

LOCATION MAP

LOGAN COUNTY  
ENGINEER'S OFFICE  
SCOTT C. COLEMAN, P.E., P.S.  
COUNTY ENGINEER

BRIDGE 20-6.53  
REPLACEMENT

BOKESCREEK TOWNSHIP  
2016

PROJECT DESCRIPTION

THE REPLACEMENT OF A GALVANIZED PIPE ARCH WITH PRESTRESSED CONCRETE COMPOSITE BOX BEAMS ON REINFORCED CONCRETE CAPPED PILE ABUTMENTS, AND MINOR APPROACH ROADWAY WORK.

CONTRACTED WORK WILL INCLUDE THE DESIGN, MANUFACTURE, AND INSTALLATION OF THE BRIDGE SUPERSTRUCTURE ON PROPOSED ABUTMENTS. THE SUBSTRUCTURE, WEARING SURFACE, AND ALL REMAINING SITE WORK WILL BE BY COUNTY FORCES.

2013 SPECIFICATIONS

EXCEPT WHERE OTHERWISE NOTED, THE CONSTRUCTION AND MATERIAL SPECIFICATIONS OF THE STATE OF OHIO, DATED JANUARY 1, 2013, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED HEREON, SHALL GOVERN THIS IMPROVEMENT.

DOMESTIC STEEL

DOMESTIC STEEL USE REQUIREMENTS AS SPECIFIED IN SECTION 153.011 OF THE OHIO REVISED CODE APPLY TO THIS PROJECT. COPIES OF SECTION 153.011 OF THE OHIO REVISED CODE CAN BE OBTAINED FROM ANY OF THE OFFICES OF THE DEPARTMENT OF ADMINISTRATIVE SERVICES.

APPROVALS

WE, THE COMMISSIONERS OF LOGAN COUNTY, OHIO, HEREBY APPROVE THESE PLANS AND DECLARE THAT THE NECESSARY RIGHT-OF-WAY IS AVAILABLE FOR THIS IMPROVEMENT.

DATE

BOARD OF LOGAN COUNTY, OHIO,  
COMMISSIONERS

DATE

LOGAN COUNTY, OHIO, ENGINEER

PORTION TO BE IMPROVED \_\_\_\_\_  
STATE AND FEDERAL ROUTES \_\_\_\_\_  
OTHER ROADS \_\_\_\_\_

DESIGN DESIGNATION

CURRENT A.D.T. (2016) \_\_\_\_\_ 252  
DESIGN YEAR A.D.T. (2036) \_\_\_\_\_ 455  
DESIGN HOURLY VOLUME (2036) \_\_\_\_\_ N/A  
DIRECTIONAL DISTRIBUTION \_\_\_\_\_ 50%  
TRUCKS (24 HOUR B&C) \_\_\_\_\_ 1%  
DESIGN SPEED \_\_\_\_\_ 55 MPH  
LEGAL SPEED \_\_\_\_\_ 55 MPH  
DESIGN FUNCTIONAL CLASSIFICATION \_\_\_\_\_ LOCAL RURAL

INDEX OF SHEETS

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GUARDRAIL & REINFORCING DETAILS \_\_\_\_\_ 5



PLANS PREPARED BY:  
LOGAN COUNTY ENGINEER'S OFFICE  
1991 C.R. 13, P.O. BOX 427  
BELLEFONTAINE, OHIO 43311

ENGINEER'S SEAL

SIGNED: \_\_\_\_\_  
DATE: \_\_\_\_\_

STANDARD CONSTRUCTION DRAWINGS		SUPPLEMENTAL SPECIFICATIONS	
DBR-2-73	7-19-02		
DS-1-92	7-19-02		
PSBD-2-07	10-19-07		

FEDERAL PROJECT NO.  
NON-FEDERAL

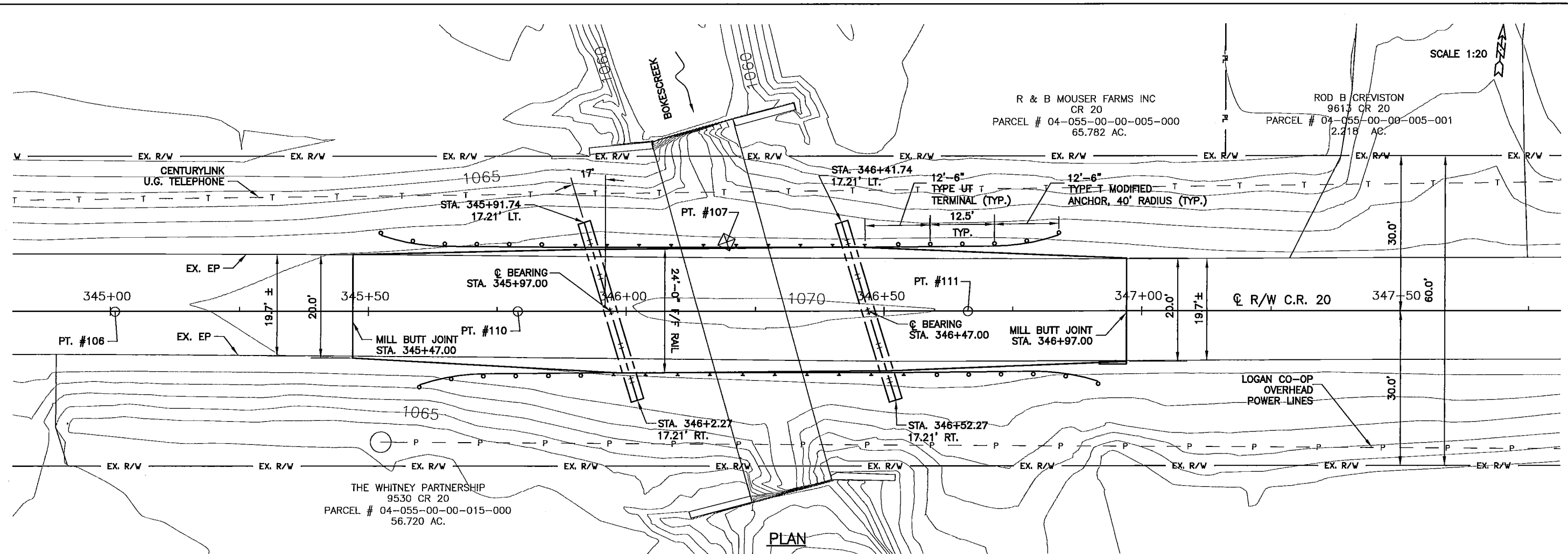
PID NO.  
NONE

WORK ORDER NO.  
10570

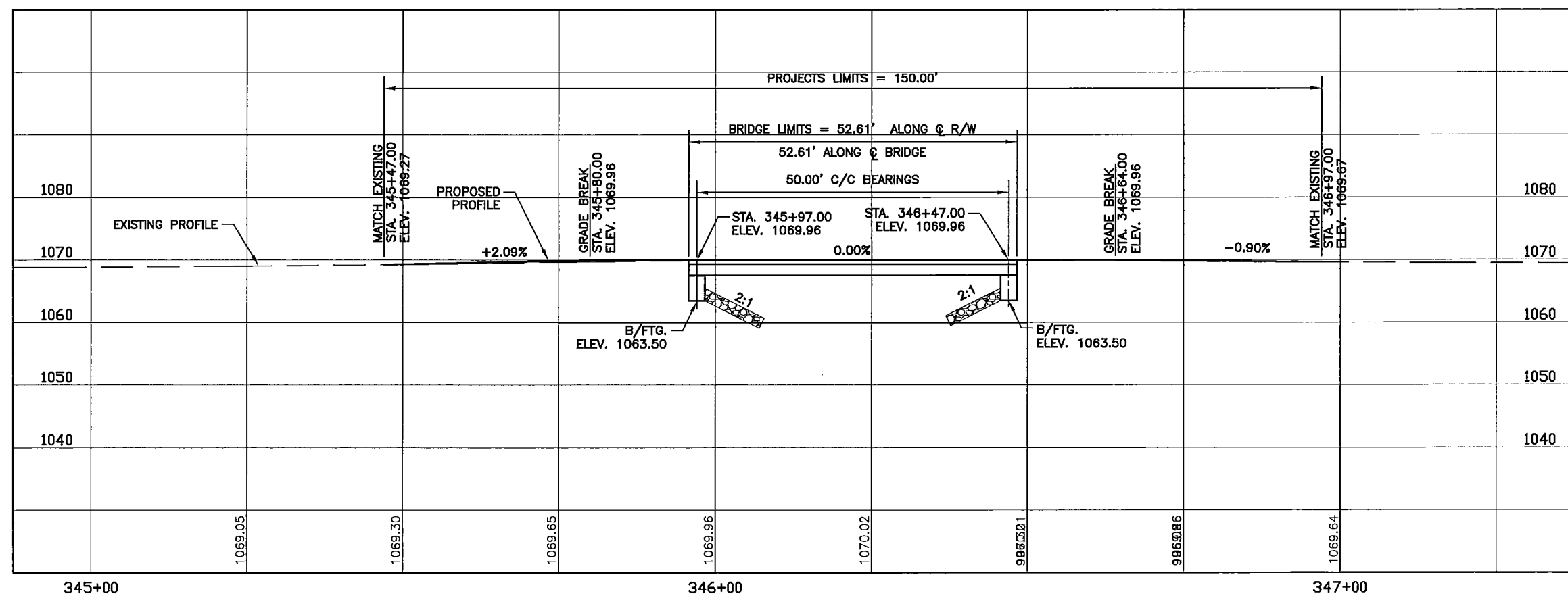
RAILROAD INVOLVEMENT  
NONE

BRIDGE 20-6.53

1/5



PLAN



PROFILE ALONG C R/W

SURVEY CONTROL	
PT. #106 RRSF 0.11' LT. STA. 345+00.95	PT. #110 P.O.T. MNS STA. 345+79.04
PT. #107 HUBS TRV. PT. 13.39' LT. STA. 346+19.41	PT. #111 P.O.T. MNS STA. 346+66.31
EXISTING STRUCTURE	
TYPE: GALVANIZED PIPE ARCH SPAN: 18'-0" ROADWAY: 20'-00"± LOADING: UNKNOWN SKEW: 18° WEARING SURFACE: ASPHALT CONCRETE APPROACH SLAB: NONE DATE BUILT: 1974 STRUCTURAL FILE NUMBER: 4631765	
PROPOSED STRUCTURE	
TYPE: 50 L.F. PRESTRESSED COMPOSITE BOX BEAMS ON REINFORCED CONCRETE CAPPED PILE ABUTMENTS. SPAN: 50'-0" C/C BEARINGS ROADWAY: 24'-0" F/F GUARDRAIL LOADING: HL-93 SKEW: 17° RIGHT FORWARD WEARING SURFACE: REINFORCED CONCRETE ALIGNMENT: TANGENT SUPERELEVATION: NONE APPROACH SLAB: NONE CROWN: 0.016 LONGITUDE: 40°27'12" LATITUDE: 83°33'18"	

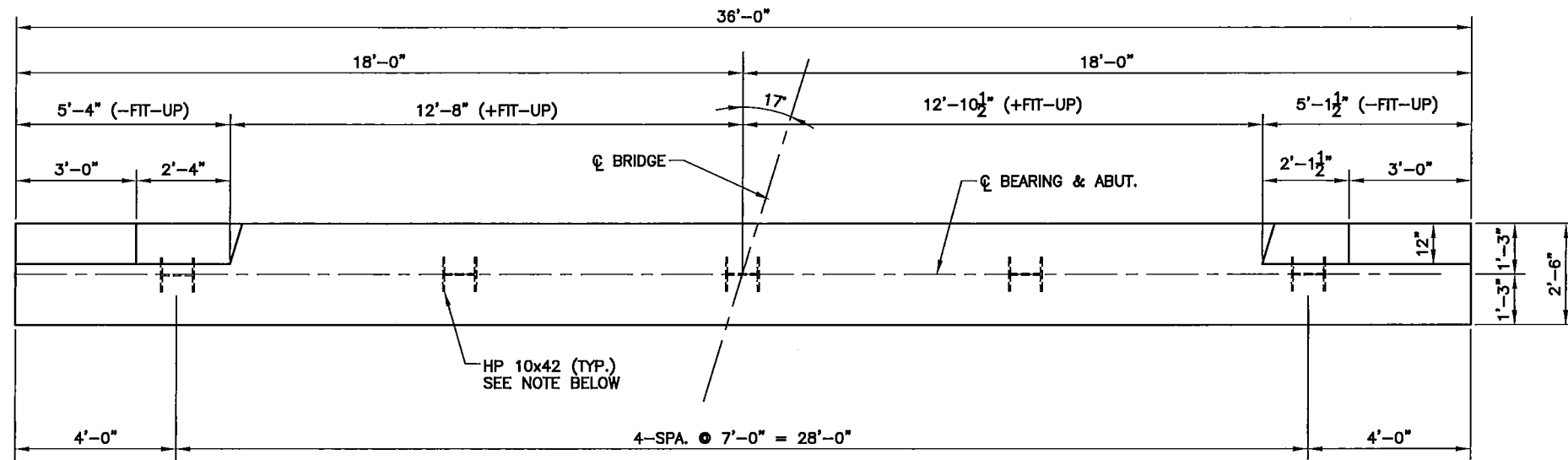
LOGAN COUNTY ENGINEER'S OFFICE  
1991 C.R. 13, P.O. BOX 427  
BELLEFONTAINE, OHIO 43311

DESIGNED: MAJK  
CHECKED: CDJ  
DRAWN: MAJK  
REVIEWED: MAJK  
DATE: 05/08/16  
SCC: 4631766  
STRUCTURAL FILE NUMBER: 4631766

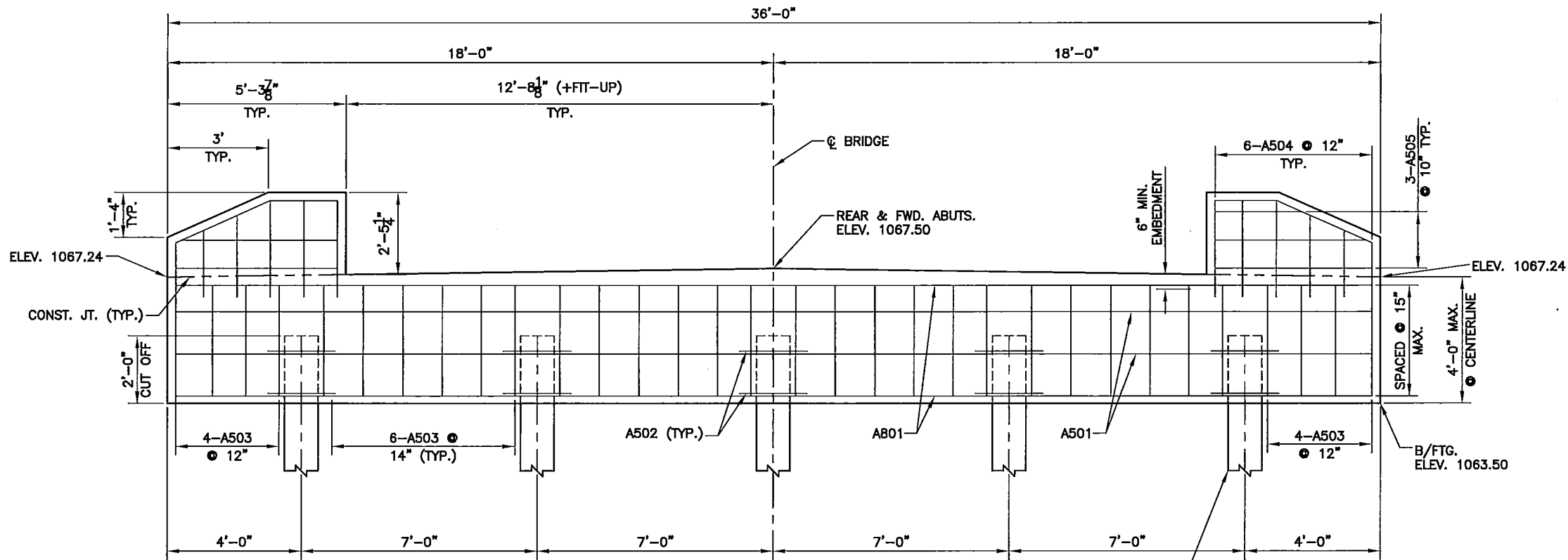
SITE PLAN  
BRIDGE 20-6.53  
OVER BOKES CREEK

BRIDGE 20-6.53

NOTES:  
ALL REINFORCING STEEL SHALL HAVE 3" MIN. CLEAR COVER.

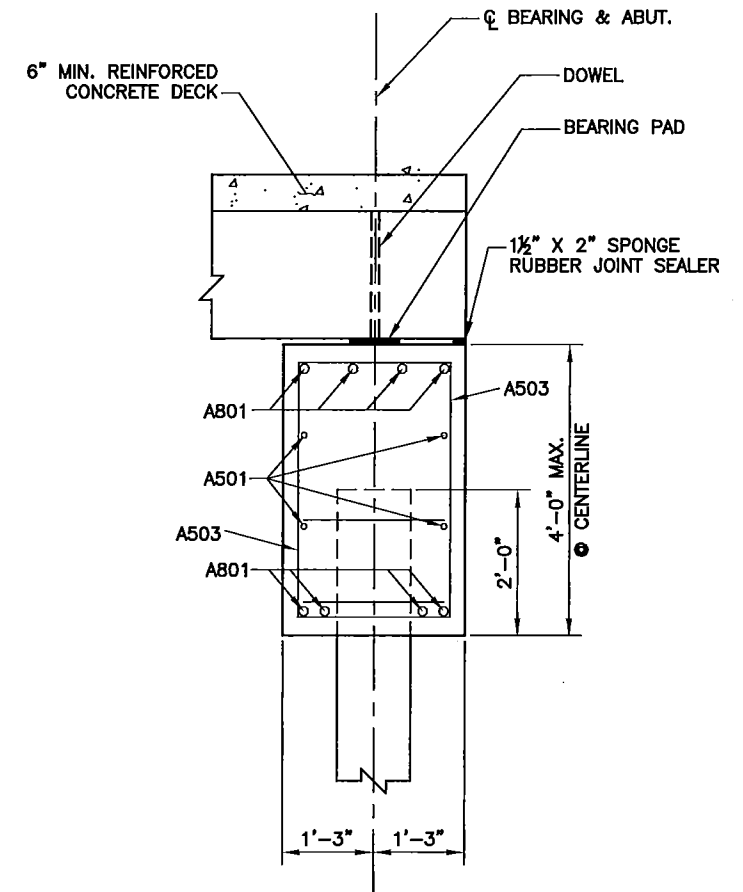


**PLAN**  
LOOKING AT FRONT FACE  
OF REAR & FWD. ABUTMENTS

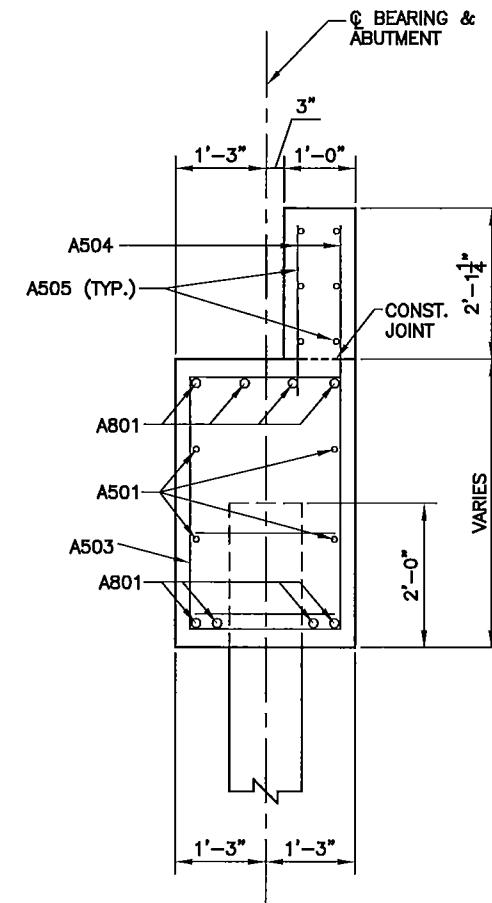


**ELEVATION**  
LOOKING AT FRONT FACE  
OF REAR & FWD. ABUTMENTS

HP 10x42 PILING (TYP.)  
DESIGN BEARING: 35 TONS  
ULTIMATE BEARING: 70 TONS  
DRIVE PILING IN ACCORDANCE  
WITH LOGAN COUNTY PILE  
BEARING CHART



**SECTION @ ABUTMENT**



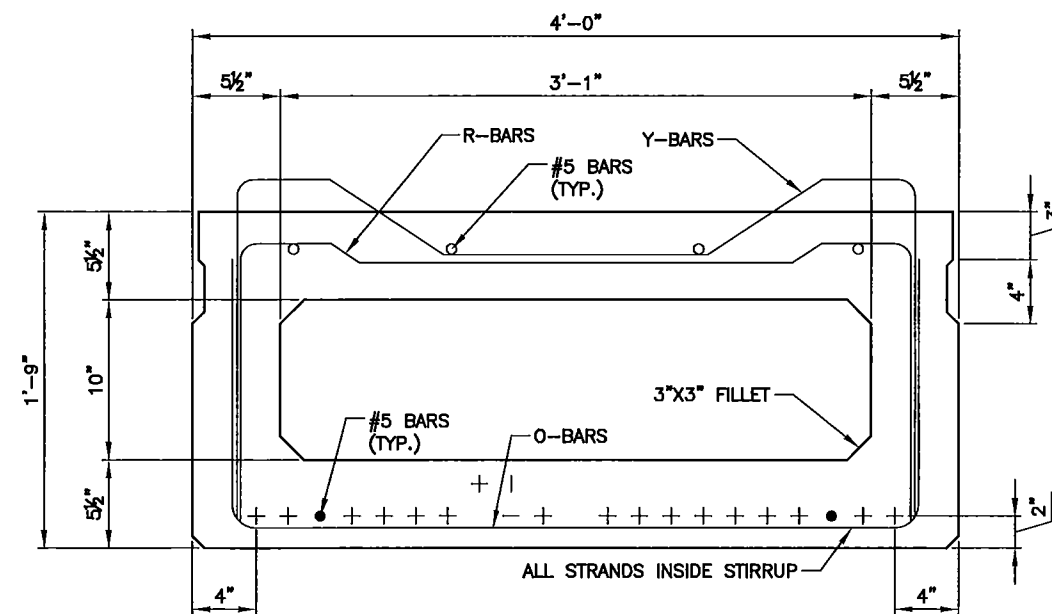
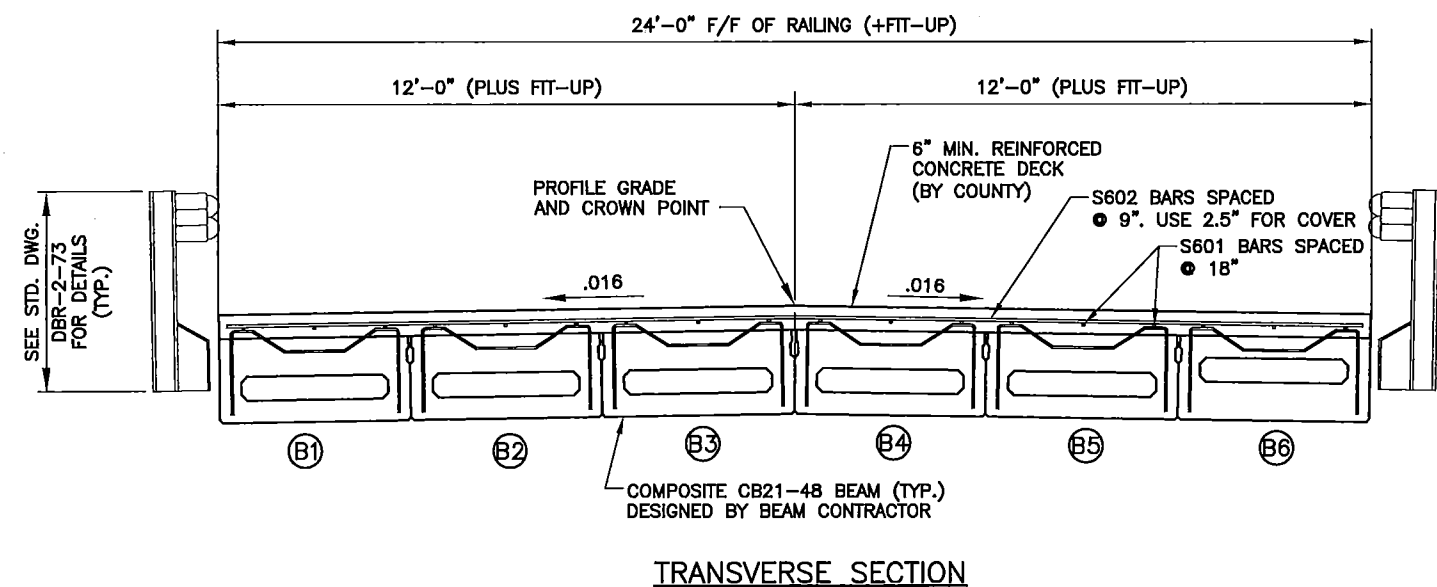
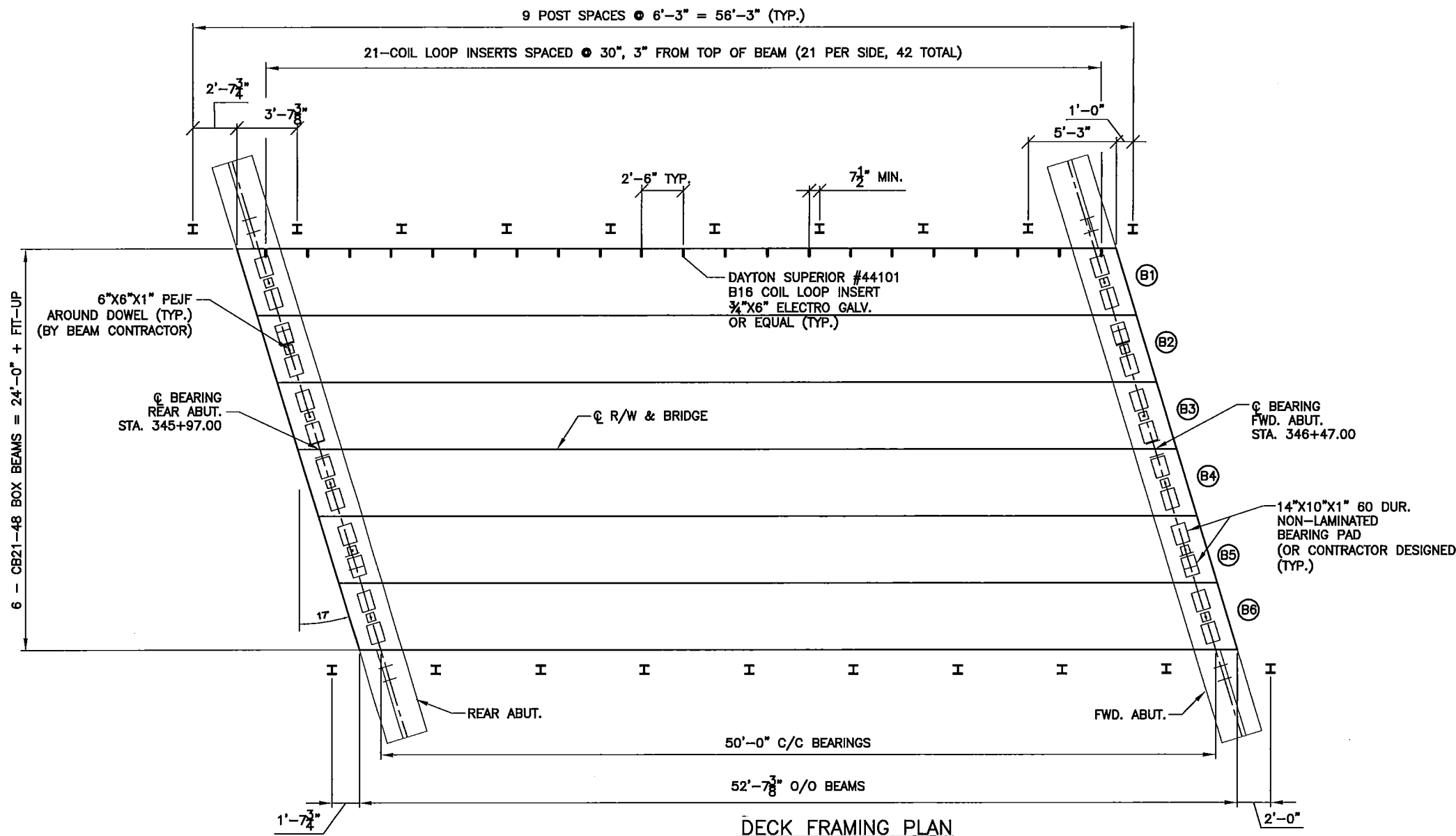
**SECTION @ WINGWALL**

LOGAN COUNTY ENGINEER'S OFFICE  
1991 C.R. 13, P.O. BOX 427  
BELLEFONTAINE, OHIO 43311

DESIGNED: MJK  
CHECKED: CDJ  
DRAWN: MJK  
REVISED:  
REVIEWED: SCC  
DATE: 05/08/16  
STRUCTURAL FILE NUMBER: 4631766

ABUTMENT DETAILS  
BRIDGE 20-6.53  
OVER BOKES CREEK

BRIDGE 20-6.53



**SUPERSTRUCTURE NOTES:**

DESIGN LOADING: HL-93 AND 60 PSF FUTURE WEARING SURFACE

CONCRETE: MIN. COMPRESSIVE STRENGTH @ TIME OF INITIAL PRESTRESS = 5,000 PSI

MIN. COMPRESSIVE STRENGTH @ 28 DAYS = 7,000 PSI

INCLUDE IPANEX ADDITIVE (13.8 OZ. PER 100 LB. CEMENT), NO D.C.I. OR OTHER CORROSION INHIBITOR REQUIRED

REINFORCING STEEL: GRADE 60 MIN. YIELD STRENGTH = 60 KSI

PRESTRESSING STEEL: ASTM A416 LOW RELAXATION STRANDS  
 1/2" DIAMETER  
 Aps = 0.167 SQ. IN.  
 fpu = 270 KSI  
 Ep = 28,500 KSI  
 INITIAL STRESS: 0.75 fpu = 202.5 KSI  
 INITIAL TENSION LOAD: 33.82 KIPS/STRAND

REFER TO STANDARD DRAWINGS (CURRENT REVISIONS) PSBD-2-07, DBR-2-73 FOR OTHER DETAILS NOT SHOWN

ELASTOMERIC BEARING PADS: 14" x 10" x 1", 60 DUROMETER, 24 REQUIRED (OR AS DESIGNED BY BEAM CONTRACTOR)

PREFORMED EXPANSION JOINT FILLER: 6" x 6" x 1" WITH 2" DIA. HOLE, 12 REQUIRED

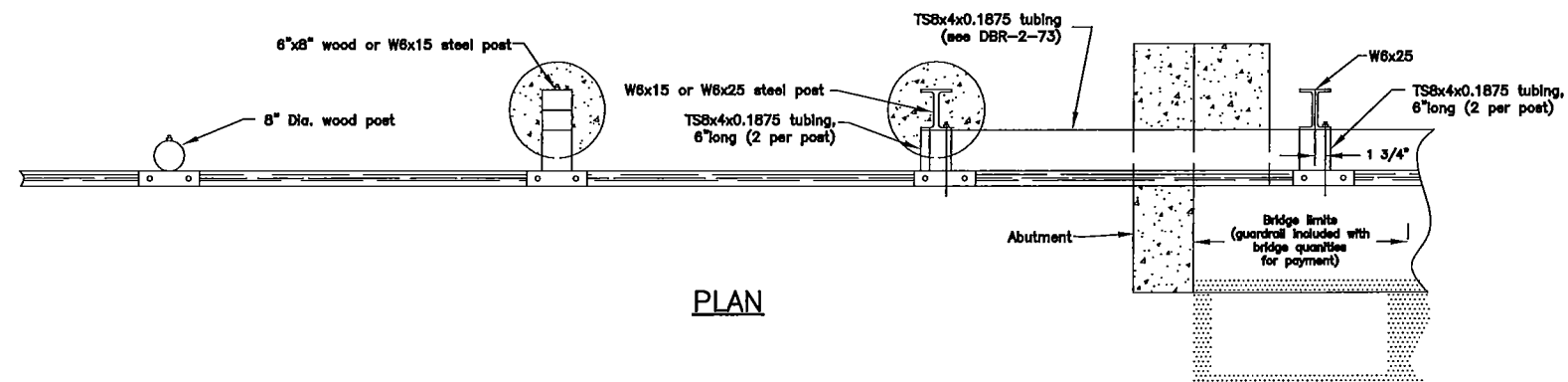
SILANE SEALER APPLIED TO EXPOSED FACE OF FASCIA BEAM AND 12" UNDER BEAM.

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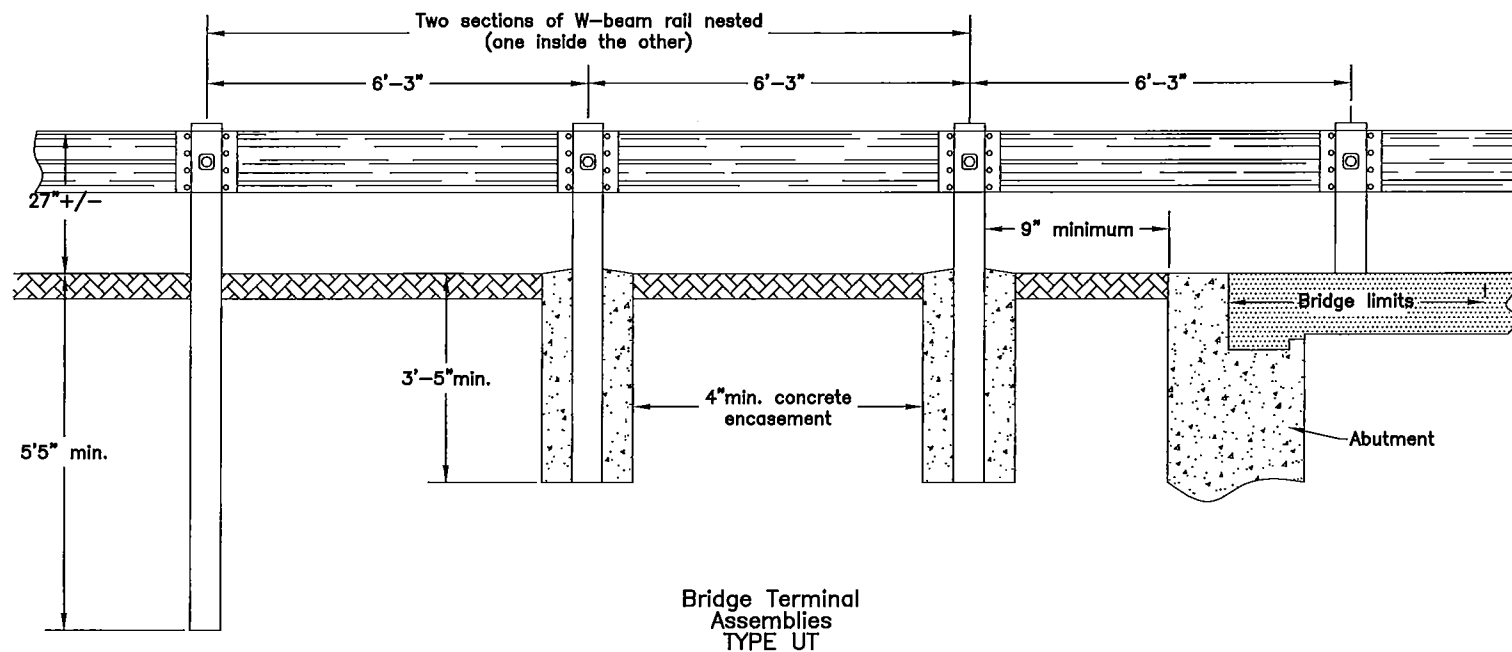
DESIGNED	MJK	CHECKED	CDU
DRAWN	MJK	REVIEWED	
REVIEWED	SCC	DATE	05/08/16
STRUCTURAL FILE NUMBER			4631766

SUPERSTRUCTURE DETAILS  
 BRIDGE 20-6.53  
 OVER BOKES CREEK

BRIDGE 20-6.53



PLAN



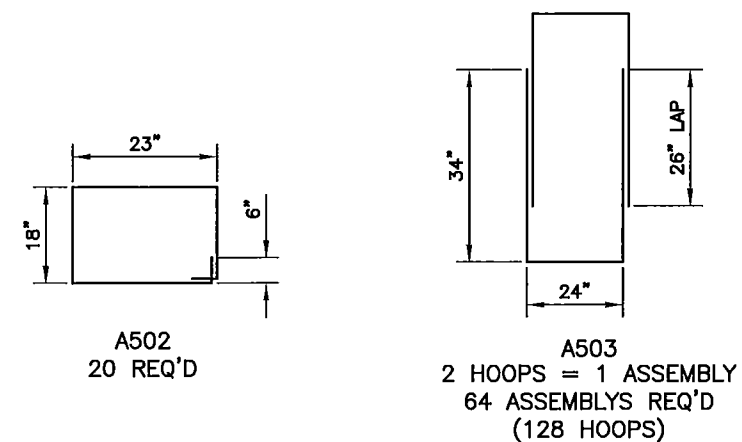
Bridge Terminal Assemblies TYPE UT

ELEVATION

REINFORCING STEEL LIST						
MARK	NUMBER PER ABUT/DECK	LENGTH EACH PIECE	LENGTH PER ABUT/DECK	TOTAL LENGTH	WEIGHT PER FT.	TOTAL WEIGHT
BENT STEEL						
A502	10	7'-10"	78	157	1.043	163
A503	32	15'-4"	491	981	1.043	1024
STRAIGHT STEEL						
A501	4	35'-6"	142	284	1.043	296
A504	24	2'-6"	60	120	1.043	125
A505	12	4'-8"	56	112	1.043	117
A801	8	35'-6"	284	568	2.67	1517
S601*	36	27'-6"	990	990	1.502	1487
S602*	71	24'-8"	1752	1752	1.502	2630
TOTAL WEIGHT:						7359

\* = S601 AND S602 BARS SHALL BE HOT-DIPPED GALVANIZED AND SHALL USE GALVANIZED TIES.

A501, A801, S601 AND S602 TO BE PRE-CUT AND LABELED.



BAR BENDING DIAGRAMS