

STATE OF VERMONT AGENCY OF TRANSPORTATION



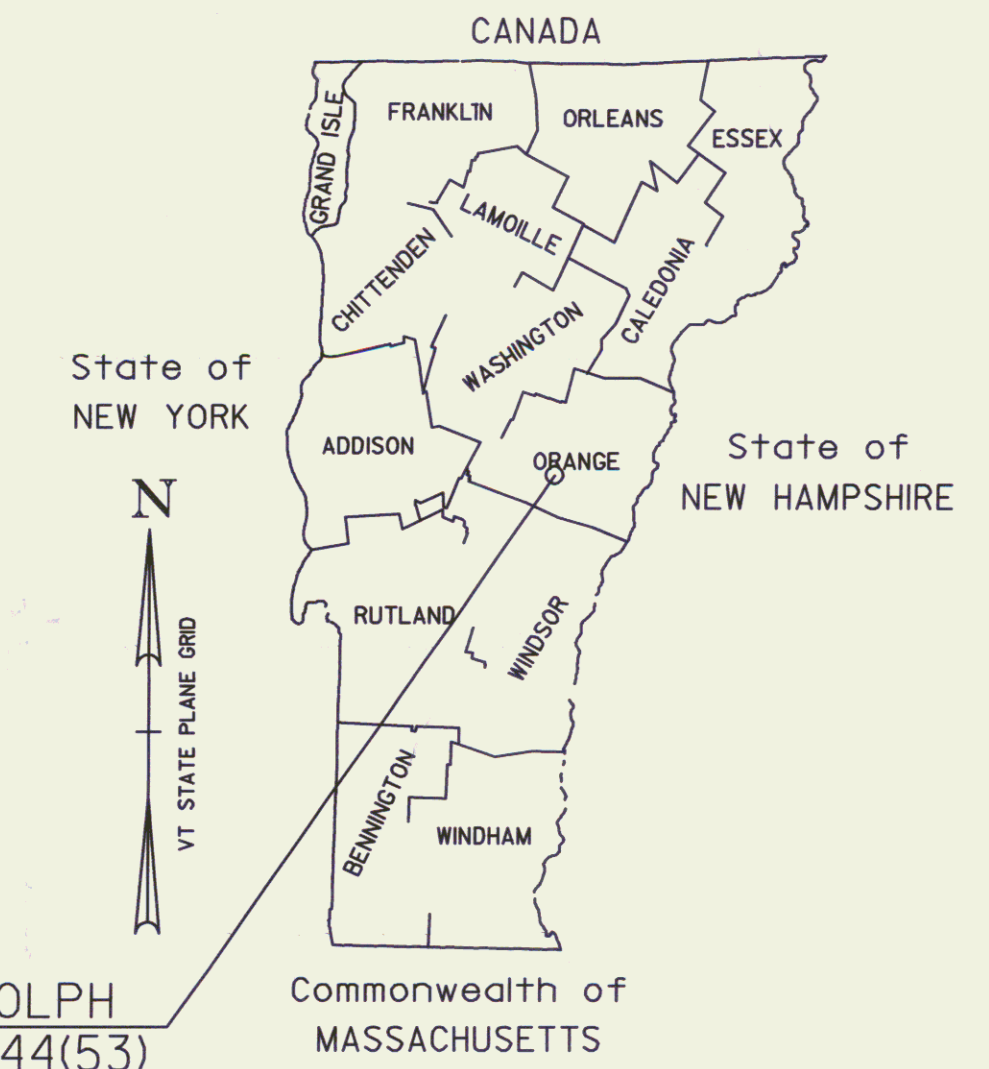
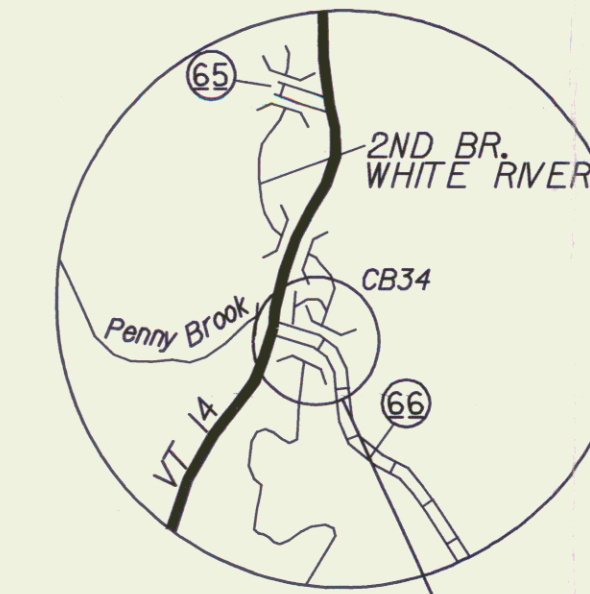
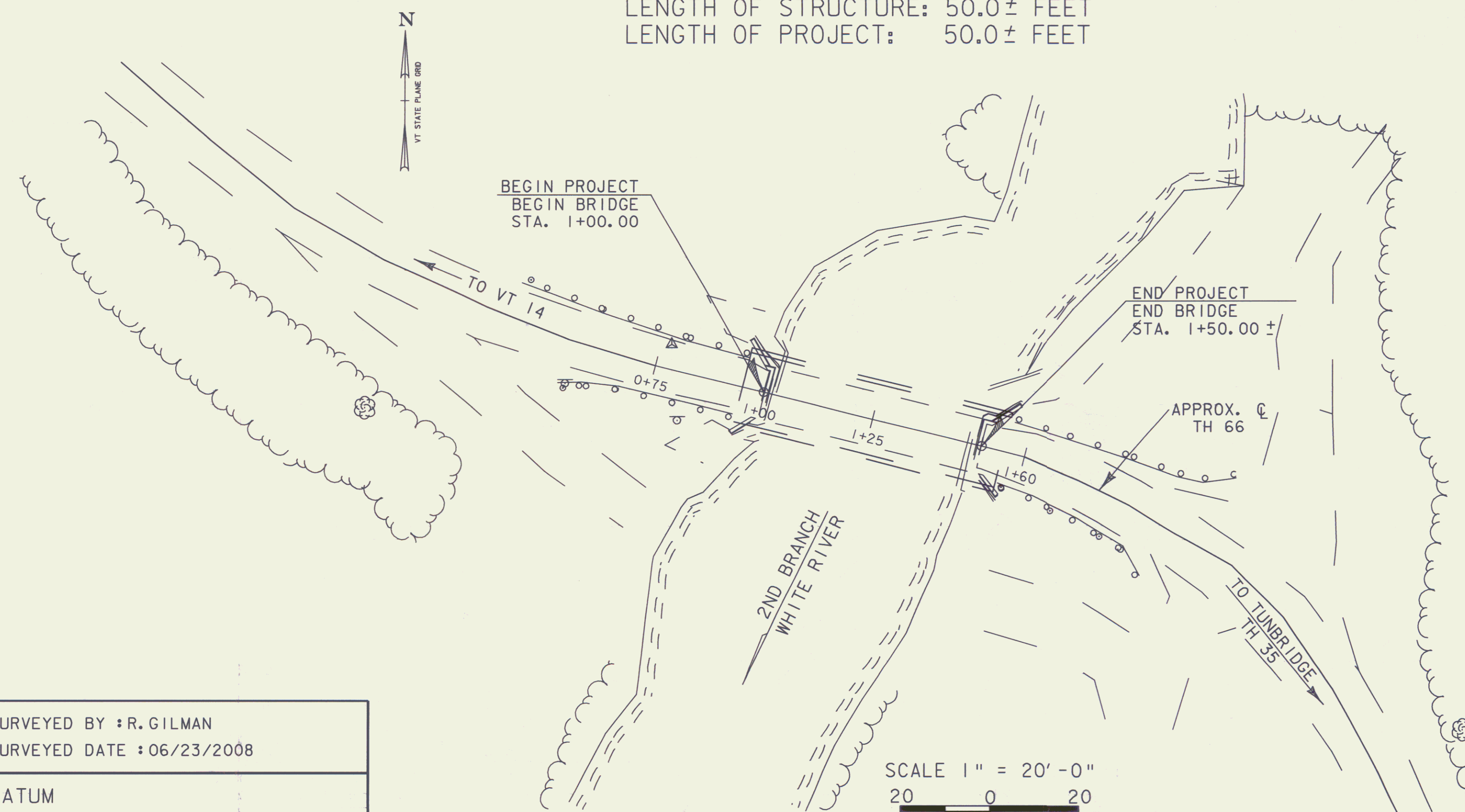
PROPOSED IMPROVEMENT BRIDGE PROJECT TOWN OF RANDOLPH COUNTY OF ORANGE

ROUTE NO: TH 66, CL.3 BRIDGE NO: 34

PROJECT LOCATION: ON TH 66 BEGINNING APPROXIMATELY 0.042 MILES EAST FROM ITS INTERSECTION WITH VT 14 AND EXTENDING EASTERLY APPROXIMATELY 0.009 MILES.

PROJECT DESCRIPTION: REHABILITATION OF THE GIFFORD COVERED BRIDGE, INCLUDING TIMBER SUPERSTRUCTURE, SUBSTRUCTURE, AND PERMANENT SHEETING WORK.

LENGTH OF STRUCTURE: 50.0 ± FEET
LENGTH OF PROJECT: 50.0 ± FEET



INDEX OF SHEETS

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VAOT STANDARD SHEETS

E-100A	01/02/04
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E-107	06/30/03
E-107A	06/08/09
E-121	08/08/95
E-141	09/20/95
E-146	09/20/95
E-155	05/01/04
E-164	05/20/99

RECORD PLANS	
CONTRACTOR:	WRIGHT CONSTRUCTION, INC.
RESIDENT ENGINEER:	CHARLIE HARDING
CONSTRUCTION BEGAN:	MAY 16, 2011
CONSTRUCTION COMPLETE:	SEPTEMBER 21, 2012
RECORD PLANS BY:	CHARLIE HARDING & STEPHEN KENT
I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.	
BY: <i>Charlie Harding</i>	RESIDENT ENGINEER
DATE: <i>5/23/13</i>	
NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.	

CONVENTIONAL SYMBOLS

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

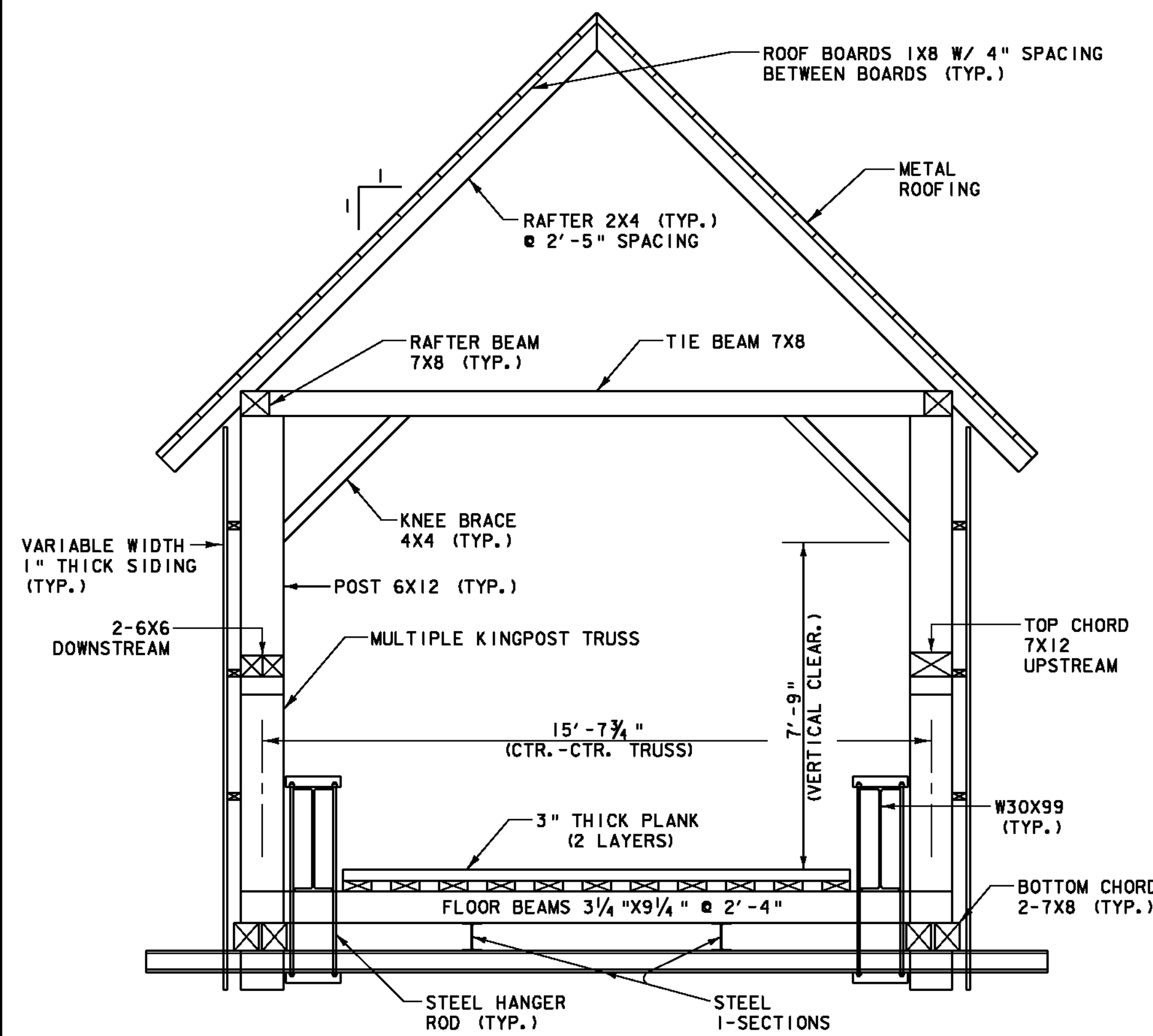
SURVEYED BY: R. GILMAN
SURVEYED DATE: 06/23/2008

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (96)

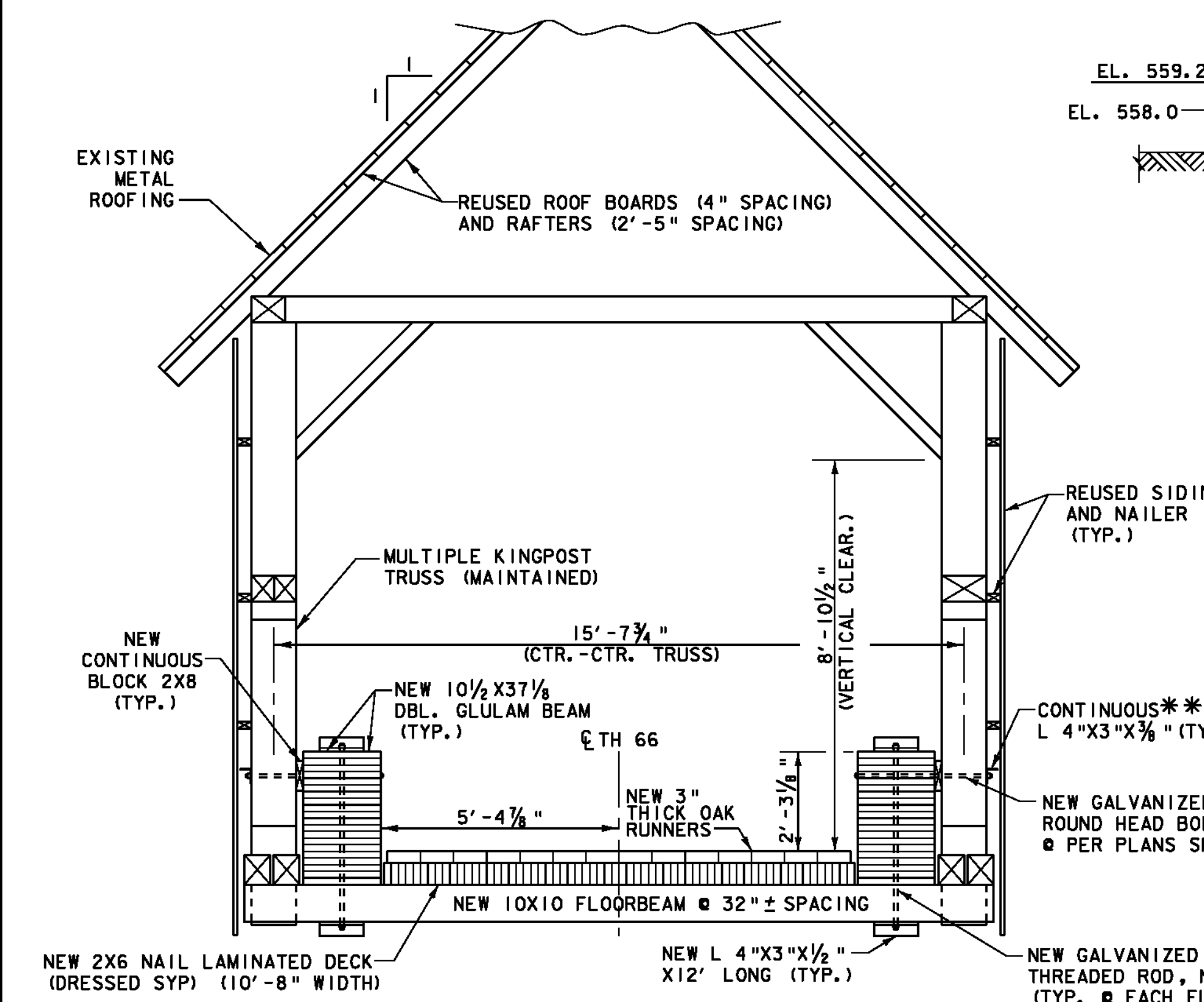
THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

DIRECTOR OF PROGRAM DEVELOPMENT	
APPROVED: <i>[Signature]</i>	DATE: <i>9-17-10</i>
PROJECT MANAGER: M. SARGENT	
PROJECT NAME: RANDOLPH	
PROJECT NUMBER: BHO 1444 (53)	
SHEET 1 OF 27 SHEETS	

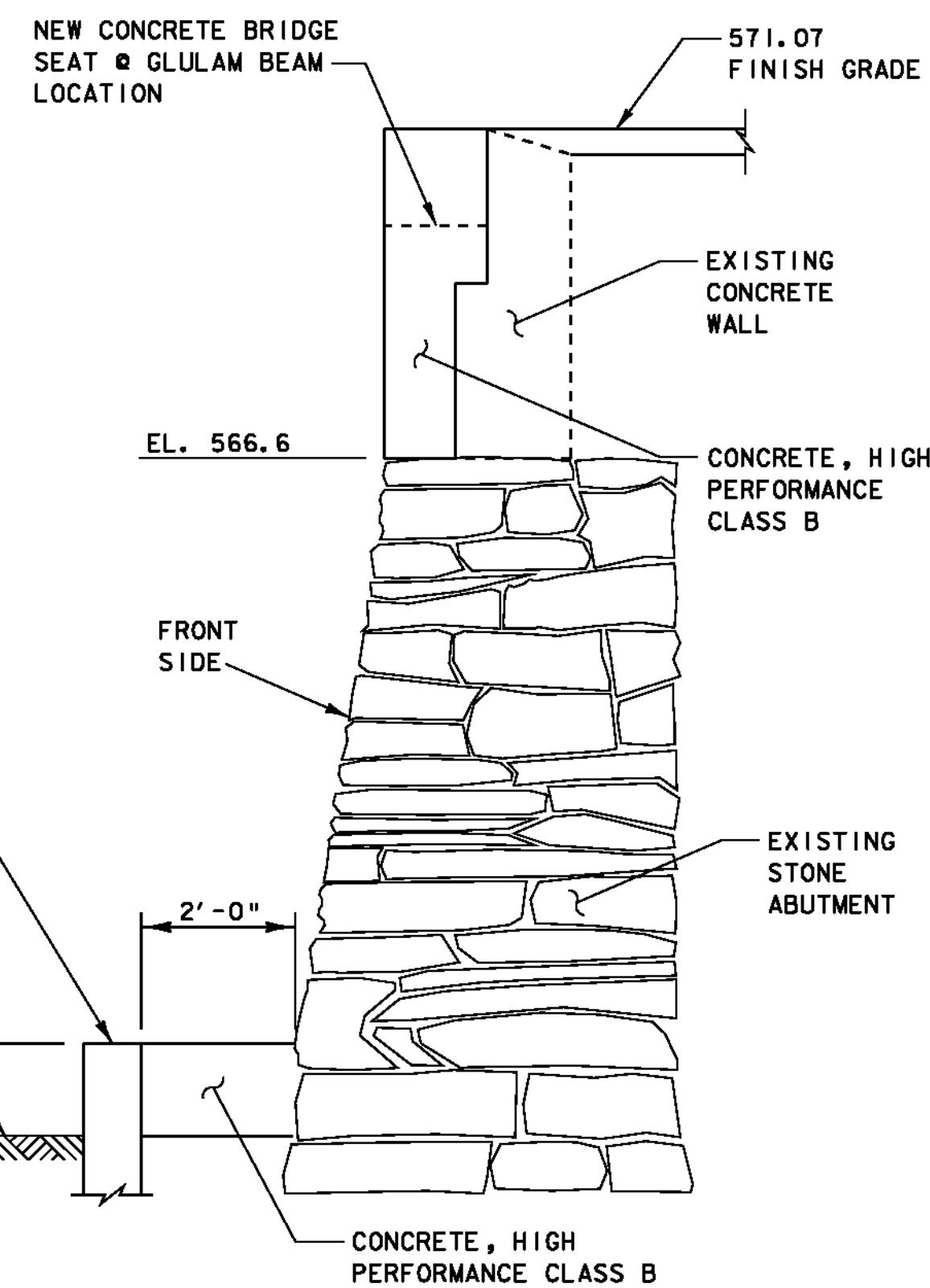


EXISTING CROSS SECTION
SCALE: 3/8" = 1'-0"



NEW H12 LIVE LOAD CROSS SECTION
SCALE: 3/8" = 1'-0"

*** 12'-0" (MIN.) SEGMENTS



SECTION @ EAST ABUTMENT*
SCALE: 1/2" = 1'-0"

* WEST ABUTMENT SECTION SIMILAR, WITH PERMANENT STEEL SHEET PILING AND CONCRETE FILL AT TOE OF ABUTMENT.

** FOR FURTHER SUPERSTRUCTURE WORK DETAILS, SEE SHEETS 15 - 22. UNLESS NOTED OTHERWISE, EXISTING MEMBERS REMAIN IN PLACE.

VAOT FINAL HYDRAULICS REPORT

Date: February, 2009

TOWN: Randolph	COUNTY: Orange
PROJECT #: BHO 1444(53)	STREAM: 2nd Br. White R.
HIGHWAY #: TH 66	STRUCTURE #: 34

HYDROLOGIC DATA

DRAINAGE AREA: 51.7 sq. miles
 CHARACTER OF TERRAIN: Rural, mixture of forest and open land
 STREAM CHARACTERISTICS: Sinuous, incised, alluvial
 NATURE OF STREAMBED: Sand and silt, armored with cobbles

PEAK FLOW DATA

Q 2.33 = 1,850 cfs	Q 50 = 7,400 cfs
Q 10 = 4,150 cfs	Q 100 = 9,050 cfs
Q 25 = 5,700 cfs	Q 500 = 12,670 cfs

DATE OF FLOOD OF RECORD: 1927
 ESTIMATED DISCHARGE: Unknown
 WATER SURFACE ELEV.: Unknown
 NATURAL STREAM VELOCITY: @ Q25 = 9.1 fps
 ICE CONDITIONS: Moderate
 DEBRIS: Moderate
 DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
 IS ORDINARY RISE RAPID? No
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
 IF YES, DESCRIBE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Covered Bridge
 YEAR BUILT: 1904, reconstructed in 1978
 CLEAR SPAN(NORMAL TO STREAM): 49'
 VERTICAL CLEARANCE ABOVE STREAMBED: 9'
 WATERWAY OF FULL OPENING: 405 sq. ft.
 DISPOSITION OF STRUCTURE: Rehabilitate
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: Unknown

WATER SURFACE ELEVATIONS AT:

Q2.33 = 566.4'	VELOCITY = 7.2 fps
Q10 = 570.0'	" 8.3 fps
Q25 = 571.4'	" 9.1 fps
Q50 = 572.6'	" 9.8 fps
Q100 = 573.7'	" 10.4 fps

LONG TERM STREAMBED CHANGES: None noted

IS THE ROADWAY OVERTOPPED BELOW Q100:

FREQUENCY: Q10
 RELIEF ELEVATION: 566.8'
 DISCHARGE OVER ROAD @Q100: 6,770 cfs

UPSTREAM STRUCTURE

TOWN: Randolph	DISTANCE: 1,200'
HIGHWAY #: Vt. 14	STRUCTURE #: 34
CLEAR SPAN: 58'	CLEAR HEIGHT: 12'
YEAR BUILT: 1994	FULL WATERWAY: 523 sq. ft.
STRUCTURE TYPE: Single span steel beam	

DOWNSTREAM STRUCTURE

TOWN: Randolph	DISTANCE: 10.375'
HIGHWAY #: I.H. 73	STRUCTURE #: 39
CLEAR SPAN: 40'	CLEAR HEIGHT: 8'
YEAR BUILT: 1929	FULL WATERWAY: 320 sq. ft.
STRUCTURE TYPE: Single span steel beam	

PROPOSED STRUCTURE

STRUCTURE TYPE: Rehabilitated covered bridge

CLEAR SPAN(NORMAL TO STREAM): 49'
 VERTICAL CLEARANCE ABOVE STREAMBED: 11.3'
 WATERWAY OF FULL OPENING: 530 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 = 566.4'	VELOCITY = 7.2 fps
Q10 = 569.4'	" 8.4 fps
Q25 = 571.3'	" 9.1 fps
Q50 = 572.4'	" 9.8 fps
Q100 = 573.5'	" 10.4 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
 FREQUENCY: Below Q25
 RELIEF ELEVATION: 566.8'
 DISCHARGE OVER ROAD @Q100: 6,370 cfs

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 570.5'
 VERTICAL CLEARANCE: @ Q25 = 0.0'

SCOUR: Abutment scour is approximately 3.0' at Q100. Scour countermeasure is part of this project.
 REQUIRED CHANNEL PROTECTION: N/A

PERMIT INFORMATION

AVERAGE DAILY FLOW: 105 cfs	DEPTH OR ELEVATION:
ORDINARY LOW WATER: 50 cfs	3.5'
ORDINARY HIGH WATER: 800 cfs	6.5'

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: None required
 CLEAR SPAN (NORMAL TO STREAM):
 VERTICAL CLEARANCE ABOVE STREAMBED:
 WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

NAVD 88 Datum
 Velocities reported are channel velocities

TRAFFIC DATA (EST.)

YEAR	ADT	DHV	% D	% T	ADTT
2011	60	20	57	2.3	<10
2031	80	24	57	2.3	<10

FLEXIBLE ESAL' @ 2008-2028 <50,000 2008-2048 <50,000

ASD LOAD RATING (TONS)

LOADING LEVELS (LOAD FACTOR)	TRUCK				
	H	HS	3S2	6 AXLE 3A, STR.	4A, STR. 5A, SEMI.
INVENTORY	12.1				
POSTED	15.2				
OPERATING	16.8				

COMMENTS: NEW FLOOR BEAMS CONTROL LOAD RATING

DESIGN CRITERIA

- DESIGN LIVE LOAD AASHTO: H12 (INVENTORY LEVEL)
- DESIGN SPAN: 48 FEET (GLULAM BEAMS)
- ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL ON LEDGE: _____
- ALLOWABLE LOAD FOR PILING: N/A
TYPE: N/A
ESTIMATED LENGTH: N/A
- STRUCTURAL STEEL AASHTO M270/M270M GRADE: N/A
- REINFORCING STEEL GRADE: 60
- CONCRETE, HIGH PERFORMANCE CLASS A f_c: N/A
CONCRETE, HIGH PERFORMANCE CLASS B f_c: 3500 psi
- DESIGN SOIL UNIT WEIGHT: N/A
- DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL: N/A

PROJECT NAME: RANDOLPH	PLOT DATE: 09-NOV-2010
PROJECT NUMBER: BHO 1444(53)	DRAWN BY: C. WEEBER
FILE NAME: s06J0921typ	DESIGNED BY: J. WEAVER
PROJECT LEADER: M. SARGENT	CHECKED BY: J. WEAVER
TYPICAL SECTIONS & PROJECT DATA	SHEET 2 OF 27

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES														TOTALS			DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES								
														ROADWAY	EROSION CONTROL	BRIDGE	ALTERNATE A	ALTERNATE B	FULL C.E. ITEMS	ROUND	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
														1							1	LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10				
																4						4	CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27			
														1								1	CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22			
																2						2	CY	STRUCTURE EXCAVATION	204.25			
																12						12	CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34			
																1210						1210	SF	PERMANENT STEEL SHEET PILING (MIN. SECTION MODULUS = 33.8 IN ³)	505.35			
																1750						1750	LB	STRUCTURAL STEEL	506.60			
																225						225	LB	REINFORCING STEEL	507.15			
																38						38	LF	DRILLING AND GROUTING DOWELS	507.16			
																3						3	GAL	WATER REPELLENT, SILANE	514.10			
																3.20						3.20	MFBM	STRUCTURAL LUMBER AND TIMBER - UNTREATED	522.20			
																6.70						6.70	MFBM	STRUCTURAL LUMBER AND TIMBER - TREATED	522.25			
																0.50						0.50	MFBM	NON - STRUCTURAL LUMBER-UNTREATED	522.30			
																1						1	LS	STRUCTURAL GLUED LAMINATED TIMBER (10.7 MFBM) (LONGITUDINAL BEAMS)	522.40			
																1						1	CY	REMOVAL OF CONCRETE OR MASONRY	529.25			
																4						4	SY	REPAIRING STONE MASONRY	602.40			
																			1			1	LS	FIELD OFFICE-ENGINEERS	631.10			
																			1			1	LS	TESTING EQUIPMENT - CONCRETE	631.16			
																			3000			3000	DL	FIELD OFFICE - TELEPHONE (N.A.B.I.)	631.26			
																1						1	LS	MOBILIZATION / DEMOBILIZATION	635.11			
																1						1	LS	TRAFFIC CONTROL	641.10			
																70						70	SY	GEOTEXTILE FOR SILT FENCE	649.51			
																80						80	SY	GEOTEXTILE FOR FILTER CURTAIN	649.61			
																10						10	LB	SEED	651.15			
																10						10	LB	FERTILIZER	651.18			
																0.25						0.25	TON	AGRICULTURAL LIMESTONE	651.20			
																0.50						0.50	TON	HAY MULCH	651.25			
																10						10	CY	TOPSOIL	651.35			
																1						1	LS	EPSC PLAN	652.10			
																40						40	HR	MONITORING EPSC PLAN	652.20			
																1						1	LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30			
																133						133	SY	TEMPORARY EROSION MATTING	653.20			
																130						130	LF	PROJECT DEMARCATION FENCE	653.55			
																1						1	LS	TIMBER PAINTING, ENVIRONMENTAL PROTECTION	660.10			
																1						1	LS	TIMBER PAINTING, FIRE RETARDANT	660.20			
																1						1	LS	TIMBER PAINTING, INSECTICIDE / FUNGICIDE	660.30			
																200						200	SY	METAL ROOFING	661.10			
																23						23	SF	TRAFFIC SIGNS, TYPE A	675.20			
																14						14	LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341			
																2						2	EACH	REMOVING SIGNS	675.50			

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES														TOTALS			DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES								
														ROADWAY	EROSION CONTROL	BRIDGE	ALTERNATE A	ALTERNATE B	FULL C.E. ITEMS	ROUND	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS

GENERAL NOTES:

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2006, AND ITS LATEST REVISIONS AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 2002, AND ITS LATEST REVISIONS.
2. ALL INFORMATION, DIMENSIONS, AND DETAILS PROVIDED IN THE PLANS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCING THE WORK.
3. ALL WORK IS TO BE COMPLETED WITHIN THE AVAILABLE TOWN-OWNED RIGHT-OF-WAY. THE THREE ROD R.O.W. PORTION IS ASSUMED TO BE APPROXIMATELY CENTERED ABOUT THE EXISTING CENTER LINE OF THE BRIDGE OR ROADWAY. NO PROVISIONS HAVE BEEN MADE TO GO OUTSIDE THE EXISTING RIGHT-OF-WAY AND NO WORK SHALL BE PERFORMED OR PAID FOR OUTSIDE THE EXISTING TOWN-OWNED RIGHT-OF-WAY LIMITS. SHOULD THE CONTRACTOR REQUIRE ANY ADDITIONAL R.O.W., IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL EASEMENTS.
4. GREAT CARE SHALL BE TAKEN BY THE CONTRACTOR TO PREVENT ANY MATERIAL FROM ENTERING THE STREAM BED PER SECTION 105 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION. ANY MATERIAL THAT DOES ESCAPE THE CONTRACTOR'S CONTAINMENT SYSTEM SHALL BE RECOVERED IMMEDIATELY.
5. ALL WORK SHALL PROCEED IN A CAREFUL, ORDERLY MANNER SO THAT AFFECTED HISTORIC STRUCTURES ARE NOT DAMAGED IN ANY WAY. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL DAMAGE TO THE STRUCTURE AS A RESULT OF ITS OPERATIONS AT NO COST TO THE STATE. ALL DAMAGE WILL BE REPORTED TO THE PROJECT MANAGER IMMEDIATELY AND NO REPAIRS WILL BE MADE UNTIL APPROVED BY THE AGENCY.
6. WITHIN EXISTING R.O.W. LIMITS, CLEARING AND GRUBBING SHALL INCLUDE ALL WORK REQUIRED TO REMOVE TREES, STUMPS, AND VEGETATION UP TO 6 FEET FROM EXISTING ABUTMENT AND WINGWALL FACES, AND IN OTHER AREAS AS DETERMINED BY THE ENGINEER.
7. EXCEPT AS NOTED OTHERWISE, ITEM 529.20, PARTIAL REMOVAL OF STRUCTURE, SHALL INCLUDE ANY WORK NECESSARY TO FACILITATE AND ACCOMPLISH THE PROJECT SCOPE OF WORK AS DEFINED BY THE CONTRACT DOCUMENTS AND AS DIRECTED BY THE ENGINEER. THIS WORK WILL INCLUDE, BUT MAY NOT BE LIMITED TO: REMOVING AND DISPOSING OF SUPERSTRUCTURE MEMBERS AND PORTIONS OF MEMBERS; REMOVING AND STOCKPILING MEMBERS AND PORTIONS OF MEMBERS FOR RE-USE, INCLUDING REMOVING AND STOCKPILING MEMBERS AND PORTIONS OF MEMBERS FOR THE CONTRACTOR'S METHODS OF REHABILITATION. NO BURNING OF REMOVED MATERIALS AT THE PROJECT SITE WILL BE ALLOWED. EXISTING COVERED BRIDGE LUMBER AND TIMBERS MAY CONTAIN HAZARDOUS WOOD PRESERVATIVES. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS, AND EMPLOYEES HARMLESS REGARDING THE CONTRACTOR'S HANDLING OF THESE MATERIALS AND SUBSEQUENT USE, RE-USE, AND DISPOSAL OF THIS LUMBER OR TIMBERS.
8. EXCEPT AS NOTED, ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" X 1".
9. UNLESS NOTED OTHERWISE, ALL LUMBER AND TIMBER DIMENSIONS ARE IN INCHES, AND ALL NON-STRUCTURAL TIMBER COMPONENTS DESIGNATED FOR REPLACEMENT SHALL BE LIKE MATERIALS EXISTING.
10. UNLESS NOTED OTHERWISE, ALL NEW STRUCTURAL LUMBER AND TIMBER SHALL BE UNTREATED, FULL SAWN (TO THE INDICATED CROSS SECTION DIMENSIONS) ROUGH SURFACE MEMBERS OR BOARDS. WHEN SPECIFIED, PRESSURE TREATMENT SHALL BE TYPE II, PER SECTION 726 OF THE STANDARD SPECS. ALL STRUCTURAL MEMBERS SHALL BE SOUTHERN YELLOW PINE "DENSE STRUCTURAL 65" WITH MINIMUM Fb=1600 psi, Fv=110 psi.
11. THE WORK PAID FOR UNDER ITEM 506.60, STRUCTURAL STEEL, SHALL INCLUDE: NEW GALVANIZED STEEL ANGLES; THREADED TIE RODS, TURNBUCKLES, NUTS & WASHERS. FABRICATION PLAN AND ERECTION PLAN SUBMITTALS WILL NOT BE REQUIRED FOR STEEL COMPONENTS FURNISHED UNDER PAY ITEM 506.60. ALL BOLT AND ROD ASSEMBLIES SHALL BE SNUG TIGHT OR TIGHTENED AS DIRECTED BY THE RESIDENT ENGINEER.
12. IN THE SHORED OR UNLOADED CONDITION, THE CONTRACTOR AND RESIDENT ENGINEER WILL INSPECT THE TRUSSES TO DETERMINE IF THEY HAVE RESIDUAL POSITIVE CAMBER. IF SO, THIS CAMBER SHALL BE MAINTAINED IN THE FINAL REHABILITATED PROFILE OF THE SUPERSTRUCTURE. IF NO POSITIVE CAMBER IS EVIDENT, THEN THE TRUSSES SHALL BE REHABILITATED WITH A SLIGHT POSITIVE CAMBER AS DIRECTED BY THE ENGINEER.
13. THE CONTRACTOR SHALL ERECT ALL ON-PROJECT CONSTRUCTION SIGNAGE AND REQUIRED BARRICADES. THE TOWN OF RANDOLPH IS RESPONSIBLE FOR SIGNING THE DETOUR AND ALL OTHER OFF-PROJECT SIGNS. THE SIGNS SHALL BE INSTALLED PER MUTCD, VTRANS STANDARD DRAWINGS, AND THE WORK SHALL BE IN ACCORDANCE WITH SECTION 641 OF THE STANDARD SPECIFICATIONS.
14. WORK REQUIRED FOR SLOPE ROUGHENING SHALL BE CONSIDERED INCIDENTAL TO ALL OTHER EROSION CONTROL ITEMS.
15. ITEM 660.20, TIMBER PAINTING, FIRE RETARDANT AND ITEM 660.30, TIMBER PAINTING, INSECTICIDE/FUNGICIDE COATINGS SHALL ONLY BE APPLIED TO NEW UNTREATED LUMBER AND TIMBER SURFACES. EXISTING UNTREATED LUMBER AND TIMBER SURFACES WERE ADDRESSED BY A PREVIOUS PROJECT.
16. FABRICATION DRAWING SUBMITTAL IS REQUIRED FOR THE NEW STRUCTURAL GLUED LAMINATED TIMBER BEAMS.
17. THE CONTRACTOR SHALL PROVIDE CONSTRUCTION DRAWINGS ALONG WITH SHIPPING AND HANDLING DETAILS FOR THE ERECTION OF NEW STRUCTURAL GLUED LAMINATED TIMBER BEAMS AS PER THE SPECIAL PROVISION SUBMITTALS FOR ALTERNATE A AND B PAY ITEMS.
18. THE WORK FOR PERMANENT STEEL SHEET PILING SHALL ALSO INCLUDE ANY DEWATERING REQUIRED BEFORE PLACEMENT OF CONCRETE, HP CLASS B BETWEEN THE SHEET PILING AND THE STONE ABUTMENTS.
19. ALL MATERIALS DELIVERED TO THE SITE OR ON BEHALF OF THE PROJECT, SHALL BE STORED WITH CARE AND IN A MANNER THAT WILL PREVENT THOSE MATERIALS FROM BECOMING OUT OF SHAPE AND/OR EXPANDED DUE TO EXCESS MOISTURE.

SUGGESTED SEQUENCE OF CONSTRUCTION:

1. REMOVE EXISTING PLANK DECK, RUNNER PLANKS, FLOOR BEAMS, AND STEEL COMPONENTS.
2. SHORE IN-PLACE OR RELOCATE COVERED BRIDGE SUPERSTRUCTURE FOR REHABILITATION.
3. INSTALL PERMANENT STEEL SHEETING AND PERFORM ALL SUBSTRUCTURE WORK.
4. REHABILITATE BRIDGE SUPERSTRUCTURE COMPONENTS.
5. INSTALL NEW GLULAM STRINGERS AND NEW FLOOR BEAMS.
6. REINSTALL COVERED BRIDGE SUPERSTRUCTURE AT ORIGINAL SITE.
7. INSTALL NEW ROADWAY DECK AND RUNNER PLANKS.
8. REINSTALL SIDING AND ROOF BOARDS. INSTALL NEW METAL ROOFING.
9. APPLY INSECTICIDE AND FIRE RETARDANT COATINGS.

PROJECT NAME:	RANDOLPH
PROJECT NUMBER:	BHO 1444(53)
FILE NAME:	06J092\str\s06J092notes.dgn
PROJECT LEADER:	M. SARGENT
DESIGNED BY:	J. WEAVER
PROJECT NOTES SHEET	
PLOT DATE:	15-NOV-2010
DRAWN BY:	C. WEEBER
CHECKED BY:	M. SARGENT
SHEET	5 OF 27

GPS CONTROL POINTS

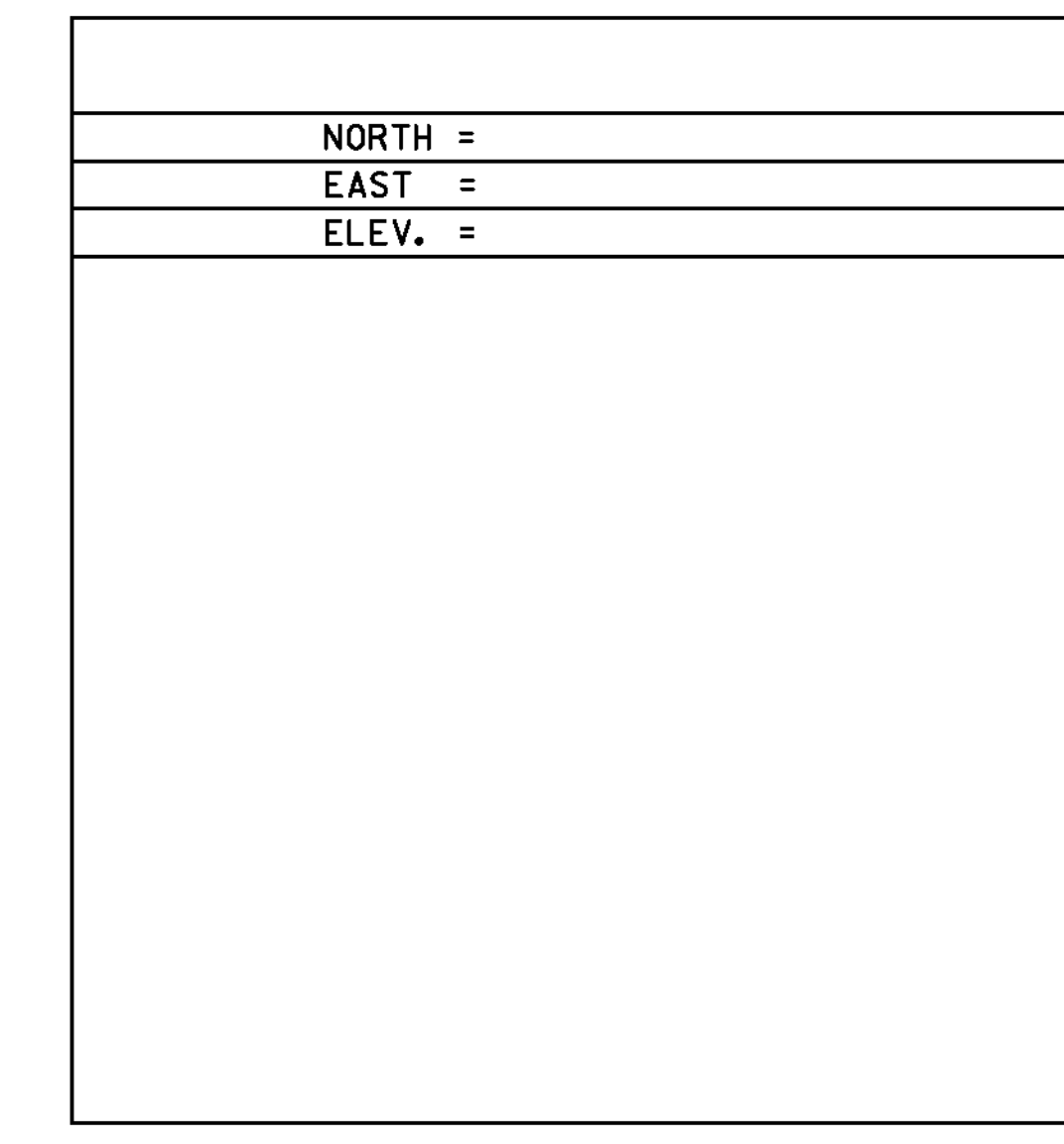
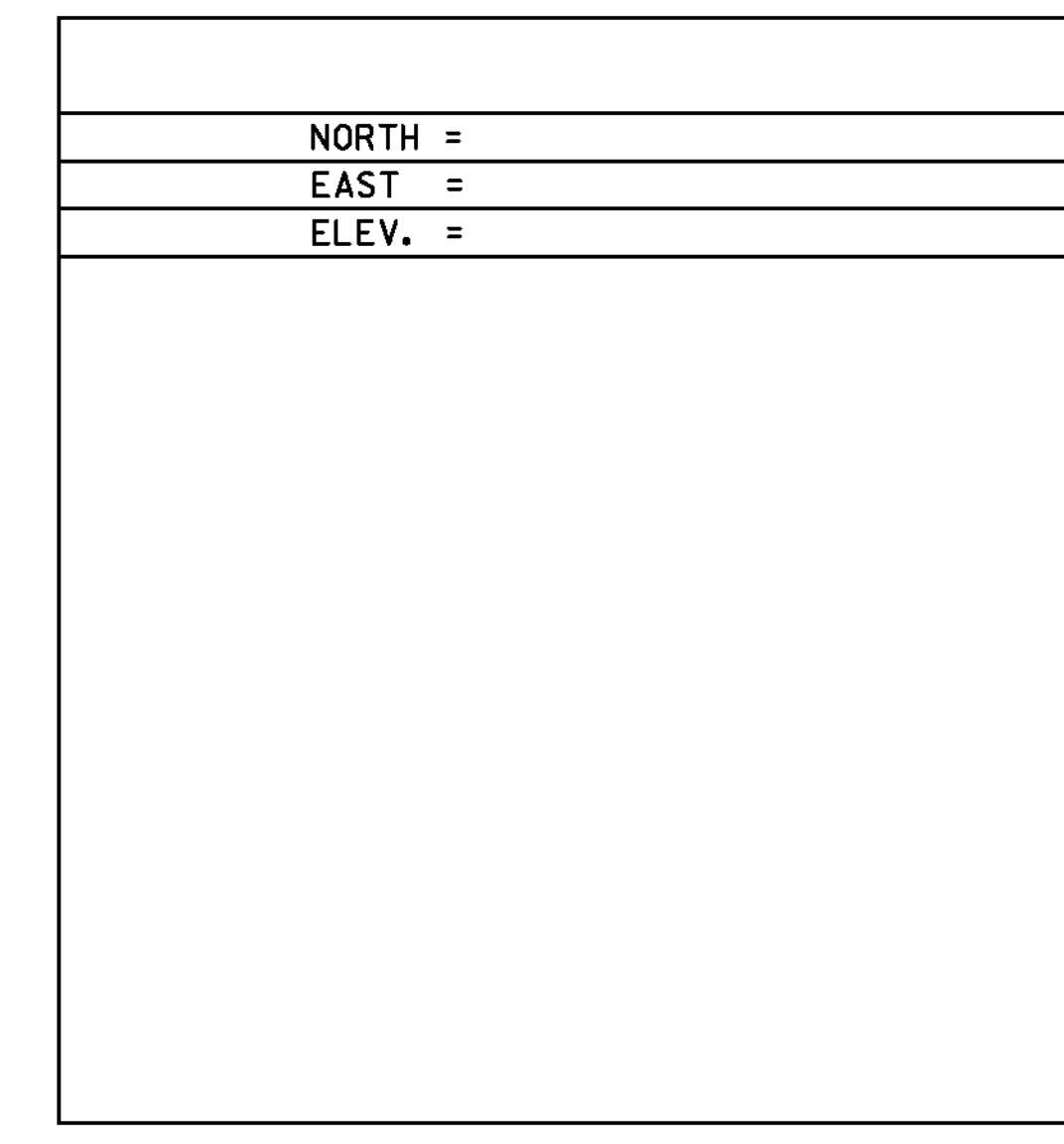
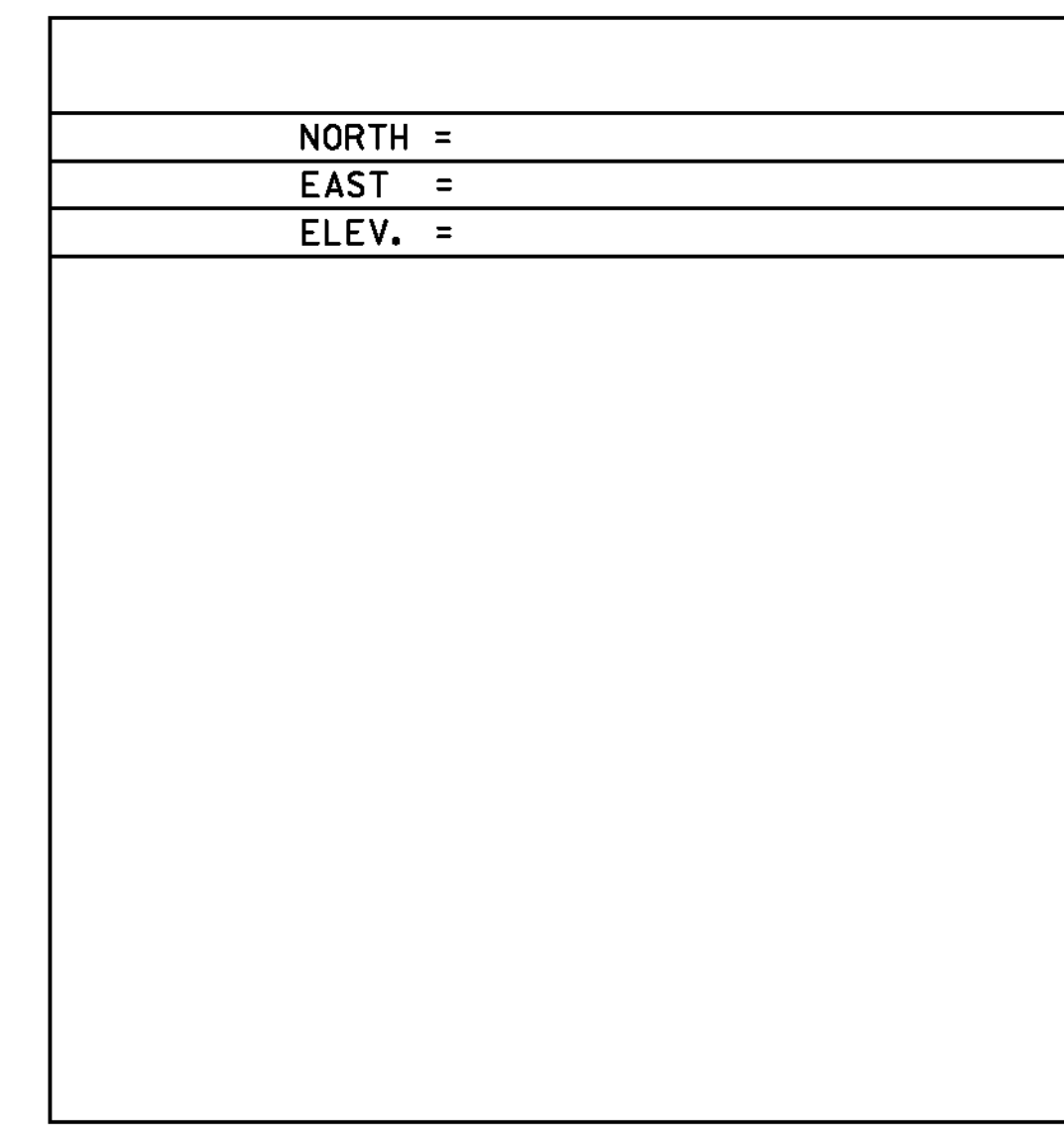
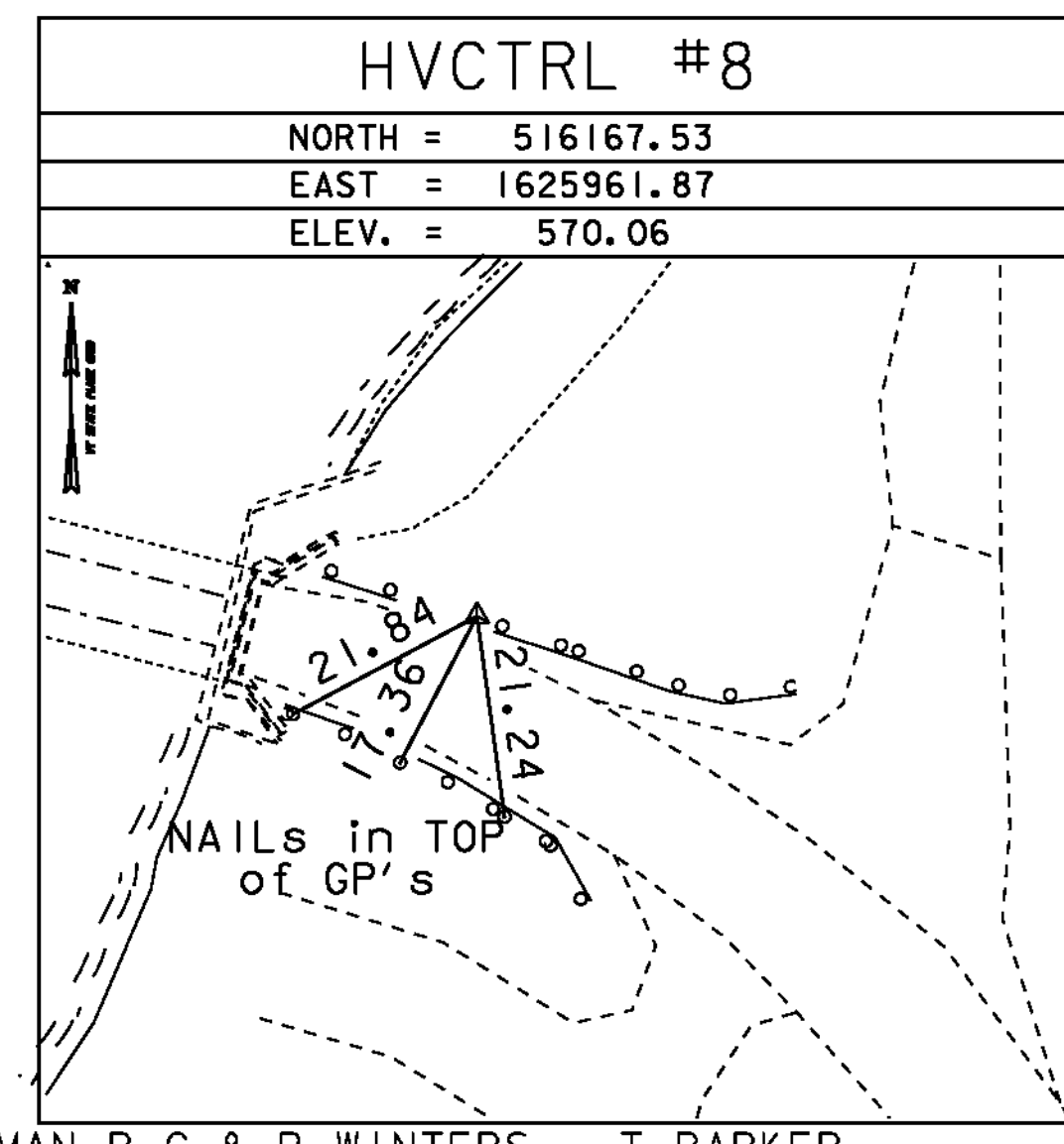
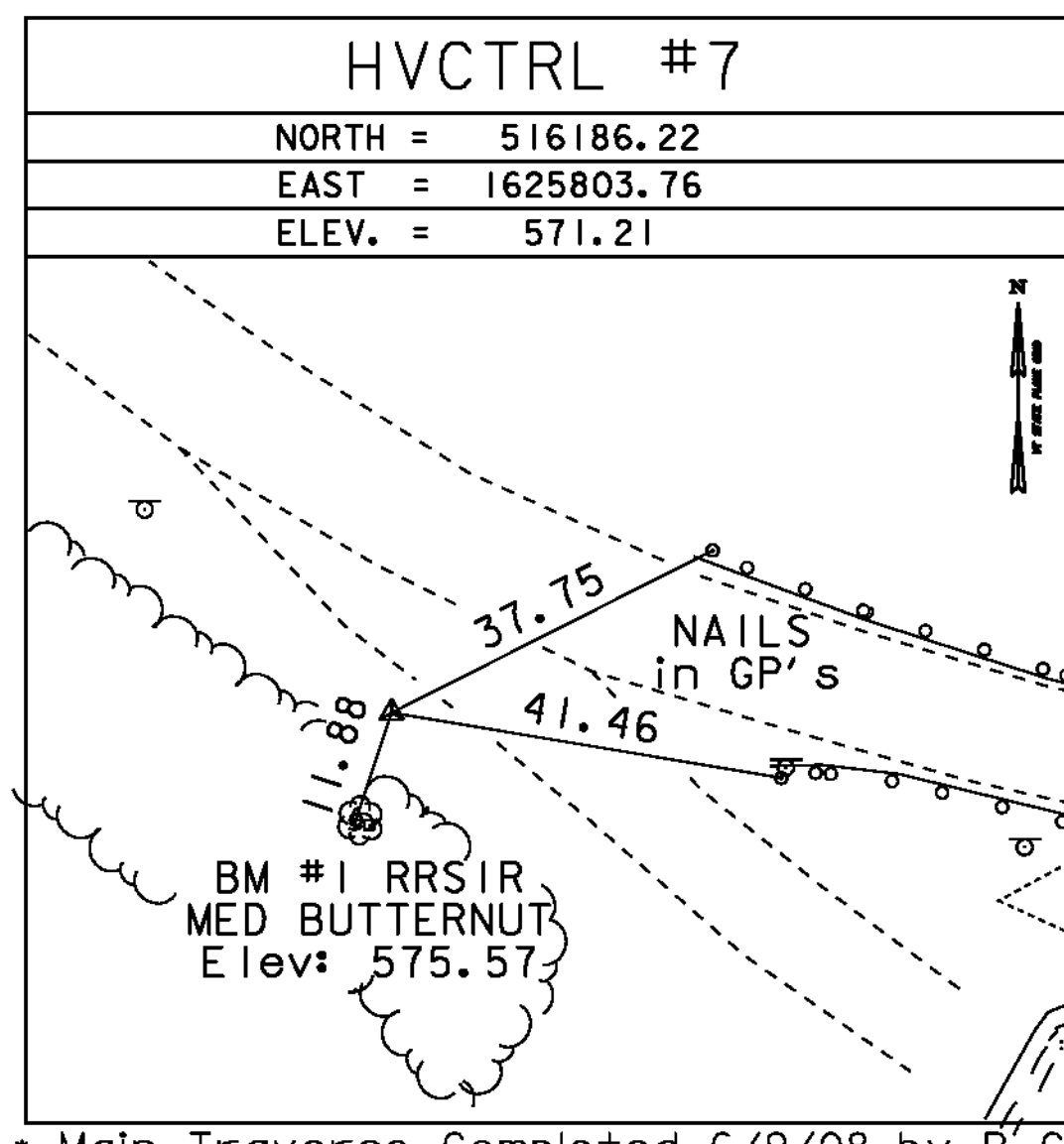
HVCTRL #1
 EAST RANDOLPH
 NORTH = 521893.79
 EAST = 1626547.81
 ELEV. = 657.60

GENERAL LOCATION, RANDOLPH, VT., JUST SOUTH OF EAST RANDOLPH. TO REACH FROM THE INTERSECTION OF VT ROUTE 14 AND VT ROUTE 66 IN EAST RANDOLPH GO SOUTH ALONG VT ROUTE 14 FOR 0.6 MI (1.0 KM) TO THE EAST RANDOLPH SCHOOL ON THE LEFT AND THE SITE OF THE MARK ON THE LEFT IN A LAWN IN FRONT OF THE SCHOOL. THE MARK IS SET 10 CM BELOW GROUND SURFACE IN THE TOP OF A 30 CM DIAMETER CONCRETE MONUMENT POURED 1.3 M (4.3 FT) DEEP. IT IS 6.7 M (22.0 FT) EAST OF AND ABOUT 0.1 M (0.3 FT) LOWER THAN THE CENTERLINE OF VT ROUTE 14, 13.0 M (42.7 FT) NORTH OF THE CENTERLINE OF THE MOST SOUTHERLY ENTRANCE DRIVE TO THE SCHOOL, 27.1 M (88.9 FT) WEST NORTHWEST OF THE SOUTHWEST CORNER OF THE SCHOOL BUILDING, AND 18.1 M (59.4 FT) SOUTHEAST OF POLE NO 61/20 AND A FIBERGLASS WITNESS POST.

HVCTRL #2
 EAST RANDOLPH AZ MK
 NORTH = 520093.26
 EAST = 1626438.54
 ELEV. = 647.11

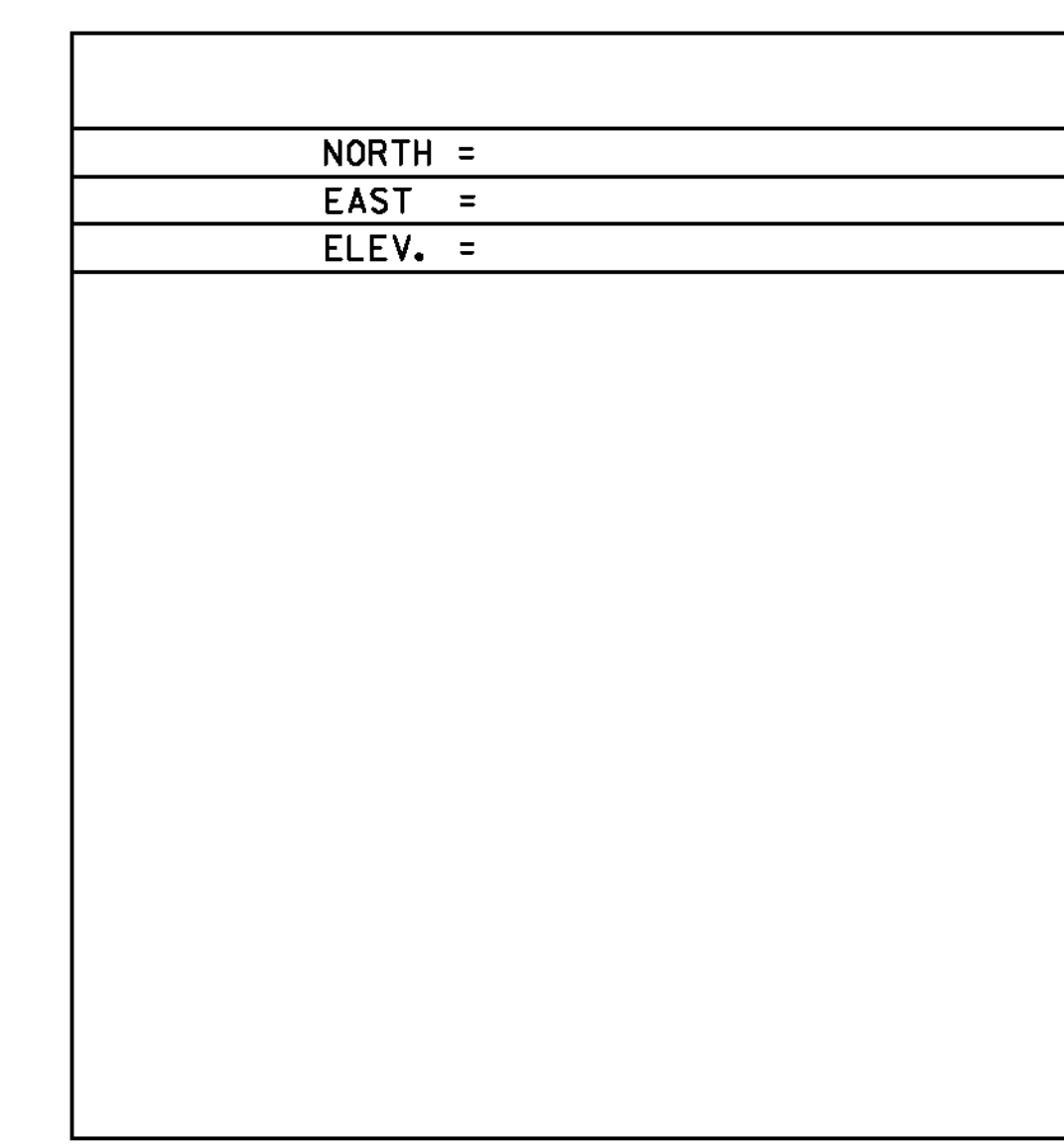
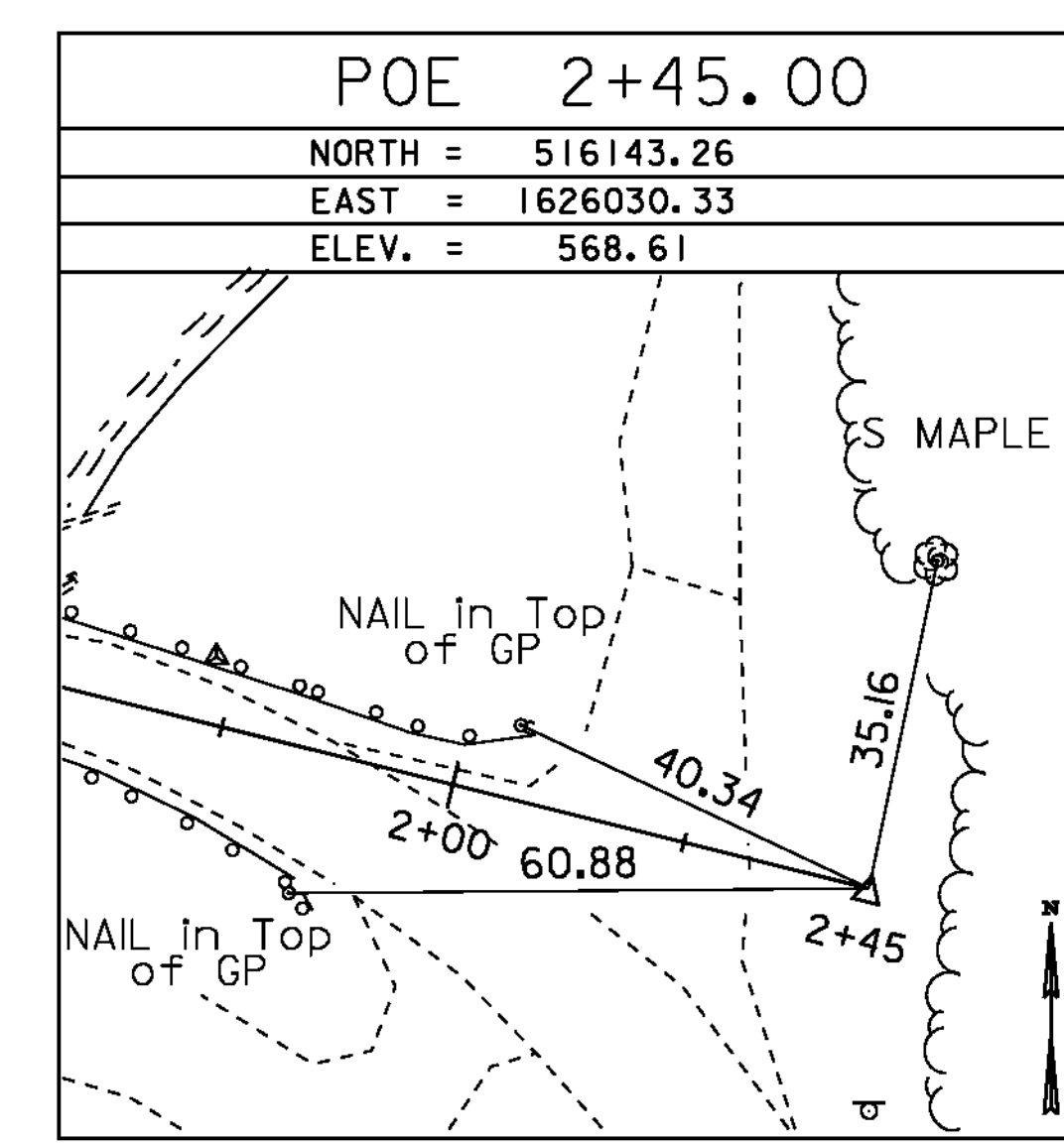
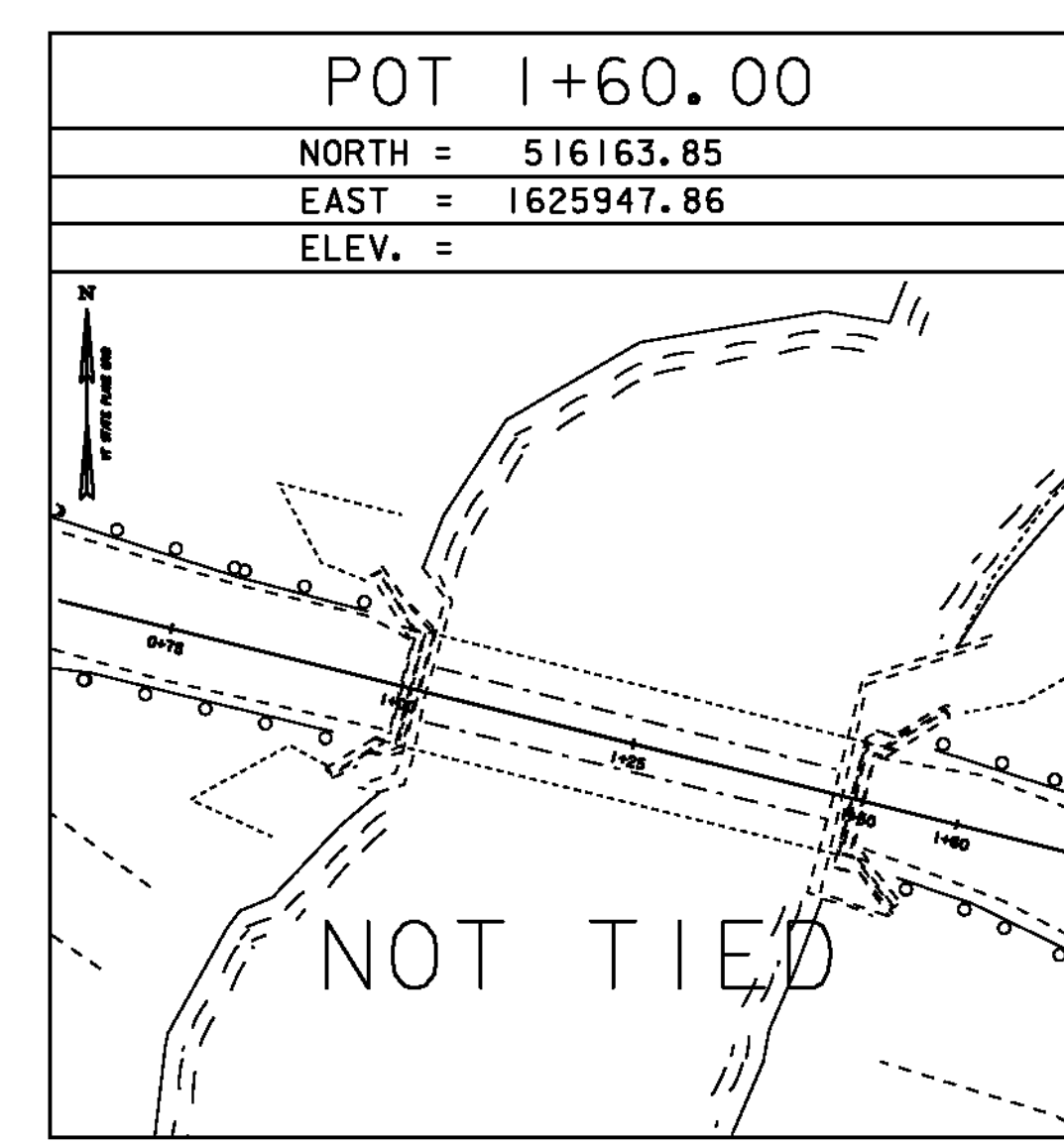
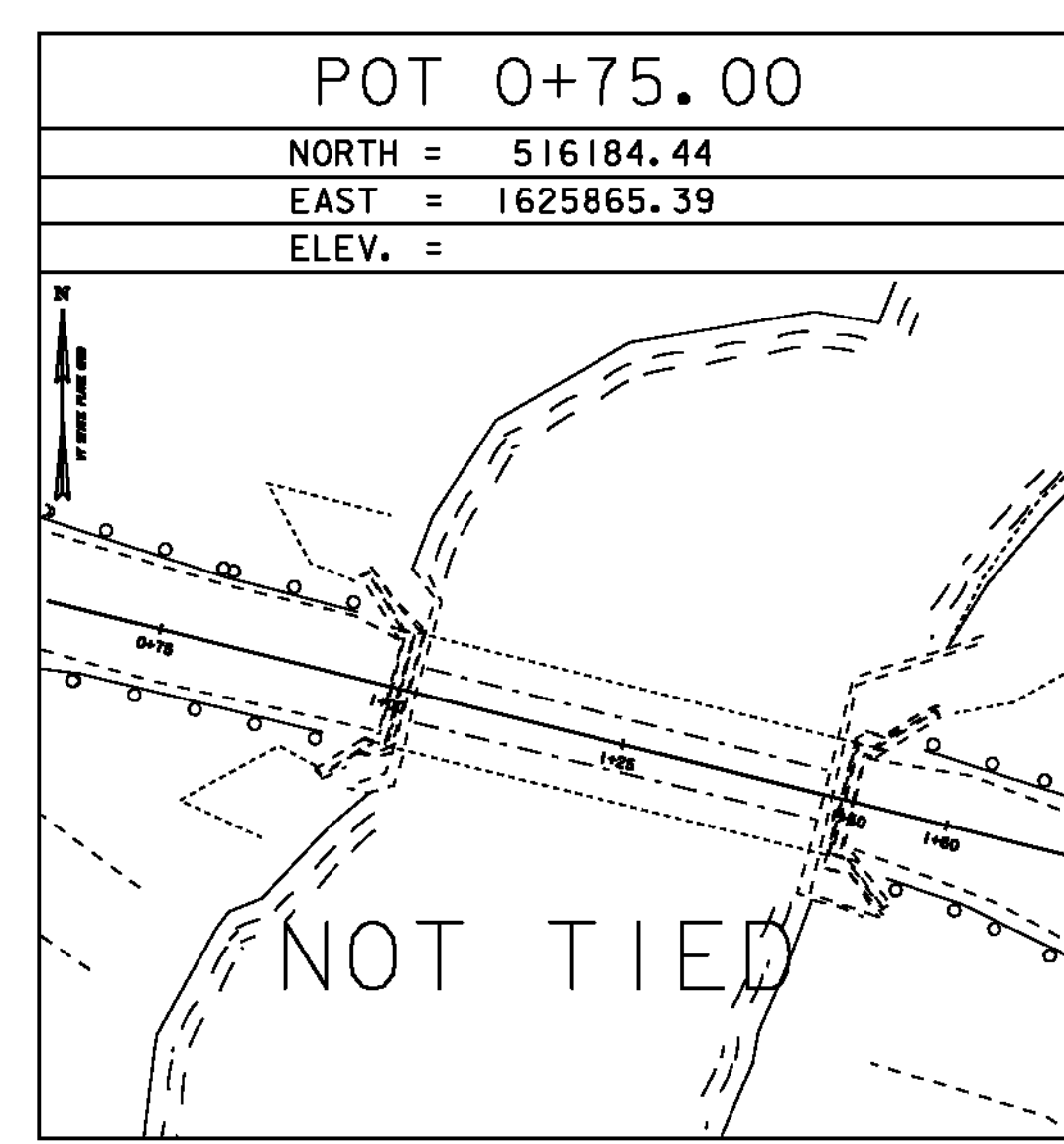
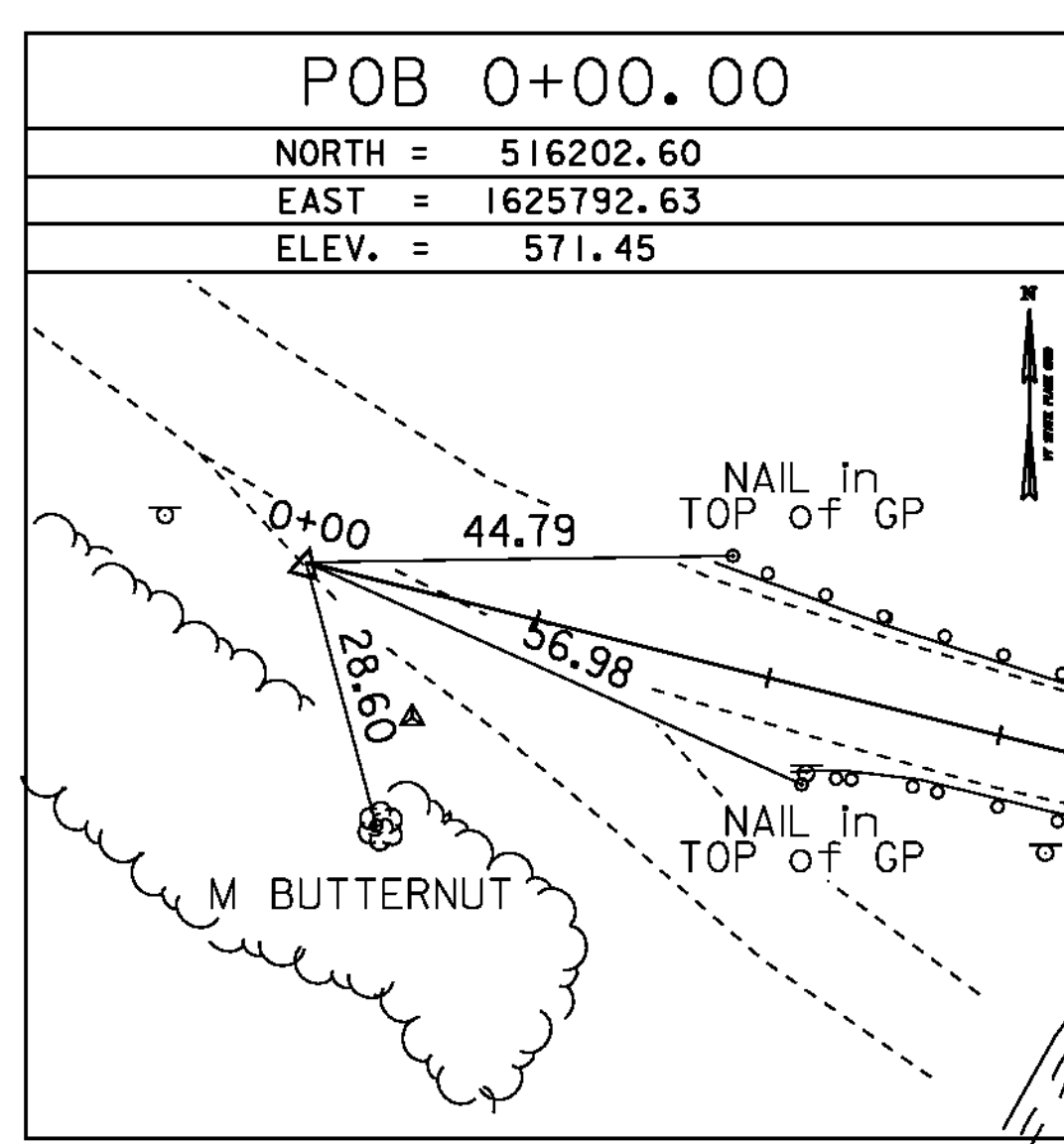
GENERAL LOCATION, RANDOLPH, VT., JUST SOUTH OF EAST RANDOLPH. TO REACH FROM THE INTERSECTION OF VT ROUTE 14 AND VT ROUTE 66 IN EAST RANDOLPH GO SOUTH ALONG VT ROUTE 14 FOR 0.9 MI (1.4 KM) TO THE INTERSECTION OF A GRAVEL DRIVE LEFT, AT THE SOUTH EDGE OF A CEMETERY, AND THE SITE OF THE MARK ON THE LEFT, SOUTH OF THE GRAVEL DRIVE. THE MARK IS SET 3 CM BELOW GROUND SURFACE IN THE TOP OF A 30 CM DIAMETER CONCRETE MONUMENT POURED 1.3 M (4.3 FT) DEEP. IT IS 6.6 M (21.7 FT) EAST OF AND ABOUT 0.5 M (1.6 FT) HIGHER THAN THE CENTERLINE OF VT ROUTE 14, 5.1 M (16.7 FT) SOUTH OF THE CENTERLINE OF THE GRAVEL DRIVE, 13.1 M (43.0 FT) EAST OF POLE NO 30T/7/122/61/30, 14.8 M (48.6 FT) SOUTHWEST OF THE SOUTHWEST CORNER OF THE GRAVESTONE OF BLODGETT, AND 0.3 M (1.0 FT) WEST OF A FIBERGLASS WITNESS POST.

TRAVERSE TIES



* Main Traverse Completed 6/9/08 by R. GILMAN P.C & P. WINTERS... T. PARKER

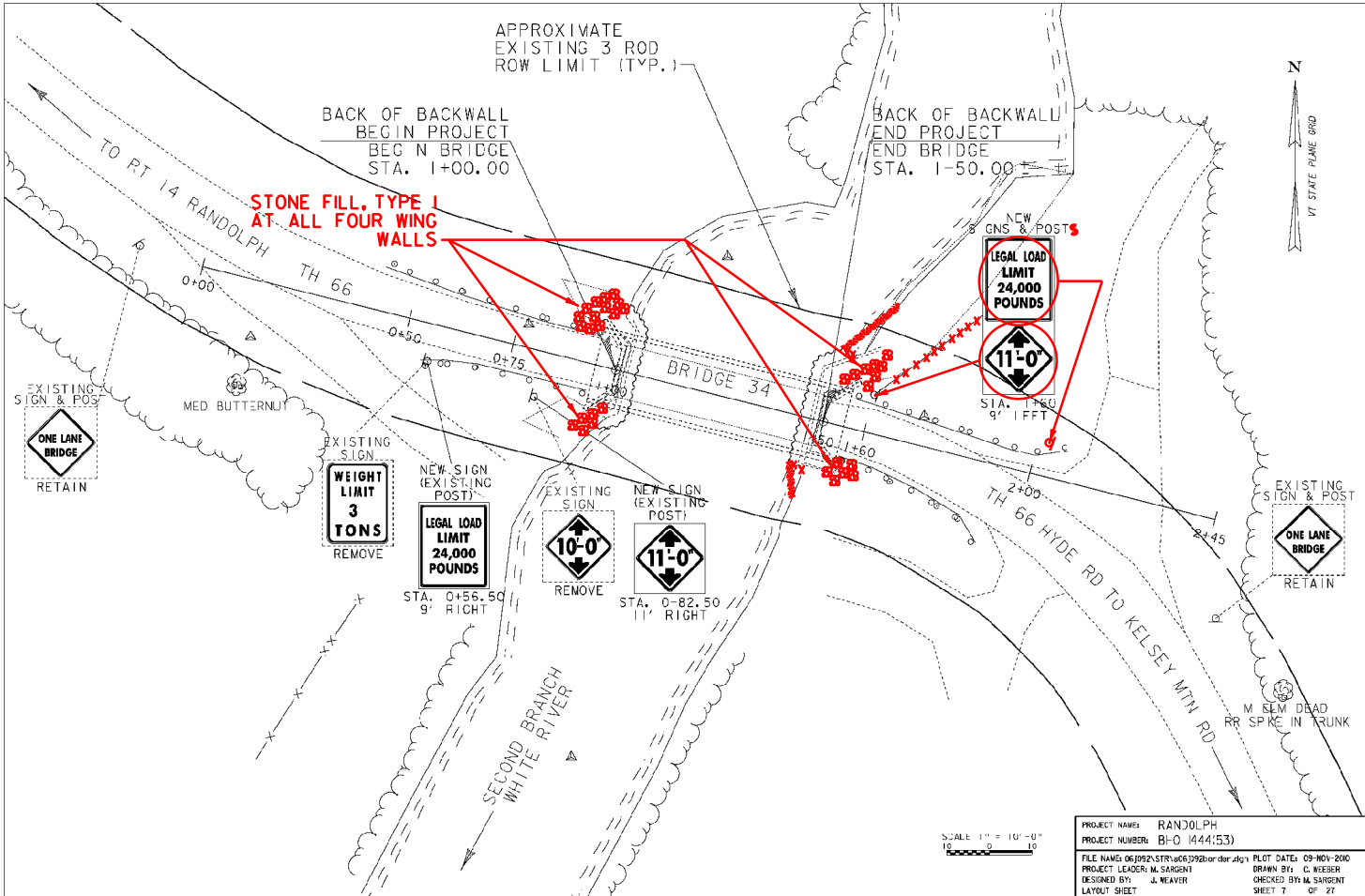
ALIGNMENT TIES

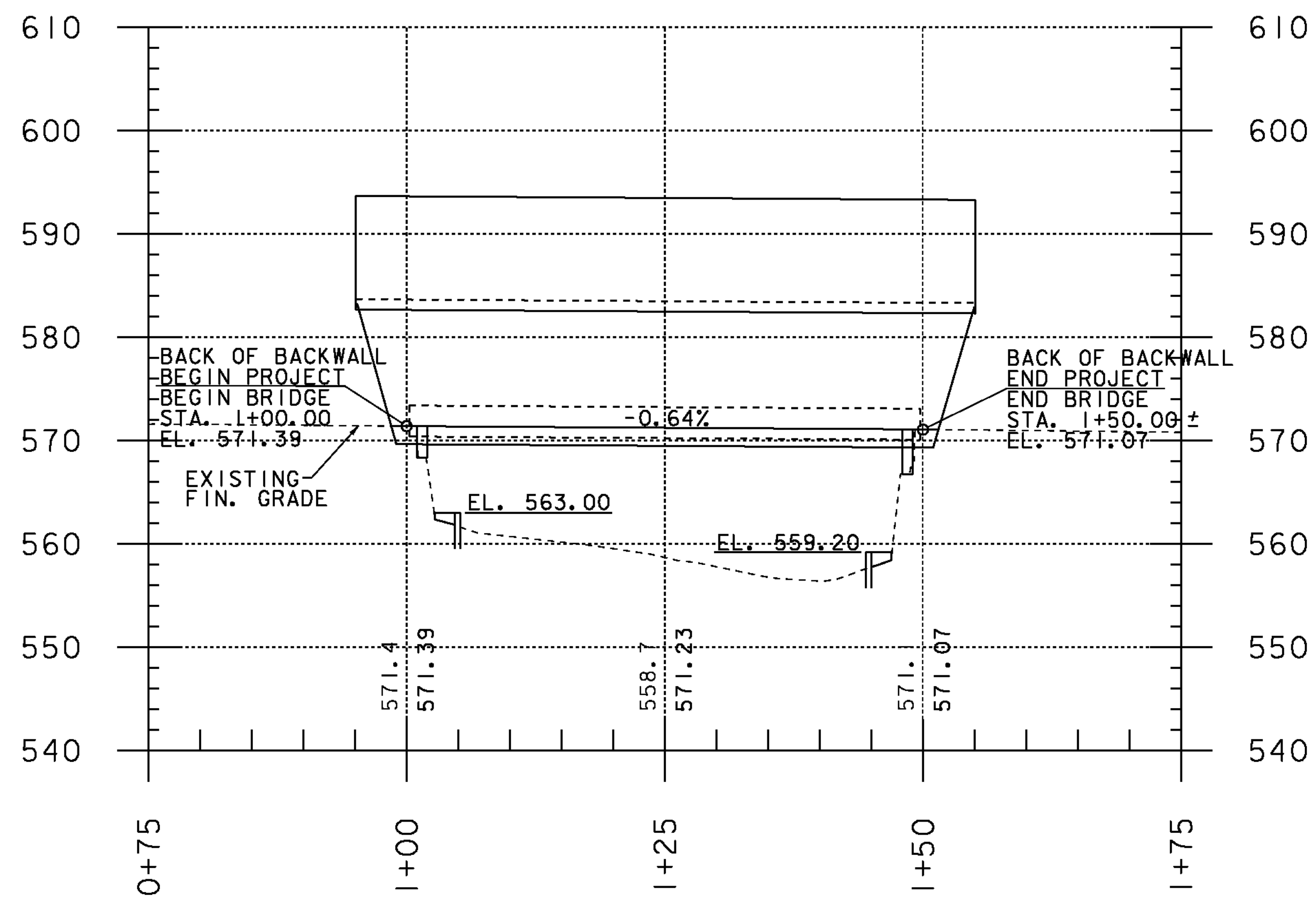


* Alignment Coordinates as of 27 July 2009

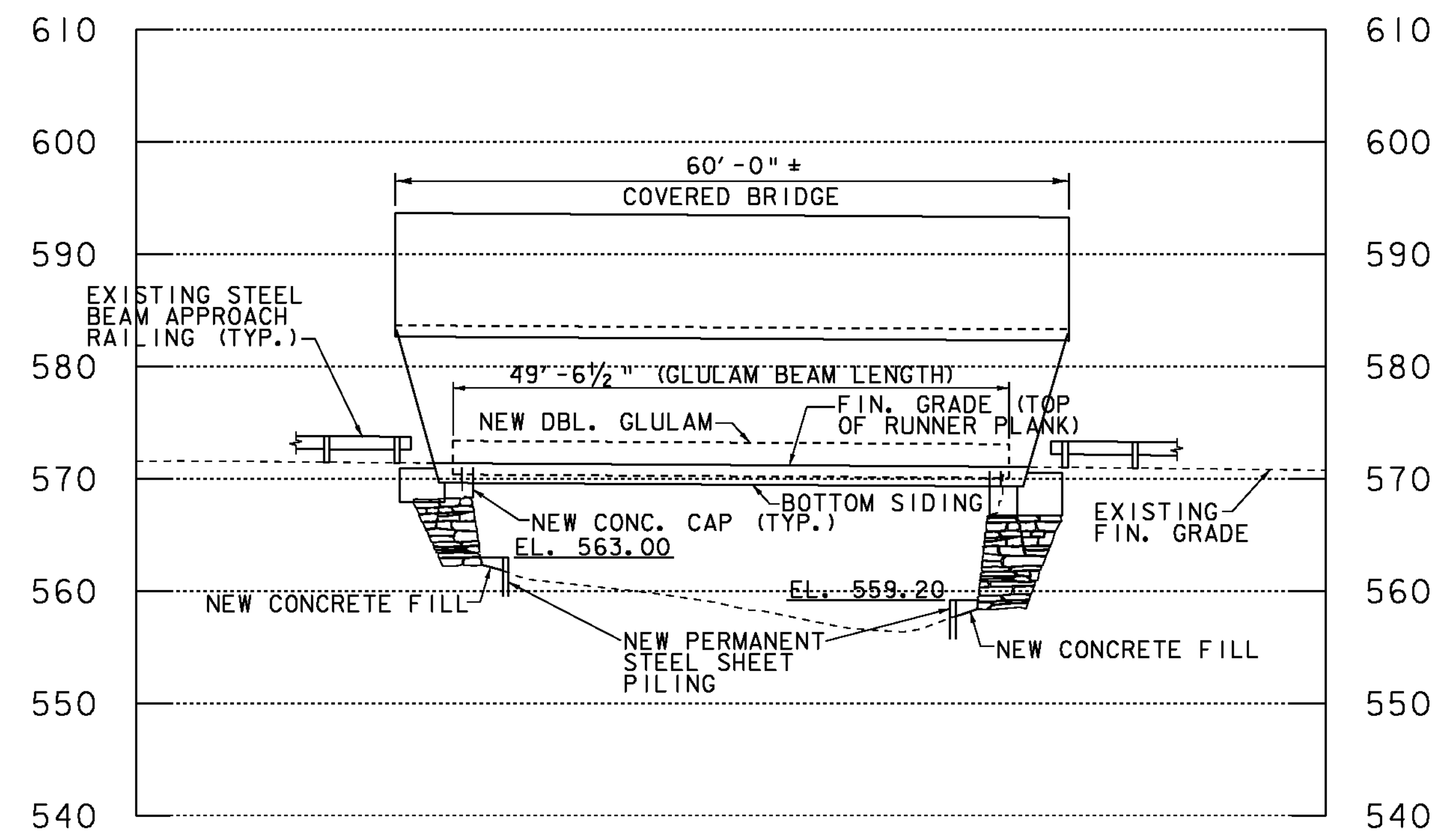
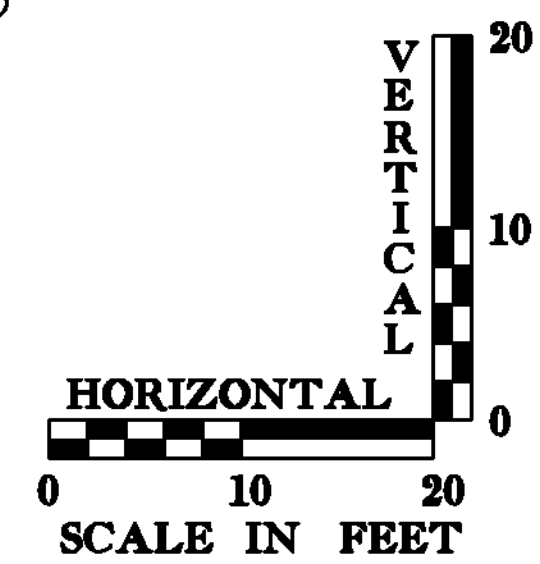
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VERTICAL	NAD 88
HORIZONTAL	NAVD 83 (96)
ADJUSTMENT	COMPASS

PROJECT NAME:	Randolph
PROJECT NUMBER:	BHO 1444 (53)
FILE NAME:	06J092\survey\06J092+1.dgn
PROJECT LEADER:	M. SARGENT
DESIGNED BY:	J. Weaver
TIE SHEET	
PLOT DATE:	09-NOV-2010
DRAWN BY:	R. Bullock
CHECKED BY:	M. SARGENT
SHEET	6 OF 27

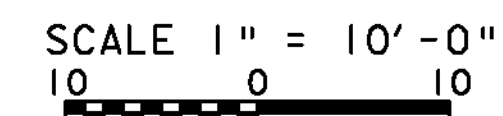




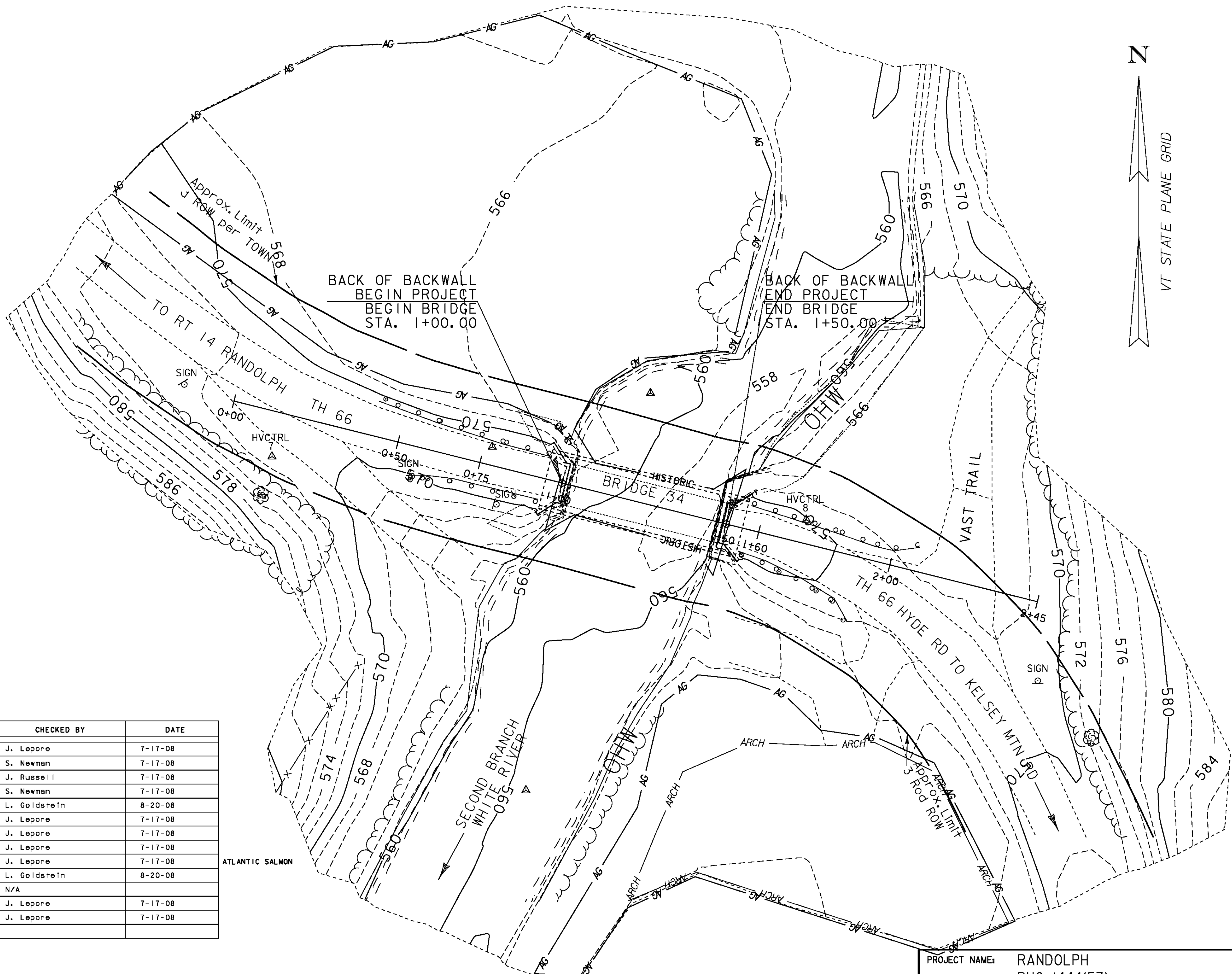
PROFILE @ C T.H. 66
(LOOKING NORTH)



ELEVATION
(LOOKING NORTH)



PROJECT NAME:	RANDOLPH
PROJECT NUMBER:	BHO 1444(53)
FILE NAME:	06J092\str\s06J092profile.dgn
PROJECT LEADER:	M. SARGENT
DESIGNED BY:	J. WEAVER
PROFILE & ELEVATION SHEET	
PLOT DATE:	09-NOV-2010
DRAWN BY:	C. WEEBER
CHECKED BY:	M. SARGENT
SHEET	8 OF 27



SCALE 1" = 15'-0"
 0 15 30

ENVIRONMENTAL RESOURCE	LEVEL	LINestyle NAME	CHECKED BY	DATE
Wetlands	EWB.P	wetland-lt, wetland-rt	J. Lepore	7-17-08
Historic/Historic District	MHBC	historic dist. HISTORIC	S. Newman	7-17-08
Archaeological Site	LAAS	arch. area ARCH	J. Russell	7-17-08
4f Property	MPL	4f property	S. Newman	7-17-08
6f Property	MPL	6f property	L. Goldstein	8-20-08
Agricultural Land	LAPB	agricult. land AG	J. Lepore	7-17-08
Fish & Wildlife Habitat	EHA	critical hab.	J. Lepore	7-17-08
Flood Plains	EWB.P	fld. plains	J. Lepore	7-17-08
Endangered Species	EHA	thr. & end. spec.	J. Lepore	7-17-08
Hazardous Waste	EDEFAULT	haz. waste	L. Goldstein	8-20-08
Stormwater	DDEFAULT	Diamond	N/A	
USDA-Forest Service Lands	MJPB	Phantom	J. Lepore	7-17-08
Wildlife Habitat Suit/Conn	EHA	Divide	J. Lepore	7-17-08
	LAPB	Ordinary High Water OHW		

ATLANTIC SALMON

PROJECT NAME: RANDOLPH
 PROJECT NUMBER: BHO 1444(53)
 FILE NAME: 06J092\STR\s06J092border.dgn PLOT DATE: 09-NOV-2010
 PROJECT LEADER: M. SARGENT DRAWN BY: C. WEEBER
 DESIGNED BY: J. WEAVER CHECKED BY: M. SARGENT
 RESOURCE SHEET SHEET 9 OF 27

EROSION PREVENTION & SEDIMENT CONTROL NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REHABILITATION OF THE GIFFORD COVERED BRIDGE (BRIDGE NO. 34) OVER THE 2ND BRANCH WHITE RIVER. THE PROJECT IS ON T.H. NO. 66, AN UNPAVED, CLASS III TOWN HIGHWAY, IN THE TOWN OF RANDOLPH. THE EXISTING COVERED BRIDGE IS CURRENTLY OPEN TO TRAFFIC, BUT WILL REMAIN CLOSED DURING CONSTRUCTION. TRAFFIC WILL BE DETOURED DURING CONSTRUCTION ALONG OTHER TOWN HIGHWAYS. THE PROJECT CONSISTS OF REPLACING THE DETERIORATED BRIDGE MEMBERS, INSTALLATION OF A NEW STANDING SEAM METAL ROOF, NEW GLULAM MEMBERS, SAWN FLOOR BEAMS AND DECK, SUBSTRUCTURE REPAIRS, AND INSTALLATION OF PERMANENT SHEETING. NO THREATENED AND ENDANGERED SPECIES, WETLANDS, STORMWATER, FLOOD PLAINS HAZARDOUS WASTE SITE, GREEN MOUNTAIN NATIONAL FOREST LAND, 4F PROPERTY, 6F PROPERTY HAVE BEEN IDENTIFIED IN THE PROJECT AREA. AN HISTORIC RESOURCE (GIFFORD COVERED BRIDGE) HAS BEEN IDENTIFIED IN THE PROJECT AREA AND WILL BE REHABILITATED BY PROPOSED PROJECT WORK. AN ARCHAEOLOGICAL RESOURCE HAS BEEN IDENTIFIED BEYOND THE ROW, TO THE SOUTHEAST OF THE PROJECT AREA AND WILL BE AVOIDED. THE SITE IS LOCATED, BASED UPON NAVD 83/(CON) AT 521893.79 N, 1626547.81 E (HVCTRL #1 - SEE TIE SHEET).

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE (1) CONSTRUCTION SEASON.

TOTAL AREA OF DISTURBANCE INCLUDING LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, INCLUDING ANY WASTE, STAGING AND BORROW AREAS WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS IS APPROXIMATELY 0.045 ACRE.

1.2 SITE INVENTORY

1.2.1 OFF SITE DRAINAGE CHARACTERISTICS (UP AND DOWN-GRADIENT)

THE PROPERTY SURROUNDING THE PROJECT SITE CONSISTS OF WELL ESTABLISHED VEGETATION, MODERATE TO STEEPLY SLOPING, MIXED SOFTWOOD AND HARDWOOD TREES WITH WELL DEFINED DRAINAGE WAYS. DUE TO THE NATURE OF THE SURROUNDING TERRAIN, RUNOFF WATER ENTERING THE PROJECT SITE WILL BE PRIMARILY LIMITED TO THAT WHICH IS CONVEYED ALONG ROADWAY DITCHES, AND THAT WHICH FOLLOWS T.H. NO. 66 ALONG THE 4% EAST APPROACH GRADE AND THE 0.6% GRADE AT THE WEST APPROACH OF THE PROJECT LIMITS. THE CURRENT ROADWAY DITCHES ARE FAIRLY WELL DEFINED AND CONSIST OF GRAVEL AND GRASS BUT ARE NOT LINED WITH STONE.

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

2ND BRANCH WHITE RIVER IS LOCATED ON THE PROJECT AREA. THERE ARE NO OTHER WATER BODIES WITHIN THE PROJECT AREA. THE STREAMBED OF THE RIVER IS MAINLY COMPOSED OF SAND AND SILT, ARMORED WITH COBBLES. THE RIVER IS CLASSIFIED AS SINUOUS, INCISED, ALLUVIAL-RURAL MIXTURE OF FOREST AND OPEN LAND SURROUNDINGS. THE CONTRIBUTING DRAINAGE AREA AT THE BRIDGE CROSSING IS 51.7 SQUARE MILES.

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE TOPOGRAPHY OF THE PROJECT SITE IS HILLY WITH WOODED AREAS ALONG WITH FARM LANDS. VERMONT ROUTE 14 RUNS PARALLEL ALONG THE WEST SIDE OF 2ND BRANCH WHITE RIVER. THE WEST AND EAST BANKS OF 2ND BRANCH WHITE RIVER ARE RELATIVELY STEEP WITHIN THE PROJECT VICINITY. DEVELOPMENT ALONG T.H. NO. 66 CONSISTS OF FARMS AND FARM LANDS. NO OVERHEAD UTILITY SERVICE EXISTS ALONG T.H. NO. 66 AT THE BRIDGE SITE. AN OVERHEAD UTILITY LINE CROSSES T.H. NO. 66, 0.2 MILES FROM THE BRIDGE, AND ANOTHER FOLLOWS VT. RTE. 14, 400' FROM THE BRIDGE SITE. THE LINES ARE LOCATED A SUFFICIENT DISTANCE FROM THE BRIDGE THAT IT IS NOT ANTICIPATED THAT THERE WILL BE ANY IMPACTS TO THEM FROM THE PROJECT. THERE ARE NO UNDERGROUND UTILITIES WITHIN THE PROJECT AREA.

1.2.4 VEGETATION

THE LAND ON AND ADJACENT TO THE PROJECT SITE IS RURAL AND CONSISTS OF A MIX OF HARDWOOD AND SOFTWOOD TREES OF ALL SIZES ALONG T.H. 66 AND AREA FARM LANDS. THE FARM RESIDENCE NEAR THE BRIDGE SITE HAS SMALL AREAS OF LAWN AND LANDSCAPE PLANTINGS. FIELDS AND AGRICULTURAL CROPS EXIST NEAR THE PROJECT. IMPACTS TO VEGETATION WILL BE LIMITED TO THAT WHICH ARE AFFECTED BY THE BRIDGE REHABILITATION CONSTRUCTION INSIDE THE EXISTING TOWN'S RIGHT-OF-WAY (R.O.W.). SOME SMALL SOFTWOOD TREES WILL BE REMOVED. THERE IS NO LEDGE ALONG THE RIVER BANK. FOLLOWING CONSTRUCTION OF THE REHABILITATED COVERED BRIDGE, VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

1.2.5 SOILS

ACCORDING TO THE NATURAL RESOURCES CONSERVATION SERVICE (NRCS) THERE ARE THREE SOIL TYPES PRESENT ON THIS PROJECT SITE. BUCKLAND STONY LOAM (K=0.32) IS LOCATED IN THE EASTERN PORTION OF THE PROJECT LAYOUT AREA. DUE TO RELATIVE STEEPNESS OF THE LAND, THIS REGION HAS THE POTENTIAL FOR BEING MODERATE TO HIGHLY ERODABLE. MERIMACK FINE SANDY LOAM (K=0.17) IS FOUND IN THE WESTERN PORTION OF THE PROJECT LAYOUT AREA. THIS AREA HAS A POTENTIAL FOR BEING LOW ERODABLE DUE TO RELATIVE FLAT LAND IN THIS REGION. WINOOSKI VERY FINE SANDY LOAM (K=0.49) IS FOUND IN THE CENTRAL PORTION OF THE PROJECT LAYOUT AREA AND IS CONSIDERED MODERATE TO HIGHLY ERODABLE. SLOPES WITHIN THE VICINITY OF THE PROJECT RANGE FROM 0 - 25%.

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.

1.2.6 SENSITIVE RESOURCE AREAS

NO THREATENED & ENDANGERED SPECIES HAVE BEEN IDENTIFIED WITHIN THE PROJECT LIMITS AND THERE WILL BE NO ADVERSE EFFECT TO HISTORIC FEATURES. ARCHAEOLOGICAL FEATURES HAVE BEEN IDENTIFIED (SEE SECTION 1.1) WITHIN THE PROJECT LIMITS AND WILL BE AVOIDED. 2ND BRANCH WHITE RIVER IS THE ONLY WATER RESOURCE WITHIN THE PROJECT SITE. PRIME AND STATEWIDE AGRICULTURAL LAND IS IDENTIFIED WITHIN THE VICINITY OF THE PROJECT. THERE WILL BE MINIMAL IMPACTS TO THESE TYPES OF LAND IN THE AREA OF CONSTRUCTION.

DISTURBANCE OF SOILS NEAR NATURAL OR MAN-MADE WATERWAYS CONSISTS OF THAT WHICH IS NECESSARY TO CONSTRUCT THE NEW BRIDGE SEATS AND PERMANENT SHEETING.

1.3 RISK EVALUATION

THIS PROJECT DOES NOT FALL UNDER THE JURISDICTION OF CONSTRUCTION GENERAL PERMIT 3-9020 BASED ON THE PROJECT IMPACT AREA. SHOULD CHANGES PRIOR TO, OR DURING CONSTRUCTION, RESULT IN ONE (1) OR MORE ACRES OF EARTH DISTURBANCE, OR SHOULD THE PROJECT BECOME PART OF A LARGER PLAN OF DEVELOPMENT, THEN THE SELECTED CONTRACTOR WILL BE RESPONSIBLE FOR ADDITIONAL PERMITTING WITH THE VERMONT AGENCY OF NATURAL RESOURCES VIA FILING OF THE APPROPRIATE "NOTICE OF INTENT" UNDER THE GENERAL CONSTRUCTION PERMIT PROCESS.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE WORK OUTLINED IN THIS NARRATIVE CONSISTS OF APPLYING MEASURES THROUGHOUT THE LIFE OF THE PROJECT MINIMIZING SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION CONTROLS.

PREVENTING INITIAL SOIL EROSION IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. 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.

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

1.4.1 MARK SITE BOUNDARIES

PROJECT DEMARCATION FENCING IS USED TO DELINEATE THE LIMITS THE CONTRACTOR CAN ACCESS WITH CONSTRUCTION EQUIPMENT. THIS MEASURE LIMITS THE AREA THAT CAN BE DISTURBED AND EXPOSED TO EROSION.

1.4.2 LIMIT DISTURBANCE AREA

EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES (PHASING) AS CONSTRUCTION PROCEEDS. ADDITIONAL MEASURES MAY BE NEEDED DUE TO THE PHASING OF THE PROJECT AND AS DIRECTED BY THE ENGINEER.

1.4.3 STABILIZE CONSTRUCTION EXIT

STABILIZED CONSTRUCTION ENTRANCE AND EXIT ARE NOT USED IN THIS PROJECT.

1.4.4 INSTALL SILT FENCE

SILT FENCE SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK AS NECESSARY.

1.4.5 INSTALL FILTER CURTAIN

FILTER CURTAIN SHALL BE INSTALLED PRIOR TO THE INSTALLATION OF STEEL SHEET PILING.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF

CHECK DAMS SHALL NOT BE REQUIRED.

1.4.7 STABILIZE EXPOSED SOILS

SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING, OR AN EQUIVALENT PRODUCT, WILL BE UTILIZED ON ALL SLOPES STEEPER THAN 3:1 THAT ARE NOT LINED WITH STONE FILL. SEE ROADWAY SECTIONS FOR SIDESLOPE GRADES. THESE SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE OR DURING INTERMITTENT PHASES OF CONSTRUCTION ACTIVITY.

SURFACE ROUGHENING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, WILL ALSO BE UTILIZED ON A REGULAR BASIS. ANY SLOPES TO BE EXPOSED FOR SEVERAL DAYS PRIOR TO FINAL GRADING SHALL BE TRACKED AND MULCHED. THE FORECAST OF RAINFALL EVENTS SHALL ALSO TRIGGER PROTECTION OF EXPOSED SLOPES.

1.4.8 WINTER STABILIZATION

IF CONSTRUCTION ACTIVITIES INVOLVING EARTH DISTURBANCE CONTINUE PAST OCTOBER 15 OR BEGIN BEFORE APRIL 15, THE FOLLOWING REQUIREMENTS MUST BE ADHERED TO:

1. ENLARGED ACCESS POINTS STABILIZED TO PROVIDE FOR SNOW STOCKPILING.
2. A MINIMUM 25 FOOT BUFFER SHALL BE MAINTAINED FROM PERIMETER CONTROLS SUCH AS SILT FENCE.
3. IN AREAS OF DISTURBANCE THAT DRAIN TO A WATER BODY WITHIN 100 FEET, TWO ROWS OF SILT FENCE MUST BE INSTALLED ALONG THE CONTOUR.

4. SILT FENCE AND OTHER PRACTICES REQUIRING EARTH DISTURBANCE MUST BE INSTALLED AHEAD OF FROZEN GROUND.

5. MULCH USED FOR TEMPORARY STABILIZATION MUST BE APPLIED AT DOUBLE THE STANDARD RATE, OR A MINIMUM OF 3 INCHES WITH AN 80-90% COVER.

6. TO ENSURE COVER OF DISTURBED SOIL IN ADVANCE OF A MELT EVENT, AREAS OF DISTURBED SOIL MUST BE STABILIZED AT THE END OF EACH WORK DAY, WITH THE FOLLOWING EXCEPTIONS:

- IF NO PRECIPITATION WITHIN 24 HOURS IS FORECAST AND WORK WILL RESUME IN THE SAME DISTURBED AREA WITHIN 24 HOURS, DAILY STABILIZATION IS NOT NECESSARY.
- DISTURBED AREAS THAT COLLECT AND RETAIN RUNOFF, SUCH AS HOUSE FOUNDATIONS OR OPEN UTILITY TRENCHES.

7. PRIOR TO STABILIZATION, SNOW OR ICE MUST BE REMOVED TO LESS THAN 1 INCH THICKNESS.

8. USE STONE TO STABILIZE AREAS WHERE CONSTRUCTION VEHICLE TRAFFIC IS ANTICIPATED. STONE PATHS SHOULD BE 10-20 FEET WIDE TO ACCOMMODATE VEHICULAR TRAFFIC.

1.4.9 STABILIZE SOIL AT FINAL GRADE

SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3. THESE SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

1.4.10 DE-WATERING ACTIVITIES

SEDIMENT BASINS FOR SUBSTRUCTURE WORK SHALL BE USED AS NECESSARY.

SEDIMENT SETTLING BASIN SIZING CRITERIA TABLE:

PUMP FLOW RATE		REQUIRED SURFACE AREA		LENGTH WIDTH = 2:1			
Q (gpm)	Q (m ³ /s)	(ft ²)	(m ²)	L (ft)	W (ft)	L (m)	W (m)
50	0.0032	595	55	35.0	17.0	10.6	5.3
100	0.0063	1200	111	49.0	24.5	15.0	7.5
150	0.0095	1776	165	59.6	29.8	18.2	9.1
200	0.0126	2368	220	68.8	34.4	21.0	10.5
250	0.0158	2970	276	77.0	38.5	23.4	11.7
300	0.0189	3560	330	84.4	42.2	25.8	12.9
350	0.0221	4155	386	91.2	45.6	27.8	13.9

1.4.11 INSPECT YOUR SITE

INSPECT SITE BASED ON PERMIT AUTHORIZATION OR SPECIAL PROVISION REQUIREMENTS.

1.4.12 SECTION 106 STIPULATIONS

ALL IDENTIFIED RESOURCES WITHIN THE PROJECT LIMITS ARE TO BE PROTECTED AND AVOIDED AS IT HAS BEEN DETERMINED THAT THIS PROJECT WILL NOT:

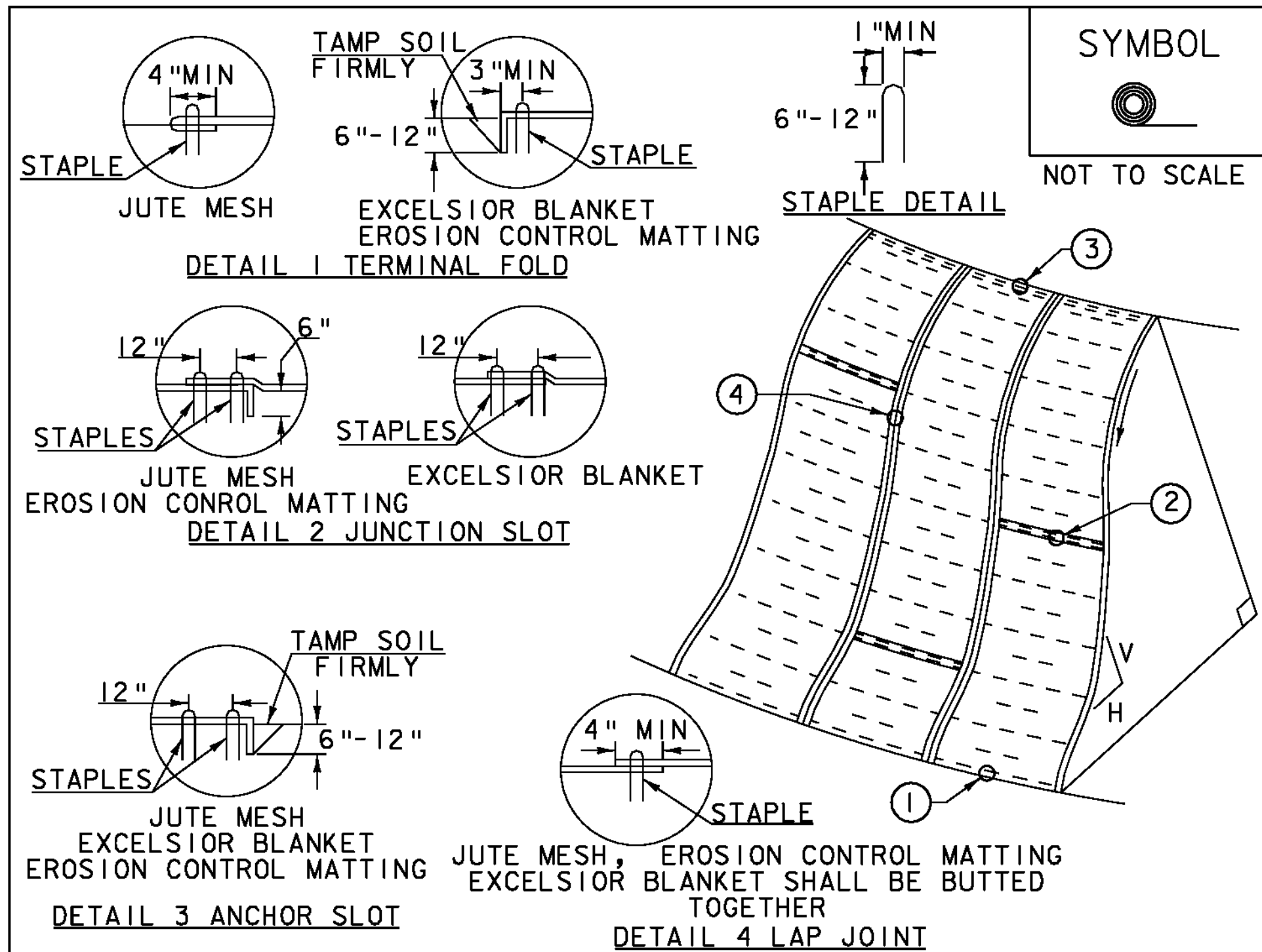
REQUIRE A TEMPORARY DETOUR OUTSIDE EXISTING RIGHT-OF-WAY, OR A TEMPORARY WETLAND OR STREAM CROSSING WHICH WILL REQUIRE NON-ROUTINE MITIGATION, OR A RAMP CLOSURE, UNLESS THE FOLLOWING CONDITIONS ARE MET

- (1) PROVISIONS ARE MADE FOR ACCESS BY LOCAL TRAFFIC AND THE FACILITY IS POSTED ACCORDINGLY,
- (2) BUSINESSES DEPENDENT UPON THROUGH TRAFFIC WILL NOT BE UNDULY AFFECTED,
- (3) THE TEMPORARY DETOUR OR RAMP CLOSURE WILL NOT INTERFERE WITH LOCAL SPECIAL EVENTS,
- (4) THE TEMPORARY DETOUR, RAMP CLOSURE, WETLAND OR STREAM CROSSING WILL NOT SUBSTANTIALLY INCREASE THE ENVIRONMENTAL CONSEQUENCES OF THE ACTION (PROJECT).

INVOLVE CONSTRUCTION IN WETLANDS AND/OR STREAMS (BELOW ORDINARY HIGH WATER) TOTALING MORE THAN 5,000 SQUARE FEET, THUS NOT REQUIRING THE ARMY CORP OF ENGINEERS TO COORDINATE WITH RESOURCE AGENCIES PER GENERAL PERMIT #NAE-2007-24.

REQUIRE A RISK ANALYSIS FOR AN INCREASE IN 100-YEAR FLOOD WATER SURFACE ELEVATIONS, PER EO 11988.

PROJECT NAME:	RANDOLPH
PROJECT NUMBER:	BHO 1444(53)
FILE NAME:	s06j092notes.dgn
PROJECT LEADER:	M. SARGENT
DESIGNED BY:	J. WEAVER
EPSC NARRATIVE	
PLOT DATE:	09-NOV-2010
DRAWN BY:	C. WEEBER
CHECKED BY:	M. SARGENT
SHEET	10 OF 27



CONSTRUCTION SPECIFICATIONS

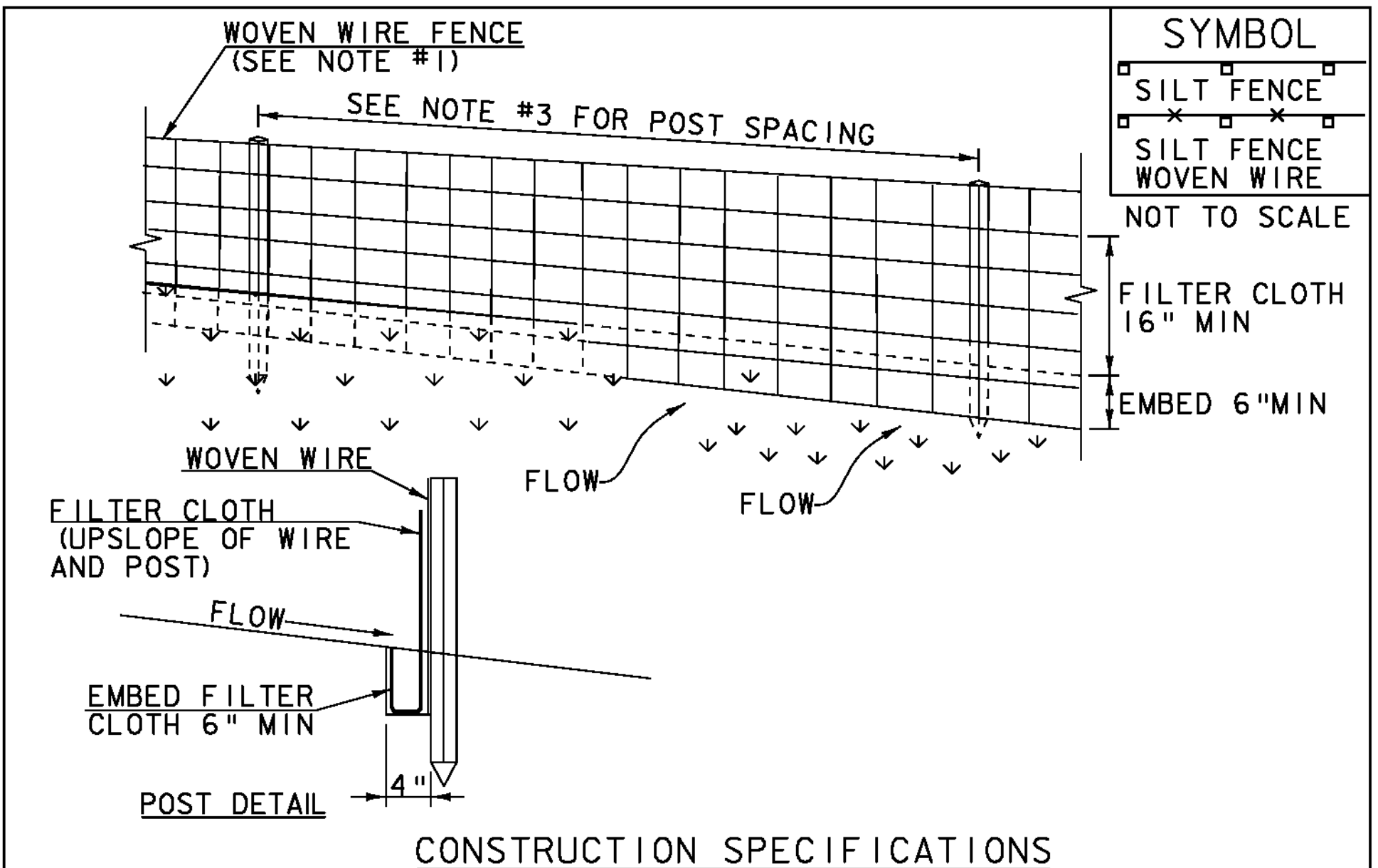
1. APPLY TO SLOPES GREATER THAN 3H: 1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 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.

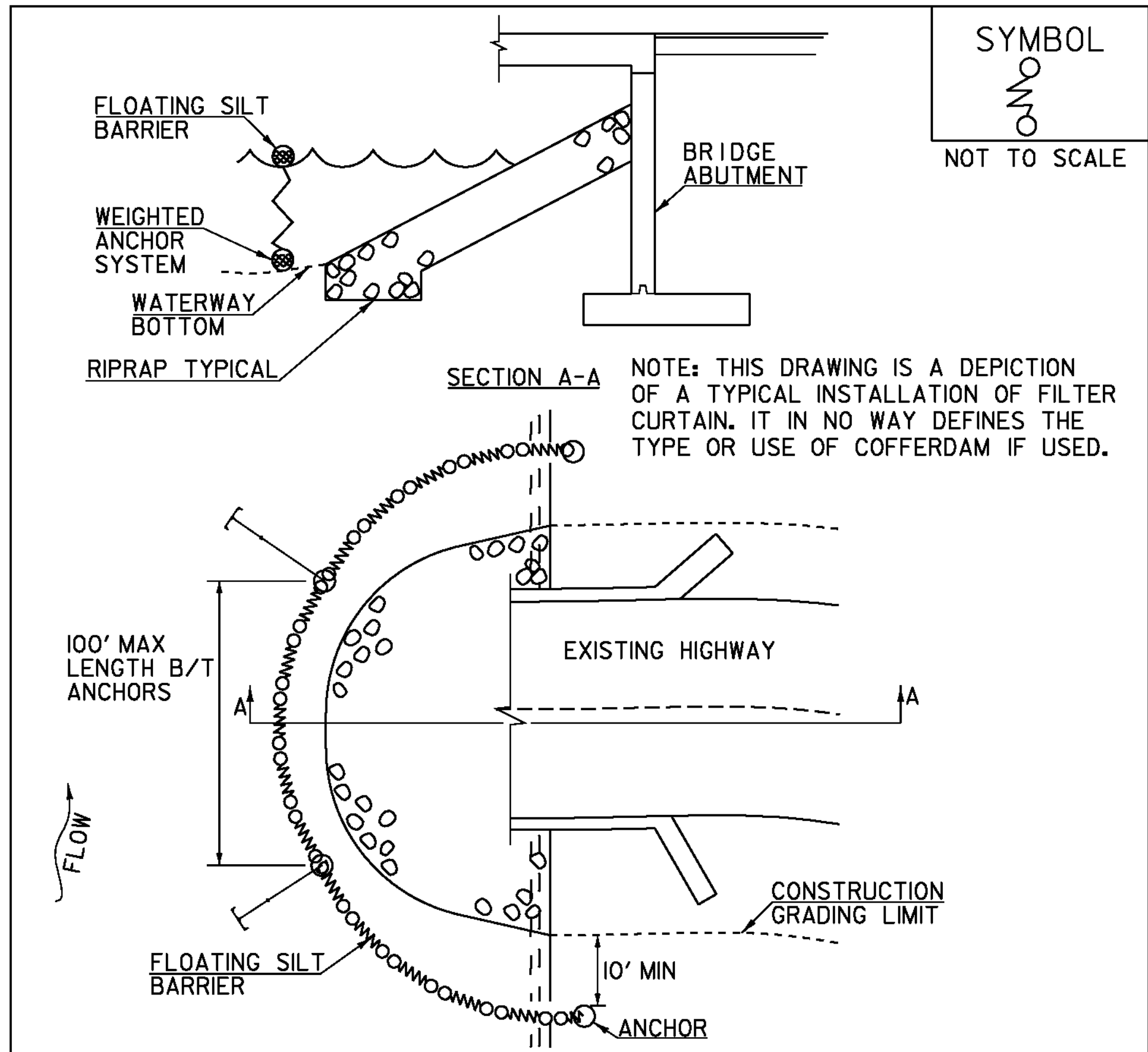
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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



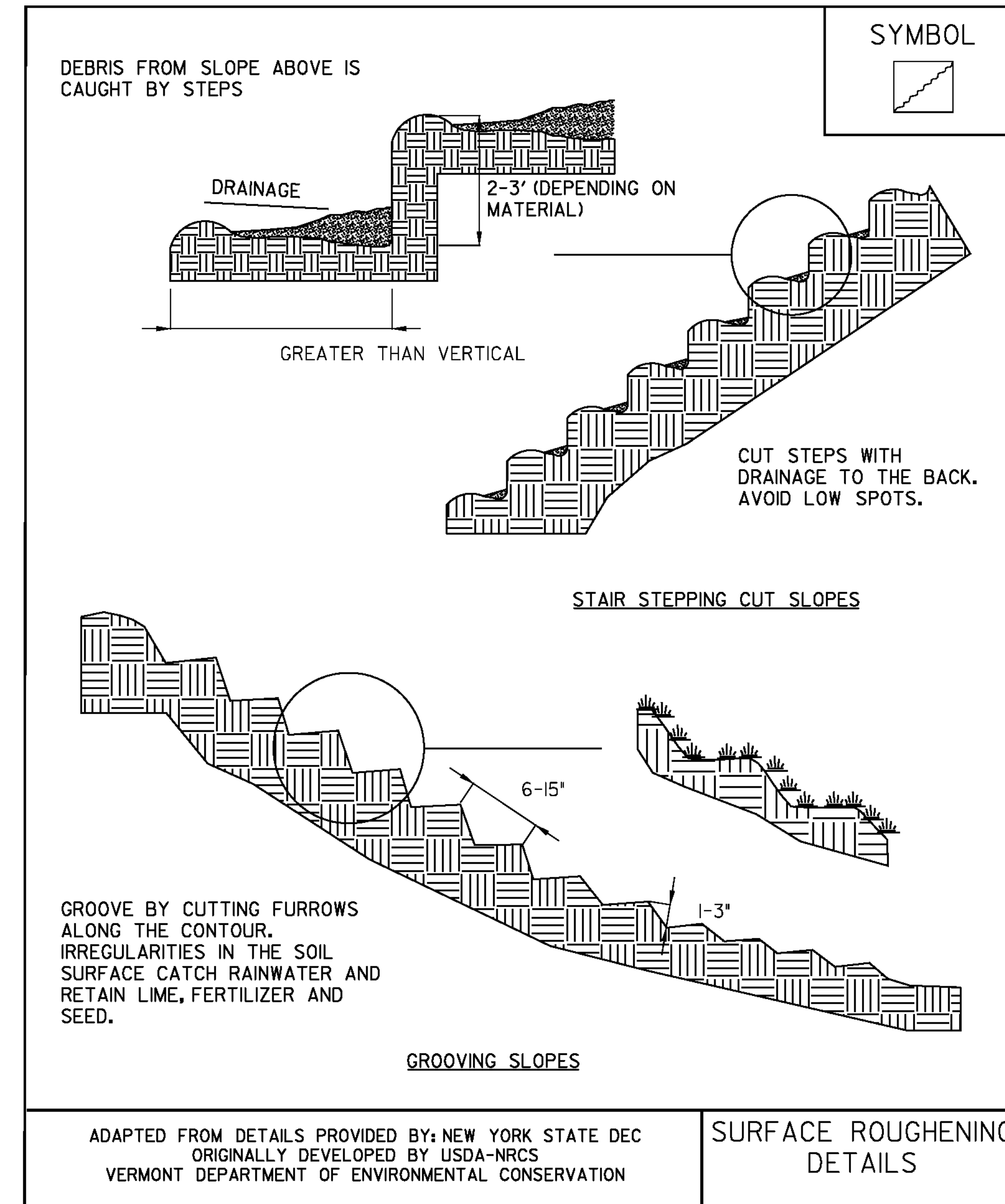
CONSTRUCTION SPECIFICATIONS

1. FILTER 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 649.61).

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

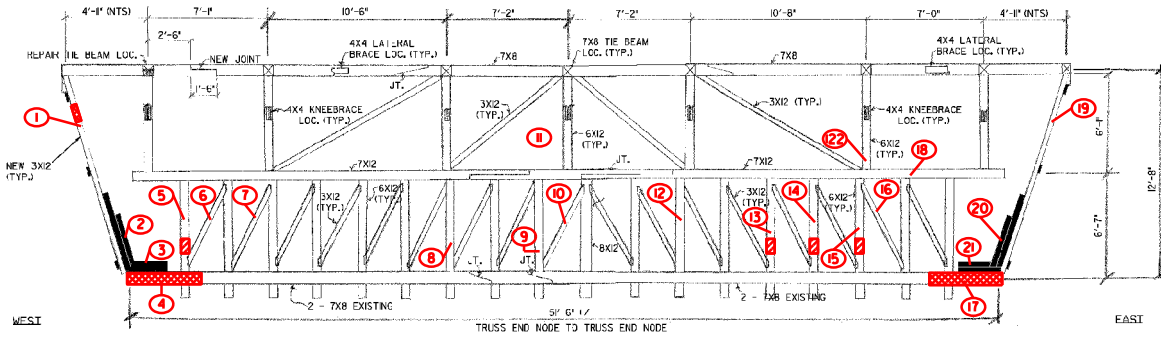


NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006-" FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS ITEM SHALL BE CONSIDERED INCIDENTAL TO ALL OTHER EROSION CONTROL ITEMS (SEE NOTE 14, SHEET 5 OF 27).

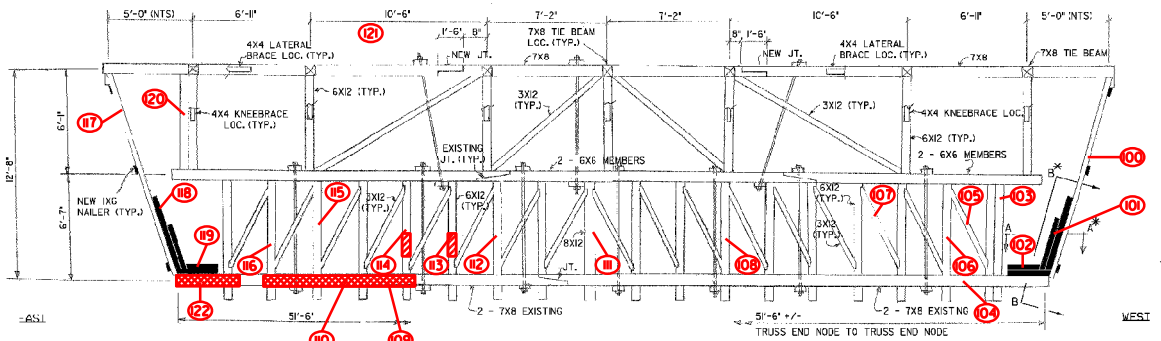
PROJECT NAME:	RANDOLPH
PROJECT NUMBER:	BHO 1444(53)
FILE NAME:	06J092\str\s06J092notes.dgn
PROJECT LEADER:	M. SARGENT
DESIGNED BY:	J. WEAVER
EPSC DETAIL SHEET 2	
PLOT DATE:	09-NOV-2010
DRAWN BY:	C. WEEBER
CHECKED BY:	M. SARGENT
SHEET 13	OF 27

▨ CHANGE ORDER #1
▨ CHANGE ORDER #2



TRUSS ELEVATION (UPSTREAM) (FLOOR BEAMS NOT SHOWN)
 3/8" = 1'-0"

NOTE:
 PROVIDE REHABILITATED TRUSSES WITH 2" POSITIVE CAMBER @ MIDPOINT OF SPAN - UNLOADED CONDITION



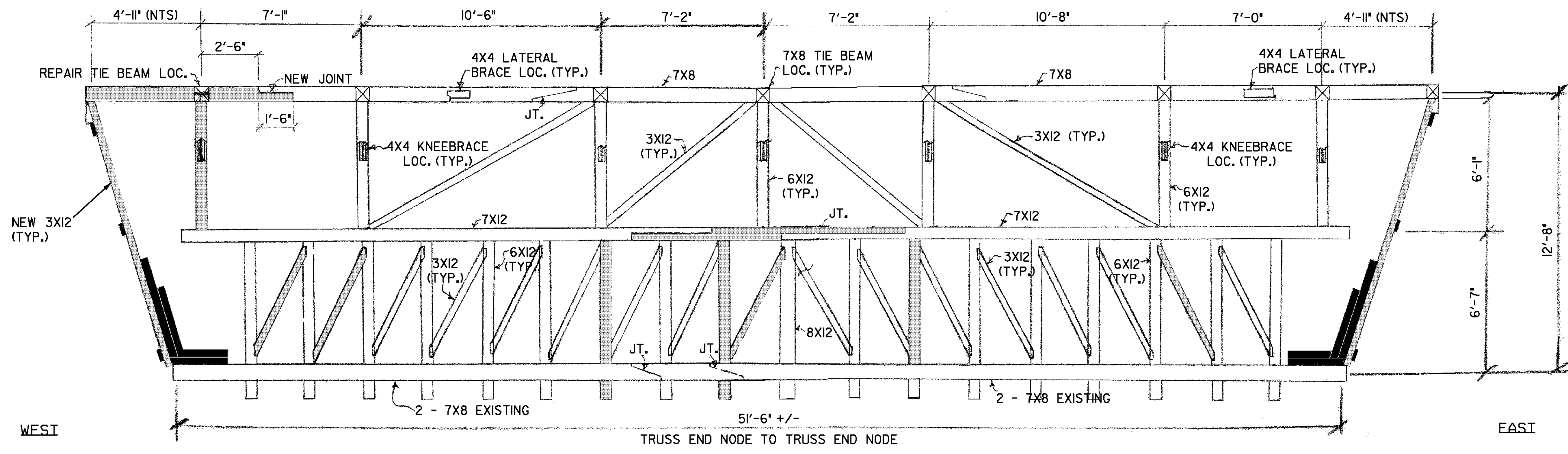
TRUSS ELEVATION (DOWNSTREAM) (FLOOR BEAMS NOT SHOWN)
 3/8" = 1'-0"

■ NEW MEMBER
 ▨ REPLACE EXISTING MEMBER
 □ EXISTING MEMBER

*SEE SHEET 13 OF 27 FOR SECTION DETAILS

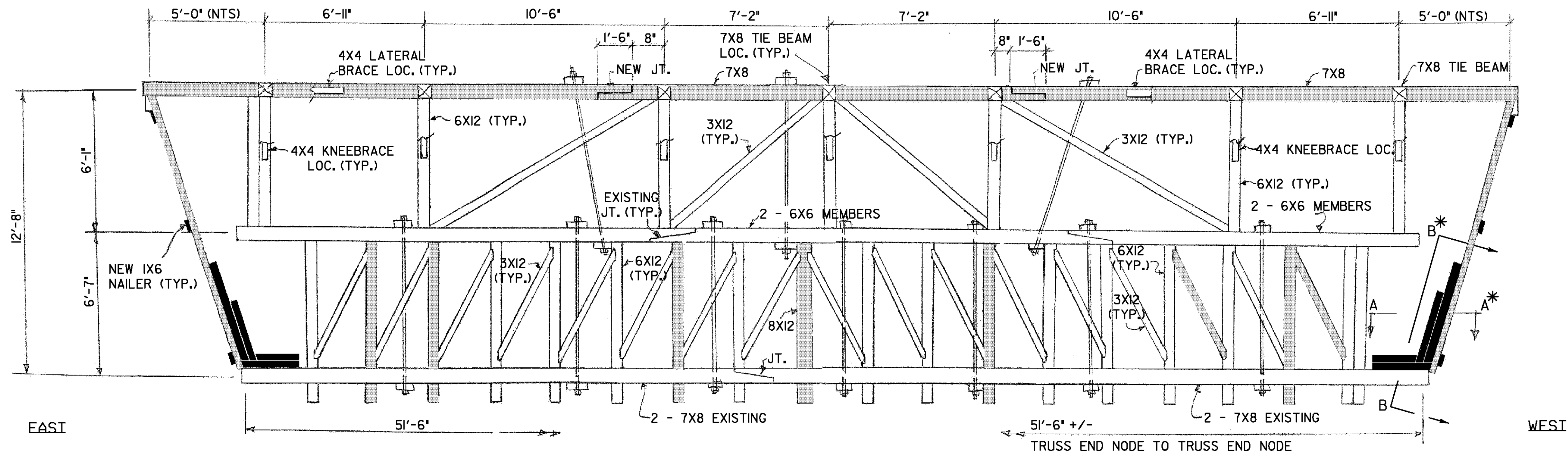
NOTE: I09 & I22 ARE ONE FULL TIMBER 32'-IN LENGTH HOWEVER BECAUSE OF CO #2 THEY ARE SPLIT INTO AN 8' + 24'

PROJECT NAME:	RANDOLPH		
PROJECT NUMBER:	BHO 1444(53)		
FILE NAME:	RandolphBHO1444.dwg	PLOT DATE:	
PROJECT LEADER:	M. Sargent	DRAWN BY:	C. Weeber
DESIGNED BY:	J. Weaver	CHECKED BY:	M. Sargent
Truss Details		SHEET 16	OF 27



TRUSS ELEVATION (UPSTREAM) (FLOOR BEAMS NOT SHOWN)
 3/8" = 1'-0"

NOTE:
 PROVIDE REHABILITATED TRUSSES WITH 2" POSITIVE CAMBER @ MIDPOINT OF SPAN - UNLOADED CONDITION

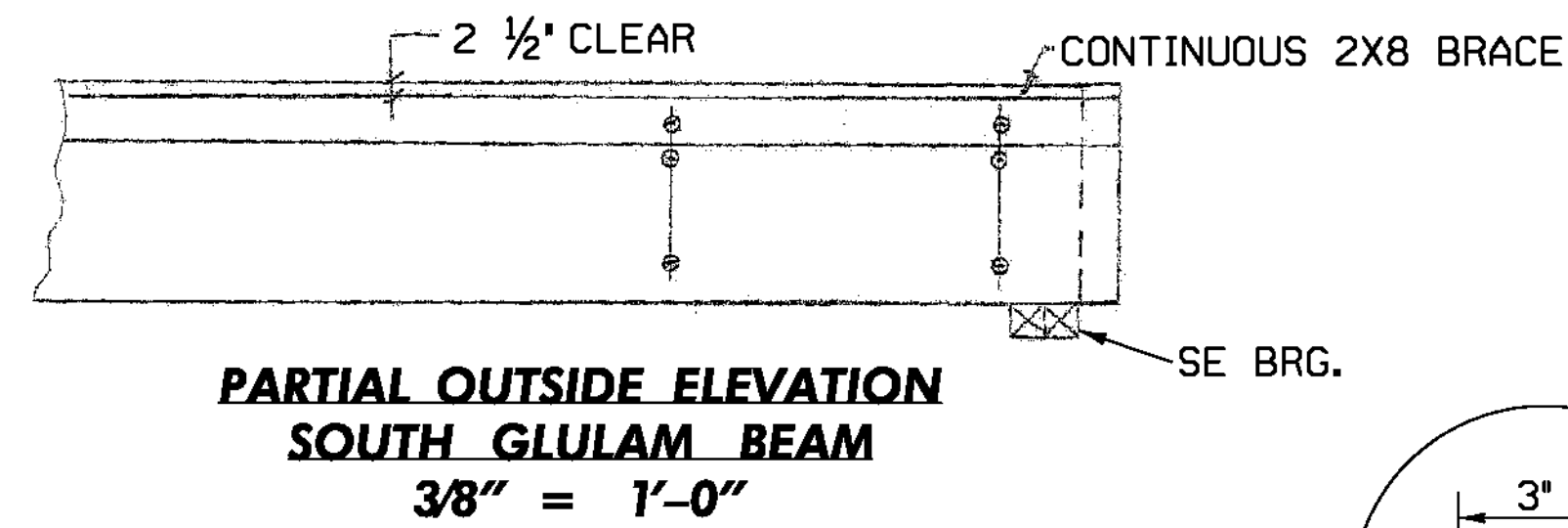
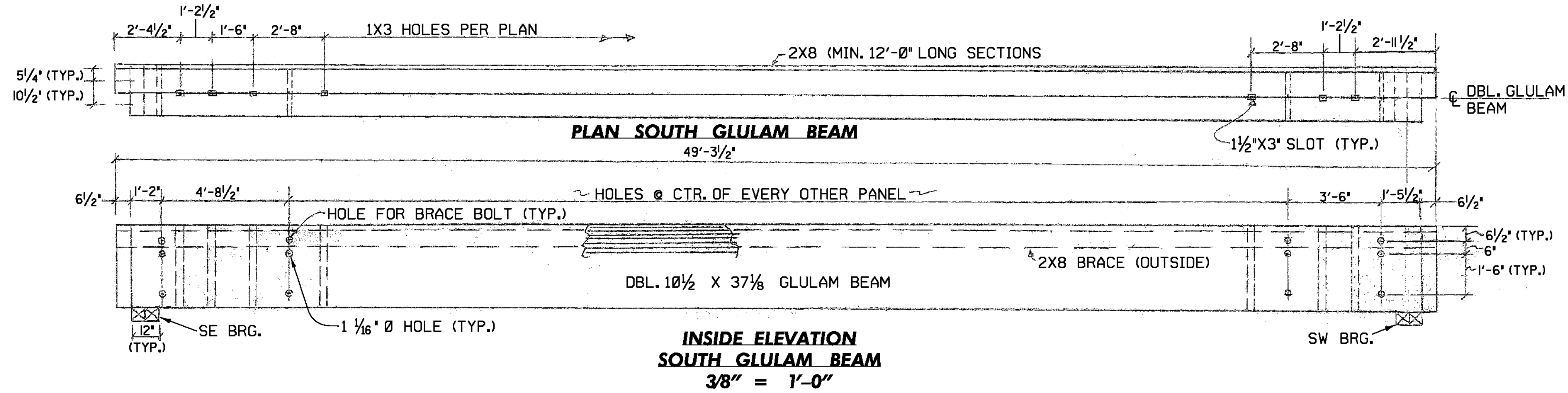


TRUSS ELEVATION (DOWNSTREAM) (FLOOR BEAMS NOT SHOWN)
 3/8" = 1'-0"

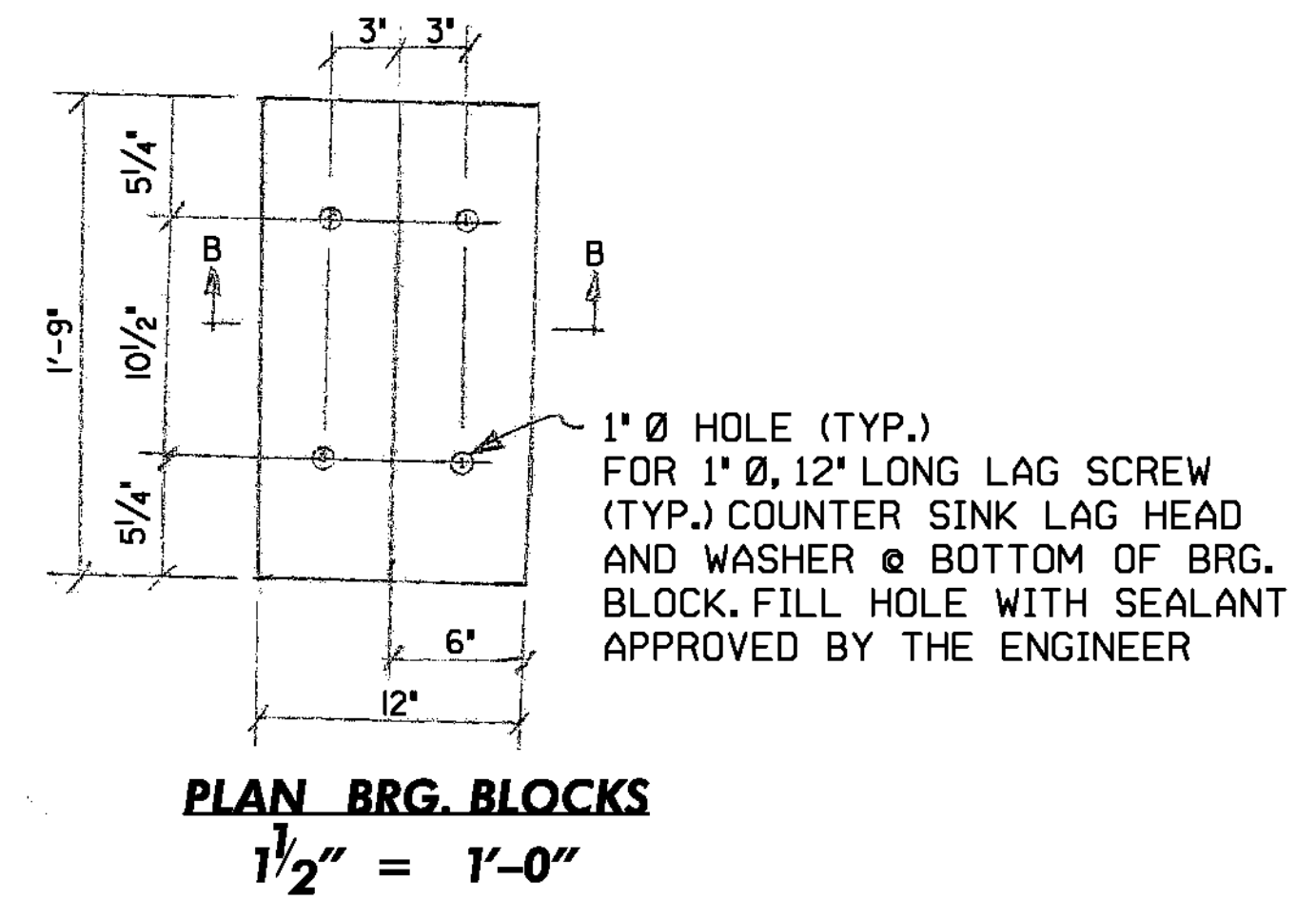
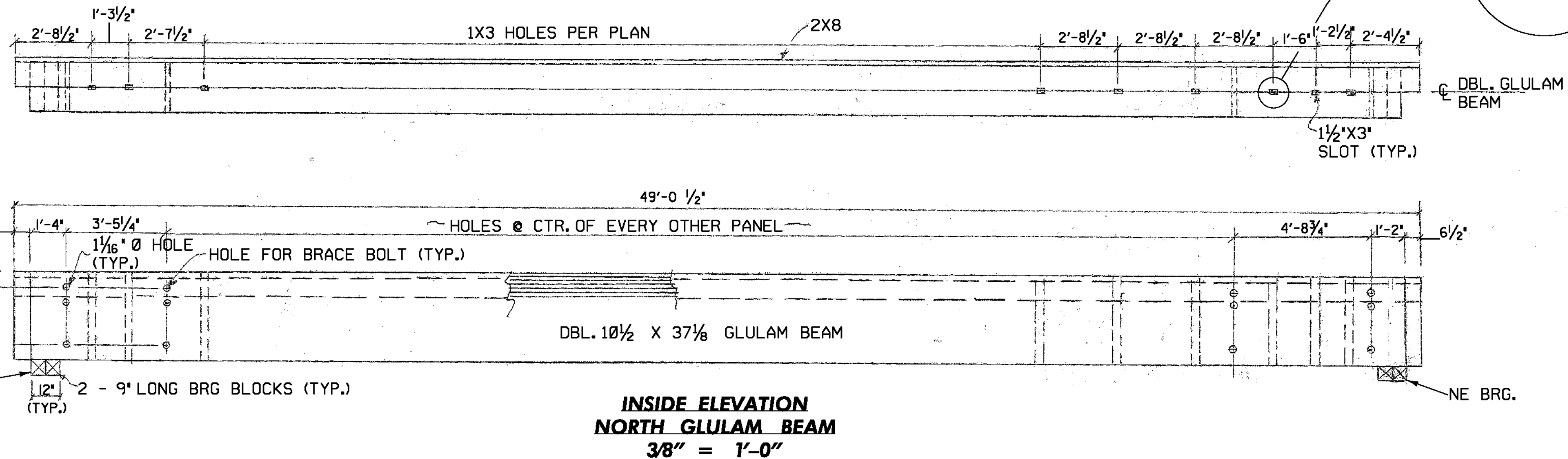
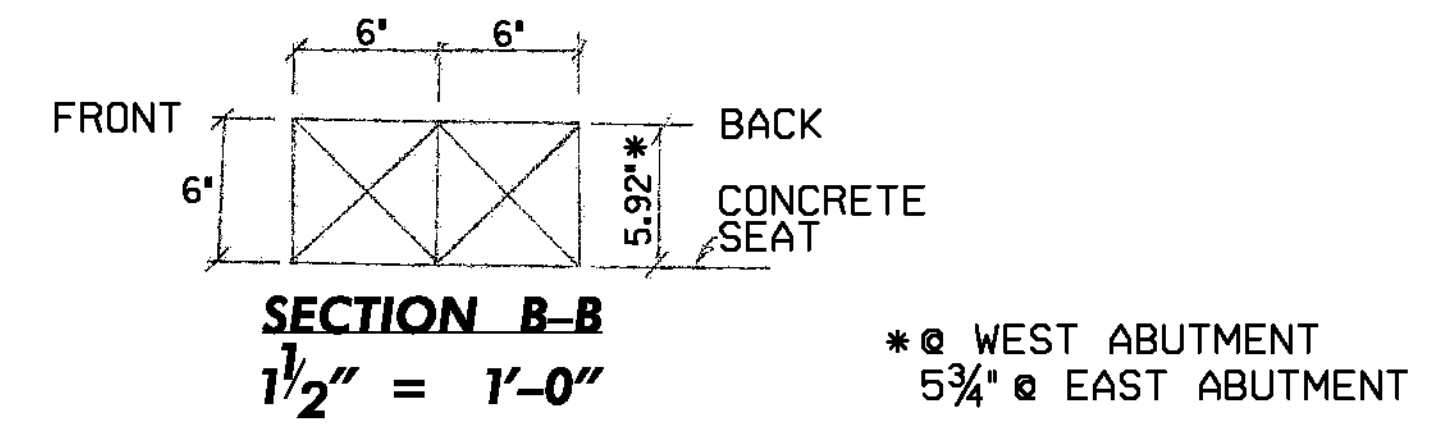
NEW MEMBER
 REPLACE EXISTING MEMBER
 EXISTING MEMBER

*SEE SHEET 18 OF 27 FOR SECTION DETAILS

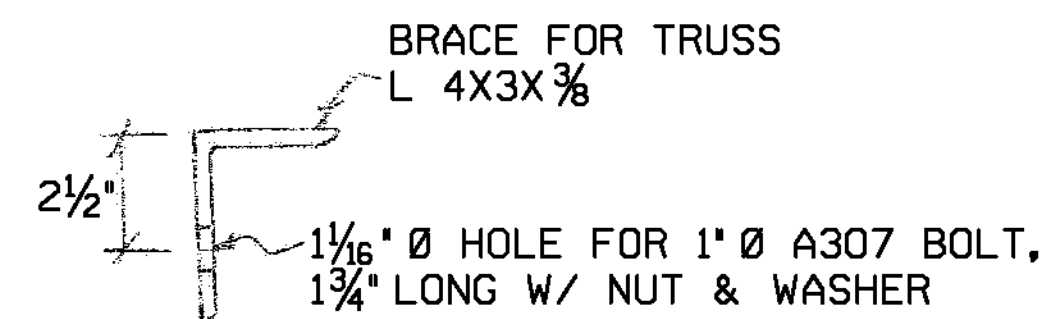
PROJECT NAME: RANDOLPH	PLOT DATE: 09-NOV-2010
PROJECT NUMBER: BHO 1444(53)	DRAWN BY: C. Weeber
FILE NAME: RandolphDetails.dgn	CHECKED BY: M. Sargent
PROJECT LEADER: M. Sargent	DESIGNED BY: J. Weaver
Truss Details	SHEET 16 OF 27



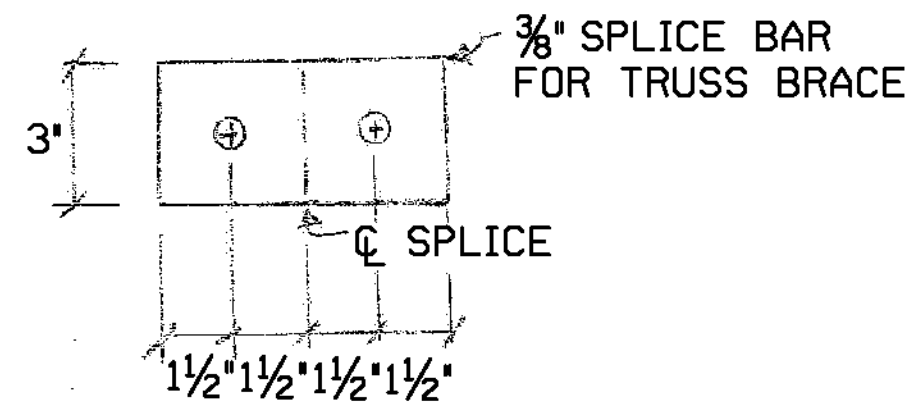
- NOTE:
1. FABRICATE GLULAM BEAMS WITH 2 1/2" POSITIVE CAMBER AT MIDPOINT OF SPAN.
 2. FOR OTHER BEARING DETAILS, SEE SHEET 18 OF 27.
 3. ALL MEMBERS AND COMPONENTS SHOWN ON THIS SHEET ARE NEW



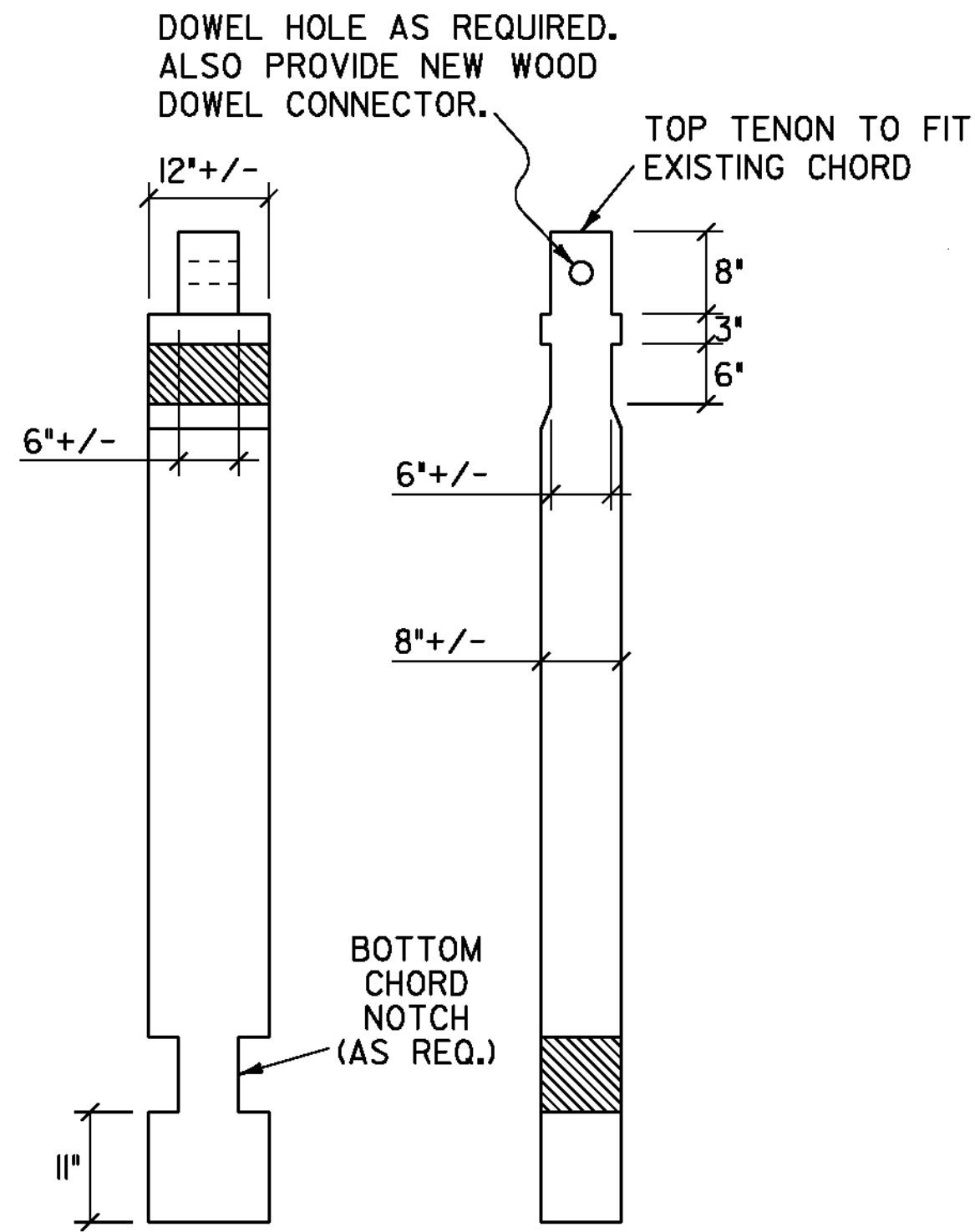
PROJECT NAME:	RANDOLPH
PROJECT NUMBER:	BHO 1444(53)
FILE NAME:	RandolphDetails.dgn
PROJECT LEADER:	M. Sargent
DESIGNED BY:	J. Weaver
Glulam Beam Details	
PLOT DATE:	09-NOV-2010
DRAWN BY:	C. Weeber
CHECKED BY:	M. Sargent
SHEET 17	OF 27



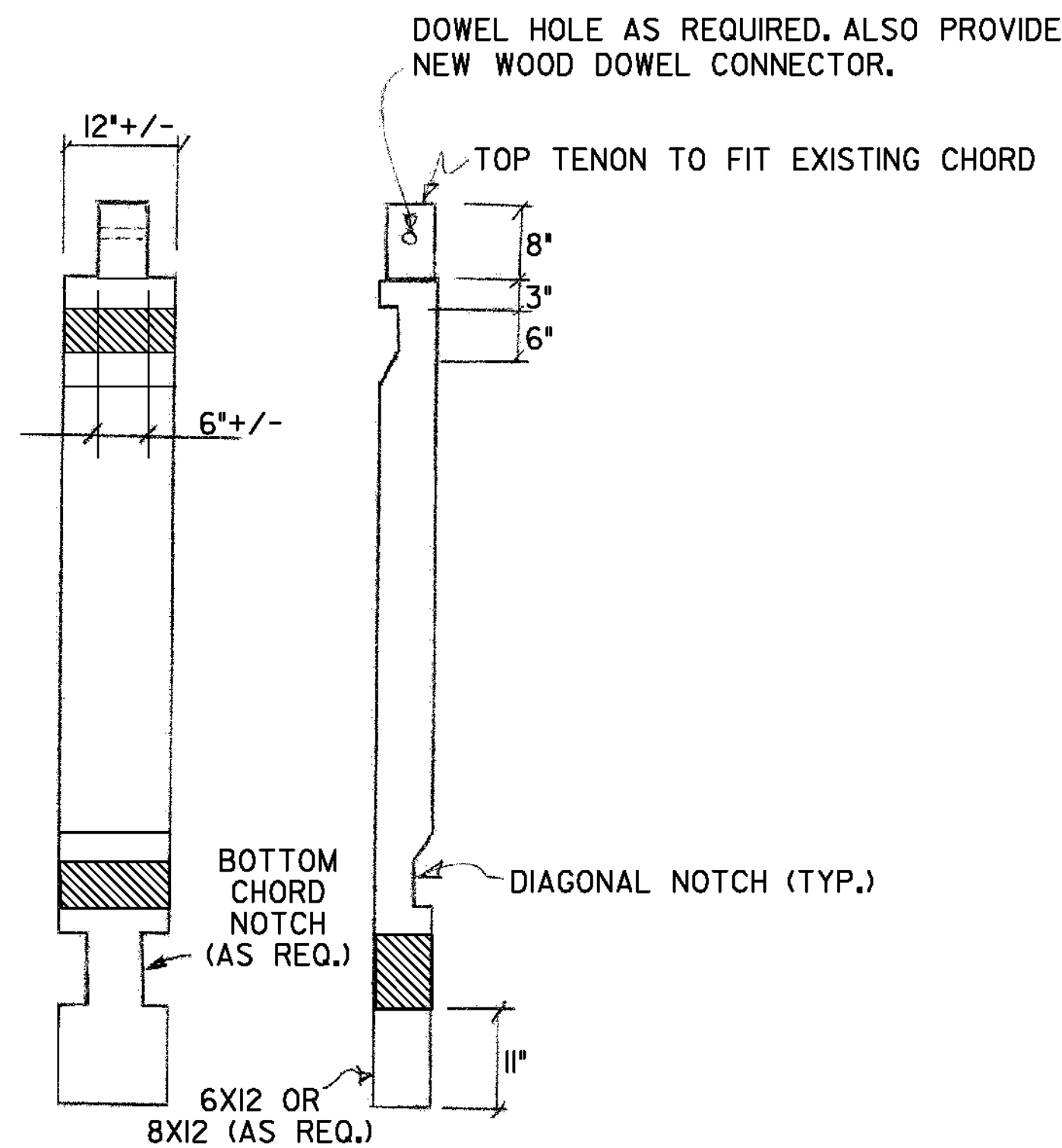
SCALE 3"=1'-0"



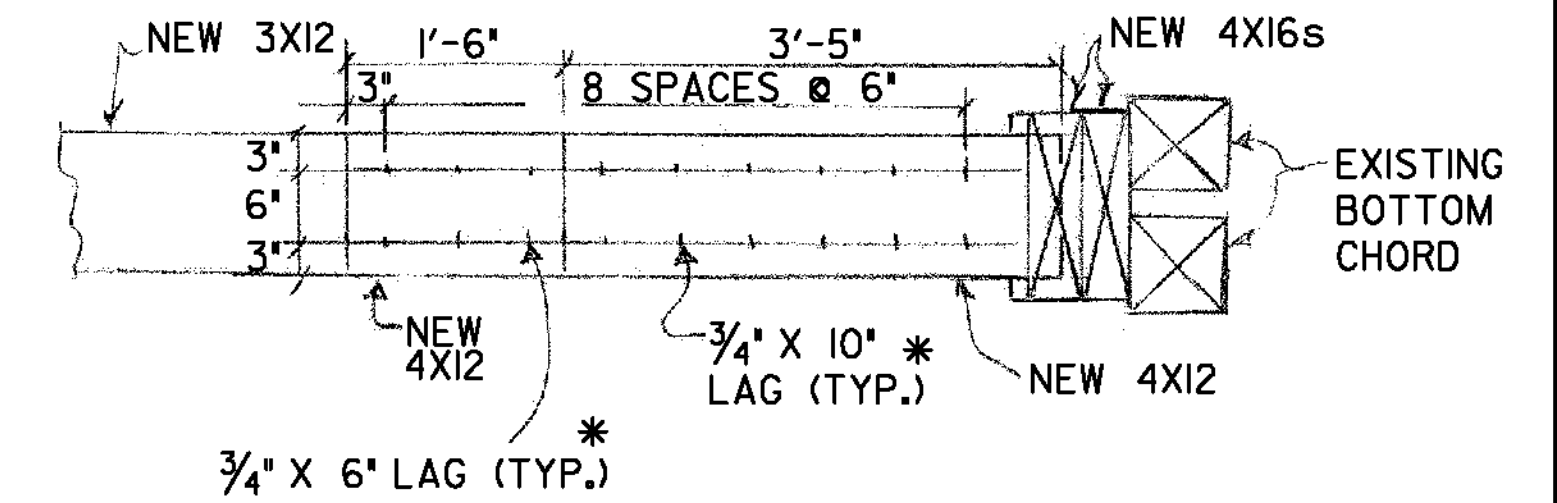
SCALE 3"=1'-0"



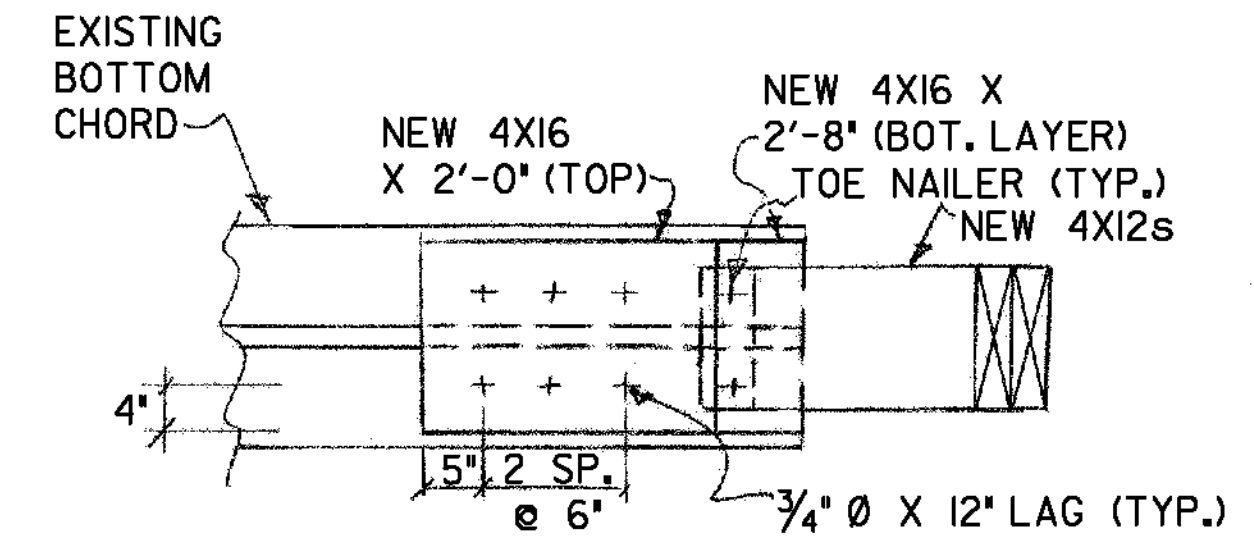
FRONT VIEW SIDE VIEW
NEW CENTER KING POST
3/4" = 1'-0"



FRONT VIEW SIDE VIEW
NEW KING POST
3/4" = 1'-0"

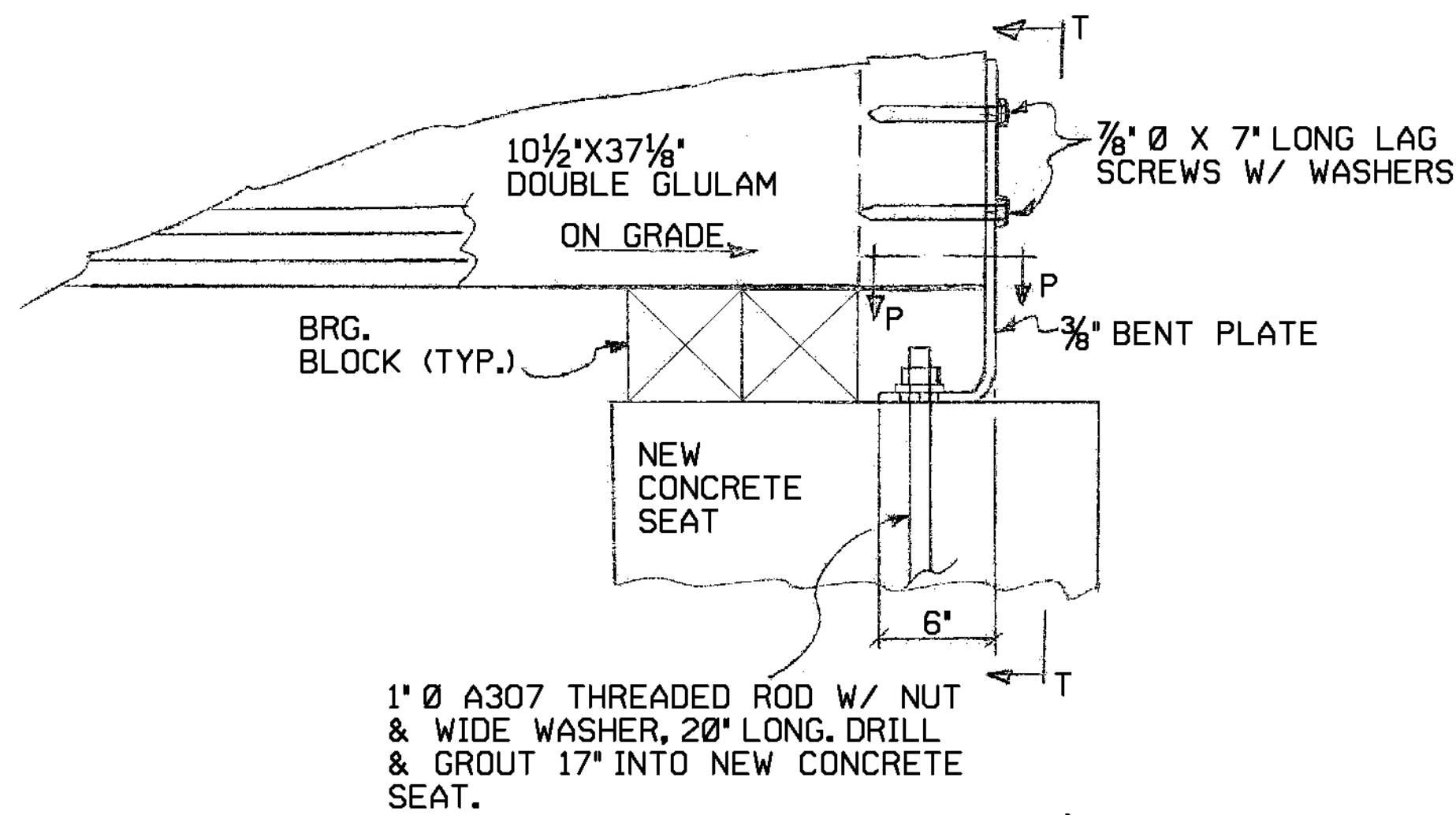


SECTION B-B #
3/4" = 1'-0" *HEAD ON 3X12 SIDE



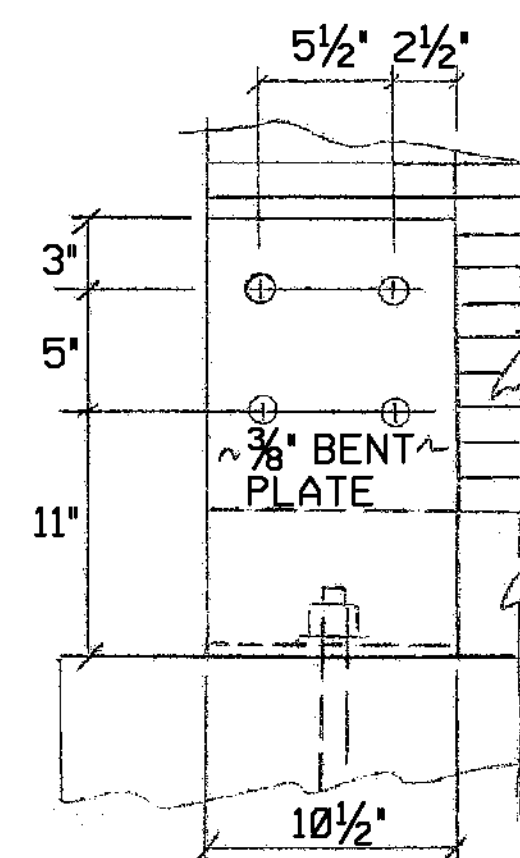
SECTION A-A #
3/4" = 1'-0"

SEE SHEET 16 OF 27 (TRUSS ELEVATION (DOWNSTREAM) WEST END) FOR FURTHER DETAILS.

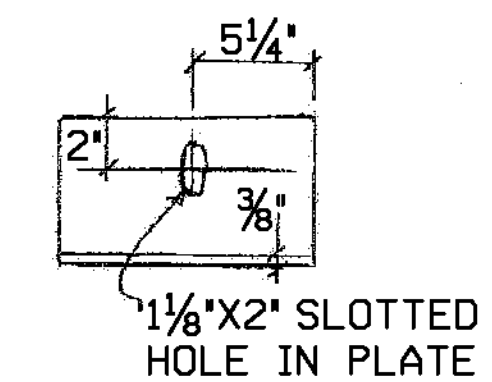


BEARING ELEVATION*
1 1/2" = 1'-0"

*OUTSIDE VIEW, DETAILS SIMILAR @ ALL LOCATIONS

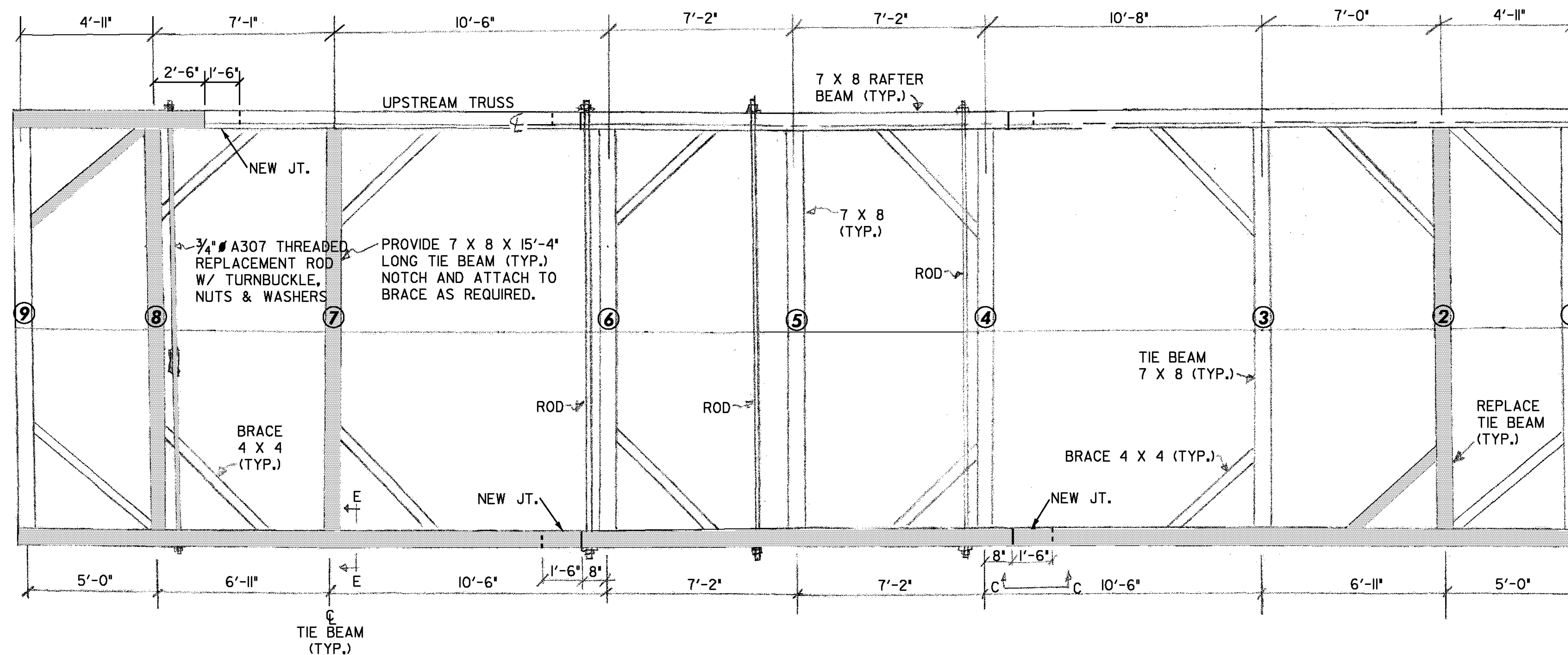
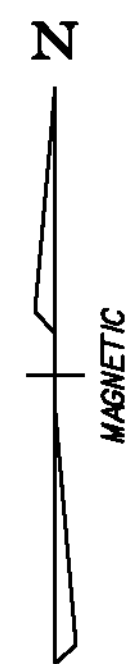


SECTION T-T
1 1/2" = 1'-0"



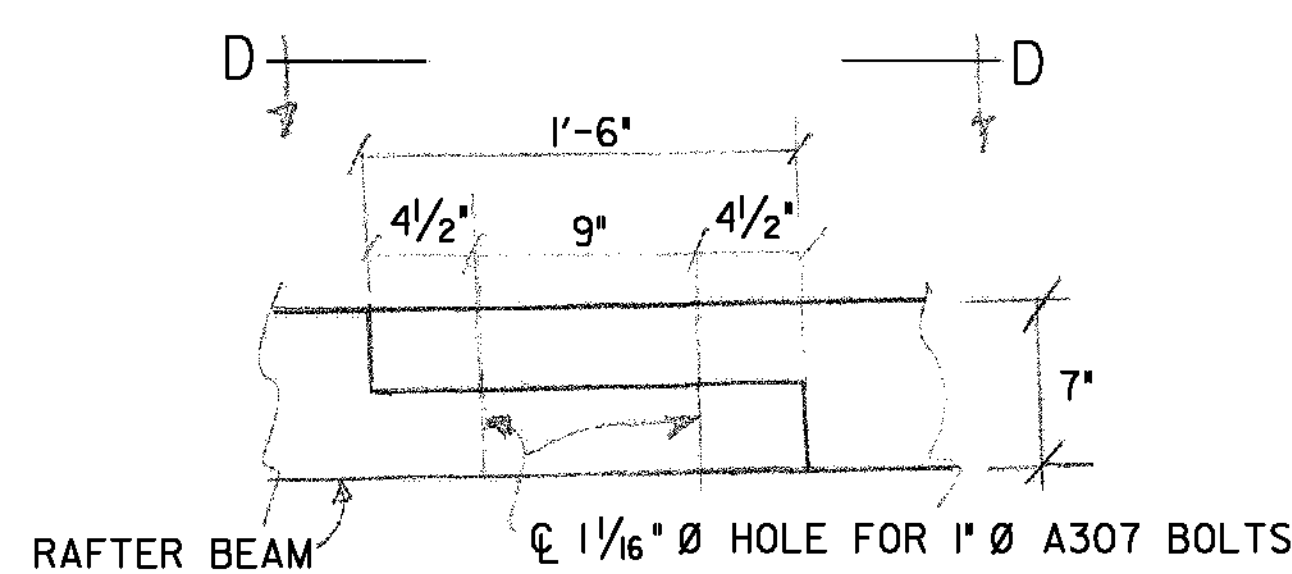
SECTION P-P
1 1/2" = 1'-0"

PROJECT NAME: RANDOLPH	PROJECT NUMBER: BHO 1444(53)
FILE NAME: RandolphDetails.dgn	PROJECT LEADER: M. Sargent
DESIGNED BY: J. Weaver	CHECKED BY: M. Sargent
MISCELLANEOUS DETAILS	
PLLOT DATE: 09-NOV-2010	DRAWN BY: C. Weeber
	CHECKED BY: M. Sargent
	SHEET 18 OF 27

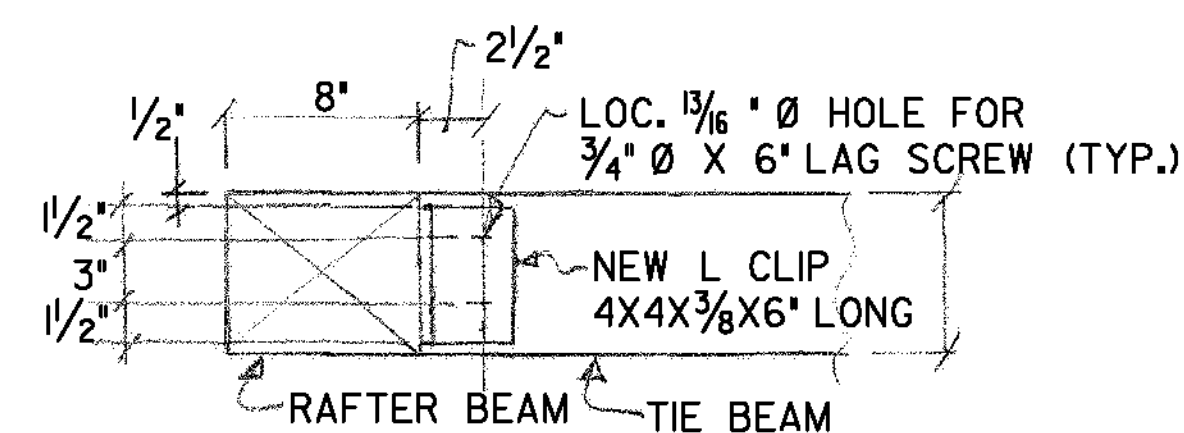


REPLACE
 EXISTING MEMBER

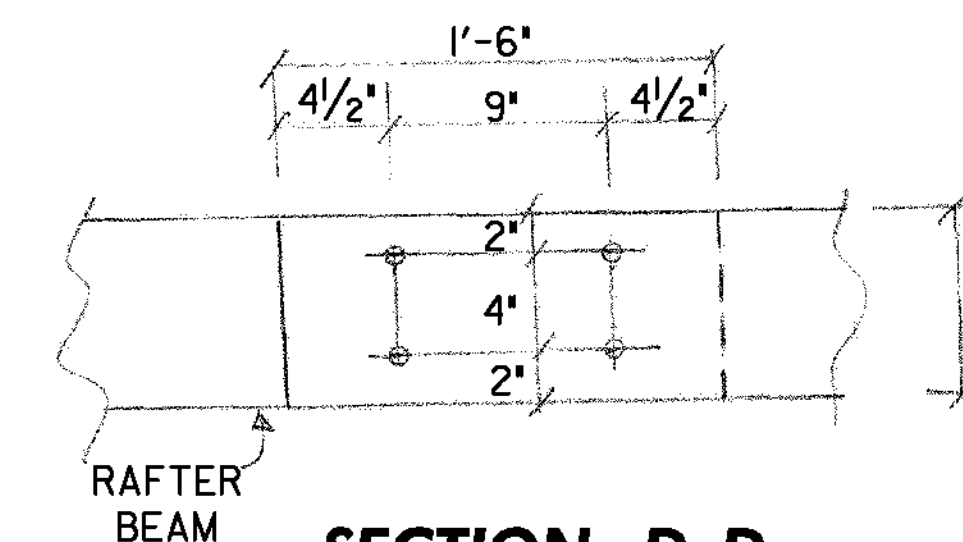
UPPER BRACING
 $3/8" = 1'-0"$



SECTION C-C
 $1 \frac{1}{2}'' = 1'-0''$



SECTION E-E
 $1 \frac{1}{2}'' = 1'-0''$

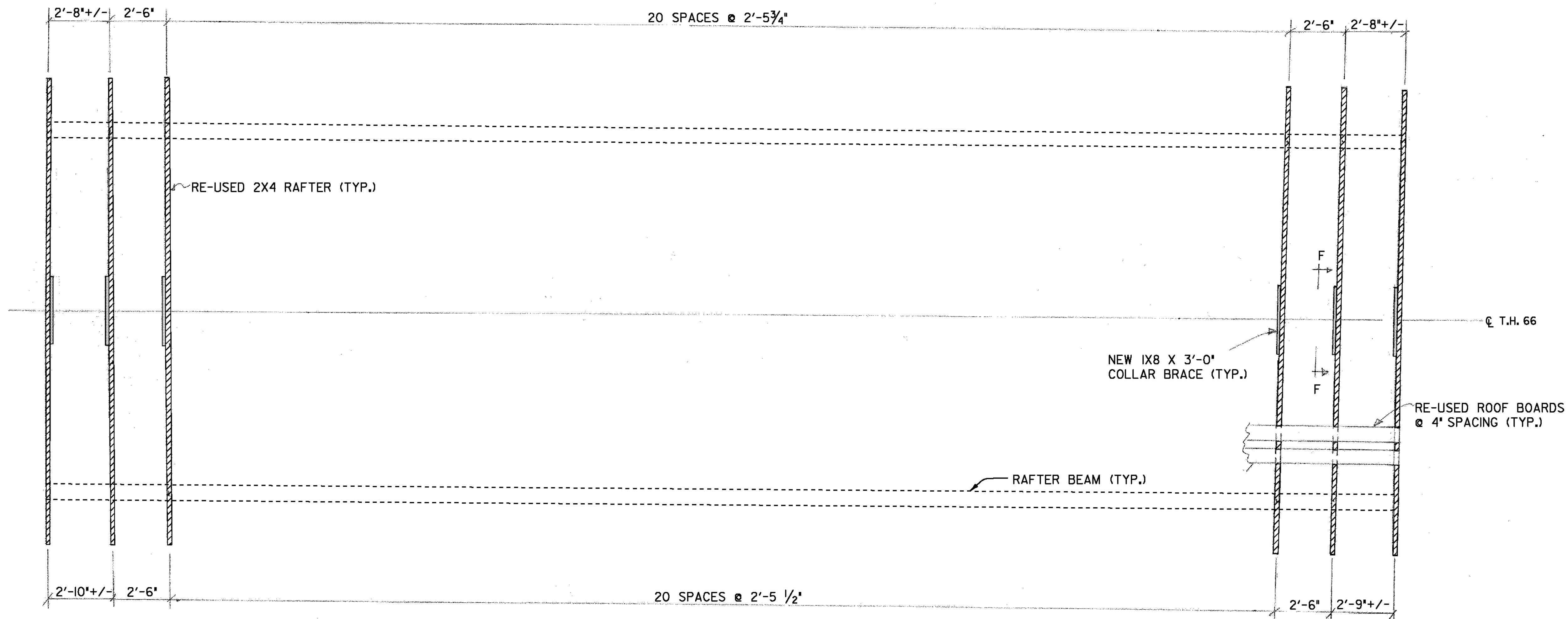


SECTION D-D
 $1 \frac{1}{2}'' = 1'-0''$

PROJECT NAME: RANDOLPH
 PROJECT NUMBER: BHO 1444(53)

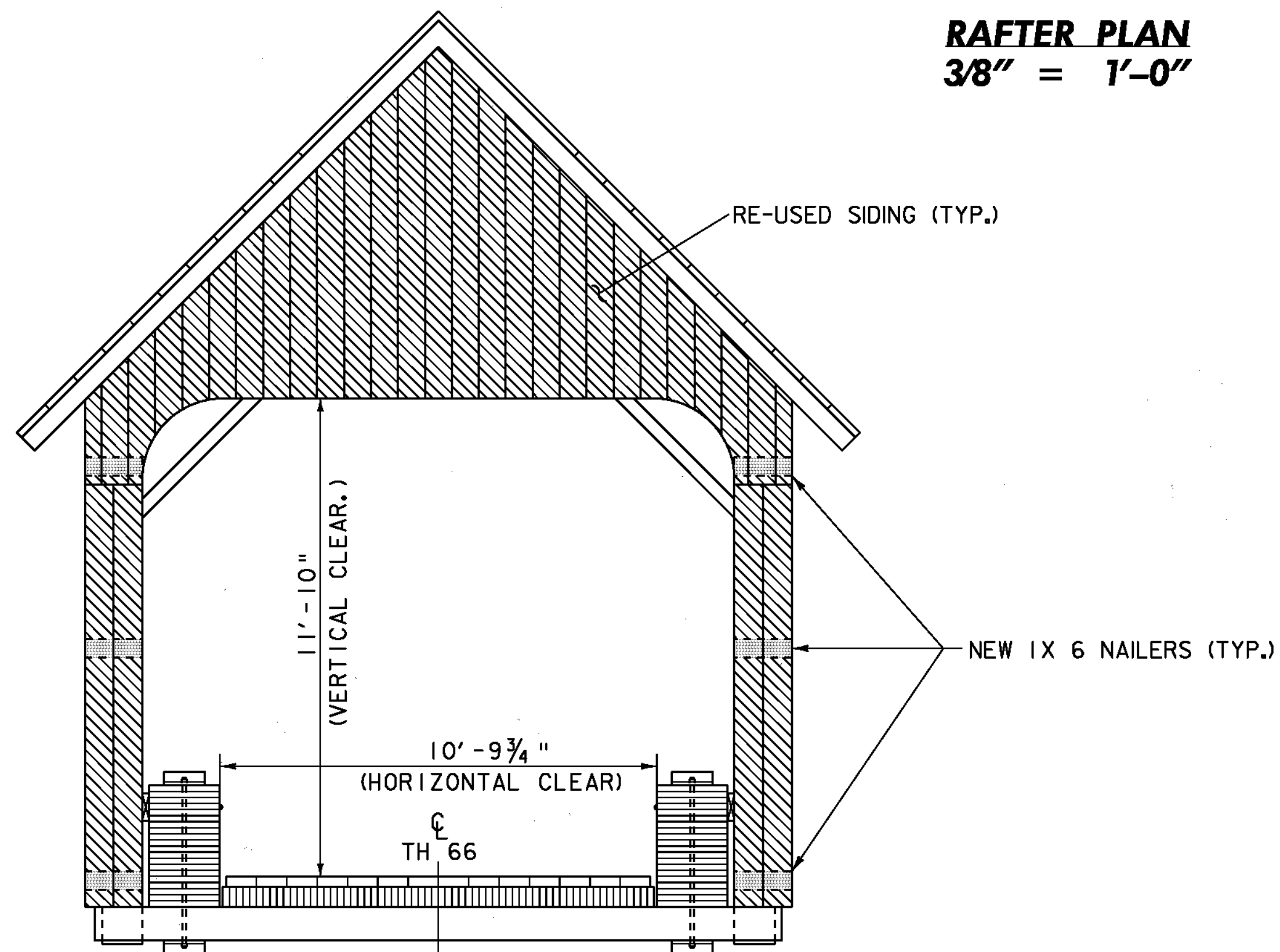
FILE NAME: RandolphDetails.dgn
 PROJECT LEADER: M. Sargent
 DESIGNED BY: J. Weaver
 UPPER BRACING DETAILS

PLOT DATE: 09-NOV-2010
 DRAWN BY: C. Weeber
 CHECKED BY: M. Sargent
 SHEET 19 OF 27

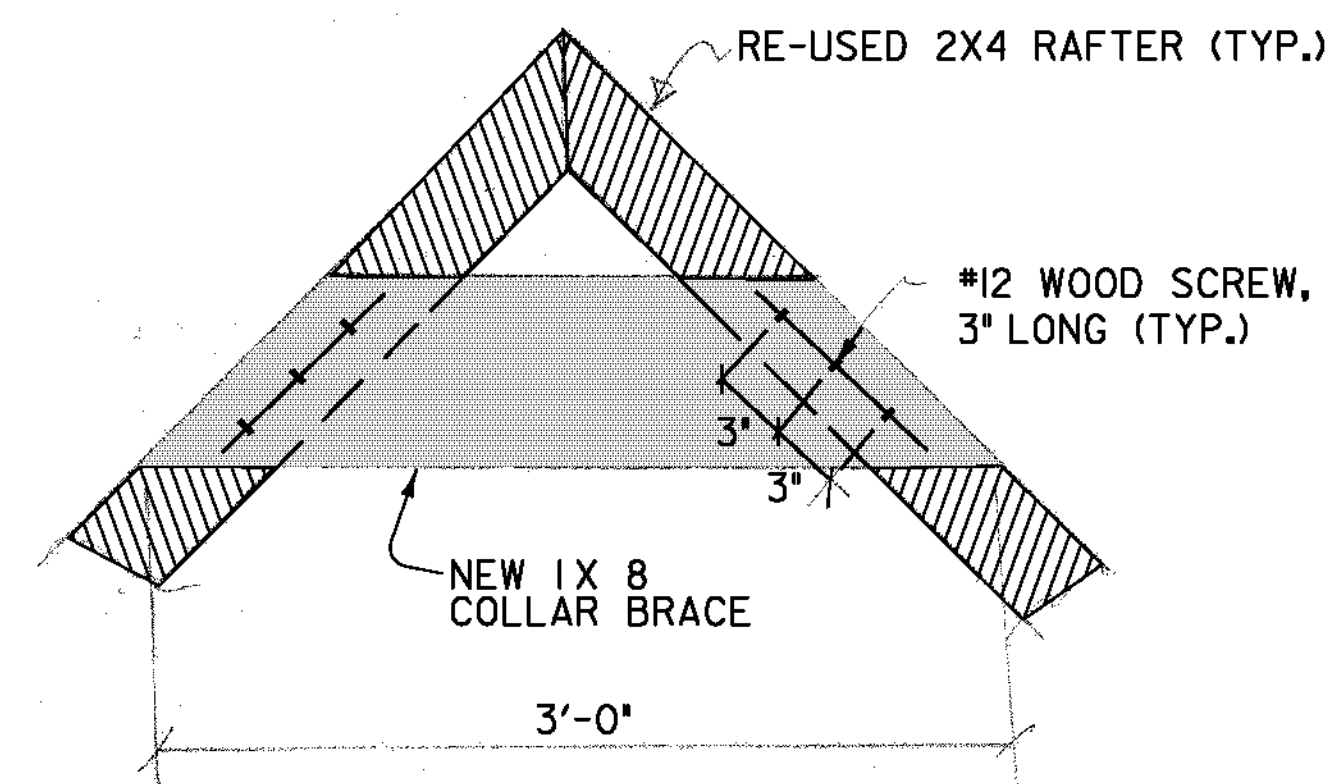


RAFTER PLAN
3/8" = 1'-0"

NEW
 REUSED

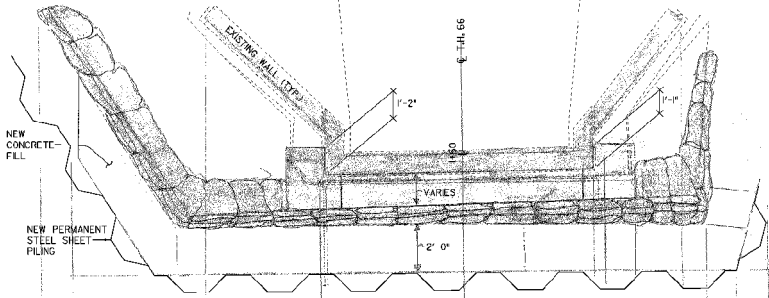


END SECTION (TYP.)
not to scale

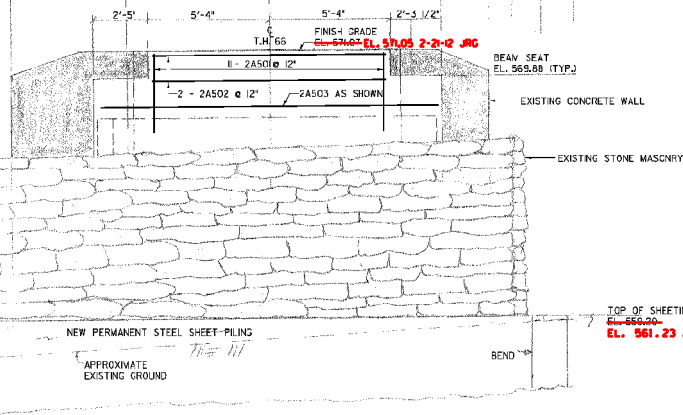


SECTION F-F
1 1/2" = 1'-0"

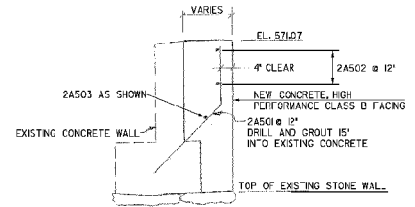
PROJECT NAME: RANDOLPH	PLOT DATE: 09-NOV-2010
PROJECT NUMBER: BHO 1444(53)	DRAWN BY: C. Weeber
FILE NAME: RandolphDetails.dgn	DESIGNED BY: J. Weaver
PROJECT LEADER: M. Sargent	CHECKED BY: M. Sargent
Roof Details	SHEET 20 OF 27



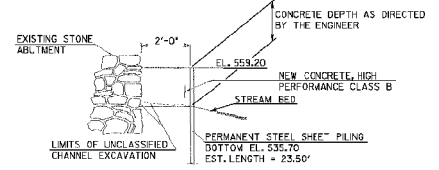
PLAN EAST ABUTMENT
1/2" = 1'-0"



ELEVATION EAST ABUTMENT
1/2" = 1'-0"



TYPICAL SECTION @ EAST ABUTMENT
3/4" = 1'-0"



TYPICAL SECTION SHEET PILING SUPPORT (EAST ABUTMENT)
NTS

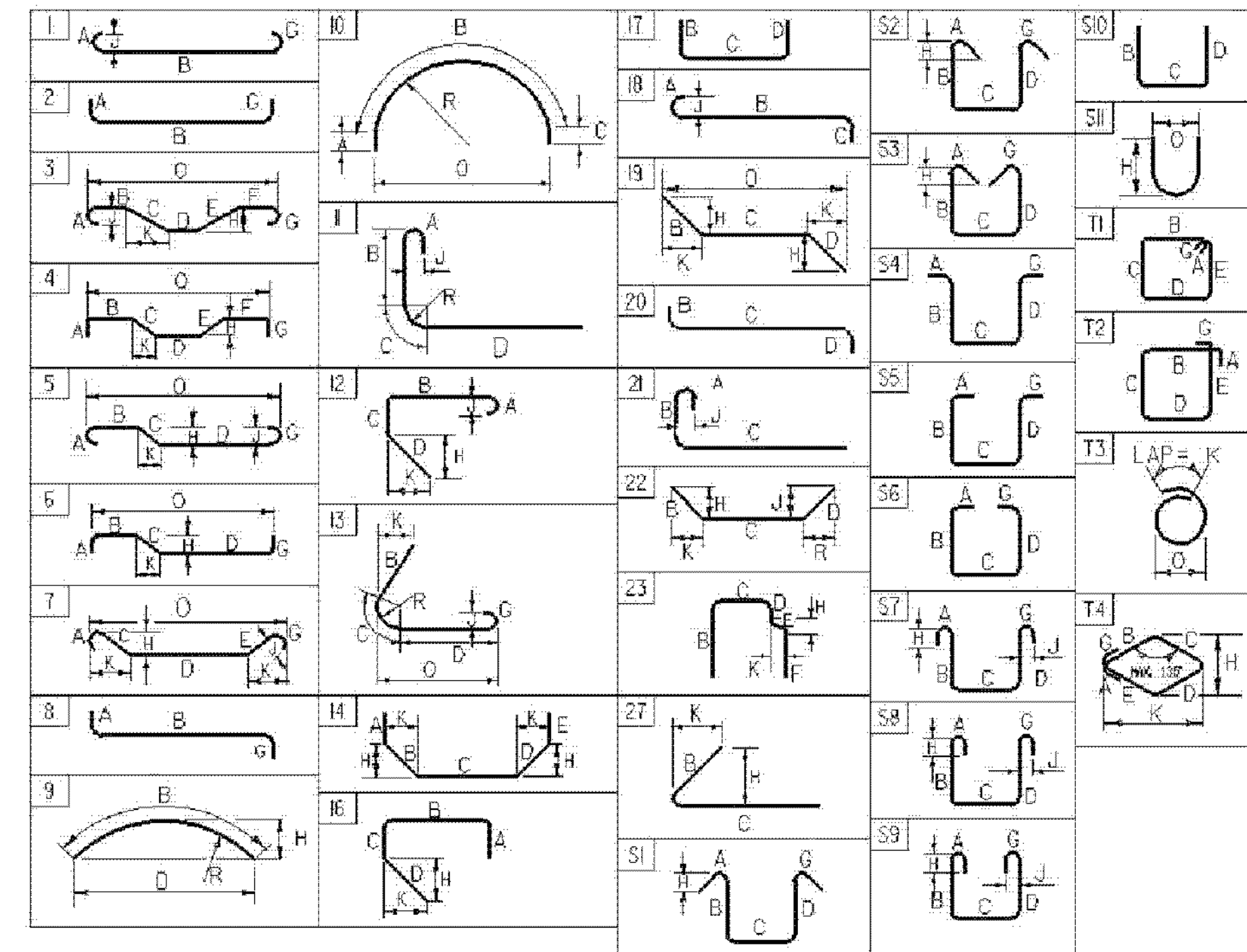
PROJECT NAME	RANDOLPH	PLOT DATE	09-NOV-2010
PROJECT NUMBER	B1-O 1444(53)	DRAWN BY	C. Heeber
FILE NAME	RandolphDetail.dgn	DESIGNED BY	J. Neever
PROJECT LEADER	M. Sargent	CHECKED BY	M. Sargent
ABUTMENT DETAILS		SHEET	21 OF 27

REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O	ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O		
WEST ABUTMENT																																					
	11	5	4'-4"	1A501	12			1'-11"	2'-5"				1'-8"		1'-8"																						
*	3	5	10'-2"	1A502	STR																																
	1	5	14'-8"	1A503	STR																																
EAST ABUTMENT																																					
	11	5	4'-5"	2A501	12			1'-8"	2'-9"				1'-11"		1'-11"																						
*	3	5	10'-2"	2A502	STR																																
	1	5	14'-10"	2A503	STR																																

~ NOTES ~

- UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M31 (ASTM A 615-S1). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
- FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
- BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
- ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
- "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
- "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
- WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
- ▲ DENOTES BARS TO BE CUT IN FIELD.
- * DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
- △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
- E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



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

PROJECT NAME: **Randolph**
 PROJECT NUMBER: **BHO 1444(53)**
 FILE NAME: s06j092RSS.dgn PLOT DATE: 02/11/2010
 PROJECT MANAGER: M. Sargent DRAWN BY: C. Weeber
 DESIGNED BY: J. Weaver CHECKED: M. Sargent
REINFORCING STEEL SCHEDULE SHEET SHEET 23 OF 27

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

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 1/8" I.D. Sampler
Hammer Weight Of 140 Lbs.
Hammer Fall Of 30"
- VS Field Vane Shear Test
- US Undisturbed Soil Sample
- B Blast
- DC Diamond Core
- MD Mud Drill
- WA Wash Ahead
- HSA Hollow Stem Auger
- AX Core Size 1 1/8"
- BX Core Size 1 5/8"
- NX Core Size 2 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 To 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)

ROCK QUALITY DESIGNATION

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

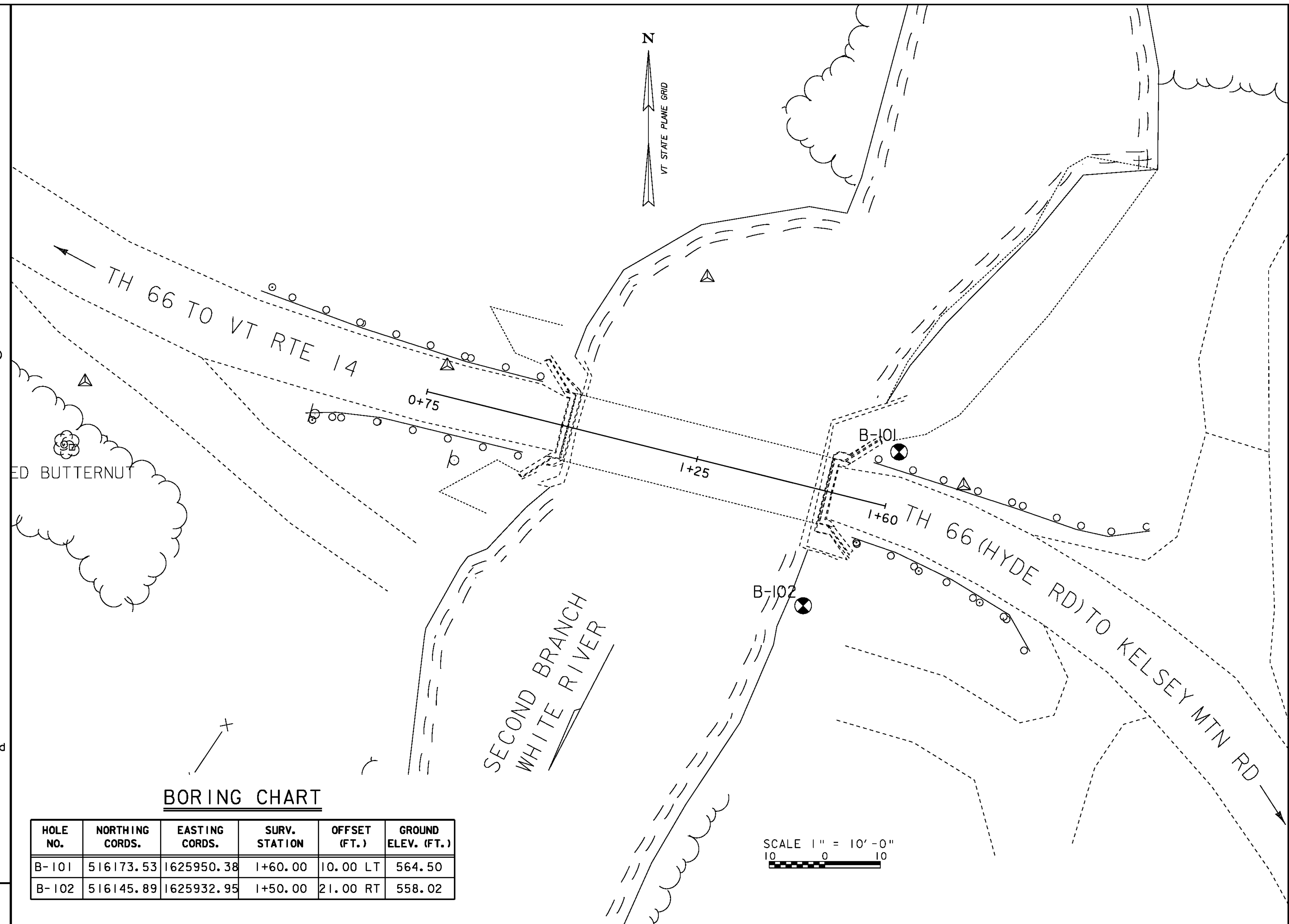
SHEAR STRENGTH

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

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

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

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



BORING CHART

HOLE NO.	NORTHING CORDS.	EASTING CORDS.	SURV. STATION	OFFSET (FT.)	GROUND ELEV. (FT.)
B-101	516173.53	1625950.38	I+60.00	10.00 LT	564.50
B-102	516145.89	1625932.95	I+50.00	21.00 RT	558.02

DEFINITIONS (AASHTO)

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

GENERAL NOTES

1. The subsurface explorations shown herein were made between 6/24/09 and 6/26/09 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgement 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 judgement by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of RANDOLPH	Bridge No. 34
Highway No. TJ.66	Log Sta.
	Surv. Sta.
BORING INFORMATION SHEET	
Designed By J.WEAVER	Drawn By C.WEEBER
Checked By M.Sargent	Bridge Design Supervisor M.SARGENT
PROJECT RANDOLPH	PROJECT NO. BHO 1444(53)
I.G.C. Info.	
Bridge Sheet No.	Sheet 24 of 27

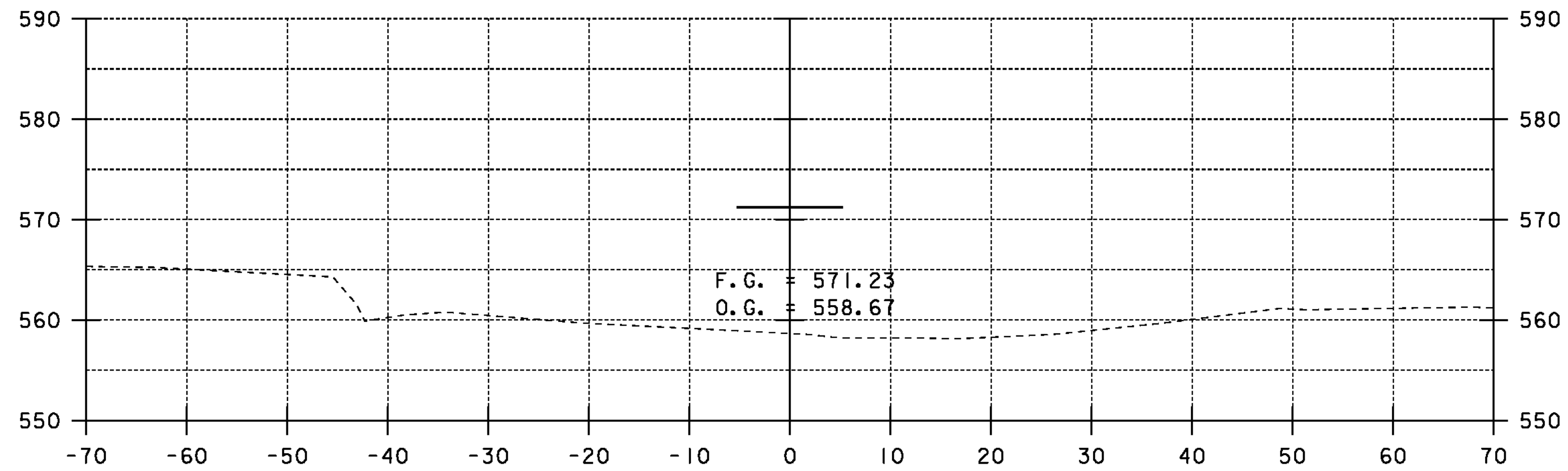
VTTrans		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING NUMBER: B-101 SHEET 1 of 1 DATE STARTED: 6/26/09 DATE COMPLETED: 6/26/09			
PROJECT NAME: RANDOLPH SITE NAME: TH-66 STATION: 1+60 OFFSET: -10.00 VTSPG NAD83: N 516173.53 ft E 1625950.38 ft		PROJECT NUMBER: BHO 1444(53) SITE NUMBER: BR-34 GROUND ELEVATION: 564.5 ft GROUNDWATER DEPTH: 8.3 ft PROJECT PIN NUMBER: 06J092		6/29/09			
BORING CREW CREW CHIEF: GARROW DRILLER: GARROW LOGGER: MAHMUTOVIC		BORING RIG: SMALL SKID RIG BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL CHECKED BY: NSM					
DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		A-1-b, GrSa, gry, Moist, Rec. = 0.5 ft	7	9.1	39.0	42.5	18.5
		A-4, SiSa, brn, MTW, Rec. = 1.0 ft	4	22.0	16.4	46.0	37.6
5		Field Note: No Recovery. Appears to be Sand	9				
		Field Note: No Recovery. Appears to be Sand	5				
		A-4, SaSi, brn, Wet, Rec. = 0.9 ft	4	37.8	0.0	36.0	64.0
10		Visual Classification, SiGrSa, brn, Wet, Rec. = 0.5 ft	16				
15		A-4, SaSi, brn, Wet, Rec. = 1.0 ft	11	27.5	5.0	41.2	53.8
20		A-4, SaSi, brn, Wet, Rec. = 1.1 ft	12	28.2	2.9	47.7	49.4
25		A-2-4, SiSa, brn, Wet, Rec. = 1.5 ft	7	31.8	2.8	72.2	25.0
30		A-4, SiSa, brn, Wet, Rec. = 1.3 ft	11	29.5	5.4	53.9	40.7
35		A-2-4, SiSa, gry, Wet, Rec. = 1.4 ft	11	23.9	0.0	68.2	31.8
		A-2-4, SiSa, gry, Wet, Rec. = 1.7 ft	16	22.2	0.0	67.8	32.2
40		Hole stopped @ 40.0 ft					
45		DRILLER'S NOTES: 1. No ledge to depth.					

LOG OF BORING RANDOLPH, BHO 1444(53), PJ. VT, ADT.GBT 8/29/09

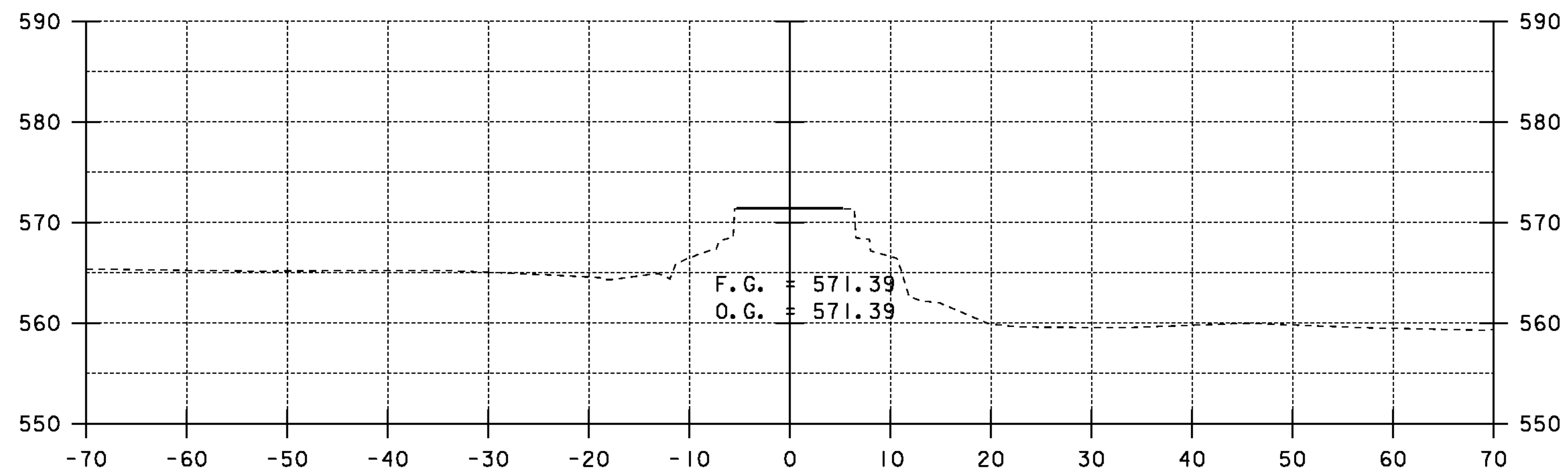
VTTrans		STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH SECTION SUBSURFACE INFORMATION		BORING NUMBER: B-102 SHEET 1 of 1 DATE STARTED: 6/24/09 DATE COMPLETED: 6/25/09			
PROJECT NAME: RANDOLPH SITE NAME: TH-66 STATION: 1+50 OFFSET: 21.00 VTSPG NAD83: N 516145.89 ft E 1625932.95 ft		PROJECT NUMBER: BHO 1444(53) SITE NUMBER: BR-34 GROUND ELEVATION: 558.02 ft GROUNDWATER DEPTH: 2.3 ft PROJECT PIN NUMBER: 06J092		6/29/09			
BORING CREW CREW CHIEF: GARROW DRILLER: GARROW LOGGER: MAHMUTOVIC		BORING RIG: LARGE SKID RIG w/AUTO HAMMER BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL CHECKED BY: NSM					
DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		A-4, SiSa, blk, Moist, Rec. = 0.7 ft	3	29.2	5.0	49.8	45.2
		A-2-4, SiSa, blk, MTW, Rec. = 0.6 ft	5	32.9	2.0	68.5	29.5
5		A-2-4, SiSa, blk, Wet, Rec. = 0.9 ft	7	27.2	12.4	65.1	22.5
		Field Note: No Recovery, Appears to be SaSi	13				
		A-4, SaSi, gry, Wet, Rec. = 1.5 ft	8	24.1	6.0	26.0	68.0
10		Field Note: No Recovery, Appears to be SaSi	10				
15		A-2-4, SiSa, gry, Wet, Rec. = 1.0 ft	6	25.1	0.0	71.2	28.8
20		A-4, Si, gry, Wet, Rec. = 1.3 ft, Roller coned ahead.	3	31.3	0.4	9.2	90.4
25		A-4, SiSa, gry, Wet, Rec. = 1.4 ft, Roller coned ahead.	8	25.4	0.0	52.7	47.3
30		A-2-4, Sa, gry, Wet, Rec. = 1.5 ft	10	19.4	5.0	76.3	18.7
35		Field Note: No Recovery					
		Interbedded dark gray, Biotite Phyllite, and meta-limestone. Competent, Moderately hard, Unweathered, BXMDC, 35.2 ft - 40.2 ft, Rec. = 4.0 ft	R	80	78	75	8
40		Hole stopped @ 40.2 ft					8
45							10
							10
							10

LOG OF BORING RANDOLPH, BHO 1444(53), PJ. VT, ADT.GBT 8/29/09

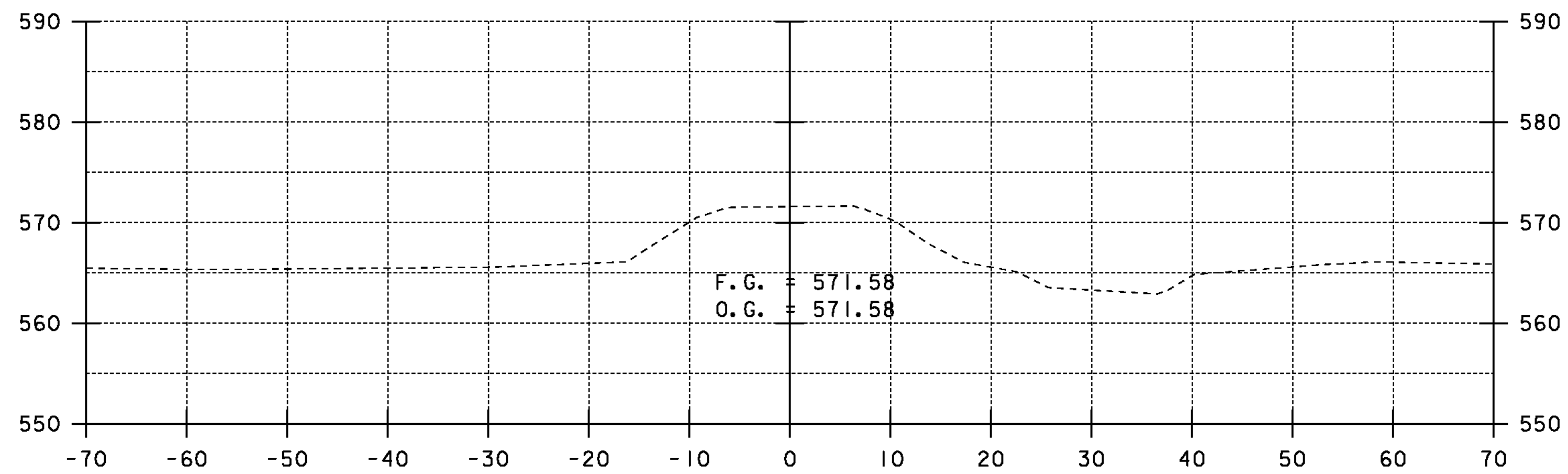
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PROJECT NUMBER: BHO 1444(53)
FILE NAME: s06J092bor-ings.dgn
PROJECT LEADER: M. SARGENT
DESIGNED BY: J. WEAVER
SUBSURFACE INFORMATION
PLOT DATE: 09-NOV-2010
DRAWN BY: C. Weeber
CHECKED BY: M. Sargent
SHEET 25 OF 27



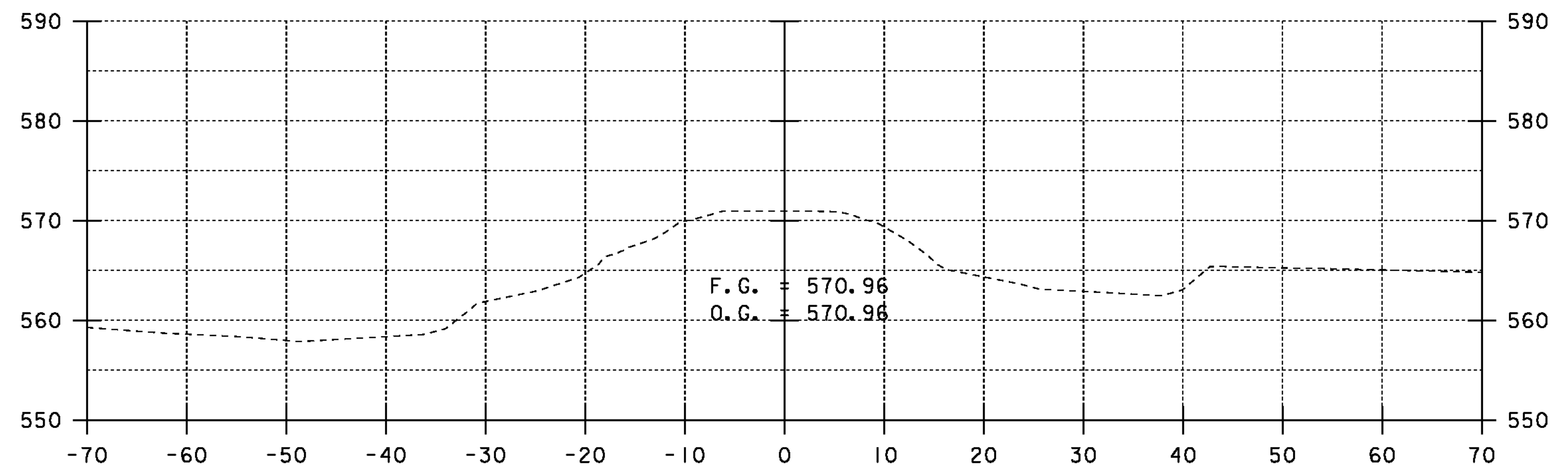
1+25



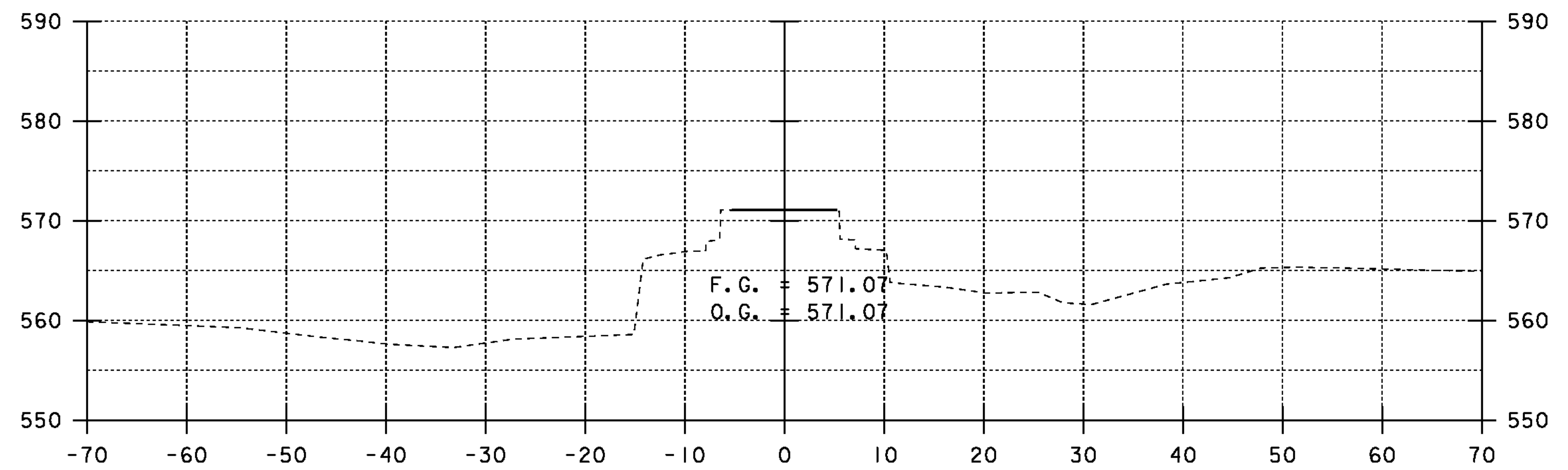
1+00
BEGIN PROJECT
BEGIN BRIDGE



0+75



1+60



1+50
END PROJECT / END BRIDGE

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

STA. 0+75 TO STA. 1+60

PROJECT NAME: RANDOLPH	PLOT DATE: 09-NOV-2010
PROJECT NUMBER: BHO 1444(53)	DRAWN BY: C. WEEBER
FILE NAME: s06J092xs.dgn	CHECKED BY: M. SARGENT
PROJECT LEADER: M. SARGENT	SHEET 27 OF 27
DESIGNED BY: J. WEAVER	
ROADWAY CROSS SECTIONS	