

## STRUCTURAL GENERAL NOTES

1. ALL STRUCTURAL STEEL SHAPES AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 270 GRADE 50W (ASTM A709 / ASTM A588 WEATHERING STEEL), UNLESS NOTED OTHERWISE.
2. LOW IMPACT GUARDRAIL DESIGN IN ACCORDANCE WITH OWNER REQUIREMENTS.
3. STEEL DECKING SHALL BE 4.25" DEEP BY 12" LAY LENGTH BY 9 GAUGE "TYPE A" ROLLED FORMED GALVANIZED CORRUGATED STEEL CONFORMING TO ASTM A653 GRADE 50. STEEL DECKING SHALL BE INSTALLED PERPENDICULAR TO THE DIRECTION OF THE SUPPORTING GIRDERS.
4. ALL STRUCTURAL STEEL CONNECTIONS SHALL BE MADE WITH HIGH STRENGTH BOLTS (ASTM A325X TYPE 3), NUTS (ASTM A563 GR DH3), AND WASHERS (ASTM F436 TYPE 3) CONFORMING TO AASHTO M 164, UNLESS NOTED OTHERWISE. TYPICAL CONNECTIONS ARE "SNUG TIGHT" BEARING CONNECTIONS WITH STANDARD WASHERS. USE LOAD INDICATOR WASHERS AT ALL BOLTED DIAPHRAGM SPLICE CONNECTIONS (NOTED AS TCB) OR CONNECTIONS LISTED AS FULLY TENSIONED OR SLIP CRITICAL. LOAD INDICATING DEVICES, DTIS OR SQUIRTER DTIS, SHALL CONFORM TO ASTM F959. ANCHOR RODS SHALL CONFORM TO ASTM F1554 GR 36.
5. CERTIFIED MILL TEST REPORTS SHALL BE FURNISHED FOR THE STEEL STRINGERS, STRUCTURAL STEEL PLATES AND SHAPES, STEEL BRIDGE DECKING, HIGH STRENGTH BOLTS, PLAIN ELASTOMERIC PADS (PEP) AND ANCHOR BOLTS, IF REQUIRED BY OWNER.
6. ALL WELDING SHALL BE IN ACCORDANCE WITH AWS D1.5, BRIDGE WELDING CODE. ALL ELECTRODES SHALL BE AS FOLLOWS:
  - I. FCAW - E71T AND E81T WEATHERING
  - II. SMAW - E70XX L.H. AND E80XX L.H. WEATHERING
7. PLAIN ELASTOMERIC PADS (PEP) SHALL BE HARDNESS (SHORE A) 70 AND SHALL CONFORM TO AASHTO M 251 AND ASTM D4014.
8. EPOXY SHALL BE PER MIL A 81236 (OS), BOND BEARING PAD TO ANCHOR PLATE.
9. EXTERIOR SURFACES SHALL BE CLEANED PER SSPC-SP 6 PRIOR TO SHIPMENT TO ASSURE UNIFORM WEATHERING IN ACCORDANCE WITH OWNER REQUIREMENTS.
10. GUARDRAIL SHALL BE 12 GAUGE W-BEAM WEATHERING CONFORMING TO THE REQUIREMENTS OF AASHTO M 180.
11. BACKWALLS SHALL BE HSS STRUCTURAL TUBING AND SHALL CONFORM TO ASTM A500 GRADE B. BACKWALL SHALL BE PAINTED WITH COROTHANE I, COAL TAR, (BLACK). PLATES SHALL CONFORM TO ASTM A36. PLATE SHALL BE FASTENED TO HSS STRUCTURAL TUBING WITH HILTI X-U 16 P8 FASTENERS.
12. SUPERSILL STRUCTURAL SHAPES SHALL BE WIDE FLANGE ASTM A588, ANGLES AND PLATES SHALL BE ASTM A36. SUPERSILL SHALL BE PAINTED WITH COROTHANE I, COAL TAR, (BLACK). SUPERSILL SHALL BE FILLED WITH CONCRETE PRIOR TO BRIDGE SERVICE. ALL CONCRETE SHALL BE CLASS A HAVING A MINIMUM COMPRESSIVE STRENGTH OF F'C = 4500 PSI AT 28 DAYS, NORMAL WEIGHT. CONCRETE SHALL BE AIR ENTRAINED FOR DURABILITY; AIR CONTENT SHALL BE 6.0% +/- 1.5%. CONCRETE MAXIMUM WATER-CEMENTITIOUS MATERIAL RATIO SHALL BE 0.45. VEHICLES SHALL NOT BE DRIVEN ON THE BRIDGE FOR A PERIOD OF 7 DAYS AFTER SUPERSILL CONCRETE PLACEMENT. CONTACT ENGINEER OF RECORD FOR FURTHER INFORMATION.
13. THE BOTTOM OF ALL FOOTINGS AND SLABS SHALL BEAR ON SOLID NATIVE, INORGANIC, UNDISTURBED SOIL OR APPROVED COMPACTED FILL. THE FOUNDATION TYPE AND DESIGN CRITERIA ARE BASED ON ASSUMED SOIL CONDITIONS AND PRESUMPTIVE VALUES FROM SECTION 1806 OF THE IBC. BCE SUGGESTS A PROFESSIONAL GEOTECHNICAL CONSULTANT SHOULD BE HIRED BY THE OWNER AND/OR CONTRACTOR TO VERIFY THESE ASSUMPTIONS. ALLOWABLE SOIL BEARING PRESSURE IS ASSUMED TO BE 3000 PSF.
14. THE OWNER SHALL BE RESPONSIBLE FOR PROVIDING A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY A REGISTERED DESIGN PROFESSIONAL IN CHARGE PER THE LATEST EDITION OF THE IBC SECTIONS 1704 THROUGH 1710. THE OWNER SHALL EMPLOY ONE OR MORE QUALIFIED SPECIAL INSPECTORS TO PROVIDE INSPECTIONS DURING ONSITE INSTALLATION OF THE BRIDGE FOR THE TYPES OF WORK LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS.

# DESIGN NOTES

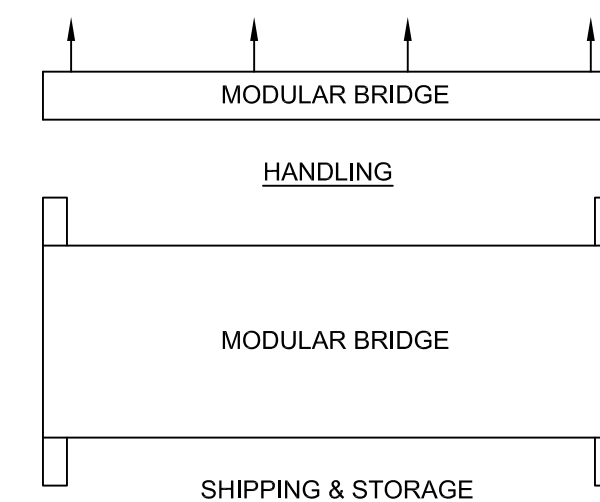
1. DESIGN LIVE LOAD: TBD
2. DESIGN IS BASED ON AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 6TH EDITION AND ALL INTERIM REVISIONS.
3. LIVE LOAD DEFLECTION AT MIDSPAN IS L/TBD.
4. TOTAL BRIDGE WEIGHT: APPROX TBD LB.  
INTERIOR MODULE WEIGHT: APPROX TBD LB PER MODULE.
5. (BRIDGE WEIGHT DOES INCLUDE STEEL DECK BUT DOES NOT INCLUDE GRAVEL BALLAST OR FUTURE WEARING SURFACE).

THE OWNER OR OWNER'S REPRESENTATIVE (SITE ENGINEER OF RECORD) IS RESPONSIBLE FOR THE REVIEW OF BRIDGE STRUCTURE DIMENSIONS AND LAYOUT SHOWN HEREIN. ANY DISCREPANCIES BETWEEN REQUIRED FIELD DIMENSIONS AND THOSE SHOWN HEREIN ARE NOT THE RESPONSIBILITY OF TRUENORTH STEEL OR BEAUDETTE CONSULTING ENGINEERS, INC. UNLESS THE DISCREPANCIES HAVE BEEN SPECIFICALLY NOTED WITHIN THIS REVIEW SET OR PREVIOUSLY CONVEYED IN WRITING. YOUR SIGNATURE BELOW ACKNOWLEDGES THIS RESPONSIBILITY AND SERVES AS NOTICE TO PROCEED WITH BRIDGE FABRICATION.

OWNER OR REPRESENTATIVE NAME:

OWNER OR REPRESENTATIVE SIGNATURE:

DATE:



1. LIFTING FORCES MUST BE APPLIED VERTICALLY AND SIMULTANEOUSLY AT PADEYE HANDLING PICK POINTS AS INDICATED.
2. USE SPREADER BAR WHEN HANDLING.
3. LIFTING PIN TO BE WITHIN  $\frac{1}{8}$ " OF PADEYE HOLE SIZE.
4. PADEYE LIFTING CAPACITY: 16.25 KIPS.

# SHEET INDEX

SHT NO	SHEET TITLE
S0	STRUCTURAL GENERAL NOTES
S1	BRIDGE PLAN & ELEVATION
S2	BRIDGE SECTIONS AND BEARING DETAILS
S3	DETAILS
S4	BACKWALL ELEVATIONS AND DETAILS
S5	SUPERSILL

S/N 55MB16-STANDARD



08/06/2013



BEAUDETTE  
CONSULTING  
ENGINEERS, INC.

MISSOULA KALISPELL

BOZEMAN RAPID CITY

**(406) 721-7315**

**WWW.BCEWEB.COM**

PROJECT IDEN.

55'L x 16'W  
STANDARD  
BRIDGE

## ISSUE BLOCK

[illegible]

## MANAGEMENT

JOB NO.:	JMIXXX
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PROJECT NO.:	13674
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DRAWN BY:	CAW
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CHECKED BY:	CAW
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SHEET TITLE

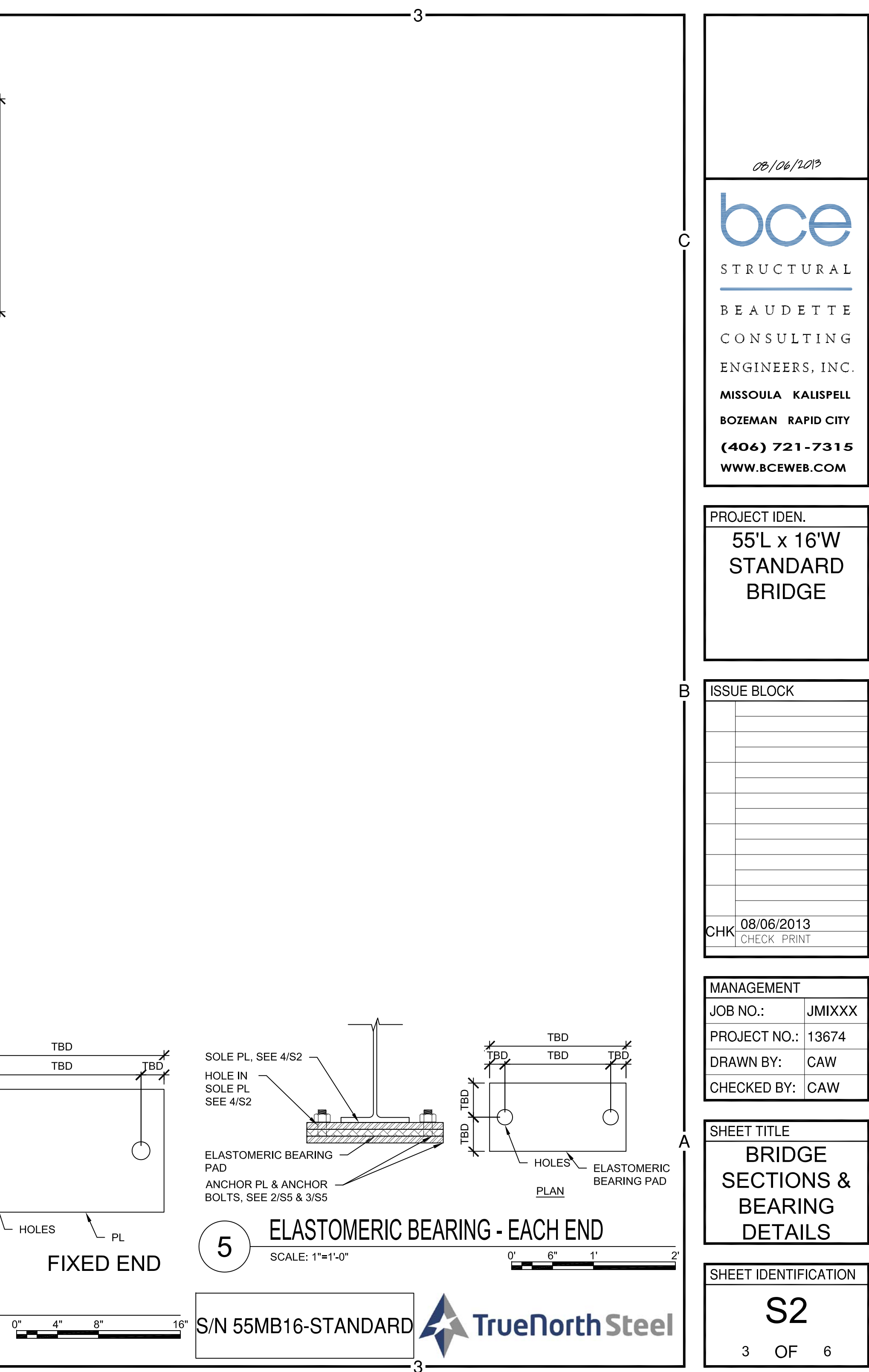
## STRUCTURAL GENERAL NOTES

## SHEET IDENTIFICATION

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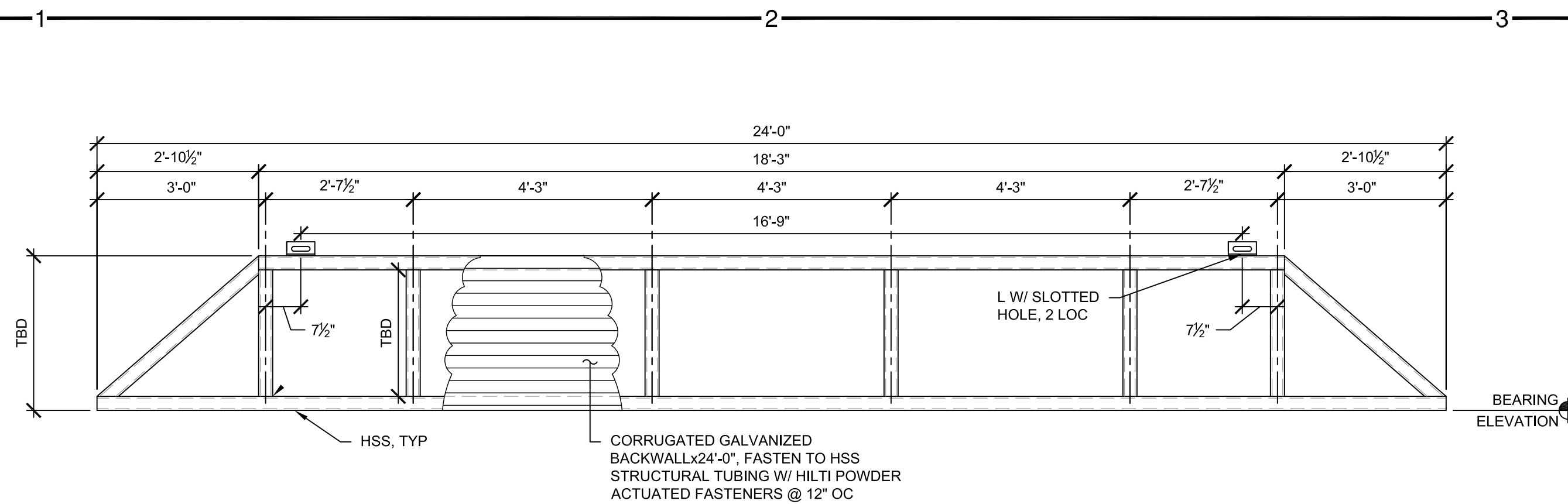
1 OF 6





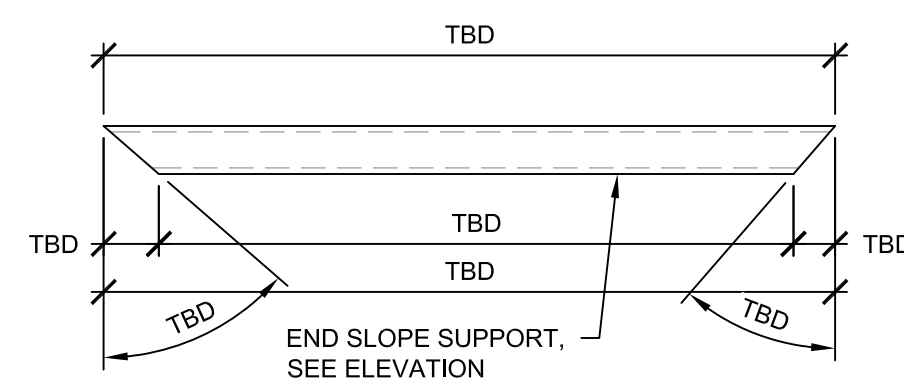
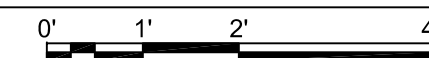




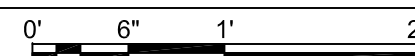


# 1 BACKWALL ELEVATION

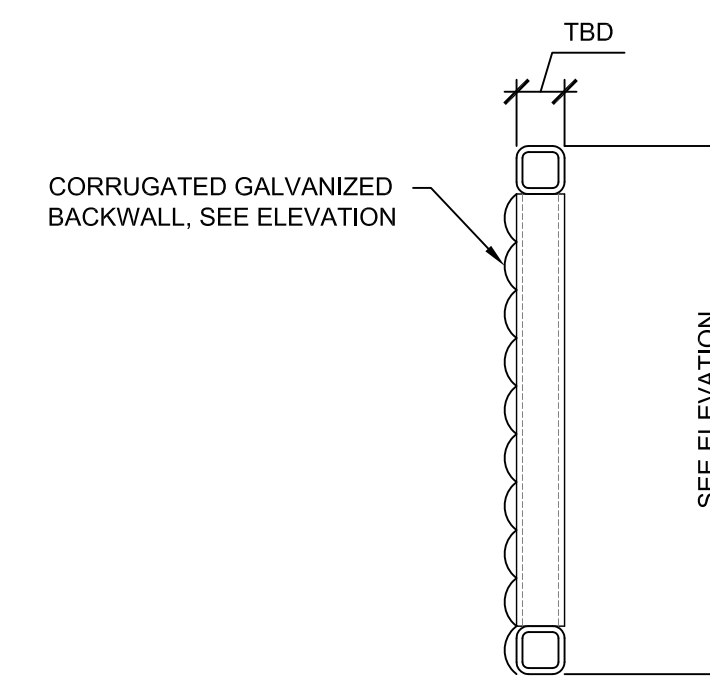
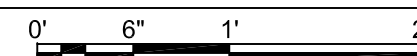
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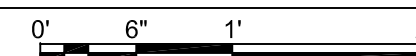
2 DETAIL NOT USED  
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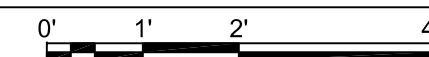
### 3 END SLOPE SUPPORT



4 SECTION  
SCALE: 1"=1'-0"



5 DETAIL NOT USED  
SCALE: 1/2"=1'-0"



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**bce**  
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CHECKED BY:	CAW

SHEET TITLE

## BACKWALL ELEVATIONS & DETAILS

## SHEET IDENTIFICATION

S4

5 OF 6

16'-1"

CORR SHEET

L, TYP

W-BEAM

W-BEAM, INT SUPPORT

END PL

3'-6"

5'-4 $\frac{5}{16}$ "

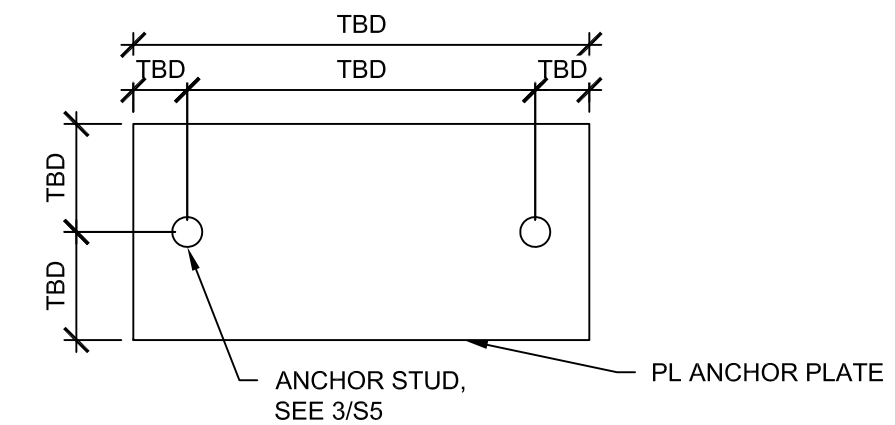
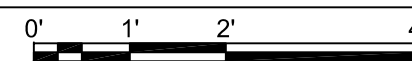
5'-4 $\frac{5}{16}$ "

5'-4 $\frac{5}{16}$ "

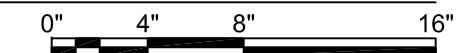
W-BEAM END SUPPORT

5  
S5

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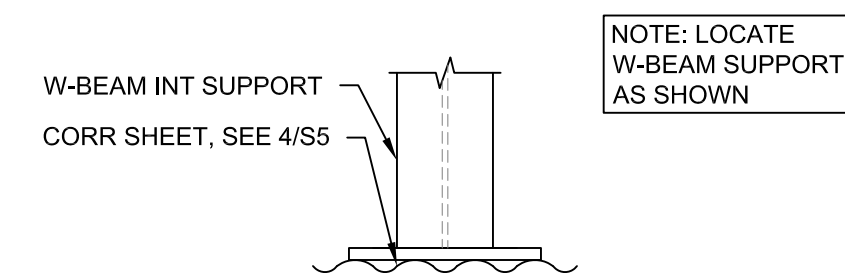
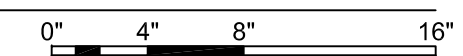


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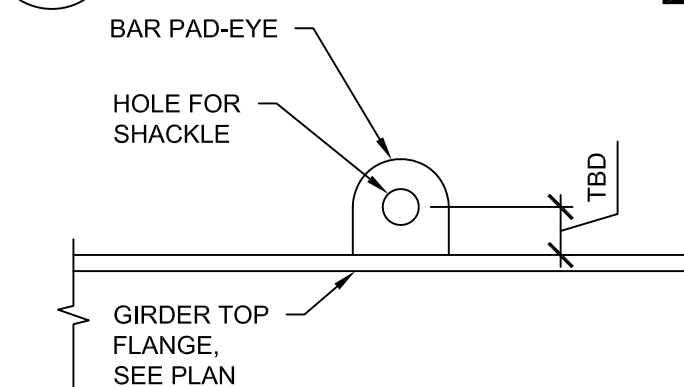
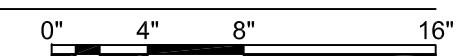


ANCHOR PL,  
SEE 2/S5

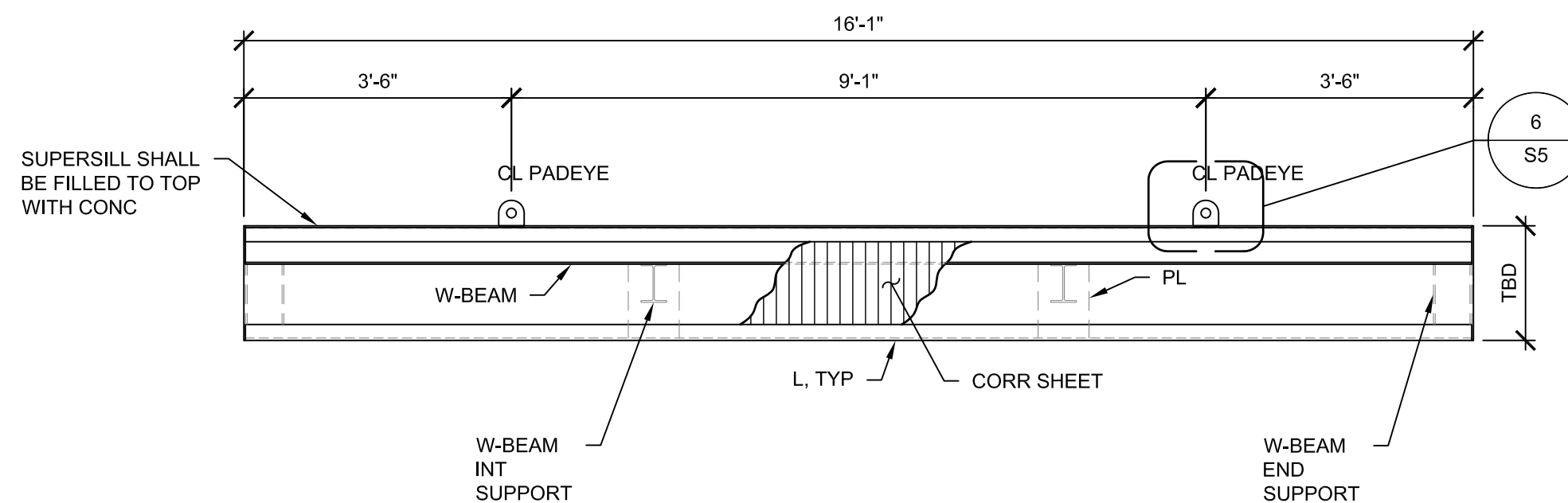
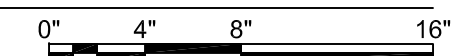
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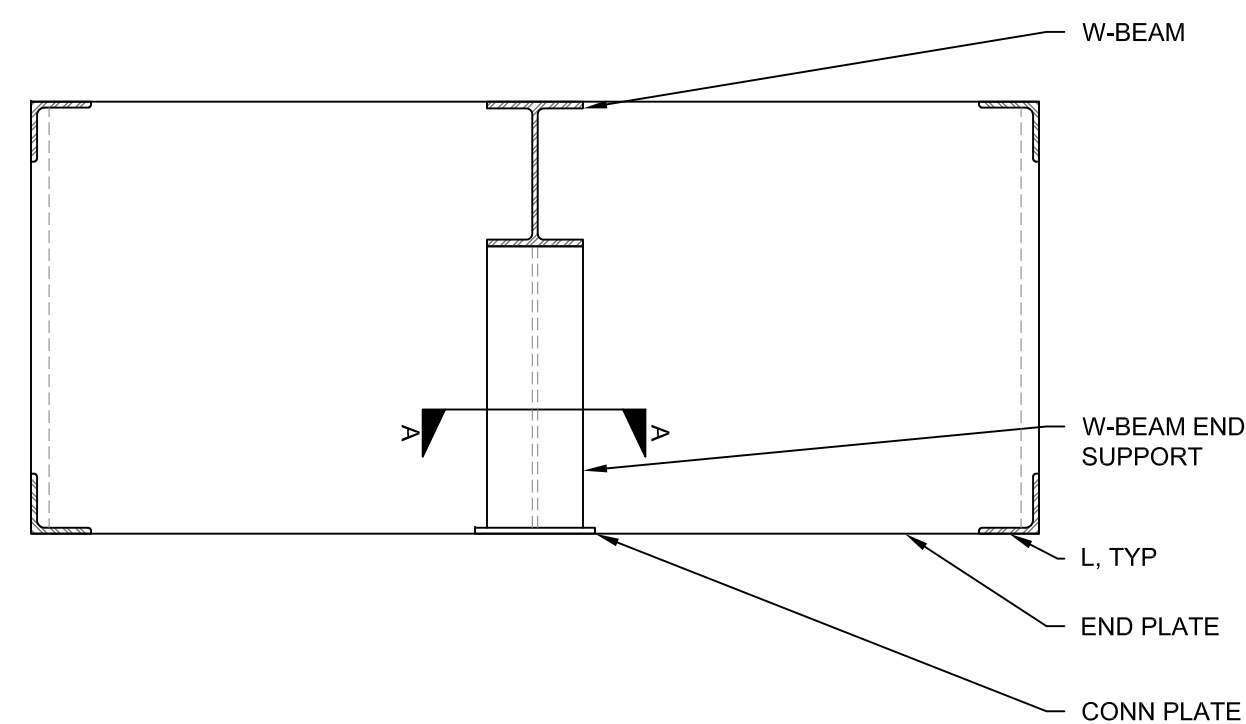
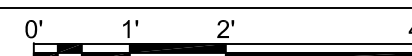
BAR PAD-EYE 



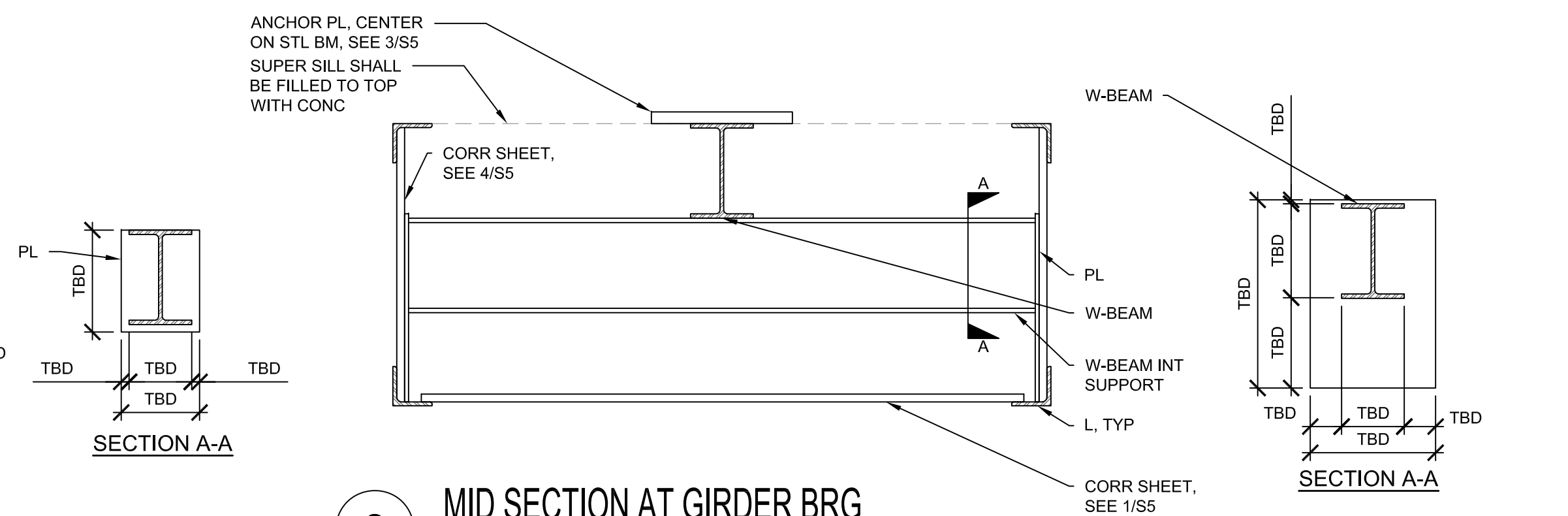
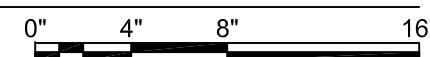
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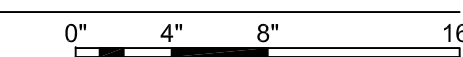
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SCALE: 1½"=1'-0"



SCALE: 1½"=1'-0"



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SUPERSILL

S5

6 OF 6