

PLAN

- BM#1 - STA. 16+06.08, 18.25' RT. LA FEVER ROAD  
ELEV. 822.226  
CUT "X" ON SW BOLT OF THE SOUTH ANCHOR PAD OF EAST GUARDRAIL
- BM#2 - STA. 25+68.59, 17.84' LT. LA FEVER ROAD  
ELEV. 811.185  
CUT "X" ON NW BOLT OF THE NORTH ANCHOR PAD OF WEST GUARDRAIL
- BM#3 - STA. 123+93.7, 79' LT. I.R. 90  
ELEV. 811.904  
CHISELED SQUARE CUT ON TOP OF NE CORNER OF NORTH CRASHWALL OF I.R.90 WESTBOUND LANES

**NOTES**

SEE CROSS SECTIONS FOR EARTHWORK LIMITS.

TRAFFIC DATA	
CURRENT ADT (2010)	= 400-1000
DESIGN YEAR ADT (2030)	= 400-1000
DESIGN YEAR ADTT (2030)	= 16-40
DIRECTIONAL DISTRIBUTION	= 51%

- LEGEND**
- - 16.45'± (W.B.) EXIST. MINIMUM VERTICAL CLEARANCE
  - - 17.17'± (E.B.) EXIST. MINIMUM VERTICAL CLEARANCE
  - Ⓣ - BRIDGE TERMINAL ASSEMBLY, TYPE 1 PER ODOT STD. GR-3.1
  - ▨ ITEM 660 - SODDING REINFORCED
  - △ "AS-BUILT" (10/2011)

**EXISTING STRUCTURE**

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.

SPANS: 48'-11 1/2"±, 81'-7 1/8"±, 81'-7 1/8"±, 48'-11 1/2"± C/C BRGS.

ROADWAY: 24'-0" F/F SAFETY CURB

LOADING: HS

SKEW: 2° 46' R.F.±

APPROACH SLABS: 25'-0" LONG

ALIGNMENT: TANGENT

STRUCTURAL FILE NUMBER:

DATE BUILT: 1958

**PROPOSED STRUCTURE**

PROPOSED WORK: NEW COMPOSITE CONCRETE DECK. MODIFY ABUTMENTS TO SEMI-INTEGRAL TYPE, MODIFY PIER CAPS FOR NEW ELASTOMERIC BEARINGS AND CONSTRUCT NEW APPROACH SLABS.

TYPE: CONTINUOUS STEEL BEAMS WITH NEW COMPOSITE REINFORCED CONCRETE DECK AND SUBSTRUCTURE.

SPANS: 48'-11 1/2"±, 81'-7 1/8"±, 81'-7 1/8"±, 48'-11 1/2"± C/C BRGS.

ROADWAY: 28'-0" TOE/TOE PARAPETS

LOADING: HS 20, ALTERNATE MILITARY & 60psf FWS (SUPERSTRUCTURE)  
HS-25 (DECK)

SKEW: 2° 46' R.F.±

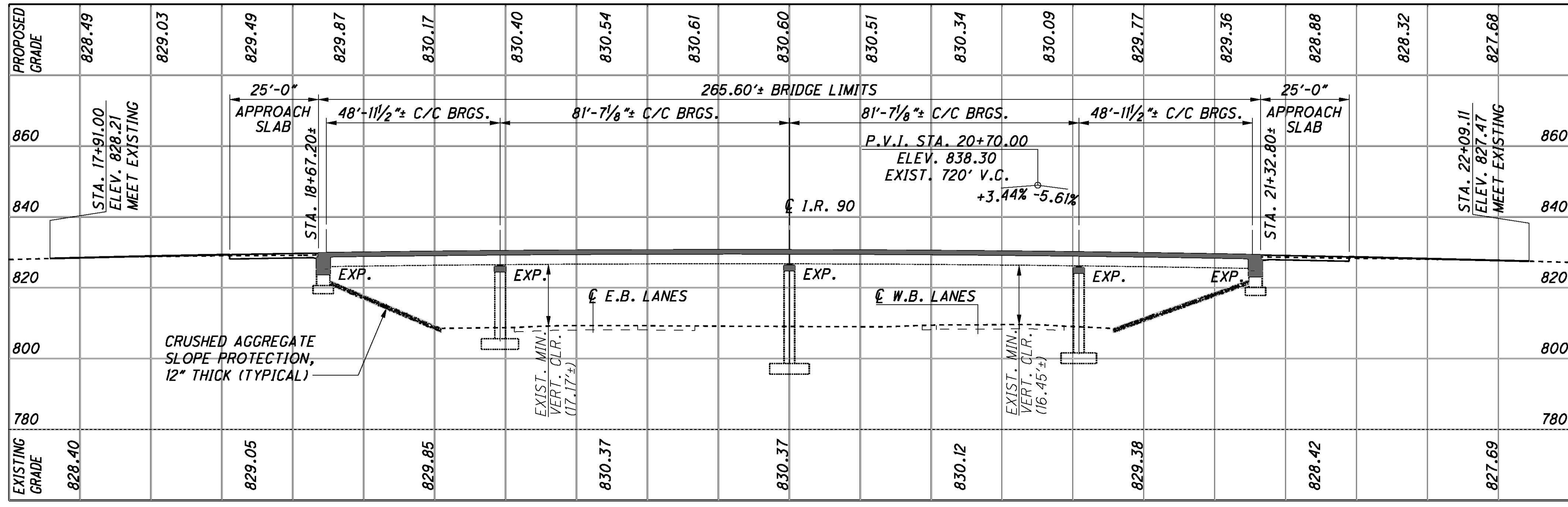
WEARING SURFACE: 1" MONOLITHIC CONCRETE

APPROACH SLABS: 25'-0" LONG (AS-1-81)

ALIGNMENT: TANGENT

CROWN: 0.0156 FT/FT.

LATITUDE: 41°46'08" N LONGITUDE: 80°57'31" W



PROFILE ALONG C CONSTRUCTION LA FEVER ROAD

DESIGN AGENCY: ARION CLEVELAND COLUMBUS  
 584 WHITE POND DRIVE  
 COLUMBUS, OH 43260-1000  
 URS

DATE: 3-30-11  
 REVISION: TAB  
 DRAWN: MAL  
 DESIGNED: DEB  
 CHECKED: TES

ASHTABULA COUNTY  
 STA. 18+67.20  
 STA. 21+32.80

SITE PLAN - LA FEVER RD.  
 BRIDGE NO. ATB-90-0233  
 UNDER LA FEVER RD.

ATB-90/45-(2.33)  
 (7.43) / 19.89  
 PID No. 86995

1/12  
 10/24

**STRUCTURE GENERAL NOTES**

**STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS**

**REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:**

AS-1-81 REVISED 7-19-02  
 SBR-1-99 REVISED 7-19-02  
 SICD 1-96 REVISED 7-19-02  
 VPF-1-90 REVISED 7-19-02

**AND TO SUPPLEMENTAL SPECIFICATIONS:**  
 832 DATED 5-5-09

**DESIGN SPECIFICATIONS:**

THIS STRUCTURE CONFORMS TO LRFD BRIDGE DESIGN SPECIFICATIONS FOR HIGHWAY BRIDGES ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 4TH EDITION, 2007 INCLUDING THE 2008 AND 2009 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

**DESIGN LOADING:**

HS-25 (DECK)  
 FUTURE WEARING SURFACE (FWS) OF 0.06 KIPS/SQ. FT.  
 HS-20 AND ALTERNATE MILITARY LOADING (EXISTING SUPERSTRUCTURE)  
 H-15 (EXISTING SUBSTRUCTURES)

**DESIGN DATA:**

CONCRETE CLASS HP - COMPRESSIVE STRENGTH 4.5 KSI (NEW SUPERSTRUCTURE)  
 CONCRETE CLASS 'C' - COMPRESSIVE STRENGTH 4.0 KSI (NEW SUBSTRUCTURE)  
 REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

**DECK PROTECTION METHOD:**

EPOXY COATED REINFORCING STEEL  
 1/2" CONCRETE COVER

**MONOLITHIC WEARING SURFACE:**

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1" THICK.

**ITEM 202 PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.**

**DESCRIPTION:**

THIS WORK SHALL CONSIST OF THE REMOVAL OF CONCRETE DECKS INCLUDING SAFETY CURBS, PARAPETS, RAILINGS, DECK JOINTS, BEARINGS, FENCE, SCUPPERS AND OTHER APPURTENANCES, ABUTMENT BACK WALLS, PORTIONS OF THE ABUTMENT BREAST WALL, AND POROUS BACKFILL, AS SHOWN ON THE PLANS. CARE SHALL BE TAKEN DURING REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. IN THIS RESPECT THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED.

**PROTECTION OF TRAFFIC:**

PRIOR TO ANY DEMOLITION OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC IN ACCORDANCE WITH CMS 501.05.

**REMOVAL METHODS:**

CONCRETE MAY BE REMOVED BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS.

**CUT LINE CONSTRUCTION JOINT PREPARATION:**

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO ROUGH SURFACE. THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, SHALL BE LEFT IN-PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THE JOINT SURFACE AND EXPOSED REINFORCEMENT SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH BUT ALL PACK AND LOOSE RUST SHALL BE REMOVED. EXISTING CONCRETE SURFACES WHICH NEW CONCRETE WILL BE PLACED AGAINST SHALL BE WET, BUT WITHOUT FREE WATER AT THE TIME OF CONCRETE PLACEMENT.

**SUBSTRUCTURE CONCRETE REMOVAL:**

THIS WORK SHALL BE DONE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMITS HAMMERS NOT EXCEEDING 90 POUNDS MAY BE USED UPON THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

**ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN:**

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503, EXCEPT THE REQUIRED BACKFILL MATERIAL BEYOND THE LIMITS OF THE SELECT GRANULAR EMBANKMENT MATERIAL BEHIND THE ABUTMENTS SHALL BE 203 MATERIAL PLACED IN 6" LIFTS.

**EXISTING STRUCTURE VERIFICATION:**

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE.

ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

**ITEM 516 SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL, AS PER PLAN:**

INSTALL A 3 FOOT WIDE NEOPRENE SHEET AT LOCATIONS SHOWN IN THE PLANS. SECURE THE NEOPRENE SHEETING TO THE CONCRETE WITH 1/4" x #10 GAGE (LENGTH x SHANK DIAMETER) GALVANIZED BUTTON HEAD SPIKES THROUGH A 1 INCH OUTSIDE DIAMETER, #10 GAGE GALVANIZED WASHER. MAXIMUM FASTENER SPACING IS 9 INCHES. USE OF OTHER SIMILAR GALVANIZED DEVICES, WHICH WILL NOT DAMAGE EITHER THE NEOPRENE OF THE CONCRETE, WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

CENTER THE NEOPRENE STRIPS ON ALL JOINTS. FOR HORIZONTAL JOINTS, SECURE THE HORIZONTAL NEOPRENE STRIP BY USING A SINGLE LINE OF FASTENERS, STARTING AT 6 INCHES, +/-, FROM THE TOP OF THE NEOPRENE STRIP. FOR THE VERTICAL JOINTS SECURE THE VERTICAL NEOPRENE STRIP BY USING A SINGLE VERTICAL LINE OF FASTENERS, STARTING AT 6 INCHES, +/-, FROM THE VERTICAL EDGE OF THE NEOPRENE STRIP NEAREST TO THE CENTERLINE OF ROADWAY. FOR VERTICAL JOINTS, INSTALL 2 ADDITIONAL FASTENERS AT 6 INCHES, CENTER TO CENTER, ACROSS THE TOP OF THE NEOPRENE STRIP ON THE SAME SIDE OF THE VERTICAL JOINT AS THE SINGLE VERTICAL ROW OF FASTENERS IS LOCATED.

THE VERTICAL NEOPRENE STRIPS SHALL COMPLETELY OVERLAP THE HORIZONTAL STRIPS. LAP LENGTHS OF THE HORIZONTAL STRIPS THAT ARE NOT VULCANIZED OR ADHESIVE BONDED, SHALL BE AT LEAST 1 FOOT IN LENGTH, OR 6 INCHES IN LENGTH IF THE LAP IS VULCANIZED OR ADHESIVE BONDED. NO LAPS ARE ACCEPTABLE IN VERTICALLY INSTALLED NEOPRENE STRIPS.

THE NEOPRENE SHEETING SHALL BE 3/8" THICK GENERAL PURPOSE, HEAVY-DUTY NEOPRENE SHEET WITH NYLON FABRIC REINFORCEMENT. THE SHEETING SHALL BE "FAIRPRENE NUMBER NN-0003", BY E.I. DUPONT DE NEMOURS AND COMPANY, INC., "WINGPRENE" BY THE GOODYEAR TIRE AND RUBBER COMPANY, OR AN APPROVED ALTERNATE. THE NEOPRENE SHEETING SHALL CONFORM TO THE FOLLOWING:

DESCRIPTION OF TEST	ASTM	REQUIREMENT
THICKNESS, INCHES	D751	0.094 ± 0.01
BREAKING STRENGTH, GRAB, LBS MINIMUM	D751	700 x 700 (LONG. X TRANS)
ADHESIVE STRIP, 1" WIDE x 2" LONG, LBS, MINIMUM	D751	9
BURST STRENGTH, PSI, MINIMUM	D751	1400
HEAT AGING, 70 HR, 212 °F, 180° BEND WITHOUT CRACKING	D2136	NO CRACKING OF COATING
LOW TEMP. BRITTLINESS, 1 HR, 40°F, BEND AROUND 1/4" MANDREL	D2136	NO CRACKING OF COATING

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE TOTAL LENGTH OF JOINT TO BE SEALED BY THE NUMBER OF FEET.

**UTILITY LINES:**

SEE GENERAL NOTES, SHEET  $\frac{3}{23}$  FOR THE LIST OF UTILITIES IN THE PROJECT AREA.

**ITEM 511 - CLASS HP CONCRETE, AS PER PLAN:**

THE PROVISIONS OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW.

**MIX OPTIONS:**

ALL SUPERSTRUCTURE, BRIDGE DECK, SIDEWALK, APPROACH SLABS AND PARAPET CONCRETE SHALL BE THIS MIX (HP4, AS PER PLAN). THE FOLLOWING PROPORTIONS WILL BE USED AS A STARTING MIX DESIGN.

AGG TYPE	CONCRETE TABLE QUANTITIES PER CUBIC YARD AGGREGATES (SSD)				CEMENT CONTENT (LB)	GGBF SLAG (LB)	MICRO SILICA (LB)	MAX WATER TO CEMENTITIOUS RATIO	AIR CONTENT, +/-2%
	#8 FINE AGG (LB)	#57 COURSE AGG (LB)	TOTAL (LB)	AGG (LB)					
GRAVEL	1370	650	790	2810	440	190	30	0.42	6
LIMESTONE	1370	655	800	2820	440	190	30	0.42	6
SLAG	1370	570	695	2635	440	190	30	0.42	6

\*ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127

**BASIS OF PAYMENT:**

PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

- ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN, CU YD
- ITEM 511 - CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN, CU YD

**ITEM 526 - REINFORCED CONCRETE APPROACH SLABS, AS PER PLAN:**

THE PROVISIONS OF CMS 526 SHALL APPLY EXCEPT AS NOTED BELOW.

CLASS HP CONCRETE, MIX 4, AS PER PLAN, SHALL BE THE ONLY MIX DESIGN OPTION. THE PROPORTIONS FOR THE STARTING MIX DESIGN SHALL BE AS SHOWN FOR ITEM 511 - CLASS HP CONCRETE, AS PER PLAN.

**STRUCTURE IDENTIFICATION SIGNS:**

STRUCTURE IDENTIFICATION SIGNS (I-H25a) WILL BE PLACED ON EACH APPROACH OFF THE RIGHT SHOULDER, FACING TRAFFIC, AND BEHIND THE GUARDRAIL IF APPLICABLE. A QUANTITY OF ONE SIGN PER APPROACH WILL BE INSTALLED. THE SIGNS WILL HAVE A NON-REFLECTIVE WHITE SHEETING BACKGROUND.

THE SIGNS WILL BE MOUNTED ON NEW NO. 2 POSTS AND WILL BE INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-41.20, MOST CURRENT REVISION. EACH POST WILL BE 7.5' IN LENGTH.

INSTALL SIGNS FOR THE FOLLOWING STRUCTURES:  
 BRIDGE NO. ATB-90-0233

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR EACH APPROACH:

- ITEM 630 - SIGN, FLAT SHEET, 730.20, 1 SQ FT
- ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST, 7.5 FT
- ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL, 1 EACH
- ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, 1 EACH

**REPAIR OF EXISTING CONCRETE SUBSTRUCTURES:**

THIS WORK SHALL CONSIST OF THE SOUNDING AND MARKING OF DETERIORATED CONCRETE AREAS AT THE EXISTING ABUTMENTS AND PIERS, BY THE CONTRACTOR, TO BE CONFIRMED BY THE ENGINEER IN CHARGE. THE CONTRACTOR WILL PERFORM THE SOUNDING WITH HAMMERS AND REMOVE SPALLS, DELAMINATIONS AND LOOSE CONCRETE AT THE ABUTMENTS AND PIERS. SPALLS FORMING ARE EVIDENCED BY A VISUAL EDGE. DELAMINATIONS THAT DO NOT HAVE A VISIBLE EDGE WILL BE CONFIRMED AND OUTLINED BY THE ENGINEER IN CHARGE. ALL APPROVED DELINEATED AREAS SHALL BE REPAIRED IN ACCORDANCE WITH ITEM 519 - PATCHING CONCRETE SURFACES.

**VERTICAL CLEARANCE:**

BEFORE BEGINNING CONSTRUCTION AND AFTER ALL CONSTRUCTION HAS BEEN COMPLETED, A REGISTERED SURVEYOR WILL TAKE VERTICAL CLEARANCE MEASUREMENTS AT THE LOCATIONS INDICATED ON THE APPROVED ODOT FORM (AVAILABLE IN THE DISTRICT 4 STRUCTURES AND PAVEMENT OFFICE). THE FINAL MEASUREMENTS SHALL BE RECORDED ON THE FORM AND SUBMITTED TO THE PROJECT ENGINEER AND THE DISTRICT 4 STRUCTURES AND PAVEMENT ENGINEER. THE RECORD SHALL BEAR THE SEAL OF THE LICENSED SURVEYOR WHO HAS TAKEN THE MEASUREMENTS.

**DECK PLACEMENT DESIGN ASSUMPTIONS:**

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 1.4 KIPS FOR A TOTAL MACHINE LOAD OF 11.2 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48".

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

**INSPECTION OF EXISTING STRUCTURAL STEEL:**

THE ENGINEER WILL VISUALLY INSPECT ALL EXISTING BUTT-WELDED SPLICES AND/OR TOP FLANGE COVER PLATE FILLET WELDS TO ENSURE THE WELDS, PLATES AND BEAMS OR GIRDERS ARE FREE OF DEFECTS AND CRACKS. IF NECESSARY, REMOVE ALL DECK SLAB HAUNCH FORMS IMMEDIATELY ADJACENT TO SUCH WELDS THAT MAY INTERFERE WITH THE ENGINEERS INSPECTION. THE INSPECTION WILL NOT TAKE PLACE UNTIL THE TOP FLANGES ARE CLEANED ACCORDING TO 511.10, BUT IT WILL BE DONE BEFORE THE DECK SLAB REINFORCEMENT IS INSTALLED. THE DEPARTMENT WILL PAY FOR THE COST ASSOCIATED WITH THIS INSPECTION WITH ITEM 511, SUPERSTRUCTURE CONCRETE. THE ENGINEER WILL REPORT ALL CRACKS FOUND TO THE OFFICE OF CONSTRUCTION ADMINISTRATION, BRIDGE CONSTRUCTION SPECIALIST, ALONG WITH SPECIFIC INFORMATION ON LOCATION OF THE CRACKS, LENGTH, AND DEPTH SO AN EVALUATION AND REPAIR OR REPLACEMENT RECOMMENDATION CAN BE MADE.

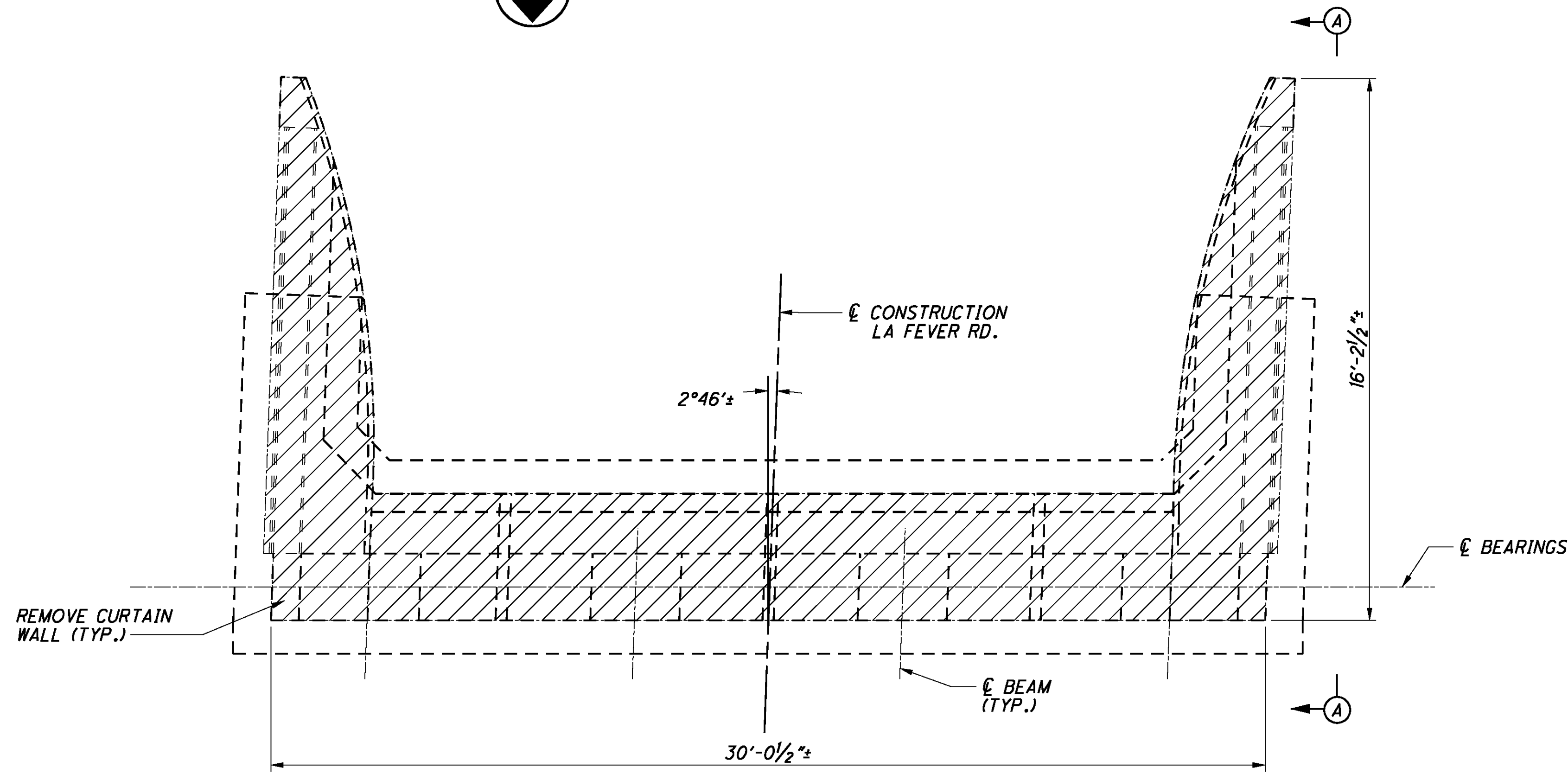
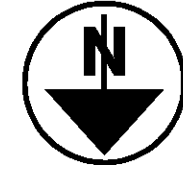
**ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN:**

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

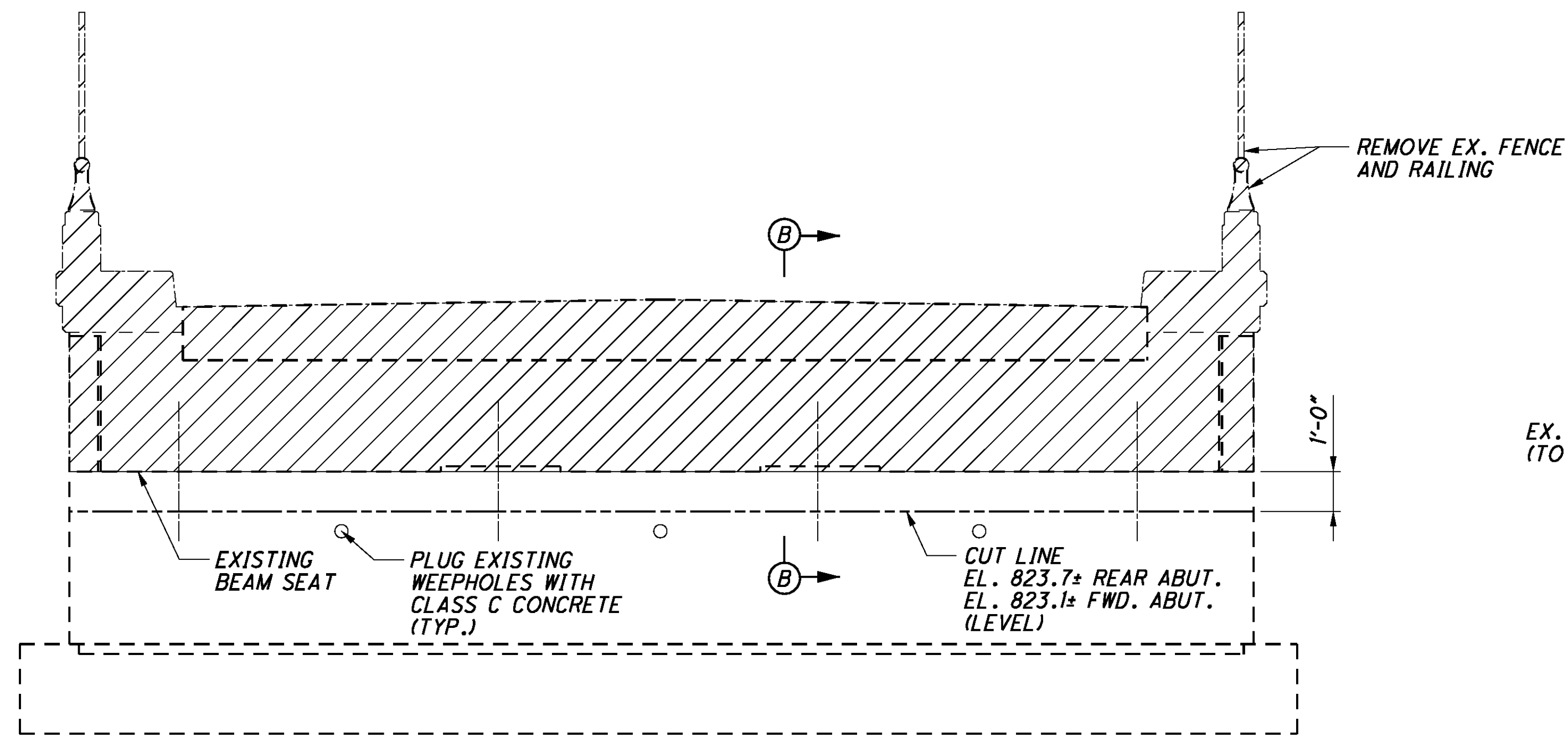
**ABBREVIATIONS:**

- BOTT. = BOTTOM
- BRG. = BEARING
- E.F. = EACH FACE
- EL. = ELEVATION
- SPA. = SPACE(S)
- TYP. = TYPICAL

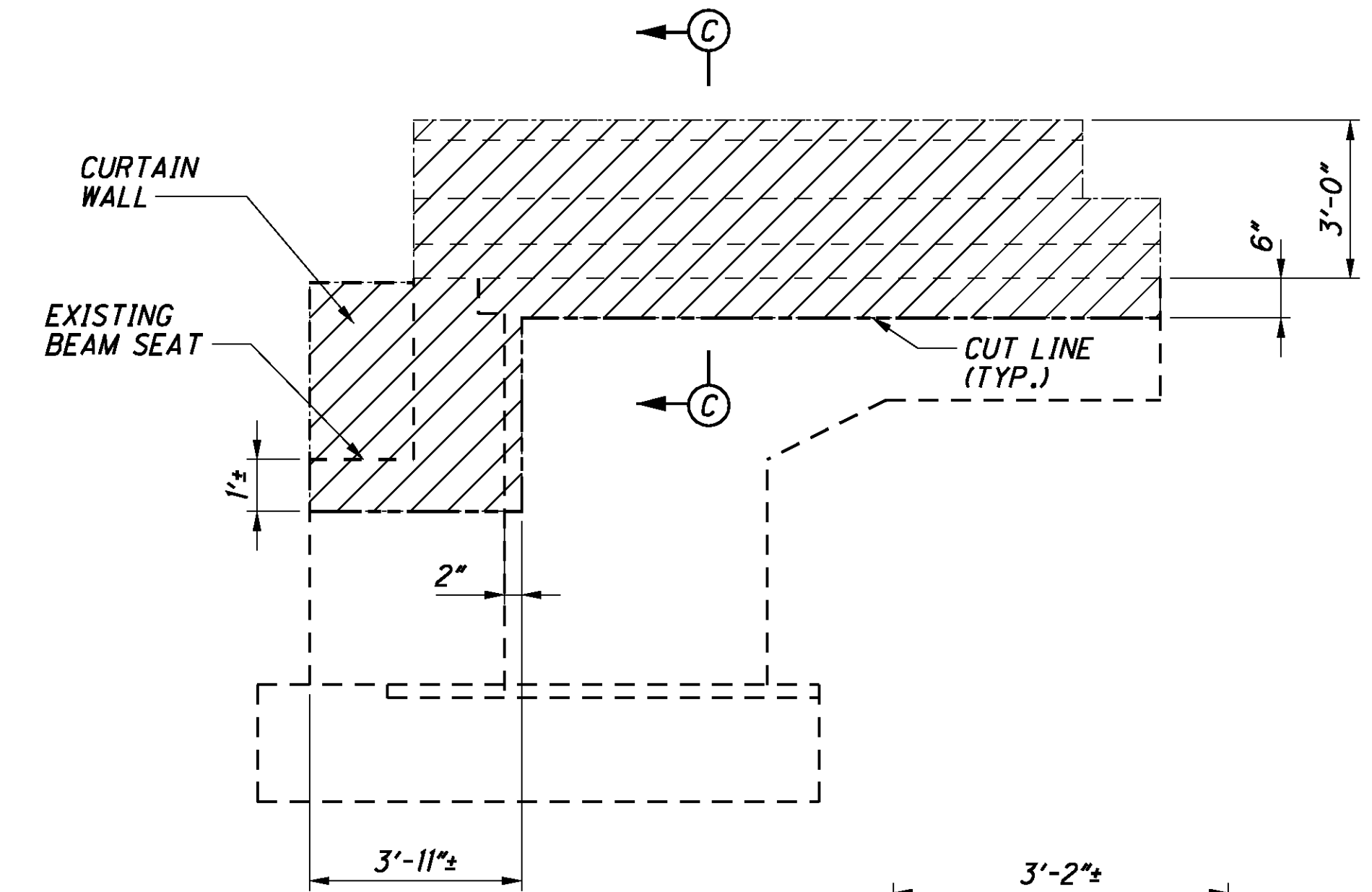
DESIGN AGENCY: **URS** ARON CLEVELAND COLUMBUS  
 FOR THE PROJECT: **ATB-90/45-(2.33)**  
 DATE: 3-30-11  
 REVISED: TAB  
 DRAWN: CMA  
 DESIGNED: MRW  
 CHECKED: TES  
 STRUCTURE FILE NUMBER: 0403636  
**STRUCTURE GENERAL NOTES - LA FEVER RD.**  
 BRIDGE NO. ATB-90-0233  
 UNDER LA FEVER RD.  
**ATB-90/45-(2.33)**  
**(7.43) / 19.89**  
 PID No. 86995  
 2 / 12  
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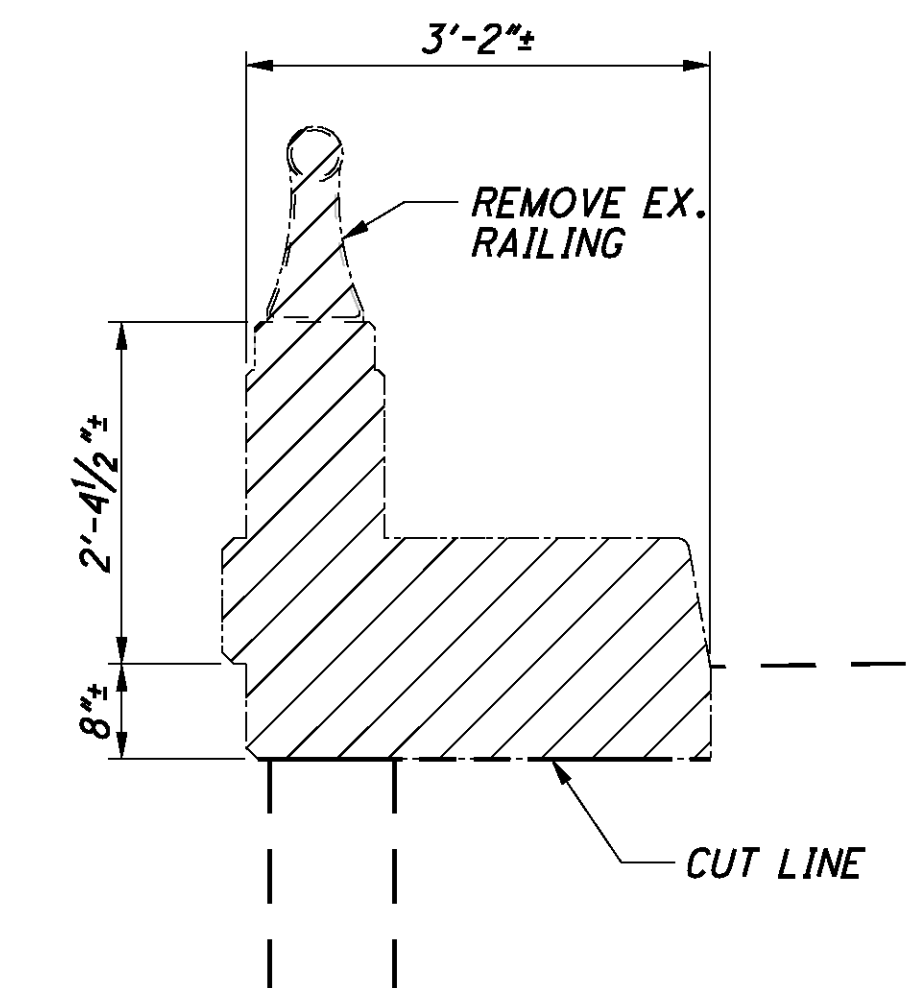
PLAN  
REAR ABUTMENT SHOWN,  
FORWARD ABUTMENT SIMILAR



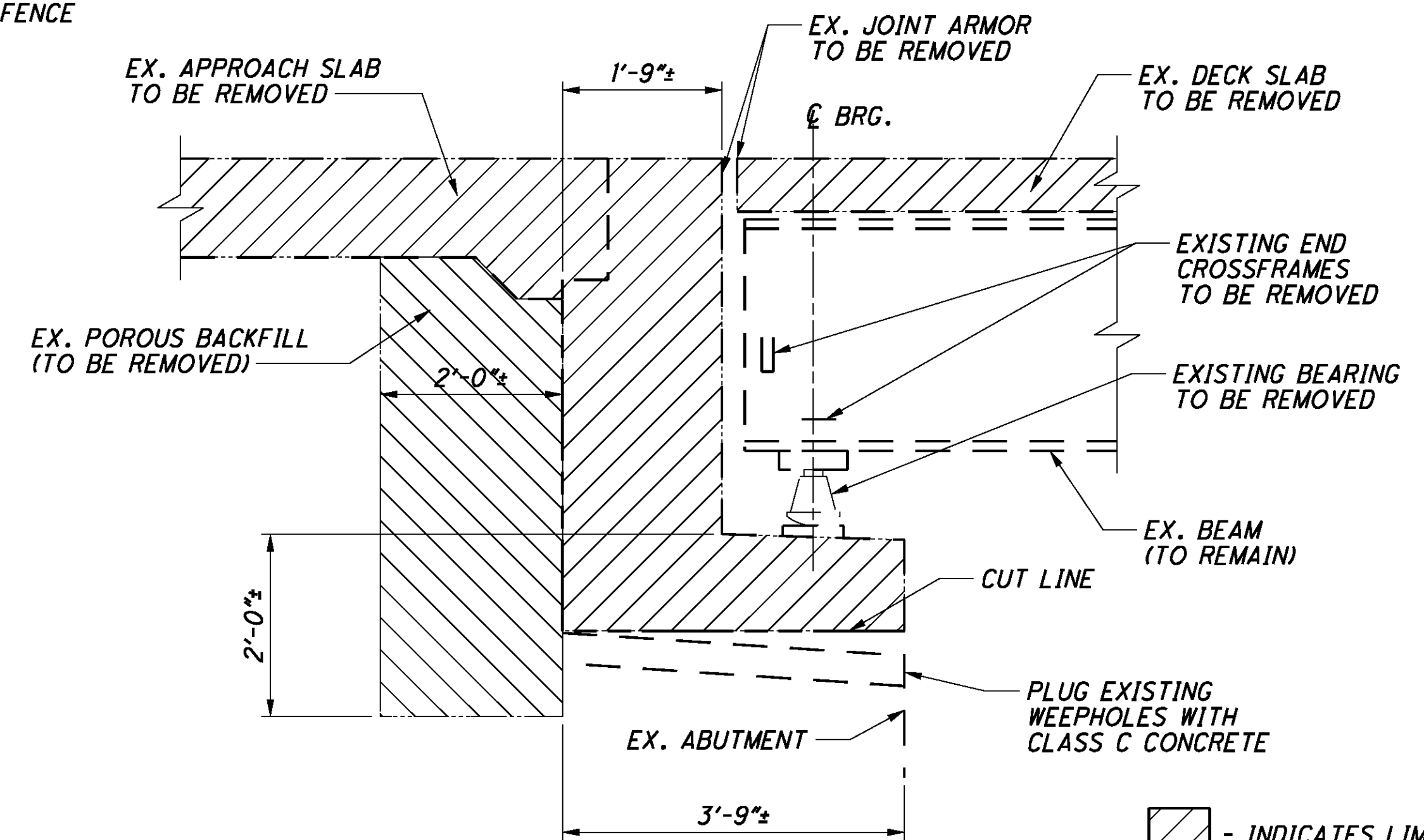
ELEVATION



VIEW A-A  
TYPICAL WINGWALL  
REMOVAL LIMITS

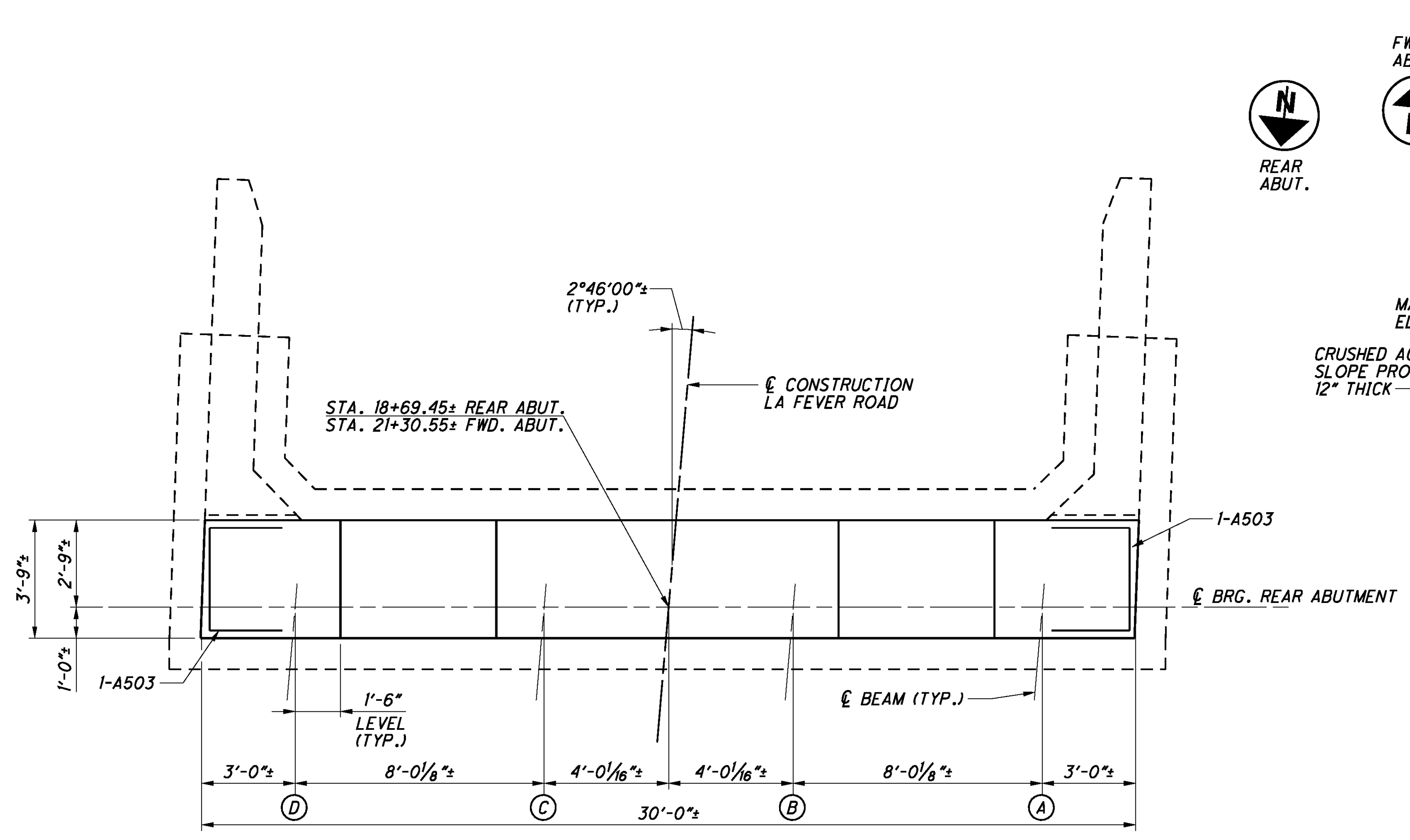


SECTION C-C

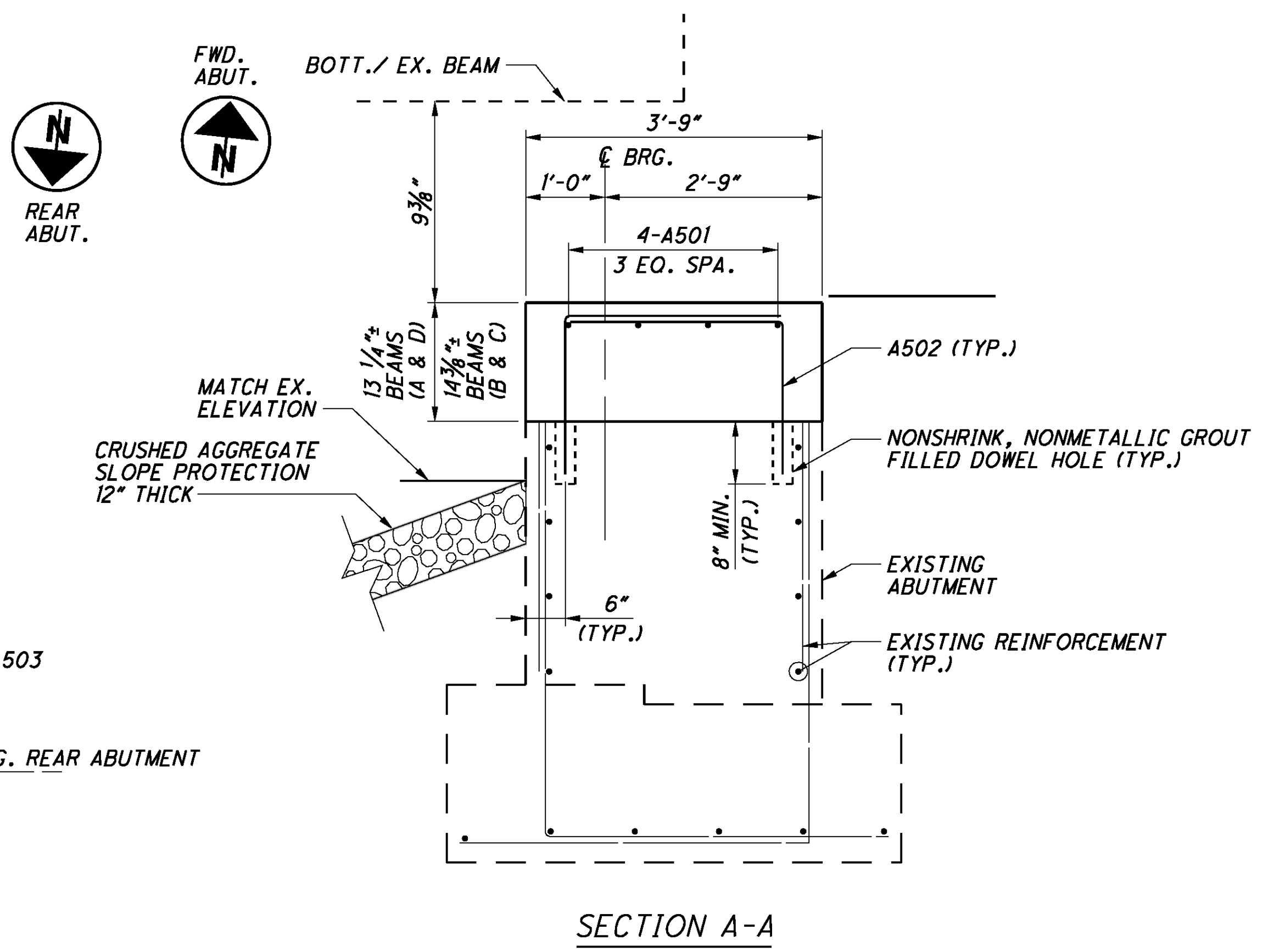


SECTION B-B

- INDICATES LIMITS OF REMOVAL



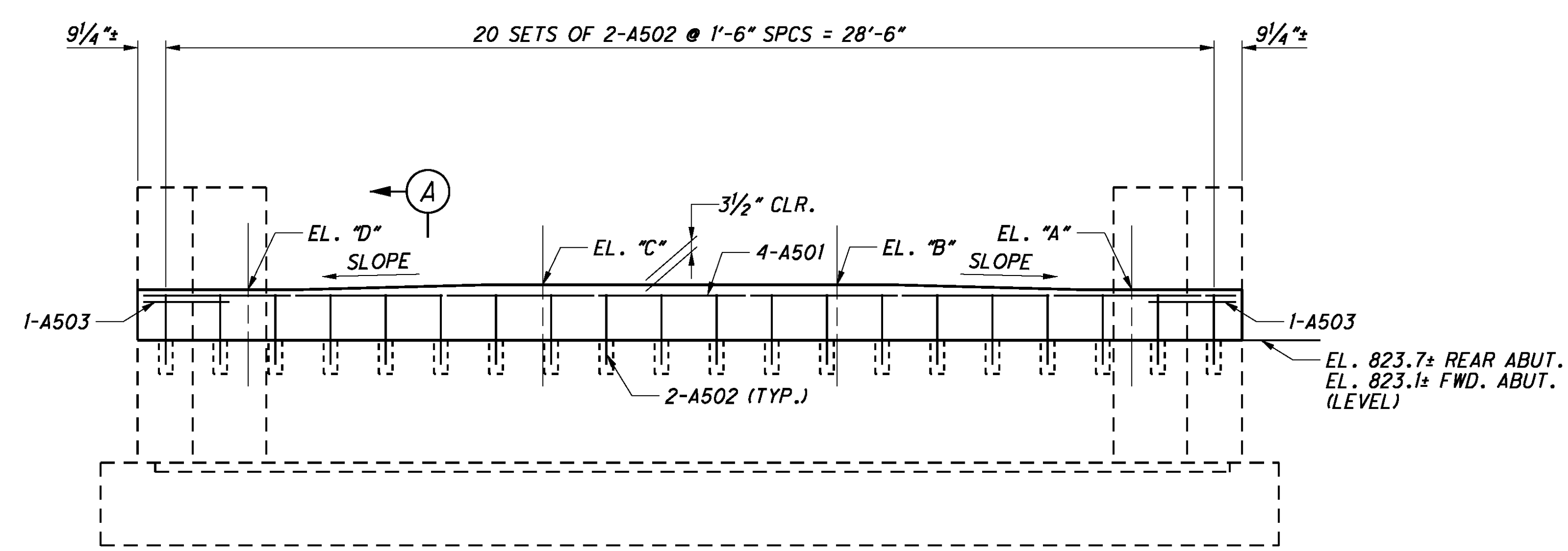
**PLAN**  
 REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR  
 (EXISTING REINFORCEMENT NOT SHOWN)



**SECTION A-A**

*BEAM SEAT ELEVATIONS				
LOCATION	PROPOSED BEAM SEAT			
	EL. "A"	EL. "B"	EL. "C"	EL. "D"
REAR ABUT.	824.7±	824.9±	824.9±	824.8±
FWD. ABUT.	824.2±	824.3±	824.3±	824.2±

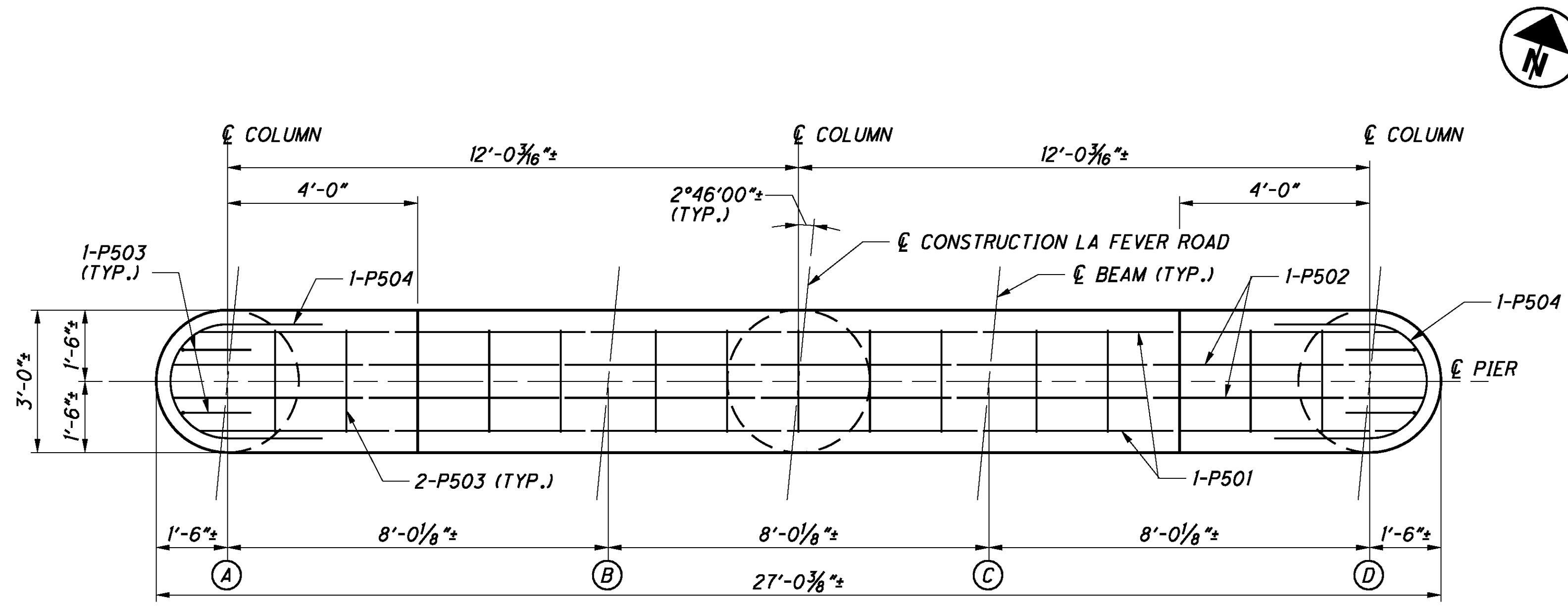
\* - BEAM SEAT ELEVATIONS ARE BASED ON BOTTOM OF EXISTING BEAM SHOTS.



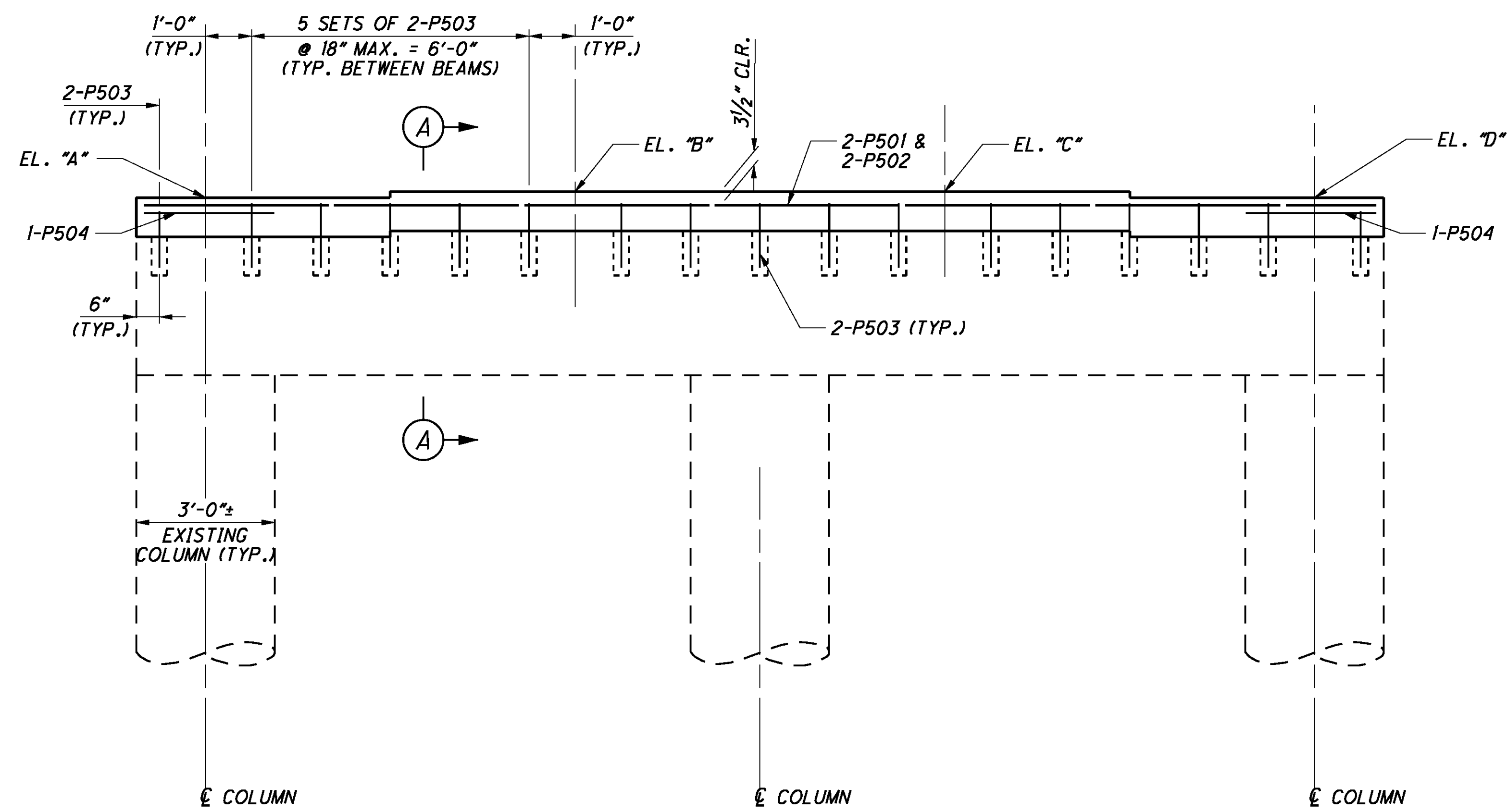
**ELEVATION**  
 REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR  
 (EXISTING REINFORCEMENT NOT SHOWN)

**NOTES:**

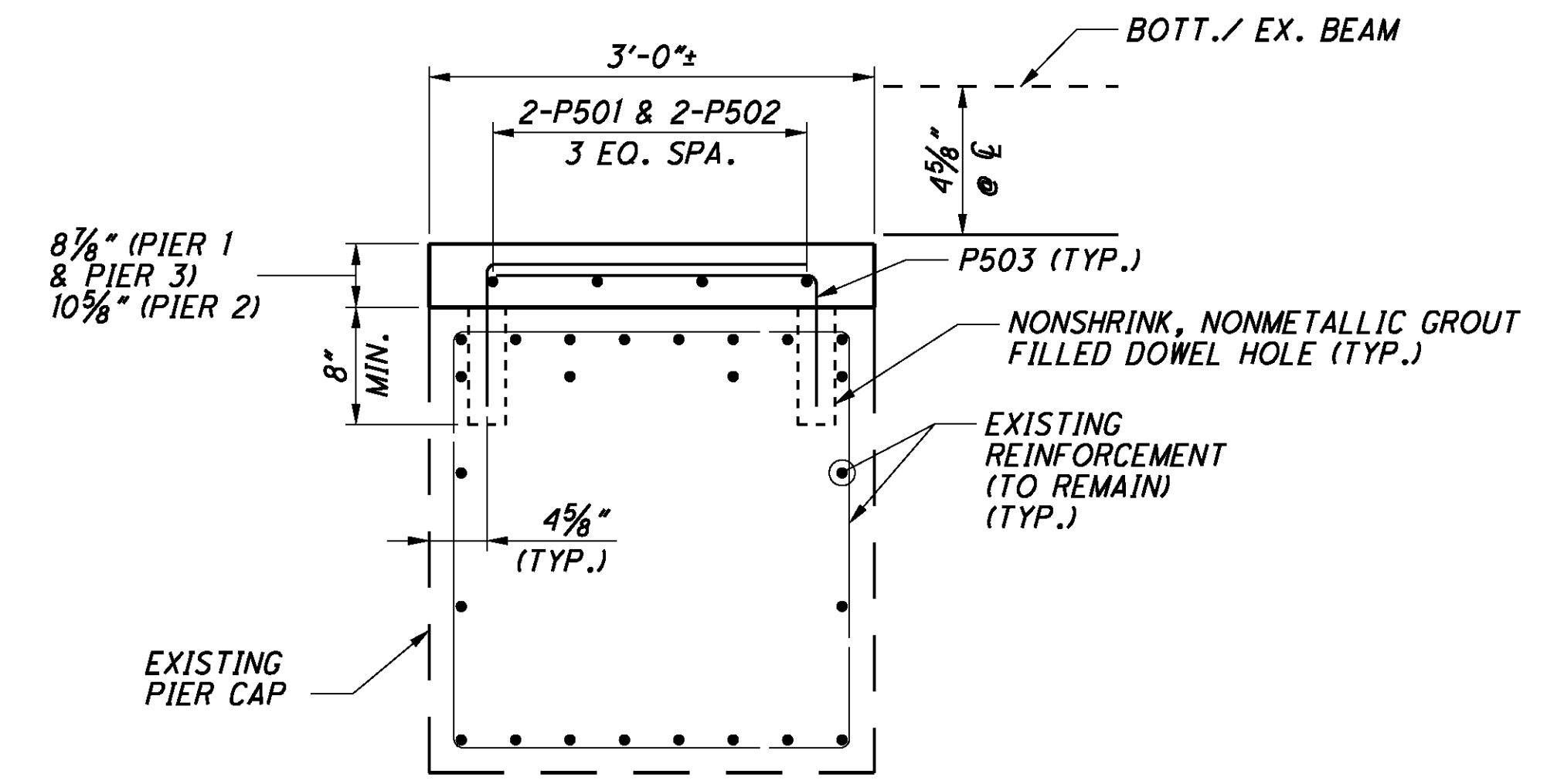
- ALL REINFORCING BAR CLEARANCES SHALL BE 2" MINIMUM UNLESS NOTED OTHERWISE.
- FOR SEMI-INTEGRAL END DIAPHRAGM DETAILS, SEE SHEET 9/11.
- FOR BEARING DETAILS, SEE SHEET 7/11.
- FOR STRUCTURE GENERAL NOTES, SEE SHEET 2/11.
- FOR REINFORCING SCHEDULE, SEE SHEET 11/11.
- DRILL DOWEL HOLES WHERE SHOWN IN THE PLANS. INSTALL REINFORCING STEEL ACCORDING TO ITEM 510 USING EPOXY GROUT, 705.20. PRIOR TO DRILLING DOWEL HOLES, LOCATE ALL EXISTING REINFORCING STEEL BARS IN THE AREA OF THE HOLE WITH THE AID OF A REINFORCING STEEL BAR LOCATOR (PACHOMETER). IF AN EXISTING BAR IS ENCOUNTERED AT THE SAME LOCATION AS A PROPOSED DOWEL HOLE, MOVE THE DOWEL HOLE TO EITHER SIDE OF THE EXISTING BAR.



**PLAN**  
PIER NOS. 1, 2, & 3  
(EXISTING REINFORCEMENT AND FOOTINGS NOT SHOWN)



**ELEVATION**  
PIER NOS. 1, 2, & 3  
(EXISTING REINFORCEMENT AND FOOTINGS NOT SHOWN)



**SECTION A-A**

*BEAM SEAT ELEVATIONS				
PIER NO.	PROPOSED BEAM SEAT			
	EL. "A"	EL. "B"	EL. "C"	EL. "D"
1	825.9±	826.0±	826.0±	825.9±
2	826.1±	826.2±	826.2±	826.1±
3	825.5±	825.6±	825.6±	825.5±

\* - BEAM SEAT ELEVATIONS ARE BASED ON BOTTOM OF EXISTING BEAM SHOTS.

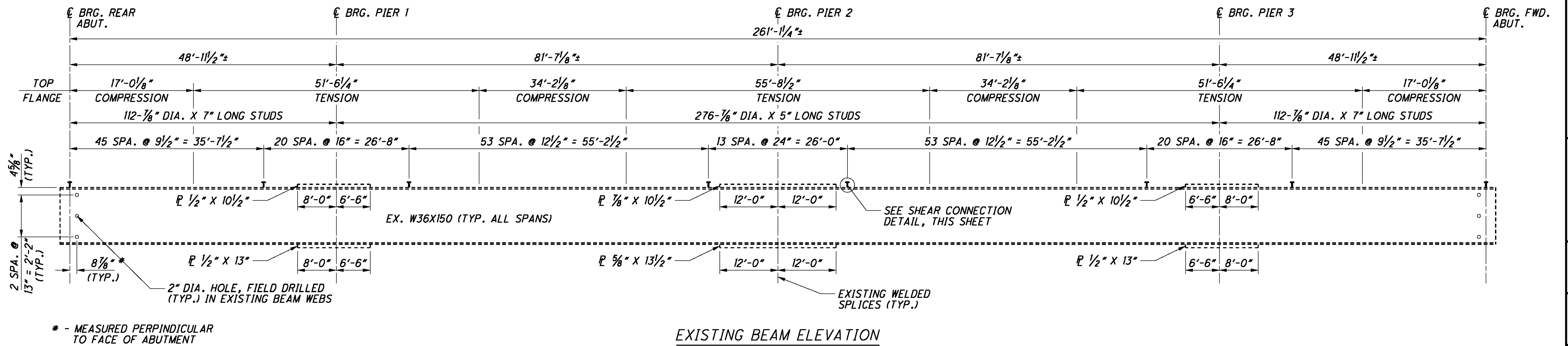
**NOTES:**

- ALL EXPOSED SURFACES OF THE PIERS EXCEPT THE TOP OF THE PIER CAP SHALL BE SEALED WITH ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY - URETHANE).
- ALL REINFORCING BAR CLEARANCES SHALL BE 2" MINIMUM UNLESS NOTED OTHERWISE.
- FOR STRUCTURE GENERAL NOTES, SEE SHEET 2/11.
- FOR REINFORCING SCHEDULE, SEE SHEET 11/11.
- DRILL DOWEL HOLES WHERE SHOWN IN THE PLANS. INSTALL REINFORCING STEEL ACCORDING TO ITEM 510 USING EPOXY GROUT, 705.20. PRIOR TO DRILLING DOWEL HOLES, LOCATE ALL EXISTING REINFORCING STEEL BARS IN THE AREA OF THE HOLE WITH THE AID OF A REINFORCING STEEL BAR LOCATOR (PACHOMETER). IF AN EXISTING BAR IS ENCOUNTERED AT THE SAME LOCATION AS A PROPOSED DOWEL HOLE, MOVE THE DOWEL HOLE TO EITHER SIDE OF THE EXISTING BAR.

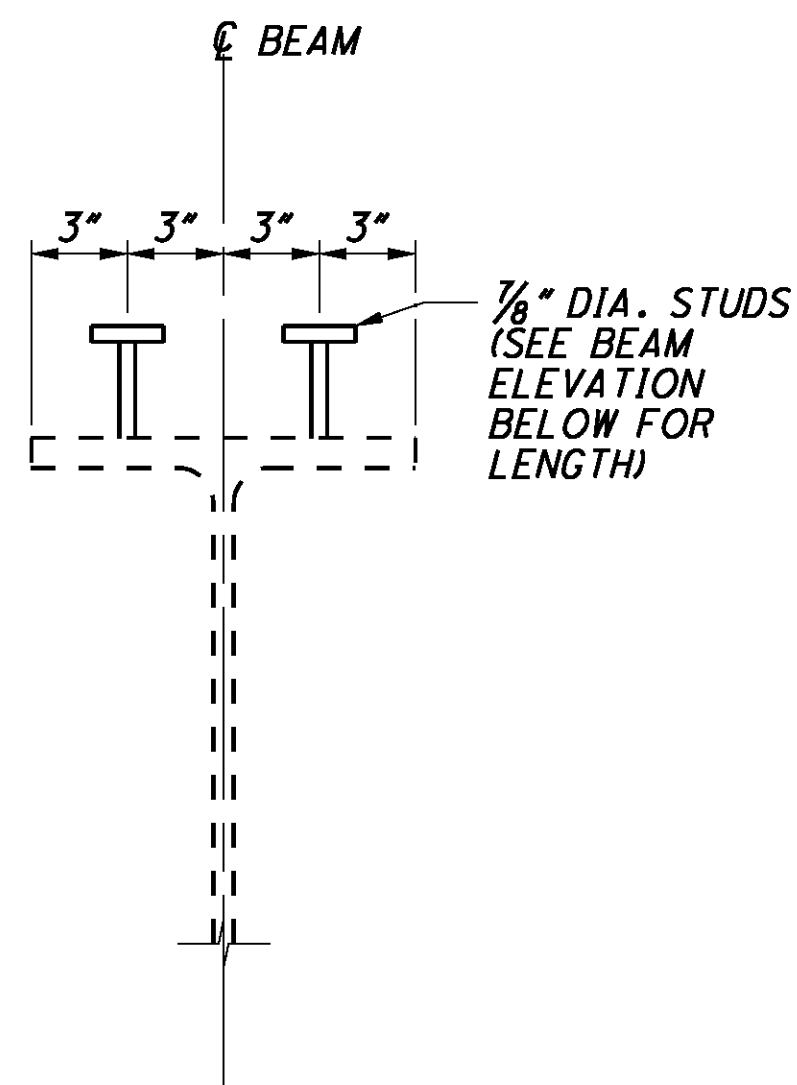
DESIGN AGENCY: MARION CLEVELAND COLUMBUS  
 DATE: 3-30-11  
 REVIEWED: TAB  
 DRAWN: CMA  
 DESIGNED: MRW  
 CHECKED: TES  
 STRUCTURE FILE NUMBER: 0403636  
 PID No. 86995

**PIER DETAILS - LA FEVER RD.**  
 BRIDGE NO. ATB-90-0233  
 UNDER LA FEVER RD.

ATB-90/45-(2.33)  
 (7.43) / 19.89  
 5 / 12  
 14  
 24



\* - MEASURED PERPENDICULAR TO FACE OF ABUTMENT



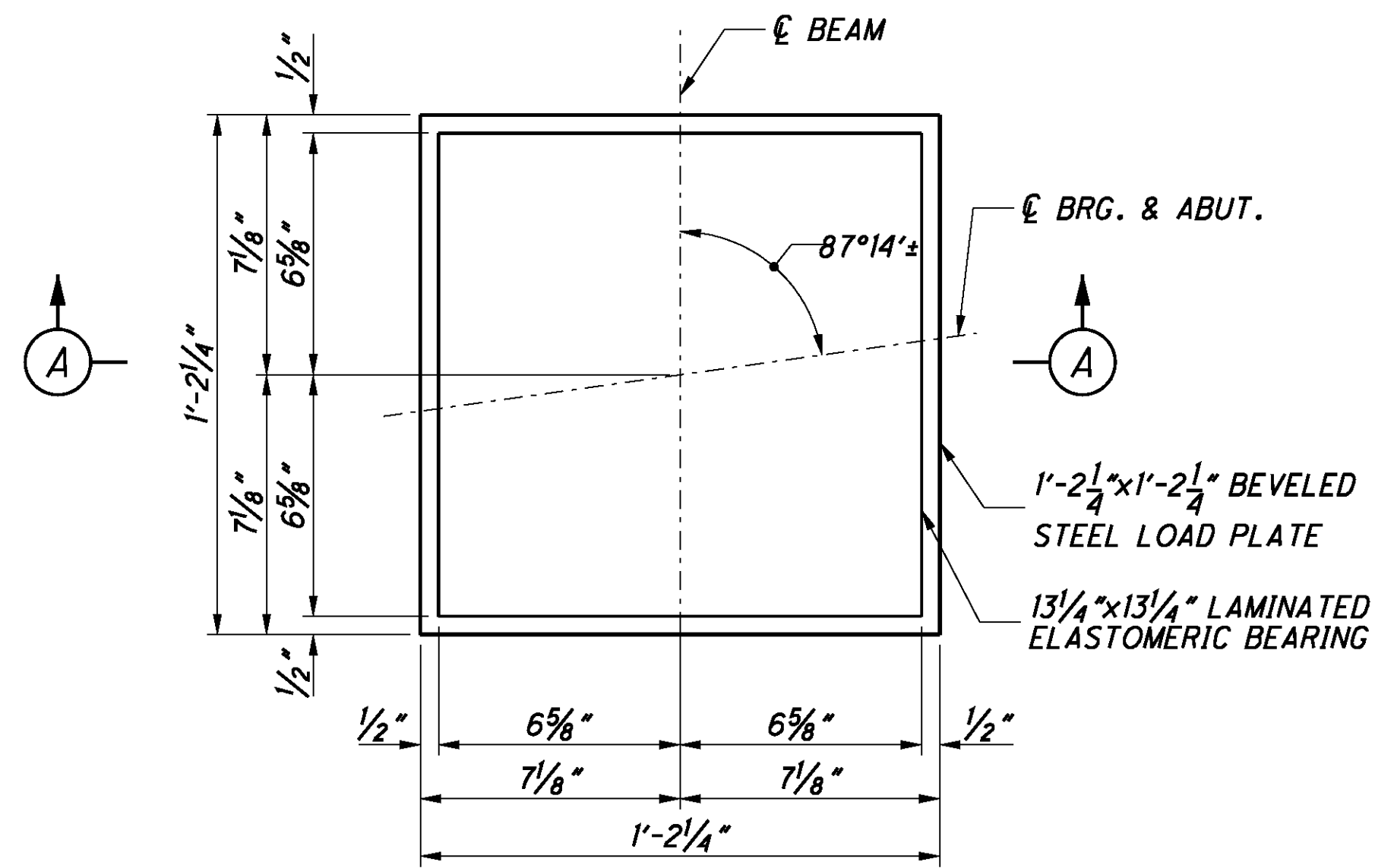
**NOTES:**

1. WELDED ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE MAY BE MADE TO AREAS OF THE FACIA STRINGER FLANGES DESIGNATED "COMPRESSION". ATTACHMENT SHALL NOT BE MADE TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE NOT CLOSER THAN 1" FROM EDGE OF FLANGE, BE NOT MORE THAN 2" LONG, AND BE NOT SMALLER THAN 5/16".

DATE	3-30-11
REVIEWED	TAB
DRAWN	CMA
DESIGNED	MRW
CHECKED	TES
STRUCTURE FILE NUMBER	0403636

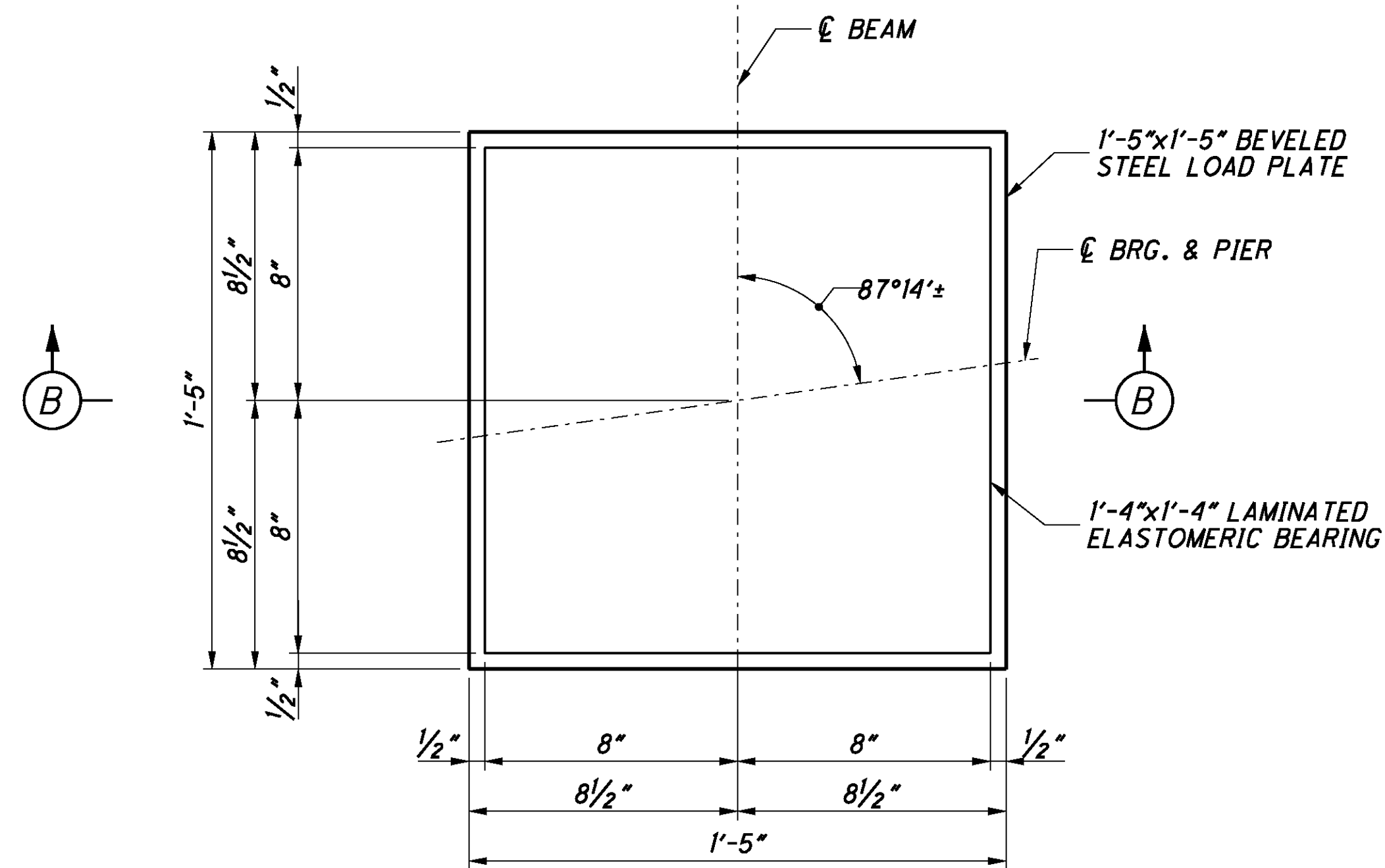
**BEAM ELEVATION - LA FEVER RD.**  
 BRIDGE NO. ATB-90-0233  
 UNDER LA FEVER RD.

**ATB-90/45-(2.33)**  
**(7.43) / 19.89**  
 PID No. 86995



**ABUTMENT BEARING PLAN**

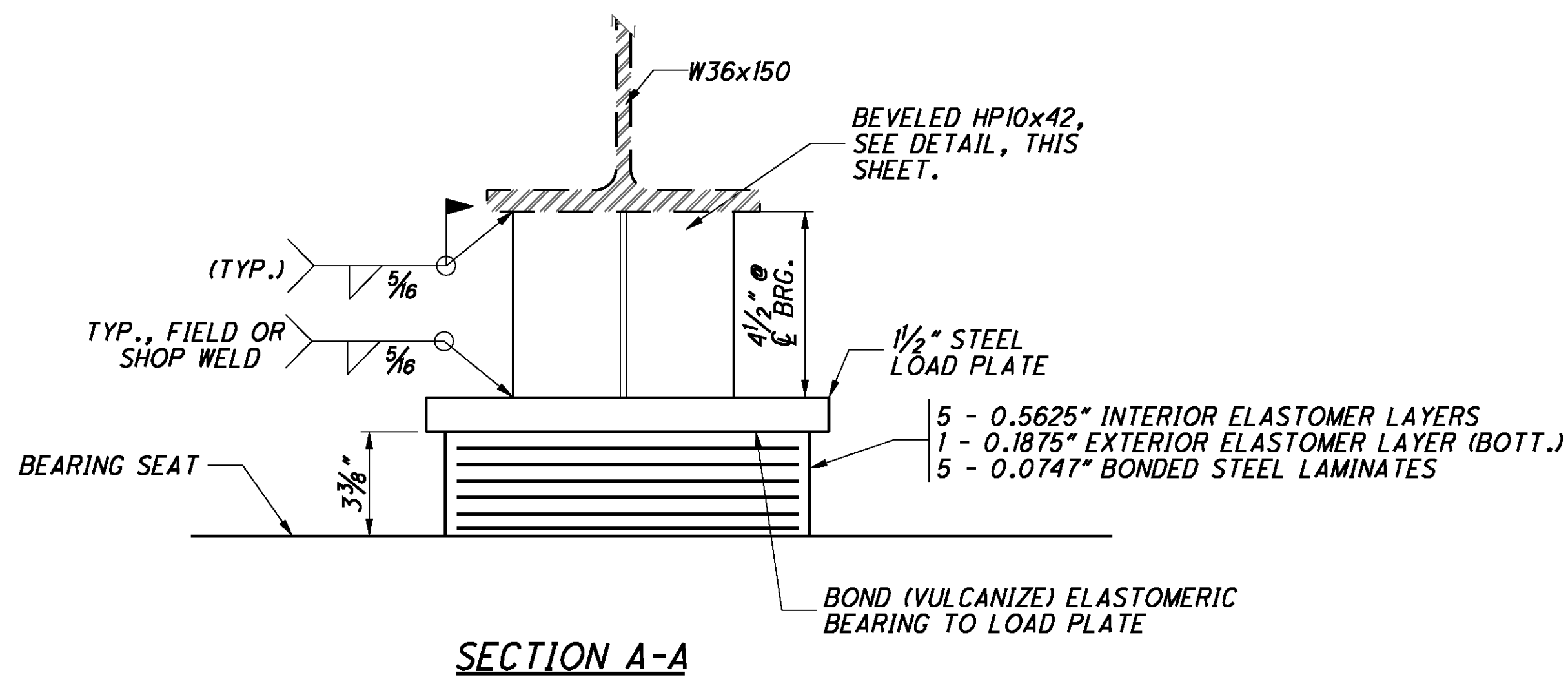
LIVE LOAD REACTION: 58.3 K  
 DEAD LOAD REACTION: 64 K  
 MAXIMUM DESIGN LOAD: 122.3 K  
 (SEE NOTE 3)



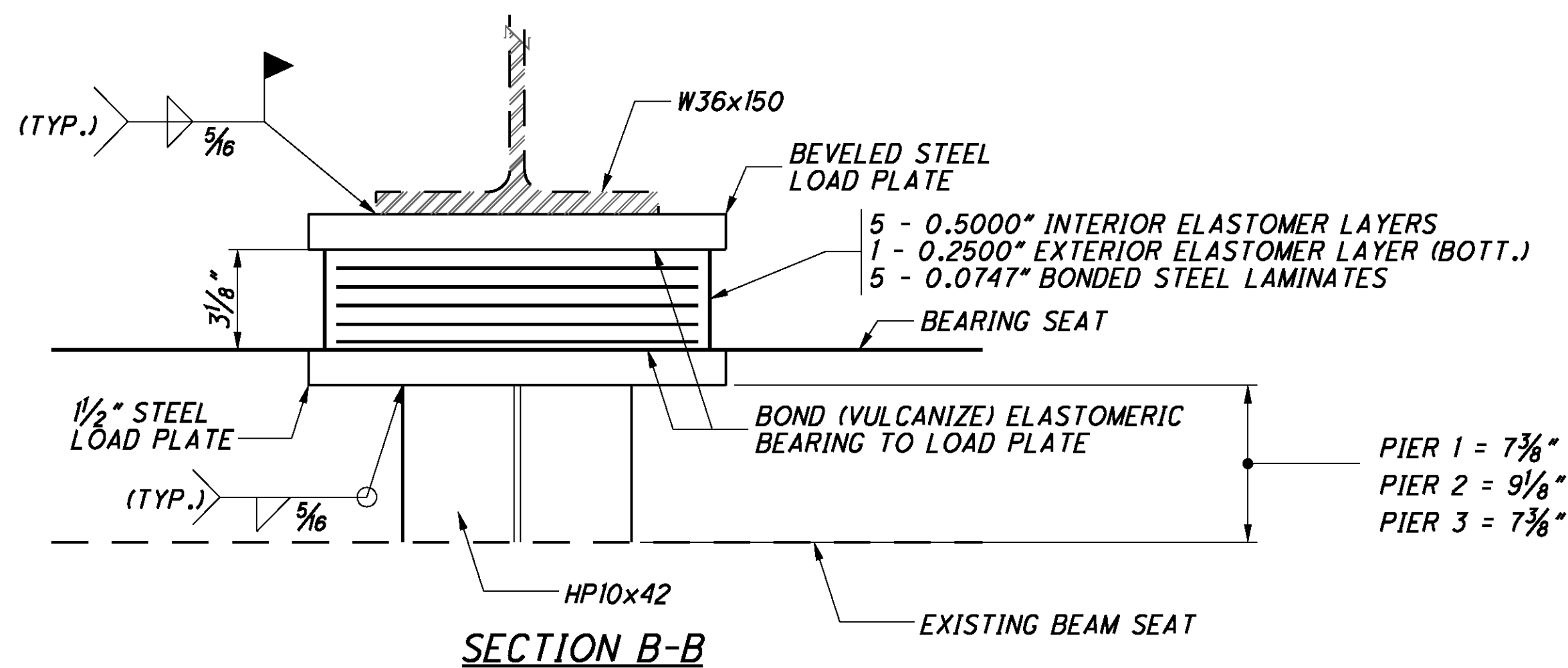
**PIER BEARING PLAN**

**PIERS 1 & 3**  
 LIVE LOAD REACTION: 67.7 K  
 DEAD LOAD REACTION: 136.1 K  
 MAXIMUM DESIGN LOAD: 203.8 K  
 (SEE NOTE 3)

**PIER 2**  
 LIVE LOAD REACTION: 72 K  
 DEAD LOAD REACTION: 164.7 K  
 MAXIMUM DESIGN LOAD: 236.7 K  
 (SEE NOTE 3)

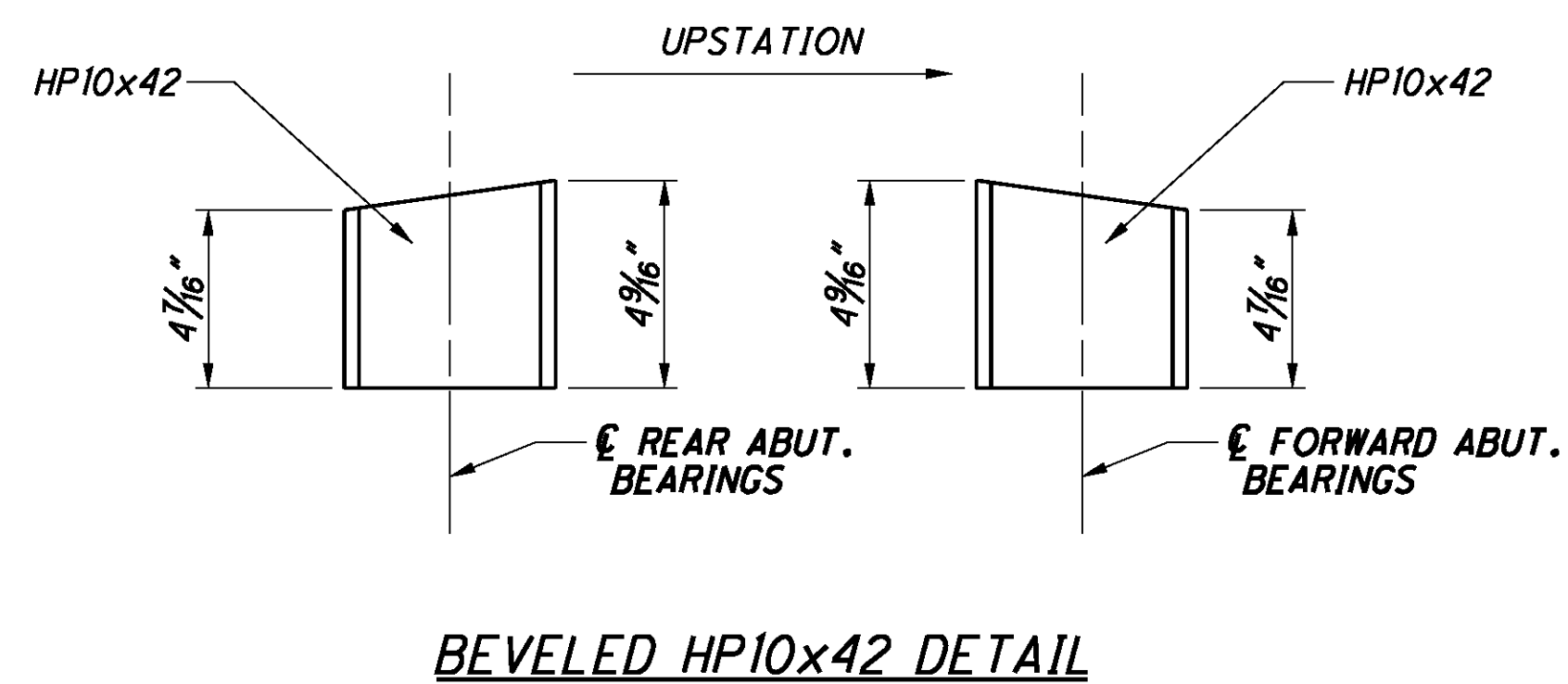


**SECTION A-A**



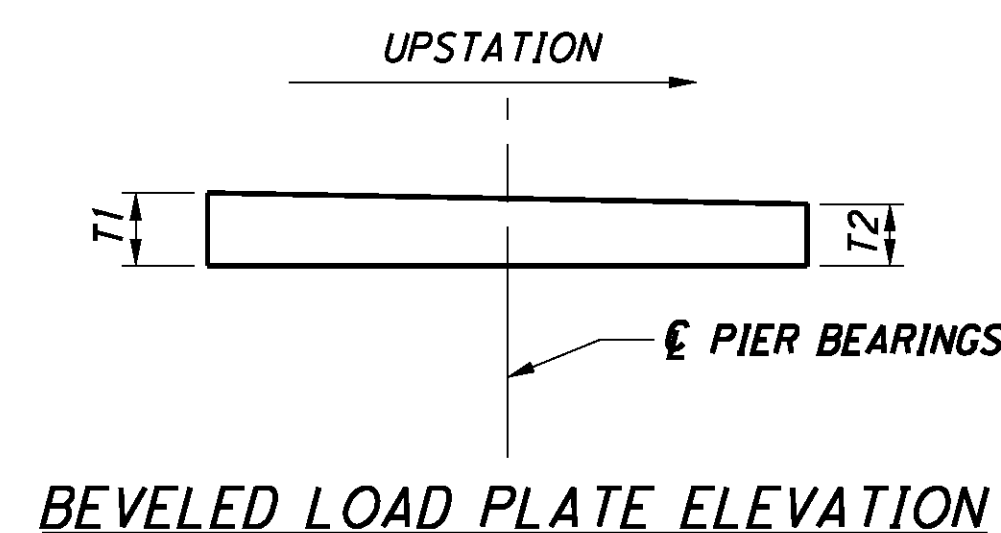
**SECTION B-B**

PIER 1 = 7 3/8"  
 PIER 2 = 9 1/8"  
 PIER 3 = 7 3/8"



**BEVELED HP10x42 DETAIL**

LOCATION	T1	T2
PIER 1	1 7/16"	1 9/16"
PIER 2	1 1/2"	1 1/2"
PIER 3	1 5/8"	1 3/8"



**BEVELED LOAD PLATE ELEVATION**

**ELASTOMERIC BEARING NOTES:**

ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONGTERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.

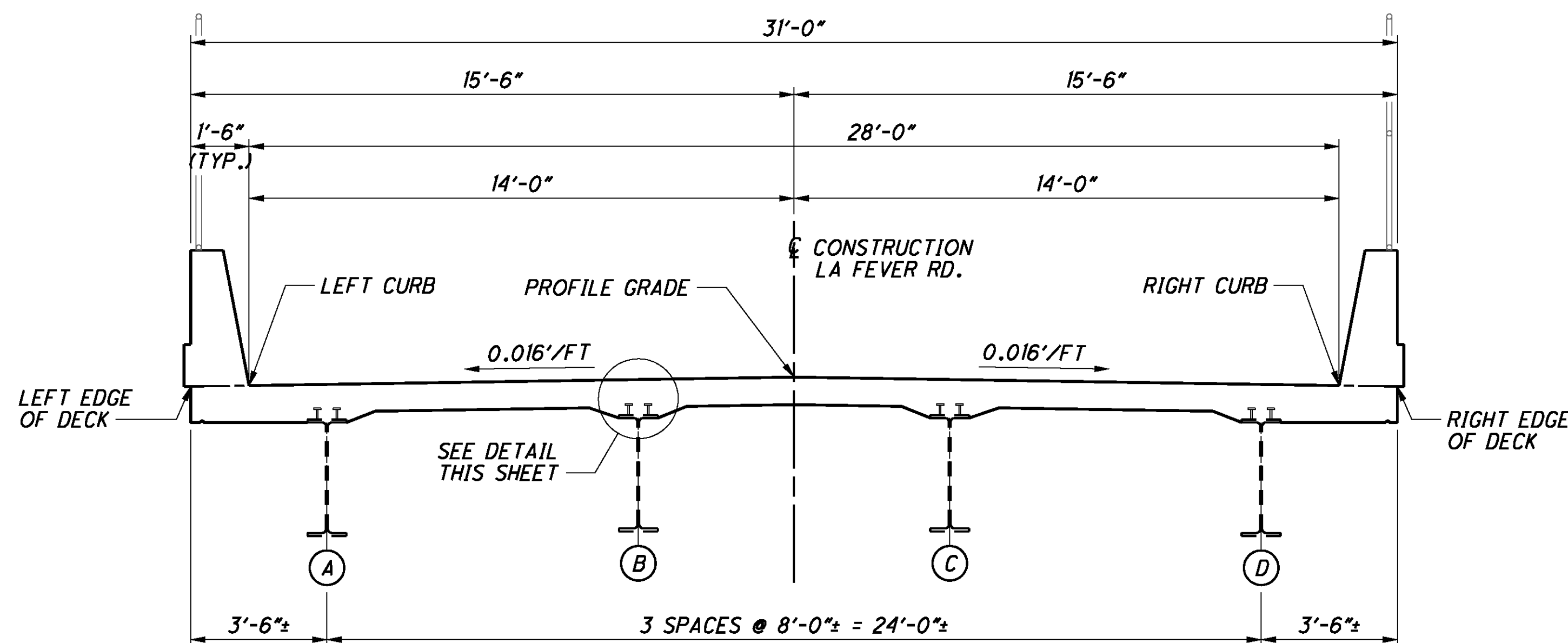
BEARING REPOSITIONING: IF THE STEEL IS ERECTED AT AN AMBIENT TEMPERATURE HIGHER THAN 80°F OR LOWER THAN 40°F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/6 OF THE BEARING HEIGHT AT 60°F (+/-)10°F, RAISE THE BEAMS OR GIRDERS TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F (+/-)10°F.

WELDING: CONTROL WELDING SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300°F AS DETERMINED BY USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

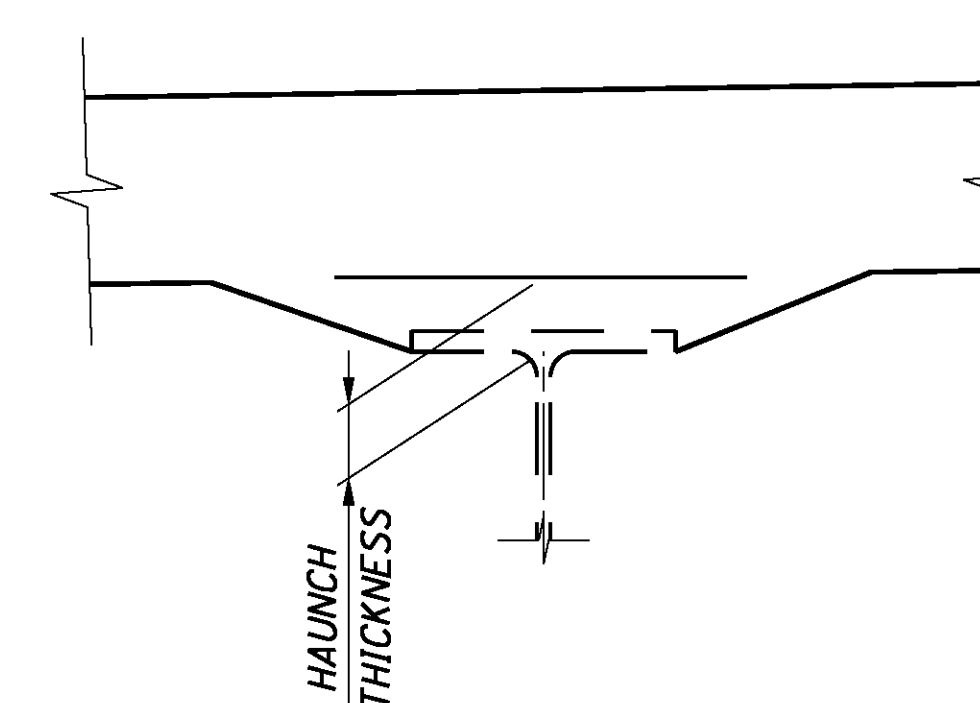
BEARINGS SHALL BE FABRICATED IN ACCORDANCE WITH ITEM 516 OF THE ODOT CONSTRUCTION AND MATERIALS SPECIFICATIONS.

**NOTES:**

- ALL LOAD PLATES AND HP SECTIONS SHALL BE ASTM A709 GRADE 50 STEEL.
- FOR GENERAL NOTES, SEE SHEET 2/11.
- LOADS SHOWN ARE SERVICE LOADS WITH NO LOAD FACTOR INCLUDED.



TRANSVERSE SECTION



HAUNCH THICKNESS DETAIL

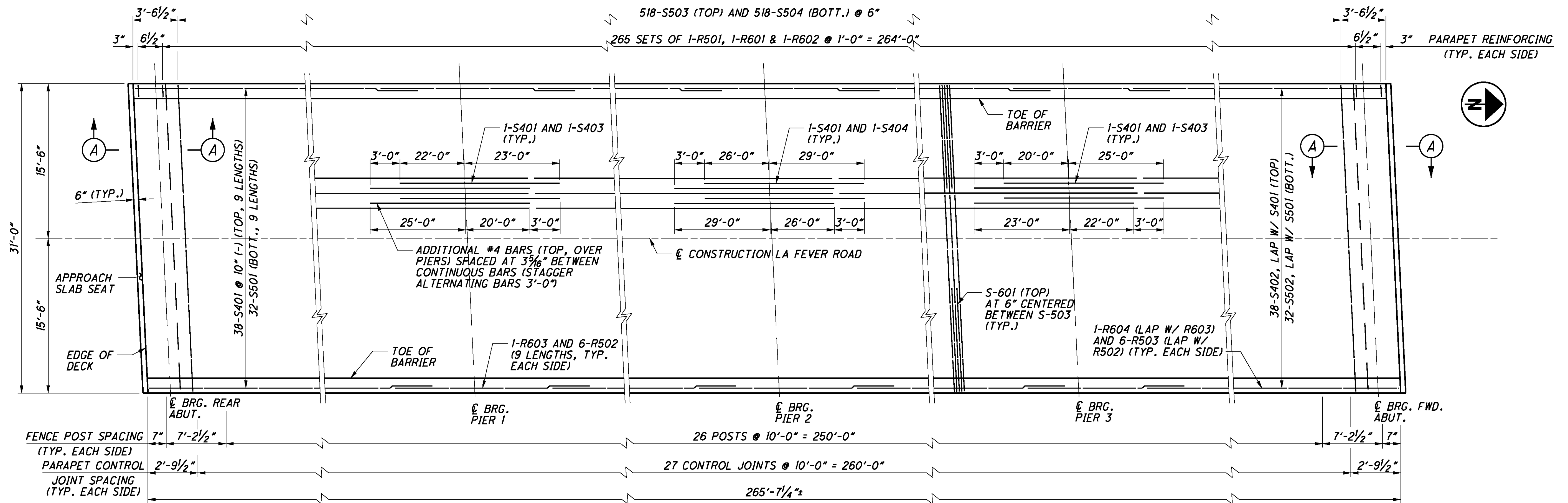
**NOTES:**

1. SCREED ELEVATIONS ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR THE ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.
2. THE CONTRACTOR SHALL OBTAIN BEAM ELEVATIONS AT EACH MIDSPAN BEFORE AND AFTER THE EXISTING CONCRETE DECK HAS BEEN REMOVED TO VERIFY THE ANTICIPATED REBOUND/DEFLECTIONS SHOWN IN THE TABLE. ANY DIFFERENCE IN ELEVATIONS SHALL BE COORDINATED WITH THE ENGINEER PRIOR TO POURING THE PROPOSED CONCRETE DECK. SCREED ELEVATIONS MAY NEED TO BE ADJUSTED.

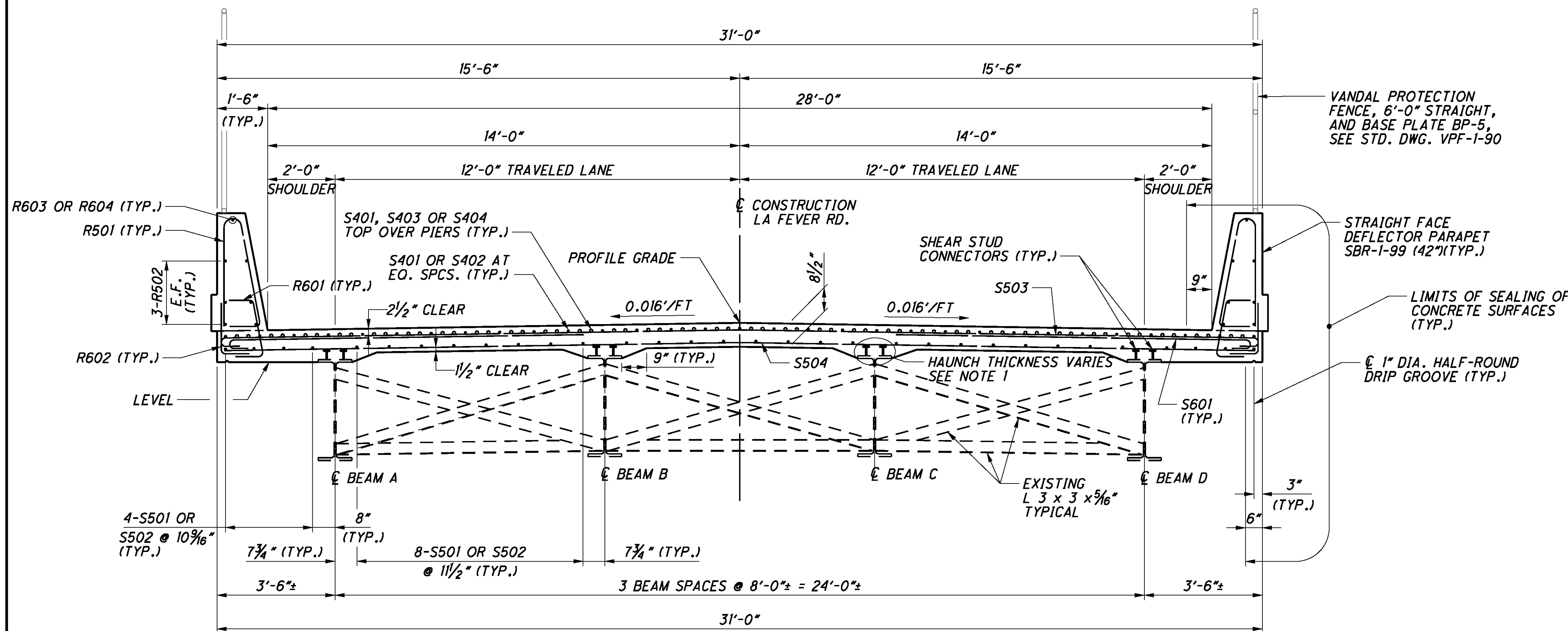
SCREED ELEVATIONS

POINT		SPAN 1				SPAN 2				SPAN 3				SPAN 4				
		REAR ABUT.	1/4 POINT	1/2 POINT	3/4 POINT	PIER 1	1/4 POINT	1/2 POINT	3/4 POINT	PIER 2	1/4 POINT	1/2 POINT	3/4 POINT	PIER 3	1/4 POINT	1/2 POINT	3/4 POINT	FWD. ABUT.
LEFT EDGE OF DECK	OFFSET	-15.50	-15.50	-15.50	-15.50	-15.50	-15.50	-15.50	-15.50	-15.50	-15.50	-15.50	-15.50	-15.50	-15.50	-15.50	-15.50	-15.50
	ELEVATION	829.54	829.72	829.87	829.99	830.10	830.29	830.40	830.41	830.36	830.33	830.24	830.05	829.78	829.62	829.45	829.26	829.03
LEFT CURB	OFFSET	-14.00	-14.00	-14.00	-14.00	-14.00	-14.00	-14.00	-14.00	-14.00	-14.00	-14.00	-14.00	-14.00	-14.00	-14.00	-14.00	-14.00
	ELEVATION	829.57	829.74	829.89	830.01	830.13	830.31	830.42	830.43	830.38	830.35	830.26	830.07	829.81	829.64	829.47	829.28	829.06
BEAM A	OFFSET	-12.00	-12.00	-12.00	-12.00	-12.00	-12.00	-12.00	-12.00	-12.00	-12.00	-12.00	-12.00	-12.00	-12.00	-12.00	-12.00	-12.00
	ELEVATION	829.60	829.78	829.92	830.05	830.16	830.34	830.46	830.46	830.42	830.38	830.29	830.10	829.84	829.67	829.50	829.31	829.09
	HAUNCH THICKNESS (IN.)	6"	5 1/2"	4 3/4"	3 7/8"	2 5/8"	2 3/8"	2 3/8"	2 7/8"	3 1/4"	2 5/8"	2 3/4"	2 7/8"	3 1/4"	4 1/4"	5 1/8"	5 3/4"	6"
BEAM B	OFFSET	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00	-4.00
	ELEVATION	829.74	829.91	830.06	830.18	830.29	830.48	830.59	830.59	830.54	830.51	830.42	830.23	829.96	829.80	829.63	829.43	829.21
	HAUNCH THICKNESS (IN.)	5 1/2"	4 7/8"	3 5/8"	2 5/8"	2 3/4"	2 5/8"	2 7/8"	3 1/2"	3 1/2"	3 3/4"	3 5/8"	3 5/8"	3 5/8"	4 3/8"	5"	5 5/8"	6"
PROFILE GRADE	OFFSET	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	ELEVATION	829.80	829.98	830.12	830.24	830.36	830.54	830.65	830.66	830.61	830.57	830.49	830.29	830.02	829.86	829.69	829.49	829.27
BEAM C	OFFSET	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
	ELEVATION	829.74	829.91	830.06	830.18	830.29	830.48	830.59	830.59	830.54	830.51	830.42	830.22	829.95	829.79	829.62	829.42	829.20
	HAUNCH THICKNESS (IN.)	5 3/8"	5 1/8"	4 3/8"	3 1/2"	2 5/8"	3 1/8"	3 1/8"	3 1/4"	3 5/8"	3 3/8"	3 1/4"	3 3/8"	3 1/2"	4 3/8"	4 7/8"	5 1/4"	5 1/2"
BEAM D	OFFSET	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
	ELEVATION	829.62	829.79	829.94	830.06	830.17	830.35	830.46	830.46	830.41	830.38	830.29	830.09	829.82	829.66	829.49	829.29	829.06
	HAUNCH THICKNESS (IN.)	5 3/8"	5"	4 3/8"	3 3/4"	2 3/4"	2 3/8"	2"	2 1/4"	3 3/8"	2 1/2"	2 1/2"	2 3/4"	3 3/8"	4 1/4"	4 7/8"	5 3/8"	5 1/2"
RIGHT CURB	OFFSET	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
	ELEVATION	829.59	829.76	829.91	830.03	830.14	830.32	830.43	830.43	830.38	830.34	830.25	830.06	829.79	829.63	829.45	829.26	829.03
RIGHT EDGE OF DECK	OFFSET	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
	ELEVATION	829.57	829.74	829.88	830.00	830.11	830.29	830.40	830.41	830.36	830.32	830.23	830.03	829.76	829.60	829.43	829.23	829.01





DECK REINFORCING PLAN



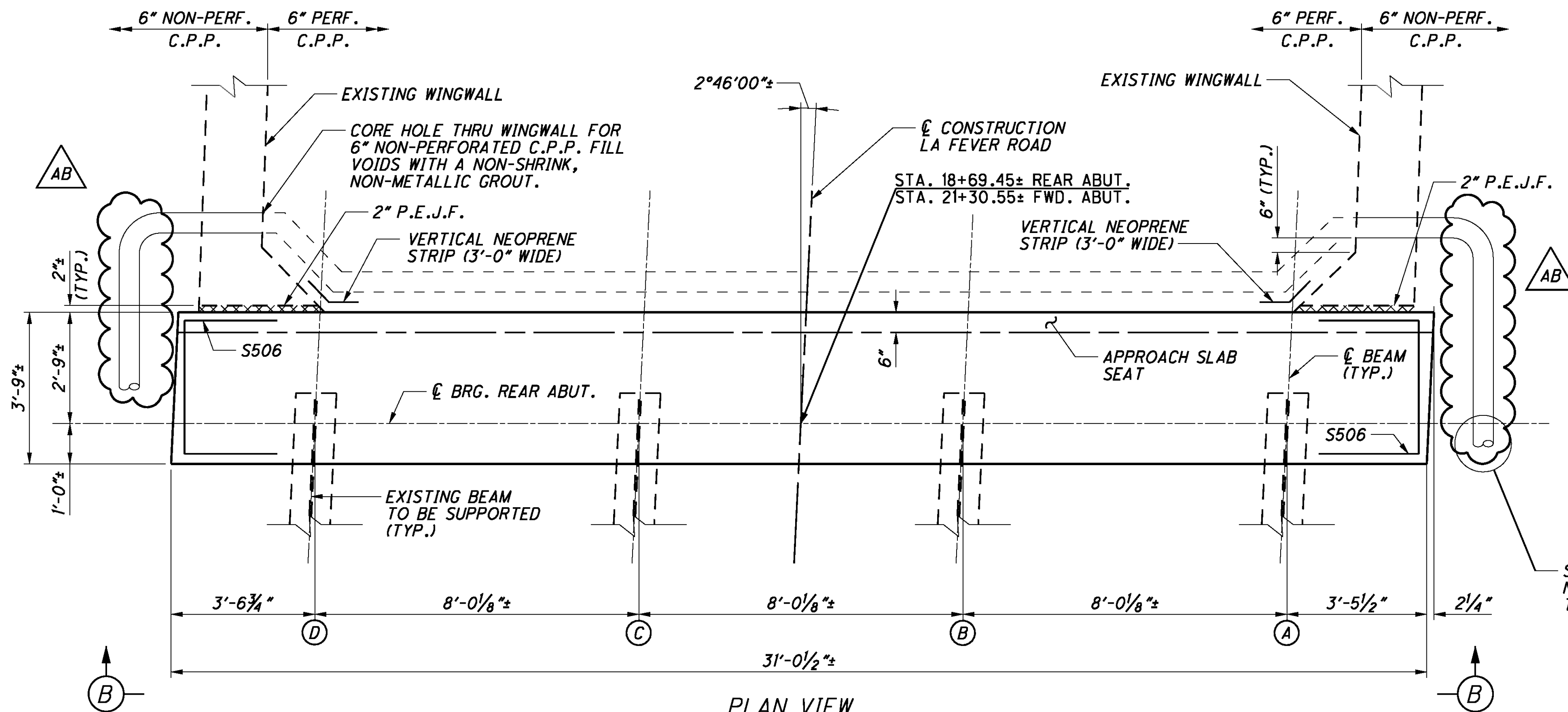
TRANSVERSE SECTION

NOTES:

1. THE HAUNCH THICKNESS VARIES BETWEEN 1 INCH AND 5 INCHES.
2. FOR SECTION A-A, SEE SHEET 9/11.
3. MINIMUM REINFORCING BAR LAPS ARE AS FOLLOWS:  
 #4 = 18"  
 #5 = 23"  
 #6 = 28"  
 UNLESS NOTED OTHERWISE
4. FOR REINFORCING SCHEDULE, SEE SHEET 11/11.
5. THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM/GIRDER HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 3 1/2" AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM/GIRDER FLANGE OF 9". DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM/GIRDER FLANGE IS ±3".

THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.

DESIGN AGENCY: MARION CLEVELAND COLUMBUS  
 URS  
 DATE: 3-30-11  
 REVIEWED: TAB  
 DRAWN: CMA  
 DESIGNED: DEB  
 CHECKED: TES  
 STRUCTURE FILE NUMBER: 0403636  
 BRIDGE NO. ATB-90-0233  
 UNDER LA FEVER RD.  
 DECK PLAN AND SECTION - LA FEVER RD.  
 ATB-90/45-(2.33)  
 (7.43) / 19.89  
 PID No. 86995  
 9 / 12  
 18  
 24



△ AB "AS-BUILT" (10/2011)

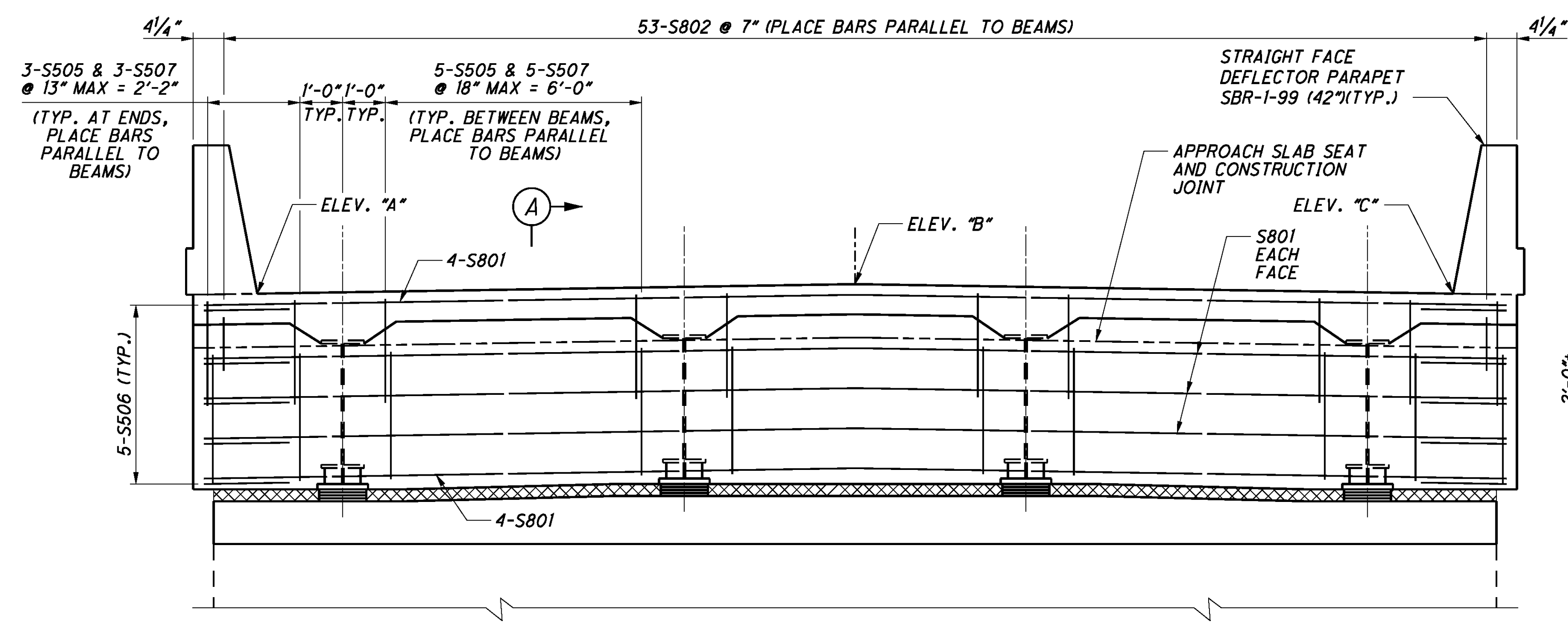
**NOTES:**

- FOR ADDITIONAL DETAILS, SEE STD. DRAWING SICD-1-96.
- POROUS BACKFILL WITH FILTER FABRIC, 2 FEET THICK, SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE AND Laterally TO THE WINGWALLS.
- THE CONCRETE IN THE ABUTMENT DIAPHRAGM PORTION OF THE SEMI-INTEGRAL ABUTMENT MAY BE PLACED EITHER SEPERATELY OR WITH THE DECK CONCRETE. IF PLACED SEPERATELY, THE DIAPHRAGM SHALL HAVE AT LEAST 48 HOURS OF SET TIME BEFORE DECK CONCRETE CAN BE PLACED.
- ALL REINFORCING BAR CLEARANCES SHALL BE 2" MINIMUM UNLESS NOTED OTHERWISE.
- FOR ADDITIONAL NOTES, SEE SHEET **8/11**.

SEE SICD-1-96 FOR 6" NON-PERFORATED C.P.P. TERMINATION DETAIL

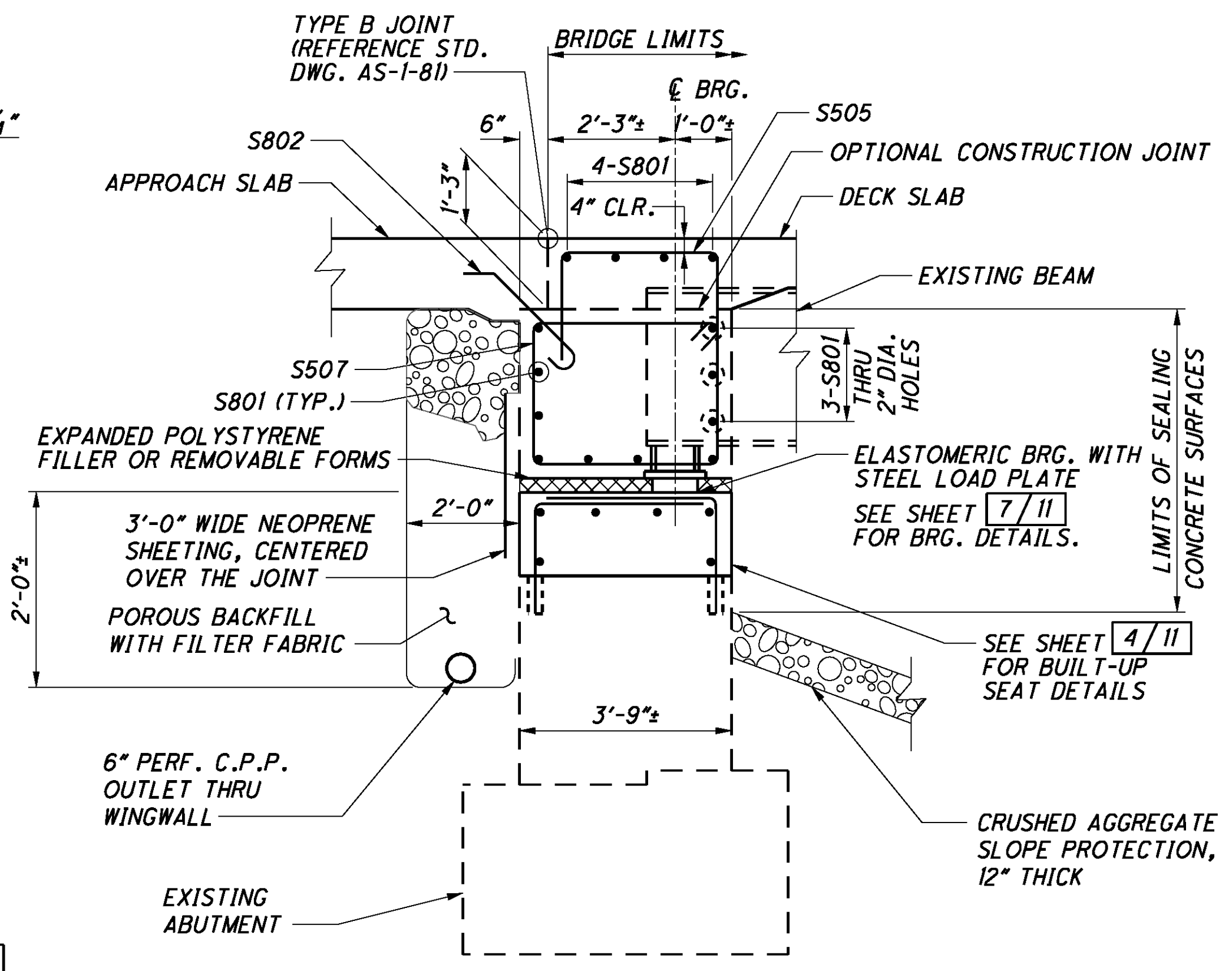
**PLAN VIEW**

REAR ABUTMENT SHOWN, FORWARD ABUTMENT SIMILAR  
 (SEE VIEW B-B FOR REINFORCEMENT)

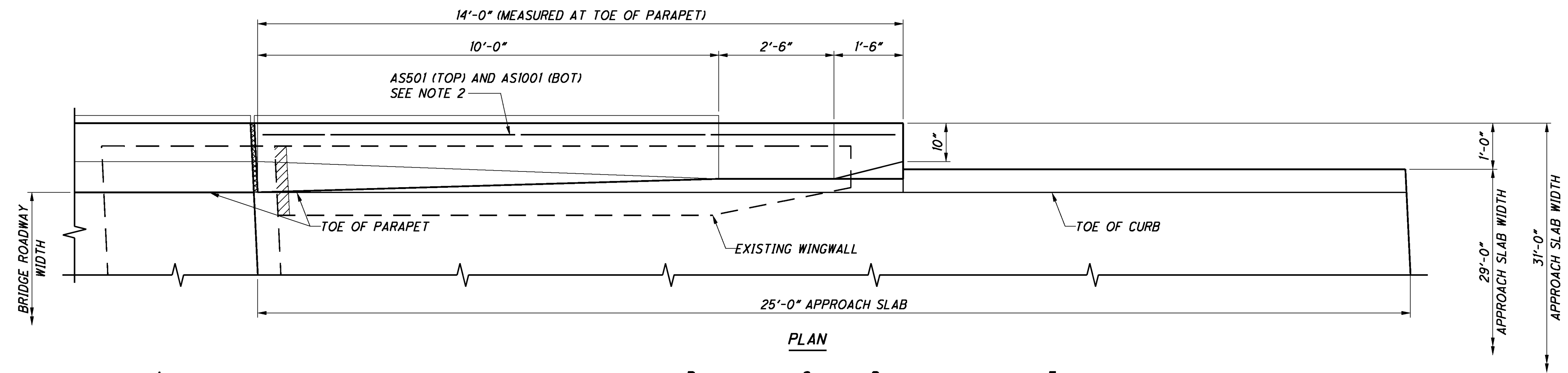


**VIEW B-B**

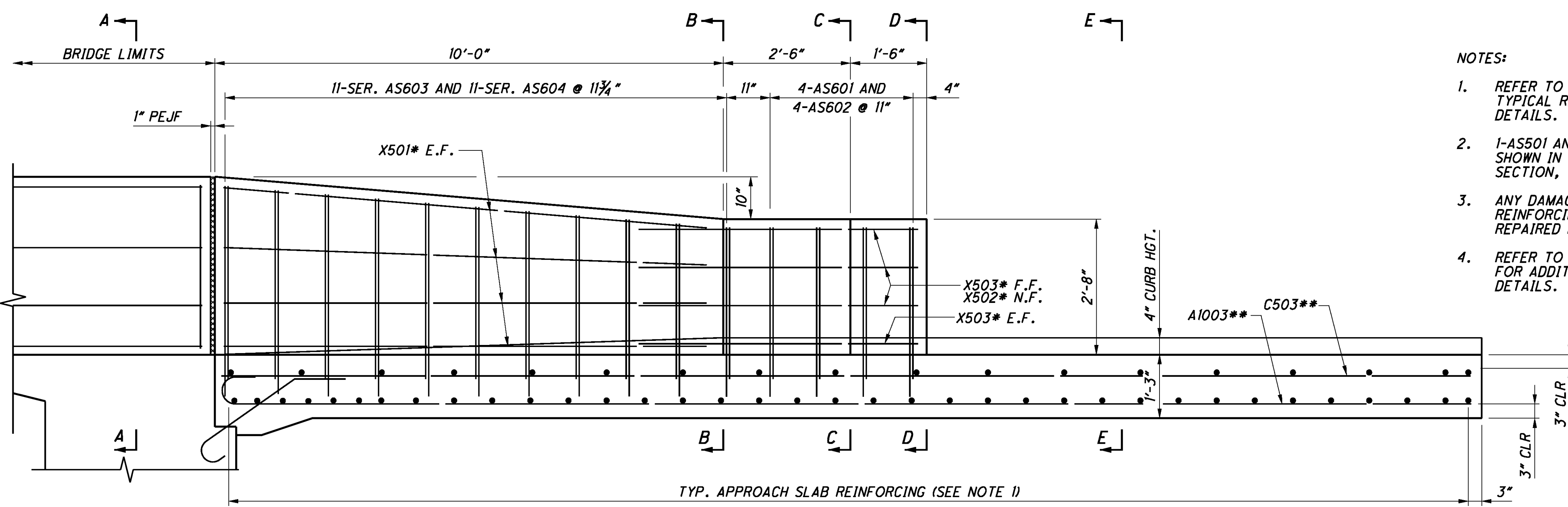
ELEVATION TABLE			
LOCATION	EL. "A"	EL. "B"	EL. "C"
REAR ABUT.	829.6	829.8	829.6
FWD. ABUT.	829.1	829.3	829.0



**SECTION A-A**

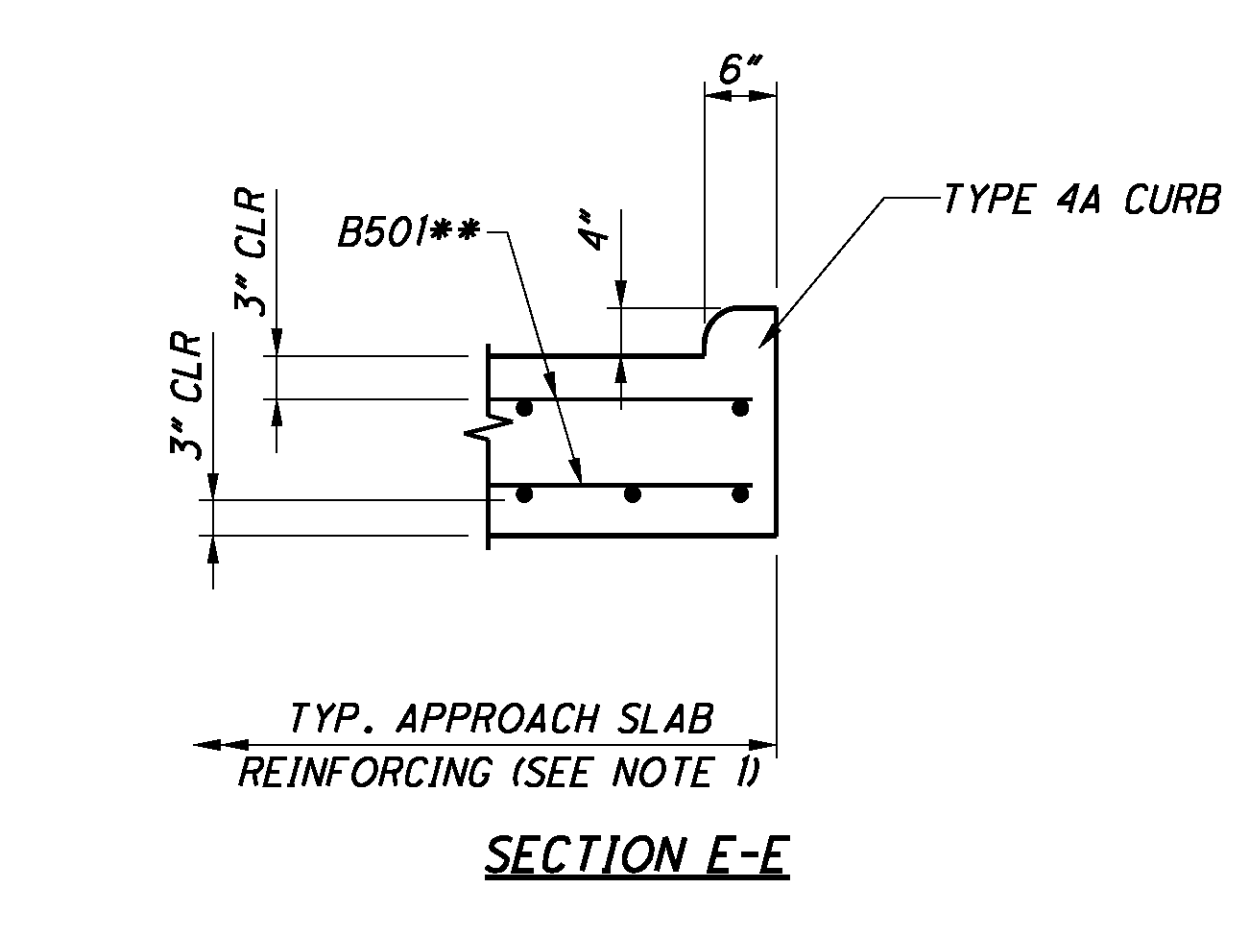
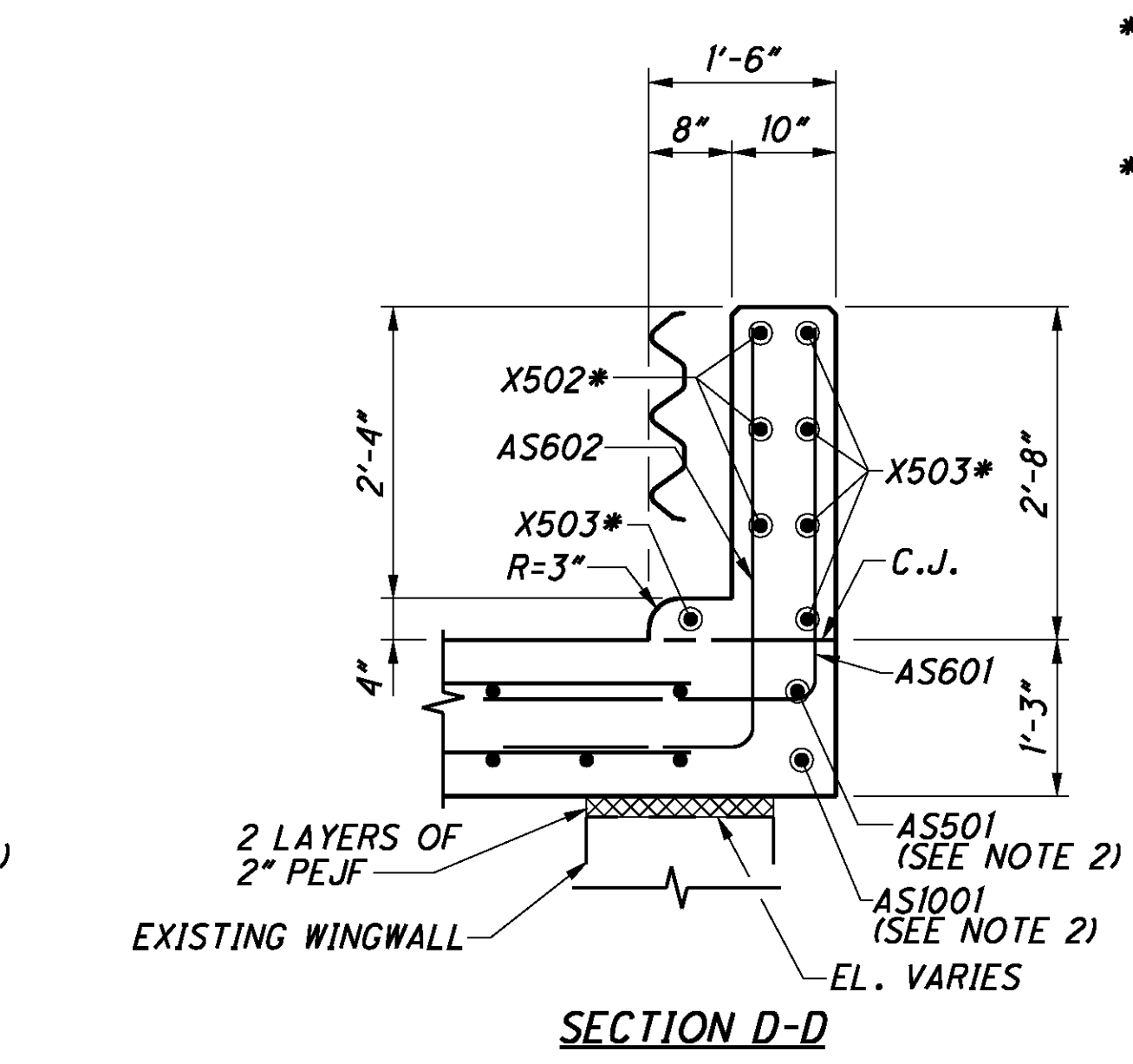
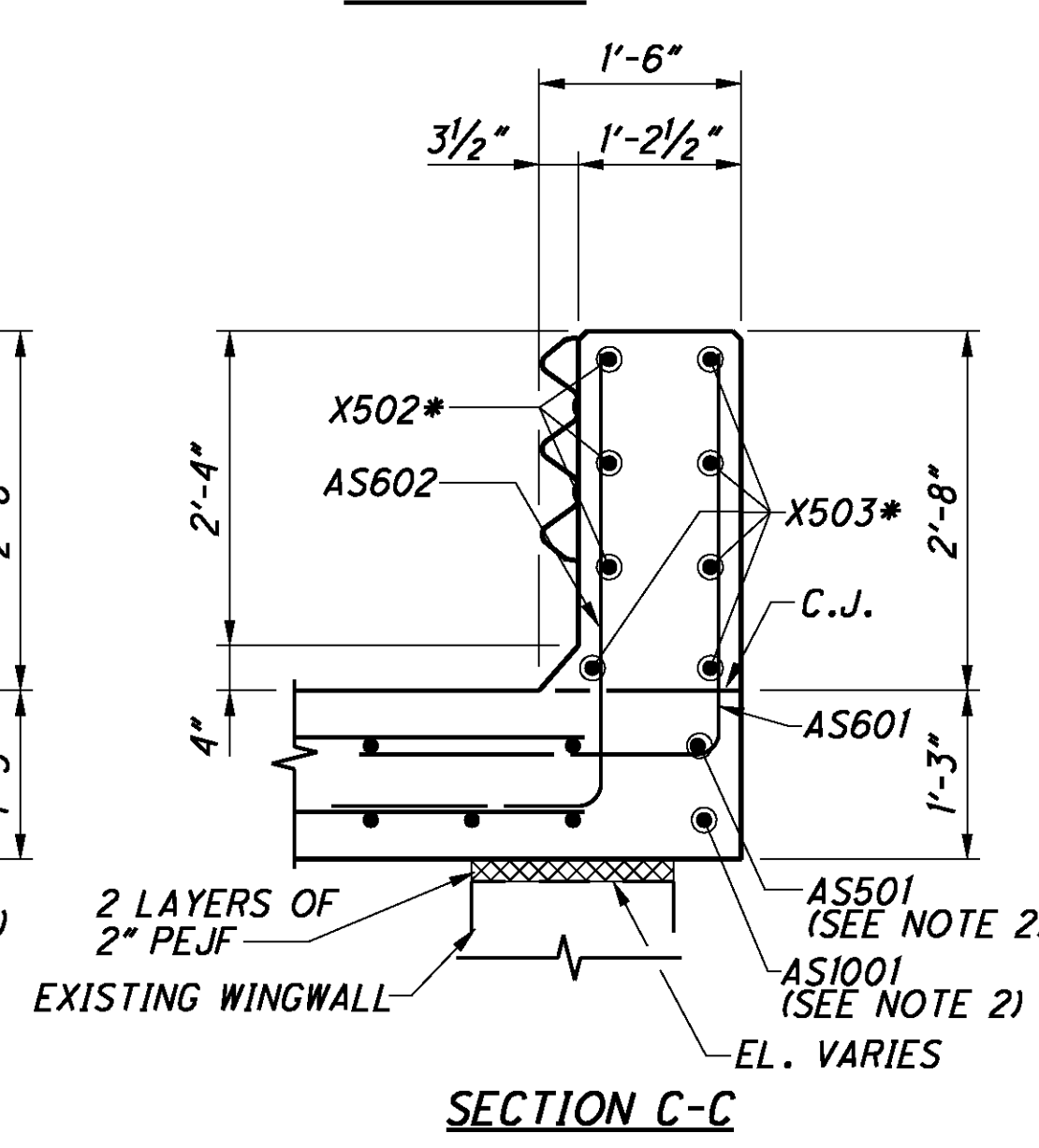
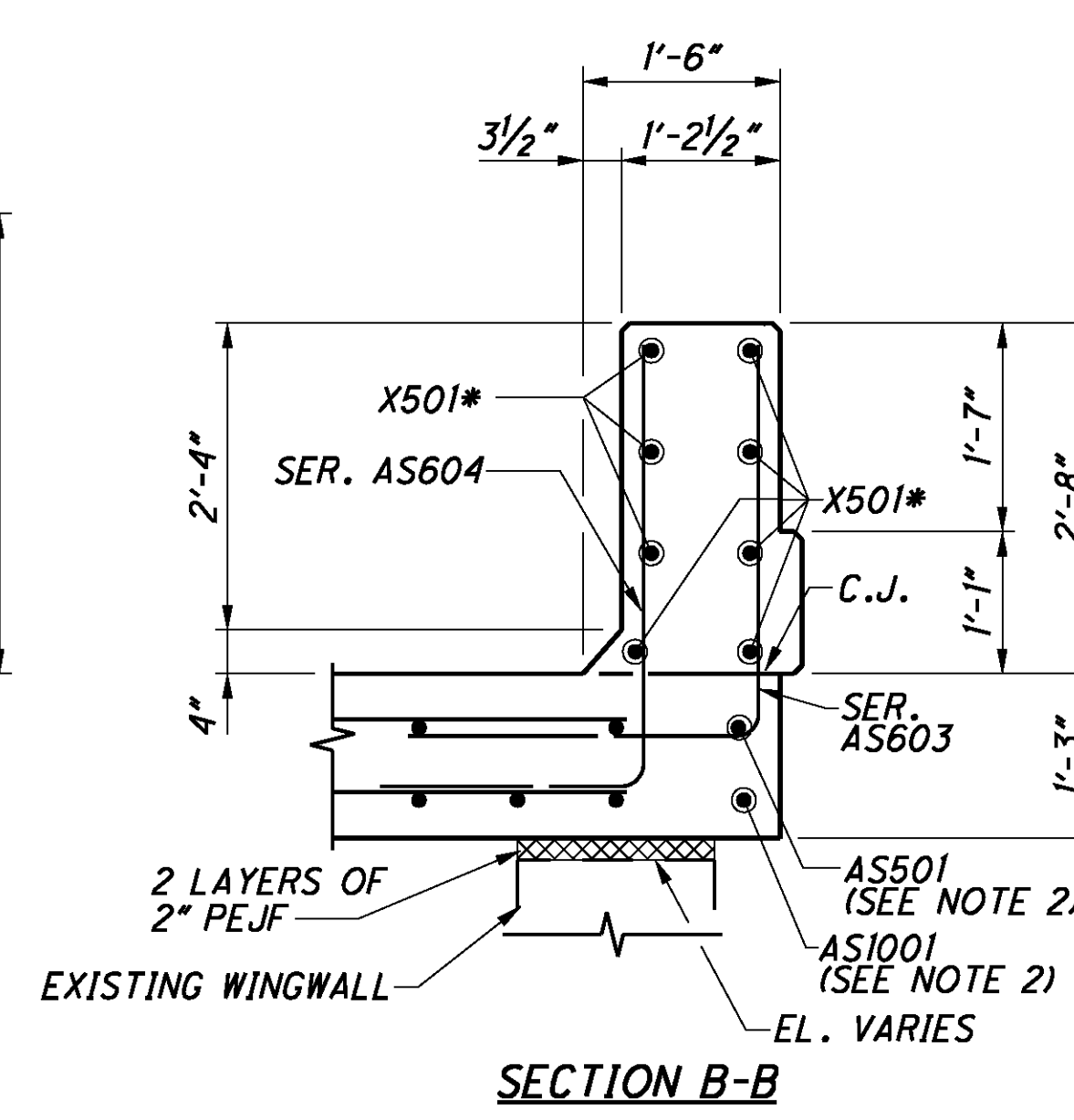
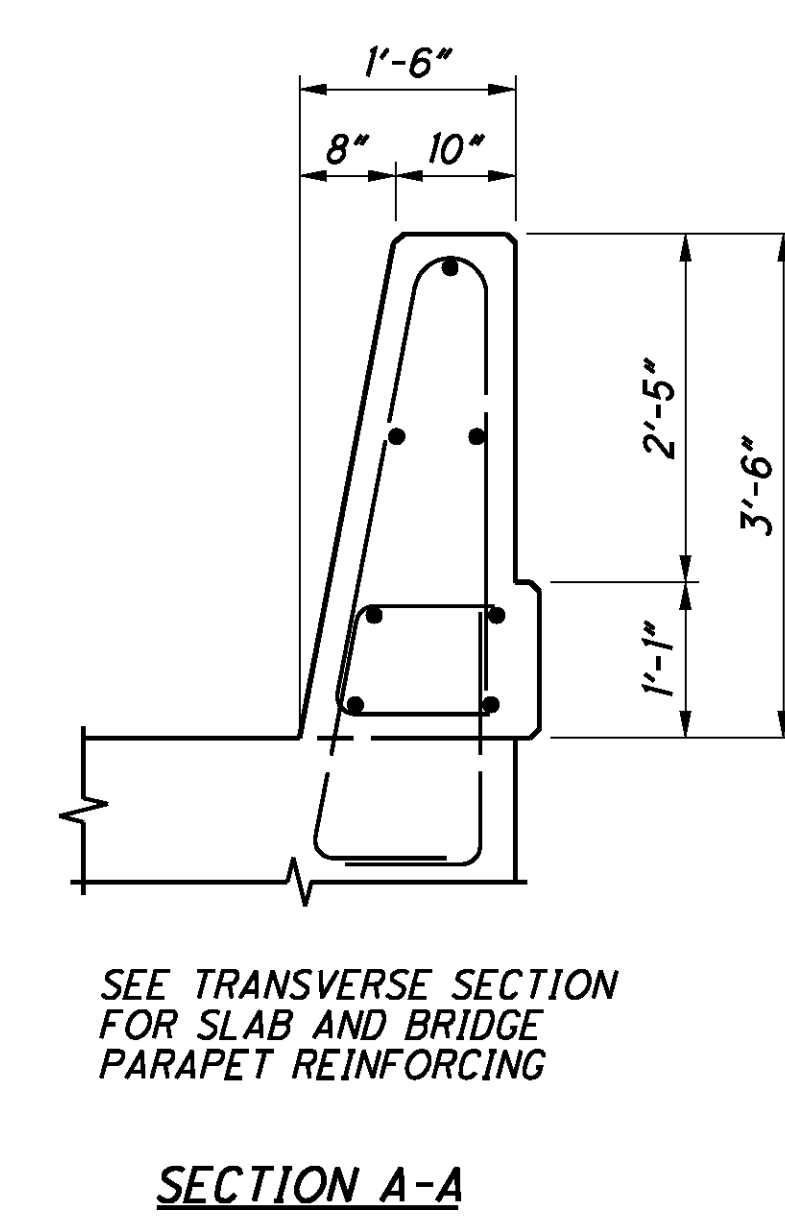


**LEGEND:**  
 N.S. = NEAR SIDE  
 F.S. = FAR SIDE  
 E.F. = EACH SIDE  
 SER. = SERIES



- NOTES:**
- REFER TO ODOT STD. CONST. DWG. AS-1-81 FOR TYPICAL REINFORCING AND ADDITIONAL NOTES AND DETAILS.
  - 1-AS501 AND 1-AS1001 SHALL BE PLACED AS SHOWN IN THE 31 FT. WIDE APPROACH SLAB SECTION, TYPICAL EACH SIDE AND CUT TO FIT.
  - ANY DAMAGE TO THE EPOXY COATING ON THE REINFORCING BARS THAT ARE CUT TO FIT SHALL BE REPAIRED PER CMS ITEM 509.09.
  - REFER TO ODOT STD. CONST. DWG. SBR-1-99 FOR ADDITIONAL PARAPET TRANSITION NOTES AND DETAILS.

- \* BAR MARKS AND LENGTHS PER ODOT STD. CONST. DWG. SBR-1-99  
 \*\* BAR MARKS AND LENGTHS PER ODOT STD. CONST. DWG. AS-1-81

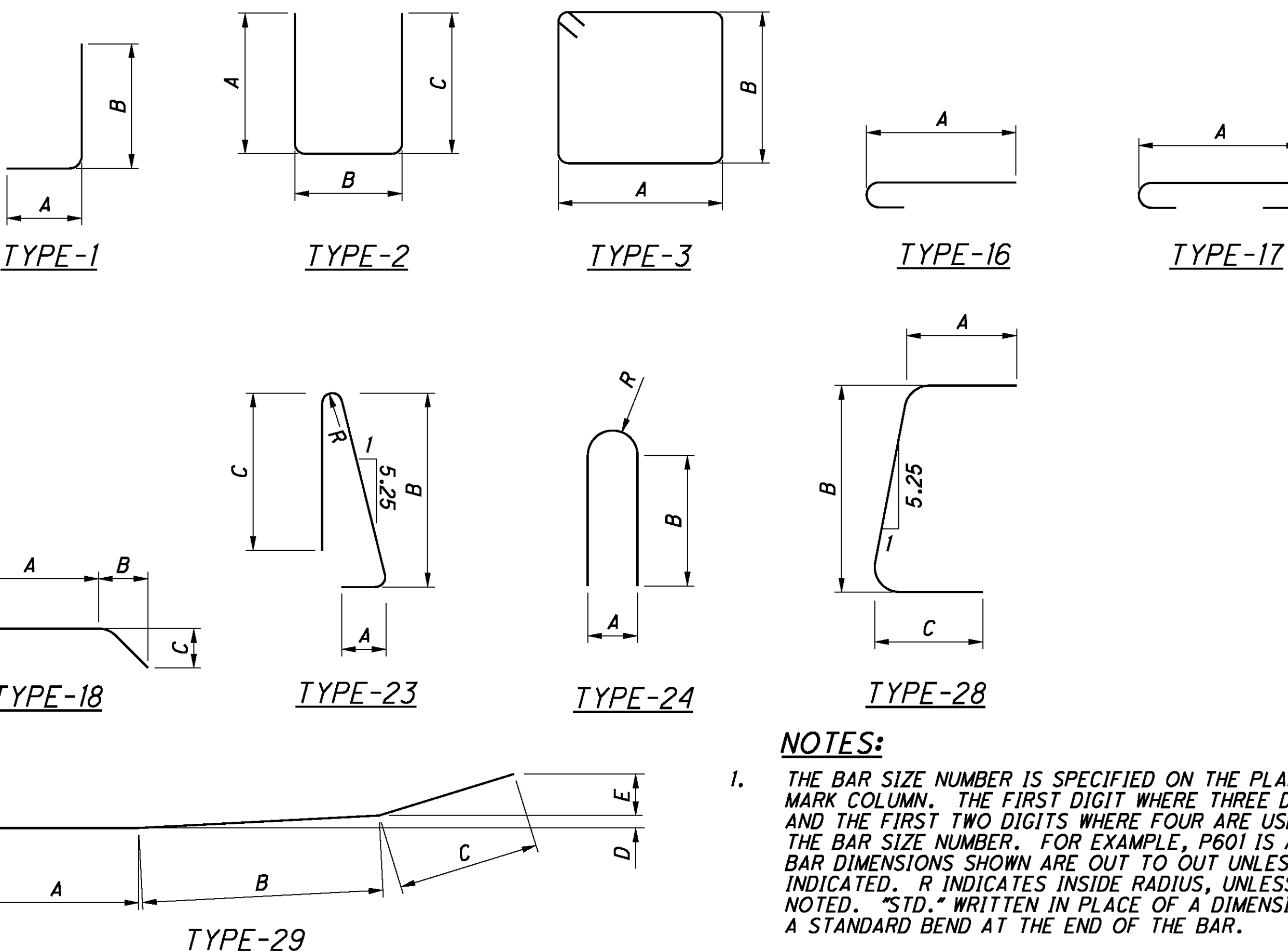


MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS					
	TOTAL				A	B	C	D	E	R
PIERS										
P501	6	25'- 2"	157	STR						
P502	6	26'- 3"	164	STR						
P503	102	3'- 3"	346	1	1'-3"	2'-2"				
P504	6	9'- 7"	60	24	2'-2"	3'-1"			1'-1"	
SUB-TOTAL			727							

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS					
	TOTAL				A	B	C	D	E	R
ABUTMENTS										
A501	8	29'- 8"	248	STR						
A502	80	4'- 3"	355	1	1'-8"	2'-9"				
A503	4	6'- 6"	27	2	2'-0"	2'-9"	2'-0"			
SUB-TOTAL			630							

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS					
	TOTAL				A	B	C	D	E	R
SUPERSTRUCTURE										
S401	564	30'- 0"	11303	STR						
S402	38	8'- 9"	222	STR						
S403	148	16'- 6"	1631	STR						
S404	74	26'- 6"	1310	STR						
S501	288	30'- 0"	9012	STR						
S502	32	12'- 6"	417	STR						
S503	518	31'- 10"	17199	17	30'-8"					
S504	518	30'- 8"	16569	STR						
S505	42	7'- 8"	336	2	2'-6"	2'-11"	2'-6"			
S506	20	7'- 2"	149	2	2'-0"	3'-5"	2'-0"			
S507	42	13'- 4"	584	3	3'-5"	2'-11"				
S601	1034	11'- 2"	17344	16	10'-6"					
S801	28	30'- 8"	2293	STR						
S802	106	4'- 10"	1368	18	2'-8"	1'-0"	1'-0"			
SUB-TOTAL			79737							

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS					
	TOTAL				A	B	C	D	E	R
RAILING										
R501	534	7'- 5"	4131	23	1'-1"	3'-2"	3'-0"			0'-2 3/4"
R502	108	30'- 0"	3379	STR						
R503	12	12'- 6"	156	STR						
R601	534	3'- 5"	2741	28	1'-1"	1'-5"	1'-1"			
R602	534	2'- 4"	1871	1	1'-1"	1'-5"				
R603	18	30'- 0"	811	STR						
R604	2	16'- 3"	49	STR						
SUB-TOTAL			14726							



- NOTES:**
- THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, P601 IS A NO. 6 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.
  - ALL REINFORCING STEEL TO BE EPOXY COATED.