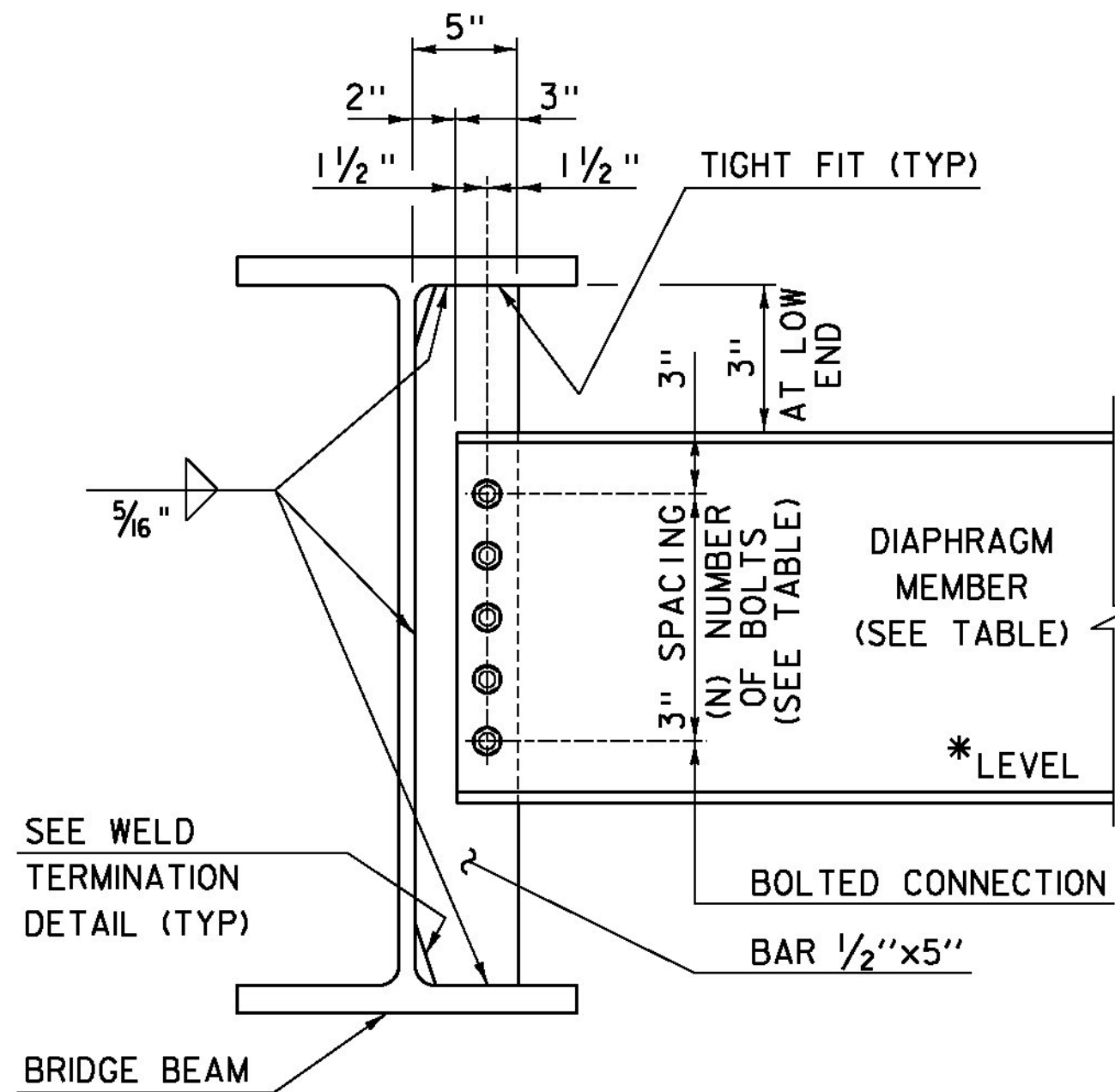
INTERMEDIATE DETAIL IS ONLY USED WHEN PLATE DOES  
NOT OCCUR AT AN ABUTMENT OR PIER.



ABUTMENT BEARING STIFFENERS  
AND/OR CONNECTION PLATES  
FOR WELDED PLATE GIRDERS



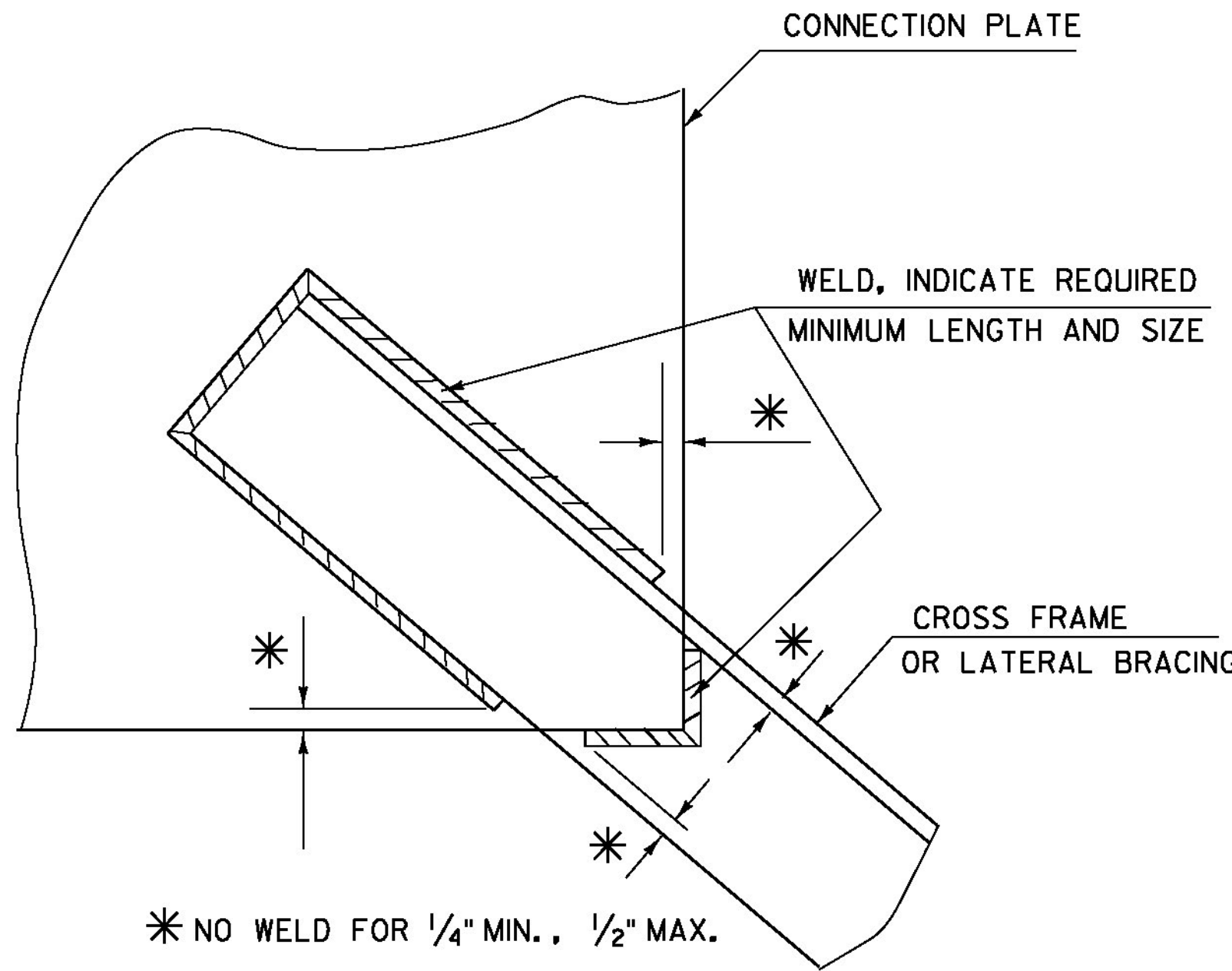
PIER BEARING STIFFENERS  
AND/OR CONNECTION PLATES  
FOR WELDED PLATE GIRDERS



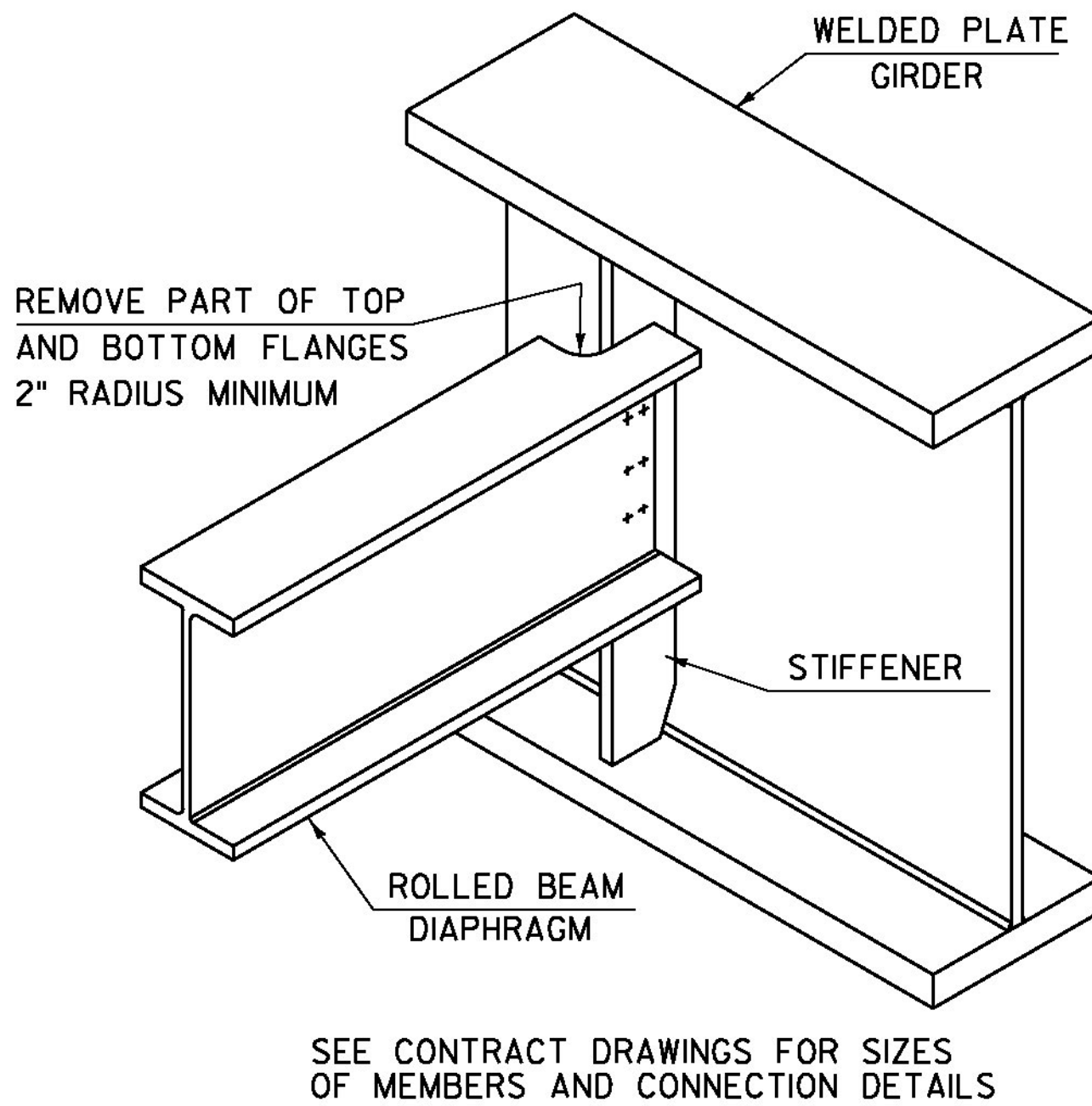
INTERMEDIATE DIAPHRAGMS  
FOR 24" TO 48" BRIDGE BEAMS

* IF CLEARANCE CANNOT BE MET, DIAPHRAGM MAY BE SLOPED.

DEPTH	DIAPHRAGM MEMBER	(N) BOLTS
ROLLED BEAM		
24"	C15x33.9	4
30"		
31"	MC18x42.7	5
36"		
37"	W21x44	6
42"		
PLATE GIRDER		
31"	W27x84	7
36"		
37"	W33x118	9
42"		
43"	W36x135	10
48"		



WELD LOCATION DETAIL AT CROSS  
FRAMES AND LATERAL BRACING

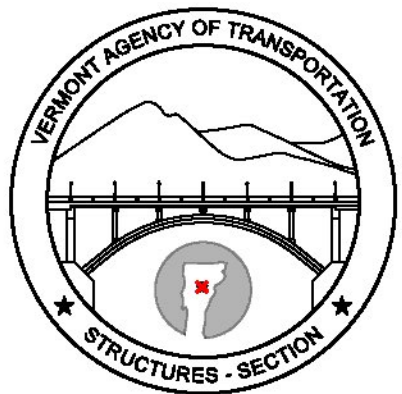


ROLLED BEAM USED AS DIAPHRAGM

DETAILS ON THIS SHEET ARE "NOT TO SCALE" UNLESS NOTED OTHERWISE.

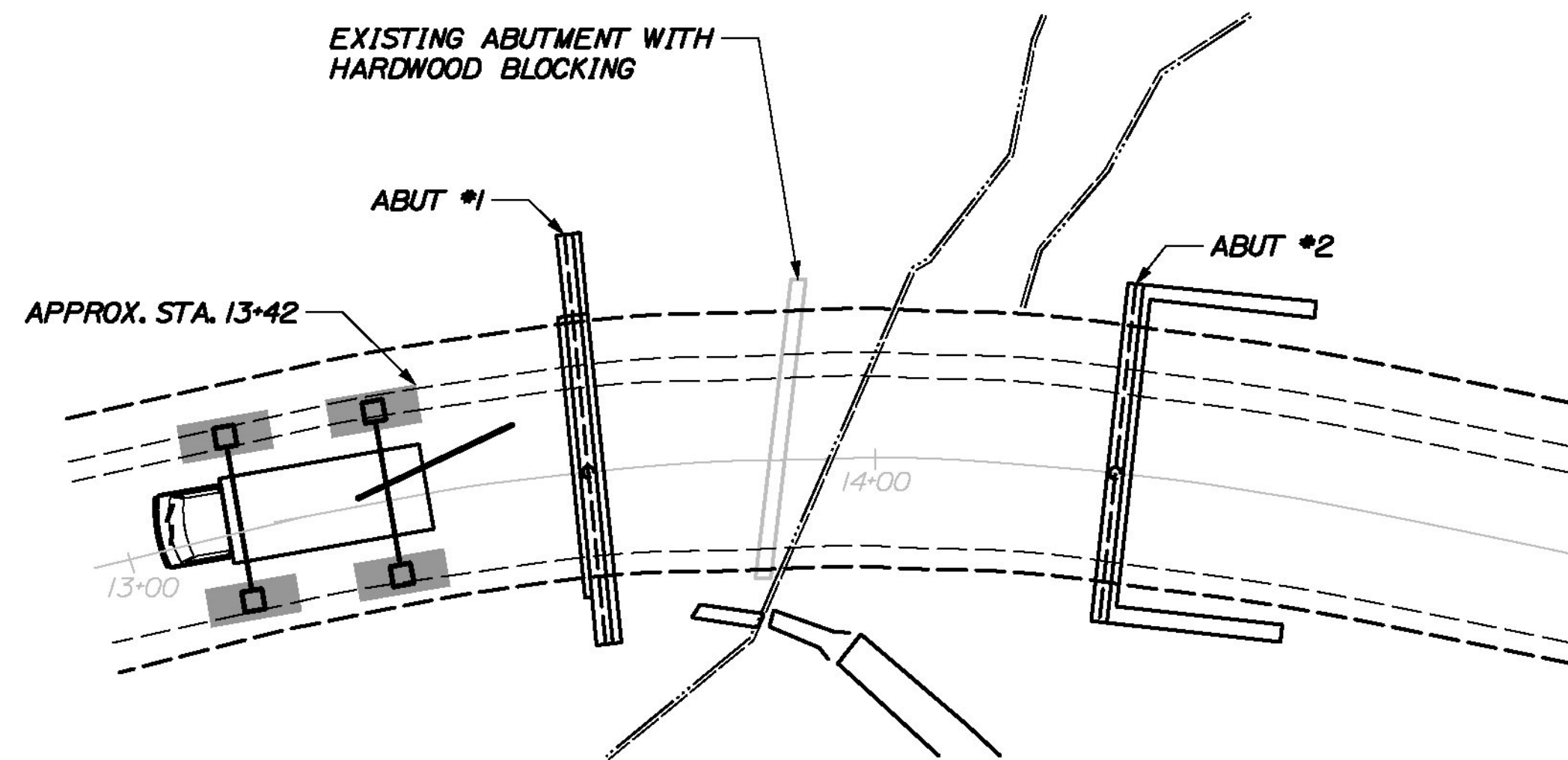
REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
MAY 2, 2011	ADD INTERMEDIATE DIAPHRAGMS DETAIL & ADD NOT TO SCALE NOTE

# STRUCTURAL STEEL PLATE GIRDER DETAILS AND NOTES



STRUCTURES  
DETAIL  
SD-602.00





### STAGE 1 - INSTALL TEMPORARY BEARING PLATFORMS

1. ONCE SITE PREPARATION IS COMPLETE, BEGIN INSTALLATION OF CRANE MATS FOR THE PLACEMENT OF BOTH ABUTMENTS.
2. IT IS IMPERATIVE THAT THE CRANE OPERATORS FAMILIARIZE THEMSELVES WITH THE LOCATION OF THE OVERHEAD UTILITIES. THESE UTILITIES ARE NOT TO BE MOVED OR ALTERED IN ANY WAY.
3. ENSURE ELEVATION AND POSITION OF CRANE MATS ARE APPROPRIATE FOR THE PLACEMENT OF ALL STEEL GIRDERS. HJ50 MAXIMUM RADIUS = 120 FEET
5. IF UNDESIRABLE SOIL PRESENT IN THE LOCATIONS OF THE CRANE MATS, EXCAVATE 5 FEET, FILL AND COMPACT GRANULAR MATERIAL FOR APPLICABLE AREA.
6. THE CONTRACTOR SHALL VERIFY THE STABILITY AND LOCATION OF CRANE MATS.
7. INSTALL AND SECURE HARDWOOD BLOCKING ON EXISTING ABUTMENT IN ORDER TO TEMPORARILY SUPPORT NEW GIRDERS.

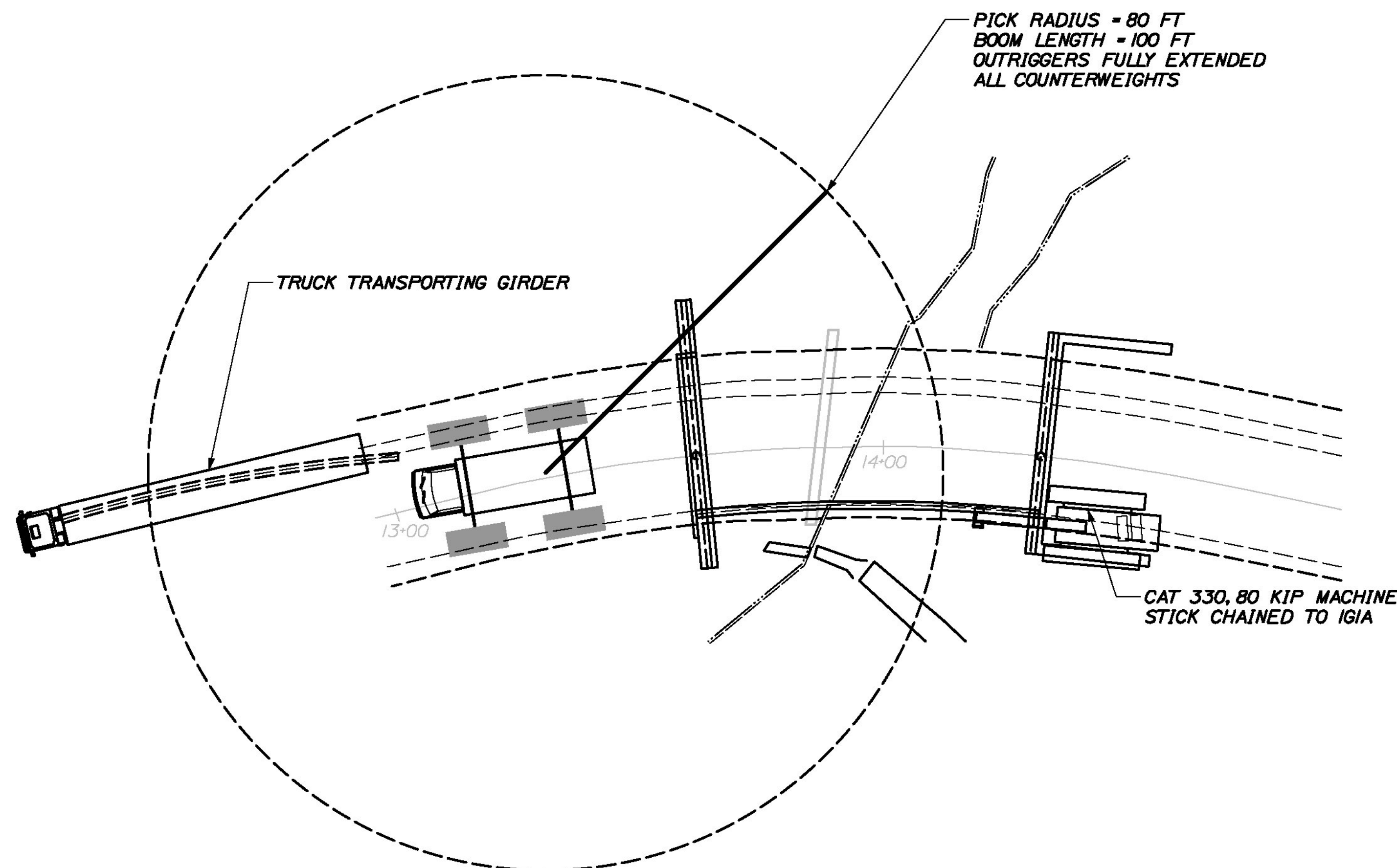
NOTES:  
CRANE MATS: 5'-0" x 12'-0" x 8" REINFORCED CONCRETE

(2) CRANE MATS STACKED PER OUTRIGGER REQUIRED

DIFFERENTLY SIZED CRANE MATS ORGANIZED TO ACHIEVE THE SAME BEARING AREA AND DEPTH MAY BE SUBSTITUTED AT THE DISCRETION OF THE CONTRACTOR'S ENGINEER. THE PROPOSED SUBSTITUTION SHALL MEET OR EXCEED THE ASSUMED REINFORCEMENT (SEE CALCULATION PACKAGE).

THE GIVEN STATIONING FOR THE CRANE MATS IS APPROXIMATE. EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR'S ENGINEER.

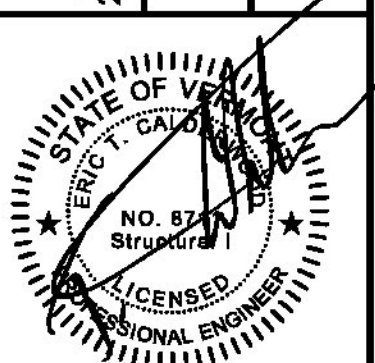
DURING ALL PICKS, ENSURE WEATHER FOR THE FORSEEABLE DURATION DOES NOT PREDICT WIND IN EXCESS OF 20 MPH.



### STAGE 2 - INSTALLATION OF IGIA

1. ENSURE WEATHER FOR THE FORSEEABLE DURATION DOES NOT PREDICT WIND IN EXCESS OF 20 MPH. BEGIN INSTALLATION OF GIRDER IGIA, 13.1 KIP, WITH HJ50.
2. WHEN IGIA IS IN PLACE, CHAIN GIRDER TO THE CAT 330 EXCAVATOR TO STABILIZE. THE CAT 330 SHALL BE AT ABUTMENT #2. USE HARDWOOD BLOCKS BETWEEN THE STICK AND GIRDER TO AVOID METAL-TO-METAL CONTACT.
3. CHAIN IGIA TO ABUTMENT #1 AS REQUIRED. THE CONTRACTOR SHALL VERIFY THE STABILITY OF IGIA PRIOR TO UNHOOKING THE HJ50.
4. DISCONNECT THE HJ50 FROM IGIA.

CALDERWOOD ENGINEERING, ETC.  
STRUCTURAL ENGINEERING • DETAILING SERVICES  
222 RIVER RD, RICHMOND, ME 04357 PH/FX (207)737-2007/2008  
PREPARED FOR:  
**A.L. ST. ONGE CONTRACTOR, INC**  
VTAOT PROJ. NUMBER STP 5600 (12)  
CEE 38-MI-15



P.E. NUMBER  
8711  
DATE

DATE	BY	DESIGN-DETAILED	CHECKED-REVIEWED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES
8/15	TEPA							
8/15	GM							

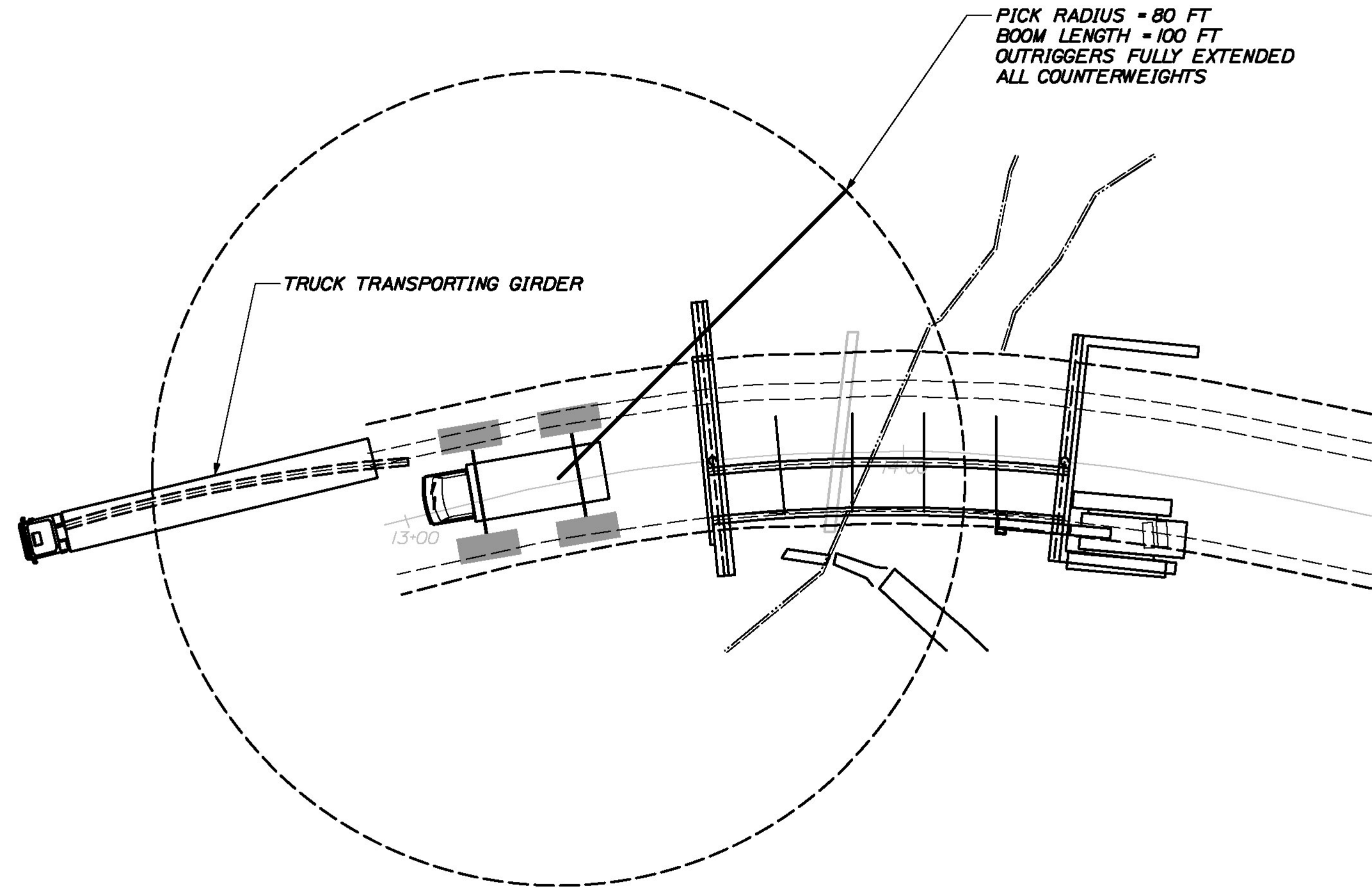
COLCHESTER, VT - TH 27  
OVER INDIAN BROOK  
ASSEMBLY PLAN

SHEET NUMBER

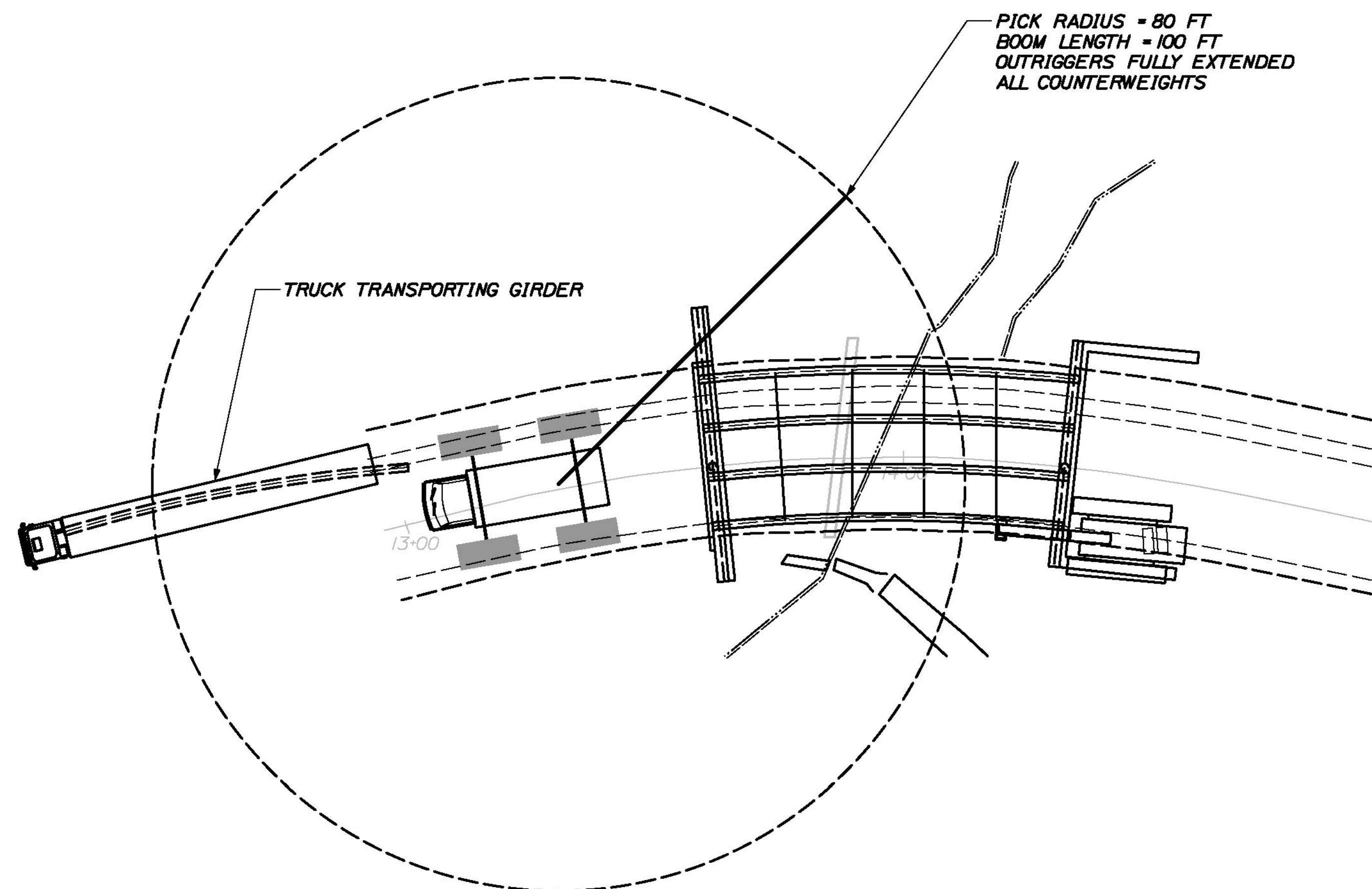
1







- STAGE 3 - INSTALLATION OF 2G2A**
1. INSTALL ALL INTERMEDIATE DIAPHRAGMS ON 2G2A FOR CONNECTION TO IGIA AND 3G3A.
  2. ENSURE WEATHER FOR THE FORSEEABLE DURATION DOES NOT PREDICT WIND IN EXCESS OF 20 MPH. BEGIN INSTALLATION OF GIRDER 2G2A, 23.2I KIP, WITH HU50.
  3. WHEN 2G2A IS IN PLACE, ATTACH ALL INTERMEDIATE DIAPHRAGMS TO IGIA PRIOR TO DISCONNECTING HU50.
  4. INTSTALL ABUTMENT DIAPHRAGMS BETWEEN IGIA AND 2G2A.

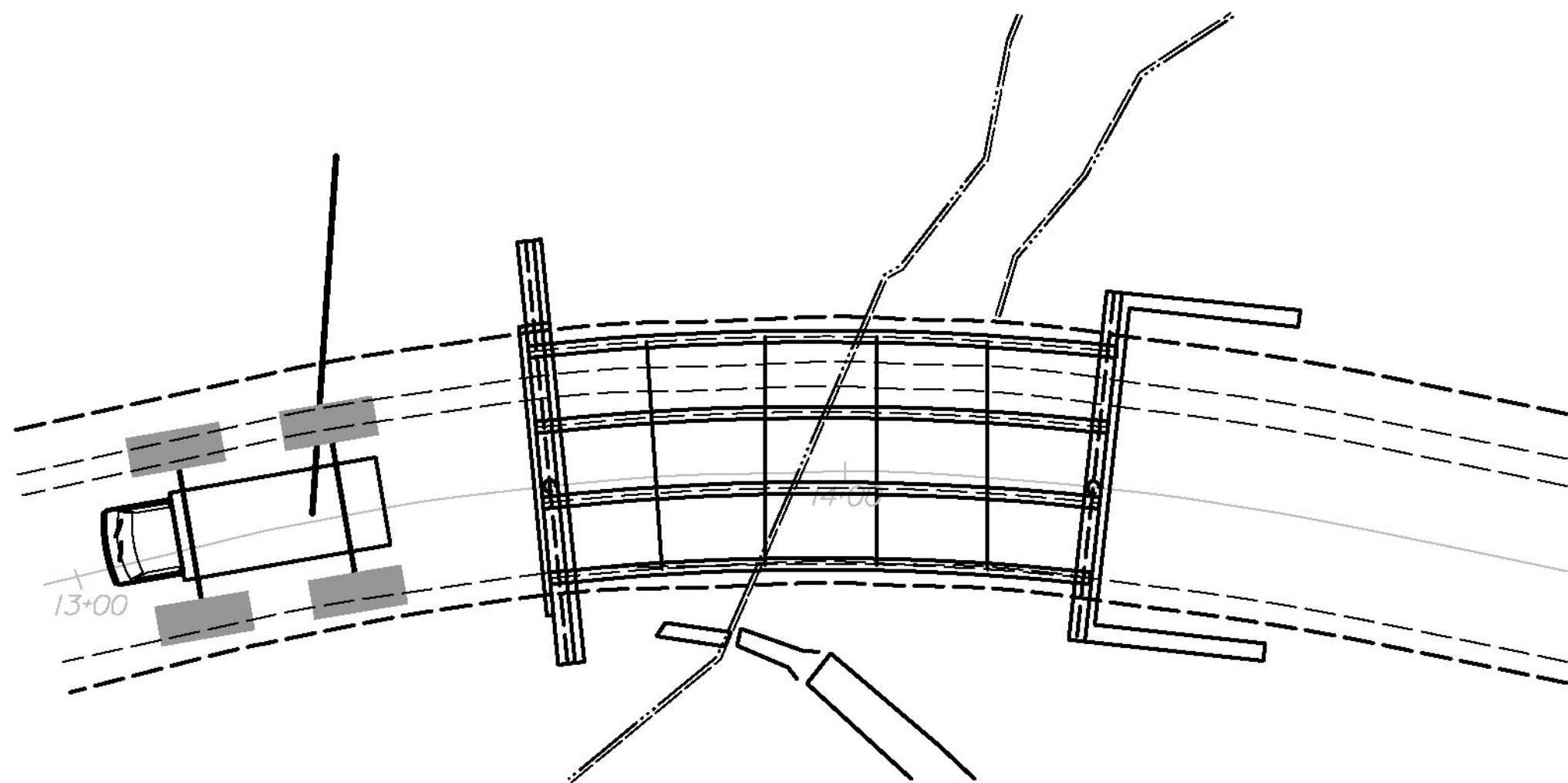


- STAGE 4 - INSTALLATION OF 3G3A & 4G4A**
1. ENSURE WEATHER FOR THE FORSEEABLE DURATION DOES NOT PREDICT WIND IN EXCESS OF 20 MPH. BEGIN INSTALLATION OF GIRDER 3G3A, 15.7 KIP, WITH HU50.
  2. WHEN 3G3A IS IN PLACE, ATTACH ALL INTERMEDIATE DIAPHRAGMS TO 2G2A PRIOR TO DISCONNECTING HU50.
  3. INTSTALL ABUTMENT DIAPHRAGMS BETWEEN 3G3A AND 2G2A.
  4. INSTALL INTERMEDIATE DIAPHRAGMS BETWEEN 3G3A AND 4G4A TO 3G3A.
  5. ENSURE WEATHER FOR THE FORSEEABLE DURATION DOES NOT PREDICT WIND IN EXCESS OF 20 MPH. BEGIN INSTALLTION OF GIRDER 4G4A, 16.0 KIP, WITH HU50.
  6. WHEN 4G4A IS IN PLACE, ATTACH ALL INTERMEDIATE DIAPHRAGMS TO 3G3A PRIOR TO DISCONNECTING HU50.
  7. INSTALL ABUTMENT DIAPHRAGMS BETWEEN 3G3A AND 4G4A.

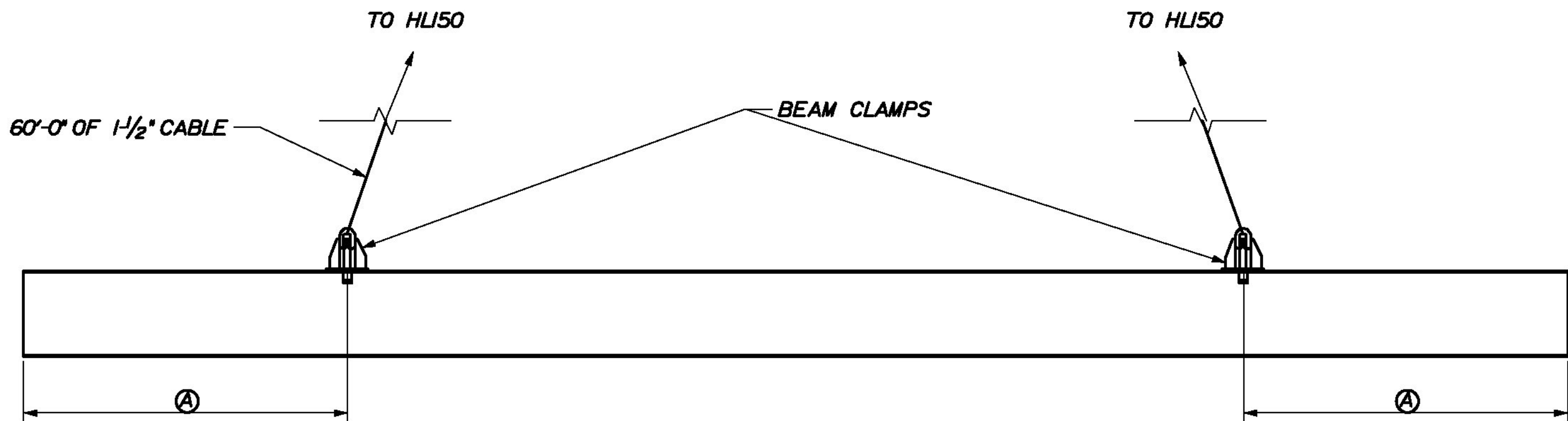


<b>CALDERWOOD ENGINEERING, ETC.</b> STRUCTURAL ENGINEERING • DETAILING SERVICES 222 RIVER RD, RICHMOND, ME 04357 PH/FX (207)737-2007/737-2008		PREPARED FOR: <b>A.L. ST. ONGE CONTRACTOR, INC</b> VTAOT PROJ. NUMBER STP 5600 (12) CEE 38-MI-15	
STATE OF VERMONT NO. 5711 STRUCTURAL LICENSED PROFESSIONAL ENGINEER		P.E. NUMBER 8711 DATE	
DESIGN-DETAILED CHECKED-REVIEWED	BY TEPA CM	DATE 8/15 8/15	REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4 FIELD CHANGES
<b>COLCHESTER, VT - TH 27</b> <b>OVER INDIAN BROOK</b> <b>ASSEMBLY PLAN</b>		SHEET NUMBER <b>2</b>	





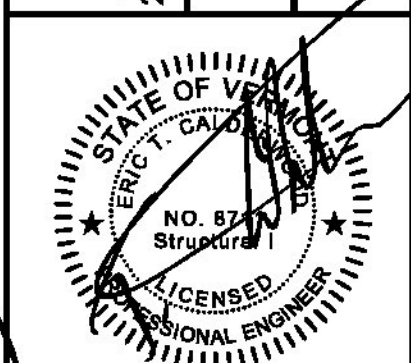
- STAGE 5 - FINISH BRIDGE**  
1. UNCHAIN GIRDER IG1A FROM ABUTMENT AND CAT 330.  
2. REMOVE TIMBER BLOCKING AND OLD ABUTMENT AS REQUIRED BY CONTRACT.  
3. FINISH BRIDGE AS REQUIRED BY CONTRACT.



**GIRDER LIFTING SCHEME**  
NOT TO SCALE

- A = IG1A) 14'-5"±  
2G2A) 14'-10"±  
3G3A) 15'-2"±  
4G4A) 15'-9"±

CALDERWOOD ENGINEERING, ETC.  
STRUCTURAL ENGINEERING • DETAILING SERVICES  
222 RIVER RD, RICHMOND, ME 04357 PH/FX (207)737-2007/(207) 737-2008  
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**A.L. ST. ONGE CONTRACTOR, INC**  
VTAOT PROJ. NUMBER STP 5600 (12)  
CEE 38-MI-15



P.E. NUMBER  
8711  
DATE

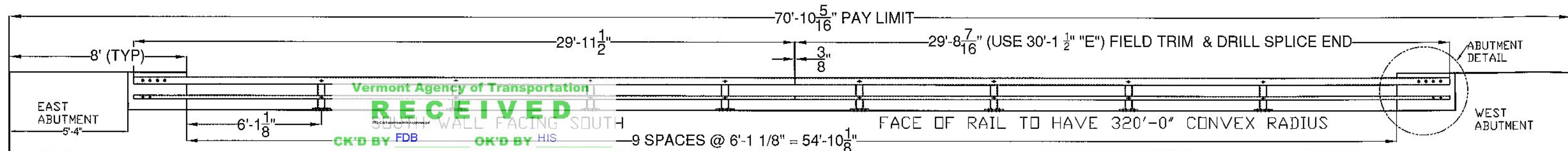
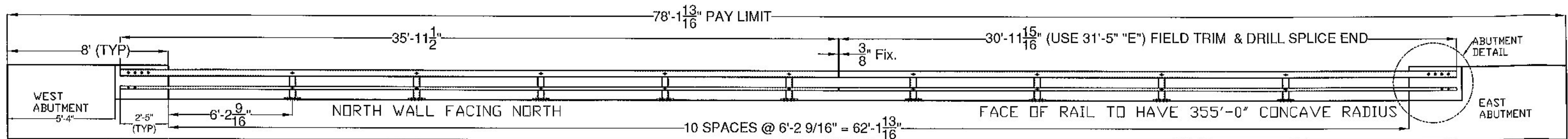
DATE	BY	DESIGN-DETAILED	CHECKED-REVIEWED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES
8/15	TEPA							
8/15	GM							

**COLCHESTER, VT - TH 27**  
**OVER INDIAN BROOK**  
**ASSEMBLY PLAN**

SHEET NUMBER  
**3**

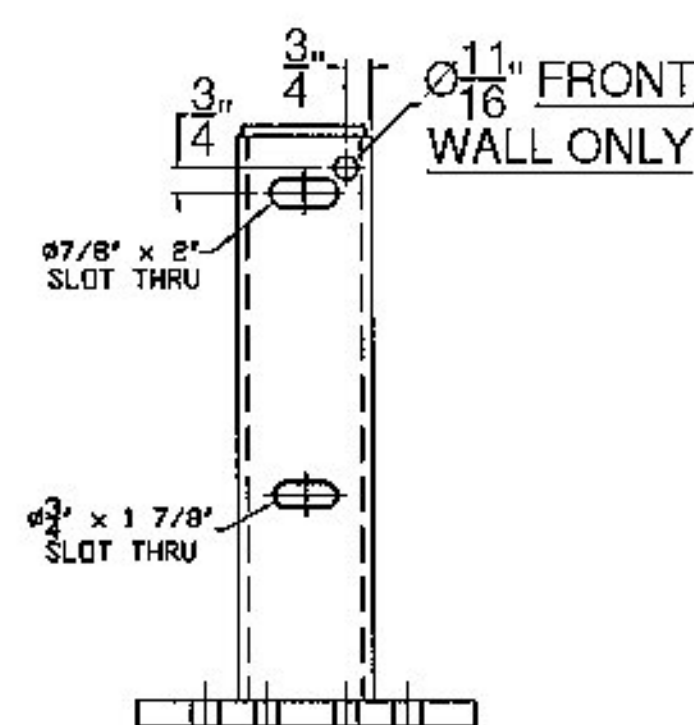
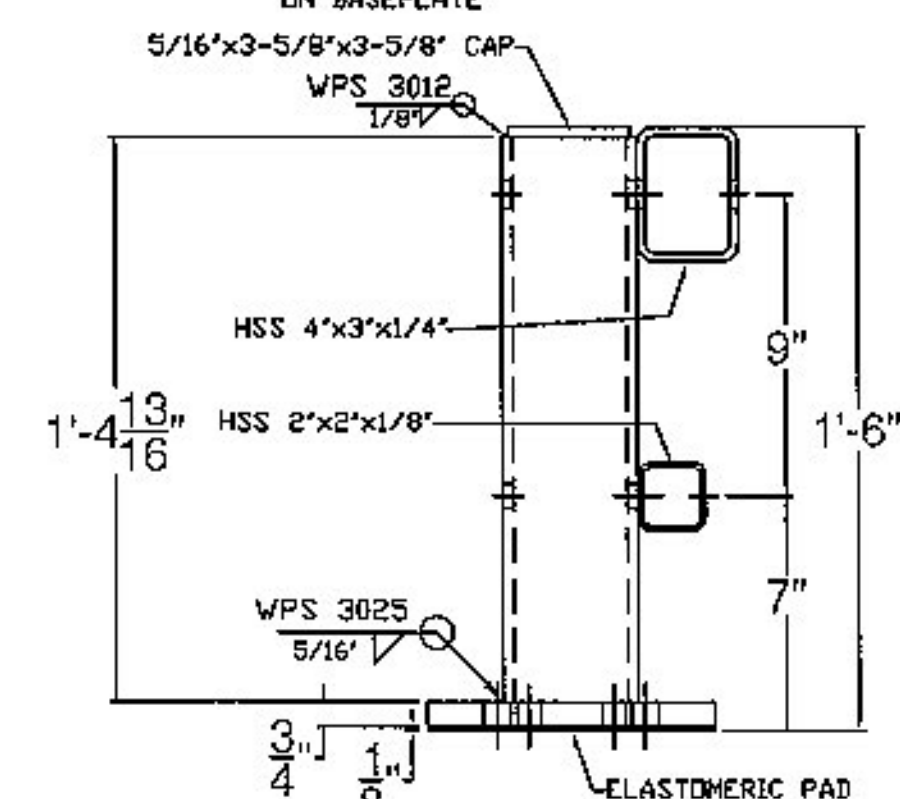
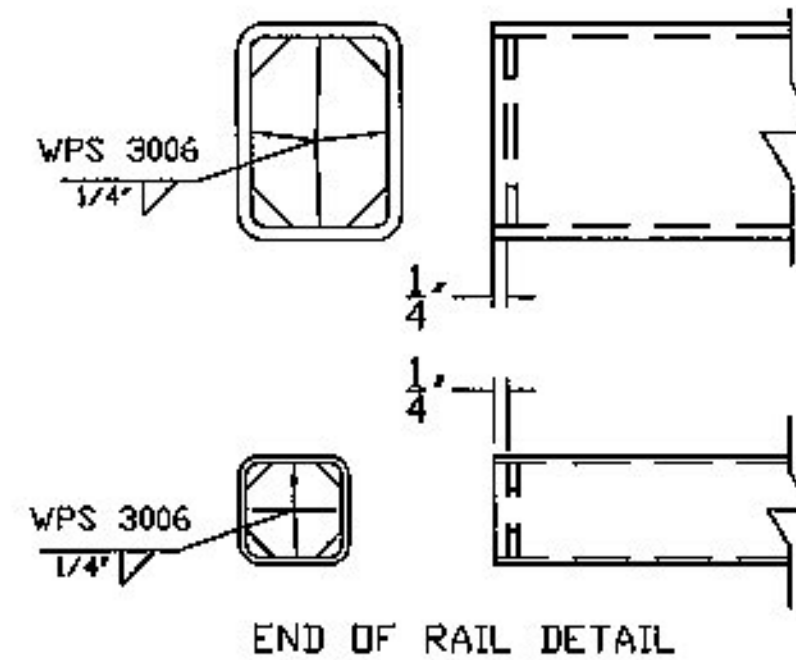
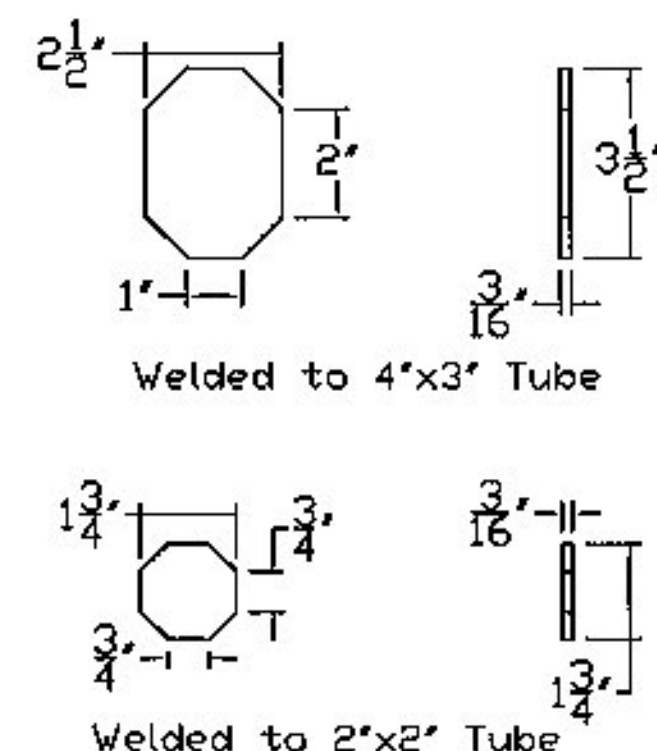
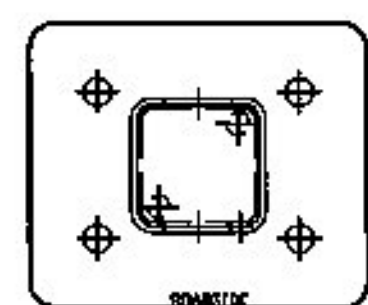
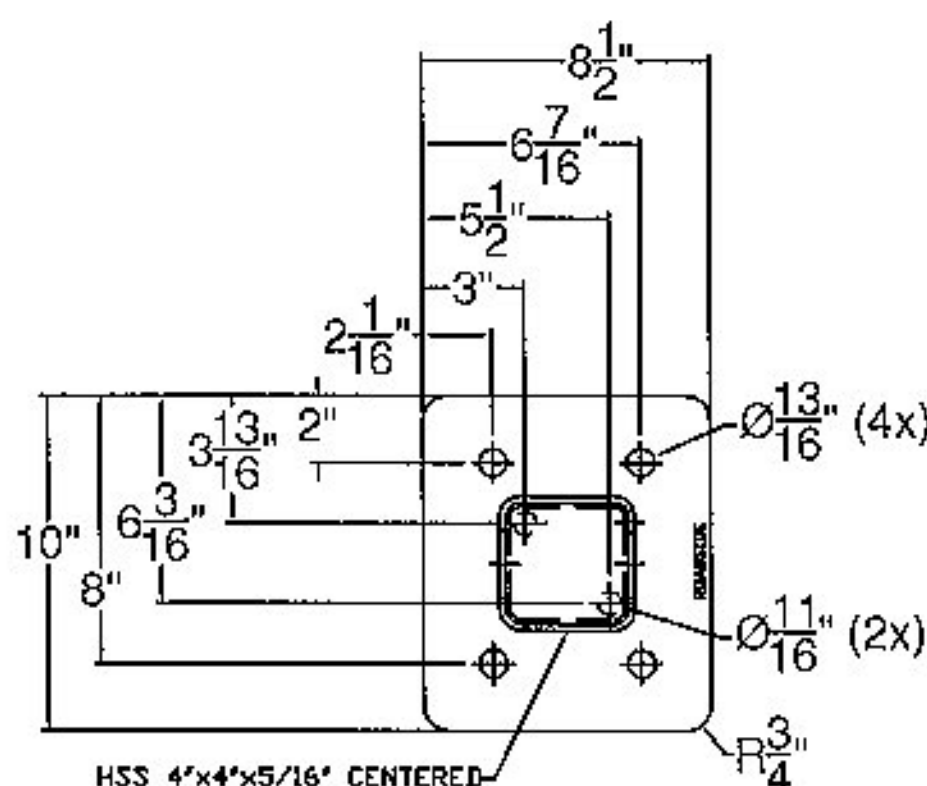
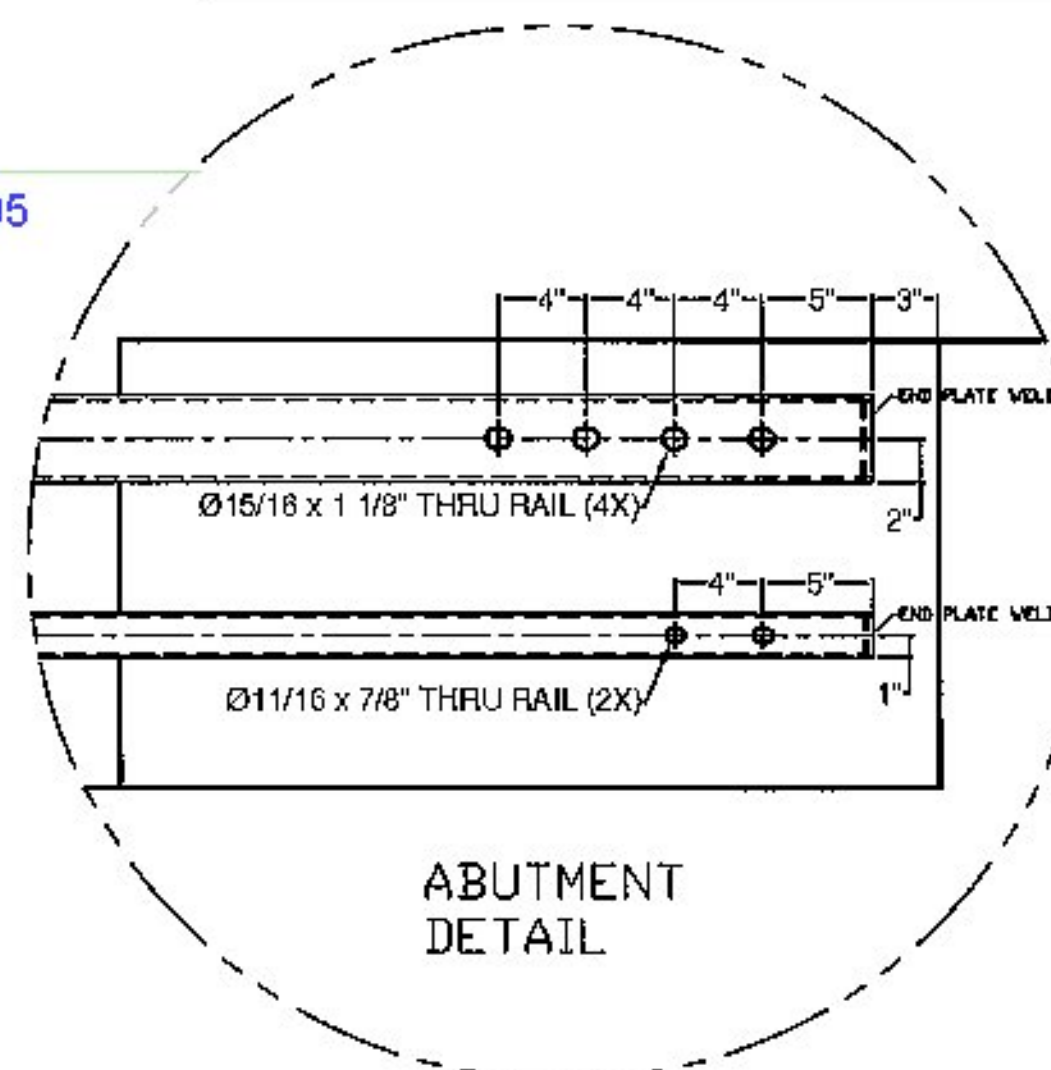
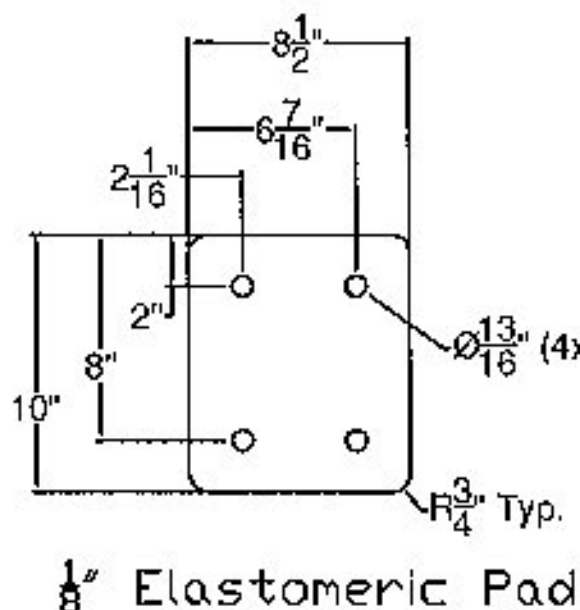
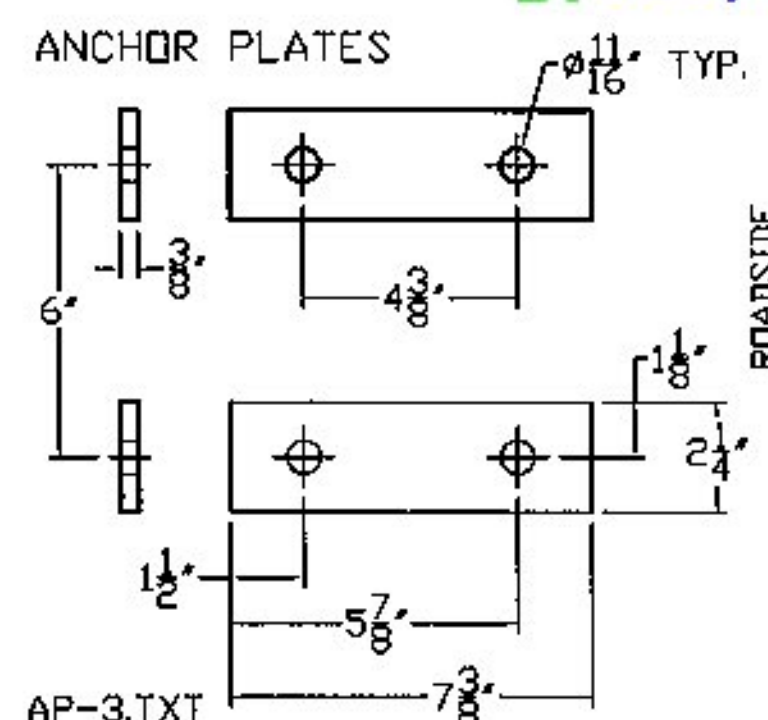
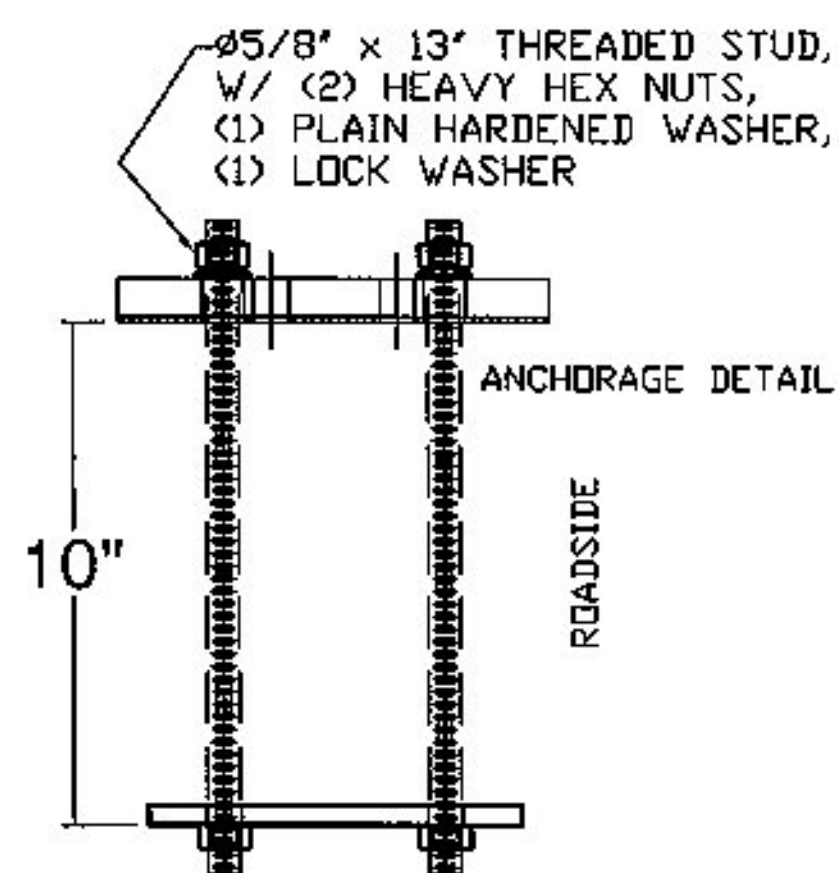






August 5, 2015

RESUBMIT No Approved  
BY Carolyn Carlson DATE 05/08/05



- NOTES:
1. ALL WORK AND MATERIALS SHALL CONFORM TO SECTION 525.
  2. PRIOR TO GALVANIZING THE ASSEMBLED POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF 1/16\".
  3. ALL POSTS SHALL BE SET NORMAL TO GRADE.
  4. SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO BRIDGE POSTS AND PREFERABLY TO AT LEAST 4 POSTS.
  5. HOLES IN RAILS FOR TUBE ATTACHMENT, WILL BE SHOP-DRILLED.
  6. BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 100 FT-LB).
  7. RAIL TUBES SHALL BE ATTACHED USING FULL DIAMETER BODY ASTM A449 (TYPE 1) ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE TUBE.
  8. SEE STANDARD DRAWING G-1 FOR DETAILS OF DELINEATORS. A DELINEATOR SHALL BE INSTALLED AT 30 FOOT SPACING OR 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 FOR DELINEATORS SHALL BE INCIDENTAL TO OTHER ITEMS.
  9. AESTHETIC TREATMENT TYPE SHALL BE APPLIED AS SPECIFIED IN THE CONTRACT PLANS. IF NONE IS SPECIFIED IT SHALL NOT BE USED. AESTHETIC TREATMENT DETAILED ON THIS SHEET MAY ALSO BE APPLIED ON THE FASCIA SIDE OF THE RAIL, IF SPECIFIED IN THE CONTRACT PLANS.
  10. BRIDGE RAILING SHALL HAVE A RUBBED FINISH IN ACCORDANCE WITH SECTION 501.
  11. THIS RAILING MEETS THE REQUIREMENTS FOR A NCHRP REPORT 350 TL-4 SERVICE LEVEL.
  12. HOLES FOR MOUNTING DELINEATORS TO BE FIELD DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO INSTALLATION.
  13. ALL STEEL COMPONENTS OF BRIDGE RAILING AND BOX BEAM GUARDRAIL, INCLUDING THE RAIL CONNECTION TO THE BRIDGE RAIL SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

BILL OF MATERIAL					ASTM DESIGNATION
ITEM #	QTY	PART #	DESCRIPTION		
1	17	0033.90017	TWO RAIL POST & BASE PLATE ASSEMBLY		A572 Gr. 50, A500 Gr. B
2	1	0033.90025	2\" X 2\" X 1/8\" RAIL @ 35'-11 1/2\" W/ 355' CONCAVE R. & END PLATES		A500 Gr. B
3	1	0033.90026	2\" X 2\" X 1/8\" RAIL @ 31'-5\" 'E' W/ 355' CONCAVE R. & END PLATES		A500 Gr. B
4	1	0033.90027	2\" X 2\" X 1/8\" RAIL @ 29'-11 1/2\" W/ 320' CONVEX R. & END PLATES		A500 Gr. B
5	1	0033.90028	2\" X 2\" X 1/8\" RAIL @ 30'-1 1/2\" 'E' W/ 320' CONVEX R. & END PLATES		A500 Gr. B
6	1	0033.90029	4\" X 3\" X 1/4\" RAIL @ 35'-11 1/2\" W/ 355' CONCAVE R. & END PLATES		A500 Gr. B
7	1	0033.90030	2\" X 2\" X 1/8\" RAIL @ 31'-5\" 'E' W/ 355' CONCAVE R. & END PLATES		A500 Gr. B
8	1	0033.90031	4\" X 3\" X 1/4\" RAIL @ 29'-11 1/2\" W/ 320' CONVEX R. & END PLATES		A500 Gr. B
9	1	0033.90032	4\" X 3\" X 1/4\" RAIL @ 30'-1 1/2\" 'E' W/ 320' CONVEX R. & END PLATES		A500 Gr. B
10	2	0033.90069	1-1/2\" X 1-1/2\" FIX. SPL. BAR @ 2' 4\"		A572 Gr. 50
11	2	0033.90071	2-1/4\" X 3-1/4\" FIX. SPL. BAR @ 2' 4\"		A572 Gr. 50
12	34	0033.00295	3/8\" X 2 1/4\" X 7 3/8\" ANCHOR PLATES		A36
13	70*	0042.05813	5/8\" X 13\" ANCHOR STUDS		A449
14	138*	0080.15901	5/8\" HEAVY HEX NUTS		A563
15	70*	0080.15911	5/8\" FLAT WASHERS		F436
16	68	0080.15920	5/8\" LOCK WASHERS		ASME D18.2
17	17	0080.05565	5/8\" X 7 1/2\" SLOTTED, ROUND HEAD BOLT, NUT, F.W., & L.W.		A449, A563 DH, F436, & ASME D18.2.1
18	17	0080.06410	3/4\" X 8 1/2\" SLOTTED, ROUND HEAD BOLT, NUT, F.W., & L.W.		A449, A563 DH, F436, & ASME D18.2.1
19	8	0080.05275	5/8\" X 3\" HEX BOLT, NUT, F.W., & L.W.		A325, A563 DH, F436, & ASME D18.2.1
20	8	0080.07330	7/8\" X 5 1/2\" HEX BOLT, NUT, F.W., & L.W.		A325, A563 DH, F436, & ASME D18.2.1
21	8	0080.05760	5/8\" X 13\" SLOTTED, ROUND HEAD BOLT, NUT, F.W., & L.W.		A449, A563 DH, F436, & ASME D18.2.1
22	16	0080.07710	7/8\" X 14\" SLOTTED, ROUND HEAD BOLT, NUT, F.W., & L.W.		A449, A563 DH, F436, & ASME D18.2.1
23	17	0033.00053	1/8\" ELASTOMERIC PAD		D2240
24	6		DELINEATORS (SUPPLIED BY F.R. LAFAYETTE)		ALUMINUM

*-2 EXTRA FOR VOT TESTING

NOTE: FIELD TRIM & DRILL OF SPLICE END IS DUE TO FIX JOINT WITH MINIMAL TOLERANCE FOR LENGTH CHANGES IN THE RAIL DUE TO FORMING RADIUS.

HARDWARE NOTES	
ITEM #	FUNCTION
17	BOLT BOTTOM RAIL TO POST (ITEM #1)
18	BOLT TOP RAIL TO POST (ITEM #1)
19	BOLT BOTTOM SPLICE BARS (ITEM #6) TO BOTTOM RAIL
20	BOLT TOP SPLICE BARS (ITEM #7) TO TOP RAIL
21	BOLT BOTTOM RAIL TO END ABUTMENT
22	BOLT TOP RAIL TO END ABUTMENT

ITEM #: 525.45

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

TOLERANCE UNLESS OTHERWISE NOTED:  
FRACTIONS =  $\pm 1/16\"$   
ANGLES =  $\pm 1/2\"$   
DIAMETERS =  $\pm 1/32\"$

### BRIDGE RAIL DETAILS SHEET

T.H. 27 (URBAN COLLECTOR), BRIDGE # 12  
TOWN OF COLCHESTER, CHITTENDEN COUNTY

R. NO.	DATE	DESCRIPTION	BY	R. NO.	DATE	DESCRIPTION	BY
1	4/22/15	REVISE PER 4/22/15 MARK-UP	E.P.				

ELDERLEE, INC.

OAKS CORNERS, NEW YORK 14618

E-Mail: [elone@elderlee.com](mailto:elone@elderlee.com) / [epc@elderlee.com](mailto:epc@elderlee.com)

Tel: 315-789-6670 Fax: 315-789-6615

DRAWN E.P. 4/9/15

CHECKED D.L. 4/9/15

APPROVED

SCALE SCHEMATIC

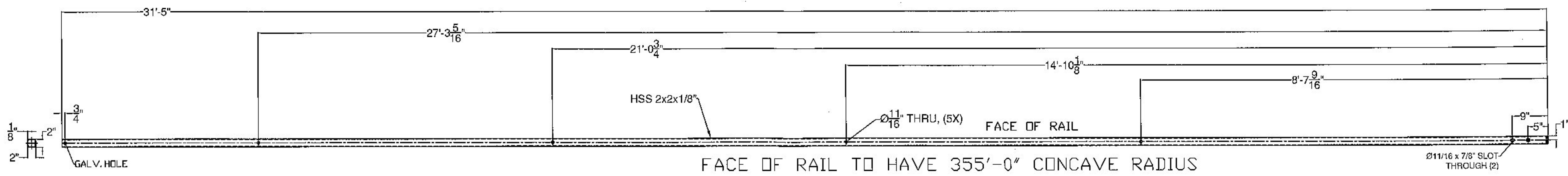
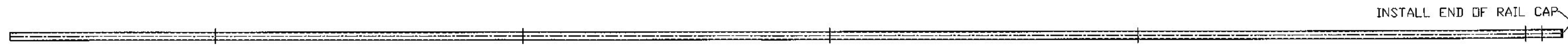
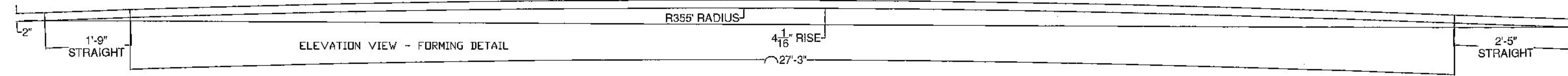
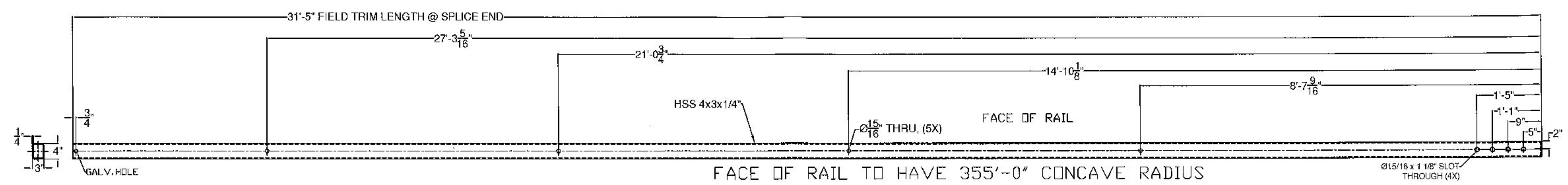
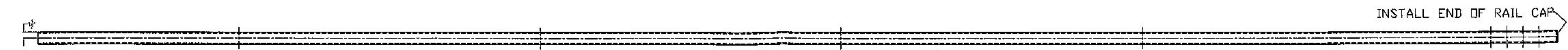
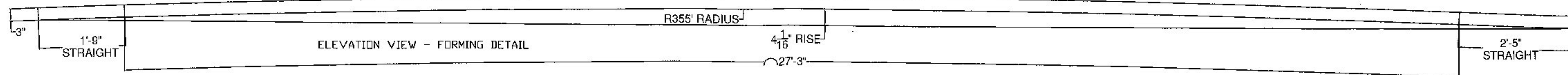
DRAWING NO. FR L - COLCHESTER

SHEET 1 OF 6



R	NO.	DATE	DESCRIPTION	BY	R	NO.	DATE	DESCRIPTION	BY			
E	1	4/27/15	REVISE PER 4/22/15 MARK-UP	E.P.	E							
V					V							
 <b>ELDERLEE, INC.</b> OAKS CORNERS, NEW YORK 14578 E-Mail: <a href="mailto:dlong@elderlee.com">dlong@elderlee.com</a> / <a href="mailto:epseek@elderlee.com">epseek@elderlee.com</a> Tel: 315-789-6670 Fax: 315-789-6615					 <b>CERTIFIED FABRICATOR</b> NO. 1000000000					DRAWN	E.P.	4/9/15
										CHECKED	D.L.	4/9/15
										APPROVED		
										SCALE	SCHÉMATIC	
										DRAWING NO.	F.R.I. - GOLCHIESTER	





Vermont Agency of Transportation

**RECEIVED**

CK'D BY FDB OK'D BY HIS

August 5, 2015

RESUBMIT No Approved  
BY Carolyn Carlson DATE 05/08/05

ITEM #: 525.45

STRUCTURAL STEEL TO  
COMPLY W/ ASTM A6

TOLERANCE UNLESS  
OTHERWISE NOTED:  
FRACTIONS =  $\pm 1/16$ "  
ANGLES =  $\pm 1/2$ "  
DIAMETERS =  $\pm 1/32$ "

SHEET 3 OF 6

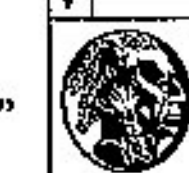
**BRIDGE RAIL DETAILS SHEET**

T.H. 27 (URBAN COLLECTOR), BRIDGE # 12  
TOWN OF COLCHESTER, CHITTENDEN COUNTY

R NO.	DATE	DESCRIPTION	BY	R NO.	DATE	DESCRIPTION	BY
E 1	4/27/15	REVISE PER 4/22/15 MARK-UP	E.P.	E 1			
V			V				

DRAWN	E.P.	4/9/15
CHECKED	D.L.	4/9/15
APPROVED		
SCALE	SCHEMATIC	
DRAWING NO.	FRL - COLCHESTER	



**ELDERLEE, INC.**

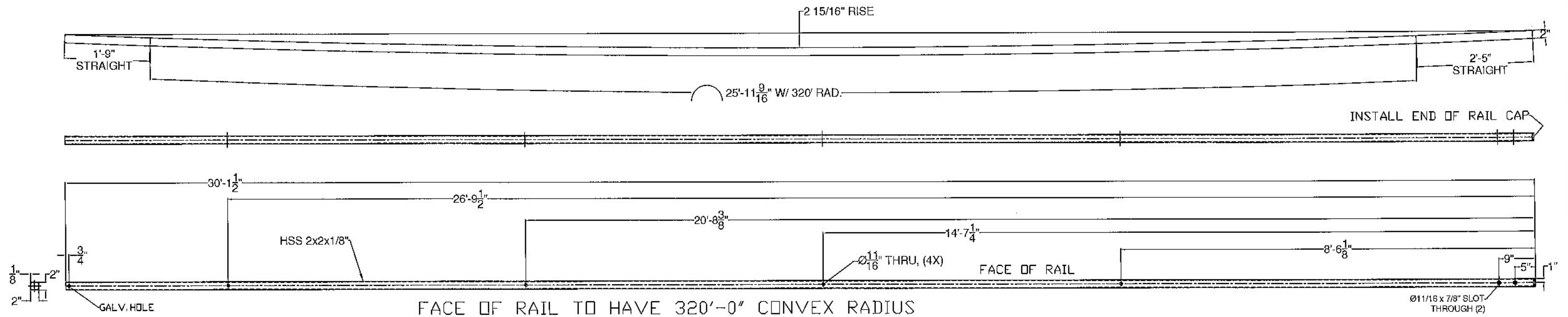
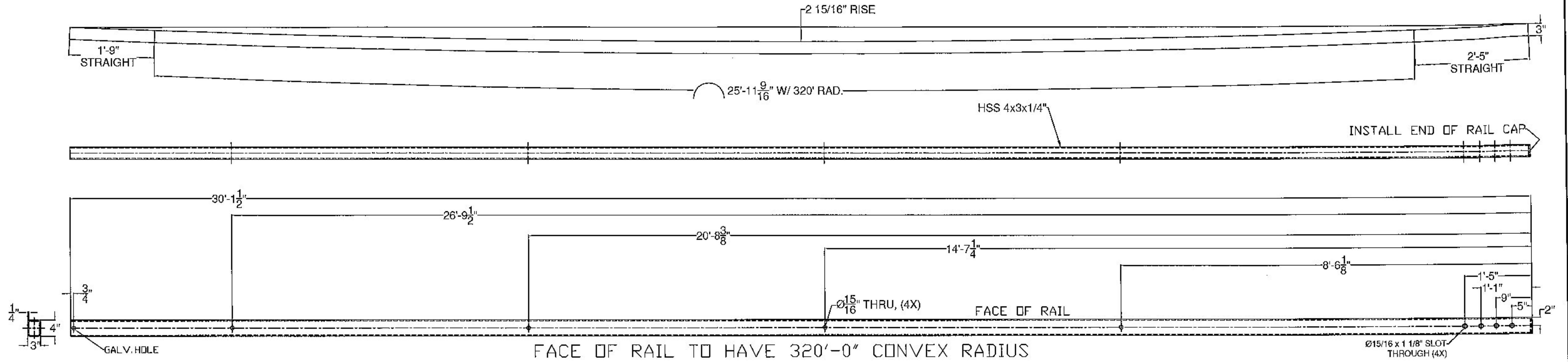
OAKS CORNERS, NEW YORK 14578  
E-Mail: dlong@elderlee.com / epeek@elderlee.com  
Tel: 315-789-6670 Fax: 315-789-6615











Vermont Agency of Transportation

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CK'D BY FDB OK'D BY HIS

August 5, 2015

RESUBMIT No Approved  
BY Carolyn Carlson DATE 05/08/05

ITEM #: 525.45

STRUCTURAL STEEL TO  
COMPLY W/ ASTM A6

TOLERANCE UNLESS  
OTHERWISE NOTED:  
FRACTIONS = ± 1/16"  
ANGLES = ± 1/2"  
DIAMETERS = ± 1/32"

SHEET 5 OF 6

**BRIDGE RAIL DETAILS SHEET**

T.H. 27 (URBAN COLLECTOR), BRIDGE # 12  
TOWN OF COLCHESTER, CHITTENDEN COUNTY

R NO.	DATE	DESCRIPTION	BY	R NO.	DATE	DESCRIPTION	BY
E 1	4/27/15	REVISE PER 4/22/15 MARK-UP	E.P.	E 1			
V			V				

DRAWN	E.P.	4/9/15
CHECKED	D.L.	4/9/15
APPROVED		
SCALE	SCHMATIC	
DRAWING NO.	FR L - COLCHESTER	



**ELDERLEE, INC.**

OAKS CORNERS, NEW YORK 14578  
E-Mail: dlong@elderlee.com / epeek@elderlee.com  
Tel: 315-789-6670 Fax: 315-789-6616

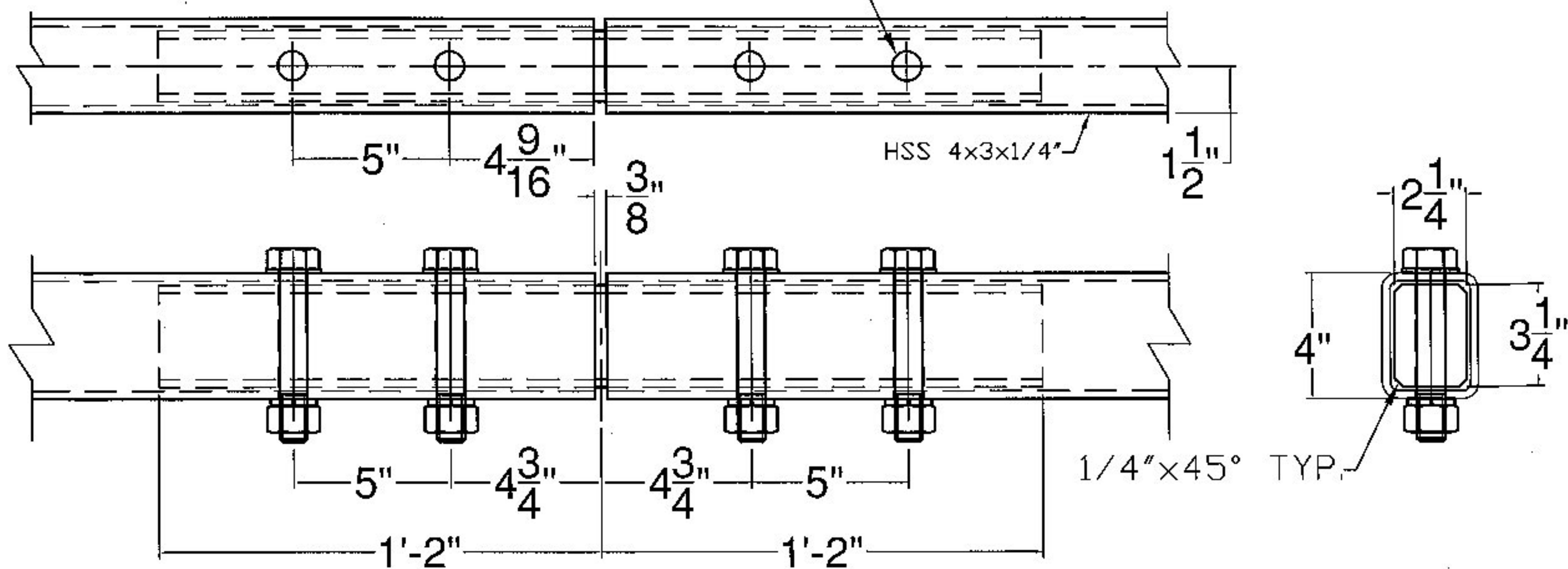


CERTIFIED  
FABRICATOR



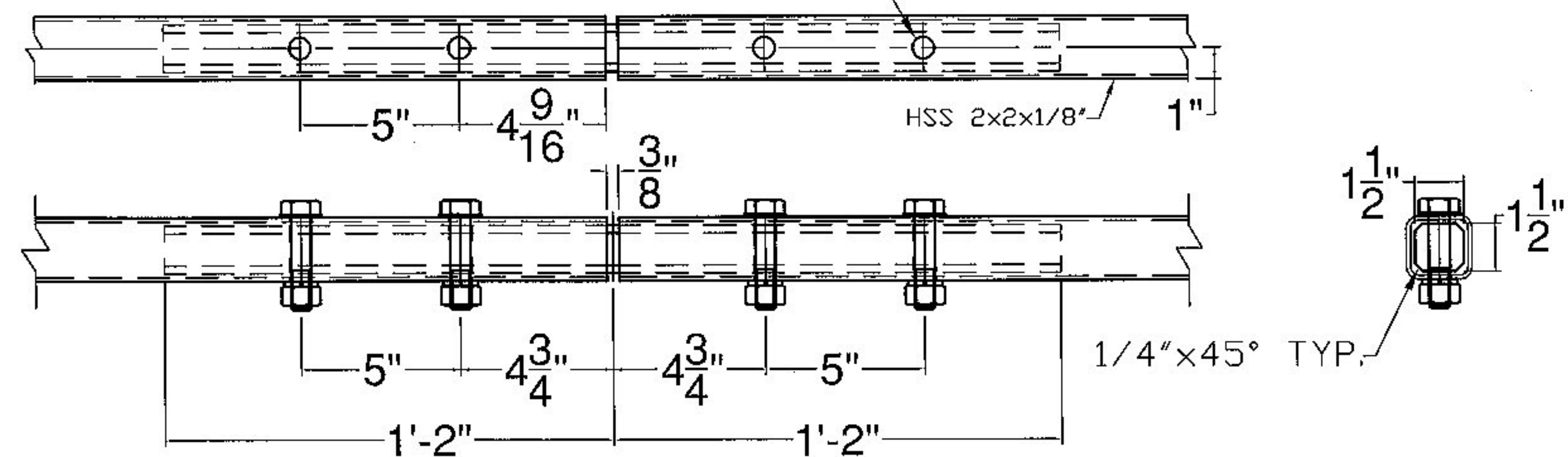
Ø15/16" THRU TUBE & SPLICE BAR,  
Ø7/8"X5 1/2" HEX BOLT & NUT,  
W/ (1) PLAIN HARDENED WASHER &  
(1) LOCK WASHER (4 PLACES)

### TOP RAIL FIXED SPLICE DETAIL



Ø11/16" THRU TUBE & SPLICE BAR,  
Ø5/8"X3" HEX BOLT & NUT,  
W/ (1) PLAIN HARDENED WASHER &  
(1) LOCK WASHER (4 PLACES)

### BOTTOM RAIL FIXED SPLICE DETAIL



Vermont Agency of Transportation

**RECEIVED**

CK'D BY FDB OK'D BY HIS

August 5, 2015

RESUBMIT No Approved  
BY Carolyn Carlson DATE 05/08/05

ITEM #: 525.45

STRUCTURAL STEEL TO  
COMPLY W/ ASTM A6

TOLERANCE UNLESS  
OTHERWISE NOTED:  
FRACTIONS =  $\pm 1/16"$   
ANGLES =  $\pm 1/2"$   
DIAMETERS =  $\pm 1/32"$

BRIDGE RAIL DETAILS SHEET				T.H. 27 (URBAN COLLECTOR), BRIDGE # 12				TOWN OF COLCHESTER, CHITTENDEN COUNTY			
R	NO.	DATE	DESCRIPTION	BY	R	NO.	DATE	DESCRIPTION	BY		
E	1	4/27/15	REVISE PER 4/22/15 MARK-UP	E.P.	E						
V				V							

<b>ELDERLEE, INC.</b> OAKS CORNERS, NEW YORK 14618 E-Mail: dlong@elderlee.com / epeek@elderlee.com Tel: 315-789-6670 Fax: 315-789-6615	ASME CERTIFIED FABRICATOR	DRAWN	E.P.	4/9/15
		CHECKED	D.L.	4/9/15
		APPROVED		
SCALE		SCHEMATIC		
DRAWING NO.		FILL - COLCHESTER		

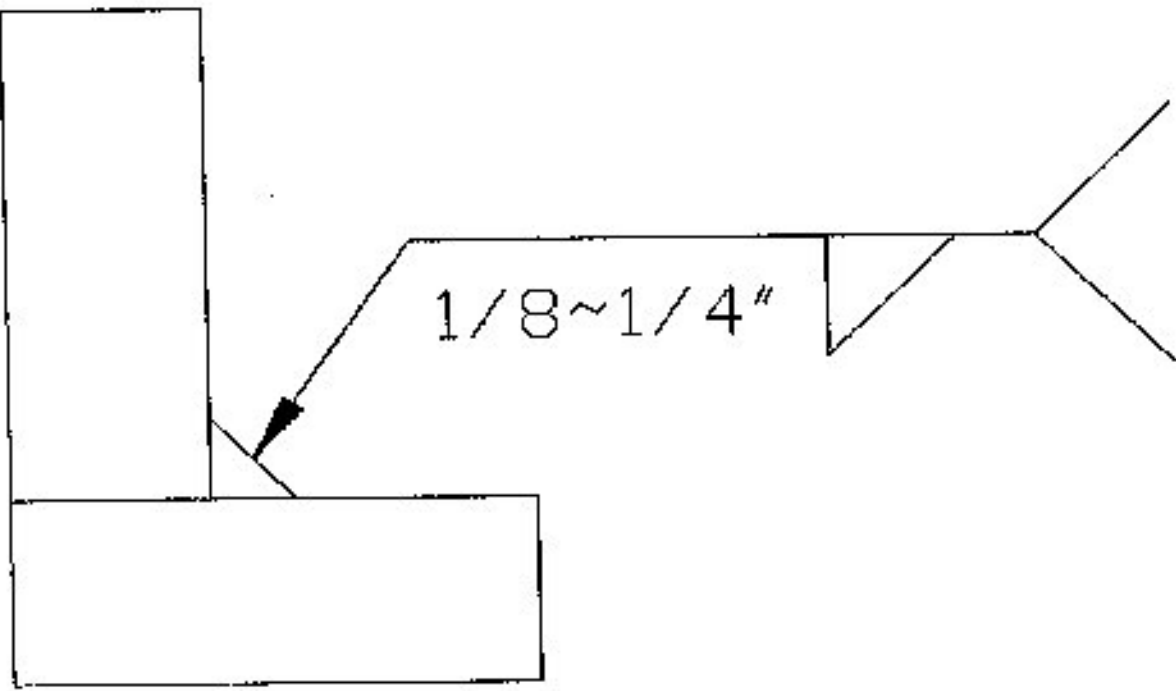
SHEET 6 OF 6



# WELDING PROCEDURE SPECIFICATION

Material Specification A36 TO A500 COLCHESTER STP 5600(12), Bridge 12  
Welding Process FCAW  
Manual or Machine SEMAUTOMATIC  
Position of Welding FLAT / HORIZONTAL  
Filler Metal Specification A5.20 - 95  
Filler Metal Classification E81T1-Ni1C-JH4  
Flux N/A  
Shielding Gas CO 2 Dew Point -40DEG F Flow Rate 50CFH  
Single or Multiple Pass SINGLE  
Single or Multiple Arc SINGLE  
Welding Current DC  
Polarity REVERSE ELECTRODE POSITIVE  
Welding Progression STRINGER  
Root Treatment PER D1.5  
Preheat and Interpass Temperature PER D1.5  
Postheat Temperature NONE  
Heat Input Min Max

## WELDING PROCEDURE

Pass no.	Electrode size	Welding Current		Travel speed	Joint detail
		Amperes	Volts		
1	1/16	300	26	14	
Variable	LIMITS	270	24	12.6	
		TO 330	TO 28	TO 15.4	

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in Section 5.

Procedure No. 3006  
Revision No.

Contractor Elderlee, Inc.  
Authorized By RANDY SCOTT  
Date 8/4/2014

Vermont Agency of Transportation

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CK'D BY FDB OK'D BY HIS

August 5, 2015

RESUBMIT No Approved  
BY Carolyn Carlson DATE 05/08/05



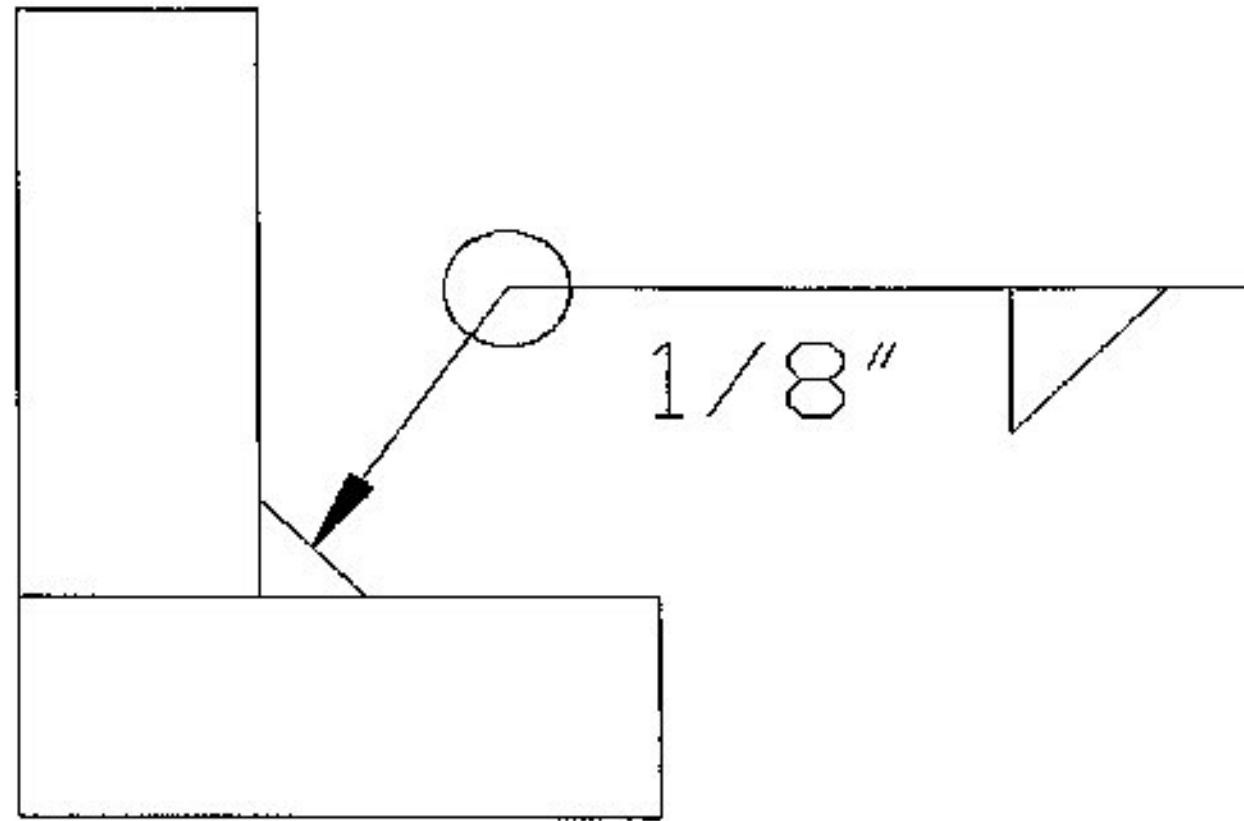
# WELDING PROCEDURE SPECIFICATION

PQR ELDERLEE #3

COLCHESTER STP 5600(12), Bridge 12

Material Specification	ASTM-A500-A53-GRADE B TO A36
Welding Process	FCAW-G
Manual or Machine	SEMAUTOMATIC
Position of Welding	1G
Filler Metal Specification	A5.29
Filler Metal Classification	E81T1-Ni1C-JH4
Flux	N/A
Shielding Gas	CO 2
Dew Point	-40DEG F
Flow Rate	50 CFH
Single or Multiple Pass	SINGLE
Single or Multiple Arc	SINGLE
Welding Current	DC
Polarity	REVERSE ELECTRODE POSITIVE
Welding Progression	STRINGER
Root Treatment	PER D1.5
Preheat and Interpass Temperature	PER. D1.5
Postheat Temperature	NONE
Heat Input	Min _____ Max _____

## WELDING PROCEDURE

Pass no.	Electrode size	Welding Current		Travel speed	Joint detail
		Amperes	Volts		
1	1/16	310	25	11	
Variable	LIMITS	341 TO 269	27 TO 23	12 TO 10	

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in Section 5.

Procedure No. 3012 Contractor Elderlee, Inc.  
Revision No. _____ Authorized By RANDY SCOTT  
Date 3/20/2014

Vermont Agency of Transportation

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August 5, 2015

RESUBMIT No Approved _____  
BY Carolyn Carlson DATE 05/08/05

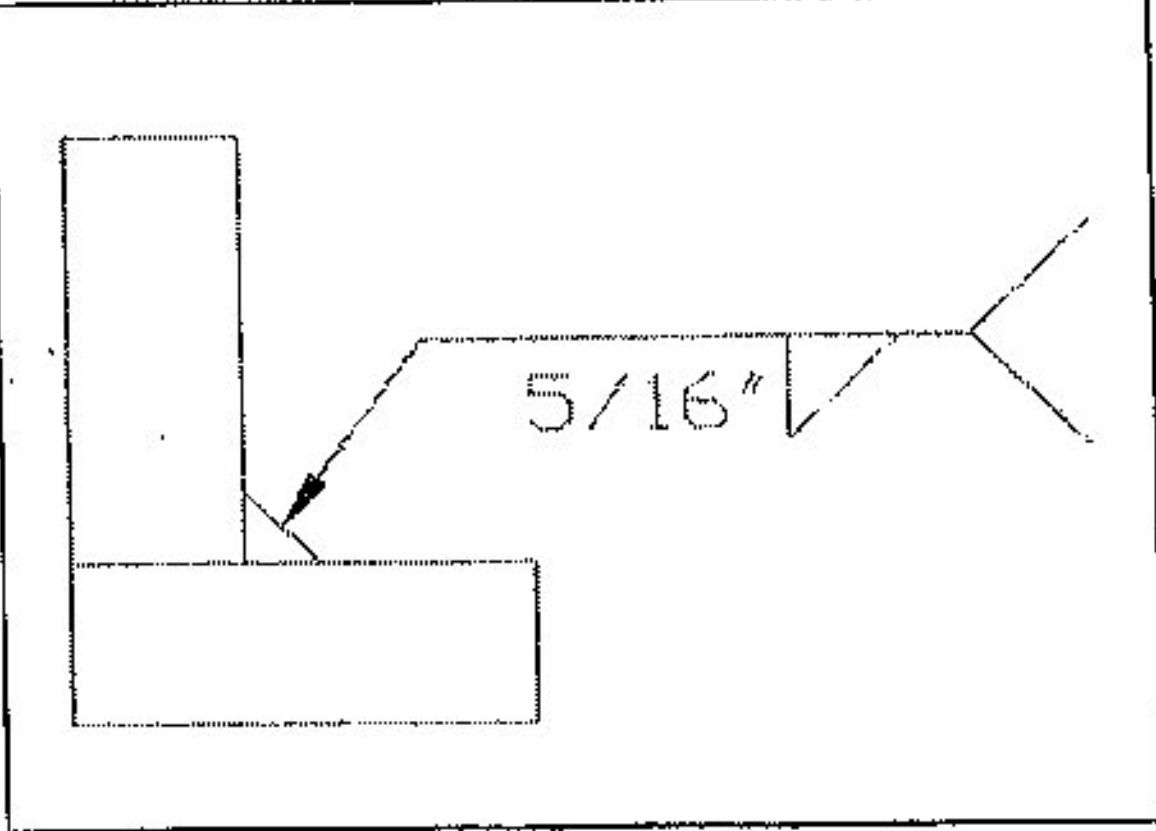


# WELDING PROCEDURE SPECIFICATION

PQR ELDERLEE #3

Material Specification A572 TO A500 COLCHESTER STP 5600(12), Bridge 12  
Welding Process FCAW-G  
Manual or Machine SEMAUTOMATIC  
Position of Welding FLAT/HORIZONTAL  
Filler Metal Specification A5.29  
Filler Metal Classification E81T1-Ni1C-JH4  
Flux N/A  
Shielding Gas CO 2 Dew Point -40DEG F Flow Rate 50CFH  
Single or Multiple Pass SINGLE  
Single or Multiple Arc SINGLE  
Welding Current DC ELECTRODE POSITIVE  
Polarity REVERSE  
Welding Progression STRINGER  
Root Treatment PER D1.5  
Preheat and Interpass Temperature PER D1.5  
Postheat Temperature NONE  
Heat Input Min _____ Max _____

## WELDING PROCEDURE

Pass no.	Electrode size	Welding Current		Travel speed	Joint detail
		Amperes	Volts		
1	1/16	310	25	11	
Variable	LIMITS	341	27	12	
		TO 269	TO 23	TO 10	

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in Section 5.

Procedure No. 3025

Revision No. _____

Contractor Elderlee, Inc.

Authorized By RANDY SCOTT

Date 12/1/2014

Vermont Agency of Transportation

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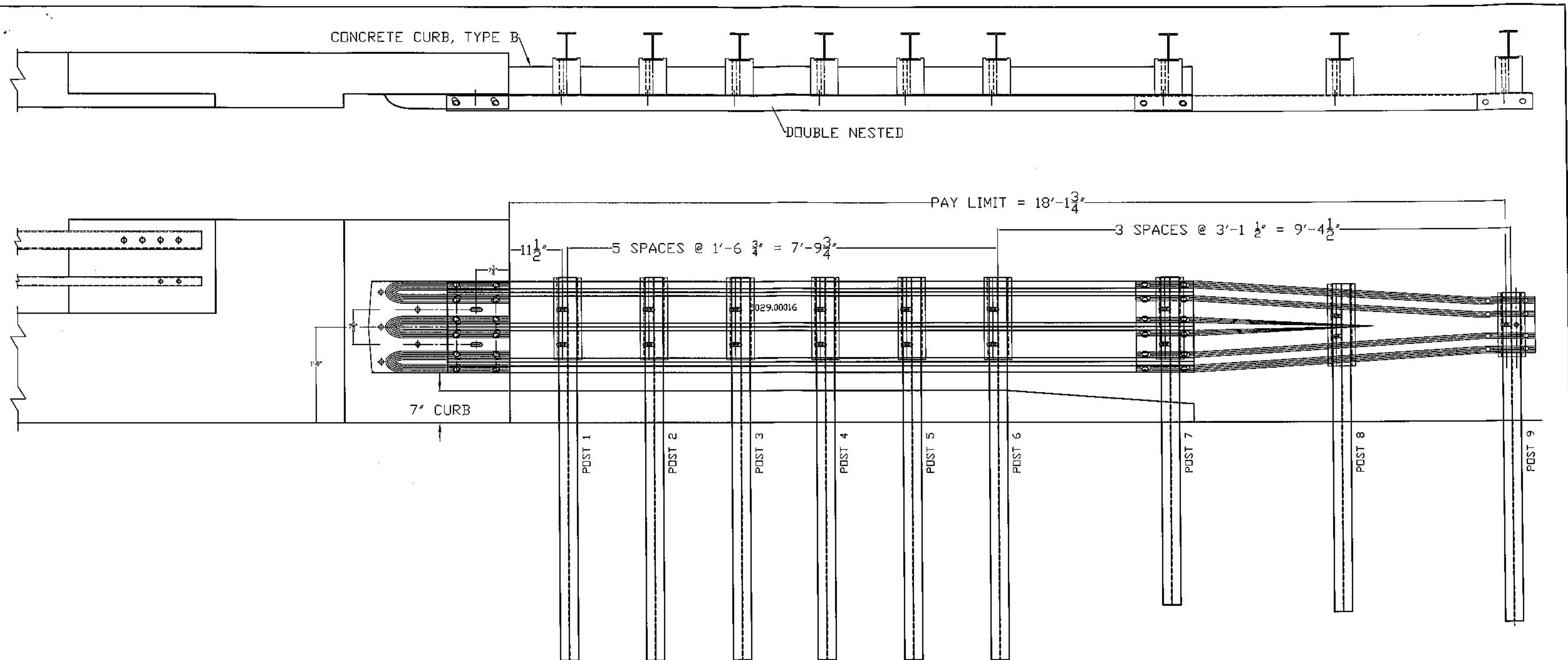
CK'D BY FDB OK'D BY HIS

August 5, 2015

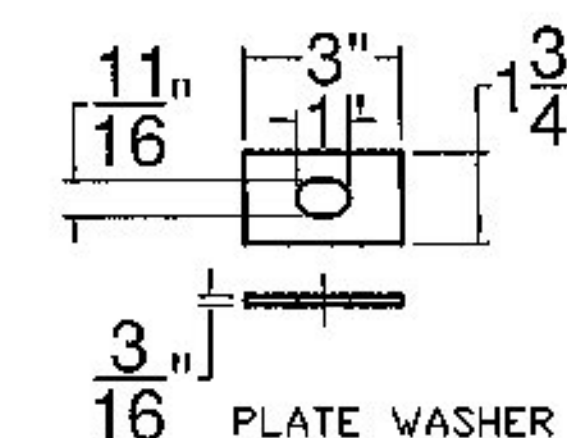
RESUBMIT No Approved

BY Carolyn Carlson DATE 05/08/05





BILL OF MATERIAL (EACH CORNER)				
ITEM #	QTY	PART #	DESCRIPTION	ASTM DESIGNATION
1	6	0013.850000	W6X9 POST @ 7' (POST 1~6)	A36
2	1	0013.850001	W6X9 POST @ 6' (POST 7)	A36
3	1	0013.850002	W6X9 POST @ 6' (POST 8)	A36
4	1	0013.850003	W6X9 POST @ 6' (POST 9)	A36
5	7	0009.00006	6X8" BLOCKOUT @ 18" (FOR POST 1~7)	POLY
6	1	0009.00007	6X8" BLOCKOUT @ 18" (FOR POST 8)	POLY
7	1	0009.00005	6X8" BLOCKOUT @ 14" (FOR POST 9)	POLY
8	1	5143.40056	12'-6" THRIE BEAM END TERMINAL, 10 Ga.	AASHTO M180
9	2	5029.00016	THRIE BEAM W/ 1'-6 3/4" C-C, 12 Ga.	AASHTO M180
10	1	6029.01133	12'-6" THRIE BEAM TO "W" PANEL, 10 Ga.	AASHTO M180
11	5	T.B.D.	Ø 3/4" X 12" SLOTTED, ROUND HEAD BOLT, NUT, F.W., & L.W.	SUPPLIED BY OTHERS
12	24	0080.05020	Ø 5/8"x1-1/4" SPLICE BOLT/RECESSED NUT (PANEL ASS'Y)	A307
13	17	0080.05720	Ø 5/8"x10" CARRIAGE BOLT, LW, FW, & NUT	A307



3" PLATE WASHER

ITEM #: 621.748

STRUCTURAL STEEL TO COMPLY W/ ASTM A6

TOLERANCE UNLESS OTHERWISE NOTED:  
FRACTIONS = ± 1/16"  
ANGLES = ± 1/2"  
DIAMETERS = ± 1/32"

Vermont Agency of Transportation

**RECEIVED**

CK'D BY FDB OK'D BY HIS

August 5, 2015

RESUBMIT No Approved  
BY Carolyn Carlson DATE 05/08/05

SHEET 1 OF 2

GUIDE RAIL TRANSITION DETAILS SHEET

T.H. 27 (URBAN COLLECTOR), BRIDGE # 12  
TOWN OF COLCHESTER, CHITTENDEN COUNTY

R NO.	DATE	DESCRIPTION	BY	R NO.	DATE	DESCRIPTION	BY
1				1			
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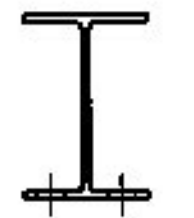
ELDERLEE, INC.  
OAKS CORNERS, NEW YORK 14518  
E-Mail: dlong@elderlee.com / epeek@elderlee.com  
Tel: 315-789-6670 Fax: 315-789-6615



DRAWN E.P. 4/9/15  
CHECKED D.L.  
APPROVED  
SCALE SCHEMATIC  
DRAWING NO. FRL - COLCHESTER



0013.850000

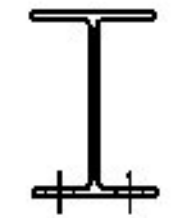

 $1\frac{1}{8}$ "  $2\frac{1}{4}$ "

 $1'-2\frac{5}{8}$ "

 $\varnothing 3/4$ " (TYP)

W6X9

0013.850001

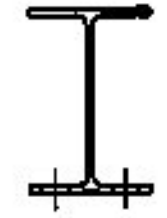

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 $\varnothing 3/4$ " (TYP)

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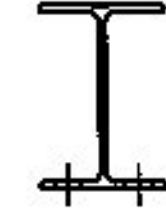

 $1\frac{1}{8}$ "  $2\frac{1}{4}$ "

 $11\frac{1}{2}$ "

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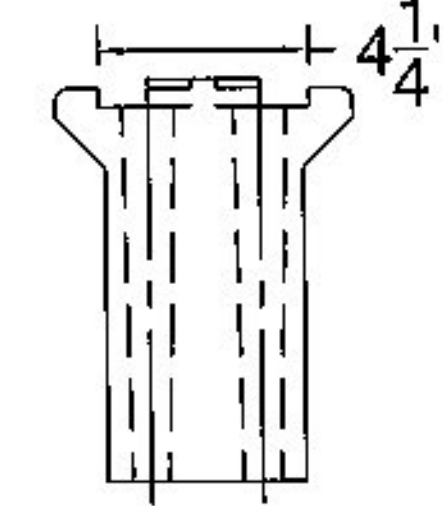
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0013.850003


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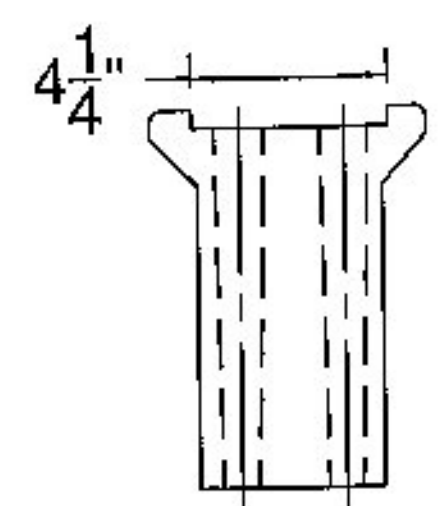
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W6X9

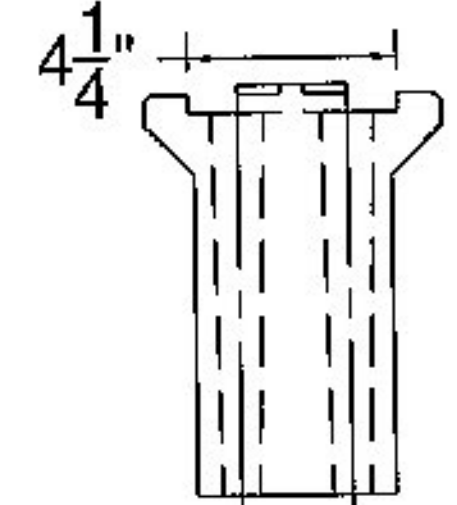


B/O FOR POST 1~7

18"-10.75"= 7.25"  
This should be 7"  
to match the post



B/O FOR POST 8



B/O FOR POST 9

SIDE FRONT ONLY  
POST 1~6SIDE FRONT ONLY  
POST 7SIDE FRONT ONLY  
POST 8SIDE FRONT ONLY  
POST 9
 $1'-2\frac{3}{16}$ "

 $1'-2"$ 

7"

Vermont Agency of Transportation

**RECEIVED**

CK'D BY FDB

OK'D BY HIS

August 5, 2015

RESUBMIT No  
BY Carolyn CarlsonApproved AsNoted  
DATE 08/05/2015

ITEM #: 621.748

STRUCTURAL STEEL TO  
COMPLY W/ ASTM A6TOLERANCE UNLESS  
OTHERWISE NOTED:  
FRACTIONS =  $\pm 1/16$ "  
ANGLES =  $\pm 1/2$ "  
DIAMETERS =  $\pm 1/32$ "

## GUIDE RAIL TRANSITION DETAILS SHEET

T.H. 27 (URBAN COLLECTOR), BRIDGE # 12  
TOWN OF COLCHESTER, CHITTENDEN COUNTY

ELDERLEE, INC.

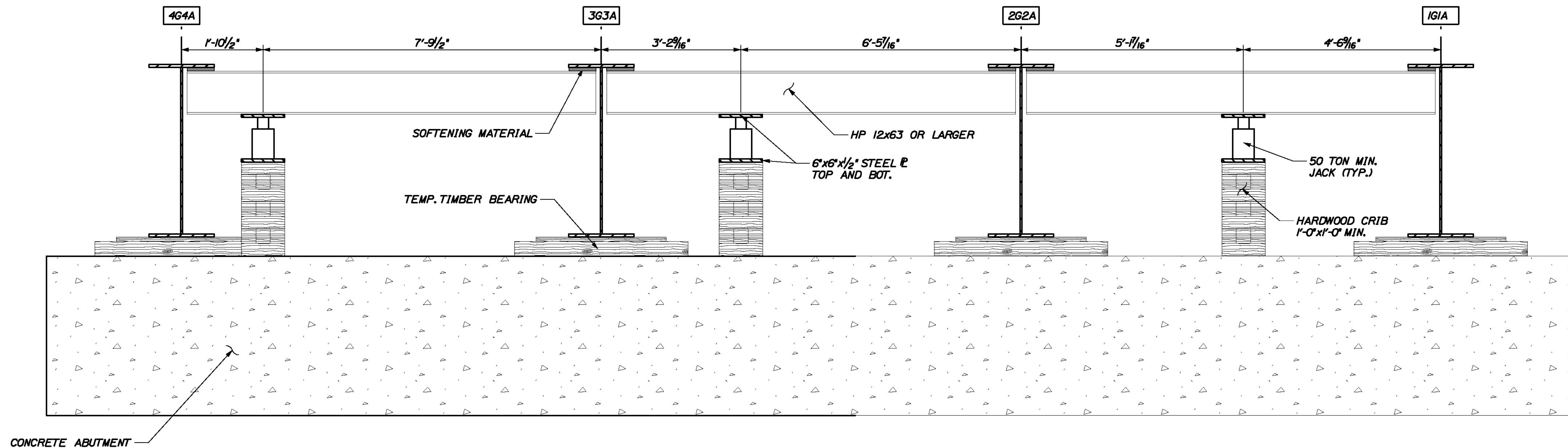
OAKS CORNERS, NEW YORK 14518  
E-Mail: dlong@elderlee.com / epeek@elderlee.com  
Tel: 315-789-6670 Fax: 315-789-6615

NO.	DATE	DESCRIPTION	BY	NO.	DATE	DESCRIPTION	BY
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DRAWN	E.P.	4/9/15
CHECKED	D.L.	
APPROVED		
SCALE	SCHEMATIC	
DRAWING NO.	FR 1 - COLCHESTER	

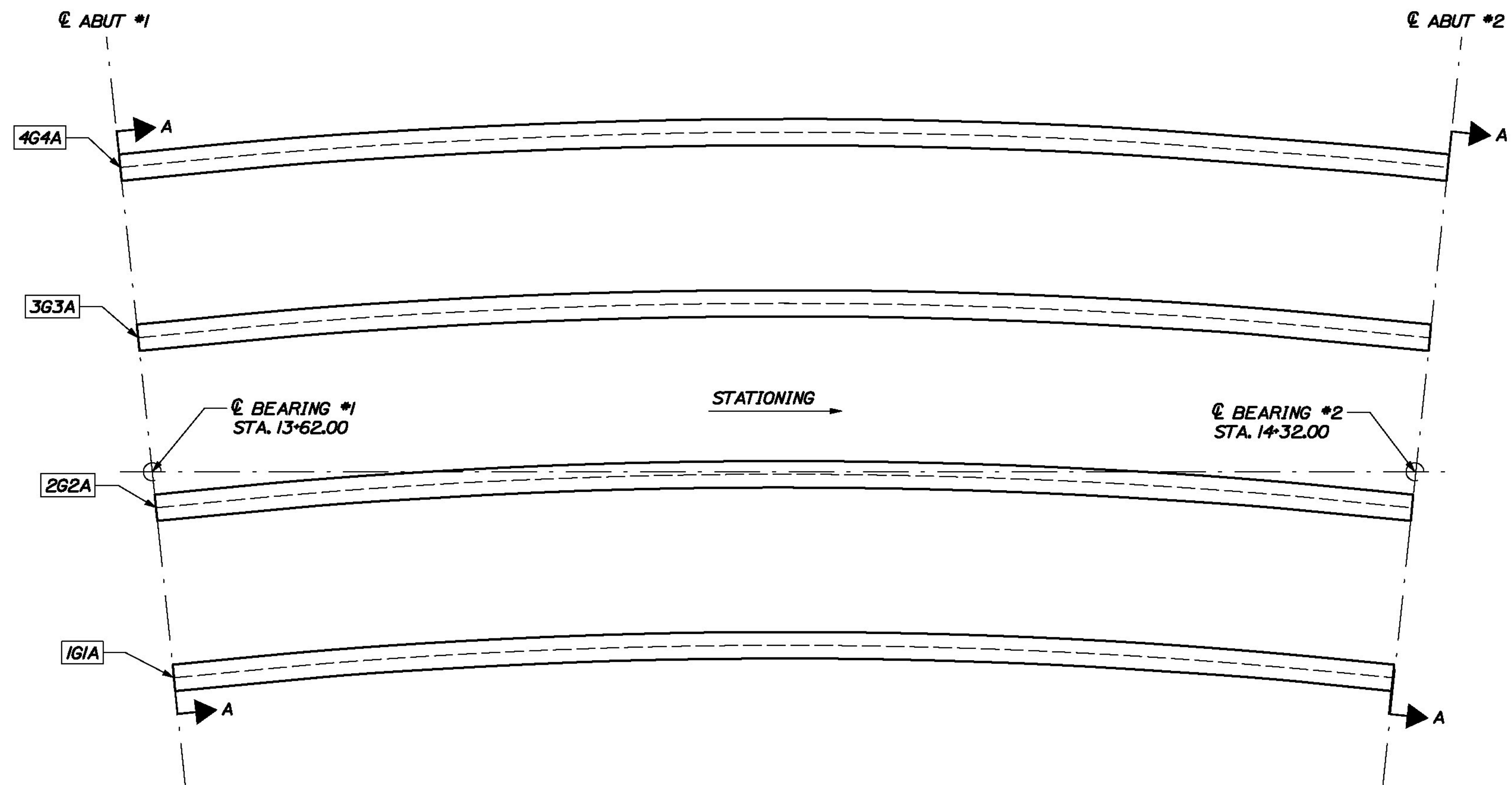
SHEET 2 OF 2





**SECTION A-A**  
NOT TO SCALE

NOTE: SECTION VIEW LOOKING  
DOWN STATION AT BOTH  
ABUTMENTS



**FRAMING PLAN**  
NOT TO SCALE

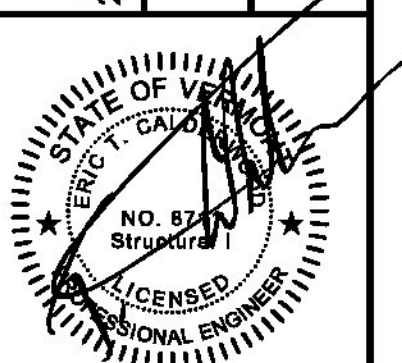
### JACKING PROCEDURE - ABUTMENT

- 1) INSTALL JACKS CENTERED BENEATH HP 12x63 JACKING GIRDERS AS SHOWN.
- 2) USE LOCKING COLLAR OR SOLIDLY BLOCK BEAMS ONCE DESIRED ELEVATION IS REACHED. DO NOT RELY ON HYDRAULIC FLUID PRESSURE ALONE TO SUPPORT THE BEAMS DURING CONSTRUCTION ACTIVITIES OR FOR AN EXTENDED PERIOD OF TIME.
- 3) REMOVE EXISTING BEARINGS AND REPLACE WITH NEW BEARING ASSEMBLY AS SHOWN IN CONTRACT DETAILS.
- 4) UNLOCK LOCKING COLLAR, RELEASE HYDRAULIC PRESSURE AND LOWER THE BRIDGE GIRDER ONTO THE NEW BEARINGS.

### GENERAL NOTES

- 1) ALL STRUCTURAL STEEL SHALL BE IN NEW OR GOOD USED CONDITION
- 2) STRUCTURAL STEEL PLATE SHALL BE GRADE 36
- 3) REPORT ANY DISCREPANCY BETWEEN THESE PLANS AND ACTUAL OBSERVED FIELD CONDITIONS TO THE JACKING PLAN ENGINEER OF RECORD IMMEDIATELY.
- 4) DO NOT PROCEED WITH ANY DEPENDENT WORK UNTIL ANY SUCH REPORTED DISCREPANCY IS ADDRESSED TO THE SATISFACTION OF THE JACKING PLAN ENGINEER OF RECORD.
- 5) THESE PLANS ARE NOT INTENDED TO BE USED ALONE, BUT ARE INTENDED TO BE WORKED IN CONJUNCTION WITH CONTRACT DETAILS AND SPECIFICATIONS FOR THE BRIDGE No. 12, PROJECT NUMBER STP 5600 (12), COLCHESTER.
- 6) HP 12X63 SHALL BE GRADE 50
- 7) ALL TIMBER SHALL BE MIXED OAK No. 2 OR BETTER.
- 8) JACK ALL GIRDERS SIMULTANEOUSLY AT EACH ABUTMENT.
- 9) THESE PLANS ARE INTENDED TO BE USED WITH THE STRUCTURAL STEEL DEAD LOAD ONLY. NO DECK MAY BE PRESENT AT THE TIME OF JACKING.

CALDERWOOD ENGINEERING, ETC.  
STRUCTURAL ENGINEERING • DETAILING SERVICES  
222 RIVER RD, RICHMOND, ME 04357 PH/FX (207) 731-2008  
PREPARED FOR:  
**A.L. ST. ONGE CONTRACTOR, INC**  
VTAOT PROJ. NUMBER STP 5600 (12)  
CEE 38-MI-15



P.E. NUMBER  
8711  
DATE

DATE	BY	DESIGN-DETAILED	CHECKED-REVIEWED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES
8/15	TEPA							
8/15	GM							

**COLCHESTER, VT - TH 27**  
**OVER INDIAN BROOK**  
**JACKING PLAN**

SHEET NUMBER

**1**





GENERAL NOTES

CONSTRUCTION SPECIFICATIONS

- 1). ALL MATERIAL AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011, AND ITS LATEST REVISIONS, AND THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (A.A.S.H.T.O.) BRIDGE DESIGN SPECIFICATIONS DATED 2010, AND ITS LATEST REVISIONS.

MATERIAL SPECIFICATIONS

- 1). UNLESS NOTED, ALL NEW STRUCTURAL STEEL CONFORM TO AASHTO M270 GRADE 50 (ASTM A709-50).
- 2). MATERIAL NOTED "T2" ON DETAIL DRAWINGS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF VERMONT STANDARD SPECIFICATIONS (SUBSECTION 714.01).
- 3). HIGH STRENGTH BOLTS: AASHTO M164 (ASTM A325) TYPE 1, 7/8" DIA. IN 15/16" DIAMETER HOLES. BOLT, NUT AND WASHER SHALL BE MECHANICALLY GALVANIZED IN ACCORDANCE WITH AASHTO M 298, CLASS 50, TYPE 1.
- 4). DIRECT TENSION INDICATOR (DTI) WASHERS CONFORMING TO ASTM F959 SHALL BE INSTALLED WITH ALL HIGH STRENGTH BOLTS.

FABRICATION

- 1). BOLT HOLES SHALL BE FABRICATED TO THE REQUIREMENTS OF THE 2012 AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, SECTION 11.4.8, EXCEPT THAT HOLES SHALL NOT BE PUNCHED FULL SIZE.
- 2). EACH MEMBER SHALL BE IDENTIFIED WITH AN ERECTION MARK CORRESPONDING WITH THE MEMBER IDENTIFICATION MARK ON THE APPROVED SHOP DRAWINGS.
- 3). TIGHT FIT (WELDED ENDS ONLY). 50% OF THE PROJECTED BEARING AREA SHALL BE IN CONTACT WITHIN 0.5mm (0.02") WITH A PERMISSIBLE VARIATION OF 1.6mm (1/16") FOR THE REMAINING 50% OF THE PROJECTED AREA.
- 4). GRIND TO BEAR. 75% OF THE PROJECTED AREA SHALL BE IN CONTACT WITHIN 0.25mm (0.01") WITH A PERMISSIBLE VARIATION OF 0.8mm (1/32") FOR THE PROJECTED AREA.
- 5). MILL TO BEAR. 100% OF THE PROJECTED AREA SHALL BE IN FULL CONTACT.

WELDING

- 1). THE CONFIGURATION OF THE WELD JOINTS AND ALL WELDING PROCEDURES SHALL BE IN ACCORDANCE WITH AASHTO/AWS 2010 D1.5 BRIDGE WELDING CODE AND WITH SPECIFICATIONS SHOWN BESIDE. ALL WELDING WILL BE DETAILED TO PRE-QUALIFIED JOINTS, UNLESS PROHIBITED BY THE DESIGNER.
- 2). WELDING OF MAIN LOAD CARRYING MEMBERS AND ATTACHMENTS SHALL BE PERFORMED USING THE AUTOMATIC SUBMERGE ARC & SHIELDED METAL ARC PROCESS. ALL WELDS ARE CONTINUOUS U.N.
- 3). NON-DESTRUCTIVE TESTING OF WELDS SHALL BE IN ACCORDANCE WITH THE REFERENCED SPECIFICATIONS.

FIELD CONNECTIONS

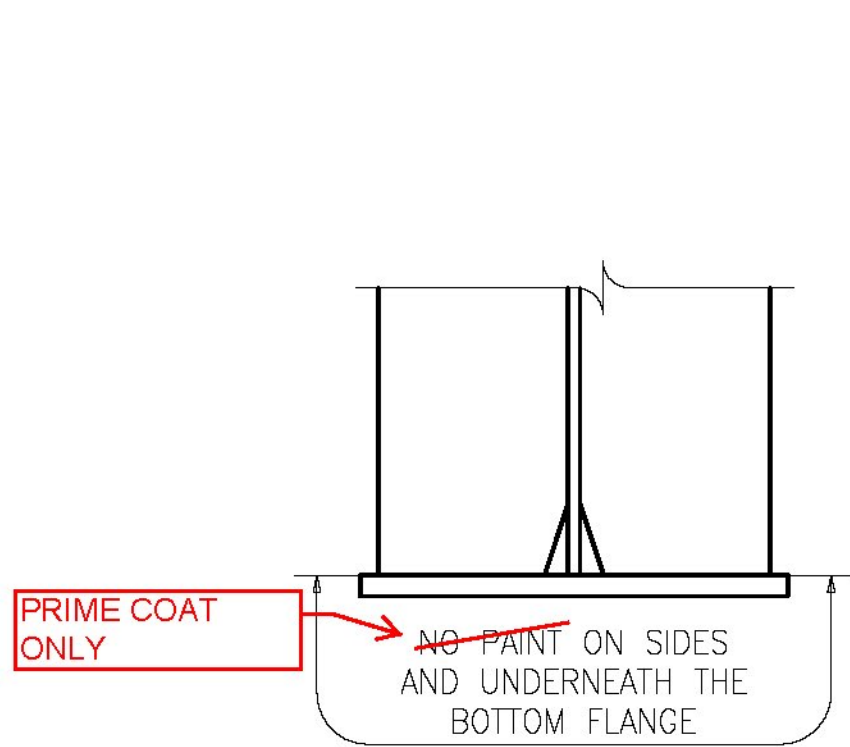
- 1). ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER HIGH STRENGTH BOLTS AASHTO M164 (ASTM A325) TYPE 1, IN 15/16" DIAMETER HOLES UNLESS OTHERWISE NOTED. INSTALLED PER 506.19(c) AND SPECIAL PROVISIONS.
- 2). BOLTS SHALL HAVE HEAVY HEX. NUT, HEX. HEAD AND ONE DTI'S/LOAD INDICATOR FLAT WASHER AND 1 HARDENED WASHER EACH (HARDENED WASHER TO BE PLACED UNDER TURNED ELEMENT (NUT), DTI TO BE PLACED UNDER THE HEAD OF THE BOLT WITH THE PROTRUSIONS FACING THE HEAD OF THE BOLT). BOLT, NUT AND WASHER SHALL BE MECHANICALLY GALVANIZED IN ACCORDANCE WITH AASHTO M 298, CLASS 50,TYPE 1.
- 3). PIECE MARKS WILL BE LOCATED AS SHOWN ON ERECTION DRAWING.
- 4). BOLTS INSTALLED WITH THE STEM VERTICAL SHALL HAVE HEADS UP. BOLTS INSTALLED WITH THE STEM HORIZONTAL SHALL HAVE HEADS TOWARDS THE WEATHER UNLESS CLEARANCE RESTRICTIONS DICTATE OTHERWISE.

CLEANING:

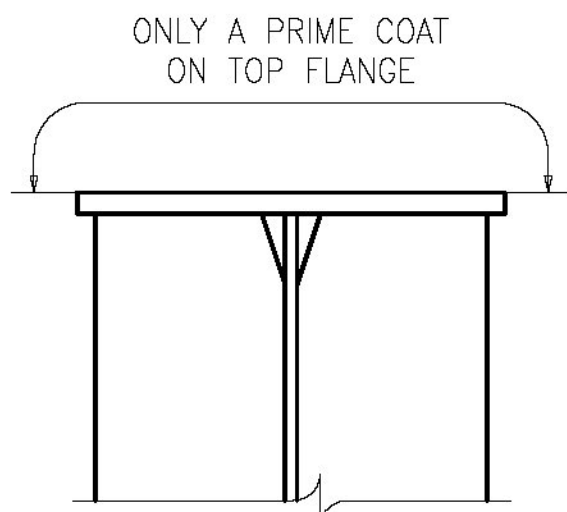
- 1). ALL STEEL SHALL BE BLAST CLEANED AS PER SSPC SP-10 (NEAR WHITE) PER SPEC. 506.14(c).

PAINTING:

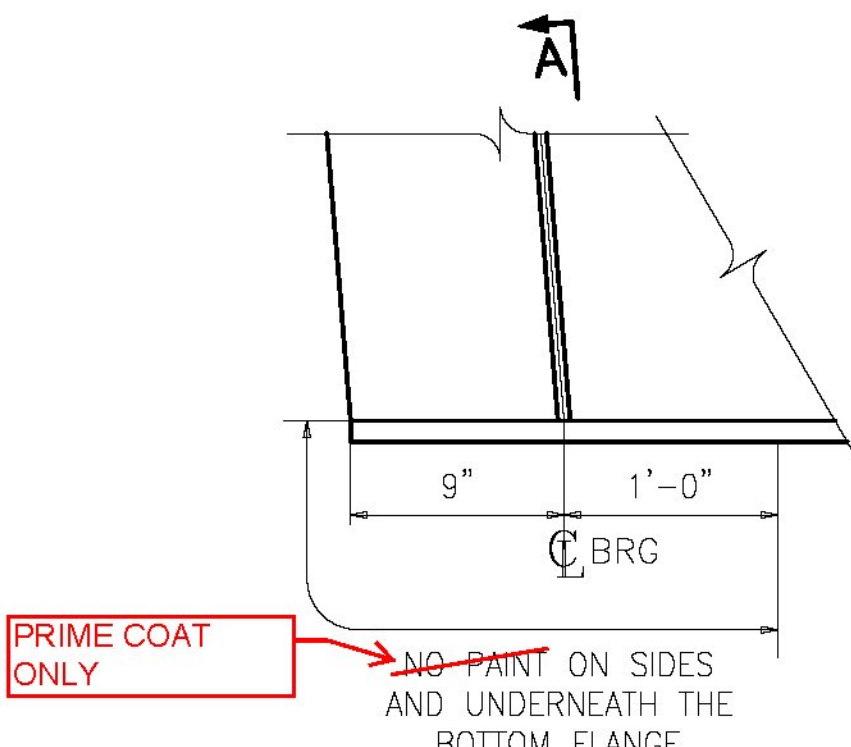
- 1). ALL STRUCTURAL STEEL SHALL BE PAINTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- 2). THE FINAL COLOR SHALL BE BROWN IN ACCORDANCE WITH SUBSECTION 708.03 (FED. STD 595, COLOR CHIP 20059).
- 3). GREASE SHALL BE APPLIED FOR A DISTANCE OF 10'-0" STARTING AT THE ABUTMENT #1 END OF THE SPAN. ALL CHANNELS AND CONNECTION PLATES LOCATED IN THIS AREA SHALL ALSO BE GREASED. THE GREASE SHALL BE BROWN.
- 4). PAINT SYSTEM SHALL BE AS FOLLOWS FROM CARBOLINE COMPANY:  
PRIME COAT: CARBOZINC 859 ORGANIC ZINC RICH EPOXY PRIMER (3.5-5 MILS DFT)  
INTERMEDIATE COAT: CARBOGUARD 893 EPOXY INTERMEDIATE (3-6 MILS DFT)  
TOP COAT: CARBOTHANE 133 VOC ALIPHATIC POLYURETHANE (2.5-4 MILS DFT)  
TOTAL THICKNESS SHALL BE BETWEEN 5.5 AND 10.0 MILS
- 5). TOP OF GIRDER TOP FLANGES SHALL ONLY RECEIVE A PRIME COAT (LESS THAN 1.5 MILS OF PRIMER). (SEE DETAIL 1)
- 6). FAYING SURFACES OF BOLTED CONNECTION (BOTH SIDES OF ALL PLIES) SHALL ONLY RECEIVE A PRIME COAT FOR A DISTANCE OF 1 1/2" AROUND HOLES.
- 7). FIELD WELD AREAS AT BEARING SOLE PLATES SHALL BE LEFT UNPAINTED (SEE SKETCH P1).



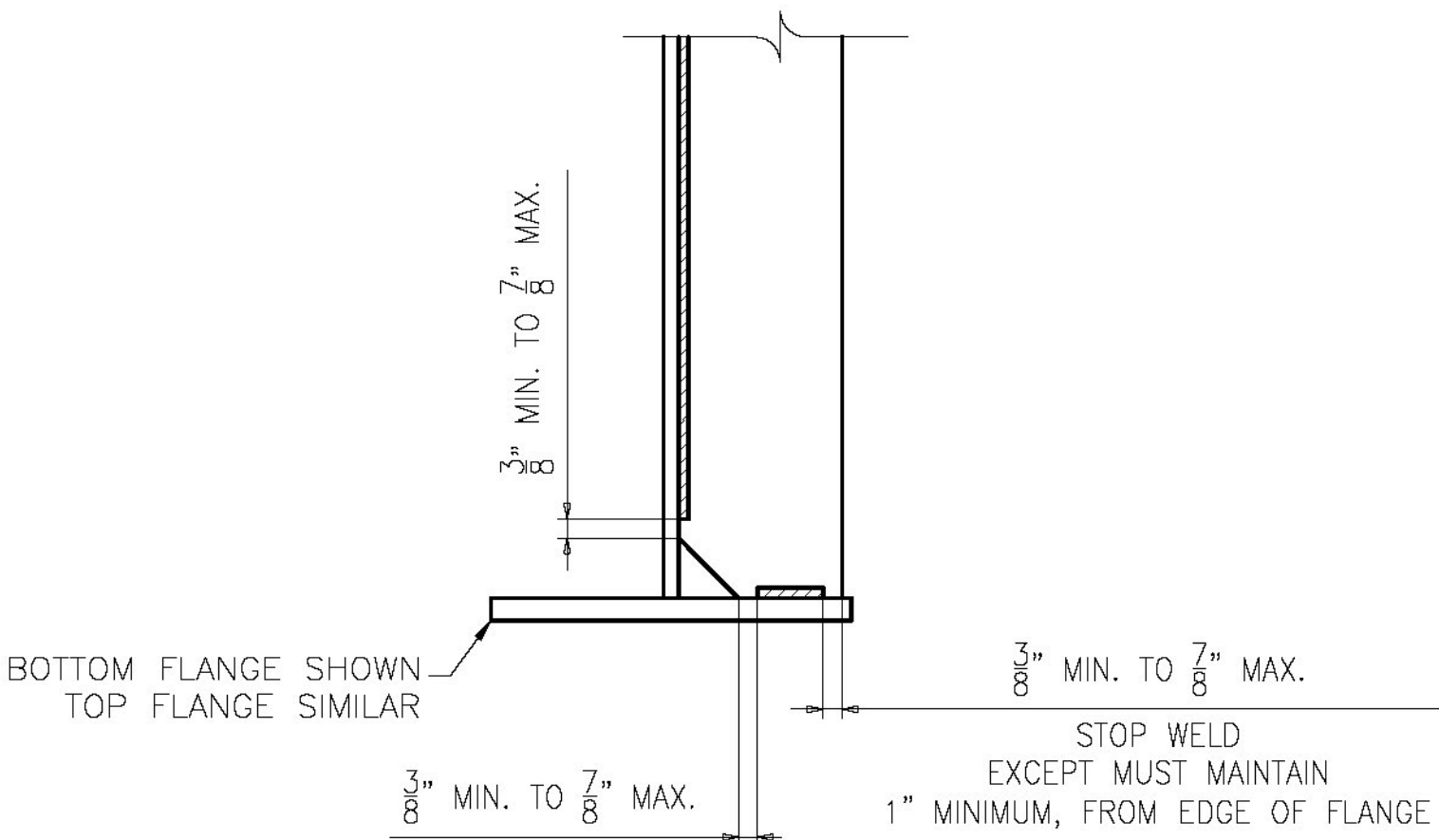
SECTION A



DETAIL 1



SKETCH P1



DETAIL "WS1"  
STIFF. WELD TERMINATION

Vermont Agency of Transportation  
**RECEIVED**

CK'D BY FDB OK'D BY HIS

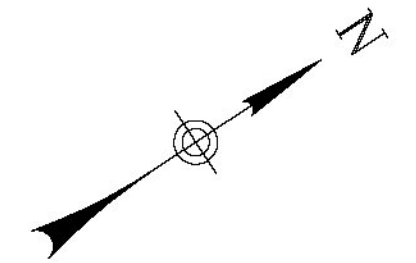
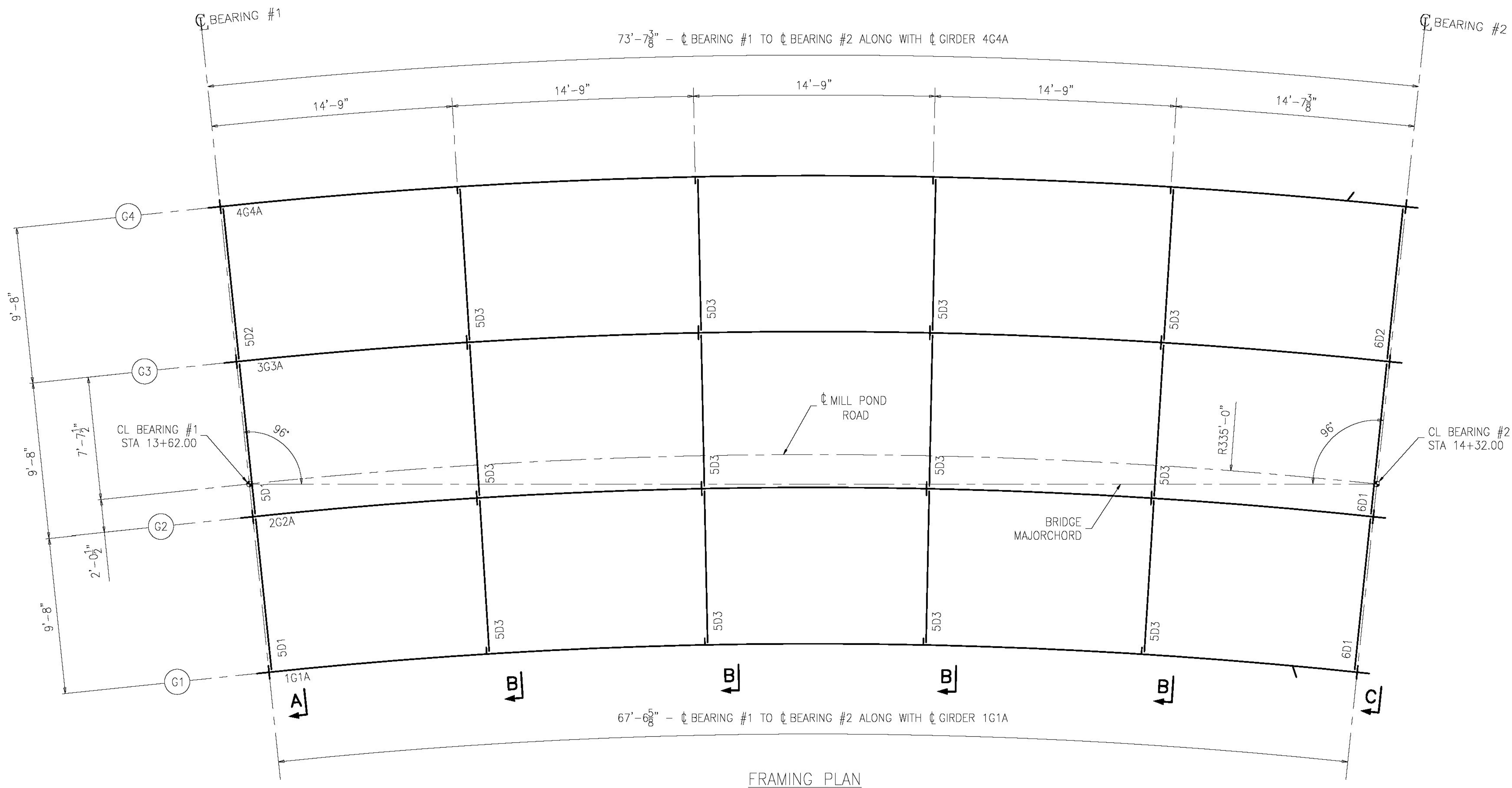
June 10, 2015

RESUBMIT No Approved AsNoted  
BY Carolyn Carlson DATE 06/11/05

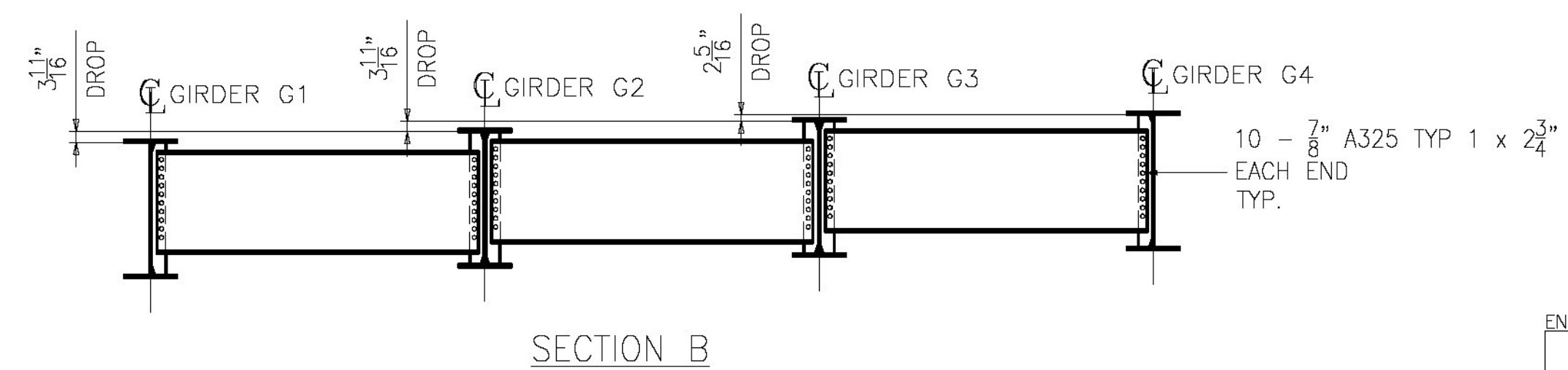
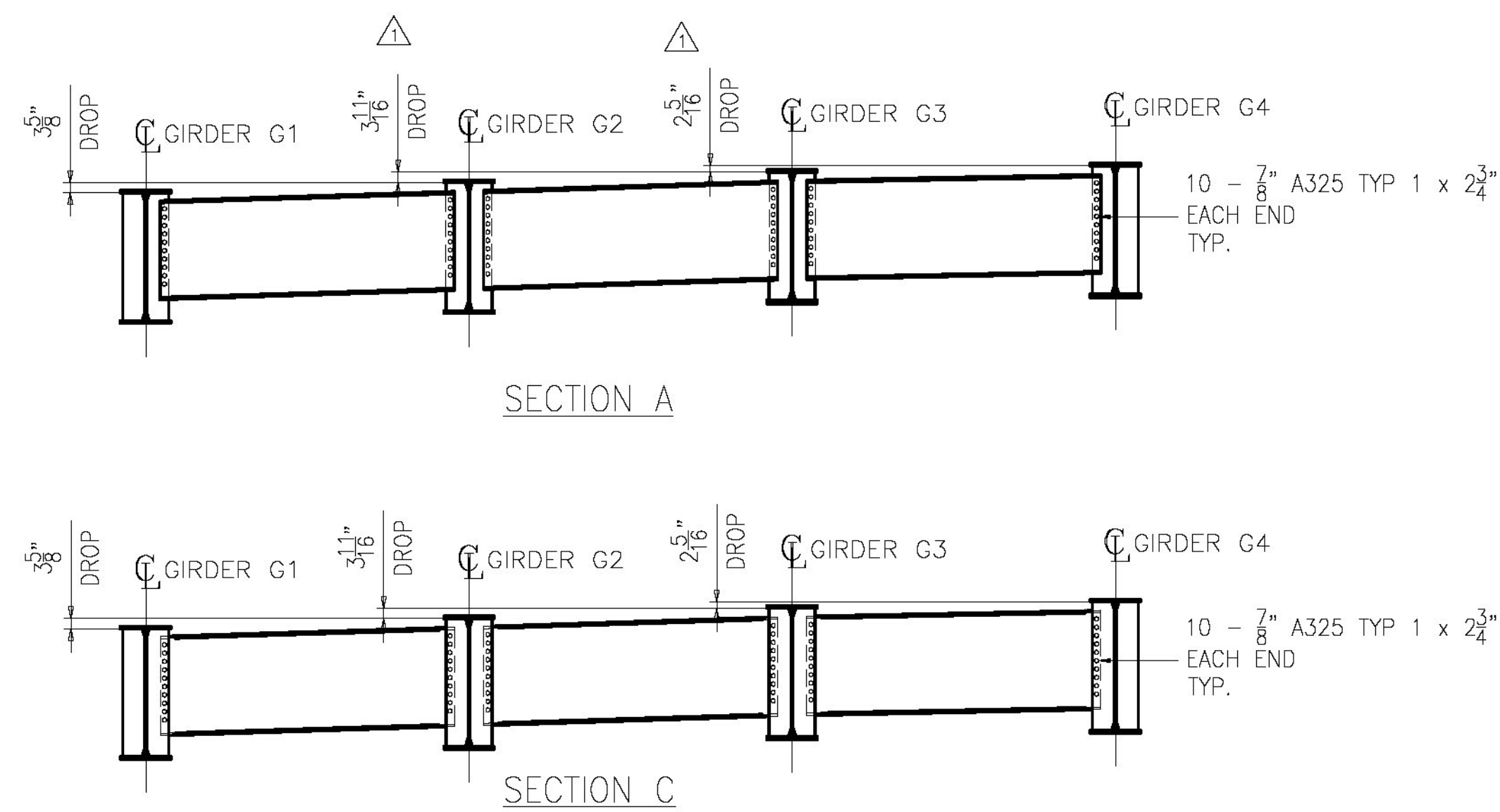
ENGINEERING REVIEW STAMP

1	06/05/15	PER APPROVAL COMMENTS	EG	YT		
0						
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
MATERIAL:		SURFACE PREP. & PAINT:	HOLES: AS NOTED		SHOP BOLTS: AS NOTED	
DESCRIPTION:		GENERAL NOTES				
  CASCO BAY STEEL  STRUCTURES, INC.    1 WALLACE AVE.      PHONE (207) 780-6722 SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726   TENCA 1415						
STRUCTURE:			DRAWN:		DATE:	
REPLACEMENT OF BRIDGE NO. 12 ON TH27 INCLUDING APPROACH ROADWAY AND CHANNEL WORK TOWN OF COLCHESTER, COUNTY OF CHITTENDEN STATE OF VERMONT AGENCY OF TRANSPORTATION			BK		04/21	
			CHKD:		DATE:	
			YT		04/28	
LOCATION: COLCHESTER / CHITTENDEN, VT			JOB NO.		DWG NO.	
PROJ NO. STP 5600(12)			629-1		GN1	
CUSTOMER: A.L. ST. ONGE					REV. 	





Vermont Agency of Transportation  
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CRS 636 C (Rev. 10/13) - VT - REV1, approved as noted.pdf  
CK'D BY FDB OK'D BY HIS  
**June 10, 2015**  
RESUBMIT No Approved  
BY Carolyn Carlson DATE 06/11/15



ENGINEERING REVIEW STAMP

NOTES:

1. FOR GENERAL NOTES SEE SHEET GN1.

1	06/05/15	PER APPROVAL COMMENTS	EG	YT		
0						
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
MATERIAL:		SURFACE PREP. & PAINT:	HOLES:		SHOP BOLTS:	
			-		NONE	
DESCRIPTION: FRAMING PLAN						

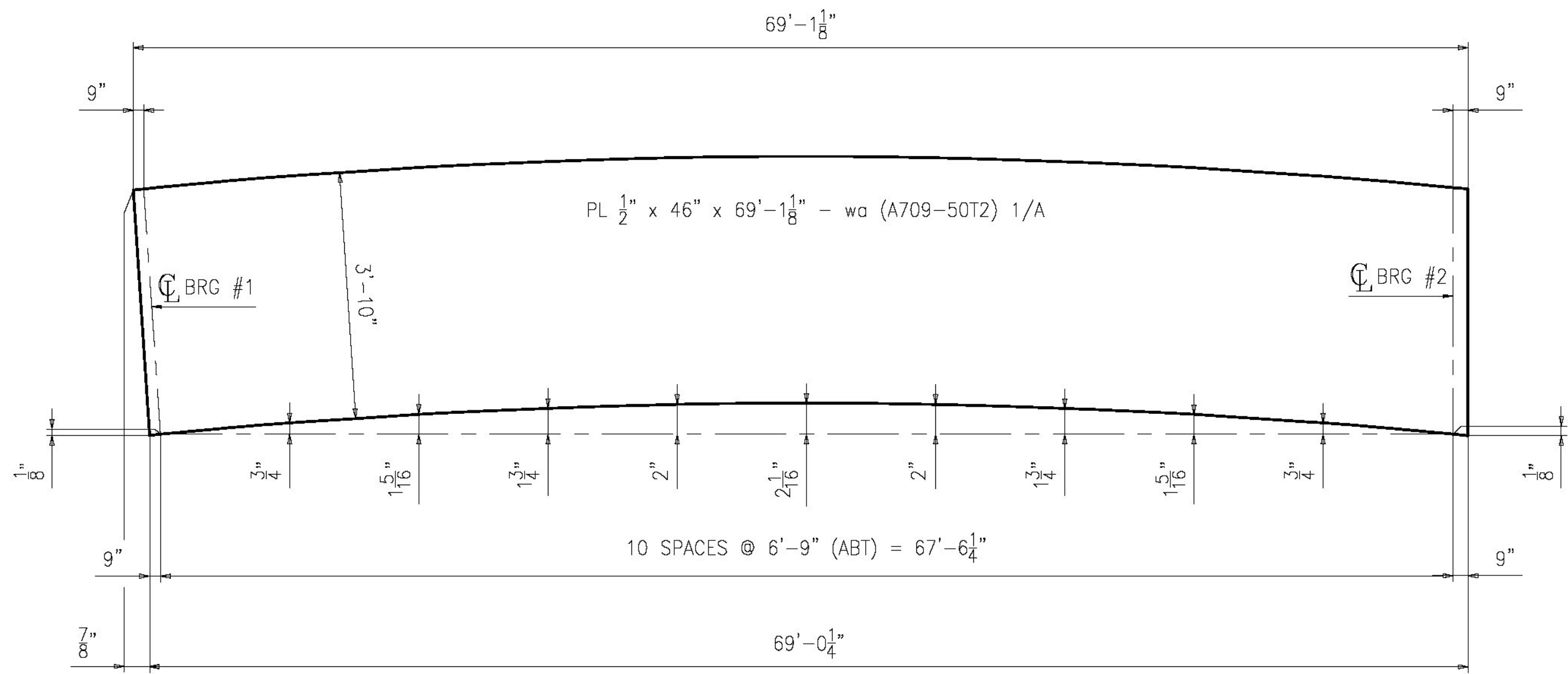


1 WALLACE AVE.  
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

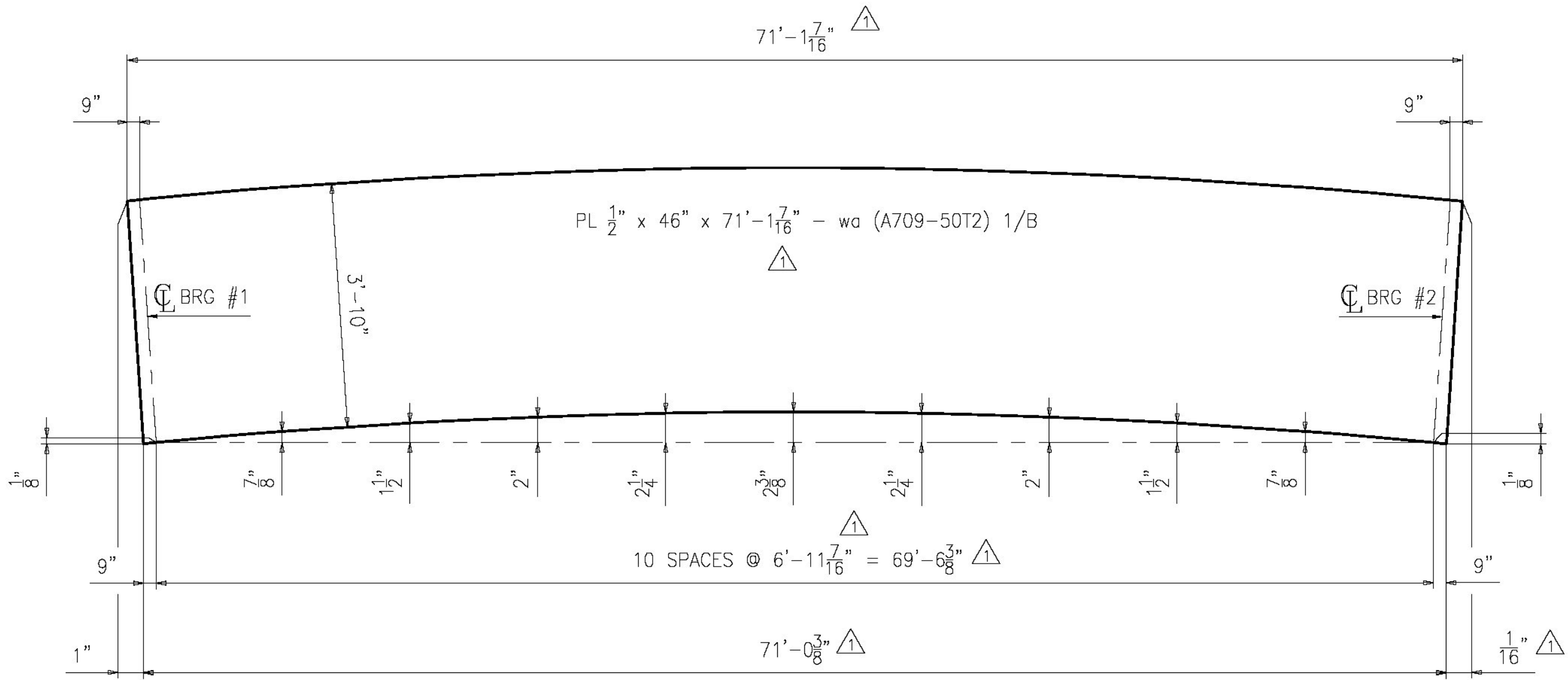


STRUCTURE:	DRAWN:	DATE:
REPLACEMENT OF BRIDGE NO. 12 ON TH27 INCLUDING APPROACH ROADWAY AND CHANNEL WORK TOWN OF COLCHESTER, COUNTY OF CHITTENDEN STATE OF VERMONT AGENCY OF TRANSPORTATION	BK	04/21
	CHKD:	DATE:
	YT	04/28
LOCATION: COLCHESTER / CHITTENDEN, VT	JOB NO.	DWG NO.
PROJ NO. STP 5600(12)	629-1	E1
CUSTOMER: A.L. ST. ONGE		REV.

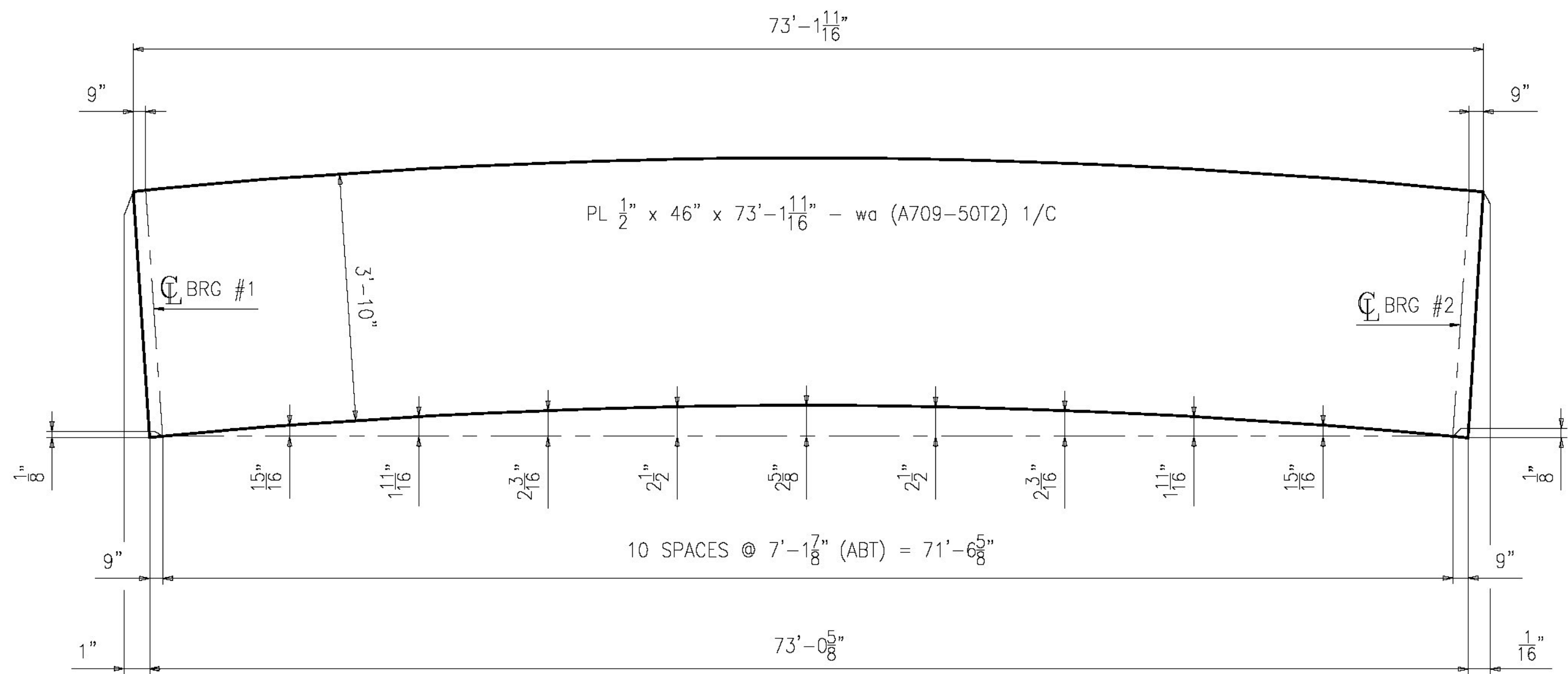




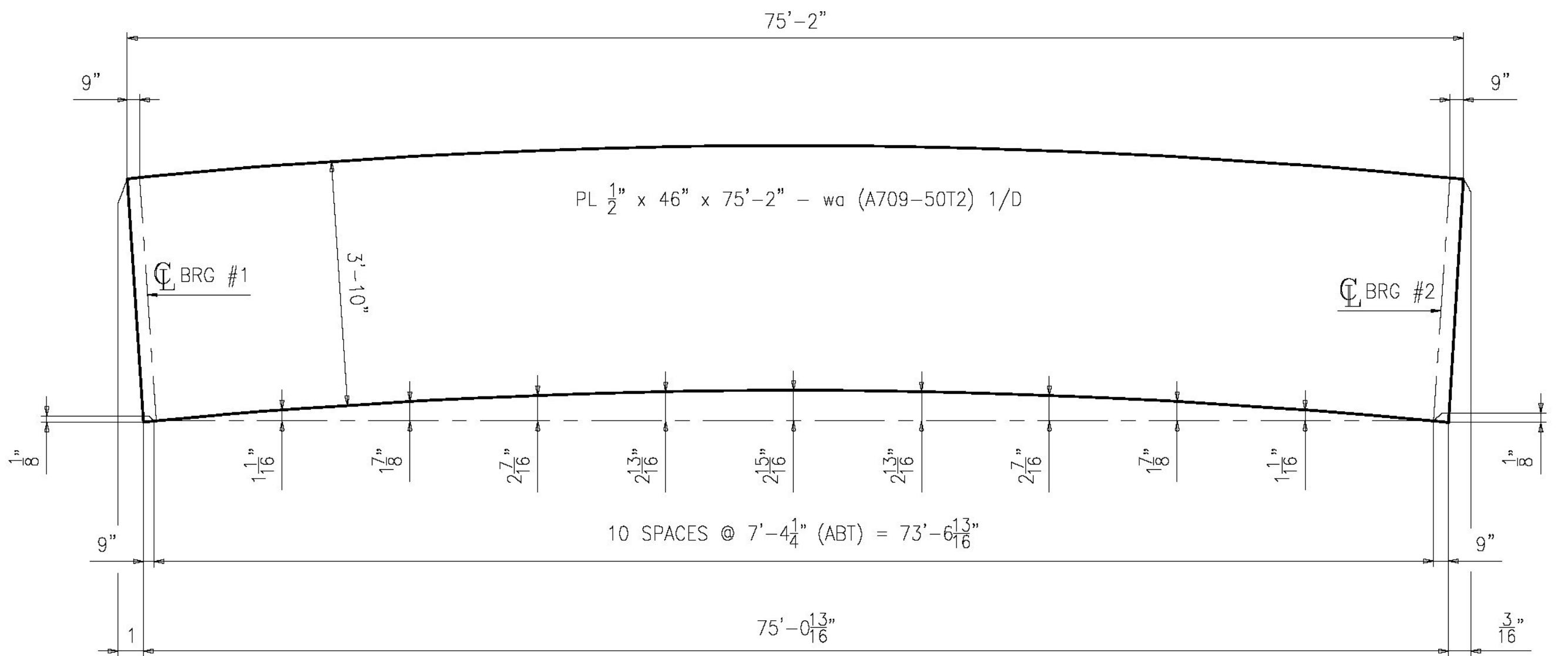
CAMBER DIAGRAM FOR 1G1A



CAMBER DIAGRAM FOR 2G2A



CAMBER DIAGRAM FOR 3G3A



CAMBER DIAGRAM FOR 4G4A

- NOTES:
- FOR GENERAL NOTES SEE SHEET GN1.
  - T2 - DENOTES MATERIAL TO BE CHARPY V-NOTCH TESTED (ZONE 2)

1	06/05/15	PER APPROVAL COMMENTS	EG	YT		
0						
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
MATERIAL:		SURFACE PREP. & PAINT: SEE DWG GN1	HOLES: 15/16"		SHOP BOLTS: NONE	
DESCRIPTION: CAMBER DIAGRAMS						
CASCO BAY STEEL STRUCTURES, INC. 1 WALLACE AVE. PHONE (207) 780-6722 SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726  TENCA 1415						
STRUCTURE:			DRAWN:		DATE:	
REPLACEMENT OF BRIDGE NO. 12 ON TH27 INCLUDING APPROACH ROADWAY AND CHANNEL WORK			BK		04/22	
TOWN OF COLCHESTER, COUNTY OF CHITTENDEN			CHKD:		DATE:	
STATE OF VERMONT AGENCY OF TRANSPORTATION			YT		04/28	
LOCATION: COLCHESTER / CHITTENDEN, VT			JOB NO.		DWG NO.	
PROJ NO. STP 5600(12)			629-1		C1	
CUSTOMER: A.L. ST. ONGE			REV.			

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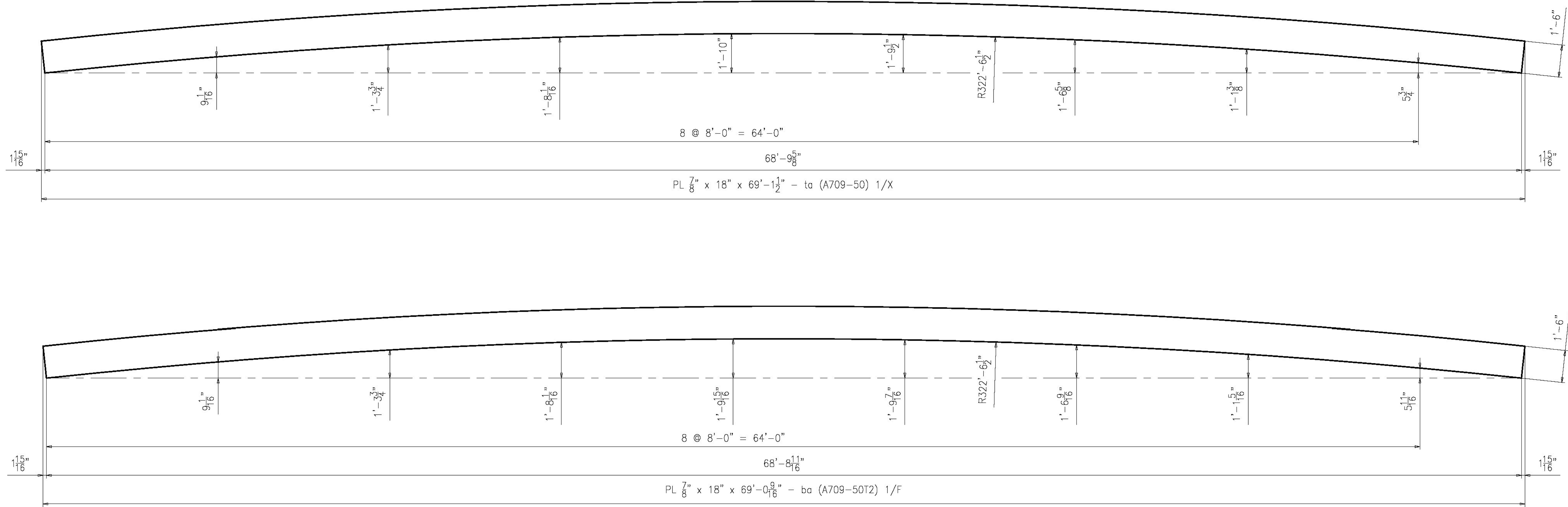
CK'D BY FDB OK'D BY HIS

June 10, 2015

RESUBMIT No Approved  
BY Carolyn Carlson DATE 06/11/15

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FLANGE DIAGRAMS FOR 1G1A

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0955 BSC Colchester, VT. REV'd approved as noted.pdf  
CK'D BY FDB OK'D BY HIS  
June 10, 2015  
RESUBMIT No Approved  
BY Carolyn Carlson DATE 06/11/15

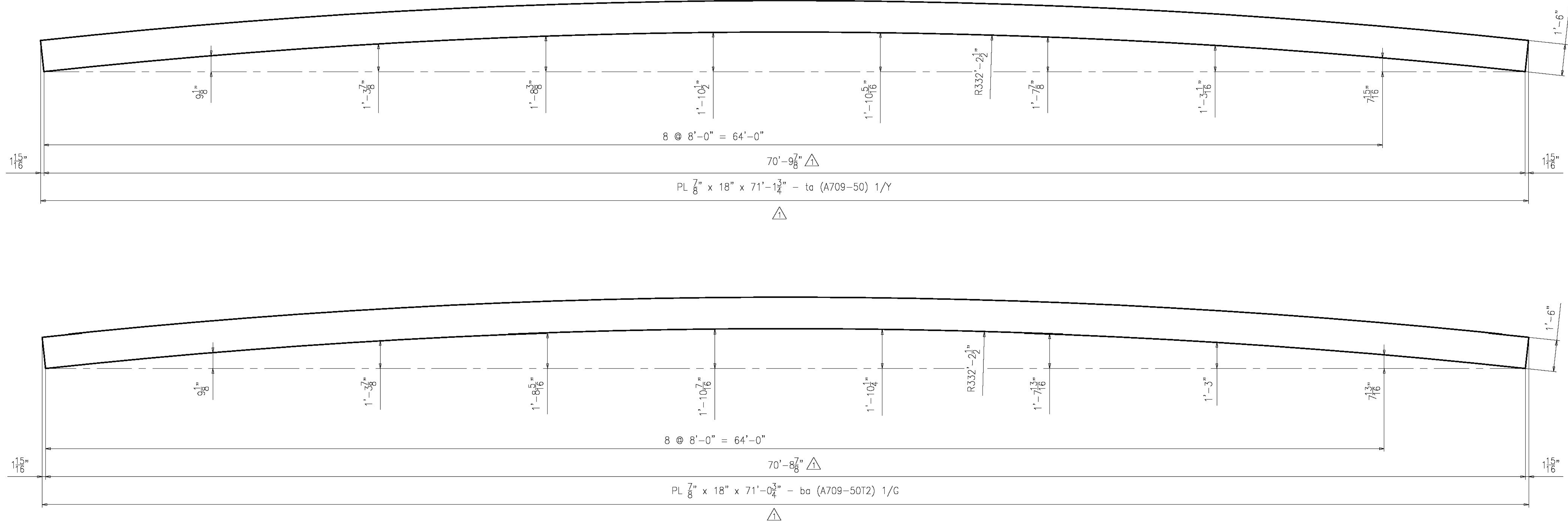
NOTES:

1. FOR GENERAL NOTES SEE SHEET GN1.  
2. T2 - DENOTES MATERIAL TO BE CHARPY V-NOTCH TESTED (ZONE 2)

0					
REV.	DATE	REMARKS	DWN	CHK	APVL SHOP
MATERIAL:		SURFACE PREP. & PAINT: SEE DWG GN1	HOLES: AS NOTED		SHOP BOLTS: AS NOTED
DESCRIPTION: FLANGE DIAGRAMS FOR 1G1A					
CASCO BAY STEEL STRUCTURES, INC. 1 WALLACE AVE. PHONE (207) 780-6722 SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726   CASCO BAY STEEL STRUCTURES TENCA 1415					
STRUCTURE: REPLACEMENT OF BRIDGE NO. 12 ON TH27 INCLUDING APPROACH ROADWAY AND CHANNEL WORK TOWN OF COLCHESTER, COUNTY OF CHITTENDEN STATE OF VERMONT AGENCY OF TRANSPORTATION			DRAWN: BK CHKD: YT	DATE: 04/22 DATE: 04/28	
LOCATION: COLCHESTER / CHITTENDEN, VT			JOB NO.	DWG NO.	
PROJ NO. STP 5600(12)			629-1	C2	
CUSTOMER: A.L. ST. ONCE			REV.	A	

ENGINEERING REVIEW STAMP





FLANGE DIAGRAMS FOR 2G2A

- NOTES:
- FOR GENERAL NOTES SEE SHEET GN1.
  - T2 - DENOTES MATERIAL TO BE CHARPY V-NOTCH TESTED (ZONE 2)

1	06/05/15	PER APPROVAL COMMENTS	EG	YT		
0						
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
	SEE DWG GN1	AS NOTED	AS NOTED

DESCRIPTION: FLANGE DIAGRAMS FOR 2G2A

**CASCO BAY STEEL STRUCTURES, INC.**  
1 WALLACE AVE.  
SOUTH PORTLAND, ME 04106

PHONE (207) 780-6722  
FAX. (207) 780-6726

**TENCA**  
TENCA 1415

STRUCTURE:	DRAWN:	DATE:
REPLACEMENT OF BRIDGE NO. 12 ON TH27 INCLUDING APPROACH ROADWAY AND CHANNEL WORK	BK	04/23
TOWN OF COLCHESTER, COUNTY OF CHITTENDEN	CHKD:	DATE:
STATE OF VERMONT AGENCY OF TRANSPORTATION	YT	04/28
LOCATION: COLCHESTER / CHITTENDEN, VT	JOB NO.	DWG NO.
PROJ NO. STP 5600(12)	629-1	C3
CUSTOMER: A.L. ST. ONGE	REV.	△

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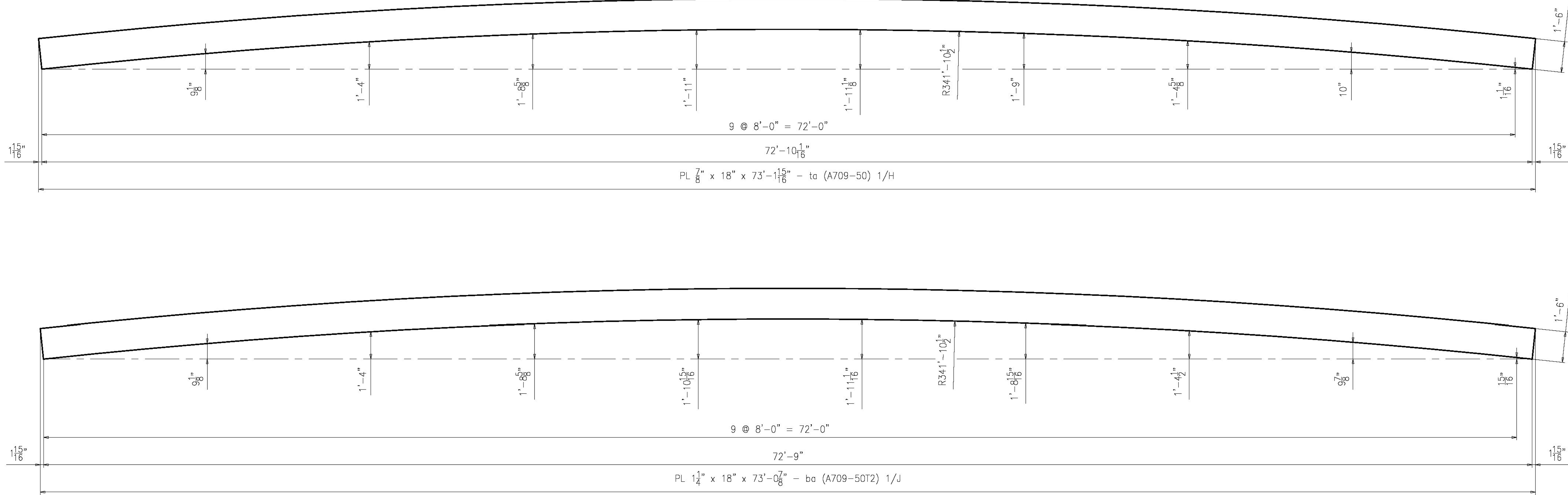
June 10, 2015

RESUBMIT No Approved

BY Carolyn Carlson DATE 06/11/15

ENGINEERING REVIEW STAMP





FLANGE DIAGRAMS FOR 3G3A

- NOTES:
- FOR GENERAL NOTES SEE SHEET GN1.
  - T2 - DENOTES MATERIAL TO BE CHARPY V-NOTCH TESTED (ZONE 2)

0					
REV.	DATE	REMARKS	DWN	CHK	APVL SHOP
MATERIAL:		SURFACE PREP. & PAINT: SEE DWG GN1	HOLES: AS NOTED		SHOP BOLTS: AS NOTED
DESCRIPTION: FLANGE DIAGRAMS FOR 3G3A					
 <b>CASCO BAY STEEL STRUCTURES, INC.</b> 1 WALLACE AVE. PHONE (207) 780-6722 SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726			 <b>TENCA</b> TENCA 1415		
STRUCTURE:			DRAWN:	DATE:	
REPLACEMENT OF BRIDGE NO. 12 ON TH27 INCLUDING APPROACH ROADWAY AND CHANNEL WORK TOWN OF COLCHESTER, COUNTY OF CHITTENDEN STATE OF VERMONT AGENCY OF TRANSPORTATION			BK	04/22	
			CHKD:	DATE:	
			YT	04/28	
LOCATION: COLCHESTER / CHITTENDEN, VT			JOB NO.	DWG NO.	
PROJ NO. STP 5600(12)			629-1	C4	
CUSTOMER: A.L. ST. ONCE				REV.	

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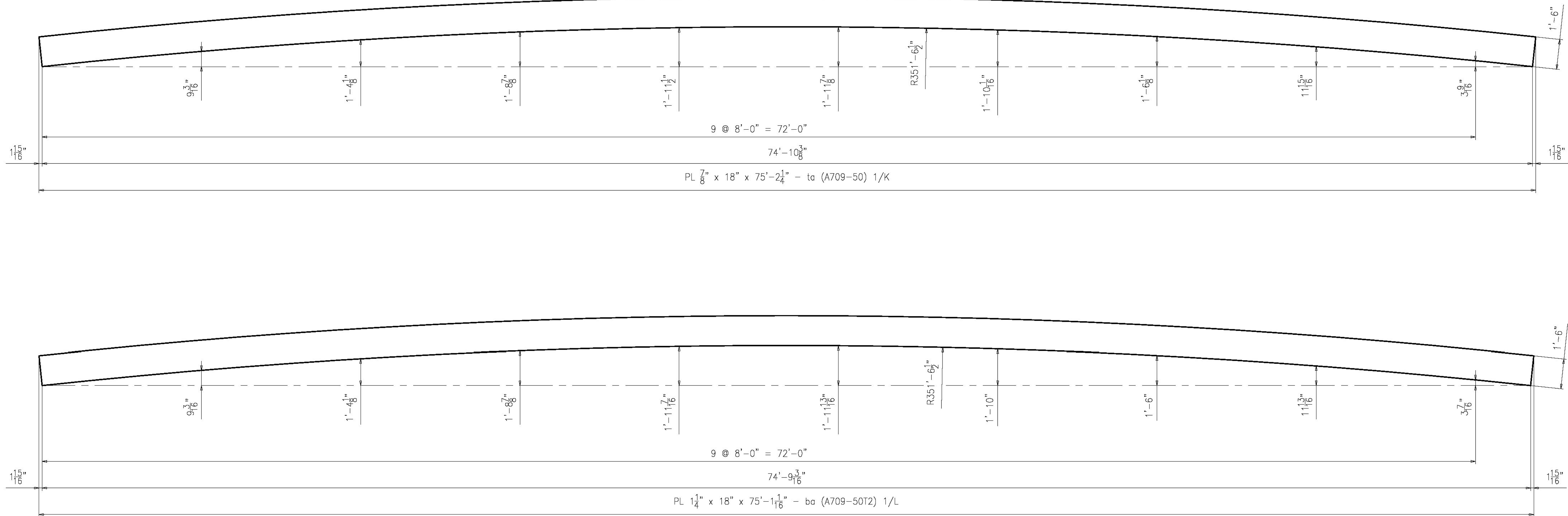
June 10, 2015

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FLANGE DIAGRAMs FOR 4G4A

- NOTES:
- FOR GENERAL NOTES SEE SHEET GN1.
  - T2 - DENOTES MATERIAL TO BE CHARPY V-NOTCH TESTED (ZONE 2)

0									
REV.	DATE	REMARKS			DWN	CHK	APVL	SHOP	
MATERIAL:		SURFACE PREP. & PAINT: SEE DWG GN1		HOLES: AS NOTED		SHOP BOLTS: AS NOTED			
DESCRIPTION: FLANGE DIAGRAMs FOR 4G4A									
<b>CASCO BAY STEEL STRUCTURES, INC.</b> 1 WALLACE AVE. PHONE (207) 780-6722 SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726  <b>TENCA</b> TENDA 1415									
STRUCTURE:					DRAWN:		DATE:		
REPLACEMENT OF BRIDGE NO. 12 ON TH27 INCLUDING APPROACH ROADWAY AND CHANNEL WORK					BK		04/22		
TOWN OF COLCHESTER, COUNTY OF CHITTENDEN					CHKD:		DATE:		
STATE OF VERMONT AGENCY OF TRANSPORTATION					YT		04/28		
LOCATION: COLCHESTER / CHITTENDEN, VT					JOB NO.		DWG NO.		
PROJ NO. STP 5600(12)					629-1		C5		
CUSTOMER: A.L. ST. ONCE							REV. 		

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June 10, 2015

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No

Approved

BY

Carolyn Carlson

DATE

06/11/15

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ABM INFO		SHIP		BILL OF MATERIAL						JOB NO.		DRAWING NO.		REV.			
										629		FB1					
PAGE		LINE		MARK		QTY		MATERIAL		LENGTH		REMARKS		WT		PROCUREMENT NOTES	
										FT		INCHES					
						360			A325 TYP 1 7/8Ø		2	3/4	1FL DTIS WASHER				
													+ 1 FL WASHER				

FIELD BOLT LIST						A325 TYPE 1 BOLTS																
LINE	NO REQ'D	BOLT DIAM.	BOLT LEN.	BOLTS /CONN.	NO OF /CONN.	GRIP*	THICK. OF PCS. CONNECTED						WASH CODE	PIECES CONNECTED AND REMARKS								
1	360	7/8"Ø	23 3/4"	10	36	1 1/8"	5/8"	1/2"							3	DIAPHRAGM TO GIRDER CONNECTION PLATE						
* GRIP LENGTHS EXCLUDE WASHER THICKNESS																	1: 1 HARD DTI'S/LOAD INDICATOR FLAT WASHER 2: 2 HARD DTI'S/LOAD INDICATOR FLAT WASHERS 3: 1 HARD DTI'S/LOAD INDICATOR FLAT WASHER AND 1 HARDENED WASHER.					

REV.	DATE	REMARKS										DWN	CHK	APVL	SHOP						
MATERIAL:		SURFACE PREP. & PAINT:				HOLES:				SHOP BOLTS:											
						15/16"Ø				NONE											
DESCRIPTION: FIELD BOLT LIST																					
CASCO BAY STEEL STRUCTURES, INC. 1 WALLACE AVE. SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726 PHONE (207) 780-6722 TENCA 1415																					
STRUCTURE: REPLACEMENT OF BRIDGE NO. 12 ON TH27 INCLUDING APPROACH ROADWAY AND CHANNEL WORK TOWN OF COLCHESTER, COUNTY OF CHITTENDEN STATE OF VERMONT AGENCY OF TRANSPORTATION												DRAWN: BK		DATE: 04/22							
												CHKD: YT		DATE: 04/28							
LOCATION: COLCHESTER / CHITTENDEN, VT												JOB NO.		DWG NO.							
PROJ NO. STP 5600(12)														629-1		FB1					
CUSTOMER: A.L. ST. ONGE																REV.					

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June 10, 2015

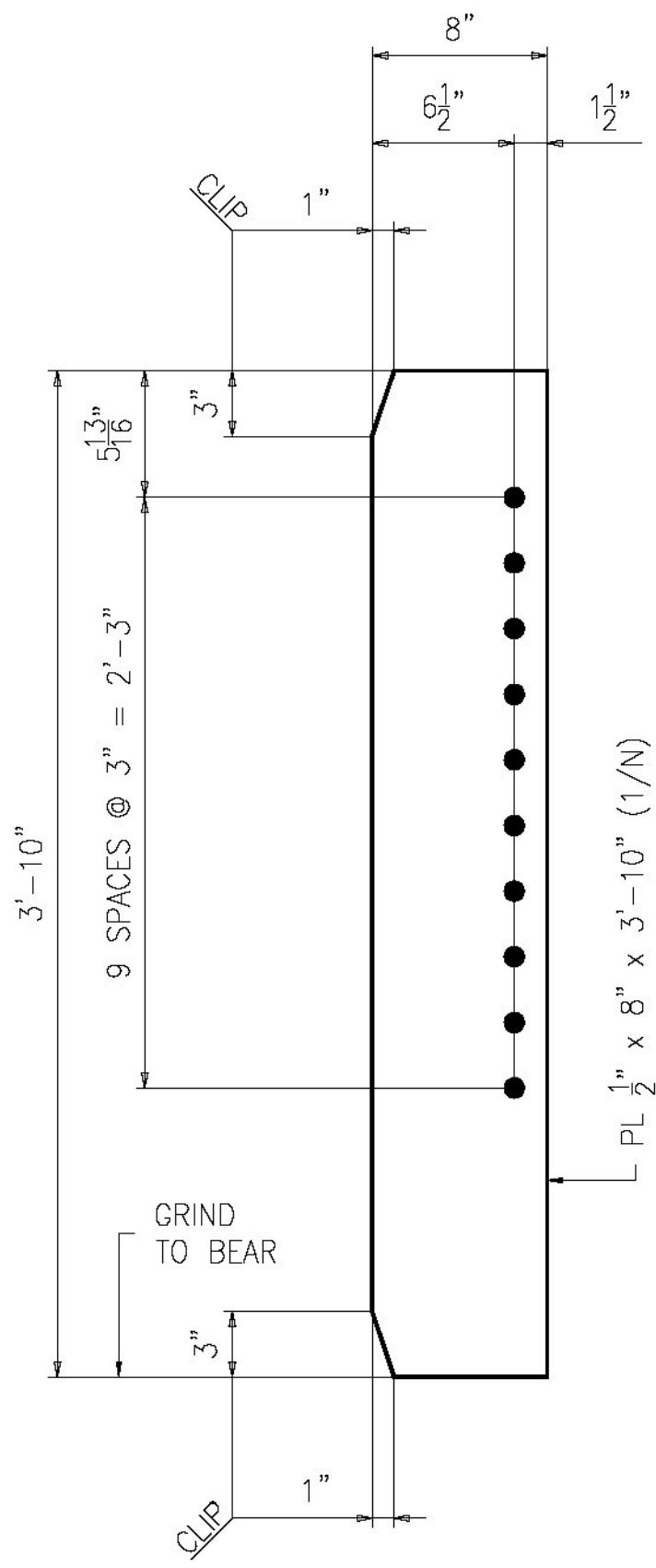
RESUBMIT No Approved

BY Carolyn Carlson DATE 06/11/15

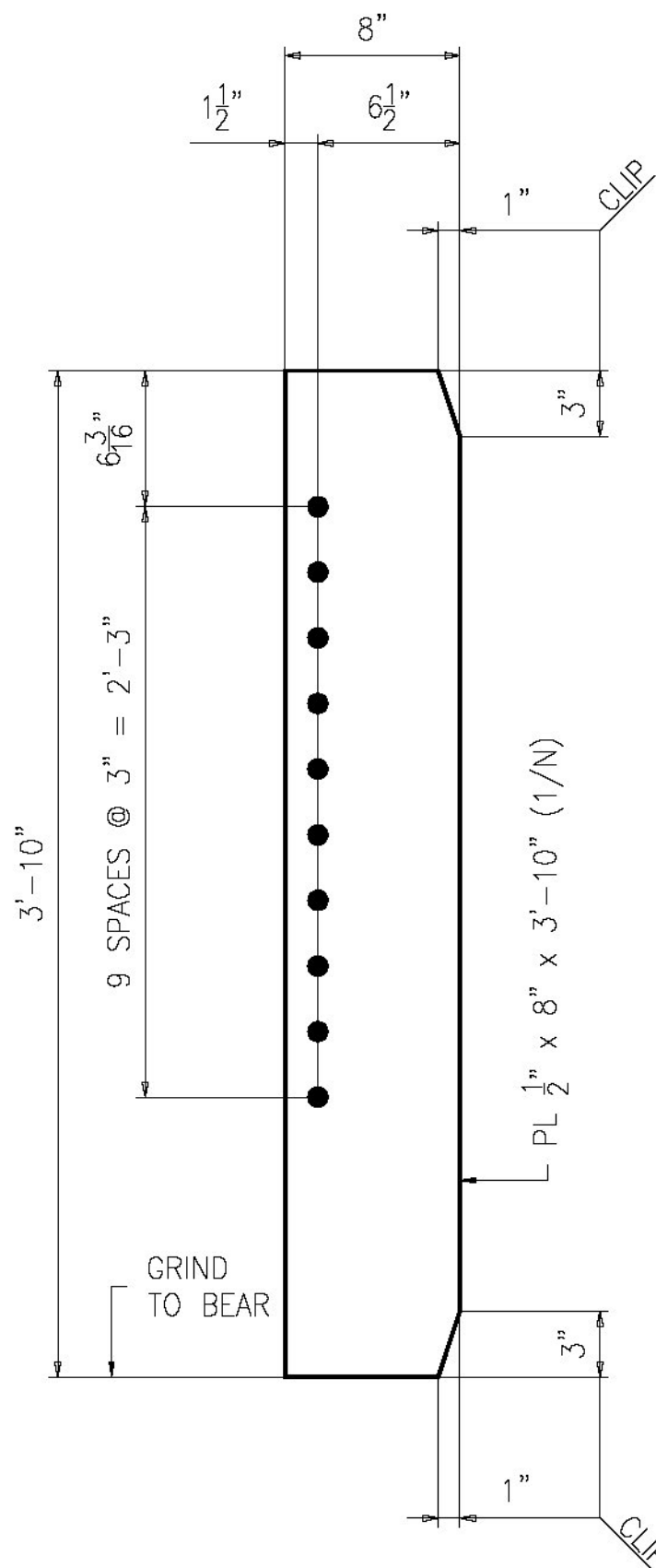
WORK THIS DRAWING WITH E1

ENGINEERING REVIEW STAMP

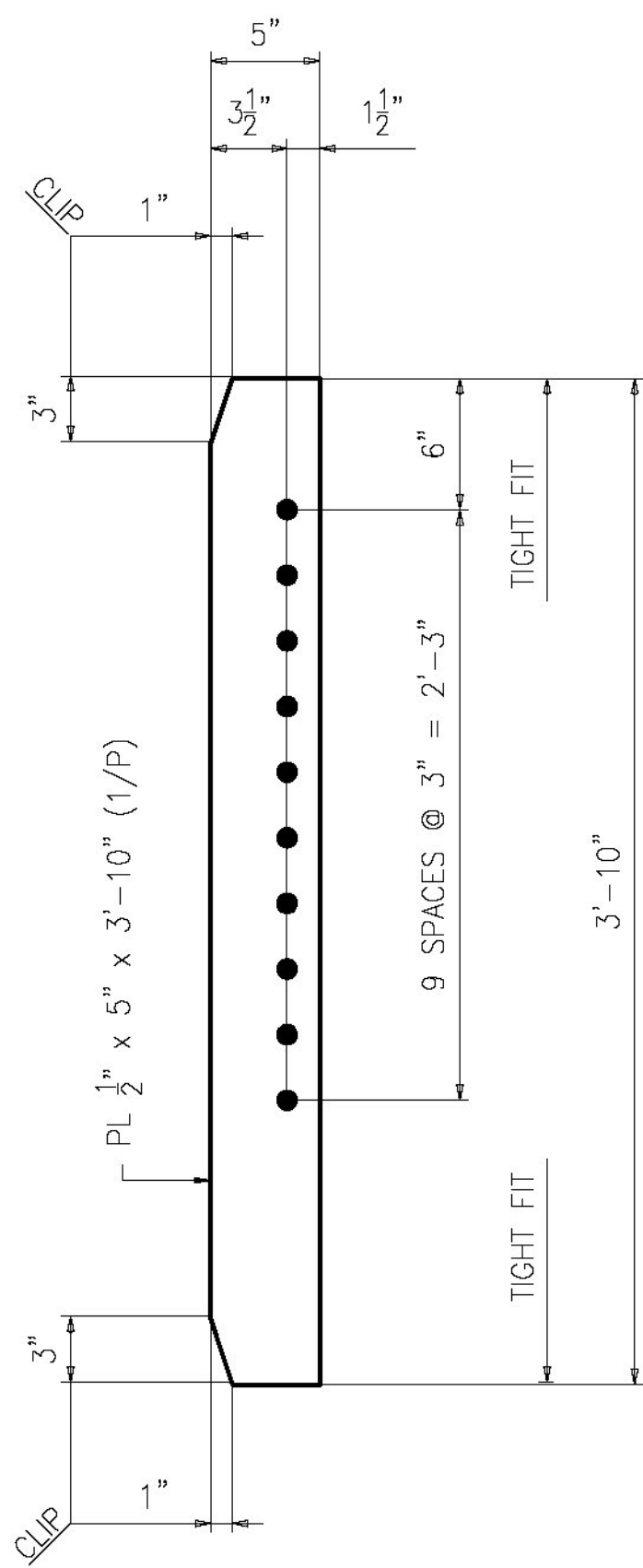




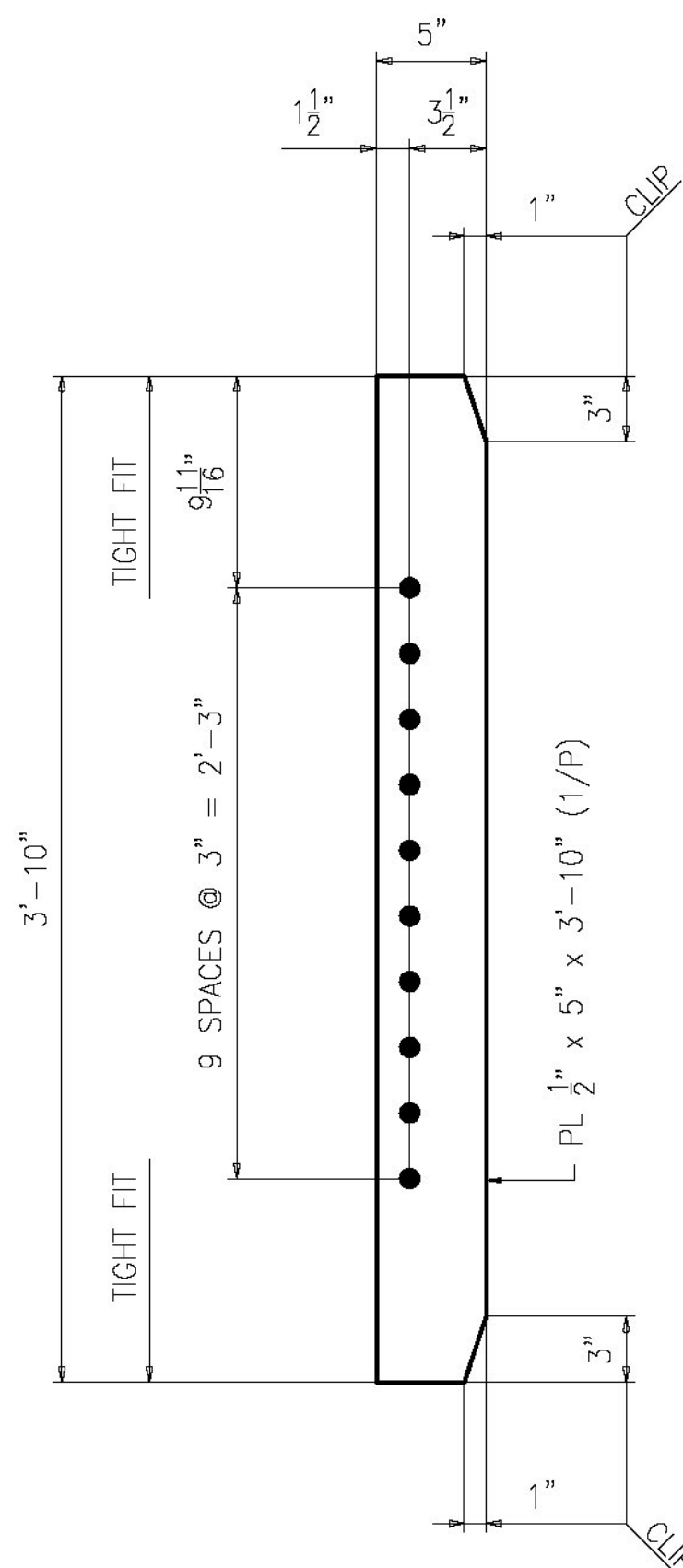
6 ~ BEARING STIFFENER ~ x1a



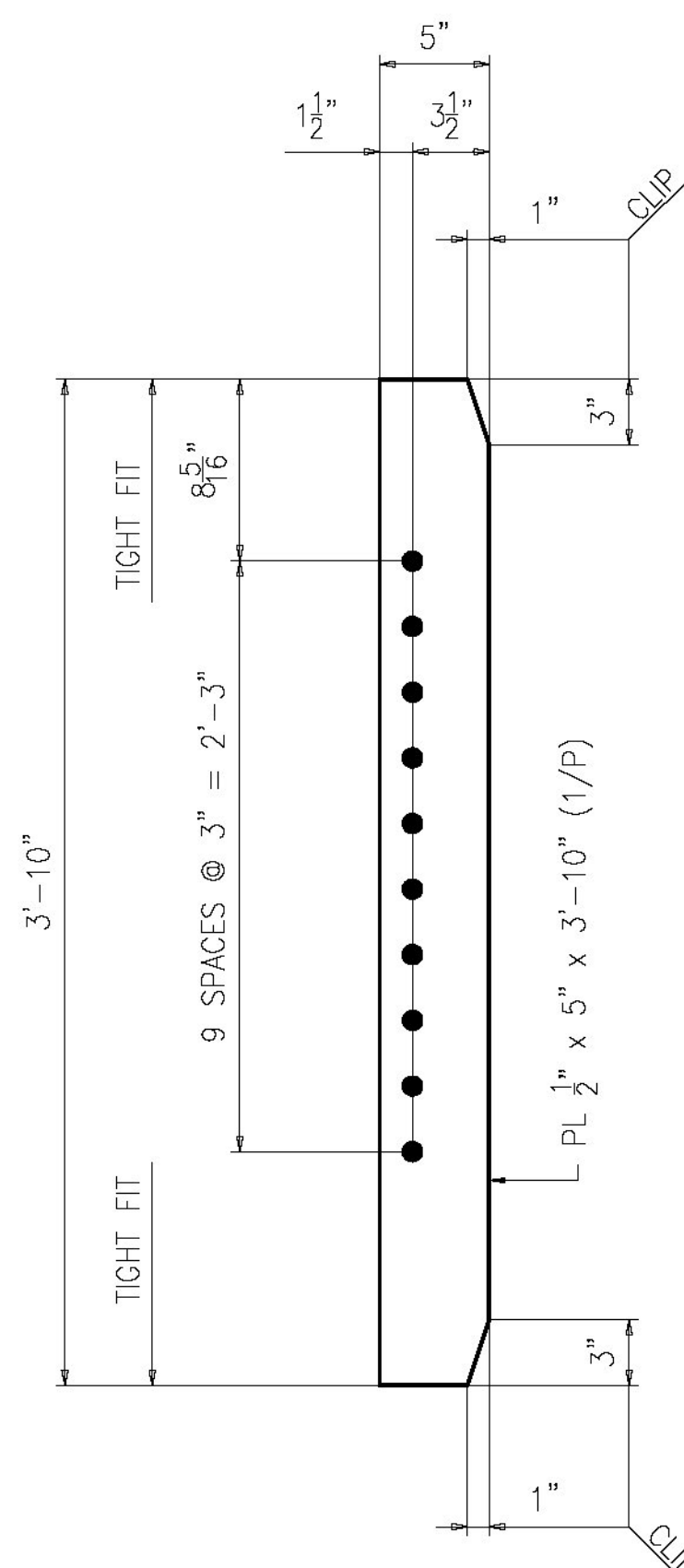
6 ~ BEARING STIFFENER ~ x1b



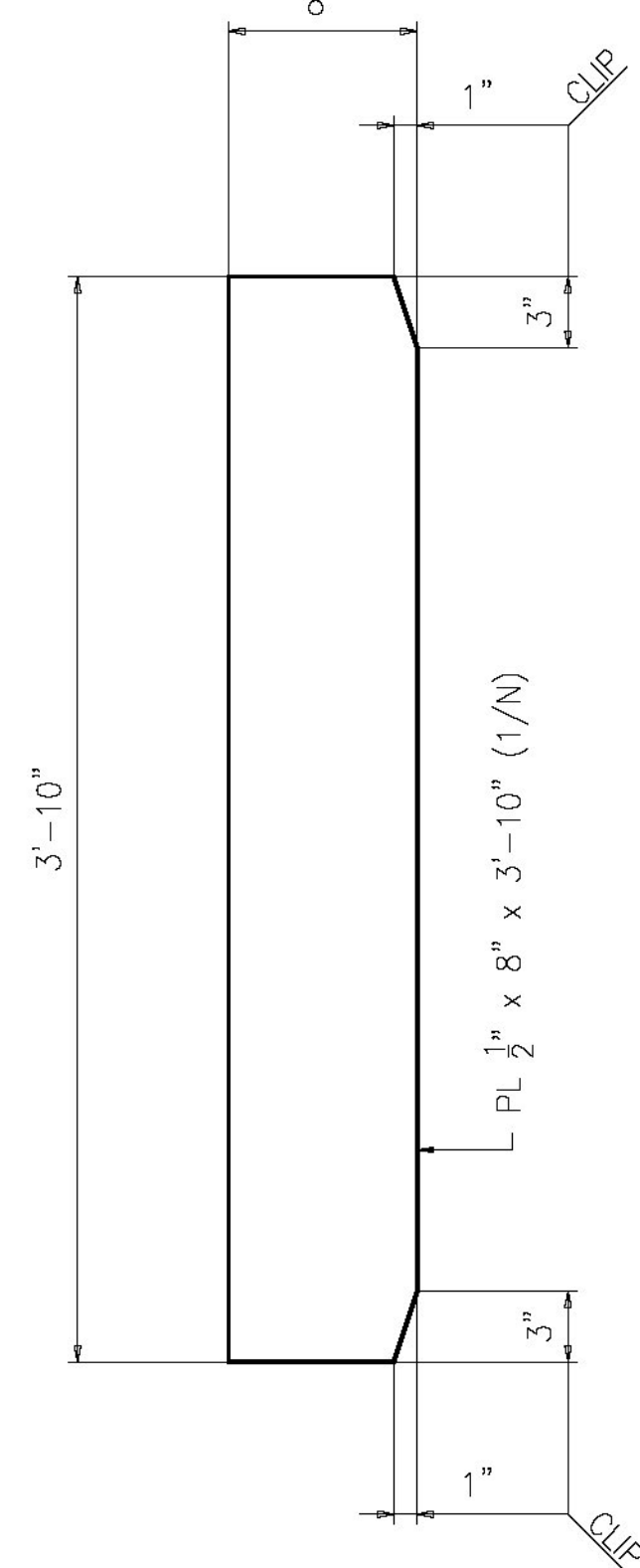
12 ~ INTERMEDIATE STIFFENER ~ x1c



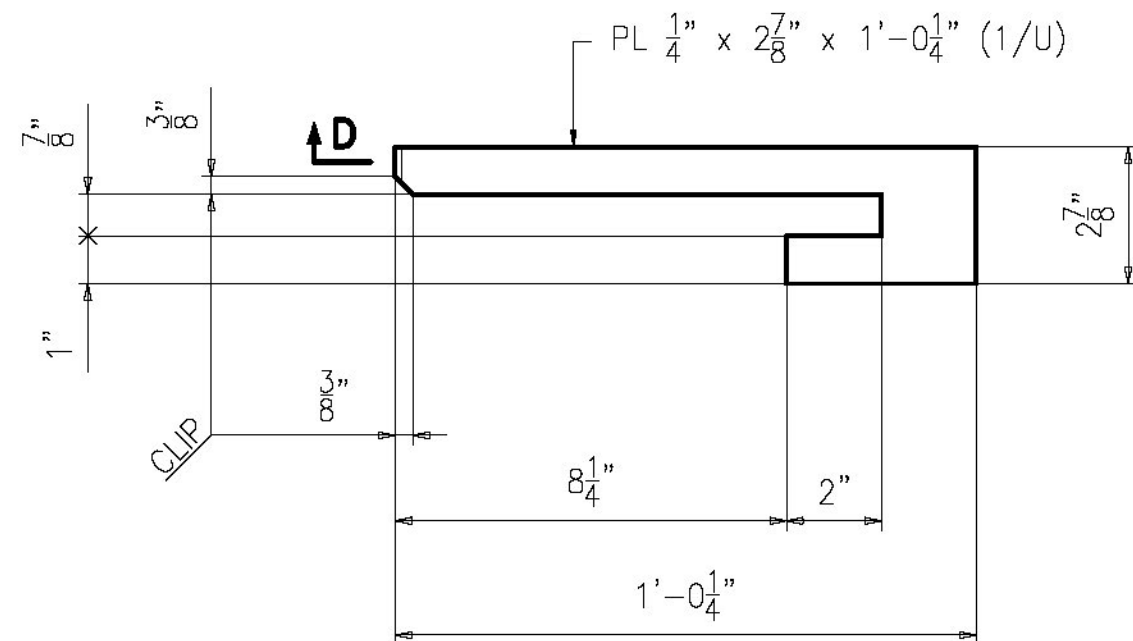
8 ~ INTERMEDIATE STIFFENER ~ x1d



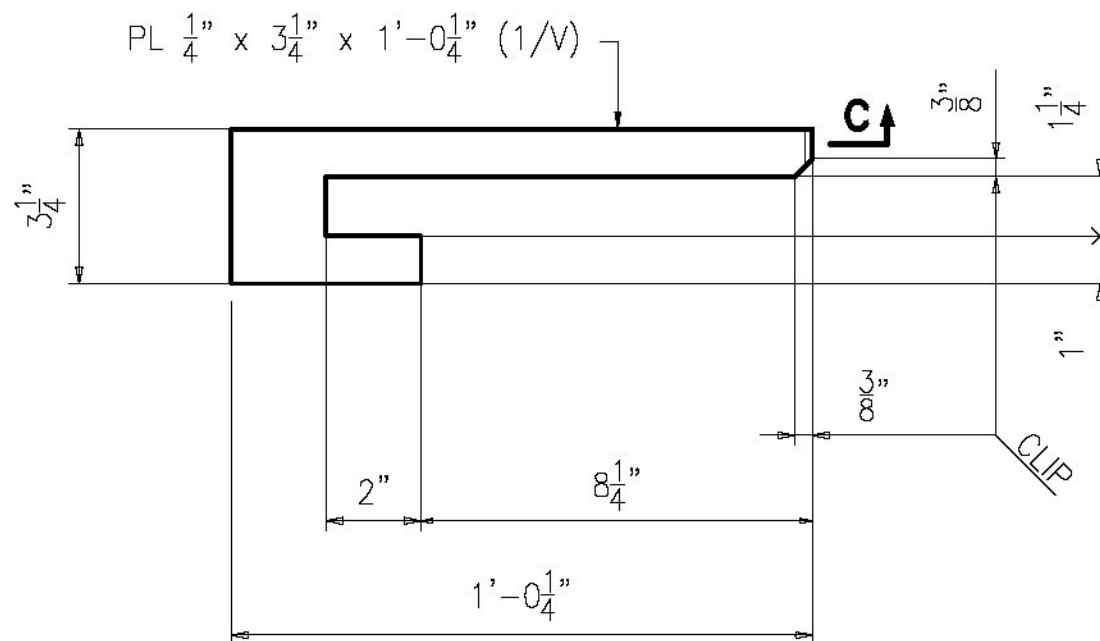
4 ~ INTERMEDIATE STIFFENER ~ x1f



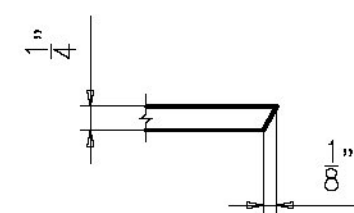
4 ~ BEARING STIFFENER ~ x1g



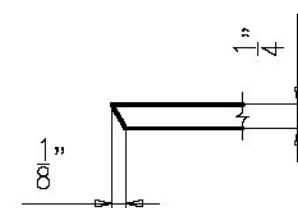
1 ~ DRIP PLATE ~ x1h



1 ~ DRIP PLATE ~ x1k



SECTION C



SECTION D

Vermont Agency of Transportation  
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June 10, 2015

RESUBMIT No Approved  
BY Carolyn Carlson DATE 06/11/15

NOTES:

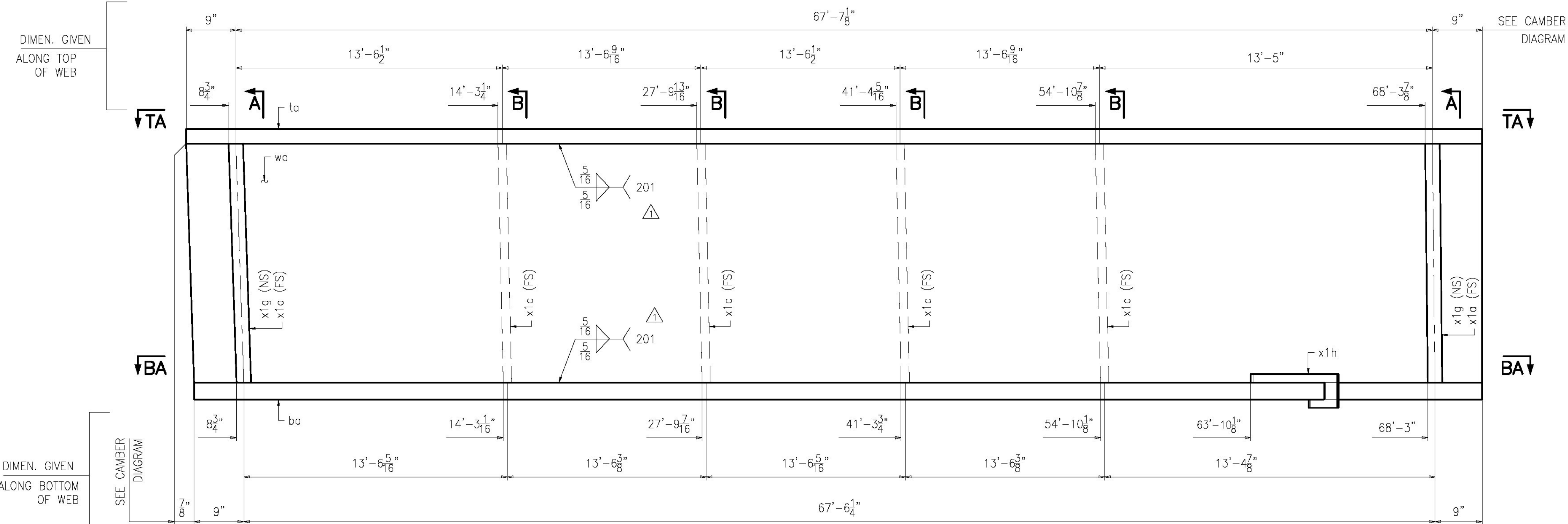
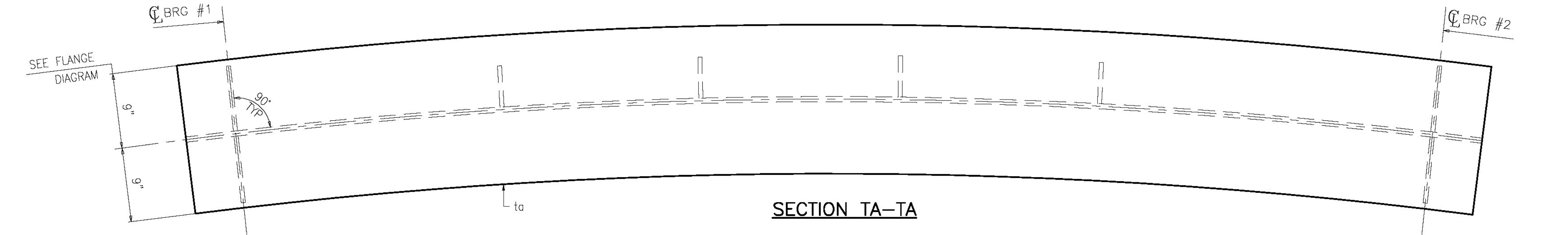
1. FOR GENERAL NOTES SEE SHEET GN1.

0									
REV.	DATE	REMARKS				DWN	CHK	APVL	SHOP
MATERIAL:		SURFACE PREP. & PAINT:		HOLES:		SHOP BOLTS:			
A709-50 U.N.		SEE DWG GN1		15/16"ø		NONE			
DESCRIPTION:		GIRDER STANDARD DETAILS							
 CASCO BAY STEEL STRUCTURES, INC.    1 WALLACE AVE. SOUTH PORTLAND, ME 04106  PHONE (207) 780-6722 FAX. (207) 780-6726    TENGA 1415									
STRUCTURE:						DRAWN:		DATE:	
REPLACEMENT OF BRIDGE NO. 12 ON TH27 INCLUDING APPROACH ROADWAY AND CHANNEL WORK TOWN OF COLCHESTER, COUNTY OF CHITTENDEN STATE OF VERMONT AGENCY OF TRANSPORTATION						BK		04/22	
						CHKD:		DATE:	
						YT		04/28	
LOCATION: COLCHESTER / CHITTENDEN, VT						JOB NO.		DWG NO.	
PROJ NO. STP 5600(12)								X1	
CUSTOMER: A.L. ST. ONGE						629-1		REV. 	

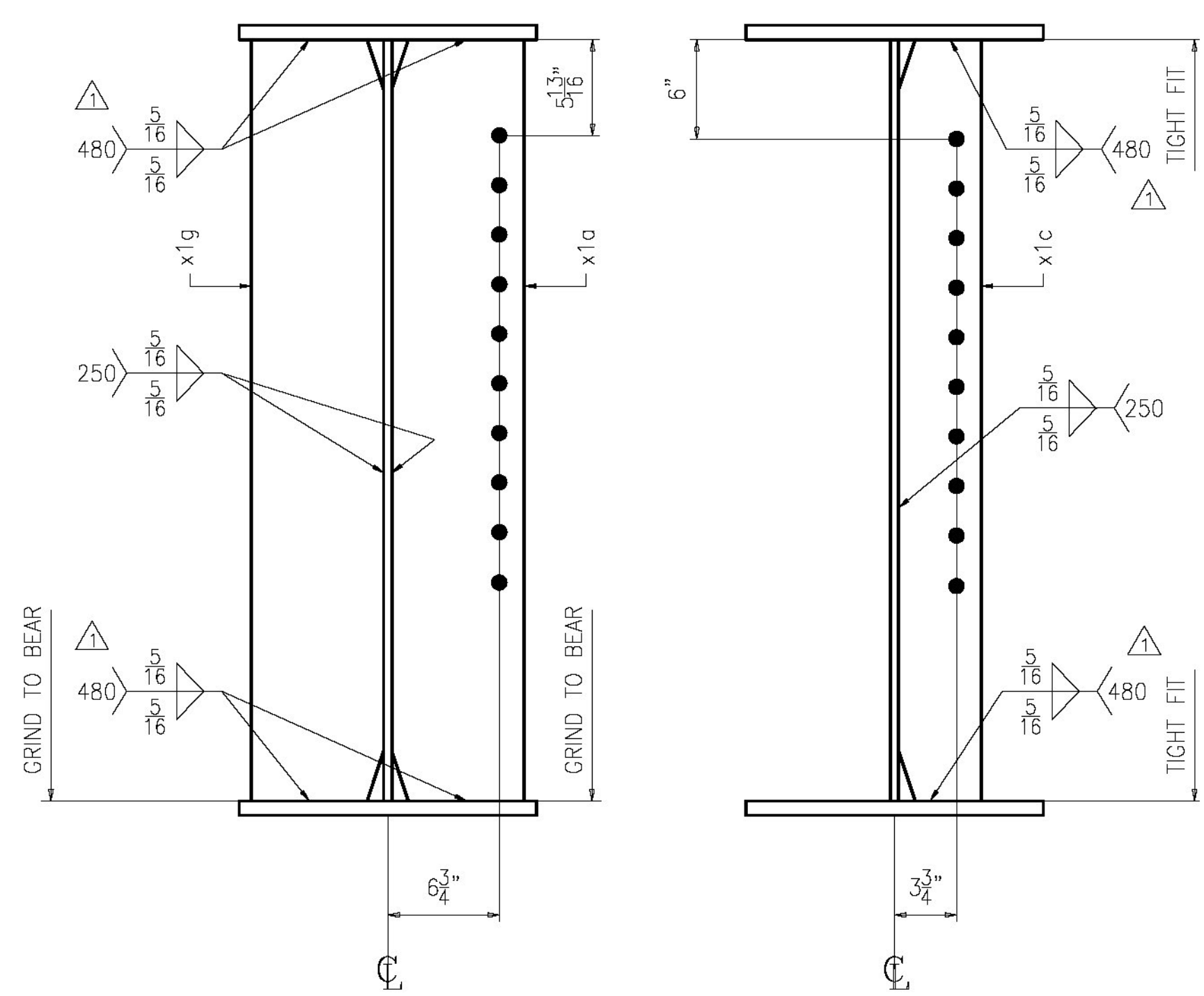
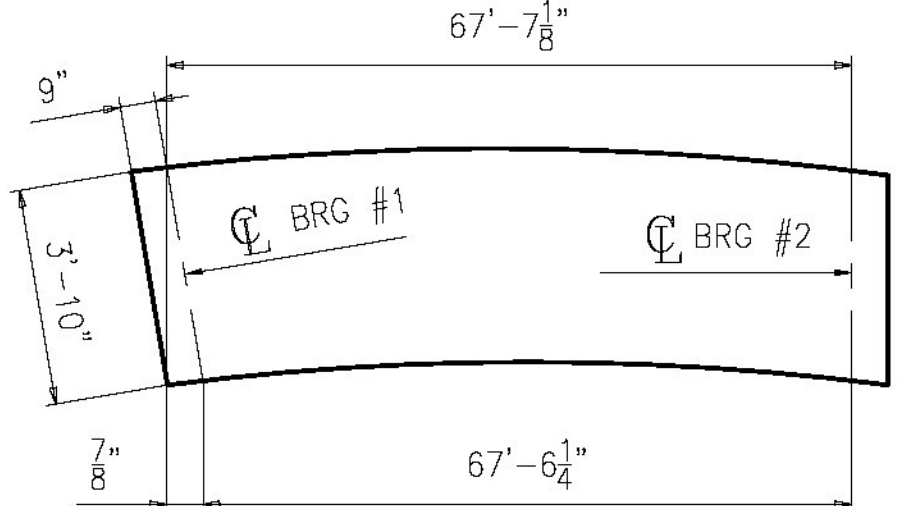
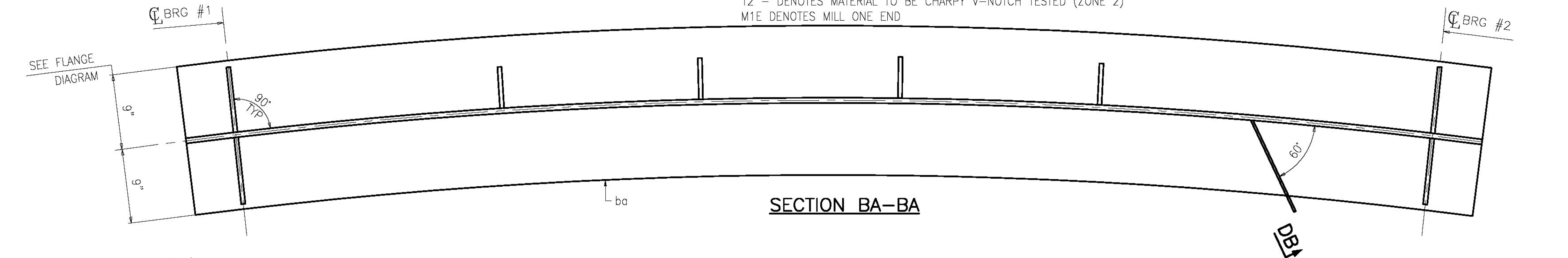
ENGINEERING REVIEW STAMP



ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								829	1	
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						FT	INCHES			
1	A	1G1A	1		GIRDER			PAINTED	13142	
1	X		1	wo	PL 1/2 x 46	69	1 1/8	A709-50T2	5403	
1	X		1	ta	PL 7/8 x 18	69	1 1/2		3702	
1	F		1	ba	PL 7/8 x 18	69	0 9/16	A709-50T2	3697	
1	N		2	x1a	PL 1/2 x 8	3	10	M1E	104	
1	P		4	x1c	PL 1/2 x 5	3	10		130	
1	N		2	x1g	PL 1/2 x 8	3	10	M1E	104	
1	U		1	x1h	PL 1/4 x 2 7/8	1	0 1/4		2	

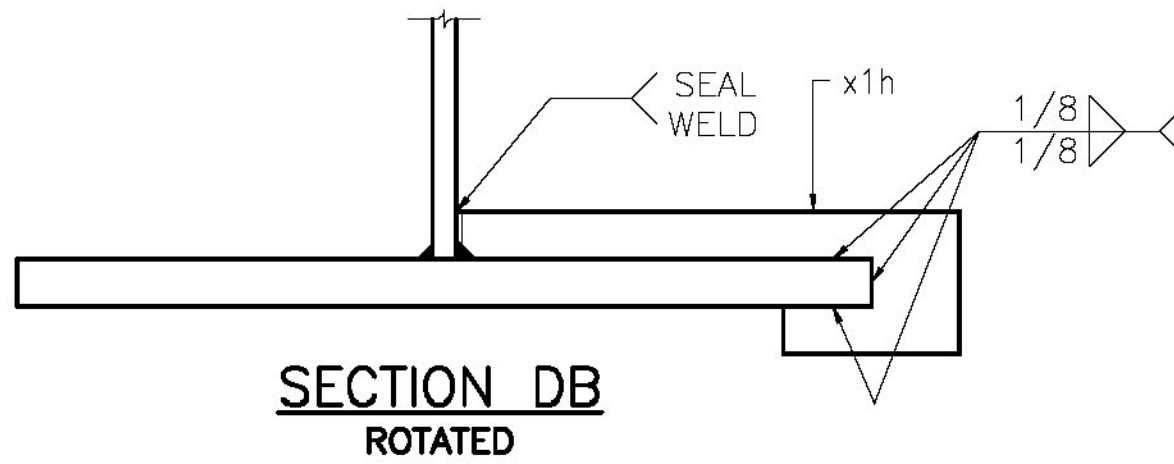


ONE ~ GIRDER ~ 1G1A (PAINTED)  
FOR STANDARD DETAILS SEE SHEET X1  
FOR CAMBER DIAGRAM SEE SHEET C1  
FOR FLANGE DIAGRAM SEE SHEET C2  
FOR GENERAL NOTES SEE SHEET GN1  
T2 - DENOTES MATERIAL TO BE CHARPY V-NOTCH TESTED (ZONE 2)  
M1E DENOTES MILL ONE END



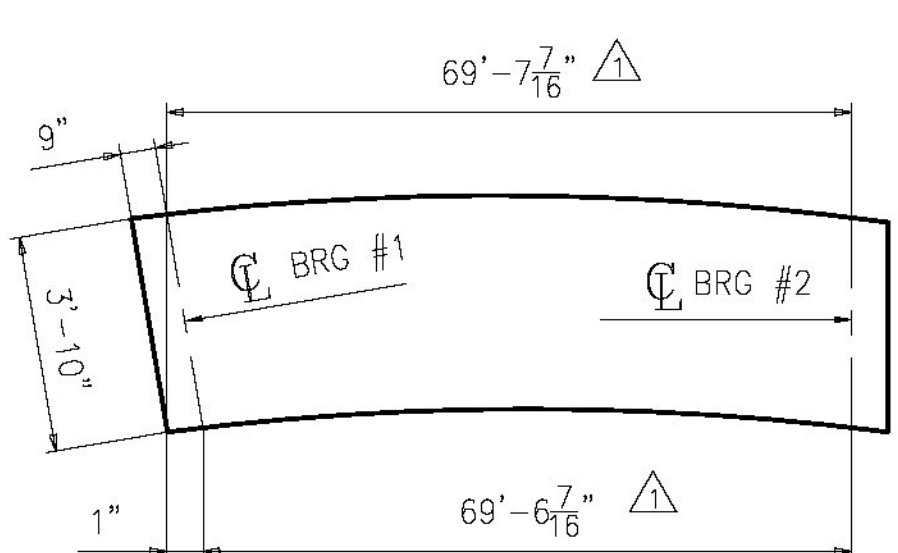
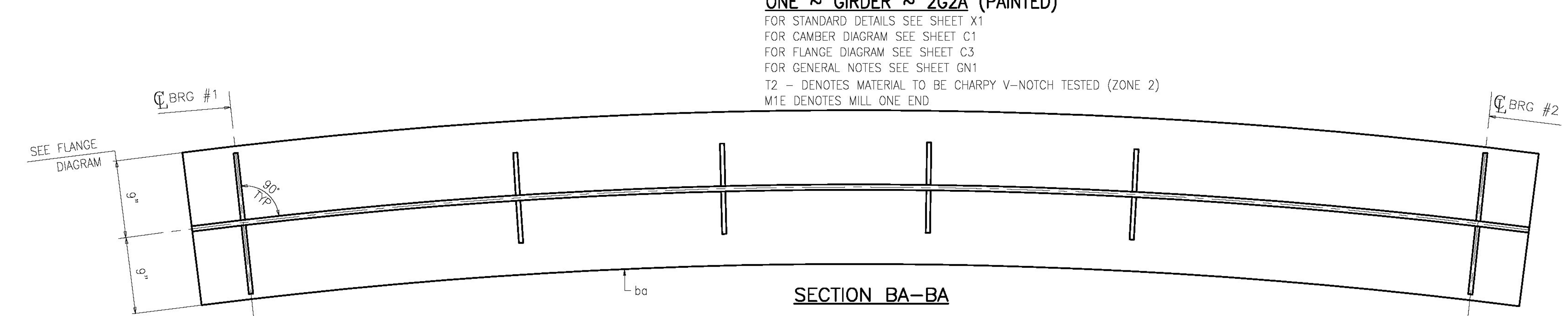
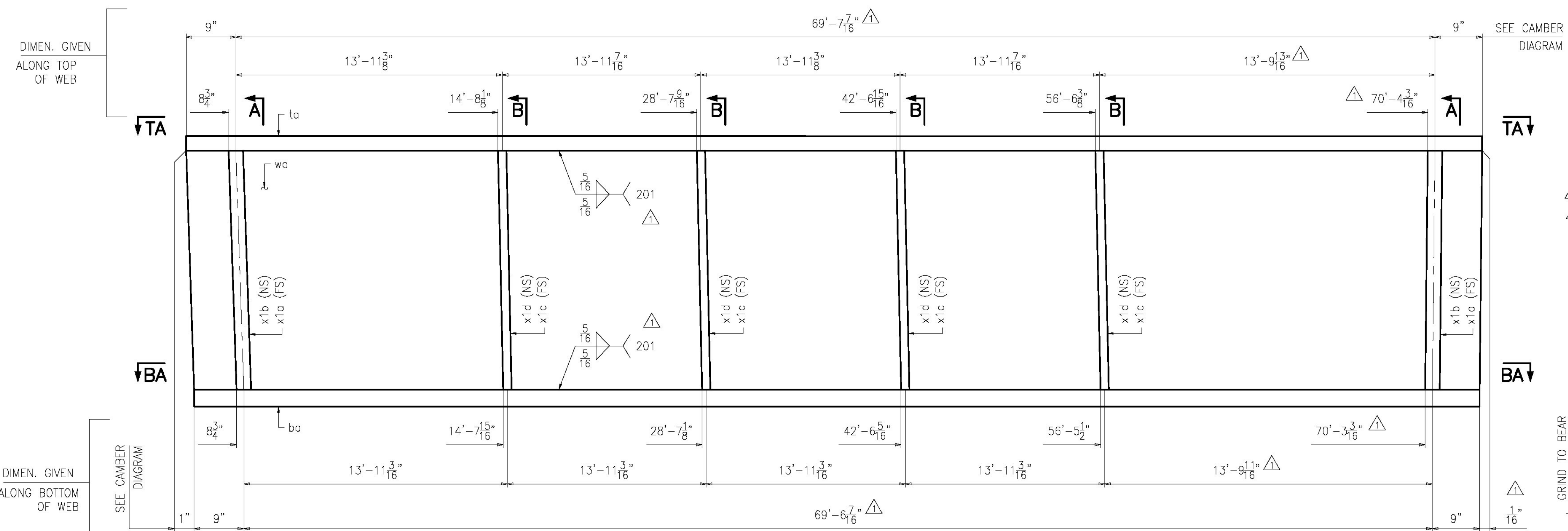
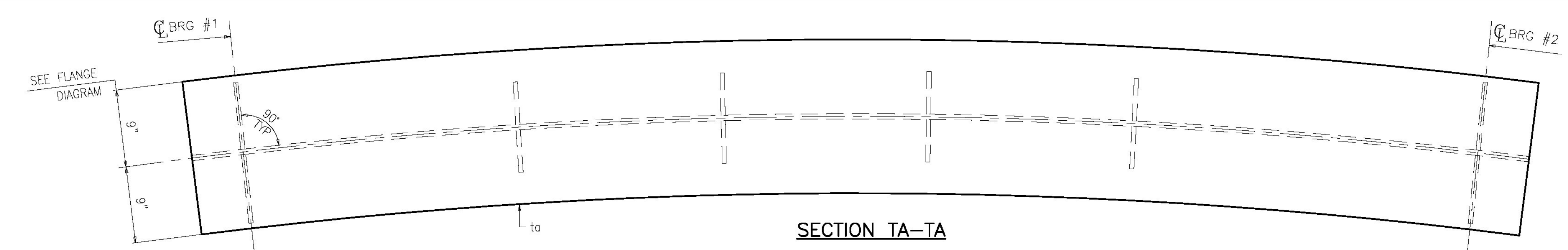
SECTION A SECTION B

Vermont Agency of Transportation  
**RECEIVED**  
CK'D BY FDB OK'D BY HIS  
June 10, 2015  
RESUBMIT No Approved  
BY Carolyn Carlson DATE 06/11/15



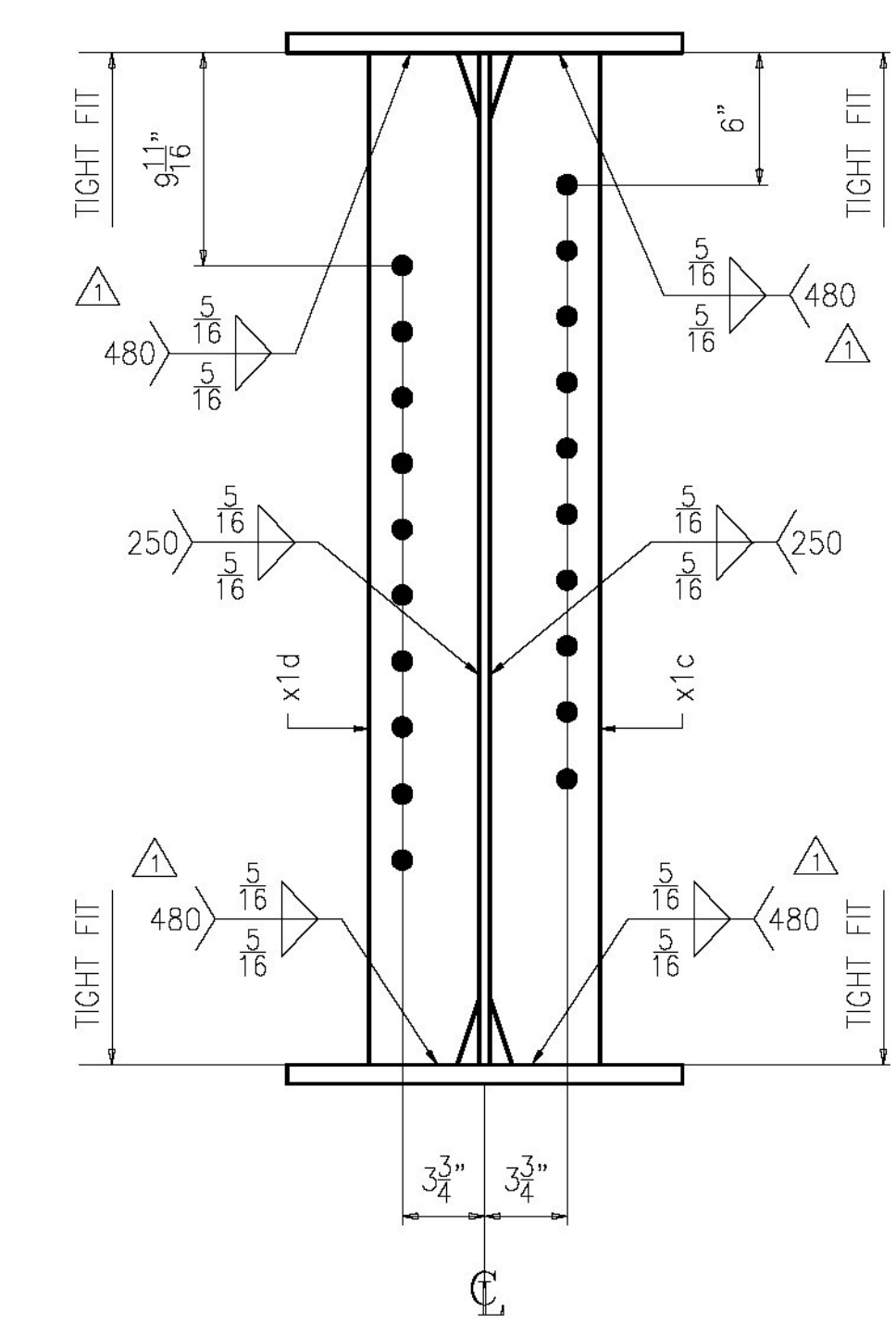
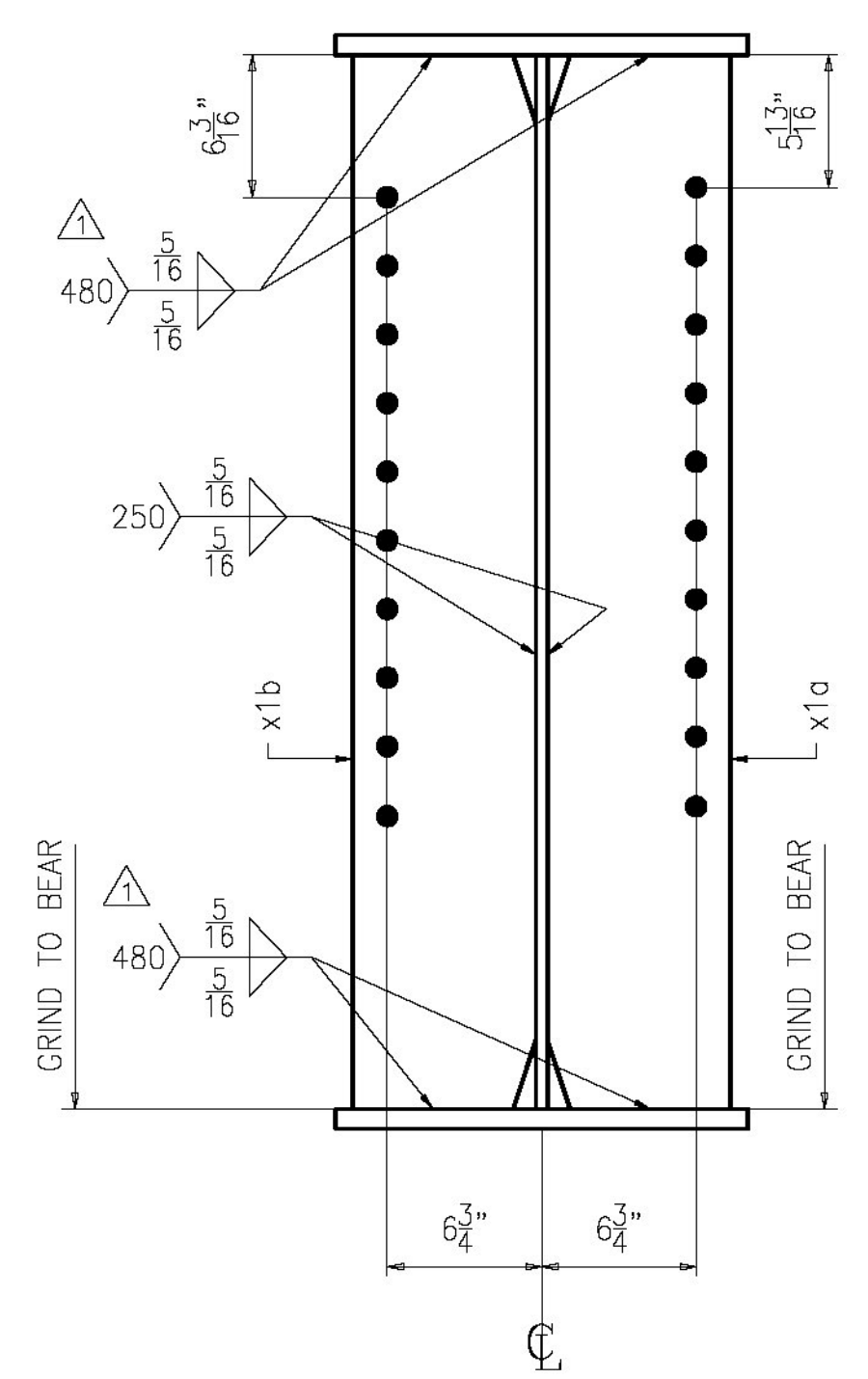
ENGINEERING REVIEW STAMP		CASCO BAY STEEL STRUCTURES, INC.	
1 06/05/15 PER APPROVAL COMMENTS EG YT		1 WALLACE AVE. PHONE (207) 780-6722	
0		SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726	
REV.	DATE	REMARKS	DWN CHK APVL SHOP
MATERIAL: A709-50 U.N.		SURFACE PREP. & PAINT: SEE DWG GN1	SHOP BOLTS: NONE
DESCRIPTION: GIRDER 1G1A		DATE: 04/22	
STRUCTURE: REPLACEMENT OF BRIDGE NO. 12 ON TH27 INCLUDING APPROACH ROADWAY AND CHANNEL WORK		CHKD: YT	DATE: 04/23
LOCATION: COLCHESTER / CHITTENDEN, VT		JOB NO. 629-1	DWG NO. 1
PROJ NO. STP 5600(12)		REV. 1	
CUSTOMER: A.L. ST. ONCE		REV. 1	





ONE ~ GIRDER ~ 2G2A (PAINTED)  
FOR STANDARD DETAILS SEE SHEET X1  
FOR CAMBER DIAGRAM SEE SHEET C1  
FOR FLANGE DIAGRAM SEE SHEET C3  
FOR GENERAL NOTES SEE SHEET GN1  
T2 - DENOTES MATERIAL TO BE CHARPY V-NOTCH TESTED (ZONE 2)  
M1E DENOTES MILL ONE END

ABM INFO		SHIP	BILL OF MATERIAL				JOB NO.	DRAWING NO.	REV.
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT INCHES	REMARKS	WT	PROCUREMENT NOTES
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1	Y		1	ta	PL 7/8 x 18	71 1 3/4	A709-50T2	3810	
1	G		1	ba	PL 7/8 x 18	71 0 3/4	A709-50T2	3806	
1	N		2	x1a	PL 1/2 x 8	3 10	M1E	104	
1	N		2	x1b	PL 1/2 x 8	3 10	M1E	104	
1	P		4	x1c	PL 1/2 x 5	3 10		130	
1	P		4	x1d	PL 1/2 x 5	3 10		130	

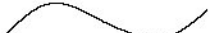


SECTION A

SECTION B

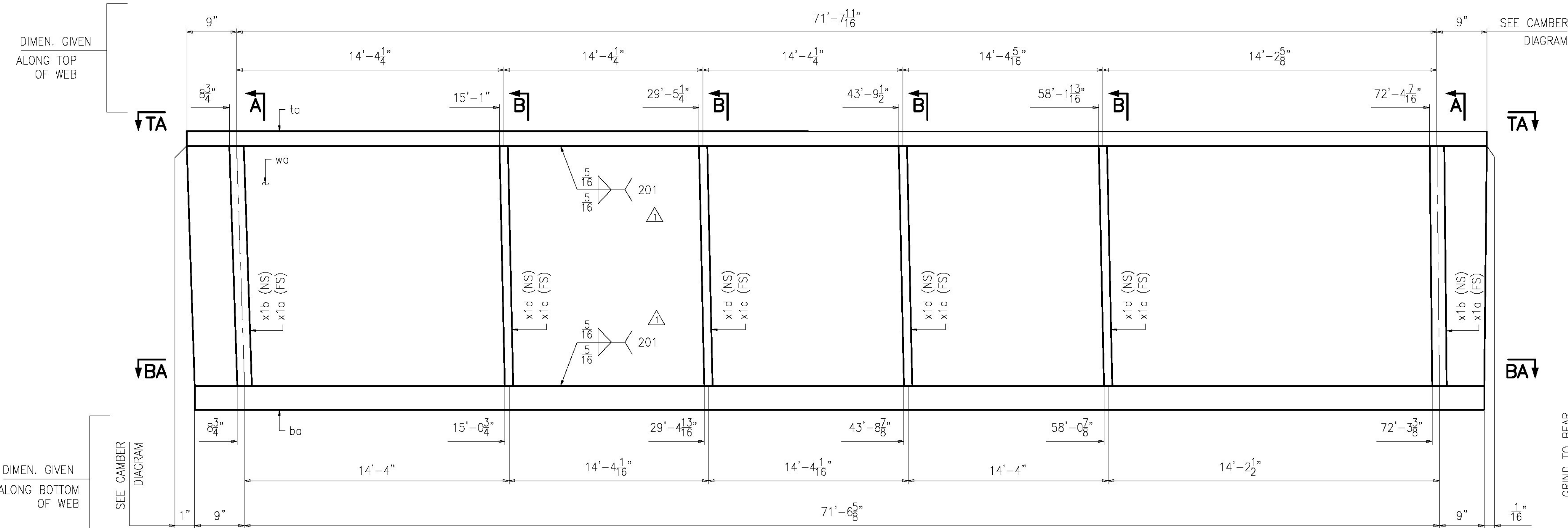
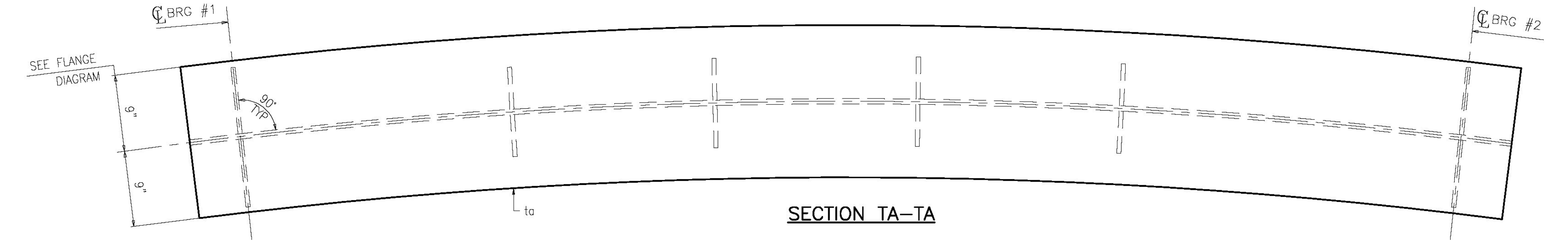
Vermont Agency of Transportation  
**RECEIVED**  
CK'D BY FDB OK'D BY HIS  
June 10, 2015  
RESUBMIT No Approved  
BY Carolyn Carlson DATE 06/11/15

ENGINEERING REVIEW STAMP

1	06/05/15	PER APPROVAL COMMENTS	EG	YT			
0							
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP	
MATERIAL: A709-50 U.N.		SURFACE PREP. & PAINT: SEE DWG GN1	HOLES: 15/16"Ø		SHOP BOLTS: NONE		
DESCRIPTION:		GIRDER 2G2A					
CASCO BAY STEEL STRUCTURES, INC.    CASCO BAY STEEL STRUCTURES  1 WALLACE AVE. SOUTH PORTLAND, ME 04106  PHONE (207) 780-6722 FAX. (207) 780-6726  TENCA TENCA 1415							
STRUCTURE:			DRAWN:		DATE:		
REPLACEMENT OF BRIDGE NO. 12 ON TH27 INCLUDING APPROACH ROADWAY AND CHANNEL WORK TOWN OF COLCHESTER, COUNTY OF CHITTENDEN STATE OF VERMONT AGENCY OF TRANSPORTATION			BK		04/23		
			CHKD:		DATE:		
			YT		04/23		
LOCATION: COLCHESTER / CHITTENDEN, VT			JOB NO.		DWG NO.		
PROJ NO. STP 5600(12)					2		
CUSTOMER: A.L. ST. ONGE			629-1		REV. 		

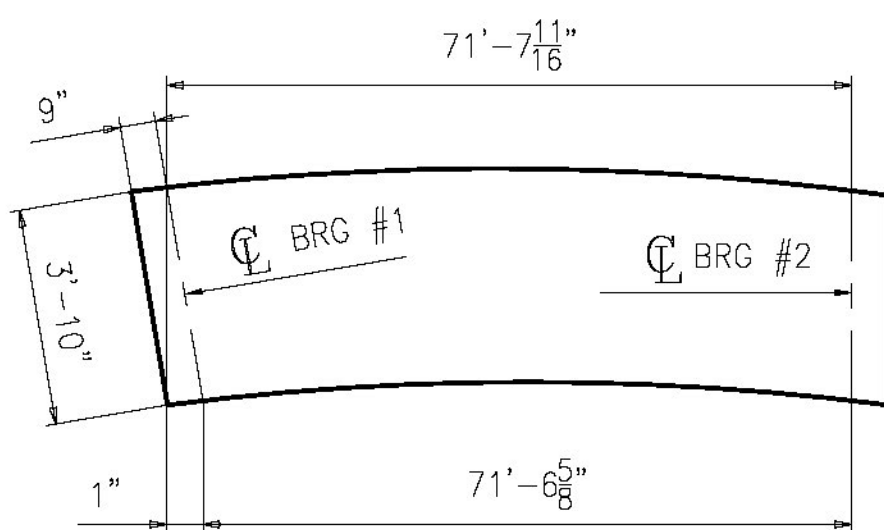
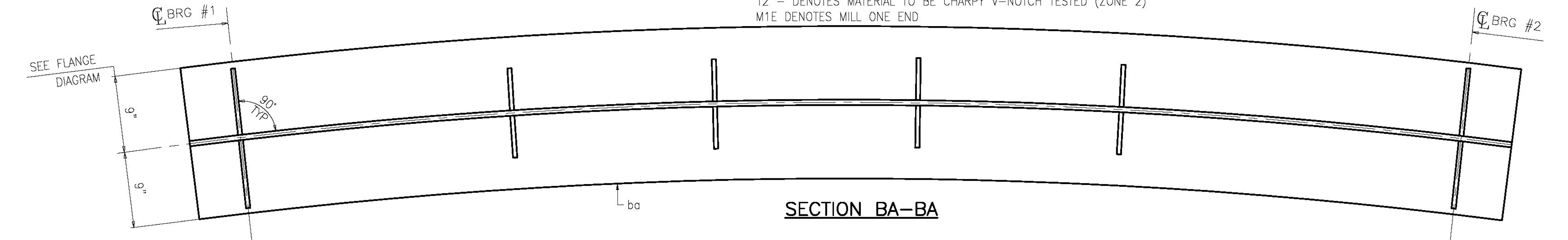


ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								829	3	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT INCHES	REMARKS	WT	PROCUREMENT NOTES	
		3G3A	1		GIRDER		PAINTED	15696		
1	C		1	wo	PL 1/2 x 46	73 1 11/16	A709-50T2	5720		
1	H		1	ta	PL 7/8 x 18	73 1 15/16		3918		
1	J		1	ba	PL 1 1/4 x 18	73 0 7/8	A709-50T2	5590		
1	N		2	x1a	PL 1/2 x 8	3 10	M1E	104		
1	N		2	x1b	PL 1/2 x 8	3 10	M1E	104		
1	P		4	x1c	PL 1/2 x 5	3 10		130		
1	P		4	x1d	PL 1/2 x 5	3 10		130		

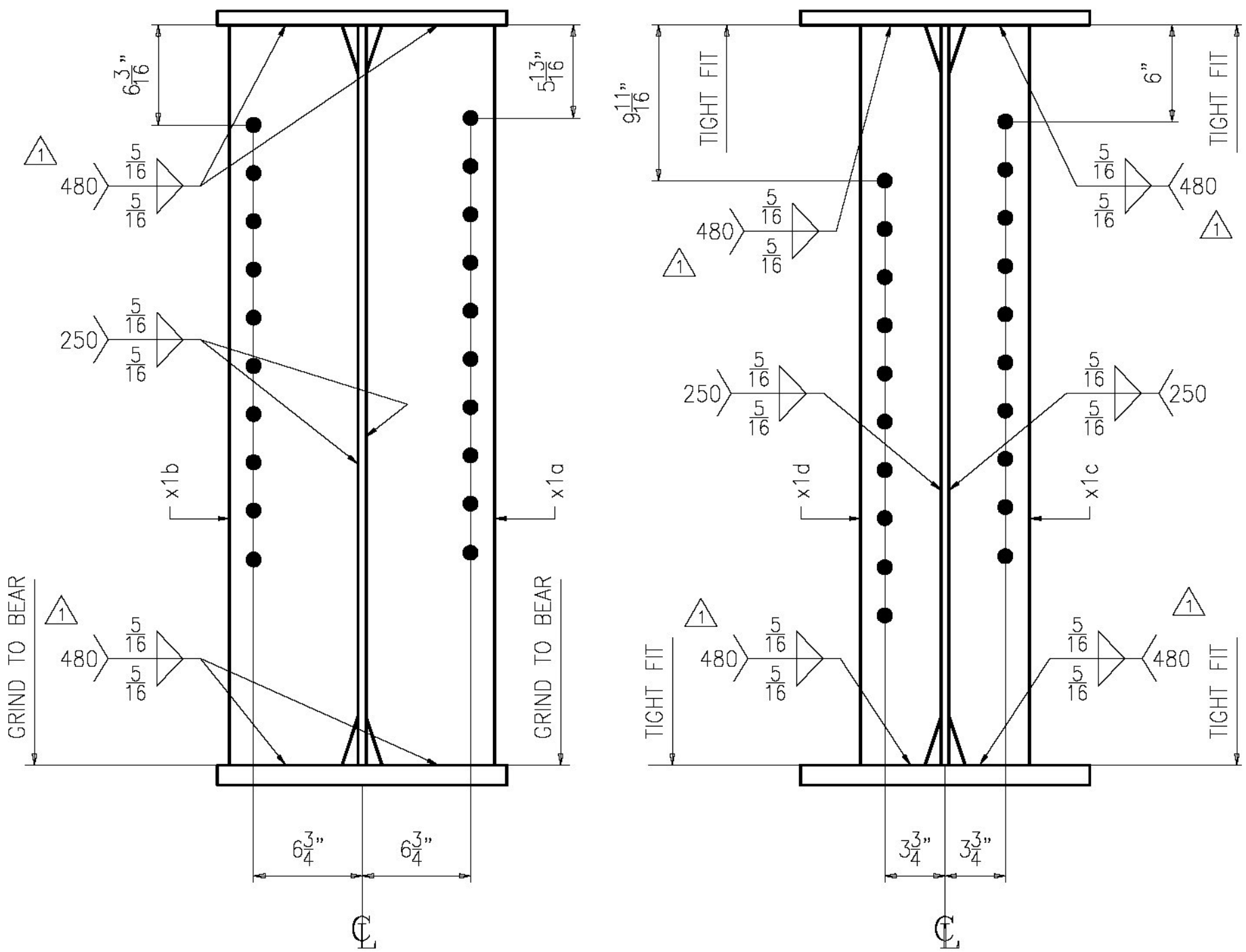


ONE ~ GIRDER ~ 3G3A (PAINTED)

FOR STANDARD DETAILS SEE SHEET X1  
FOR CAMBER DIAGRAM SEE SHEET C1  
FOR FLANGE DIAGRAM SEE SHEET C4  
FOR GENERAL NOTES SEE SHEET GN1  
T2 - DENOTES MATERIAL TO BE CHARPY V-NOTCH TESTED (ZONE 2)  
M1E DENOTES MILL ONE END



ORIENTATION DIAGRAM



SECTION A

SECTION B

Vermont Agency of Transportation  
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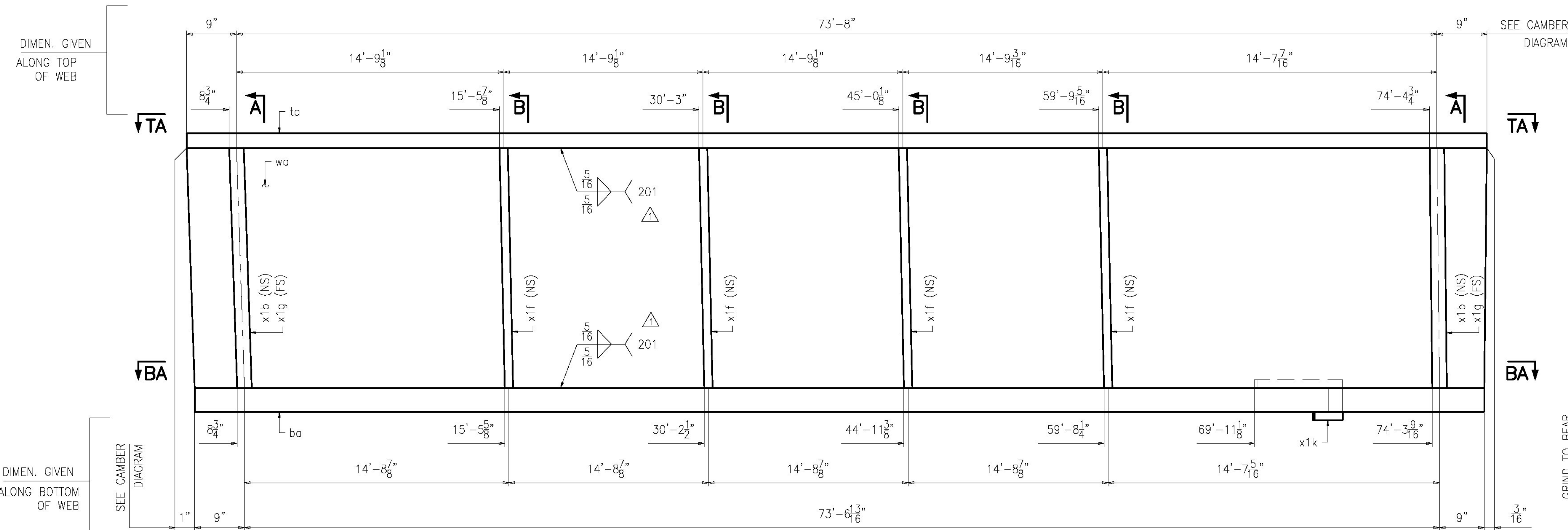
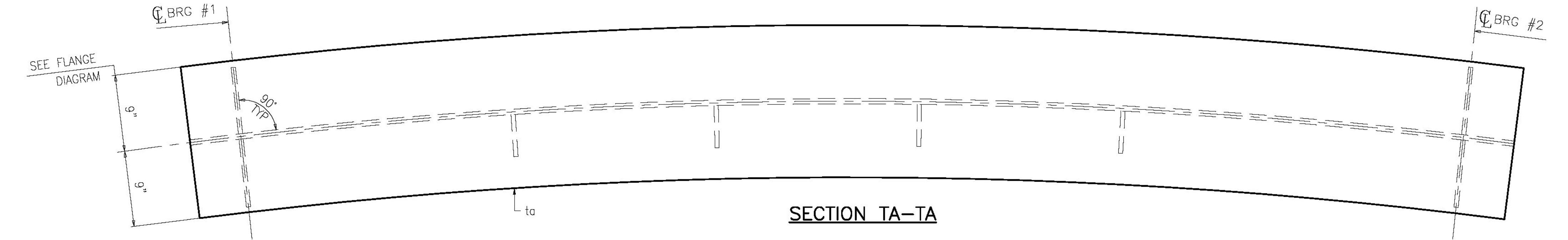
June 10, 2015

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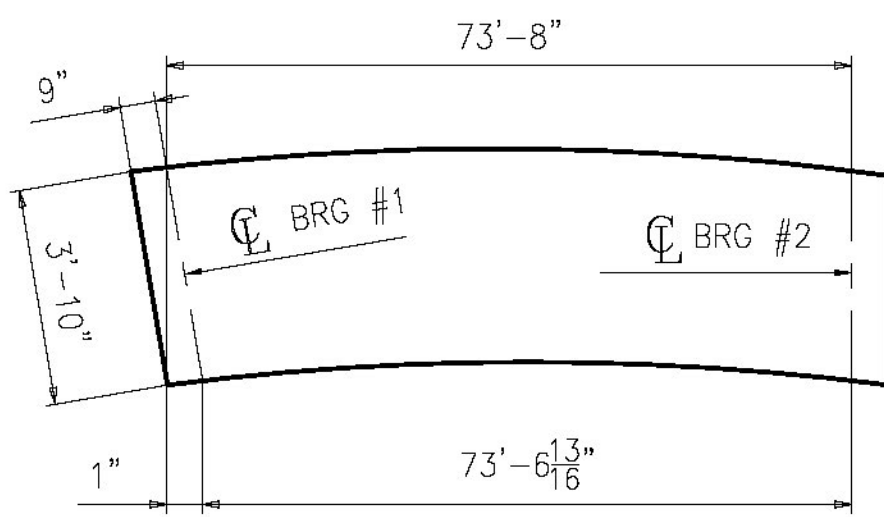
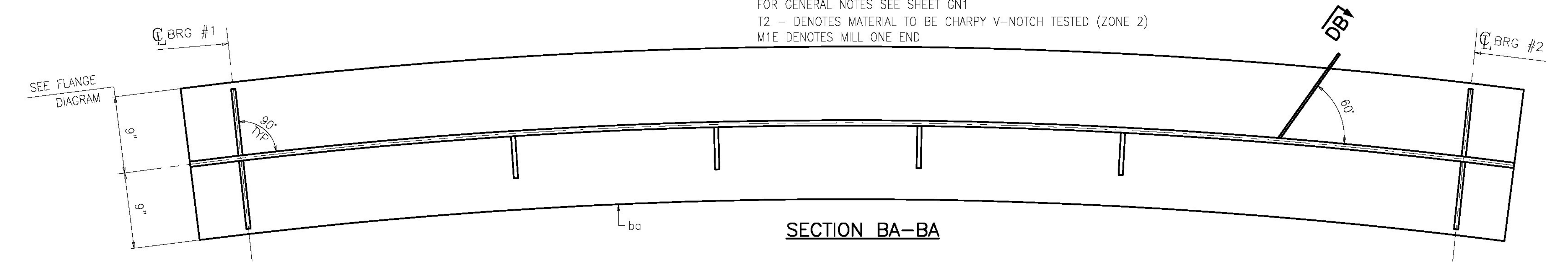
1	06/05/15	PER APPROVAL COMMENTS	EG	YT		
0						
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
MATERIAL:		SURFACE PREP. & PAINT:	HOLES:		SHOP BOLTS:	
A709-50 U.N.		SEE DWG GN1	15/16"Ø		NONE	
DESCRIPTION:		GIRDER 3G3A				
<b>CASCO BAY STEEL STRUCTURES, INC.</b> 1 WALLACE AVE.      PHONE (207) 780-6722 SOUTH PORTLAND, ME 04106      FAX. (207) 780-6726   <b>TENCA</b> TENDA 1415						
STRUCTURE:			DRAWN:		DATE:	
REPLACEMENT OF BRIDGE NO. 12 ON TH27 INCLUDING APPROACH ROADWAY AND CHANNEL WORK TOWN OF COLCHESTER, COUNTY OF CHITTENDEN STATE OF VERMONT AGENCY OF TRANSPORTATION			BK		04/23	
			CHKD:		DATE:	
			YT		04/23	
LOCATION: COLCHESTER / CHITTENDEN, VT			JOB NO.		DWG NO.	
PROJ NO. STP 5600(12)			629-1		3	
CUSTOMER: A.L. ST. ONCE					REV. 	



ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								829	4	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH		REMARKS	WT	PROCUREMENT NOTES
						FT	INCHES			
		4G4A	1		GIRDER			PAINTED	15989	
1	D		1	ws	PL 1/2 x 46	75	2	A709-50T2	5878	
1	K		1	ta	PL 7/8 x 18	75	2 1/4		4026	
1	L		1	ba	PL 1 1/4 x 18	75	1 1/16	A709-50T2	5744	
1	N		2	x1b	PL 1/2 x 8	3	10	M1E	104	
1	N		2	x1g	PL 1/2 x 8	3	10	M1E	104	
1	P		4	x1f	PL 1/2 x 5	3	10		130	
1	V		1	x1k	PL 1/4 x 3 1/4	1	0 1/4		3	

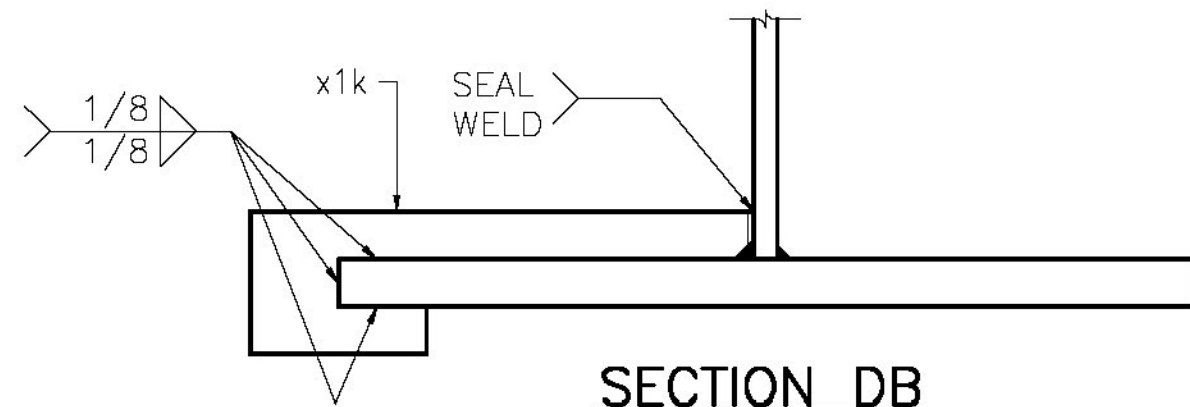


ONE ~ GIRDER ~ 4G4A (PAINTED)  
FOR STANDARD DETAILS SEE SHEET X1  
FOR CAMBER DIAGRAM SEE SHEET C1  
FOR FLANGE DIAGRAM SEE SHEET C5  
FOR GENERAL NOTES SEE SHEET GN1  
T2 - DENOTES MATERIAL TO BE CHARPY V-NOTCH TESTED (ZONE 2)  
M1E DENOTES MILL ONE END

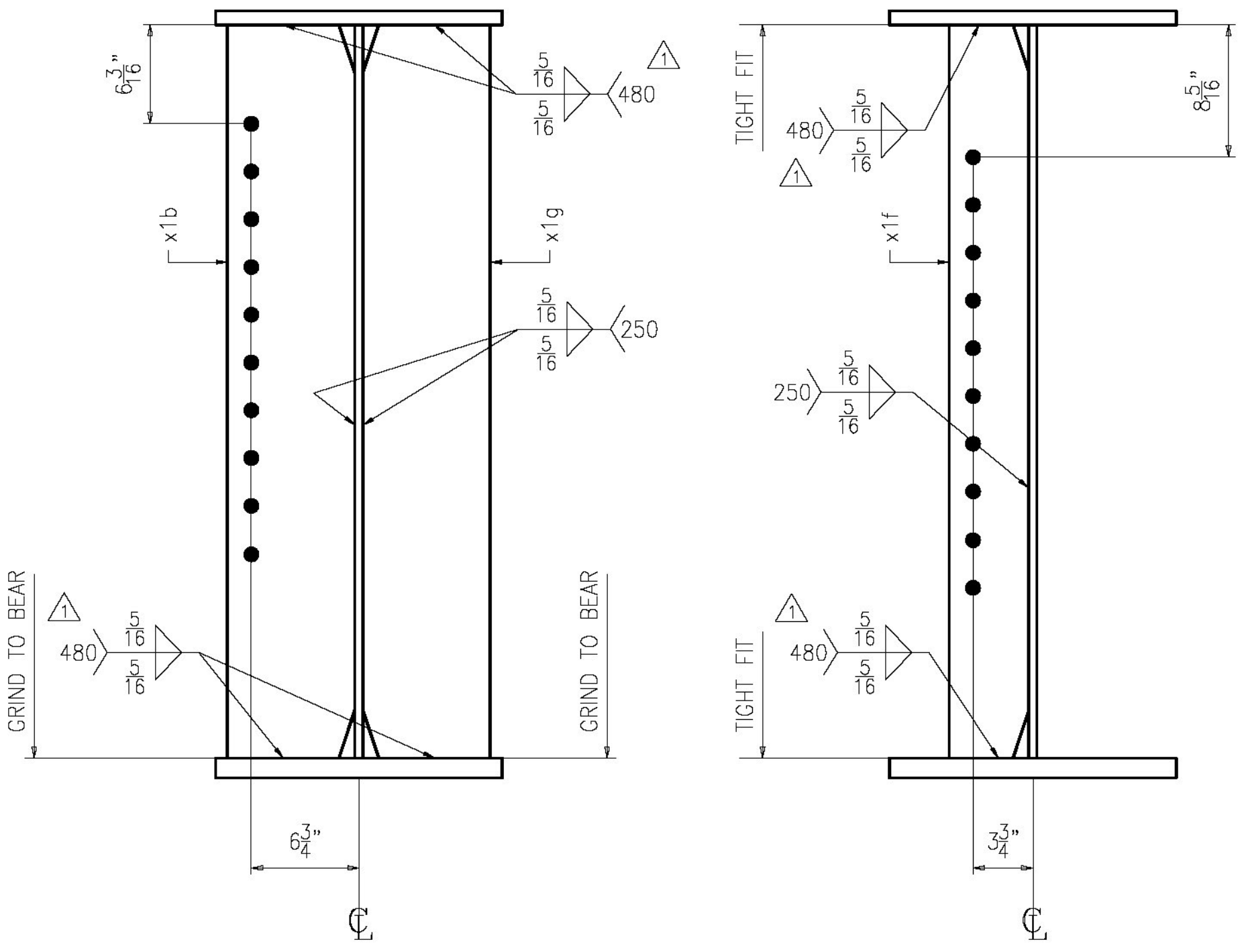


ORIENTATION DIAGRAM

Vermont Agency of Transportation  
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June 10, 2015  
RESUBMIT No Approved  
BY Carolyn Carlson DATE 06/11/15



SECTION DB  
ROTATED



SECTION A

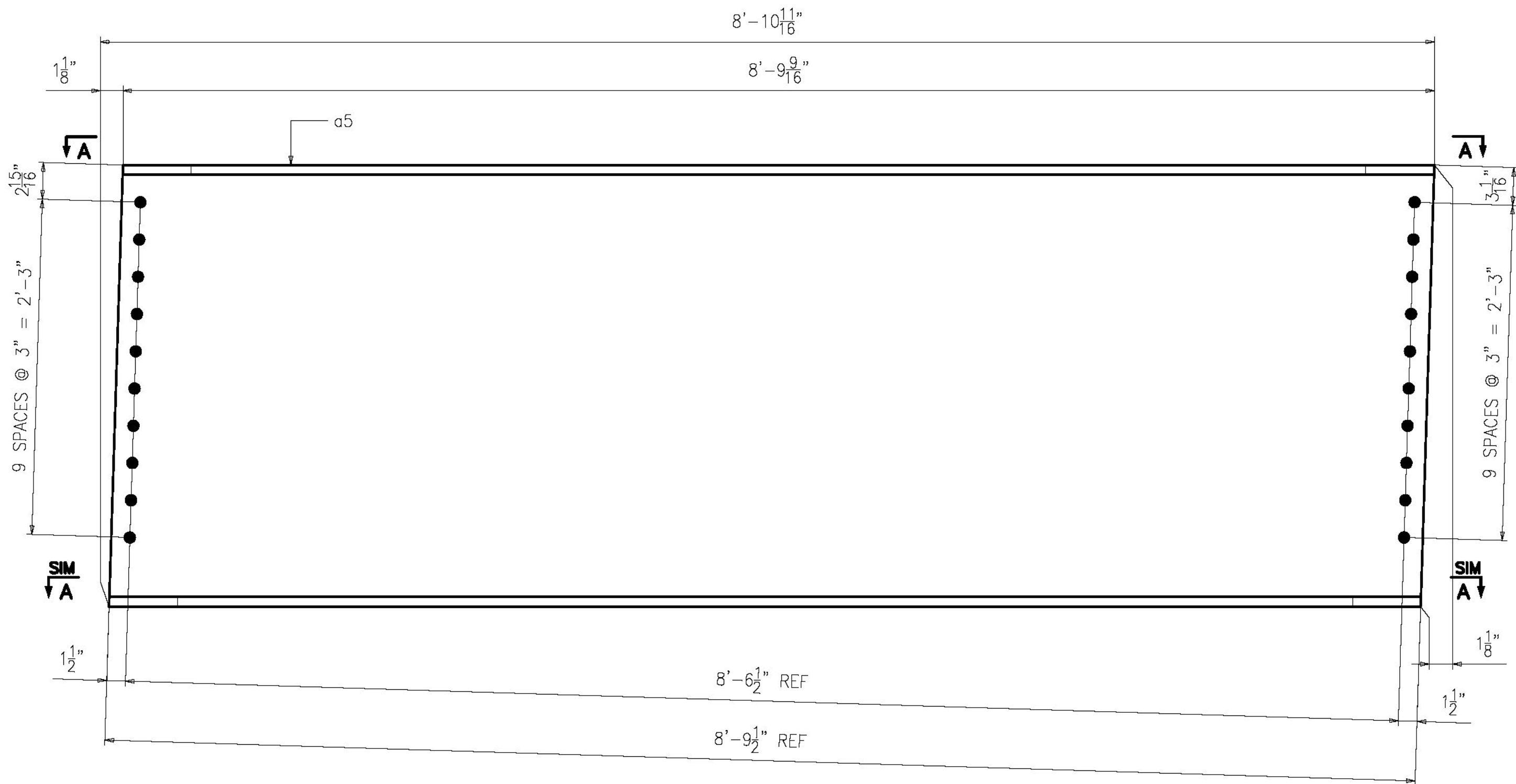
SECTION B

1	06/05/15	PER APPROVAL COMMENTS	EG	YT		
0						
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
MATERIAL:		SURFACE PREP. & PAINT:	HOLES:		SHOP BOLTS:	
A709-50 U.N.		SEE DWG GN1	15/16"Ø		NONE	
DESCRIPTION:		GIRDER 4G4A				
 <b>CASCO BAY STEEL STRUCTURES, INC.</b> 1 WALLACE AVE. PHONE (207) 780-6722 SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726    TENGA 1415						
STRUCTURE:			DRAWN:		DATE:	
REPLACEMENT OF BRIDGE NO. 12 ON TH27 INCLUDING APPROACH ROADWAY AND CHANNEL WORK			BK		04/23	
TOWN OF COLCHESTER, COUNTY OF CHITTENDEN			CHKD:		DATE:	
STATE OF VERMONT AGENCY OF TRANSPORTATION			YT		04/23	
LOCATION: COLCHESTER / CHITTENDEN, VT			JOB NO.		DWG NO.	
PROJ NO. STP 5600(12)			629-1		4	
CUSTOMER: A.L. ST. ONGE					REV. 	

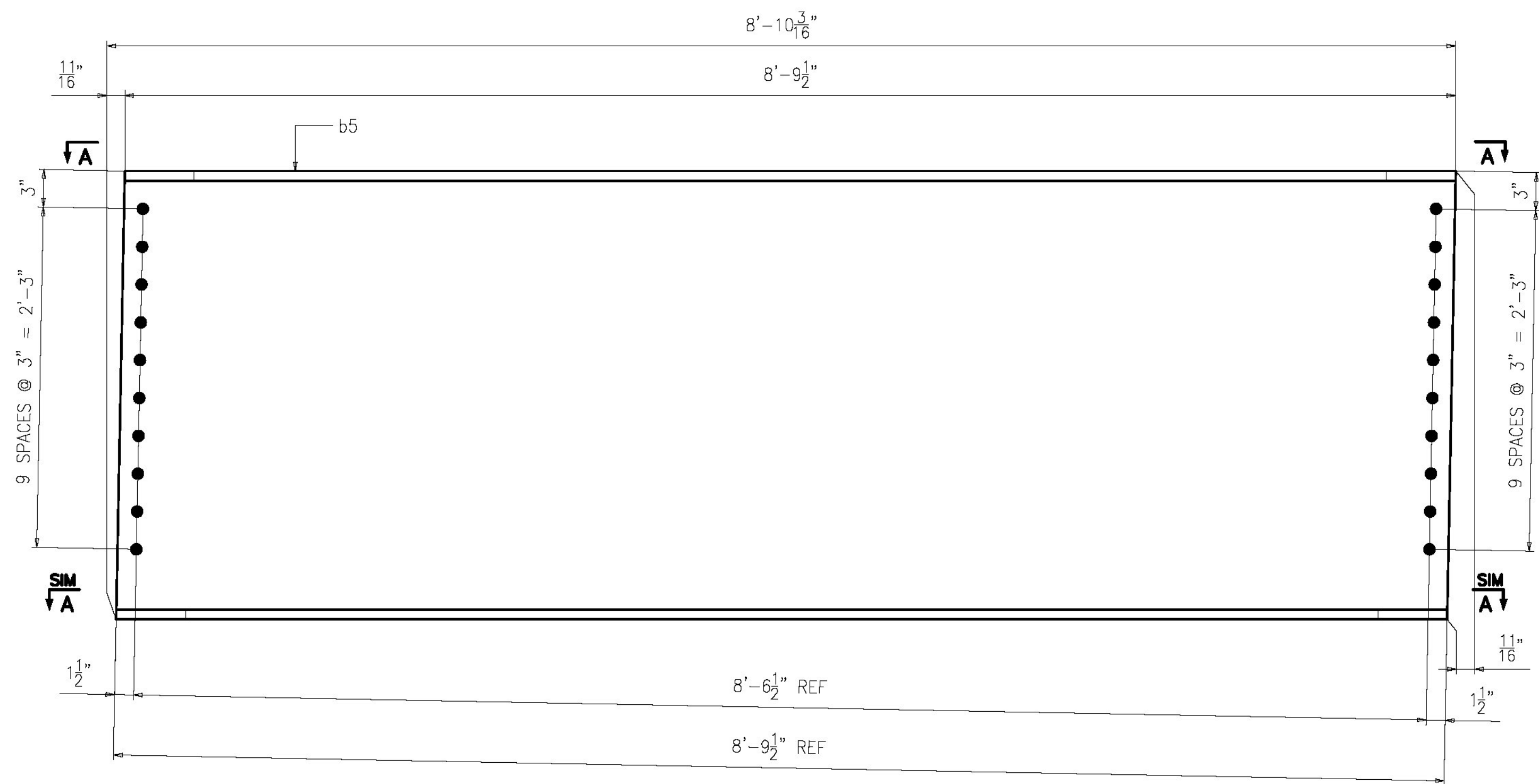
ENGINEERING REVIEW STAMP



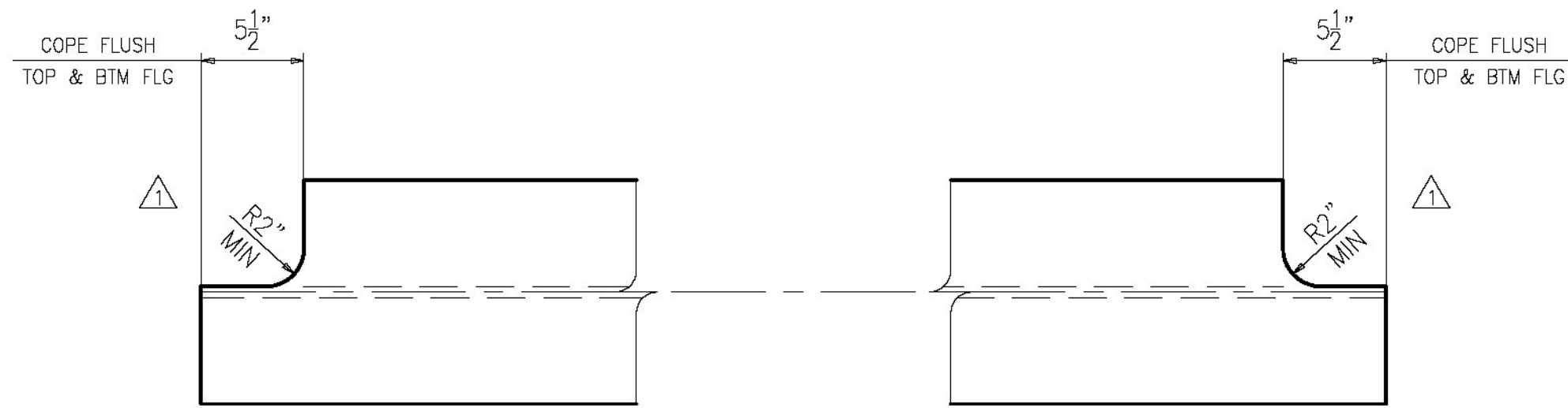
ABM INFO		SHIP	BILL OF MATERIAL				JOB NO.	DRAWING NO.	REV.
							629	5	△
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT INCHES	REMARKS	WT	PROCUREMENT NOTES
		5D1	2		DIAPHRAGM		PAINTED	2400	
1	R		2	a5	W 36 x 135	8 10 11/16	A709-50T2	2400	
		5D2	1		DIAPHRAGM		PAINTED	1195	
1	R		1	b5	W 36 x 135	8 10 3/16	A709-50T2	1195	
		5D3	12		DIAPHRAGM		PAINTED	15053	
1	S		12	c5	W 36 x 135	9 3 1/2	A709-50T2	15053	



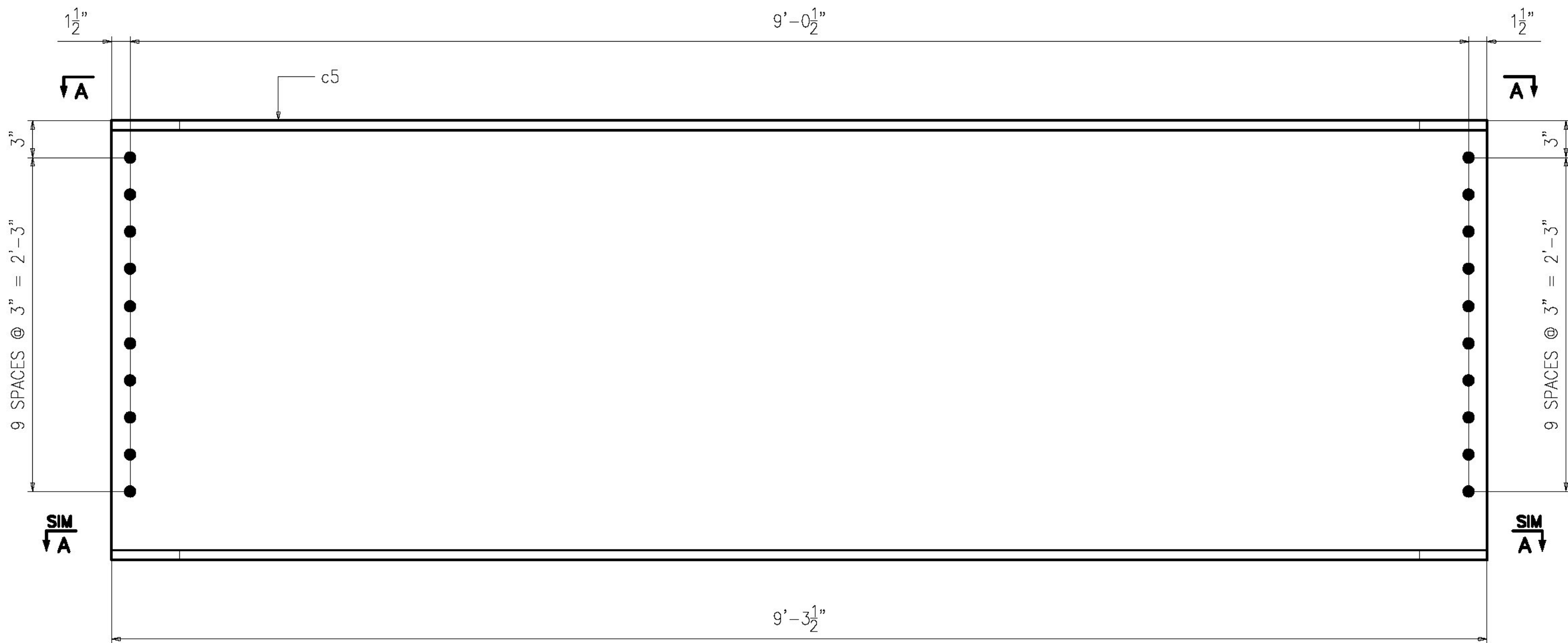
2 ~ DIAPHRAGM ~ 5D1 (PAINTED)  
BEARING #1



ONE ~ DIAPHRAGM ~ 5D2 (PAINTED)  
BEARING #1



SECTION A-A



12 ~ DIAPHRAGM ~ 5D3 (PAINTED)  
INTERMEDIATE

NOTES:

- FOR GENERAL NOTES SEE SHEET GN1.
- T2 - DENOTES MATERIAL TO BE CHARPY V-NOTCH TESTED (ZONE 2)

1	06/05/15	PER APPROVAL COMMENTS	EG	YT		
0						
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
MATERIAL:		SURFACE PREP. & PAINT:	HOLES:		SHOP BOLTS:	
A709-50 U.N.		SEE DWG GN1	15/16"Ø		NONE	
DESCRIPTION:		DIAPHRAGMS				
 <b>CASCO BAY STEEL STRUCTURES, INC.</b>  1 WALLACE AVE. PHONE (207) 780-6722 SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726    TENCA 1415						
STRUCTURE:			DRAWN:	DATE:		
REPLACEMENT OF BRIDGE NO. 12 ON TH27 INCLUDING APPROACH ROADWAY AND CHANNEL WORK TOWN OF COLCHESTER, COUNTY OF CHITTENDEN STATE OF VERMONT AGENCY OF TRANSPORTATION			BK	02/24		
			CHKD:	DATE:		
			YT	04/28		
LOCATION: COLCHESTER / CHITTENDEN, VT			JOB NO.	DWG NO.		
PROJ NO. STP 5600(12)			629-1		5	
CUSTOMER: A.L. ST. ONCE					REV.	

Vermont Agency of Transportation

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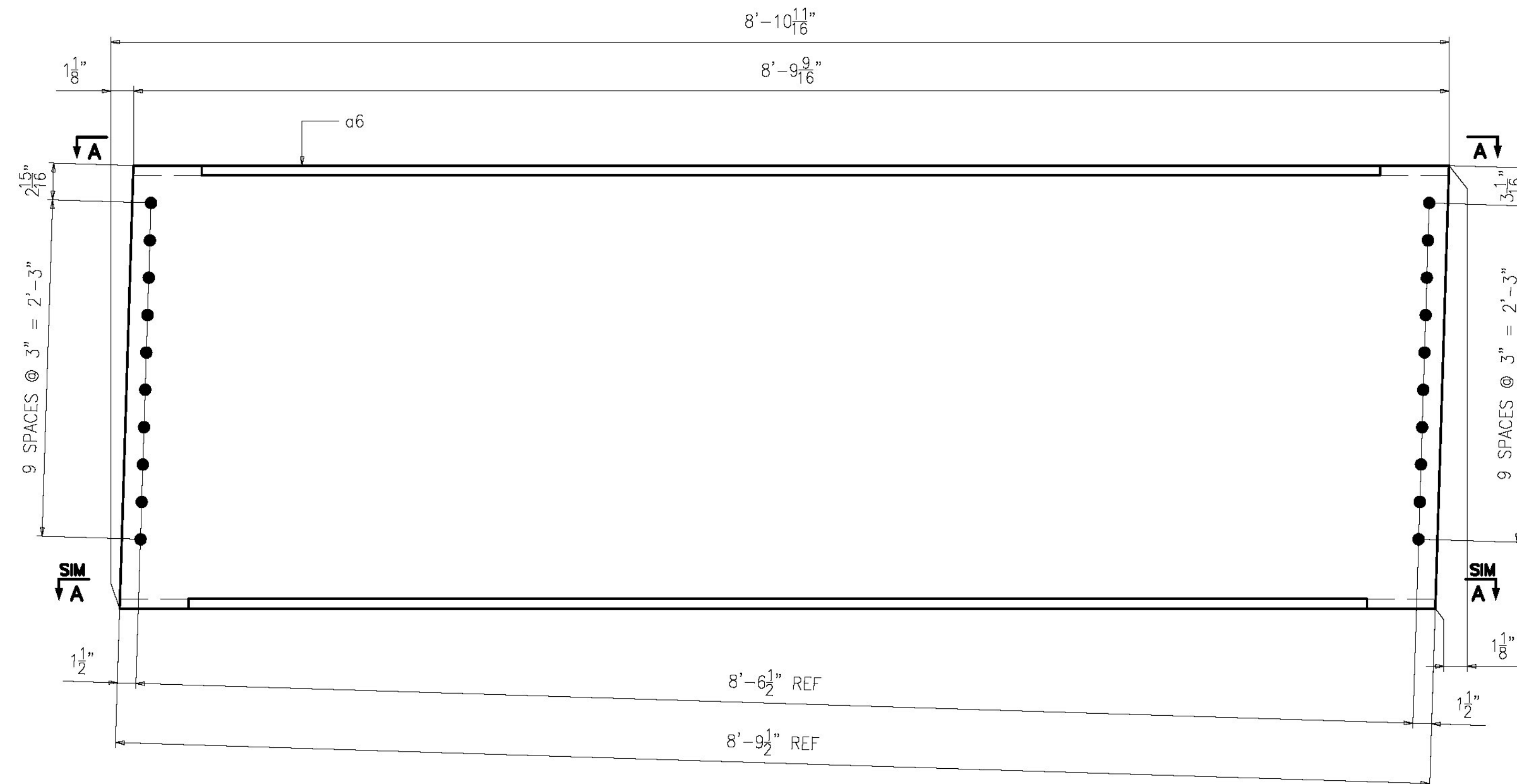
June 10, 2015

RESUBMIT No Approved  
BY Carolyn Carlson DATE 06/11/15

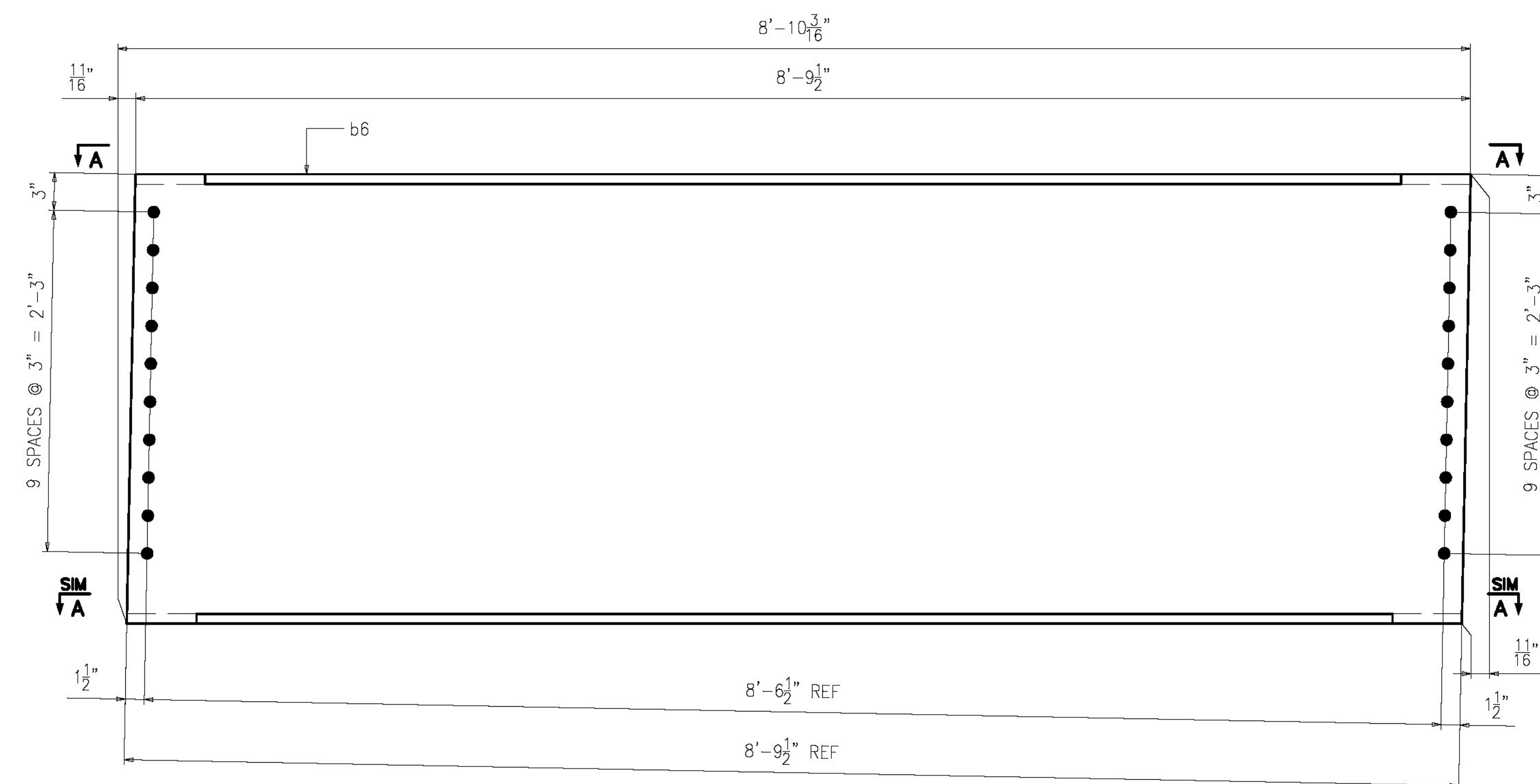
ENGINEERING REVIEW STAMP



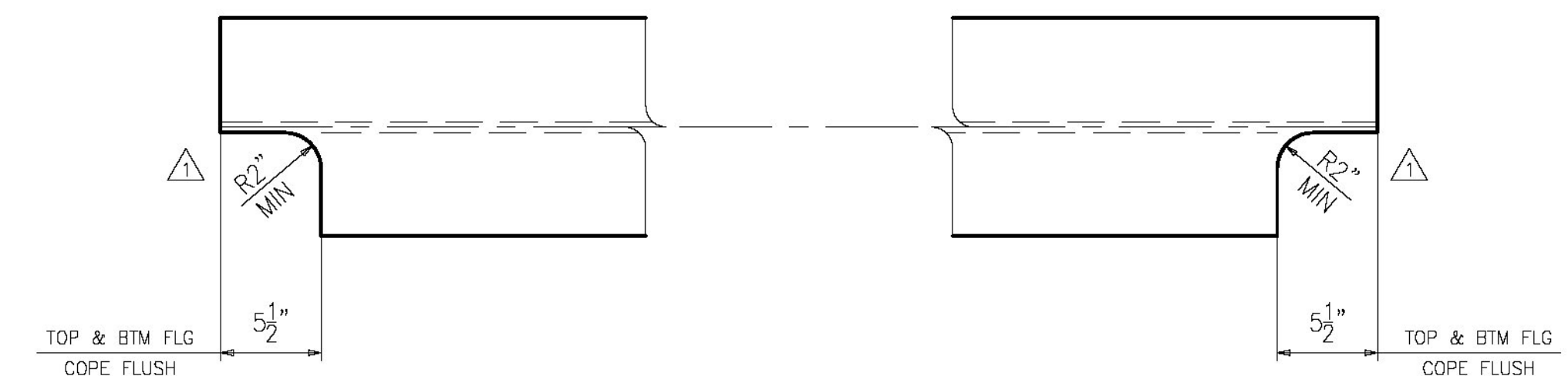
ABM INFO		SHIP		BILL OF MATERIAL				JOB NO.		DRAWING NO.		REV.
								629		5	A	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH		REMARKS		WT	PROCUREMENT NOTES	
						FT	INCHES					
		6D1	2		DIAPHRAGM			PAINTED	2400			
1	R		2	a6	W 36 x 135	8	10 11/16	A709-S0T2	2400			
		6D2	1		DIAPHRAGM			PAINTED	1195			
1	R		1	b6	W 36 x 135	8	10 3/16	A709-S0T2	1195			



2 ~ DIAPHRAGM ~ 6D1 (PAINTED)  
BEARING #2



ONE ~ DIAPHRAGM ~ 6D2 (PAINTED)  
BEARING #2



SECTION A-A

NOTES:

1. FOR GENERAL NOTES SEE SHEET GN1.  
2. T2 - DENOTES MATERIAL TO BE CHARPY V-NOTCH TESTED (ZONE 2)

1	06/05/15	PER APPROVAL COMMENTS	EG	YT		
0						
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
MATERIAL: A709-50 U.N.		SURFACE PREP. & PAINT: SEE DWG GN1		HOLES: 15/16"ø		SHOP BOLTS: NONE
DESCRIPTION: DIAPHRAGMS						
  <b>CASCO BAY STEEL STRUCTURES, INC.</b>   1 WALLACE AVE. SOUTH PORTLAND, ME 04106       PHONE (207) 780-6722 FAX. (207) 780-6726        TENCA 1415						
STRUCTURE: REPLACEMENT OF BRIDGE NO. 12 ON TH27 INCLUDING APPROACH ROADWAY AND CHANNEL WORK TOWN OF COLCHESTER, COUNTY OF CHITTENDEN STATE OF VERMONT AGENCY OF TRANSPORTATION			DRAWN:		DATE:	
			BK		02/24	
			CHKD:		DATE:	
			YT		04/28	
LOCATION: COLCHESTER / CHITTENDEN, VT			JOB NO.		DWG NO.	
PROJ NO. STP 5600(12)					6	
CUSTOMER: A.L. ST. ONGE			629-1		REV. 	

**Vermont Agency of Transportation**

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June 10, 2015

**RESUBMIT** No  
**BY** Carolyn Carlso

**Approved**

**DATE** 06/11/15