

STRUCTURE GENERAL NOTES

DESIGN SPECIFICATIONS

THE NEW REHABILITATED PORTION OF THE STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING

MODIFIED SUPERSTRUCTURE: HS25, CASE II AND THE ALTERNATE MILITARY LOADING.

FUTURE WEARING SURFACE (FWS) OF 60 LBS/FT².

DESIGN DATA

CONCRETE CLASS QSC2 - COMPRESSIVE STRENGTH 4500 psi (SUPERSTRUCTURE)

CONCRETE CLASS QSC1 - COMPRESSIVE STRENGTH 4000 psi (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996,

GRADE 60 MINIMUM YIELD STRENGTH 60,000 psi

STRUCTURAL STEEL - ASTM A709 GRADE 50 YIELD STRENGTH 50,000 psi

STRUCTURAL STEEL (EXISTING) - ASTM A373, YIELD STRENGTH 33,000 psi

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-81	DATED (REVISED)	7-19-02
BS-1-93	DATED (REVISED)	7-19-02
EXJ-4-87	DATED (REVISED)	7-19-02
GSD-1-96	DATED (REVISED)	7-19-02
PCB-91	DATED (REVISED)	7-19-02
SBR-1-99	DATED (REVISED)	7-19-02
VPF-1-90	DATED (REVISED)	7-19-02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION(S):

846	DATED	4-19-02
864	DATED	7-11-00
898	DATED	7-18-03
954	DATED	9-9-97

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL.

2 1/2" CONCRETE COVER

QA/QC CONCRETE

MONOLITHIC WEARING SURFACE

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

PROPOSED WORK

THE WORK TO BE DONE UNDER THIS CONTRACT IS AS SHOWN ON THE CONSTRUCTION PLANS AND, IN GENERAL, INCLUDES THE FOLLOWING:

MAH-680-0414

- 1.) PHASE REMOVAL OF EXISTING CONCRETE DECKS, APPROACH SLABS, AND PORTIONS OF THE ABUTMENTS.
- 2.) MODIFY, REPAIR AND PATCH EXISTING SUBSTRUCTURE UNITS.
- 3.) RAISE THE SUPERSTRUCTURE.
- 4.) REPLACE THE EXISTING EXPANSION JOINTS.
- 5.) REPLACE EXISTING END CROSSFRAMES AT ALL ABUTMENT LOCATIONS SHOWN ON THE PLANS.
- 6.) ELIMINATE ALL SCUPPERS FROM BRIDGE.
- 7.) REPLACE APPROACH SLABS.
- 8.) REMOVE BEARINGS AT ALL ABUTMENT LOCATIONS. INSTALL NEW ELASTOMERIC BEARINGS.
- 9.) REPLACE TWO DAMAGED BEAMS AND THE CROSSFRAMES IN TWO BAYS.
- 10.) PLACE NEW CONCRETE DECK AND PARAPETS.
- 11.) INSTALL VANDAL PROTECTION FENCING.
- 12.) SEAL CONCRETE SURFACES.
- 13.) CLEAN AND PAINT STRUCTURAL STEEL.

MAH-680-0628 AND MAH-680-0637

- 1.) REMOVE EXISTING CONCRETE DECKS, APPROACH SLABS, AND PORTIONS OF THE ABUTMENTS.
- 2.) MODIFY, REPAIR AND PATCH EXISTING SUBSTRUCTURE UNITS.
- 3.) RAISE THE SUPERSTRUCTURE.
- 4.) REPLACE THE EXISTING EXPANSION JOINTS.
- 5.) REPLACE EXISTING END CROSSFRAMES AT ALL ABUTMENT LOCATIONS SHOWN ON THE PLANS.
- 6.) REPAIR DAMAGED BEAM AT MAH-680-0637 (ONLY).
- 7.) ELIMINATE ALL SCUPPERS FROM BRIDGE.
- 8.) REPLACE APPROACH SLABS.
- 9.) REMOVE BEARINGS AT ALL ABUTMENT LOCATIONS. INSTALL NEW ELASTOMERIC BEARINGS.
- 10.) PLACE NEW CONCRETE DECK AND PARAPETS.
- 11.) INSTALL NEW LIGHT POLES ON MAH-680-0628 AND NEW VANDAL PROTECTION FENCING ON MAH-680-0637 (ONLY).
- 12.) SEAL CONCRETE SURFACES.
- 13.) CLEAN AND PAINT STRUCTURAL STEEL.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

DESCRIPTION: THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS INCLUDING SIDEWALKS, PARAPETS, RAILINGS, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, GIRDERS, CROSS FRAMES, ETC.). THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK 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 DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR AT LEAST 30 DAYS BEFORE CONSTRUCTION BEGINS. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. MAINTAIN TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR.

PROTECTION OF STEEL SUPPORTS SYSTEM: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF THE DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING THE CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER BRIDGE MEMBERS (STEEL BEAM), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER BRIDGE MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STEEL MEMBERS.

DECK REMOVALS: DUE TO THE POSSIBLE PRESENCE OF WELDED ATTACHMENTS TO EXISTING STRUCTURAL STEEL (FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRINGERS WHICH ARE TO REMAIN. REPLACE OR REPAIR STRINGERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. SUBMIT PROPOSED REPAIRS, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER, IN WRITING TO THE DIRECTOR AT LEAST 20 DAYS BEFORE PERFORMING REPAIR WORK.

EXTRANEOUS MEMBERS: REMOVE EXISTING EXTRANEOUS MEMBERS (i.e., FINISHING MACHINE AND FORM SUPPORTS, ETC.), AND THE SUPPORT FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) ATTACHED BY WELDED CONNECTION TO THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

LOADING LIMITATIONS: NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF ALLOWABLE UNIT STRESSES AS DEFINED IN THE "AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. SUBMIT STRUCTURAL ANALYSIS COMPUTATIONS, BY AN OHIO REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE REMOVAL METHODS OR EQUIPMENT TO THE DIRECTOR FOR REVIEW AND APPROVAL AT LEAST 20 DAYS BEFORE CONSTRUCTION BEGINS.

MEASUREMENT & PAYMENT: THIS DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

CUT LINE CONSTRUCTION JOINT PREPARATION

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, 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. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT 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 REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL

REMOVE CONCRETE 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 LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

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. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

MAINTENANCE OF TRAFFIC

MAH-680-0414 (STEEL STREET) AT THE PROJECT SITE, VEHICULAR AND PEDESTRIAN TRAFFIC SHALL BE MAINTAINED AS SHOWN ON THE PLANS AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

MAH-680-0628 AND MAH-680-0637 TRAFFIC SHALL BE DETOURED.

I-680 TRAFFIC WILL BE MAINTAINED ON INTERSTATE ROUTE 680 AT ALL TIMES EXCEPT AS PERMITTED FOR FALSEWORK, DECK REMOVAL, CROSSFRAME REPAIR AND INSTALLATION WITH A MINIMUM VERTICAL CLEARANCE OF 14'-0". FOR MAINTENANCE OF TRAFFIC NOTES AND DETAILS REFER TO THE ROADWAY PLANS, SEE SHEET 12 AND 13 FOR PERMITTED LANE CLOSURE.

STRUCTURE GENERAL NOTES

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN

THE BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE TYPE B GRANULAR MATERIAL, 703.16.C PLACED AND COMPACTED IN 6 INCH LIFTS.

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY THE CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN

MAH-680-0628, MAH-680-0637 AND MAH-680-0414

ALL REQUIREMENTS OF 513 APPLY TO SHOP FABRICATED MEMBERS. PERFORM WORK FOR FIELD FABRICATED MEMBERS ACCORDING TO ITEM 513, EXCEPT AS MODIFIED HEREIN. THE DEPARTMENT WILL NOT REQUIRE THE CONTRACTOR PERFORMING FIELD FABRICATION TO BE PRE-QUALIFIED AS SPECIFIED IN SUPPLEMENT 1078. SUBMIT A WRITTEN LETTER OF MATERIAL ACCEPTANCE, 501.06, TO THE ENGINEER. PROVIDE SHOP DRAWINGS ACCORDING TO 513.06 AFTER COMPLETION OF FIELD FABRICATION. THE ENGINEER WILL REVIEW THE SUBMITTED DRAWINGS FOR CONCURRENCE WITH THE FINAL AS-BUILT CONDITIONS. IF NECESSARY, THE ENGINEER MAY CONTACT THE OFFICE OF STRUCTURAL ENGINEERING FOR TECHNICAL ASSISTANCE. IF THE ENGINEER IS SATISFIED WITH THE "AS-BUILT" DRAWINGS AND THE DELIVERED MATERIALS, SUPPLY A COPY OF THE DRAWINGS, STAMPED AND DATED, ALONG WITH MICROFILM, TO THE OFFICE OF STRUCTURAL ENGINEERING FOR RECORD PURPOSES.

THE FOLLOWING MEMBERS ARE INCLUDED IN THIS ITEM: BEARING PLATES, AND CROSSFRAMES.

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS.

SUBMITTAL REQUIREMENTS: AN OHIO REGISTERED ENGINEER SHALL PREPARE, SEAL AND DATE PLANS FOR A JACKING SYSTEM, INCLUDE ANY TEMPORARY OR PERMANENT SUPPORTS, SUFFICIENT TO PERFORM THE WORK DESCRIBED IN THE PLANS. SUBMIT THREE SETS OF PLANS TO THE DIRECTOR FOR APPROVAL AT LEAST THIRTY (30) DAYS BEFORE ACTUAL WORK IS TO BEGIN.

JACKING SUBMITTALS SHALL INCLUDE AT LEAST THE FOLLOWING:

- 1.) THE SIGNATURE AND NUMBER, OR PROFESSIONAL SEAL, OF AN OHIO REGISTERED PROFESSIONAL ENGINEER WHO PREPARED THE SUBMITTAL.
- 2.) CALCULATIONS AND ANALYSES OF THE STRUCTURE TO DETERMINE AND DEFINE THE ACTUAL LOADING APPLIED AT THE JACKING POINTS.
- 3.) A DRAWING SHOWING THE PHYSICAL AND DIMENSIONAL POSITION OF THE JACKS WITH RESPECT TO THE STRUCTURE INCLUDING CLEARANCES AND CENTER OF LIFT.
- 4.) A SCHEMATIC LAYOUT OF JACKS, CHECK VALVES, PUMPS WITH 3 WAY RETRACTOR VALVE, PRESSURE GAGES, FLOW CONTROL VALVES, ETC. IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. ALL JACKS AT EACH ABUTMENT OR PIER SHALL BE THE SAME SIZE.
- 5.) ANALYSIS AND CALCULATIONS OF THE STRESSES INDUCED OR CREATED IN THE STRUCTURE AND ANY TEMPORARY OR PERMANENT SUPPORTS. DESIGN CALCULATIONS FOR ANY TEMPORARY OR PERMANENT SUPPORTS.
- 6.) PHYSICAL DIMENSIONS, MATERIALS, AND FABRICATION DETAILS OF ANY TEMPORARY OR PERMANENT SUPPORTS. HORIZONTAL AND VERTICAL MOVEMENT RESTRAINT SHALL BE PROVIDED.
- 7.) A STEP-BY-STEP PROCEDURE DETAILING ALL STEPS IN THE JACKING OPERATION.
- 8.) METHOD OF ATTACHMENT TO STRUCTURAL MEMBERS. WELDING TO TENSION AREAS WILL NOT BE PERMITTED.

JACKING SYSTEM REQUIREMENTS: THE ENTIRE SYSTEM INCLUDING JACKS SHALL HAVE 20% MORE CAPACITY THAN REQUIRED BASED ON CALCULATED LOADS. FOR LIFTS GREATER THAN 1 INCH, JACKS SHALL HAVE LOCKING NUTS TO POSITIVELY LOCK AND SUPPORT THE STRUCTURE DURING THE LIFT. JACKS SHALL HAVE A SWIVEL LOAD CAP, A DOMED PISTON HEAD OR SOME OTHER DEVICE TO PROTECT AGAINST THE EFFECTS OF SIDE LOAD ON THE JACK. DO NOT USE JACKS ALONE TO SUPPORT LOADS EXCEPT DURING THE ACTUAL JACKING OPERATION. USE TEMPORARY SUPPORTS, BLOCKING OR OTHER METHODS APPROVED BY THE DIRECTOR. DO NOT USE SINGLE ACTING RAMS WITH NO OVER-TRAVEL PROTECTION SYSTEM. HAVE SPARE EQUIPMENT AVAILABLE ON SITE IN ORDER TO PROCEED WITH THE JACKING IN THE EVENT OF BREAKDOWN. PROVIDE A LIST OF SPARE EQUIPMENT TO THE ENGINEER.

JACKING OPERATION REQUIREMENTS: AT A MINIMUM, A JACKING OPERATION SHALL LIFT ALL BEAMS AT ANY ONE ABUTMENT OR PIER SIMULTANEOUSLY. THE ONLY EXCEPTION IS THE SITUATION WHERE THE WORK INVOLVES REPLACING OR RE-HABILITATING INDIVIDUAL BEARINGS; NO PERMANENT SHIMMING IS REQUIRED AND THE HEIGHT OF THE LIFT SHALL NOT EXCEED 1/4 INCH. THE MAXIMUM DIFFERENTIAL JACKING HEIGHT BETWEEN ANY ADJACENT ABUTMENTS OR PIERS SHALL BE 1 INCH OR LESS. IF THIS 1 INCH LIMIT IS TO BE EXCEEDED, PROVIDE CALCULATIONS SHOWING THAT THE SUPERSTRUCTURE COMPONENTS WILL NOT BE TEMPORARILY STRESSED BEYOND ALLOWABLE STRESSES AND THAT NO PERMANENT STRESSES WILL BE INDUCED IN THE COMPONENTS AFTER THEY OBTAIN THEIR FINAL POSITION. IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPERATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH ODOT'S PROPOSAL NOTE "CONCRETE REPAIR BY EPOXY INJECTION". THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

BASIS OF PAYMENT: THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516 - JACKING AND TEMPORAY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

ITEM 526 - REINFORCED CONCRETE APPROACH SLAB, T -15 INCHES, AS PER PLAN

CONCRETE FOR THIS ITEM SHALL BE CLASS QC/QA CONCRETE, CLASS QSC2. THIS ITEM SHALL INCLUDE ALL WORK AND MATERIALS NECESSARY TO CONSTRUCT THE PROPOSED APPROACH SLAB WITH PARAPETS, TRANSITION PARAPETS AND CURBING.

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.

UTILITY LINES

ALL EXPENSE INVOLVED IN RELOCATION (INSTALLING) THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE UTILITY(IES). THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL

THE COLOR OF THE FINISH COAT SHALL BE A BLUE COLOR MEETING FEDERAL STANDARD NUMBER 15450. IN ADDITION TO THE SURFACE AREA OF THE STEEL BEAMS TO BE PAINTED, AN ADDITIONAL FIFTEEN PERCENT OF THIS AMOUNT HAS BEEN ADDED TO THE SQUARE FOOT TOTALS TO ACCOUNT FOR INCIDENTALS SUCH AS CROSS FRAMES AND BEARINGS.

PAINTING OF 513 STEEL

THE NEW STEEL SHALL ALSO BE PREPARED AND PAINTED PER SPECIFICATION 514 IN THE FIELD AS IF IT WERE EXISTING STEEL. QUANTITIES AND PAYMENT FOR THIS WORK IS INCLUDED IN THE SQUARE FOOT UNIT PRICE BID ITEM 514.

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 ENGINEER'S 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.

MECHANICAL CONNECTORS

AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S PROCEDURES. ALL MECHANICAL CONNECTORS SHALL BE EPOXY COATED. COATING FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. CONNECTORS SHALL CONFORM TO ITEM 509 AND SHALL BE CONSIDERED INCIDENTAL TO THE BID PRICE FOR ITEM 509.

CONCRETE PARAPET SAWCUT JOINTS

MAH-680-0628, MAH-680-0637 AND MAH-680-0414

AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, SAWCUT 1/4" DEEP CONTROL JOINTS INTO THE PERIMETER OF THE CONCRETE PARAPET STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. PLACE THE SAWCUTS AT A MINIMUM OF 6 FEET AND A MAXIMUM OF 10 FEET CENTERS. USE AN EDGE GUIDE, FENCE, OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 1/4 INCH. SEAL THE PERIMETER OF THE DEFLECTION CONTROL JOINT TO A MINIMUM DEPTH OF 1 INCH WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. LEAVE THE BOTTOM 1/2 INCH OF THE INSIDE AND OUTSIDE FACE UNSEALED TO ALLOW WATER TO ESCAPE.

ASBESTOS NOTIFICATION

AN ASBESTOS SURVEY OF STEEL STREET OVER I-680 (MAH-680-0414), RAMP FROM SOUTHBOUND I-680 TO EASTBOUND U.S. 62 (MAH-680-0628), AND WAYNE/PYATT STREET OVER I-680 (MAH-680-0637) BRIDGE STRUCTURES WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE BRIDGES.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OPEA) NOTIFICATION OF THE DEMOLITION AND RENOVATION FORM, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO:

MAHONING-TRUMBELL AIR POLLUTION CONTROL
OAK HILL/RENAISSANCE PLACE
SECOND FLOOR, ROOM 25
345 OAK HILL AVENUE
YOUNGSTOWN, OHIO 44502
ROBERT RAMHOFF, DIRECTOR
(330) 744-1928
FAX: (330) 744-1928

AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF THE DEMOLITION OF THE BRIDGE. THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER. INFORMATION REQUIRED ON THE FORM WILL INCLUDE:

- 1.) THE CONTRACTOR'S NAME AND ADDRESS.
- 2.) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL.
- 3.) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED.

A COPY OF THE OPEA FORM IS AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 4 OFFICE, 2088 SOUTH ARLINGTON STREET, AKRON, OHIO 44306.

BASIS FOR PAYMENT: THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OPEA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

STRUCTURE GENERAL NOTES

ITEM 601 - SLOPE PROTECTION, MISC.: REPAIR/REPLACEMENT OF EXISTING CONCRETE SLOPE PROTECTION

MAH-680-0628 AND MAH-680-0637

REPAIR/REPLACE ALL EXISTING AREAS DEEMED BY THE ENGINEER TO BE IN NEED OF REPAIR. ALL REPLACEMENT WORK SHALL BE DONE ACCORDING TO ITEM 601 OF THE CMS. THE DEPARTMENT WILL MEASURE THE REPLACEMENT AREA BY THE NUMBER OF SQUARE YARDS ACCEPTED IN PLACE.

ITEM 864 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

THE CONCRETE SEALING MATERIAL SHALL BE THE "LIGHT NEUTRAL" COLOR MEETING THE FEDERAL COLOR STANDARD NO. 17778 AS PER THE DETAILS ON THE PLANS.

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MAH-680-0414

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PHASE II CONSTRUCTION SCREED ELEVATIONS [23/28]

EXPANSION JOINT REPLACEMENT DETAIL [24/28]

APPROACH SLAB DETAILS [25/28]

REINFORCEMENT SCHEDULE [26/28] THRU [28/28]

MAH-680-0628

SITE PLAN [1/24]

ESTIMATED QUANTITIES [2/24]

REAR ABUTMENT REMOVAL DETAILS [3/24]

FORWARD ABUTMENT REMOVAL DETAILS [4/24]

REAR ABUTMENT DETAILS [5/24] THRU [6/24]

FORWARD ABUTMENT DETAILS [7/24] THRU [8/24]

PIER DETAILS [9/24] THRU [11/24]

FRAMING PLAN [12/24]

SUPERSTRUCTURE DETAILS [13/24] THRU [14/24]

BEARING DETAILS [15/24]

DECK PLAN [16/24]

TRANSVERSE SECTION [17/24]

SCREED ELEVATIONS - SPANS 1 THRU 3 [18/24]

SCREED ELEVATIONS - SPANS 4 THRU 6 [19/24]

EXPANSION JOINT REPLACEMENT DETAIL [20/24]

APPROACH SLAB PLAN [21/24]

APPROACH SLAB PARAPET DETAILS [22/24]

REINFORCEMENT SCHEDULE [23/24] THRU [24/24]

MAH-680-0637

SITE PLAN [1/28]

ESTIMATED QUANTITIES [2/28]

REAR ABUTMENT REMOVAL DETAILS [3/28] THRU [4/28]

REAR ABUTMENT DETAILS [5/28] THRU [7/28]

FORWARD ABUTMENT REMOVAL DETAILS [8/28] THRU [9/28]

FORWARD ABUTMENT DETAILS [10/28] THRU [12/28]

PIER PATCHING DETAILS [13/28]

PIER DETAILS [14/28] THRU [15/28]

FRAMING PLAN [16/28]

SUPERSTRUCTURE DETAILS [17/28] THRU [19/28]

BEARING DETAILS [20/28]

DECK PLAN [21/28]

PARAPET AND RAILING DETAILS [22/28]

TRANSVERSE SECTION [23/28]

SCREED ELEVATIONS - SPANS 1 THRU 4 [24/28]

SCREED ELEVATIONS - SPANS 5 THRU 7 [25/28]

EXPANSION JOINT REPLACEMENT DETAIL [26/28]

REINFORCEMENT SCHEDULE [27/28] THRU [28/28]

DATE	05/28/04
REVIEWED PER	FILE NUMBER
STRUCTURE FILE NUMBER	
DRAWN CAG	REVISED
DESTIGNED NFF	CHECKED BTA

STRUCTURE GENERAL NOTES
BRIDGE No. MAH-680-0414/MAH-680-0628/MAH-680-0637

MAH-680-4.14/
6.28/6.37

63/3

97
191

BENCHMARK 1
TOP OF IRON PIN SET @ STA. 49+02, 22.4' RT. EL. 941.51
BENCHMARK 2
TOP OF IRON PIN SET @ STA. 53+28, 22.0' LT. EL. 934.11

TRAFFIC DATA
STEEL STREET
CURRENT YEAR (2005) = 3,410 ADT
DESIGN YEAR (2025) = 3,570 ADT
TRUCKS = 4%

EXISTING STRUCTURE

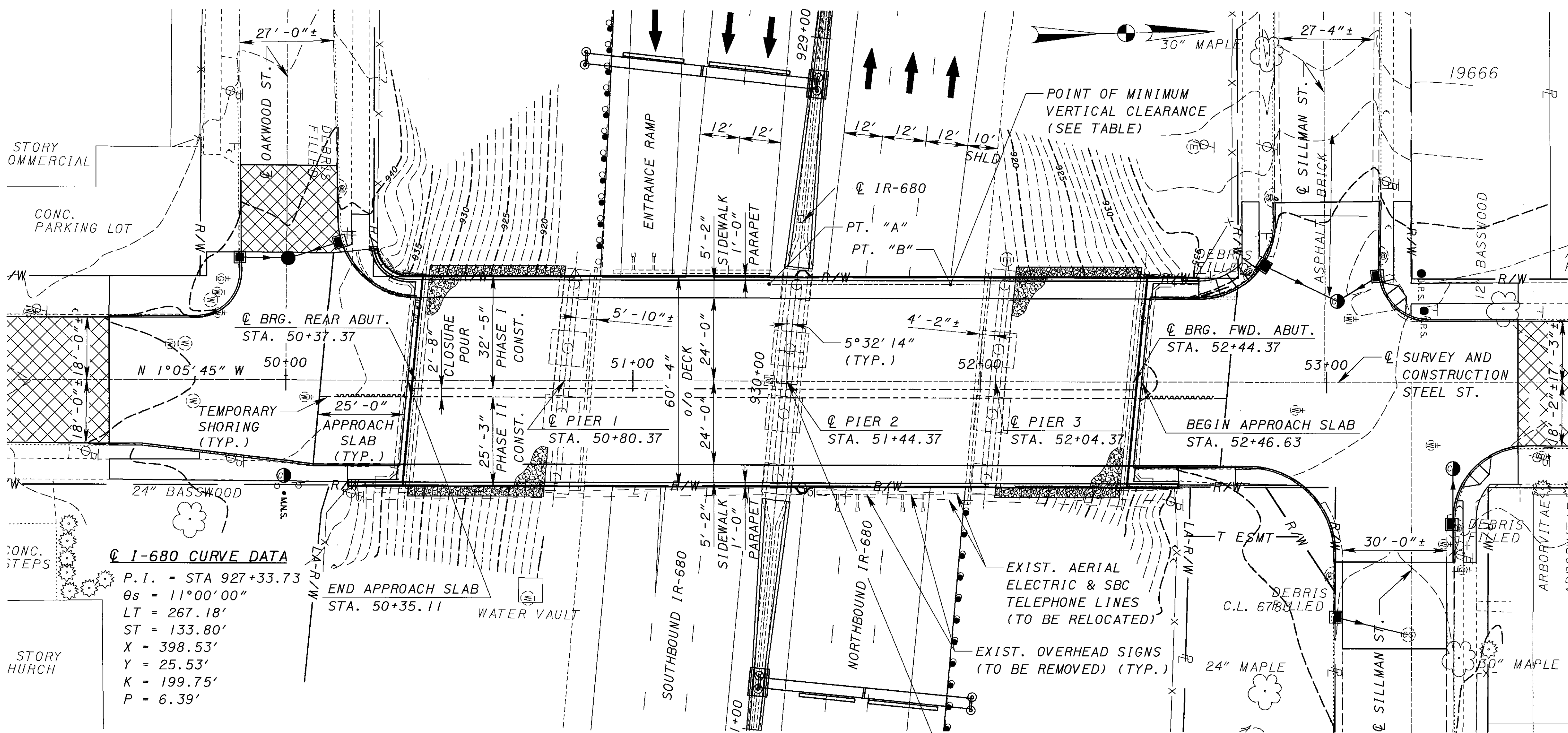
TYPE: 4 SPAN CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
 SPANS: 43'-0"±, 64'-0"±, 60'-0"±, 40'-0"± c/c BRGS
 ROADWAY: 48'-0" f/f CURBS, 5'-0" SIDEWALK ON BOTH SIDES
 LOADING: CF 2000 - ADEQUATE FOR AASHO ALTERNATE LOADING
 SKEW: 5°32'14" L.F.
 ALIGNMENT: TANGENT
 WEARING SURFACE: 1" MONOLITHIC CONCRETE
 APPROACH SLABS: AS-1-54 (25'-0" LONG)
 DATE BUILT: 1963
 STRUCTURE FILE No.: 5006813

PROPOSED STRUCTURE

PROPOSED WORK: REPLACE EXISTING DECK WITH NEW DECK, MADE COMPOSITE WITH EXISTING BEAMS, REPLACE IMPACT DAMAGED BEAMS A AND B AND CROSS FRAMES, REBUILD ABUTMENT BACKWALLS AND REPLACE EXPANSION JOINTS AND BEARINGS, RAISE SUPERSTRUCTURE, PATCH EXISTING SUBSTRUCTURE.

TYPE: 4 SPAN CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
 SPANS: 43'-0"±, 64'-0"±, 60'-0"±, 40'-0"± c/c BRGS
 ROADWAY: 48'-0" f/f CURBS, 5'-2" SIDEWALK ON BOTH SIDES
 LOADING: HS-25 (CASE II) AND ALTERNATE MILITARY LOADING
 FWS = 60 LBS/FT²
 SKEW: 5°32'14" L.F.
 ALIGNMENT: TANGENT
 CROWN: 0.0156
 WEARING SURFACE: 1" MONOLITHIC CONCRETE
 APPROACH SLABS: AS-1-81 (25'-0" LONG)
 LATITUDE: N 41°06'19"
 LONGITUDE: W 80°40'58"

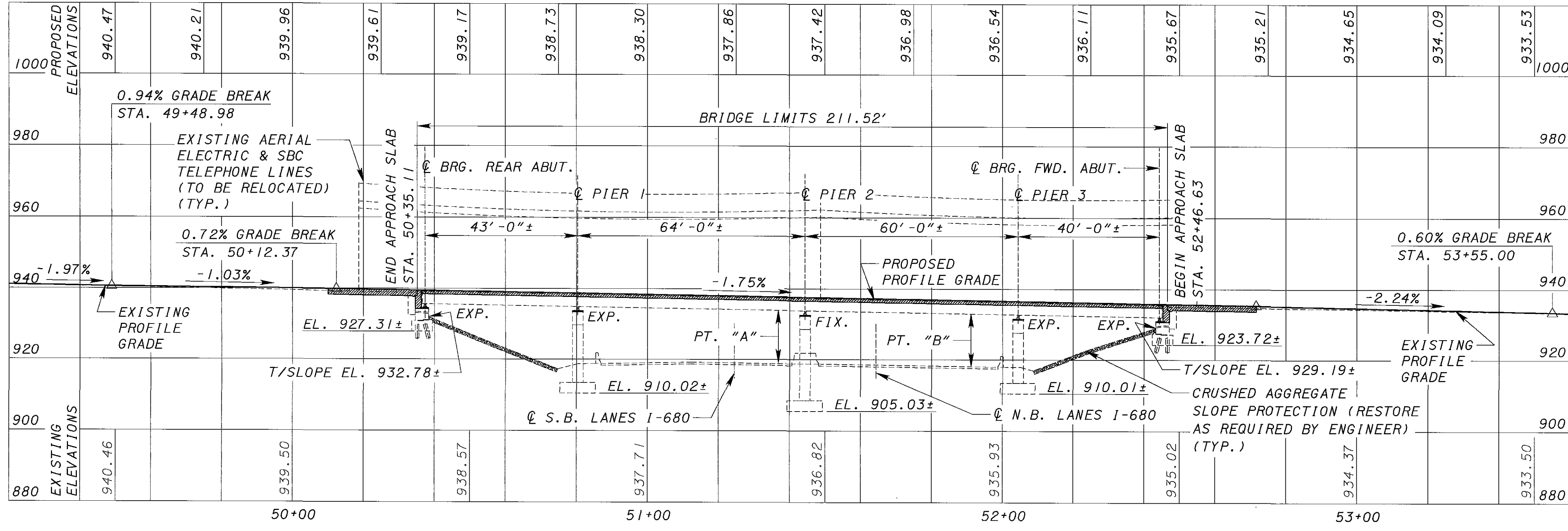
- NOTES:**
- ALL SHEETS WITH PLAN DIMENSIONS ARE SHOWN HORIZONTAL.
 - EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
 - THE PROPOSED PROFILE GRADE IS WITHIN BRIDGE LIMITS. SEE ROADWAY PLANS FOR PAVEMENT ELEVATIONS BEYOND BRIDGE LIMITS.
 - ABBREVIATIONS:
 TYP. - TYPICAL
 BRG. - BEARING
 ABUT. - ABUTMENT
 EL. - ELEVATION
 STA. - STATION
 FIX. - FIXED
 PT. - POINT
 N.B. - NORTHBOUND
 S.B. - SOUTHBOUND
 FWD. - FORWARD
 EXIST. - EXISTING
 CONST. - CONSTRUCTION
 EXP. - EXPANSION



I-680 CURVE DATA

P.I. = STA 927+33.73
 θs = 11°00'00"
 LT = 267.18'
 ST = 133.80'
 X = 398.53'
 Y = 25.53'
 K = 199.75'
 P = 6.39'

POINT	"A"	"B"
EXISTING	15.04'	14.65'
PROPOSED	15.85'	15.50'
REQUIRED	15.50'	15.50'



PROFILE ALONG Q SURVEY AND CONSTRUCTION STEEL STREET

MADE BY: BTA DATE: 3/18/04
 CHECK'D BY: MLR DATE: 5/18/04

ESTIMATED QUANTITIES

STRUCTURE FILE NUMBER: 5006813

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	REAR ABUTMENT	FORWARD ABUTMENT	PIERS	SUPERSTRUCTURE	GENERAL	AS PER PLAN REFERENCE SHEET NUMBER
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					LUMP	61/3
202	22901	287	SQ.YD.	APPROACH SLAB REMOVED, AS PER PLAN					287	1/28
503	11100	LUMP		COFFERDAMS, CRIBS AND SHEETING					LUMP	
503	21101	379	CU.YD.	UNCLASSIFIED EXCAVATION, AS PER PLAN	200	179				62/3
509	10000	133426	POUND	EPOXY COATED REINFORCING STEEL	8318	8100	9543	107465		
509	20001	300	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN					300	62/3
510	10000	1520	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	404	402	714			
512	33000	4	SQ.YD.	TYPE 2 WATERPROOFING	2	2				
513	10200	8396	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF				8396		
513	10260	56769	POUND	STRUCTURAL STEEL MEMBERS, LEVEL 3				56769		
513	20000	5262	EACH	WELDED STUD SHEAR CONNECTOR				5262		
514	00050	13472	SQ.FT.	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL (SEE PROPOSAL NOTE)				13472		
514	00056	13472	SQ.FT.	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT (SEE PROPOSAL NOTE)				13472		
514	00060	17851	SQ.FT.	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT (SEE PROPOSAL NOTE)				17851		
514	00066	17851	SQ.FT.	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT (SEE PROPOSAL NOTE)				17851		
514	00504	25	MAN HOUR	GRINDING FINIS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL (SEE PROPOSAL NOTE)				25		
514	10000	9	EACH	FINAL INSPECTION REPAIR (SEE PROPOSAL NOTE)				9		
516	11211	118	FT.	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN	59	59				24/28
516	44000	18	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES (NEOPRENE) (7"x11 1/2"x1.45") AND LOAD PLATE (8"x12 1/2"x1.75")	9	9				
516	44000	18	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES (NEOPRENE) (10 1/2"x17"x2.05") AND LOAD PLATE (11 1/2"x18"x2.50")			18			
516	44100	9	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES (NEOPRENE) (10"x16"x1.83") AND LOAD PLATE (11"x22"x2.50")			9			
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN					LUMP	62/3
518	21200	70	CU.YD.	POROUS BACKFILL WITH FILTER FABRIC	36	34				
518	40000	139	FT.	6" PERFORATED CORRUGATED PLASTIC PIPE	70	69				
518	40010	54	FT.	6" NON - PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	27	27				
519	11101	75	SQ.FT.	PATCHING CONCRETE STRUCTURES, AS PER PLAN	2	22	51			62/3
526	25001	289	SQ.YD.	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN	151	138				62/3
601	21100	214	SQ.YD.	SLOPE PROTECTION, MISC.: RESTORE EXISTING CRUSHED AGGREGATE PROTECTION	87	127				
SPECIAL	607E39930	459	FT.	VANDAL PROTECTION FENCE, 12' CURVED, COATED FABRIC				459		
846	73000	115	SQ.YD.	TREATING CONCRETE BRIDGE DECKS WITH HMW RESIN				109	6	
864	10050	305	SQ.YD.	SEALING OF CONCRETE SURFACES (NON-EPOXY)				305		
864	10100	970	SQ.YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	96	93	371	410		
898	10200	349	CU.YD.	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (DECK)				349		
898	11000	113	CU.YD.	QC/QA CONCRETE, CLASS QSC2, SUPERSTRUCTURE (PARAPET) (*)				113		
898	20000	112	CU.YD.	QC/QA CONCRETE, CLASS QSC1, SUBSTRUCTURE	41	40	31			

* - INCLUDES SIDEWALK



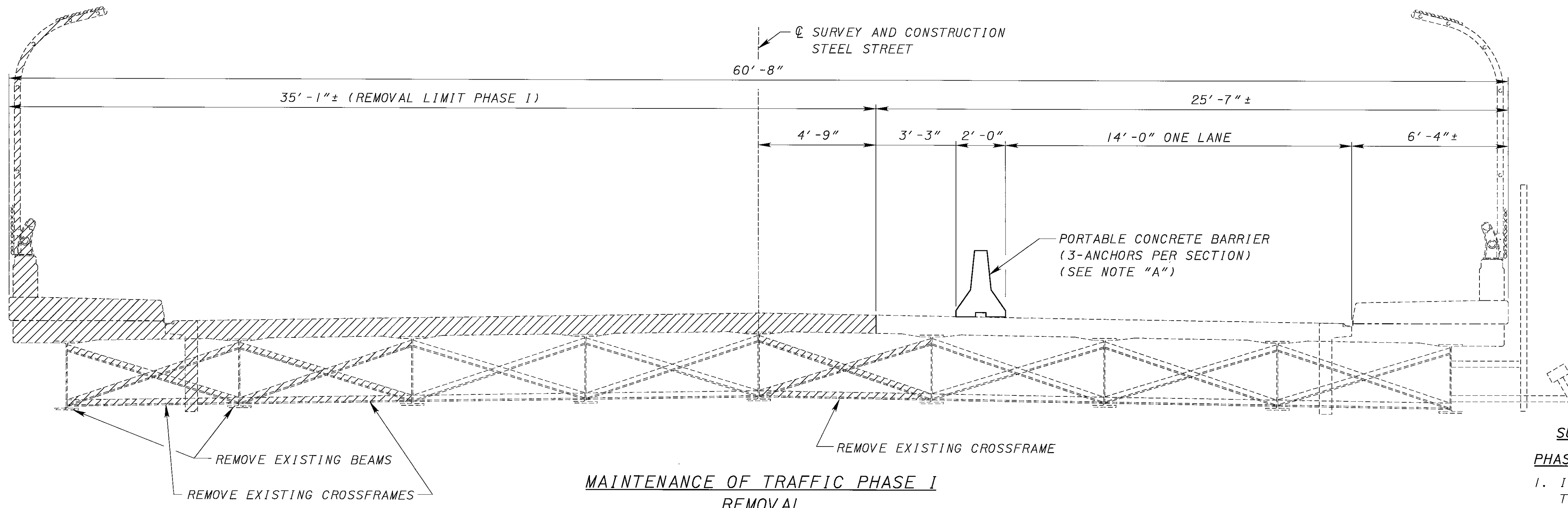
DESIGN AGENCY
 TRANS SYSTEMS CORPORATION
 95 PUBLIC SQUARE, SUITE 1650
 CLEVELAND, OHIO 44115-9901

DATE 05/28/04
 REVIEWER RER
 STRUCTURE FILE NUMBER 5006813

DRAWN BTA
 CHECKED MLR

ESTIMATED QUANTITIES
 BRIDGE NO. MAH-680-0414
 STEEL STREET OVER IR-680

MAH-680-4.14/
 6.28/6.37

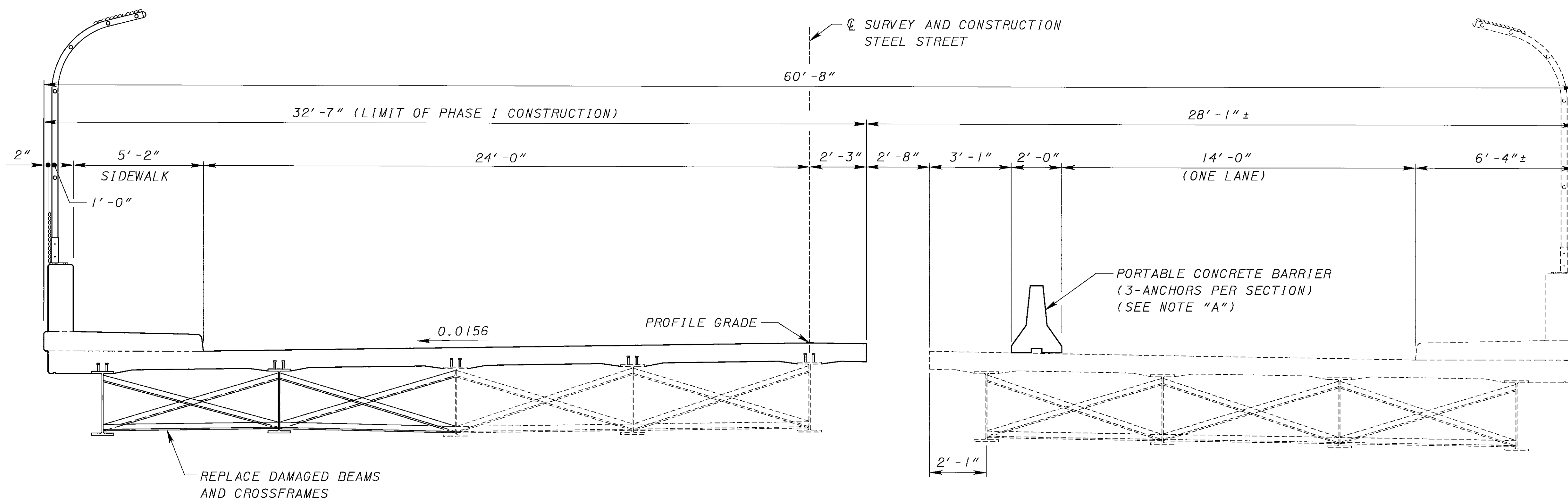


**MAINTENANCE OF TRAFFIC PHASE I
 REMOVAL**

NOTE "A": ALL BARRIER SEGMENTS SHALL BE FASTENED TO THE BRIDGE DECK USING ONE INCH DIAMETER HIGH STRENGTH THROUGH BOLTS OR APPROVED RESIN ANCHORS. WHEN RESIN ANCHORS ARE USED THEY MUST BE EMBEDDED A MINIMUM OF 6 1/2" INTO FIRM CONCRETE. ALL ANCHORS SHALL BE PLACED SYMMETRICAL ABOUT THE CENTER OF EACH SUPPORT.

SUGGESTED CONSTRUCTION SEQUENCE:

- PHASE I**
1. INSTALL PORTABLE CONCRETE BARRIER AS SHOWN ON THE PLANS.
 2. DIRECT TRAFFIC TOWARD EASTERLY PORTION OF THE BRIDGE.
 3. PROVIDE FOR ONE LANE OF TRAFFIC ACROSS THE BRIDGE USING SIGNALIZED CLOSING.
 4. REMOVE EXISTING DECK TO THE LIMIT SHOWN IN MAINTENANCE OF TRAFFIC PHASE I REMOVAL.
 5. REMOVE EXISTING BEAMS AND CROSSFRAMES AT LOCATIONS SHOWN ON THE PLANS.
 6. REPLACE EXISTING BEARINGS AND RESET EXISTING BEAMS TO NEW ADJUSTED PROFILE.
 7. ERECT NEW BEAMS.
 8. CONSTRUCT NEW DECK, SIDEWALK AND PARAPET AS SHOWN ON MAINTENANCE OF TRAFFIC PHASE I NEW CONSTRUCTION.
 9. INSTALL PORTABLE CONCRETE BARRIER ON THE NEWLY CONSTRUCTED WORK.

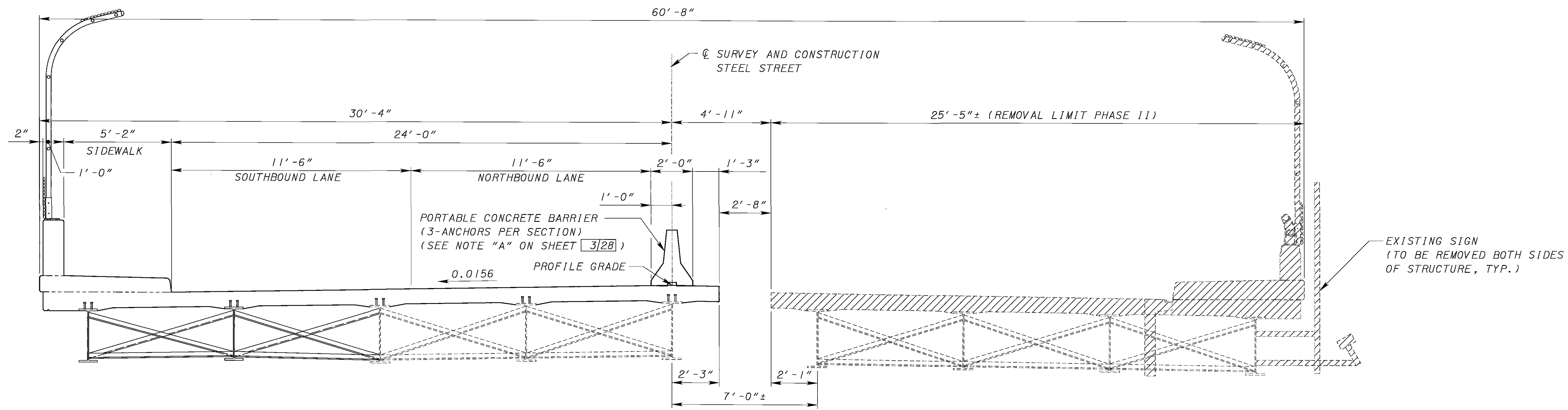


**MAINTENANCE OF TRAFFIC PHASE I
 NEW CONSTRUCTION**

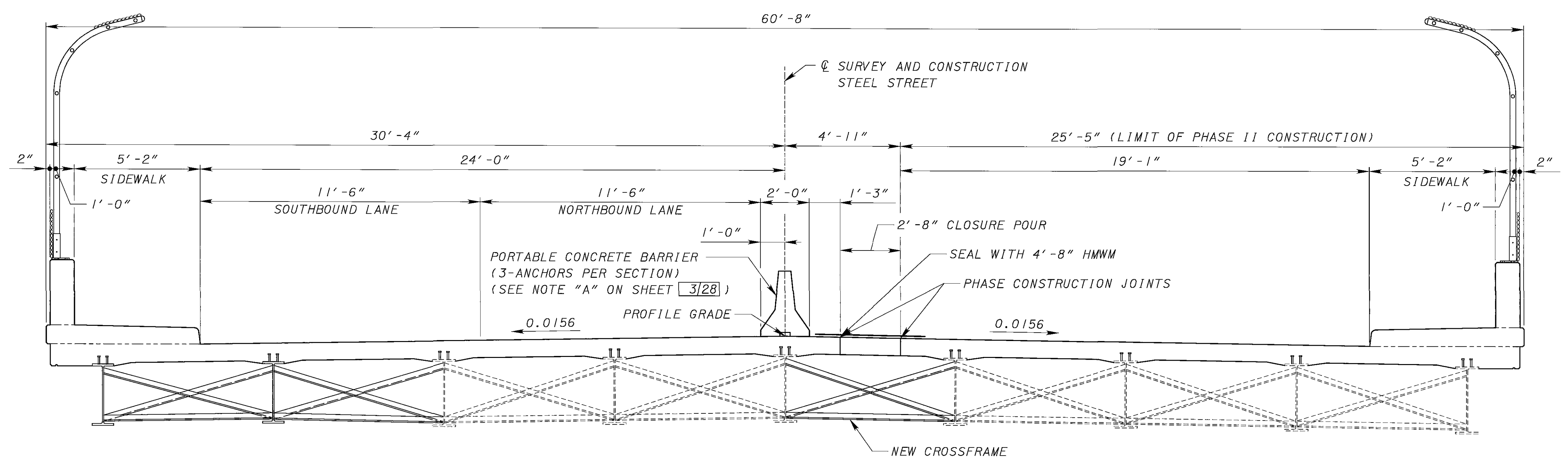
LEGEND

INDICATES AREAS TO BE REMOVED AS PER ITEM 202 - PORTION OF STRUCTURES REMOVED, AS PER PLAN

- PHASE II**
1. DIRECT TRAFFIC TOWARD WESTERLY PORTION OF THE BRIDGE.
 2. PROVIDE FOR TWO LANES OF TRAFFIC ACROSS THE BRIDGE (ONE LANE EACH WAY).
 3. REMOVE EXISTING DECK TO THE LIMIT SHOWN IN MAINTENANCE OF TRAFFIC PHASE II REMOVAL.
 4. REPLACE EXISTING BEARINGS AND RESET EXISTING BEAMS TO NEW ADJUSTED PROFILE.
 5. CONSTRUCT NEW DECK, SIDEWALK AND PARAPET AS SHOWN ON MAINTENANCE OF TRAFFIC PHASE II NEW CONSTRUCTION.
 6. MAKE CLOSURE BAY NEW CROSSFRAME CONNECTIONS. PLACE CLOSURE SECTION DECK CONCRETE. REWORK APPROACH ROADWAY AS REQUIRED.
 7. SEAL LONGITUDINAL JOINT WITH HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM).
 8. RESUME NORMAL TRAFFIC.



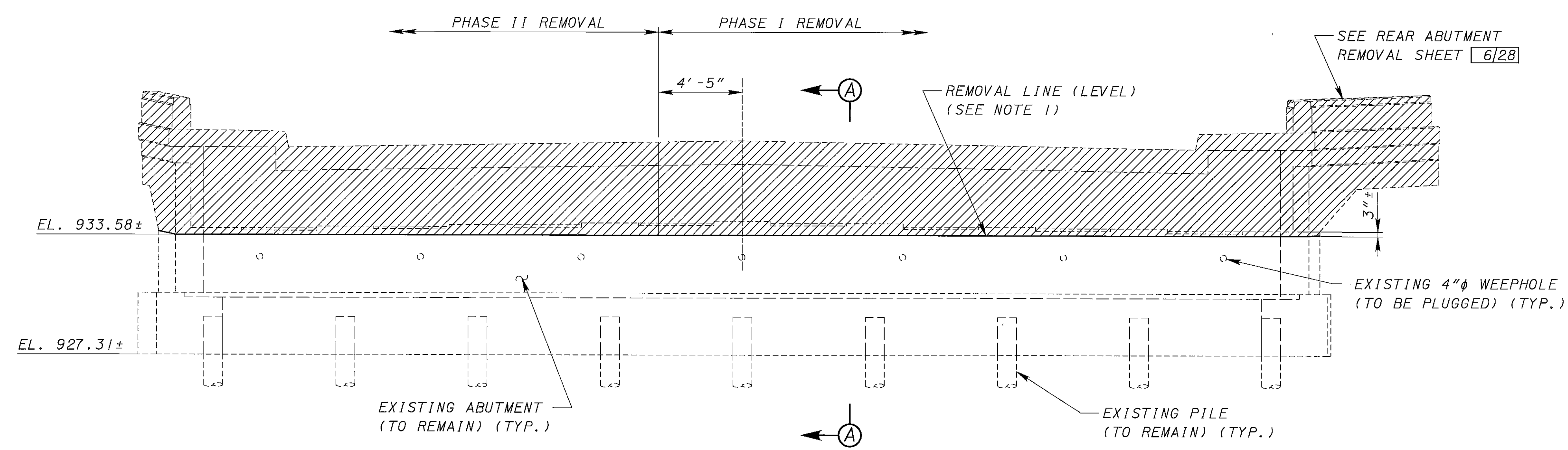
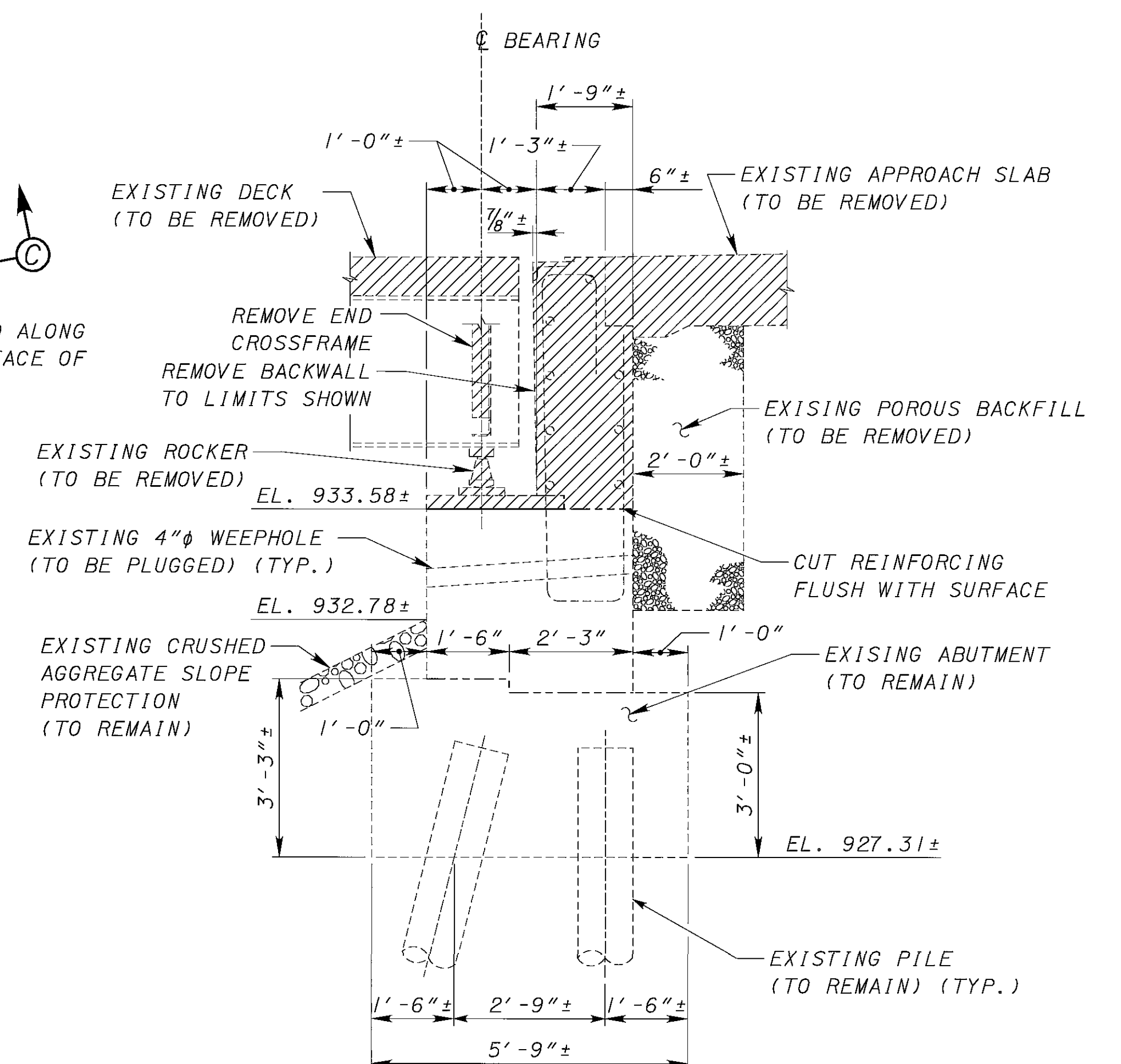
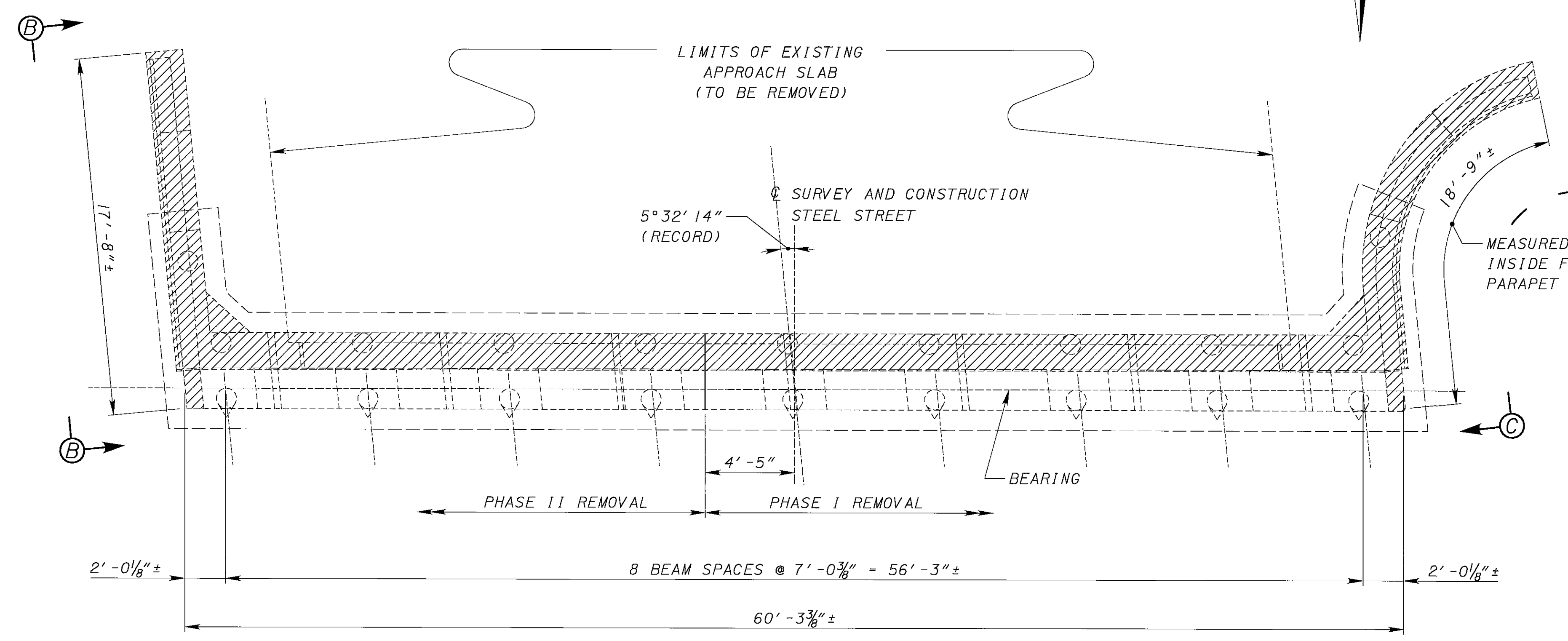
**MAINTENANCE OF TRAFFIC PHASE II
 REMOVAL**



**MAINTENANCE OF TRAFFIC PHASE II
 NEW CONSTRUCTION**

NOTES:
 1. FOR SEQUENCING NOTES SEE SHEET 3/28.

LEGEND
 [Hatched Box] - INDICATES AREAS TO BE REMOVED AS PER ITEM 202 - PORTION OF STRUCTURES REMOVED, AS PER PLAN

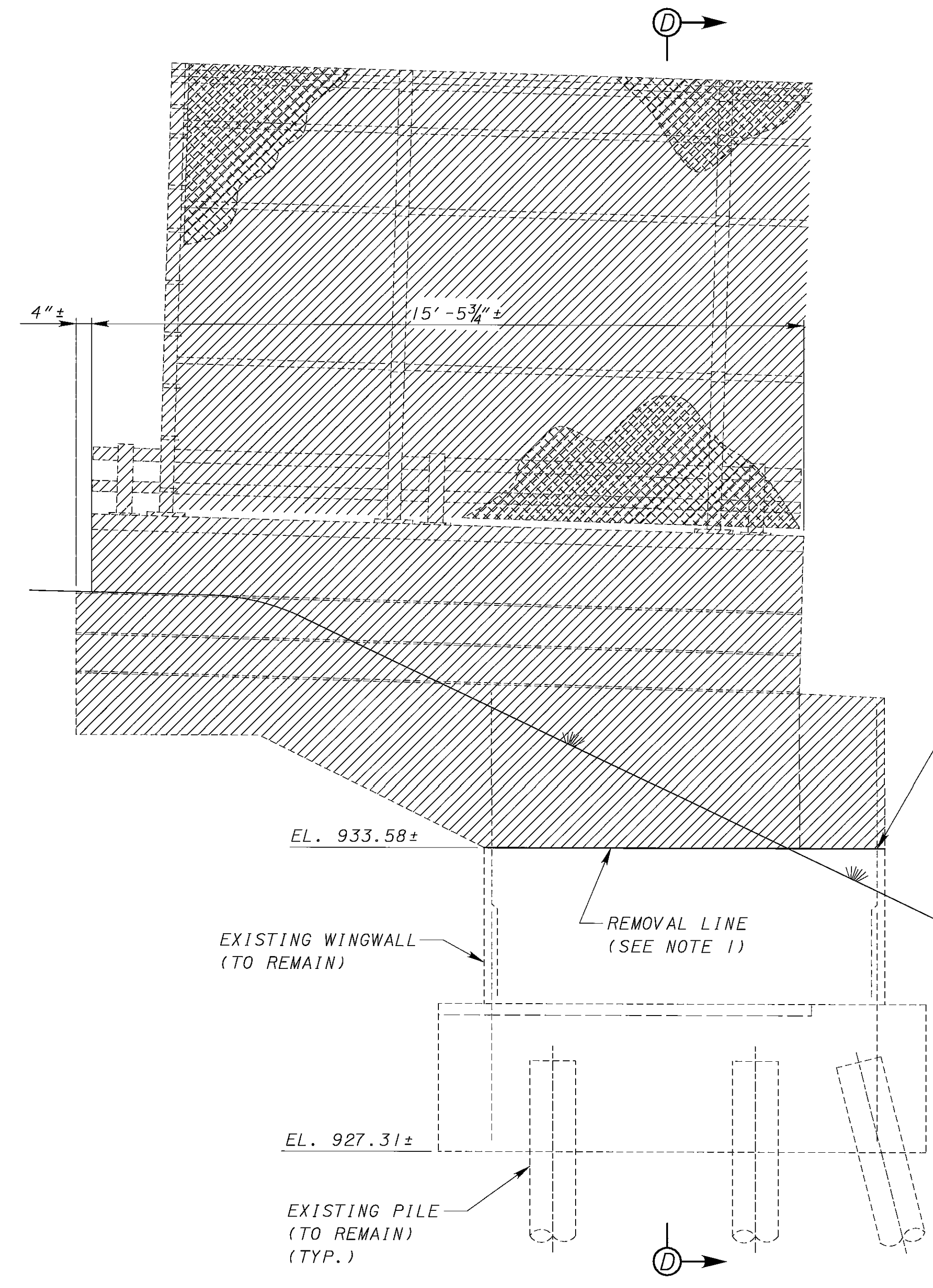


LEGEND:

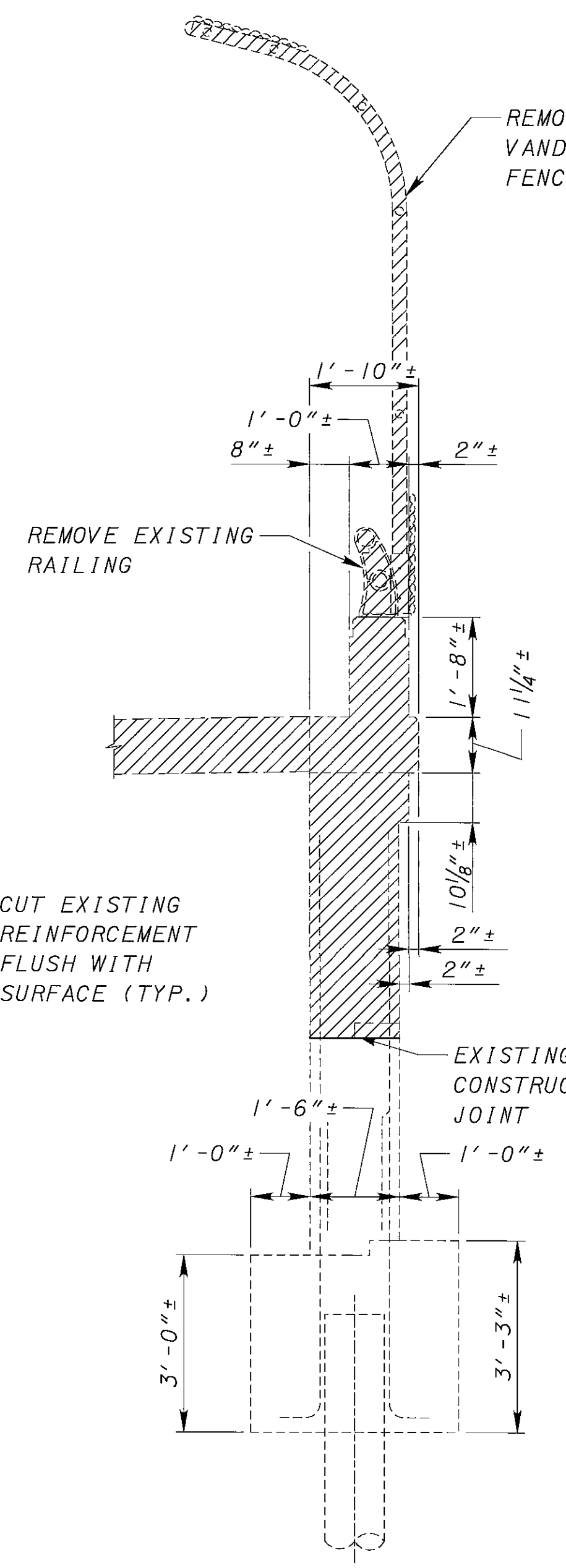
— INDICATES AREAS TO BE REMOVED AS PER ITEM 202 - PORTIONS OF STRUCTURES REMOVED, AS PER PLAN

NOTES:

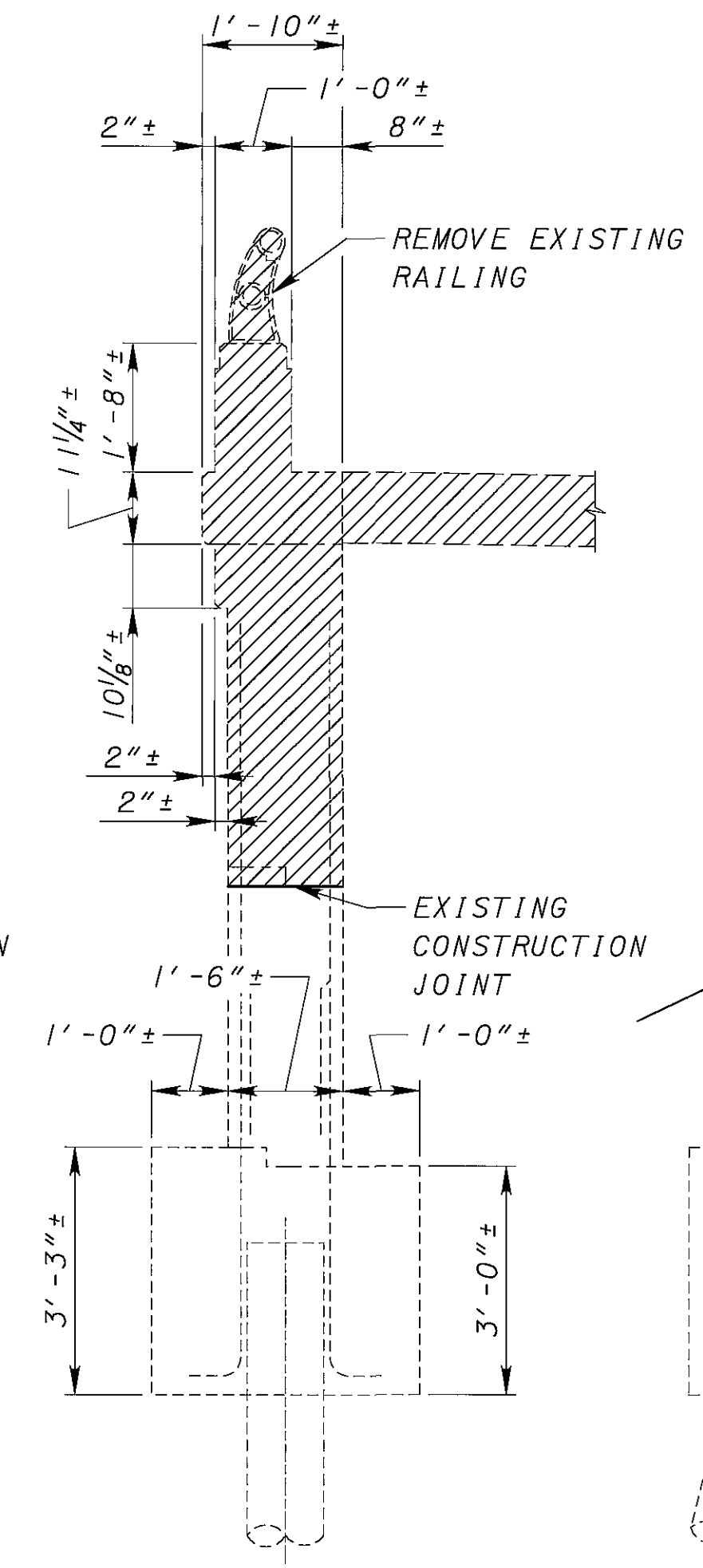
1. PREPARE AND SCARIFY SURFACE AS PER "CUT LINE CONSTRUCTION JOINT PREPARATION", SEE GENERAL NOTE SHEET 6/13.
2. FOR ELEVATION B-B AND C-C, SEE SHEET 6/28.



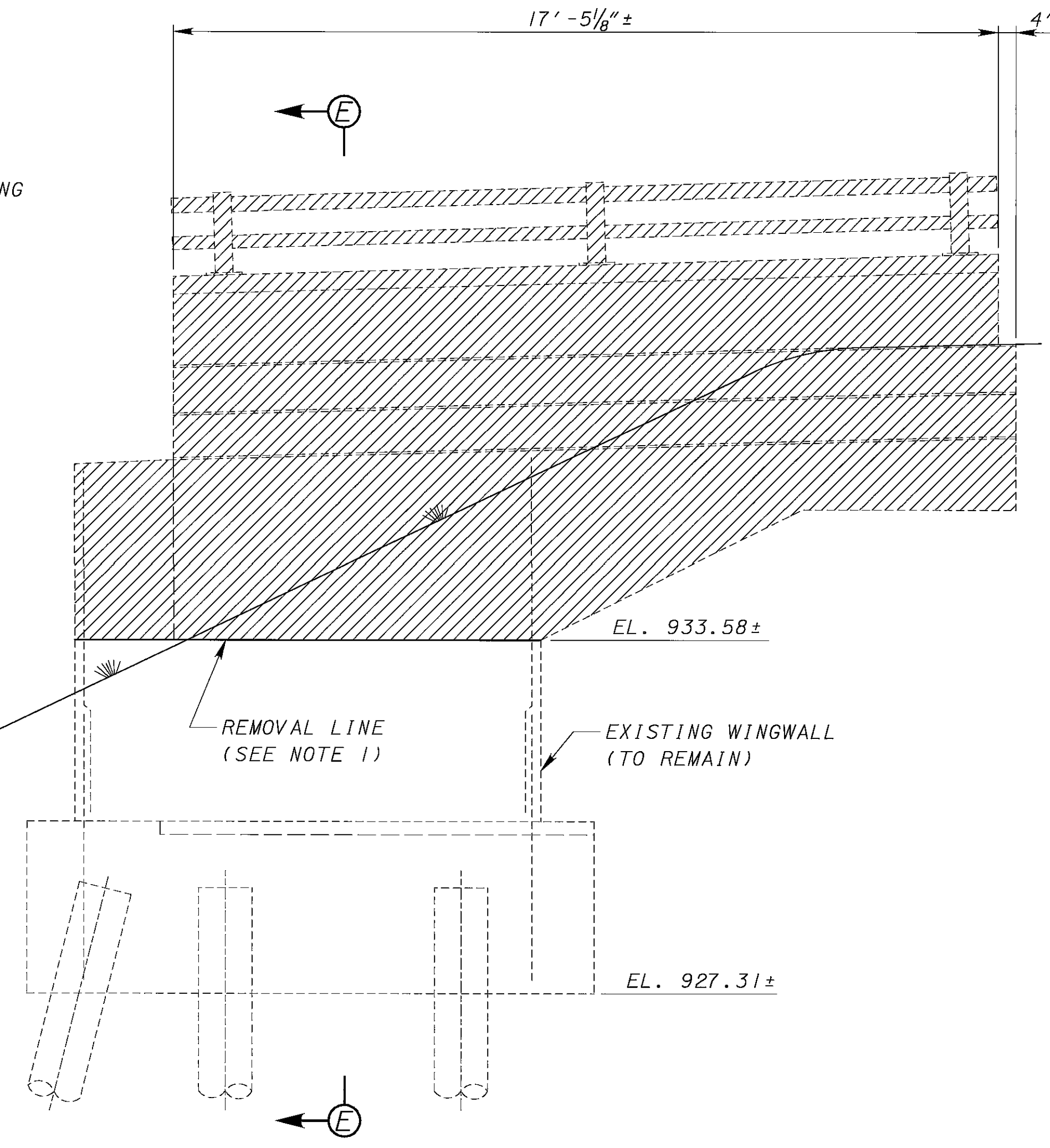
ELEVATION B-B



SECTION D-D



SECTION E-E



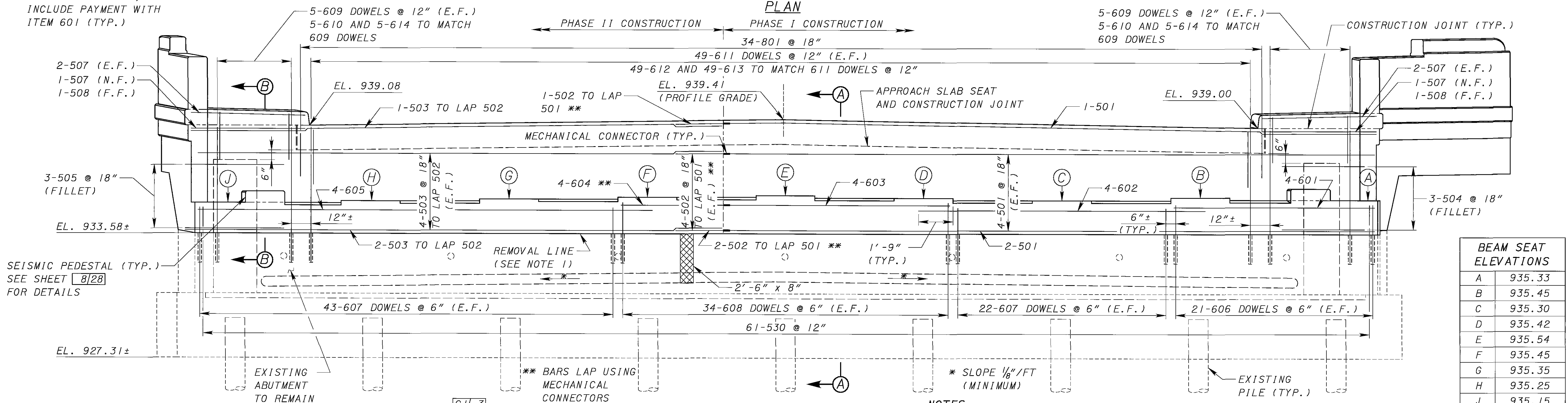
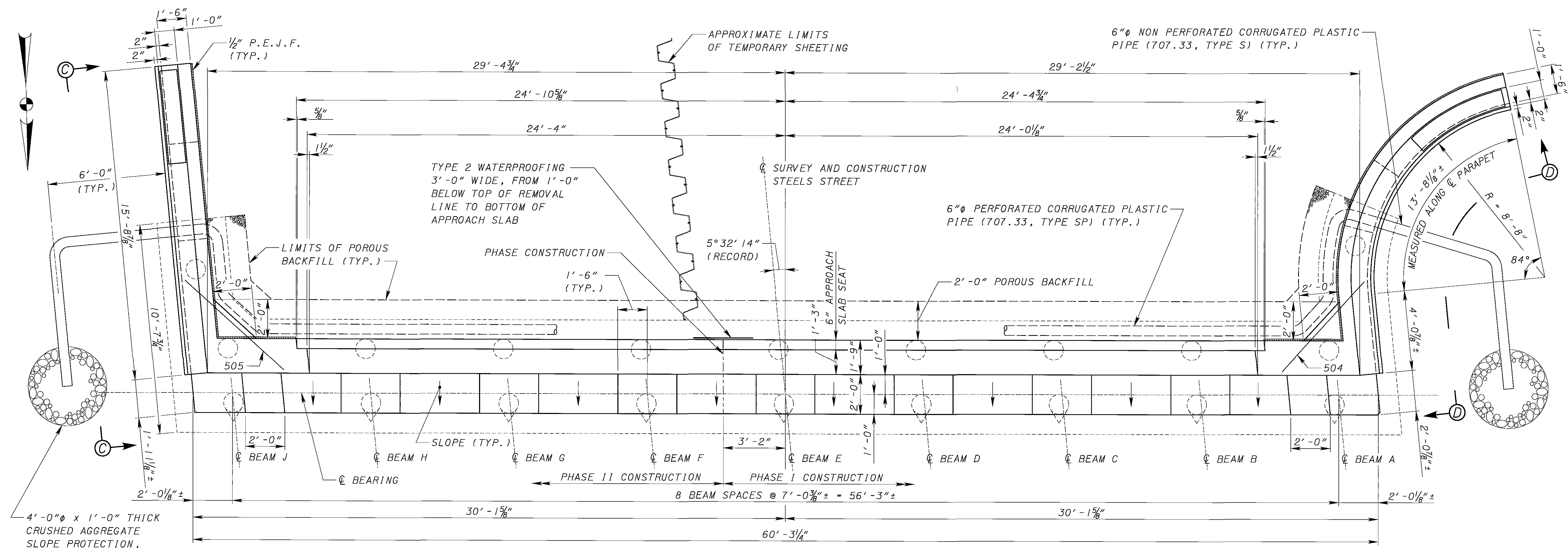
ELEVATION C-C

LEGEND:

— INDICATES AREAS TO BE REMOVED AS PER ITEM 202 - PORTIONS OF STRUCTURES REMOVED, AS PER PLAN

NOTES:

1. PREPARE AND SCARIFY SURFACE AS PER "CUT LINE CONSTRUCTION JOINT PREPARATION", SEE GENERAL NOTE SHEET 6/13.



BEAM SEAT ELEVATIONS	
A	935.33
B	935.45
C	935.30
D	935.42
E	935.54
F	935.45
G	935.35
H	935.25
J	935.15

LEGEND:

▨ - ITEM 519 - PATCHING CONCRETE STRUCTURES

ABBREVIATIONS:

CLR. - CLEAR
 E.F. - EACH FACE
 EL. - ELEVATION
 F.F. - FAR FACE
 MIN. - MINIMUM
 N.F. - NEAR FACE
 P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
 SPA. - SPACES
 TYP. - TYPICAL

NOTES:

- PREPARE AND SCARIFY SURFACE AS PER "CUT LINE CONSTRUCTION JOINT PREPARATION", SEE GENERAL NOTE SHEET [61/3].
- FOR SECTION A-A AND B-B, SEE SHEET [8/28].
- FOR ELEVATION C-C AND D-D, SEE SHEET [9/28].
- FOR REINFORCING SCHEDULE, SEE SHEET [26/28].
- ALL REINFORCING BARS SHALL BE PREFIXED AS FOLLOWS:
 REAR ABUTMENT - RA
- FOR ADDITIONAL NOTES, SEE SHEET [8/28].

BAR	REQUIRED LAP LENGTH
No. 4	1'-11"
No. 5	2'-5"
No. 6	2'-11"

4'-0" x 1'-0" THICK CRUSHED AGGREGATE SLOPE PROTECTION, INCLUDE PAYMENT WITH ITEM 601 (TYP.)

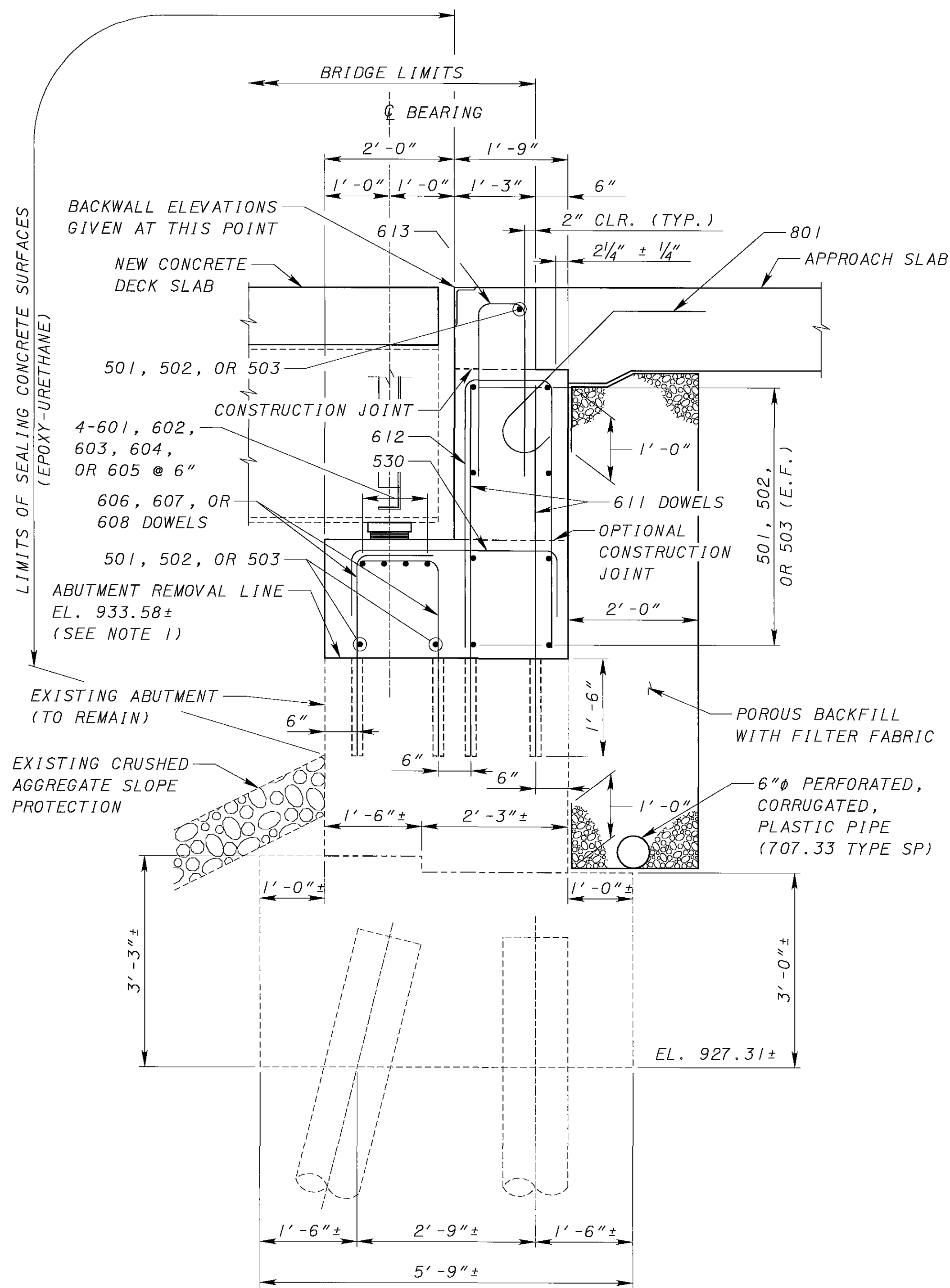
SEISMIC PEDESTAL (TYP.) SEE SHEET [8/28] FOR DETAILS

EXISTING ABUTMENT TO REMAIN (TYP.) [61/3]

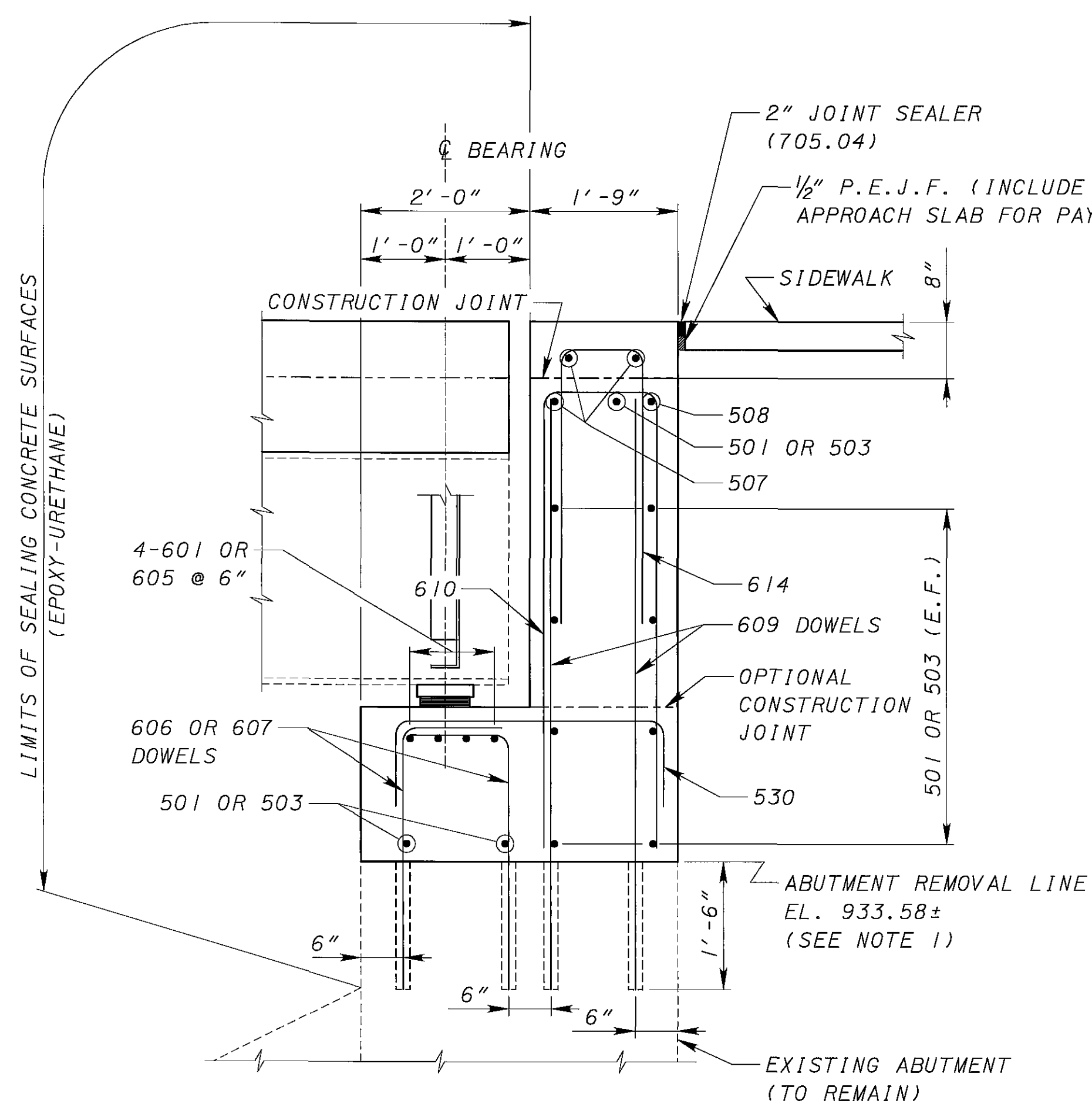
** BARS LAP USING MECHANICAL CONNECTORS

* SLOPE 1/8" / FT (MINIMUM)

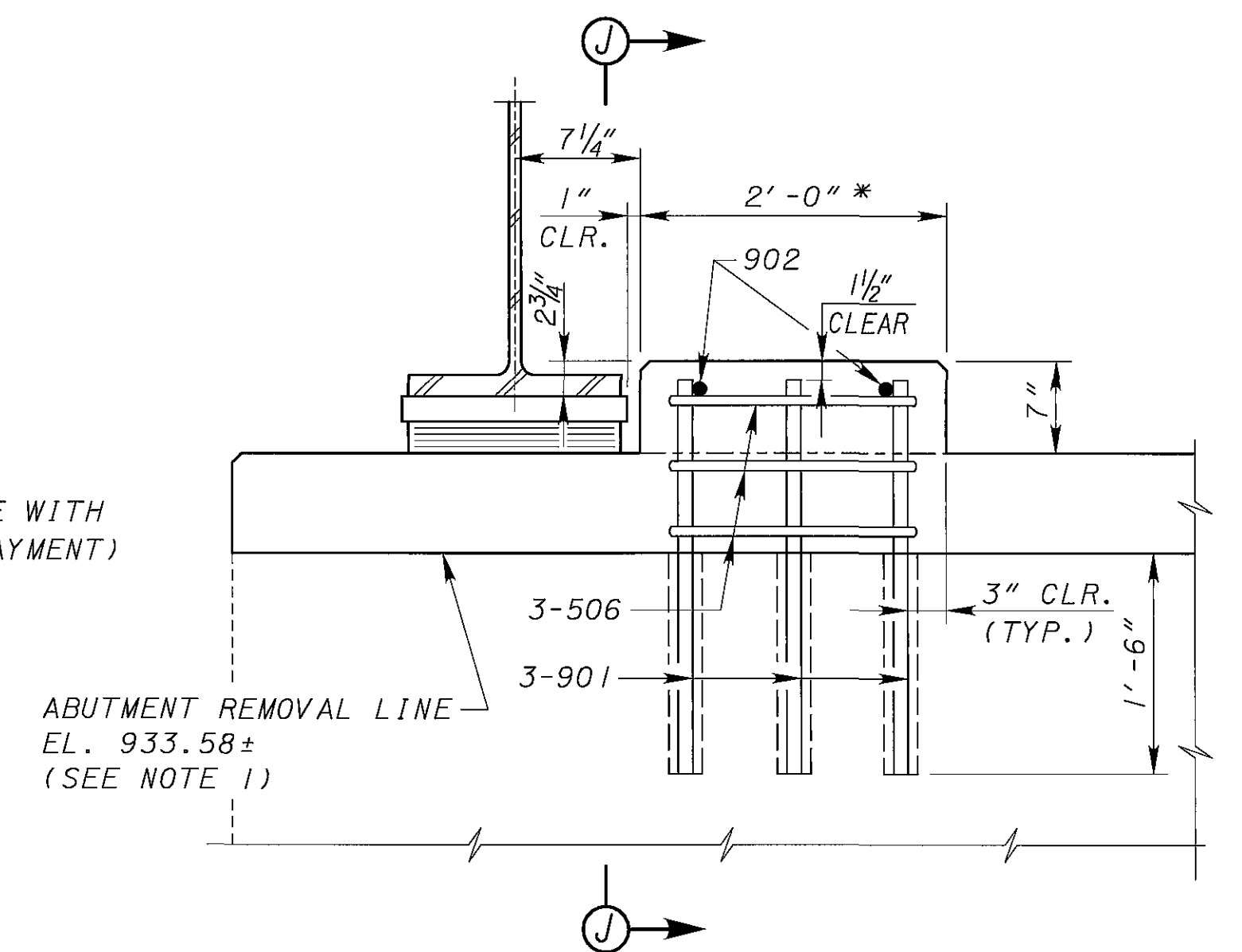
EXISTING PILE (TYP.)



SECTION A-A

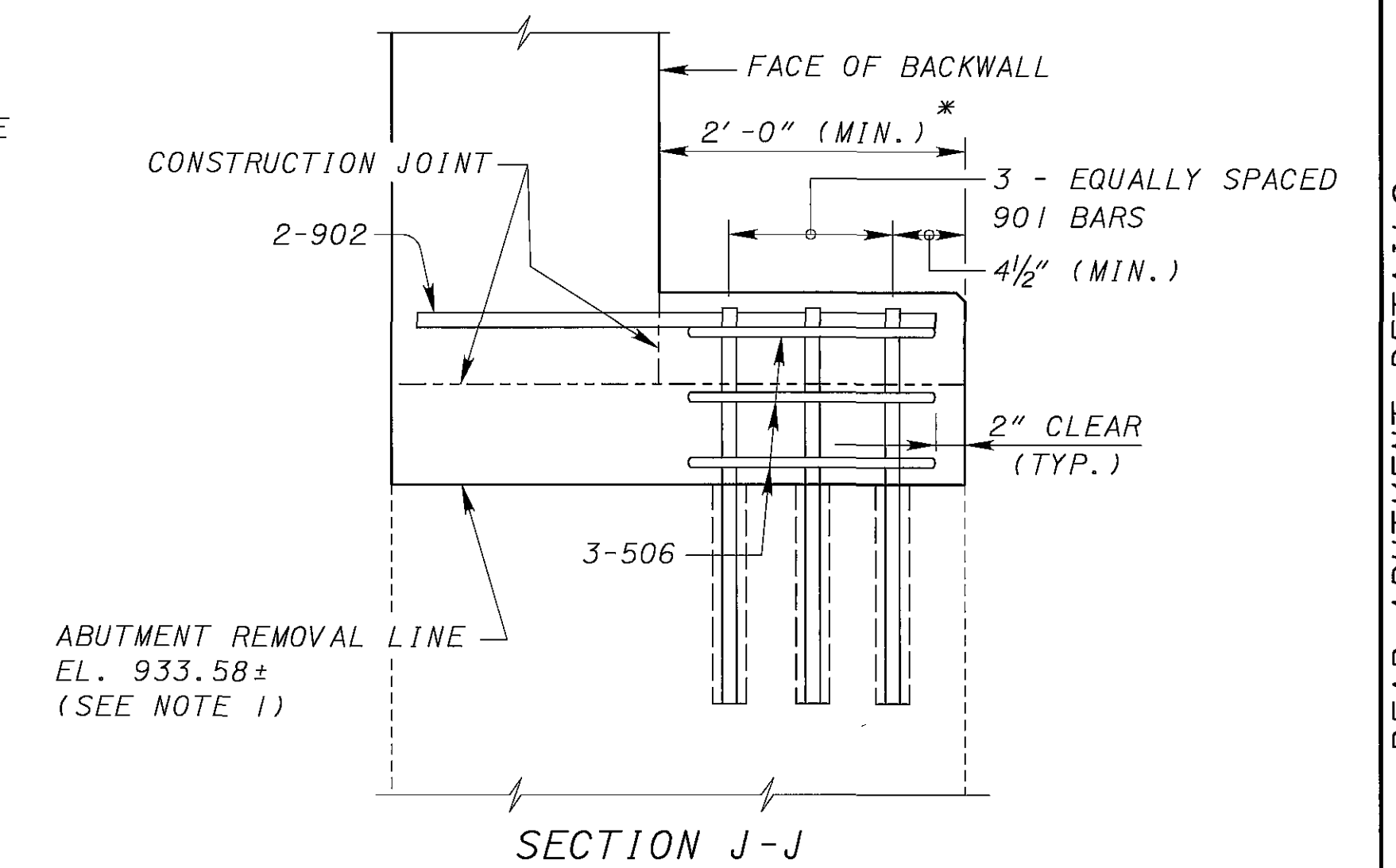


SECTION B-B



FRONT VIEW OF SEISMIC PEDESTAL

THE 2'-0" WIDTH OF THE PEDESTAL SHALL BE MEASURED PARALLEL TO THE CENTERLINE OF BEARING. THE 901 BARS SHALL BE PLACED PARALLEL TO THE CENTERLINE OF BEARING. THE 902 BARS SHALL BE PLACED PARALLEL TO THE BEAMS OR GIRDERS.



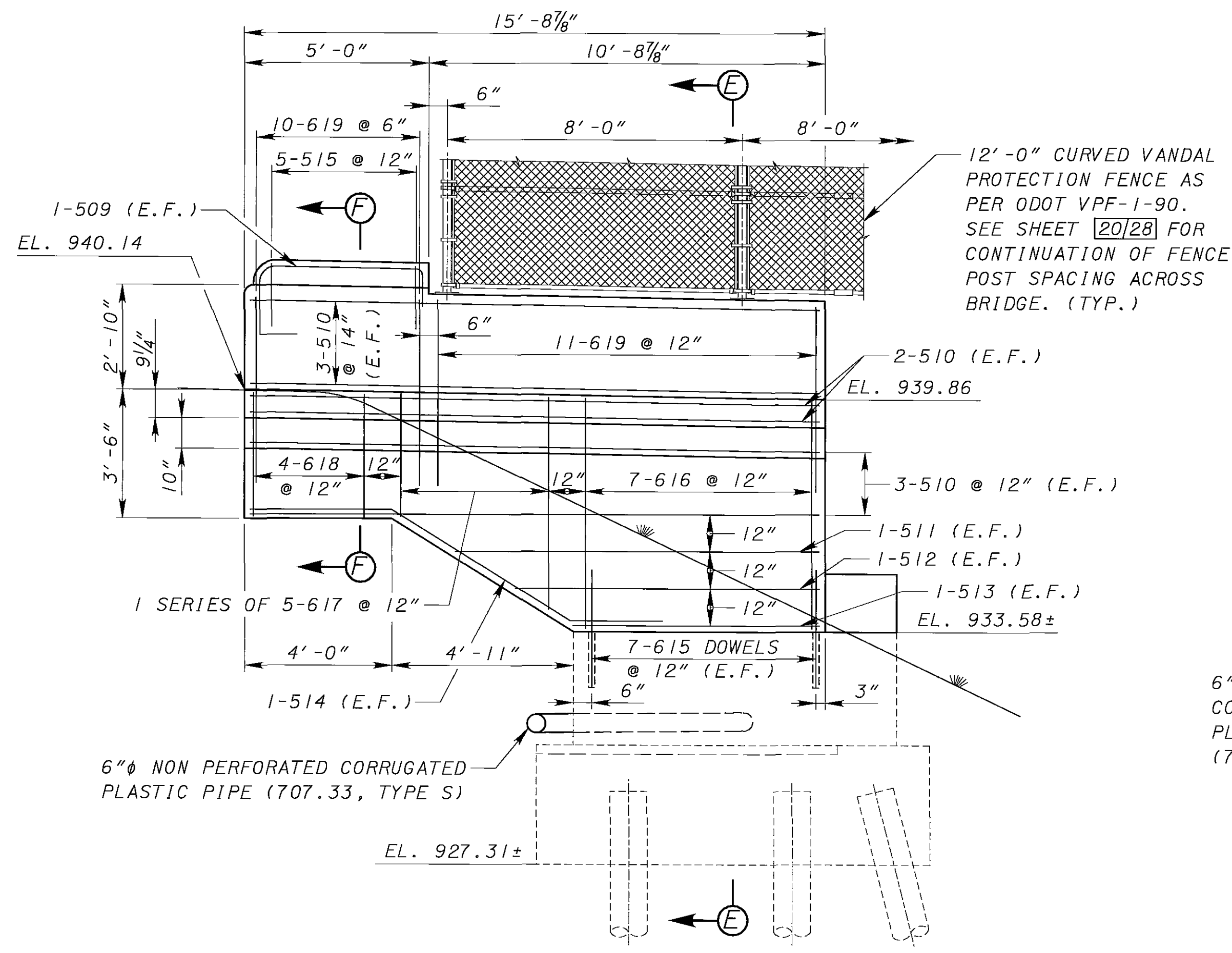
SECTION J-J

THE LOCATION OF THE MAIN REINFORCEMENT IN THE BEAM SEAT MAY BE ADJUSTED HORIZONTALLY ±1" TO ACCOMMODATE THE 901 BARS.

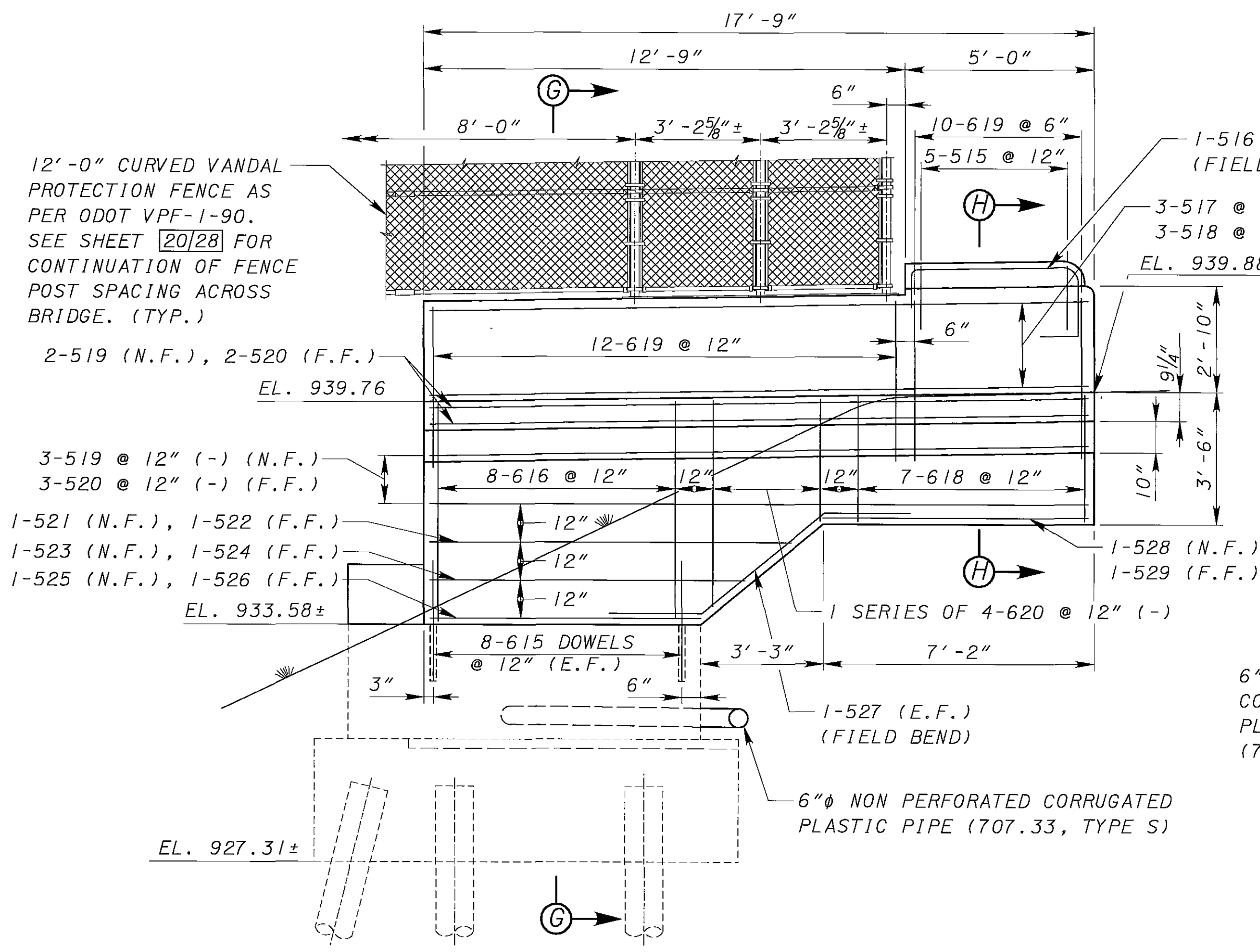
* - THE SURFACE OF THE BEAM SEAT IN THIS AREA SHALL BE FINISHED WITH A SERRATED TROWEL. THE SERRATIONS SHALL BE 1/4" DEEP MINIMUM.

NOTES:

1. PREPARE AND SCARIFY SURFACE AS PER "CUT LINE CONSTRUCTION JOINT PREPARATION", SEE GENERAL NOTE SHEET [613].
2. FOR ADDITIONAL NOTES AND ABBREVIATIONS, SEE SHEET [728].
3. FOR REINFORCING SCHEDULE, SEE SHEET [2628].
4. PAYMENT FOR DRILLING OR FORMING HOLES AND FURNISHING AND PLACING GROUT SHALL BE INCLUDED IN THE CONTRACT PRICES FOR ITEM 510 - DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT.
5. POROUS BACKFILL WITH FILTER FABRIC, 2'-0" THICK, SHALL EXTEND UP TO THE BOTTOM OF THE APPROACH SLAB AND LATERALLY TO THE ENDS OF THE WINGWALL FOOTINGS.

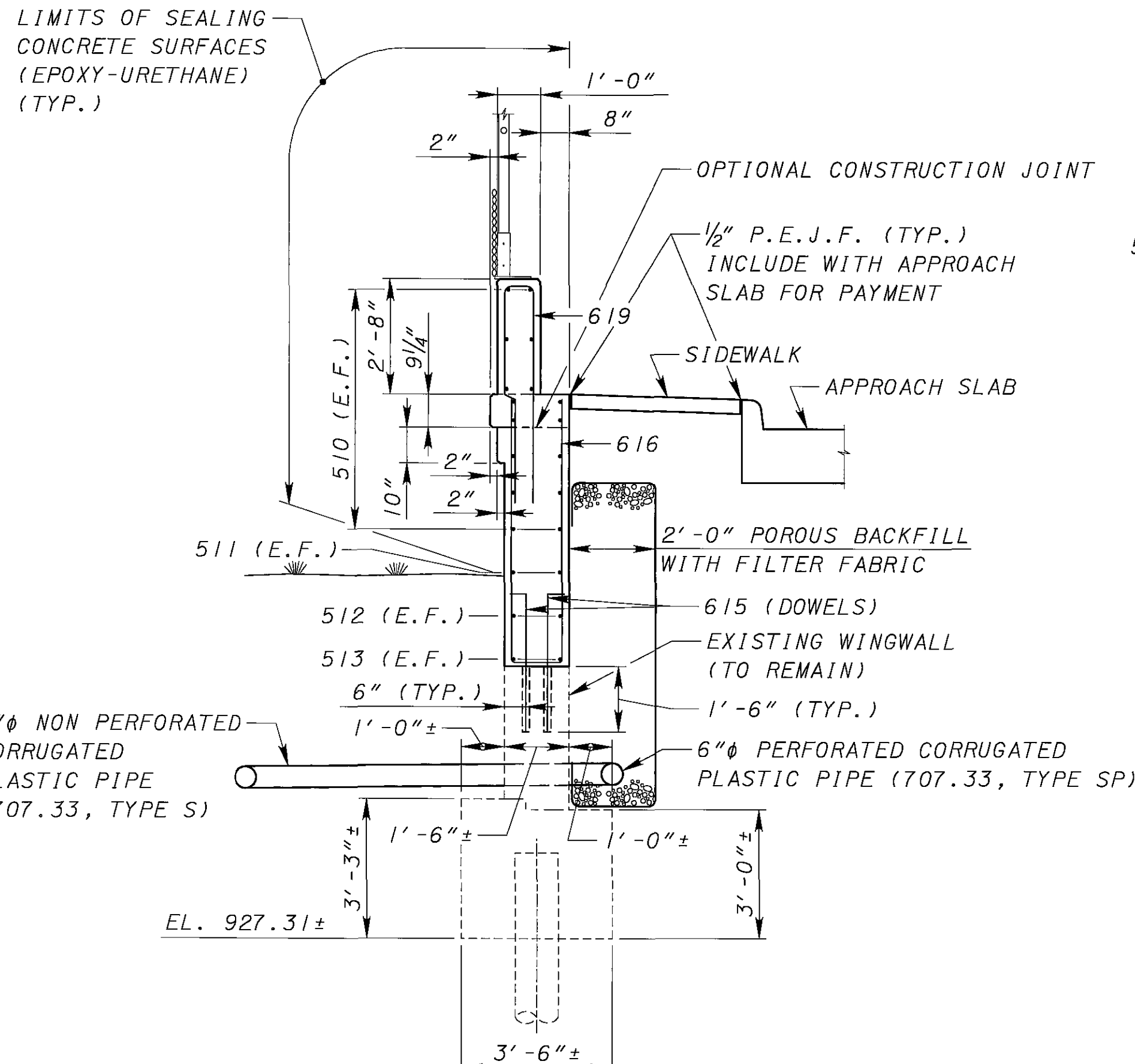


ELEVATION C-C

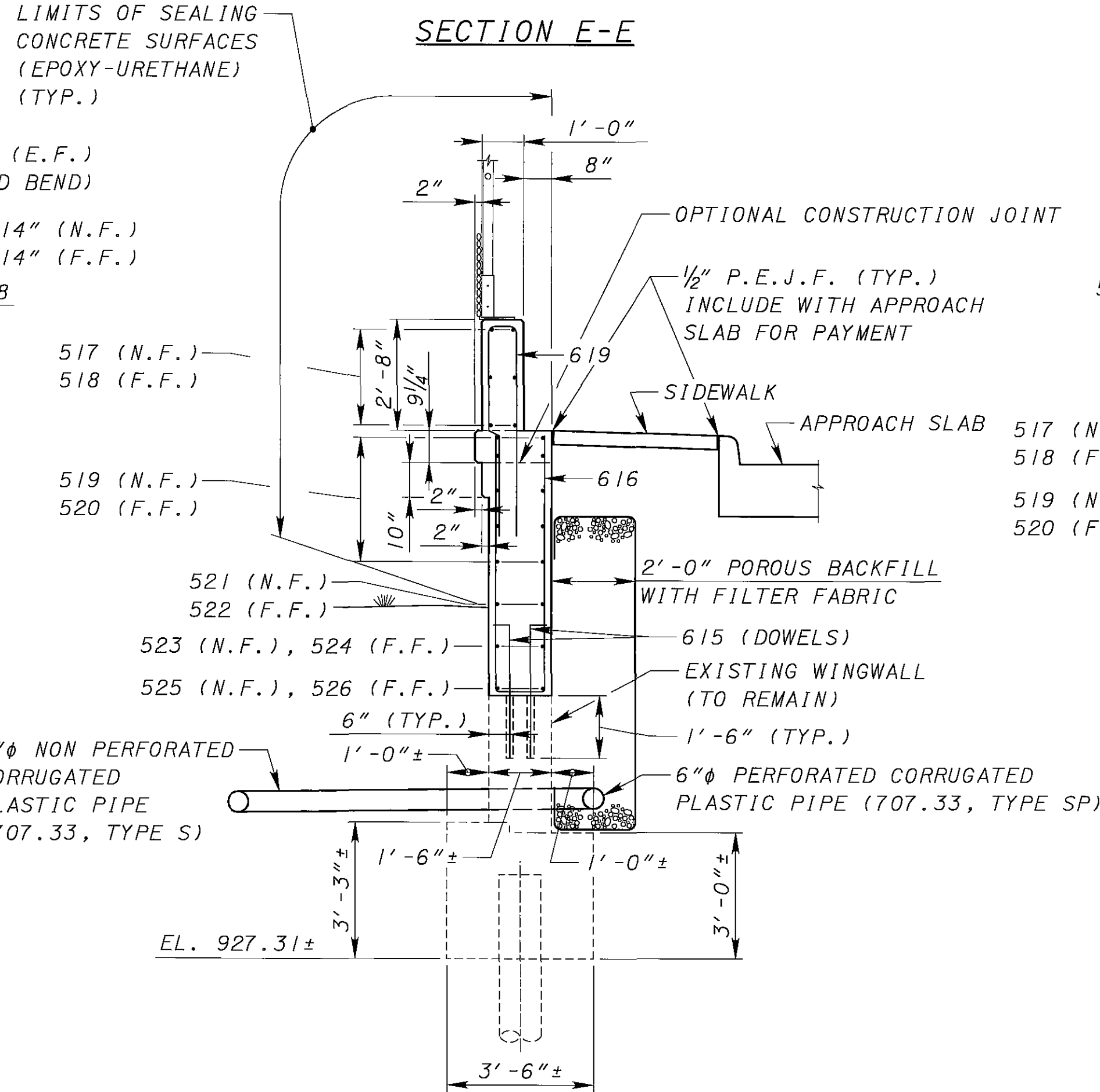


ELEVATION D-D

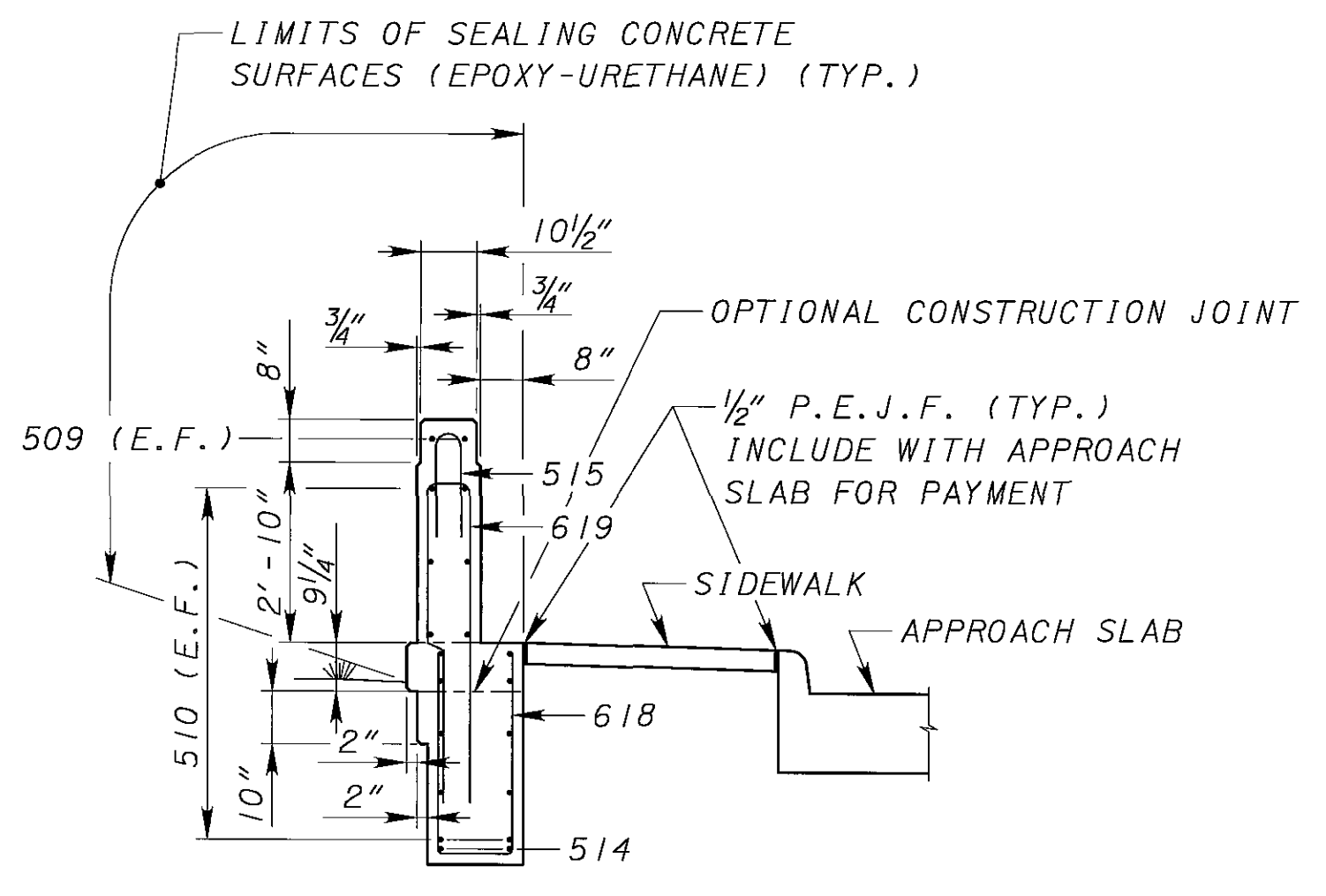
(DISTANCES MEASURED ALONG C OF PARAPET)



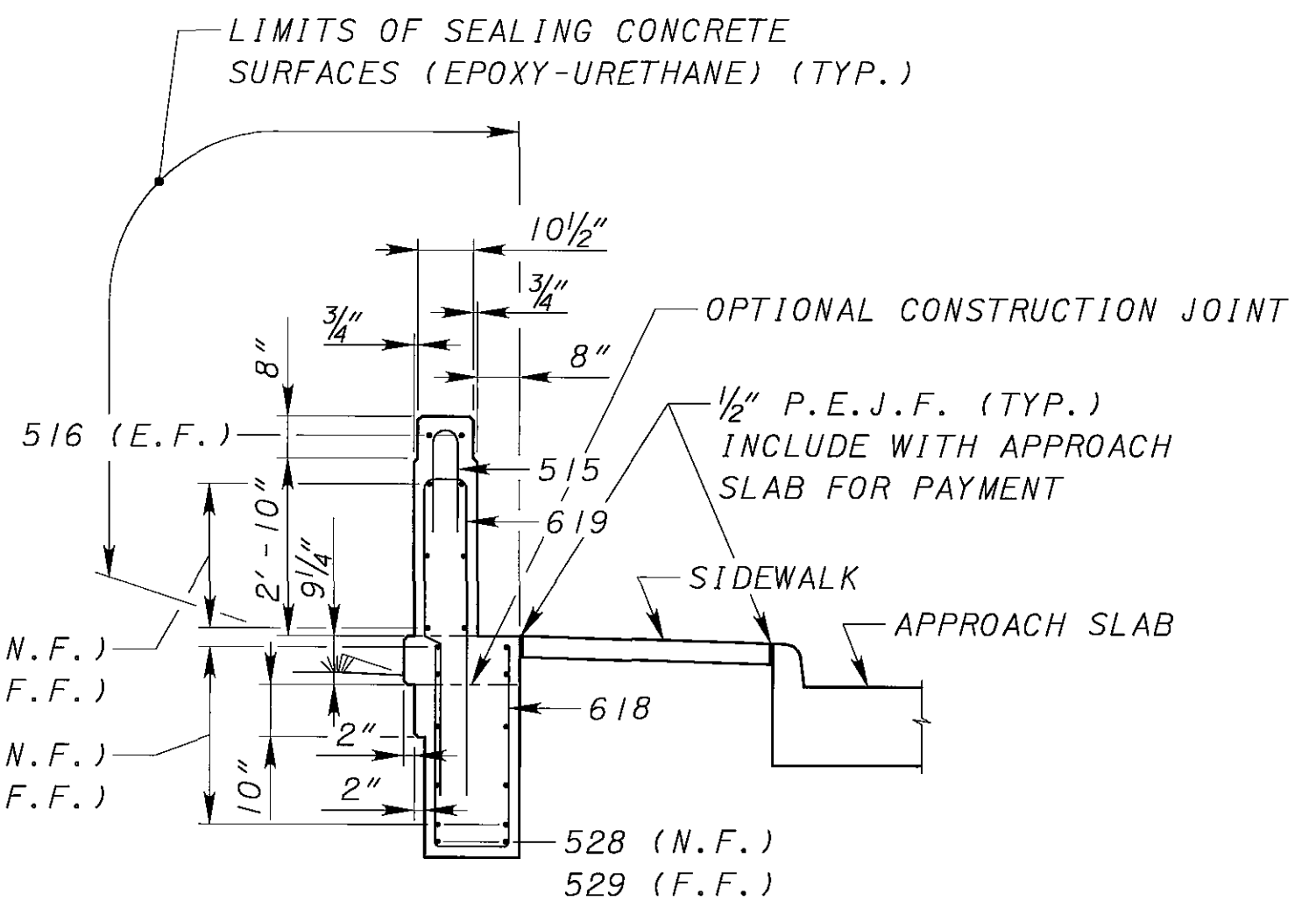
SECTION E-E



SECTION G-G



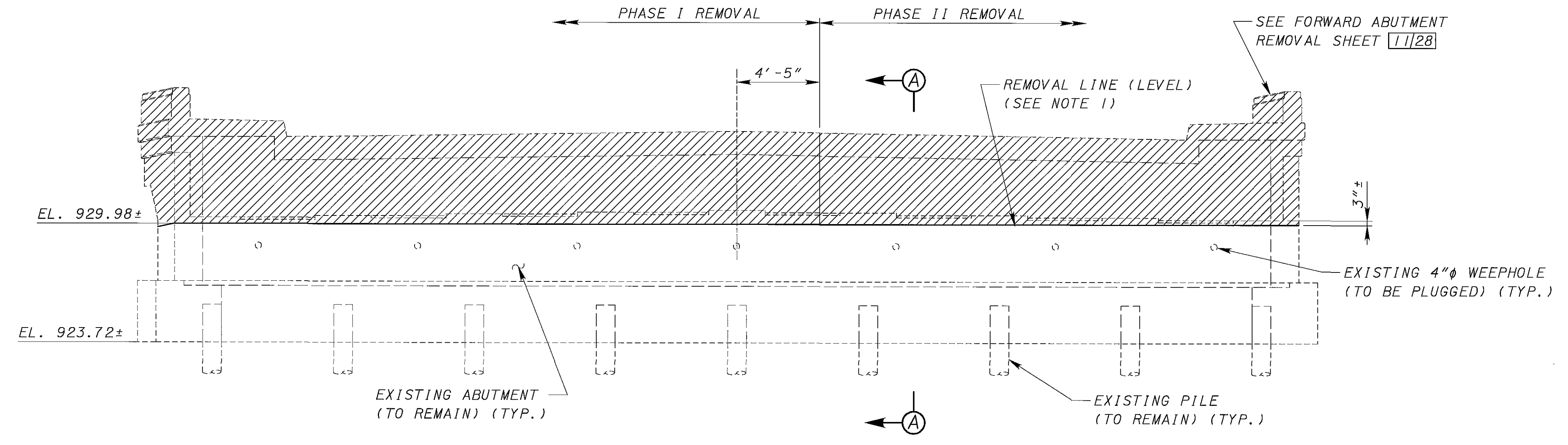
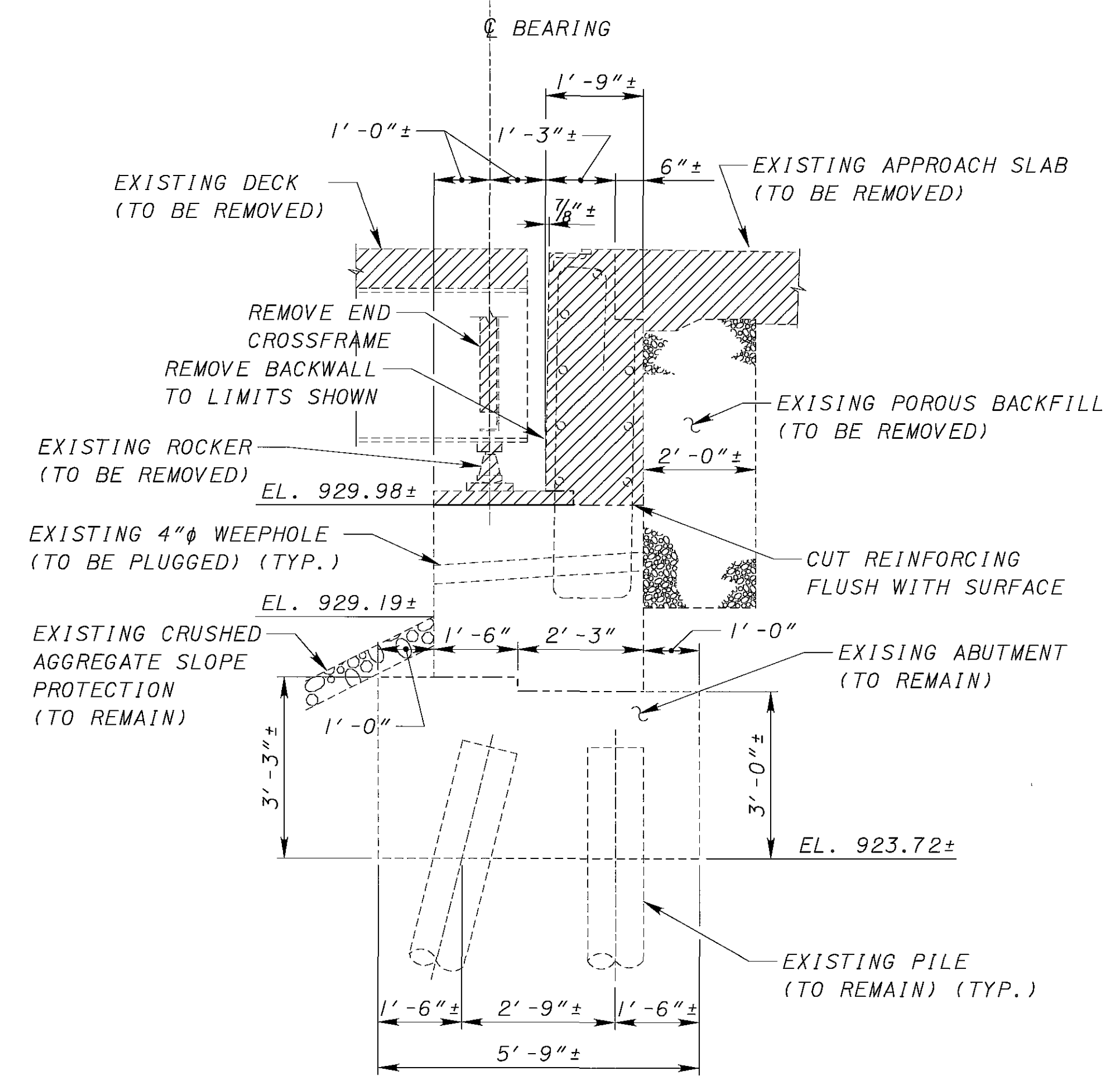
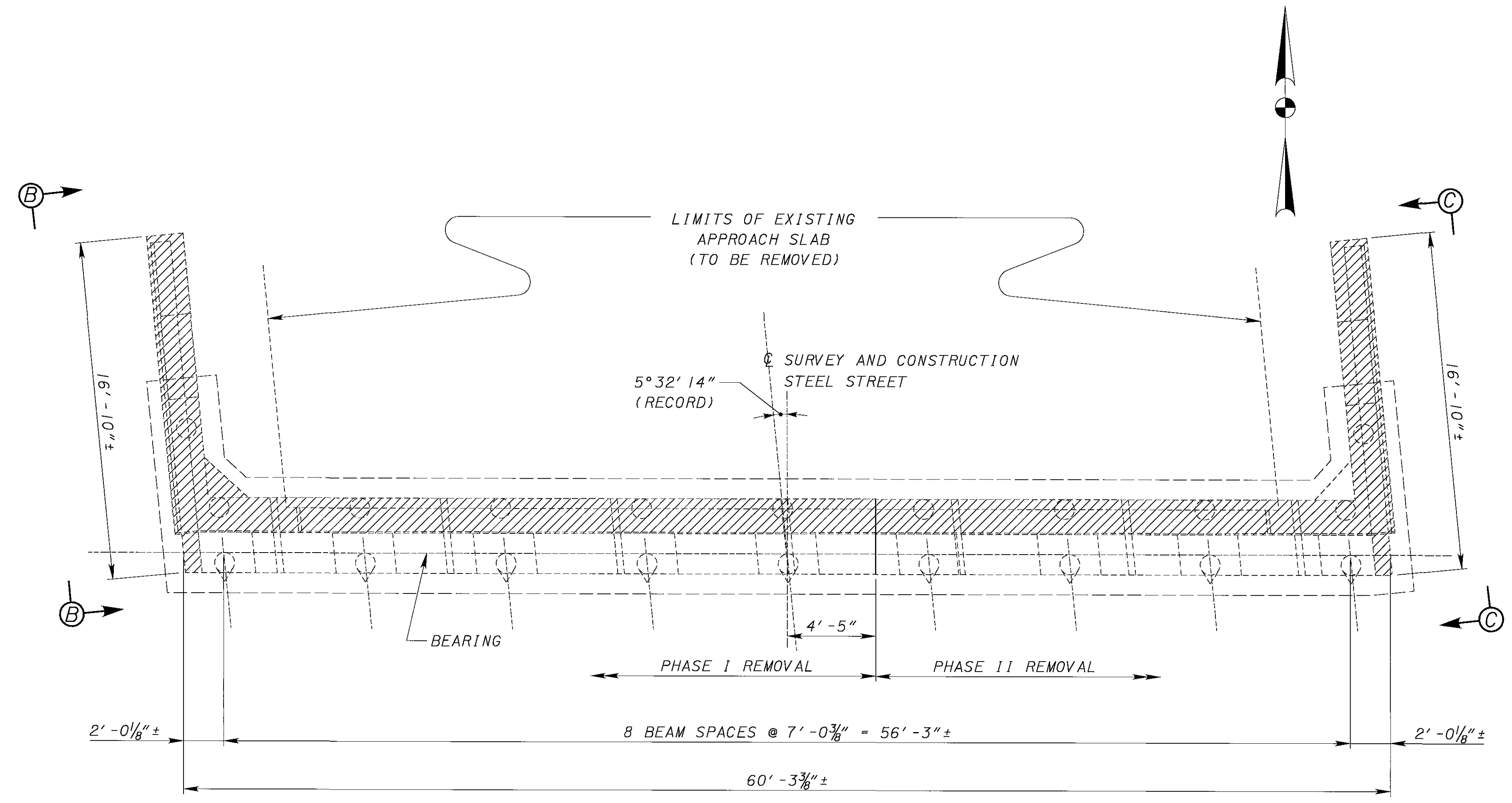
SECTION F-F



SECTION H-H

- NOTES:
- ALL REINFORCING BARS SHALL BE PREFIXED AS FOLLOWS:
REAR ABUTMENT - RA
 - FOR ADDITIONAL NOTES AND ABBREVIATIONS, SEE SHEET [8/28].
 - FOR REINFORCING SCHEDULE, SEE SHEET [26/28].
 - FOR ADDITIONAL PARAPET DETAILS NOT SHOWN REFER TO O.D.O.T. STANDARD DRAWING BR-2-98.

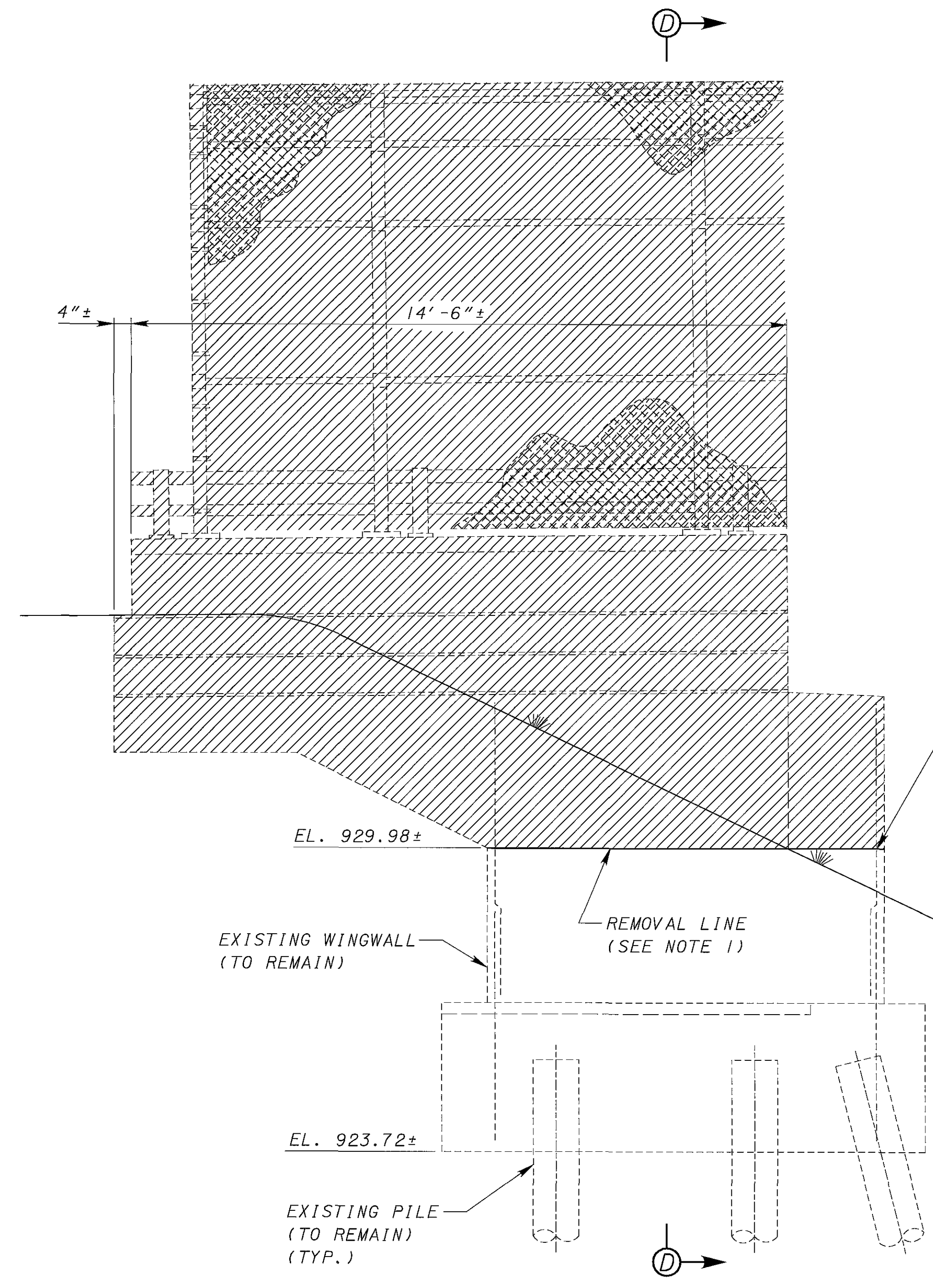
DESIGNED	BTA	CHECKED	MLR
DRAWN	BTA	REVIEWED	
DATE	05/28/04	FILE NUMBER	5006813
REVIEWED	REC	STRUCTURE	



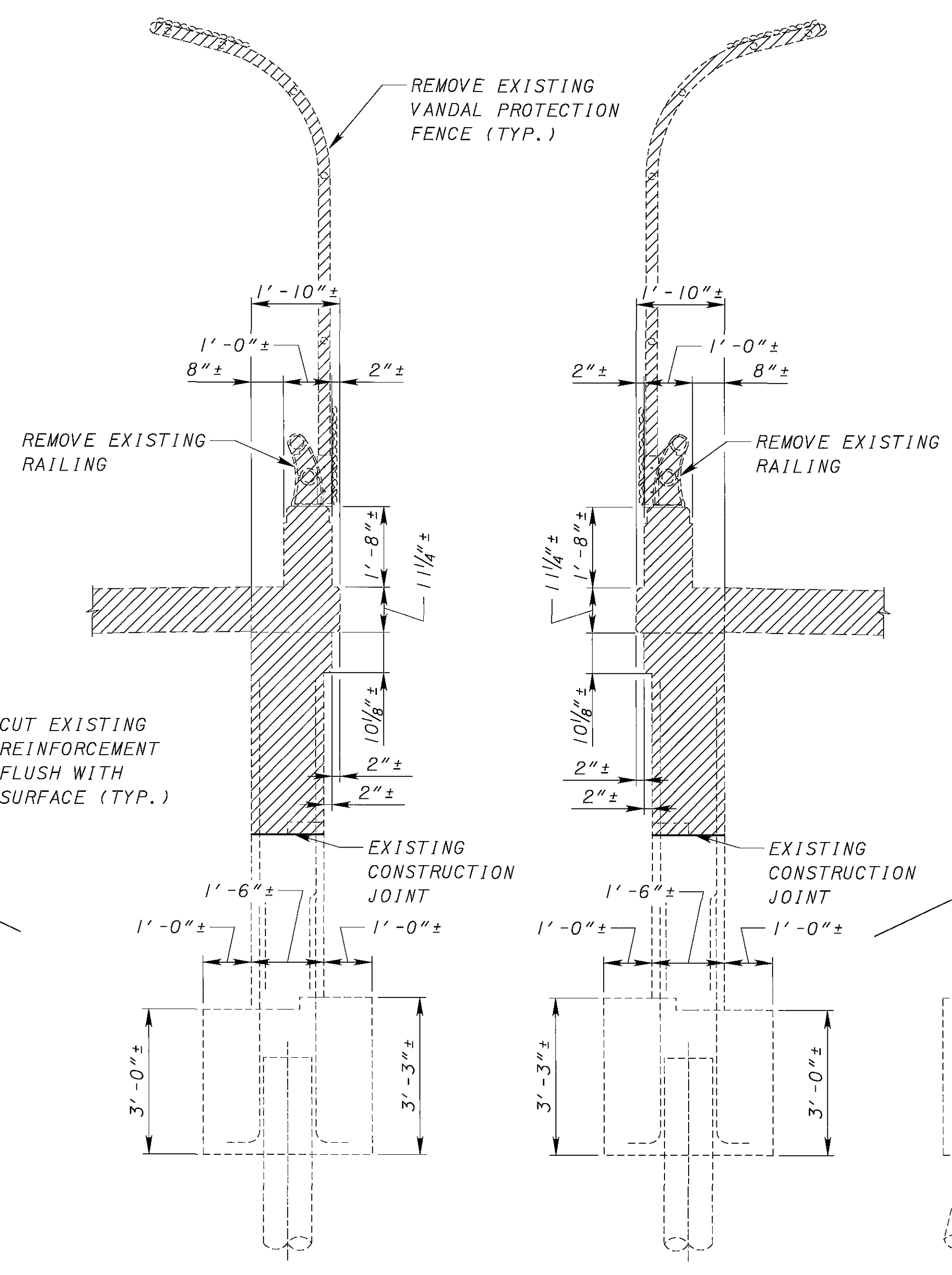
LEGEND:

— INDICATES AREAS TO BE REMOVED AS PER ITEM 202 - PORTIONS OF STRUCTURES REMOVED, AS PER PLAN

- NOTES:**
1. PREPARE AND SCARIFY SURFACE AS PER "CUT LINE CONSTRUCTION JOINT PREPARATION", SEE GENERAL NOTE SHEET [613].
 2. FOR ELEVATION B-B AND C-C, SEE SHEET [1128].

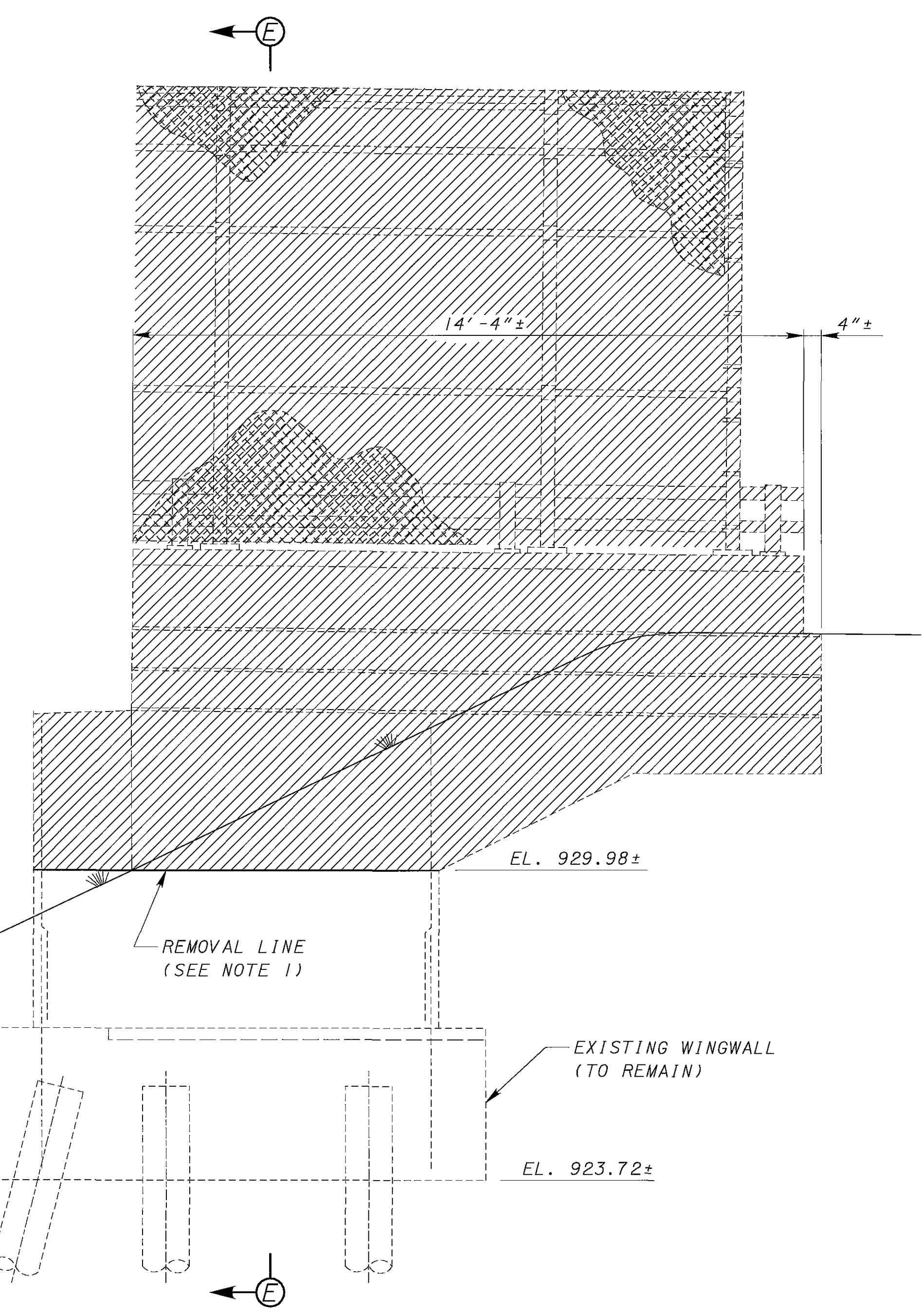


ELEVATION B-B



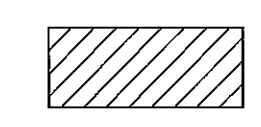
SECTION D-D

SECTION E-E



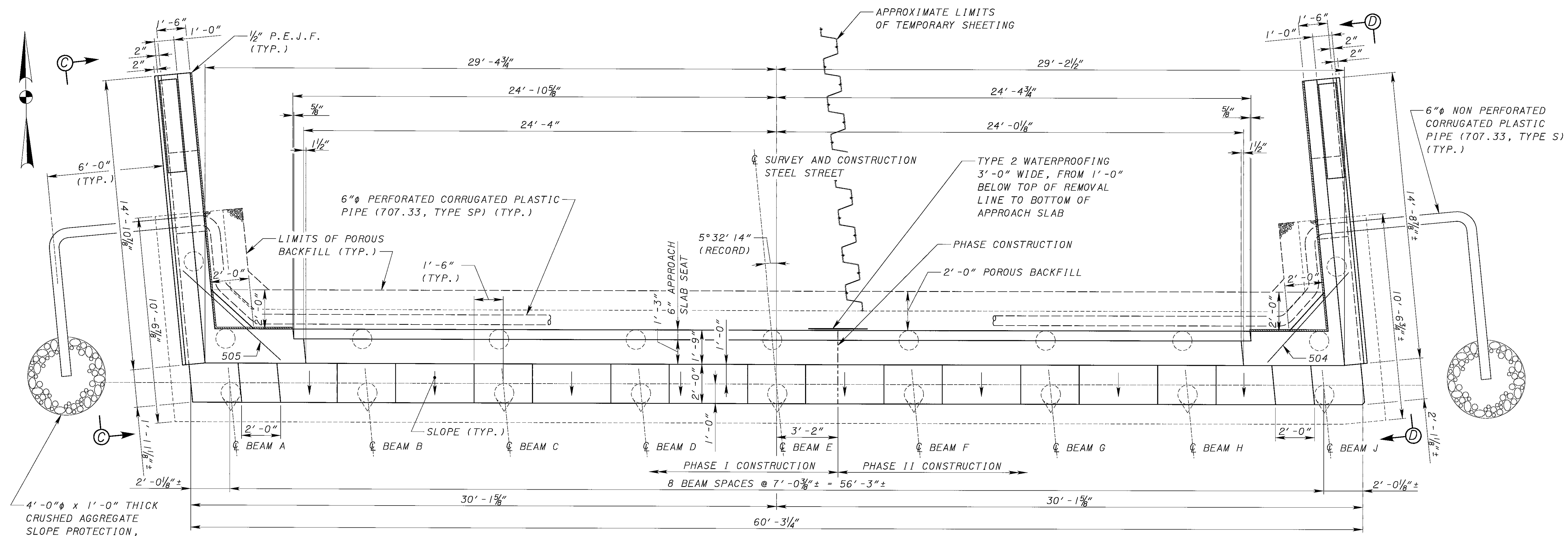
ELEVATION C-C

LEGEND:

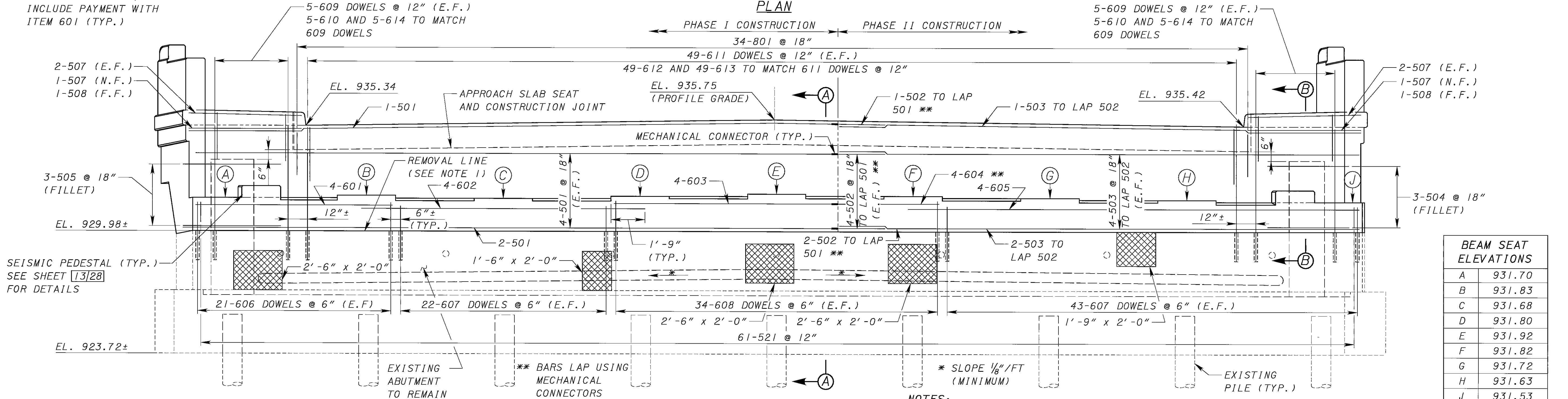
 - INDICATES AREAS TO BE REMOVED AS PER ITEM 202 - PORTIONS OF STRUCTURES REMOVED, AS PER PLAN

NOTES:

PREPARE AND SCARIFY SURFACE AS PER "CUT LINE CONSTRUCTION JOINT PREPARATION", SEE GENERAL NOTE SHEET 61/3.



PLAN



ELEVATION

BEAM SEAT ELEVATIONS	
A	931.70
B	931.83
C	931.68
D	931.80
E	931.92
F	931.82
G	931.72
H	931.63
J	931.53

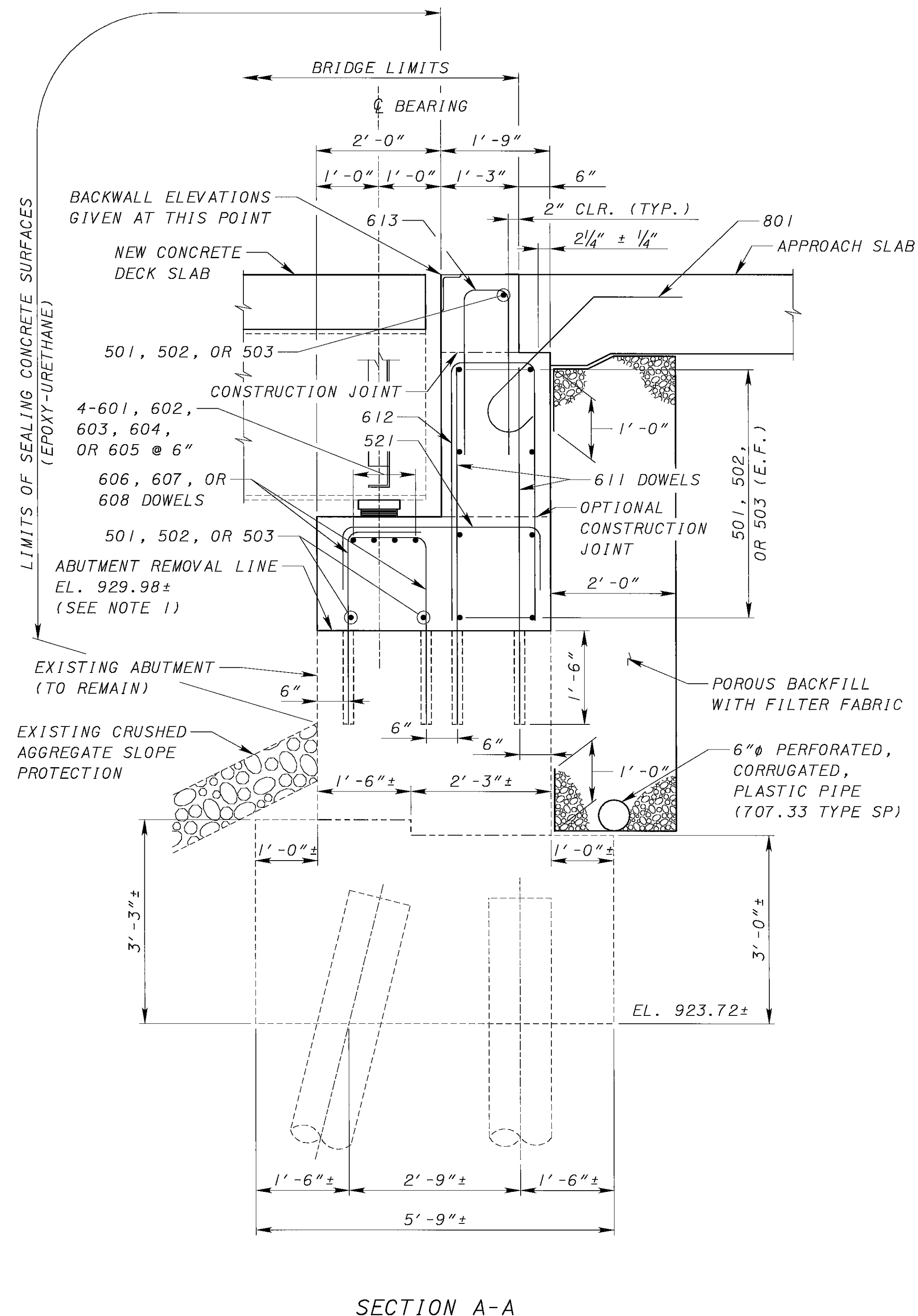
[6]1[3]

LEGEND:
 - ITEM 519 - PATCHING CONCRETE STRUCTURES

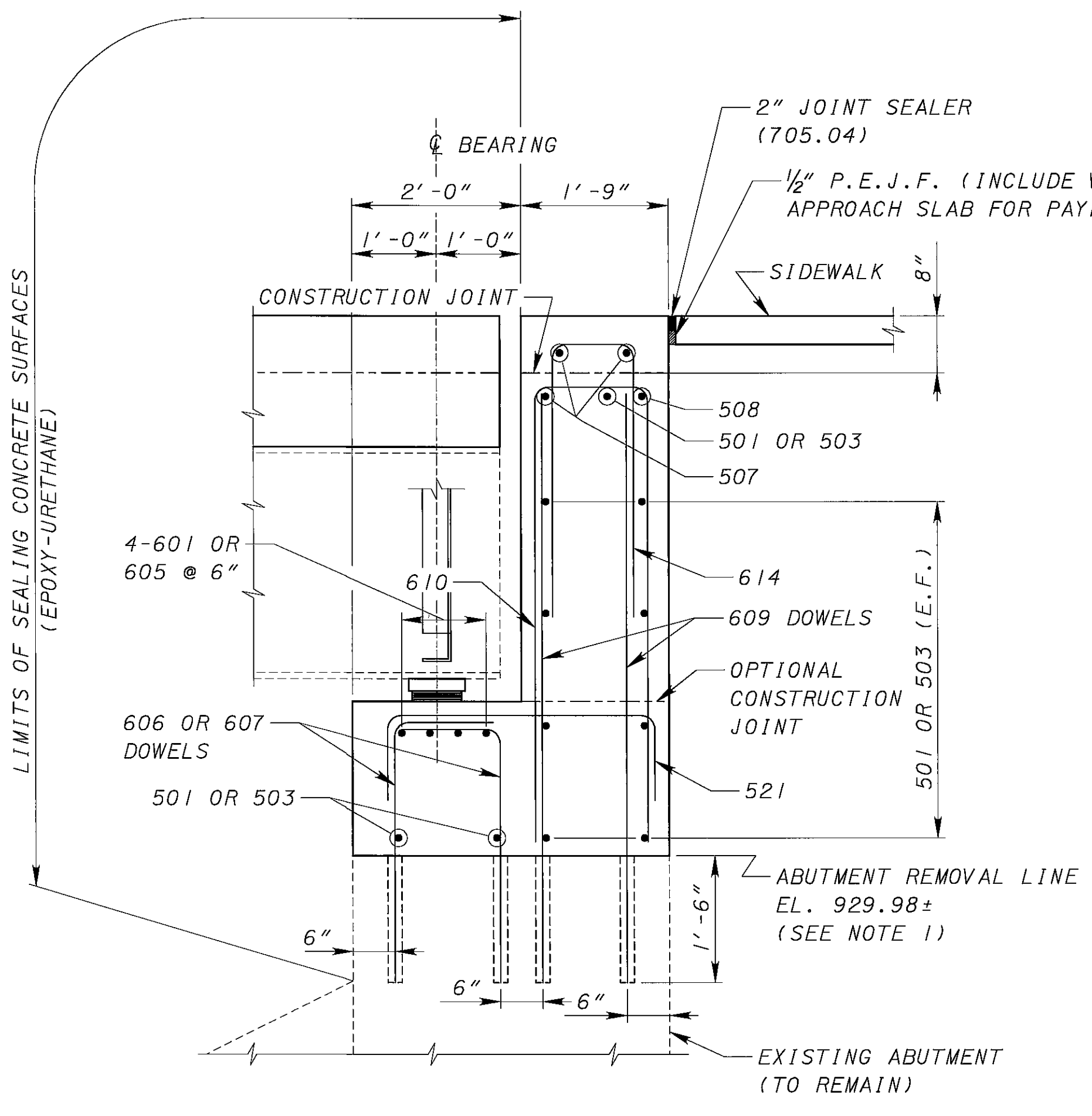
BAR	REQUIRED LAP LENGTH
No. 4	1'-11"
No. 5	2'-5"
No. 6	2'-11"

ABBREVIATIONS:
 CLR. - CLEAR F.F. - FAR FACE P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
 E.F. - EACH FACE MIN. - MINIMUM SPA. - SPACES
 EL. - ELEVATION N.F. - NEAR FACE TYP. - TYPICAL

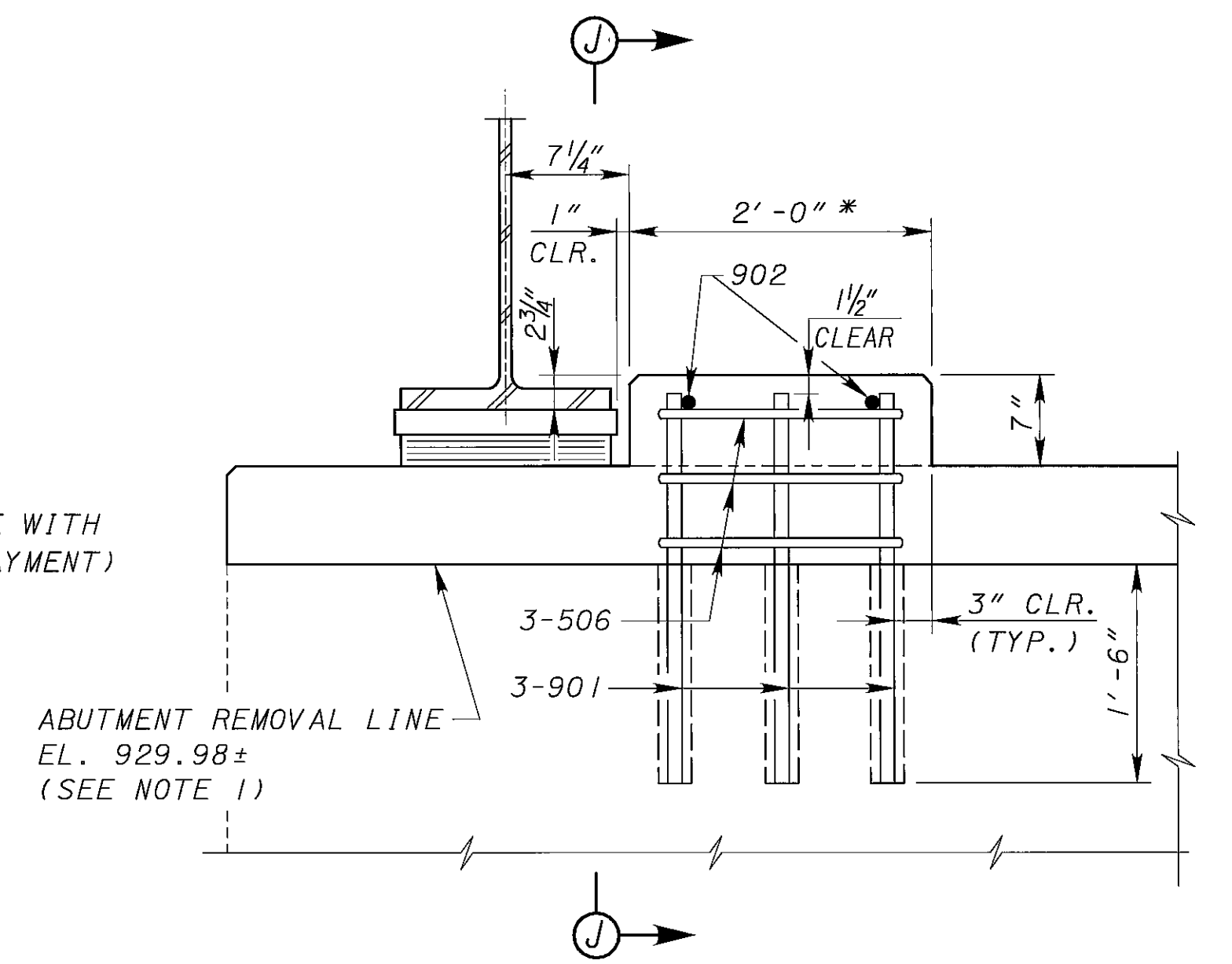
- NOTES:**
1. PREPARE AND SCARIFY SURFACE AS PER "CUT LINE CONSTRUCTION JOINT PREPARATION", SEE GENERAL NOTE SHEET [6]1[3].
 2. FOR SECTION A-A AND B-B, SEE SHEET [13]28.
 3. FOR ELEVATION C-C AND D-D, SEE SHEET [14]28.
 4. FOR REINFORCING SCHEDULE, SEE SHEET [27]28.
 5. ALL REINFORCING BARS SHALL BE PREFIXED AS FOLLOWS:
 FORWARD ABUTMENT - FA
 6. FOR ADDITIONAL NOTES, SEE SHEET [13]28.



SECTION A-A

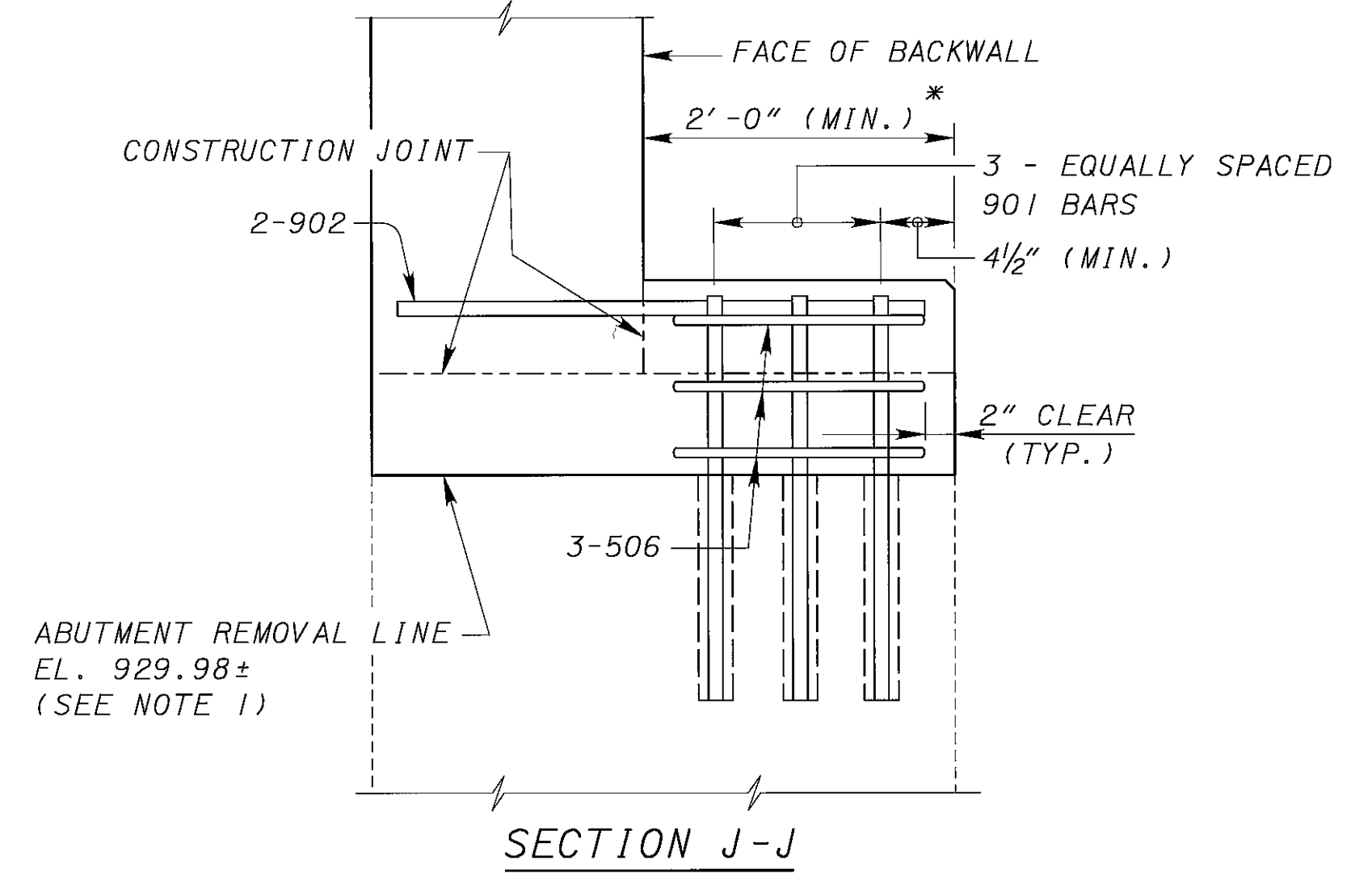


SECTION B-B



FRONT VIEW OF SEISMIC PEDESTAL

THE 2'-0" WIDTH OF THE PEDESTAL SHALL BE MEASURED PARALLEL TO THE CENTERLINE OF BEARING. THE 901 BARS SHALL BE PLACED PARALLEL TO THE CENTERLINE OF BEARING. THE 902 BARS SHALL BE PLACED PARALLEL TO THE BEAMS OR GIRDERS.



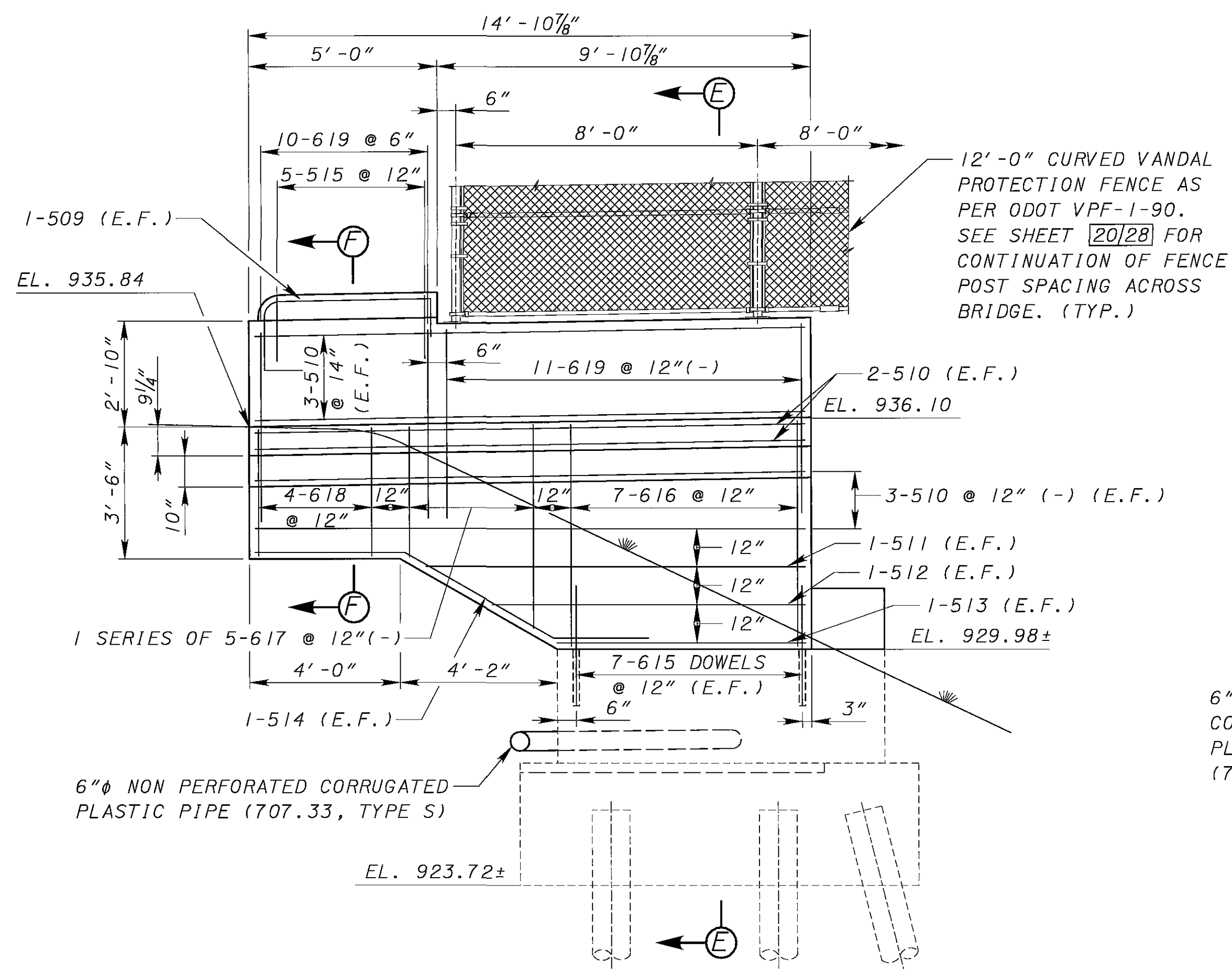
SECTION J-J

THE LOCATION OF THE MAIN REINFORCEMENT IN THE BEAM SEAT MAY BE ADJUSTED HORIZONTALLY ±1" TO ACCOMMODATE THE 901 BARS.

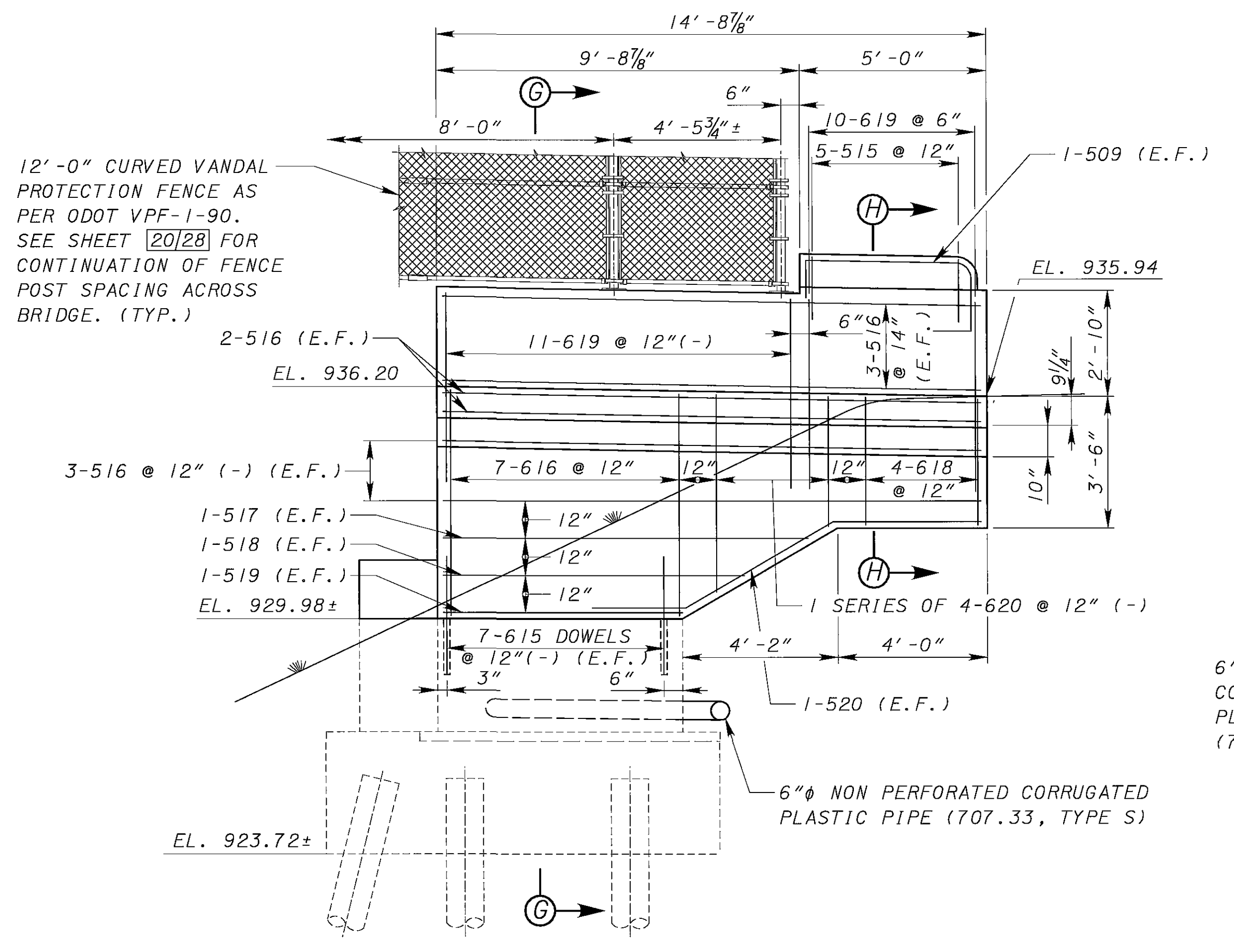
* - THE SURFACE OF THE BEAM SEAT IN THIS AREA SHALL BE FINISHED WITH A SERRATED TROWEL. THE SERRATIONS SHALL BE 1/4" DEEP MINIMUM.

NOTES:

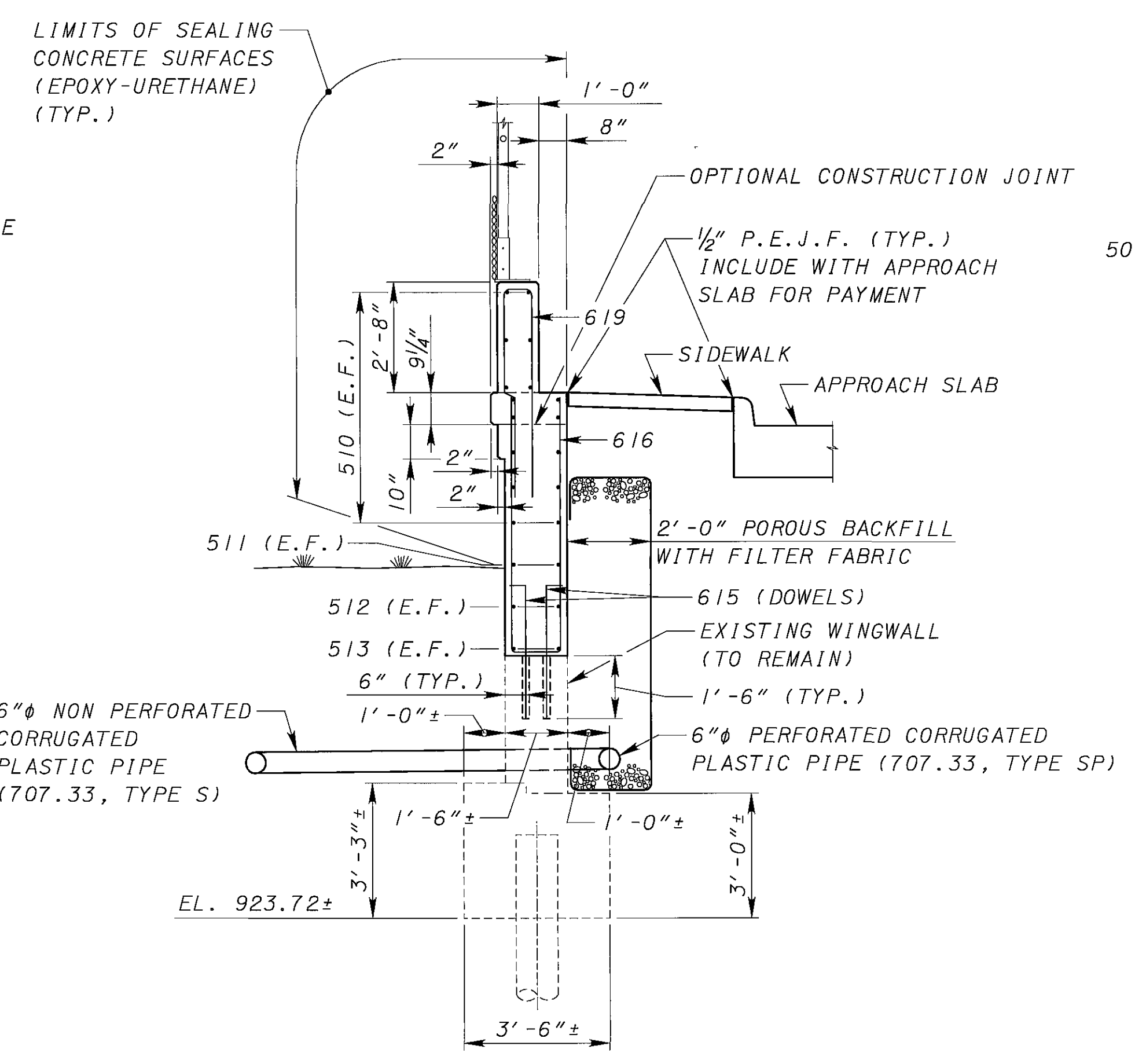
1. PREPARE AND SCARIFY SURFACE AS PER "CUT LINE CONSTRUCTION JOINT PREPARATION", SEE GENERAL NOTE SHEET [61/3].
2. FOR ADDITIONAL NOTES AND ABBREVIATIONS, SEE SHEET [12/28].
3. FOR REINFORCING SCHEDULE, SEE SHEET [27/28].
4. PAYMENT FOR DRILLING OR FORMING HOLES AND FURNISHING AND PLACING GROUT SHALL BE INCLUDED IN THE CONTRACT PRICES FOR ITEM 510 - DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT.
5. POROUS BACKFILL WITH FILTER FABRIC, 2'-0" THICK, SHALL EXTEND UP TO THE BOTTOM OF THE APPROACH SLAB AND LATERALLY TO THE ENDS OF THE WINGWALL FOOTINGS.



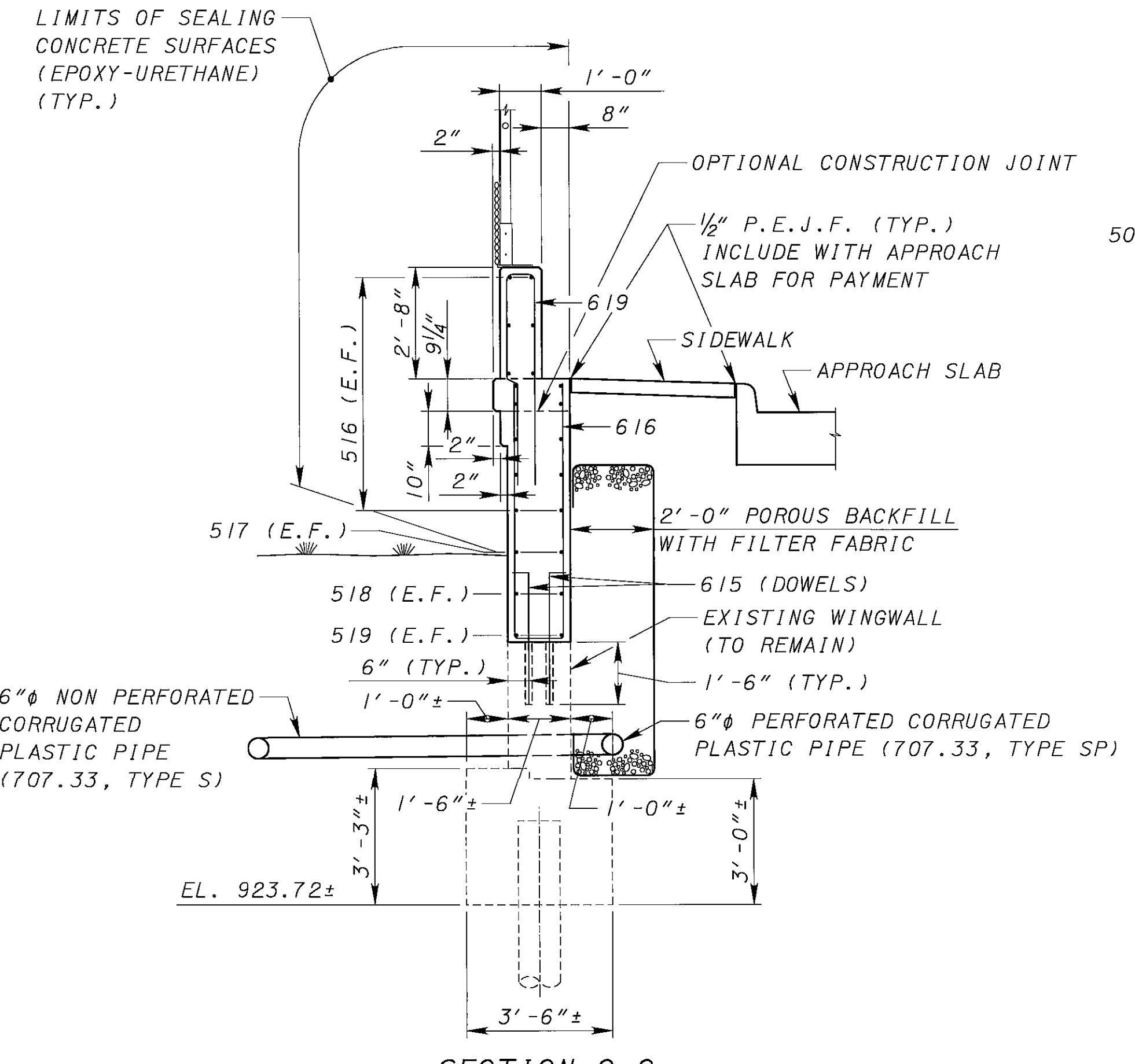
ELEVATION C-C



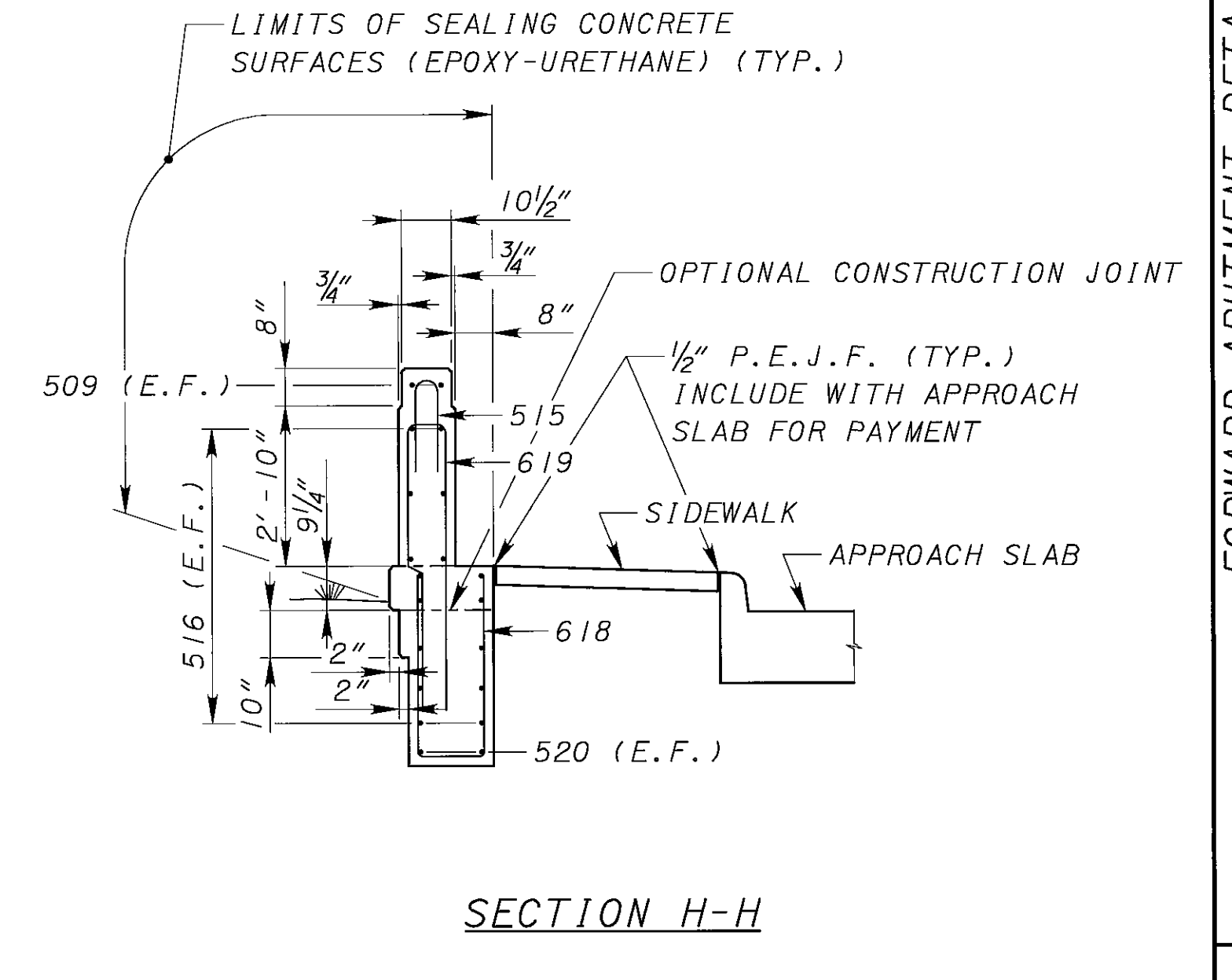
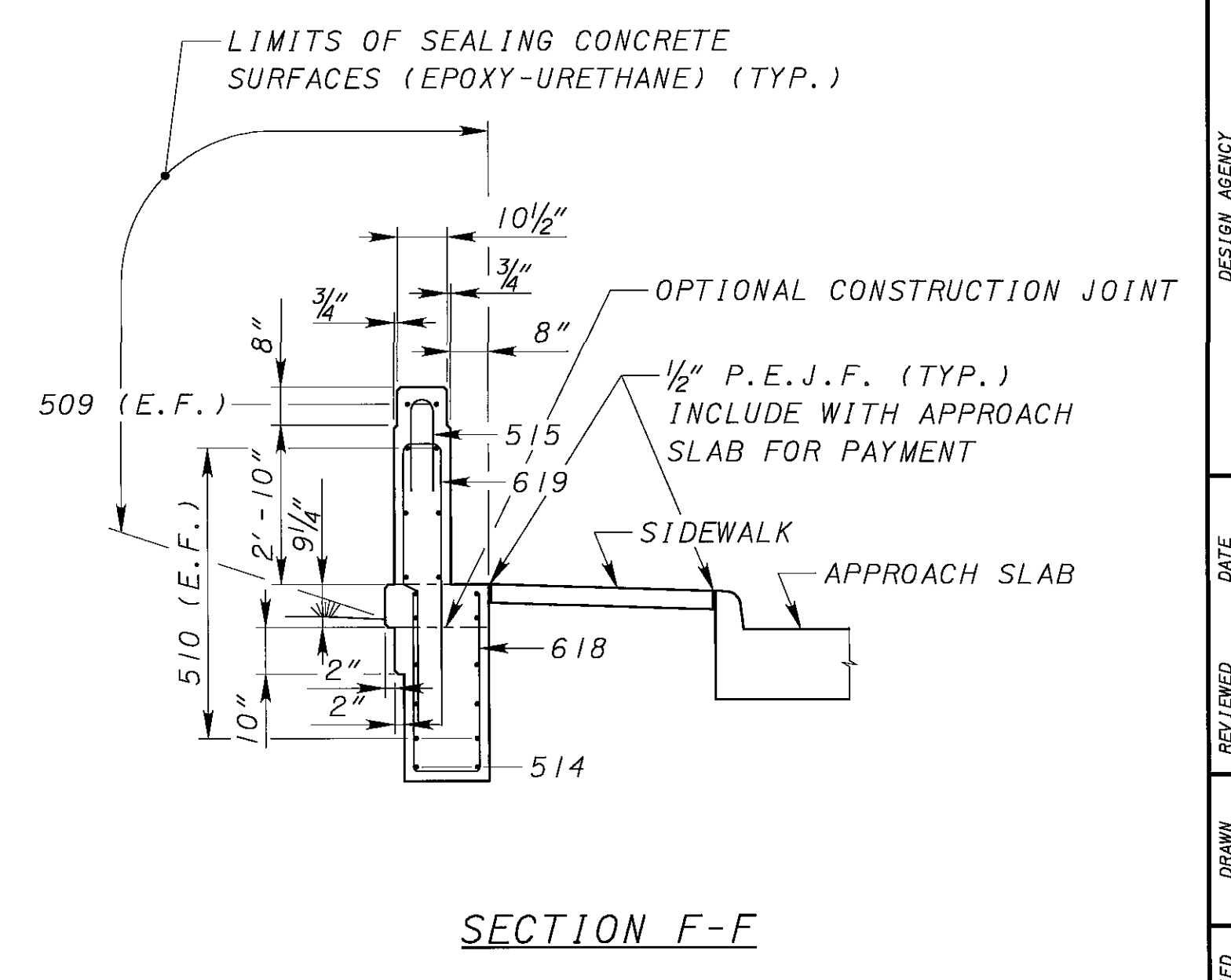
ELEVATION D-D



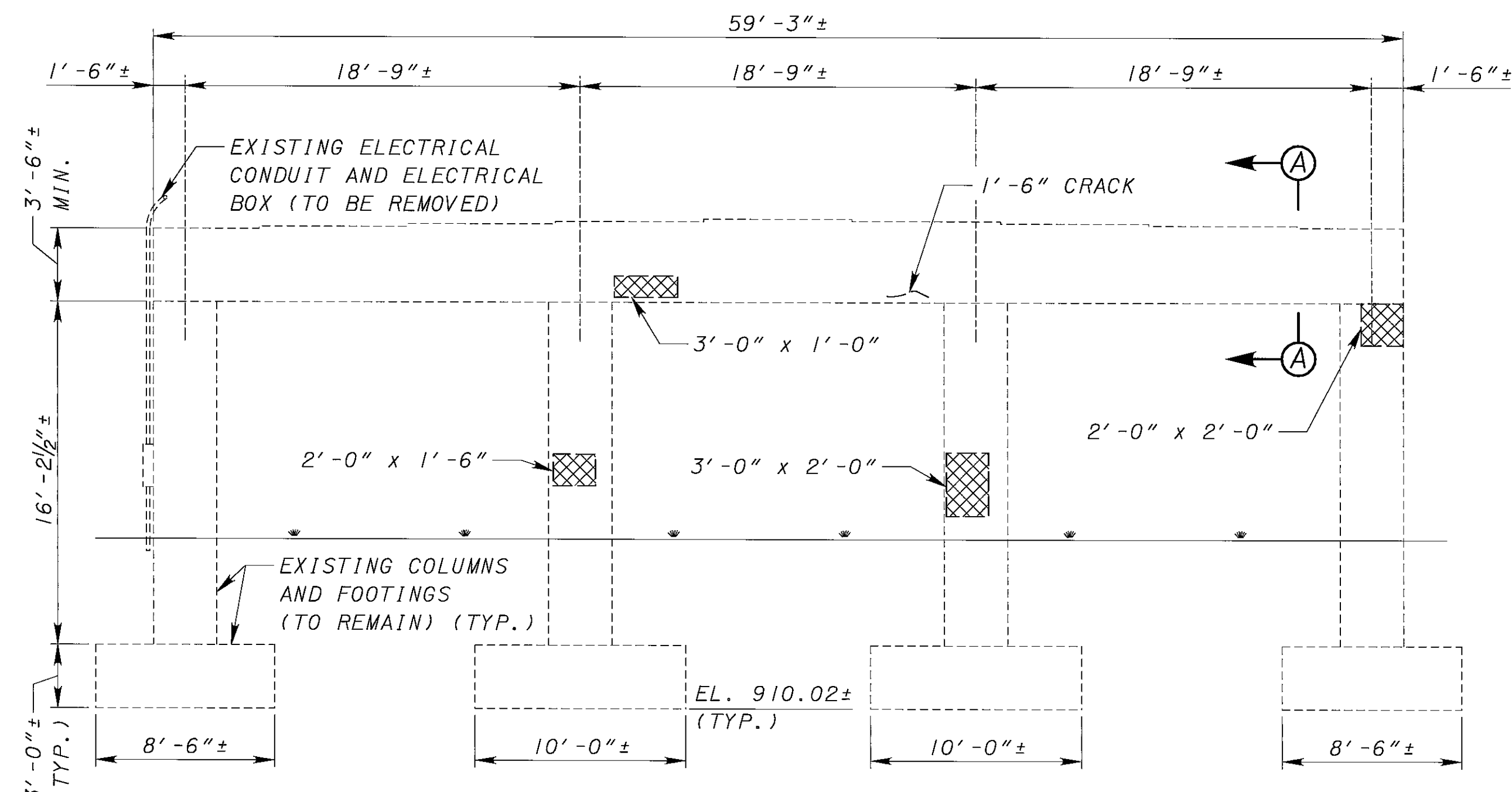
SECTION E-E



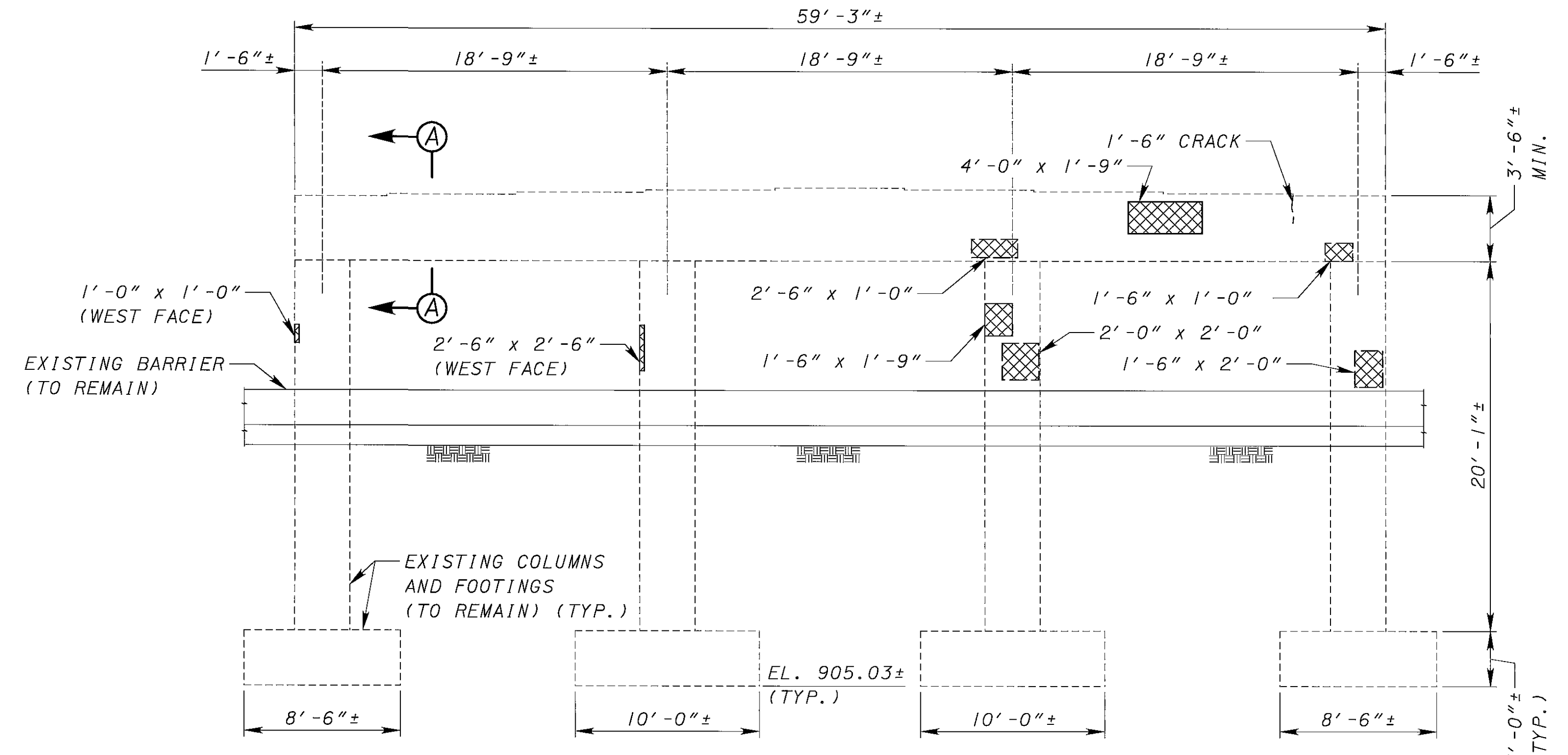
SECTION G-G



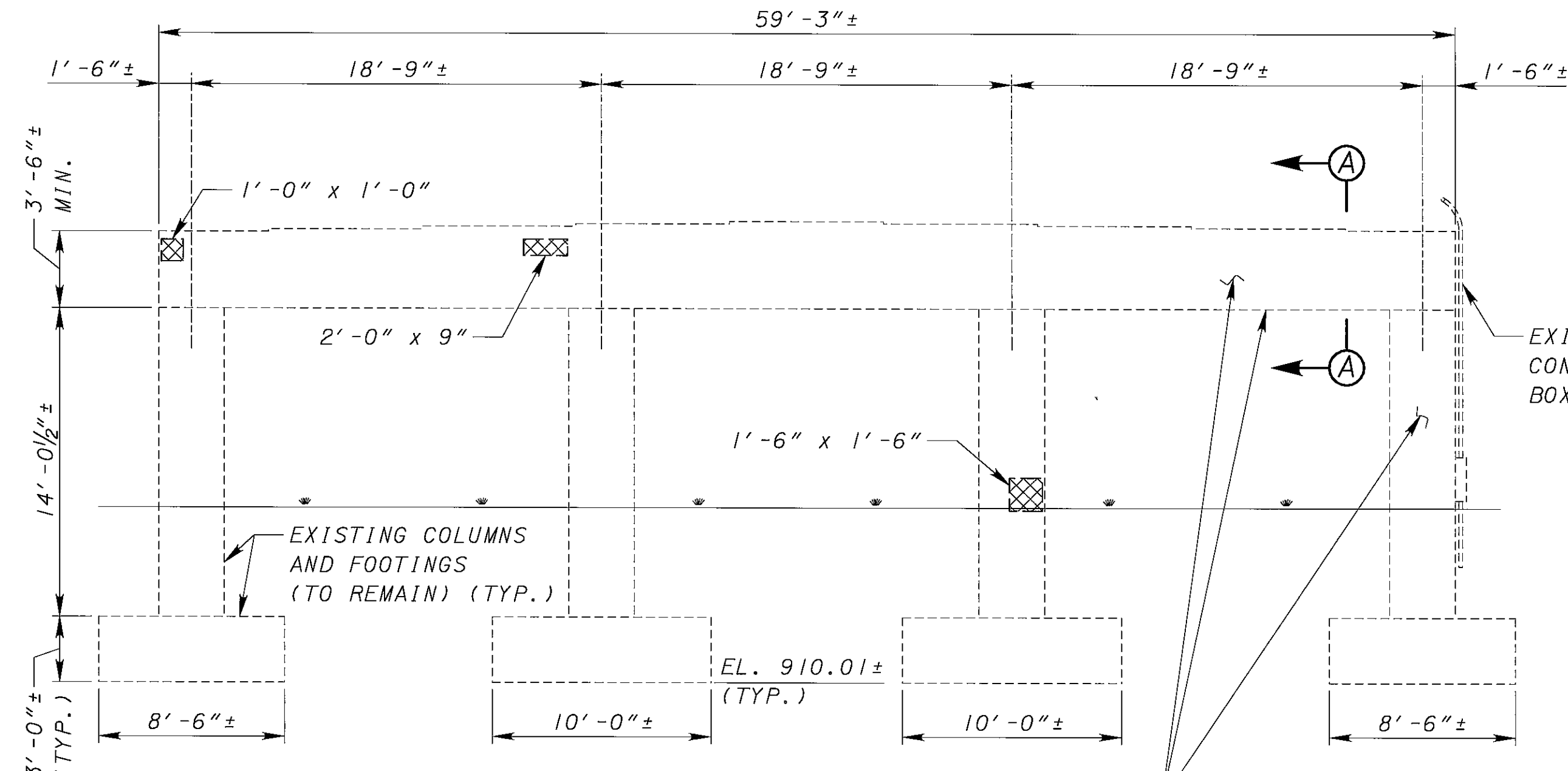
- NOTES:
- ALL REINFORCING BARS SHALL BE PREFIXED AS FOLLOWS:
FORWARD ABUTMENT - FA
 - FOR ADDITIONAL NOTES AND ABBREVIATIONS, SEE SHEET [13/28].
 - FOR REINFORCING SCHEDULE, SEE SHEET [27/28].
 - FOR ADDITIONAL PARAPET DETAILS NOT SHOWN REFER TO O.D.O.T. STANDARD DRAWING BR-2-98.



PIER 1
(SOUTH FACE SHOWN)

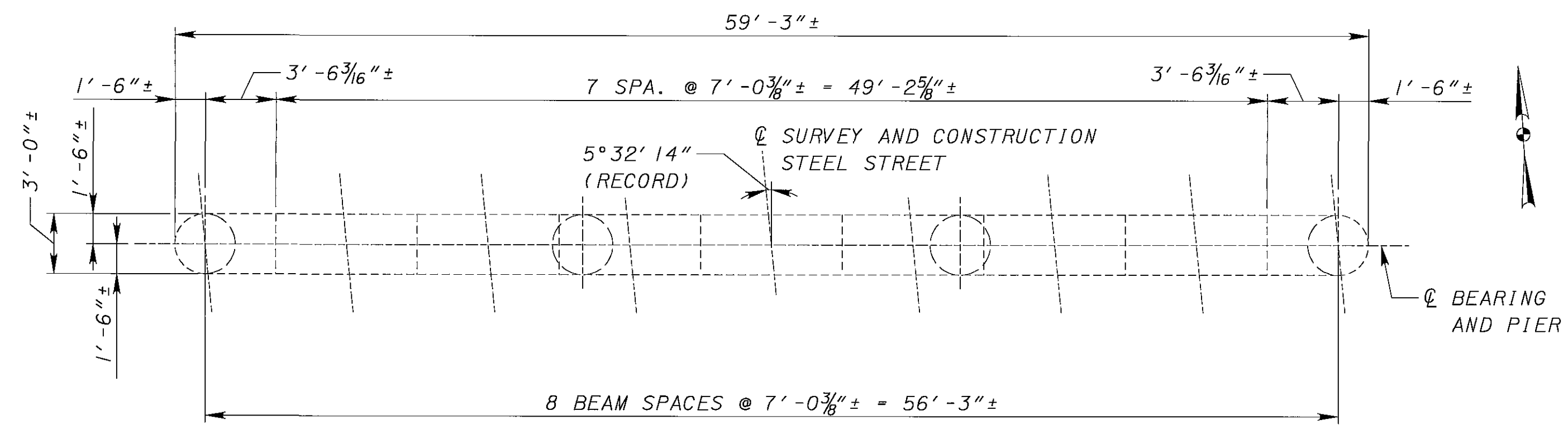


PIER 2
(SOUTH FACE SHOWN)

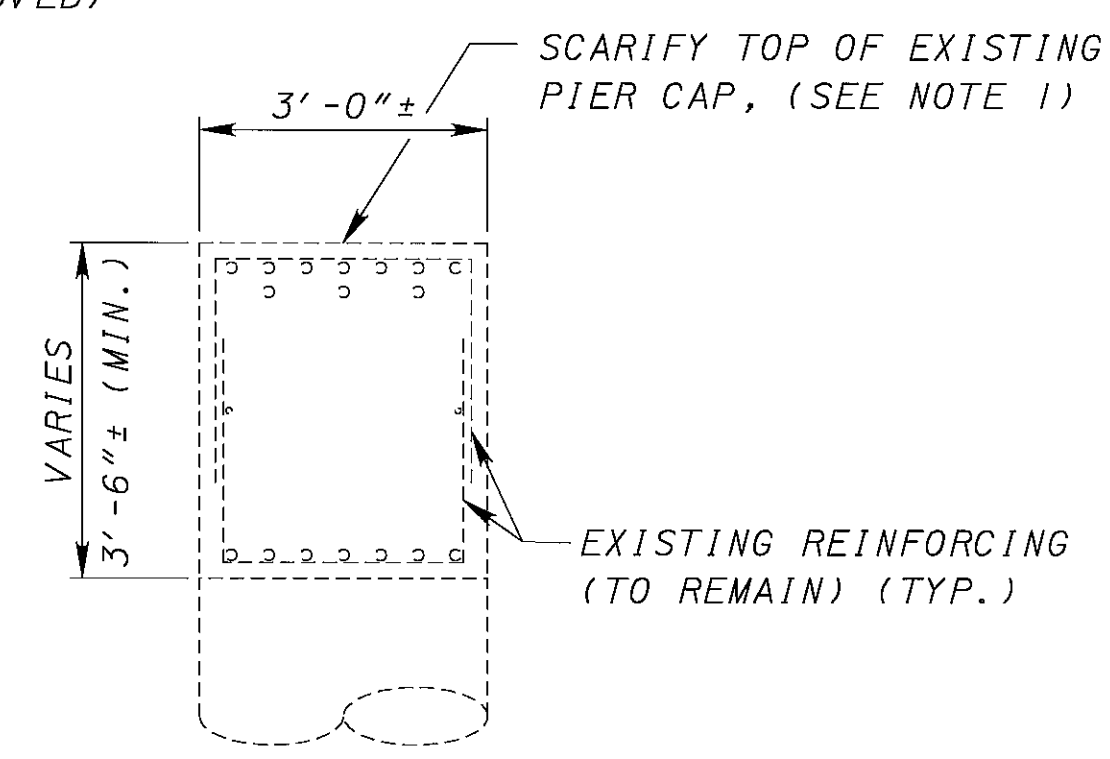


PIER 3
(SOUTH FACE SHOWN)

SEAL ALL EXPOSED SURFACES WITH EPOXY-URETHANE SEALER, FEDERAL COLOR NO. 17778 - LIGHT NEUTRAL (TYP. AT ALL PIER LOCATIONS)



TYPICAL PIER PLAN



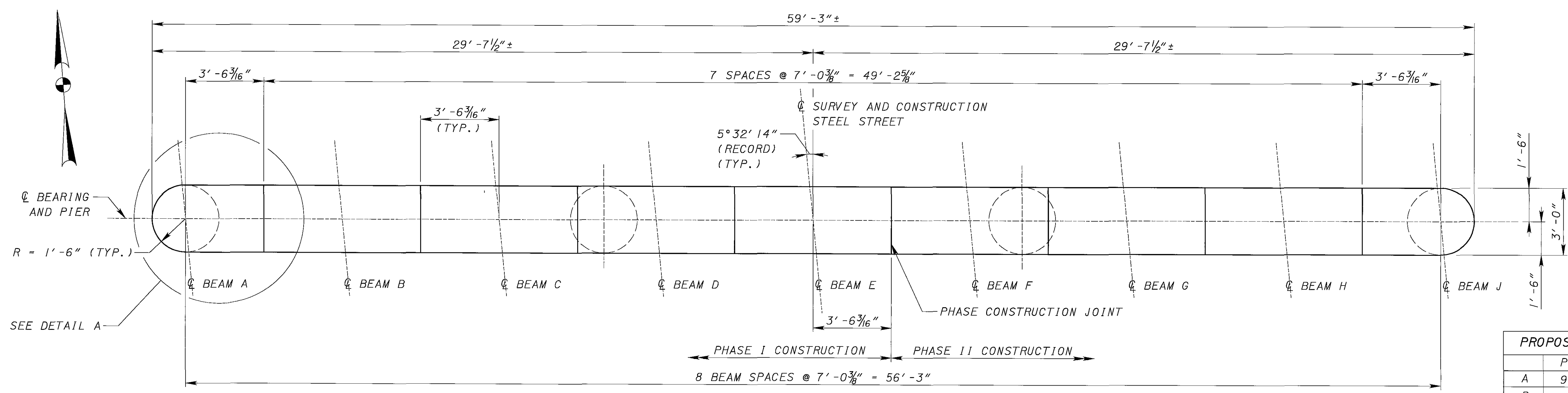
SECTION A-A

LEGEND

- PIER PATCHING (NORTH FACE)
- PIER PATCHING (SOUTH FACE)

NOTES:

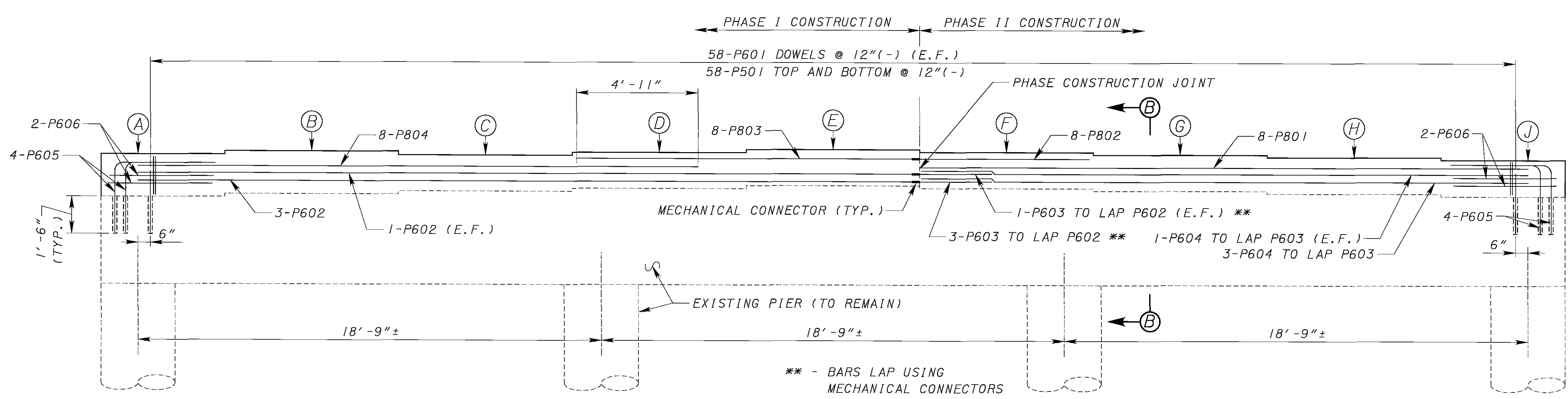
1. SURFACE SHALL BE CLEANED, FREE OF LAITANCE AND INTENTIONALLY ROUGHENED TO 1/4"± AMPLITUDE. PAYMENT SHALL BE INCLUDED WITH ITEM 898.
2. FOR ADDITIONAL PIER CONSTRUCTION DETAILS, SEE SHEET [16/28].
3. FOR ADDITIONAL NOTES AND ABBREVIATIONS, SEE SHEET [16/28].



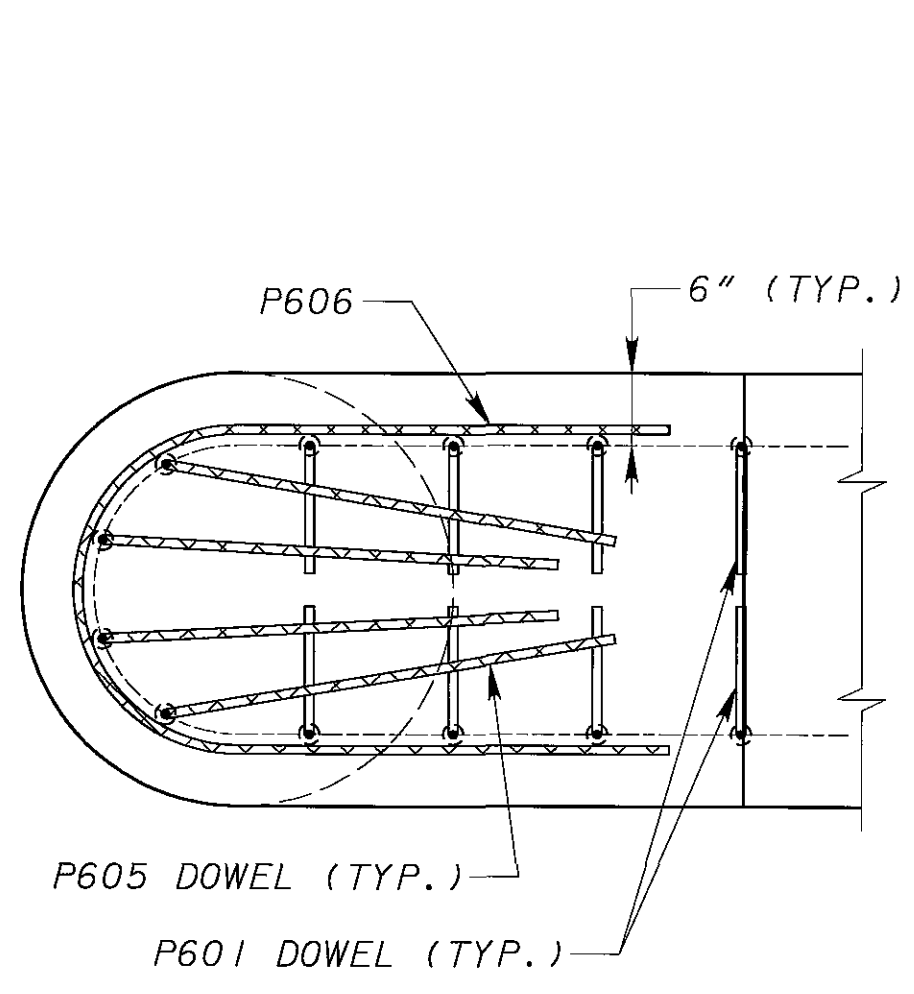
PLAN

PROPOSED BEAM SEAT ELEVATIONS			
	PIER 1	PIER 2	PIER 3
A	934.41	933.31	932.24
B	934.54	933.44	932.37
C	934.40	933.29	932.23
D	934.52	933.41	932.35
E	934.64	933.53	932.47
F	934.54	933.43	932.37
G	934.44	933.33	932.27
H	934.35	933.24	932.18
J	934.25	933.14	932.08

EXISTING BEAM SEAT ELEVATIONS			
	PIER 1	PIER 2	PIER 3
A	932.70±	931.59±	930.54±
B	932.82±	931.71±	930.66±
C	932.95±	931.83±	930.78±
D	933.07±	931.95±	930.90±
E	933.19±	932.07±	931.02±
F	933.09±	931.97±	930.92±
G	932.99±	931.87±	930.82±
H	932.89±	931.78±	930.72±
J	932.79±	931.68±	930.63±

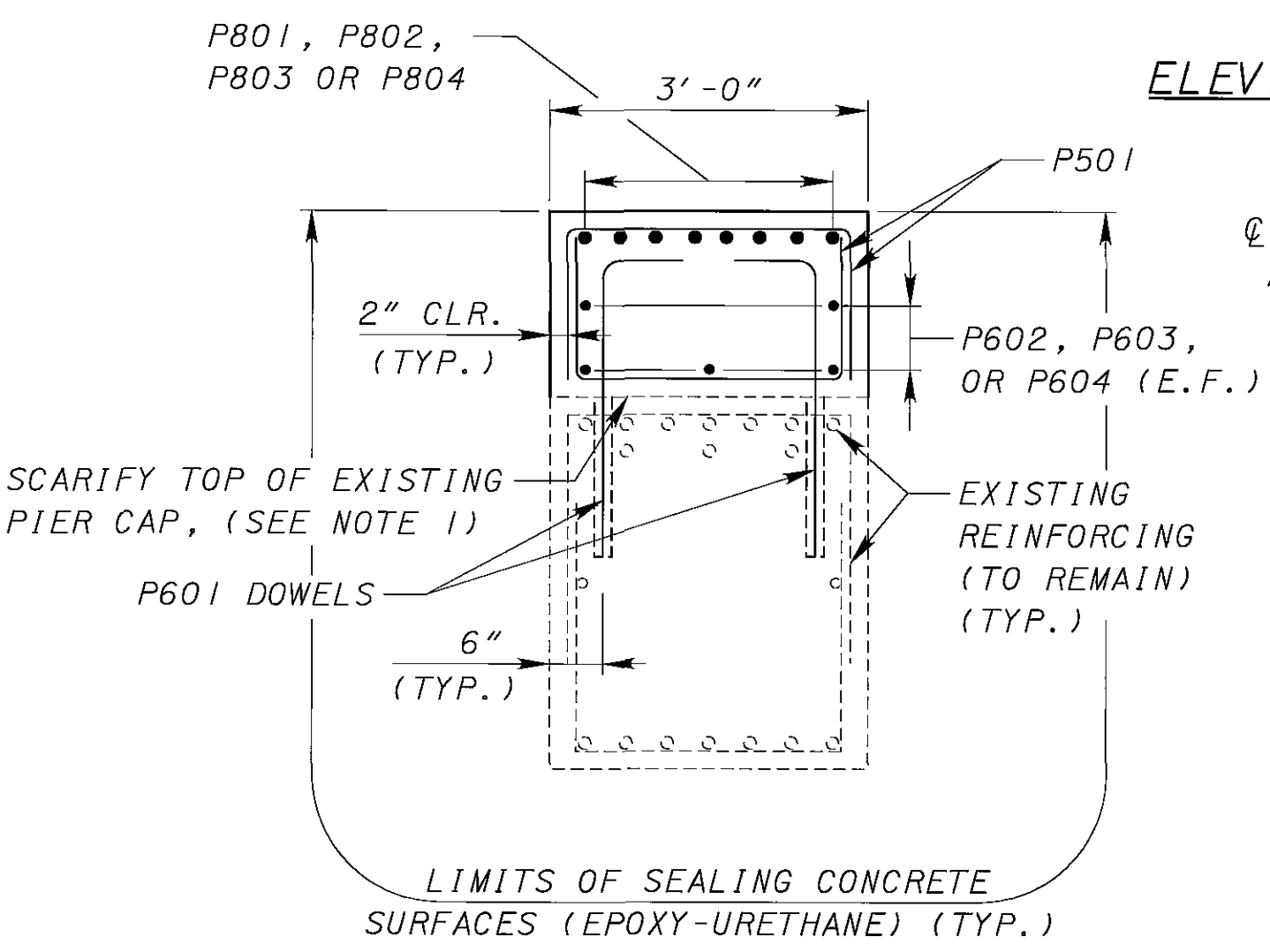


ELEVATION

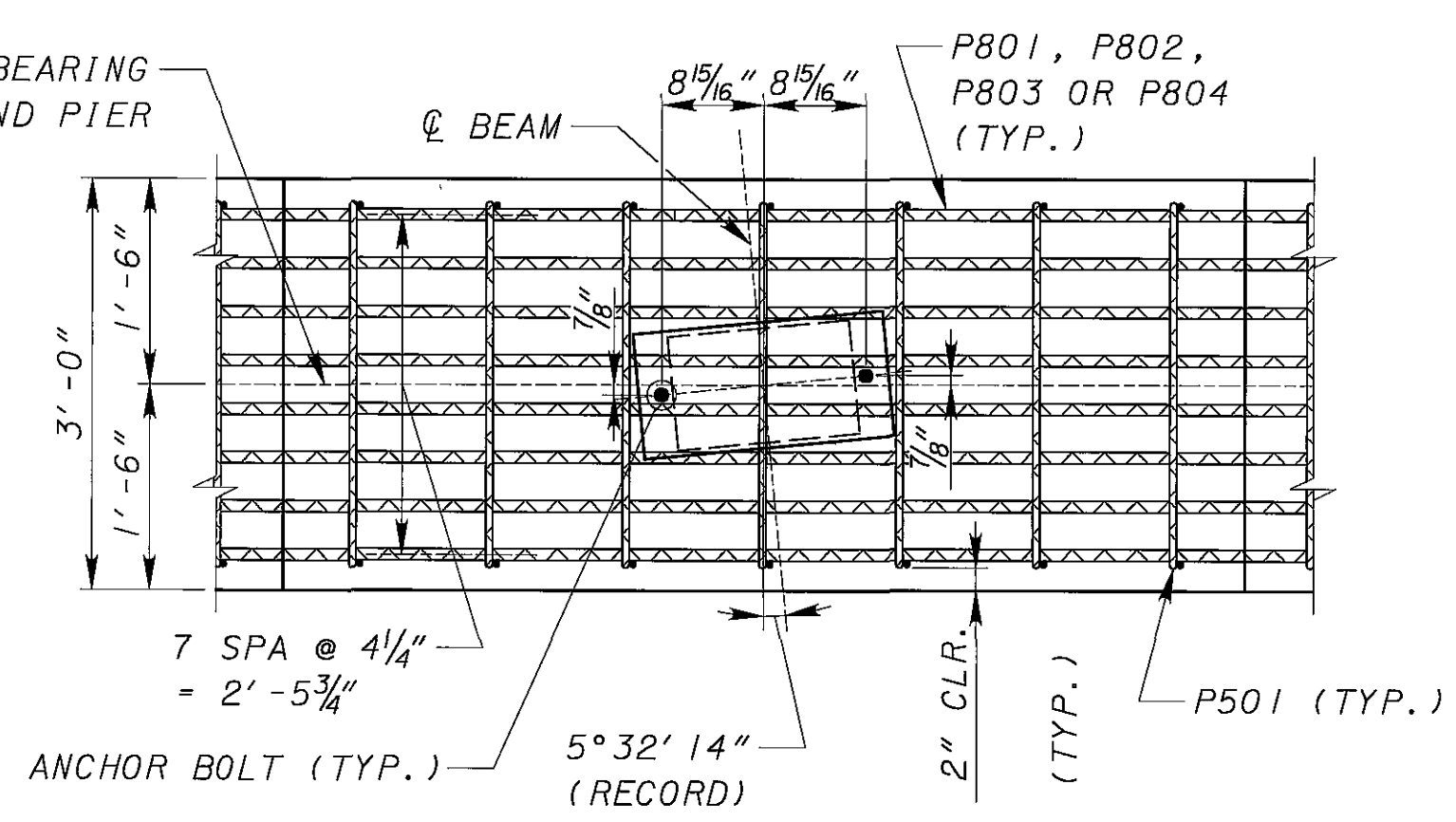


DETAIL A

(P804 BARS AND P501 STIRRUPS NOT SHOWN FOR CLARITY)



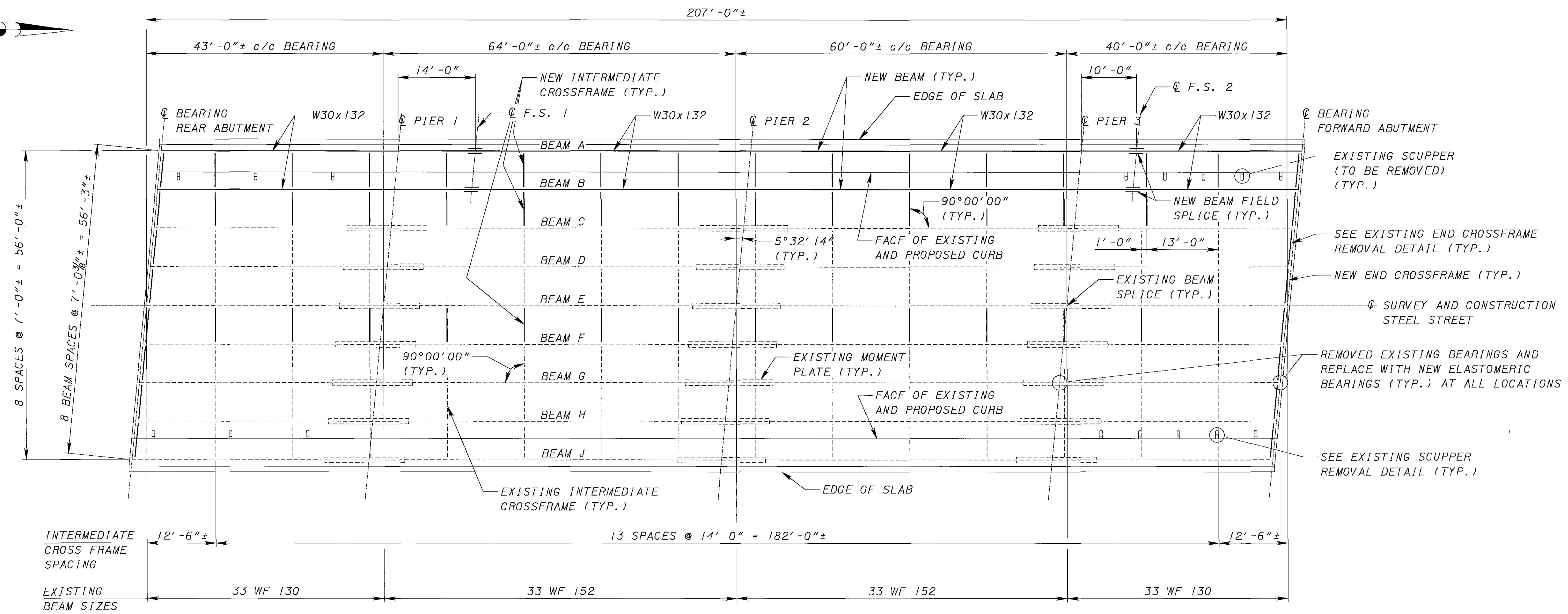
SECTION B-B



ANCHOR BOLT LAYOUT
 (PIER 2 ONLY)

NOTES:

- SURFACE SHALL BE CLEANED, FREE OF LAITANCE AND INTENTIONALLY ROUGHNED TO 1/4"± AMPLITUDE. PAYMENT SHALL BE INCLUDED WITH ITEM 898.
- FOR PIER PATCHING DETAILS, SEE SHEET [15/28].
- ABBREVIATIONS
 TYP. - TYPICAL
 E.F. - EACH FACE
 MIN. - MINIMUM
 CLR. - CLEARANCE
- FOR REINFORCING SCHEDULE, SEE SHEET [27/28].
- PAYMENT FOR DRILLING OR FORMING HOLES AND FURNISHING AND PLACING GROUT SHALL BE INCLUDED IN THE CONTRACT PRICES FOR ITEM 510 - DOWELS HOLES WITH CEMENT GROUT.
- ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRESETTING OF THE BEARING ANCHORS.



PLAN

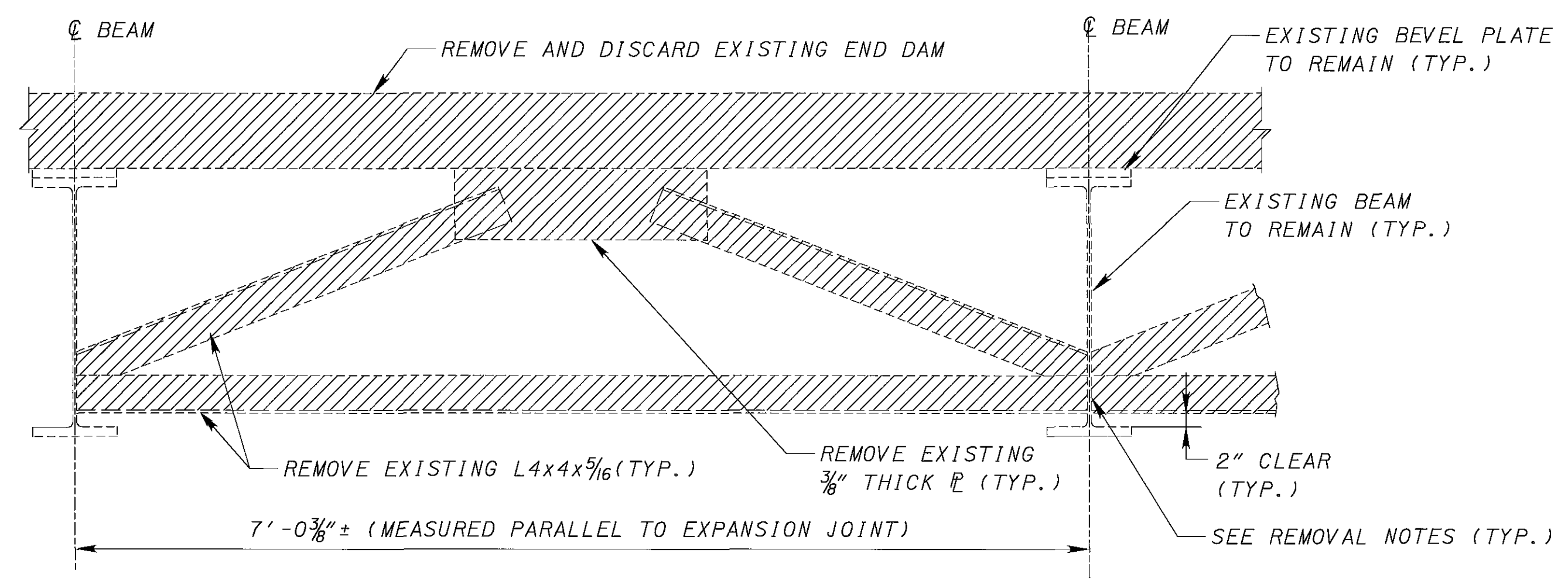
REMOVAL NOTES:

1. CUT THE EXISTING ANGLES CONNECTED TO THE BEAM WEB. DO NOT UNDERCUT THE WELDS OR GORGE THE BEAM WEB OR FLANGE DURING THE CUTTING OPERATION. ALL CUTTING SHALL BE DONE BY EITHER THE OXYGEN CUTTING OR THE AIR-CARBON-ARC PROCESS. CUTTING MAY BE DONE MANUALLY PROVIDED A GUIDE IS USED AND A STRAIGHT CUT IS ATTAINED. THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER PRIOR TO THE START OF WORK THAT HE CAN ACCOMPLISH THE WORK WITHOUT DAMAGE TO THE BEAM REGARDLESS OF THE PROCESS. AT NO TIME SHALL THE BEAM TEMPERATURE EXCEED 1100° F.
2. DETACH AND DISCARD THE EXISTING ANGLES.
3. THE SURFACES OF THE CUT FILLET WELDS SHALL BE GROUND IMMEDIATELY AFTER DISCARDING THE REMOVED PORTION. THIS GRINDING IS TO REMOVE ANY LARGE SURFACE IRREGULARITIES.
4. ANY REMAINING WELD MATERIAL OR STEEL SHALL BE GROUND SO THAT THE RESULTING WEB SURFACE IS SMOOTH. EXTREME CAUTION SHALL BE TAKEN TO MAINTAIN THE FULL WEB THICKNESS AND TO ENSURE THAT NO UNDERCUTTING, GOUGING, SCRATCHING OR OVERGRINDING OF THE WEB OCCURS.

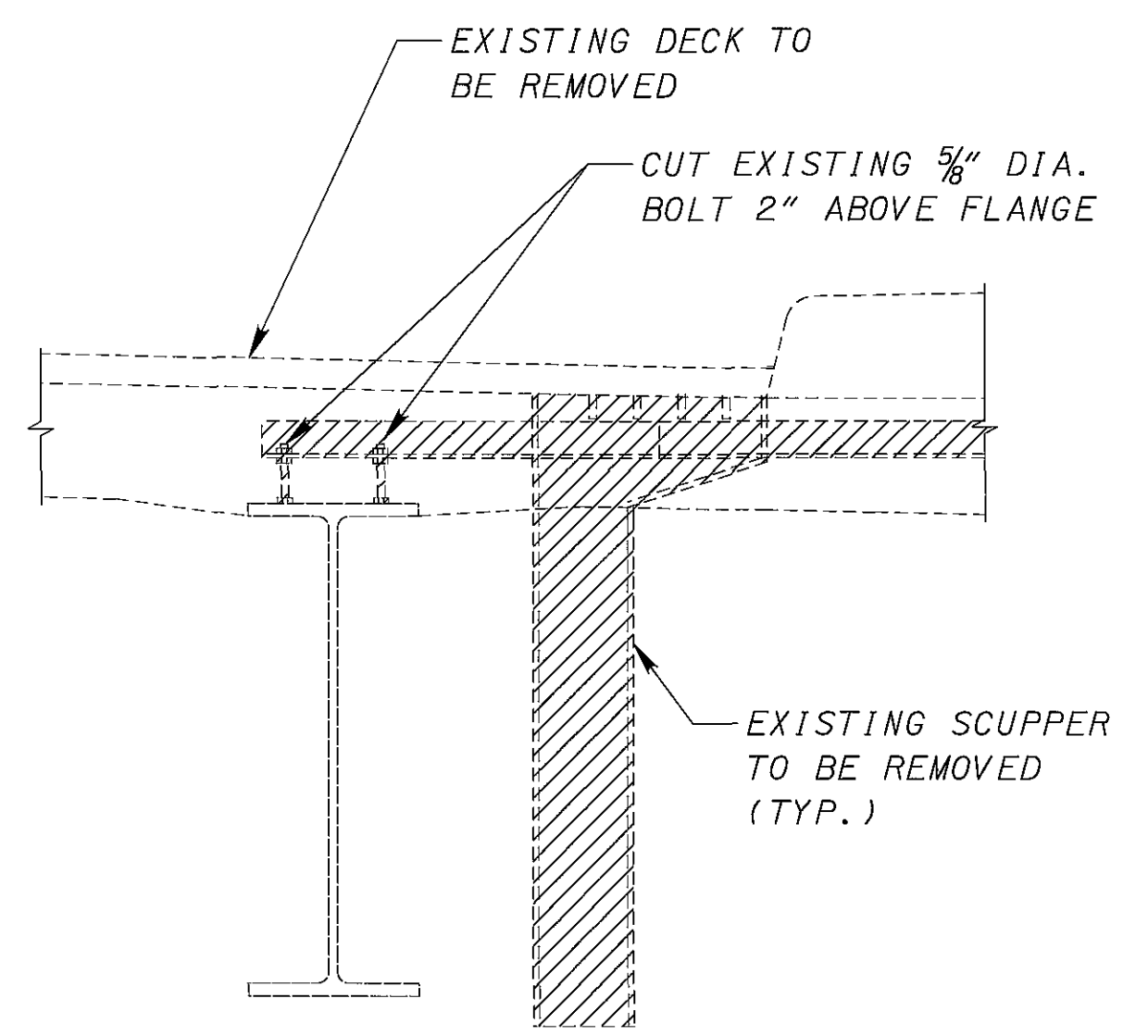
NOTES

1. FOR DETAILS OF PROPOSED INTERMEDIATE CROSSFRAMES, REFER TO ODOT STANDARD DRAWING GSD-1-96.
2. THE NEW INTERMEDIATE CROSSFRAME BETWEEN BEAM E AND BEAM F SHOULD BE PLACED AFTER BOTH DECK SEQUENCES ARE INSTALLED.
3. FOR BEAM NOTES, SEE SHEET 18/28.

4. ABBREVIATIONS:
 TYP. - TYPICAL
 DIA. - DIAMETER
 F.S. - FIELD SPLICE

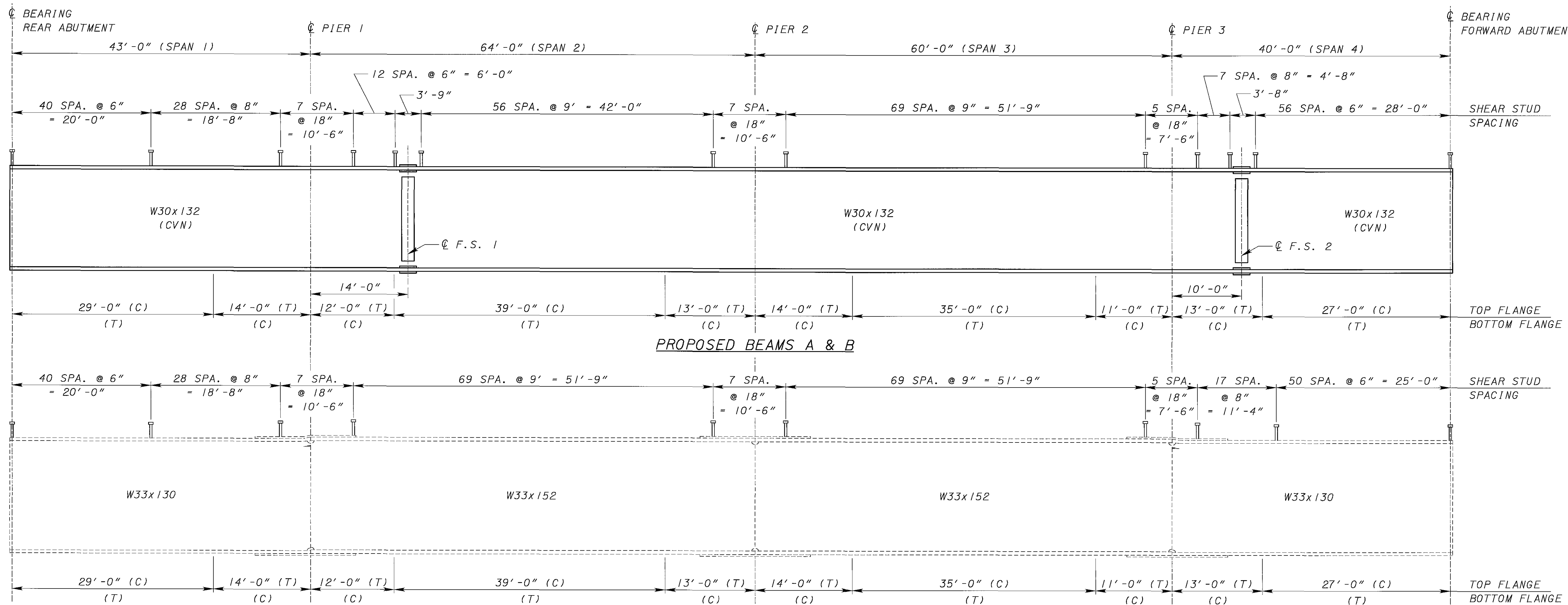


EXISTING END CROSSFRAME REMOVAL DETAIL

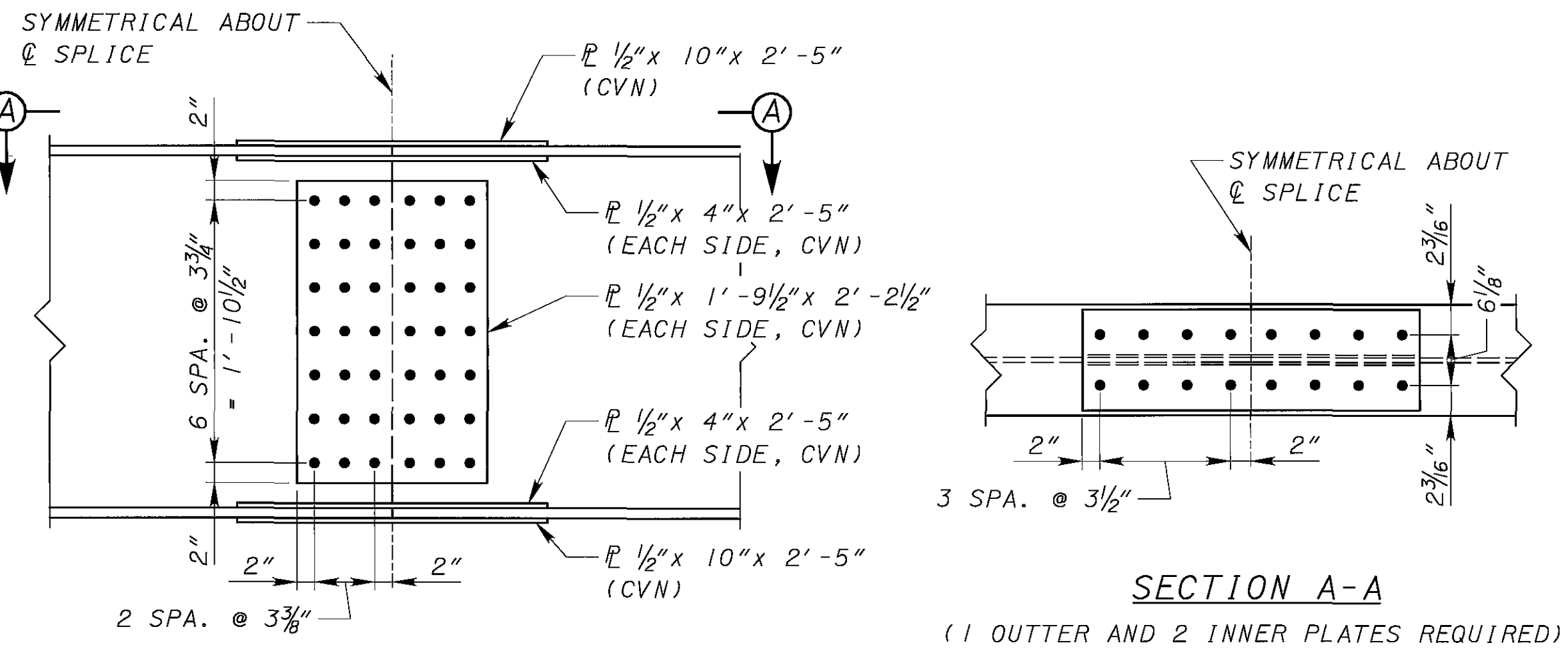
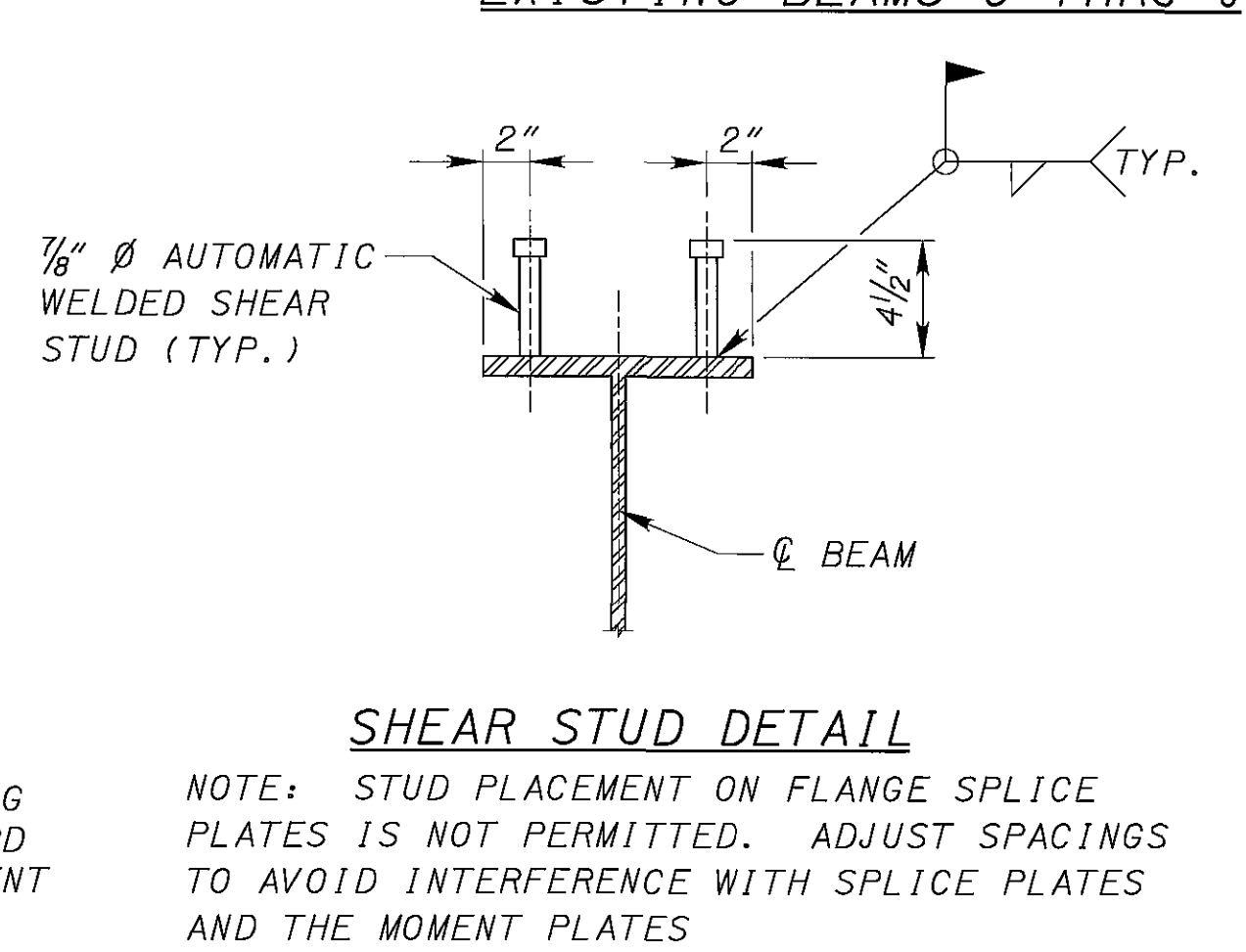
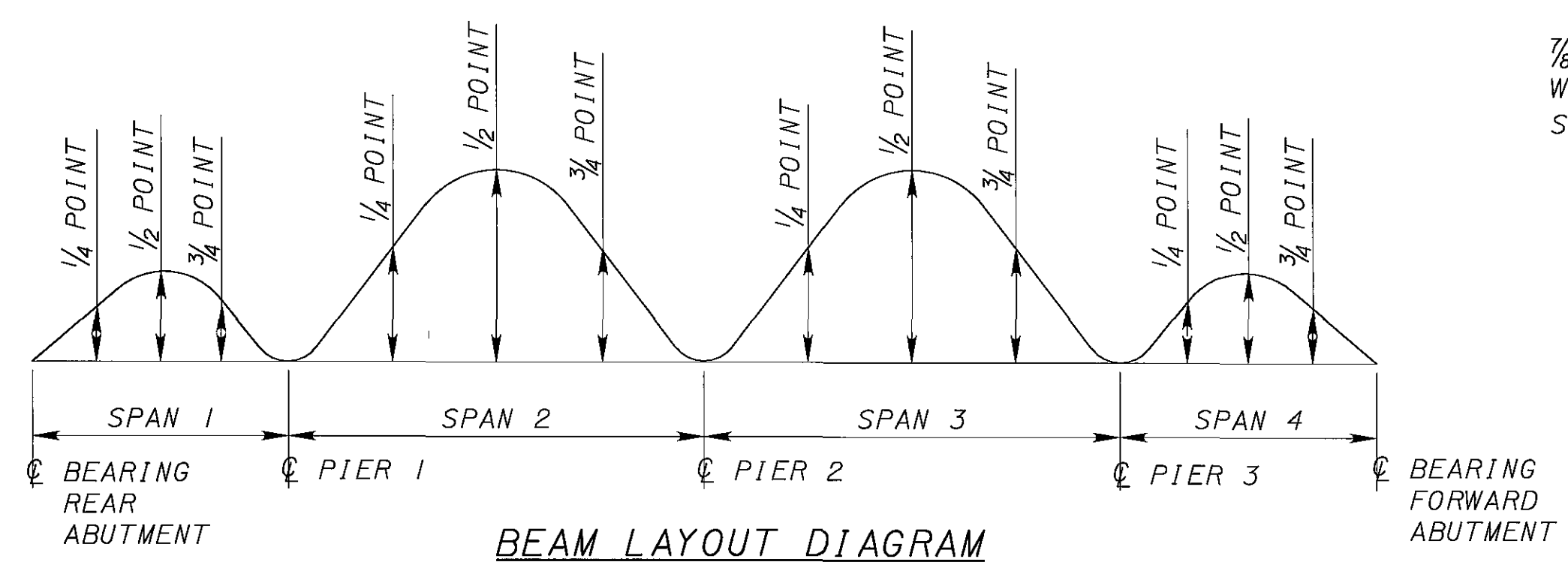


EXISTING SCUPPER REMOVAL DETAIL

LEGEND
 [Hatched Box] - INDICATES REMOVAL

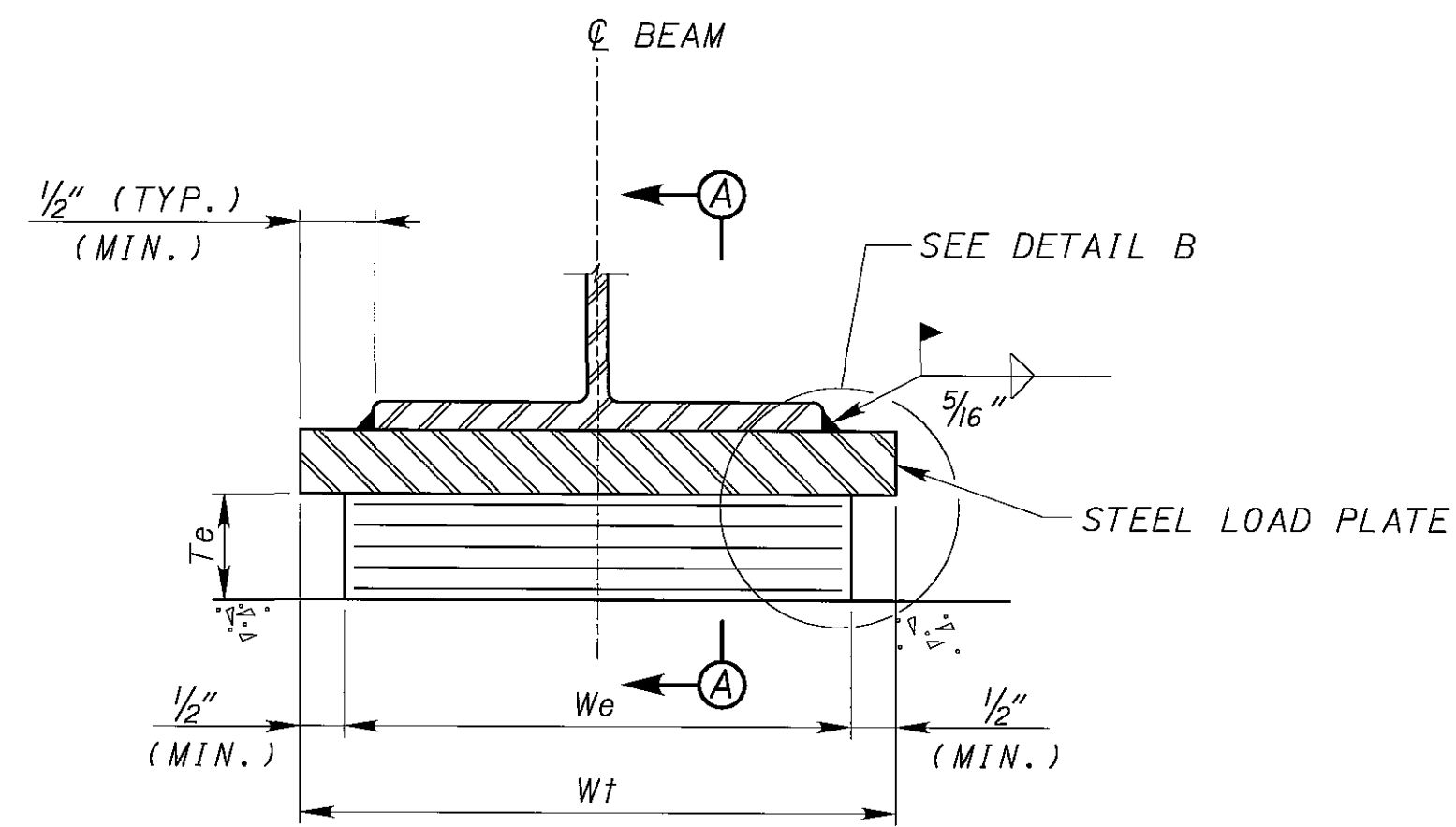


LEGEND:
 (T) - DENOTES AREA OF TENSION
 (C) - DENOTES AREA OF COMPRESSION

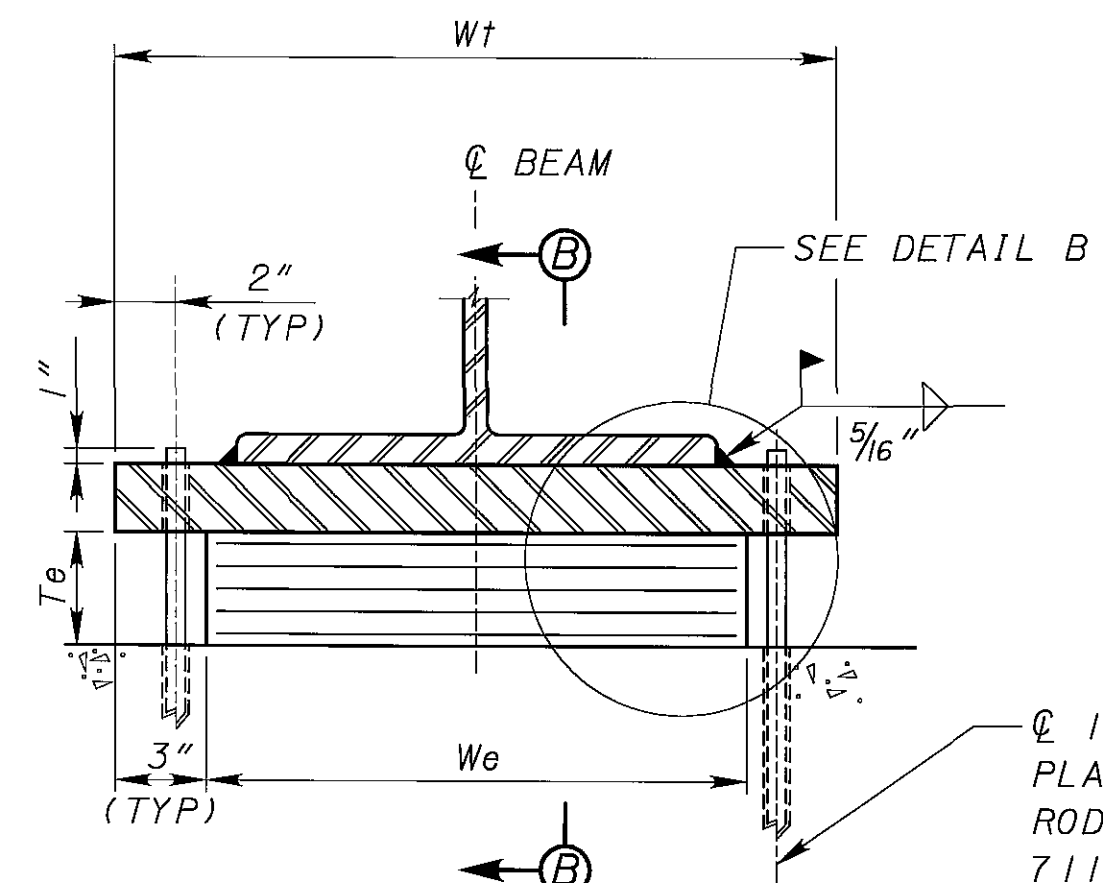


POINT	SPAN 1			PIER 1	SPAN 2			PIER 2	SPAN 3			PIER 3	SPAN 4		
	1/4	1/2	3/4		1/4	1/2	3/4		1/4	1/2	3/4		1/4	1/2	3/4
DEFLECTION DUE TO WEIGHT OF STEEL	0	0	0	0	1/16"	1/16"	1/16"	0	0	1/16"	1/16"	0	0	0	0
DEFLECTION DUE TO REMAINING DEAD LOAD	1/16"	1/8"	0	0	5/16"	1/2"	1/4"	0	3/16"	5/16"	3/16"	0	0	1/16"	1/16"
VERTICAL CURVE ADJUSTMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL CAMBER	1/16"	1/8"	0	0	3/8"	9/16"	5/16"	0	3/16"	3/8"	1/4"	0	0	1/16"	1/16"

- NOTES**
- ALL NEW STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 50 PAINTED.
 - WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE AT LEAST 2" LONG, AND BE AT LEAST 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER THAN 3/4" THICK.
 - CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
 - USE ODOT SANDARD DRAWING GSD-1-96 FOR NEW INTERMEDIATE AND END CROSSFRAMES.
 - ALL FIELD SPLICE PLATES SHALL BE ASTM A709 GRADE 50W STEEL. ALL FIELD SPLICE FASTNERS SHALL BE 1/8" DIAMETER HIGH STRENGTH BOLTS, ASTM A-325. FOR ADDITIONAL SPLICE DETAILS NOT SHOWN, SEE ODOT STANDARD DRAWING BS-1-93.

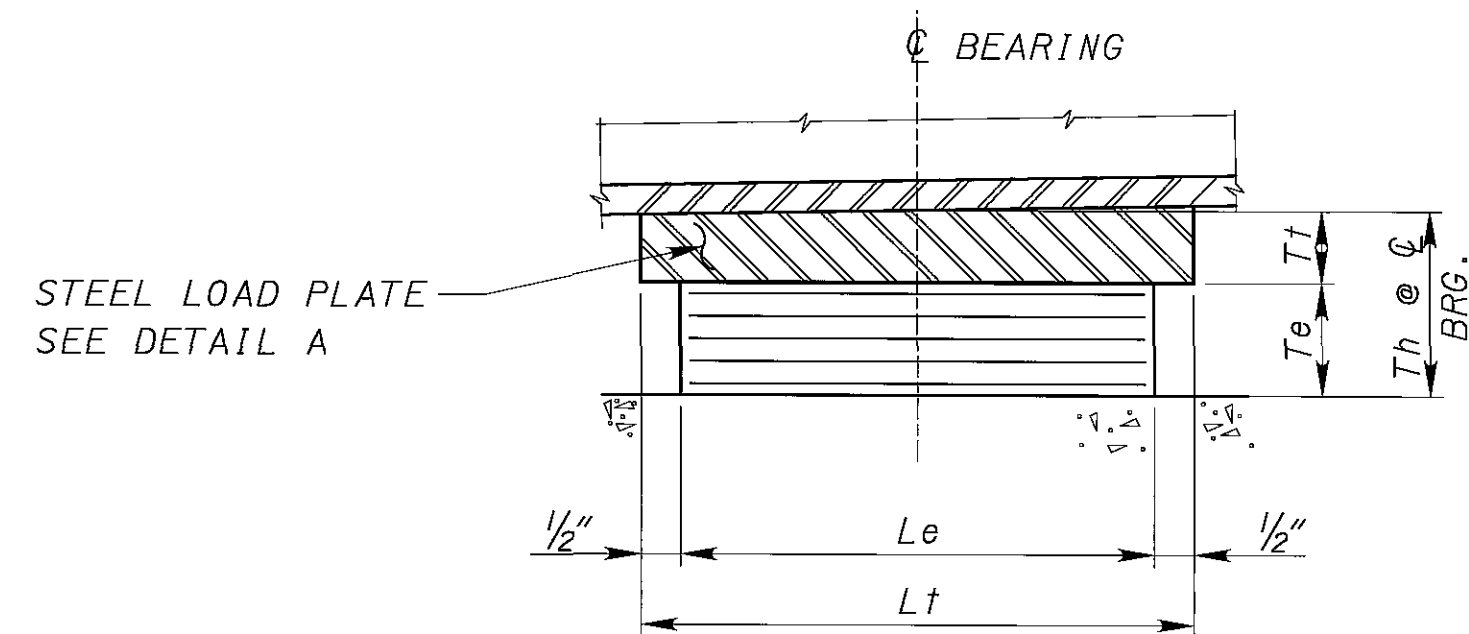


LAMINATED ELASTOMERIC
(EXPANSION BEARING)
(BOTTOM SPLICE PLATES FOR EXISTING BEAMS, AT PIERS, NOT SHOWN)

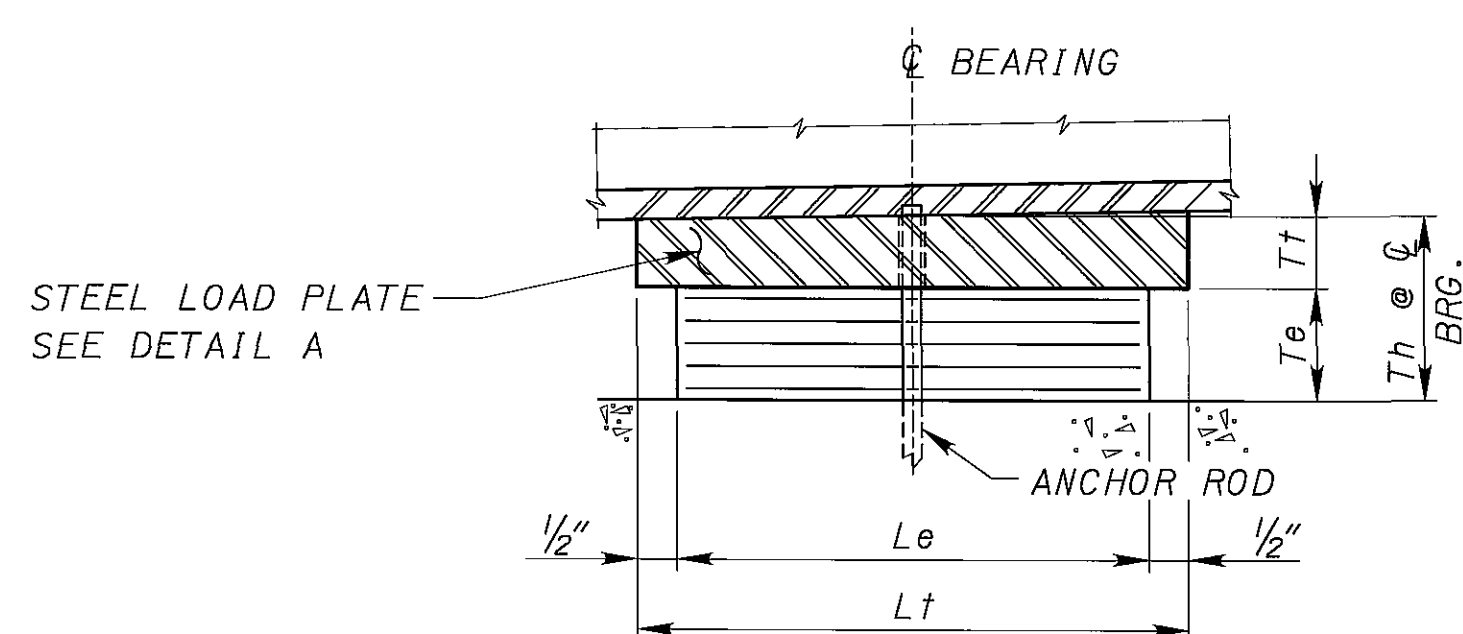


LAMINATED ELASTOMERIC
(FIXED BEARING)
(BOTTOM SPLICE PLATES FOR EXISTING BEAMS, AT PIERS, NOT SHOWN)

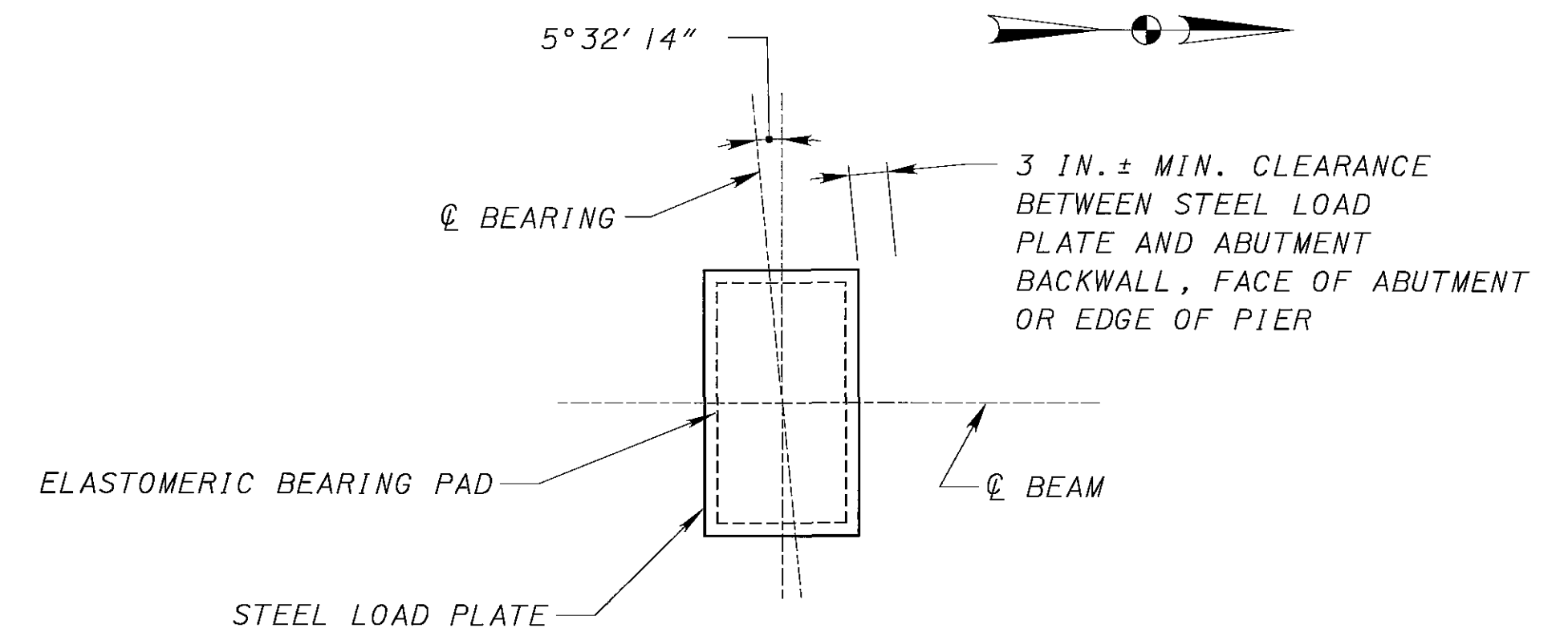
1 3/4" ϕ HOLE IN STEEL LOAD PLATE FOR 1 1/4" ϕ x 1'-7" ANCHOR ROD, GALVANIZED ACCORDING TO 711.02. INSTALL ANCHOR ROD PER 510. INCLUDE DOWEL HOLES AND ANCHOR RODS WITH ITEM 516 FOR PAYMENT.



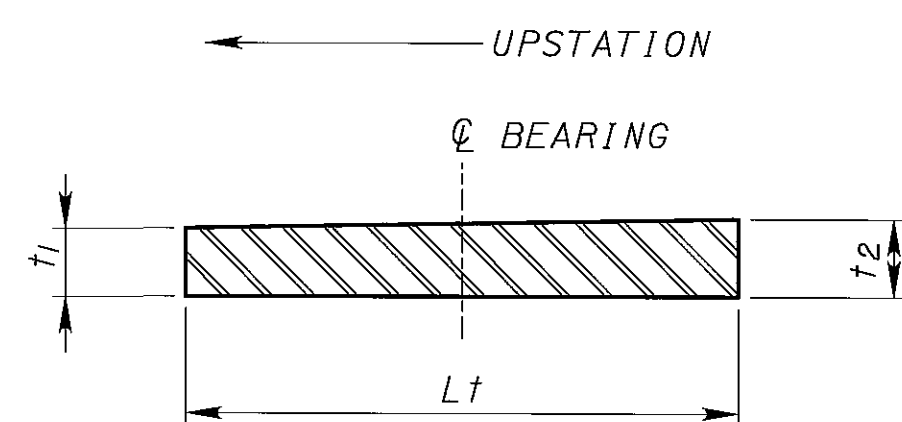
SECTION A-A



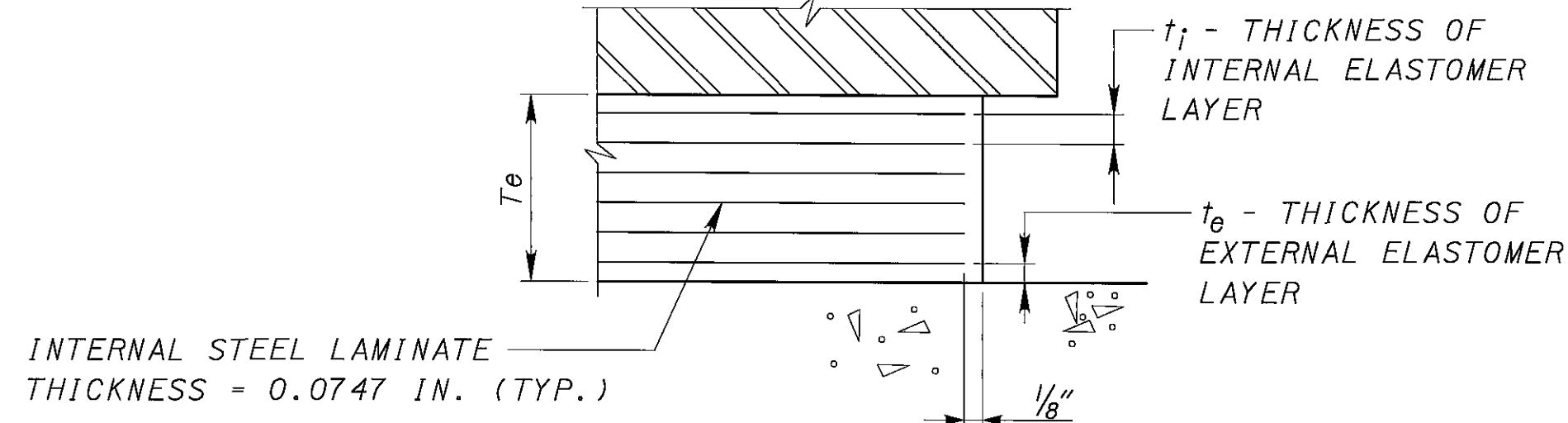
SECTION B-B



BEARING ORIENTATION PLAN



DETAIL A
(STEEL LOAD PLATE)



DETAIL B

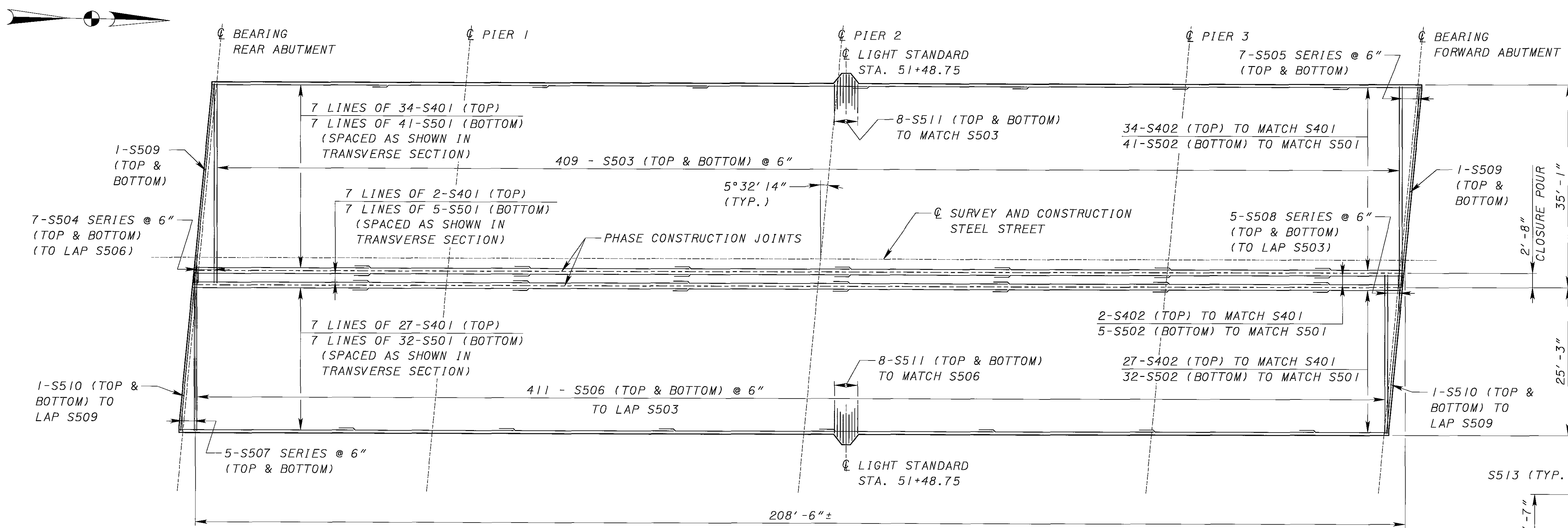
NOTES:

- ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION 1, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
- THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS. CONTROL WELDING OF LOAD PLATE TO THE SUPERSTRUCTURE SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300°F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.
- 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 TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F ± 10°F.
- BASIS OF PAYMENT - THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS LABOR, TESTING, PAINTING AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, ELASTOMERIC BEARINGS WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE).

ELASTOMERIC BEARING DATA																			
LOCATION	TYPE	NO. REQ'D	DL (KIP)	LL (KIP) W/O IMPACT	TOTAL LOAD (DL+LL)	ELASTOMER						STEEL LOAD PLATE							
						Le (in.)	We (in.)	ti (in.)	te (in.)	NO. OF ti's	NO. OF te's	NO. INTERNAL LAMINATES	Te (in.)	Wt (in.)	Lt (in.)	t1 (in.)	t2 (in.)	Tt* (in.)	Th* (in.)
REAR ABUT.	EXP	9	22.00	43.00	65.00	7.00	11.50	0.20	0.14	4	2	5	1.45	12.50	8.00	1.68	1.82	1.75	3.20
PIER No. 1	EXP	9	88.00	52.00	140.00	10.50	17.00	0.31	0.22	4	2	5	2.05	18.00	11.50	2.40	2.60	2.50	4.55
PIER No. 2	FIXED	9	95.00	52.00	147.00	10.00	16.00	0.27	0.19	4	2	5	1.83	22.00	11.00	2.40	2.60	2.50	4.33
PIER No. 3	EXP	9	88.00	52.00	140.00	10.50	17.00	0.31	0.22	4	2	5	2.05	18.00	11.50	2.40	2.60	2.50	4.55
FWD. ABUT.	EXP	9	22.00	43.00	65.00	7.00	11.50	0.20	0.14	4	2	5	1.45	12.50	8.00	1.68	1.82	1.75	3.20

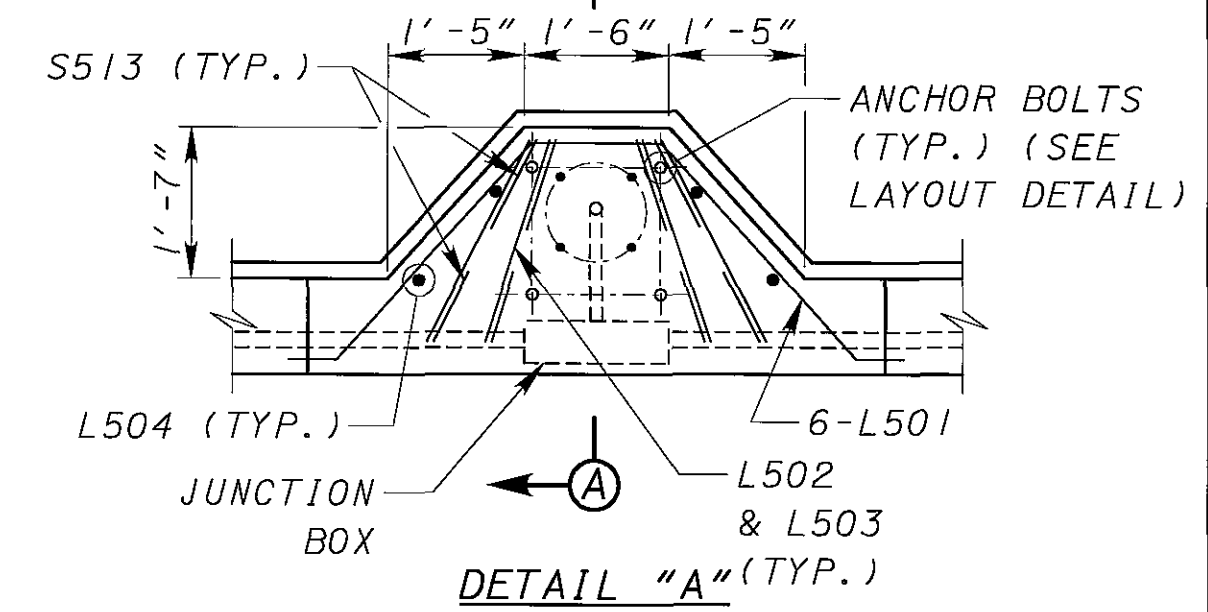
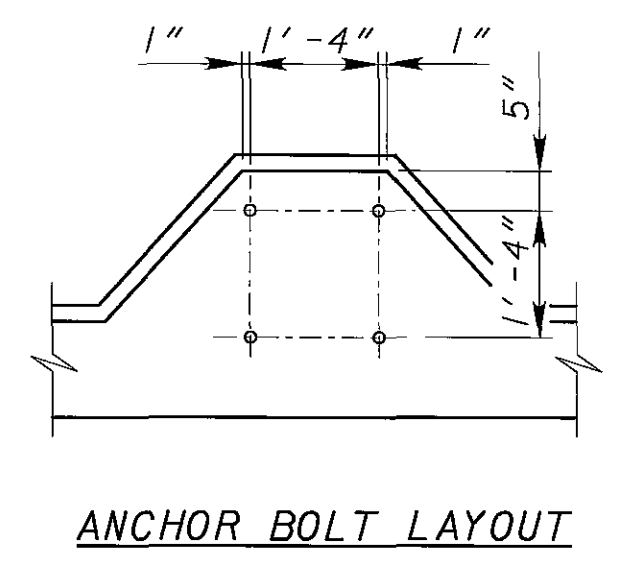
* - @ C BEARING

BAR	REQUIRED LAP LENGTH
No. 4	1'-11"
No. 5	2'-5"

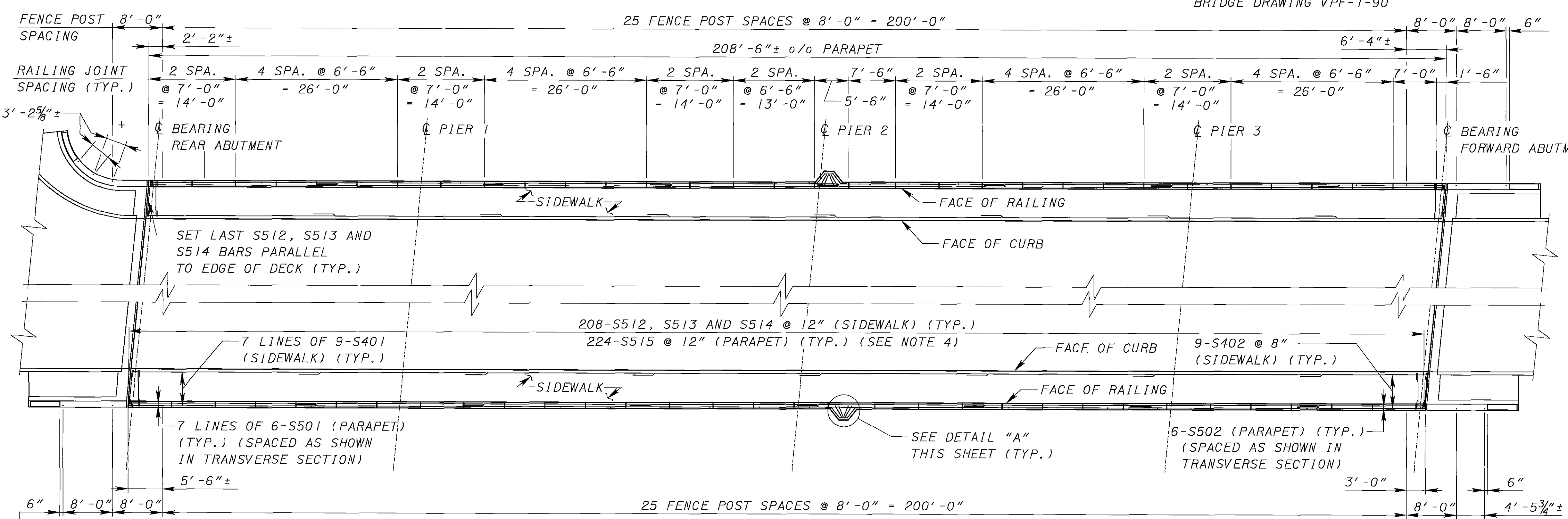


DECK PLAN

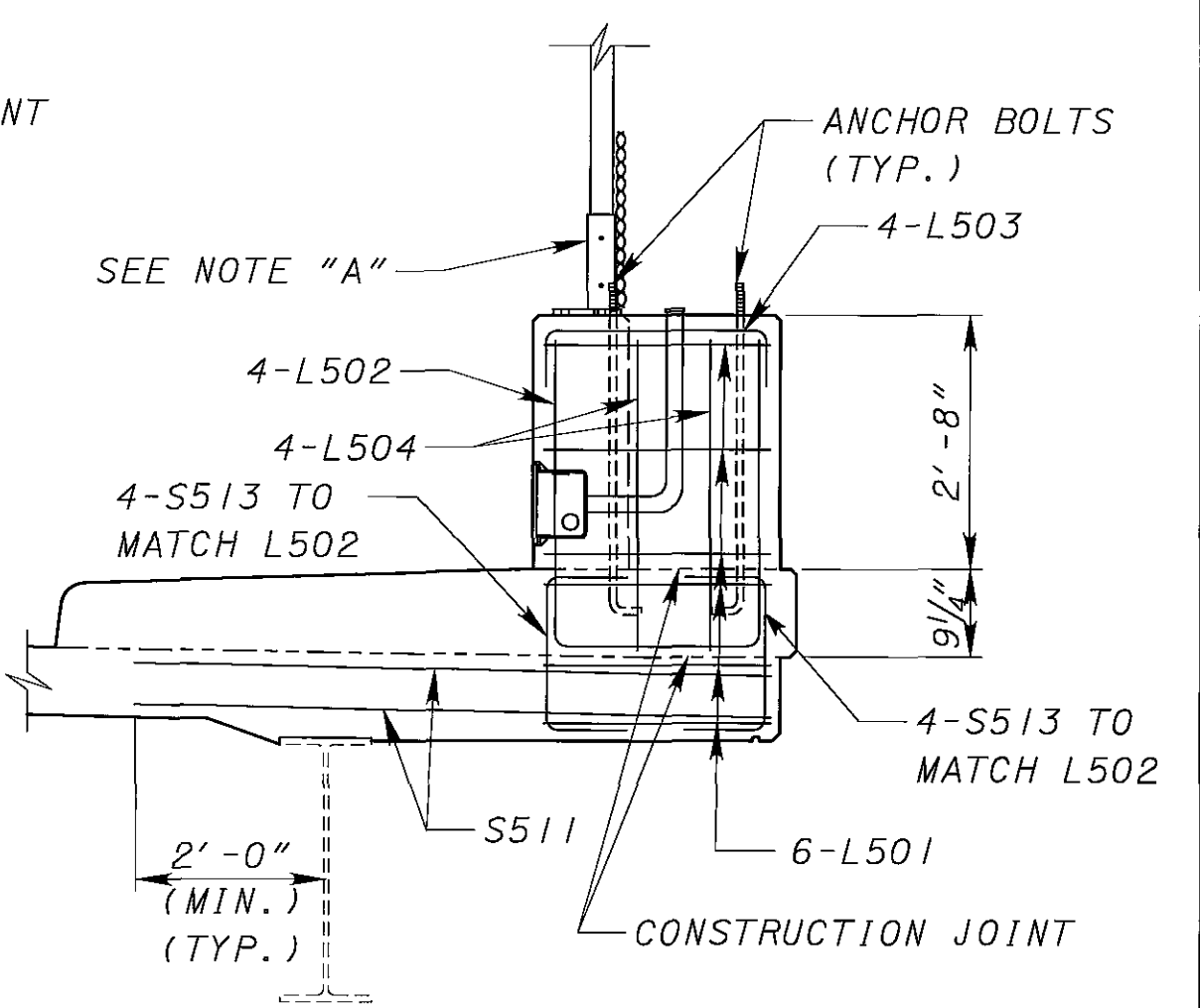
NOTE "A"
 PROVIDE ACCESS IN VANDAL PROTECTION FENCE AT LIGHT POLE LOCATIONS. SEE ODOT STANDARD BRIDGE DRAWING VPF-1-90



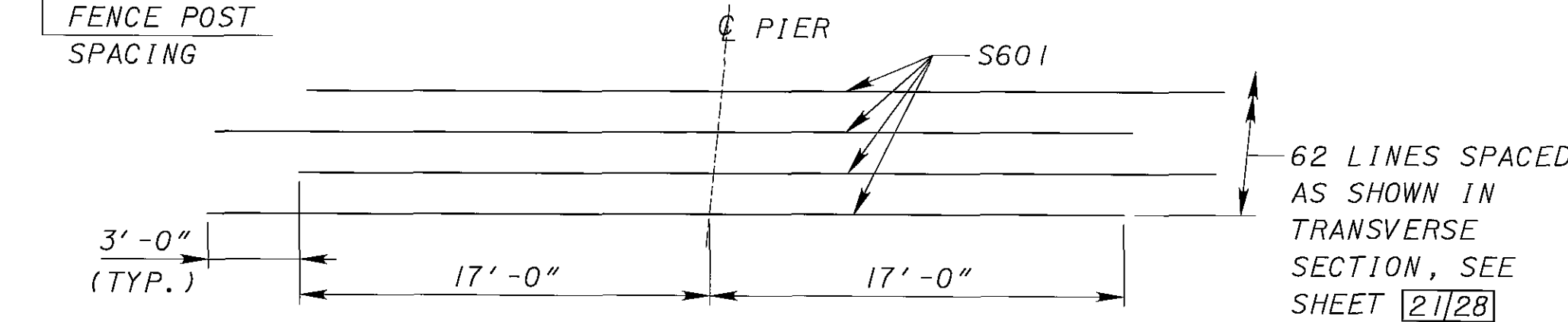
DETAIL "A" (TYP.)
 (LIGHT POLE PILASTER FOR BRIDGE WITH SIDEWALK RAILING)



PARAPET AND RAILING PLAN



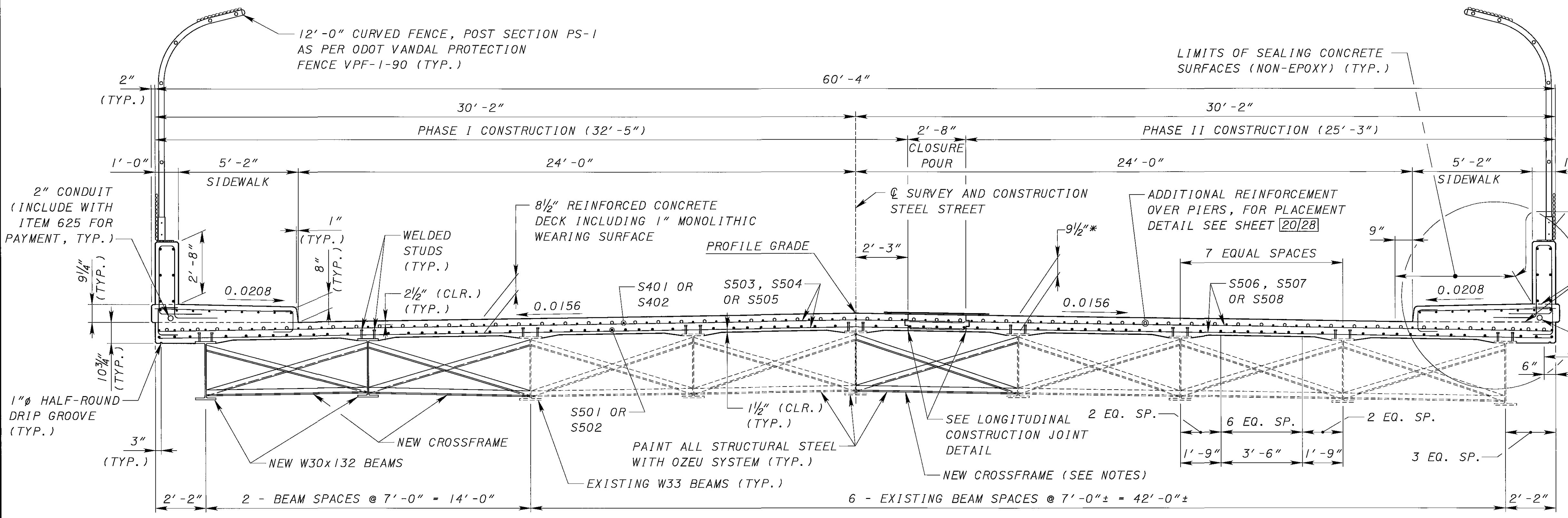
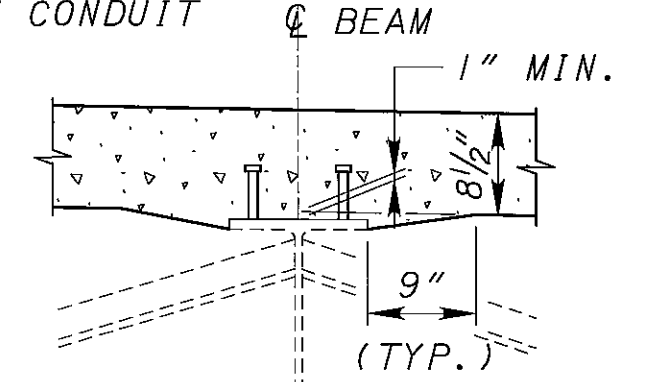
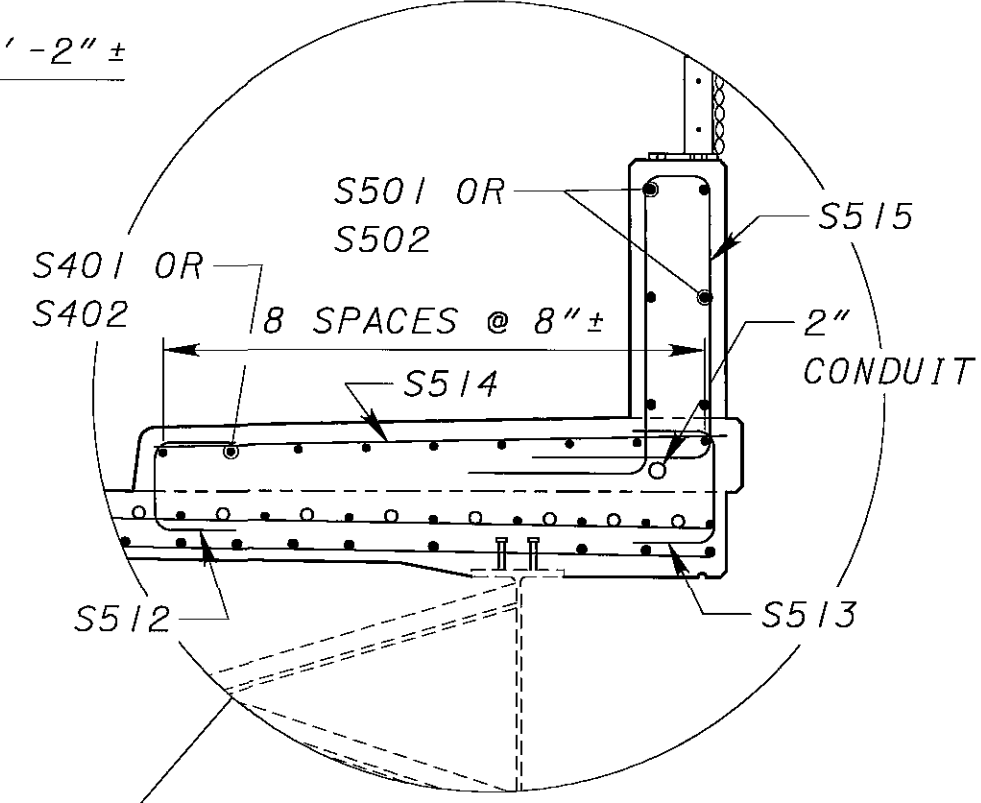
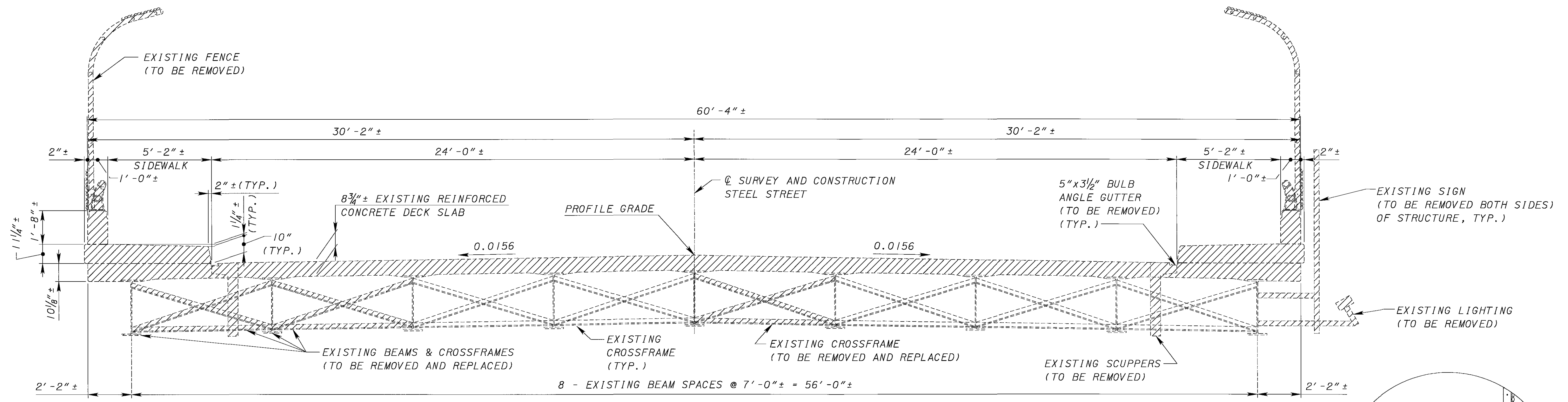
SECTION A-A
 (SLAB REINFORCING NOT SHOWN FOR CLARITY)



ADDITIONAL REINFORCING OVER PIERS

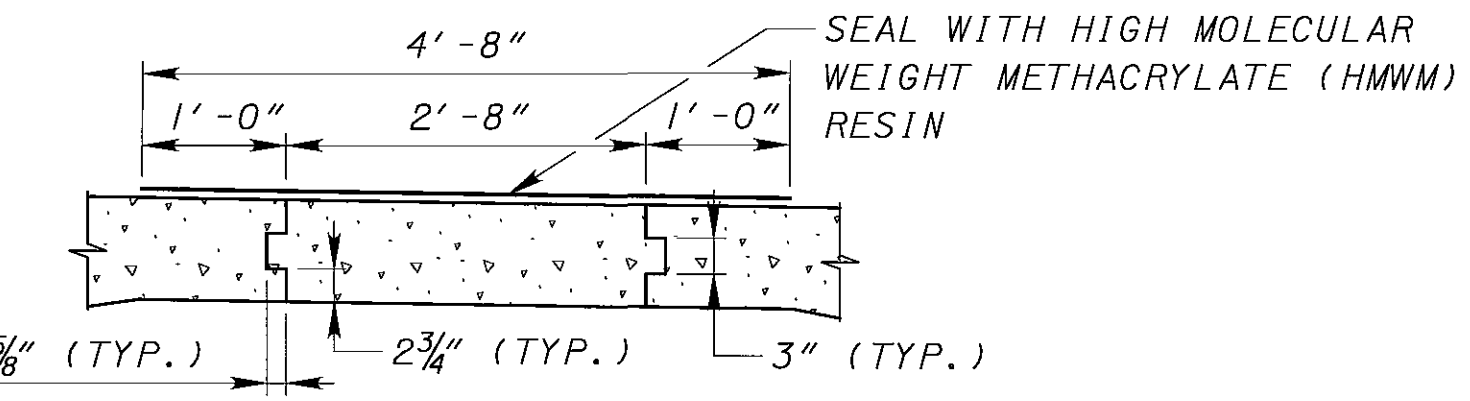
- NOTES**
- FOR TRANSVERSE SECTION, SEE SHEET [21]28.
 - FOR REINFORCEMENT SCHEDULE, SEE SHEET [28]28.
 - FOR SCREED ELEVATION TABLES, SEE SHEETS [22]28 & [23]28.
 - FOR VERTICAL REINFORCING SPACING IN PARAPET, SEE PARAPET PANEL DETAIL, SHEET [28]28.
 - FOR ADDITIONAL FENCE DETAILS, SEE STANDARD DRAWING VPF-1-90 AND ABUTMENT DETAILS ON SHEETS [9]28 AND [14]28.
 - FOR ADDITIONAL STRUCTURE LIGHTING DETAILS, REFER TO STANDARD DRAWING HL-10.13, HL-20.14 AND HL-30.31.
 - FOR STRUCTURE GROUNDING DETAILS, REFER TO STANDARD DRAWING HL 50.21.

DESIGN AGENCY: TRANSSYSTEMS CORPORATION, 55 PUBLIC SQUARE, SUITE 1680, CLEVELAND, OHIO 44115-1680
 DATE: 05/28/04
 REVIEWED: RER
 DRAWN: BTA
 DESIGNED: BTA
 CHECKED: MLR
 STRUCTURE FILE NUMBER: 5006813
 DECK AND PARAPET PLAN
 BRIDGE NO. MAH-680-0414
 STEEL STREET OVER IR-680
 MAH-680-4.14/6.28/6.37
 20/28
 117/191



NOTES

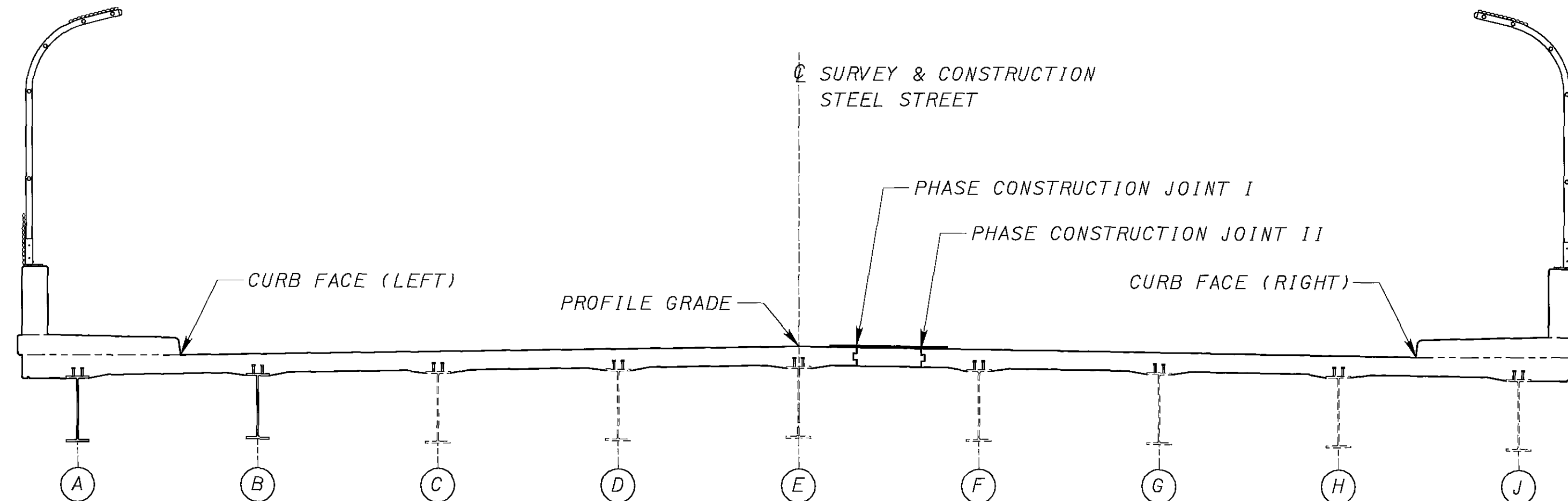
- FOR DECK SLAB PLAN, PARAPET PLAN, LAP LENGTH TABLE AND STRUCTURE LIGHTING PEDESTAL SEE SHEET [20/28].
- FOR REINFORCEMENT SCHEDULE, SEE SHEET [28/28].
- FOR SCREED ELEVATION TABLES, SEE SHEETS [22/28] AND [23/28].
- * - THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF 1 INCH AND A CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM FLANGE OF 9 INCHES. 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 FLANGE IS ± 3 INCHES.
- INTERMEDIATE CROSS FRAMES SHALL NOT BE PERMANENTLY ATTACHED IN THE CLOSURE POUR LOCATION UNTIL THE CONCRETE POURS ON BOTH SIDES OF THE CLOSURE POUR LOCATION HAVE BEEN COMPLETED AND CURED FOR SEVEN DAYS
- ABBREVIATIONS:
 TYP. - TYPICAL
 EQ. - EQUAL
 SP. - SPACES
 MIN. - MINIMUM
 ϕ - DIAMETER
 CLR. - CLEAR



SCREED ELEVATIONS - PHASE I CONSTRUCTION

LOCATION	STATION	C BRG. REAR ABUT.	SPAN 1			C BRG. PIER 1	SPAN 2			C BRG. PIER 2	SPAN 3			C BRG. PIER 3	SPAN 4			C BRG. FWD. ABUT.
			1/4 PT.	1/2 PT.	3/4 PT.		1/4 PT. **	1/2 PT.	3/4 PT.		1/4 PT.	1/2 PT.	3/4 PT.		1/4 PT. ***	1/2 PT.	3/4 PT.	
CURB FACE (LEFT)	STATION	50+39.70	50+50.45	50+61.20	50+71.95	50+82.70	50+98.70	51+14.70	51+30.70	51+46.70	51+61.70	51+76.70	51+91.70	52+06.70	52+16.70	52+26.70	52+36.70	52+46.70
	PROFILE GRADE ELEVATION	939.35	939.16	938.98	938.79	938.60	938.32	938.04	937.76	937.48	937.22	936.96	936.69	936.43	936.26	936.08	935.91	935.73
	FINAL DECK ELEVATION	938.98	938.79	938.61	938.42	938.23	937.95	937.67	937.39	937.11	936.85	936.59	936.32	936.06	935.89	935.71	935.54	935.36
	DEAD LOAD DEFLECTION	0.00	0.01	0.01	0.00	0.00	0.02	0.04	0.02	0.00	0.01	0.02	0.02	0.00	0.00	0.01	0.01	0.00
SCREED ELEVATION	938.98	938.80	938.62	938.42	938.23	937.97	937.71	937.41	937.11	936.86	936.61	936.34	936.06	935.89	935.72	935.55	935.36	
BEAM A	STATION	50+39.70	50+50.45	50+61.20	50+71.95	50+82.70	50+98.70*	51+14.70	51+30.70	51+46.70	51+61.70	51+76.70	51+91.70	52+06.70	52+16.70**	52+26.70	52+36.70	52+46.70
	PROFILE GRADE ELEVATION	939.35	939.16	938.98	938.79	938.60	938.32	938.04	937.76	937.48	937.22	936.96	936.69	936.43	936.26	936.08	935.91	935.73
	FINAL DECK ELEVATION	938.98	938.79	938.61	938.42	938.23	937.95	937.67	937.39	937.11	936.85	936.59	936.32	936.06	935.89	935.71	935.54	935.36
	DEAD LOAD DEFLECTION	0.00	0.01	0.01	0.00	0.00	0.02	0.04	0.02	0.00	0.01	0.02	0.02	0.00	0.00	0.01	0.01	0.00
SCREED ELEVATION	938.98	938.80	938.62	938.42	938.23	937.97	937.71	937.41	937.11	936.86	936.61	936.34	936.06	935.89	935.72	935.55	935.36	
BEAM B	STATION	50+39.41	50+50.16	50+60.91	50+71.66	50+82.41	50+98.41*	51+14.41	51+30.41	51+46.41	51+61.41	51+76.41	51+91.41	52+06.41	52+16.41**	52+26.41	52+36.41	52+46.41
	PROFILE GRADE ELEVATION	939.36	939.17	938.98	938.79	938.61	938.33	938.05	937.77	937.49	937.22	936.96	936.70	936.44	936.26	936.09	935.91	935.74
	FINAL DECK ELEVATION	939.03	938.84	938.65	938.46	938.28	938.00	937.72	937.44	937.16	936.89	936.63	936.37	936.11	935.93	935.76	935.58	935.41
	DEAD LOAD DEFLECTION	0.00	0.01	0.01	0.00	0.00	0.02	0.04	0.02	0.00	0.01	0.02	0.02	0.00	0.00	0.01	0.01	0.00
SCREED ELEVATION	939.03	938.85	938.66	938.46	938.28	938.02	937.76	937.46	937.16	936.90	936.65	936.39	936.11	935.93	935.77	935.59	935.41	
BEAM C	STATION	50+38.73	50+49.48	50+60.23	50+70.98	50+81.73	50+97.73	51+13.73	51+29.73	51+45.73	51+60.73	51+75.73	51+90.73	52+05.73	52+15.73	52+25.73	52+35.73	52+45.73
	PROFILE GRADE ELEVATION	939.37	939.18	938.99	938.81	938.62	938.34	938.06	937.78	937.50	937.23	936.97	936.71	936.45	936.27	936.10	935.92	935.75
	FINAL DECK ELEVATION	939.15	938.96	938.77	938.59	938.40	938.12	937.84	937.56	937.28	937.01	936.75	936.49	936.23	936.05	935.88	935.70	935.53
	DEAD LOAD DEFLECTION	0.00	0.01	0.01	0.00	0.00	0.01	0.02	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
SCREED ELEVATION	939.15	938.97	938.78	938.59	938.40	938.13	937.86	937.57	937.28	937.02	936.76	936.50	936.23	936.05	935.88	935.70	935.53	
BEAM D	STATION	50+38.05	50+48.80	50+59.55	50+70.30	50+81.05	50+97.05	51+13.05	51+29.05	51+45.05	51+60.05	51+75.05	51+90.05	52+05.05	52+15.05	52+25.05	52+35.05	52+45.05
	PROFILE GRADE ELEVATION	939.38	939.19	939.01	938.82	938.63	938.35	938.07	937.79	937.51	937.25	936.98	936.72	936.46	936.28	936.11	935.93	935.76
	FINAL DECK ELEVATION	939.27	939.08	938.90	938.71	938.52	938.24	937.96	937.68	937.40	937.14	936.87	936.61	936.35	936.17	936.00	935.82	935.65
	DEAD LOAD DEFLECTION	0.00	0.01	0.01	0.00	0.00	0.01	0.02	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
SCREED ELEVATION	939.27	939.09	938.91	938.71	938.52	938.25	937.98	937.69	937.40	937.15	936.88	936.62	936.35	936.17	936.00	935.82	935.65	
PROFILE GRADE AND BEAM E	STATION	50+37.37	50+48.12	50+58.87	50+69.62	50+80.37	50+96.37	51+12.37	51+28.37	51+44.37	51+59.37	51+74.37	51+89.37	52+04.37	52+14.37	52+24.37	52+34.37	52+44.37
	PROFILE GRADE ELEVATION	939.39	939.21	939.02	938.83	938.64	938.36	938.08	937.80	937.52	937.26	937.00	936.73	936.47	936.30	936.12	935.95	935.77
	FINAL DECK ELEVATION	939.39	939.21	939.02	938.83	938.64	938.36	938.08	937.80	937.52	937.26	937.00	936.73	936.47	936.30	936.12	935.95	935.77
	DEAD LOAD DEFLECTION	0.00	0.01	0.01	0.00	0.00	0.01	0.02	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
SCREED ELEVATION	939.39	939.22	939.03	938.83	938.64	938.37	938.10	937.81	937.52	937.27	937.01	936.74	936.47	936.30	936.12	935.95	935.77	
PHASE CONSTRUCTION JOINT I	STATION	50+37.15	50+47.90	50+58.65	50+69.40	50+80.15	50+96.15	51+12.15	51+28.15	51+44.15	51+59.15	51+74.15	51+89.15	52+04.15	52+14.15	52+24.15	52+34.15	52+44.15
	PROFILE GRADE ELEVATION	939.40	939.21	939.02	938.83	938.64	938.36	938.08	937.80	937.52	937.26	937.00	936.74	936.47	936.30	936.12	935.95	935.77
	FINAL DECK ELEVATION	939.36	939.17	938.98	938.79	938.60	938.32	938.04	937.76	937.48	937.22	936.96	936.70	936.43	936.26	936.08	935.91	935.73
	DEAD LOAD DEFLECTION	0.00	0.01	0.01	0.00	0.00	0.01	0.02	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
SCREED ELEVATION	939.36	939.18	938.99	938.79	938.60	938.33	938.06	937.77	937.48	937.23	936.97	936.71	936.43	936.26	936.08	935.91	935.73	

** - LOCATION OF FIELD SPLICE 1
 *** - LOCATION OF FIELD SPLICE 2



TYPICAL CROSS SECTION

GIRDER LOCATION	A	B	C	D	E
REAR ABUTMENT	1	1	1	1	1
PIER 1	1	1	1/2	1/2	1/2
PIER 2	1	1	1/2	1/2	1/2
PIER 3	1	1	1/2	1/2	1/2
FORWARD ABUTMENT	1	1	1	1	1

* - HAUNCHES LESS THAN 1" ACCOUNT FOR TOP MOMENT PLATE THICKNESSES

NOTE:

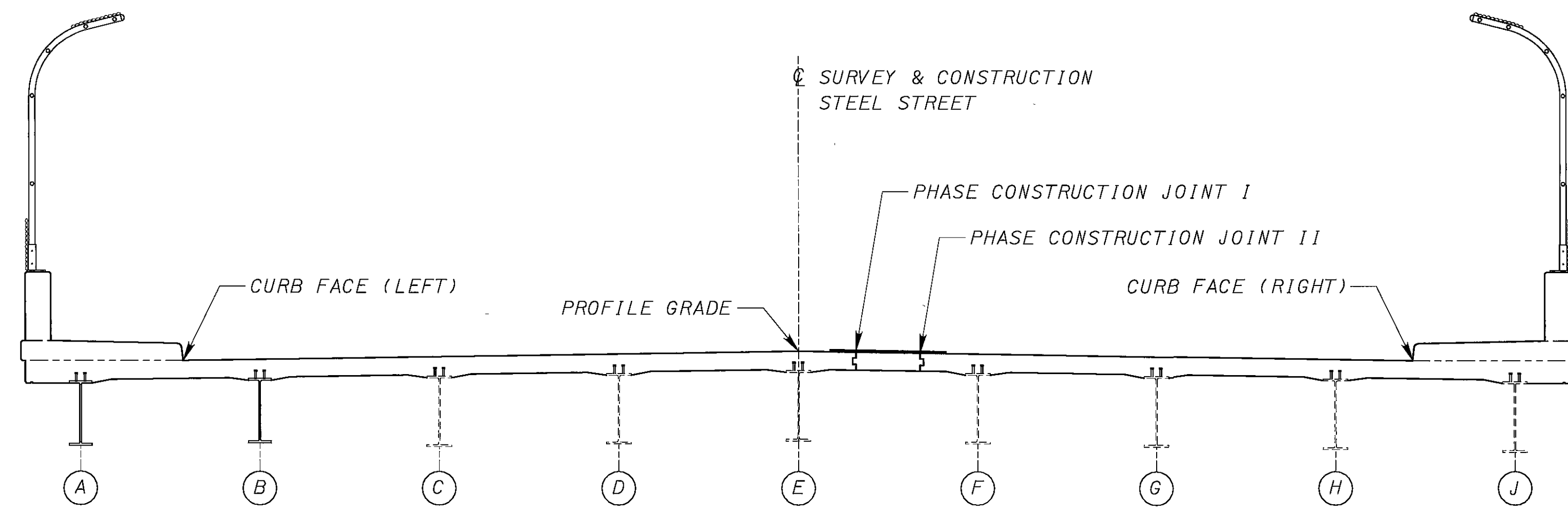
1. SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

DESIGN AGENCY: **TRANS SYSTEMS CORPORATION**
 55 PUBLIC SQUARE, SUITE 1650
 CLEVELAND, OHIO 44115-1650
 DATE: 05/28/04
 REVIEWED: RER
 DRAWN: BTA
 DESIGNED: BTA
 CHECKED: MLR
 STRUCTURE FILE NUMBER: 5006813
PHASE I CONSTRUCTION SCREED ELEVATIONS
 BRIDGE NO. MAH-680-0414
 STEEL STREET OVER IR-680
 MAH-680-4.14/1
 6.28/6.37
 22/28
 119/191

SCREED ELEVATIONS - PHASE II CONSTRUCTION

LOCATION	STATION	C BRG. REAR ABUT.	SPAN 1			C BRG. PIER 1	SPAN 2			C BRG. PIER 2	SPAN 3			C BRG. PIER 3	SPAN 4			C BRG. FWD. ABUT.
			1/4 PT.	1/2 PT.	3/4 PT.		1/4 PT. **	1/2 PT.	3/4 PT.		1/4 PT.	1/2 PT.	3/4 PT.		1/4 PT. ***	1/2 PT.	3/4 PT.	
PHASE CONSTRUCTION JOINT II	STATION	50+36.89	50+47.64	50+58.39	50+69.14	50+79.89	50+95.89	51+11.89	51+27.89	51+43.89	51+58.89	51+73.89	51+88.89	52+03.89	52+13.89	52+23.89	52+33.89	52+43.89
	PROFILE GRADE ELEVATION	939.40	939.21	939.03	938.84	938.65	938.37	938.09	937.81	937.53	937.27	937.00	936.74	936.48	936.30	936.13	935.95	935.78
	FINAL DECK ELEVATION	939.32	939.13	938.95	938.76	938.57	938.29	938.01	937.73	937.45	937.19	936.92	936.66	936.40	936.22	936.05	935.87	935.70
	DEAD LOAD DEFLECTION	0.00	0.01	0.01	0.00	0.00	0.01	0.02	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
	SCREED ELEVATION	939.32	939.14	938.96	938.76	938.57	938.30	938.03	937.74	937.45	937.20	936.93	936.67	936.40	936.22	936.05	935.87	935.70
BEAM F	STATION	50+36.69	50+47.44	50+58.19	50+68.94	50+79.69	50+95.69*	51+11.69	51+27.69	51+43.69	51+58.69	51+73.69	51+88.69	52+03.69	52+13.69**	52+23.69	52+33.69	52+43.69
	PROFILE GRADE ELEVATION	939.41	939.22	939.03	938.84	938.65	938.37	938.09	937.81	937.53	937.27	937.01	936.75	936.48	936.31	936.13	935.96	935.78
	FINAL DECK ELEVATION	939.30	939.11	938.92	938.73	938.54	938.26	937.98	937.70	937.42	937.16	936.90	936.64	936.37	936.20	936.02	935.85	935.67
	DEAD LOAD DEFLECTION	0.00	0.01	0.01	0.00	0.00	0.01	0.02	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
	SCREED ELEVATION	939.30	939.12	938.93	938.73	938.54	938.27	938.00	937.71	937.42	937.17	936.91	936.65	936.37	936.20	936.02	935.85	935.67
BEAM G	STATION	50+36.01	50+46.76	50+57.51	50+68.26	50+79.01	50+95.01*	51+11.01	51+27.01	51+43.01	51+58.01	51+73.01	51+88.01	52+03.01	52+13.01**	52+23.01	52+33.01	52+43.01
	PROFILE GRADE ELEVATION	939.42	939.23	939.04	938.85	938.66	938.38	938.10	937.82	937.54	937.28	937.02	936.76	936.49	936.32	936.14	935.97	935.79
	FINAL DECK ELEVATION	939.20	939.01	938.82	938.63	938.44	938.16	937.88	937.60	937.32	937.06	936.80	936.54	936.27	936.10	935.92	935.75	935.57
	DEAD LOAD DEFLECTION	0.00	0.01	0.01	0.00	0.00	0.01	0.02	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
	SCREED ELEVATION	939.20	939.02	938.83	938.63	938.44	938.17	937.90	937.61	937.32	937.07	936.81	936.55	936.27	936.10	935.92	935.75	935.57
BEAM H	STATION	50+35.33	50+46.08	50+56.83	50+67.58	50+78.33	50+94.33	51+10.33	51+26.33	51+42.33	51+57.33	51+72.33	51+87.33	52+02.33	52+12.33	52+22.33	52+32.33	52+42.33
	PROFILE GRADE ELEVATION	939.43	939.24	939.05	938.86	938.68	938.40	938.12	937.84	937.56	937.29	937.03	936.77	936.51	936.33	936.16	935.98	935.81
	FINAL DECK ELEVATION	939.10	938.91	938.72	938.53	938.35	938.07	937.79	937.51	937.23	936.96	936.70	936.44	936.18	936.00	935.83	935.65	935.48
	DEAD LOAD DEFLECTION	0.00	0.01	0.01	0.00	0.00	0.01	0.02	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
	SCREED ELEVATION	939.10	938.92	938.73	938.53	938.35	938.08	937.81	937.52	937.23	936.97	936.71	936.45	936.18	936.00	935.83	935.65	935.48
BEAM J	STATION	50+35.04	50+45.79	50+56.54	50+67.29	50+78.04	50+94.04	51+10.04	51+26.04	51+42.04	51+57.04	51+72.04	51+87.04	52+02.04	52+12.04	52+22.04	52+32.04	52+42.04
	PROFILE GRADE ELEVATION	939.43	939.25	939.06	938.87	938.68	938.40	938.12	937.84	937.56	937.30	937.04	936.77	936.51	936.34	936.16	935.99	935.81
	FINAL DECK ELEVATION	939.06	938.88	938.69	938.50	938.31	938.03	937.75	937.47	937.19	936.93	936.67	936.40	936.14	935.97	935.79	935.62	935.44
	DEAD LOAD DEFLECTION	0.00	0.01	0.01	0.00	0.00	0.01	0.02	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
	SCREED ELEVATION	939.06	938.89	938.70	938.50	938.31	938.04	937.77	937.48	937.19	936.94	936.68	936.41	936.14	935.97	935.79	935.62	935.44
CURB FACE (RIGHT)	STATION	50+35.04	50+45.79	50+56.54	50+67.29	50+78.04	50+94.04	51+10.04	51+26.04	51+42.04	51+57.04	51+72.04	51+87.04	52+02.04	52+12.04	52+22.04	52+32.04	52+42.04
	PROFILE GRADE ELEVATION	939.43	939.25	939.06	938.87	938.68	938.40	938.12	937.84	937.56	937.30	937.04	936.77	936.51	936.34	936.16	935.99	935.81
	FINAL DECK ELEVATION	939.06	938.88	938.69	938.50	938.31	938.03	937.75	937.47	937.19	936.93	936.67	936.40	936.14	935.97	935.79	935.62	935.44
	DEAD LOAD DEFLECTION	0.00	0.01	0.01	0.00	0.00	0.01	0.02	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
	SCREED ELEVATION	939.06	938.89	938.70	938.50	938.31	938.04	937.77	937.48	937.19	936.94	936.68	936.41	936.14	935.97	935.79	935.62	935.44

** - LOCATION OF FIELD SPLICE I
 *** - LOCATION OF FIELD SPLICE 2



TYPICAL CROSS SECTION

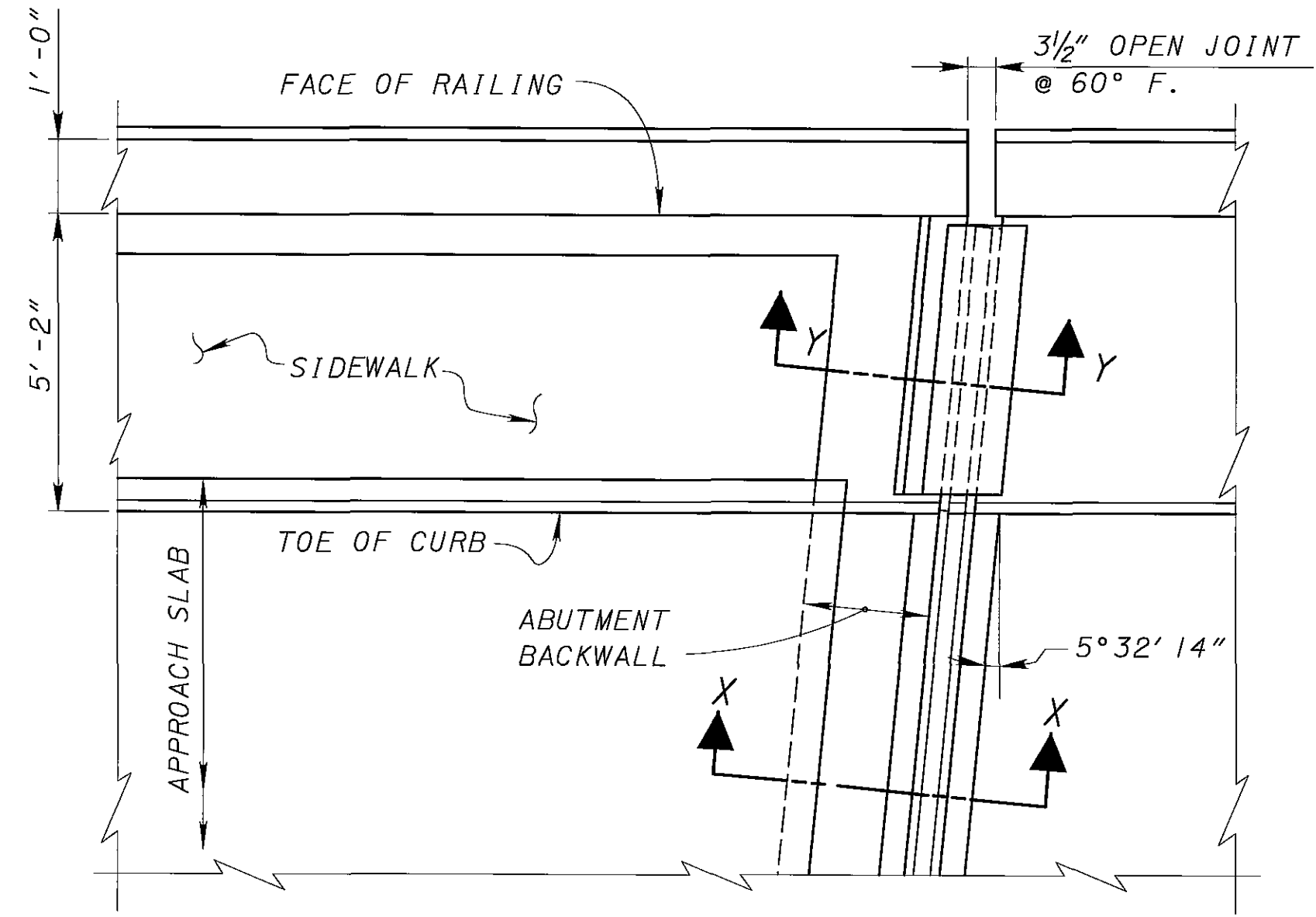
GIRDER LOCATION	F	G	H	J
REAR ABUTMENT	1	1	1	1
PIER 1	1/2	1/2	1/2	1/2
PIER 2	1/2	1/2	1/2	1/2
PIER 3	1/2	1/2	1/2	1/2
FORWARD ABUTMENT	1	1	1	1

* - HAUNCHES LESS THAN 1" ACCOUNT FOR TOP MOMENT PLATE THICKNESSES

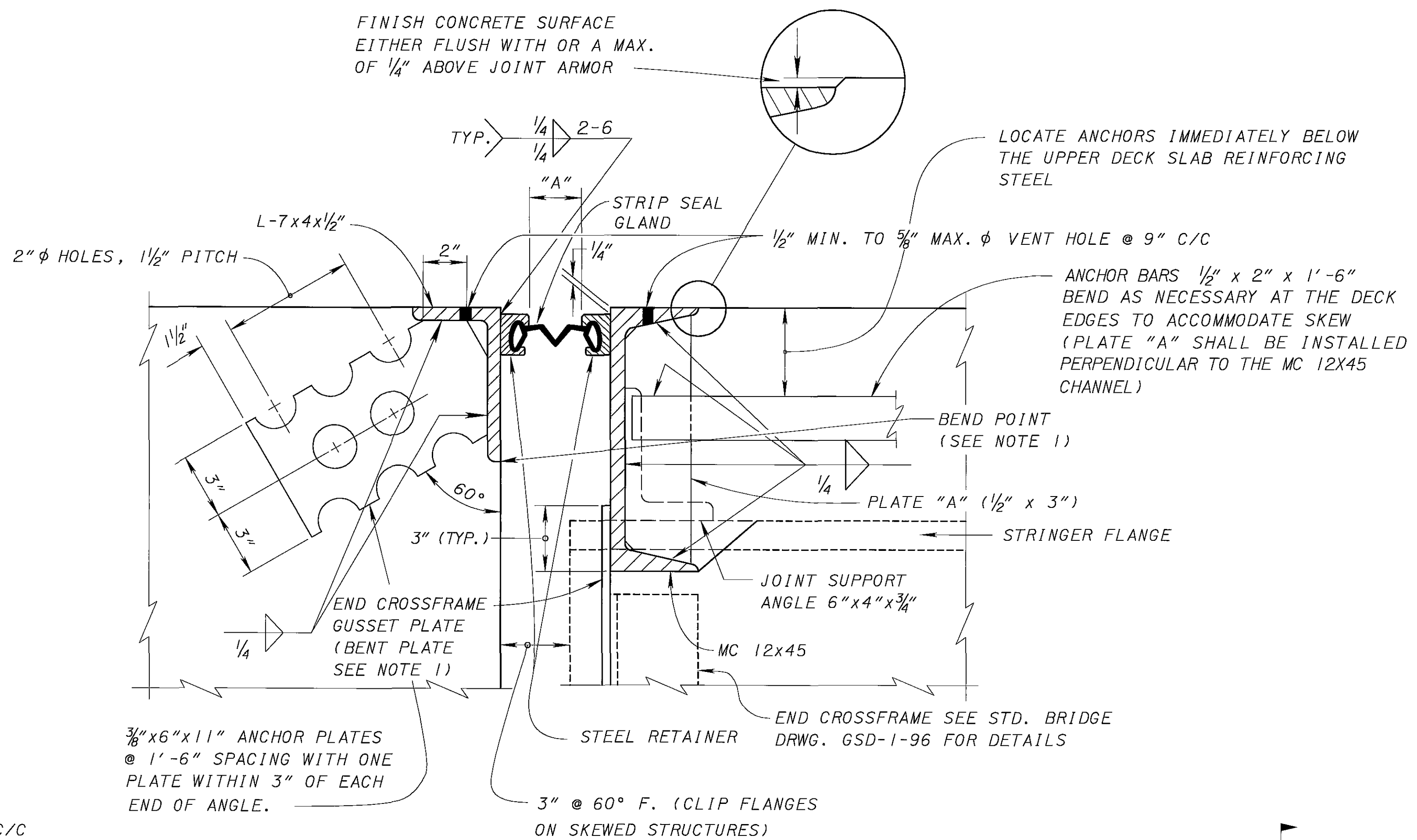
NOTE:

1. SCREED ELEVATIONS SHOWN ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

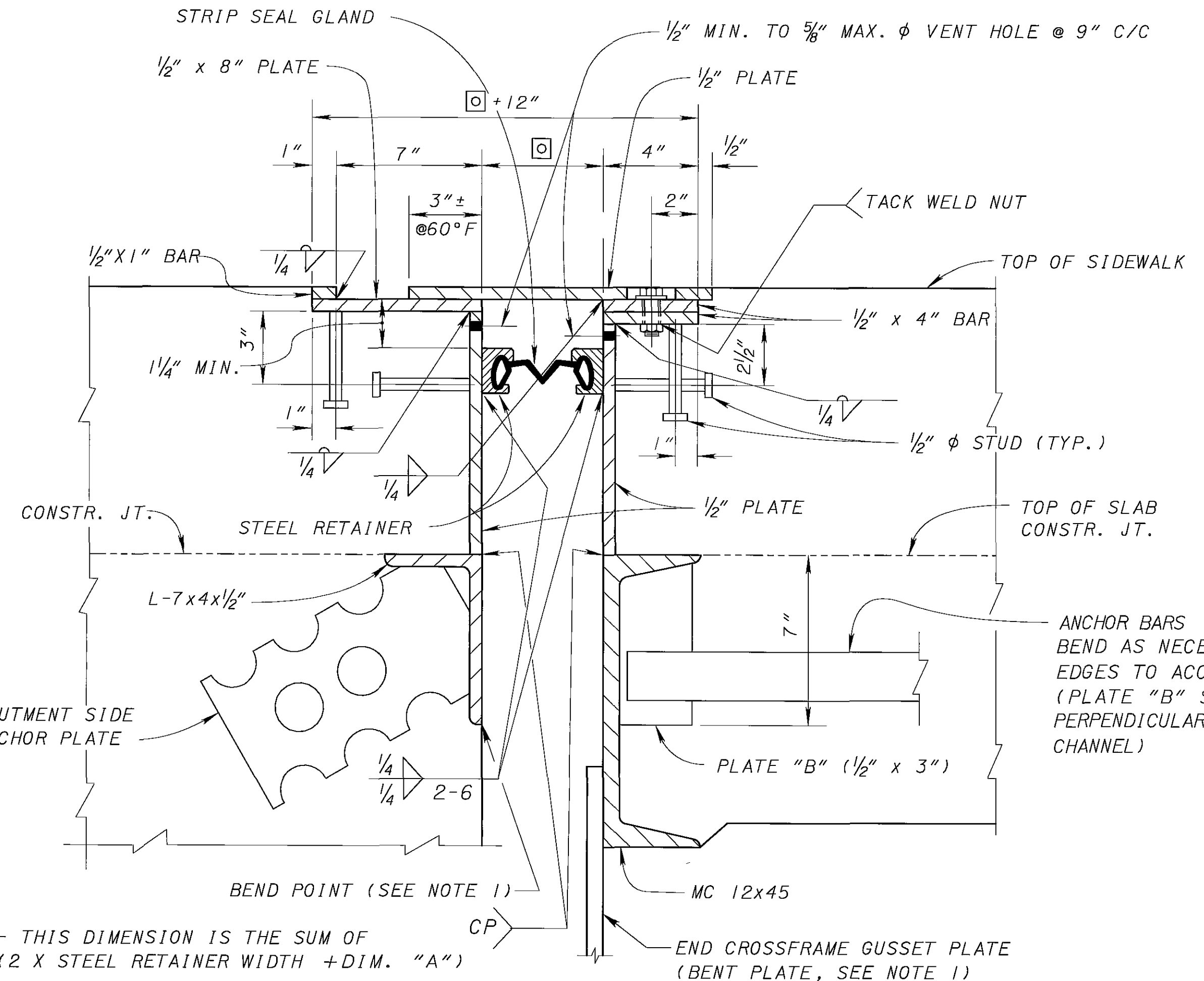
DESIGN AGENCY: TRANSSTRENGTH CORPORATION, 55 PUBLIC SQUARE, SUITE 1650, CLEVELAND, OHIO 44115-1650
 DATE: 05/28/04
 REVISED: 5006613
 DRAWN: BTA
 CHECKED: MLR
 PHASE II CONSTRUCTION SCREED ELEVATIONS
 BRIDGE NO. MAH-680-0414
 STEEL STREET OVER IR-680
 MAH-680-4.14/6.28/16.37
 23/28
 120/191



PART PLAN AT ABUTMENT

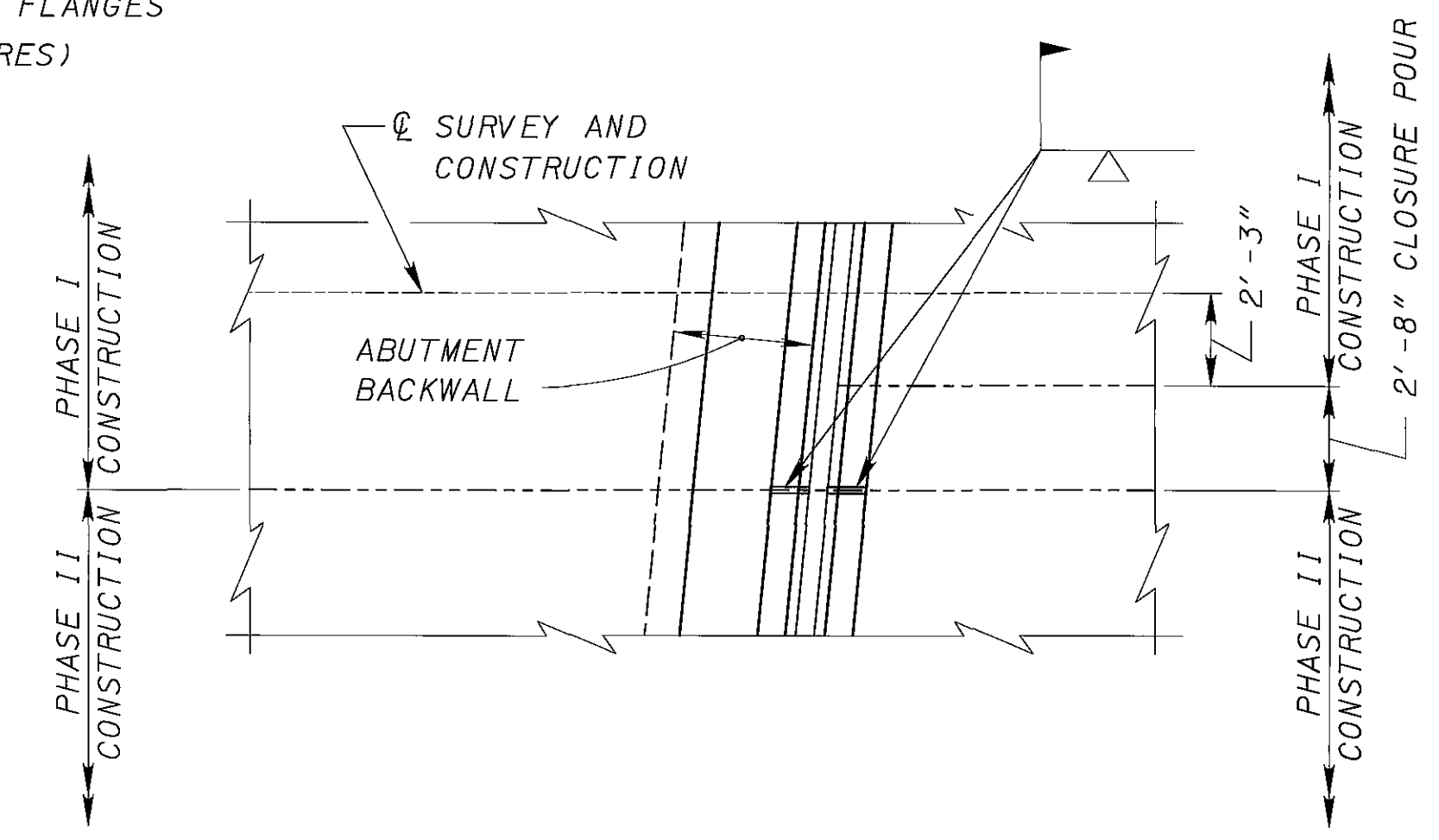


SECTION X-X



SECTION Y-Y

3" STRIP SEAL JOINT WIDTH	
AMBIENT TEMPERATURE (SEE NOTE 1)	DIMENSION "A"
90° F	1 1/2"
80° F	1 9/16"
70° F	1 11/16"
60° F	1 3/4"
50° F	1 13/16"
40° F	1 15/16"
30° F	2"

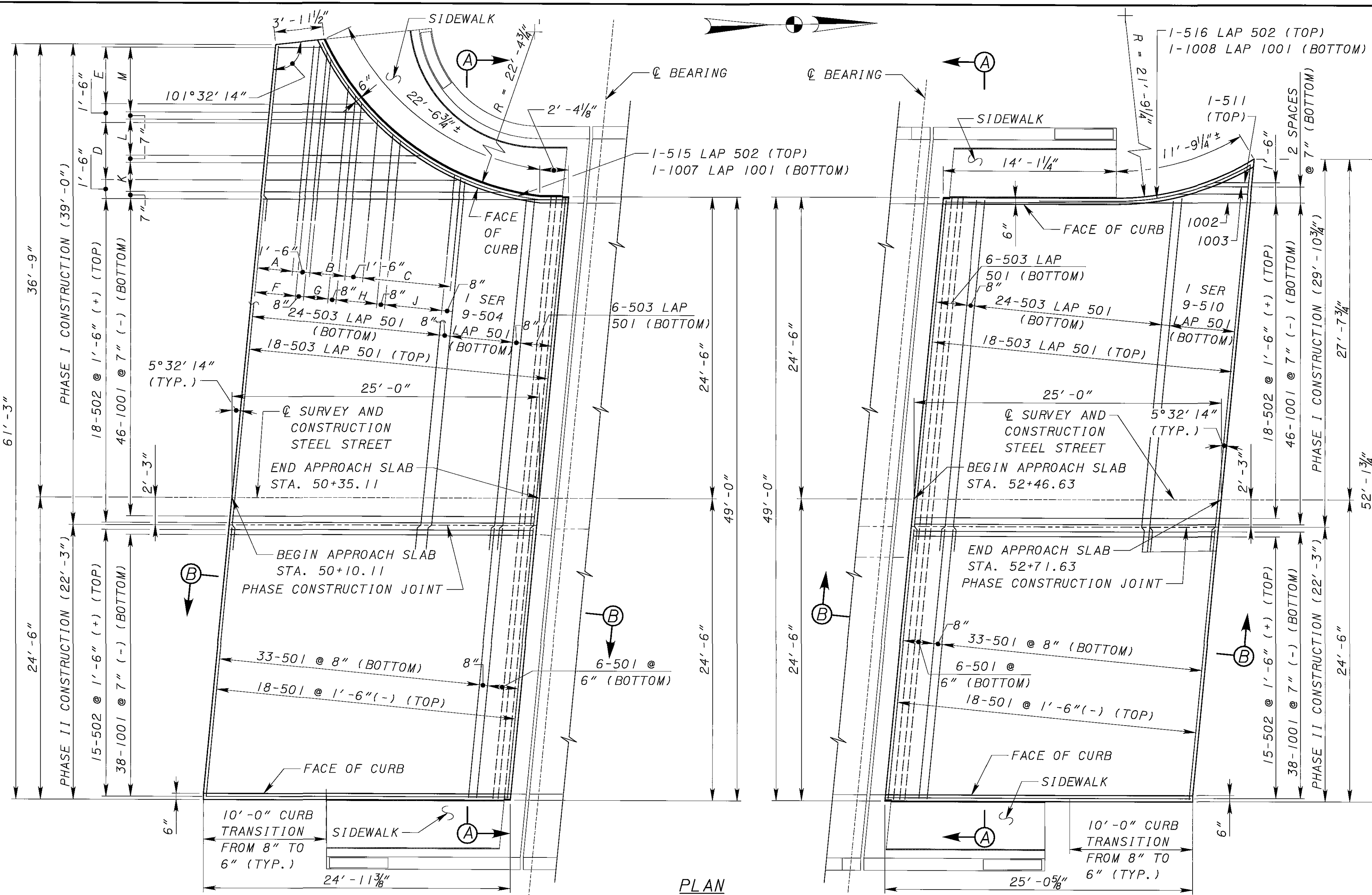


DETAIL AT PHASE CONSTRUCTION JOINT

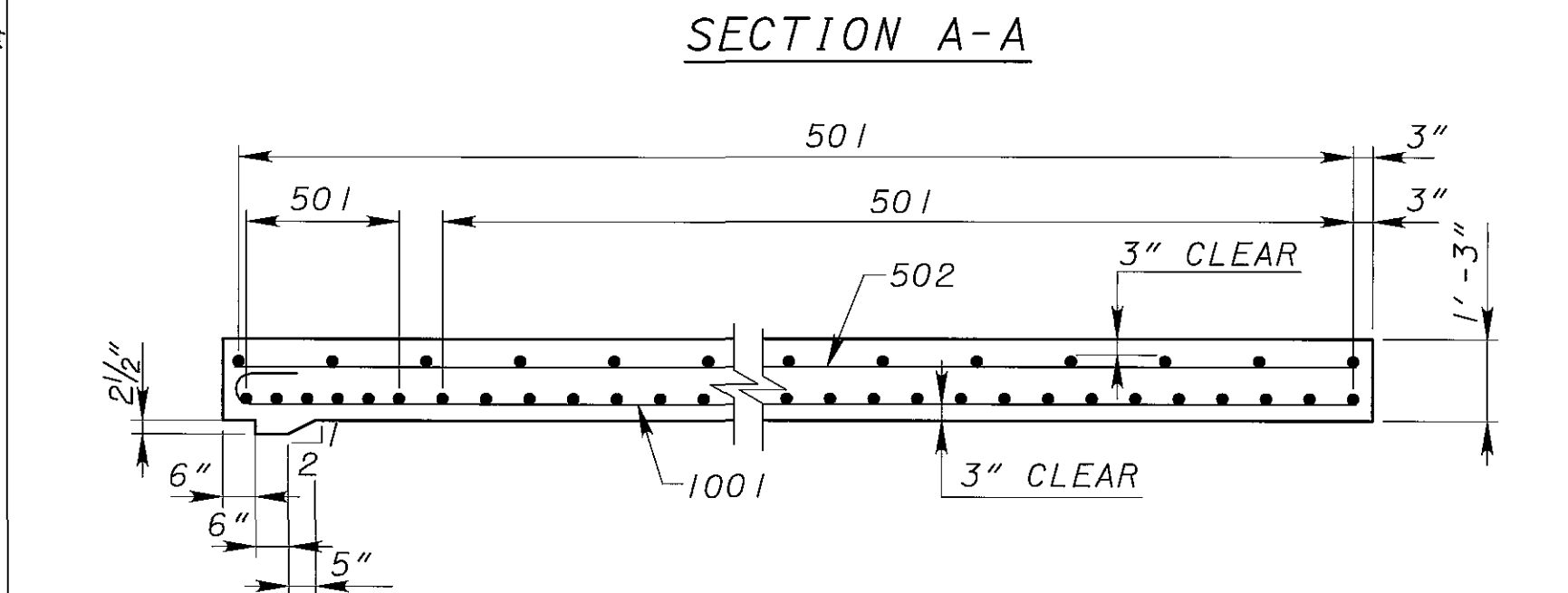
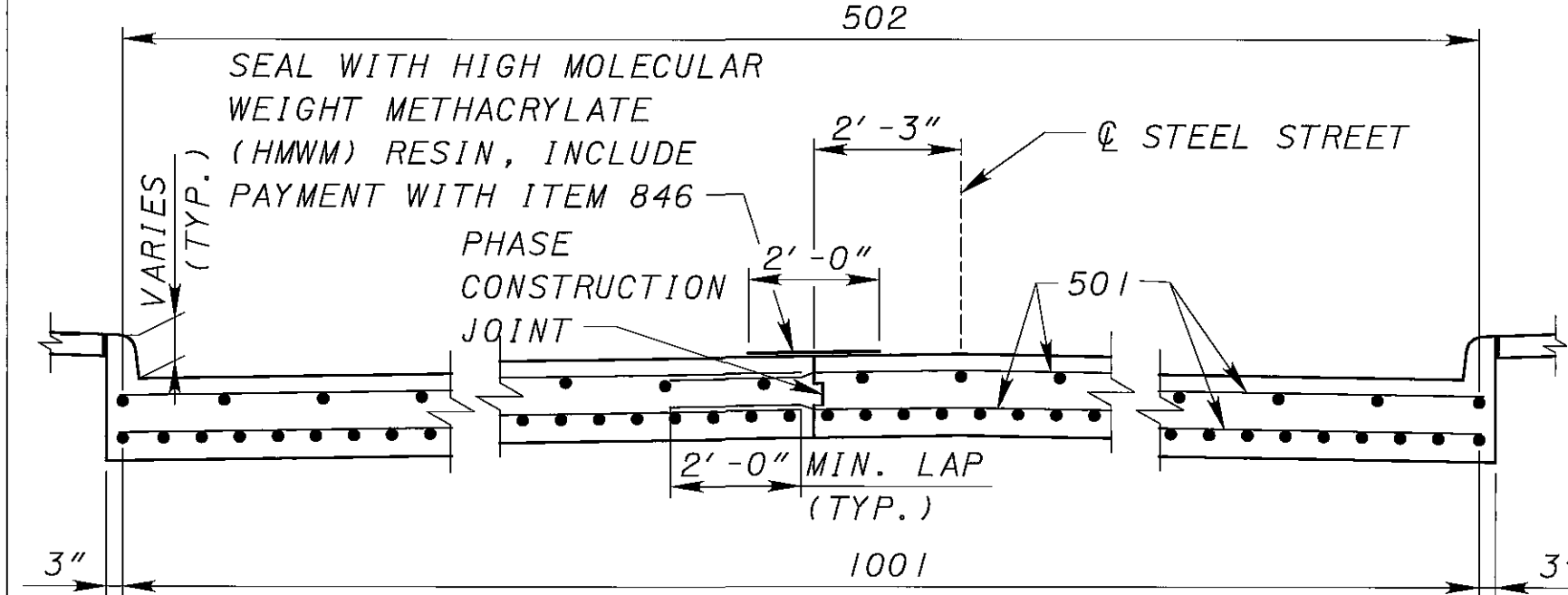
NOTES:

1. MINIMUM JOINT OPENING (DIMENSION "A") AT TIME OF SEAL GLAND INSTALLATION SHALL NOT BE LESS THAN 1 1/2". IF THE JOINT OPENING IS LESS, INSTALLATION SHALL BE POSTPONED UNTIL THE TEMPERATURE DROPS A SUFFICIENT AMOUNT TO ALLOW THE MINIMUM 1 1/2" OPENING.
2. FOR ADDITIONAL DETAILS AND NOTES NOT SHOWN, REFER TO ODOT STANDARD DRAWING EXJ-4-87 SHEETS 1 THRU 5.
3. THE INSTALLATION SEQUENCE OF THE EXPANSION JOINT SHALL FOLLOW THE PHASE CONSTRUCTION DETAILS SEQUENCE.
4. NO JOINTS IN STRIP SEAL ARE ALLOWED UNLESS APPROVED BY THE DIRECTOR.
5. FOR JOINT TREATMENTS IN RETAINERS AND IN ARMOR STEEL TO ALLOW FOR TRAFFIC MAINTENANCE, REFER TO ODOT STANDARD BRIDGE DRAWING EXJ-4-87 SHEET 5/5.

□ - THIS DIMENSION IS THE SUM OF (2 X STEEL RETAINER WIDTH + DIM. "A")



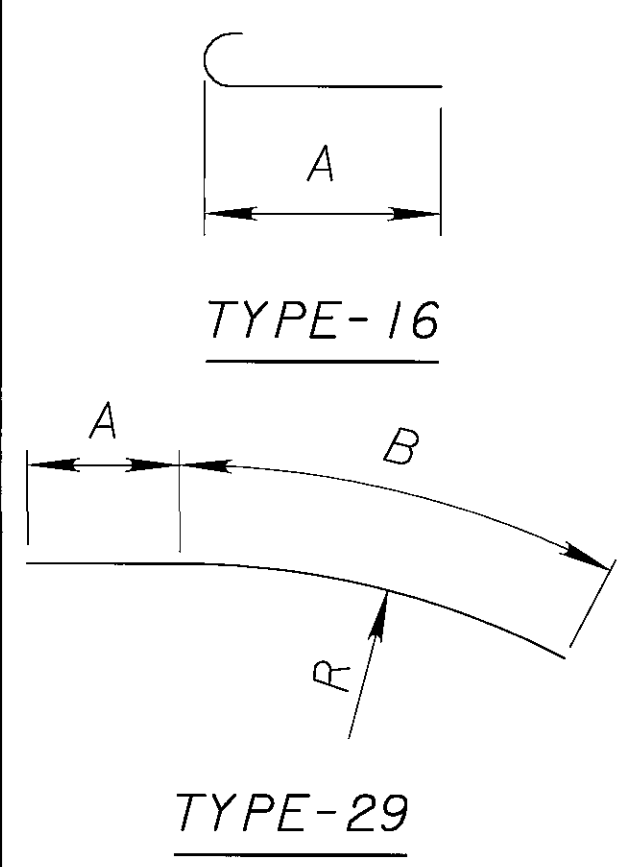
BAR PLACEMENT			
TOP BARS		BOTTOM BARS	
A	3-505 LAP 503	F	6-505 LAP 503
B	3-506 LAP 503	G	4-512 LAP 503
C	6-507 LAP 503	H	6-513 LAP 503
D	1 SER 4-508 @ 1'-6"	J	8-514 LAP 503
E	1 SER 4-509 @ 1'-6"	K	1 SER 5-1004 @ 7"
		L	1 SER 6-1005 @ 7"
		M	1 SER 10-1006 @ 7"



- NOTES**
- FOR ADDITIONAL NOTES AND DETAILS NOT SHOWN HERE SEE ODOT STANDARD BRIDGE DRAWING AS-1-81.
 - APPROACH SLAB QUANTITIES TOTAL 288 SQ. YDS.
 - ABBREVIATIONS:
TYP. - TYPICAL
R - RADIUS

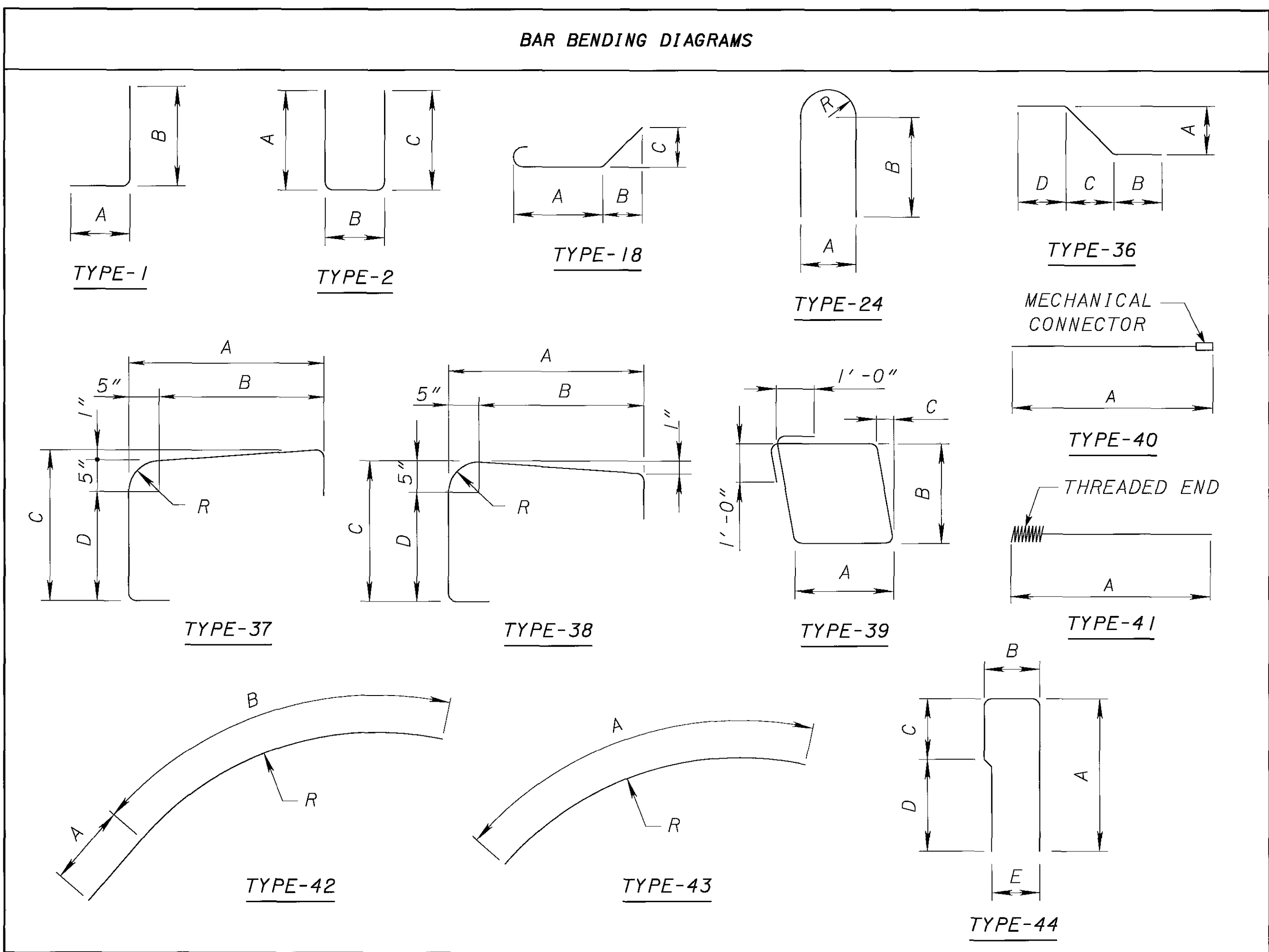
MARK	NUMBER		LENGTH	WEIGHT		TYPE	DIMENSIONS						
	PHASE I	PHASE II		PHASE I	PHASE II		A	B	C	D	E	R	INC.
	501	114			21'-11"		2606						
502	30	36	24'-6"	767	920	STR							
503		96	28'-8"		2870	STR							
504		1	28'-6"			STR							
		SER			275	STR						2 1/4"	
		9	30'-0"										
505		9	14'-2"		133	STR							
506		3	12'-8"		40	STR							
507		6	8'-2"		51	STR							
		1	8'-4"										
508		SER			50	STR						2'-4 5/8"	
		4	15'-6"										
		1	3'-6"										
509		SER			22	STR						1'-2"	
		4	7'-0"										
		1	28'-10"										
510		SER			283	STR						3 3/8"	
		9	31'-5"										
511		1	2'-10"		3	STR							

MARK	NUMBER		LENGTH	WEIGHT		TYPE	DIMENSIONS						
	PHASE I	PHASE II		PHASE I	PHASE II		A	B	C	D	E	R	INC.
	512			4	13'-8"			57	STR				
513		6	10'-2"		64	STR							
514		8	6'-6"		54	STR							
515		1	24'-7"		26	29	2'-1"	22'-6"				22'-7 3/4"	
516		1	13'-5"		14	29	2'-0"	11'-5"				22'-0"	
1001	76	92	25'-11"	8475	10260	16	24'-6"						
1002		1	6'-2"		27	STR							
1003		1	6'-9"		29	STR							
		1	12'-1"										
1004		SER			337	STR						1'-9 1/2"	
		5	19'-3"										
		1	7'-5"										
1005		SER			256	STR						1'-0"	
		6	12'-5"										
		1	3'-6"										
1006		SER			237	STR						5 5/8"	
		10	7'-6"										
1007		1	24'-7"		106	29	2'-1"	22'-6"				22'-7 3/4"	
1008		1	17'-9"		76	29	6'-4"	11'-5"				22'-0"	



BAR SCHEDULE												
MARK	NUMBER		LENGTH	WEIGHT		TYPE	DIMENSIONS					
	PHASE I	PHASE II		PHASE I	PHASE II		A	B	C	D	E	R
REAR ABUTMENT												
RA501	11		33'-2"	381		40	33'-2"					
RA502		11	2'-11"		33	41	2'-11"					
RA503		11	26'-10"		308	STR						
RA504	3		6'-2"	19		STR						
RA505		3	6'-9"		21	STR						
RA506	3	3	8'-1"	26	26	39	1'-8"	1'-8"	2"			
RA507	3	3	5'-10"	19	19	STR						
RA508	1	1	5'-4"	6	6	STR						
RA509		2	7'-6"		16	38	4'-5"	4'-0"	1'-11"	1'-6"		4 3/8"
RA510		16	15'-5"		257	STR						
RA511		2	10'-0"		21	STR						
RA512		2	8'-5"		18	STR						
RA513		2	6'-6"		14	STR						
RA514		2	12'-0"		25	36	3'-0"	2'-5"	4'-11"	3'-10"		
RA515	5	5	3'-7"	19	19	24	6"	1'-5"				3 1/4"
RA516	2		7'-7"	16		38	4'-6"	4'-1"	1'-11"	1'-6"		4 3/8"
RA517	3		16'-11"	53		42	3'-11"	13'-0"				108"
RA518	3		17'-11"	56		42	3'-11"	14'-0"				116"
RA519	5		17'-2"	90		42	3'-11"	13'-3"				110"
RA520	5		18'-11"	99		42	3'-11"	15'-0"				124"
RA521	1		9'-3"	10		42	3'-11"	5'-4"				110"
RA522	1		9'-11"	10		42	3'-11"	6'-0"				124"
RA523	1		8'-2"	9		42	3'-11"	4'-3"				110"
RA524	1		8'-8"	9		42	3'-11"	4'-9"				124"
RA525	1		6'-11"	7		42	3'-11"	3'-0"				110"
RA526	1		7'-4"	8		42	3'-11"	3'-5"				124"
RA527	2		9'-1"	19		36	2'-10"	2'-5"	3'-3"	2'-5"		
RA528	1		6'-9"	7		43	6'-9"					
RA529	1		7'-7"	8		43	7'-7"					
RA530	31	30	5'-1"	162	162	2	1'-0"	3'-4"	1'-0"			
RA601	4		10'-2"	61		STR						
RA602	4		14'-7"	88		STR						
RA603	4		11'-6"	69		40						
RA604		4	5'-8"		34	41						
RA605		4	23'-2"		139	STR						
RA606	42		4'-0"	252		1	1'-3"	2'-11"				
RA607	44	86	3'-10"	253	495	1	1'-3"	2'-9"				
RA608	46	22	4'-2"	288	138	1	1'-3"	3'-1"				
RA609	10	10	6'-9"	102	102	STR						
RA610	5	5	11'-5"	86	86	2	5'-2"	1'-5"	5'-2"			
RA611	48	50	5'-6"	397	413	STR						
RA612	24	25	8'-11"	321	335	2	3'-11"	1'-5"	3'-11"			
RA613	24	25	6'-3"	225	235	2	2'-10"	11"	2'-10"			
RA614	5	5	8'-1"	61	61	2	3'-6"	1'-5"	3'-6"			
RA615	16	14	3'-10"	92	81	1	1'-0"	3'-0"				
RA616	8	7	12'-8"	152	133	2	5'-11"	1'-2"	5'-11"			
		1 SERIES	7'-10"				3'-6"		3'-6"			
RA617		OF	T0		74	2	5'-6"	1'-2"	5'-6"			6"
		5 BARS	11'-10"				5'-6"		5'-6"			
RA618	7	4	7'-2"	75	43	2	3'-2"	1'-2"	3'-2"			
RA619	22	21	10'-6"	347	331	44	5'-1"	8"	2'-6"	2'-7"		6"

BAR SCHEDULE												
MARK	NUMBER		LENGTH	WEIGHT		TYPE	DIMENSIONS					
	PHASE I	PHASE II		PHASE I	PHASE II		A	B	C	D	E	R
REAR ABUTMENT												
	1 SERIES		7'-2"				3'-2"		3'-2"			
RA620	OF		T0	57		2	1'-2"					9/4" ±
	4 BARS		11'-10"				5'-6"		5'-6"			
RA801	17	17	5'-0"	227	227	18	2'-7"	1'-0"	1'-0"			
RA901	9	9	3'-6"	107	107	STR						
RA902	2	2	3'-5"	23	23	STR						
TOTAL WEIGHT REAR ABUTMENT = 8318 (4316 PHASE I) (4002 PHASE II)												

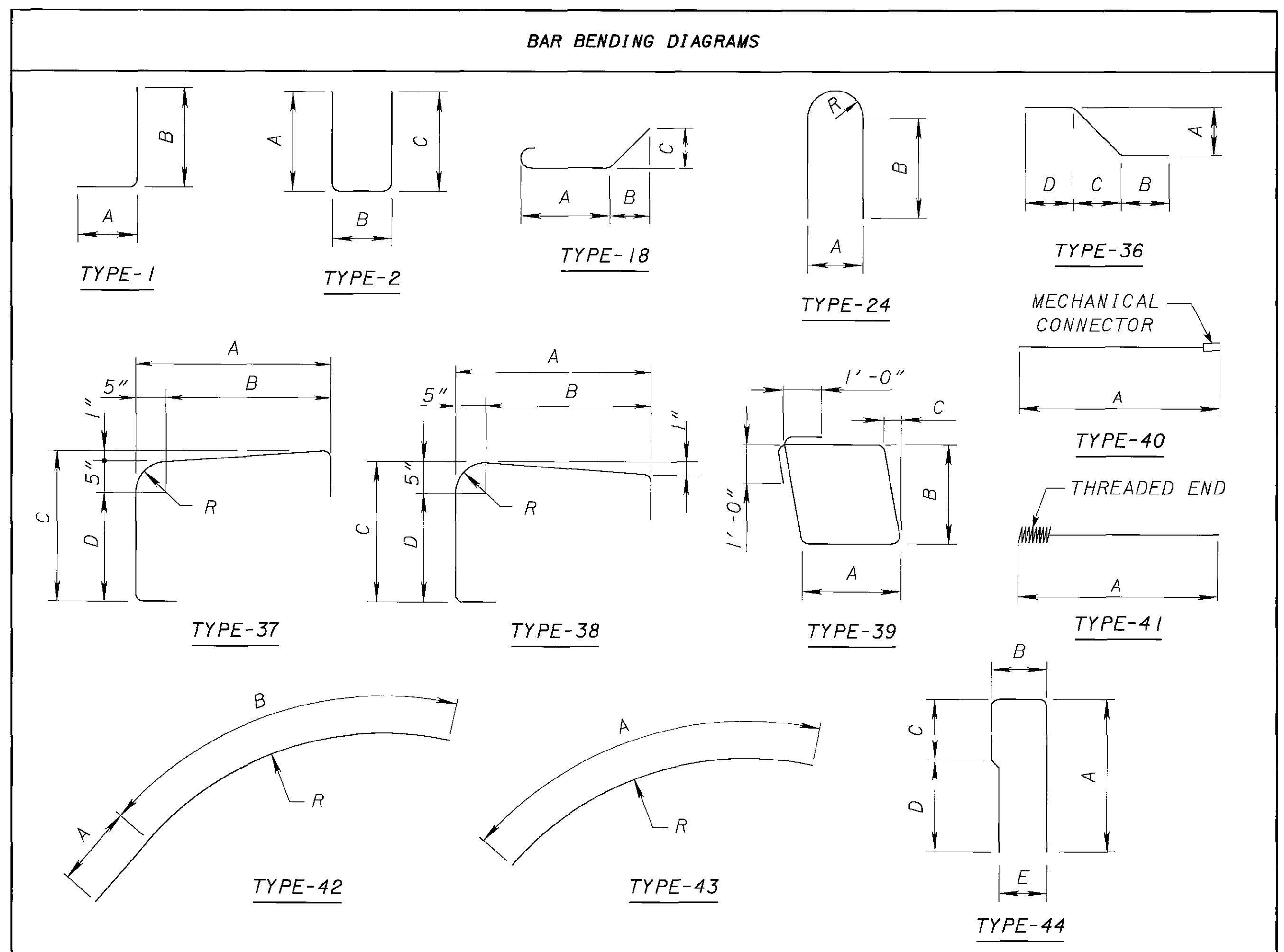


NOTES:
 THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, RA601:
 RA: LOCATION OF THE BAR IN THE STRUCTURE (REAR ABUTMENT)
 6: BAR SIZE DESIGNATION NO. 6
 01: SEQUENCE NUMBER

BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BAR BEND AT THE END OF THE BAR. ALL REINFORCING STEEL IS TO BE EPOXY COATED. STRAIGHT BARS ARE INDICATED BY "STR".

BAR SCHEDULE												
MARK	NUMBER		LENGTH	WEIGHT		TYPE	DIMENSIONS					
	PHASE I	PHASE II		PHASE I	PHASE II		A	B	C	D	E	R
FORWARD ABUTMENT												
FA501	11		33'-2"	381		40	33'-2"					
FA502		11	2'-11"		33	41	2'-11"					
FA503		11	26'-10"		308	STR						
FA504		3	6'-2"		19	STR						
FA505	3		6'-9"	21		STR						
FA506	3	3	8'-1"	26	26	39	1'-8"	1'-8"	2"			
FA507	3	3	5'-10"	19	19	STR						
FA508	1	1	5'-4"	6	6	STR						
FA509	2	2	7'-6"	16	16	37	4'-5"	4'-0"	1'-11"	1'-6"		
FA510	16		14'-7"	243		STR						
FA511	2		10'-3"	21		STR						
FA512	2		8'-6"	18		STR						
FA513	2		6'-5"	13		STR						
FA514	2		11'-0"	23		36	2'-4 1/2"	2'-5"	4'-2"	3'-10"		
FA515	5	5	3'-7"	19	19	24	6"	1'-5"				3 1/4"
FA516		16	14'-5"		241	STR						
FA517		2	7'-6"		16	STR						
FA518		2	6'-11"		14	STR						
FA519		2	6'-3"		13	STR						
FA520		2	11'-0"		23	42	2'-6"	2'-5"	4'-2"	3'-10"		
FA521	31	30	5'-1"	162	162	2	1'-0"	3'-4"	1'-0"			
FA601	4		10'-2"	61		STR						
FA602	4		14'-7"	88		STR						
FA603	4		11'-6"	69		40						
FA604		4	5'-8"		34	41						
FA605		4	23'-2"		139	STR						
FA606	42		4'-0"	252		1	1'-3"	2'-11"				
FA607	44	86	3'-10"	253	495	1	1'-3"	2'-9"				
FA608	46	22	4'-2"	288	138	1	1'-3"	3'-1"				
FA609	10	10	6'-9"	102	102	STR						
FA610	5	5	11'-3"	85	85	2	5'-1"	1'-5"	5'-1"			
FA611	50	48	5'-5"	407	390	STR						
FA612	25	24	8'-9"	329	315	2	3'-10"	1'-5"	3'-10"			
FA613	25	24	6'-3"	235	225	2	2'-10"	11"	2'-10"			
FA614	5	5	7'-7"	57	57	2	3'-6"	11"	3'-6"			
FA615	14	14	3'-10"	81	81	1	1'-0"	3'-0"				
FA616	7	7	12'-6"	132	132	2	5'-10"	1'-2"	5'-10"			
	1 SERIES		7'-2"				3'-2"	3'-2"				
FA617	OF	TO		69		2	1'-2"					6 1/4"
	5 BARS		11'-4"				5'-3"	5'-3"				
FA618	4	4	7'-2"		43	2	3'-2"	1'-2"	3'-2"			
FA619	21	21	10'-6"	331	331	44	5'-1"	8"	2'-6"	2'-7"	6"	
	1 SERIES		7'-2"				3'-2"	3'-2"				
FA620	OF	TO		54		2	1'-2"					7 1/4" ±
	4 BARS		10'-10"				5'-0"	5'-0"				
FA801	17	17	5'-0"	227	227	18	2'-7"	1'-0"	1'-0"			
FA901	9	9	3'-6"	107	107	STR						
FA902	2	2	3'-5"	23	23	STR						
TOTAL WEIGHT FORWARD ABUTMENT = 8100 (4207 PHASE I) (3893 PHASE II)												

BAR SCHEDULE												
MARK	NUMBER		LENGTH	WEIGHT		TYPE	DIMENSIONS					
	PHASE I	PHASE II		PHASE I	PHASE II		A	B	C	D	E	R
PIER I												
P501	58	58	4'-9"	288	288	2	1'-2"	2'-8"	1'-2"			
P601	58	58	3'-4"	291	291	1	1'-0"	2'-6"				
P602	5		31'-8"	238		40	31'-8"					
P603		5	3'-5"		26	41	3'-5"					
P604		5	24'-8"		185	STR						
P605	4	4	5'-7"	34	34	1	3'-0"	2'-9"				
P606	2	2	9'-6"	29	29	24	2'-3"	3'-0"				13 1/2"
P801		8	24'-8"		527	STR						
P802		8	6'-8"		142	41	6'-8"					
P803	8		13'-10"	295		40	13'-10"					
P804	8		22'-8"	484		STR						
TOTAL WEIGHT PIER I = 3181 (1659 PHASE I) (1522 PHASE II)												



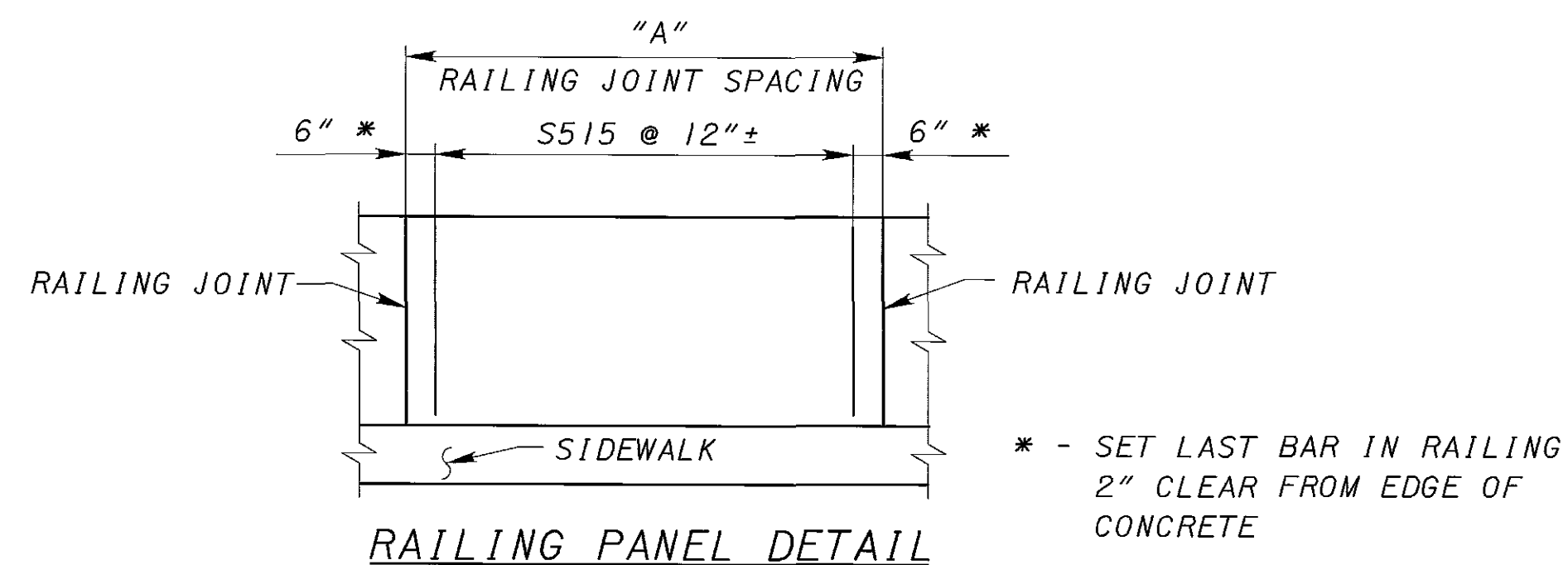
NOTES:

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, RA601:

RA: LOCATION OF THE BAR IN THE STRUCTURE (REAR ABUTMENT)
6: BAR SIZE DESIGNATION NO. 6
01: SEQUENCE NUMBER

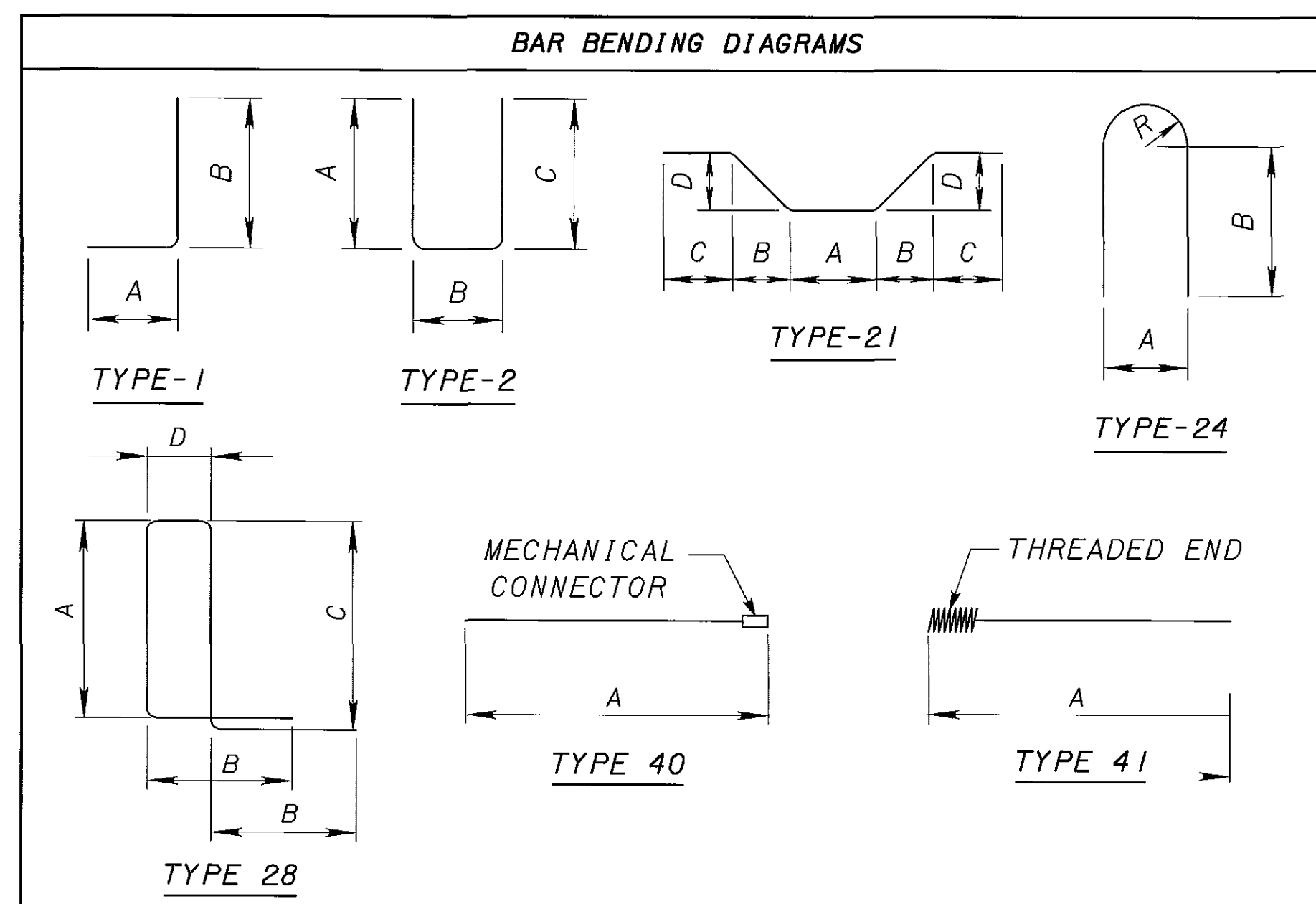
BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BAR BEND AT THE END OF THE BAR. ALL REINFORCING STEEL IS TO BE EPOXY COATED. STRAIGHT BARS ARE INDICATED BY "STR".

BAR SCHEDULE												
MARK	NUMBER		LENGTH	WEIGHT		TYPE	DIMENSIONS					
	PHASE I	PHASE II		PHASE I	PHASE II		A	B	C	D	E	R
PIER 2												
P501	58	58	4'-9"	288	288	2	1'-2"	2'-8"	1'-2"			
P601	58	58	3'-4"	291	291	1	1'-0"	2'-6"				
P602	5		31'-8"	238		40	31'-8"					
P603		5	3'-5"		26	41	3'-5"					
P604		5	24'-8"		185	STR						
P605	4	4	5'-7"	34	34	1	3'-0"	2'-9"				
P606	2	2	9'-6"	29	29	24	2'-3"	3'-0"				13 1/2"
P801		8	24'-8"		527	STR						
P802		8	6'-8"		142	41	6'-8"					
P803	8		13'-10"	295		40	13'-10"					
P804	8		22'-8"	484		STR						
TOTAL WEIGHT PIER 2 = 3181 (1659 PHASE I) (1522 PHASE II)												
PIER 3												
P501	58	58	4'-9"	288	288	2	1'-2"	2'-8"	1'-2"			
P601	58	58	3'-4"	291	291	1	1'-0"	2'-6"				
P602	5		31'-8"	238		40	31'-8"					
P603		5	3'-5"		26	41	3'-5"					
P604		5	24'-8"		185	STR						
P605	4	4	5'-7"	34	34	1	3'-0"	2'-9"				
P606	2	2	9'-6"	29	29	24	2'-3"	3'-0"				13 1/2"
P801		8	24'-8"		527	STR						
P802		8	6'-8"		142	41	6'-8"					
P803	8		13'-10"	295		40	13'-10"					
P804	8		22'-8"	484		STR						
TOTAL WEIGHT PIER 3 = 3181 (1659 PHASE I) (1522 PHASE II)												



"A"	# OF S512
1'-6"	2
2'-2"	3
5'-6"	6
6'-6"	7
7'-0"	8
7'-6"	8

BAR SCHEDULE												
MARK	NUMBER		LENGTH	WEIGHT		TYPE	DIMENSIONS					
	PHASE I	PHASE II		PHASE I	PHASE II		A	B	C	D	E	R
SUPERSTRUCTURE												
S401	315	252	30'-0"	6313	5050	STR						
S402	45	36	7'-11"	238	190	STR						
S501	364	266	30'-0"	11390	8323	STR						
S502	52	38	15'-1"	818	598	STR						
S503	818		34'-8"	29577		STR						
	2 SERIES		5'-2"									
S504	OF		TO	291		STR						59"
	7 BARS		34'-8"									
	2 SERIES		5'-2"									
S505	OF		TO	289		STR						58 1/2"
	7 BARS		34'-5"									
S506		822	27'-8"		23720	STR						
	2 SERIES		5'-2"									
S507	OF		TO		170	STR						66 3/4"
	5 BARS		27'-5"									
	2 SERIES		5'-2"									
S508	OF		TO		171	STR						67 1/2"
	5 BARS		27'-8"									
S509	2	2	34'-10"	73	73	STR						
S510	2	2	27'-10"	58	58	STR						
S511	16	16	3'-7"	60	60	STR						
S512	208	208	2'-6"	543	543	2	10"	1'-1"	10"			
S513	212	212	2'-10"	627	627	2	10"	1'-5"	10"			
S514	208	208	5'-10"	1266	1266	STR						
S515	224	224	9'-8"	2259	2259	28	2'-10"	1'-10"	3'-0"	8"		
S601	99	87	37'-0"	5502	4835	STR						
L501	6	6	8'-0"	50	50	21	1'-4"	2'-1"	6"	2'-1"		
L502	4	4	8'-2"	34	34	2	3'-2"	2'-1"	3'-2"			
L503	4	4	3'-0"	12	12	2	7"	2'-1"	7"			
L504	4	4	3'-2"	13	13	STR						
TOTAL WEIGHT SUPERSTRUCTURE = 107465 (59413 PHASE I) (48052 PHASE II)												



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, RA601:
 RA: LOCATION OF THE BAR IN THE STRUCTURE (REAR ABUTMENT)
 6: BAR SIZE DESIGNATION NO. 6
 01: SEQUENCE NUMBER

BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BAR BEND AT THE END OF THE BAR. ALL REINFORCING STEEL IS TO BE EPOXY COATED. STRAIGHT BARS ARE INDICATED BY "STR".