

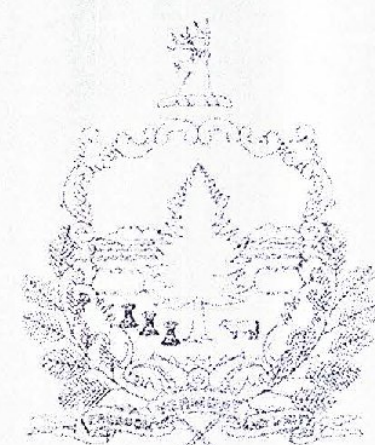
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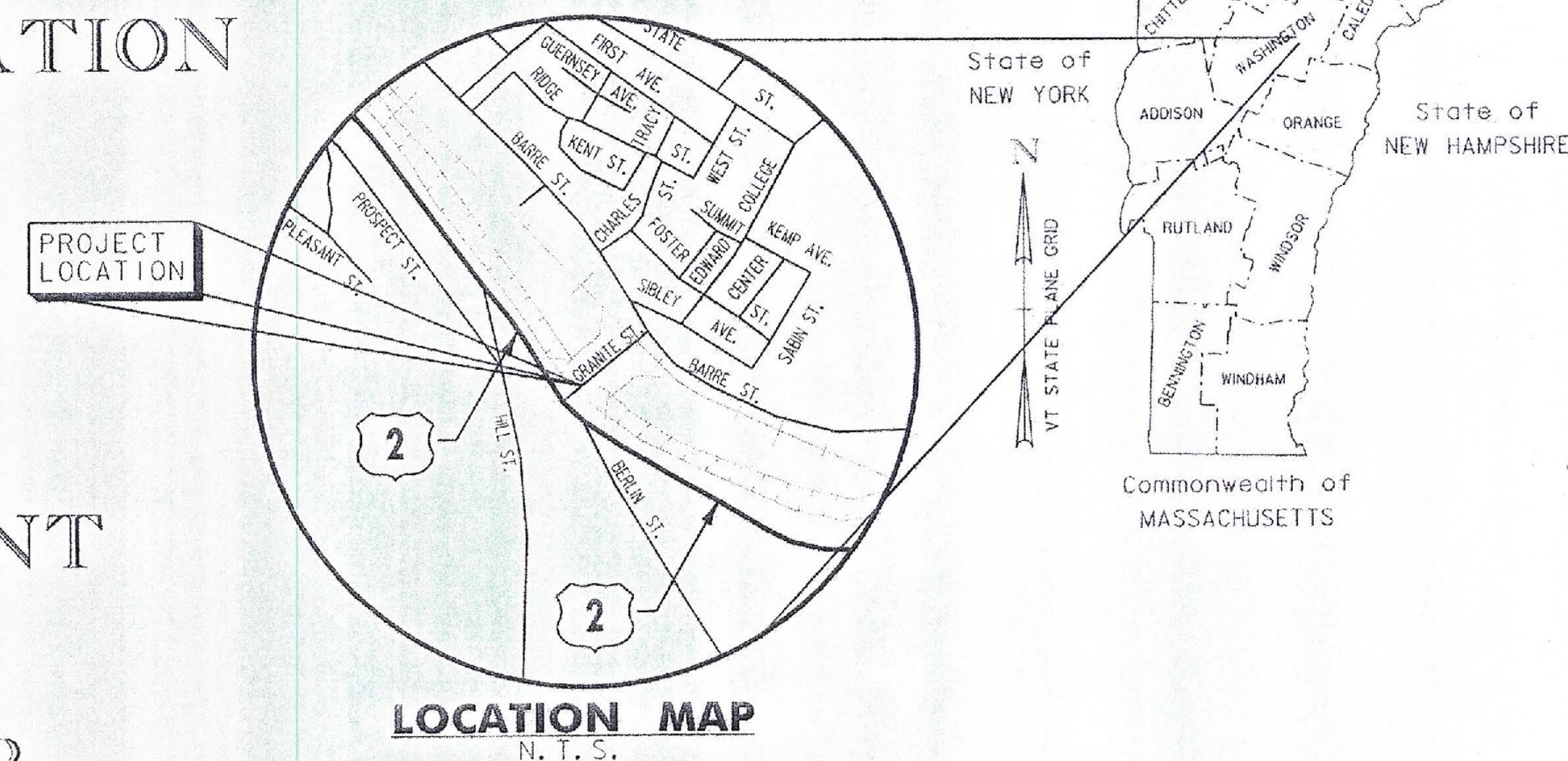
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# STATE OF VERMONT AGENCY OF TRANSPORTATION



## PROPOSED IMPROVEMENT BRIDGE PROJECT CITY OF MONTPELIER COUNTY OF WASHINGTON BRIDGE NO.17



BEGINNING AT A POINT ON GRANITE STREET APPROXIMATELY 225 FEET NORTHEAST OF THE INTERSECTION OF GRANITE STREET AND RIVER STREET (U.S. ROUTE 2) AND EXTENDING SOUTHWESTERLY ALONG GRANITE STREET FOR APPROXIMATELY 205.6 FEET.

THIS PROJECT INVOLVES CLEANING AND PAINTING THE EXISTING STEEL SUPERSTRUCTURE AND MINOR ASSOCIATED WORK.

### RECORD PLANS

CONTRACTOR: MODERN PROTECTIVE COATINGS, INC. - BERLIN, VT

RESIDENT ENGINEER: JOSH HULETT

CONSTRUCTION BEGAN: SEPTEMBER 8, 2014

CONSTRUCTION COMPLETE: NOVEMBER 21, 2014

RECORD PLANS BY: JOSH HULETT & PERCY BANNERMAN

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

BY Josh Hulett RESIDENT ENGINEER

DATE MAY 7, 2015

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.

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

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

QUALITY ASSURANCE PROGRAM : LEVEL 3

DATUM

VERTICAL N/A

HORIZONTAL N/A

|  |                                                                                                                                |                                                                                    |
|--|--------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|  |                                                                                                                                | DIRECTOR OF PROGRAM DEVELOPMENT                                                    |
|  | Stantec Consulting Services Inc.                                                                                               | APPROVED: <u>Richard Sargent</u> DATE <u>6-11-14</u>                               |
|  | 55 Green Mountain Drive<br>South Burlington VT U.S.A. 05403<br>Phone: (802) 864-0223<br>Fax: (802) 864-0165<br>www.stantec.com | PROJECT MANAGER : MARK SARGENT                                                     |
|  |                                                                                                                                | PROJECT NAME : MONTPELIER<br>PROJECT NUMBER : BF BPNT (17)<br>SHEET 1 OF 16 SHEETS |



PROJECT NOTES

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION 2011 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND ITS LATEST REVISIONS AND THE 5TH EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATION AND ITS LATEST REVISIONS.
2. ALL WORK AND ANY ASSOCIATED ACTIVITY ON THIS PROJECT SHALL BE PERFORMED WITHIN THE EXISTING RIGHT-OF-WAY LIMITS AS SHOWN IN THE REFERENCE PLANS.
3. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID DAMAGE TO THE EXISTING BRIDGE DECK, SIDEWALK AND APPROACH PAVEMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RESTORATION OF ANY PROPERTY WHICH HAS BEEN DAMAGED DURING THE PROSECUTION OF WORK.
4. DIMENSIONS SHOWN ON EXISTING DETAILS ARE TAKEN FROM THE EXISTING FABRICATION PLANS AND LIMITED FIELD MEASUREMENTS AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING DETAILS NECESSARY FOR THE COMPLETION OF ALL WORK BY FIELD MEASUREMENT AND SURVEY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ADEQUACY AND ACCURACY THEREOF, AND SHALL NOT ORDER ANY MATERIAL OR COMMENCE ANY FABRICATION UNTIL THE REQUIRED MEASUREMENTS ON THE EXISTING STRUCTURE HAVE BEEN OBTAINED. FOR EMPHASIS ONLY, SOME PROPOSED DIMENSIONS ARE NOTED AS "VERIFY IN FIELD" OR "VIF", THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND DETAILS.

PROTECTIVE COATINGS

5. ALL EXISTING STEEL SHALL BE CLEANED AND PAINTED IN ACCORDANCE WITH ITEM 900.645 SPECIAL PROVISION (QC/QA CLEAN AND PAINT EXISTING STEEL STRUCTURES, BARE STEEL). THE SURFACE PREPARATION OF THE EXISTING STEEL SHALL INCLUDE 100% REMOVAL OF THE EXISTING PAINT SYSTEM. NEW STEEL AND RAILING MEMBERS SHALL BE SHOP PRIMED AND FIELD PAINTED WITH THE SAME TOPCOAT AS THE EXISITNG STEEL.
6. THE COLOR OF THE FINAL COAT OF PAINT SHALL BE GREEN (FEDERAL CHIP NO. 24112) IN ACCORDANCE WITH THE FEDERAL STANDARD NO. 595.
7. THE EXISTING STRUCTURAL STEEL ON THIS PROJECT WAS PAINTED WITH A MATERIAL WHICH MAY CONTAIN LEAD. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, IT'S OFFICERS AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE STRUCTURAL STEEL. TEN DAYS PRIOR TO COMMENCING WORK WHICH INVOLVES THE HANDLING OR DISTURBANCE OF PAINTED COMPONENTS, THE CONTRACTOR SHALL PROVIDE DOCUMENTS TO THE ENGINEER, AS REFERENCED IN THE SPECIAL PROVISIONS.
8. A COAT OF GREASE RUSTPROOFING COMPOUND SHALL BE APPLIED TO THE EXISTING GUSSET PLATES ON THE LOWER PORTION OF THE TRUSS (BELOW THE TOP OF THE BRIDGE DECK). COST TO BE INCLUDED IN ITEM 900.645 SPECIAL PROVISION (QA/QC CLEAN AND PAINT EXISTING STEEL STRUCTURES, BARE STEEL).

UTILITIES

9. EXISTING UTILITIES WILL BE RELOCATED BY OTHERS IN ACCORDANCE WITH SHT. 6.

BRIDGE REPAIRS AND MODIFICATIONS

10. EXISTING BRIDGE RAILING SHALL BE REMOVED IN ACCORDANCE WITH ITEM 525.10 AND REPLACED WITH NEW STEEL BRIDGE RAIL IN ACCORDANCE WITH ITEM 900.640 SPECIAL PROVISION (BRIDGE RAILING, TRUSS). REFER TO SHT. 7 THRU 9 FOR DETAILS.
11. THE EXISTING TIMBER CURB SHALL BE REMOVED. THE CONTRACTOR SHALL FURNISH AND INSTALL NEW TIMBER CURB IN ACCORDANCE WITH SECTION 522. REFER TO SHT. 10 FOR DETAILS. PAYMENT FOR REMOVAL OF THE EXISTING CURBING WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 529.20. PAYMENT FOR THE NEW CURBING WILL BE MADE UNDER ITEM 616.35.
12. THE EXISTING GLULAM TIMBER DECK SHALL BE PARTIALLY REMOVED ("SCALLOPED") AT INTERSECTIONS WITH TRUSS MEMBERS TO FACILITATE CLEANING AND PAINTING OF THE TRUSS MEMBERS. REFER TO SHT. 10 FOR DETAILS. CARE SHALL BE USED TO AVOID DAMAGE TO REMAINING STRUCTURE. COST TO BE INCLUDED UNDER ITEM 529.20 "PARTIAL REMOVAL OF STRUCTURE".
13. ITEM 529.20 "PARTIAL REMOVAL OF STRUCTURE" SHALL INCLUDE ALL PARTIAL REMOVAL, DISASSEMBLY AND REASSEMBLY (WHERE REQUIRED) AS NECESSARY TO COMPLETE THE CLEANING, PAINTING AND REPLACEMENT OF THE BRIDGE RAILING. THE COST OF THIS ITEM SHALL INCLUDE THE FOLLOWING:

-REMOVAL OF THE EXISTING TIMBER CURB.

-PARTIAL REMOVAL OF THE EXISTING TIMBER DECK.

-REMOVAL OF EXISTING LACING IN AREAS WHERE REQUIRED FOR INSTALLATION OF BRIDGE RAILING.

-REMOVAL AND RESETTING SIDEWALK PLANKING AS NECESSARY TO CLEAN AND PAINT TRUSS MEMBERS.

PARTIAL REMOVAL AND DISASSEMBLY ASSOCIATED WITH THE REPAIR OR REPLACEMENT OF STRUCTURAL STEEL WILL NOT BE INCLUDED UNDER ITEM 529.20 AND SHALL BE INCIDENTAL TO ITEM 506.60.

TRAFFIC CONTROL/STAGING

13. THE CONTRACTOR SHALL DEVELOP A SITE SPECIFIC TRAFFIC CONTROL PLAN TO DETOUR TRAFFIC INCLUDING PEDESTRIAN AND BICYCLE TRAFFIC AROUND THE PROJECT SITE DURING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE THE PROPOSED DETOUR OF PEDESTRIANS WITH THE CITY OF MONTPELIER'S ASSISTANT DIRECTOR OF PUBLIC WORKS, TOM McARDLE (802-223-9508). THE CONTRACTOR SHALL DEVELOP THE DETOUR PLAN, INCLUDING A SIGN PACKAGE IN ACCORDANCE WITH THE CURRENT MUTCD AND SUBMIT THE PLAN FOR REVIEW BY THE ENGINEER. THE CONTRACTOR SHALL ALLOW THE ENGINEER 14 DAYS TO REVIEW AND ACCEPT THE PLAN BEFORE IT IS IMPLEMENTED. DEVELOPMENT AND IMPLEMENTATION OF THE PEDESTRIAN DETOUR PLAN INCLUDING SIGNS, CHANNELIZING DEVICES, LINESTRIPING OR OTHER INCIDENTALS SHALL BE PAID FOR UNDER ITEM 641.10.
14. THE CONTRACTOR MAY USE THE EXISTING ROADWAY (GRANITE STREET) ADJACENT TO THE EXISTING BRIDGE FOR STAGING OF EQUIPMENT. ACCESS TO EXISTING DRIVES AND SIDE STREETS MUST BE MAINTAINED AT ALL TIMES THROUGHOUT CONSTRUCTION.
15. THE EXISTING BRIDGE IS RATED FOR A MAXIMUM LOAD OF 16,000 POUNDS. CONSTRUCTION EQUIPMENT SHALL NOT EXCEED THIS LOAD LIMIT.

STRUCTURAL STEEL

16. ALL STRUCTURAL COMPONENTS OF THE BRIDGE SHALL BE INSPECTED BY THE CONTRACTOR AND THE ENGINEER FOR ADDITIONAL AREAS IN NEED OF REPAIR NOT SHOWN ON THE CONTRACT DOCUMENTS. ANY ADDITIONAL REPAIRS SHALL BE MADE AT THE DISCRETION OF THE ENGINEER AND SHALL BE APPROVED BY THE ENGINEER. ADDITIONAL REPAIRS SHALL BE PAID FOR UNDER CONTRACT ITEM 506.60. 1,000 POUNDS OF STEEL HAS BEEN INCLUDED IN THE ESTIMATED QUANTITY FOR ITEM 506.60 IN ANTICIPATION OF THE NEED FOR ADDITIONAL REPAIRS.



PROJECT NAME: MONTPELIER  
PROJECT NUMBER: BF BPNT (I7)

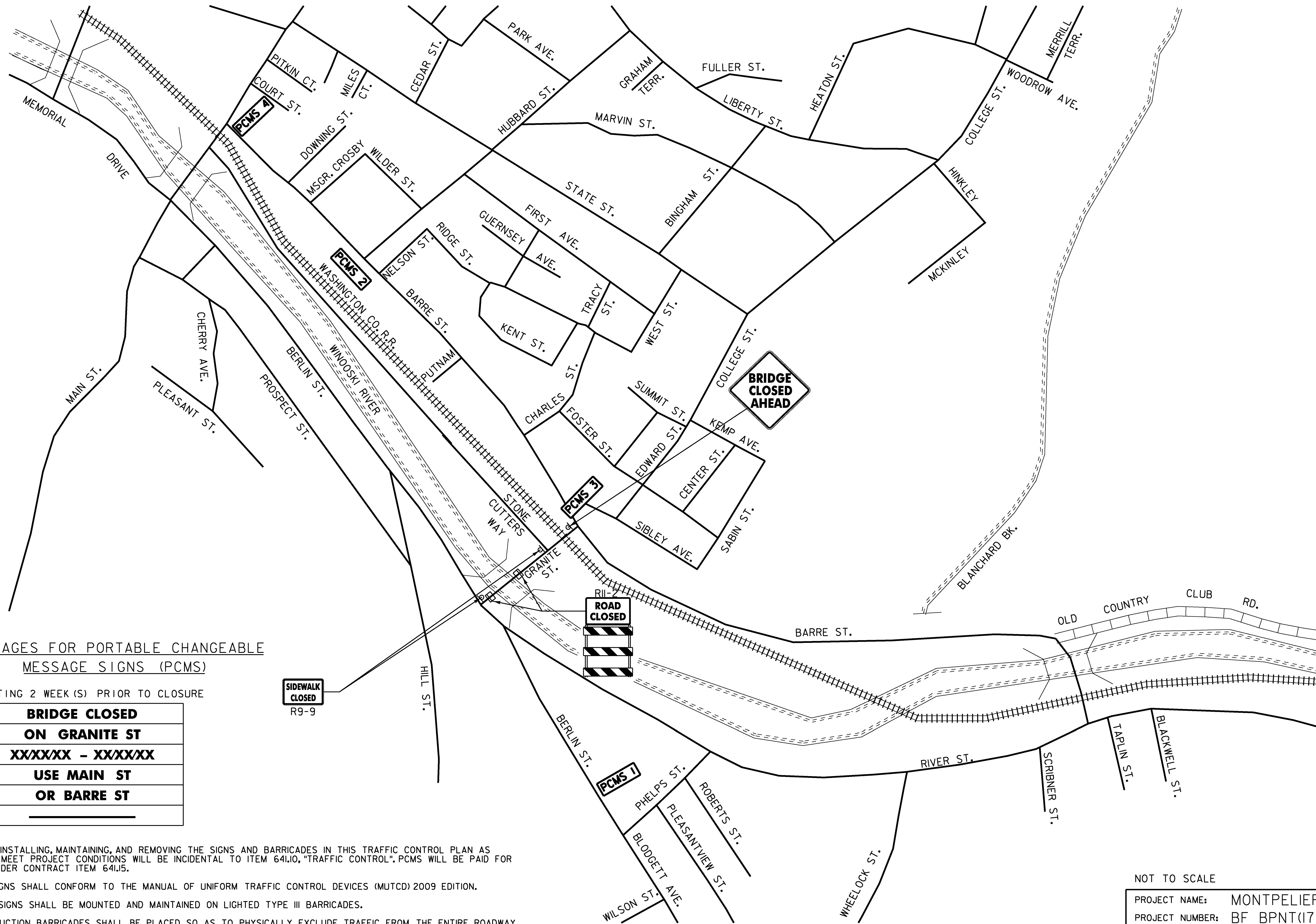
FILE NAME: z13j290frm.dgn  
PROJECT LEADER: T.KNIGHT  
DESIGNED BY: T.KNIGHT  
PROJECT NOTES

PLOT DATE: 6/23/2014  
DRAWN BY: L.BUXTON  
CHECKED BY: T.KNIGHT  
SHEET 2 OF 16



[illegible]





MESSAGES FOR PORTABLE CHANGEABLE  
MESSAGE SIGNS (PCMS)

STARTING 2 WEEK(S) PRIOR TO CLOSURE

|         |                 |
|---------|-----------------|
| PHASE 1 | BRIDGE CLOSED   |
|         | ON GRANITE ST   |
| PHASE 2 | XXXXXX - XXXXXX |
|         | USE MAIN ST     |
|         | OR BARRE ST     |

NOTES:

1. ALL COSTS OF INSTALLING, MAINTAINING, AND REMOVING THE SIGNS AND BARRICADES IN THIS TRAFFIC CONTROL PLAN AS NECESSARY TO MEET PROJECT CONDITIONS WILL BE INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL". PCMS WILL BE PAID FOR SEPARATELY UNDER CONTRACT ITEM 641.15.
2. ALL TRAFFIC SIGNS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2009 EDITION.
3. "ROAD CLOSED" SIGNS SHALL BE MOUNTED AND MAINTAINED ON LIGHTED TYPE III BARRICADES.
4. TYPE III CONSTRUCTION BARRICADES SHALL BE PLACED SO AS TO PHYSICALLY EXCLUDE TRAFFIC FROM THE ENTIRE ROADWAY WIDTH OR AT THE DISCRETION OF THE ENGINEER.
5. WHERE POSSIBLE LOCATE DETOUR ROUTE MARKER ASSEMBLIES ADJACENT TO EXISTING ROUTE MARKER ASSEMBLIES.
6. SIGN SPACING IS FOR REFERENCE ONLY, FIELD ADJUSTMENTS WILL LIKELY BE NECESSARY, AS APPROVED BY THE ENGINEER.

NOT TO SCALE

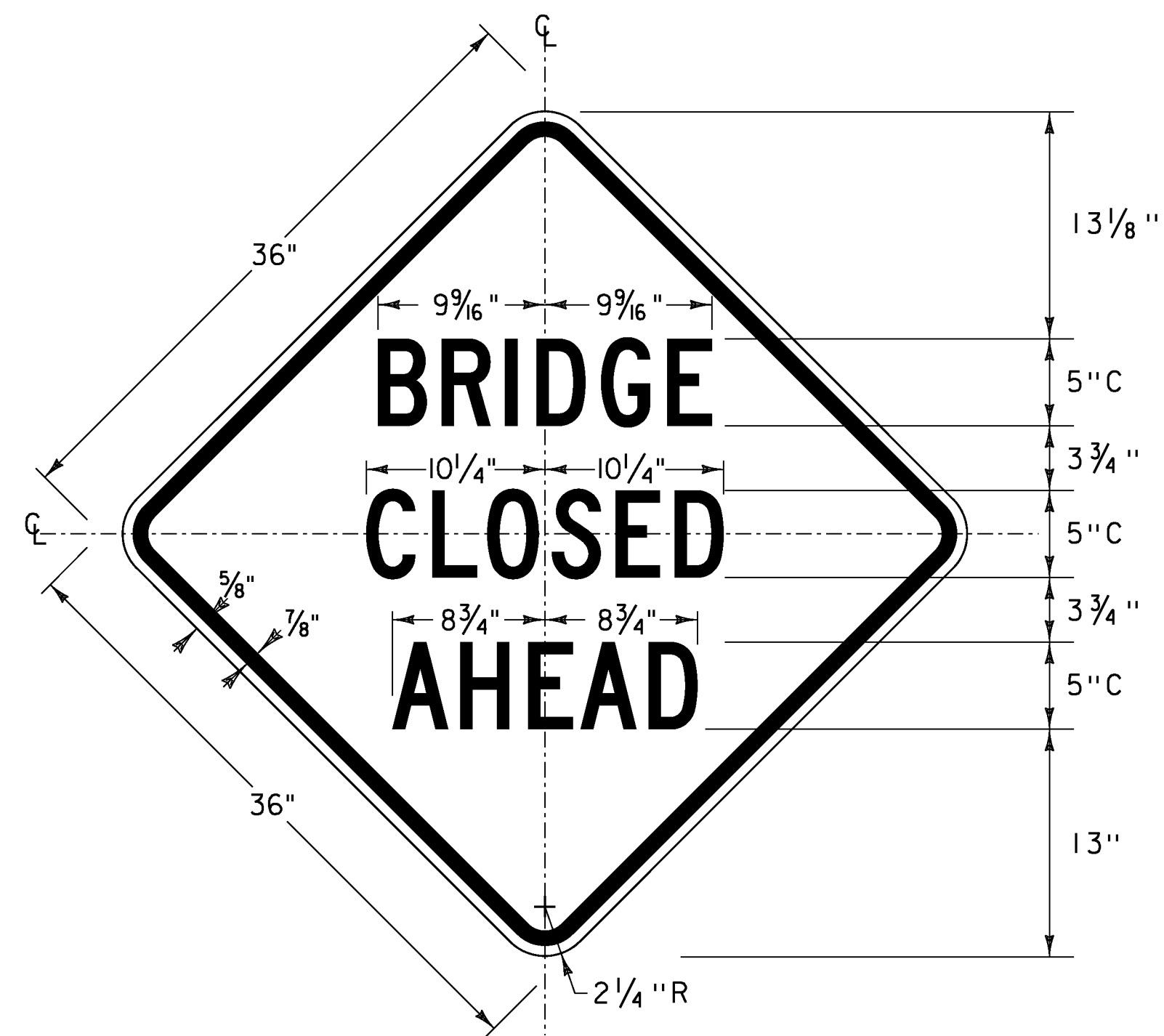
PROJECT NAME: MONTPELIER  
PROJECT NUMBER: BF BPNT(17)

FILE NAME: z13j290detour.dgn  
PROJECT LEADER: T. KNIGHT  
DESIGNED BY: D. DEBAIE  
TRAFFIC CONTROL SHEET - TCSI

PLOT DATE: 5/12/2014  
DRAWN BY: G.BARRETT  
CHECKED BY: E. ALLING  
SHEET 4 OF 16







COLOR: BLACK BORDER & SYMBOL  
WITH ORANGE (RETROREFLECTIVE) BACKGROUND

TRAFFIC SIGN NOTES

1. ALL SIGN LETTERING, DIGITS, ARROWS, AND DESIGN OF SYMBOLS FOR SIGNS REFERENCED IN THESE PLANS SHALL CONFORM WITH THE LATEST EDITION OF "STANDARD ALPHABET FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" AS ADOPTED BY THE U.S. DEPARTMENT OF TRANSPORTATION AND THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) UNLESS OTHERWISE DETAILED WITHIN THESE PLANS.
2. ALL COLORS SHALL CONFORM WITH THE STANDARD COLORS ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) AND APPROVED BY FHWA UNLESS OTHERWISE NOTED.
3. UNLESS OTHERWISE DETAILED ON THE PLANS, ALL SIGN BASE MATERIALS SHALL BE FLAT SHEET ALUMINUM WITH THE FOLLOWING MINIMUM THICKNESSES:

| SIZES     |           |           | 36" X 12" |           |
|-----------|-----------|-----------|-----------|-----------|
|           |           | 24" X 10" | 36" X 15" |           |
|           |           | 24" X 12" | 42" X 12" |           |
|           |           | 30" X 12" | 48" X 12" |           |
|           |           | 24" X 18" | 36" X 18" |           |
|           |           | 24" X 24" | 54" X 12" | 48" X 18" |
|           |           | 24" X 30" | 36" X 24" | 48" X 24" |
|           | 9" X 12"  | 30" X 15" | 30" X 42" | 48" X 30" |
|           | 12" X 12" | 30" X 18" | 36" X 36" | 48" X 42" |
|           | 18" X 18" | 30" X 30" | 36" X 48" | 48" X 48" |
|           | 21" X 15" | 30" X 42" | 36" X 54" | 48" X 60" |
| THICKNESS | 0.080"    | 0.080"    | 0.100"    | 0.125"    |

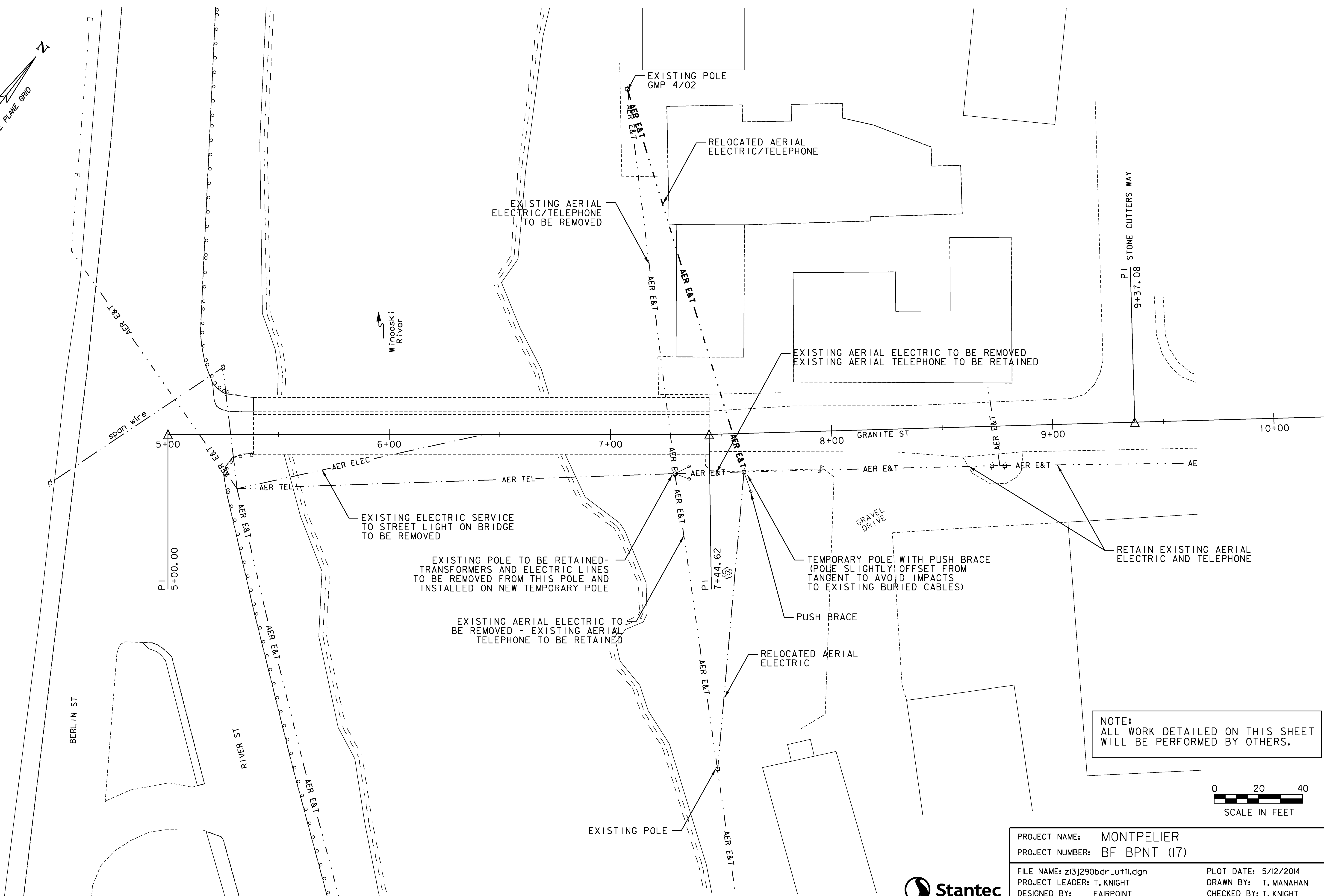
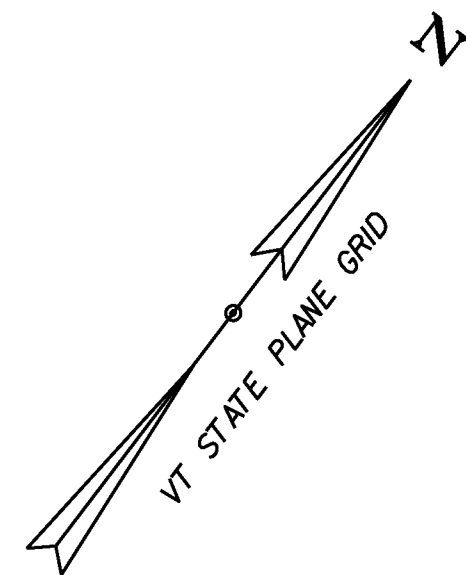
PROJECT NAME: MONTPELIER  
PROJECT NUMBER: BF BPNT (17)

FILE NAME: z13j290Sign\_details.dgn  
PROJECT LEADER: T. KNIGHT  
DESIGNED BY: D. DRAPER  
TRAFFIC SIGN SHEET - TSS 1

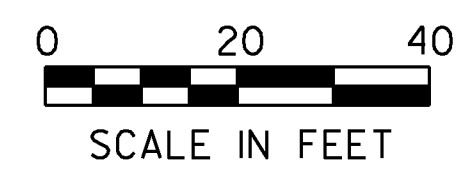
PLOT DATE: 5/12/2014  
DRAWN BY: D. DRAPER  
CHECKED BY: E. ALLING  
SHEET 5 OF 16







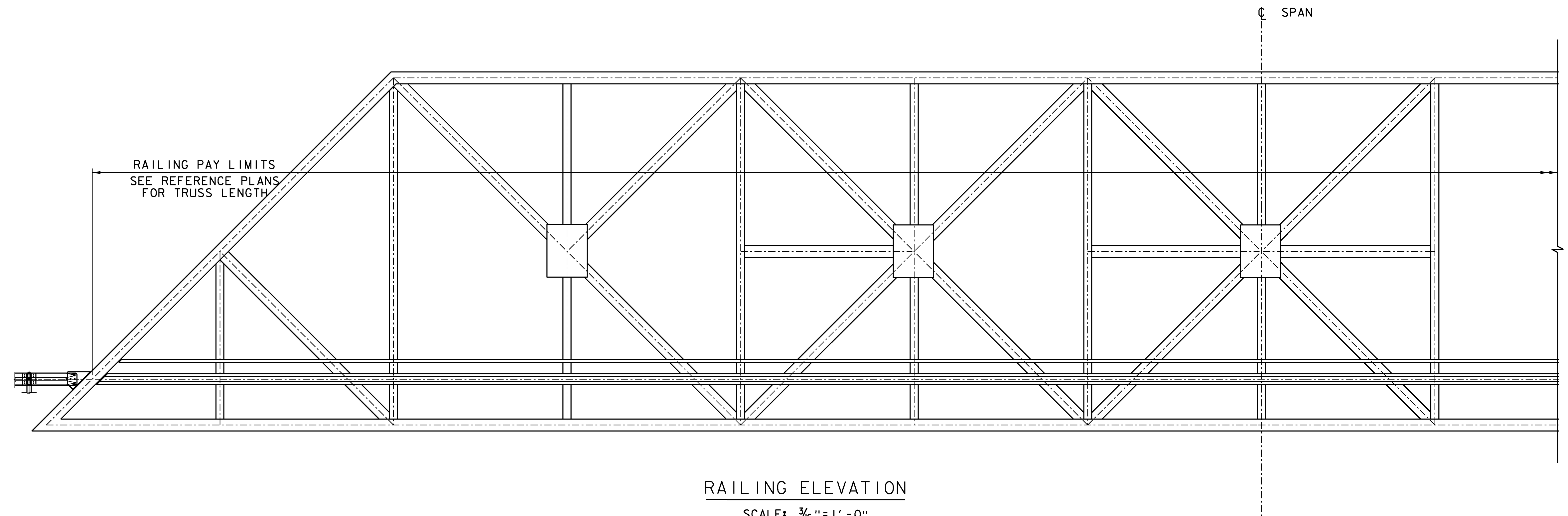
NOTE:  
ALL WORK DETAILED ON THIS SHEET  
WILL BE PERFORMED BY OTHERS.



|                                |                       |
|--------------------------------|-----------------------|
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| PROJECT NUMBER: BF BPNT (I7)   |                       |
| FILE NAME: z13j290bdr_util.dgn | PLOT DATE: 5/12/2014  |
| PROJECT LEADER: T. KNIGHT      | DRAWN BY: T. MANAHAN  |
| DESIGNED BY: FAIRPOINT         | CHECKED BY: T. KNIGHT |
| UTILITY PLAN - UTL 1           |                       |
| SHEET 6 OF 16                  |                       |



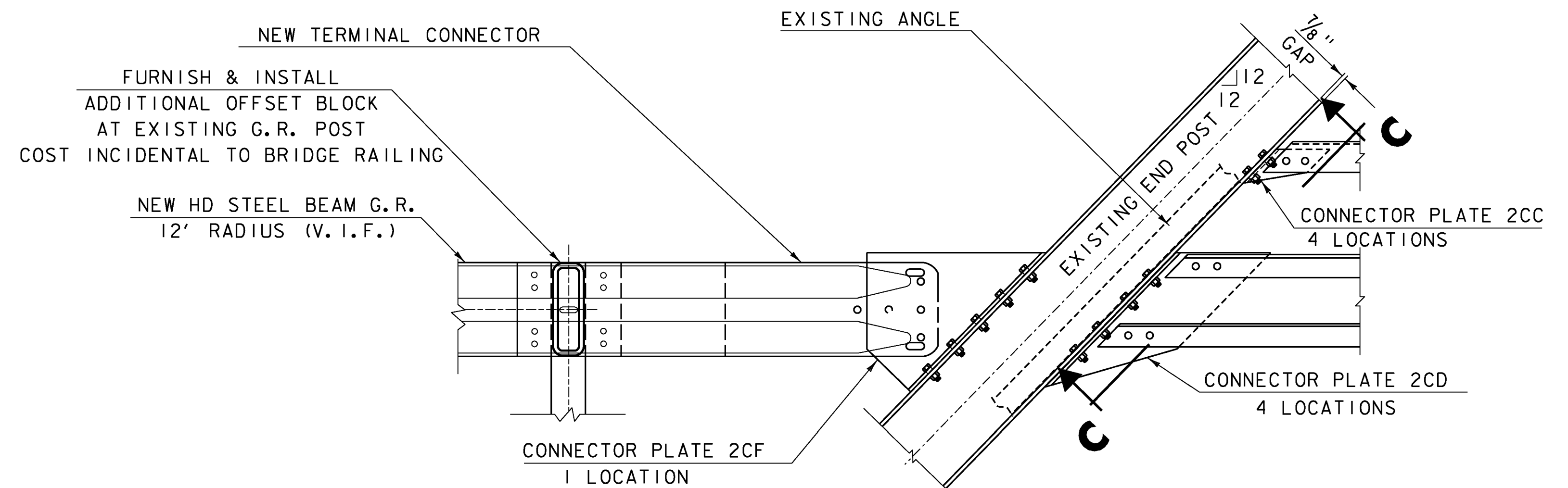




### RAILING ELEVATION

SCALE:  $\frac{3}{16}" = 1' - 0"$

(TRUSS IS SYMMETRICAL  
ABOUT CENTER OF SPAN)



### END POST CONNECTION DETAILS

SCALE 1" = 1' - 0"

### NOTE:

1. ALL HOLES SHALL BE FIELD DRILLED UNLESS OTHERWISE NOTED.
2. FOR CONNECTION PLATE DETAILS AND SECTION C-C, REFER TO RAILING DETAILS 3.

### BRIDGE RAILING NOTES

1. THE TRUSS RAILING SHALL BE PAID FOR UNDER ITEM 900.640 "SPECIAL PROVISION (BRIGE RAILING, TRUSS)" TO THE LIMITS SHOWN. END POST CONNECTIONS SHALL BE CONSIDERED INCIDENTAL TO THE BRIDGE RAILING.
2. ALL BRIDGE RAILING MATERIAL SHALL BE GRADE 36 STEEL , IN ACCORDANCE WITH SUBSECTION 732.03.
3. SPLICE LOCATIONS SHALL BE DETERMINED BY THE FABRICATOR. SPLICES SHALL OCCUR WITHIN 3 FEET OF A VERTICAL TRUSS MEMBER.

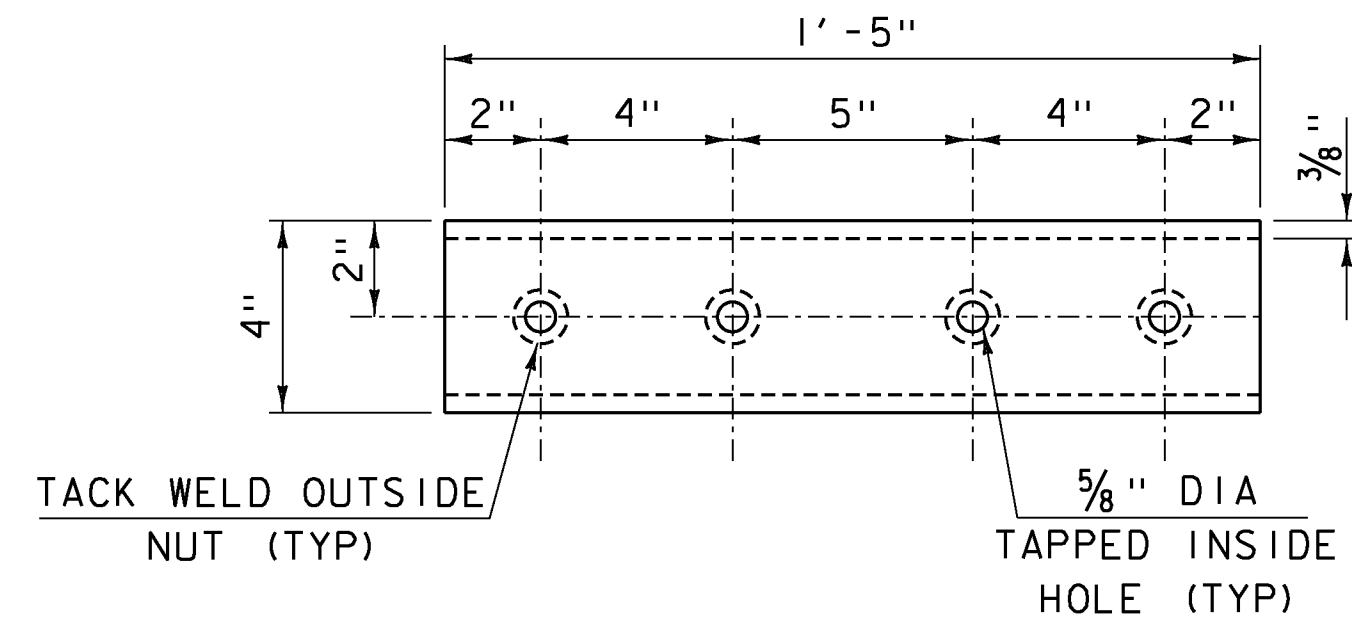
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PROJECT NUMBER: BF BPNT (17)

FILE NAME: z13j290framing.dgn  
PROJECT LEADER: T. KNIGHT  
DESIGNED BY: T. KNIGHT  
RAILING DETAILS 1

PLOT DATE: 5/12/2014  
DRAWN BY: L. BUXTON  
CHECKED BY: T. KNIGHT  
SHEET 7 OF 16

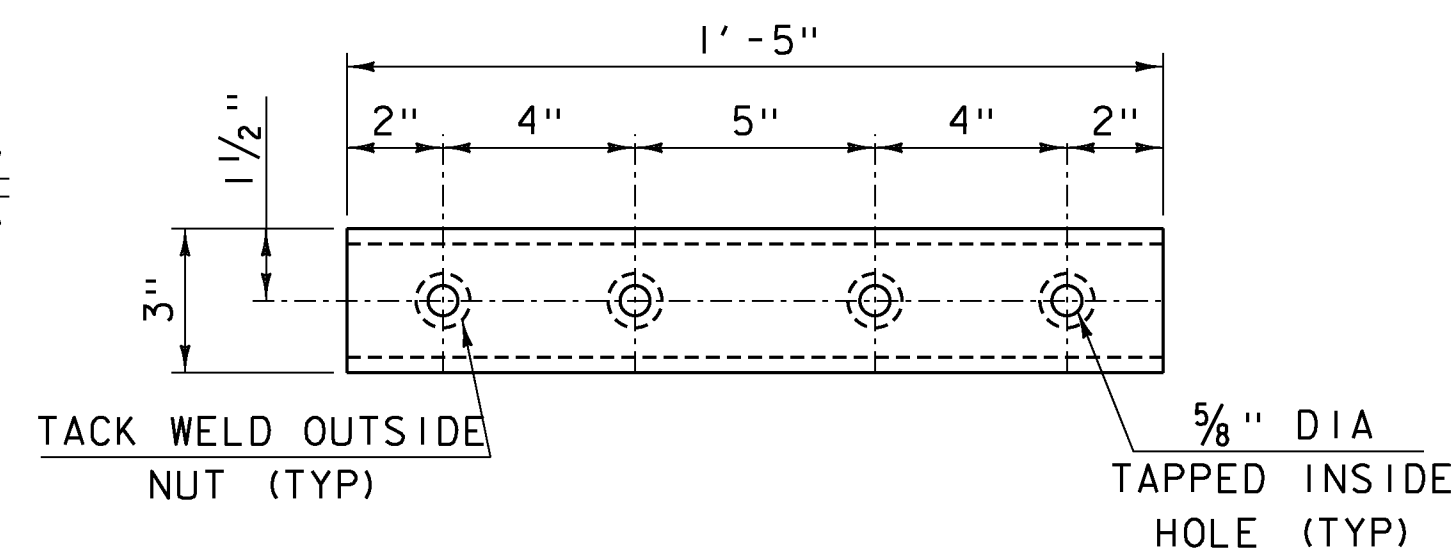






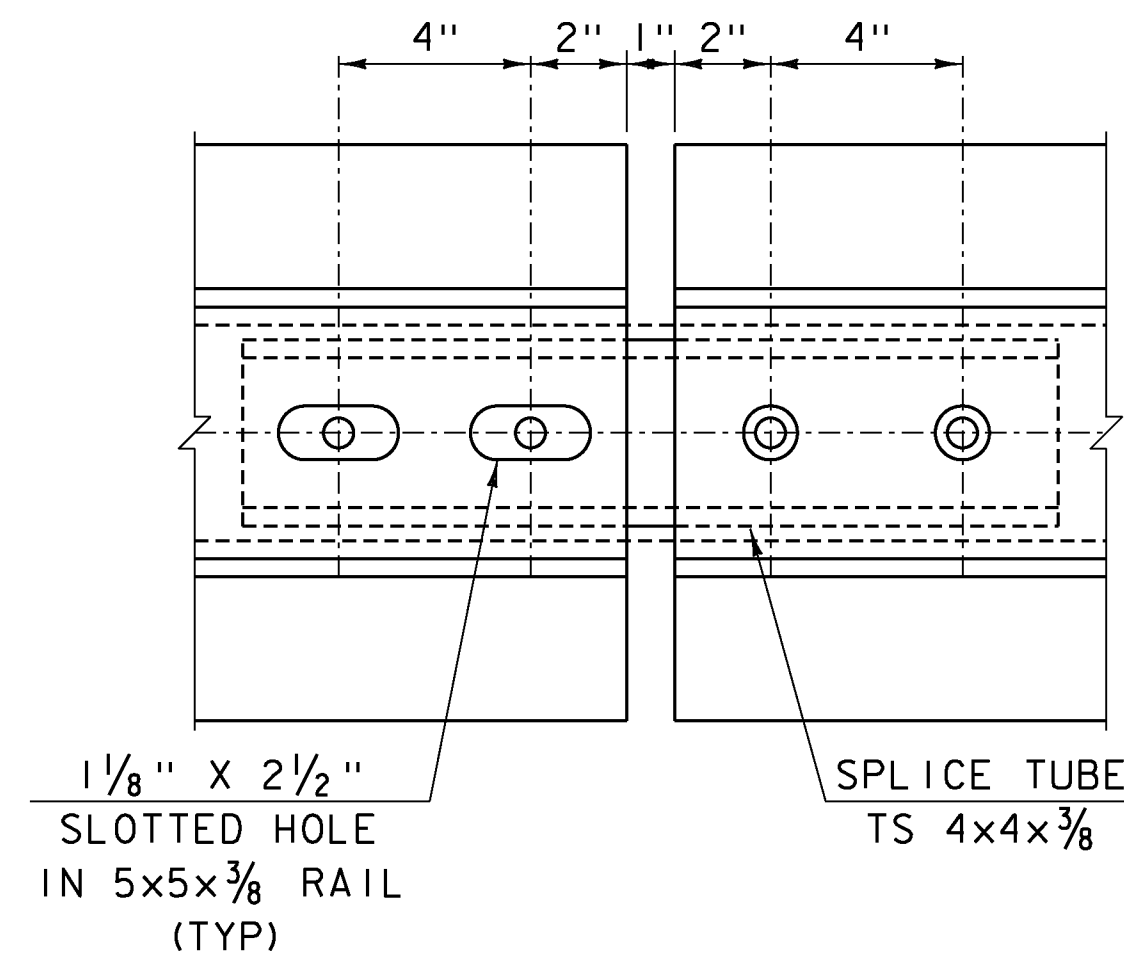
**BOTTOM RAIL SPLICE TUBE DETAIL**

TS 5x4x5/8"  
SCALE 3" = 1'-0"



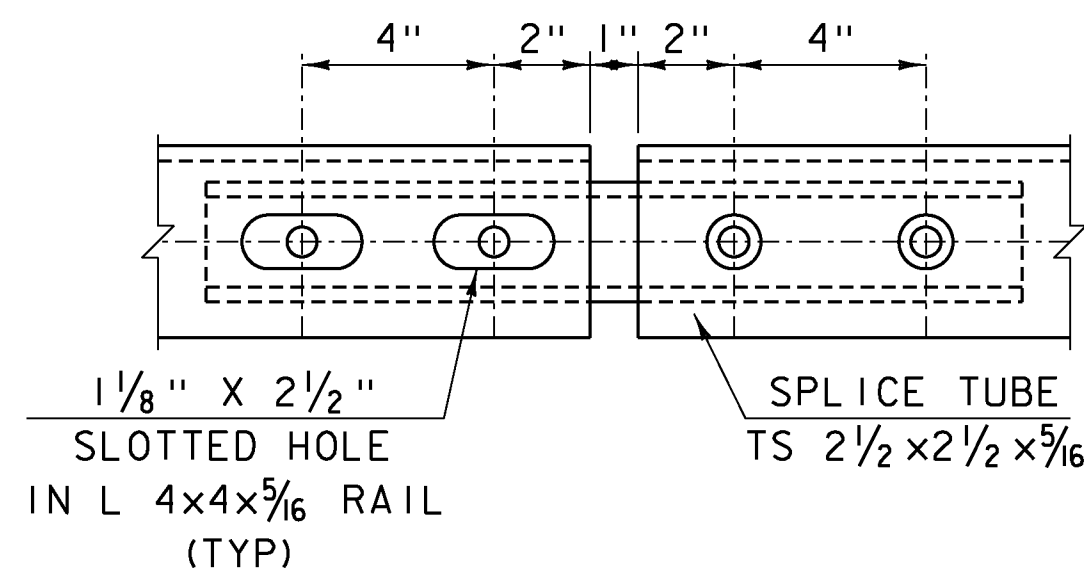
**TOP RAIL SPLICE TUBE DETAIL**

TS 3x3x3/8"  
SCALE 3" = 1'-0"



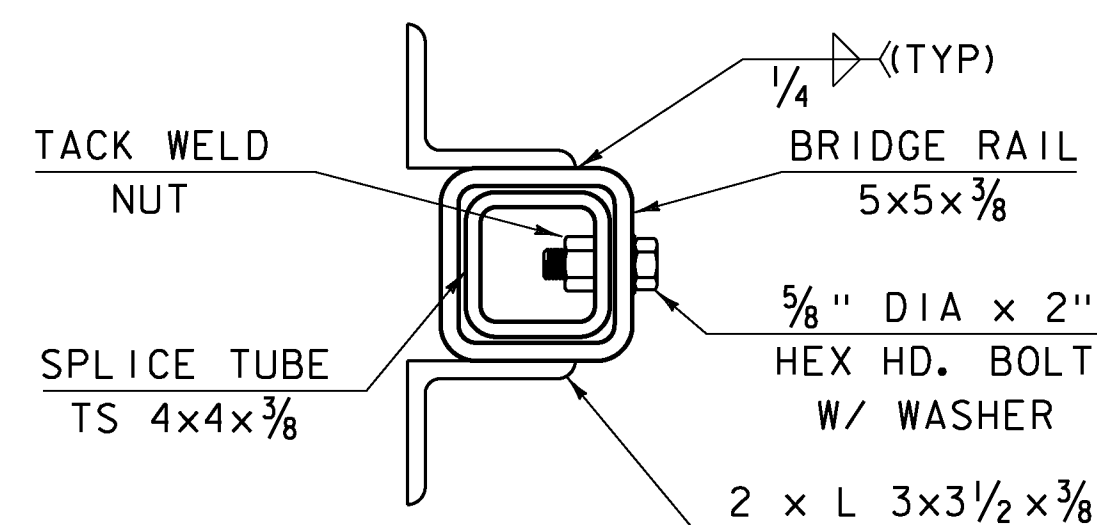
**BOTTOM RAIL SPLICE DETAIL**

SCALE 3" = 1'-0"



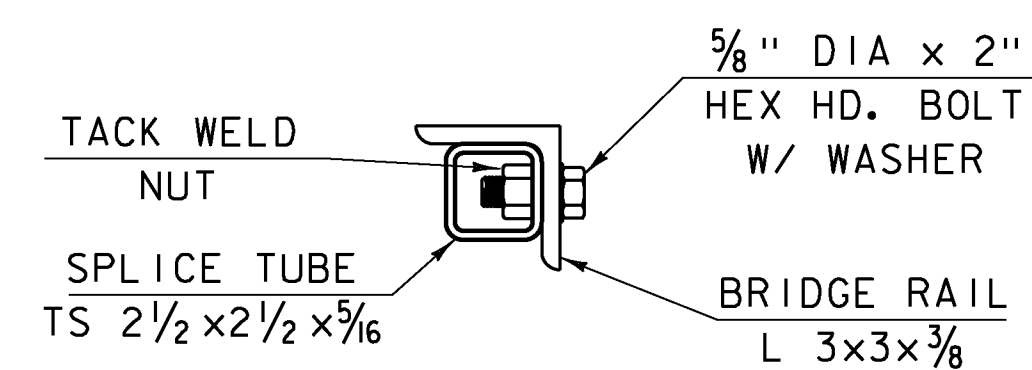
**TOP RAIL SPLICE DETAIL**

SCALE 3" = 1'-0"



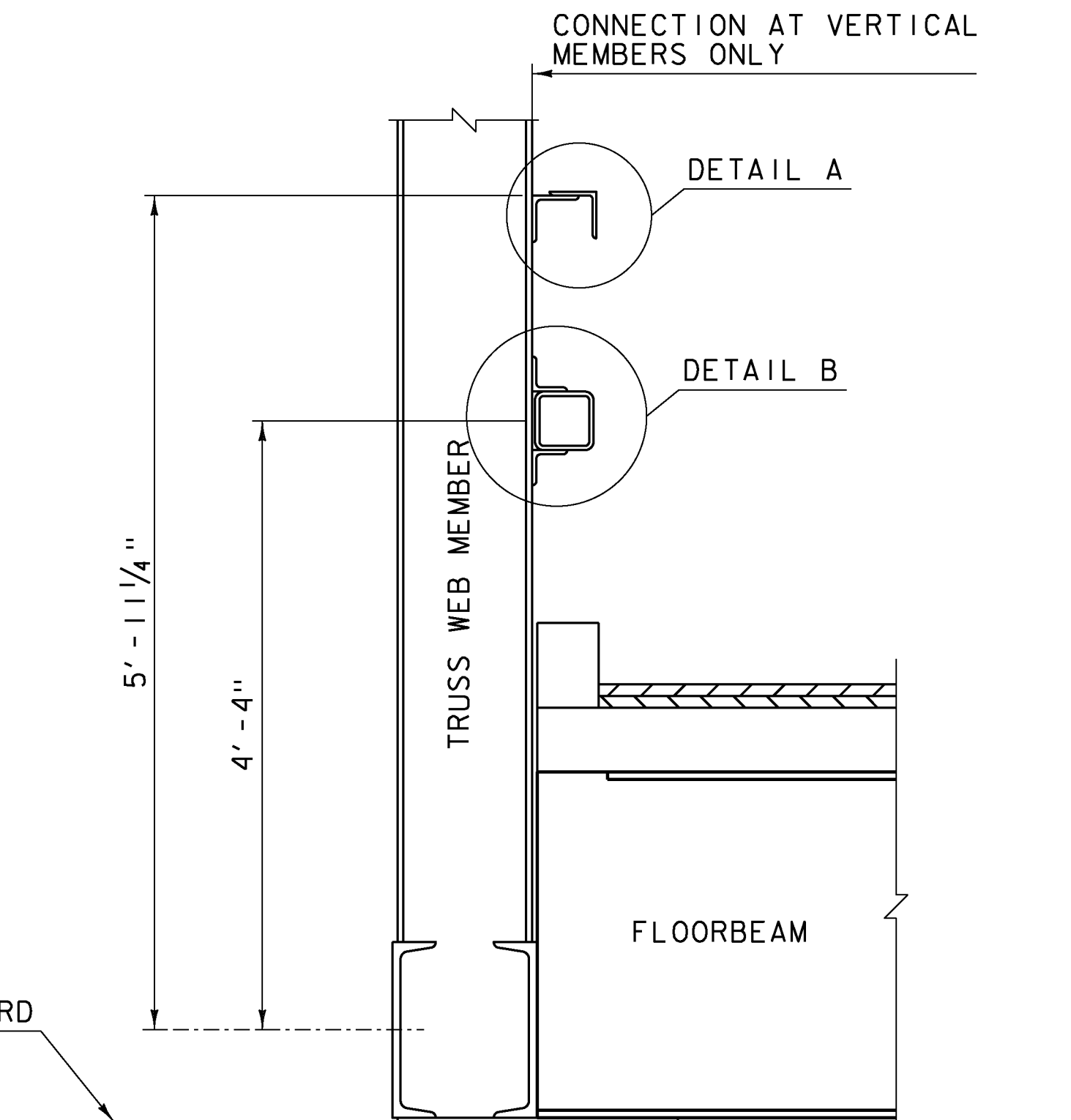
**BOTTOM RAIL SPLICE SECTION**

SCALE 3" = 1'-0"



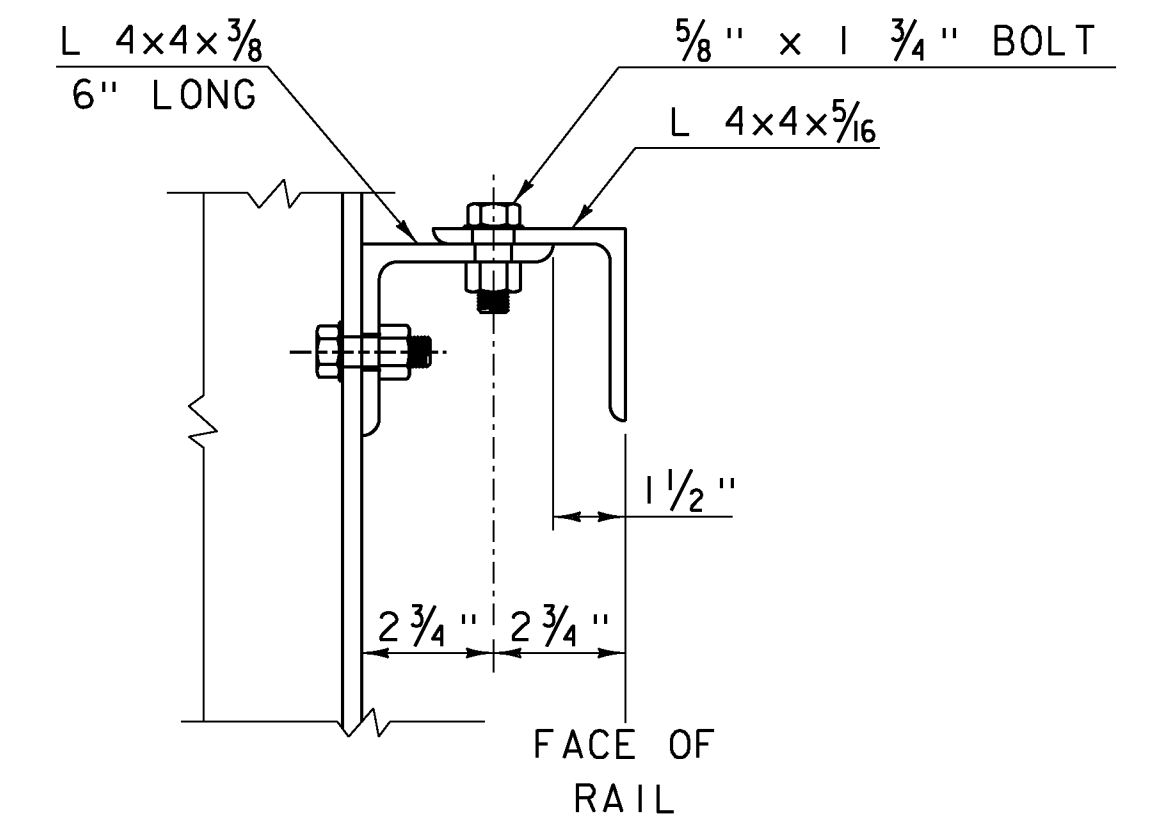
**TOP RAIL SPLICE SECTION**

SCALE 3" = 1'-0"



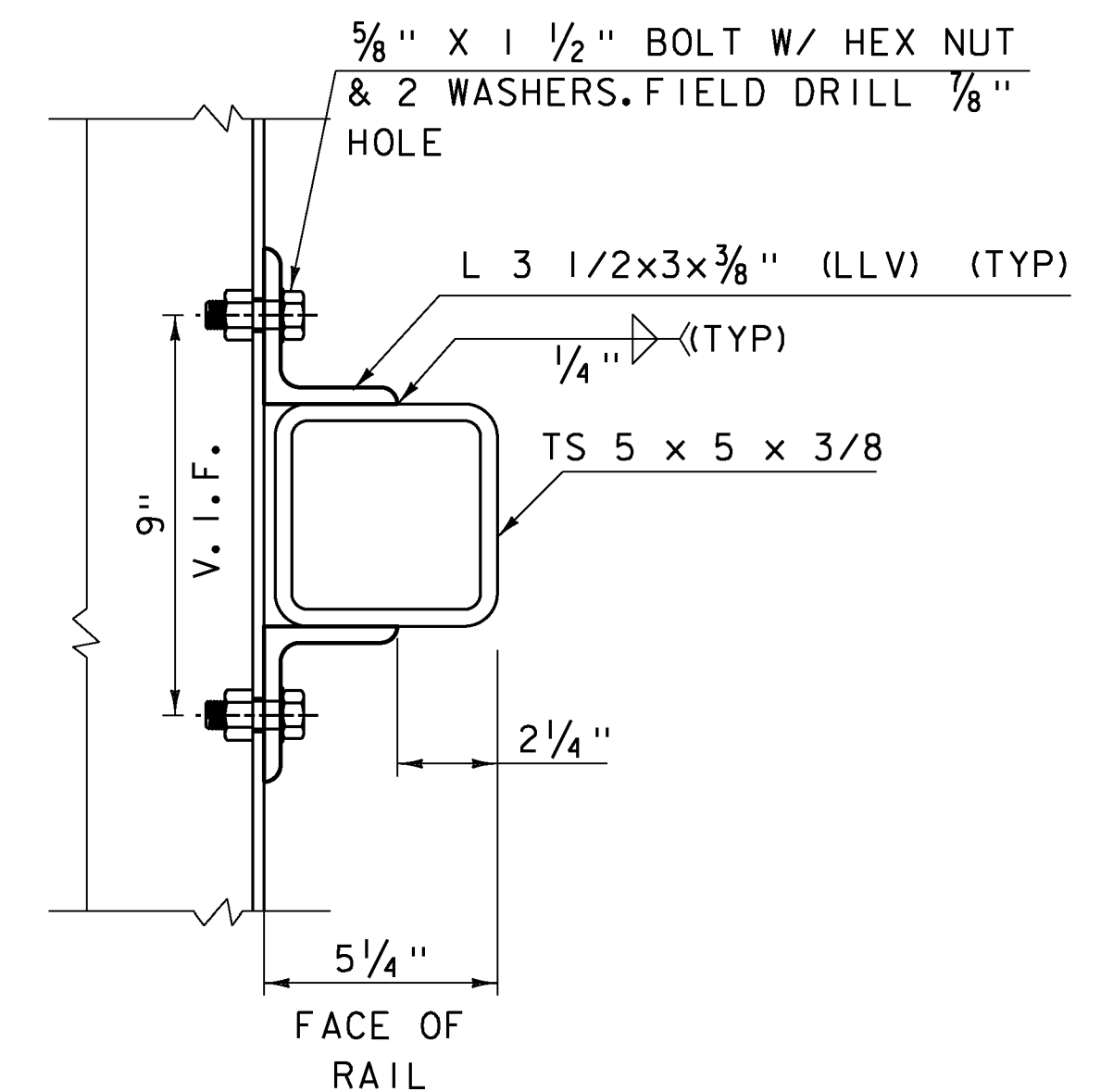
**TYPICAL RAILING SECTION**

SCALE 1" = 1'-0"



**DETAIL A**

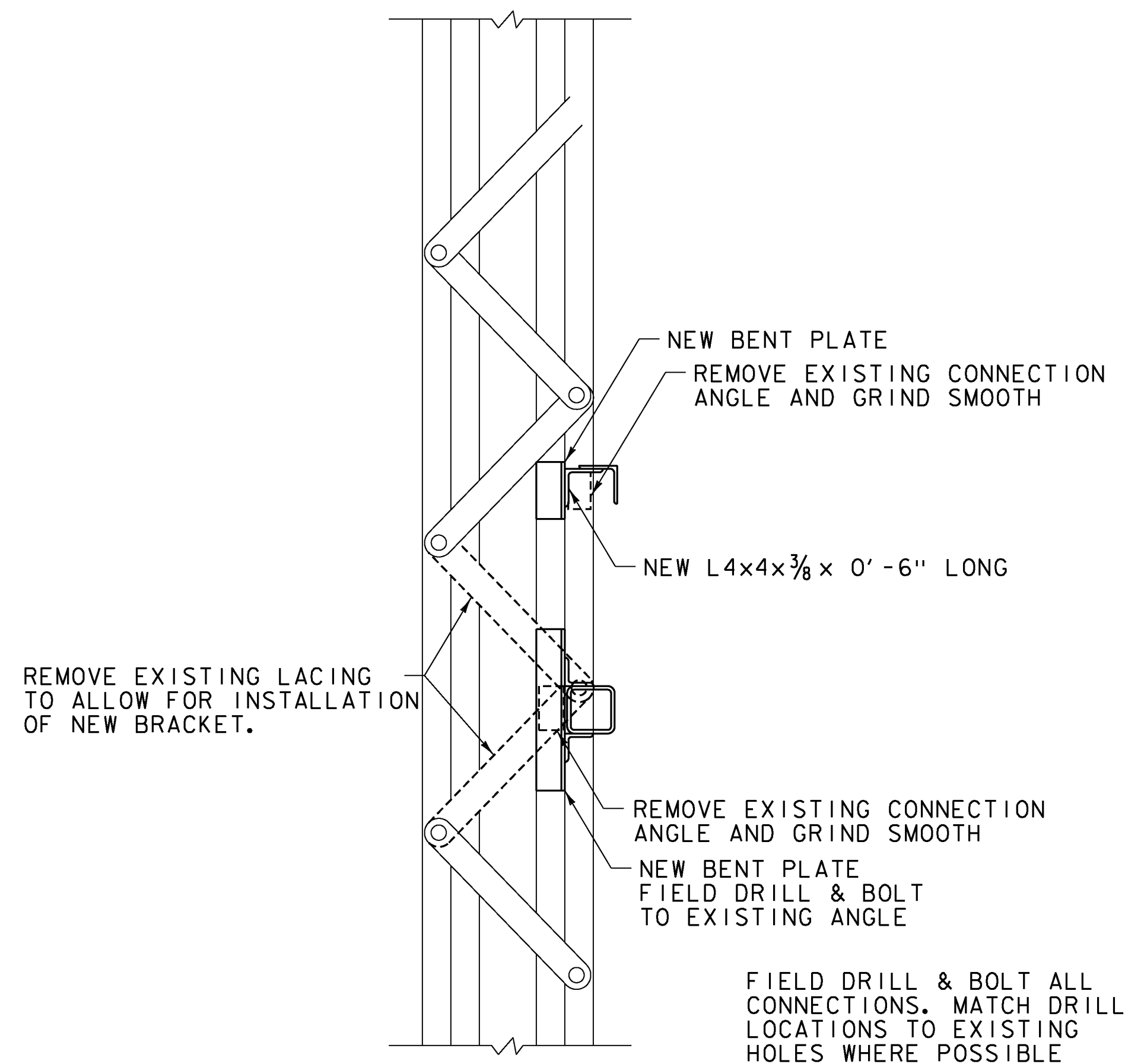
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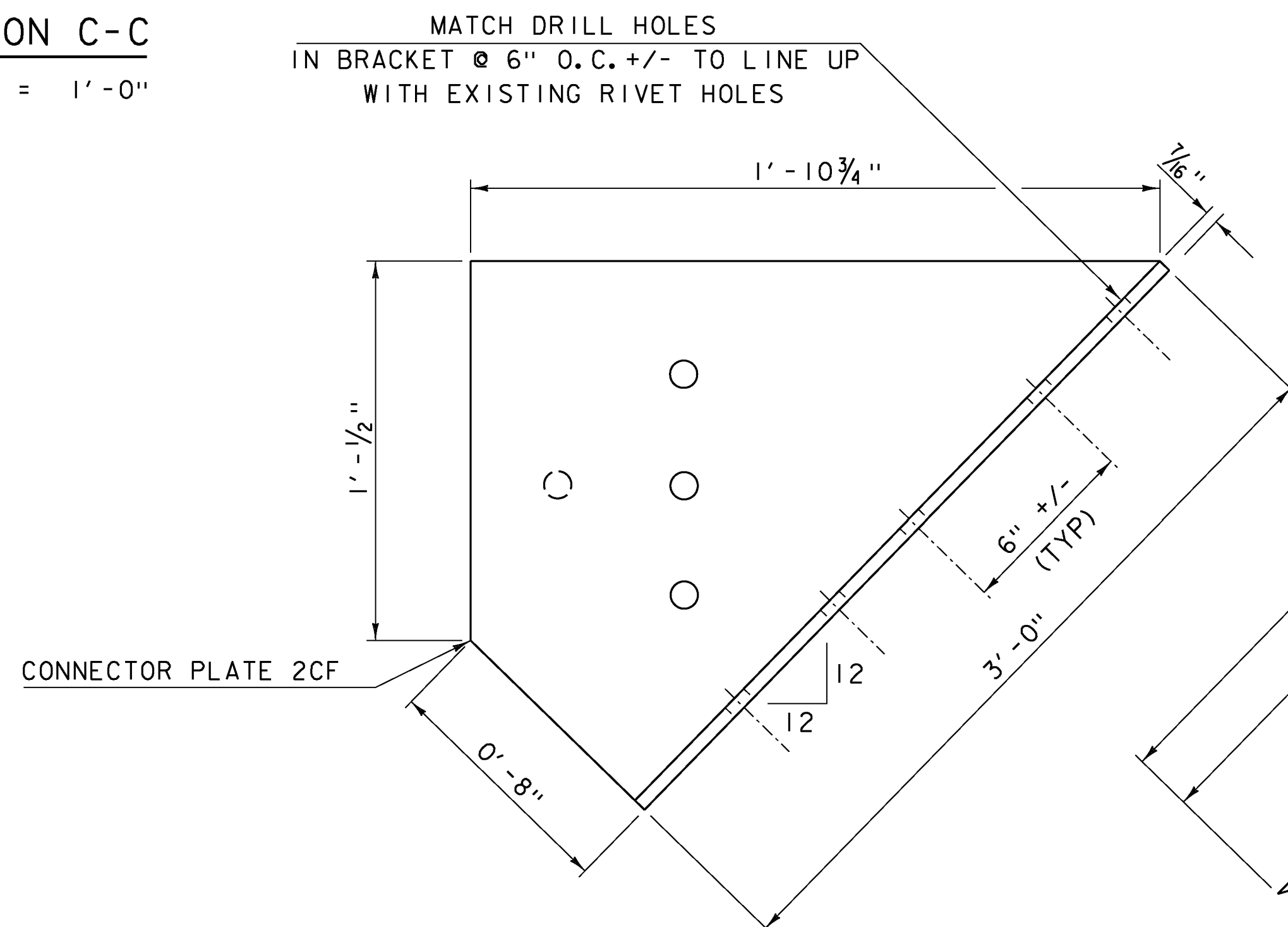
**DETAIL B**

SCALE 3" = 1'-0"

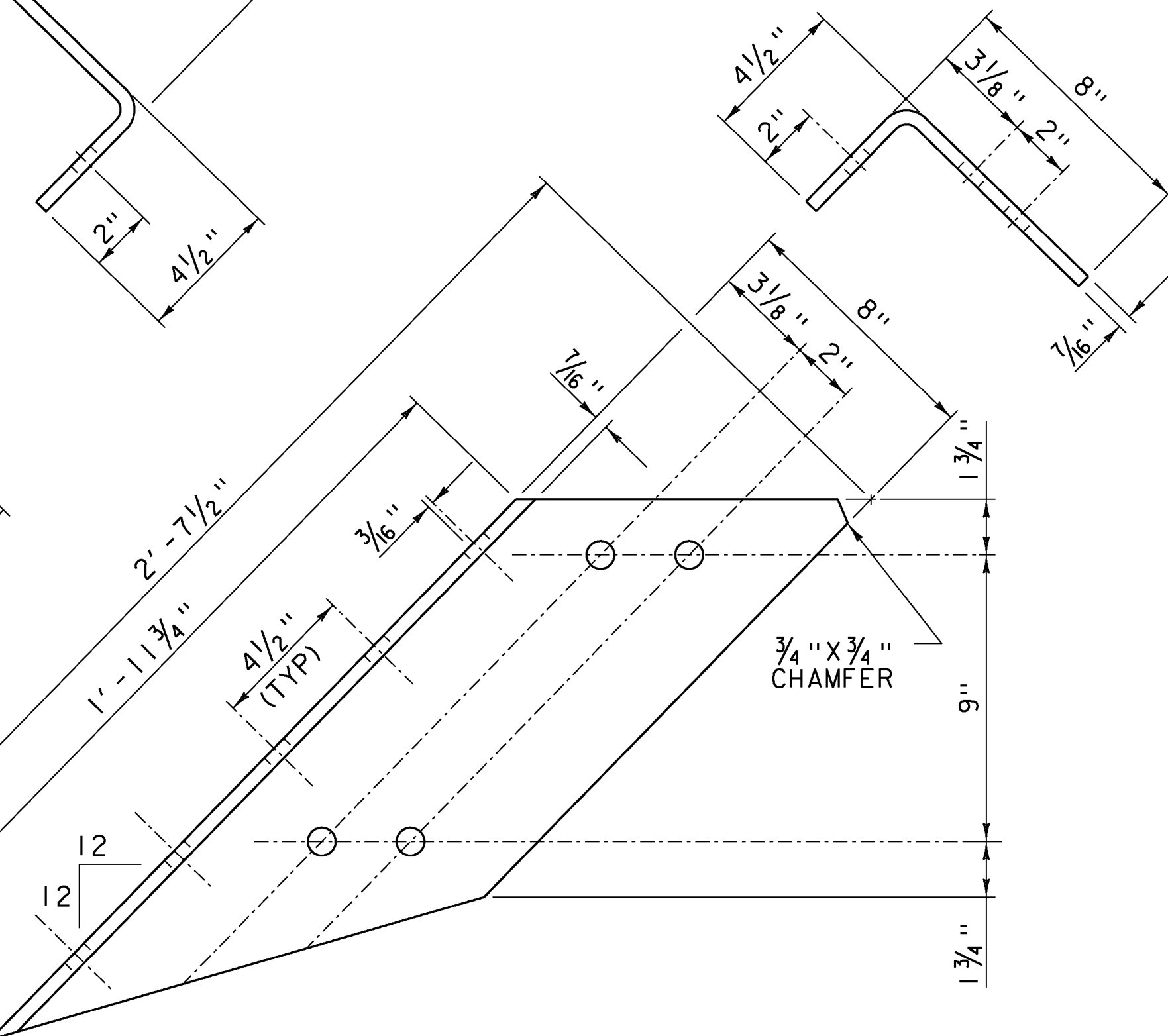
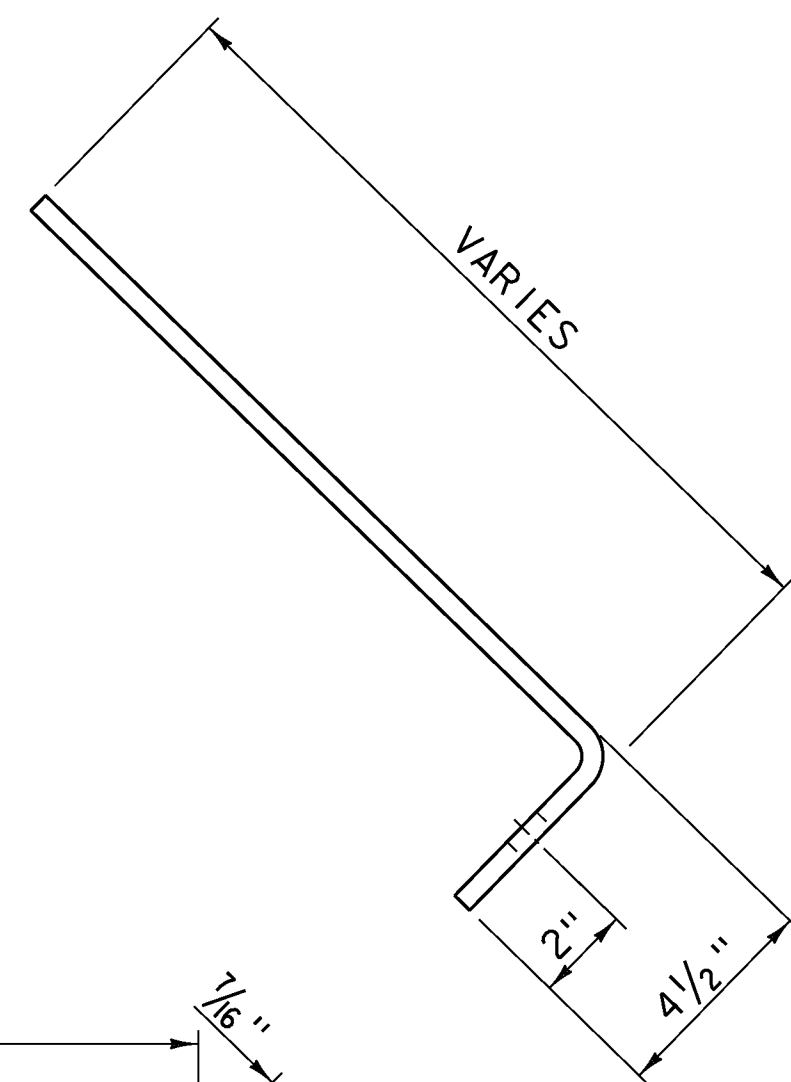




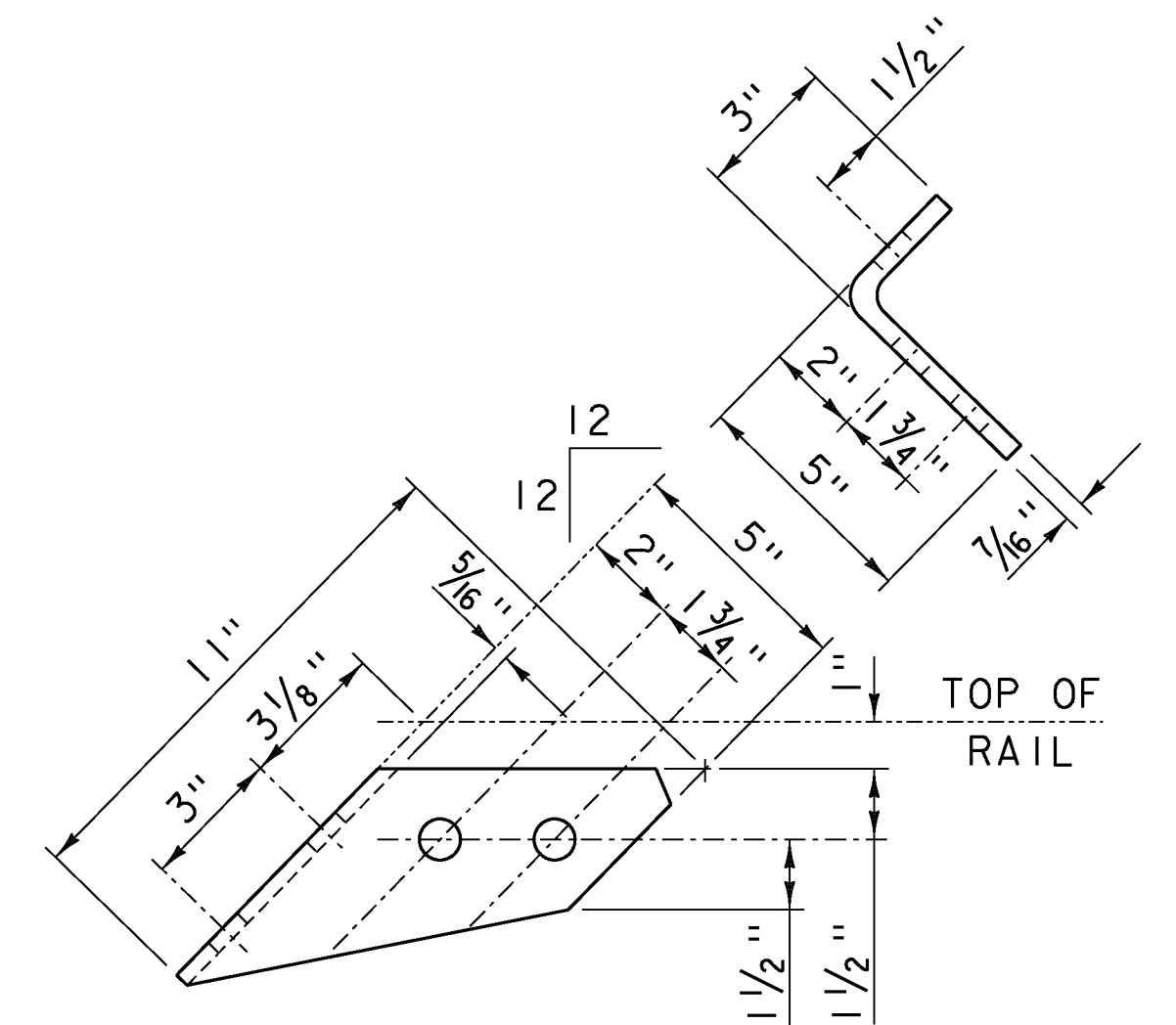
**SECTION C-C**  
SCALE 1" = 1'-0"



**CONNECTOR PLATE 2CF**  
L 8x4 $\frac{1}{2}$ x $\frac{7}{16}$  - 1'-10 $\frac{1}{2}$ " LONG  
SCALE 3" = 1'-0"



**CONNECTOR PLATE 2CD**  
L 8x4 $\frac{1}{2}$ x $\frac{7}{16}$  - 2'-7 $\frac{1}{2}$ " LONG  
SCALE 3" = 1'-0"

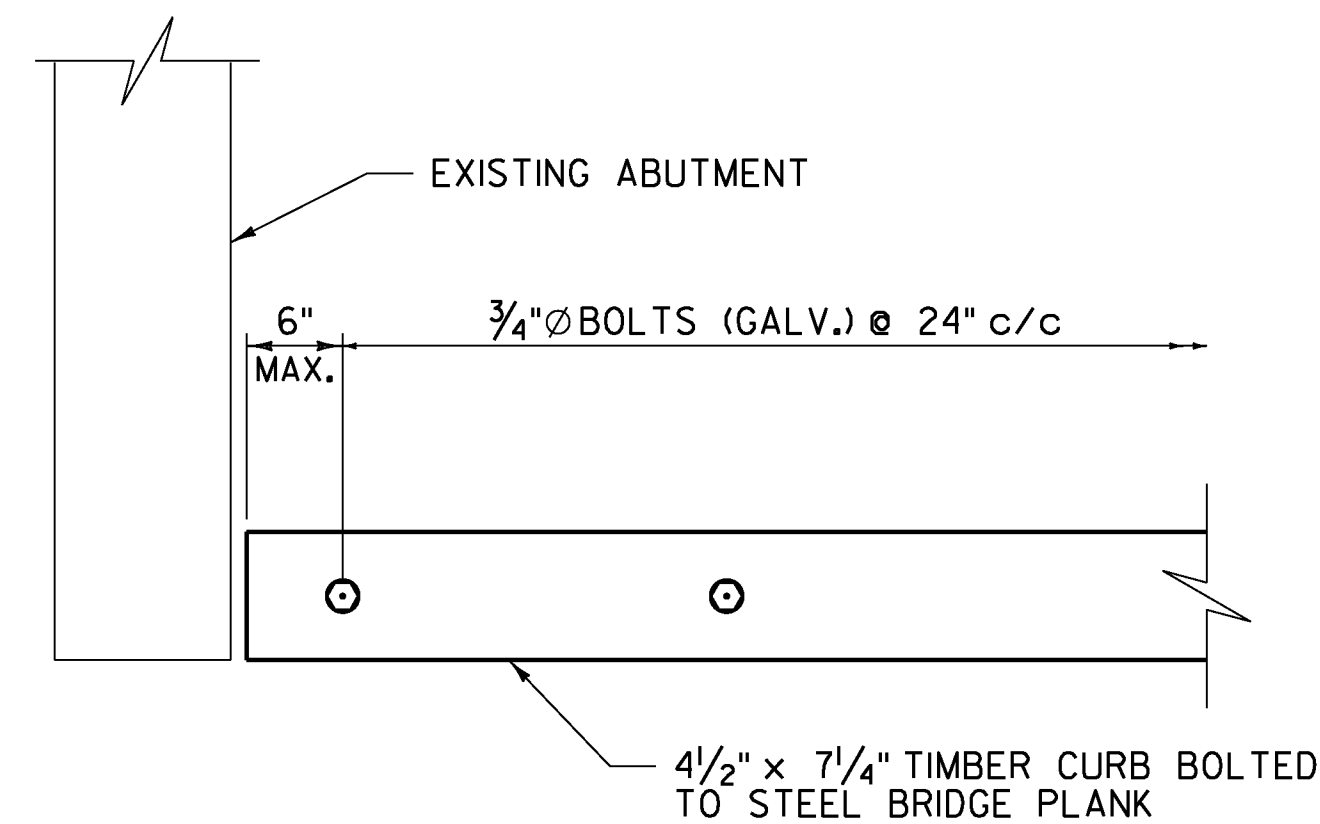


**CONNECTOR PLATE 2CC**  
L 5x3x $\frac{7}{16}$  - 0'-11" LONG  
SCALE 3" = 1'-0"



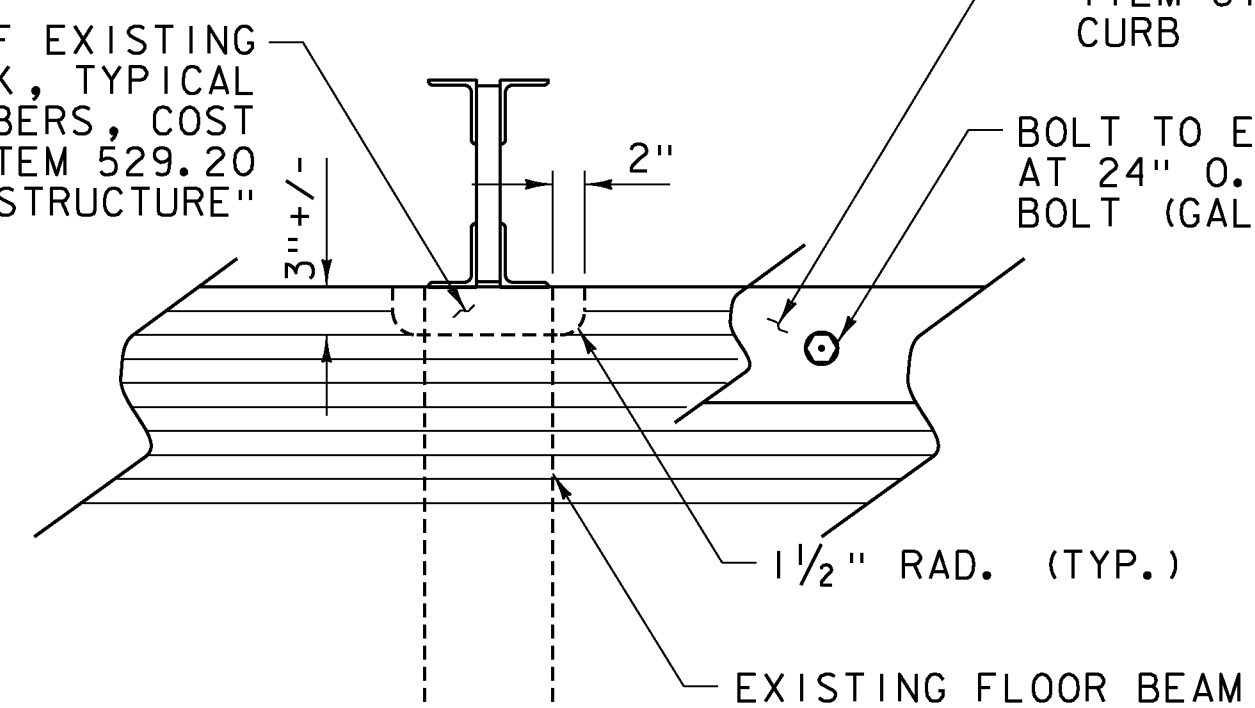
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|-------------------|--------------------|-------------|-----------|
| PROJECT NAME:     | MONTPELIER         | PLOT DATE:  | 5/12/2014 |
| PROJECT NUMBER:   | BF BPNT (17)       | DRAWN BY:   | L. BUXTON |
| FILE NAME:        | z13j290framing.dgn | CHECKED BY: | T. KNIGHT |
| PROJECT LEADER:   | T. KNIGHT          | SHEET       | 9 OF 16   |
| DESIGNED BY:      | T. KNIGHT          |             |           |
| RAILING DETAILS 3 |                    |             |           |



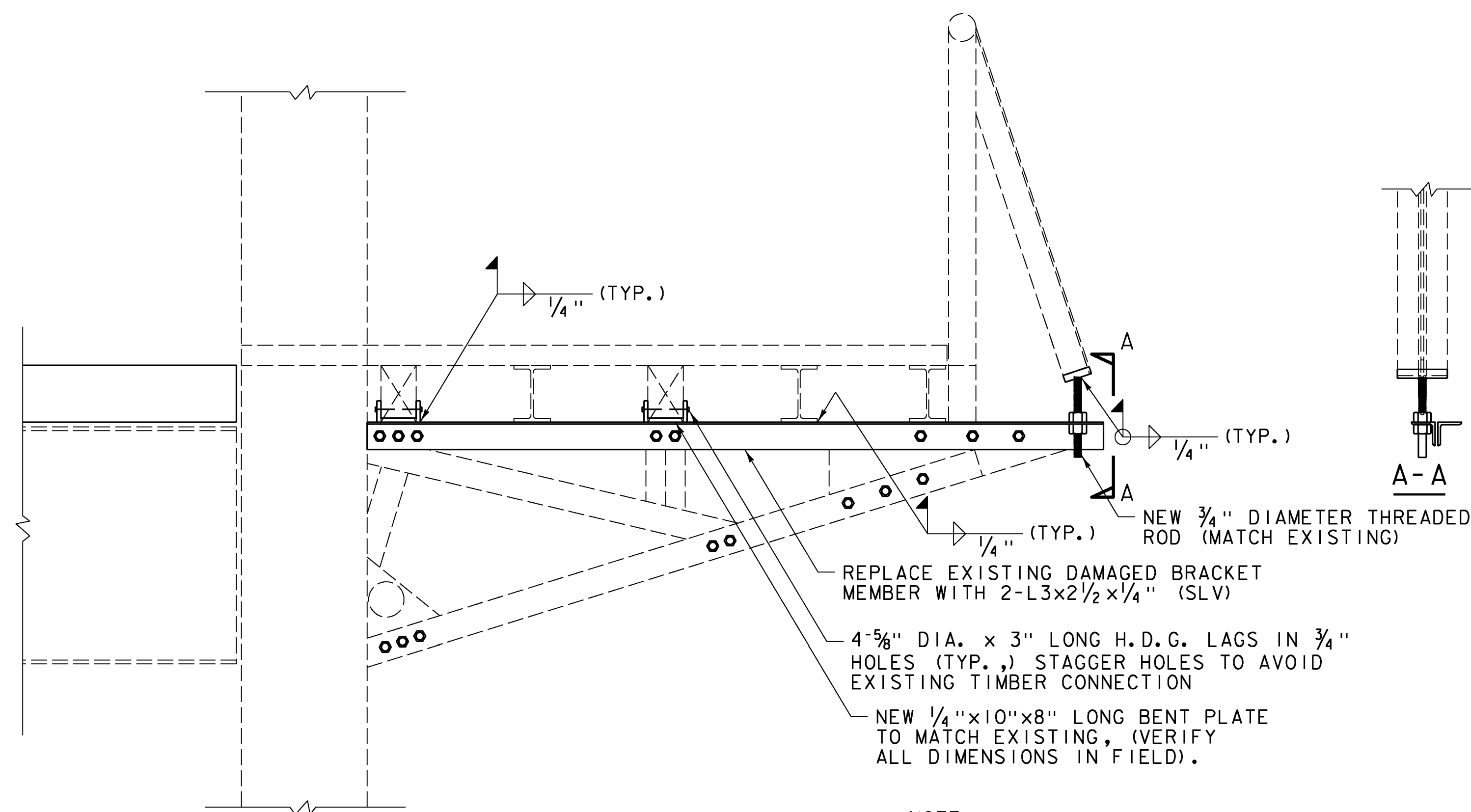


**CURB ATTACHMENT DETAIL**  
SCALE 1" = 1'-0"

PARTIAL REMOVAL OF EXISTING  
GLULAM TIMBER DECK, TYPICAL  
AT ALL TRUSS MEMBERS, COST  
TO BE INCLUDED UNDER ITEM 529.20  
"PARTIAL REMOVAL OF STRUCTURE"



**TYPICAL PARTIAL DECK REMOVAL  
AT TRUSS MEMBERS**  
SCALE 1" = 1'-0"



**SIDEWALK BRACKET REPAIR**  
SCALE 1" = 1'-0"

NOTE:  
1. REMOVAL OF EXISTING STEEL AND SUPPORT OF  
EXISTING STRUCTURE INCIDENTAL TO ITEM 506.60.



PROJECT NAME: MONTPELIER  
PROJECT NUMBER: BF BPNT (17)

FILE NAME: z13j290framing.dgn  
PROJECT LEADER: T. KNIGHT  
DESIGNED BY: T. KNIGHT  
MISCELLANEOUS DETAILS

PLOT DATE: 5/12/2014  
DRAWN BY: L. BUXTON  
CHECKED BY: T. KNIGHT  
SHEET 10 OF 16



|        |                         |                |
|--------|-------------------------|----------------|
| Sht. 1 | Title Sheet             |                |
| 2      | Quantity Sheet          |                |
| 3      | Superstructure Details  |                |
| 4      | Standard Sht. SCB-DI-71 | Jan 28, 1974 R |
| 5      | " " E-3                 | May 14, 1974 R |

# STATE OF VERMONT DEPARTMENT OF HIGHWAYS

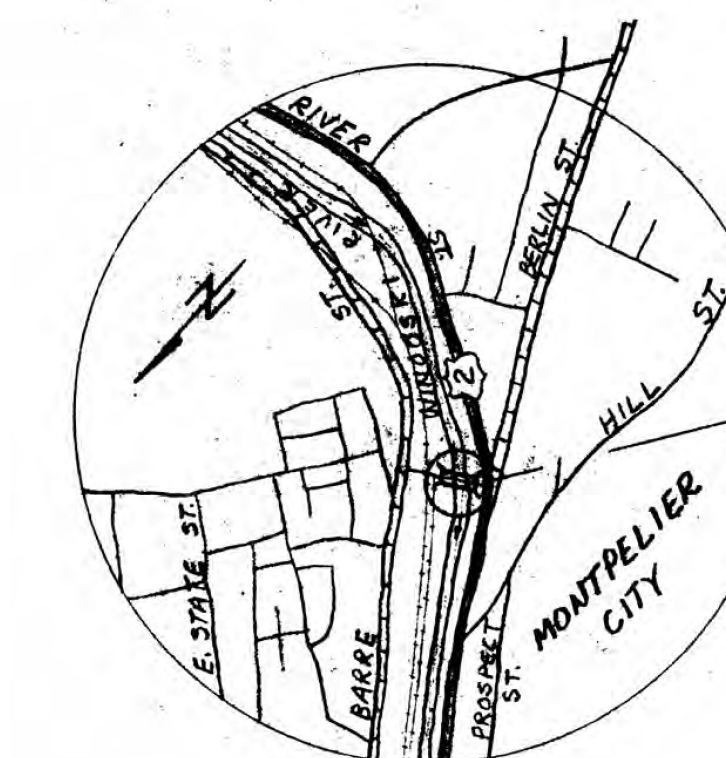


## PROPOSED IMPROVEMENT

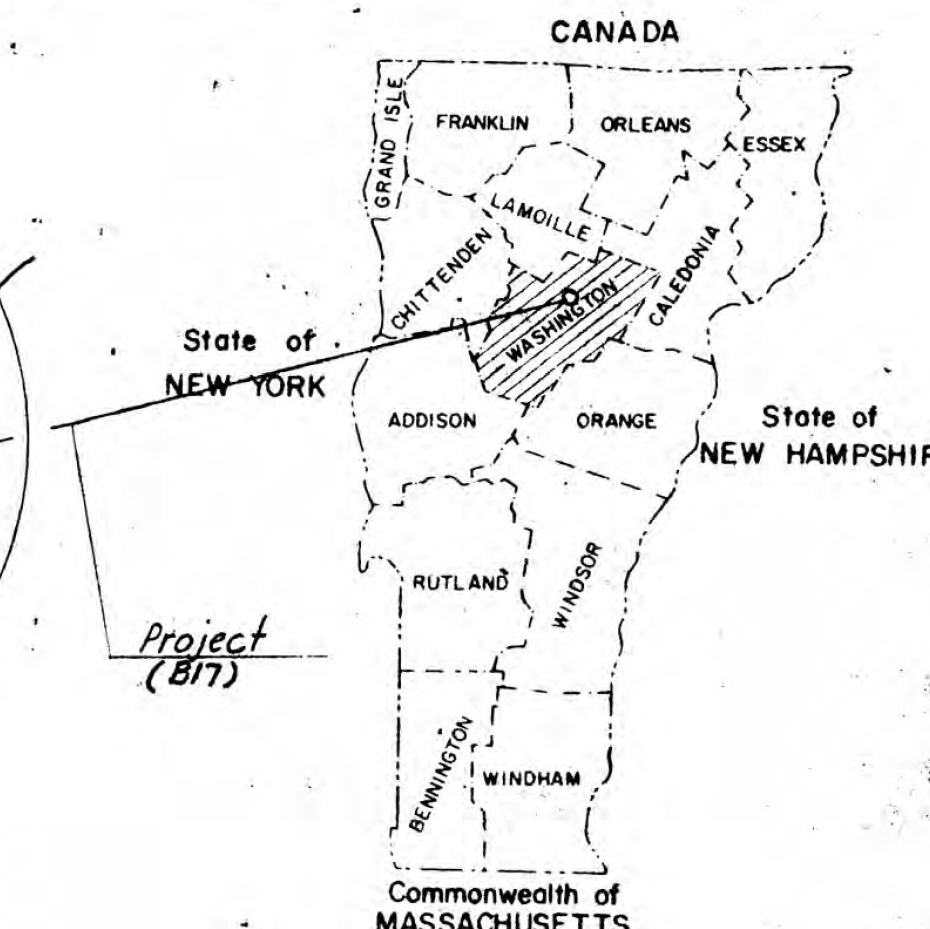
BRIDGE PROJECT  
CITY OF MONTPELIER

COUNTY OF WASHINGTON

ROUTE NO. GRANITE ST BRIDGE NO. 17



LOCATION MAP  
(TRACED FROM CITY MAP)



DESIGN LOADING ~ (16,000 lbs. - posted)

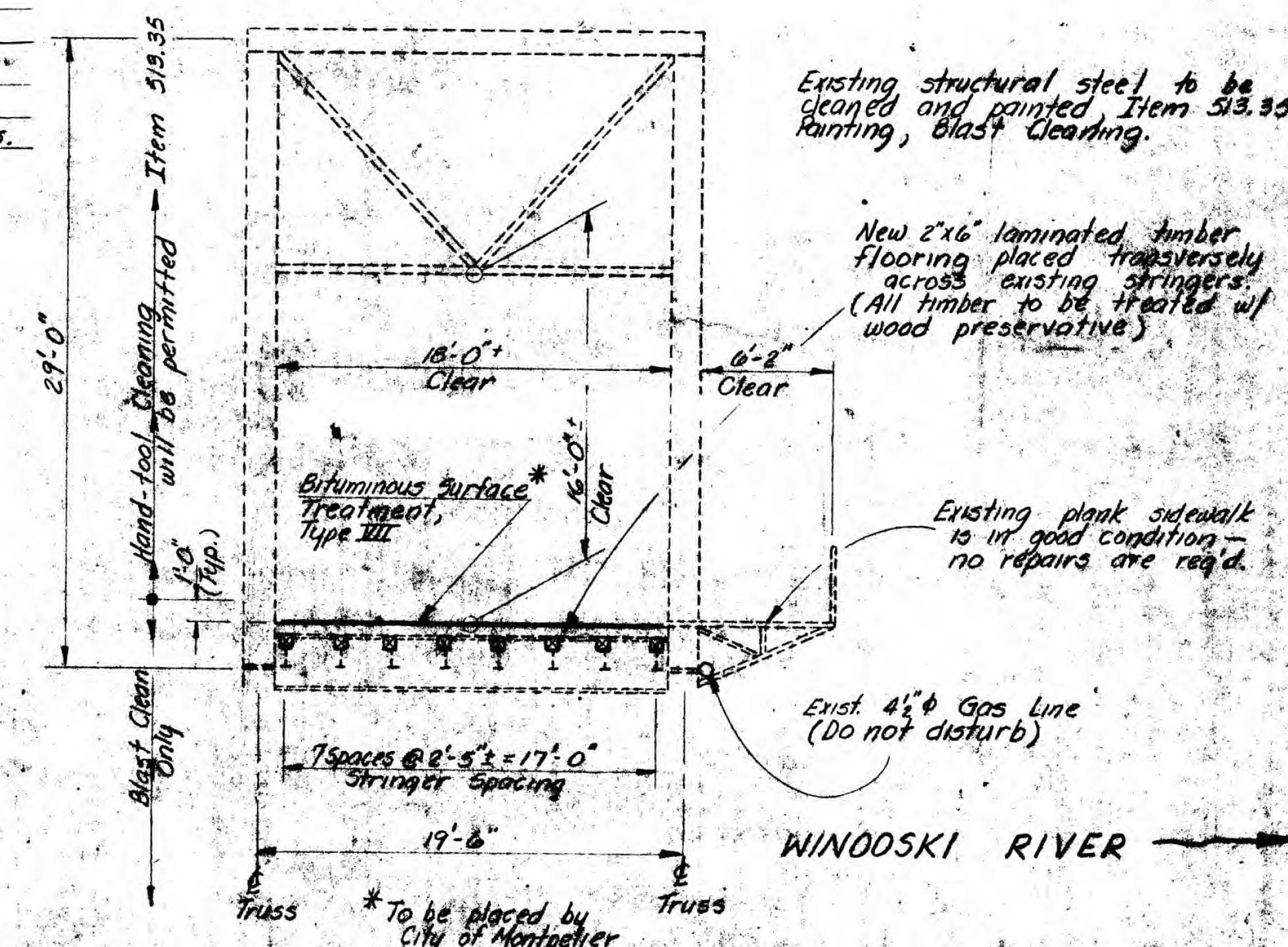
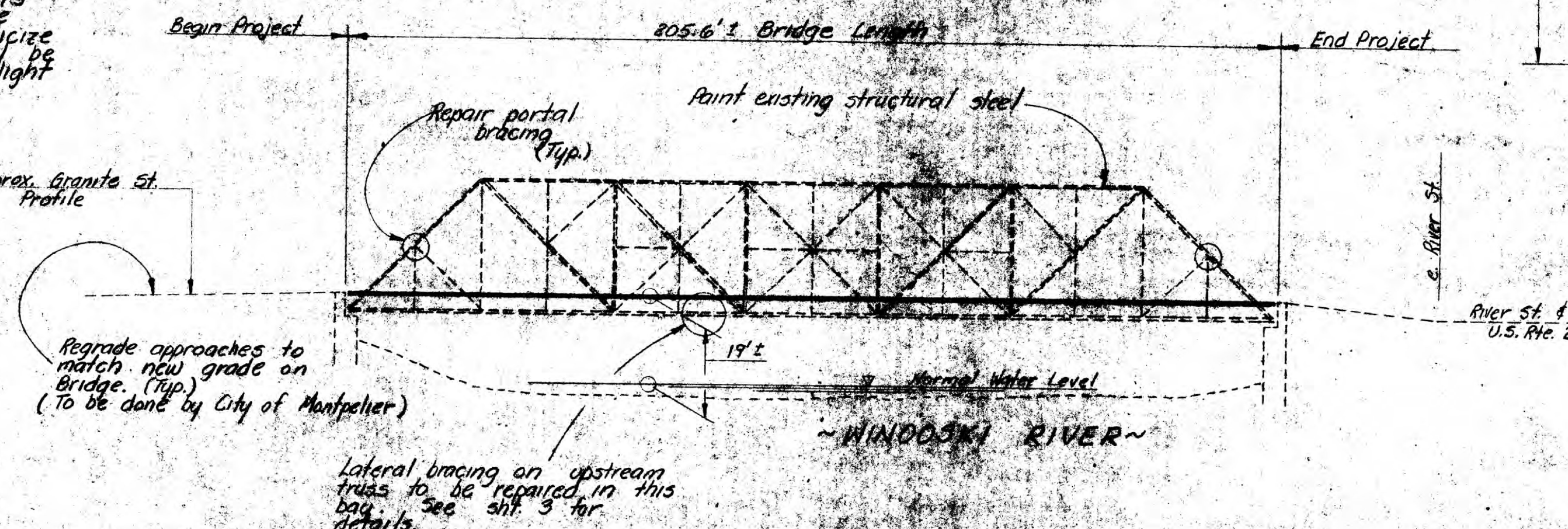
### GENERAL NOTES:

- For additional General Notes see Standard Sheet SCB-DI-71, notes 1, 3, 7, and 12.
- For details of "Bridge Construction Method" and "Bridge Closed" signs see Standard Sht. E-3.
- All existing structural steel shall be cleaned and painted at the contract price bid for Item 513.35, Painting, Blast Cleaning. See Typical Section on Sht. 3 for details showing cleaning limits.
- Structural Timber shall conform to Item 511.25, Treated Lumber and Timber. Anchors detailed to attach blocking to stringers shall be considered as incidental hardware to be furnished with the lumber.
- Upon inspection by the Engineer, after the existing timber floor has been removed, it may be necessary to replace and/or strengthen certain truss bracing by welding on plates or splicing in structural shapes (i.e. angles, structural tees, channels, etc.). Payment for this work shall be at the unit price bid for Item 506.93, Structural Steel.
- Approach construction and the paving of the bridge shall be done by the City of Montpelier.
- The Contractor shall notify the City of Montpelier, in writing, at least forty-eight (48) hours in advance of anticipated closing of the bridge to give sufficient time to publicize the closing. The City of Montpelier will be responsible for modifying the traffic light cycles at the River St. End of the Bridge.
- Repairing and/or strengthening main truss members, floorbeams and stringers shall be performed as Extra Work ordered by the Engineer.
- City shall use temporary curbs during surface treatment of bridge deck to prevent pollution of Windoski River.

PROJECT LOCATION: Beginning at a point on Granite St. approx. 225 ft. ± northeast of the intersection of Granite Street and River St. (U.S. Rte. 2) and extending southwesterly along Granite St. for 205.6 ft. ± (said location being the so-called Granite St. Bridge)

PROJECT DESCRIPTION: This project shall consist of removing the existing laminated timber floor, cleaning and painting all existing structural steel, repairing and/or strengthening designated truss bracing and constructing a new laminated treated timber floor as detailed in the Plans.

|                                      |       |      |
|--------------------------------------|-------|------|
| LENGTH OF STRUCTURE:                 | 205.6 | FEET |
| LENGTH OF PARTICIPATION ROADWAY:     | 0.0   | FEET |
| LENGTH OF NON-PARTICIPATION ROADWAY: | 0.0   | FEET |
| LENGTH OF PROJECT:                   | 205.6 | FEET |



TYPICAL BRIDGE SECTION  
3/16" = 1'-0"

CONVENTIONAL SIGNS

|                                  |     |
|----------------------------------|-----|
| COUNTY LINE                      | --- |
| TOWN LINE                        | --- |
| LIMITS OF ACCESS                 | --- |
| POINT OF ACCESS                  | X   |
| FENCE LINE                       | --- |
| STONE WALL                       | --- |
| TRAVELED WAY                     | --- |
| GUARD RAIL                       | --- |
| RAILROAD                         | --- |
| SURVEY LINE                      | --- |
| CULVERT                          | --- |
| POWER POLE                       | ○   |
| TELEPHONE POLE                   | ○   |
| TREES                            | ○   |
| F.A. CONST. IDENTIFICATION SIGNS | ▲   |
| PROPERTY LINE                    | --- |
| R.O.W. TAKING LINE               | --- |
| SLOPE RIGHTS                     | --- |
| TOP OF CUT                       | --- |
| TOE OF SLOPE                     | --- |

TRUSS ELEVATION LOOKING UPSTREAM

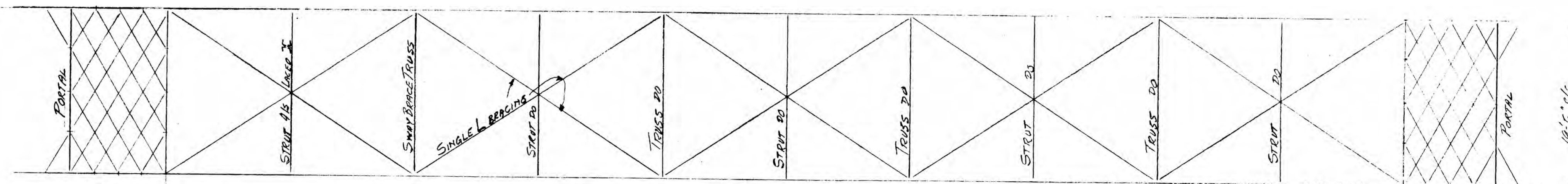
MONTPELIER  
BF BPNT(17)  
SHEET 12 OF 16  
FOR REFERENCE ONLY

SUBMITTED BY ORDER OF THE STATE HIGHWAY BOARD  
APPROVED *E. H. Stashinsky* DATE 7/5/74  
CHIEF ENGINEER

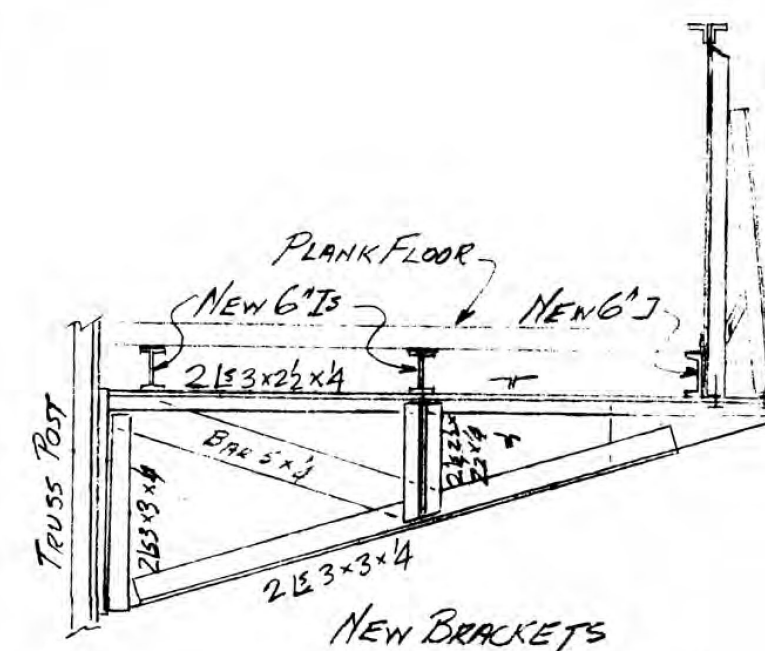
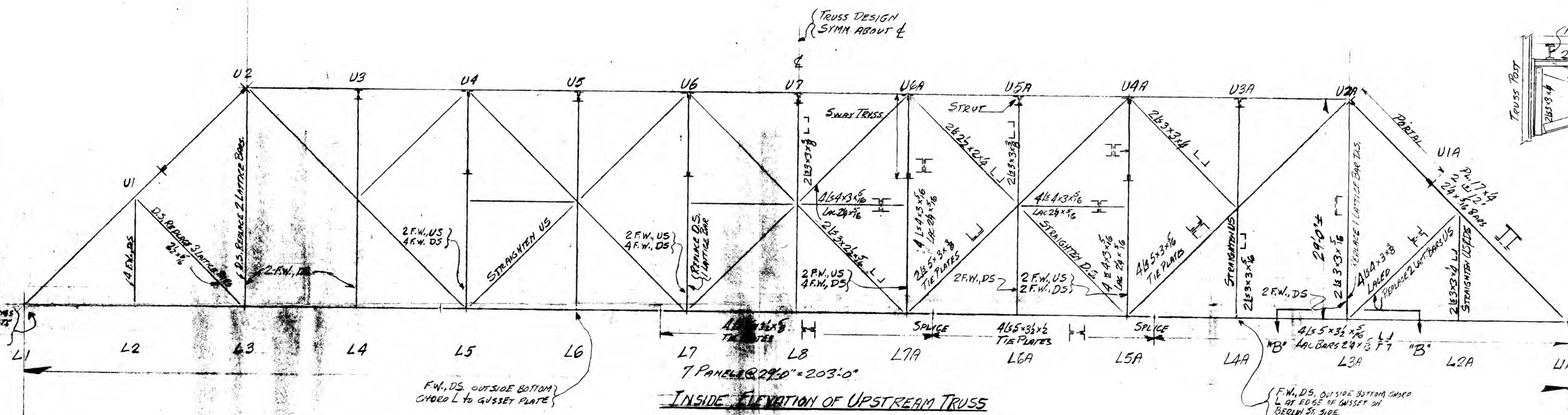
MONTPELIER CITY  
PROJECT No. TH 3301  
SHEET 12 OF 16

11-20 CH-20

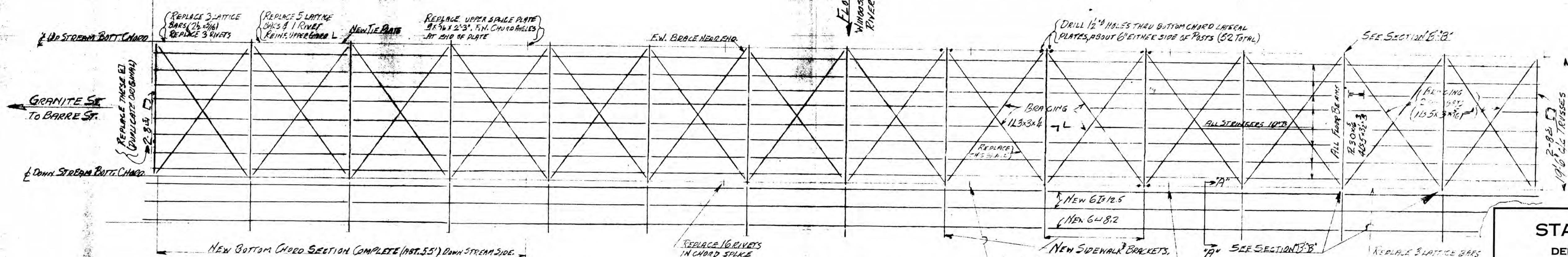




TOP CHORD PLAN



Not all brackets require complete renewal. Such brackets may be kept at the site by replacement in kind of defective members. RAILING AND RAILING POSTS TO BE REHABILITATED IN KIND.



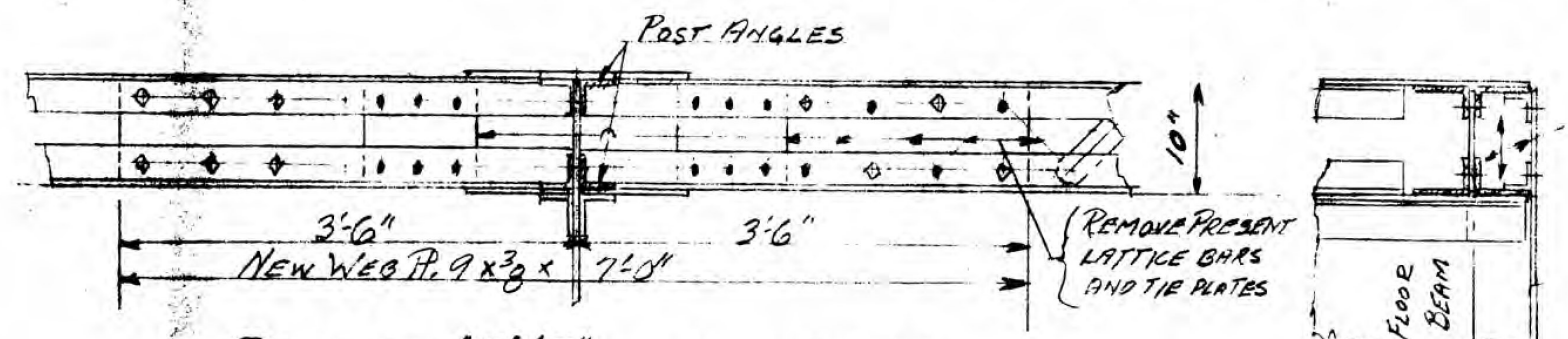
FLOOR PLAN

NOTES

MONTPELIER  
BF BENT(17)

SHEET 13 OF 16  
FOR REFERENCE ONLY

THIS DRAWING SHOWS THE GENERAL LAYOUT OF THE BRIDGE AND INDICATES THE LOCATION OF THE BRIDGE PILES. IT IS NOT GUARANTEED TO BE CORRECT IN EVERY DETAIL, BUT TO BE USED IN EVERY CASE. F.W. = FILLER WELD, FITTING CASED POINTS WHERE ORIGINAL SECTIONS ARE PARTIAL. U.S. = UPSTREAM. D.S. = DOWNSTREAM. WHERE NEW METAL COMES IN CONTACT WITH OLD, THE SURFACES OF THE OLD METAL SHOULD BE THOROUGHLY CLEANED. HIGH TENSILE BOLTS, WITH HARDENED WASHERS, THE SIZE OF REPLACED BOLTS AND FULLY TIGHTENED MAY BE USED. BEARING REPLACEMENT WORK AT BENT 17, END TO BE DONE AFTER OTHER STRUCTURAL REPAIRS ARE COMPLETED. ALL NEW STEEL TO RECEIVE ONE COAT OF GALVANIZED PAINT.



As shown for joint - L3A UPSTREAM  
OPPOSITE END FOR L3A DOWNSTREAM  
SIMILAR FOR L2A DOWNSTREAM

INDICATES PRESENT BOLTS TO BE REMOVED AND HOLES RE-USED.  
INDICATES NEW HIGH TENSILE BOLTS IN FIELD DRILLED HOLES.

STATE OF VERMONT  
DEPARTMENT OF HIGHWAYS

TOWN OF MONTPELIER  
ROAD NO. GRANITE ST. BRIDGE NO.

GENERAL REPAIRS - 1955  
SCALE 3/4" = 1'-0"

SURVEYED BY  
DRAWN BY HES. CHECKED BY

PROJECT NO. T7-1954  
SHEET 1 OF

TCH-20



[illegible]

| NO.                                                                 | ITEM                                                        | UNIT | COST   |            |
|---------------------------------------------------------------------|-------------------------------------------------------------|------|--------|------------|
|                                                                     |                                                             |      | BRIDGE | APPROACHES |
| 202.20                                                              | Removal of Existing Superstructure                          | LS   | 1      |            |
| 404.41                                                              | Bituminous Surface Treatment, Type III                      | SAL  | 140    | 30         |
| 506.93                                                              | Structural Steel (Estimated)                                | LB   | 200    |            |
| 513.35                                                              | Painting, Blast Cleaning<br>(150 tons - Exst. Truss - Est.) | LS   | 1      |            |
| 611.25                                                              | Treated Lumber and Timber                                   | MBF  | 32.5   |            |
| * Items to be furnished and installed by<br>the City of Minneapolis |                                                             |      |        |            |

BRIDGE (S) AT STATION (S) 017 in Montpelier City  
LOCATION (S) GRANITE ST. OVER WINDOOSKI RIVER

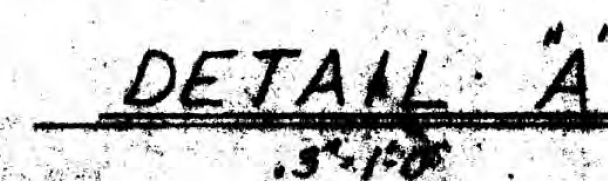
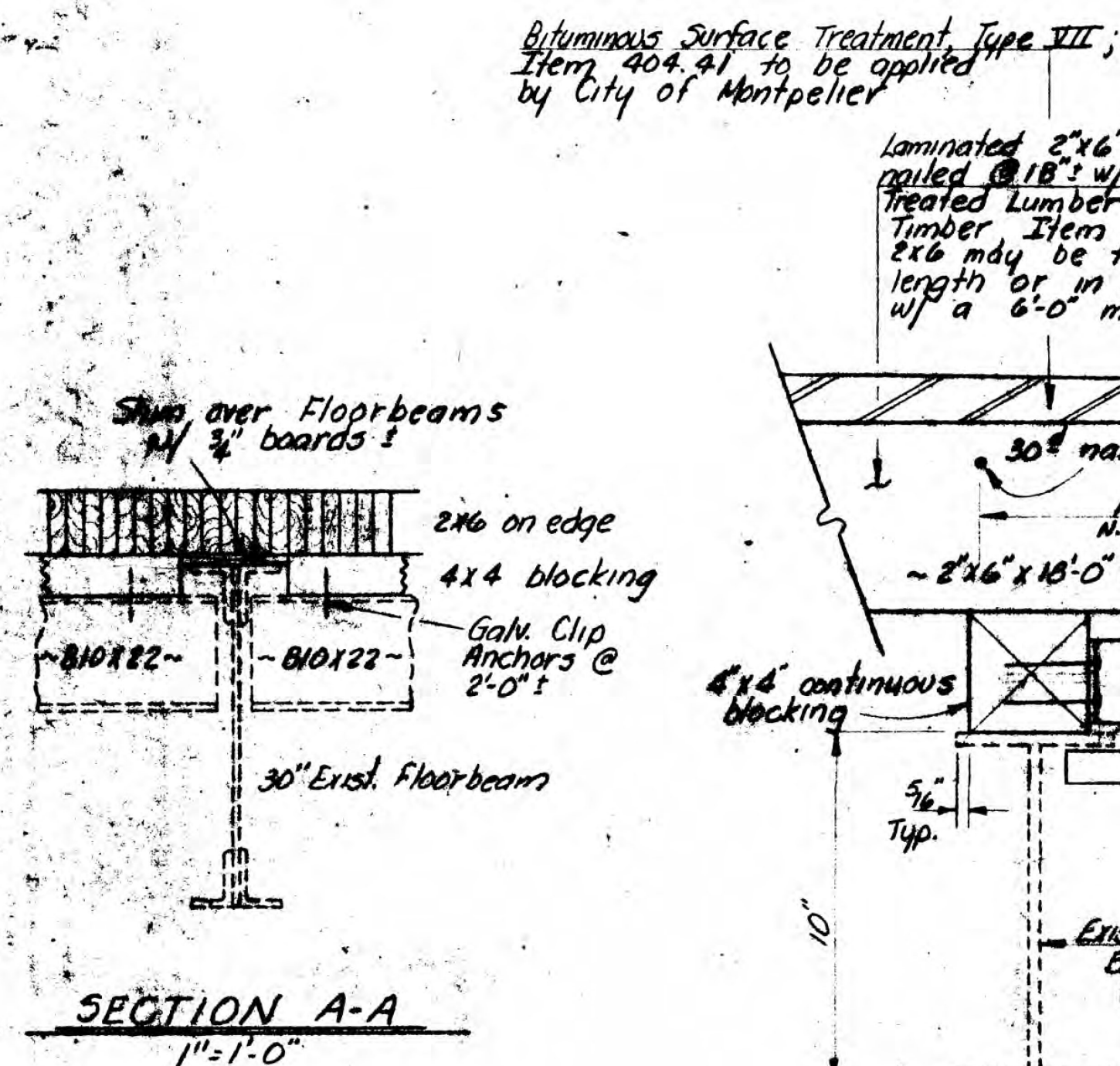
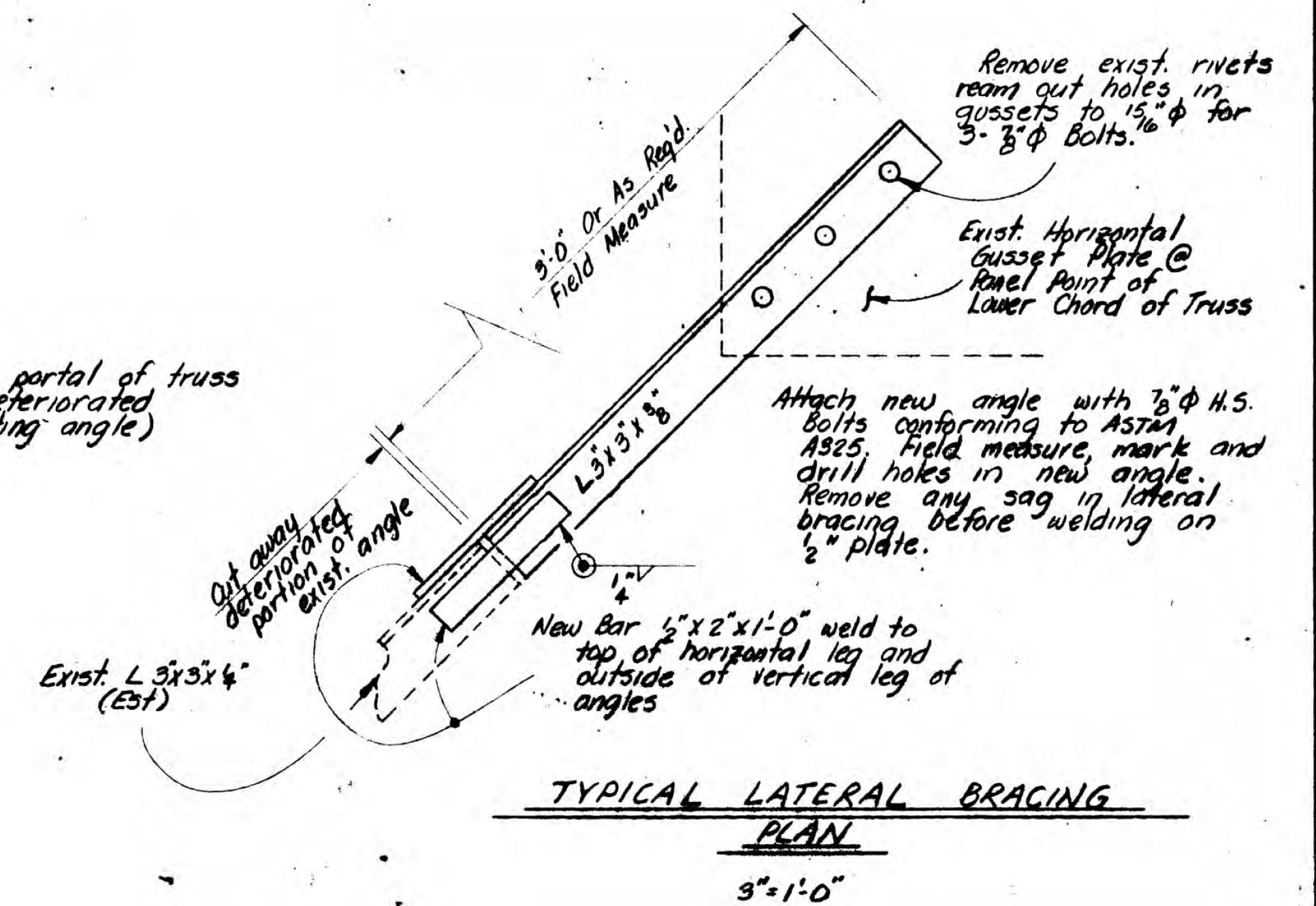
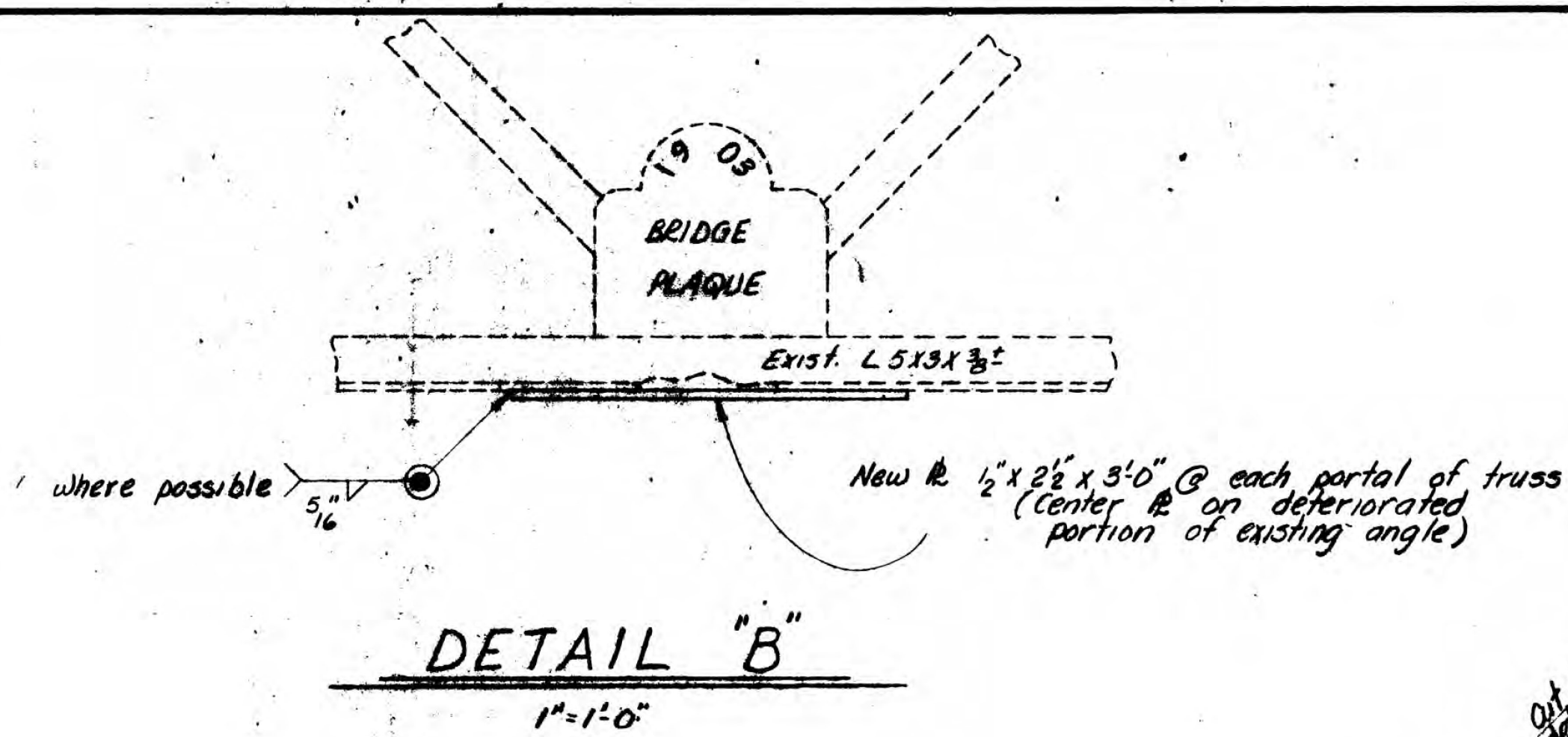
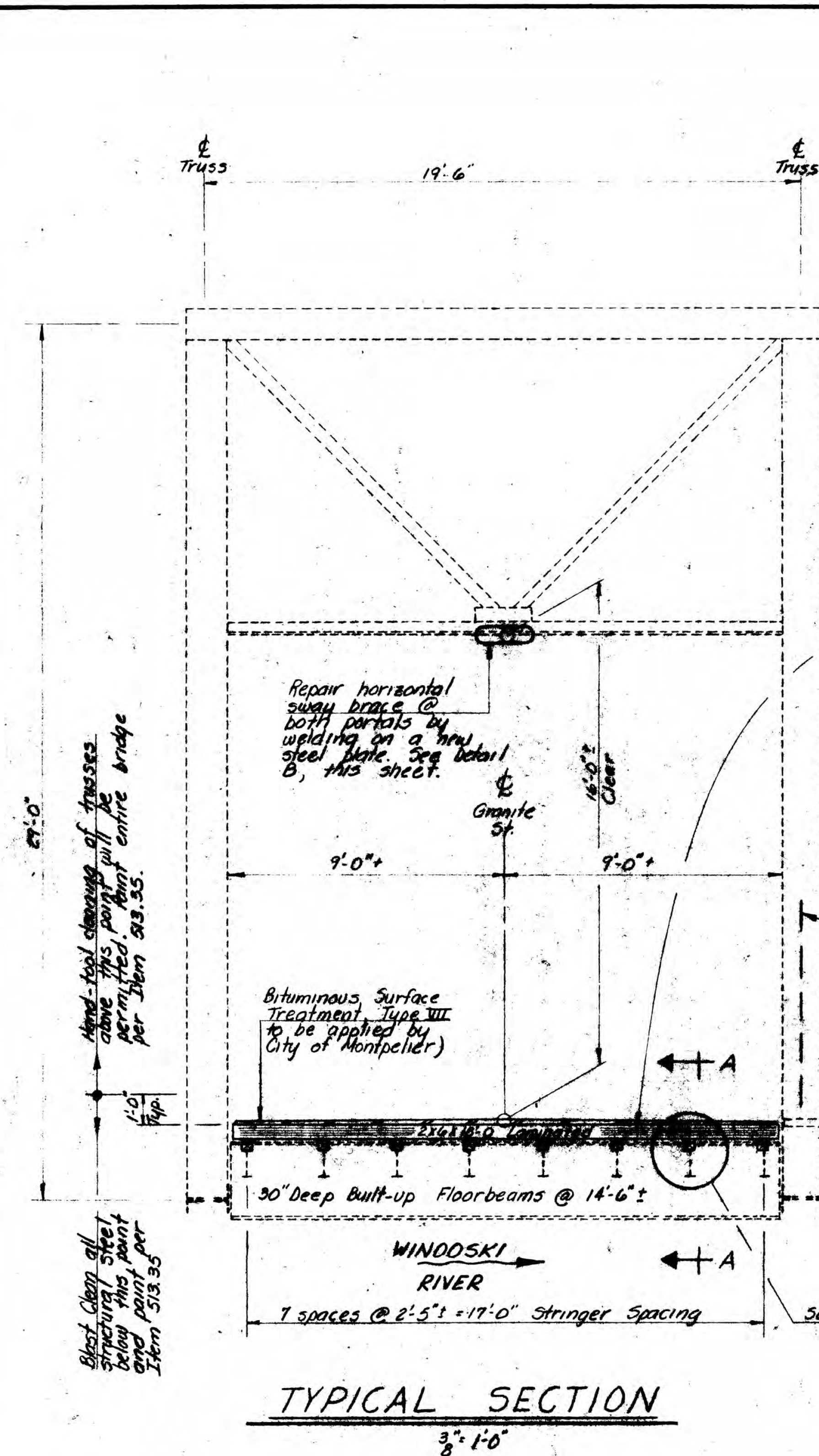
BRIDGE (S) AT STATION (S) B17 in Montpelier City  
LOCATION (S) GRANITE ST OVER WINDOSKI RIVER

|          |      |          |      |          |
|----------|------|----------|------|----------|
|          |      |          |      |          |
| CU. YDS. | AREA | CU. YDS. | AREA | CU. YDS. |

| NO.                                                                        | ITEM                                                         | UNIT | BRIDGE |  | APPR. |
|----------------------------------------------------------------------------|--------------------------------------------------------------|------|--------|--|-------|
|                                                                            |                                                              |      |        |  |       |
| 202.20                                                                     | Removal of Existing Superstructure                           | LS   | 1      |  |       |
| * 404.41                                                                   | Bituminous Surface Treatment, Type II                        | SAL  | 140    |  |       |
| 506.93                                                                     | Structural Steel (Estimated)                                 | LB   | 200    |  |       |
| 513.35                                                                     | Painting, Blast Cleaning<br>(150 Tons - Exist. Truss - Est.) | LS   | 1      |  |       |
| 611.25                                                                     | Treated Lumber and Timber                                    | MBF  | 32.5   |  |       |
| <p>* Items to be furnished and installed by<br/>the City of Montpelier</p> |                                                              |      |        |  |       |

\* Items to be furnished and installed by the City of Montpelier

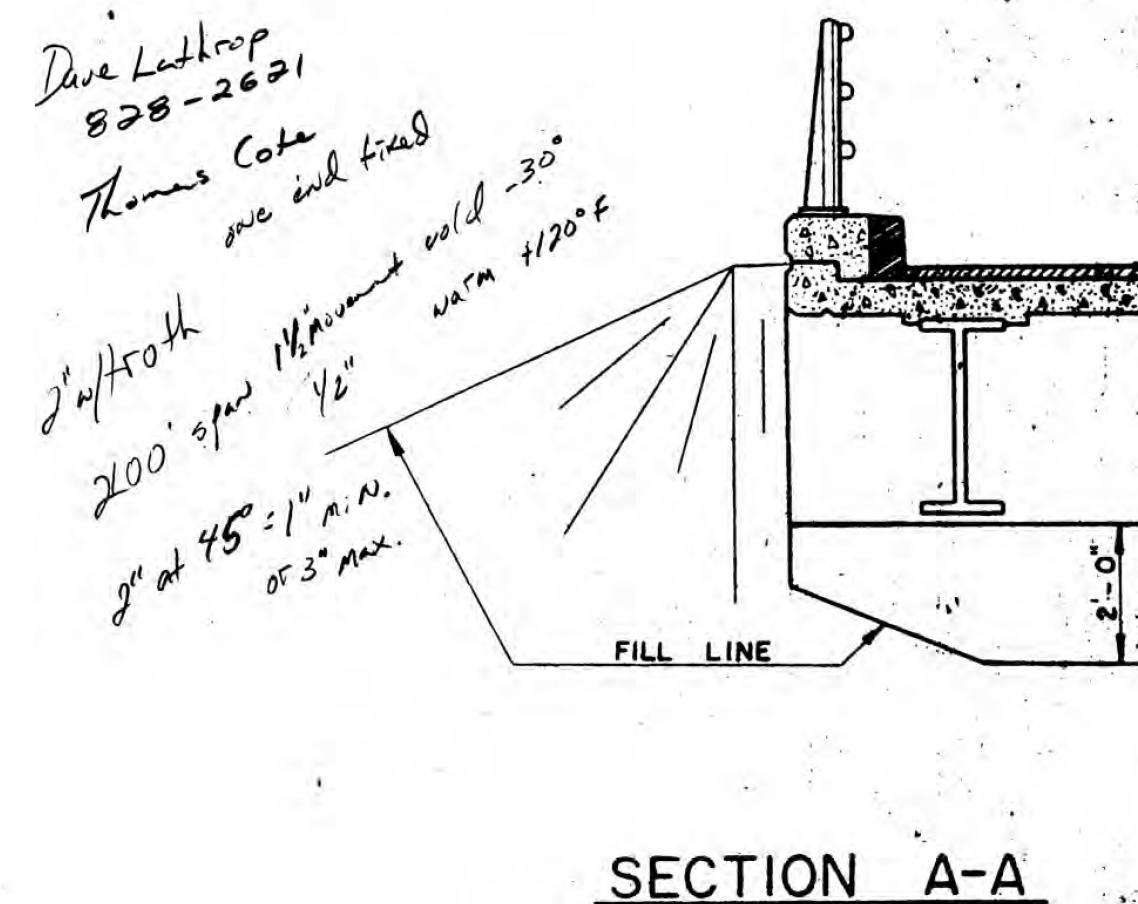
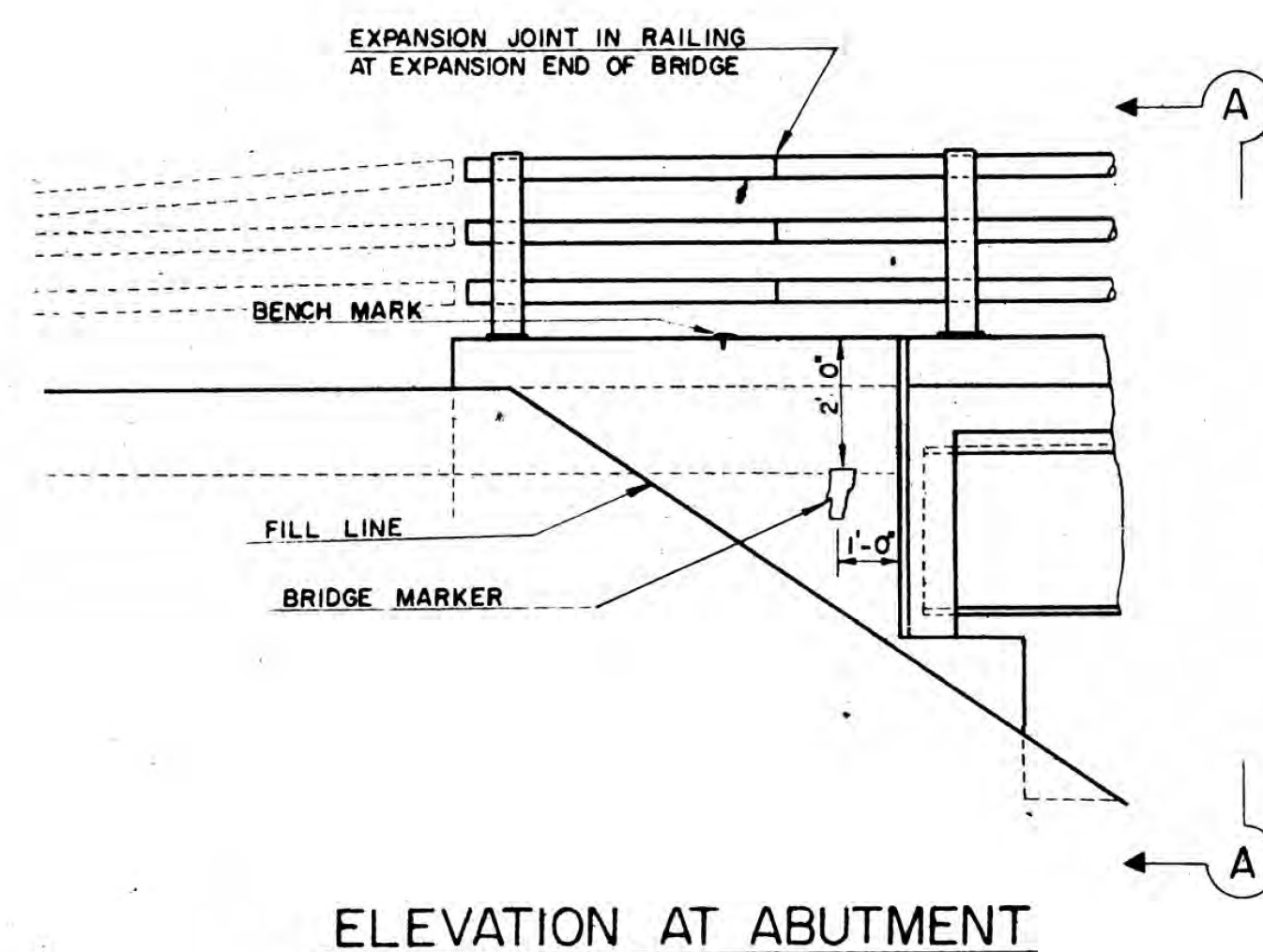
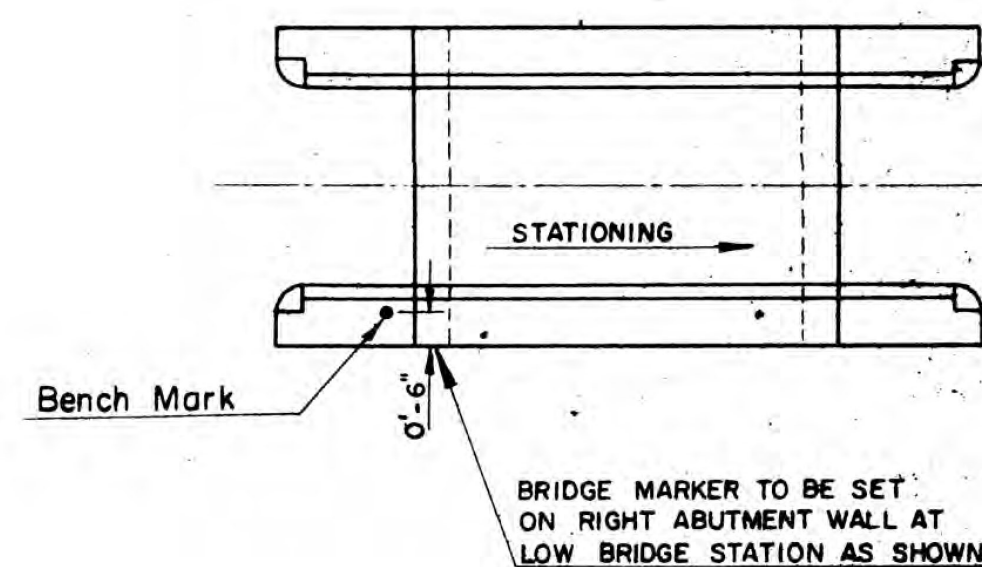
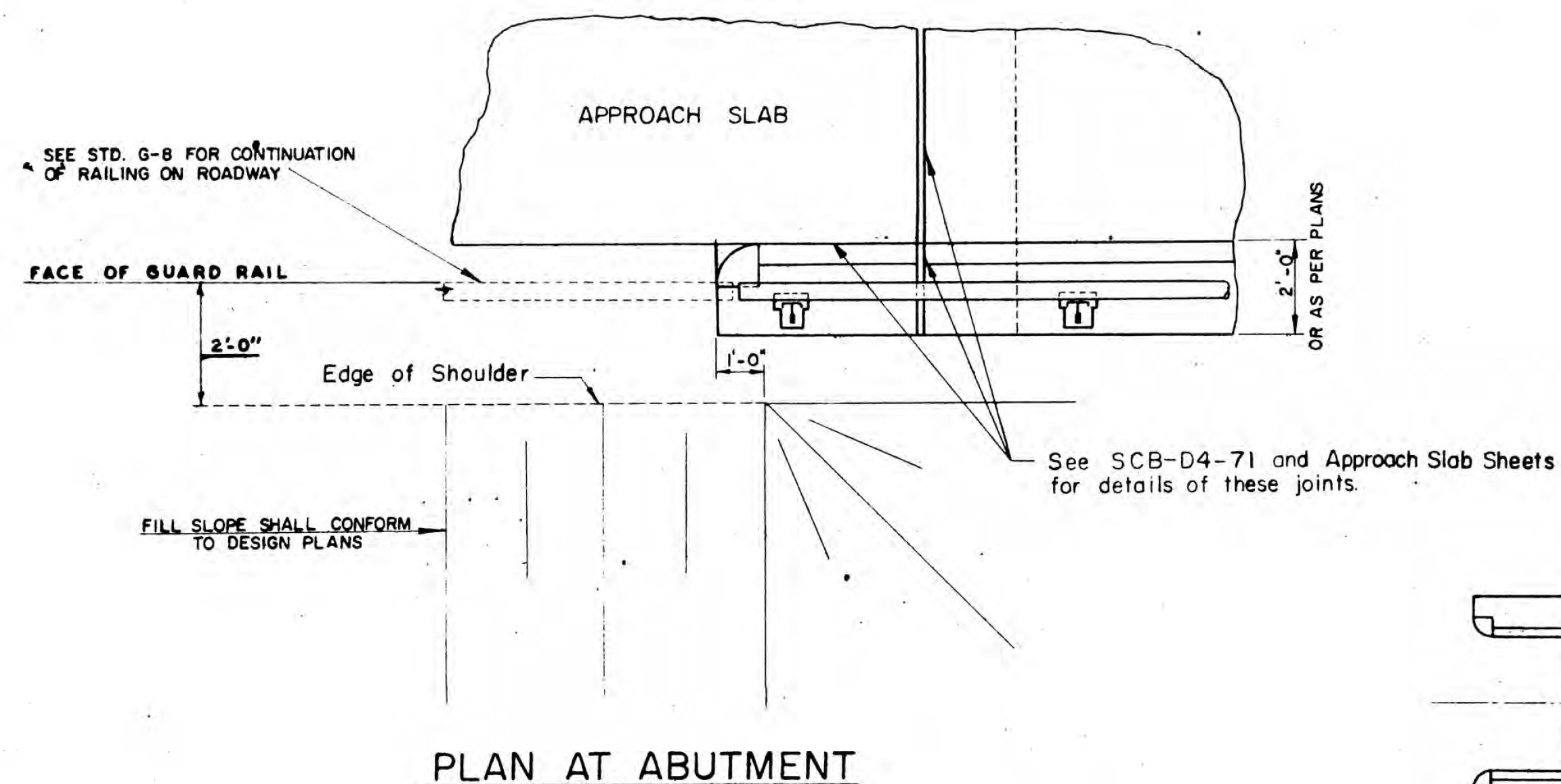




**MONTPELIER  
BF BPNT(17)  
SHEET 15 OF 16  
FOR REFERENCE ONLY**

| STATE OF VERMONT<br>DEPARTMENT OF HIGHWAYS |  |                                     |  |
|--------------------------------------------|--|-------------------------------------|--|
| TOWN OF<br>MONTPELIER CITY                 |  | Bridge No. 17                       |  |
| HIGHWAY NO. GRANITE ST.                    |  | Log Sta. —                          |  |
|                                            |  | Surv. Sta. —                        |  |
| GRANITE STREET OVER WINDOSKI RIVER         |  |                                     |  |
| SUPERSTRUCTURE DETAILS                     |  |                                     |  |
| Designed by JARWADSON                      |  | Drawn by JARWADSON                  |  |
| Checked by C. J. GORMAN                    |  | Bridge Design Supervisor R. S. MAUD |  |
| date 6-74                                  |  | date 6/74                           |  |
| PROJECT                                    |  | PROJECT NO.                         |  |
| MONTPELIER CITY                            |  | T.H. 3501                           |  |
| Bridge Sheet No.                           |  | Sheet 3 of 3                        |  |





# GENERAL NOTES

ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, DATED JAN. 1972, AND THE A.A.S.H.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 1973 AND ITS LATEST REVISIONS. DESIGN IS FOR HS20-44 LOADING MODIFIED FOR THE NATIONAL SYSTEM OF INTERSTATE HIGHWAYS, APPLIED IN ACCORDANCE WITH THE PROVISIONS OF A.A.S.H.O. STANDARD SPECIFICATIONS.

THE FOLLOWING NOTES SHALL APPLY UNLESS OTHERWISE NOTED ON PROJECT PLANS.

- ALL STRUCTURAL STEEL SHALL CONFORM TO A.S.T.M. DESIGNATION A-36. ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" Ø A.S.T.M. A325 BOLTS IN 15/16" Ø HOLES. WHERE CONNECTIONS ARE NOT DETAILED ON THE PLANS THEY SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STATE FOR APPROVAL.
- SIMPLE BEAMS SHALL BE CAMBERED FOR THE DEAD LOAD DEFLECTION PLUS ONE-EIGHTH (1/8) INCH FOR EACH TEN FEET OF SPAN OR FRACTION THEREOF. THE CAMBER SHALL APPROXIMATE A SIMPLE CIRCULAR CURVE FROM END TO END OF BEAM. TOLERANCES IN CAMBER SHALL BE AS INDICATED IN THE A.I.S.C. HANDBOOK FOR ROLLED BEAMS AND AS INDICATED IN THE A.W.S. SPECIFICATIONS FOR WELDED GIRDERS.
- ALL WELDING AND DIMENSIONAL TOLERANCES OF WELDED MEMBERS SHALL CONFORM TO **OF THE AMERICAN WELDING SOCIETY EXCEPT AS MODIFIED BY THE WELDING SPECIAL PROVISIONS.** AWS D2.0 - 69
- AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS AT INTERVALS ALONG THE TOP OF THE ERECTED BEAMS SHALL BE TAKEN UNDER THE DIRECTION OF THE ENGINEER FOR USE IN DETERMINING THE FINAL GRADE.
- SCUPPERS SHALL BE USED ONLY WHEN INDICATED ON THE PROJECT PLANS. THEY SHALL BE PLACED MIDWAY BETWEEN INTERMEDIATE DIAPHRAGMS. ON SUPERELEVATED BRIDGES PLACE SCUPPERS ON LOW SIDE ONLY. PAYMENT FOR SCUPPERS SHALL BE AT THE UNIT PRICE BID FOR STRUCTURAL STEEL, **SECTION 506.**
- CHANNEL SHEAR CONNECTORS MAY BE SUBSTITUTED FOR THE STUDS SHOWN ON THE STANDARDS. DETAILS OF SHEAR CONNECTORS SHALL BE SUBMITTED TO THE STATE FOR APPROVAL.
- THE FINAL COAT OF FIELD PAINT SHALL BE GREEN.
- ALL CONCRETE IN THE SUPERSTRUCTURE SHALL BE CLASS A. ALL EXPOSED EDGES OF CONCRETE IN THE SUBSTRUCTURE AND SUPERSTRUCTURE SHALL BE CHAMFERED 1" X 1".
- SLAB REINFORCING STEEL FOR SKEWED BRIDGES SHALL BE MODIFIED FROM THAT INDICATED ON THE STANDARDS FOR SQUARE SPANS AS FOLLOWS:
  - TRANSVERSE BARS SHALL BE FURNISHED AS FOR A SQUARE SPAN. THESE BARS SHALL BE CUT IN THE FIELD TO FIT ONE END, WITH CUT-OFF BARS USED AT THE OPPOSITE END OF THE SPAN.
  - THE S506 BARS SHALL BE LENGTHENED
  - THE QUANTITY OF S402 AND S 602 BARS SHALL BE INCREASED.
  - S506 AND S507 BARS SHALL BE INCREASED.
- SPIRAL COLUMN REINFORCEMENT SHALL CONFORM TO A.A.S.H.O. SPECIFICATION M-32 COLD DRAWN STEEL #14 FOR CONCRETE REINFORCEMENT.
- MINIMUM COVER FOR REINFORCING STEEL SHALL BE 2" MEASURED FROM THE CONCRETE SURFACE TO THE FACE OF THE REINFORCEMENT.
- LAYOUT AND DETAIL DRAWINGS FOR GRANITE BRIDGE CURB SHALL BE SUBMITTED IN TRIPLICATE TO THE STATE OF VERMONT FOR APPROVAL PRIOR TO FABRICATION AND SHIPMENT. GRANITE CURB ENDS SHALL BE SAWED ON EACH SIDE OF ALL JOINTS WHICH NEOPRENE JOINT SEALER-PREFORMED IS USED OR WHERE THE CURB BUTTS A METAL EXPANSION JOINT. GRANITE CURB SHALL BE FURNISHED IN RANDOM LENGTHS RANGING FROM 4' MINIMUM TO 10' MAXIMUM.
- WATER REPELLENT SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES NOT OTHERWISE TREATED IN BOTH SUPERSTRUCTURE AND SUBSTRUCTURE, EXCEPT FOR THAT PORTION OF THE DECK SLAB AND CURTAIN OR BACKWALLS BETWEEN FASCIA BEAMS
- BRIDGE SEATS OF ALL PIERS AND ABUTMENTS SHALL BE SLOPED 1/4" PER FOOT EXCEPT UNDER BEARING PLATES WHERE THE SURFACES SHALL BE LEVEL. ABUTMENT BRIDGE SEATS SHALL BE SLOPED THE FULL WIDTH, AND PIER BRIDGE SEATS SHALL BE SLOPED EACH WAY FROM THE CENTERLINE OF PIER. THE ENTIRE EXPOSED TOP SURFACE OF THE ABUTMENTS AND PIERS, EXCEPT THE TOP OF ABUTMENT WINGS SHALL BE SMOOTH STEEL TROWEL FINISHED.
- ALL EXPANSION MATERIAL SHALL CONFORM TO A.A.S.H.O. DESIGNATION M153, AND SHALL NOT CONTAIN ASPHALT OR BITUMINOUS MATERIAL.
- WHERE BITUMINOUS CONCRETE PAVEMENT IS CALLED FOR AS A WEARING SURFACE ON BRIDGE DECKS AND APPROACH SLABS, IT SHALL BE TYPE IV MIX APPLIED IN TWO COURSES.
- BORINGS INDICATED ON THE DRAWINGS HAVE BEEN MADE FOR DESIGN PURPOSES ONLY AND ARE NOT WARRANTED TO SHOW ACTUAL SUB-SURFACE CONDITIONS.
- ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL.
- ALLOWABLE DESIGN STRESSES:
 

|                                                                                                     |                              |
|-----------------------------------------------------------------------------------------------------|------------------------------|
| CONCRETE: $F'_{C} = 3,000$ P.S.I.                                                                   | $F_{C} = 1,200$ P.S.I.       |
| STRUCTURAL STEEL: $F_{S} = 20,000$ P.S.I. - A36 (ALL OTHER STEELS AS PER A.A.S.H.O. SPECIFICATIONS) |                              |
| REINFORCING STEEL: $F_{S} = 20,000$ P.S.I. TENSION                                                  | $F_{S} = 24,000$ TENSION     |
| $F_{S} = 16,000$ P.S.I. COMPRESSION                                                                 | $F_{S} = 20,000$ COMPRESSION |
- WHEN PILE SUPPORTED SUBSTRUCTURES ARE PLACED ON EMBANKMENTS, THE CONSTRUCTION PROCEDURE OUTLINED UNDER SUB-SECTION 505.04 SHALL BE FOLLOWED. MATERIAL REMOVED WITHIN THE SIX (6) INCH DEPTH SHALL BE PAID FOR AS EXCAVATION FOR STRUCTURES.

**MONTPELIER  
BF BPNT(17)  
SHEET 16 OF 16  
FOR REFERENCE ONLY**

## REVISIONS AND CORRECTIONS

- REVISED NOTE #3 W.B.T. 1-24-72
- REVISED NOTE #3 J. WOOD 1-22-73
- REVISED AASHO. SPECIFICATIONS DATE FROM 1969 TO 1973.  
J. WOOD 1/28/74.

APPROVED: DATE: 12/14/71

*R.H. Crawford*  
CHIEF ENGINEER  
*C.H. Stinchey*  
ASST. CHIEF ENGINEER  
*J.M. Burn*  
BRIDGE ENGINEER

## DETAILS OF W BEAM BRIDGES GENERAL INFORMATION AND GENERAL NOTES

VERMONT  
DEPARTMENT OF HIGHWAYS  
STRUCTURE STANDARDS

**SCB-DI-71**