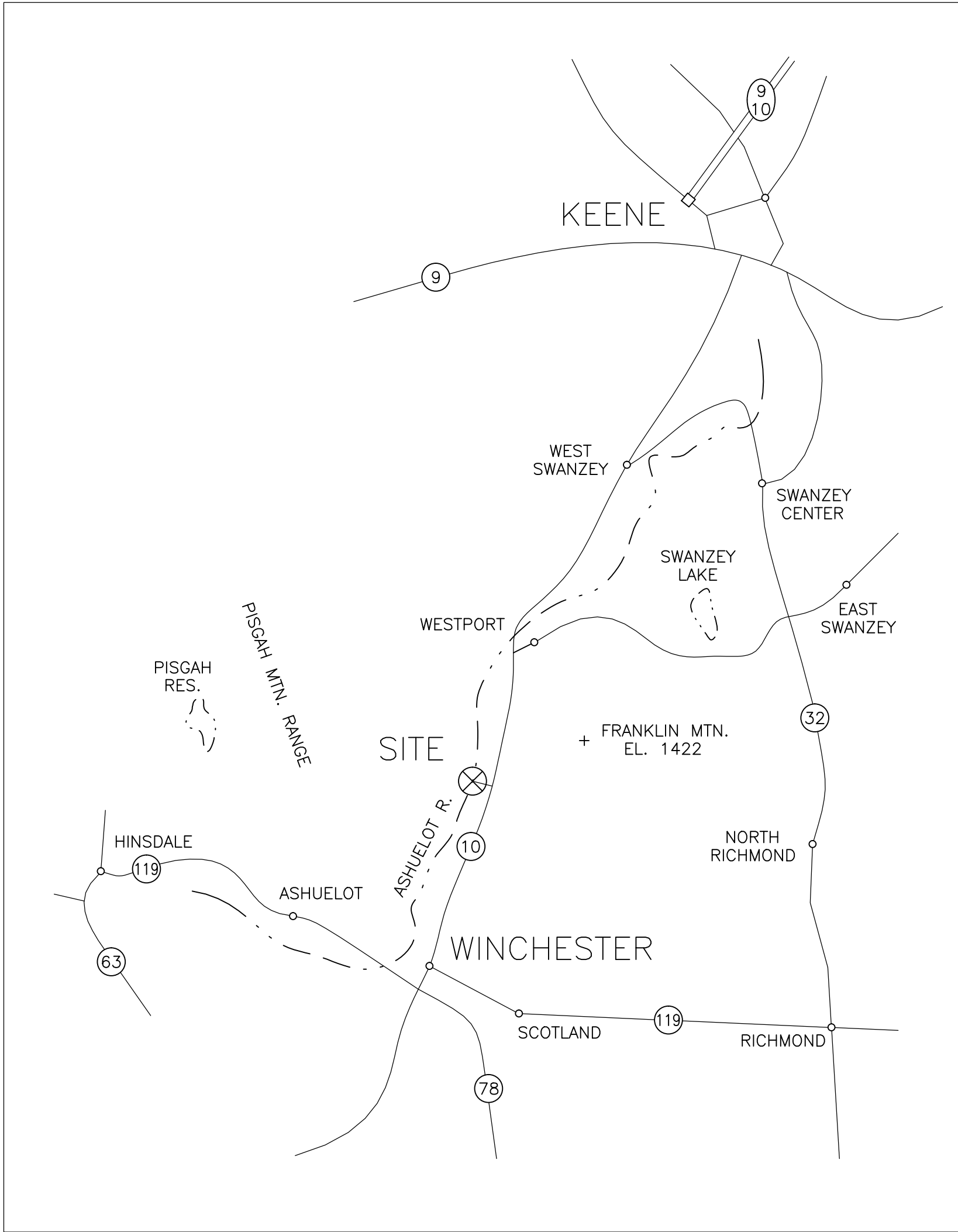


REHABILITATION OF THE  
COOMBS COVERED BRIDGE  
WINCHESTER, NEW HAMPSHIRE

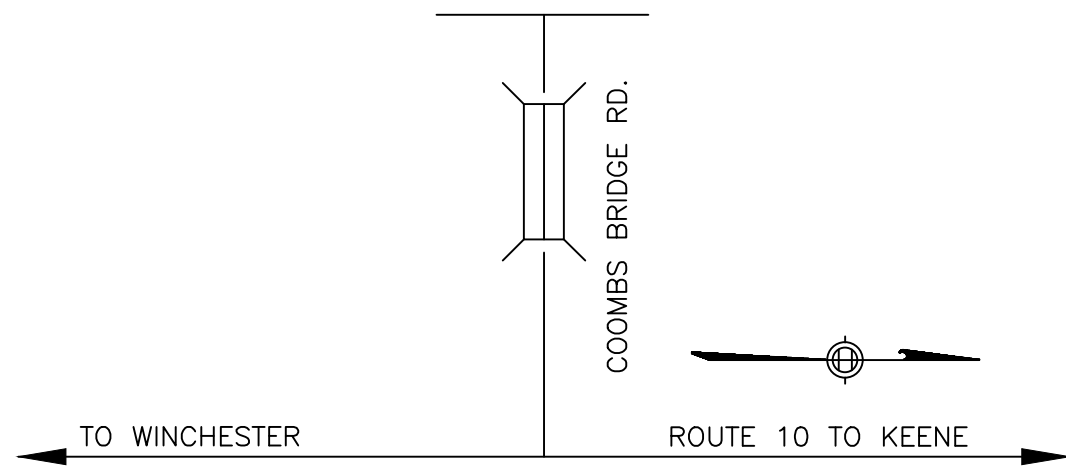
LEGEND

INDEX



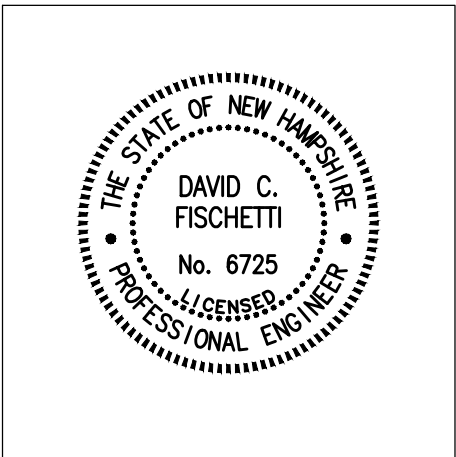
PROJECT LOCATION

SHEET NO.	TITLE
A1	ARCHITECTURAL ELEVATIONS
S1	BRIDGE CROSS SECTION, DETAILS
S2	LATTICE TRUSS LAYOUT
S3	LATTICE TRUSS LAYOUT
P1	FLOOR FRAMING PLAN
P2	LOWER CHORD X-BRACING
P3	ROOF FRAMING PLAN, X-BRACING
C1	CHORD LAYOUT
B1	BEARING DETAIL
B2	BEARING DETAIL
D1	GENERAL NOTES, ABUTMENT PLANS
D2	ABUTMENT PLANS



Prepared by:  
DCF Engineering, Inc.

PO Box 879 ■ 109 Brady Ct. ■ Cary, NC 27512-0879 ■ USA ■ (919) 467-3853 ■ FAX (919) 469-4901

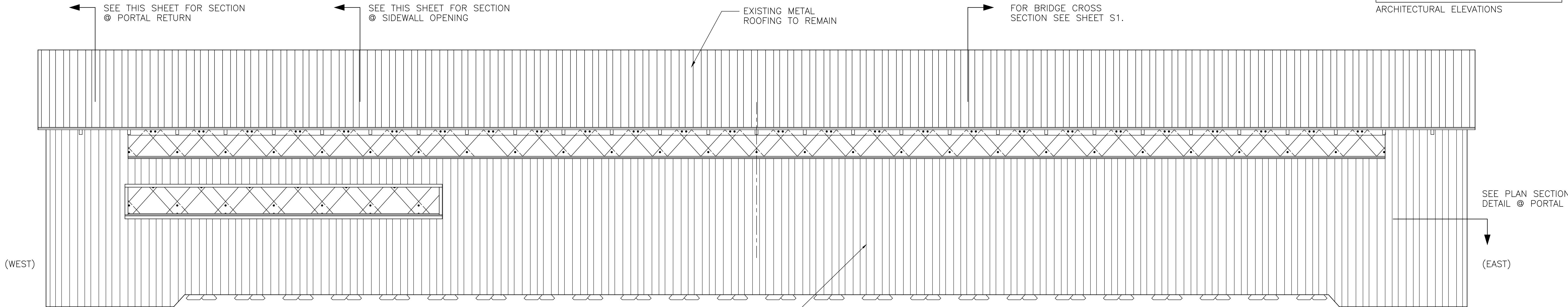


JAN. 15, 1998 AS BUILT

Prepared for:  
**THE TOWN OF WINCHESTER**  
PO Box 25 Richmond Road  
Winchester, New Hampshire 03470

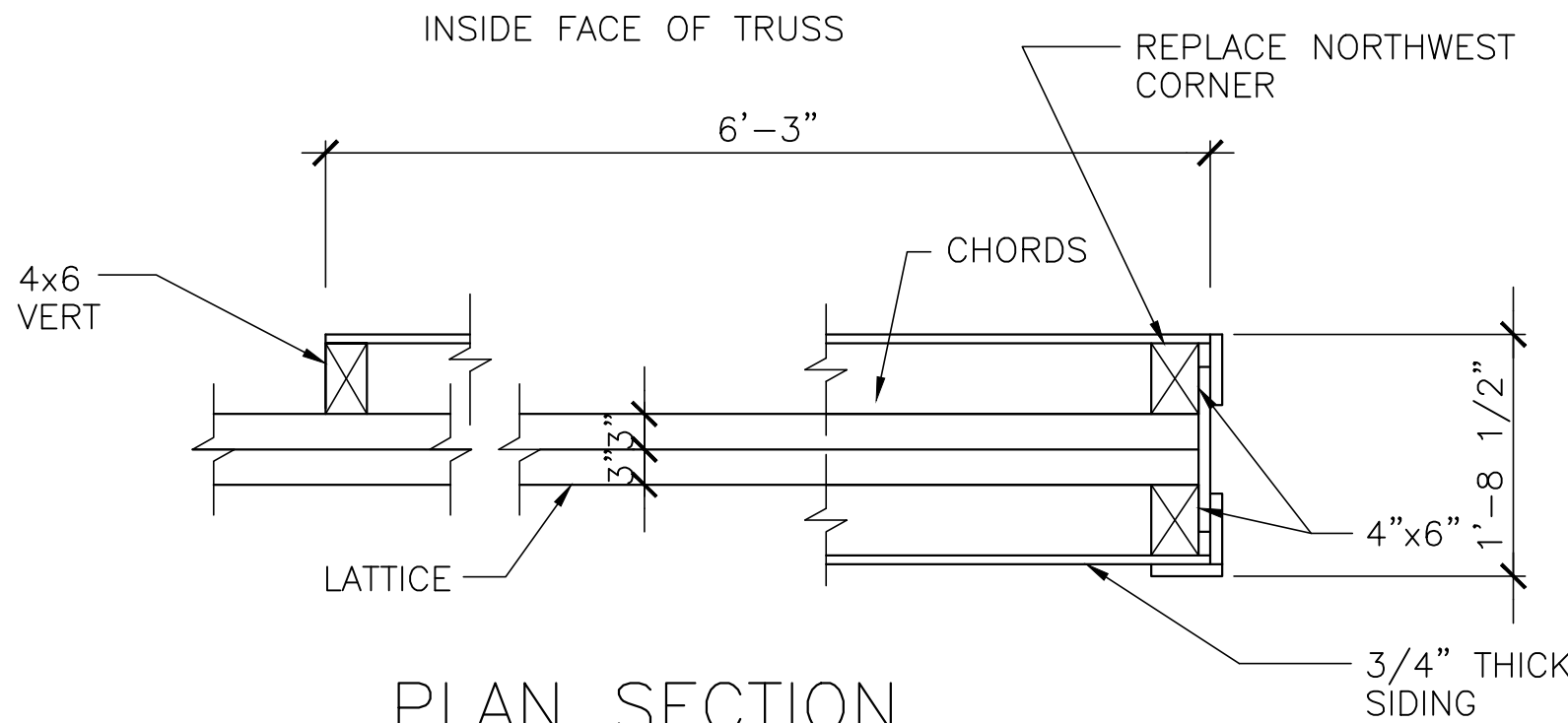
STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NH		1996		
PROJECT FILE NO. XXXXXX				

ARCHITECTURAL ELEVATIONS

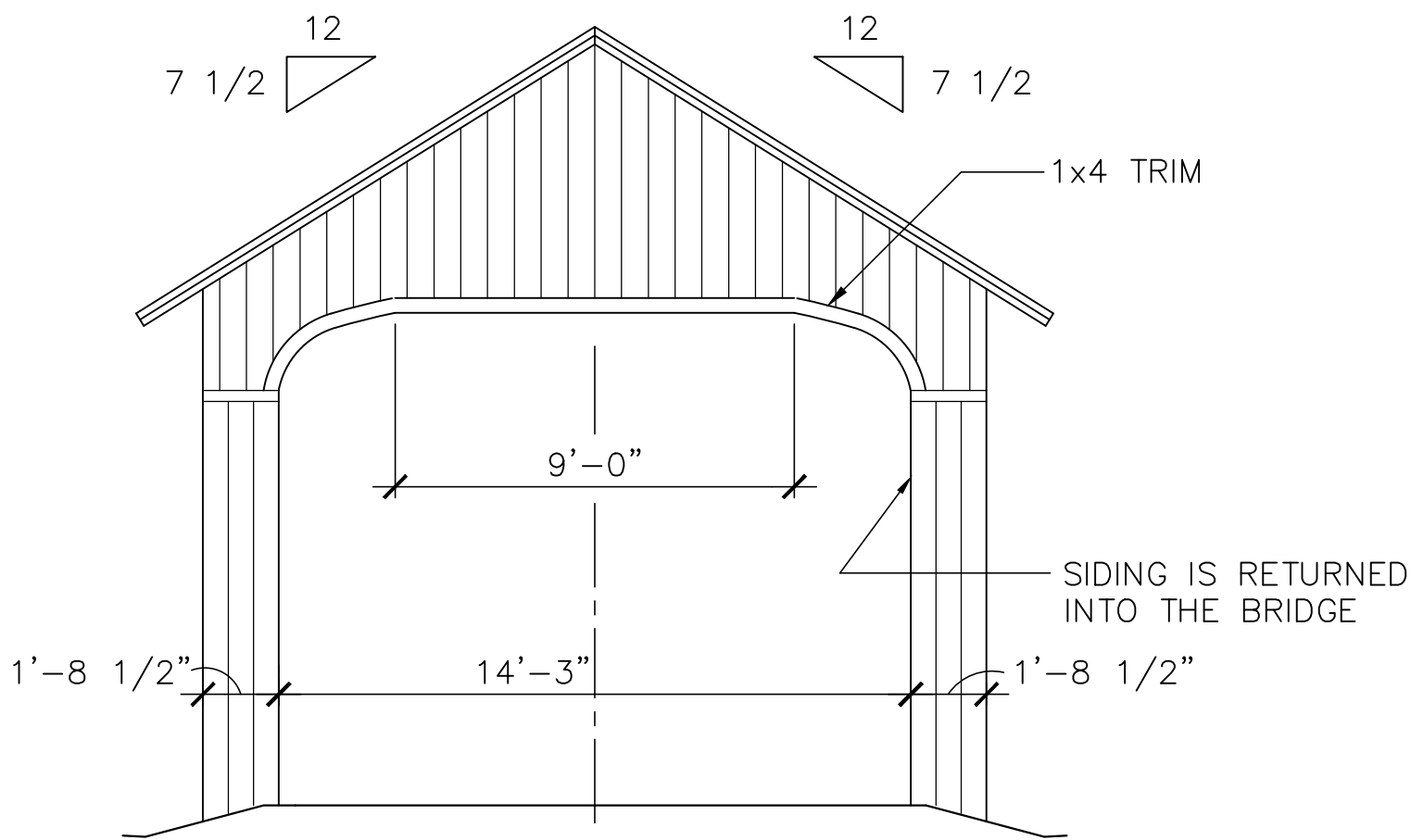


SOUTH ELEVATION  
SCALE 1/4"=1'-0"

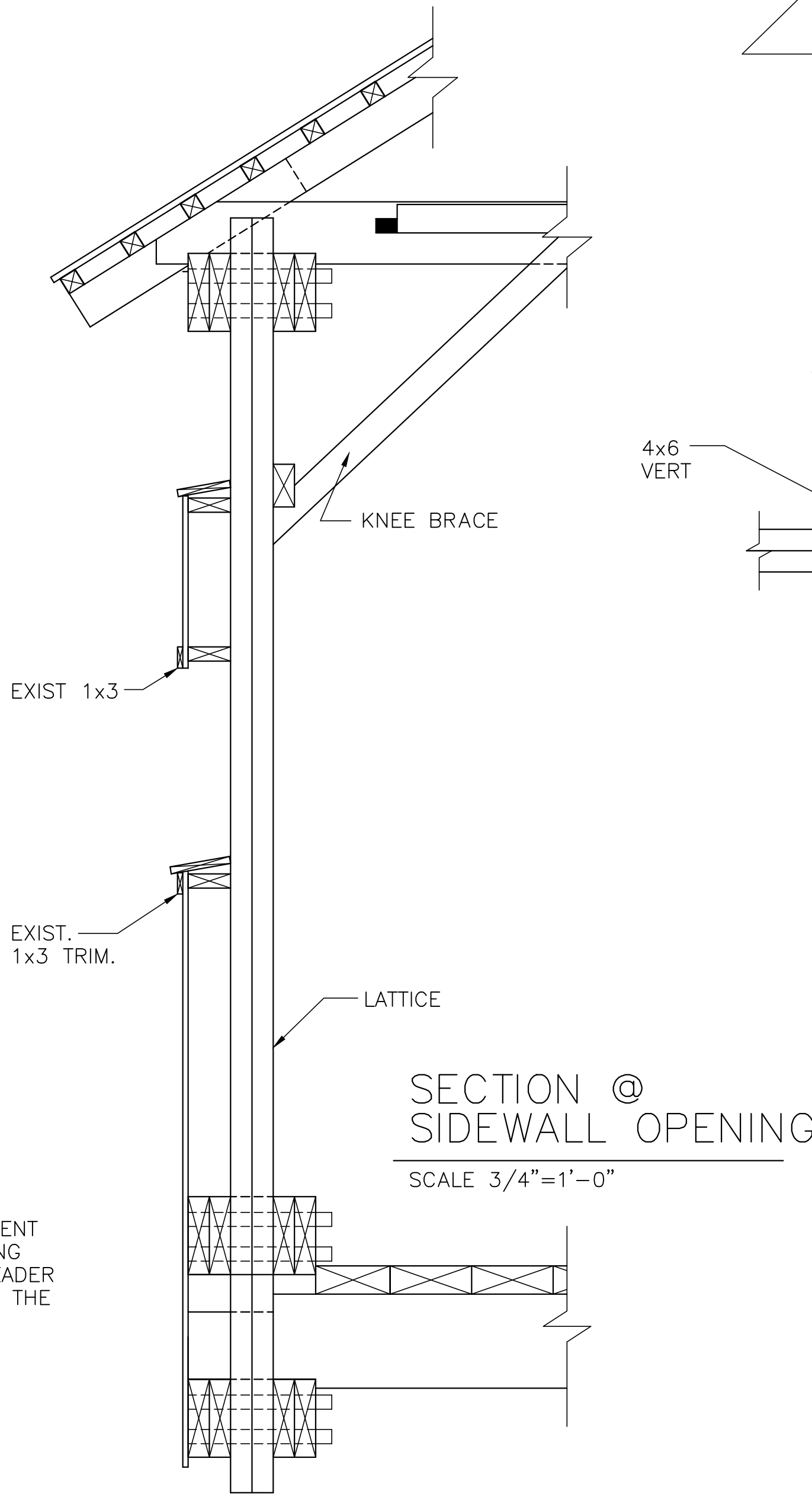
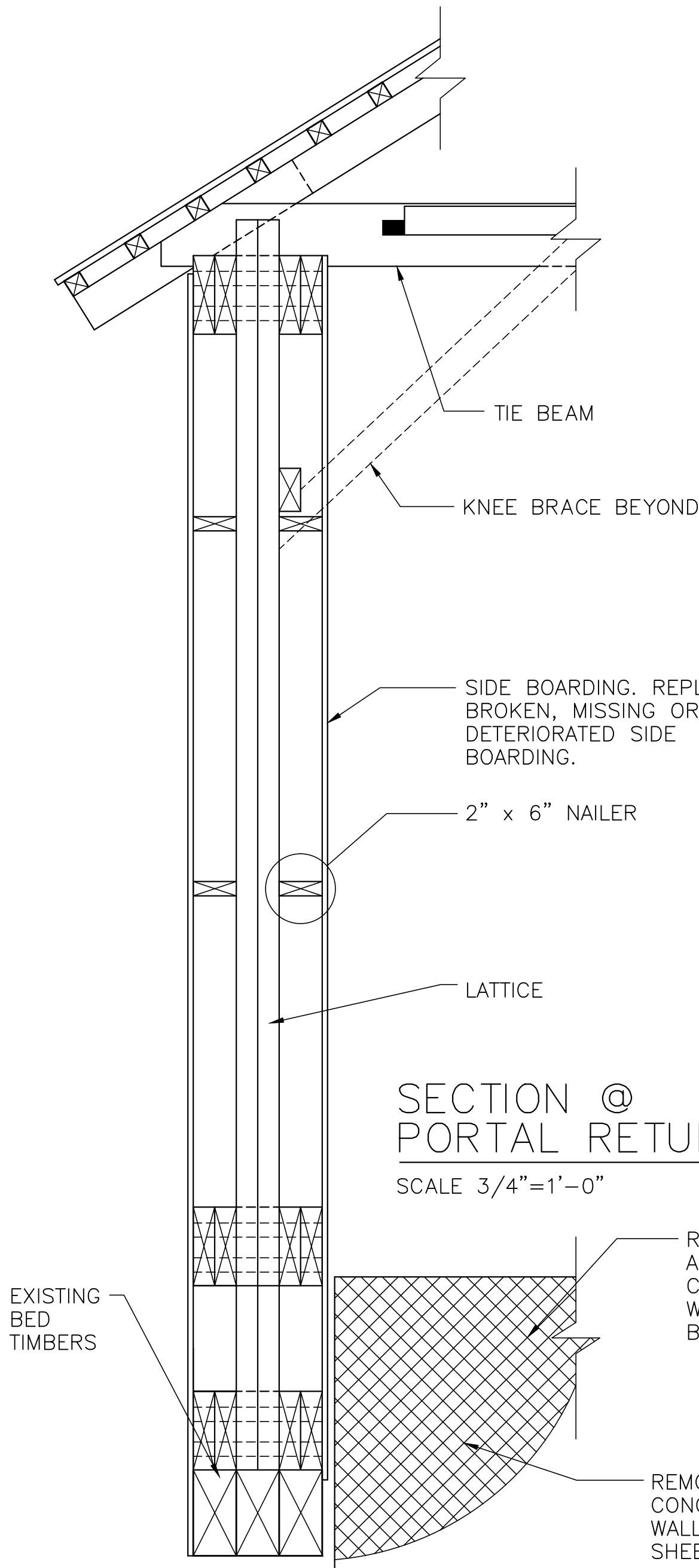
EXISTING RANDOM WIDTH BOARD SIDING TO REMAIN. REPLACE BROKEN, MISSING OR DETERIORATED SIDE BOARDING WITH FULL LENGTH PIECES TO MATCH. PROVIDE SUFFICIENT SIDE BOARDING TO REPLACE ONE SIDE OF THE BRIDGE COMPLETELY, USING SALVAGED MATERIAL TO REPAIR THE OTHER SIDE.

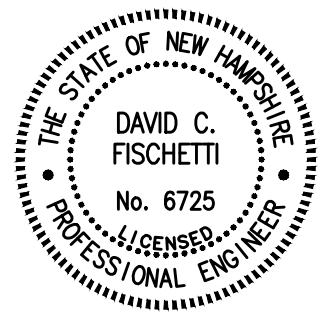


PLAN SECTION  
DETAIL AT PORTAL  
SCALE 3/4"=1'-0"

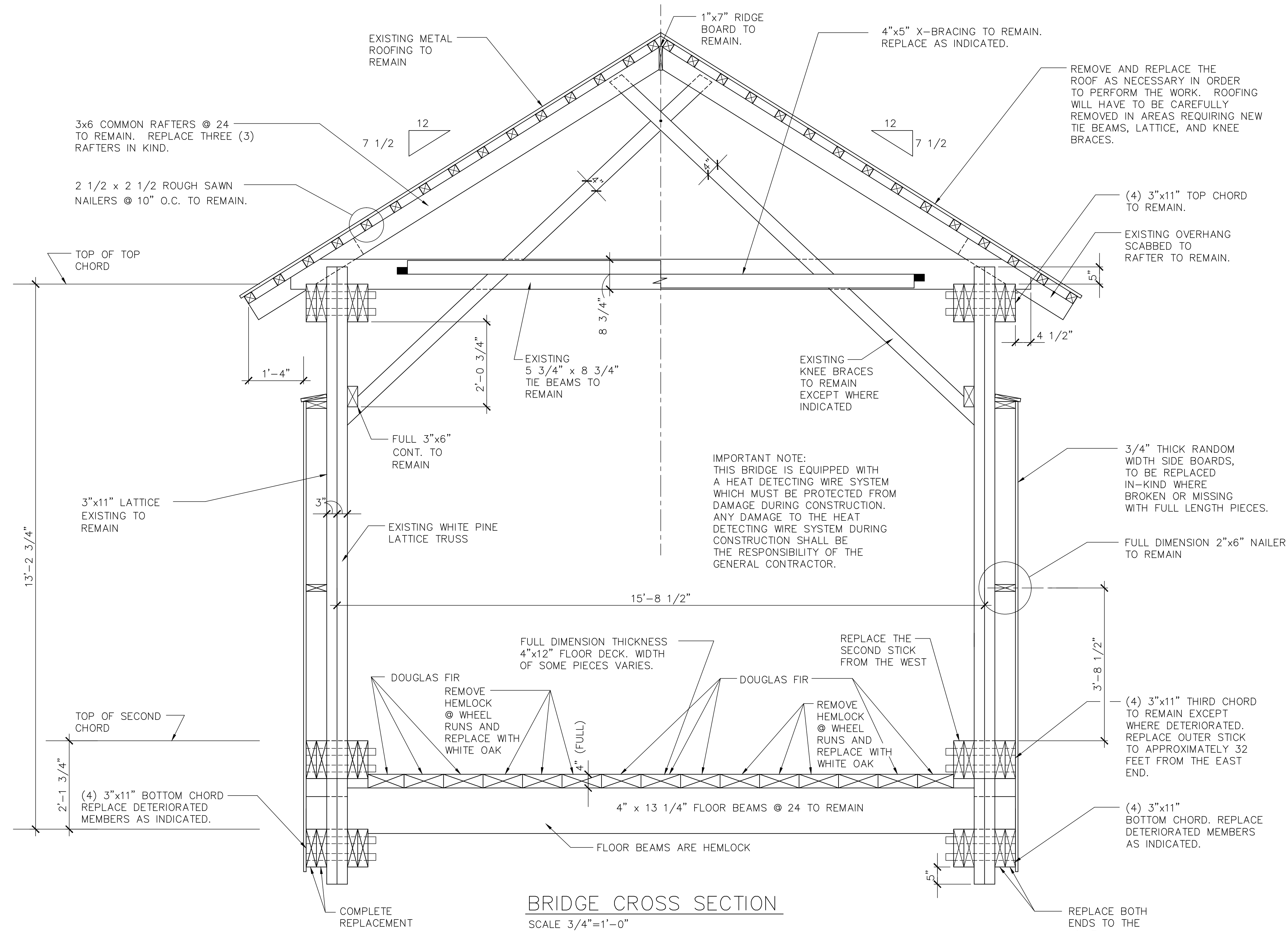


EXISTING PORTAL FOR BOTH ENDS  
SCALE 1/4"=1'-0"



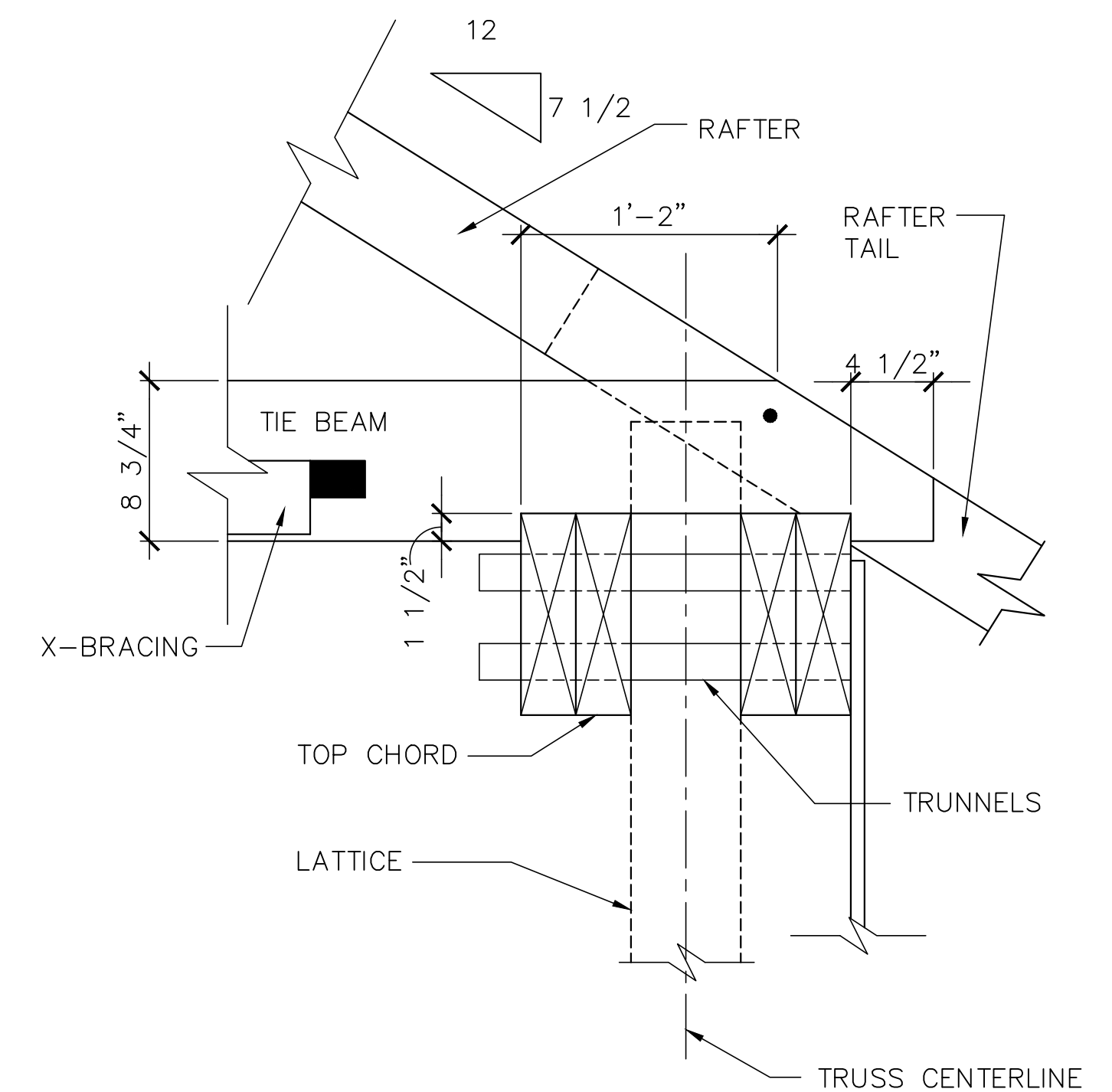
 DAVID C. FISCHETTI No. 6725 LICENSED PROFESSIONAL ENGINEER	JAN. 15, 1998	AS BUILT
	REHABILITATION OF THE COOMBS COVERED BRIDGE <b>TOWN OF WINCHESTER</b> OLD WESTPORT ROAD OVER THE ASHUELOT RIVER  TOWN OF WINCHESTER 1 RICHMOND STREET P.O. BOX 25 WINCHESTER, NH 03470	
DCF ENGINEERING P.O. BOX 879 CARY, NC 27512		

STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NH		1996		
PROJECT FILE NO. XXXXX				
BRIDGE CROSS SECTION, DETAILS				



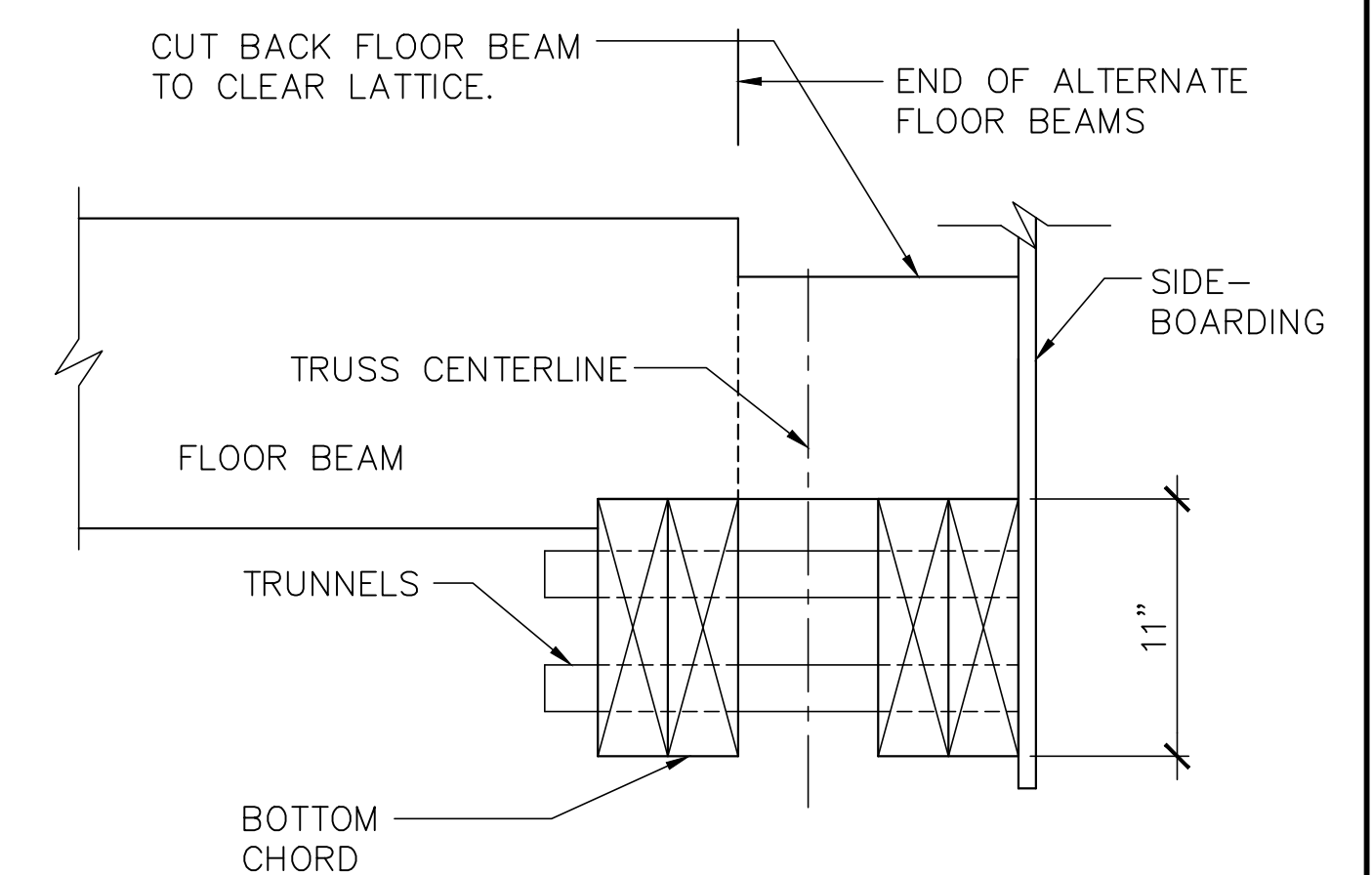
## BRIDGE CROSS SECTION

SCALE 3/4"=1'-0"



## EAVE DETAIL

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



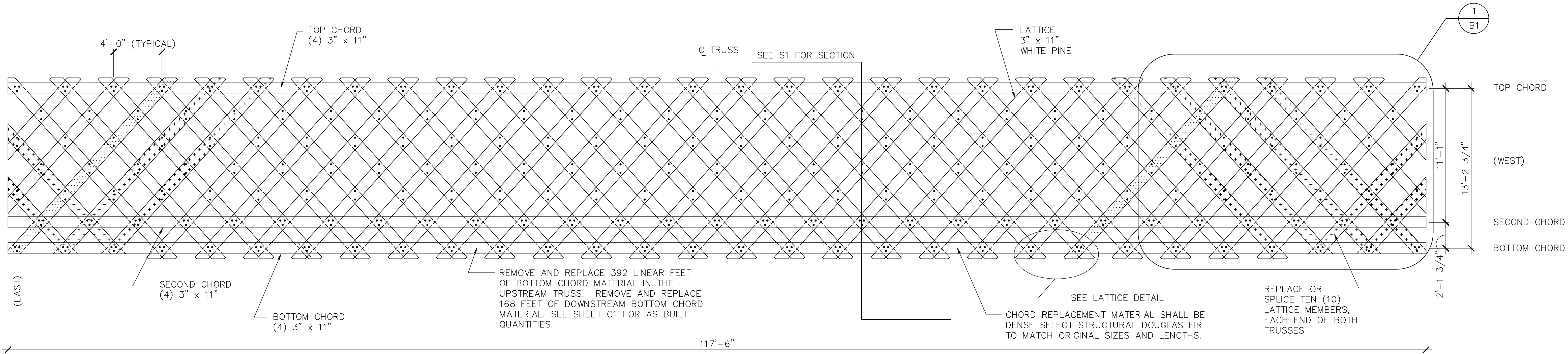
## DETAIL @ FLOOR BEAM

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

JAN. 15, 1998	AS BUILT
APR. 14, 1997	ISSUED FOR CONSTRUCTION
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STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NH		1996		
PROJECT FILE NO. XXXXXX				

LATTICE TRUSS LAYOUT

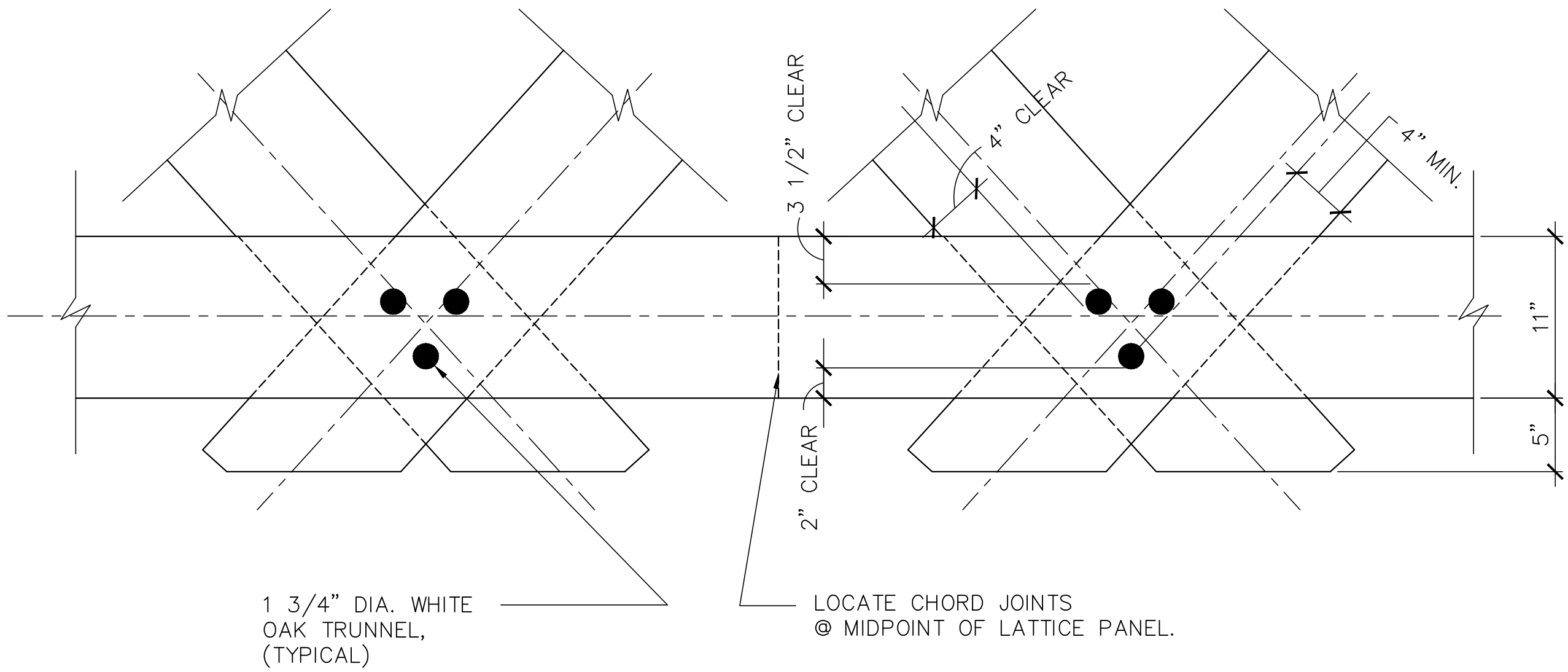


TOWN LATTICE TRUSS LAYOUT (VIEW FROM INSIDE OF BRIDGE LOOKING SOUTH))

SCALE 1/4"=1'-0"

LEGEND

- SPLICED 48 LIN. FT.
- REPLACED 184 LIN. FT.



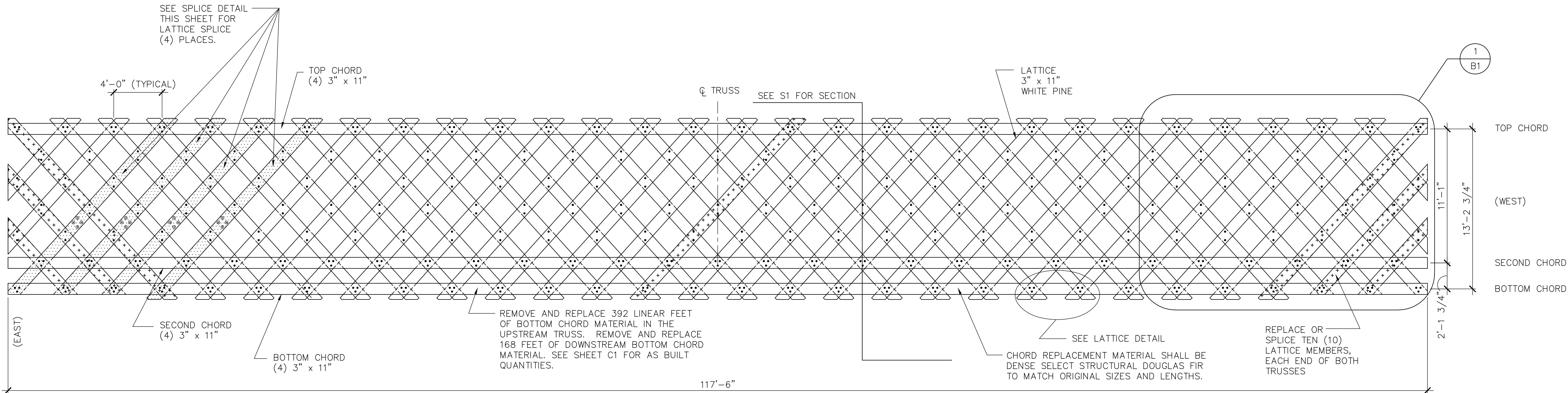
LATTICE DETAIL

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

JAN. 15, 1998	AS BUILT
APR. 14, 1997	ISSUED FOR CONSTRUCTION
AUG. 30, 1996	REVIEW SET
DATE	DESCRIPTION
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STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NH		1996		
PROJECT FILE NO. XXXXXX				

LATTICE TRUSS LAYOUT



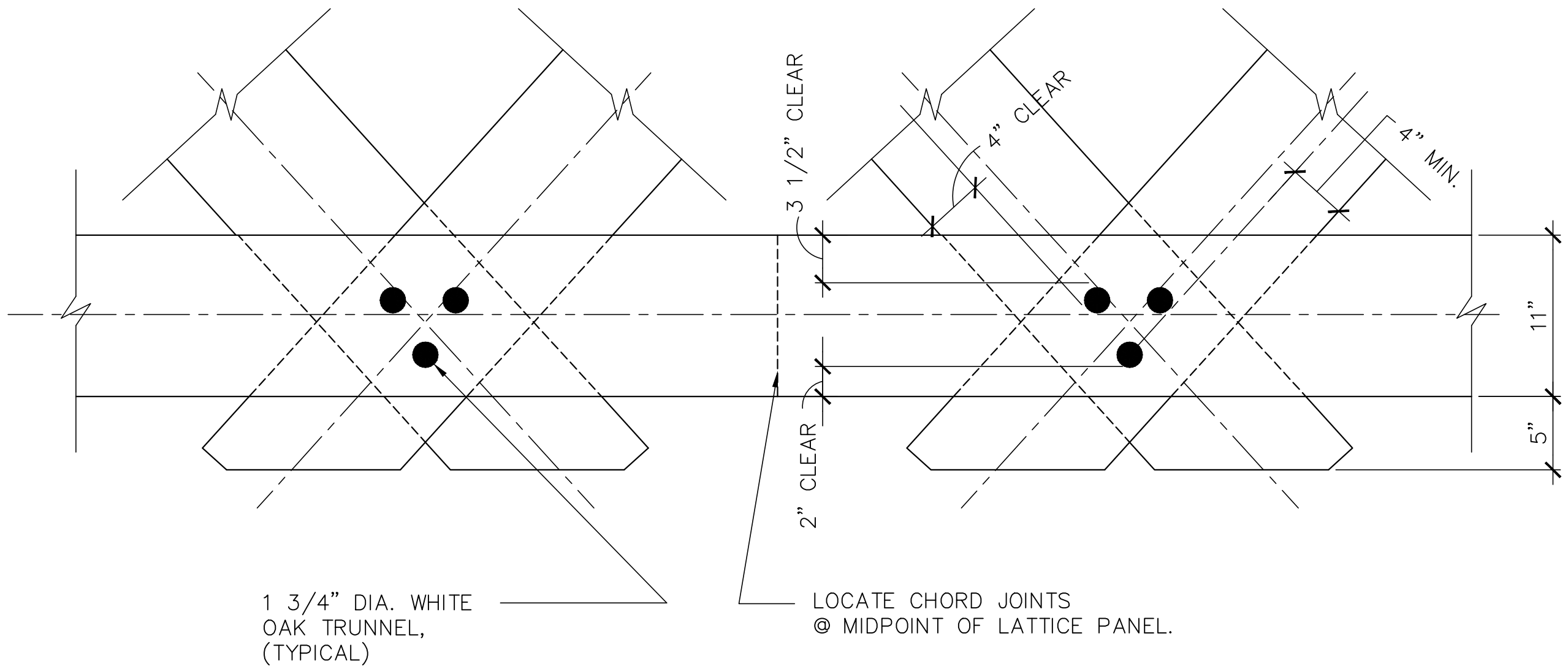
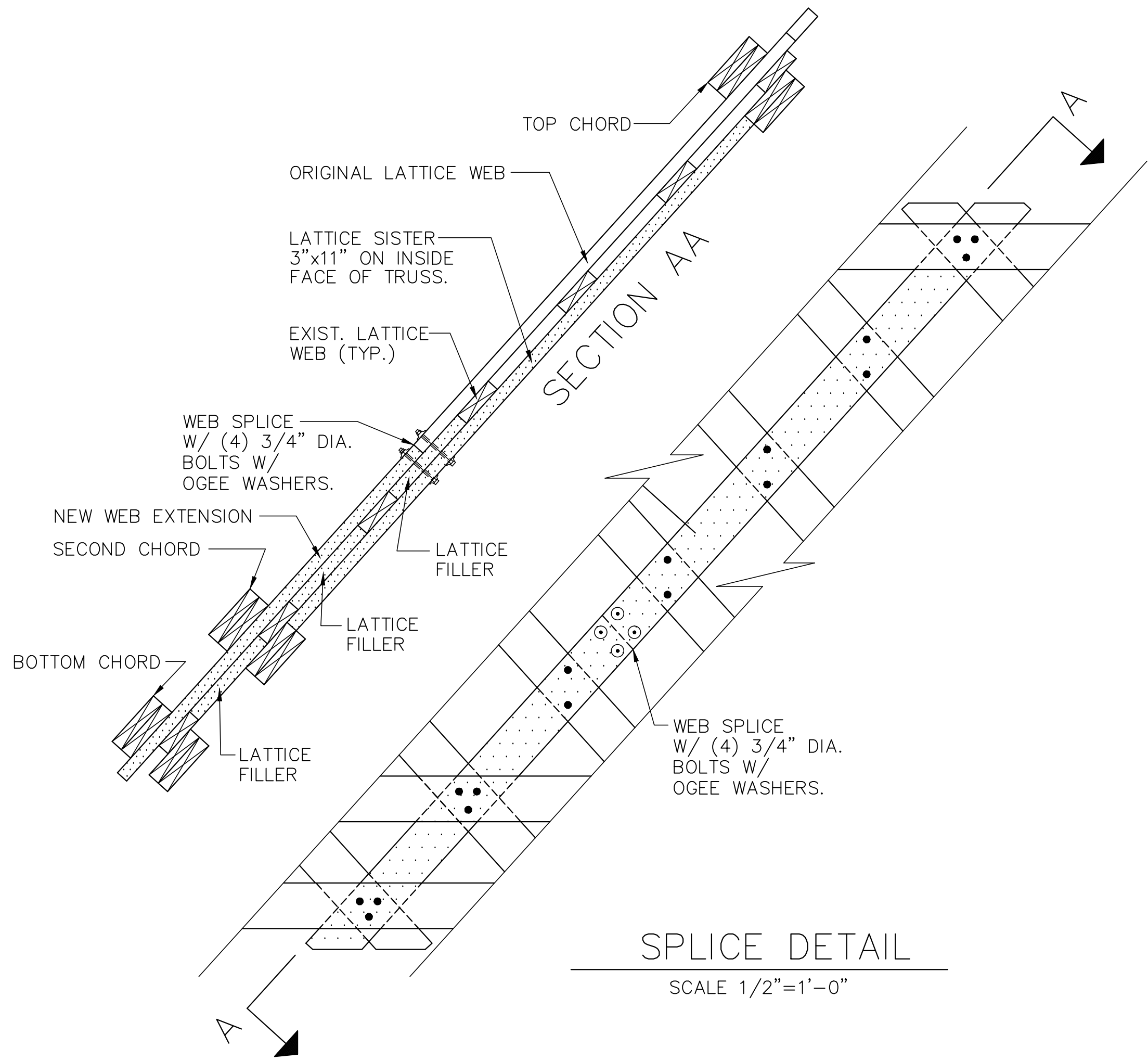
TOWN LATTICE TRUSS LAYOUT (VIEW FROM INSIDE OF BRIDGE LOOKING NORTH))

SCALE 1/4"=1'-0"

LEGEND

SPliced 48 LIN. FT.

REPLACED 184 LIN. FT.



LATTICE DETAIL

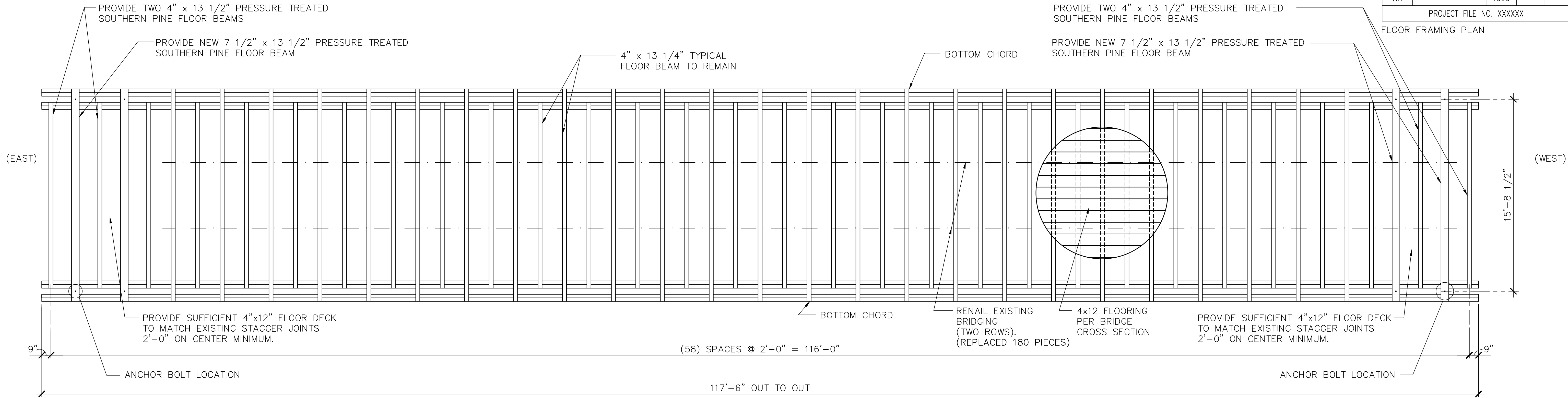
SCALE 1 1/2"=1'-0"

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APR. 14, 1997	ISSUED FOR CONSTRUCTION
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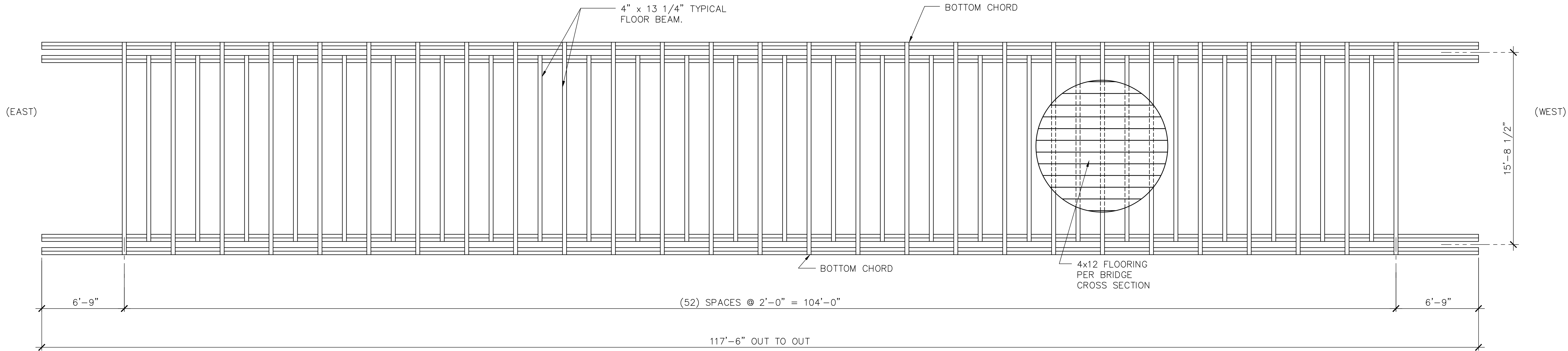
STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NH		1996		
PROJECT FILE NO. XXXXX				

FLOOR FRAMING PLAN



RE-WORKED FLOOR SYSTEM

SCALE 1/4"=1'-0"



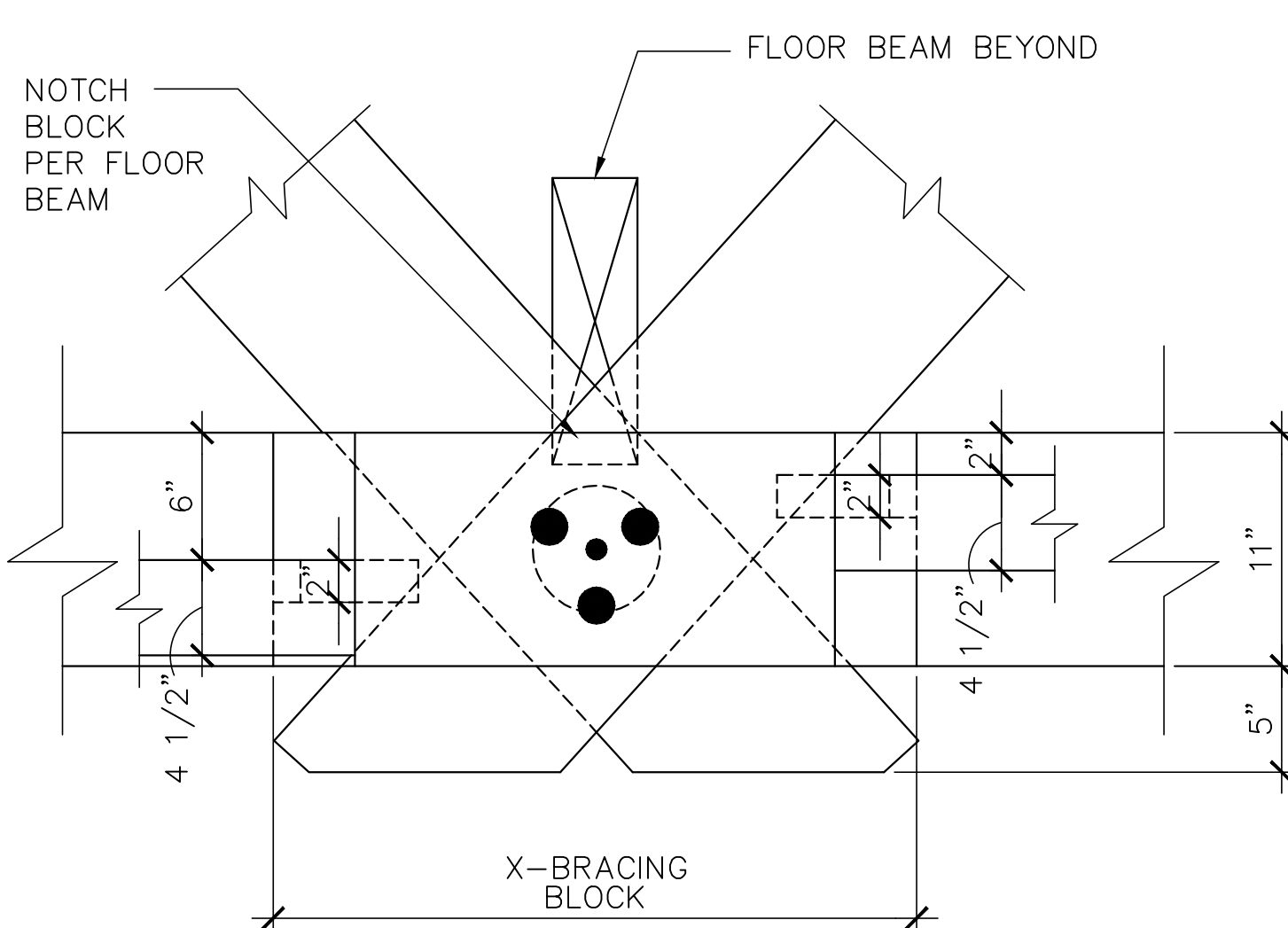
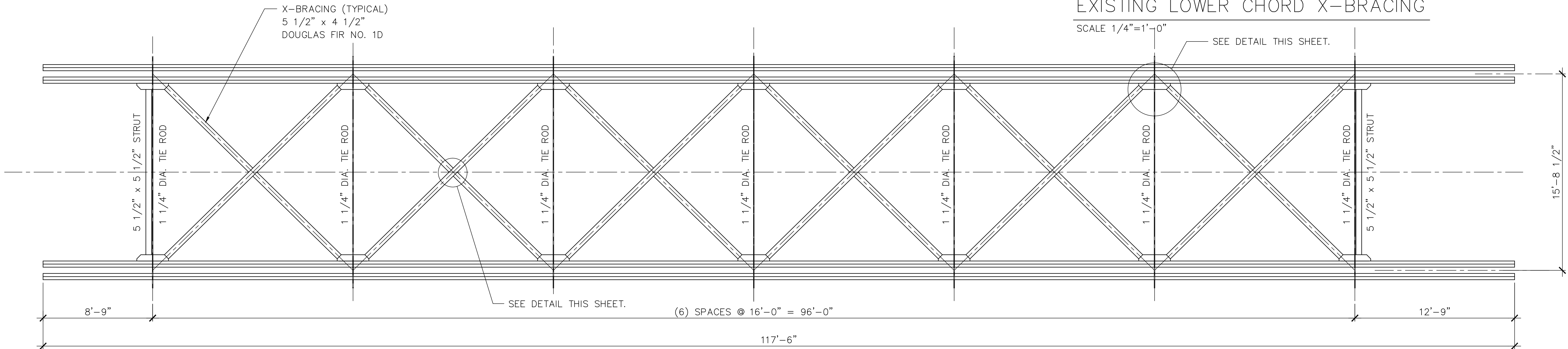
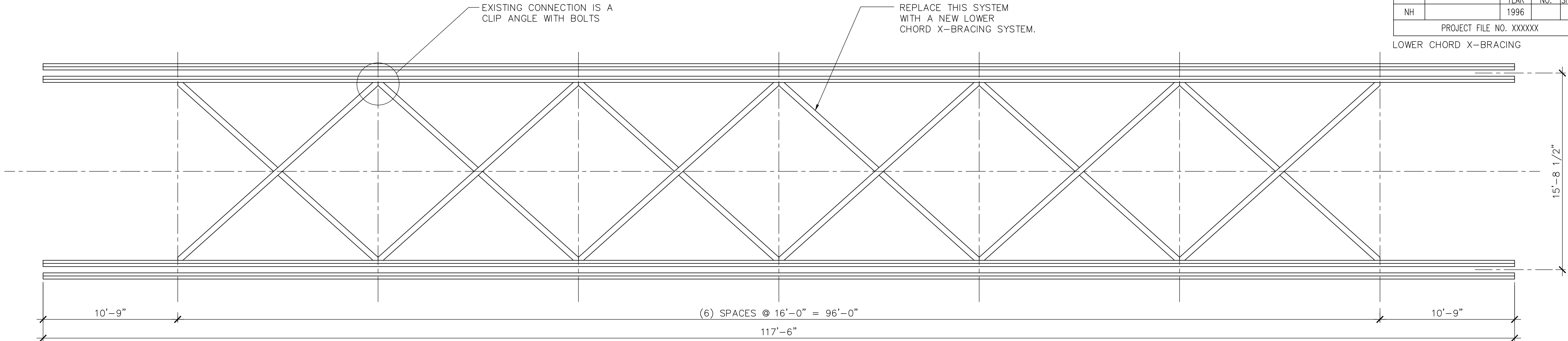
EXISTING FLOOR SYSTEM

SCALE 1/4"=1'-0"

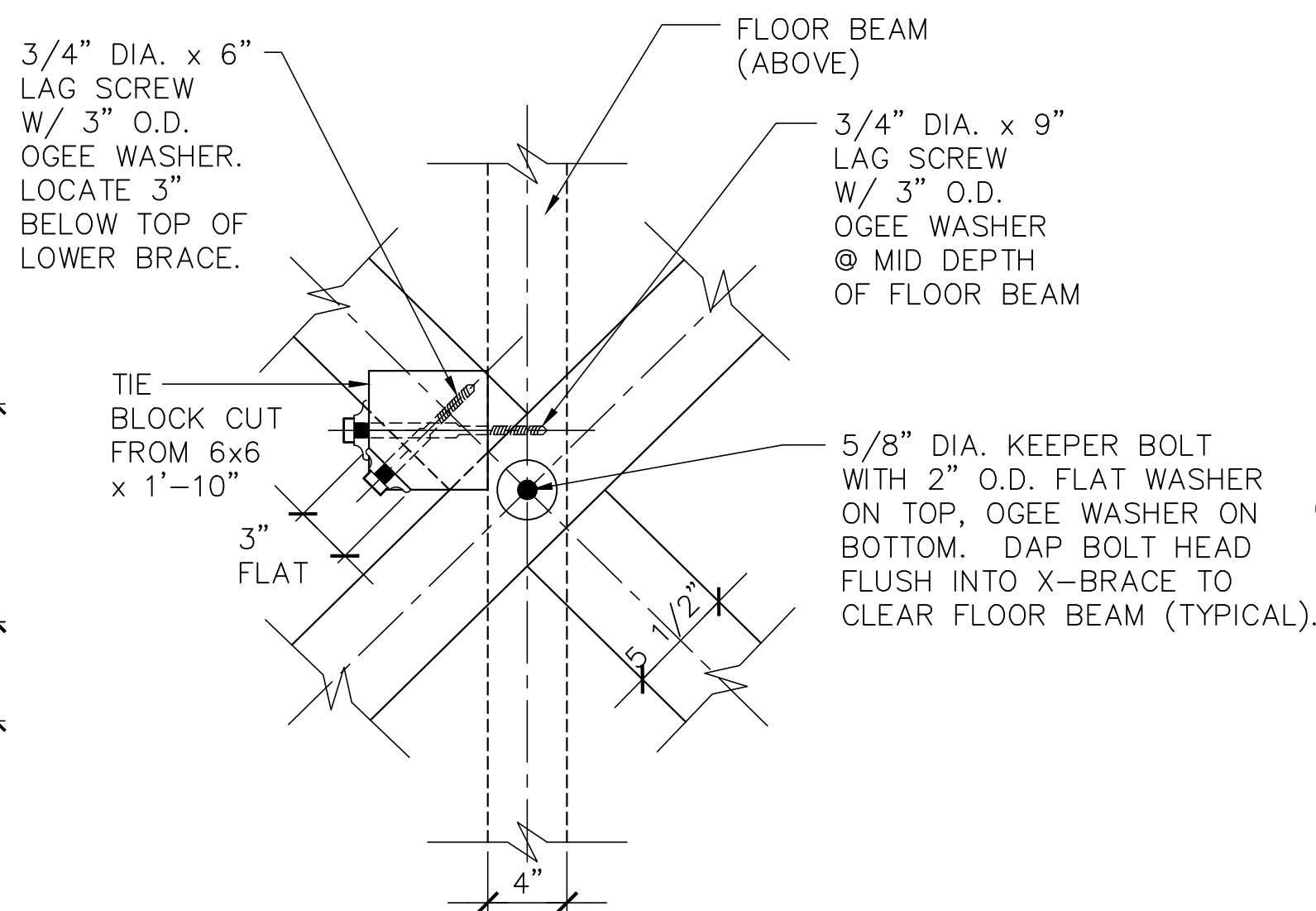
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STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
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PROJECT FILE NO. XXXXX				

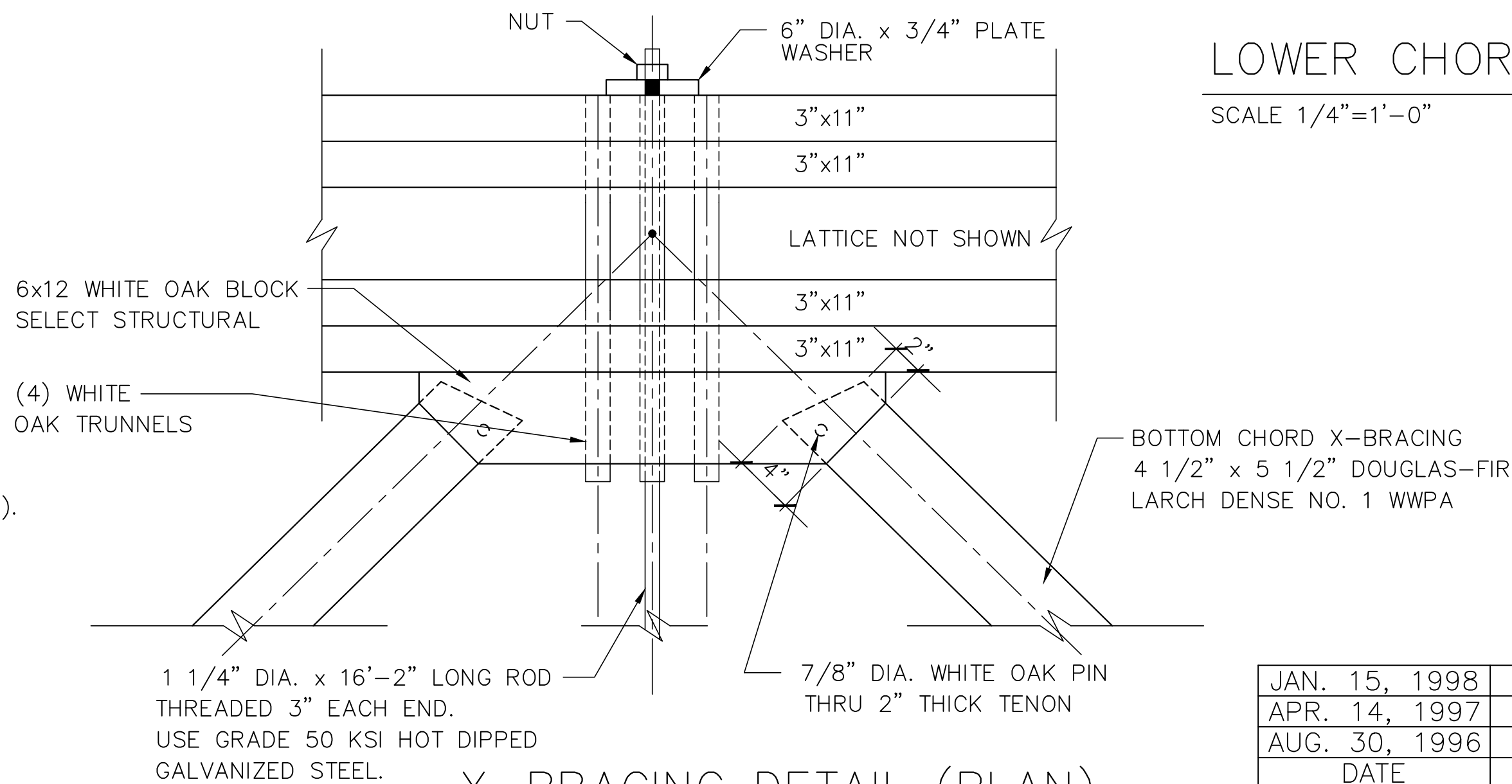
LOWER CHORD X-BRACING



X-BRACING DETAIL (PLAN)  
SCALE 1 1/2"=1'-0"



X-BRACING INTERSECTION  
SCALE 1 1/2"=1'-0"

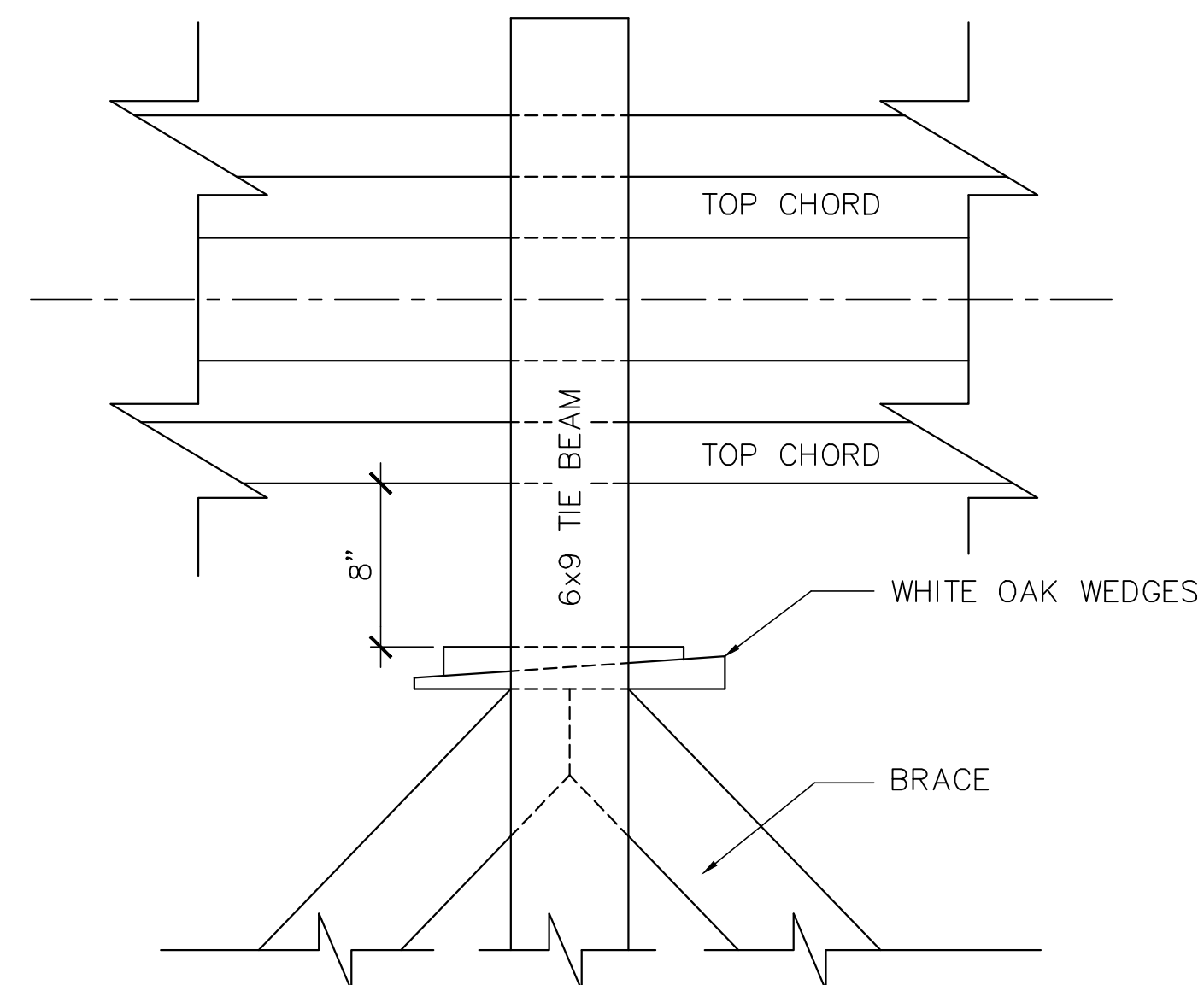
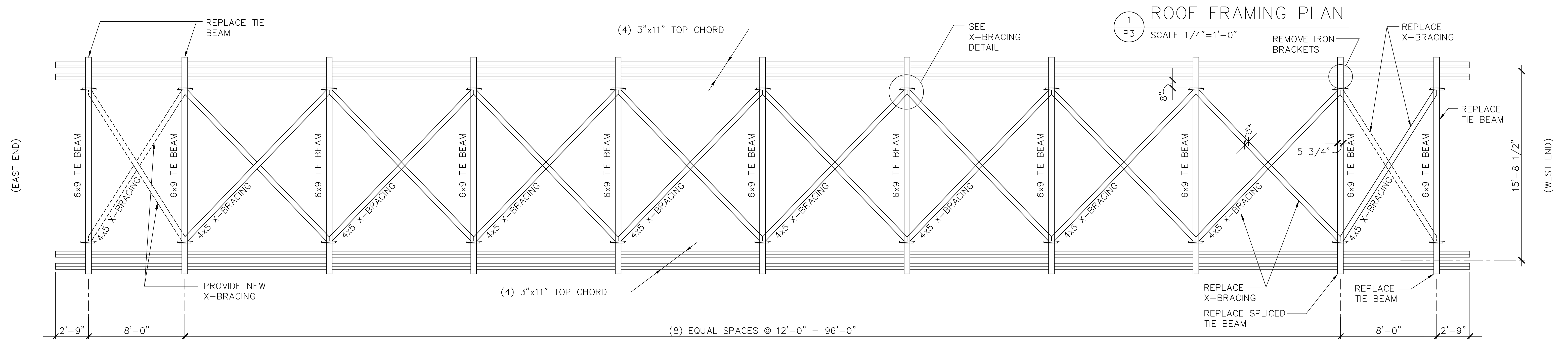
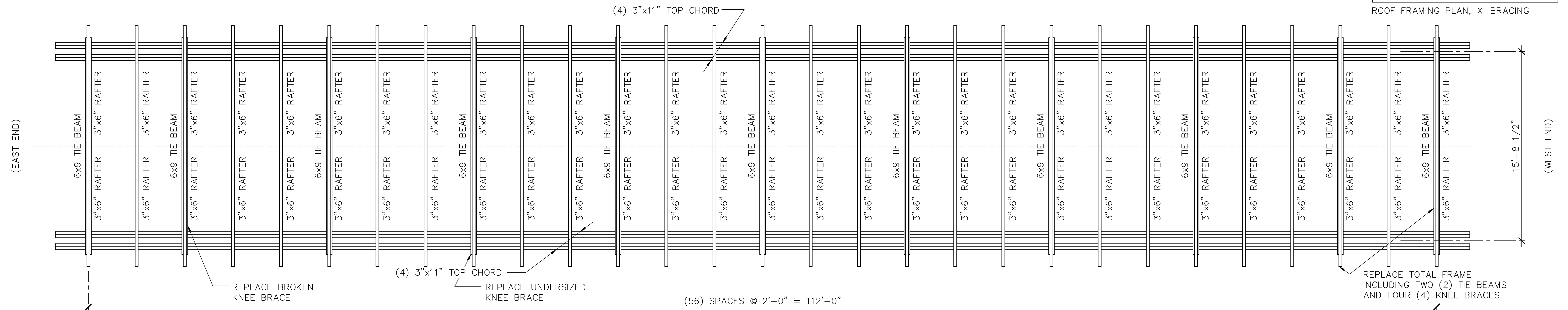


X-BRACING DETAIL (PLAN)  
SCALE 1 1/2"=1'-0"

LOWER CHORD X-BRACING  
SCALE 1/4"=1'-0"

JAN. 15, 1998	AS BUILT
APR. 14, 1997	ISSUED FOR CONSTRUCTION
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STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NH		1996		
PROJECT FILE NO. XXXXXX				



3  
P3

X-BRACING DETAIL (PLAN)

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

1  
P3 ROOF FRAMING PLAN  
SCALE 1/4"=1'-0" REMOVE IRON—

2  
P3

UPPER CHORD X-BRACING

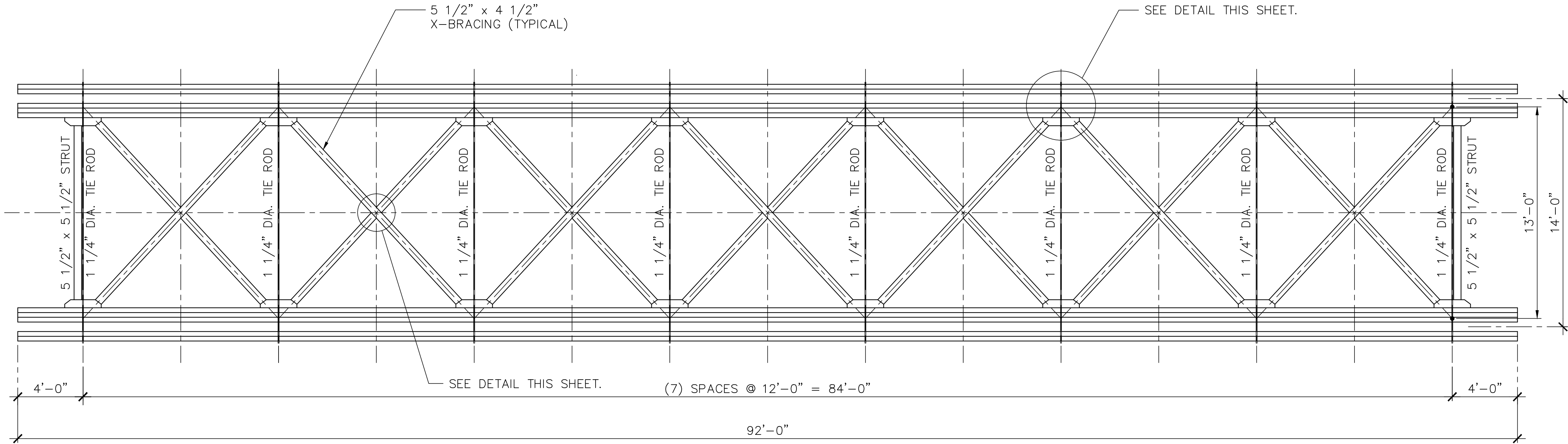
SCALE 1/4"=1'-0"

JAN. 15, 1998	AS BUILT
APR. 14, 1997	ISSUED FOR CONSTRUCTION
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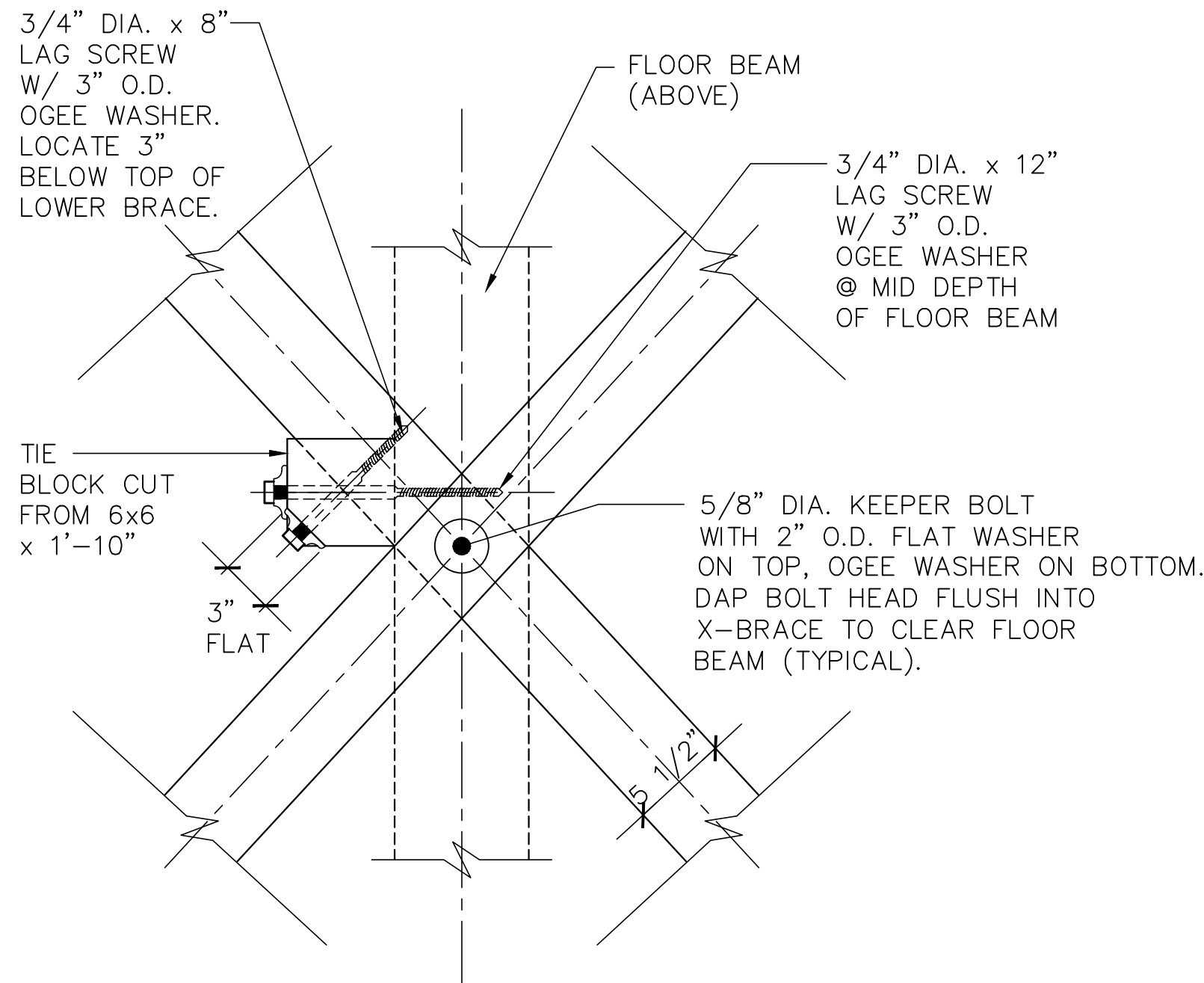
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NH		1996		
PROJECT FILE NO. XXXXXX				

LOWER CHORD X-BRACING



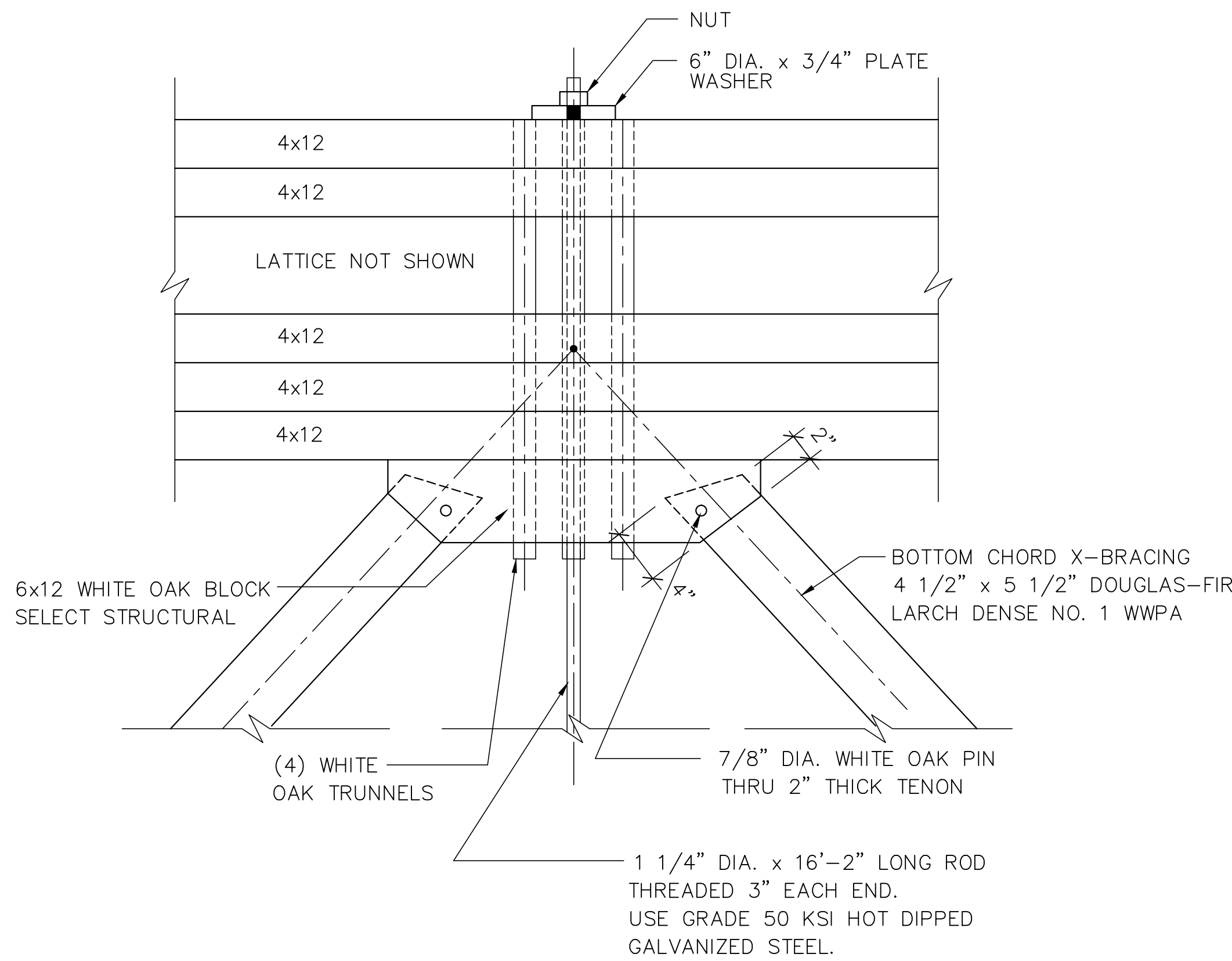
LOWER CHORD X-BRACING

SCALE 1/4\"/>



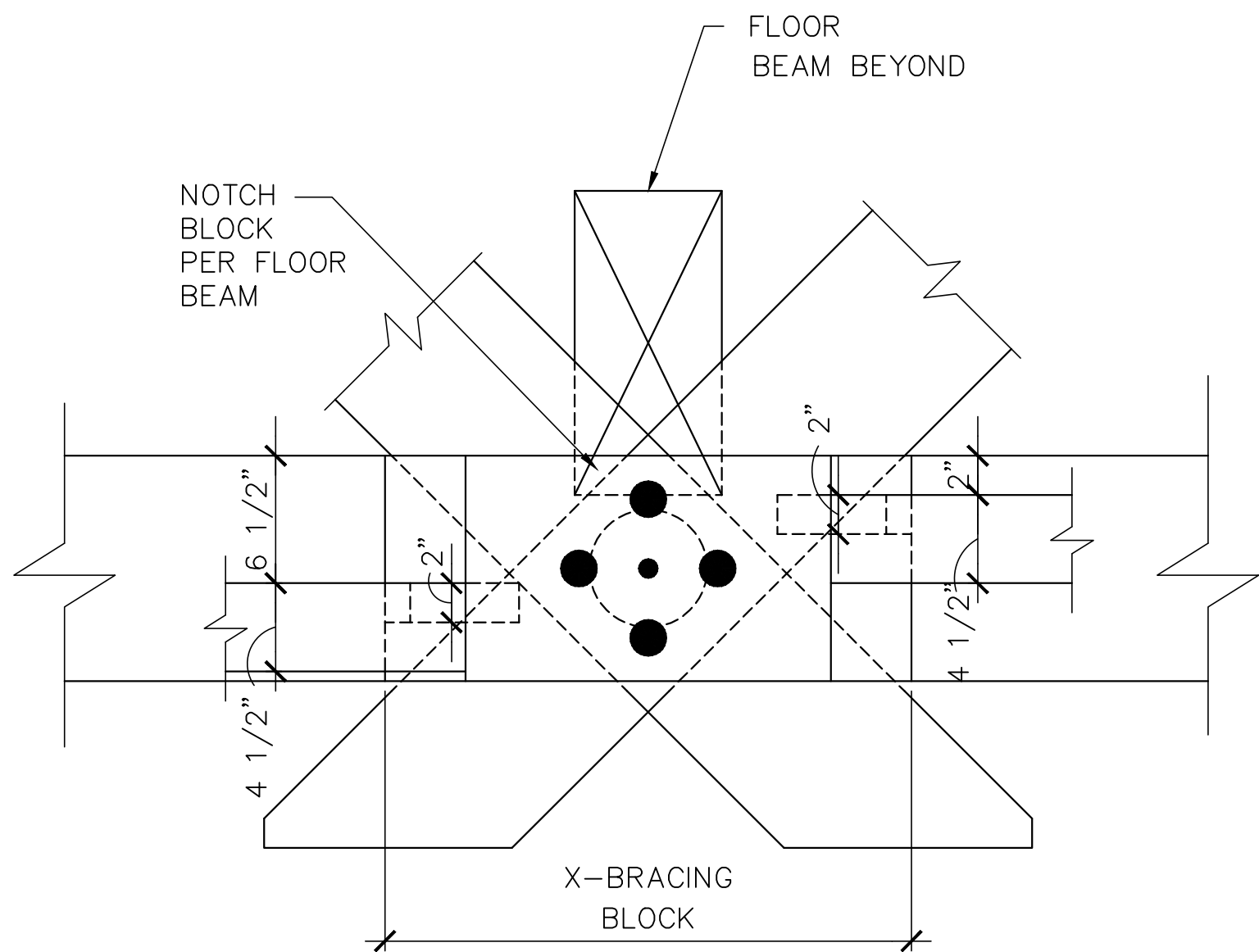
X-BRACING INTERSECTION

SCALE 1 1/2\"/>



X-BRACING DETAIL (PLAN)

SCALE 1 1/2\"/>



X-BRACING DETAIL (PLAN)

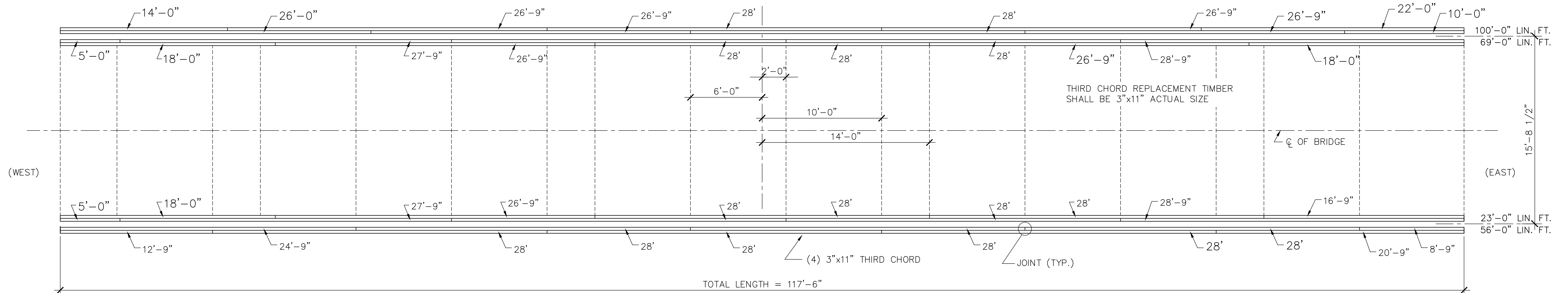
SCALE 1 1/2\"/>

	ISSUED FOR CONSTRUCTION
AUG. 30, 1996	REVIEW SET
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
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PROJECT FILE NO. XXXXXX				

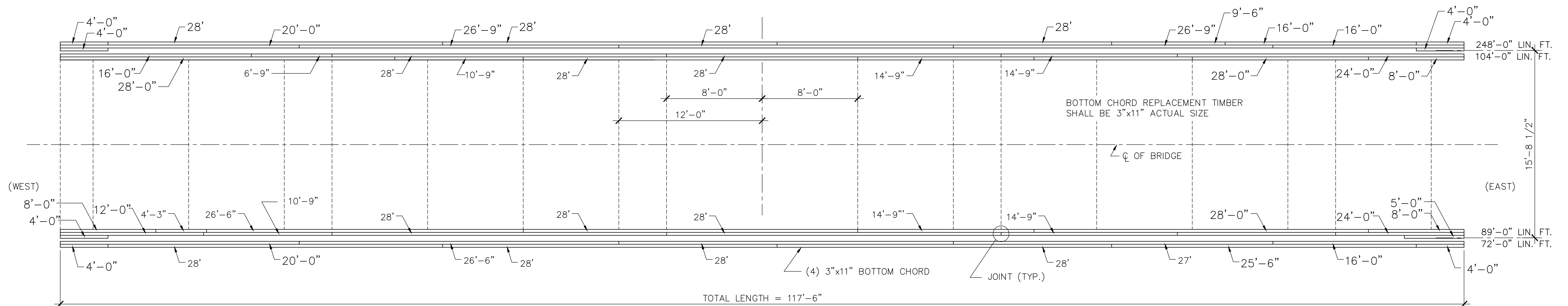
## CHORD LAYOUT

TOTAL CHORD  
REPLACEMENT



## THIRD CHORD LAYOUT

SCALE 1/4"=1'-0"

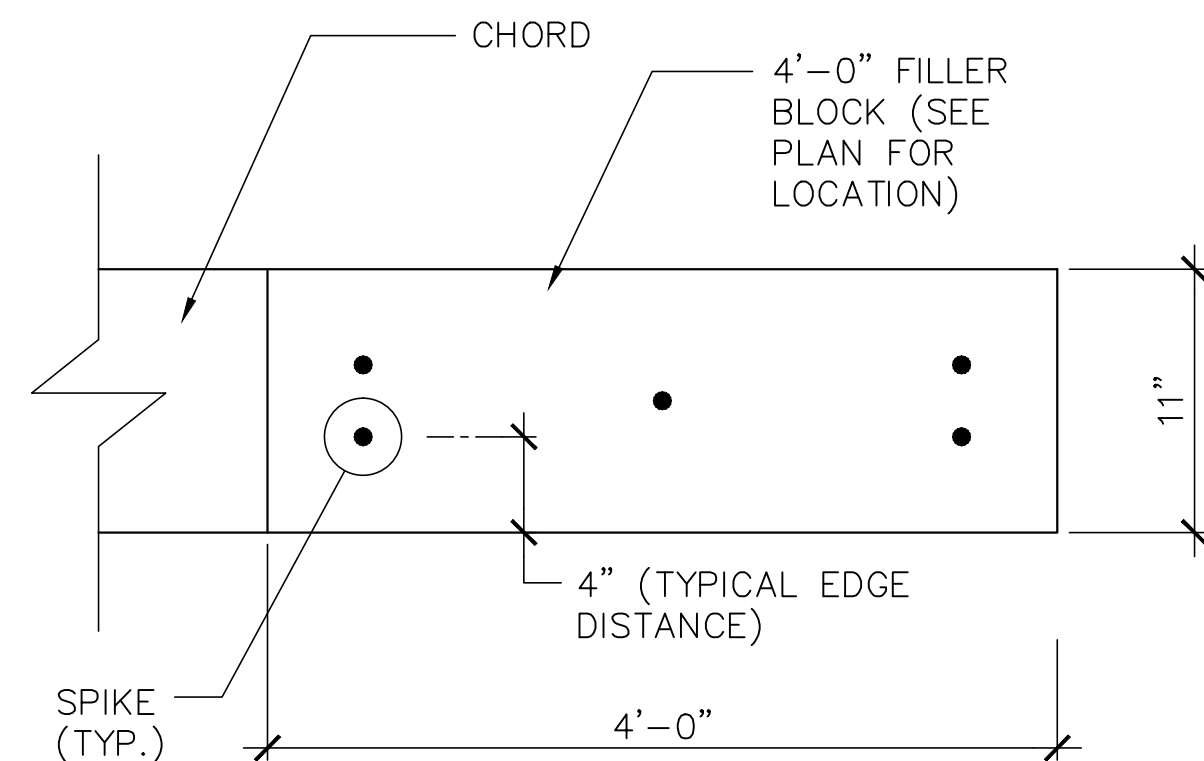


## BOTTOM CHORD LAYOUT

SCALE 1/4"=1'-0"

NOTE: THE 4'-0" REPLACEMENT PIECES AT THE END OF THE CHORDS ARE FILLERS AND WERE SPIKED IN PLACE.

THIS SHEET SHOWS THE AS BUILT CHORD DISPOSITION.  
LARGER TEXT INDICATES REPLACEMENT MATERIAL WITH  
LENGTHS AS NOW EXISTING IN THE BRIDGE WITH JOINTS  
LOCATED AS THEY NOW APPEAR.



## DETAIL @ FILLER PIECE

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

FEB. 17, 1998	AS BUILT
APR. 14, 1997	ISSUED FOR CONSTRUCTION
AUG 30, 1996	REVIEW SET
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



SCALE 1/4"=1'-0'

NOTE: THE TWO FOOT (2 FT.) PIECES AT THE END OF  
THE CHORDS ARE FILLERS AND MAY BE SPIKED  
IN PLACE WITH (5) 6" LONG x .203 INCH DIAMETER  
STAINLESS STEEL ANNULAR THREADED NAILS (SEE DETAIL).



SCALE 1/4"=1'-0'

NOTE: THE TWO FOOT (2 FT.) PIECES AT THE END OF  
THE CHORDS ARE FILLERS AND MAY BE SPIKED  
IN PLACE WITH (5) 6" LONG x .203 INCH DIAMETER  
STAINLESS STEEL ANNULAR THREADED NAILS (SEE DETAIL).

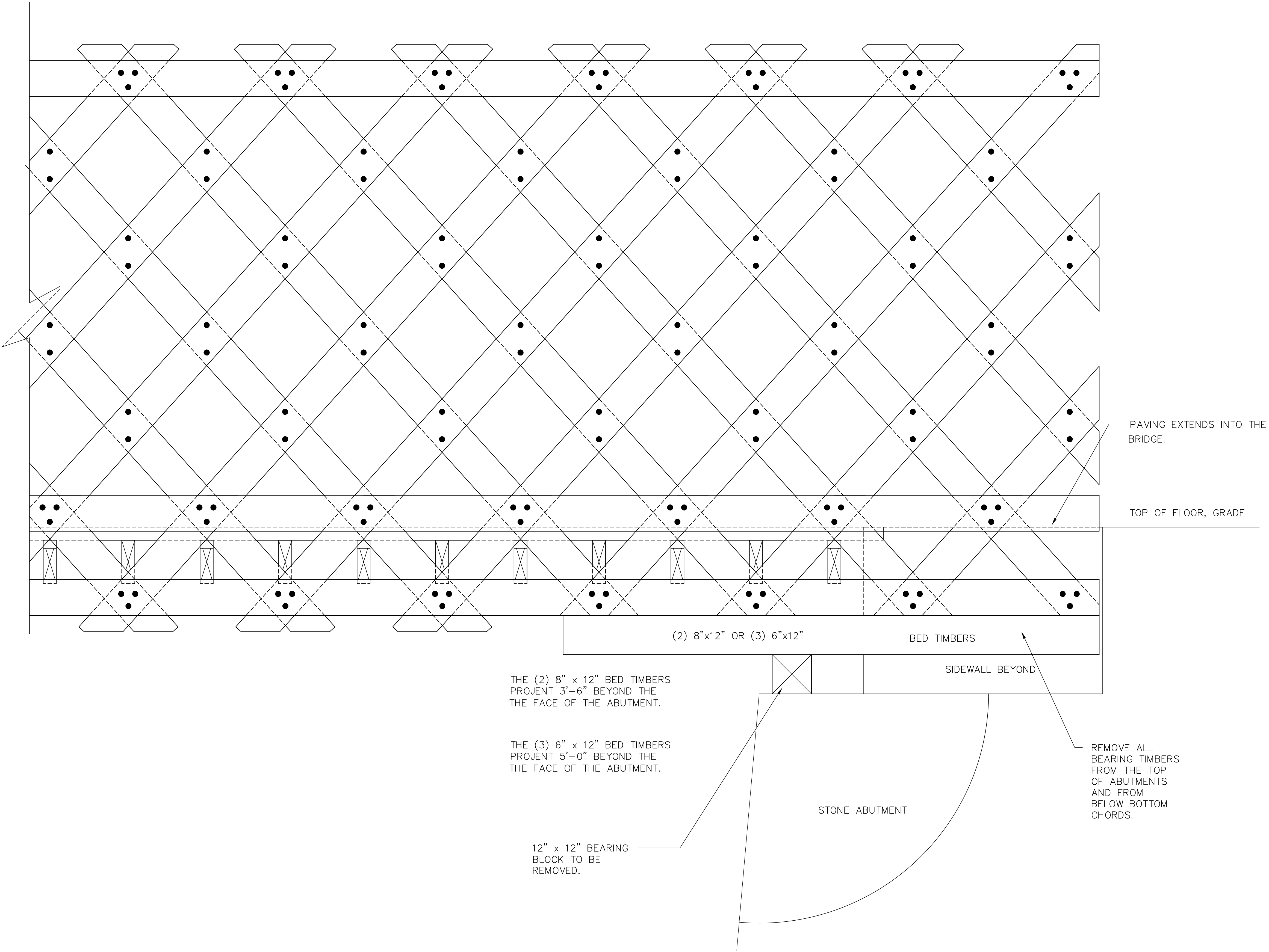


SCALE 1 1/2"=1'-0"

	ISSUED FOR CONSTRUCTION
AUG 30, 1996	REVIEW SET
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NH		1996		
PROJECT FILE NO. XXXXXX				

BEARING DETAIL

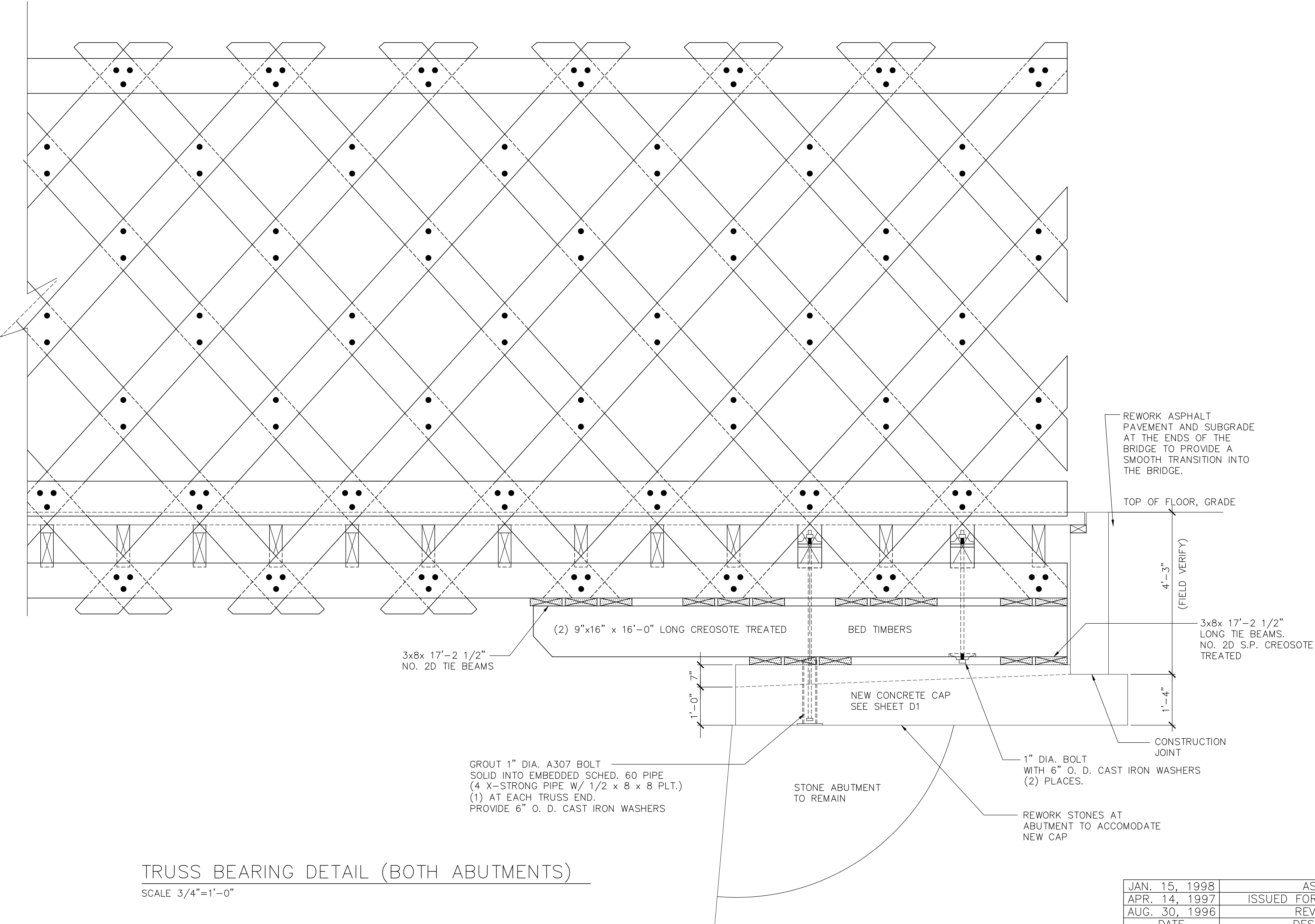


EXISTING BEARING DETAIL (EAST AND WEST ABUTMENTS SIMILAR)  
SCALE 3/4"=1'-0"

JAN. 15, 1998	AS BUILT
APR. 14, 1997	ISSUED FOR CONSTRUCTION
AUG. 30, 1996	REVIEW SET
DATE	DESCRIPTION
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STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NH		1996		
PROJECT FILE NO. XXXXXX				

BEARING DETAIL



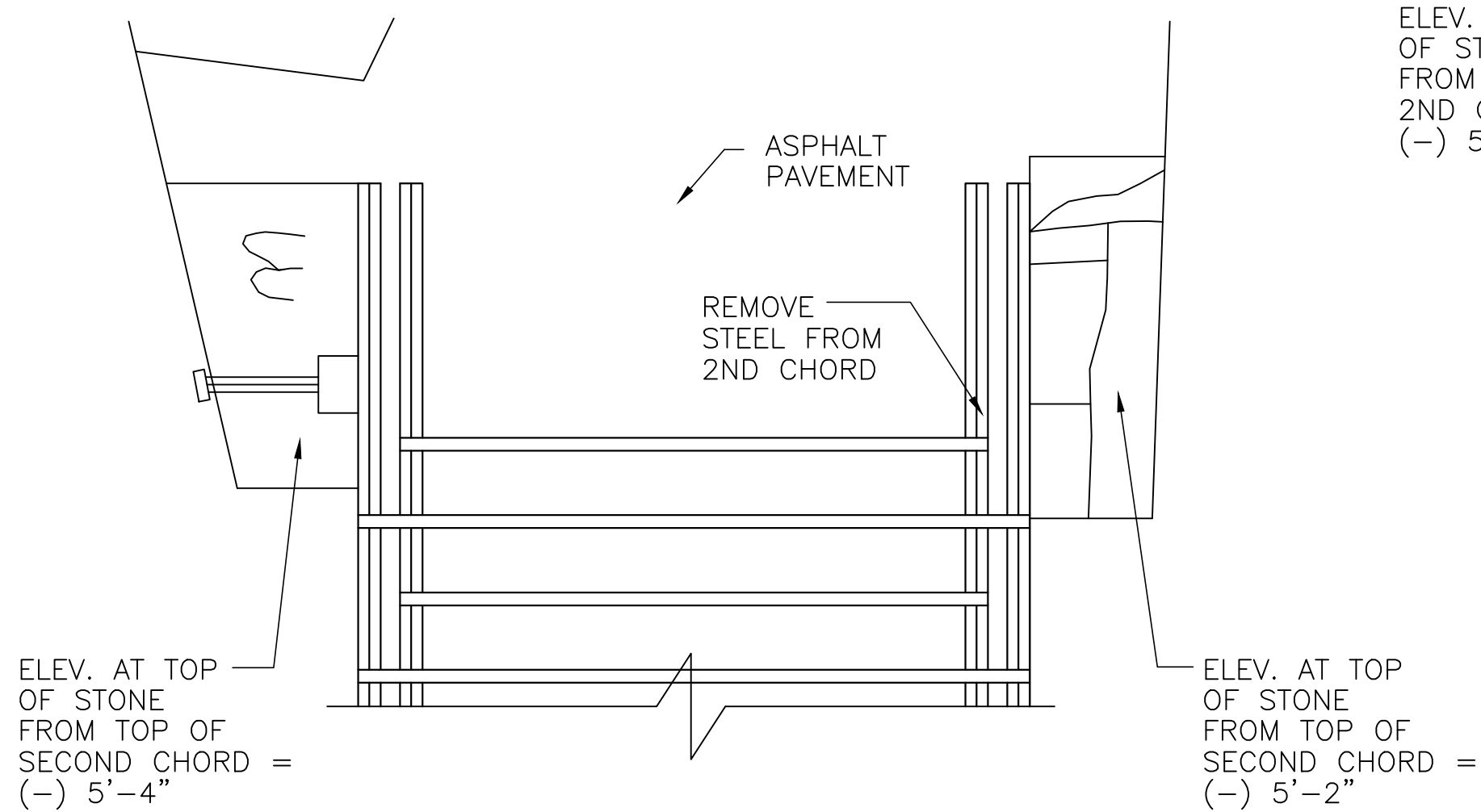
TRUSS BEARING DETAIL (BOTH ABUTMENTS)  
SCALE 3/4"=1'-0"

JAN. 15, 1998	AS BUILT
APR. 14, 1997	ISSUED FOR CONSTRUCTION
AUG. 30, 1996	REVIEW SET
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



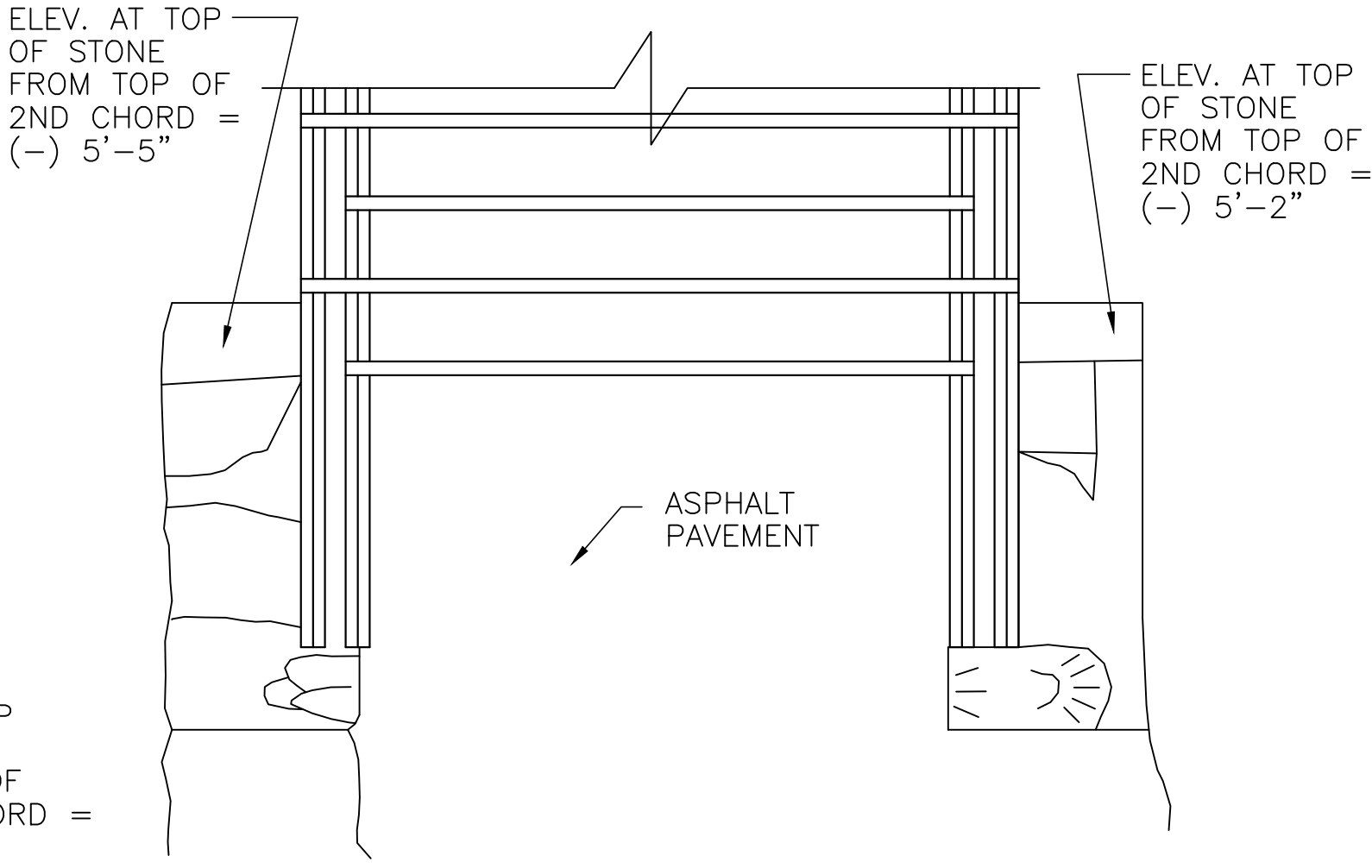
STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NH		1996		
PROJECT FILE NO. XXXXX				

GENERAL NOTES, ABUTMENT PLANS



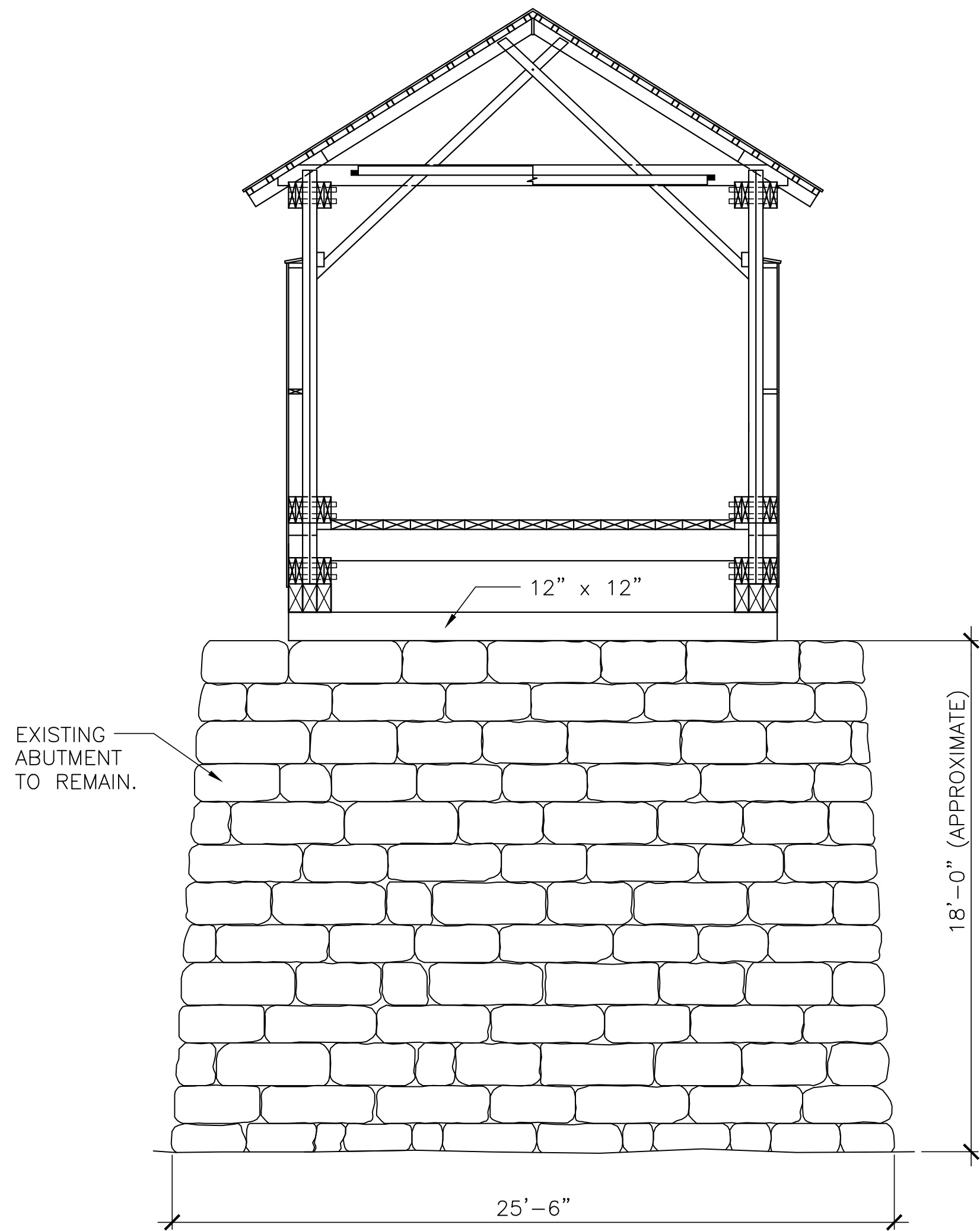
PLAN @ WEST ABUTMENT

SCALE 1/4"=1'-0"



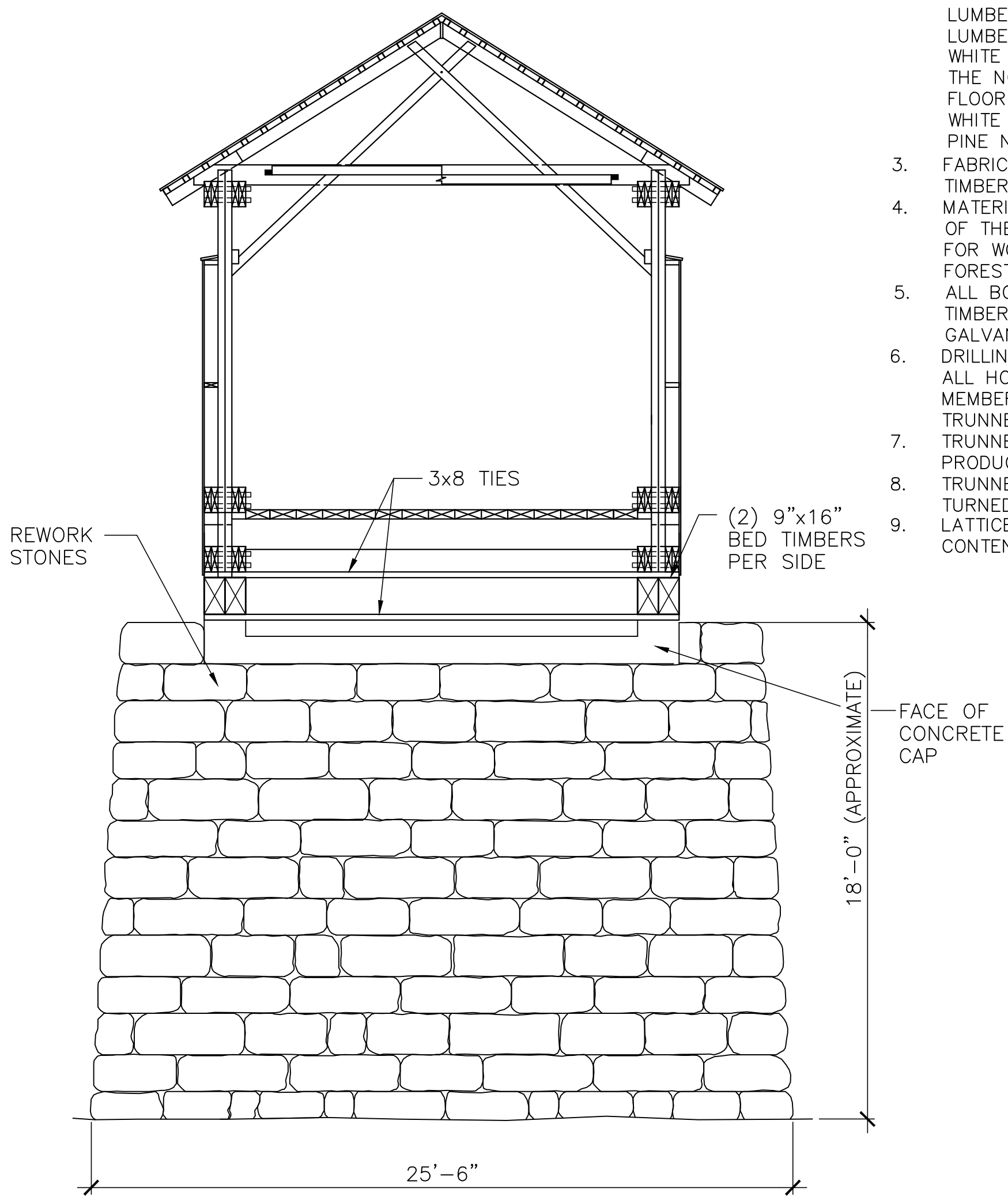
PLAN @ EAST ABUTMENT

SCALE 1/4"=1'-0"



EXISTING ABUTMENT DETAIL

SCALE 1/4"=1'-0"



NEW ABUTMENT DETAIL

SCALE 1/4"=1'-0"

GENERAL NOTES

A. LIVE LOADS

1. ROOF SNOW LOAD 40 PSF
2. WIND LOAD (BASIC WIND SPEED) 80 MPH
3. FLOOR (ROADWAY) AASHTO H6-44

NHDOT STRUCTURAL DESIGN MANUAL  
AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY  
BRIDGES (1992 WITH INTERIMS)  
AITC TIMBER CONSTRUCTION MANUAL  
1991 NATIONAL DESIGN SPECIFICATION FOR WOOD  
CONSTRUCTION

B. FOUNDATIONS

THE ASSUMED SOIL BEARING PRESSURE USED FOR DESIGN IS  
1500 PSF.

C. HEAVY TIMBER CONSTRUCTION

1. DOUGLAS FIR LATTICE MEMBERS SHALL BE NO. 1 OR NO. 1 DENSE, OR SELECT STRUCTURAL GRADED IN ACCORDANCE TO WCLIB OR WMPA GRADING RULES. SEE DETAILS.
2. STRUCTURAL LUMBER SHALL BE ROUGH SAWN CONFORMING TO NO.1 DOUGLAS FIR LARCH GRADED IN ACCORDANCE WITH WCLIB OR WMPA GRADING RULES. TIMBER FOR ROOF NAILERS SHALL BE ROUGH SAWN PRESSURE TREATED NO. 2 SOUTHERN PINE GRADED IN ACCORDANCE WITH THE SOUTHERN PINE INSPECTION BUREAU. TIMBER FOR COMMON RAFTERS SHALL BE LOCAL SPECIES EQUIVALENT TO NO. 2 EASTERN WHITE SPRUCE GRADED IN ACCORDANCE WITH THE NORTHEASTERN LUMBER MANUFACTURERS ASSOCIATION OR THE NATIONAL LUMBER GRADES AUTHORITY. WHITE OAK SHALL BE GRADED IN ACCORDANCE WITH THE NORTHEASTERN LUMBER MANUFACTURERS ASSOCIATION. FLOOR DECKING SHALL BE DENSE SELECT STRUCTURAL WHITE OAK. PRESSURE TREATED TIMBERS SHALL BE SOUTHERN PINE NO. 1D PER S.P.I.B.
3. FABRICATION AND CONNECTIONS SHALL CONFORM TO AITC TIMBER DESIGN SPECIFICATIONS.
4. MATERIALS AND EXECUTION SHALL FOLLOW THE REQUIREMENTS OF THE 1991 EDITION OF THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION PUBLISHED BY THE NATIONAL FOREST PRODUCTS ASSOCIATION.
5. ALL BOLTS AND KEEPER PINS SHALL HAVE WASHERS AT TIMBER BEARING LOCATIONS. WASHERS SHALL BE HOT DIPPED GALVANIZED OGEE CAST IRON WASHERS.
6. DRILLING FOR TRUNNELS IN THE FIELD MUST BE VERY ACCURATE. ALL HOLES IN TIMBER MUST BE SQUARE TO THE FACE OF THE MEMBER. A TIGHT FIT REQUIRING EXCESSIVE FORCE IN DRIVING TRUNNELS IS NOT RECOMMENDED.
7. TRUNNEL BORING BITS SHALL BE KEPT SHARP IN ORDER TO PRODUCE ACCURATE HOLES OF UNIFORM SIZE.
8. TRUNNELS SHALL BE MADE OF CLEAR, AIR DRIED WHITE OAK, TURNED ON A LATHE.
9. LATTICE AND CHORD TIMBER SHALL BE DRIED TO A MOISTURE CONTENT OF 16%.

10. REPLACEMENT CHORD MATERIAL SHALL BE CAREFULLY FITTED AND CLAMPED TOGETHER.
11. CHORD JOINTS ARE TO BE "SAWED-UP" TO ENSURE CLOSE TO 100% BEARING AT MEMBER ENDS.
12. HOLES FOR TRUNNELS SHALL BE BORED WITH A TRIPOD MOUNTED DRILL USING TEMPLATES TO MARK TRUNNEL HOLES.
13. TRUNNELS SHALL BE MANUALLY DRIVEN WITH A 16 POUND HAMMER, UTILIZING A STEEL DRIVING CAP.
14. MEMBERS SHALL BE LAID UP WITH THE HEART SIDES TOWARDS EACH OTHER.
15. ALL BRIDGE COMPONENTS MUST BE PROPERLY BRACED TO RESIST ALL FORCES ENCOUNTERED DURING CONSTRUCTION.
16. FLOOR DECK SHALL BE 4x12 WHITE OAK OR HEMLOCK GRADED IN IN ACCORDANCE WITH NLMA.
17. FOR FACE NAILING FLOOR DECK USE 3/8 INCH DIAMETER x 10 INCH LONG ANNULARLY THREADED HOT DIPPED GALVANIZED BRIDGE SPIKES AS PRODUCED BY INDEPENDENT NAIL INC., BRIDGEWATER, MASS., 02324, (508) 697-6992 OR APPROVED EQUAL.
18. PRESERVATIVE FOR BRUSH ON AND DIP APPLICATIONS SHALL BE OSMOSE CLEAR WOOD PRESERVATIVE, PRODUCT NUMBER 201, CONTAINING ZINC NAPHTHENATE, OR APPROVED EQUAL. PRESERVATIVE SHALL CONTAIN ZINC NAPHTHENATE. CONTACT OSMOSE WOOD PRESERVING, INC., GRIFFEN, GA., (800) 522-9663. APPLY PRESERVATIVE BY BRUSHING TO THE CUT ENDS OF TIMBERS.

D. CARPENTRY

1. SIDING SHALL BE NO. 1 EASTERN WHITE PINE, SQUARE EDGE PLANED TO A 3/4 INCH THICKNESS WITH THE HEART SIDE EXPOSED TO THE WEATHER. MATCH EXISTING WIDTHS.
2. SIDING NAILS SHALL BE 8d ANNULAR THREADED TYPE 316 STAINLESS STEEL SMALL FLAT HEAD, BLUNT DIAMOND POINT WOOD SIDING NAILS.
3. STAINLESS STEEL NAILS SHALL BE MANUFACTURED BY ONE OF THE FOLLOWING FIRMS OR APPROVED EQUAL:

CLENDENIN BROTHERS, INC.  
BALTIMORE, MARYLAND 21213  
(410) 327-4500

SWAN SECURE PRODUCTS, INC.  
BALTIMORE, MARYLAND 21230  
(410) 646-2800

E. MISCELLANEOUS

1. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH AND COORDINATED WITH THE SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS.
2. THE CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS INDICATED ON THESE DRAWINGS. ANY VARIATION OF CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.

F. MISCELLANEOUS STEEL

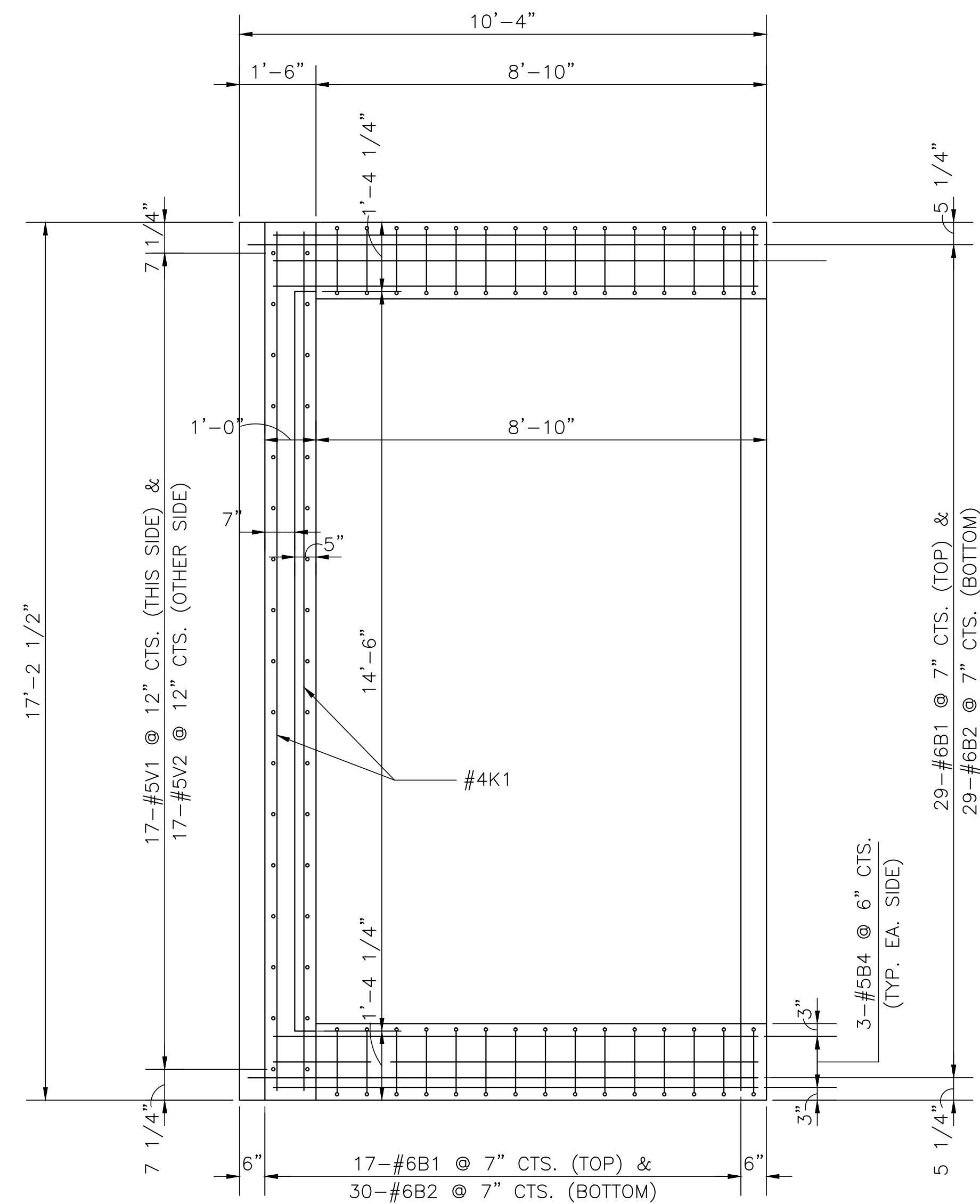
1. APPLICABLE STANDARDS:
  - A. "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
  - B. "CODE OF STANDARD PRACTICE" OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
  - C. "APPLICATION OF THE EXTRACTS FROM CODE FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION" BY THE AMERICAN WELDING SOCIETY.

2. STEEL FOR MISCELLANEOUS CONNECTIONS SHALL CONFORM TO ASTM A-36, UNLESS INDICATED OTHERWISE.
3. UTILIZE SQUARE HEAD ASTM A-307 HOT DIPPED GALVANIZED BOLTS WHERE INDICATED ON THE PROJECT DRAWINGS. PROVIDE OVERSIZED NUTS FOR GALVANIZING WHERE REQUIRED.

G. FIRE RETARDANT

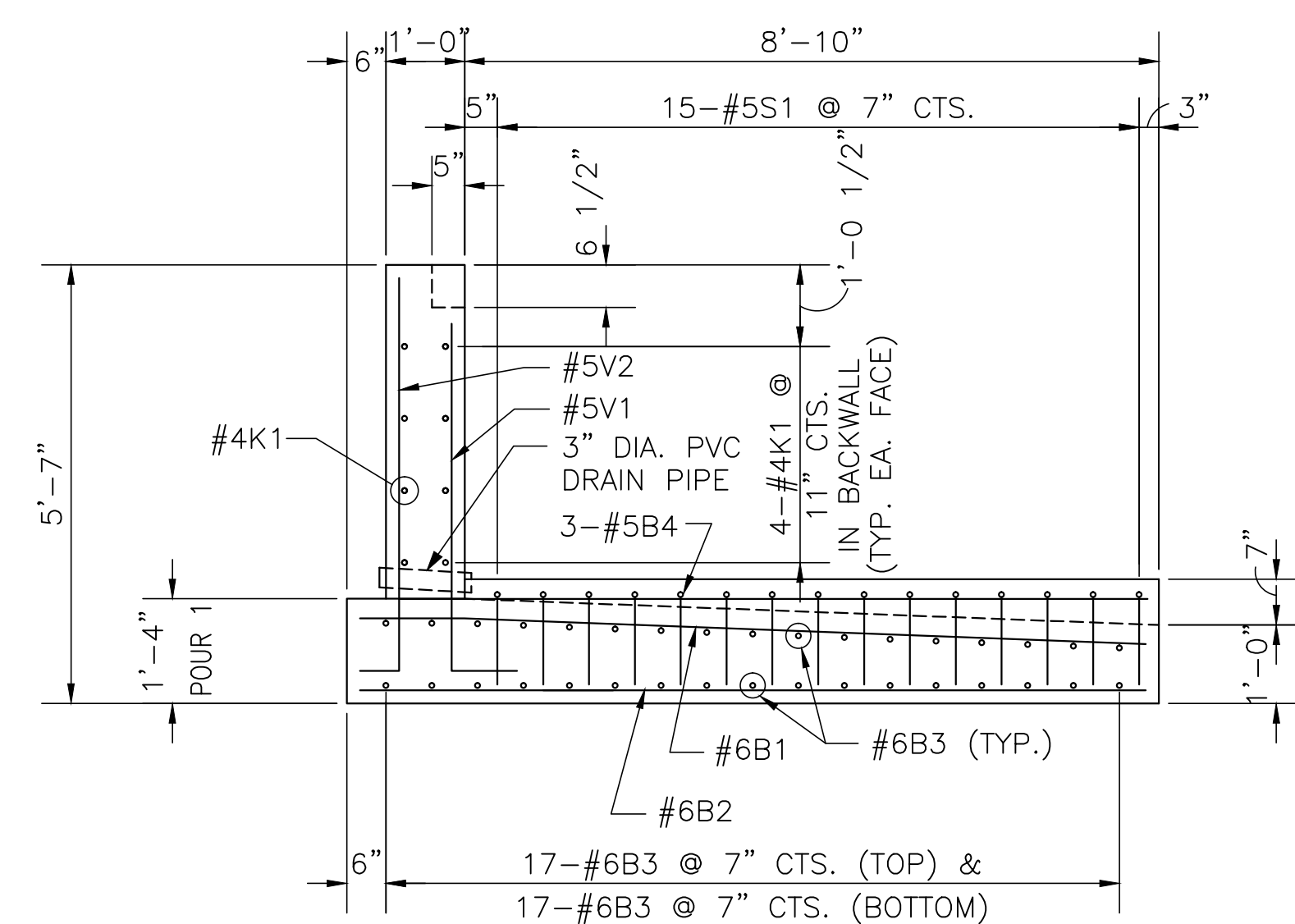
1. APPLY A NON-TOXIC, NON-HAZARDOUS FIRE RETARDANT CHEMICAL TO THE COMPLETED BRIDGE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
2. THE FIRE PROTECTION PRODUCT SHALL BE APPLIED BY SPRAY, BRUSH, OR ROLLER COATING.
3. THE FIRE PROTECTION PRODUCT SHALL BE "NOCHAR'S FIRE PREVENTER" OR APPROVED EQUAL.

JAN. 15, 1998	AS BUILT
APR. 14, 1997	ISSUED FOR CONSTRUCTION
AUG. 30, 1996	REVIEW SET
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	



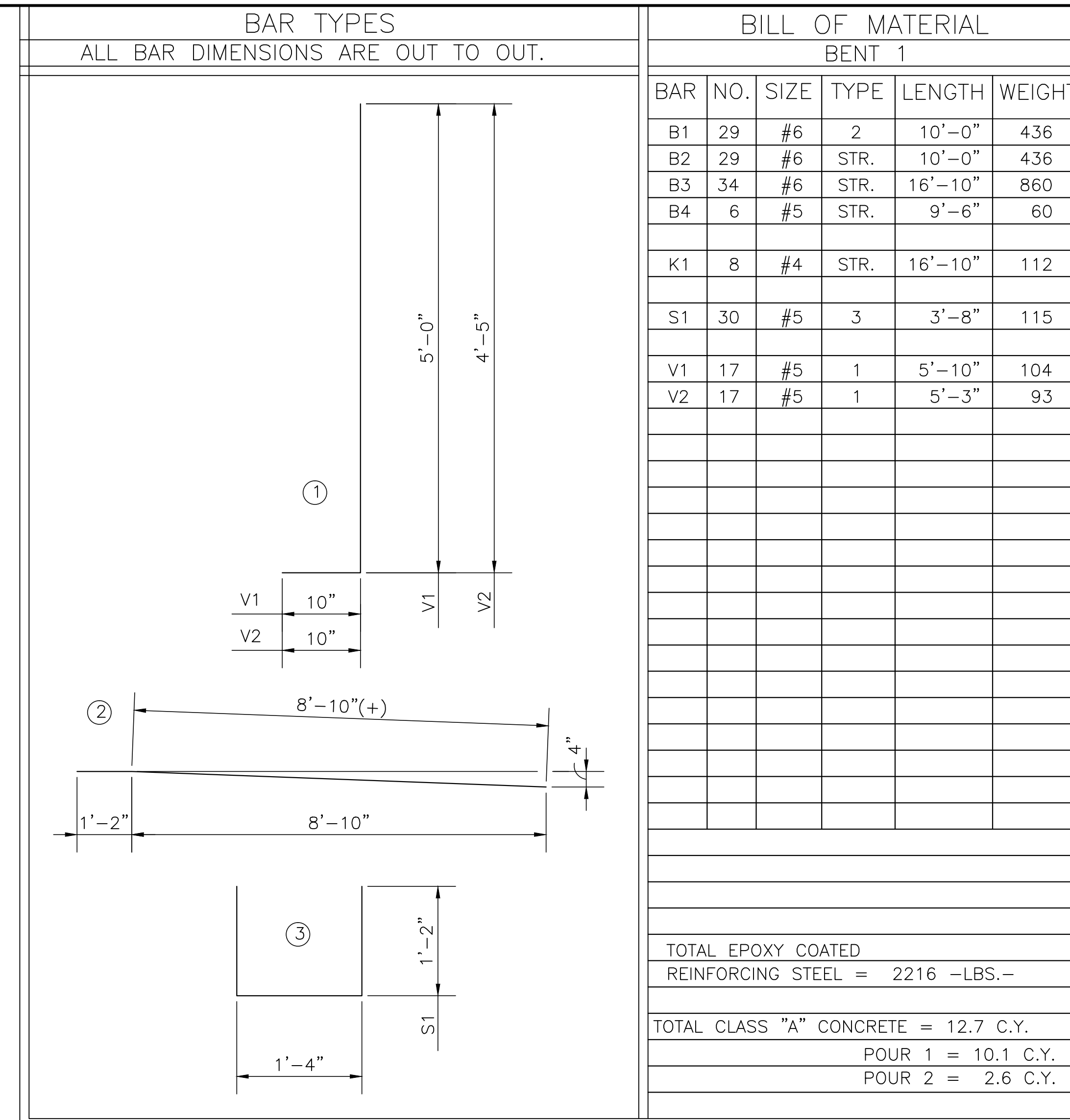
PLAN VIEW @ CAP

SCALE 1/2"=1'-0"



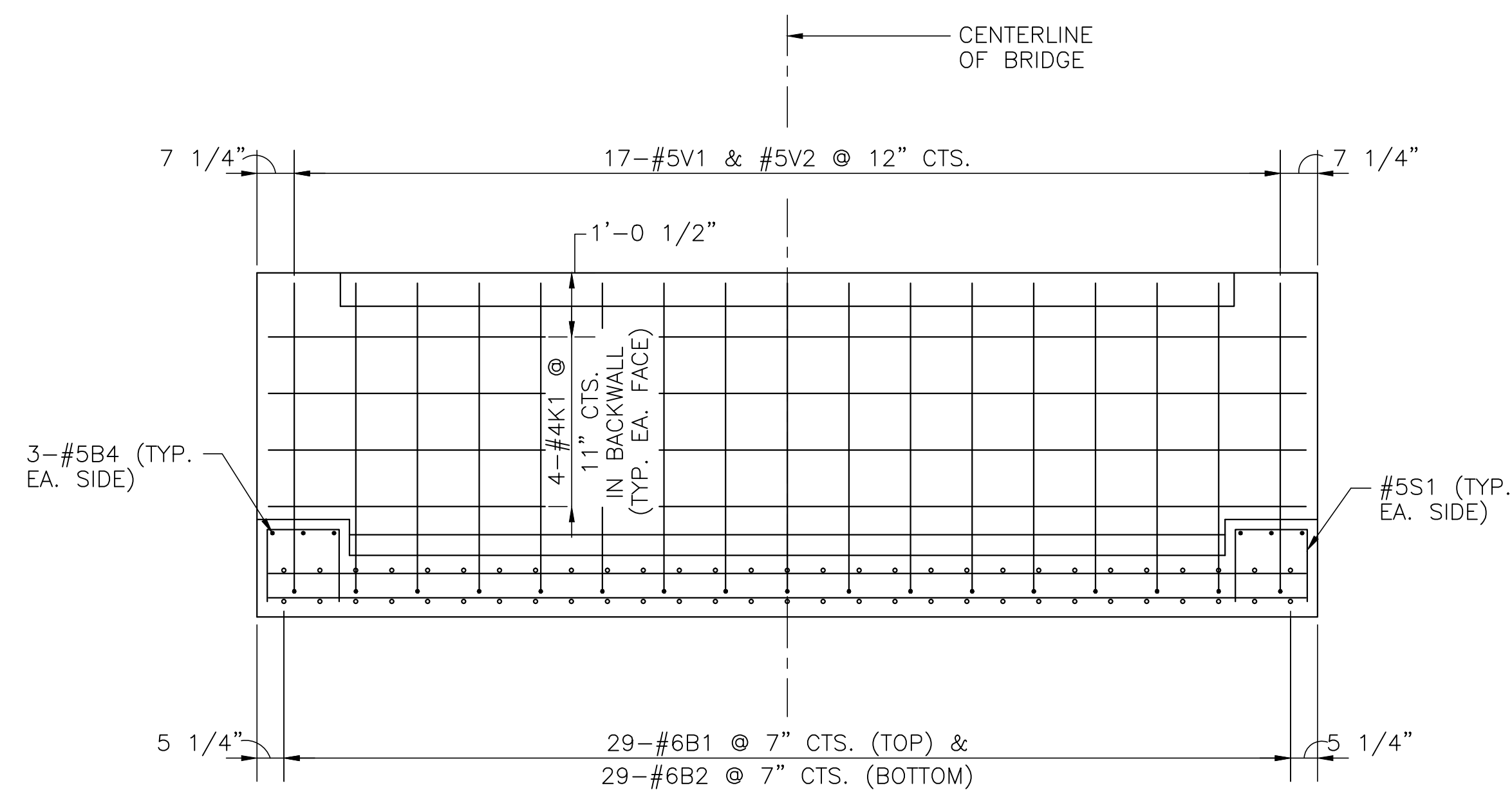
SIDE VIEW @ CAP

SCALE 1/2"=1'-0"



NOTE: ALL REINFORCING STEEL SHALL BE EPOXY COATED.  
QUANTITIES ARE FOR ONE (1) ABUTMENT CAP.

REINFORCING STEEL AND CONCRETE SHALL BE IN ACCORDANCE WITH THE STANDARD PROVISIONS OF THE NHDOT "STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES."



FRONT ELEVATION @ CAP

SCALE 1/2"=1'-0"

[illegible]

STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NH		1996		
PROJECT FILE NO. XXXXXX				

ABUTMENT PLANS

JAN. 15, 1998	AS BUILT
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SHEET H1 OF XX SHEETS BRIDGE NO. S-10-12 (XXX) (\*)