

LOCATION MAP

PORTION TO BE IMPROVED -----
 STATE AND FEDERAL ROUTES -----
 OTHER ROADS -----

DESIGN DESIGNATION

CURRENT A.D.T. (2019) ----- 454
 DESIGN YEAR A.D.T. (2040) ----- 844
 DESIGN HOURLY VOLUME (2040) ----- N/A
 DIRECTIONAL DISTRIBUTION ----- 50%
 TRUCKS (24 HOUR B&C) ----- 1%
 DESIGN SPEED ----- 55 MPH
 LEGAL SPEED ----- 55 MPH
 DESIGN FUNCTIONAL CLASSIFICATION ----- LOCAL RURAL



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

BRIDGE 58-1.61
 REPLACEMENT
 BLOOMFIELD TOWNSHIP
 2020

INDEX OF SHEETS

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 GUARDRAIL & REINFORCING STEEL DETAILS ----- 5

PROJECT DESCRIPTION

THE REPLACEMENT OF A SINGLE SPAN STEEL BRIDGE WITH A CORRUGATED STEEL DECK WITH PRESTRESSED CONCRETE COMPOSITE BOX BEAMS ON REINFORCED CONCRETE CAPPED PILE ABUTMENTS.

MINOR ROADWAY WORK ON C.R. 58.

CONTRACTED WORK WILL INCLUDE THE DESIGN, MANUFACTURE, AND INSTALLATION OF THE BRIDGE SUPERSTRUCTURE AND FURNISHING OF RELATED SUPERSTRUCTURE MATERIAL.

THE SUBSTRUCTURE, WEARING SURFACE, AND ALL REMAINING SITE WORK WILL BE BY COUNTY FORCES.

2019 SPECIFICATIONS

EXCEPT WHERE OTHERWISE NOTED, THE CONSTRUCTION AND MATERIAL SPECIFICATIONS OF THE STATE OF OHIO, DATED JANUARY 1, 2019, 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

I HEREBY APPROVE THIS PLAN AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING OF THE HIGHWAY TO THROUGH TRAFFIC, AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THESE PLANS AND ESTIMATES.

 DATE LOGAN COUNTY, OHIO, ENGINEER



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		
PSBD-2-07	7-20-18		
DS-1-92	7-18-03		

FEDERAL PROJECT NO.
 NON-FEDERAL

PID NO.
 NONE

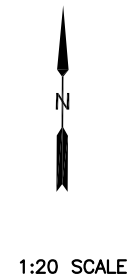
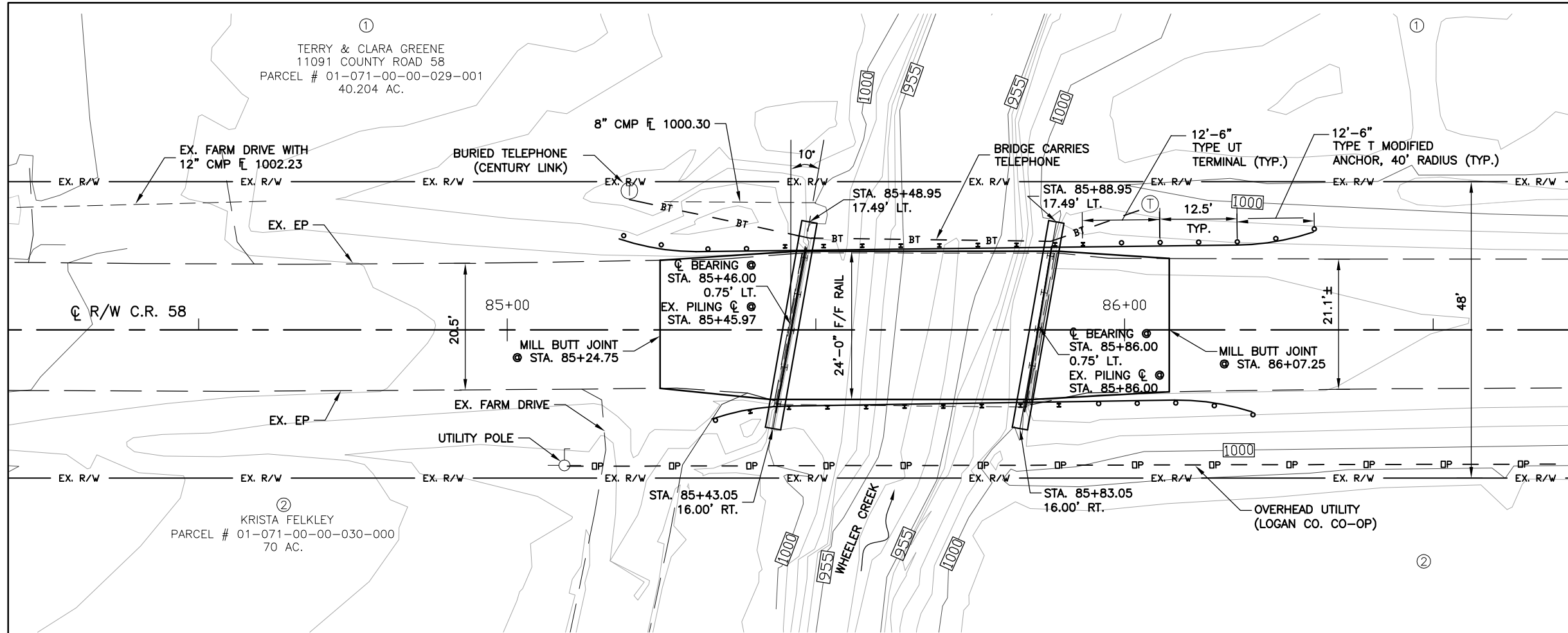
WORK ORDER NO.
 11341

RAILROAD INVOLVEMENT
 NONE

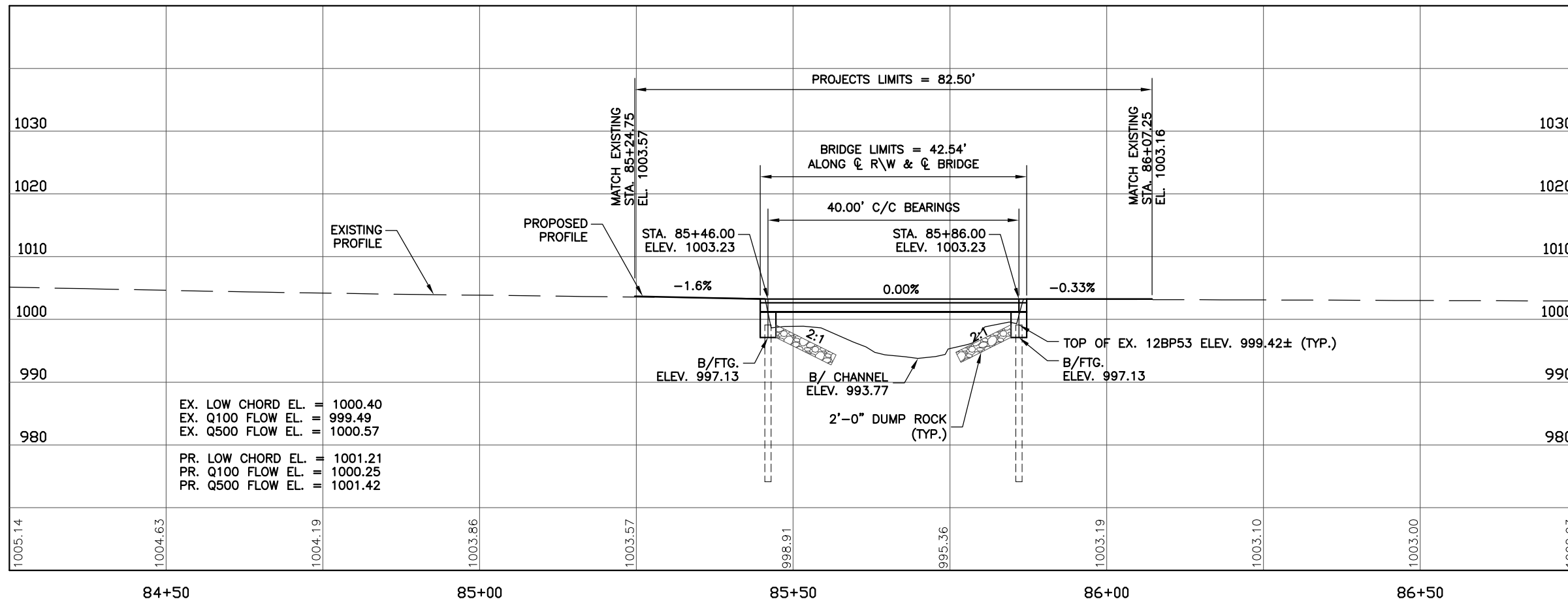
BRIDGE 58-1.61

①
TERRY & CLARA GREENE
11091 COUNTY ROAD 58
PARCEL # 01-071-00-00-029-001
40.204 AC.

②
KRISTA FELKLEY
PARCEL # 01-071-00-00-030-000
70 AC.



PLAN



PROFILE ALONG \bar{C} R/W & BRIDGE

SURVEY CONTROL

BM TELEPHONE POLE 22.07' RT 85+09.72 ELEV. = 1003.32	PT. #5297, MNS 11.31' LT. 87+58.56
PT. #5295, HUBS 21.84' LT. 85+59.84	PT. #5298, HUBS 25.64' LT. 87+60.24
PT. #5296, PKS 11.22' LT. 83+55.06	

EXISTING STRUCTURE

TYPE: SINGLE SPAN STEEL BRIDGE WITH CORRUGATED STEEL DECK
SPAN: 39'-0"± C/C BEARINGS
ROADWAY: 26'-4"±
LOADING: HS20 (LOAD RATING)
SKEW: 10° LEFT FORWARD
WEARING SURFACE: ASPHALT CONCRETE
APPROACH SLAB: NONE
DATE BUILT: 1965
STRUCTURAL FILE NUMBER: 4635310

PROPOSED STRUCTURE

TYPE: PRESTRESSED COMPOSITE BOX BEAMS ON REINFORCED CONCRETE CAPPED PILE ABUTMENTS
SPAN: 40'-0" C/C BEARINGS
ROADWAY: 24'-0" F/F GUARDRAIL
LOADING: HL-93
SKEW: 10° LEFT FORWARD
WEARING SURFACE: REINFORCED CONCRETE
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
APPROACH SLAB: NONE
CROWN: 0.016
LATITUDE: 40°22'36.00"N
LONGITUDE: 83°58'24.90"W

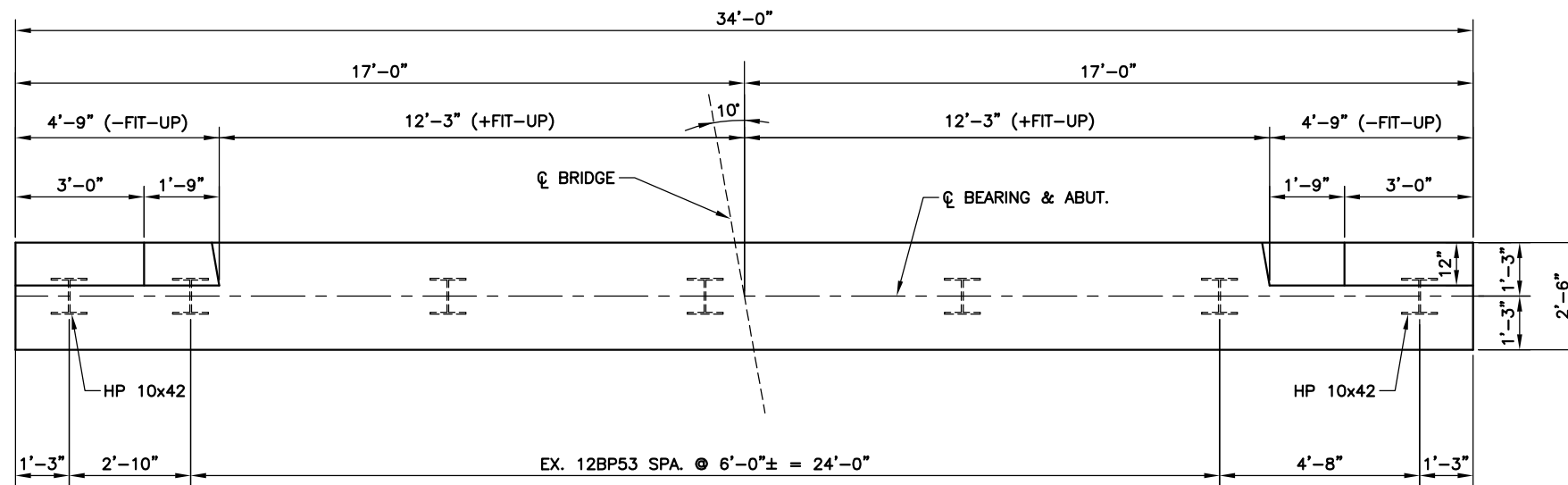
LOGAN COUNTY ENGINEER'S OFFICE
1991 C.R. 13, P.O. BOX 427
BELLEFONTAINE, OHIO 43311

DATE: 3/18/2020
REVIEWED: WTB
STRUCTURAL FILE NUMBER: 4635311

DRAWN: MJK
CHECKED: SCC

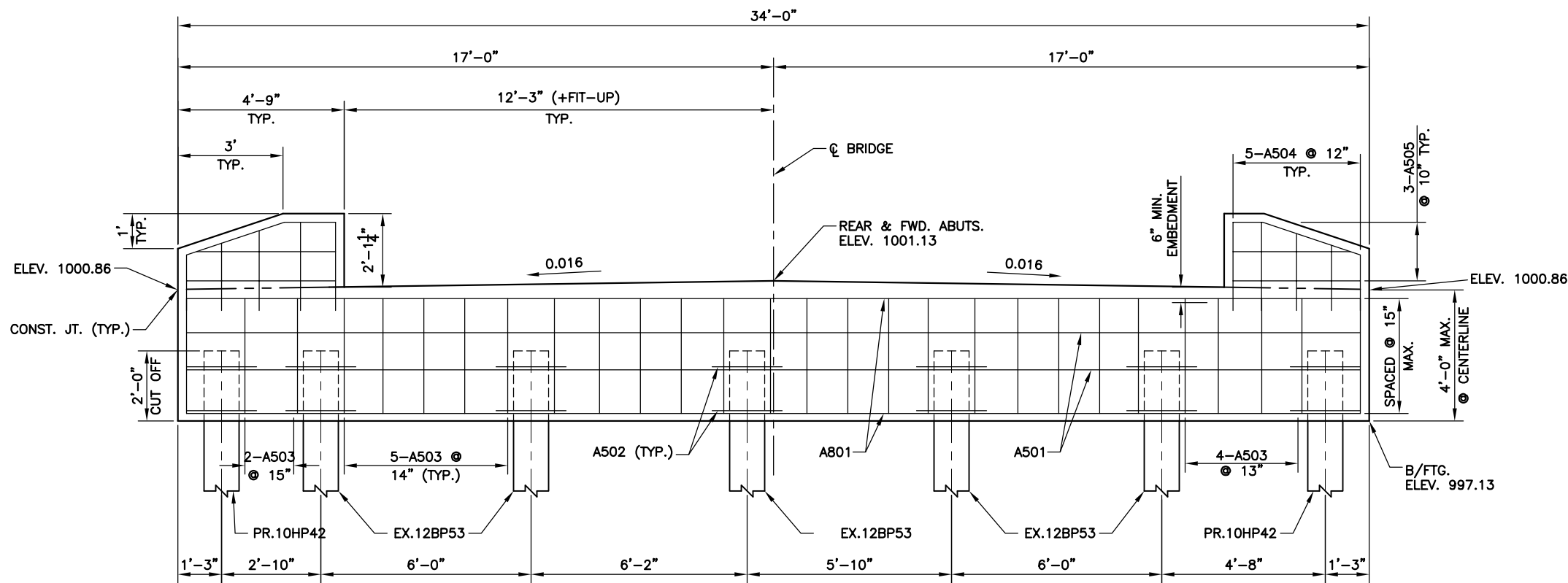
SITE PLAN
BRIDGE 58-1.61 OVER WHEELER CREEK

BRIDGE 58-1.61

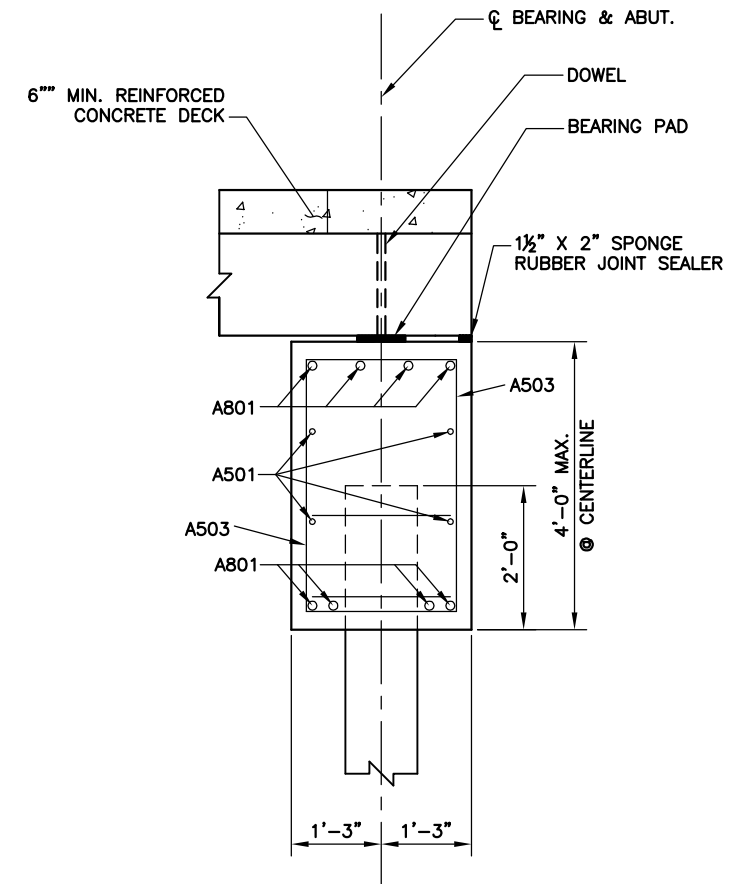


PLAN
LOOKING AT FRONT FACE
OF REAR & FORWARD ABUTMENTS

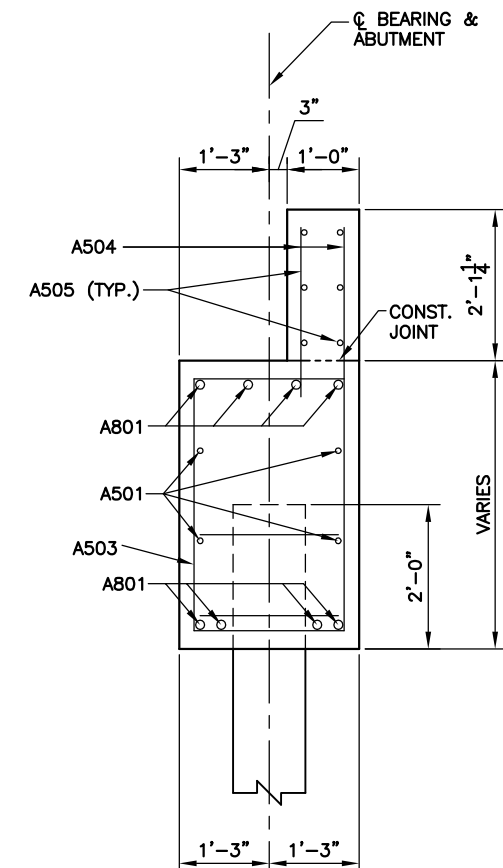
NOTES:
ALL REINFORCING STEEL SHALL HAVE 3" MIN. CLEAR COVER.



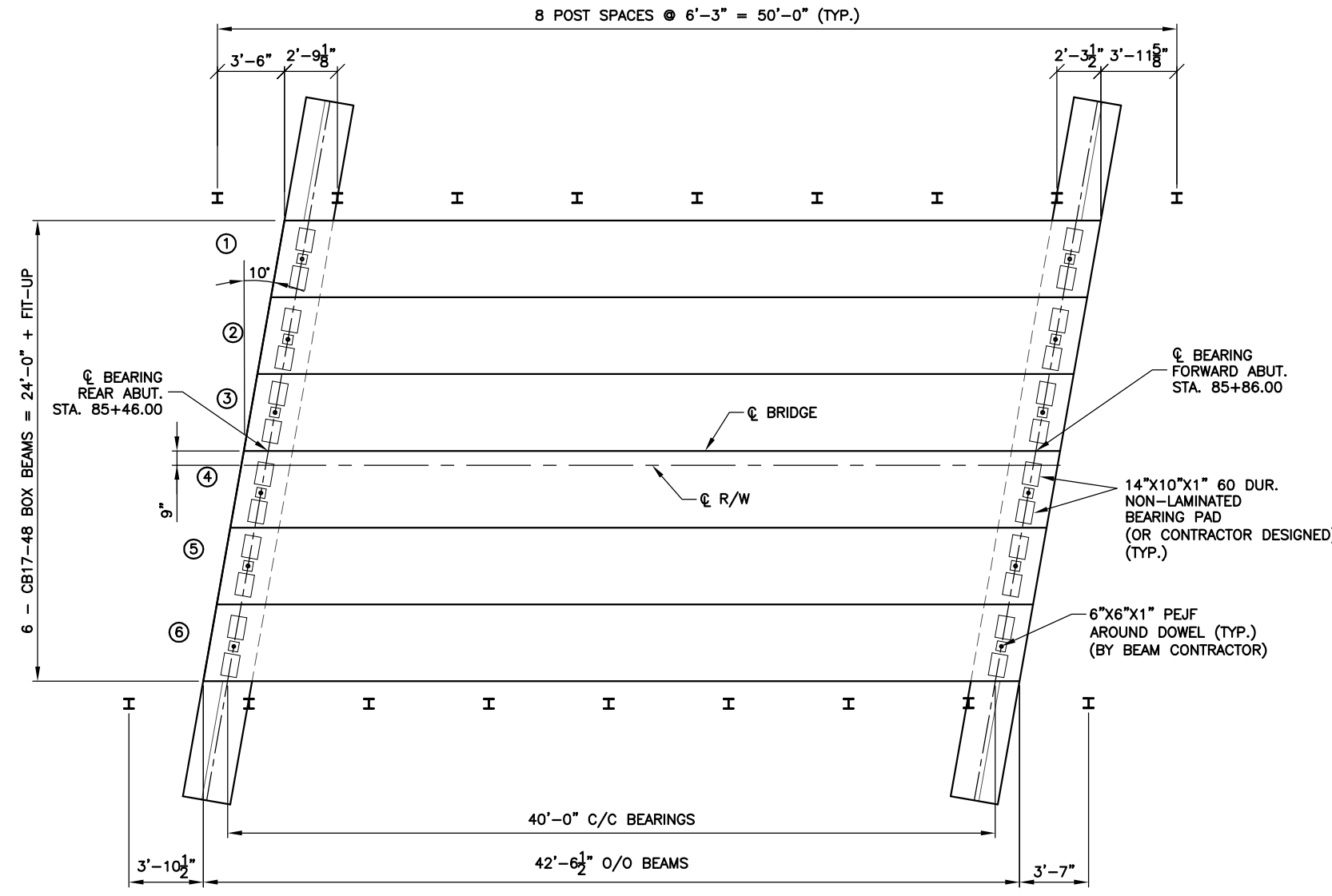
ELEVATION
LOOKING AT FRONT FACE
OF FRONT & REAR ABUTMENTS



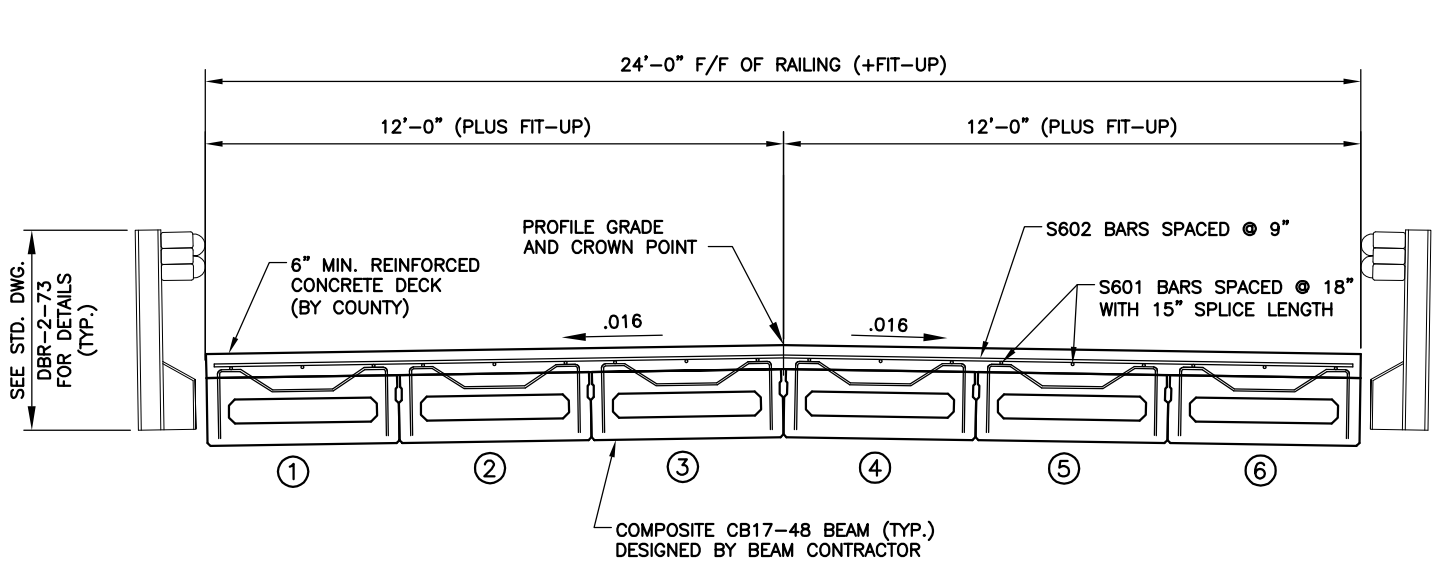
SECTION @ ABUTMENT



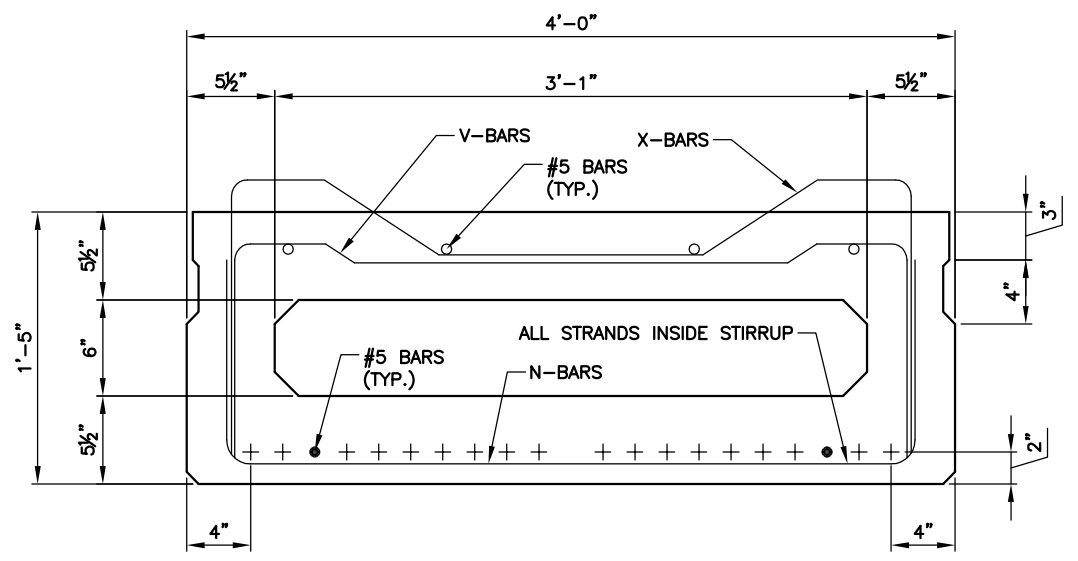
SECTION @ WINGWALL



DECK FRAMING PLAN



TRANSVERSE SECTION



CB17-48 BOX BEAM - 6 REQ'D
DESIGNED BY BEAM CONTRACTOR PER CURRENT PSBD-2-07

SUPERSTRUCTURE NOTES:

DESIGN LOADING: HL-93 AND 60 PSF FUTURE WEARING SURFACE. INCLUDE LOAD RATINGS FOR Ohio LEGAL TRUCKS (2F1, 3F1, 4F1 & 5C1); SPECIAL HAULING VEHICLES (SU4, SU5, SU6 & SU7); AND EMERGENCY VEHICLES (EV2 & EV3)

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

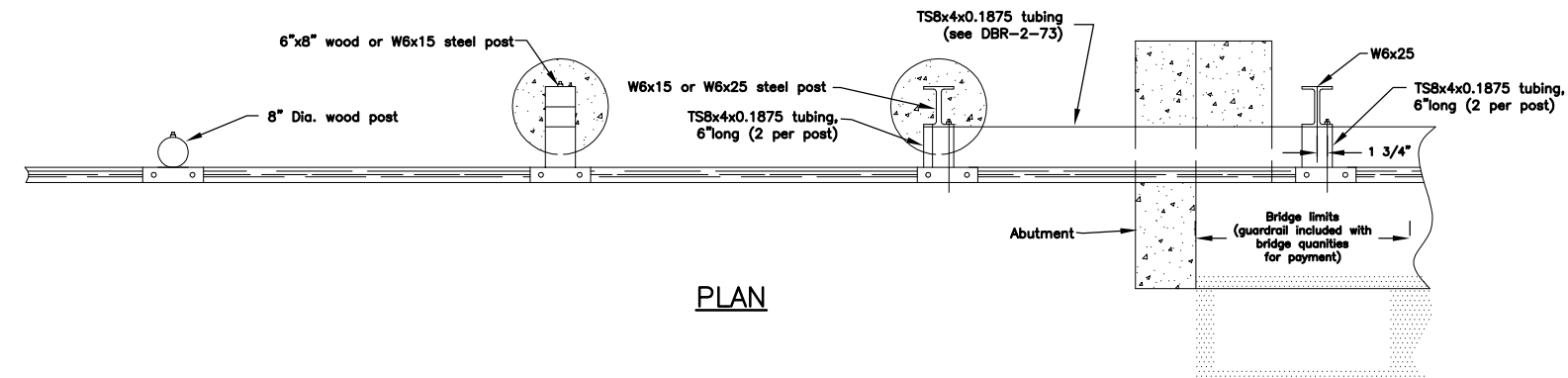
REINFORCING STEEL: GRADE 60 MIN. YIELD STRENGTH = 60 KSI

PRESTRESSING STEEL: ASTM A416 LOW RELAXATION STRANDS
1/2" DIAMETER
A_{ps} = 0.167 SQ. IN.
f_{pu} = 270 KSI
E_p = 28,500 KSI
INITIAL STRESS: 0.75 f_{pu} = 202.5 KSI
INITIAL TENSION LOAD: 33.82 KIPS/STRAND

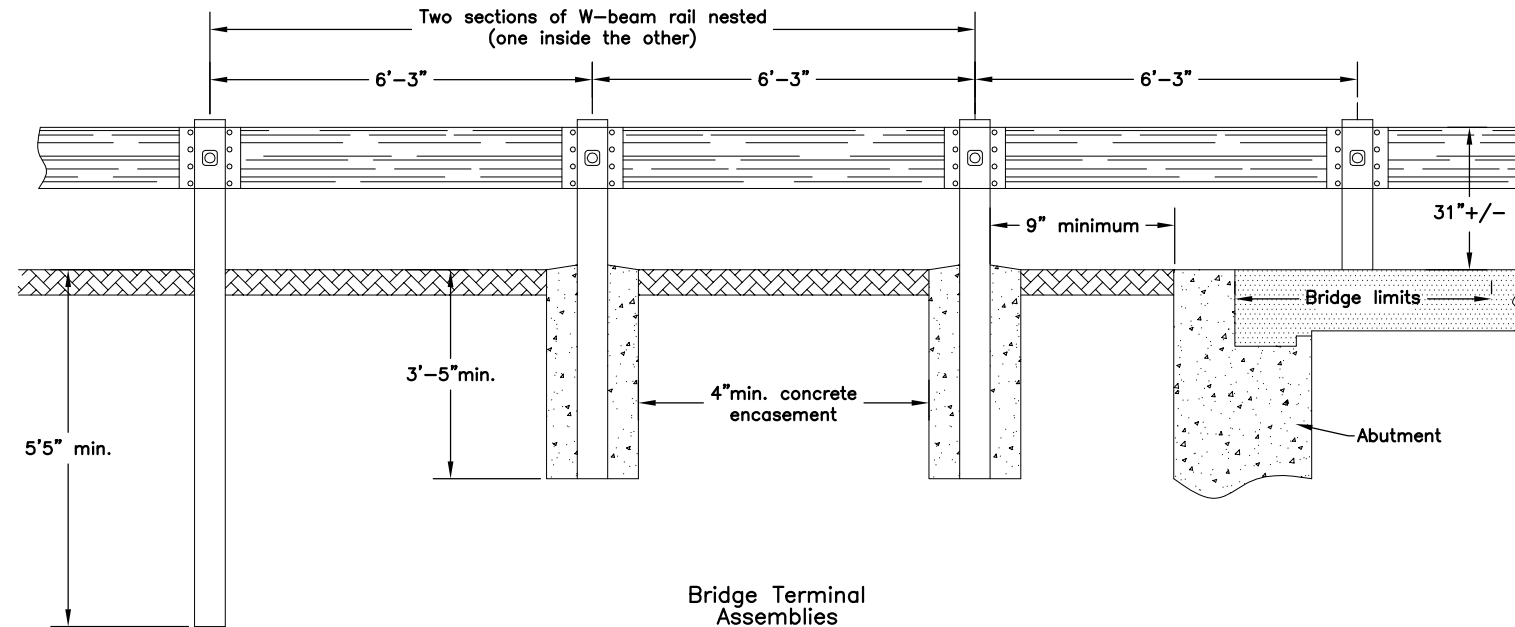
REFER TO STANDARD DRAWINGS (CURRENT REVISIONS) PSBD-2-07, DBR-2-73 FOR OTHER DETAILS NOT SHOWN

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



PLAN



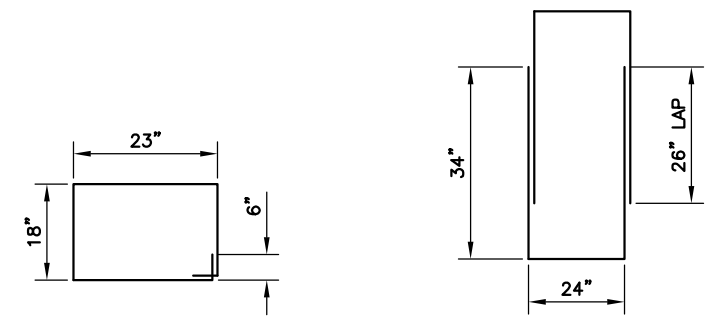
Bridge Terminal Assemblies TYPE UT

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	14	7'-10"	110	220	1.043	230
A503	28	15'-4"	430	860	1.043	897
STRAIGHT STEEL						
A501	4	33'-6"	134	268	1.043	280
A504	20	2'-6"	50	100	1.043	105
A505	12	4'-0"	48	96	1.043	101
A801	8	33'-6"	268	536	2.67	1432
S601*	34	22'-3"	757	757	1.502	1137
S602*	57	23'-10"	1359	1359	1.502	2041
TOTAL LENGTHS: #5 BENT: 1127 #5 SRT: 464 #8 SRT: 536 #6 SRT GALV: 2116						

* = 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.



A502
28 REQ'D

A503
2 HOOPS = 1 ASSEMBLY
56 ASSEMBLYS REQ'D
(112 HOOPS)

BAR BENDING DIAGRAMS