

# STATE OF VERMONT AGENCY OF TRANSPORTATION



## PROPOSED IMPROVEMENT BRIDGE PROJECT

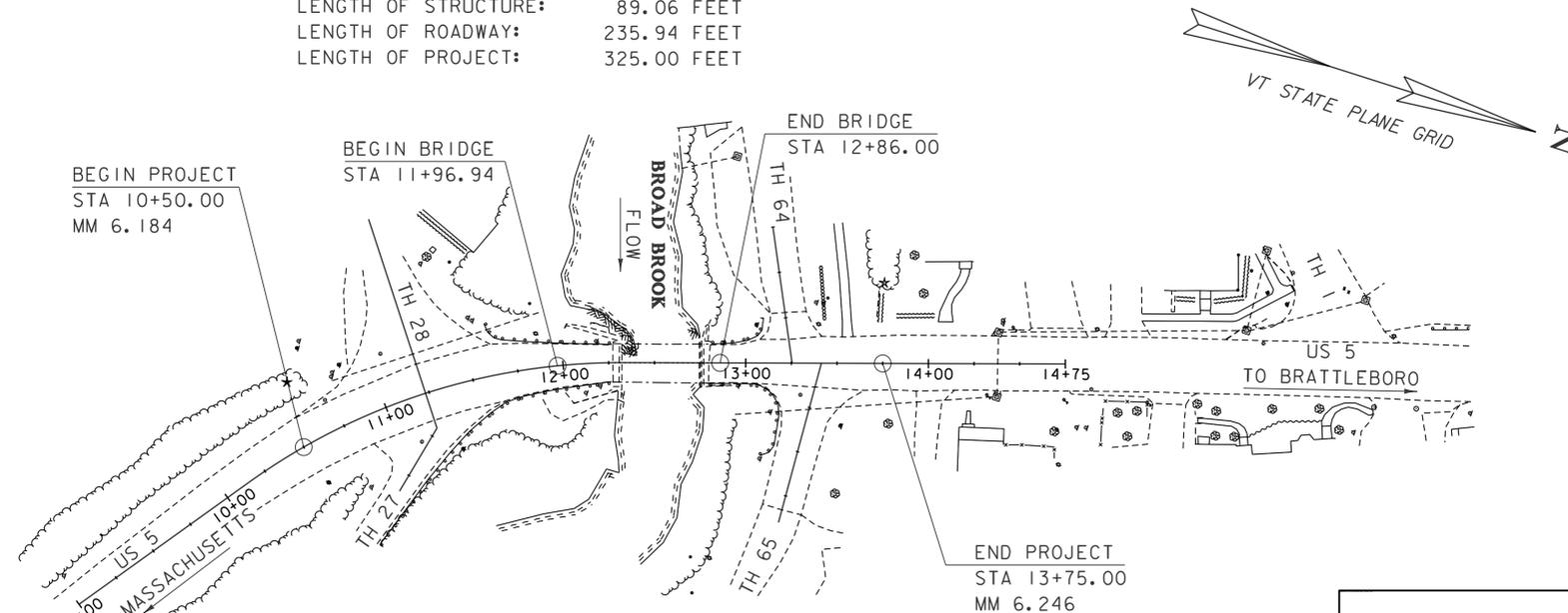
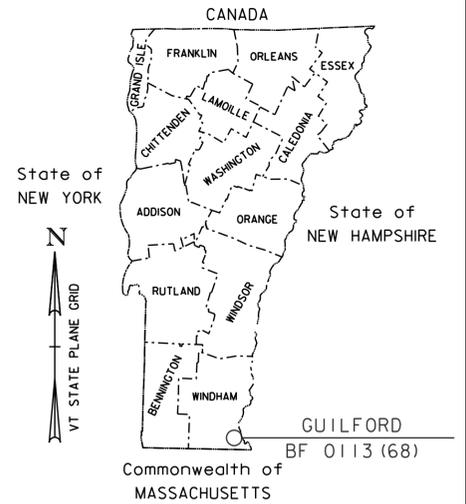
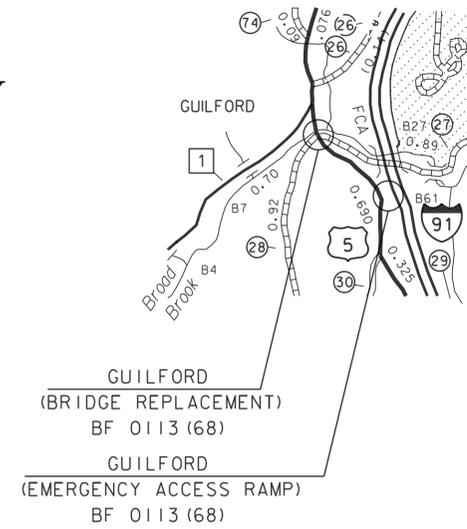
TOWN OF GUILFORD  
COUNTY OF WINDHAM

ROUTE NO : US ROUTE 5 (RURAL MAJOR COLLECTOR) BRIDGE NO : 5

PROJECT LOCATION: BRIDGE REPLACEMENT: APPROXIMATELY 1.5 MILES SOUTH OF INTERSTATE 91 EXIT 1  
EMERGENCY ACCESS RAMP: I-91 SOUTHBOUND APPROXIMATELY 5.8 MILES NORTH OF MASSACHUSETTS STATE LINE

PROJECT DESCRIPTION: WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES REPLACEMENT OF THE EXISTING BRIDGE WITH A NEW BRIDGE ON THE EXISTING ALIGNMENT WITH RELATED ROADWAY AND CHANNEL WORK. EMERGENCY ACCESS RAMP WORK TO BE PERFORMED INCLUDES FULL DEPTH REHABILITATION OF THE RAMP FROM US ROUTE 5 TO I-91 SOUTHBOUND.

LENGTH OF STRUCTURE: 89.06 FEET  
LENGTH OF ROADWAY: 235.94 FEET  
LENGTH OF PROJECT: 325.00 FEET



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

**FINAL PLANS  
MAY 30 2016**

QUALITY ASSURANCE PROGRAM : LEVEL 2	
SURVEYED BY :	R. GILMAN
SURVEYED DATE :	03/29/2013
DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD 83 (2011)

SCALE 1" = 50'-0"  
50 0 50



DIRECTOR OF PROJECT DELIVERY	
APPROVED _____	DATE _____
PROJECT MANAGER : R. YOUNG	
PROJECT NAME :	GUILFORD
PROJECT NUMBER :	BF 0113 (68)
SHEET 1 OF 65 SHEETS	

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#### STRUCTURES DETAIL SHEETS

SD-501.00	CONCRETE DETAILS AND NOTES	2/9/2012
SD-502.00	CONCRETE DETAILS AND NOTES	10/10/2012
SD-601.00	STRUCTURAL STEEL DETAILS AND NOTES	6/4/2010
SD-602.00	STRUCTURAL STEEL PLATE GIRDER DETAILS AND NOTES	6/4/2010

#### HIGHWAY SAFETY AND DESIGN DETAILS

HSD-400.01	SAFETY EDGE DETAILS	3/29/2016
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#### STANDARDS LIST

A-76	STANDARDS FOR TOWN & DEVELOPMENT ROADS	03-03-2003
B-5	SLOPE GRADING, EMBANKMENTS, MUCK	06-01-1994
B-71	STANDARD FOR RESIDENTIAL AND COMMERCIAL DRIVES	07-08-2005
C-3A	SIDEWALK RAMPS	03-10-2008
C-10	CURBING	02-11-2008
E-119	UTILITY WORK ZONE	03-01-2004
E-120	STANDARD SIGN PLACEMENT - EXPRESSWAY & FREEWAY	08-08-1995
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08-08-1995
E-123	GUIDE SIGN PLACEMENT - MISCELLANEOUS DETAILS	03-16-2004
E-126	TYPICAL FREEWAY INTERCHANGE SIGNING	02-01-2000
E-127	ROUTE MARKINGS AT RURAL INTERSECTIONS	08-08-1995
E-136B	STATE ROUTE MARKER SIGN DETAILS	08-08-1995
E-136C	STATE NUMBERED TOWN HIGHWAY SIGN DETAILS	08-08-1995
E-170	TRAFFIC CONTROL SIGNALS PEDESTAL POST MOUNTED	11-04-1999
E-193	PAVEMENT MARKING DETAILS	08-18-1995
F-4	CHAIN LINK FENCE, TYPE II DETAILS	06-01-1994
G-1	STEEL BEAM GUARDRAIL DETAILS (POST, DELINEATOR, TYPICALS)	01-03-2000
S-352A	BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION	08-22-2012
S-352D	GUARDRAIL APPROACH SECTION TO CONCRETE COMBINATION BRIDGE RAILING, T	08-22-2012
T-2	TRAFFIC SIGN GENERAL NOTES	02-12-2016
T-10	CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNING	08-06-2012
T-17	TRAFFIC CONTROL MISCELLANEOUS DETAILS	08-06-2012
T-30	CONSTRUCTION SIGN DETAILS	08-06-2012
T-35	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS	08-06-2012
T-36	CONSTRUCTION ZONE LONGITUDINAL DROP-OFFS FOR PAVING	08-06-2012
T-40	DELINEATORS AND MILEPOSTS	01-02-2013
T-45	SQUARE TUBE SIGN POST AND ANCHOR	01-02-2013
T-55	SIGN PLACEMENT EXPRESSWAY AND FREEWAY	10-26-2015
T-56	STANDARD SIGN PLACEMENT	10-26-2015

### FINAL HYDRAULIC REPORT

**HYDROLOGIC DATA** Date: January 2015  
 DRAINAGE AREA : 19.9 sq. mi.  
 CHARACTER OF TERRAIN : Hilly to mountainous, mostly forested  
 STREAM CHARACTERISTICS : Sinuous, semi to non-alluvial, incised with high banks  
 NATURE OF STREAMBED : Mostly ledge with some gravel, cobbles on boulders on ledge

**PEAK FLOW DATA**  
 Q 2.33 = 800 cfs Q 50 = 3050 cfs  
 Q 10 = 1800 cfs Q 100 = 3700 cfs  
 Q 25 = 2450 cfs Q 500 = 5000 cfs

DATE OF FLOOD OF RECORD : Unknown  
 ESTIMATED DISCHARGE : Unknown  
 WATER SURFACE ELEV. : Unknown  
 NATURAL STREAM VELOCITY : @ Q50 = 13.6 fps  
 ICE CONDITIONS : Slight to moderate  
 DEBRIS : Slight to moderate  
 DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? Yes  
 IS ORDINARY RISE RAPID? Yes  
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No  
 IF YES, DESCRIBE:

WATERSHED STORAGE: < 1% HEADWATERS: UNIFORM: X IMMEDIATELY ABOVE SITE:

#### EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Single span concrete T-beam bridge  
 YEAR BUILT: 1925  
 CLEAR SPAN(NORMAL TO STREAM): 44' at streambed to 46' at top of abutments  
 VERTICAL CLEARANCE ABOVE STREAMBED: 24'  
 WATERWAY OF FULL OPENING: 990 sq. ft.  
 DISPOSITION OF STRUCTURE: Remove  
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: Ledge

**WATER SURFACE ELEVATIONS AT:**  
 Q2.33 = 377.8' VELOCITY = 12.7 fps  
 Q10 = 380.1' " 14.7 fps  
 Q25 = 381.4' " 15.8 fps  
 Q50 = 382.5' " 16.7 fps  
 Q100 = 383.5' " 17.6 fps

LONG TERM STREAMBED CHANGES: None noted

IS THE ROADWAY OVERTOPPED BELOW Q100: No  
 FREQUENCY: Above Q100  
 RELIEF ELEVATION: 398.8'  
 DISCHARGE OVER ROAD @Q100: None

#### UPSTREAM STRUCTURE

TOWN: Not applicable, stream divides DISTANCE:  
 HIGHWAY #: STRUCTURE #:  
 CLEAR SPAN: CLEAR HEIGHT:  
 YEAR BUILT: FULL WATERWAY:  
 STRUCTURE TYPE:

#### DOWNSTREAM STRUCTURE

TOWN: Guilford DISTANCE: 1,700'  
 HIGHWAY #: 101 STRUCTURE #: 3-S  
 CLEAR SPAN: 250' face to face of abutments CLEAR HEIGHT: 70'  
 YEAR BUILT: 1959 FULL WATERWAY: 9220 sq. ft.  
 STRUCTURE TYPE: Three span plate girder bridge

#### LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY	1.97	1.44					
POSTING							
OPERATING	2.55	1.86	2.48	1.61	2.3	2.05	2.15
COMMENTS:							

#### AS BUILT "REBAR" DETAIL

LEVEL I	LEVEL II	LEVEL III
TYPE:	TYPE:	TYPE:
GRADE:	GRADE:	GRADE:

#### TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT	20 year ESAL for flexible pavement from 2016 to 2036 : 1026000
2016	2400	290	56	10.3	250	40 year ESAL for flexible pavement from 2016 to 2056 : 2374000
2036	2600	310	56	15	400	Design Speed : 35 mph

#### PROPOSED STRUCTURE

STRUCTURE TYPE: Precast Concrete/Steel Composite Superstructure  
 CLEAR SPAN(NORMAL TO STREAM): 82'  
 VERTICAL CLEARANCE ABOVE STREAMBED: 24'  
 WATERWAY OF FULL OPENING: 1310 sq. ft.

**WATER SURFACE ELEVATIONS AT:**  
 Q2.33 = 377.8' VELOCITY= 13.3 fps  
 Q10 = 380.0' " 15.2 fps  
 Q25 = 381.4' " 16.3 fps  
 Q50 = 382.5' " 17.2 fps  
 Q100 = 383.5' " 17.9 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No  
 FREQUENCY: Above Q100  
 RELIEF ELEVATION: 398.8'  
 DISCHARGE OVER ROAD @Q100: None  
 AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 395.2'  
 VERTICAL CLEARANCE: @ Q50 = 12.7'

SCOUR: Scour is not applicable. Streambed is mostly ledge. New abutments will be founded on ledge or on piles founded on ledge.  
 REQUIRED CHANNEL PROTECTION: Stone Fill, Type IV

#### PERMIT INFORMATION

AVERAGE DAILY FLOW: 40 cfs DEPTH OR ELEVATION:  
 ORDINARY LOW WATER: 20 cfs Depth = 1'  
 ORDINARY HIGH WATER: 350 cfs Depth = 3'

#### TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: None Required  
 CLEAR SPAN (NORMAL TO STREAM): N/A  
 VERTICAL CLEARANCE ABOVE STREAM: N/A  
 WATERWAY AREA OF FULL OPENING: N/A

#### ADDITIONAL INFORMATION

#### TRAFFIC MAINTENANCE NOTES

1. MAINTAIN TRAFFIC ON AN OFF SITE DETOUR.
2. TRAFFIC SIGNALS ARE NOT NECESSARY.
3. SIDEWALKS ARE NOT NECESSARY

#### DESIGN VALUES

1. DESIGN LIVE LOAD	HL-93
2. FUTURE PAVEMENT	dp: 0.0 INCH
3. DESIGN SPAN	L: 85' FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ: ---
5. PRESTRESSING STRAND	fy: ---
6. PRESTRESSED CONCRETE STRENGTH	f'c: 5.0 KSI
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'cr: ---
8. CONCRETE, HIGH PERFORMANCE CLASS AA	f'c: 4.0 KSI
9. CONCRETE, HIGH PERFORMANCE CLASS A	f'c: 4.0 KSI
10. CONCRETE, HIGH PERFORMANCE CLASS B	f'c: 3.5 KSI
11. CONCRETE, CLASS C	f'c: 3.0 KSI
12. REINFORCING STEEL	fy: 60 KSI
13. STRUCTURAL STEEL AASHTO M270 (WEATHERING)	fy: 50 KSI
14. NOMINAL BEARING RESISTANCE OF SOIL	qn: --- KSF
15. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: --
16. NOMINAL BEARING RESISTANCE OF ROCK	qn: 11.5 KSF
17. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: 0.45
18. PILE RESISTANCE FACTOR (SEE GENERAL NOTES)	φ: --
19. LATERAL PILE DEFLECTION	Δ: 0.50 INCH
20. BASIC WIND SPEED	V3s: ---
21. MINIMUM GROUND SNOW LOAD	pg: ---
22. SEISMIC DATA	PGA: -- S: --- S1: ---
23.	---
24.	---
25.	---
26.	---

PROJECT NAME: GUILFORD  
 PROJECT NUMBER: BF 0113(68)  
 FILE NAME: PI Sheet Builder\_v008-13c.xls PLOT DATE: 5/31/2016  
 PROJECT LEADER: R. YOUNG DRAWN BY: S. MERKWAN  
 DESIGNED BY: D. KULL CHECKED BY: T. KENDRICK  
**PRELIMINARY INFORMATION SHEET 1** SHEET 2 OF 65

# GENERAL NOTES

**GENERAL**

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, LRFD FIFTH EDITION, DATED 2012 AND ITS LATEST REVISIONS.
2. THE BRIDGE IS DESIGNED FOR AN HL-93 LIVE LOADING WITH A 3 INCH ALLOWANCE FOR FUTURE PAVEMENT.
3. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT.
4. ITEM 529.15, "REMOVAL OF STRUCTURE" SHALL BE USED FOR THE REMOVAL AND DISPOSAL OF THE EXISTING SUPERSTRUCTURE.
5. ABUTMENT 1 SHALL BE REMOVED TO ELEVATION 381. THE LOCATION OF THE BACK FACE OF THE EXISTING ABUTMENT IS UNKNOWN. THE COST FOR REMOVAL OF ABUTMENT 1 WILL BE INCLUDED IN ITEM 203.27 UNCLASSIFIED CHANNEL EXCAVATION.
6. ABUTMENT 2 SHALL BE REMOVED TO THE TOP OF BEDROCK. THE LOCATION OF THE BACK FACE OF THE EXISTING ABUTMENT IS UNKNOWN. THE COST FOR REMOVAL OF ABUTMENT 2 OUTSIDE THE STRUCTURE EXCAVATION LIMITS WILL BE INCLUDED IN ITEM 203.27 UNCLASSIFIED CHANNEL EXCAVATION.
7. FOR TRAFFIC CONTROL NOTES, SEE SHEETS 17 (EMERGENCY ACCESS ROAD) AND SHEET 24 (US ROUTE 5).
8. ALL STEEL COMPONENTS OF THE APPROACH RAILING, BRIDGE RAILING AND GUARDRAIL SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. COMPONENTS SHALL BE POWDER COATED BLACK IN ACCORDANCE WITH ASTM D 7803.

**EARTHWORK**

9. THE STONE FILL, TYPE II SHALL BE PLACED BETWEEN AND WITHIN THE VOIDS ON TOP OF THE TYPE IV STONE FILL TO FORM AN EVEN SURFACE FOR PLACEMENT OF GRUBBING AND REVEGETATION MATERIAL.
10. THE "STONE FILL, TYPE II OVER TYPE IV" UNDER THE BRIDGE AS SHOWN IN THE PLANS SHALL BE PLACED BEFORE THE PREFABRICATED BRIDGE UNITS ARE SET.
11. SUITABLE EXCAVATION MATERIAL SHALL BE MATERIAL FROM COMMON EXCAVATION WHICH HAS BEEN APPROVED BY THE ENGINEER.
12. REMOVAL OF THE EXISTING DRAIN PIPE BENEATH TH 28 (MELENDY HILL ROAD) SHALL BE INCLUDED IN THE COST OF ITEM 601.0410 "15" PCCSP 0.064 (2-2/3 X 1/2)"
13. REMOVAL OF THE EXISTING DRAIN PIPE ADJACENT TO TH 65 (BEE BARN ROAD) SHALL BE INCLUDED IN THE COST OF ITEM 601.0815 "18" RCP PIPE III"

**CONCRETE**

14. ALL CONCRETE PLACED IN THE DECK CLOSURE POURS, BACKWALL CLOSURE POURS, APPROACH SLAB CLOSURE POURS AND PILE VOIDS SHALL BE ITEM 900.608 "SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET) (FPQ)".
15. ALL CONCRETE PLACED IN THE SIDEWALK AND THE BRIDGE RAILING SHALL BE ITEM 501.33 "CONCRETE HIGH PERFORMANCE CLASS A".
16. ALL CONCRETE PLACED IN THE DECK OF THE PREFABRICATED BRIDGE UNITS SHALL MEET THE REQUIREMENTS OF ITEM 900.675 "SPECIAL PROVISION (PREFABRICATED BRIDGE UNIT SUPERSTRUCTURE)"
17. ALL CONCRETE PLACED IN THE SUBFOOTING (WHERE REQUIRED) WILL BE PAID UNDER ITEM 501.33, CONCRETE, HIGH PERFORMANCE CLASS A.
18. ALL CONCRETE PLACED IN THE RECONSTRUCTION OF THE EXISTING ABUTMENT WILL BE PAID UNDER ITEM 501.33, CONCRETE HIGH PERFORMANCE CLASS A. ALL REINFORCING STEEL REQUIRED FOR RECONSTRUCTION SHALL BE PAID UNDER ITEM 501.33
19. ALL REINFORCING STEEL IN THE SIDEWALK, BRIDGE RAILING, DECK CLOSURE POURS, BACKWALL CLOSURE POURS AND APPROACH SLAB CLOSURE POURS AND SHALL MEET THE REQUIREMENTS OF SECTION 507 FOR REINFORCING STEEL, LEVEL III. AND SHALL BE PAID UNDER ITEM 507.13 REINFORCING STEEL, LEVEL III.
20. ALL REINFORCING STEEL IN THE DECK OF THE PREFABRICATED BRIDGE UNITS SHALL MEET THE REQUIREMENTS OF SECTION 507 FOR REINFORCING STEEL, LEVEL III, AND SHALL BE PAID UNDER ITEM 900.675 "SPECIAL PROVISION (PREFABRICATED BRIDGE UNIT SUPERSTRUCTURE)"
21. ALL REINFORCING STEEL IN THE PRECAST ABUTMENT STEMS, FOOTINGS AND APPROACH SLABS SHALL MEET THE REQUIREMENTS OF SECTION 507 FOR REINFORCING STEEL, LEVEL I, AND SHALL BE PAID UNDER THE APPROPRIATE SECTION 540 CONTRACT ITEM.

22. ALL REINFORCING STEEL IN THE ABUTMENT 1 RECONSTRUCTION SHALL MEET THE REQUIREMENTS OF SECTION 507 FOR REINFORCING STEEL, LEVEL I.
23. ITEM 514.10, "WATER REPELLENT, SILANE", SHALL BE APPLIED TO ALL EXPOSED CONCRETE SUPERSTRUCTURE AND SUBSTRUCTURE SURFACES, EXCEPT THE UNDERSIDE OF THE DECK BETWEEN DRIP NOTCHES.
24. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT THE DECK OF THE PRECAST BRIDGE UNITS ARE NOT PUT INOT TENSION SUFFICIENT ENOUGH TO CAUSE VISIBLE CRACKING IN THE CONCRETE DURING FABRICATION, DELIVERY, AND ERECTION OF THE PRECAST BRIDGE UNITS.
25. MINIMUM CLEAR COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:  

ALONG BACK FACES OF WALLS AGAINST EARTH	2.0 INCH
ALONG TOP SURFACE OF DECK SLAB	2.5 INCH
ALONG BOTTOM SURFACE OF DECK SLAB	1.5 INCH
ELSEWHERE UNLESS OTHERWISE NOTED	3.0 INCH

**PRECAST ABUTMENTS AND POST-TENSIONING**

26. ABUTMENT FOOTING AND STEMS SHALL BE PRECAST WITH PAYMENT INCLUDED IN THE APPROPRIATE PRECAST CONCRETE PAY ITEM. PAYMENT SHALL INCLUDE ALL WORK NECESSARY TO FABRICATE, DELIVER, AND ASSEMBLE EACH UNIT COMPLETE AND IN-PLACE AS SHOWN ON THE PLANS. ALL APPURTENANCES SHALL BE INCIDENTAL TO THE APPROPRIATE PRECAST CONCRETE ABUTMENT PAY ITEM. STABILITY OF ALL PRECAST SUBSTRUCTURE UNITS IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL REQUIRED BACKFILLING IS COMPLETE AND THE PREFABRICATED BRIDGE UNITS HAVE BEEN ERECTED IN THEIR FINAL POSITIONS.
27. ALL COSTS FOR GROUTING MATERIALS USED IN PRECAST MEMBERS SHALL BE INCIDENTAL TO THE APPROPRIATE PRECAST PAY ITEMS UNLESS OTHERWISE NOTED.
28. POST-TENSIONING STRANDS AND CONDUIT SHALL ADHERE TO THE REQUIREMENTS OF SECTION 510 - PRESTRESSED CONCRETE. GALVANIZED ANCHOR ASSEMBLIES, CONDUIT AND POST-TENSIONING STRANDS SHALL BE INCLUDED UNDER THE APPROPRIATE PRECAST PAY ITEM. POST TENSIONING STRANDS SHALL BE COVERED WITH SEAMLESS POLYPROPYLENE SHEATH (WITH CORROSION INHIBITOR GREASE BETWEEN SHEATH AND STRAND) FOR THE LENGTH OF THE STRAND, EXCEPT AT ANCHORAGE LOCATIONS.
29. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND DETAILING OF POST TENSIONING ELEMENTS. THE POST TENSIONING DESIGN SHALL FOLLOW CURRENT LRFD AND PCI MANUAL GUIDELINES.
30. GALVANIZE ANCHOR ASSEMBLIES (ANCHOR BOLTS , NUTS AND WASHERS PLATES) AFTER FABRICATION ACCORDING TO AASHTO M232M/M232.
31. DESIGN VALUES:  
 A. CONCRETE COMPRESSIVE STRENGTH:  $f'c = 5000$  psi  
 B. POST-TENSIONING STRANDS: 0.6 INCH DIAMETER, 270 KSI, LOW RELAXATION 7-WIRE STRANDS.  
 C. ASSUMED MODULUS OF ELASTICITY IS 28,500 KSI.  
 D. THERE SHALL BE 2 STRANDS PER CONDUIT.  
 E. THE JACKING FORCE PER STRAND = 44 KIPS.
32. THE CORRUGATED STEEL PIPE SHALL MEET THE REQUIREMENTS OF SUBSECTION 711.01. ALL COSTS ASSOCIATED WITH PLACING THE CORRUGATED STEEL PIPE SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 540.10 "PRECAST CONCRETE STRUCTURE (ABUTMENT NO. 1)" OR ITEM 540.10 "PRECAST CONCRETE STRUCTURE (ABUTMENT NO. 2)" AS APPROPRIATE.
33. ABUTMENT 1 POST TENSIONING SHALL OCCUR PRIOR TO PLACEMENT OF CONCRETE IN THE PILE VOIDS.
34. PLACEMENT OF THE PRECAST FOOTINGS WITH LEVELING BOLTS SHALL NOT BE PERMITTED UNTIL THE GROUT BED AND SUBFOOTING HAS ACHIEVED A STRENGTH OF 1500 PSI.
35. THE CONCRETE CURING REQUIREMENTS PER SECTION 501.17 OF THE STANDARD SPECIFICATIONS FOR CONCRETE, HIGH PERFORMANCE CLASS A PLACED IN THE SUBFOOTING ARE ONLY REQUIRED UNTIL THE CONCRETE HAS ACHIEVED A STRENGTH OF 1500 PSI.

**SUBSTRUCTURE ON LEDGE**

36. PRECAST FOOTINGS AT ABUTMENT 2 SHALL BE FOUNDED ON LEDGE WHICH HAS BEEN CLEANED OF ALL LOOSE ROCK AND DEBRIS TO ENSURE THAT THE SUBSTRUCTURE IS PLACED ON COMPETENT ROCK.
37. UPON COMPLETION OF THE EXCAVATION FOR ABUTMENT 2, AND PRIOR TO PLACING THE PRECAST ABUTMENTS AND PRIOR TO PLACING MATERIAL ON BEDROCK, THE ENGINEER SHALL NOTIFY THE VTRANS GEOLOGIST. THE GEOLOGIST WILL DETERMINE IF THE BEDROCK IS STABLE AND COMPETENT TO OBTAIN THE REQUIRED NOMINAL BEARING RESISTANCE. THE CONTRACTOR SHALL NOTIFY THE GEOLOGIST 24 HOURS IN ADVANCE OF WHEN THE ANALYSIS WILL BE NEEDED. 1500 PSI.

38. LEDGE THAT IS EXCAVATED FOR PLACEMENT OF THE PRECAST FOOTING (OR SUB-FOOTING IF REQUIRED) SHALL BE EXCAVATED TO PROVIDE A LEVEL SURFACE OR AS DIRECTED BY THE ENGINEER.
39. THE SUBFOOTING SHALL HAVE A RAKED FINISH.
40. ABUTMENT 2 HAS BEEN DESIGNED FOR THE TOP OF FOOTING ELEVATIONS SHOWN ON THE PLANS. LEDGE SHALL BE EXCAVATED DOWN TO THE INDICATED BOTTOM OF FOOTING, INCLUDING THE 3" MIN GROUT BED, FOR THE FULL WIDTH (TOE TO HEEL) OF THE CONFIGURATION. IF THE LEDGE ELEVATION IS GREATER THAN 6" BELOW THE DESIGN BOTTOM OF FOOTING, A SUBFOOTING SHALL BE POURED SO THAT THE DESIGN TOP OF FOOTING IS AT THE REQUIRED ELEVATION. THE GROUT BED WILL BE PAID UNDER THE APPROPRIATE SECTION 540 CONTRACT ITEM. THE SUBFOOTING, IF REQUIRED, WILL BE PAID UNDER ITEM 501.33 "CONCRETE, HIGH PERFORMANCE, CLASS A."
41. ALL COSTS ASSOCIATED WITH PREVENTING ROCK FROM ENTERING BROAD BROOK SHALL BE INCLUDED IN ITEM 203.27.

**PILES**

42. THE PILES SHALL BE HP 12X74 WITH THE FOLLOWING STRUCTURAL AND PILE DRIVING PROPERTIES:  
 A. PILE AXIAL PILE RESISTANCE = 10090 KIPS  
 B. PILE MONITORING METHOD = DYNAMIC ANALYSIS  
 C. PILE TEST RESISTANCE FACTOR =  $\phi=0.65$   
 D. NOMINAL PILE DRIVING RESISTANCE (RNDR) = 466.7 KIPS
43. PILE SHOES ARE REQUIRED AND SHALL CONFORM TO SUBSECTION 505.04(F).
44. THE TOPS OF THE PILES AFTER DRIVING SHALL NOT VARY FROM THE LOCATION SHOWN ON THE PLANS BY MORE THAN 3 INCHES. THE PILE ORIENTATION SHALL NOT VARY BY MORE THAN 5 DEGREES. THE CONTRACTOR SHALL DEMONSTRATE HOW TOLERANCE WILL BE MET TO THE SATISFACTION OF THE ENGINEER REGARDLESS OF INSTALLATION METHOD.
45. FOR ESTIMATING PURPOSES, THE PILE TIP ELEVATIONS WERE ASSUMED AS SHOWN ON THE BORING LOGS. THE ACTUAL LENGTHS MAY VARY.
46. THE PILES SHALL BE DRIVEN TO BEDROCK AND SHALL BE EMBEDDED IN THE GROUND A MINIMUM OF 18 FEET BELOW THE BOTTOM OF THE PILE CAP.
47. DUE TO THE PRESENCE OF COBBLES AND BOULDERS, THE CONTRACTOR IS REQUIRED TO PRE-EXCAVATE MATERIAL TO BEDROCK PRIOR TO DRIVING PILES. THIS WORK SHALL BE COMPLETED PRIOR TO THE BRIDGE CLOSURE PERIOD. REFERENCE TRAFFIC CONTROL SHEET 14 FOR ADDITIONAL INFORMATION.
48. PAYMENT FOR PRE-EXCAVATION FOR PILES SHALL BE UNDER ITEM 900.640 "SPECIAL PROVISION (PRE-EXCAVATION OF ABUTMENT PILES)"

**PREFABRICATED BRIDGE UNITS.**

49. PREFABRICATED BRIDGE UNITS SHALL BE PAID UNDER ITEM 900.675, "SPECIAL PROVISION (PREFABRICATED BRIDGE UNIT SUPERSTRUCTURE)".
50. THE PRECAST DECK-END BACKWALL AS SHOWN ON THE PLANS IS OPTIONAL AND MAY BE CAST-IN-PLACE BY THE CONTRACTOR.
50. UNLESS OTHERWISE NOTED, ALL NEW STRUCTURAL STEEL SHALL CONFORM TO AASHTO M270/M270M GRADE 50W AND SHALL BE PAID FOR UNDER ITEM 900.675 "SPECIAL PROVISION (PREFABRICATED BRIDGE UNIT SUPERSTRUCTURE)".
52. AFTER SUPERSTRUCTURE STEEL ELEMENTS HAVE BEEN SET UP AT THE SHOP, ELEVATIONS ALONG THE TOP OF THE GIRDERS SHALL BE TAKEN FOR USE IN DETERMINING FINISHED GRADES.
53. ENDS OF GIRDERS ARE TO BE VERTICAL IN FINAL POSITION.

**PRECAST APPROACH SLABS.**

54. PRECAST CONCRETE STRENGTH:  $f'c = 5,000$  PSI.
55. SLAB EDGES IN CONTACT WITH HPC RAPID SET CONCRETE SHALL BE SANDBLASTED PRIOR TO DELIVERY AND POWER WASHED WITH WATER PRIOR TO INSTALLATION.
56. FILL APPROACH SLAB CLOSURE POURS WITH HPC RAPID SET CONCRETE IN ACCORDANCE WITH ITEM 900.608, "SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET) (FPQ)". CONCRETE SHALL HAVE A 28 DAY MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.
57. THE FABRICATOR MAY ALTER THE DESIGN DETAILED WITHIN THESE PLANS TO ACCOMMODATE THEIR SPECIFIC OPERATION. THIS ALTERATION SHALL BE DESIGNED AND STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF VERMONT.

**PROJECT NAME:** GUILFORD  
**PROJECT NUMBER:** BF 0113(68)

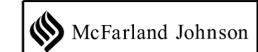
**FILE NAME:** z13c064frm.dgn  
**PROJECT LEADER:** R.YOUNG  
**DESIGNED BY:** D.KULL  
PROJECT NOTES (1 OF 2)

**PLOT DATE:** 5/31/2016  
**DRAWN BY:** S.MERKWAN  
**CHECKED BY:** T.KENDRICK  
**SHEET** 3 **OF** 65



**RETAINING WALL NOTES**

58. RETAINING WALLS SHALL BE SELECTED FROM THE LIST OF WALLS ON THE APPROVED VAOT EARTH RETAINING SYSTEM SELECTION CHART. SEE SPECIAL PROVISION. THE RETAINING WALL SHALL HAVE CONCRETE FACING.
59. THE WALL SHALL BE PAID UNDER ITEM 900.670 SPECIAL PROVISION (RETAINING WALL).
60. THE RETAINING WALL SHALL BE DESIGNED IN ACCORDANCE WITH THE 2014 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND ITS LATEST REVISIONS. THE DESIGN SHALL INCLUDE THE EFFECTS OF ALL LOADS INCLUDING, BUT NOT LIMITED TO EARTH SURCHARGE AND HYDROSTATIC PRESSURE.
61. THE FOLLOWING SOIL PROPERTIES SHALL BE USED IN THE DESIGN OF THE RETAINING WALL:
- a. FOUNDATION SOIL DESIGN VALUES  
THE NOMINAL (UNFACTORED) BEARING RESISTANCE IS A FUNCTION OF THE EFFECTIVE FOOTING WIDTH AND VARIES LINEARLY FROM X KSF (EFFECTIVE WIDTH = X') TO X KSF (EFFECTIVE WIDTH = X')
  - b. FOUNDATION SOIL PARAMETERS  
UNIT WEIGHT: XX PCF  
FRICTION ANGLE: XX DEG
  - c. RETAINED SOIL PARAMETERS  
UNIT WEIGHT: 140 PCF  
FRICTION ANGLE: 34 DEG
  - d. RESISTANCE FACTORS (LRFD)  
BEARING RESISTANCE: 0.45  
SLIDING RESISTANCE: 0.80  
SETTLEMENT RESISTANCE: 1.0  
SCOUR RESISTANCE: 1.0
62. THE INTERFACE BETWEEN THE RETAINING WALL AND THE ABUTMENT STEM SHALL BE DESIGNED TO ALLOW 0.5 INCHES OF MOVEMENT. A JOINT DETAIL SHALL BE SUBMITTED TO THE PROJECT MANAGER FOR REVIEW AND APPROVAL. ALL COMPONENTS SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM 900.670 SPECIAL PROVISION (RETAINING WALL).



PROJECT NAME: GUILFORD  
PROJECT NUMBER: BF 0113(68)

FILE NAME: z13c064frm.dgn  
PROJECT LEADER: R.YOUNG  
DESIGNED BY: D.KULL  
PROJECT NOTES (2 OF 2)

PLOT DATE: 5/31/2016  
DRAWN BY: S.MERKWAN  
CHECKED BY: T.KENDRICK  
SHEET 4 OF 65

# QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES			
					ROADWAY	EROSION CONTROL	UTILITIES - BID ITEMS (NO FEDERAL)	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				
					2000						2000		CY	COMMON EXCAVATION	203.15				
								800			800		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27				
								405			405		CY	STRUCTURE EXCAVATION	204.25				
								190			190		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30				
					715						715		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10				
					1850						1850		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35				
					30						30		CY	AGGREGATE SURFACE COURSE	401.10				
					15						15		CWT	EMULSIFIED ASPHALT	404.65				
					1						1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50				
								36			36		CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33				
								1			1		LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10				
								160			160		LF	STEEL PILING, HP 12 X 74	505.16				
								1			1		EACH	DYNAMIC PILE LOADING TEST	505.45				
								2600			2600		LB	REINFORCING STEEL, LEVEL III	507.13				
								18			18		GAL	WATER REPELLENT, SILANE	514.10				
								430			430		SY	MEMBRANE WATERPROOFING, SPRAY APPLIED	520.10				
								178			178		LF	BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION	525.45				
								1			1		EACH	REMOVAL OF STRUCTURE (1100 SF)	529.15				
								16			16		EACH	BEARING DEVICE ASSEMBLY, STEEL REINFORCED ELASTOMERIC PAD	531.17				
								1			1		LS	PRECAST CONCRETE STRUCTURE (ABUTMENT NO. 1)	540.10				
								1			1		LS	PRECAST CONCRETE STRUCTURE (ABUTMENT NO. 2)	540.10				
								1			1		LS	PRECAST CONCRETE STRUCTURE (APPROACH SLAB NO. 1)	540.10				
								1			1		LS	PRECAST CONCRETE STRUCTURE APPROACH SLAB NO. 2)	540.10				
					130						130		LF	15" PCCSP .064 (2-2/3 X 1/2)	601.0410				
					28						28		LF	18" RCP CLASS III	601.0815				
					1						1		EACH	PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE	604.18				
							5				5		EACH	CHANGING ELEVATION OF SEWER MANHOLES	604.42				
					1						1		CY	STONE FILL, TYPE I	613.10				
					240						240		CY	STONE FILL, TYPE II	613.11				
					620						620		CY	STONE FILL, TYPE IV	613.13				
					76						76		LF	VERTICAL GRANITE CURB	616.21				
					49						49		SY	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	618.10				
					16						16		SF	DETECTABLE WARNING SURFACE	618.30				
					32						32		LF	CHAIN-LINK FENCE, 6 FEET	620.12				
					12						12		LF	GATE FOR CHAIN-LINK FENCE, 6 FEET	620.16				
					2						2		EACH	BRACING ASSEMBLY FOR CHAIN-LINK FENCE, 6 FEET	620.21				
					46						46		LF	REMOVAL OF EXISTING FENCE	620.55				
					47						47		LF	HD STEEL BEAM GUARDRAIL, GALVANIZED	621.21				
					3						3		EACH	MANUFACTURED TERMINAL SECTION, FLARED	621.50				

PROJECT NAME: GUILFORD  
 PROJECT NUMBER: BF 0113(68)  
 FILE NAME: z13c064frm.dgn  
 PROJECT LEADER: R.YOUNG  
 DESIGNED BY: D.KULL  
 QUANTITY SHEET NO. 1  
 PLOT DATE: 5/31/2016  
 DRAWN BY: S.MERKWAN  
 CHECKED BY: T.KENDRICK  
 SHEET 5 OF 65



# QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES			
					ROADWAY	EROSION CONTROL	UTILITIES - BID ITEMS (NO FEDERAL)	BRIDGE	FULL C.E. ITEMS		GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
					4						4		EACH	GUARDRAIL APPROACH SECTION TO CONCRETE BRIDGE RAILING, TL-3	621.747				
					210						210		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
					66						66		LF	TEMPORARY TRAFFIC BARRIER	621.90				
					120						120		HR	UNIFORMED TRAFFIC OFFICERS	630.10				
					300						300		HR	FLAGGERS	630.15				
									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				
					4						4		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15				
					1090						1090		LF	4 INCH WHITE LINE	646.20				
					1180						1180		LF	4 INCH YELLOW LINE	646.21				
					58						58		LF	DURABLE 24 INCH STOP BAR	646.480				
					12						12		EACH	DURABLE LETTER OR SYMBOL	646.490				
						485					485		SY	GEOTEXTILE UNDER STONE FILL	649.31				
						14					14		LB	SEED	651.15				
						78					78		LB	FERTILIZER	651.18				
						0.5					0.5		TON	AGRICULTURAL LIMESTONE	651.20				
						0.5					0.5		TON	HAY MULCH	651.25				
						85					85		CY	TOPSOIL	651.35				
						450					450		SY	GRUBBING MATERIAL	651.40				
						1					1		LS	EPSC PLAN	652.10				
						60					60		HR	MONITORING EPSC PLAN	652.20				
						1					1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30				
						148					148		SY	PERMANENT EROSION MATTING	653.21				
						3					3		CY	TEMPORARY STONE CHECK DAM, TYPE I	653.25				
						80					80		CY	VEHICLE TRACKING PAD	653.35				
						3					3		EACH	INLET PROTECTION DEVICE, TYPE I	653.40				
						115					115		LF	BARRIER FENCE	653.50				
						1400					1400		LF	PROJECT DEMARCATION FENCE	653.55				
						995					995		LF	EROSION LOG	653.60				
					6						6		SF	TRAFFIC SIGNS, TYPE A	675.20				
					56						56		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
					7						7		EACH	REMOVING SIGNS	675.50				
					6						6		EACH	ERECTING SALVAGED SIGNS	675.60				
									28		28		CY	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET)	900.608				
									235		235		LF	SPECIAL PROVISION (PRE-EXCAVATION OF ABUTMENT PILES)	900.640				
					1						1		LS	SPECIAL PROVISION (CPM SCHEDULE)	900.645				
						1					1		LS	SPECIAL PROVISION (IN WATER SEDIMENT ISOLATION DEVICE)	900.645				

PROJECT NAME: GUILFORD  
PROJECT NUMBER: BF 0113(68)

FILE NAME: z13c064frm.dgn  
PROJECT LEADER: R.YOUNG  
DESIGNED BY: D.KULL  
QUANTITY SHEET NO. 2

PLOT DATE: 5/31/2016  
DRAWN BY: S.MERKWAN  
CHECKED BY: T.KENDRICK  
SHEET 6 OF 65



# QUANTITY SHEET 3

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
				ROADWAY	EROSION CONTROL	UTILITIES - BID ITEMS (NO FEDERAL)	BRIDGE	FULL C.E. ITEMS		GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
				1						1		LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL INCLUSIVE)	900.645				
				1						1		LU	SPECIAL PROVISION (INCENTIVE/DISENCEMENTIVE) (N.A.B.I.)	900.650				
				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				
							50			50		SY	SPECIAL PROVISION (CONCRETE RETAINING WALL)	900.675				
							355			355		SY	SPECIAL PROVISION (PREFABRICATED CONCRETE/STEEL COMPOSITE SUPERSTRUCTURE)	900.675				
				810			75			885		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680				

PROJECT NAME: GUILFORD  
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FILE NAME: z13c064frm.dgn  
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QUANTITY SHEET NO. 3

PLOT DATE: 5/31/2016  
DRAWN BY: S.MERKWAN  
CHECKED BY: T.KENDRICK  
SHEET 7 OF 65



# BRIDGE QUANTITY SHEET 1

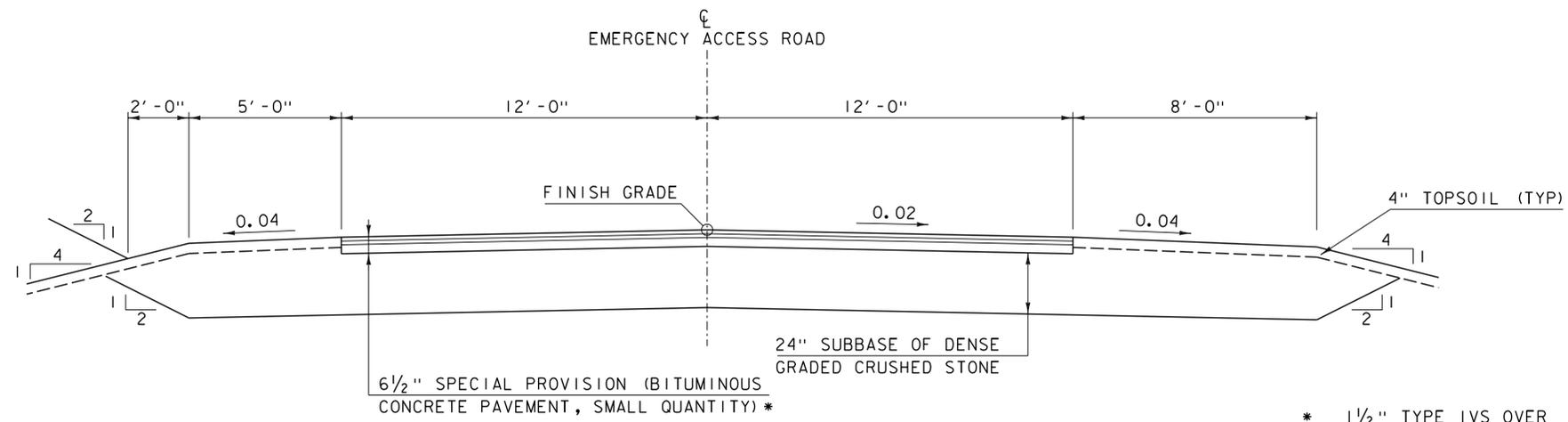
SUMMARY OF BRIDGE QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
							APPROACH SLABS	ABUTMENT NO. 1	ABUTMENT NO. 2	SUPERSTRUCTURE	BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS	
								640	160		800	CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27				
								165	240		405	CY	STRUCTURE EXCAVATION	204.25				
								82	108		190	CY	GRANULAR BACKFILL FOR STRUCTURES	204.30				
									25	11	36	CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33				
								1			1	LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10				
								160			160	LF	STEEL PILING, HP 12 X 74	505.16				
								1			1	EACH	DYNAMIC PILE LOADING TEST	505.45				
							530		345	1725	2600	LB	REINFORCING STEEL, LEVEL III	507.13				
								3.25	3.25	11.5	18	GAL	WATER REPELLENT, SILANE	514.10				
							137			293	430	SY	MEMBRANE WATERPROOFING, SPRAY APPLIED	520.10				
										178	178	LF	BRIDGE RAILING, GALVANIZED STEEL TUBING/CONCRETE COMBINATION	525.45				
										1	1	EACH	REMOVAL OF STRUCTURE (1100 SF)	529.15				
								8	8		16	EACH	BEARING DEVICE ASSEMBLY, STEEL REINFORCED ELASTOMERIC PAD	531.17				
									1		1	LS	PRECAST CONCRETE STRUCTURE (ABUTMENT NO. 1)	540.10				
							1				1	LS	PRECAST CONCRETE STRUCTURE (ABUTMENT NO. 2)	540.10				
							1				1	LS	PRECAST CONCRETE STRUCTURE (APPROACH SLAB NO. 1)	540.10				
							1				1	LS	PRECAST CONCRETE STRUCTURE APPROACH SLAB NO. 2)	540.10				
							4.75	6.75	8.75	7.75	28	CY	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET)	900.608				
								235			235	LF	SPECIAL PROVISION (PRE-EXCAVATION OF ABUTMENT PILES)	900.640				
									50		50	SY	SPECIAL PROVISION (CONCRETE RETAINING WALL)	900.675				
										355	355	SY	SPECIAL PROVISION (PREFABRICATED CONCRETE/STEEL COMPOSITE SUPERSTRUCTURE)	900.675				
										75	75	TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680				

PROJECT NAME: GUILFORD  
PROJECT NUMBER: BF 0113(68)

FILE NAME: z13c064frm.dgn  
PROJECT LEADER: R.YOUNG  
DESIGNED BY: D.KULL  
BRIDGE QUANTITY SHEET

PLOT DATE: 5/31/2016  
DRAWN BY: S.MERKWAN  
CHECKED BY: T.KENDRICK  
SHEET 8 OF 65

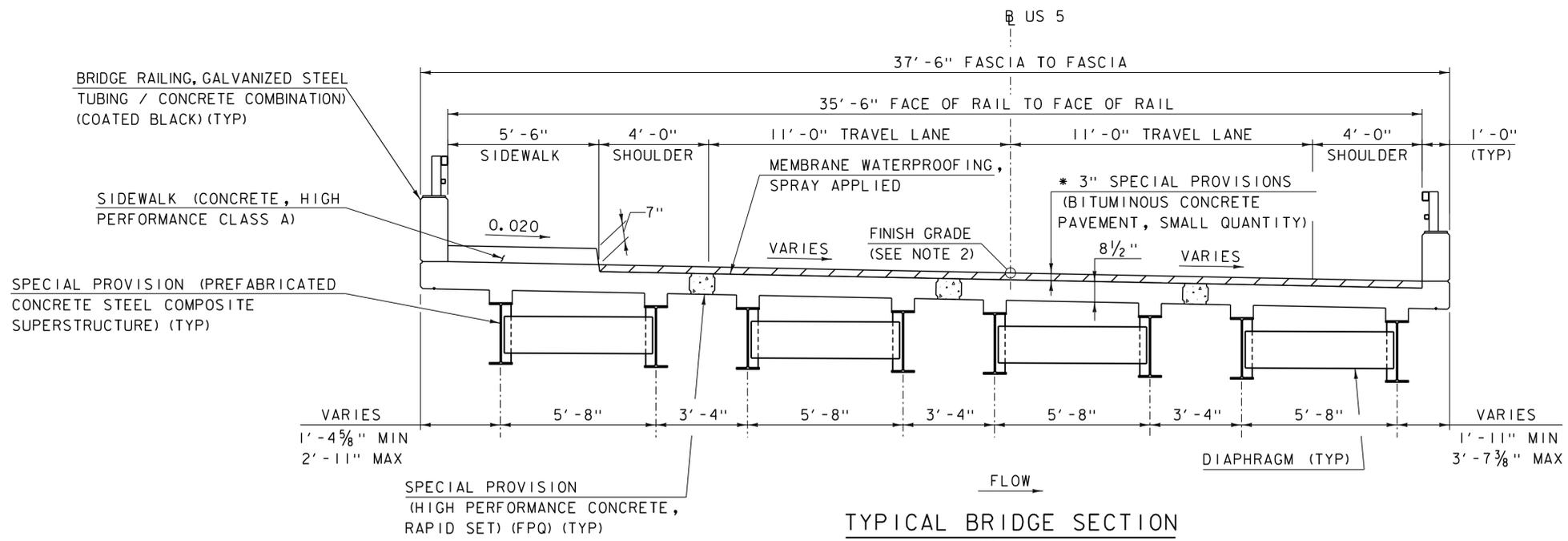




**EMERGENCY ACCESS ROAD (EAR) TYPICAL SECTION**  
(STA 30+21.9 - 31+75.0)

SCALE 3/8" = 1'-0"

\* 1 1/2" TYPE IVS OVER  
1 1/2" TYPE IVS OVER  
3 1/2" TYPE IIS



**TYPICAL BRIDGE SECTION**

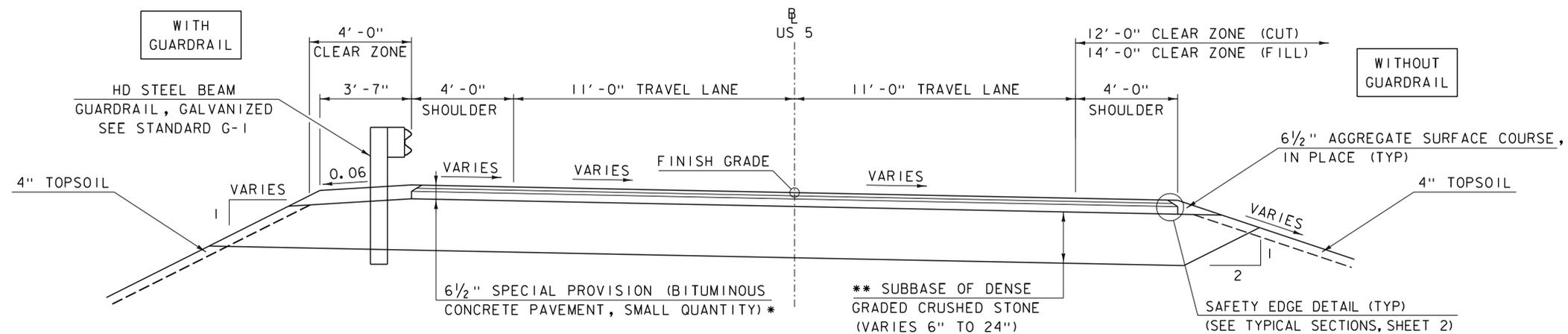
SCALE 3/8" = 1'-0"

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

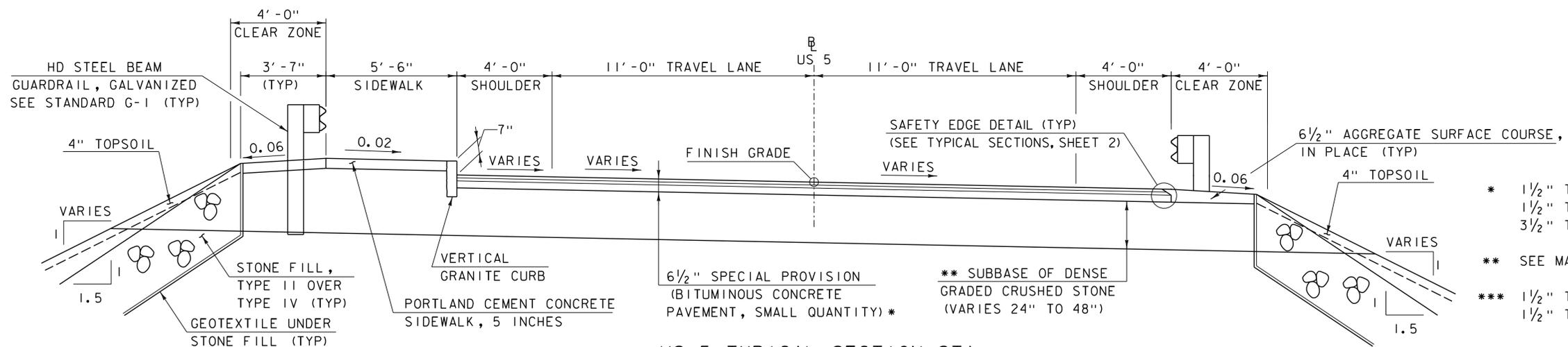
MATERIAL TOLERANCES (IF USED ON PROJECT)	
SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	+/- 1"

PROJECT NAME: GUILFORD	PLOT DATE: 5/31/2016
PROJECT NUMBER: BF 0113(68)	DRAWN BY: S.OZANA
FILE NAME: I3c064/sl3c064+typical.dgn	CHECKED BY: T.KENDRICK
PROJECT LEADER: R. YOUNG	SHEET 9 OF 65
DESIGNED BY: D. KULL	
TYPICAL SECTIONS SHEET 1	





US 5 TYPICAL SECTION  
(STA 10+00 - 11+49, & STA 13+13 - 14+25)  
SCALE 3/8" = 1'-0"



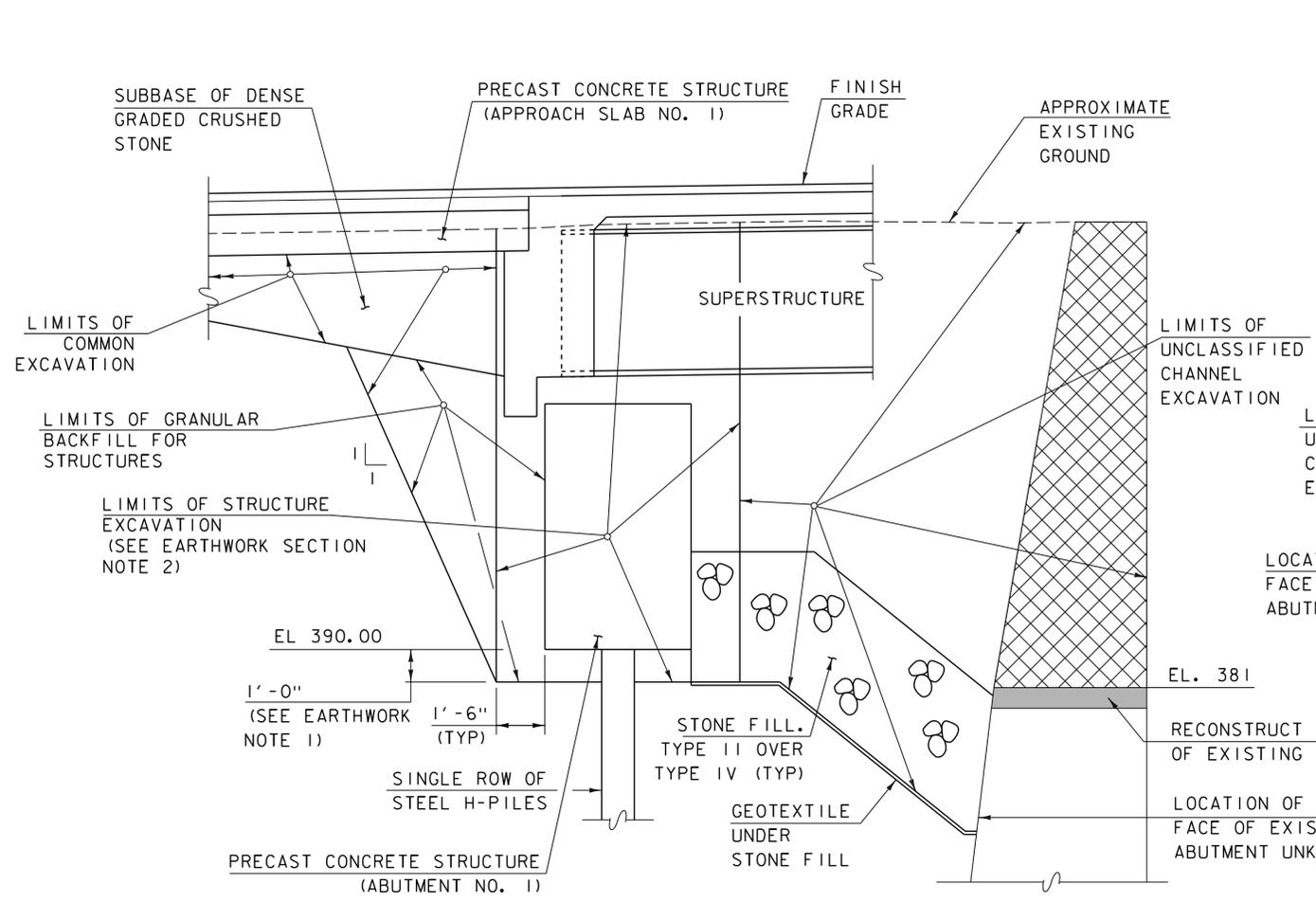
US 5 TYPICAL SECTION STA  
(11+49 - 13+13)  
SCALE 3/8" = 1'-0"

- \* 1 1/2" TYPE IVS OVER  
1 1/2" TYPE IVS OVER  
3 1/2" TYPE IIS
- \*\* SEE MATERIAL TRANSITION DETAIL
- \*\*\* 1 1/2" TYPE IVS OVER  
1 1/2" TYPE IVS

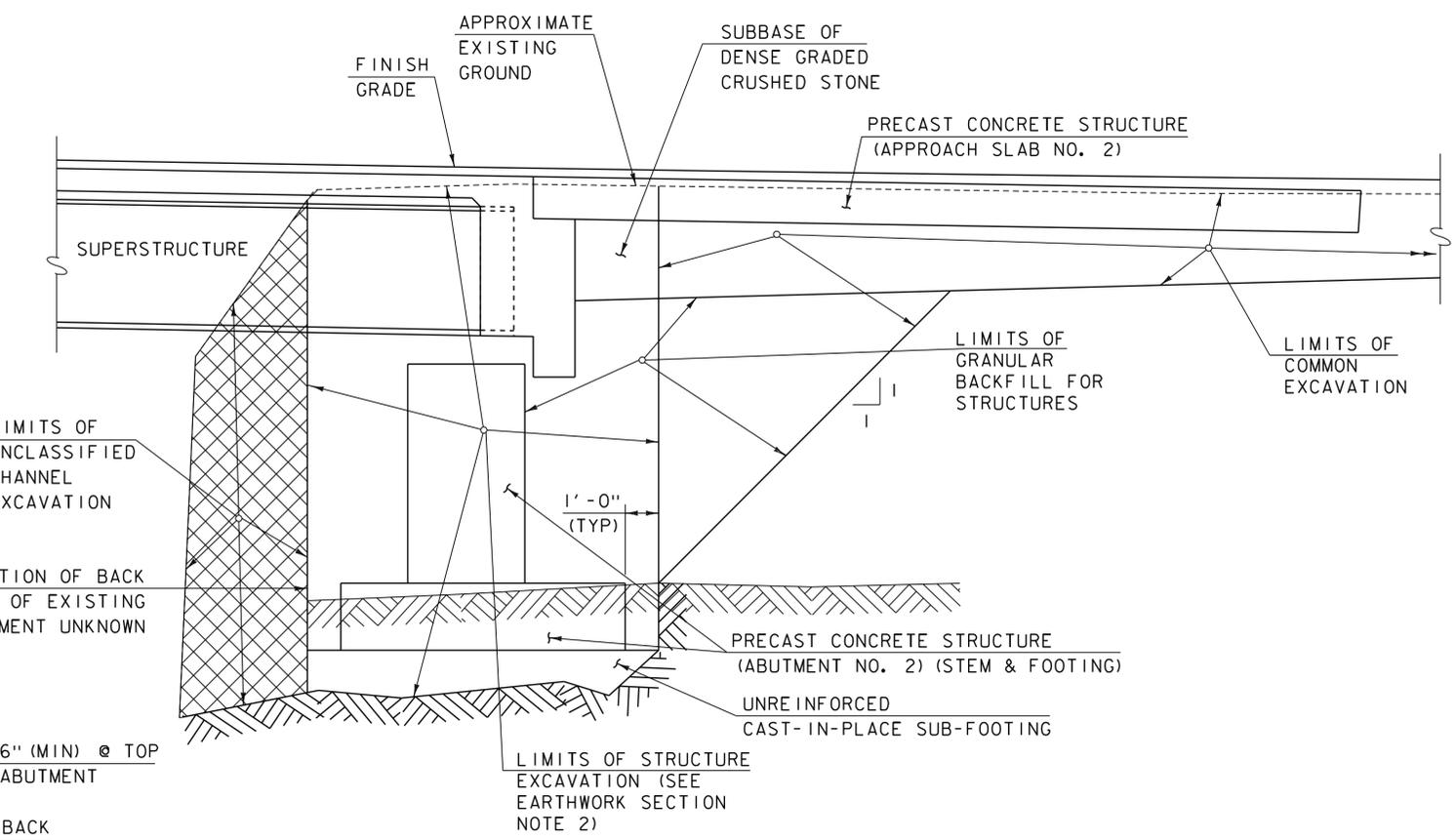
NOTES

- EMULSIFIED ASPHALT SHALL BE APPLIED TO ALL COLD PLANED BITUMINOUS CONCRETE PAVEMENT SURFACES AT THE RATE OF 0.025 GAL/SY OR AS DIRECTED BY THE ENGINEER. EMULSIFIED ASPHALT SHALL ALSO BE APPLIED BETWEEN ALL LIFTS OF PAVEMENT. THE COST SHALL BE APPLIED BETWEEN ALL LIFTS OF PAVEMENT. THE COST SHALL BE PAID UNDER ITEM 404.65, "EMULSIFIED ASPHALT".
- CROSS SLOPE VARIES. SEE BANKING DIAGRAM, SHEET 11.

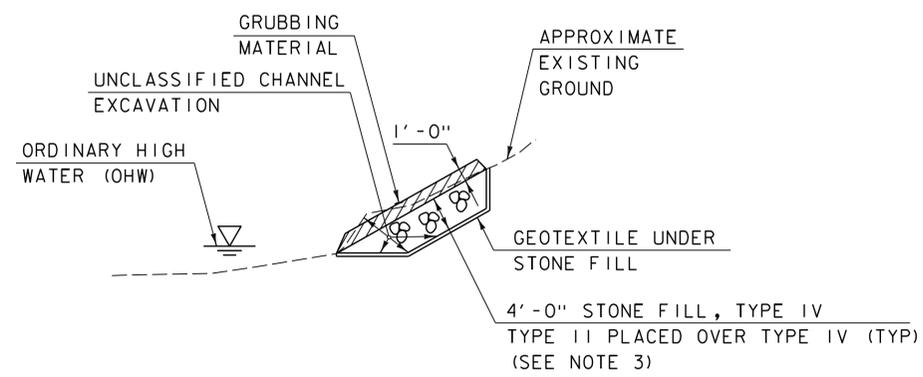
MATERIAL TOLERANCES (IF USED ON PROJECT)	
SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	+/- 1"



**ABUTMENT NO 1 EARTHWORK SECTION**  
NOT TO SCALE



**ABUTMENT NO 2 EARTHWORK SECTION**  
NOT TO SCALE



**TYPICAL CHANNEL SECTION**  
NOT TO SCALE

**EARTHWORK SECTION NOTES**

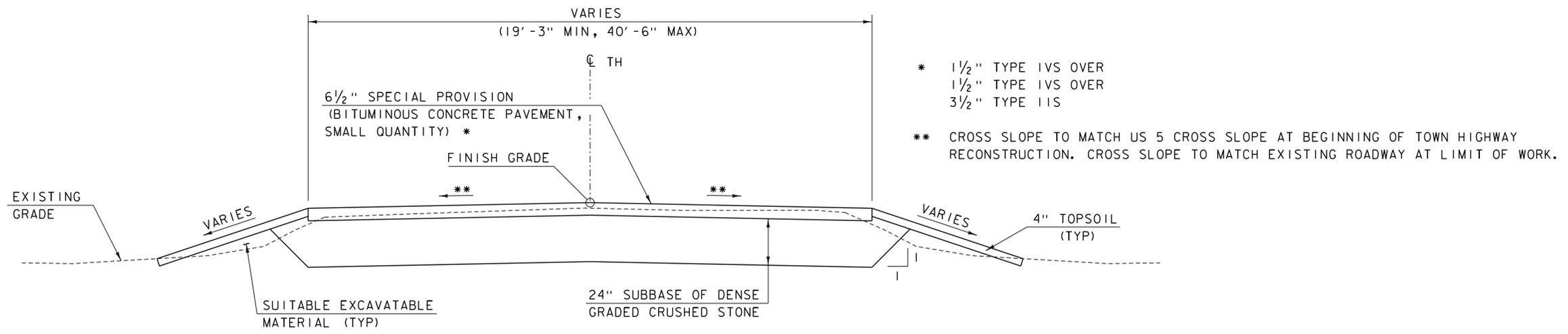
1. ONE FOOT UNDERCUT AS DETERMINED BY THE ENGINEER.
2. ACTUAL LIMITS OF STRUCTURE EXCAVATIONS SHALL BE DETERMINED BY THE CONTRACTOR. HOWEVER, ONLY THE STRUCTURE EXCAVATION BETWEEN THE LIMITS SHOWN WILL BE PAID FOR UNDER ITEM 204.25 "STRUCTURE EXCAVATION". EXCAVATION BY THE CONTRACTOR OUTSIDE OF THESE LIMITS WILL BE AT THE EXPENSE OF THE CONTRACTOR.
3. TYPE II STONE FILL TO BE PLACED WITHIN THE CHINKS AND VOIDS OF THE TYPE IV STONE FILL TO FORM A LEVEL SURFACE FOR PLACEMENT OF THE GRUBBING MATERIAL.

PROJECT NAME: GUILFORD  
PROJECT NUMBER: BF 0113(68)

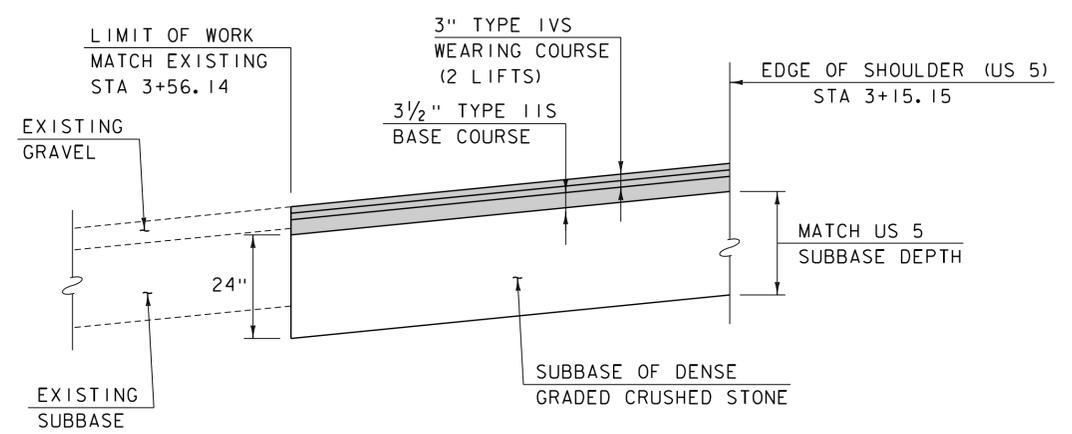
FILE NAME: I3c064/sl3c064+typical.dgn  
PROJECT LEADER: R. YOUNG  
DESIGNED BY: D. KULL  
TYPICAL SECTIONS SHEET 3

PLOT DATE: 5/31/2016  
DRAWN BY: S.OZANA  
CHECKED BY: T. KENDRICK  
SHEET 11 OF 65

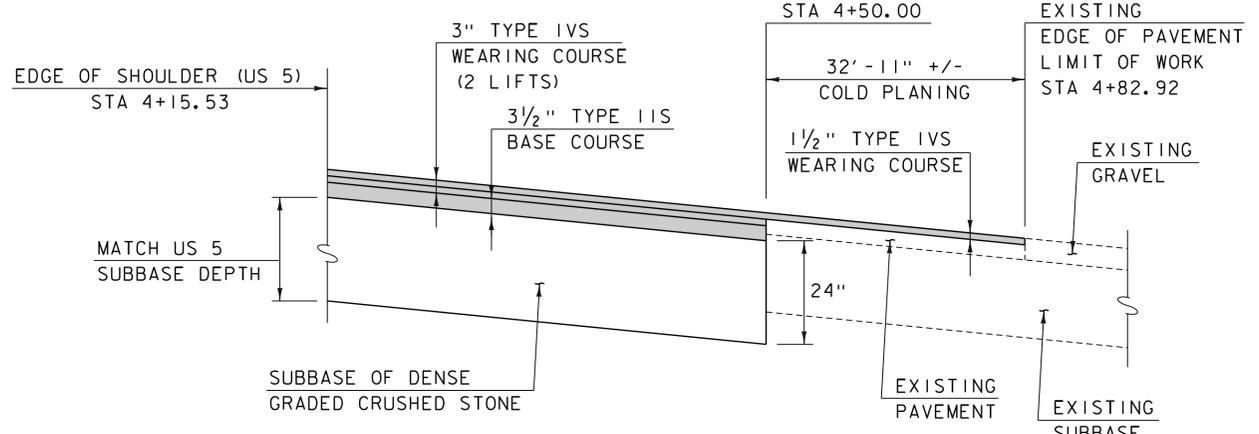




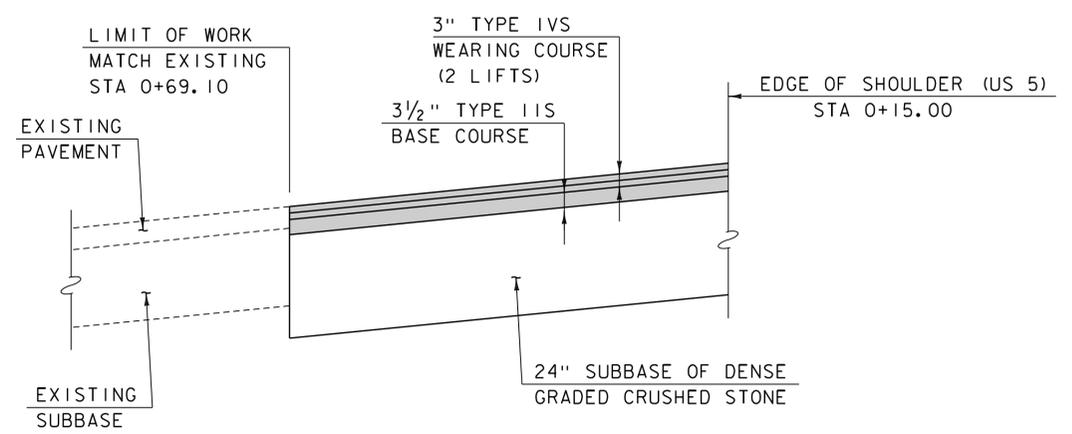
**PROPOSED TYPICAL SECTION**  
**TH 27, TH 28, TH 64, & TH 65 TYPICAL SECTION**  
 NOT TO SCALE



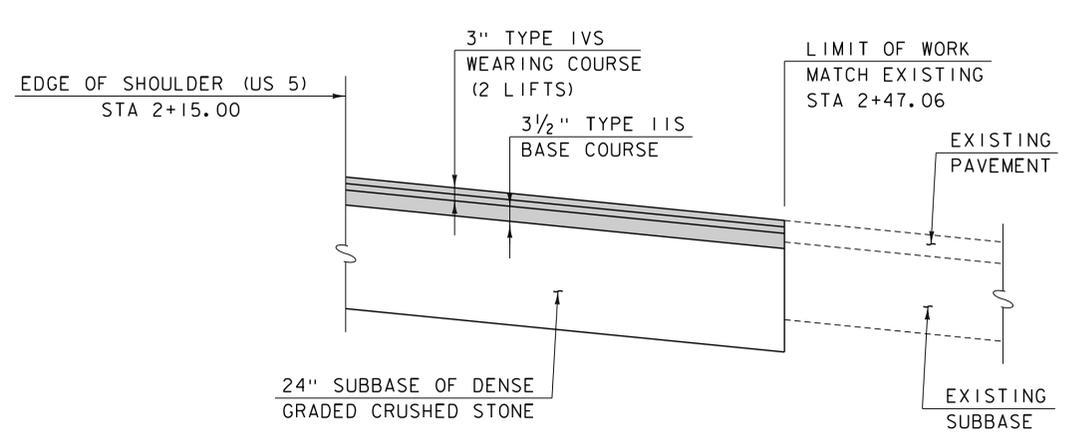
**TH 64 (GRIST MILL RD)**  
**MATERIAL TRANSITION**  
 NOT TO SCALE



**TH 65 (BEE BARN RD)**  
**MATERIAL TRANSITION**  
 NOT TO SCALE



**TH 28 (MELENDY HILL RD)**  
**MATERIAL TRANSITION**  
 NOT TO SCALE



**TH 27 (BROAD BROOK RD)**  
**MATERIAL TRANSITION**  
 NOT TO SCALE



PROJECT NAME: GUILFORD	PLOT DATE: 5/31/2016
PROJECT NUMBER: BF 0113(68)	DRAWN BY: S.OZANA
FILE NAME: I3c064/sl3c064typical.dgn	CHECKED BY: B. COLBURN
PROJECT LEADER: R. YOUNG	SHEET 12 OF 65
DESIGNED BY: D. KULL	
TYPICAL SECTIONS SHEET 4	

**GENERAL INFORMATION**

**SYMBOLGY LEGEND NOTE**

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

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

POINT CODE	DESCRIPTION
CH	CHANNEL EASEMENT
CONST	CONSTRUCTION EASEMENT
CUL	CULVERT EASEMENT
D&C	DISCONNECT & CONNECT
DIT	DITCH EASEMENT
DR	DRAINAGE EASEMENT
DRIVE	DRIVEWAY EASEMENT
EC	EROSION CONTROL
HWY	HIGHWAY EASEMENT
I&M	INSTALL & MAINTAIN EASEMENT
LAND	LANDSCAPE EASEMENT
R&RES	REMOVE & RESET
R&REP	REMOVE & REPLACE
SR	SLOPE RIGHT
UE	UTILITY EASEMENT
(P)	PERMANENT EASEMENT
(T)	TEMPORARY EASEMENT
■	BNDNS BOUND SET
□	BNDNS BOUND TO BE SET
●	IPNS IRON PIN SET
⊙	IPNS IRON PIN TO BE SET
⊠	CALC EXISTING ROW POINT
○	PROW PROPOSED ROW POINT
[LENGTH]	LENGTH CARRIED ON NEXT SHEET

**COMMON TOPOGRAPHIC POINT SYMBOLS**

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

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

**PROPOSED GEOMETRY CODES**

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

**UTILITY SYMBOLGY**

**UNDERGROUND UTILITIES**

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

**ABOVE GROUND UTILITIES (AERIAL)**

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

**PROJECT CONSTRUCTION SYMBOLGY**

**PROJECT DESIGN & LAYOUT SYMBOLGY**

—	CLEAR ZONE
—	PLAN LAYOUT MATCHLINE

**PROJECT CONSTRUCTION FEATURES**

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

**CONVENTIONAL BOUNDARY SYMBOLGY**

**BOUNDARY LINES**

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

**EPSC LAYOUT PLAN SYMBOLGY**

**EPSC MEASURES**

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

**ENVIRONMENTAL RESOURCES**

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

**ARCHEOLOGICAL & HISTORIC**

---	ARCHEOLOGICAL BOUNDARY
---	HISTORIC DISTRICT BOUNDARY
---	HISTORIC AREA
Ⓜ	HISTORIC STRUCTURE

**CONVENTIONAL TOPOGRAPHIC SYMBOLGY**

**EXISTING FEATURES**

---	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: GUILFORD  
PROJECT NUMBER: BF 0113(68)

FILE NAME: z13c064.legend.dgn  
PROJECT LEADER: R. YOUNG  
DESIGNED BY: VTRANS  
LEGEND SHEET

PLOT DATE: 5/31/2016  
DRAWN BY: S. OZANA  
CHECKED BY: B. COLBURN  
SHEET 13 OF 65

GPS CONTROL POINTS

HVCTRL #1

NORTH = 1620253.209  
 EAST = 117880.463  
 ELEV. = 473.419

GENERAL LOCATION, GUILDFORD, VT.  
 TO REACH FROM THE I-91 SOUTHBOUND BRIDGE OVER US ROUTE 5 AT EXIT 1 IN BRATTLEBORO, GO SOUTHEAST ALONG US ROUTE 5 FOR 1.0 MI (1.6 KM) TO THE INTERSECTION OF PAULS ROAD ON THE RIGHT AND THE SITE OF THE MARK ON THE RIGHT BETWEEN PAULS ROAD AND THE BROAD BROOK. THE MARK IS A CENTER PUNCHED TRIANGLE CUT IN THE RIM ON THE SOUTHEAST EDGE OF A SEWER MANHOLE COVER. IT IS 0.3 M (1.0 FT) SOUTHEAST OF THE CENTER OF THE MANHOLE COVER, 9.1M (29.9 FT) WEST-NORTHWEST OF AND ABOUT LEVEL WITH THE CENTERLINE OF US ROUTE 5, 12.6 M (41.3 FT) SOUTH-SOUTHWEST OF THE CENTERLINE OF PAULS ROAD, 22.3 M (73.2 FT) NORTHEAST OF THE DRIVE LEADING TO THE NATURAL BEAUTY BUILDING, 29.0 M (95.1 FT) SOUTH OF THE CENTERLINE OF THE DRIVE LEADING TO HOUSE NO 17, 23.3 M (76.4 FT) SOUTH-SOUTHWEST OF THE CENTER OF THE (OUTLET) END OF A 1.2 M (3.9 FT) DIAMETER METAL CULVERT AND 1.1M (3.6 FT) SOUTH OF A STOP SIGN POST WITH MILE MARKER 0050/1307/0668.

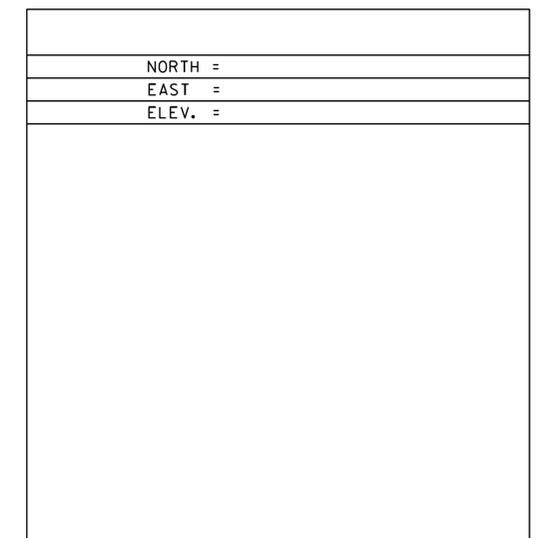
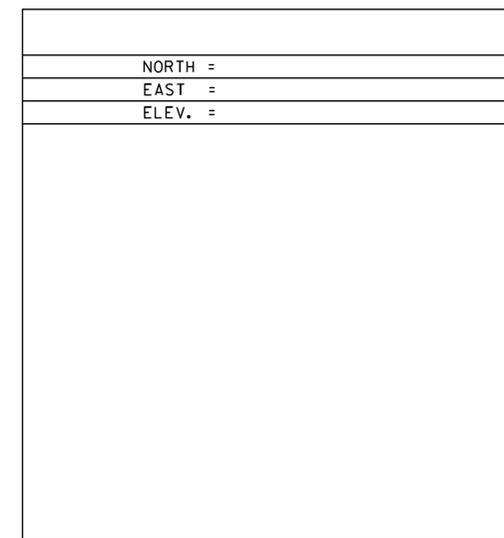
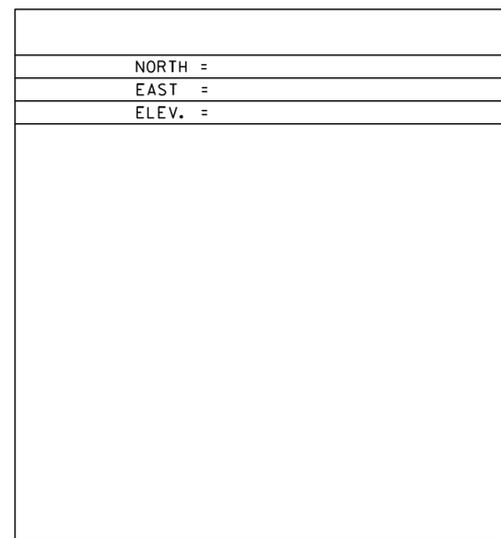
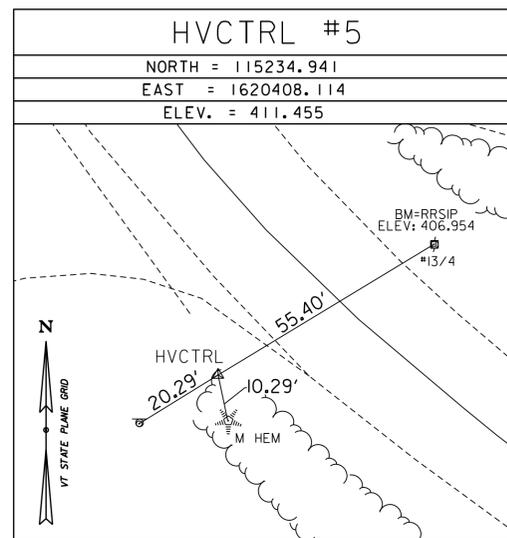
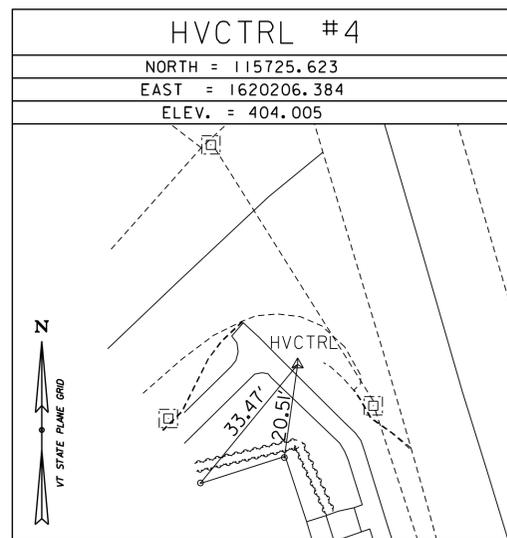
HVCTRL #3

NORTH = 1620206.494  
 EAST = 116024.903  
 ELEV. = 408.108

GENERAL LOCATION, GUILDFORD, VT.  
 TO REACH FROM THE I-91 SOUTHBOUND BRIDGE OVER US ROUTE 5 AT EXIT 1 IN BRATTLEBORO, GO SOUTHEAST ALONG US ROUTE 5 FOR 1.0 MI (1.6 KM) TO THE INTERSECTION OF PAULS ROAD ON THE RIGHT. CONTINUE SOUTH ALONG US ROUTE 5 FOR 0.4 MI (0.6 KM) TO THE NORTHERN END OF THE PARKING AREA FOR THE GUILDFORD COUNTRY STORE ON THE LEFT AND THE SITE OF THE MARK ON THE LEFT. THE MARK IS SET 10 CM (4 INCHES) BELOW GROUND SURFACE IN THE TOP OF A FENO STYLE MONUMENT. IT IS 6.3 M (20.7 FT) EAST OF AND ABOUT 0.2 M (0.7 FT) LOWER THAN THE CENTERLINE OF US ROUTE 5, 12.5 M (41.0 FT) SOUTHEAST OF AND ACROSS THE ROAD FROM POLE NO 1/79/119, 4.8 M (15.7 FT) NORTHWEST OF THE (OUTLET) END OF A 35 CM (14 INCH) DIAMETER PLASTIC CULVERT, 89.6 M (294.0 FT) SOUTH-SOUTHWEST OF THE CENTERLINE OF PARTRIDGE ROAD.

\* DESCRIPTION PROVIDED BY VERMONT AGENCY OF TRANSPORTATION GEODETIC SURVEY UNIT

TRAVERSE TIES



\* MAIN TRAVERSE COMPLETED: 5/9/2014 BY: R. GILMAN, P. WINTERS, AND C. CYR

ALIGNMENT COORD

ALIGNMENT COORDINATES			
US ROUTE 5			
	STATION	NORTHING	EASTING
POB	9+00.00	115153.6150	1620560.5074
PC	10+14.20	115221.7377	1620468.8507
PT	12+32.69	115396.7496	1620344.0377
POE	14+75.00	115627.7024	1620270.7236
CHANNEL			
POB	50+00.00	115382.6460	1620243.7536
POE	52+00.00	115443.7273	1620434.1980

US 5 CURVE 1  
 DELTA = 35°46'02.07" RT.  
 D = 16°22'12.80"  
 R = 350.00'  
 T = 112.94'  
 L = 218.49'  
 E = 17.77'

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (2011)
ADJUSTMENT	COMPASS

PROJECT NAME: GUILDFORD	
PROJECT NUMBER: BF 0113(68)	
FILE NAME: z13c0641.dgn	PLOT DATE: 5/31/2016
PROJECT LEADER: R. YOUNG	DRAWN BY: VTRANS
DESIGNED BY: VTRANS / MJ	CHECKED BY: VTRANS
TIE SHEET US 5	SHEET 14 OF 65

CONTROL POINTS

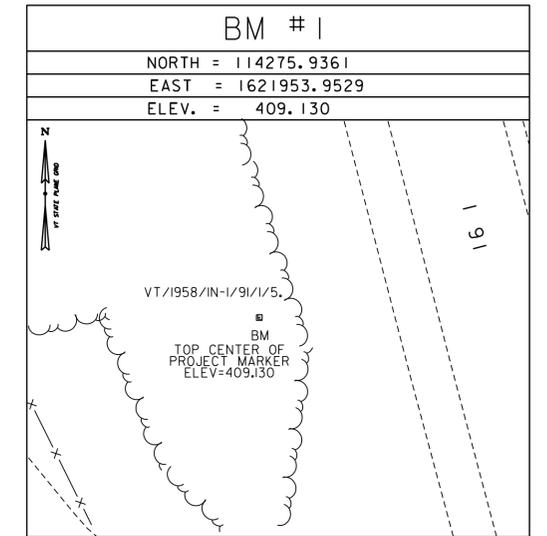
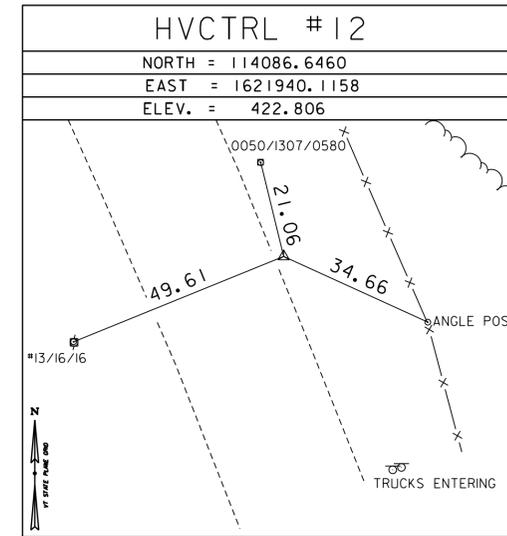
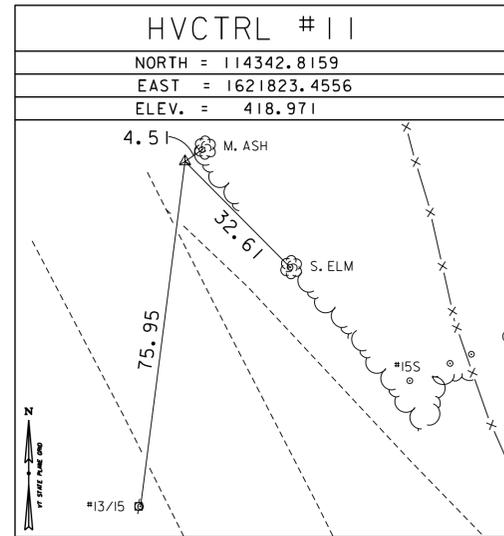
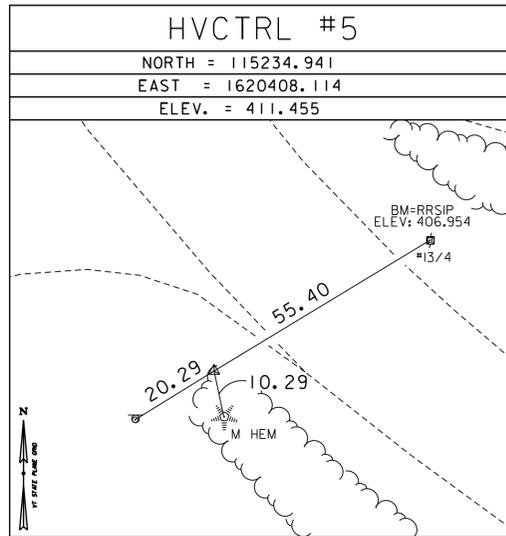
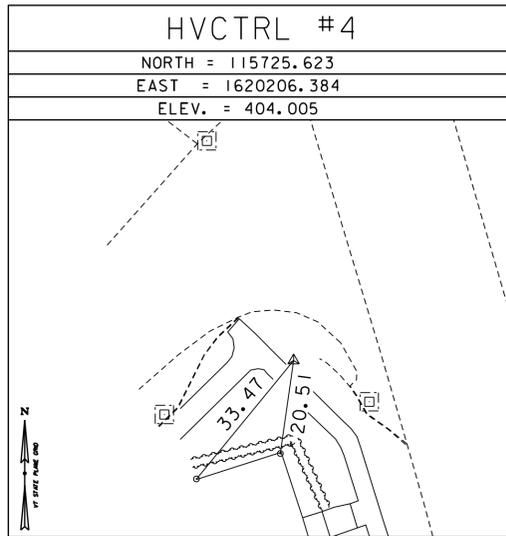
HVCTRL #1

INSPIRE  
 NORTH = 1620253.209  
 EAST = 117880.463  
 ELEV. = 473.419

HVCTRL #3

INSPIRE AZ MK  
 NORTH = 1620206.494  
 EAST = 116024.903  
 ELEV. = 408.108

TRAVERSE TIES



ALIGNMENT TIES

ALIGNMENT COORDINATES			
EMERGENCY ACCESS ROAD			
	STATION	NORTHING	EASTING
PC	30+00.00	114133.7452	1622043.3281
PT	30+72.40	114153.8500	1621977.0997
PC	32+13.18	114255.9932	1621880.2211
PT	32+38.70	114260.1139	1621856.7566
POE	32+53.71	114253.3906	1621843.3270
INTERSTATE 91			
POB	100+00.00	114030.6573	1622070.5635
POE	103+86.98	114404.7964	1621971.7175
US ROUTE 5			
PC	50+00.00	114031.0239	1621943.8071
PT	52+97.04	114300.5421	1621819.2103
POE	53+32.30	114331.7981	1621802.8820

ACCESS ROAD CURVE 1  
 DELTA = 59° 15' 26"  
 D = 81° 51' 04"  
 R = 70.00'  
 T = 39.81'  
 L = 72.40'  
 E = 10.53'

ACCESS ROAD CURVE 2  
 DELTA = 73° 06' 34"  
 D = 286° 28' 44"  
 R = 20.00'  
 T = 14.83'  
 L = 25.52'  
 E = 4.90'

US 5 CURVE 1  
 DELTA = 5° 32' 37"  
 D = 1° 51' 59"  
 R = 3070.00'  
 T = 148.64'  
 L = 297.04'  
 E = 3.60'

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83(2011)
ADJUSTMENT	COMPASS

PROJECT NAME:	GUILFORD
PROJECT NUMBER:	BF 0113(68)
FILE NAME:	z13c064t1.EAR.dgn
PROJECT LEADER:	R. YOUNG
DESIGNED BY:	VTRANS / MJ
TIE SHEET EAR	
PLOT DATE:	5/31/2016
DRAWN BY:	C. CYR
CHECKED BY:	G. HITCHCOCK
SHEET	15 OF 65



**COLD PLANING, BITUMINOUS PAVEMENT**

STA 31+75.00 - STA 32+39.12 LT  
 STA 31+75.00 - STA 32+39.12 RT

**ERECTING SALVAGED SIGNS**

STA 31+70 RT  
 STA 31+70 LT

**NEW SIGNS**

STA 10+81 RT

**REMOVAL OF EXISTING FENCE**

STA 31+45 (14' RT) - STA 31+70 (12' LT)

**CHAIN LINK FENCE, 6 FEET**

STA 31+45 (14' RT) - STA 31+70 (6' RT)  
 STA 31+70 (6' LT) - STA 31+70 (12' RT)

**GATE FOR CHAIN LINK FENCE, 6 FEET**

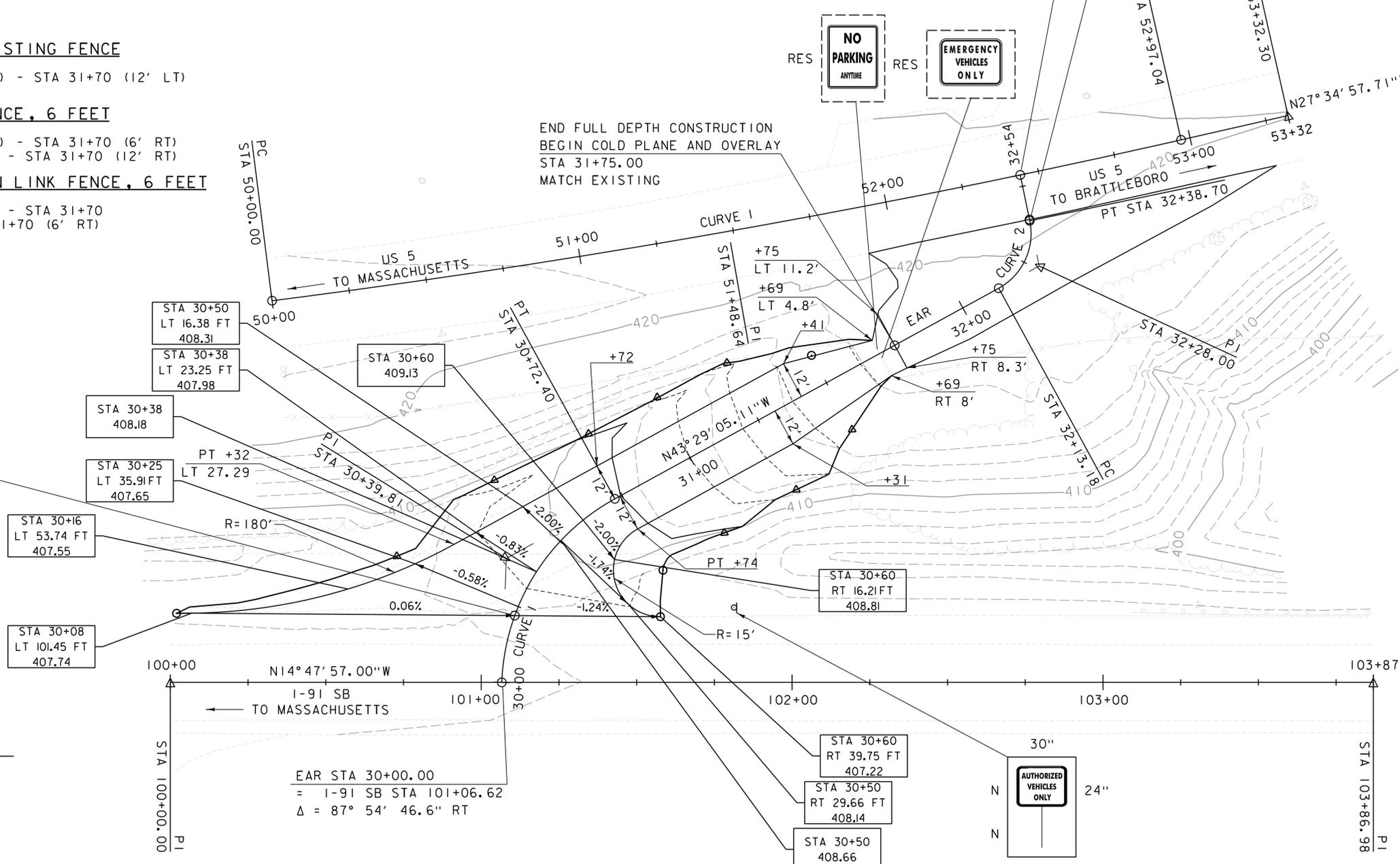
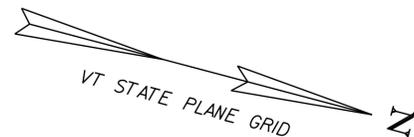
STA 31+70 (6' RT) - STA 31+70  
 STA 31+70 - STA 31+70 (6' RT)

BEGIN FULL DEPTH RECONSTRUCTION  
 STA 30+21.93  
 MATCH EXISTING

END FULL DEPTH CONSTRUCTION  
 BEGIN COLD PLANE AND OVERLAY  
 STA 31+75.00  
 MATCH EXISTING

EAR STA 32+53.71  
 = US 5 STA 52+44.08  
 $\Delta = 90^\circ 00' 00''$  RT

END COLD PLANE AND OVERLAY  
 STA 32+39.12  
 MATCH EXISTING



**EAR CURVE 1**  
 DELTA =  $59^\circ 15' 26''$   
 D =  $81^\circ 51' 04''$   
 R = 70.00'  
 T = 39.81'  
 L = 72.40'  
 E = 10.53'

**EAR CURVE 2**  
 DELTA =  $73^\circ 06' 34''$  LT  
 D =  $286^\circ 28' 44''$   
 R = 20.00'  
 T = 14.83'  
 L = 25.52'  
 E = 4.90'

**US 5 CURVE 1**  
 DELTA =  $5^\circ 32' 37''$  RT  
 D =  $1^\circ 51' 59''$   
 R = 3070.00'  
 T = 148.64'  
 L = 297.04'  
 E = 3.60'

**SIGNING LEGEND**

- R [ ] REMOVE EXISTING SIGN AND POST (SALVAGE TO THE STATE)
- RES [ ] RESET EXISTING SIGN AND POST
- N [ ] NEW SIGN AND POST

**LAYOUT**

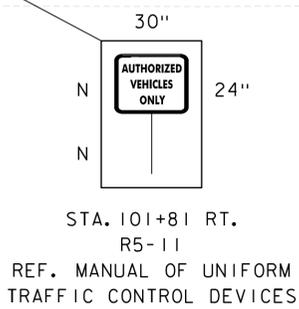
SCALE 1" = 20' - 0"  
 20 0 20

**NOTES**

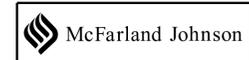
1. EXISTING SIGNS ON GATE TO BE REPLACED IN SIMILAR LOCATION AS EXISTING SIGNS ON NEW GATE.

**EAR TRAFFIC CONTROL**

1. TRAFFIC CONTROL DURING CONSTRUCTION OF THE EAR RAMP TO MEET THE REQUIREMENTS OF THE MUTCD PROVISIONS FOR SHORT DURATION OR MOBILE OPERATION ON A SHOULDER. ALL COSTS FOR ERECTING, MAINTAINING AND REMOVING ALL TRAFFIC CONTROL SHALL BE INCLUDED IN ITEM 900.645, SPECIAL PROVISION (TRAFFIC CONTROL, ALL INCLUSIVE).



PROJECT NAME:	GUILFORD	FILE NAME:	z13c064bdr.dgn	PLOT DATE:	5/31/2016
PROJECT NUMBER:	BF 0113(68)	PROJECT LEADER:	R. YOUNG	DRAWN BY:	S. OZANA
		DESIGNED BY:	D. KULL	CHECKED BY:	B. COLBURN
		EAR LAYOUT SHEET			SHEET 17 OF 65



**4" WHITE LINE (4" SWL)**

STA 9+50 - STA 10+93 LT  
STA 9+50 - STA 10+88 RT  
STA 11+51 - STA 13+12 LT  
STA 11+48 - STA 13+20 RT  
STA 13+42 - STA 14+75 LT  
STA 13+56 - STA 14+75 RT  
STA 0+15 - STA 0+69 LT & RT (TH 28)  
STA 2+15 - STA 2+47 LT & RT (TH 27)  
STA 3+15 - STA 3+56 LT & RT (TH 64)  
STA 4+15 - STA 4+83 LT & RT (TH 65)

**4" YELLOW LINE (4" DYL)**

STA 9+50 - 10+97 CENTERLINE  
STA 11+50 - STA 13+14 CENTERLINE  
STA 13+50 - STA 14+75 CENTERLINE  
STA 0+15 - STA 2+47 (TH 28) CENTERLINE  
STA 2+18 - STA 2+47 (TH 27) CENTERLINE  
STA 4+15 - STA 4+83 (TH 65) CENTERLINE

**MANUFACTURED TERMINAL SECTION (FLARED)**

STA 11+59 - STA 11+97 LT  
STA 3+23 - STA 3+52 LT (TH 64)  
STA 4+21 - STA 4+57 RT (TH 65)

**DURABLE LETTERS OR SYMBOLS "STOP"**

STA 11+10 - STA 11+17 LT (TH 28)  
STA 11+24 - STA 11+27 LT (TH 27)  
STA 13+34 - STA 13+47 RT (TH 65)

**VERTICAL GRANITE CURB**

STA 11+49 - STA 11+97.43 LT  
STA 12+85.50 - STA 13+13 LT

**REMOVE AND RESET GUARDRAIL**

STA 2+00.00 - STA 2+47.06 LT (TH 27)

**DETECTABLE WARNING SURFACE**

STA 11+63 LT  
STA 13+03 RT

**HD STEEL BEAM GUARDRAIL, GALVANIZED**

STA 11+60 - STA 11+82 LT  
STA 11+58 - STA 11+77 RT  
STA 13+04 - STA 13+10 RT

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

STA 11+82 - STA 11+97 LT  
STA 11+82 - STA 11+97 RT  
STA 12+86 - STA 13+04 LT  
STA 12+86 - STA 13+04 RT

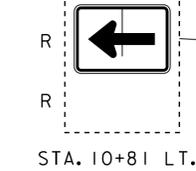
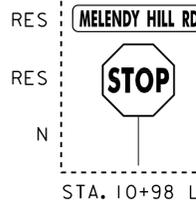
**TRAFFIC SIGNS, TYPE A**

STA 11+79 RT  
STA 13+02 LT

**24" STOP BAR**

STA 10+98 - 11+23 LT  
STA 11+24 - 11+30 RT  
STA 13+38 - 13+51 RT

STEEL BEAM GUARDRAIL  
END TERMINAL (FLARED) (TYP)  
(SEE STANDARD G-1D)



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

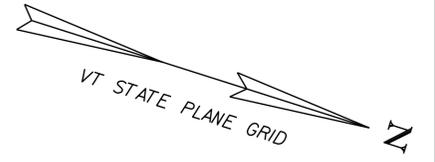
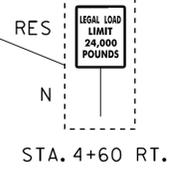
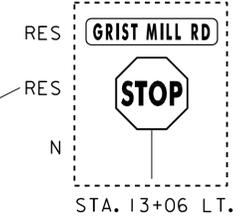
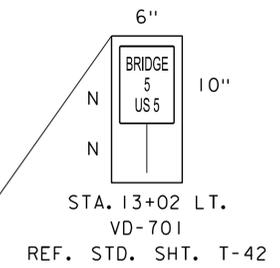
STA 11+97 - STA 12+86 LT  
STA 11+97 - STA 12+86 RT

**ERECTING SALVAGED SIGNS**

STA 13+06 LT  
STA 13+13 RT (LOCAL SIGN)  
STA 10+98 LT  
STA 4+60 RT (TH 65)

**REMOVING SIGNS**

STA 10+81 LT  
STA 11+54 LT  
STA 12+12 RT  
STA 12+19 LT  
STA 12+21 RT  
STA 12+87 LT  
STA 12+96 RT



PAY LIMITS FOR HD STEEL BEAM GUARDRAIL, GALVANIZED (SEE STANDARD G-1)

PAY LIMIT FOR GUARDRAIL APPROACH SECTION TO CONCRETE COMBINATION BRIDGE RAILING, TL-3 (SEE STANDARD S-352D)

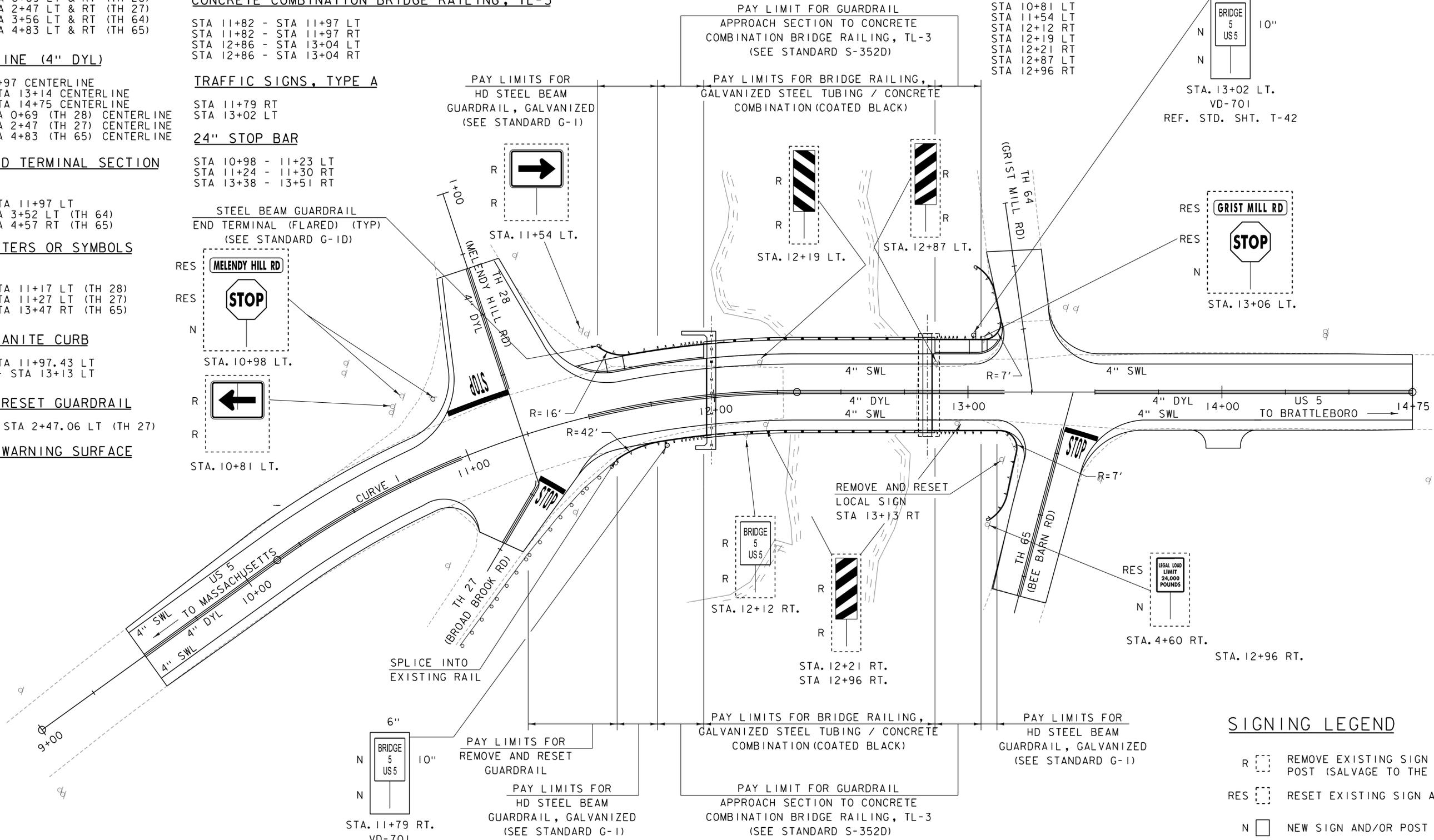
PAY LIMITS FOR BRIDGE RAILING, GALVANIZED STEEL TUBING / CONCRETE COMBINATION (COATED BLACK)

REMOVE AND RESET LOCAL SIGN STA 13+13 RT

PAY LIMITS FOR HD STEEL BEAM GUARDRAIL, GALVANIZED (SEE STANDARD G-1)

PAY LIMITS FOR REMOVE AND RESET GUARDRAIL  
PAY LIMITS FOR HD STEEL BEAM GUARDRAIL, GALVANIZED (SEE STANDARD G-1)

PAY LIMIT FOR GUARDRAIL APPROACH SECTION TO CONCRETE COMBINATION BRIDGE RAILING, TL-3 (SEE STANDARD S-352D)



**CURB, RAIL, SIGNING & STRIPING LAYOUT**

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

**STRIPING LEGEND**

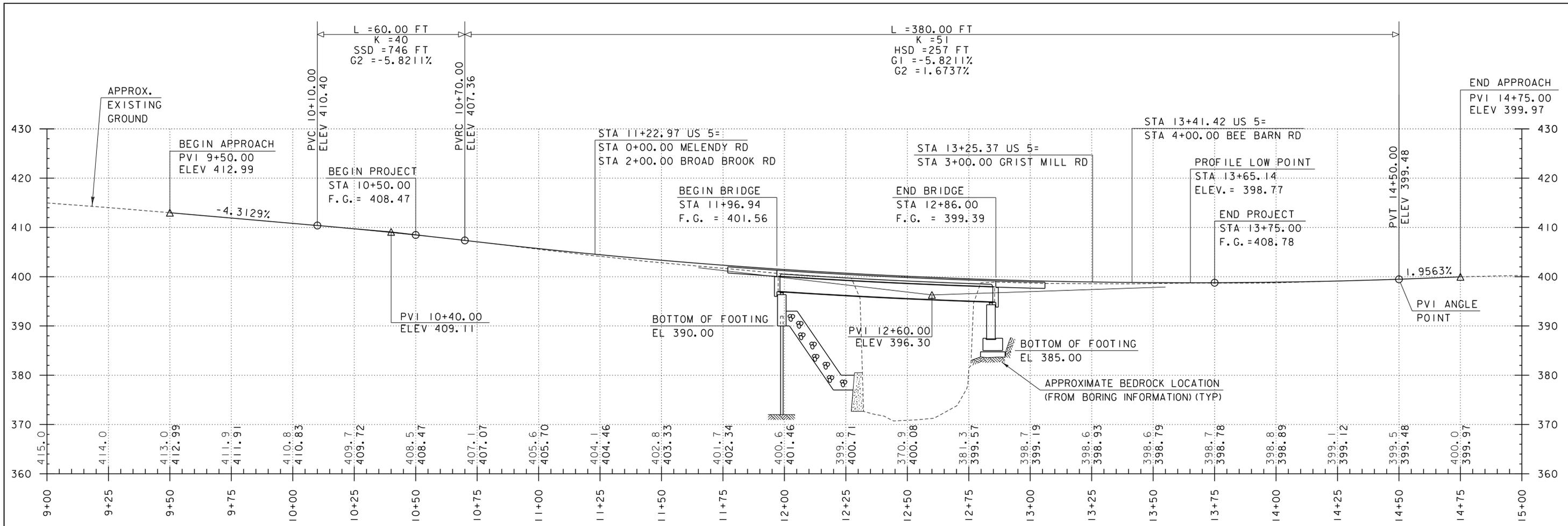
DYL = DOUBLE YELLOW LINE  
SWL = SINGLE WHITE LINE

**SIGNING LEGEND**

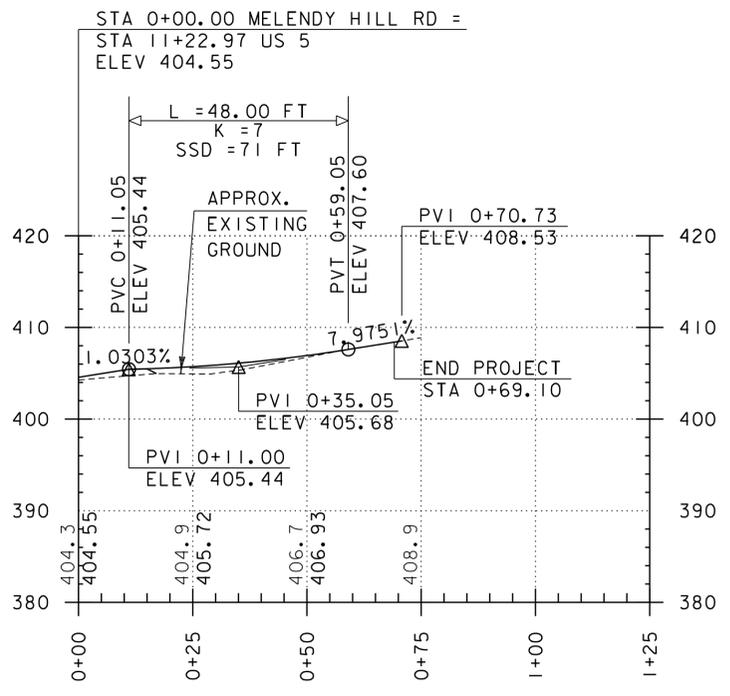
R [ ] REMOVE EXISTING SIGN AND OR POST (SALVAGE TO THE STATE)  
RES [ ] RESET EXISTING SIGN AND POST  
N [ ] NEW SIGN AND/OR POST



PROJECT NAME:	GUILFORD	PLOT DATE:	5/31/2016
PROJECT NUMBER:	BF 0113(68)	DRAWN BY:	S. MERKWAN
FILE NAME:	z13c064_raillayout.dgn	DESIGNED BY:	D. KULL
PROJECT LEADER:	R. YOUNG	CHECKED BY:	T. KENDRICK
CURB, RAIL, SIGNING & STRIPING LAYOUT		SHEET 18 OF 65	



**US 5 PROFILE**  
 HORIZONTAL SCALE: 1"=20'  
 VERTICAL SCALE: 1"=10'

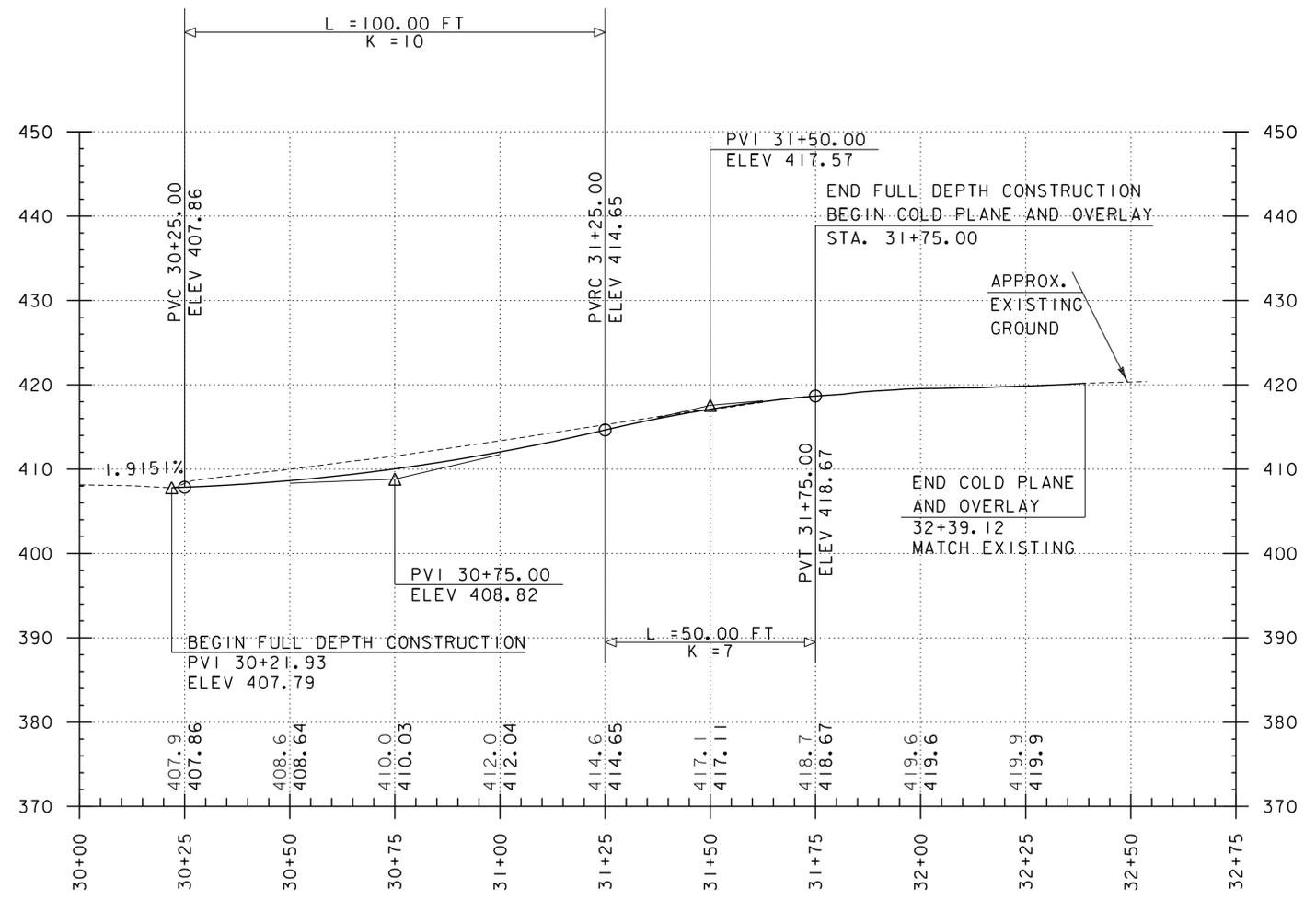


**TH 28 (MELENDY HILL RD) PROFILE**  
 HORIZONTAL SCALE: 1"=20'  
 VERTICAL SCALE: 1"=10'

- NOTES**
- GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG CENTERLINE.
  - GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE ALONG CENTERLINE.

PROJECT NAME:	GUILFORD
PROJECT NUMBER:	BF 0113(68)
FILE NAME:	Structures/13c064pro.dgn
PROJECT LEADER:	R. YOUNG
DESIGNED BY:	D. KULL
PROFILE SHEET	
PLOT DATE:	5/31/2016
DRAWN BY:	S. OZANA
CHECKED BY:	B. COLBURN
SHEET	19 OF 65





**EMERGENCY ACCESS ROAD (EAR) PROFILE**

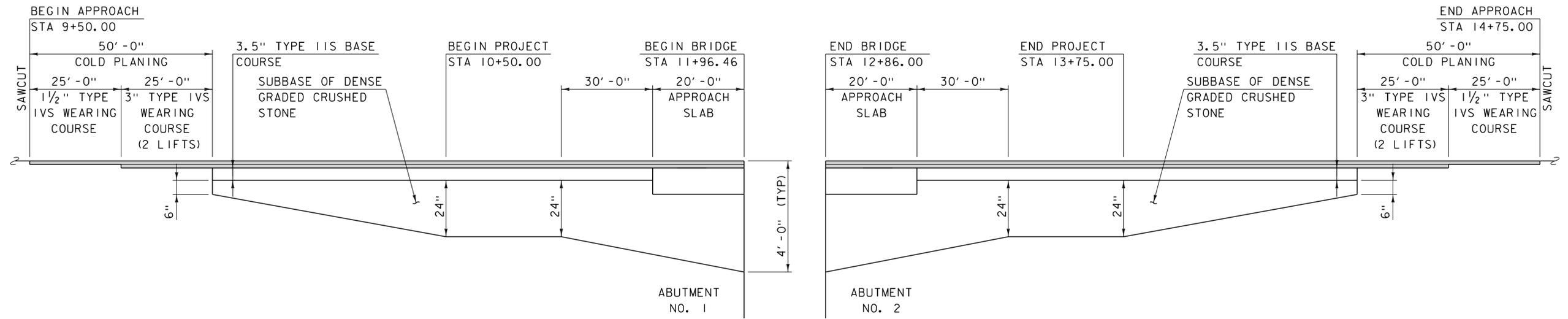
HORIZONTAL SCALE: 1"=20'  
 VERTICAL SCALE: 1"=10'

**NOTES**

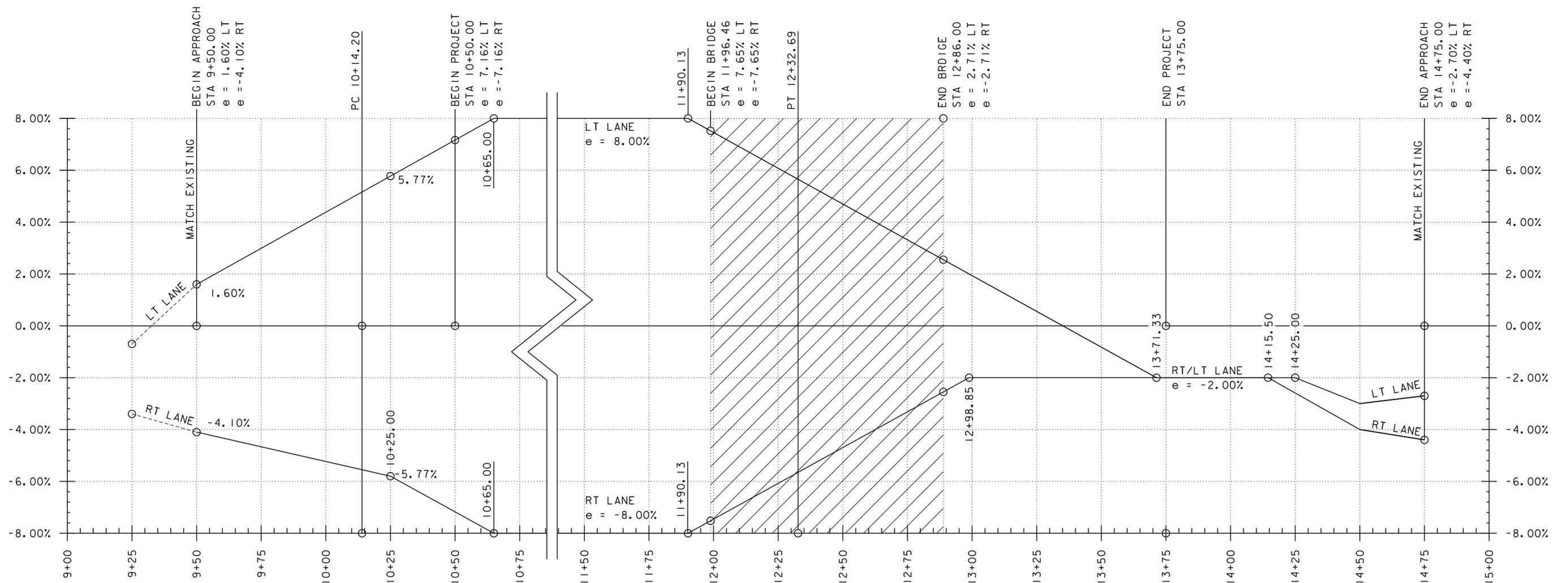
- GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG CENTERLINE.
- GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE ALONG CENTERLINE.

PROJECT NAME: GUILFORD	PLOT DATE: 5/31/2016
PROJECT NUMBER: BF 0113(68)	DRAWN BY: S. OZANA
FILE NAME: Structures/13c064pro.dgn	CHECKED BY: B. COLBURN
PROJECT LEADER: R. YOUNG	SHEET 20 OF 65
DESIGNED BY: D. KULL	
EAR PROFILE SHEET	





**MATERIAL TRANSITION DETAIL**  
NOT TO SCALE

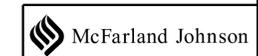


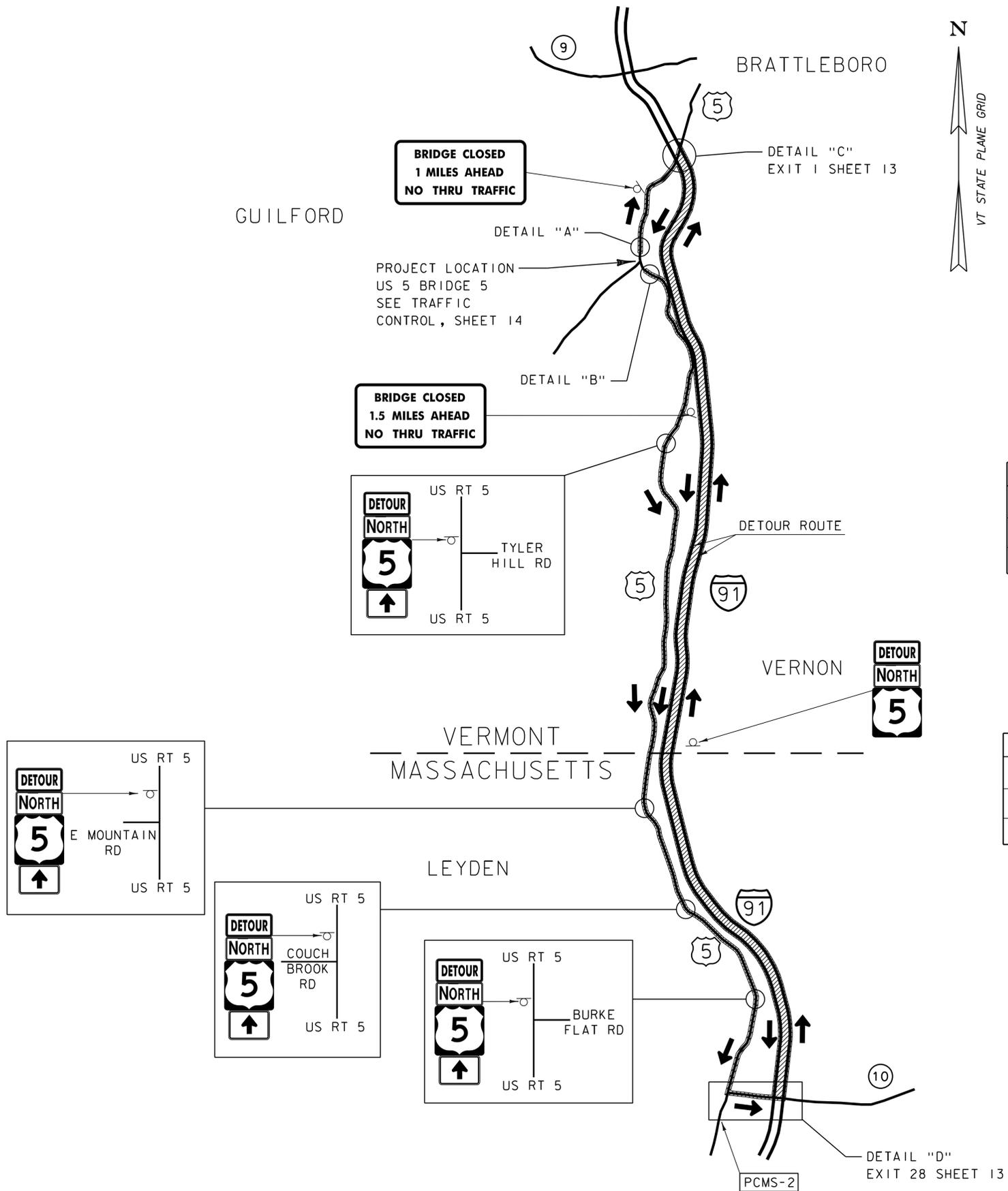
**BANKING DIAGRAM**

SCALE: 1"=20' (H)  
1"=2% (V)

PROJECT NAME: GUILFORD  
PROJECT NUMBER: BF 0113(68)

FILE NAME: Structures/13c064pro.dgn PLOT DATE: 5/31/2016  
PROJECT LEADER: R. YOUNG DRAWN BY: S. OZANA  
DESIGNED BY: D.KULL CHECKED BY: B. COLBURN  
BANKING DIAGRAM SHEET 21 OF 65





DETOUR SIGNING PLAN  
NOT TO SCALE

MESSAGES FOR PORTABLE  
CHANGEABLE MESSAGE SIGNS

PCMS-1

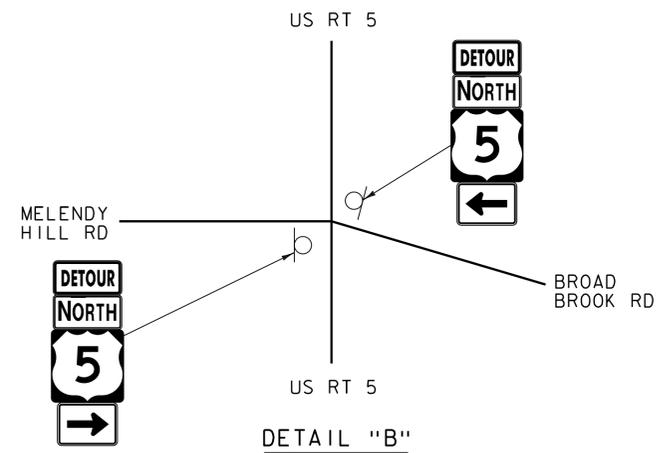
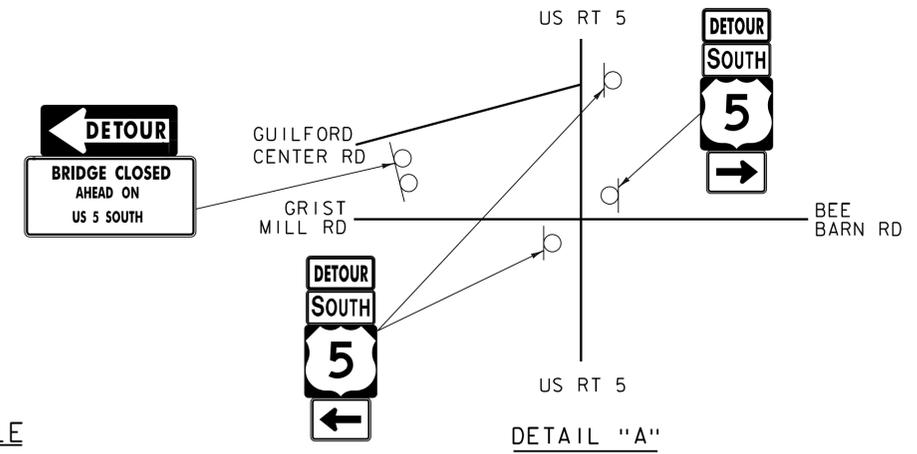
MESSAGE 1	MESSAGE 2	MESSAGE 3
<b>US 5</b>	<b>X MILES</b>	<b>MMMM DD *</b>
<b>BRIDGE</b>	<b>AHEAD IN</b>	<b>TO</b>
<b>CLOSED</b>	<b>VERMONT</b>	<b>MMMM DD *</b>

\* MONTH SHALL BE SPELLED OUT  
JUNE 10, NOT 6/10

PCMS-2

MESSAGE 1	MESSAGE 2	MESSAGE 3
<b>US 5</b>	<b>X MILES</b>	<b>MMMM DD *</b>
<b>BRIDGE</b>	<b>AHEAD</b>	<b>TO</b>
<b>CLOSED</b>		<b>MMMM DD *</b>

\* MONTH SHALL BE SPELLED OUT  
JUNE 10, NOT 6/10

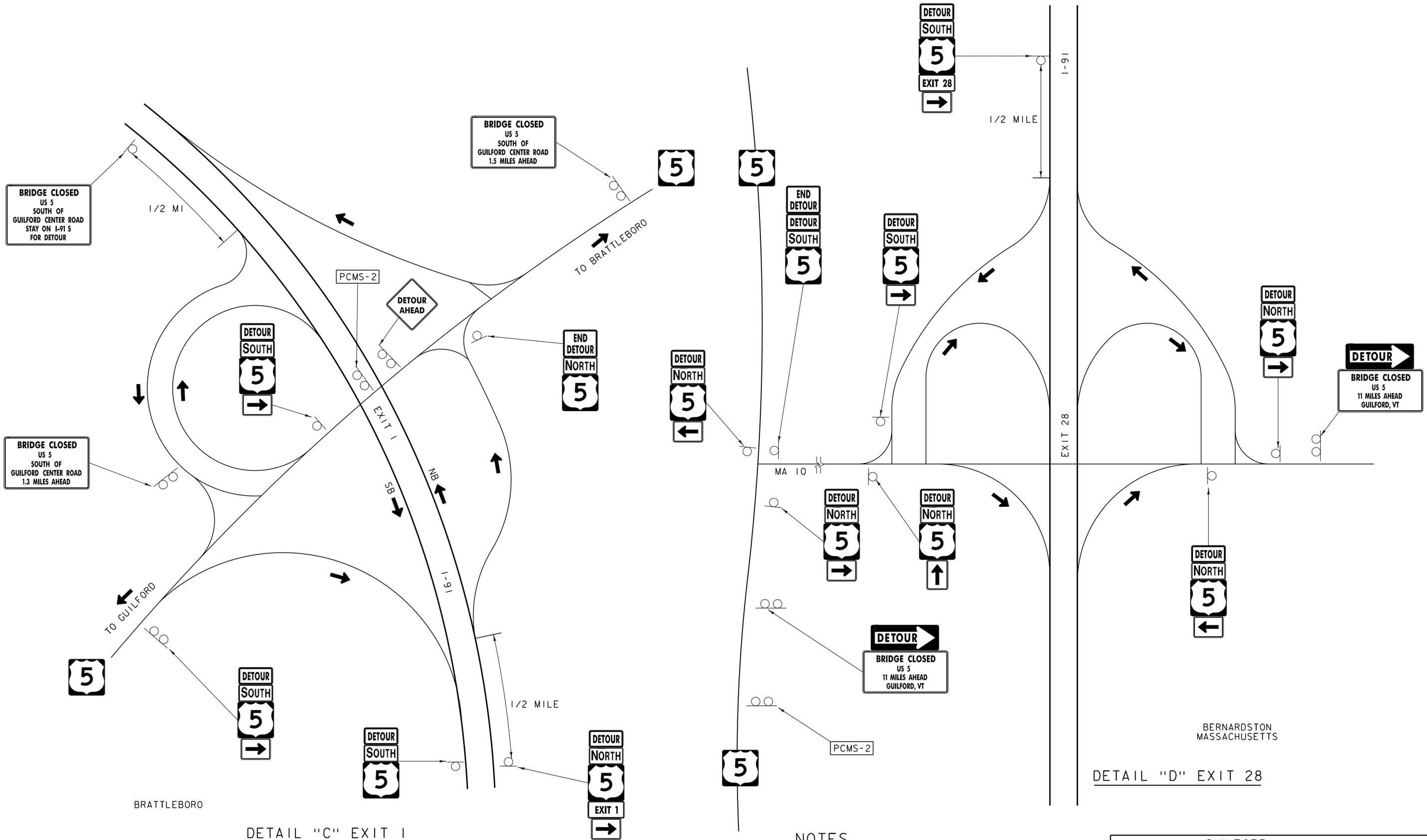


NOTES

- FOR TRAFFIC CONTROL NOTES SEE SHEET 24.
  - THRU LENGTH : 12.4 MILES  
DETOUR LENGTH : 12.4 MILES
- 4 WEEK PROPOSED CLOSURE  
ADDITIONAL LENGTH : 0.0 MILES  
END TO END LENGTH : 24.8 MILES

PROJECT NAME: GUILFORD	PLOT DATE: 5/31/2016
PROJECT NUMBER: BF 0113(68)	DRAWN BY: S. MERKWAN
FILE NAME: z13c064+cpl.dgn	CHECKED BY: T. KENDRICK
PROJECT LEADER: R. YOUNG	SHEET 22 OF 65
DESIGNED BY: J. SANTACRUCE	
TRAFFIC CONTROL SHEET 1	



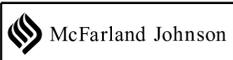


DETAIL "C" EXIT 1

DETAIL "D" EXIT 28

**NOTES**

1. FOR TRAFFIC CONTROL NOTES SEE SHEET 24.
2. FOR PCMS DETAILS, SHEET 22.



PROJECT NAME: GUILFORD	
PROJECT NUMBER: BF 0113(68)	
FILE NAME: z13c064+cpl.dgn	PLOT DATE: 5/31/2016
PROJECT LEADER: R. YOUNG	DRAWN BY: S. MERKWAN
DESIGNED BY: J. SANTACRUCE	CHECKED BY: T. KENDRICK
TRAFFIC CONTROL SHEET 2	SHEET 23 OF 65

MESSAGES FOR PORTABLE CHANGEABLE MESSAGE SIGNS

PCMS

MESSAGE 1	MESSAGE 2
US 5	MMMM DD *
BRIDGE	THRU
CLOSED	MMMM DD *

\* MONTH SHALL BE SPELLED OUT MAY 1, NOT 5/1



BEGIN PROJECT STA 10+50.00

BEGIN APPROACH STA 9+50.00 MATCH EXISTING

BEGIN BRIDGE STA 11+96.94

END BRIDGE STA 12+86.00

END PROJECT STA 13+75.00

END APPROACH STA 14+75.00 MATCH EXISTING

TRAFFIC CONTROL

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

US 5 TRAFFIC CONTROL NOTES

- THE OFFICIAL STATE DETOUR SIGNING PLAN FOR THE ROAD CLOSURE IS SHOWN ON TRAFFIC CONTROL SHEET 1 & 2.
- NO LOCAL DETOUR ROUTE WILL BE SIGNED OR OFFICIALLY RECOGNIZED FOR THIS PROJECT.
- A PUBLIC OUTREACH COORDINATOR (NOT IN CONTRACT) SHALL BE USED FOR PUBLICIZING AND COORDINATING DETOUR INFORMATION, INCLUDING (BUT NOT LIMITED TO) TRAFFIC DELAYS FOR THE PUBLIC. THE CONTRACTOR SHALL COORDINATE WITH THE PUBLIC OUTREACH COORDINATOR AS NEEDED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING, ERECTING AND MAINTAINING (AS WELL AS REMOVING AND RESETTING) ALL DETOUR AND ON-PROJECT TEMPORARY TRAFFIC CONTROL ZONE DEVICES, INCLUDING (BUT NOT LIMITED TO) CONSTRUCTION SIGNS, BARRICADES, TEMPORARY TRAFFIC BARRIERS, PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) AND OTHER REQUIRED DEVICES (AS ORDERED BY THE ENGINEER) USED TO REGULATE, WARN AND GUIDE TRAFFIC DURING CONSTRUCTION. TRAFFIC CONTROL DEVICES SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND PERTINENT E-SERIES AND T-SERIES STANDARDS. WHERE CONFLICTS EXIST, THE MUTCD SHALL GOVERN. EXACT LOCATIONS OF DEVICES SHALL BE COORDINATED WITH THE RESIDENT ENGINEER. ADDITIONAL PROJECT CONSTRUCTION SIGNS SHALL BE INSTALLED AS REQUIRED BY THE RESIDENT ENGINEER. THE COST OF ALL DETOUR AND ON-PROJECT TEMPORARY TRAFFIC CONTROL ZONE DEVICES (WITH THE EXCEPTION OF TEMPORARY TRAFFIC BARRIERS AND PCMS) SHALL BE PAID FOR UNDER ITEM 900.645, SPECIAL PROVISION (TRAFFIC CONTROL, ALL INCLUSIVE).
- PORTABLE CHANGEABLE MESSAGE SIGNS "PCMS" SHALL BE PLACED AT THE APPROXIMATE LOCATIONS SHOWN ON THE PLANS OR WHERE DESIGNATED BY THE ENGINEER. TWO SIGNS SHALL BE PLACED AT THE BRIDGE 14 DAYS PRIOR TO THE ROAD CLOSURE TO WARN OF THE IMPENDING CLOSURE & DETOURS, THEN BE MOVED OUT TO START OF DETOUR. PCMS SHALL BE PLACED OFF THE EDGE OF THE ROAD, OUTSIDE THE CLEAR ZONE, BUT SHALL BE VISIBLE FROM THE ROADWAY.
- TRAFFIC WILL BE ALLOWED TO BE REDUCED TO ONE LANE FOR A MAXIMUM OF 4 WEEKS PRIOR TO THE BRIDGE CLOSURE PERIOD FOR PRE-EXCAVATION OF THE PILES. THE CONTRACTOR IS REQUIRED TO INFORM THE PUBLIC OUTREACH COORDINATOR PRIOR TO REDUCING TRAFFIC TO ONE LANE. ALL SIGNS, SIGNALS, BARRIERS, ETC. REQUIRED TO MAINTAIN ONE LANE OF TRAFFIC IS TO BE INCLUDED UNDER ITEM 900.645, SPECIAL PROVISION (TRAFFIC CONTROL, ALL INCLUSIVE).
- THE US ROUTE MARKERS USED FOR THE DETOUR AS SHOWN ON THE PLANS SHALL FOLLOW MUTCD. THESE SIGNS SHALL BE REMOVED AT THE END OF THE ROAD CLOSURE. THESE SIGNS AND THEIR REMOVAL SHALL BE PAID FOR UNDER ITEM 900.645, SPECIAL PROVISION (TRAFFIC CONTROL, ALL INCLUSIVE).

- ALL TRAFFIC CONTROL DEVICES SHALL BE KEPT IN THEIR PROPER POSITION AT ALL TIMES AND SHALL BE REPAIRED, REPLACED OR CLEANED AS NECESSARY TO PRESERVE THEIR APPEARANCE AND CONTINUITY. THIS WORK SHALL BE PAID UNDER ITEM 900.645, SPECIAL PROVISION (TRAFFIC CONTROL, ALL INCLUSIVE).
- ALL SIGNS SHALL BE PLACED WITHIN EXISTING STATE OR TOWN RIGHTS-OF-WAY, UNLESS OTHERWISE NOTED.
- ACCESS TO ALL EXISTING DRIVES AND SIDE ROADS SHALL BE MAINTAINED AT ALL TIMES DURING ALL PHASES OF CONSTRUCTION.
- INSTALLATION OF DETOUR AND ON-SITE SIGNS SHALL NOT BLOCK ANY EXISTING TRAFFIC CONTROL SIGN ASSEMBLIES AND SHALL MODIFY OR BE PLACED ADJACENT TO EXISTING ROUTE MARKER SIGN ASSEMBLIES WHEN POSSIBLE. THE CONTRACTOR SHOULD MAINTAIN AT LEAST 200 FEET BETWEEN SIGN ASSEMBLIES WHENEVER POSSIBLE.
- EXISTING SIGNS THAT ARE IN CONFLICT WITH THE TRAFFIC FLOW OF THE DETOUR SHALL BE REMOVED OR COVERED BY THE CONTRACTOR, AS DIRECTED BY THE ENGINEER. ALL SIGNS REMOVED OR COVERED SHALL BE REPLACED OR UNCOVERED WHEN THE TRAFFIC CONTROL PACKAGE IS DISASSEMBLED. PAYMENT FOR THIS WORK WILL BE INCLUDED IN ITEM 900.645, SPECIAL PROVISION (TRAFFIC CONTROL, ALL INCLUSIVE).
- NO CONSTRUCTION SIGNS SHALL BE INSTALLED AS TO INTERFERE WITH STOPPING SIGHT DISTANCE AND CORNER SIGHT DISTANCE FROM DRIVES AND TOWN HIGHWAYS.
- AFTER THE IDENTIFIED WORK TO OPEN THE NEW BRIDGE TO TWO-WAY TRAFFIC IS COMPLETED, TEMPORARY TRAFFIC BARRIERS MAY BE INCORPORATED TO CONSTRUCT THE BRIDGE CURB, SIDEWALK & BRIDGE RAILING, SEE SPECIAL PROVISIONS. ALL COSTS SHALL BE INCLUDED IN ITEM 900.645, SPECIAL PROVISION (TRAFFIC CONTROL, ALL INCLUSIVE).
- CONTACT DIG-SAFE AT 1-888-344-7233 PRIOR TO BREAKING GROUND TO INSTALL ANY SIGN POSTS.
- WORKER ACCESS SHALL BE MAINTAINED FROM THE SOUTH SIDE TO THE NORTH SIDE OF THE CONSTRUCTION SITE DURING THE BRIDGE CLOSURE PORTION OF THE PROJECT. THE ACCESS SHALL BE MADE AVAILABLE TO LOCAL FIRST RESPONDERS. THE ACCESS SHALL BE MEET THE REQUIREMENTS OF OSHA CONSTRUCTION SECTION (1926) SUBPART L. STAIRS OR LADDERS WILL BE REQUIRED WHERE SLOPES ARE STEEPER THAN 1:3. STAIRS SHALL MEET THE REQUIREMENTS OF OSHA CONSTRUCTION SECTION (1926) SUBPART X. THE CONTRACTOR SHALL ASSESS HAZARDS NEAR THE ACCESS TO DETERMINE IF RELOCATION IS NEEDED THROUGHOUT THE PROJECT. THE CONTRACTOR SHALL NOTIFY FIRST RESPONDERS WHEN CHANGES TO ACCESS HAS TAKEN PLACE. THE CONTRACTOR SHALL DETERMINE THE STEPS NEEDED FOR WHEN FIRST RESPONDERS ENTER THE WORK ZONE AND SUBMIT AS PART OF THE TRAFFIC CONTROL PLAN THE LOCATION OF THE STEPS AND ACCESS. PAYMENT FOR THE ACCESS SHALL BE INCLUDED UNDER ITEM 900.645, "SPECIAL PROVISION TRAFFIC CONTROL, ALL INCLUSIVE)."

LEGEND

- TYPE III BARRICADE
- ▣ TYPE III (MOD) BARRICADE
- ▨ TEMPORARY TRAFFIC BARRIER
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN



PROJECT NAME: GUILFORD  
PROJECT NUMBER: BF 0113(68)

FILE NAME: z13c064+cp2dgn  
PROJECT LEADER: R. YOUNG  
DESIGNED BY: D. KULL  
TRAFFIC CONTROL SHEET 3

PLOT DATE: 5/31/2016  
DRAWN BY: S. MERKWAN  
CHECKED BY: T. KENDRICK  
SHEET 24 OF 65

**SOIL CLASSIFICATION**

**AASHTO**

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

**ROCK QUALITY DESIGNATION**

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

**SHEAR STRENGTH**

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

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

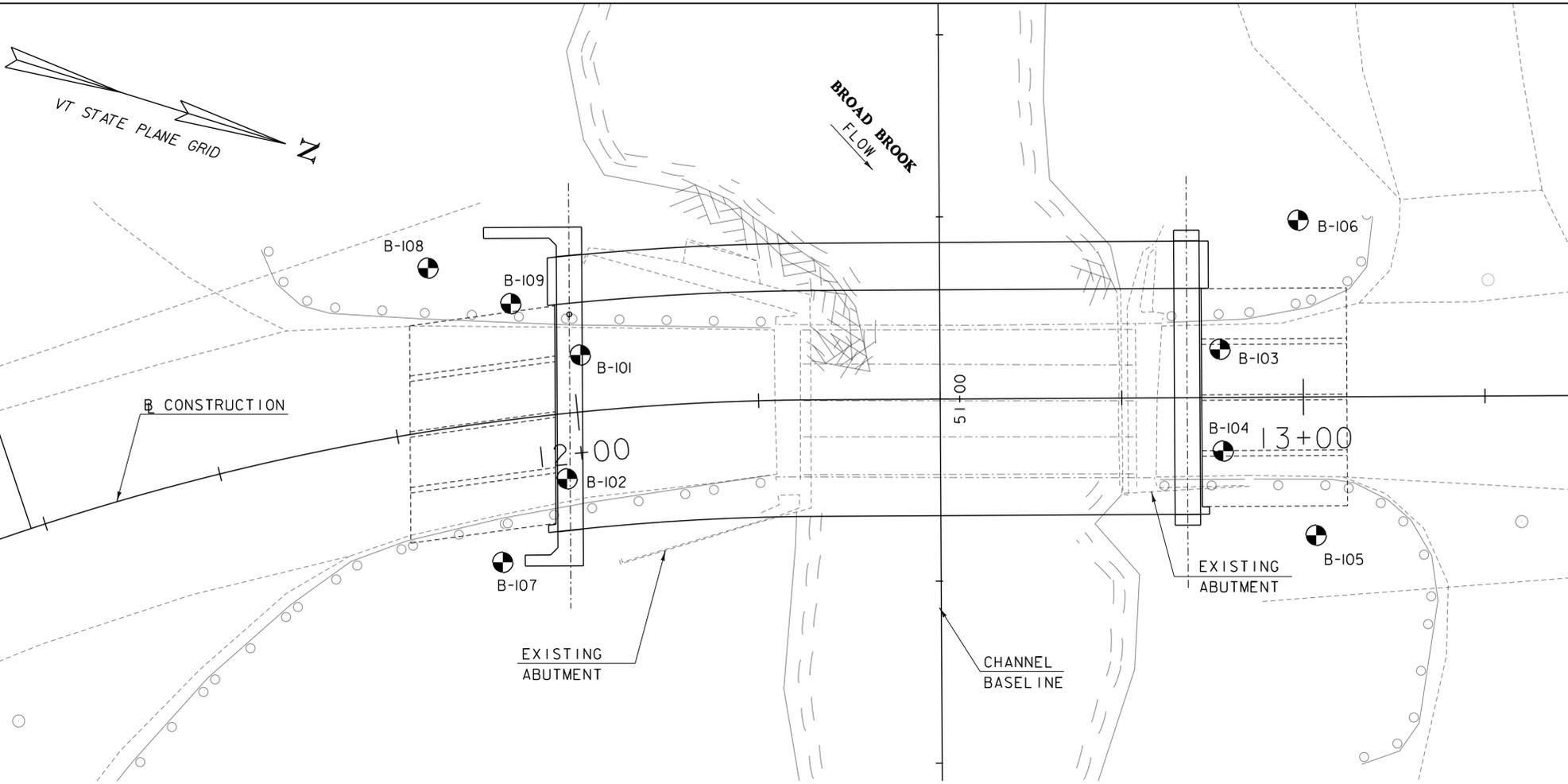
DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

**COMMONLY USED SYMBOLS**

- ▼ Water Elevation
- ⊕ Standard Penetration Boring
- ⊗ Auger Boring
- ⊙ Rod Sounding
- S Sample
- N Standard Penetration Test
- Blow Count Per Foot For:
- 2" O.D. Sampler
- 1 3/8" I.D. Sampler
- Hammer Weight Of 140 Lbs.
- Hammer Fall Of 30"
- VS Field Vane Shear Test
- US Undisturbed Soil Sample
- B Blast
- DC Diamond Core
- MD Mud Drill
- WA Wash Ahead
- HSA Hollow Stem Auger
- AX Core Size 1 1/8"
- BX Core Size 1 3/8"
- NX Core Size 2 1/8"
- M Double Tube Core Barrel Used
- LL Liquid Limit
- PL Plastic Limit
- PI Plasticity Index
- NP Non Plastic
- w Moisture Content (Dry Wgt. Basis)
- D Dry
- M Moist
- MTW Moist To Wet
- W Wet
- Sat Saturated
- Bo Boulder
- Gr Gravel
- Sa Sand
- 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
- 1/2 Rec. Percent Recovery
- ROD Rock Quality Designation
- CBR California Bearing Ratio
- < Less Than
- > Greater Than
- R Refusal (N > 100)
- VTSPG NAD83 - See Note 7

**COLOR**

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



**LEGEND**

⊕ BORING

**BORING LAYOUT**



HOLE NO.	SURV. STATION	OFFSET	GROUND ELEV.	DEPTH TLOB (FT.)	NORTHING	EASTING	HOLE NO.	SURV. STATION	OFFSET	GROUND ELEV.	DEPTH TLOB (FT.)	NORTHING	EASTING
B-101	12+01	7.8 LT.	400.8	28.1	115364.14	1620347.75	B-105	13+01	18.9 RT.	396.6	13.8	115468.22	1620341.27
B-102	11+97	9.1 RT.	400.2	22.2	115367.27	1620364.21	B-106	12+99	24.3 LT.	396.9	14.4	115452.99	1620300.71
B-103	12+88	6.6 LT.	398.9	15.1	115447.99	1620320.83	B-107	11+87	19.3 RT.	399.1	30.5	115362.41	1620378.09
B-104	12+88	7.3 RT.	398.7	12.8	115452.66	1620333.79	B-108	11+81	22.2 LT.	401.3	30.7	115340.58	1620342.59
							B-109	11+92	15.30 LT.	401.2	20.3	115352.91	1620343.86

**DEFINITIONS (AASHTO)**

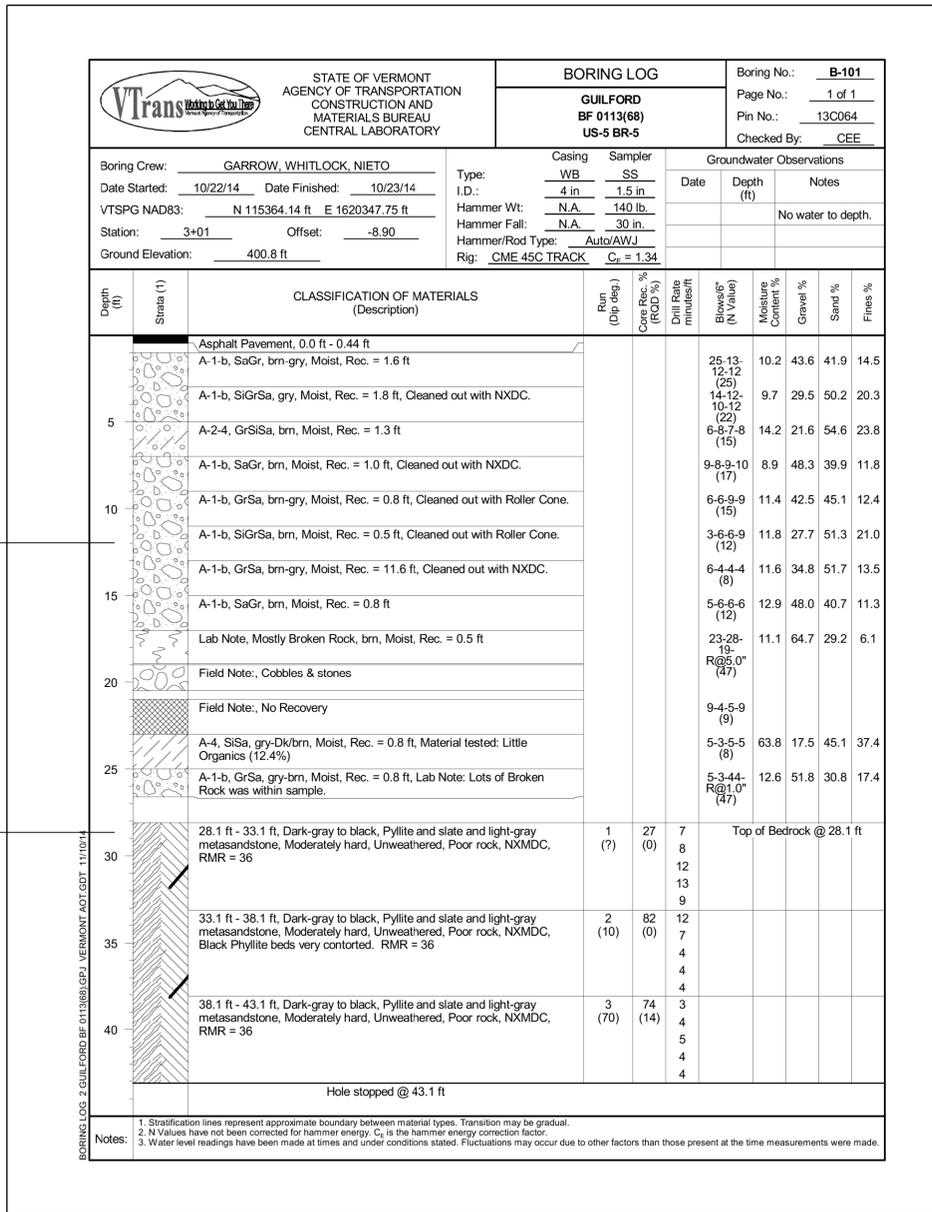
- BEDROCK (LEDGE)** - Rock in its native location of indefinite thickness.
- BOULDER** - A rock fragment with an average dimension > 12 inches.
- COBBLE** - Rock fragments with an average dimension between 3 and 12 inches.
- GRAVEL** - Rounded particles of rock < 3" and > 0.075" (#10 sieve).
- SAND** - Particles of rock < 0.075" (#10 sieve) and > 0.0029" (#200 sieve).
- SLT** - Soil < 0.0029" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.
- CLAY** - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.
- VARVED** - Alternate layers of silt and clay.
- HARDPAN** - Extremely dense soil, cemented layer, not softened when wet.
- MUCK** - Soft organic soil (containing > 10% organic material).
- MOISTURE CONTENT** - Weight of water divided by dry weight of soil.
- FLOWING SAND** - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.
- STRIKE** - Angle from magnetic north to line of intersection of bed with a horizontal plane.
- DIP** - Inclination of bed with a horizontal plane.

**GENERAL NOTES**

- The subsurface explorations shown herein were made between Oct. 14 and Nov 20, 2014 by the Agency.
- Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
- Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
- Engineering judgment was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgment by the Contractor.
- Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
- Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

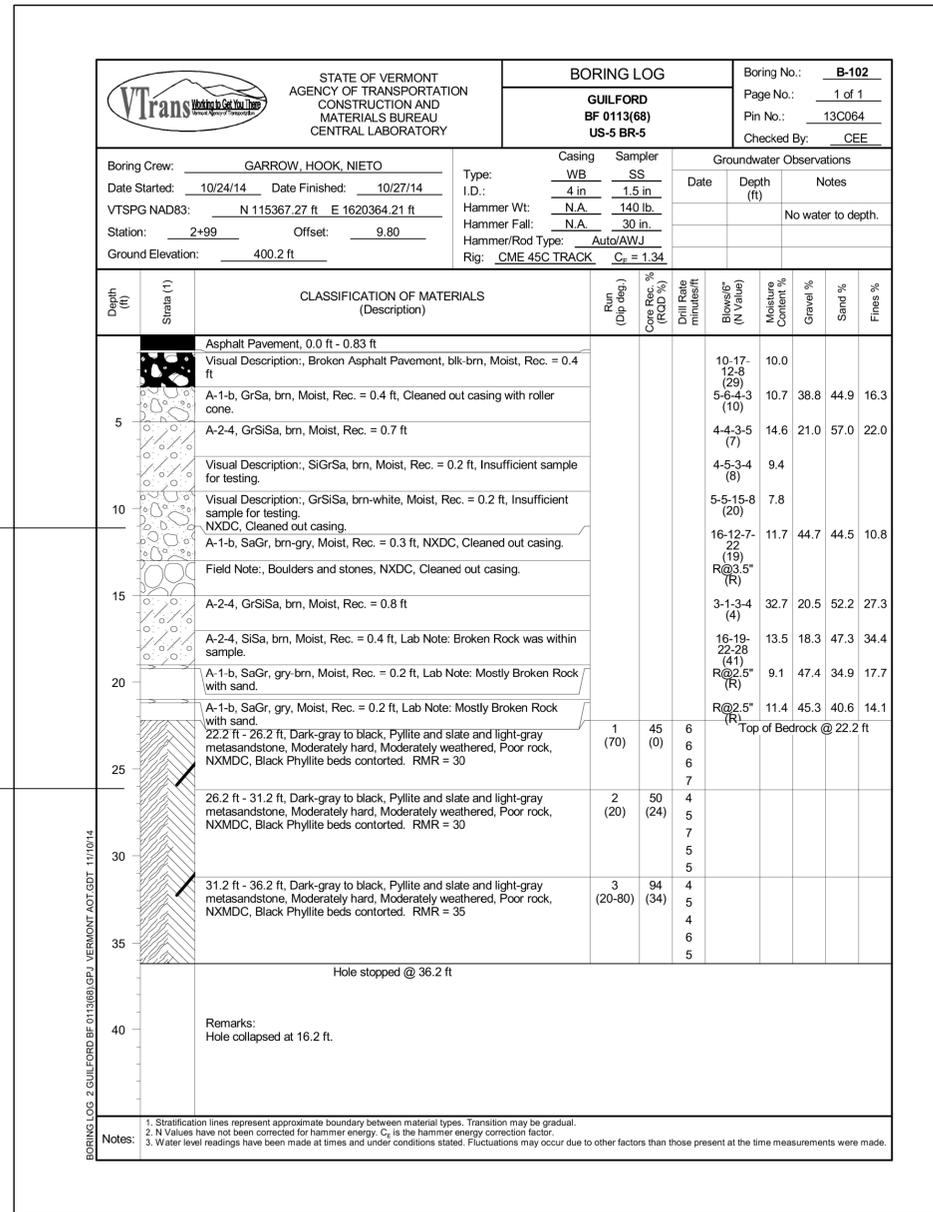


PROJECT NAME:	GUILFORD	PLOT DATE:	5/31/2016
PROJECT NUMBER:	BF 0113(68)	DRAWN BY:	P. DUSTIN
FILE NAME:	z13c064bor-req.dgn	CHECKED BY:	T. KENDRICK
PROJECT LEADER:	R. YOUNG	SHEET	25 OF 65
DESIGNED BY:	D. KULL		
BORING INFORMATION SHEET			



ABUTMENT NO 1  
BOTTOM OF FOOTING  
EL 390.00

ESTIMATED PILE  
TIP EL 372.0



ABUTMENT NO 1  
BOTTOM OF FOOTING  
EL 390.00

ESTIMATED PILE  
TIP EL 372.0

PROJECT NAME: GUILFORD  
PROJECT NUMBER: BF 0113(68)

FILE NAME: z13c064bor\_log.dgn  
PROJECT LEADER: R. YOUNG  
DESIGNED BY: D. KULL  
BORING LOG SHEET 1

PLOT DATE: 5/31/2016  
DRAWN BY: S. MERKWAN  
CHECKED BY: T. KENDRICK  
SHEET 26 OF 65

ABUTMENT NO 2  
BOTTOM OF FOOTING  
EL 385.00

VT		STATE OF VERMONT AGENCY OF TRANSPORTATION CONSTRUCTION AND MATERIALS BUREAU CENTRAL LABORATORY		BORING LOG		Boring No.: <b>B-103</b>				
		GUILFORD BF 0113(68) US-5 BR-5		Page No.: 1 of 1		Pin No.: 13C064				
		Checked By: CEE								
Boring Crew: GARROW, WHITLOCK, NIETO		Casing		Sampler		Groundwater Observations				
Date Started: 10/20/14 Date Finished: 10/21/14		Type: WB SS		I.D.: 4 in 1.5 in		Date Depth (ft) Notes				
VTSPG NAD83: N 115447.99 ft E 1620320.83 ft		Hammer Wt: N.A. 140 lb.		Hammer Fall: N.A. 30 in.		No water to depth.				
Station: 3+89 Offset: -9.70		Hammer/Rod Type: Auto/AWJ		Rig: CME 45C TRACK C <sub>c</sub> = 1.34						
Ground Elevation: 398.9 ft										
Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg)	Cone Rec. % (ROD %)	Drill Rate minutes/ft	Blows (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
0		Asphalt Pavement, 0.0 ft - 0.65 ft								
0.65		A-1-b, SiGrSa, brn-gry, Moist, Rec. = 1.2 ft, Lab Note: Broken Rock was within sample.				25-13-11-7 (24)	7.5	28.9	48.0	23.1
0.8		A-2-4, SiGrSa, brn, Moist, Rec. = 0.8 ft, Lab Note: Broken Rock was within sample.				4-2-10-6 (12)	19.5	24.5	54.8	20.7
0.6		A-2-4, SiGrSa, brn, Moist, Rec. = 0.6 ft, NXDC, Cleaned out casing. Lab Note: Broken Rock was within sample.				2-5-2-2 (7)	10.7	28.9	47.5	23.6
0.4		Visual Description: Broken Rock, gry, Moist, Rec. = 0.4 ft, NXDC, Cleaned out casing.				2-4-5-11 (9)	5.1			
1.0		A-1-a, SaGr, gry-brn, Moist, Rec. = 1.0 ft, Lab Note: Broken Rock & some Weathered Rock were within sample.				5-4-7-7 (11)	11.9	56.3	32.3	11.4
1.3		A-1-a, SaGr, gry, Moist, Rec. = 1.3 ft, Lab Note: Very soft Broken Rock pieces & some Weathered Rock were within sample.				19-22-27-30 (49)	7.5	57.0	30.7	12.3
0.6		Visual Description: Very Weathered Rock, gry, Moist, Rec. = 0.6 ft				35-R@1.0" (R)	14.9			
15		Field Note: NXDC, Cleaned out casing.								
15.1		Field Note: No Recovery	1 (70)	88 (60)	3					
20.1		15.1 ft - 20.1 ft, Dark-gray to black, Phyllite and slate and light-gray metasandstone, Moderately hard, Unweathered, Fair rock, NXMDC, Black Phyllite beds very contorted. RMR = 46								
20.1		20.1 ft - 25.1 ft, Dark-gray to black, Phyllite and slate and light-gray metasandstone, Moderately hard, Unweathered, Fair rock, NXMDC, RMR = 46	2 (45)	100 (70)	3					
25.1		Hole stopped @ 25.1 ft								
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. C <sub>c</sub> is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.										

ABUTMENT NO 2  
BOTTOM OF FOOTING  
EL 385.00

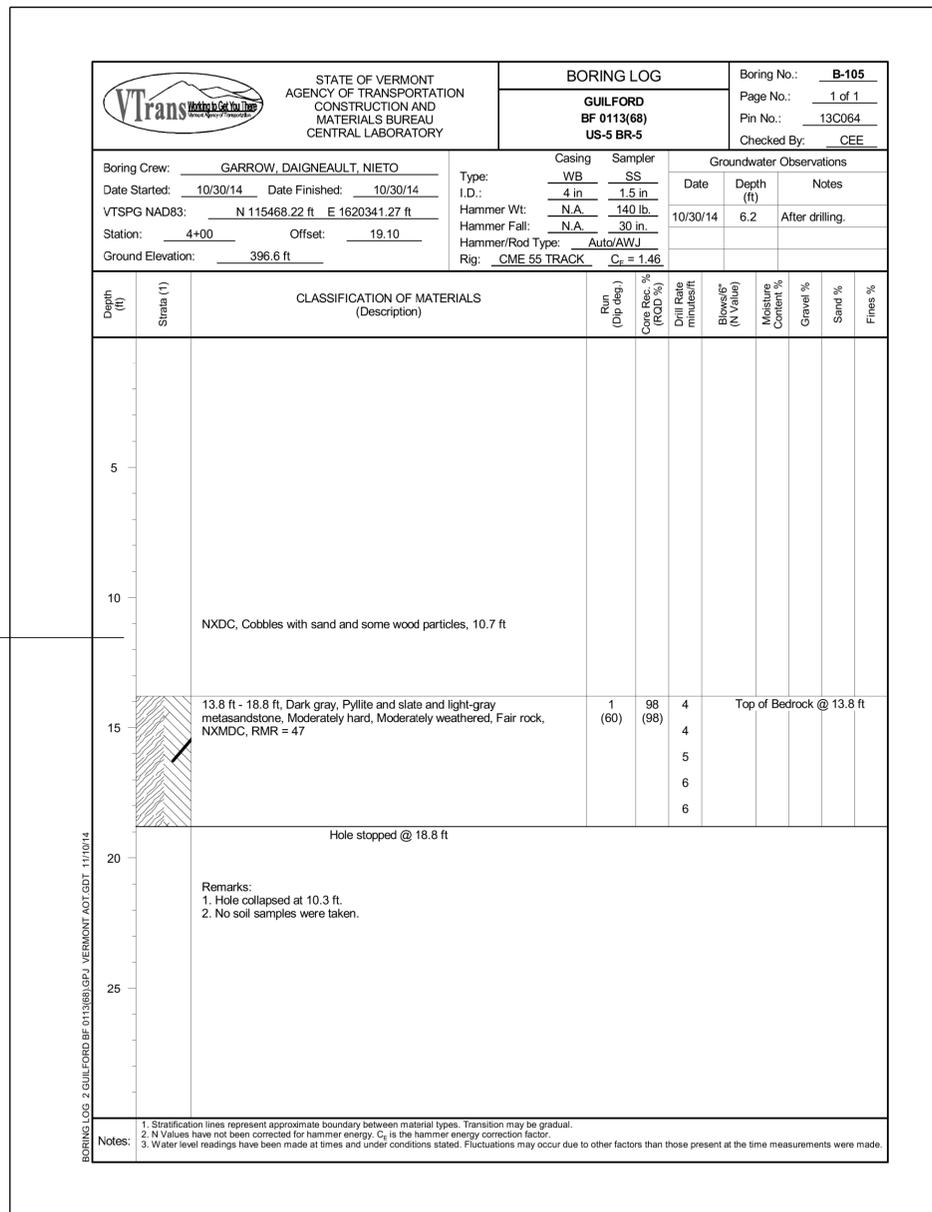
VT		STATE OF VERMONT AGENCY OF TRANSPORTATION CONSTRUCTION AND MATERIALS BUREAU CENTRAL LABORATORY		BORING LOG		Boring No.: <b>B-104</b>				
		GUILFORD BF 0113(68) US-5 BR-5		Page No.: 1 of 1		Pin No.: 13C064				
		Checked By: CEE								
Boring Crew: GARROW, HOOK, NIETO		Casing		Sampler		Groundwater Observations				
Date Started: 10/28/14 Date Finished: 10/29/14		Type: WB SS		I.D.: 4 in 1.5 in		Date Depth (ft) Notes				
VTSPG NAD83: N 115452.66 ft E 1620333.79 ft		Hammer Wt: N.A. 140 lb.		Hammer Fall: N.A. 30 in.		10/29/14 10.1 AM, Before drilling.				
Station: 3+89 Offset: 8.60		Hammer/Rod Type: Auto/AWJ		Rig: CME 45C SKID C <sub>c</sub> = 1.33						
Ground Elevation: 398.7 ft										
Depth (ft)	Strata (1)	CLASSIFICATION OF MATERIALS (Description)	Run (Dip deg)	Cone Rec. % (ROD %)	Drill Rate minutes/ft	Blows (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
0		Asphalt Pavement, 0.0 ft - 0.75 ft								
1.0		A-1-b, GrSa, brn, Moist, Rec. = 1.0 ft, Cleaned out casing with roller cone.								
0.5		A-1-a, SaGr, brn, Moist, Rec. = 0.5 ft, Lab Note: Mostly Broken Rock with sand.								
0.2		Field Note: NXDC, Cleaned out casing								
0.2		Visual Description: Broken Rock, gry, Moist, Rec. = 0.2 ft								
0.2		Field Note: NXDC, Boulders & Cobbles								
1.1		A-1-a, SaGr, gry-brn, Moist, Rec. = 1.1 ft, Lab Note: Broken Rock & some Weathered Rock pieces were within sample.								
1.1		A-1-a, SaGr, gry, Moist, Rec. = 1.1 ft, Lab Note: Broken Rock & some Weathered Rock pieces were within sample.								
12.8		Field Note: NXDC, Cleaned out casing	1 (85)	100 (72)	6					
12.8		12.8 ft - 17.8 ft, Dark gray, Phyllite and slate and light-gray metasandstone, Moderately hard, Unweathered, Fair rock, NXMDC, RMR = 50								
17.8		17.8 ft - 22.8 ft, Dark gray, Phyllite and slate and light-gray metasandstone, Moderately hard, Unweathered, Fair rock, NXMDC, RMR = 50	2 (85)	100 (50)	5					
22.8		22.8 ft - 25.3 ft, Dark gray, Phyllite and slate and light-gray metasandstone, Moderately hard, Unweathered, Fair rock, NXMDC, RMR = 45	3 (80)	100 (43)	7					
25.3		25.3 ft - 27.3 ft, Dark-gray to black, Phyllite, Moderately hard, Unweathered, Poor rock, NXMDC, RMR = 40	4 (?)	50 (0)	10					
27.3		27.3 ft - 29.3 ft, Dark gray, Phyllite and slate and light-gray metasandstone, Moderately hard, Unweathered, Poor rock, NXMDC, RMR = 40	5 (50)	65 (0)	9					
29.3		29.3 ft - 31.0 ft, Dark gray, Phyllite and slate and light-gray metasandstone, Moderately hard, Unweathered, Fair rock, NXMDC, RMR = 50	6 (70)	65 (50)	4					
31.0		Hole stopped @ 31.0 ft								
Remarks: Hole collapsed at 11.2 ft.										
Notes: 1. Stratification lines represent approximate boundary between material types. Transition may be gradual. 2. N Values have not been corrected for hammer energy. C <sub>c</sub> is the hammer energy correction factor. 3. Water level readings have been made at times and under conditions stated. Fluctuations may occur due to other factors than those present at the time measurements were made.										

PROJECT NAME: GUILFORD  
PROJECT NUMBER: BF 0113(68)

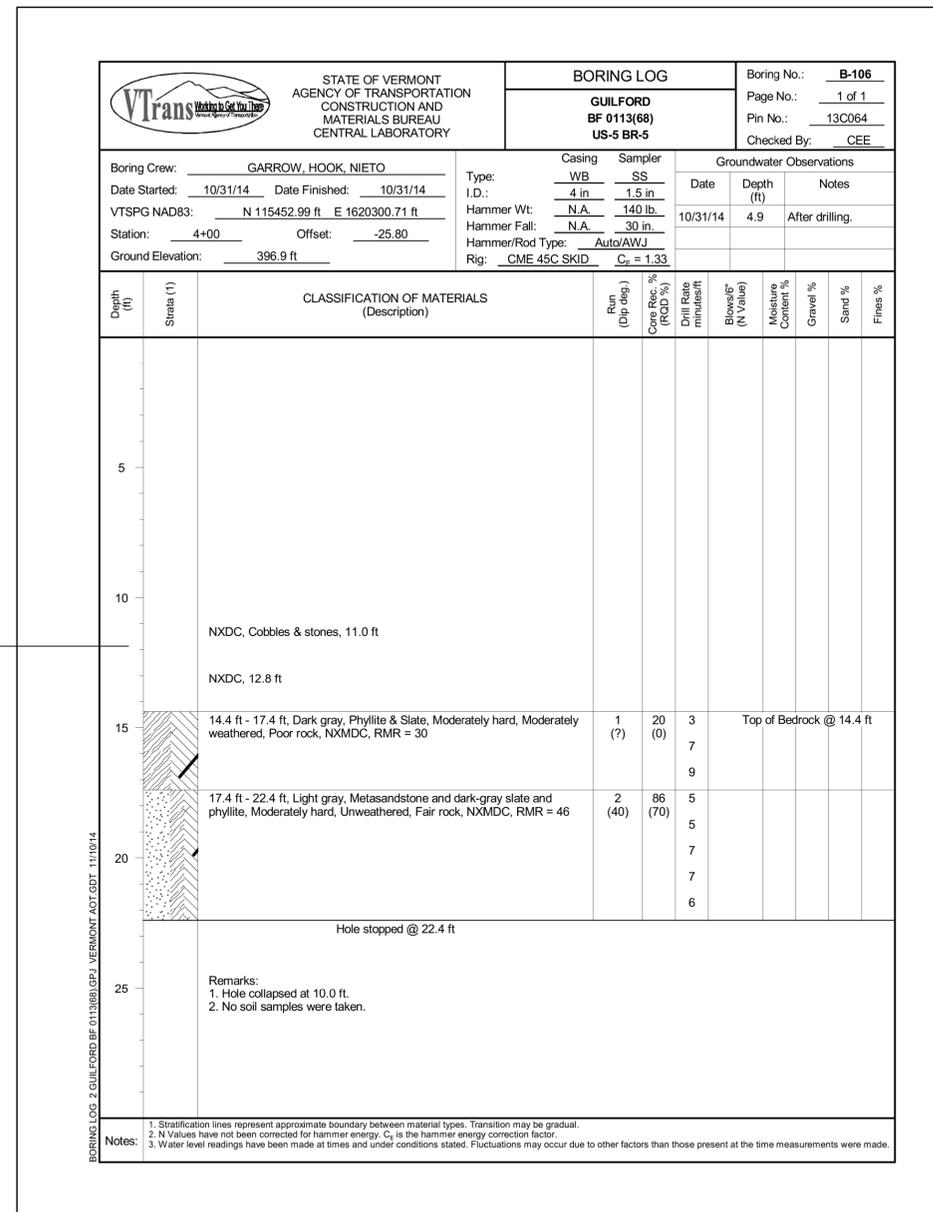
FILE NAME: z13c064bor\_log.dgn  
PROJECT LEADER: R. YOUNG  
DESIGNED BY: D. KULL  
BORING LOG SHEET 2

PLOT DATE: 5/31/2016  
DRAWN BY: S. MERKWAN  
CHECKED BY: T. KENDRICK  
SHEET 27 OF 65

ABUTMENT NO 2  
BOTTOM OF FOOTING  
EL 385.00



ABUTMENT NO 2  
BOTTOM OF FOOTING  
EL 385.00

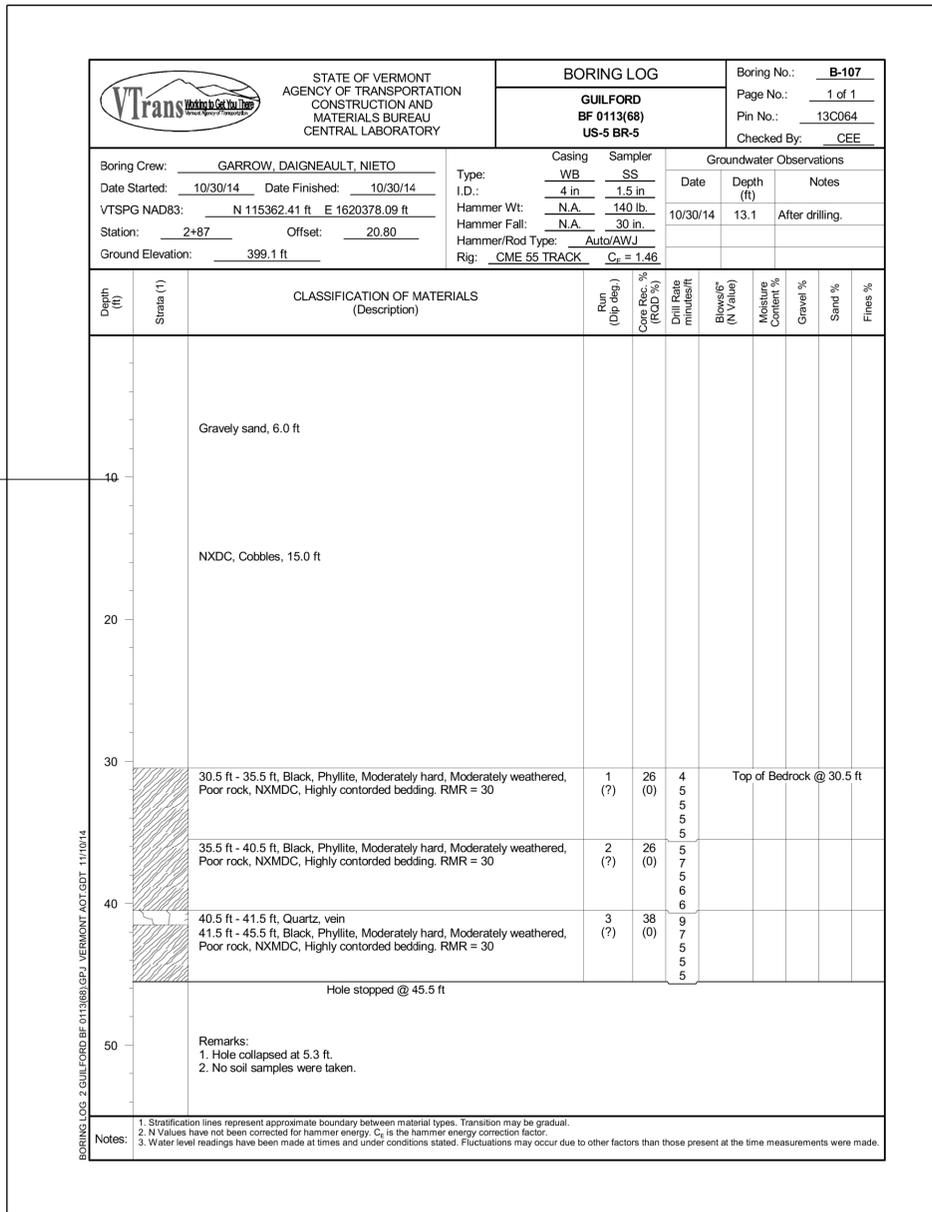


PROJECT NAME: GUILFORD  
PROJECT NUMBER: BF 0113(68)

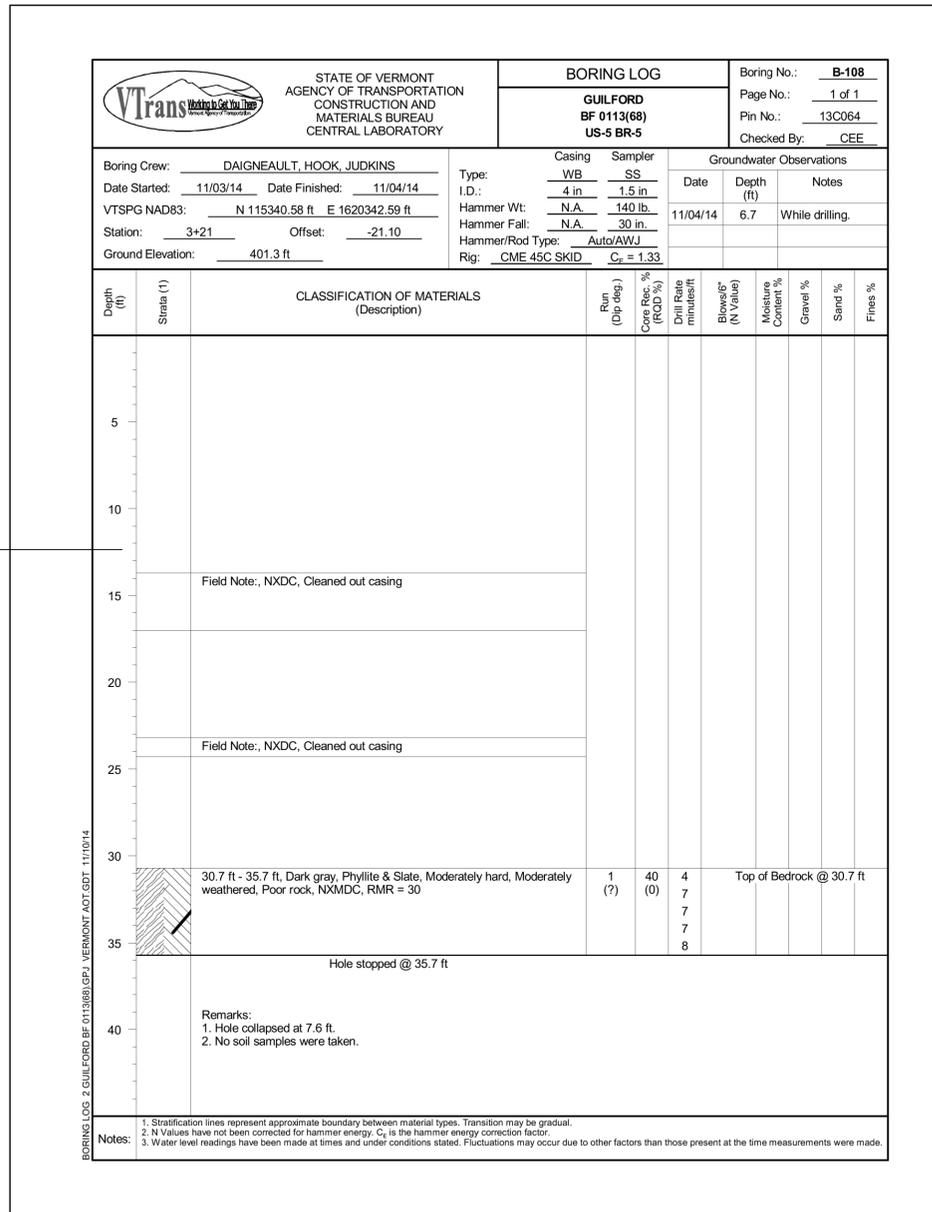
FILE NAME: z13c064bor\_log.dgn  
PROJECT LEADER: R. YOUNG  
DESIGNED BY: D. KULL  
BORING LOG SHEET 3

PLOT DATE: 5/31/2016  
DRAWN BY: S. MERKWAN  
CHECKED BY: T. KENDRICK  
SHEET 28 OF 65

ABUTMENT NO 1  
 BOTTOM OF FOOTING  
 EL 390.00



ABUTMENT NO 1  
 BOTTOM OF FOOTING  
 EL 390.00

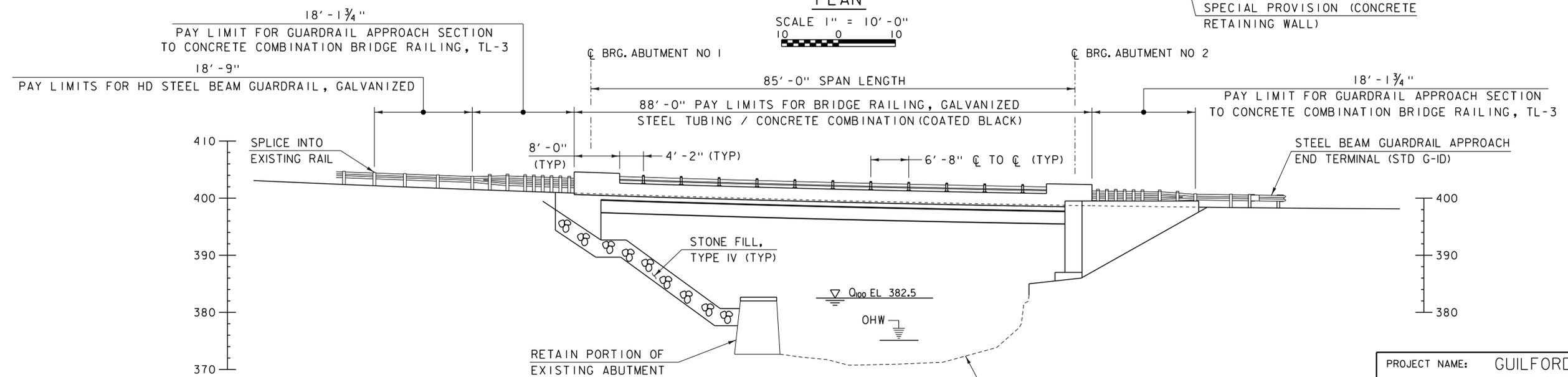
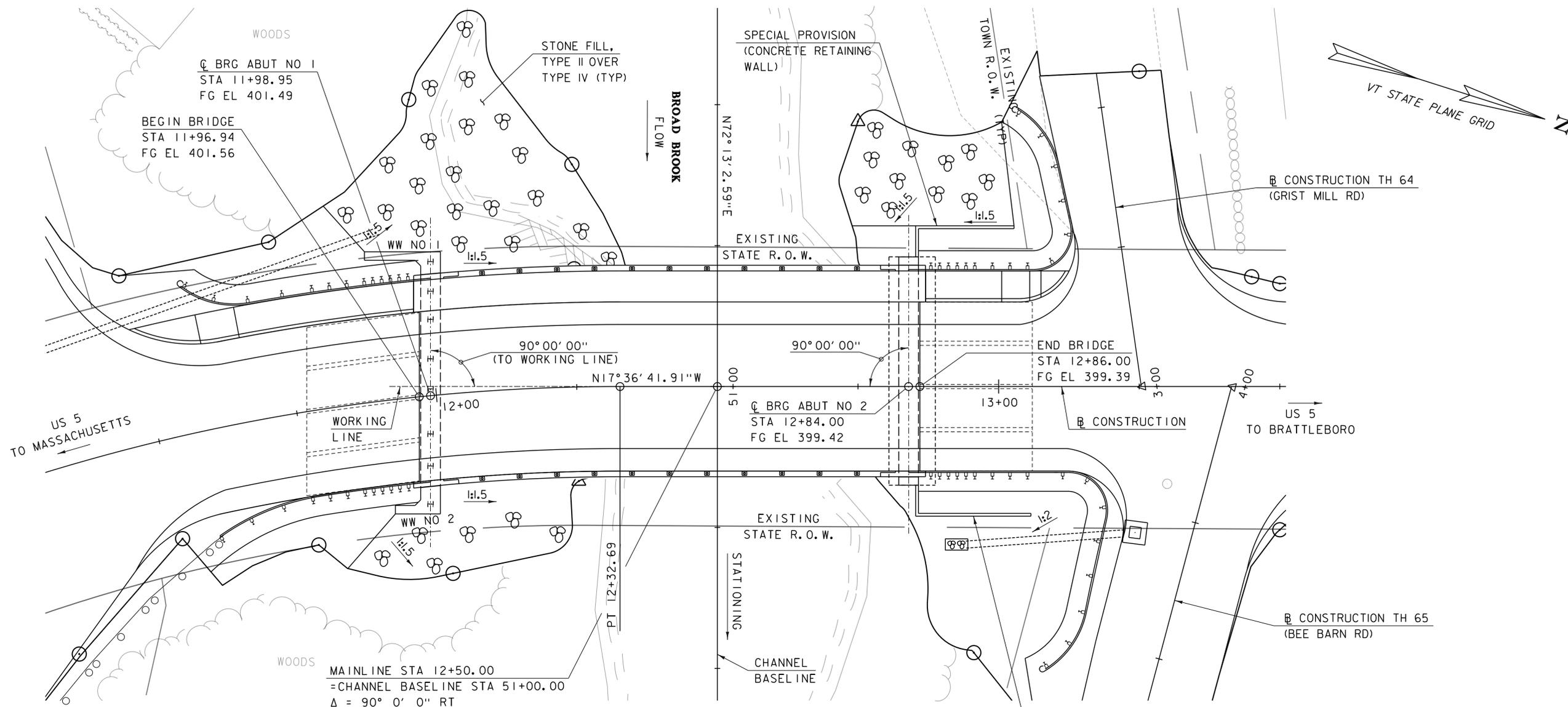


PROJECT NAME: GUILFORD  
 PROJECT NUMBER: BF 0113(68)

FILE NAME: z13c064bor\_log.dgn  
 PROJECT LEADER: R. YOUNG  
 DESIGNED BY: D. KULL  
 BORING LOG SHEET 4

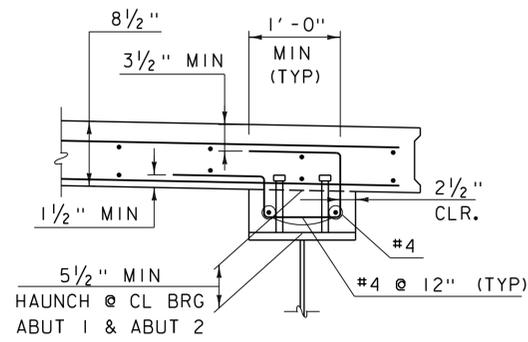
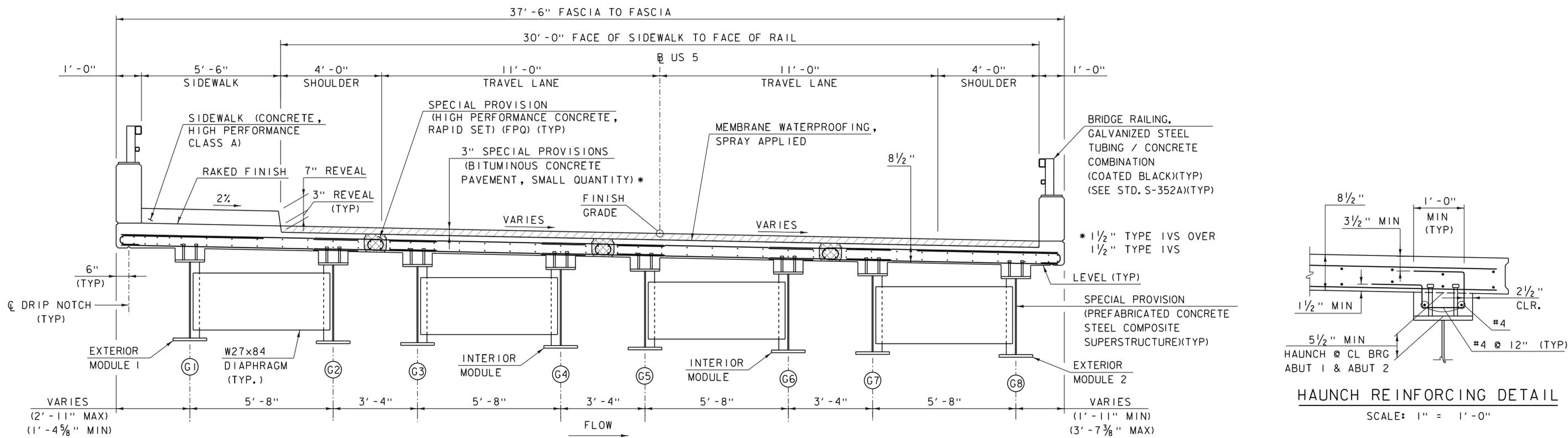
PLOT DATE: 5/31/2016  
 DRAWN BY: S. MERKWAN  
 CHECKED BY: T. KENDRICK  
 SHEET 29 OF 65





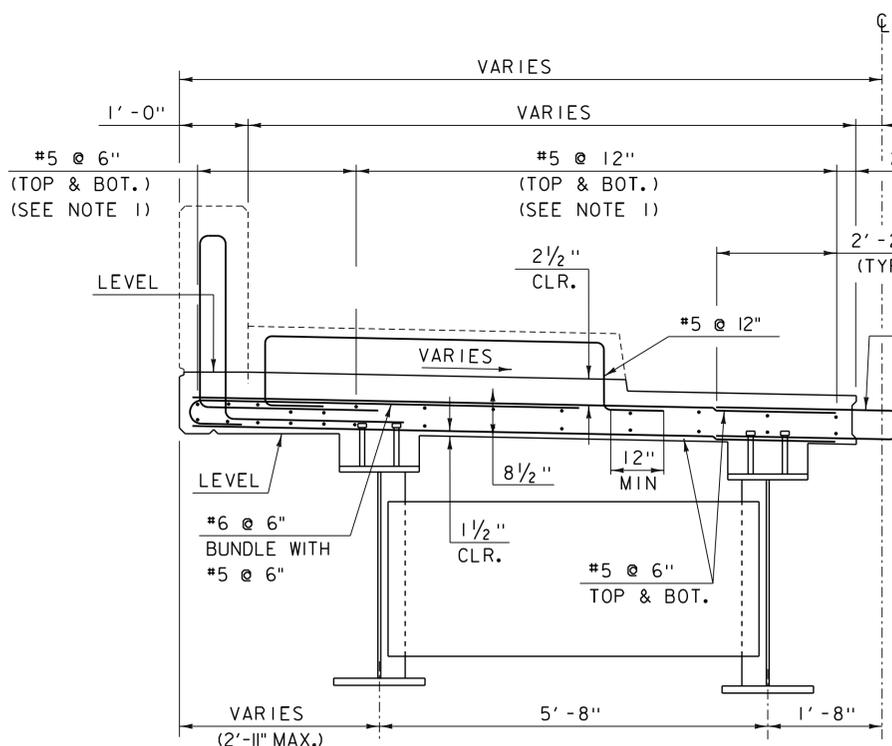
PROJECT NAME:	GUILFORD	PLOT DATE:	5/31/2016
PROJECT NUMBER:	BF 0113(68)	DRAWN BY:	S. MERKWAN
FILE NAME:	z13c064pe.dgn	DESIGNED BY:	D. KULL
PROJECT LEADER:	R. YOUNG	CHECKED BY:	T. KENDRICK
PLAN & ELEVATION		SHEET	31 OF 65





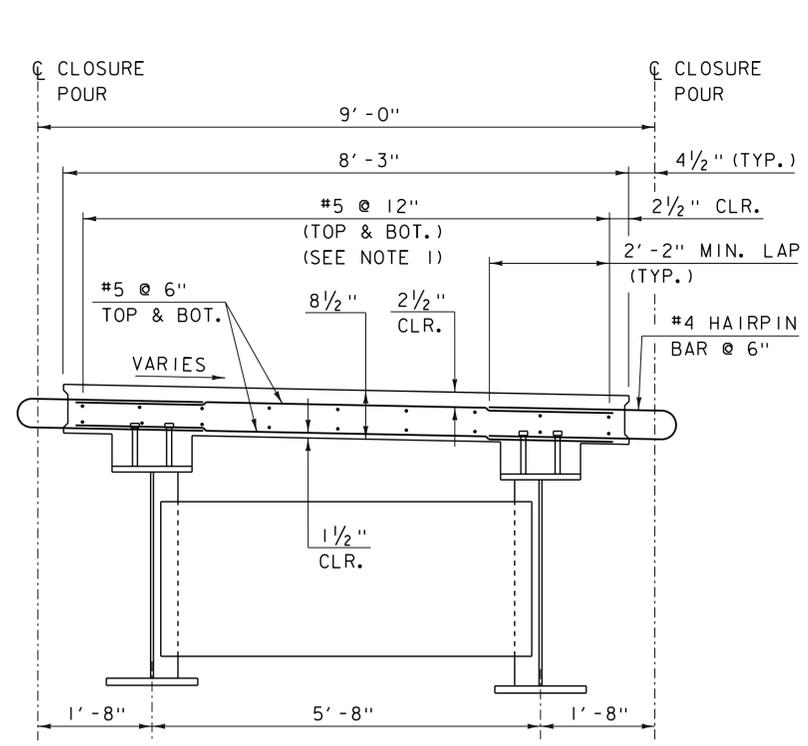
TYPICAL BRIDGE SECTION

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



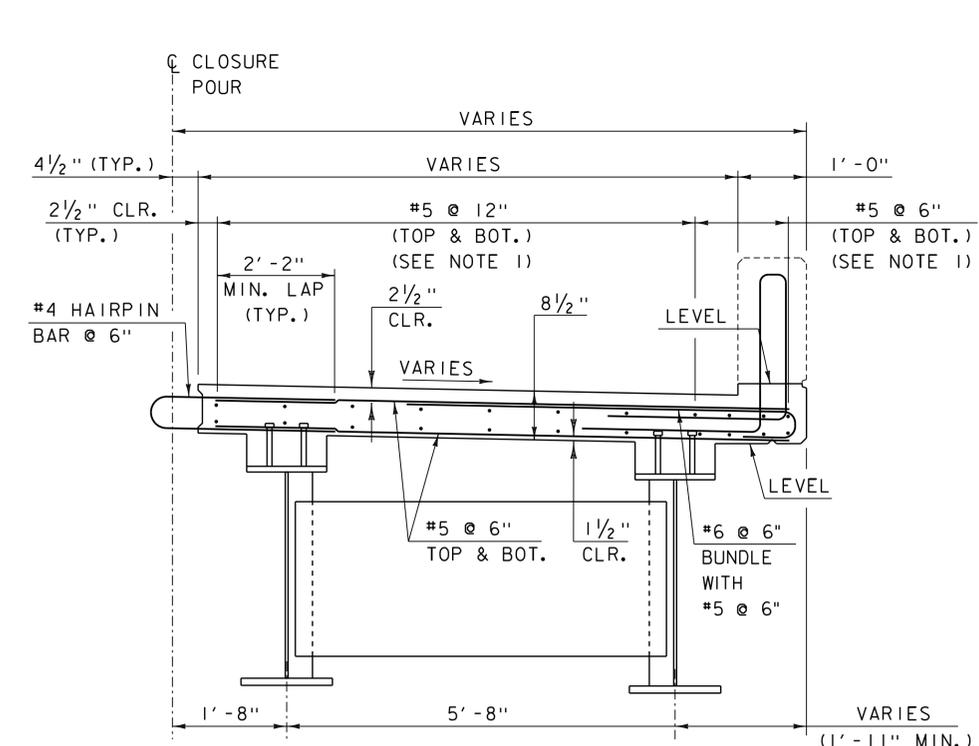
EXTERIOR MODULE DETAIL 1

SCALE: 3/4" = 1'-0"



INTERIOR MODULE DETAIL

SCALE: 3/4" = 1'-0"



EXTERIOR MODULE DETAIL 2

SCALE: 3/4" = 1'-0"

NOTES

1. MINIMUM LONGITUDINAL LAP SPLICE IS 2'-2"
2. TRANSVERSE REINFORCING ORIENTED WITH  $\odot$  BEARING. STAGGER BARS BETWEEN ADJACENT PBU'S.

LEGEND

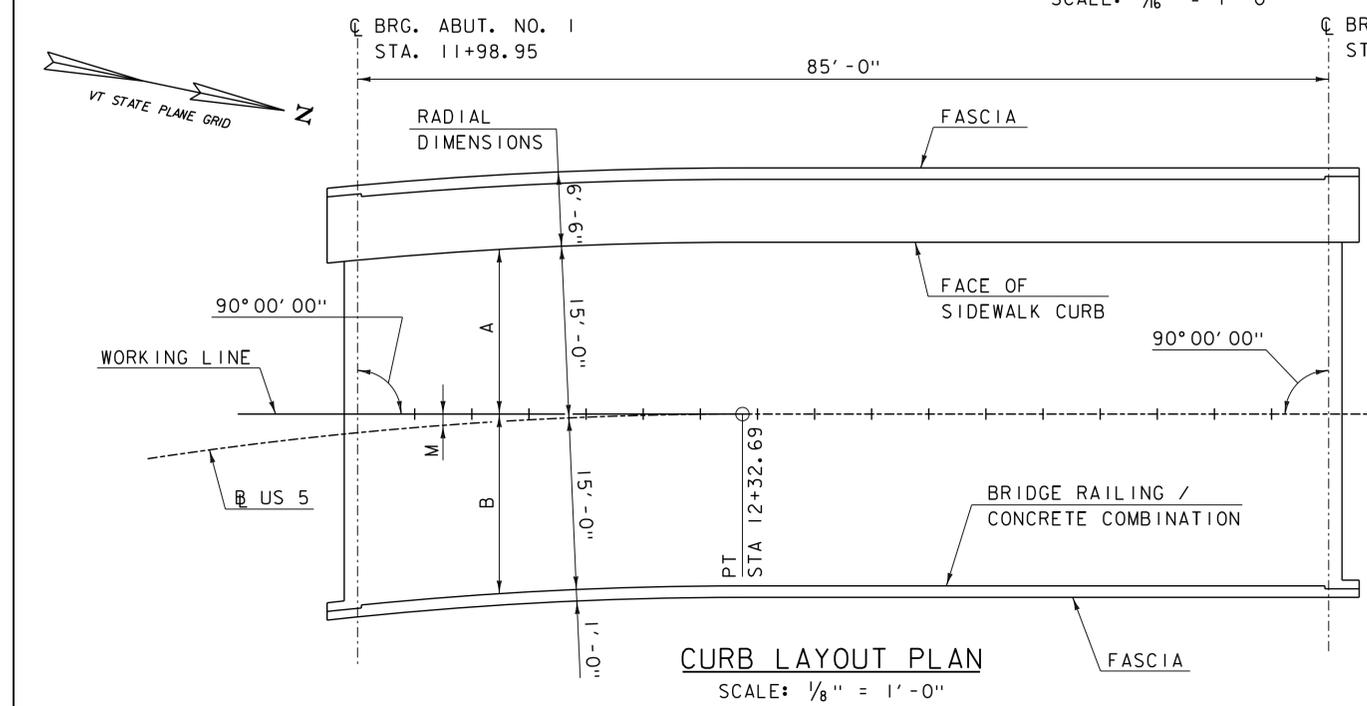
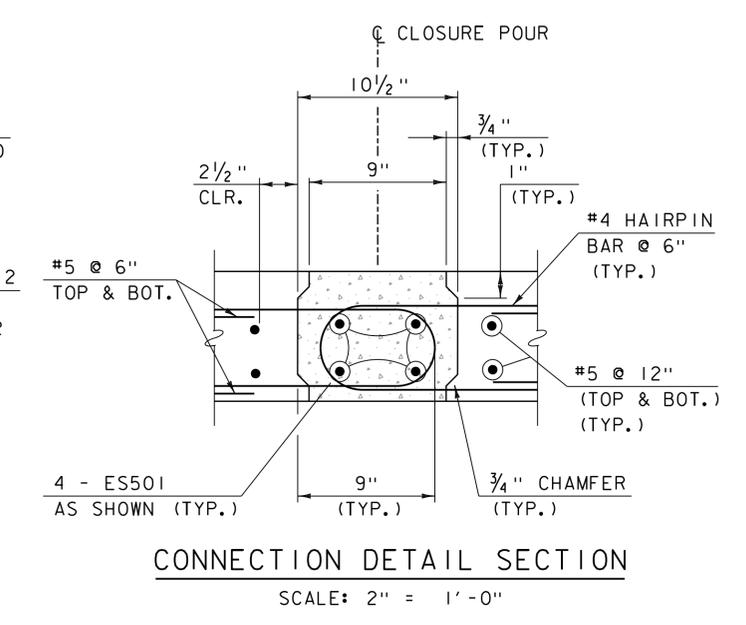
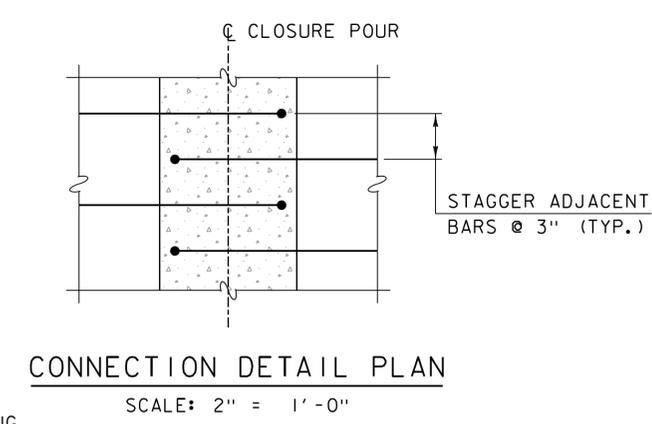
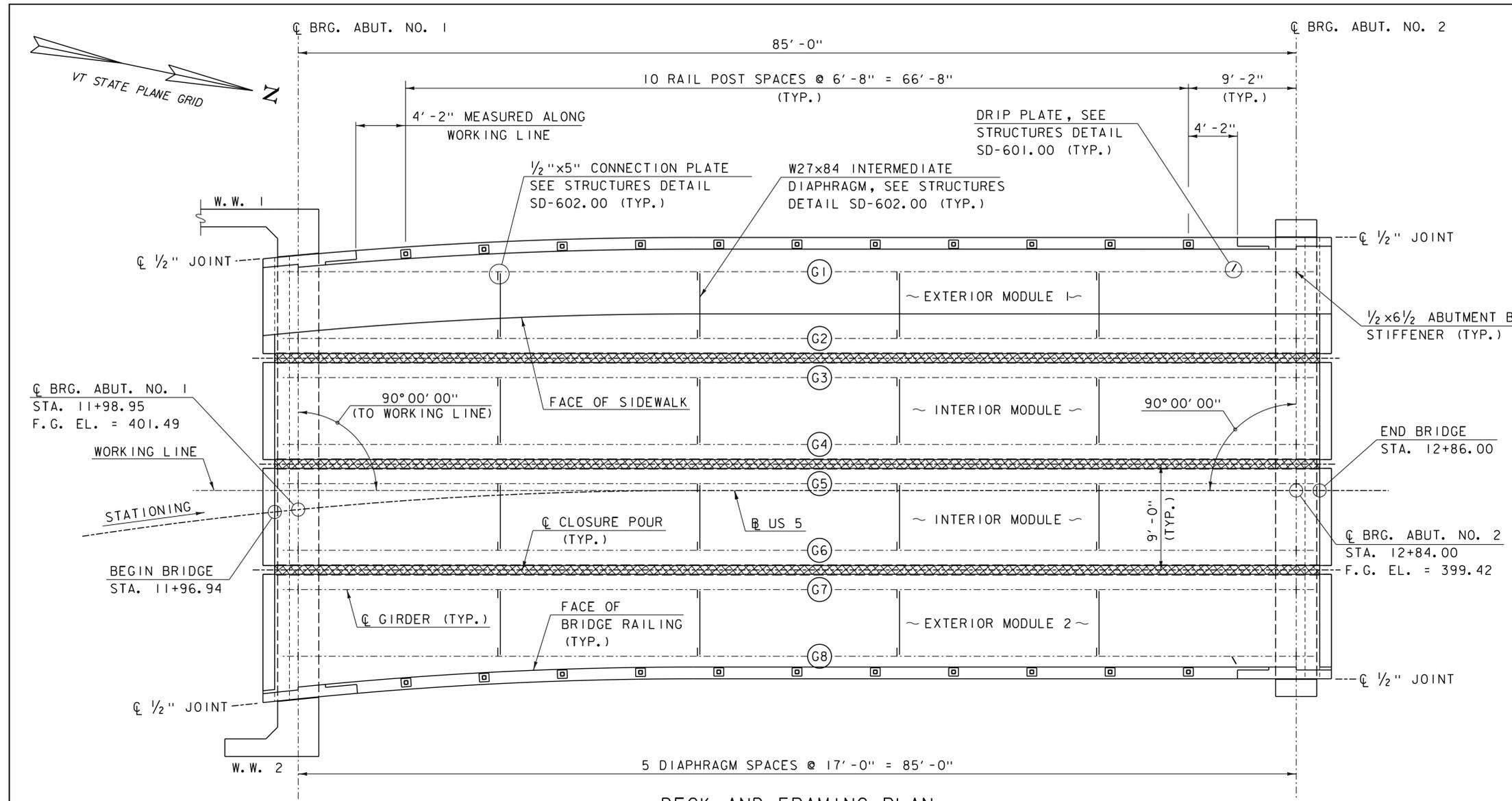
SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET) (FPO)

NOTE:

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

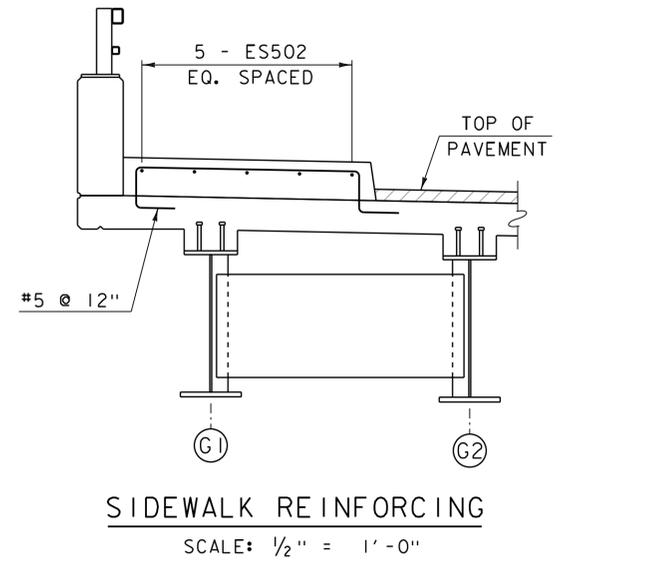


PROJECT NAME: GUILFORD	PLOT DATE: 5/31/2016
PROJECT NUMBER: BF 0113(68)	DRAWN BY: S. MERKWAN
FILE NAME: z13c064suptyp.dgn	DESIGNED BY: D. KULL
PROJECT LEADER: R. YOUNG	CHECKED BY: T. KENDRICK
BRIDGE TYPICAL SECTIONS	SHEET 32 OF 65



DISTANCE ALONG WORKING LINE (FROM STA 11+98.95)	A	B	M
0'-0"	13'-5 1/4"	16'-11 3/8"	1'-7 1/2"
5'-0"	13'-10 1/2"	16'-2 3/4"	1'-2 1/8"
10'-0"	14'-2 3/4"	15'-10 1/8"	9 5/8"
15'-0"	14'-6 1/4"	15'-6 1/4"	6"
20'-0"	14'-8 7/8"	15'-3 3/8"	3 1/4"
25'-0"	14'-10 3/4"	15'-1 3/8"	1 1/4"
30'-0"	14'-11 3/4"	15'-1/4"	1/4"

DIMENSIONS ARE PERPENDICULAR TO WORKING LINE



**LEGEND**

Special Provision (High Performance Concrete, Rapid Set) (FPO)

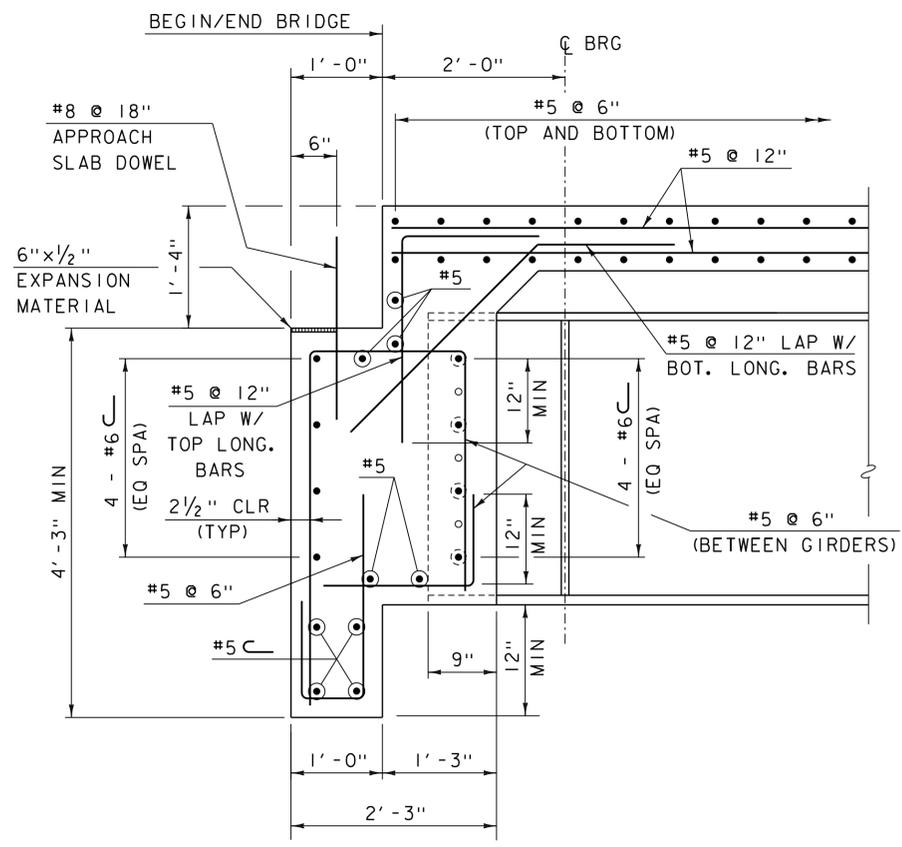
McFarland Johnson

PROJECT NAME: GUILFORD  
PROJECT NUMBER: BF 0113(68)

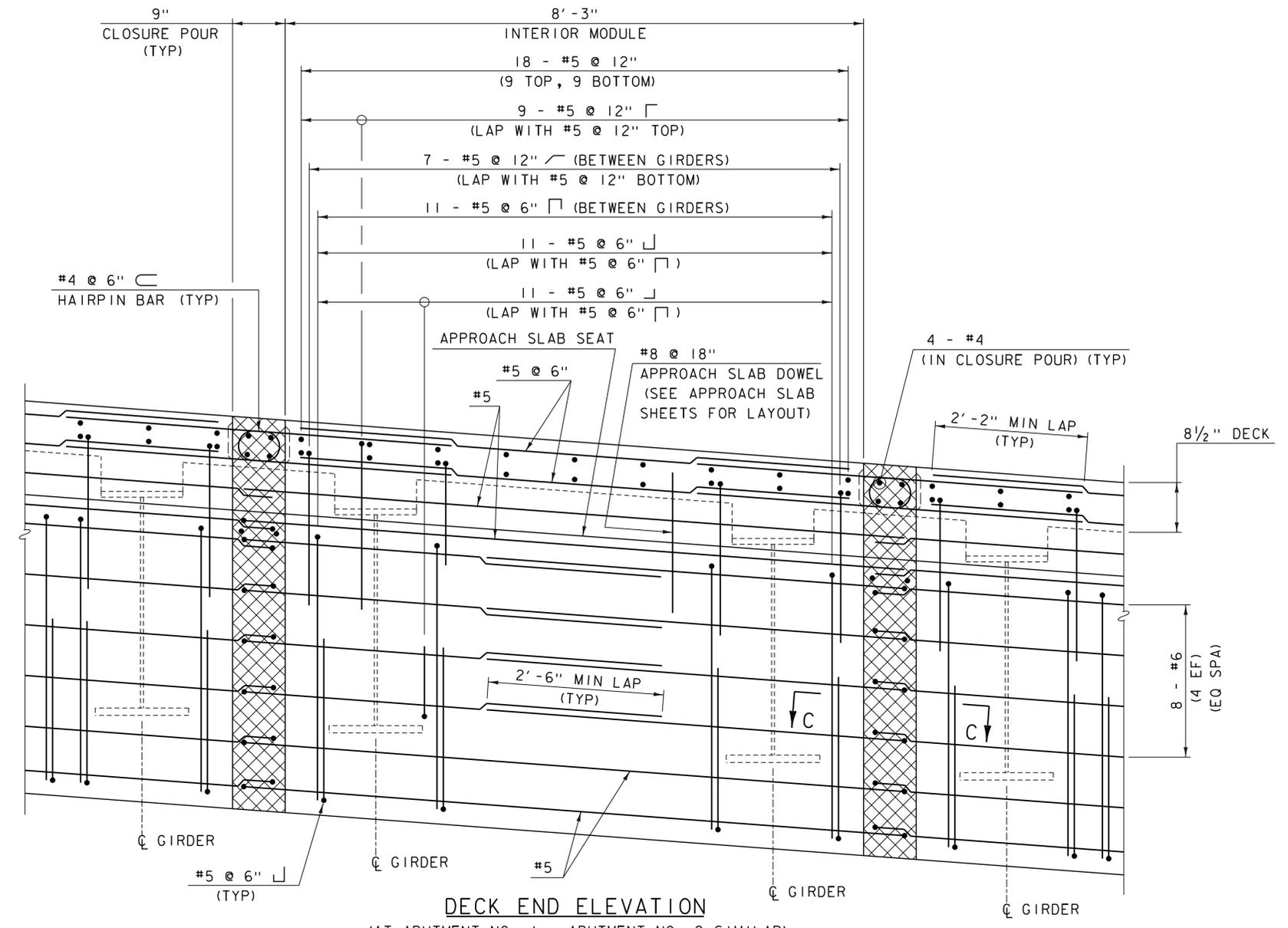
FILE NAME: z13c064framing.dgn  
PROJECT LEADER: R. YOUNG  
DESIGNED BY: D. KULL  
DECK AND FRAMING PLAN

PLOT DATE: 5/31/2016  
DRAWN BY: S. MERKWAN  
CHECKED BY: T. KENDRICK  
SHEET 33 OF 65

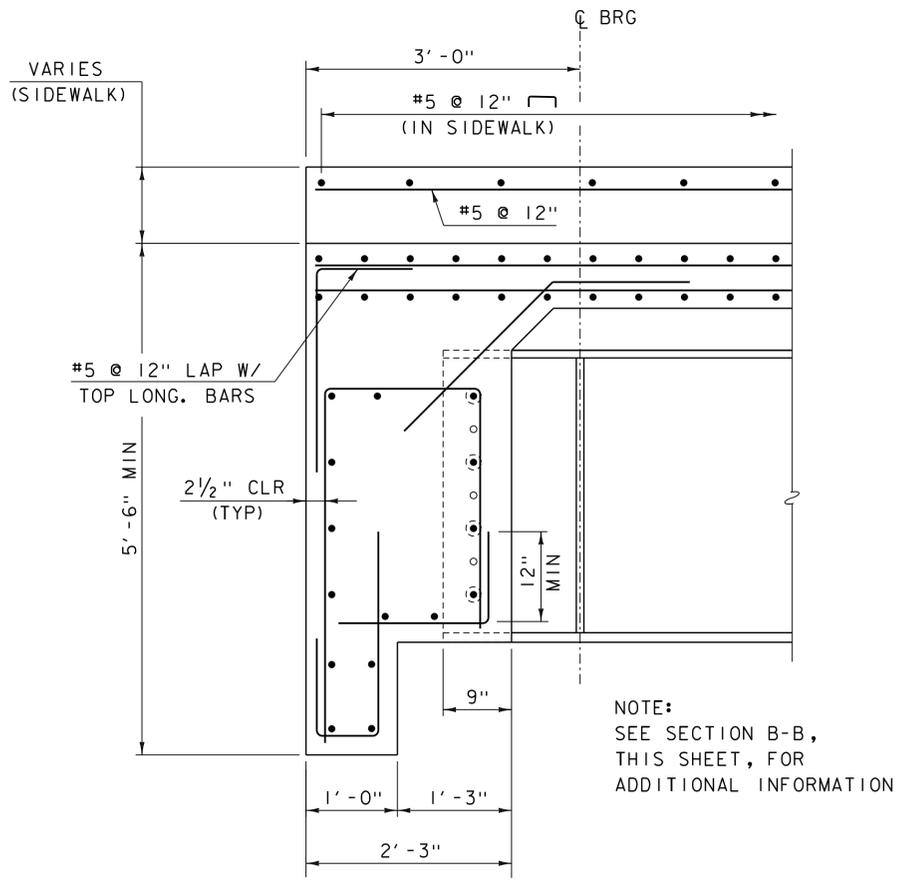




**SECTION B-B**  
SCALE: 1" = 1'-0"

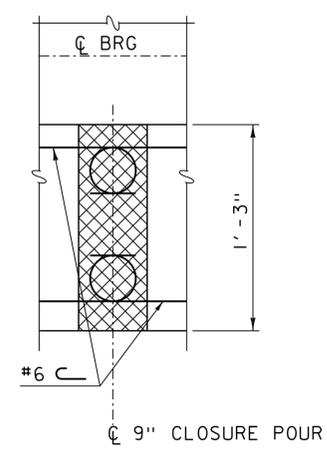


**DECK END ELEVATION**  
(AT ABUTMENT NO. 1 , ABUTMENT NO. 2 SIMILAR)  
(LOOKING UPSTATION)  
SCALE: 1" = 1'-0"



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

NOTE:  
SEE SECTION B-B,  
THIS SHEET, FOR  
ADDITIONAL INFORMATION



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

**LEGEND**  
 SPECIAL PROVISION  
 (HIGH PERFORMANCE CONCRETE,  
 RAPID SET) (FPO)

PROJECT NAME:	GUILFORD	PLOT DATE:	5/31/2016
PROJECT NUMBER:	BF 0113(68)	DRAWN BY:	S. MERKWAN
FILE NAME:	z13c064sup.dgn	DESIGNED BY:	D. KULL
PROJECT LEADER:	R. YOUNG	CHECKED BY:	T. KENDRICK
DECK-END BACKWALL DETAILS (2 OF 2)		SHEET 35 OF 65	



CAMBER TABLE - GIRDER 1 (INCHES)

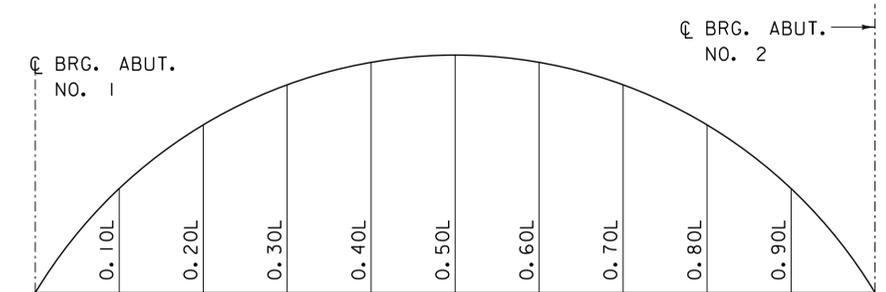
GIRDER 1	CL BRG. ABUT 1	0.05 L	0.10 L	0.15 L	0.20 L	0.25 L	0.30 L	0.35 L	0.40 L	0.45 L	0.50 L	0.55 L	0.60 L	0.65 L	0.70 L	0.75 L	0.80 L	0.85 L	0.90 L	0.95 L	CL BRG. ABUT 2
STEEL DL	0.00	0.09	0.18	0.27	0.35	0.41	0.47	0.52	0.55	0.57	0.58	0.57	0.55	0.52	0.47	0.41	0.35	0.27	0.18	0.09	0.00
CONCRETE SLAB	0.00	0.35	0.69	1.02	1.31	1.58	1.80	1.98	2.11	2.18	2.21	2.18	2.11	1.98	1.80	1.58	1.31	1.02	0.69	0.35	0.00
SUPERIMPOSED DL	0.00	0.10	0.19	0.27	0.35	0.42	0.48	0.53	0.57	0.59	0.60	0.59	0.57	0.53	0.48	0.42	0.35	0.27	0.19	0.10	0.00
TOTAL DEFLECTION	0.00	0.54	1.06	1.56	2.01	2.41	2.75	3.03	3.23	3.35	3.39	3.35	3.23	3.03	2.75	2.41	2.01	1.56	1.06	0.54	0.00
VERTICAL ORDINATE	0.00	-0.60	-1.10	-1.51	-1.84	-2.07	-2.23	-2.31	-2.32	-2.36	-2.36	-2.32	-2.23	-2.10	-1.93	-1.72	-1.46	-1.16	-0.81	-0.43	0.00
TOTAL CAMBER	0.00	0.54	1.06	1.56	2.01	2.41	2.75	3.03	3.23	3.35	3.39	3.35	3.23	3.03	2.75	2.41	2.01	1.56	1.06	0.54	0.00

CAMBER TABLE - GIRDERS 2 THRU 7 (INCHES)

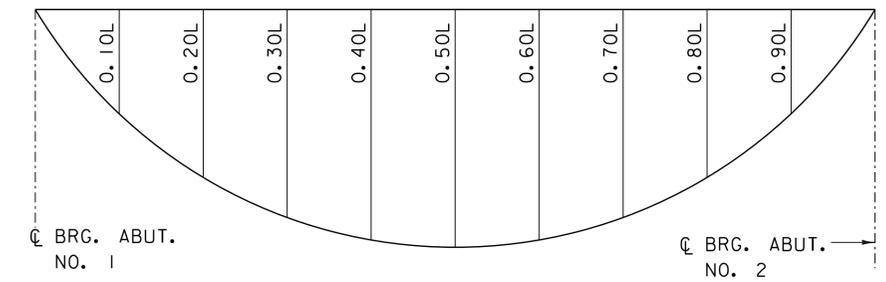
GIRDER 2-7	CL BRG. ABUT 1	0.05 L	0.10 L	0.15 L	0.20 L	0.25 L	0.30 L	0.35 L	0.40 L	0.45 L	0.50 L	0.55 L	0.60 L	0.65 L	0.70 L	0.75 L	0.80 L	0.85 L	0.90 L	0.95 L	CL BRG. ABUT 2
STEEL DL	0.00	0.09	0.18	0.27	0.35	0.41	0.47	0.52	0.55	0.57	0.58	0.57	0.55	0.52	0.47	0.41	0.35	0.27	0.18	0.09	0.00
CONCRETE SLAB	0.00	0.28	0.56	0.82	1.06	1.27	1.45	1.59	1.70	1.76	1.78	1.76	1.70	1.59	1.45	1.27	1.06	0.82	0.56	0.28	0.00
SUPERIMPOSED DL	0.00	0.10	0.19	0.27	0.35	0.42	0.48	0.53	0.57	0.59	0.60	0.59	0.57	0.53	0.48	0.42	0.35	0.27	0.19	0.10	0.00
TOTAL DEFLECTION	0.00	0.47	0.93	1.36	1.76	2.11	2.41	2.64	2.82	2.92	2.96	2.92	2.82	2.64	2.41	2.11	1.76	1.36	0.93	0.47	0.00
VERTICAL ORDINATE	0.00	-0.63	-1.16	-1.60	-1.95	-2.22	-2.39	-2.49	-2.52	-2.54	-2.53	-2.47	-2.36	-2.22	-2.03	-1.80	-1.52	-1.21	-0.85	-0.44	0.00
TOTAL CAMBER	0.00	0.47	0.93	1.36	1.76	2.11	2.41	2.64	2.82	2.92	2.96	2.92	2.82	2.64	2.41	2.11	1.76	1.36	0.93	0.47	0.00

CAMBER TABLE - GIRDER 8 (INCHES)

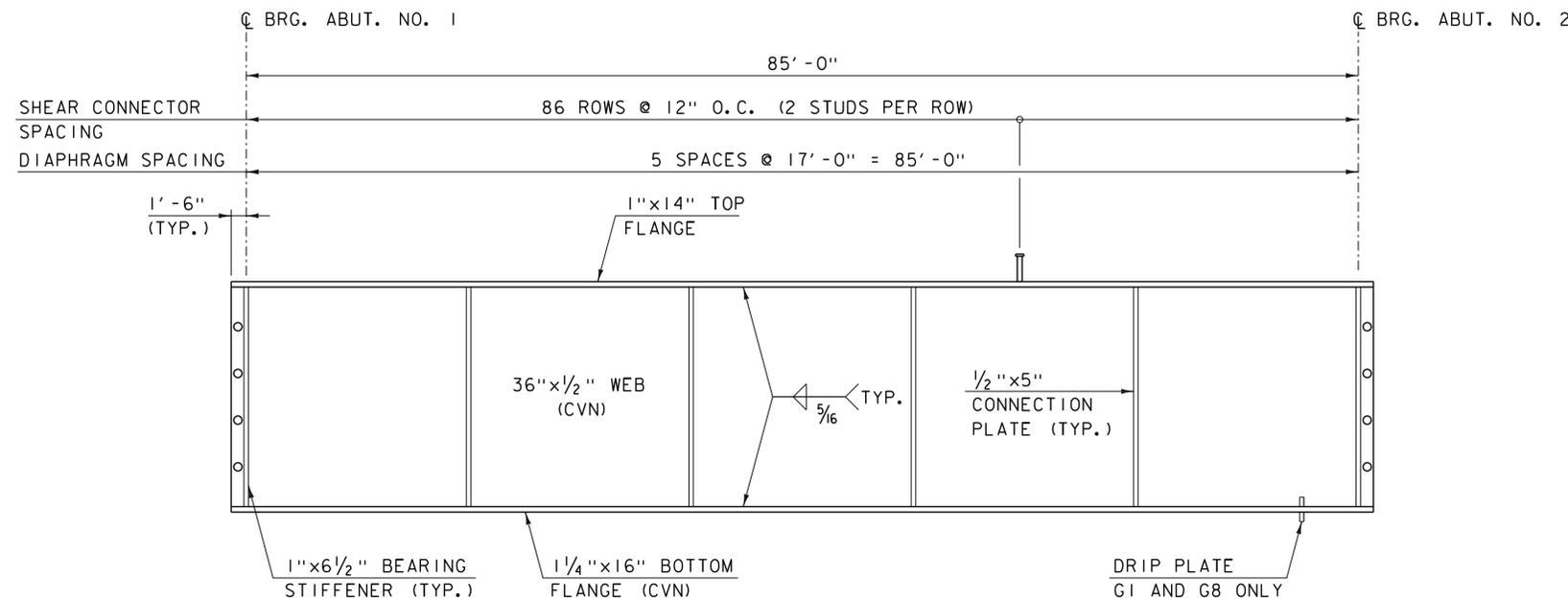
GIRDER 8	CL BRG. ABUT 1	0.05 L	0.10 L	0.15 L	0.20 L	0.25 L	0.30 L	0.35 L	0.40 L	0.45 L	0.50 L	0.55 L	0.60 L	0.65 L	0.70 L	0.75 L	0.80 L	0.85 L	0.90 L	0.95 L	CL BRG. ABUT 2
STEEL DL	0.00	0.09	0.18	0.27	0.35	0.41	0.47	0.52	0.55	0.57	0.58	0.57	0.55	0.52	0.47	0.41	0.35	0.27	0.18	0.09	0.00
CONCRETE SLAB	0.00	0.30	0.59	0.86	1.11	1.33	1.52	1.67	1.78	1.85	1.87	1.85	1.78	1.67	1.52	1.33	1.11	0.86	0.59	0.30	0.00
SUPERIMPOSED DL	0.00	0.10	0.19	0.27	0.35	0.42	0.48	0.53	0.57	0.59	0.60	0.59	0.57	0.53	0.48	0.42	0.35	0.27	0.19	0.10	0.00
TOTAL DEFLECTION	0.00	0.48	0.96	1.40	1.81	2.17	2.47	2.72	2.90	3.01	3.04	3.01	2.90	2.72	2.47	2.17	1.81	1.40	0.96	0.48	0.00
VERTICAL ORDINATE	0.00	-0.76	-1.41	-1.96	-2.40	-2.74	-2.99	-3.14	-3.21	-3.17	-3.10	-2.98	-2.82	-2.62	-2.37	-2.08	-1.75	-1.38	-0.96	-0.50	0.00
TOTAL CAMBER	0.00	0.48	0.96	1.40	1.81	2.17	2.47	2.72	2.90	3.01	3.04	3.01	2.90	2.72	2.47	2.17	1.81	1.40	0.96	0.48	0.00



CAMBER DIAGRAM  
SEE CAMBER TABLES

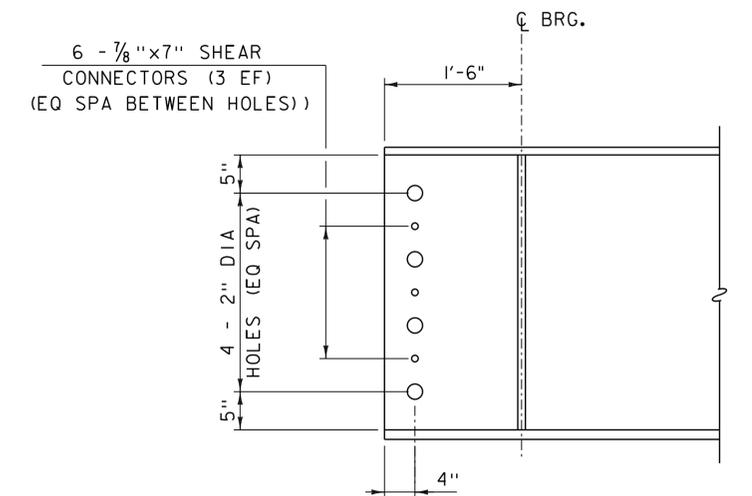


DEAD LOAD DEFLECTION DIAGRAM  
SEE CAMBER TABLES



GIRDER ELEVATION  
NOT TO SCALE

CVN = CHARPY V-NOTCH TEST IN ACCORDANCE WITH SUBSECTION 714.01.



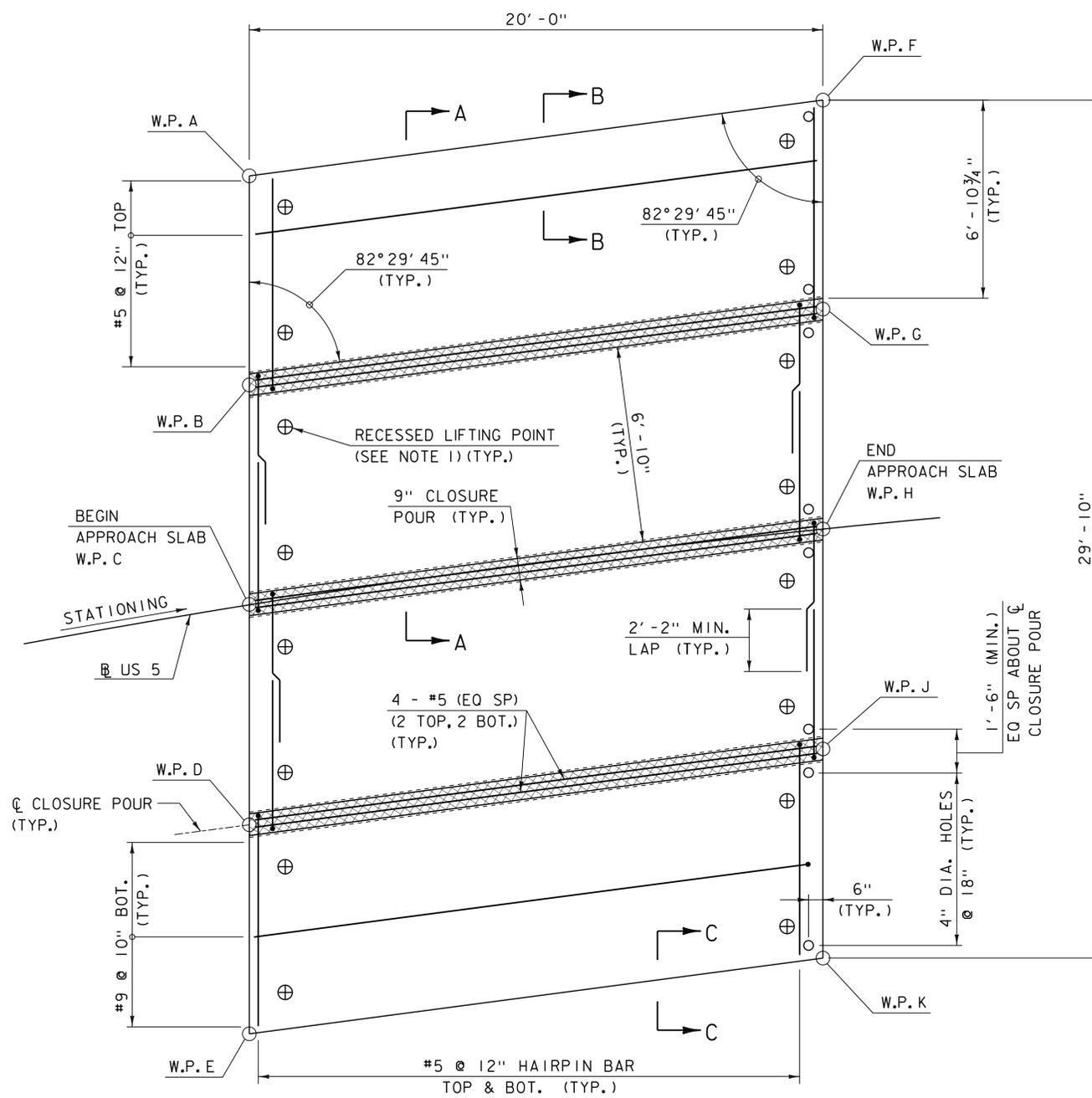
TYPICAL GIRDER END DETAIL  
SCALE: 1" = 1'-0"

PROJECT NAME: GUILFORD  
PROJECT NUMBER: BF 0113(68)

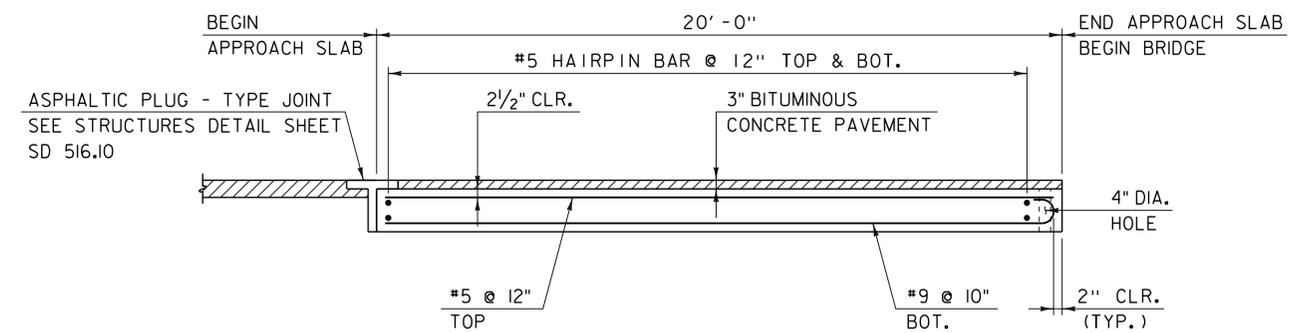
FILE NAME: z13c064girder.dgn  
PROJECT LEADER: R. YOUNG  
DESIGNED BY: D. KULL  
GIRDER DETAILS

PLOT DATE: 5/31/2016  
DRAWN BY: S. MERKWAN  
CHECKED BY: T. KENDRICK  
SHEET 36 OF 65

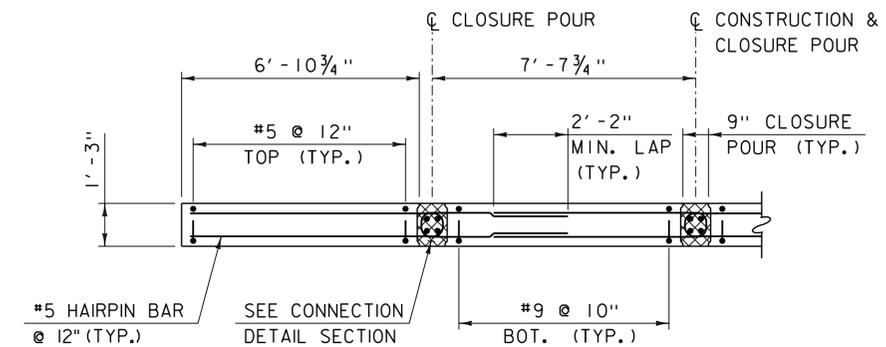




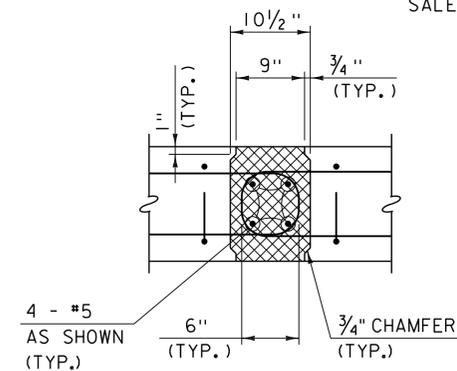
APPROACH SLAB NO. 1 PLAN  
SCALE: 3/8" = 1'-0"



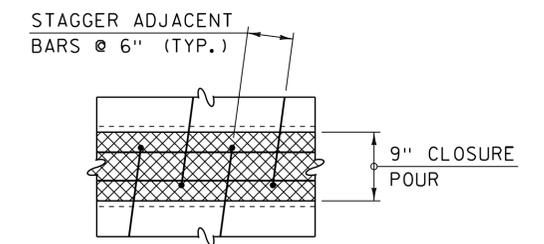
APPROACH SLAB ELEVATION  
SCALE: 3/8" = 1'-0"



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



CONNECTION DETAIL SECTION  
SCALE: 1" = 1'-0"



APPROACH SLAB NO. 1  
CONNECTION DETAIL PLAN  
SCALE: 1" = 1'-0"

**NOTES**

- LIFTING POINTS ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL LIFTING LOCATIONS SHALL BE DETERMINED BY THE FABRICATOR AND INDICATED ON THE FABRICATION DRAWINGS WITH CALCULATIONS.
- THE TOP SURFACE OF THE PRECAST APPROACH SLAB PANELS SHALL HAVE A BROOM FINISH PARALLEL TO THE CENTERLINE OF CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING UNIFORM CONTACT BETWEEN THE APPROACH SLAB AND THE SUBBASE MATERIAL TO THE SATISFACTION OF THE ENGINEER. THE FABRICATION DRAWINGS SHALL INDICATE THE MEANS AND METHODS NECESSARY TO INSTALL THE APPROACH SLABS TO THE ELEVATIONS SPECIFIED.
- FOR SECTIONS B-B AND C-C, SEE SHEET 38.

**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.

APPROACH SLAB ELEVATIONS				
APPROACH SLAB NO. 1				
W. P.	STATION	OFFSET	ELEVATION	THICKNESS
A	11+79.04	14.74' LT.	403.11	1'-3"
B	11+77.95	7.55' LT.	402.57	1'-3"
C	11+76.76	0.00	402.01	1'-3"
D	11+75.52	7.55' RT.	401.45	1'-3"
E	11+74.28	14.72' RT.	400.92	1'-3"
F	11+98.40	14.84' LT.	402.37	1'-3"
G	11+97.70	7.61' LT.	401.35	1'-3"
H	11+96.94	0.00	401.30	1'-3"
J	11+96.14	7.61' RT.	400.75	1'-3"
K	11+95.35	14.84' RT.	400.21	1'-3"

ALL ELEVATIONS ARE AT TOP OF SLAB

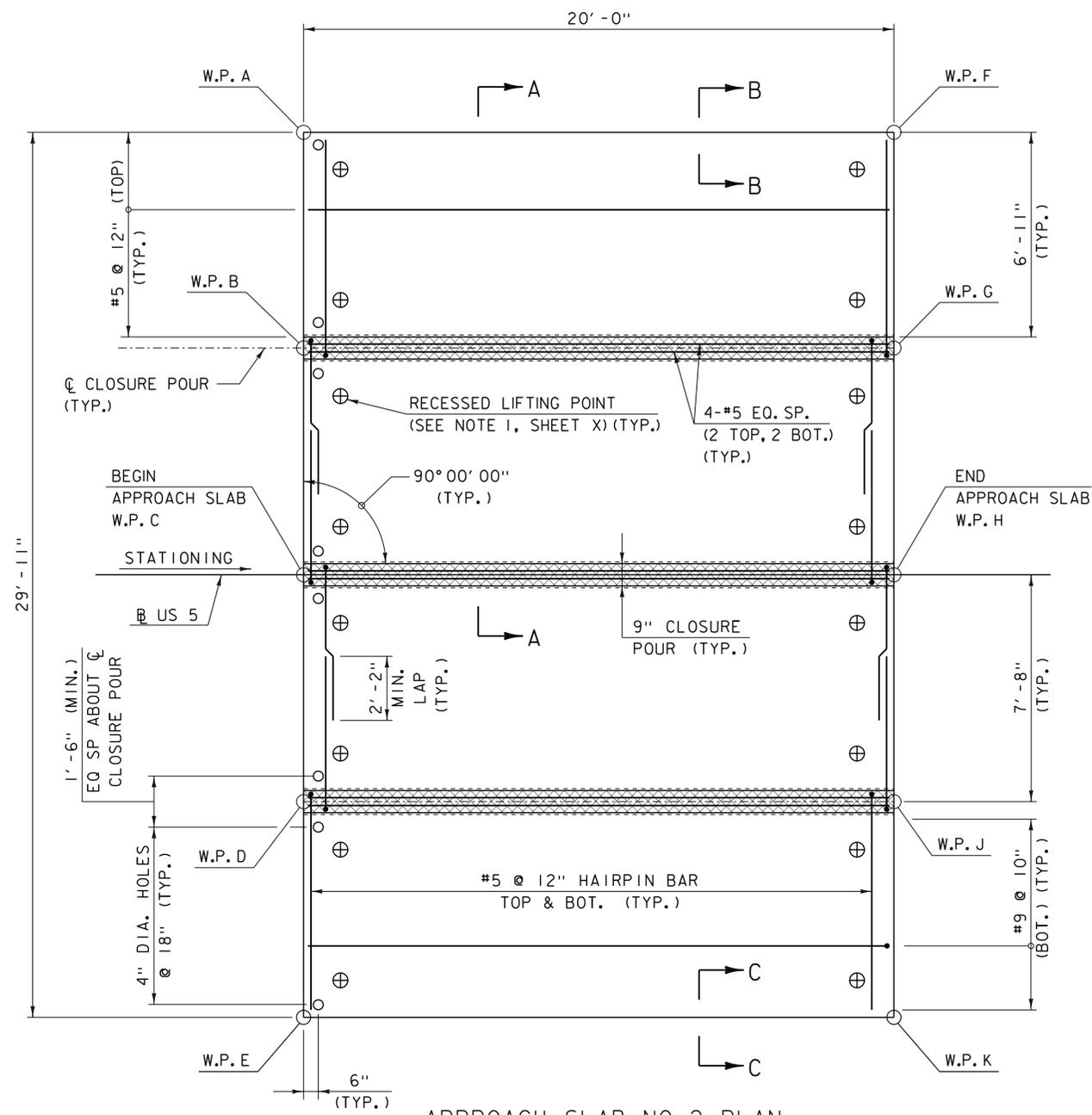
**LEGEND**

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

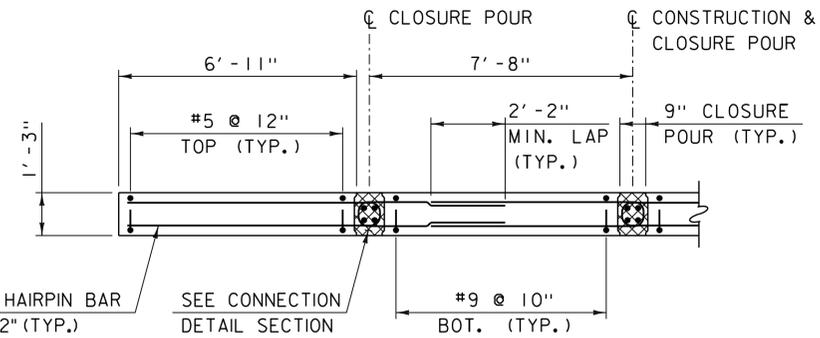


PROJECT NAME: GUILFORD  
 PROJECT NUMBER: BF 0113(68)  
 FILE NAME: z13c064subapp.dgn  
 PROJECT LEADER: R. YOUNG  
 DESIGNED BY: D. KULL  
 APPROACH SLAB NO. 1 DETAILS

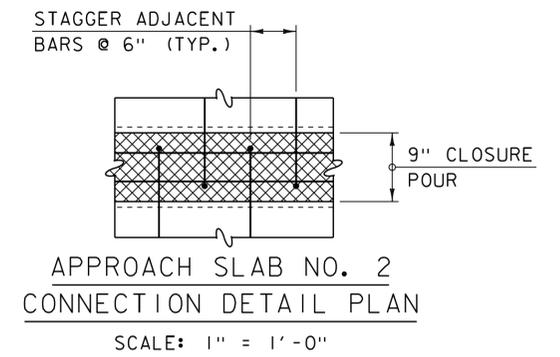
PLOT DATE: 5/31/2016  
 DRAWN BY: S. MERKWAN  
 CHECKED BY: T. KENDRICK  
 SHEET 37 OF 65



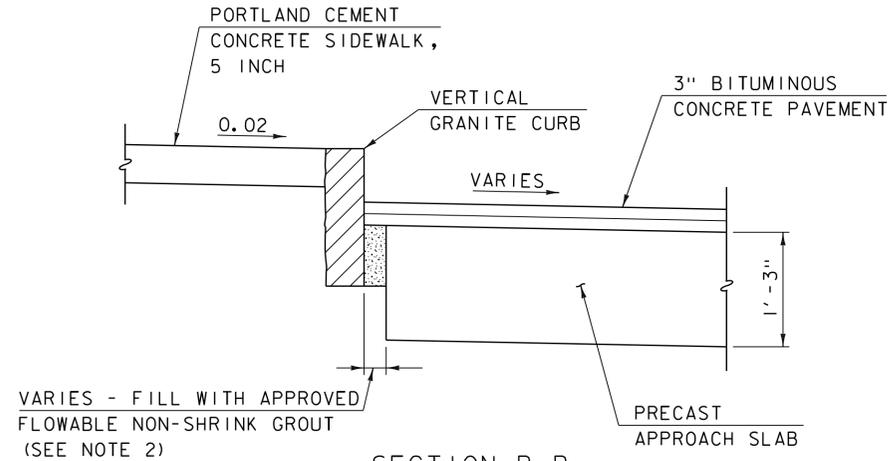
APPROACH SLAB NO. 2 PLAN  
SCALE: 3/8" = 1'-0"



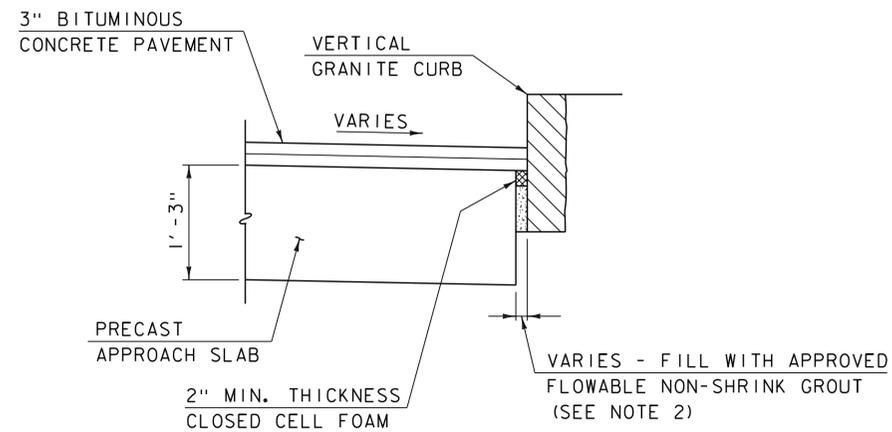
SECTION A-A  
SCALE: 3/8" = 1'-0"



APPROACH SLAB NO. 2  
CONNECTION DETAIL PLAN  
SCALE: 1" = 1'-0"



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



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

APPROACH SLAB ELEVATIONS				
APPROACH SLAB NO. 2				
W.P.	STATION	OFFSET	ELEVATION	THICKNESS
A	12+86.00	14.96 LT.	399.55	1'-3"
B	12+86.00	7.67' LT.	399.35	1'-3"
C	12+86.00	0.00	399.14	1'-3"
D	12+86.00	7.67' RT.	398.93	1'-3"
E	12+86.00	14.96' RT.	398.73	1'-3"
F	13+06.00	14.96' LT.	399.11	1'-3"
G	13+06.00	7.67' LT.	398.99	1'-3"
H	13+06.00	0.00	398.87	1'-3"
J	13+06.00	7.67' RT.	398.72	1'-3"
K	13+06.00	14.96' RT.	398.57	1'-3"

ALL ELEVATIONS ARE AT TOP OF SLAB

**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.

**NOTES**

- FOR APPROACH SLAB NOTES, SEE SHEET 37.
- PAYMENT FOR FLOWABLE NON-SHRINK GROUT SHALL BE INCLUDED IN ITEM 616.21.

**LEGEND**

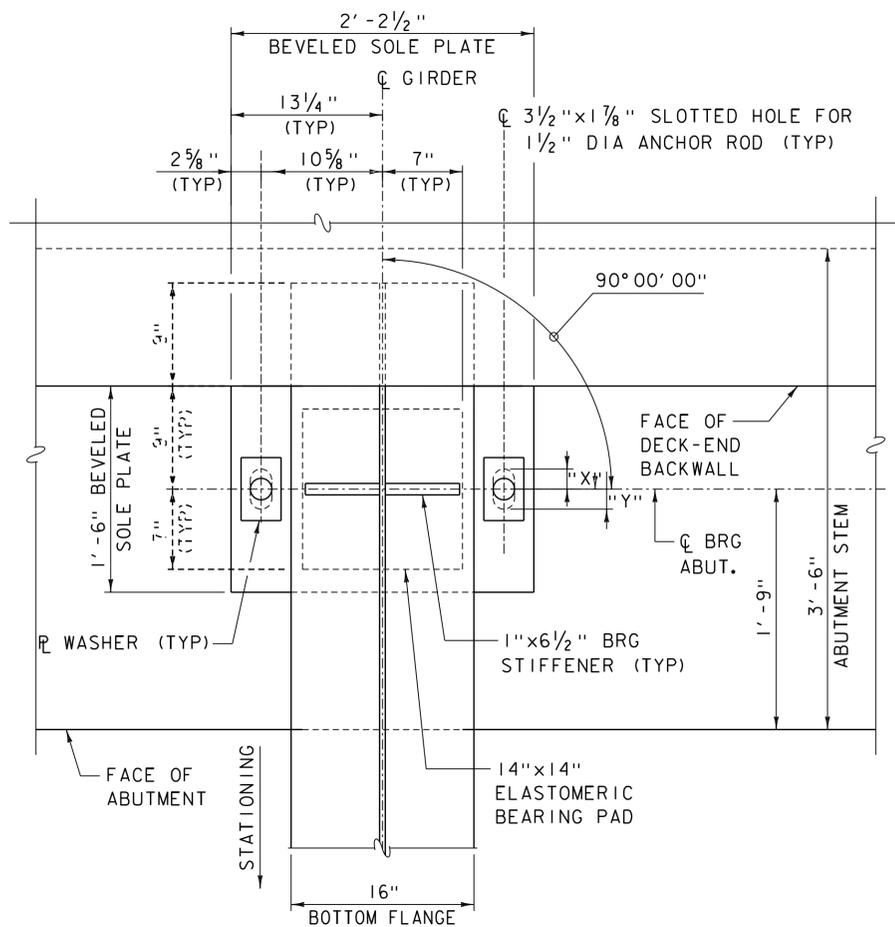
SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET) (FPQ)

PROJECT NAME: GUILFORD  
 PROJECT NUMBER: BF 0113(68)

FILE NAME: z13c064subapp.dgn  
 PROJECT LEADER: R. YOUNG  
 DESIGNED BY: D. KULL  
 APPROACH SLAB NO. 2 DETAILS

PLOT DATE: 5/31/2016  
 DRAWN BY: S. MERKWAN  
 CHECKED BY: T. KENDRICK  
 SHEET 38 OF 65





PLAN

SCALE: 1 1/2" = 1' - 0"  
 (ABUTMENT 1 SHOWN, ABUT 2 SIMILAR)

ABUTMENT NO. 1  
 BEVELED SOLE PLATE  
 THICKNESS TABLE

	"A"	"B"
G1	2 13/16"	2 3/16"
G2	3 1/16"	2 7/16"
G3	2 3/16"	1 9/16"
G4	2 5/16"	1 11/16"
G5	2 9/16"	1 15/16"
G6	2 11/16"	2 1/16"
G7	2 13/16"	2 3/16"
G8	2 13/16"	2 3/16"

ABUTMENT NO. 2  
 BEVELED SOLE PLATE  
 THICKNESS TABLE

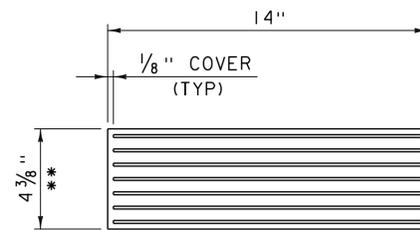
	"A"	"B"
G1	1 13/16"	1 9/16"
G2	2 15/16"	2 11/16"
G3	1 13/16"	1 9/16"
G4	2 7/8"	2 5/8"
G5	1 13/16"	1 9/16"
G6	2 7/8"	2 5/8"
G7	1 3/4"	1 1/2"
G8	1 13/16"	1 9/16"

TEMPERATURE ADJUSTMENT  
 TABLE

TEMP.	"X"	"Y"
0° F	2 1/2"	2"
15° F	2 1/2"	2"
30° F	2 3/8"	2 1/8"
45° F	2 1/4"	2 1/4"
60° F	2 1/8"	2 3/8"
75° F	2"	2 1/2"
90° F	2"	2 1/2"
105° F	1 7/8"	2 5/8"

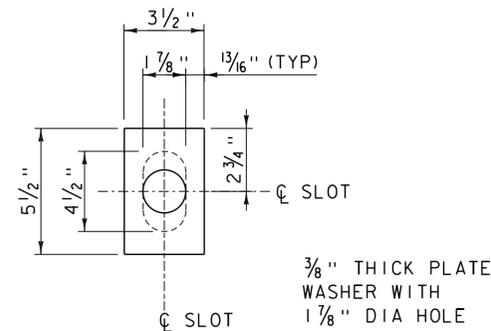
BEARING NOTES

- BEARINGS SHALL CONFORM TO THE APPLICABLE SUBSECTIONS OF SECTIONS 531 AND 731.
- ALL REINFORCEMENT BETWEEN LAYERS OF ELASTOMER SHALL BE STEEL MEETING THE REQUIREMENTS OF SUBSECTION 714.02. ALL INTERNAL STEEL PLATES SHALL BE SAND BLASTED AND FREE OF COATINGS, RUST, AND MILL SCALE. THE PLATES SHALL BE FREE OF SHARP EDGES AND BURRS.
- STEEL REINFORCED ELASTOMERIC BEARINGS SHALL HAVE A MINIMUM 1/8" EDGE SEAL OF ELASTOMER INTEGRAL WITH BEARING OVER ALL INTERNAL PLATES.
- THE ELASTOMER SHALL BE GRADE 60 SHORE A DUROMETER.
- THE ELASTOMER SHALL MEET THE REQUIREMENTS OF LOW TEMPERATURE ZONE D, GRADE 4.
- DESIGN CRITERIA (AASHTO METHOD A):  
 DESIGN SHEAR MODULUS: 130-200 PSI  
 MAXIMUM BEARING STRESS: 816 PSI  
 DESIGN DEAD LOAD (UNFACTORED): 65 KIPS  
 DESIGN LIVE LOAD (UNFACTORED): 95 (INCL. IMP) KIPS  
 DESIGN LONGITUDINAL MOVEMENT: 0.388 IN (ABUT 1 & 2)
- THE CONTRACTOR SHALL INCLUDE THE BEARING INSTALLATION PROCEDURE WITH THE FABRICATION DRAWING PACKAGE REQUIRED UNDER SUBSECTION 531.03. PROCEDURE SHALL INCLUDE BEARING ADJUSTMENT SETTING DEPENDING UPON TEMPERATURE AT TIME OF ERECTION.



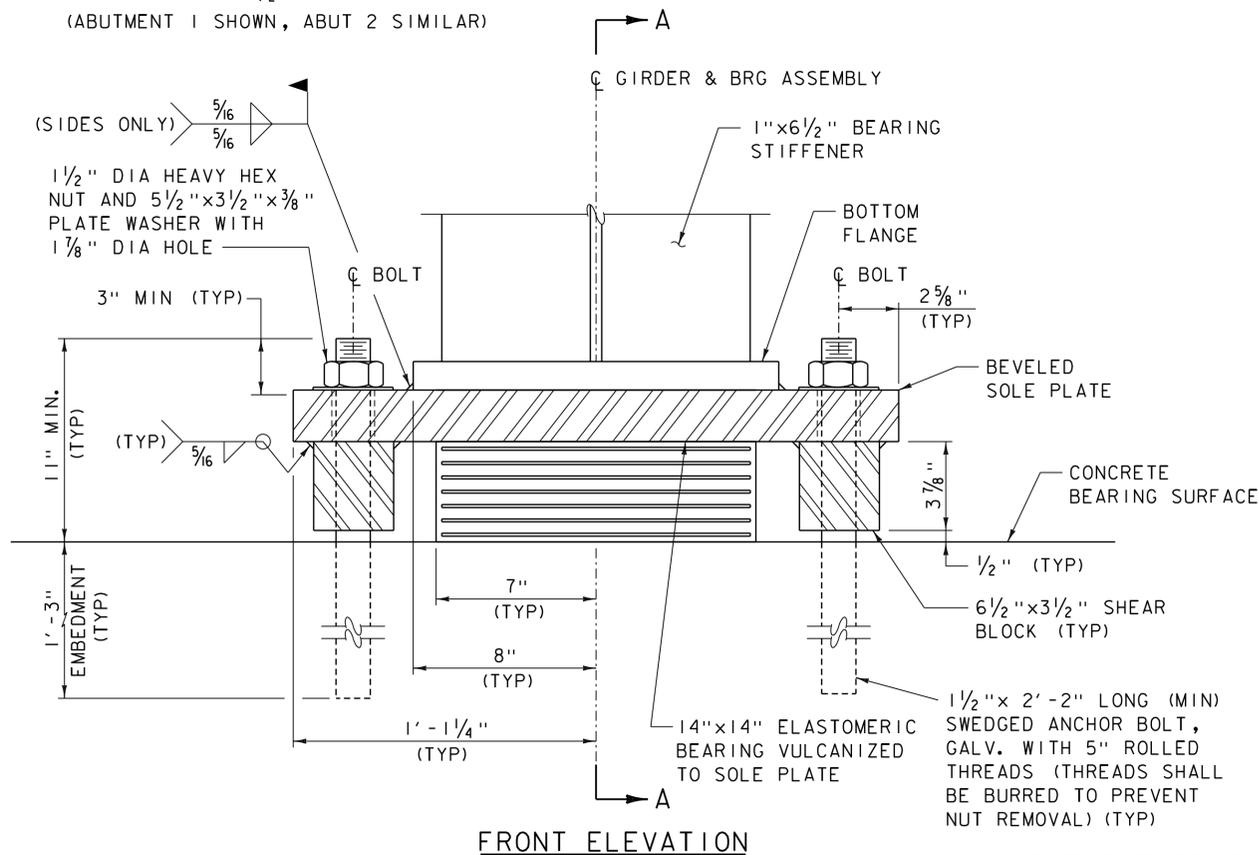
ELASTOMERIC BEARING PAD DETAIL

SCALE: 3" = 1' - 0"



WASHER PLATE DETAIL

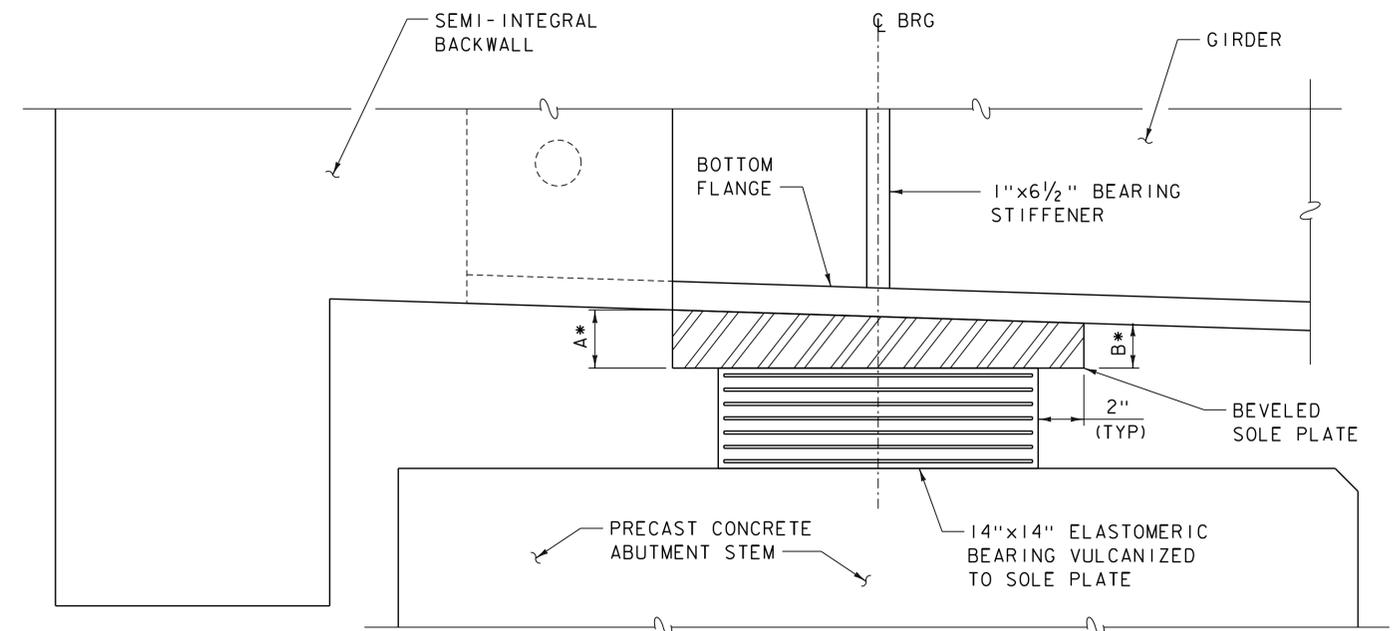
SCALE: 3" = 1' - 0"



FRONT ELEVATION

ABUTMENT BEARING DETAILS

SCALE: 3" = 1' - 0"



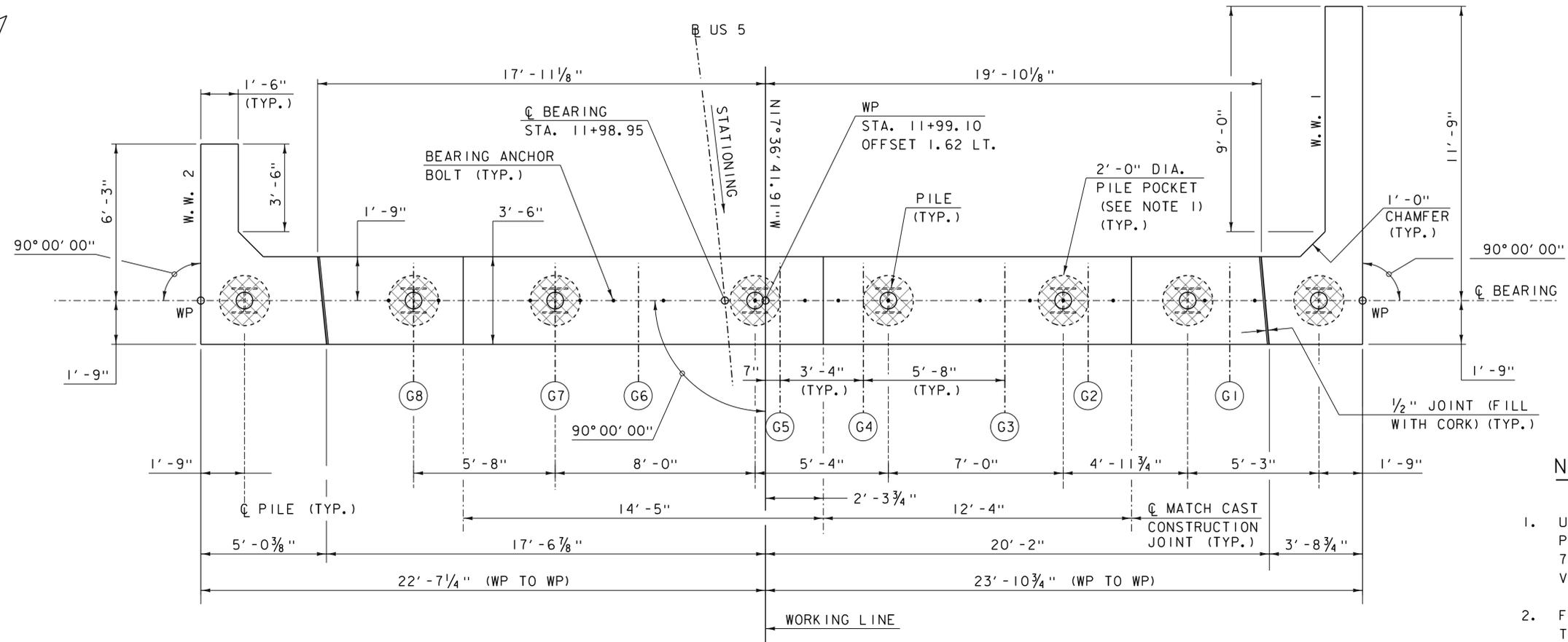
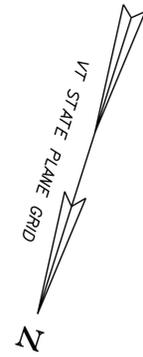
SECTION A-A

\* SEE ABUTMENT BEVELED SOLE PLATE THICKNESS TABLE (THICKNESS "B" IS UPSTATION FOR BOTH ABUTMENTS)

PROJECT NAME: GUILFORD  
 PROJECT NUMBER: BF 0113(68)

FILE NAME: z13c064brgs.dgn  
 PROJECT LEADER: R. YOUNG  
 DESIGNED BY: D. KULL  
 BEARING DETAILS

PLOT DATE: 5/31/2016  
 DRAWN BY: S. MERKWAN  
 CHECKED BY: T. KENDRICK  
 SHEET 39 OF 65



**ABUTMENT NO. 1 PLAN**

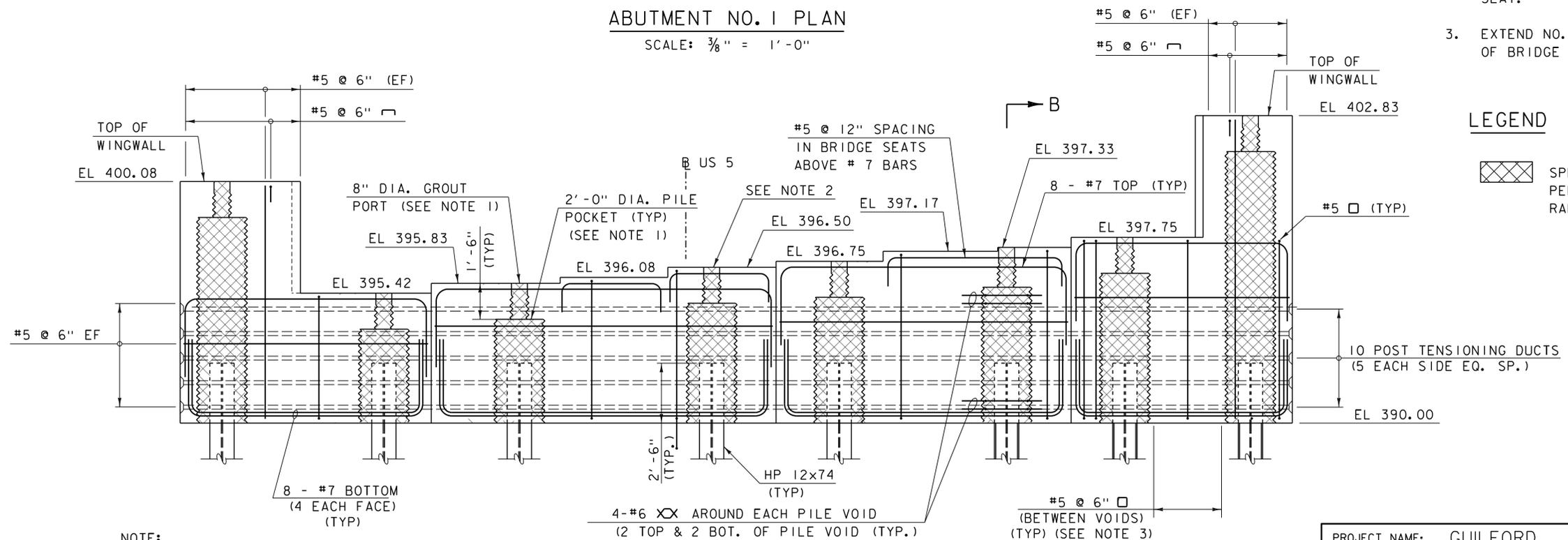
SCALE: 3/8" = 1'-0"

**NOTES**

1. USE GALVANIZED CORRUGATED STEEL PIPE THAT CONFORMS TO SUBSECTION 711.01 FOR PILE POCKETS, STEM VOIDS AND GROUT PORTS.
2. FORM TOP 6" WITH REMOVABLE FORM TO ELIMINATE EXPOSED CORRUGATED STEEL ON THE TOP OF THE BRIDGE SEAT.
3. EXTEND NO. 5 STIRRUP BARS TO TOP OF BRIDGE SEAT

**LEGEND**

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



**ABUTMENT NO. 1 ELEVATION**

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

**NOTE:**

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

**NOTE:**

WINGWALL REINFORCEMENT NOT SHOWN FOR CLARITY.  
 FOR WINGWALL REINFORCEMENT, SEE SHEET 42.

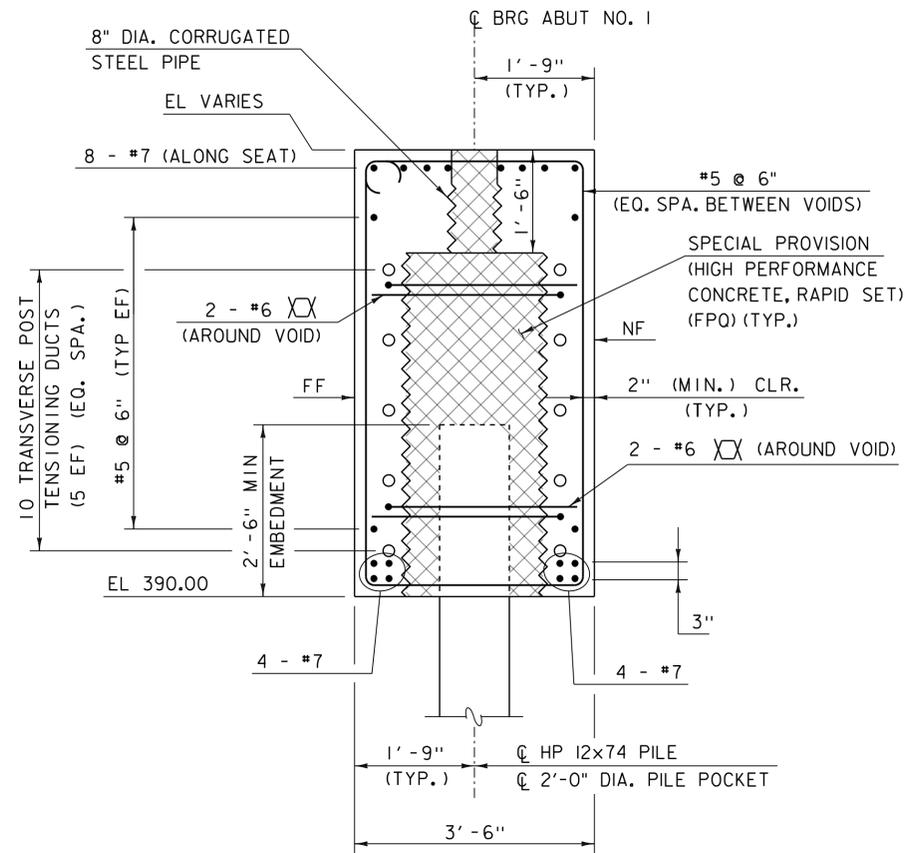
PROJECT NAME: GUILFORD

PROJECT NUMBER: BF 0113(68)

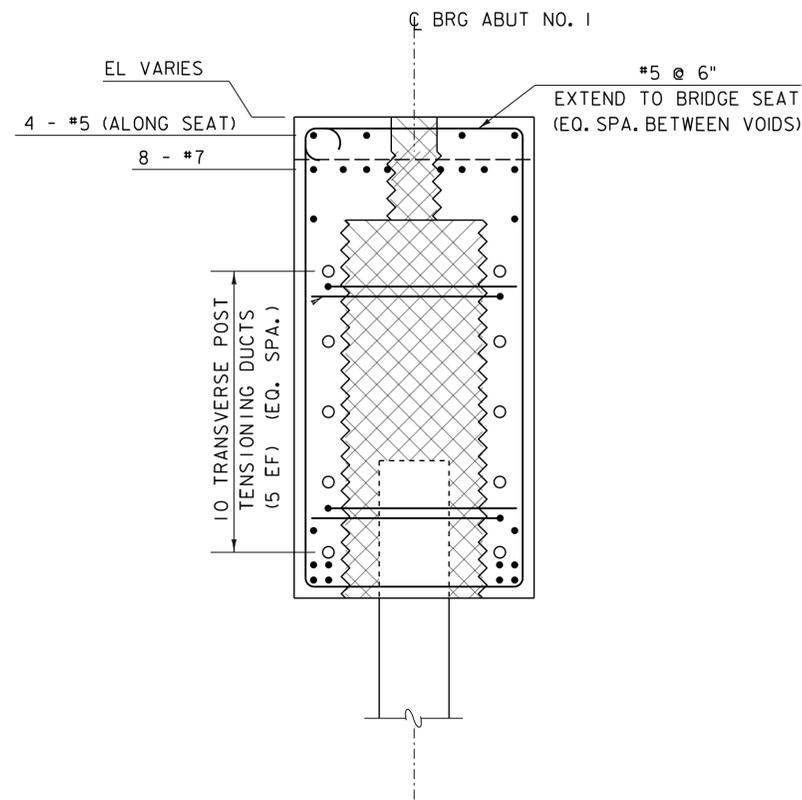
FILE NAME: z13c064abutd1s.dgn  
 PROJECT LEADER: R. YOUNG  
 DESIGNED BY: D. KULL  
 ABUTMENT NO. IPLAN & ELEVATION

PLOT DATE: 5/31/2016  
 DRAWN BY: S. MERKWAN  
 CHECKED BY: T. KENDRICK  
 SHEET 40 OF 65

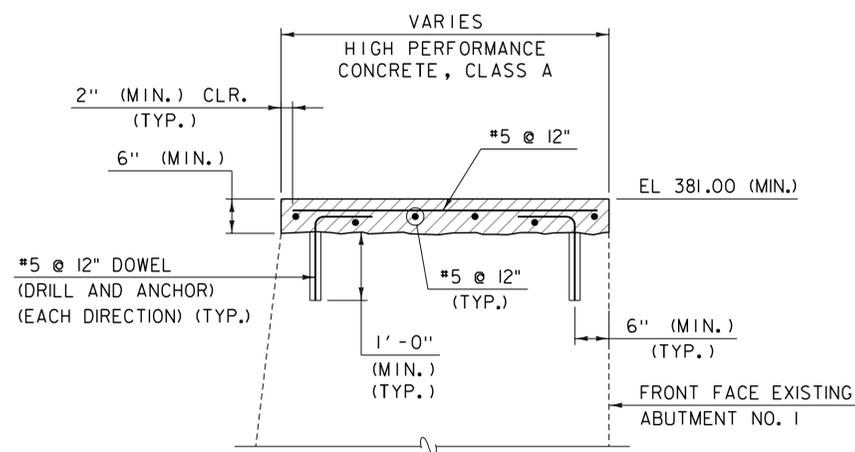




SECTION A-A  
SCALE: 3/4" = 1'-0"



SECTION B-B  
SCALE: 3/4" = 1'-0"  
NOTE: FOR DETAILS NOT SHOWN, SEE SECTION A-A

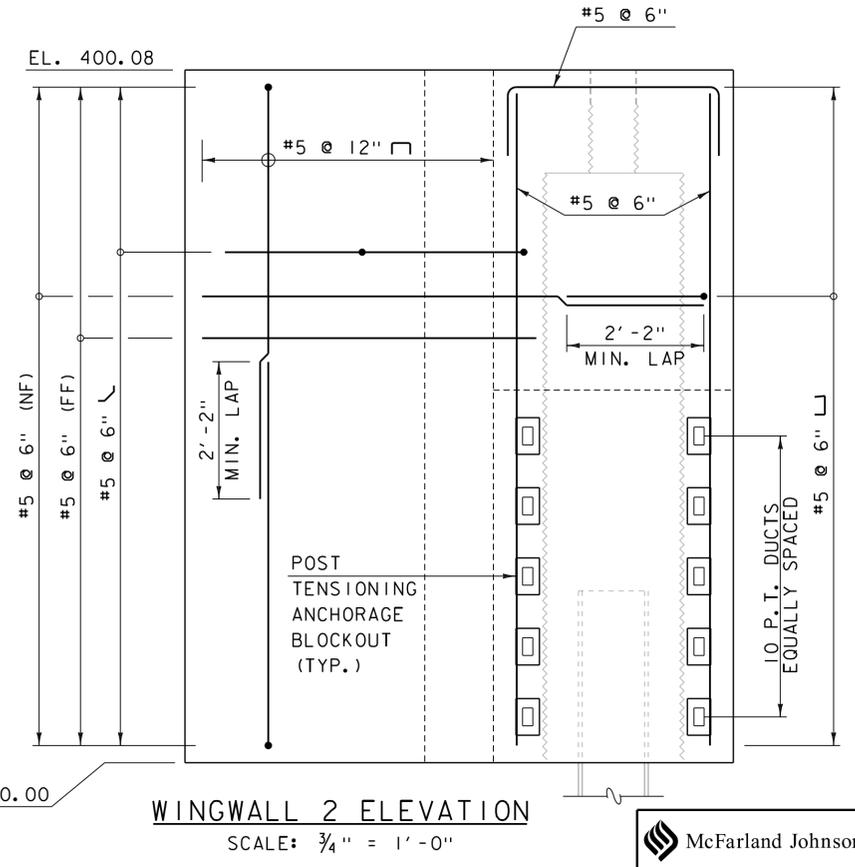
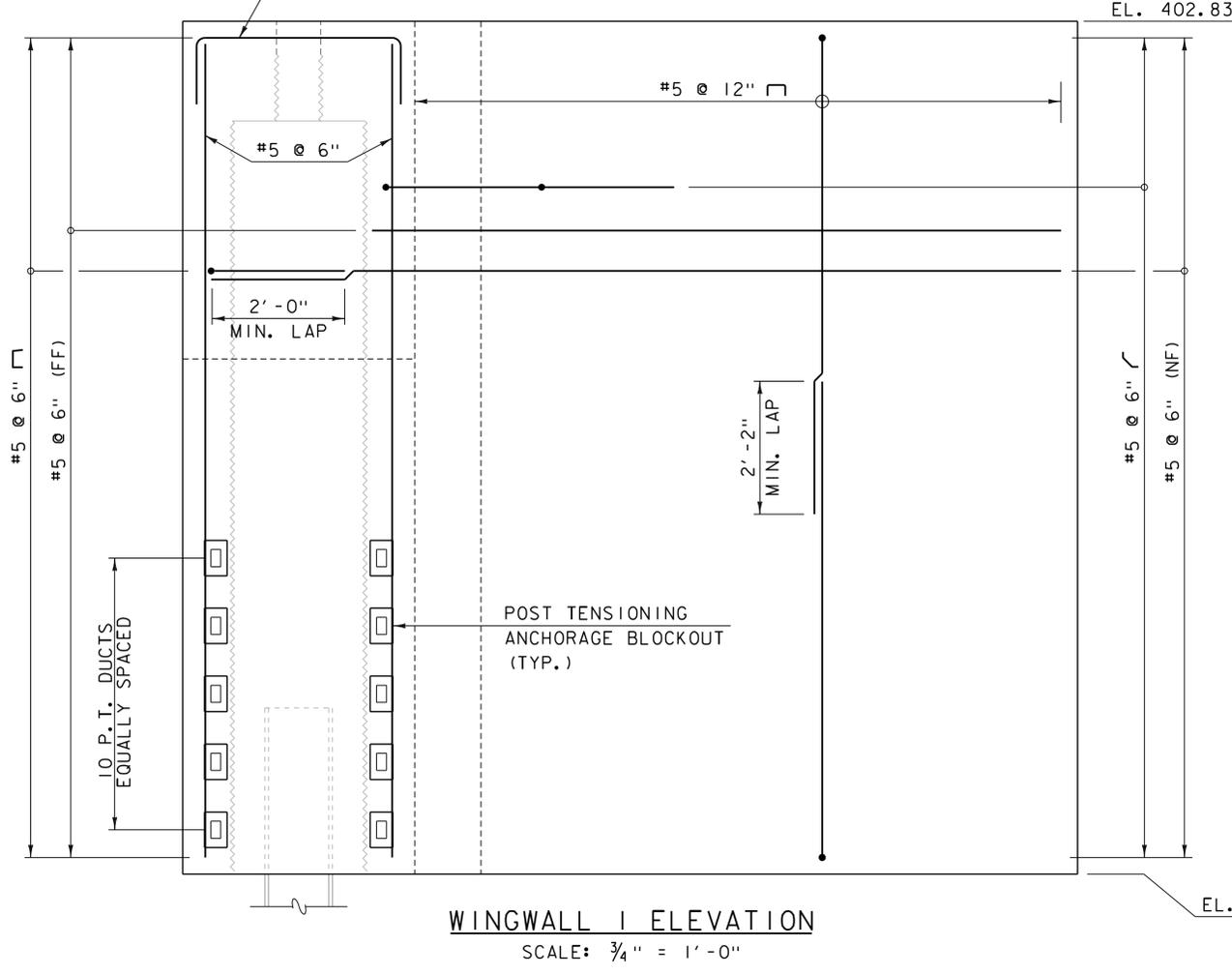
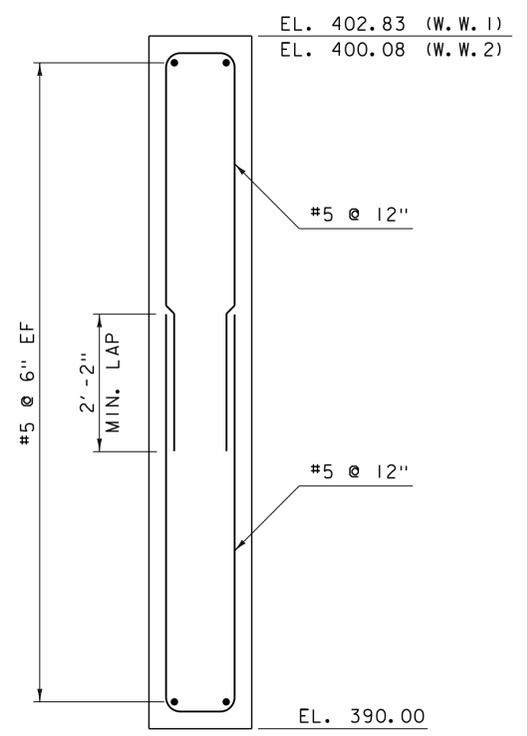
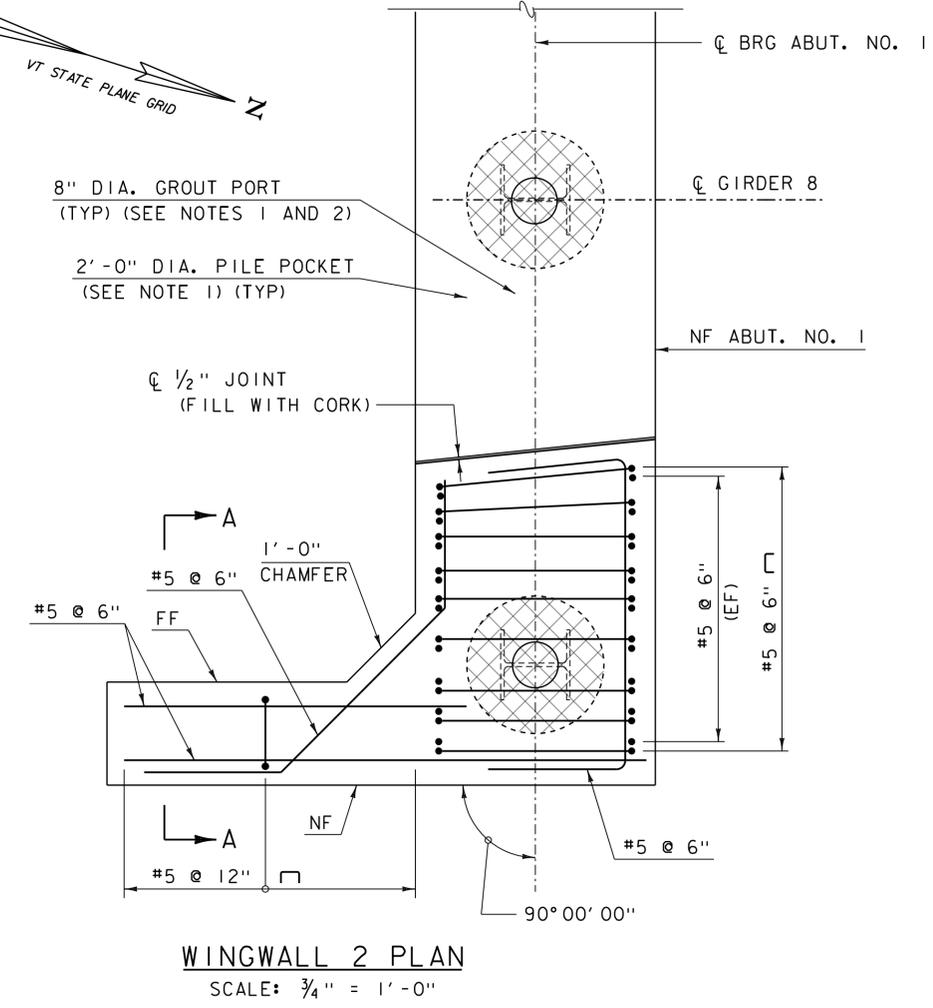
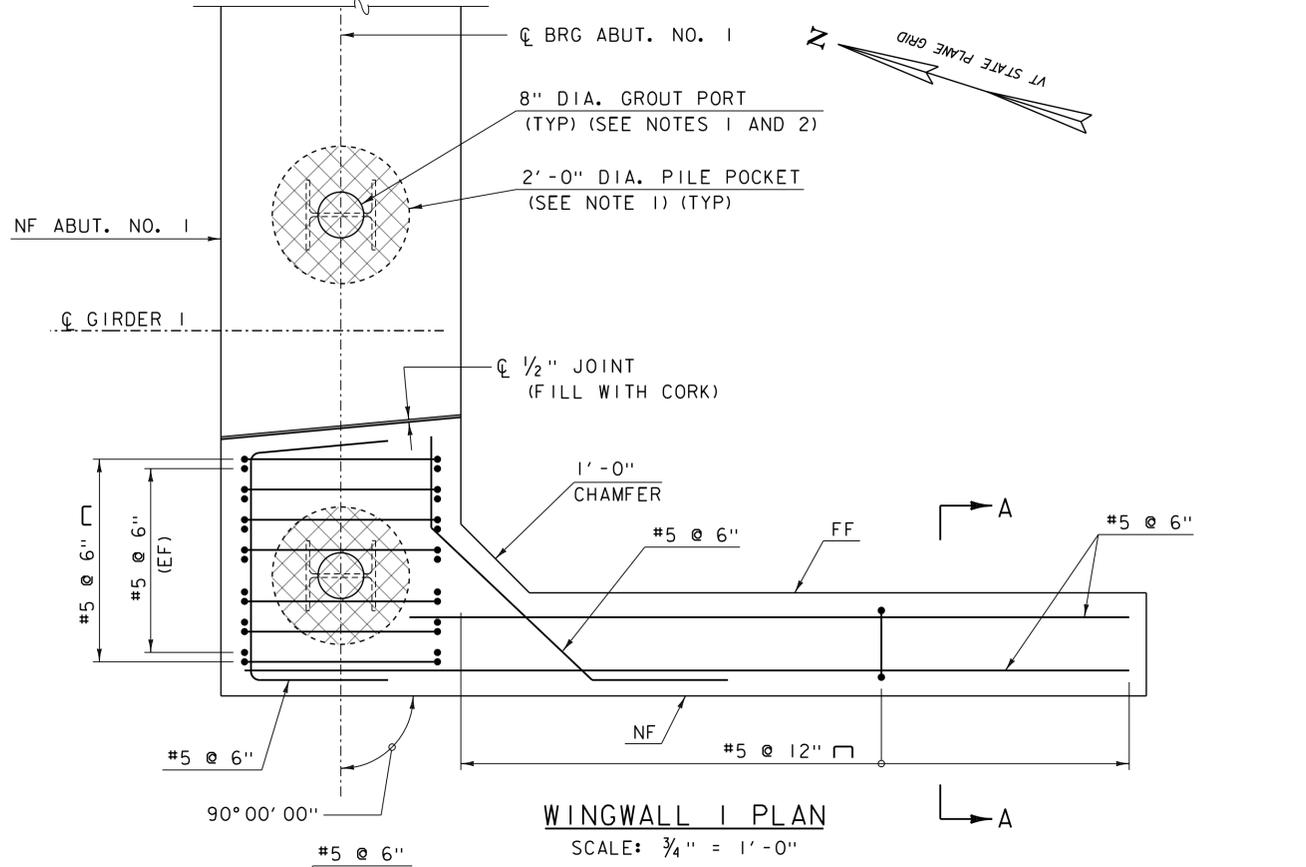


TYPICAL SUBSTRUCTURE RECONSTRUCTION SECTION  
NOT TO SCALE

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.

SUBSTRUCTURE RECONSTRUCTION NOTES

1. DEMOLITION OF EXISTING ABUTMENT NO.1 SHALL BE PAID FOR UNDER ITEM 203.27, UNCLASSIFIED CHANNEL EXCAVATION.
2. CONTRACTOR SHALL AVOID DAMAGING EXISTING ABUTMENT TO REMAIN DURING DEMOLITION AND REMOVAL OPERATIONS. ANY DAMAGE TO EXISTING ABUTMENT TO REMAIN SHALL BE REPAIRED TO IT'S ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE DEPARTMENT.
3. CONCRETE REPAIR AND PATCHING OF EXISTING ABUTMENT TO BE PERFORMED AS DIRECTED BY THE ENGINEER.
4. DIMENSIONS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED.
6. DRILLING AND ANCHORING OF REINFORCING DOWELS INTO THE EXISTING ABUTMENT, AND FURNISHING AND PLACING REQUIRED REINFORCING STEEL SHALL BE INCIDENTAL TO ITEM 501.33, CONCRETE, HIGH PERFORMANCE, CLASS A.



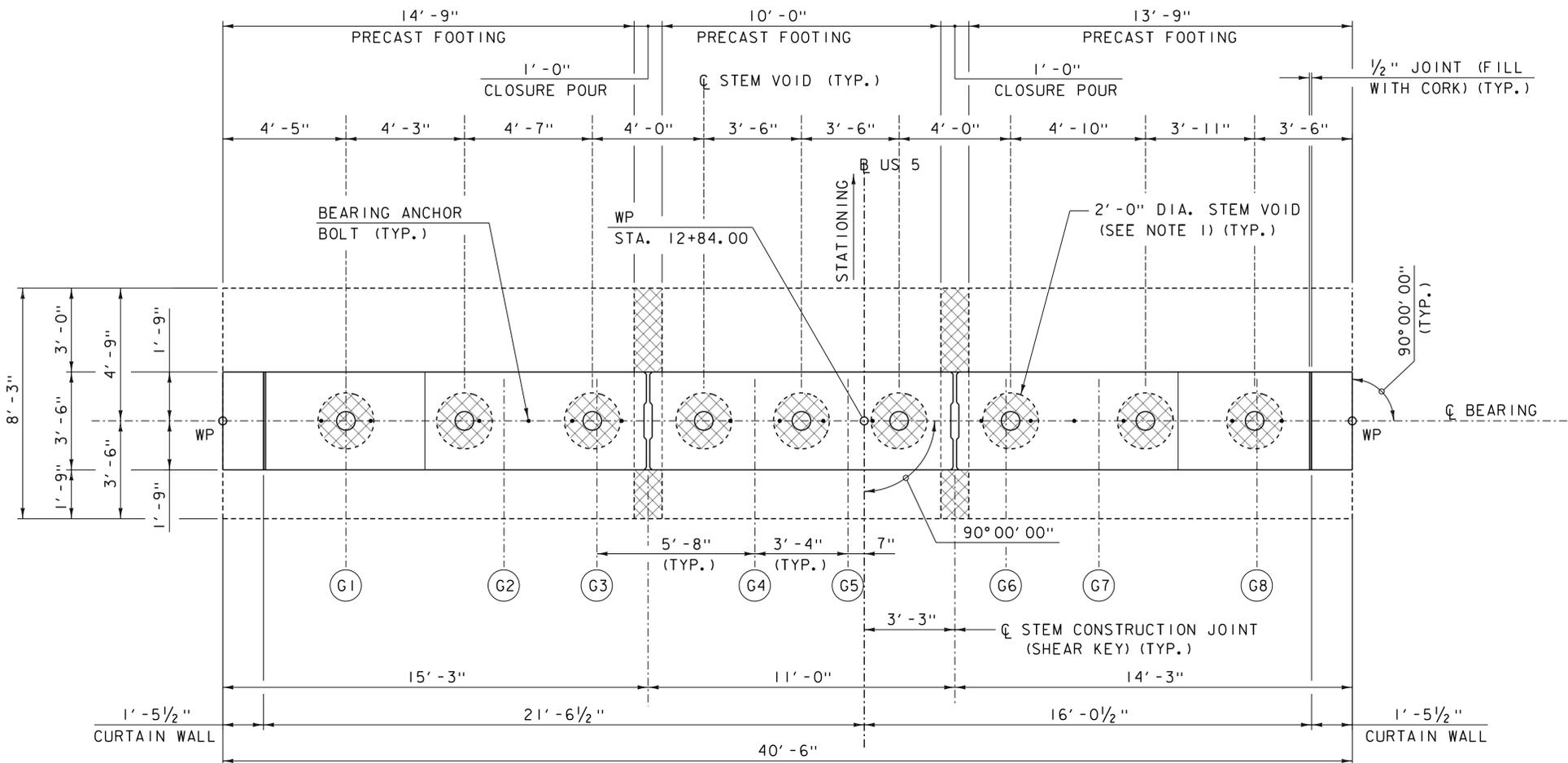
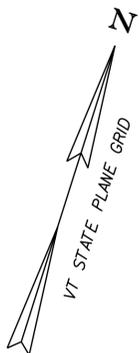
**NOTE:**  
 NF = NEAR FACE  
 FF = FAR FACE  
 EF = EACH FACE  
 3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.  
 2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.

**LEGEND**  
 SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET) (FPQ)

- NOTE**
1. USE GALVANIZED CORRUGATED STEEL PIPE THAT CONFORMS TO SUBSECTION 711.01 FOR PILE POCKETS, STEM VOIDS AND GROUT PORTS.
  2. FORM TOP 6" WITH REMOVABLE FORM TO ELIMINATE EXPOSED CORRUGATED STEEL ON THE TOP OF THE BRIDGE SEAT AND WINGWALL.
  3. FOR REINFORCEMENT BELOW BRIDGE SHEET, SEE ABUTMENT ELEVATION ON SHEET XX AND TYPICAL ABUTMENT SECTION ON SHEET XX.

PROJECT NAME: GUILFORD	
PROJECT NUMBER: BF 0113(68)	
FILE NAME: z13c064wingd1s.dgn	PLOT DATE: 5/31/2016
PROJECT LEADER: R. YOUNG	DRAWN BY: S. MERKWAN
DESIGNED BY: D. KULL	CHECKED BY: T. KENDRICK
WINGWALL DETAILS	SHEET 42 OF 65





**ABUTMENT NO. 2 PLAN**

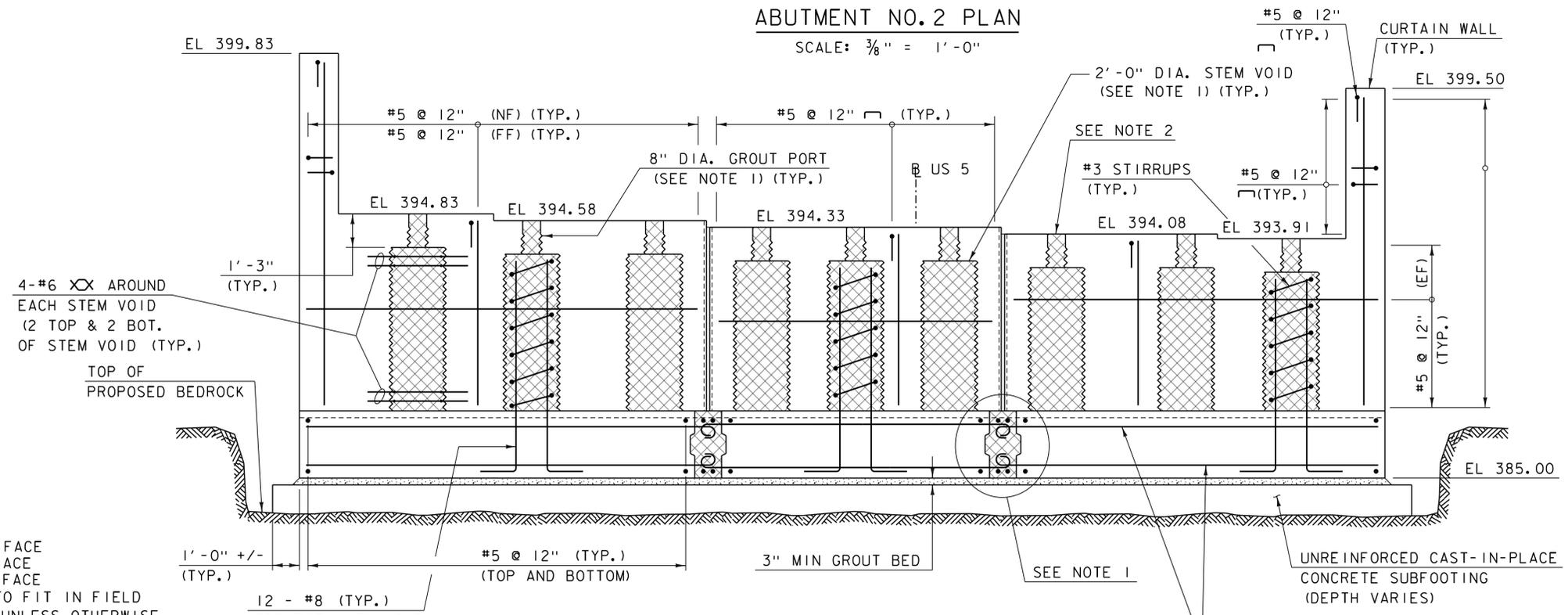
SCALE: 3/8" = 1'-0"

**NOTES**

1. USE GALVANIZED CORRUGATED STEEL PIPE THAT CONFORMS TO SUBSECTION 711.01 FOR POCKETS, STEM VOIDS AND GROUT PORTS.
2. FORM TOP 6" WITH REMOVABLE FORM TO ELIMINATE EXPOSED CORRUGATED STEEL ON THE TOP OF THE BRIDGE SEAT.
3. FOR PRECAST FOOTING CLOSURE POUR DETAIL, SEE SHEET 44.

**LEGEND**

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



**ABUTMENT NO. 2 ELEVATION**

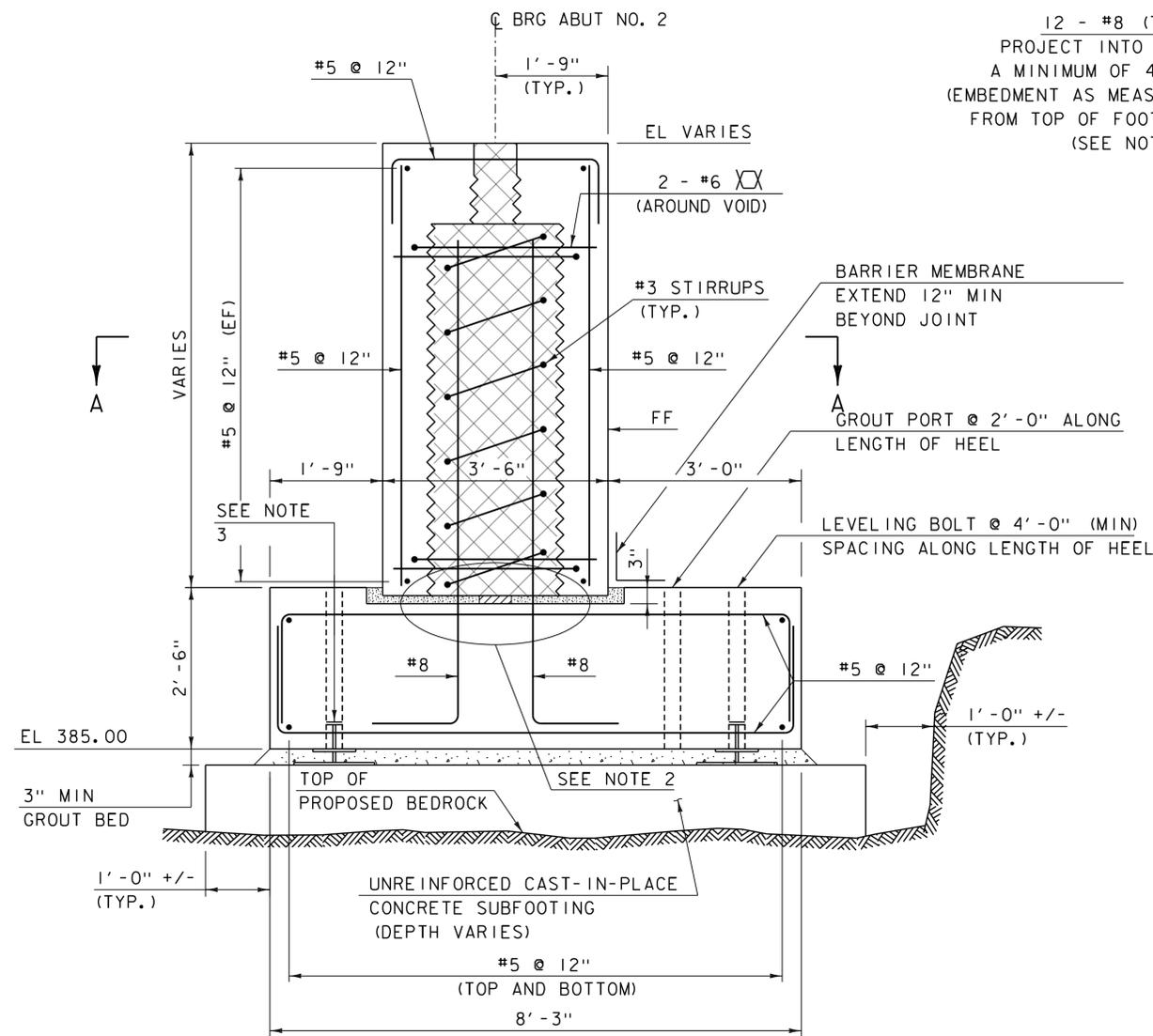
SCALE: 3/8" = 1'-0"

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

12 - #8 (TYP.)  
 PROJECT INTO VOID  
 A MINIMUM OF 4'-6"  
 (EMBEDMENT AS MEASURED  
 FROM TOP OF FOOTING)

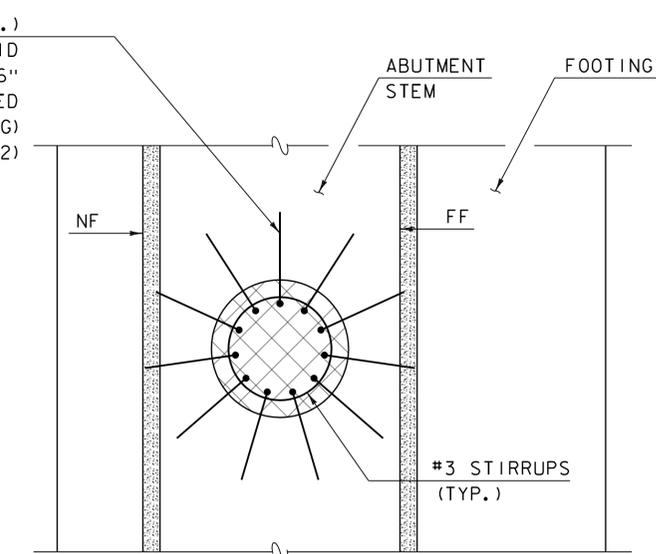
PROJECT NAME: GUILFORD	PLOT DATE: 5/31/2016
PROJECT NUMBER: BF 0113(68)	DRAWN BY: S. MERKWAN
FILE NAME: z13c064abutd11s.dgn	DESIGNED BY: D. KULL
PROJECT LEADER: R. YOUNG	CHECKED BY: T. KENDRICK
ABUTMENT NO. 2 PLAN & ELEVATION	SHEET 43 OF 65





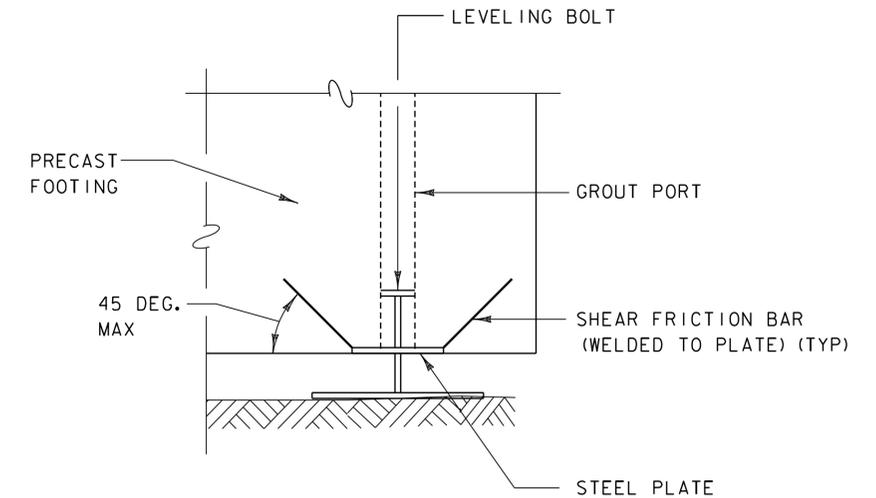
TYPICAL ABUTMENT NO. 2 SECTION

SCALE: 3/4" = 1'-0"



SECTION A-A  
FOOTING CONNECTION PLAN VIEW

SCALE: 3/4" = 1'-0"  
NOTE: PRECAST STEM AND FOOTING REINFORCING NOT SHOWN FOR CLARITY



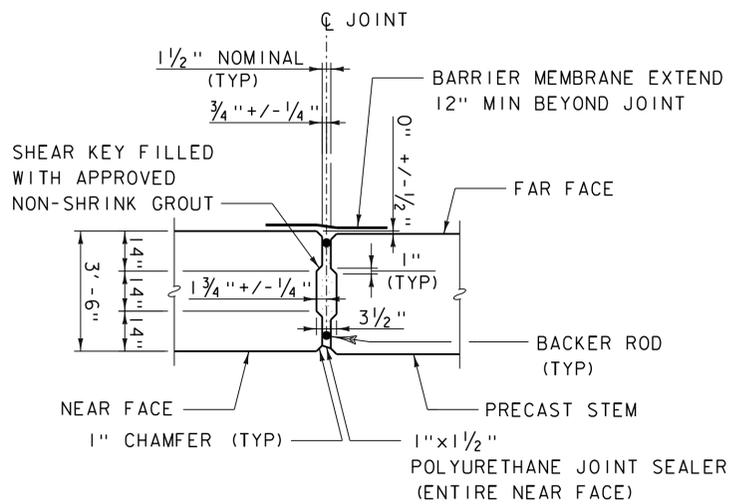
LEVELING BOLT DETAIL

SCALE: 1" = 1'-0"

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

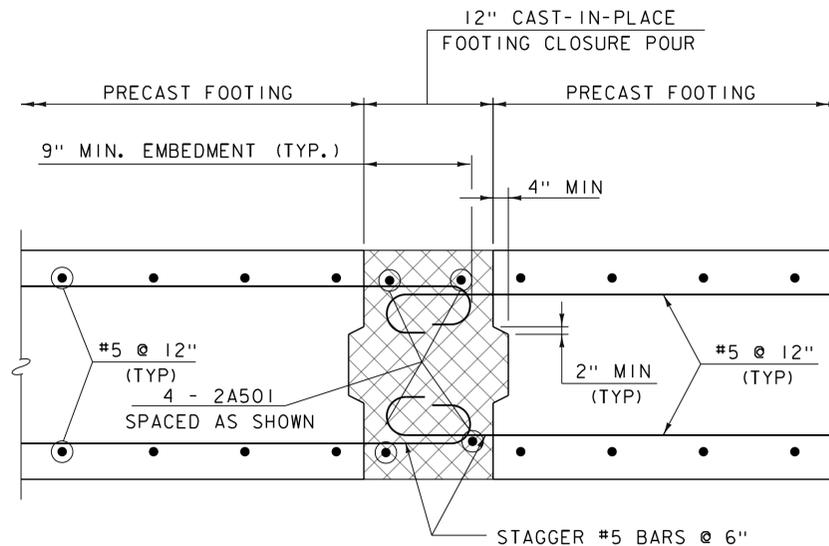
**LEGEND**

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



ABUTMENT STEM VERTICAL JOINT

(BELOW APPROACH SLAB SEAT)  
SCALE: 3/4" = 1'-0"



PRECAST FOOTING CLOSURE POUR DETAIL

SCALE: 1" = 1'-0"

**NOTES**

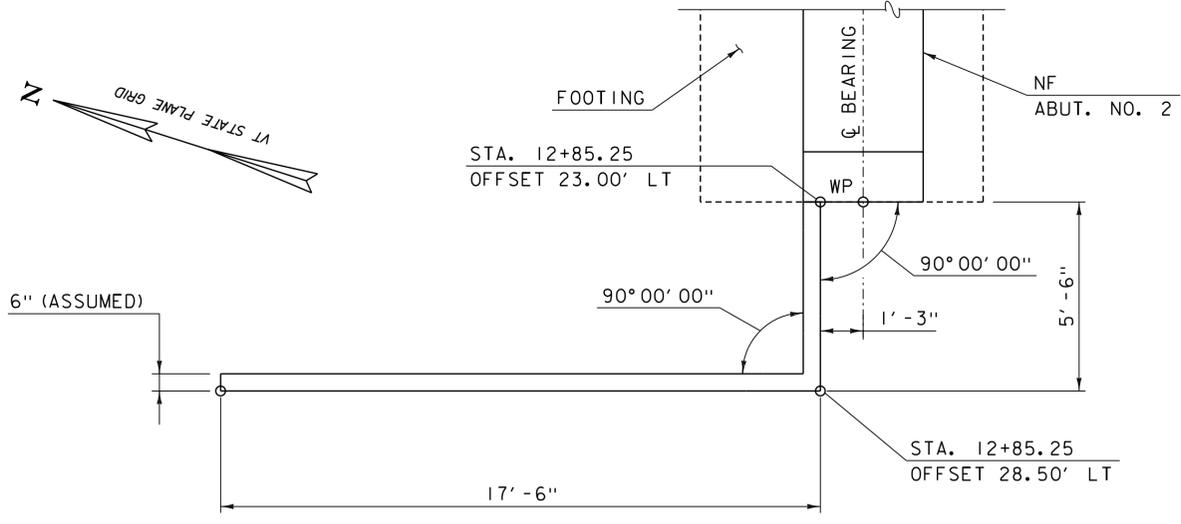
1. THE LEVELING BOLT DETAIL SHOWN IS CONCEPTUAL. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND DETAILING OF THE LEVELING DEVICE BASED ON THE WEIGHT OF THE PRECAST UNIT AND THE NUMBER OF DEVICES.
2. MECHANICAL CONNECTORS MAY BE USED BY THE FABRICATOR FOR THE REINFORCING THAT PROJECTS FROM THE FOOTING INTO THE STEM. IF MECHANICAL CONNECTORS ARE USED, THEY SHOULD BE KEPT CLEAN OF DIRT AND DEBRIS UNTIL PLACEMENT OF REINFORCING.
3. LEVELING BOLT SPACING IN THE TOE SHALL BE 4' (MIN) SPACING. GROUT PORTS TO BE PLACED BETWEEN LEVELING BOLTS ALONG TOE.

PROJECT NAME: GUILFORD  
PROJECT NUMBER: BF 0113(68)

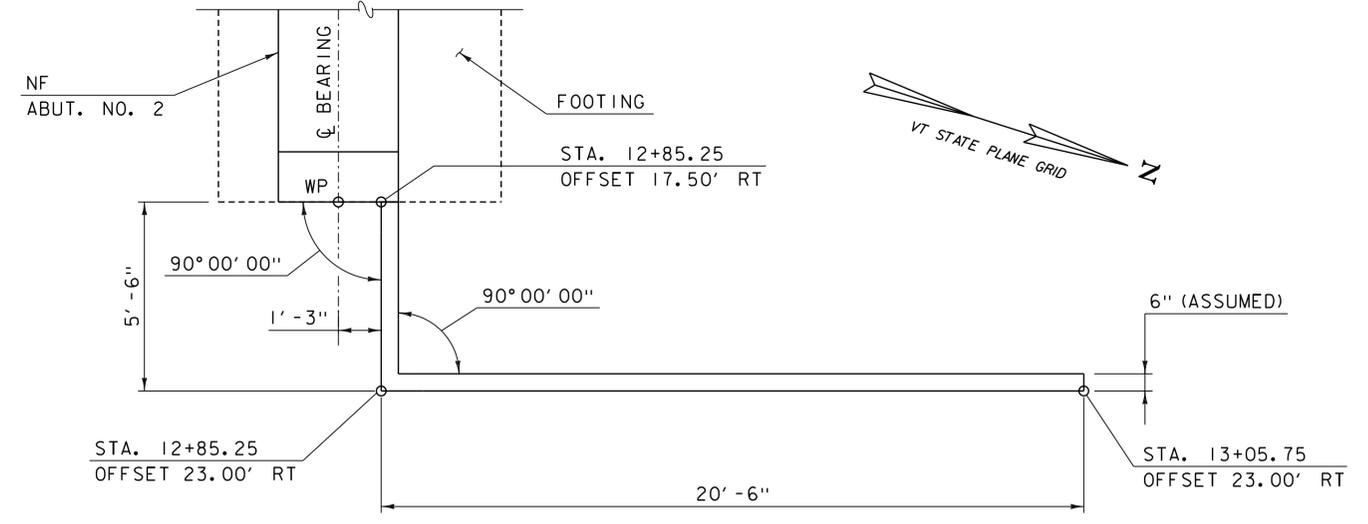
FILE NAME: z13c064abutd1s.dgn  
PROJECT LEADER: R. YOUNG  
DESIGNED BY: D. KULL  
ABUTMENT NO. 2 DETAILS

PLOT DATE: 5/31/2016  
DRAWN BY: S. MERKWAN  
CHECKED BY: T. KENDRICK  
SHEET 44 OF 65

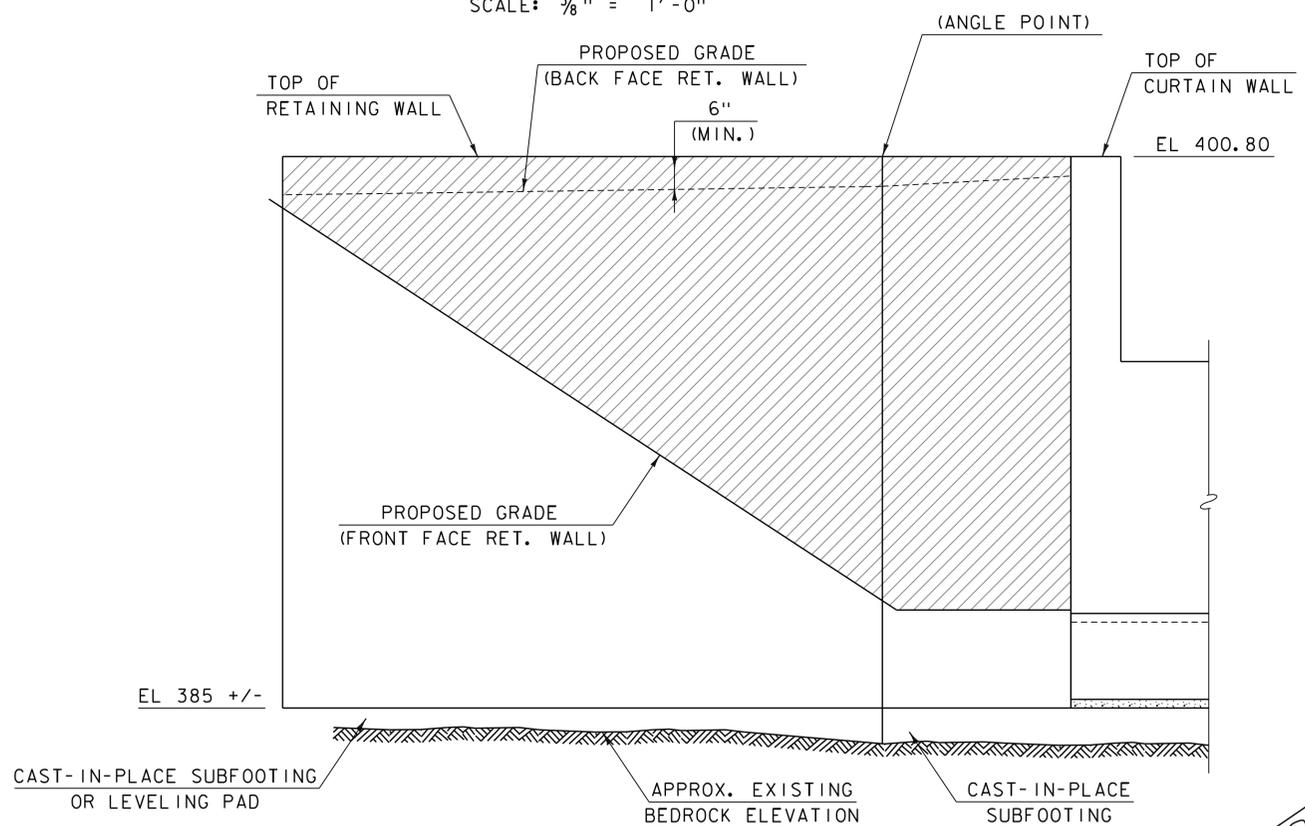




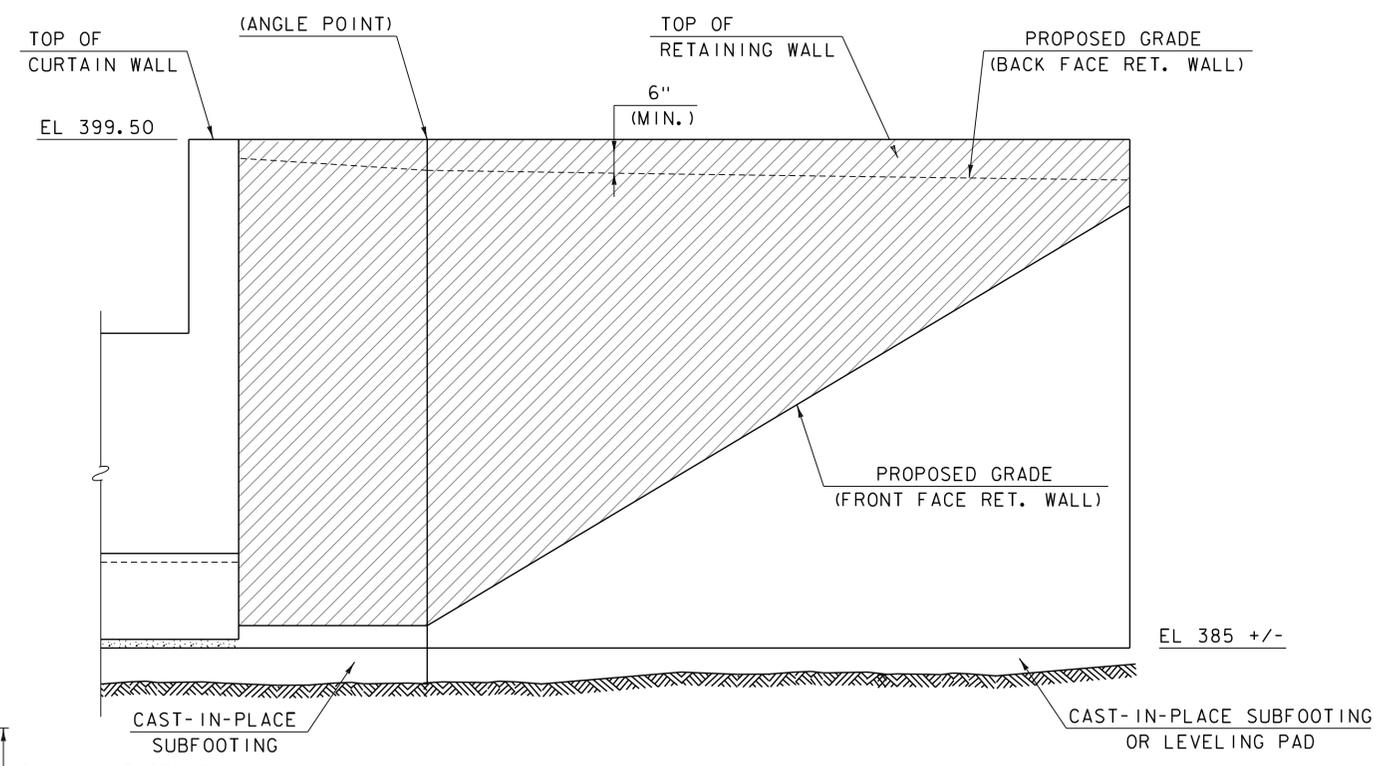
**RETAINING WALL 1 PLAN**  
SCALE: 3/8" = 1'-0"



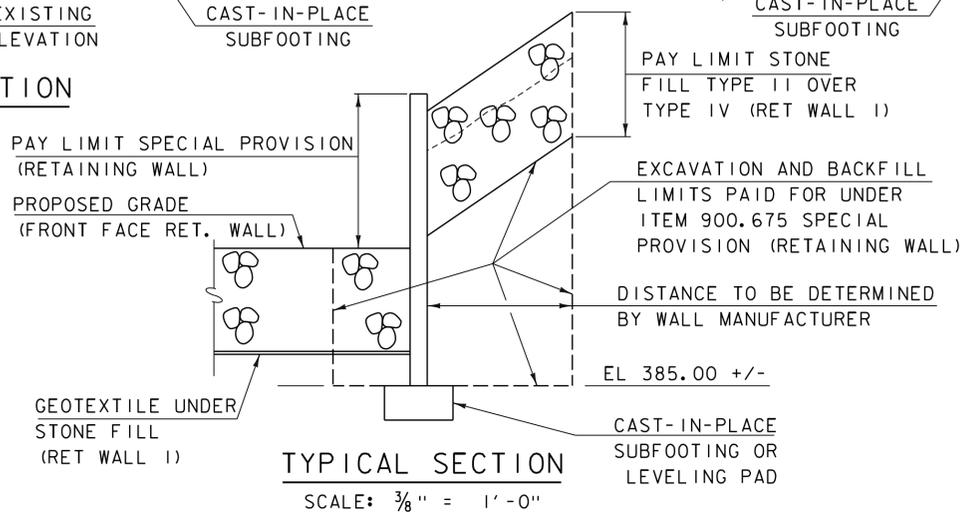
**RETAINING WALL 2 PLAN**  
SCALE: 3/8" = 1'-0"



**RETAINING WALL 1 ELEVATION**  
SCALE: 3/8" = 1'-0"



**RETAINING WALL 2 ELEVATION**  
SCALE: 3/8" = 1'-0"



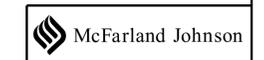
**TYPICAL SECTION**  
SCALE: 3/8" = 1'-0"

 PAY LIMITS OF ITEM 900.675 SPECIAL PROVISION (RETAINING WALL)

**NOTES**

- FOR RETAINING WALL NOTES, SEE SHEET 3.

PROJECT NAME: GUILFORD	PLOT DATE: 5/31/2016
PROJECT NUMBER: BF 0113(68)	DRAWN BY: S. MERKWAN
FILE NAME: z13c064sub_retwall.dgn	DESIGNED BY: D. KULL
RETAINING WALL DETAILS	CHECKED BY: T. KENDRICK
	SHEET 45 OF 65

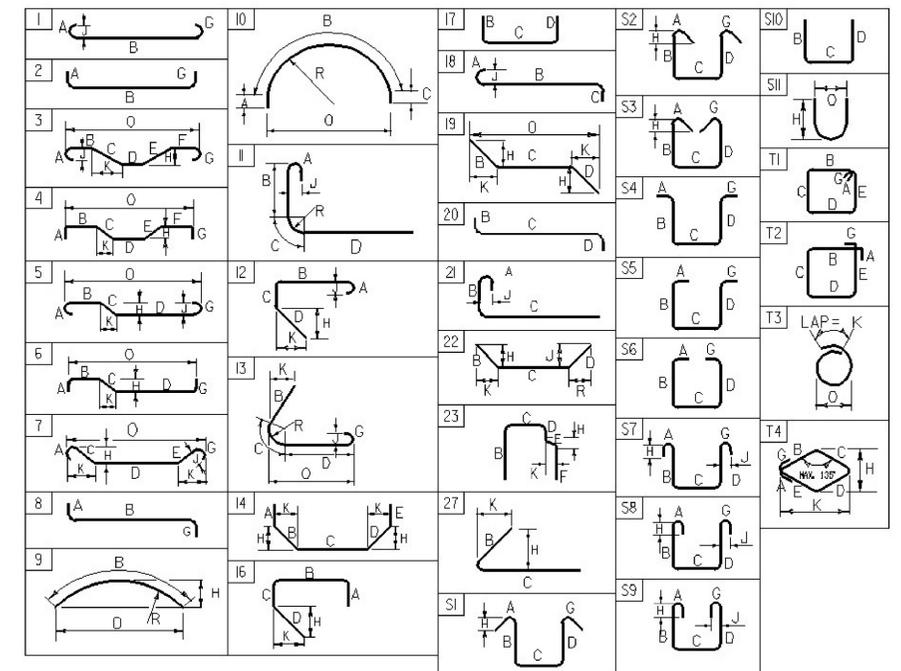


# REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O	ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
<b>SPAN 1</b>																																			
	24	5	44'- 11"	1ES501	STR																														
*	16	5	30'- 1"	1ES502	STR																														
<b>APPROACH SLAB 1</b>																																			
*	13	5	19'- 8"	1EAS501	STR																														
<b>APPROACH SLAB 2</b>																																			
*	13	5	19'- 6"	2EAS501	STR																														
<b>ABUTMENT NO. 2</b>																																			
*	13	5	25'- 8"	2A501	STR																														

~ 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 M31 (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.
- E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.

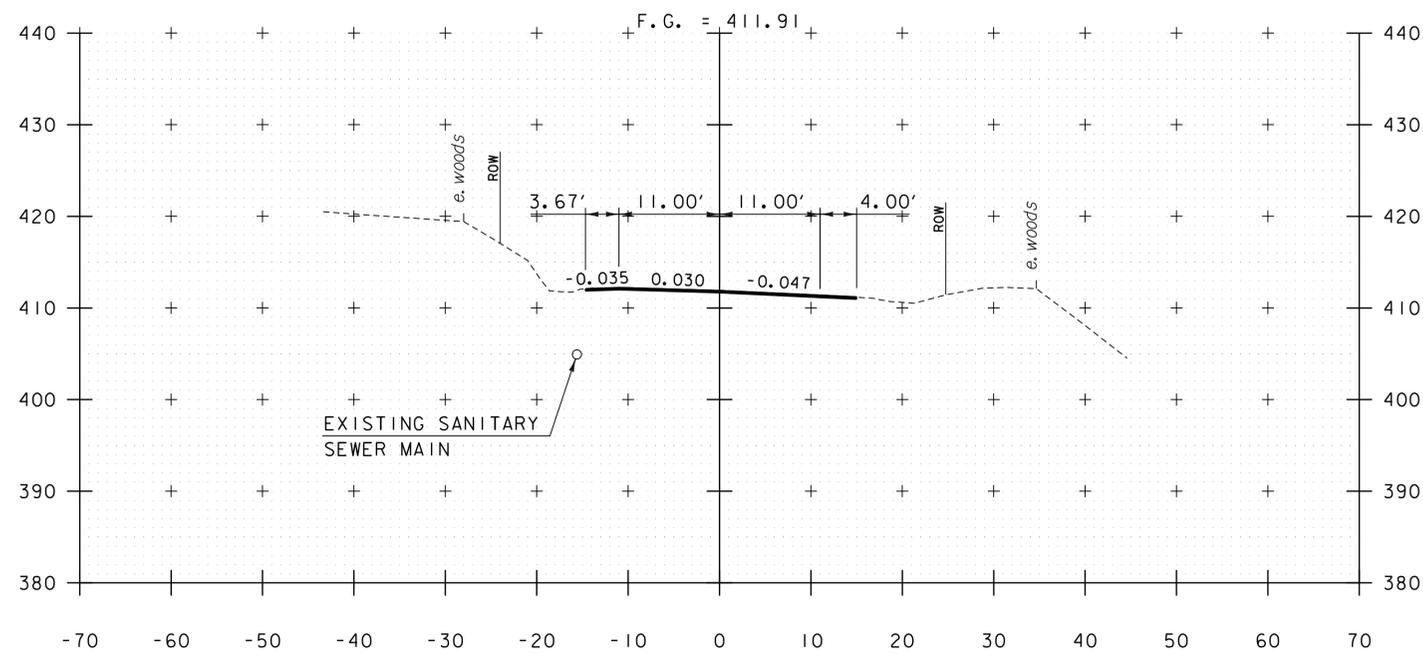


ASTM STANDARD REINFORCING BARS				
BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIAMETER INCHES	AREA INCHES <sup>2</sup>	PERIMETER INCHES
#3	0.376	0.375	0.11	1.178
#4	0.668	0.500	0.20	1.571
#5	1.043	0.625	0.31	1.963
#6	1.502	0.750	0.44	2.356
#7	2.044	0.875	0.60	2.749
#8	2.670	1.000	0.79	3.142
#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

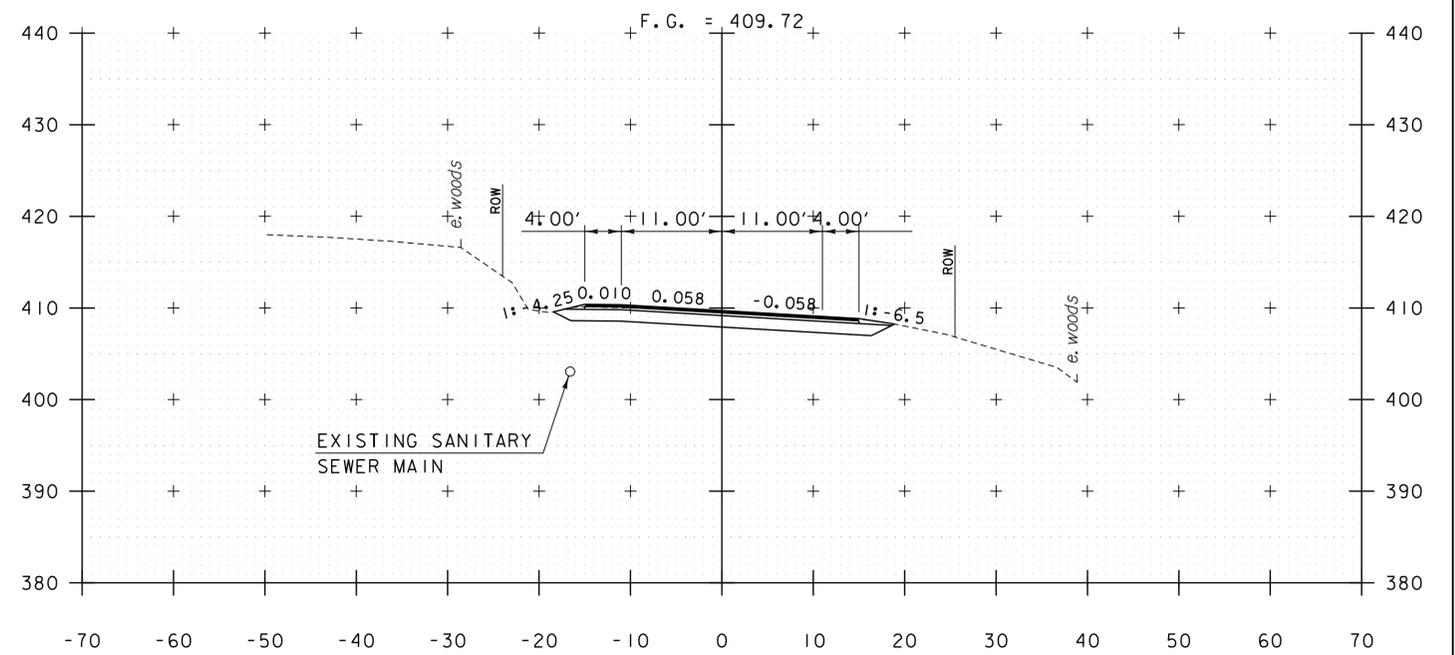


PROJECT NAME: GUILFORD  
 PROJECT NUMBER: BF 0113(68)  
 FILE NAME: z13c064frm.dgn  
 PROJECT LEADER: R.YOUNG  
 DESIGNED BY: D.KULL  
 REINFORCING STEEL SCHEDULE

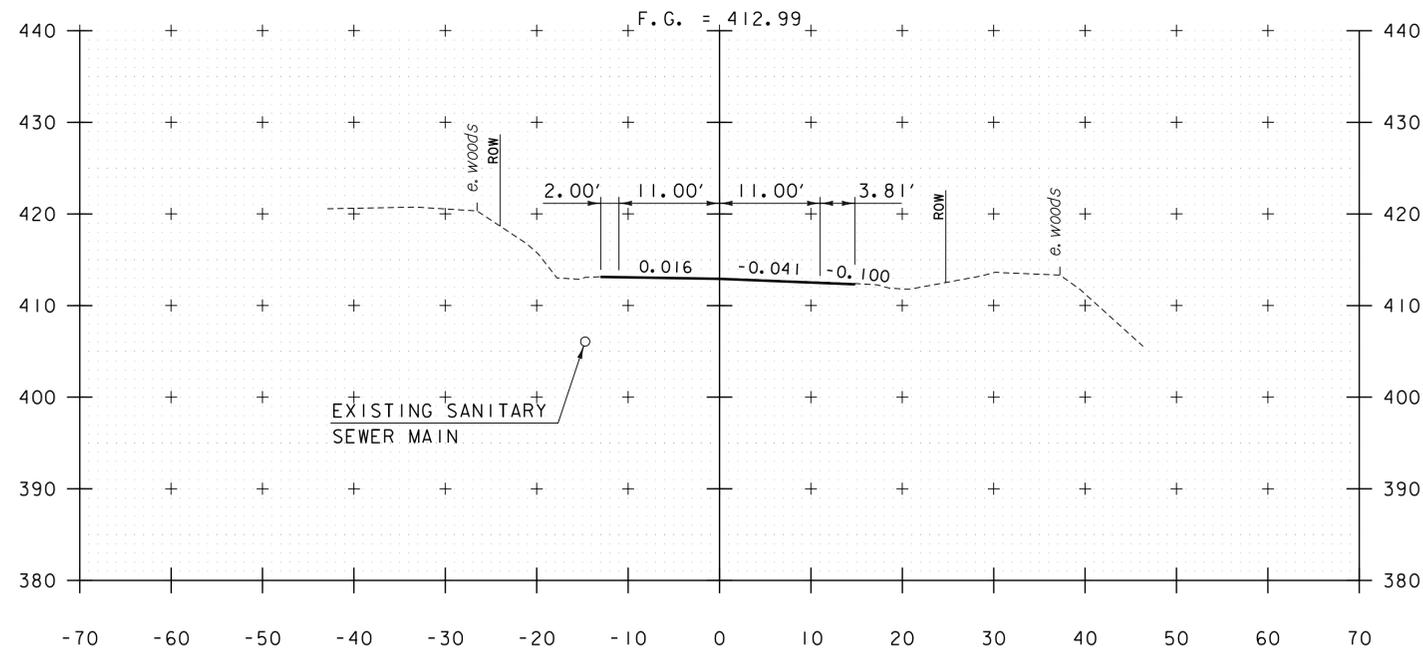
PLOT DATE: 5/31/2016  
 DRAWN BY: S.MERKWAN  
 CHECKED BY: T.KENDRICK  
 SHEET 46 OF 65



9+75

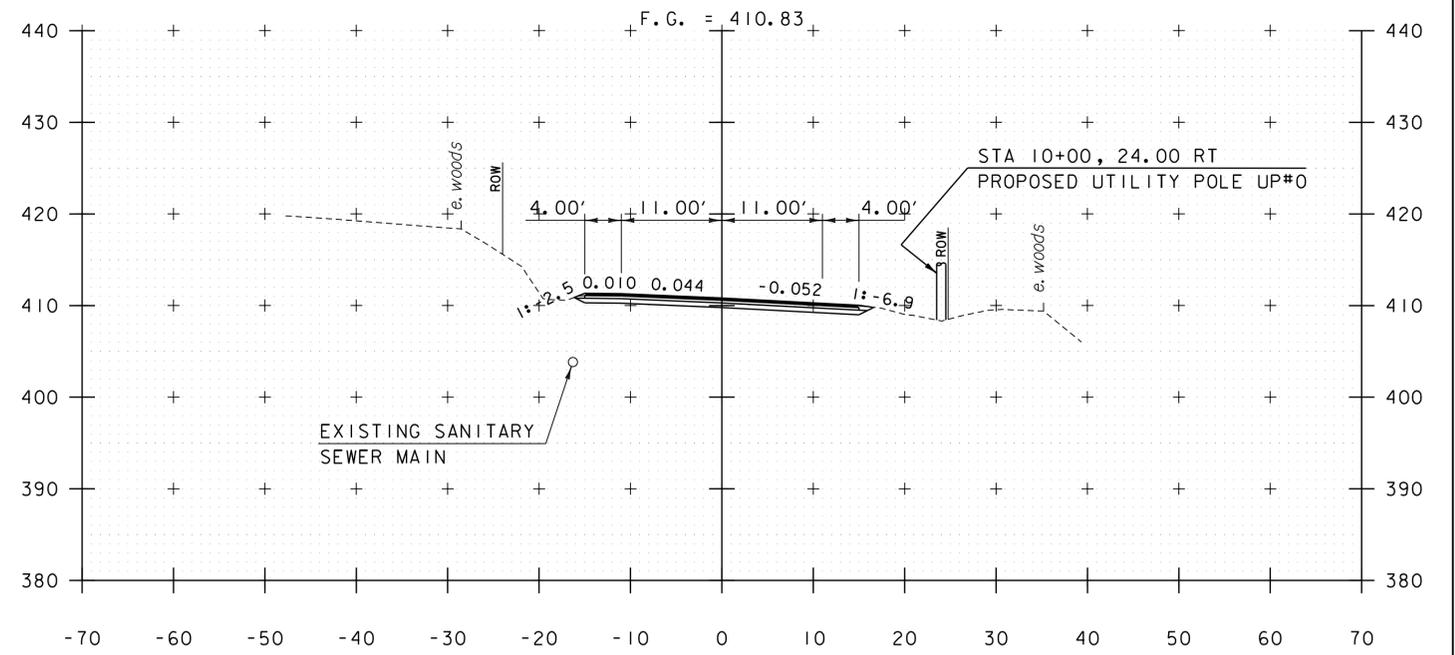


10+25

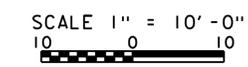


9+50

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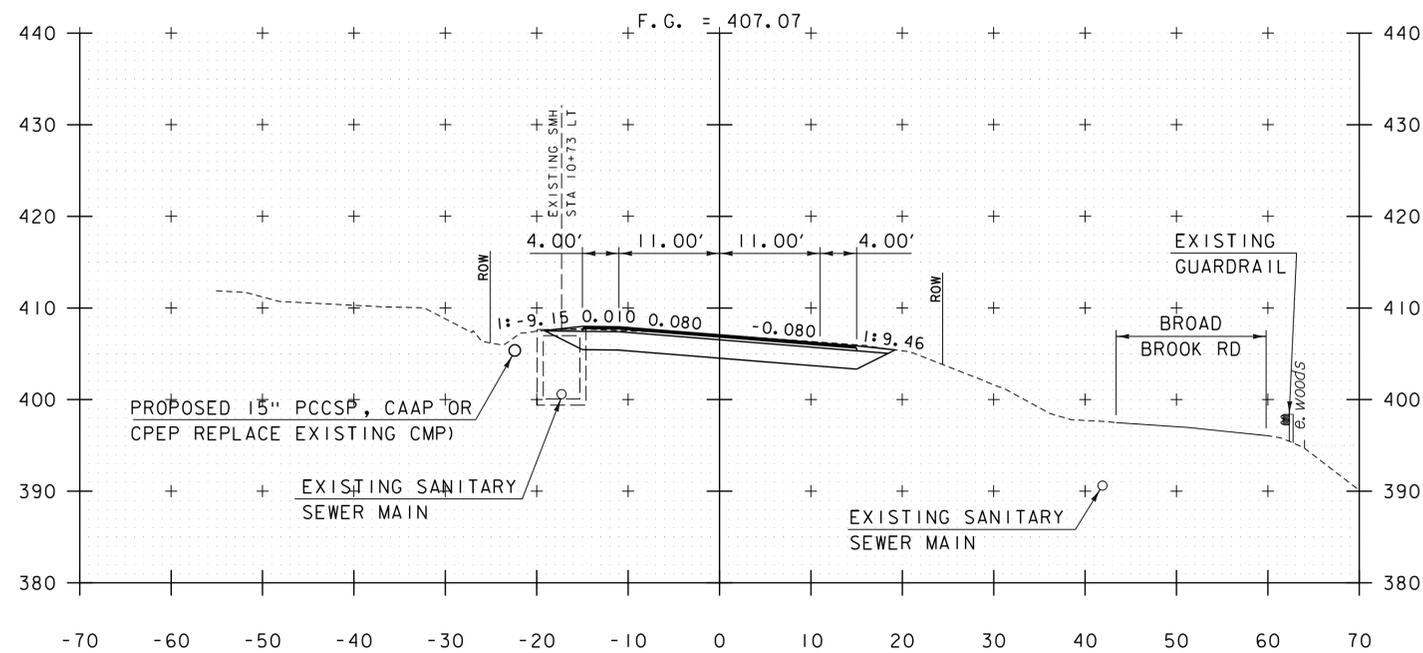


10+00

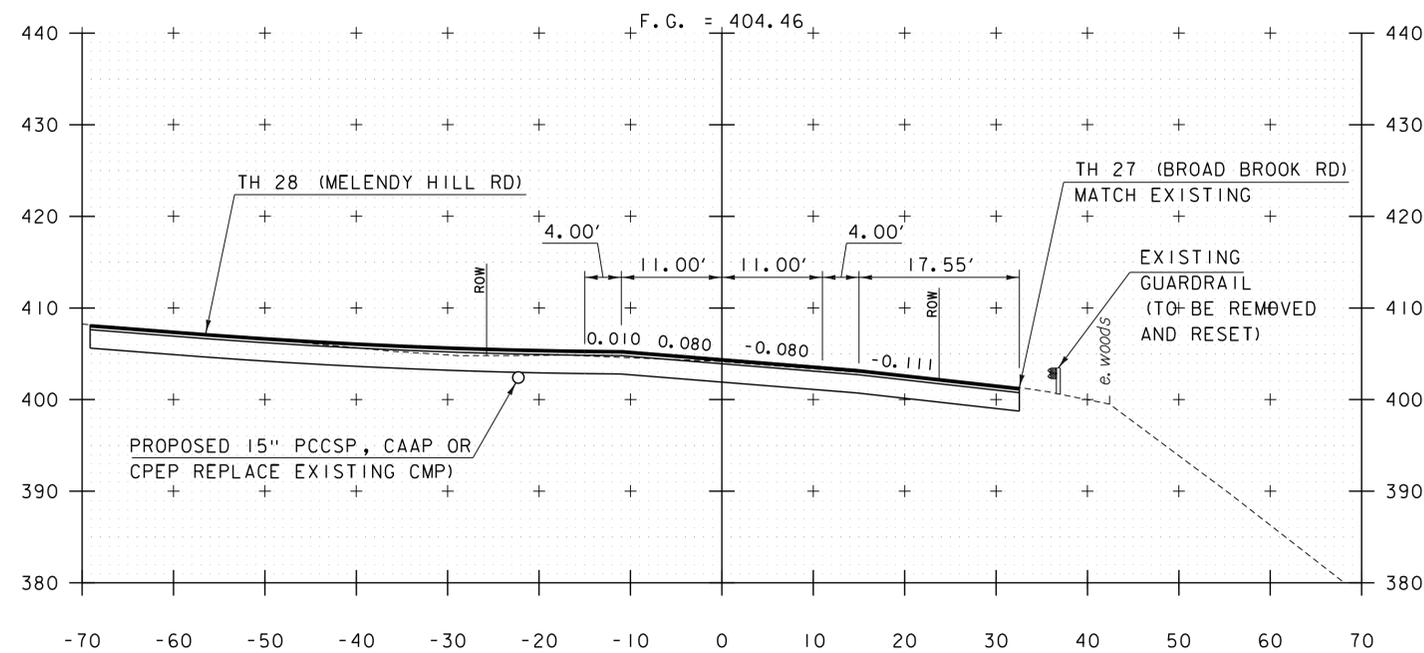


STA. 9+50 TO STA. 10+25

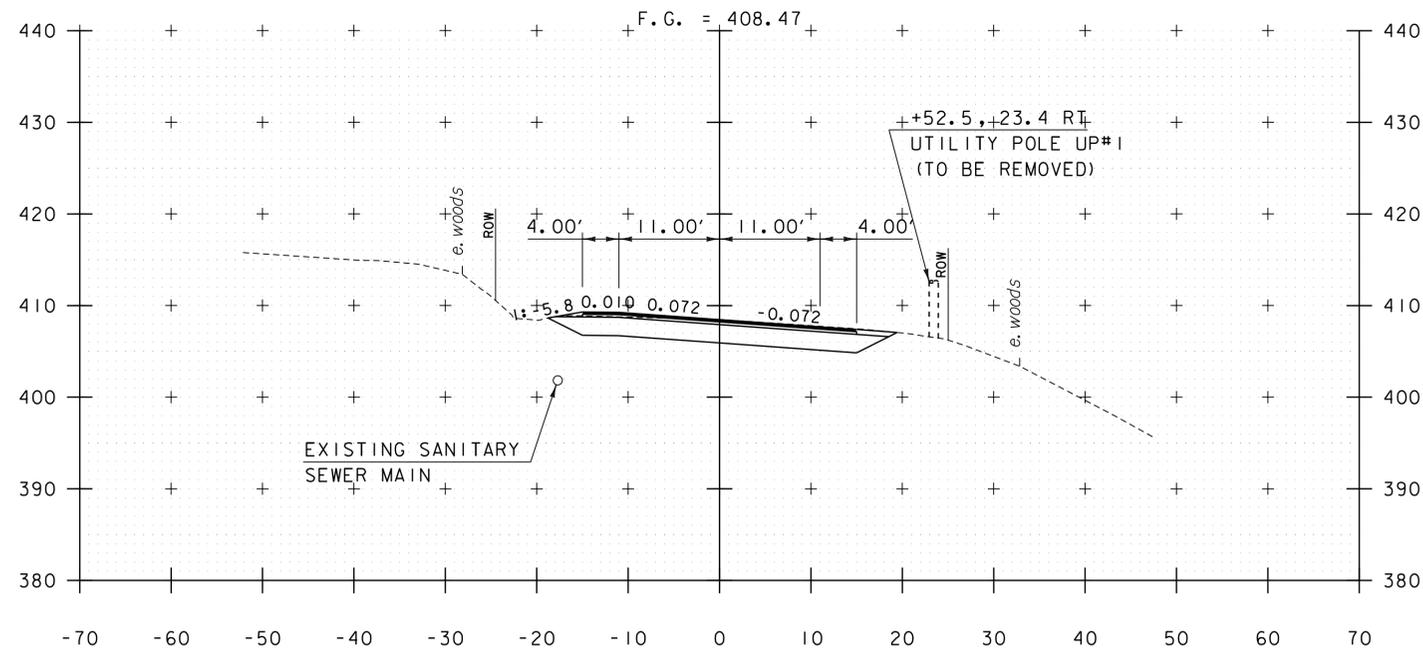
PROJECT NAME: GUILFORD	PLOT DATE: 5/31/2016
PROJECT NUMBER: BF 0113(68)	DRAWN BY: S.OZANA
FILE NAME: Structures/13c064xsl.dgn	CHECKED BY: B. COLBURN
PROJECT LEADER: R. YOUNG	SHEET 47 OF 65
DESIGNED BY: D.KULL	
US 5 CROSS SECTIONS 1	



10+75

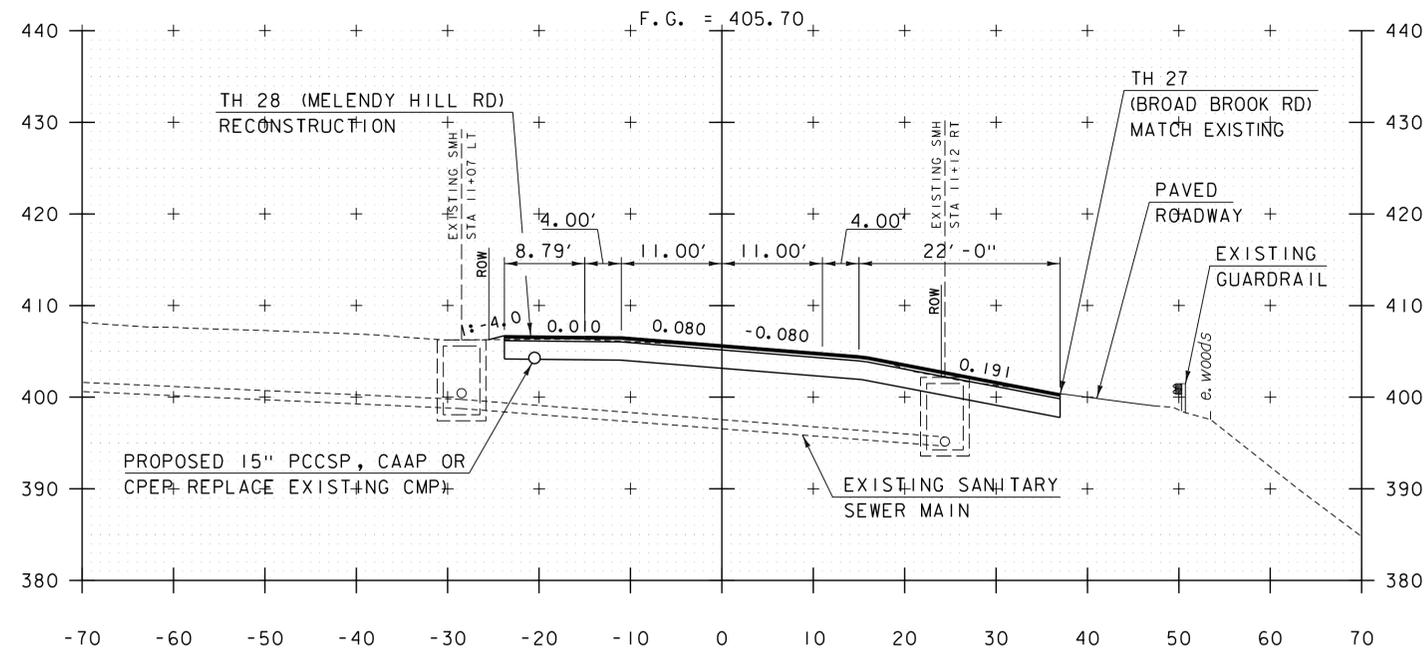


11+25

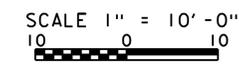


10+50

END APPROACH - BEGIN PROJECT



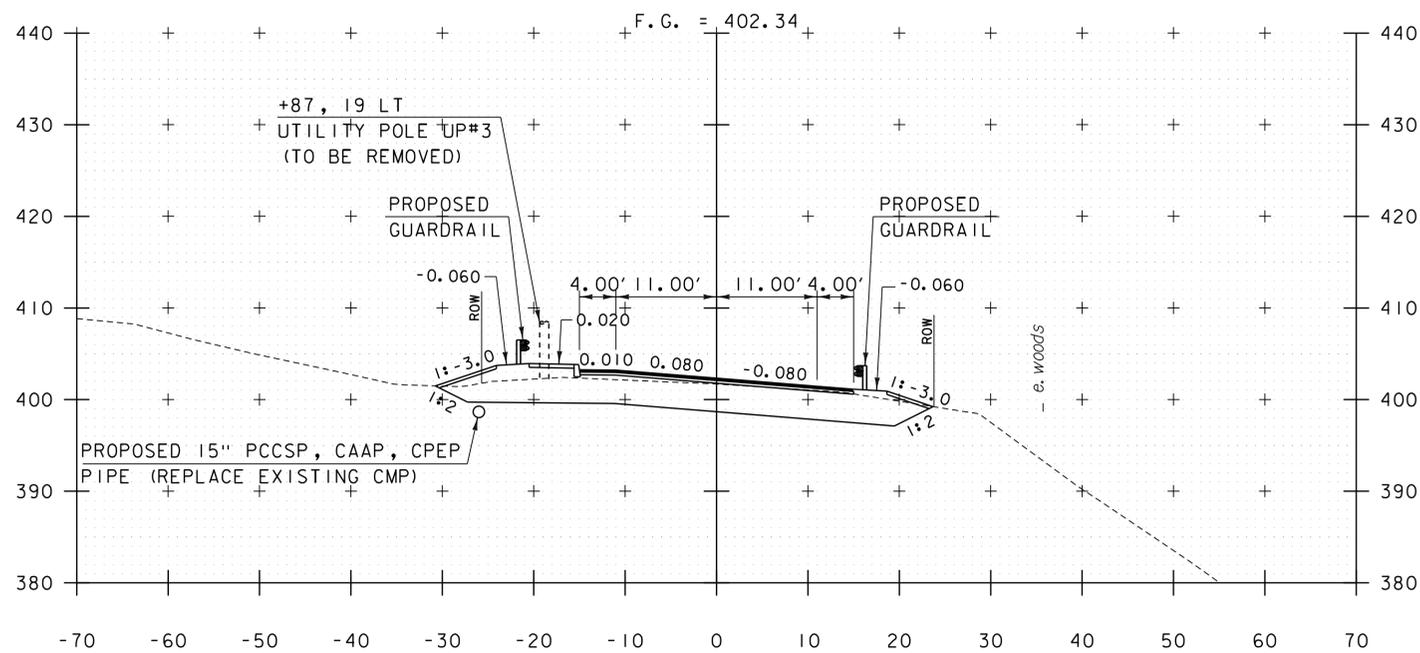
11+00



McFarland Johnson

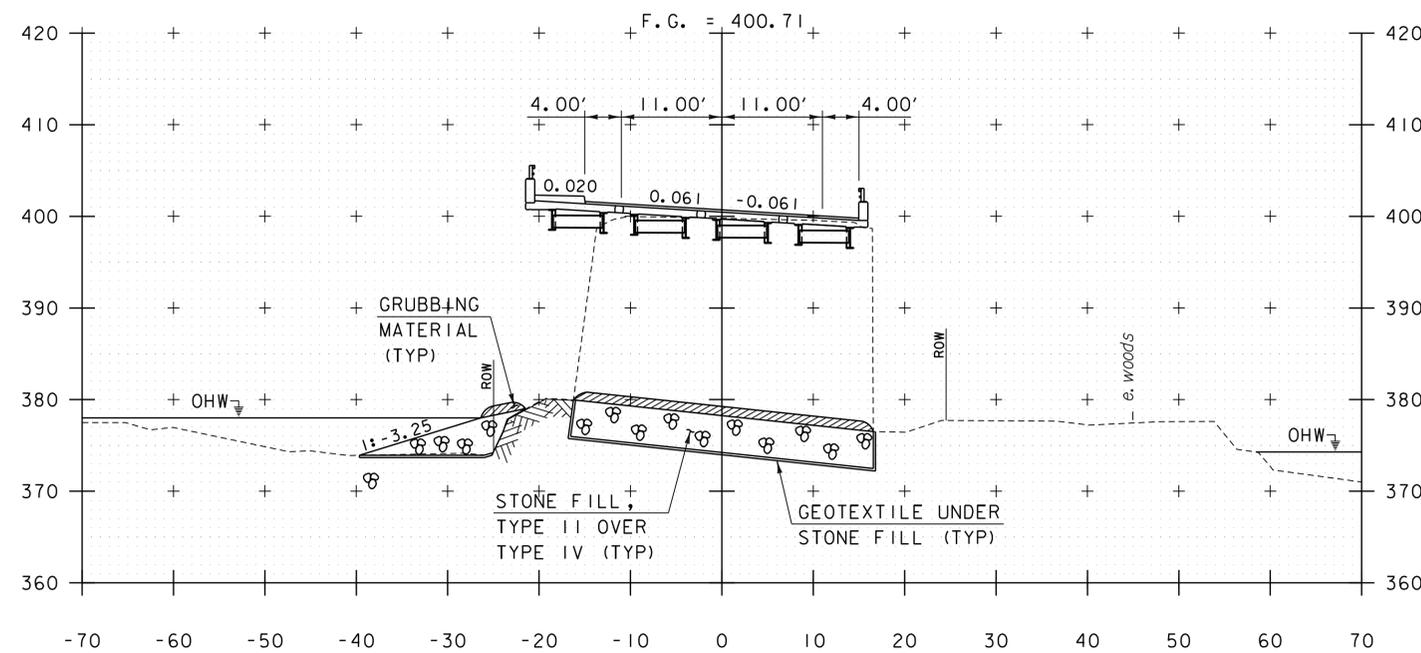
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PROJECT NUMBER: BF 0113(68)	DRAWN BY: S.OZANA
FILE NAME: Structures/13c064xsl.dgn	CHECKED BY: B. COLBURN
PROJECT LEADER: R. YOUNG	SHEET 48 OF 65
DESIGNED BY: D. KULL	
US 5 CROSS SECTIONS 2	

STA. 10+50 TO STA. 11+25

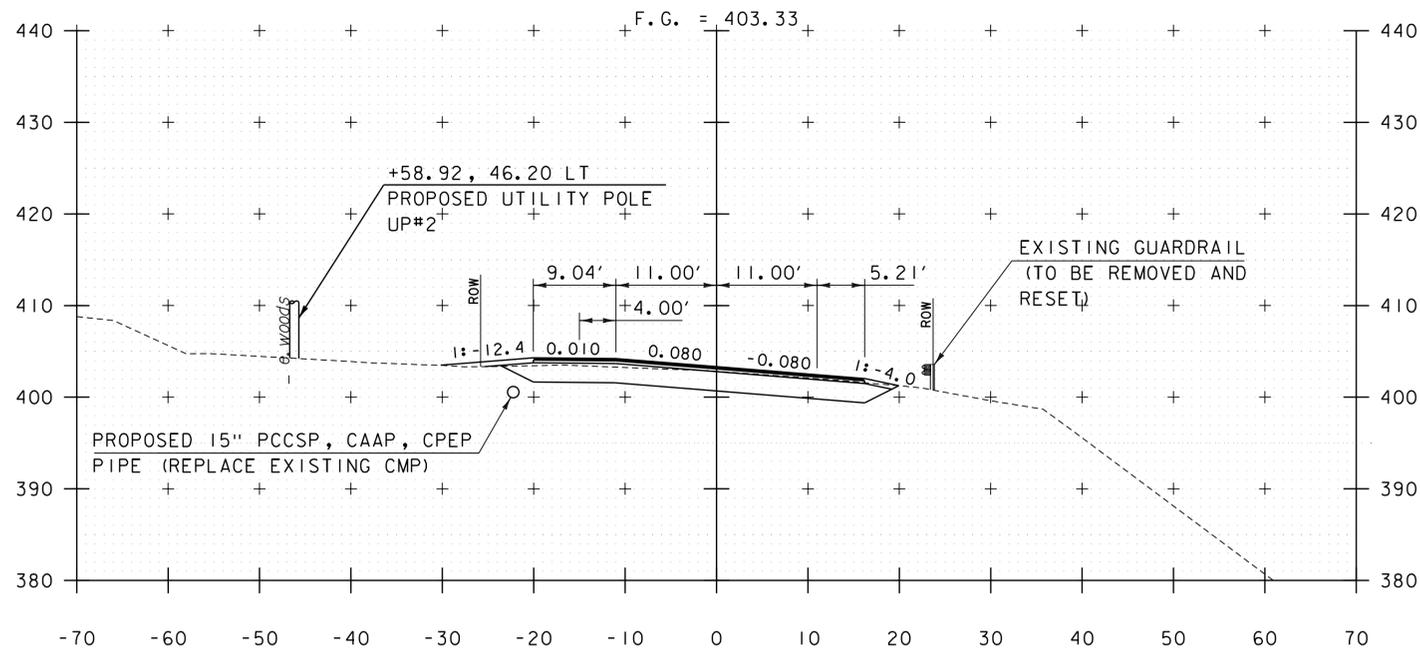


11+75

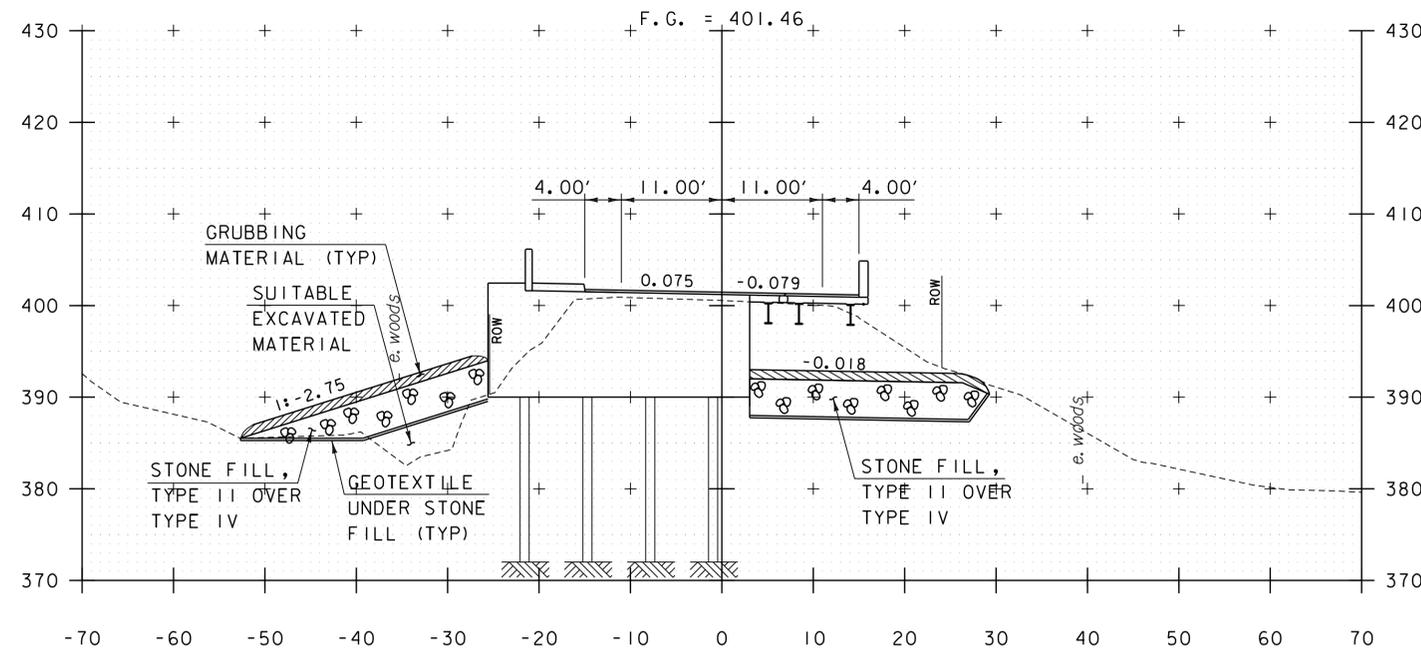
BEGIN BRIDGE STA 11+96.94



12+25

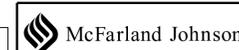


11+50



12+00

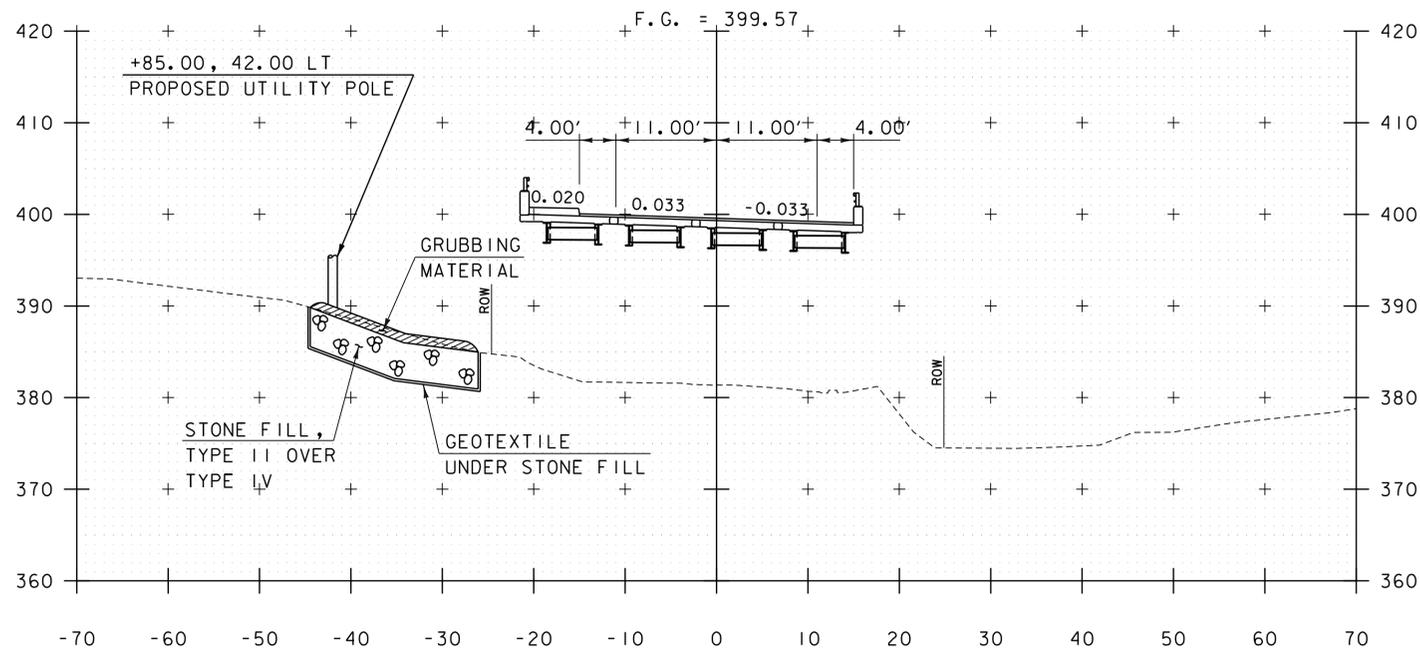
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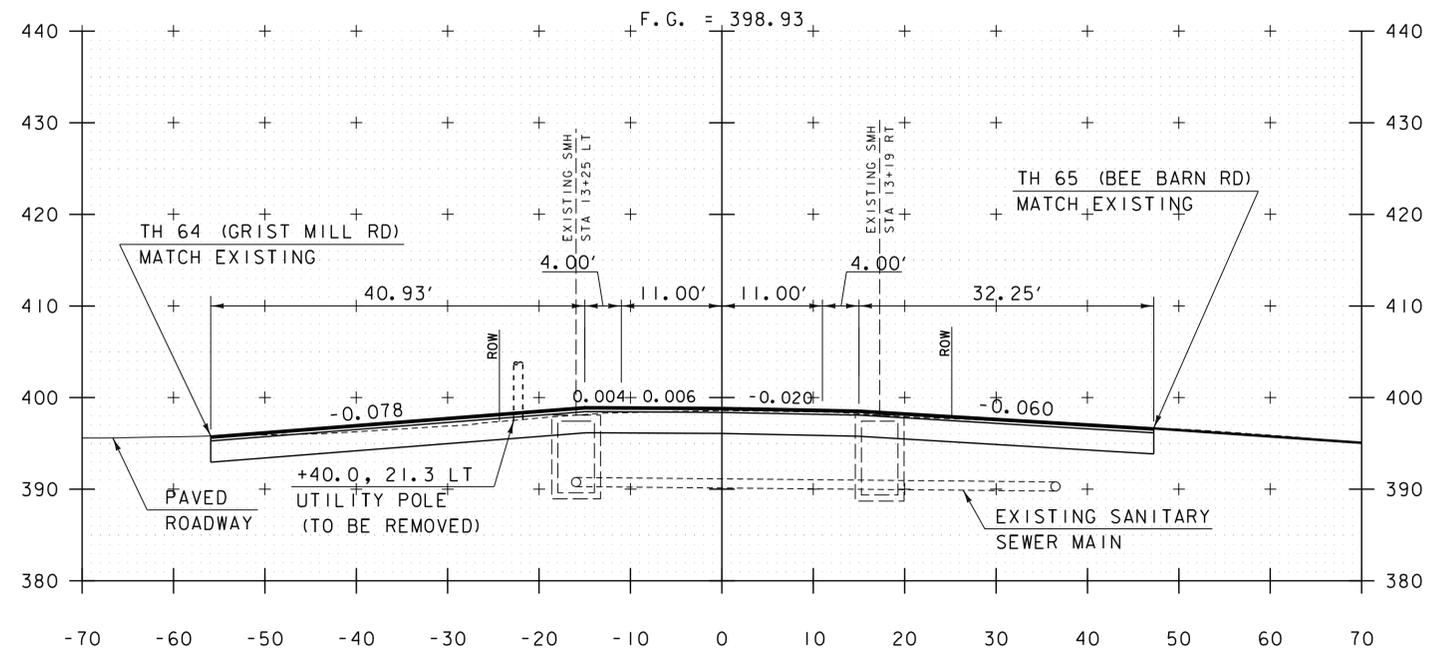
STA. 11+50 TO STA. 12+25

PROJECT NAME:	GUILFORD	PLOT DATE:	5/31/2016
PROJECT NUMBER:	BF 0113(68)	DRAWN BY:	S. OZANA
FILE NAME:	Structures/13c064xsl.dgn	CHECKED BY:	B. COLBURN
PROJECT LEADER:	R. YOUNG	SHEET	49 OF 65
DESIGNED BY:	D. KULL		
US 5 CROSS SECTIONS 3			

END BRIDGE STA 12+86.00

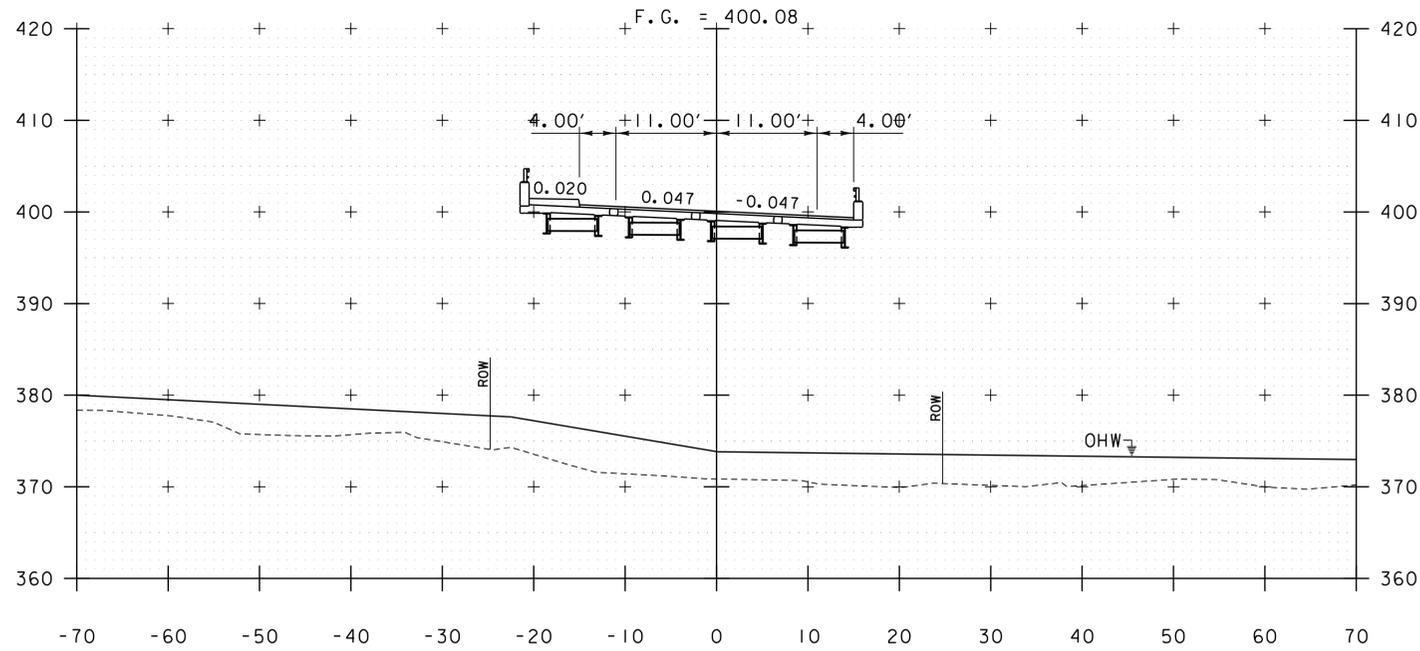


12+75

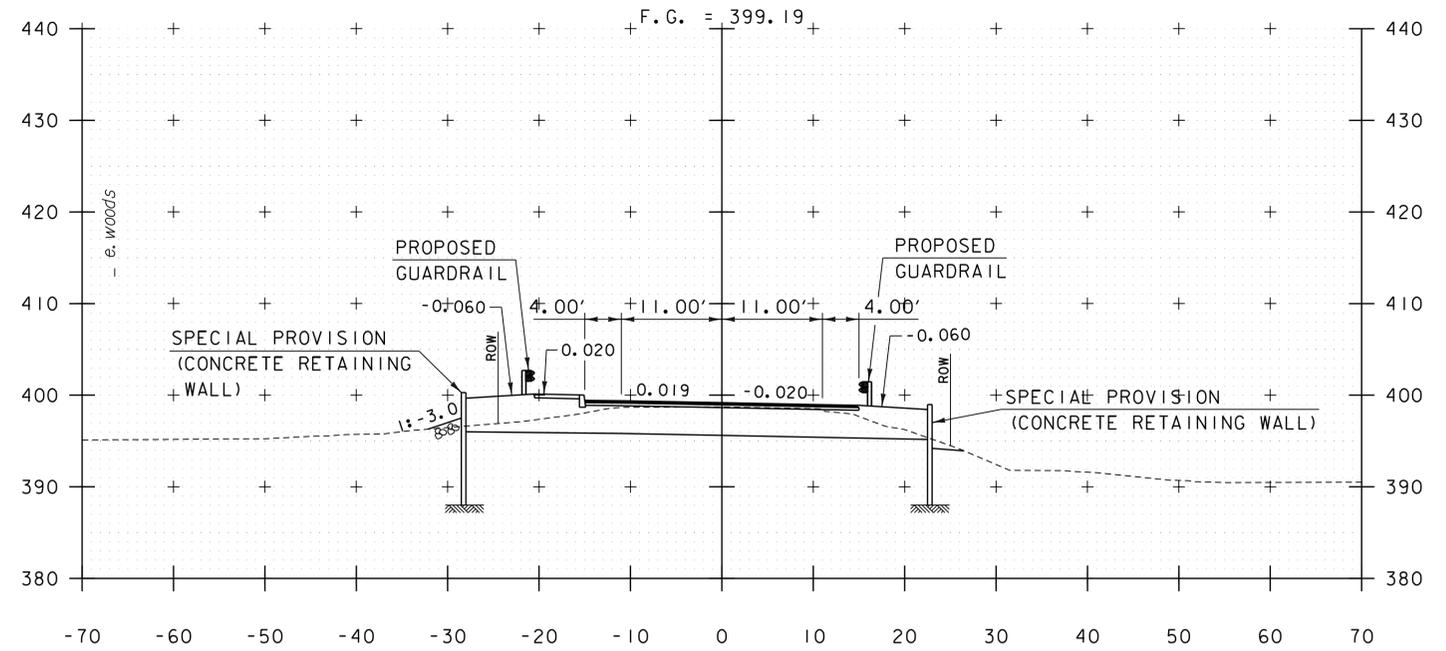


13+25

TH 64 LT (GRIST MILL ROAD)  
TH 65 RT (BEE BARN ROAD)

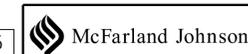


12+50



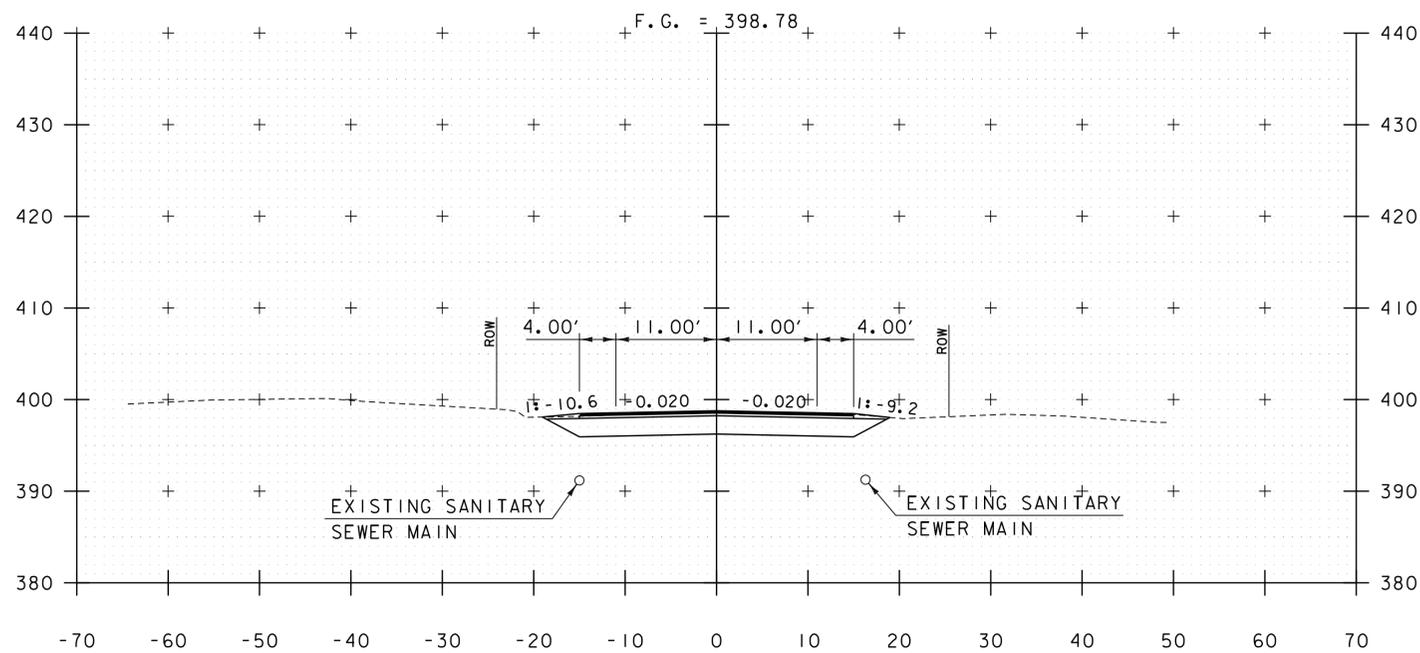
13+00

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

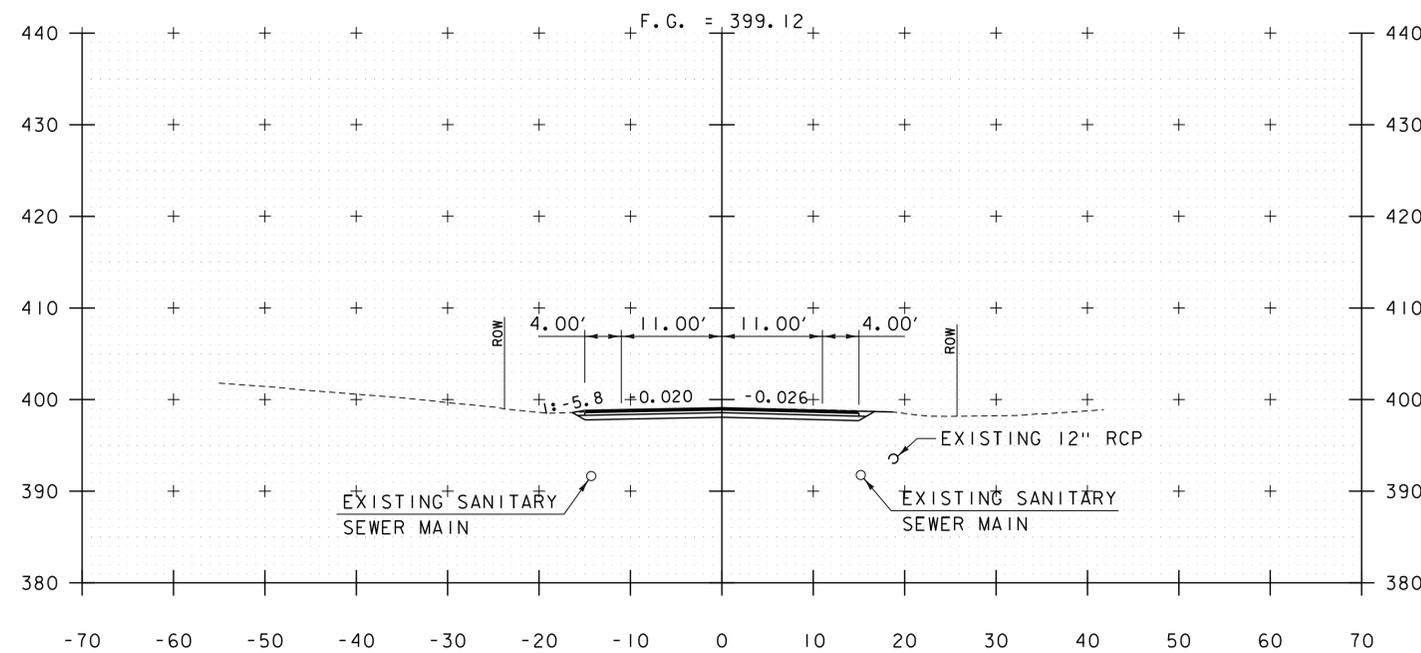


PROJECT NAME: GUILFORD	PLOT DATE: 5/31/2016
PROJECT NUMBER: BF 0113(68)	DRAWN BY: S. OZANA
FILE NAME: Structures/13c064xsl.dgn	CHECKED BY: B. COLBURN
PROJECT LEADER: R. YOUNG	SHEET 50 OF 65
DESIGNED BY: D. KULL	
US 5 CROSS SECTIONS 4	

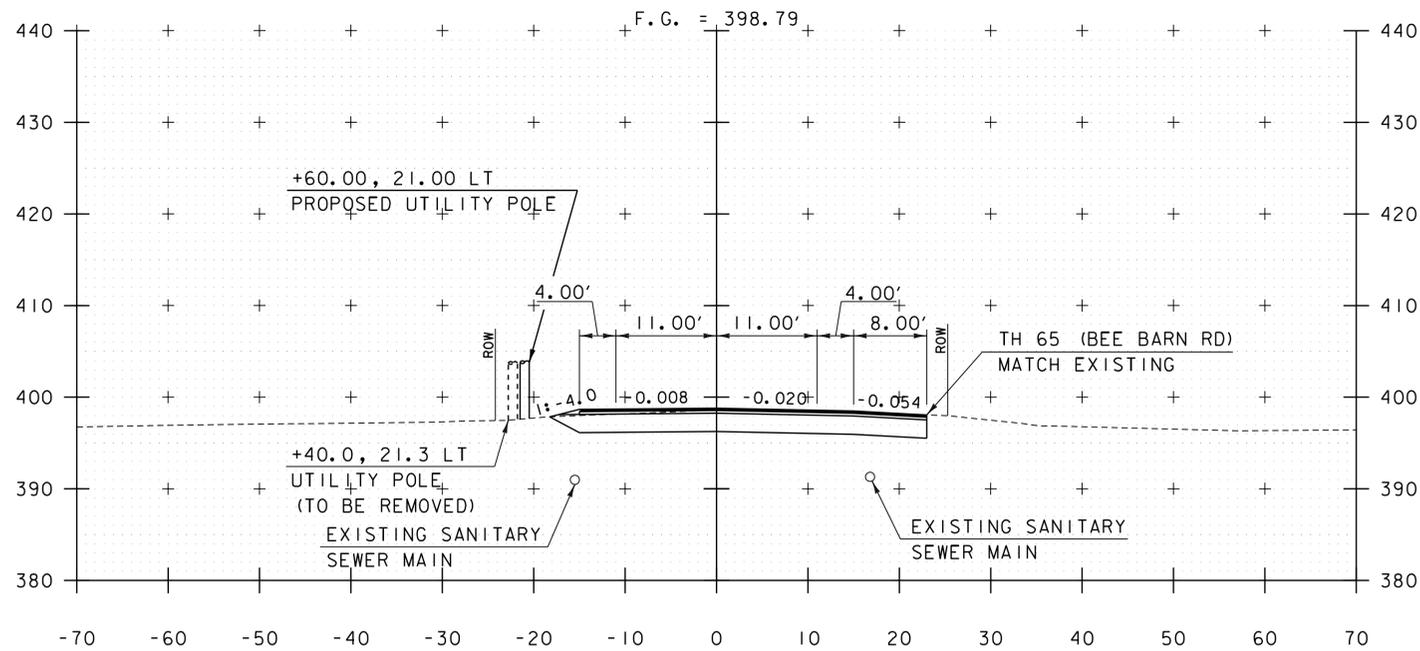
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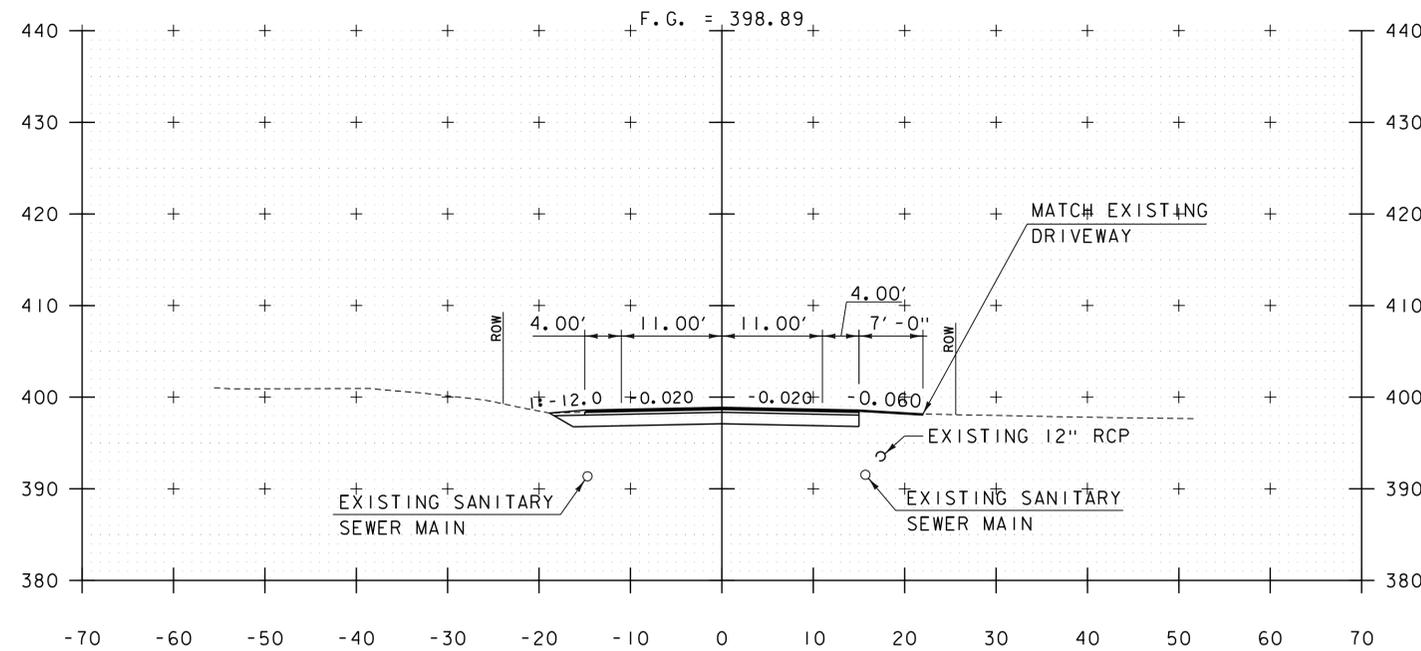
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14+25



13+50



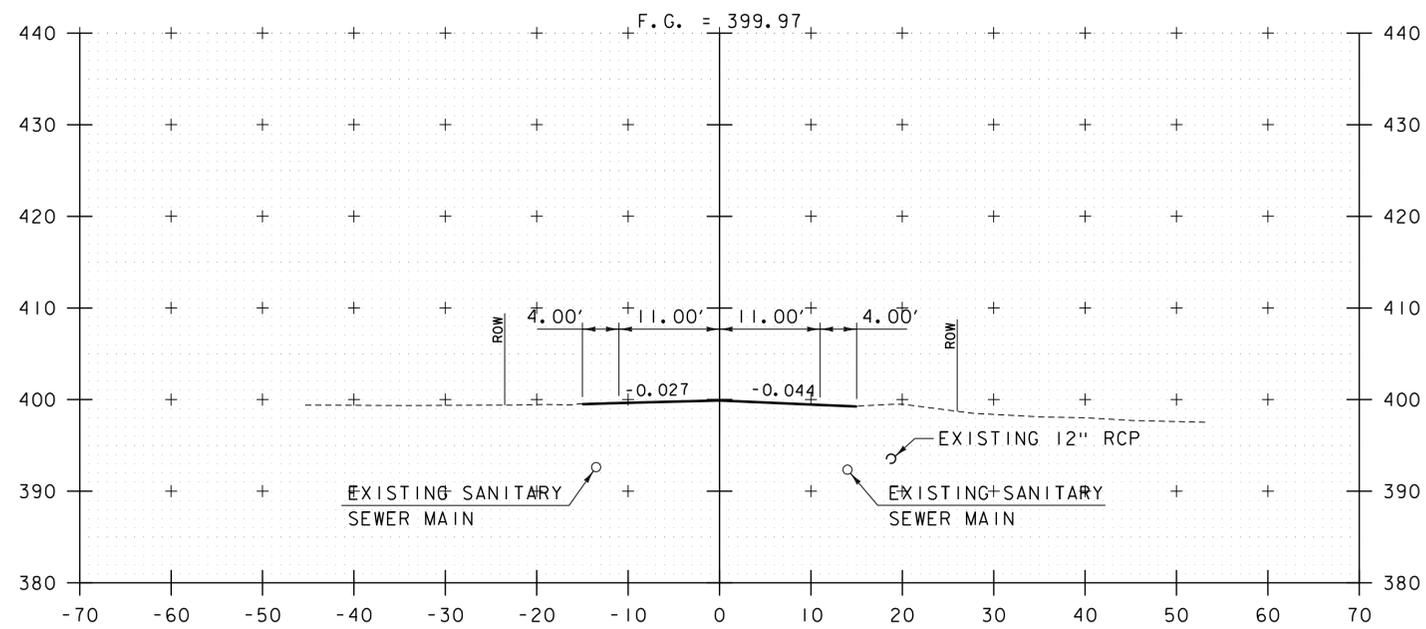
14+00

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



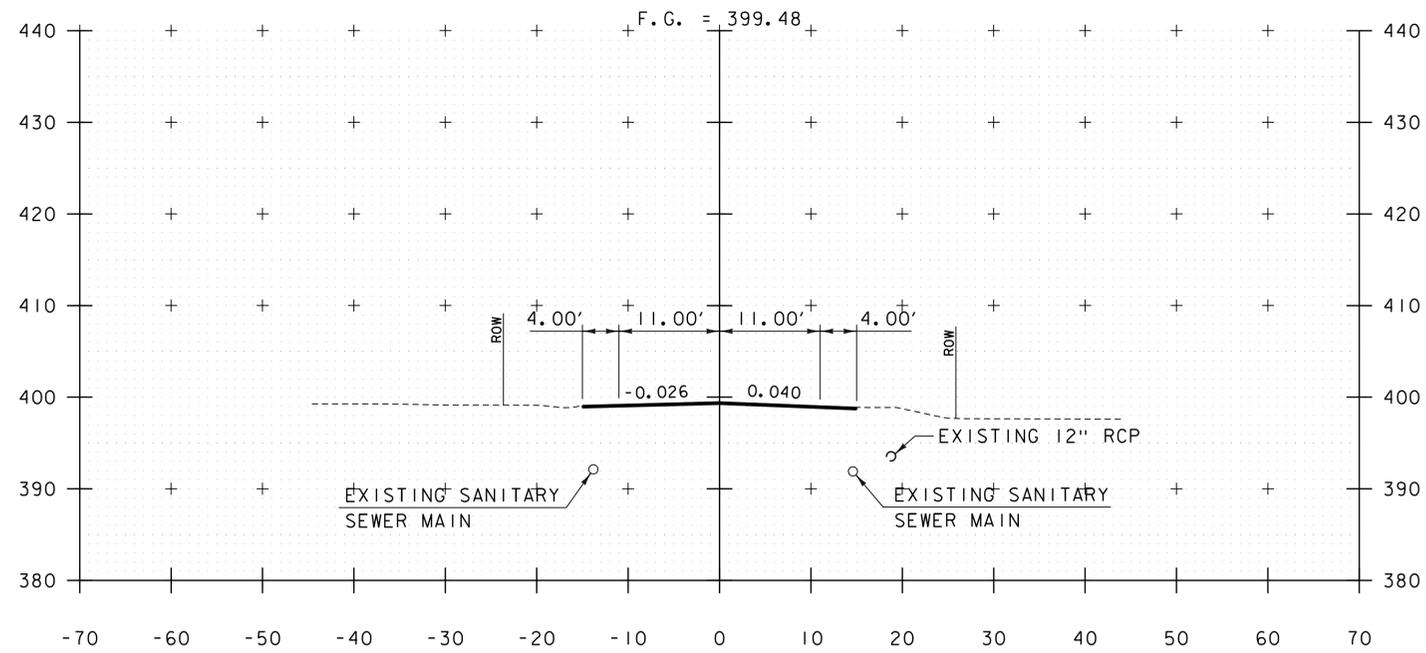
STA. 13+50 TO STA. 14+25

PROJECT NAME: GUILFORD	PLOT DATE: 5/31/2016
PROJECT NUMBER: BF 0113(68)	DRAWN BY: S. OZANA
FILE NAME: Structures/13c064xsl.dgn	CHECKED BY: B. COLBURN
PROJECT LEADER: R. YOUNG	SHEET 51 OF 65
DESIGNED BY: D. KULL	
US 5 CROSS SECTIONS 5	



14+75

END APPROACH - MATCH EXISTING



14+50

SCALE 1" = 10'-0"

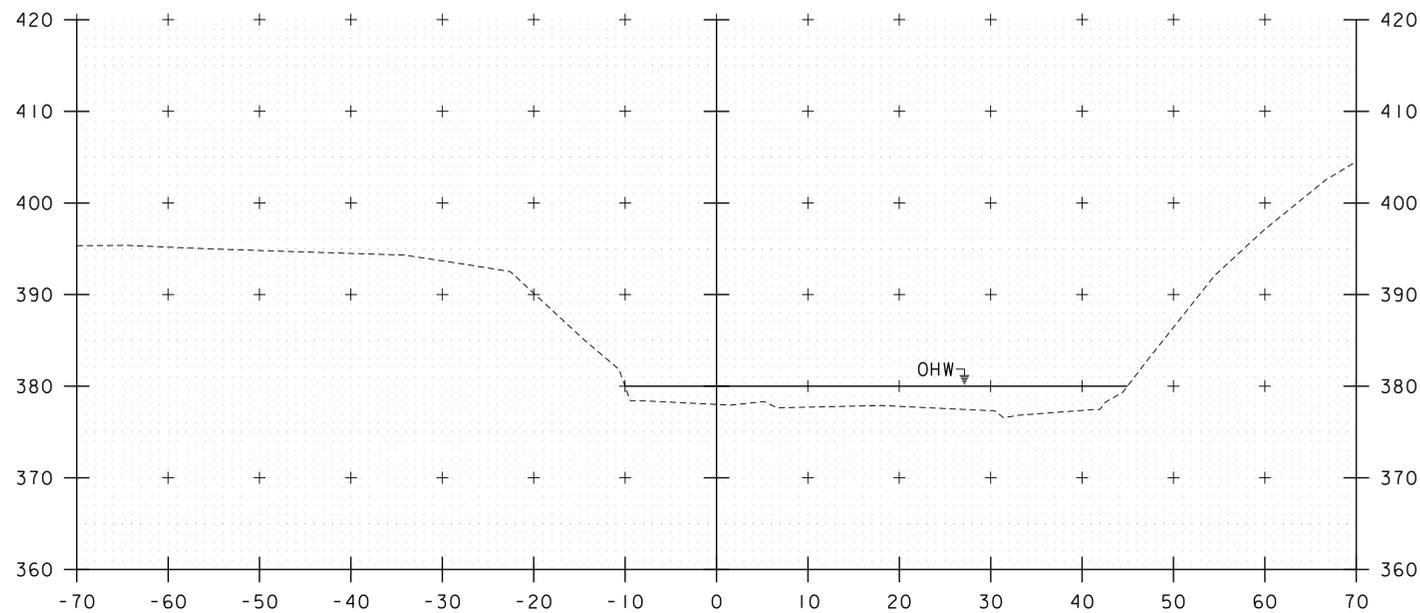


PROJECT NAME: GUILFORD  
 PROJECT NUMBER: BF 0113(68)

FILE NAME: Structures/13c064xsl.dgn  
 PROJECT LEADER: R. YOUNG  
 DESIGNED BY: D. KULL  
 US 5 CROSS SECTIONS 6

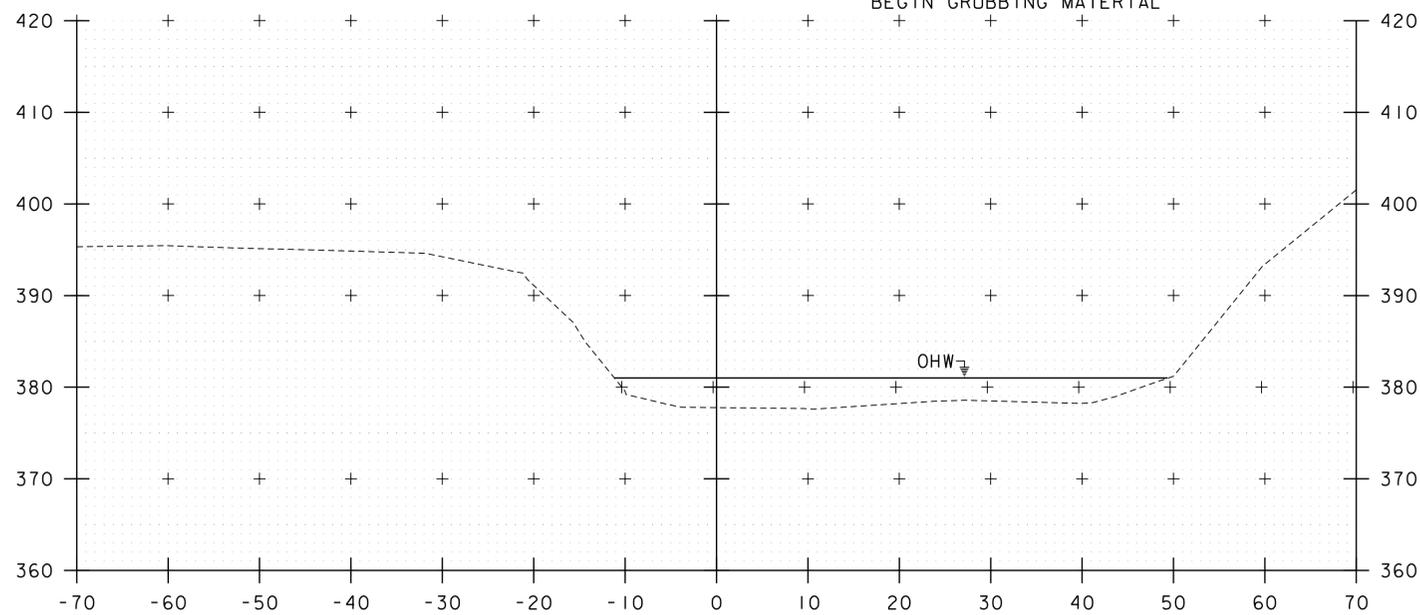
PLOT DATE: 5/31/2016  
 DRAWN BY: S. OZANA  
 CHECKED BY: B. COLBURN  
 SHEET 52 OF 65

STA. 14+50 TO STA. 14+75

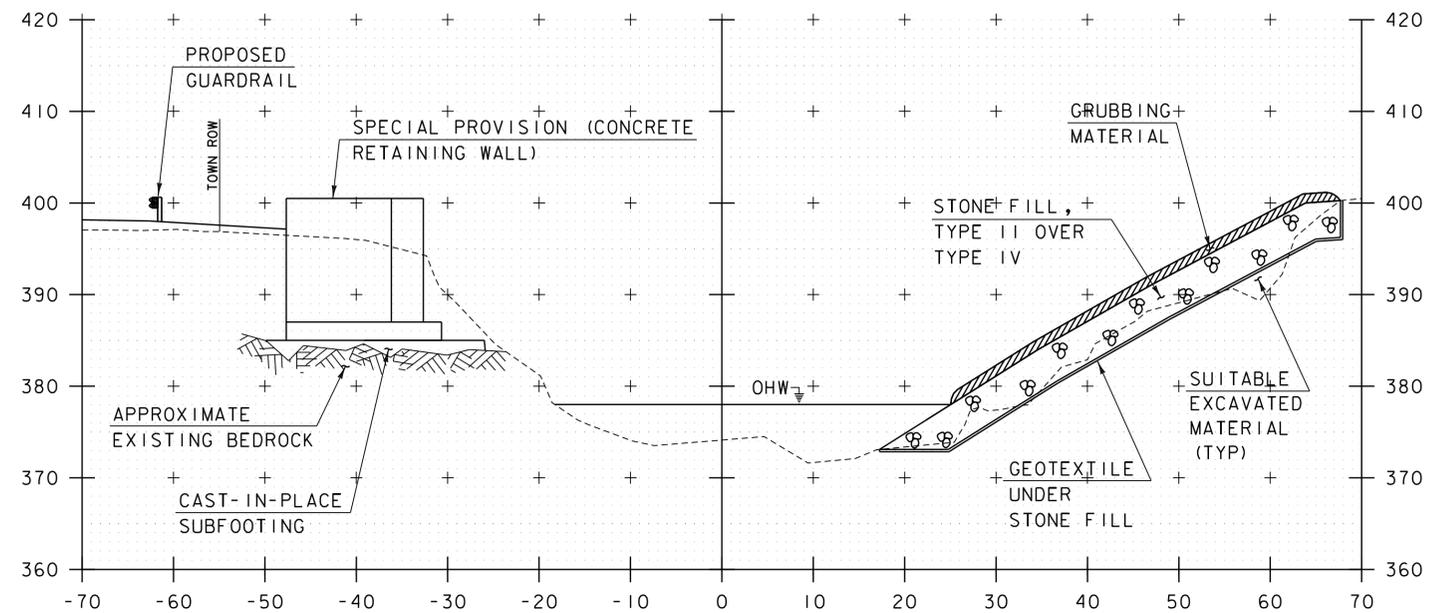


50+25

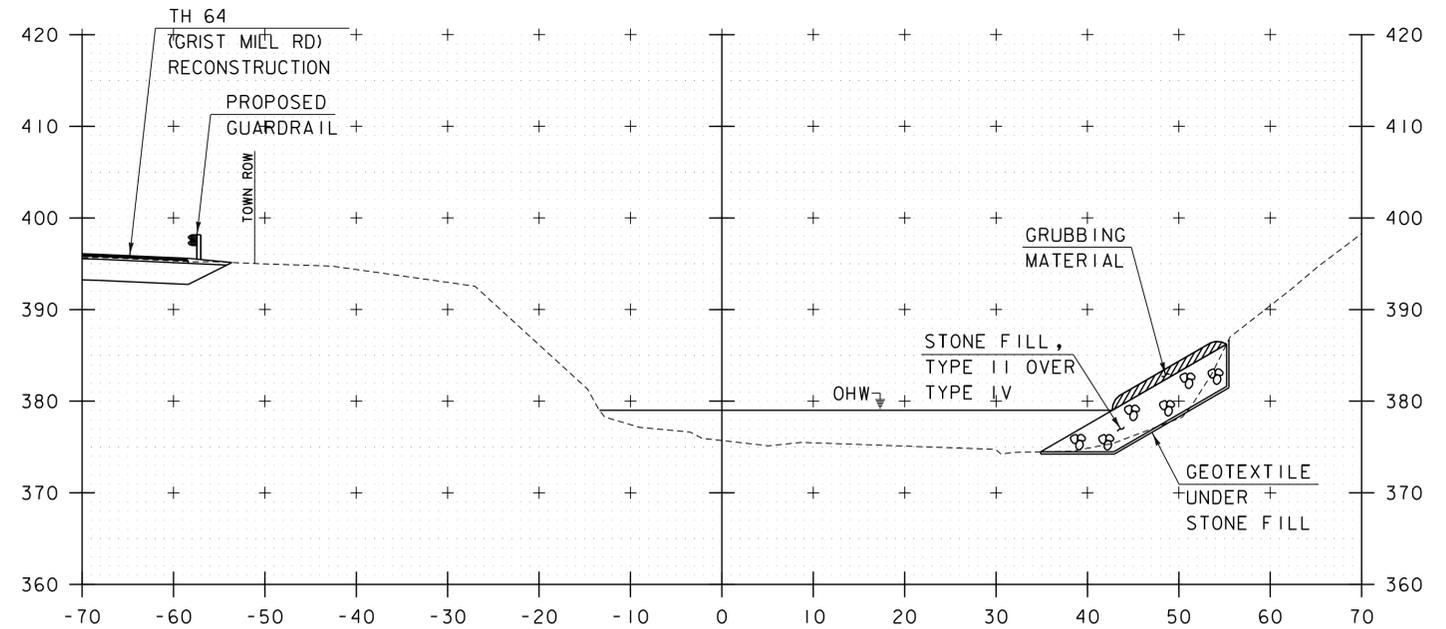
STA 50+33.3 RT  
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 BEGIN GEOTEXTILE UNDER STONE FILL  
 BEGIN STONE FILL, TYPE IV  
 BEGIN GRUBBING MATERIAL



50+00



50+75



50+50

STA 50+51.0 LT  
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION  
 BEGIN GEOTEXTILE UNDER STONE FILL  
 BEGIN STONE FILL, TYPE IV  
 BEGIN GRUBBING MATERIAL

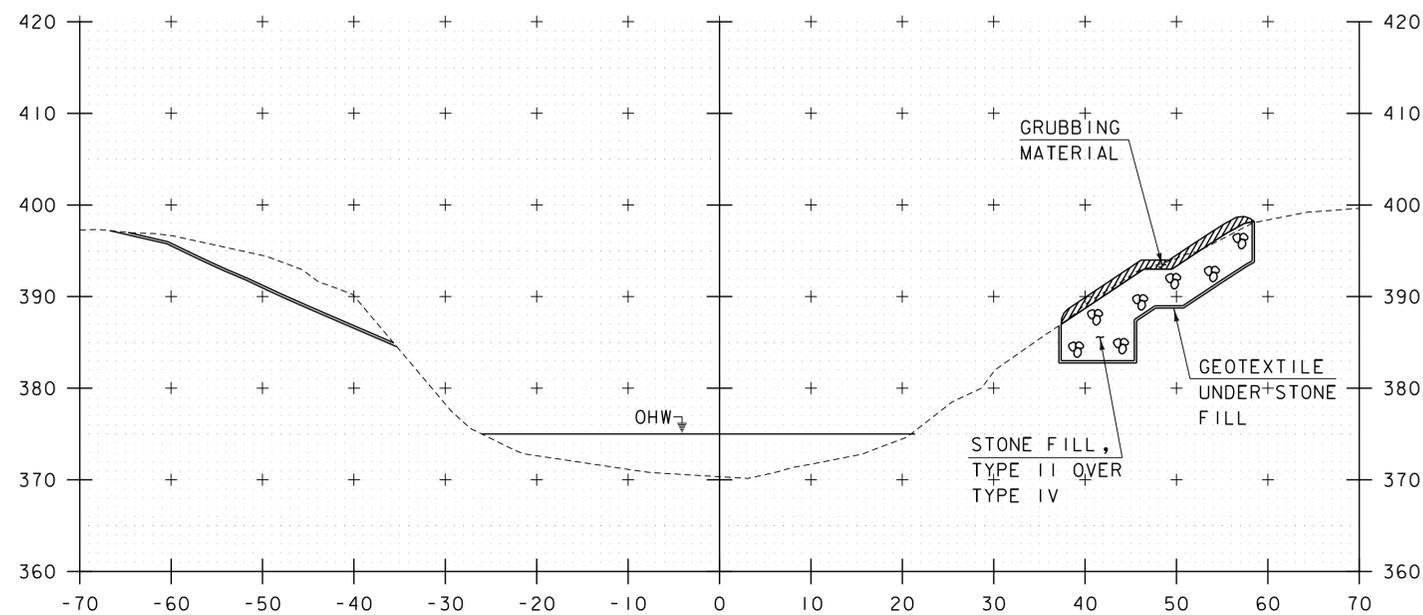
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 END GEOTEXTILE UNDER STONE FILL  
 END STONE FILL, TYPE IV  
 END GRUBBING MATERIAL

SCALE 1" = 10' - 0"



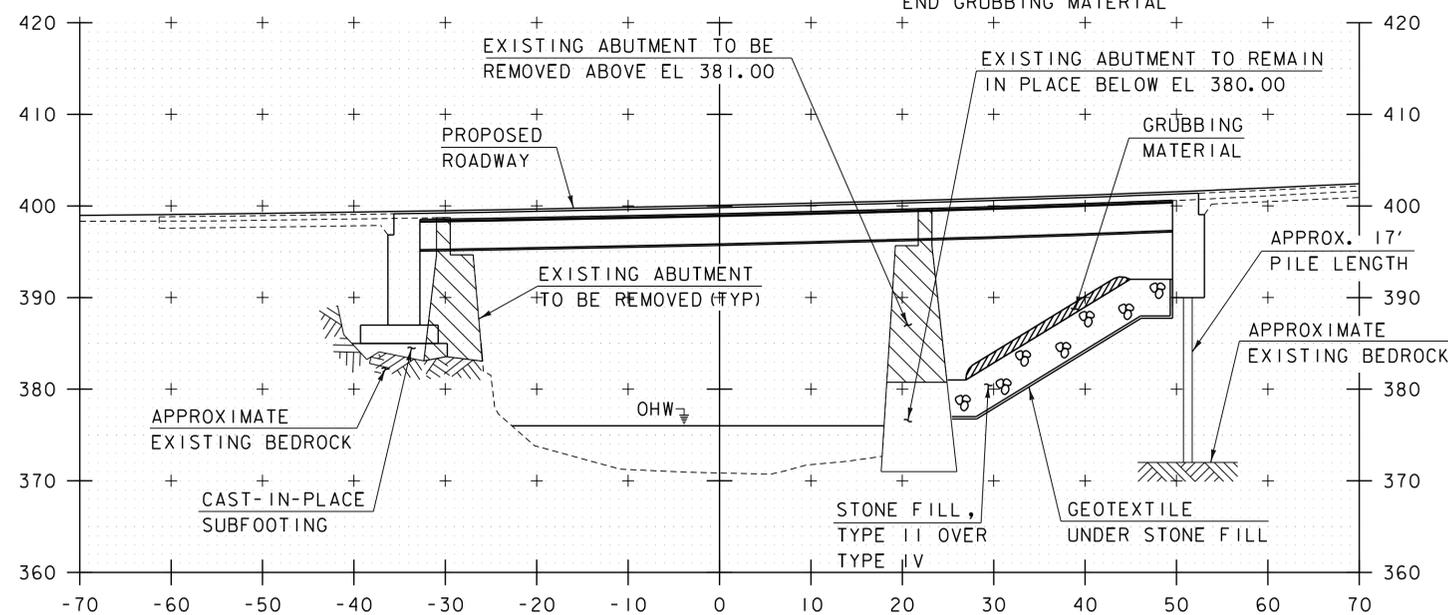
STA. 50+00 TO STA. 50+75

PROJECT NAME: GUILFORD	PLOT DATE: 5/31/2016
PROJECT NUMBER: BF 0113(68)	DRAWN BY: S. OZANA
FILE NAME: Structures/13c064xsl.dgn	CHECKED BY: B. COLBURN
PROJECT LEADER: R. YOUNG	SHEET 53 OF 65
DESIGNED BY: D. KULL	
CHANNEL CROSS SECTIONS 1	

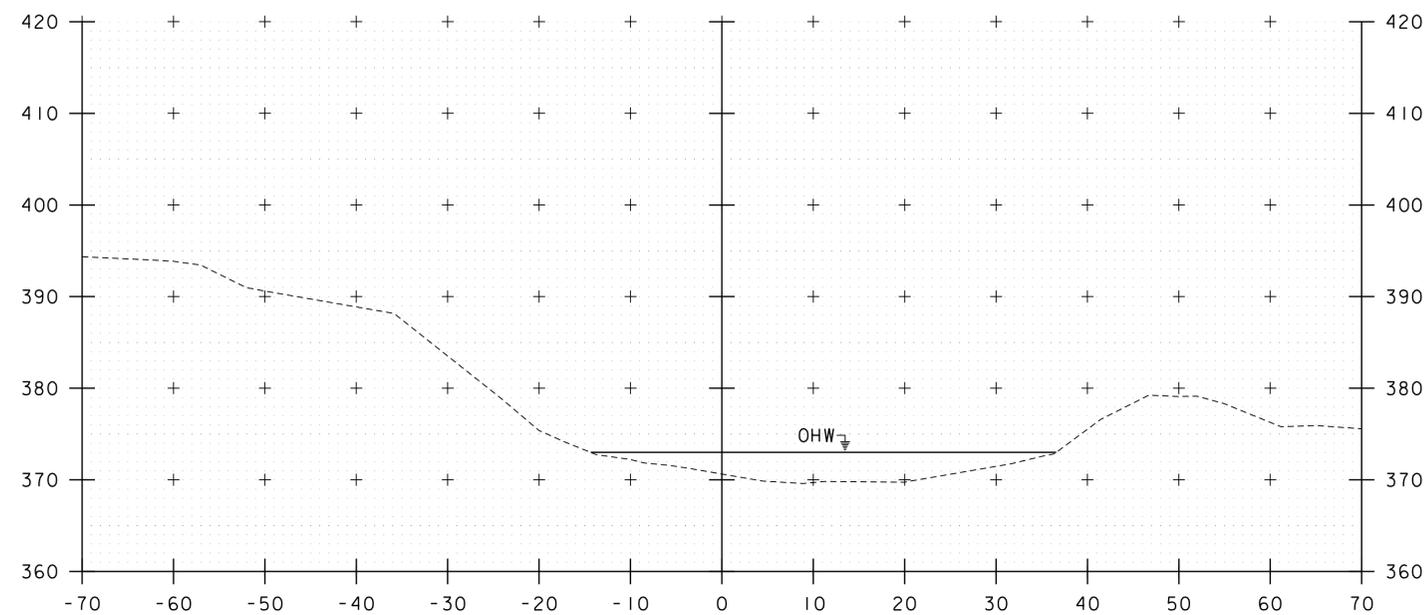


STA 51+34.0 RT  
 END UNCLASSIFIED CHANNEL EXCAVATION  
 END GEOTEXTILE UNDER STONE FILL  
 END STONE FILL, TYPE IV  
 END GRUBBING MATERIAL

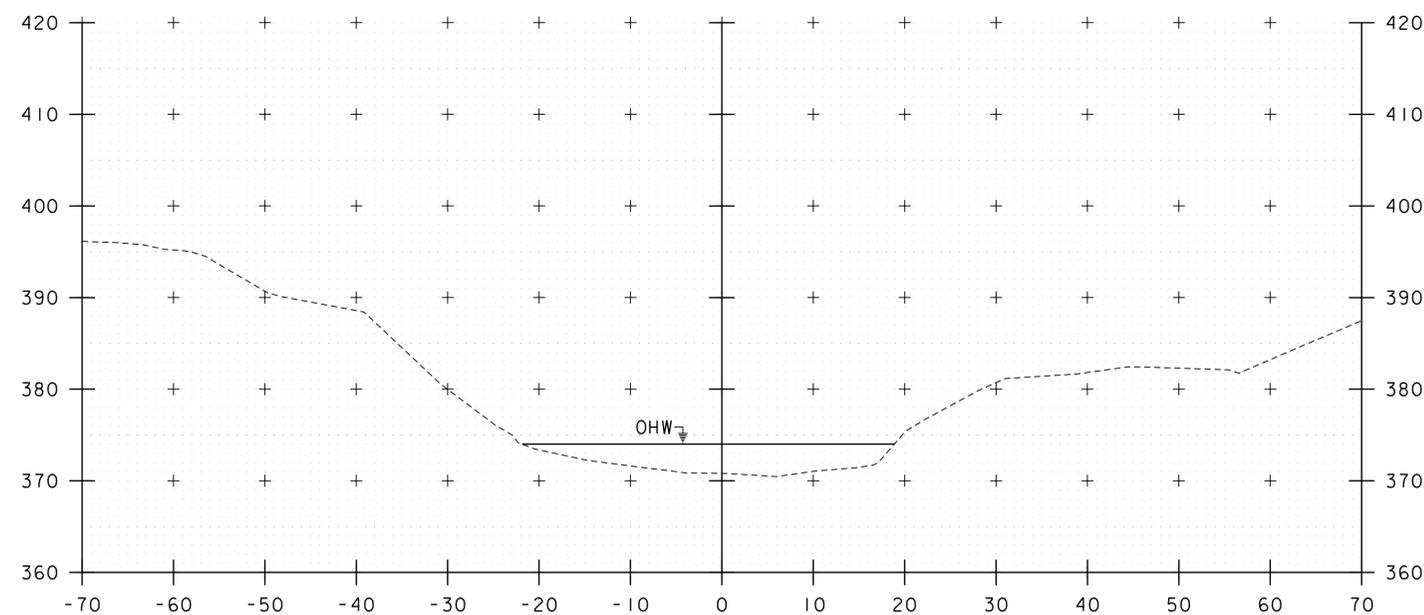
51+25



51+00



51+75



STA 51+74.5 LT  
 END UNCLASSIFIED CHANNEL EXCAVATION

51+50

SCALE 1" = 10'-0"



PROJECT NAME: GUILFORD  
 PROJECT NUMBER: BF 0113(68)

FILE NAME: Structures/13c064xsl.dgn  
 PROJECT LEADER: R. YOUNG  
 DESIGNED BY: D. KULL  
 CHANNEL CROSS SECTIONS 2

PLOT DATE: 5/31/2016  
 DRAWN BY: S.OZANA  
 CHECKED BY: B. COLBURN  
 SHEET 54 OF 65

STA. 51+00 TO STA. 51+75

## **EPSC PLAN NARRATIVE**

### **1.1 PROJECT DESCRIPTION**

THIS PROJECT INVOLVES THE REMOVAL OF BRIDGE #5 WHICH IS A 53 FOOT LONG T-BEAM BRIDGE. BRIDGE #5 WILL BE REPLACED BY A 88.07 FOOT SIMPLE SPAN STRUCTURE FOUNDED ON PRECAST ABUTMENTS FOUNDED ON STEEL BEARING PILES AND PRECAST SPREAD FOOTINGS ALONG THE EXISTING US 5 ALIGNMENT. BRIDGE #5 IS LOCATED IN THE TOWN OF GUILFORD, ON US ROUTE 5, APPROXIMATELY 1.5 MILES SOUTH OF INTERSTATE 91 EXIT 1. THIS PROJECT WILL UTILIZE ACCELERATED BRIDGE CONSTRUCTION METHODS SO THE BRIDGE WILL BE CLOSED TO TRAFFIC FOR APPROXIMATELY "28" DAYS.

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

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 0.82 ACRES.

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

### **1.2 SITE INVENTORY**

#### **1.2.1 TOPOGRAPHY**

THE TOPOGRAPHY OF THE AREA IS HILLY WITH MOSTLY WELL ESTABLISHED FOREST AND OCCASIONAL OPEN AREAS. ROADWAY SIDE SLOPES CONSIST OF VEGETATED UNDERGROWTH WITH SEVERAL EXPOSED LEDGE FACES.

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

BROAD BROOK IS THE ONLY WATER SOURCE ON THE PROJECT SITE. BROAD BROOK IS CLASSIFIED AS SINUOUS, SEMI TO NON-ALLUVIAL AND INCISED WITH HIGH BANKS. THE STREAM BED IS MOSTLY LEDGE, WITH SOME GRAVEL, COBBLES AND BOULDERS ON LEDGE.

#### **1.2.3 VEGETATION**

THE VEGETATION IN THE PROJECT AREA CONSISTS OF MIXED HARDWOOD AND SOFTWOOD TREES AND UNDERGROWTH. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY REPLACEMENT OF THE EXISTING BRIDGE AND RECONSTRUCTION OF THE ROADWAY AND SIDE SLOPES WITHIN THE PROJECT LIMITS. UPON PROJECT COMPLETION, THE CHANNEL SIDE SLOPES ADJACENT TO THE BRIDGE WILL BE ARMORED WITH STONE FILL TYPE II PLACED OVER TYPE IV AS SPECIFIED ON THE PLANS. DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES. CLEARING SHALL BE KEPT TO A MINIMUM.

#### **1.2.4 SOILS**

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF WASHINGTON, VERMONT. SOILS ON THE PROJECT SITE ARE: QUONSET AND WARWICK SOILS, 2% TO 8% SLOPES, "K FACTOR" = 0.2. THIS SOIL IS CONSIDERED POTENTIALLY HIGHLY ERODIBLE, QUONSET AND WARWICK SOILS, 15% TO 25% SLOPES, "K FACTOR" = 0.2. THIS SOIL IS CONSIDERED HIGHLY ERODIBLE,

#### **1.2.5 SENSITIVE RESOURCE AREAS**

CRITICAL HABITATS: NO  
HISTORICAL OR ARCHEOLOGICAL AREAS: HISTORIC DISTRICT NORTHWEST END OF PROJECT NOT IMPACTED BY PROPOSED WORK  
PRIME AGRICULTURAL LAND: NO  
THREATENED AND ENDANGERED SPECIES: NO  
WATER RESOURCE: BROAD BROOK  
WETLANDS: NO

### **1.3 RISK EVALUATION**

WITH LESS THAN 1 ACRE OF SOIL DISTURBANCE, THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF GENERAL PERMIT 3-9020 FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES.

SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN ONE OR MORE ACRES OF EARTH DISTURBANCE OR SHOULD THE PROJECT BECOME PART OF A LARGER PLAN OF DEVELOPMENT, THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL PERMITTING.

### **1.4 EROSION PREVENTION AND SEDIMENT CONTROL**

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

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

#### **1.4.1 MARK SITE BOUNDARIES**

SITE BOUNDARIES AND AREAS FOR CONSTRUCTION EQUIPMENT ACCESS SHALL BE DELINEATED. PROJECT DEMARCATION FENCING (PDF) AND BARRIER FENCE SHALL BE PLACED 3 FEET FROM THE TOE OF SLOPE TO PHYSICALLY MARK SITE BOUNDARIES. PDF AND BARRIER FENCE CAN BE LOCATED CLOSER TO THE PROPOSED SLOPE LIMITS IN SENSITIVE AREAS OR AS DIRECTED BY THE ENGINEER. PDF AND BARRIER FENCE SHALL BE INSTALLED PRIOR TO THE BEGINNING OF ANY EARTHWORK ON THE PROJECT.

#### **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 CONSTRUCTION CHANGES.

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.

STABILIZED CONSTRUCTION ENTRANCES SHOULD BE INSTALLED AS PROPOSED ON THE EPSC PLAN AND ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOILS TO PAVED SURFACES. INSTALLATION SHALL COINCIDE WITH THE CONTRACTOR'S PROGRESS SCHEDULE.

#### **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 EARTHWORK IN ACCORDANCE WITH THE EROSION PREVENTION AND CONTROL PLANS.

FIBER ROLLS WILL BE INSTALLED AT THE TOE OF SLOPE AS PROPOSED ON THE EPSC PLAN.

AT LOCATIONS WHERE CONSTRUCTION IS IN OR NEAR WATERCOURSES OF THE STATE OF VERMONT, GEOTEXTILE FOR FILTER CURTAIN SHALL BE USED TO MINIMIZE SEDIMENT FROM ENTERING THESE WATERCOURSES. THE FILTER CURTAIN SHALL EXTEND FROM THE BOTTOM OF THE WATERCOURSE TO THE TOP OF THE WATER SURFACE. GEOTEXTILE SHALL ALSO BE PLACED ALONG THE BOTTOM OF THE WATER COURSE WITHIN THE LIMITS OF THE FILTER CURTAIN TO FACILITATE THE REMOVAL OF SEDIMENT AND PROTECT THE EXISTING WATERCOURSE BOTTOM. IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD FOR CONTAINING SEDIMENT IN THE WATERCOURSES, THE CONTRACTOR SHALL SUBMIT THE ALTERNATE METHOD TO THE ENGINEER FOR APPROVAL AT LEAST 14 DAYS PRIOR TO THE PRE-CONSTRUCTION MEETING. FILTER CURTAIN SHALL BE INSTALLED AS SHOWN ON THE EROSION PREVENTION AND SEDIMENT CONTROL PLANS PRIOR TO ANY CONSTRUCTION WITHIN 50 FEET OF WATERS OF THE STATE.

DROP INLET PROTECTION DEVICES SHALL BE PLACED PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.

#### **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.

#### **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.

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

#### **1.4.7 CONSTRUCT PERMANENT CONTROLS**

PERMANENT EROSION CONTROL STRUCTURES ARE 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.

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. SEEDING AND MULCHING SHALL BE USED TO STABILIZE SOIL. SEE THE EROSION CONTROL DETAILS FOR SEED TYPES AND APPLICATION RATES.

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**

TREATMENT OF DEWATERING COFFERDAM IS NOT ANTICIPATED ON THIS PROJECT.

#### **1.4.12 INSPECT YOUR SITE**

INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS OR AFTER ANY RAINFALL EVENT THAT RESULTS IN DISCHARGE FROM THE SITE.

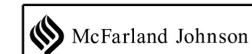
### **1.5 SEQUENCE AND STAGING**

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: GUILFORD  
PROJECT NUMBER: BF 0113(68)

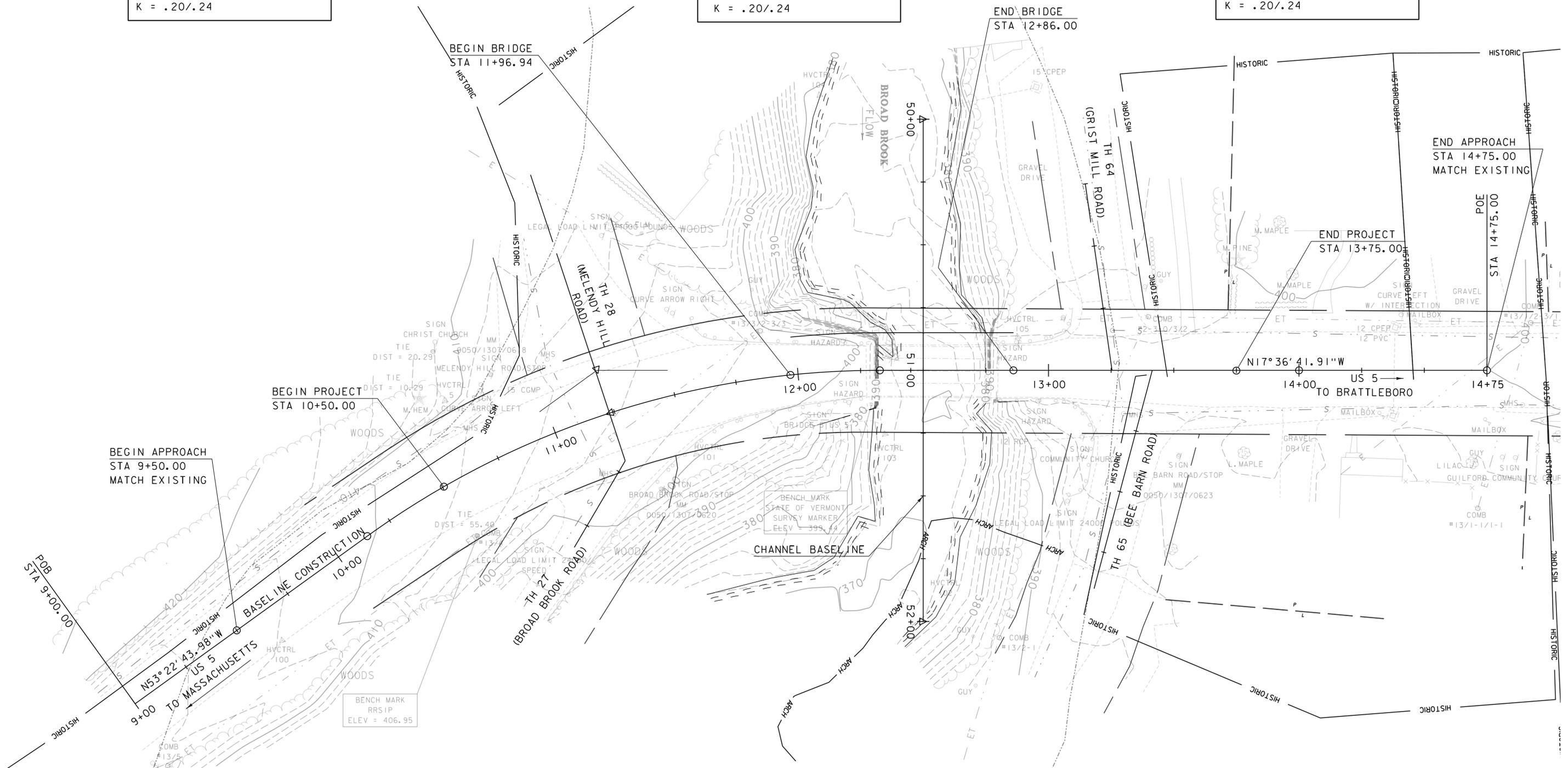
FILE NAME: z13c064ero\_nar.dgn  
PROJECT LEADER: R. YOUNG  
DESIGNED BY: S. OZANA  
EPSC NARRATIVE

PLOT DATE: 5/31/2016  
DRAWN BY: S. MERKWAN  
CHECKED BY: T. KENDRICK  
SHEET 55 OF 65

QUONSET AND WARWICK SOILS  
2%-8% SLOPES  
POTENTIALLY HIGHLY ERODIBLE  
K = .20/.24

QUONSET AND WARWICK SOILS  
15%-25% SLOPES  
HIGHLY ERODIBLE  
K = .20/.24

QUONSET AND WARWICK SOILS  
2%-8% SLOPES  
POTENTIALLY HIGHLY ERODIBLE  
K = .20/.24

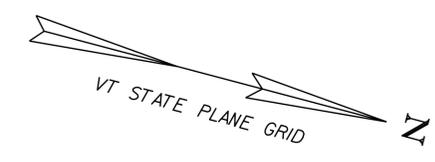


US 5 CURVE 1  
DELTA = 35°46'02.07" RT  
D = 16°22'12.80"  
R = 350.00'  
T = 112.94'  
L = 218.49'  
E = 17.77'  
BANKING = +0.080 (MAX)

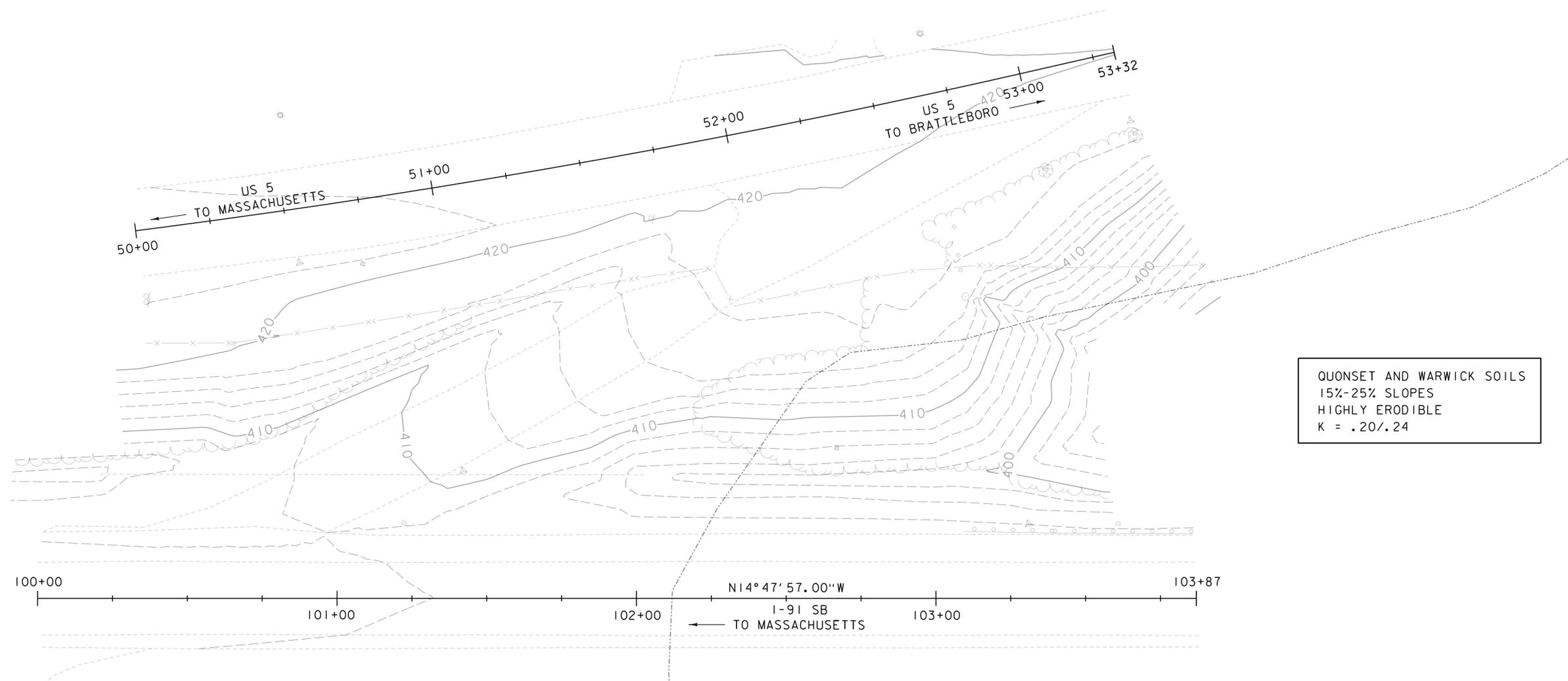
PLAN  
SCALE 1" = 20' - 0"  
20 0 20

PROJECT NAME: GUILFORD	PLOT DATE: 5/31/2016
PROJECT NUMBER: BF 0113(68)	DRAWN BY: S. MERKWAN
FILE NAME: z13c064bdr_ero.dgn	CHECKED BY: T. KENDRICK
PROJECT LEADER: R. YOUNG	SHEET 56 OF 65
DESIGNED BY: D. KULL	
EPSC EXISTING CONDITIONS SITE PLAN	





QUONSET AND WARWICK SOILS  
 2%-8% SLOPES  
 POTENTIALLY HIGHLY ERODIBLE  
 K = .20/.24



QUONSET AND WARWICK SOILS  
 15%-25% SLOPES  
 HIGHLY ERODIBLE  
 K = .20/.24

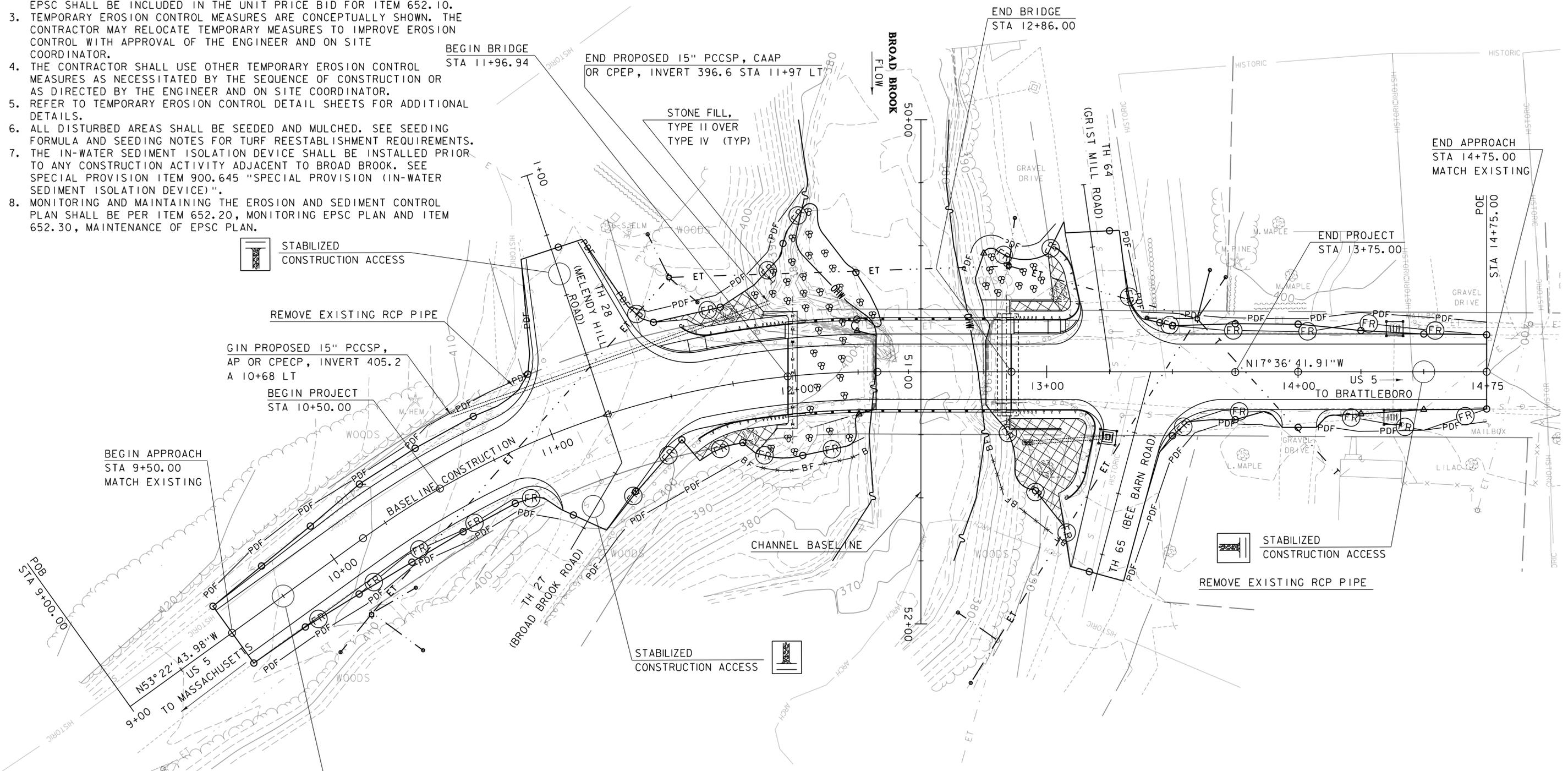
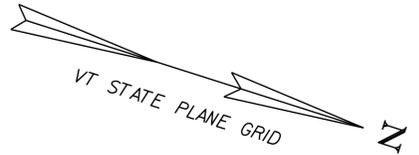
PLAN  
 SCALE 1" = 20' - 0"  
 20 0 20



PROJECT NAME: GUILFORD	
PROJECT NUMBER: BF 0113(68)	
FILE NAME: z13c064bdr_ero.dgn	PLOT DATE: 5/31/2016
PROJECT LEADER: R. YOUNG	DRAWN BY: S. MERKWAN
DESIGNED BY: D. KULL	CHECKED BY: T. KENDRICK
EPSC EXISTING CONDITIONS SITE PLAN	SHEET 57 OF 65

**NOTES**

1. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH DISTURBANCE.
2. THESE PLANS SHOW A CONCEPTUAL EROSION CONTROL PLAN, THE CONTRACTOR SHALL SUBMIT A TEMPORARY EROSION CONTROL PLAN (INCLUDING THE IN-WATER SEDIMENT ISOLATION DEVICE) FOR APPROVAL. PAYMENT FOR DEVELOPMENT AND MODIFICATIONS TO THE EPSC SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 652.10.
3. TEMPORARY EROSION CONTROL MEASURES ARE CONCEPTUALLY SHOWN. THE CONTRACTOR MAY RELOCATE TEMPORARY MEASURES TO IMPROVE EROSION CONTROL WITH APPROVAL OF THE ENGINEER AND ON SITE COORDINATOR.
4. THE CONTRACTOR SHALL USE OTHER TEMPORARY EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION OR AS DIRECTED BY THE ENGINEER AND ON SITE COORDINATOR.
5. REFER TO TEMPORARY EROSION CONTROL DETAIL SHEETS FOR ADDITIONAL DETAILS.
6. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED. SEE SEEDING FORMULA AND SEEDING NOTES FOR TURF REESTABLISHMENT REQUIREMENTS.
7. THE IN-WATER SEDIMENT ISOLATION DEVICE SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITY ADJACENT TO BROAD BROOK. SEE SPECIAL PROVISION ITEM 900.645 "SPECIAL PROVISION (IN-WATER SEDIMENT ISOLATION DEVICE)".
8. MONITORING AND MAINTAINING THE EROSION AND SEDIMENT CONTROL PLAN SHALL BE PER ITEM 652.20, MONITORING EPSC PLAN AND ITEM 652.30, MAINTENANCE OF EPSC PLAN.



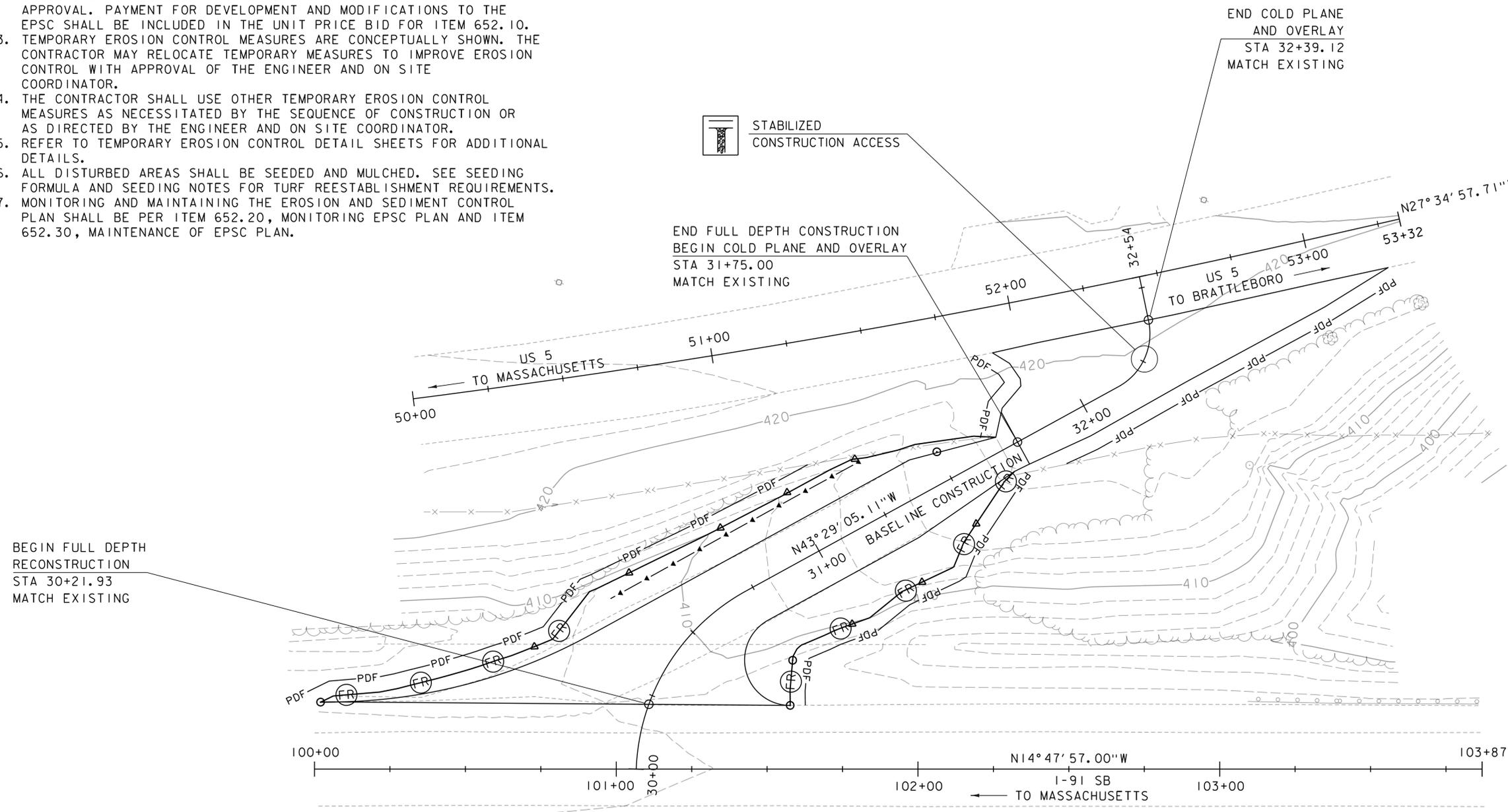
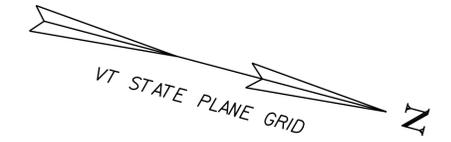
**US 5 CURVE 1**  
 DELTA = 35°46'02.07" RT  
 D = 16°22'12.80"  
 R = 350.00'  
 T = 112.94'  
 L = 218.49'  
 E = 17.77'  
 BANKING = +0.080 (MAX)

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

PROJECT NAME: GUILFORD	
PROJECT NUMBER: BF 0113(68)	
FILE NAME: z13c064bdr_ero.dgn	PLOT DATE: 5/31/2016
PROJECT LEADER: R. YOUNG	DRAWN BY: S. MERKWAN
DESIGNED BY: D. KULL	CHECKED BY: T. KENDRICK
EPSC CONSTRUCTION SITE PLAN	SHEET 58 OF 65

**NOTES**

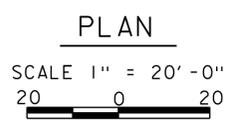
1. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH DISTURBANCE.
2. THESE PLANS SHOW A CONCEPTUAL EROSION CONTROL PLAN, THE CONTRACTOR SHALL SUBMIT A TEMPORARY EROSION CONTROL PLAN FOR APPROVAL. PAYMENT FOR DEVELOPMENT AND MODIFICATIONS TO THE EPSC SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 652.10.
3. TEMPORARY EROSION CONTROL MEASURES ARE CONCEPTUALLY SHOWN. THE CONTRACTOR MAY RELOCATE TEMPORARY MEASURES TO IMPROVE EROSION CONTROL WITH APPROVAL OF THE ENGINEER AND ON SITE COORDINATOR.
4. THE CONTRACTOR SHALL USE OTHER TEMPORARY EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION OR AS DIRECTED BY THE ENGINEER AND ON SITE COORDINATOR.
5. REFER TO TEMPORARY EROSION CONTROL DETAIL SHEETS FOR ADDITIONAL DETAILS.
6. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED. SEE SEEDING FORMULA AND SEEDING NOTES FOR TURF REESTABLISHMENT REQUIREMENTS.
7. MONITORING AND MAINTAINING THE EROSION AND SEDIMENT CONTROL PLAN SHALL BE PER ITEM 652.20, MONITORING EPSC PLAN AND ITEM 652.30, MAINTENANCE OF EPSC PLAN.



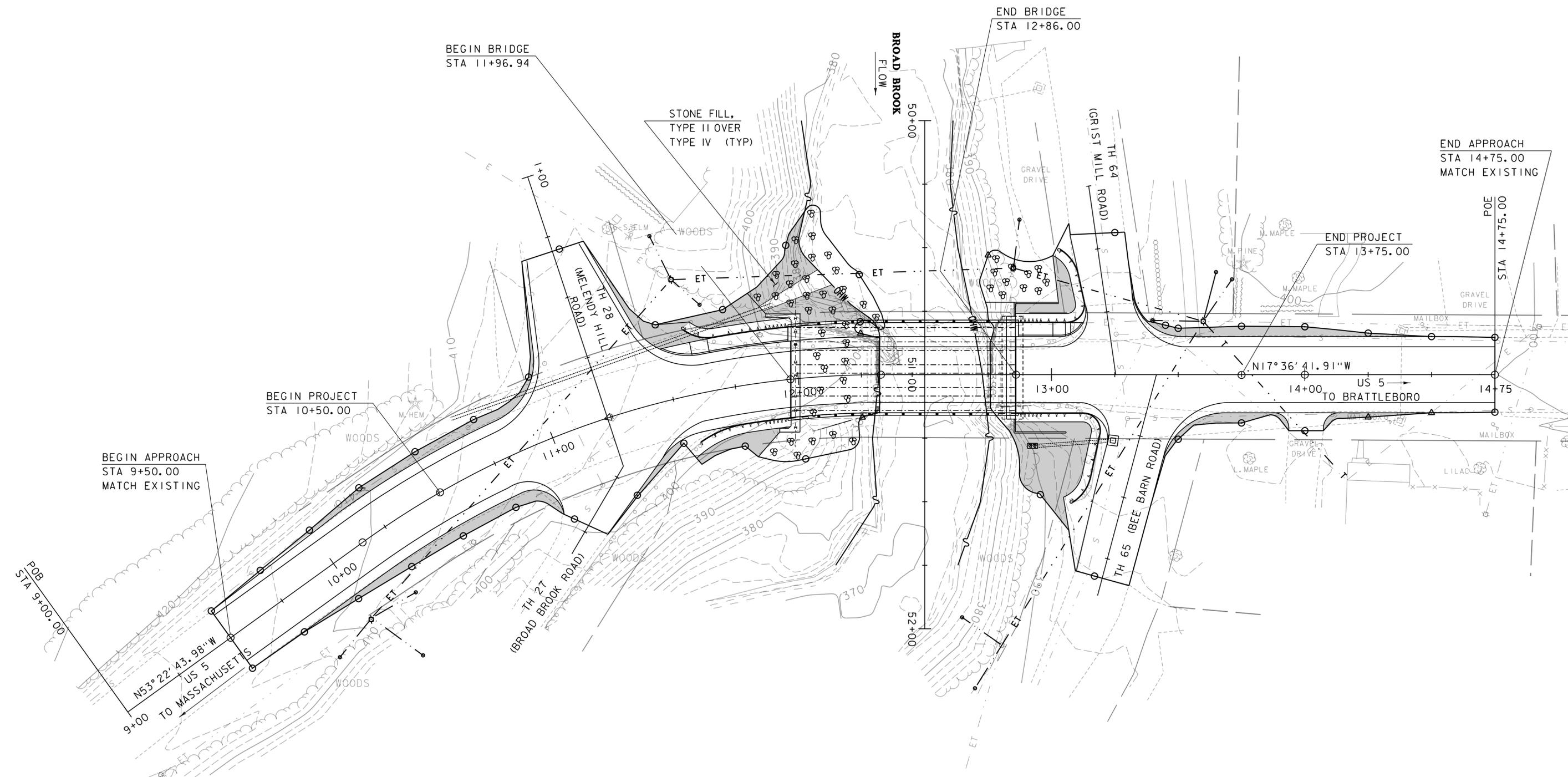
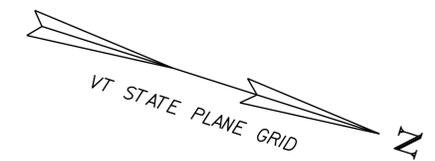
BEGIN FULL DEPTH RECONSTRUCTION  
STA 30+21.93  
MATCH EXISTING

EAR CUF  
DELTA =  
D = 81'  
R = 70.  
T = 39.  
L = 72.  
E = 10.55

EAR CURVE 2  
DELTA = 73°06'34" LT  
D = 286°28'44"  
R = 20.00'  
T = 14.83'  
L = 25.52'  
E = 4.90'



PROJECT NAME: GUILFORD	
PROJECT NUMBER: BF 0113(68)	
FILE NAME: z13c064bdr_ero.dgn	PLOT DATE: 5/31/2016
PROJECT LEADER: R. YOUNG	DRAWN BY: S. MERKWAN
DESIGNED BY: D. KULL	CHECKED BY: T. KENDRICK
EPSC CONSTRUCTION SITE PLAN	SHEET 59 OF 65



BEGIN BRIDGE  
STA 11+96.94

END BRIDGE  
STA 12+86.00

END APPROACH  
STA 14+75.00  
MATCH EXISTING

BEGIN PROJECT  
STA 10+50.00

END PROJECT  
STA 13+75.00

BEGIN APPROACH  
STA 9+50.00  
MATCH EXISTING

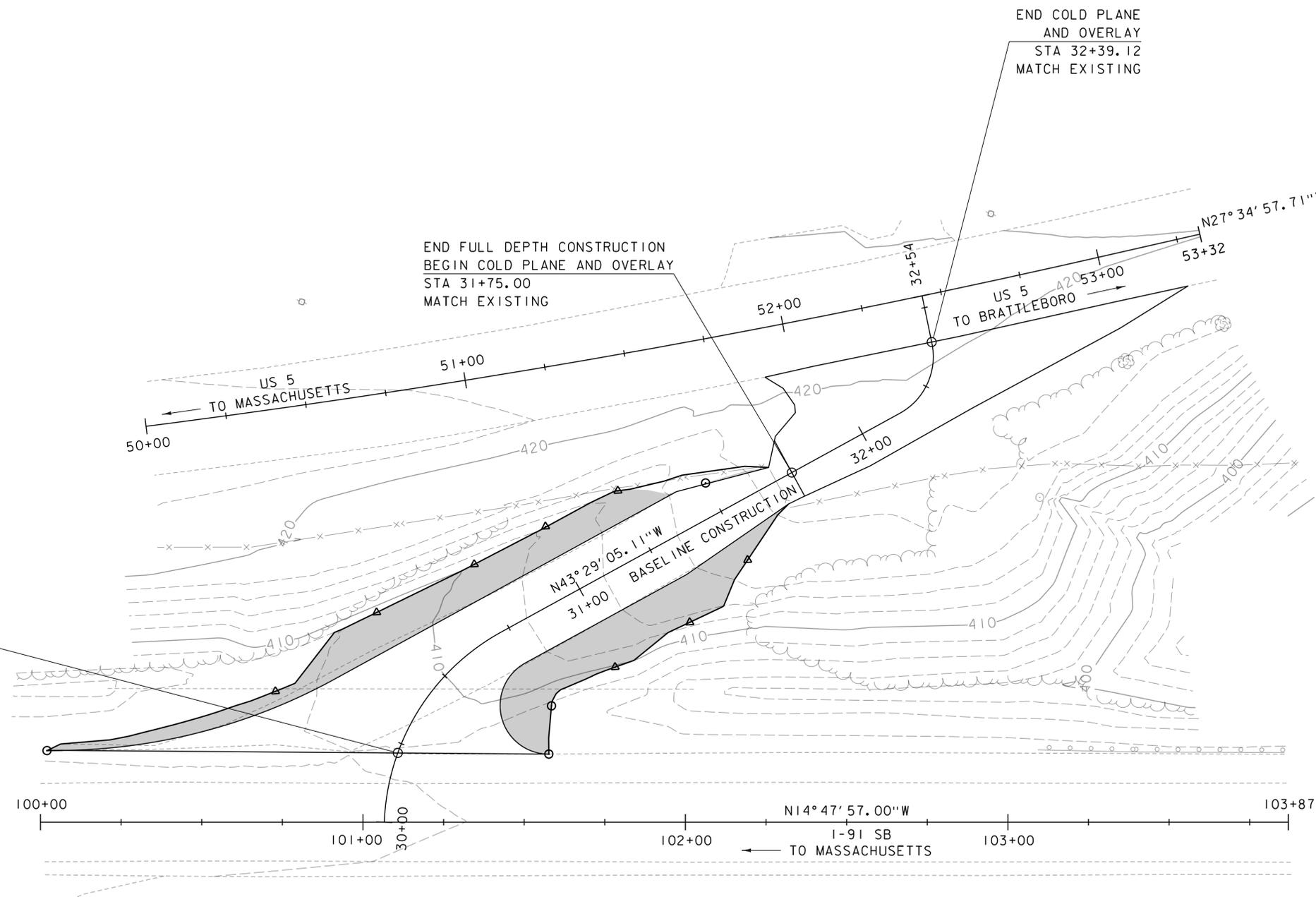
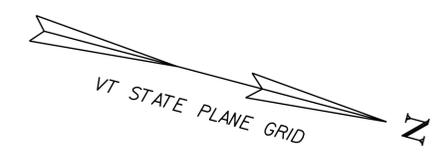
US 5 CURVE 1  
DELTA = 35°46'02.07" RT  
D = 16°22'12.80"  
R = 350.00'  
T = 112.94'  
L = 218.49'  
E = 17.77'  
BANKING = +0.080 (MAX)

PLAN

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

PROJECT NAME: GUILFORD	PLOT DATE: 5/31/2016
PROJECT NUMBER: BF 0113(68)	DRAWN BY: S. MERKWAN
FILE NAME: z13c064bdr_ero.dgn	CHECKED BY: T. KENDRICK
PROJECT LEADER: R. YOUNG	SHEET 60 OF 65
DESIGNED BY: D. KULL	
EPSC FINAL CONDITIONS SITE PLAN	





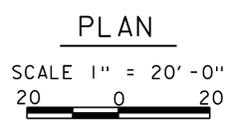
BEGIN FULL DEPTH  
RECONSTRUCTION  
STA 30+21.93  
MATCH EXISTING

END FULL DEPTH CONSTRUCTION  
BEGIN COLD PLANE AND OVERLAY  
STA 31+75.00  
MATCH EXISTING

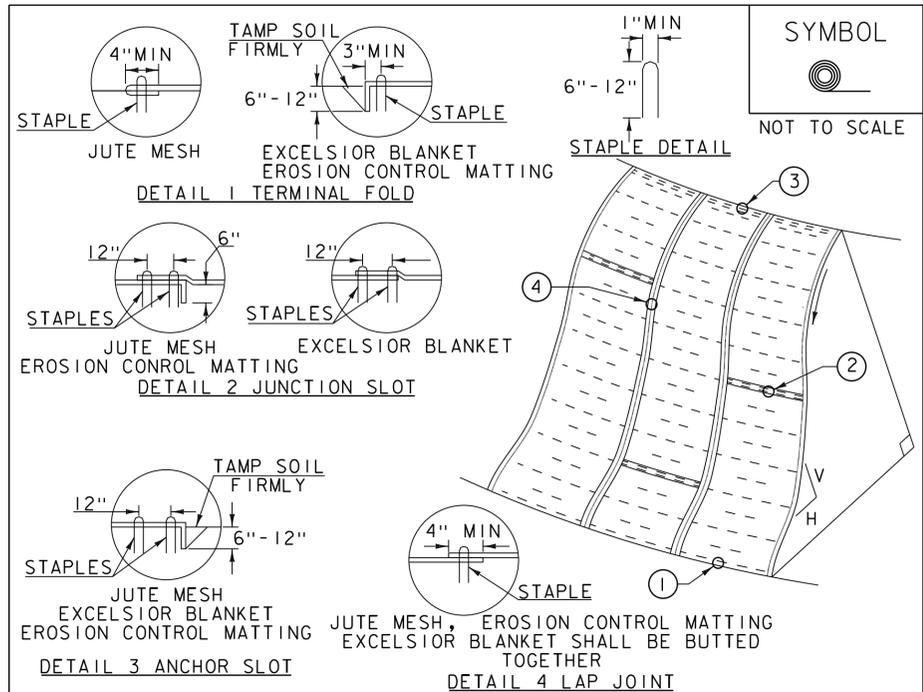
END COLD PLANE  
AND OVERLAY  
STA 32+39.12  
MATCH EXISTING

EAR C  
DELTA  
D = 8  
R = 7  
T = 3  
L = 7  
E = 1

EAR CURVE 2  
DELTA = 73°06'34" LT  
D = 286°28'44"  
R = 20.00'  
T = 14.83'  
L = 25.52'  
E = 4.90'



PROJECT NAME: GUILFORD	
PROJECT NUMBER: BF 0113(68)	
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PROJECT LEADER: R. YOUNG	DRAWN BY: S. MERKWAN
DESIGNED BY: D. KULL	CHECKED BY: T. KENDRICK
EPSC FINAL CONDITIONS SITE PLAN	SHEET 61 OF 65



**CONSTRUCTION SPECIFICATIONS**

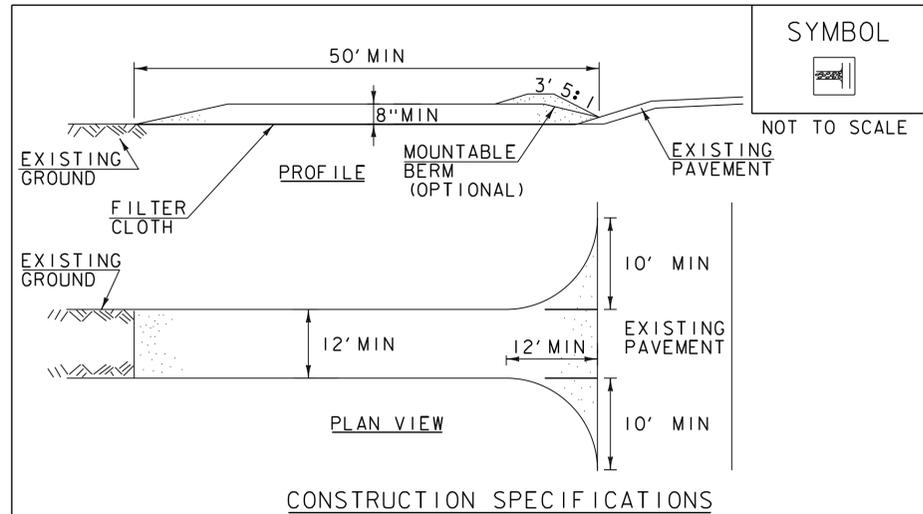
1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4' X 225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4' X 150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

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

**ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE**

NOTES:  
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006-" FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.  
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) OR PERMANENT EROSION MATTING (PAY ITEM 653.21).

REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF



**CONSTRUCTION SPECIFICATIONS**

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

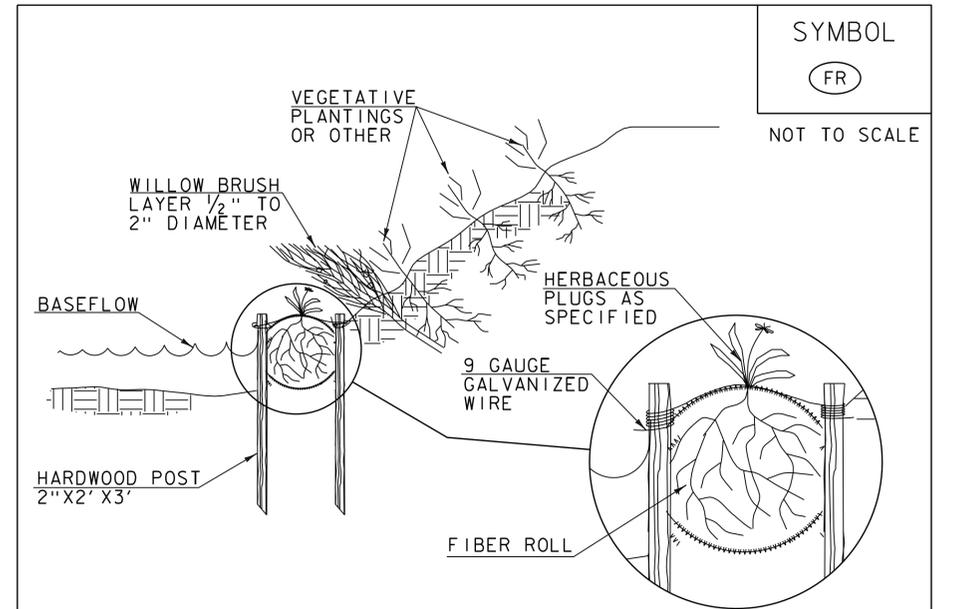
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
ORIGINALLY DEVELOPED BY USDA-NRCS  
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**STABILIZED CONSTRUCTION ENTRANCE**

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

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

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF



**CONSTRUCTION SPECIFICATIONS**

1. EXCAVATE A SHALLOW TRENCH SLIGHTLY BELOW BASEFLOW OR A 4" TRENCH ON SLOPE CONTOURS
2. PLACE THE ROLL IN THE TRENCH AND ANCHOR WITH 2"X2" POSTS PLACED ON BOTH SIDES OF THE ROLL AND SPACED LATERALLY ON 2' TO 4' CENTERS. TRIM THE TOP OF THE POSTS EVEN WITH THE EDGE OF THE ROLL, IF NECESSARY.
3. NOTCH THE POSTS AND TIE TOGETHER, ACROSS THE ROLL, WITH 9 GAUGE GALVANIZED WIRE OR 1/8" DIAMETER BRAIDED NYLON ROPE.
4. PLACE SOIL EXCAVATED FROM THE TRENCH BEHIND THE ROLL AND HAND TAMP. PLANT WITH SUITABLE HERBACEOUS OR WOODY VEGETATION AS SPECIFIED ELSEWHERE IN THE CONTRACT DOCUMENTS. VEGETATION SHALL BE PLACED IMMEDIATELY ADJACENT TO THE ROLL TO PROMOTE ROOT GROWTH INTO THE FIBER. HERBACEOUS VEGETATION, IF SPECIFIED, SHALL BE PLANTED INTO THE FIBER ROLL.

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

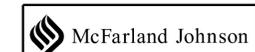
**FIBER ROLL (EROSION LOG)**

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 EROSION LOG (PAY ITEM 653.60)

REVISIONS	
MARCH 21, 2008	WHF
JANUARY 13, 2009	WHF

NOTE:  
THIS DETAIL IS ONE EXAMPLE OF HOW FIBER ROLLS CAN BE INSTALLED. THE CONTRACTOR SHALL INSTALL ALL FIBER ROLLS PER THE MANUFACTURERS INSTALLATION GUIDELINES.



PROJECT NAME: GUILFORD  
PROJECT NUMBER: BF 0113(68)

FILE NAME: z13c064ero\_det.dgn  
PROJECT LEADER: R. YOUNG  
DESIGNED BY: D. KULL  
EPSC DETAILS SHEET 1

PLOT DATE: 5/31/2016  
DRAWN BY: S. MERKWAN  
CHECKED BY: T. KENDRICK  
SHEET 62 OF 65

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

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

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

**CONSTRUCTION GUIDANCE**

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

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES	TURF ESTABLISHMENT
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651.15)	REVISIONS JANUARY 12, 2015 WHF

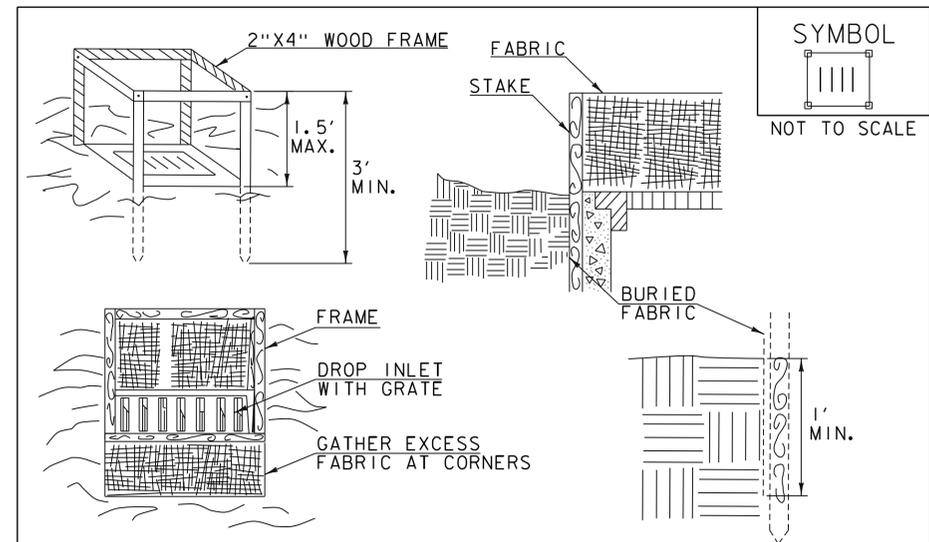
VAOT URBAN LAWN MIX						
LBS/AC						
WEIGHT	BROADCAST	HYDROSEED	NAME	LATIN NAME	GERM	PURITY
42.5%	34	68	CREeping RED FESCUE	FESTUCA RUBRA X RUBRA	85%	98%
20.0%	16	32	PERENNIAL RYE GRASS	LOLIUM PERENNE	90%	95%
32.5%	26	52	KENTUCKY BLUE GRASS	POA PRATENSIS	85%	85%
5.0%	4	8	ANNUAL RYE GRASS	LOLIUM MULTIFLORUM	85%	95%
100%	80	160				

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

**CONSTRUCTION GUIDANCE**

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

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES	TURF ESTABLISHMENT
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651.15)	REVISIONS JANUARY 22, 2015 WHF



**CONSTRUCTION SPECIFICATIONS**

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

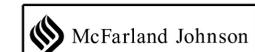
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
ORIGINALLY DEVELOPED BY USDA-NRCS  
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

FILTER FABRIC  
DROP INLET  
PROTECTION

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

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

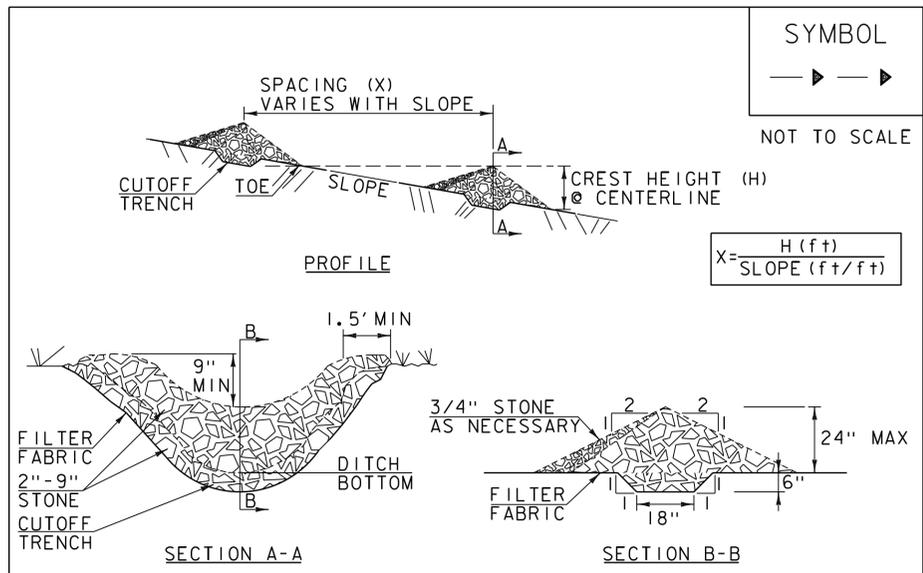
REVISIONS	
MARCH 7, 2008	WHF
JANUARY 13, 2009	WHF



PROJECT NAME: GUILFORD  
PROJECT NUMBER: BF 0113(68)

FILE NAME: z13c064ero\_det.dgn  
PROJECT LEADER: R. YOUNG  
DESIGNED BY: D. KULL  
EPSC DETAILS SHEET 2

PLOT DATE: 5/31/2016  
DRAWN BY: S. MERKWAN  
CHECKED BY: T. KENDRICK  
SHEET 63 OF 65



**CONSTRUCTION SPECIFICATIONS**

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

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

**CHECK DAM**

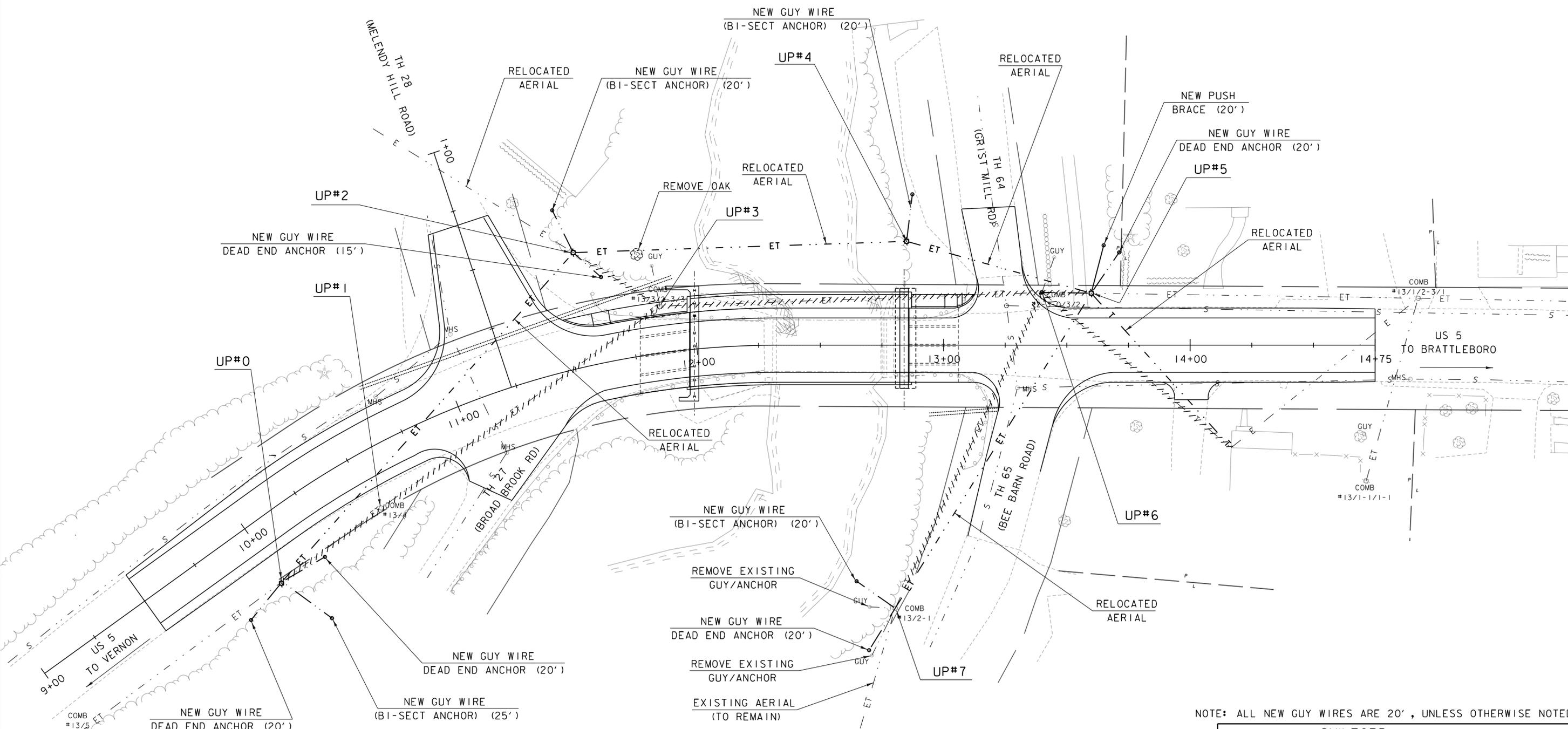
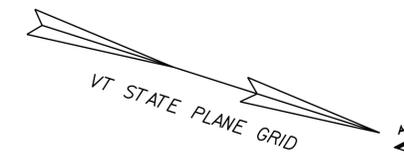
NOTES:  
 REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006-" FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.  
 THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR TEMPORARY STONE CHECK DAM, TYPE I (PAY ITEM 653.25)

REVISIONS	
MARCH 21, 2008	WHF
JANUARY 8, 2009	WHF



PROJECT NAME: GUILFORD	PLOT DATE: 5/31/2016
PROJECT NUMBER: BF 0113(68)	DRAWN BY: S. MERKWAN
FILE NAME: z13c064ero_det.dgn	CHECKED BY: T. KENDRICK
PROJECT LEADER: R. YOUNG	SHEET 64 OF 65
DESIGNED BY: D. KULL	
EPSC DETAILS SHEET 3	

MARK	STATION	OFFSET	PHASING	NORTHING	EASTING	REMARKS	POLE NUMBER
UP#0	10+00	24' RT	PRE-CONSTRUCTION	115234.14	1620496.72	INSTALL NEW POLE AND ANCHORS, CONNECT LINES TO UP#2	NEW POLE
UP#1	10+52	24' RT	PRE-CONSTRUCTION	115263.46	1620455.46	REMOVE EXISTING POLE AND LINES	13/4
UP#2	11+59	46' LT	PRE-CONSTRUCTION	115306.42	1620333.44	INSTALL NEW POLE & GUY WIRES, CONNECT LINES TO UP#0, UP#4 & TH 28 SPUR	NEW POLE
UP#3	11+87	19' LT	PRE-CONSTRUCTION	115346.51	1620343.48	REMOVE EXISTING UTILITY POLE & LINES	13/3/2-3/3
UP#4	12+85	42' LT	PRE-CONSTRUCTION	115433.90	1620288.18	INSTALL NEW POLE & GUY WIRES, CONNECT LINES TO UP#2 & UP#5	NEW POLE
UP#5	13+60	21' LT	PRE-CONSTRUCTION	115511.62	1620285.51	INSTALL NEW POLE WITH GUYS & PUSH BRACE, CONNECT LINES TO UP#4 & UP#7	NEW POLE
UP#6	13+40	21' LT	PRE-CONSTRUCTION	115492.47	1620291.27	REMOVE EXISTING UTILITY POLE & LINES	2-3-0/3/2
UP#7	12+80	106' RT	PRE-CONSTRUCTION	115474.41	1620431.06	CONNECT LINES TO UP#5, REMOVE EXISTING GUYS & INSTALL NEW GUYS	13/2-1



NOTE: ALL NEW GUY WIRES ARE 20', UNLESS OTHERWISE NOTED

UTILITY RELOCATION LAYOUT SHEET

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



PROJECT NAME:	GUILFORD	PLOT DATE:	5/31/2016	
PROJECT NUMBER:	BF 0113(68)	DRAWN BY:	S. MERKWAN	
FILE NAME:	z13c064Utilities.dgn	DESIGNED BY:	D. KULL	
PROJECT LEADER:	R. YOUNG	UTILITY RELOCATION LAYOUT SHEET	CHECKED BY:	B. COLBURN
			SHEET	65 OF 65