WHARTON, TEXAS

STRUCTURAL PLANS

WHARTON COUNTY BRIDGE- 35 FT X 28 FT

NO NAME CREEK, COUNTY ROAD 107
WHARTON, TEXAS

FOR

WHARTON COUNTY

MBC PROJECT NO. 25-0090

PREPARED BY:

MBC MANAGEMENT

MBC MANAGEMENT, INC.
NAVASOTA, TEXAS
FRIM NO. 789

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STATE OF TEXAS
PAUL E. MALEK
82860
LICENSED
PROFESSIONAL ENGINEER
Paul E. Malek

DATE: 06/25/2025

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY PAUL MALEK, P.E. 82860

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DESIGN-BUILD | ENGINEERING | GENERAL CONTRACTING
TBPE FIRM NO.: F-789
7984 HWY. 6
NAVASOTA, TX 77868
(P): 936-825-1603
(F): 936-825-1624

PROJECT NAME & LOCATION:

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BUILDING CODE:

1. THE INTERNATIONAL BUILDING CODE, 2021 EDITION.
2. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 2010 EDITION.
3. ASCE-7-16, MINIMUM DESIGN LOADS FOR BUILDINGS & OTHER STRUCTURES.

LOADS:
1. DEAD LOAD = 118 PSF.
2. DECK LIVE LOAD = 75 PSF.
3. VEHICLE LOAD:
   HL-93 LOADING PER AASHTO = 25,000 lbs MAX. AXLE
   PLUS 640 lbs PER LANE
4. WIND LOAD:
   BASIC WIND SPEED
   V-UTL = 123 MPH.
   V-ASD= 100 MPH.
   WIND IMPORTANCE FACTOR = 1.0
   WIND EXPOSURE "C"
   HORIZONTAL LOAD = -23.11 PSF
5. SEISMIC LOAD:
   SEISMIC USE GROUP: I
   SITE CLASS: D
   SPECTRAL RESPONSE COEFFICIENTS
   SDS = 0.074
   SD1 = 0.066
6. SUPPORT REACTIONS
   LOAD PER PILE / PIER (5- PILE / PIER EACH END):

   HORIZONTAL = 0.63 Kips
   VERTICAL:

	RIGHT & LEFT
DEAD-	18.21 Kips
DEAD+LIVE	52.74 Kips
DEAD+VEHICLE	74.14 Kips

NOTES:

1. STRUCTURAL STEEL SHALL MEET THE LATEST AASHTO (AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICALS) SPECIFICATIONS FOR MATERIALS.
2. ALL STRUCTURAL STEEL TO MEET ASTM A 36 - f'y = 36 KSI.
   ALL TUBING TO MEET ASTM A 500, GRADE B - f'y = 46 KSI.
   ALL PIPES TO MEET ASTM A-53, GRADE B - f'y = 35 KSI.
3. ALL BOLTS A 325 HIGH STRENGTH, WITH WASHERS AS REQUIRED
4. WELDING SHALL CONFORM TO THE STANDARDS SET FORTH IN AWS PUBLICATION, "WELDING IN BUILDING CONSTRUCTION".
5. ALL FIELD AND SHOP CONNECTIONS TO HAVE 3/16" FILLET WELDS MINIMUM UNLESS NOTED.
6. ALL FIELD WELDS TO BE WITH E70XX ELECTRODES.
7. NO OPENINGS TO BE PLACED IN BEAM WEBS OR FLANGES WITHOUT ENGINEER'S APPROVAL.

I. GENERAL

A. ALL PLAN DIMENSIONS ARE INTERPRETED FROM AND SHALL BE VERIFIED WITH THE STRUCTURAL DRAWINGS AND THE ENGINEER NOTIFIED IF DISCREPANCIES EXIST.

B. ALL ITEMS OF WORK SHALL BE PERFORMED FOR A LUMP SUM PRICE. UNIT QUANTITY PRICE SHALL NOT BE USED.

C. ANY UNUSUAL CONDITIONS ENCOUNTERED SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONCRETE PLACEMENT.

D. LOCATIONS OF CONCRETE CONSTRUCTION JOINTS NOT SHOWN SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONCRETE PLACEMENT.

E. UNLESS OTHERWISE NOTED ALL ITEMS SHALL CONFORM TO THE TEXAS DEPARTMENT OF TRANSPORTATION'S (TxDOT) "STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS, AND BRIDGES" ADOPTED JUNE 1, 2004.

2. CONCRETE

A. ALL CONCRETE EXCEPT THE DECK CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI AT 28 DAYS IN ACCORDANCE WITH ASTM C-39. THE DECK CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI AT 28 DAYS IN ACCORDANCE WITH ASTM C-39 AND SHALL HAVE A MINIMUM MODULUS OF RUPTURE OF 450 PSI AS 28 DAYS IN ACCORDANCE WITH ASTM C-78. AN AIR ENTRAINMENT AGENT SHALL BE USED. FLY ASH SHALL NOT BE USED.

B. WHERE CONCRETE IS PLACED AGAINST FORMS REINFORCING BARS SHALL HAVE A MINIMUM OF 2 INCHES CLEAR COVER UNLESS SHOWN OTHERWISE. WHERE CONCRETE IS PLACED AGAINST EARTH, REINFORCING BARS SHALL HAVE A MINIMUM OF 3 INCHES CLEAR COVER.

C. APPLY FLOAT FINISH TO SLAB SURFACES TO RECEIVE A TROWEL FINISH.

D. APPLY A HEAVY BROOM FINISH TO DECK SURFACES IN ACCORDANCE WITH ACI 302.

E. DEPRESSIONS BETWEEN HIGH SPOTS SHALL NOT BE GREATER THAN 1/8 IN. BELOW A 10 ft. LONG STRAIGHTEDGE IN ACCORDANCE WITH ACI 302.

F. CONCRETE FACES SHALL NOT DEVIATE MORE THAN 3/16" FROM THE PLAN DIMENSIONS.

3. PILING

A. ALL PILING SHALL BE AS SHOWN ON THE PLANS AND AS SPECIFIED BY TxDOT ITEM 407 - STEEL PIPING.

B. THE PILING SHALL BE DRIVEN AS SPECIFIED BY TxDOT ITEM 404 - PILE DRIVING. THE MINIMUM LENGTH SHALL BE AS SHOWN ON PLANS, THE PILES SHALL BE DRIVEN TO A GREATER DEPTH IF REQUIRED TO OBTAIN THE REQUIRED BEARING CAPACITY. THE MINIMUM BEARING CAPACITY OF THE PILES SHALL BE AS FOLLOW:
ABUTMENTS #1 & #2 - 75 TONS EACH

4. STEEL STRUCTURES

A. ALL STRUCTURAL SECTIONS SHALL BE ASTM A36, SUBJECT TO INSPECTION AND APPROVAL OF THE COUNTY. STRUCTURAL PIPE SHALL HAVE A MINIMUM YIELD STRENGTH OF 35,000 psi. ALL STRUCTURAL STEEL CONNECTIONS SHALL FULL WELDED JOINTS. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY. REINFORCING STEEL SHALL CONFORM WITH ASTM A615.

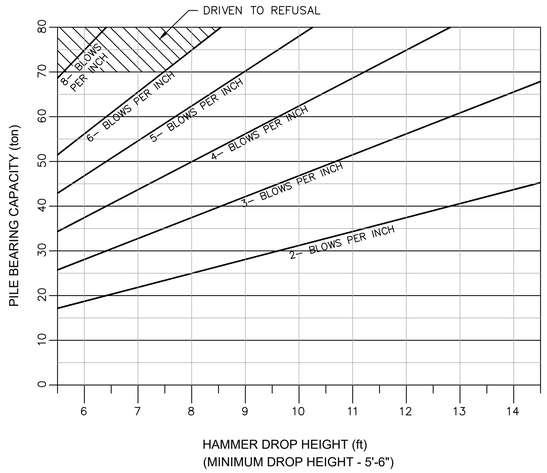
B. EXPOSED STRUCTURAL METAL SURFACES SHALL BE PAINTED WITH INORGANIC ZINC COATING.

C. USED STEEL IS ACCEPTABLE WITH LESS THAN 5% CROSS SECTION CORROSION LOSS.

D. CAMBER THE BEAM BY $\frac{1}{2}$" AT THE CENTER.

STRUCTURAL FILL

A. ALL FILL (IF REQUIRED) SHALL HAVE A MAXIMUM PLASTICITY INDEX (PI) OF 20 OR LESS. THE MINIMUM PLASTICITY INDEX (PI) SHALL BE 5 OR GREATER. ALL FILL SHALL PLACED IN A MAXIMUM LIFT THICKNESS OF SIX INCHES. EACH LIFT SHALL BE COMPACTED TO 95% OF STANDARD PROCTOR DENSITY (ASTM D-698) AT A MOISTURE CONTENT OF -1% TO +3% AND SHALL BE FIELD TESTED IN ACCORDANCE WITH ASTM D-2922.



PILE BEARING CHART-
TxDOT ITEM- 404 (DRIVING PILING

DROP HAMMER WEIGHT- 4680 lbs
MINIMUM DROP HEIGHT- 5'-6"
MAXIMUM DROP HEIGHT- 14'-6"

THE PENETRATION SHALL NOT EXCEED ½" PER BLOW FOR THE LAST 40 BLOWS (WITHOUT INCREASING).

DRIVEN TO REFUSAL WOULD BE
MORE THAN 6- BLOWS PER INCH w/ 7.5' DROP.

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SAB	PEM

SCALE: AS SHOWN

DRAWING TITLE: CONSTRUCTION NOTES

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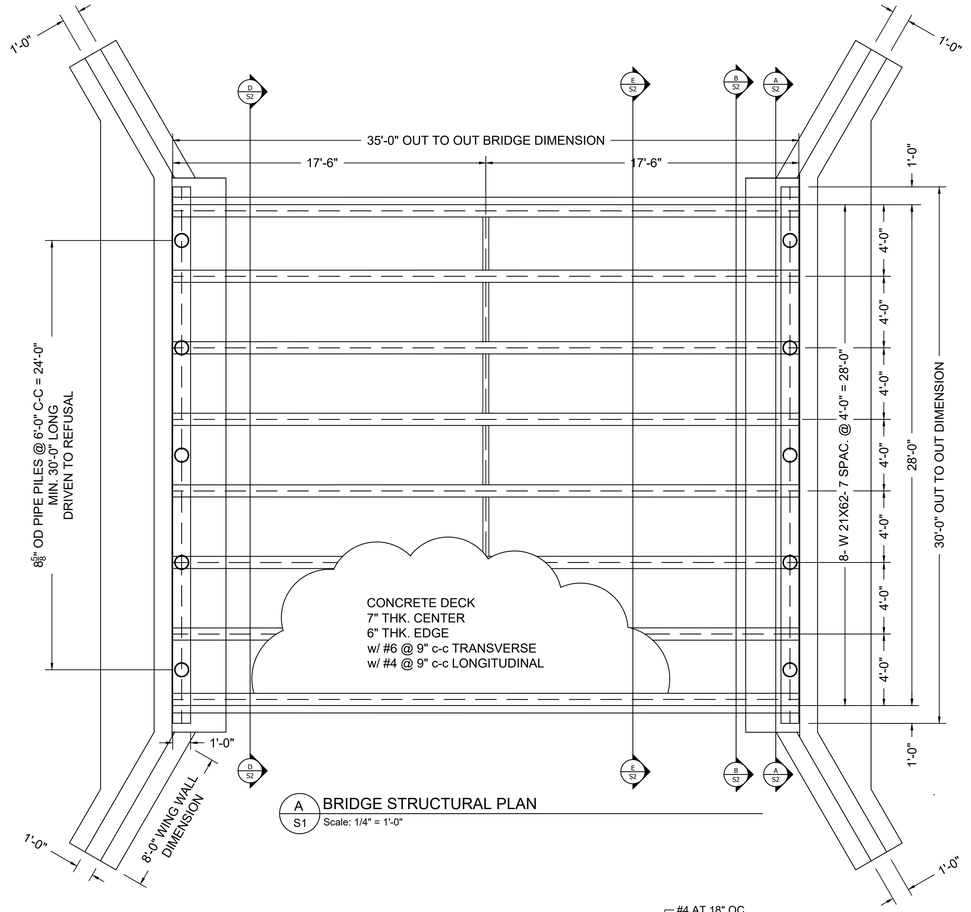
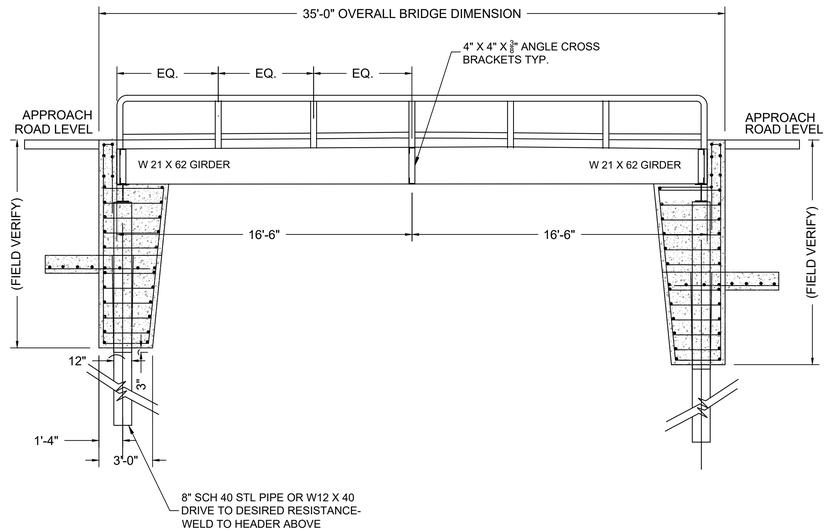


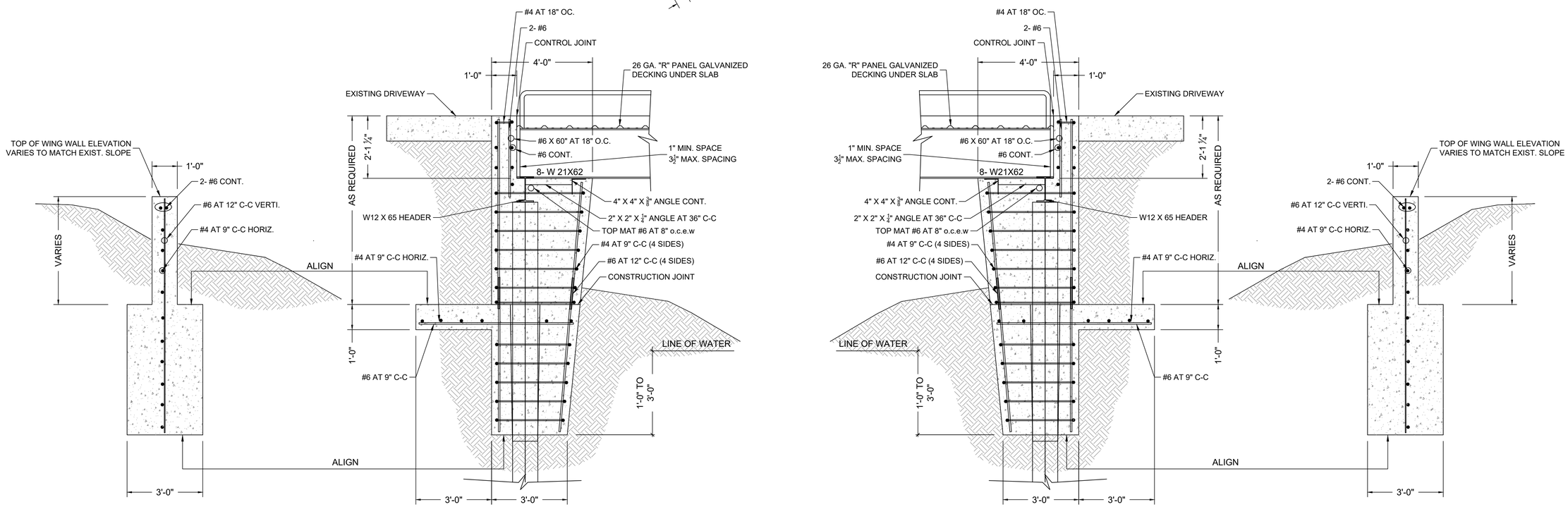
A S1 BRIDGE STRUCTURAL PLAN
Scale: 1/4" = 1'-0"



ABUTMENT #1

ABUTMENT #2

B S1 BRIDGE STRUCTURAL PROFILE
Scale: 1/4" = 1'-0"



ABUTMENT #1

C S1 BRIDGE STRUCTURAL ABUTMENT SECTION- REINFORCEMENT DETAILS
Scale: 1/4" = 1'-0"

ABUTMENT #2

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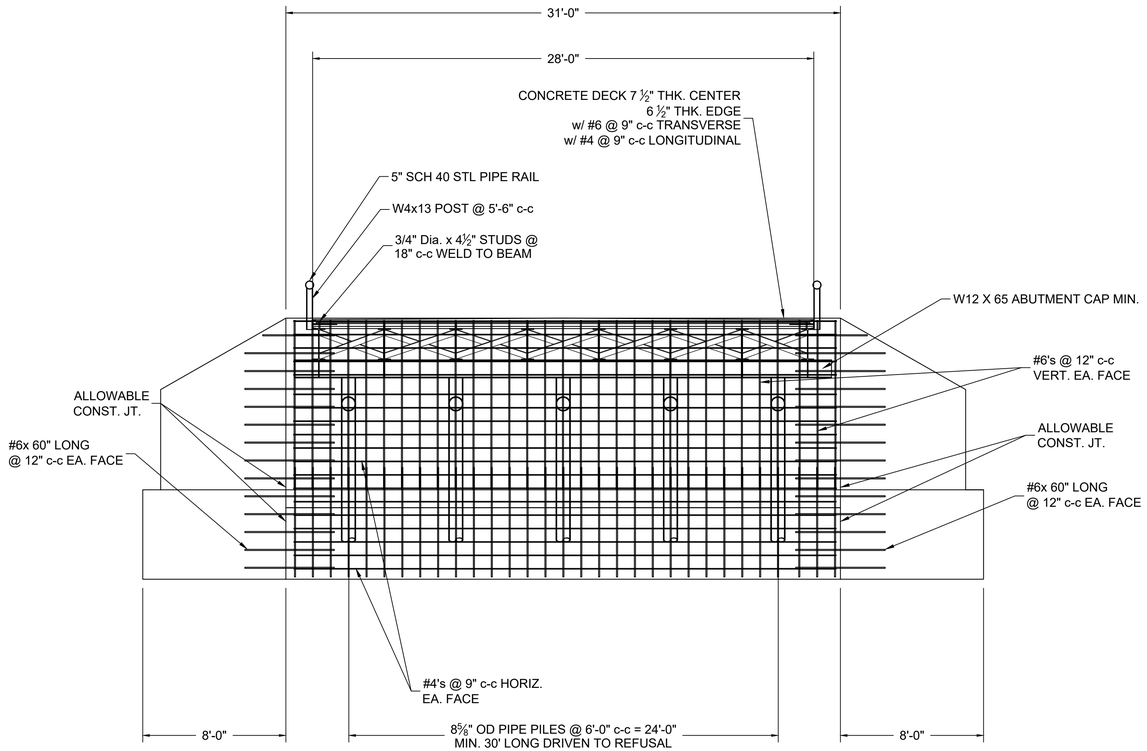

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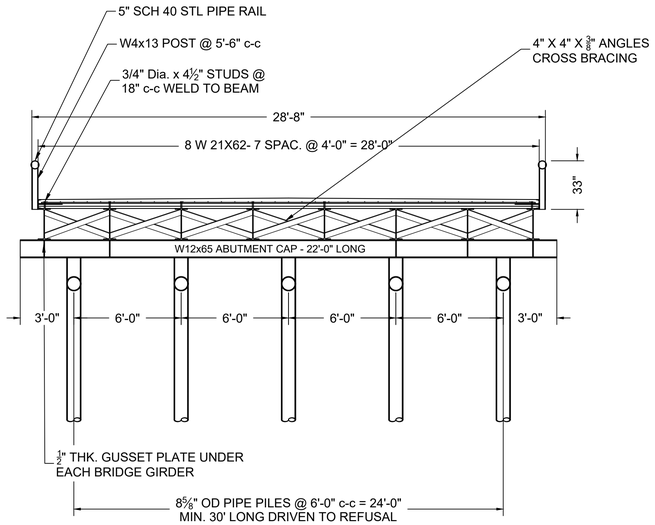
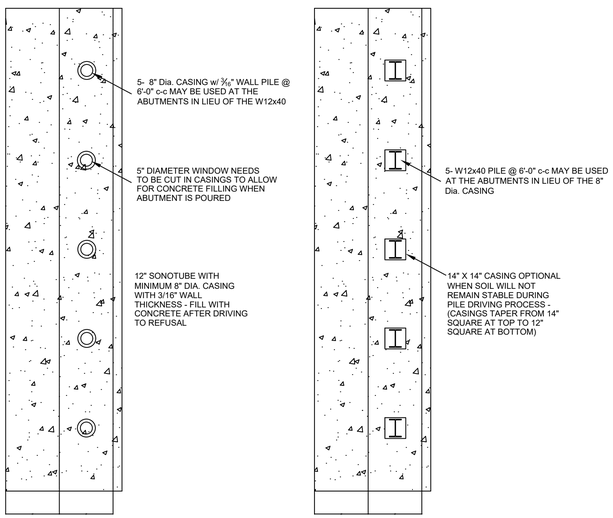


ABUTMENT CONCRETE NOT SHOWN FOR CLARITY

B S2 BRIDGE STEEL FRAMING SECTION B-B
Scale: 1/4" = 1'-0"



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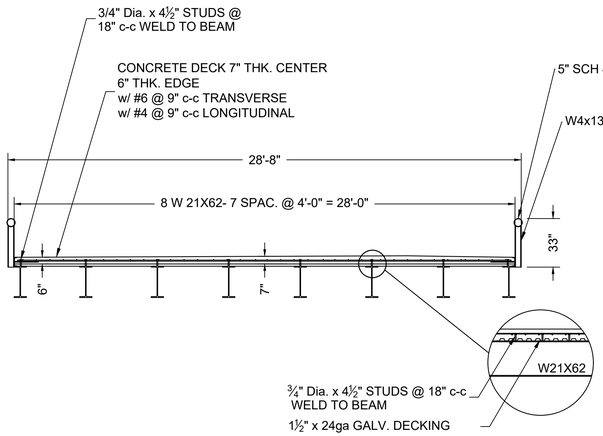

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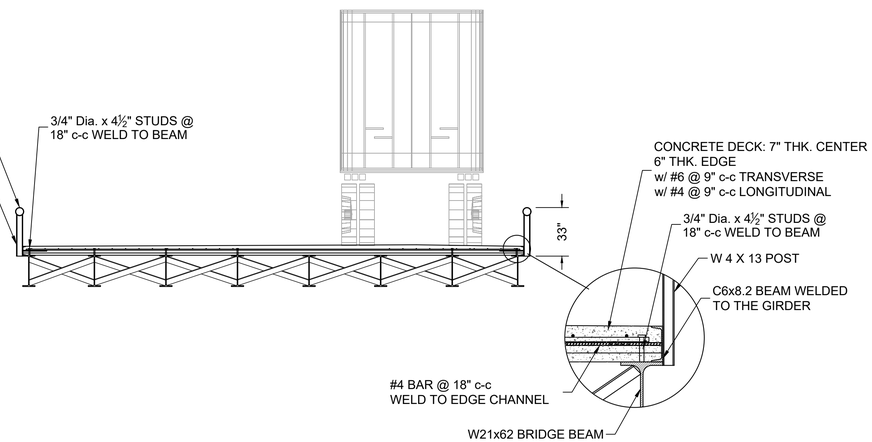

E S2 BRIDGE STEEL FRAMING SECTION E-E
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