* SEE SHEET 8 FOR AN INDEX OF SHEETS AND LIST OF STANDARDS.

RECORD PLANS	
CONTRACTOR:	RENAUD BROTHERS, INC. – VERNON, VT
RESIDENT ENGINEER:	DARYL BASSETT
CONSTRUCTION BEGAN:	DECEMBER 13, 2010
CONSTRUCTION COMPLETE:	JUNE 5, 2013
RECORD PLANS BY:	DARYL BASSETT, NICK GARBACIK & P. BANNERMAN

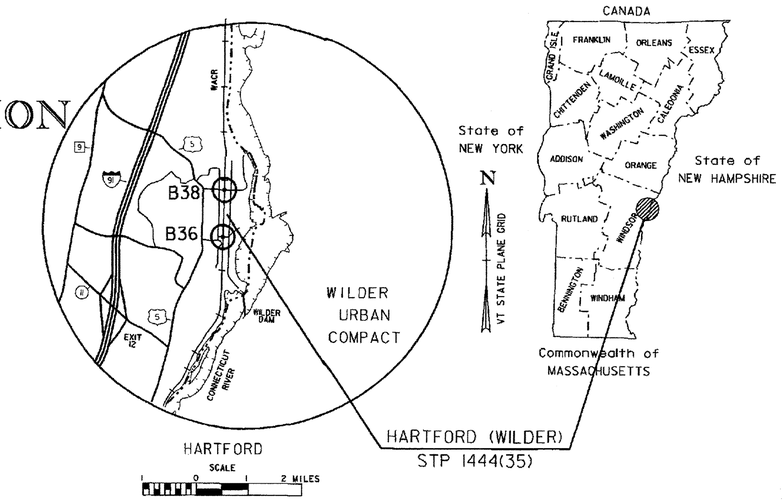
I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.

BY _____ RESIDENT ENGINEER

DATE 2/12/15

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.

STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF HARTFORD (WILDER)
COUNTY OF WINDSOR

ROUTE NO : TH 29, CLASS 3 (LOCAL) BRIDGE NO : 38

PROJECT LOCATION : BEGINNING AT A POINT ON TH 29 APPROXIMATELY 125 FEET EAST OF THE INTERSECTION OF TH 29 AND TH 30 AND PROGRESSING EASTERLY ALONG TH 29 FOR 125 FEET. PASSING OVER WACR CONN RIVER DIVISION

PROJECT DESCRIPTION : THIS PROJECT SHALL CONSIST OF THE REHABILITATION OF THE HISTORIC SINGLE SPAN STEEL PONY TRUSS BRIDGE WHICH CARRIES TH 29 OVER THE WASHINGTON COUNTY RAILROAD (CONNECTICUT RIVER LINE).

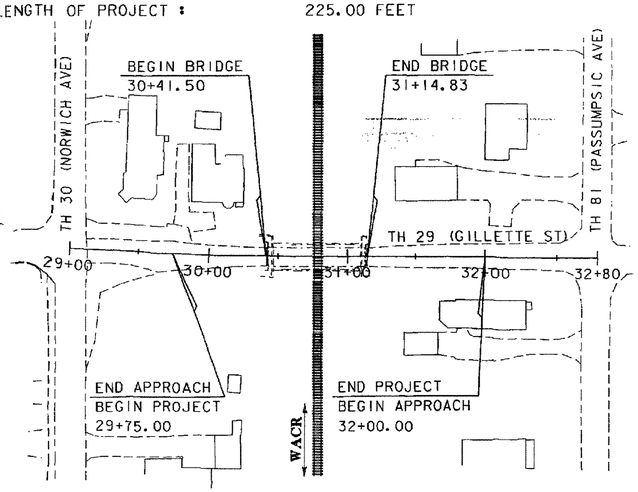
LENGTH OF STRUCTURE : 73.33 FEET
LENGTH OF ROADWAY : 151.67 FEET
LENGTH OF PROJECT : 225.00 FEET

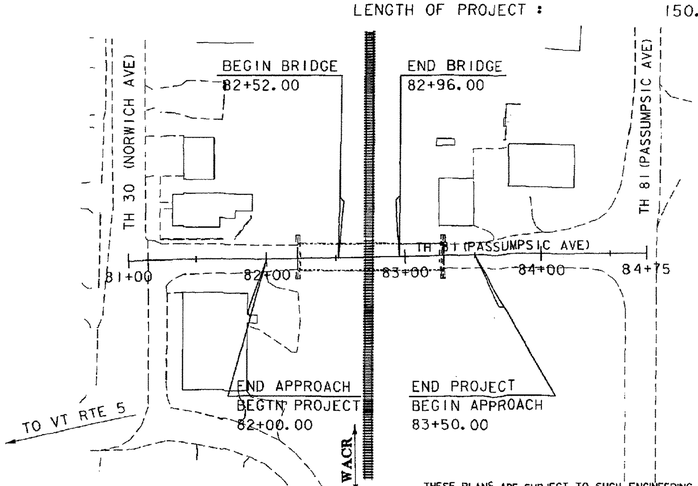
ROUTE NO : TH 81, CLASS 3 (LOCAL) BRIDGE NO : 36

PROJECT LOCATION : BEGINNING AT A POINT ON TH 81 APPROXIMATELY 75 FEET EAST OF THE INTERSECTION OF TH 81 AND TH 30 AND PROGRESSING EASTERLY ALONG TH 81 FOR 200 FEET. PASSING OVER WACR CONN RIVER DIVISION

PROJECT DESCRIPTION : THE PROJECT SHALL CONSIST OF REPLACING THE EXISTING WOODEN BRIDGE WITH A SINGLE SPAN BRIDGE WHICH CARRIES TH 81 OVER THE WASHINGTON COUNTY RAILROAD (CONNECTICUT RIVER LINE).

LENGTH OF STRUCTURE : 44.00 FEET
LENGTH OF ROADWAY : 106.00 FEET
LENGTH OF PROJECT : 150.00 FEET







QUALITY ASSURANCE PROGRAM: LEVEL 2

CONVENTIONAL SYMBOLS

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

SURVEYED BY :	GILMAN & WINTER
SURVEYED DATE :	MAY 2003

DATUM

VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (92)

SCALE 1" = 50'-0
50 0 50

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.

s96j0701title.dgn PLOTTED 16-JUN-2010

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE 6-17-10

PROJECT MANAGER : KRISTIN HIGGINS

PROJECT NAME : HARTFORD (WILDER)
PROJECT NUMBER : STP 1444(35)

SHEET 1 OF 69 SHEETS

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AND ITS LATEST REVISIONS, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION, DATED 2007 AND ITS LATEST REVISIONS.

2. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT UNLESS OTHERWISE NOTED.

3. THE CORRESPONDING 529.20 PARTIAL REMOVAL OF STRUCTURE ITEMS SHALL INCLUDE THE REMOVAL AND DISPOSAL OF ANY COMPONENTS ASSOCIATED WITH THE EXISTING BRIDGES NECESSARY TO PERFORM THE REQUIRED WORK.

4. SEE THE RAILROAD AGREEMENT FOR RESTRICTIONS ON WORKING WITHIN THE RAILROAD ROW FOR THIS PROJECT.

BRIDGE 36 SITE

5. STONE ORNAMENTS LOCATED NEAR STATION 83+60 LT SHALL BE MOVED TO A LOCATION SUITABLE TO THE PROPERTY OWNER. THIS WORK SHALL BE INCIDENTAL TO OTHER ITEMS IN THE CONTRACT.

6. THE CONTRACTOR SHALL CONSTRUCT A TRENCH DRAIN FOR THE DRIVE AT STATION 83+50 LT. AFTER INSTALLATION OF THIS DRAIN, THE CONTRACTOR SHALL REPAIR THE DRIVE AND PAVE AS REQUIRED TO MATCH INTO THE DRAIN. THIS WORK SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 900.640 SPECIAL PROVISION (TRENCH DRAIN). THE GRATE DESIGN SHALL HAVE AN INFLOW CAPACITY (LINEAR INFLOW PER FOOT) OF 10 GPM, AND SHALL BE RATED CLASS "C" FOR LOADING.

7. AN ARCHEOLOGICALLY SENSITIVE AREA WAS DEFINED NEAR THIS SITE AND DELINEATED ON SHEET 68 IN THE PLANS. THIS PROJECT WAS CLEARED FOR CONSTRUCTION WITH THE PROVISION THAT THIS DELINEATED AREA NOT BE DISTURBED.

BRIDGE 38 SITE

8. THE CONTRACTOR SHALL WORK WITH THE PROPERTY OWNER TO DETERMINE AN EXACT CONFIGURATION AND LOCATION FOR THE RETAINING WALL LOCATED AT STATION 30+20 LEFT. THE TOP 6" OF THE PLANTER SHALL BE FILLED WITH TOPSOIL AND WILL BE PAID FOR UNDER ITEM 651.35 TOPSOIL.

9. THE CONTRACTOR SHALL TAKE CARE TO NOT DISTURB THE BLOCK WALL AT STATION 31+40 RT. IF THE WALL IS DISTURBED, THE CONTRACTOR SHALL REPAIR OR REPLACE THE WALL TO THE SATISFACTION OF THE PROPERTY OWNER. THIS WORK SHALL BE INCIDENTAL TO OTHER ITEMS IN THE CONTRACT.

10. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE PORTION OF THE RETAINING WALL NEAR STATION 31+50 TO 31+75 LT WITHIN THE RIGHT OF WAY AND TO THE OWNERS' SATISFACTION. THE COST FOR PERFORMING THIS WORK SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 203.17 UNCLASSIFIED EXCAVATION.

UTILITIES

11. TOWN RECORDS SHOW A 1949 8" ASBESTOS CEMENT WATER LINE BURIED ON THE NORTH SIDE OF GILLETTE ST. THIS WATER LINE SHALL NOT BE DISTURBED. ITEM 204.22 TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.) HAS BEEN INCLUDED IN THE CONTRACT TO PAY FOR ANY WORK REQUIRED TO LOCATE THIS WATER LINE.

12. TOWN RECORDS ALSO SHOW A MANHOLE NEAR STA 30+25. IF THIS STRUCTURE IS ENCOUNTERED AND NEEDS TO BE REMOVED, IT SHALL BE PAID FOR UNDER ITEM 204.21 TRENCH EXCAVATION OF ROCK.

TRAFFIC CONTROL - BR 36 & BR 38

13. AS PART OF THE 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE) ITEM, THE CONTRACTOR SHALL SUBMIT A SITE SPECIFIC TRAFFIC CONTROL PLAN TO THE ROADWAY, TRAFFIC, AND SAFETY ENGINEER FOR APPROVAL PER SUBSECTION 105.03. SEE SPECIAL PROVISIONS.

14. FULL ACCESS TO ALL SIDE ROADS AND DRIVES WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES. THIS WILL NOT BE PAID DIRECTLY BUT WILL BE INCLUDED IN THE BID PRICE FOR THE ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).

15. UNRESTRICTED TRAFFIC ACCESS BETWEEN NORWICH AVENUE AND PASSUMPSIC AVENUE SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. INDIVIDUAL BRIDGES MAY BE CLOSED AT TIMES DURING THE PROJECT WITH APPROPRIATELY SIGNED DETOURS.

SPECIAL PROVISION (DESIGN AND CONSTRUCT BRIDGE)

16. ALL BRIDGE COMPONENTS THAT FALL WITHIN THE LIMITS SHOWN ON THE PLANS FOR BRIDGE 36 SHALL BE PAID FOR UNDER ITEM 900.645 SPECIAL PROVISION (DESIGN AND CONSTRUCT BRIDGE).

17. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF THE SUPERSTRUCTURE BETWEEN THE DRIP BEADS.

18. ALL COSTS ASSOCIATED WITH CONSTRUCTING THE CURB AND SIDEWALK SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 900.645 SPECIAL PROVISION (DESIGN AND CONSTRUCT BRIDGE).

19. NO SALVAGED MATERIALS OR COMPONENTS FROM EXISTING OR PREVIOUS STRUCTURES SHALL BE ALLOWED IN THE FINISHED AND ACCEPTED BRIDGE.

20. FABRICATION DRAWINGS SHALL INCLUDE THE LOCATION OF ANY HOLES OR ANCHORS THAT NEED TO BE INSTALLED TO SUPPORT THE WATER LINE. SEE UTILITIES SHEETS.

21. ANY SUBBASE AND SIDEWALK INCLUDED WITHIN BRIDGE LIMITS SHOW ON THE PLANS RESULTING FROM A PROPOSED BRIDGE LENGTH SHORTER THAN THE ASSUMED BRIDGE LENGTH DETAILED IN THE PLANS SHALL PAID FOR UNDER ITEM 900.645 SPECIAL PROVISION (DESIGN AND CONSTRUCT BRIDGE). ANY QUANTITY OF THESE ITEMS PLACED WITHIN THE BRIDGE LIMITS SHOWN ON THE PLANS SHALL BE PLACED AT THE DEPTHS AND WIDTHS SHOWN IN THE PLANS AT BEGINNING AND ENDING STATIONS OF THE BRIDGE LIMITS.

22. THE DESIGN OF BRIDGE 36 SHALL MEET THE REQUIREMENTS OF THE SPECIAL PROVISIONS FOR ITEM 900.645 SPECIAL PROVISION (DESIGN AND CONSTRUCT BRIDGE) AND THE FOLLOWING REQUIREMENTS:

DESIGN LIFE	75 YEARS
MAXIMUM ALLOWABLE HEADWATER ELEVATION	N/A
MAXIMUM ALLOWABLE VELOCITY THOUGH THE STRUCTURE	N/A
TAILWATER DEPTH USED FOR DESIGN	N/A
MINIMUM REQUIRED OPEN-END AREA	SEE SHEET 19
BEARING CAPACITY TO BE USED FOR THE DESIGN OF THE FOUNDATION, AT THE REQUIRED LOCATION	SEE SHEET 4
DESIGN YEAR ADT	SEE SHEET 8
DESIGN YEAR PERCENT TRUCKS	SEE SHEET 8
TYPICAL ROADWAY SECTION	2-9-9-2 TYPICAL WITH A 5 FOOT SIDEWALK (SEE SHEET 10)
ROADWAY PROFILE AND ELEVATION	SEE SHEET 12
REQUIRED CLEARANCE ENVELOPE, BEARING CAPACITY AND ROADWAY PROFILE FOR TUNNELS OR UNDERPASS STRUCTURES	SEE SHEET 19

A. THE BRIDGE SHALL BE DESIGNED FOR THE BRIDGE RAIL SHOWN ON THE PLANS. NO ALTERNATIVE TO THIS RAIL SHALL BE ALLOWED. PAYMENT FOR THE BRIDGE RAIL SHALL BE INCLUDED UNDER THE APPROPRIATE 525 RAILING ITEM.

B. THE BRIDGE DECK SHALL BE CONCRETE. IN THE ABSENCE OF A DISCRETE DECK, THE TOP OF THE SUPERSTRUCTURE ELEMENTS SHALL BE CONCRETE AND WILL BE CONSIDERED THE DECK FOR THIS PURPOSE. THE DECK SHALL BE PAVED.

C. LIVE LOAD DEFLECTION PER SECTION 2.5.2.6.2 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SHALL BE LIMITED TO SPAN/1000 FOR VEHICULAR AND/OR PEDESTRIAN LOADS.

D. MINIMUM RESIDUAL CAMBER SHALL BE PROVIDED PER THE STRUCTURES DESIGN MANUAL. MINOR ADJUSTMENTS MAY BE ALLOWED AT THE DISCRETION OF THE ENGINEER.

E. THE ABUTMENTS HAVE BEEN DESIGNED FOR THE LOADS LISTED ON SHEET 4. IF THE LOADS OR ABUTMENT CONFIGURATION IS MODIFIED BY THE PROPOSED DESIGN, THE ABUTMENTS AND RETAINING WALL SHALL BE REDESIGNED ACCORDINGLY.

CONCRETE - BRIDGE 38

23. THE CONCRETE IN THE DECK FOR BRIDGE 38 SHALL BE SPECIFIED BY THE HALF-FILLED GRID DECK MANUFACTURER AND MEET THE REQUIREMENTS OF HIGH PERFORMANCE LIGHTWEIGHT CONCRETE OF SECTION 900. THE COST FOR THIS CONCRETE SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 900.670 SPECIAL PROVISION (HALF-FILLED GRID DECK).

24. THE CONCRETE FOR THE CURBS AND SIDEWALK ON THE BRIDGE SHALL MEET THE REQUIREMENTS OF HIGH PERFORMANCE LIGHTWEIGHT CONCRETE OF SECTION 900 BUT HAVE A DRY UNIT WEIGHT NO GREATER THAN 110 PCF.

25. UNLESS OTHERWISE NOTED, ALL OTHER CONCRETE ON BRIDGE 38 SHALL BE CONCRETE, HIGH PERFORMANCE CLASS B.

26. THE DECK FOR BRIDGE 38 IS TO BE POURED IN ONE CONTINUOUS POUR WITH A MAXIMUM DURATION OF EIGHT (8) HOURS. IF CIRCUMSTANCES BEYOND THE CONTRACTOR'S CONTROL PREVENT THIS FROM BEING ACCOMPLISHED, A TRANSVERSE CONSTRUCTION JOINT SHALL BE USED BETWEEN ADJACENT POURS. A MINIMUM 96 HOUR DELAY BETWEEN ADJACENT POURS SHALL BE OBSERVED.

27. THE DECK PANELS ON BRIDGE 38 SHALL BE FABRICATED AND INSTALLED TO ACCOMMODATE THE FINISH GRADE ELEVATIONS DUE TO THE VERTICAL CURVE AND CROSS SLOPE WITHOUT EXCEEDING THE WEIGHT CRITERIA LISTED IN NOTE 29 AND WITHOUT VIOLATING THE MANUFACTURER'S APPROVED INSTALLATION PROCEDURES.

28. SHEAR CONNECTORS SHALL BE PROVIDED ON ALL FLOORBEAMS ON BRIDGE 38. THE HALF-FILLED GRID DECK MANUFACTURER SHALL BE RESPONSIBLE FOR DETERMINING THE TYPE, SIZE AND SPACING. THE COST FOR THE SHEAR CONNECTORS SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 900.670 SPECIAL PROVISION (HALF-FILLED GRID DECK).

29. THE STRUCTURAL GRID AND CONCRETE SYSTEM, EXCLUDING THE HAUNCHES AND INTEGRAL WEARING SURFACE, SHALL NOT WEIGH MORE THAN 60 LB/SQ FT AND SHALL NOT BE DEEPER THAN 9 INCHES.

30. ANY FALSEWORK REQUIRED TO CONSTRUCT THE DECK SECTIONS ON BRIDGE 38 SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE DESIGN AND WORKING DRAWINGS SHALL BE SUBMITTED IN ACCORDANCE WITH SECTION 105.

31. SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTHED WITH A MAGNESIUM FLOAT.

32. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF THE SUPERSTRUCTURE BETWEEN THE DRIP BEADS.

STRUCTURAL STEEL - BRIDGE 38

33. THE DIMENSIONS OF EXISTING MATERIALS GIVEN IN THE PLANS HAVE BEEN ASSUMED. THE ACTUAL DIMENSIONS OF EXISTING MATERIALS MAY DIFFER FROM THOSE GIVEN IN THE PLANS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING DIMENSIONS.

34. THE TRUSS SHALL BE MOVED AND REHABILITATED IN A DIFFERENT LOCATION AND REINSTALLED IN ITS FINAL LOCATION AND PAID FOR UNDER ITEM 900.645 SPECIAL PROVISION (HANDLING, TRANSPORT AND RE-ERECTION OF TRUSS BRIDGE SUPERSTRUCTURE) AND ITEM 900.645 SPECIAL PROVISION (REHABILITATING TRUSS BRIDGE SUPERSTRUCTURE).

35. BEFORE THE TRUSS IS REMOVED, THE OVERALL DIMENSIONS OF THE TRUSS ELEMENTS AND CORRESPONDING TEMPERATURE READINGS SHALL BE RECORDED AND GIVEN TO THE ENGINEER. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 900.645 SPECIAL PROVISION (REHABILITATING TRUSS BRIDGE SUPERSTRUCTURE).

36. CERTAIN TRUSS COMPONENTS AND PARTS, INCLUDING THE DECORATIVE BRIDGE RAIL, HAVE BEEN DESIGNATED IN THE PLANS FOR STRAIGHTENING AND REPLACEMENT. ADDITIONAL MEMBERS MAY REQUIRE STRAIGHTENING AND REPLACEMENT ONCE THE TRUSSES HAVE BEEN CLEANED AND DISASSEMBLED. AN ADDITIONAL 25% HAS BEEN ADDED TO ITEM 506.60 STRUCTURAL STEEL QUANTITY TO COVER THESE POSSIBLE REPLACEMENTS. NO CHANGE IN SCOPE CLAIMS WILL BE ENTERTAINED BECAUSE MORE OR LESS STRUCTURAL STEEL NEEDS TO BE STRAIGHTENED OR REPLACED THAN THAT WHICH IS SHOWN IN THE PLANS.

37. PAYMENT FOR STRAIGHTENING THE TRUSS MEMBERS SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 900.645 SPECIAL PROVISION (REHABILITATING TRUSS BRIDGE SUPERSTRUCTURE). ALL REPLACED STRUCTURAL STEEL SHALL BE PAID FOR UNDER ITEM 506.60 STRUCTURAL STEEL.

38. THE CONTRACTOR IS RESPONSIBLE FOR MAKING SURE THAT THE TRUSS IN ITS FINAL CONDITION IS NOT RACKED OR OUT OF PLUMB BEYOND THE TOLERANCES SPECIFIED BY AISC AND AASHTO. NO METHODS WHICH WILL OVER-STRESS THE STRUCTURAL COMPONENTS SHALL BE PERMITTED TO GET THE FINAL STRUCTURE IN ITS TRUE LOCATION. THE WORK FOR ENSURING THIS PROVISION SHALL BE CONSIDERED INCIDENTAL TO OTHER ITEMS IN THE CONTRACT.

39. UNLESS OTHERWISE NOTED, ALL NEW STRUCTURAL STEEL SHALL CONFORM TO AASHTO M270M/M270 GRADE 50.

40. ONE OF THE EXISTING TRUSS COMPONENTS THAT IS TO BE REPLACED SHALL BE UTILIZED TO ATTAIN A COUPON FOR TESTING THE MECHANICAL PROPERTIES OF THE EXISTING WROUGHT IRON. AT A MINIMUM, YIELD AND TENSILE STRENGTHS SHALL BE DETERMINED FROM THESE TESTS. THE RESULTS OF THESE TESTS SHALL BE PROVIDED TO THE ENGINEER TO VERIFY THE DESIGN AND DETERMINE IF ADDITIONAL MATERIAL NEEDS TO BE REPLACED. THE COSTS ASSOCIATED WITH ATTAINING THE COUPON AND TESTING THE MATERIAL SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 900.645 SPECIAL PROVISION (REHABILITATING TRUSS BRIDGE SUPERSTRUCTURE).

41. IF A STRUCTURAL STEEL MEMBER DESIGNATED AS "FCM" (FRACTURE CRITICAL MEMBER) IN THE PLANS IS REPLACED, THE REPLACEMENT MEMBER SHALL MEET THE FOLLOWING CONSTRUCTION AND TESTING REQUIREMENTS:

    A. ALL FRACTURE CRITICAL MEMBERS SHALL BE FABRICATED ACCORDING TO SECTION 12 OF THE AASHTO/AWS D1.5 BRIDGE WELDING CODE.

    B. ALL FRACTURE CRITICAL MEMBERS SHALL BE FABRICATED IN A PLANT HAVING AISC FRACTURE CRITICAL ENDORSEMENT OR THE FABRICATOR SHALL PROVIDE TO THE ENGINEER AN ACCEPTABLE FRACTURE CONTROL PLAN MEETING THE REQUIREMENTS OF AASHTO/AWS D1.5, PRIOR TO FABRICATION.

    C. ALL FRACTURE CRITICAL MEMBERS SHALL BE IMPACT TESTED TO THE FRACTURE CRITICAL REQUIREMENTS SPECIFIED IN AASHTO M270M/M270.

42. IF A STRUCTURAL STEEL MEMBER DESIGNATED AS "CVN" IN THE PLANS IS REPLACED, THE REPLACEMENT MEMBER SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH SUBSECTION 714.01.

43. ALL BOLT OR RIVET HOLES IN THE STRUCTURAL STEEL THAT ARE NOT OTHERWISE FILLED, SHALL BE FILLED WITH BUTTON HEAD BOLTS. THESE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.19.

44. UNLESS OTHERWISE NOTED, ALL SHOP AND FIELD CONNECTIONS FOR BRIDGE 38 SHALL BE MADE WITH HIGH-STRENGTH TYPE 1 GALVANIZED BOLTS PER SECTION 506. UNLESS OTHERWISE NOTED, THESE BOLTS SHALL BE 5/8" DIAMETER PLACED IN 11/16" HOLES.

45. WHEN CONNECTIONS ARE TO BE MADE WITH EXISTING MATERIAL, THE DIMENSION AND SPACING OF HOLES SHALL BE VERIFIED BEFORE FABRICATING AND CONNECTING NEW MEMBERS. ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS AND THE PLANS SHOULD BE BROUGHT TO THE ENGINEER'S ATTENTION BEFORE MATERIAL IS FABRICATED AND CONNECTIONS ARE MADE.

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

47. ALL WELDING SHALL CONFORM TO THE PROVISIONS OF SUBSECTION 506.10.

48. NEW PINS SHALL BE PROVIDED AT ALL TRUSS PIN CONNECTIONS. THE PINS AND RECESSED NUTS SHALL BE ASTM A572 GRADE 50. PINS SHALL BE SOLID. STANDARD SIZES AND THREADS ARE PREFERRED. THE TOLERANCES AND SURFACE FINISH REQUIREMENTS FOR THE PINS SHALL MEET THE CONDITIONS SPECIFIED IN THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS. ALL NEW PINS AND RECESSED NUTS SHALL BE PAID FOR UNDER ITEM 506.60 STRUCTURAL STEEL.

49. PIPE SPACERS SHALL BE ASTM A36 SCHEDULE 40 PIPE OF THE CORRECT LENGTH AND SMALLEST DIAMETER ABLE TO LOOSELY FIT OVER THE PIN. THE SPACERS SHALL BE PAID FOR UNDER ITEM 506.60 STRUCTURAL STEEL.

50. SEE STRUCTURAL DETAIL SHEETS FOR ADDITIONAL NOTES.

PROTECTIVE CO

51. THE EXISTING T
SAFELY REMOVI
PROVISION (CO

52. ALL OF THE EXI
TO A "100% BAR
AND PAINTING S

53. THE FINAL COLO
AND ANGLES, SH
SPECIFICATION.

54. THE FINAL COLO
PER SUBSECTIO

55. ALL NEW STRUC

56. THE AREA OF C
CONNECTIONS W
PREPARED TO M
TO DETERMINE
THE RESEARCH

57. WHEN A CONNE
BOLTING THE C
CLEANED PRIOR
OTHER RESIDUE

58. ANY DAMAGE CA
OPERATIONS, SH
SPECIAL PROVIS

59. ALL CONTRACTO
SHALL POSSESS
CERTIFICATIONS

60. ALL MATERIAL T
OTHERWISE APP

RETAINING WALL - DESIGN

61. FINAL DRAWINGS SHALL ALL BE PREPARED BY THE FABRICATOR AND SUBMITTED TO THE PROJECT MANAGER FOR APPROVAL. ALL MATERIALS WITHIN THE RETAINING WALL VOLUME, METHODS OF CONSTRUCTION, AND THE QUALITY OF MATERIALS SHALL MEET THE REQUIREMENTS OF THE SPECIAL PROVISIONS FOR THIS PROJECT.

62. SEE THE BORING LOGS FOR A DESCRIPTION OF THE IN-SITU SOIL CONDITIONS.

63. ASSUMED SOIL PROPERTIES AND DESIGN PARAMETERS FOR BRIDGE 36 SITE:

FOUNDATION SOIL DESIGN VALUES	
NOMINAL BEARING RESISTANCE	17.8 KSF
EMBEDMENT DEPTH *	6 FEET
LEVELING PAD ELEVATION	406.75 FT
FOUNDATION SOIL PARAMETERS	
UNIT WEIGHT, γ	110 LBS/FT^3
FRICTION ANGLE, φ	31°
RETAINED SOIL PARAMETERS	
UNIT WEIGHT, γ	110 LBS/FT^3
FRICTION ANGLE, φ	30°
REINFORCED SOIL PARAMETERS	
UNIT WEIGHT, γ	140 LBS/FT^3
FRICTION ANGLE, φ	34°
BEARING RESISTANCE FACTOR	
MSEW	0.65
GRAVITY/SEMI-GRAVITY (PROPRIETARY SYSTEM)	0.55
NON-GRAVITY CANTILEVERED AND ANCHORED	0.45
SLIDING RESISTANCE FACTOR	
MSEW	1.0
GRAVITY/SEMI-GRAVITY (PROPRIETARY SYSTEM)	1.0
NON-GRAVITY CANTILEVERED AND ANCHORED	0.8
*DUE TO FUTURE LOWERING OF TRACK, UPON WHICH EMBEDMENT WILL BE 4 FEET	

64. ASSUMED SOIL PROPERTIES AND DESIGN PARAMETERS FOR BRIDGE 38 SITE:

FOUNDATION SOIL DESIGN VALUES	
NOMINAL BEARING RESISTANCE	10.6 KSF
MINIMUM EMBEDMENT DEPTH	4 FEET
FOUNDATION SOIL PARAMETERS	
UNIT WEIGHT, γ	120 LBS/FT^3
FRICTION ANGLE, φ	32°
RETAINED SOIL PARAMETERS	
UNIT WEIGHT, γ	120 LBS/FT^3
FRICTION ANGLE, φ	33°
REINFORCED SOIL PARAMETERS	
UNIT WEIGHT, γ	140 LBS/FT^3
FRICTION ANGLE, φ	34°
BEARING RESISTANCE FACTOR	
MSEW	0.65
GRAVITY/SEMI-GRAVITY (PROPRIETARY SYSTEM)	0.55
NON-GRAVITY CANTILEVERED AND ANCHORED	0.45
SLIDING RESISTANCE FACTOR	
MSEW	1.0
GRAVITY/SEMI-GRAVITY (PROPRIETARY SYSTEM)	1.0
NON-GRAVITY CANTILEVERED AND ANCHORED	0.8

65. ABUTMENT DESIGN LOADS (UNFACTORED):

VERTICAL	DC	9.6 K/FT
	DW	0.7 K/FT
	LL	6.3 K/FT
HORIZONTAL	BR	1.2 K/FT

66. THE DRAINED STATE OF THE BACKFILL MATERIAL SHALL BE CONSIDERED IN THE DESIGN. IF A FREE DRAINING MATERIAL IS ASSUMED IN THE DESIGN, A DRAINAGE SYSTEM SHALL BE PROVIDED FOR THE WALL SYSTEM CHOSEN. THE COST FOR THE DRAINAGE SYSTEM SHALL BE INCLUDED IN THE CORRESPONDING UNIT RETAINING WALL ITEM.

67. EXPANSION AND CONTRACTION SHALL BE CONSIDERED IN THE DESIGN AND DETAILS. PROPER JOINTS SHALL BE DESIGNED, DETAILED AND INCLUDED IN THE WALL SYSTEM CHOSEN.

68. THE MAXIMUM TOTAL SETTLEMENT HAS BEEN ESTIMATED AS 2.8 INCHES. A DIFFERENTIAL SETTLEMENT OF 0.75 INCHES PER 10 FEET HAS BEEN ASSUMED. THE WALL SHALL BE DESIGNED AND DETAILED TO ACCOMMODATE THE TOTAL AND DIFFERENTIAL SETTLEMENT OR MEANS SHALL BE PROVIDED TO MITIGATE THE SETTLEMENT BEFORE THE WALL SYSTEM IS CONSTRUCTED. COSTS FOR THIS WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 900.645 SPECIAL PROVISION (RETAINING WALL)(BRIDGE NO. 36) AND 900.670 SPECIAL PROVISION (RETAINING WALL)(BRIDGE NO. 38).

69. ALL WALL COMPONENTS SHALL HAVE A MINIMUM DESIGN LIFE OF 75 YEARS.

RETAINING WALL - CONSTRUCTION

70. ANY FOUNDATION MATERIAL BELOW THE RETAINING WALL VOLUME NOT MEETING THE CRITERIA OF THE DESIGN SHALL BE EXCAVATED AND REPLACED WITH GRANULAR BORROW OR OTHERWISE STABILIZED AS DIRECTED BY THE ENGINEER. GRANULAR BORROW IN THIS APPLICATION SHALL BE PAID FOR UNDER ITEM 203.32 GRANULAR BORROW.

71. BACKFILL MATERIAL SHALL BE COMPACTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND CONTRACT SPECIFICATIONS.

72. THE CONTRACTOR SHALL ACCOMMODATE ANY PIPES, GEOMEMBRANE LINER, DRAINAGE STRUCTURES, FOUNDATIONS, RAILING POSTS, AND ANY OTHER SUCH APPURTENANCES THAT ARE WITHIN THE RETAINING WALL VOLUME.

73. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING THE STORM WATER DRAINAGE IN THE VICINITY OF THE WALL DURING CONSTRUCTION. STORM WATER RUNOFF IS TO BE COLLECTED AND DISCHARGED AWAY FROM THE WALL.

74. ANY DAMAGE TO THE WALL SYSTEM DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE STATE. THIS INCLUDES STAINED OR DISCOLORED FACING ELEMENTS.

RETAINING WALL - MATERIAL NOTES

75. THE EXTERIOR FACING FOR ALL WALL ELEMENTS SHALL BE STONE OR CONCRETE. ALL EXPOSED EDGES AND FACES SHALL HAVE A FINISHED APPEARANCE AND ALL EXPOSED CORNERS SHALL BE ROUNDED OR CHAMFERED.

76. THE EXPOSED FACES OF THE BRIDGE 38 AND GARDEN RETAINING WALLS SHALL HAVE A ROCK-LIKE APPEARANCE. THE FOLLOWING COMPANIES PROVIDE "ASHLAR STONE" DETAILS THAT ARE ACCEPTABLE: THE REINFORCED EARTH COMPANY, DAYTON SUPERIOR AND SPEC FORMLINERS, INC. OTHER STONE DETAILS AND COLORS MAY BE APPROVED BY CONTRACT ADMINISTRATION BEFORE BIDDING OR AFTER CONTRACT AWARD BY THE ENGINEER.

RETAINING W

77. NO TIMBER EL
SUPPORTING

78. NO GABIONS

79. IF AN MSE WA
FOR THESE RE
ITEM.

A. REINFORC
SHALL BE

B. METALLIC
OF A SING
REINFORC
THE ENDS
FROM THE
ANY REIN
COVERAG
SHALL BE
MANUFAC

C. ALL EXPO
UNITS.

REBUILT STO

80. BEFORE THE E
FILL DIRECTLY
WIDTH OF TH
STONE ABUTA
PAID FOR UNE

81. EXAMINATION

A. BEFORE A
THE CONT
VERIFY TH

B. THE CONT

C. THE ENGI
MASONRY
FOR UNDE

82. NO CHEMICAL
TO MATCH TH

SHEET PILING

83. THE STONE M
DRIVEN.

84. IF THE EXTEN
OPERATION,
STATE.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS		
		ROADWAY	TRAINING	EROSION CONTROL	UTILITIES	UTILITIES (NO FED/STATE PART)	BRIDGE 36	BRIDGE 38	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER
		1								1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10
		325								325		CY	UNCLASSIFIED EXCAVATION	203.17
					41	20				61		CY	SAND BORROW	203.31
		725						20		745		CY	GRANULAR BORROW	203.32
					196	39				235		CY	TRENCH EXCAVATION OF EARTH	204.20
					20					20		CY	TRENCH EXCAVATION OF ROCK	204.21
					1					1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22
								80		80		CY	STRUCTURE EXCAVATION	204.25
					25			15		40		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30
													BEGIN OPTION AA	
		700								700		CY	SUBBASE OF CRUSHED GRAVEL, COARSE GRADED	301.25
		700								700		CY	SUBBASE OF CRUSHED GRAVEL, FINE GRADED	301.26
		700								700		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35
													END OPTION AA	
		10								10		CY	AGGREGATE SHOULDERS, IN PLACE	402.10
		2								2		CWT	EMULSIFIED ASPHALT	404.65
		1								1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50
		160								160		TON	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT	490.30
								65		65		CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34
								1800		1800		SF	PERMANENT STEEL SHEET PILING (MIN. SECTION MODULUS = 18.4 IN^3/FT)	505.35
								12100		12100		LB	STRUCTURAL STEEL	506.60
								12		12		GAL	WATER REPELLENT, SILANE	514.10
							105			105		SY	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED (FPQ)	519.20
							44			44		LF	BRIDGE RAILING, GALVANIZED NETC 2 RAIL (FPQ)	525.33
							44			44		LF	BRIDGE RAILING, GALVANIZED NETC 4 RAIL (FPQ)	525.34
		1								1		EACH	PARTIAL REMOVAL OF STRUCTURE (BRIDGE NO. 36)	529.20
		1								1		EACH	PARTIAL REMOVAL OF STRUCTURE (BRIDGE NO. 38)	529.20
								4		4		EACH	BEARING DEVICE ASSEMBLY, ELASTOMERIC PAD	531.11
								50		50		CY	REBUILT STONE MASONRY	602.35
					2					2		EACH	SANITARY SEWER MANHOLE	604.22
					1					1		EACH	REHAB. DROP INLETS, CATCH BASINS, OR MANHOLES, CLASS II	604.418
					2					2		EACH	CAST IRON COVER WITH FRAME, SEWER	604.56
													BEGIN OPTION BB	
		210								210		LF	PRECAST REINFORCED CONCRETE CURB, TYPE B	616.26
		210								210		LF	CAST-IN-PLACE CONCRETE CURB, TYPE B	616.28
													END OPTION BB	
		72								72		SY	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	618.10
		40								40		SF	DETECTABLE WARNING SURFACE	618.30
							114	146		260		LF	SNOW BARRIER	620.75
		322.5								322.5		LF	HD STEEL BEAM GUARDRAIL, GALVANIZED	621.21

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS		
		ROADWAY	TRAINING	EROSION CONTROL	UTILITIES	UTILITIES (NO FED/STATE PART)	BRIDGE 36	BRIDGE 39	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER
		5								5		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60
		2								2		EACH	GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 RAIL	621.72
		2								2		EACH	GUARDRAIL APPROACH SECTION, GALVANIZED NETC 4 RAIL	621.73
		25								25		LF	REMOVE AND RESET GUARDRAIL	621.75
		725								725		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80
					36					36		LF	DUCTILE IRON PIPE, CEMENT-LINED (6")	628.28
					120					120		LF	DUCTILE IRON PIPE, CEMENT-LINED (8")	628.28
					1					1		LS	TRANSFER TO NEW SYSTEM, SANITARY SEWER	628.42
						75				75		LF	DUCTILE IRON PIPE, CEMENT-LINED (8")	629.24
					44	22				66		TON	CRUSHED STONE BEDDING	629.54
		3500								3500		HR	FLAGGERS, RAILROAD	630.20
									1	1		LS	FIELD OFFICE, ENGINEERS	631.10
									1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16
									1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17
									1	1		LS	TESTING EQUIPMENT, PROTECTIVE COATINGS	631.18
									5000	5000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26
			520							520		HR	EMPLOYEE TRAINEESHIP	634.10
		1								1		LS	MOBILIZATION/DEMOBILIZATION	635.11
		840								840		LF	4 INCH YELLOW LINE (FPQ)	646.21
		32								32		LF	24 INCH STOP BAR (FPQ)	646.26
		12								12		EACH	LETTER OR SYMBOL	646.30
				20						20		LB	SEED	651.15
				20						20		LB	SEED, WINTER RYE	651.17
				100						100		LB	FERTILIZER	651.18
				1						1		TON	AGRICULTURAL LIMESTONE	651.20
				1						1		TON	HAYMULCH	651.25
				75						75		CY	TOPSOIL	651.35
		73.5								73.5		SF	TRAFFIC SIGNS, TYPE A	675.20
		135								135		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341
		16								16		EACH	REMOVING SIGNS	675.50
		2								2		EACH	ERECTING SALVAGED SIGNS	675.60
				10000						10000		DL	SPECIAL PROVISION (EROSION PREVENTION AND SEDIMENT CONTROL MEASURES)(N.A.B.I.)	900.615
				5000						5000		DL	SPECIAL PROVISION (MAINTENANCE OF EPSC PLAN)(N.A.B.I)	900.615
		1								1		EACH	SPECIAL PROVISION (GUARDRAIL APPROACH SECTION, GALVANIZED BOX BEAM)	900.620
		3								3		EACH	SPECIAL PROVISION (GUARDRAIL APPROACH SECTION, TRUSS)	900.620
				50						50		HR	SPECIAL PROVISION (MONITORING EPSC PLAN)	900.630
								1600		1600		LB	SPECIAL PROVISION (EPOXY COATED REINFORCING STEEL) (FPQ)	900.635
								1900		1900		LB	SPECIAL PROVISION (REINFORCING STEEL) (FPQ)	900.635
								153		153		LF	SPECIAL PROVISION (BRIDGE RAILING, TRUSS)	900.640

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 3

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS		
		ROADWAY	TRAINING	EROSION CONTROL	UTILITIES	UTILITIES (NO FED/STATE PART)	BRIDGE 36	BRIDGE 38	FULL CE ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER
					25					25		LF	SPECIAL PROVISION (PRE-INSULATED DUCTILE IRON PIPE, CEMENT-LINED)(SEWER)(6")	900.640
					31					31		LF	SPECIAL PROVISION (PRE-INSULATED DUCTILE IRON PIPE, CEMENT-LINED)(SEWER)(8")	900.640
						33				33		LF	SPECIAL PROVISION (PRE-INSULATED DUCTILE IRON PIPE, CEMENT-LINED)(WATER)(8")	900.640
		55								55		LF	SPECIAL PROVISION (TRENCH DRAIN)	900.640
								1		1		LS	SPECIAL PROVISION (CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES)	900.645
							1			1		LS	SPECIAL PROVISION (DESIGN AND CONSTRUCT BRIDGE)	900.645
						1				1		LS	SPECIAL PROVISION (ELECTRIC HEAT TRACE SYSTEM)(BRIDGE NO. 36)	900.645
				1						1		LS	SPECIAL PROVISION (EPSC PLAN)	900.645
								1		1		LS	SPECIAL PROVISION (HANDLING, TRANSPORT, AND RE-ERECTION OF TRUSS BRIDGE SUPERSTRUCTURE)	900.645
					1					1		LS	SPECIAL PROVISION (MAINTENANCE OF EXISTING WASTEWATER FLOWS)	900.645
								1		1		LS	SPECIAL PROVISION (QC/QA CLEANING AND PAINTING STRUCTURAL COMPONENTS)	900.645
								1		1		LS	SPECIAL PROVISION (REHABILITATING TRUSS BRIDGE SUPERSTRUCTURE)	900.645
		1								1		LS	SPECIAL PROVISION (RETAINING WALL)(BRIDGE NO. 36)	900.645
					1					1		LS	SPECIAL PROVISION (SEWER MAIN ON BRIDGE)(8")	900.645
		1								1		LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)	900.645
						1				1		LS	SPECIAL PROVISION (WATER MAIN ON BRIDGE)(8")	900.645
								1300		1300		SF	SPECIAL PROVISION (HALF-FILLED GRID DECK)(FPQ)	900.670
		750								750		SF	SPECIAL PROVISION (RETAINING WALL)(BRIDGE NO. 38)	900.670
		150								150		SF	SPECIAL PROVISION (RETAINING WALL)(GARDEN)	900.670
		40								40		SY	SPECIAL PROVISION (HAND-PLACED BITUMINUOUS CONCRETE MATERIAL, DRIVES)	900.675

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE 36)

INDEX OF SHEETS

NO FINA

PLAN SHEETS

1	TITLE SHEET
2 - 4	GENERAL NOTES SHEET #1 - #3
5 - 7	QUANTITY SHEET #1 - #3
8	PRELIMINARY INFORMATION SHEET - BR 36
9	TIE SHEET BRIDGES #36 & #38
10	TYPICAL SECTIONS - BRIDGE 36
11	LAYOUT SHEET - BRIDGE 36
12	MAINLINE PROFILE - BRIDGE 36
13	UTILITY LAYOUT SHEET - BRIDGE 36
14	BRIDGE NO. 36 WATERLINE CROSSING PLAN AND PROFILE
15	BRIDGE NO. 36 WATERLINE CROSSING DETAILS
16	SIGN & PAVEMENT MARKINGS - BRIDGE 36
17	BORING LAYOUT - BRIDGE 36
18	BORING LOGS - BRIDGE 36
19	PLAN & ELEVATION - BRIDGE 36
20	RAIL LAYOUT - BRIDGE 36
21	RAIL DETAIL - WW #2 - BR 36
22	RAIL DETAIL - WW #4 - BR 36
23	NETC 4 BRIDGE RAILING DETAIL - BR 36
24	ABUTMENT 1 & 2 DETAILS - BRIDGE 36
25	WALL AT ABUTMENT #1 - BRIDGE 36
26	WALL AT ABUTMENT #2 - BRIDGE 36
27 - 29	MAINLINE CROSS SECTIONS - BRIDGE 36
30	PRELIMINARY INFORMATION SHEET - BR 38
31	TYPICAL SECTIONS - BRIDGE 38
32	LAYOUT SHEET - BRIDGE 38
33	MAINLINE PROFILE - BRIDGE 38
34	UTILITY LAYOUT SHEET - BRIDGE 38
35	BRIDGE NO. 38 FORCEMAIN CROSSING PLAN
36	BRIDGE NO. 38 SEWER DETAILS
37	SIGN & PAVEMENT MARKINGS - BRIDGE 38
38	TRAFFIC SIGN SUMMARY - BRIDGE 38
39	BORING LAYOUT - BRIDGE 38
40	BORING LOGS - BRIDGE 38
41	PLAN & ELEVATION - BRIDGE 38
42	RAIL LAYOUT - BRIDGE 38
43	RAIL DETAIL - WW #1 - BR38
44	RAIL DETAIL - WW #2 & 4 - BR38
45	RAIL DETAIL - WW2 & 4 LATTICE
46	RAIL DETAIL - 2 RAIL APPROACH - BR38
47	RAIL DETAIL - 2 RAIL BRIDGE - BR38
48	TRUSS DECK & TYPICAL SECTION - BR 38
49	FLOOR SYSTEM DETAILS - BRIDGE 38
50	TRUSS FRAMING PLAN - BRIDGE 38
51 - 54	TRUSS JOINT DETAIL #1 - #4 - BRIDGE 38
55	BEARING DETAILS - BRIDGE 38
56	ABUTMENT 1 & 2 DETAILS - BRIDGE 38
57	WINGWALL DETAILS - BRIDGE 38
58	MASONRY & SHEET PILE DETAILS - BR 38
59	RETAINING WALLS - BRIDGE 38
60	GARDEN WALL - BRIDGE 38
61 - 64	MAINLINE CROSS SECTIONS - BRIDGE 38
65	SNOW FENCE FOR BR RAIL - N.E.T.C. 2 RAIL
66	SNOW FENCE FOR BR RAIL - N.E.T.C. 4 RAIL
67	EPSC NARRATIVE
68	EPSC EXISTING CONDITIONS - BRIDGE 36
69	EPSC EXISTING CONDITIONS - BRIDGE 38

STANDARDS LIST

C-2A	PORTLAND CEMENT CONCRETE SIDEWALK DRIVE ENTRANCES WITH SIDEWALK ADJACENT TO CURB	10-14-2005
C-2B	PORTLAND CEMENT CONCRETE SIDEWALK DRIVE ENTRANCES WITH SIDEWALK AND GREEN STRIP	10-14-2005
C-3A	SIDEWALK RAMPS	03-10-2008
C-3B	SIDEWALK RAMPS AND MEDIAN ISLANDS	03-10-2008
C-10	CURBING	02-11-2008
D-22	SANITARY SEWER SYSTEMS	03-10-1995
E-100	CONSTRUCTION APPROACH SIGNS	01-02-2004
E-101	CONSTRUCTION SIGN DETAILS	05-30-2003
E-102	CONSTRUCTION SIGN DETAILS	06-30-2003
E-102A	CONSTRUCTION SIGN DETAILS	05-01-2004
E-107	DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS	06-30-2003
E-107A	BREAKAWAY BARRICADE DETAILS	06-08-2009
E-108	CONSTRUCTION ZONE LONGITUDINAL DROP OFFS	06-08-2009
E-108A	CONSTRUCTION ZONE LONGITUDINAL DROP OFFS FOR PAVING	06-08-2009
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08-08-1995
E-134	BRIDGE NUMBER PLAQUE	08-08-1995
E-141	REGULATORY SIGN DETAILS	09-20-1995
E-160	FLANGED CHANNEL STEEL SIGN POST	05-20-1999
E-164	SQUARE STEEL SIGN POST	06-08-2009
E-193	PAVEMENT MARKING DETAILS	08-18-1995
G-1	STEEL BEAM GUARDRAIL DETAILS (POST, DELINEATOR, TYPICALS)	01-03-2000
G-1D	STEEL BEAM GUARDRAIL DETAILS (END TERMINAL, ANCHOR, MEDIAN)	01-03-2000
G-16	STEEL BEAM GUARDRAIL ATTACHMENTS TO EXISTING BRIDGE, TERMINAL	06-01-1994
S-360a	BRIDGE RAILING, GALVANIZED NETC 2 RAIL	12-14-2009
S-360b	GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 RAIL	12-14-2009
S-363	GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 & 4 RAIL	12-14-2009

STRUCTURAL DETAIL SHEETS

SD-501.00	CONCRETE DETAILS AND NOTES
SD-502.00	CONCRETE DETAILS AND NOTES
SD-601.00	STRUCTURAL STEEL DETAILS AND NOTES
SD-602.00	STRUCTURAL STEEL PLATE GIRDER DETAILS AND NOTES

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK					
	H-20	HL-93	3S2	6 AXLE	3A STR	4A STR
TONNAGE	20	36	36	66	30	34.5
INVENTORY						
POSTING						
OPERATING						
COMMENTS:	TO BE COMPLETED BY CONTRACTOR					

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2008	300	95	53	4	10
2028	380	105	53	5	15

20 year ESAL for flexible pavement from 2008 to 2028 : 54000

40 year ESAL for flexible pavement from 2008 to 2048 : 127000

Design Speed : 25 mph

GPS CONTROL POINTS

HVCTRL #1

STANDARD DISK STAMPED
F6 Az

N = 425532.14
E = 1692808.95

LEBANON, NEW HAMPSHIRE. TO REACH FROM THE JUNCTION OF U.S. ROUTE 4 AND NH ROUTE 10 IN WEST LEBANON PROCEED NORTHERLY ALONG NH ROUTE 10 FOR 1.3 MI (2.1 KM) TO THE MARK ON THE LEFT. TO REACH FROM THE JUNCTION OF NH ROUTE 10 AND NH ROUTE 10A IN HANOVER PROCEED SOUTHERLY ALONG NH ROUTE 10 FOR 2.6 MI (4.2 KM) TO THE MARK ON THE RIGHT. THE MARK IS LOCATED IN THE SOUTH CORNER OF A 8.5 FT (2.6 M) X 12 FT (3.7 M) X 4 FT (1.2 M) CONCRETE MASS SUPPORT FOR BUOYS ACROSS CONNECTICUT RIVER, ACROSS FROM THE WILDER DAM. IT IS LOCATED 44.5 FT (13.6 M) NORTHWEST OF THE CENTERLINE OF NH ROUTE 10.

HVCTRL #2

STANDARD DISK STAMPED
F6 USGS

N = 427424.08
E = 1691655.40
ELEV. = 407.12

0.15 MILE EAST ALONG DEPOT STREET FROM THE P
SET ON THE EAST SIDE OF THE BOSTON AND MAINE
S-125, 24 FEET EAST OF THE EAST RAIL, 115 FE
NUMBER 1250 AND 8.5 FEET NORTHWEST OF AN UNN

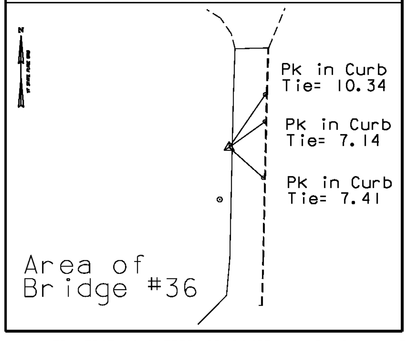
NEW REFERENCE DISTANCES WERE MADE. MARK IS L
SIDE OF TRACK. 47.5 FT. S.E. OF A STEEL POST
AND 24.6 FT. E. OF THE E. RAIL OF THE MAIN T

• DESCRIPTION PROVIDED BY VERMONT AGENCY OF TRANSPORTATION GEODETIC SURVEY UNIT

TRAVERSE TIES

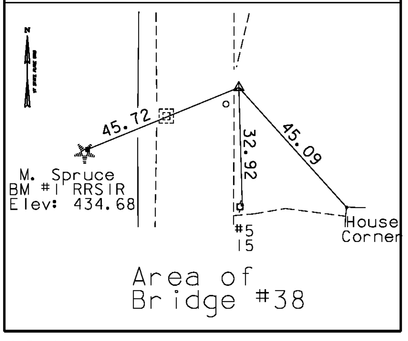
HVCTRL #3

NORTH = 427590.9864
EAST = 1691427.604
ELEV. = 429.0553



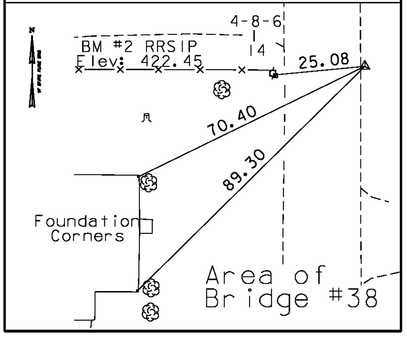
HVCTRL #4

NORTH = 429361.6891
EAST = 1691468.043
ELEV. = 432.9455



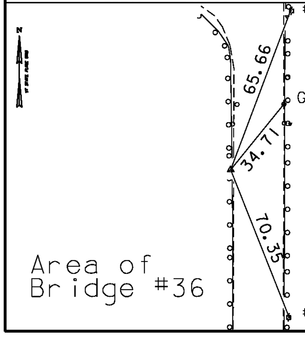
HVCTRL #5

NORTH = 429351.6516
EAST = 1691846.878
ELEV. = 421.3557



HVCTRL #6

NORTH = 427578.5500
EAST = 1691815.740
ELEV. = 426.0681



• MAIN TRAVERSE COMPLETED 05/04/03 by R. Gilman P.C. & P. Winters

ALIGNMENT COORD

Alignments Current as of 6/1/2010

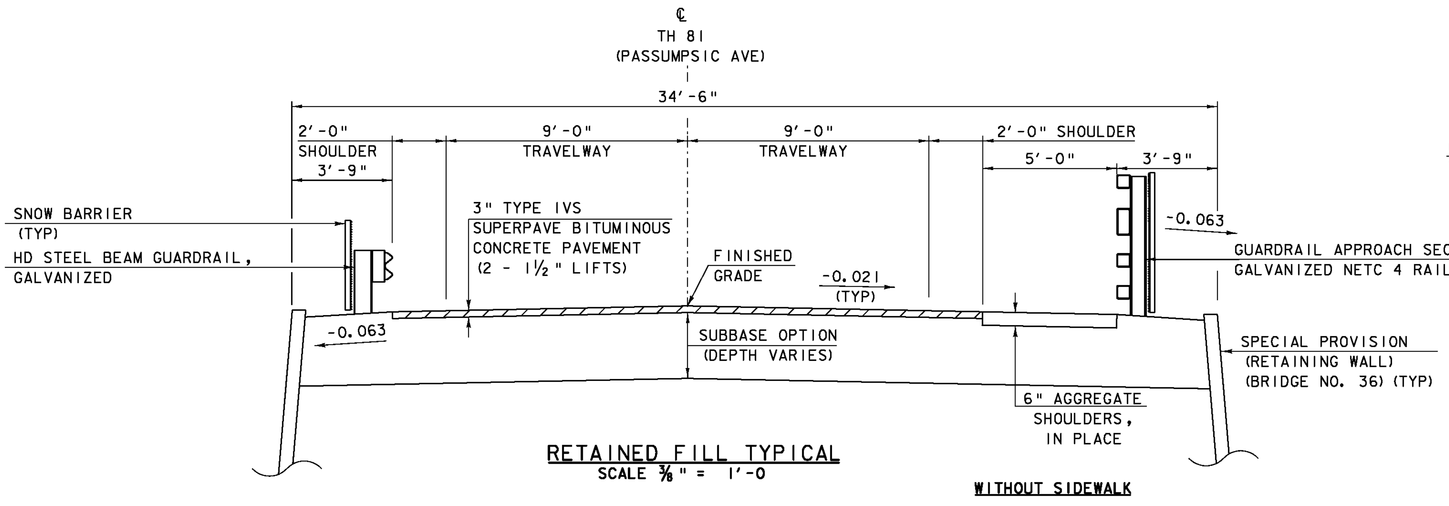
Bridge 36 Alignment

	STATION	NORTHING	EASTING
POB	81+00.00	427655.33	1691455.84
Tangent Direction:	N 88°59'39.52" E		
Tangent Length:	375.00		
POE	84+75.00	427661.92	1691830.78

Bridge 38 Alignment

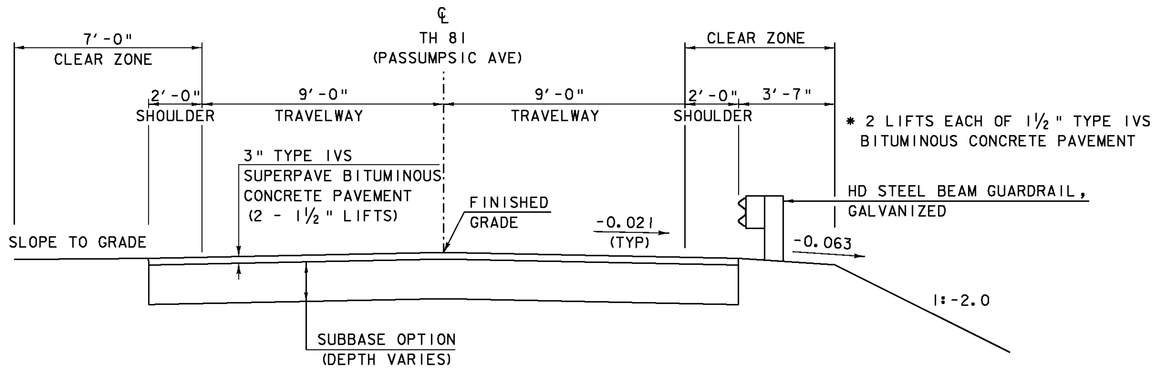
	STATION	NORTHING	EASTING
POB	29+00.00	429217.19	1691455.02
Tangent Direction:	S 86°46'57.53" E		
Tangent Length:	100.00		
PC	30+00.00	429211.57	1691554.86
PI	30+07.50	429211.15	1691562.35
Radius:	300.00		
Delta:	2°51'53.24" Left		
Degree of Curvature (Arc):	19°05'54.94"		
Length:	15.00		
Tangent:	7.50		
Chord:	15.00		
Middle Ordinate:	0.09		
External:	0.09		
PT	30+15.00	429211.11	1691569.85
Tangent Direction:	S 89°38'50.77" E		
Tangent Length:	265.00		
POE	32+80.00	429209.47	1691834.85

DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (92)
ADJUSTMENT	Compass

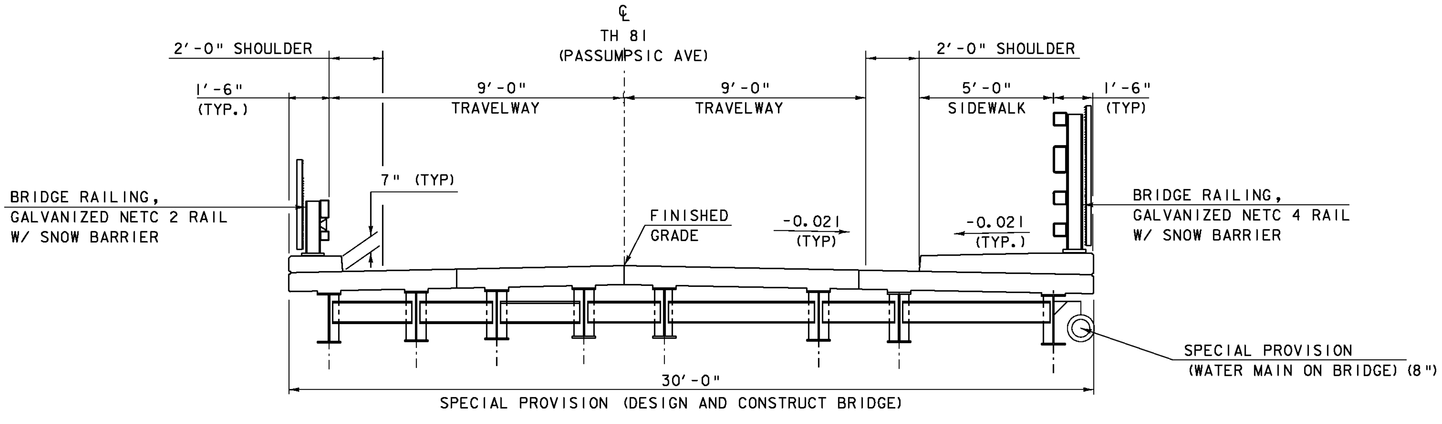


RETAINED FILL TYPICAL
SCALE ⅜" = 1'-0

WITHOUT SIDEWALK



TH 81 (PASSUMPSIC AVE.) ROADWAY TYPICAL
SCALE ⅜" = 1'-0



BRIDGE #36 TYPICAL
SCALE ⅜" = 1'-0

FINISH GRADE
EXISTING GROUND
SUBBASE

LIMITS OF
STRUCTURE EXCAVA

* INCLUDED IN SPE
(DESIGN AND CON
** INCLUDED IN SP
(RETAINING WAL

EA

SCALE ⅜" =
1 0 1 2 3

BRIDGE RAILING, GALVANIZED NETC 2 RAIL
STA 82+52.00 - 82+96.00 LT

GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 RAIL
STA 82+18.11 - 82+52.00 LT
STA 82+96.00 - 83+29.88 LT

HD STEEL BEAM GUARDRAIL, GALVANIZED
STA 82+06.06 - 82+18.11 LT
STA 83+29.88 - 83+54.53 LT
STA 83+56.00 - ~~83+93.23 RT~~ (MATCH INTO EXISTING RAIL)
84+35 RT

REMOVAL AND DISPOSAL OF GUARDRAIL
STA 82+11 - 82+23.5 LT & RT
STA 83+29 - 83+58.25 LT
STA 83+29 - ~~83+93.23~~ RT
84+35 RT

BRIDGE RAILING, GALVANIZED NETC 4 RAIL
STA 82+52.00 - 82+96.00 RT

GUARDRAIL APPROACH SECTION, GALVANIZED NETC 4 RAIL
STA 82+06.87 - 82+52.00 RT
STA 82+96.00 - 83+56.00 RT

~~REMOVE AND RESET GUARDRAIL~~
~~STA 83+80 - 84+00 RT~~

SPECIAL PROVISION
(RETAINING WALL) (BRIDGE NO. 36)
STA 82+20 - 82+59 LT & RT
STA 82+89 - 83+34 LT & RT

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
STA 82+00 TO STA 82+52 RT
STA 82+96 TO STA ~~83+06~~ RT
83+35 RT

CONCRETE CURB, TYPE B OPTION
STA 82+00 TO STA 82+52 RT
STA 82+96 TO STA ~~83+06~~ RT
83+35 RT

SNOW BARRIER
STA 82+38 - 82+95 RT
STA 82+52 - 83+09 LT

~~AGGREGATE SHOULDERS, IN PLACE~~
~~STA 83+06 - 83+80 RT~~

BM #2
CHISELED SQUARE
IN CENTER OF
LOADING DOCK
AT POST OFFICE
ELEV. = 430.78

~~SPECIAL PROVISION (TRENCH DRAIN)~~
~~STA 83+45.00 - 84+00.00 LT~~

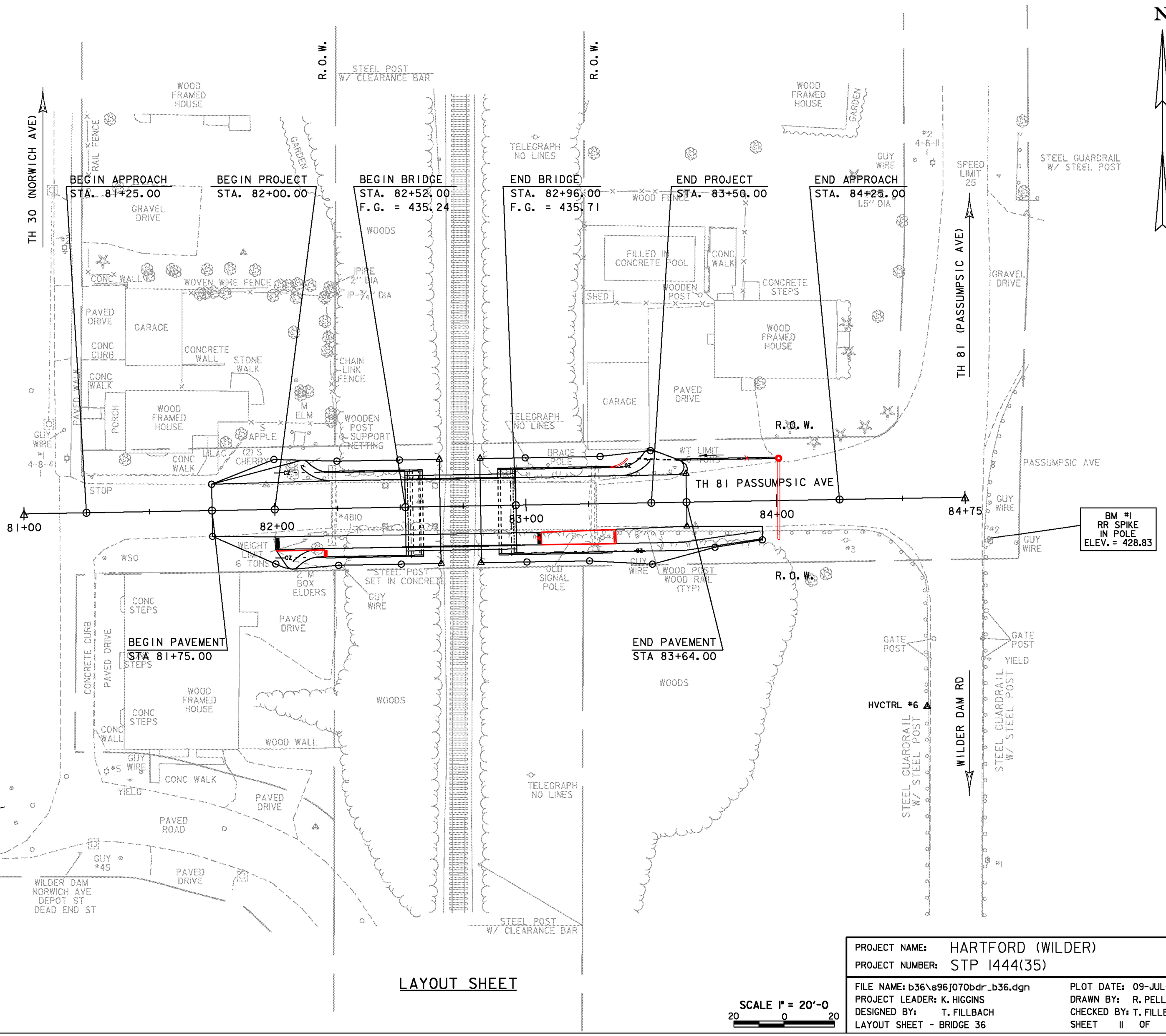
DETECTABLE WARNING SURFACE
STA 82+01.50 RT
STA ~~83+04.80 RT~~
83+35 RT

ANCHOR FOR STEEL BEAM RAIL
STA 82+12.01 LT
STA 83+48.51 LT

SPECIAL PROVISION
(DESIGN AND CONSTRUCT BRIDGE)
STA 82+52.00 - 82+96.00

DETECTABLE WARNING SURFACE
STA 82+00.00 RT
STA ~~83+06.00 RT~~
83+35 RT

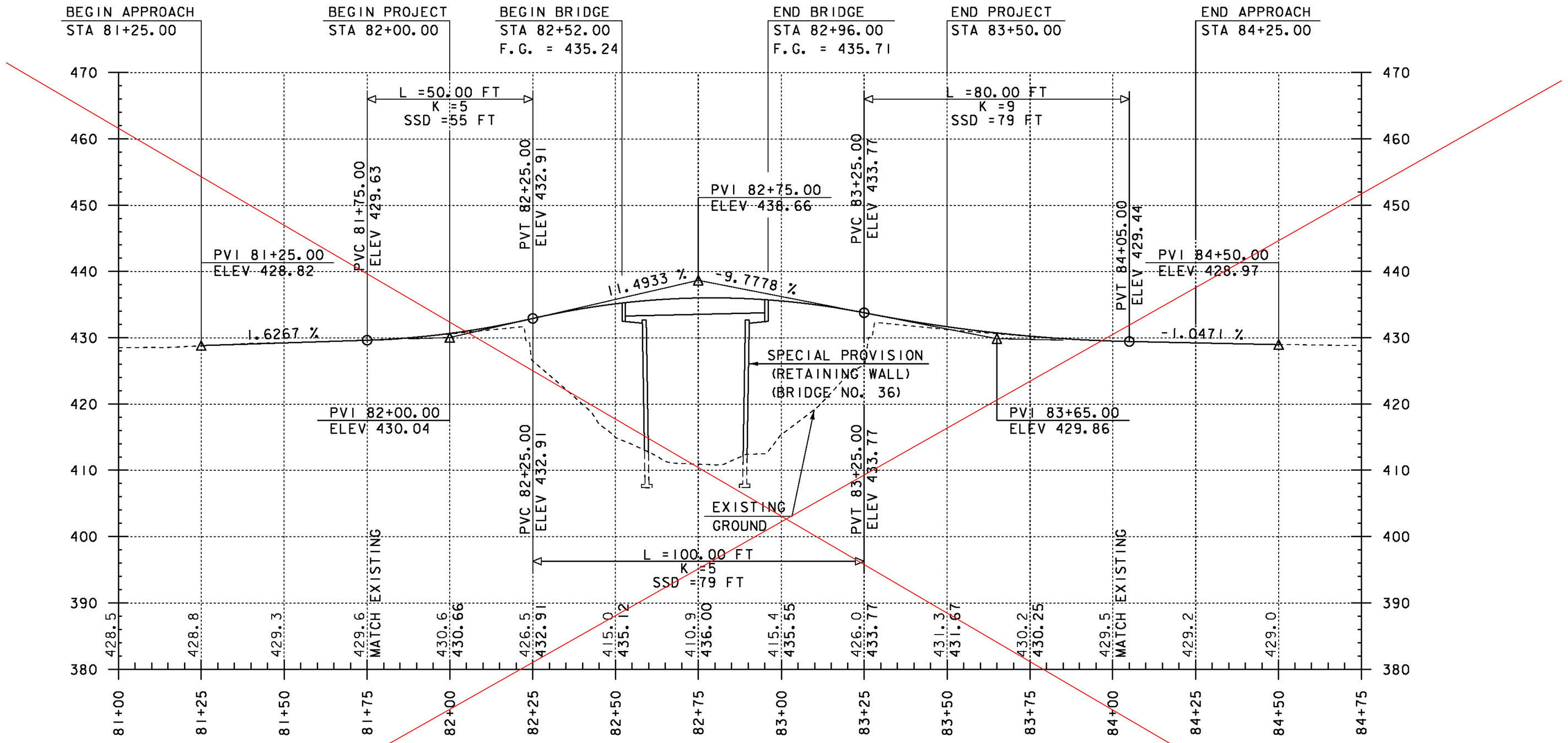
EXISTING BRIDGE DATA
FOUR SPAN TIMBER BEAM WITH TIMBER DECK
LENGTH = 107 FT
WIDTH = 18.7 FT CURB TO CURB
BUILT IN LATE 1800's/EARLY 1900's



LAYOUT SHEET

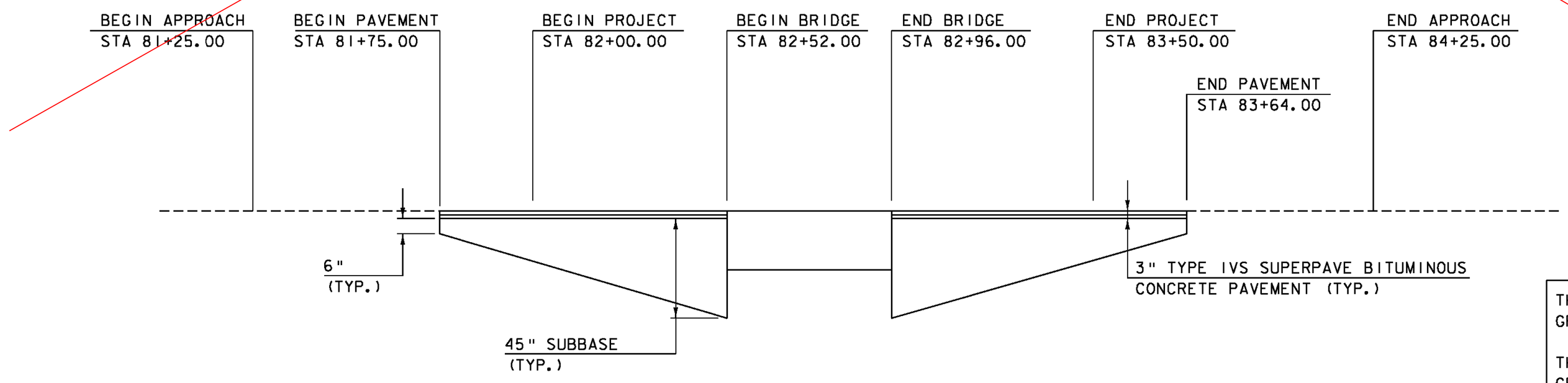
SCALE 1" = 20'-0
20 0 20

PROJECT NAME:	HARTFORD (WILDER)
PROJECT NUMBER:	STP 1444(35)
FILE NAME: b36\s96j070bdr_b36.dgn	PLOT DATE: 09-JUL-2010
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. PELLETT
DESIGNED BY: T. FILLBACH	CHECKED BY: T. FILLBACH
LAYOUT SHEET - BRIDGE 36	SHEET 11 OF 69



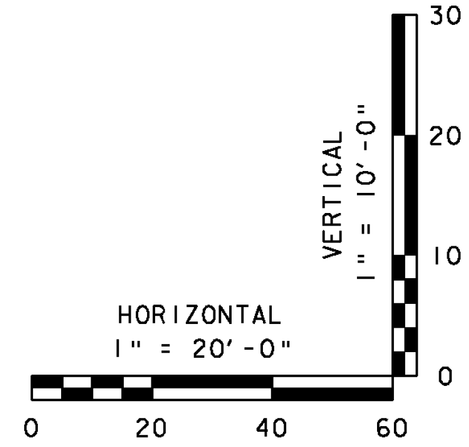
TH 81 (PASSUMPSIC AVE) PROFILE

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



TH 81 (PASSUMPSIC AVE) MATERIAL TRANSITION

HORIZONTAL 1" = 20'-0"
NO VERTICAL SCALE



SEE REVISED PROFILE PASSUMPSIC AVE1
SHEET 2 OF 11 DATED 10/4/11

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

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

PROJECT NAME: HARTFORD (WILDER)
PROJECT NUMBER: STP 1444(35)

FILE NAME: b36\s96j070xsl_b36.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: T. FILLBACH
MAINLINE PROFILE - BRIDGE 36

PLOT DATE: 16-JUN-2010
DRAWN BY: R. PELLETT
CHECKED BY: J. SALVATORI
SHEET 12 OF 69

N

VT STATE PLANE GRID

STEEL POST W/ CLEARANCE BAR

WOOD FRAMED HOUSE

GARDEN

TELEGRAPH NO LINES

WOOD FRAMED HOUSE

GARDEN

GUY WIRE

#2 4-8-11

SPEED LIMIT 25

STEEL GUARDRAIL W/ STEEL POST

GRAVEL DRIVE

PAVED WALK

PAVED SHOULDER

T.H. 30

RAIL FENCE

GRAVEL DRIVE

WOODS

IPIPE 1.5" DIA

WOOD FENCE

FILLED IN CONCRETE POOL

CONC WALK

CONCRETE STEPS

PAVED DRIVE

CONC WALL

WOVEN WIRE FENCE

IPIPE 2" DIA

IP-3/4" DIA

SHED

WOODEN POST

GRAVEL DRIVE

EXISTING OVERHEAD UTILITY LINES (TO BE RELOCATED)

GARAGE

CONCRETE WALL

STONE WALK

CHAIN LINK FENCE

WOOD FRAMED HOUSE

CONC CURB

CONC WALK

PAVED WALK

PORCH

M ELM

S APPLE

WOODEN POST & SUPPORT NETTING

GARAGE

PAVED DRIVE

PAVED DRIVE

HYDRANT

GUY WIRE

#4 4-8-11

LILAC

(2) S CHERRY

CONC WALK

TELEGRAPH NO LINES

BRACE POLE

WT LIMIT 6 TONS

PASSUMPSIC AVE

#4S

GUY WIRE

STOP

81+00

82+00

#4810

83+00

84+00

84+75

GUY WIRE

#2

LIGHT

DO NOT ENTER

WEIGHT LIMIT 6 TONS

WSO

2 M BOX ELDER

STEEL POST SET IN CONCRETE

OLD SIGNAL POLE

GUY WIRE

WOOD POST WOOD RAIL (TYP)

#3

PROPOSED WATER LINE

PROPOSED OVERHEAD UTILITY LINES

NEW UTILITY POLE STA. 83+56 20'-0" RT

NEW POLE W/ GUY WIRE EASEMENTS FOR UTILITIES OBTAINED BY OTHERS STA. 82+24 24'-0" RT

PAVED DRIVE

CONC STEPS

CONCRETE CURB

PAVED DRIVE

CONC STEPS

WOOD FRAMED HOUSE

CONC STEPS

CONC WALL

WOOD WALL

WOODS

WOODS

GATE POST

GATE POST

YIELD

STEEL GUARDRAIL W/ STEEL POST

STEEL GUARDRAIL W/ STEEL POST

LIGHT

CONC WALK

GRANITE CURB

GRANITE CURB

GUY WIRE

#5

CONC WALK

YIELD

PAVED DRIVE

TELEGRAPH NO LINES

T.H. 30 TO VT RTE 5 TO NORWICH

PAVED ROAD

GRANITE CURB

GUY #4S

PAVED DRIVE

WILDER DAM
NORWICH AVE
DEPOT ST
DEAD END ST

STEEL POST W/ CLEARANCE BAR

BM #1
RR SPIKE IN POLE
ELEV. = 428.83

81+85 RT

TRENCH EXCAVATION OF EARTH
STA ~~82+00.00~~ - 82+52.00 RT
STA 82+96.00 - ~~83+50.00~~ RT
83+62 RT

SAND BORROW
STA 82+00.00 - 82+52.00 RT
STA 82+96.00 - 83+50.00 RT

CRUSHED STONE BEDDING
STA 82+00.00 - 82+52.00 RT
STA 82+96.00 - 83+50.00 RT

SPECIAL PROVISION (WATER MAIN ON BRIDGE) (8")
STA 82+52.00 - 82+96.00 RT

SPECIAL PROVISION (PRE-INSULATED DUCTILE IRON PIPE, CEMENT-LINED) (WATER) (8")
STA 82+35.50 - 82+52.00 RT
STA 82+96.00 - 83+12.50 RT

DUCTILE IRON PIPE, CEMENT LINED (8")
81+85 RT — STA ~~82+00.00~~ - 82+35.50 RT
STA 83+12.50 - ~~83+50.00~~ RT
83+62 RT

UTILITY LAYOUT SHEET

SCALE 1" = 20'-0
20 0 20

PROJECT NAME: HARTFORD (WILDER)
PROJECT NUMBER: STP 1444(35)

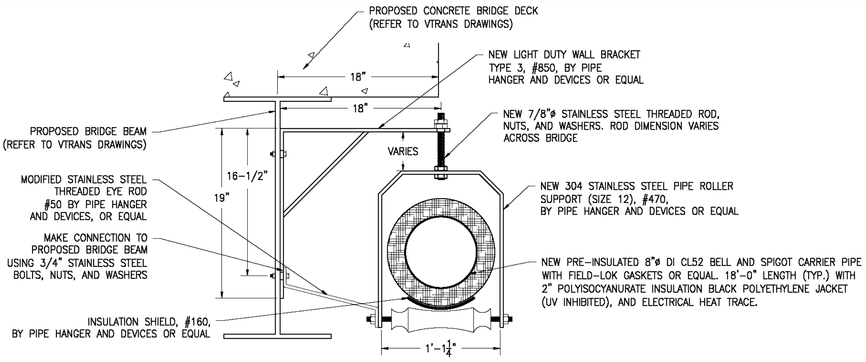
FILE NAME: b36\s96j070ut11_b36.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: T. FILLBACH
UTILITY LAYOUT SHEET - BRIDGE 36

PLOT DATE: 17-JUN-2010
DRAWN BY: J. SALVATORI
CHECKED BY: T. FILLBACH
SHEET 13 OF 69

PLAN
SCALE: 1"=30'

STATE OF VERMONT
SEWER AND WATER
SEWER AND WATER

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)



TYPICAL STEEL BEAM PIPE SUPPORT SECTION

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

NOTES:

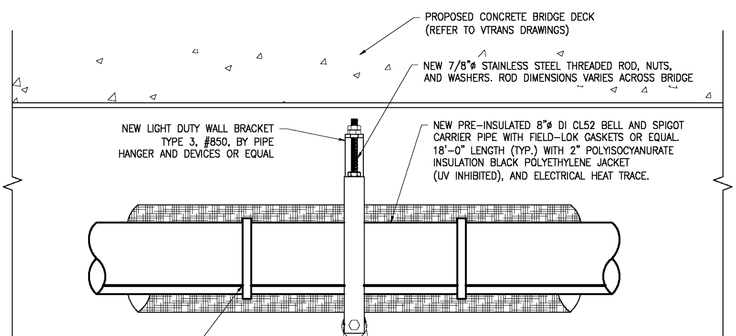
1. PIPE HANGERS SHALL BE MOUNTED AS HIGH AS POSSIBLE WITHIN THE PROPOSED BEAM.

TYPICAL CONCRETE BEAM PIPE SUPPORT SECTION

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

NOTES:

1. PIPE HANGERS SHALL BE MOUNTED AS HIGH AS POSSIBLE WITHIN THE PROPOSED BEAM.

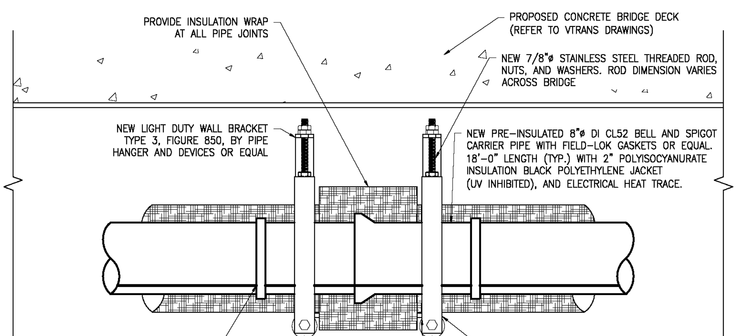


SINGLE PIPE SUPPORT DETAIL

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

NOTES:

1. PIPE HANGERS SHALL BE MOUNTED AS HIGH AS POSSIBLE WITHIN THE PROPOSED BEAM.

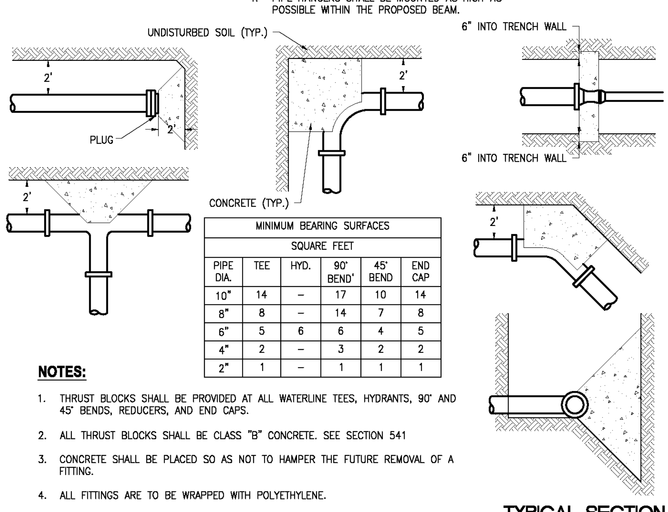


DOUBLE PIPE SUPPORT DETAIL

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

NOTES:

1. PIPE HANGERS SHALL BE MOUNTED AS HIGH AS POSSIBLE WITHIN THE PROPOSED BEAM.



MINIMUM BEARING SURFACES					
SQUARE FEET					
PIPE DIA.	TEE	HYD.	90° BEND	45° BEND	END CAP
10"	14	–	17	10	14
8"	8	–	14	7	8
6"	5	6	6	4	5
4"	2	–	3	2	2
2"	1	–	1	1	1

NOTES:

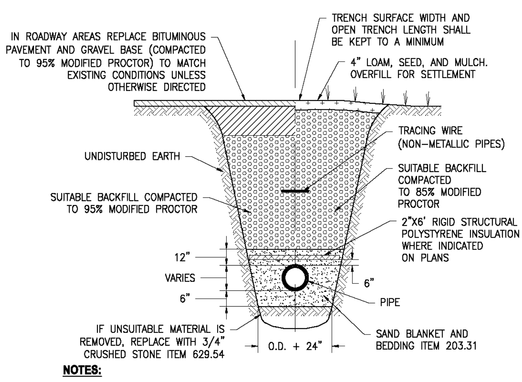
1. THRUST BLOCKS SHALL BE PROVIDED AT ALL WATERLINE TEES, HYDRANTS, 90° AND 45° BENDS, REDUCERS, AND END CAPS.
2. ALL THRUST BLOCKS SHALL BE CLASS "B" CONCRETE. SEE SECTION 541
3. CONCRETE SHALL BE PLACED SO AS NOT TO HAMPER THE FUTURE REMOVAL OF A FITTING.
4. ALL FITTINGS ARE TO BE WRAPPED WITH POLYETHYLENE.
5. THIS WORK WILL BE CONSIDERED INCIDENTAL TO ITEM 629.24 DUCTILE IRON PIPE, CEMENT LINED (8")

TYPICAL THRUST BLOCK DETAILS

SCALE: NONE

TYPICAL SECTION

SCALE: NONE



NOTES:

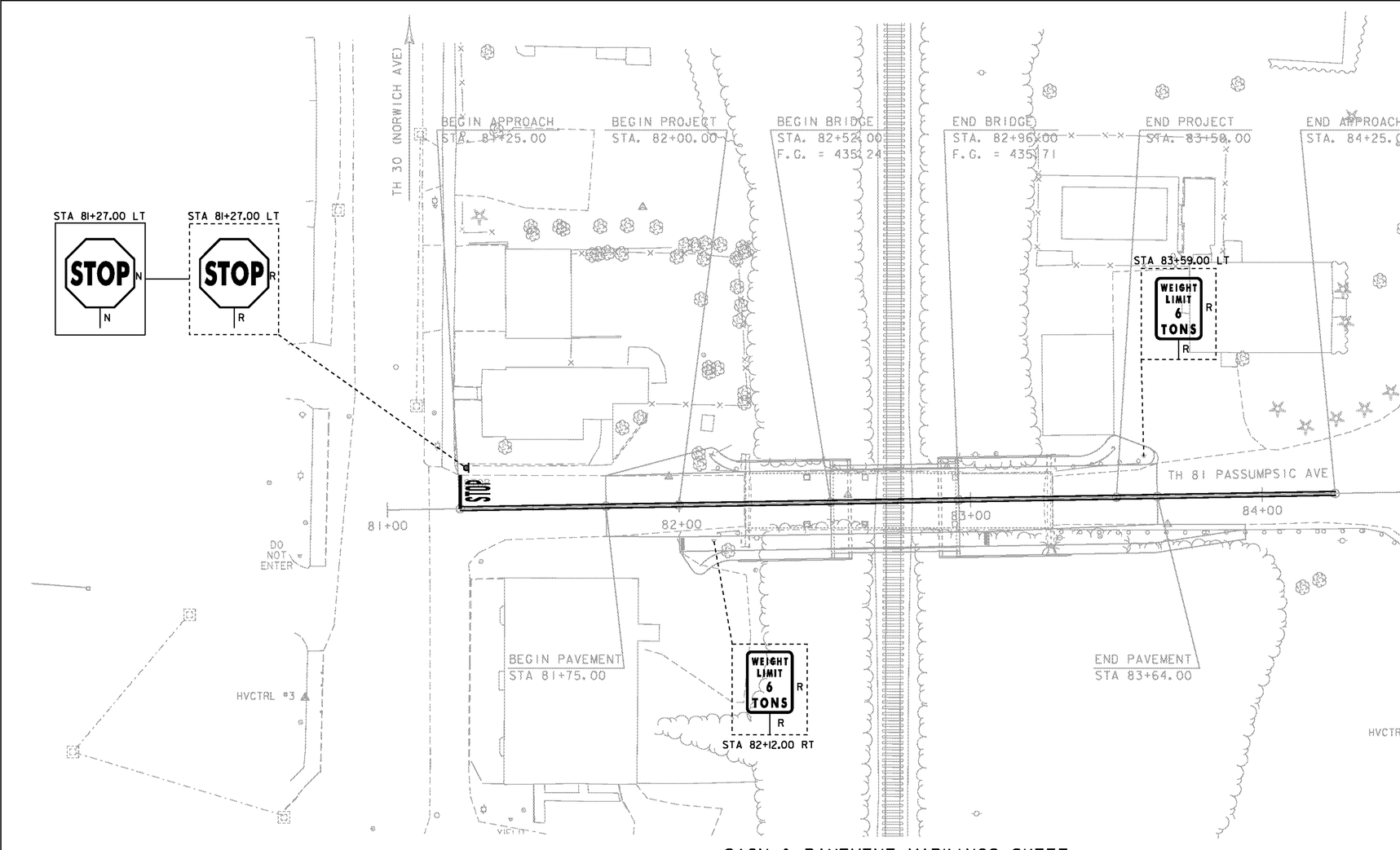
1. NO MECHANICAL TAMPERS SHALL BE USED DIRECTLY OVER PIPE TO INSURE PIPE IS NOT DAMAGED.
2. COMPACTION OF BACKFILL SHALL MEET A MINIMUM 95% STANDARD PROCTOR.
3. BEDDING TO PROVIDE A FIRM, STABLE, CONTINUOUS AND UNIFORM SUPPORT FOR THE FULL LENGTH OF PIPE.

TYPICAL WATERLINE TRENCH DETAIL

SCALE: NONE

1'-0"

Y:\09024-HARTFORD\WATER-DETAILS.dwg, 6/4/2010 1:33:16 PM



SIGN & PAVEMENT MARKINGS SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS WIDTH (In)	SIGN DIMENSIONS HEIGHT (In)	NEW SIGN "A"	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	NEW SIGN POSTS SQUARE STEEL (In) 2.0 lb/ft 2.16	2.0 lb/ft 2.42	2.5 lb/ft 3.35	ANCHOR	SLEEVE	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	SIGN DETAIL STD. SHEET NUMBER
81+27.00 LT	STOP	30	30	6.25			1		10		X		R1-1		SHS
								FT	FT 10	FT		EA			
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."		**TOTALS**		SF 6.25					FT 10						

SHS = STANDARD HIGHWAY SIGNS (MUTCD)

SCALE 1" = 20
20 0

SOIL CLASSIFICATION

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

ROCK QUALITY DESIGNATION

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

SHEAR STRENGTH

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

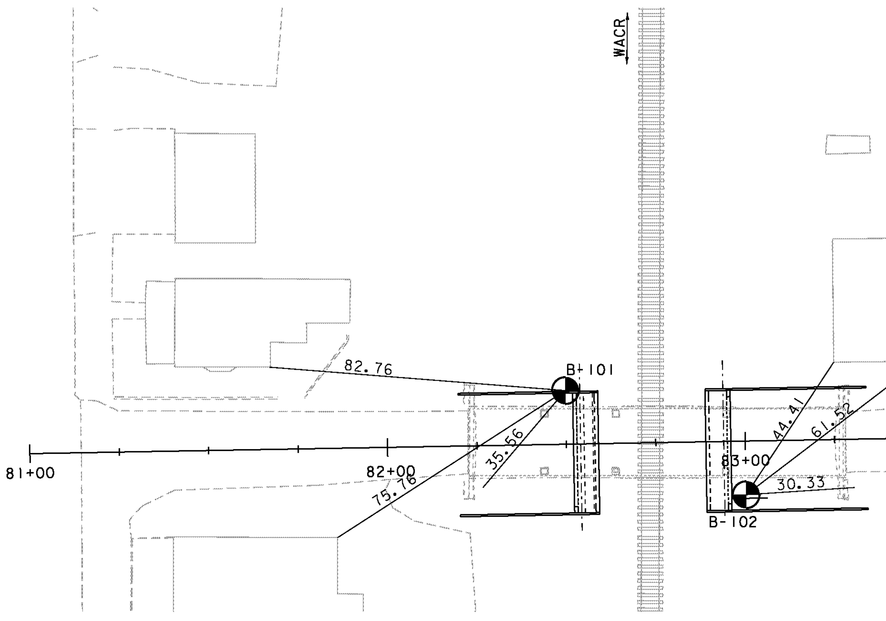
CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

DENSITY (GRANULAR SOILS) N	DESCRIPTIVE TERM	CONSISTENCY (COHESIVE SOILS) 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 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
Si	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)

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		



BORING LAYOUT SHEET

SCALE 1" = 20'-0

20 0 20

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 > 0.0787" (#10 sieve).

SAND - Particles of rock < 0.0787" (#10 sieve) and > 0.0029" (#200 sieve).

SILT - Soil < 0.0029" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

CLAY - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.

VARVED - Alternate layers of silt and clay.

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

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

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

FLOWING SAND - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash 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 7/8/08 and 7/11/08 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 judgment was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgment by the Contractor.

5. Pictorial structure details show the boring plan layout or soils profile are for illustrative pur only and may not accurately portray final contract details.

6. Terminology used on boring logs describe the hardness, degree weathering, and spacing of fractures, joints and other discontinuities in the bedrock defined in the AASHTO Manual or Subsurface Investigations, 1988.

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

BORING NUMBER: B-101
SHEET 1 of 1
DATE STARTED: 7/10/08
DATE COMPLETED: 7/11/08

PROJECT NAME: HARTFORD (WILDER)
SITE NAME: TH-29 & TH-81
STATION: 82+50
OFFSET: -15.00
VTSPG: N 427672.93 ft E 1691605.70 ft

PROJECT NUMBER: STP 1444(35)SC
SITE NUMBER: BR-38 & BR-36
GROUND ELEVATION: 414.7 ft
GROUNDWATER DEPTH: 39.6 ft 7/11/08
PROJECT PIN NUMBER: 96J070

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MAHMUTOVIC

BORING RIG: LAG TRACK RIG #09 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CCB

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		A-1-b, Sa, brn, Moist, Rec. = 0.7 ft	5	8.9	12.4	72.0	15.6
		A-1-b, Sa, brn, Moist, Rec. = 1.3 ft	5	12.6	6.0	85.9	8.1
		A-1-b, Sa, brn, Moist, Rec. = 1.5 ft	4	9.9	4.0	88.2	7.8
		A-1-b, Sa, brn-gry, Wet, Rec. = 1.4 ft	4	17.9	4.0	90.2	5.8
		A-2-4, SlSa, brn-gry, MTW, Rec. = 1.4 ft	7	19.7	0.5	74.7	24.8
10		A-2-4, SlSa, gry-brn, MTW, Rec. = 1.2 ft	7	19.1	1.6	64.9	33.5
		A-2-4, SlSa, gry, MTW, Rec. = 1.5 ft	7	18.0	9.3	60.2	30.5
		A-2-4, Sa, brn-gry, MTW, Rec. = 1.4 ft	19	16.6	4.9	78.0	17.1
		A-4, SaSi, brn, Moist, Rec. = 1.3 ft	12	20.1	7.0	46.3	46.7
		A-4, Si, brn, MTW, Rec. = 1.4 ft	16	27.2	0.0	7.6	92.4
20		A-4, Si, brn, MTW, Rec. = 1.5 ft	22	27.9	3.1	6.9	90.0
		A-4, SaSi, gry-brn, Moist, Rec. = 1.3 ft	25	20.9	0.0	36.9	63.1
30		A-4, SaSi, brn, Moist, Rec. = 1.2 ft	31	23.2	0.9	29.9	69.2
		A-4, SaSi, brn, Moist, Rec. = 1.1 ft	25	22.8	0.0	31.5	68.5
40		A-4, SaSi, brn, MTW, Rec. = 1.4 ft	11	27.8	0.0	47.8	52.2
		A-4, SaSi, brn, MTW, Rec. = 1.6 ft	16	26.2	0.1	30.0	69.9
50		A-2-4, SlSa, brn, MTW, Rec. = 1.4 ft	20	26.1	0.0	66.0	34.0
		Hole stopped @ 52.0 ft					

LOG OF BORING HARTFORD (WILDER) STP 1444(35)SC.GPJ VT_AOT.GDT 4/9/09

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

PROJECT NAME: HARTFORD (WILDER)
SITE NAME: TH-29 & TH-81
STATION: 83+00
OFFSET: 15.00
VTSPG: N 427643.79 ft E 1691655.87 ft

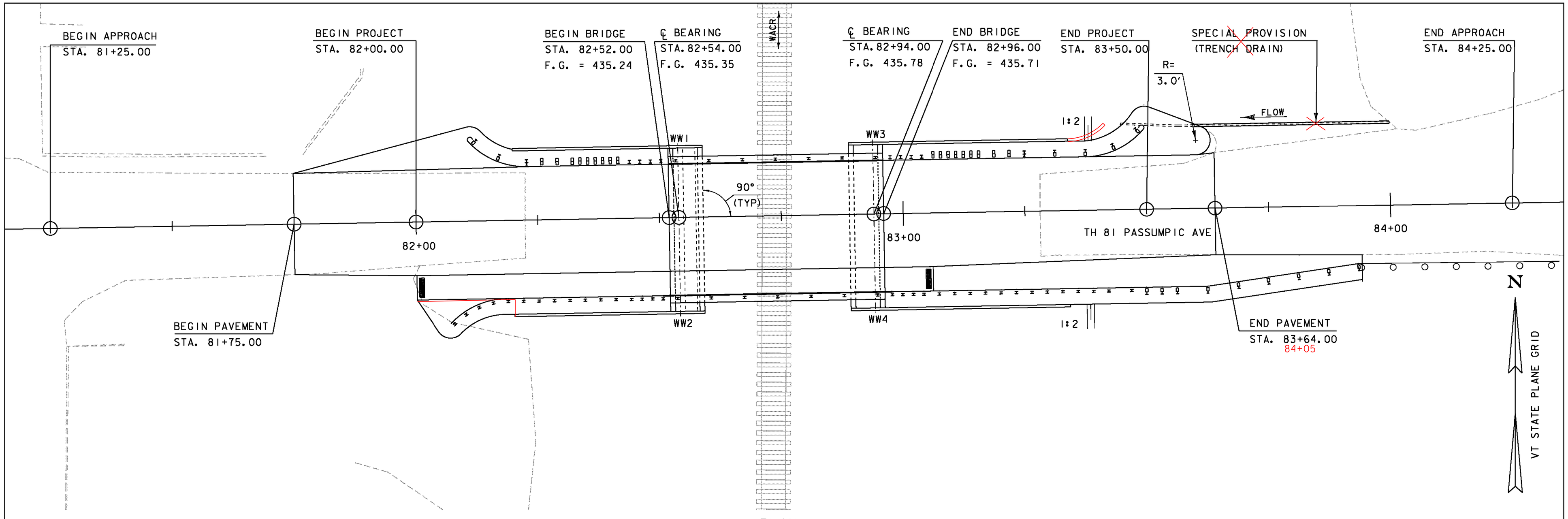
PROJE
SITE N
GROUN
GROUN
PROJE

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MAHMUTOVIC

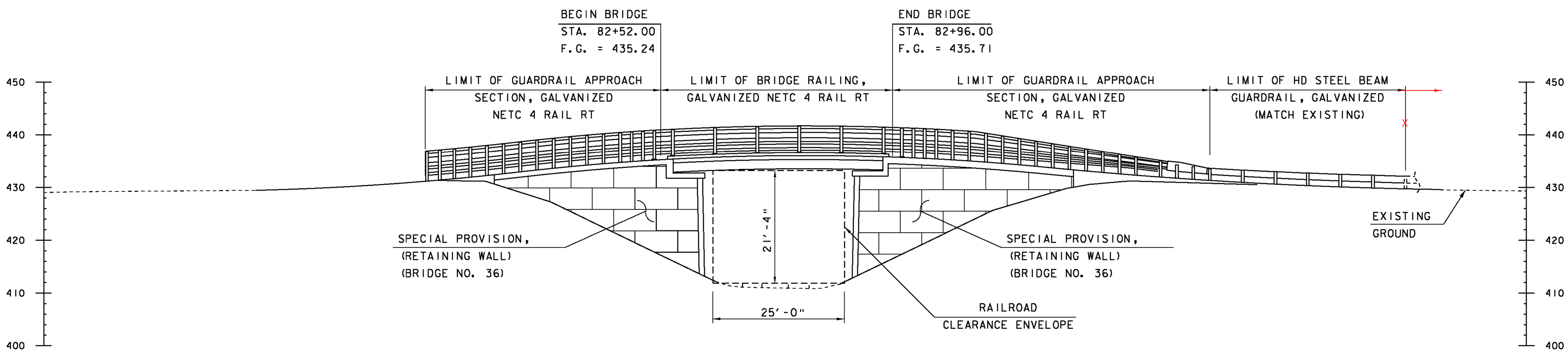
BORING
BORING
SAMPL
CHECK

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)
		A-1-b, Sa, brn, Moist, Rec. = 0.5 ft
		A-2-4, SlSa, brn, Moist, Rec. = 0.2 ft
		Field Note:, No recovery
		A-2-4, SlSa, gry, MTW, Rec. = 0.3 ft
		A-2-4, Sa, gry, Wet, Rec. = 0.7 ft
10		A-2-4, Sa, gry, Wet, Rec. = 0.4 ft
		A-2-4, Sa, gry, Moist, Rec. = 1.1 ft
		A-4, SaSi, brn, Moist, Rec. = 1.3 ft
		A-4, Si, brn, Moist, Rec. = 1.5 ft
		A-4, Si, brn, Moist, Rec. = 1.4 ft
20		A-4, SaSi, brn, Moist, Rec. = 1.2 ft
		A-4, SaSi, brn, Moist, Rec. = 1.9 ft
30		A-2-4, SlSa, brn, Moist, Rec. = 1.2 ft
		A-2-4, Sa, brn, Moist, Rec. = 1.1 ft, Mud drilling from 35 ft.
40		A-2-4, Sa, brn, Moist, Rec. = 1.1 ft
		A-3, Sa, brn, Moist, Rec. = 2.0 ft
50		A-2-4, Sa, brn, Moist, Rec. = 1.1 ft
		Hole stopped @ 52.0 ft

LOG OF BORING HARTFORD (WILDER) STP 1444(35)SC.GPJ VT_AOT.GDT 4/9/09



PLAN



ELEVATION @ SOUTH FASCIA

SEE STANDARD DRAWINGS FOR NETC 2 RAIL DETAILS
SEE RAIL LAYOUT SHEET FOR RAIL DETAILS

SCALE 1" = 10'-0
10 0 10

PROJECT NAME: HARTFORD (WILDER)
PROJECT NUMBER: STP 1444(35)

FILE NAME: b36\s96j070pe_b36.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
PLAN & ELEVATION - BRIDGE 36

PLOT DATE: 17-JUN-2010
DRAWN BY: R. PELLETT
CHECKED BY: T. FILLBACH
SHEET 19 OF 69

N

VT STATE PLANE GRID

SEE STANDARD DRAWINGS - S-360a, S-360b, S-363, and G-1d

14'-6" PAY LENGTH
HD STEEL BEAM
GUARDRAIL, GALVANIZED

29'-1"
PAY LIMITS
GUARDRAIL
APPROACH
SECTION,
GALVANIZED
NETC 2 RAIL

44'-0" PAY LENGTH
BRIDGE RAILING,
GALVANIZED NETC 2 RAIL

29'-1"
PAY LIMITS
GUARDRAIL APPROACH
SECTION,
GALVANIZED
NETC 2 RAIL

27'-0" PAY LENGTH
HD STEEL BEAM
GUARDRAIL, GALVANIZED

BEGIN BRIDGE
STA. 82+52.00
F.G. = 435.24

END BRIDGE
STA. 82+96.00
F.G. = 435.71

R 16'-0" (TYP)

82+00

83+00

84+00

R 16'-0"

8'-0" MAX SPACING
(TYP)

1'-6"
(TYP)

1'-6"
(TYP)

12 SPACES @ 3'-1 1/2"

3 SPACES @ 2'-2"

3 SPACES @ 2"-2"

12 SPACES @ 3'-1 1/2"

EXISTING
GUARDRAIL

46'-0" PAY LIMITS
GUARDRAIL APPROACH SECTION,
GALVANIZED NETC 4 RAIL
(SEE RAIL DETAIL - WW#2 - BR 36)

44'-0" PAY LENGTH
BRIDGE RAILING,
GALVANIZED NETC 4 RAIL
(SEE NETC 4 BRIDGE
RAILING DETAIL - BR 36)

60'-0" PAY LIMITS
GUARDRAIL APPROACH SECTION,
GALVANIZED NETC 4 RAIL
(SEE RAIL DETAIL - WW#4 - BR 36)

~~37'-6"~~ PAY LENGTH
HD STEEL BEAM GUARDRAIL,
GALVANIZED

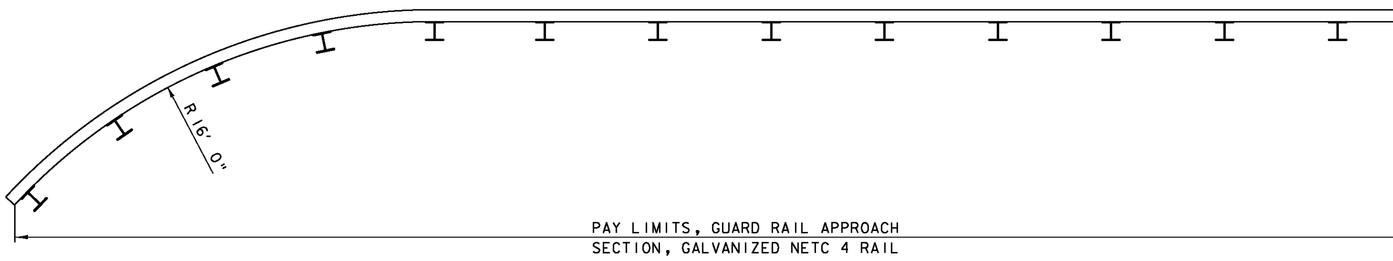
BRIDGE 36 RAIL LAYOUT

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

PROJECT NAME:	HARTFORD (WILDER)
PROJECT NUMBER:	STP 1444(35)

FILE NAME: b36\s96j07rail_b36.dgn	PLOT DATE: 16-JUN-2010
PROJECT LEADER: K. HIGGINS	DRAWN BY: G. LAROCHE
DESIGNED BY: G. LAROCHE	CHECKED BY: J. SALVATORI
RAIL LAYOUT - BRIDGE 36	SHEET 20 OF 69

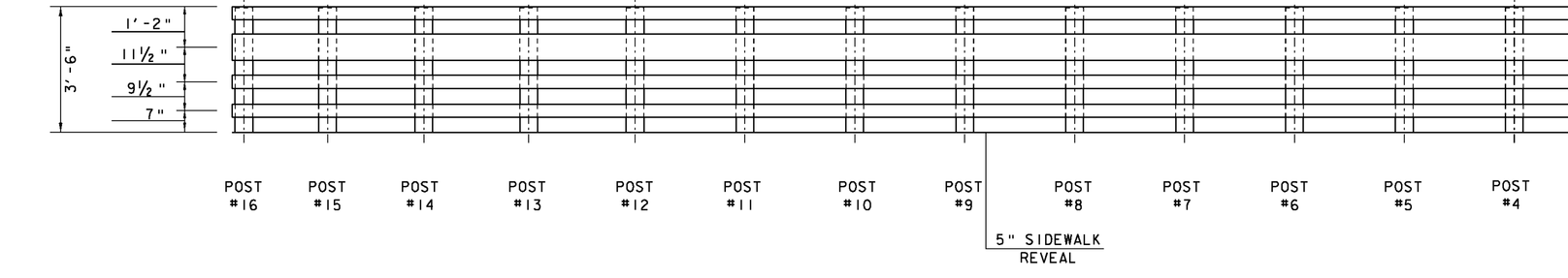
(TO
RAI



PAY LIMITS, GUARD RAIL APPROACH
SECTION, GALVANIZED NETC 4 RAIL

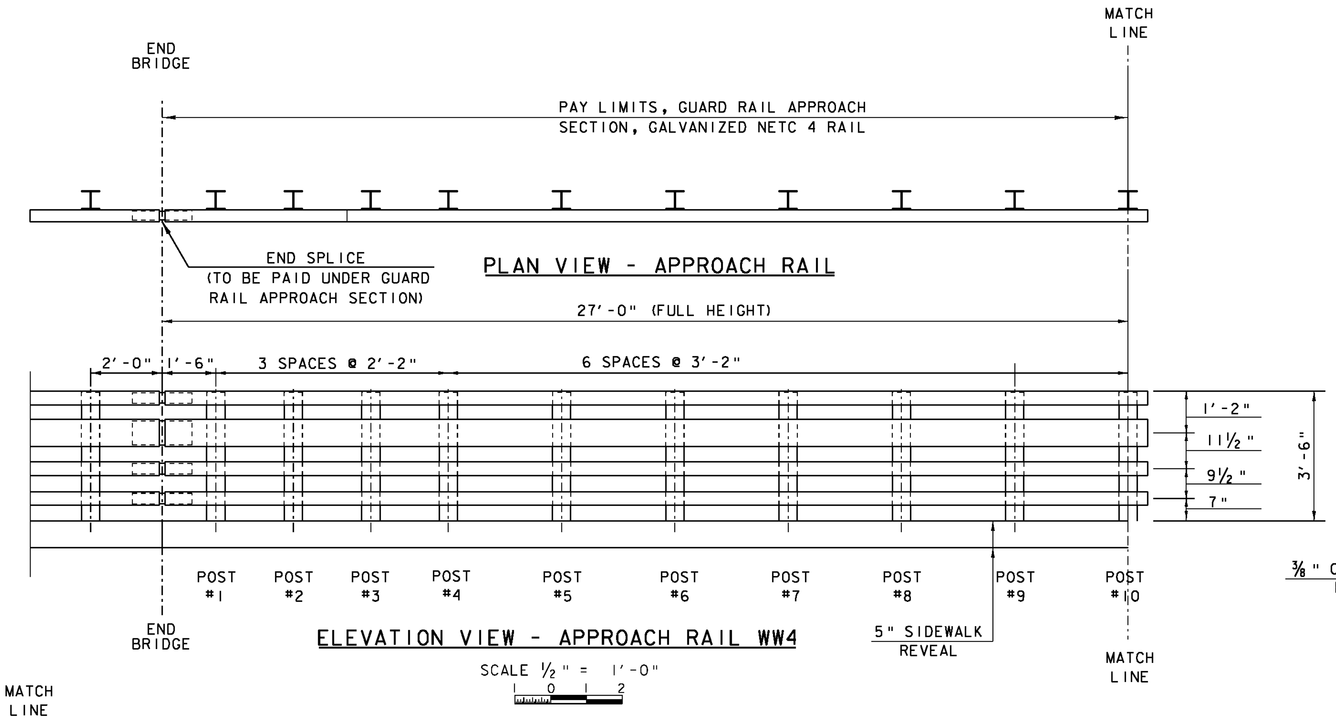
PLAN VIEW - APPROACH RAIL WW2

SCALE ½" = 1'-0"



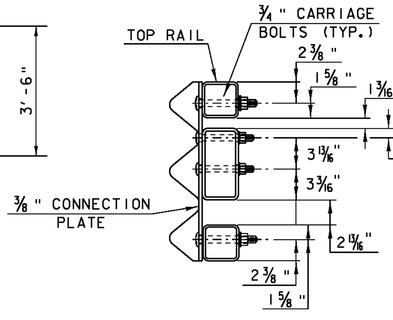
ELEVATION VIEW - APPROACH RAIL WW2

SCALE ½" = 1'-0"

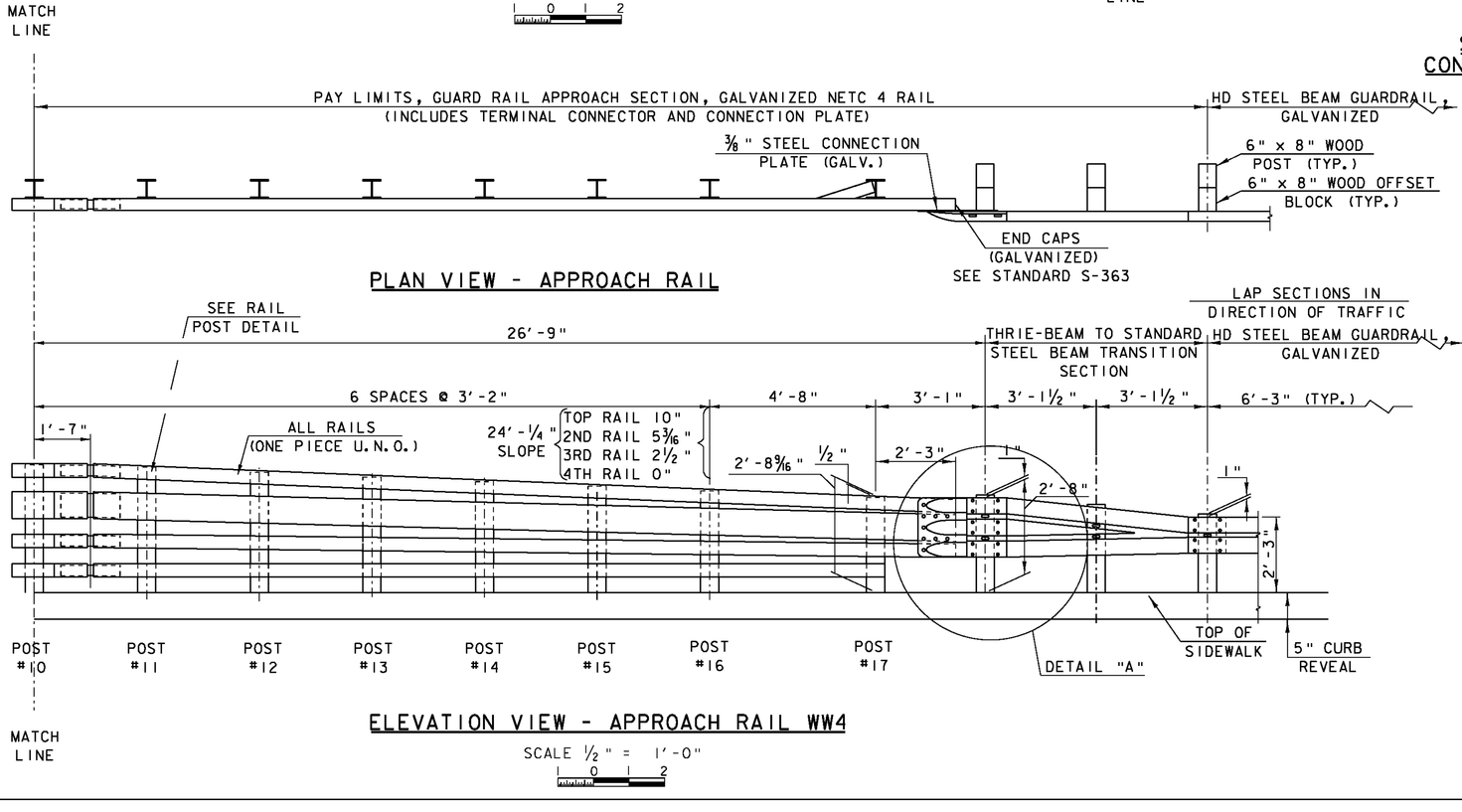


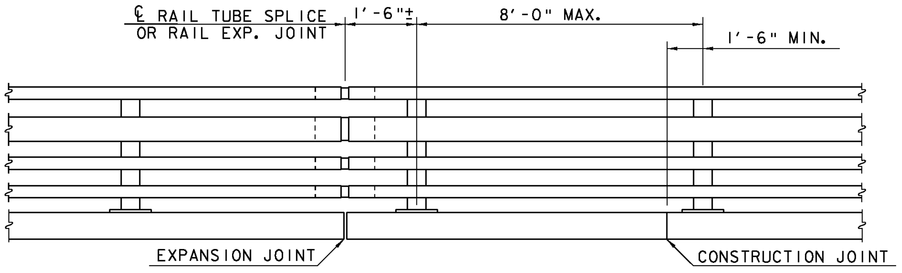
NOTES

1. REFER TO NETC 2 RAIL STAND DETAILS, NOTES AND MATERIA
2. PAYMENT FOR GUARD RAIL APP CONNECTOR, THE CONNECTION
3. ALL APPROACH RAIL SPLICES
4. ALL BRIDGE APPROACH RAIL M AS THOSE OF THE BRIDGE RAI
5. APPROACH RAIL BOLTS SHALL (ASTM A563 GRADE A OR BETT
6. WELD SPLICE BARS TO FIT BE



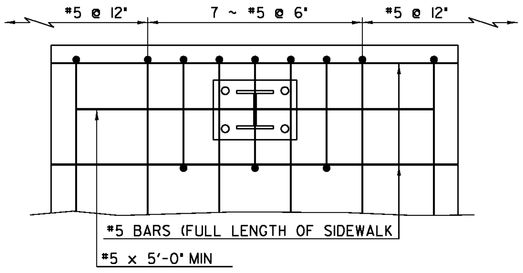
SECTION C-C
CONNECTION PLATE
(NOT TO SCALE)





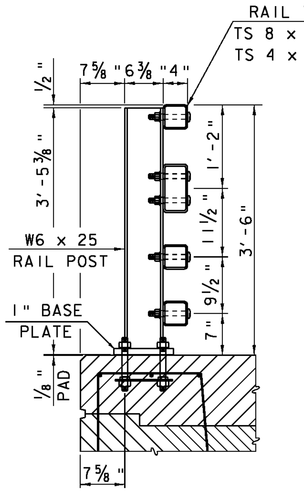
BRIDGE RAILING ELEVATION

(NOT TO SCALE)



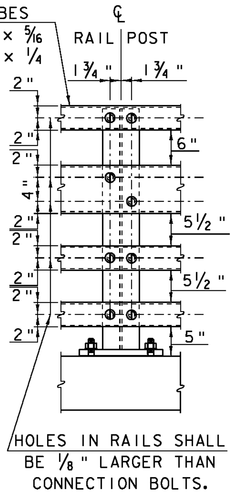
SIDEWALK REINFORCING PLAN

(NOT TO SCALE)



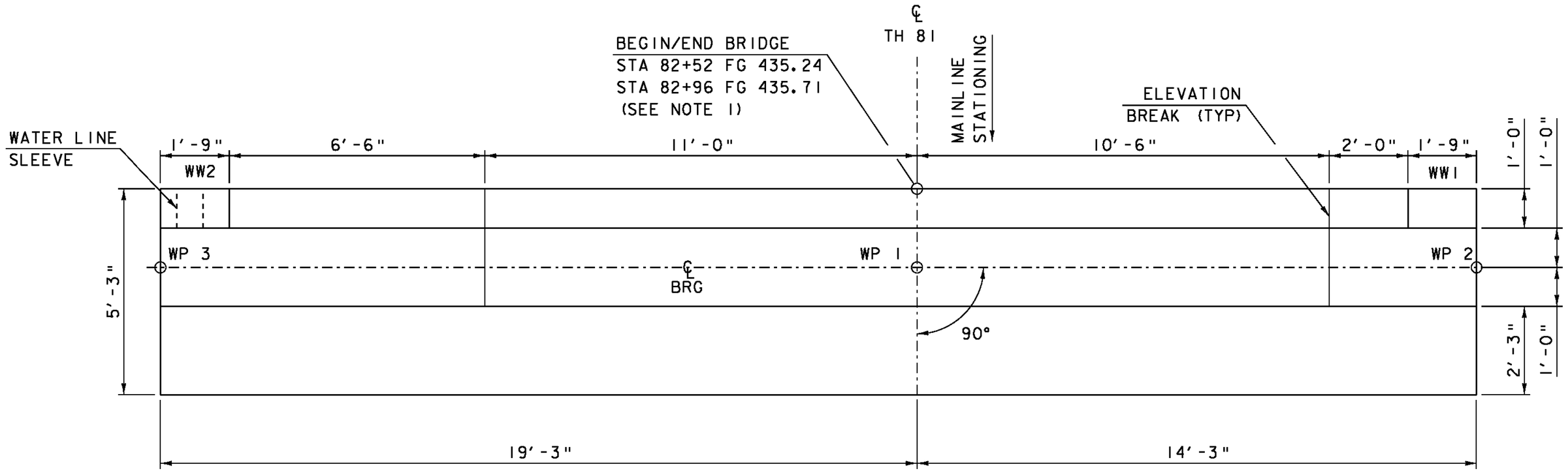
TYPICAL SECTION

(NOT TO SCALE)



ELEVATION

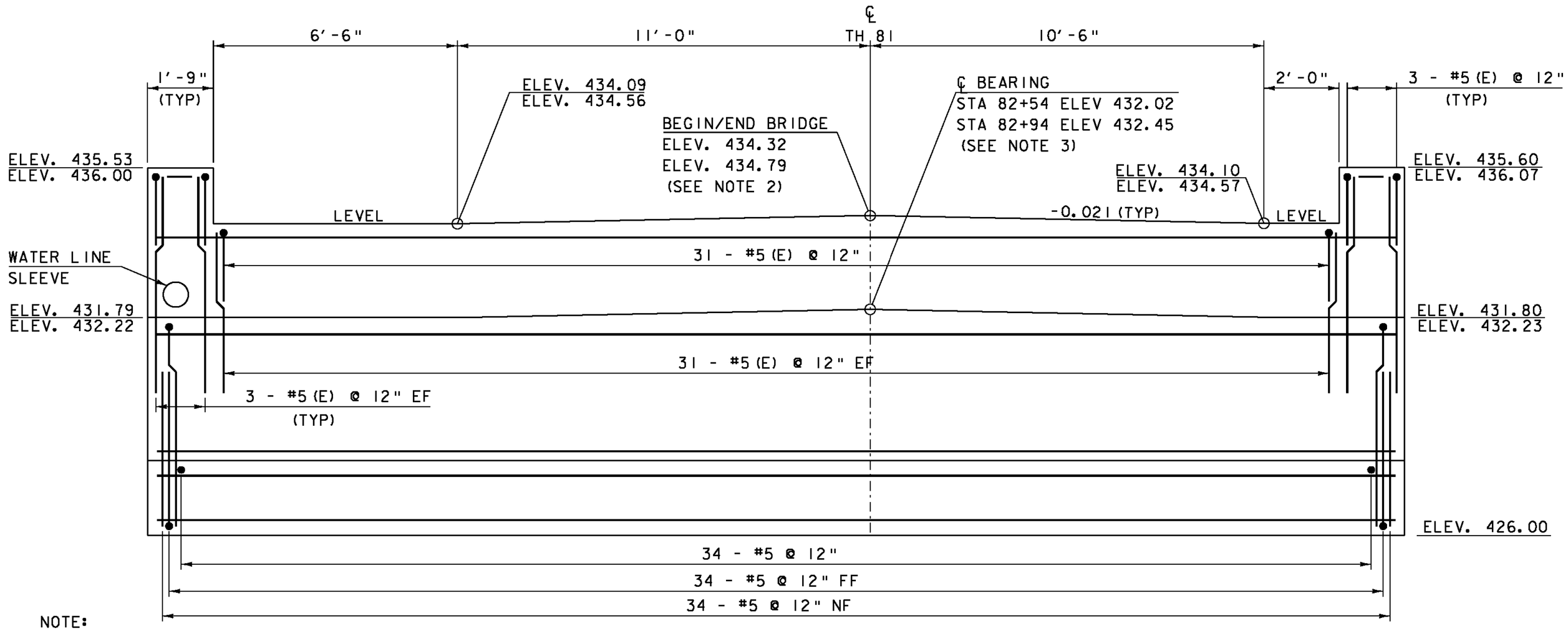
(NOT TO SCALE)



ABUTMENT 1 PLAN VIEW

SCALE ½" = 1'-0"
(ABUTMENT 2 SIMILAR)

SEE BR. 36 SHOP DRAWINGS SHEETS CT1 - CT19 OF APPROVED DATE 5/3/11 BY CONSPAN



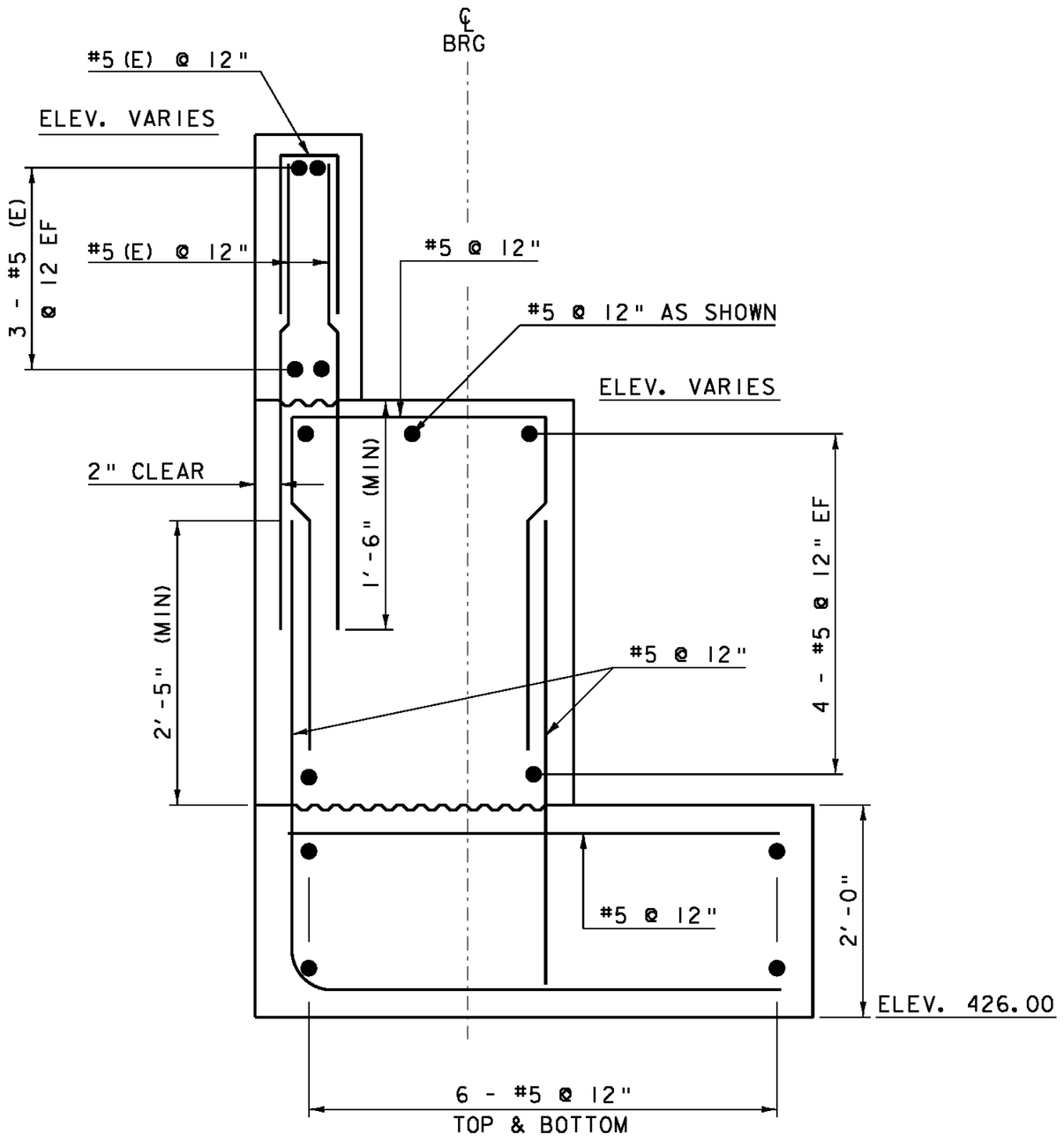
ABUTMENT 1 ELEVATION VIEW

SCALE ½" = 1'-0"
(ABUTMENT 2 SIMILAR)

NOTE:
CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LENGTHS AND REINFORCING BAR BENDS BASED ON THESE DRAWINGS. ALL LAP LENGTHS SHALL BE AT LEAST THE LENGTH SPECIFIED BELOW:

#5 - 2'-2"
#6 - 2'-7"
#7 - 3'-5"
#8 - 4'-6"
#9 - 5'-8"
#10 - 7'-3"
#11 - 8'-10"

NOTES:
1) BEGIN AND END BRIDGE STATIONS AND ELEVATIONS MAY CHANGE BASED ON THE SUPERSTRUCTURE CHOSEN.
2) ELEVATIONS ARE BASED ON AN 8" DECK AND 3" OF PAVEMENT.
3) ELEVATIONS ARE BASED ON A 27" SUPERSTRUCTURE AND 2" BEARING.
4) DESIGN BASED ON HIGH PERFORMANCE CONCRETE, CLASS B.
5) ANY COSTS ASSOCIATED WITH THE CONCRETE AND REINFORCING STEEL SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 900.645 SPECIAL PROVISION (DESIGN AND CONSTRUCT BRIDGE)
6) WHEN TWO ELEVATIONS ARE SHOWN, THE TOP ELEVATIONS REFER TO ABUTMENT 1 AND THE BOTTOM ELEVATION REFERS TO ABUTMENT 2.
7) LOCATION AND ELEVATION OF WATER LINE SLEEVE TO BE VERIFIED IN THE FIELD.



ABUTMENT TYPICAL SECTION

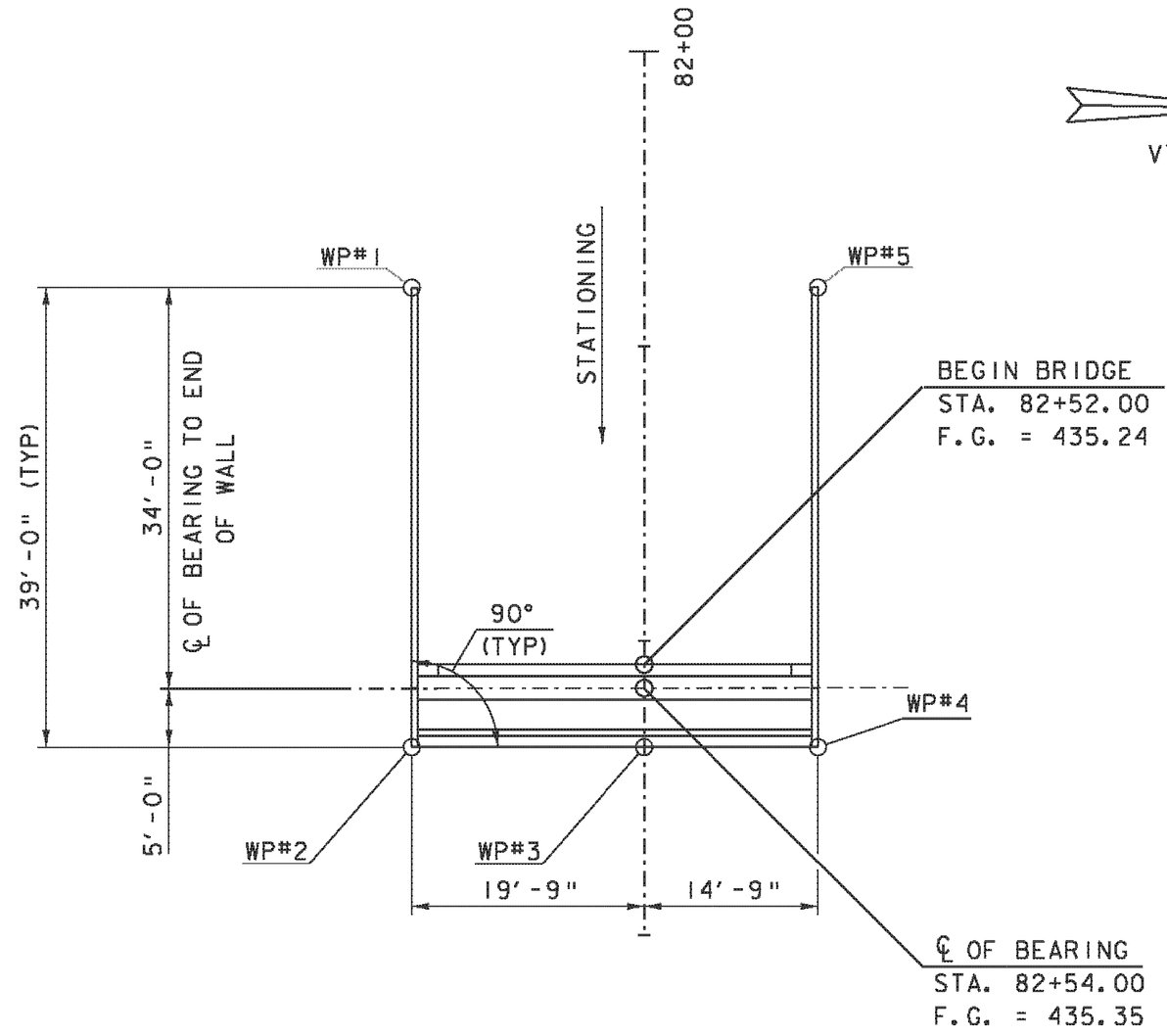
SCALE 1" = 1'-0"

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

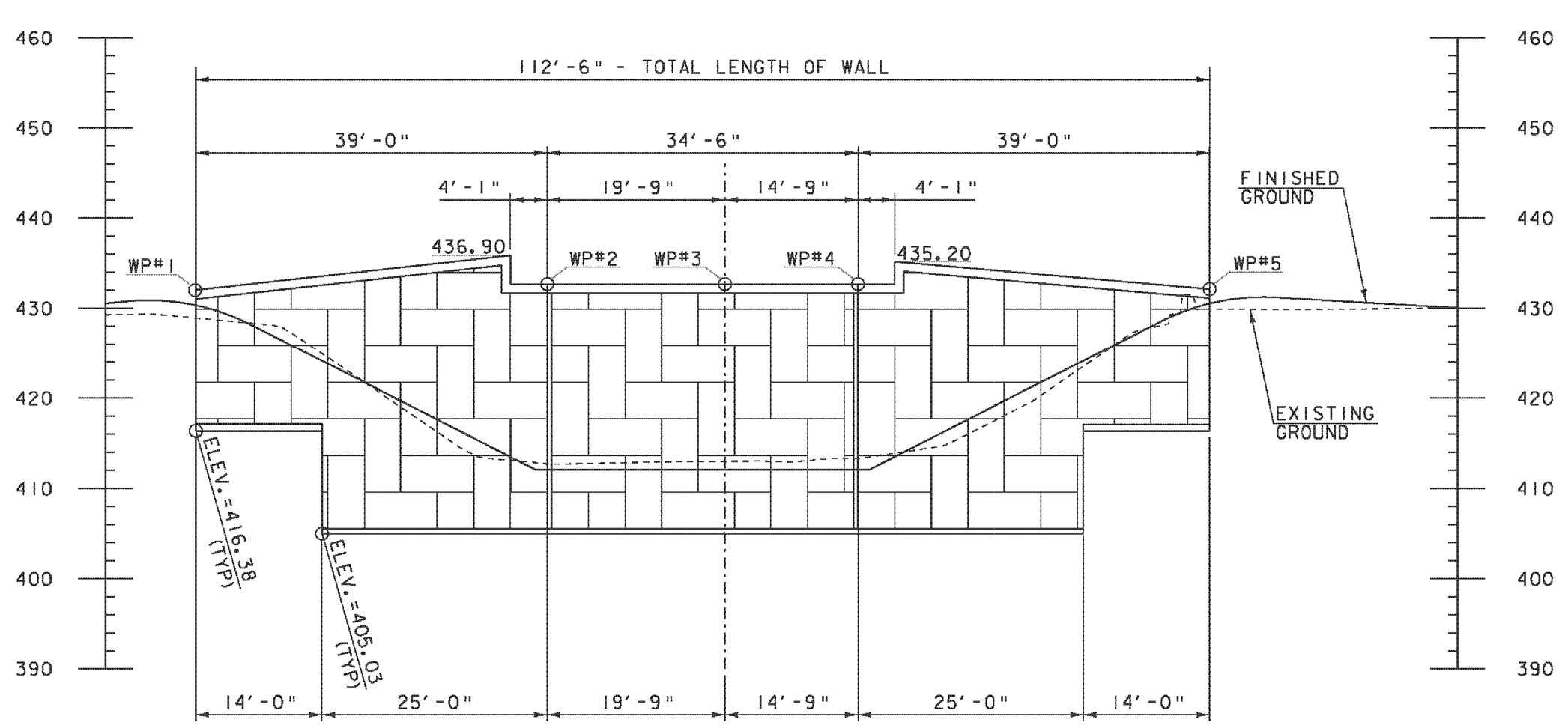
SCALE ½" = 1'-0"
0 1 2

SCALE 1" = 1'-0"
1 9 6 3 0 2

PROJECT NAME:	HARTFORD (WILDER)
PROJECT NUMBER:	STP 1444(35)
FILE NAME: b36\s96j070sub2_b36.dgn	PLOT DATE: 16-JUN-2010
PROJECT LEADER: K. HIGGINS	DRAWN BY: J. GRIFFIN
DESIGNED BY: T. FILLBACH	CHECKED BY: T. FILLBACH
ABUTMENT 1& 2 DETAILS - BRIDGE 36	SHEET 24 OF 69



PLAN OF RETAINING WALL @ ABUTMENT NO. 1

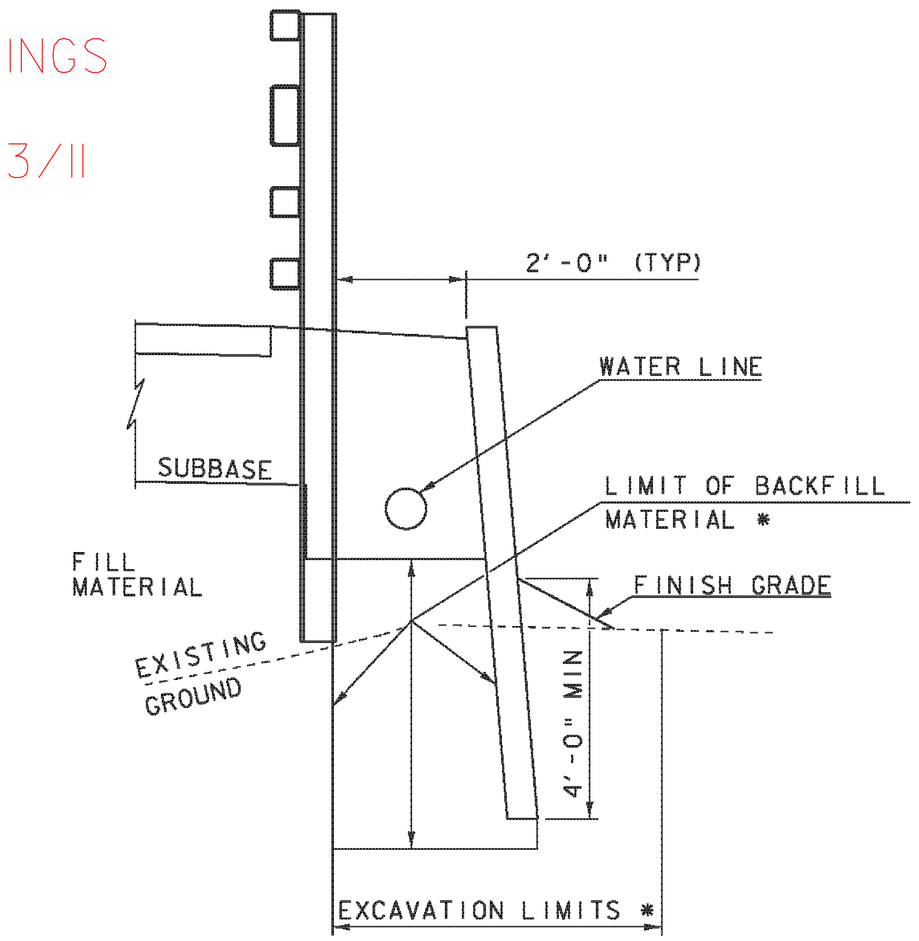


ELEVATION ALONG FACE OF RETAINING WALL @ ABUTMENT NO. 1

NOTES:

1. WP INDICATES WORKING POINTS ALONG FRONT FACE OF WALL. ABUTMENT WORKING POINTS ARE NOT SHOWN ON THIS SHEET.
2. THE ELEVATIONS SHOWN AT THE BOTTOM OF THE WALL ARE MAXIMUM ELEVATIONS TO ACCOUNT FOR FROST DEPTH, STABILITY AND FUTURE RAILROAD EXCAVATION.
3. SEE ADDITIONAL NOTES ON GENERAL NOTES SHEET #3.

SEE BR. 36 SHOP DRAWINGS
SHEETS CT1 - CT19
OF APPROVED DATE 5/3/11
BY CONSPAN



* LIMITS AS DEEMED NECESSARY BY DESIGN AND APPROVED BY THE ENGINEER

RETAINING WALL
TYPICAL SECTION

NOT TO SCALE

WORKING POINTS

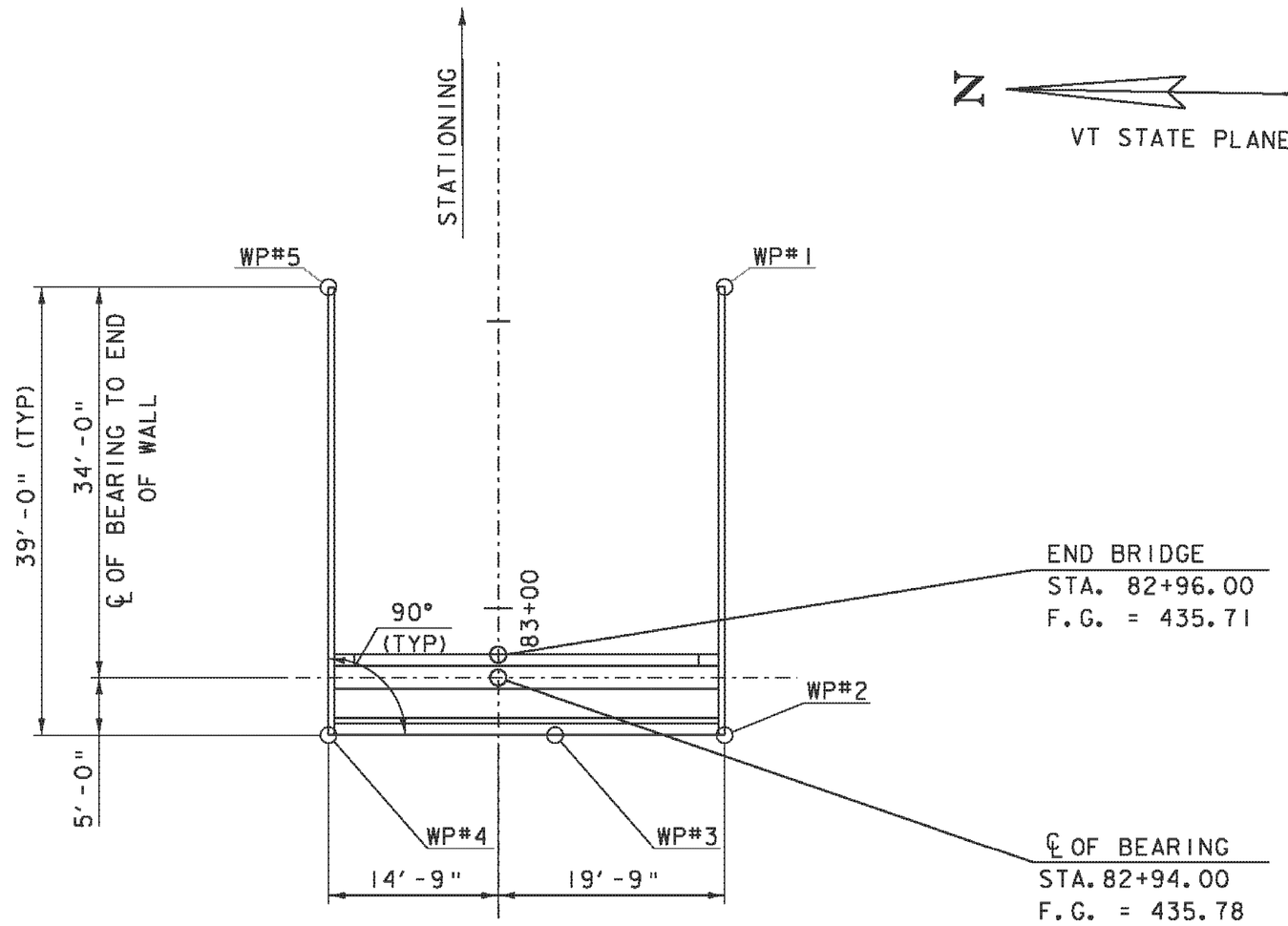
WP#	STA.	OFFSET	TOP OF WALL ELEV.
#1	82+20.00	19.75	432.04
#2	82+59.00	19.75	432.70
#3	82+59.00	0.00	432.70
#4	82+59.00	-14.75	432.70
#5	82+20.00	-14.75	432.10

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

PROJECT NAME: HARTFORD (WILDER)
PROJECT NUMBER: STP 1444(35)

FILE NAME: b36\s96j070wall_b36.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: G. LAROCHE
WALL AT ABUTMENT #1 - BRIDGE 36

PLOT DATE: 17-JUN-2010
DRAWN BY: J. GRIFFIN
CHECKED BY: J. SALVATORI
SHEET 25 OF 69

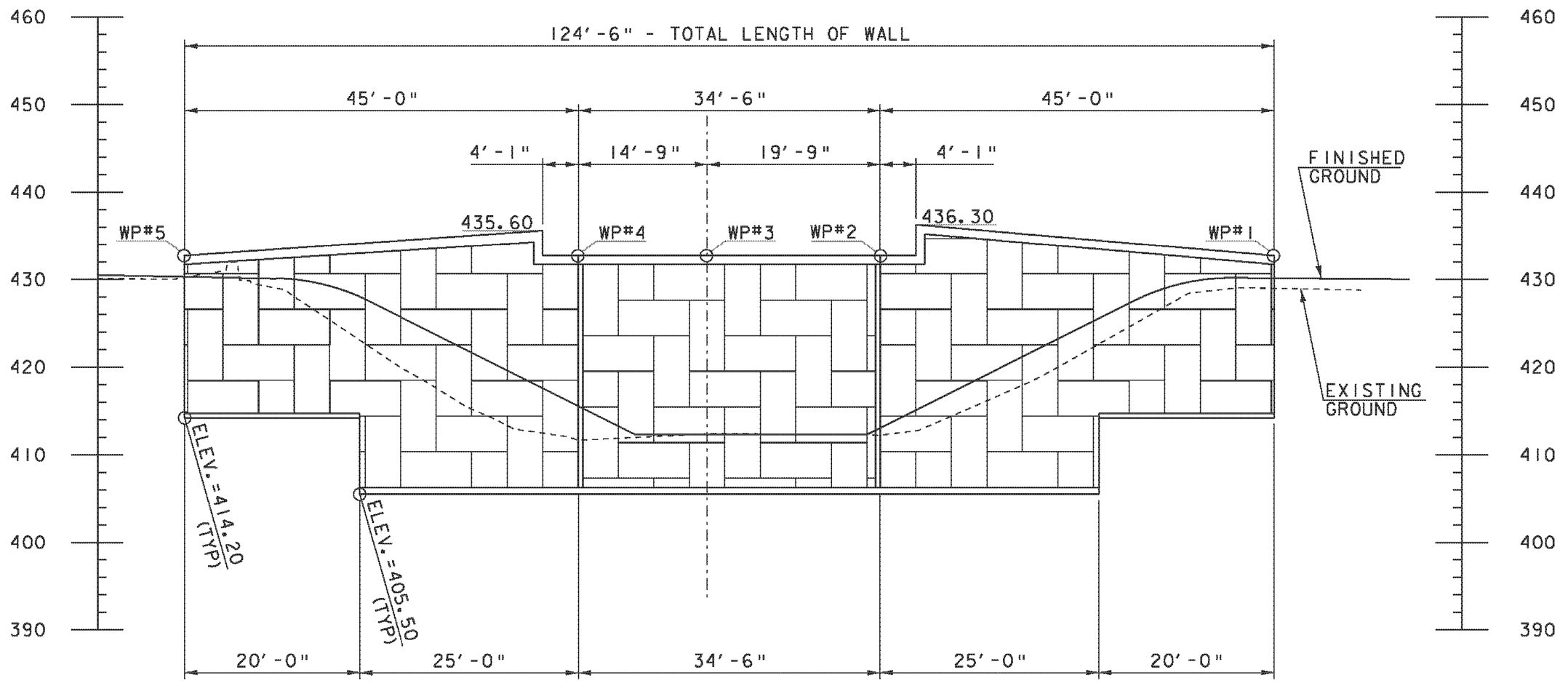


PLAN OF RETAINING WALL @ ABUTMENT NO. 2

NOTES:

1. WP INDICATES WORKING POINTS ALONG FRONT FACE OF WALL. ABUTMENT WORKING POINTS ARE NOT SHOWN ON THIS SHEET.
2. THE ELEVATIONS SHOWN AT THE BOTTOM OF THE WALL ARE MAXIMUM ELEVATIONS TO ACCOUNT FOR FROST DEPTH, STABILITY AND FUTURE RAILROAD EXCAVATION.
3. SEE SHEET 25 FOR RETAINING WALL TYPICAL SECTION.
4. SEE ADDITIONAL NOTES ON GENERAL NOTES SHEET #3.

SEE BR. 36 SHOP DRAWINGS
SHEETS CTI - CTI9
OF APPROVED DATE 5/3/11
BY CONSPAN



ELEVATION ALONG FACE OF RETAINING WALL @ ABUTMENT NO. 2

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

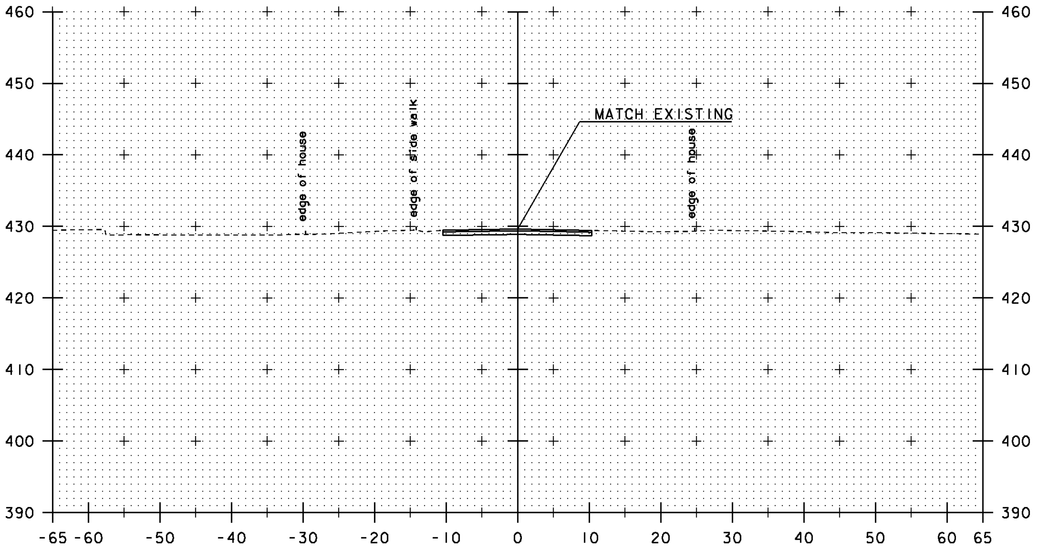
WORKING POINTS

WP#	STA.	OFFSET	TOP OF WALL ELEV.
#1	83+34.00	19.75	432.70
#2	82+89.00	19.75	432.70
#3	82+89.00	0.00	432.70
#4	82+89.00	-14.75	432.70
#5	83+34.00	-14.75	432.70

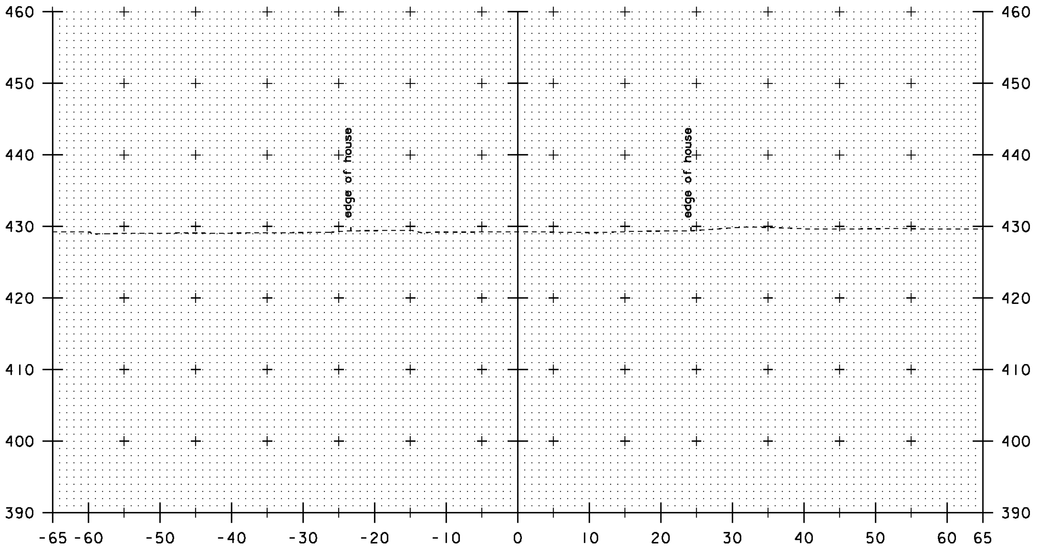
PROJECT NAME: HARTFORD (WILDER)
PROJECT NUMBER: STP 1444(35)

FILE NAME: b36\s96j070wall_b36.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: G. LAROCHE
WALL AT ABUTMENT #2 - BRIDGE 36

PLOT DATE: 17-JUN-2010
DRAWN BY: J. GRIFFIN
CHECKED BY: J. SALVATORI
SHEET 26 OF 69

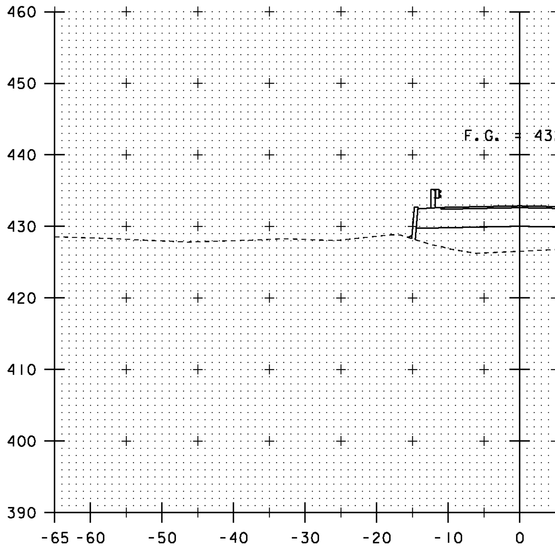


81+75

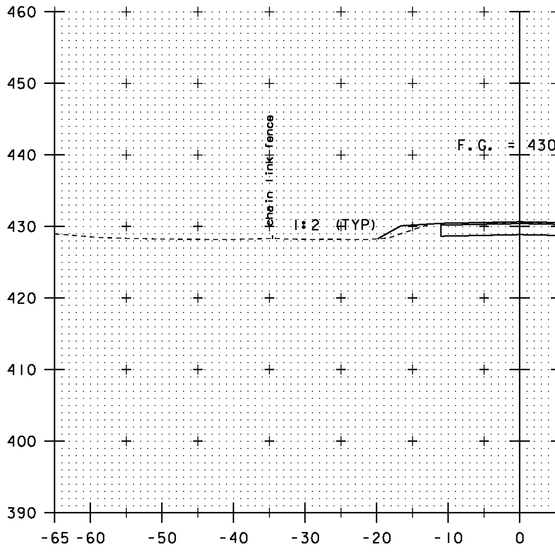


81+50

81+25
BEGIN APPROACH



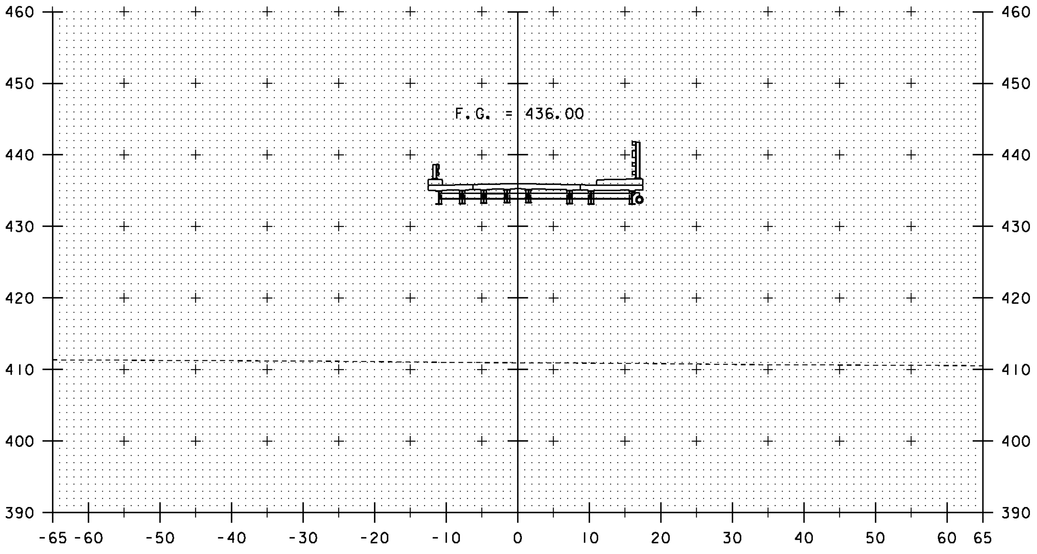
82+25



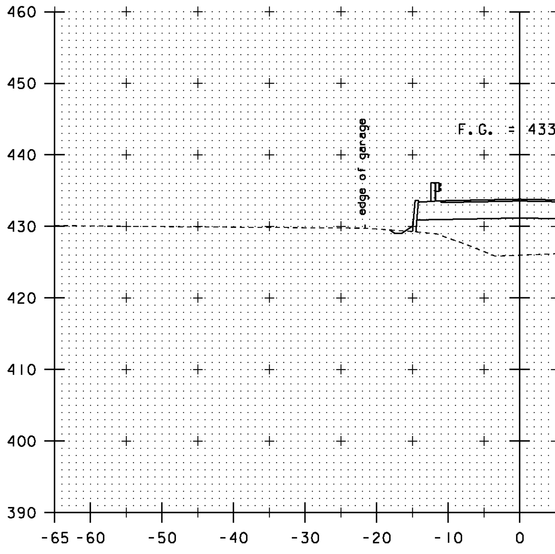
82+00
BEGIN PROJ

STA. 81+50 TO STA. 82

SCALE 1" = 1
10 0

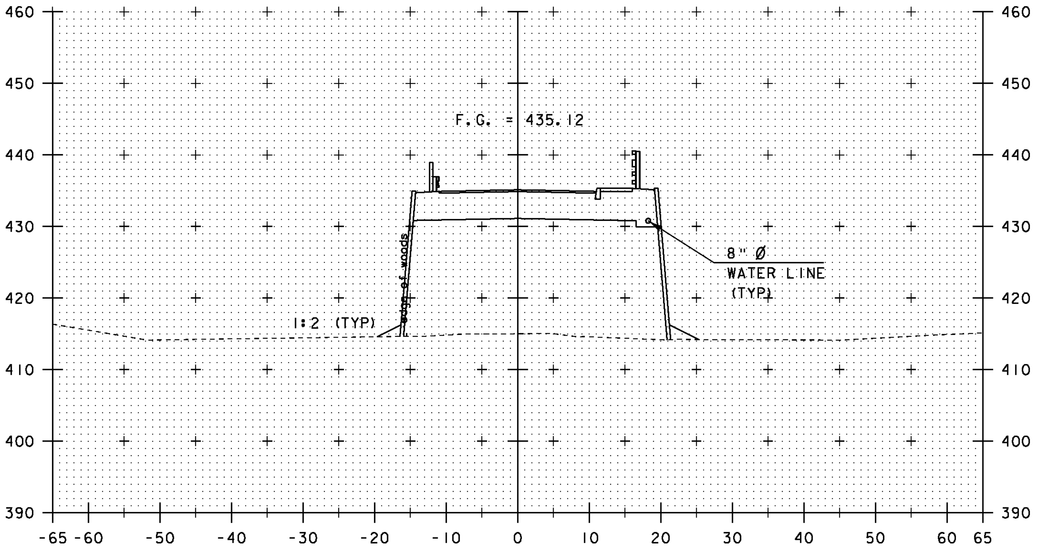


82+75

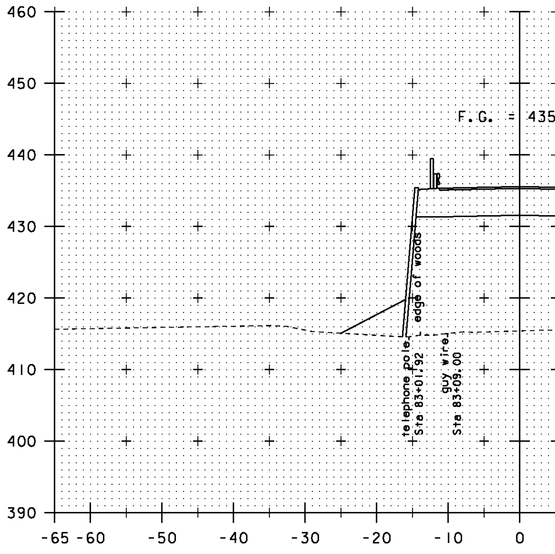


83+25

BEGIN BRIDGE 82+52 - END BRIDGE 82+96



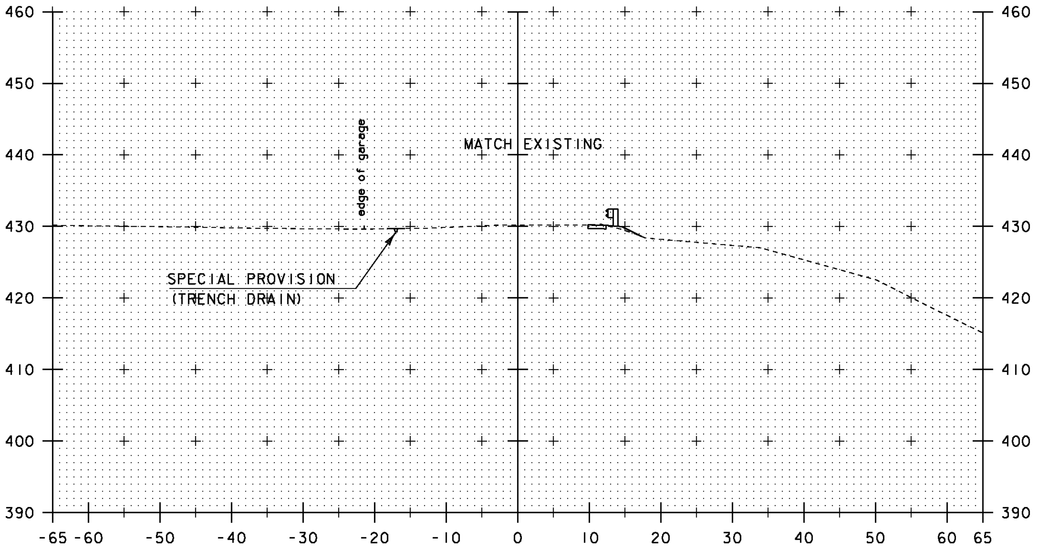
82+50



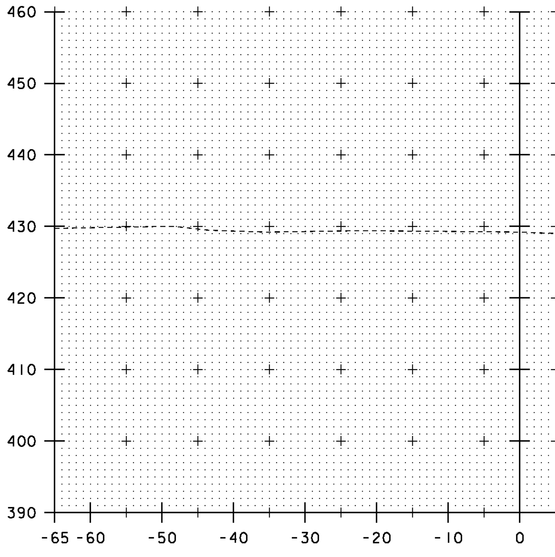
83+00

STA. 82+50 TO STA. 8

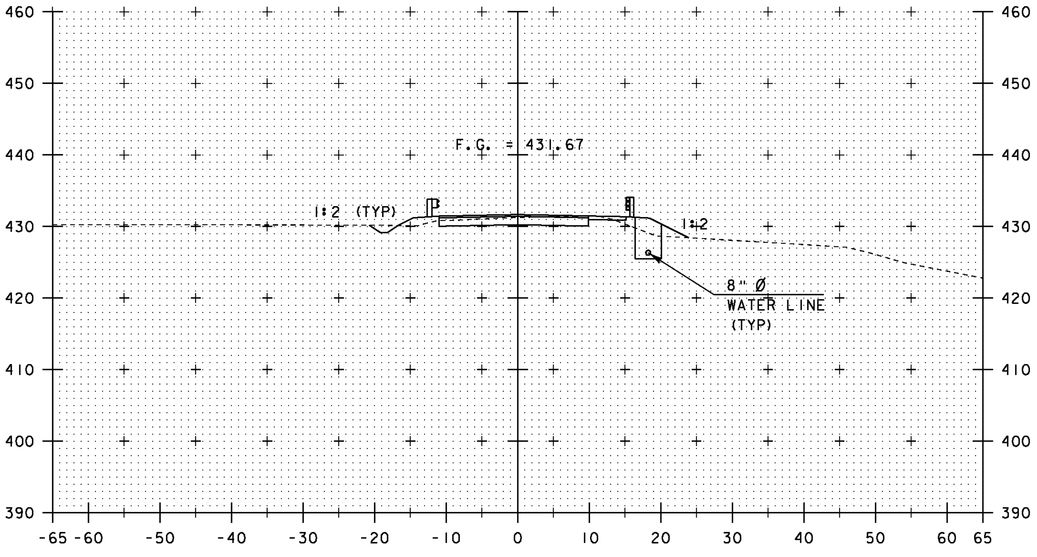
SCALE 1" = 1
10 0



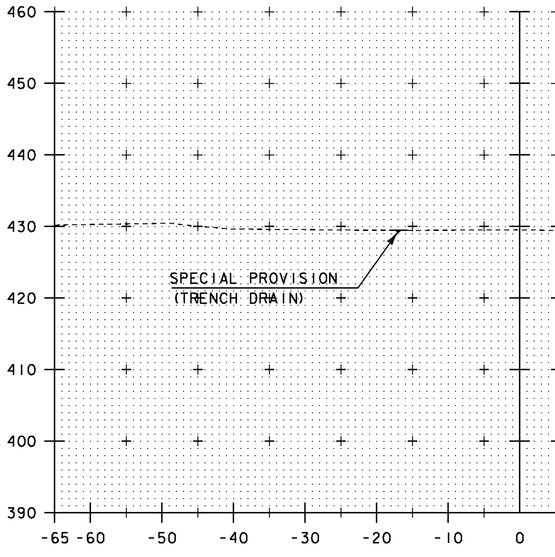
83+75



84+25
END APPRO



83+50
END PROJECT



84+00

STA. 83+50 TO STA. 8

SCALE 1" = 1
10 0

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE 38)

NO

THIS SPACE HAS BEEN INTENTIONALLY
LEFT BLANK

LRFR LOAD RATING FACTORS

LOADING LEVELS	TRUCK					
	H-20	HL-93	3S2	6 AXLE	3A STR	4A STR
TONNAGE	20	36	36	66	30	34.5
INVENTORY	0.46					
POSTING						
OPERATING	0.60					
COMMENTS:						

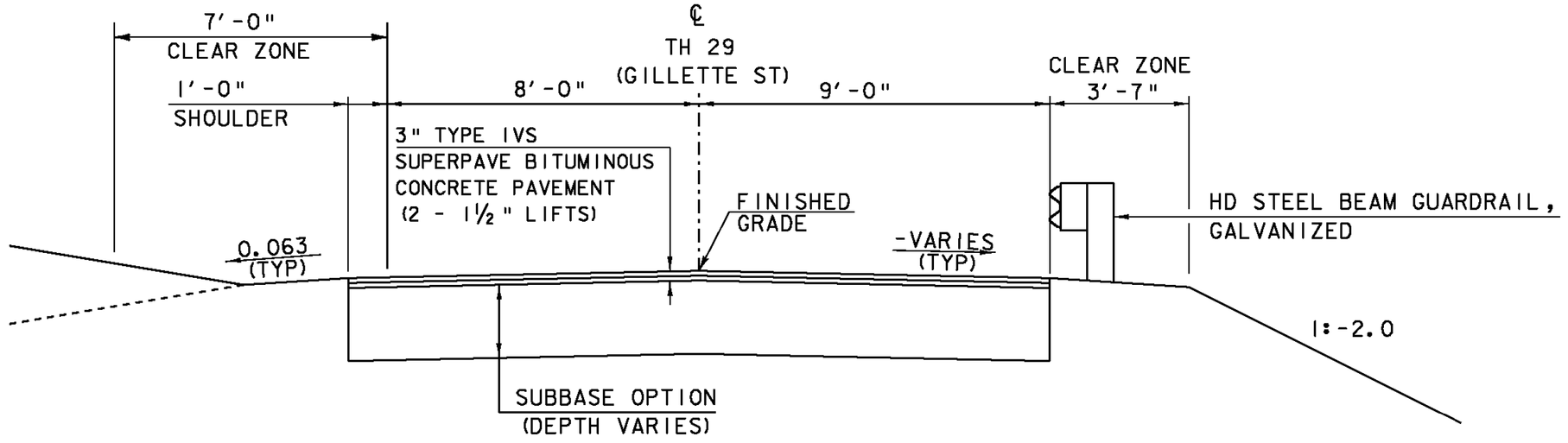
TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2008	280	90	53	4	15
2028	360	100	53	5	25

20 year ESAL for flexible pavement from 2008 to 2028 : 54000

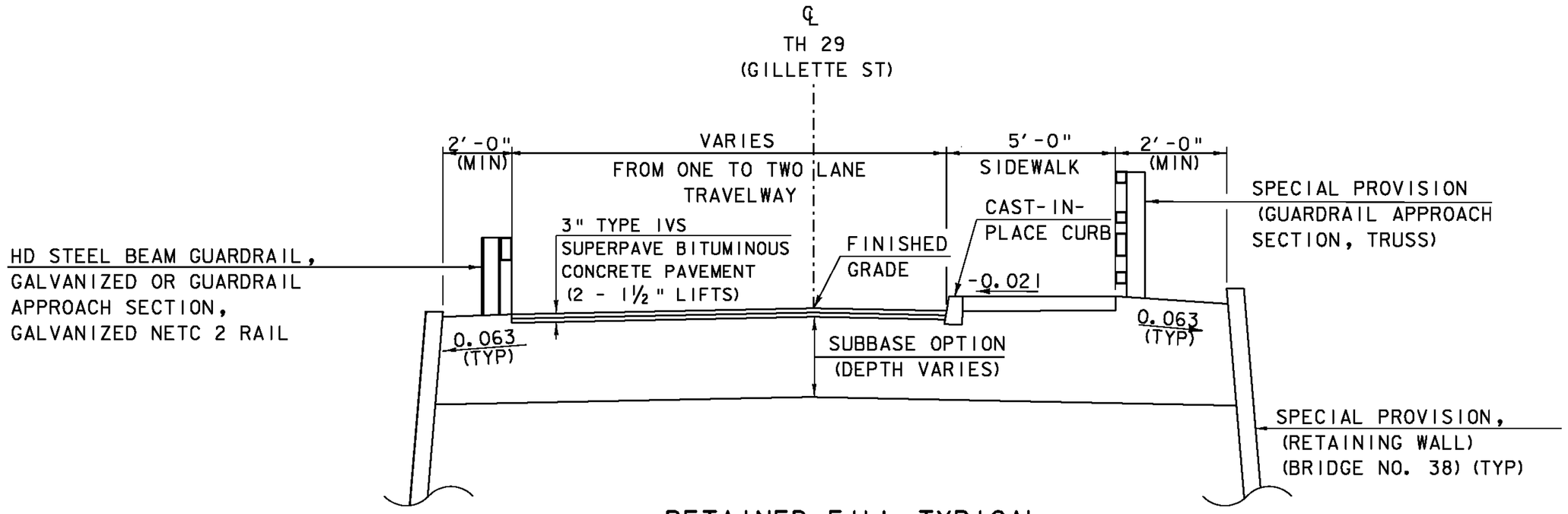
40 year ESAL for flexible pavement from 2008 to 2048 : 127000

Design Speed : 25 mph



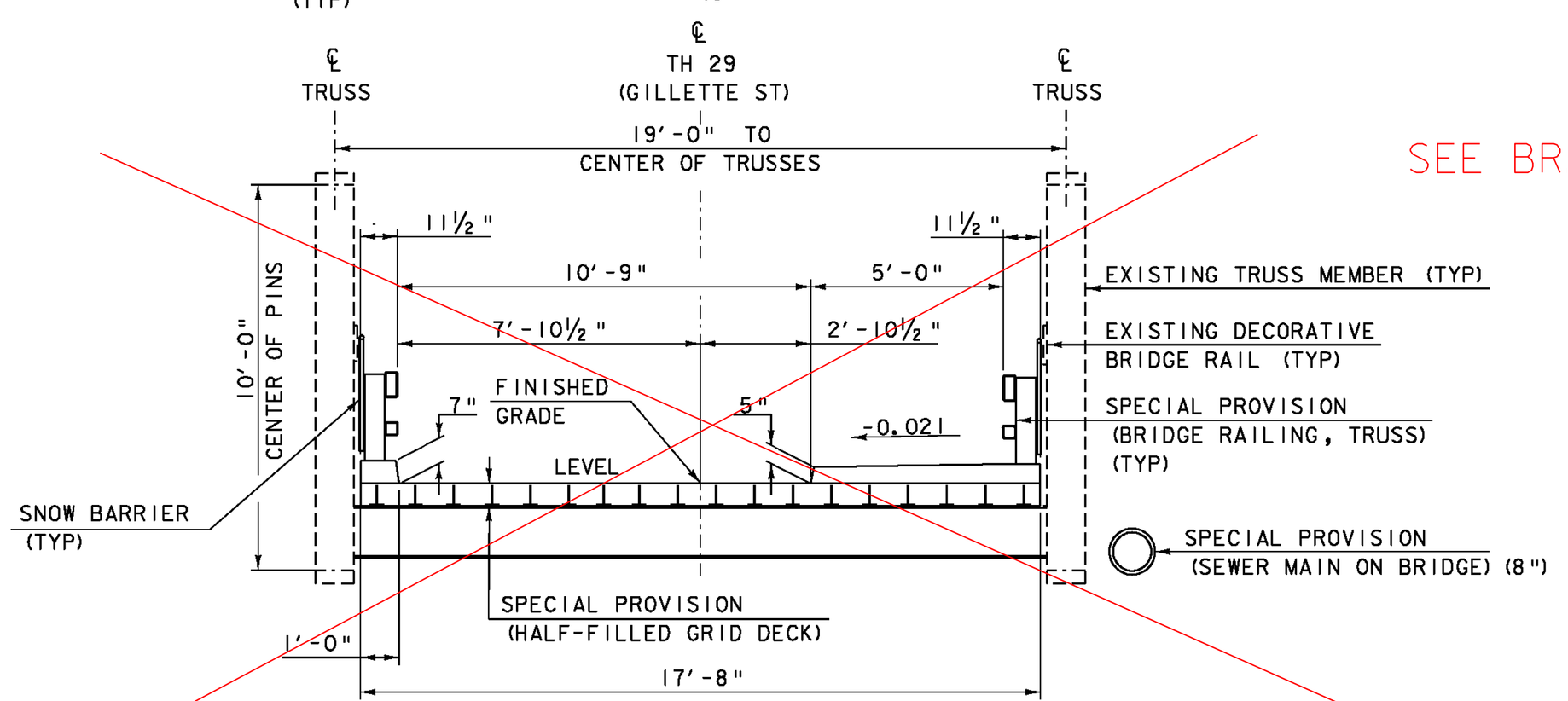
TH 29 (GILLETTE ST) ROADWAY TYPICAL

SCALE ⅜" = 1'-0



RETAINED FILL TYPICAL

SCALE ⅜" = 1'-0



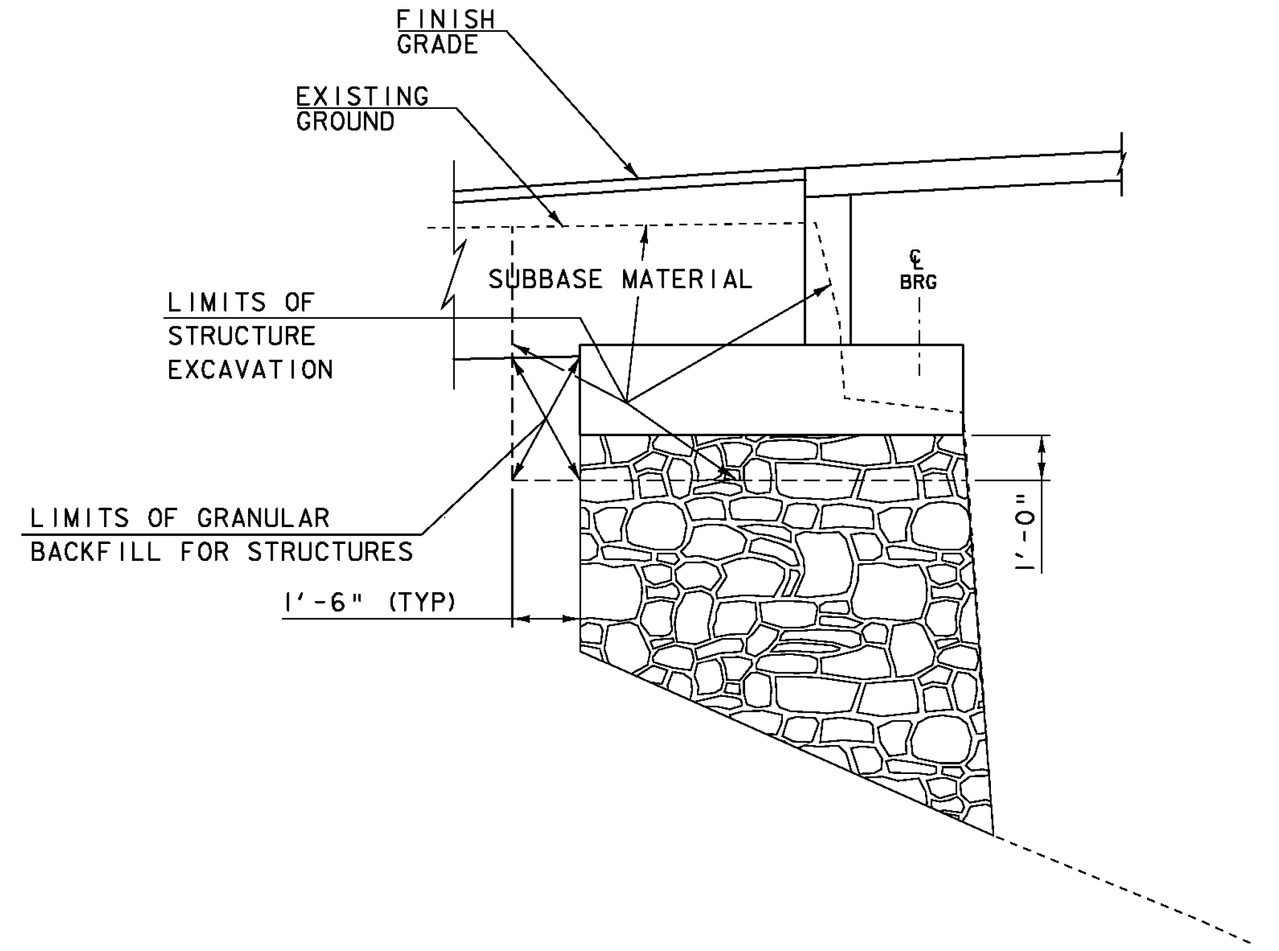
BRIDGE #38 TYPICAL

SCALE ⅜" = 1'-0

SEE BR.39 TYPICAL REVISION

SUMMARY OF WORK

1. REMOVE SUPPORT BEAMS, TIMBER DECK AND FLOOR SYSTEM
2. SUPPORT SEWER LINE
3. REMOVE TRUSSES
4. BLAST CLEAN AND PAINT TRUSSES
5. REPLACE DAMAGED TRUSS COMPONENTS
6. REPAIR THE STONE ABUTMENTS
7. INSTALL EARTH RETAINING STRUCTURES
8. INSTALL CONCRETE ABUTMENTS FOR TRUSS BEARING
9. REPLACE TRUSS BEARINGS
10. RE-INSTALL TRUSSES
11. INSTALL FLOOR SYSTEM AND HALF-FILLED GRID DECK
12. INSTALL BRIDGE RAIL AND APPROACH GUIDE RAIL
13. RAISE AND REATTACH SEWER LINE
14. PAVE ROAD, INSTALL SIGNS AND PAVEMENT MARKINGS



EARTHWORK SECTION

SCALE ⅜" = 1'-0

MATERIAL TOLERANCES

(IF USED ON PROJECT)

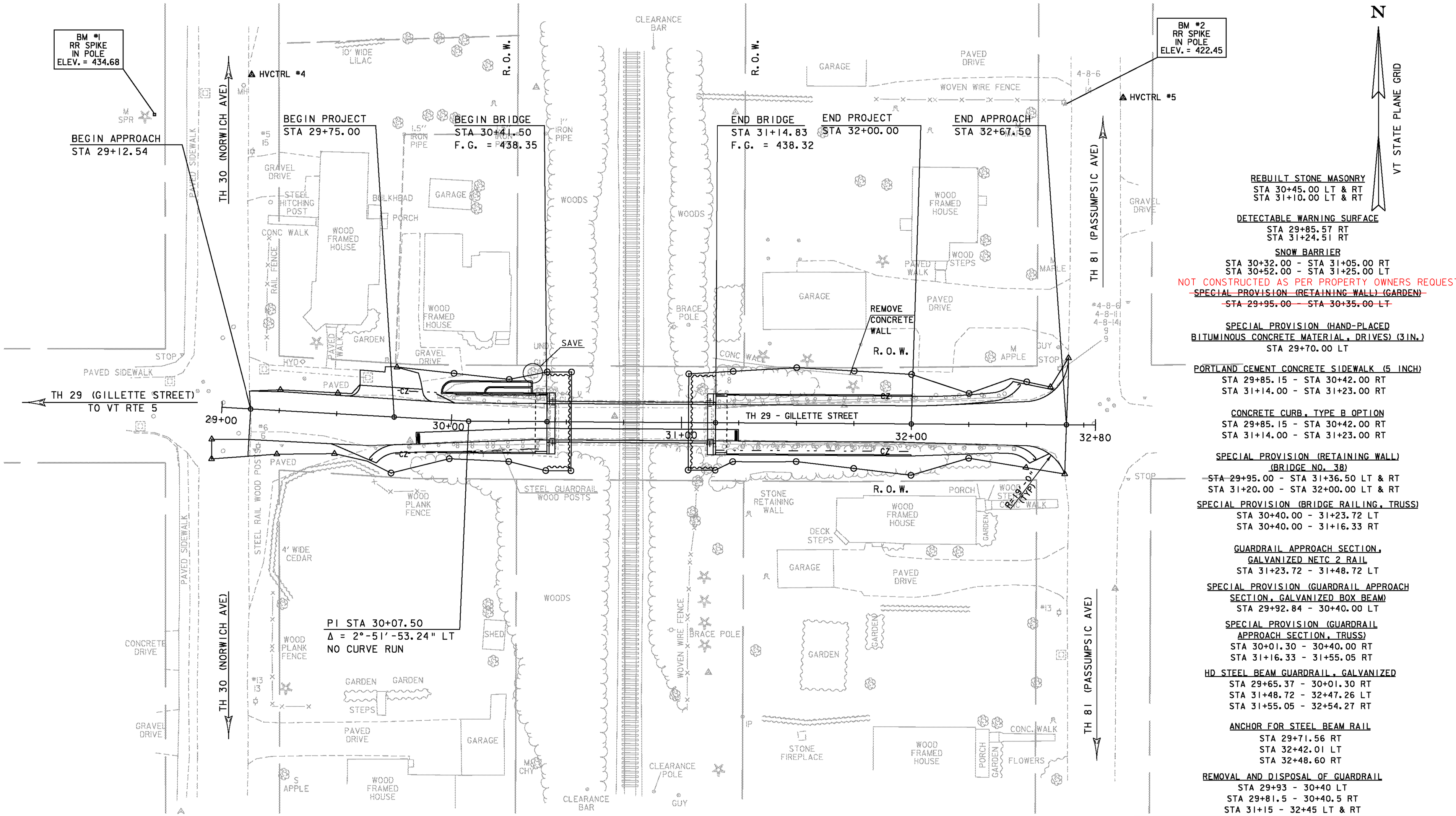
SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- ¼"
- AGGREGATE SURFACE COURSE	+/- ½"
SUBBASE	+/- 1"
SAND BORROW	+/- 1"

SCALE ⅜" = 1'-0
0 1 2 3 4

PROJECT NAME: HARTFORD (WILDER)
PROJECT NUMBER: STP 1444(35)

FILE NAME: b38\s96j070typ_b38.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: T. FILLBACH
TYPICAL SECTIONS - BRIDGE 38

PLOT DATE: 09-JUL-2010
DRAWN BY: R. PELLETT
CHECKED BY: J. SALVATORI
SHEET 31 OF 69



REBUILT STONE MASONRY
STA 30+45.00 LT & RT
STA 31+10.00 LT & RT

DETECTABLE WARNING SURFACE
STA 29+85.57 RT
STA 31+24.51 RT

SNOW BARRIER
STA 30+32.00 - STA 31+05.00 RT
STA 30+52.00 - STA 31+25.00 LT
NOT CONSTRUCTED AS PER PROPERTY OWNERS REQUEST
~~SPECIAL PROVISION (RETAINING WALL) (GARDEN)~~
~~STA 29+95.00 - STA 30+35.00 LT~~

SPECIAL PROVISION (HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES) (3IN.)
STA 29+70.00 LT

PORTLAND CEMENT CONCRETE SIDEWALK (5 INCH)
STA 29+85.15 - STA 30+42.00 RT
STA 31+14.00 - STA 31+23.00 RT

CONCRETE CURB, TYPE B OPTION
STA 29+85.15 - STA 30+42.00 RT
STA 31+14.00 - STA 31+23.00 RT

SPECIAL PROVISION (RETAINING WALL) (BRIDGE NO. 38)
~~STA 29+95.00~~ - STA 31+36.50 LT & RT
STA 31+20.00 - STA 32+00.00 LT & RT

SPECIAL PROVISION (BRIDGE RAILING, TRUSS)
STA 30+40.00 - 31+23.72 LT
STA 30+40.00 - 31+16.33 RT

GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 RAIL
STA 31+23.72 - 31+48.72 LT

SPECIAL PROVISION (GUARDRAIL APPROACH SECTION, GALVANIZED BOX BEAM)
STA 29+92.84 - 30+40.00 LT

SPECIAL PROVISION (GUARDRAIL APPROACH SECTION, TRUSS)
STA 30+01.30 - 30+40.00 RT
STA 31+16.33 - 31+55.05 RT

HD STEEL BEAM GUARDRAIL, GALVANIZED
STA 29+65.37 - 30+01.30 RT
STA 31+48.72 - 32+47.26 LT
STA 31+55.05 - 32+54.27 RT

ANCHOR FOR STEEL BEAM RAIL
STA 29+71.56 RT
STA 32+42.01 LT
STA 32+48.60 RT

REMOVAL AND DISPOSAL OF GUARDRAIL
STA 29+93 - 30+40 LT
STA 29+81.5 - 30+40.5 RT
STA 31+15 - 32+45 LT & RT

EXISTING BRIDGE DATA
STEEL PONY TRUSS
LENGTH = 72 FT
WIDTH = 13.4 FT CURB TO CURB
BUILT BEFORE 1900

LAYOUT SHEET

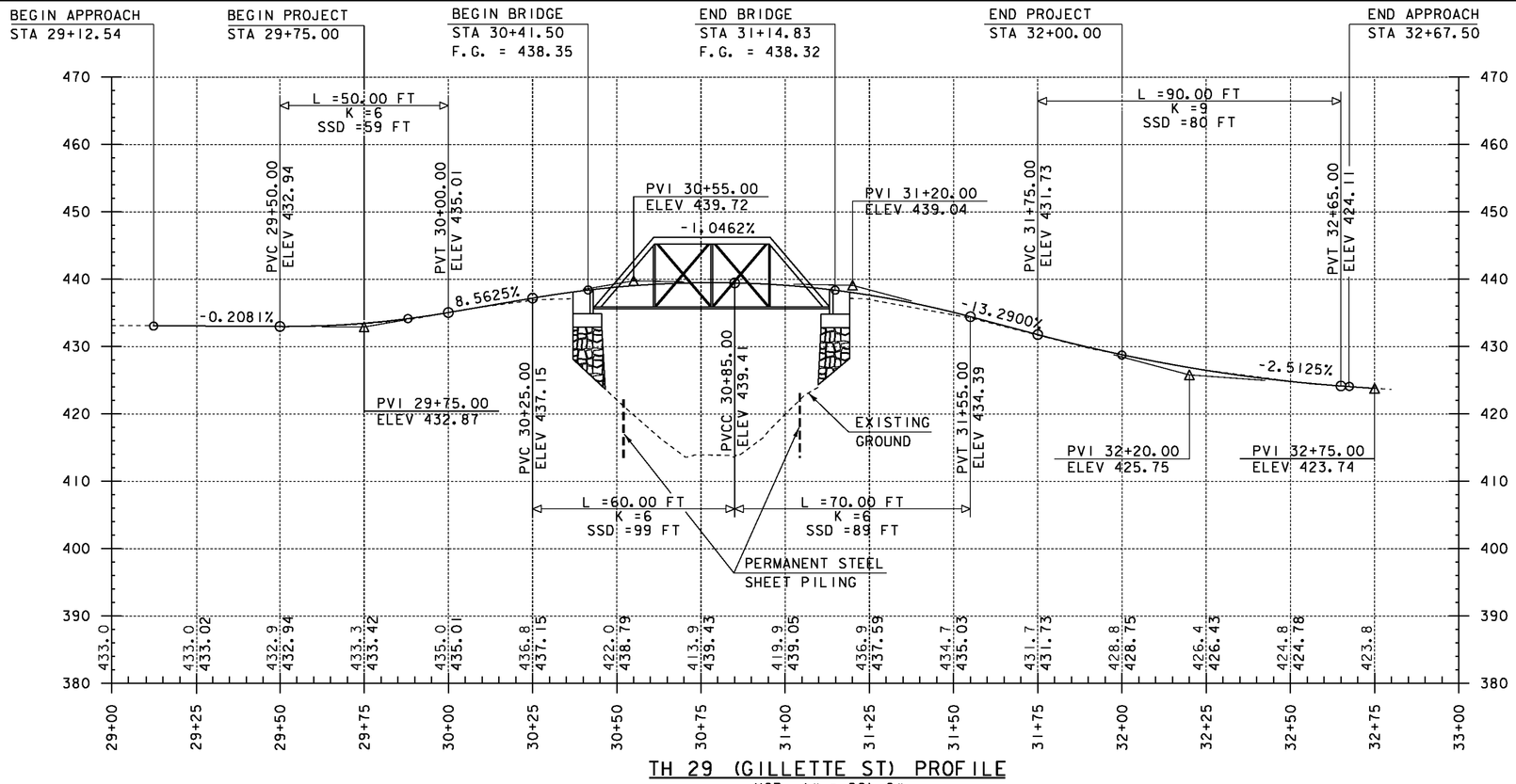
SEE SIGN & PAVEMENT MARKINGS - BRIDGE 38 FOR TRAFFIC SIGNS & PAVEMENT MARKINGS

SCALE 1" = 20'-0
20 0 20

PROJECT NAME: HARTFORD (WILDER)
PROJECT NUMBER: STP 1444(35)

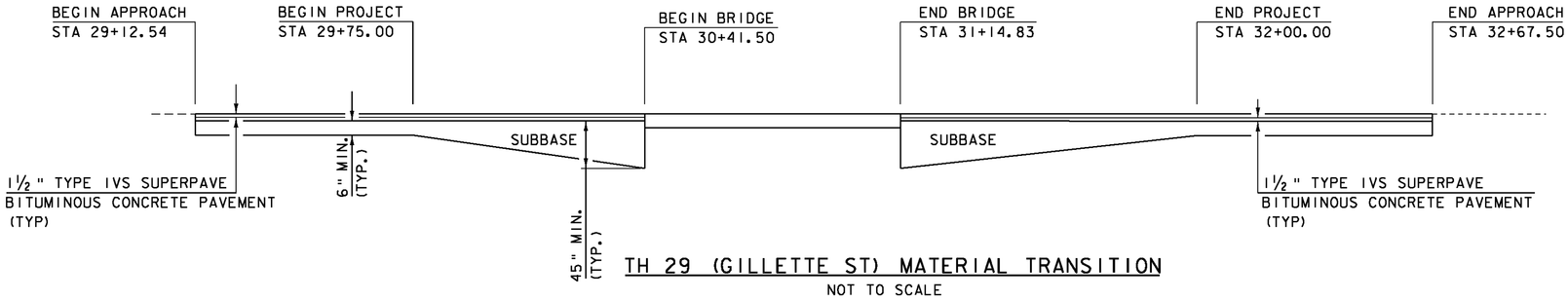
FILE NAME: b38\s96j070bdr_b38.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: T. FILLBACH
LAYOUT SHEET - BRIDGE 38

PLOT DATE: 09-JUL-2010
DRAWN BY: K. PATTERSON
CHECKED BY: T. FILLBACH
SHEET 32 OF 69



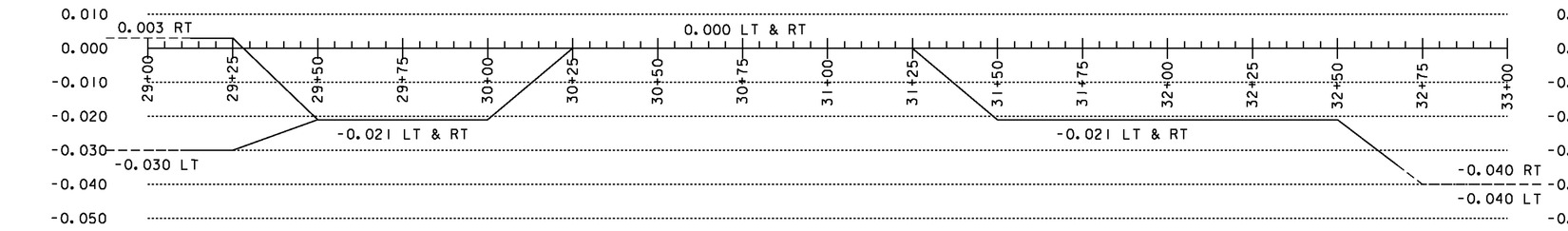
TH 29 (GILLETTE ST) PROFILE

HOR. 1" = 20'-0"
VERT. 1" = 10'-0"



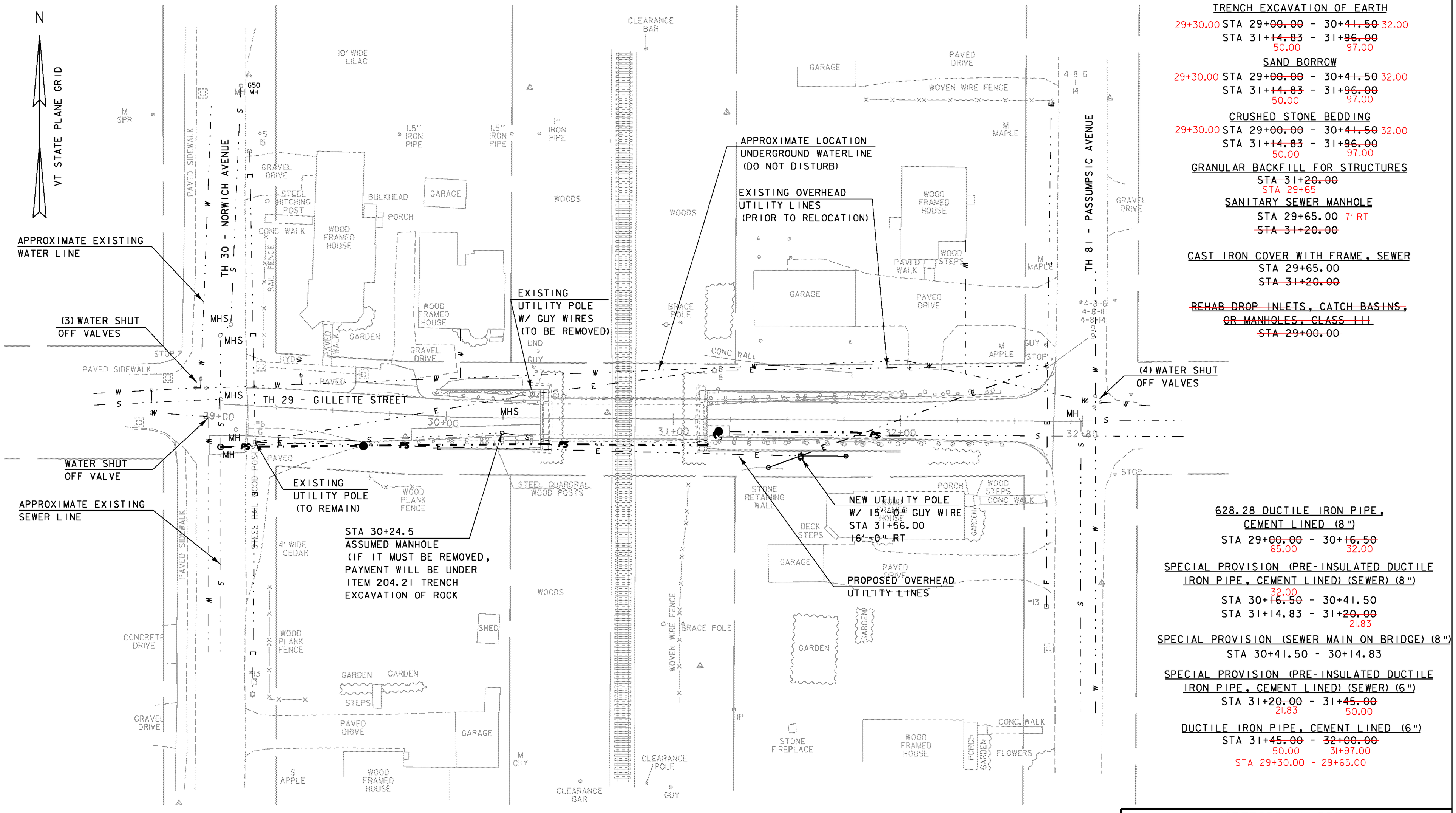
TH 29 (GILLETTE ST) MATERIAL TRANSITION

NOT TO SCALE



BANKING DIAGRAM

HOR. 1" = 20'-0"
NO VER. SCALE



UTILITY LAYOUT SHEET

SCALE 1" = 20'-0
20 0 20

TRENCH EXCAVATION OF EARTH
29+30.00 STA 29+~~00.00~~ - 30+~~41.50~~ 32.00
STA 31+~~14.83~~ - 31+~~96.00~~
50.00 97.00

SAND BORROW
29+30.00 STA 29+~~00.00~~ - 30+~~41.50~~ 32.00
STA 31+~~14.83~~ - 31+~~96.00~~
50.00 97.00

CRUSHED STONE BEDDING
29+30.00 STA 29+~~00.00~~ - 30+~~41.50~~ 32.00
STA 31+~~14.83~~ - 31+~~96.00~~
50.00 97.00

GRANULAR BACKFILL FOR STRUCTURES
~~STA 31+20.00~~
STA 29+65

SANITARY SEWER MANHOLE
STA 29+65.00 7' RT
~~STA 31+20.00~~

CAST IRON COVER WITH FRAME, SEWER
STA 29+65.00
~~STA 31+20.00~~

~~REHAB DROP INLETS, CATCH BASINS, OR MANHOLES, CLASS III~~
~~STA 29+00.00~~

628.28 DUCTILE IRON PIPE, CEMENT LINED (8")
STA 29+~~00.00~~ - 30+~~16.50~~
65.00 32.00

SPECIAL PROVISION (PRE-INSULATED DUCTILE IRON PIPE, CEMENT LINED) (SEWER) (8")
32.00
STA 30+~~16.50~~ - 30+41.50
STA 31+14.83 - 31+~~20.00~~
21.83

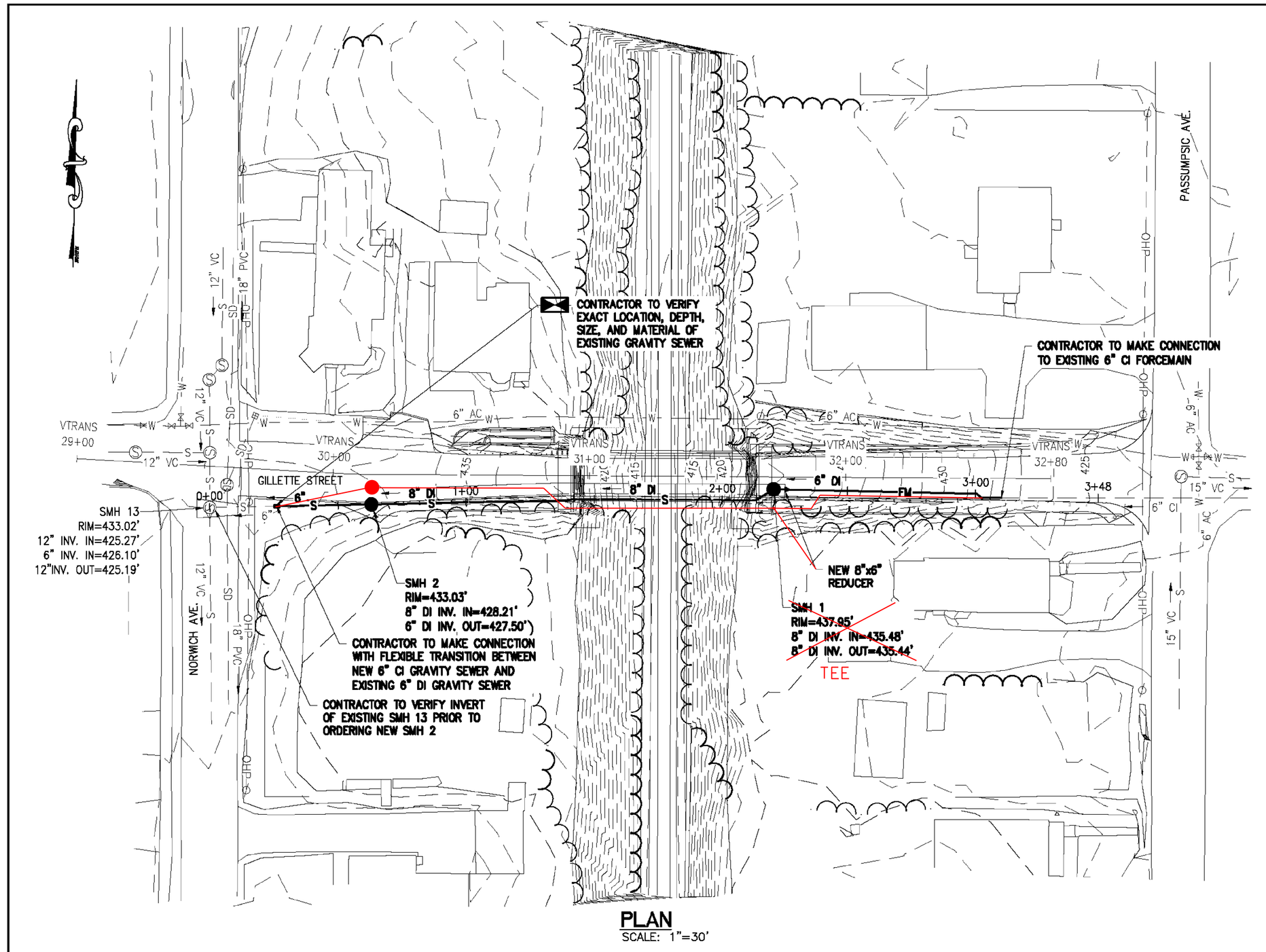
SPECIAL PROVISION (SEWER MAIN ON BRIDGE) (8")
STA 30+41.50 - 30+14.83

SPECIAL PROVISION (PRE-INSULATED DUCTILE IRON PIPE, CEMENT LINED) (SEWER) (6")
STA 31+~~20.00~~ - 31+~~45.00~~
21.83 50.00

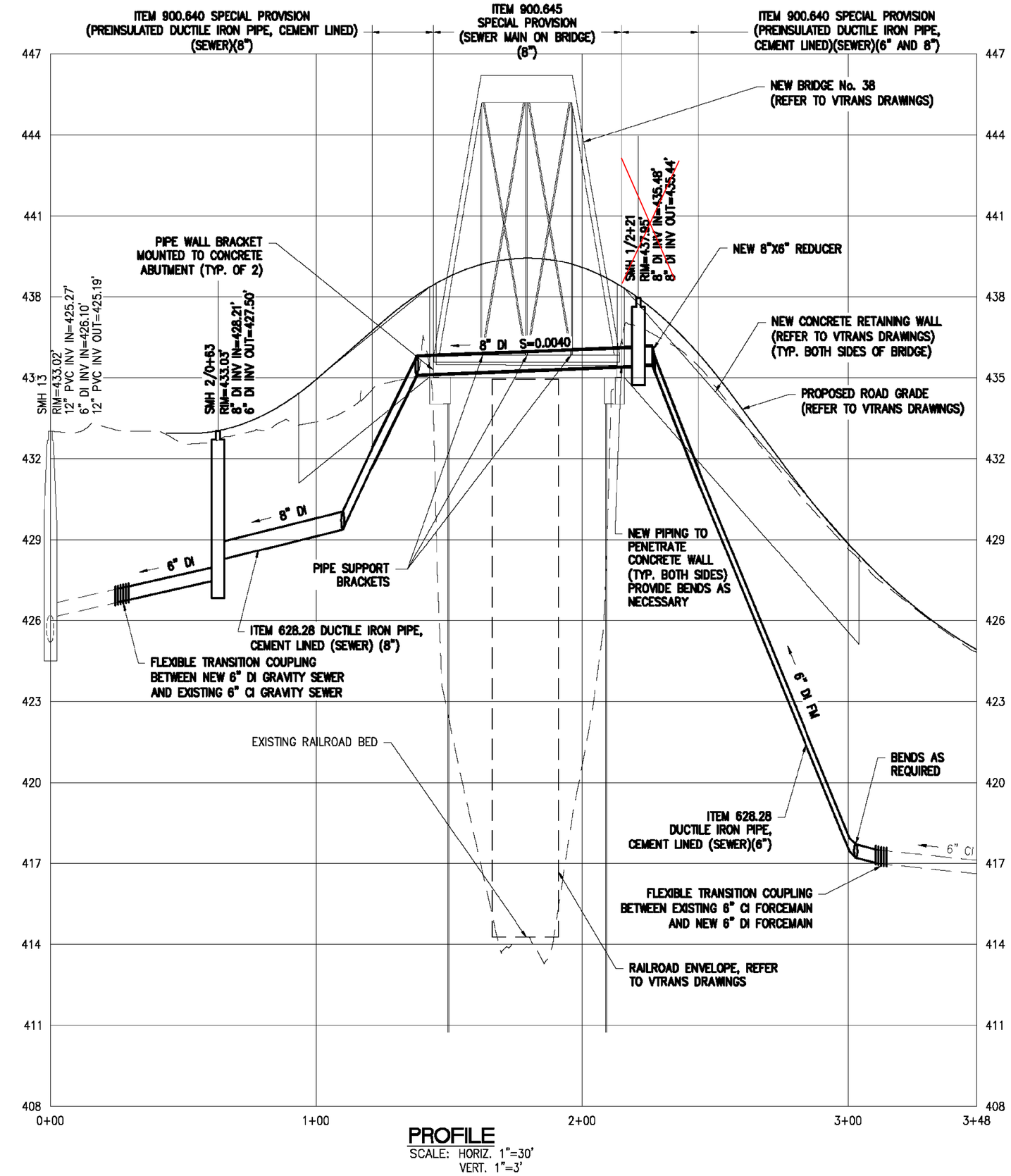
DUCTILE IRON PIPE, CEMENT LINED (6")
STA 31+~~45.00~~ - ~~32+00.00~~
50.00 31+97.00
STA 29+30.00 - 29+65.00

PROJECT NAME: HARTFORD (WILDER)
PROJECT NUMBER: STP 1444(35)

FILE NAME: b38\s9601070utl1_b38.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: T. FILLBACH
UTILITY LAYOUT SHEET - BRIDGE 38
PLOT DATE: 16-JUN-2010
DRAWN BY: J. SALVATORI
CHECKED BY: T. FILLBACH
SHEET 34 OF 69



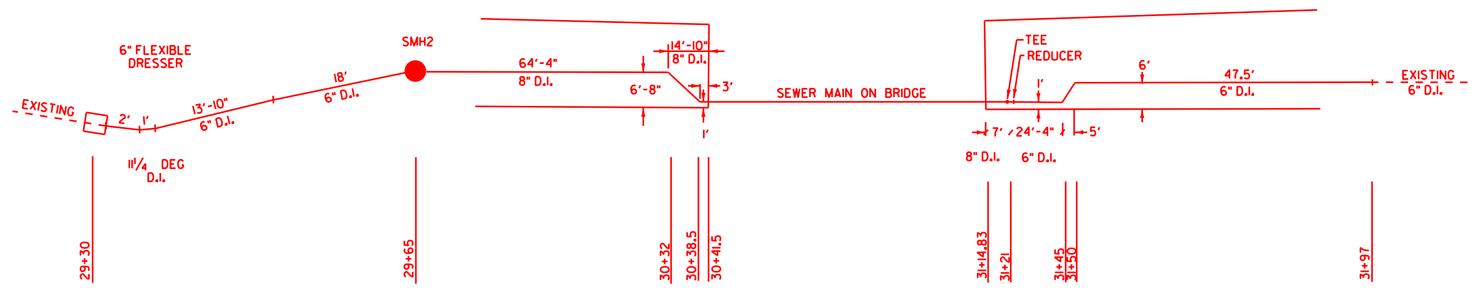
PLAN
SCALE: 1"=30'



PROFILE
SCALE: HORIZ. 1"=30'
VERT. 1"=3'

SEWER LINE AS-BUILT (BR.38)

ALL DIMENSIONS FIELD MEASURED SJC 11/12/12



GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

STATION EQUATIONS

SEWERLINE STATION 0+50 = VTRANS STATION 30+03
SEWERLINE STATION 3+06 = VTRANS STATION 32+61

NOTES:

1. CONTRACTOR SHALL PROVIDE TEMPORARY PROVISIONS TO MAINTAIN OPERATION OF THE PASSUMPSIC PUMP STATION AND FORCEMAIN. CONTRACTOR SHALL PROVIDE A WORK PLAN FOR REVIEW AND APPROVAL, DETAILING HOW TEMPORARY OPERATION SHALL BE PERFORMED AND HOW ANY OPERATION WILL BE MANAGED DURING CONNECTION TO THE EXISTING PIPING.
2. CONTRACTOR SHALL TEST NEW PIPING AND MANHOLES PER THE SPECIFICATIONS PRIOR TO COMMISSIONING THE SEWER. ALL TESTING MUST BE WITNESSED BY A REPRESENTATIVE OF THE OWNER.
3. ALL FITTINGS FOR BENDS SHALL BE MECHANICAL JOINT FITTINGS WITH RETAINER CLANDS.

CIVIL & ENVIRONMENTAL ENGINEERS
9 Market Place, Suite 2
Bellows Falls, VT 05152
P: 802.875.7733
F: 802.875.1742
FA&A
FORCIER ALDRICH & ASSOCIATES

STATE OF VERMONT JOHN A. ELDRICH 10,000 CIVIL REGISTERED PROFESSIONAL ENGINEER

TOWN OF HARTFORD (WILDER)
COUNTY OF WINDSOR

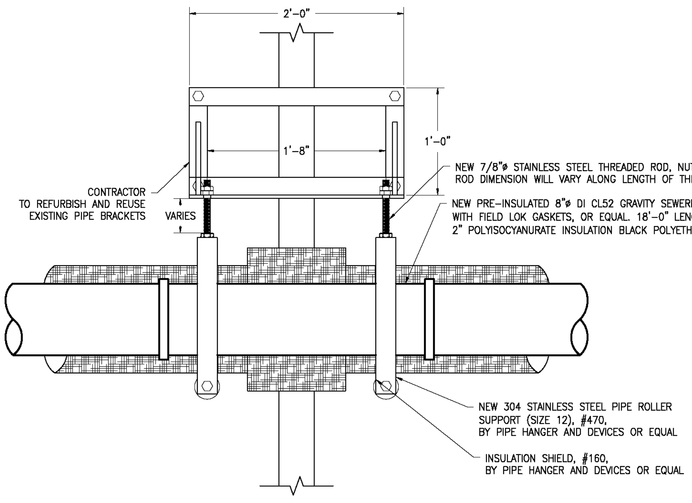
HARTFORD (WILDER)
STP 1444(35)

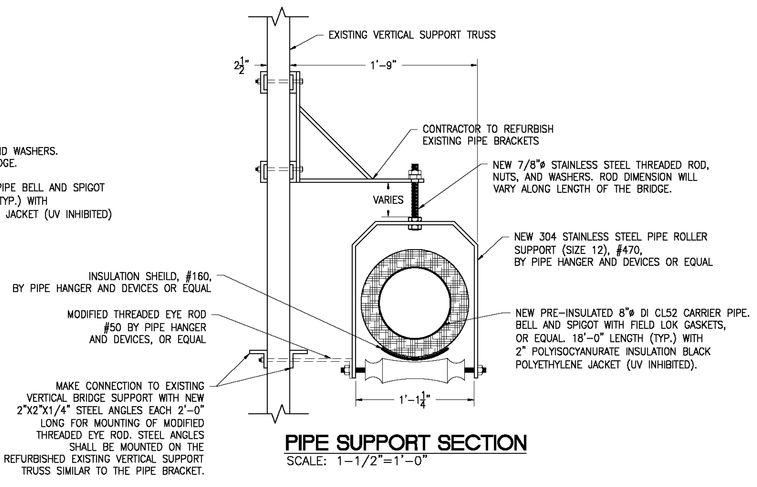
NO.	DATE	REVISION DESCRIPTION	CHECKED

BRIDGE No.38
FORCEMAIN CROSSING
PLAN AND PROFILE

DESIGNED	JAB
DRAWN	JEB
CHECKED	WAE
DATE	FEB. 2010
PROJECT NO.	09024
DRAWING NO.	

Y:\09024-HARTFORD\12-SITE-BR.dwg, 6/7/2011 1:54:52 PM



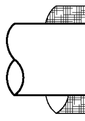


PIPE SUPPORT SECTION
SCALE: 1-1/2"=1'-0"

NOTE:
1. PIPE SUPPORTS SHALL BE MOUNTED SUCH THAT THE BOTTOM OF THE PIPE BRACKET IS ABOVE THE RAILROAD ENVELOPE PER THE VTRANS PLAN.

DOUBLE PIPE SUPPORT DETAIL
SCALE: NONE

BRIDGE ABUTMENT



LINK-SEAL TYPE
PENETRATION

BRIDGE
SCALE: NONE

NOTES:
1. CENTERLIN
BRIDGE AE

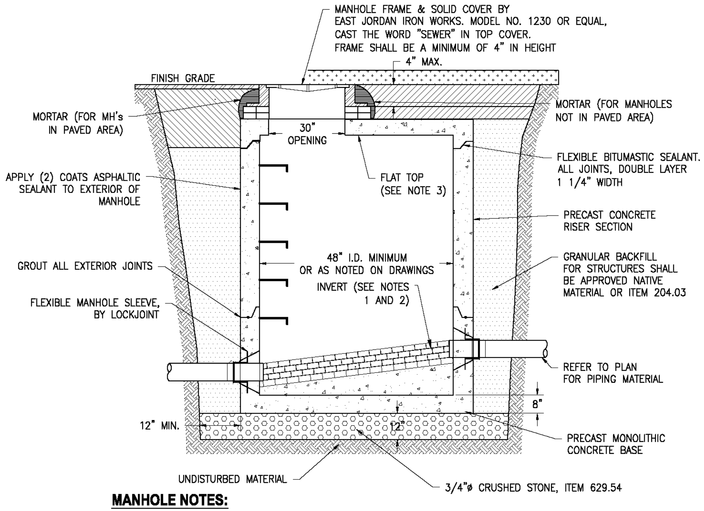
IN ROADWAY AR
PAVEMENT A
TO 95% MODI
EXI

UNDISTU

IF UN
REMOVED
CRUSHE

NOTES:
1. BEDDIN
FULL L
2. FOR IN

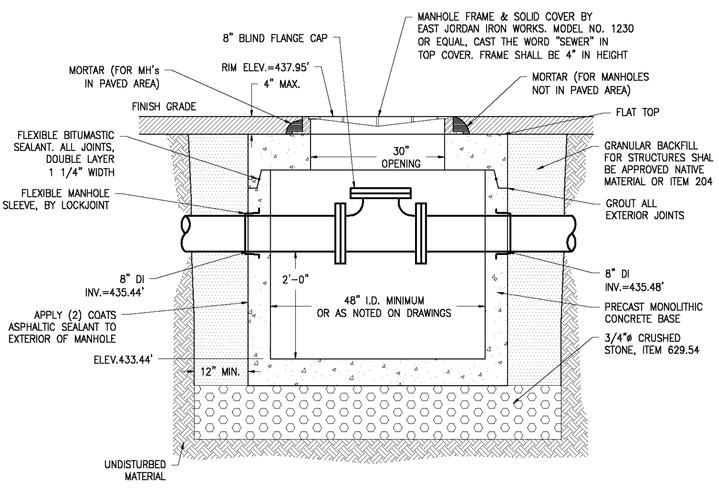
TYPICAL GR
SCALE: NONE



MANHOLE NOTES:

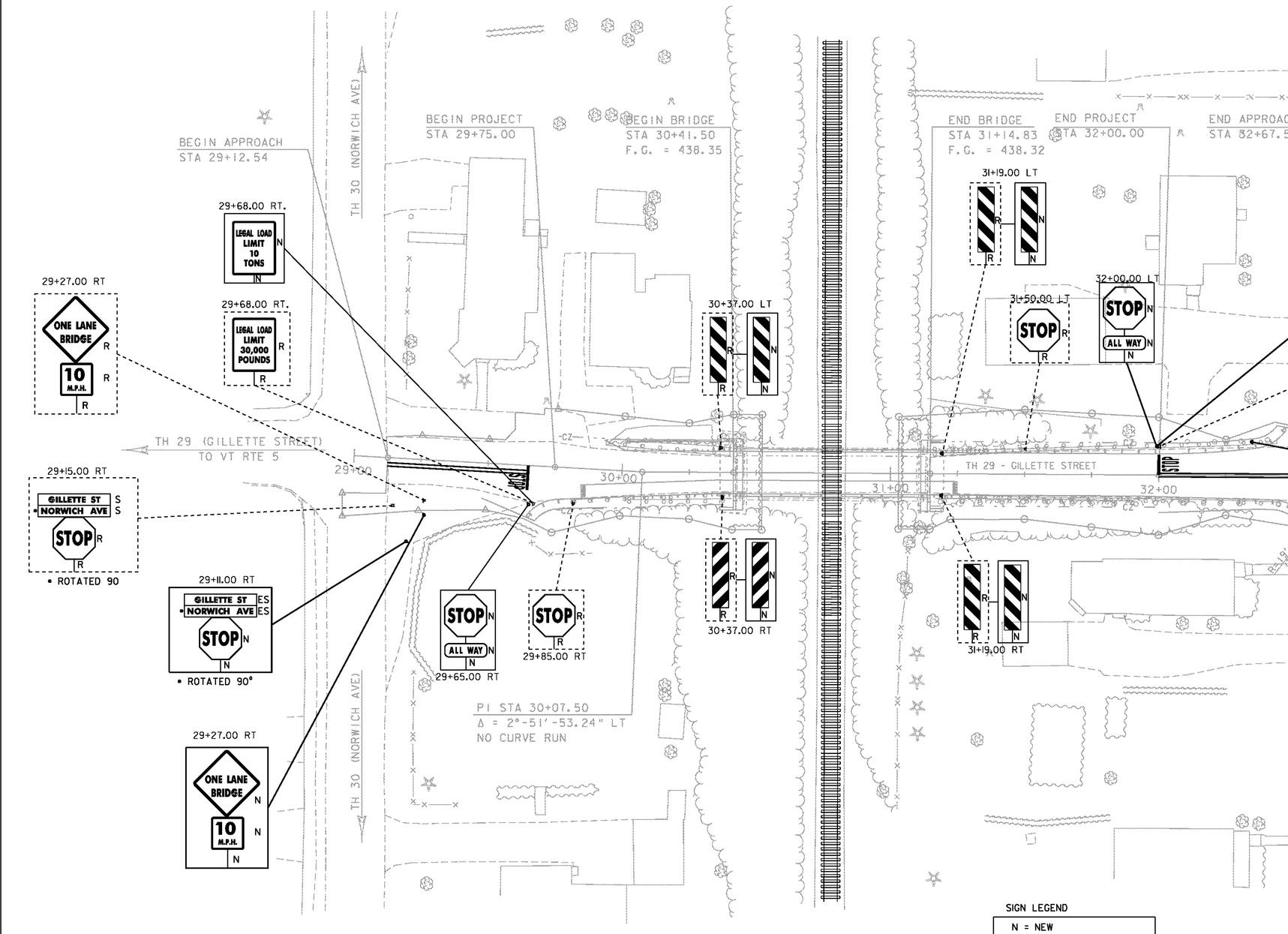
1. INVERTS OF MANHOLE SHALL BE LINED WITH HARD SEWER BRICK OR PRECAST CONCRETE.
2. PROVIDE SMOOTH SWEEPING TRANSITIONS BETWEEN INVERTS OF INTERSECTING PIPE.
3. IF DEPTH OF MANHOLE IS 7 FEET OR LESS FROM RIM TO INVERT THEN A FLAT TOP SHALL BE INSTALLED. IF DEPTH OF MANHOLE FROM RIM TO INVERT IS MORE THAN 7 FEET THEN A CONICAL TOP SHALL BE INSTALLED.

TYPICAL SANITARY SEWER FLAT TOP MANHOLE DETAIL
SCALE: NONE



EAST SIDE SANITARY SEWER FLAT TOP MANHOLE DETAIL
SCALE: NONE

V:\28024-AMTRAK\Civil\Sheets\28024-Pipe Details.dwg, 6/7/2018 1:53:13 PM



SIGN LEGEND
N = NEW
R = REMOVE
S = SALVAGE
ES = ERECT SALVAGED SIGN

SIGN & PAVEMENT MARKINGS SHEET

SCALE 1" = 20'
20 0

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (In)	HEIGHT (In)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL (In) 2.0 lb/ft 2.16	2.0 lb/ft 2.42	2.5 lb/ft 3.35	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (In) 3.0 lb/ft 1.3	4.0 lb/ft 1.7	4.0 MOD lb/ft 1.7	TUBULAR STEEL Ø (In) FOUNDATION	3.0 lb/ft 7.6	3.5 lb/ft 9.0	4.0 lb/ft 10.8	5.0 lb/ft 14.6	W-SHAPE FTG. SIZE 24"	30"	WEIG
												OPTION ITEMS																			
29+11.00 RT	GILLETTE ST / NORWICH AVE / STOP		30	30	6.25		X X				1					13		X												
29+27.00 RT.	ONE LANE BRIDGE		36	36	9.00						1					13		X												
29+27.00 RT.	10 M.P.H.		18	18	2.25																									
29+65.00 RT	STOP / ALL WAY		30 24	30 12	6.25 2.00						1					13		X												
29+68.00 RT.	LEGAL LOAD LIMIT 10 TONS		24	30	5						1					10		X												
30+37.00 LT. & RT.			12 12	36 36	3 3						1 1					10 10		X X												
31+19.00 LT. & RT.			12 12	36 36	3 3						1 1					10 10		X X												
32+00.00 LT	LEGAL LOAD LIMIT 10 TONS		24	30	5						1					10		X												
32+00.00 LT	STOP / ALL WAY		30 24	30 12	6.25 2.00						1					13		X												
32+35.00 LT.	ONE LANE BRIDGE		36	36	9.00						1					13		X												
32+35.00 LT.	10 M.P.H.		18	18	2.25																									
															FT	FT 125	FT		EA	LB	LB	LB		LB	LB	LB	LB			
	TOTALS				SF 67.25	SF	EA. 2	SF				FT			FT 125					LB			EA.	LB				EA.	EA.	LB

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

SHS = STANDARD HIGHWAY SIGNS (MUTCD)

SOIL CLASSIFICATION

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

ROCK QUALITY DESIGNATION

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

SHEAR STRENGTH

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

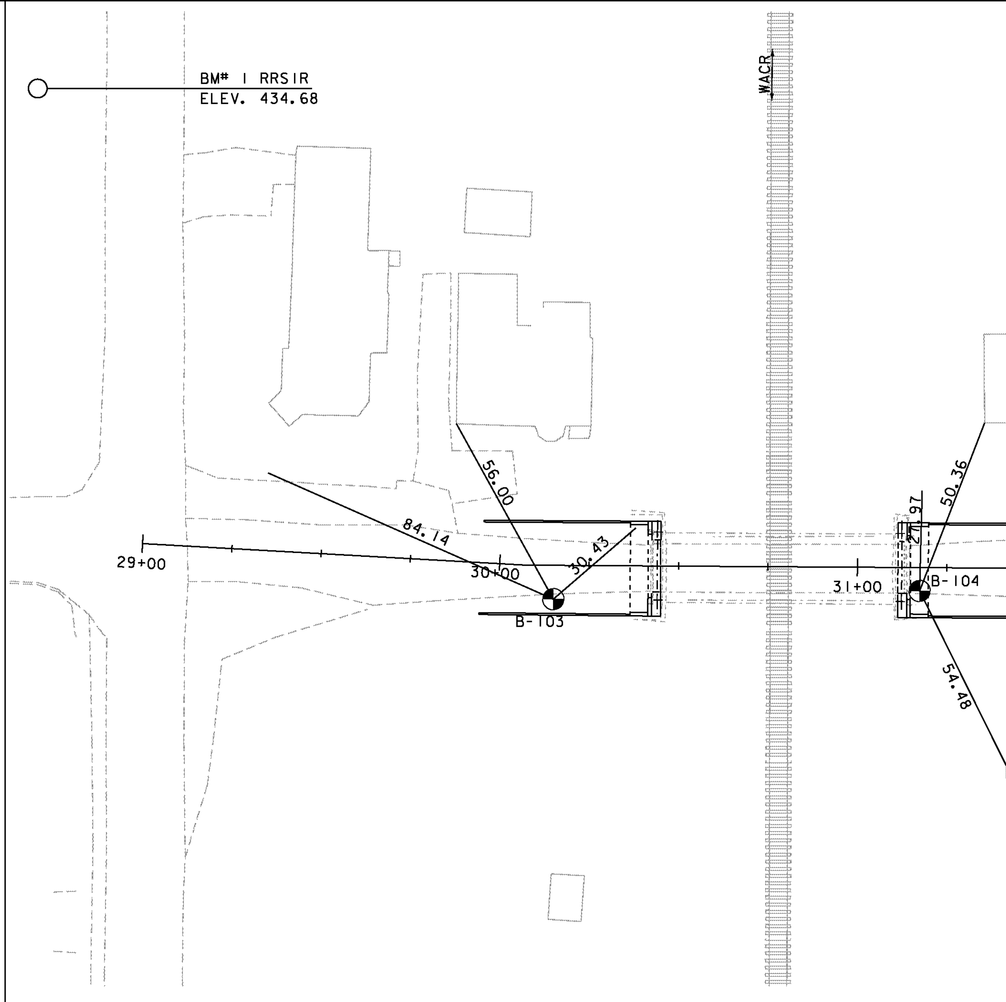
CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

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

COMMONLY USED SYMBOLS

▼	Water Elevation
⊗	Standard Penetration Boring
⊕	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per Foot For: 2" O.D. Sampler 1 3/8" I.D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 1 1/8"
BX	Core Size 1 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
Si	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)

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		



BORING LAYOUT SHEET

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 > 0.0787" (#10 sieve).

SAND - Particles of rock < 0.0787" (#10 sieve) and > 0.0029" (#200 sieve).

SILT - Soil < 0.0029" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

CLAY - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.

VARVED - Alternate layers of silt and clay.

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

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

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

FLOWING SAND - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash 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 7/15/08 and 7/18/08 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 judgment was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgment by the Contractor.

5. Pictorial structure details show the boring plan layout or soils profile are for illustrative pur only and may not accurately portray final contract details.

6. Terminology used on boring logs describe the hardness, degree weathering, and spacing of fractures, joints and other discontinuities in the bedrock defined in the AASHTO Manual or Subsurface Investigations, 1988.

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

BORING NUMBER: B-103
SHEET 1 of 1
DATE STARTED: 7/15/08
DATE COMPLETED: 7/16/08

PROJECT NAME: HARTFORD (WILDER)
SITE NAME: TH-29 & TH-81
STATION: 31+18
OFFSET: 7.00
VTSPG: N 429203.95 ft E 1691660.54 ft

PROJECT NUMBER: STP 1444(35)SC
SITE NUMBER: BR-38 & BR-36
GROUND ELEVATION: 437.09 ft
GROUNDWATER DEPTH: NO WATER TO DEPTH
PROJECT PIN NUMBER: 96J070

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MAHMUTOVIC

BORING RIG: LAG TRACK RIG #09 w/AUTO HAMMER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: CCB

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		Asphalt pavement, 0.0 ft – 0.1 ft					
		A-1-b, GrSa, brn, Moist, Rec. = 1.5 ft	18	3.1	35.1	55.0	9.9
		A-1-b, GrSa, brn, MTW, Rec. = 1.1 ft	9	13.0	28.8	56.4	14.8
		A-1-b, GrSa, brn, MTW, Rec. = 0.9 ft	8	11.2	36.5	51.7	11.8
		A-1-b, GrSa, brn, MTW, Rec. = 0.4 ft	6	13.7	35.7	47.7	16.6
10		Visual Classification, A-1-b, GrSa, brn, MTW, Rec. = 0.1 ft, Insufficient sample for testing.	5				
		A-2-4, GrSiSa, brn, MTW, Rec. = 0.5 ft	5	23.7	21.8	44.4	33.8
		A-4, Si, brn, MTW, Rec. = 1.1 ft	5	25.2	6.0	18.7	75.3
		A-4, SaSi, brn, Moist, Rec. = 1.2 ft	8	21.7	18.3	35.6	46.1
		A-1-b, SaGr, brn, Moist, Rec. = 0.9 ft	16	11.4	45.7	44.0	10.3
20		A-1-b, GrSa, gry, MTW, Rec. = 1.1 ft	9	14.0	28.8	65.1	6.1
		A-1-b, Sa, gry, MTW, Rec. = 1.0 ft	12	16.7	15.2	77.6	7.2
30		A-2-4, GrSiSa, gry, Wet, Rec. = 1.3 ft	10	26.8	23.5	49.3	27.2
		A-4, Si, brn, MTW, Rec. = 1.7 ft	17	31.5	1.2	14.7	84.1
40		A-4, SiSa, brn, Moist, Rec. = 1.2 ft	27	20.6	1.0	49.8	49.2
		A-2-4, SiSa, brn, Moist, Rec. = 1.1 ft	23	22.7	1.2	74.7	24.1
50		A-2-4, Sa, brn, Moist, Rec. = 1.3 ft	22	20.8	0.2	85.4	14.4
		Hole stopped @ 52.0 ft					

LOG OF BORING HARTFORD (WILDER) STP 1444(35)SC.GPJ VT_DOT.GDT 4/9/09

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

PROJECT NAME: HARTFORD (WILDER)
SITE NAME: TH-29 & TH-81
STATION: 30+15
OFFSET: 4.50
VTSPG: N 429206.82 ft E 1691558.18 ft

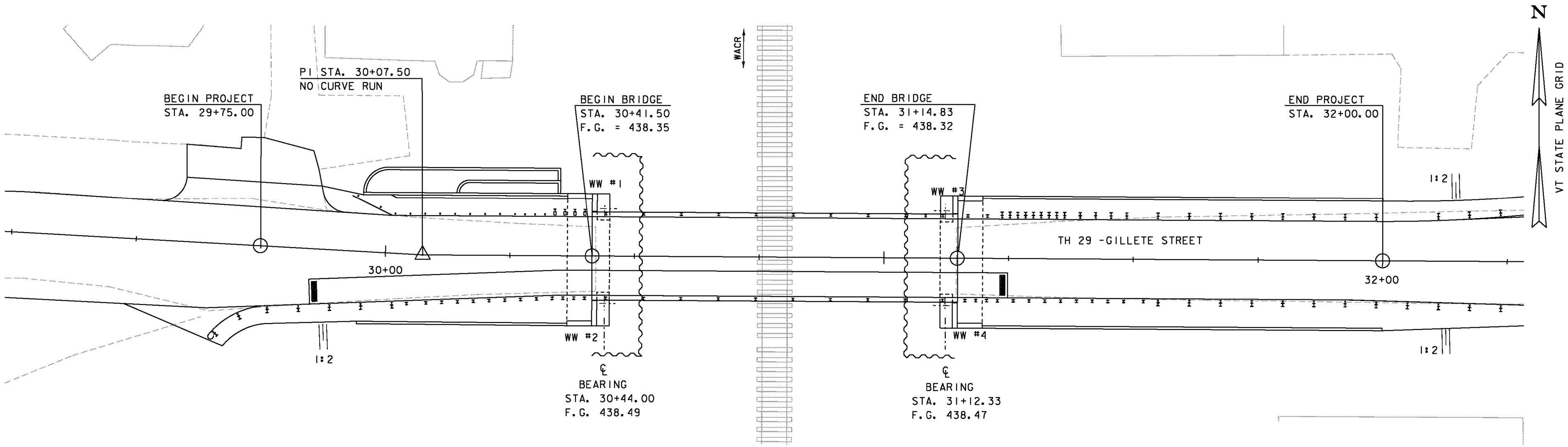
PROJEC
SITE N
GROUN
GROUN
PROJEC

BORING CREW
CREW CHIEF: GARROW
DRILLER: GARROW
LOGGER: MAHMUTOVIC

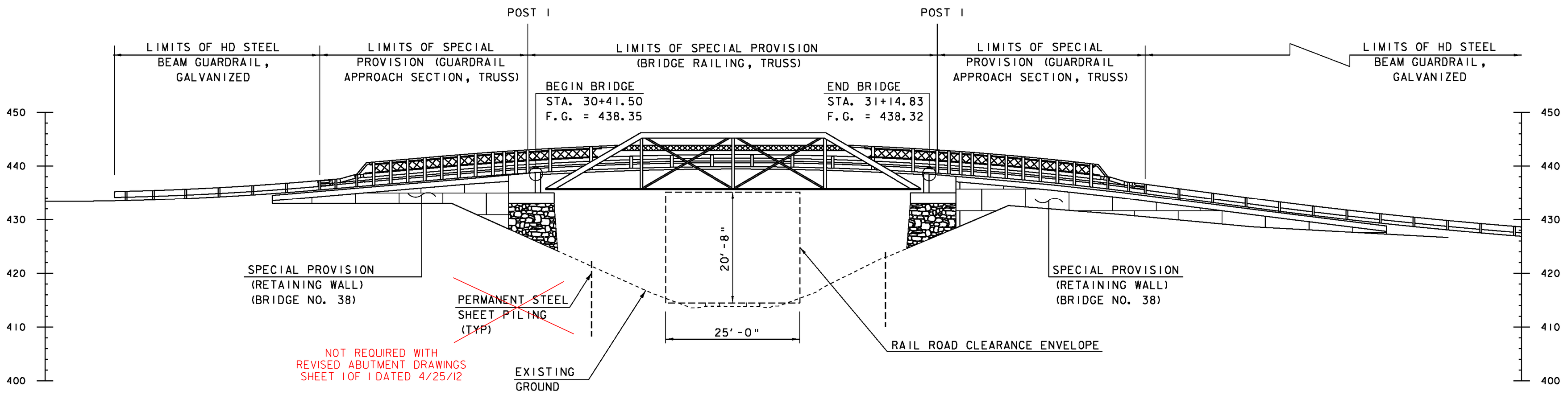
BORING
BORING
SAMPLE
CHECKE

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)
		Asphalt pavement, 0.0 ft – 0.25 ft
		A-1-a, SaGr, brn-gry, Moist, Rec. = 1.3 ft
		A-4, SiSa, brn, Moist, Rec. = 1.4 ft
		A-1-b, GrSiSa, brn, MTW, Rec. = 1.3 ft
		A-1-b, SiGrSa, brn, MTW, Rec. = 1.1 ft
10		A-4, SaSi, brn, Moist, Rec. = 0.7 ft
		Visual Classification, A-4, Si, brn, MTW, Rec. = 0.2 ft, Insufficie sample for testing.
		A-1-b, GrSa, gry, MTW, Rec. = 1.0 ft
		A-1-b, Sa, gry, MTW, Rec. = 1.3 ft
		A-1-b, GrSa, gry, MTW, Rec. = 0.9 ft
20		A-1-b, GrSa, gry, MTW, Rec. = 1.2 ft
		A-3, Sa, brn, Moist, Rec. = 1.6 ft
30		A-4, Si, gry, MTW, Rec. = 1.7 ft
		A-4, Si, gry, MTW, Rec. = 1.9 ft
40		A-4, Si, gry, MTW, Rec. = 1.6 ft
		A-4, Si, gry, MTW, Rec. = 1.5 ft
50		A-4, Si, gry, Moist, Rec. = 1.4 ft
		Hole stopped @ 52.0 ft

LOG OF BORING HARTFORD (WILDER) STP 1444(35)SC.GPJ VT_DOT.GDT 4/9/09



PLAN

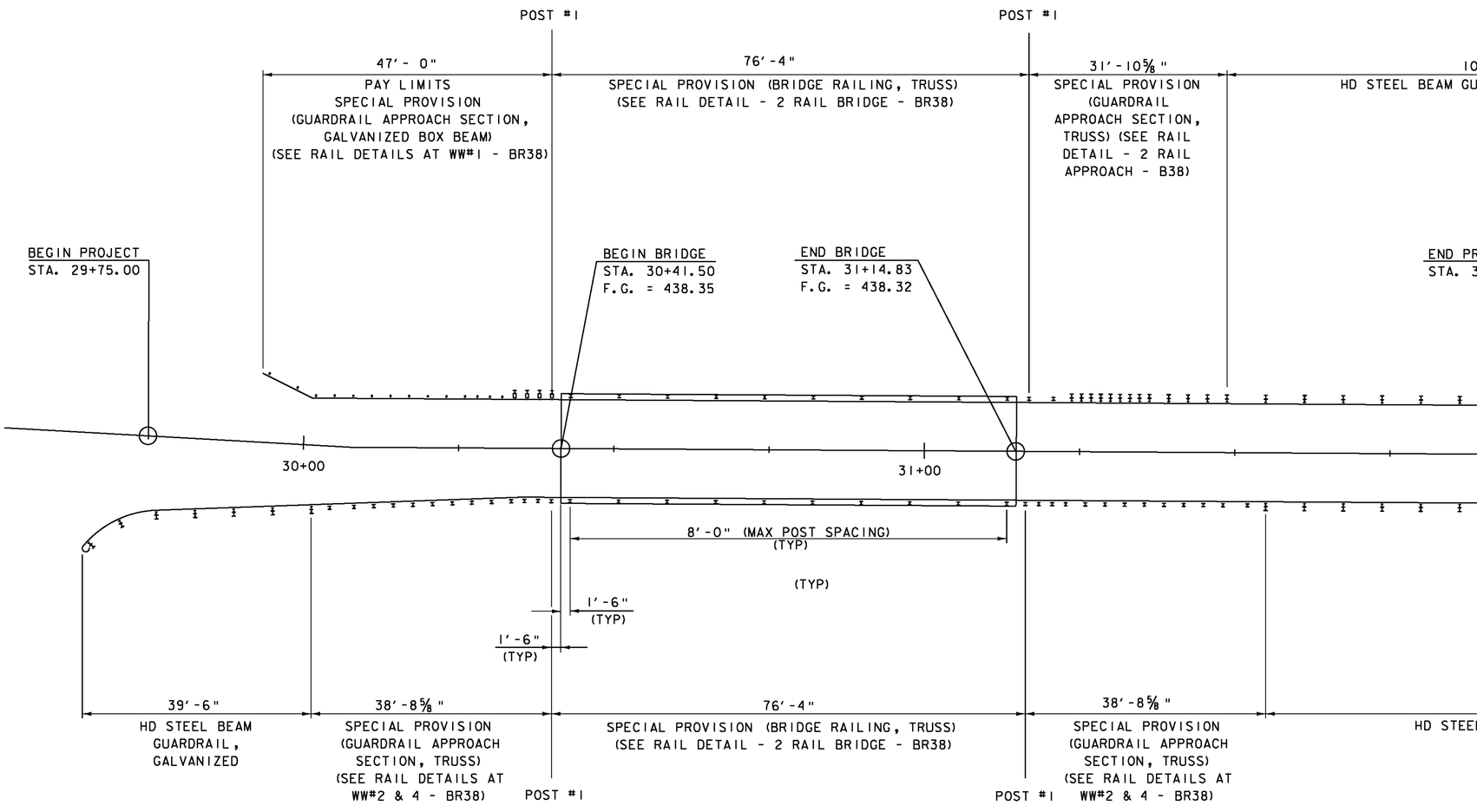


ELEVATION ℄ SOUTH FASCIA

SEE RAIL LAYOUT - BRIDGE 38
FOR RAIL DIMENSIONS

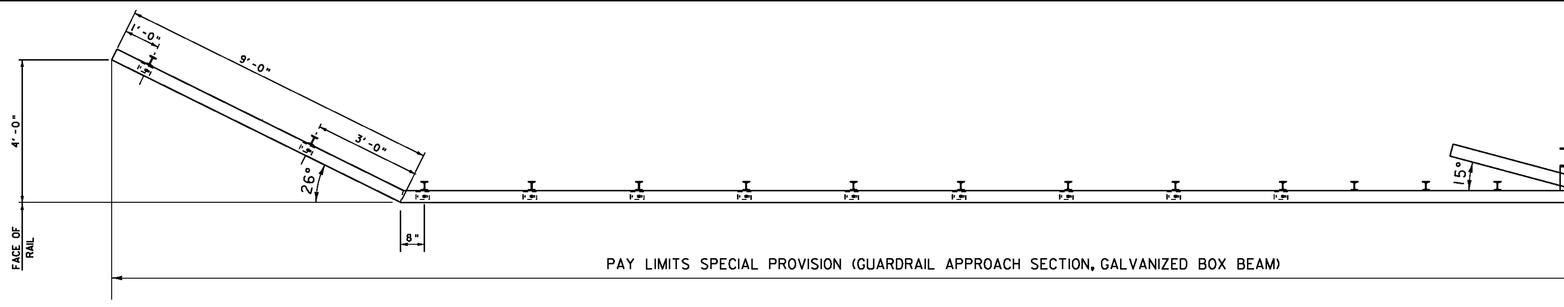
SCALE 1" = 10'-0
10 0 10

PROJECT NAME:	HARTFORD (WILDER)
PROJECT NUMBER:	STP 1444(35)
FILE NAME: b38\s96j070pe_b38.dgn	PLOT DATE: 16-JUN-2010
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. PELLETT
DESIGNED BY: T. FILLBACH	CHECKED BY: J. SALVATORI
PLAN & ELEVATION - BRIDGE 38	SHEET 41 OF 69



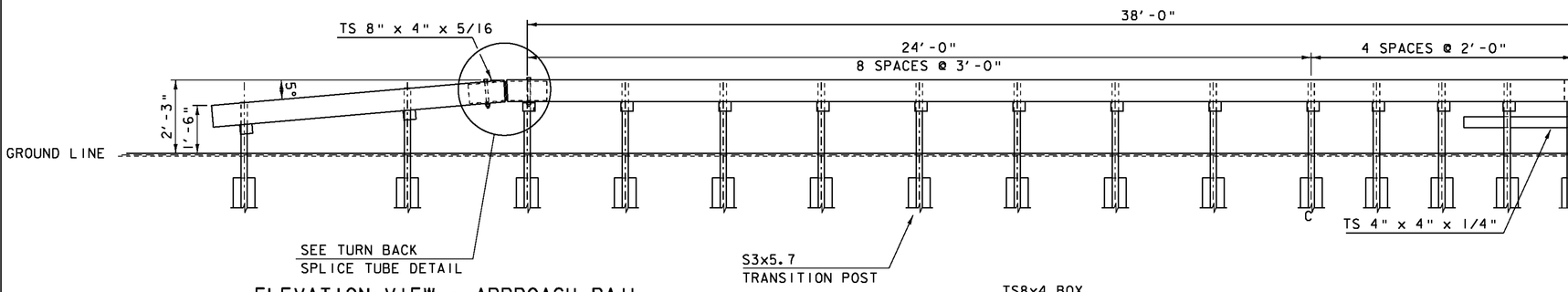
BRIDGE 38 RAIL LAYOUT

SCALE 1" = 10'-
10 0



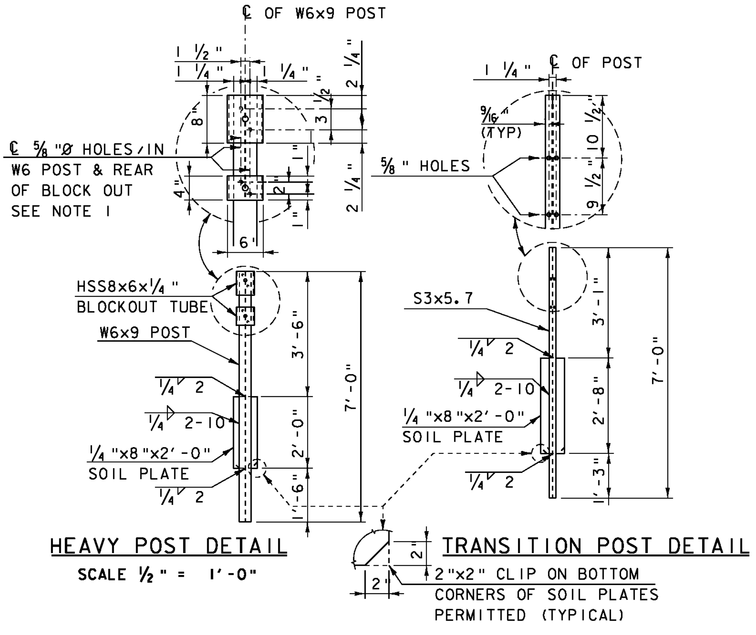
PLAN - VIEW - APPROACH RAIL

6" ℄ S3x5.7 TRANSITION POST TO BEGIN BOTTOM RAIL FLARE BACK



ELEVATION VIEW - APPROACH RAIL

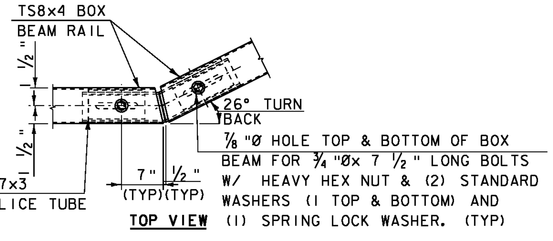
SCALE ½" = 1'-0"



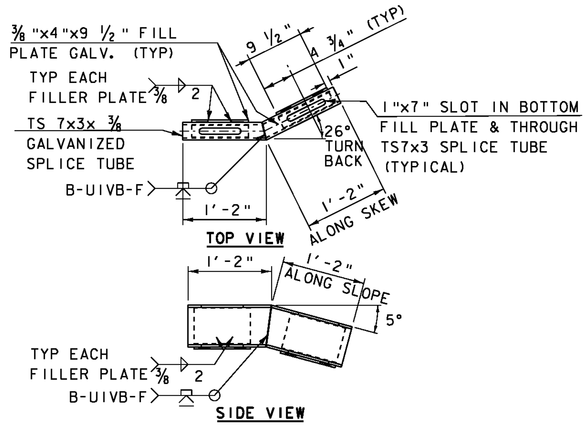
HEAVY POST DETAIL

SCALE ½" = 1'-0"

TRANSITION POST DETAIL



TURN BACK SPLICE TUBE ASSEMBLY



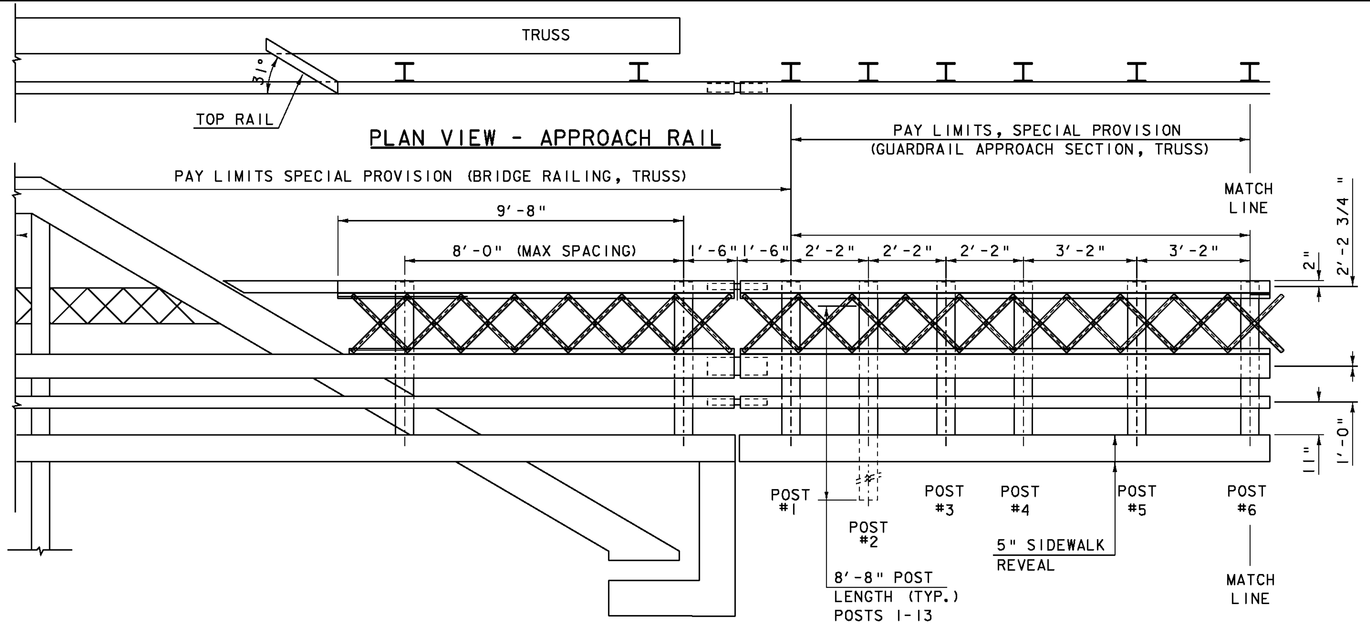
TURN BACK SPLICE TUBE DETAIL

TURN BACK & TURN DOWN TUBE JOINT

SCALE 1" = 1'-0"

NOTE:

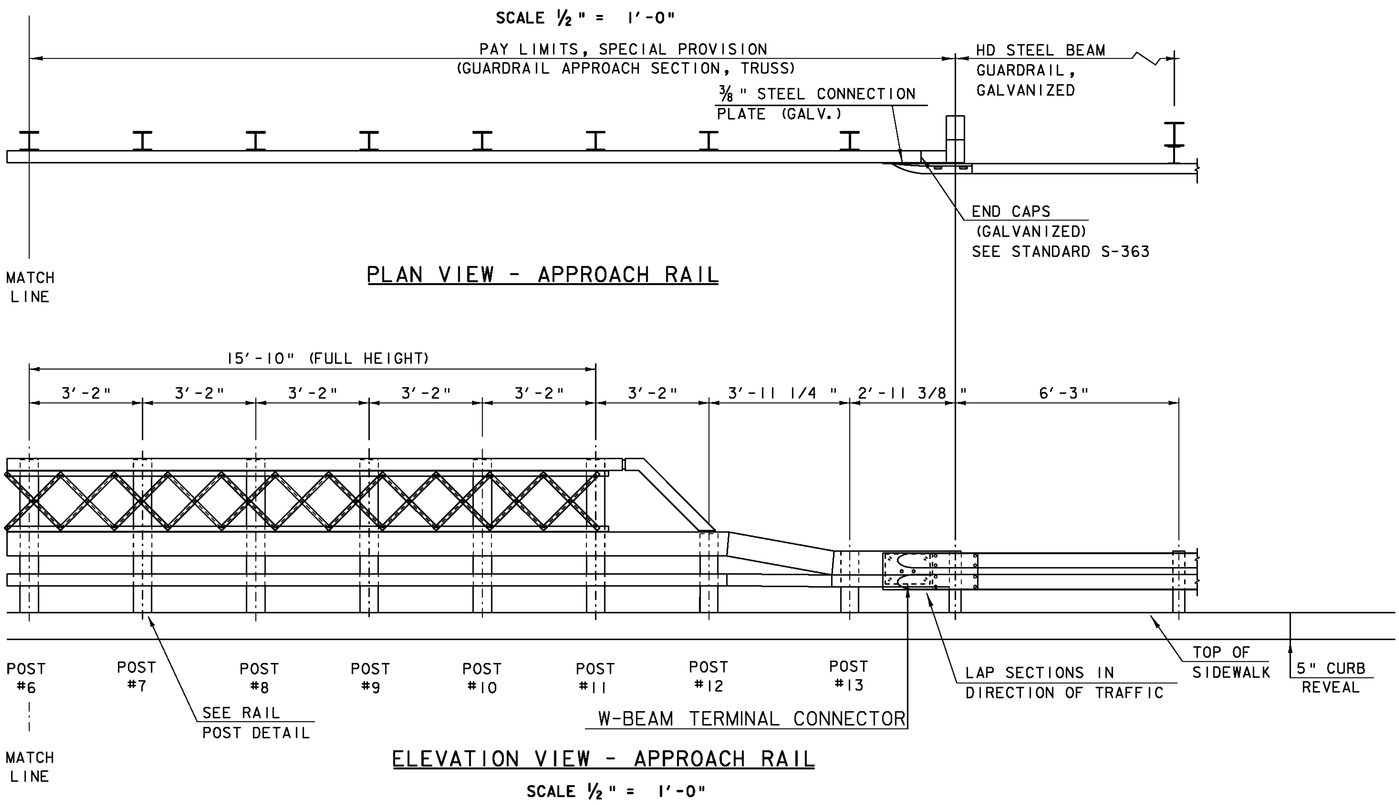
1. HOLES IN THE POST FOR THE LOWER RAIL MAY BE LOCATED AND DRILLED IN THE FIELD. IF SO, THE GALVANIZING SHALL BE REPAIRED IN ACCORDANCE WITH SPECIFICATION SECTION 525.



PLAN VIEW - APPROACH RAIL

ELEVATION VIEW - APPROACH RAIL

SCALE ½" = 1'-0"



PLAN VIEW - APPROACH RAIL

ELEVATION VIEW - APPROACH RAIL

SCALE ½" = 1'-0"

NOTES

1. REFER TO
   DETAIL -
   MATERIAL
2. PAYMENT F
   TRUSS) SH
   PLATE, RA
3. ALL APPRO
   TRAFFIC F
4. ALL BRIDG
   SHALL BE
   NOTED.
5. APPROACH
   BE AASHTO
   WASHERS S
6. WELD SPL
   (B-U2).

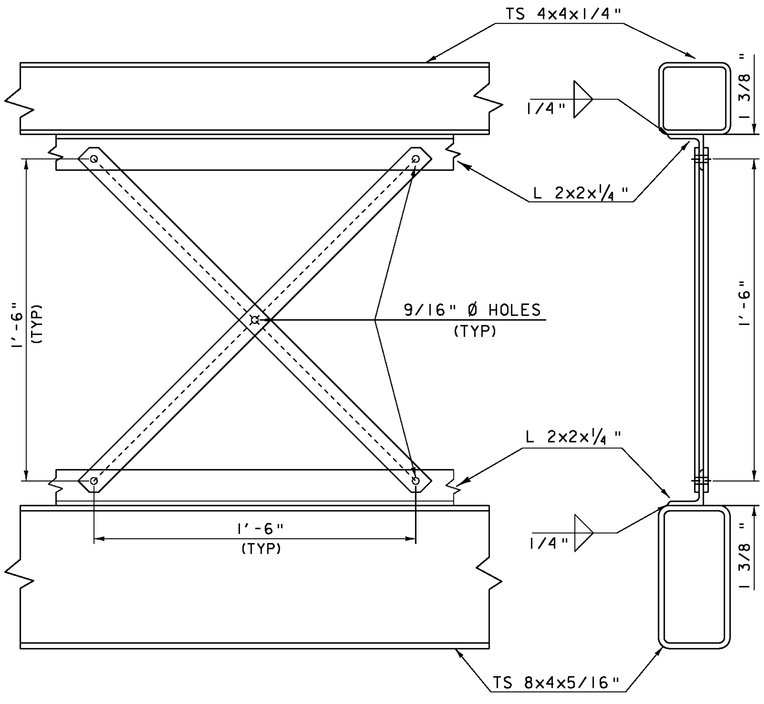
VARIES

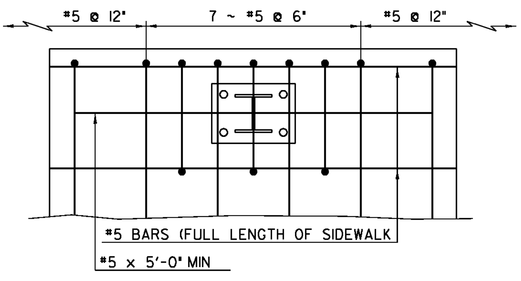
4"

VARIE

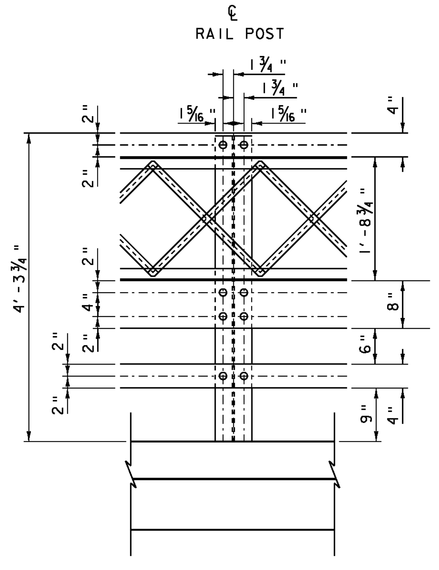
6

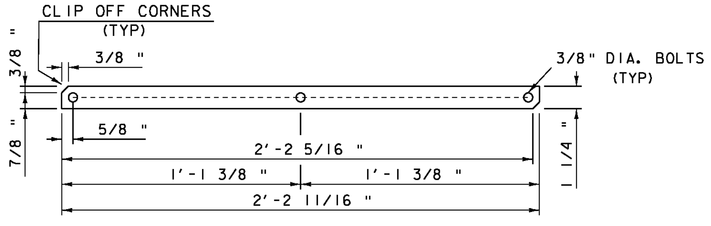
SCALE ½" = 1'-
0 2





SIDEWALK REINFORCING PLAN





LATTICE BAR

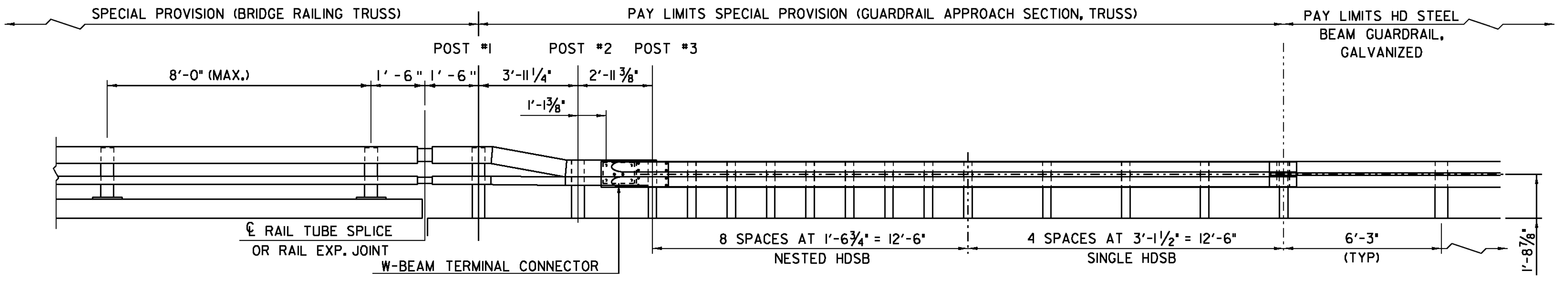
SCALE: 3" = 1'-0"

APPROACH RAILING ELEVATION

SCALE: 1" = 1'-0"

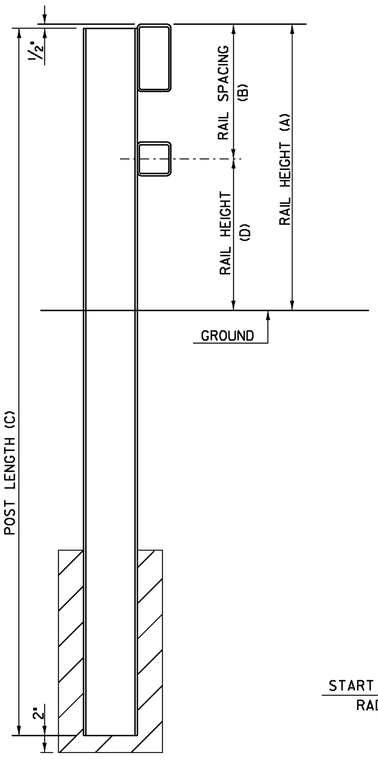
SCALE 1" = 1'-0"

SCALE 3" = 1'-0"



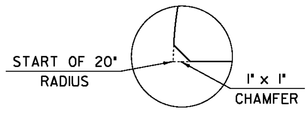
RAILING TRANSITION ELEVATION

(NOT TO SCALE)



TYPICAL SECTION

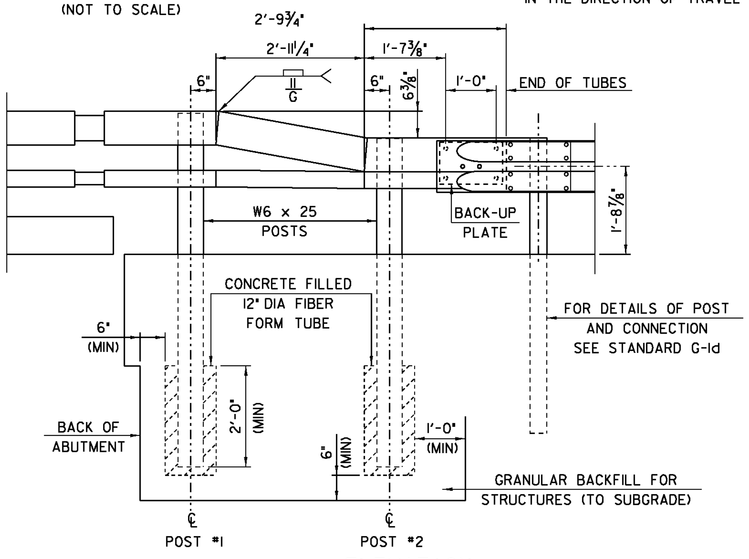
(NOT TO SCALE)



DETAIL "A"

(NOT TO SCALE)

ALL RAIL SHALL BE LAPPED IN THE DIRECTION OF TRAVEL



ELEVATION

(NOT TO SCALE)

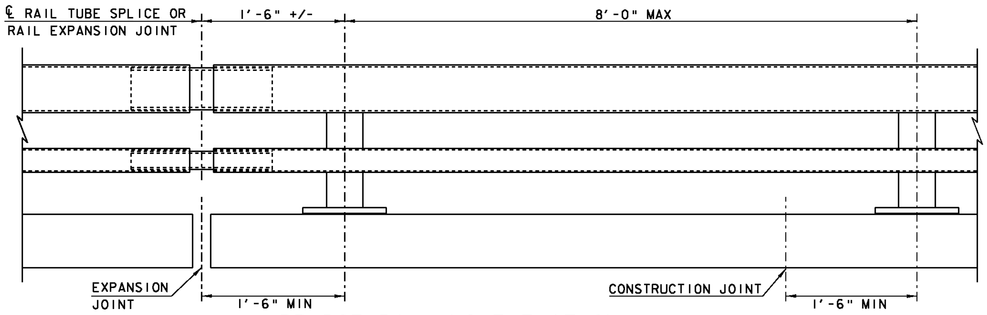
POST NUMBER	RAIL HEIGHT (A)	RAIL SPACING (B)	POST LENGTH (C)	RAIL HEIGHT (D)
1	2'-10"	1'-4"	7'-0"	1'-6"
2	2'-3 5/8"	10"	6'-5"	1'-5 5/8"

Notes:

1. REFER TO SPECIFICA
2. TO FACILI BE SET LO ASSEMBLED APPROVED PLATE AND TUBES AND TO SPECIA
3. RETRO REFL AND SHALL INSTALLED
4. ALL APPRO FLOW.
5. SEE STAND

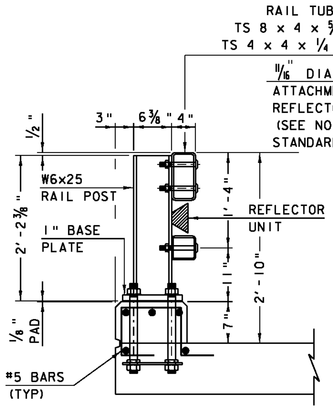
Notes:

1. REFER TO
SPECIFICA



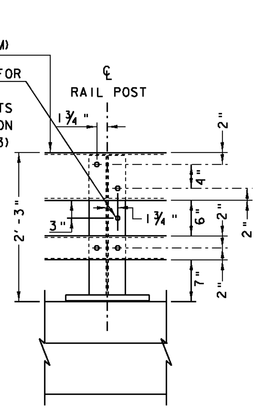
BRIDGE RAILING ELEVATION

(NOT TO SCALE)



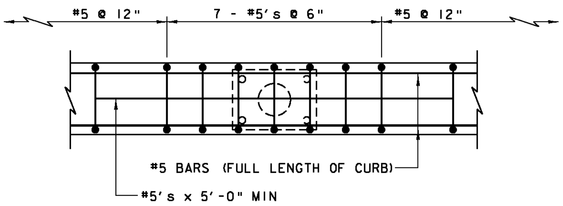
TYPICAL SECTION

SCALE 1" = 1'-0"



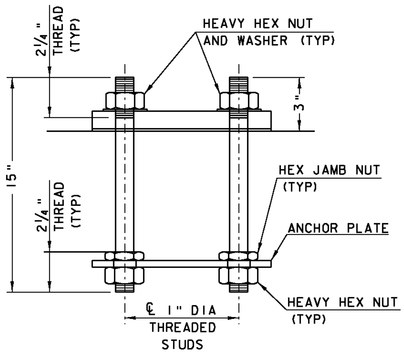
ELEVATION

SCALE 1" = 1'-0"



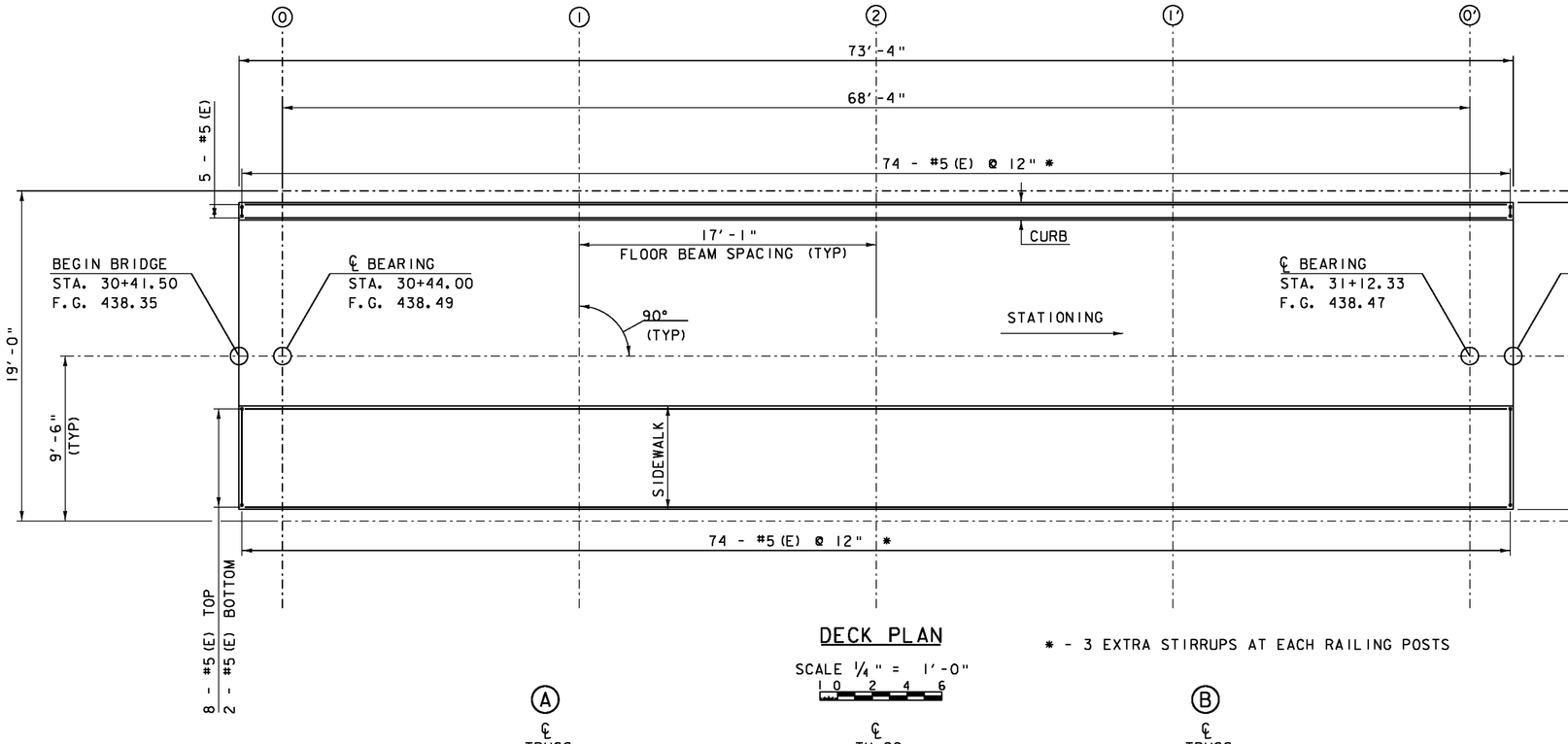
1'-0" CURB REINFORCING PLAN

SCALE 1" = 1'-0"



RAIL POST ANCHORAGE

(NOT TO SCALE)

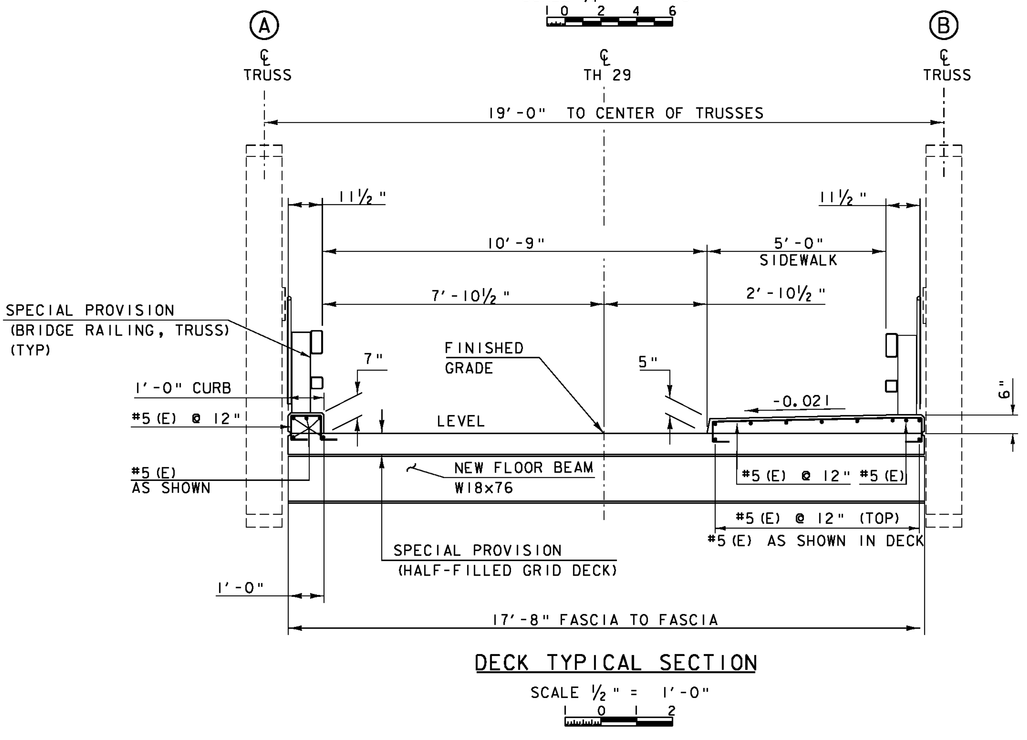


DECK PLAN

SCALE 1/4" = 1'-0"

0 2 4 6

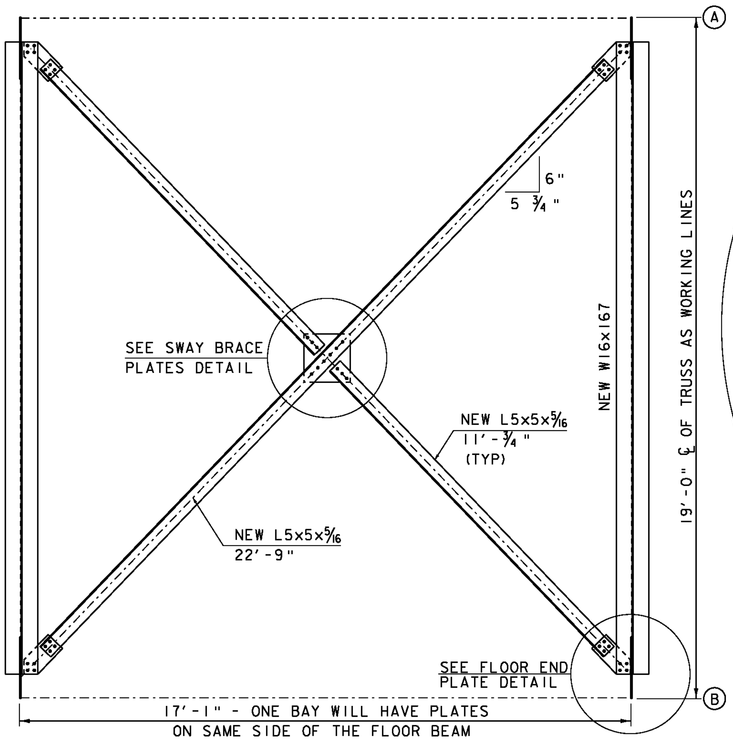
* - 3 EXTRA STIRRUPS AT EACH RAILING POSTS



DECK TYPICAL SECTION

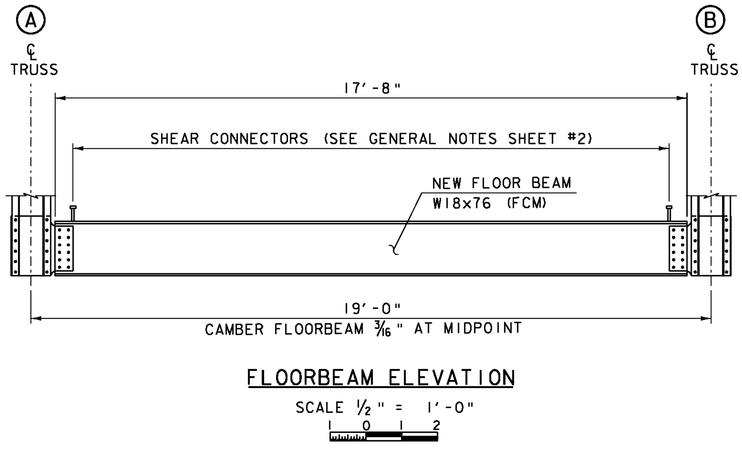
SCALE 1/2" = 1'-0"

0 1 2



FLOOR CONNECTION

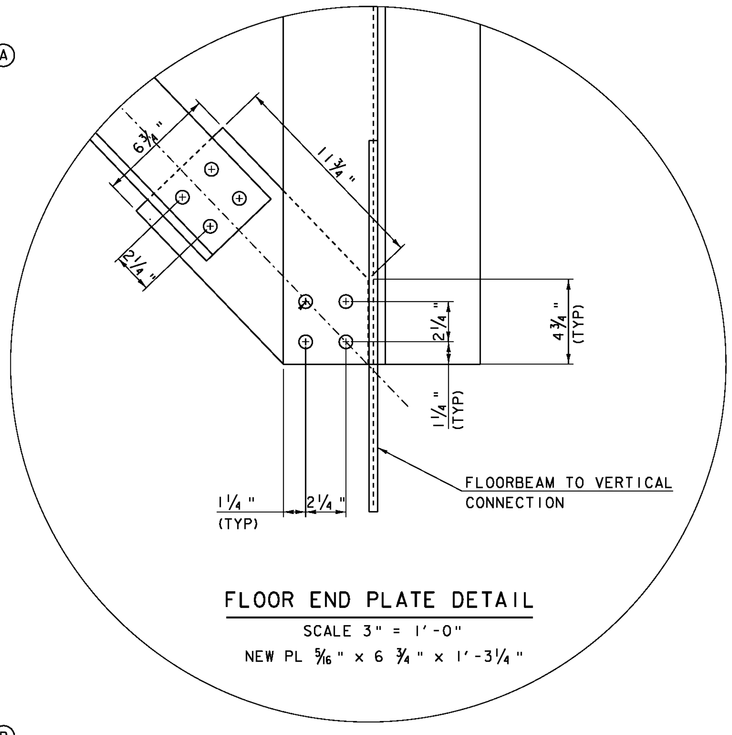
SCALE 1/2" = 1'-0"



FLOORBEAM ELEVATION

SCALE 1/2" = 1'-0"

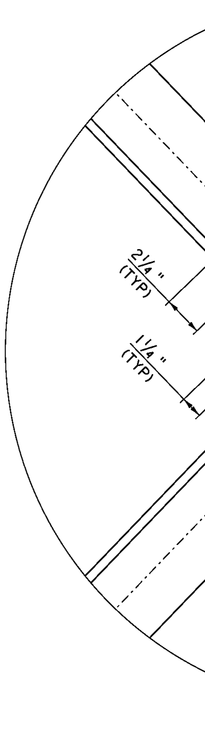
FCM = FRACTURE CRITICAL MEMBER

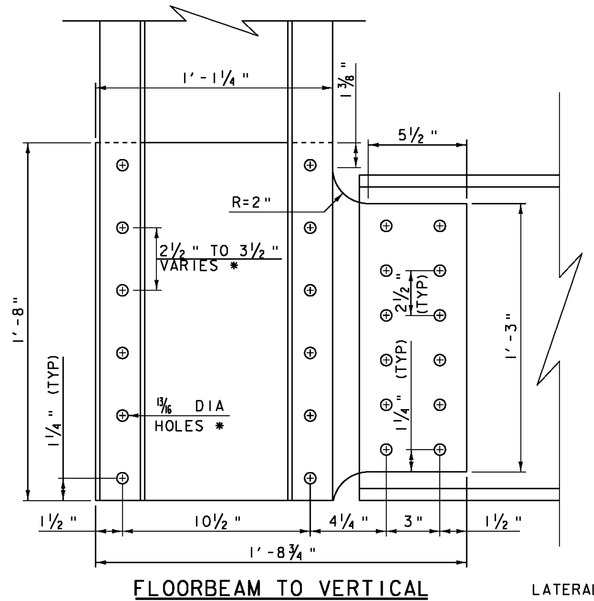


FLOOR END PLATE DETAIL

SCALE 3" = 1'-0"

NEW PL 5/16" x 6 3/4" x 1'-3 1/4"





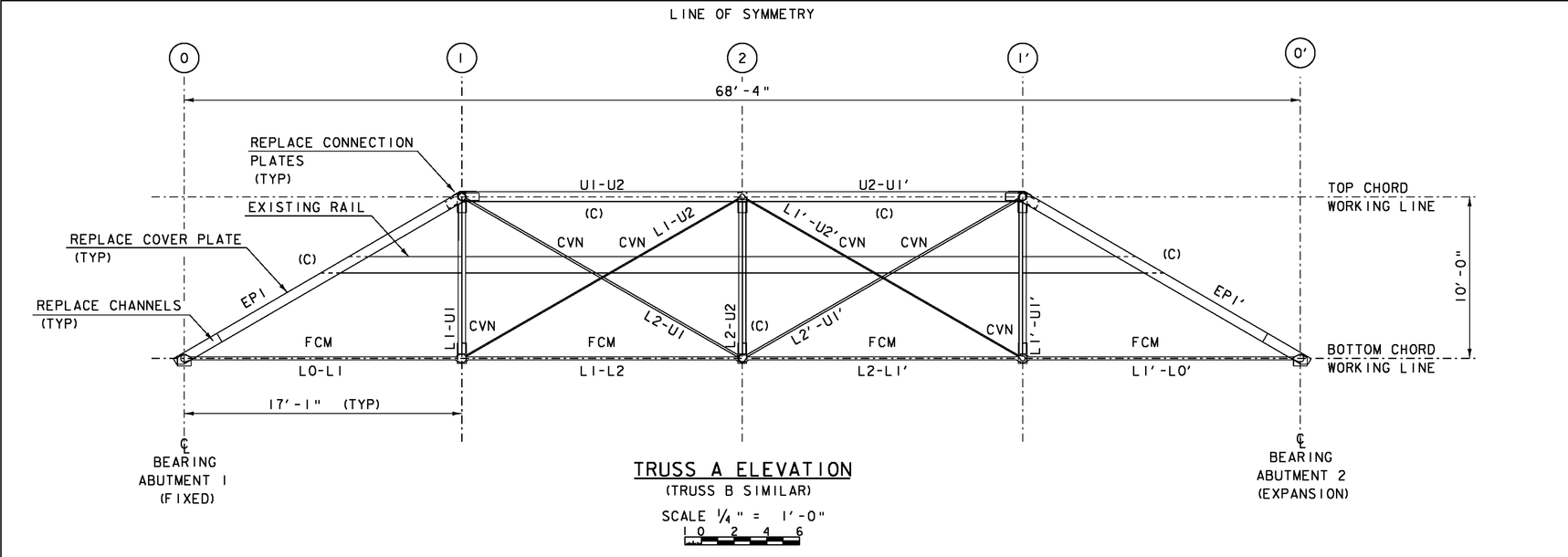
FLOORBEAM TO VERTICAL CONNECTION

NEW PL 1/2" x 20" x 1'-8 3/4"

SCALE 3" = 1'-0"

LATERAL BRACING NOT SHOWN FOR CLARITY

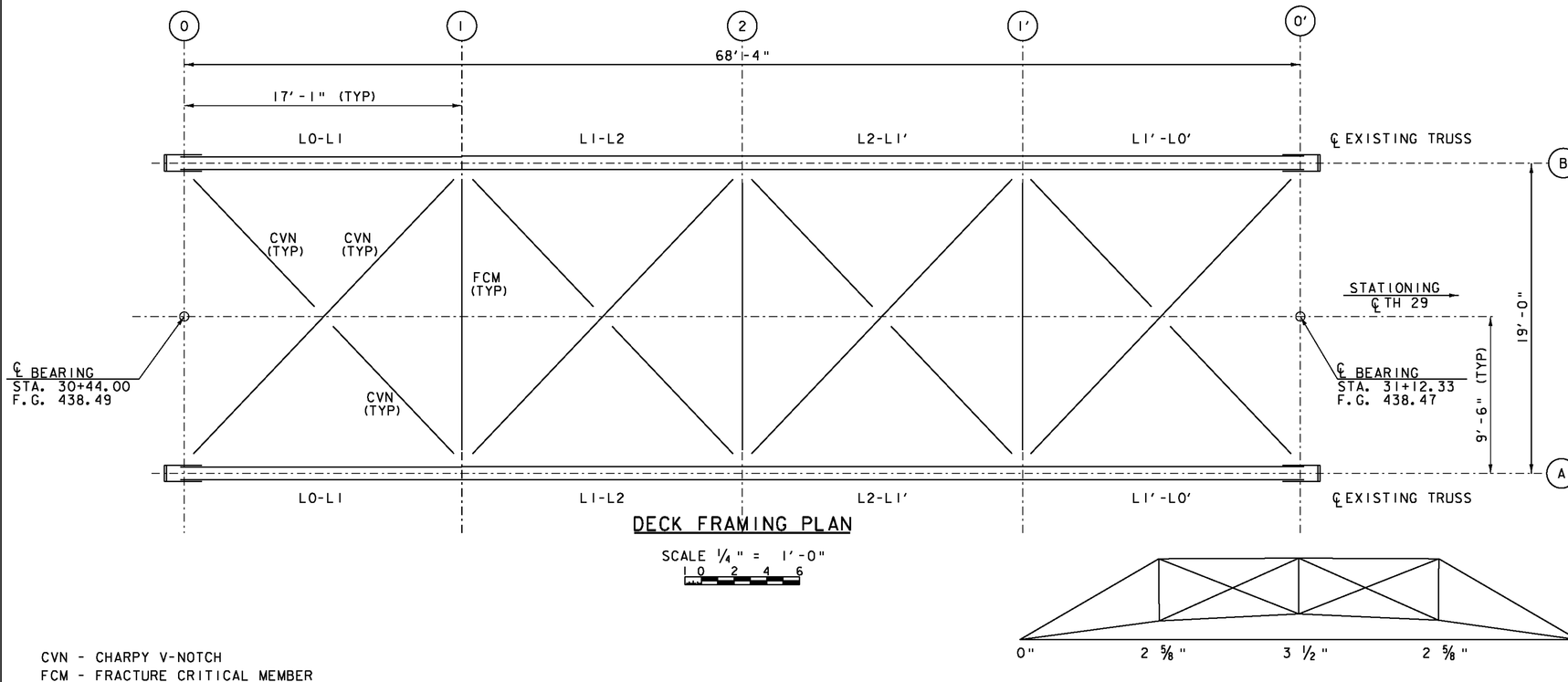
* FIELD VERIFY



TRUSS A ELEVATION

(TRUSS B SIMILAR)

SCALE 1/4" = 1'-0"



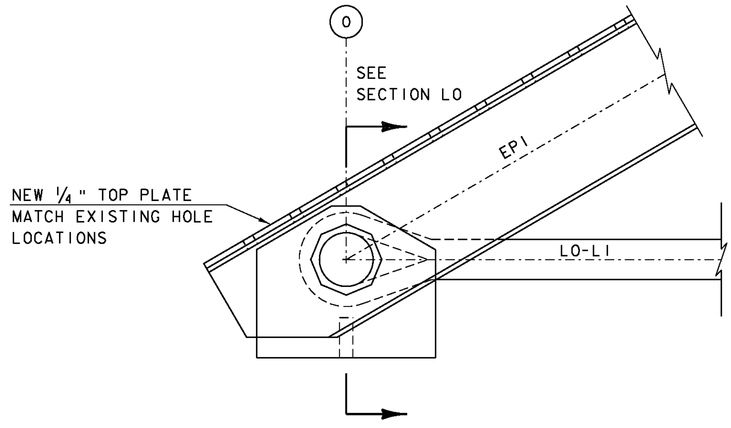
DECK FRAMING PLAN

SCALE 1/4" = 1'-0"

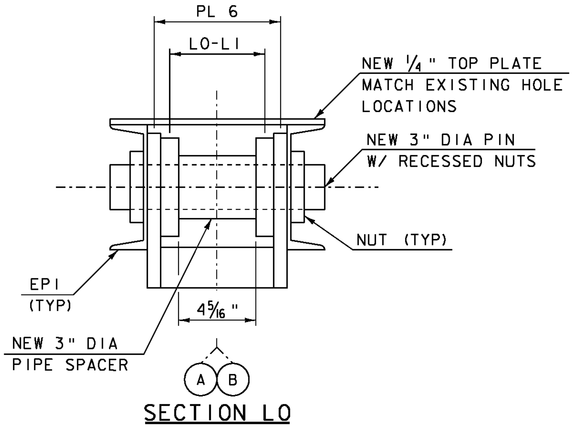
CAMBER DIAGRAM

NOT TO SCALE

CVN - CHARPY V-NOTCH
FCM - FRACTURE CRITICAL MEMBER
C - COMPRESSION



ELEVATION L0

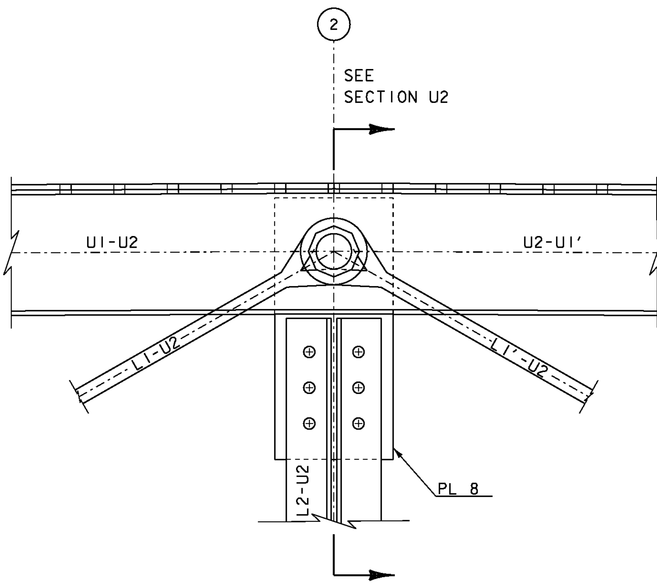


SECTION L0

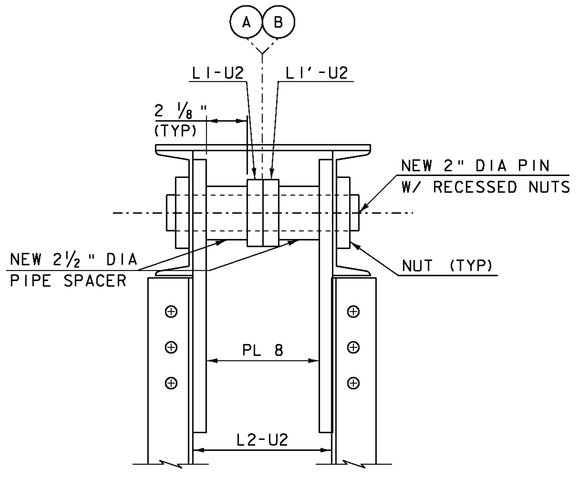
SEE BEARING DETAILS SHEET FOR
ADDITIONAL DETAILS FOT THIS LOCATION

SEE TRUSS JOINT DETAILS #4 SHEET FOR
CLIP DIMENSIONS

(NODE L0' SIMILAR)



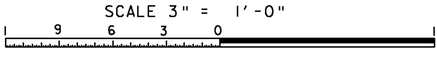
ELEVATION U2

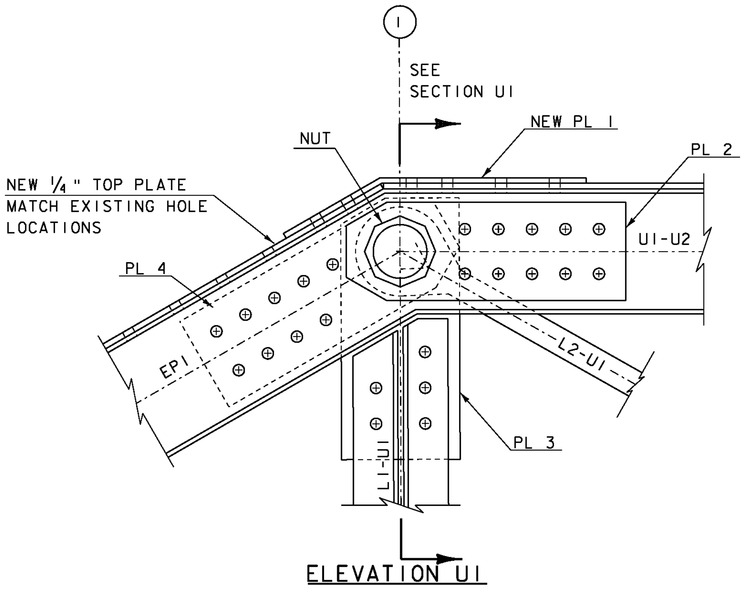


SECTION U2

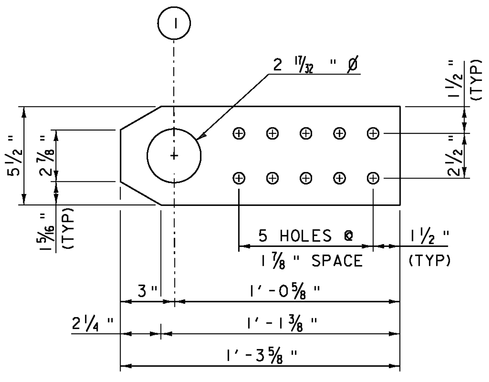
EXISTING RIVETS ARE ASSUMED TO BE 5/8 "
DIAMETER IN 11/16 " DIAMETER HOLES.

SCALE 3" = 1'-0"



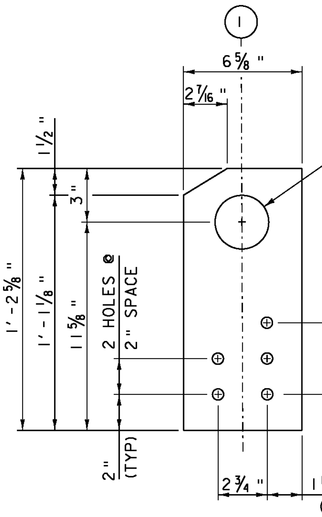


ELEVATION UI



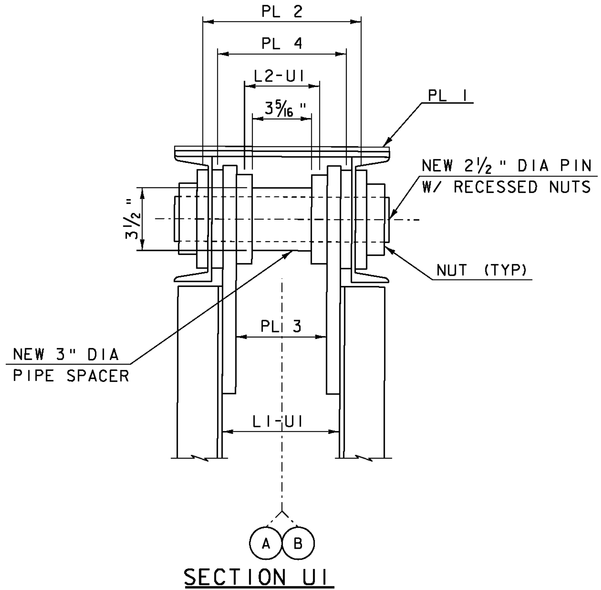
UI - PL2 DETAIL

5/8 " MINIMUM
PLATE THICKNESS



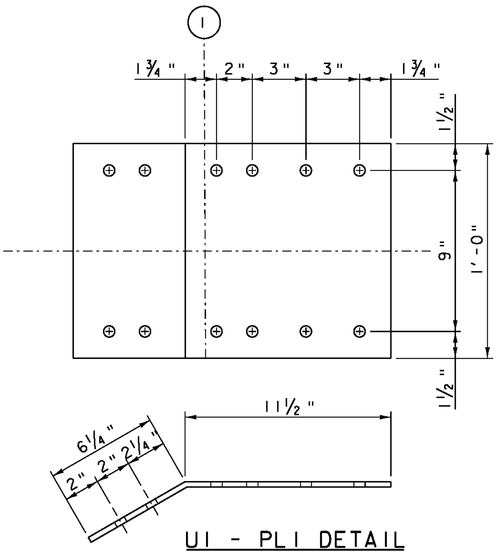
UI - PL3 DETA

3/4 " MINIMUM
PLATE THICKNESS



SECTION UI

(NODE UI' SIMILAR)

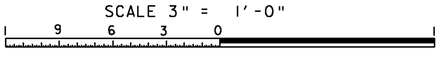


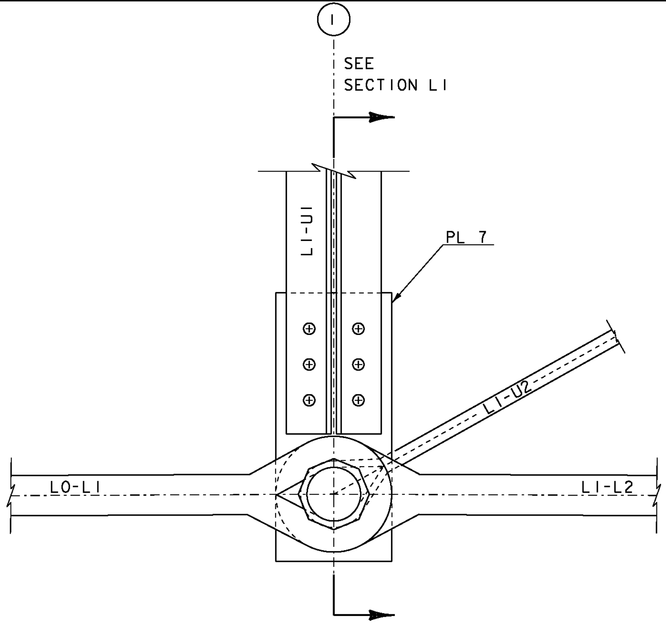
UI - PL1 DETAIL

NEW 5/16 x 12 x 1'-5 3/4 "

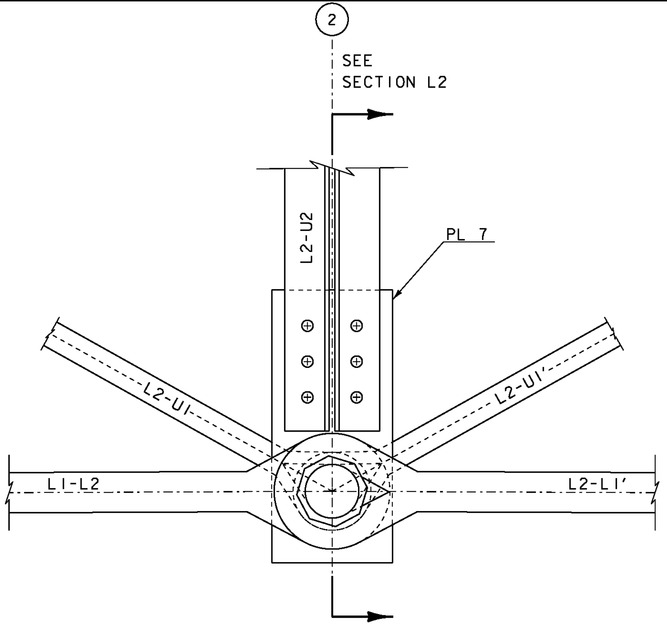
EXISTING RIVETS ARE ASSUMED TO BE 5/8 "
DIAMETER IN 11/16 " DIAMETER HOLES.

SCALE 3" = 1'-0"

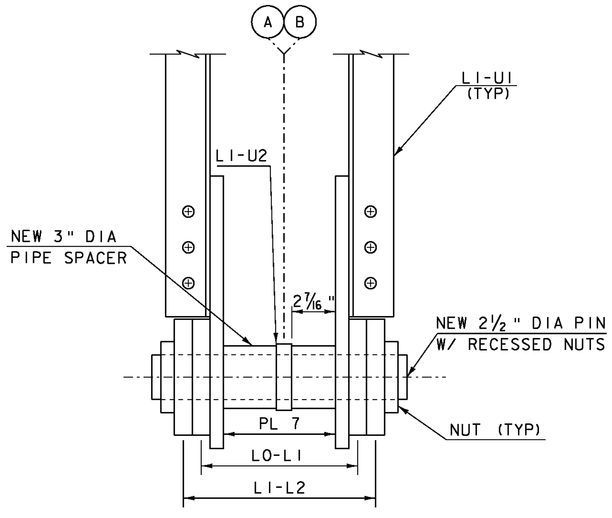




ELEVATION L1

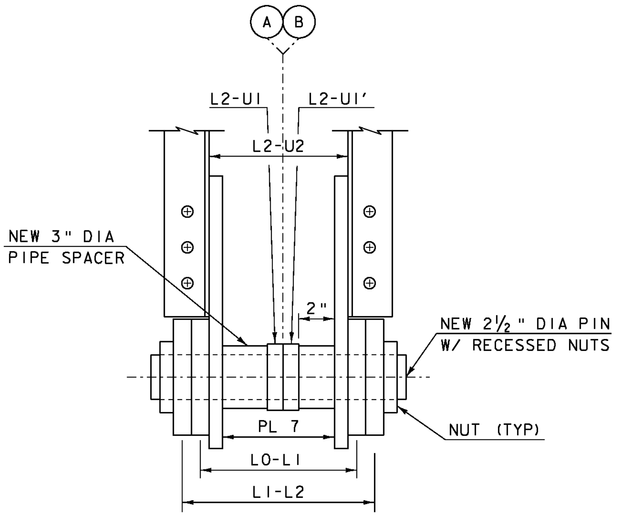


ELEVATION L2



SECTION L1

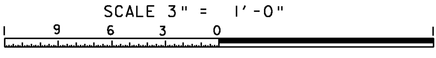
(NODE L1' SIMILAR)

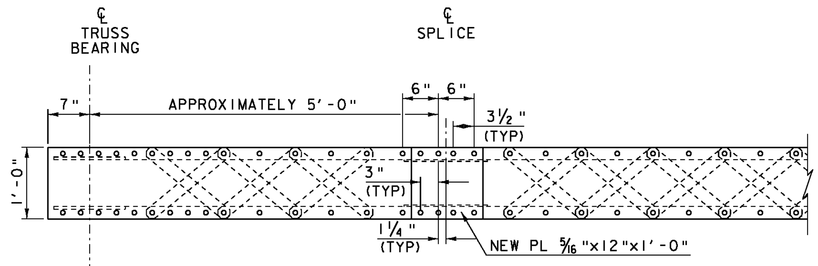


SECTION L2

EXISTING RIVETS ARE ASSUMED TO BE 5/8" DIAMETER IN 11/16" DIAMETER HOLES.

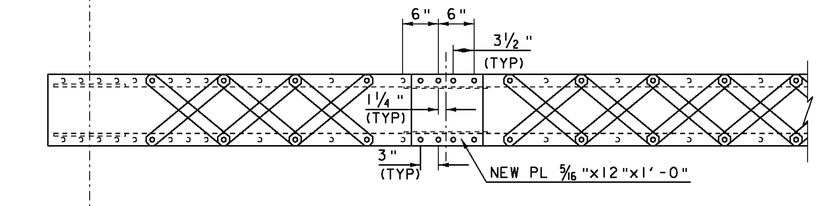
SCALE 3" = 1'-0"





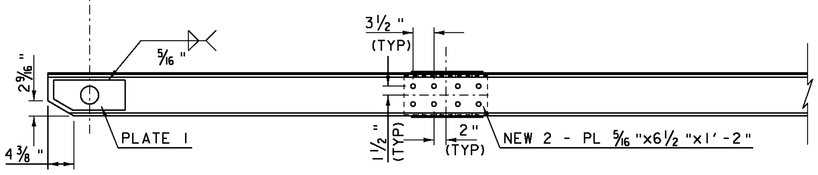
TOP FLANGE - PLAN

SCALE 1" = 1'-0"



BOTTOM FLANGE - PLAN

SCALE 1" = 1'-0"



ELEVATION VIEW

SCALE 1" = 1'-0"

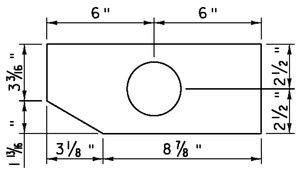


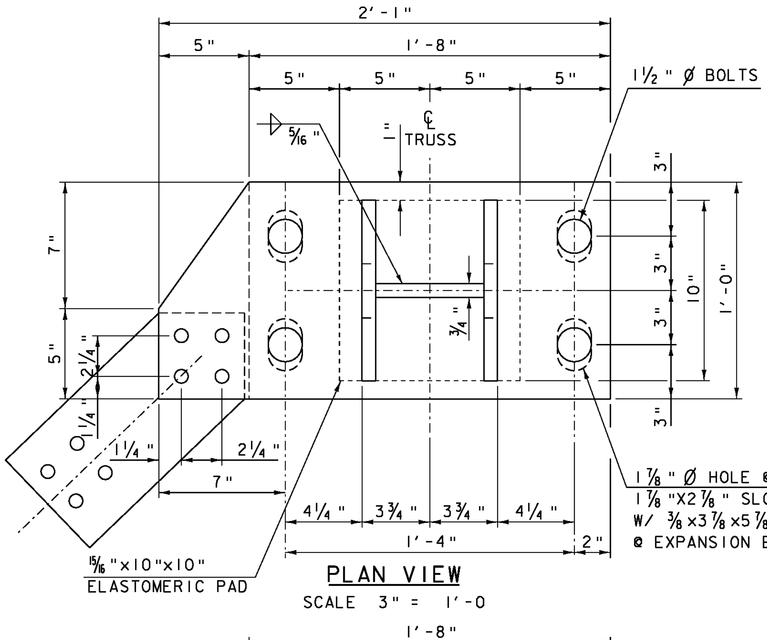
PLATE 1

SCALE 3" = 1'-0"

NEW 2 - PL 5/16"x5"x1'-0"

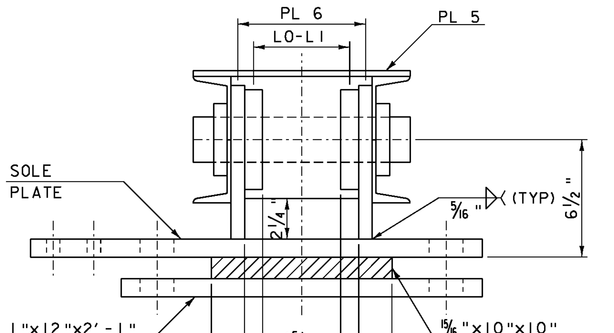
NEW TOP PLATE - PL ¼" X 12" X 20'-3⅞
NEW CHANNELS - C 7 X 12.25

SCALE 1" = 1'-0"
1 9 6 3 0



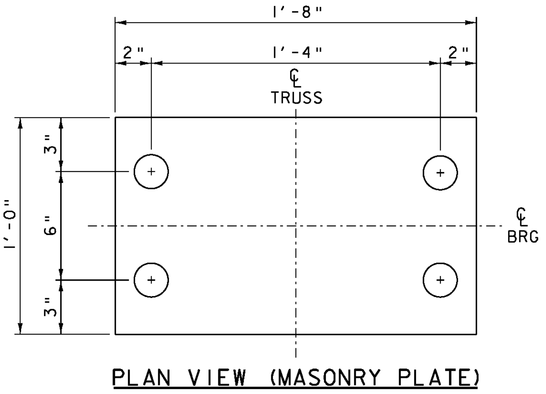
PLAN VIEW

SCALE 3" = 1'-0



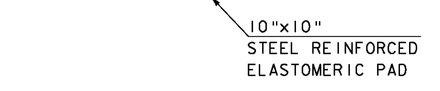
FRONT ELEVATION

SCALE 3" = 1'-0



PLAN VIEW (MASONRY PLATE)

SCALE 3" = 1'-0



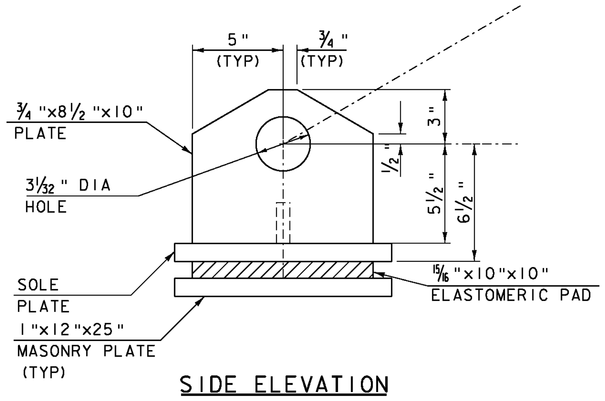
STEEL REINFORCED ELASTOMER PAD

SCALE 1½" = 1'-0

2 EXTERIOR ELASTOMERS = ⅛"

2 INTERIOR ELASTOMERS = ¼"

3 REINFORCING PLATES = 1/16" (16GA)



SIDE ELEVATION

SCALE 3" = 1'-0

Design Load (kip)	Service Limit State	Vertical	Max	70.0
			Min	40.0
			Permanent	45.0
			Transverse	2.0
			Longitudinal	9.0
	Strength Limit State		Vertical	98.0
			Transverse	4.0
			Longitudinal	19.5
Translation (in)	Service Limit State	Irreversible	Transverse	0
			Longitudinal	1/16
		Reversible	Transverse	1/8
			Longitudinal	1/2
Rotation (rad)	Service Limit State	Irreversible	Transverse	0.000
			Longitudinal	0.000
		Reversible	Transverse	0.005
			Longitudinal	0.005

BEARING NOTES

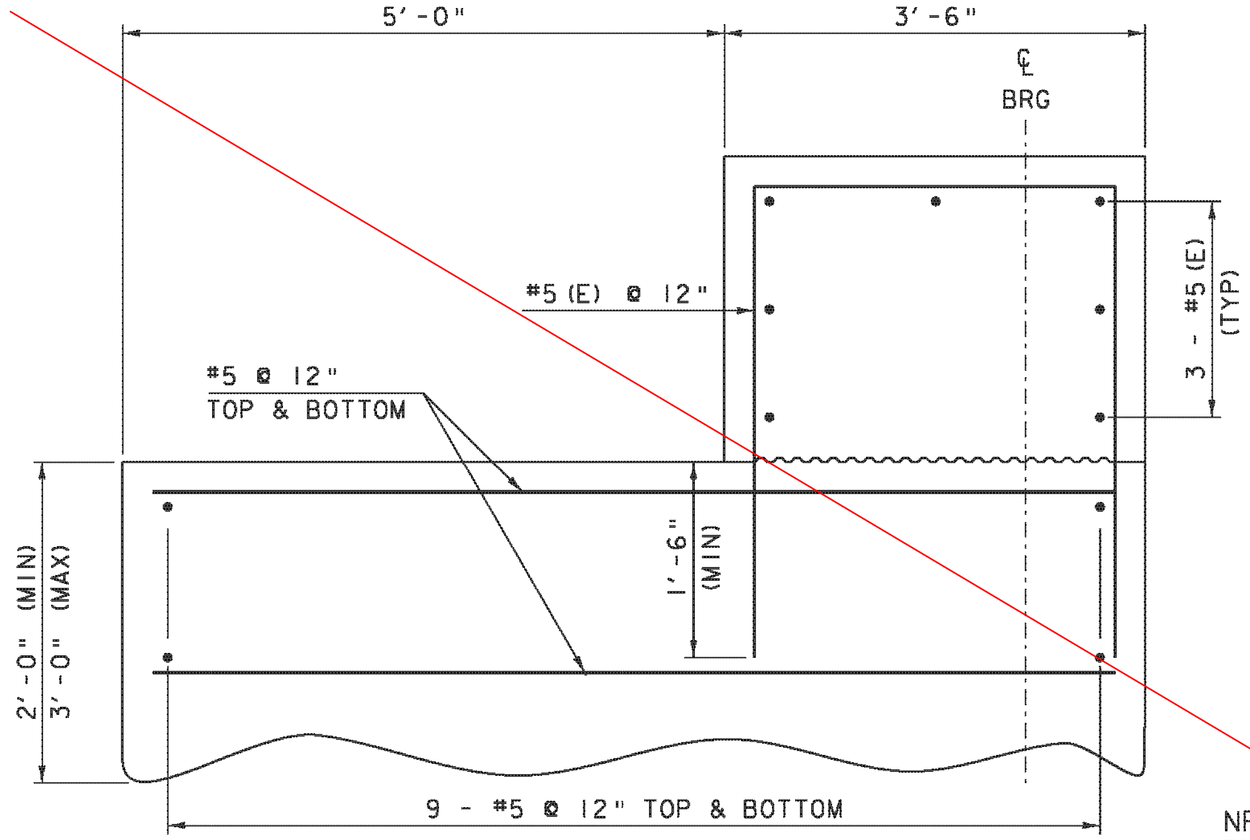
1. BEARINGS SHALL CONFORM TO SPECIFICATIONS SECTIONS 5
2. THE BEARINGS, INCLUDING A WASHERS AND NUTS SHALL BE DEVICE ASSEMBLY, ELASTOME STEEL PLATES AND BUILT-UP STRUCTURAL STEEL.
3. ALL WASHERS SHALL BE 3/8"
4. ALL PLATES, NUTS, WASHERS GALVANIZED OR METALIZED A STANDARD SPECIFICATIONS. WITH AN APPROVED SEALER A SPECIFICATIONS. AREAS OF OR HANDLING SHALL BE REPA 513.
5. ALL STEEL IN THE BEARING 50, UNLESS NOTED OTHERWIS
6. ANCHOR BOLTS SHALL BE AST INTO THE CONCRETE AND SHA
7. ALL REINFORCEMENT BETWEEN M270M/M270 GRADE 36. ALL FREE OF COATINGS, RUST AN EDGES AND BURRS.
8. STEEL REINFORCED ELASTOME ELASTOMER INTEGRAL WITH E
9. THE ELASTOMER WAS DESIGNE
10. THE ELASTOMER SHALL MEET GRADE 4.
11. THE CONCRETE UNDER THE BE
12. ALL DESIGNS DONE FOR THE SPECIFICATIONS 4TH EDITIO
13. ALTERNATE CONFIGURATIONS ALTERNATE SUBMITTED SHALL AND CRITERIA SHOWN ON THE
14. BRIDGE SEAT ELEVATIONS MA CONFIGURATION.
15. ALL BEARINGS SHALL BE MAR BEARING LOCATION ON THE E ALL MARKS SHALL BE PERMAN

SCALE 1 ½" = 1'-0"

1 9 6 3 0 1

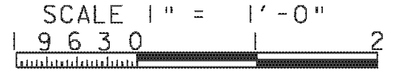
SCALE 3" = 1'-0"

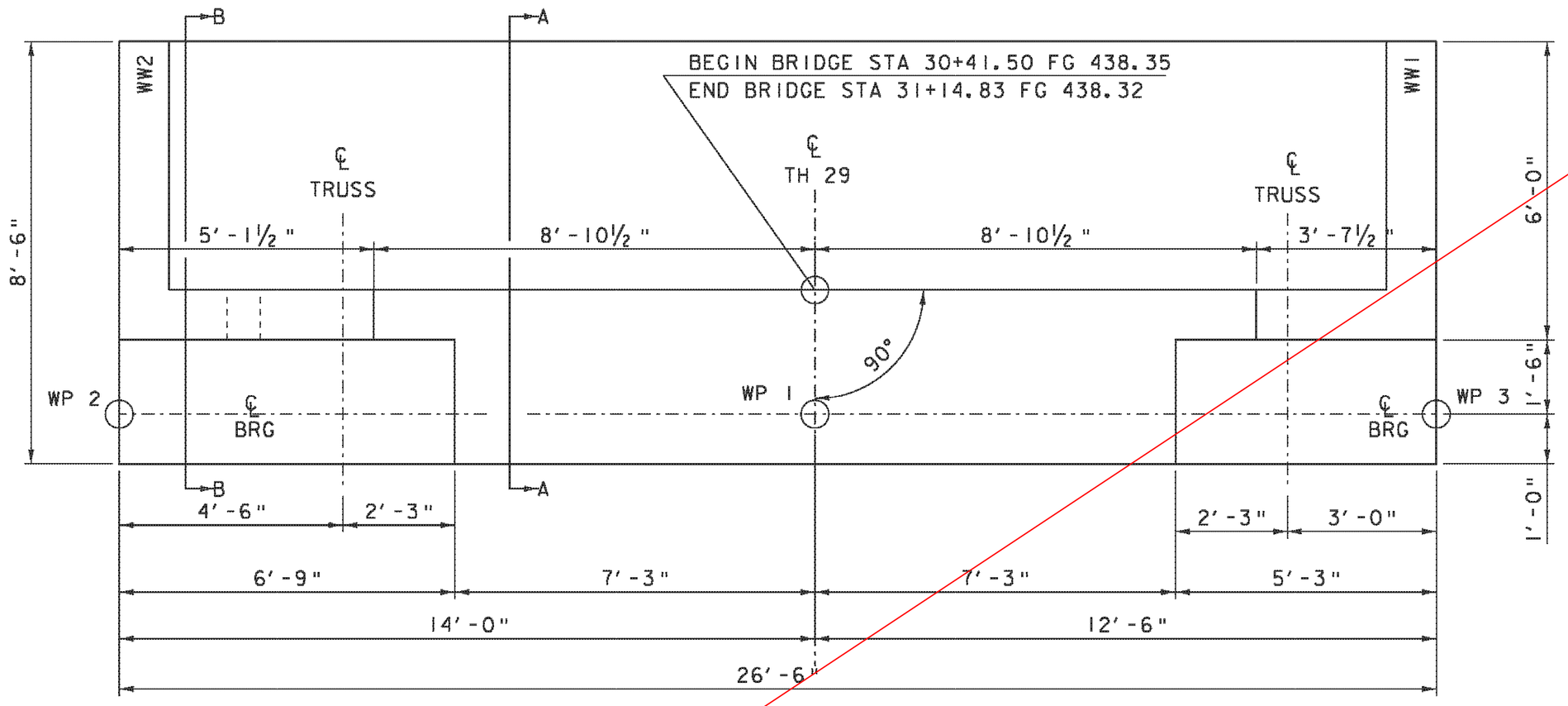
1 9 6 3 0



SECTION A-A

SCALE 1" = 1'-0"

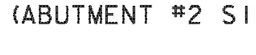




NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
E = EPOXY COATED

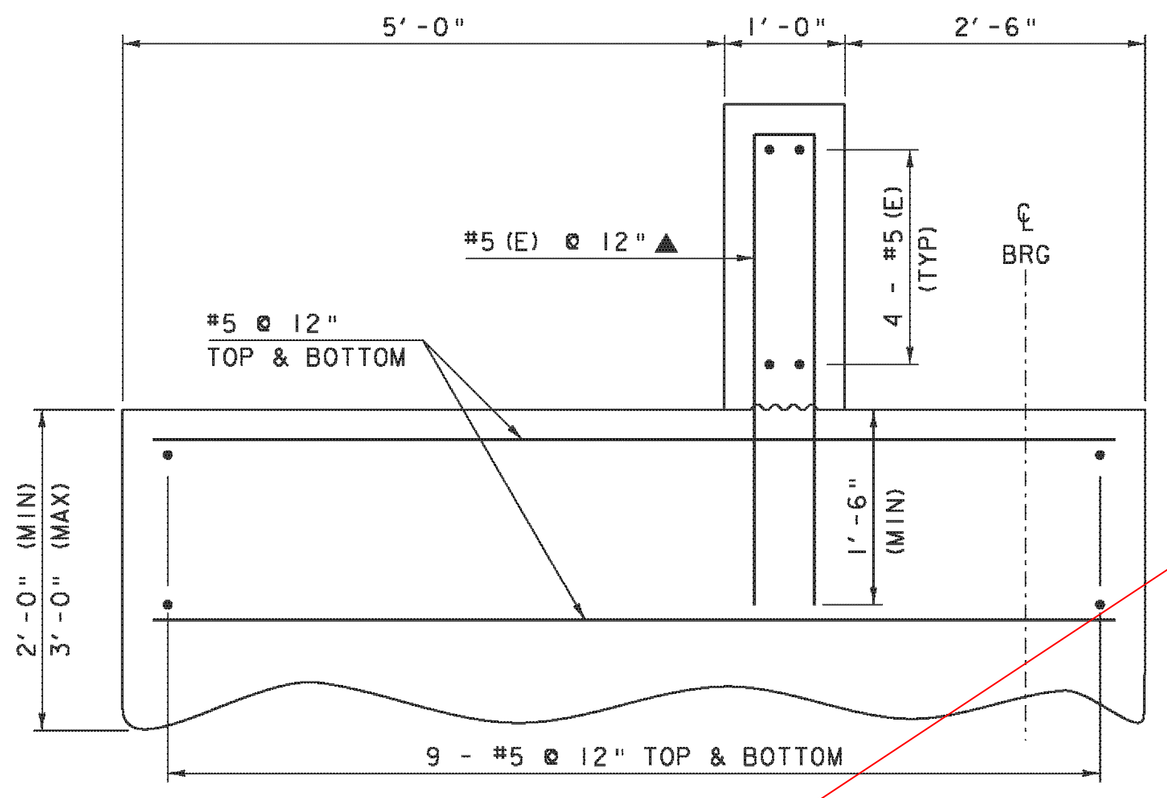
ABUTMENT 1 PLAN VIEW

SCALE ½" = 1'-0"



(ABUTMENT #2 SIMILAR)

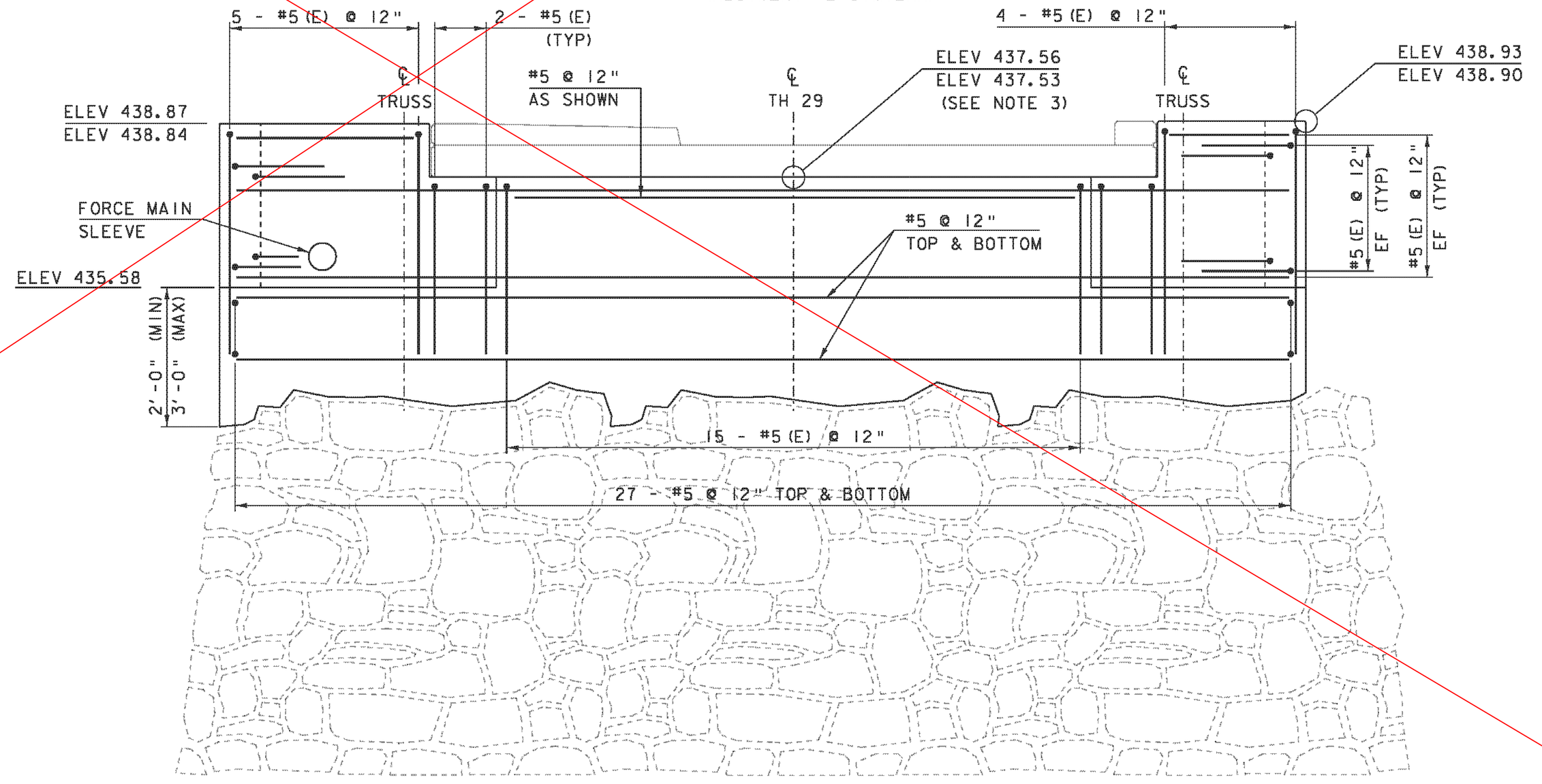
SEE REVISED ABUTMENT DRAWINGS SHEET 1OF 1 DATED 4/25/12



SECTION B-B

SCALE 1" = 1'-0"





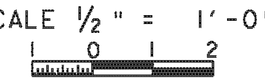
CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LENGTHS AND REINFORCING BAR BENDS BASED ON THESE DRAWINGS. ALL LAP LENGTHS SHALL BE AT LEAST THE LENGTH SPECIFIED BELOW:

#5 - 2'-2"
#6 - 2'-7"
#7 - 3'-5"
#8 - 4'-6"
#9 - 5'-8"
#10 - 7'-3"
#11 - 8'-10"

NOTE
1) CONCRETE SHALL BE PAID FOR UNDER ITEM 501.34 CONCRETE, HIGH PERFORMANCE CLASS B.
2) REINFORCING STEEL SHALL BE PAID FOR UNDER ITEMS 900.635 SPECIAL PROVISION (REINFORCING STEEL) AND 900.635 SPECIAL PROVISION (EPOXY COATED REINFORCING STEEL)
3) ELEVATIONS MAY VARY BASED ON DECK SYSTEM CHOSEN
4) WHEN TWO ELEVATIONS ARE SHOWN, THE TOP ELEVATION REFERS TO ABUTMENT 1 AND THE BOTTOM ELEVATION REFERS TO ABUTMENT 2.
5) LOCATION AND ELEVATION OF FORCE MAIN SLEEVE TO BE VERIFIED IN THE FIELD.

ABUTMENT 1 ELEVATION VIEW

SCALE ½" = 1'-0"

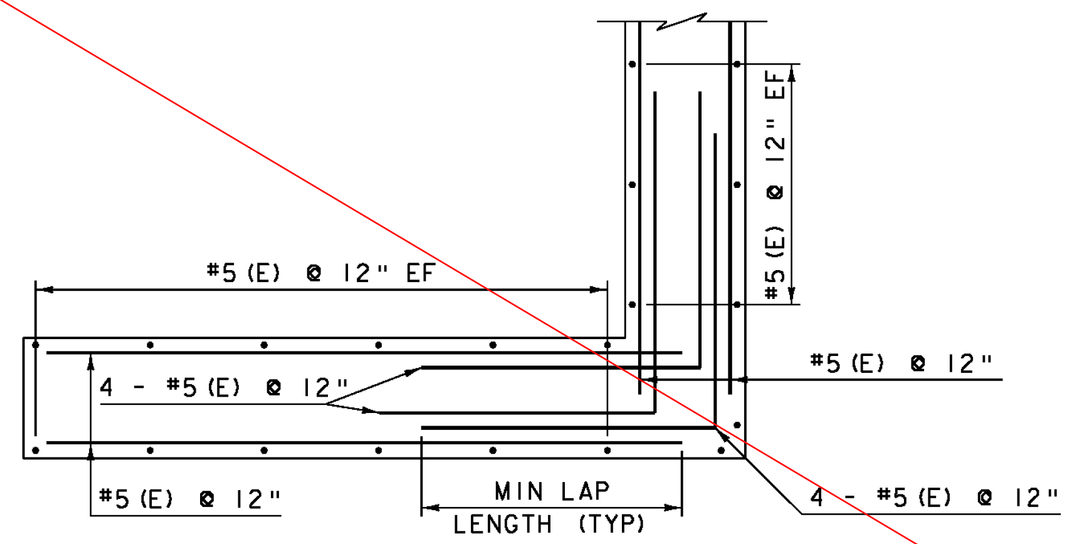


(ABUTMENT #2 SIMILAR)

PROJECT NAME: HARTFORD (WILDER)
PROJECT NUMBER: STP 1444(35)

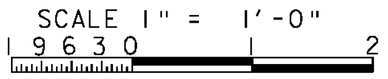
FILE NAME: b38\s96j070sub_b38.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: T. FILLBACH
ABUTMENT 1& 2 DETAILS - BRIDGE 38

PLOT DATE: 16-JUN-2010
DRAWN BY: J. SALVATORI
CHECKED BY: J. LACROIX
SHEET 56 OF 69



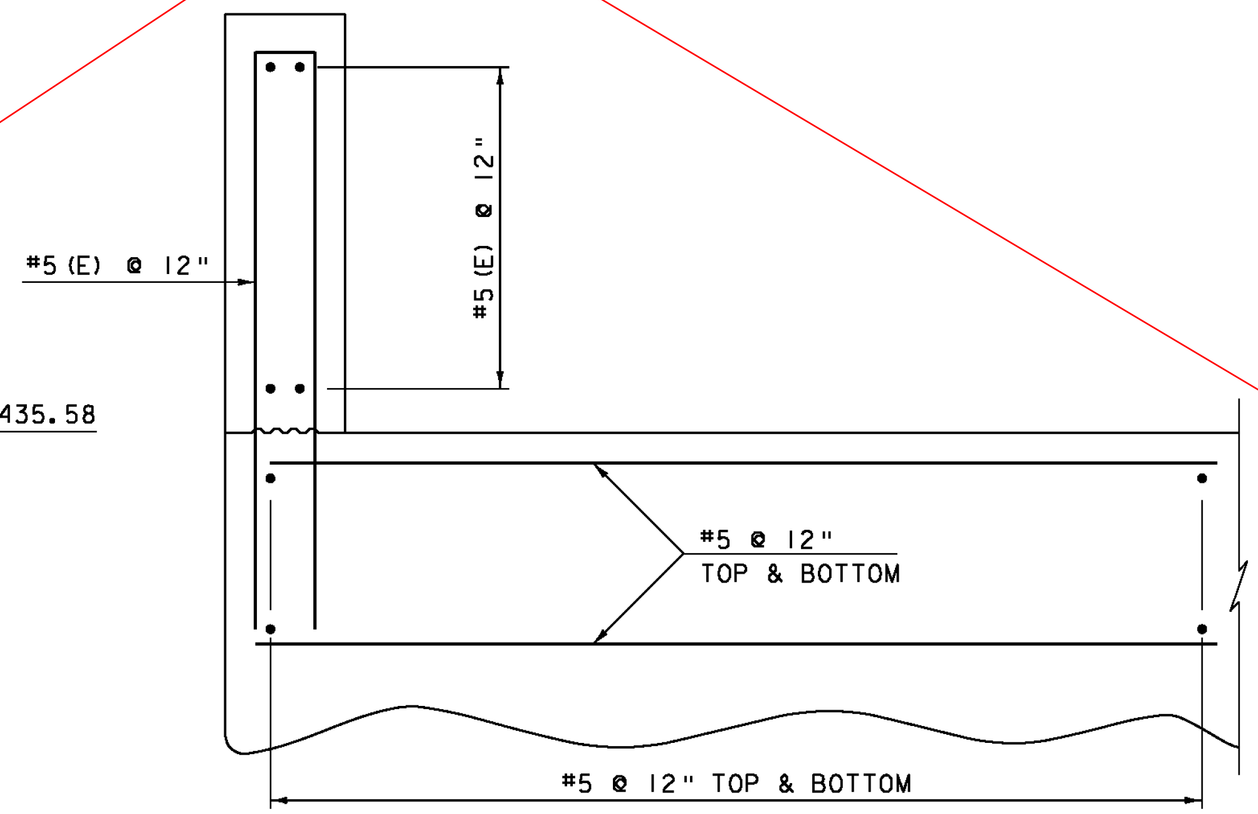
WINGWALL CORNER DETAIL

SCALE 1" = 1'-0"



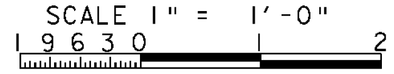
WINGWALL ELEVATION VIEW

SCALE 1" = 1'-0"



WINGWALL TYPICAL SECTION

SCALE 1" = 1'-0"



SEE REVISED ABUTMENT DRAWINGS
SHEET 1OF 1 DATED 4/25/12

NOTE:
CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LENGTHS AND REINFORCING BAR BENDS BASED ON THESE DRAWINGS. ALL LAP LENGTHS SHALL BE AT LEAST THE LENGTH SPECIFIED BELOW:

#5 - 2'-2"
#6 - 2'-7"
#7 - 3'-5"
#8 - 4'-6"
#9 - 5'-8"
#10 - 7'-3"
#11 - 8'-10"

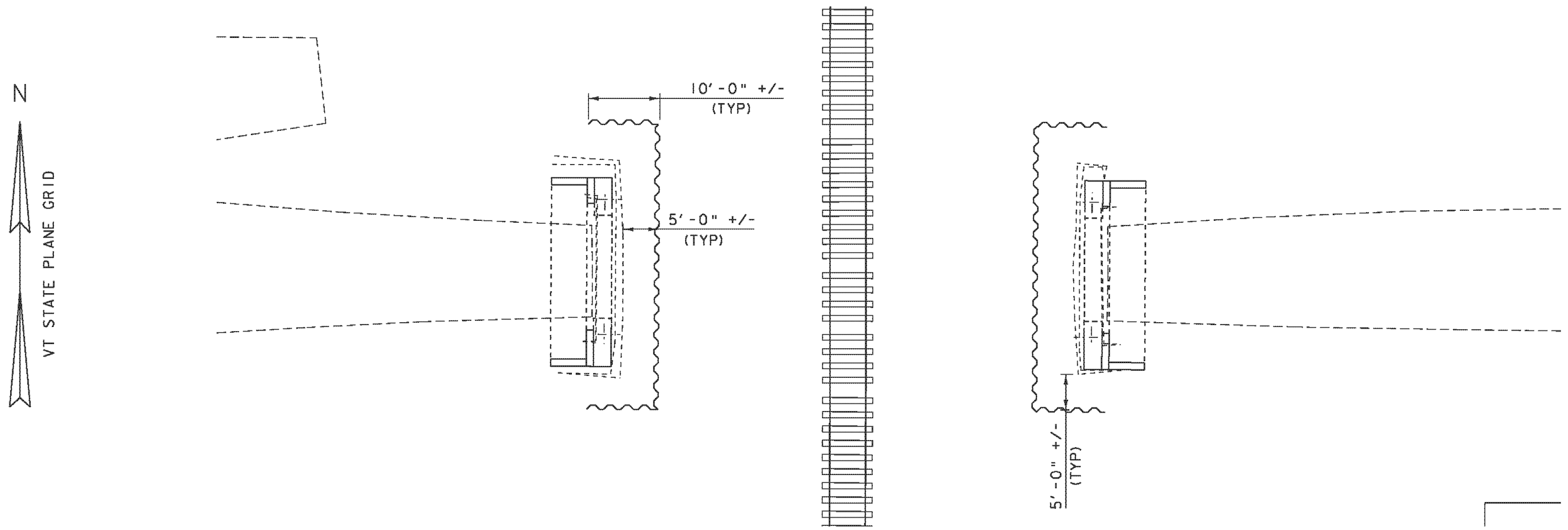
NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROJECT NAME: HARTFORD (WILDER)
PROJECT NUMBER: STP 1444(35)

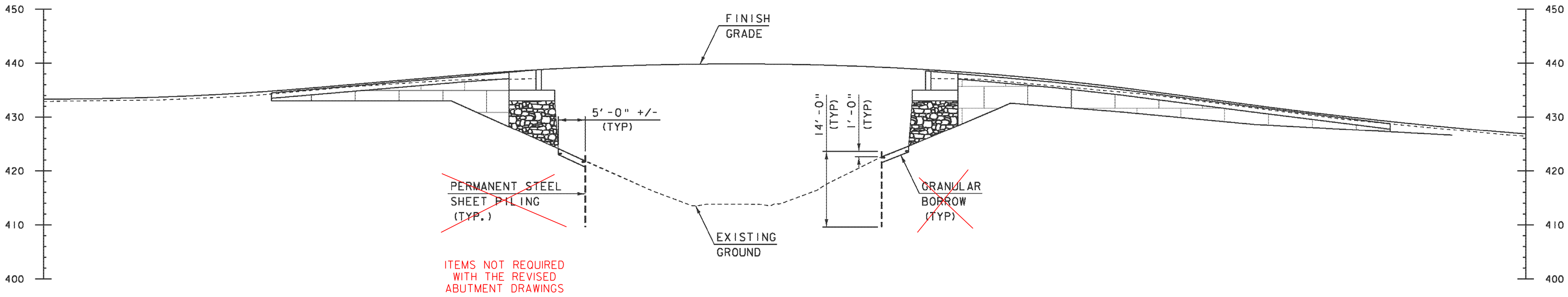
FILE NAME: b38\s96J070sub_b38.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: T. FILLBACH
WINGWALL DETAILS - BRIDGE 38

PLOT DATE: 16-JUN-2010
DRAWN BY: T. FILLBACH
CHECKED BY: J.SALVATORI
SHEET 57 OF 69

SEE REBUILT STONE MASONRY & SHEET PILE NOTES
ON GENERAL NOTES SHEET #3.



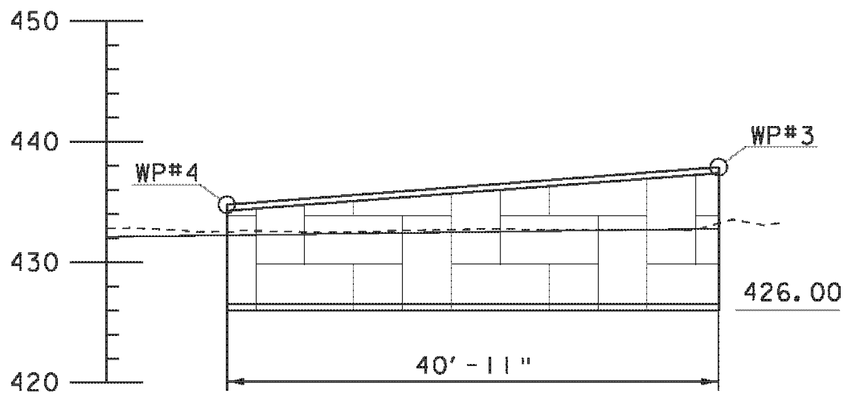
PLAN



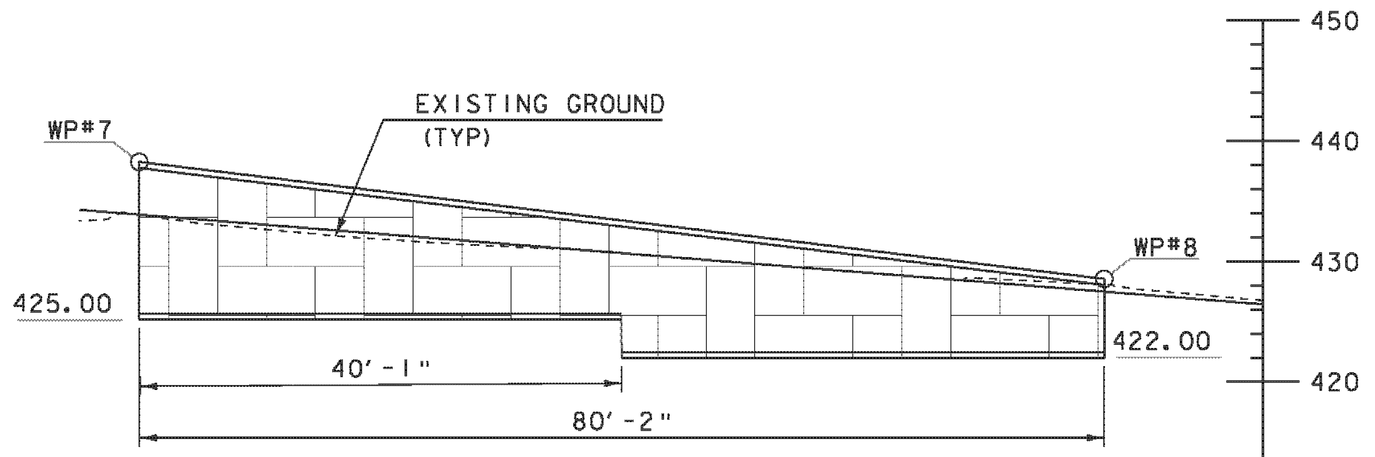
ELEVATION @ SOUTH FASCIA

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

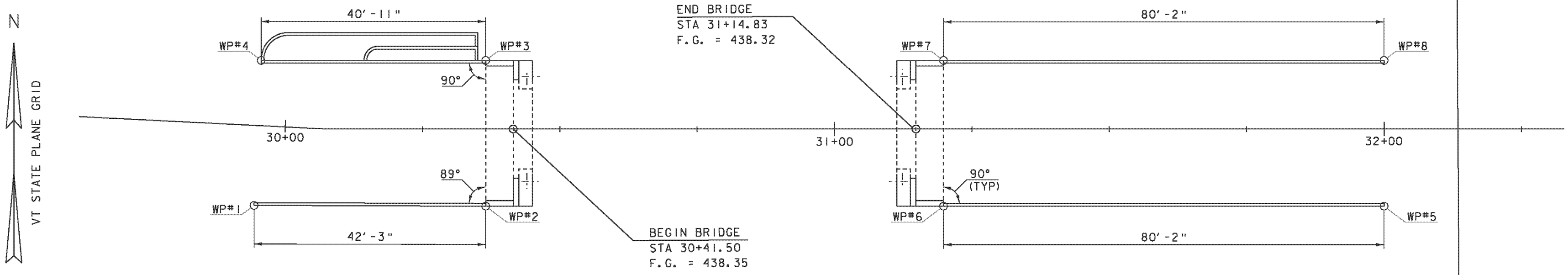
PROJECT NAME:	HARTFORD (WILDER)
PROJECT NUMBER:	STP 1444(35)
FILE NAME: B38/s96j070sheetpile.dgn	PLOT DATE: 16-JUN-2010
PROJECT LEADER: K. HIGGINS	DRAWN BY: T. FILLBACH
DESIGNED BY: N. MELTZER	CHECKED BY: T. FILLBACH
MASONRY & SHEET PILE DETAILS - BR 38	SHEET 58 OF 69



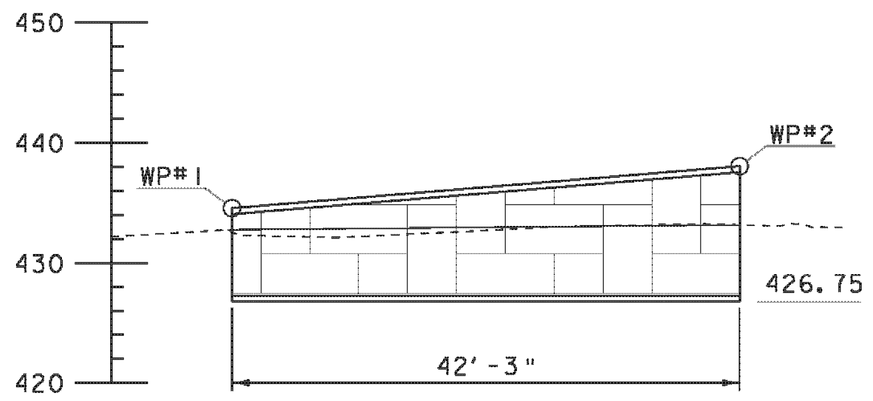
RETAINING WALL @ WW#1



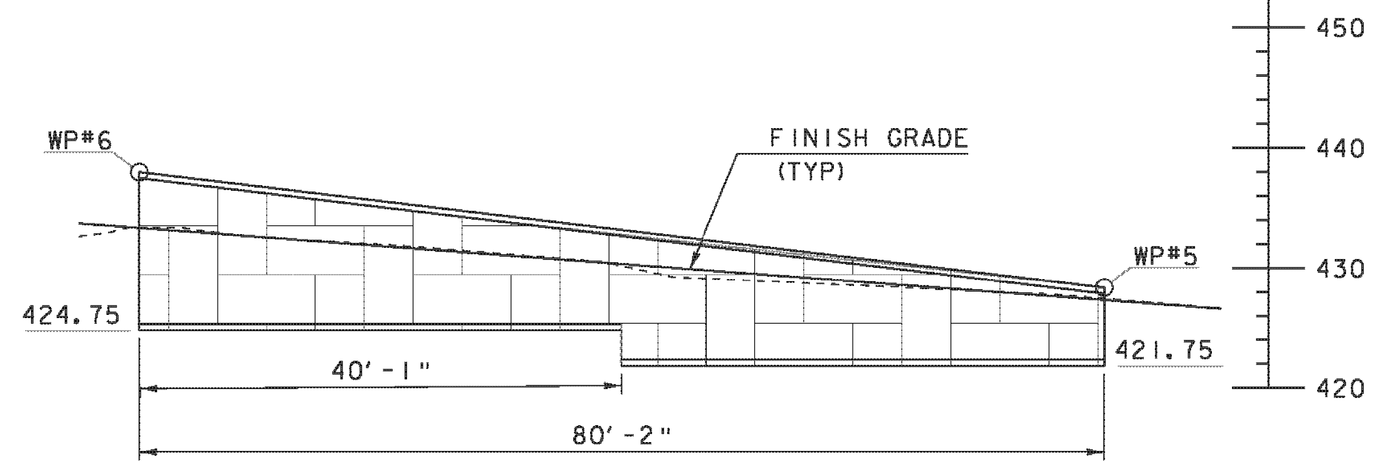
RETAINING WALL @ WW#3



RETAINING WALL LAYOUT



RETAINING WALL @ WW#2



RETAINING WALL @ WW#4

WORKING POINTS

WP#	STA.	OFFSET	TOP OF WALL ELEV.
#1	29+95.00	14.5	435.00
#2	30+36.50	14.0	438.50
#3	30+36.50	-12.5	437.87
#4	29+95.00	-11.9	434.50
#5	32+00.00	14.0	428.50
#6	31+19.83	14.0	438.50
#7	31+19.83	-12.5	438.00
#8	32+00.00	-12.5	428.50

SEE 'RETAINING WALL DESIGN'
SHEETS 1-3 APPROVED 7/30/12

NOTES:
1. WP INDICATES WORKING POINTS ALONG FRONT FACE OF WALL. ABUTMENT WORKING POINTS ARE NOT SHOWN ON THIS SHEET.
2. THE ELEVATIONS SHOWN AT THE BOTTOM OF THE WALL ARE MAXIMUM ELEVATIONS TO ACCOUNT FOR FROST DEPTH AND STABILITY.

SEE ADDITIONAL NOTES ON GENERAL NOTES SHEET #3.
OR SEE SHEET 60 FOR RETAINING WALL TYPICAL

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

PROJECT NAME: HARTFORD (WILDER)
PROJECT NUMBER: STP 1444(35)

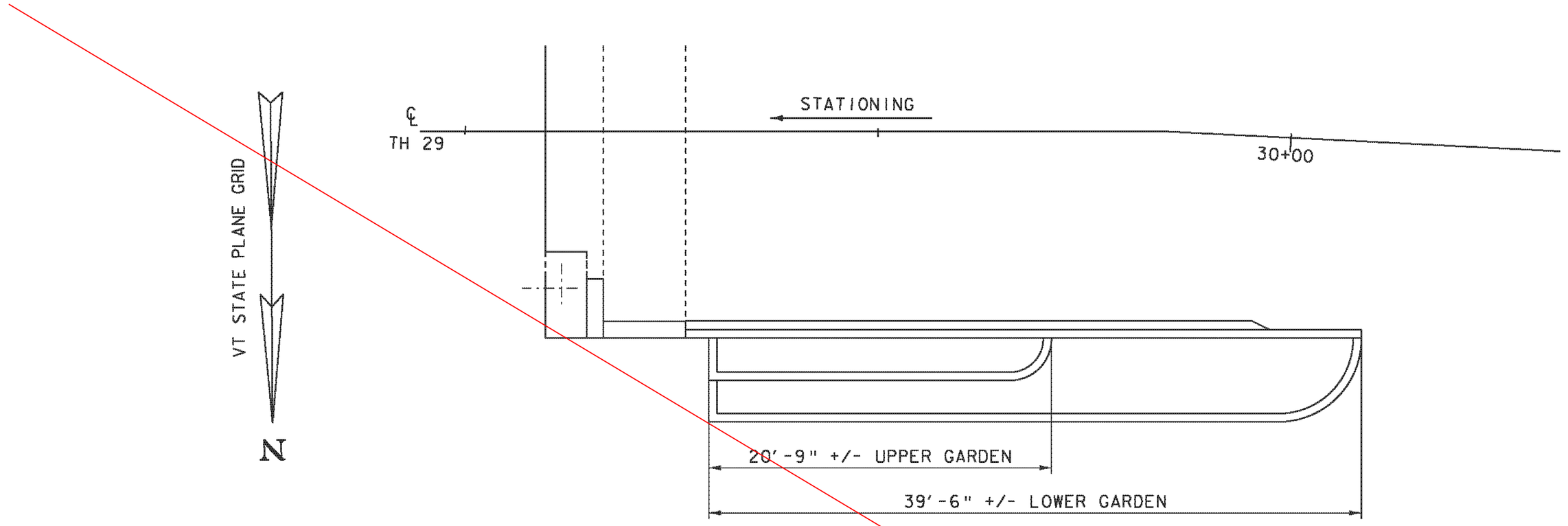
FILE NAME: b38\s96j070wall_b38.dgn
PROJECT LEADER: K. HIGGINS
DESIGNED BY: J. SALVATORI
RETAINING WALLS - BRIDGE 38

PLOT DATE: 16-JUN-2010
DRAWN BY: J. SALVATORI
CHECKED BY: T. FILLBACH
SHEET 59 OF 69

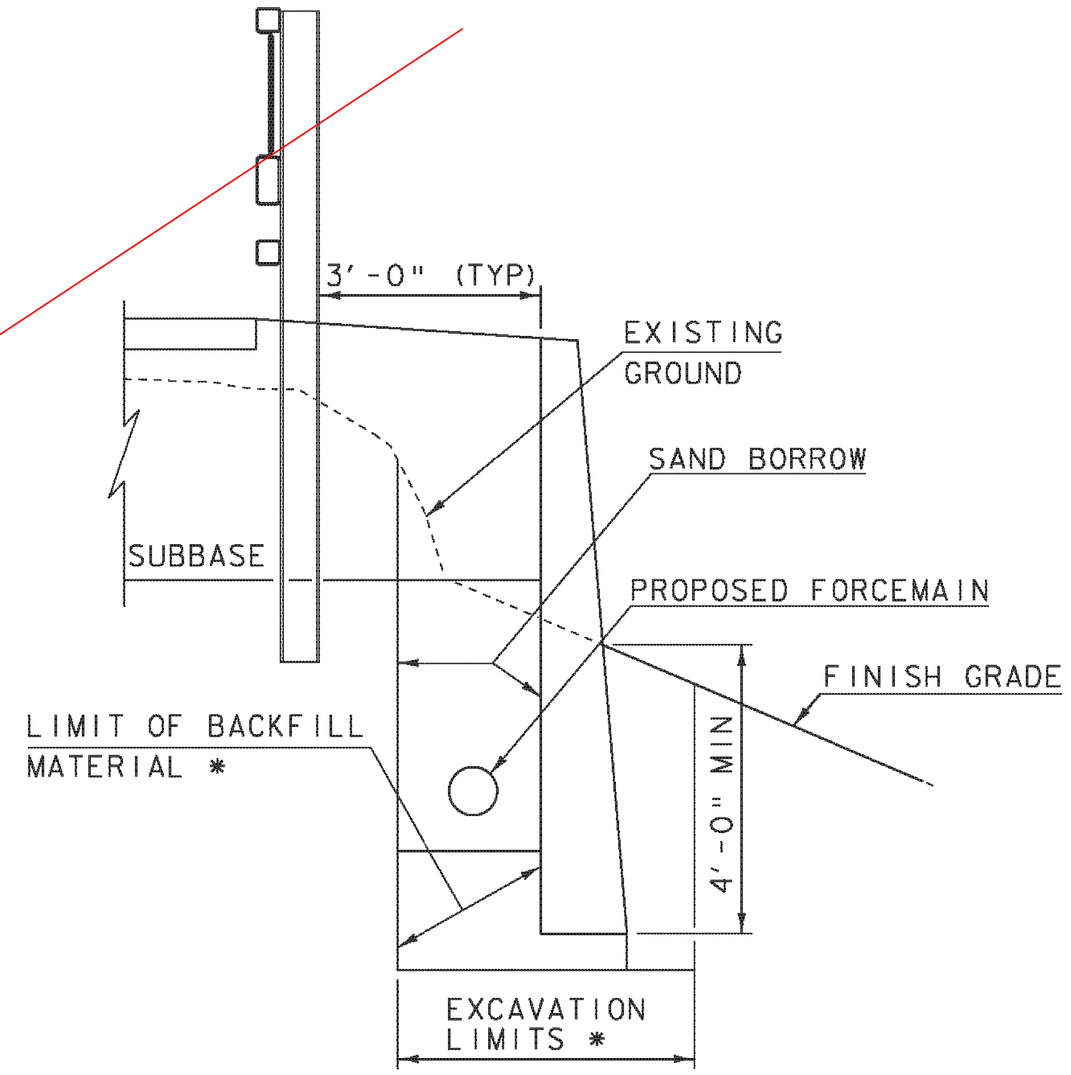
THE GARDEN WALL SHOWN IS A CONCEPT ONLY. WALL SHALL BE CONSTRUCTED TO THE SATISFACTION OF THE ADAJACENT LAND OWNER AND APPROVAL OF THE ENGINEER.

SEE ADDITIONAL NOTES ON GENERAL NOTES SHEET #3.

ADJACENT LAND OWNER DID NOT WANT WALL. GARDEN WALL NOT CONSTRUCTED



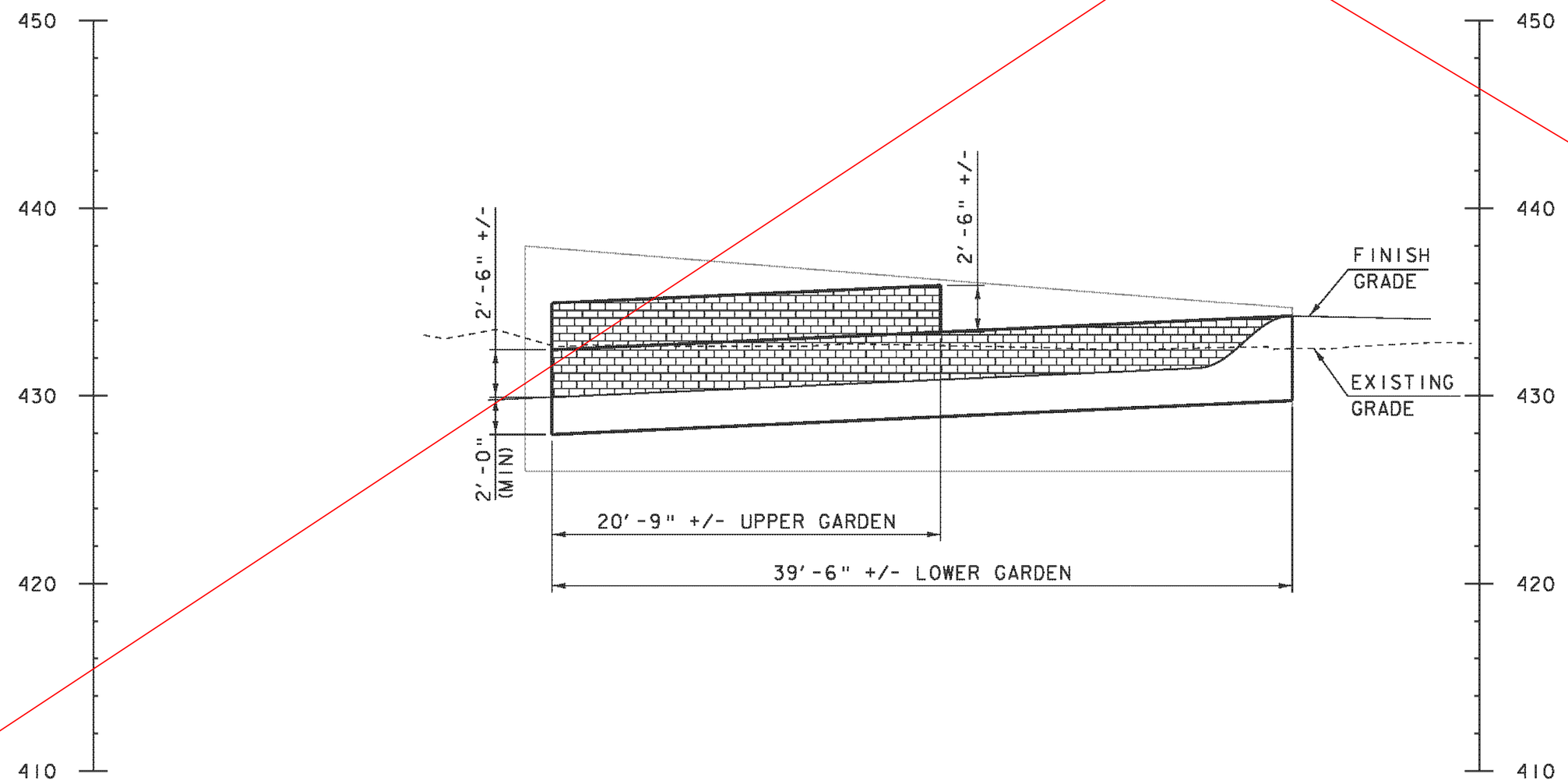
GARDEN WALL PLAN



RETAINING WALL TYPICAL SECTION

* LIMITS AS DEEMED NECESSARY BY DESIGN AND APPROVED BY THE ENGINEER

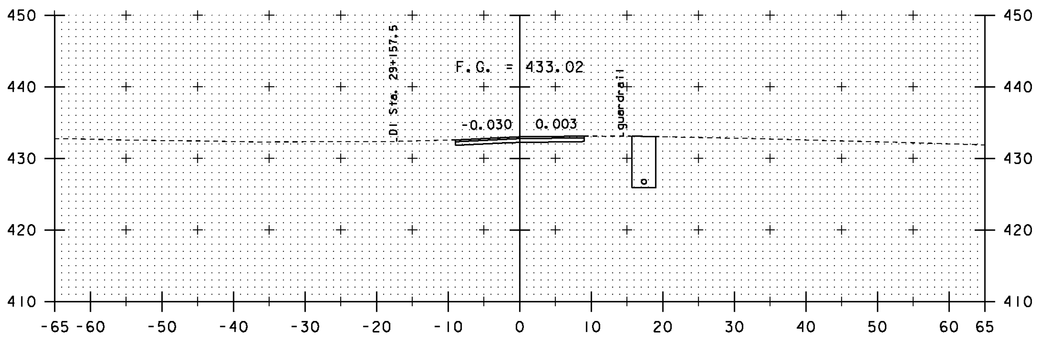
NOT TO SCALE



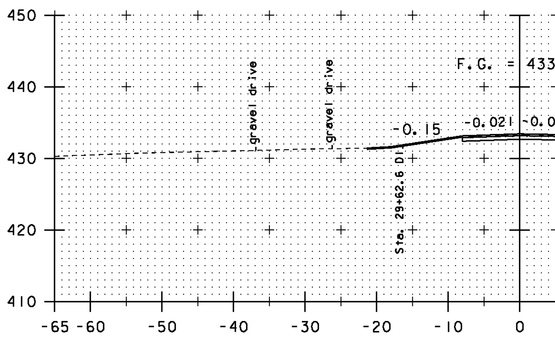
GARDEN WALL ELEVATION

SCALE 1" = 5'-0"
5 0 5

PROJECT NAME:	HARTFORD (WILDER)
PROJECT NUMBER:	STP 1444(35)
FILE NAME: b38\s96j070wall_b38.dgn	PLOT DATE: 16-JUN-2010
PROJECT LEADER: K. HIGGINS	DRAWN BY: R. PELLETT
DESIGNED BY: G. LAROCHE	CHECKED BY: T. FILLBACH
GARDEN WALL - BRIDGE 38	SHEET 60 OF 69



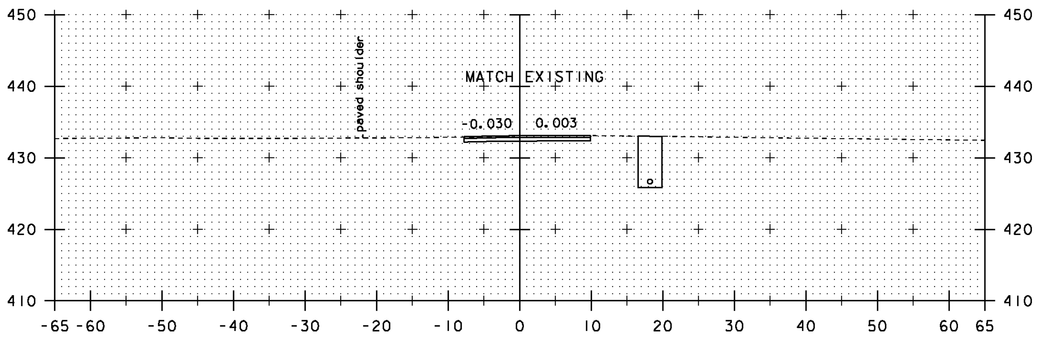
29+25.00



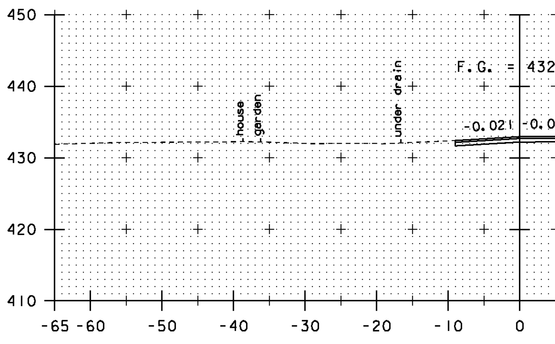
STA 29+70 LT
PAVED APRON & DRIVE

29+75.

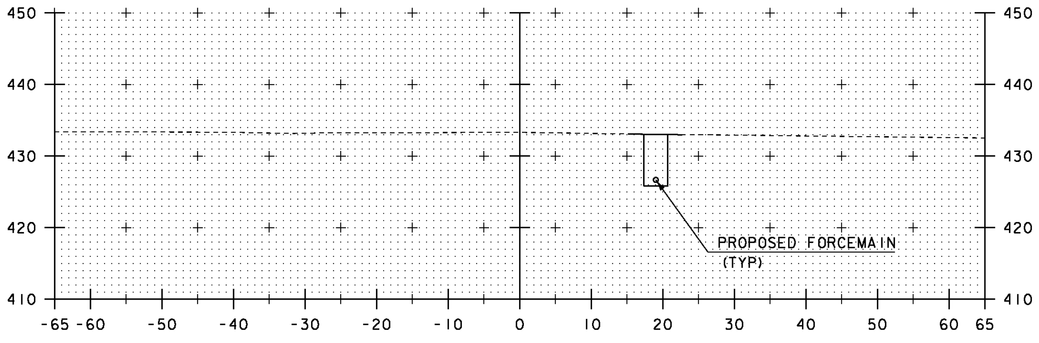
BEGIN PRO



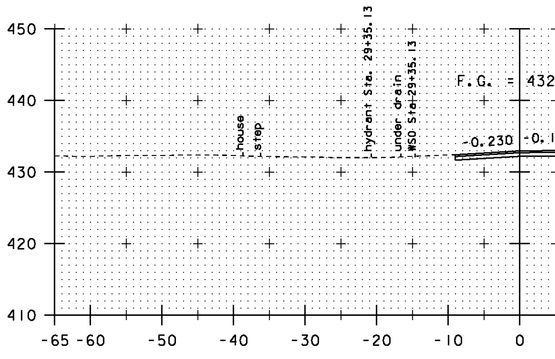
29+12.54
BEGIN APPROACH



29+50.



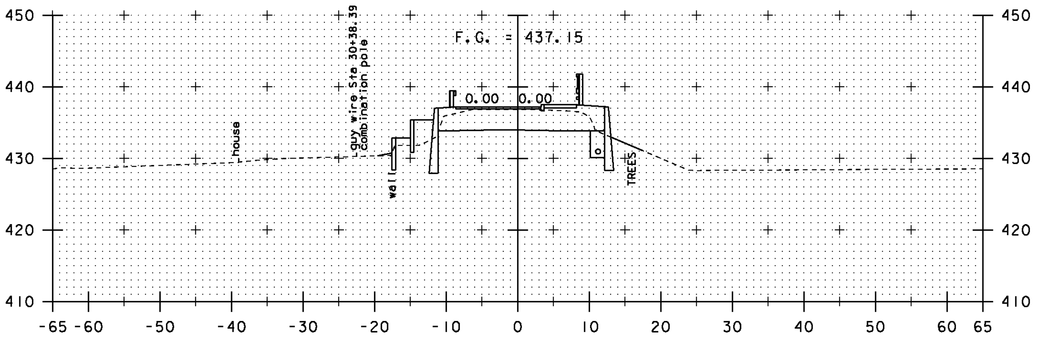
29+00.00



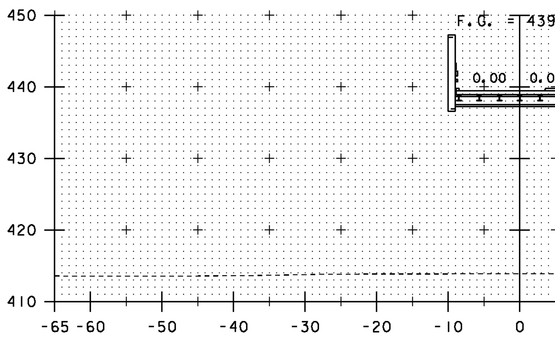
29+43.

SCALE 1" = 10'-0
10 0 10

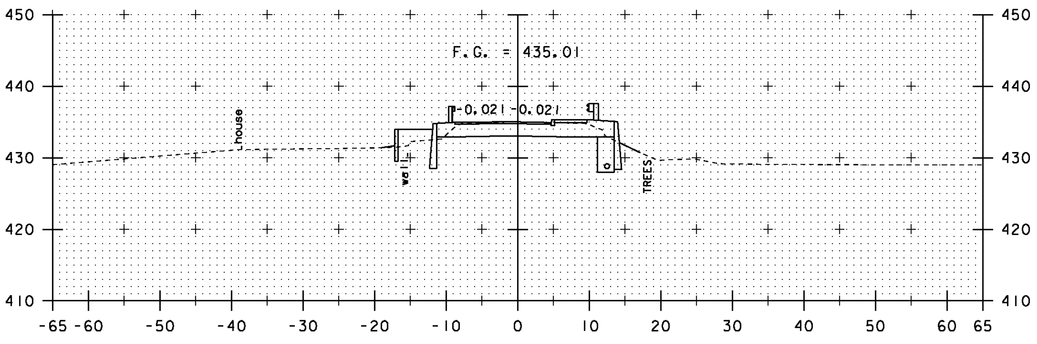
STA. 29+00.00 TO STA. 29+75



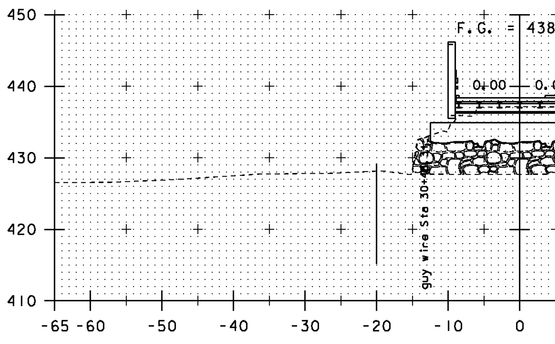
30+25.00



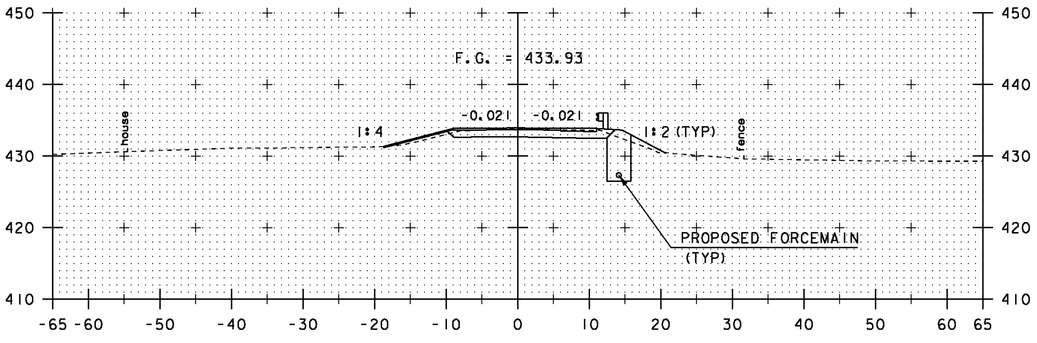
30+75.



30+00.00



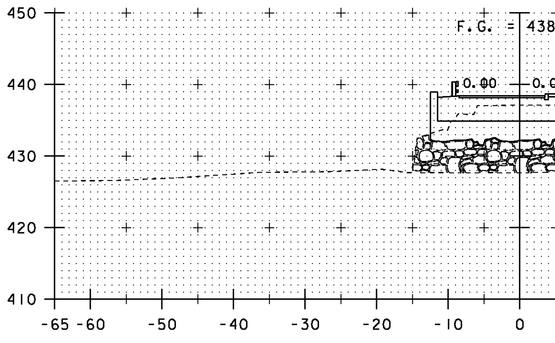
30+41.
BEGIN BRI



STA 29+70 LT
PAVED APRON & DRIVE

29+85.00

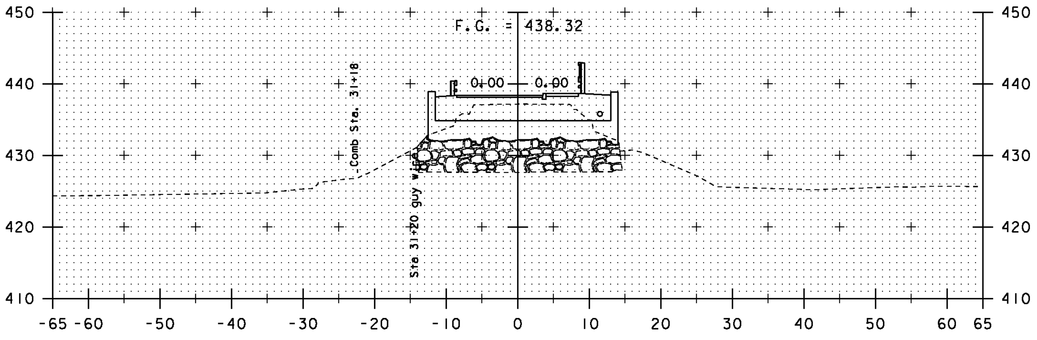
STA 29+85.15 - 30+42.00 RT
PORTLAND CEMENT CONCRETE
SIDEWALK (5 INCH)
CONCRETE CURB, TYPE B



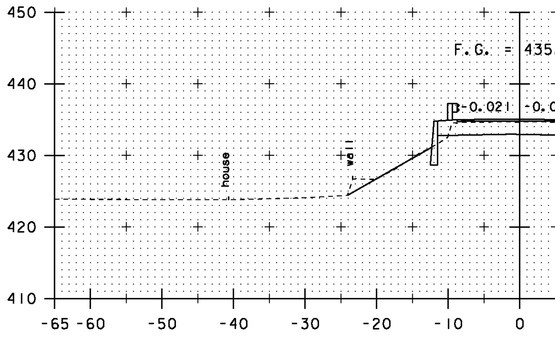
30+41.

SCALE 1" = 10'-0
10 0 10

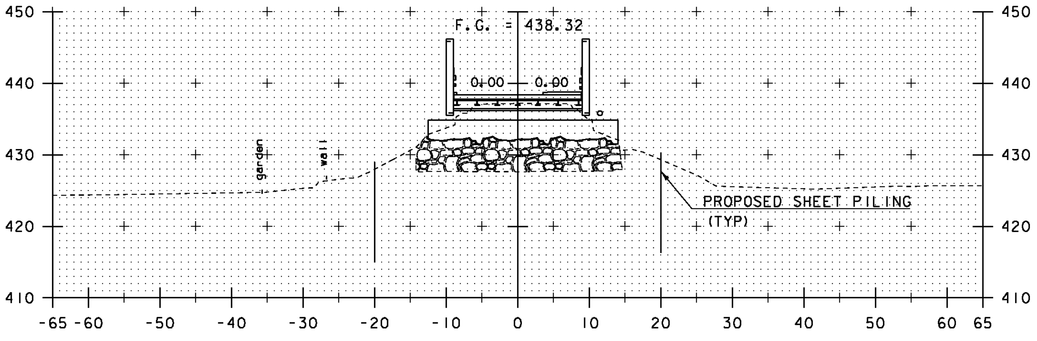
STA. 29+85.00 TO STA. 30+75



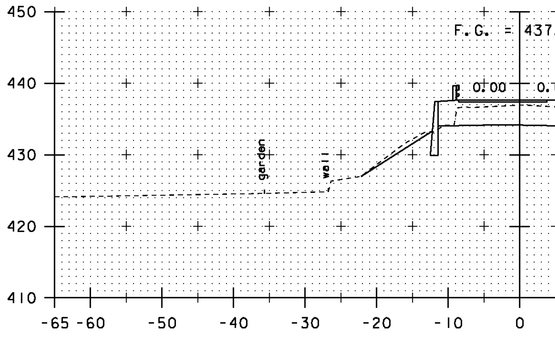
31+14.84



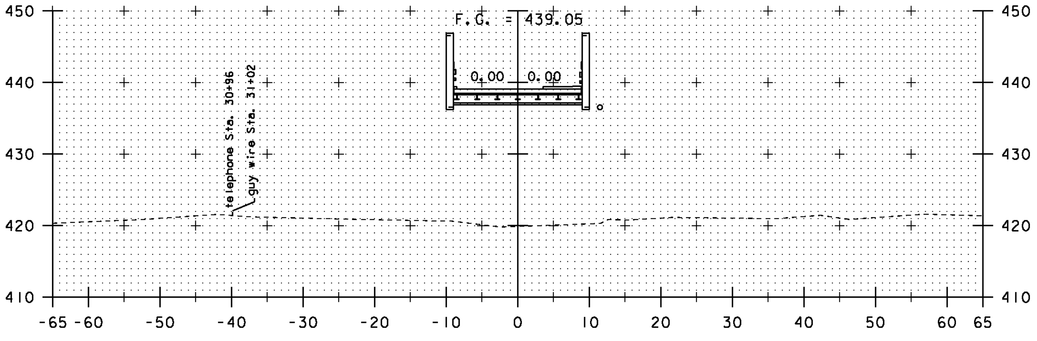
31+50.



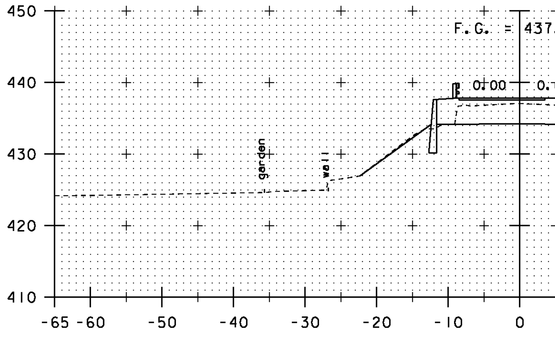
31+14.83
END BRIDGE



31+25.



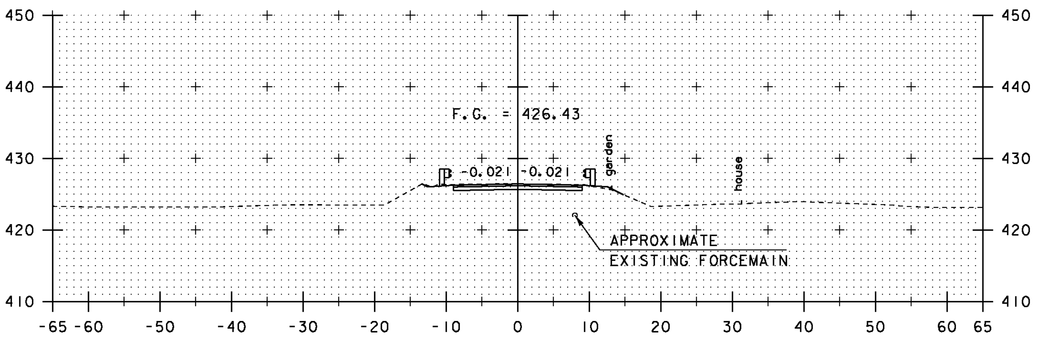
31+00.00



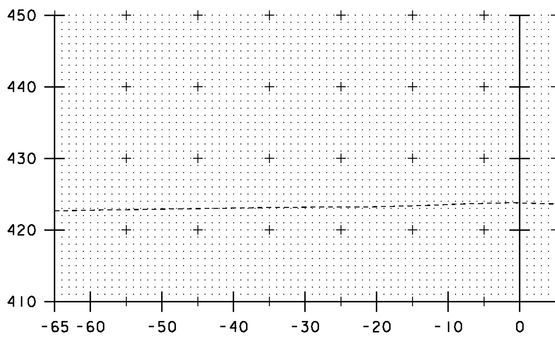
31+22.

SCALE 1" = 10'-0
10 0 10

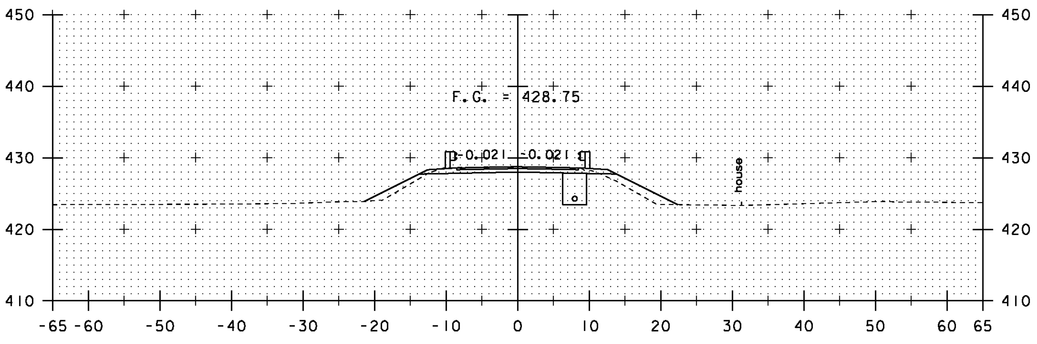
STA. 31+00.00 TO STA. 31+5



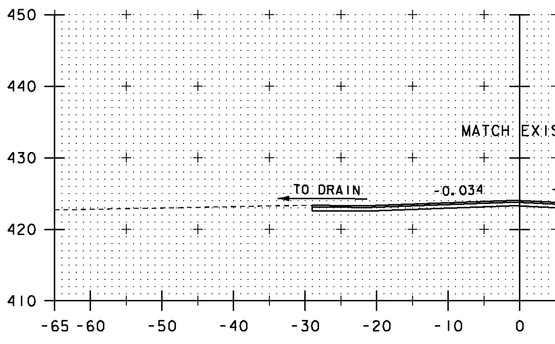
32+25.00



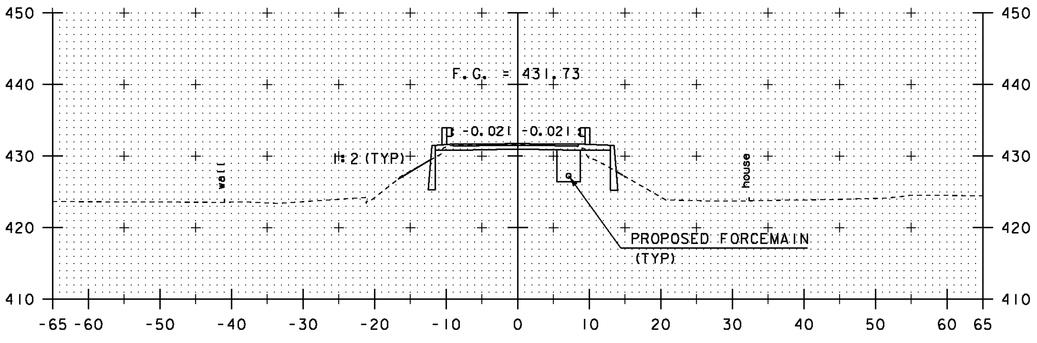
32+75.



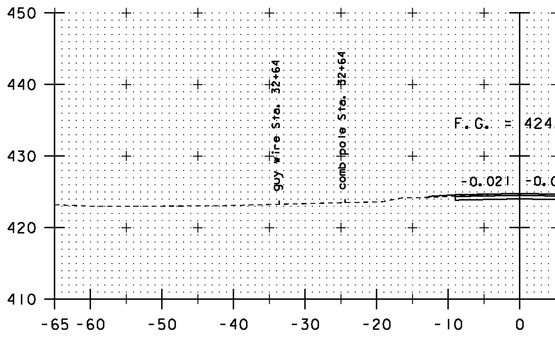
32+00.00
END PROJECT



32+67.
END APPRO



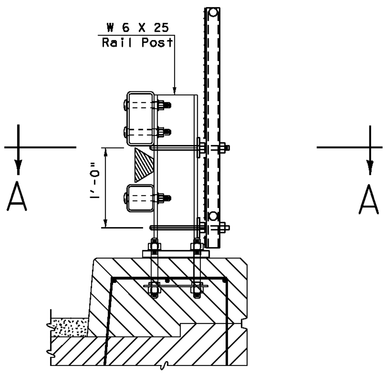
31+75.00



32+50.

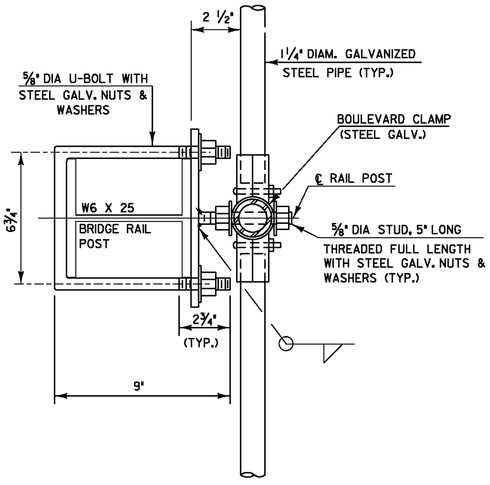
SCALE 1" = 10'-0
10 0 10

STA. 31+75.00 TO STA. 32+75

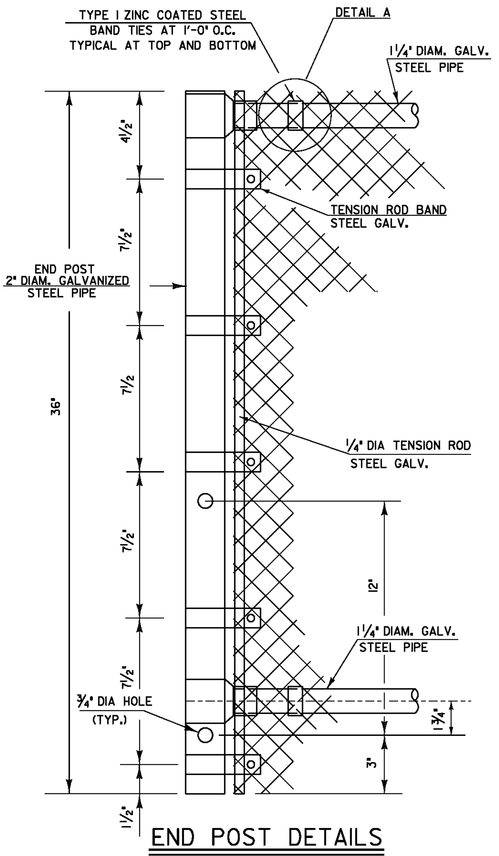


TYPICAL SECTION

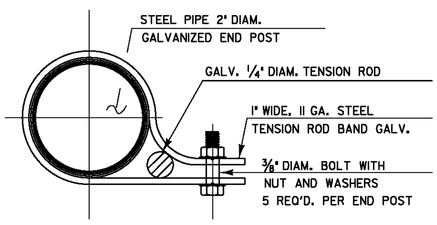
NOTE: FOR DIMENSIONS SEE BRIDGE RAIL SHEETS.



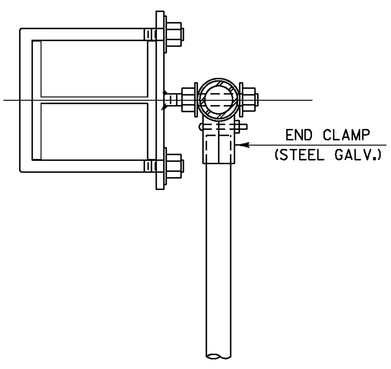
SECTION A-A



END POST DETAILS



TENSION ROD BAND



PLAN VIEW AT END POST

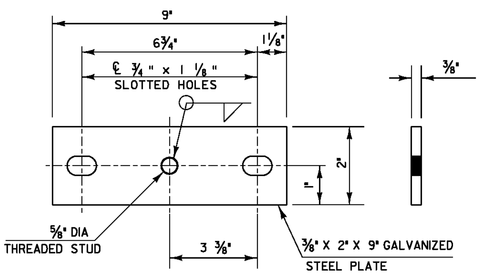
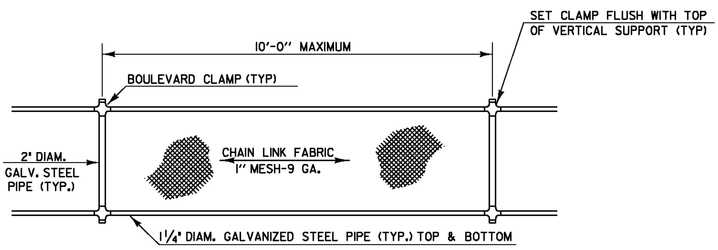
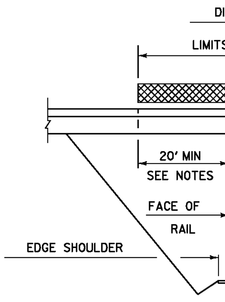


PLATE DETAILS

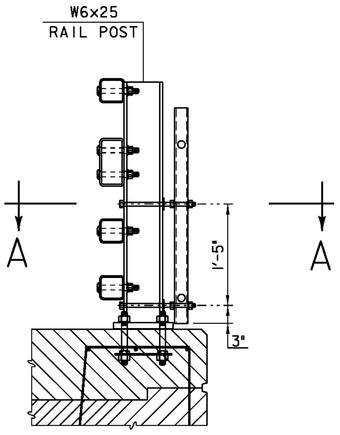


ELEVATION SNOW BARRIER



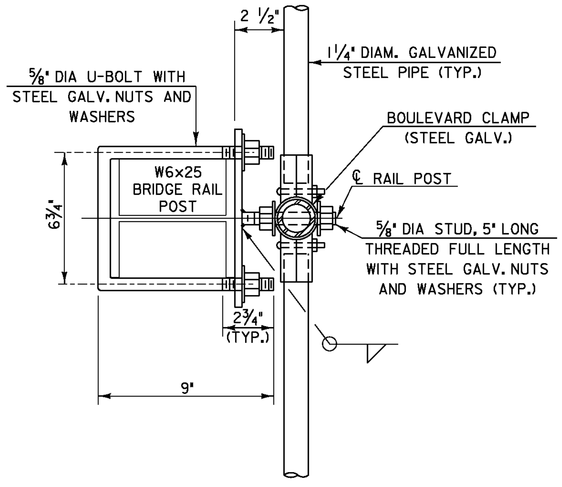
SCHEMATIC

SNOW FENCE FOR BRIDGE RAILING - N.E.T.C. 2 RAIL

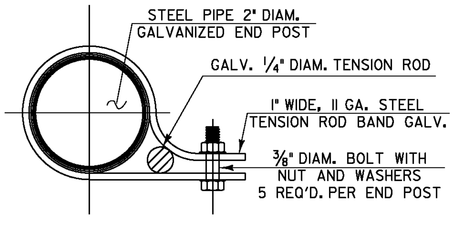


TYPICAL SECTION

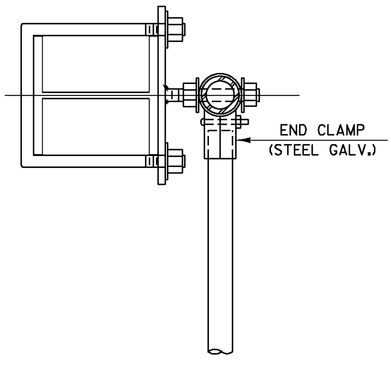
NOTE: FOR DIMENSIONS SEE BRIDGE RAIL SHEET.



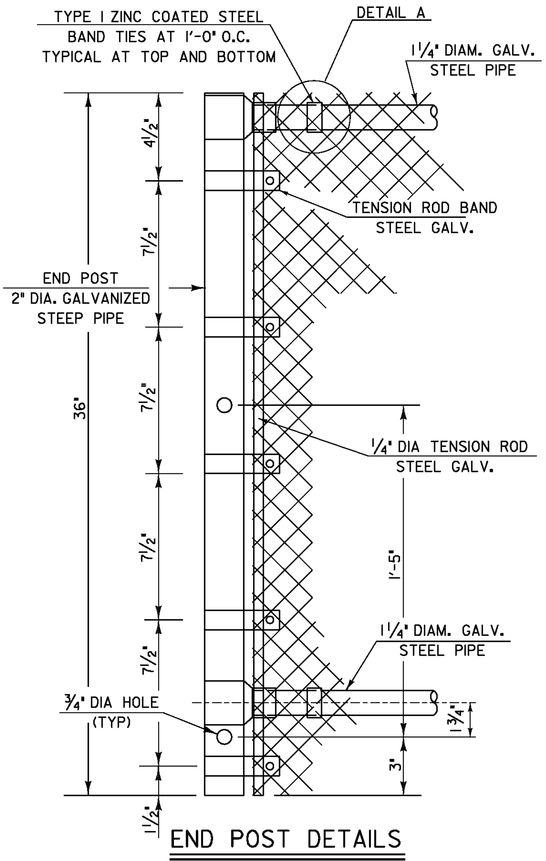
SECTION A-A



TENSION ROD BAND



PLAN VIEW AT END POST



END POST DETAILS

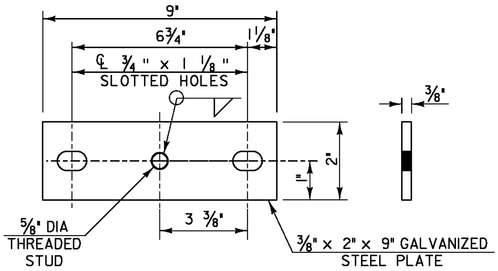
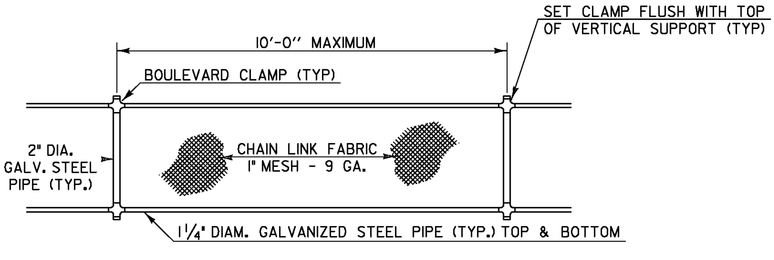


PLATE DETAILS



ELEVATION SNOW BARRIER

SNOW FENCE FOR BRIDGE RAILING - N.E.T.C. 4 RAIL - SIDEWALK ONLY

NOTE

1. THREADS
2. ALL CON
3. 1 ¼ " F
4. CHAIN L
5. ALL BOL SPECIF AASHTO
6. ALL STE M270 GR
7. ALL GAL M-181 W OF AASH BOLTS, ACCORDA GALVANI TO THE
8. CHAIN-L THE PRO
9. SNOW BA PROVIDE THE ENG
10. ALL REF REFER T
11. ALL POS TO THE

1'

TYPE

DI
LIMIT
20' MIN
SEE NOTE
FACE OF RAIL
EDGE SHOULDER

SCHEMATIC

EROSION CONTROL NARRATIVE

1.1 PROJECT DESCRIPTION

WORK AT BRIDGE 36 SHALL CONSIST OF REPLACING THE EXISTING WOODEN BRIDGE WITH A SINGLE SPAN CONCRETE BRIDGE WHICH CARRIES TH 81 OVER THE WASHINGTON COUNTY RAILROAD (CONNECTICUT RIVER DIVISION).

WORK AT BRIDGE 38 CONSISTS OF REHABILATION OF THE HISTORIC SINGLE SPAN STEEL PONY TRUSS BRIDGE WHICH CARRIES TH 29 OVER THE WASHINGTON COUNTY RAILROAD (CONNECTICUT RIVER DIVISION).

NOTE: AREA OF DISTURBANCE SHALL INCLUDE LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, INCLUDING ANY WASTE, STAGING AND BORROW AREAS WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS.

THE AREA OF DISTURBANCE FOR BRIDGE 36 IS APPROXIMATELY 0.22 ACRES. THE AREA OF DISTURBANCE FOR BRIDGE 38 IS APPROXIMATELY 0.24 ACRES. THE TOTAL AREA OF DISTURBANCE IS APPROXIMATELY 0.46 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST TWO CONSTRUCTION SEASONS.

1.2 SITE INVENTORY

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

BOTH BRIDGES ARE LOCATED IN RESIDENTIAL NEIGHBORHOODS. THE WATER RUNOFF SHOULD BE MINIMAL AND BE LIMITED TO THE PROJECT AREAS DUE TO THE NATURE OF THE SURROUNDING TERRAIN.

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

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE TOPOGRAPHY OF THE AREA IS RELATIVELY FLAT, WITH STEEP SLOPES OCCURING ONLY AT SIDE SLOPES OF EXISTING RAILROAD BED.

1.2.4 VEGETATION

THE VEGETATION IN THE PROJECT AREA CONSISTS OF MOSTLY OPEN LAWN AREAS WITH PATCHES OF TREES AND OTHER VEGETATION. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY THE PROPOSED PROJECT.

DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

1.2.5 SOILS

ALL SOIL DATA CAME FROM THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE FOR THE COUNTY OF WINDSOR, VERMONT. SOILS IN THE PROJECT SITE ARE AS FOLLOWS:

5E WINDSOR , LOAMY FINE SAND, 25 - 60% SLOPES, "K FACTOR" = 0.49

32B URBAN LAND, WINDSOR-AGAWAM COMPLEX, 0 - 8% SLOPES, "K FACTOR" = 0.49

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

CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: YES, SEE GENERAL NOTES FOR DETAILS
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: NO
WETLANDS: NO

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 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 VANR VIA FILING OF THE APPROPRIATE NOTICE OF INTENT UNDER THE CONSTRUCTION GENERAL PERMIT PROCESS.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

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.

(REFER TO THE LOW RISK SITE HANDBOOK FOR THE MOST UP TO DATE EROSION CONTROL DETAILS SEE WWW.AOT.STATE.VT.US/CADDHELP FOR EACH PRACTICE REQUIRED ON THE PROJECT TO INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING.)

1.4.1 MARK SITE BOUNDARIES
PROJECT DEMARCATION FENCING (PDF) SHALL BE 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. PDF SHALL BE INSTALLED WHERE NECESSARY AND AT A MAXIMUM DISTANCE OF TEN FEET FROM THE CUT/FILL LIMITS

1.4.2 LIMIT DISTURBANCE AREA
IT IS RECOMMENDED TO 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 ENTRANCES SHALL BE UTILIZED AS NECESSARY.

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

1.4.5 DIVERT UPLAND RUNOFF

1.4.6 SLOW DOWN CHANNELIZED RUNOFF
CHECK DAMS SHALL BE UTILIZED AS NECESSARY.

1.4.7 STABILIZE EXPOSED SOILS
SEED AND MULCH
EROSION MATTING

TRACKING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, WILL BE UTILIZED ON A REGULAR BASIS. SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF FORECASTED RAIN.
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 INTERMITTENT PHASES OF CONSTRUCTION.

1.4.8 WINTER STABILIZATION
VARIOUS MEASURES SPECIFIC TO WINTER (SEE LOW RISK HANDBOOK)

1.4.9 STABILIZE SOIL AT FINAL GRADE
SEED AND MULCH
EROSION MATTTING

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.

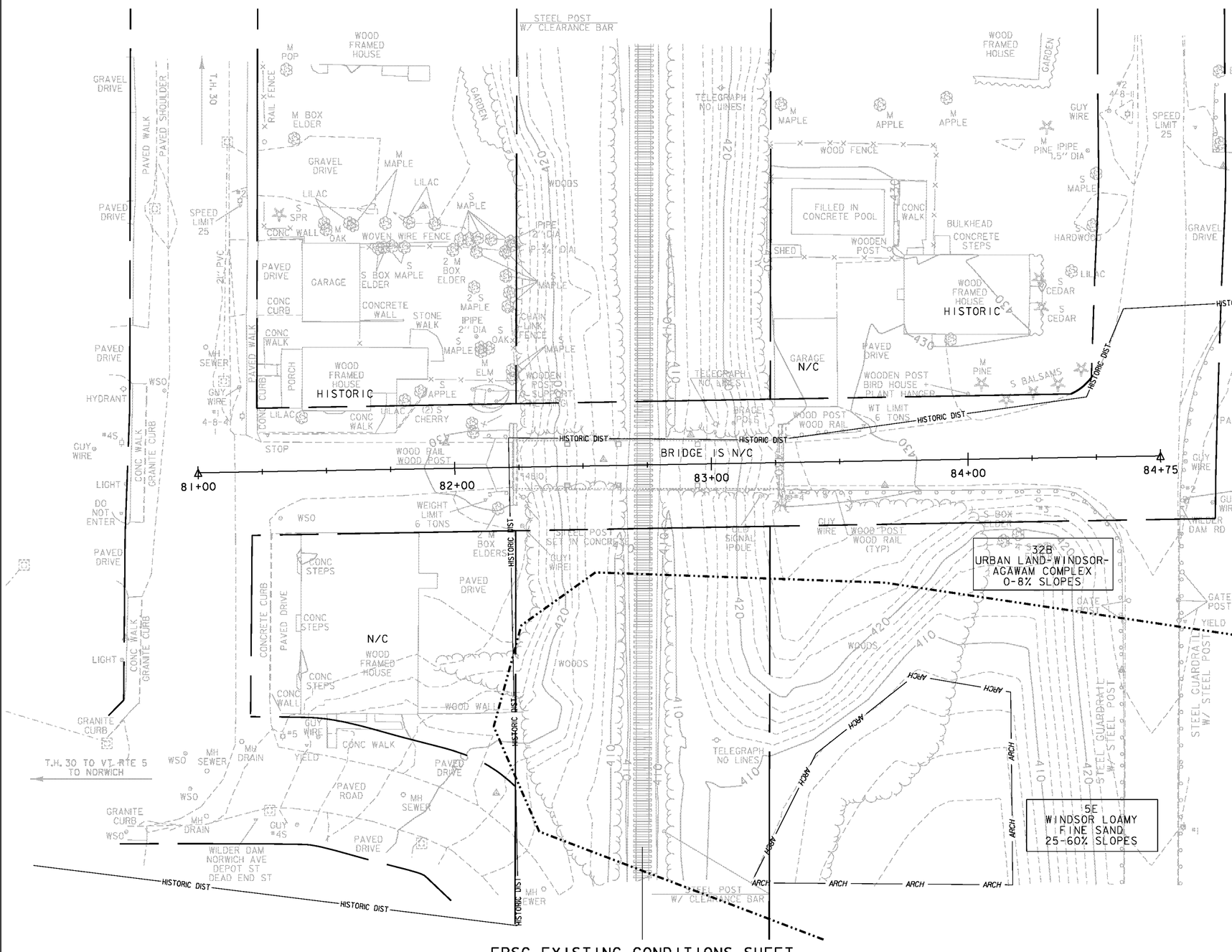
1.4.10 INSPECT YOUR SITE
INSPECT SITE BASED ON PERMIT AUTHORIZATION OR SPECIAL PROVISION REQUIREMENTS.

% WEIGHT	BROA
37.5%	
37.5%	
5.0%	
15.0%	
5.0%	
100%	

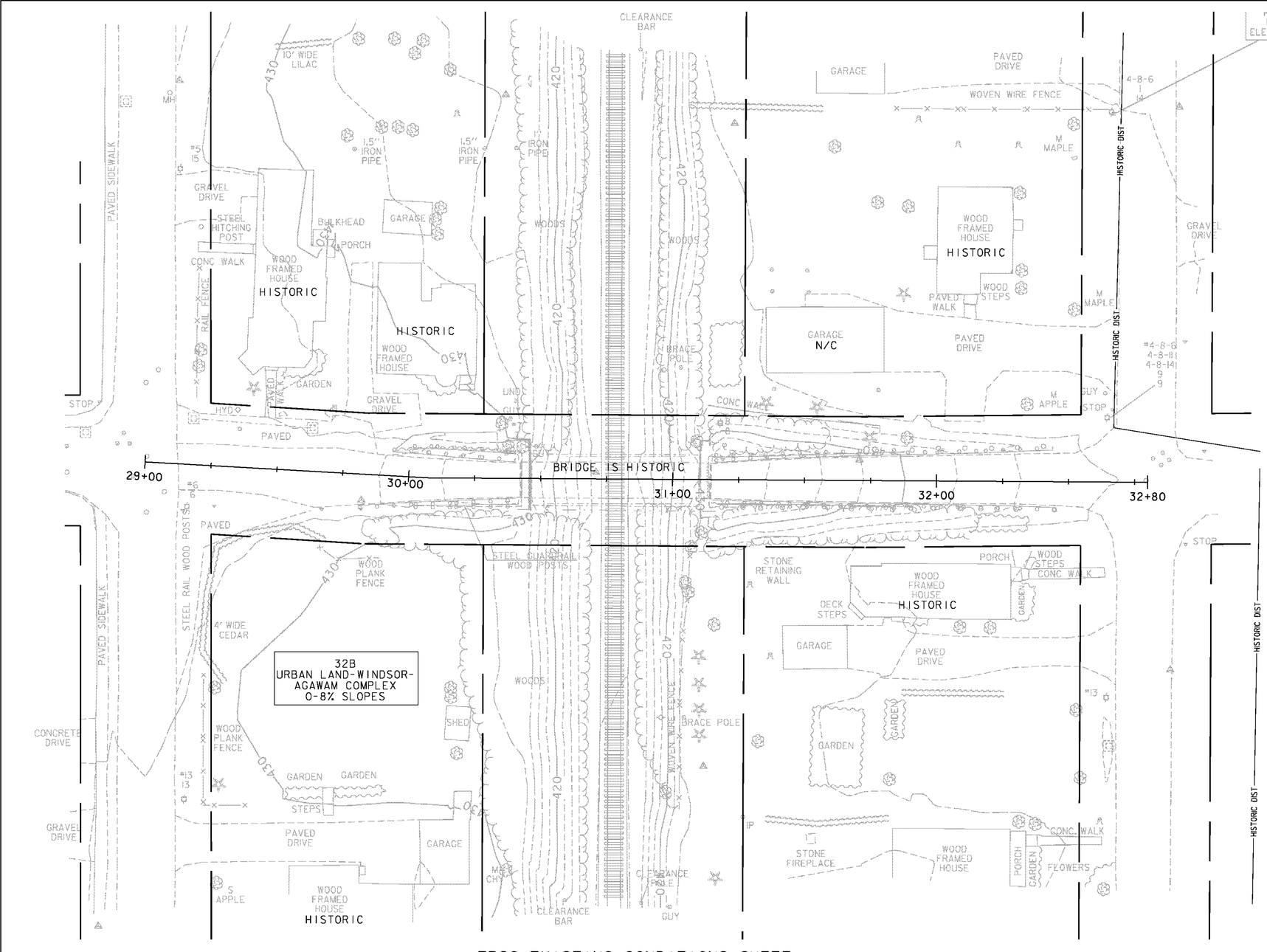
% WEIGHT	BROA
42.5%	
10.0%	
42.5%	
5.0%	
100%	

1. RURAL SEED MIX: ESTABLISHED UPL
2. URBAN SEED MIX: ESTABLISHED LAW
3. ALL SEED MIXTUR WEIGHT AND SHAL
4. FERTILIZER AND DIRECTED BY THE
5. HAY MULCH: TO ACHIEVE 90% GRO
6. TOPSOIL: TO BE DIRECTED BY THE
7. HYDROSEEDING: AND THE TYPE OF TYPES OF SOIL A
8. TURF ESTABLISHM TO SEPTEMBER 15 GROWTH OF GRASS

ADAPTED FROM VTRAN ROADWAYS AND



EPSC EXISTING CONDITIONS SHEET



EPSC EXISTING CONDITIONS SHEET

SCALE 1" = 2
20 0

Vermont Agency of Transportation
RECEIVED
CK'D BY TCF OK'D BY KMH
2:22 pm, Apr 07, 2011
RESUBMIT ____ APPROVED X
BY KMH DATE 4-8-11

COSMEC INC. / DYNAMIC RUBBER
P.O. Box 2159
1501 Rocky Ridge Road
Athens, TX 75751
TEL: 903.677.2871 FAX: 903.675.4776

TRANSMITTAL SHEET

TO: RENAUD BROTHERS INC.
ATTN: MIKE RENAUD renaudbr@sover.net
CC: DEBBIE PLANTE dplante@cosmecinc.com

DATE: 4/6/11
JOB: STP 1444 (35)
RE: SEALED SHOP DRAWING APPROVAL
DRP JOB NO: **10910** LOCATION: WILDER, VT.

WE TRANSMIT TO YOU UNDER SEPARATE COVER HERE WITH THE FOLLOWING DRAWINGS:

DWG NO	REV NO	NO EACH	DESCRIPTION	REMARKS
10910-D1	1	0	SHOP DRAWING	P.E. SEAL INCLUDED

DWG NO	REV NO	NO EACH	DESCRIPTION	REMARKS

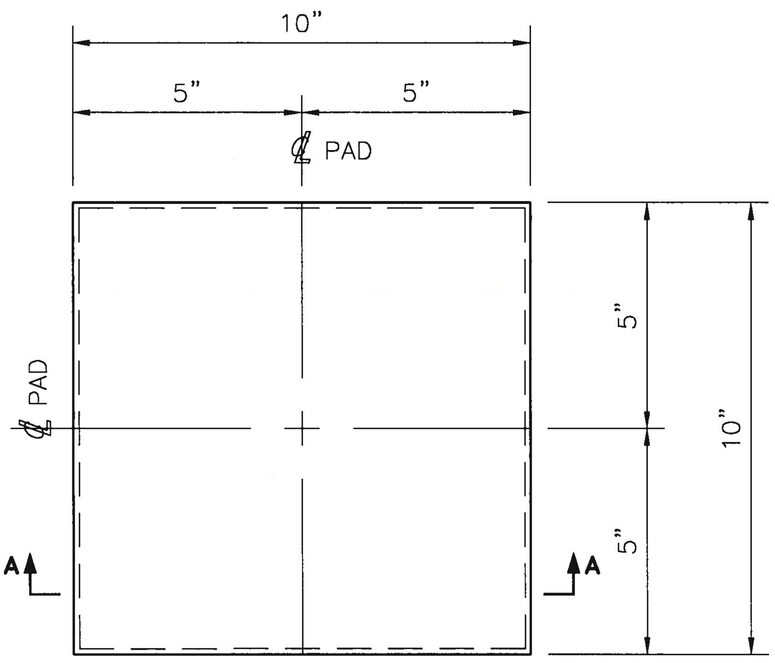
COMMENTS:

SUBMITTED FOR APPROVAL.

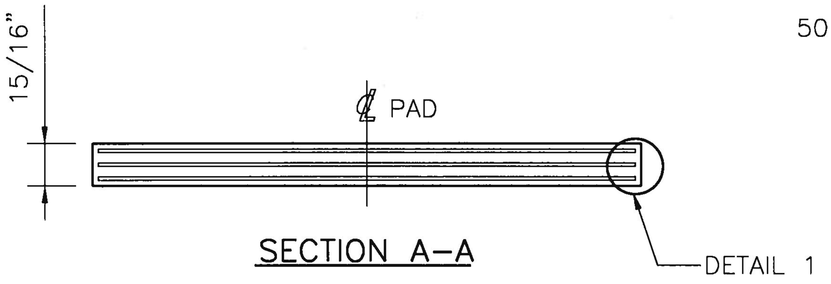
THE ABOVE PRINTS ARE SUBMITTED TO YOU FOR:

BY:
(XXX) Approval ( ) Final Approval ( ) Distribution
( ) Field Use ( ) Fabrication (XXX) E-MAIL
( ) Next Day Air ( ) Second Day Air ( ) Messenger
( ) UPS ( ) First Class Mail ( ) Fax

Thank you
Jennifer Garza
COSMEC INC. / DYNAMIC RUBBER PRODUCTS

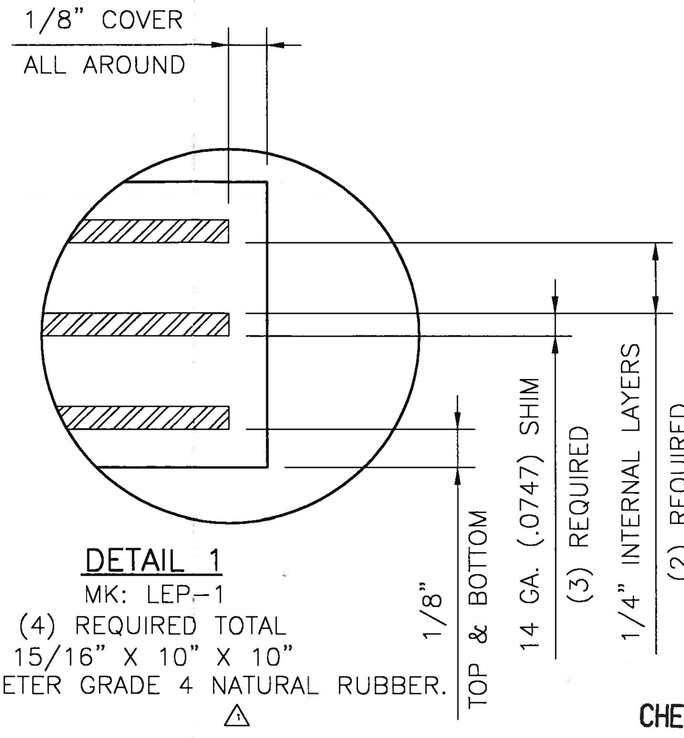


PLAN VIEW



SECTION A–A

LAMINATED ELASTOMERIC BEARING PADS
(4) REQUIRED TOTAL



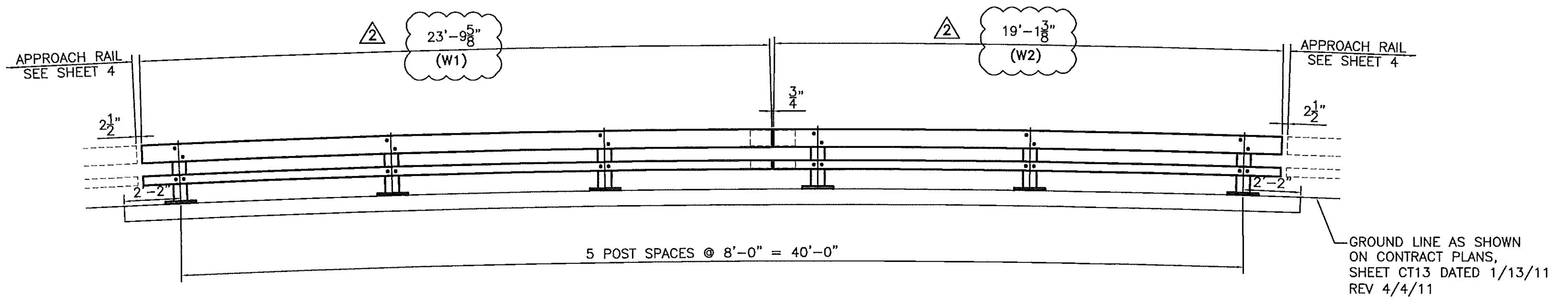
DETAIL 1
MK: LEP–1
(4) REQUIRED TOTAL
15/16" X 10" X 10"
50 DUROMETER GRADE 4 NATURAL RUBBER. △1

CHE

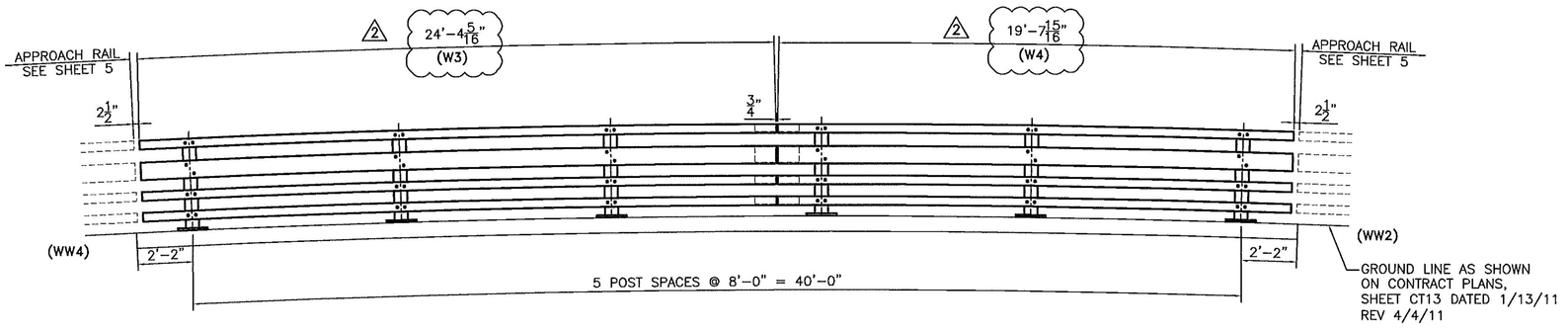
OWNER PREPARED D
FOR CONFORMANCE
DIMENSIONAL REQU

Vermont Agency of Transportation
RECEIVED
CK'D BY TCF OK'D BY KMH
2:22 pm, Apr 07, 2011
RESUBMIT _____ APPROVED X
BY KMH DATE 4-8-11

REV.	
1	REVISED N PER CUSTO



ELEVATON – NORTH BRIDGE RAIL
FACING NORTH FROM ℄ ROAD



ELEVATON – SOUTH BRIDGE RAIL
FACING SOUTH FROM ℄ ROAD

BILL OF MATERIAL (SOUTH SIDE 4-RAIL)

Mk.#	Qty.	Description	Size/Shape	Weight/Qty. per Unit	Material
	6	BRIDGE RAIL PED POST 3'-5.375" OAH W/ BASE PLATE			
	6	POST UPRIGHT	W6 x 25	3'-4.375"	A572 Gr. 50
	6	POST BASE PLATE	10" x 1"	1'-2"	A572 Gr. 50
	1	SPLICE TUBE FOR 8 x 4 RAIL			
	1	TUBE	TS 7x3x3/8	1'-8"	A500 Gr. B
	2	WELDED LOCK NUT (OUTER HOLES ONLY)	5/8"	----	A563
	3	SPLICE TUBE FOR 4 x4 RAIL			
	3	TUBE	TS 3x3x5/16	1'-8"	A500 Gr. B
	6	WELDED LOCK NUT (OUTER HOLES ONLY)	5/8"	----	A563
2 W3	1	TOP RAIL (SHOP CURVED)	TS 4x4x0.25"	24'-4 5/16"	A500 Gr. B
	1	SECOND RAIL (SHOP CURVED)	TS 8x4x0.313"	24'-3 7/8"	A500 Gr. B
	1	THIRD RAIL (SHOP CURVED)	TS 4x4x0.25"	24'-3 1/4"	A500 Gr. B
	1	BOTTOM RAIL (SHOP CURVED)	TS 4x4x0.25"	24'-2 13/16"	A500 Gr. B
2 W4	1	TOP RAIL (SHOP CURVED)	TS 4x4x0.25"	19'-7 15/16"	A500 Gr. B
	1	SECOND RAIL (SHOP CURVED)	TS 8x4x0.313"	19'-7 9/16"	A500 Gr. B
	1	THIRD RAIL (SHOP CURVED)	TS 4x4x0.25"	19'-7 1/16"	A500 Gr. B
	1	BOTTOM RAIL (SHOP CURVED)	TS 4x4x0.25"	19'-6 11/16"	A500 Gr. B
	48	ROUND HEAD BOLT	0.75"ø	6"	A449 TYPE 1
	48	LOCK NUT	0.75"ø	----	A563 DH
	48	TYPE A WIDE PLAIN WASHER	.156"THK, .813" I.D	2.00" O.D.	F436
	16	CAP SCREW	5/8" DIA.	1.75"	A325
	16	WASHER	5/8" DIA.	-- -- --	F436
	6	BEARING PAD	10" x 0.125"	1'-2"	M251

TOTAL PAY LIMIT = 44'

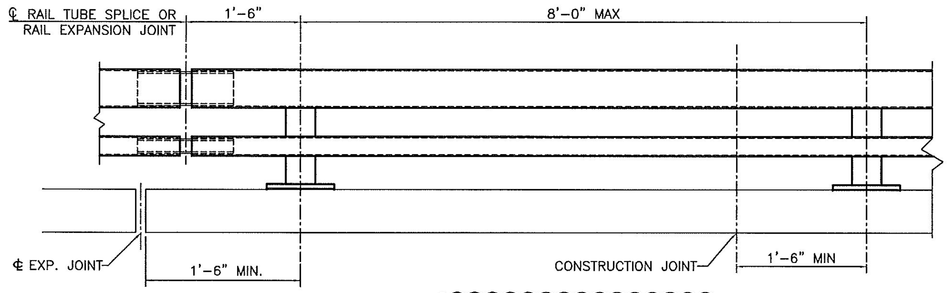
NOTES:
1. SPLICE TUBE AND HARDWARE FOR CONNECTING BRIDGE RAIL TO APPROACH RAIL WILL BE PROVIDED WITH APPROACH RAIL.

2. BRIDGE RAIL TUBES W1, W2, W3 & W4 TO BE SHOP CURVED, (VERTICALLY RADIUSED) TO 420' ± RADIUS.

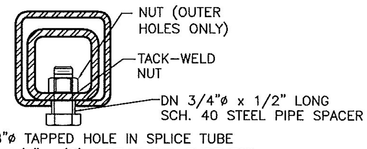
No.	Remarks	Date
2	Per reviewer	06-10-11
1	Ground profile	05-17-11
0	Initial submittal	12-15-10

REVISIONS

Vermont Agency
RECE
CK'D BY GML
9:00 am,
RESUBMIT
BY TCF

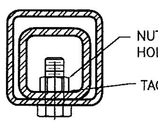


⚠1 BRIDGE RAILING ELEVATION

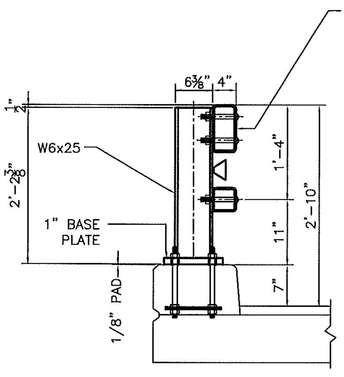


5/8"ø TAPPED HOLE IN SPLICE TUBE
AND 1 1/8" x 'C' SLOT IN RAIL TUBE FOR
BOLT AND PLAIN HARDENED WASHER

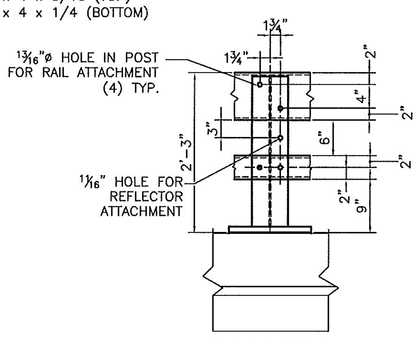
EXPANSION JOINT SECTION
FOR DETAILS NOT SHOWN,
SEE "RAIL TUBE SPLICE SECTION."



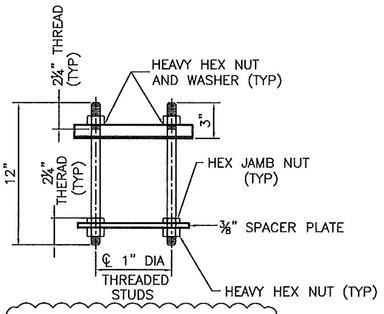
5/8"ø TAPPED HOLE IN SPLICE TU
3/4"ø HOLE IN RAIL TUBE FOR BO
PLAIN HARDENED WASHER



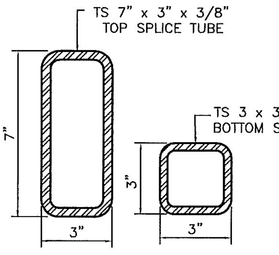
⚠1 TYPICAL SECTION



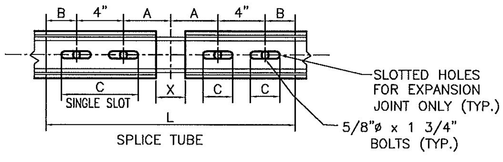
⚠1 ELEVATION



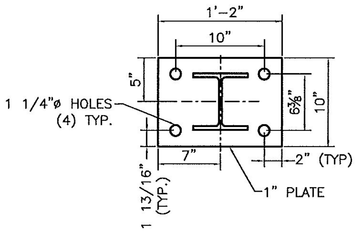
⚠1 RAIL POST ANCHORAGE
(BY OTHERS)



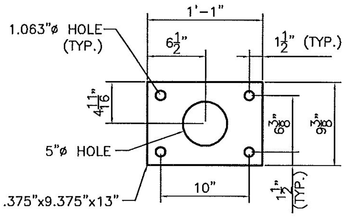
RAIL TUBE SPLICE SECTION



RAIL TUBE SPLICE AND RAIL
EXPANSION JOINT DETAIL



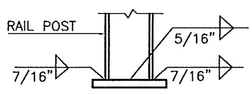
POST AND BASE PLATE



⚠1 ANCHOR PLATE
(BY OTHERS)

SPLICE TABLE					
T	A	B	C	L	X
N/A	4"	2"	--	20"	3/4"
EXPANSION JOINT TABLE					
<4"	4"	2"	2 1/2"	20"	2 1/2" ⚠1

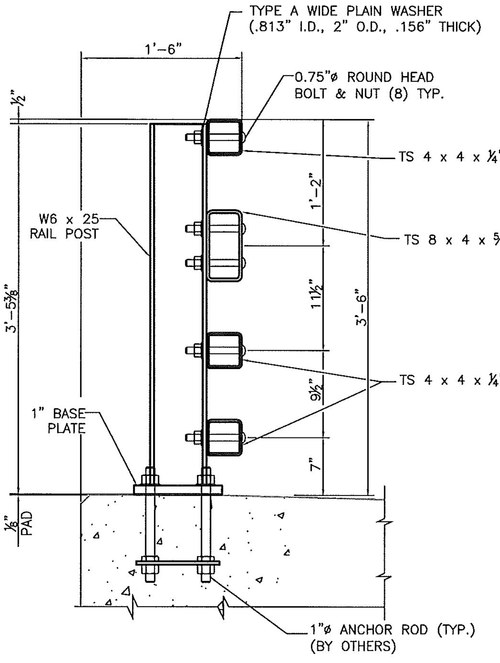
T = TOTAL MOVEMENT BETWEEN BRIDGE
EXPANSION JOINTS. SEE NOTE 5



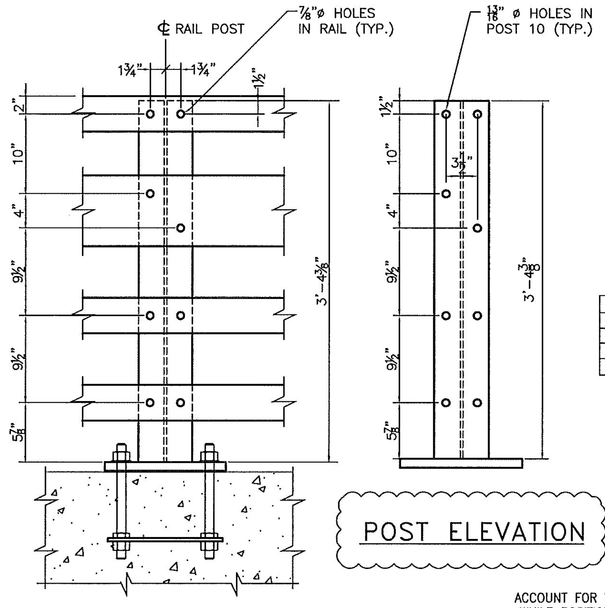
BASE WELD DETAIL

REVISIONS		
No.	Remarks	Date
0	Initial submittal	12-15-10
1	Per reviewer	06-10-11

Vermont Age
REC
CK'D BY GML
9:00 an
RESUBMIT
BY TCF

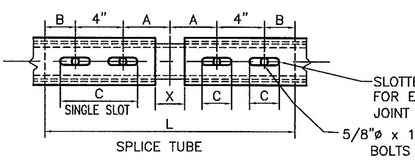


1 SECTION VIEW



1 PARTIAL RAIL ELEVATION

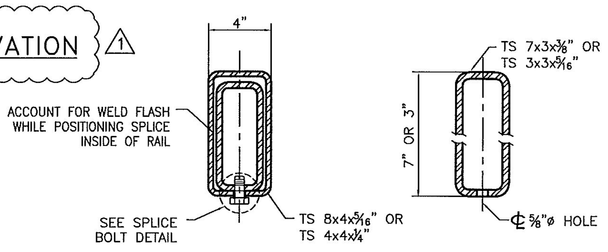
POST ELEVATION 1



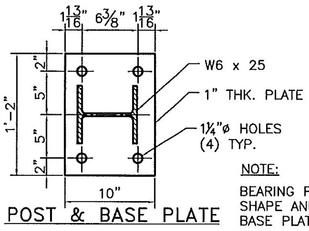
RAIL TUBE SPLICE AND RAIL
EXPANSION JOINT DETAIL

SPLICE TABLE					
T	A	B	C	L	X
N/A	4"	2"	---	20"	3/4"
EXPANSION JOINT TABLE					
<4"	4"	2"	2 1/2"	20"	2 1/2

T = TOTAL MOVEMENT BETWEEN BRIDGE
EXPANSION JOINTS. SEE NOTE 5 1

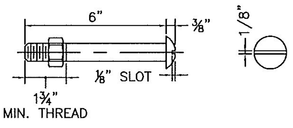


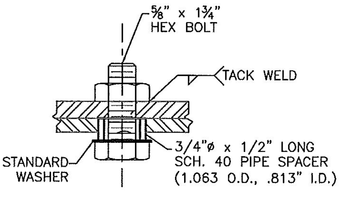
RAIL SPLICE SECTION



POST & BASE PLATE

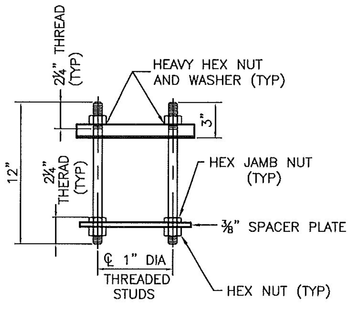
NOTE:
BEARING PAD TO HAVE SAME
SHAPE AND DIMENSIONS AS
BASE PLATE.



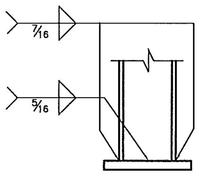


SPLICE BOLT
DETAIL

1 3/4" DIA. A449 (TYPE 1)
ROUND HEAD BOLT
(WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT)
(SEE NOTE #8)
ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.



RAIL POST ANCHORAGE
(BY OTHERS)

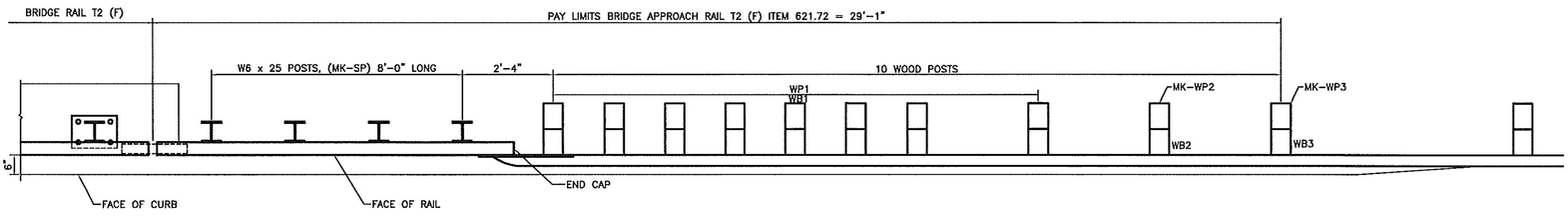


BASE WELD DETAIL

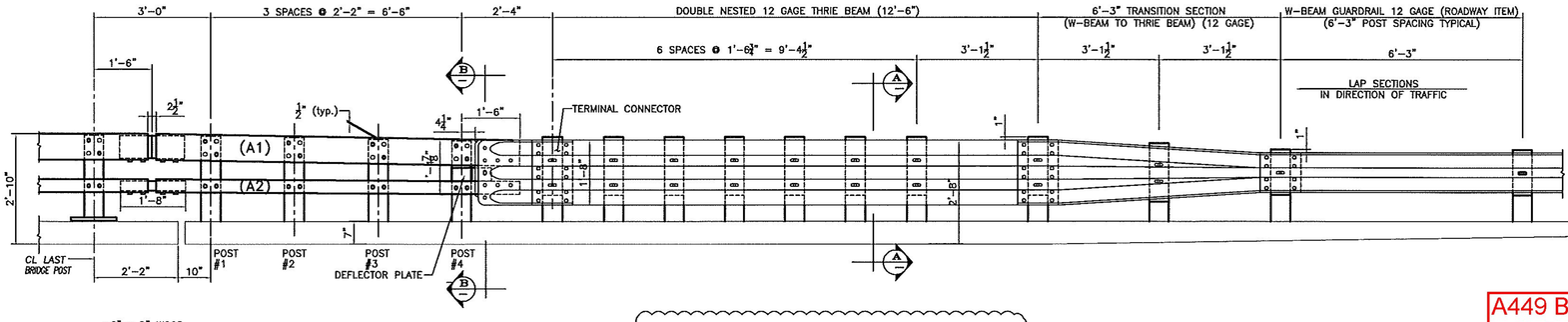
No.	Remarks	Date
1	Per reviewer	06-10-11
0	initial submittal	12-15-10

REVISIONS

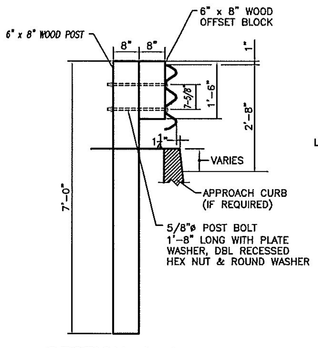
Vermont Agency
RECE
CK'D BY GML
9:00 am, J
RESUBMIT
BY TCF



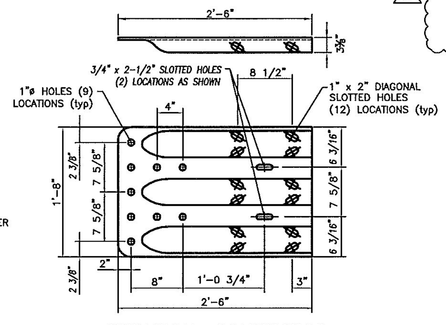
PLAN



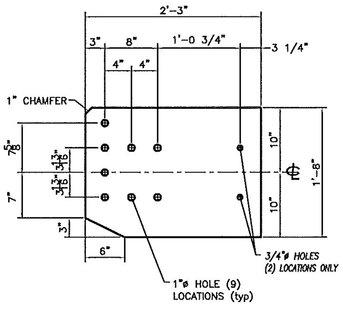
2 APPROACH RAIL ELEVATION
(TOTAL LIMIT ITEM 621.72 = 58 LF)



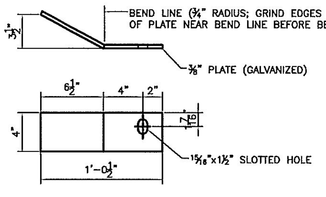
SECTION A–A



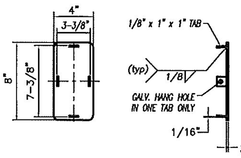
TERMINAL CONNECTOR
10 GAUGE (AASHTO M180 B2)



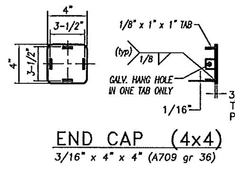
CONNECTION PLATE
3/8" x 1'-8" x 2'-3" (A709 gr 36)



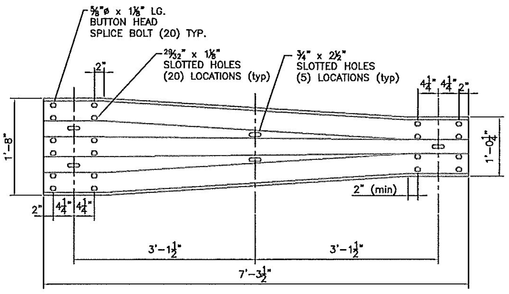
DEFLECTOR PLATE



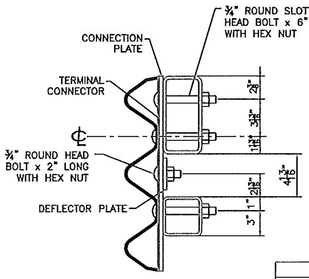
END CAP (8x4)
3/16" x 8" x 4" (A709 gr 36)



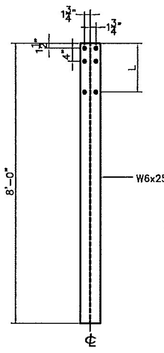
END CAP (4x4)
3/16" x 4" x 4" (A709 gr 36)



THRIE TRANSITION PANEL
12 GAUGE (AASHTO M180 A2)



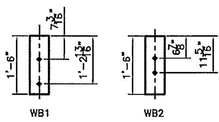
SECTION B–B



STEEL POST

STEEL POST CHART

No.	L
#1	1'-3.250"
#2	1'-3"
#3	1'-2.688"
#4	1'-2.375"

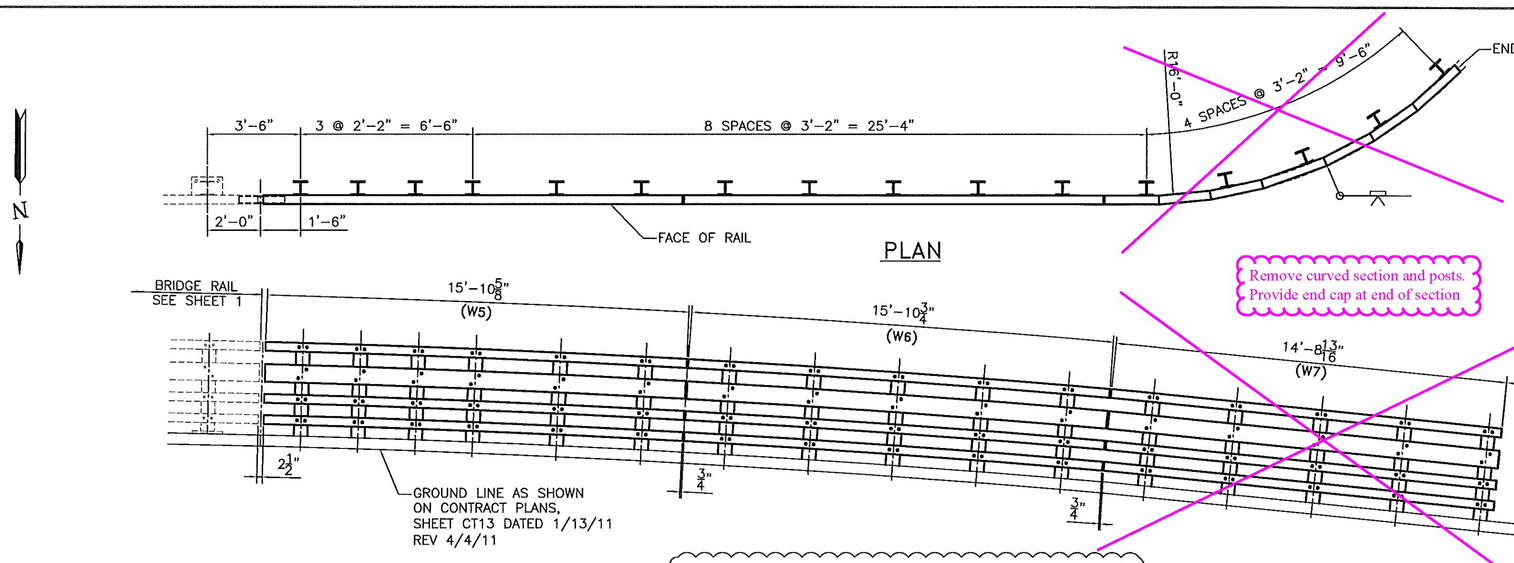


WOOD BLOCK DETA

REVISIONS		
No.	Remarks	Date
0	Initial submittal	12-15-10
1	Ground profile	05-17-11
2	Per reviewer	06-10-11

A449 B
in Deta

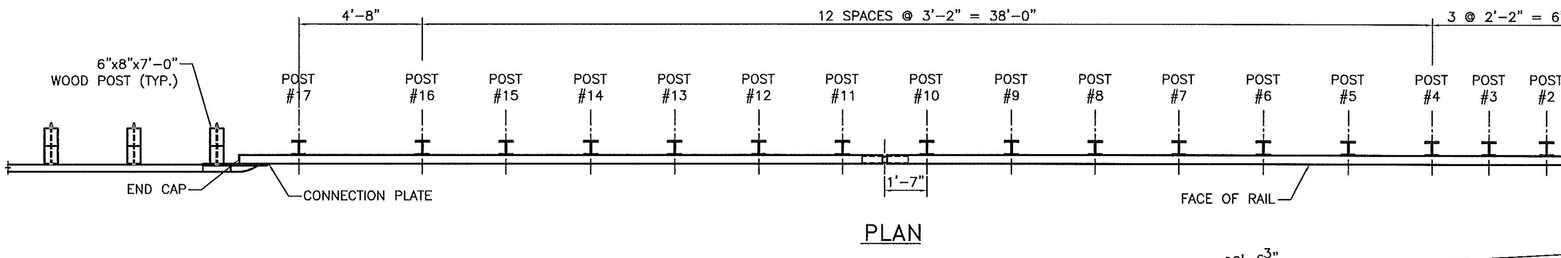
Vermont Age
REC
CK'D BY GML
9:00 ar
RESUBMIT
BY TCF



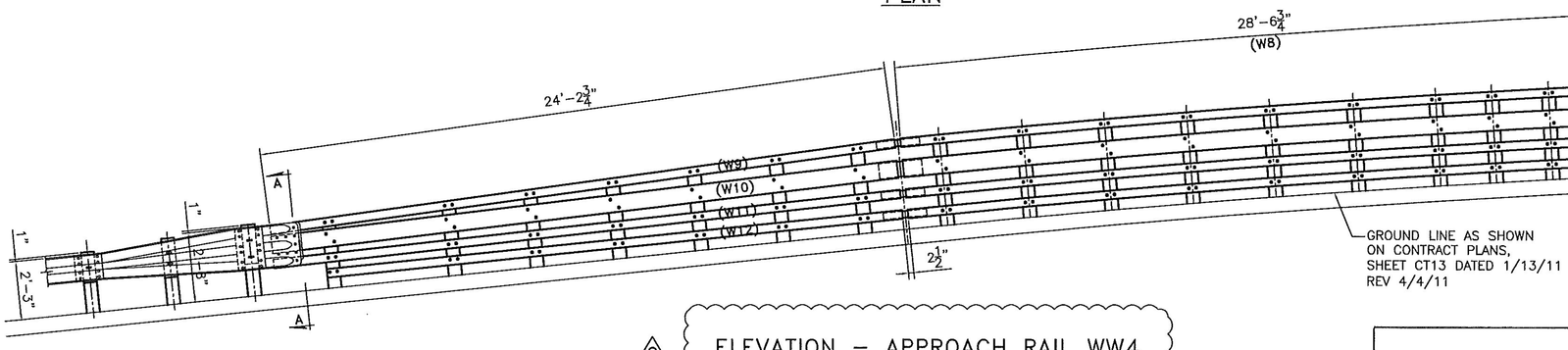
PLAN

Remove curved section and posts.
Provide end cap at end of section

2 ELEVATION – APPROACH RAIL WW2
FACING SOUTH FROM ℄ ROAD



PLAN

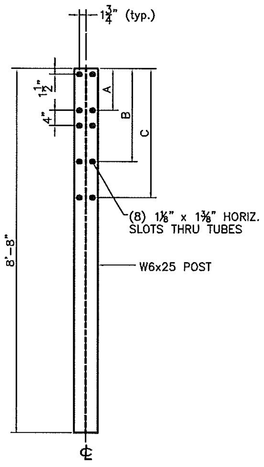


2 ELEVATION – APPROACH RAIL WW4
FACING SOUTH FROM ℄ ROAD

No.	Remarks	Date
2	Per reviewer	06-10-11
1	Ground profile	05-17-11
0	Initial submittal	12-15-10

REVISIONS

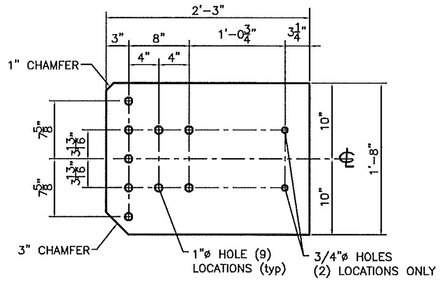
Vermont Agency
RECE
CK'D BY GML
9:00 am,
RESUBMIT
BY TCF



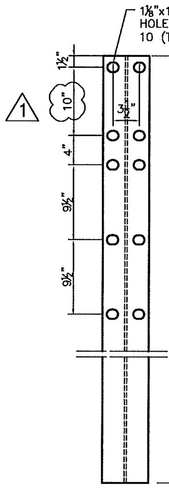
STEEL POST

STEEL POST CHART

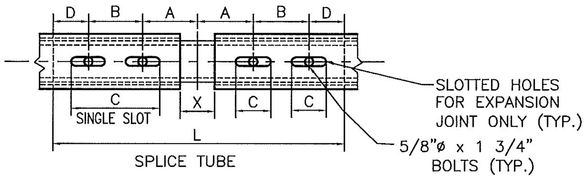
No.	A	B	C
#11	11.188"	2'-0.500"	2'-9.813"
#12	10.563"	1'-11.500"	2'-8.500"
#13	9.938"	1'-10.500"	2'-7.125"
#14	9.250"	1'-9.500"	2'-5.75"
#15	8.625"	1'-8.438"	2'-4.438"
#16	7.938"	1'-7.438"	2'-2.563"
#17	6.875"	1'-5.875"	2'-0.563""



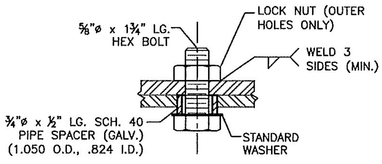
CONNECTION PLATE
3/8" x 1'-8" x 2'-3"



(WW4 POSTS 1
AND ALL POST



RAIL TUBE SPLICE AND RAIL EXPANSION JOINT DETAIL

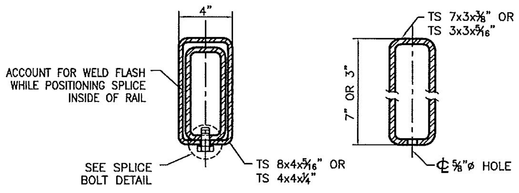


SPLICE BOLT DETAIL

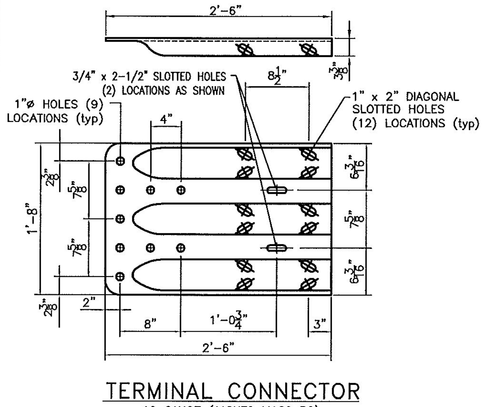
SPLICE JOINT TABLE

T	A	B	C	D	X	L
INTERIOR	4"	4"	2.5"	2"	.75"	1'-8"
≤3.25"	4"	4"	2.5"	2"	2.50" ①	1'-8"

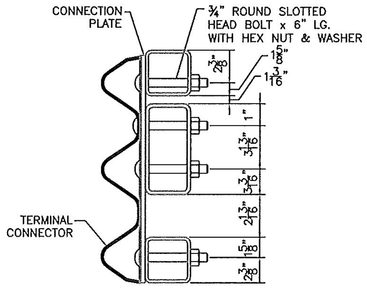
T = TOTAL MOVEMENT



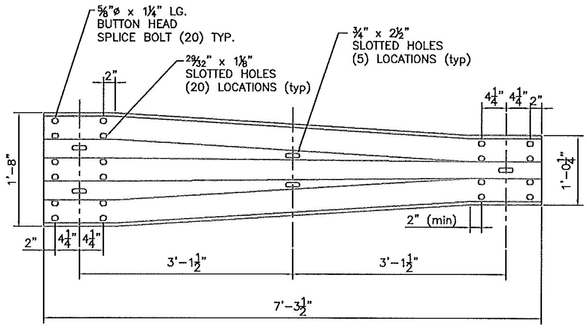
RAIL SPLICE SECTION



TERMINAL CONNECTOR
10 GAUGE (AASHTO M180 B2)



SECTION A–A



THRIE TRANSITION PANEL
12 GAUGE (AASHTO M180 A2)

ANGLED SPLICE

ANGLED SPLI

TOP SPLICE
0.750"

No.	Remarks	Date
1	Per reviewer	06-10-11
0	Initial submittal	12-15-10

REVISIONS

Vermont Ag
RE
CK'D BY GML
9:00 a
RESUBMIT
BY TCF

Highway Safety Corporation

Glastonbury, CT

Welding Procedure Specification

Material specification: ASTM A500 gr B

Welding process: Gas Metal Arc Welding (GMAW)

Manual, semi-automatic, or automatic: Semi-Automatic

Position of welding: Flat (1F) or Horizontal (2F)

Filler metal specification: AWS A5.18

Filler metal classification: ER70S-3

Electrode and manufacturer: Lincoln Electric Lincoln Weld L-50

Flux and manufacturer: N/A

Shielding gas: 85% Argon / 15% CO2 Flow rate: 19-27 L / min

Single or multiple pass: Single

Single or multiple arc: Single

Welding current: DCEP

Polarity: Reverse - electrode positive

Welding progression: Stringers

Root treatment: clean base metal

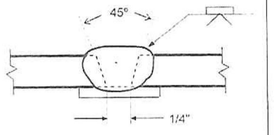
Preheat and interpass temperature: base metal up to 3/4" (50°F)

Postheat treatment: None

Electrode extension: 3/4" ± 1/4"

WELDING PROCEDURE

Weld size	Pass no.	Electrode size	Welding parameters		Travel speed	Joint detail
			Amperes	Volts		
	1	0.045"	300 A ± 30	29 V ± 2	14 ipm ± 2	B-U2a



This procedure may vary due to fabrication sequence, fit-up, pass size, etc. within the limitation of variables given in section 5 of latest edition AWS D1.1

WPS no.: W-1791C

Revision no.: 0

Supporting PQR no.: Pre-Qualified

Project Name: Hartford (Wilder) Vermont

Fabricator: Highway Safety Corporation

Prepared By: Paul Radice

Date: 12/14/10

Project Number: STP 1444 (35)

VTRANS
RECEIVED
CK'D BY _____ OK'D BY JWC
JUN 06 2011
RESUBMIT _____ APPROVED ✓
BY kmH DATE 06/06/11

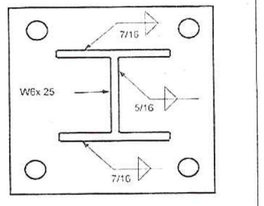
Highway Safety Corporation

Glastonbury, CT

Welding Procedure Specification

Material specification: A572 gr 50, A709 Gr 50
Welding process: Gas Metal Arc Welding (GMAW)
Manual, semi-automatic, or automatic: Semi-Automatic
Position of welding: Flat (1F) or Horizontal (2F)
Filler metal specification: AWS A5.18
Filler metal classification: ER70S-3
Electrode and manufacturer: Lincoln Electric Lincoln Weld L-50
Flux and manufacturer: N/A
Shielding gas: 85% Argon / 15% CO2 Flow rate: 19-27 L / min
Single or multiple pass: Single or Multiple
Single or multiple arc: Single
Welding current: DCEP
Polarity: Reverse - electrode positive
Welding progression: Stringers
Root treatment: clean base metal
Preheat and interpass temperature: base metal up to 3/4" (50°F) ; over 3/4 thru 1-1/2" (150°F) : over 1-1/2" thru 2-1/2" (225°F)
Postheat treatment: None
Electrode extension: 3/4" ± 1/4"

WELDING PROCEDURE

Weld size	Pass no.	Electrode size	Welding parameters Amperes	Welding parameters Volts	Travel speed	Joint detail
5/16"	1	0.062"	275 A ± 25	25 V ± 2	8-10 ipm	
7/16"	1 & 2	0.062"	↓	↓	8-10 ipm	

This procedure may vary due to fabrication sequence, fit-up, pass size, etc. within the limitation of variables given in section 5 of latest edition AWS D1.5

WPS no: W-1791A
Revision no: 0
Supporting POR no.: Pre-Qualified
Project Name: Hartford (Wilder) Vermont

Fabricator: Highway Safety Corporation
Prepared By: Paul Radice
Date: 12/14/10
Project Number: STP 1444 (35)

VTRANS
RECEIVED
CK'D BY _____ OK'D BY JWC
JUN 06 2011
RESUBMIT _____ APPROVED ✓
BY KMH DATE 06/06/11

Highway Safety Corporation

Glastonbury, CT

Welding Procedure Specification

Material specification: ASTM A36, A709 Gr 36, A500 gr B, A53 gr B

Welding process: Gas Metal Arc Welding (GMAW)

Manual, semi automatic, or automatic: Semi-Automatic

Position of welding: Flat (1F) or Horizontal (2F)

Filler metal specification: AWS A5.18

Filler metal classification: ER70S-3

Electrode and manufacturer: Lincoln Electric Lincoln Weld L-50

Flux and manufacturer: N/A

Shielding gas: 85% Argon / 15% CO2 Flow rate: 19-27 L / min

Single or multiple pass: Single

Single or multiple arc: Single

Welding current: DCEP

Polarity: Reverse - electrode positive

Welding progression: Stringers

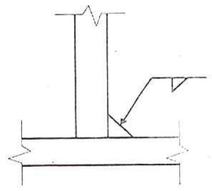
Root treatment: clean base metal

Preheat and interpass temperature: base metal up to 3/4" (50°F) ; over 3/4 thru 1-1/2" (150°F) : over 1-1/2" thru 2-1/2" (225°F)

Postheat treatment: None

Electrode extension: 3/4" ± 1/4"

WELDING PROCEDURE

Weld size	Pass no	Electrode size	Welding parameters Amperes	Welding parameters Volts	Travel speed	Joint detail
1/8"	1	0.045"	300 A ± 30	29 V ± 2	28 ipm ± 2	TYPICAL ALL FILLET WELDS 
3/16"	1	0.045"	300 A ± 30	29 V ± 2	14 ipm ± 2	

This procedure may vary due to fabrication sequence, fit-up, pass size, etc. within the limitation of variables given in section 5 of latest edition AWS D1.1 / D1.5

WPS no: W-1791B

Revision no: 0

Supporting PQR no.: Pre-Qualified

Project Name: Hartford (Wilder) Vermont

Fabricator: Highway Safety Corporation

Prepared By: Paul Radice

Date: 12/14/10

Project Number: STP 1444 (35)

VTRANS RECEIVED

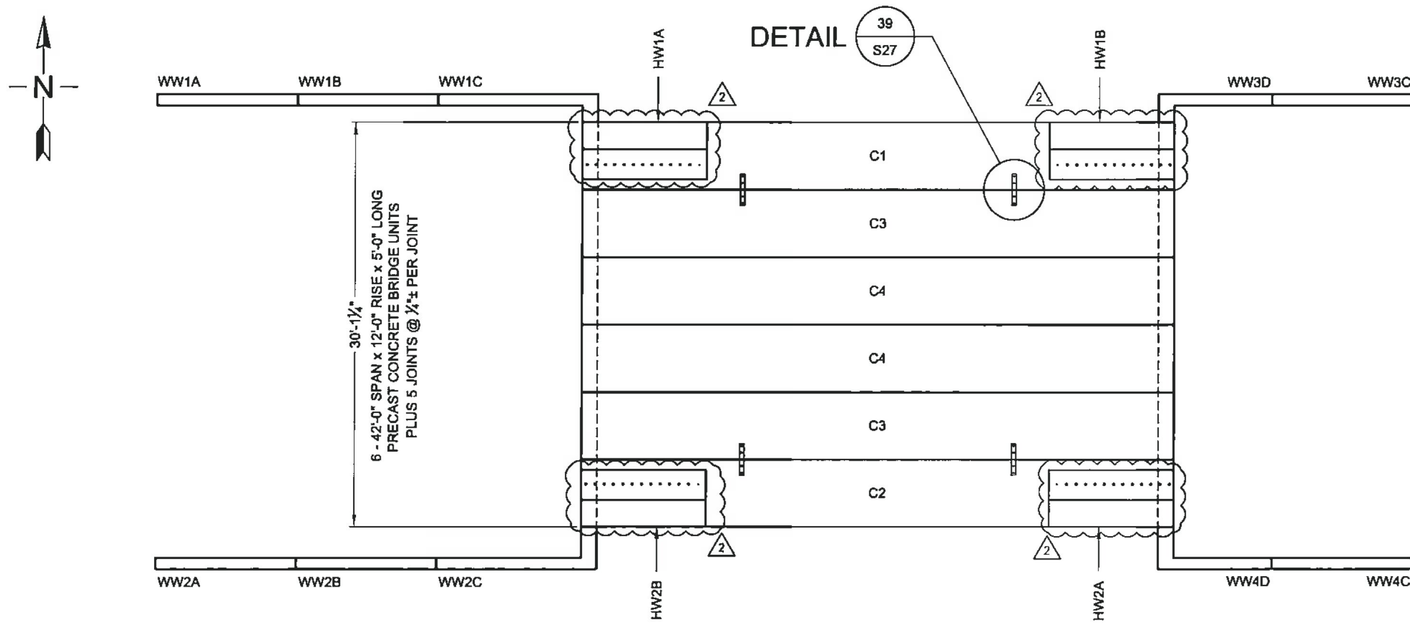
CK'D BY _____ OK'D BY JWC

JUN 06 2011

RESUBMIT _____ APPROVED ✓

BY KMH DATE 06/06/11

HARTFORD TH#81 BRIDGE #36
VERMONT AGENCY OF TRANS. PROJECT # STP
HARTFORD, VERMONT



KEY PLAN

Vermont Agency of Tr
RECEI
CK'D BY GML OK'
7:13 am, May
RESUBMIT AP
BY KMH DA

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which this drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

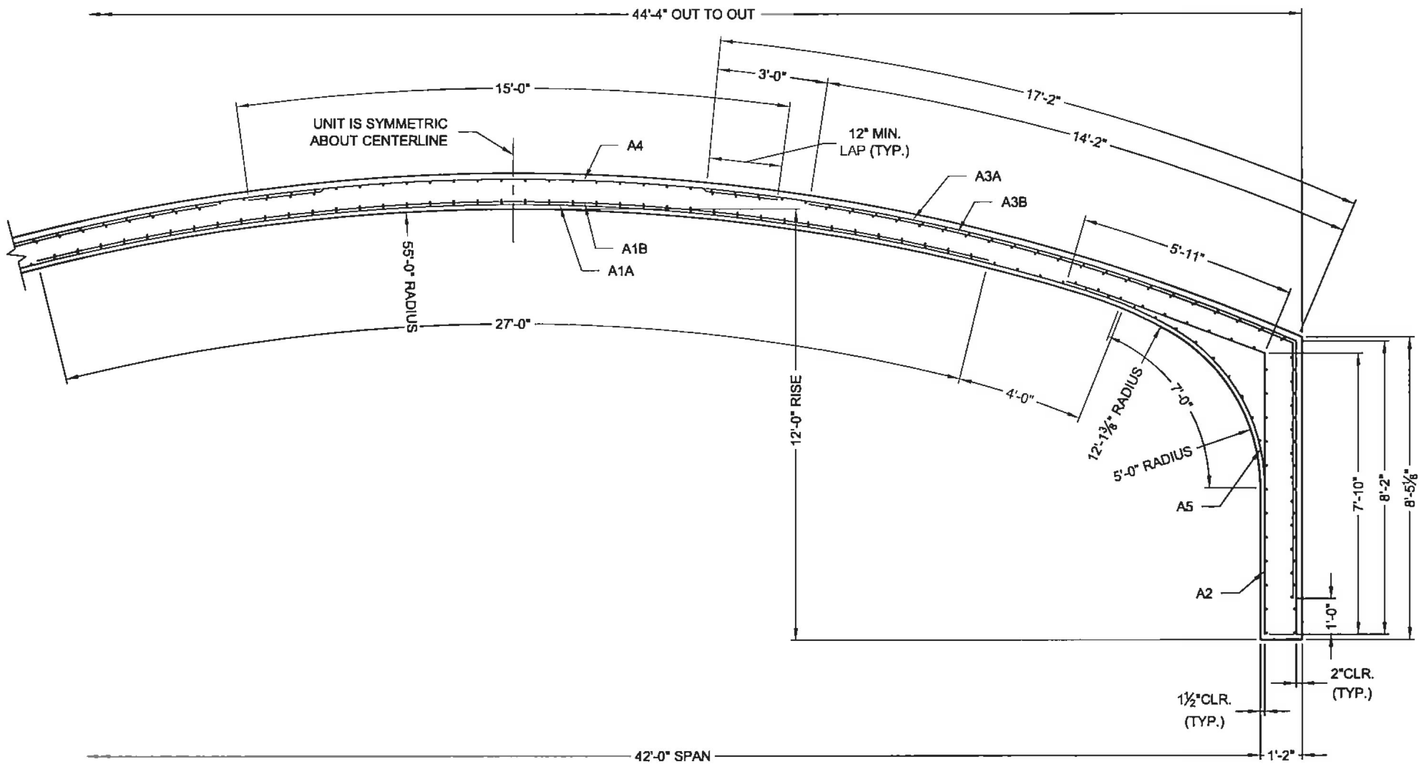
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	NO CHANGES ON THIS SHEET	RKL
4	4/18/2011	NO CHANGES ON THIS SHEET	RKL
3	4/8/2011	NO CHANGES ON THIS SHEET	RKL
2	4/4/11	REVISIONS PER REVIEWERS COMMENTS	RKL
1	3/10/2011	NO CHANGES ON THIS SHEET	RKL

CONTECH CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

HARTFORD TH#8
VERMONT AGENCY OF TRANS
HARTFORD,

I:\MER\IN\PROJECT\CT\VER\28000\28035\28035-1-CON_SPAN\DRAWINGS\FABRICATION\PRE-128035-001-CS-FAB-F.DWG 5/27/2011 11:46 AM



PRECAST UNIT REINFORCEMENT

WEIGHT OF REQUIRED REINFORCEMENT = 513 LBS/FT

SHEET NO.	CIRCUMFERENTIAL AREA REQ'D (IN²/FT)	LONGITUDINAL AREA REQ'D (IN²/FT)	MESH SIZE	LENGTH (FT)	CIRCUMFERENTIAL AREA SUPL'D (IN²/FT)	LONGITUDINAL AREA SUPL'D (IN²/FT)
1	A1A = 0.72	0.13	2 x 6 W10 x W6.5 + #4 EA 18" CIRC	35'-0"	1 0.73	1 0.13
2	A1B = 0.72	0.09	2 x 6 W10 x W6.5 + #4 EA 18" CIRC	27'-0"	0.73	0.13
3	A2 = 0.48	0.13	4 x 6 W8 x W6.5 + #4 EA 10" CIRC	13'-9"	0.48	0.13
4	A3A = 0.72	0.07	2 x 6 W10 x W6.5 + #4 EA 18" CIRC	25'-4"	0.72	0.13
5	A3B = 0.72	0.06	2 x 6 W10 x W6.5 + #4 EA 18" CIRC	21'-4"	0.72	0.13
6	A4 = 0.48	0.13	4 x 6 W8 x W6.5 + #4 EA 18" CIRC	15'-0"	0.48	0.13
7	A5 = 0.24	0.13	4 x 6 W8 x W6.5	7'-0"	0.24	0.13

DESIGN LOADING: HL-93

COVER = 6" MIN. \ 8⅜" MAX.

Vermont Agency of Transpo
RECEIVE
CK'D BY GML OK'D BY T
7:13 am, May 03, 2
RESUBMIT BY KMH APPROVE DATE

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

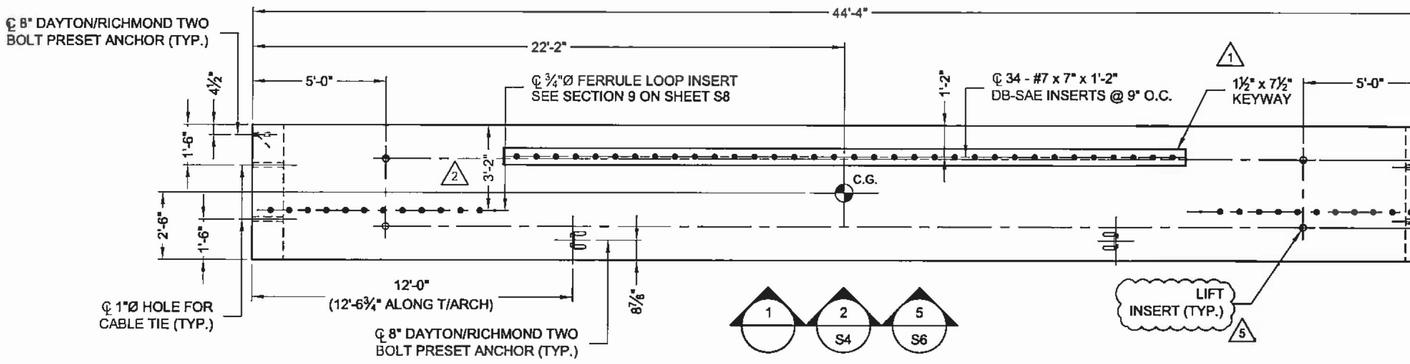
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
4	4/18/2011	NO CHANGES ON THIS SHEET	RKL
3	4/8/2011	NO CHANGES ON THIS SHEET	RKL
2	4/4/11	NO CHANGES ON THIS SHEET	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

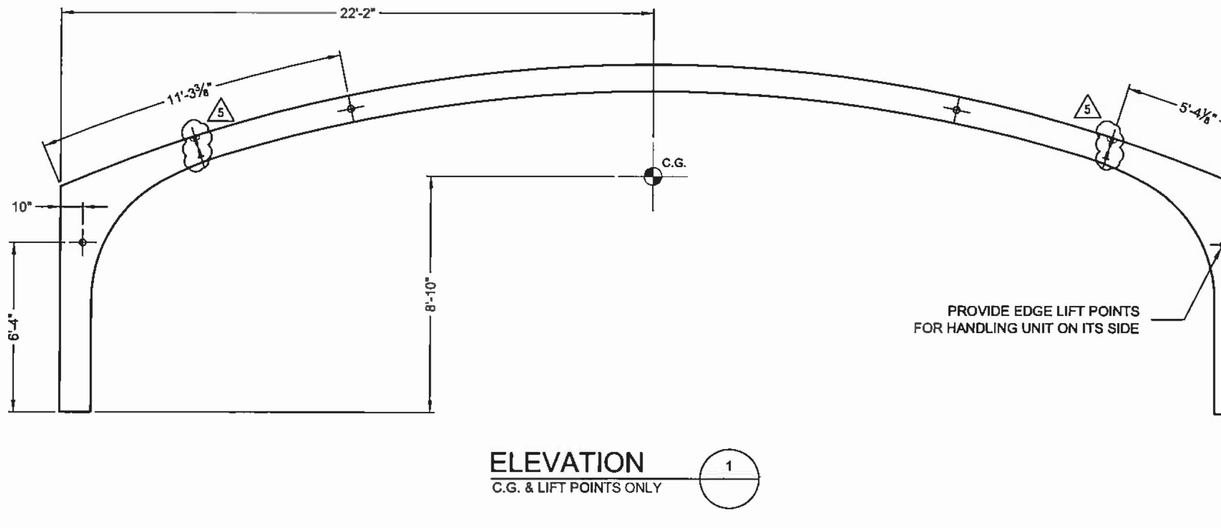
HARTFORD TH#
VERMONT AGENCY OF TRAN
HARTFORD,

I:\MERLIN\PROJECT\ACTIVE\28000\28035\28035-CON_SPAN\DRAWING\FABRICATION\PRE-428035-S01-CS-FAB.F.DWG 5/2/2011 11:45 AM



PLAN - C1 & C2

TOTAL WEIGHT = 25.8 TONS



ELEVATION

C.G. & LIFT POINTS ONLY — 1

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

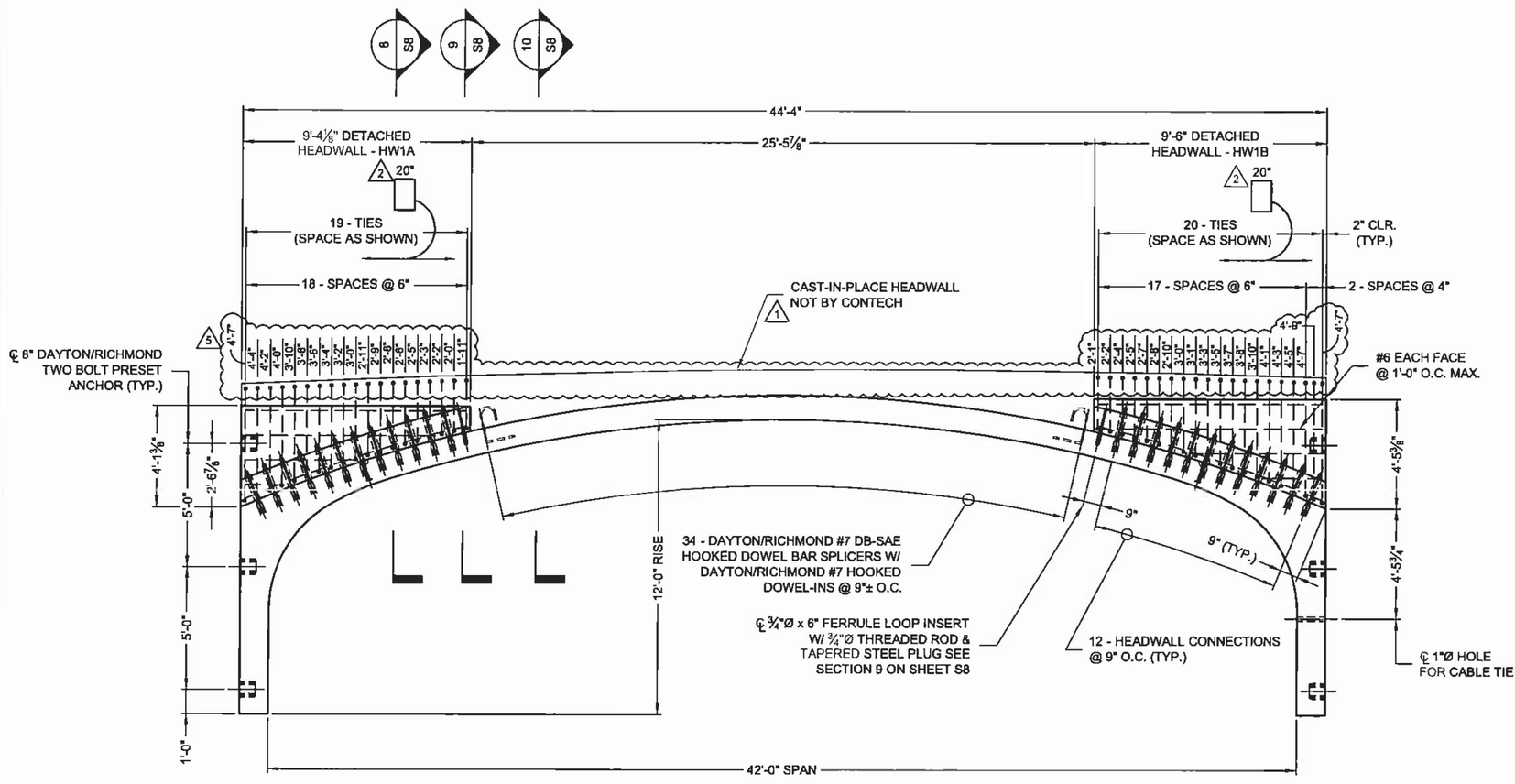
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
4	4/18/2011	NO CHANGES ON THIS SHEET	RKL
3	4/8/2011	NO CHANGES ON THIS SHEET	RKL
2	4/4/11	REVISIONS PER REVIEWERS COMMENTS	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

HARTFORD TH#
VERMONT AGENCY OF TRAN
HARTFORD,

I:\MERLIN\PROJECT\ACTIVE\28000\28035\28035-1-CON_SP\ANDRAWING\SF\FABRICATION\PDF\E-28035-001-CS-FAB-F.DWG 5/2/2011 4:18 PM



ELEVATION 2 S3

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which this drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

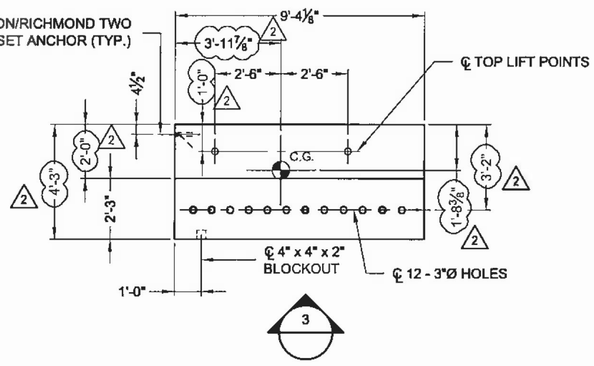
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
4	4/18/2011	NO CHANGES ON THIS SHEET	RKL
3	4/8/2011	NO CHANGES ON THIS SHEET	RKL
2	4/4/11	REVISIONS PER REVIEWERS COMMENTS	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN® BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

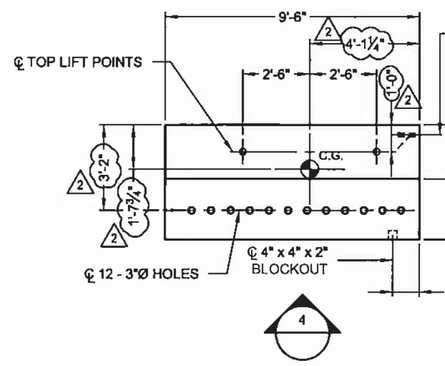
HARTFORD TH#8
VERMONT AGENCY OF TRANS
HARTFORD,

I:\MERLIN\PROJECTS\ACTIVE\428000\428035\428035-1-CON_SPANDRAWINGS\FABRICATION\PRE=428035-001-CS-FAB-F.DWG 5/2/2011 11:49 AM



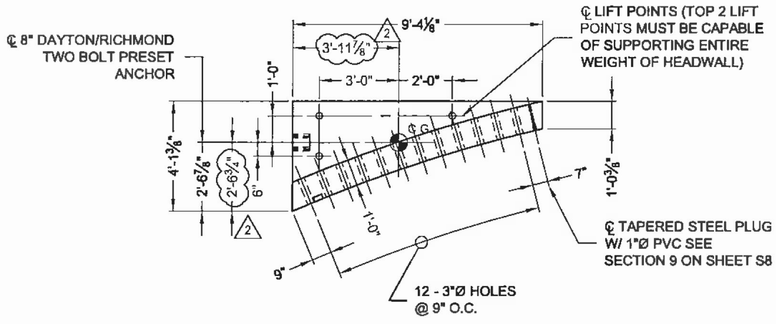
PLAN - HW1A

TOTAL WEIGHT = 5.1 TONS 2

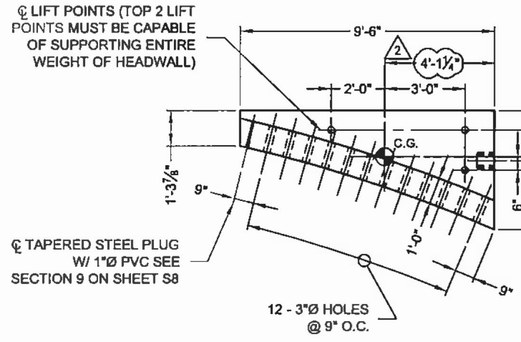


PLAN - HW1B

TOTAL WEIGHT = 5.6 TONS



ELEVATION



ELEVATION

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others

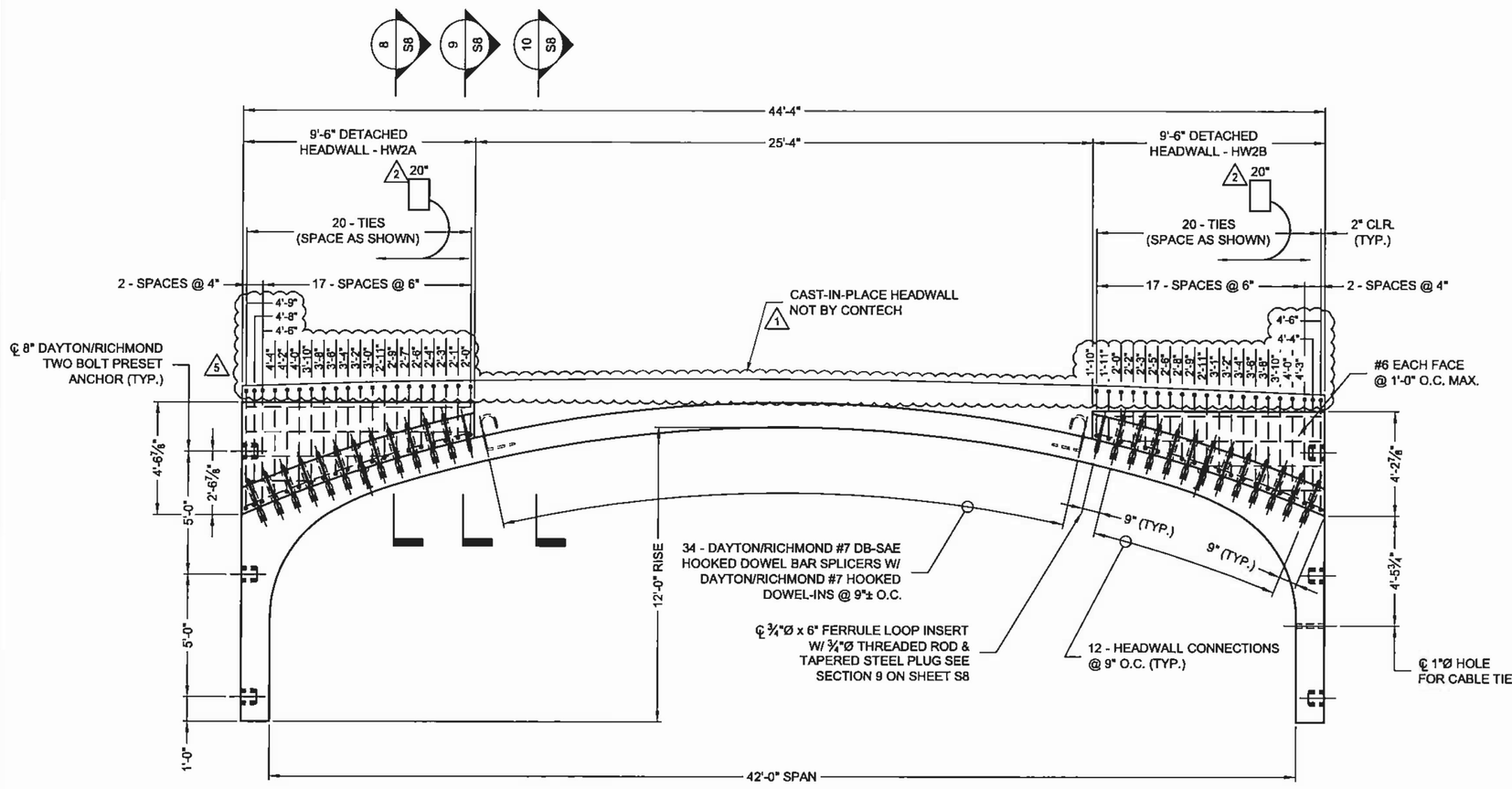
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	NO CHANGES ON THIS SHEET	RKL
4	4/18/2011	NO CHANGES ON THIS SHEET	RKL
3	4/8/2011	NO CHANGES ON THIS SHEET	RKL
2	4/4/11	REVISIONS PER REVIEWERS COMMENTS	RKL
1	3/10/2011	NO CHANGES ON THIS SHEET	RKL

CONTECH® CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

HARTFORD TH#
VERMONT AGENCY OF TRAN
HARTFORD,

I:\MERLIN\PROJECT\ACTIVE\28009\28033\H28035-1-CON_SPANDRAWINGS\FABRICATION\PRE-4\28035-001-CS-FAB-F.DWG 5/2/2011 11:46 AM



ELEVATION 5/S3

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which this drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete, or inaccurate information supplied by others.

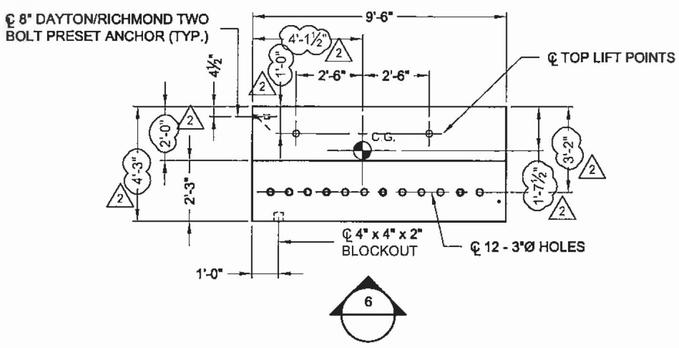
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
4	4/18/2011	NO CHANGES ON THIS SHEET	RKL
3	4/8/2011	NO CHANGES ON THIS SHEET	RKL
2	4/4/11	REVISIONS PER REVIEWERS COMMENTS	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN® BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

HARTFORD TH#
VERMONT AGENCY OF TRAN
HARTFORD,

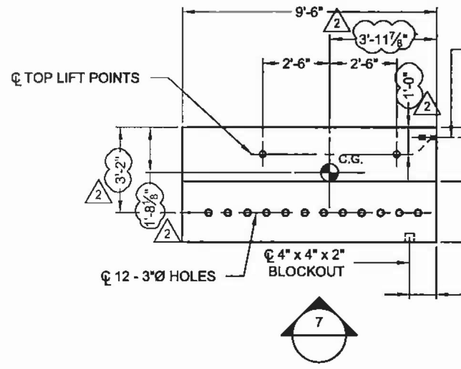
I:\MERLIN\PROJECT\CTYE\28009\28035\F28035-1-CON_SPANDRAWINGS\FABRICATION\PRE-128035-001-CS-F-AB-F.DWG 5/2/2011 11:48 AM



6

PLAN - HW2A

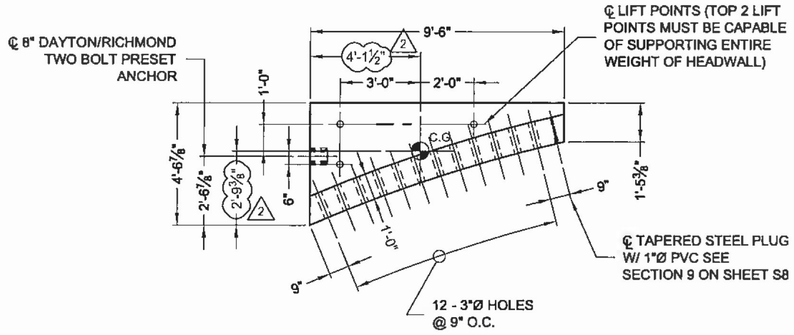
TOTAL WEIGHT = 5.8 TONS 2



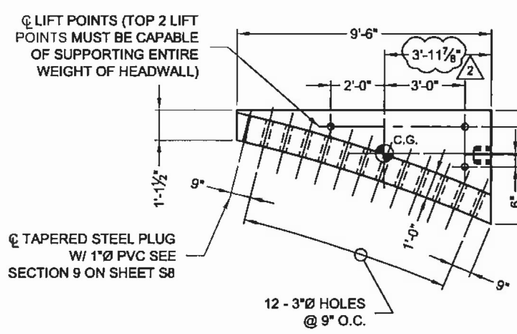
7

PLAN - HW2B

TOTAL WEIGHT = 5.3 TONS



ELEVATION 6



ELEVATION 7

This design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which this drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

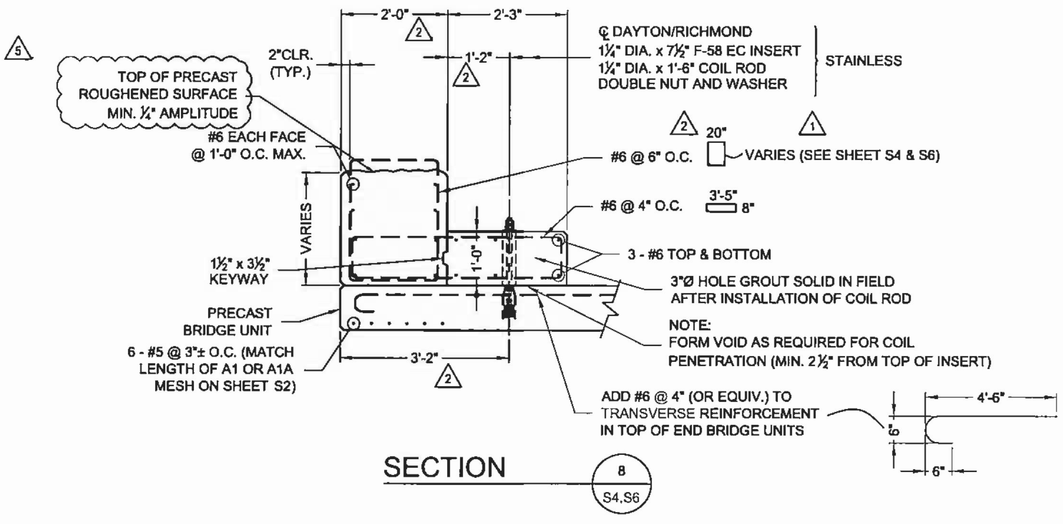
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	NO CHANGES ON THIS SHEET	RKL
4	4/18/2011	NO CHANGES ON THIS SHEET	RKL
3	4/8/2011	NO CHANGES ON THIS SHEET	RKL
2	4/4/11	REVISIONS PER REVIEWERS COMMENTS	RKL
1	3/10/2011	NO CHANGES ON THIS SHEET	RKL

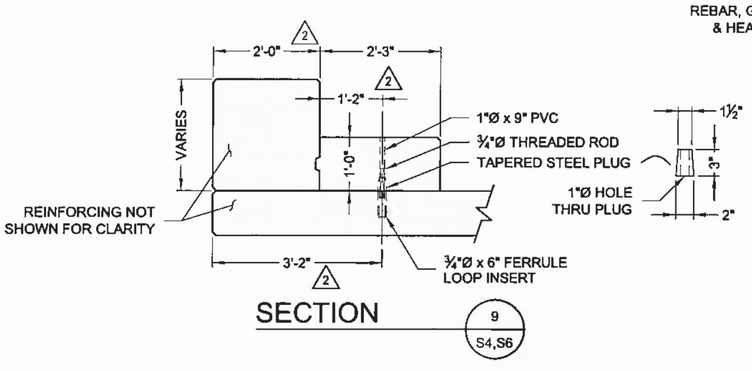
CONTECH® CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

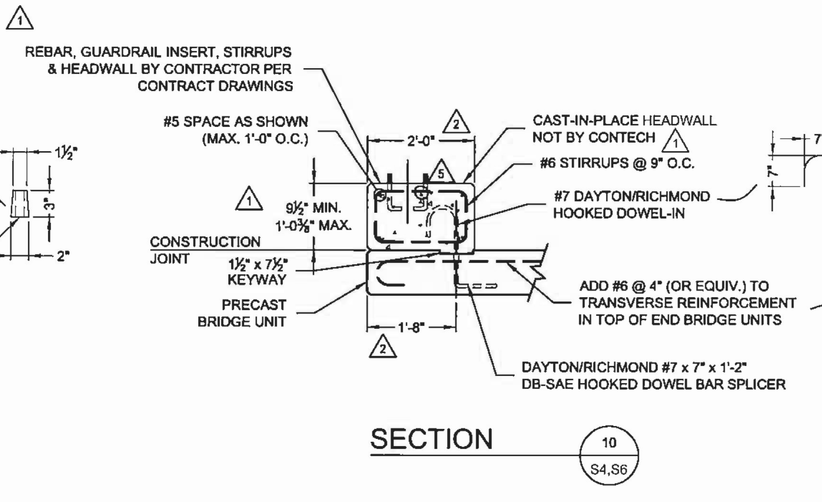
CONSPAN BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

HARTFORD TH#
VERMONT AGENCY OF TRAN
HARTFORD,

I:\MERLIN\PROJECT\ACTIVE\43000\43803\43803-1-CON_SPAN\DRAWINGS\FABRICATION\PRE-43803-001-CS-FAB-F.DWG 5/2/2011 11:47 AM







The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on inaccurate, incomplete or inaccurate information supplied by others.

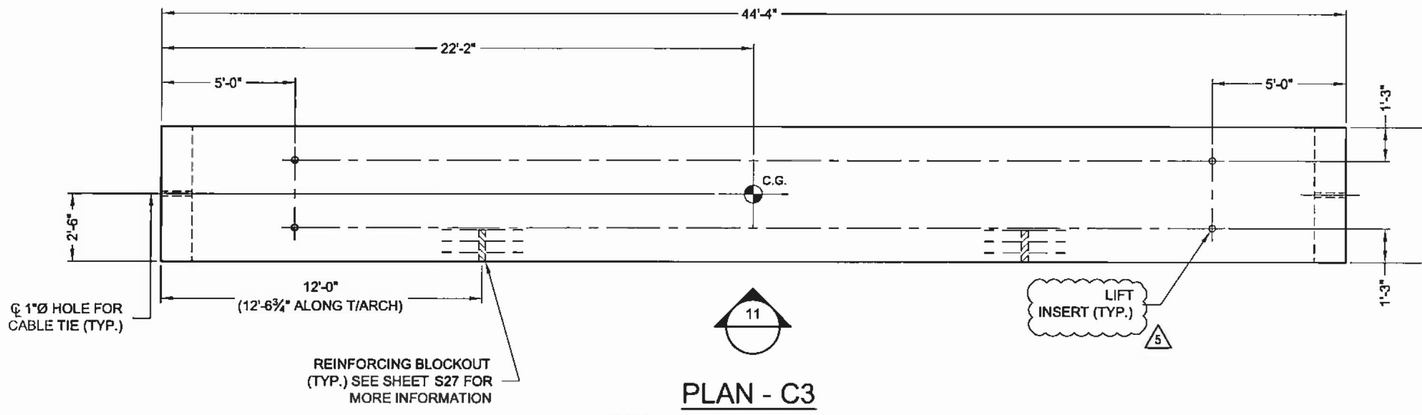
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
4	4/18/2011	NO CHANGES ON THIS SHEET	RKL
3	4/8/2011	NO CHANGES ON THIS SHEET	RKL
2	4/4/11	REVISIONS PER REVIEWERS COMMENTS	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400. West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN® BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

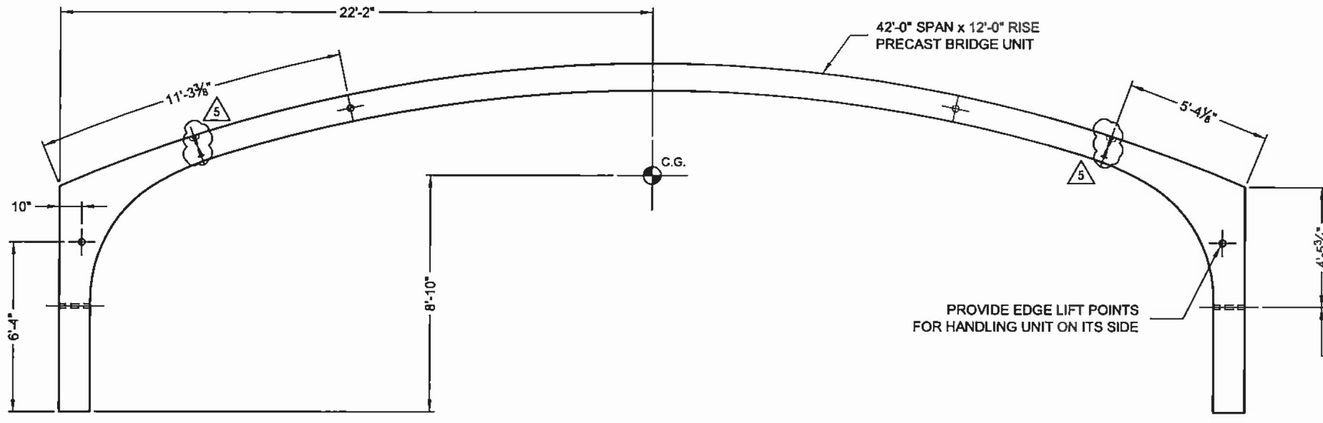
HARTFORD TH#
VERMONT AGENCY OF TRAN
HARTFORD,

I:\MERLIN\PROJECT\CTM\28000\28035\28035-1-CON_SPAN\DRAWINGS\FABRICATION\PRE-28035-001-CS-FAB-F.DWG 5/2/2011 4:16 PM



PLAN - C3

TOTAL WEIGHT = 25.8 TONS



ELEVATION

11

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

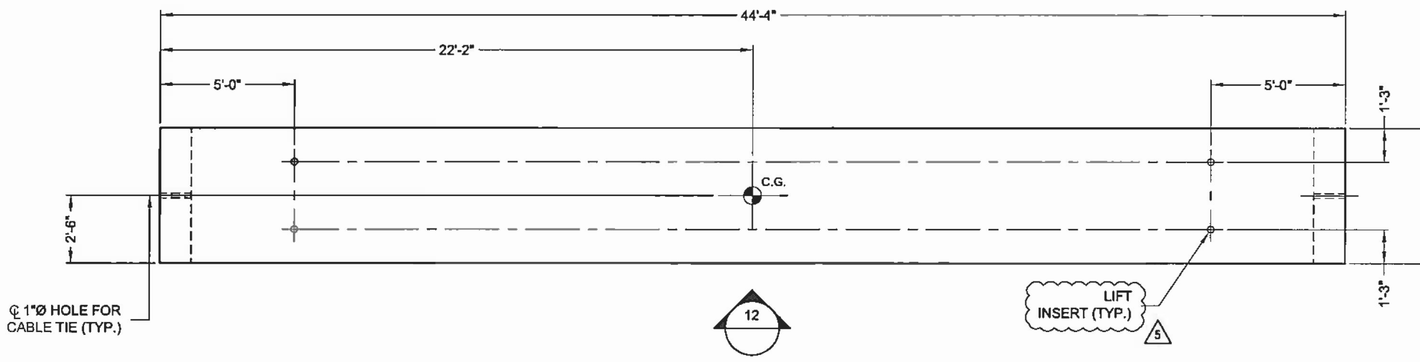
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
4	4/18/2011	NO CHANGES ON THIS SHEET	RKL
3	4/8/2011	NO CHANGES ON THIS SHEET	RKL
2	4/4/11	NO CHANGES ON THIS SHEET	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN® BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

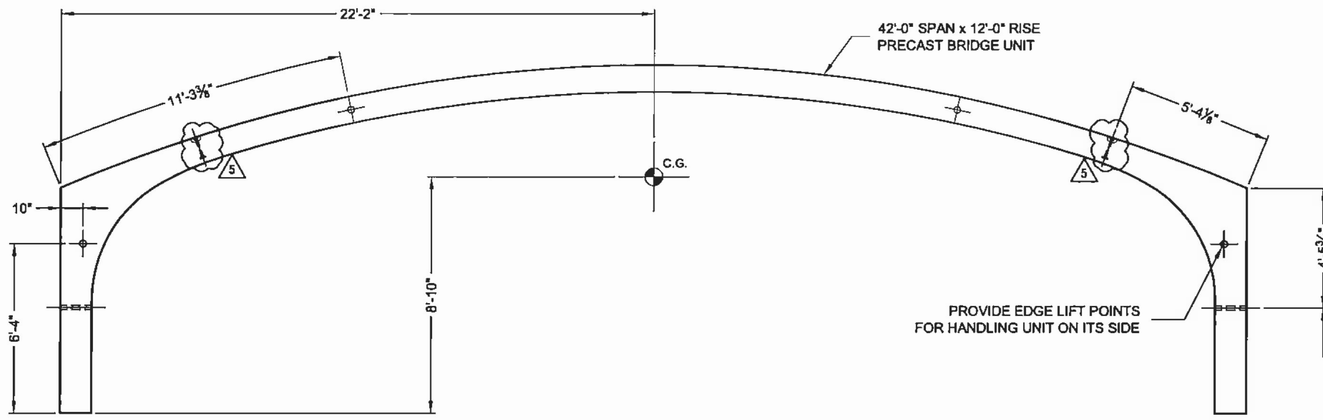
HARTFORD TH#
VERMONT AGENCY OF TRANS
HARTFORD,

I:\MFR\LIVNPROJECT\VECTIVE\28000\428033\428035-1-CON_SPANDRAWINGS\FABRICATION\PRE-428035-001-CS-FAB-F.DWG 5/2/2011 4:18 PM



PLAN - C4

TOTAL WEIGHT = 25.8 TONS



ELEVATION 12

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

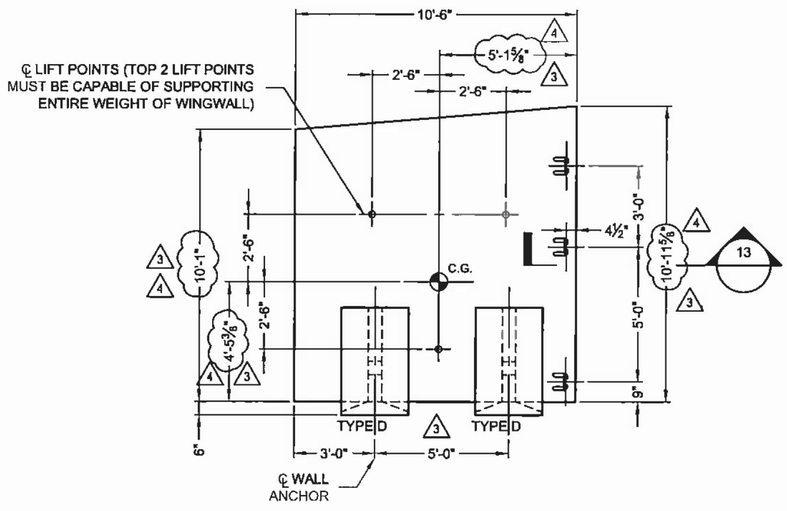
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
4	4/18/2011	NO CHANGES ON THIS SHEET	RKL
3	4/8/2011	NO CHANGES ON THIS SHEET	RKL
2	4/4/11	NO CHANGES ON THIS SHEET	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN® BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

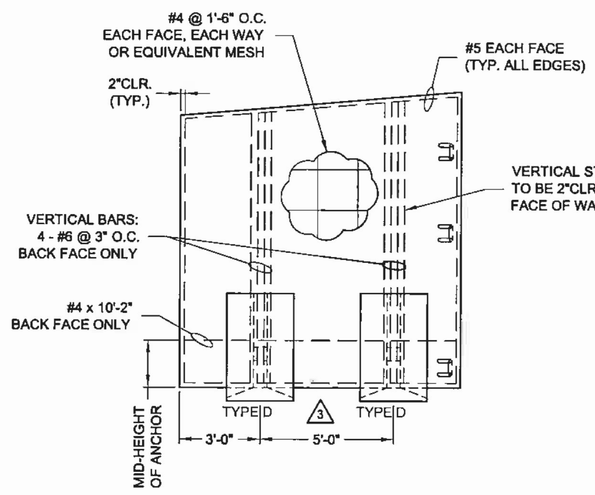
HARTFORD TH#
VERMONT AGENCY OF TRAN
HARTFORD,

I:\MERLIN\PROJECT\ACTIVE\28000\28003\P43035-1-CON_SPAN\DRAWINGS\FABRICATION\PRE-28035-001-CS-FAB-F.DWG 5/2/2011 4:17 PM



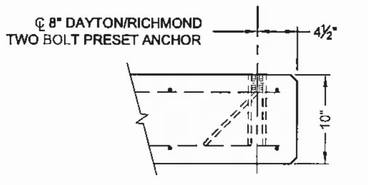
WINGWALL - WW1A

TOTAL WEIGHT = 9.0 TONS (4)



REINFORCING DETAIL - WW1A

(FOR ANCHOR REINFORCING SEE SHEET S25)



SECTION (13)

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which this drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for changes based on inaccurate, incomplete or inaccurate information supplied by others.

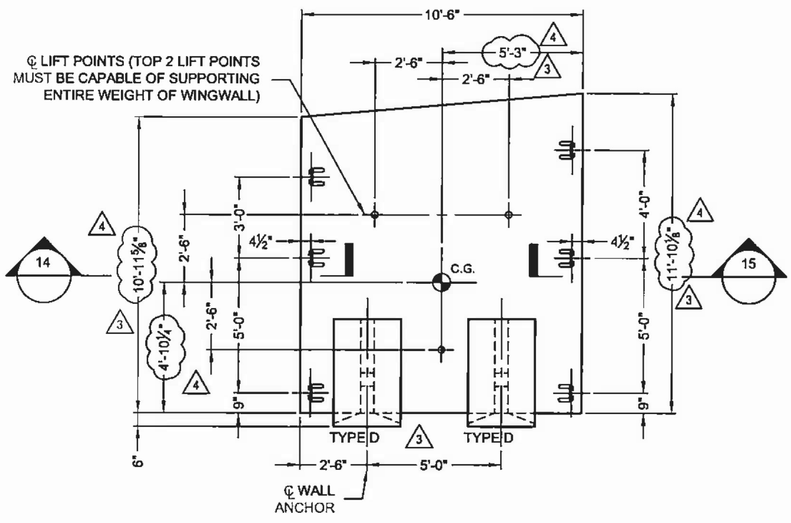
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	NO CHANGES ON THIS SHEET	RKL
4	4/18/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
3	4/8/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
2	4/4/11	NO CHANGES ON THIS SHEET	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

CONTECH® CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN® BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

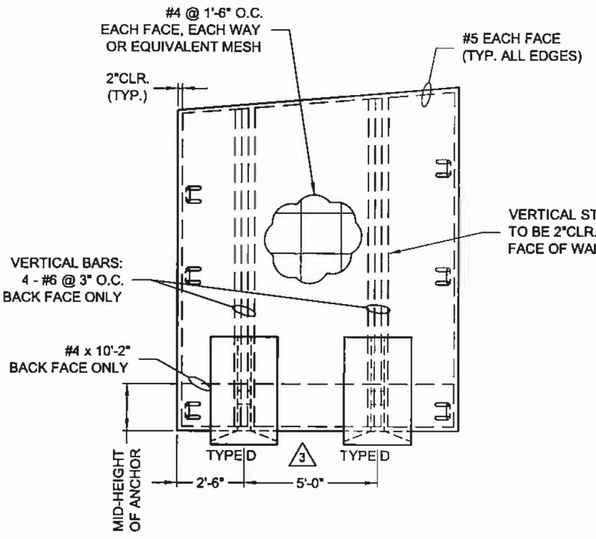
HARTFORD TH#
VERMONT AGENCY OF TRANS
HARTFORD,

I:\MERLIN\PROJECT\ACTIVE\428000\428035\428035-1-CON_SPAN\DRAWINGS\FABRICATION\PRE-428035-001-CS-FAB-F.DWG 5/2/2011 11:47 AM



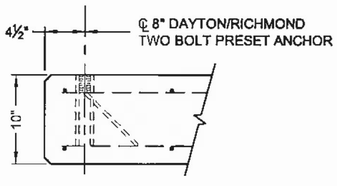
WINGWALL - WW1B

TOTAL WEIGHT = 9.5 TONS 3 4

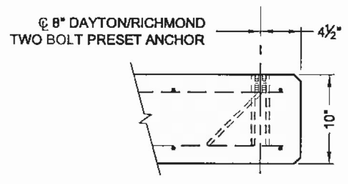


REINFORCING DETAIL - WW1B

(FOR ANCHOR REINFORCING SEE SHEET S25)



SECTION 14



SECTION 15

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others

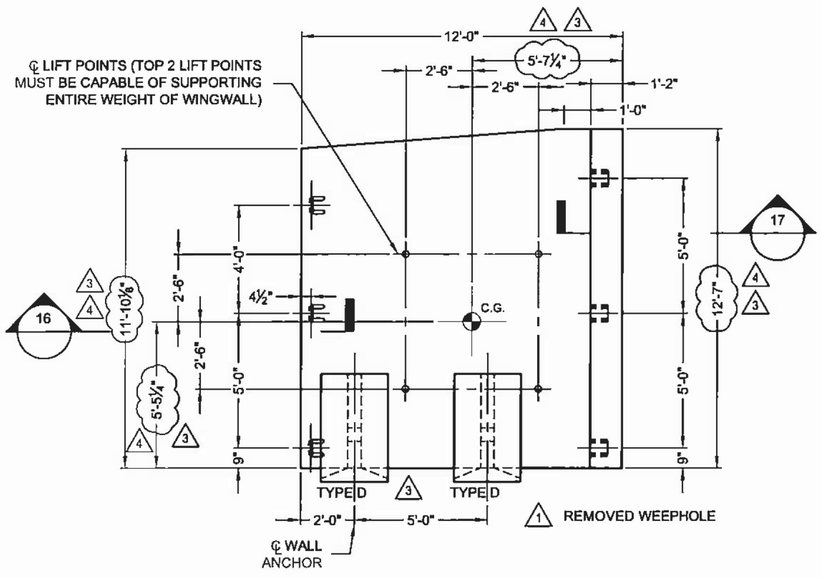
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	NO CHANGES ON THIS SHEET	RKL
4	4/18/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
3	4/8/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
2	4/4/11	NO CHANGES ON THIS SHEET	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

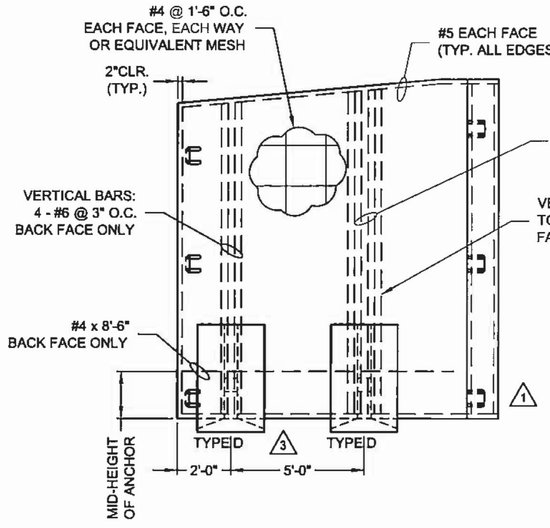
HARTFORD TH#
VERMONT AGENCY OF TRAN
HARTFORD,

I:\MERLIN\PROJECTACT\VE\45600\428035\428035-1-CON_SPAN\BRAWING\SFABRICATION\PRE-428035-001-CSI-FAB-F.DWG 5/2/2011 11:47 AM



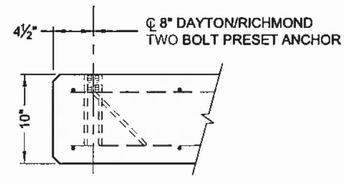
WINGWALL - WW1C

TOTAL WEIGHT = 12.6 TONS

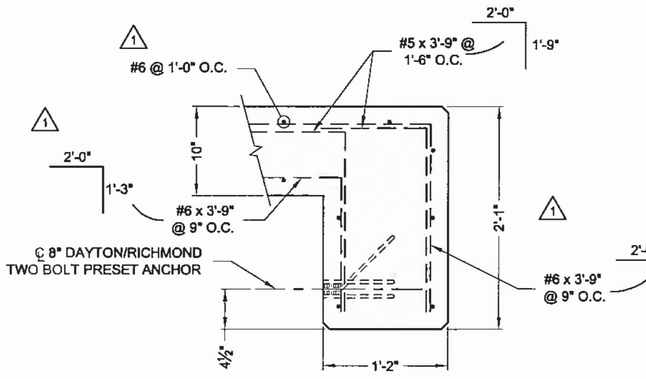


REINFORCING DETAIL - WW1C

(FOR ANCHOR REINFORCING SEE SHEET S25)



SECTION 16



SECTION 17

The design and information shown on the drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

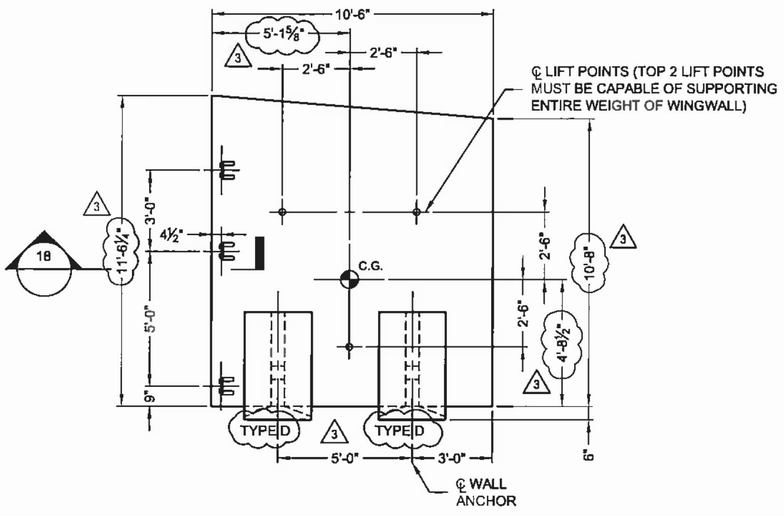
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	NO CHANGES ON THIS SHEET	RKL
4	4/18/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
3	4/8/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
2	4/4/11	NO CHANGES ON THIS SHEET	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

CONTECH® CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

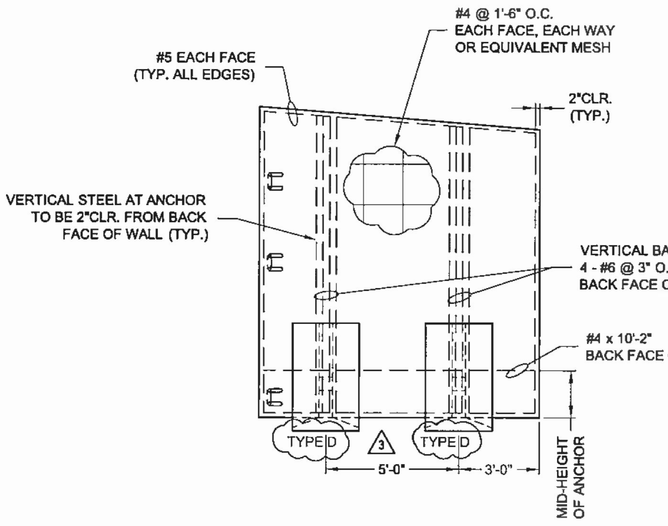
HARTFORD TH#
VERMONT AGENCY OF TRAN
HARTFORD,

I:\MERLIN\PROJECTS\CTV\PEV\436005\435035\435035-1-CON_SPANDRAWINGS\FABRICATION\PRE-436035-001-CS-FAB-F.DWG 5/2/2011 11:47 AM



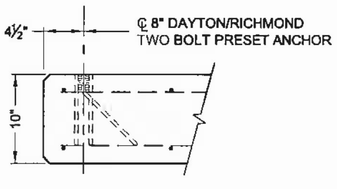
WINGWALL - WW2A

TOTAL WEIGHT = 9.3 TONS ③



REINFORCING DETAIL - WW2A

(FOR ANCHOR REINFORCING SEE SHEET S25)



SECTION 18

Vermont Agency of Transportation

RECEIVED

CK'D BY GML OK'D BY TCF

7:13 am, May 03, 2011

RESUBMIT _____ APPROVED X

BY KMH DATE 5-3-11

This design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies (CONTECH). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on inaccurate, incomplete or inaccurate information supplied by others.

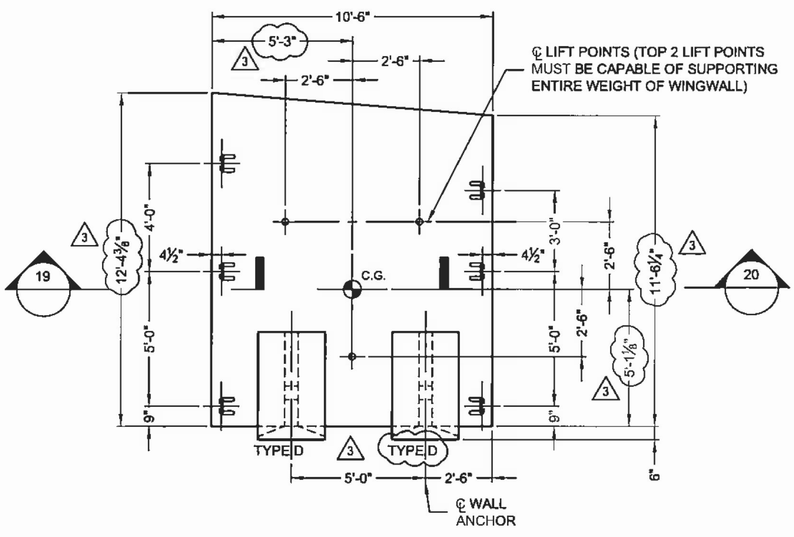
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	NO CHANGES ON THIS SHEET	RKL
4	4/18/2011	NO CHANGES ON THIS SHEET	RKL
3	4/8/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
2	4/4/11	NO CHANGES ON THIS SHEET	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN® BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

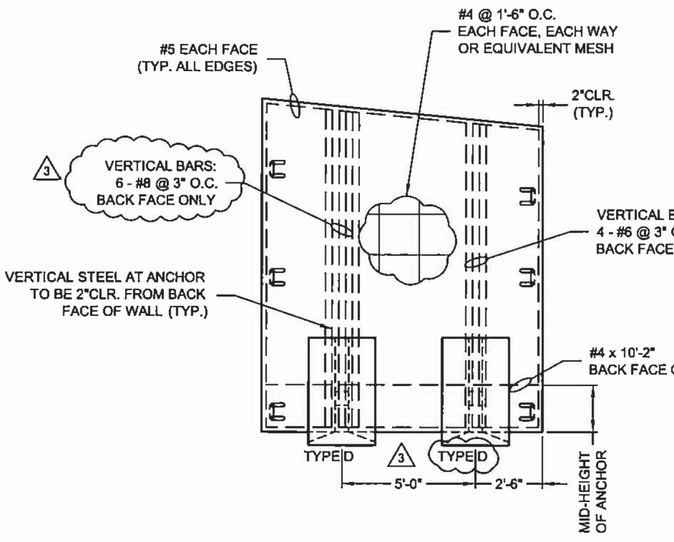
HARTFORD TH#
VERMONT AGENCY OF TRAN
HARTFORD,

I:\MERLIN\PROJECTMGT\VE\428000\428035\428035-1-COM_SPANDRAWINGS\FABRICATION\PRE-428035-001-CS-FAB-F.DWG 5/2/2011 11:47 AM



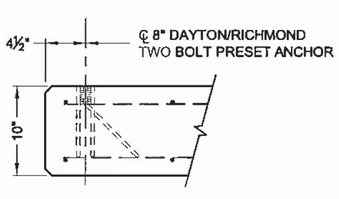
WINGWALL - WW2B

TOTAL WEIGHT = 9.9 TONS ③

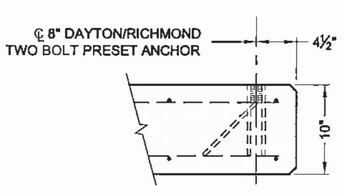


REINFORCING DETAIL - WW2B

(FOR ANCHOR REINFORCING SEE SHEET S25)



SECTION 19



SECTION 20

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done so at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

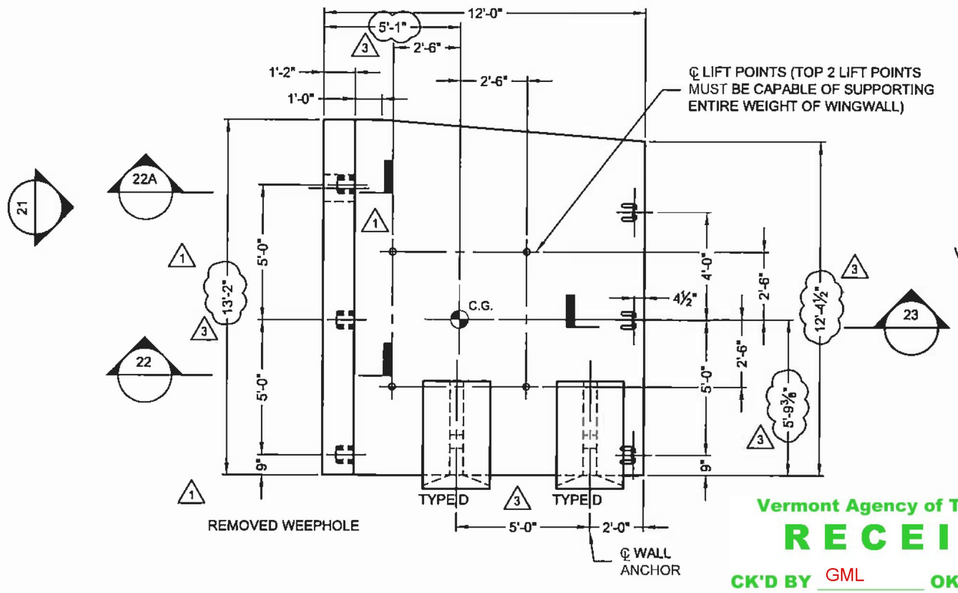
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	NO CHANGES ON THIS SHEET	RKL
4	4/18/2011	NO CHANGES ON THIS SHEET	RKL
3	4/8/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
2	4/4/11	NO CHANGES ON THIS SHEET	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

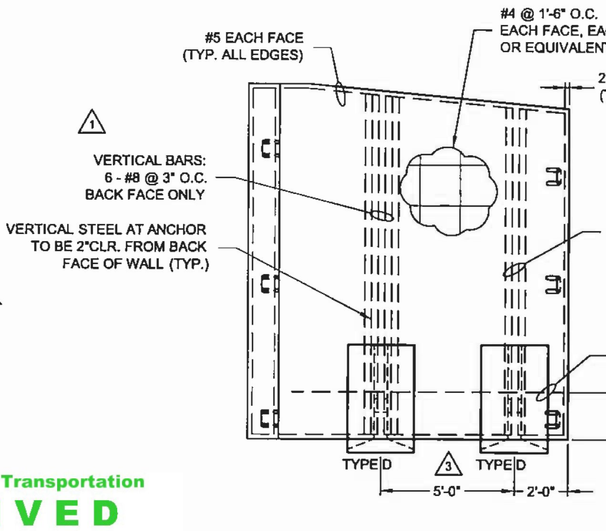
HARTFORD TH#
VERMONT AGENCY OF TRAN
HARTFORD,

I:\MERLIN\PROJECT\ACTIVE\43000\43035\43035-1-CON_SPAN\DRAWING\FABRICATION\PRE-43035-001-CS-FAB-F.DWG 5/2/2011 11:47 AM



WINGWALL - WW2C

TOTAL WEIGHT = 14.4 TONS



REINFORCING DETAIL - WW

(FOR ANCHOR REINFORCING SEE S

Vermont Agency of Transportation

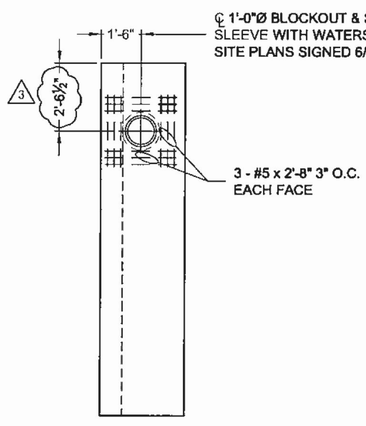
RECEIVED

CK'D BY GML OK'D BY TCF

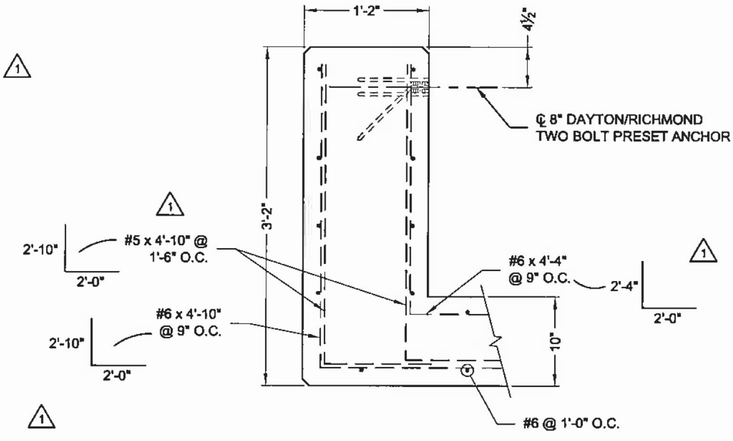
7:13 am, May 03, 2011

RESUBMIT _____ APPROVED X

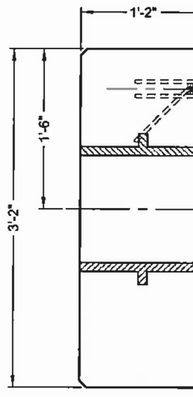
BY KMH DATE 5-3-11



DETAIL 21



SECTION 22



SECTION

MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	NO CHANGES ON THIS SHEET	RKL
4	4/18/2011	NO CHANGES ON THIS SHEET	RKL
3	4/8/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
2	4/4/11	REVISIONS PER REVIEWERS COMMENTS	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

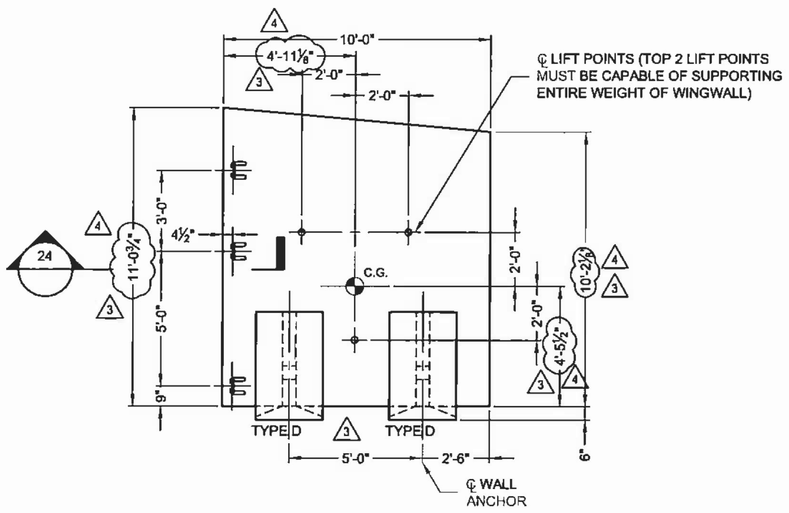
If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

CONTECH® CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN® BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

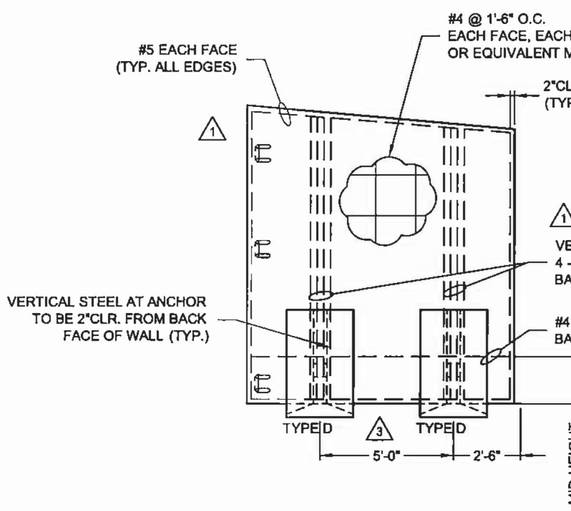
HARTFORD TH#
VERMONT AGENCY OF TRAN
HARTFORD,

I:\MERLIN\PROJECT\CTY\EN\28000\428035\428035-1-CON_SPAN\DRAWINGS\FABRICATION\PRE-428035-001-CS-FAB-F.DWG 5/2/2011 11:47 AM



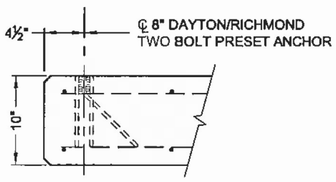
WINGWALL - WW3A

TOTAL WEIGHT = 8.7 TONS 3 4



REINFORCING DETAIL - WW3A

(FOR ANCHOR REINFORCING SEE SHEE



SECTION 24

Vermont Agency of Transpo

RECEIVE

CK'D BY GML OK'D BY T

7:13 am, May 03, 2

RESUBMIT _____ APPROVE

BY KMH DATE

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies (CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

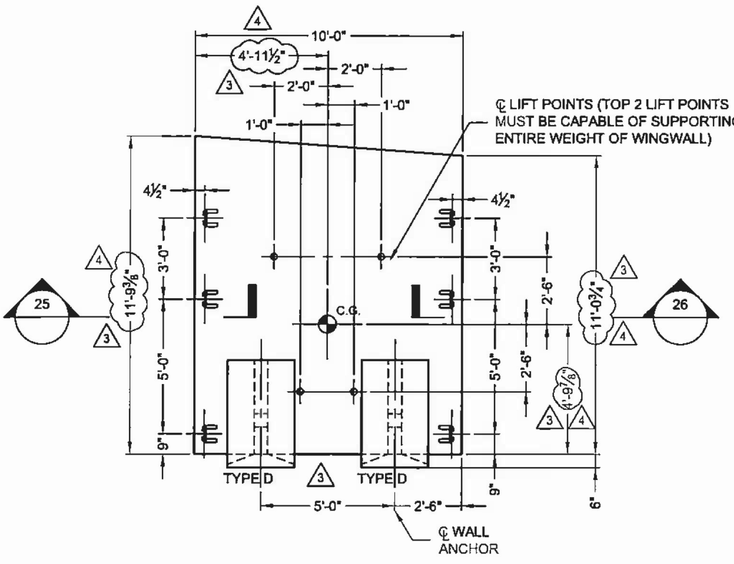
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	NO CHANGES ON THIS SHEET	RKL
4	4/18/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
3	4/8/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
2	4/4/11	NO CHANGES ON THIS SHEET	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

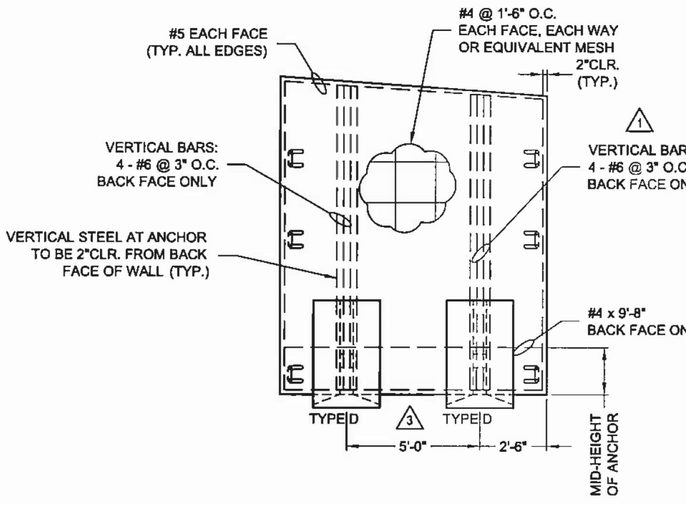
HARTFORD TH#
VERMONT AGENCY OF TRAN
HARTFORD,

I:\ME\ENGPROJECTS\CT\REV\28000\428003\428035-1-CON_SPAN\DRAWINGS\FABRICATION\PRE-428035-001-CS-FAB-F.DWG 5/2/2011 11:47 AM



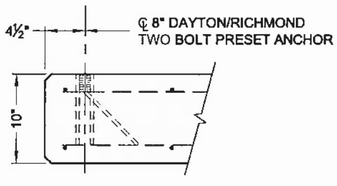
WINGWALL - WW3B

TOTAL WEIGHT ≐ 9.2 TONS 3 4

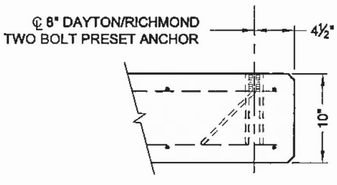


REINFORCING DETAIL - WW3B

(FOR ANCHOR REINFORCING SEE SHEET S25)



SECTION 25



SECTION 26

This design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies (CONTECH). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the User's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered on site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

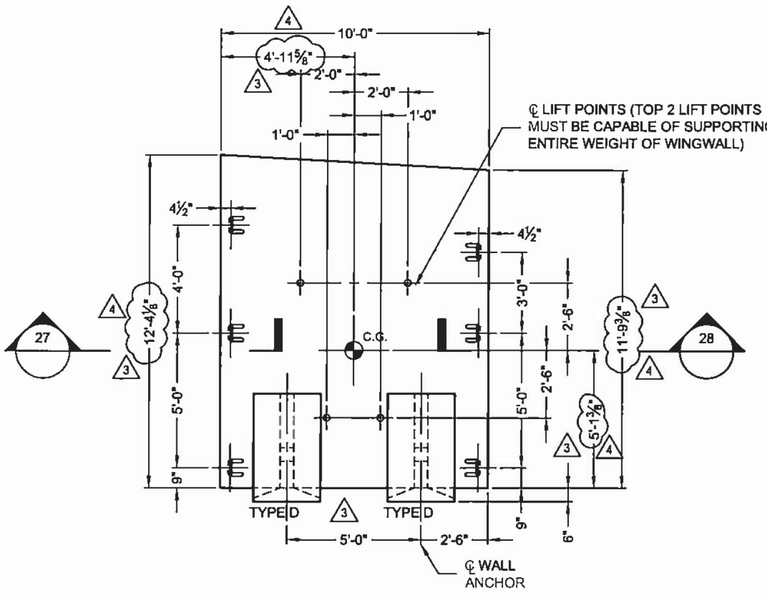
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	NO CHANGES ON THIS SHEET	RKL
4	4/18/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
3	4/8/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
2	4/4/11	NO CHANGES ON THIS SHEET	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN® BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

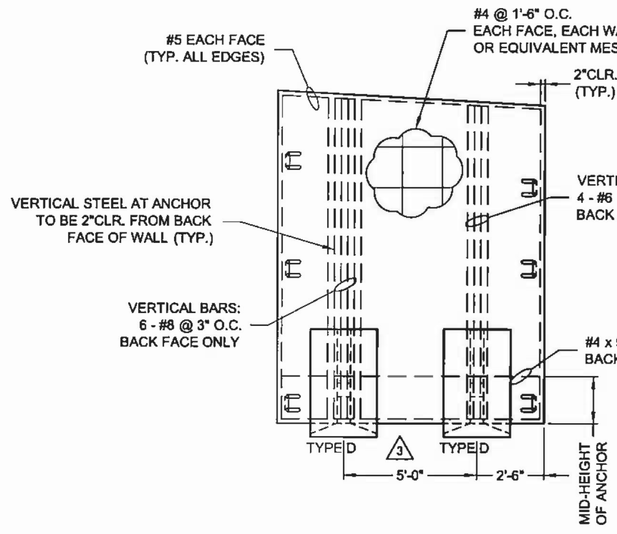
HARTFORD TH#
VERMONT AGENCY OF TRAN
HARTFORD,

I:\MERLIN\PROJECTS\CTVE\428009\428035\428035-1-CON_SP-ANDRAWINGS\FABRICATION\PRE-428035-001-CS-FAB-F.DWG 5/2/2011 11:47 AM



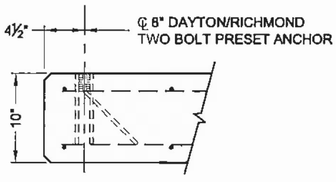
WINGWALL - WW3C

TOTAL WEIGHT = 9.6 TONS 3 4

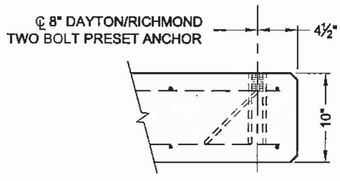


REINFORCING DETAIL - WW3C

(FOR ANCHOR REINFORCING SEE SHEET



SECTION 27



SECTION 28

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies (“CONTECH”). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user’s own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which this drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on inaccurate, incomplete or inaccurate information supplied by others.

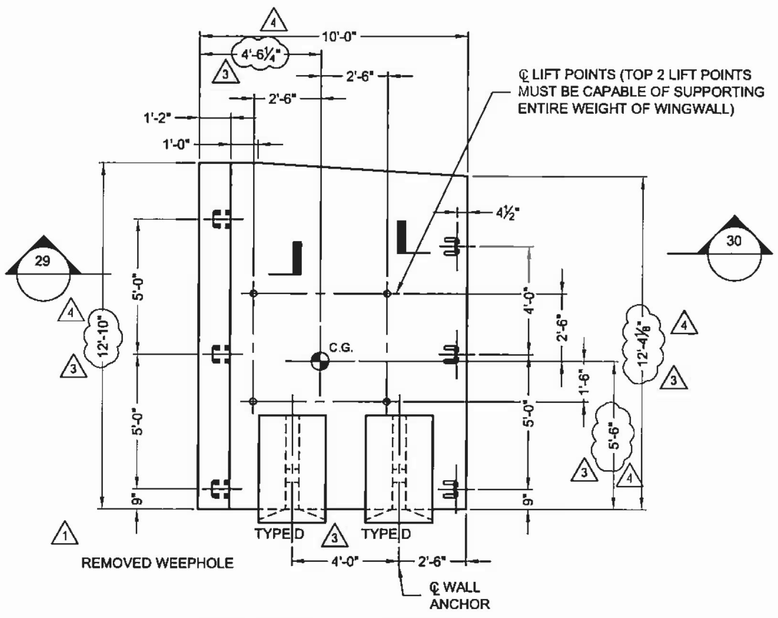
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	NO CHANGES ON THIS SHEET	RKL
4	4/18/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
3	4/8/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
2	4/4/11	NO CHANGES ON THIS SHEET	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CON/SPAN® BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

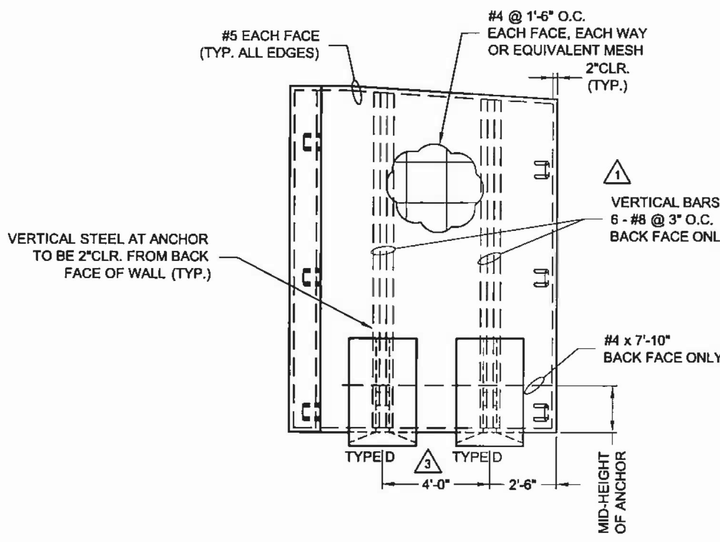
HARTFORD TH#
VERMONT AGENCY OF TRAN
HARTFORD,

I:\MERLIN\PROJECT\ACTIVE\28000\28035\28035-1-CON_SP\NYDRAW\NGS\FABRICATION\PRE-28035-001-CS-FAB-F.DWG 5/2/2011 11:48 AM



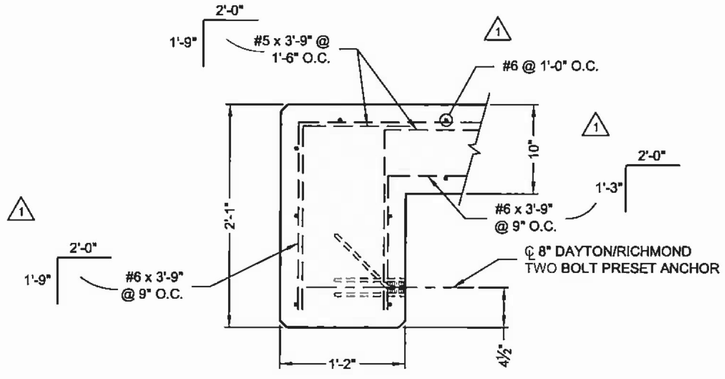
WINGWALL - WW3D

TOTAL WEIGHT = 11.4 TONS 3 4

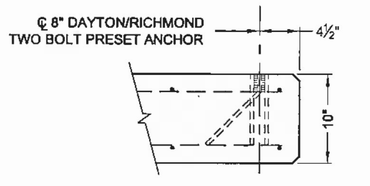


REINFORCING DETAIL - WW3D

(FOR ANCHOR REINFORCING SEE SHEET S25)



SECTION 29



SECTION 30

The design and information shown on the drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as the work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on inaccurate, incomplete or inaccurate information supplied by others.

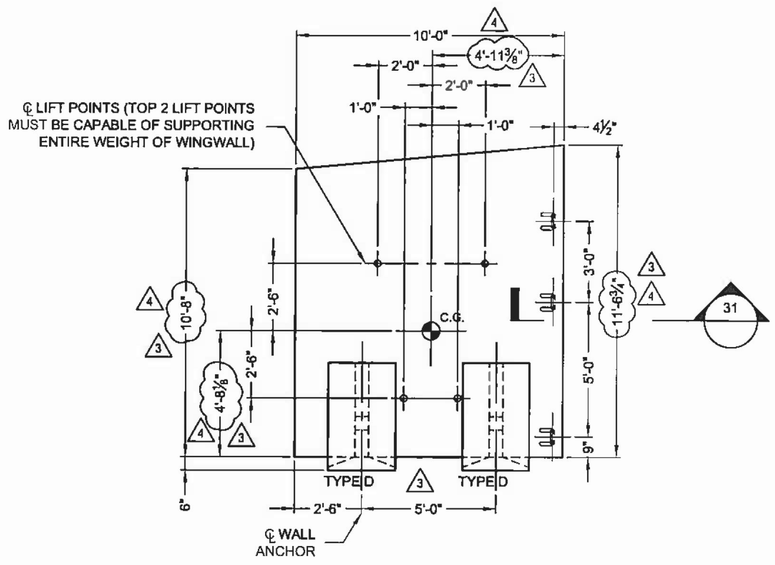
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	NO CHANGES ON THIS SHEET	RKL
4	4/18/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
3	4/8/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
2	4/4/11	NO CHANGES ON THIS SHEET	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

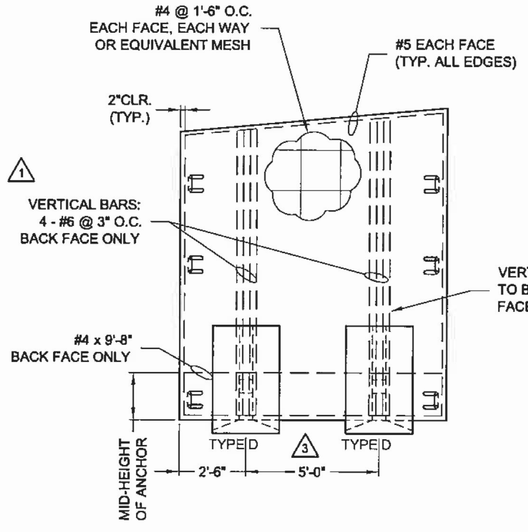
HARTFORD TH#
VERMONT AGENCY OF TRAN
HARTFORD,

I:\MERLIN\PROJECT\ACTIVE\428009\428325\428035-1-CON_SP\ANDRAWINGS\FABRICATION\PRE-428035-001-CS-FAB.F DWG 5/2/2011 11:48 AM



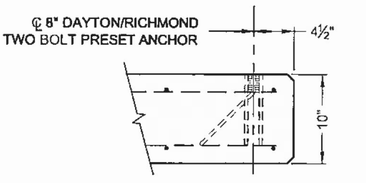
WINGWALL - WW4A

TOTAL WEIGHT = 9.0 TONS (4)



REINFORCING DETAIL - WW4A

(FOR ANCHOR REINFORCING SEE SHEET S25



SECTION 31

This design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which this drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

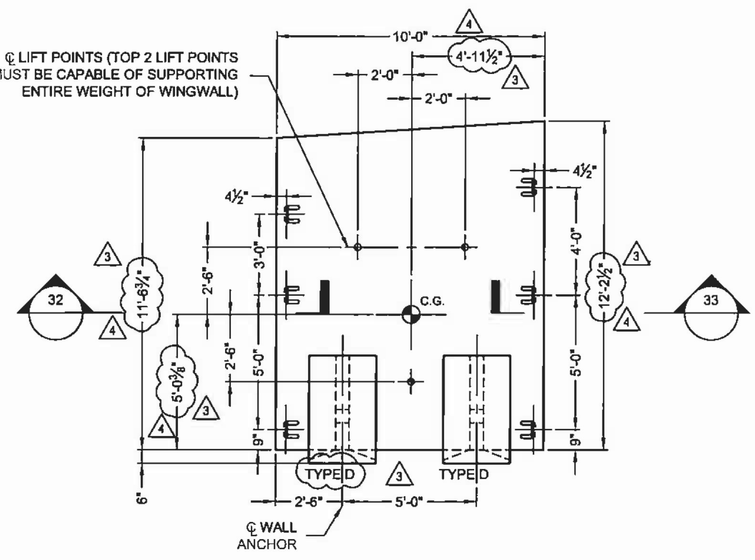
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	NO CHANGES ON THIS SHEET	RKL
4	4/18/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
3	4/8/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
2	4/4/11	NO CHANGES ON THIS SHEET	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN® BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

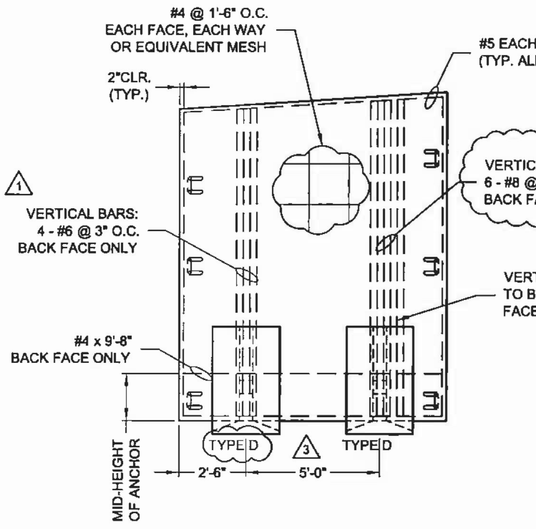
HARTFORD TH#
VERMONT AGENCY OF TRAN
HARTFORD,

I:\MER\WP\PROJECT\CT\VE\42600\428035\428035-1-CON_SPAN\DRAWINGS\FABRICATION\PRE-428035-001-CS-FAB-F.DWG 5/2/2011 11:48 AM



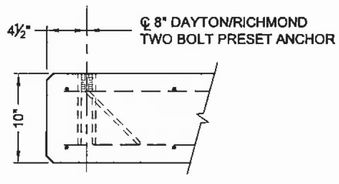
WINGWALL - WW4B

TOTAL WEIGHT = 9.5 TONS 3 4

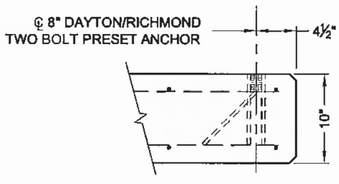


REINFORCING DETAIL - WW4B

(FOR ANCHOR REINFORCING SEE SHEET



SECTION 32



SECTION 33

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as the work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

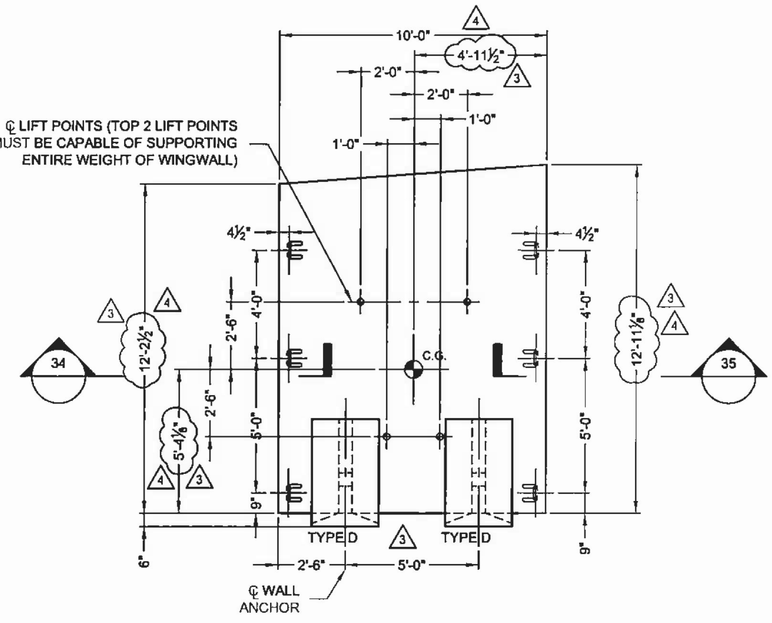
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	NO CHANGES ON THIS SHEET	RKL
4	4/18/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
3	4/8/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
2	4/4/11	NO CHANGES ON THIS SHEET	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN® BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

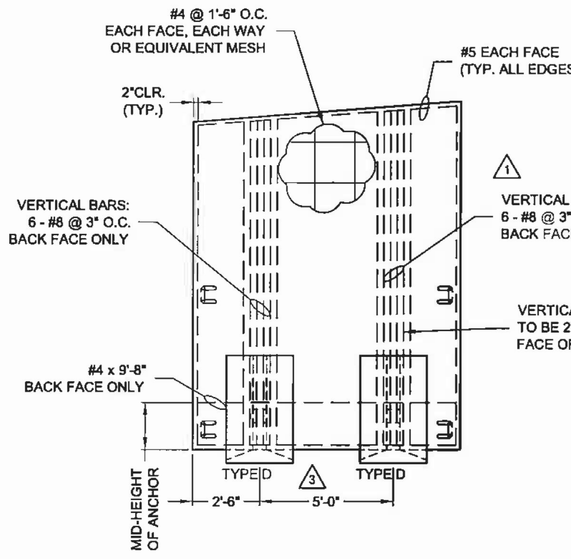
HARTFORD TH#
VERMONT AGENCY OF TRAN
HARTFORD,

I:\MERLIN\PROJECT\CTVIEW\28000\28039\28035-1-CON_SPAN\DRAWINGS\FABRICATION\PRE-4\28035-001-CS-FAB-F.DWG 5/2/2011 11:48 AM



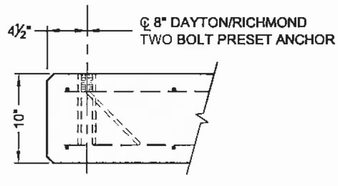
WINGWALL - WW4C

TOTAL WEIGHT = 9.9 TONS 3 4

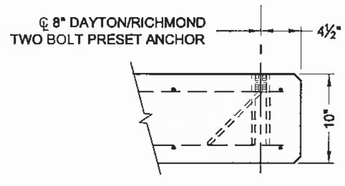


REINFORCING DETAIL - WW4C

(FOR ANCHOR REINFORCING SEE SHEET S2



SECTION 34



SECTION 35

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as the work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

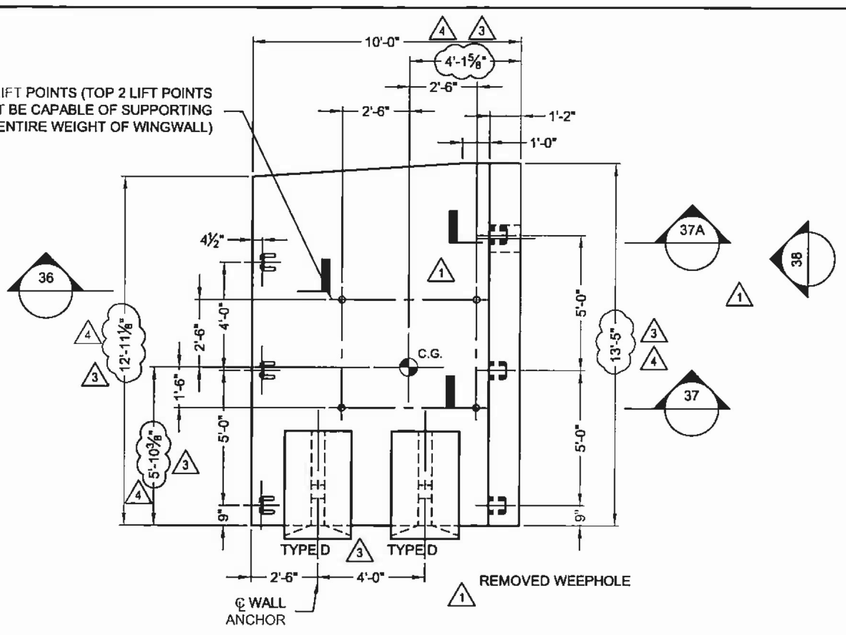
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	NO CHANGES ON THIS SHEET	RKL
4	4/18/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
3	4/8/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
2	4/4/11	NO CHANGES ON THIS SHEET	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

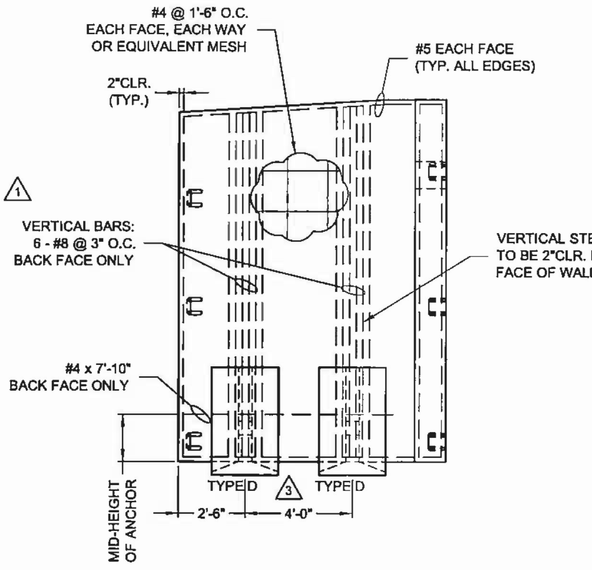
HARTFORD TH#
VERMONT AGENCY OF TRAN
HARTFORD,

I:\MERLIN\PROJECT\ACTIVE\428000\428035\428035-1-CON_SP\ANDRAWING\SFABRICATION\PRE-428035-001-C3-FAB-F.DWG 5/2/2011 11:48 AM



WINGWALL - WW4D

TOTAL WEIGHT = 13.1 TONS



REINFORCING DETAIL - WW4D

(FOR ANCHOR REINFORCING SEE SHEET S25)

Vermont Agency of Transportation

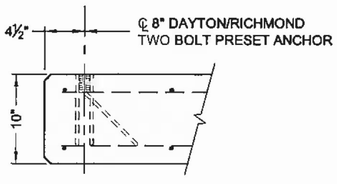
RECEIVED

CK'D BY GML OK'D BY TCF

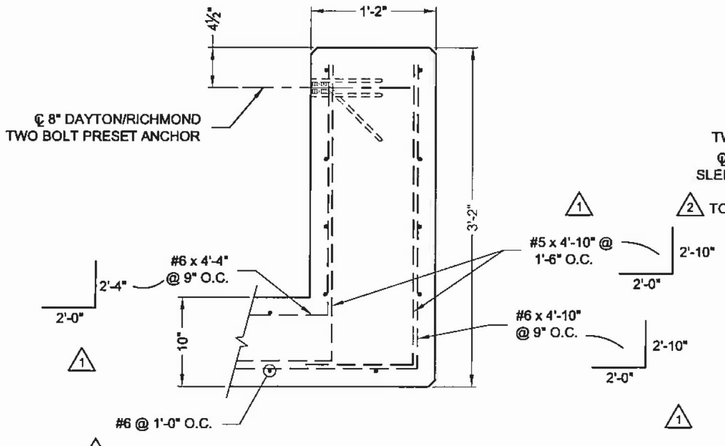
7:13 am, May 03, 2011

RESUBMIT ____ APPROVED X

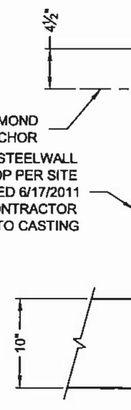
BY KMH DATE 5-3-11



SECTION 36



SECTION 37



SECTION

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	NO CHANGES ON THIS SHEET	RKL
4	4/18/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
3	4/8/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
2	4/4/11	REVISIONS PER REVIEWERS COMMENTS	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

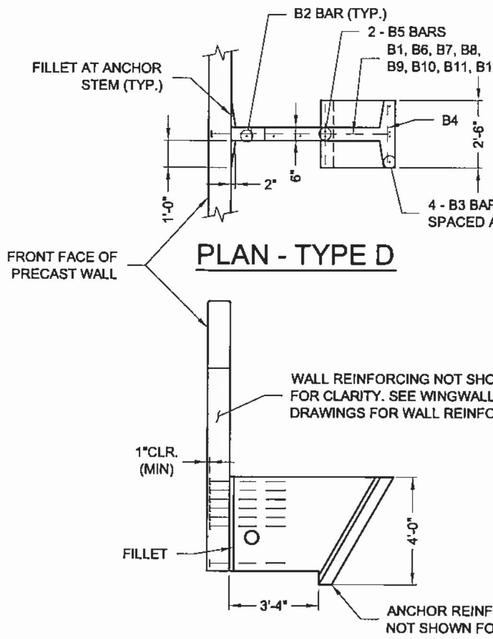
CONTECH® CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

HARTFORD TH#
VERMONT AGENCY OF TRAN
HARTFORD,

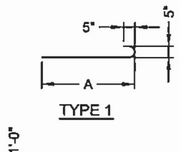
I:\MERLIN\PROJECT\ACTIVE\42800\42803\42803-1-CON_SP\MODHWK\SF\FABRICATION\PRE-42803S-001-CS-FAB-F.DWG 5/2/2011 11:48 AM

3
REMOVED ANCHOR C

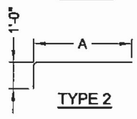


PLAN - TYPE D

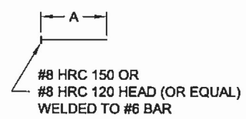
SECTION - TYPE D



TYPE 1



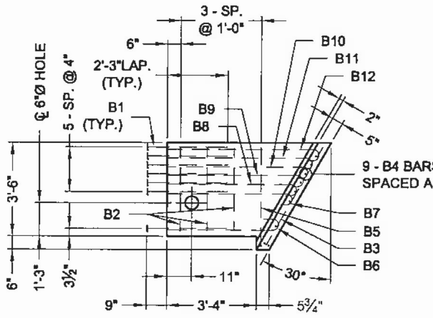
TYPE 2



TYPE 3
(EPOXY COATED*)

*NOTE: EPOXY COATING IS NOT REQUIRED ON HEADED ENDS OF TYPE 3 BARS, BUT WILL NOT BE DETRIMENTAL IF PROVIDED.

*NOTE: HRC HEADS PROVIDED BY HEADED REINFORCEMENT CORP.



PRECAST ANCHOR
TYPE D

TOTAL WEIGHT = 1.028 TONS

This design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its **affiliated** companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

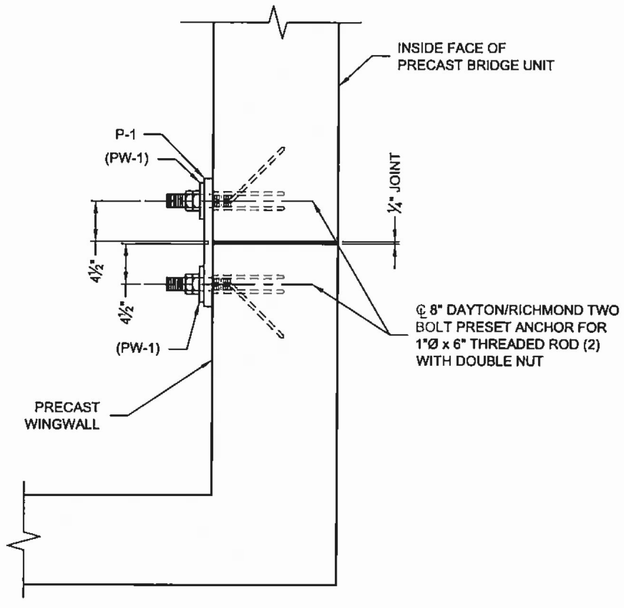
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	NO CHANGES ON THIS SHEET	RKL
4	4/18/2011	NO CHANGES ON THIS SHEET	RKL
3	4/8/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
2	4/4/11	NO CHANGES ON THIS SHEET	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CON SPAN® BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

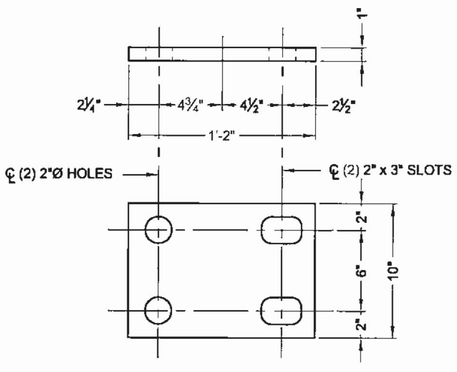
HARTFORD TH#
VERMONT AGENCY OF TRANS
HARTFORD,

I:\MERLIN\PROJECT\ACTIVE\42800\428035\428035-I-CON_SPAN\DRAWINGS\FABRICATION\PRE-428035-001-CS-FAB-F.DWG 5/2/2011 11:48 AM



PLAN VIEW

TYPICAL CONNECTION DETAIL - P-1



P-1

(℄, 1" x 14" x 10")
(GALVANIZED AS PER ASTM A153)

PLATE P-1
TOTAL REQUIRED = 42 (4) PW-1 REQ'D. PER PLATE

45° BEND
(TYP. 2 STRUTS)

SID

TWO

V

CK'

RES
BY

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

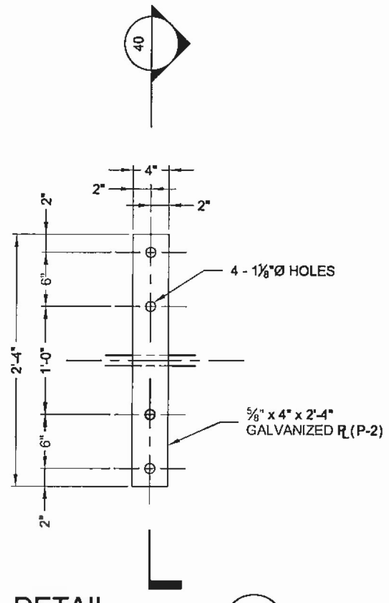
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	NO CHANGES ON THIS SHEET	RKL
4	4/18/2011	NO CHANGES ON THIS SHEET	RKL
3	4/8/2011	NO CHANGES ON THIS SHEET	RKL
2	4/4/11	NO CHANGES ON THIS SHEET	RKL
1	3/10/2011	NO CHANGES ON THIS SHEET	RKL

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

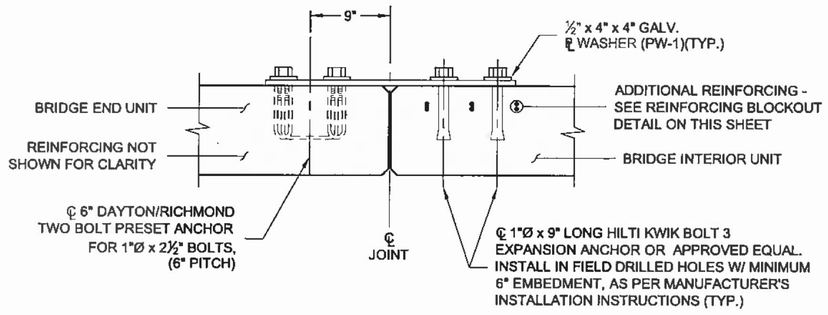
CONSPAN® BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

HARTFORD TH#
VERMONT AGENCY OF TRAN
HARTFORD,

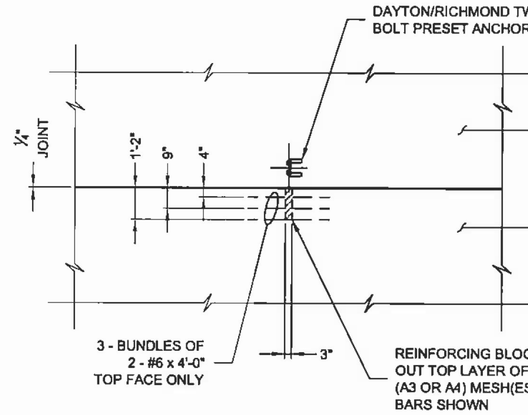
I:\MERLIN\PROJECT\ACTIVE\28000\28035\28035-1-CON_SPAN\DRAWING\SF\FABRICATION\PRE-428035-001-CS-FAB-F.DWG 5/2/2011 11:48 AM



DETAIL 39 / S1



SECTION 40



REINFORCING BLOCKOUT DETAIL

PLATE P-2
TOTAL REQUIRED = 4 (4) PW-1 REQ'D. PER PLATE

Vermont Age
R E C
CK'D BY GML
7:13 an
RESUBMIT
BY KMH

This design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

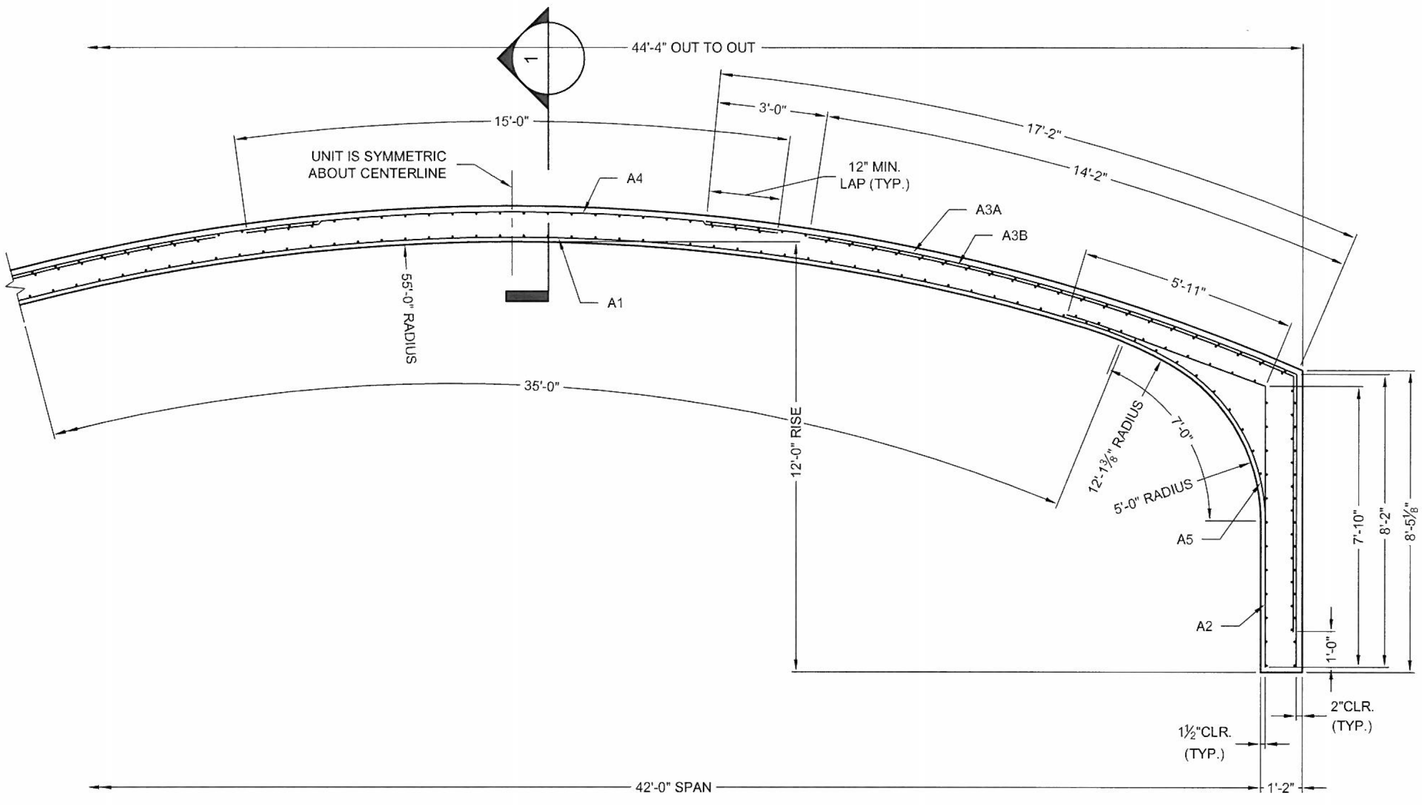
MARK	DATE	REVISION DESCRIPTION	BY
5	4/27/2011	NO CHANGES ON THIS SHEET	RKL
4	4/18/2011	NO CHANGES ON THIS SHEET	RKL
3	4/8/2011	NO CHANGES ON THIS SHEET	RKL
2	4/4/11	NO CHANGES ON THIS SHEET	RKL
1	3/10/2011	NO CHANGES ON THIS SHEET	RKL

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

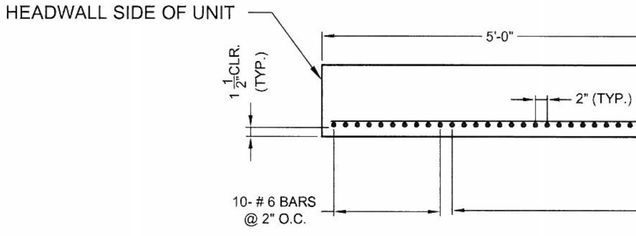
HARTFORD TH#
VERMONT AGENCY OF TRAN
HARTFORD,

I:\MERLIN\PROJECT\ACTIVE\42800\428035\428035-1-CON_SP\ANDRAW\ACSFABRICATION\PRE-428035-001-CS-FAB-F.DWG 5/27/2011 11:48 AM



PRECAST UNIT REINFORCEMENT

UNIT C1 ONLY



WEIGHT OF REQUIRED REINFORCEMENT = 513 LBS/FT

SHEET NO.	CIRCUMFERENTIAL AREA REQ'D (IN²/FT)	LONGITUDINAL AREA REQ'D (IN²/FT)	MESH SIZE	LENGTH (FT)	CIRCUMFERENTIAL AREA SUPL'D (IN²/FT)	LONGITUDINAL AREA SUPL'D (IN²/FT)
1	A1 = 1.44	0.13	ALTERNATE #4 @ 4" O.C.WITH #5 @ 4" O.C.	35'-0"	1.53	0.30
3	A2 = 0.48	0.13	4 x 6 W8 x W6.5 + #4 EA 10" CIRC	13'-9"	0.48	0.13
4	A3A = 0.72	0.07	2 x 6 W10 x W6.5 + #4 EA 18" CIRC	25'-4"	0.72	0.13
5	A3B = 0.72	0.06	2 x 6 W10 x W6.5 + #4 EA 18" CIRC	21'-4"	0.72	0.13
6	A4 = 0.48	0.13	4 x 6 W8 x W6.5 + #4 EA 18" CIRC	15'-0"	0.48	0.13
7	A5 = 0.24	0.13	4 x 6 W8 x W6.5	7'-0"	0.24	0.13

DESIGN LOADING: HL-93

COVER = 6" MIN. \ 8⅜" MAX.

SECTION 1

MARK	DATE	REVISION DESCRIPTION	BY
7	06/27/2011	C1 UNIT REINFORCING	RKL
6	05/05/2011	APPROVED FOR CONSTRUCTION	RKL
5	4/27/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
4	4/18/2011	NO CHANGES ON THIS SHEET	RKL
3	4/8/2011	NO CHANGES ON THIS SHEET	RKL
2	4/4/11	NO CHANGES ON THIS SHEET	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

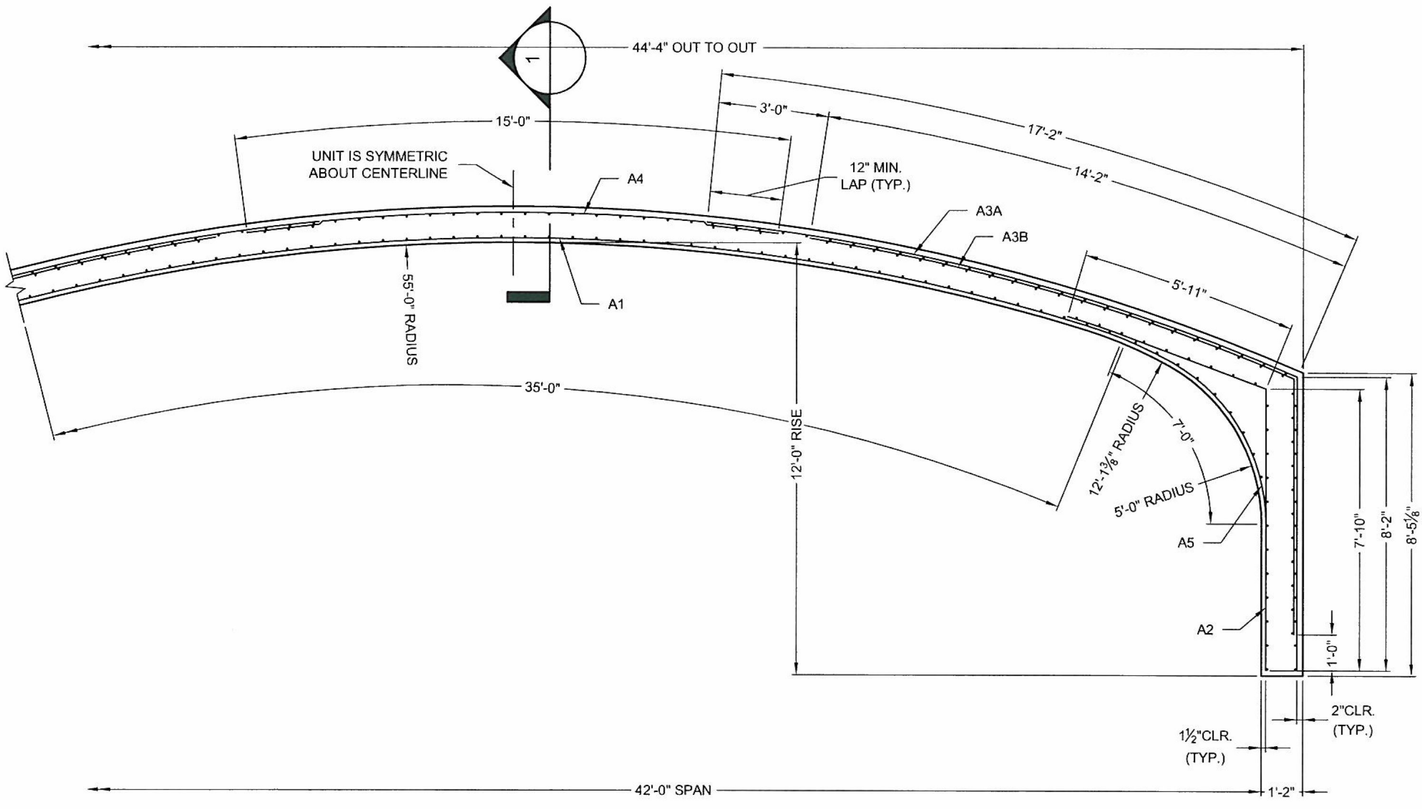
If discrepancies between the supplied information upon which this drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN® BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

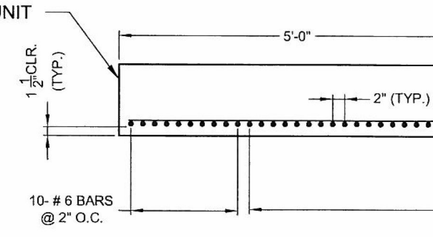
HARTFORD TH#
VERMONT AGENCY OF TRAN
HARTFORD

I:\MERLIN\PROJECTACTIVE\428000\428035\428035-1-CON_SPAN\DRAWINGS\FABRICATION\C1 REINFORCING.DWG 6/27/2011 2:06 PM



PRECAST UNIT REINFORCEMENT
UNIT C2 ONLY

HEADWALL SIDE OF UNIT



SECTION 1

WEIGHT OF REQUIRED REINFORCEMENT = 513 LBS/FT

SHEET NO.	CIRCUMFERENTIAL AREA REQ'D (IN²/FT)	LONGITUDINAL AREA REQ'D (IN²/FT)	MESH SIZE	LENGTH (FT)	CIRCUMFERENTIAL AREA SUPL'D (IN²/FT)	LONGITUDINAL AREA SUPL'D (IN²/FT)
1	A1 = 1.44	0.13	ALTERNATE #4 @ 4" O.C.WITH #5 @ 4" O.C.	35'-0"	1.53	0.30
3	A2 = 0.48	0.13	4 x 6 W8 x W6.5 + #4 EA 10" CIRC	13'-9"	0.48	0.13
4	A3A = 0.72	0.07	2 x 6 W10 x W6.5 + #4 EA 18" CIRC	25'-4"	0.72	0.13
5	A3B = 0.72	0.06	2 x 6 W10 x W6.5 + #4 EA 18" CIRC	21'-4"	0.72	0.13
6	A4 = 0.48	0.13	4 x 6 W8 x W6.5 + #4 EA 18" CIRC	15'-0"	0.48	0.13
7	A5 = 0.24	0.13	4 x 6 W8 x W6.5	7'-0"	0.24	0.13

DESIGN LOADING: HL-93

COVER = 6" MIN. \ 8 ⅜" MAX.

MARK	DATE	REVISION DESCRIPTION	BY
7	06/27/2011	C2 UNIT REINFORCING	RKL
6	05/05/2011	APPROVED FOR CONSTRUCTION	RKL
5	4/27/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
4	4/18/2011	NO CHANGES ON THIS SHEET	RKL
3	4/8/2011	NO CHANGES ON THIS SHEET	RKL
2	4/4/11	NO CHANGES ON THIS SHEET	RKL
1	3/10/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

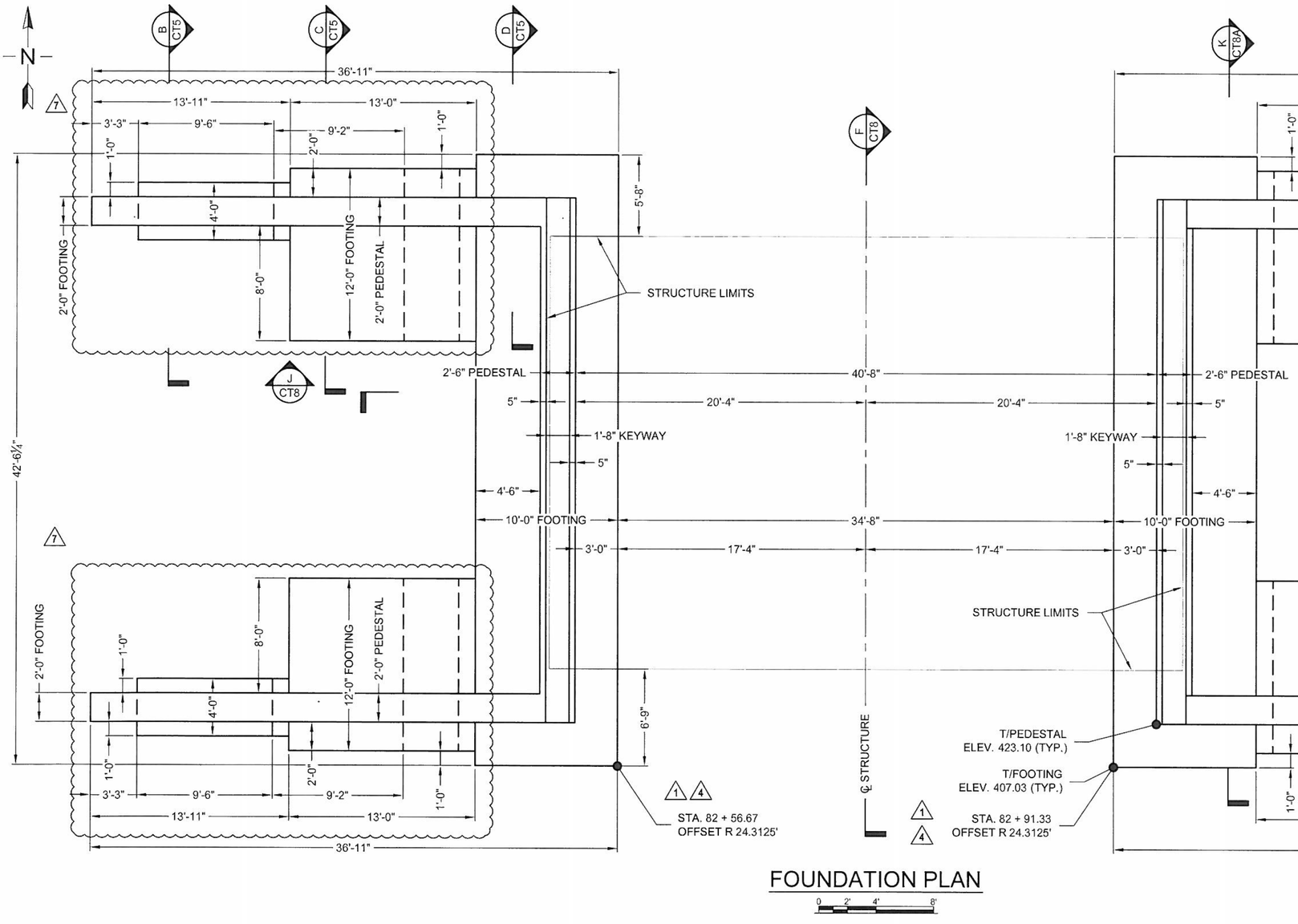
If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONSPAN® BRIDGE SYSTEMS
CONTECH FABRICATION DRAWING

HARTFORD TH
VERMONT AGENCY OF TRAN
HARTFORD

I:\MERLIN\PROJECT\ACTIVE\428000\428035\428035-1-CON_SPAN\DRAWINGS\FABRICATION\C2 REINFORCING.DWG 6/27/2011 11:57 AM



FOUNDATION PLAN

0 2' 4' 8'

MARK	DATE	REVISION DESCRIPTION	BY
7	6/21/2011	FOUNDATION REVISED	RKL
6	6/3/2011	FOUNDATION REVISED	RKL
5	4/26/2011	NO CHANGES ON THIS SHEET	RKL
4	4/18/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
3	4/6/2011	NO CHANGES ON THIS SHEET	RKL
2	4/4/2011	NO CHANGES ON THIS SHEET	RKL
1	3/8/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

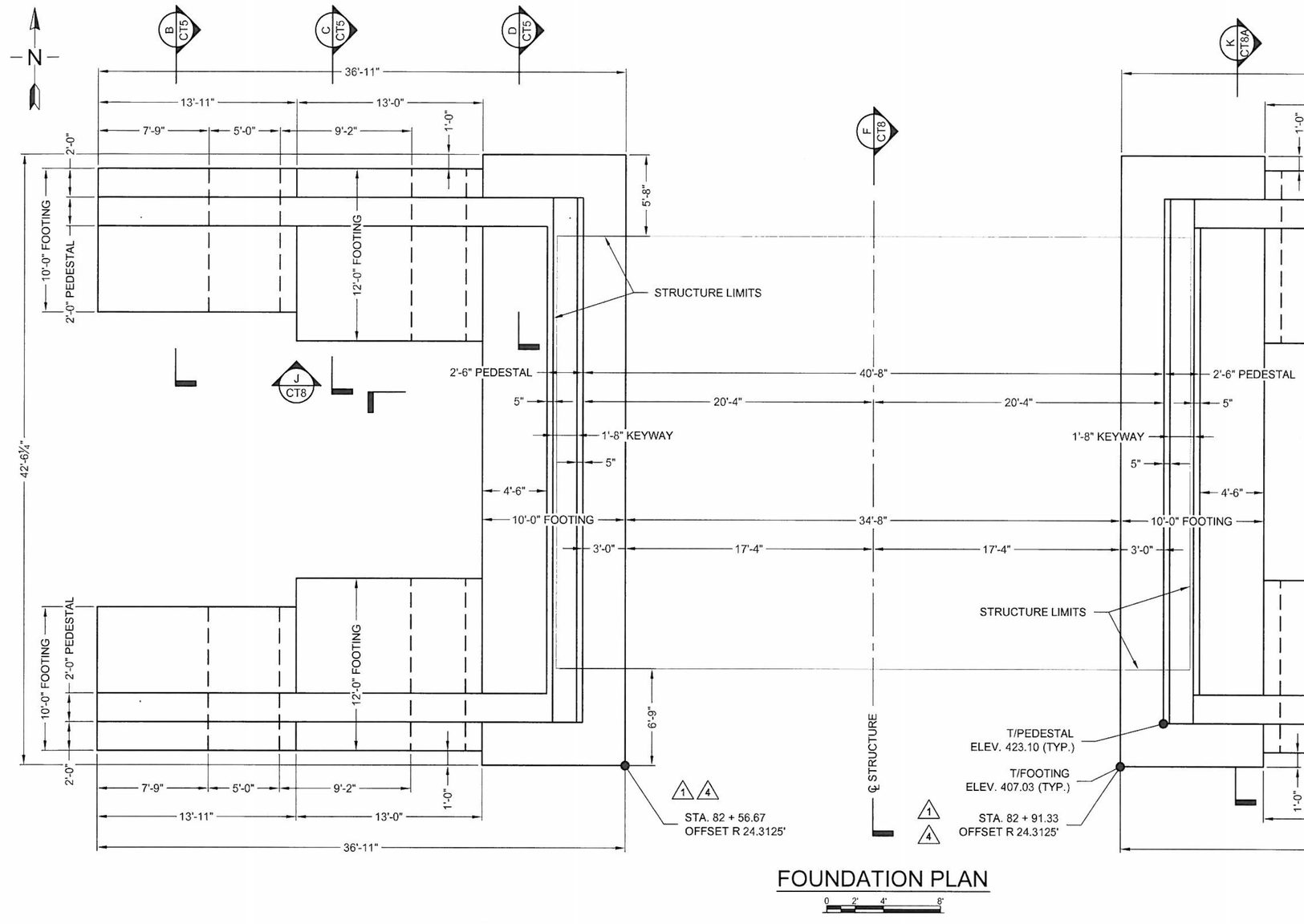
If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
5670 Greenwood Plaza Blvd., Suite 530, Greenwood Village, CO 80111
800-526-3999 720-587-2700 720-587-2651 FAX

CONSPAN® BRIDGE SYSTEMS
CONTECH CONTRACT DRAWING

HARTFORD TH
VERMONT AGENCY OF TRA
HARTFORD

I:\MERLIN\PROJECTACTIVE\428000-428035\428035-1-CON_SPAN\DRAWINGS\CONTRACT\PRE-428035-001-CS-CON-1.DWG 6/21/2011 2:58 PM



FOUNDATION PLAN

0 2' 4' 8'

MARK	DATE	REVISION DESCRIPTION	BY
6	6/3/2011	FOUNDATION REVISED	RKL
5	4/26/2011	NO CHANGES ON THIS SHEET	RKL
4	4/18/2011	REVISIONS PER REVIEWERS COMMENTS	RKL
3	4/6/2011	NO CHANGES ON THIS SHEET	RKL
2	4/4/2011	NO CHANGES ON THIS SHEET	RKL
1	3/8/2011	REVISIONS PER REVIEWERS COMMENTS	RKL

This design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by CONTECH Construction Products Inc. or one of its affiliated companies ("CONTECH"). Neither this drawing nor any part thereof may be used, reproduced or modified in any manner without the prior written consent of CONTECH. Failure to comply is done at the user's own risk and CONTECH expressly disclaims any liability or responsibility for such use.

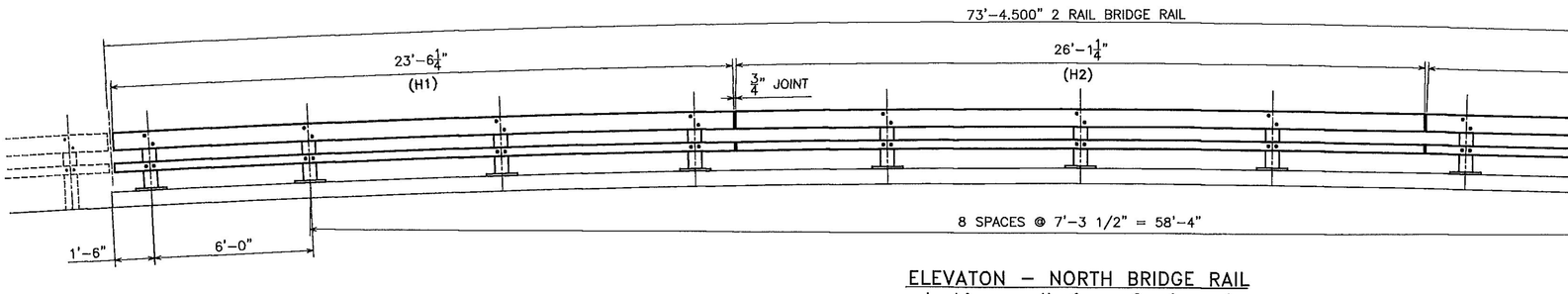
If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered on site work progresses, these discrepancies must be reported to CONTECH immediately for re-evaluation of the design. CONTECH accepts no liability for designs based on assuming incomplete or inaccurate information supplied by others.

CONTECH®
CONSTRUCTION PRODUCTS INC.
www.contech-cpi.com
5670 Greenwood Plaza Blvd., Suite 530, Greenwood Village, CO 80111
800-526-3999 720-587-2700 720-587-2651 FAX

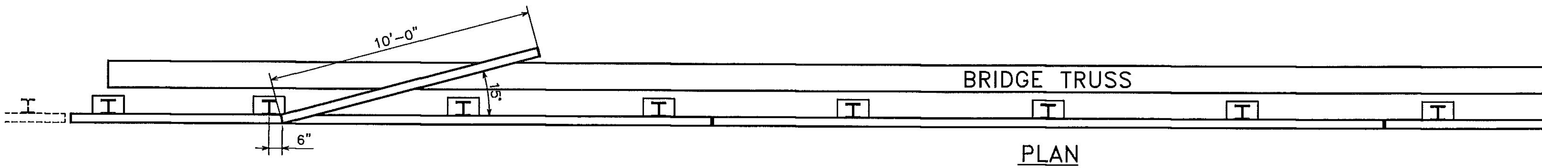
CONSPAN® BRIDGE SYSTEMS
CONTECH CONTRACT DRAWING

HARTFORD TH
VERMONT AGENCY OF TRA
HARTFORD

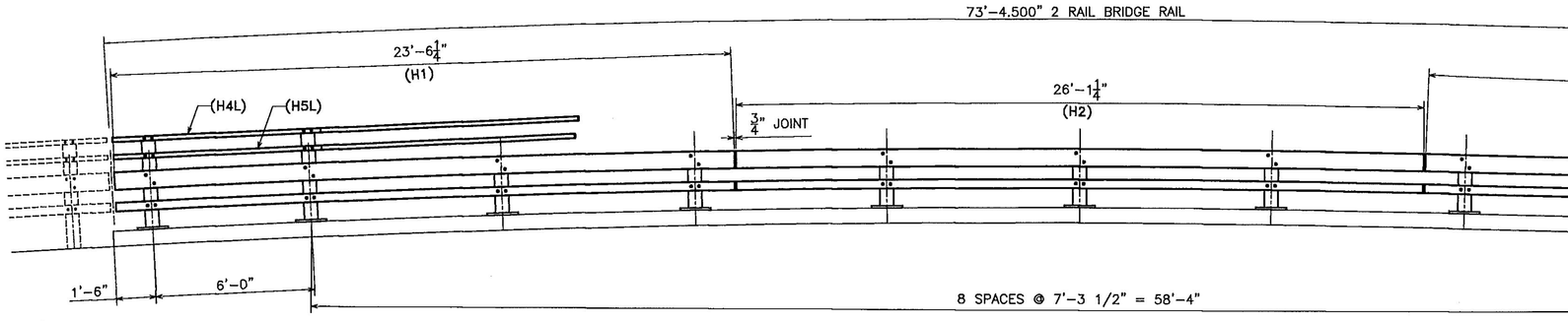
I:\MERLIN\PROJECTACTIVE\428000-428035\428035-1-CON_SPAN\DRAWINGS\CONTRACT\PRE-428035-001-CS-CON-H DWG 6/6/2011 8:15 AM



ELEVATON – NORTH BRIDGE RAIL
looking north from ℄ of road



PLAN



ELEVATON – SOUTH BRIDGE RAIL
looking south from ℄ of road

BILL OF MATERIAL (BOTH SIDES)

Mk.#	Qty.	Description	Size/Shape	Length/qty. per unit	Material
		PED POST			
	18	BRIDGE RAIL PED POST 2'-2 3/8" OAH W/ BASE PLATE			
	18	POST UPRIGHT	W6 x 25	2'-1 3/8"	A709 Gr. 50
	18	POST BASE PLATE	10" x 1"	1'-2"	A709 Gr. 50
	4	BRIDGE RAIL PED POST 3'-6 7/8" OAH W/ BASE PLATE			
	4	POST UPRIGHT	W6 x 25	3'-5 7/8"	A709 Gr. 50
	4	POST BASE PLATE	10" x 1"	1'-2"	A709 Gr. 50
		SPLICES			
	8	SPLICE TUBE FOR 8 x 4 RAIL	TS 7x3x3/8	1'-8"	A500 Gr. B
	8	SPLICE TUBE FOR 4 x4 RAIL	TS 3x3x5/16	1'-8"	A500 Gr. B
	32	WELDED LOCK NUT (OUTER HOLES ONLY)	5/8"	---	A563
	4	SPLICE PLATE FOR 2 x4 RAIL	3 1/4" x 1 1/4"	1'-8"	A36
		TUBES			
H1	2	UPPER RAIL (SHOP CURVED)	TS 8x4x5/16	23'-6 1/4"	A500 Gr. B
	2	LOWER RAIL (SHOP CURVED)	TS 4x4x1/4	23'-6 1/4"	A500 Gr. B
H2	2	UPPER RAIL (SHOP CURVED)	TS 8x4x5/16	26'-1 1/4"	A500 Gr. B
	2	LOWER RAIL (SHOP CURVED)	TS 4x4x1/4	26'-1 1/4"	A500 Gr. B
H3	2	UPPER RAIL (SHOP CURVED)	TS 8x4x5/16	23'-6 1/4"	A500 Gr. B
	2	LOWER RAIL (SHOP CURVED)	TS 4x4x1/4	23'-6 1/4"	A500 Gr. B
H4L	1	ANGLED UPPER RAIL W/CAP	TS 2x4x1/4	17'-10 3/4"	A500 Gr. B
H5L	1	ANGLED LOWER RAIL W/CAP	TS 2x4x1/4	17'-10 3/4"	A500 Gr. B
H4R	1	ANGLED UPPER RAIL W/CAP	TS 2x4x1/4	17'-10 3/4"	A500 Gr. B
H5R	1	ANGLED LOWER RAIL W/CAP	TS 2x4x1/4	17'-10 3/4"	A500 Gr. B
		HARDWARE			
	104	ROUND HEAD BOLT WITH LOCK NUT & ROUND WASHER	3/4" DIA.	6"	A449 TYPE 1
	48	HEX BOLT WITH WASHER	5/8" DIA.	1.75"	A325
	48	PIPE SPACER (SCH. 40)	3/4" DIA.	1/2"	A53
	4	END CAP PLATE FOR TS 2x4 RAIL	3/16" x 2"	4"	A36
	22	BEARING PAD	10"x1/8"	1'-2"	M251

NOTES:
1. BRIDGE RAIL TUBES TO BE SHOP CURVED, (VERTICALLY RADIUSED) TO 612' ± RADIUS.

2. THE FINAL COLOR OF ALL BRIDGE AND APPROACH RAILING SHALL BE BLACK CHIP 27038 PER SUBSECTION 708.03 OF THE STANDARD SPECIFICATION.

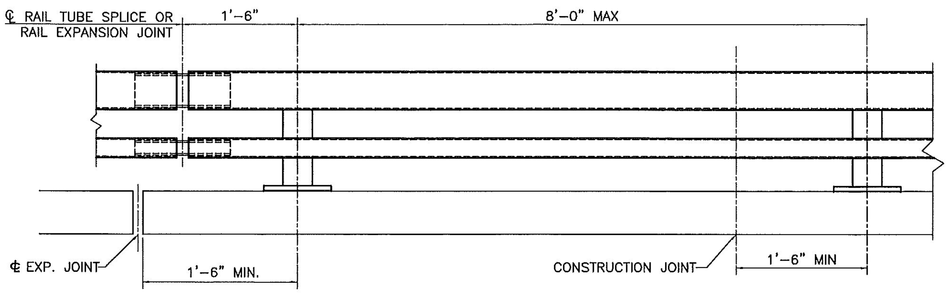
3. ALL NEW STRUCTURAL STEEL SHALL BE GALVANIZED.

4. RAIL SPLICES, HARDWARE AND ANCHORS SHALL BE GALVANIZED ONLY.

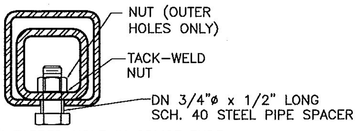
5. CUT 10'-0" LEG TO FIT, COLD GALV, PAINT AND CAP H4, H5 L & R PROVIDING 0.75" TO 2.50" GAP BETWEEN THE RAIL AND TRUSS.

No.	Remarks	Date
	REVISIONS	
2	miscellaneous corrections	06-06-12
1	Per VAOT comments	05-25-12
0	Initial submittal	04-25-12

Vermont Ag
RE
CK'D BY GM
1:24 p
RESUBMIT
BY KMH



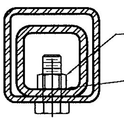
BRIDGE RAILING ELEVATION



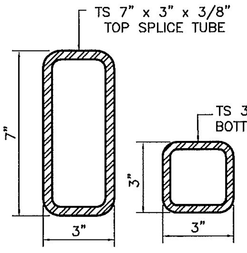
5/8"ø TAPPED HOLE IN SPLICE TUBE AND 1 1/8" x 'C' SLOT IN RAIL TUBE FOR BOLT AND PLAIN HARDENED WASHER

EXPANSION JOINT SECTION

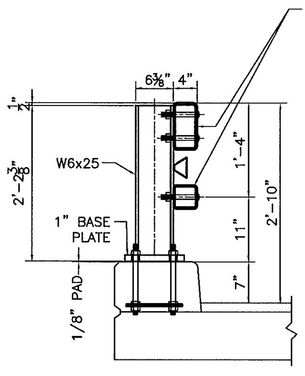
FOR DETAILS NOT SHOWN, SEE "RAIL TUBE SPLICE SECTION."



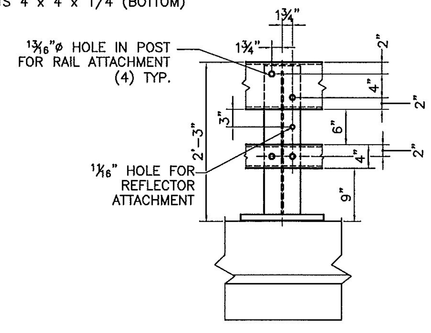
5/8"ø TAPPED HOLE IN SPLICE
3/4"ø HOLE IN RAIL TUBE FOR
PLAIN HARDENED WASH



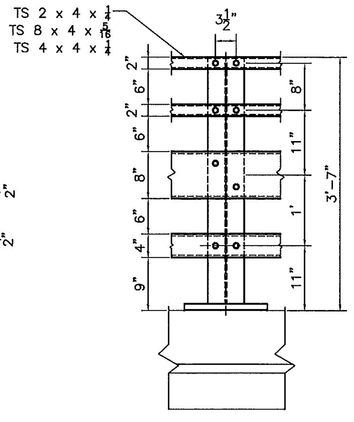
RAIL TUBE SPLICE SEC



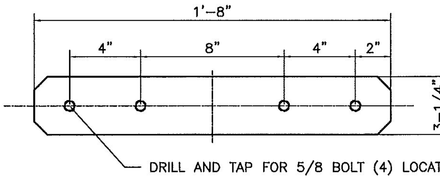
TYPICAL SECTION
(2 – RAIL)

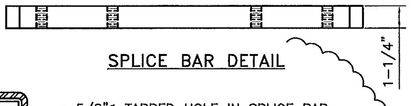


NORT & SOUTH RAIL ELEVATION
(2 – RAIL)

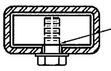


SOUTH RAIL ELEVATION
(4 – RAIL)



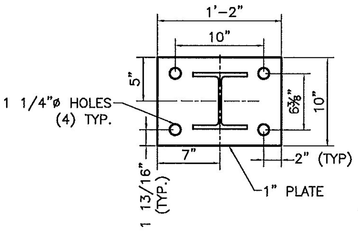


SPLICE BAR DETAIL

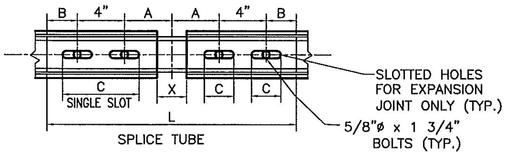


5/8"ø TAPPED HOLE IN SPLICE BAR AND 1 1/8" x 'C' SLOT IN RAIL TUBE FOR BOLT AND PLAIN HARDENED WASHER

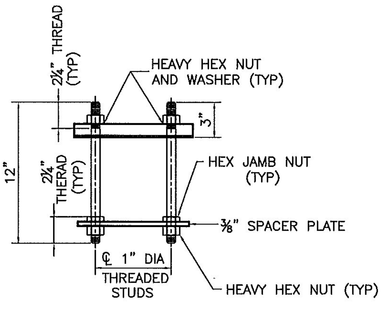
SECTION THRU 4X2 RAIL @ SPLICE BAR



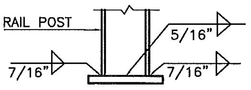
POST AND BASE PLATE



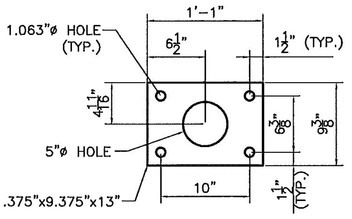
RAIL TUBE SPLICE AND RAIL EXPANSION JOINT DETAIL



RAIL POST ANCHORAGE
(BY OTHERS)



BASE WELD DETAIL



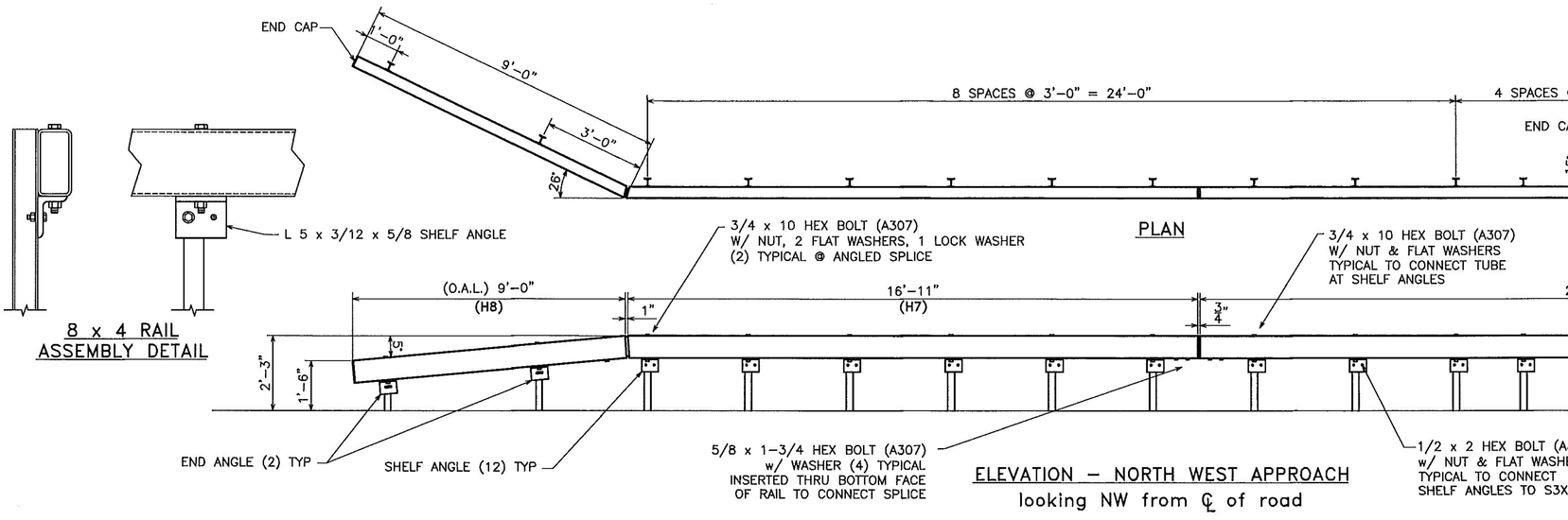
ANCHOR PLATE
(BY OTHERS)

SPLICE TABLE					
T	A	B	C	L	X
N/A	4"	2"	---	20"	3/4"
EXPANSION JOINT TABLE					
<4"	4"	2"	2 1/2"	20"	2 1/2"

T = TOTAL MOVEMENT BETWEEN BRIDGE EXPANSION JOINTS. SEE NOTE 5

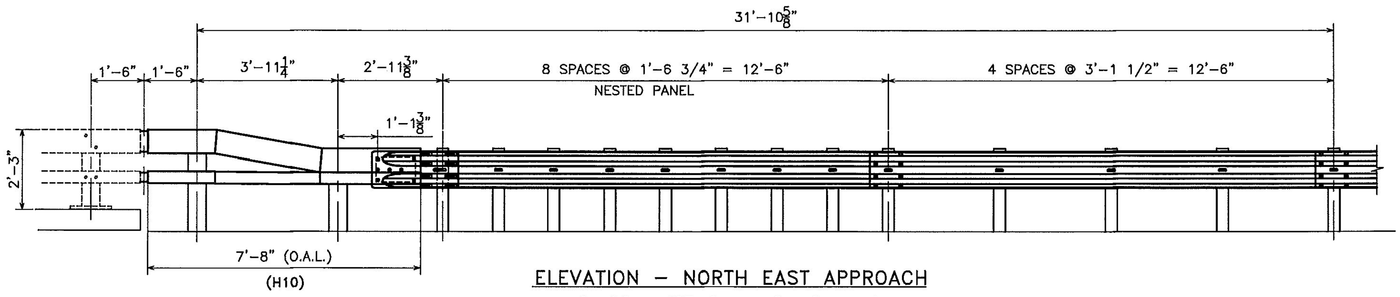
No.	Remarks	Date
REVISIONS		
2	miscellaneous corrections	06–06–12
1	Per VAOT comments	05–24–12
0	Initial submittal	04–25–12

Vermont
R E
CK'D BY
1:2
RESUBMIT
BY KMH



8 x 4 RAIL
ASSEMBLY DETAIL

ELEVATION – NORTH WEST APPROACH
looking NW from ℄ of road



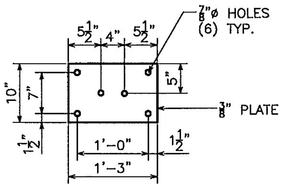
ELEVATION – NORTH EAST APPROACH
looking NE from ℄ of road

BILL OF MATERIAL, (NORTH WEST APPROACHE)

mk.#	Qty.	Description	Size/Shape	Length\Qty. Per Unit	Material
		RAILING TUBE			
H6	1	APPROACH RAIL	TS 8x4x0.313"	23'-0"	A500 Gr. B
H7	1	APPROACH RAIL	TS 8x4x0.313"	16'-11"	A500 Gr. B
H8	1	TURN DOWN APPROACH RAIL	TS 8x4x0.313"	9'-0"	A500 Gr. B
H9	1	TURN BACK BOTTOM RAIL	TS 4x4x0.25"	10'-10.75"	A500 Gr. B
		POST			
	4	HEAVY STEEL POST	W6 x 9	7'-0"	A36
	12	TRANSITION STEEL POST	S3 x 5.7	7'-0"	A36
	2	TRANSITION STEEL POST	S3 x 5.7	5'-3"	A36
		TUBE BLOCKOUT			
	4	TUBE BLOCKOUT	TS 8x6x.313"	8"	A500 Gr. B
	3	TUBE BLOCKOUT	TS 8x3x.250"	4"	A500 Gr. B
		TUBE SPLICE			
	1	ANGLED SPLICE TUBE	TS 7x3x0.375"	2'-4"	A500 Gr. B
		RAILING ANGLE			
	14	12 SHELF ANGLE / 2 END ANGLE	L5x3.5x.625"	6.000	A36
		HARDWARE			
	14	HEX BOLT w/ NUT, 2 FW, LW	0.75"ø	10"	A307
	2	HEX BOLT w/ NUT & FW	0.75"ø	10"	A307
	14	HEX BOLT w/ NUT & FW	0.500"ø	2"	A307
	14	HEX BOLT w/ NUT & FW	0.500"ø	1.500	A307
	12	HEX BOLT w/ FW	0.625"ø	1.750	A307
	7	ROUND HEAD BOLT w/ LOCKNUT, FLAT WASHER	0.750"ø	6"	A307
		END CAPS			
	1	END CAP PLATE	0.188" x 4"	8"	A36
	1	END CAP PLATE	0.188" x 4"	4"	A36

BILL OF MATERIAL, (NORTH EAST APPROACHE)

mk.#	Qty.	Description	Size/Shape	Length\Qty. Per Unit	Material
		RAILING TUBE			
H10	1	TOP RAIL	TS 8x4x0.313"	7'-8"	A500 Gr. B
	1	BOTTOM RAIL	TS 4x4x0.250"	7'-8"	A500 Gr. B
		POST			
	1	STEEL POST	W6 x 25	7'-0"	A36
	1	STEEL POST	W6 x 25	6'-5"	A36
	13	STEEL POST	W6 x 8.5	7'-0"	A36
		BLOCKOUT			
	13	SYNTHETIC BLOCKOUT	6" x 8"	1'-2"	SYNTHETIC
	1	TERMINAL CONNECTOR	10 GAGE	2'-6"	M180 B2
	1	BACK-UP PLATE	0.375"x10"	1'-3"	A709 Gr. 36
	2	GUARDRAIL PANEL (1'-6.75" POST SPACING)	10 GAGE	12'-6"	M180 B2
	1	GUARDRAIL PANEL (3'-1.50" POST SPACING)	10 GAGE	12'-6"	M180 B2
		HARDWARE			
	14	ROUND HEAD BOLT W/LOCK NUT & ROUND WASHER	0.75"ø	6"	A307
	13	POST BOLT W/DBL RECESSED NUT, PLATE & WASHER	0.625"ø	9.50"	A307
	24	PANEL SPLICE BOLT WITH DBL RECESSED NUT	0.625"ø	1.25"	A307
		END CAPS			
	1	END CAP PLATE	0.188" x 4"	8"	A36
	1	END CAP PLATE	0.188" x 4"	4"	A36

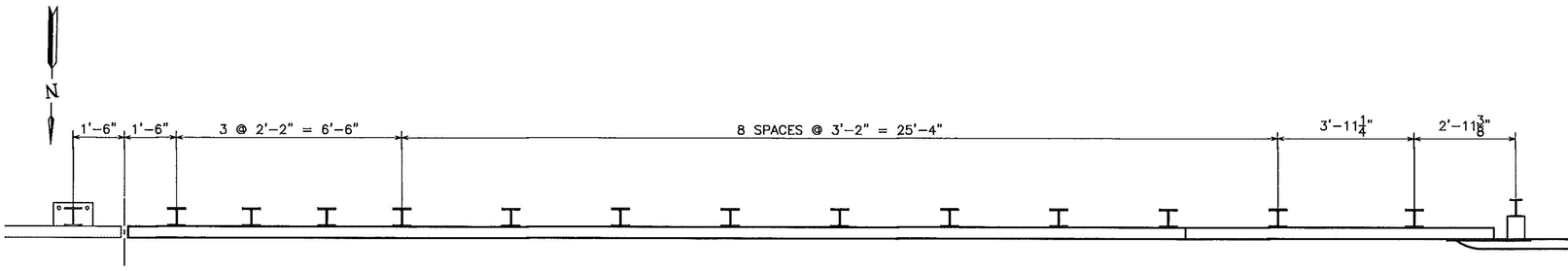


BACK-UP PLATE

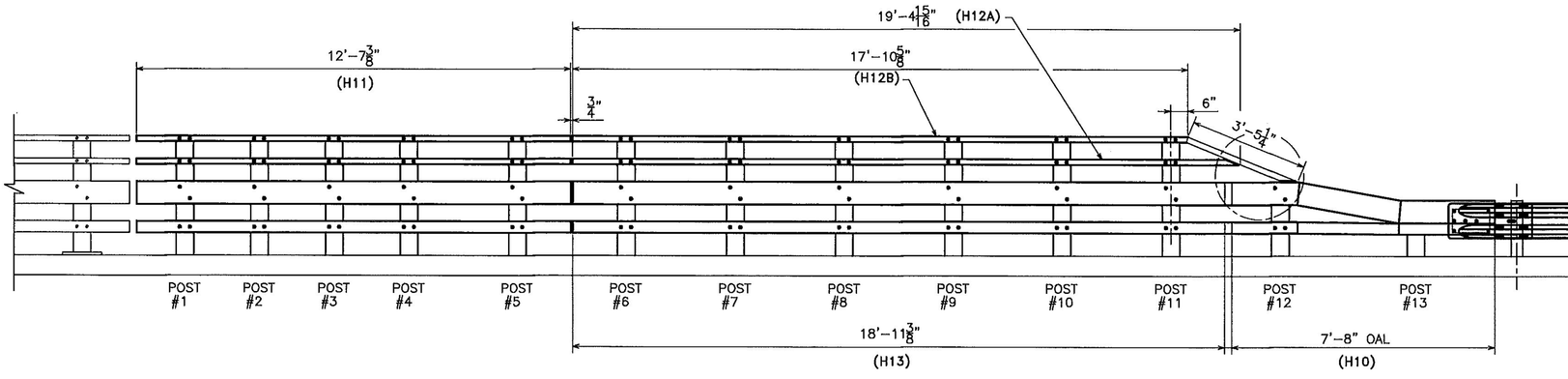
No.	Remarks	Date
2	miscellaneous corrections	06-06-12
1	Per VAOT comments	05-24-12
0	Initial submittal	04-25-12

REVISIONS

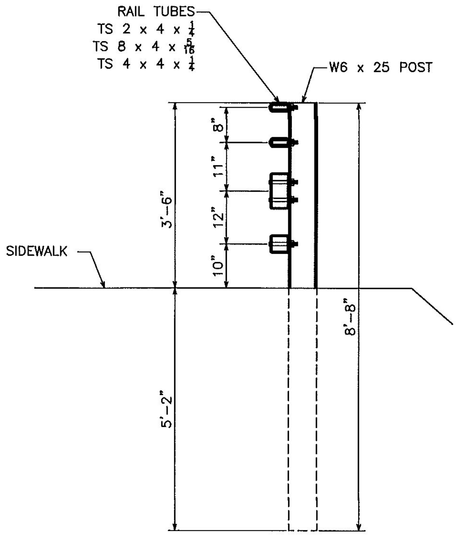
Vermont Age
REC
CK'D BY GMI
1:24 pl
RESUBMIT
BY KMH



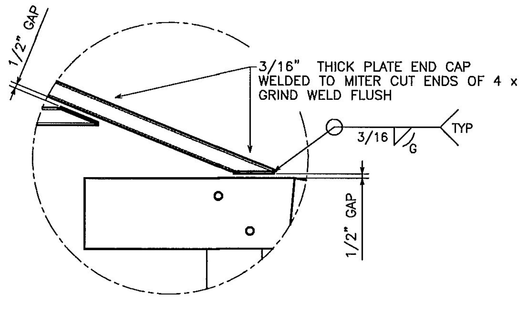
PLAN



ELEVATION – SOUTH WEST APPROACH
looking SW from ℄ of road
(south east elevation similar)



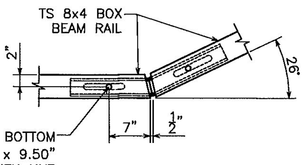
POST 1 THRU 11



No.	Remarks	Date
2	miscellaneous corrections	06-06-12
1	Per VAOT comments	05-25-12
0	initial submittal	04-25-12

REVISIONS

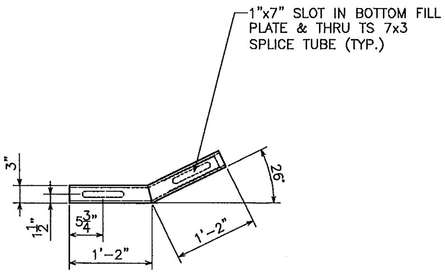
Vermont Age
REC
CK'D BY GML
1:24 pr
RESUBMIT
BY KMH



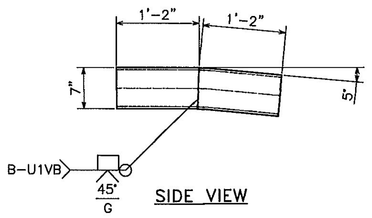
⅞"ø HOLE TOP & BOTTOM OF BOX BEAM FOR ¾"ø x 9.50" LONG BOLT W/ HEAVY HEX NUT & (2) WASHERS & 1 SPRING LOCK WASHER

TOP VIEW

TURN BACK SPLICE TUBE ASSEMBLY

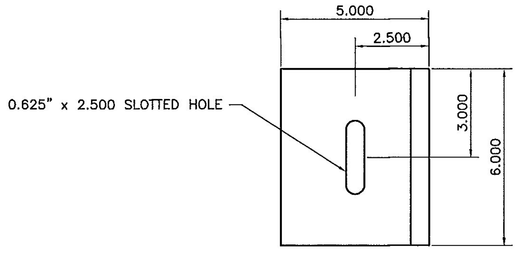


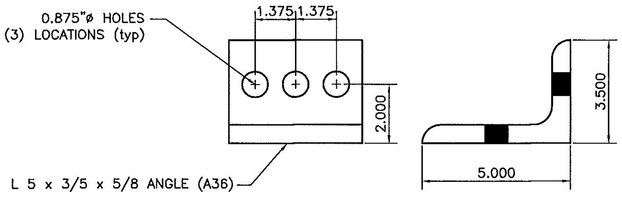
TOP VIEW



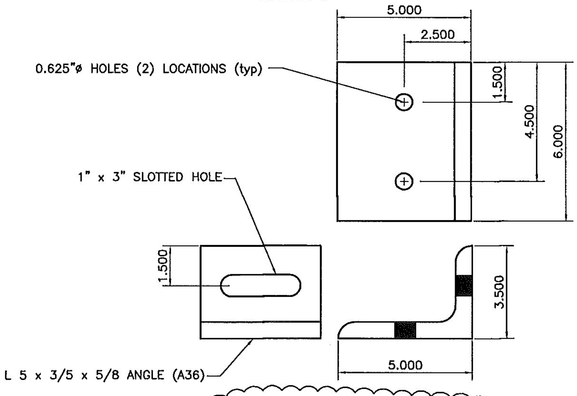
SIDE VIEW

TURN BACK SPLICE TUBE DETAIL

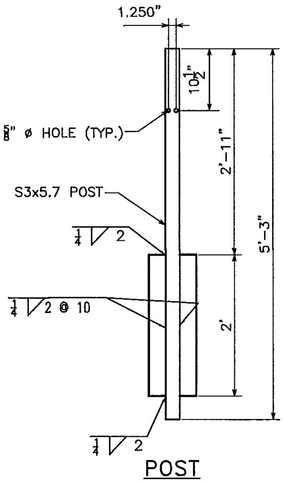




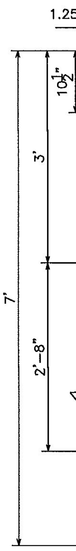
END ANGLE DETAIL



SHELF ANGLE DETAIL



POST



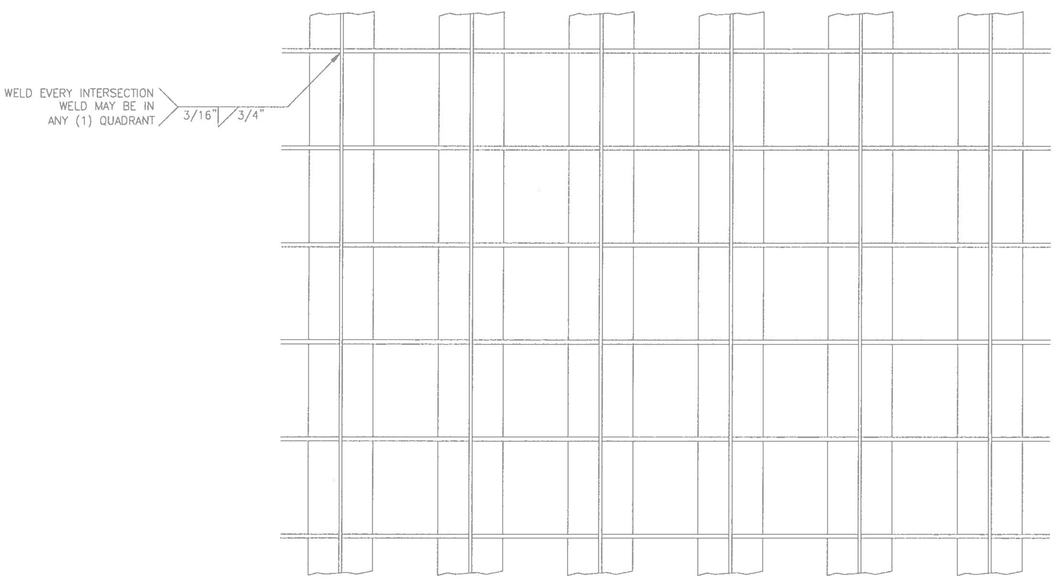
TRAN

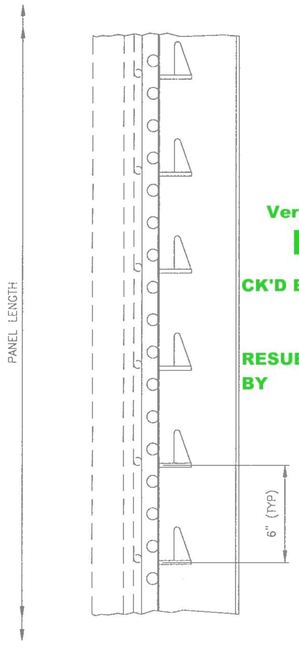
No.	Remarks	Date
2	miscellaneous corrections	06-06-12
1	Per VAOT comments	05-25-12
0	Initial submittal	04-25-12

REVISIONS

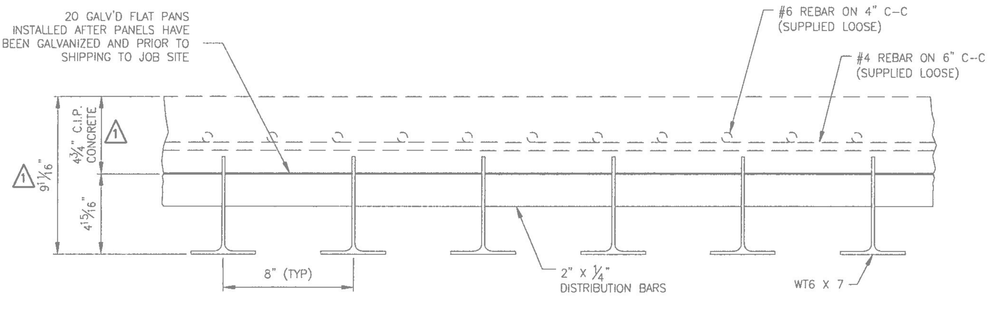
Vermont Ag
RE
CK'D BY GM
1:24 p
RESUBMIT
BY KMH

STANDARD PANEL TOLERANCE	
PANEL WIDTH	+0 −1/8"
PANEL LENGTH	±1/4"
SQUARENESS	±1/2"
TRANSVERSE CAMBER (WIDTH)	.004 x WIDTH (IN
LONGITUDINAL CAMBER (LENGTH)	.003 x LENGTH (IN
SIDE BOW (SWEEP)	.025 x LENGTH (IN
MAIN BAR VERTICALITY	.04xH (FULL BAR H
CROSS BAR VERTICALITY	.04xH (FULL BAR H
BAR SPACING	±1/8" C-C

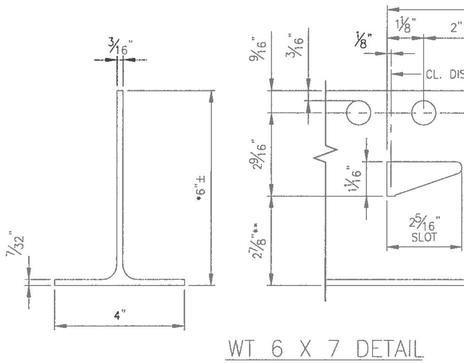




Vermont Agency of T
RECEI
CK'D BY TCF OK
8:50 am, Mar
RESUBMIT AP
BY KMH DA



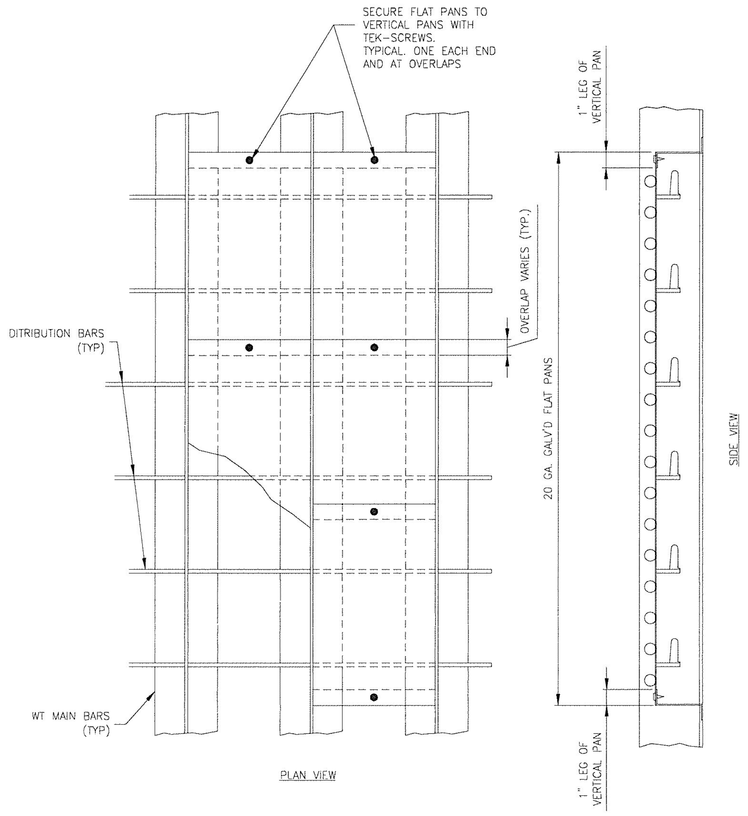
TYPICAL FLOORING DETAILS

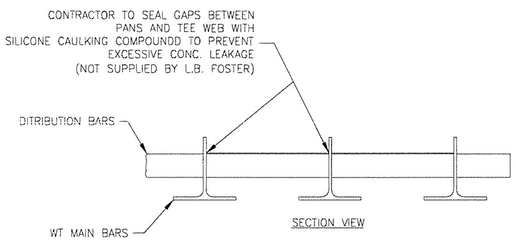


WT 6 X 7 DETAIL

*DUE TO MILL TOLERANCES, THE WT6 X 7
MAY VARY IN HEIGHT.

**THE 2 7/8" DIMENSION MAY VARY IN ORDER TO PREVENT THE SHE
HOLES FROM PIERCING THROUGH THE TOP OF THE TEE FLANGE





TYPICAL PAN INSTALLATION DETAILS

Vermont Agenc

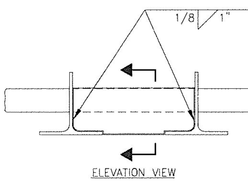
REC

CK'D BY TCF

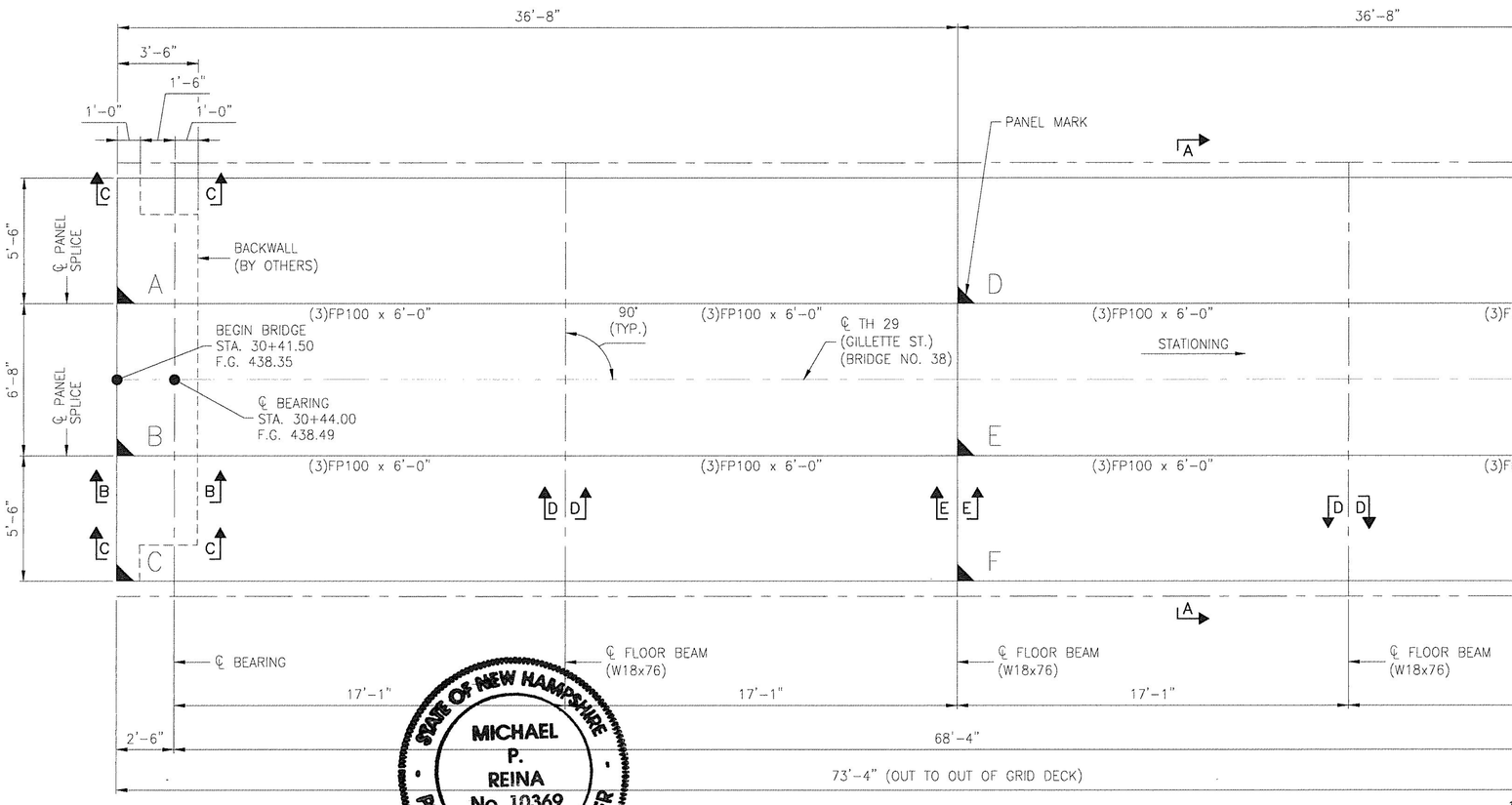
9:55 am, Fe

RESUBMIT

BY KMH

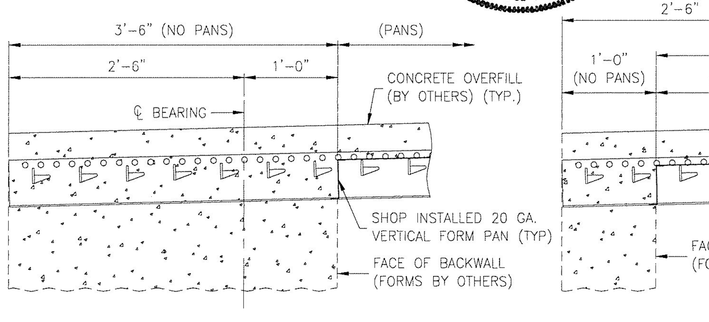


SHOP INSTALLED
WELD DI

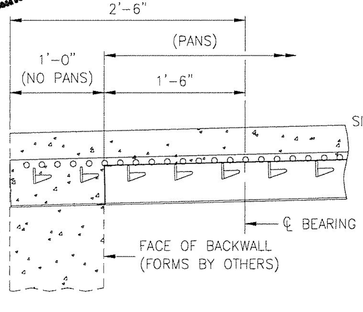


STATE OF NEW HAMPSHIRE
MICHAEL P. REINA
No. 10369
LICENSED
PROFESSIONAL ENGINEER
3/13/11

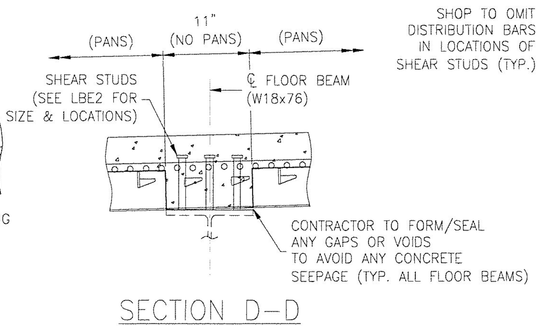
PLAN VIEW



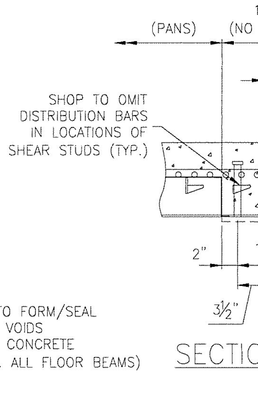
SECTION B–B



SECTION C–C

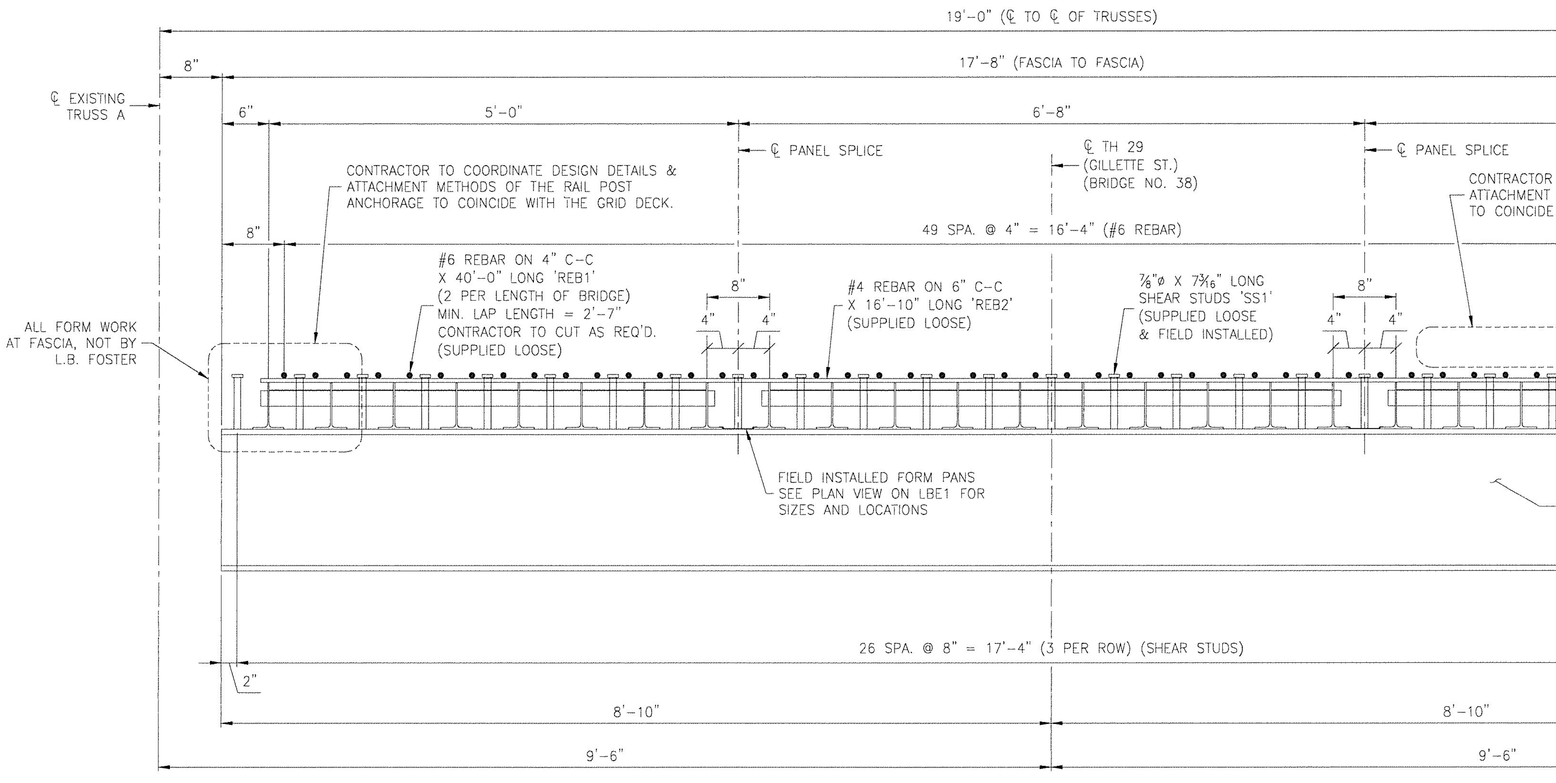


SECTION D–D



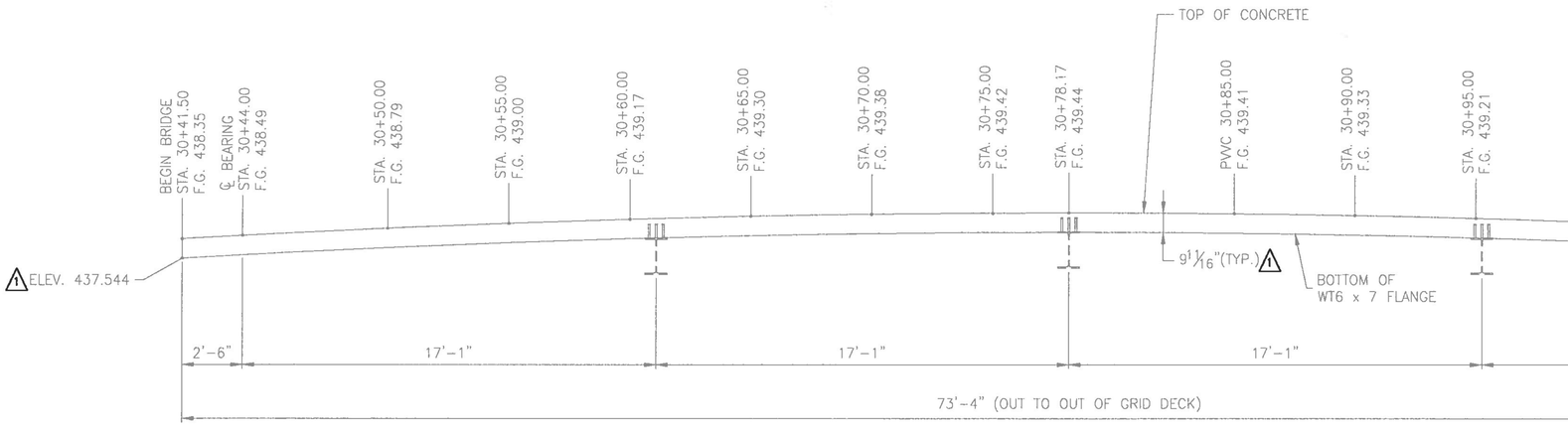
SECTIO

PROJECT NAME: HARTFORD (WILDER
PROJECT NUMBER: STP 1444(35)

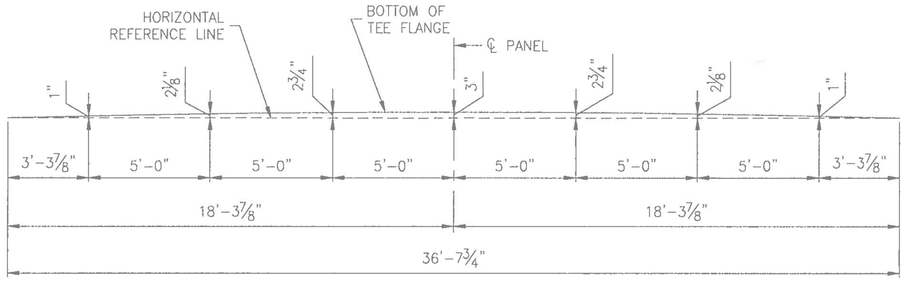


SECTION A–A
BRIDGE CROSS SECTION

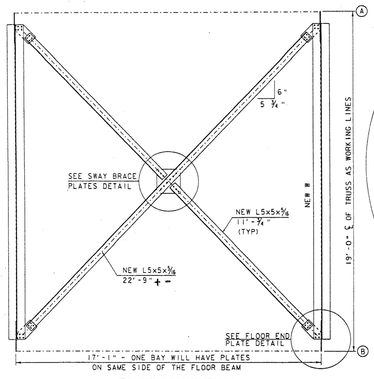
Vermont Agency of Transportation
RECEIVED
CK'D BY TCF OK'D BY KMH
9:55 am, Feb 16, 2011
RESUBMIT _____ APPROVED X
BY KMH DATE 3-30-11



VERTICAL PROFILE

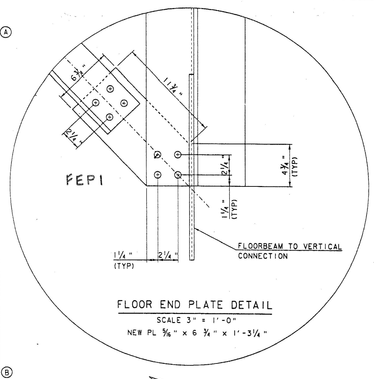


PANEL CAMBER DIAGRAM 1



FLOOR CONNECTION

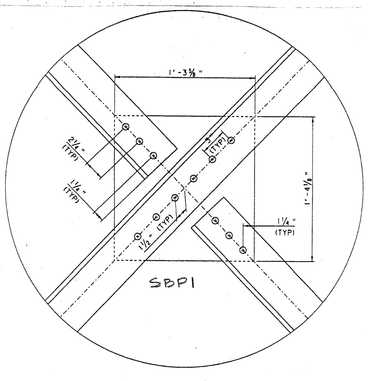
SCALE ½" = 1'-0"



FLOOR END PLATE DETAIL

SCALE 3" = 1'-0"

NEW PL ⅜" x 6 ¾" x 1'-3¼"

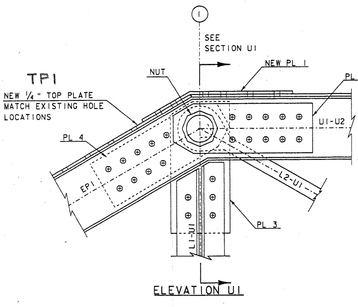


SWAY BRACE PLATE DETAIL

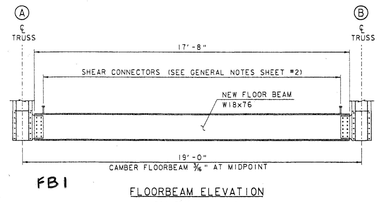
BARS ARE CENTERED ON PLATES

SCALE 3" = 1'-0"

NEW PL ¾" x 15 ⅛" x 1'-4⅛"



ELEVATION U1

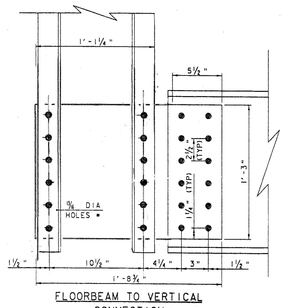


FB1

FLOORBEAM ELEVATION

SCALE ½" = 1'-0"

* FRACTURE CRITICAL MEMBER



FBP1

FLOORBEAM TO VERTICAL CONNECTION

NEW PL ½" x 20" x 1'-8⅜"

SCALE 3" = 1'-0"

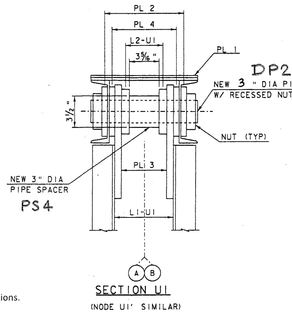
NOTE* ALL BOLTS DETAILED ON THIS SHEET SHALL BE ⅞" DIAMETER IN ⅞" DIAMETER HOLES. IF FIELD MEASUREMENTS INDICATE THAT ALTERNATE SIZE FASTENERS ARE REQUIRED, THE PROJECT MANAGER SHALL BE NOTIFIED TO VERIFY THE DESIGN OF THE COMPONENTS AND CONNECTION PLATES.

Bolts will be used in all main member connections. 5/8" dia. Rivets will be used in all lattice, batten plate and non-critical connections.

All galvanizing will take place before the riveting process begins.

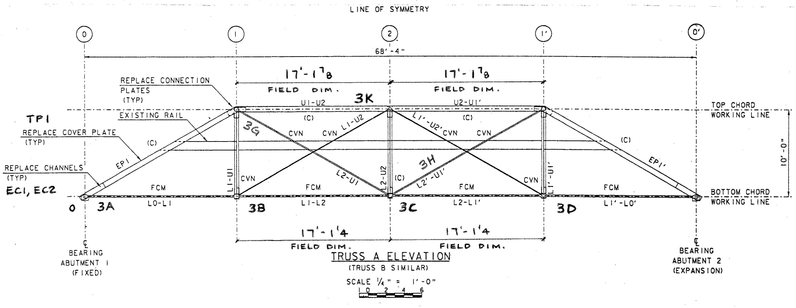
All faying surfaces will be either galvanized or primed prior to assembly with bolts or rivets. All successive coats of the paint system will be applied after the truss components have been assembled.

EXISTING RIVETS ARE ASSUMED TO BE ⅝" DIAMETER IN ⅞" DIAMETER HOLES.



SECTION U1

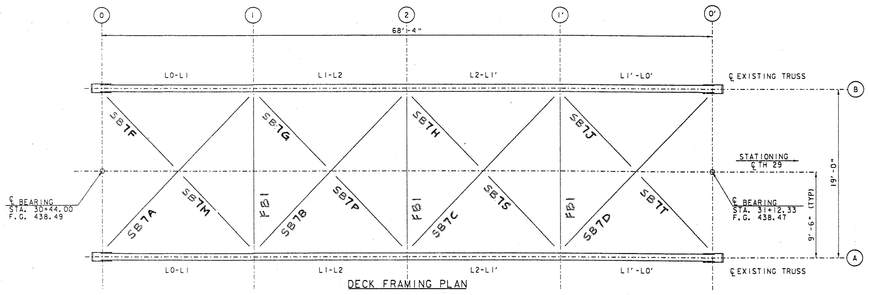
(NODE U1' SIMILAR)



TRUSS A ELEVATION

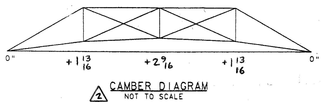
(TRUSS B SIMILAR)

SCALE ⅛" = 1'-0"



DECK FRAMING PLAN

SCALE ⅛" = 1'-0"



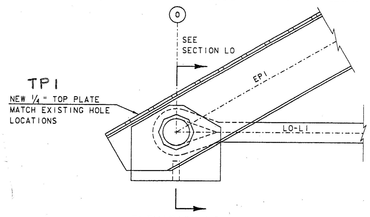
2 CAMBER DIAGRAM

NOT TO SCALE

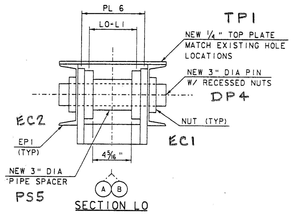
CVN - CHARPY V-NOTCH

FCM - FRACTURE CRITICAL MEMBER

C - COMPRESSION



ELEVATION L0

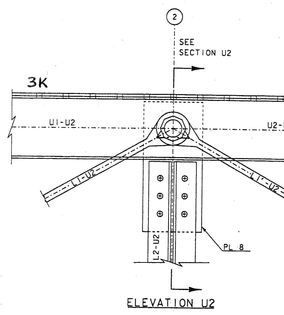


SECTION L0

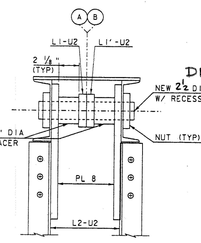
SEE BEARING DETAILS SHEET FOR ADDITIONAL DETAILS FOT THIS LOCATION

SEE TRUSS JOINT DETAILS #4 SHEET FOR CLIP DIMENSIONS

(NODE L0' SIMILAR)



ELEVATION U2



SECTION U2

Vermont Agency of Transportation

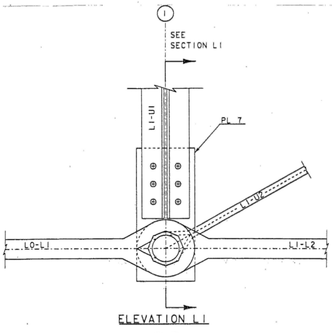
RECEIVED

CK'D BY TCF OK'D BY KMH

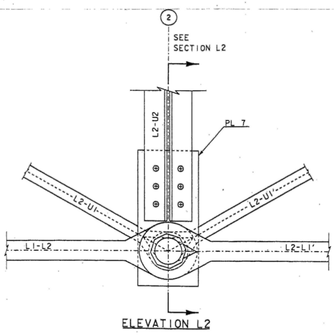
November 9, 2011

RESUBMIT _____ APPROVED As Noted

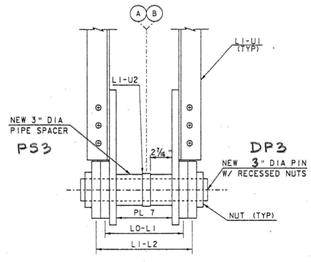
BY KMH DATE 9/10/2012



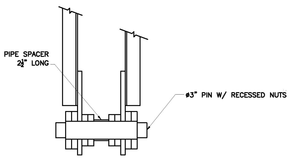
ELEVATION L1



ELEVATION L2



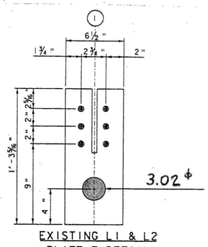
SECTION L1
(NODE L1' SIMILAR)



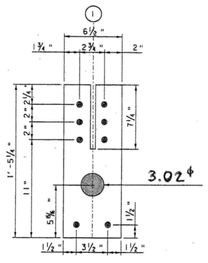
SECTION L2

**PIPE SPACERS WILL BE SUPPLIED BARE, NOT GALVANIZED. THE INSIDE TO BE COATED WITH NEVER-SEEZ, THE OUTSIDE TO BE BLASTED AND PAINTED ACCORDING TO SPECS.

EXISTING RIVETS ARE ASSUMED TO BE ⅛" DIAMETER IN ⅞" DIAMETER HOLES.



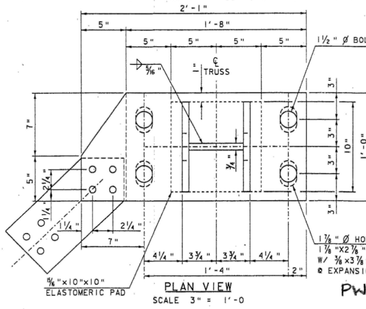
EXISTING L1 & L2
PLATE 7 DETAIL
¾" MINIMUM PLATE THICKNESS



NEW L1 & L2
PLATE 7 DETAIL
PL ¾"x6½"x1'-5¼"

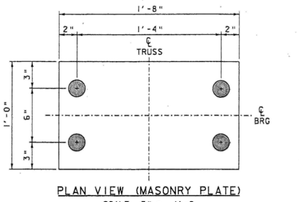
PROVIDE ONE NEW PLATE, THREE TOTAL, AT EACH VERTICAL CONNECTION ON THE SOUTH SIDE OF THE TRUSS FOR ATTACHING THE SEWER LINE.

DIMENSIONS AND DETAILS ARE ASSUMED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY DIMENSIONS AND DETAILS.

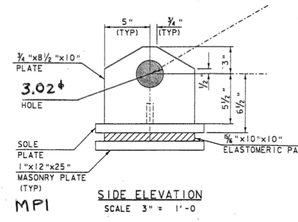


PLAN VIEW
SCALE 3" = 1'-0

PW

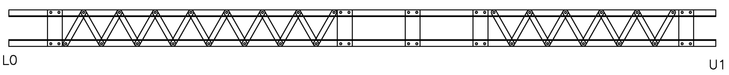


PLAN VIEW (MASONRY PLATE)
SCALE 3" = 1'-0

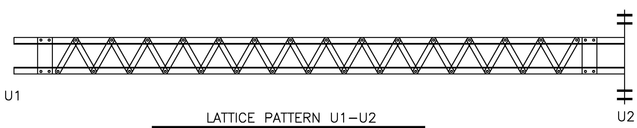


MP1

SIDE ELEVATION
SCALE 3" = 1'-0



LATTICE PATTERN L0-U1
SEE SHOP DRAWINGS FOR DIMENSIONS



LATTICE PATTERN U1-U2
SEE SHOP DRAWINGS FOR DIMENSIONS

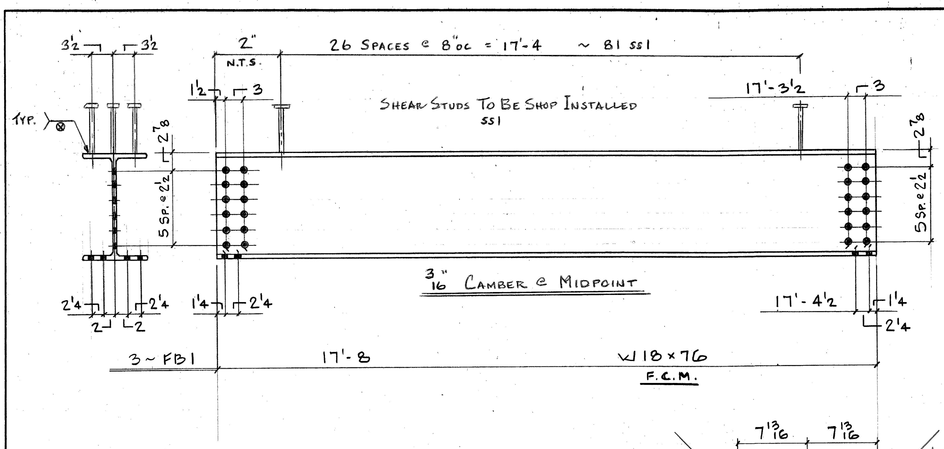
The replacement of members EP1, U1-U2, U2-U1', and EP1' necessitates different details than shown on this sheet. See Sheets 10-13 (1/4-4/4) for modifications.

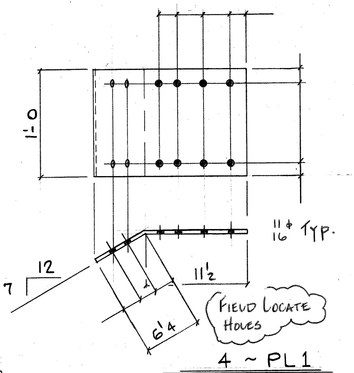
Ver

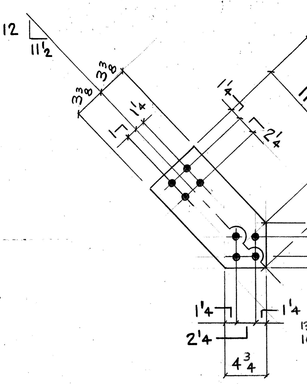
CK'D B

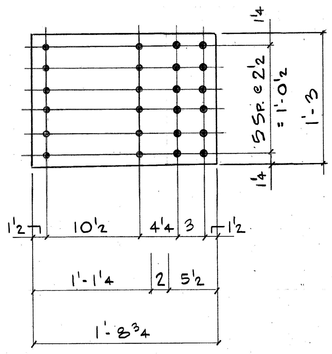
RESUE
BY KM

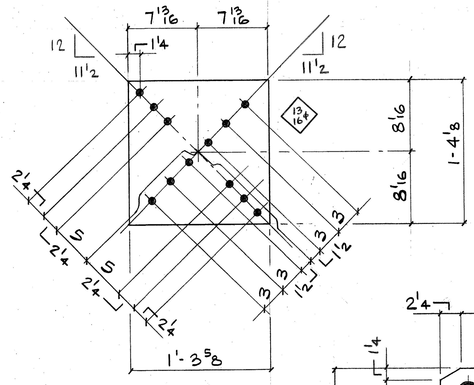
C:\Users\ABuckert\Documents\Works in Progress\Wilder\Drawings & Dimension\Mass Top Chord Details.dwg, 9/6/2012 3:24:32 PM

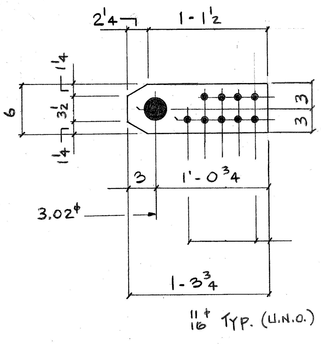


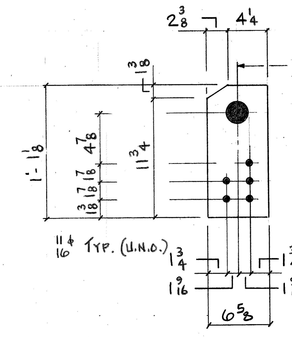












The replacement of members EP1, U1-U2, U2-U1', and EP1' necessitates different details than shown on this sheet. See Sheets 10-13 (1/4-4/4) for modifications.

Deck Bracing Moved To Sheet # 7

PL4 Field Locate Holes Except Pin Hole Shop Drilled After Galvanizing.

Notes:

1) Pin holes shall be bored true to the specified diameter, smooth and straight, at right angles with the axis of the member and parallel with each other unless otherwise required. The fina surface shall be produced by a finishing cut.

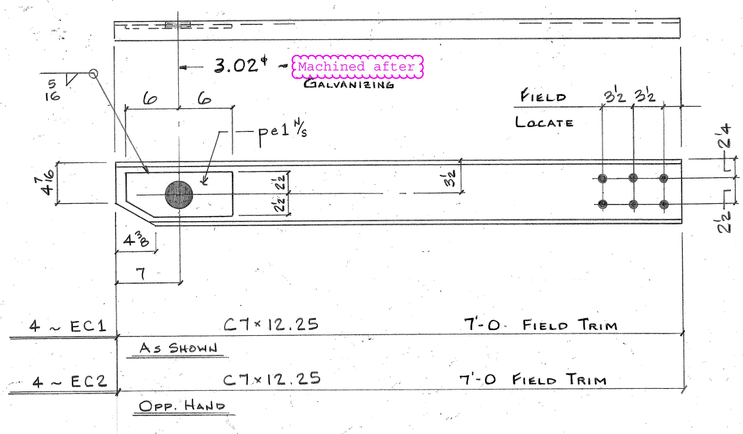
2) Threads for all bolts and pins for structural steel construction shall conform to the United Standard Series UNC ANSI B1.1, Class 2A for external threads and Class 2B for internal thread except that pin ends having a diameter of 1.375 in. or more shall be threaded six threads to the inch.

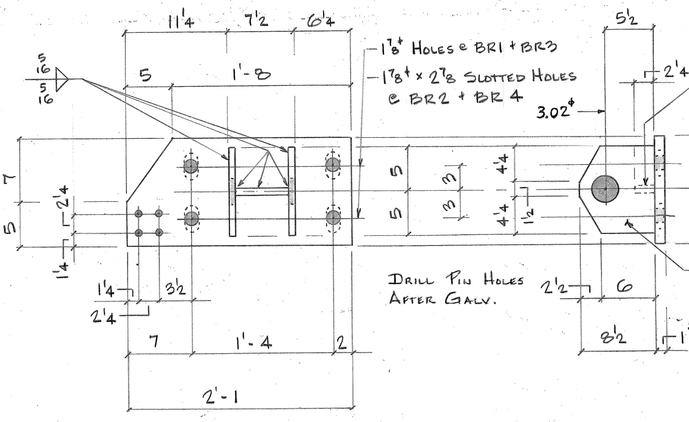
3) All eyebars that are to be placed side by side in the structure shall be securely fastened together in the order that they will be placed on the pin and bored at both ends while so clamp

4) The edges of eyebars that lie between the transverse centerline of their pin holes shall be cut simultaneously with two mechanically operated torches abreast of each other, guided by a substantial template, in such a manner as to prevent distortion of the plates. Edges of eyebars shall be smooth and free of any score marks from torch cutting.

5) Grease for pin connections shall be "Never-Seez Mariner's Choice."

The replacement of members EP1, U1-U2, U2-U1', and EP1' necessitates different details than shown on this sheet. See Sheets 10-13 (1/4-4/4) for modifications.



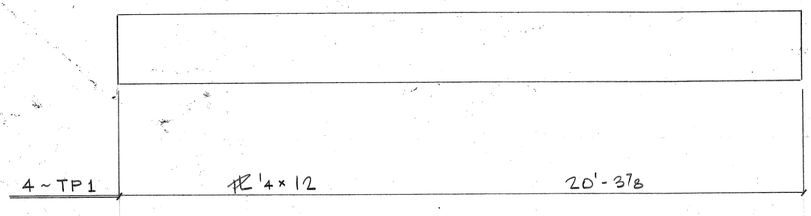


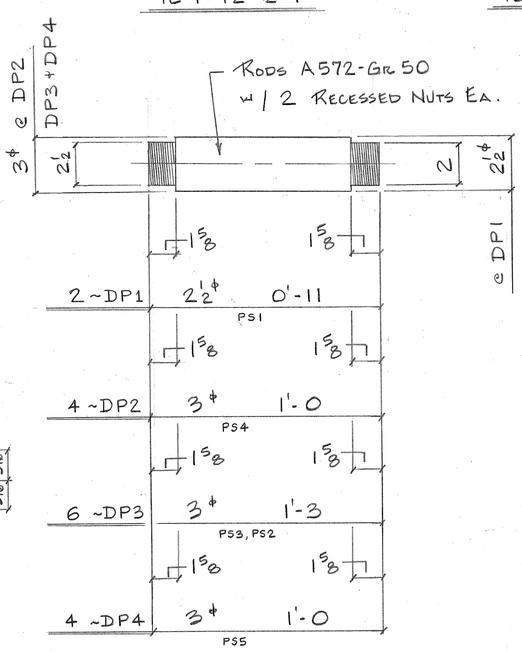
One ~ BR1 : As Shown
PL 1×12×2'-1

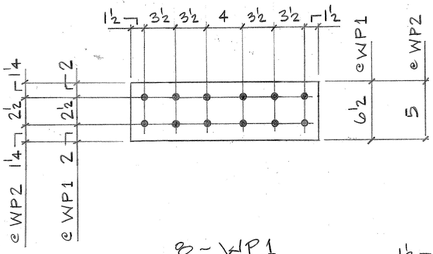
One ~ BR3 : Opp
PL 1×12×2'-1

One ~ BR2 : As Shown & Noted
PL 1×12×2'-1

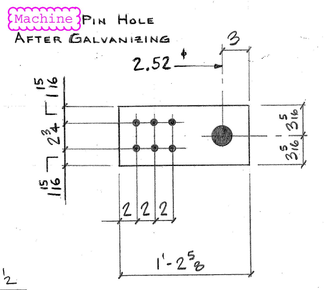
One ~ BR4 : Opp Ha
PL 1×12×2'-1

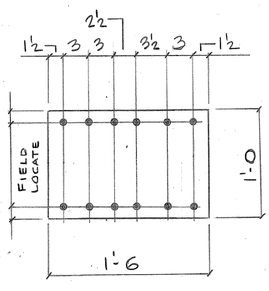






Holes To Be 11/16ϕ U.N.O.





Pipe Spac

4 ~ 3ϕ A572 Rod

4 ~ 3ϕ Sch. 40

8 ~ 3ϕ Sch. 40

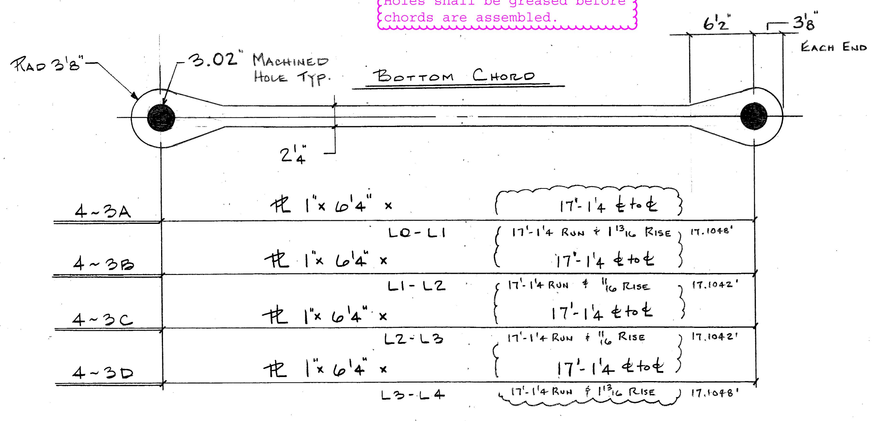
4 ~ 3ϕ Sch. 40

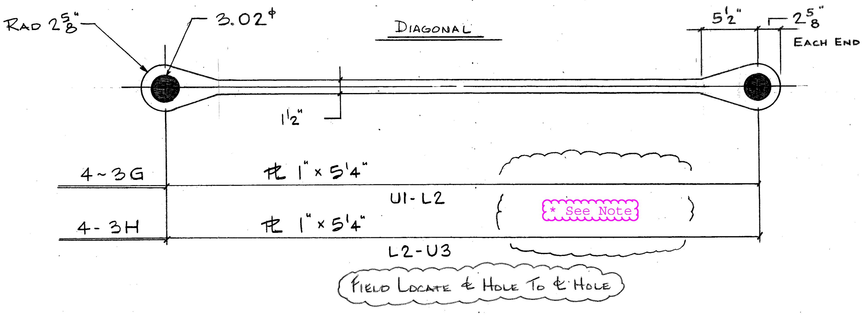
4 ~ 3ϕ Sch. 40

All Rail Compo To Be Furnished Renaud Brothers

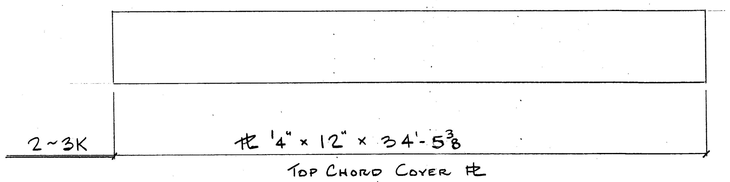
Vermont Agency of Transportation
RECEIVED
CK'D BY TCF OK'D BY KMH
November 9, 2011
RESUBMIT ____ APPROVED As Noted
BY KMH DATE 9/10/2012

Holes shall be machined after galvanizing.
Holes shall be greased before chords are assembled.



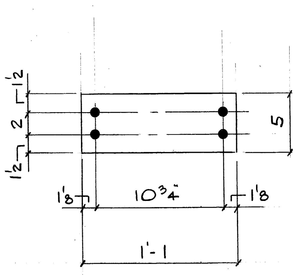


* Note - Original shipment of pieces will not include 3G and 3H pieces. The truss shall be assembled, without these pieces, and the diagonal lengths determined before the pieces are fabricated.

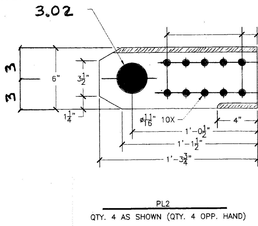


The replacement of members EP1, U1-U2, U2-U1', and EP1' necessitates different details than shown on this sheet. See Sheets 10-13 (1/4-4/4) for modifications.

Machine Pin Hole After Galvanizing



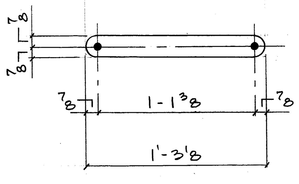
6~3M
PL 1/2 x 5 x 1'-1
BATTEN PLATES



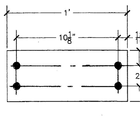
PL2
QTY. 4 AS SHOWN (QTY. 4 OPP. HAND)
HOLE FOR 3" PIN TO BE SHOP DRILLED
11/16ø BOLT HOLES TO BE MATCH DRILLED IN F

4~PL2 R
PL 5/8 x 6 x 1'-3 3/4

4~PL2 L OP
PL 5/8 x 6 x 1'-3 3/4

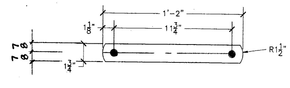


54~3P
PL 1/4 x 1 3/4 x 1'-3 3/8
LATTICE BARS



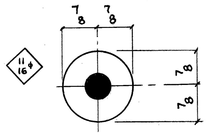
TOP CHORD BATTEN PLATES
3/8" PLATE
ALL BATTEN PLATES TO BE SHOP DR

4~3T
PL 3/8 x 5 x 1'-0



TOP CHORD LATTICE
3/8" PLATE
ALL LATTICE TO BE SHOP DRILLED

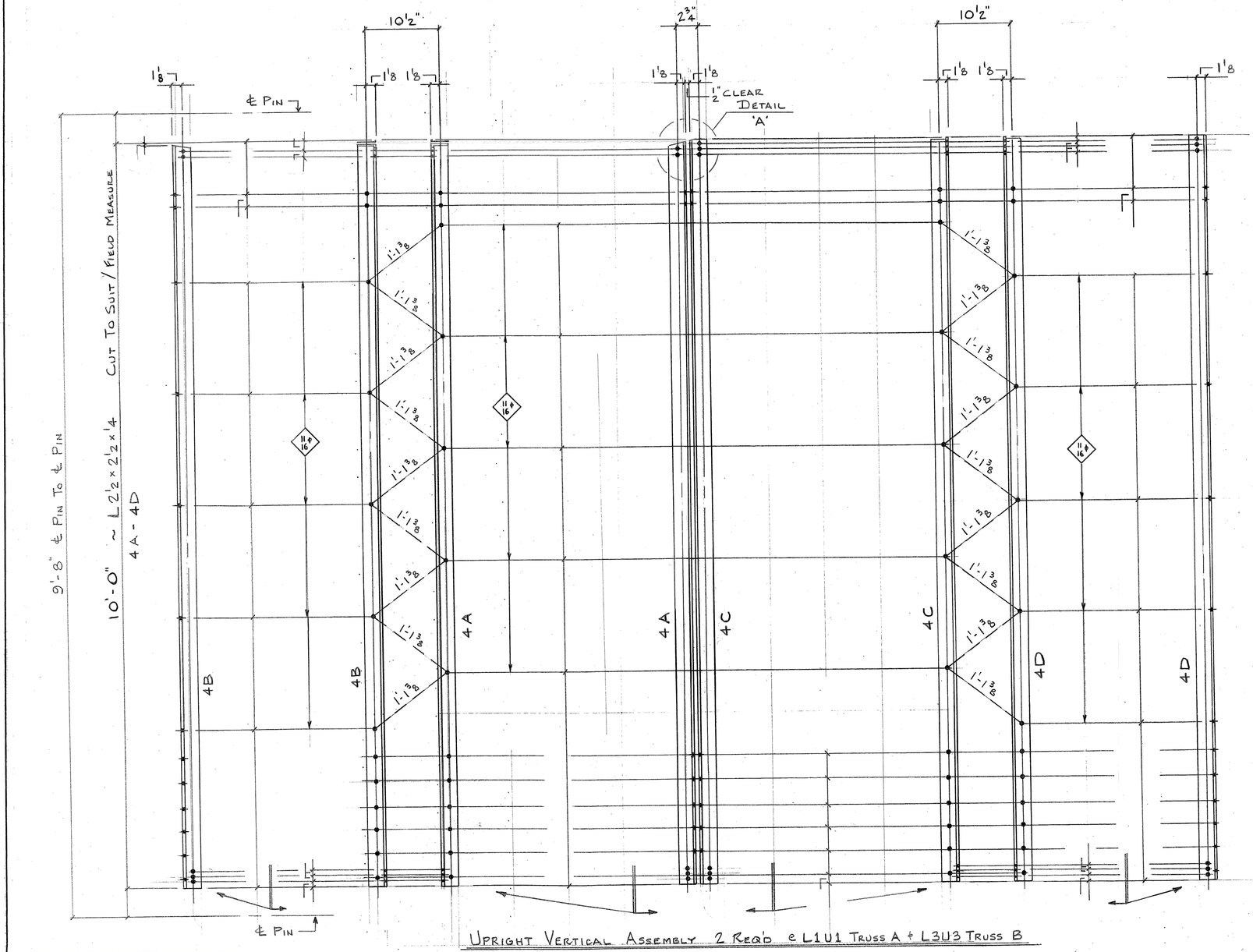
32~3R
PL 3/8 x 1 3/4 x 1'-2"



8~3S
PL 1/4 x 1 3/4 x 0'-1 3/4
END SPACERS

PAINT NOTE :
Steel will be Hot Dipped
Intermediate Coat : Carl
Topcoat : Carboline 133
All faying surfaces shall
be hand wire brushed p
No post treatments c
accelerate cooling w

The replacement of members EP1, U1-U2, U2-U1', and EP1' necessitates different details than shown on this sheet. See Sheets 10-13 (1/4-4/4) for modifications.



UPRIGHT VERTICAL ASSEMBLY 2 REQ'D @ L1U1 TRUSS A & L3U3 TRUSS B

2 ~ 4A	L 2½ x 2½ x ¼ x 10'-0
2 ~ 4B	L 2½ x 2½ x ¼ x 10'-0
2 ~ 4C	L 2½ x 2½ x ¼ x 10'-0
2 ~ 4D	L 2½ x 2½ x ¼ x 10'-0

Vermont Agency of Transportation

RECEIVED

CK'D BY TCF OK'D BY KMH

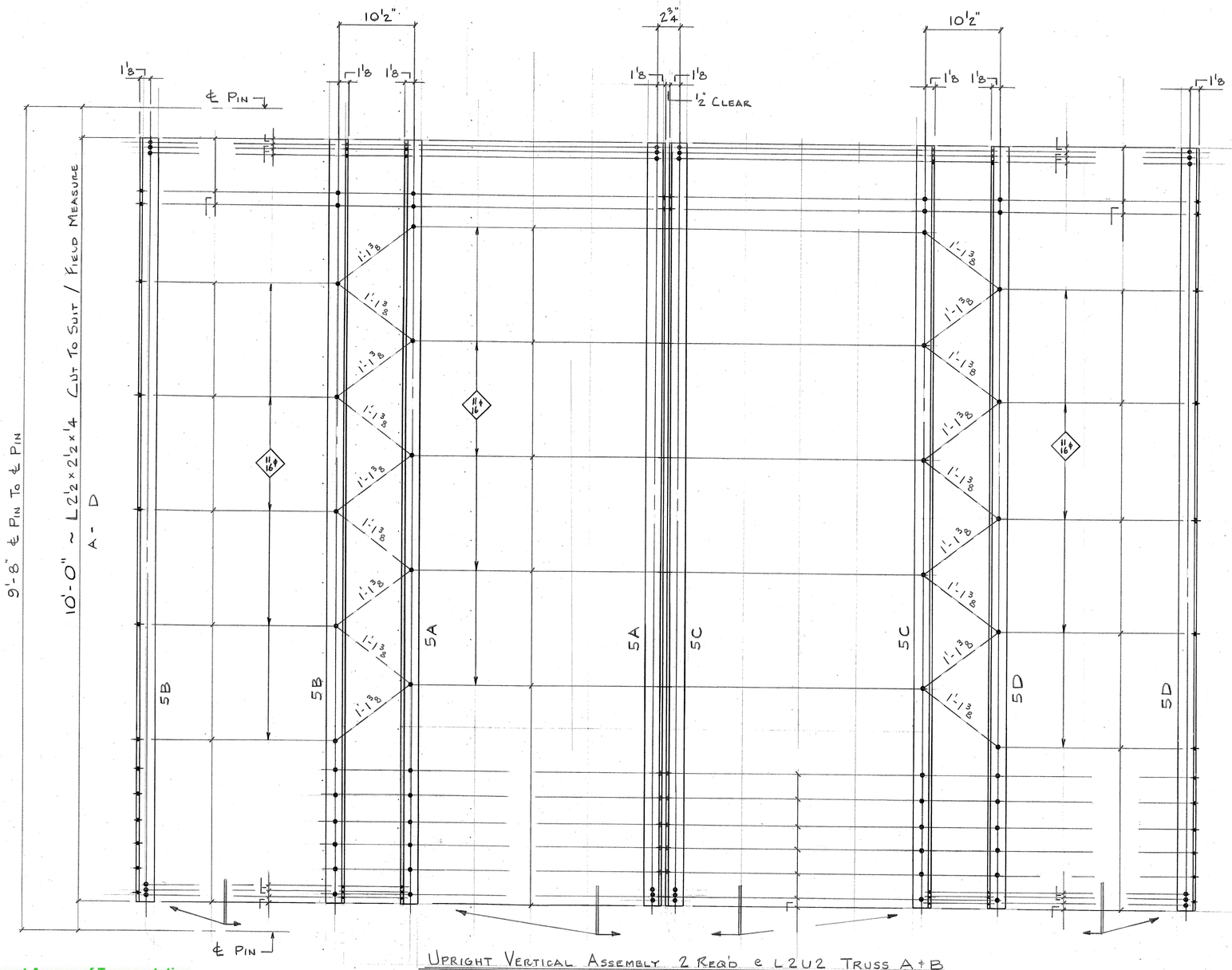
November 9, 2011

RESUBMIT _____ APPROVED As Noted

BY KMH DATE 9/10/2012

Minimum end and ed
Minimum end and ed

The replacement of members EP1, U1-U2, U2-U1', and EP1' necessitates different details than shown on this sheet. See Sheets 10-13 (1/4-4/4) for modifications.



UPRIGHT VERTICAL ASSEMBLY 2 REQ'D @ L2U2 TRUSS A+B

2 ~ 5A	L 2½ × 2½ × ¼ × 10'-0
2 ~ 5B	L 2½ × 2½ × ¼ × 10'-0
2 ~ 5C	L 2½ × 2½ × ¼ × 10'-0
2 ~ 5D	L 2½ × 2½ × ¼ × 10'-0

Vermont Agency of Transportation

RECEIVED

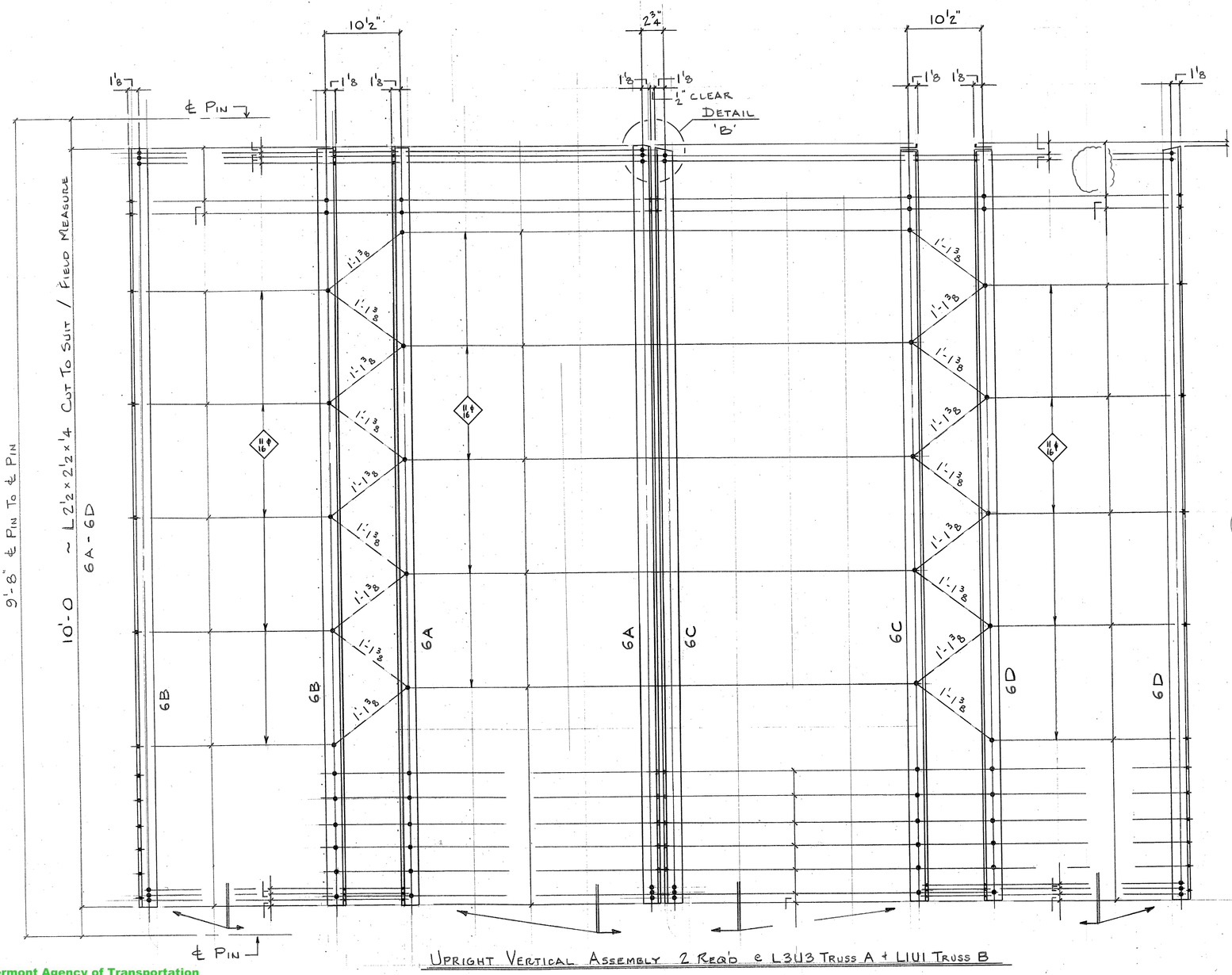
CK'D BY TCF OK'D BY KMH

November 9, 2011

RESUBMIT _____ APPROVED As Noted

BY KMH DATE 9/10/2012

The replacement of members EP1, U1-U2, U2-U1', and EP1' necessitates different details than shown on this sheet. See Sheets 10-13 (1/4-4/4) for modifications.



Upright Vertical Assembly 2 Req'd @ L3U3 Truss A + L1U1 Truss B

2 ~ 6A	L 2½ x 2½ x ¼ x 10'-0
2 ~ 6B	L 2½ x 2½ x ¼ x 10'-0
2 ~ 6C	L 2½ x 2½ x ¼ x 10'-0
2 ~ 6D	L 2½ x 2½ x ¼ x 10'-0

Vermont Agency of Transportation

RECEIVED

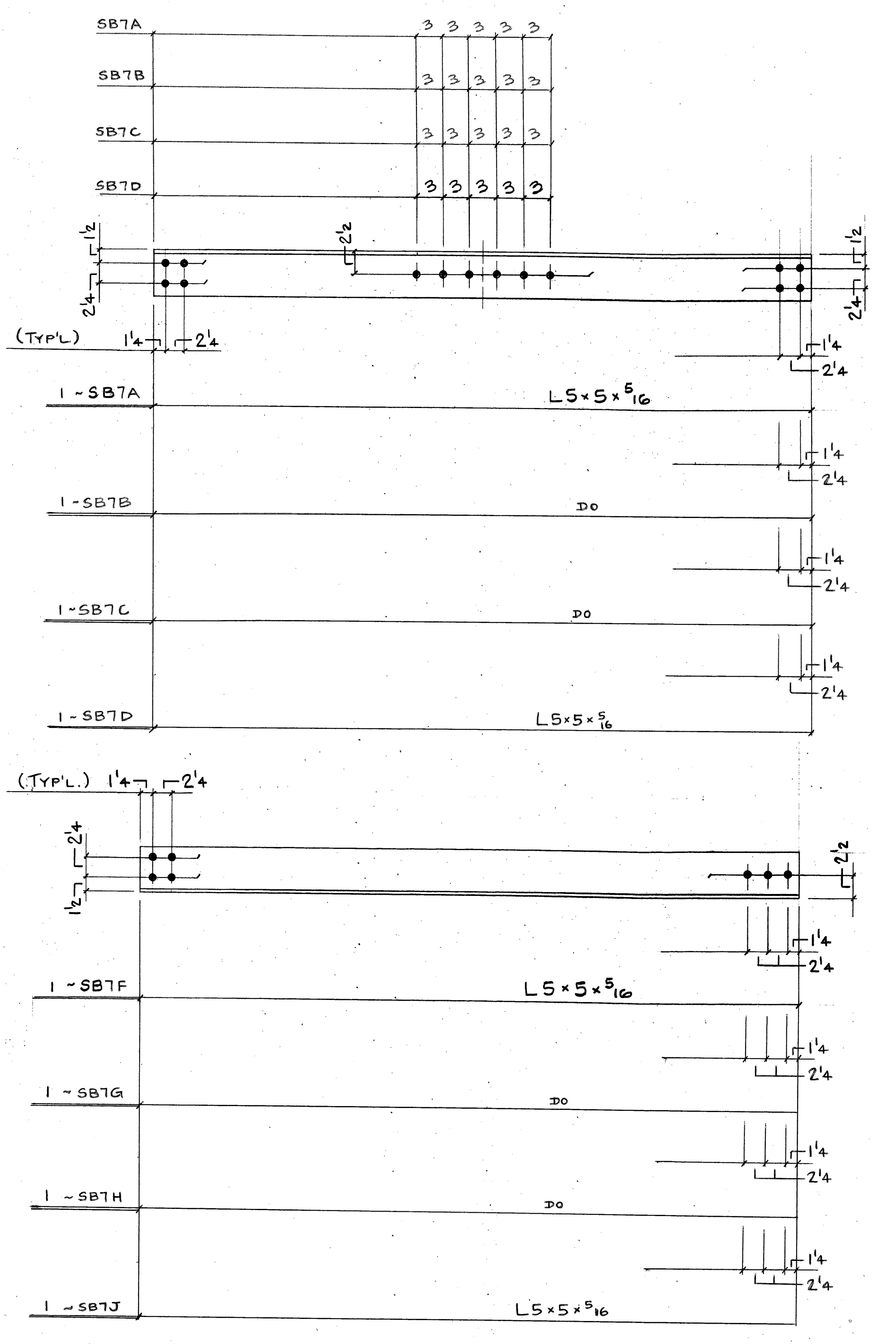
CK'D BY TCF OK'D BY KMH

November 9, 2011

RESUBMIT _____ APPROVED As Noted

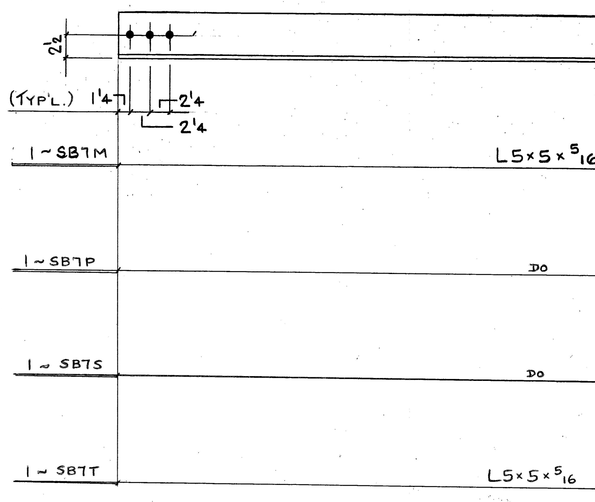
BY KMH DATE 9/10/2012

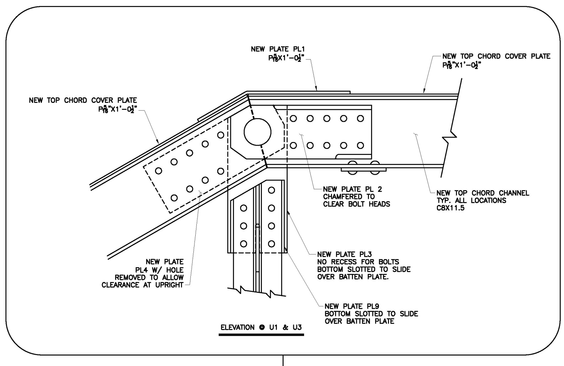
The replacement of members EP1, U1-U2, U2-U1', and EP1' necessitates different details than shown on this sheet. See Sheets 10-13 (1/4-4/4) for modifications.

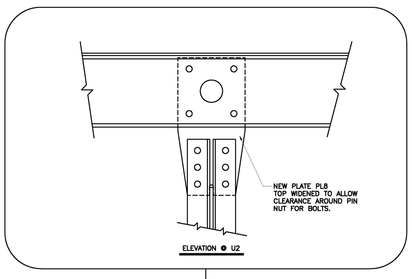


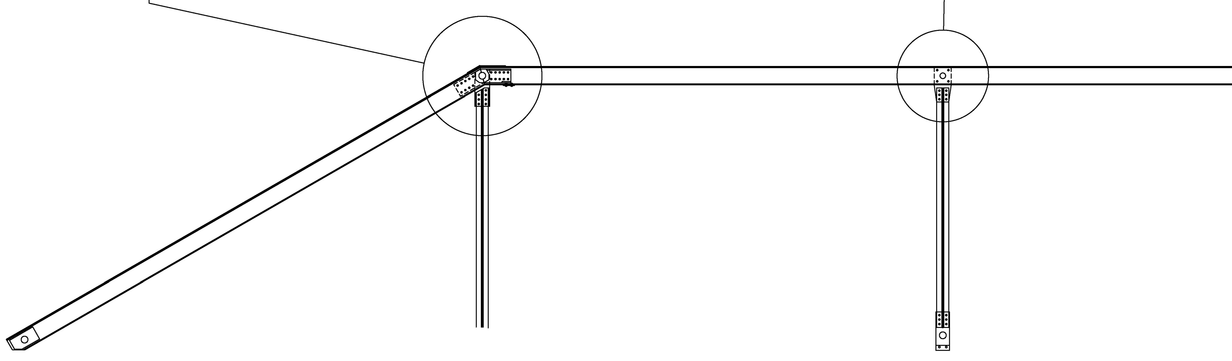
Field Locate Missing Hole Dimension
Holes To Be Shop Drilled.
Field To Supply Cut Lengths For
Angles. Bays Differ Slightly

Note - The original shipment of pieces will not include the an
The truss shall be assembled, without these pieces, and
before the pieces are fabricated.
Deck bracing connection plates and dimensions shall be
angles.









Hartford (Wilder) STP 1444(35) Bolt Qty. for Top Chord Replacement

Qty.	Mem.1	Mem.2	Mem.3	Mem.4	Mem.5	Grip
32	PL1	TP1	EC3/EC4	Wedg.Wash.	Flat Wash	1 1/2"
16	PL1	TP2	EC1/EC2	Wedg.Wash.	Flat Wash	1 1/2"
80	PL2	EC3/EC4	Flat Wash.			1"
56	Angle	PL9	PL3	Flat Wash.		1 3/4"
72	PL4	EC1/EC2	Flat Wash.			1"
24	Angle	PL8	Flat Wash.			1 1/8"
16	EC3/EC4	PL8	Flat Wash.			1 1/8"

Rivet Quantities 1

Qty.	Mem.1	Mem.2	Mem.3	Grip
368	EC1/EC2	TP1		3/4"
292	EC3/EC4	TP2		3/4"
80	EC1/EC2	M1		13/16"
32	EC3/EC4	M1		13/16"
100	EC1/EC2	3R	3R	1 3/16"
112	EC3/EC4	3R	3R	1 3/16"
16	EC1/EC2	3R		13/16"

Notes:

1) All bolts to be gr. A325 Galv heavy hex.
2) All rivets to be gr. A502 gr. 1
3) Exact quantities are given, extra rivets/bolts will need to be ordered for extra field quanties/testing purposes. Casco Bay will be responsible for supplying the bolts, Renaud Bros. Inc. will provide rivets.

ADDITIONAL CONSIDERATIONS:

1) TRIM TOP OF UPRIGHTS, TO ALLOW 8" CHANNEL TO DROP DOWN, AND BRING CENTERLINE OF BOLTS TO CENTER OF THE CHANNEL. MINIMUM EDGE DISTANCE ALLOWED FOR ⅞" BOLTS IS 1⅜". ALL UPRIGHTS SHALL BE CUT USING A BANDSAW. ENDS WILL BE CUT SLIGHTLY LONG, THEN GROUND, ENSURING A ½" RADIUS, AND A SMOOTH, BURR FREE EDGE.
2) BATTEN PLATES NEED TO BE MOVED AWAY FROM THE PIN LOCATIONS, TO ALLOW FOR PASSAGE OF DIAGONAL EYEBARS. THIS OCCURS WHEN THE WIDTH OF THE CHANNEL IS INCREASED, AND THE BOTTOM DROPS DOWN.
3) WEB THICKNESS IS CLOSE TO THAT OF EXISTING, SO PIN LENGTHS SHOULD NOT CHANGE
4) ALL STRUCTURAL BOLTS TO BE NEW, AND NOT REUSED FROM ORIGINAL ASSEMBLY.
5) EXISTING LATTICE RAIL WILL NEED TO BE TRIMMED AND MODIFIED TO FIT THE 8" CHANNEL SECTIONS.

NOTES:

1) ALL STEEL TO BE AASHTO M 270 (ASTM A 709
2) ALL EDGES GROUND TO A 1/16" RADIUS
3) PIN HOLES TO BE MACHINED AT RENAUD BROS.
ALL TOP CHANNEL SECTIONS SHALL BE MATCHED AS
DIRECTION, AND SHALL BE MARKED AND KEPT TOGET
4) ALL TOP CHORD COVER PLATES, LATTICE & BA
5) ALL GUSSET PLATE AND BENT PLATE CONNECTI
HEX BOLTS. WEDGE WASHERS SHALL BE USED
INTERFERENCE ISSUES ARISE.
6) CASCO BAY WILL FABRICATE ALL THE STRUCTUR
GALVANIZER, & TRANSPORT TO THEIR FACILITY
6)1) MACHINE ALL PIN HOLES
6)2) MATCH DRILL ALL HOLES DESIGNATED TO BI
6)3) ASSEMBLE TRUSS HALVES
6)4) TORQUE ALL BOLT LOCATIONS
6)5) SHORE, AND TRANSPORT TO CASCO BAY FO
7) ADDITIONAL WORK RENAUD BROS. WILL BE PERI
7)1) TRIM UPRIGHT MEMBERS TO ALLOW FOR HE
7)2) DRILL ADDITIONAL HOLES IN UPRIGHTS TO C
SHIM PLATE @ LOCATION U1.

Vermont Agency of Transportation

RECEIVED

CK'D BY TCF OK'D BY KMH

October 5, 2012

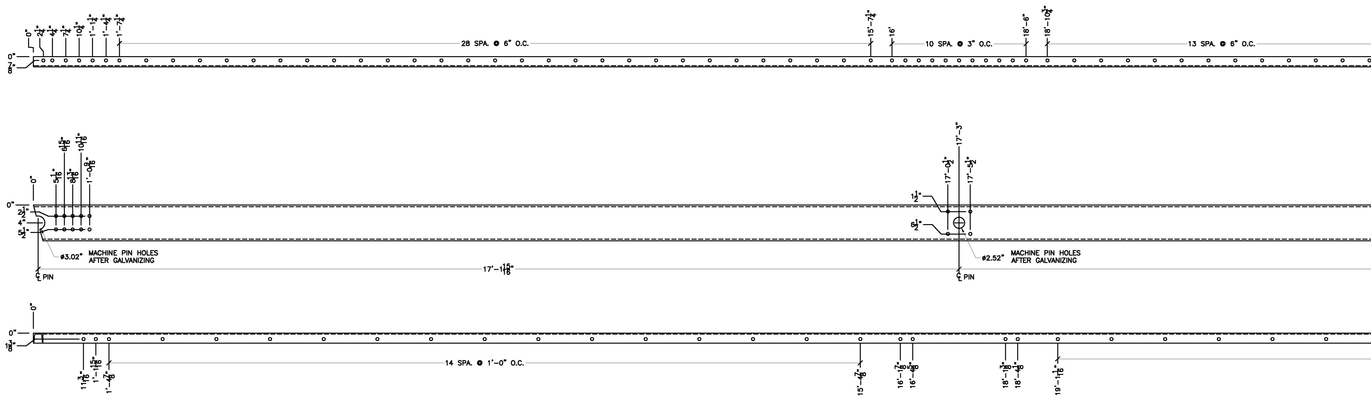
RESUBMIT _____ APPROVED AS NOTED

BY KMH DATE 10/5/2012

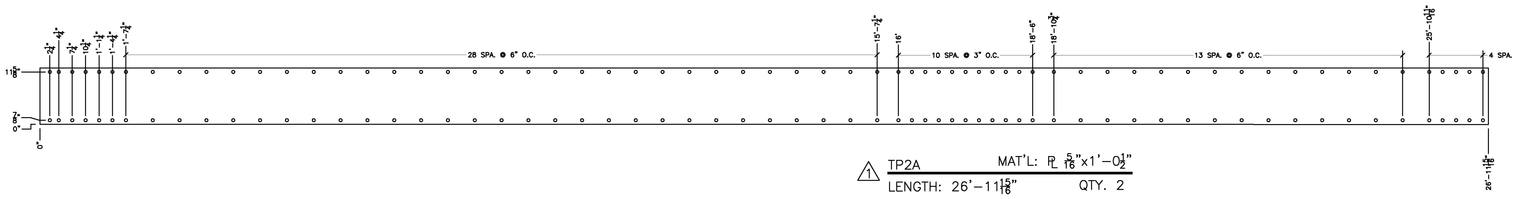
REV. NO.	DATE:
1	10/3/2012

B.
R
I

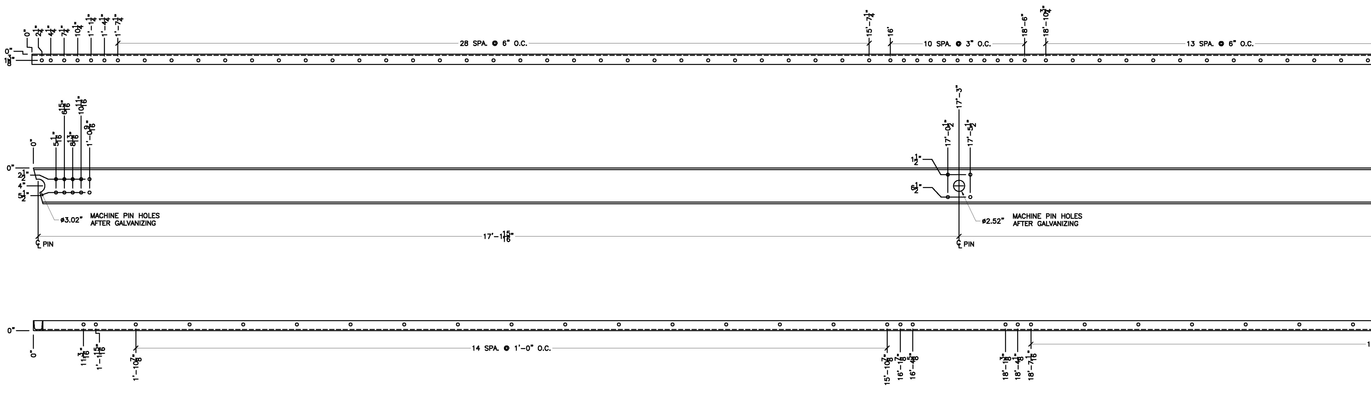
C:\Users\ABuckley\Documents\Works in Progress\Wilder\Drawings & Dimensions\New Top Chord Details.dwg, 10/3/2012 3:06:16 PM



1 EC3 MAT'L C8X11.5
LENGTH: 34'-5 15/16" QTY. 2



1 TP2A MAT'L: PL 5/16"x1'-0 1/2"
LENGTH: 26'-11 15/16" QTY. 2



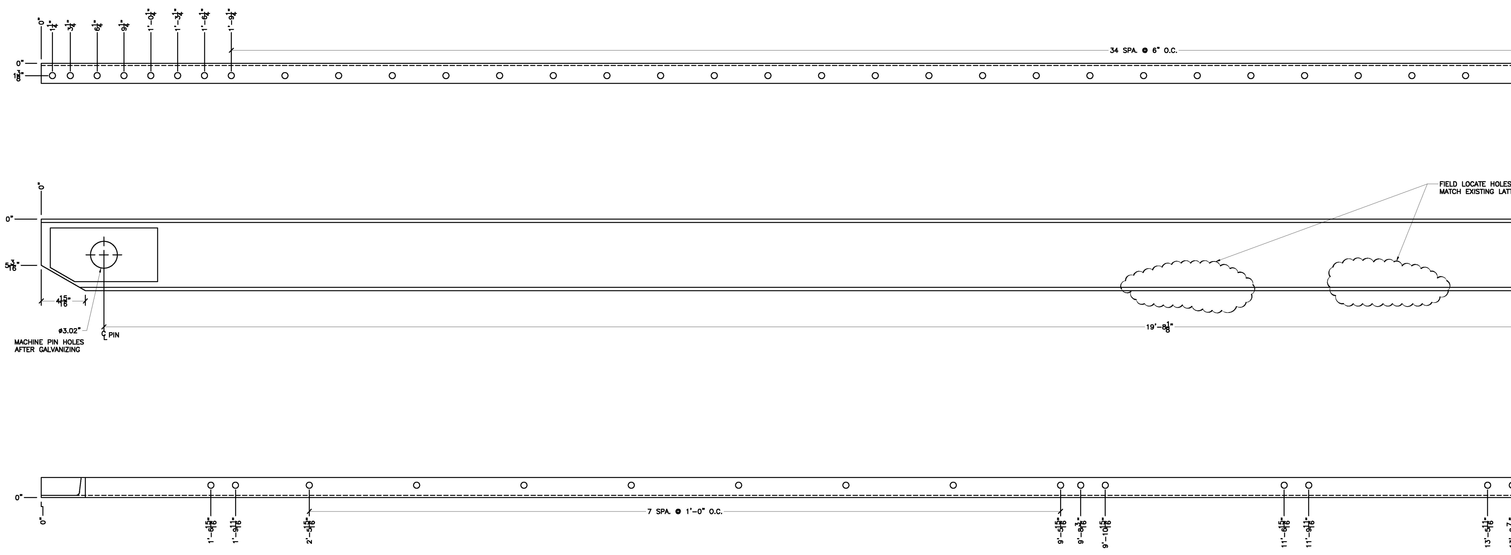
1 EC4 MAT'L C8X11.5
LENGTH: 34'-5 15/16" QTY. 2

Vermont Agency of Transportation
RECEIVED
CK'D BY TCF OK'D BY KMH
October 5, 2012
RESUBMIT _____ APPROVED X
BY KMH DATE 10/5/2012

REV. NO.	DATE:
1	10/3/2012

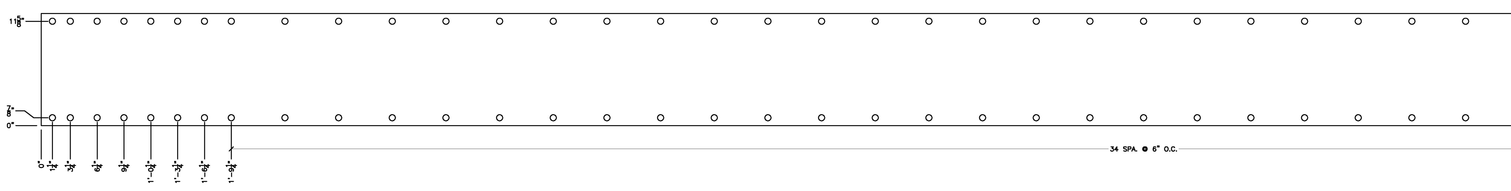
B.

C:\Users\ABuckner\Documents\Works in Progress\Wilder\Drawings & Dimension\Mass Top Chord Details.dwg, 10/3/2012 3:06:22 PM



EC1 MAT'L C8X11.5

LENGTH: 20'-4 3/16" QTY. 4



TP1 MAT'L: PL 5/16"X1'-0 1/2"

LENGTH: 20'-4 3/16" QTY. 4

Vermont Agency of Transportation

RECEIVED

CK'D BY TCF OK'D BY KMH

October 5, 2012

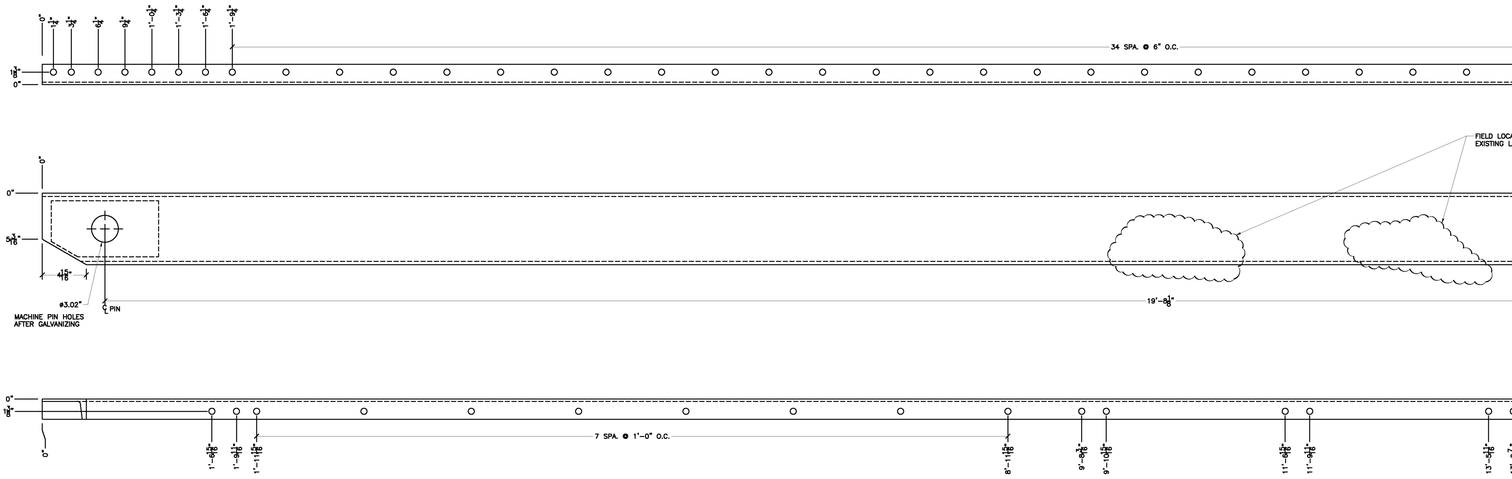
RESUBMIT _____ APPROVED X

BY KMH DATE 10/5/2012

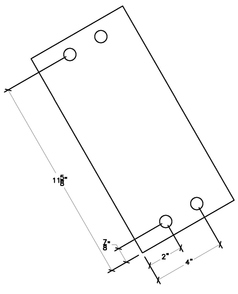
REV. NO.	DATE:
1	10/3/2012

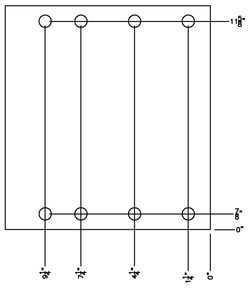
B.

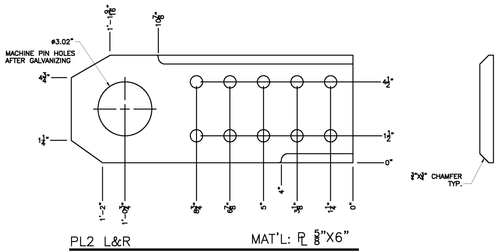
C:\Users\ABouchard\Documents\Works in Progress\Widen\Drawings & Dimensions\Mass Top Chord Details.dwg, 10/3/2012 3:06:23 PM



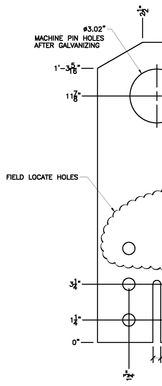
EC2 MAT'L C8X11.5
LENGTH: 20'-4 3/16" QTY. 4



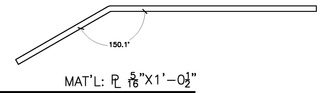




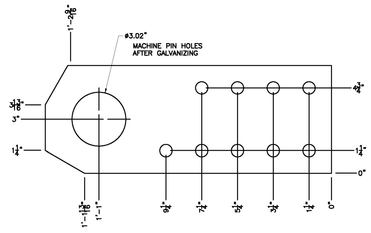
PL2 L&R MAT'L: PL 5/8"X6"
LENGTH: 1'-3¾" QTY. 4 R.H. & 4 L.H.



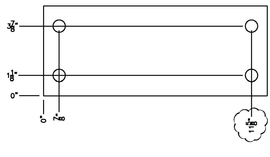
PL3 (FCM) MA
LENGTH: 1'-4¾"



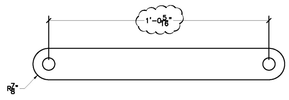
PL1 MAT'L: PL 5/16"X1'-0½"
LENGTH: 1'-5⅝" QTY. 4



PL4 MAT'L: PL 5/8"X6"
LENGTH: 1'-4" QTY. 8



1 M1 MAT'L: PL ⅜"X5"
LENGTH: (1'-0½") QTY. 28



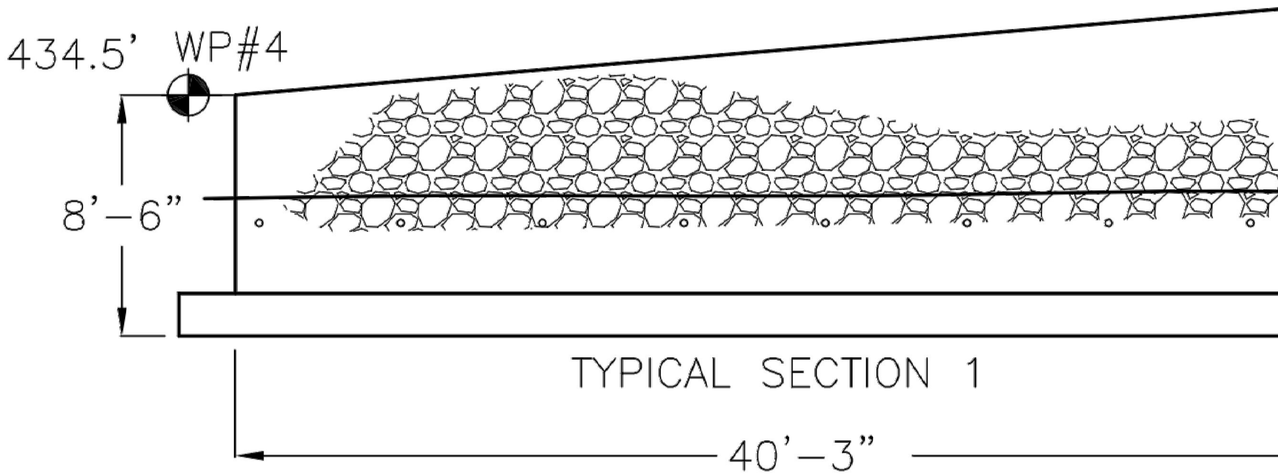
1 3R MAT'L: PL ⅜"X1¼"
LENGTH: (1'-2 1/16") QTY. 216

Vermont Agency of Transportation
RECEIVED
CK'D BY TCF OK'D BY KMH
October 5, 2012
RESUBMIT _____ APPROVED X
BY KMH DATE 10/5/2012

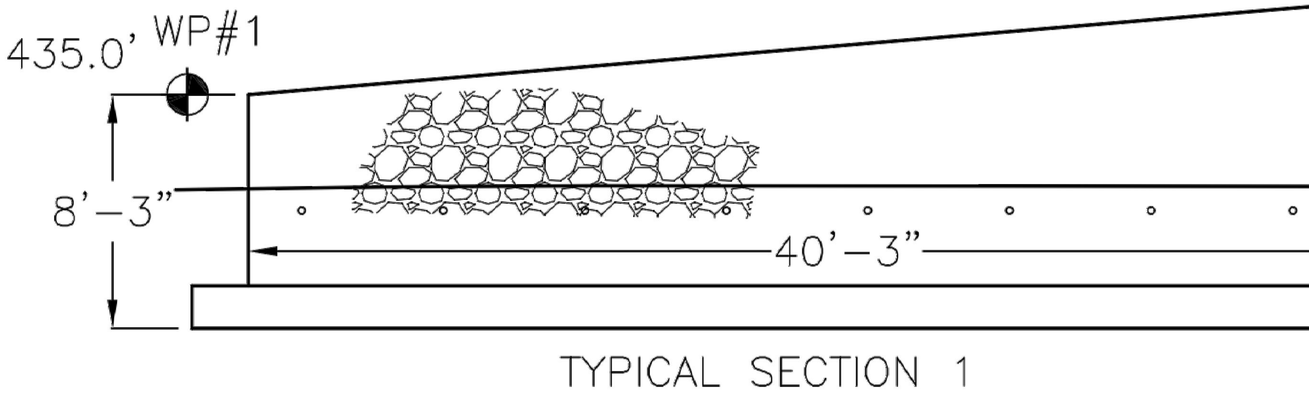
REV. NO.	DATE:
1	10/3/2012

B.
R
I

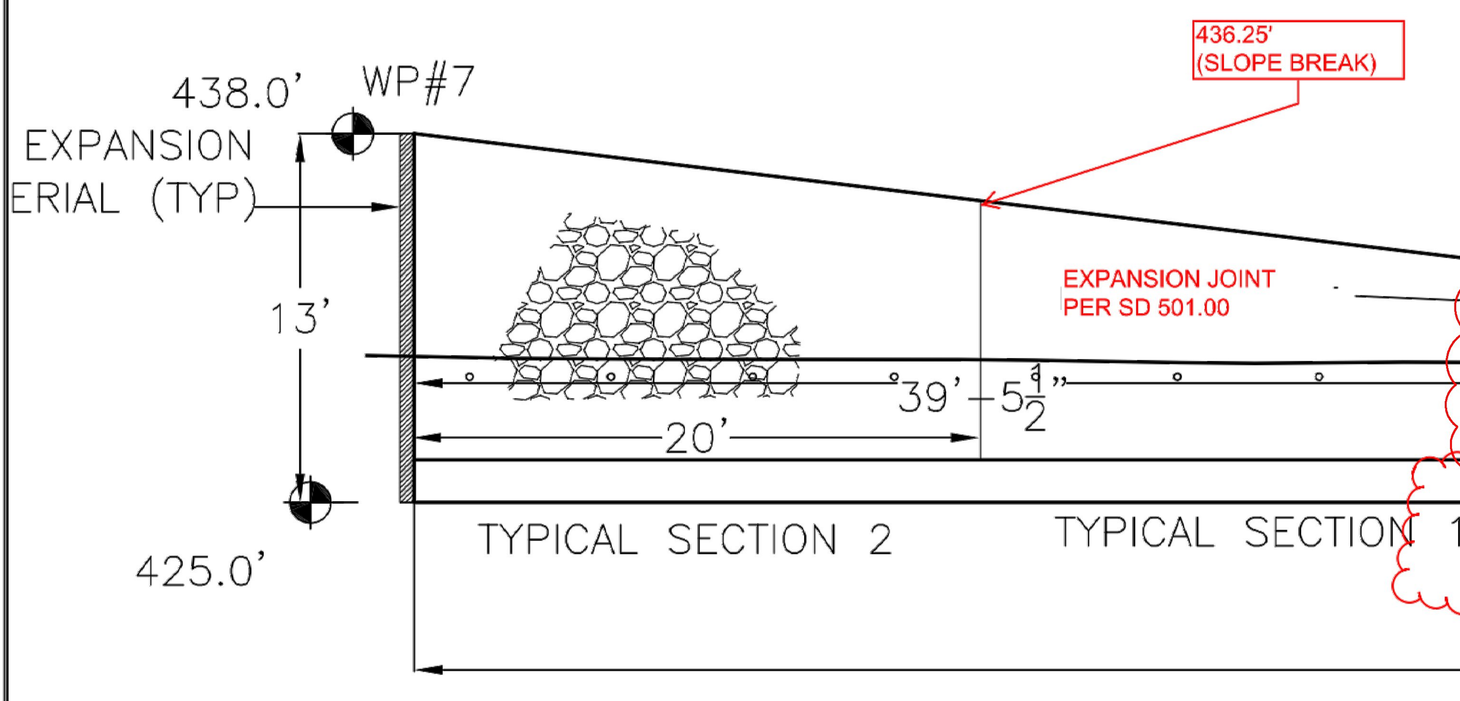
C:\Users\ABouchard\Documents\Works in Progress\Wilder\Drawings & Dimensions\Mass Top Chord Details.dwg, 10/3/2012 4:39:06 PM



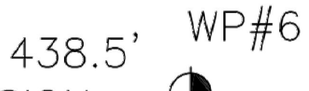
ELEVATION RETAINING WALL WW #1 1"=5'



ELEVATION RETAINING WALL WW #2 1



ELEVATION RETAINING WALL W



L. B. Foster Co.

Welding Procedure Specification

2F PAN

Material Spec. **ASTM A709Gr.50 to A366 20 Ga.**

Welding Process(es) **GMAW**

Position of Welding **Horizontal**

Manual ☐ Machine ☐ Semi-Automatic ☒ Automatic ☐

Filler Metal Specification **ER70-S3** **Lincoln SuperArc L-50**

Filler Metal Classification **AWS 5.18**

Flux **N/A**

Shielding Gas **80% Argon 20% CO2 (Dew Point<-65°F)** Gas Flow Rate **30 CFH**

Single or Multiple Pass **Single**

Single or Multiple Arc **Single**

Welding Current **Direct Current**

Polarity: AC ☐ DCEP ☒ DCEN ☐ Pulsed ☐

Welding Progression Up ☐ Down ☐

Root Treatment **Wire Brush**

Preheat Temperature **50 Deg. F Min.** Interpass Temperature **N/A**

Postheat Treatment **None**

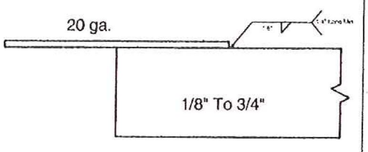
Heat Input Min _____ Max _____

WELDING PROCEDURE

Pass No.	Electrode Size	Amperes	Volts	Travel Speed	Other
All	.045"	260	22	15 IPM	
	Max.	286	24	16 IPM	
	Min.	234	20	14 IPM	

VTRANS
RECEIVED
CK'D BY _____ OK'D BY JWC
FEB 18 2011
RESUBMIT _____ APPROVED ✓
BY KMH DATE 2/24/11

Joint Detail



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

Procedure No. **2F Pan** Contractor **L.B Foster Co.**

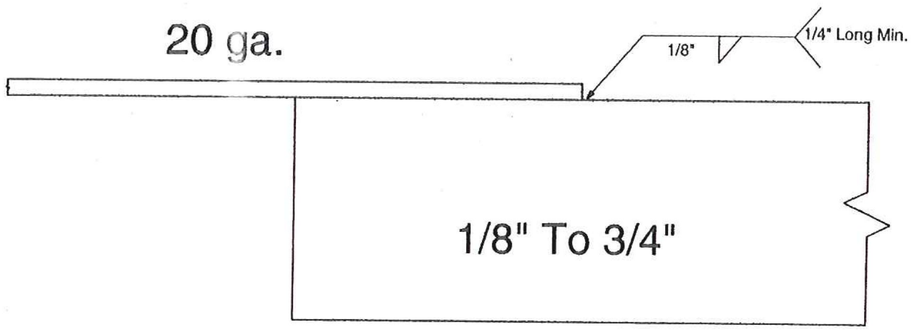
Revision No. **1** Authorized By **Timothy A. Miller** Date **2/23/2010**

L. B. Foster Co.

Welding Procedure Specification

2F PAN

Joint Detail



MEMO

This WPS written in conformance with AWS D1.3 2008

For Bridge Flooring Form Pan Attachment Welding Only.

RECEIVED

CK'D BY_____ OK'D BY_____

FEB 16 2011

RESUBMIT_____ APPROVED ✓

BY KMH DATE 2/24/11

L.B. Foster Co.

Welding Procedure Specification

1F (AWS)

Material Spec. ASTM A709Gr.36, 50 & 50W, A588, A572, A992 Gr. 36, A36, A615M Gr.420

Welding Process(es) GMAW

Position of Welding Flat

Manual ☐ Machine ☐ Semi-Automatic ☒ Automatic ☐

Filler Metal Specification AWS A5.18

Filler Metal Classification ER70S-3 (Lincoln L-50 Superarc)

Flux N/A

Shielding Gas 80% Argon 20% CarbonDioxide Gas Flow Rate 30 CFH

Single or Multiple Pass Single

Single or Multiple Arc Single

Welding Current Direct Current

Polarity: AC ☐ DCEP ☒ DCEN ☐ Pulsed ☐

Welding Progression Up ☐ Down ☐

Root Treatment Wire Brush

Preheat Temperature See Notes Interpass Temperature

Postheat Treatment N/A

Heat Input Min Max

VTRANS RECEIVED FEB 16 2011

CK'D BY OK'D BY JW

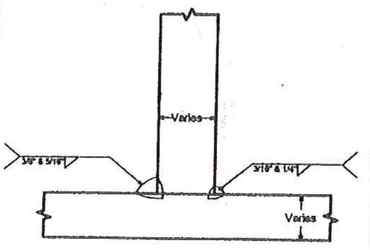
RESUBMIT APPROVED ✓

BY KMH DATE 2/24/11

WELDING PROCEDURE

Pass No.	Electrode Size	Amperes	Volts	Travel Speed	Other
3/16"	0.045"	270	26	9 IPM	
1/4"	0.045"	270	26	9 IPM	
5/16"	0.045"	270	26	9 IPM	
3/8"	0.045"	270	26	9 IPM	
	Min.	243	24	8 IPM	
	Max.	297	28	10 IPM	

Joint Detail



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

Procedure No. 1F (AWS) Contractor L. B. Foster Co.

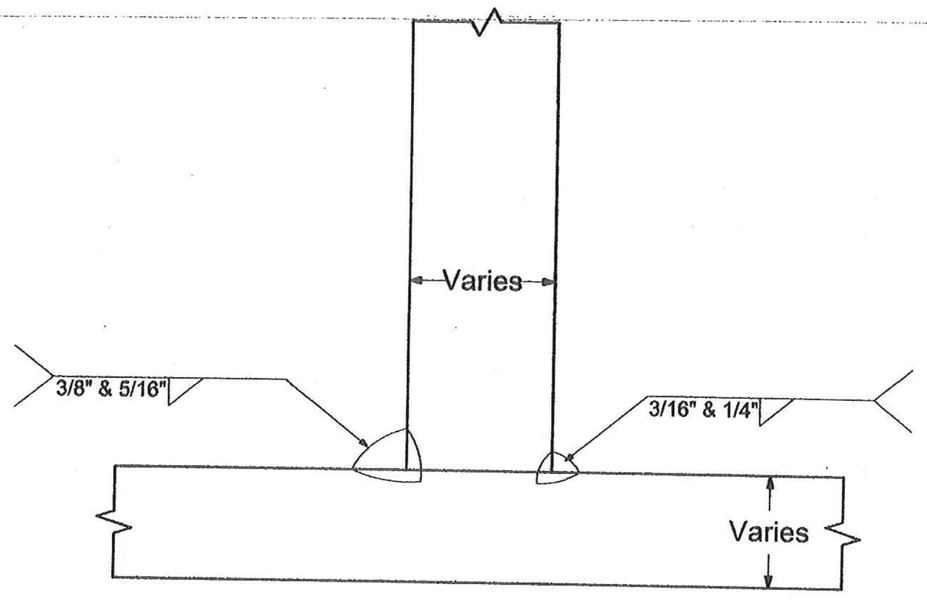
Revision No. Authorized By Julian M. Pedrazzani Date 4/15/2009

L.B. Foster Co.

Welding Procedure Specification

1F (AWS)

Joint Detail



MEMO

Preheat Treatment:
50 Deg. F up to 3/4";
over 3/4" to 1 1/2" 70 Deg. F;
over 1 1/2" to 2 1/2" 150 Deg. F

Supporting LBF PQR 2009 A Expire March 2014

For Bridge Flooring

RECEIVED
CK'D BY_____ OK'D BY_____
FEB 18 2011
RESUBMIT_____ APPROVED ✓
BY KMH DATE 2/24/11

L.B. Foster Co.

Welding Procedure Specification

2F (AWS)

Material Spec. ASTM A709Gr.36, 50 & 50W, A588, A572, A992 Gr. 36, A36

Welding Process(es) GMAW

Position of Welding Horizontal

Manual ☐ Machine ☐ Semi-Automatic ☒ Automatic ☐

Filler Metal Specification AWS A5.18

Filler Metal Classification ER70S-3 (Lincoln L-50 Superarc)

Flux N/A

Shielding Gas 80% Argon 20% CarbonDioxide Gas Flow Rate 30 CFH

Single or Multiple Pass Single

Single or Multiple Arc Single

Welding Current Direct Current

Polarity: AC ☐ DCEP ☒ DCEN ☐ Pulsed ☐

Welding Progression Up ☐ Down ☐

Root Treatment Wire Brush

Preheat Temperature See Notes Interpass Temperature

Postheat Treatment N/A

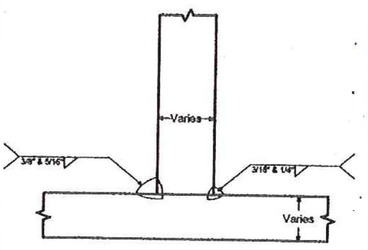
Heat Input Min Max

VTRANS
RECEIVED
CK'D BY OK'D BY JWC
FEB 18 2011
RESUBMIT APPROVED √
BY KMH DATE 2/24/11

WELDING PROCEDURE

Pass No.	Electrode Size	Amperes	Volts	Travel Speed	Other
3/16"	0.045"	270	26	9 IPM	
1/4"	0.045"	270	26	9 IPM	
5/16"	0.045"	270	26	9 IPM	
3/8"	0.045"	270	26	9 IPM	
	Min.	243	24	8 IPM	
	Max.	297	28	10 IPM	

Joint Detail



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

Procedure No. 2F (AWS) Contractor L. B. Foster Co.

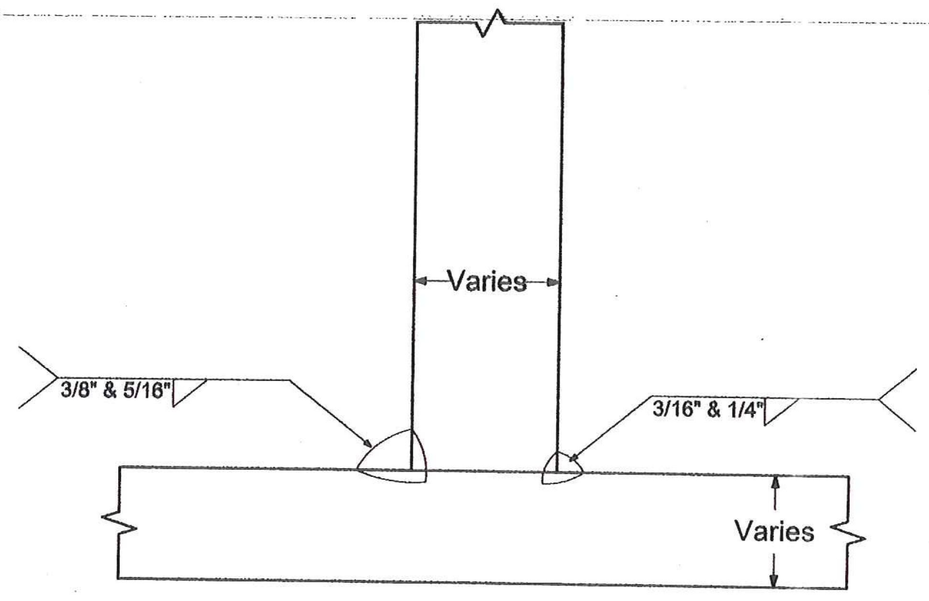
Revision No. Authorized By Julian M. Pedrazzani Date 4/15/2009

L.B. Foster Co.

Welding Procedure Specification

2F (AWS)

Joint Detail



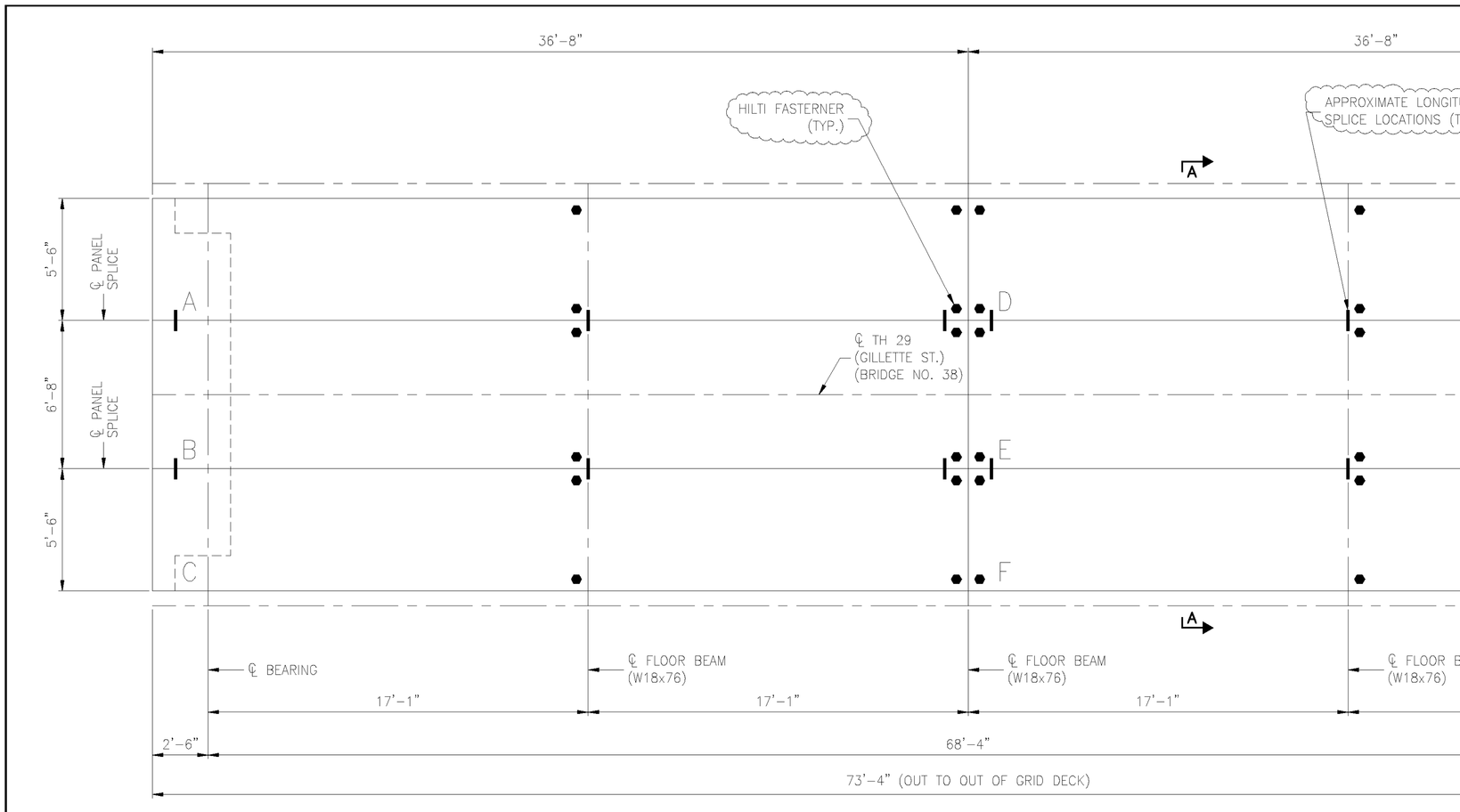
MEMO

Preheat Treatment:
50 Deg. F up to 3/4";
over 3/4" to 1 1/2" 70 Deg. F;
over 1 1/2" to 2 1/2" 150 Deg. F

Supporting LBF PQR 2009 A Expire March 2014

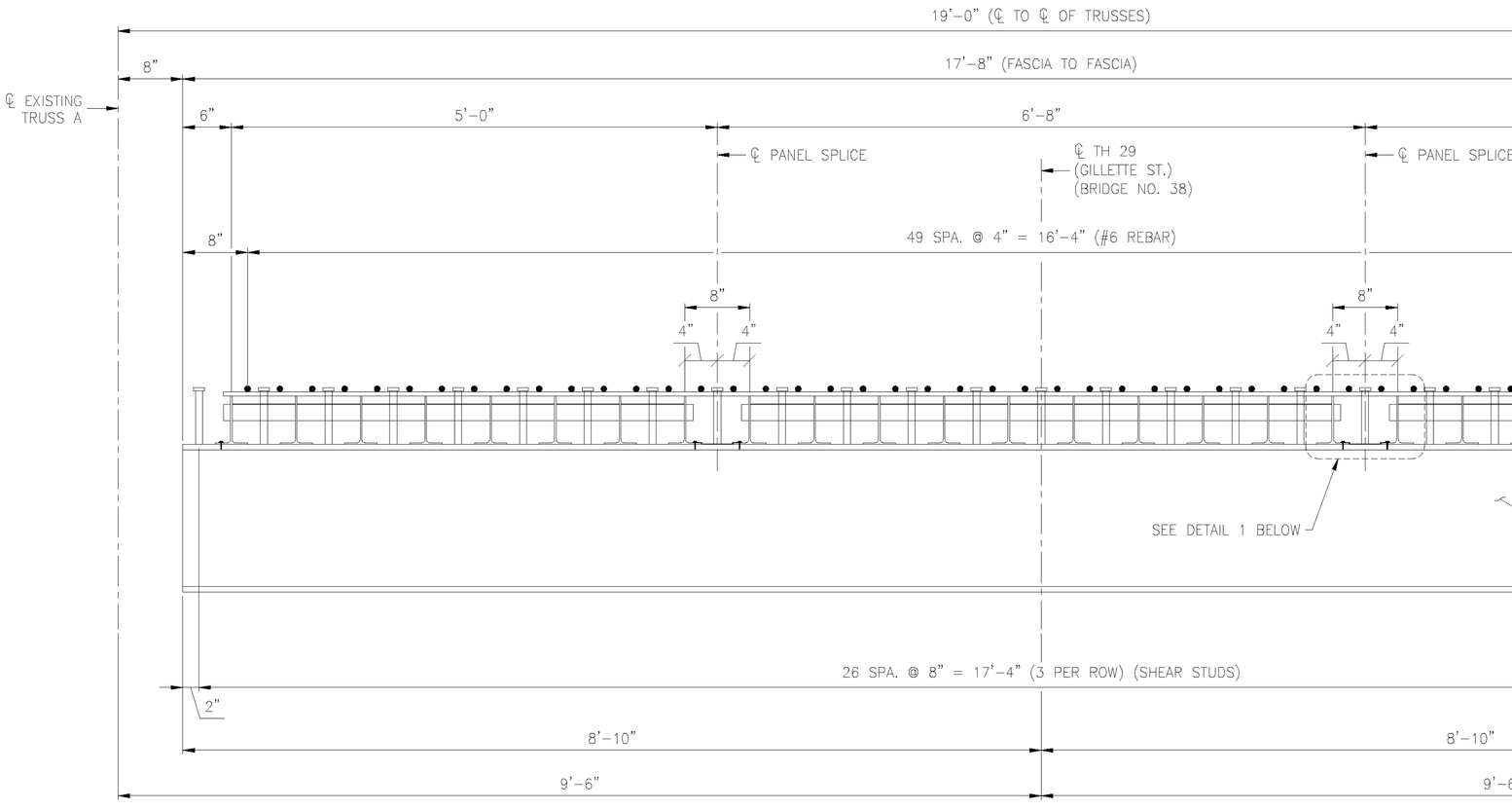
For Bridge Flooring

RECEIVED
CK'D BY_____ OK'D BY_____
FEB 16 2011
RESUBMIT_____ APPROVED ✓
BY KmH DATE 2/24/11

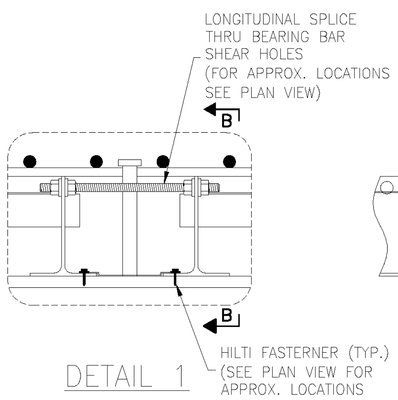


PLAN VIEW

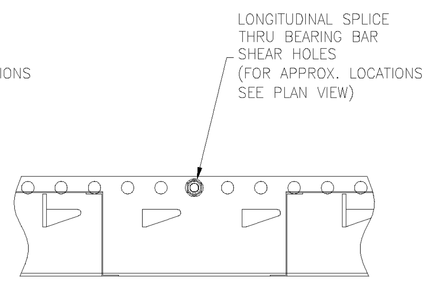
PROJECT NAME: HARTFORD
PROJECT NUMBER: STP 14



SECTION A-A
BRIDGE CROSS SECTION



DETAIL 1



SECTION B-B