

REVIEWER NOTES

1. WORK WILL TAKE PLACE OUTSIDE OF THE EXISTING RIGHT-OF-WAY.
2. OVERHEAD UTILITIES WILL NEED TO BE RELOCATED.
3. THE EXISTING SINGLE SPAN STRUCTURE WILL BE REPLACED WITH AN 85' LONG SINGLE SPAN STRUCTURE. THE PROPOSED ALIGNMENT HAS A CURVE ENDING ON THE BRIDGE. THE PBU'S WILL BE CONSTRUCTED WITH STRAIGHT GIRDERS AND VARIABLE OVERHANGS.
4. THE BRIDGE WILL BE CLOSED FOR APPROXIMATELY 3 WEEKS, AND TRAFFIC WILL BE DETOURED ONTO NEARBY ROADS. ACCESS TO THE TOWN HIGHWAYS AT EITHER END OF THE BRIDGE WILL BE MAINTAINED DURING CONSTRUCTION.
5. ABUTMENT 1 WILL BE FOUNDED ON PILES, WITH A PRECAST PILE CAP. A SINGLE ROW OF VERTICAL PILES IS PROPOSED. ABUTMENT 1 IS PROPOSED TO BE EXPANSION IN ORDER TO MINIMIZE THE LATERAL FORCE ON THE PILES DUE TO THEIR SHORT LENGTH (APX. 17'). THE EXISTING ABUTMENT 1 IS TO BE LEFT IN PLACE, AND CUT OFF APX. 8' ABOVE ORDINARY HIGH WATER IN ORDER TO MINIMIZE THE IN-STREAM WORK REQUIRED.
6. ABUTMENT 2 WILL BE A SPREAD FOOTING FOUNDED ON LEDGE. THE FOOTING WILL BE A PRECAST FOOTING FOUNDED ON A CAST-IN-PLACE SUB-FOOTING. THE TOP OF THE FOOTING WILL BE EXPOSED BENEATH THE ABUTMENT STEM IN ORDER TO MINIMIZE THE IN-STREAM WORK REQUIRED. A PREFABRICATED MODULAR WALL IS PROPOSED FOR BOTH WINGS AT ABUTMENT 2 DUE TO THE LENGTH OF THE WINGS REQUIRED (APX. 25').
7. THERE IS AN EXISTING SEWER LINE IN THE NORTH AND SOUTH APPROACHES OF THE BRIDGE. THE SIZE AND EXACT LOCATION OF THE SEWER LINE IS UNKNOWN. THE EXISTING TOWN DOCUMENTS INDICATE THE SEWER LINE IS APX. 7' BELOW EXISTING GRADE.
8. THE EXTEN OF THE ROADWAY RECONSTRUCTION FOR THE TOWN-HIGHWAYS IN BOTH APPROACHES HAS BEEN MINIMIZED IN ORDER TO REDUCE THE LIMITS OF WORK REQUIRED FOR THE PROJECT.

STATE OF VERMONT AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT BRIDGE PROJECT

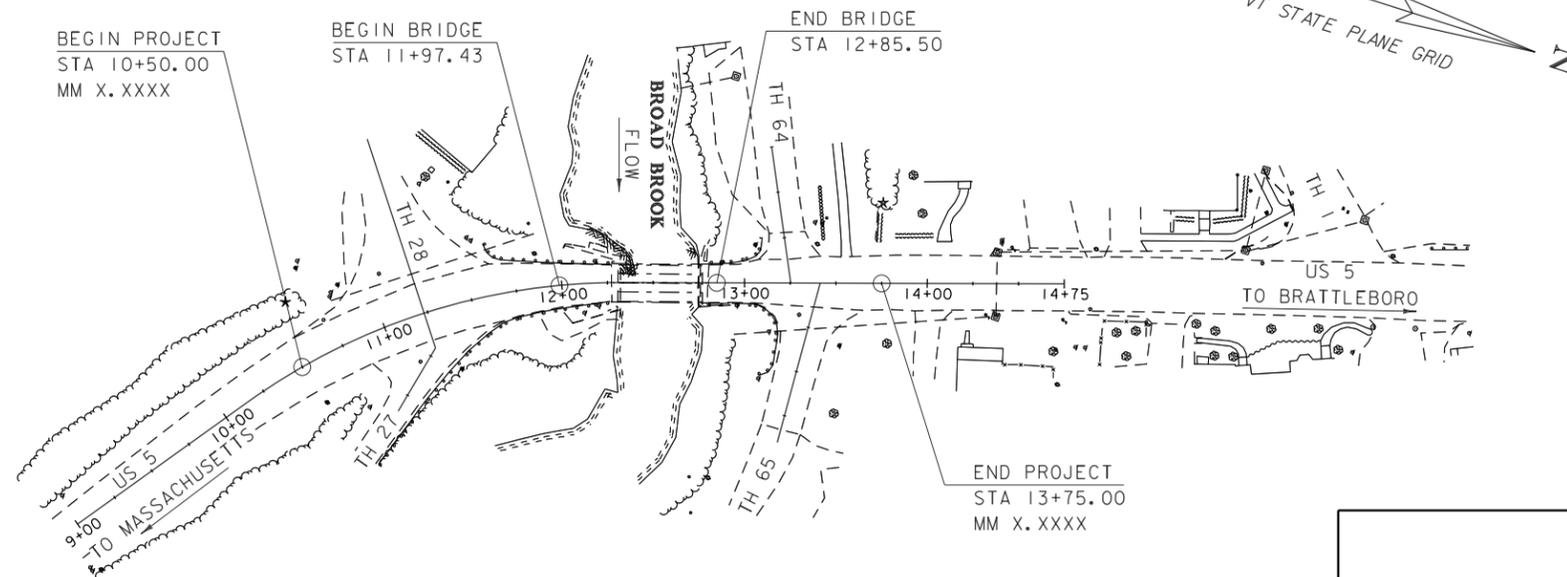
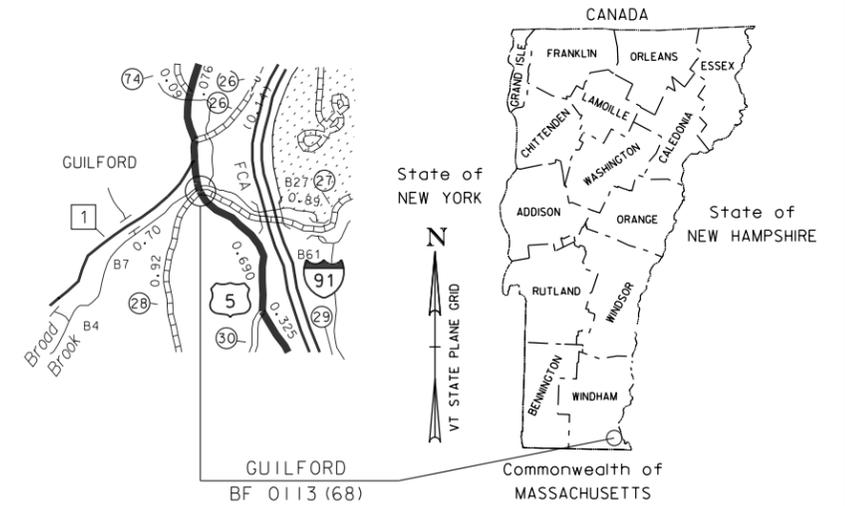
TOWN OF GUILFORD
COUNTY OF WINDHAM

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

PROJECT LOCATION: APPROXIMATELY 1.5 MILES SOUTH OF INTERSTATE 91 EXIT 1

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.

LENGTH OF STRUCTURE: 88.07 FEET
LENGTH OF ROADWAY: 236.93 FEET
LENGTH OF PROJECT: 325.00 FEET



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

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

PRELIMINARY PLANS SUBMITTAL FEBRUARY 2015

	DIRECTOR OF PROGRAM DEVELOPMENT
	APPROVED _____ DATE _____
	PROJECT MANAGER : R. YOUNG
	PROJECT NAME : GUILFORD PROJECT NUMBER : BF 0113 (68)
SHEET 1 OF 36 SHEETS	

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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-134	BRIDGE NUMBER PLAQUE	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
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-10	CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNING	08-06-2012
T-30	CONSTRUCTION SIGN DETAILS	08-06-2012
T-35	CONSTRUCTION ZONE LONGITUDNAL DROP-OFFS	08-06-2012
T-36	CONSTRUCTION ZONE LONGITUDNAL DROP-OFFS FOR PAVING	08-06-2012
T-45	SQUARE TUBE SIGN POST AND ANCHOR	01-02-2013

STRUCTURES DETAIL SHEETS

SD-501.00	CONCRETE DETAILS AND NOTES	2/9/2012
SD-502.00	CONCRETE DETAILS AND NOTES	10/10/2012
SD-516.10	BRIDGE JOINT ASPHALTIC PLUG	8/29/2011
SD-516.11a	BRIDGE EXPANSION JOINT, VERMONT	2/24/2011
SD-516.11b	BRIDGE EXPANSION JOINT, VERMONT	2/25/2011
SD-601.00	STRUCTURAL STEEL DETAILS AND NOTES	6/4/2010
SD-602.00	STRUCTURAL STEEL PLATE GIRDER DETAILS AND NOTES	6/4/2010

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 HIGH-WATER 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: 398.6'
 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 #: 191 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							
POSTING							
OPERATING							
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	
2016	2400	290	56	10.3	250	20 year ESAL for flexible pavement from 2016 to 2036 : 1026000
2036	2600	310	56	15	400	40 year ESAL for flexible pavement from 2016 to 2056 : 2374000
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: Single span pedestrian bridge
 CLEAR SPAN (NORMAL TO STREAM): 85' minimum*
 VERTICAL CLEARANCE ABOVE STREAMBED: Elevation 382.0' minimum*
 WATERWAY AREA OF FULL OPENING: 470 sq. ft.*

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	d _p : 0.0 INCH
3. DESIGN SPAN	L: 85' FT
4. MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ: ---
5. PRESTRESSING STRAND	f _y : ---
6. PRESTRESSED CONCRETE STRENGTH	f'c: ---
7. PRESTRESSED CONCRETE RELEASE STRENGTH	f'ci: ---
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	f _y : 60 KSI
13. STRUCTURAL STEEL AASHTO M270 (WEATHERING)	f _y : 50 KSI
14. NOMINAL BEARING RESISTANCE OF SOIL	q _n : --- KSF
15. SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: TBD
16. NOMINAL BEARING RESISTANCE OF ROCK	q _n : 10.0 KSF
17. ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	φ: TBD

18. PILE RESISTANCE FACTOR	φ: TBD
19. LATERAL PILE DEFLECTION	Δ: TBD INCH
20. BASIC WIND SPEED	V _{3s} : ---
21. MINIMUM GROUND SNOW LOAD	p _g : ---
22. SEISMIC DATA	PGA: TBD S _s : --- S ₁ : ---
23.	---
24.	---
25.	---
26.	---

PROJECT NAME: **GUILFORD**
 PROJECT NUMBER:
 FILE NAME: PI Sheet Builder_v008-13c.xls PLOT DATE: 2/16/2015
 PROJECT LEADER: R. YOUNG DRAWN BY: S. MERKWAN
 DESIGNED BY: D. KULL CHECKED BY: T. KENDRICK
PRELIMINARY INFORMATION SHEET 1 SHEET 2 OF 36

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 RADIUS 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

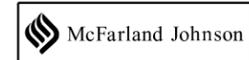
**ARCHEOLOGICAL & HISTORIC**

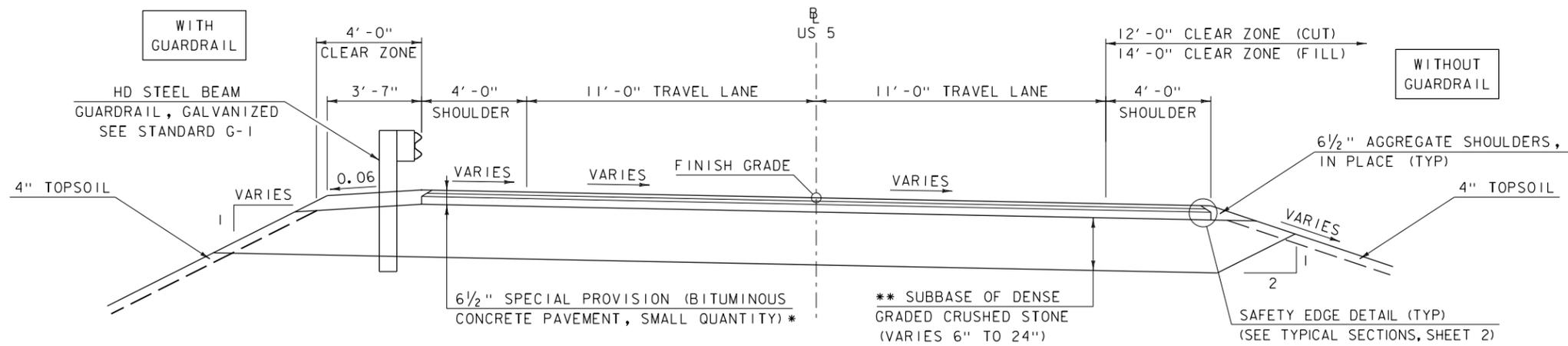
—	ARCHEOLOGICAL BOUNDARY
—	HISTORIC DISTRICT BOUNDARY
—	HISTORIC AREA
Ⓜ	HISTORIC STRUCTURE

**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

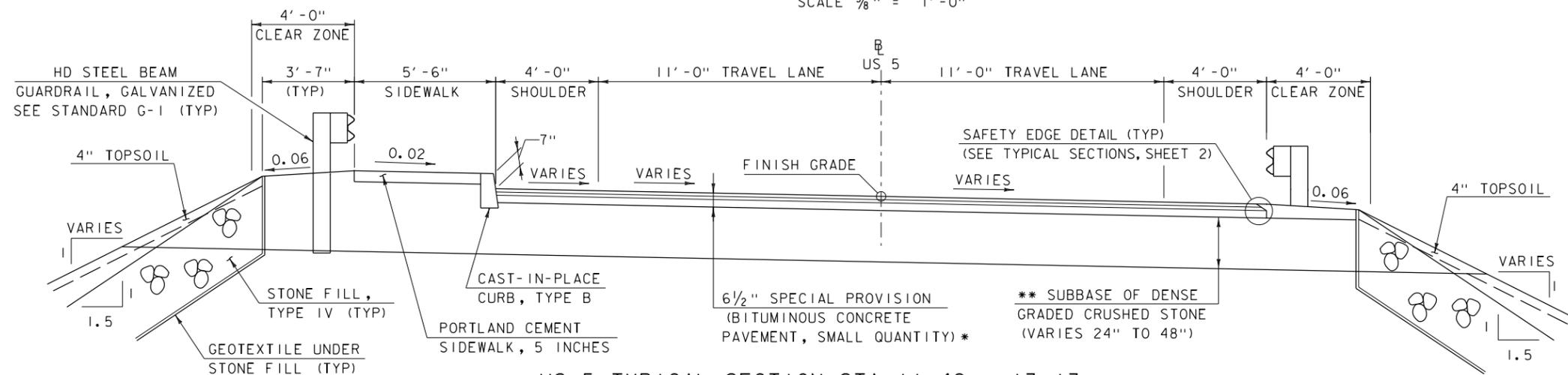
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PROJECT NUMBER:	BF 0113(68)
FILE NAME:	z13c064.legend.dgn
PROJECT LEADER:	R. YOUNG
DESIGNED BY:	VTRANS
LEGEND SHEET	
PLOT DATE:	2/16/2015
DRAWN BY:	S. OZANA
CHECKED BY:	B. COLBURN
SHEET	3 OF 36





**US 5 TYPICAL SECTION**  
 (STA 10+00 - 11+49, & STA 13+13 - 14+25)

SCALE 3/8" = 1'-0"



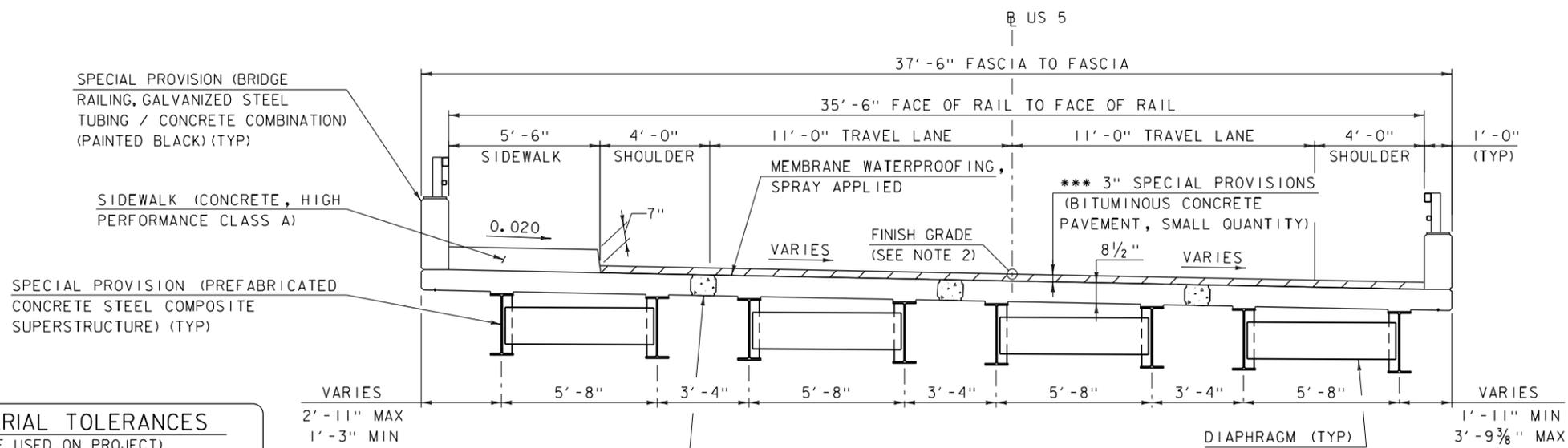
**US 5 TYPICAL SECTION STA 11+49 - 13+13**

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



**TYPICAL BRIDGE SECTION**

SCALE 3/8" = 1'-0"

**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**

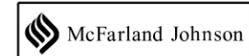
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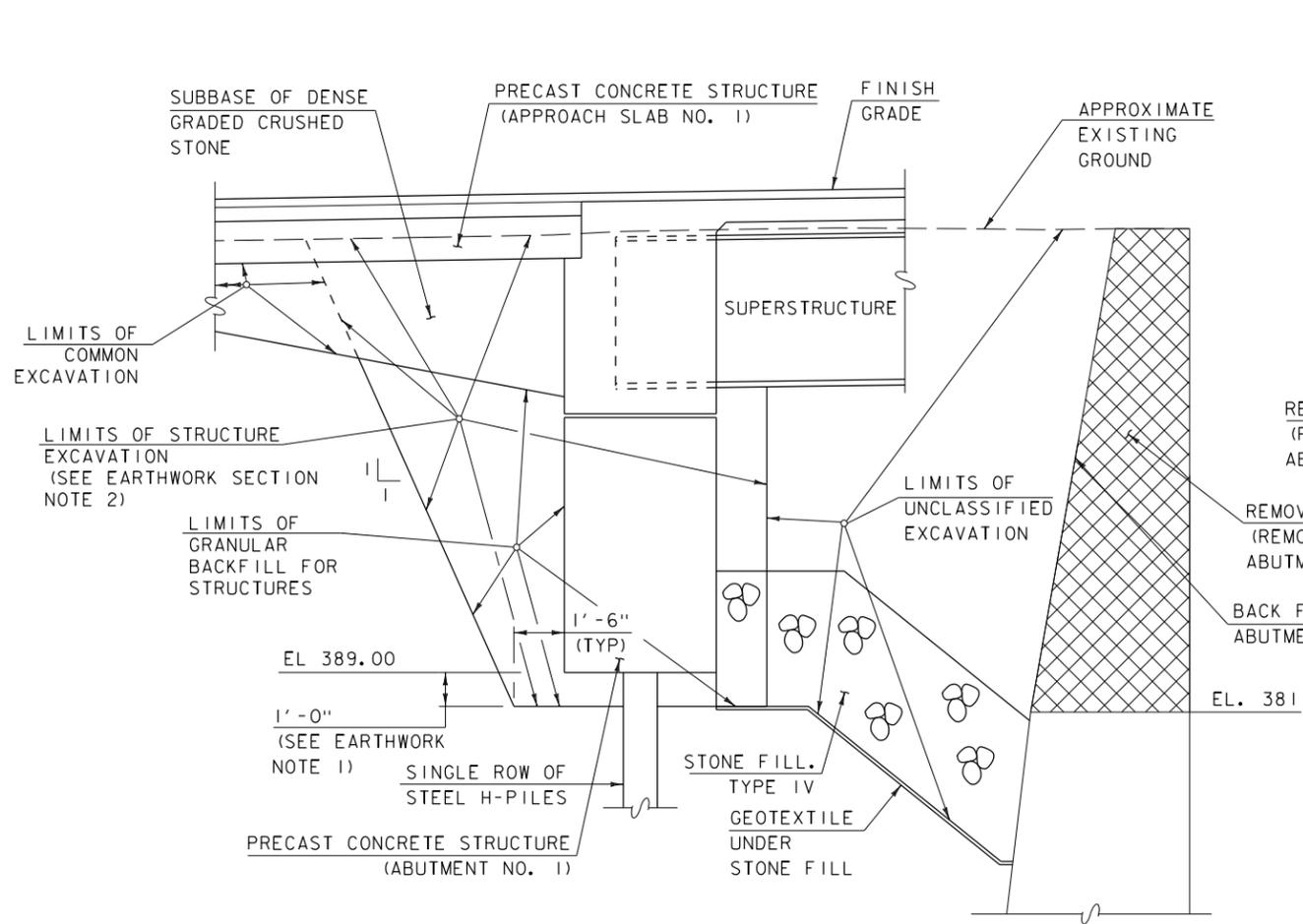
SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	+/- 1"

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

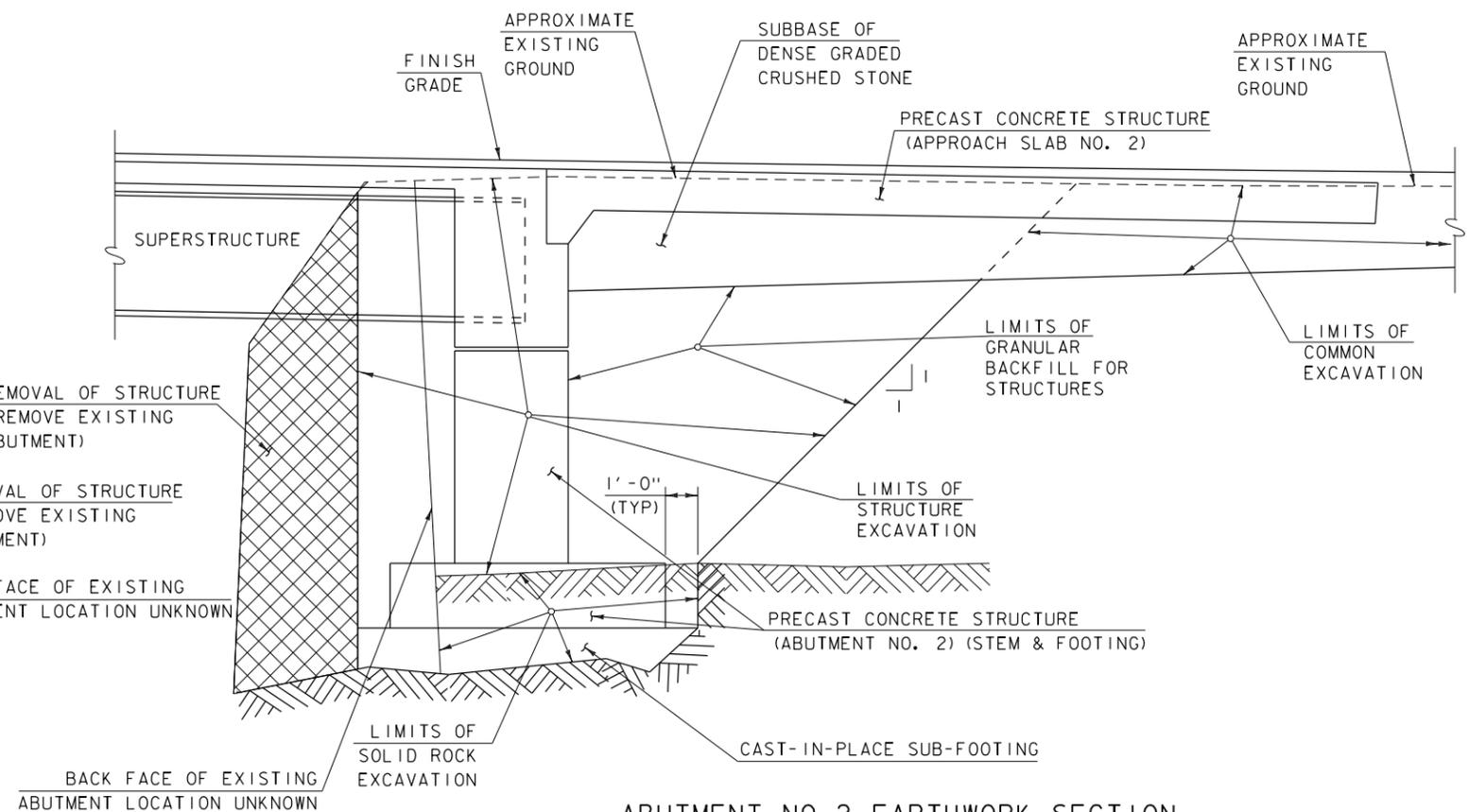
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 PROJECT LEADER: R. YOUNG  
 DESIGNED BY: D. KULL  
 TYPICAL SECTIONS SHEET 1

PLOT DATE: 2/16/2015  
 DRAWN BY: S.OZANA  
 CHECKED BY: T.KENDRICK  
 SHEET 4 OF 36

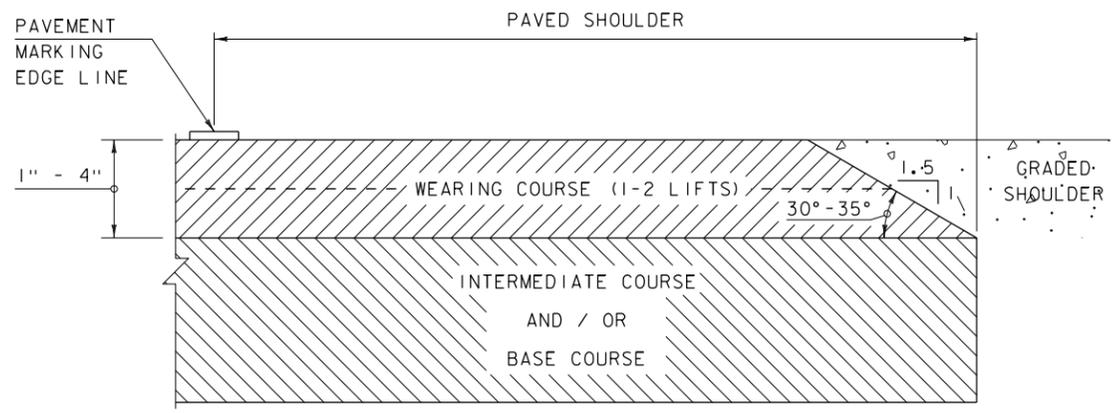




**ABUTMENT NO 1 EARTHWORK SECTION**  
NOT TO SCALE

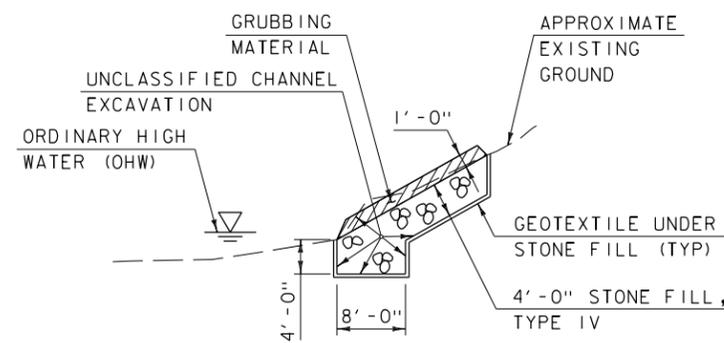


**ABUTMENT NO 2 EARTHWORK SECTION**  
NOT TO SCALE



**SAFETY EDGE DETAIL**  
NOT TO SCALE

NOTE: COST FOR FORMING AND COMPACTING SAFETY EDGE SHALL BE INCIDENTAL TO SPECIAL PROVISIONS (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY). LEVELING COURSE MAY INCLUDE THE "SAFETY EDGE" AT THE CONTRACTORS CHOICE.

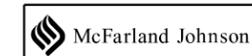


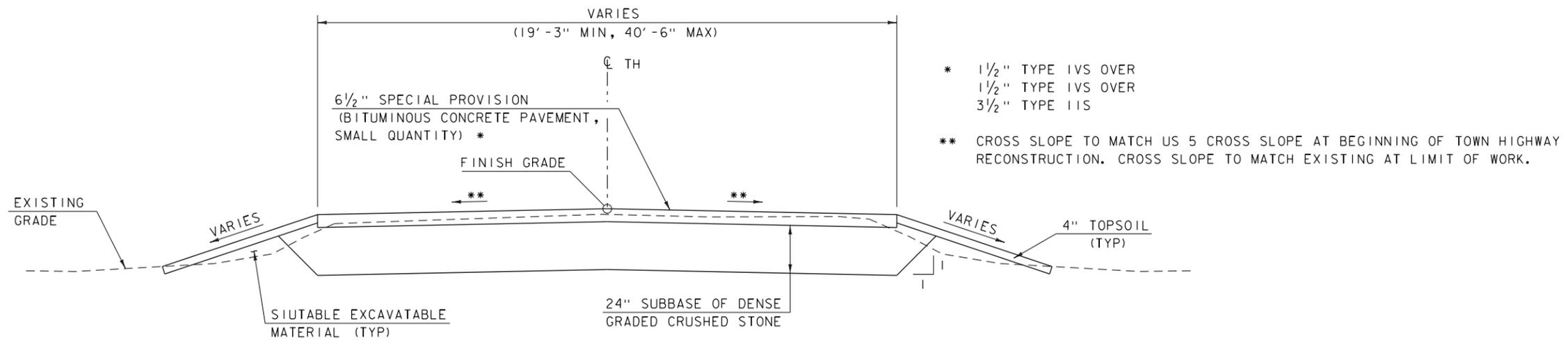
**TYPICAL CHANNEL SECTION**  
NOT TO SCALE

**EARTHWORK SECTION NOTES**

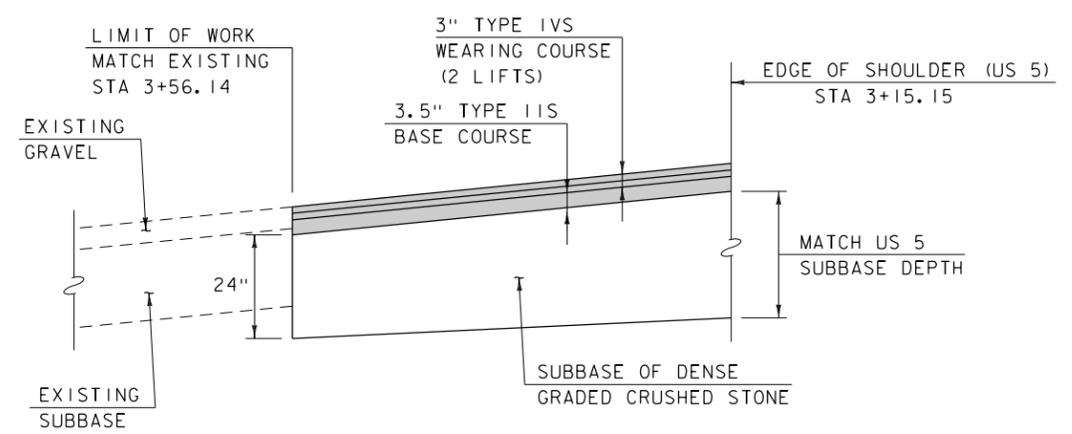
- ONE FOOT UNDERCUT AS DETERMINED BY THE ENGINEER.
- ACTUAL LIMITS OF STRUCTURE EXCAVATIONS SHALL BE DETERMINED BY THE CONTRACTOR. HOWEVER, ONLY THE STRUCTURE EXCAVATION BETWEEN THE LIMITS SHOWN WILL BE PAID FOR UNDER ITEM 204.25 "STRUCTURE EXCAVATION". EXCAVATION BY THE CONTRACTOR OUTSIDE OF THESE LIMITS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

PROJECT NAME:	GUILFORD
PROJECT NUMBER:	BF 0113(68)
FILE NAME:	13c064/sl3c064typical.dgn
PROJECT LEADER:	R. YOUNG
DESIGNED BY:	D. KULL
TYPICAL SECTIONS SHEET 2	
PLOT DATE:	2/16/2015
DRAWN BY:	S.OZANA
CHECKED BY:	T. KENDRICK
SHEET	5 OF 36

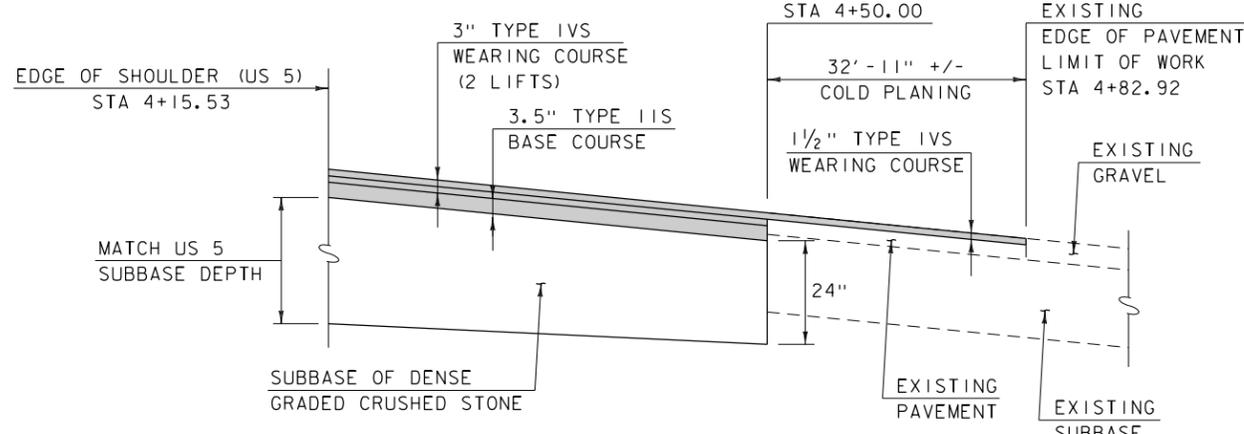




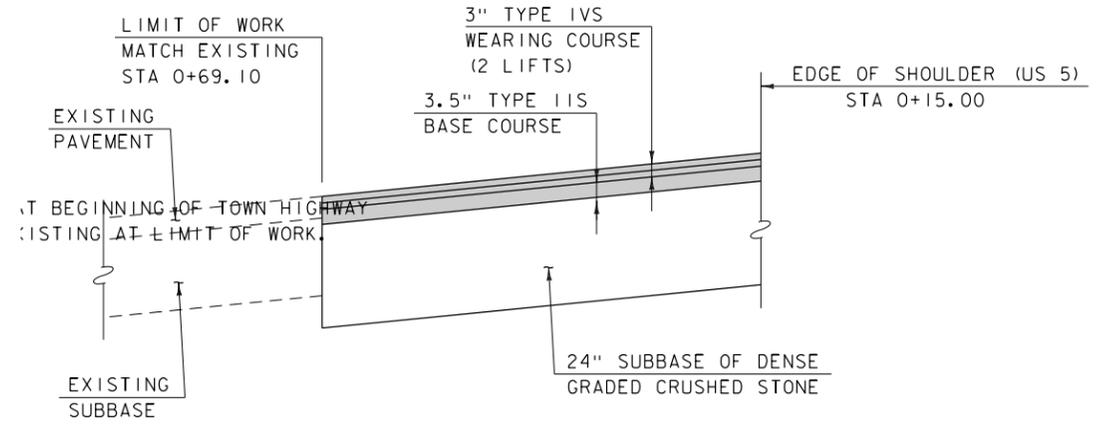
**PROPOSED TYPICAL SECTION**  
**TH 27, TH 28, TH 64, & TH 65 TYPICAL SECTION**  
 NOT TO SCALE



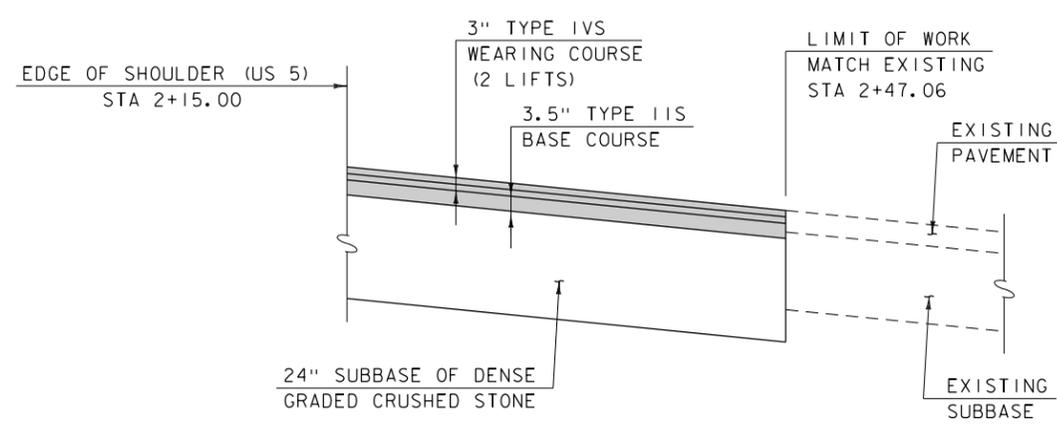
**TH 64 (GRIST MILL RD)**  
**MATERIAL TRANSITION**  
 NOT TO SCALE



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

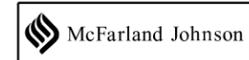


**TH 28 (MELENDY HILL RD)**  
**MATERIAL TRANSITION**  
 NOT TO SCALE



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

PROJECT NAME:	GUILFORD	PLOT DATE:	2/16/2015
PROJECT NUMBER:	BF 0113(68)	DRAWN BY:	S.OZANA
FILE NAME:	13c064/sl3c064+typical.dgn	CHECKED BY:	B. COLBURN
PROJECT LEADER:	R. YOUNG	TYPICAL SECTIONS SHEET 3	SHEET 6 OF 36
DESIGNED BY:	D. KULL		



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 11N 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.

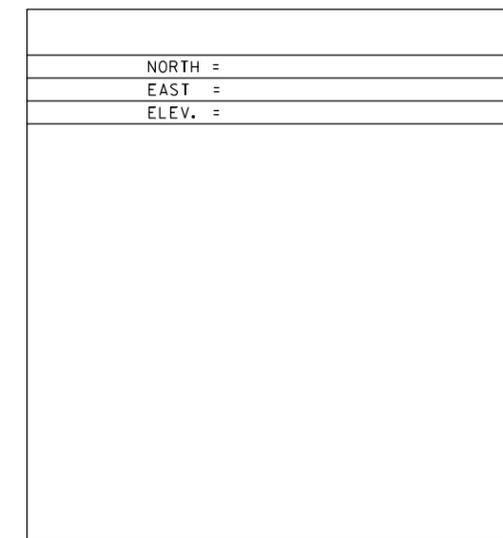
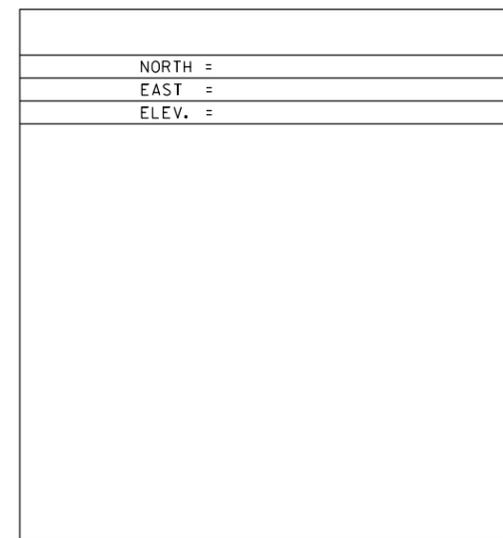
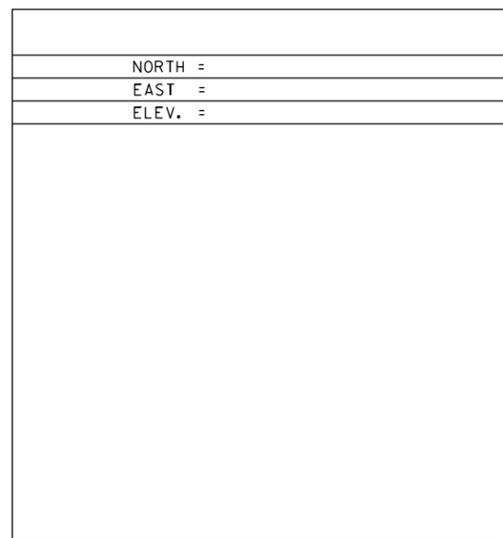
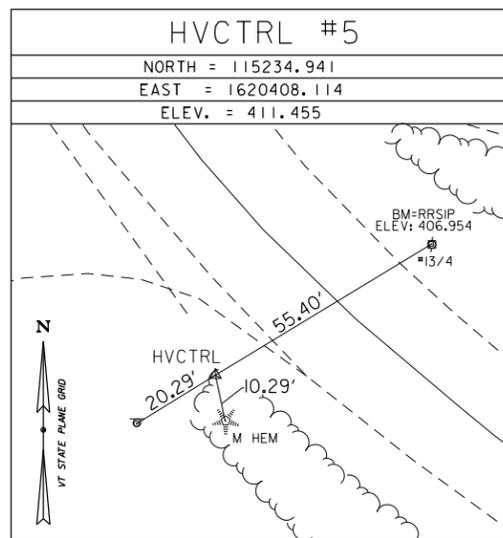
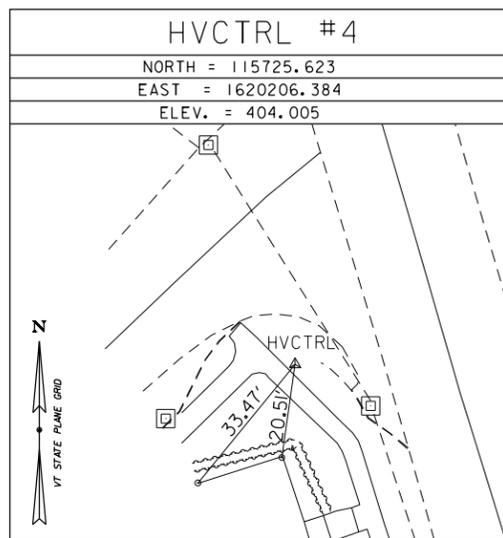
HVCTRL #3

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 11N 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 FERMONT 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:	GUILFORD
PROJECT NUMBER:	BF 0113(68)
FILE NAME:	z13c064t1.dgn
PROJECT LEADER:	R. YOUNG
DESIGNED BY:	VTRANS / MJ
TIE SHEET	
PLOT DATE:	2/16/2015
DRAWN BY:	VTRANS
CHECKED BY:	VTRANS
SHEET	7 OF 36

**REMOVAL AND DISPOSAL OF GUARDRAIL**

STA 11+62 - STA 12+27 LT  
 STA 11+52 - STA 12+27 RT  
 STA 12+81 - STA 13+10 LT  
 STA 12+80 - STA 13+18 RT

**COLD PLANING, BITUMINOUS PAVEMENT**

STA 9+50 - STA 10+00 LT  
 STA 9+50 - STA 10+00 RT  
 STA 14+25 - STA 14+75 LT  
 STA 14+25 - STA 14+75 RT  
 STA 04+50 - STA 04+80 (TH 65)

**PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE**

STA 13+24 RT

**CHANGING ELEVATIONS OF SEWER MANHOLES**

STA 10+73 LT  
 STA 11+07 LT  
 STA 11+12 RT  
 STA 13+19 RT  
 STA 13+25 LT

**PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH**

STA 11+49 - STA 11+98 LT  
 STA 12+86 - STA 13+13 LT

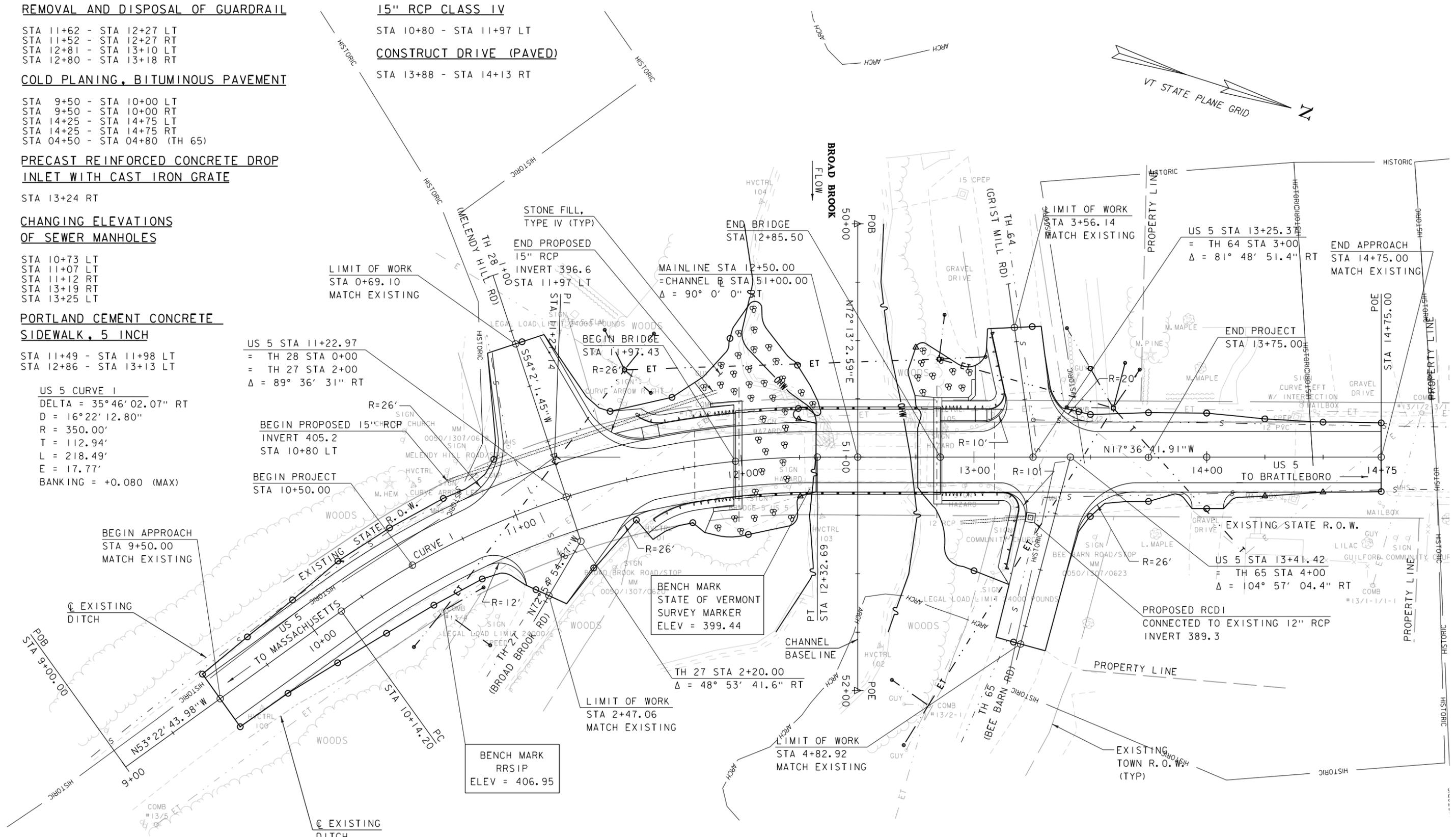
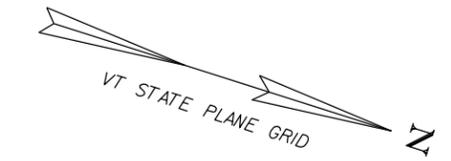
US 5 CURVE 1  
 DELTA = 35° 46' 02.07" RT  
 D = 16° 22' 12.80"  
 R = 350.00'  
 T = 112.94'  
 L = 218.49'  
 E = 17.77'  
 BANKING = +0.080 (MAX)

**15" RCP CLASS IV**

STA 10+80 - STA 11+97 LT

**CONSTRUCT DRIVE (PAVED)**

STA 13+88 - STA 14+13 RT

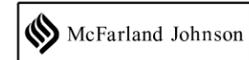


EXISTING BRIDGE DATA	
SINGLE SPAN CONCRETE T-BEAM	
BUILT IN 1925	
LENGTH = 53 FT, WIDTH = 21 FT	

**LAYOUT**

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

PROJECT NAME: GUILFORD	FILE NAME: z13c064bdr.dgn	PLOT DATE: 2/16/2015
PROJECT NUMBER: BF 0113(68)	PROJECT LEADER: R. YOUNG	DRAWN BY: S. MERKWAN
	DESIGNED BY: D. KULL	CHECKED BY: T. KENDRICK
	LAYOUT SHEET	SHEET 8 OF 36



**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+22 LT

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

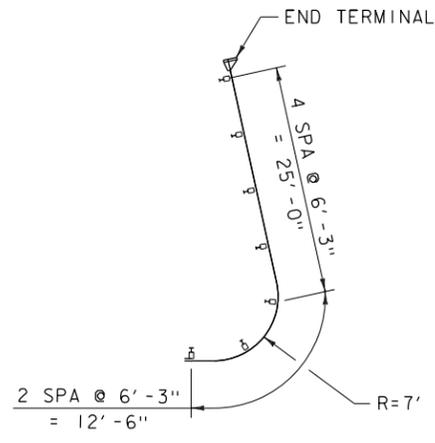
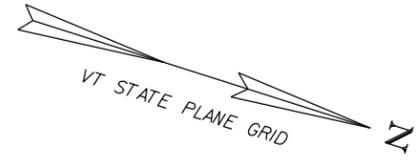
STA 11+97 - STA 12+86 LT  
 STA 11+97 - STA 12+86 RT

**REMOVE AND RESET SIGN**

STA 13+06 LT  
 STA 13+13 RT

**REMOVING SIGNS**

STA 10+81 LT  
 STA 12+12 RT  
 STA 12+19 LT  
 STA 12+21 RT  
 STA 12+87 LT  
 STA 12+96 RT  
 STA 13+06 LT  
 STA 13+13 RT



**T-INTERSECTION SYSTEM**

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

**4" WHITE LINE (4" WL)**

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+50 LT & RT (TH 65)

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

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

**4" YELLOW LINE (4" DY)**

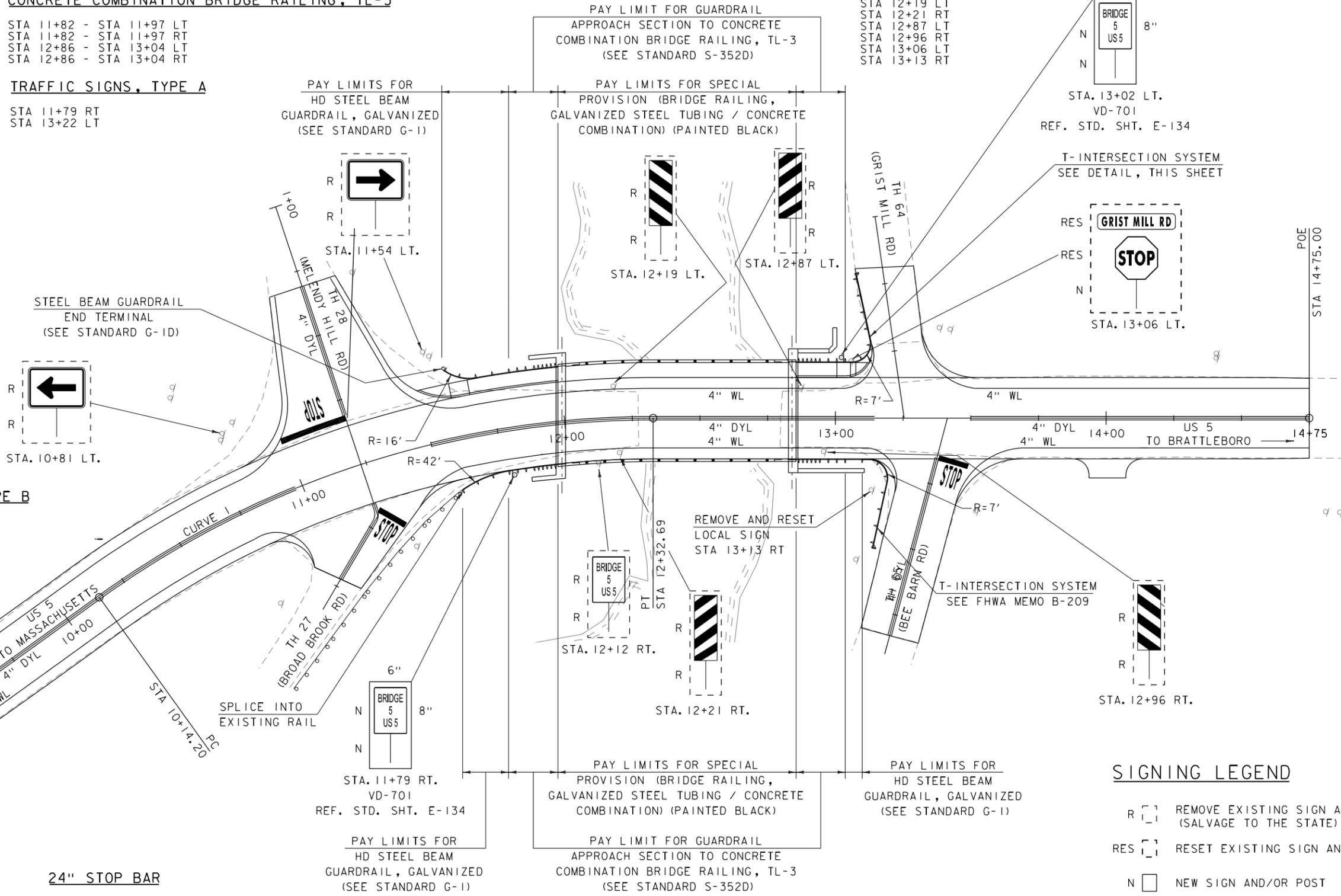
STA 9+50 - 14+75 CENTERLINE  
 STA 9+75 - STA 10+97 CENTERLINE  
 STA 11+50 - STA 13+14 CENTERLINE  
 STA 13+75 - STA 14+75 CENTERLINE  
 STA 0+15 - STA 0+69 (TH 28) CENTERLINE  
 STA 2+15 - STA 2+47 (TH 27) CENTERLINE  
 STA 4+15 - STA 4+50 (TH 65) CENTERLINE

**24" STOP BAR**

STA 10+98, LT  
 STA 11+25 RT  
 STA 13+40 RT

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

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



**STRIPING LEGEND**

DYL = DOUBLE YELLOW LINE  
 SWL = SINGLE WHITE LINE

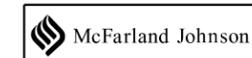
**SIGNING LEGEND**

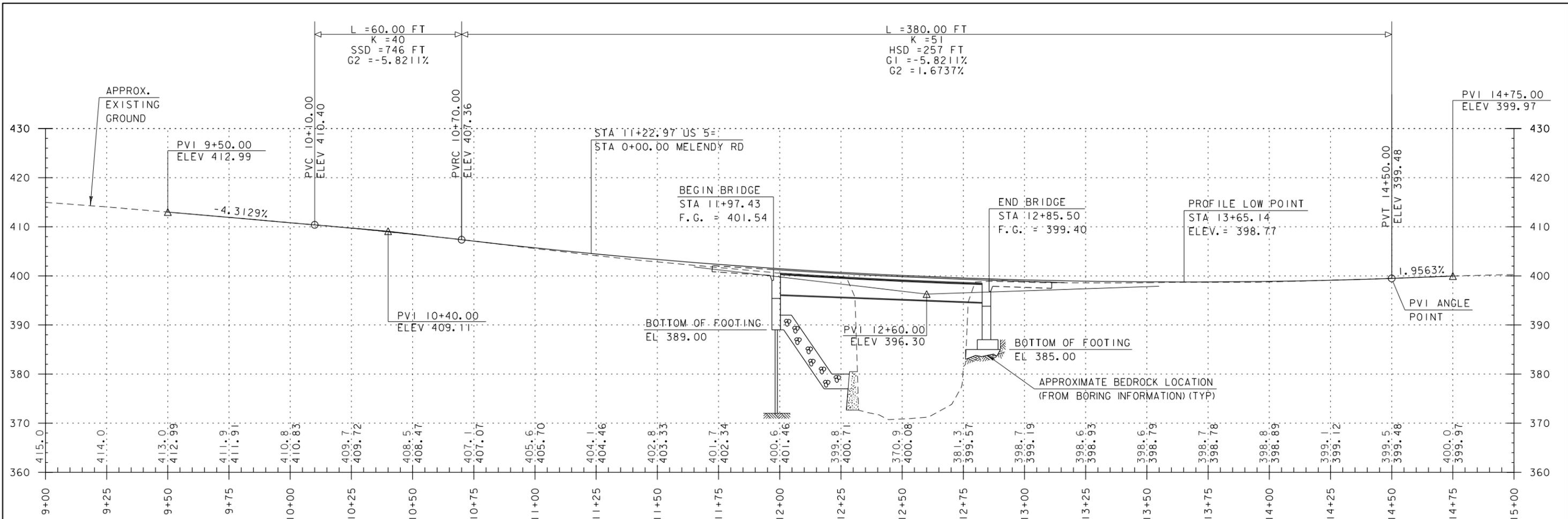
R [ ] REMOVE EXISTING SIGN AND POST (SALVAGE TO THE STATE)  
 RES [ ] RESET EXISTING SIGN AND POST  
 N [ ] NEW SIGN AND/OR POST

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

FILE NAME: z13c064_raillayout.dgn  
 PROJECT LEADER: R. YOUNG  
 DESIGNED BY: D. KULL  
 CURB, RAIL, SIGNING & STRIPING LAYOUT

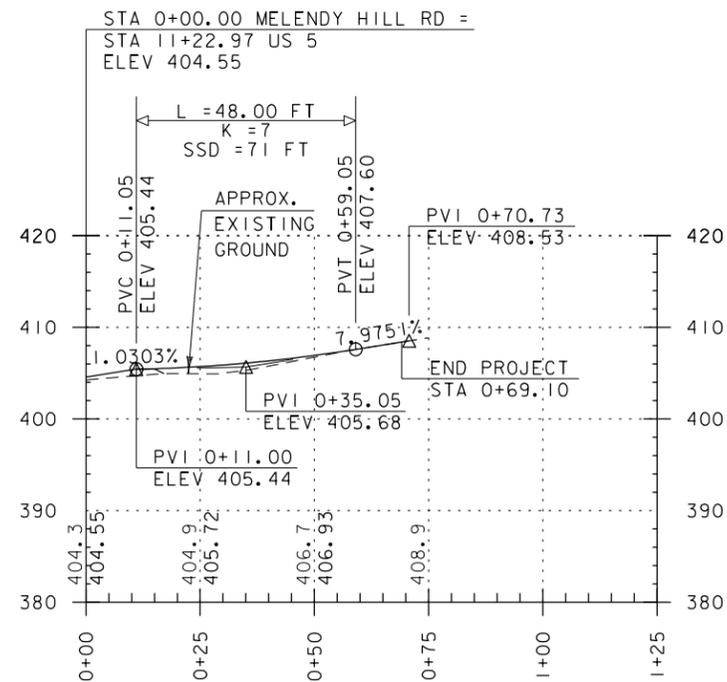
PLOT DATE: 2/16/2015  
 DRAWN BY: S. MERKWAN  
 CHECKED BY: T. KENDRICK  
 SHEET 9 OF 36





**US 5 PROFILE**

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



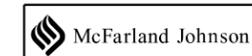
**TH 28 (MELENDY HILL RD) PROFILE**

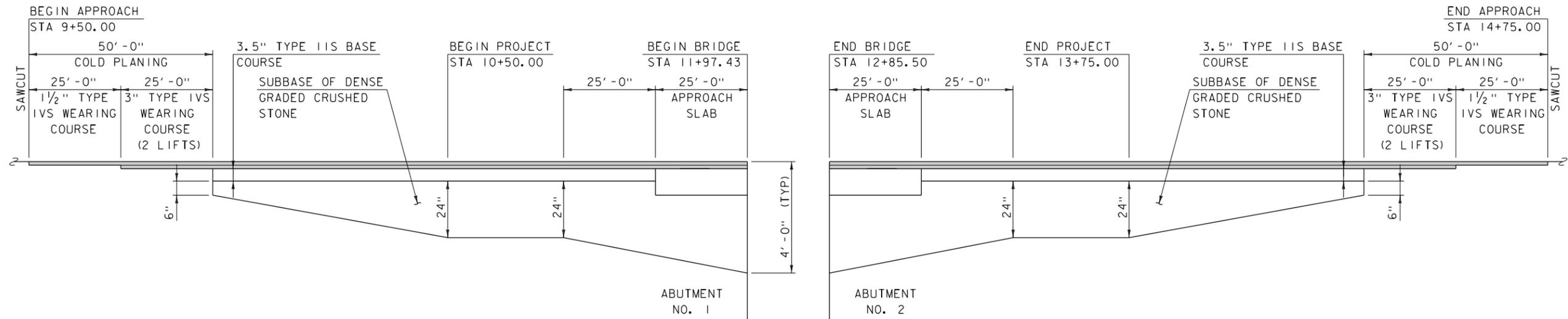
HORIZONTAL SCALE: 1"=20'  
 VERTICAL SCALE: 1"=10'

**NOTES**

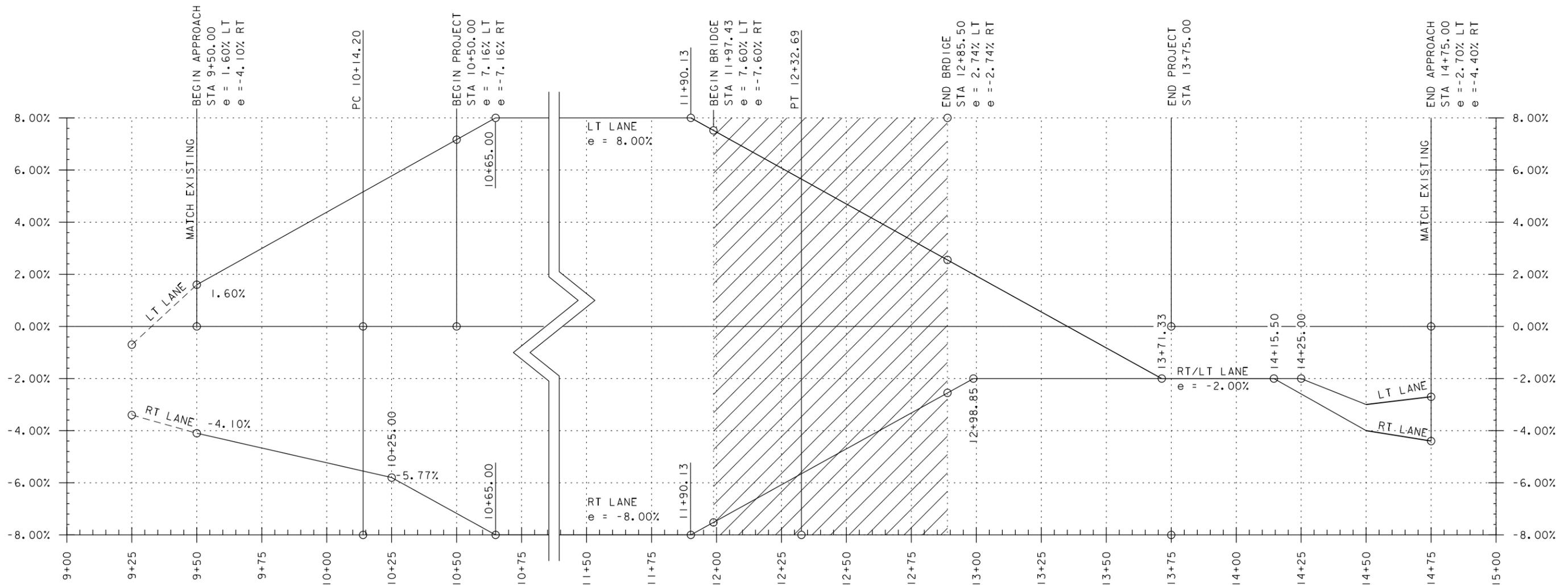
1. GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG CENTERLINE.
2. GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE ALONG CENTERLINE.

PROJECT NAME: GUILFORD	FILE NAME: Structures/13c064pro.dgn	PLOT DATE: 2/16/2015
PROJECT NUMBER: BF 0113(68)	PROJECT LEADER: R. YOUNG	DRAWN BY: S. OZANA
	DESIGNED BY: D. KULL	CHECKED BY: B. COLBURN
	PROFILE SHEET	SHEET 10 OF 36



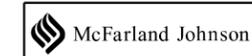


**MATERIAL TRANSITION DETAIL**  
NOT TO SCALE



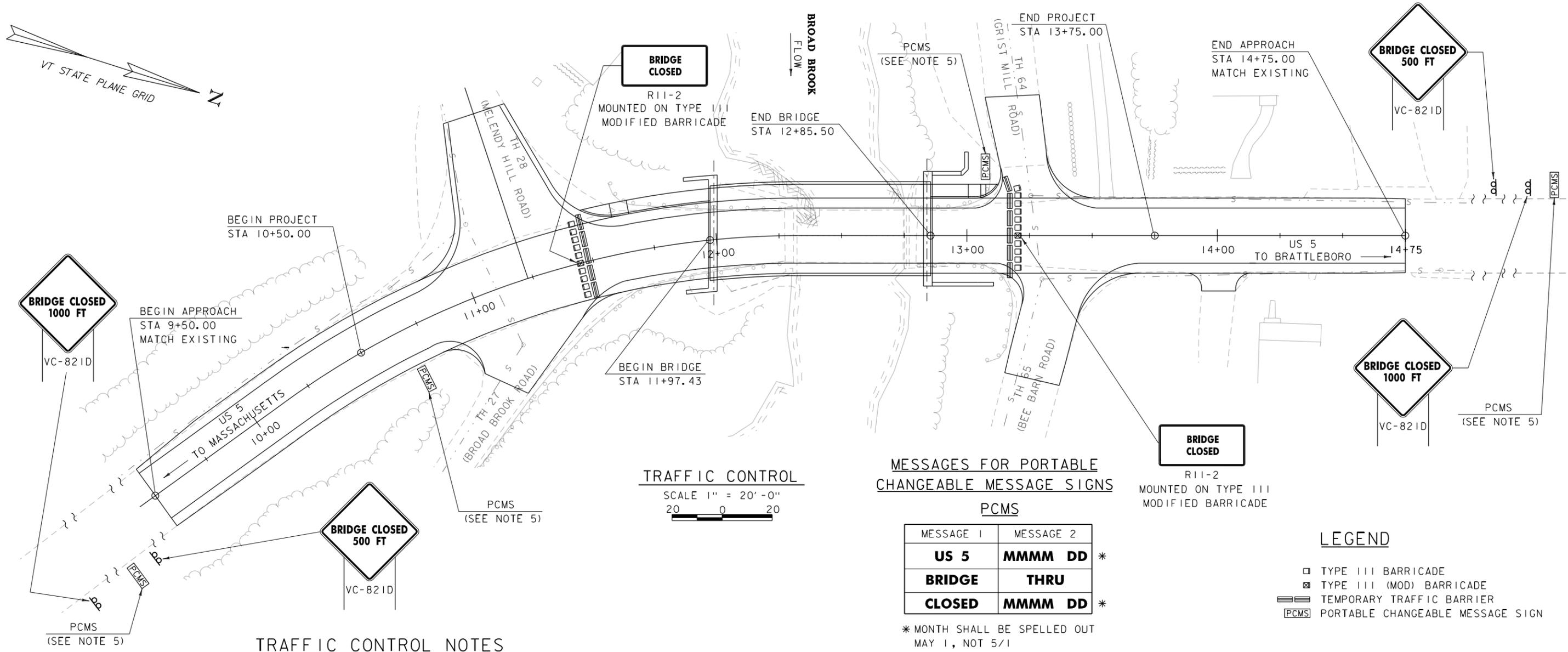
**BANKING DIAGRAM**

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



PROJECT NAME:	GUILFORD	FILE NAME:	Structures/13c064pro.dgn	PLOT DATE:	2/16/2015
PROJECT NUMBER:	BF 0113(68)	PROJECT LEADER:	R. YOUNG	DRAWN BY:	S. OZANA
		DESIGNED BY:	D. KULL	CHECKED BY:	B. COLBURN
		BANKING DIAGRAM		SHEET	11 OF 36





**TRAFFIC CONTROL NOTES**

1. 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.
3. 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.
4. 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 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 641.10, TRAFFIC CONTROL.
5. 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 START OF CONSTRUCTION TO WARN OF THE IMPENDING 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. PAYMENT FOR THESE SIGNS SHALL BE INCLUDED IN ITEM 641.15 "PORTABLE CHANGEABLE MESSAGE SIGN".
6. 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 641.10, TRAFFIC CONTROL.

**MESSAGES FOR PORTABLE CHANGEABLE MESSAGE SIGNS**

PCMS	
MESSAGE 1	MESSAGE 2
<b>US 5</b>	<b>MMMM DD *</b>
<b>BRIDGE</b>	<b>THRU</b>
<b>CLOSED</b>	<b>MMMM DD *</b>

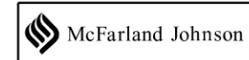
* MONTH SHALL BE SPELLED OUT  
MAY 1, NOT 5/1

**LEGEND**

- TYPE III BARRICADE
- ⊠ TYPE III (MOD) BARRICADE
- ▬▬▬ TEMPORARY TRAFFIC BARRIER
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN

7. THE US ROUTE MARKERS USED FOR THE DETOUR AS SHOWN ON THE PLANS SHALL FOLLOW STANDARDS E-127 AND E-136A. THESE SIGNS SHALL BE REMOVED AT THE END OF THE ROAD CLOSURE. THESE SIGNS AND THEIR REMOVAL SHALL BE PAID FOR UNDER ITEM 641.10 "TRAFFIC CONTROL".
8. 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 641.10, "TRAFFIC CONTROL".
9. ALL SIGNS SHALL BE PLACED WITHIN EXISTING STATE OR TOWN RIGHTS-OF-WAY.
10. ACCESS TO ALL EXISTING DRIVES AND SIDE ROADS SHALL BE MAINTAINED AT ALL TIMES DURING ALL PHASES OF CONSTRUCTION.
11. 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 SHALL MAINTAIN AT LEAST 200 FEET BETWEEN SIGN ASSEMBLIES WHENEVER POSSIBLE.
12. EXISTING SIGNS THAT ARE IN CONFLICT WITH THE TRAFFIC FLOW OF THE DETOUR SHALL BE REMOVED OR COVERED BY THE CONTRACTOR. ALL SIGNS REMOVED OR COVERED SHALL BE REPLACED OR UNCOVERED WHEN THE TRAFFIC CONTROL PLAN IS DISASSEMBLED. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 641.10 "TRAFFIC CONTROL".
13. NO CONSTRUCTION SIGNS SHALL BE INSTALLED AS TO INTERFERE WITH STOPPING SIGHT DISTANCE AND CORNER SIGHT DISTANCE FROM DRIVES AND TOWN HIGHWAYS.
14. CONTACT DIG-SAFE AT 1-888-344-7233 PRIOR TO BREAKING GROUND TO INSTALL ANY SIGN POSTS.

PROJECT NAME: GUILFORD	PLOT DATE: 2/16/2015
PROJECT NUMBER: BF 0113(68)	DRAWN BY: S. MERKWAN
FILE NAME: z13c064+cp2dgn	CHECKED BY: T. KENDRICK
PROJECT LEADER: R. YOUNG	SHEET 13 OF 36
DESIGNED BY: D. KULL	
TRAFFIC CONTROL SHEET 2	



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

**SHEAR STRENGTH**

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

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

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

**COMMONLY USED SYMBOLS**

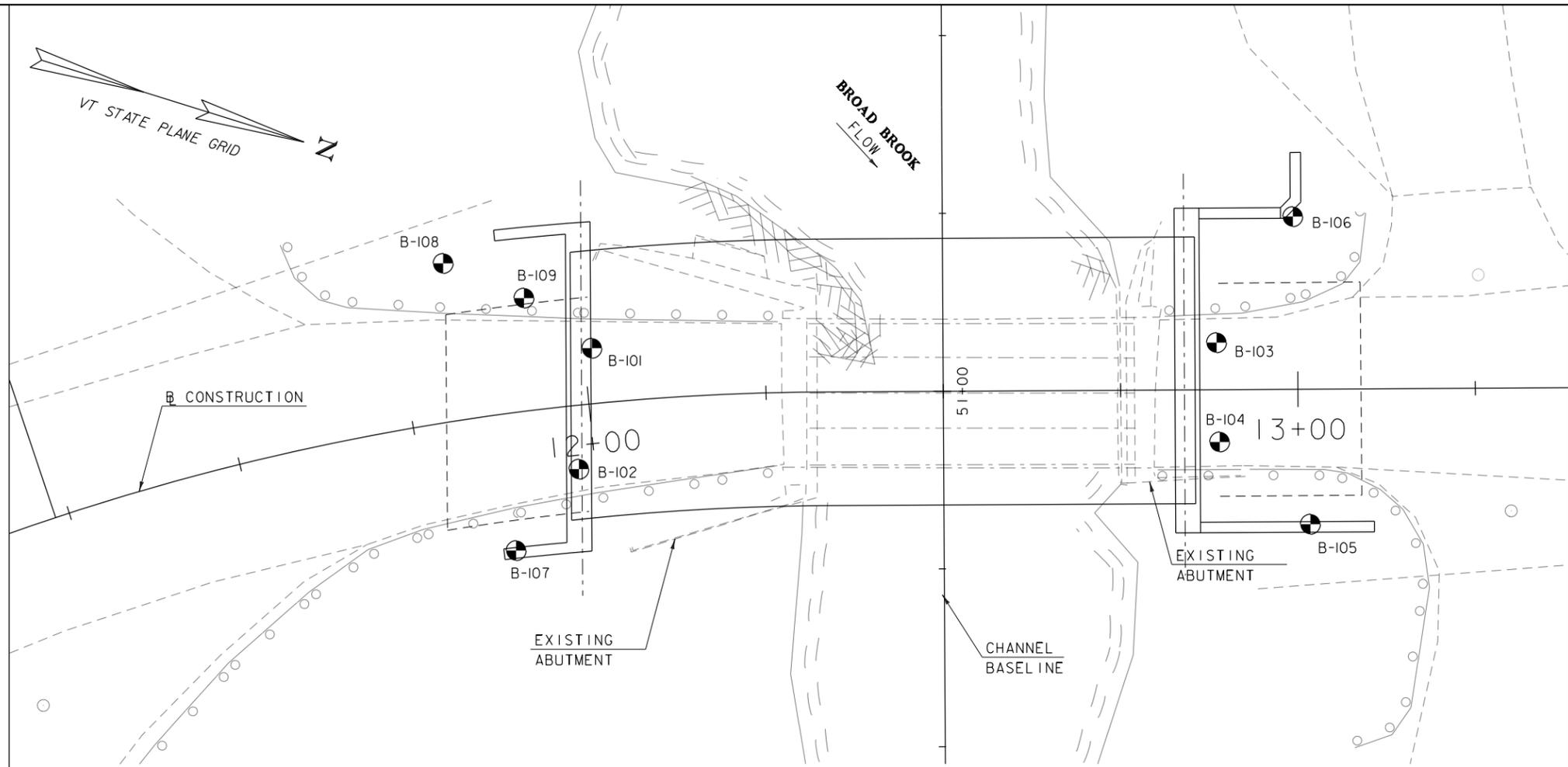
▼	Water Elevation
⊕	Standard Penetration Boring
⊗	Auger Boring
○	Rod Sounding
S	Sample
N	Standard Penetration Test
	Blow Count Per Foot For:
	2" O.D. Sampler
	1 3/8" I.D. Sampler
	Hammer Weight Of 140 Lbs.
	Hammer Fall Of 30"
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core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

**COLOR**

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

**DEFINITIONS (AASHTO)**

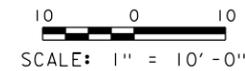
BEDROCK (LEDGE) - Rock in its native location of indefinite thickness.	VARVED - Alternate layers of silt and clay.
BOULDER - A rock fragment with an average dimension > 12 inches.	HARDPAN - Extremely dense soil, cemented layer, not softened when wet.
COBBLE - Rock fragments with an average dimension between 3 and 12 inches.	MUCK - Soft organic soil (containing > 10% organic material).
GRAVEL - Rounded particles of rock < 3" and > 0.075" (#10 sieve).	MOISTURE CONTENT - Weight of water divided by dry weight of soil.
SAND - Particles of rock < 0.075" (#10 sieve) and > 0.0025" (#200 sieve).	FLOWING SAND - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.
SILT - Soil < 0.0025" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.	STRIKE - Angle from magnetic north to line of intersection of bed with a horizontal plane.
CLAY - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.	DIP - Inclination of bed with a horizontal plane.



**LEGEND**

⊕ BORING

**BORING LAYOUT**

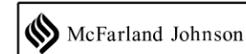


**BORING CHART**

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

**GENERAL NOTES**

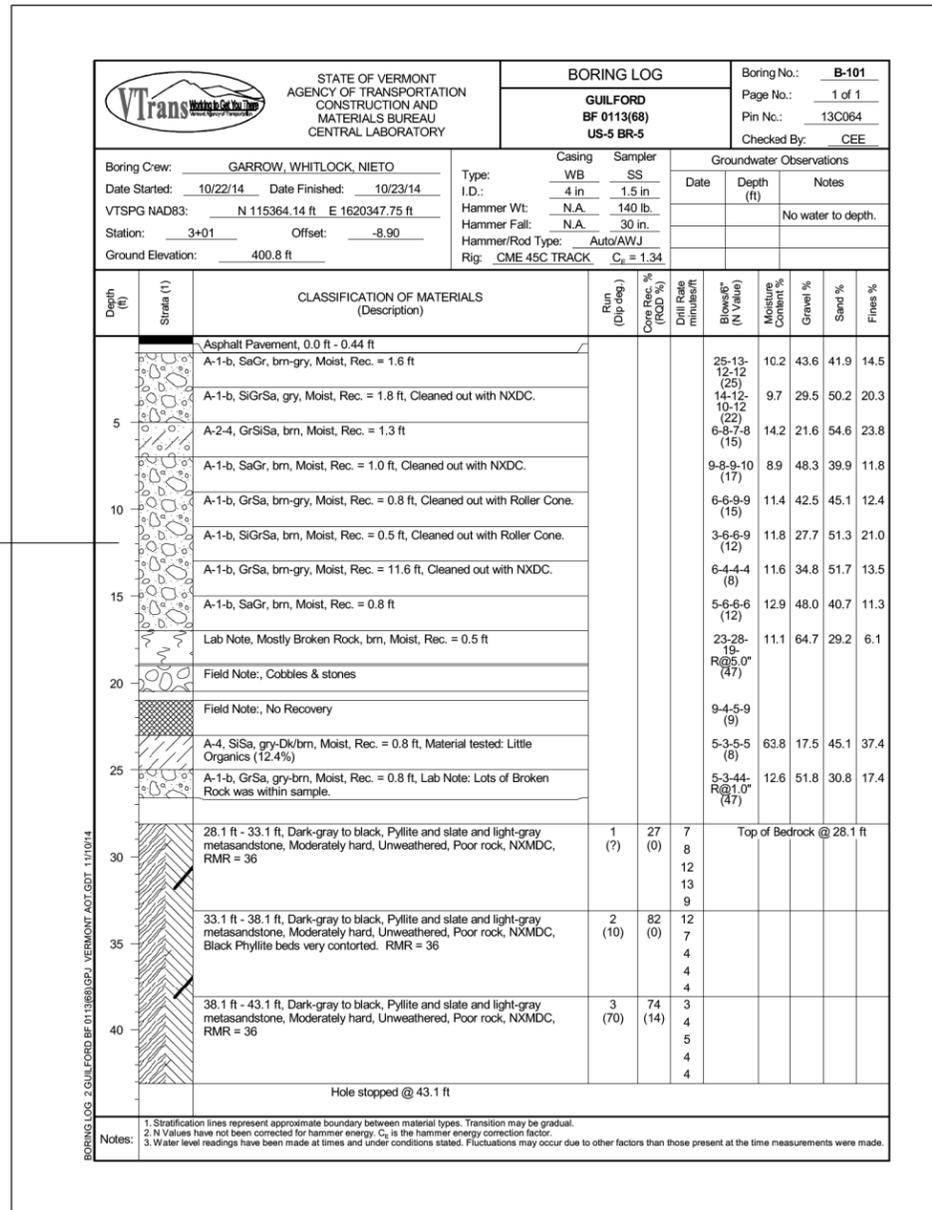
- The subsurface explorations shown herein were made between Oct. 14 and Nov. 20, 2014 by the Agency.
- Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations 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.



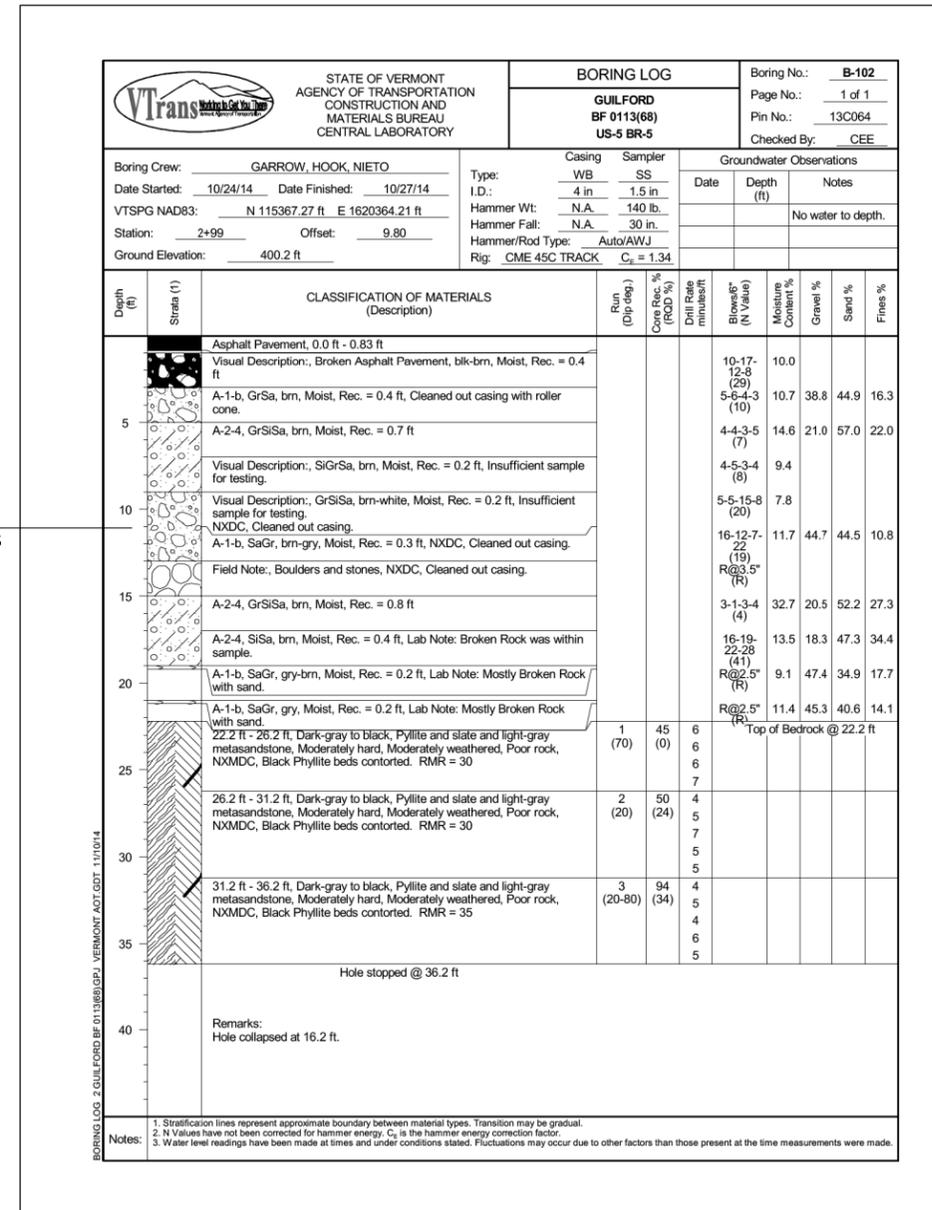
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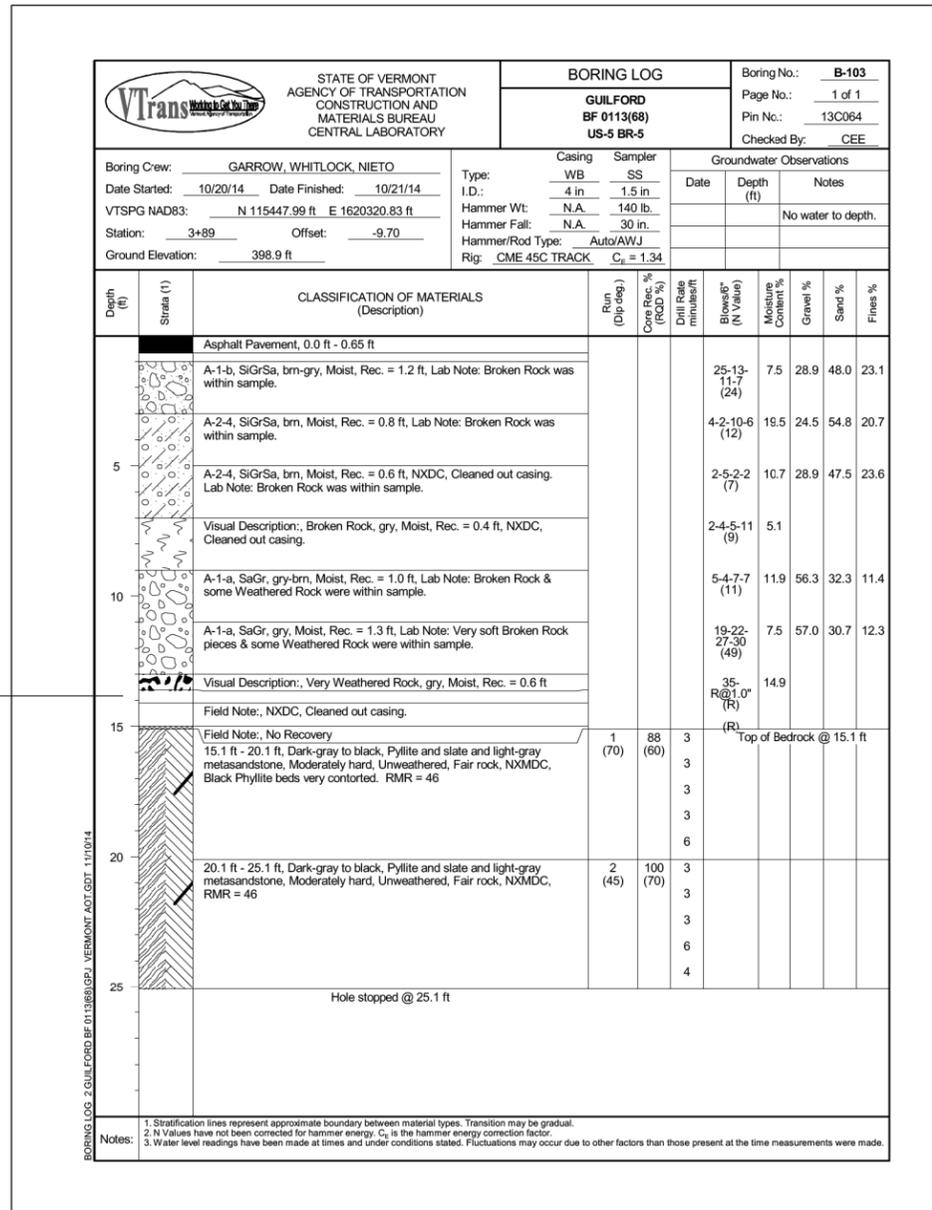
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PROJECT LEADER: R. YOUNG  
DESIGNED BY: D. KULL  
BORING INFORMATION SHEET

PLOT DATE: 2/16/2015  
DRAWN BY: P. DUSTIN  
CHECKED BY: T. KENDRICK  
SHEET 14 OF 36

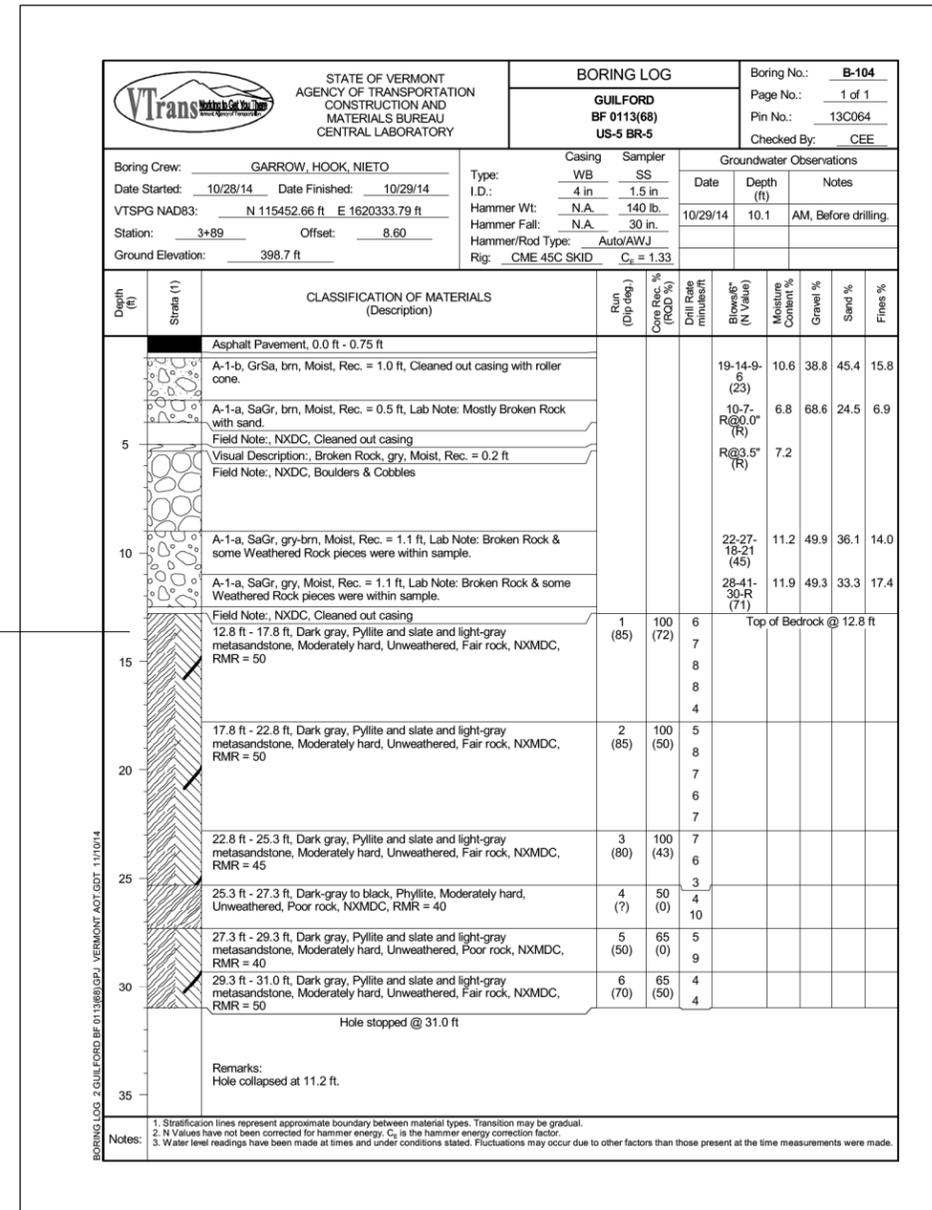


ABUTMENT NO 1  
 BOTTOM OF FOOTING  
 EL 389.00



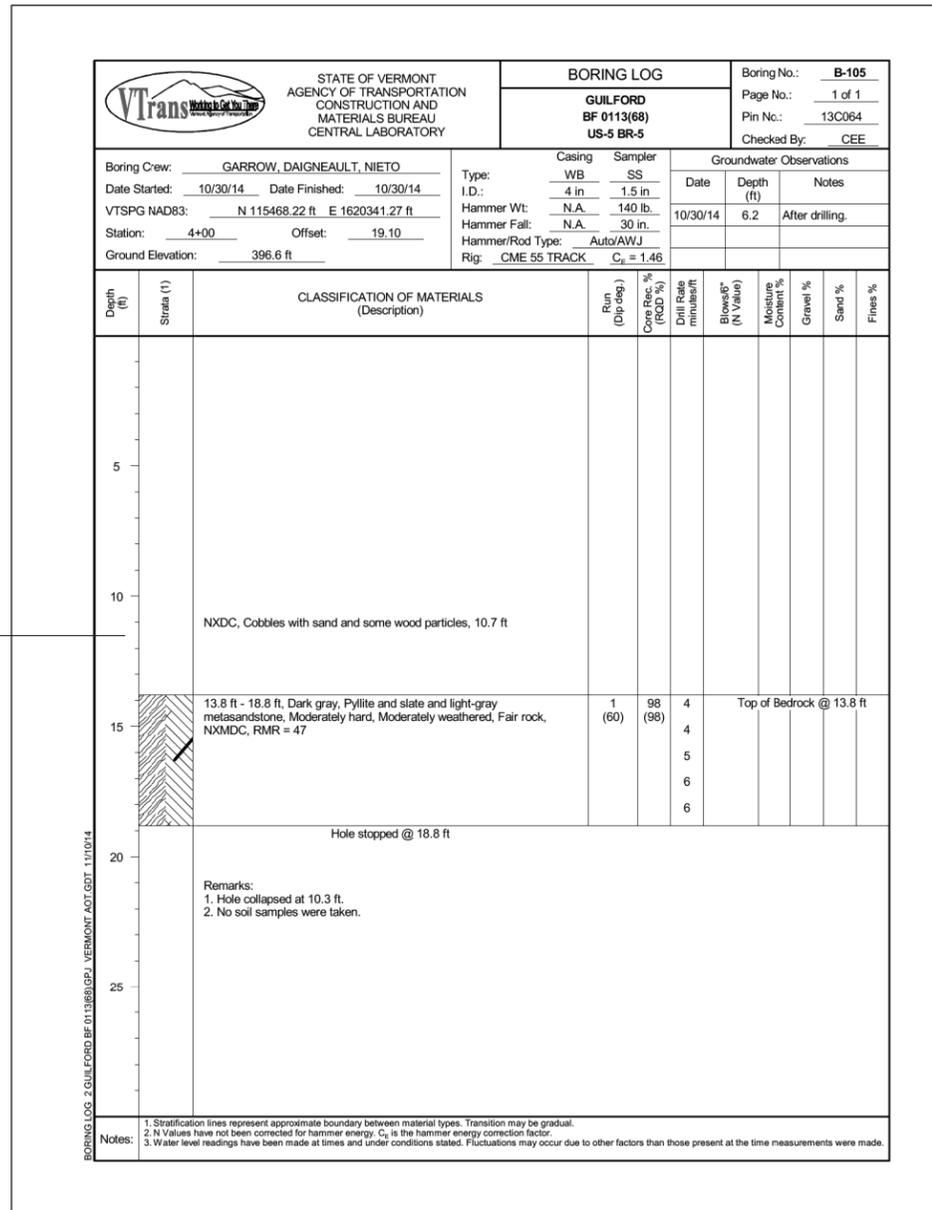


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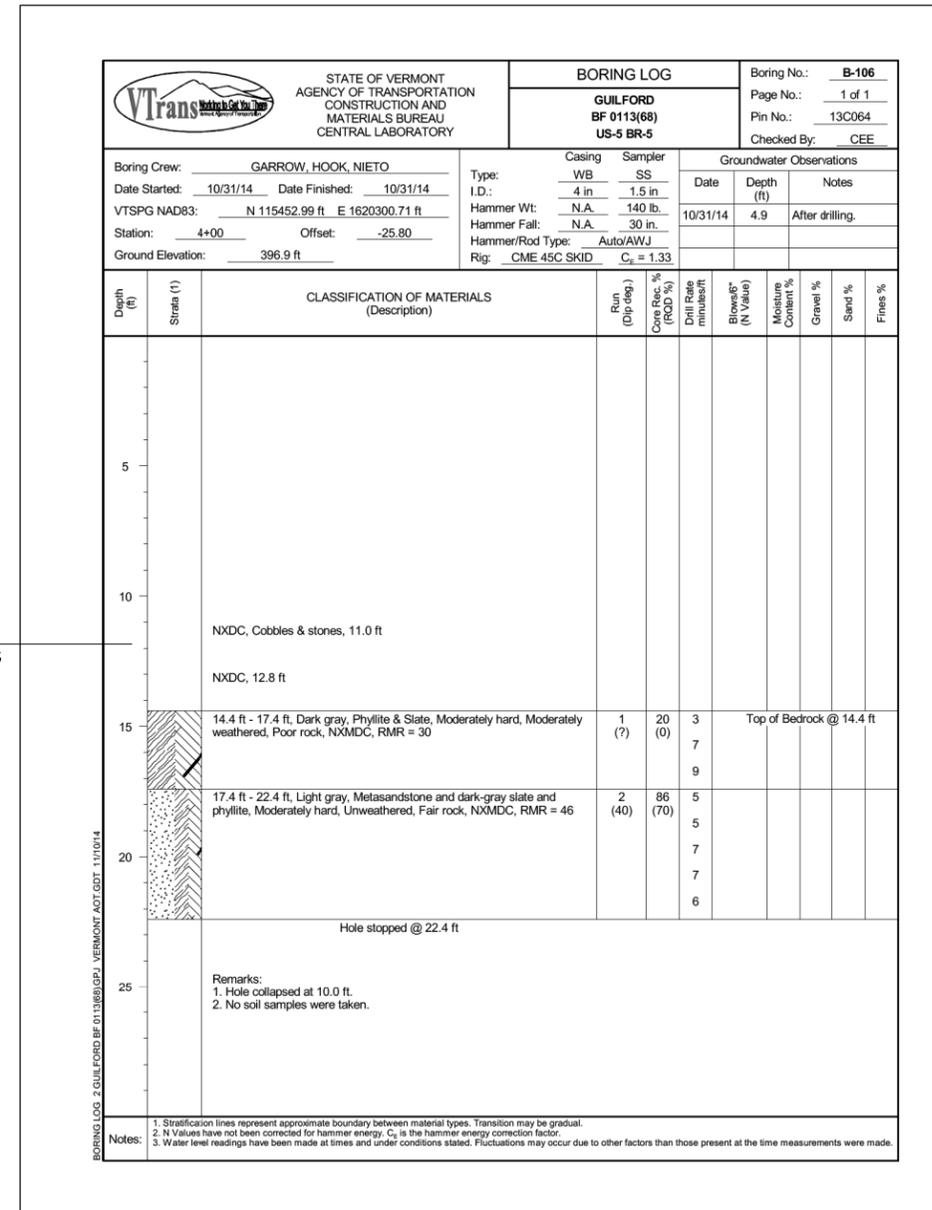


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PROJECT NUMBER: BF 0113(68)  
FILE NAME: z13c064bor_log.dgn  
PROJECT LEADER: R. YOUNG  
DESIGNED BY: D. KULL  
BORING LOG SHEET 2  
PLOT DATE: 2/16/2015  
DRAWN BY: S. MERKWAN  
CHECKED BY: T. KENDRICK  
SHEET 16 OF 36



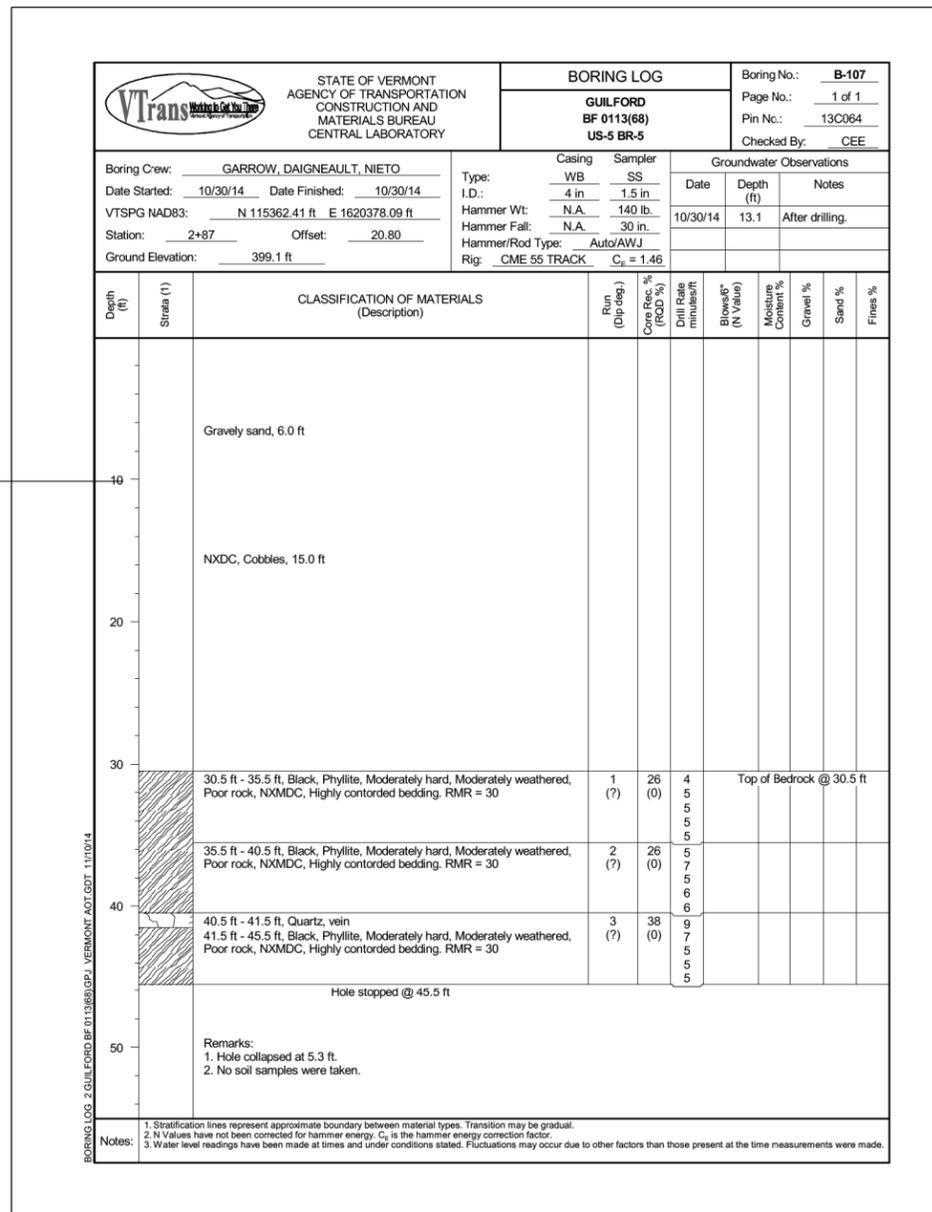
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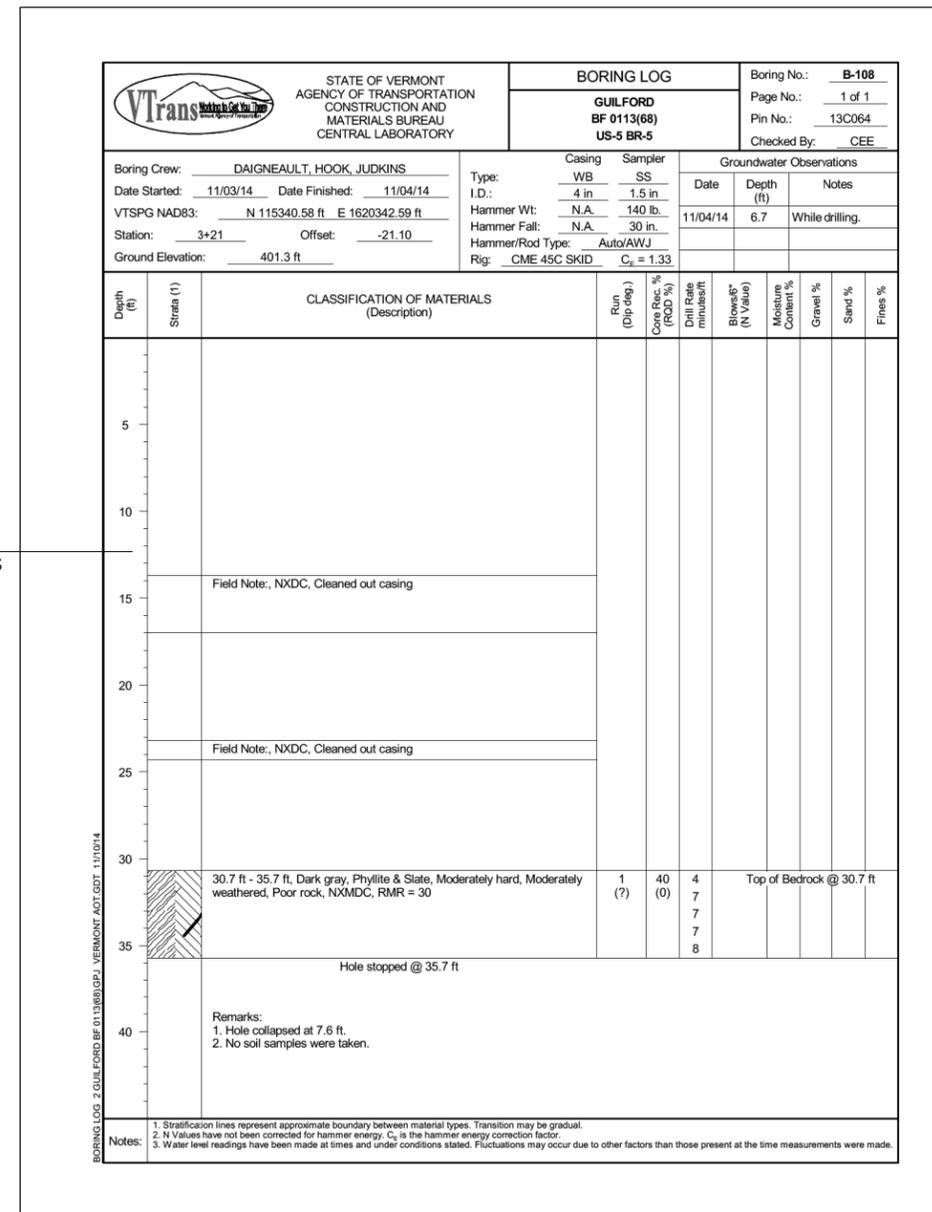
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PROJECT NUMBER: BF 0113(68)	DRAWN BY: S. MERKWAN
FILE NAME: z13c064bor_log.dgn	CHECKED BY: T. KENDRICK
PROJECT LEADER: R. YOUNG	SHEET 17 OF 36
DESIGNED BY: D. KULL	
BORING LOG SHEET 3	

ABUTMENT NO 1  
BOTTOM OF FOOTING  
EL 389.00



ABUTMENT NO 1  
BOTTOM OF FOOTING  
EL 389.00



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:	2/16/2015
DRAWN BY:	S. MERKWAN
CHECKED BY:	T. KENDRICK
SHEET	18 OF 36

 STATE OF VERMONT AGENCY OF TRANSPORTATION CONSTRUCTION AND MATERIALS BUREAU CENTRAL LABORATORY	<b>BORING LOG</b>		Boring No.: <b>B-109</b>
	<b>GUILFORD BF 0113(68) US-5 BR-5</b>		Page No.: 1 of 1
			Pin No.: 13C064
			Checked By: CEE

Boring Crew: DAIGNEAULT, HOOK, NIETO	Casing	Sampler	Groundwater Observations		
Date Started: 11/04/14 Date Finished: 11/04/14	Type: WB	SS	Date	Depth (ft)	Notes
VTSPG NAD83: N 115352.91 ft E 1620343.86 ft	I.D.: 4 in	1.5 in	11/04/14	9.3	After drilling.
Station: 3+10 Offset: -16.30	Hammer Wt: N.A.	140 lb.			
Ground Elevation: 401.2 ft	Hammer Fall: N.A.	30 in.			
	Hammer/Rod Type: Auto/AWJ				
	Rig: CME 45C SKID	C _p = 1.33			

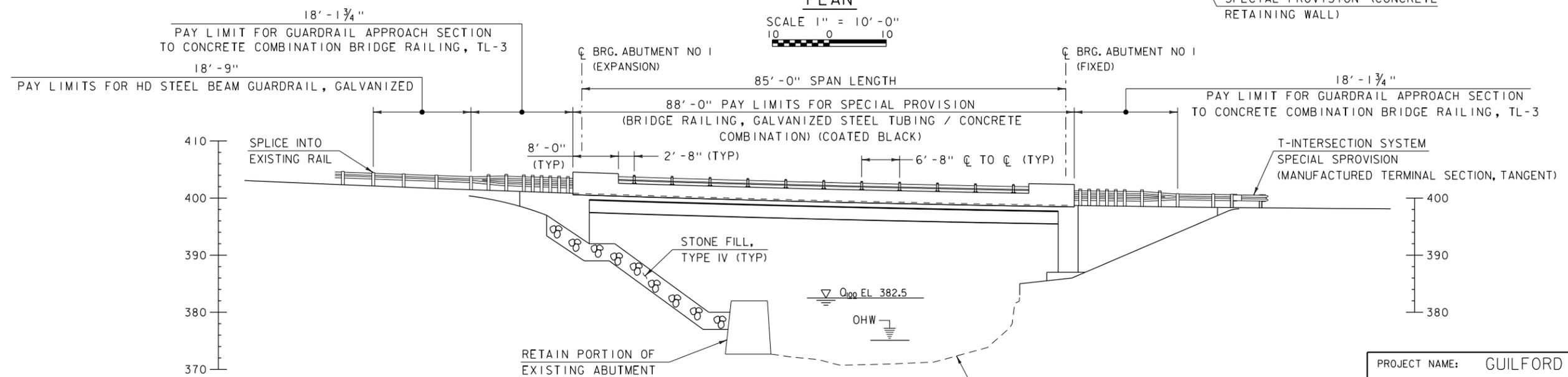
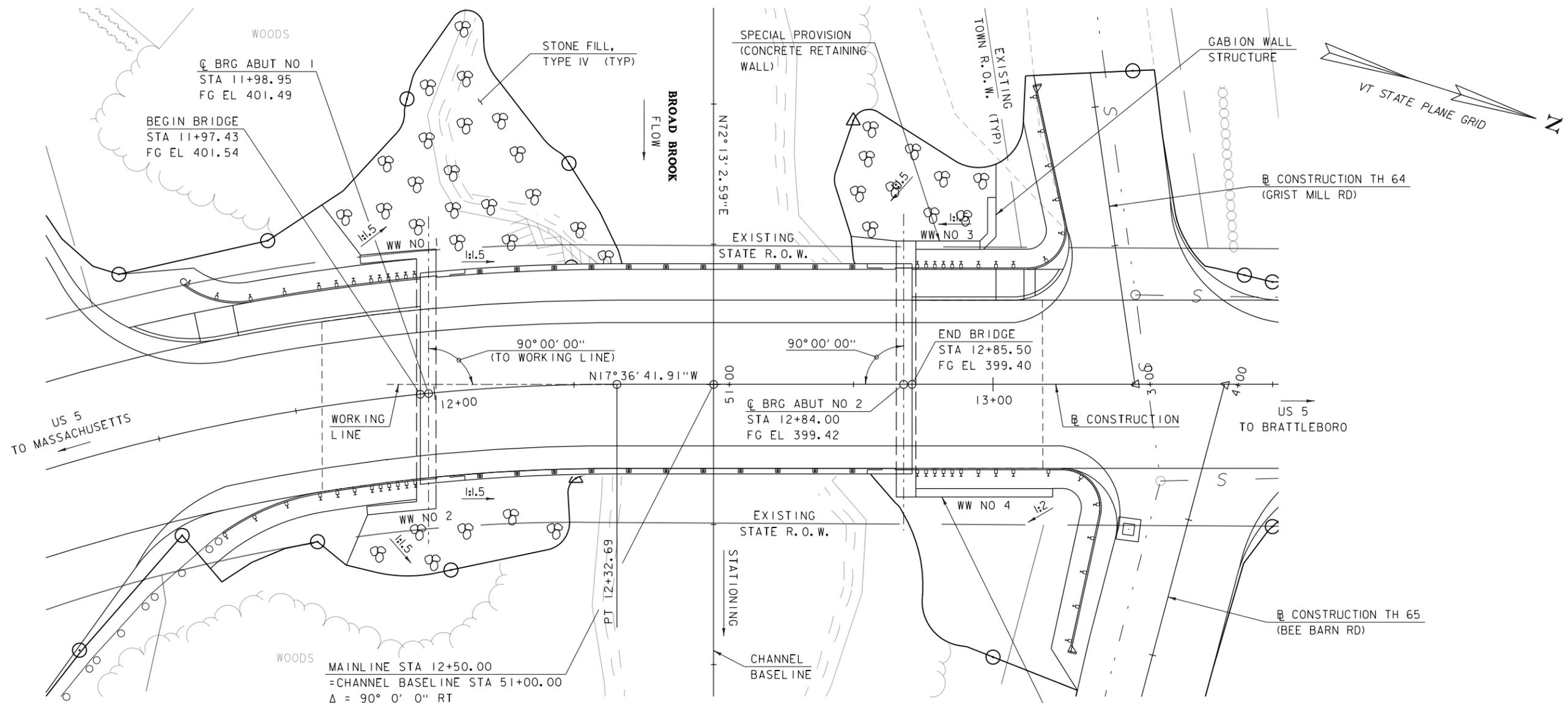
Depth (ft)	Strata (f)	CLASSIFICATION OF MATERIALS (Description)	Blows* (N Value)	Moisture Content %	Gravel %	Sand %	Fines %
5							
10							
15							
20		Field Note: NXDC, Cobbles & stones					
25							
30		Hole stopped @ 28.3 ft Top of bedrock at 28.3 ft.					
35		Remarks: 1. Top of inferred bedrock, no coring completed to verify. 2. Hole collapsed at 16.6 ft. 3. No soil samples were taken.					
40							

BORING LOG - GUILFORD BF 0113(68)GPR1, VERMONT, AOT, GDT, 11/10/14

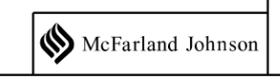
Notes:  
 1. Stratification lines represent approximate boundary between material types. Transition may be gradual.  
 2. N Values have not been corrected for hammer energy. C_p is the hammer energy correction factor.  
 3. Water level readings have been made at times and under conditions stated. Fluctuations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

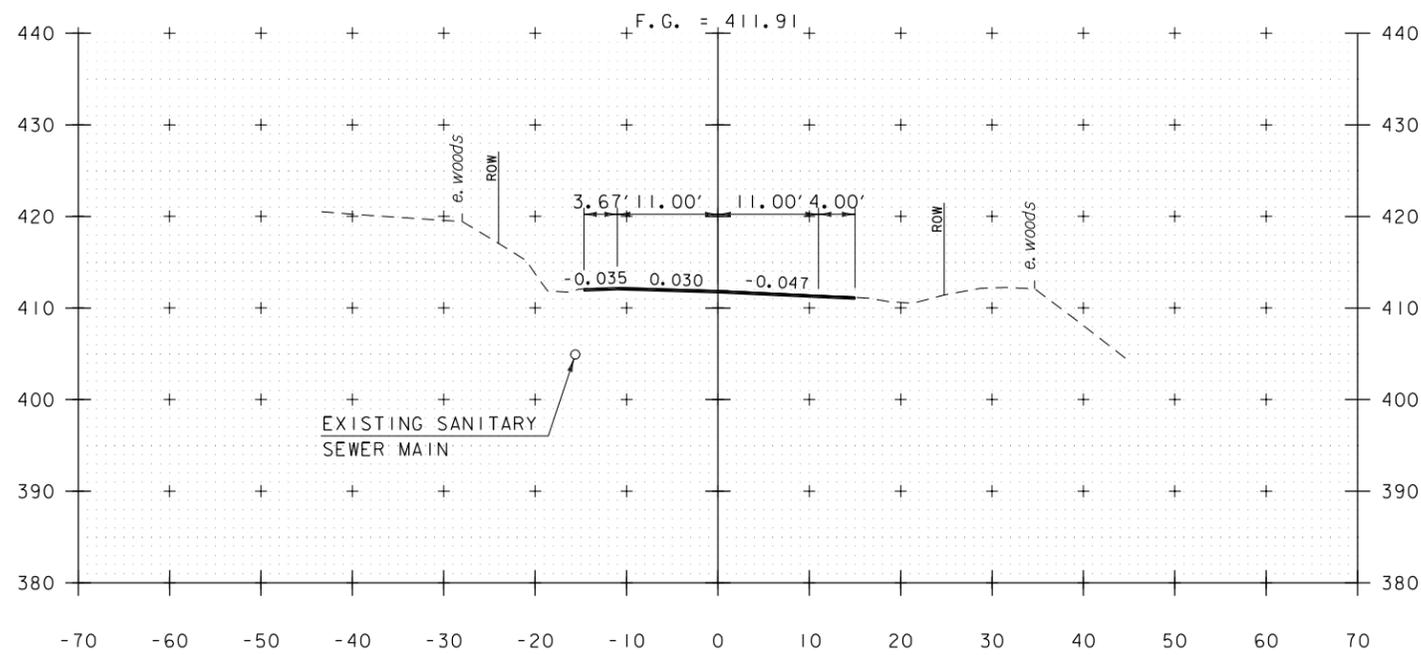
ABUTMENT NO 1  
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 EL 389.00

PROJECT NAME: GUILFORD	PLOT DATE: 2/16/2015
PROJECT NUMBER: BF 0113(68)	DRAWN BY: S. MERKWAN
FILE NAME: z13c064bor_log.dgn	CHECKED BY: T. KENDRICK
PROJECT LEADER: R. YOUNG	SHEET 19 OF 36
DESIGNED BY: D. KULL	
BORING LOG SHEET 5	

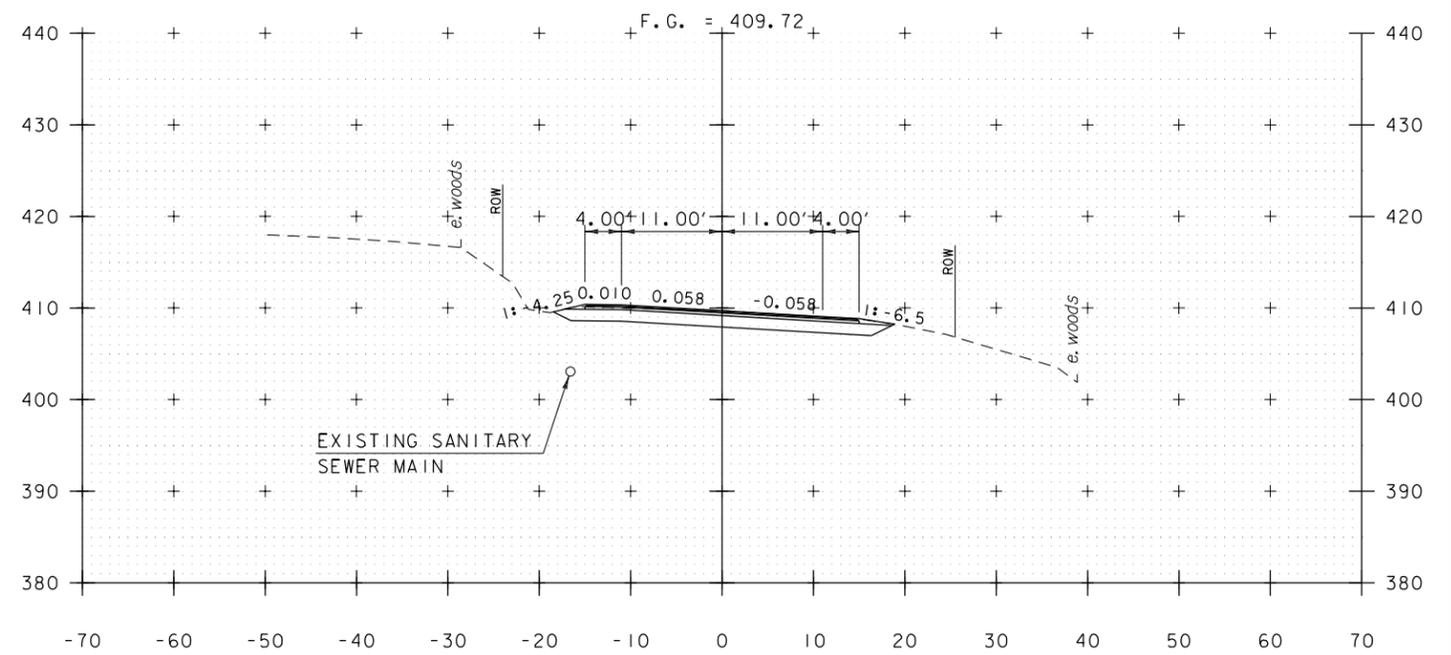


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PROJECT NUMBER:	BF 0113(68)	DRAWN BY:	S. MERKWAN
FILE NAME:	z13c064pe.dgn	DESIGNED BY:	D. KULL
PROJECT LEADER:	R. YOUNG	CHECKED BY:	T. KENDRICK
PLAN & ELEVATION		SHEET	20 OF 36

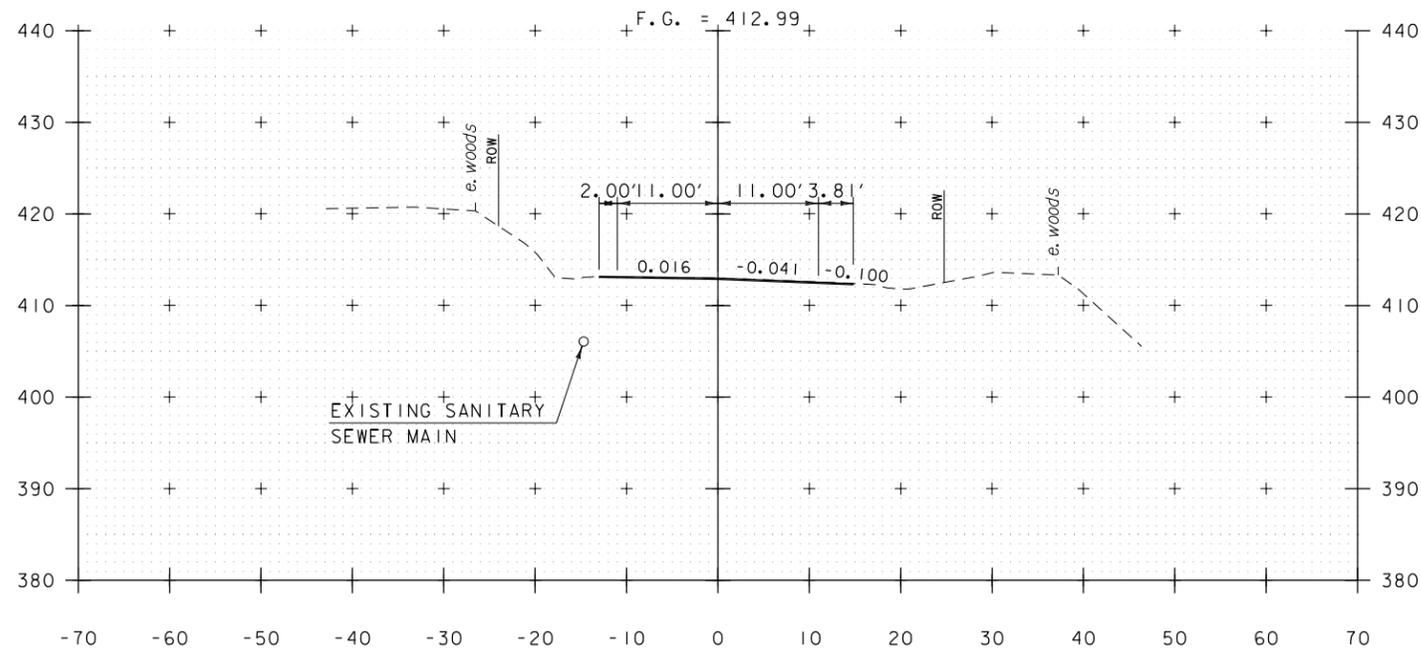




9+75

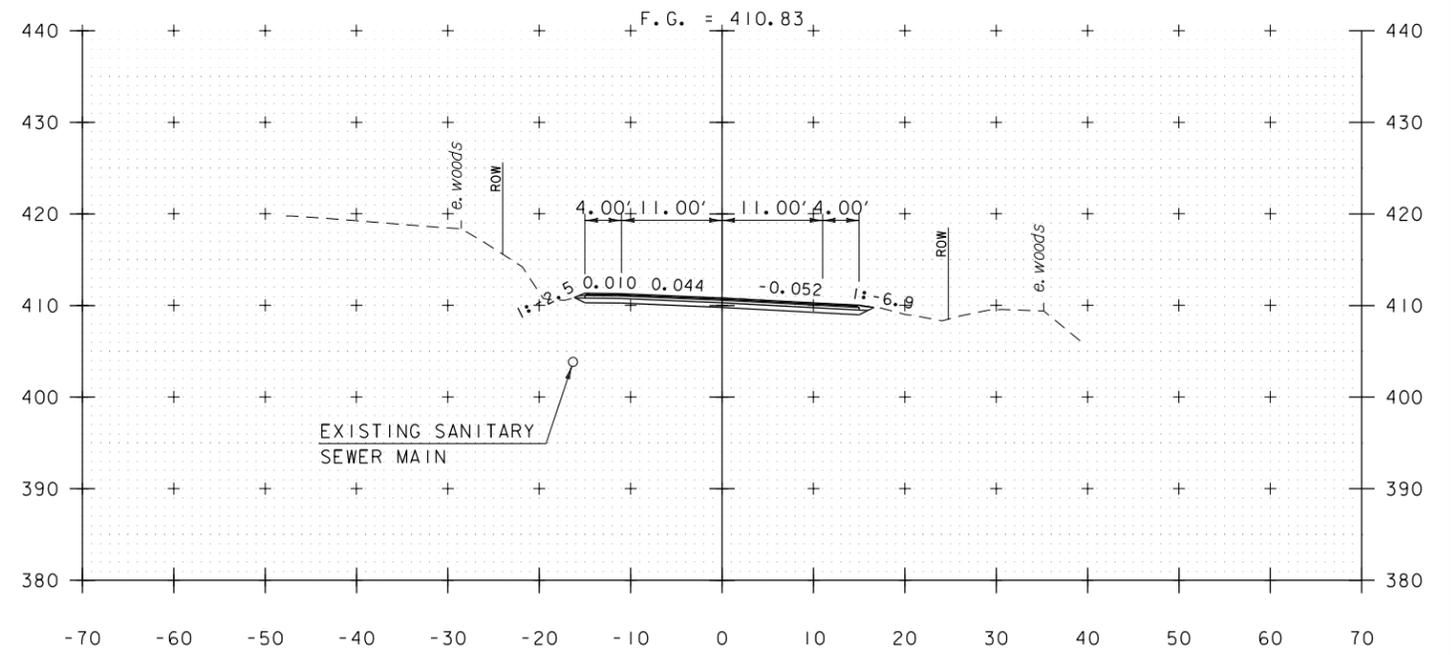


10+25



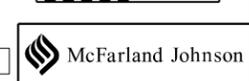
9+50

BEGIN APPROACH - MATCH EXISTING



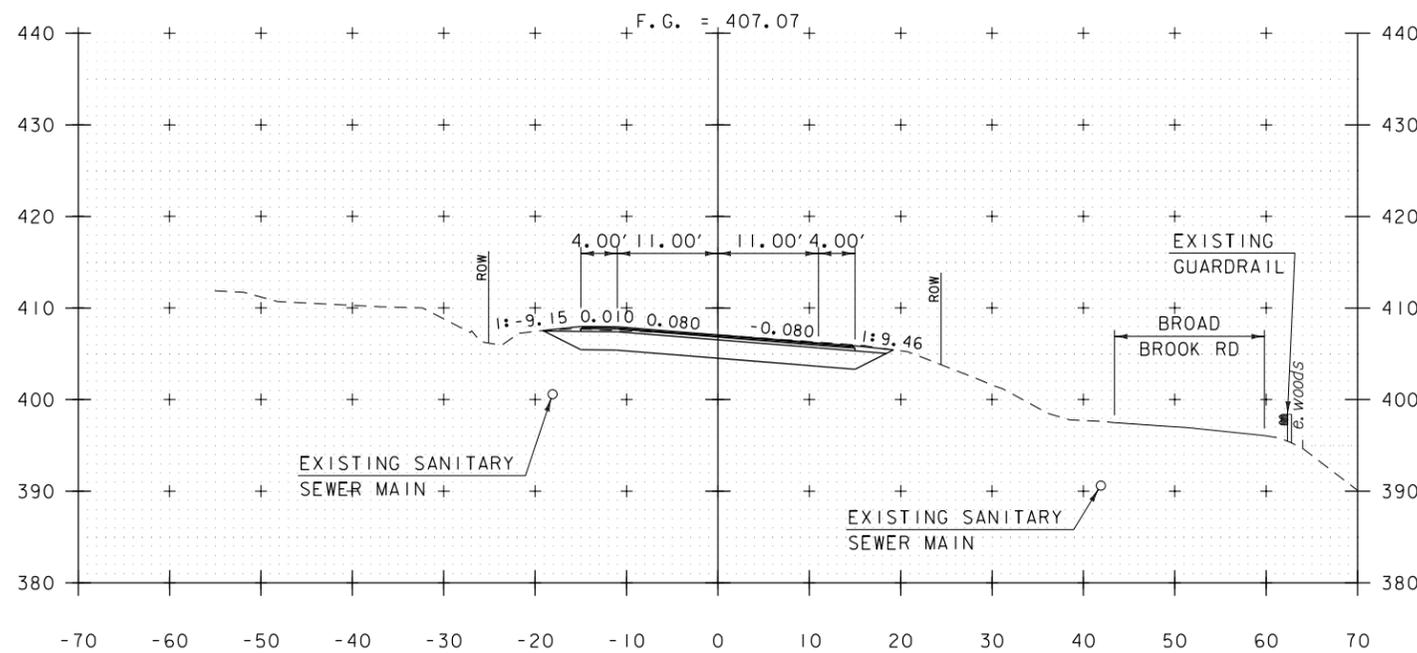
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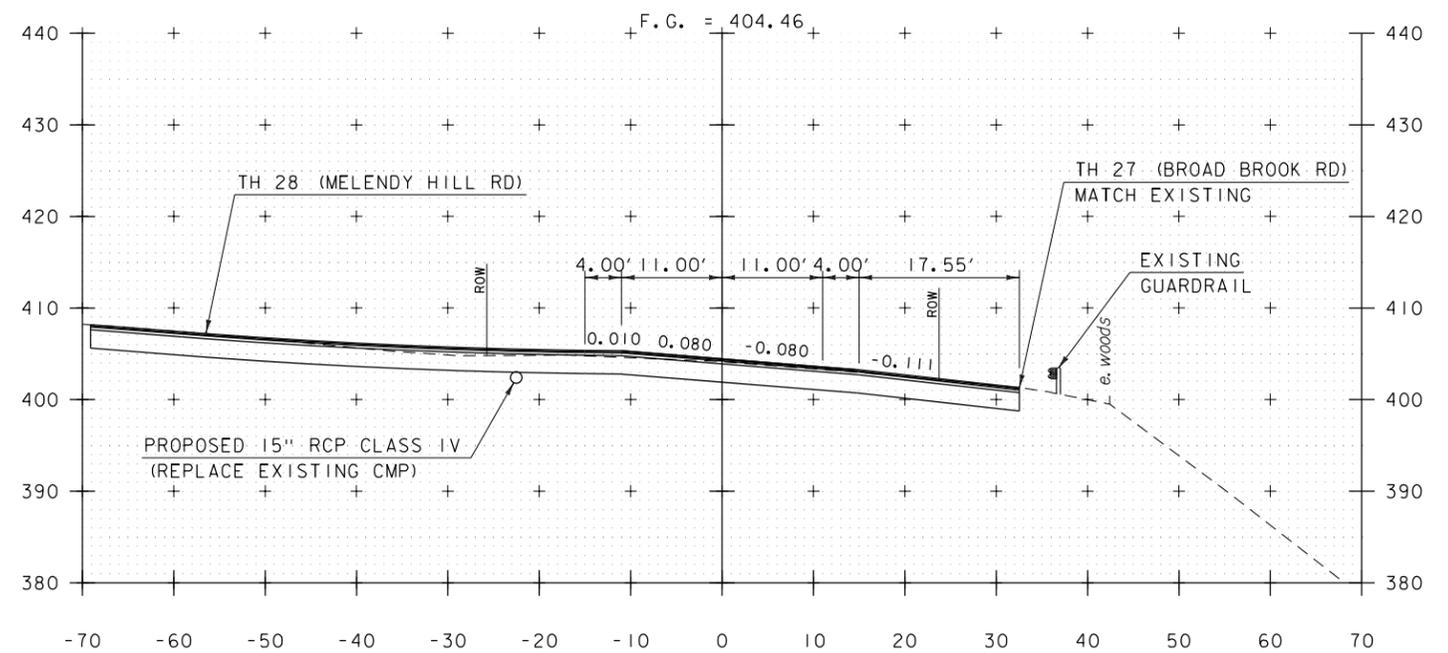


STA. 9+50 TO STA. 10+25

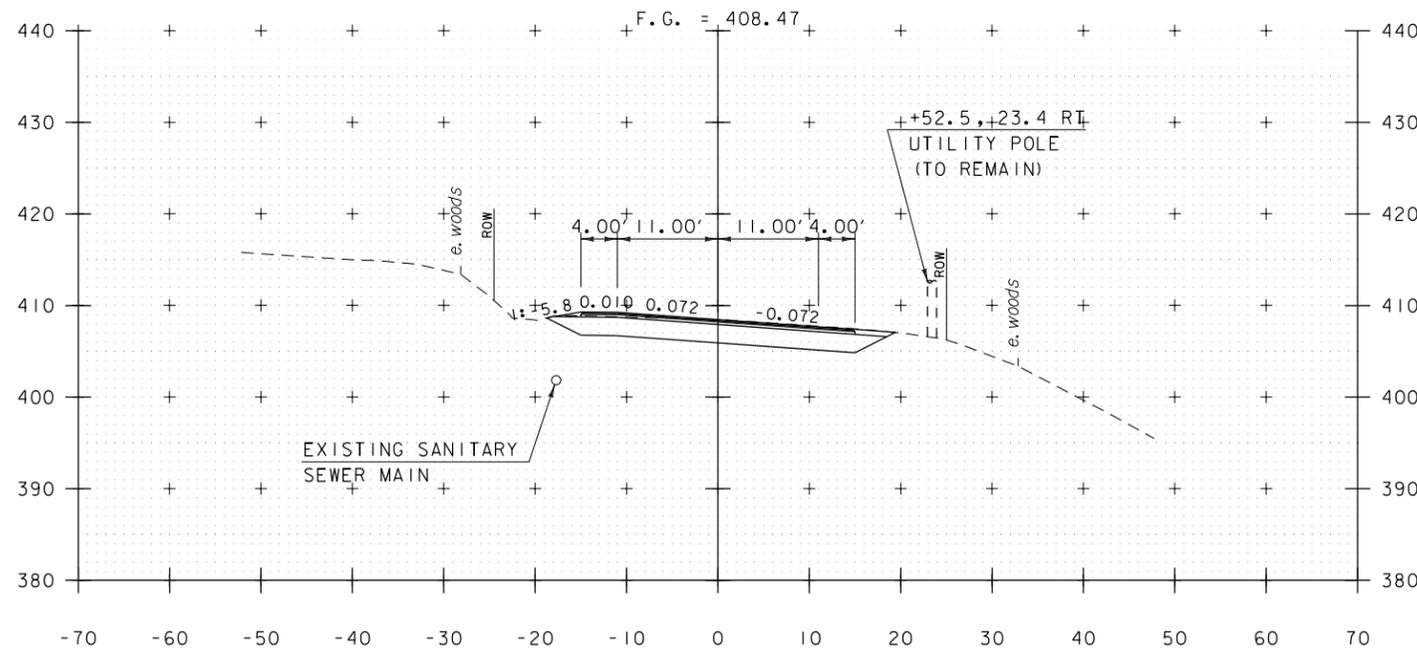
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PROJECT NUMBER: BF 0113(68)	DRAWN BY: S.OZANA
FILE NAME: Structures/13c064xsl.dgn	CHECKED BY: B. COLBURN
PROJECT LEADER: R. YOUNG	SHEET 21 OF 36
DESIGNED BY: D.KULL	
STA 5 CROSS SECTIONS 1	



10+75

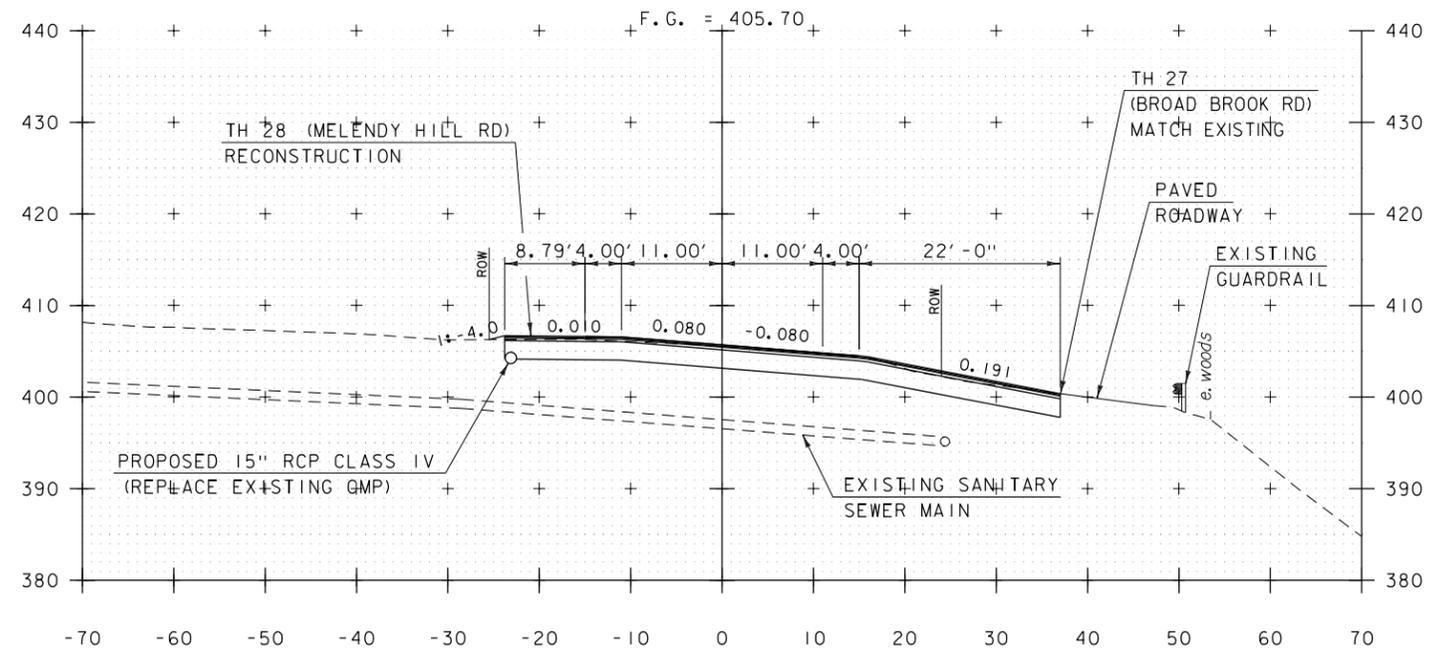


11+25



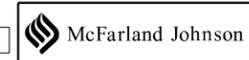
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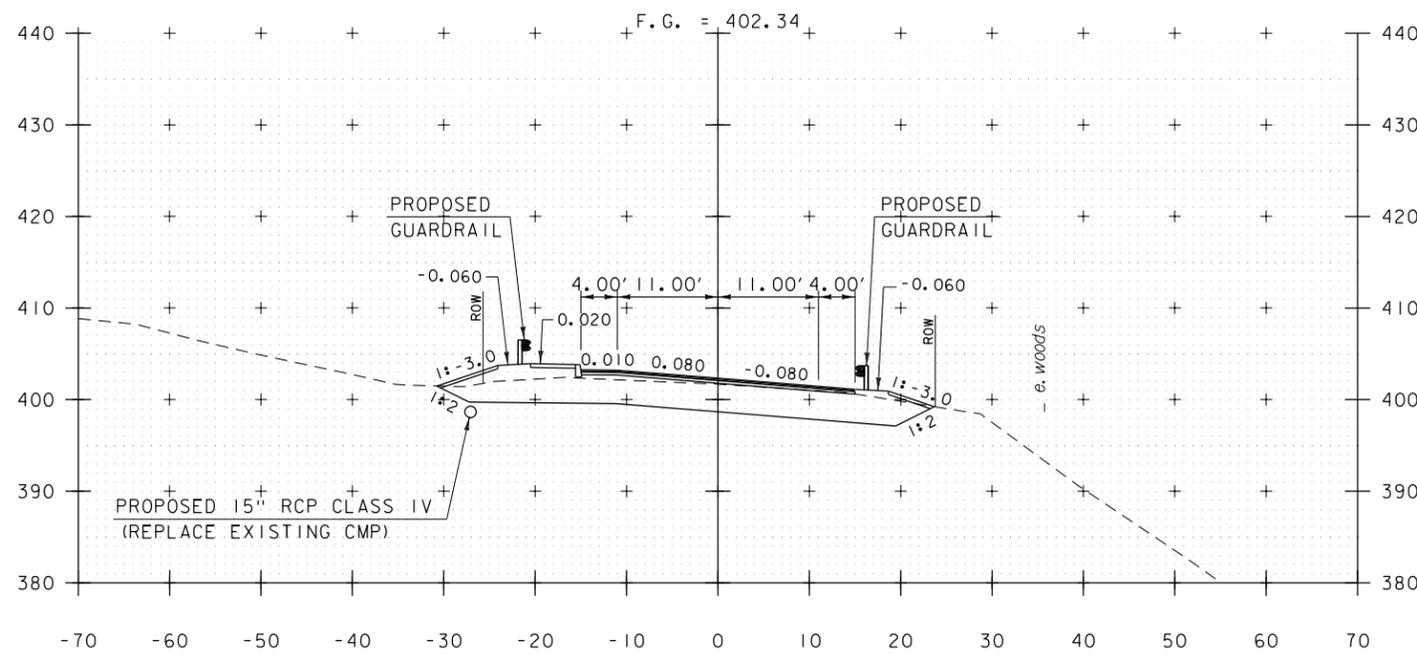
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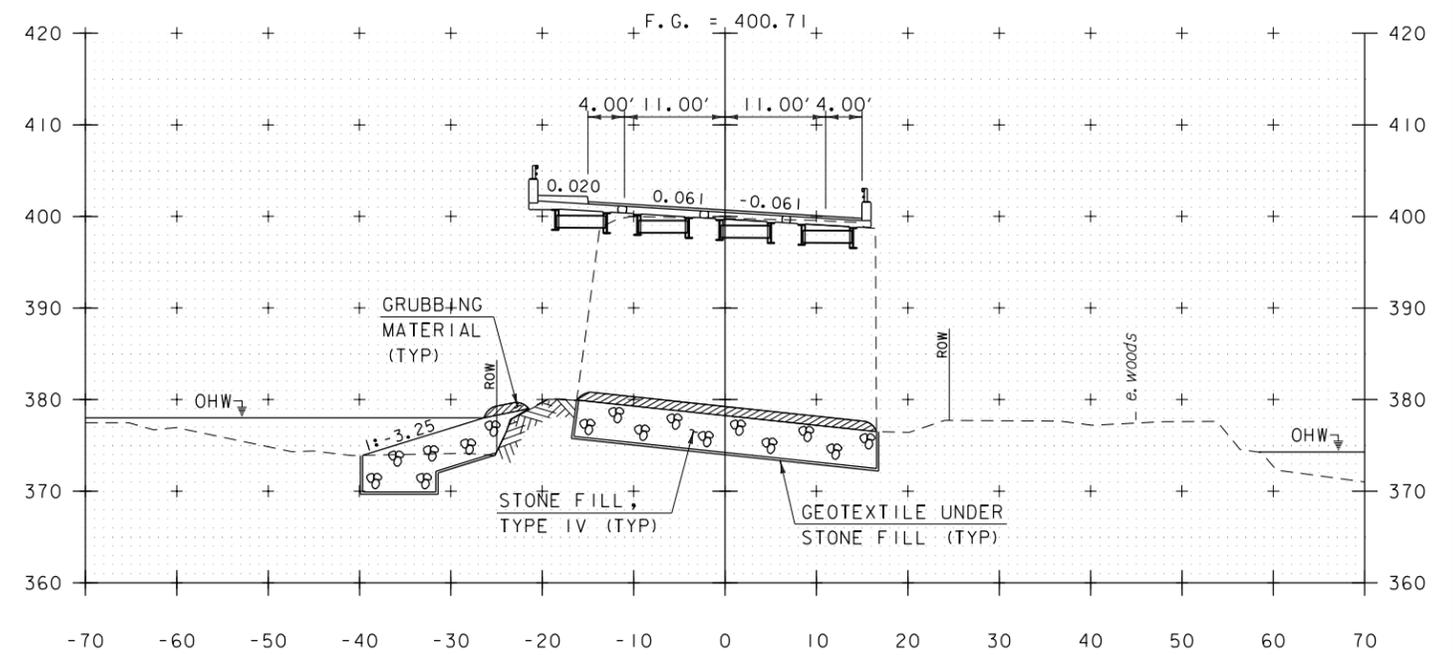


STA. 10+50 TO STA. 11+25

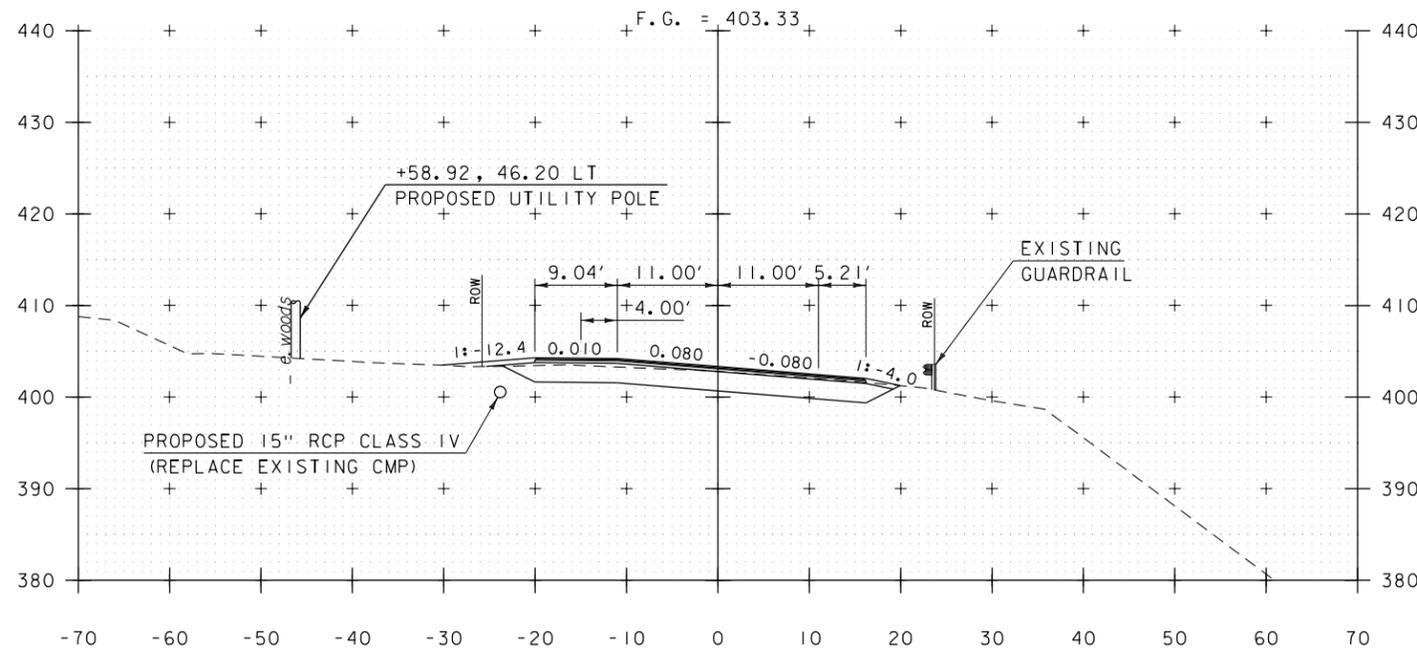
PROJECT NAME: GUILFORD	PROJECT NUMBER: BF 0113(68)
FILE NAME: Structures/13c064xsl.dgn	PLOT DATE: 2/16/2015
PROJECT LEADER: R. YOUNG	DRAWN BY: S.OZANA
DESIGNED BY: D. KULL	CHECKED BY: B. COLBURN
US 5 CROSS SECTIONS 2	SHEET 22 OF 36



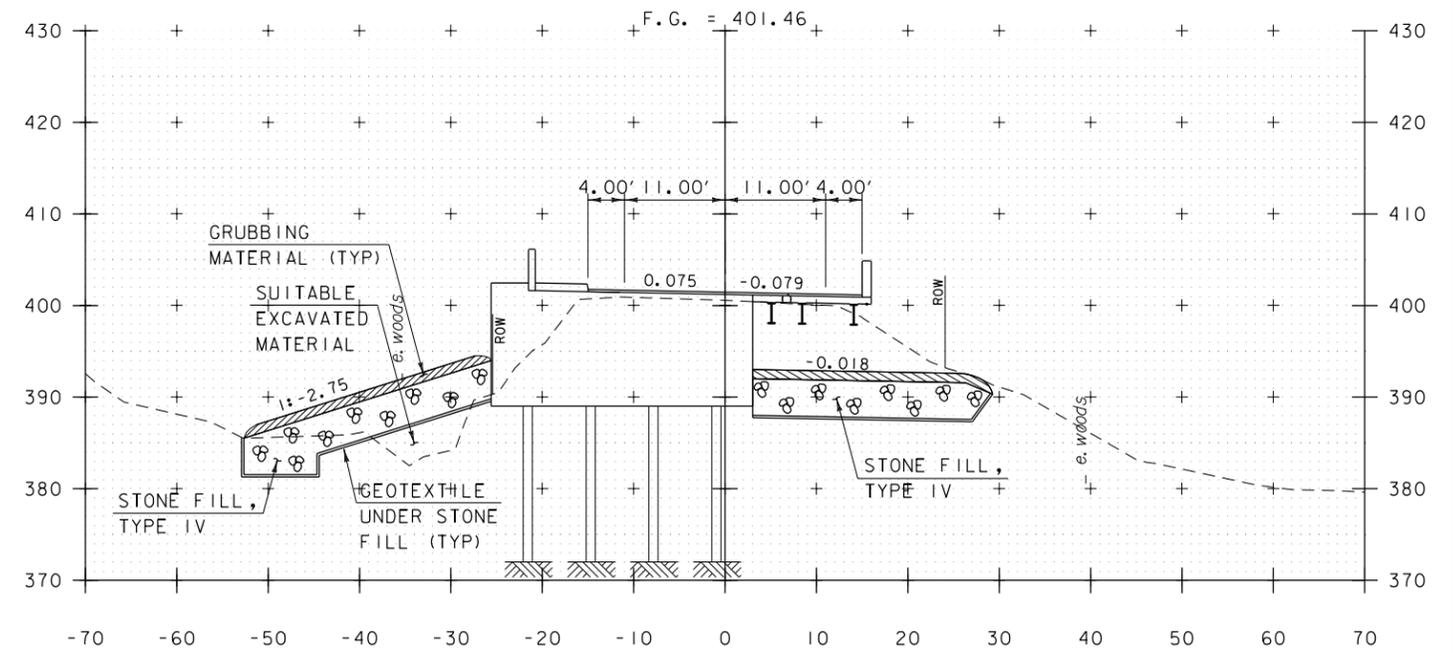
11+75  
BEGIN BRIDGE STA 11+97.43



12+25



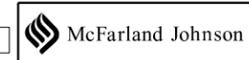
11+50



12+00

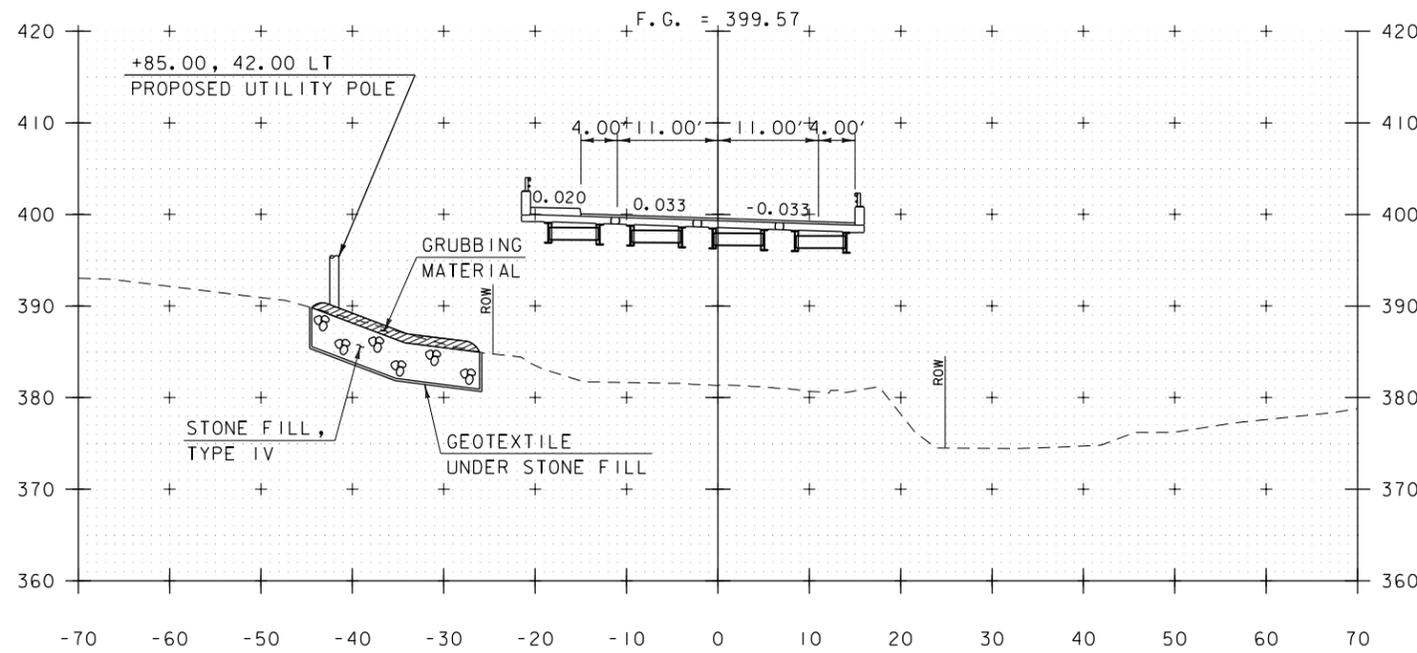
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10 0 10

STA. 11+50 TO STA. 12+25

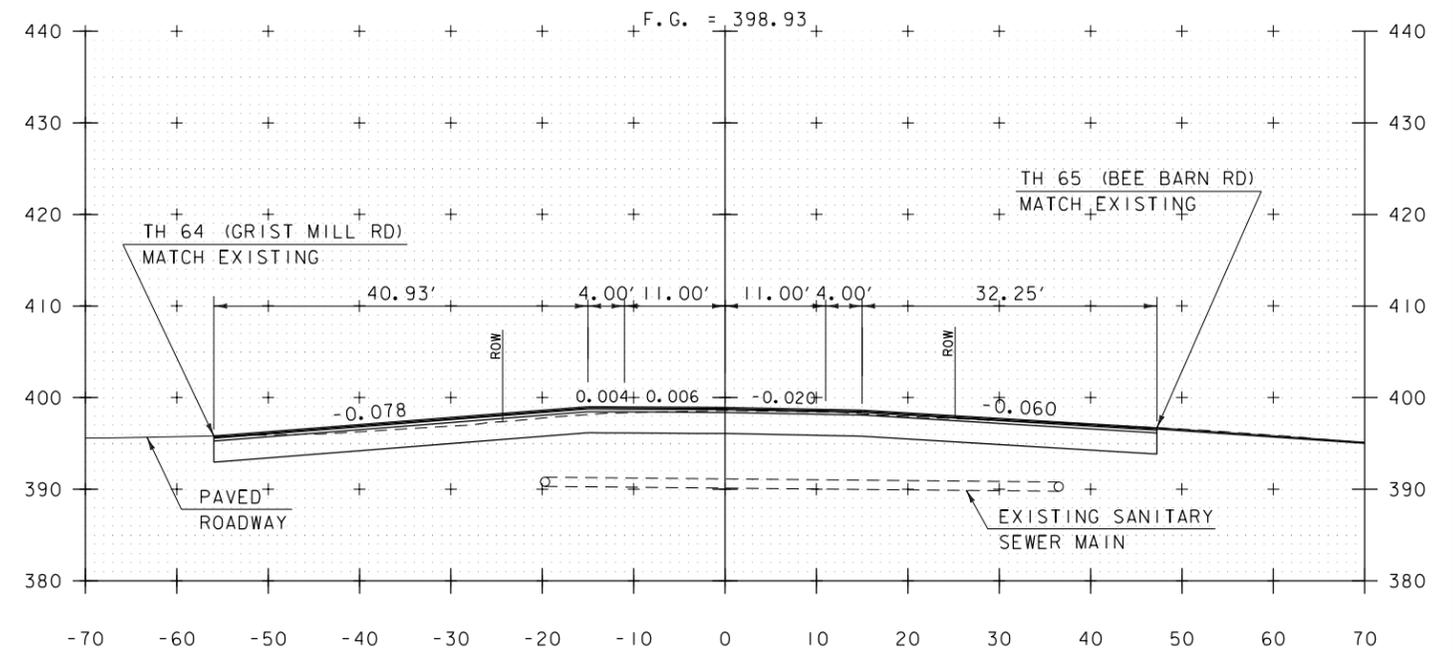


PROJECT NAME: GUILFORD	PLOT DATE: 2/16/2015
PROJECT NUMBER: BF 0113(68)	DRAWN BY: S. OZANA
FILE NAME: Structures/13c064xsl.dgn	CHECKED BY: B. COLBURN
PROJECT LEADER: R. YOUNG	SHEET 23 OF 36
DESIGNED BY: D. KULL	
US 5 CROSS SECTIONS 3	

END BRIDGE STA 12+85.50

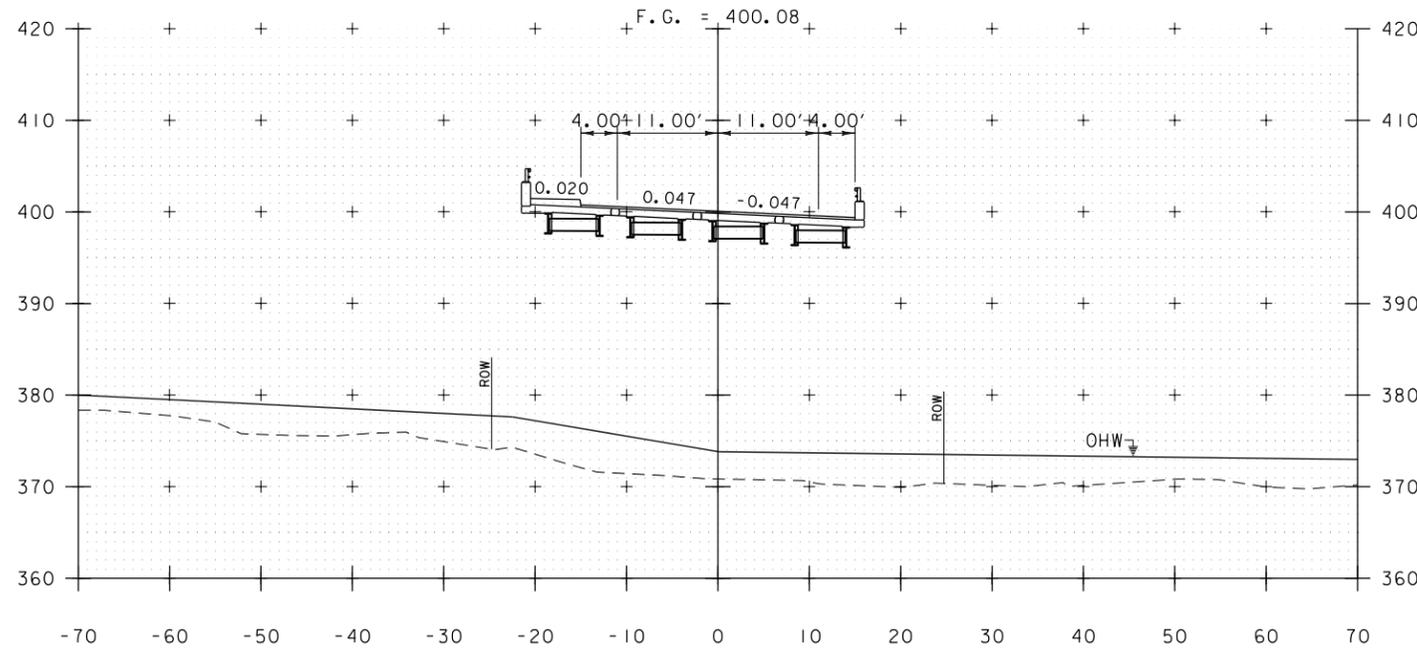


12+75

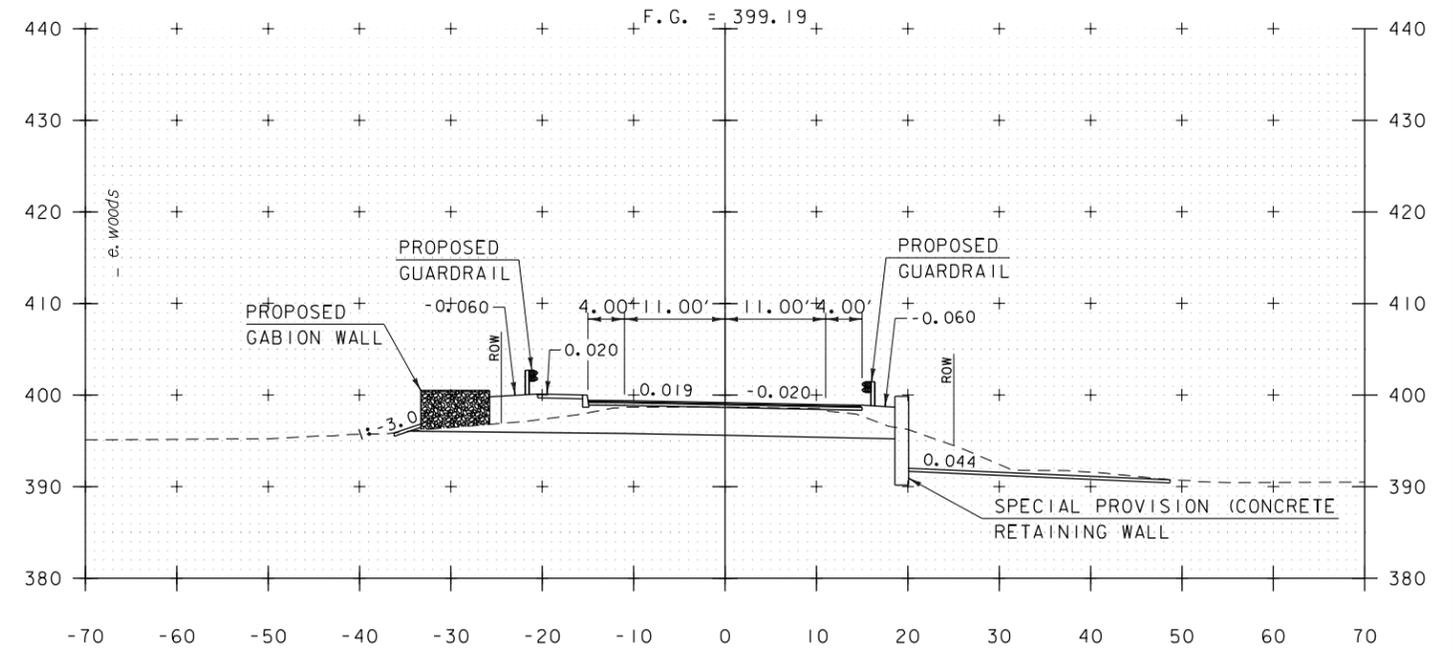


13+25

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

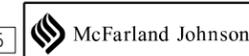


12+50



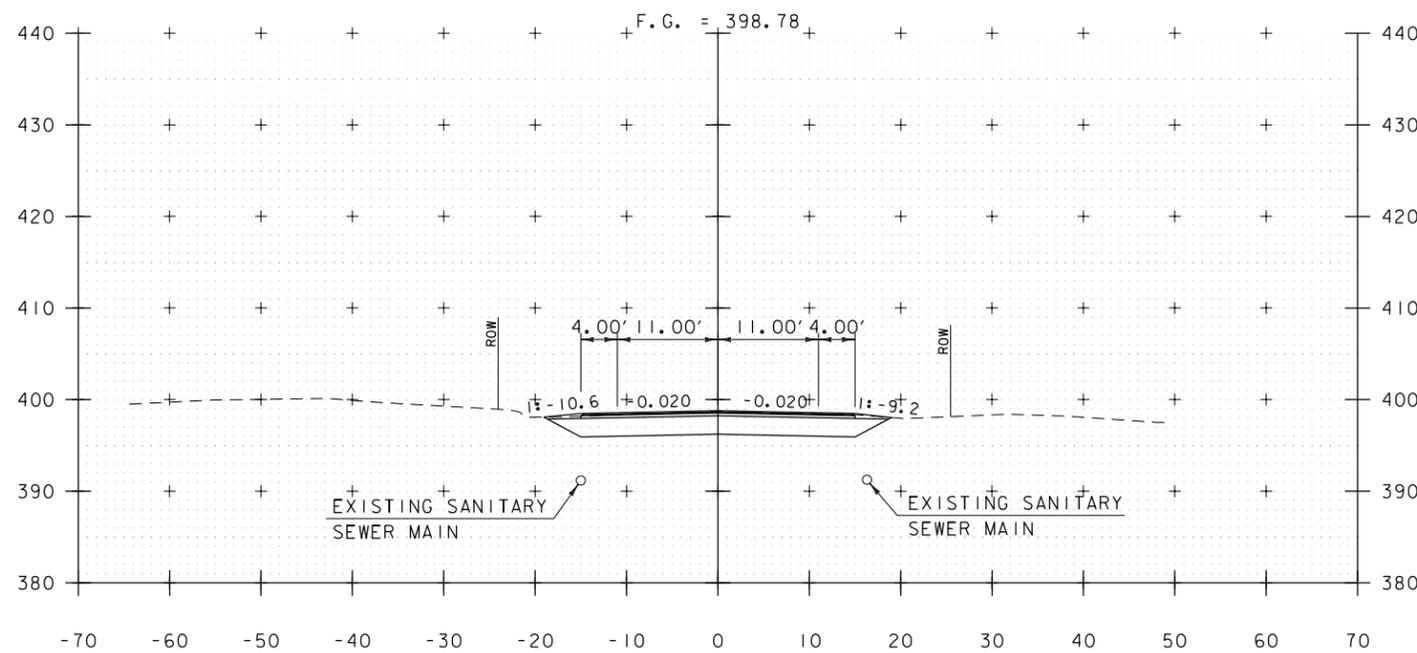
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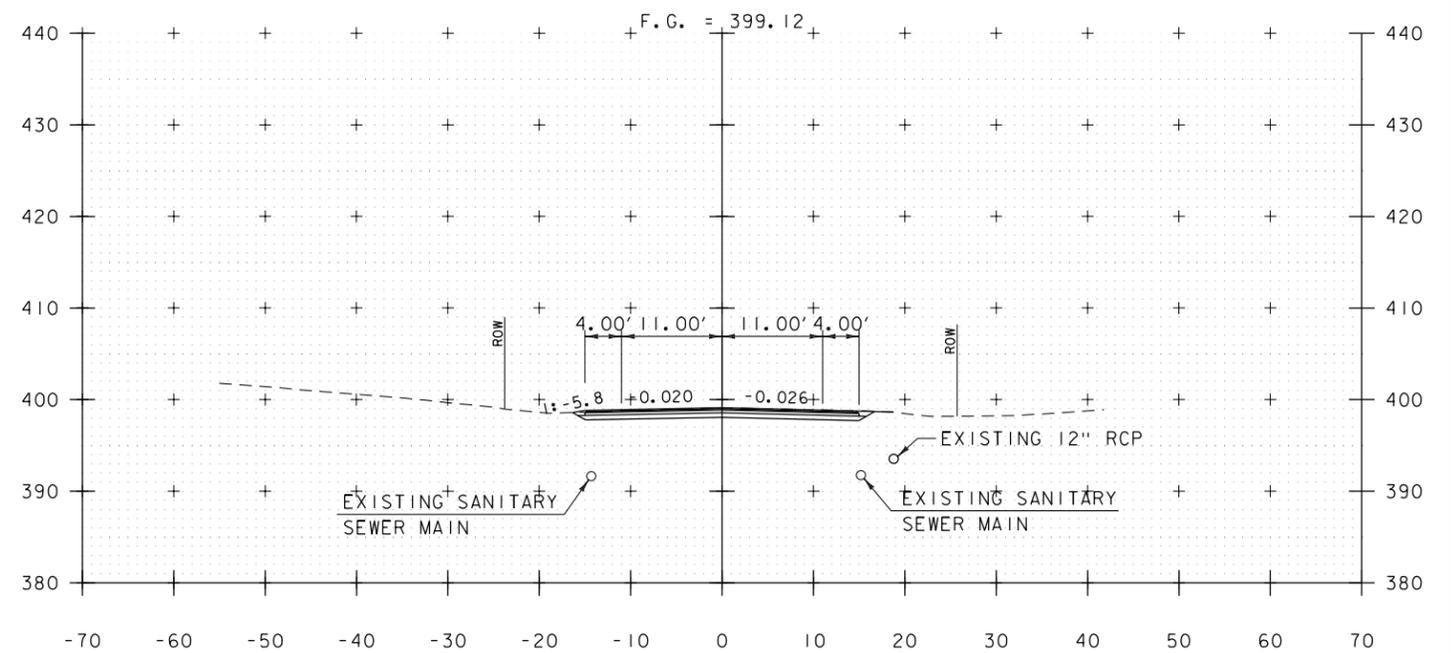
STA. 12+50 TO STA. 13+25

PROJECT NAME: GUILFORD	PROJECT NUMBER: BF 0113(68)
FILE NAME: Structures/13c064xsl.dgn	PLOT DATE: 2/16/2015
PROJECT LEADER: R. YOUNG	DRAWN BY: S. OZANA
DESIGNED BY: D. KULL	CHECKED BY: B. COLBURN
US 5 CROSS SECTIONS 4	SHEET 24 OF 36

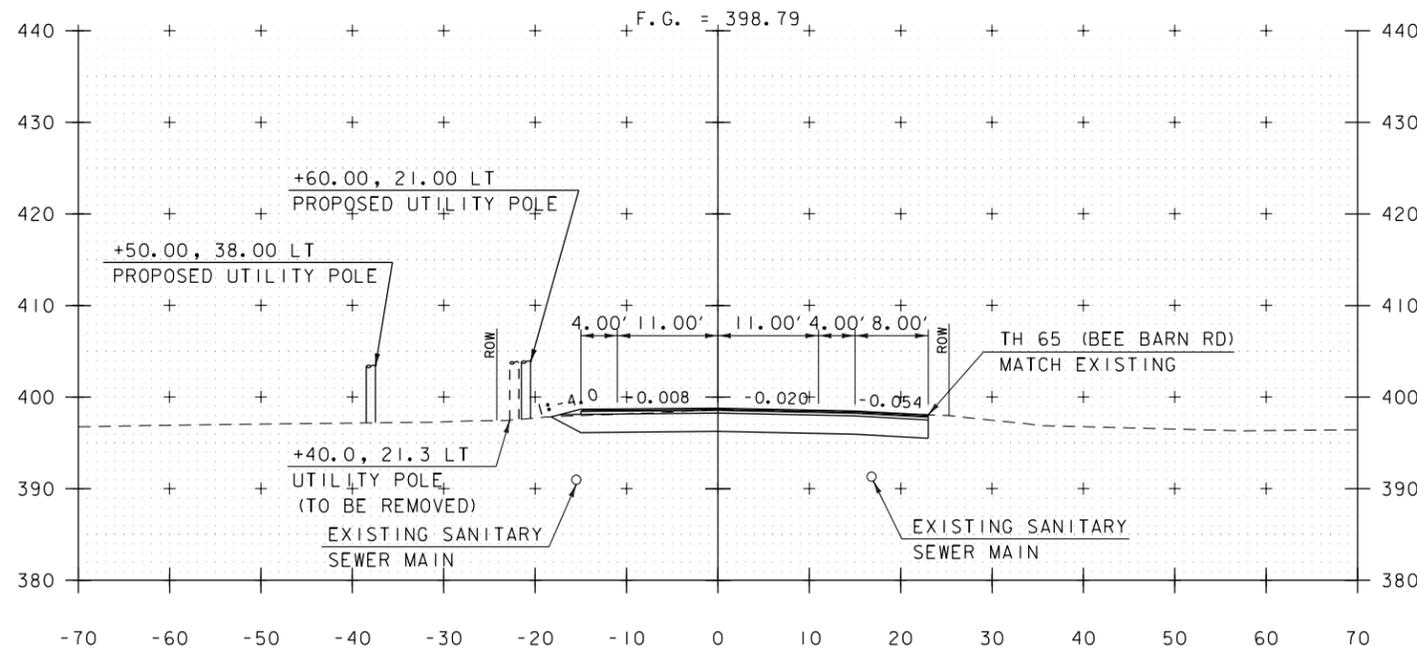


13+75

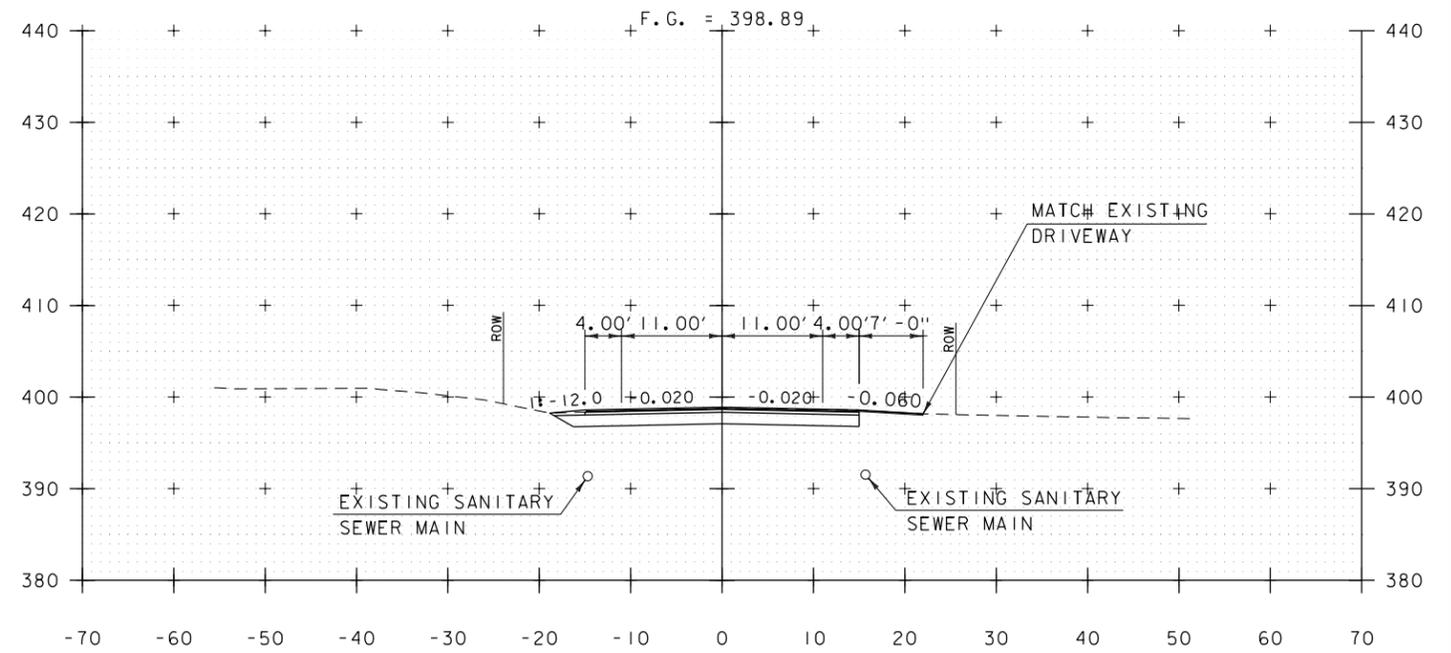
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14+25

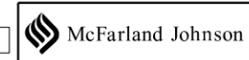


13+50



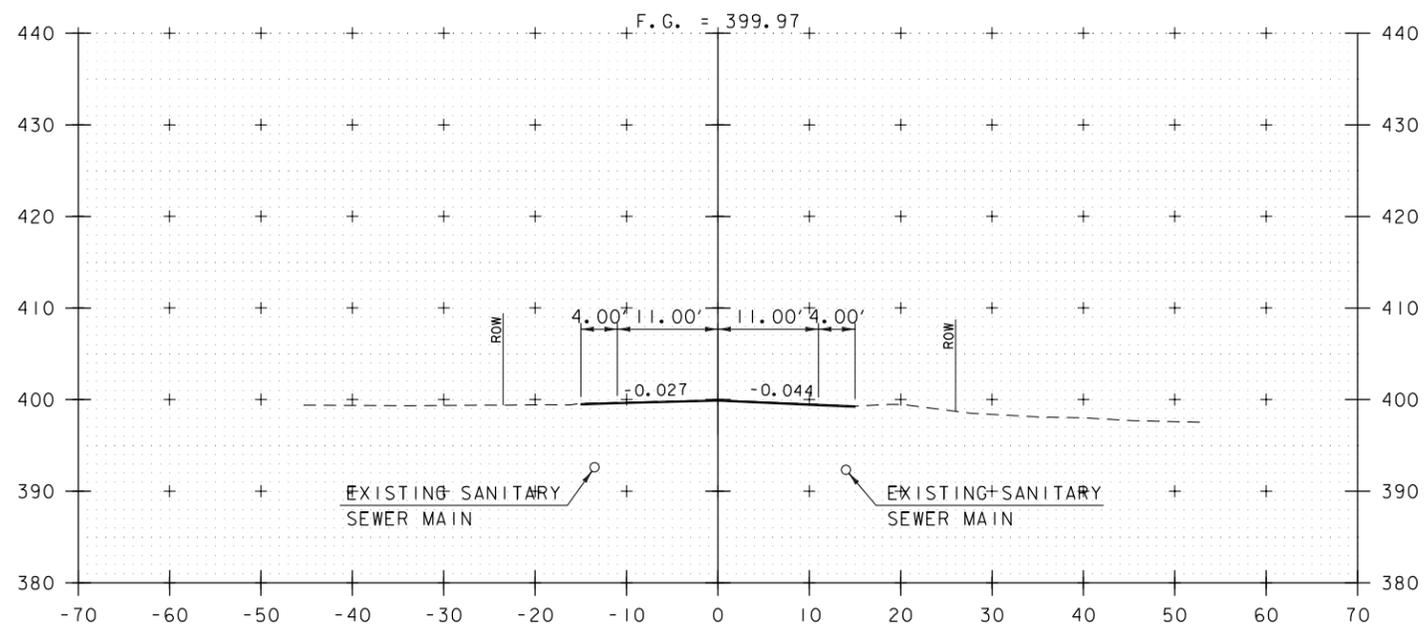
14+00

SCALE 1" = 10'-0"



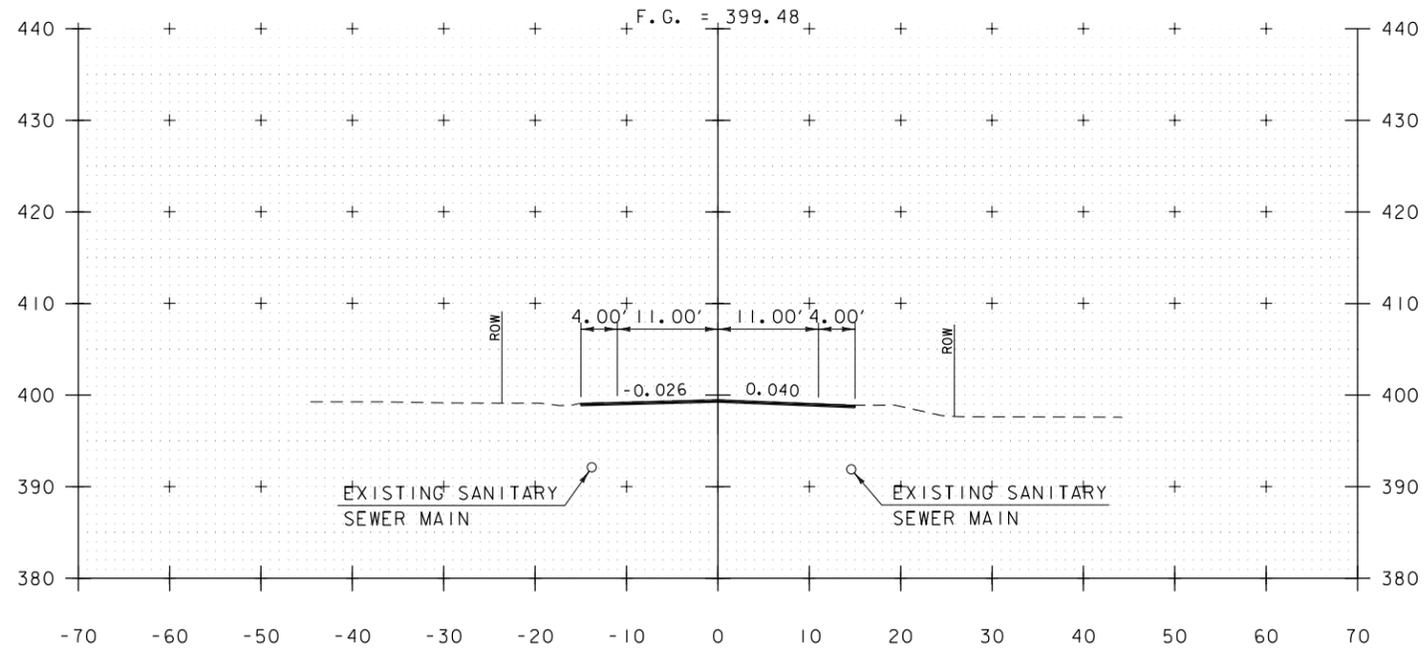
STA. 13+50 TO STA. 14+25

PROJECT NAME: GUILFORD	PLOT DATE: 2/16/2015
PROJECT NUMBER: BF 0113(68)	DRAWN BY: S. OZANA
FILE NAME: Structures/13c064xsl.dgn	CHECKED BY: B. COLBURN
PROJECT LEADER: R. YOUNG	SHEET 25 OF 36
DESIGNED BY: D. KULL	
US 5 CROSS SECTIONS 5	



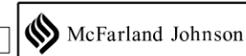
14+75

END APPROACH - MATCH EXISTING



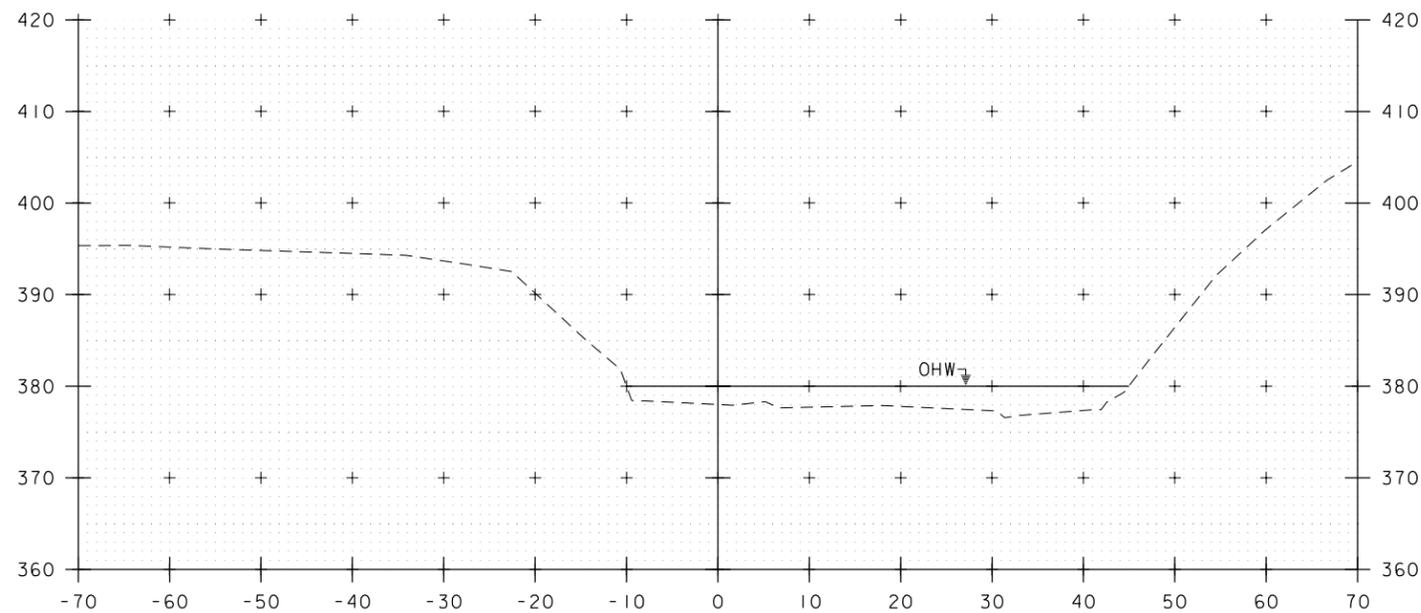
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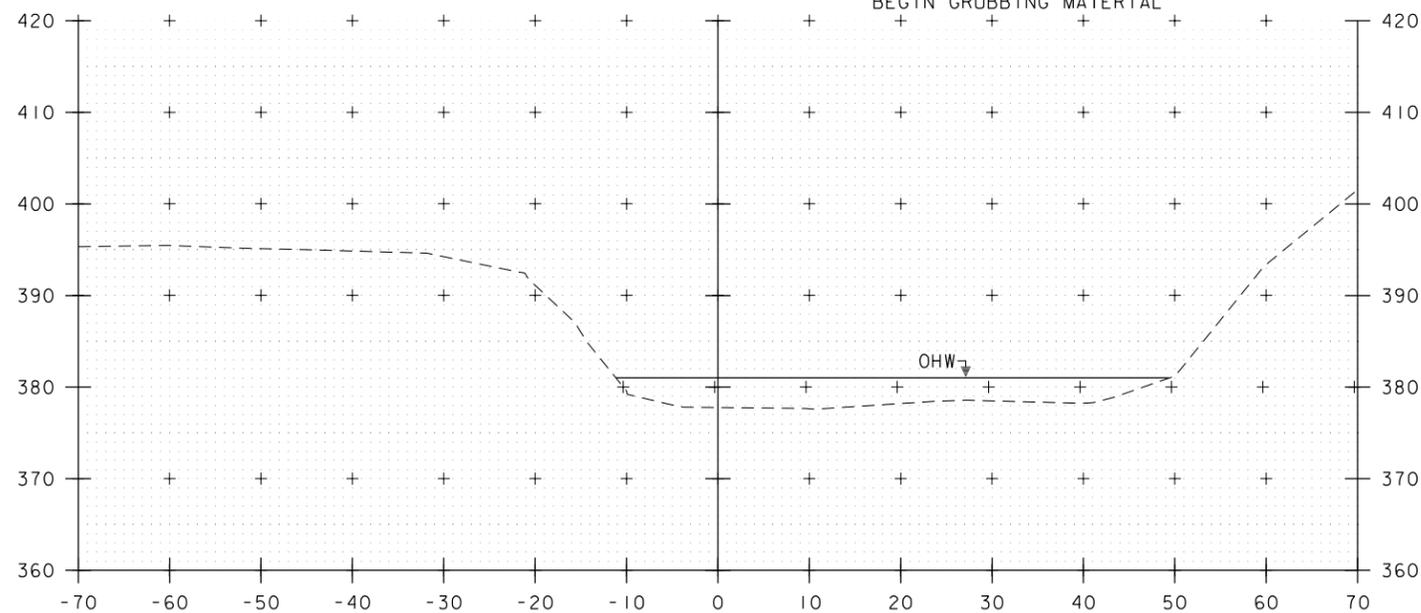
STA. 14+50 TO STA. 14+75

PROJECT NAME: GUILFORD	PLLOT DATE: 2/16/2015
PROJECT NUMBER: BF 0113(68)	DRAWN BY: S. OZANA
FILE NAME: Structures/13c064xsl.dgn	CHECKED BY: B. COLBURN
PROJECT LEADER: R. YOUNG	SHEET 26 OF 36
DESIGNED BY: D. KULL	
US 5 CROSS SECTIONS 6	

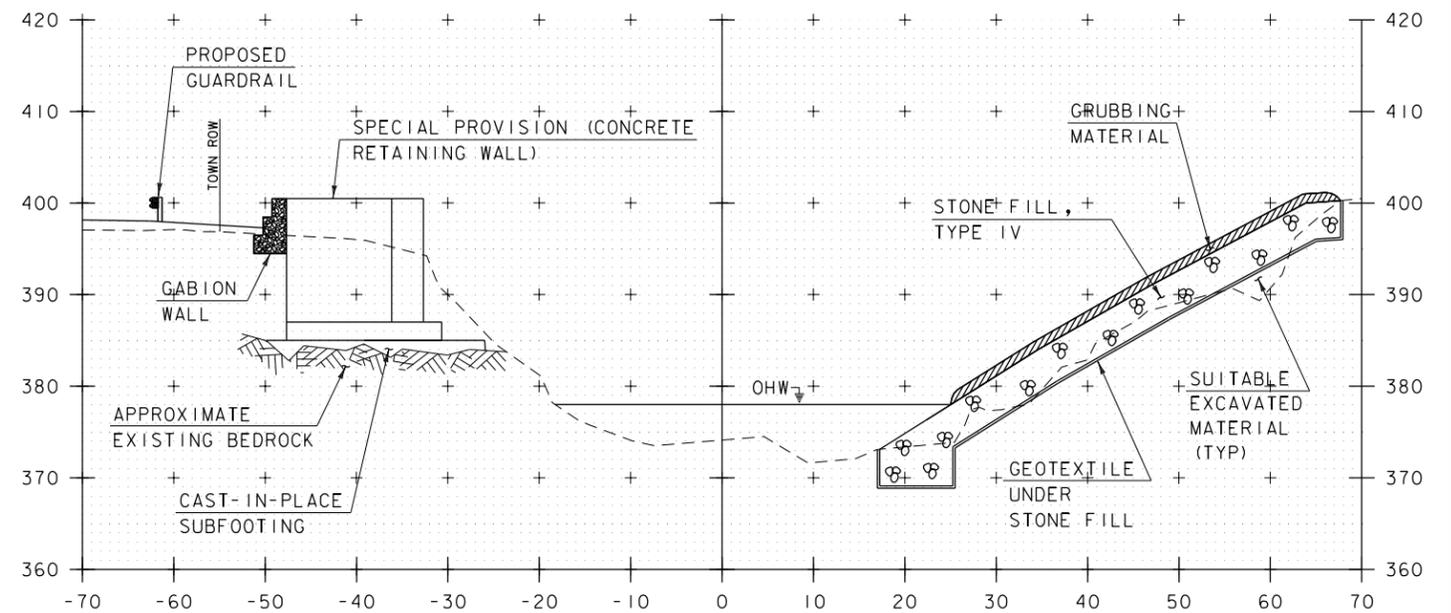


50+25

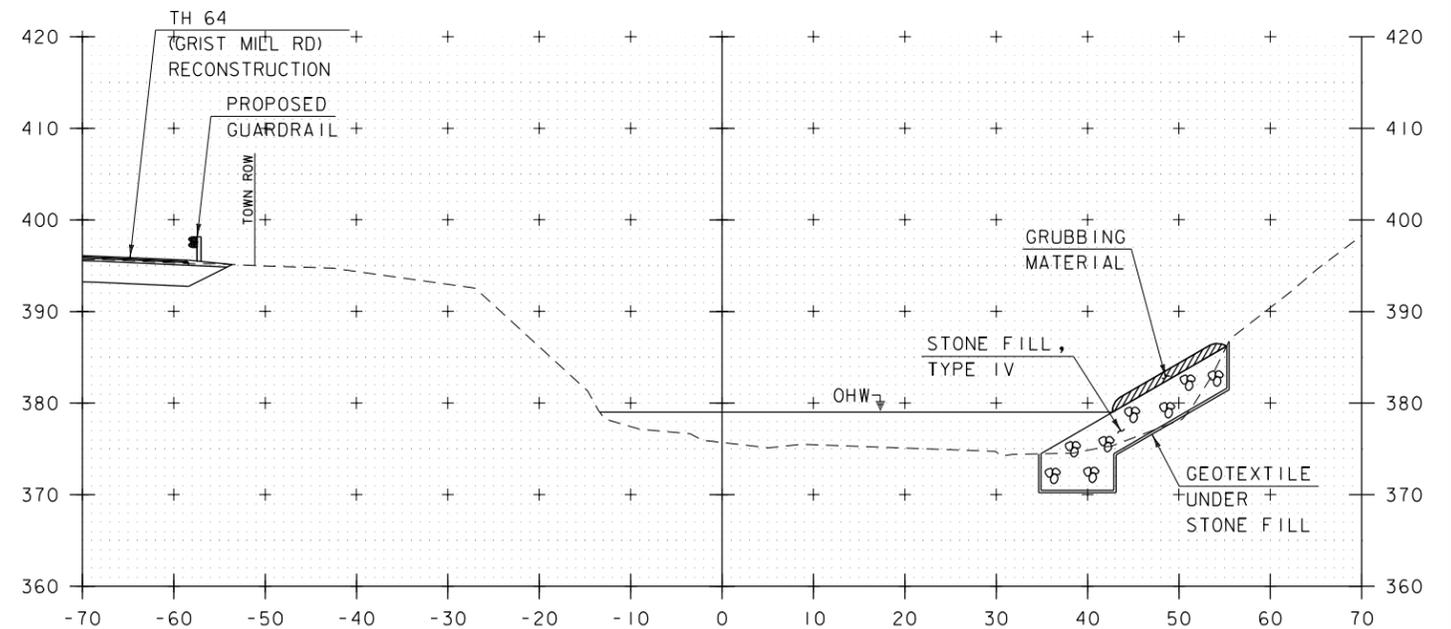
STA 50+33.3 RT  
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION  
 BEGIN GEOTEXTILE UNDER STONE FILL  
 BEGIN STONE FILL, TYPE IV  
 BEGIN GRUBBING MATERIAL



50+00



50+75

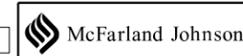


50+50

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

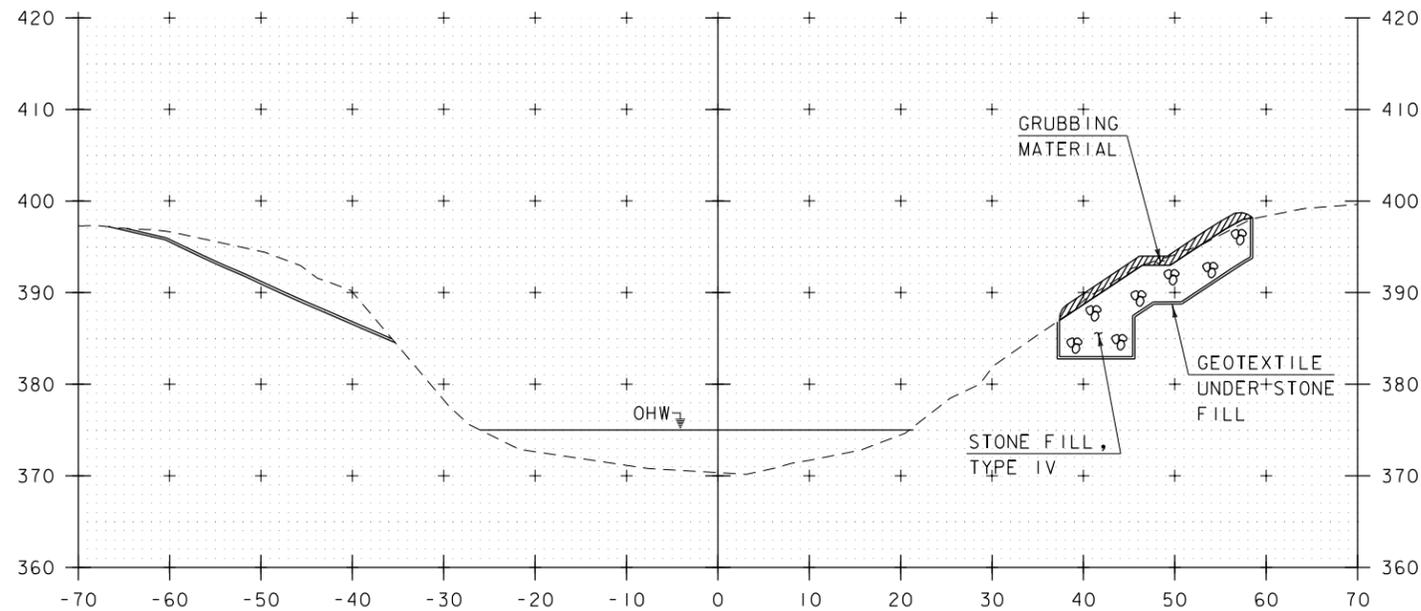
STA 50+74.0 LT  
 END GEOTEXTILE UNDER STONE FILL  
 END STONE FILL, TYPE IV  
 END GRUBBING MATERIAL

SCALE 1" = 10' - 0"



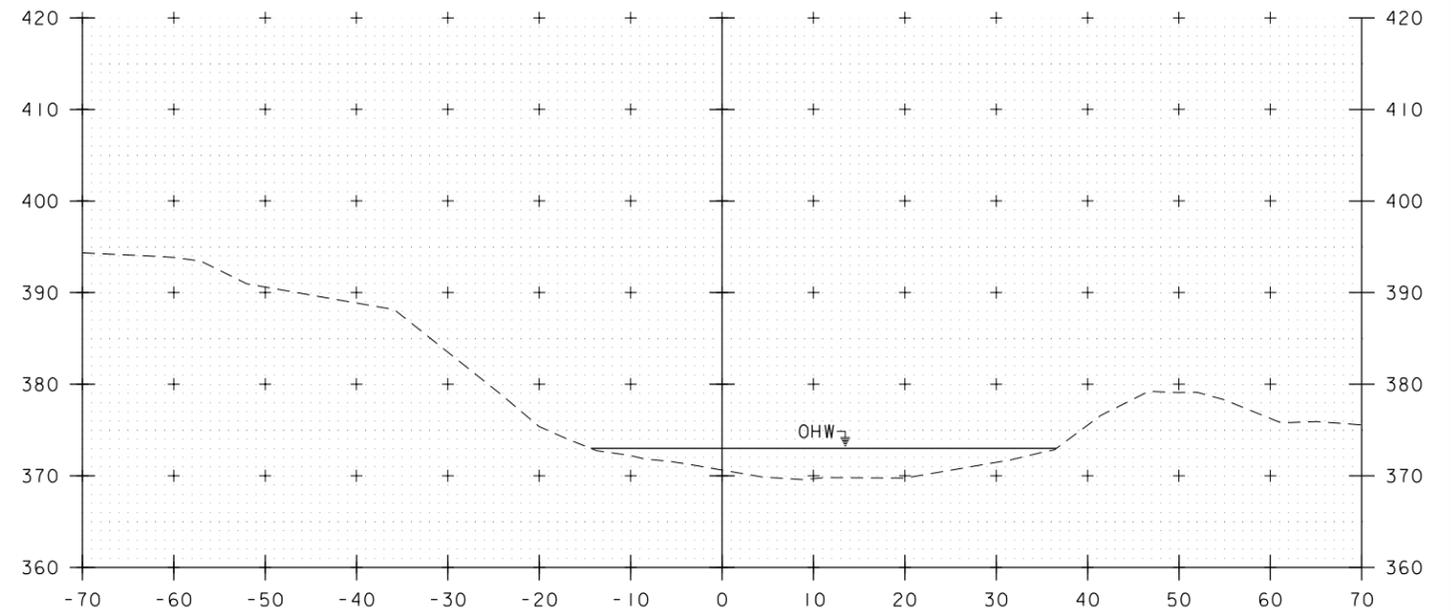
STA. 50+00 TO STA. 50+75

PROJECT NAME: GUILFORD	PLLOT DATE: 2/16/2015
PROJECT NUMBER: BF 0113(68)	DRAWN BY: S. OZANA
FILE NAME: Structures/13c064xst.dgn	CHECKED BY: B. COLBURN
PROJECT LEADER: R. YOUNG	SHEET 27 OF 36
DESIGNED BY: D. KULL	
CHANNEL CROSS SECTIONS I	



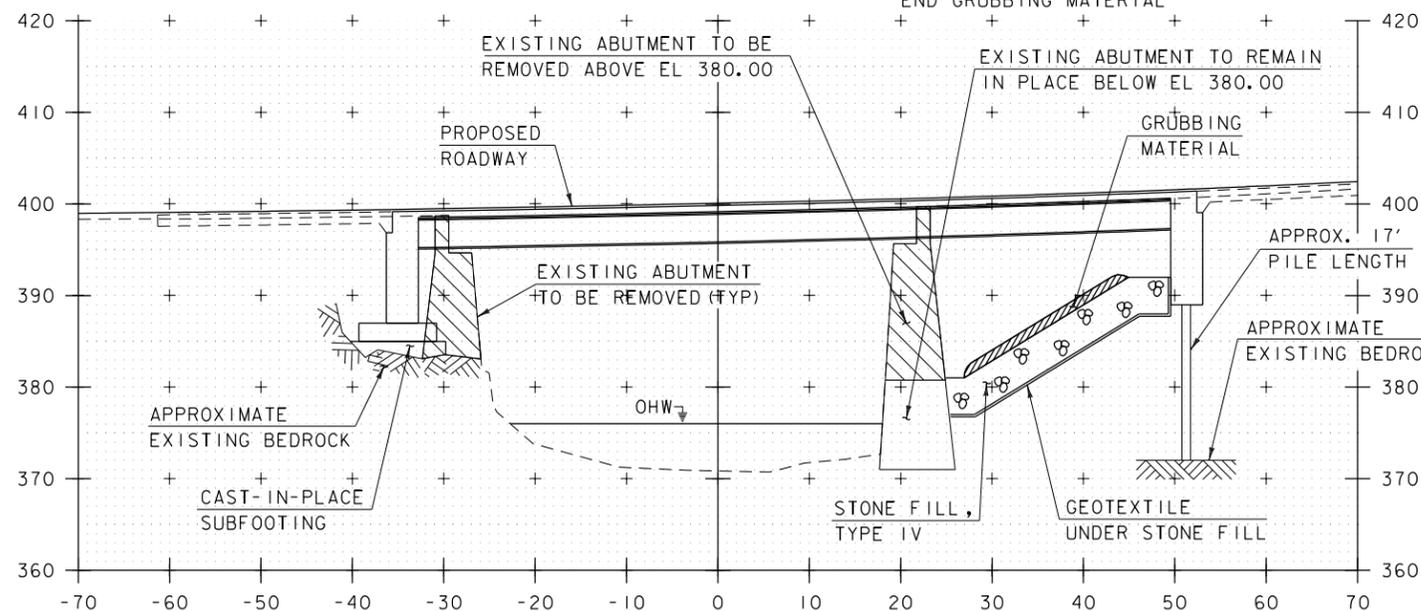
51+25

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

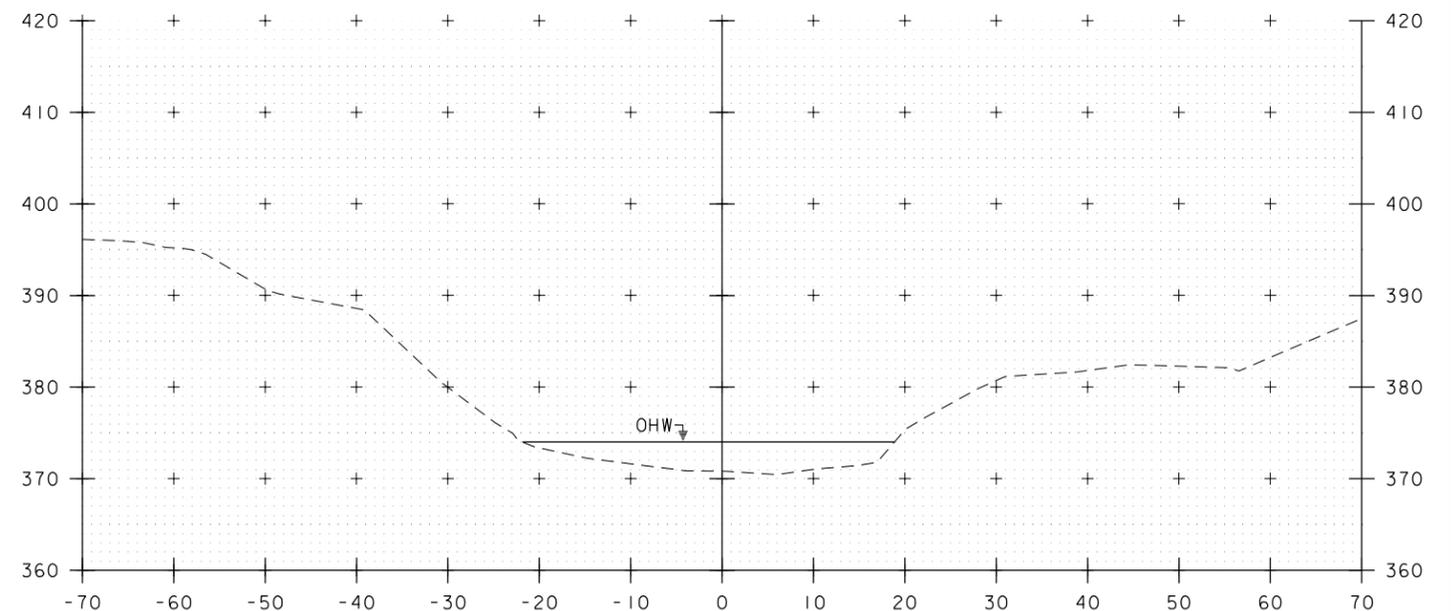


51+75

STA 51+74.5 LT  
 END UNCLASSIFIED CHANNEL EXCAVATION

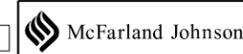


51+00



51+50

SCALE 1" = 10'-0"



STA. 51+00 TO STA. 51+75

PROJECT NAME: GUILFORD	PLOT DATE: 2/16/2015
PROJECT NUMBER: BF 0113(68)	DRAWN BY: S.OZANA
FILE NAME: Structures/13c064xsl.dgn	CHECKED BY: B. COLBURN
PROJECT LEADER: R. YOUNG	SHEET 28 OF 36
DESIGNED BY: D. KULL	
CHANNEL CROSS SECTIONS 2	

## **EPSC PLAN NARRATIVE**

### **1.1 PROJECT DESCRIPTION**

THIS PROJECT INVOLVES THE REMOVAL AND REPLACEMENT OF A 53 FOOT LONG CONCRETE T-BEAM BRIDGE AND ASSOCIATED APPROACHES. BRIDGE #5 WILL BE REPLACED BY A 85 FOOT SIMPLE SPAN STRUCTURE 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 21 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 0.65 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 WELL ESTABLISHED FOREST, RURAL HOUSING, AND OCCASIONAL OPEN AREAS. ROADWAY SIDE SLOPES CONSIST OF VEGETATED UNDERGROWTH.

#### **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 CONFINED WITHIN A STEEP SIDED, NATURAL CHANNEL WHICH IS CHARACTERIZED AS CASCADES. THE STREAM BED CONSISTS OF GRAVEL, COBBLES, BOULDERS, SAND, AND SOME EXPOSED LEDGE.

#### **1.2.3 VEGETATION**

THE VEGETATION IN THE PROJECT AREA CONSISTS OF MIXED HARDWOOD AND SOME 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 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 WINDHAM, VERMONT. SOILS ON THE PROJECT SITE ARE: QUONSET AND WARWICK SOILS, 15% TO 25% SLOPES, "K-FACTOR" = 0.20 / 0.24. THE SOIL IS CONSIDERED HIGHLY ERODIBLE, QUONSET AND WARWICK SOILS, 2% TO 8% SLOPES, "K-FACTOR" = 0.20 / 0.24. THE SOIL IS CONSIDERED POTENTIALLY HIGHLY ERODIBLE

**NOTE:** K-VALUES GENERALLY INDICATE THE FOLLOWING:

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

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

CRITICAL HABITATS: NO

HISTORICAL OR ARCHEOLOGICAL AREAS: HISTORIC MILL REMAINS ARE LOCATED UPSTREAM AND DOWNSTREAM OF THE SITE ALONG BROAD BROOK. A PORTION OF THE PROJECT IS WITHIN THE ALGIERS VILLAGE HISTORIC DISTRICT, HOWEVER THE BRIDGE IS NOT LOCATED WITHIN THE HISTORIC DISTRICT OR ARCHEOLOGICAL AREA.

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 CONSTRUCTION EQUIPMENT CAN ACCESS SHALL BE DELINEATED.

PROJECT DEMARCATION FENCING (PDF) SHALL BE PLACED 5 FEET FROM THE TOE OF SLOPE TO PHYSICALLY MARK SITE BOUNDARIES. PDF CAN BE LOCATED CLOSER TO THE PROPOSED SLOPE LIMITS IN SENSITIVE AREAS OR AS DIRECTED BY THE ENGINEER. PDF 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. INSTALLATION SHALL COINCIDE WITH THE CONTRACTOR'S PROGRESS SCHEDULE.

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.

#### **1.4.4 INSTALL SEDIMENT BARRIERS**

SEDIMENT BARRIERS SHALL BE UTILIZED TO INTERCEPT RUNOFF AND ALLOW SUSPENDED SEDIMENT TO SETTLE OUT. THESE SHALL BE INSTALLED PRIOR TO ANY UP SLOPE EARTHWORK IN ACCORDANCE WITH THE EROSION PREVENTION AND CONTROL PLANS.

SILT FENCE 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.

#### **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.

FOR THIS IT IS NOT ANTICIPATED THAT DIVERSION MEASURES WILL BE NECESSARY.

#### **1.4.6 SLOW DOWN CHANNELIZED RUNOFF**

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

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

PERMANENT STORMWATER TREATMENT DEVICES, SUCH AS STONE SLOPES, PERMANENT ROLLED EROSION CONTROL PRODUCTS AND FIBER ROLLS SHALL BE INSTALLED AS SHOWN ON THE PLANS.

#### **1.4.8 STABILIZE EXPOSED SOILS DURING CONSTRUCTION**

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

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

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

#### **1.4.9 WINTER STABILIZATION**

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

#### **1.4.10 STABILIZE SOIL AT FINAL GRADE**

EXPOSED SOIL MUST BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE. 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. FOR SLOPES STEEPER THAN 1:2, STONE FILL TYPE IV SHALL BE USED INSTEAD OF BIODEGRADABLE EROSION CONTROL MATTING.

#### **1.4.11 DE-WATERING ACTIVITIES**

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

TREATMENT OF DEWATERING COFFERDAM IS NOT ANTICIPATED ON THIS PROJECT.

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

INSPECT THE PROJECT SITE BASED ON SPECIAL PROVISION REQUIREMENTS AND 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**

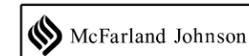
#### **1.5.2 OFF-SITE ACTIVITIES**

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

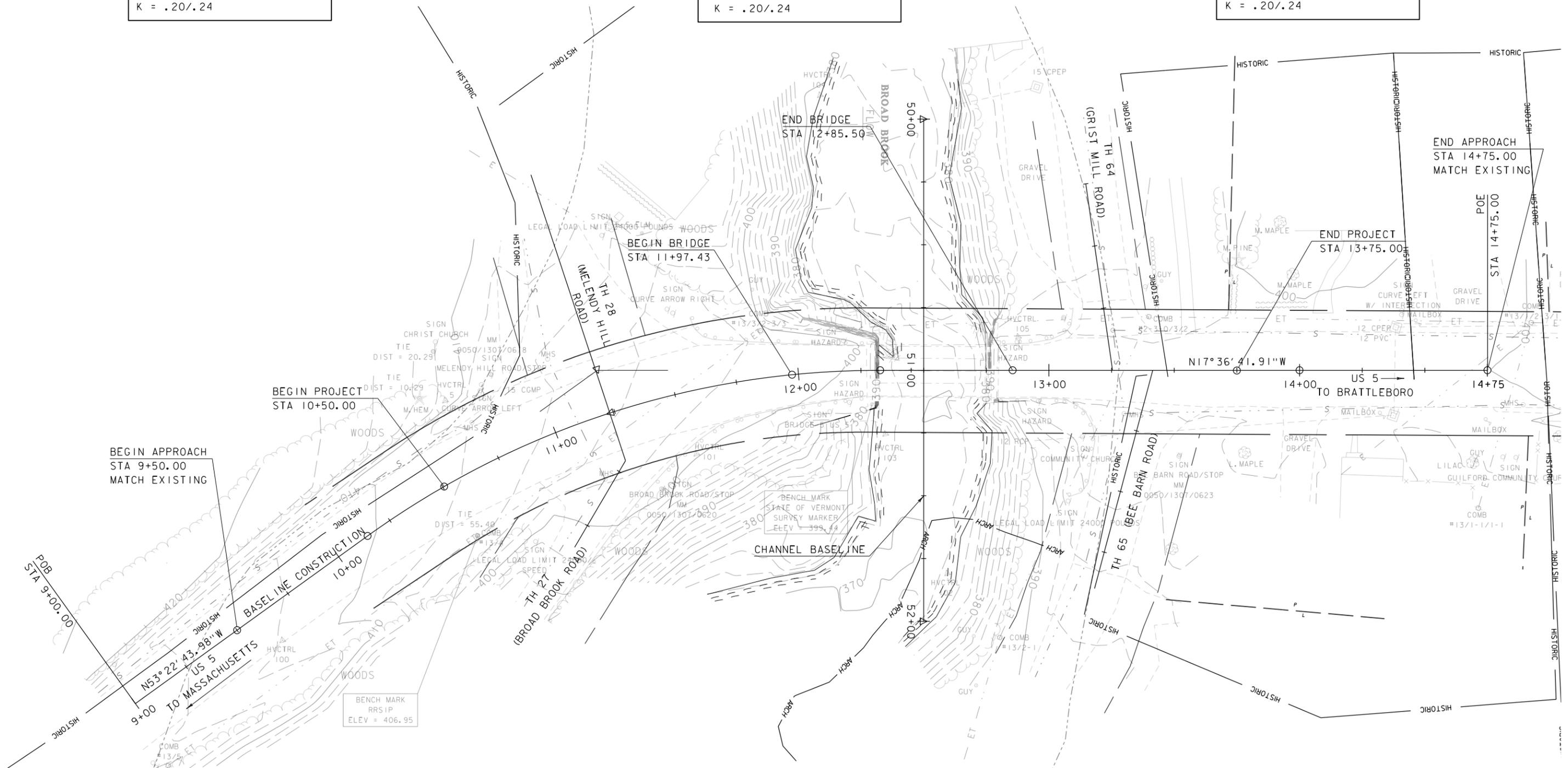
PLOT DATE: 2/16/2015  
DRAWN BY: S. MERKWAN  
CHECKED BY: T. KENDRICK  
SHEET 29 OF 36



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



BEGIN APPROACH  
 STA 9+50.00  
 MATCH EXISTING

BEGIN PROJECT  
 STA 10+50.00

BEGIN BRIDGE  
 STA 11+97.43

END BRIDGE  
 STA 12+85.50

END PROJECT  
 STA 13+75.00

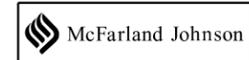
END APPROACH  
 STA 14+75.00  
 MATCH EXISTING

BENCH MARK  
 STATE OF VERMONT  
 SURVEY MARKER  
 ELEV = 399.44

BENCH MARK  
 RRSIP  
 ELEV = 406.95

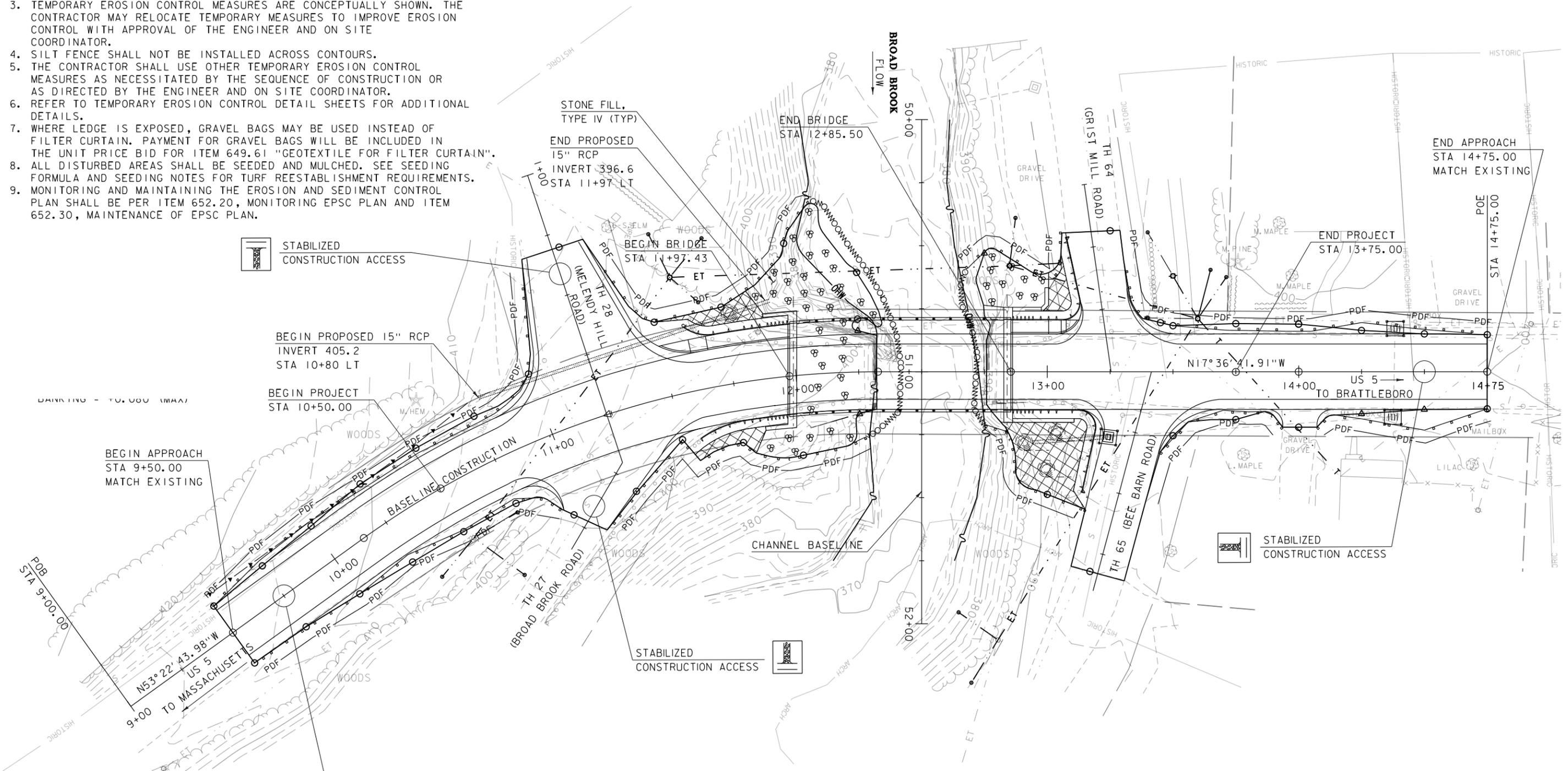
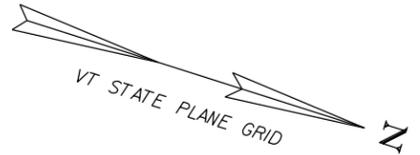
PLAN  
 SCALE 1" = 20'-0"  
 20 0 20

PROJECT NAME:	GUILFORD	FILE NAME:	z13c064bdr_ero.dgn	PLOT DATE:	2/16/2015
PROJECT NUMBER:	BF 0113(68)	PROJECT LEADER:	R. YOUNG	DRAWN BY:	S. MERKWAN
		DESIGNED BY:	D. KULL	CHECKED BY:	T. KENDRICK
		EPSC EXISTING CONDITIONS SITE PLAN		SHEET	30 OF 36



**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. SILT FENCE SHALL NOT BE INSTALLED ACROSS CONTOURS.
5. 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.
6. REFER TO TEMPORARY EROSION CONTROL DETAIL SHEETS FOR ADDITIONAL DETAILS.
7. WHERE LEDGE IS EXPOSED, GRAVEL BAGS MAY BE USED INSTEAD OF FILTER CURTAIN. PAYMENT FOR GRAVEL BAGS WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 649.61 "GEOTEXTILE FOR FILTER CURTAIN".
8. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED. SEE SEEDING FORMULA AND SEEDING NOTES FOR TURF REESTABLISHMENT REQUIREMENTS.
9. 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.



STABILIZED CONSTRUCTION ACCESS

BEGIN PROPOSED 15" RCP  
INVERT 405.2  
STA 10+80 LT

BEGIN PROJECT  
STA 10+50.00

BEGIN APPROACH  
STA 9+50.00  
MATCH EXISTING

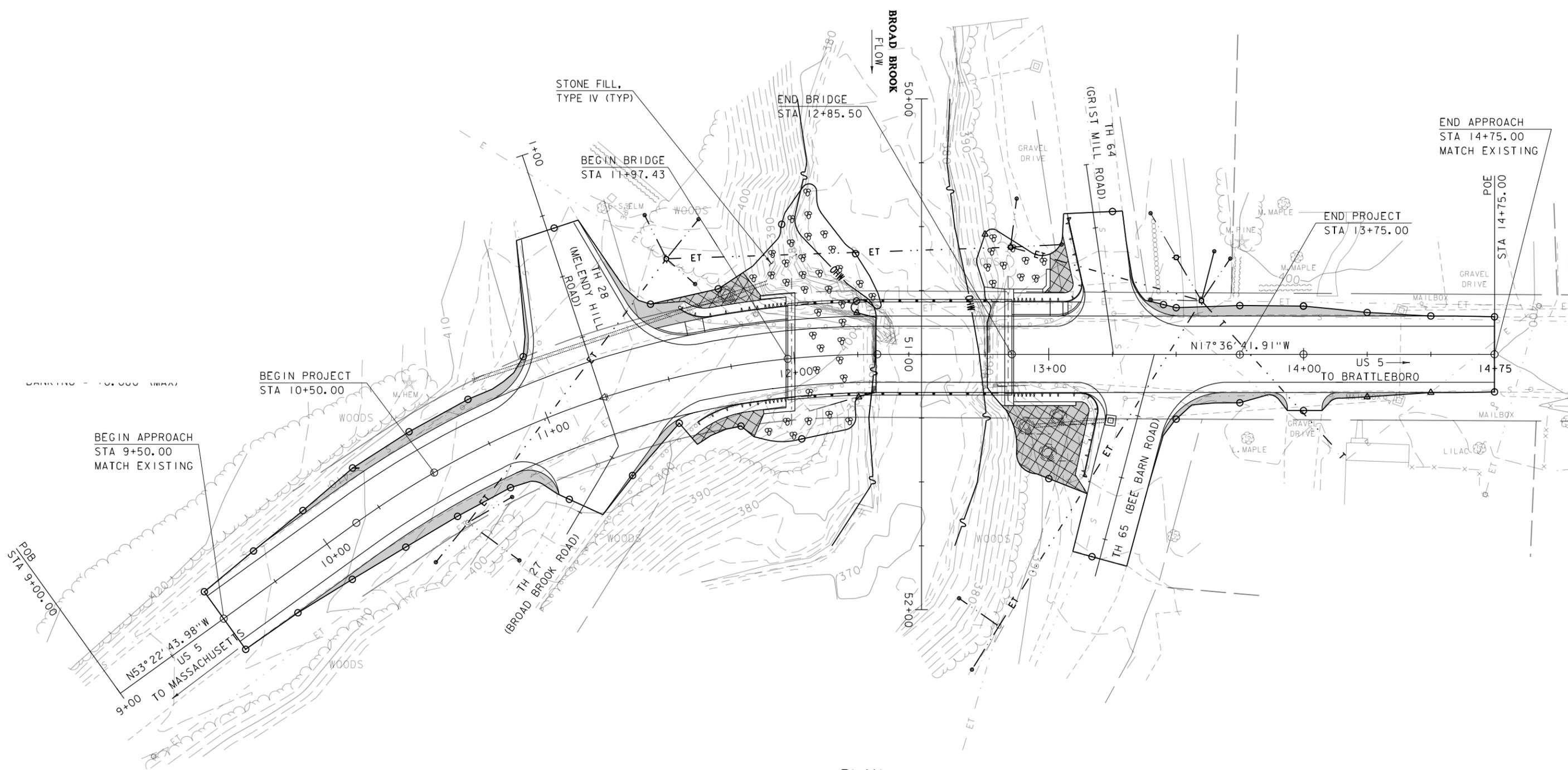
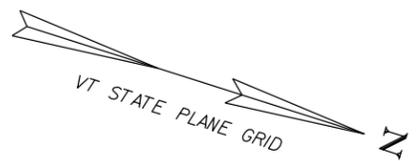
STABILIZED CONSTRUCTION ACCESS

STABILIZED CONSTRUCTION ACCESS

STABILIZED CONSTRUCTION ACCESS

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

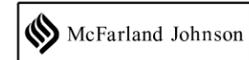
PROJECT NAME:	GUILFORD
PROJECT NUMBER:	BF 0113(68)
FILE NAME:	z13c064bdr_ero.dgn
PROJECT LEADER:	R. YOUNG
DESIGNED BY:	D. KULL
EPSC CONSTRUCTION SITE PLAN	
PLOT DATE:	2/16/2015
DRAWN BY:	S. MERKWAN
CHECKED BY:	T. KENDRICK
SHEET	31 OF 36



PLAN

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

PROJECT NAME:	GUILFORD
PROJECT NUMBER:	BF 0113(68)
FILE NAME:	z13c064bdr_ero.dgn
PROJECT LEADER:	R. YOUNG
DESIGNED BY:	D. KULL
EPSC FINAL CONDITIONS SITE PLAN	
PLOT DATE:	2/16/2015
DRAWN BY:	S. MERKWAN
CHECKED BY:	T. KENDRICK
SHEET	32 OF 36



**EPSC LAYOUT PLAN SYMBOLOGY LEGEND**

**PROJECT BOUNDARY FENCE**  
 PDF — PDF PROJECT DEMARCATION FENCE  
 BF — BF BARRIER FENCE

**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  
 SOIL TYPE BOUNDARY  
 THREATENED & ENDANGERED SPECIES  
 HAZ — HAZ HAZARDOUS WASTE AREA  
 AGRICULTURAL LAND  
 FISH & WILDLIFE HABITAT  
 FLOOD PLAIN  
 STORM WATER  
 USDA FOREST SERVICE LANDS  
 WILDLIFE HABITAT SUIT/CONN

**ARCHEOLOGICAL & HISTORIC**

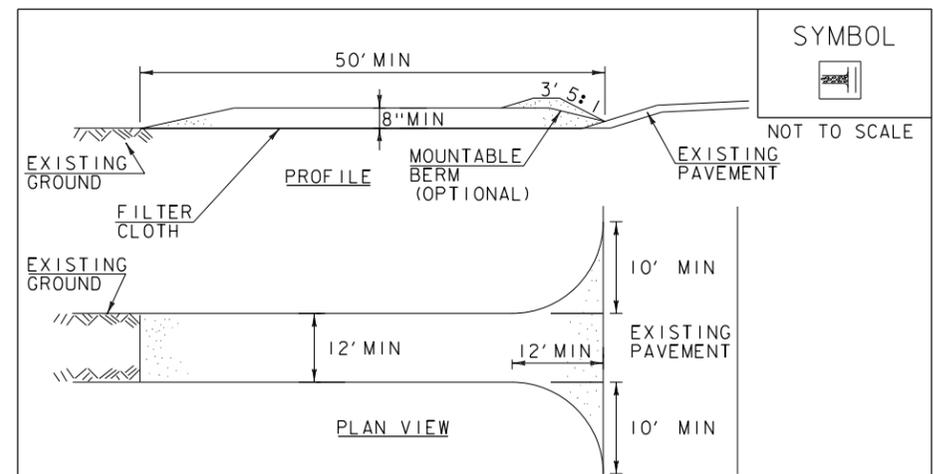
ARCHEOLOGICAL BOUNDARY  
 HISTORIC DISTRICT BOUNDARY  
 HISTORIC AREA  
 (H) HISTORIC STRUCTURE

**UTILITY SYMBOLOGY**

— AER E&T — AREAL ELECTRIC & TELEPHONE  
 — E — AREAL ELECTRIC  
 — UE — UNDERGROUND ELECTRIC  
 — UT — UNDERGROUND TELEPHONE  
 — UC — UNDER GROUND TV  
 — G — GAS LINE  
 — W — WATER LINE

**CONSTRUCTION FEATURES**

TOE OF SLOPE CUT OR FILL  
 STONE FILL, TYPE III  
 STONE FILL, TYPE II  
 STONE FILL, TYPE I



**SYMBOL**  
 NOT TO SCALE

**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.

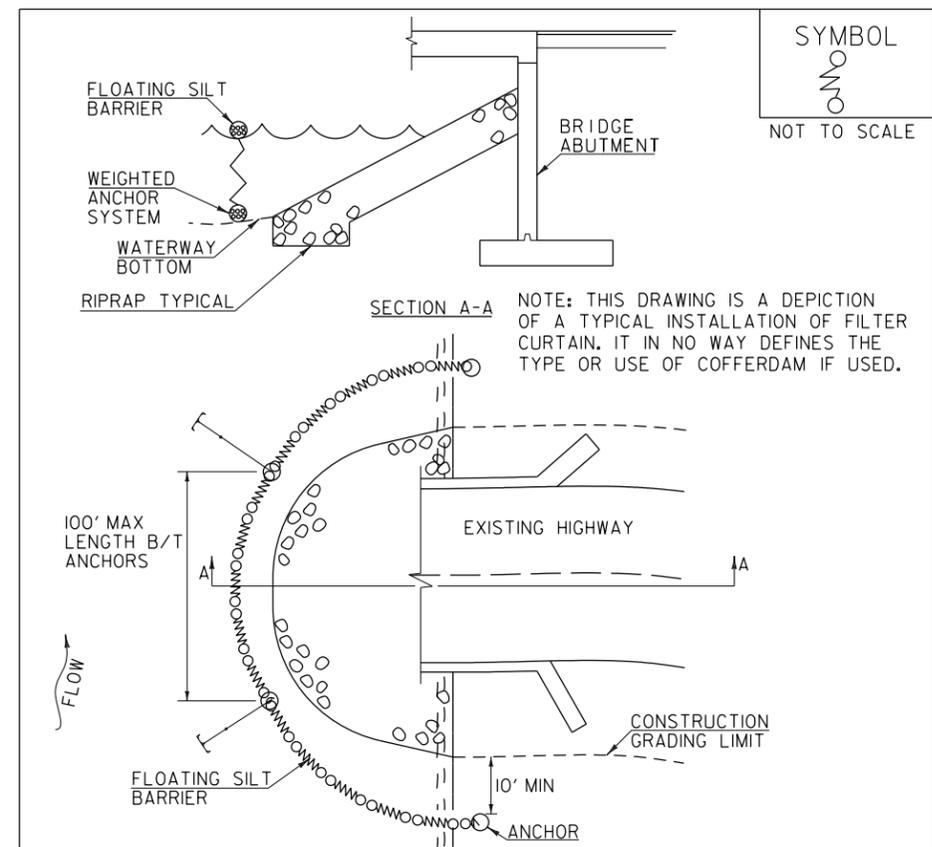
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
 ORIGINALLY DEVELOPED BY USDA-NRCS  
 VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**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



**SYMBOL**  
 NOT TO SCALE

**CONSTRUCTION SPECIFICATIONS**

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

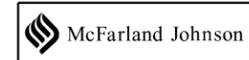
**FILTER CURTAIN**

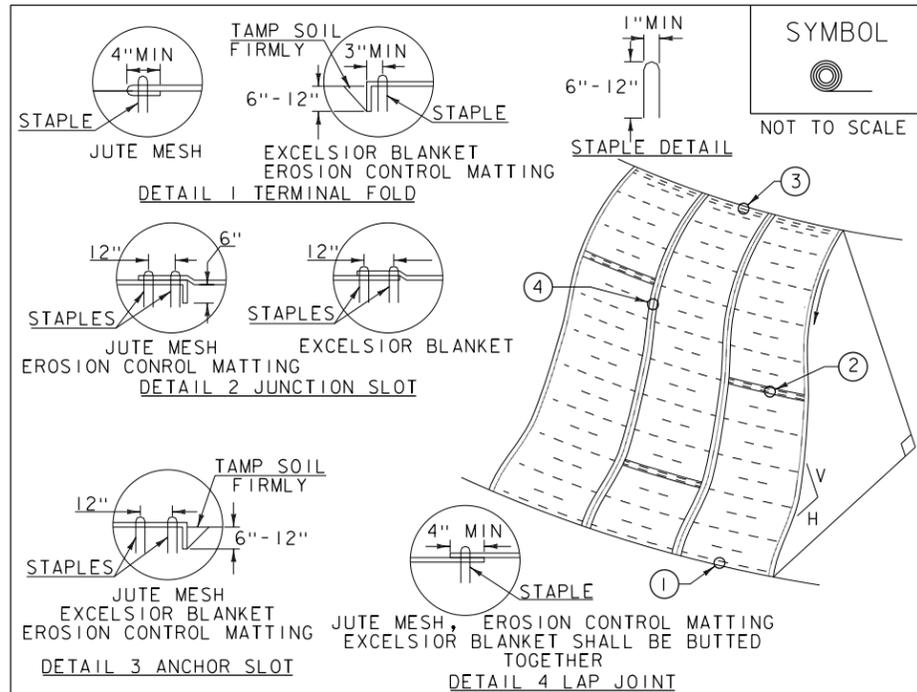
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 FOR GEOTEXTILE FOR FILTER CURTAIN (PAY ITEM 649.6I).

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

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: 2/16/2015  
 DRAWN BY: S. MERKWAN  
 CHECKED BY: T. KENDRICK  
 SHEET 33 OF 36





**CONSTRUCTION SPECIFICATIONS**

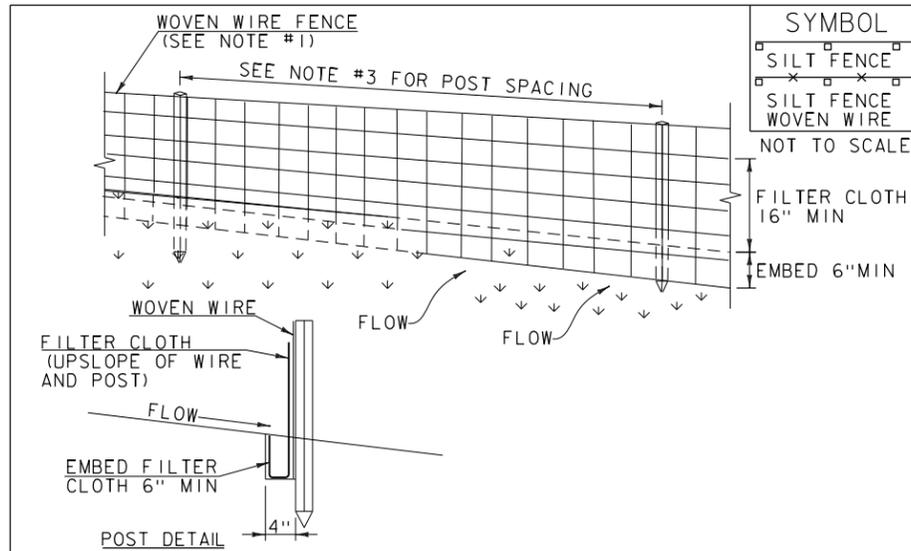
1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER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

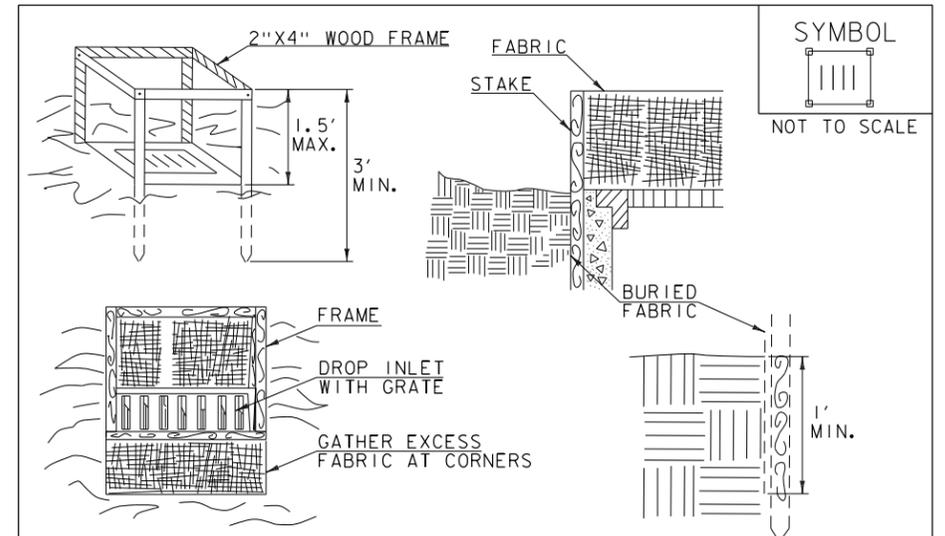
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC  
ORIGINALLY DEVELOPED BY USDA-NRCS  
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**SILT FENCE**

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

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

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



**CONSTRUCTION SPECIFICATIONS**

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

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

**FILTER FABRIC  
DROP INLET  
PROTECTION**

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

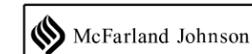
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR INLET PROTECTION DEVICE, TYPE 1 (PAY ITEM 653.40).

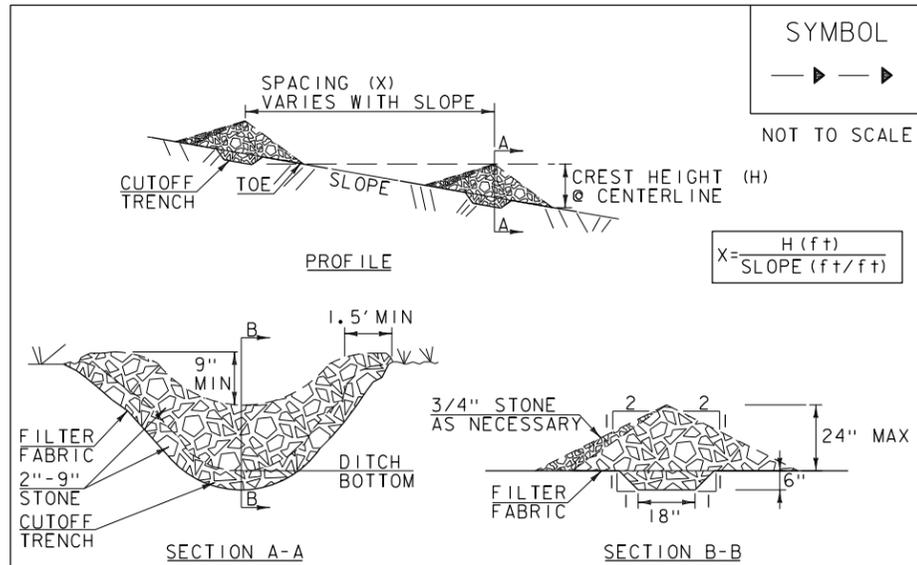
REVISIONS	
MARCH 7, 2008	WHF
JANUARY 13, 2009	WHF

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

FILE NAME: z13c064ero_def.dgn  
PROJECT LEADER: R. YOUNG  
DESIGNED BY: D. KULL  
EPSC DETAILS SHEET 2

PLOT DATE: 2/16/2015  
DRAWN BY: S. MERKWAN  
CHECKED BY: T. KENDRICK  
SHEET 34 OF 36





**CONSTRUCTION SPECIFICATIONS**

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

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

**CHECK DAM**

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

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR TEMPORARY STONE CHECK DAM, TYPE I (PAY ITEM 653.25)

REVISIONS	
MARCH 21, 2008	WHF
JANUARY 8, 2009	WHF

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

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

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

**CONSTRUCTION GUIDANCE**

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

ADAPTED FROM VTRANS TECHNICAL LANDSCAPE MANUAL FOR ROADWAYS AND TRANSPORTATION FACILITIES

**TURF ESTABLISHMENT**

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

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

VAOT LOW GROW/FINE FESCUE MIX					
% WEIGHT	LBS/AC		NAME	GERM %	PURITY %
	BROADCAST	HYDROSEED			
38.0%	57.0	95.0	CREEPING RED FESCUE	90%	98%
29.0%	43.5	72.5	SPARTAN HARD FESCUE	85%	95%
15.0%	22.5	37.5	AZAY SHEEP'S FESCUE	87%	95%
15.0%	22.5	37.5	ANNUAL RYEGRASS	90%	95%
3.0%	4.5	7.5	INERTS		
100%	150.0	250.0			

**SOIL AMENDMENT GUIDANCE**

SOIL AMENDMENT GUIDANCE		
FERTILIZER		LIME
BROADCAST	HYDROSEED	BROADCAST
5-10-5	10-20-10	PELLETIZED
500 LBS/AC		2 TONS/AC

**CONSTRUCTION GUIDANCE**

1. LOW GROW/FINE FESCUE SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED LOW GROW AREAS DISTURBED BY THE CONTRACTOR.
2. ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
3. FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER
4. 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.
5. TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, 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**

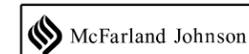
THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651.15)

REVISIONS:	
DEC. 24, 2013	PLB
JAN. 22, 2014	PLB

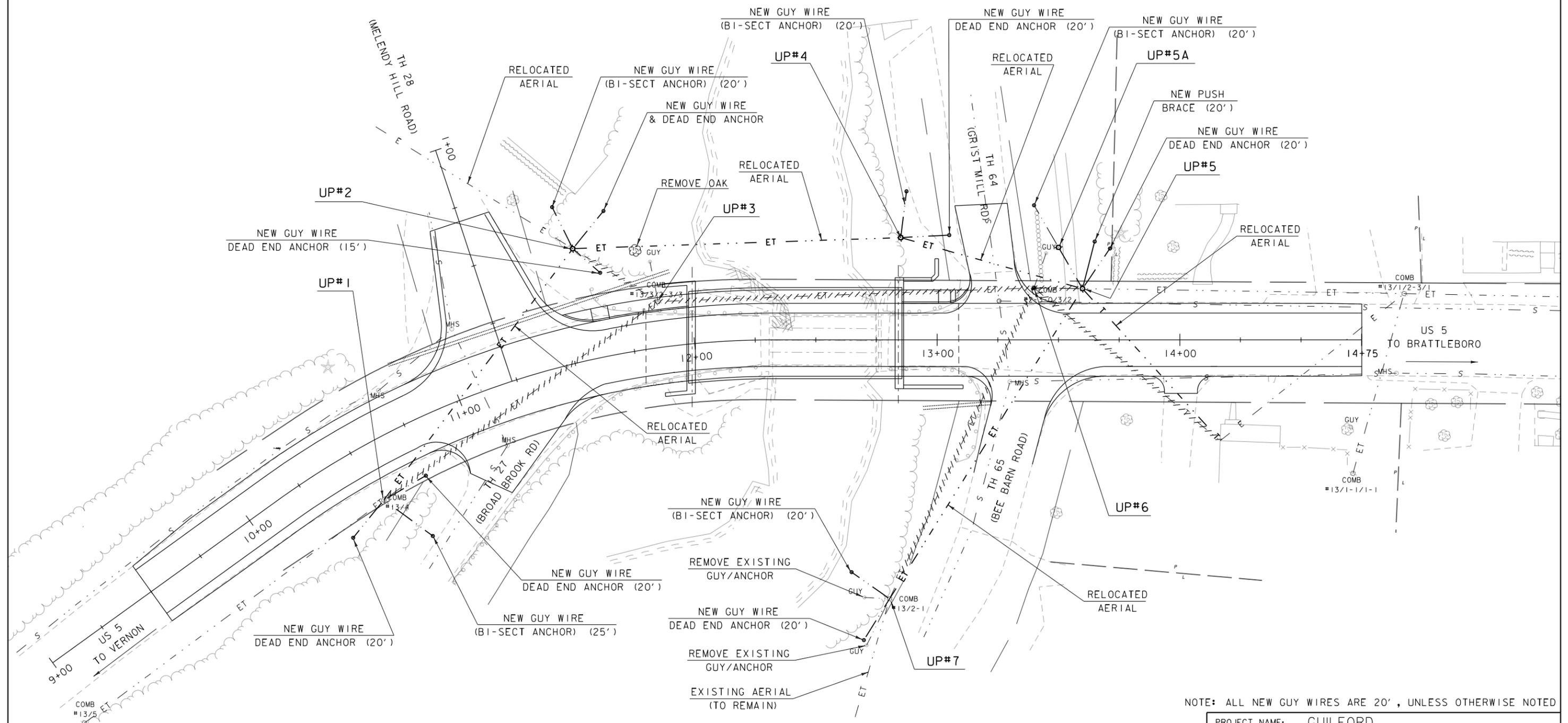
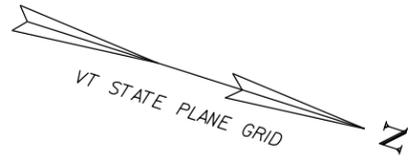
PROJECT NAME: GUILFORD  
PROJECT NUMBER: BF 0113(68)

FILE NAME: z13c064ero_def.dgn  
PROJECT LEADER: R. YOUNG  
DESIGNED BY: D. KULL  
EPSC DETAILS SHEET 3

PLOT DATE: 2/16/2015  
DRAWN BY: S. MERKWAN  
CHECKED BY: T. KENDRICK  
SHEET 35 OF 36



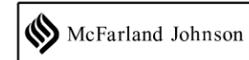
MARK	STATION	OFFSET	PHASING	NORTHING	EASTING	REMARKS	POLE NUMBER
UP#1	10+52	24' RT	PRE-CONSTRUCTION	115263.46	1620455.46	INSTALL NEW GUYS, CONNECT LINES TO UP#2	13/4
UP#2	11+59	46' LT	PRE-CONSTRUCTION	115306.42	1620333.44	INSTALL NEW POLE & GUY WIRES, CONNECT LINES TO UP#1, UP#4 & TH 28 SPUR	NEW POLE
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#5A	13+50	38' LT	PRE-CONSTRUCTION	115497.06	1620272.33	INSTALL NEW POLE & GUY, CONNECT TO UP#5	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	FILE NAME:	z13c064Utilities.dgn	PLOT DATE:	2/16/2015
PROJECT NUMBER:	BF 0113(68)	PROJECT LEADER:	R. YOUNG	DRAWN BY:	S. MERKWAN
		DESIGNED BY:	D. KULL	CHECKED BY:	B. COLBURN
		UTILITY RELOCATION LAYOUT SHEET		SHEET	36 OF 36