

STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT

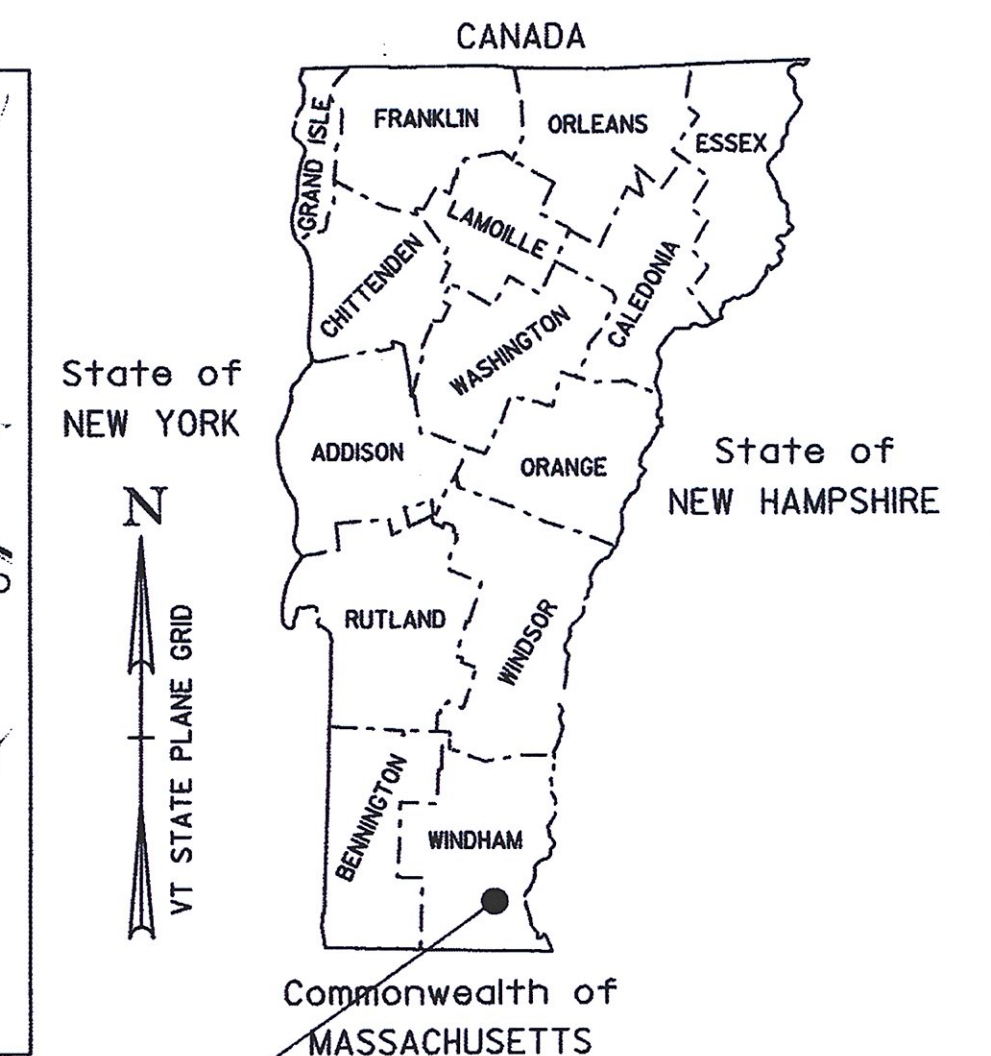
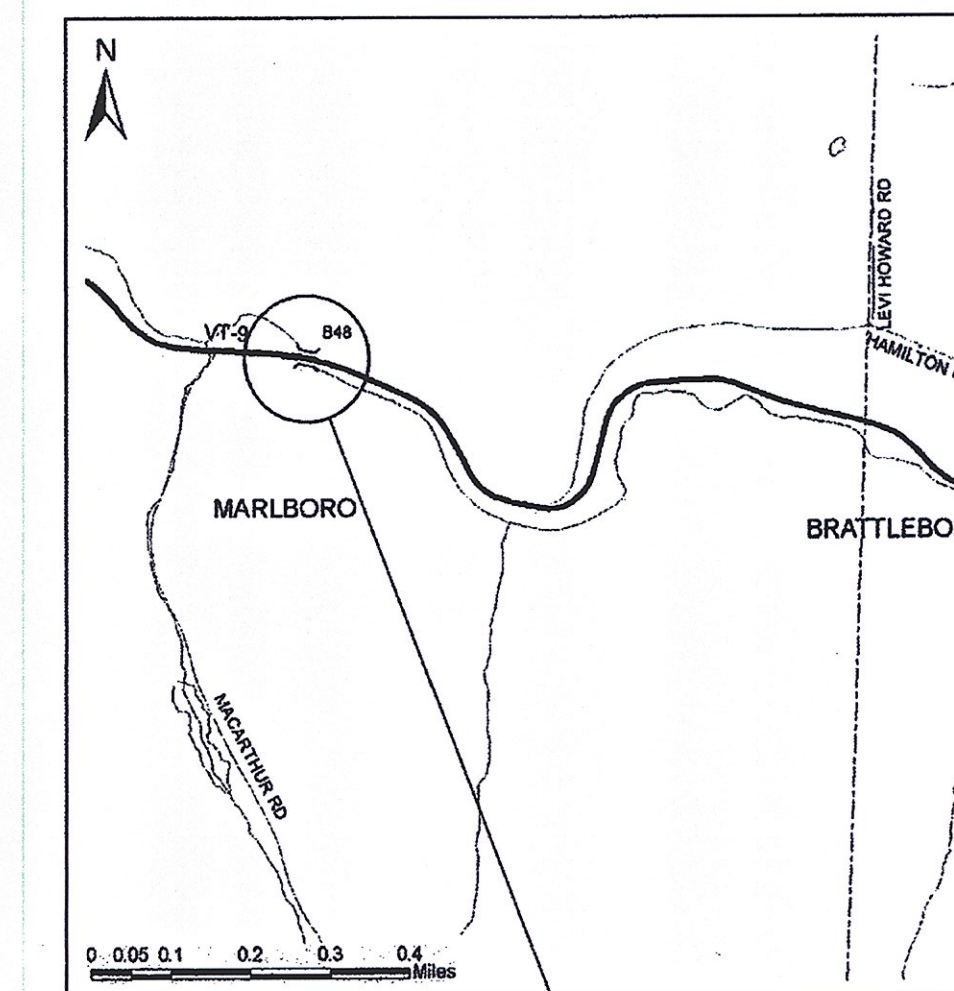
TOWN OF MARLBORO
COUNTY OF WINDHAM

ROUTE NO : VT 9, PRINCIPAL ARTERIAL-NHS BRIDGE NO : 48

PROJECT LOCATION: BEGINNING ON VT RT 9 APPROXIMATELY 0.870 MILES WESTERLY OF THE MARLBORO AND BRATTLEBORO TOWN LINE AND EXTENDING EASTERLY ALONG VT RT 9 FOR 200 FEET.

PROJECT DESCRIPTION: REPLACEMENT OF EXISTING BRIDGE WITH RELATED ROADWAY APPROACH AND CHANNEL WORK.

LENGTH OF STRUCTURE: 81.55 FEET
LENGTH OF ROADWAY: 118.27 ~~118.45~~ FEET
LENGTH OF PROJECT: 200.00 FEET



MARLBORO
BRF 010-1 (43)

RECORD PLANS	
CONTRACTOR:	RENAUD BROTHERS, INC. - VERNON, VT
RESIDENT ENGINEER:	RON LEMAIRE
CONSTRUCTION BEGAN:	APRIL 8, 2014
CONSTRUCTION COMPLETE:	NOVEMBER 6, 2014
RECORD PLANS BY:	RON LEMAIRE & JENNA HYDE
I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.	
BY	RESIDENT ENGINEER
DATE 02/11/2016	
NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.	

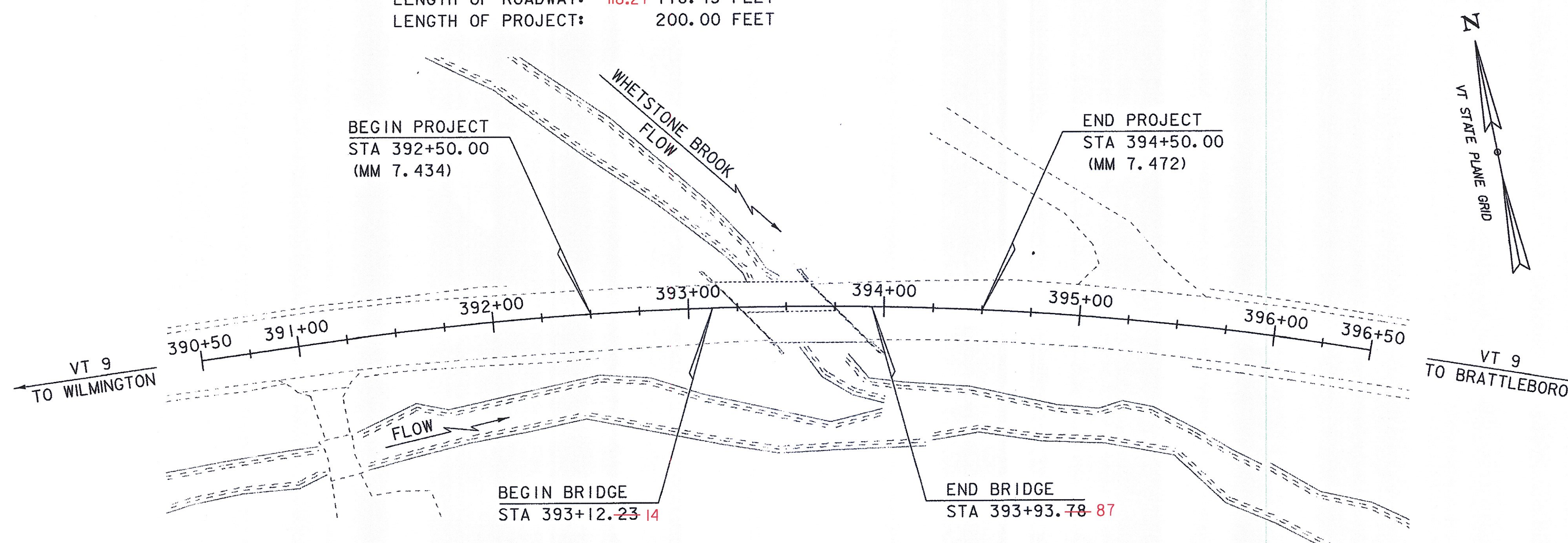
QUALITY ASSURANCE PROGRAM: LEVEL 2

CONVENTIONAL SYMBOLS

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

SURVEYED BY : R. GILMAN
SURVEYED DATE : 6/16/2011

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (96)



SCALE 1" = 40' - 0"
40 0 40

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

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED DATE 8-27-13
PROJECT MANAGER : KRISTIN HIGGINS, P.E.
PROJECT NAME : MARLBORO
PROJECT NUMBER : BRF 010-1 (43)
SHEET 1 OF 50 SHEETS

GENERAL

- 1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE VERMONT AGENCY OF TRANSPORTATION 2011 STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE 2012 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, AND THEIR LATEST REVISIONS.
- 2. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL, AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.
- 3. NO ADJUSTMENTS TO THE BITUMINOUS WEARING SURFACE ON THE BRIDGE SHALL BE MADE TO ACCOUNT FOR THE DIFFERENCE BETWEEN DECK CAMBER AND THE THEORETICAL ROADWAY PROFILE. THE WEARING SURFACE SHALL BE SHIMMED TRANSVERSELY AS NECESSARY TO ACCOUNT FOR POTENTIAL DIFFERENTIAL CAMBER BETWEEN THE DECK CONSTRUCTION PHASES.
- 4. THERE ARE EXISTING AERIAL ELECTRIC AND TELEPHONE LINES THAT RUN PARALLEL TO VT 9 ON BOTH SIDES OF THE PROJECT THAT WILL BE MOVED TO THE NORTHERN SIDE. THE CONTRACTOR SHALL WORK AROUND AND PROTECT THESE LINES. SEE UTILITY SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

TRAFFIC CONTROL

- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING THE TRAFFIC CONTROL PACKAGE IDENTIFYING THE CONSTRUCTION PROJECT BEFORE, DURING, AND AFTER THE EXISTING TRAFFIC PATTERN IS ALTERED. THE CONTRACTOR SHALL SUBMIT A DETAILED TRAFFIC CONTROL PLAN TO THE RESIDENT ENGINEER FOR ALL STAGES OF CONSTRUCTION, FOR APPROVAL PER SUBSECTION 105.03. ALL COSTS SHALL BE INCLUDED IN ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)". SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.
- 6. ALL SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MUTCD. WHERE CONFLICTS EXIST, THE MUTCD SHALL GOVERN. FOR ADDITIONAL SIGNING INSTRUCTIONS SEE THE E SERIES OF THE STANDARDS.
- 7. ALL ITEMS REQUIRED TO IMPLEMENT THE CONTRACTOR'S TRAFFIC CONTROL PLAN WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED INCLUDED IN THE BID PRICE FOR ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".
- 8. AT LEAST ONE PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) SHALL BE POSITIONED IN ADVANCE OF EACH APPROACH TO THE WORK ZONE ADVISING OF THE ACTIVITY AHEAD.

EARTHWORK

- 9. REMOVAL OF THE EXISTING STRUCTURE SHALL BE PAID FOR UNDER ITEM 529.15, "REMOVAL OF STRUCTURE". THIS WORK SHALL INCLUDE REMOVAL OF ANY PORTIONS OF THE EXISTING ABUTMENTS THAT FALL OUTSIDE THE LIMITS OF STRUCTURE EXCAVATION OR UNCLASSIFIED CHANNEL EXCAVATION.
- 10. THE "STONE FILL, TYPE III" UNDER THE BRIDGE AS SHOWN IN THE PLANS SHALL BE PLACED BEFORE THE GIRDERS ARE SET.

CONCRETE

- 11. TEST BARS SHALL BE PROVIDED IN ACCORDANCE WITH THE "VERMONT AGENCY OF TRANSPORTATION MATERIAL SAMPLING MANUAL" AVAILABLE ON THE AGENCY WEBSITE. A MINIMUM OF TWO TEST SECTIONS ARE REQUIRED FOR EACH SIZE, BRAND, AND GRADE OR TYPE OF REINFORCING. SEE THE MANUAL FOR ACCEPTABLE DIMENSIONS OF TEST SECTIONS.
- 12. TIE WIRES AND CHAIRS FOR REINFORCEMENT SHALL BE COMPOSED OF THE SAME MATERIAL AS ANY STEEL BEING CONTACTED OR SHALL BE PLASTIC.
- 13. ITEM 514.10, "WATER REPELLENT, SILANE", SHALL BE APPLIED TO ALL EXPOSED CONCRETE ON THE BRIDGE SUPERSTRUCTURE AND SUBSTRUCTURE, WITH THE EXCEPTION OF THE BOTTOM OF THE DECK BETWEEN THE DRIP NOTCHES.
- 14. THE DECK, CURBS, AND ABUTMENTS & WINGWALLS ABOVE THE BRIDGE SEAT SHALL BE CONCRETE, HIGH PERFORMANCE CLASS A. THE APPROACH SLABS AND ABUTMENTS & WINGWALLS BELOW THE BRIDGE SEAT SHALL BE CONCRETE, HIGH PERFORMANCE CLASS B.
- 15. CONCRETE FOR THE DECK CLOSURE POUR SHALL MEET THE REQUIREMENTS OF ITEM 900.608, "SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET)".
- 16. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1 INCH X 1 INCH.
- 17. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "CONCRETE REINFORCING STEEL INSTITUTE".
- 18. FORMWORK FOR SURFACES THAT WILL BE IN CONTACT WITH DECK CLOSURE POUR SHALL BE TREATED WITH CONCRETE SURFACE RETARDER, OR SIMILAR, TO PROVIDE A ROUGHENED SURFACE; AND POWER WASHED WITH WATER PRIOR TO PLACEMENT OF CLOSURE POUR CONCRETE.
- 19. CONCRETE PORTIONS OF THE ABUTMENTS AND WINGWALLS ABOVE THE BRIDGE SEAT SHALL NOT BE PLACED UNTIL FINISH GRADES HAVE BEEN DETERMINED BY THE RESIDENT ENGINEER.
- 20. IN ACCORDANCE WITH SUBSECTION 506.23(A) AND AS DIRECTED BY THE RESIDENT ENGINEER, THE CONTRACTOR SHALL TAKE MEASURES NECESSARY TO PROTECT ALL SUBSTRUCTURE CONCRETE FROM STAINING DUE TO OXIDE FORMATION ON THE STRUCTURAL STEEL PRIOR TO PLACEMENT OF THE DECK. THESE MEASURES WILL NOT BE PAID FOR SEPERATELY BUT SHALL BE CONSIDERED INCIDENTAL TO ITEM 501.34, "CONCRETE, HIGH PERFORMANCE CLASS B". ANY SUCH STAINING THAT OCCURS PRIOR TO DECK PLACEMENT SHALL BE REMOVED AT NO ADDITIONAL COST TO THE STATE.
- 21. THE DECK IS TO BE POURED IN ONE CONTINUOUS POUR WITH A MAXIMUM DURATION OF EIGHT HOURS FOR EACH PHASE OF CONSTRUCTION. 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.
- 22. ALL REINFORCING STEEL IN THE DECK, CURBS, AND ABUTMENTS & WINGWALLS ABOVE THE BRIDGE SEAT SHALL MEET THE REQUIREMENTS FOR LEVEL III CORROSION RESISTANCE IN ACCORDANCE WITH SECTION 507. BARS DENOTED WITH A ".3" INDICATE LEVEL III CORROSION RESISTANCE.

- 23. REINFORCING STEEL IN THE APPROACH SLABS AND ABUTMENTS & WINGWALLS BELOW THE BRIDGE SEAT SHALL MEET THE REQUIREMENTS FOR LEVEL I CORROSION RESISTANCE IN ACCORDANCE WITH SECTION 507.

STRUCTURAL STEEL

- 24. STRUCTURAL STEEL MEMBERS DESIGNATED "CVN" IN THE PLANS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH SUBSECTION 714.01.
- 25. ANY HOLES IN THE WEBS OF FASCIA GIRDERS NOT OTHERWISE FILLED SHALL BE FILLED WITH BUTTON HEAD BOLTS. THESE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.19.
- 26. ANY CONNECTIONS NOT DETAILED ON THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE PROJECT MANAGER FOR APPROVAL.
- 27. ALL WELDING SHALL CONFORM TO THE PROVISIONS OF SUBSECTION 506.10.
- 28. ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER HIGH STRENGTH BOLTS IN 15/16" DIAMETER HOLES, PER SECTION 506 UNLESS OTHERWISE NOTED.
- 29. FLEMING BRACKETS OR SIMILAR FALSE WORK 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 WEB.
- 30. 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 FINISHED GRADE.
- 31. GIRDER WEBS AND CROSS FRAMES SHALL BE PLUMB IN FINAL POSITION.
- 32. ALL BOLTS SHALL BE TENSIONED BY THE DIRECT TENSION INDICATOR METHOD IN ACCORDANCE WITH SUBSECTION 506.19.

H-PILES

- 33. THE PILE LOCATIONS SHALL BE PRE-EXCAVATED WITH A MINIMUM PENETRATION OF 3 FEET INTO COMPETENT BEDROCK. THE MINIMUM REQUIRED PILE LENGTH IS 10 FEET. IF COMPETENT BEDROCK IS ENCOUNTERED SHALLOWER THAN 7 FEET BELOW THE BOTTOM OF THE PILE CAP, PRE-EXCAVATION TO A MINIMUM DEPTH OF 10 FEET BELOW THE PILE CAP IS REQUIRED.
- 34. ALL PRE-EXCAVATED HOLES SHALL BE 20 INCHES IN DIAMETER. THE ENTIRE PRE-EXCAVATED HOLE SHALL BE BACKFILLED WITH SAND AFTER THE PILE IS SET. SAND SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 703.03. REFER TO THE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.
- 35. FOR ESTIMATING PURPOSES, THE PILE TIP ELEVATIONS WERE ASSUMED AS SHOWN ON THE BORING LOGS. THE ACTUAL IN PLACE LENGTHS MAY VARY.
- 36. THE TOPS OF THE PILES AFTER BACKFILLING WITH SAND SHALL NOT VARY FROM THE POSITION SHOWN ON THE PLANS BY MORE THAN 3 INCHES. THE PILE ORIENTATION SHALL NOT VARY BY MORE THAN 5 DEGREES. THE CONTRACTOR SHALL DEMONSTRATE TO THE SATISFACTION OF THE ENGINEER HOW THE TOLERANCES WILL BE MET. THESE MEASURES SHALL BE DEMONSTRATED IN A SUBMITTAL TO BE ACCEPTED BEFORE PILE PLACEMENT COMMENCES.
- 37. PRE-EXCAVATION IS REQUIRED AT ALL PILE LOCATIONS. PAYMENT SHALL BE PAID FOR UNDER ITEM 900.640, "SPECIAL PROVISION (PRE-EXCAVATION OF INTEGRAL ABUTMENTS PILES, EARTH)" OR ITEM 900.640, "SPECIAL PROVISION (PRE-EXCAVATION OF INTEGRAL ABUTMENTS PILES, ROCK)".

MISCELLANEOUS

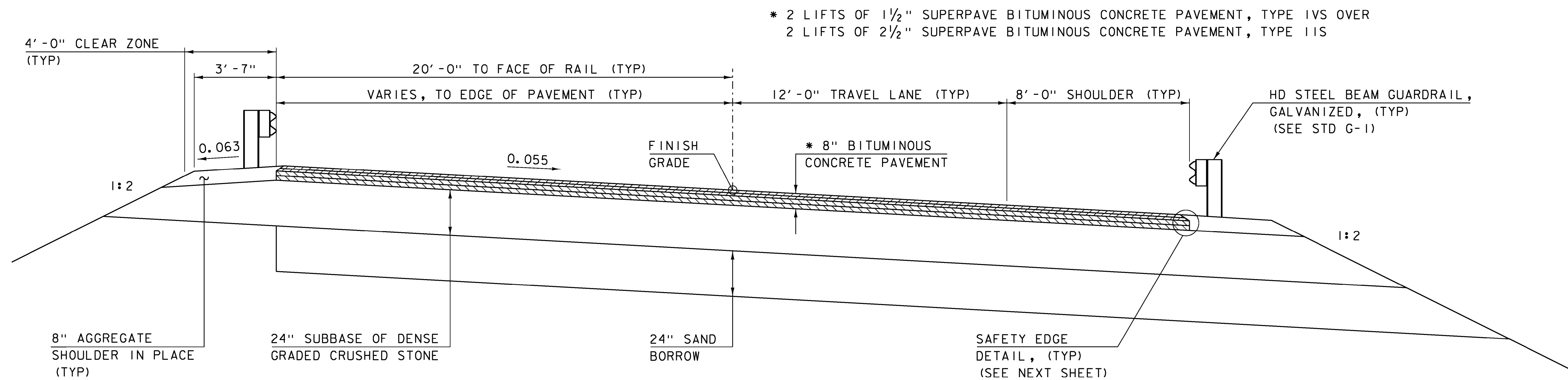
- 38. ITEM 520.10, "MEMBRANE WATERPROOFING, SPRAY APPLIED" SHALL BE APPLIED TO THE BRIDGE DECK AS PER THE MANUFACTURER'S INSTRUCTIONS AND EXTEND ONTO THE APPROACH SLABS TWO FEET BEYOND THE BEGIN BRIDGE/END OF BRIDGE. IF TRAFFIC WILL BE DRIVING DIRECTLY ON THE MEMBRANE SURFACE, AN AGGREGATE WEARING SURFACE SHALL BE ADHERED TO THE TOP MEMBRANE COAT PER THE SPECIFICATIONS.
- 39. EXISTING CONDITIONS SHEET HAS BEEN INCLUDED FOR THE CONTRACTOR TO USE FOR SUBMITTALS.

△ -SHEET REVISED 5/7/2014.
REPLACES SHEET 3 IN CONTRACT PLANS.

PROJECT NAME: MARLBORO	
PROJECT NUMBER: BRF 010-I (43)	
FILE NAME: sl0414gen.dgn	PLOT DATE: 07-MAY-2014
PROJECT LEADER: K. HIGGINS	DRAWN BY: K. FRIEDLAND
DESIGNED BY: R. KLINEFELTER	CHECKED BY: J. SALVATORI
GENERAL NOTES	SHEET 3 OF 50

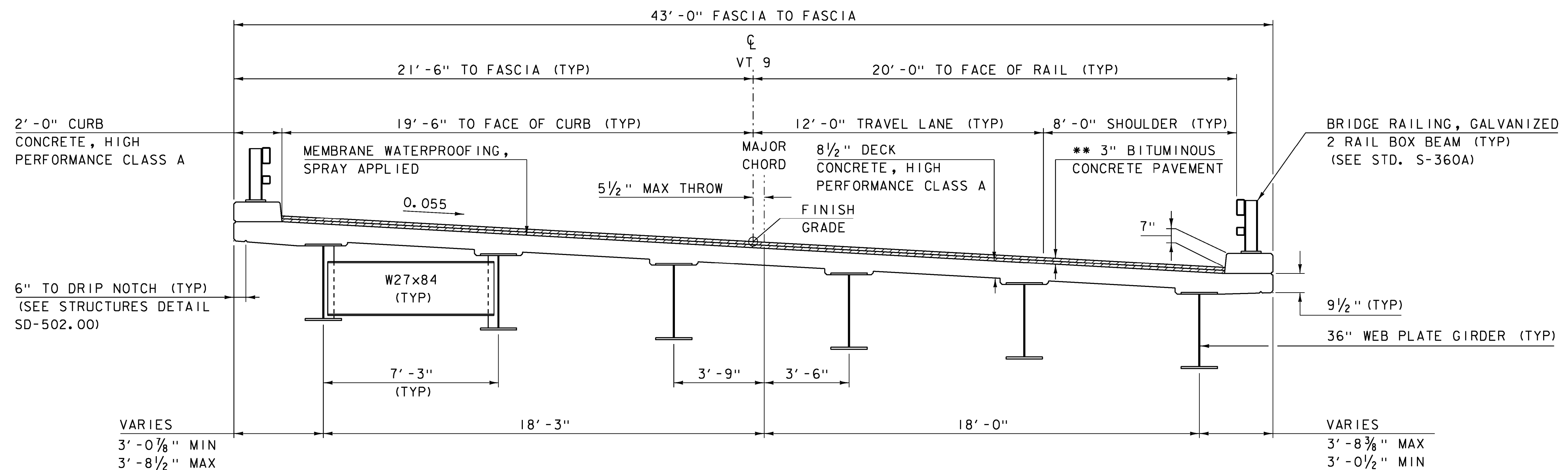
STATE OF VERMONT AGENCY OF TRANSPORTATION														QUANTITY SHEET 1													
SUMMARY OF ESTIMATED QUANTITIES														TOTALS		DESCRIPTIONS								DETAILED SUMMARY OF QUANTITIES			
									ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS		GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND		QUANTITIES	UNIT	ITEMS				
									1					1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10									
									1300					1300		CY	COMMON EXCAVATION	203.15				1300	CY	COMMON EXCAVATION (1300*1.0)			
											1700			1700		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27				1275	CY	UNCLASSIFIED CHANNEL EXCAVATION (1700*0.75)			
									200					200		CY	SAND BORROW	203.31				412.5	CY	STRUCTURE EXCAVATION (550*0.75)			
									1					1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22				2987.5	CY	SUB TOTAL			
											550			550		CY	STRUCTURE EXCAVATION	204.25				12	CY	ROUNDING			
											325			325		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30				3000	CY	TOTAL FILL AVAILABLE			
									450					450		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10				25	CY	TOTAL FILL REQUIRED			
									850					850		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35				2975	CY	TOTAL WASTE			
									50					50		CY	AGGREGATE SHOULDERS, IN PLACE	402.10									
									8					8		CWT	EMULSIFIED ASPHALT	404.65									
									1					1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50				195	TON	TYPE IIS			
											1			154		CY	CONCRETE, HIGH PERFORMANCE CLASS A (FPQ)	501.33				275	TON	TYPE I/VS			
														-1		LS	SHORING SUPERSTRUCTURE	502.10				470	TON	TOTAL SUPERPAVE			
														209		CY	CONCRETE, HIGH PERFORMANCE CLASS B (FPQ)	501.34									
											156			156		LF	STEEL PILING, HP 10 X 57	505.12									
														101,000		LB	STRUCTURAL STEEL, PLATE GRINDER (FPQ)	506.55									
											500			500		LB	REINFORCING STEEL, LEVEL II	507.12									
														13,393		LB	REINFORCING STEEL, LEVEL I (FPQ)	507.11									
														-1500		LB	REINFORCING STEEL, LEVEL III	507.13									
														-1500													
											15			15		GAL	WATER REPELLENT, SILANE	514.10									
											81			81		LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10									
											371			371		SY	MEMBRANE WATERPROOFING, SPRAY APPLIED	520.10									
											81			81		LF	JOINT SEALER, HOT POURED	524.11									
											168			168		LF	BRIDGE RAILING, GALVANIZED 2 RAIL BOX BEAM	525.33									
														1		LS	TWO-WAY TEMPORARY BRIDGE (ACT)	528.11									
											1			1		EACH	REMOVAL OF STRUCTURE (1,500 SF - EST)	529.15									
														24		EACH	BEARING DEVICE ASSEMBLY, PLAIN ELASTOMERIC PAD	531.16									
														12		EACH	BEARING DEVICE, STEEL REINFORCED ELASTOMERIC PAD	531.17									
											1			-1		LS	PRECAST CONCRETE STRUCTURE (ABUTMENT #1)	540.10									
											1			-1		LS	PRECAST CONCRETE STRUCTURE (ABUTMENT #2)	540.10									
											1			-1		LS	PRECAST CONCRETE STRUCTURE (APPROACH SLAB #1)	540.10									
											1			-1		LS	PRECAST CONCRETE STRUCTURE (APPROACH SLAB #2)	540.10									
										1				1		MGAL	DUST CONTROL WITH WATER	609.10									
											1150			1150		CY	STONE FILL, TYPE III	613.12									
																	BEGIN OPTION AA										
									160					160		LF	PRECAST REINFORCED CONCRETE CURB, TYPE B	616.26									
									160					160		LF	CAST-IN-PLACE CONCRETE CURB, TYPE B	616.28									
																	END OPTION AA										
									4					4		EACH	YIELDING MARKER POSTS	619.17									
									200					200		LF	HD STEEL BEAM GUARDRAIL, GALVANIZED	621.21									
									4					4		EACH	MANUFACTURED TERMINAL SECTION, TANGENT	621.51									
									4					4		EACH	GUARDRAIL APPROACH SECTION, GALVANIZED 2 RAIL BOX BEAM	621.72									
									487.5					487.5		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80									
									200					200		HR	UNIFORMED TRAFFIC OFFICERS	630.10									
									1000					1000		HR	FLAGGERS	630.15									

STATE OF VERMONT AGENCY OF TRANSPORTATION														QUANTITY SHEET 2									
SUMMARY OF ESTIMATED QUANTITIES														TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES			
										ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS	
													1	1		LS	FIELD OFFICE, ENGINEERS	631.10					
													1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16					
													1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17					
													3000	3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26					
										1				1		LS	MOBILIZATION/DEMOBILIZATION	635.11					
										850				850		LF	4 INCH WHITE LINE	646.20					
										850				850		LF	4 INCH YELLOW LINE	646.21					
												1400		1400		SY	GEOTEXTILE UNDER STONE FILL	649.31					
											185			185		SY	GEOTEXTILE FOR SILT FENCE	649.51					
											225			225		SY	GEOTEXTILE FOR FILTER CURTAIN	649.61					
											5			5		LB	SEED	651.15					
											5			5		LB	SEED, WINTER RYE	651.17					
											40			40		LB	FERTILIZER	651.18					
											1			1		TON	AGRICULTURAL LIMESTONE	651.20					
											1			1		TON	HAY MULCH	651.25					
											70			70		CY	TOPSOIL	651.35					
												775		775		SY	GRUBBING MATERIAL	651.40					
											1			1		LS	EPSC PLAN	652.10					
											40			40		HR	MONITORING EPSC PLAN	652.20					
											1			1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30					
											400			400		SY	TEMPORARY EROSION MATTING	653.20					
											90			90		CY	VEHICLE TRACKING PAD	653.35					
											600			600		LF	PROJECT DEMARCATION FENCE	653.55					
										0.66				0.66		SF	TRAFFIC SIGNS, TYPE A	675.20					
										89				89		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341					
										6				6		EACH	REMOVING SIGNS	675.50					
										4				4		EACH	ERECTING SALVAGED SIGNS	675.60					
												-27 31		-27 31		CY	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET)(FPQ)	900.608					
											40			40		LF	SPECIAL PROVISION (PRE-EXCAVATION OF INTEGRAL ABUTMENT PILES, EARTH)	900.640					
												110		110		LF	SPECIAL PROVISION (PRE-EXCAVATION OF INTEGRAL ABUTMENT PILES, ROCK)	900.640					
											1			1		LS	SPECIAL PROVISION (CPM SCHEDULE)	900.645					
											1			1 0		LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL INCLUSIVE)	900.645					
											1			1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY)(N.A.B.I.)	900.650					
													1	1		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT)(N.A.B.I.)	900.650					
												382		382 0		SY	SPECIAL PROVISION (PREFABRICATED BRIDGE UNIT SUPERSTRUCTURE)	900.675					
										470				470		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680					
														1		LS	SUPPLEMENTAL AGREEMENT (900.645 SPECIAL PROVISIONS (TRAFFIC CONTROL, ALL INCLUSIVE))	900.545					
														1		LU	SUPPLEMENTAL AGREEMENT (VAOT ENGINEERING)						



ROADWAY TYPICAL SECTION

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



BRIDGE TYPICAL SECTION

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

△ - REVISED 4/8/2014.
REPLACES SHEET 6 IN CONTRACT PLANS.

MATERIAL TOLERANCES

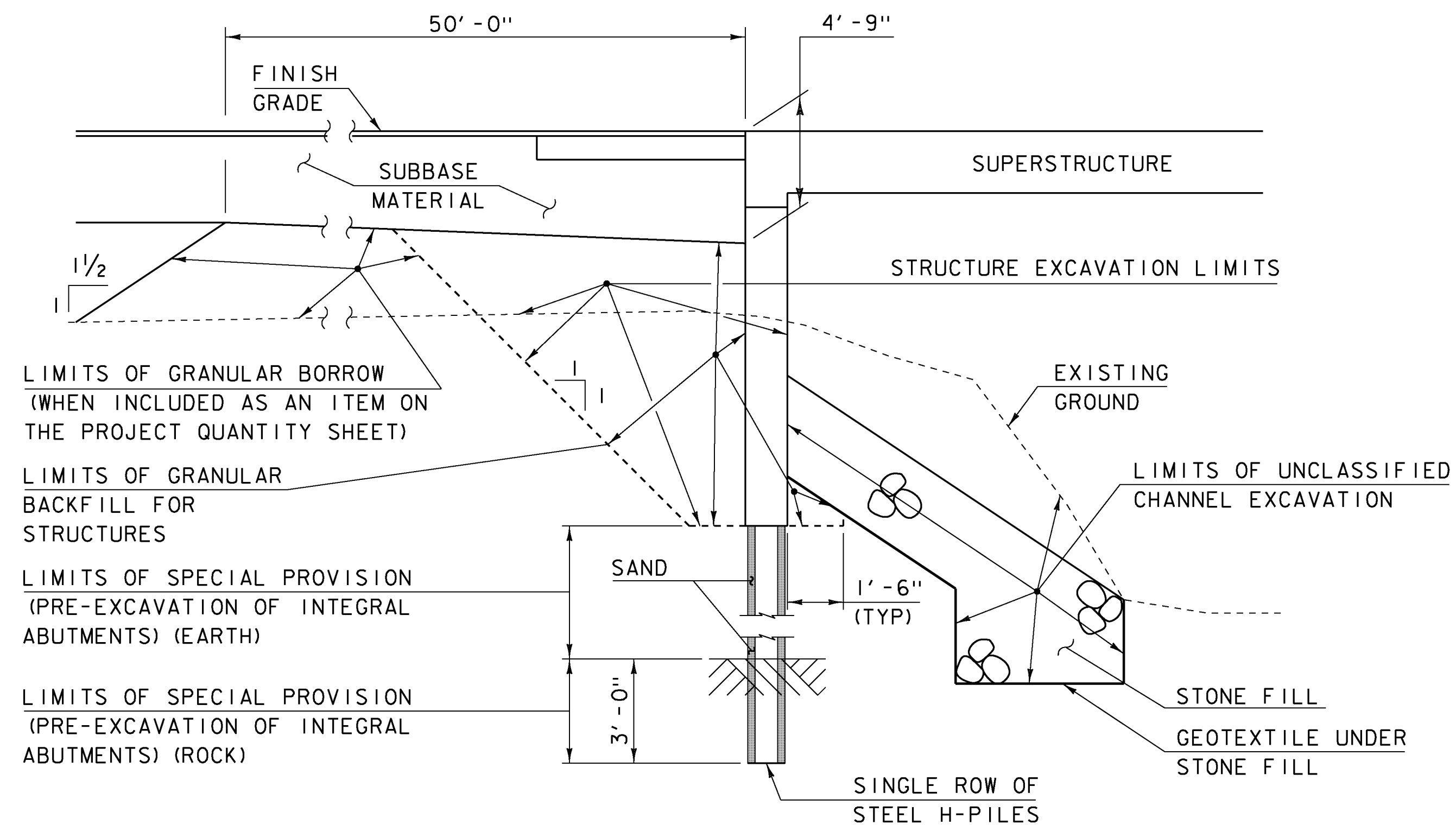
(IF USED ON PROJECT)

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

PROJECT NAME: MARLBORO
PROJECT NUMBER: BRF 010-1 (43)

FILE NAME: sl0b4l4typ.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: R. KLINEFELTER
TYPICAL SECTIONS 1

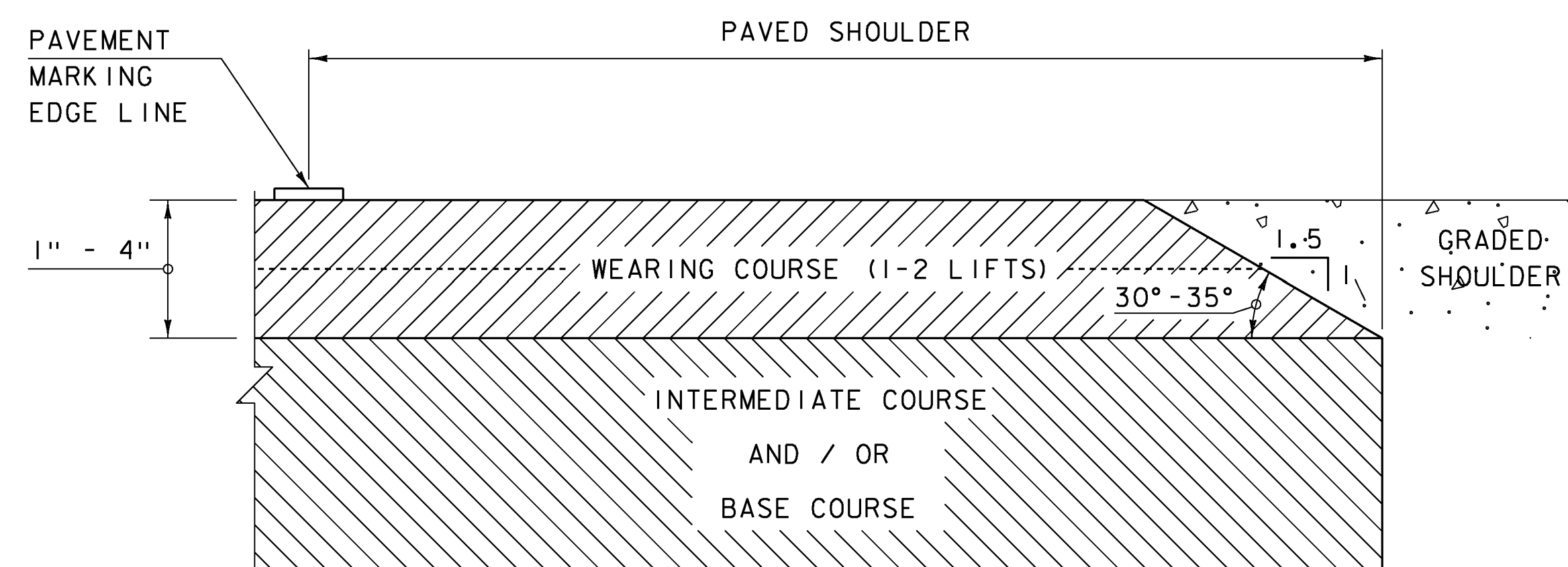
PLOT DATE: 08-APR-2014
DRAWN BY: K. FRIEDLAND
CHECKED BY: J. SALVATORI
SHEET 6 OF 50



TYPICAL INTEGRAL ABUTMENT SECTION

NOT TO SCALE

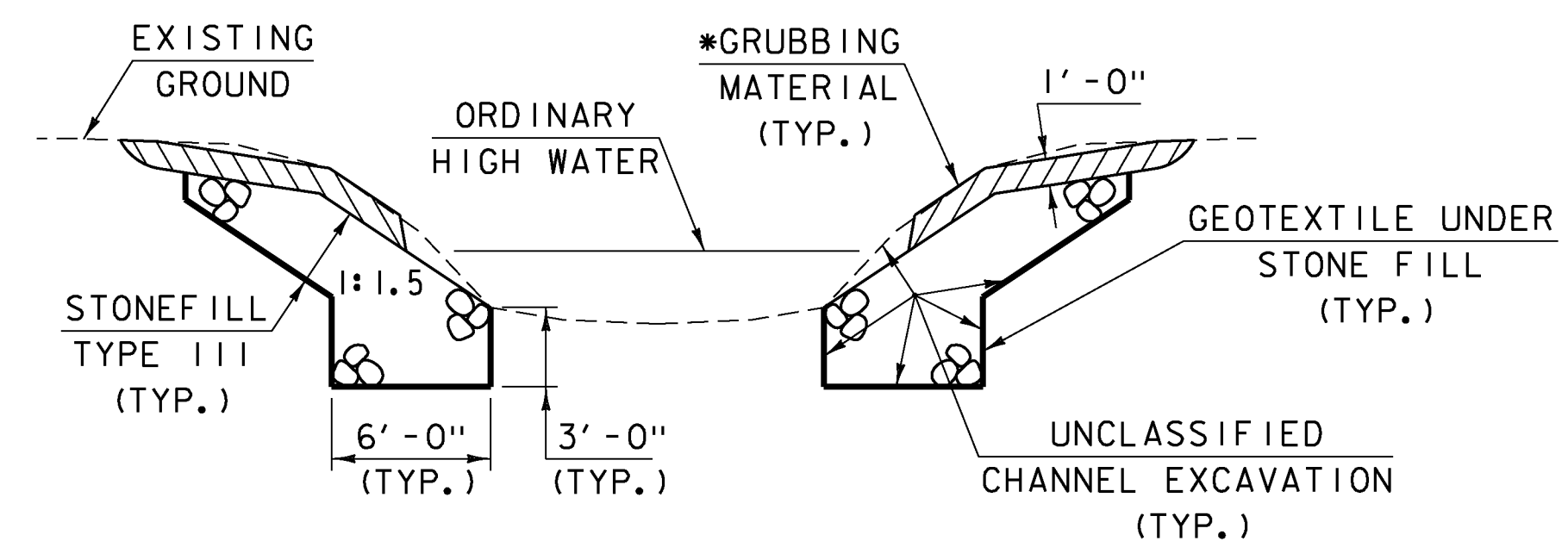
ACTUAL LIMITS OF STRUCTURE EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR. HOWEVER, ONLY THE EXCAVATION BETWEEN THE LIMITS SHOWN WILL BE PAID FOR UNDER THE ITEM 204.25 "STRUCTURE EXCAVATION". EXCAVATION BY THE CONTRACTOR OUTSIDE OF THESE LIMITS WILL BE AT THE EXPENSE OF THE CONTRACTOR.



SAFETY EDGE DETAIL

NOT TO SCALE

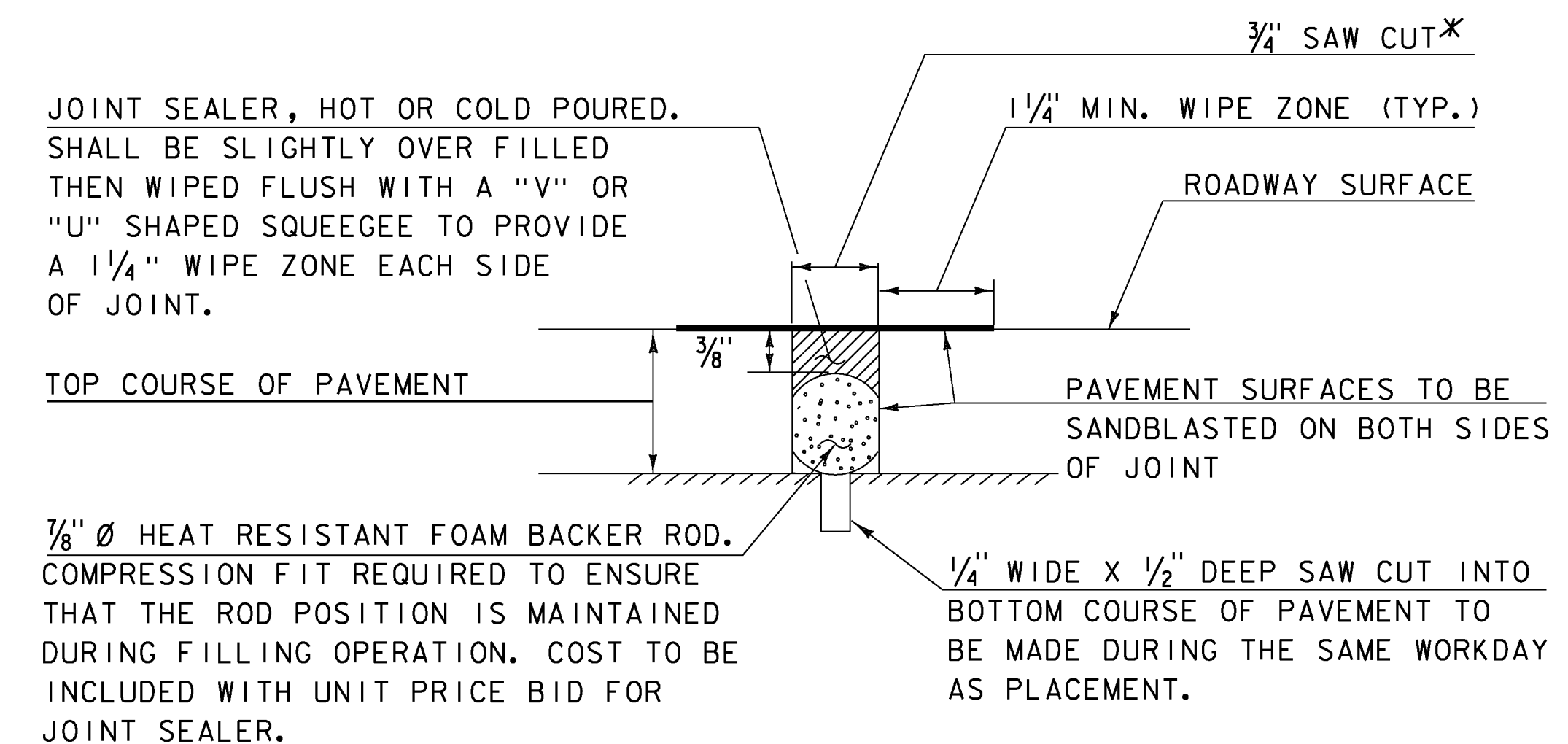
NOTE: LEVELING COURSE MAY INCLUDE THE "SAFETY EDGE" AT THE CONTRACTOR'S CHOICE.



CHANNEL TYPICAL SECTION

NOT TO SCALE

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



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.

PROJECT NAME: MARLBORO
PROJECT NUMBER: BR 010-1 (43)

FILE NAME: slOb414typ.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: R. KLINEFELTER
TYPICAL SECTIONS 2

PLOT DATE: 28-AUG-2013
DRAWN BY: K. FRIEDLAND
CHECKED BY: G. LAROCHE
SHEET 7 OF 50

SYMBOLGY LEGEND NOTE

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

☐	BNDNS	BOUND SET
☐	BNDNS	BOUND TO BE SET
☐	IPNS	IRON PIN SET
☐	IPNS	IRON PIN TO BE SET
☒	CALC	CALCULATED ROW POINT
DISTANCE		DISTANCE CARRIED ON NEXT SHEET

POINT	CODE	DESCRIPTION
-------	------	-------------

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

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 RADIUS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE

UNDERGROUND UTILITIES

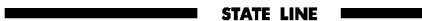
ABOVE GROUND UTILITIES (AERIAL)

PROJECT CONSTRUCTION SYMBOLOGY

— -- —CZ— -- — CLEAR ZONE
 _____ PLAN LAYOUT MATCHLINE

	TOP OF CUT SLOPE
	TOE OF FILL SLOPE
	STONE FILL
	BOTTOM OF DITCH ☉
	CULVERT PROPOSED
	STRUCTURE SUBSURFACE
	PROJECT DEMARCATION FENCE
	BARRIER FENCE
	TREE PROTECTION ZONE (TPZ)
	STRIPING LINE REMOVAL
	SHEET PILES

BOUNDARY LINES

	TOWN LINE	TOWN BOUNDARY LINE
	COUNTY LINE	COUNTY BOUNDARY LINE
	STATE LINE	STATE BOUNDARY LINE
		PROPOSED STATE R.O.W. (LIMITED ACCESS)
		PROPOSED STATE R.O.W.
		STATE ROW (LIMITED ACCESS)
		STATE ROW
		TOWN ROW
		PERMANENT EASEMENT LINE (P)
		TEMPORARY EASEMENT LINE (T)
		SURVEY LINE
		PROPERTY LINE (P/L)
		
		
		
		
		

EPSC MEASURES

ENVIRONMENTAL RESOURCES

ARCHEOLOGICAL & HISTORIC

CONVENTIONAL TOPOGRAPHIC SYMBOLOLOGY

	ROAD EDGE PAVEMENT
	ROAD EDGE GRAVEL
	DRIVEWAY EDGE
	DITCH
	FOUNDATION
	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:	MARLBORO
PROJECT NUMBER:	BRF OIO-1 (43)
FILE NAME: si0b414Legend.dgn	PLOT DATE: 28-AUG-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: K. FRIEDLAND
DESIGNED BY: R. KLINEFELTER	CHECKED BY: J. SALVATORI
LEGEND SHEET	SHEET 8 OF 50

GPS CONTROL POINTS

HVCTRL #1

" D 14 RESET "

N = 138636.34
E = 1587856.07
ELEV. = 1360.39

TO REACH FROM THE EAST END OF THE VT ROUTE 9 BRIDGE OVER I-91 IN BRATTLEBORO GO WEST ALONG VT ROUTE 9 FOR 6.8 MI (10.9 KM) TO THE INTERSECTION OF ASPEN DRIVE OR WOLF ROAD RIGHT AND MCARTHUR ROAD LEFT. TURN RIGHT AND GO NORTH ALONG ASPEN DRIVE FOR 0.15 MI (0.24 KM) TO MR ESAUS 2 STORY WOOD FRAME HOUSE AND SITE OF MARK ON LEFT. THE MARK IS SET IN THE TOP OF A 4.8 M (15.7 FT) X 1.0 M (3.3 FT) ROCK OUTCROP WHICH PROJECTS 0.5 M (1.6 FT) ABOVE GROUND SURFACE IN A FLOWER BED. IT IS 26.8 M (87.9 FT) WEST OF AND ABOUT 2 M (6.6 FT) HIGHER THAN THE CENTERLINE OF ASPEN DRIVE, 7.1 M (23.3 FT) WEST OF THE CENTERLINE OF GRAVEL DRIVE TO THE HOUSE, 26.3 M (86.3 FT) SOUTH OF THE SOUTHEAST CORNER OF THE HOUSE, AND 4.4 M (14.4 FT) NORTHEAST OF THE NORTHEAST CORNER OF A GARAGE.

HVCTRL #8

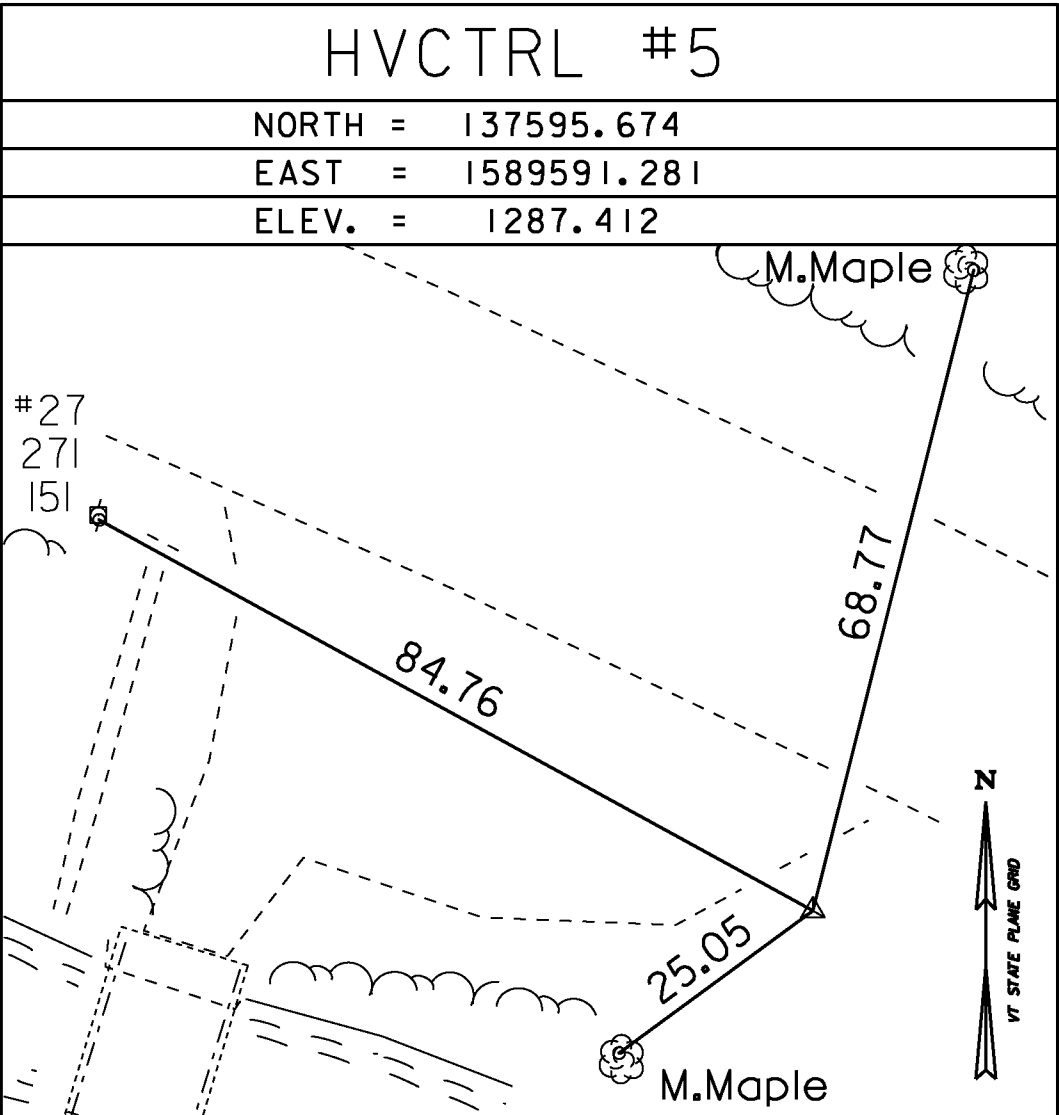
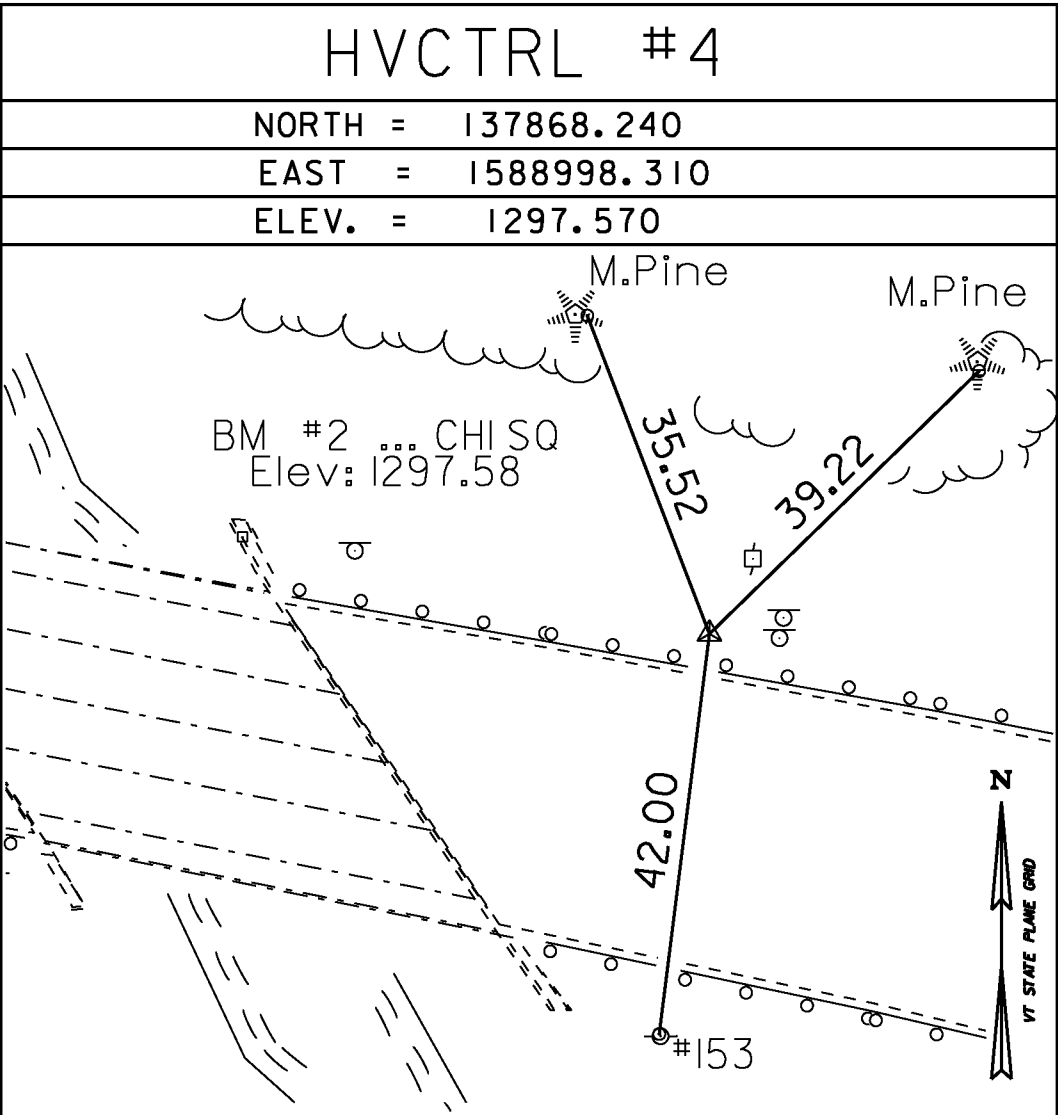
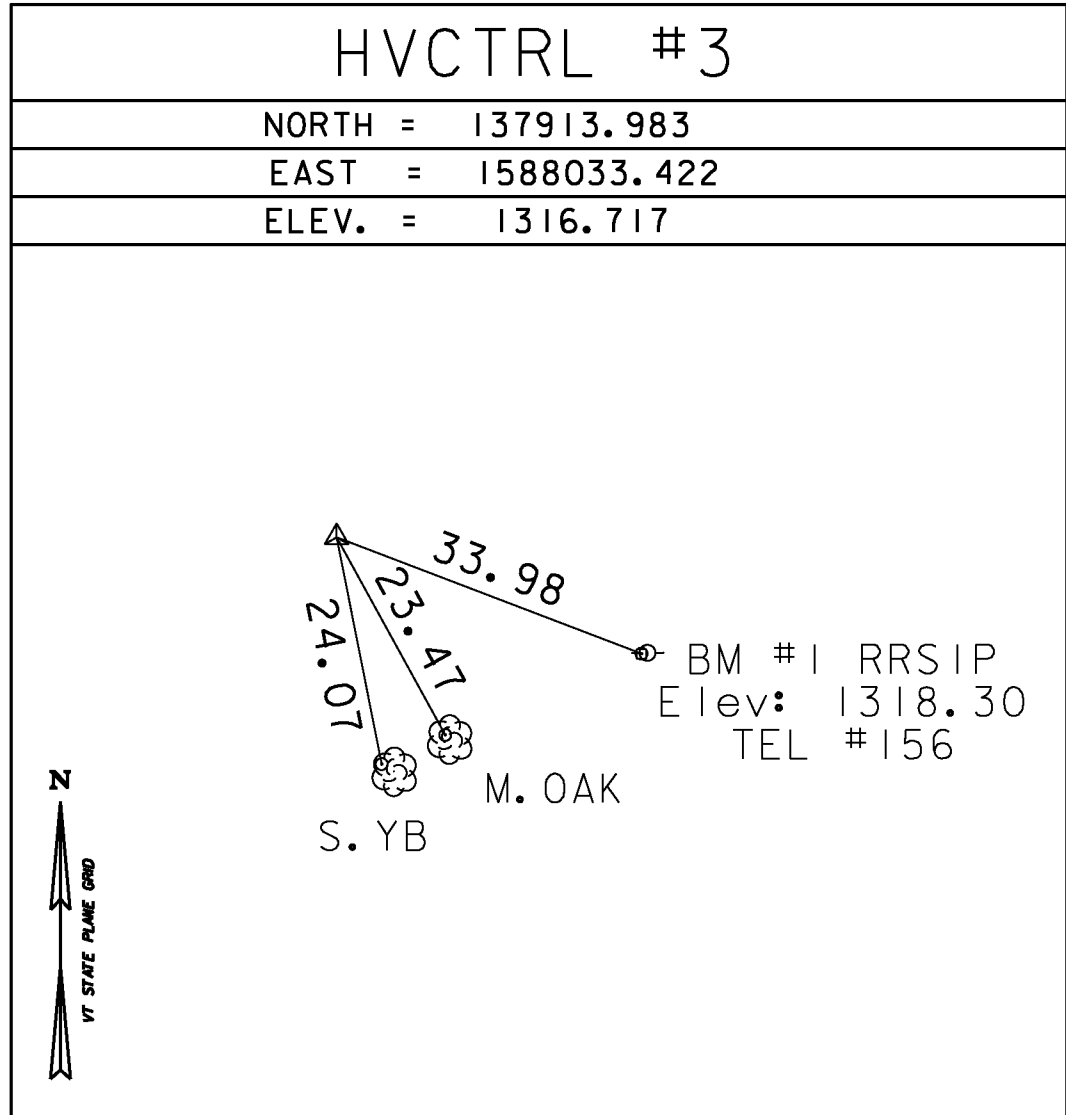
" TURNER "

N = 137154.88
E = 1590676.52
ELEV. = 1271.37

TO REACH FROM WEST END OF THE VT. ROUTE 9 BRIDGES OVER I-91 GO WEST ALONG VT. ROUTE 9 FOR 6.4 MI (10.3 KM) TO THE INTERSECTION OF HAMILTON ROAD RIGHT. CONTINUE WEST TO FIND A SAFE TURN AROUND AND RETURN TO THE INTERSECTION OF HAMILTON ROAD LEFT. TURN LEFT AND GO NORTH ALONG HAMILTON ROAD FOR 0.05 MI (0.08 KM) TO THE MARK ON THE LEFT IN A LAWN. THE MARK IS SET IN THE TOP OF A 0.4 M (1.3 FT) X 0.4 M (1.3 FT) ROCK OUTCROP WHICH IS FLUSH WITH THE GROUND SURFACE. IT IS 6.6 M (21.7 FT) WEST OF AND ABOUT 1.0 M (3.3 FT) HIGHER THAN THE CENTERLINE OF HAMILTON ROAD, 16.0 M (52.5 FT) SOUTHEAST OF A 35 CM MAPLE, 29.6 M (97.1 FT) NORTH OF THE END OF A STONEWALL, 39.0 M (128.0 FT) NORTHEAST OF THE NORTHEAST CORNER OF AN ATTACHED GARAGE, 11.0 M (36.1 FT) WEST OF A FIBERGLASS WITNESS POST.

• Description provided by Vermont Agency of Transportation Geodetic Unit

TRAVERSE TIES

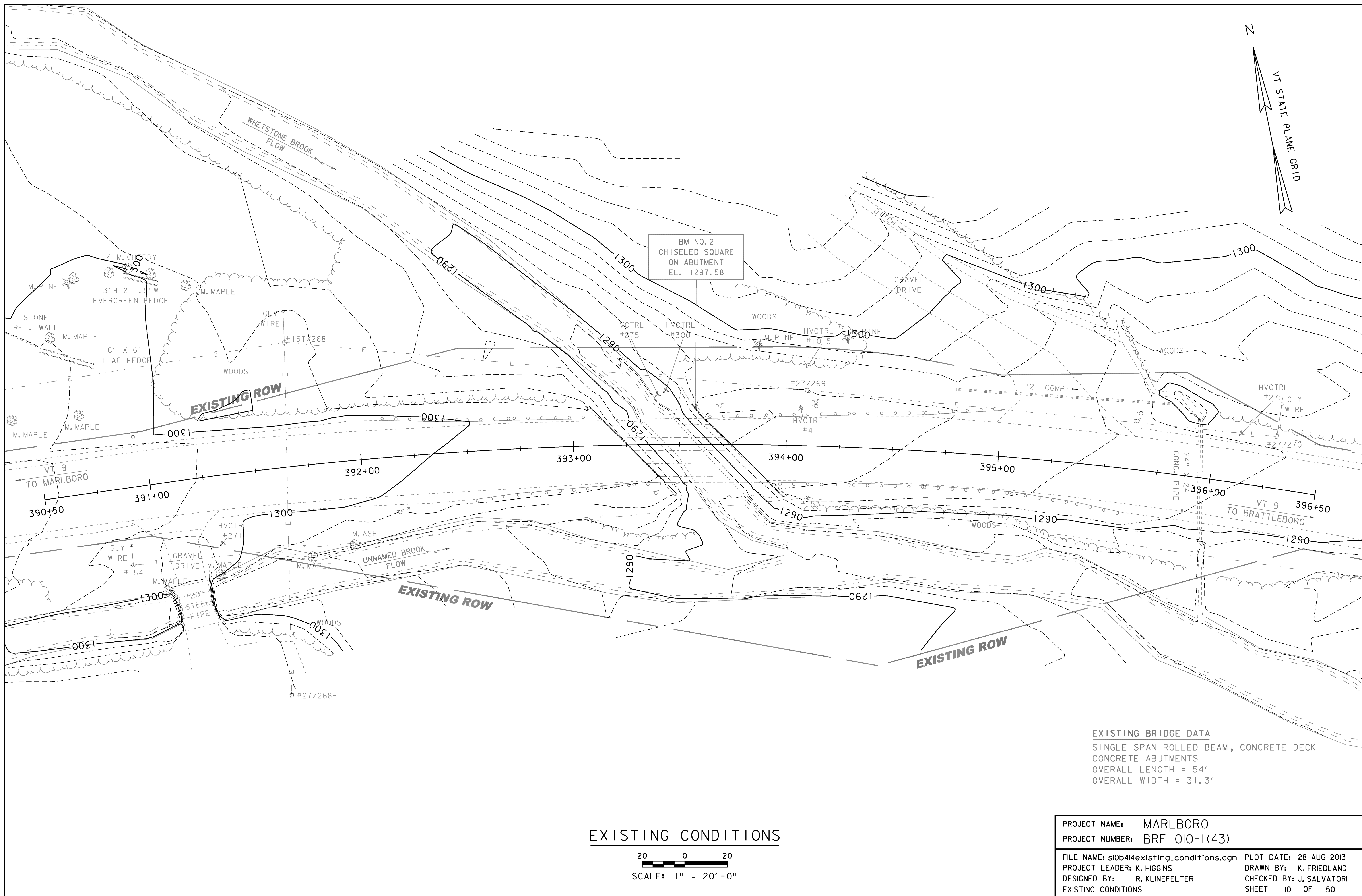


• Main Traverse Completed 10/27/98 by R. Gilman P.C. & T. Companion & G. Hitchcock [83bl00]

ALIGNMENT TIES

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

PROJECT NAME:	MARLBORO
PROJECT NUMBER:	BRF 010-1(43)
FILE NAME:	survey\10b4141.dgn
PROJECT LEADER:	K. HIGGINS
DESIGNED BY:	R. KLINEFELTER
TIE SHEET	
PLOT DATE:	28-AUG-2013
DRAWN BY:	R. BULLOCK
CHECKED BY:	G. LAROCHE
SHEET	9
OF	50

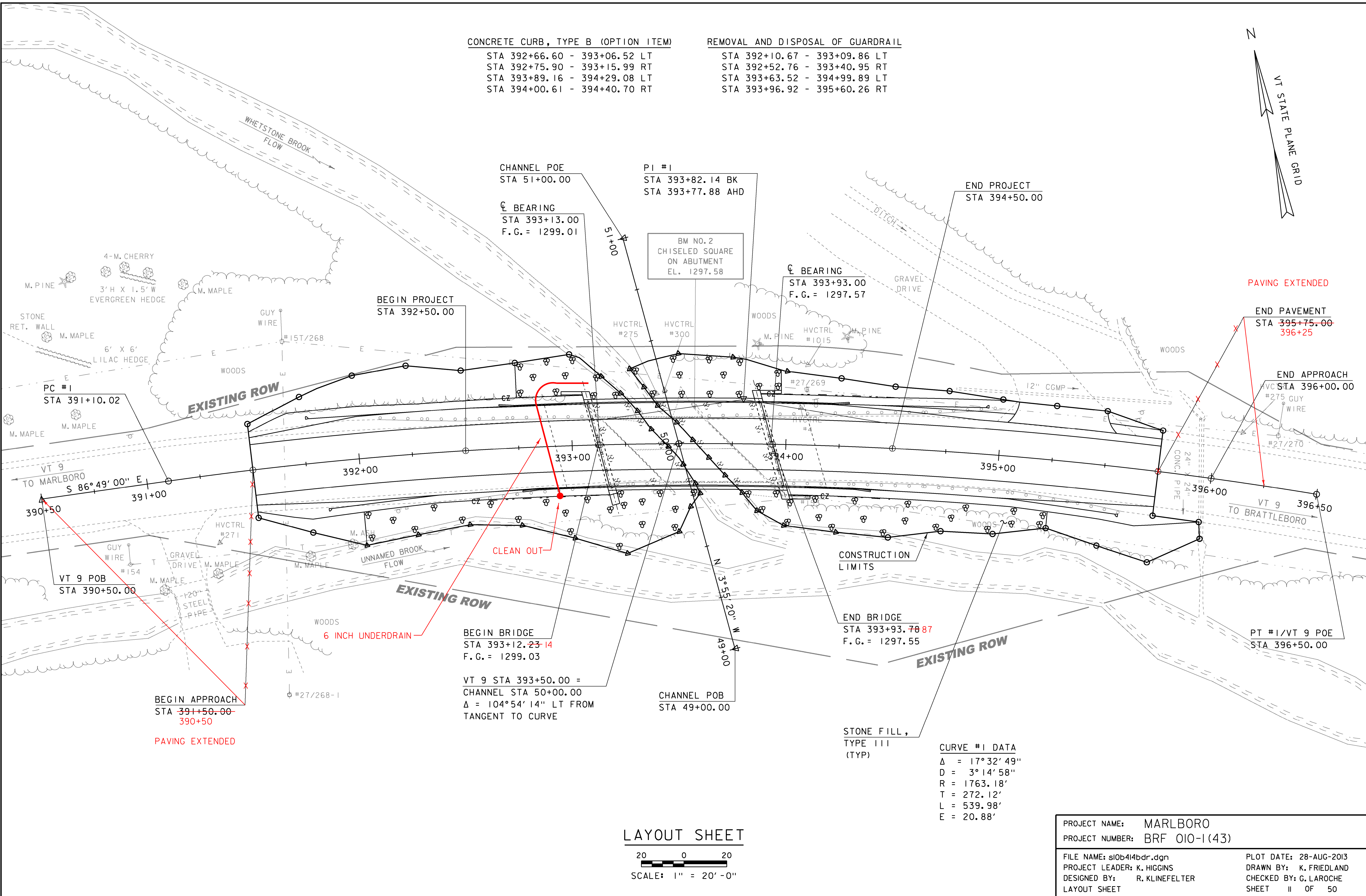


CONCRETE CURB, TYPE B (OPTION ITEM)

STA 392+66.60 - 393+06.52 LT
STA 392+75.90 - 393+15.99 RT
STA 393+89.16 - 394+29.08 LT
STA 394+00.61 - 394+40.70 RT

REMOVAL AND DISPOSAL OF GUARDRAIL

STA 392+10.67 - 393+09.86 LT
STA 392+52.76 - 393+40.95 RT
STA 393+63.52 - 394+99.89 LT
STA 393+96.92 - 395+60.26 RT



LAYOUT SHEET

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

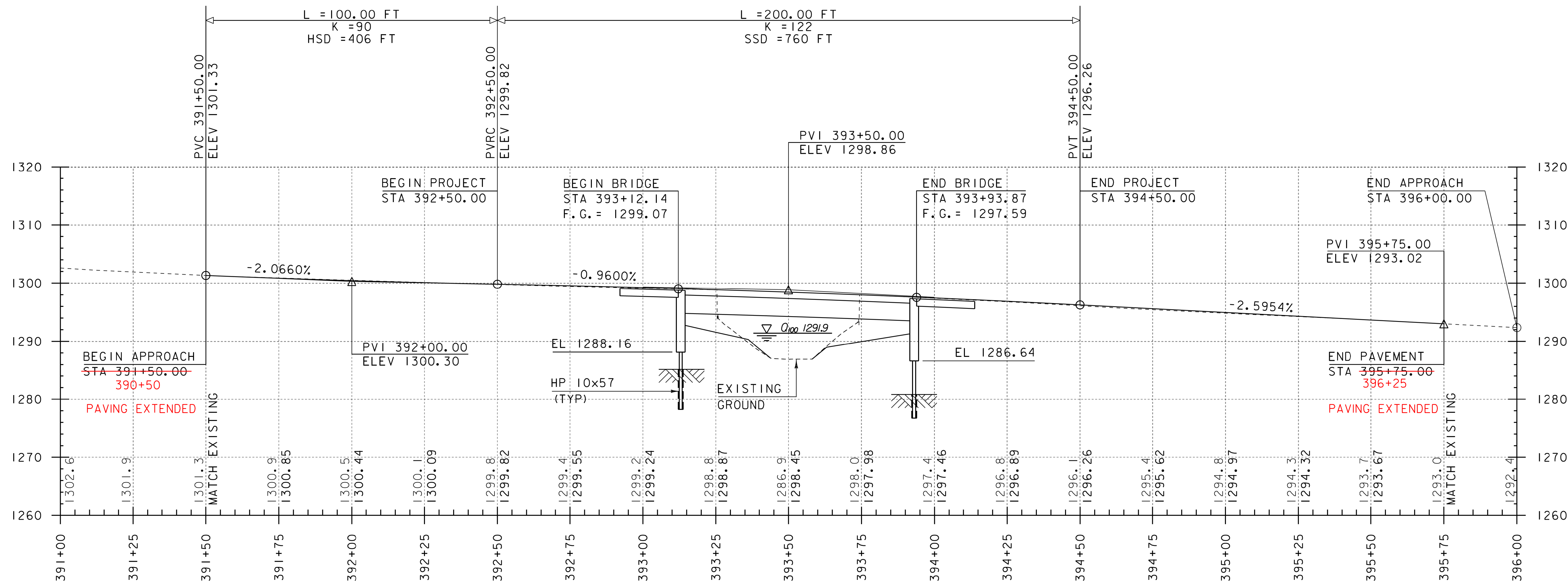
CURVE #1 DATA

Δ = 17°32'49"
D = 3°14'58"
R = 1763.18'
T = 272.12'
L = 539.98'
E = 20.88'

PROJECT NAME: MARLBORO
PROJECT NUMBER: BRF 010-1 (43)

FILE NAME: sl0b414bdr.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: R. KLINEFELTER
LAYOUT SHEET

PLOT DATE: 28-AUG-2013
DRAWN BY: K. FRIEDLAND
CHECKED BY: G. LAROCHE
SHEET 11 OF 50



NOTE:

ELEVATIONS SHOWN TO THE NEAREST TENTH ARE
EXISTING GROUND ALONG PROPOSED CENTERLINE.

ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH ARE
FINISH GRADES ALONG PROPOSED CENTERLINE.

MAINLINE PROFILE

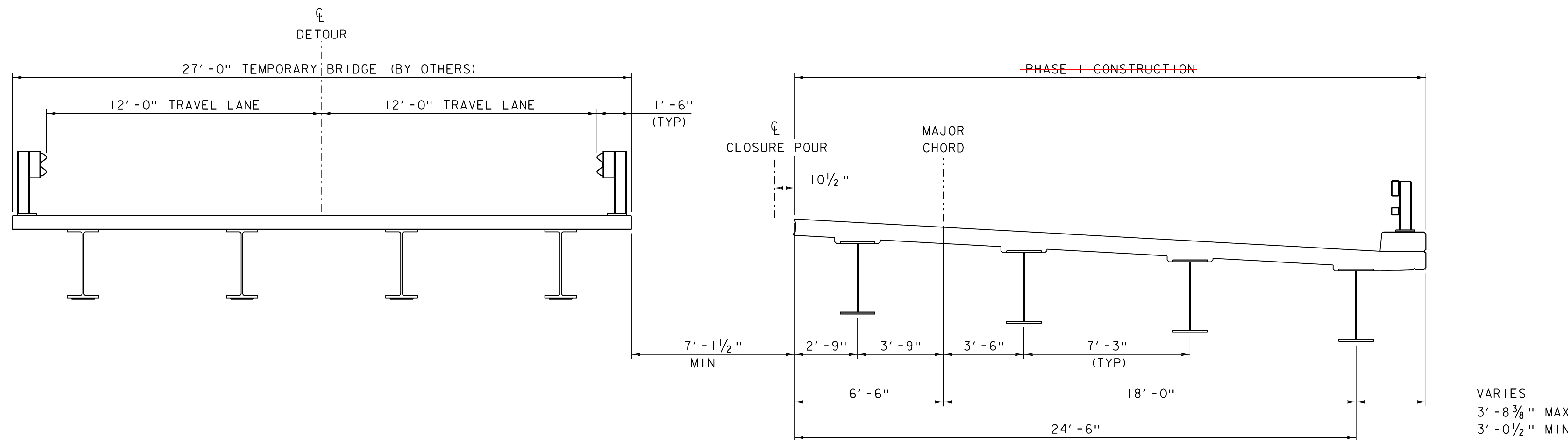
HORIZONTAL SCALE: 1" = 20' -0"
VERTICAL SCALE: 1" = 10' -0"

-SHEET REVISED 8/12/2014.
REPLACES SHEET 12 IN CONTRACT PLANS.

PROJECT NAME: MARLBORO
PROJECT NUMBER: BRF 010-1 (43)

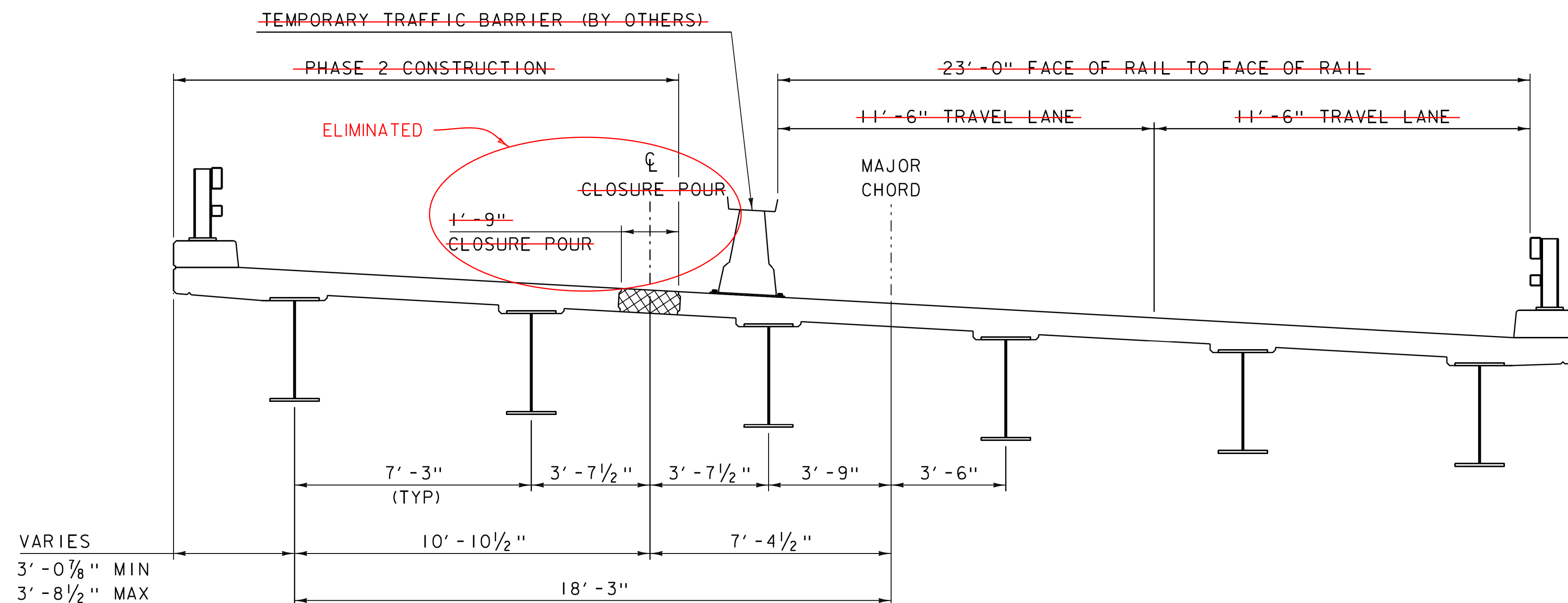
FILE NAME: sl0b414pro.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: R. KLINEFELTER
MAINLINE PROFILE

PLOT DATE: 12-AUG-2014
DRAWN BY: R. KLINEFELTER
CHECKED BY: J. SALVATORI
SHEET 12 OF 50



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

CONTRACTOR WAS ABLE TO PLACE GIRDERS AND DECK WITHOUT PHASING. TRAFFIC WAS KEPT ON TEMPORARY BRIDGE THROUGHOUT. DECK WAS PLACED FULL WIDTH.



PHASE 2
SCALE: 3/8" = 1'-0"

NOTE:

CENTERLINE RUMBLE STRIPS ARE CURRENTLY IN PLACE ON THIS PORTION OF VERMONT ROUTE 9. IF FINAL PHASING PLAN REQUIRES MASKING OF ANY EXISTING CENTERLINE PAVEMENT MARKINGS, THE RUMBLE STRIPS WILL HAVE TO BE FILLED. IF THIS OCCURS, THE RUMBLE STRIP SHALL BE RESTORED AT THE END OF CONSTRUCTION. PAYMENT WILL BE INCIDENTAL TO CONTRACT ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).

AS APPROVED, RUMBLE STRIPS WERE NOT RESTORED.

△ -SHEET REVISED 4/8/2014.
REPLACES SHEET 13 IN CONTRACT PLANS.

PROJECT NAME: MARLBORO	
PROJECT NUMBER: BRF 010-1 (43)	
FILE NAME: sl0b4l4phasewrk.dgn	PLOT DATE: 08-APR-2014
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. KLINEFELTER
DESIGNED BY: R. KLINEFELTER	CHECKED BY: J. SALVATORI
PHASE CONSTRUCTION DETAILS 1	SHEET 13 OF 50

THIS SHEET INTENTIONALLY LEFT BLANK

⚠ -SHEET ADDED 4/29/2014.
REPLACES SHEET 14 IN CONTRACT PLANS.

PROJECT NAME: MARLBORO	
PROJECT NUMBER: BRF 010-1 (43)	
FILE NAME: sl0b414phasewrk.dgn	PLOT DATE: 29-APR-2014
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. KLINEFELTER
DESIGNED BY: R. KLINEFELTER	CHECKED BY: J. SALVATORI
BLANK	SHEET 14 OF 50



THIS SHEET INTENTIONALLY LEFT BLANK

⚠ -SHEET ADDED 4/29/2014.
REPLACES SHEET 15 IN CONTRACT PLANS.

PROJECT NAME: MARLBORO	
PROJECT NUMBER: BRF 010-1 (43)	
FILE NAME: sl0b414phase1.dgn	PLOT DATE: 29-APR-2014
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. KLINEFELTER
DESIGNED BY: R. KLINEFELTER	CHECKED BY: J. SALVATORI
BLANK	SHEET 15 OF 50

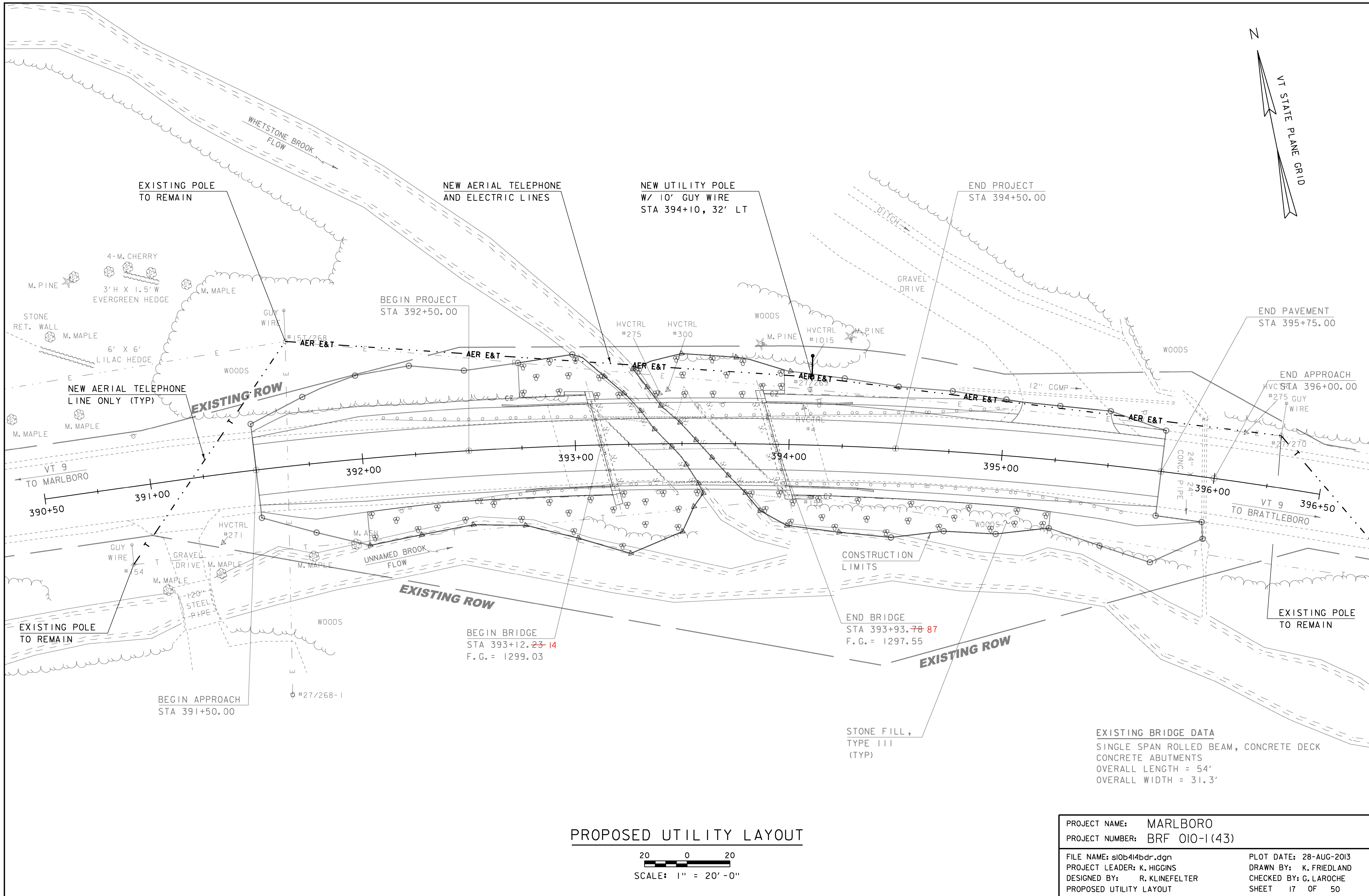


THIS SHEET INTENTIONALLY LEFT BLANK

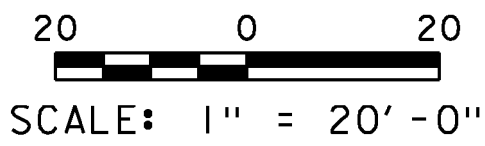
⚠ -SHEET ADDED 4/29/2014.
REPLACES SHEET 16 IN CONTRACT PLANS.

PROJECT NAME: MARLBORO	
PROJECT NUMBER: BRF 010-1 (43)	
FILE NAME: sl0b414phase2.dgn	PLOT DATE: 29-APR-2014
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. KLINEFELTER
DESIGNED BY: R. KLINEFELTER	CHECKED BY: J. SALVATORI
BLANK	SHEET 16 OF 50





PROPOSED UTILITY LAYOUT



PROJECT NAME: MARLBORO	
PROJECT NUMBER: BRF 010-1 (43)	
FILE NAME: sl0b414bdr.dgn	PLOT DATE: 28-AUG-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: K. FRIEDLAND
DESIGNED BY: R. KLINEFELTER	CHECKED BY: G. LAROCHE
PROPOSED UTILITY LAYOUT	SHEET 17 OF 50

REMOVING SIGNS

STA 392+16.30 RT (I)
STA 329+20.35 RT (I)
STA 393+38.55 RT (I)
STA 393+68.95 LT (I)
STA 394+13.60 LT (I)
STA 395+63.73 LT (I)

TRAFFIC SIGNS, TYPE A

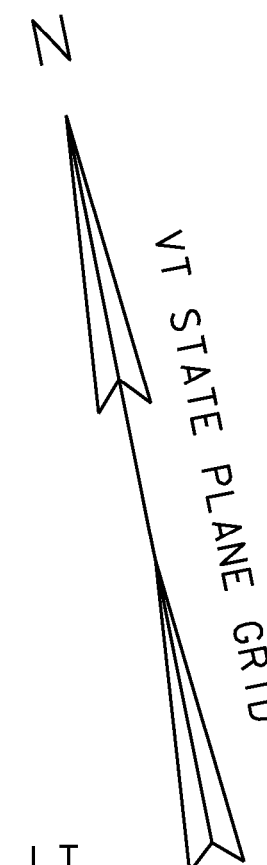
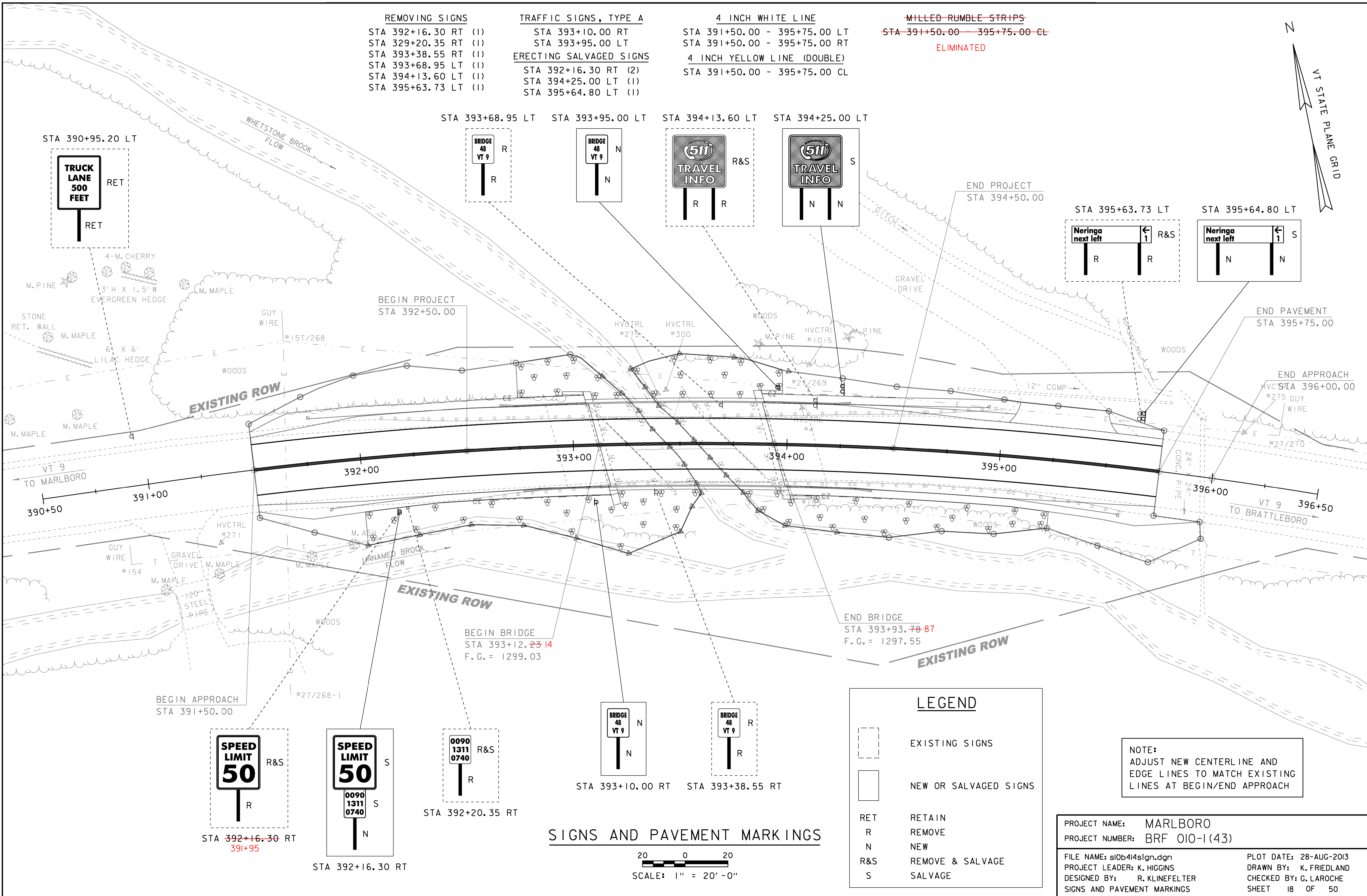
STA 393+10.00 RT
STA 393+95.00 LT
ERECTING SALVAGED SIGNS
STA 392+16.30 RT (2)
STA 394+25.00 LT (I)
STA 395+64.80 LT (I)

4 INCH WHITE LINE

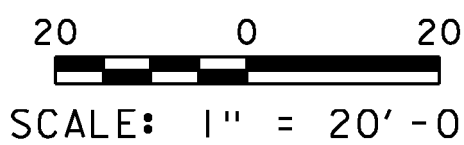
STA 391+50.00 - 395+75.00 LT
STA 391+50.00 - 395+75.00 RT
4 INCH YELLOW LINE (DOUBLE)
STA 391+50.00 - 395+75.00 CL

MILLED RUMBLE STRIPS

~~STA 391+50.00 - 395+75.00 CL~~
ELIMINATED



SIGNS AND PAVEMENT MARKINGS



LEGEND

	EXISTING SIGNS
	NEW OR SALVAGED SIGNS
RET	RETAIN
R	REMOVE
N	NEW
R&S	REMOVE & SALVAGE
S	SALVAGE

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

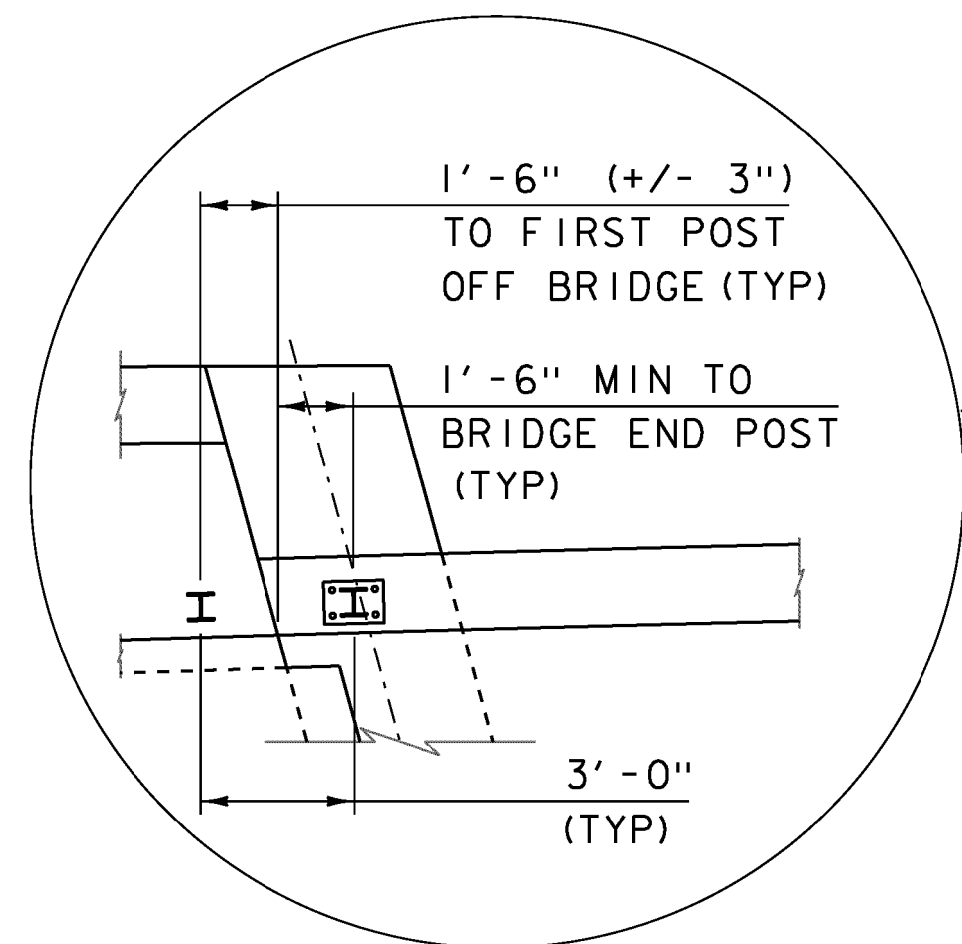
PROJECT NAME: MARLBORO
PROJECT NUMBER: BR 010-1 (43)

FILE NAME: sl0b414sign.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: R. KLINEFELTER
SIGNS AND PAVEMENT MARKINGS

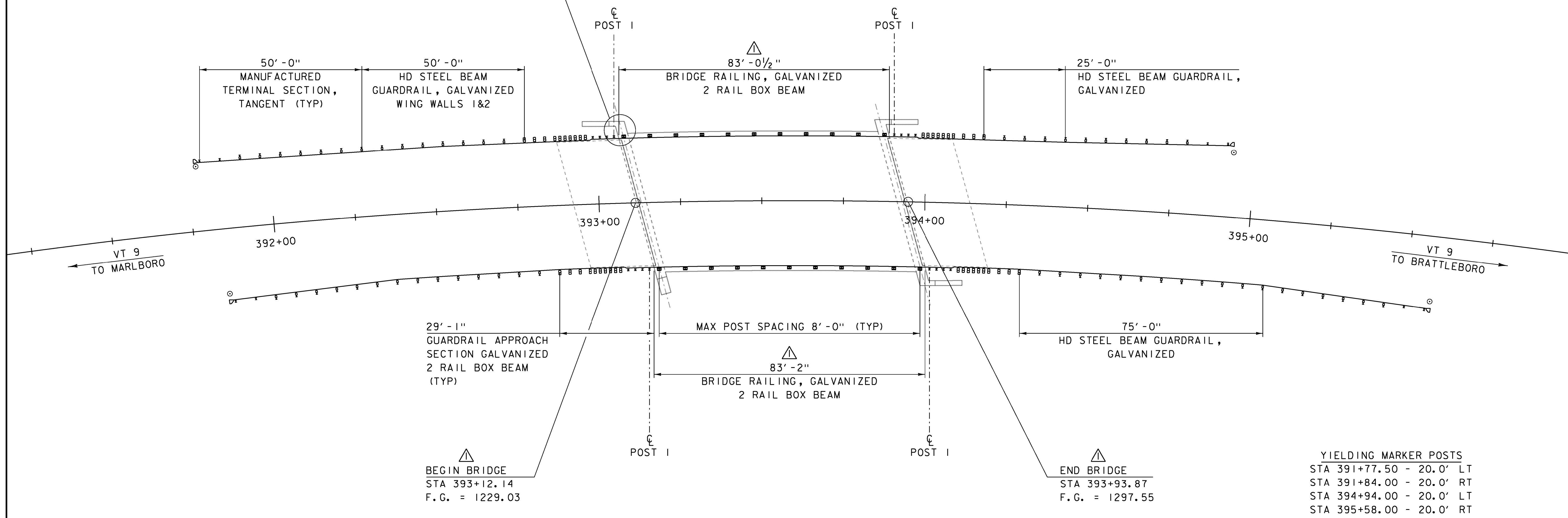
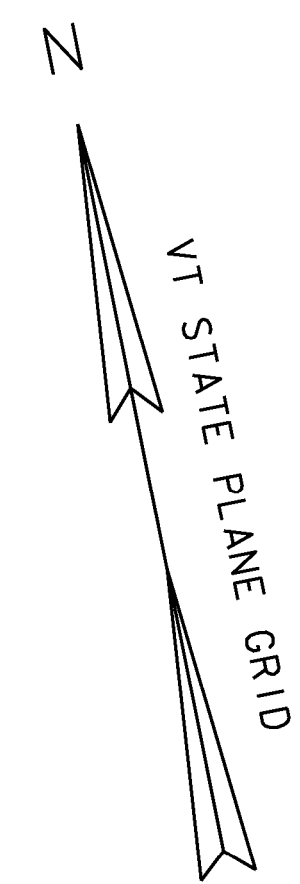
PLOT DATE: 28-AUG-2013
DRAWN BY: K. FRIEDLAND
CHECKED BY: G. LAROCHE
SHEET 18 OF 50

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST RETAIN		NO. OF POSTS	FLANGED CHANNEL			SQUARE STEEL (in)				ANCHOR		SLEEVE	NEW SIGN POSTS			TUBULAR STEEL Ø (in)				W-SHAPE STEEL				REQUIRE FRAMED SIGN	REMARKS	SIGN DETAIL			
																						TUBULAR ALUMINUM Ø (in)													DETAIL IN SHS			DETAIL ON SHEET NUMBER
		E A	WIDTH (in)	HEIGHT (in)	“A”	“B”	SALV SIGN	SALV TIS	L1/2	2.0		3.0	1.75	2.0	2.5	3.0	4.0	4.0 MOD	FOUND- ATION	3.0		3.5	4.0	5.0	FTG. SIZE		WEIGHT	POST SIZE	24"	30"								
																									lb/ft						lb/ft				lb/ft			
												OPTION ITEMS																										
392+16.3 RT 391+95							X				I					15- 12.8		X																				
392+16.3 RT 391+95							X																															
393+10.0 RT		I	6	8	0.33						I				7- 6.5			X														VD-70I			E-134			
393+95.0 LT		I	6	8	0.33						I				7- 6.5			X														VD-70I			E-134			
394+25.0 LT							X				2				30- 25.8			X																				
395+64.8 LT	Neringa next left 						X				2				30- 30.2			X																				
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND VTRANS "SIGN POST DESIGN GUIDELINE." SHS = STANDARD HIGHWAY SIGNS											FT	FT	FT	FT	FT	EA	LB	LB	LB		LB	LB	LB	LB														
										14.0	75.0																											
					TOTALS	SF 0.66	SF	EA. 4	SF		FT	FT			FT			EA	LB		EA.	LB			EA.	EA.	LB											
PROJECT NAME: MARLBORO PROJECT NUMBER: BRF 010-I (43) FILE NAME: s10b414+ss.dgn PROJECT LEADER: K. HIGGINS DESIGNED BY: R. KLINEFELTER TRAFFIC SIGN SUMMARY SHEET PLOT DATE: 28-AUG-2013 DRAWN BY: K. FRIEDLAND CHECKED BY: G. LAROCHE SHEET 19 OF 50																																						



INSET "A"
NOT TO SCALE



NOTES:

1. SEE STANDARDS S-360A, S-360B, S-363, G-1 AND G-19.

RAIL LAYOUT SHEET

SCALE: 1" = 15'-0"

PROJECT NAME: MARLBORO
PROJECT NUMBER: BRF 010-1 (43)

FILE NAME: sl0b414rail.dgn	PLOT DATE: 25-APR-2014
PROJECT LEADER: K. HIGGINS	DRAWN BY: K. FRIEDLAND
DESIGNED BY: R. KLINEFELTER	CHECKED BY: J. SALVATORI
RAIL LAYOUT SHEET	SHEET 20 OF 50

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

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

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

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

W	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 5/8"
NX	Core Size 2 7/8"
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
Cr	Gravel
Sa	Sand
Si	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
ROD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)
VTSPG	NAD83 - See Note 7

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	mitc	Multicolored
or	Orange		



SCALE 1" = 20'-0"

HOLE NO.	SURV. STATION	OFFSET	GROUND ELEV.	ELEV. TLOB
B-101	393+10	9' RT	1299.00'	1285.00'
B-102	393+85	10' LT	1298.50'	1283.50'
B-103	394+00	11' RT	1297.00'	1278.00'
B-104	393+05	11' LT	1298.50'	1285.50'

FILE NAME: slib414bor.dgn	PLOT DATE: 28-AUG-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: K. FRIEDLAND
DESIGNED BY: R. KLINEFELTER	CHECKED BY: G. LAROCHE
BORING LAYOUT SHEET	SHEET 21 OF 50

- BEDROCK (LEDGE) - Rock in its native location of indefinite thickness.
- BOULDER - A rock fragment with an average dimension > 12 inches.
- COBBLE - Rock fragments with an average dimension between 3 and 12 inches.
- GRAVEL - Rounded particles of rock < 3" and > 0.075" (#10 sieve).
- SAND - Particles of rock < 0.075" (#10 sieve) and > 0.0029" (#200 sieve).
- SILT - Soil < 0.0029" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.
- CLAY - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.

VARVED - Alternate layers of silt and clay.

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

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

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

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

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

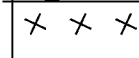
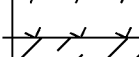
DIP - Inclination of bed with a horizontal plane.

1. The subsurface explorations shown herein were made between 7-30-12 and 8-1-12 by Terracon.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.

4. Engineering 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.

5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.
7. Northing and Easting coordinates are shown in Vermont State Plane Grid North American Datum 1983 in meters and survey feet.

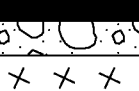
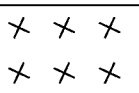
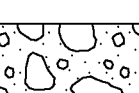
		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: B-101 Page No.: 1 of 1 Pin No.: Checked By: LJD				
Boring Crew: Geosearch, Inc. Fitchburg, MA, JE		Type: Casing Sampler		Groundwater Observations						
Date Started: 7/30/12 Date Finished: 7/31/12		I.D.: HW SS		Date Depth (ft) Notes						
VTSPG NAD83: N 137719.00 ft E 1588828.00 ft		Hammer Wt: 300 140 lb.		07/30/12 9.5						
Station: 393+10 Offset: 9 RT		Hammer Fall: 24 30 in.								
Ground Elevation: 1,299.0 ft. (approx)		Hammer/Rod Type: Auto/N								
Rig: CME 55 CE = 1.3										
Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)		Run (tip deg.)	Core Rec. % (ROD %)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5		Bituminous concrete, 0.0 ft - 0.5 ft				11-17-18 (35)	1.0	54.2	33.7	12.1
		A-1-a, GrSaSi, gray, Rec. = 1.2 ft, (Fill)				11-14-12-12 (26)	5.0	44.7	42.9	12.4
		A-1-b, GrSaSi, gry-brn, Rec. = 1.3 ft, (Fill)				23-14-11-8 (25)	9.2	40.9	43.2	15.9
		A-1-b, SaGrSi, gry-brn, Rec. = 1.0 ft, (Fill)				5-11-13-11 (24)	31.6	14.2	44.5	41.3
		A-4, SaSiGr, brn Rec. = 1.7 ft				8-16-19-23 (35)	8.3	63.0	27.5	9.5
		A-1-a, GrSaSi, brn				20-26-29-46 (55)	6.9	53.3	31.6	15.1
10		A-1-a, GrSaSi, brn, Rec. = 1.5 ft				62/6" (62+)				
		A-1-b, GrSaSi, brn, Rec. = 1.3 ft								
15		12.0 ft - 14.0 ft, Highly weathered bedrock Rec = 0.3 ft		1 (10-30)	88 (15.5)					
		14.0 ft - 17.5 ft, NXDC, Hard, fresh, dark gray, medium grained QUARTZITE, primary joints low angle, closely spaced (possible boulder).								
		17.5 ft - 19.0 ft, Hard, fresh light gray, fine grained, QUARTZITE, primary joints low angle, moderately spaced.								
		19.0 ft - 24.0 ft, NXDC, Hard, fresh light gray, fine grained, QUARTZITE, primary joints low angle, widely spaced.								
20		24.0 ft - 29.0 ft, NXDC, Hard, fresh light gray, fine grained, QUARTZITE, primary joints low angle, widely spaced.		2 (10-30)	97 (76)					
		24.0 ft - 29.0 ft, NXDC, Hard, fresh light gray, fine grained, QUARTZITE, primary joints low angle, widely spaced.								
25		24.0 ft - 29.0 ft, NXDC, Hard, fresh light gray, fine grained, QUARTZITE, primary joints low angle, widely spaced.		3 (10-30)	95 (95)					
		24.0 ft - 29.0 ft, NXDC, Hard, fresh light gray, fine grained, QUARTZITE, primary joints low angle, widely spaced.								
Hole stopped @ 29.0 ft										
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.										

		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: B-102 Page No.: 1 of 1 Pin No.: Checked By: LJD				
Boring Crew: Geosearch, Inc. Fitchburg, MA, JE		Type: Casing Sampler		Groundwater Observations						
Date Started: 8/01/12 Date Finished: 8/01/12		I.D.: HW SS		Date Depth (ft) Notes						
VTSPG NAD83: N 137775.00 ft E 1588854.00 ft		Hammer Wt: 300 140 lb.		08/01/12 8.5						
Station: 393+85 Offset: 10 LT		Hammer Fall: 24 30 in.								
Ground Elevation: 1,298.5 ft. (approx)		Hammer/Rod Type: Auto/N								
Rig: CME 55 CE = 1.3										
Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)		Run (tip deg.)	Core Rec. % (ROD %)	Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5		Bituminous concrete, 0.0 ft - 0.5 ft				6-11-13-21 (24)	2.3	57.4	31.6	11.0
		Gravel base, 0.5 ft - 1.0 ft								
10		A-1-a, GrSaSi, gry-brn, Rec. = 1.5 ft, (Fill)				5-2-2-7 (4)	3.7	47.8	43.1	9.1
		A-1-b, GrSaSi, gry-brn, Rec. = 1.7 ft, (Fill)								
15		A-4, SaSiGr, Rec. = 1.5 ft, with roots, wood pieces (Fill)				2-2-52-35 (54)	47.2	13.7	48.7	37.6
		A-4, C-F SAND, some silt, little gravel, brn, very dense								
20		13.0 ft - 15.0 ft, Highly weathered bedrock		1 (60-80)	100 (95)					
		15.0 ft - 20.0 ft, NXDC, Hard, fresh, gray, fine grained SCHIST, with high angle foliation.								
25		Qu = 5,760 psi (16.8 ft)								
		Qu = 3,730 psi (18.6 ft)								
30		20.0 ft - 25.0 ft, NXDC, Hard, fresh, gray, fine grained SCHIST, with high angle foliation, primary joint parallel to foliation, widely spaced.		2 (60-80)	100 (87)					
		Qu = 1,654 psi (21.0 ft)								
35		Qu = 1,816 psi (22.2 ft)								
		Qu = 2,430 psi (23.3 ft)								
40		Qu = 3,881 PSI (24.6 ft)								
		Hole stopped @ 25.0 ft								
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.										

PROJECT NAME: MARLBORO
PROJECT NUMBER: BRF 010-1 (43)

FILE NAME: silb414bor.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: R. KLINEFLETER
BORING LOGS

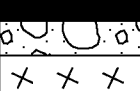
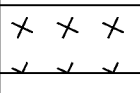
PLOT DATE: 28-AUG-2013
DRAWN BY: K. FRIEDLAND
CHECKED BY: G. LAROCHE
SHEET 22 OF 50

		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: B-103 Page No.: 1 of 1 Pin No.: Checked By: LJD		
Boring Crew: Geosearch, Inc. Fitchburg, MA, JE		Type: Casing Sampler		Groundwater Observations				
Date Started: 8/01/12 Date Finished: 8/01/12		I.D.: 4 in. 1.38 in.		Date Depth (ft) Notes				
VTSPG NAD83: N 137706.00 ft E 1588885.00 ft		Hammer Wt: 300 140 lb.		08/01/12 10.5				
Station: 394+00 Offset: 11 RT		Hammer Fall: 24 30 in.						
Ground Elevation: 1,297.0 ft. (approx)		Hammer/Rod Type: Auto/N						
Rig: CME 55 CE = 1.3								
Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)		Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Bituminous concrete, 0.0 ft - 0.5 ft		10-17-9-11 (26)	3.7	41.0	45.2	13.8
		Gravel base, 0.5 ft - 1.0 ft						
		A-1-b, SaGrSi, gray, Rec. = 1.5 ft, (Fill)						
5		A-1-b, SaGrSi, gry-brn, Rec. = 1.0 ft, (Fill)		12-6-8-6 (14)	11.0	44.0	44.2	11.8
10		A-1-b, GrSaSi, gry-brn, Rec. = 1.2 ft		4-6-16-18 (22)	10.0	50.6	34.9	14.5
15		Rec. = 1.3 ft, 15.0 ft - 17.0 ft, Highly weathered bedrock		17-32-46-74 (78)				
20		Hole stopped @ 19.0 ft Auger refusal @ 19.0 ft						
25								
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.								

AB #2
BOTTOM OF
PILE CAP
EL 1286.64

AB #2
PILE TIP
EL 1275.00

BORING LOG: J1125130.GPJ VERMONT AOT.GDT 10/25/12

		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING LOG		Boring No.: B-104 Page No.: 1 of 1 Pin No.: Checked By: LJD		
Boring Crew: Geosearch, Inc. Fitchburg, MA, JE		Type: Casing Sampler		Groundwater Observations				
Date Started: 8/01/12 Date Finished: 8/01/12		I.D.: 4 in. 1.38 in.		Date Depth (ft) Notes				
VTSPG NAD83: N 137769.00 ft E 1588797.00 ft		Hammer Wt: 300 140 lb.		08/01/12 NE				
Station: 393+05 Offset: 11 LT		Hammer Fall: 24 30 in.						
Ground Elevation: 1,298.5 ft. (approx)		Hammer/Rod Type: Auto/N						
Rig: CME 55 CE = 1.3								
Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)		Blows/6" (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
		Bituminous concrete, 0.0 ft - 0.5 ft		5-9-10-13 (19)	1.9	74.7	15.2	10.1
		Gravel base, 0.5 ft - 1.0 ft						
		A-1-a, GrSaSi occasional cobbles/boulders, gry-brn, Rec. = 1.3 ft, (Fill)						
5		Rec. = 0.0 ft, 5.0 ft - 6.0 ft		39-63				
10		Note: Drill action suggests frequent cobbles and boulders from 4-11 feet (possible fill)						
		A1-b, C-F SAND, some gravel, little silt, brn, ocassional cobbles,very dense		65/6"				
15		Hole stopped @ 13.0 ft Auger refusal @ 13.0 ft						
20								
25								
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. CE is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.								

AB #1
BOTTOM OF
PILE CAP
EL 1288.16

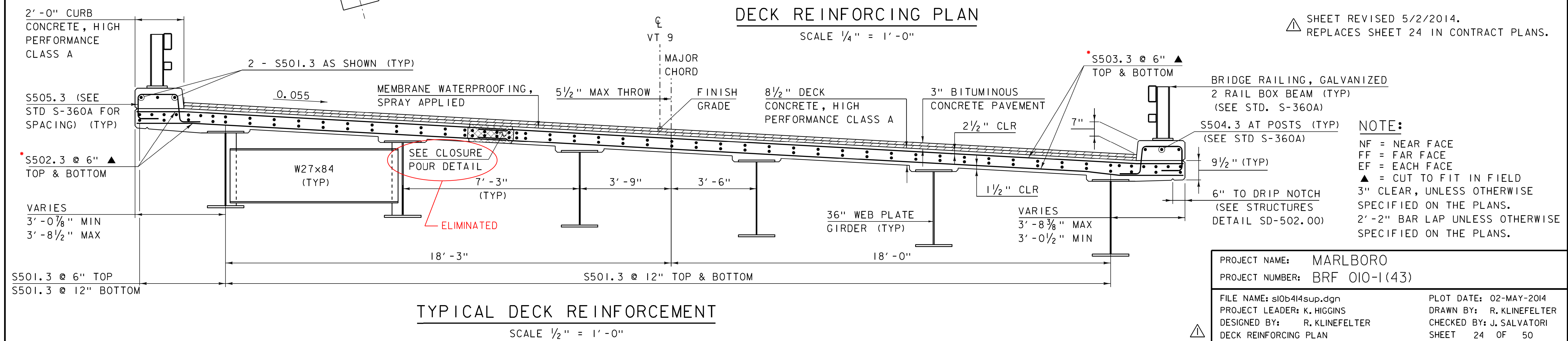
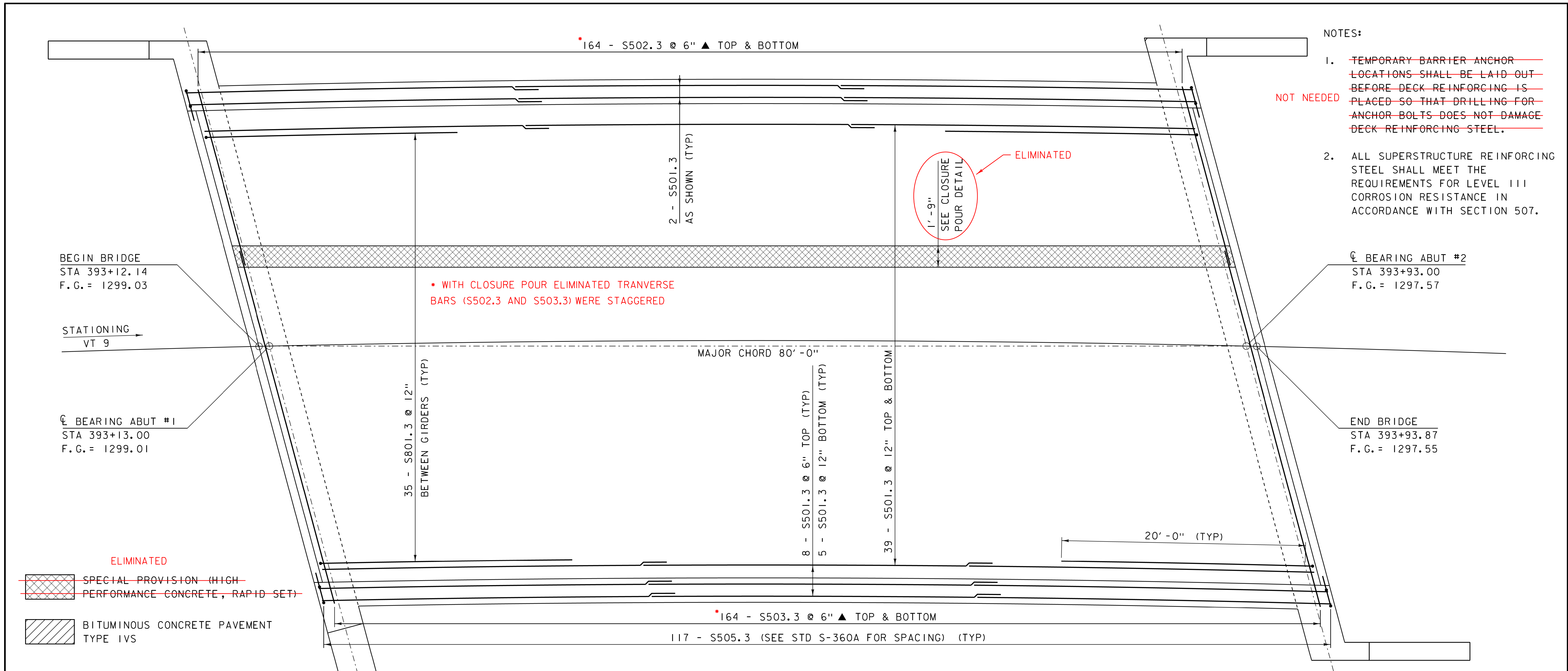
AB #1
PILE TIP
EL 1278.16

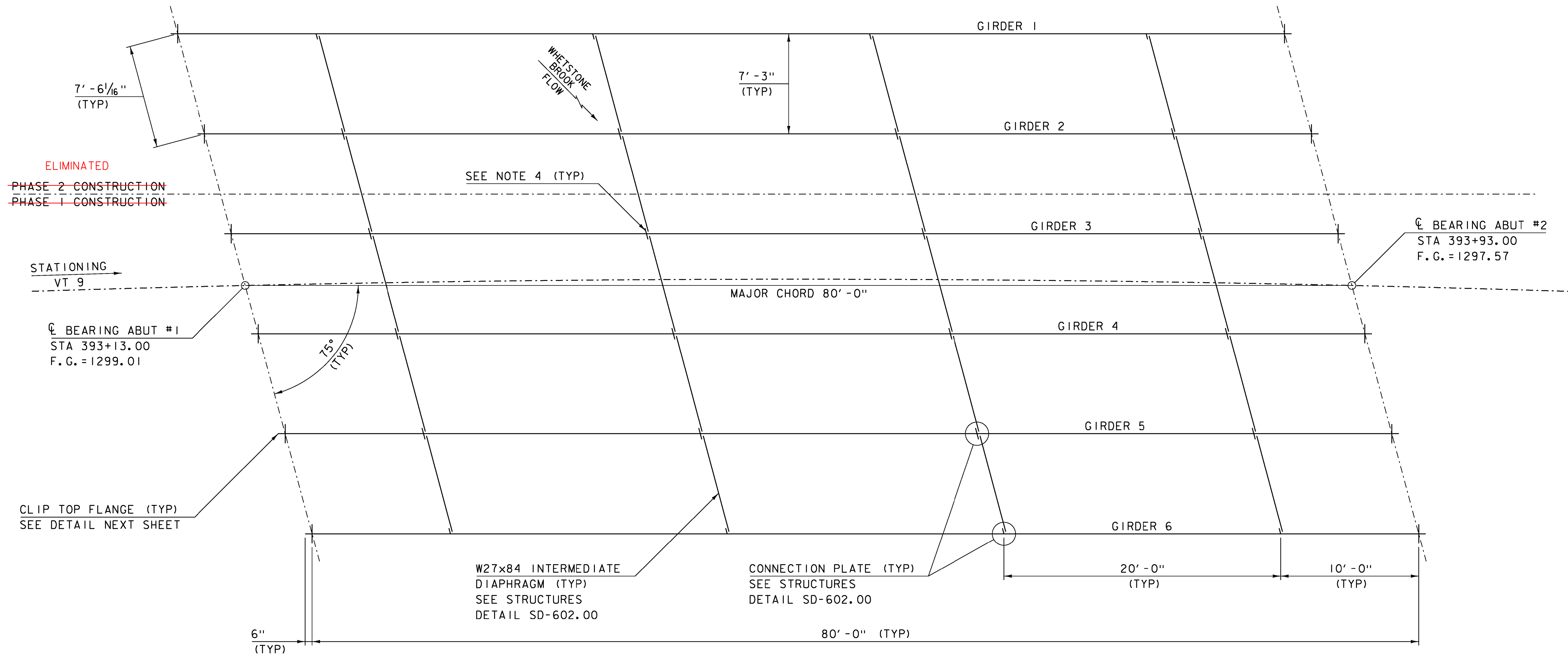
BORING LOG: J1125130.GPJ VERMONT AOT.GDT 10/25/12

PROJECT NAME: MARLBORO
PROJECT NUMBER: BRF 010-1 (43)

FILE NAME: silb414bor.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: R. KLINEFELTER
BORING LOGS

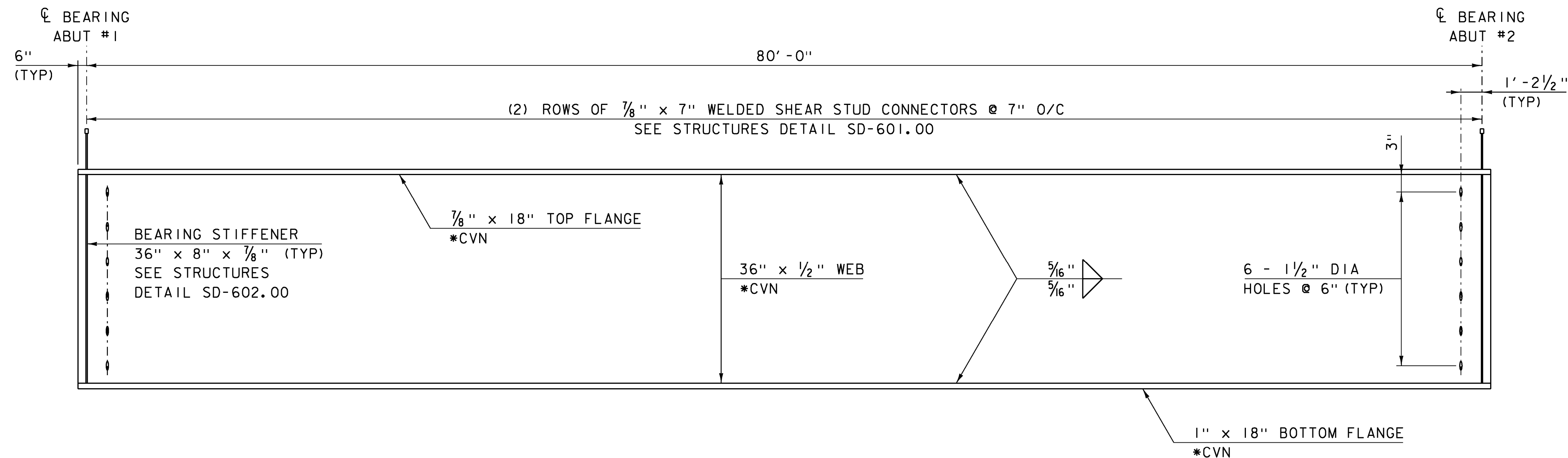
PLOT DATE: 28-AUG-2013
DRAWN BY: K. FRIEDLAND
CHECKED BY: G. LAROCHE
SHEET 23 OF 50





FRAMING PLAN

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



TYPICAL GIRDER ELEVATION

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

NOTES:

- *CVN DENOTES THAT CHARPY V-NOTCH TEST IS REQUIRED.
- ALL STEEL SHALL BE GRADE 50W.
- PLACE DRIP PLATE ON LOW END OF EXTERIOR GIRDERS.
SEE STRUCTURES DETAIL SD-601.00.
- ~~BOLT HOLES SHALL BE OMITTED IN THE CONNECTION PLATES ON THE LEFT SIDE OF GIRDER 3. AFTER THE DIAPHRAGMS HAVE BEEN BOLTED TO GIRDER 2, BOLT HOLES IN THE GIRDER 3 CONNECTION PLATES SHALL BE FIELD DRILLED FOR PROPER FITUP.~~

ELIMINATED

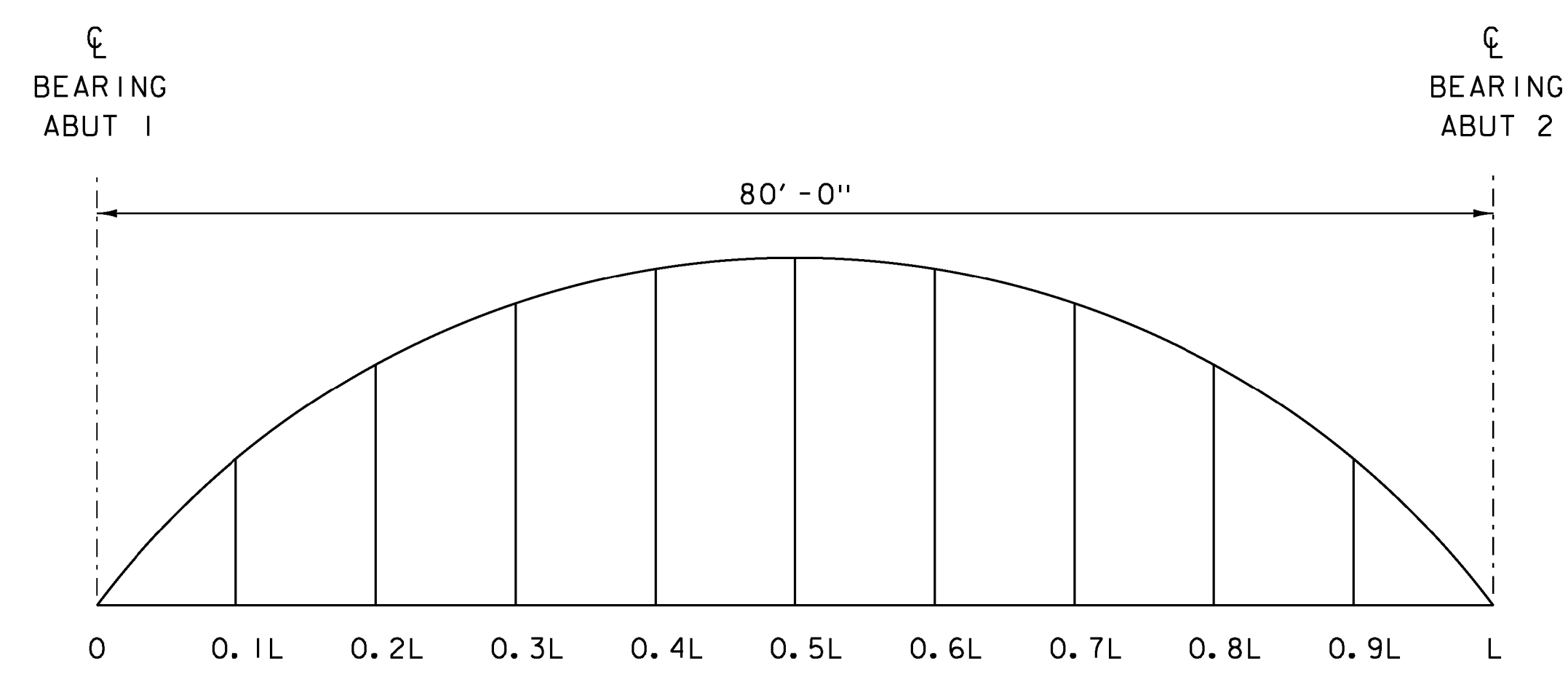
$\triangle$ -SHEET ADDED 4/8/2014.
REPLACES SHEET 25 IN CONTRACT PLANS.

PROJECT NAME: MARLBORO
PROJECT NUMBER: BRF OIO-I(43)

FILE NAME: sl0b4l4fra.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: R. KLINEFELTER
FRAMING PLAN & GIRDER ELEVATION

PLOT DATE: 08-APR-2014
DRAWN BY: R. KLINEFELTER
CHECKED BY: J. SALVATORI
SHEET 25 OF 50

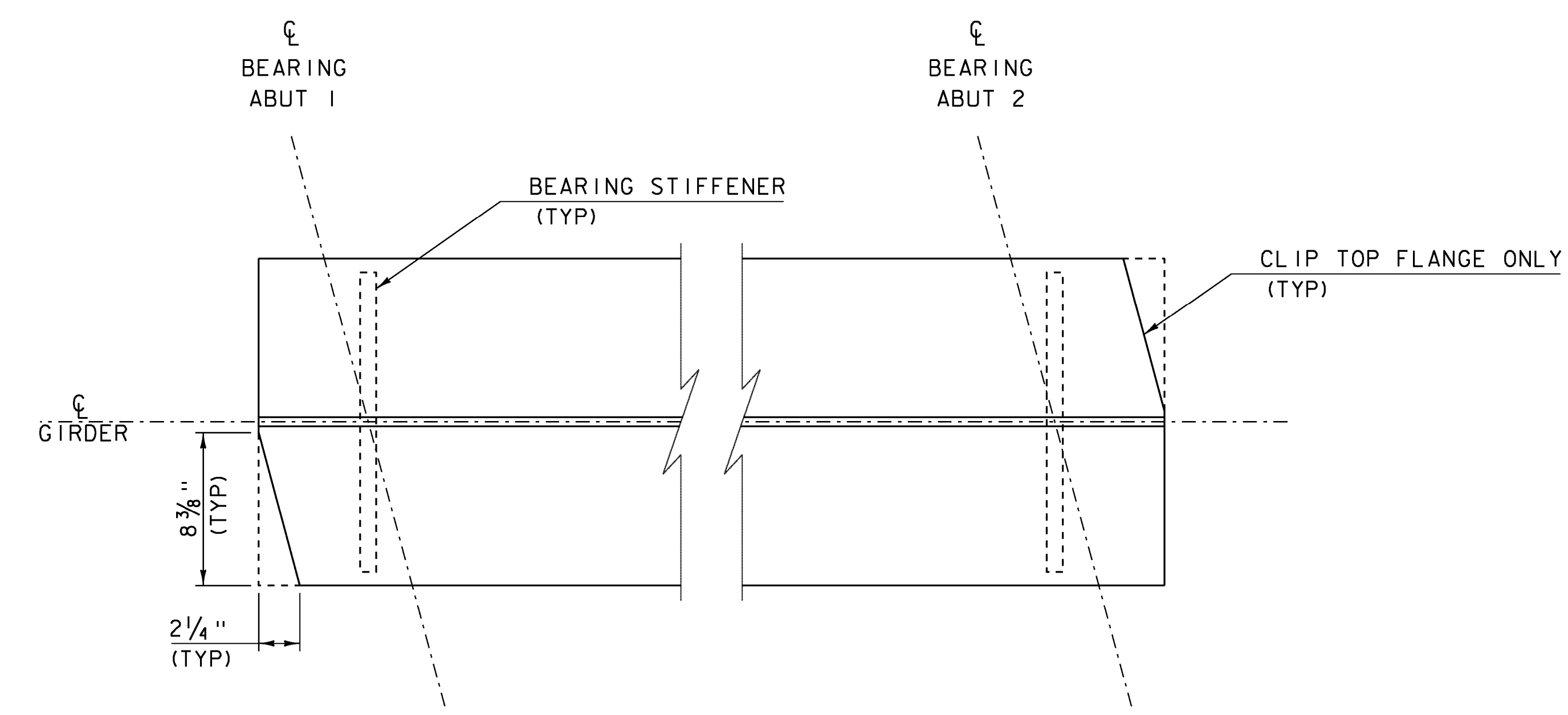




CAMBER DIAGRAM
NOT TO SCALE

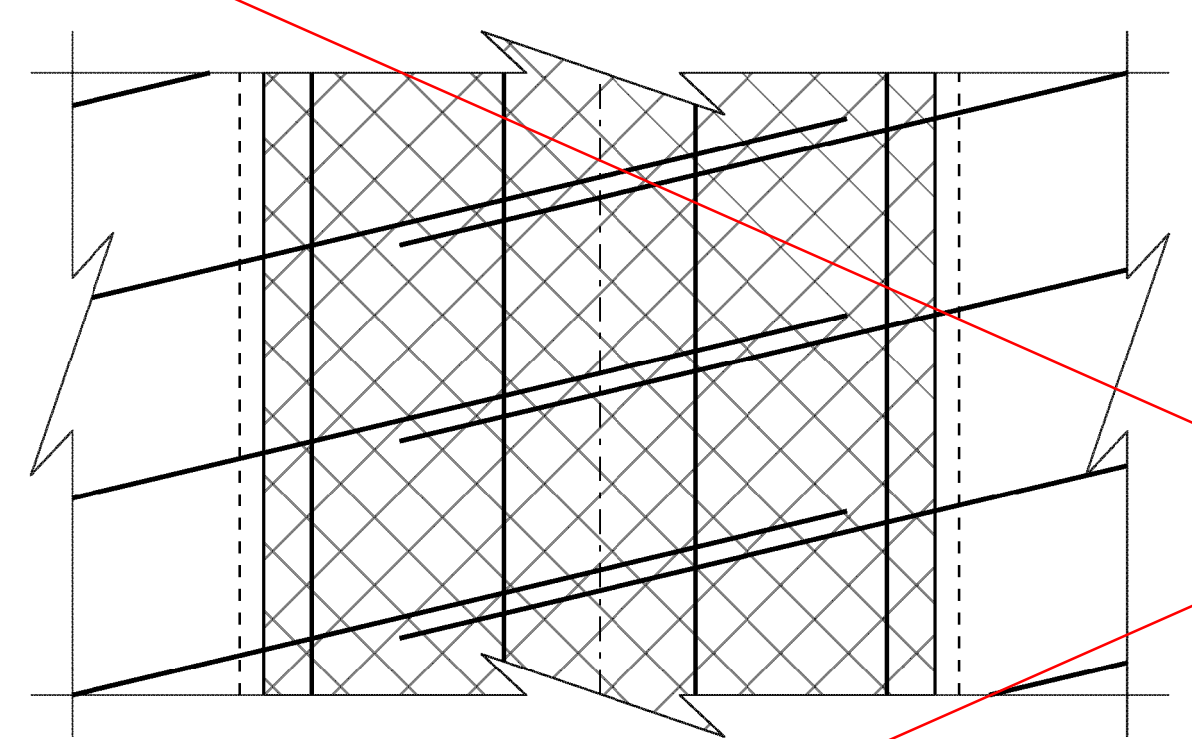
	0	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	L
Steel Deflection	0	1/8	1/4	3/8	7/16	7/16	7/16	3/8	1/4	1/8	0
Slab & Super Deflection	0	3/4	1 7/16	1 15/16	2 1/4	2 3/8	2 1/4	1 15/16	1 7/16	3/4	0
Total Deflection	0	7/8	1 11/16	2 5/16	2 11/16	2 13/16	2 11/16	2 5/16	1 11/16	7/8	0
Residual Camber	0	3/8	5/8	13/16	15/16	1	15/16	13/16	5/8	3/8	0
Total Camber	0	1 1/4	2 5/16	3 1/8	3 5/8	3 13/16	3 5/8	3 1/8	2 5/16	1 1/4	0

CAMBER AND DEFLECTION
(INCHES)

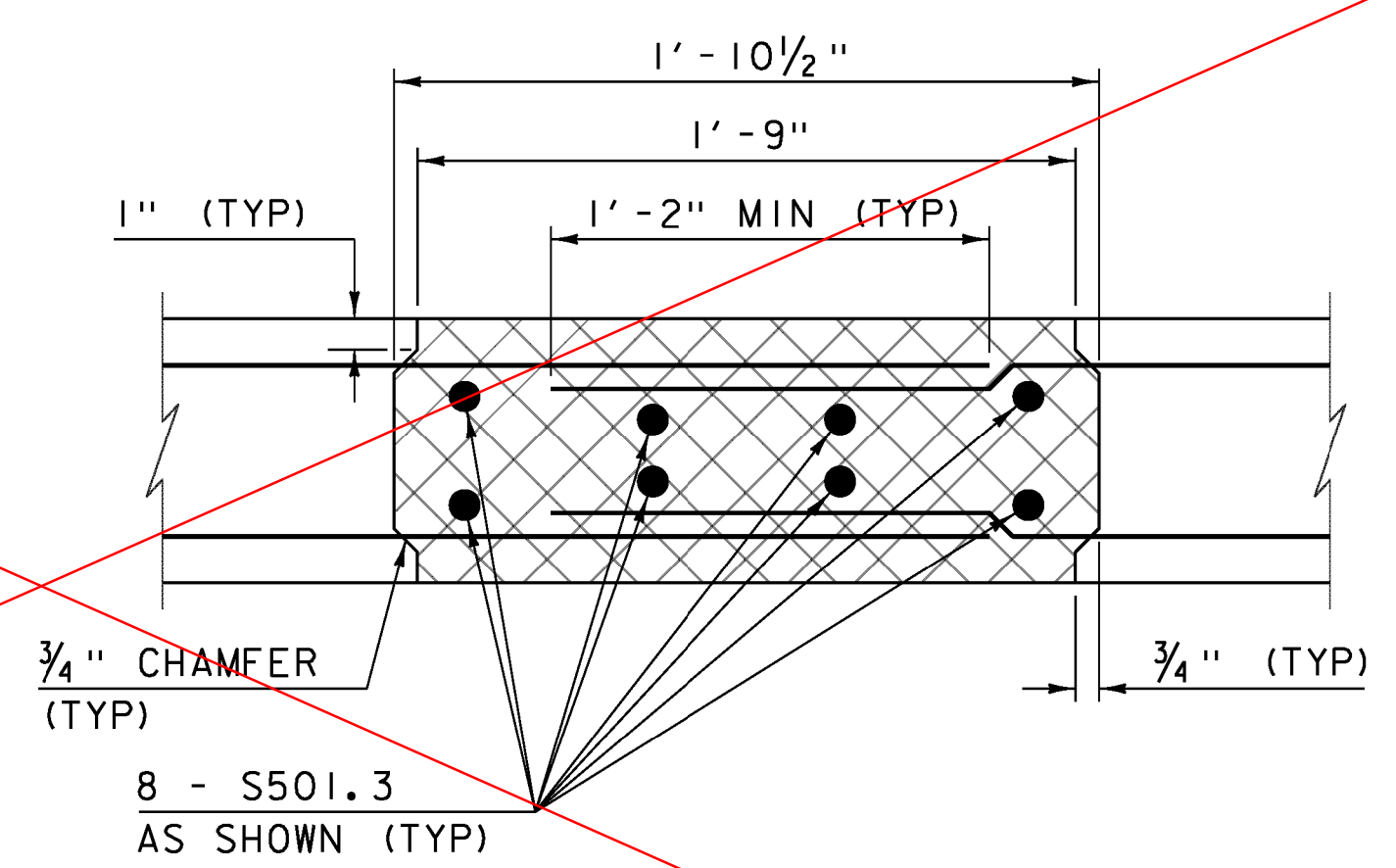


TOP FLANGE CLIP DETAIL
SCALE 1" = 2'-0"

ELIMINATED - DECK CONSTRUCTION FULL WIDTH



CLOSURE POUR DETAIL PLAN
SCALE 2" = 1'-0"



CLOSURE POUR DETAIL SECTION
SCALE 2" = 1'-0"

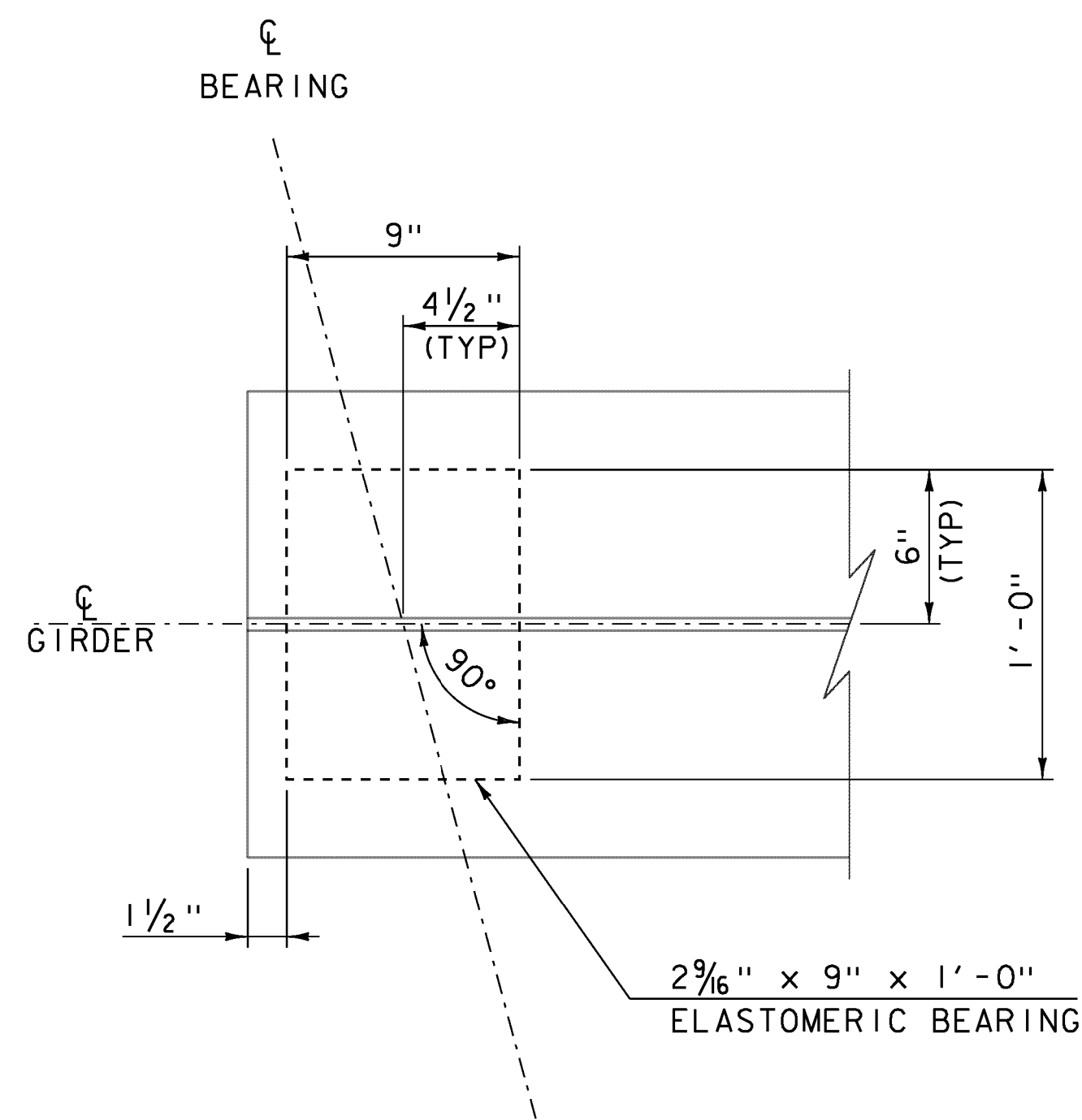
ELIMINATED

PHASED DECK CONSTRUCTION NOTES:

1. PHASE 2 DECK CONSTRUCTION INVOLVES ONLY TWO GIRDERS. THE CONTRACTOR SHALL DETERMINE IF ADDITIONAL TEMPORARY BRACING IS NEEDED TO PREVENT LATERAL MOVEMENT OF THE GIRDERS DURING THE PHASE 2 DECK PLACEMENT. IF USED, TEMPORARY BRACING MUST BE DESIGNED TO ALLOW FOR FREEDOM OF VERTICAL MOVEMENT SO THAT GIRDER DEFLECTION DUE TO THE DECK CONCRETE WILL OCCUR AS PREDICTED.
2. FOR PHASE 2 DECK CONSTRUCTION, ALL FORMWORK AND THE FINISHING MACHINE MUST BE COMPLETELY SUPPORTED BY THE PHASE 2 GIRDERS. THE PHASE 1 STRUCTURE SHALL NOT BE USED TO SUPPORT ANY PORTION OF THE FORMWORK OR FINISHING MACHINE.
3. DIAPHRAGMS BETWEEN GIRDERS 2 AND 3 ARE TO BE INSTALLED AFTER THE PHASE 2 DECK CURE PERIOD IS COMPLETE AND BEFORE THE DECK CLOSURE POUR.
4. REINFORCING STEEL IN THE CLOSURE POUR SHALL NOT BE TIED UNTIL AFTER THE PHASE 2 DECK CURE PERIOD IS COMPLETE.
5. FORMWORK FOR SURFACES ON THE DECK THAT WILL BE IN CONTACT WITH THE CLOSURE POUR SHALL BE TREATED WITH CONCRETE SURFACE RETARDER, OR SIMILAR, TO PROVIDE A ROUGHENED SURFACE. THE ROUGHENED SURFACES SHALL BE POWER WASHED WITH WATER PRIOR TO THE CLOSURE POUR.
6. THE METHOD OF FORMING THE DECK CLOSURE POUR SHALL BE DETERMINED BY THE CONTRACTOR. THE FORMS SHALL BE REMOVABLE AND ABLE TO ACCOMMODATE DIFFERENTIAL CAMBER. FORM SUPPORTS SHALL NOT BE ATTACHED TO ANY PART OF THE STRUCTURE BY DRILLING OR SIMILAR MEANS.

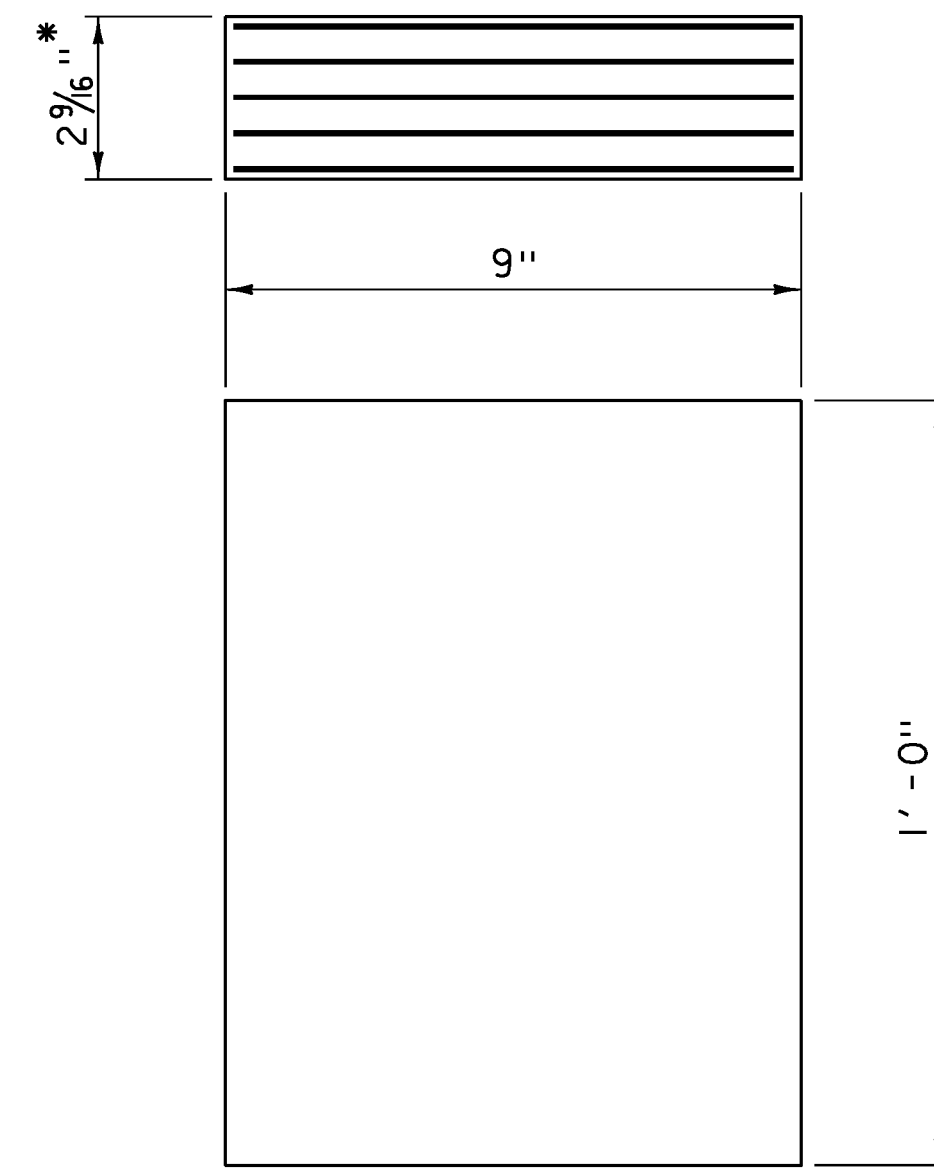
△ -SHEET ADDED 4/8/2014.
REPLACES SHEET 26 IN CONTRACT PLANS.

PROJECT NAME: MARLBORO	
PROJECT NUMBER: BRF 010-1 (43)	
FILE NAME: sl0b4l4sup.dgn	PLOT DATE: 08-APR-2014
PROJECT LEADER: K. HIGGINS	DRAWN BY: K. FRIEDLAND
DESIGNED BY: R. KLINEFELTER	CHECKED BY: J. SALVATORI
CAMBER & DEFLECTION	SHEET 26 OF 50



ELASTOMERIC BEARING LAYOUT

SCALE 1" = 2'-0"



- * 2 - 1/8" EXTERIOR LAYERS OF ELASTOMER
4 - 1/2" INTERIOR LAYERS OF ELASTOMER
5 - 1/16" STEEL REINFORCING PLATES

ELASTOMERIC BEARING DETAIL

SCALE 1" = 4'-0"

BEARING NOTES:

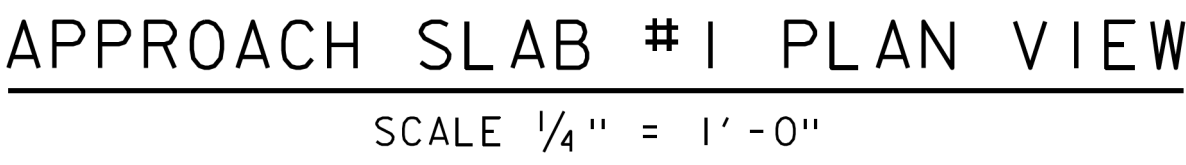
1. BEARINGS SHALL CONFORM TO THE APPLICABLE SUBSECTIONS OF SECTIONS 531 AND 731.
2. ALL REINFORCEMENT BETWEEN LAYERS OF ELASTOMER SHALL BE STEEL MEETING THE REQUIREMENTS OF SUBSECTION 714.02. ALL INTERNAL STEEL PLATES SHALL BE SAND BLASTED AND FREE OF COATINGS, RUST AND MILL SCALE. THE PLATES SHALL BE FREE OF SHARP EDGES AND BURRS.
3. STEEL REINFORCED ELASTOMERIC BEARINGS SHALL HAVE A MINIMUM 1/8" EDGE SEAL OF ELASTOMER INTEGRAL WITH BEARING OVER ALL INTERNAL PLATES.
4. THE ELASTOMER WAS DESIGNED WITH A SHEAR MODULUS OF 110 PSI +/- 15%.
5. THE CONCRETE UNDER THE BEARING DEVICE SHALL BE LEVEL.

△ -SHEET ADDED 4/8/2014.
REPLACES SHEET 27 IN CONTRACT PLANS.

PROJECT NAME: MARLBORO
PROJECT NUMBER: BRF 010-1 (43)

FILE NAME: sl0b414sup.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: R. KLINEFELTER
BEARING DETAILS

PLOT DATE: 08-APR-2014
DRAWN BY: R. KLINEFELTER
CHECKED BY: J. GRIGAS
SHEET 27 OF 50



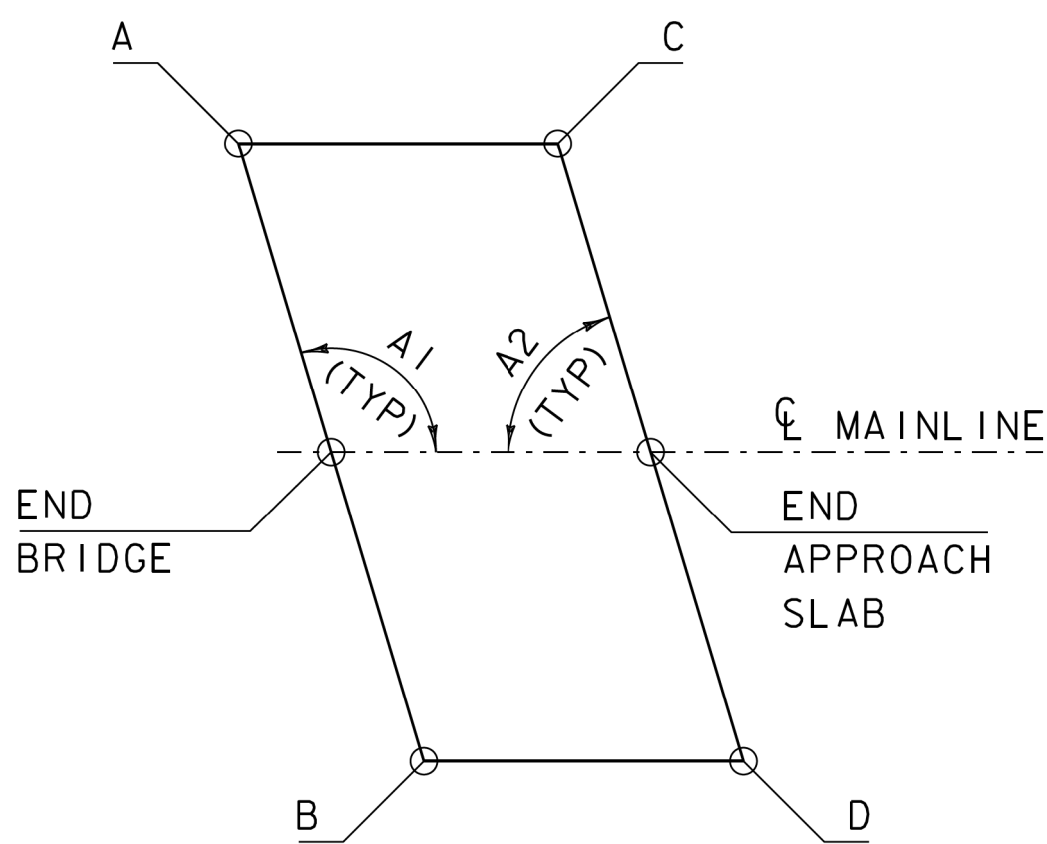
The diagram illustrates the cross-section of a bridge deck. Key components and layers include:

- APPROACH SLAB**: Located on the left side of the bridge deck.
- BEGIN/END BRIDGE**: Indicated at both the left and right ends of the main bridge deck.
- BITUMINOUS CONCRETE PAVEMENT**: The top layer of the approach slab.
- AS501/AS502 @ 12" BOTTOM**: A reinforcement layer located below the concrete deck.
- 1'-3" CONCRETE, HIGH PERFORMANCE CLASS B**: The main concrete deck layer.
- 3" BITUMINOUS CONCRETE PAVEMENT**: A layer on the top surface of the main bridge deck.
- SAWED PAVEMENT JOINT**: A joint in the pavement layer on the right side of the deck.
- ASPHALTIC PLUG JOINT**: A joint in the approach slab on the left side.
- AS901 @ 10" BOTTOM**: A reinforcement layer located below the main concrete deck.
- POLYETHYLENE SHEET**: A layer located below the main concrete deck.

The total length of the bridge deck is indicated as **20' - 0"**.

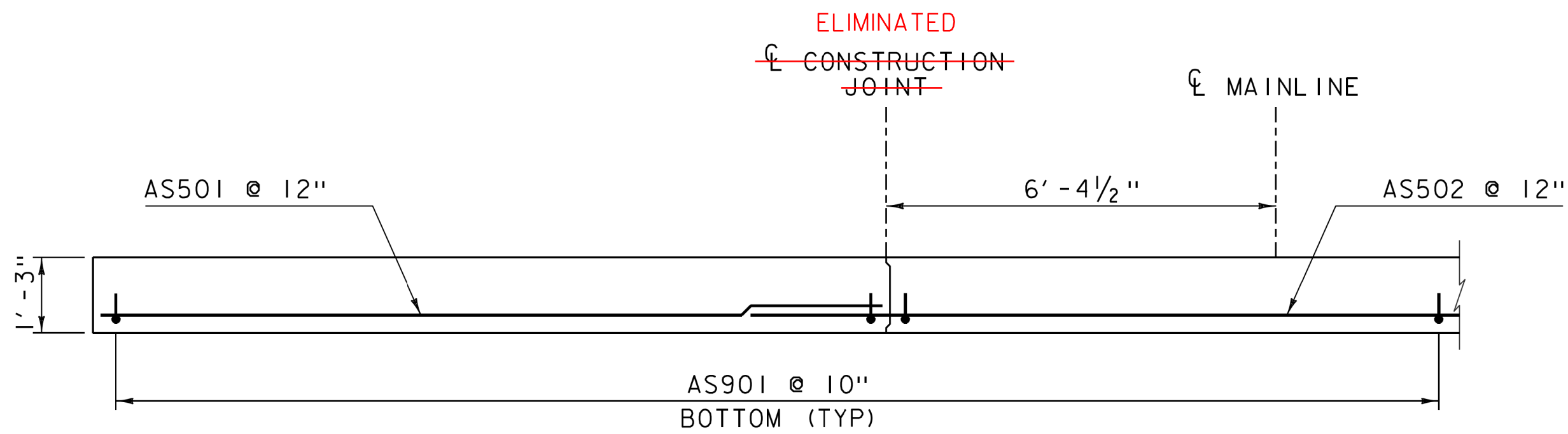
APPROACH SLAB ELEVATION VIEW

SCALE 1/2" = 1' - 0"



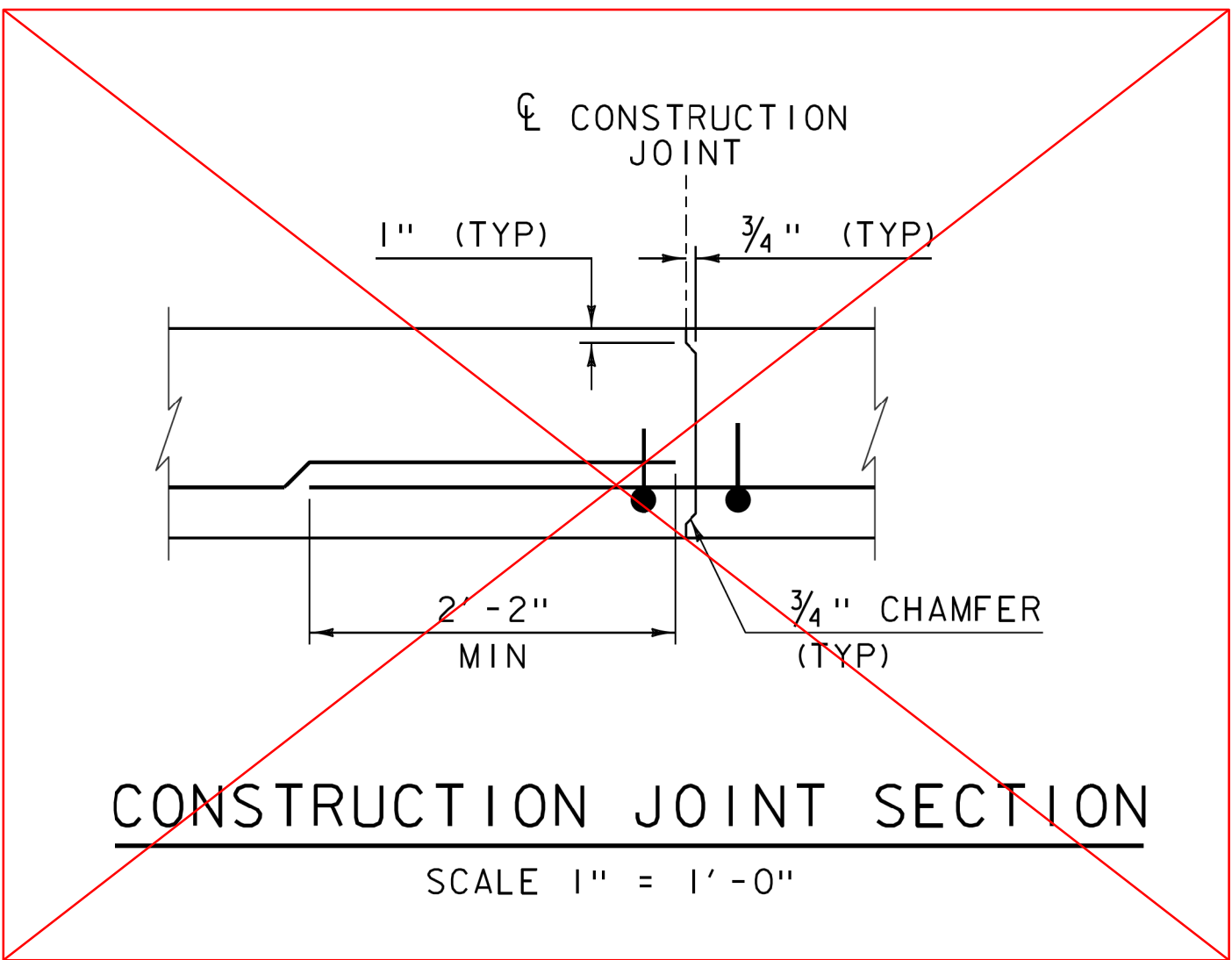
APPROACH SLAB #2 PLAN VIEW

NOT TO SCALE



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

APPROACH SLABS WERE PLACED FULL WIDTH,
TRANSVERSE REBAR - IAS501& IAS502 WERE
STAGGERED



APPROACH SLAB #1			
	STATION	OFFSET	ELEVATION
1A	392+87.68	-19.50	1300.19
BEGIN AS #1	392+92.14	℄	1299.06
1B	392+96.70	19.50	1297.93
1C	393+07.45	-19.50	1299.92
END AS #1	393+12.14	℄	1298.78
1D	393+16.94	19.50	1297.63

APPROACH SLAB #2			
	STATION	OFFSET	ELEVATION
2A	393+88.22	-19.50	1298.49
BEGIN AS #1	393+93.87	℄	1297.30
2B	393+99.65	19.50	1296.11
2C	394+07.98	-19.50	1298.06
END AS #2	394+13.87	℄	1296.86
2D	394+19.89	19.50	1295.65

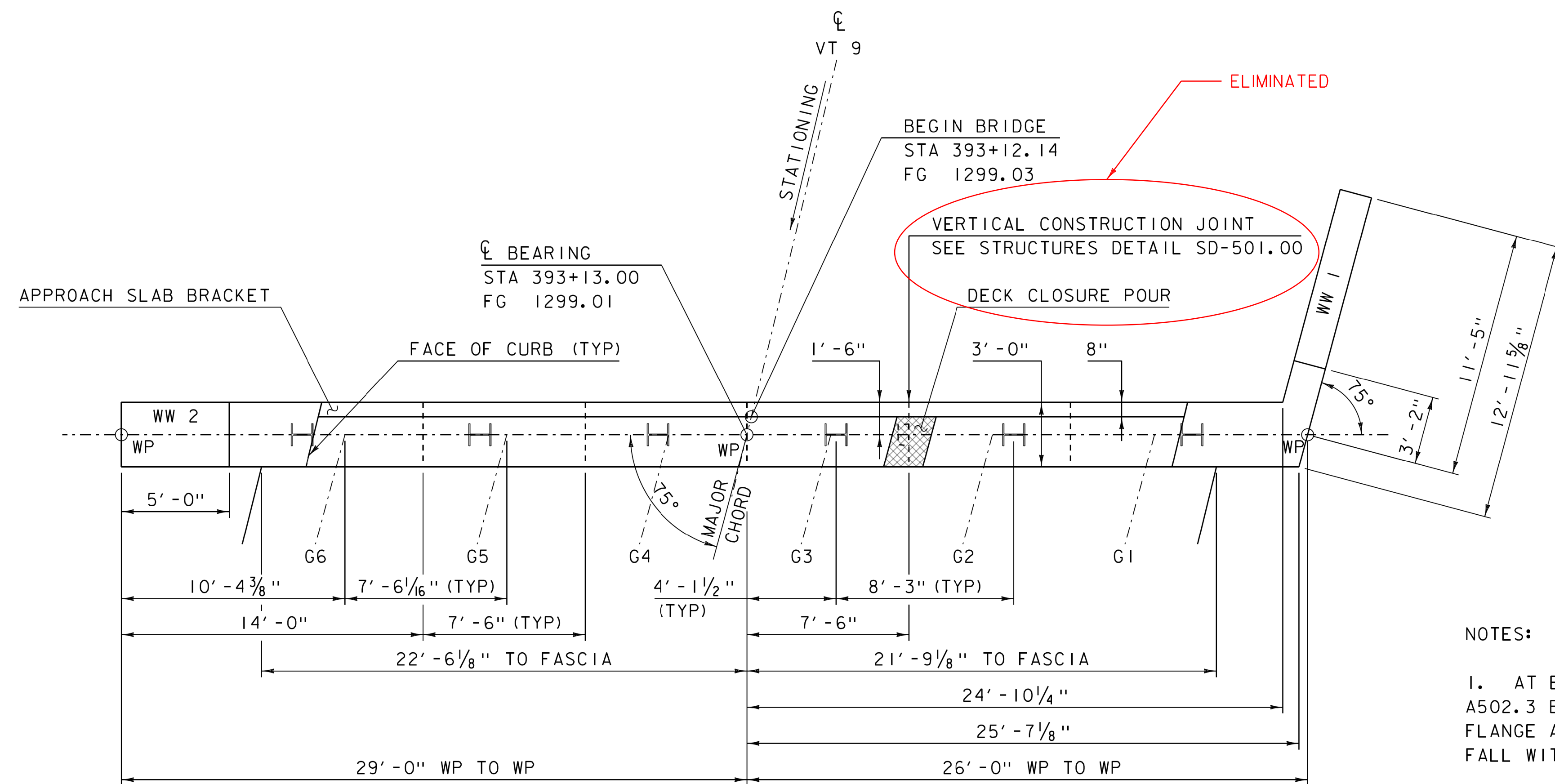
APPROACH SLAB ELEVATIONS

ALL ELEVATIONS ARE TOP OF SLAB

△ SHEET REVISED 5/2/2014.
REPLACES SHEET 28 IN CONTRACT PLANS.

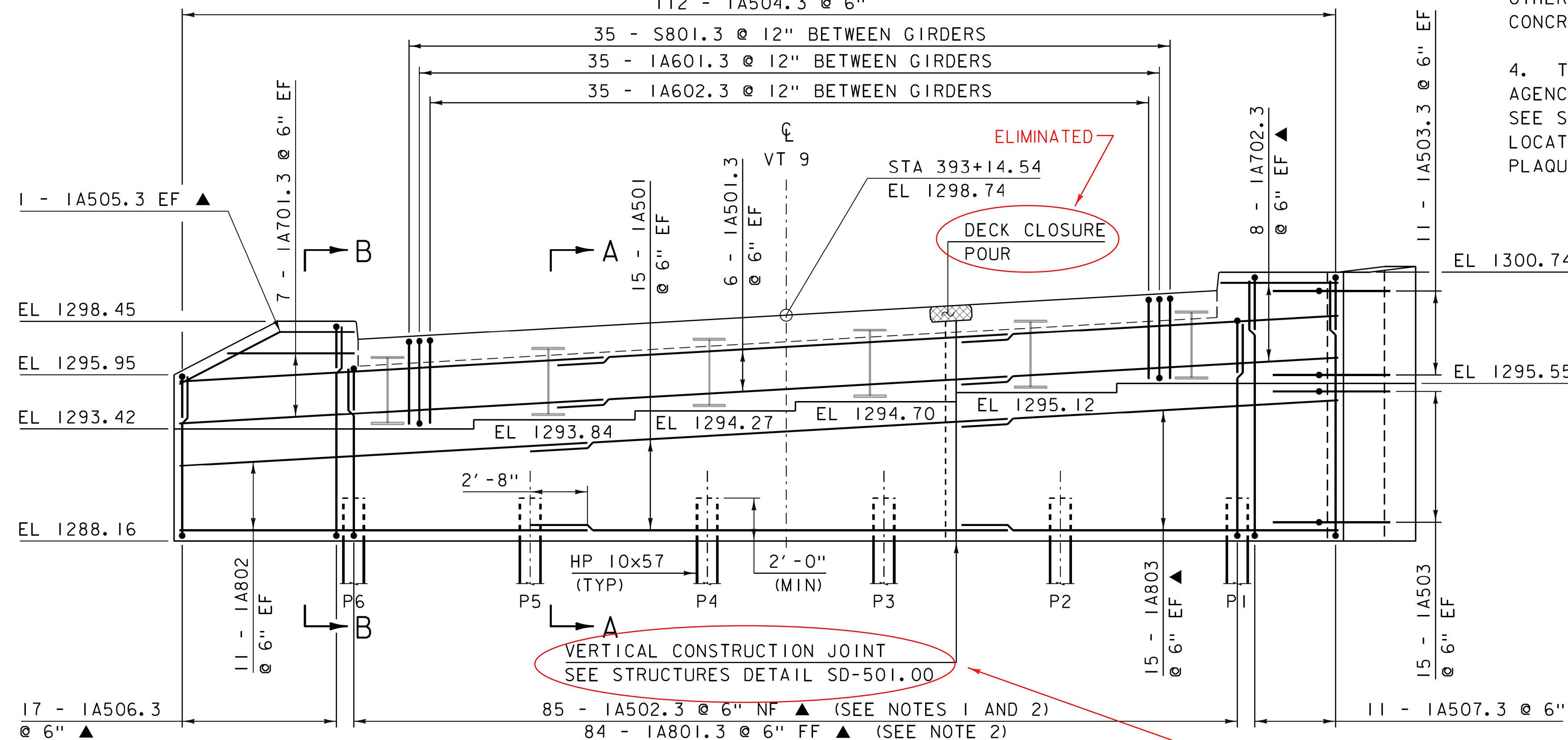
NOTE:
 NF = NEAR FACE
 EF = FAR FACE
 EF = EACH FACE
 3" CLEAR, UNLESS OTHERWISE
 SPECIFIED ON THE PLANS.
 2'-2" BAR LAP UNLESS OTHERWISE
 SPECIFIED ON THE PLANS.

PROJECT NAME: MARLBORO	
PROJECT NUMBER: BRF 010-1(43)	
FILE NAME: s10b414apslab.dgn	PLOT DATE: 02-MAY-2014
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. KLINEFELTER
DESIGNED BY: R. KLINEFELTER	CHECKED BY: J. SALVATORI
APPROACH SLAB DETAILS	SHEET 28 OF 50



ABUTMENT I PLAN

SCALE $\frac{1}{4}'' = 1' - 0''$
112 - 1A504.3 @ 6"



ABUTMENT I ELEVATION

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

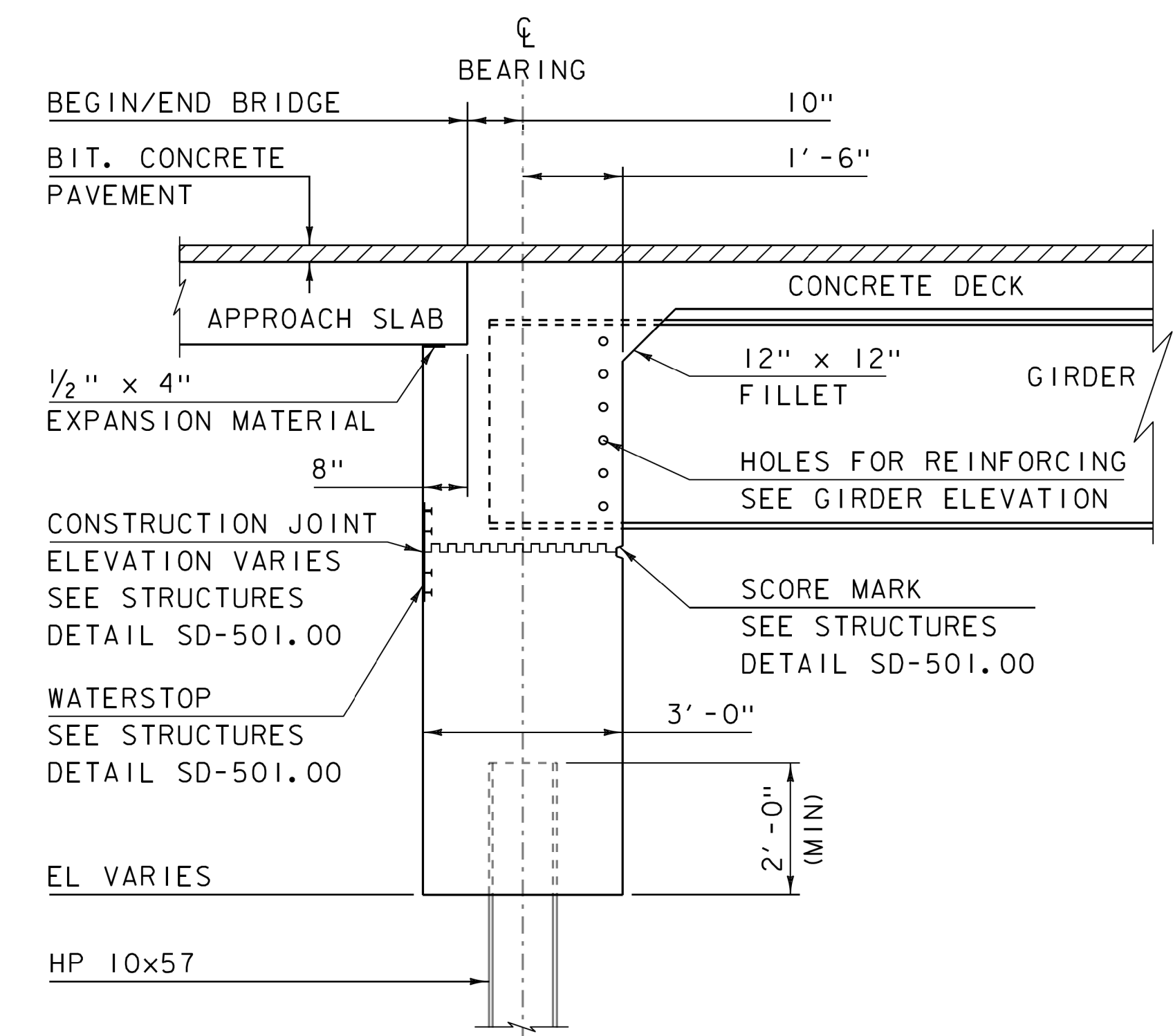
NOTES:

1. AT EACH GIRDER LOCATION, BUNDLE (2) A502.3 BARS ON EACH SIDE OF THE GIRDER FLANGE AND OMIT THE (2) A502.3 BARS THAT FALL WITHIN THE WIDTH OF THE FLANGE.
2. TURN THE BOTTOM LEG OF A502.3 AND A801.3 BARS TO CLEAR PILES AS NEEDED.
3. THE CONCRETE IN THE ABUTMENTS AND WINGWALLS ABOVE THE BRIDGE SEAT SHALL BE CONCRETE, HIGH PERFORMANCE CLASS A. ALL OTHER SUBSTRUCTURE CONCRETE SHALL BE CONCRETE, HIGH PERFORMANCE CLASS B.
4. THE BRIDGE PLAQUE FURNISHED BY THE AGENCY SHALL BE CAST INTO WINGWALL #2. SEE STRUCTURES DETAIL SD-502.00 FOR LOCATION AND POSITIONING OF THE BRIDGE PLAQUE.

NOTE:

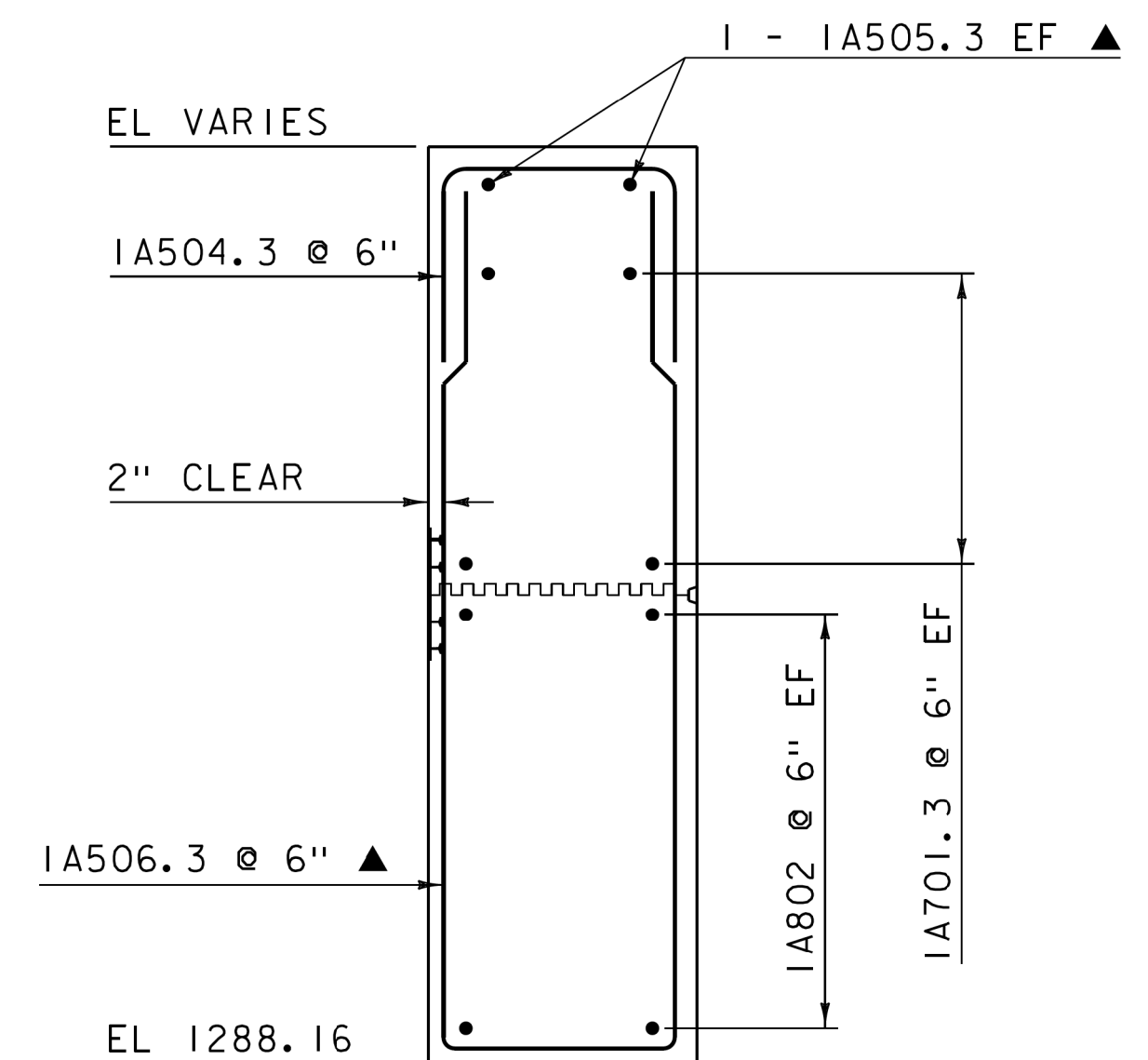
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

ALL TRANSVERSE REBARS WERE STAGGERED



SECTION A-A
ABUTMENT TYPICAL SECTION

SCALE $\frac{1}{2}'' = 1' - 0''$



SECTION B-B
WINGWALL 2 REINFORCING TYPICAL

SCALE $\frac{1}{2}'' = 1' - 0''$

△ - SHEET REVISED 5/7/2014.
REPLACES SHEET 29 IN CONTRACT PLANS.

PROJECT NAME: MARLBORO
PROJECT NUMBER: BRP 010-1(43)

FILE NAME: sl0414sub.Ldgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: R. KLINEFELTER
ABUTMENT I

PLOT DATE: 07-MAY-2014
DRAWN BY: R. KLINEFELTER
CHECKED BY: J. SALVATORI
SHEET 29 OF 50

THIS SHEET INTENTIONALLY LEFT BLANK

△ -SHEET ADDED 4/25/2014.
REPLACES SHEET 30 IN CONTRACT PLANS.

PROJECT NAME: MARLBORO	
PROJECT NUMBER: BRF 010-1 (43)	
FILE NAME: sl0414sub_1.dgn	PLOT DATE: 25-APR-2014
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. KLINEFELTER
DESIGNED BY: R. KLINEFELTER	CHECKED BY: J. SALVATORI
BLANK	SHEET 30 OF 50



THIS SHEET INTENTIONALLY LEFT BLANK

△ -SHEET ADDED 4/25/2014.
REPLACES SHEET 31 IN CONTRACT PLANS.

PROJECT NAME: MARLBORO	
PROJECT NUMBER: BRF 010-1 (43)	
FILE NAME: sl0414sub_1.dgn	PLOT DATE: 25-APR-2014
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. KLINEFELTER
DESIGNED BY: R. KLINEFELTER	CHECKED BY: J. SALVATORI
BLANK	SHEET 31 OF 50



REINFORCING STEEL SCHEDULE

~ NOTES ~

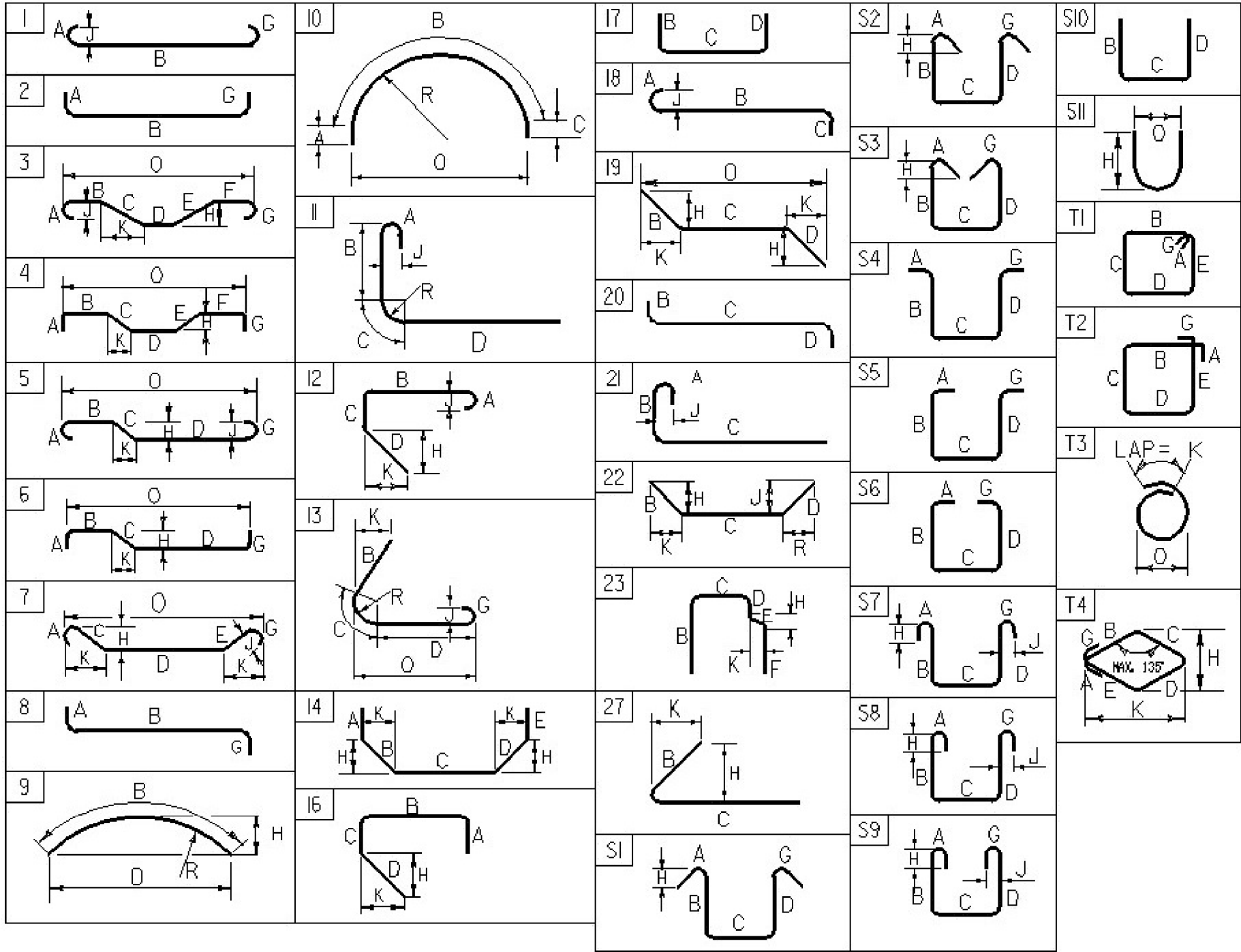
- UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-SI). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
- 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".
- BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
- ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
- "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
- "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
- WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
- ▲ DENOTES BARS TO BE CUT IN FIELD.
- * DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
- △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
- .3 IN BAR MARK SUFFIX DENOTES LEVEL III REINFORCING STEEL.

ASTM STANDARD REINFORCING BARS				
BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER INCHES	AREA INCHES ²	PERIMETER INCHES
#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	2.044	0.875	0.60	2.749
#8	2.670	1.000	0.79	3.142
#9	3.400	1.128	1.00	3.544
#10	4.303	1.270	1.27	3.990
#11	5.313	1.410	1.56	4.430
#14	7.65	1.693	2.25	5.32
#18	13.60	2.257	4.00	7.09

△ - SHEET ADDED 5/7/2014.
REPLACES SHEET 33 IN CONTRACT PLANS.

PROJECT NAME:	MARLBORO
PROJECT NUMBER:	BRF 010-1(43)
FILE NAME:	s10b414rss.dgn
PROJECT MANAGER:	K. HIGGINS
DESIGNED BY:	R. KLINEFELTER
REINFORCING STEEL SCHEDULE SHEET	
PLOT DATE:	5/7/2014
DRAWN BY:	R. KLINEFELTER
CHECKED BY:	J. SALVA
SHEET	33 OF 33

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-S1). 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.
0. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
1. .3 IN BAR MARK SUFFIX DENOTES LEVEL III REINFORCING STEEL.

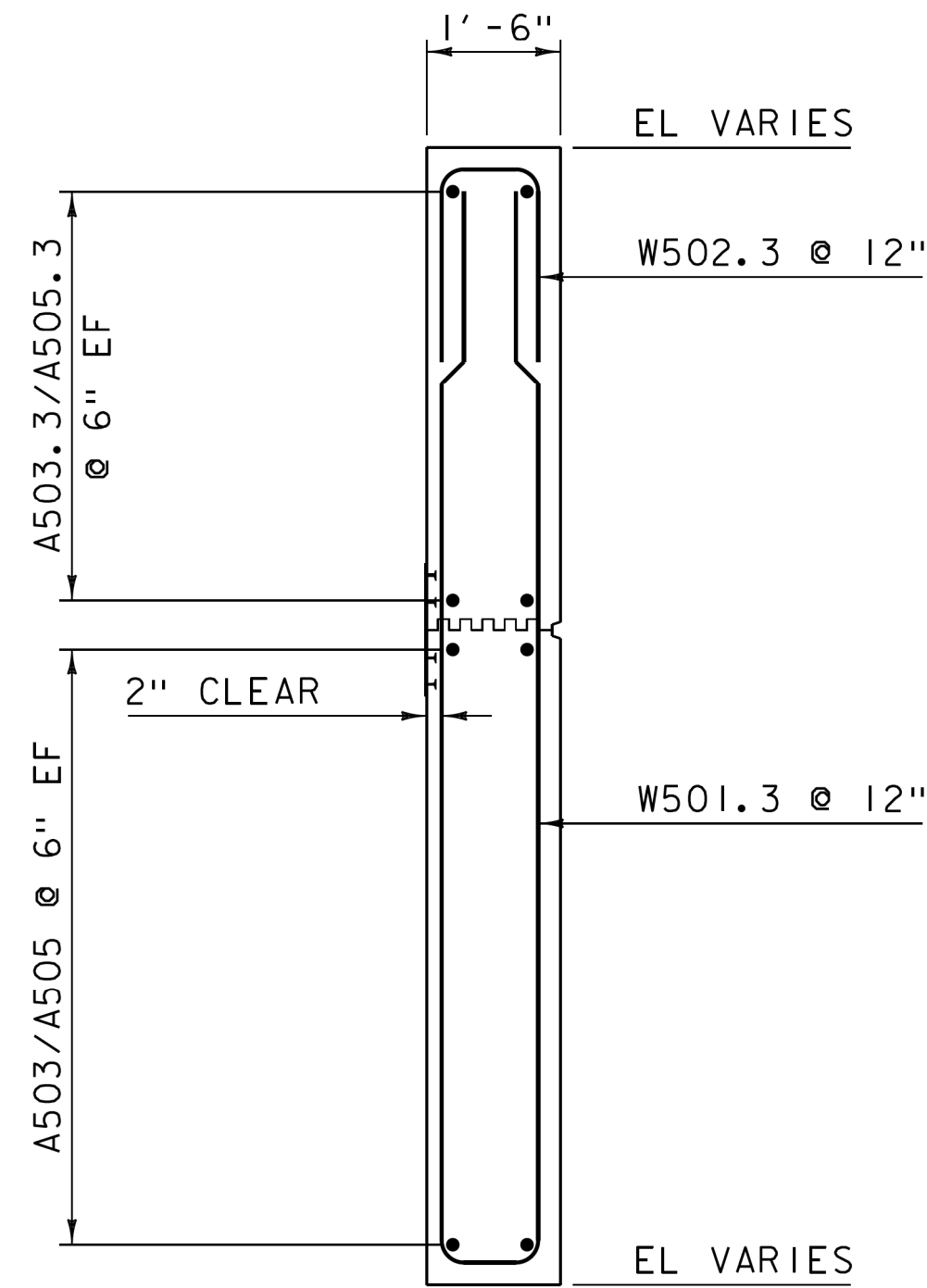


ASTM STANDARD REINFORCING BARS				
BAR SIZE DESIGNA- TION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER INCHES	AREA INCHES ²	PERIMETER INCHES
#3	0.376	0.375	0.11	1.178
#4	0.668	0.500	0.20	1.571
#5	1.043	0.625	0.31	1.963
#6	1.502	0.750	0.44	2.356
#7	2.044	0.875	0.60	2.749
#8	2.670	1.000	0.79	3.142
#9	3.400	1.128	1.00	3.544
#10	4.303	1.270	1.27	3.990
#11	5.313	1.410	1.56	4.430
#14	7.65	1.693	2.25	5.32
#18	13.60	2.257	4.00	7.09

⚠ -SHEET ADDED 5/7/2014.
REPLACES SHEET 33 IN CONTRACT PLANS.

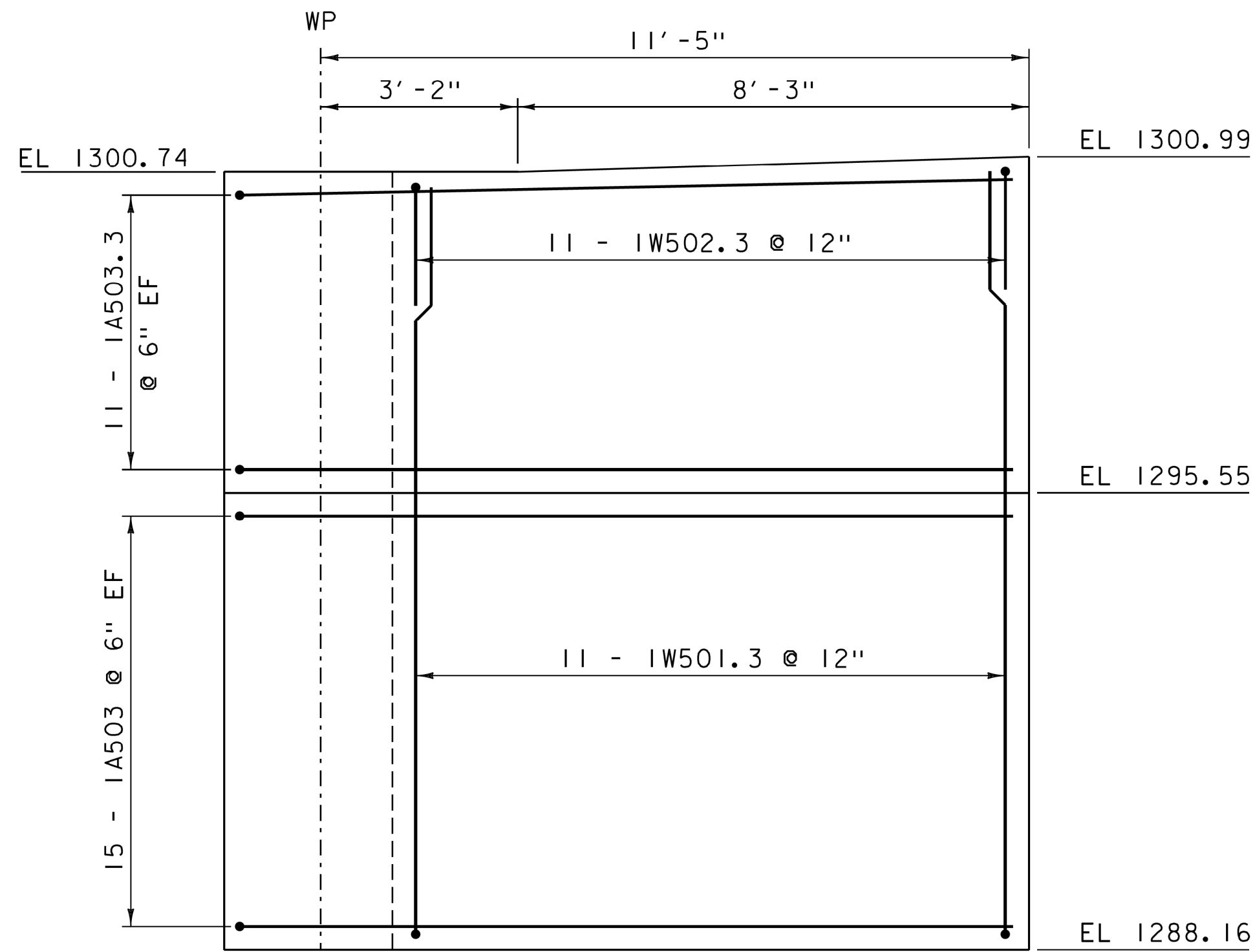
PROJECT NAME: **MARLBORO**
PROJECT NUMBER: **BRF 010-1(43)**

FILE NAME: s10b414rss.dgn	PLOT DATE: 5/7/2014
PROJECT MANAGER: K. HIGGINS	DRAWN BY: R. KLINEFELTER
DESIGNED BY: R. KLINEFELTER	CHECKED BY: J. SALVATORI
REINFORCING STEEL SCHEDULE SHEET	SHEET 33 OF 50



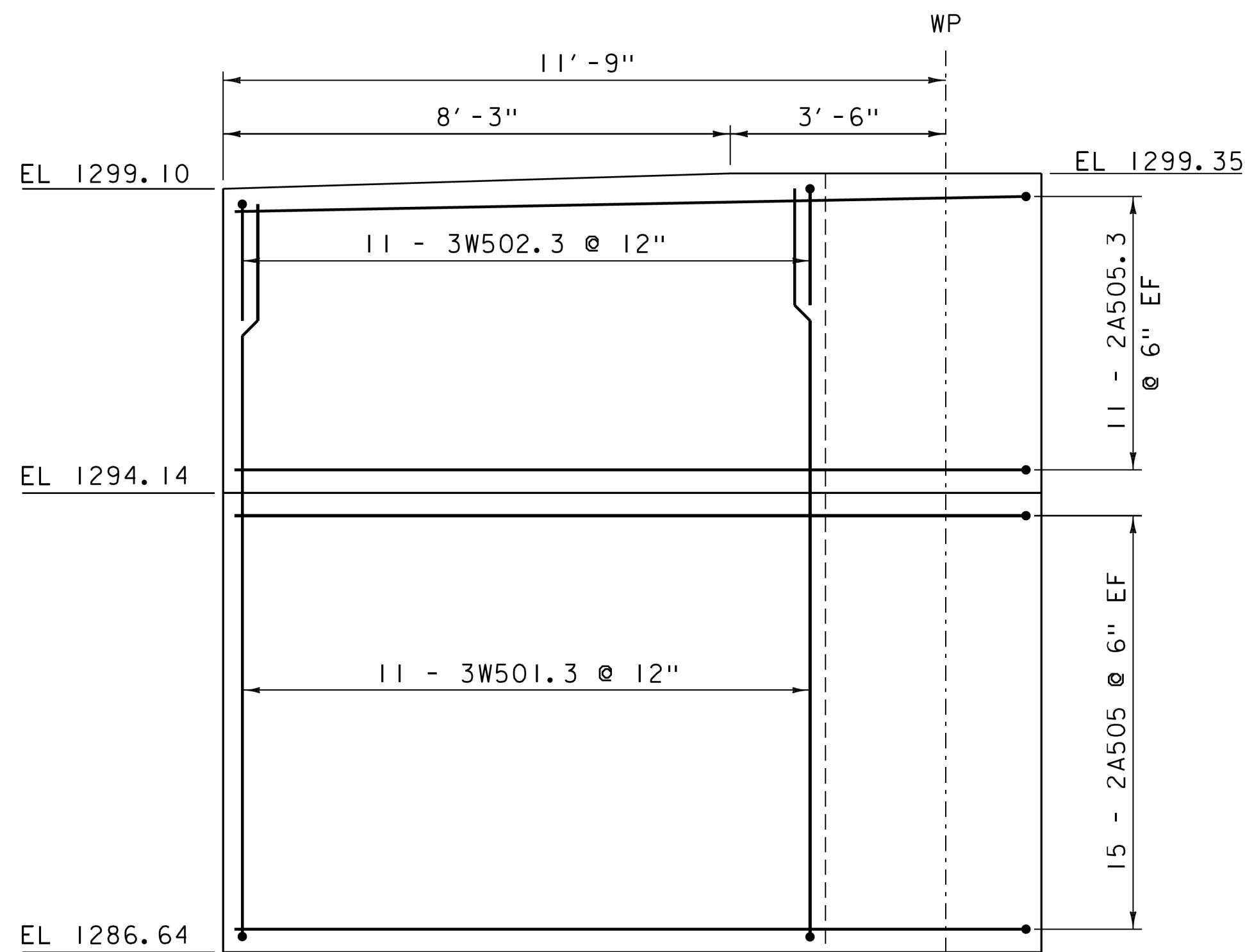
WINGWALL TYPICAL

SCALE $\frac{1}{2}$ " = 1'-0"



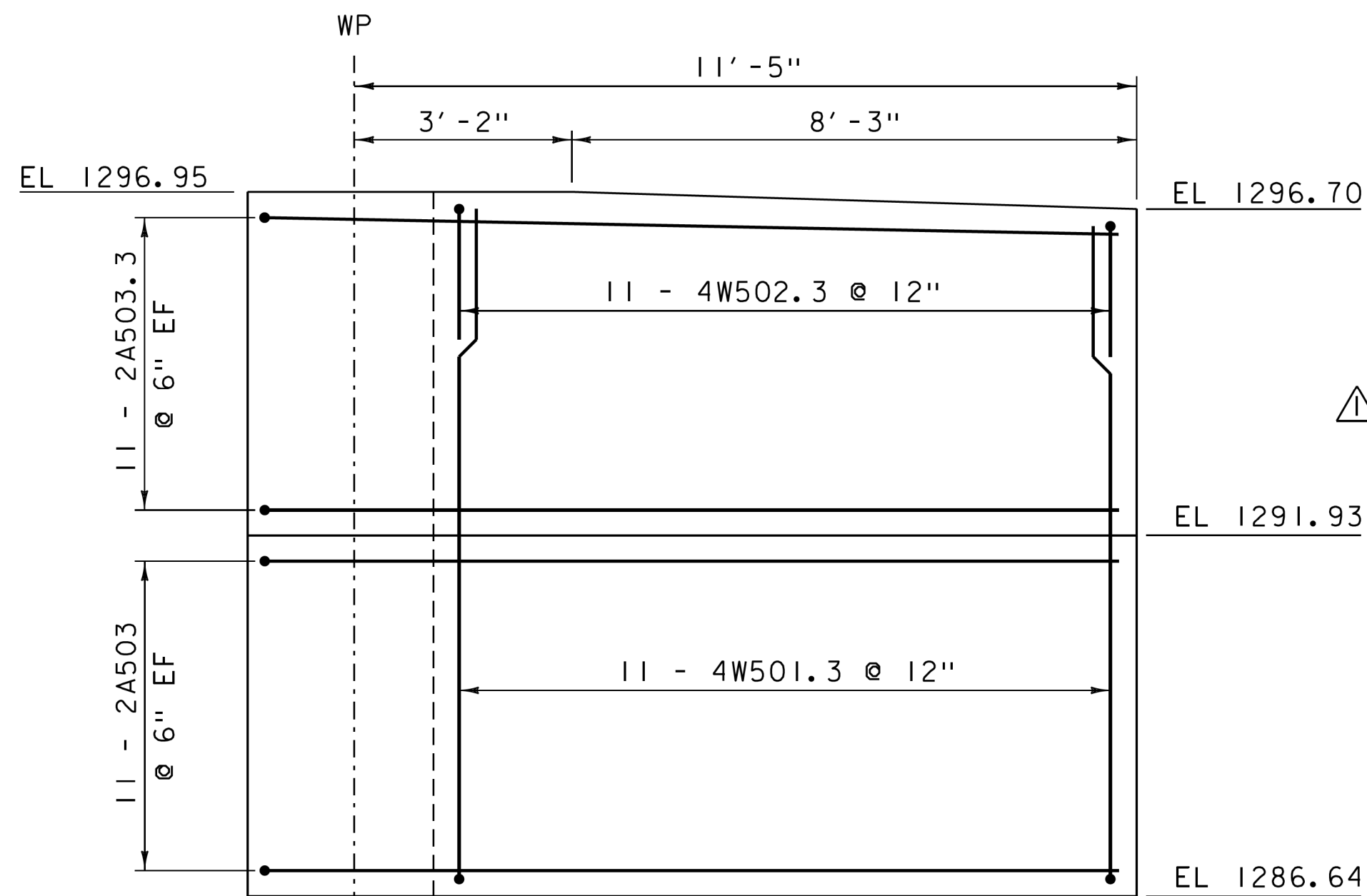
WINGWALL 1 ELEVATION

SCALE $\frac{1}{2}$ " = 1'-0"



WINGWALL 3 ELEVATION

SCALE $\frac{1}{2}$ " = 1'-0"



WINGWALL 4 ELEVATION

SCALE $\frac{1}{2}$ " = 1'-0"

△ -SHEET REVISED 5/6/2014.
REPLACES SHEET 34 IN CONTRACT PLANS.

NOTE:

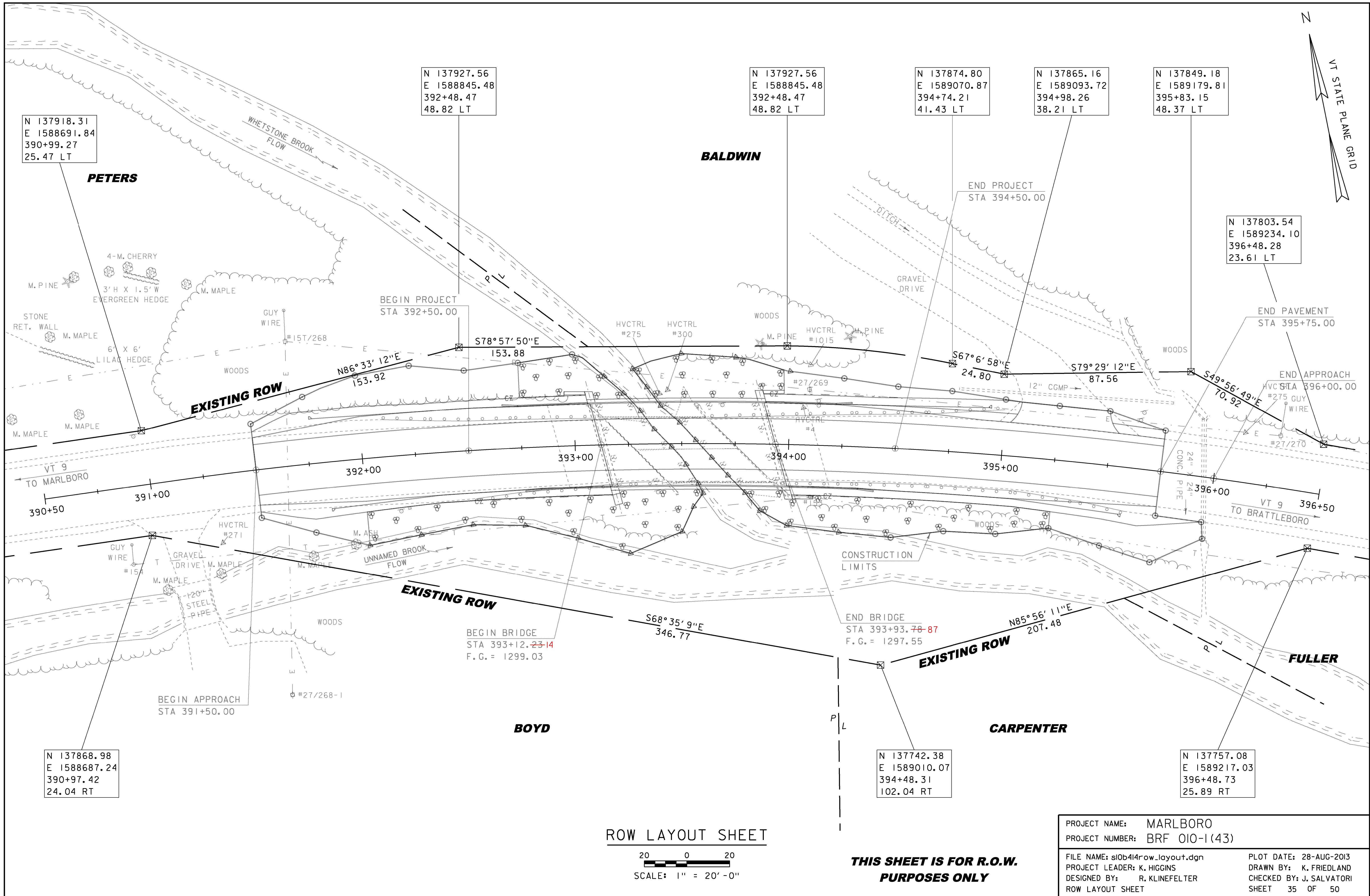
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
3" CLEAR, UNLESS OTHERWISE
SPECIFIED ON THE PLANS.
2'-2" BAR LAP UNLESS OTHERWISE
SPECIFIED ON THE PLANS.

PROJECT NAME: MARLBORO
PROJECT NUMBER: BRF OIO-1 (43)

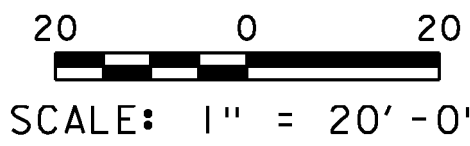
FILE NAME: sl0414ww.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: R. KLINEFELTER
WINGWALL DETAILS

PLOT DATE: 06-MAY-2014
DRAWN BY: J. SALVATORI
CHECKED BY: R. KLINEFELTER
SHEET 34 OF 50





ROW LAYOUT SHEET



**THIS SHEET IS FOR R.O.W.
PURPOSES ONLY**

PROJECT NAME: MARLBORO
PROJECT NUMBER: BRF 010-1 (43)

FILE NAME: sl0b414row_layout.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: R. KLINEFELTER
ROW LAYOUT SHEET

PLOT DATE: 28-AUG-2013
DRAWN BY: K. FRIEDLAND
CHECKED BY: J. SALVATORI
SHEET 35 OF 50

EPSC PLAN NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF BRIDGE 48 WITH RELATED ROADWAY APPROACH AND CHANNEL WORK. THE PROJECT LOCATION IS IN THE TOWN OF MARLBORO, VT ON VERMONT ROUTE 9, BEGINNING APPROXIMATELY 0.870 MILES FROM THE MARLBORO AND BRATTLEBORO TOWN LINE. ONE-WAY TRAFFIC WILL BE MAINTAINED ON THE EXISTING ROAD THROUGH THE USE OF PHASED CONSTRUCTION AND TEMPORARY TRAFFIC SIGNALS.

THE NEW PREFABRICATED CONCRETE/STEEL COMPOSITE SUPERSTRUCTURE WILL BE APPROXIMATELY 82 FEET IN LENGTH WITH 118 FEET OF ROADWAY WORK.

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 LAYOUT PLAN.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.68 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL BE COMPLETED IN ONE CONSTRUCTION SEASON.

1.2 SITE INVENTORY

1.2.1 TOPOGRAPHY

THE TOPOGRAPHY OF THE AREA IS MOUNTAINOUS, MOSTLY FORESTED WITH SOME OPEN AREAS. VT ROUTE 9 AND TWO GRAVEL DRIVEWAYS ARE WITHIN THE PROJECT SITE. THE IMMEDIATE AREA IS RURAL RESIDENTIAL WITH SEVERAL HOUSES IN THE GENERAL VICINITY OF THE PROJECT. THERE ARE OVERHEAD UTILITIES WHICH MAY HAVE TO BE RELOCATED PRIOR TO CONSTRUCTION.

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

WHETSTONE BROOK AND A DOWNSTREAM UNNAMED BROOK ARE THE ONLY WATER SOURCES ON THE PROJECT SITE. THE BROOK IS CLASSIFIED AS SINUOUS WITH A STREAM BED CONSISTING OF GRAVEL AND COBBLES. THE TRIBUTARY AREA AT THE BRIDGE CROSSING IS 3.3 SQUARE MILES. AT THE END OF THE PROJECT, THERE IS A 24 INCH CULVERT UNDER THE ROAD WHICH CONVEYS WATER FROM A DITCH TOWARDS THE BROOK. 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 EMBANKMENT, AND THAT WHICH FOLLOWS VT ROUTE 9 ALONG THE -2.1% GRADE AT THE BEGINNING OF THE PROJECT LIMITS AND -2.6% GRADE AT THE END OF THE PROJECT LIMITS.

1.2.3 VEGETATION

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

1.2.4 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF WINDHAM, VERMONT. SOILS ON THE PROJECT SITE ARE 46D BERKSHIRE AND MONADNOCK FINE SANDY LOAM, 15% TO 25% SLOPES, “K FACTOR” = 0.24/0.28 AND 26C WESTBURY FINE SANDY LOAM, 8% TO 15% SLOPES, “K FACTOR” = 0.37. THE SOIL IS CONSIDERED HIGHLY ERODIBLE DUE TO SIGNIFICANT SLOPES.

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: NONE.
HISTORICAL AREAS: NONE.
ARCHEOLOGICAL AREAS: NONE.
PRIME AGRICULTURAL LAND: NONE.
THREATENED AND ENDANGERED SPECIES: NONE.
WATER RESOURCE: WHETSTONE BROOK.
WETLANDS: NONE.

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 FOR SPECIFIC GUIDANCE AND CONSTRUCTION DETAILING.

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

1.4.1 MARK SITE BOUNDARIES

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

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

1.4.2 LIMIT DISTURBANCE AREA

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

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

1.4.3 SITE ENTRANCE/EXIT STABILIZATION

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

FOLLOWING GUIDANCE FROM THE LOW RISK SITE HANDBOOK, THE CONTRACTOR SHALL PROPOSE LOCATIONS FOR STABILIZED CONSTRUCTION ENTRANCES ON THE CONTRACTOR DEVELOPED 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.

FILTER CURTAIN SHALL BE INSTALLED AS PROPOSED ON THE EPSC PLANS PRIOR TO ANY CHANNEL WORK.

FOLLOWING GUIDANCE FROM THE LOW RISK SITE HANDBOOK, THE CONTRACTOR SHALL PROPOSE LOCATIONS FOR SILT FENCE ON THE CONTRACTOR DEVELOPED EPSC PLAN.

1.4.5 DIVERT UPLAND RUNOFF

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

THE NEED TO DIVERT UPLAND RUNOFF IS NOT ANTICIPATED AT THIS SITE.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

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

THE USE OF STONE CHECK DAMS IS NOT ANTICIPATED FOR THIS PROJECT.

1.4.7 CONSTRUCT PERMANENT CONTROLS

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

THE USE OF PERMANENT STORMWATER TREATMENT DEVICES IS NOT ANTICIPATED FOR THIS PROJECT.

1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION

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

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

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

1.4.9 WINTER STABILIZATION

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

1.4.10 STABILIZE SOIL AT FINAL GRADE

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

SEED, MULCH, FERTILIZER AND LIME SHALL BE USED TO ESTABLISH PERMANENT VEGETATION. FOR SLOPES STEEPER THAN 1:3, BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED INSTEAD OF MULCH.

1.4.11 DE-WATERING ACTIVITIES

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

DEWATERING IS NOT ANTICIPATED AT THIS SITE. IF DEWATERING IS NECESSARY, THE SPECIFIC MEANS FOR TREATMENT OF DISCHARGE SHALL BE PROVIDED BY THE CONTRACTOR.

1.4.12 INSPECT YOUR SITE

INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS OR CONSTRUCTION GENERAL PERMIT AUTHORIZATION STIPULATIONS.

1.5 SEQUENCE AND STAGING

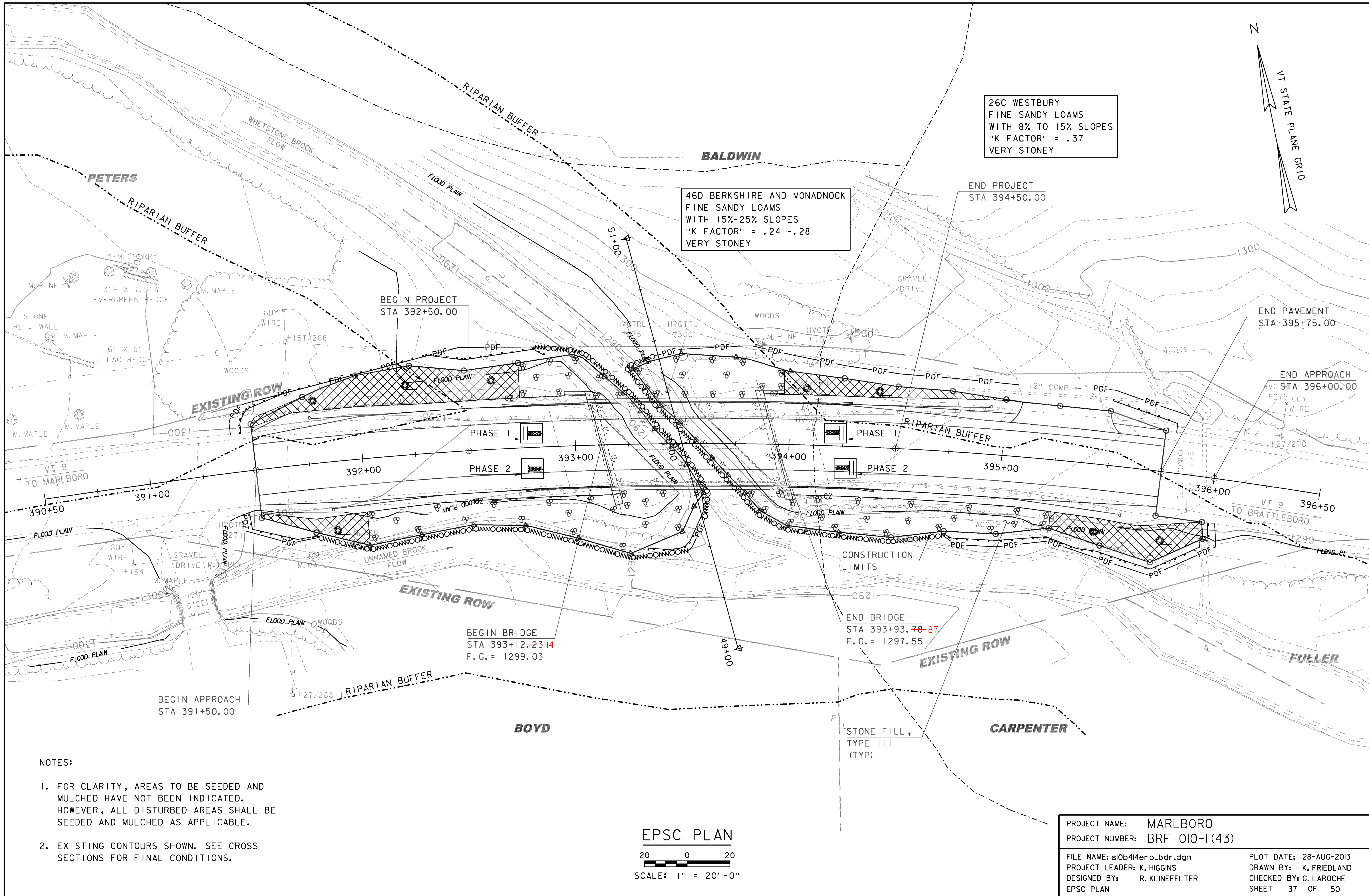
THIS SECTION WILL BE DEVELOPED BY THE CONTRACTOR USING THE GUIDANCE OUTLINED IN THE VTRANS EPSC PLAN CONTRACTOR CHECKLIST.

1.5.1 CONSTRUCTION SEQUENCE

1.5.2 OFF-SITE ACTIVITIES

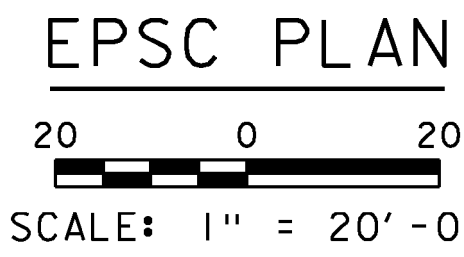
IN ADDITION TO THE CONTRACTOR CHECKLIST ANY ACTIVITIES OUTSIDE THE CONSTRUCTION LIMITS SHALL FOLLOW SUBSECTIONS 105.25- 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

PROJECT NAME: MARLBORO	
PROJECT NUMBER: BRF OIO-1 (43)	
FILE NAME: si0b414erode+.dgn	PLOT DATE: 28-AUG-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: K. FRIEDLAND
DESIGNED BY: R. KLINEFELTER	CHECKED BY: G. LAROCHE
EPSC NARRATIVE	SHEET 36 OF 50

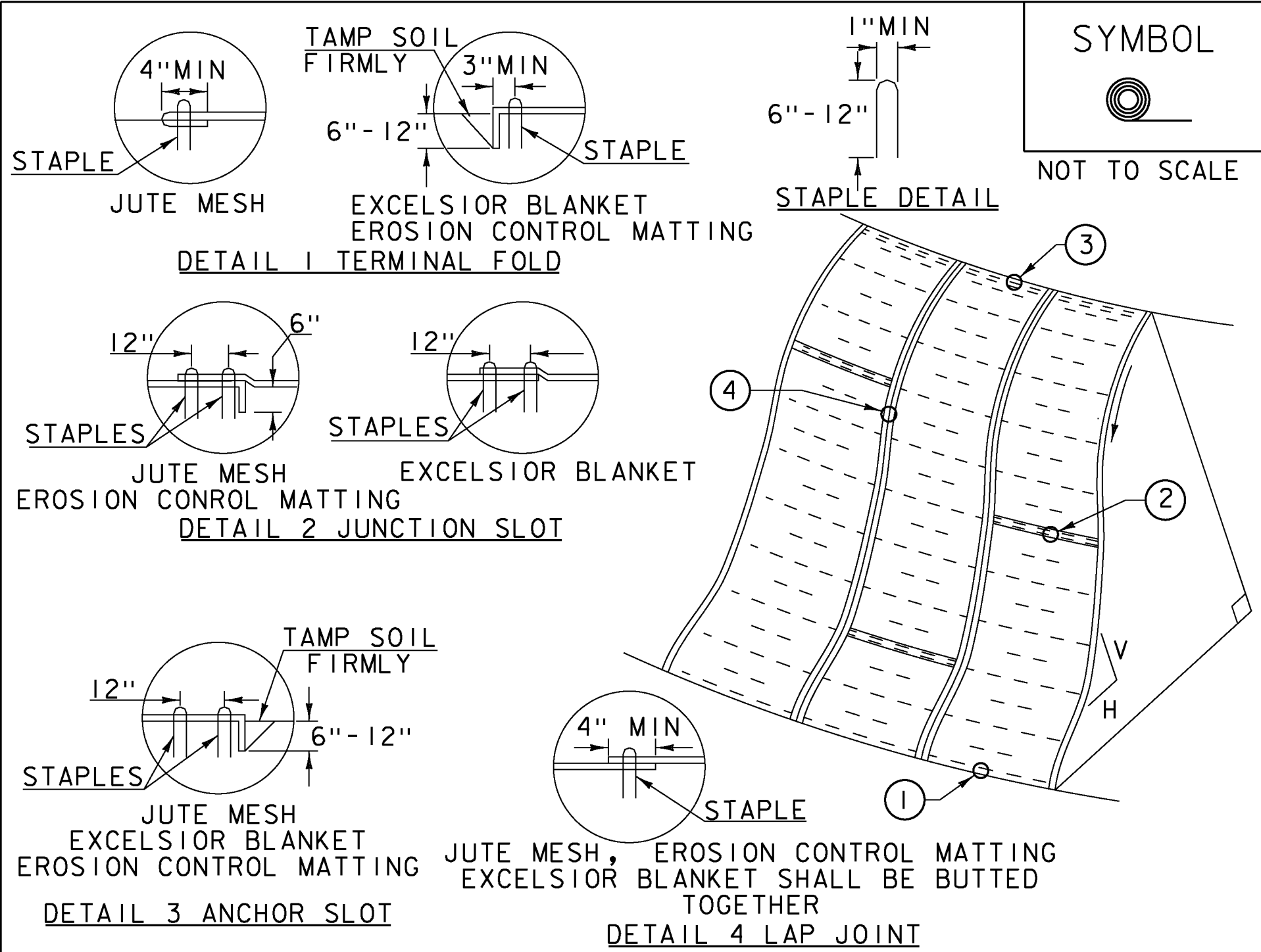


NOTES:

- 1. FOR CLARITY, AREAS TO BE SEEDED AND MULCHED HAVE NOT BEEN INDICATED. HOWEVER, ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED AS APPLICABLE.
- 2. EXISTING CONTOURS SHOWN. SEE CROSS SECTIONS FOR FINAL CONDITIONS.



PROJECT NAME: MARLBORO	
PROJECT NUMBER: BRF 010-1 (43)	
FILE NAME: sl0b414ero_bdr.dgn	PLOT DATE: 28-AUG-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: K. FRIEDLAND
DESIGNED BY: R. KLINEFELTER	CHECKED BY: G. LAROCHE
EPSC PLAN	SHEET 37 OF 50



CONSTRUCTION SPECIFICATIONS

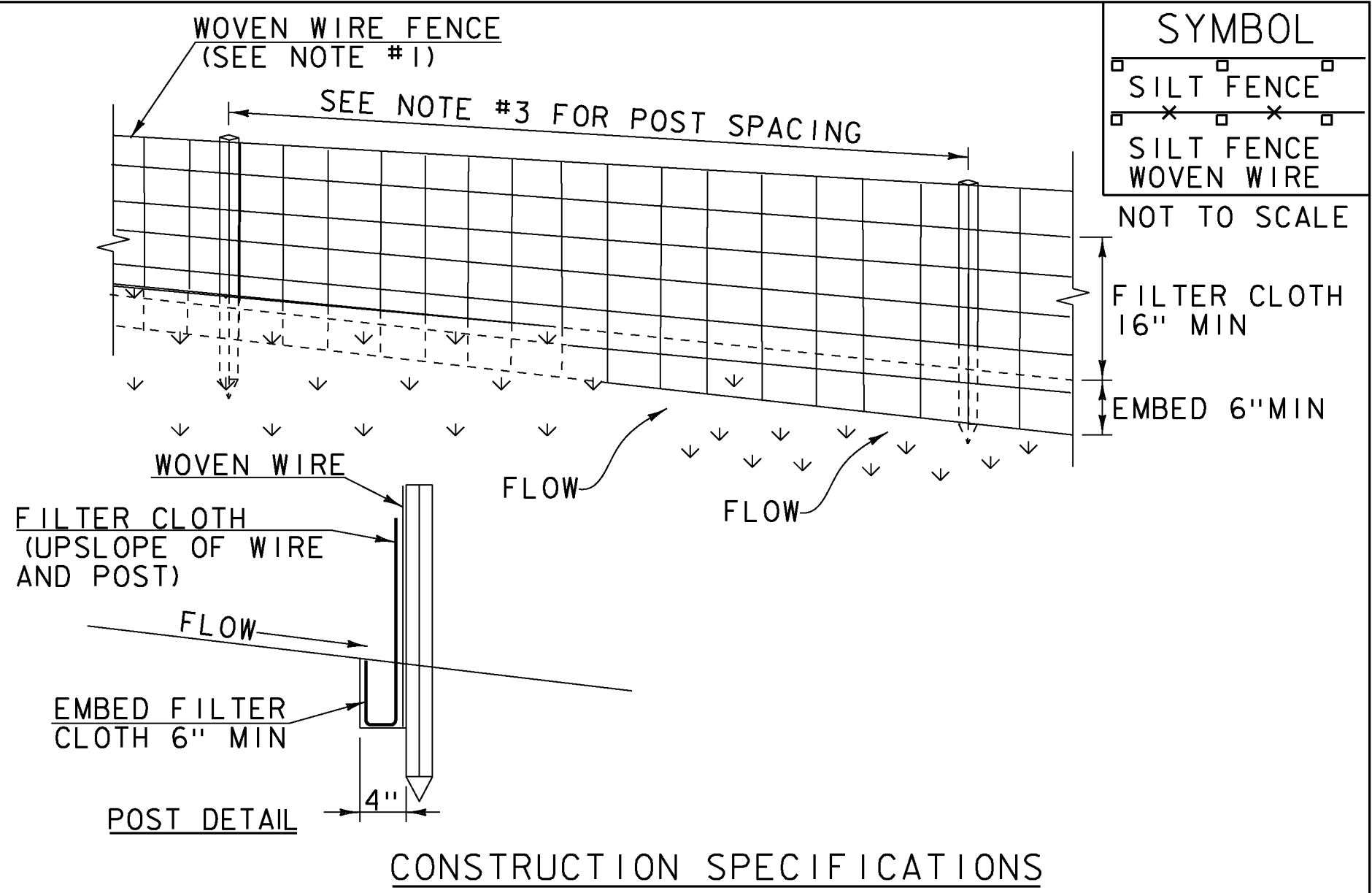
1. APPLY TO SLOPES GREATER THAN 3H: 1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 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. WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
2. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAF1100X, STABILINKA T140N OR APPROVED EQUIVALENT.
3. POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.
4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

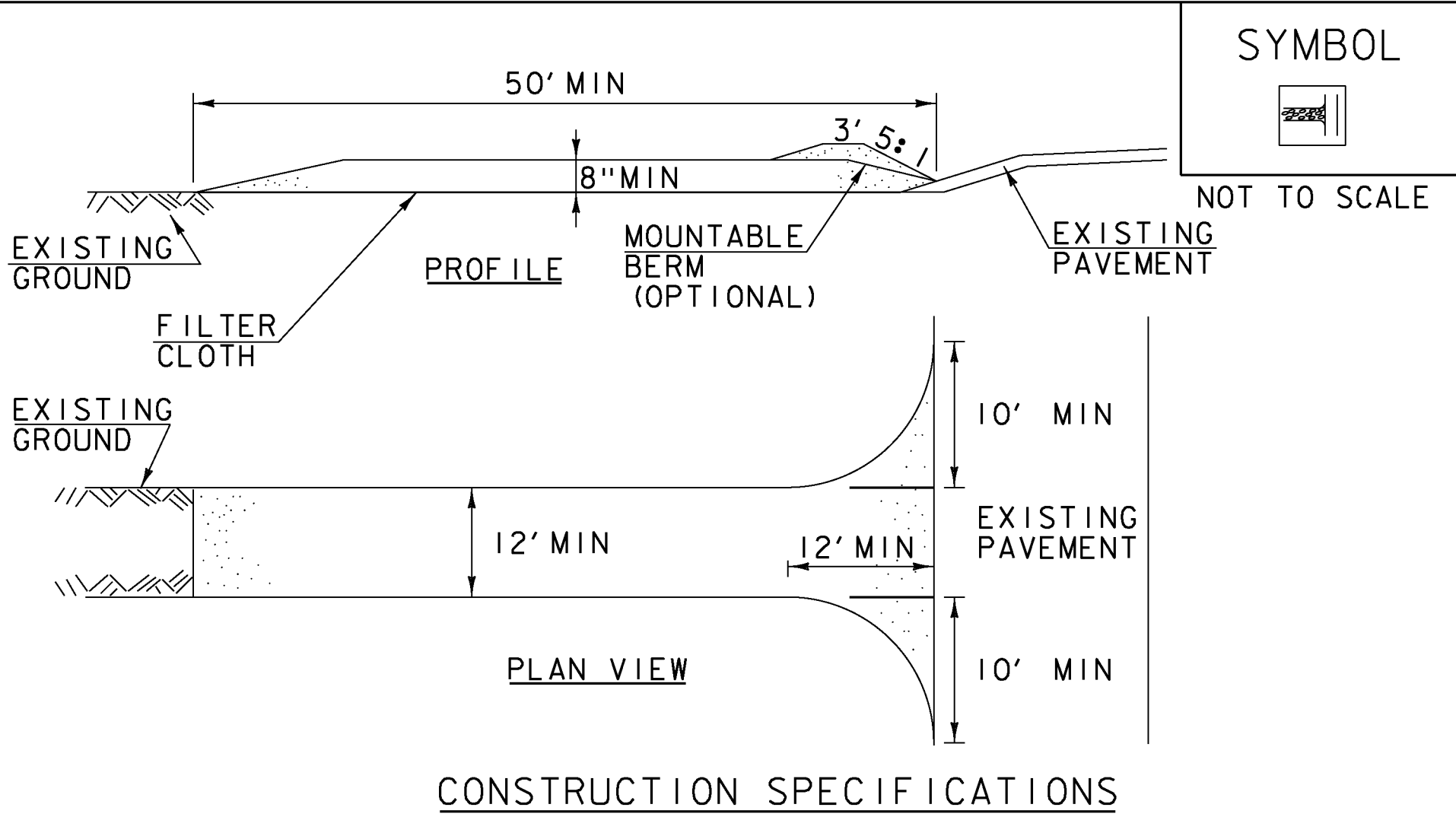
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SILT FENCE

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

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

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



CONSTRUCTION SPECIFICATIONS

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

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

STABILIZED
CONSTRUCTION
ENTRANCE

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

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

REVISIONS		
MARCH 24, 2008	WHF	
JANUARY 13, 2009	WHF	

PROJECT NAME: MARLBORO
PROJECT NUMBER: BR 010-1 (43)

FILE NAME: s10b414ero.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: R. KLINEFELTER
EPSC DETAILS 1
PLOT DATE: 28-AUG-2013
DRAWN BY: K. FRIEDLAND
CHECKED BY: G. LAROCHE
SHEET 38 OF 50

SYMBOL

NOT TO SCALE

SECTION A-A

NOTE: THIS DRAWING IS A DEPICTION OF A TYPICAL INSTALLATION OF FILTER CURTAIN. IT IN NO WAY DEFINES THE TYPE OR USE OF COFFERDAM IF USED.

100' MAX LENGTH B/T ANCHORS

EXISTING HIGHWAY

CONSTRUCTION GRADING LIMIT

10' MIN

ANCHOR

CONSTRUCTION SPECIFICATIONS

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

FILTER CURTAIN

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

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

SYMBOL

NOT TO SCALE

RISE = 2'-3'

DRAIN

RUN

NOTE: RUN MUST BE GREATER THAN RISE

STAIR STEPPING CUT SLOPES

GROOVING SLOPES

NOTE: GROOVE SLOPE BY CUTTING FURROWS ALONG THE CONTOUR. IRREGULARITIES IN THE SOIL SURFACE CATCH RAINWATER AND RETAIN LIME, FERTILIZER AND SEED.

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

SURFACE ROUGHENING

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 CONSIDERED INCIDENTAL TO THE CONTRACT

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF

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

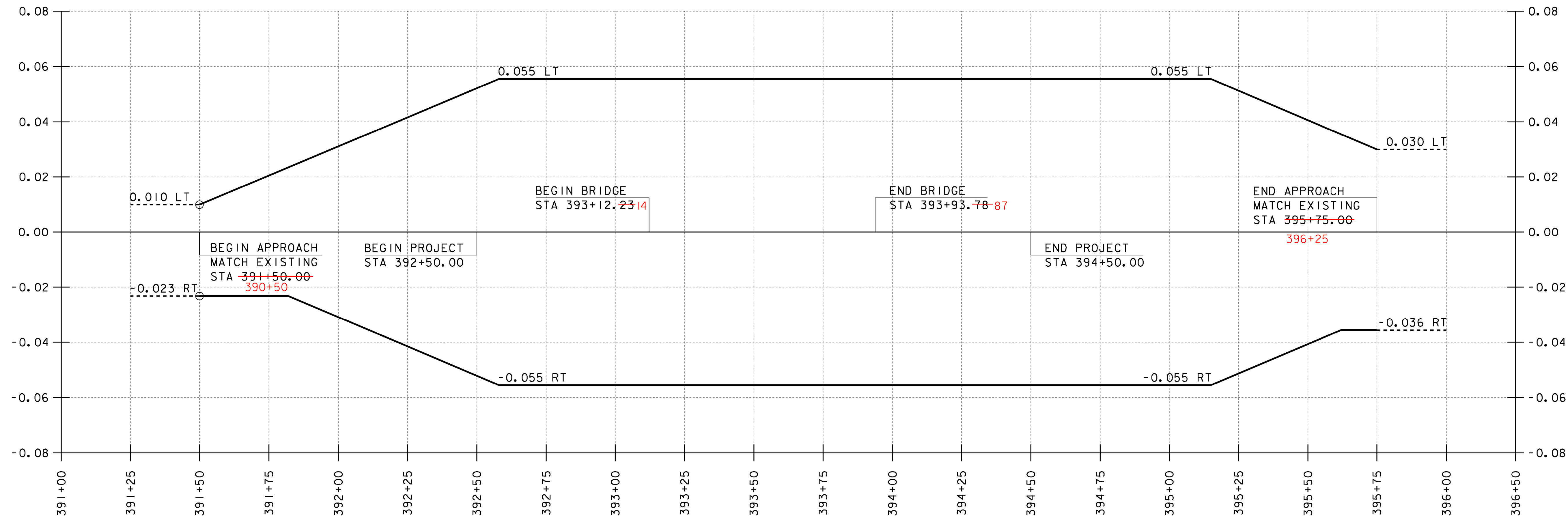
VAOT URBAN AREA MIX					
		LBS/AC			
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
42.5%	34	68	CREeping RED FESCUE	85%	98%
10.0%	8	16	PERENNIAL RYE GRASS	90%	95%
42.5%	34	68	KENTUCKY BLUE GRASS	85%	85%
5.0%	4	8	ANNUAL RYE GRASS	85%	95%
100%	80	160			

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

CONSTRUCTION GUIDANCE

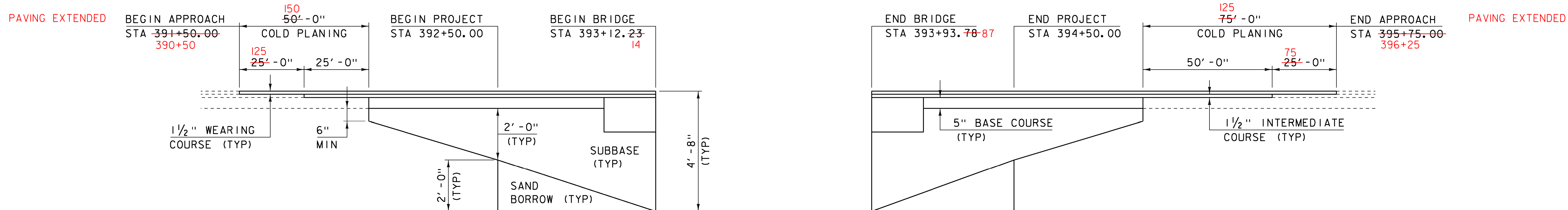
1. RURAL SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
2. URBAN SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED LAWN AREAS DISTURBED BY THE CONTRACTOR.
3. ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING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

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES	TURF ESTABLISHMENT
	REVISIONS
	JUNE 23, 2009 WHF
	JANUARY 15, 2010 WHF
	FEBRUARY 16, 2011 WHF



VT 9 BANKING DIAGRAM

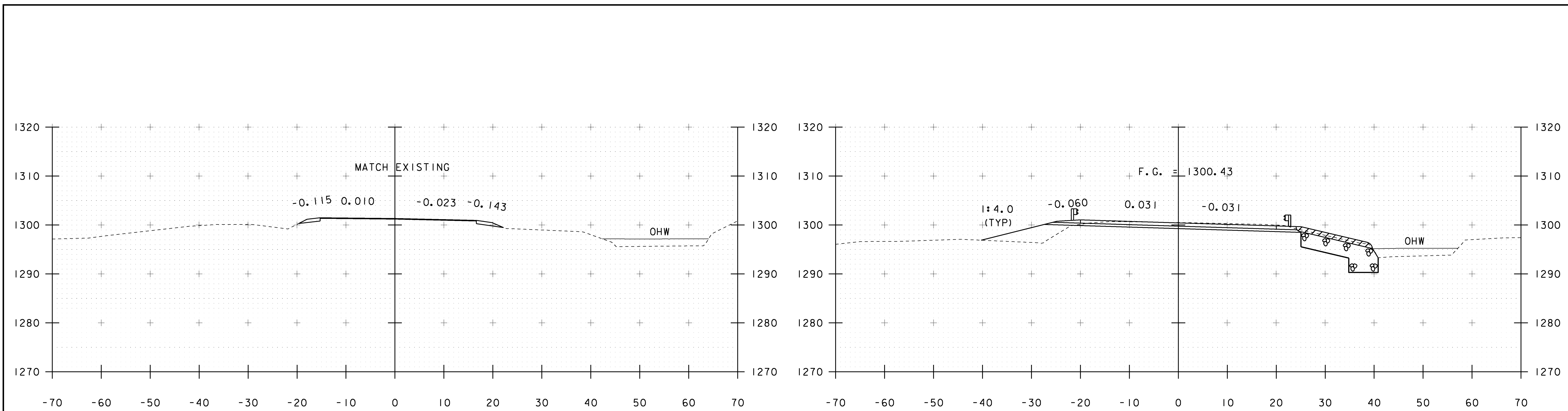
HORIZONTAL SCALE: 1" = 20'-0"
VERTICAL SCALE: NOT TO SCALE



VT 9 MATERIAL TRANSITION DETAIL

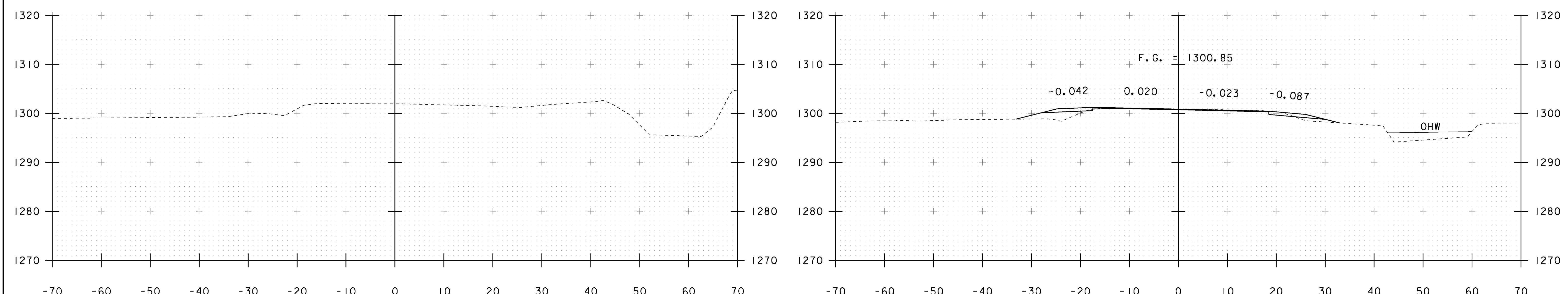
HORIZONTAL SCALE: 1" = 20'-0"
VERTICAL SCALE: 1" = 2'-0"

PROJECT NAME:	MARLBORO	FILE NAME:	sl0b4l4pro.dgn	PLOT DATE:	28-AUG-2013
PROJECT NUMBER:	BRF 010-I (43)	PROJECT LEADER:	K. HIGGINS	DRAWN BY:	K. FRIEDLAND
		DESIGNED BY:	R. KLINEFELTER	CHECKED BY:	G. LAROCHE
		BANKING DIAGRAM AND MATERIAL TRANSITION SHEET 40 OF 50			



391+50
BEGIN APPROACH

392+00

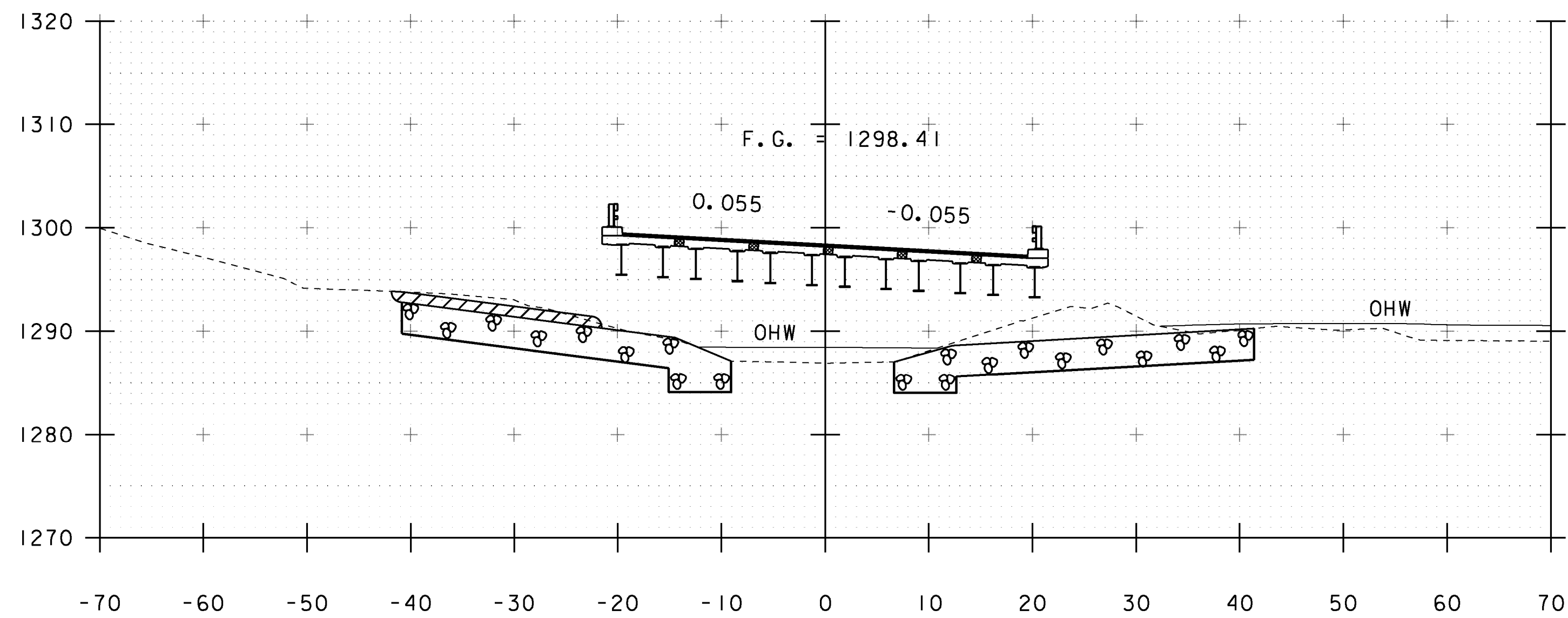


391+25

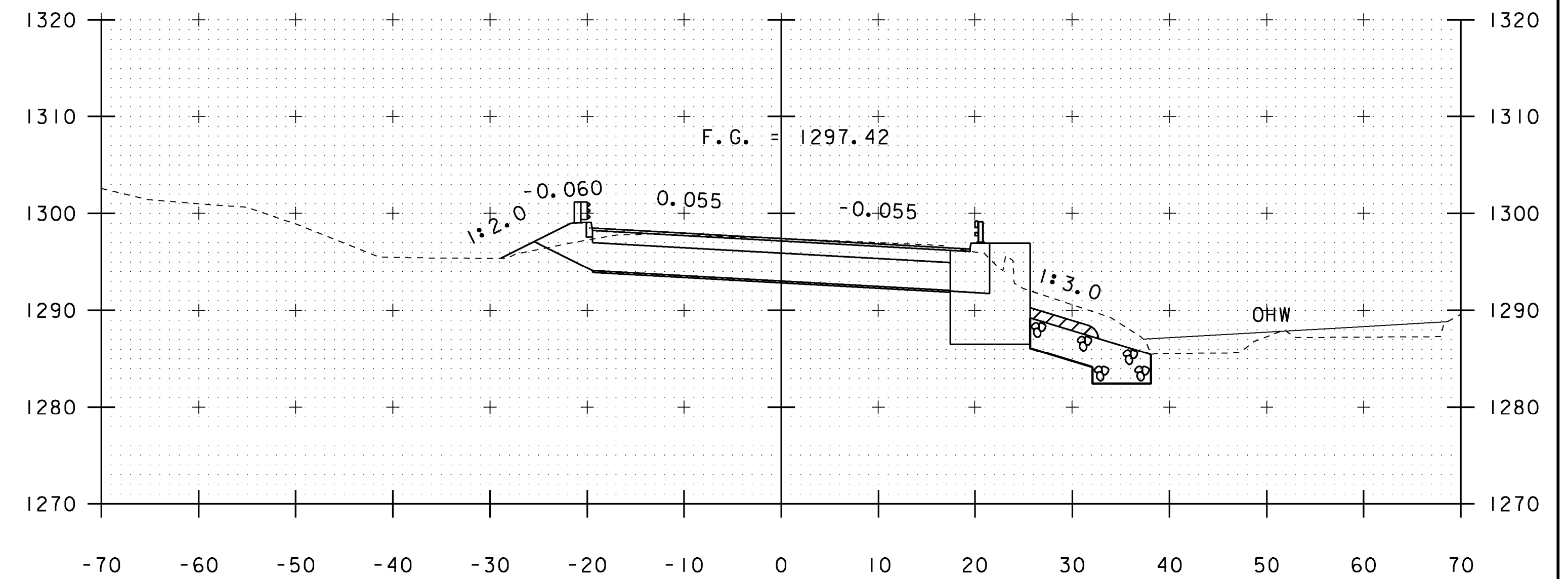
391+75

STA. 391+25 TO STA. 392+00

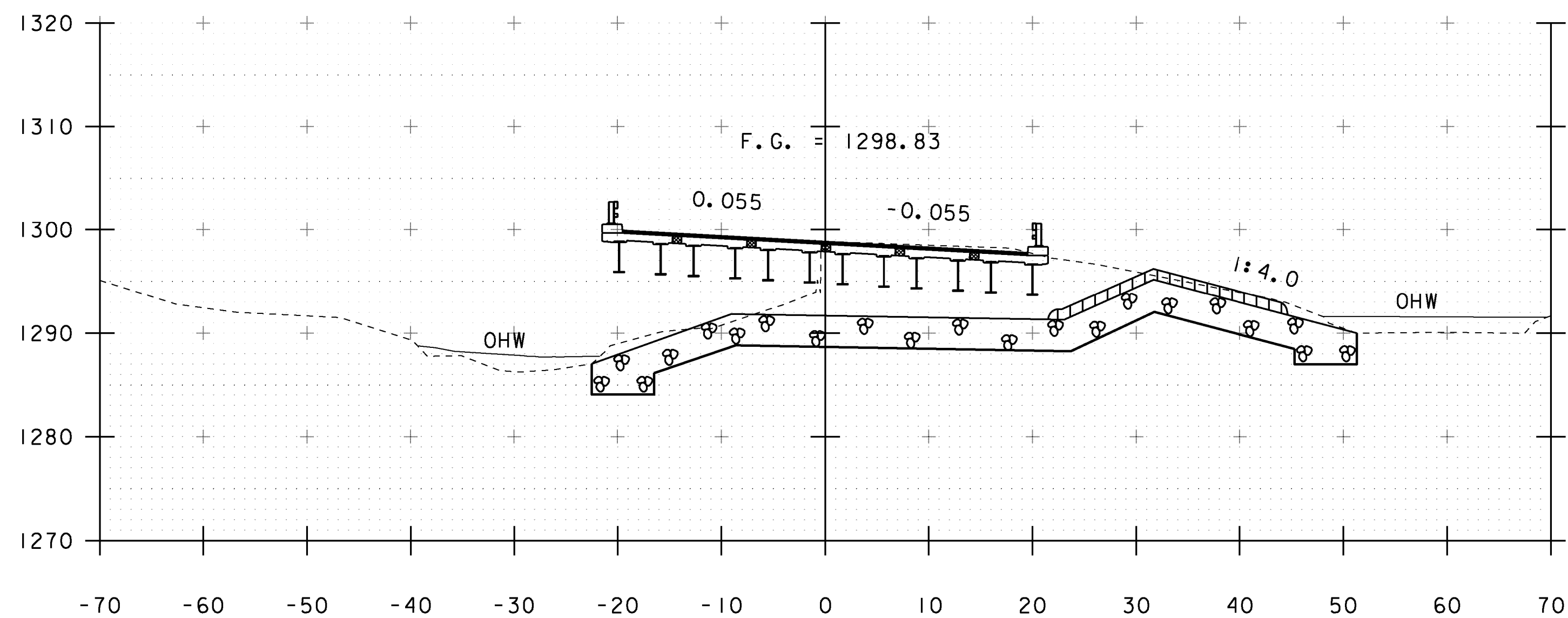
PROJECT NAME: MARLBORO	
PROJECT NUMBER: BRF OIO-1 (43)	
FILE NAME: si0b4i4xsl.dgn	PLOT DATE: 28-AUG-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: K. FRIEDLAND
DESIGNED BY: R. KLINEFELTER	CHECKED BY: G. LAROCHE
MAINLINE SECTIONS 1	SHEET 41 OF 50



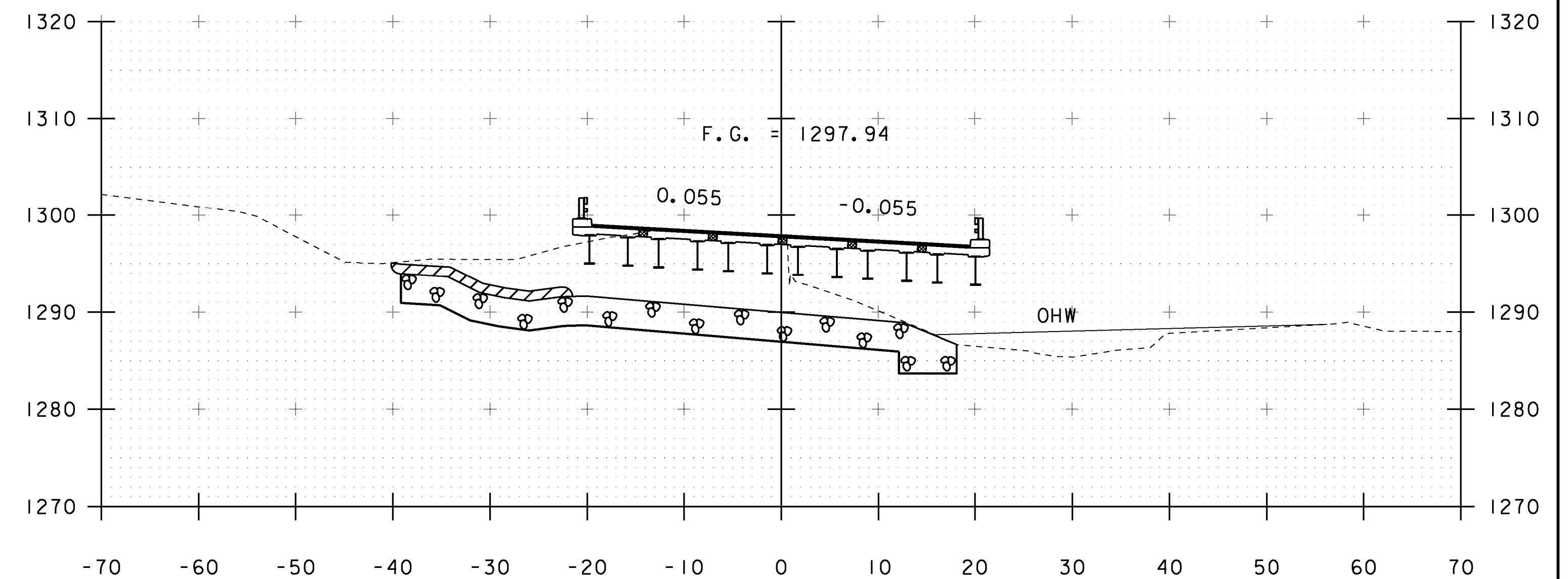
393+50 • REVISED BRIDGE HAS 6 GIRDERS



394+00
END BRIDGE STA ~~393+93.78~~
393+93.87



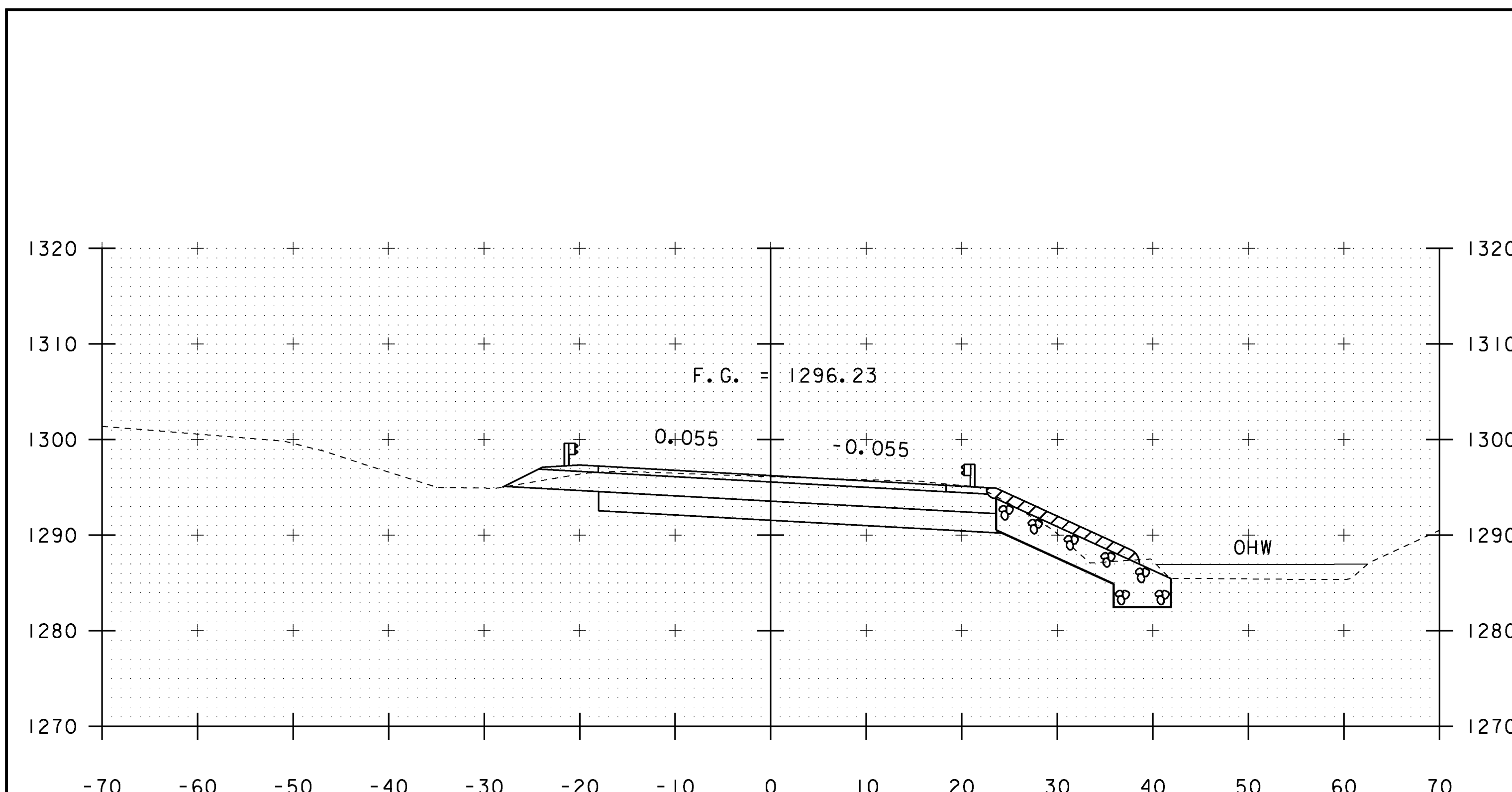
393+25
BEGIN BRIDGE STA ~~393+12.23~~
393+12.14



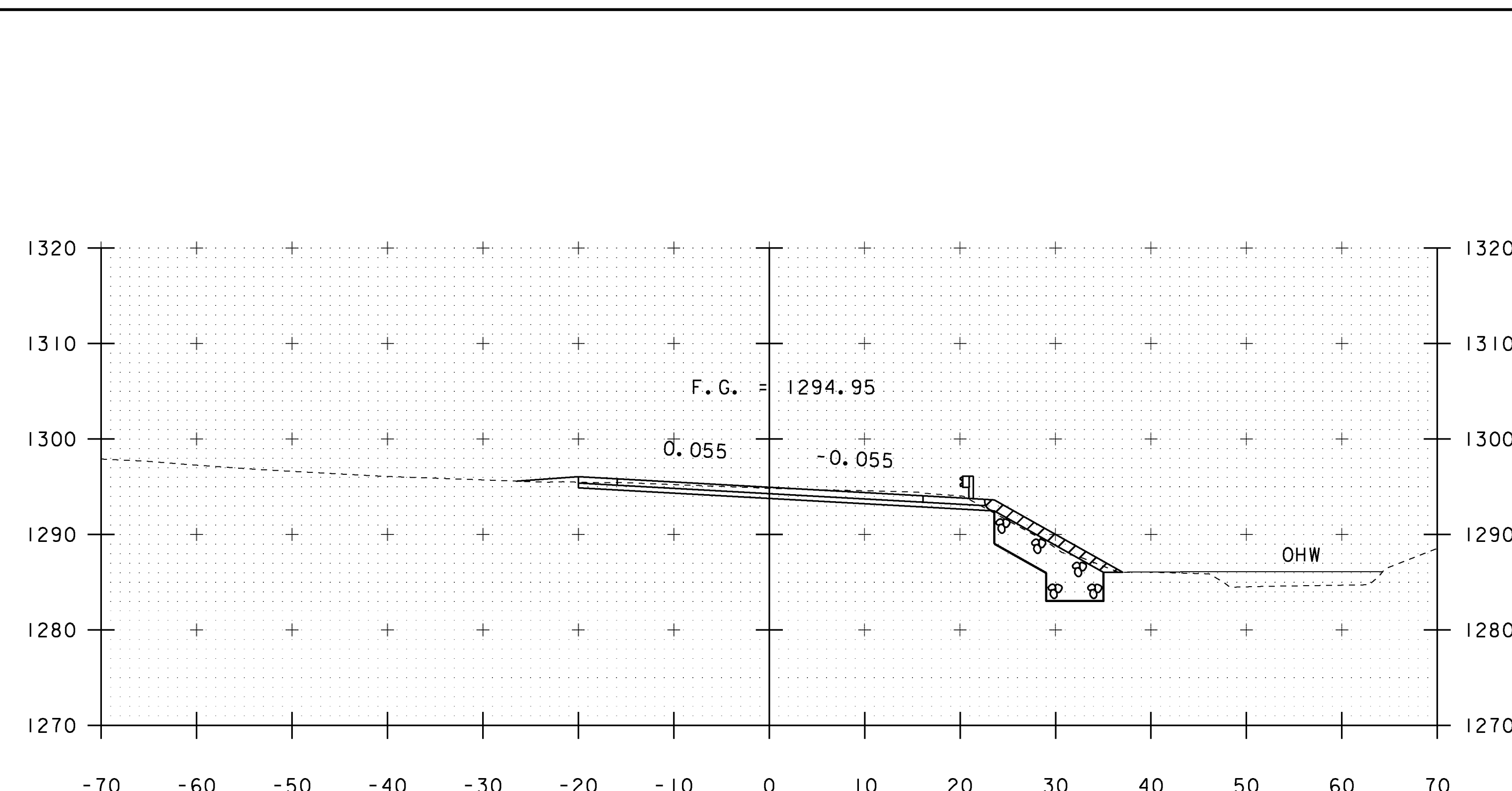
393+75

STA. 393+25 TO STA. 394+00

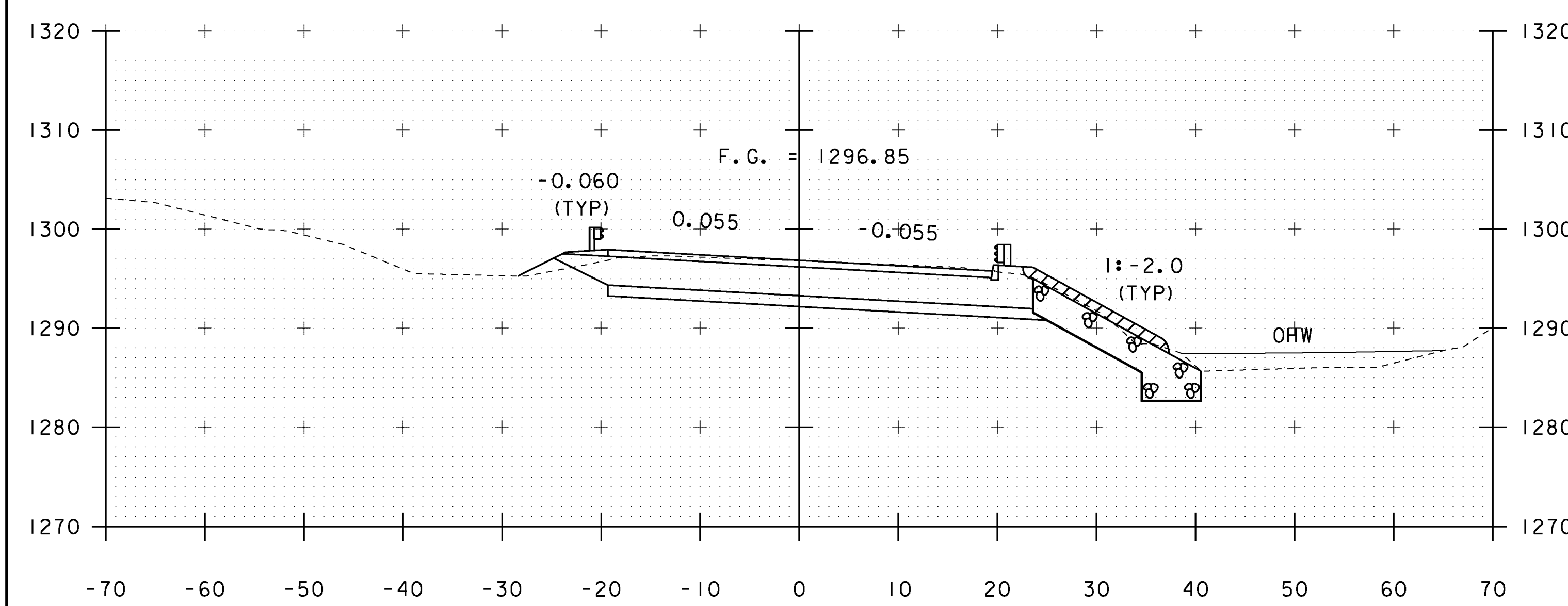
PROJECT NAME: MARLBORO	
PROJECT NUMBER: BRF 010-1 (43)	
FILE NAME: sl0b414xsl.dgn	PLOT DATE: 28-AUG-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: K. FRIEDLAND
DESIGNED BY: R. KLINEFELTER	CHECKED BY: G. LAROCHE
MAINLINE SECTIONS 3	SHEET 43 OF 50



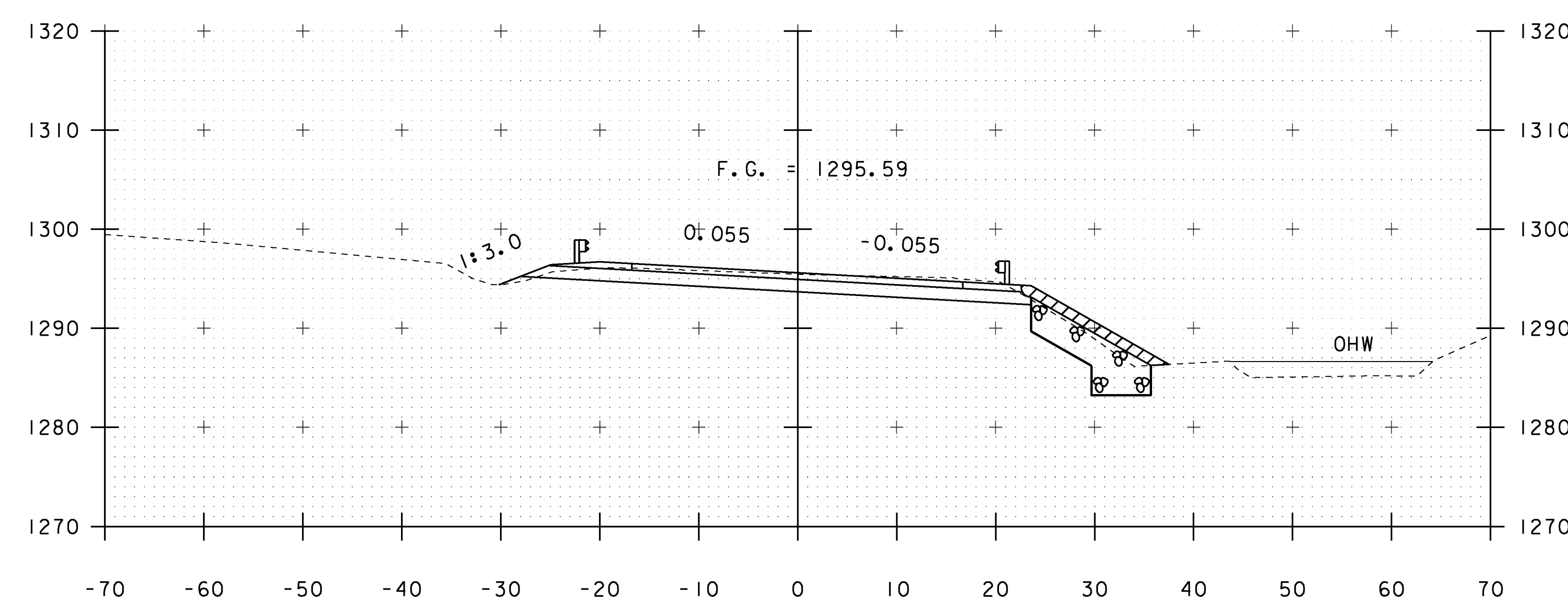
394+50
END PROJECT



395+00



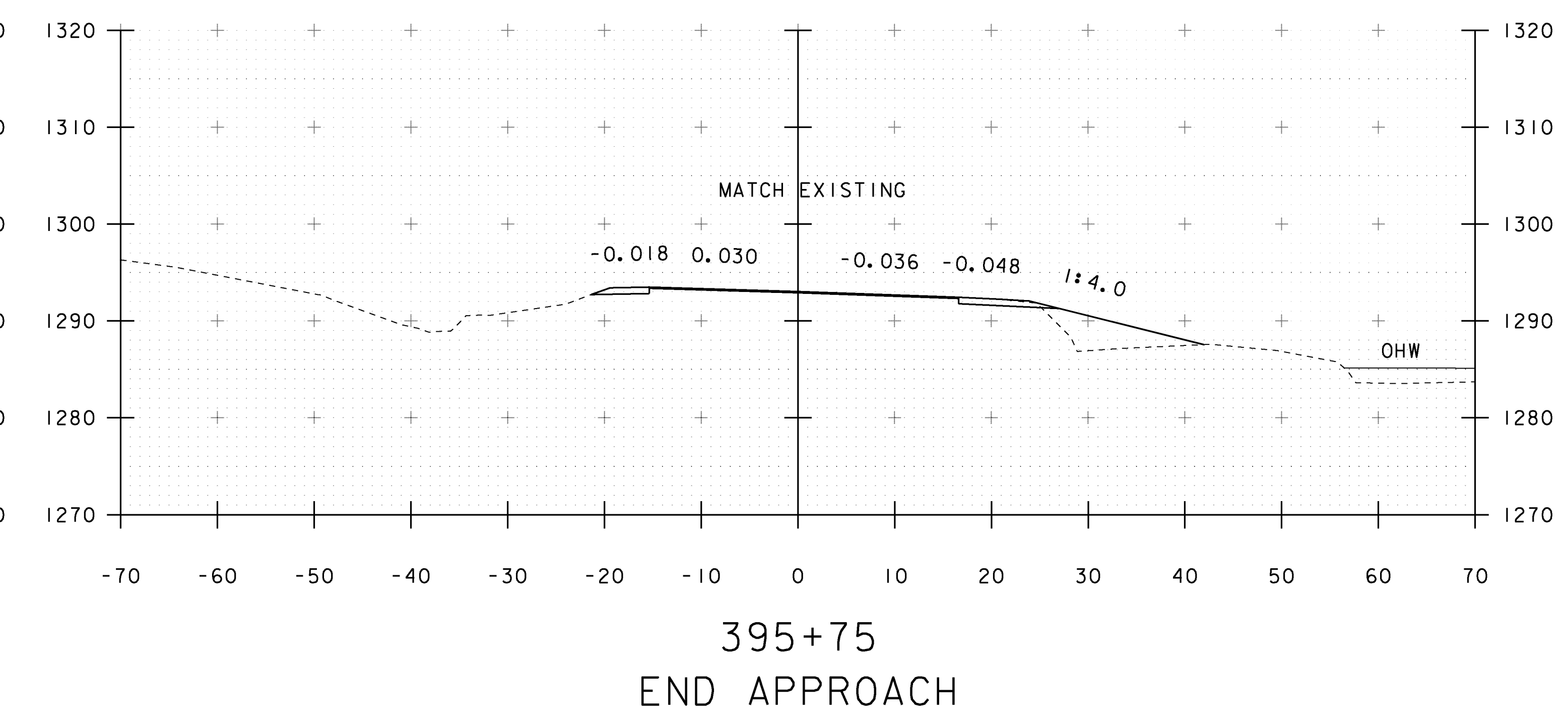
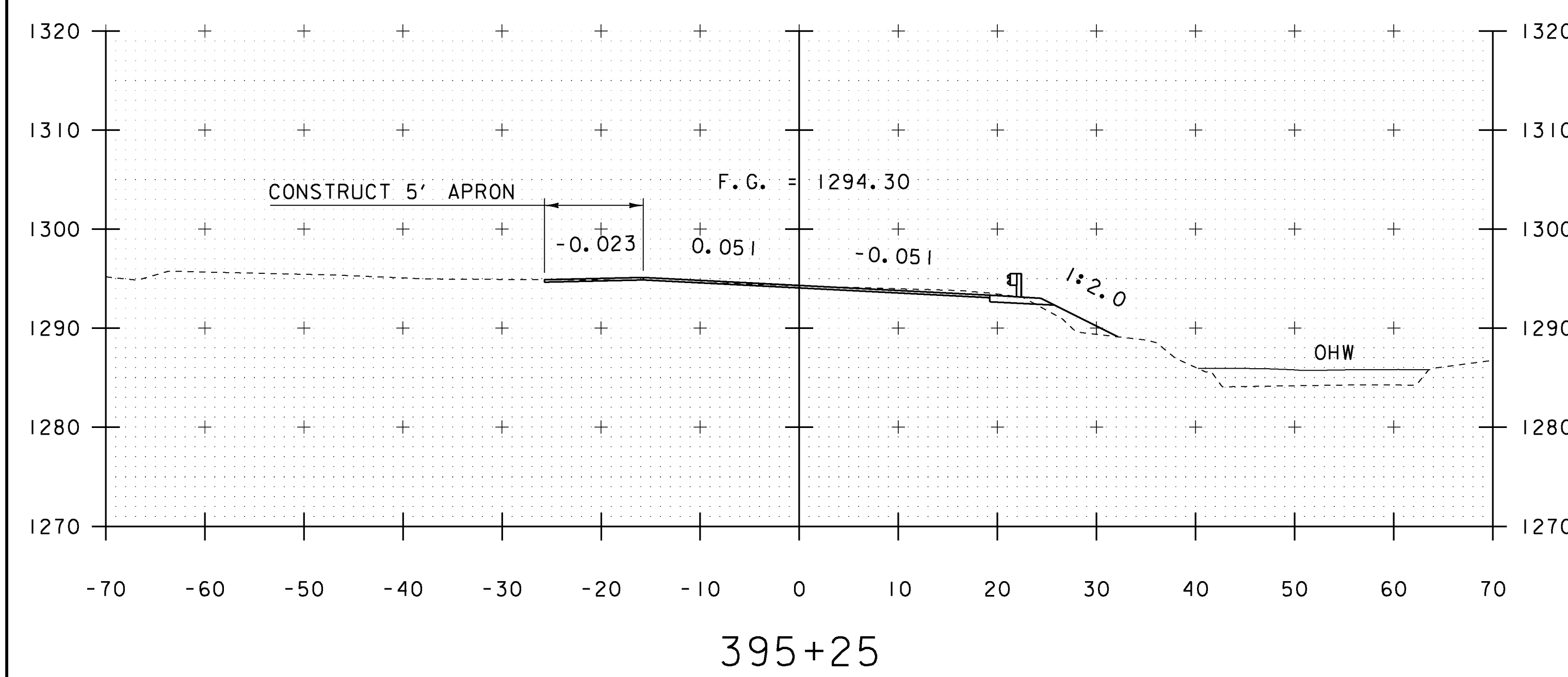
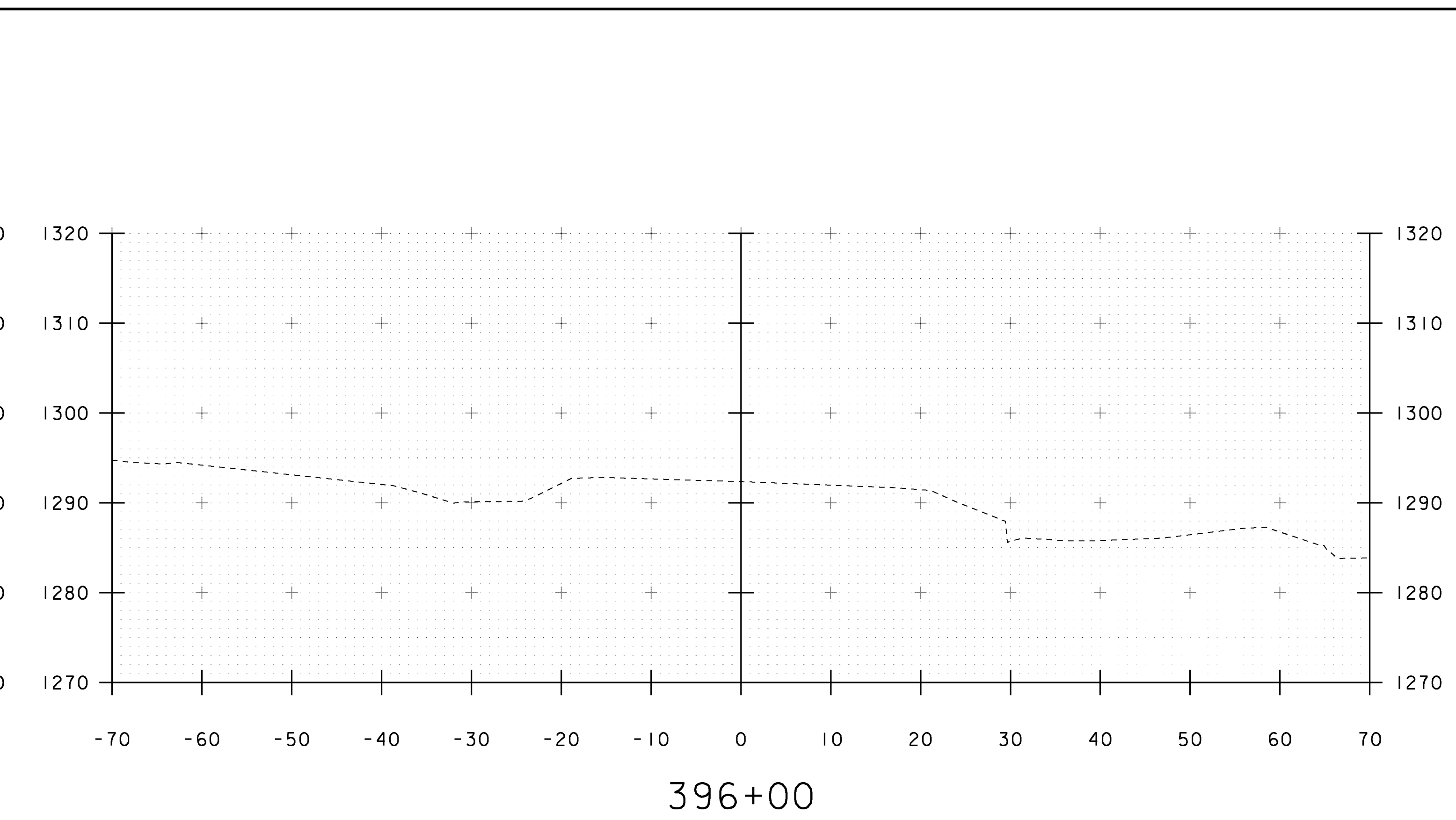
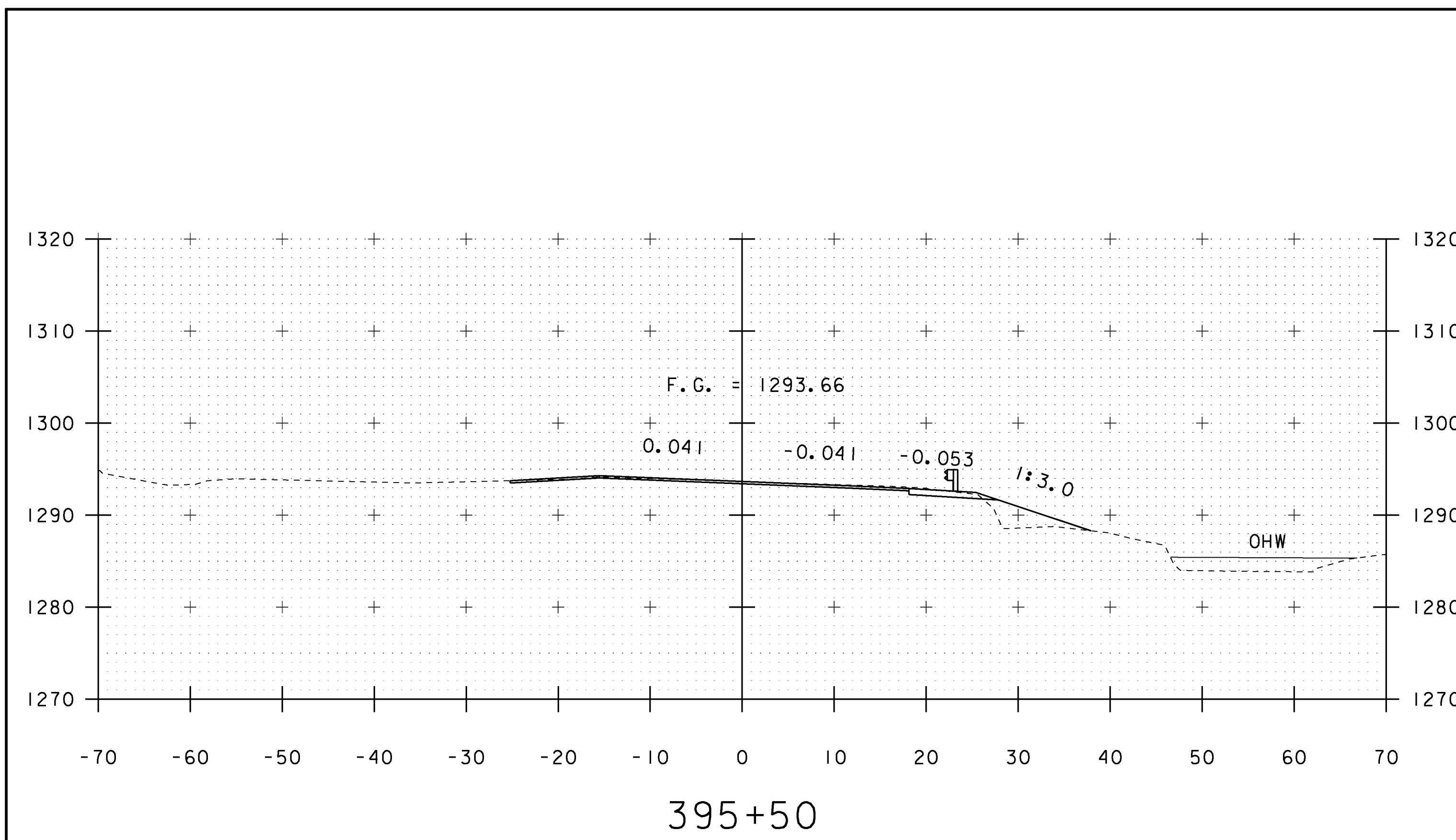
394+25



394+75

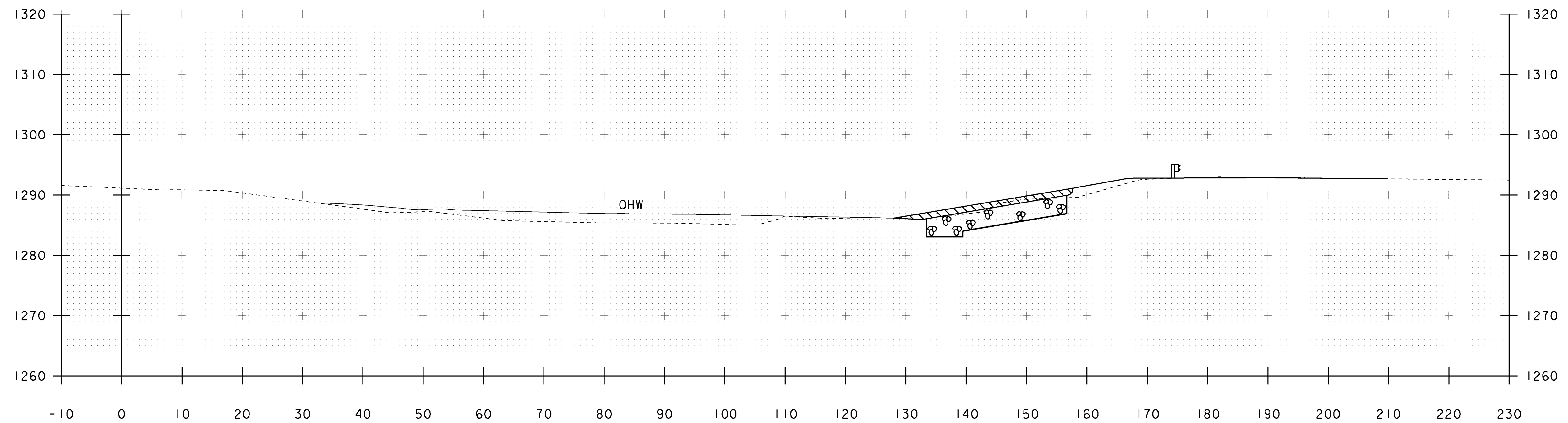
STA. 394+25 TO STA. 395+00

PROJECT NAME: MARLBORO	
PROJECT NUMBER: BR 010-1 (43)	
FILE NAME: sl0b414xsl.dgn	PLOT DATE: 28-AUG-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: K. FRIEDLAND
DESIGNED BY: R. KLINEFELTER	CHECKED BY: G. LAROCHE
MAINLINE SECTIONS 4	SHEET 44 OF 50



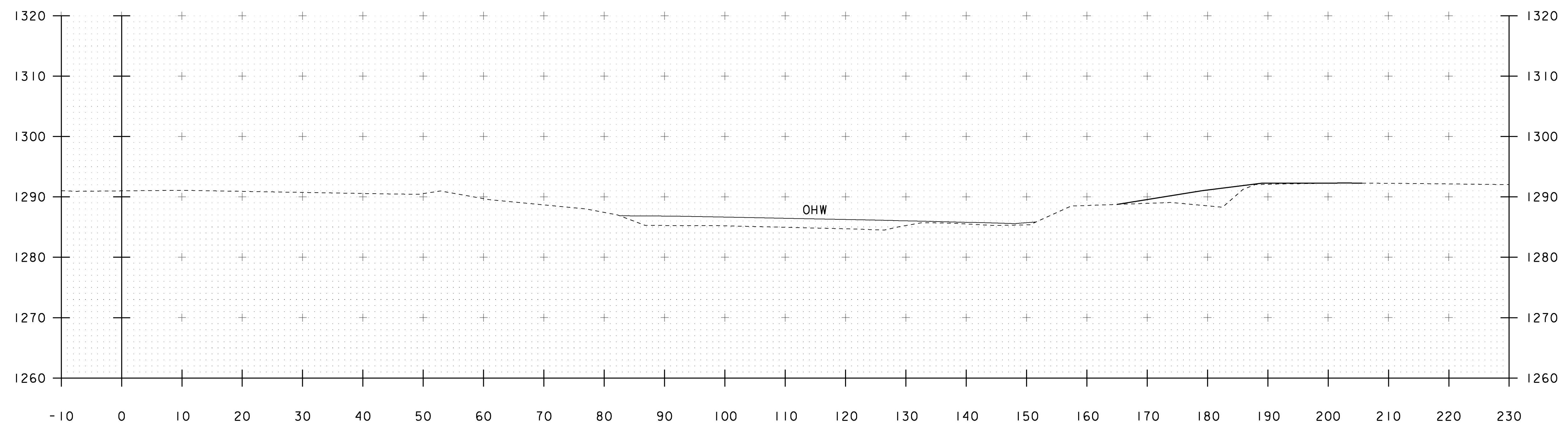
STA. 395+25 TO STA. 396+00

PROJECT NAME: MARLBORO	
PROJECT NUMBER: BRF 010-1 (43)	
FILE NAME: si0b414xsl.dgn	PLOT DATE: 28-AUG-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: K. FRIEDLAND
DESIGNED BY: R. KLINEFELTER	CHECKED BY: G. LAROCHE
MAINLINE SECTIONS 5	SHEET 45 OF 50



49+20

STA 49+17 RT
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE III
GRUBBING MATERIAL



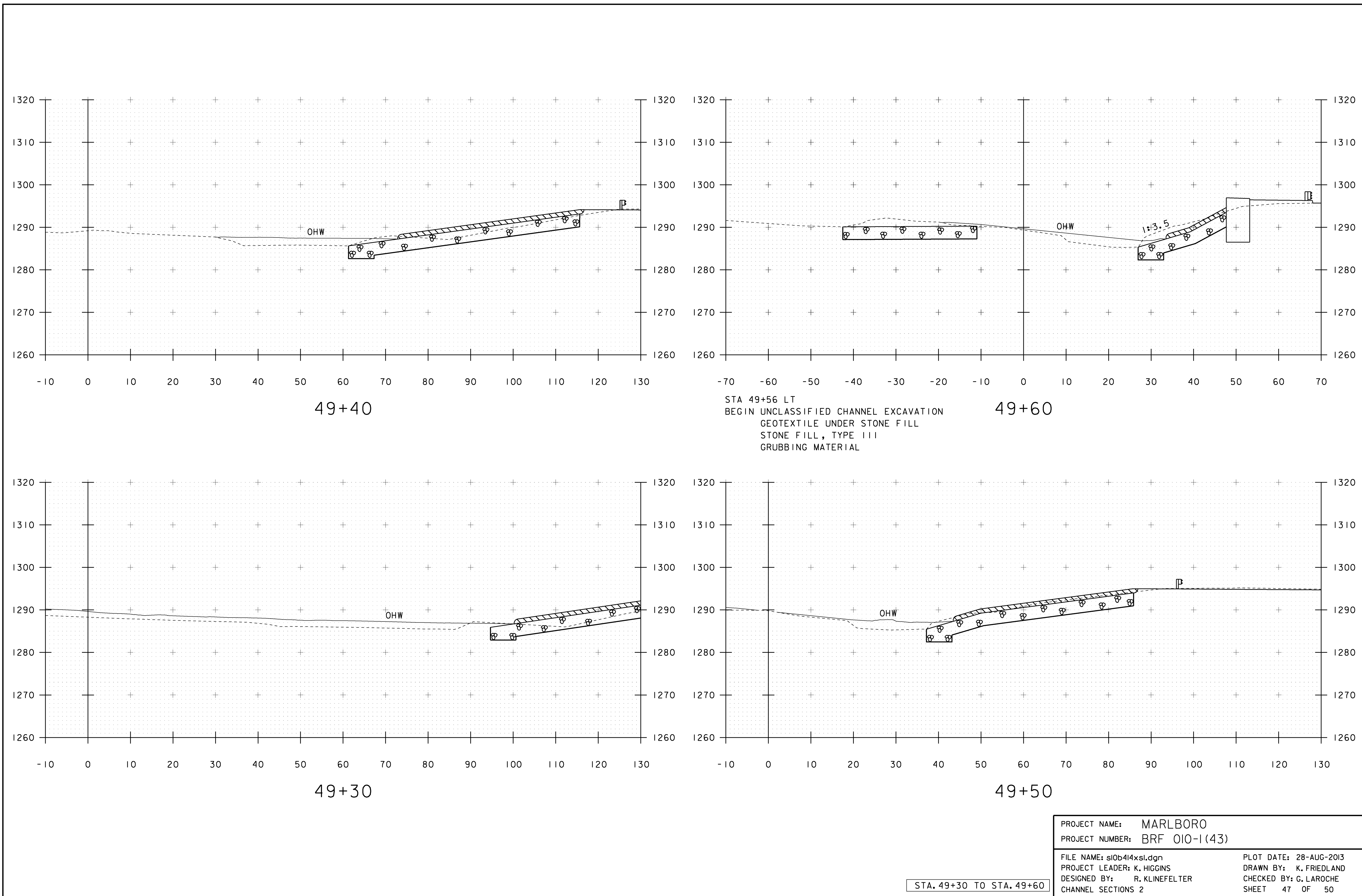
49+10

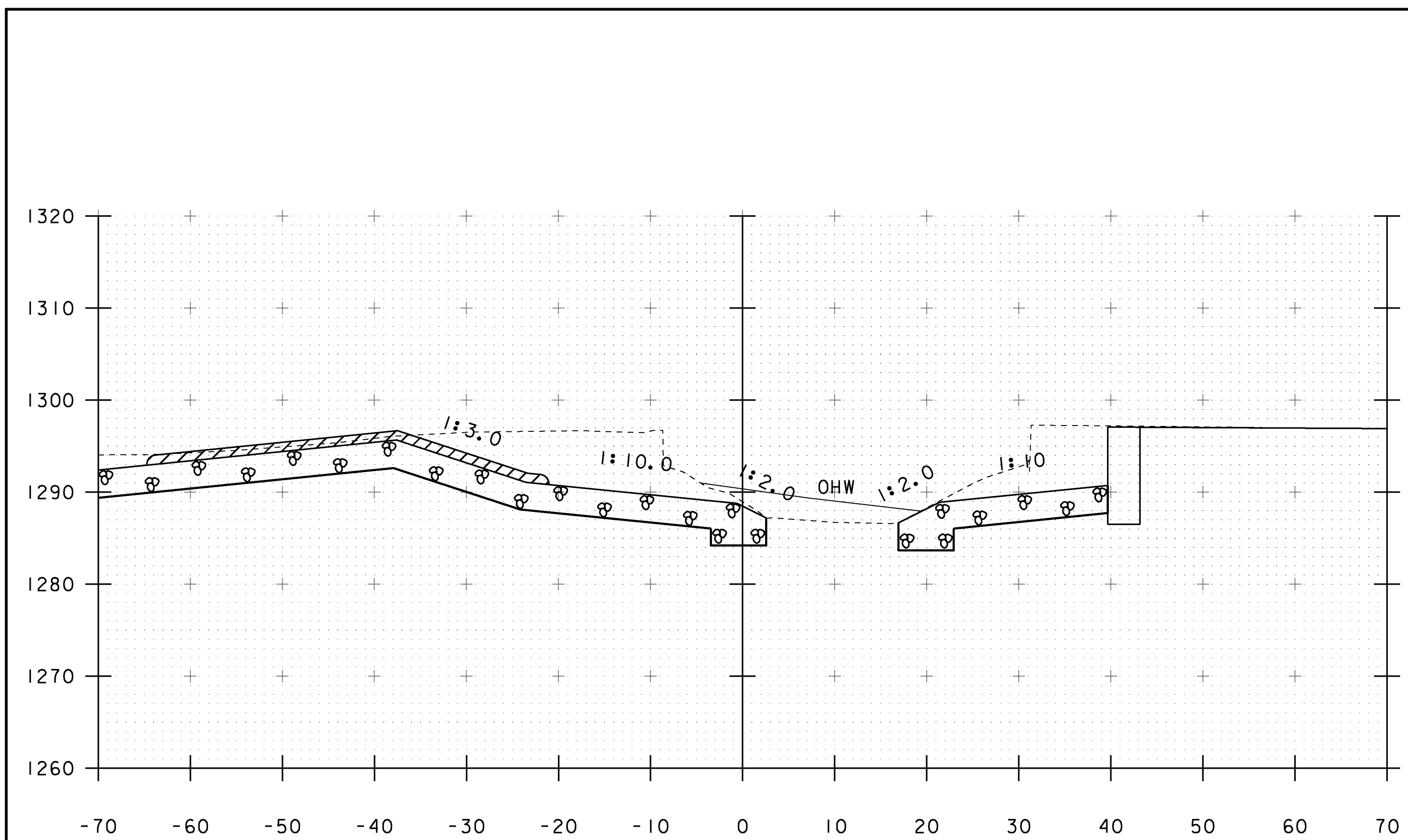
PROJECT NAME: MARLBORO
PROJECT NUMBER: BRP 010-1 (43)

FILE NAME: sl0b414xsl.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: R. KLINEFELTER
CHANNEL SECTIONS 1

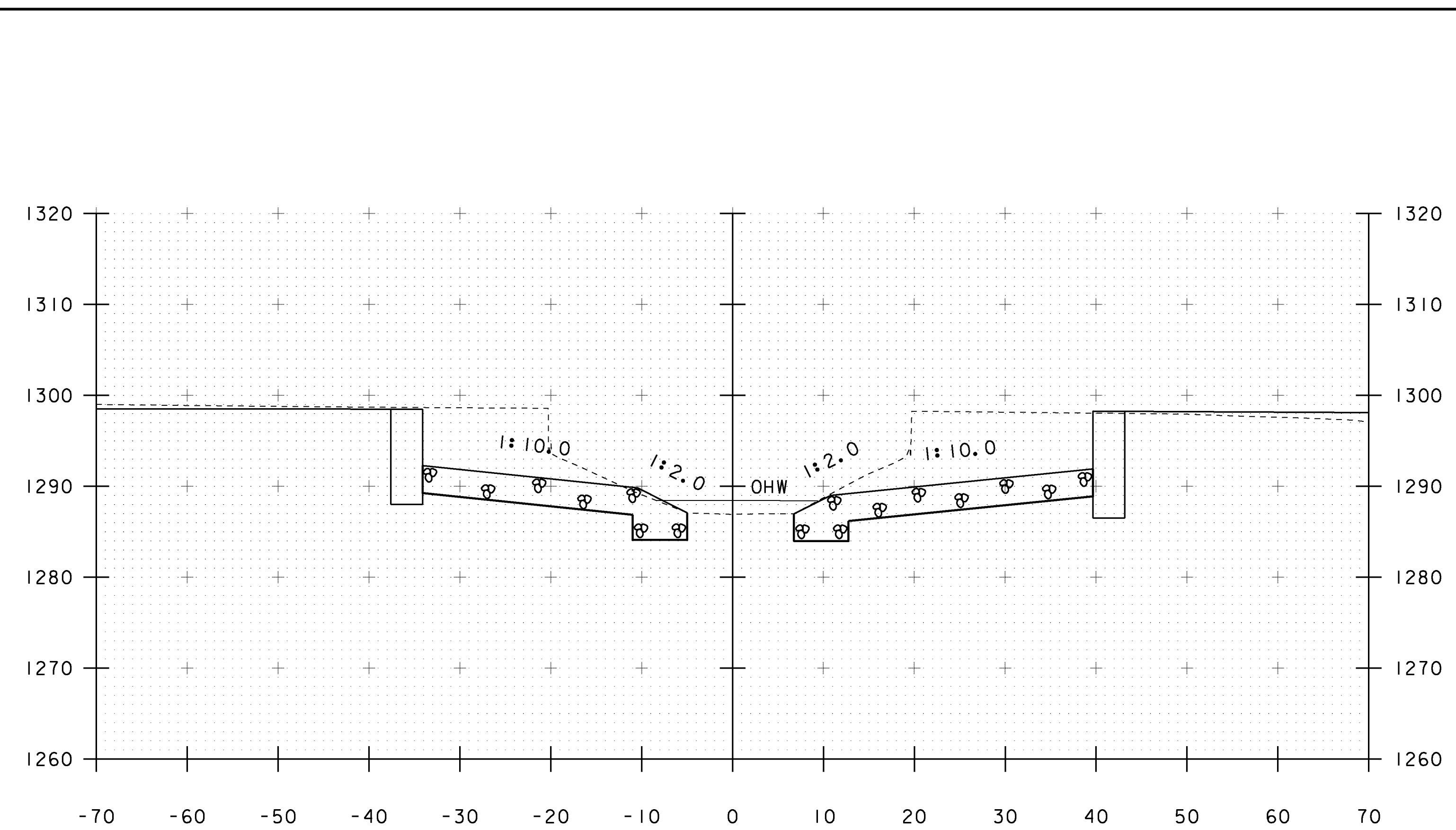
PLOT DATE: 28-AUG-2013
DRAWN BY: K. FRIEDLAND
CHECKED BY: G. LAROCHE
SHEET 46 OF 50

STA. 49+10 TO STA. 49+20

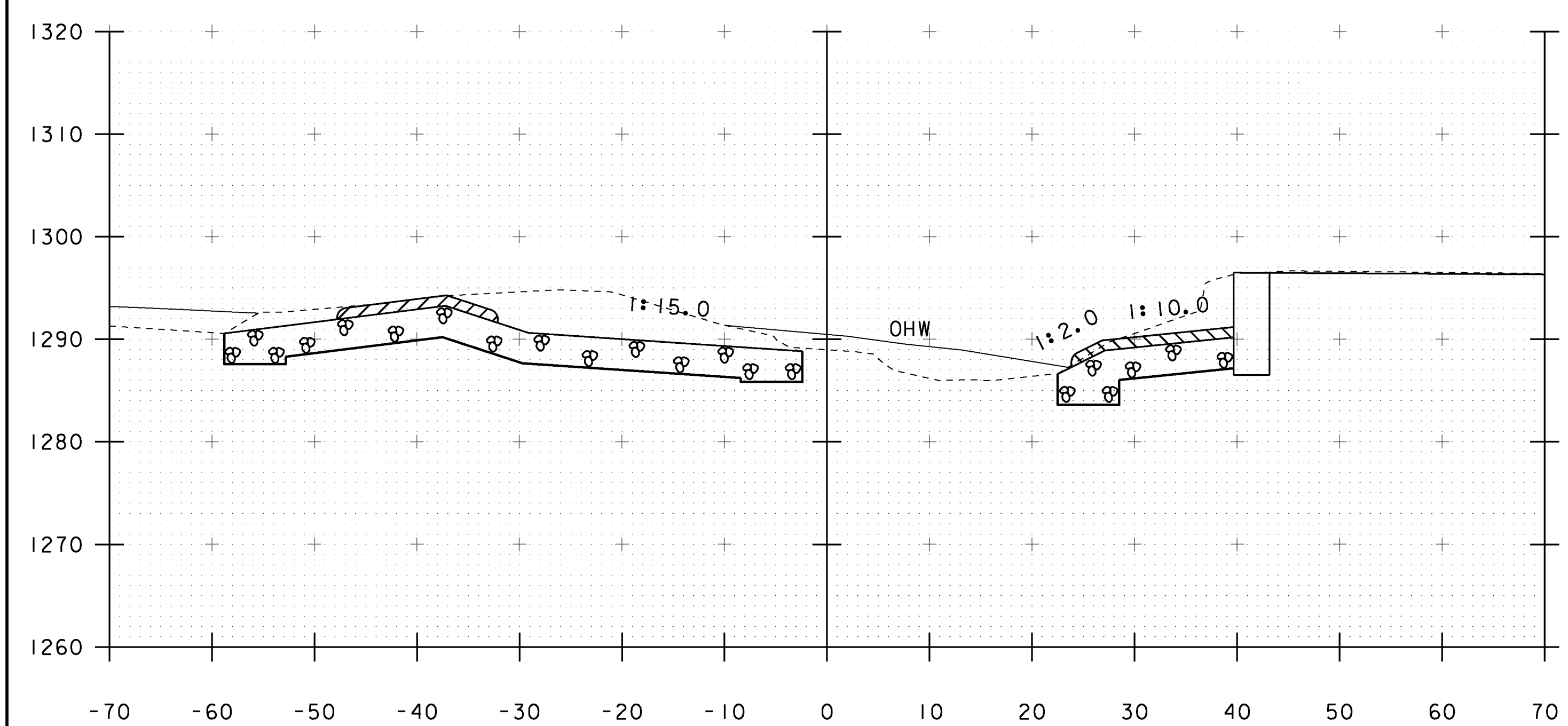




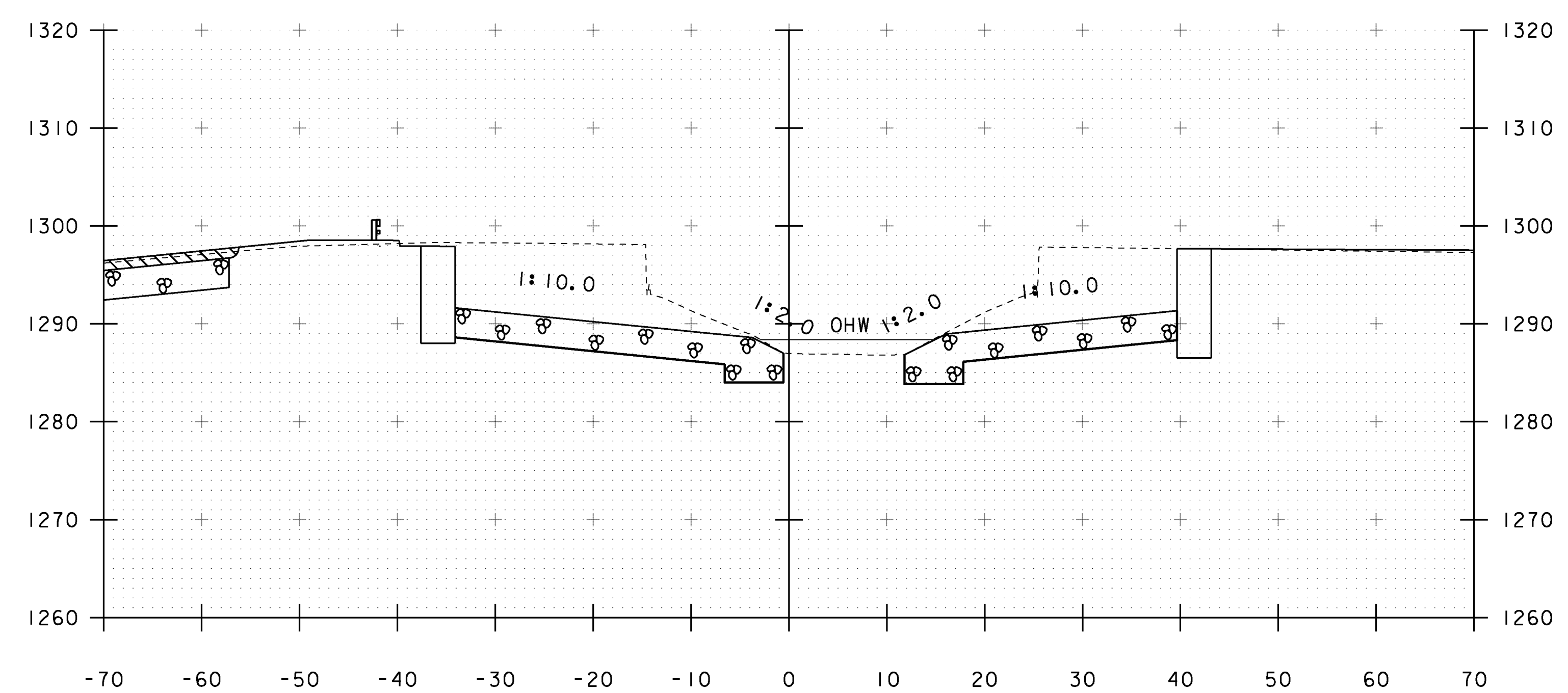
49+80



50+00



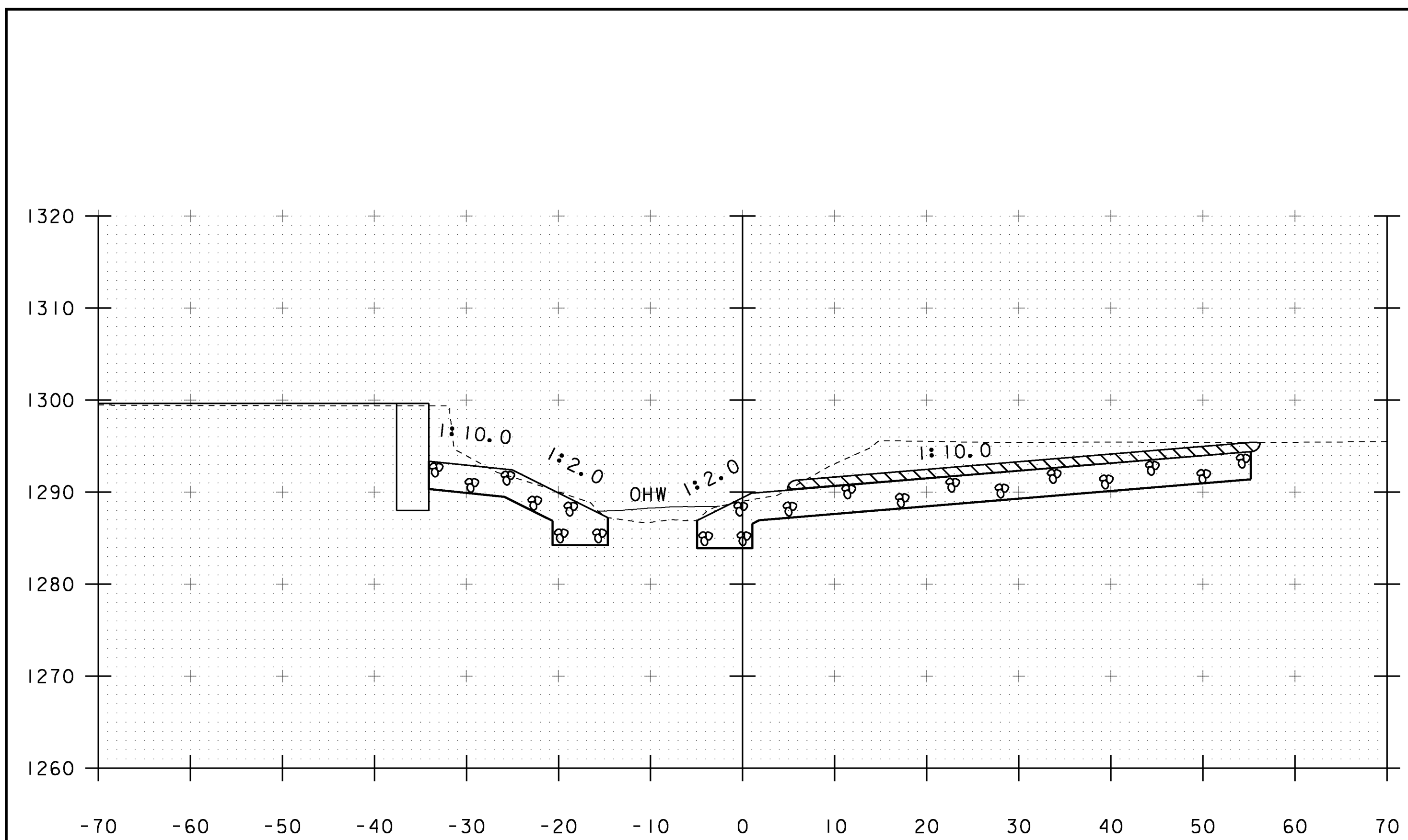
49+70



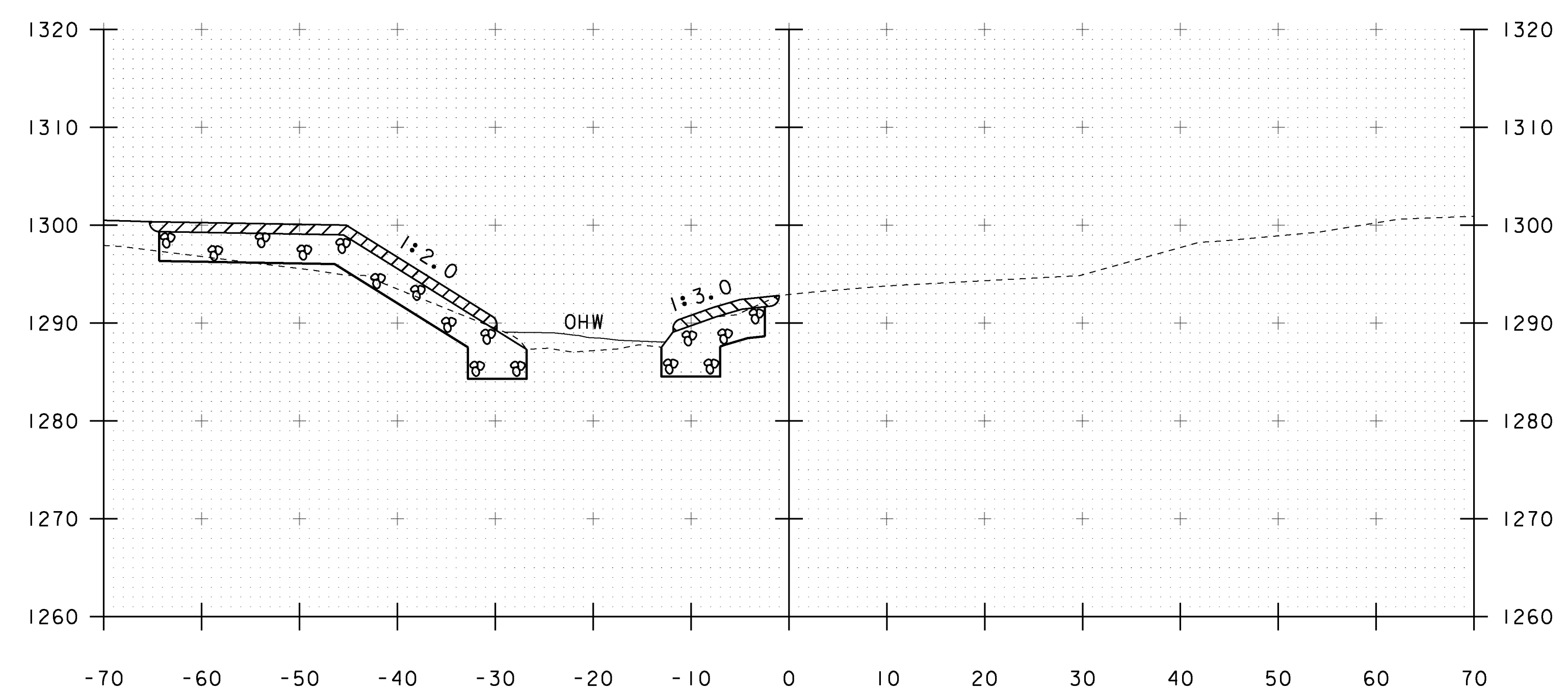
49+90

STA. 49+70 TO STA. 50+00

PROJECT NAME: MARLBORO	
PROJECT NUMBER: BRF OIO-1 (43)	
FILE NAME: si0b414xsl.dgn	PLOT DATE: 28-AUG-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: K. FRIEDLAND
DESIGNED BY: R. KLINEFELTER	CHECKED BY: G. LAROCHE
CHANNEL SECTIONS 3	SHEET 48 OF 50

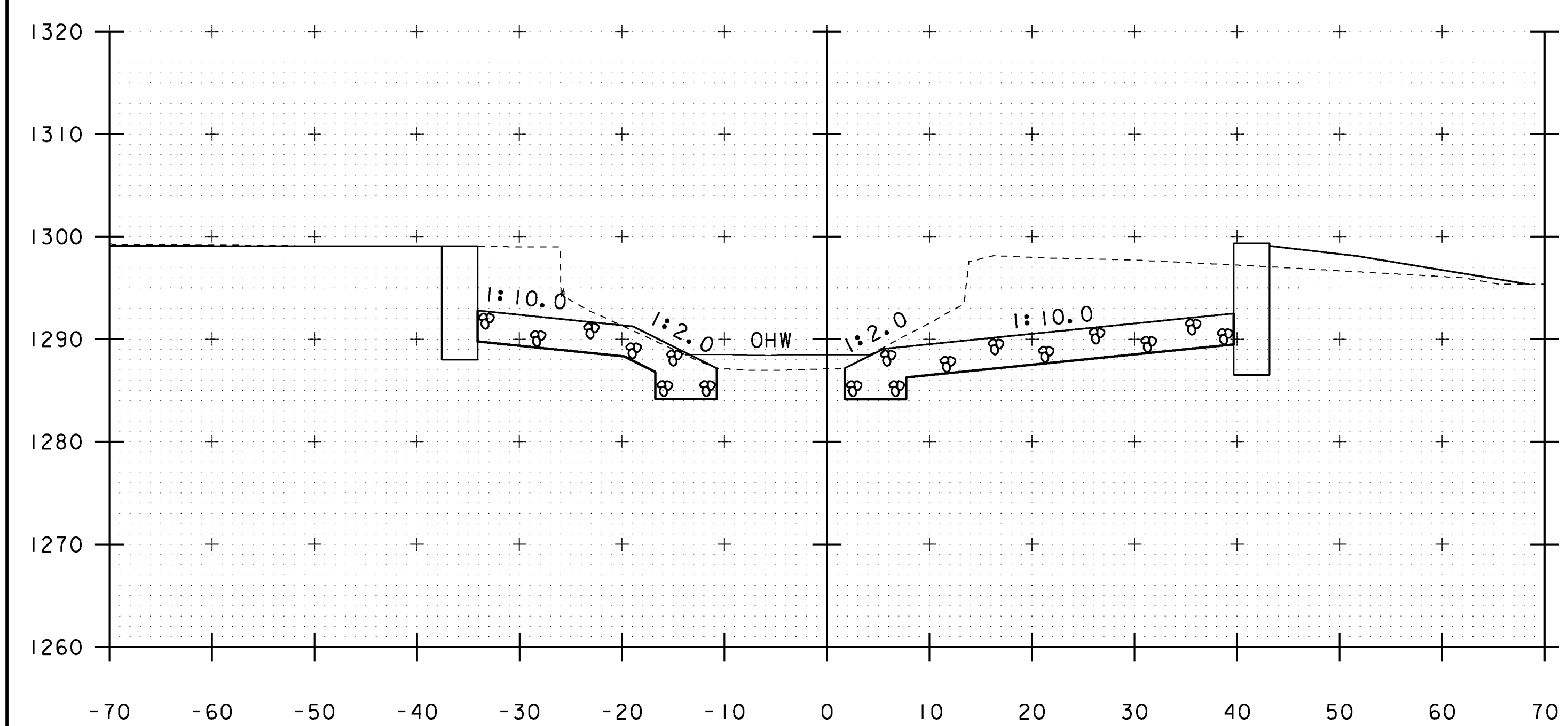


50+20

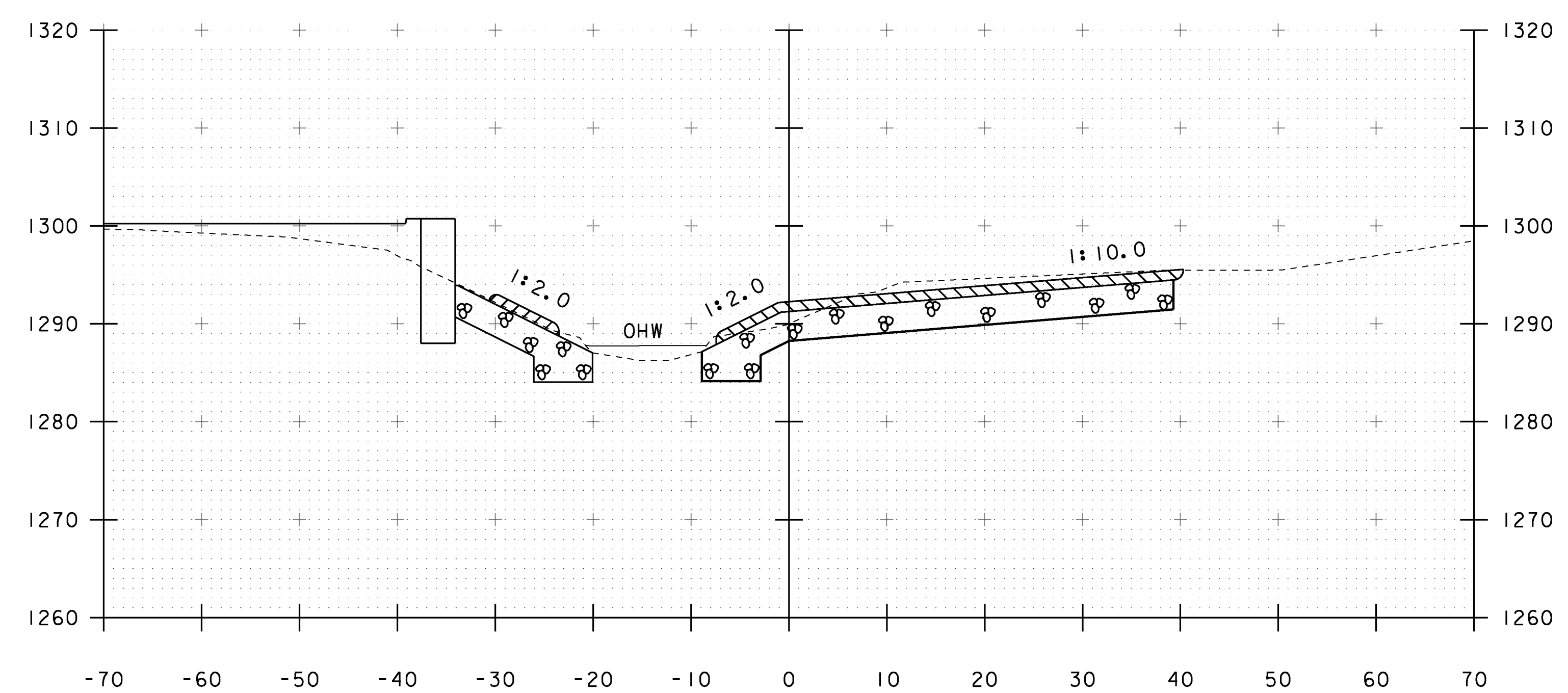


50+40

STA 50+41 LT
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE III
GRUBBING MATERIAL



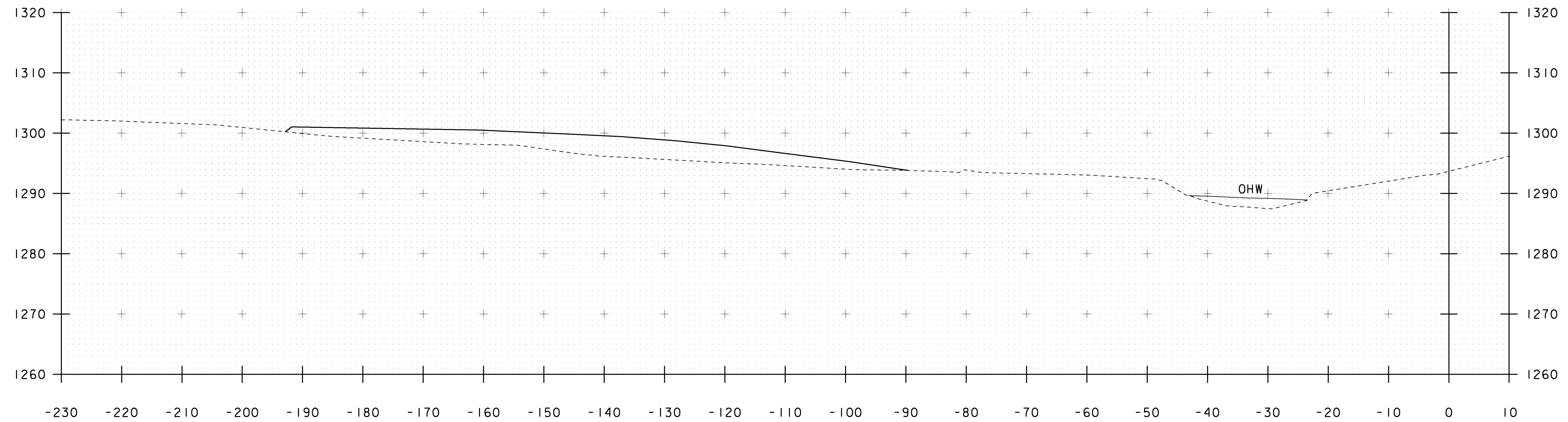
50+10



50+30

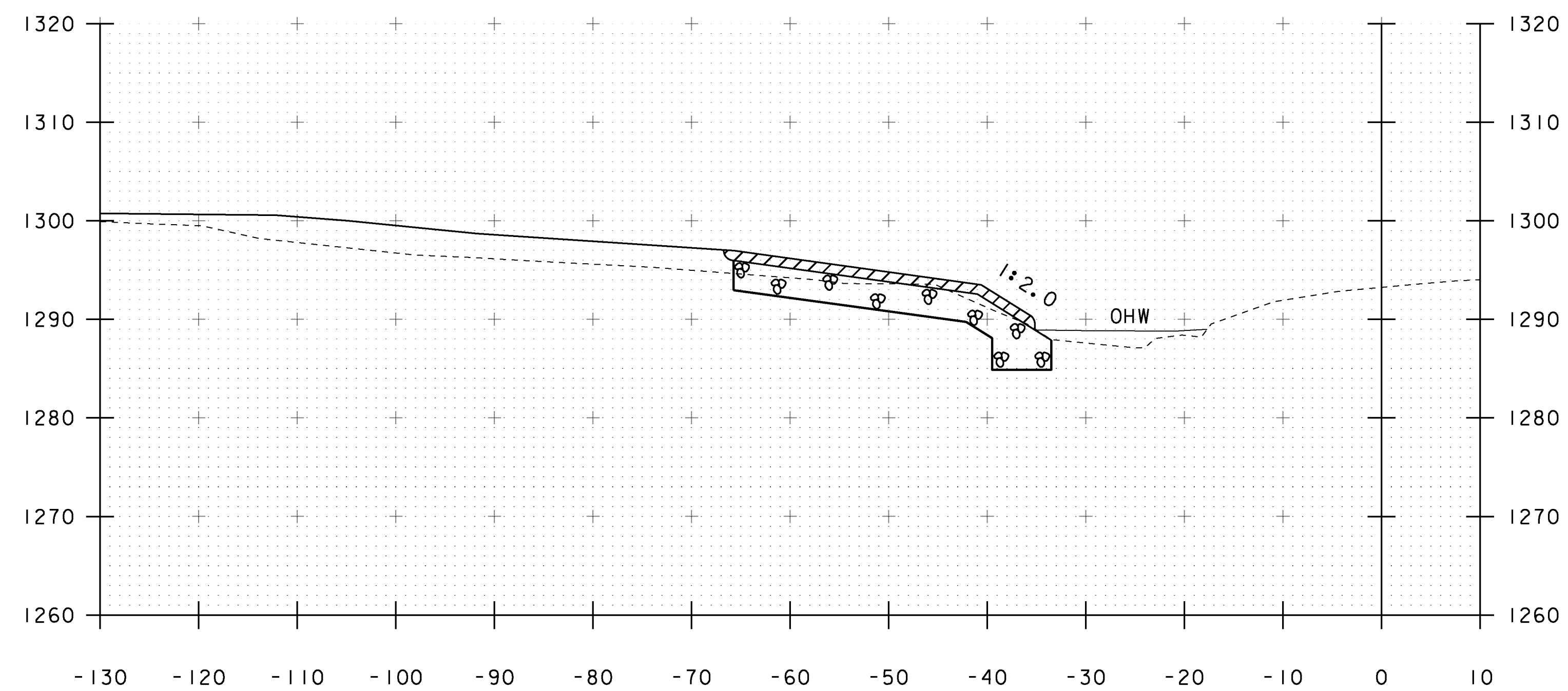
STA. 50+10 TO STA. 50+40

PROJECT NAME: MARLBORO	
PROJECT NUMBER: BRP 010-1 (43)	
FILE NAME: si0b414xsl.dgn	PLOT DATE: 28-AUG-2013
PROJECT LEADER: K. HIGGINS	DRAWN BY: K. FRIEDLAND
DESIGNED BY: R. KLINEFELTER	CHECKED BY: G. LAROCHE
CHANNEL SECTIONS 4	SHEET 49 OF 50



STA 50+57 FAR LT
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE III
GRUBBING MATERIAL

50+60



50+50

PROJECT NAME: MARLBORO
PROJECT NUMBER: BRP 010-1 (43)

FILE NAME: sl0b414xsl.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: R. KLINEFELTER
CHANNEL SECTIONS 5

PLOT DATE: 28-AUG-2013
DRAWN BY: K. FRIEDLAND
CHECKED BY: G. LAROCHE
SHEET 50 OF 50

STA. 50+50 TO STA. 50+60