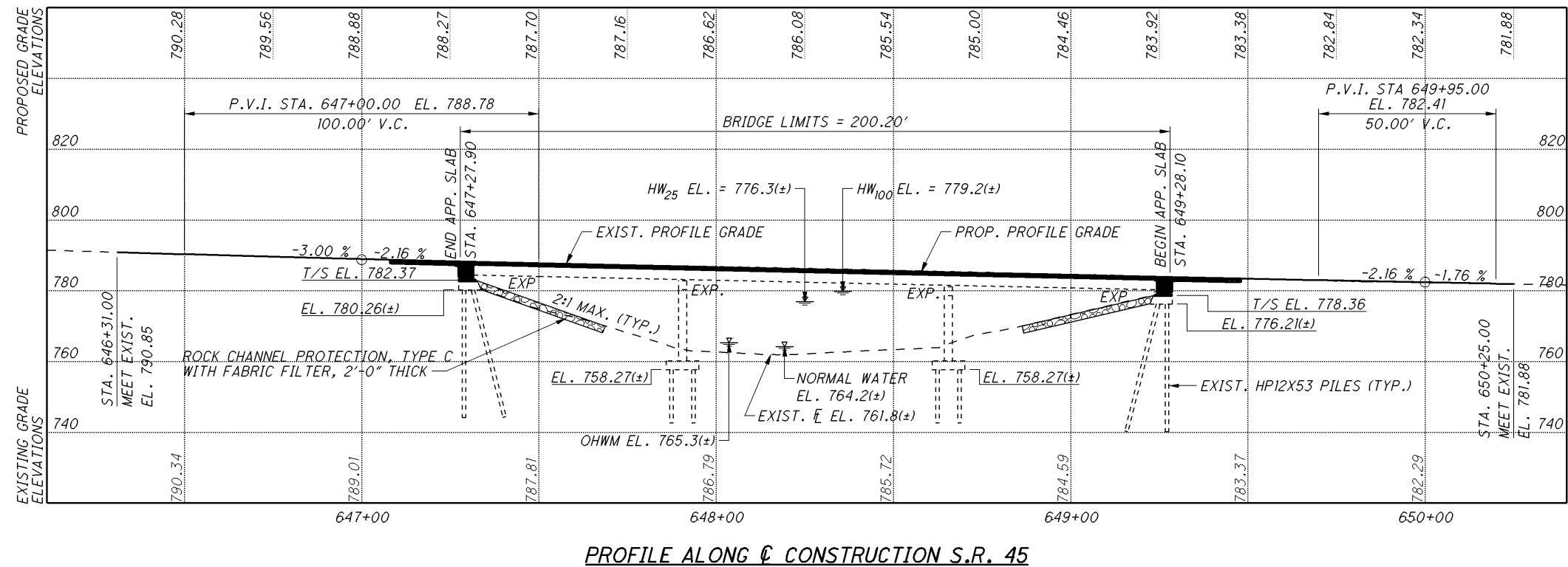




|                                                          |
|----------------------------------------------------------|
| BM #1 STA. 646+39.68, ELEV. 793.29, OFFSET 57.31', RIGHT |
| BM #2 STA. 650+64.50, ELEV. 776.39, OFFSET 40.95', LEFT  |
| BM #3 STA. 649+37.44, ELEV. 783.96, OFFSET 19.25', RIGHT |
| BM #4 STA. 647+38.13, ELEV. 788.27, OFFSET 18.30', RIGHT |

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE.
2. ALL EXISTING UTILITIES ARE TO REMAIN UNLESS NOTED OTHERWISE.
3. ALL ELEVATIONS ARE BASED ON NAV88 DATUM.

- ① MGS BRIDGE TERMINAL ASSEMBLY, TYPE I (TYP.)
- ② ANCHOR ASSEMBLY, MGS TYPE E (TYP.)
- ③ ITEM 601 - DUMPED ROCK FILL, TYPE C (75' L x 6' W x 3' D)
- ④ POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM
- ⑤ FLUME PER DM-4.1 (TYP.)

DRAINAGE AREA = 101 SQ. MILES

|           |   |          |            |   |          |
|-----------|---|----------|------------|---|----------|
| $Q_{25}$  | = | 3920 CFS | $Q_{100}$  | = | 4870 CFS |
| $HW_{25}$ | = | 776.3(±) | $HW_{100}$ | = | 779.2(±) |

HIGH WATER ELEVATIONS ARE TAKEN FROM RECORD PLANS c. 1952

|                                 |                          |
|---------------------------------|--------------------------|
| CURRENT ADT (2016) = 4400       | DESIGN ADT (2036) = 5300 |
| CURRENT ADTT (2016) = 88        | DESIGN ADTT (2036) = 106 |
| DIRECTIONAL DISTRIBUTION = 0.53 |                          |

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE  
DECK AND SUBSTRUCTURE

SPANS: 60'-0"( $\pm$ ), 75'-0"( $\pm$ ), 60'-0"( $\pm$ ) C/C BEARINGS

ROADWAY: 24'-0"( $\pm$ ) TOE/TOE SAFETY CURB

LOADING: H10

SKEW: 30°00'00"( $\pm$ ) RF

WEARING SURFACE: ASPHALT CONCRETE

APPROACH SLABS: AS-1-47 (15'-0"( $\pm$ ) LONG)

ALIGNMENT: TANGENT

CROWN: 0.0156( $\pm$ ) FT/FT

DATE BUILT: 1953                      REHABILITATION: 1992

STRUCTURAL FILE NUMBER: 0402494

PROPOSED WORK: DECK REPLACEMENT & SUBSTRUCTURE  
REHABILITATION. ABUTMENTS MADE SEMI-INTEGRAL AND  
NEW APPROACH SLABS.

TYPE: CONTINUOUS STEEL BEAM COMPOSITE WITH REINFORCED  
CONCRETE DECK, REINFORCED CONCRETE SUBSTRUCTURE

SPANS: 60'-0"( $\pm$ ), 75'-0"( $\pm$ ), 60'-0"( $\pm$ ) c/c BEARINGS

ROADWAY: 27'-8" TOE/TOE PARAPETS

LOADING: HS20-44, CASE II, AND THE ALTERNATE MILITARY  
LOADING; FUTURE WEARING SURFACE = 60 PSF

SKEW: EXISTING

WEARING SURFACE: 1" MONOLITHIC CONCRETE

APPROACH SLABS: AS-1-15 (20'-0" LONG)

ALIGNMENT: EXISTING

CROWN: 0.016 FT/FT

COORDINATES: LATITUDE 41°42'52" N  
LONGITUDE 80°51'10" W

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REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

|           |                 |          |
|-----------|-----------------|----------|
| AS-1-15   | DATED           | 01-16-15 |
| AS-2-15   | DATED           | 01-16-15 |
| GSD-1-96  | DATED (REVISED) | 07-19-02 |
| SBR-1-13  | DATED (REVISED) | 01-17-14 |
| SICD-1-96 | DATED (REVISED) | 07-18-14 |
| SICD-2-14 | DATED           | 07-18-14 |

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

|     |       |          |
|-----|-------|----------|
| 800 | DATED | 01-21-15 |
|-----|-------|----------|

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 17TH EDITION, AND THE ODOT BRIDGE DESIGN MANUAL, 2004.

DESIGN LOADING:

HS20 (CASE II) AND THE ALTERNATE MILITARY LOADING  
FUTURE WEARING SURFACE (FWS) OF 60 PSF

DESIGN DATA:

CONCRETE CLASS QC2 WITH QC/QA - COMPRESSIVE STRENGTH 4500 PSI  
(SUPERSTRUCTURE)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4000 PSI  
(SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH  
60,000 PSI

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL  
2-1/2" CONCRETE COVER

MONOLITHIC WEARING SURFACE:

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

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 THAT HAVE BEEN VERIFIED IN THE FIELD.

EXISTING STRUCTURE PLANS:

THE FOLLOWING EXISTING PLANS MAY BE EXAMINED BY THE PROSPECTIVE BIDDERS AT  
THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 4, 2088 S. ARLINGTON RD.,  
AKRON, OH 44306, TEL: (330) 786-3100 :

- |    |                                 |        |
|----|---------------------------------|--------|
| 1. | ORIGINAL CONSTRUCTION AS-45-149 | (1952) |
| 2. | REHABILITATION CONSTRUCTION     | (1984) |
| 3. | REHABILITATION CONSTRUCTION     | (1992) |

MAINTENANCE OF TRAFFIC:

MAINTENANCE OF TRAFFIC FOR THE STRUCTURE WORK SHALL BE COORDINATED WITH  
THE OVERALL PROJECT. REFER TO THE MAINTENANCE OF TRAFFIC NOTES AND  
DETAILS ELSEWHERE IN THE PLANS.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN:

DESCRIPTION: WORK TO BE PAID FOR UNDER THIS ITEM SHALL INCLUDE THE REMOVAL  
OF EXISTING STRUCTURE COMPONENTS AS DETAILED IN THE PLANS AND AS DIRECTED  
BY THE ENGINEER. THE REMOVALS SHALL INCLUDE BUT NOT NECESSARILY BE LIMITED  
TO THE FOLLOWING:

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN (CONT.):

- EXISTING BRIDGE DECK, INCLUDING CONCRETE DECK SLAB AND PARAPETS.
- EXISTING WINGWALLS AND PORTIONS OF EXISTING ABUTMENTS AS SHOWN IN THE  
PLANS, INCLUDING SAW CUTTING.
- EXISTING STEEL END DAMS AND SLIDING PLATE EXPANSION JOINTS.
- EXISTING BOLSTERS AND ROCKER BEARINGS AT PIERS 1 AND 2, RESPECTIVELY.
- MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE  
FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER.

THE USE OF EXPLOSIVES, HEADACHE BALLS, AND/OR HOE RAMS WILL NOT BE  
PERMITTED. IN ADDITION, THE CONTRACTOR IS NOT PERMITTED THE USE OF A  
CONCRETE CRUNCHER TO REMOVE THE DECK. SUBMIT CONSTRUCTION PLANS ACCORDING  
TO CMS 501.05

PROTECTION OF STEEL SUPPORT SYSTEMS: 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 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 CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS  
THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR  
REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO  
COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK,  
SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED  
PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL  
BEFORE PERFORMING REPAIR.

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 STRUCTURAL MEMBERS (PRESTRESSED BOX  
BEAM, I-BEAM, STEEL BEAM STEEL GIRDER, ETC), THE CONTRACTOR MAY USE A  
HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS  
APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL  
ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY  
STRUCTURAL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE,  
SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM  
WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS  
THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE  
REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE  
PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN  
OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE  
DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

EXISTING WELDED ATTACHMENTS: REMOVE EXISTING WELDED ATTACHMENTS (E.G.,  
FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB  
ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS  
OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES  
SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

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.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN (CONT.):

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.

MEASUREMENT & PAYMENT: THE 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, OVER 20' SPAN, AS PER PLAN.

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

REPLACE ALL EXISTING REINFORCING STEEL 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  
CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF  
THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 514 - FIELD PAINTING, MISC.: PAINT REPAIR STRUCTURAL STEEL:

PAINT REPAIR STRUCTURAL STEEL AREAS THAT ARE DAMAGED OR RUSTED. PAINTED  
AREAS THAT ARE DAMAGED OR RUSTED WILL BE DESIGNATED BY THE PROJECT  
ENGINEER. THE CMS 514.22 PROCESS WILL BE USED TO REPAIR THESE AREAS. THE  
CONTRACTOR SHALL PROVIDE THE ENGINEER WITH ALL NECESSARY EQUIPMENT TO  
INSPECT THIS WORK. THE MAJORITY OF THE AREAS TO BE REPAIR PAINTED ARE:  
STRUCTURAL STEEL BEAMS, CROSSFRAMES, BOLSTER/ROCKER BEARINGS, AND LOAD  
PLATES. AREAS TO BE REPAIR PAINTED ARE NOT LIMITED TO THESE AREAS. THE  
AREAS DESIGNATED BY THE PROJECT ENGINEER WILL BE PAINTED. THE DEPARTMENT  
WILL MEASURE AND PAY FOR THE REPAIR PAINTED AREAS BY THE NUMBER OF SQUARE  
FEET ACCEPTED IN PLACE. AN ESTIMATE OF 1500 SF HAS BEEN INCLUDED IN THE  
ESTIMATED QUANTITIES FOR THIS ITEM OF WORK.

ASBESTOS NOTIFICATION:

ASBESTOS SURVEYS OF BRIDGE STRUCTURES NO. ATB-45-14.84 (SFN 0402494)  
SCHEDULED FOR DECK REPLACEMENT AND ATB-84-7.97 (SFN 0403210) SCHEDULED FOR  
REPLACEMENT WERE CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION  
SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE  
BRIDGE STRUCTURE.

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

BOB PRINCIC  
OHIO EPA/DAPC  
NORTHEAST DISTRICT OFFICE  
2110 E AURORA RD.  
TWINSBURG, OH 44087  
(330) 963-1230

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

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

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

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



|                       |          |
|-----------------------|----------|
| DATE                  | 11/24/14 |
| REVIEWED              | DOR      |
| DRAWN                 | EMW      |
| DESIGNED              | EMW      |
| CHECKED               | JN       |
| STRUCTURE FILE NUMBER | 0402494  |

|                             |
|-----------------------------|
| STRUCTURE GENERAL NOTES - 1 |
| BRIDGE NO. ATB-45-1484      |
| S.R. 45 OVER MILL CREEK     |

|                          |               |
|--------------------------|---------------|
| ATB-45 / 84-14.84 / 7.97 | PID No. 88946 |
| 2 / 23                   | 13 / 40       |

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

THIS ITEM SHALL CONSIST OF FURNISHING ALL NECESSARY LABOR, MATERIALS, AND EQUIPMENT TO RAISE THE EXISTING BEAMS FOR THE PURPOSE OF REPLACING THE EXISTING BEARINGS AT THE PIERS AND THE ABUTMENTS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION AND OPERATION OF AN ADEQUATE JACKING SYSTEM, INCLUDING ANY TEMPORARY SUPPORTS NECESSARY TO PERFORM THE WORK DESCRIBED IN THE PROJECT PLANS. THREE (3) SETS OF JACKING PLANS IN ACCORDANCE WITH CMS 501.05 AND WHICH INCLUDE THE INFORMATION DESCRIBED IN THIS NOTE, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL AT LEAST SEVEN (7) DAYS BEFORE ACTUAL WORK IS TO BEGIN. THE PLANS SHALL BE PREPARED AND STAMPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER.

JACKING SUBMITTALS SHALL INCLUDE AT LEAST THE FOLLOWING:

1. CALCULATIONS AND ANALYSES OF THE STRUCTURE TO DETERMINE AND DEFINE THE ACTUAL LOADING APPLIED AT THE CONTRACTOR'S SELECTED JACKING POINTS.
2. A DRAWING SHOWING THE PHYSICAL AND DIMENSIONAL POSITION OF THE JACKS WITH RESPECT TO THE STRUCTURE INCLUDING CLEARANCES AND CENTER OF LIFT.
3. 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 FOR EACH ABUTMENT OR PIER SHALL BE THE SAME SIZE.
4. ANALYSES AND CALCULATIONS OF THE STRESSES INDUCED OR CREATED IN THE STRUCTURE AND ANY TEMPORARY SUPPORTS. DESIGN CALCULATIONS FOR ANY TEMPORARY SUPPORTS.
5. PHYSICAL DIMENSIONS, MATERIALS, AND FABRICATION DETAILS OF ANY TEMPORARY SUPPORTS. HORIZONTAL AND VERTICAL MOVEMENT RESTRAINT SHALL BE PROVIDED.

THE ENTIRE SYSTEM INCLUDING JACKS SHALL HAVE 20% MORE CAPACITY THAN REQUIRED BASED ON CALCULATED LOADS.

FOR LIFTS GREATER THAN 1", JACKS SHALL HAVE LOCKING NUTS TO POSITIVELY LOCK AND SUPPORT THE STRUCTURE DURING THE LIFT.

SINGLE ACTING RAMS WITH NO OVER-TRAVEL PROTECTION SYSTEM SHALL NOT BE USED.

SPARE EQUIPMENT SHALL BE AVAILABLE ON SITE FOR REQUIRED STRUCTURE RAISING TO PROCEED IN THE EVENT OF A BREAKDOWN. A LIST OF SPARE EQUIPMENT SHALL BE PROVIDED TO THE ENGINEER.

JACKING OPERATIONS SHALL BE LIMITED TO EXISTING BEAMS AFTER REMOVAL OF THE EXISTING DECK SLAB AND ABUTMENT BACKWALL AND BEFORE CONSTRUCTION OF THE NEW DECK SLAB.

THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER THAT THE BRIDGE BEARINGS ARE FULLY SEATED BETWEEN ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUITABLE MEANS OF REPAIR, SUBJECT TO THE APPROVAL OF THE ENGINEER, WILL BE REQUIRED AT NO ADDITIONAL COST TO THE STATE.

THE JACKING OPERATION SHALL BE DIRECTED BY A PROFESSIONAL ENGINEER EMPLOYED BY THE CONTRACTOR. FAILURE TO HAVE A PROFESSIONAL ENGINEER PRESENT SHALL BE CAUSE FOR CEASING JACKING OPERATIONS.

PAYMENT SHALL BE MADE AT THE LUMP SUM PRICE BID FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN. THIS SHALL INCLUDE ALL NECESSARY TOOLS, LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

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.

PATCH ALL AREAS DEEMED UNSOUND AS DIRECTED BY THE ENGINEER. A TOTAL QUANTITY OF 200 SF HAS BEEN INCLUDED IN THE ESTIMATED QUANTITIES TO ACCOUNT FOR THIS PATCHING.

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 1.04 KIPS FOR A TOTAL MACHINE LOAD OF 8.28 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 IN.

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

ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=13"), AS PER PLAN:

DESCRIPTION: THIS ITEM SHALL CONSIST OF CONSTRUCTING REINFORCED CONCRETE APPROACH SLABS WITH TYPE 4-A CURBS IN ACCORDANCE WITH THE PROVISIONS OF CMS 526 AND THE DETAILS OF ODOT STANDARD DRAWINGS AS-1-15, AS-2-15, BP-5.1, AND MGS-3.1.

METHOD OF MEASUREMENT: THE AREA MEASURED WILL BE THE NUMBER OF SQUARE YARDS COMPLETE IN PLACE.

BASIS OF PAYMENT: ACCEPTED QUANTITIES WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER SQUARE YARD, COMPLETE IN PLACE. THIS PRICE SHALL INCLUDE FULL COMPENSATION FOR ALL CONCRETE, INCLUDING EPOXY COATED REINFORCING STEEL, PREFORMED EXPANSION JOINT FILLER, AND OTHER INCIDENTAL MATERIALS, LABOR AND EQUIPMENT NECESSARY TO CONSTRUCT REINFORCED CONCRETE APPROACH SLABS WITH TYPE 4-A CURBS. PAYMENT WILL BE MADE UNDER ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=13"), AS PER PLAN.

ITEM 530 - STRUCTURE, MISC.: CLEANING EXISTING STRUCTURAL STEEL

THIS ITEM SHALL CONSIST OF FURNISHING ALL NECESSARY LABOR, MATERIALS, AND EQUIPMENT TO CLEAN ALL EXISTING STRUCTURAL STEEL AND BEARINGS IN ACCORDANCE WITH CMS 514.14. ADDITIONALLY, ALL DIRT AND DEBRIS FROM THE ABUTMENTS, BEAM SEATS, AND PIER CAPS SHALL BE REMOVED AND WASHED WITH POTABLE WATER. THIS WORK SHALL BE COMPLETED PRIOR TO THE REPAIR PAINTING OPERATION.

SUMMARY OF PROPOSED REHABILITATION WORK

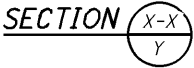
THE FOLLOWING LIST CONTAINS THE MAJOR ITEMS OF WORK INCLUDED IN THESE PLANS FOR THE REHABILITATION OF THIS STRUCTURE:

1. REMOVAL OF EXISTING SUPERSTRUCTURE DECK SLAB, INCLUDING BRIDGE PARAPETS AND SLIDING PLATE EXPANSION JOINTS.
2. REMOVAL OF APPROACH SLABS, EXISTING WINGWALLS AND PORTIONS OF ABUTMENTS.
3. CONSTRUCTION OF NEW BEAM SEAT AND NEW WINGWALLS AT EACH ABUTMENT.
4. INSTALLATION OF NEW ELASTOMERIC BEARINGS AT BOTH ABUTMENTS AND REPLACEMENT OF EXISTING BEARINGS AT PIERS WITH NEW ELASTOMERIC BEARINGS.
5. CONSTRUCTION OF NEW COMPOSITE SUPERSTRUCTURE DECK SLAB, INCLUDING SEMI-INTEGRAL DIAPHRAGMS AND PARAPETS.
6. CONSTRUCTION OF NEW APPROACH SLABS.
7. PATCHING AND SEALING OF THE EXISTING SUBSTRUCTURE.
8. SPOT REPAIR PAINTING OF EXISTING STRUCTURAL STEEL.

PLAN ABBREVIATIONS

|        |                    |            |                                        |
|--------|--------------------|------------|----------------------------------------|
| ABUT.  | ABUTMENT           | INV.       | INVERT                                 |
| APP.   | APPROACH           | LT         | LEFT                                   |
| BRG.   | BEARING            | LONG.      | LONGITUDINAL                           |
| c/c    | CENTER TO CENTER   | MAX.       | MAXIMUM                                |
| CLR.   | CLEAR COVER        | MIN.       | MINIMUM                                |
| CONC.  | CONCRETE           | N.F.       | NEAR FACE                              |
| CONST. | CONSTRUCTION       | N.P.C.P.P. | NON-PERFORATED CORRUGATED PLASTIC PIPE |
| C.J.   | CONSTRUCTION JOINT | OPT.       | OPTIONAL                               |
| DIA.   | DIAMETER           | P.C.P.P.   | PERFORATED CORRUGATED PLASTIC PIPE     |
| DIM.   | DIMENSION          | PEJF       | PREFORMED EXPANSION JOINT FILLER       |
| DWG.   | DRAWING            | P.G.       | PROFILE GRADE                          |
| E.F.   | EACH FACE          | PROP.      | PROPOSED                               |
| EL.    | ELEVATION          | R.A.       | REAR ABUTMENT                          |
| EQ.    | EQUAL              | REINF.     | REINFORCED, REINFORCING                |
| EXIST. | EXISTING           | RT         | RIGHT                                  |
| EXT.   | EXTERIOR           | SPA.       | SPACE, SPACES                          |
| F.F.   | FAR FACE           | STA.       | STATION                                |
| F.S.   | FIELD SPLICE       | T/S        | TOP OF SLOPE                           |
| FWD.   | FORWARD            | TYP.       | TYPICAL                                |
| F.A.   | FORWARD ABUTMENT   | U.S.       | U.S. ROUTE                             |

THE SYMBOLS BELOW DESIGNATE THE NAMES AND LOCATIONS OF THE SECTION DETAILS THROUGHOUT THE STRUCTURE PLANS. THE TOP LABEL "X-X" DESIGNATES THE SECTION NAME. THE BOTTOM NUMBER "Y" INDICATES WHICH STRUCTURE SHEET NUMBER IS BEING CROSS-REFERENCED.



|                       |          |
|-----------------------|----------|
| REVIEWED              | DATE     |
| DOR                   | 11/24/14 |
| STRUCTURE FILE NUMBER | 0402494  |

|         |     |        |
|---------|-----|--------|
| DRAWN   | EMW | REVISD |
| CHECKED | JN  |        |

STRUCTURE GENERAL NOTES - 2  
BRIDGE NO. ATB-45-1484  
S.R. 45 OVER MILL CREEK

ATB-45 / 84-14.84 / 7.97  
PID No. 88946

3 / 23

14  
40



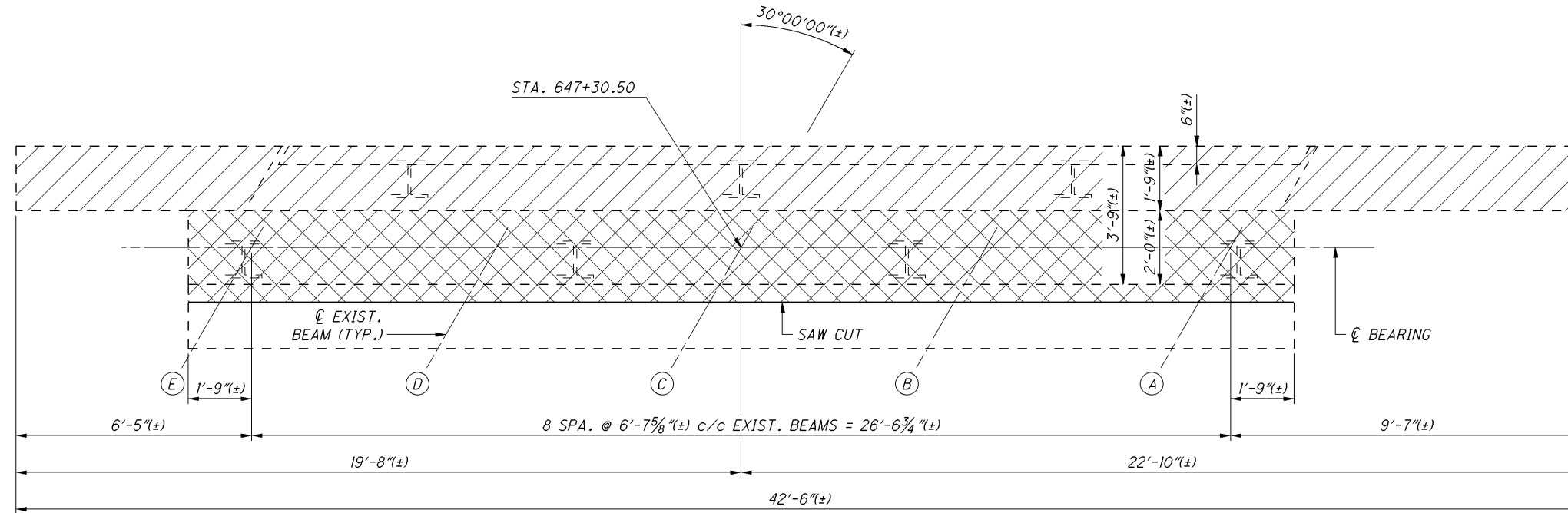
DLZ  
654 W. SUPERIOR AVE., SUITE 1000 • CLEVELAND, OHIO 44113

**ESTIMATED QUANTITIES**  
BRIDGE NO. ATB-45-1484  
S.R. 45 OVER MILL CREEK

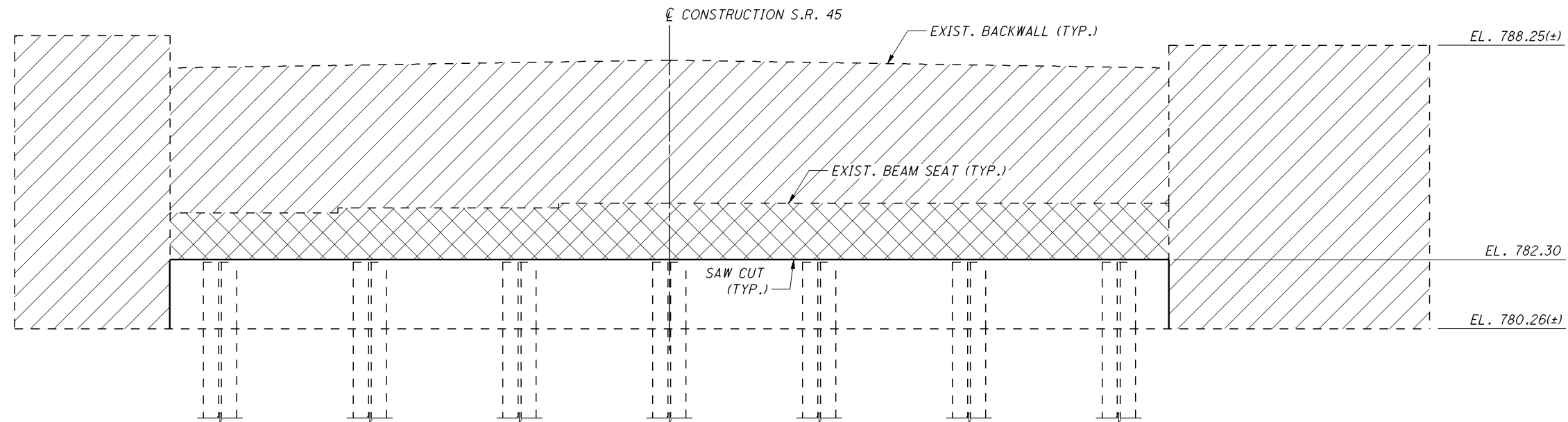
ATB-45/84-14.84/7.97  
PID No. 88946

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℄ CONSTRUCTION S.R. 45



PLAN



ELEVATION

**LEGEND**

-  PORTIONS OF EXISTING STRUCTURE TO BE REMOVED PER ITEM 202.
-  PORTIONS OF EXISTING STRUCTURE TO BE REMOVED PER ITEM 202 AND NOTE 2
-  EXIST. BEAM LINE DESIGNATION

**NOTES**

1. IF ANY PILES ARE ENCOUNTERED AT OR ABOVE THE REMOVAL ELEVATION, REMOVE CONCRETE AROUND PILES AND LEAVE PILES INTACT.
2. SECTION OF EXISTING CONCRETE TO BE REMOVED, EXCEPT FOR PORTIONS OF EXISTING VERTICAL REINFORCING STEEL SHOWN ON ABUTMENT TYPICAL SECTION ON SHEET 8 OF 23.



REVIEWED DATE  
DOR 11/24/14  
STRUCTURE FILE NUMBER  
0402494

DRAWN  
EMW  
REVIEWED  
JN

REAR ABUTMENT REMOVAL PLAN & ELEVATION

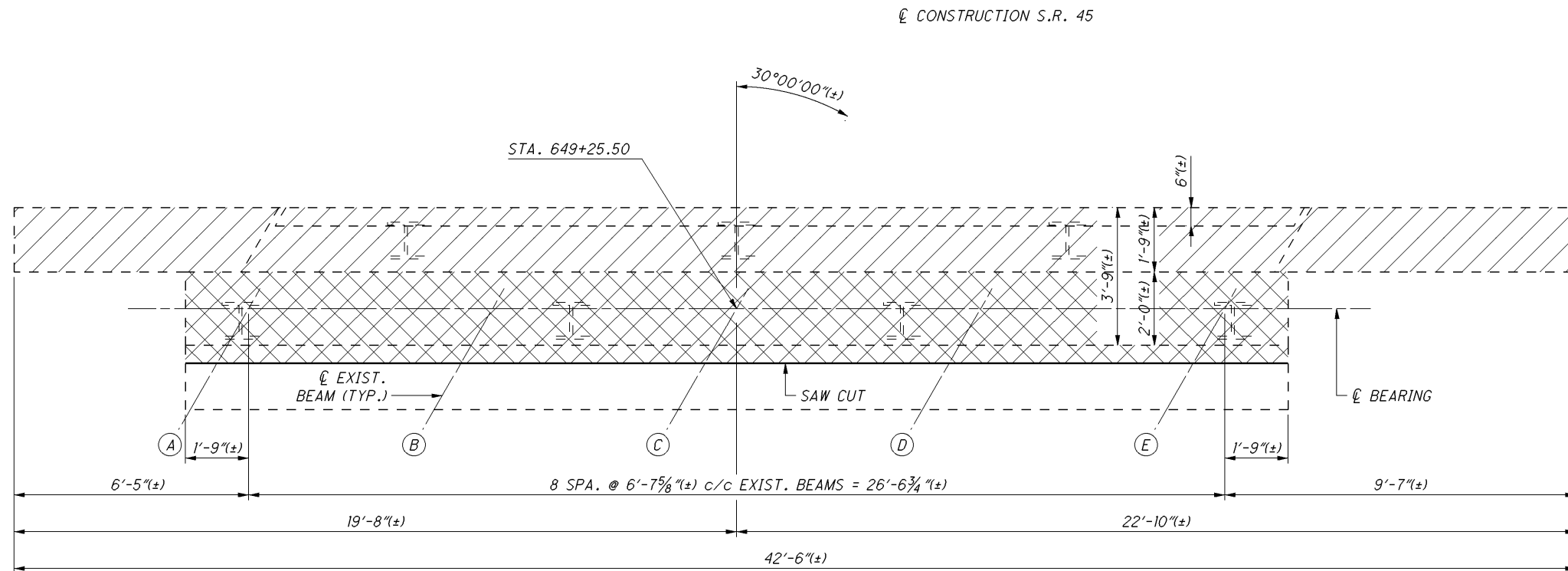
BRIDGE NO. ATB-45-1484  
S.R. 45 OVER MILL CREEK

ATB-45 / 84-14.84 / 7.97  
PID No. 88946

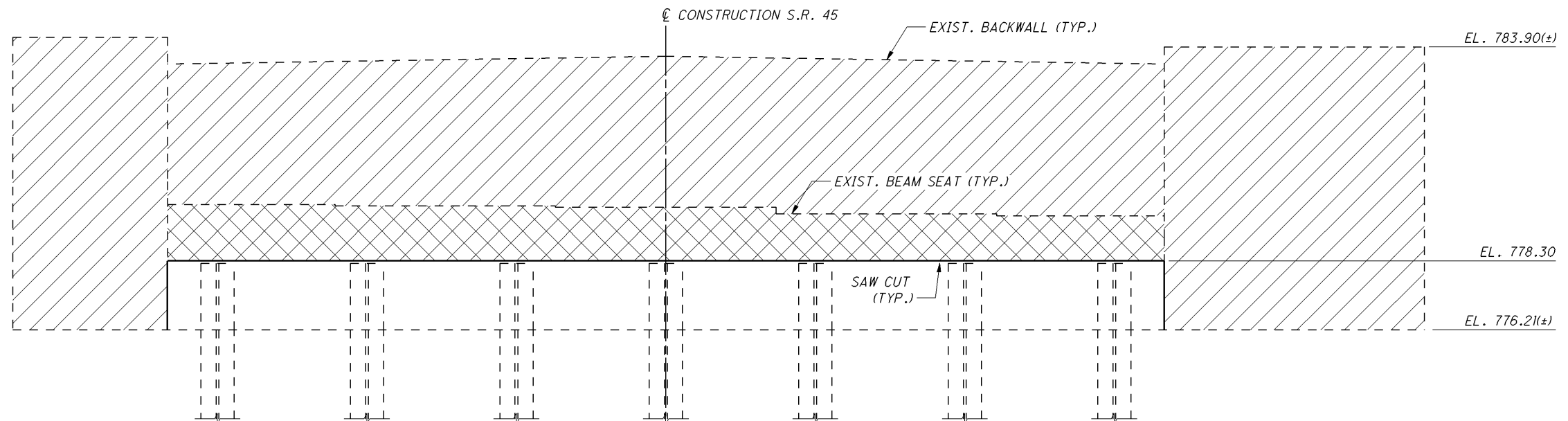
5 / 23

16  
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PLAN



**LEGEND**

-  PORTIONS OF EXISTING STRUCTURE TO BE REMOVED PER ITEM 202.
-  PORTIONS OF EXISTING STRUCTURE TO BE REMOVED PER ITEM 202 AND NOTE 2
-  EXIST. BEAM LINE DESIGNATION

**NOTES**

- IF ANY PILES ARE ENCOUNTERED AT OR ABOVE THE REMOVAL ELEVATION, REMOVE CONCRETE AROUND PILES AND LEAVE PILES INTACT.
- SECTION OF EXISTING CONCRETE TO BE REMOVED, EXCEPT FOR PORTIONS OF EXISTING VERTICAL REINFORCING STEEL SHOWN ON ABUTMENT TYPICAL SECTION ON SHEET 8 OF 23.

FORWARD ABUTMENT REMOVAL PLAN & ELEVATION

BRIDGE NO. ATB-45-1484  
S.R. 45 OVER MILL CREEK

ATB-45 / 84-14.84 / 7.97

PID No. 88946

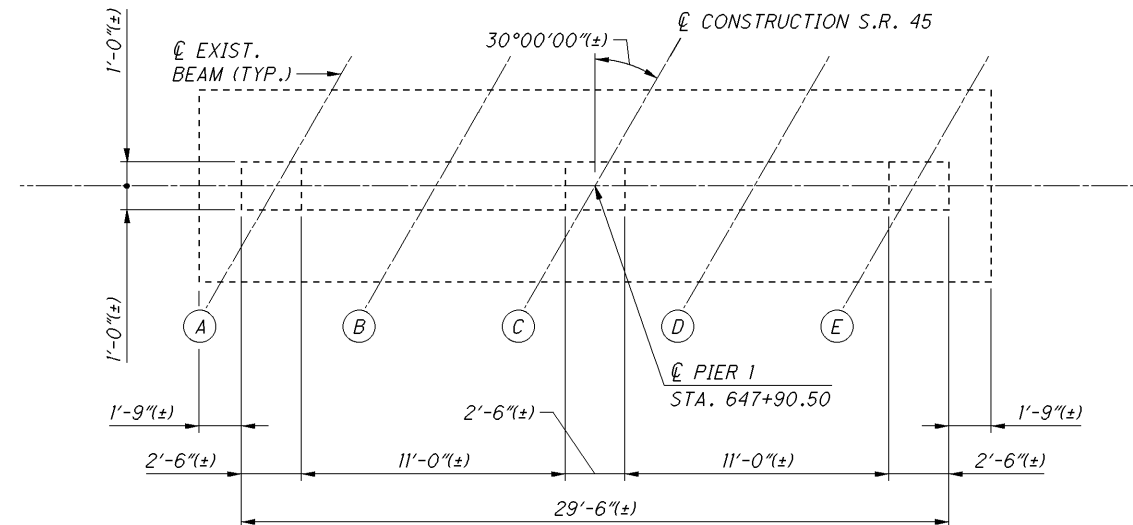
6 / 23

17  
40

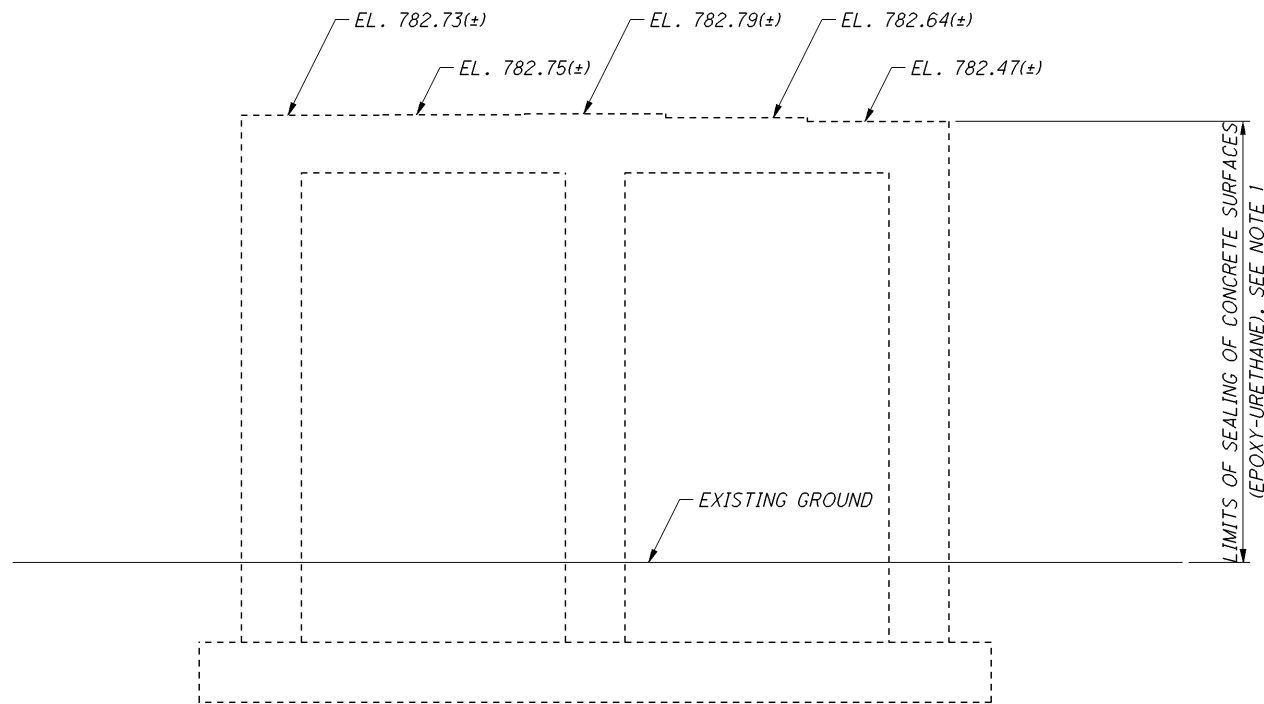


| DESIGNED | DRAWN   | REVIEWED              | DATE     |
|----------|---------|-----------------------|----------|
| EMW      | EMW     | DOR                   | 11/24/14 |
| CHECKED  | REVISER | STRUCTURE FILE NUMBER |          |
| JN       |         | 0402494               |          |

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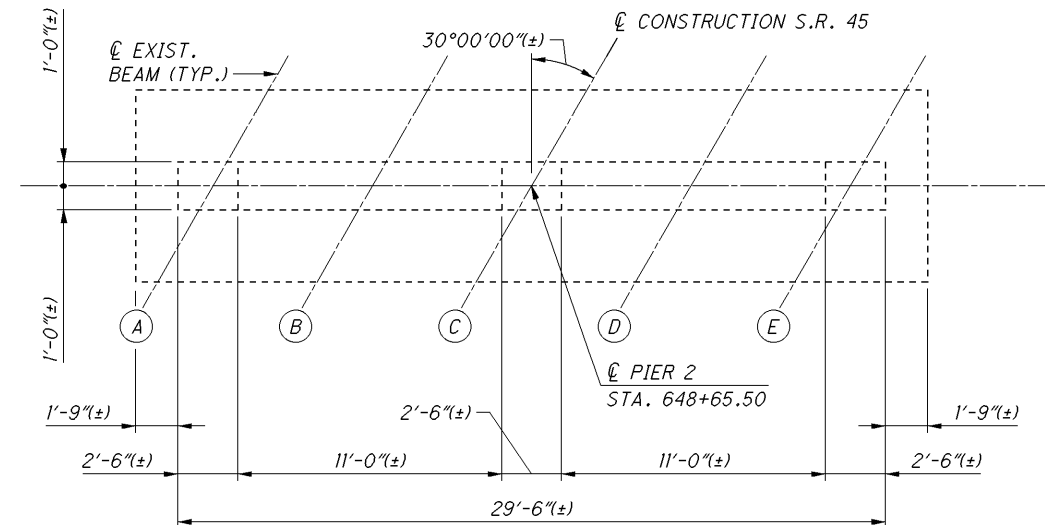
PLAN - PIER 1



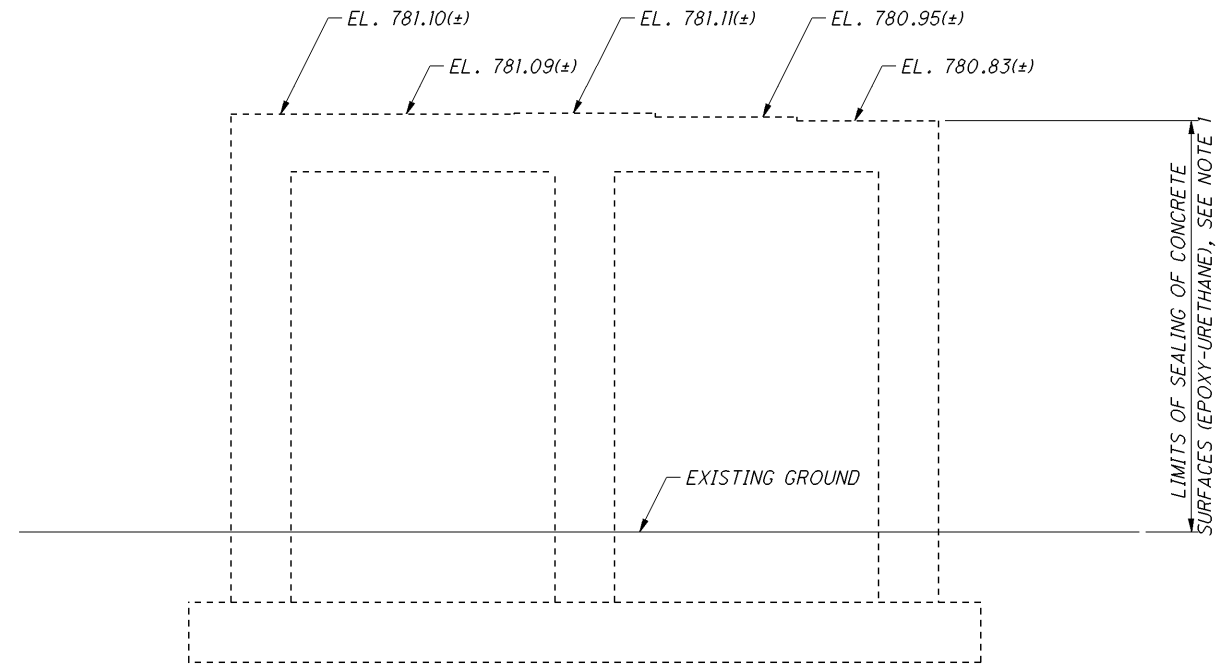
ELEVATION - PIER 1

LEGEND

(X) BEAM LINE DESIGNATION



PLAN - PIER 2

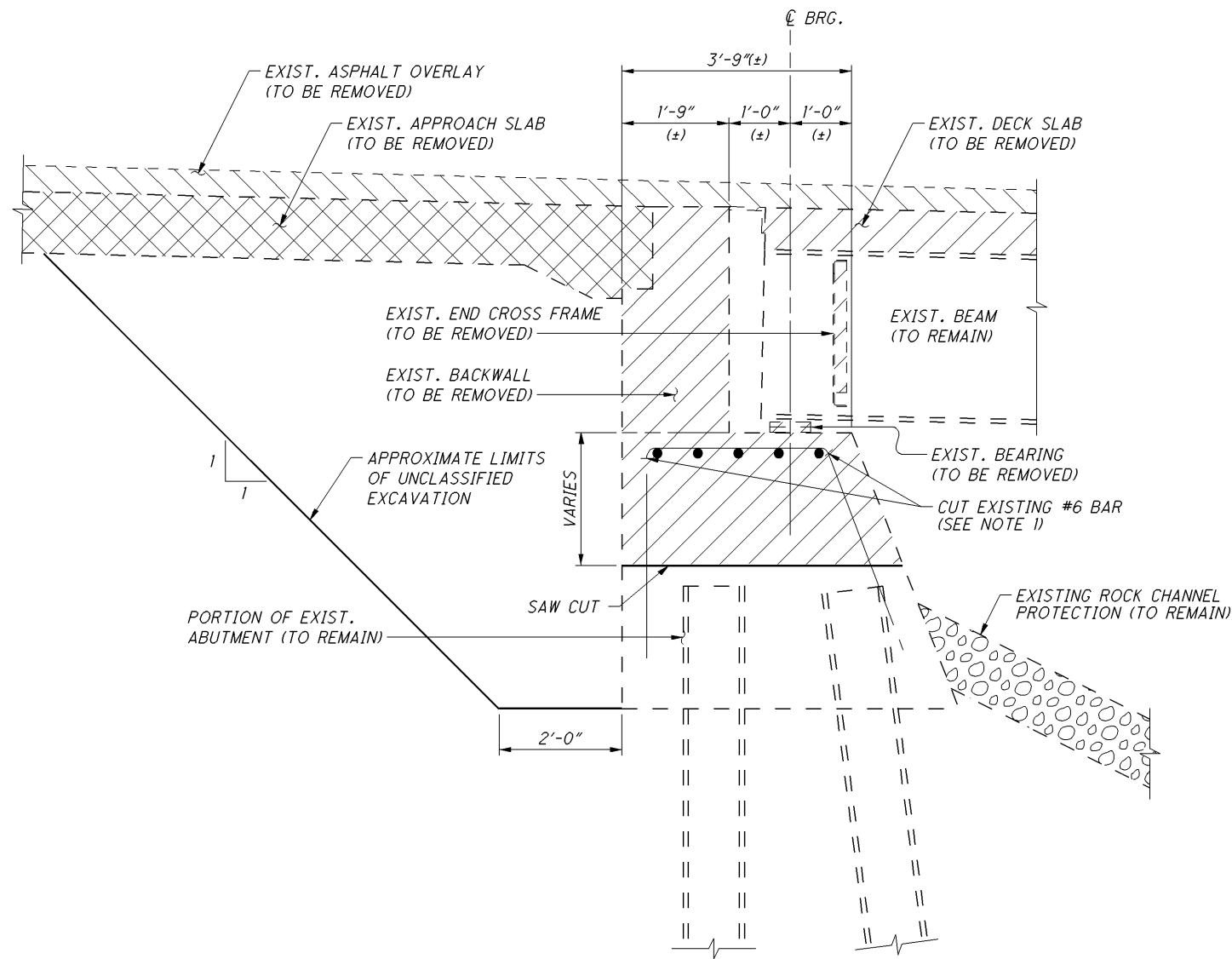


ELEVATION - PIER 2

NOTES

1. SEAL THE ENTIRE EXPOSED CONCRETE SURFACE OF THE EXISTING PIERS, EXCEPT THE TOP OF CAP, AS DIRECTED BY THE REQUIREMENTS OF CMS 512.03.
2. A QUANTITY OF 100 SF HAS BEEN INCLUDED IN THE ESTIMATED QUANTITIES FOR ITEM 519 - PATCHING OF CONCRETE STRUCTURE, TO BE USED AS DIRECTED BY THE ENGINEER.

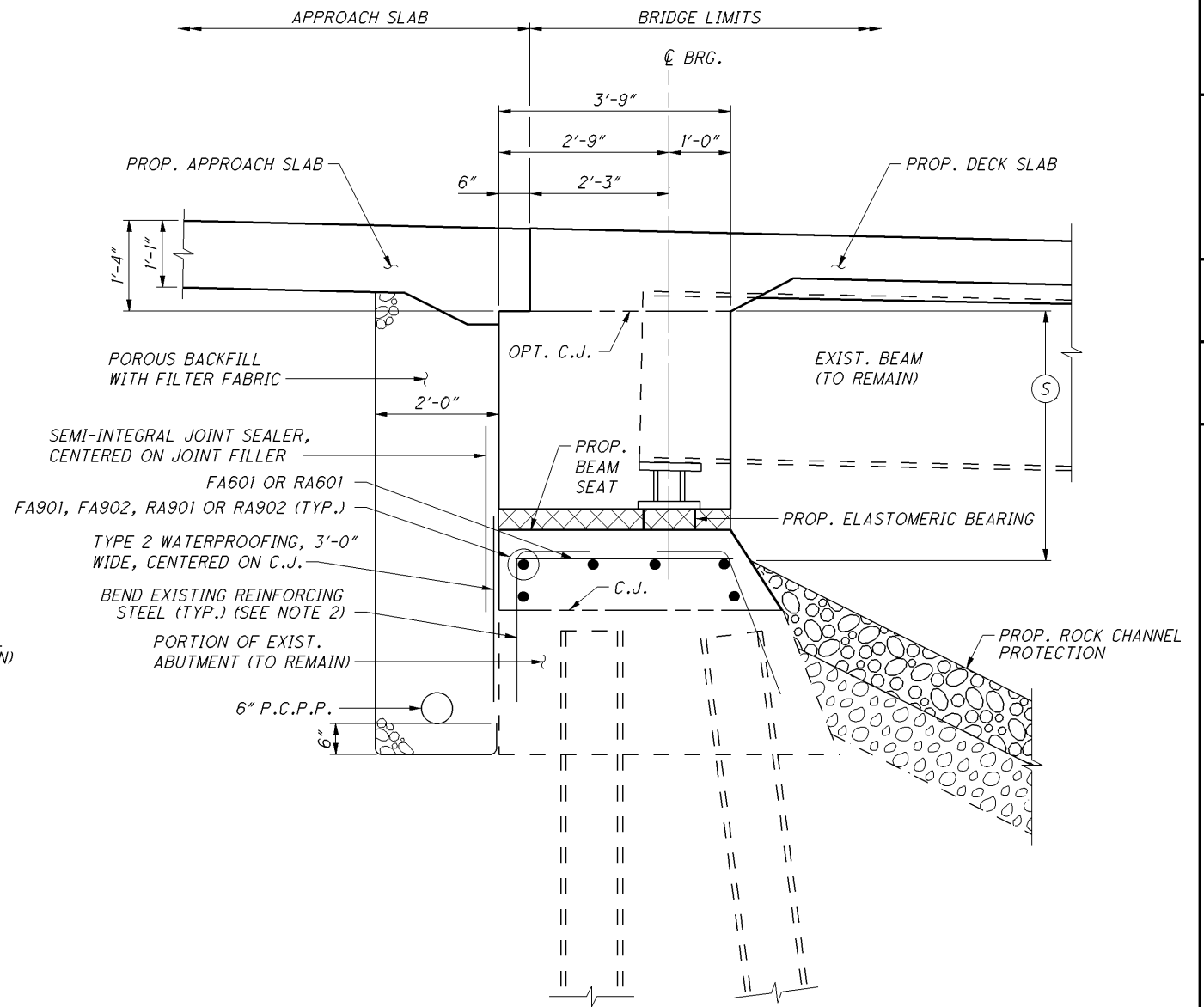
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**TYPICAL EXISTING ABUTMENT SECTION**  
SHOWING REMOVAL

**LEGEND**

-  PORTIONS OF EXISTING STRUCTURE TO BE REMOVED UNDER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
-  EXISTING APPROACH SLAB TO BE REMOVED UNDER ITEM 202 - APPROACH SLAB REMOVED
-  EXISTING ASPHALT OVERLAY TO BE REMOVED UNDER ITEM 202 - WEARING COURSE REMOVED
-  LIMITS OF SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

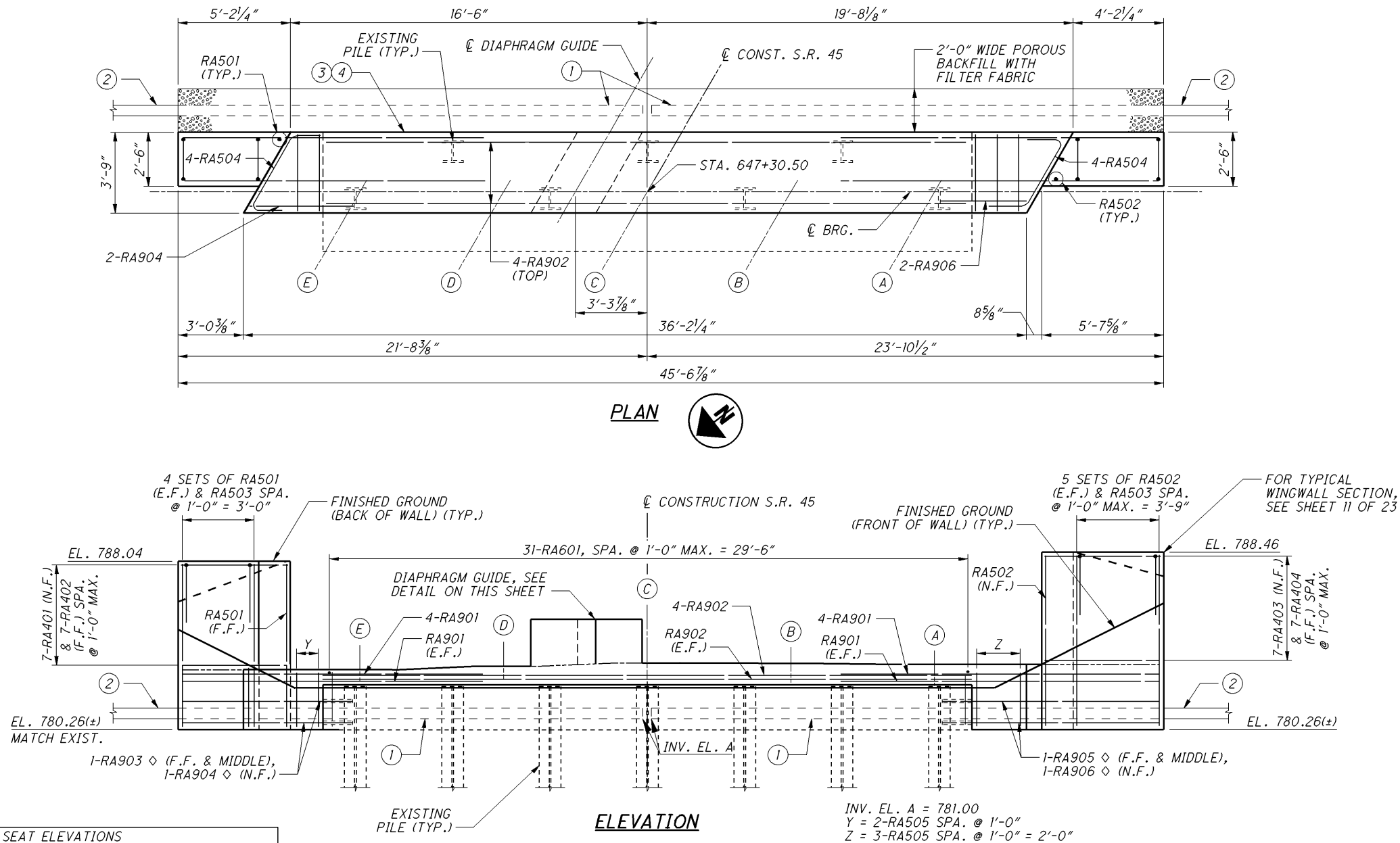


**TYPICAL PROPOSED ABUTMENT SECTION**  
SHOWING PROPOSED WORK

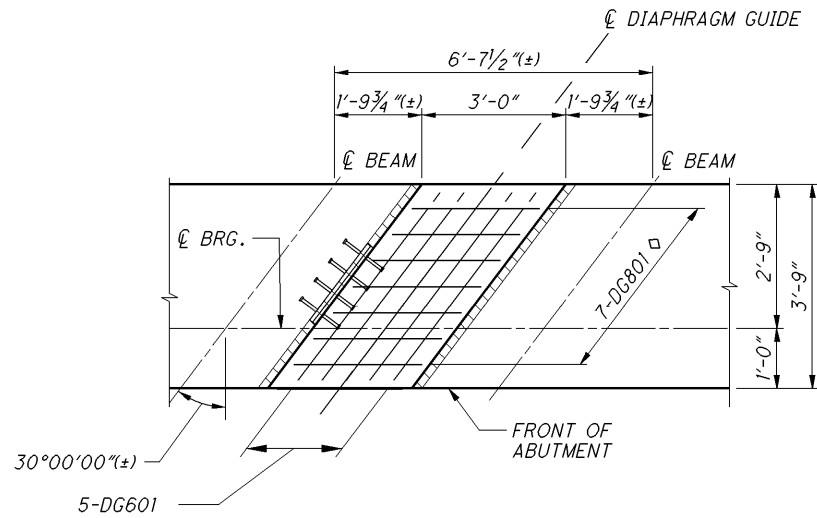
**NOTES**

1. EXISTING REINFORCING STEEL TO BE CUT AS SHOWN. REMOVE ALL OTHER EXISTING BARS. IF EXISTING STEEL TO REMAIN IS CORRODED, REPLACE WITH GROUTED DOWEL BARS MATCHING SIZE AND LENGTH OF EXISTING BARS UNDER ITEM 509, REPLACEMENT OF REINFORCING STEEL, AS PER PLAN.
2. BEND #6 EXISTING BARS AFTER BEING CUT, AS SHOWN, TO PROVIDE 2" MINIMUM CLEAR COVER UNDER PROPOSED BEAM SEAT.

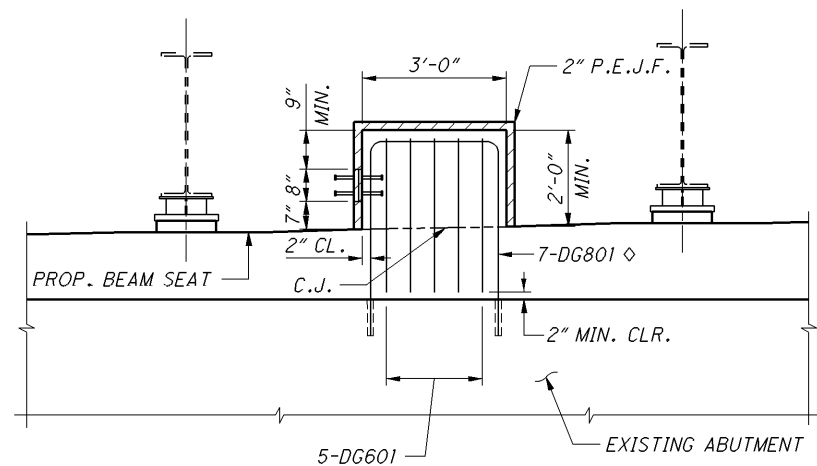
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| PROPOSED BEAM SEAT ELEVATIONS |        |        |        |        |        |
|-------------------------------|--------|--------|--------|--------|--------|
| BEAM                          | A      | B      | C      | D      | E      |
| ELEVATION                     | 783.28 | 783.31 | 783.33 | 783.19 | 782.99 |



DIAPHRAGM GUIDE DETAIL  
PLAN VIEW

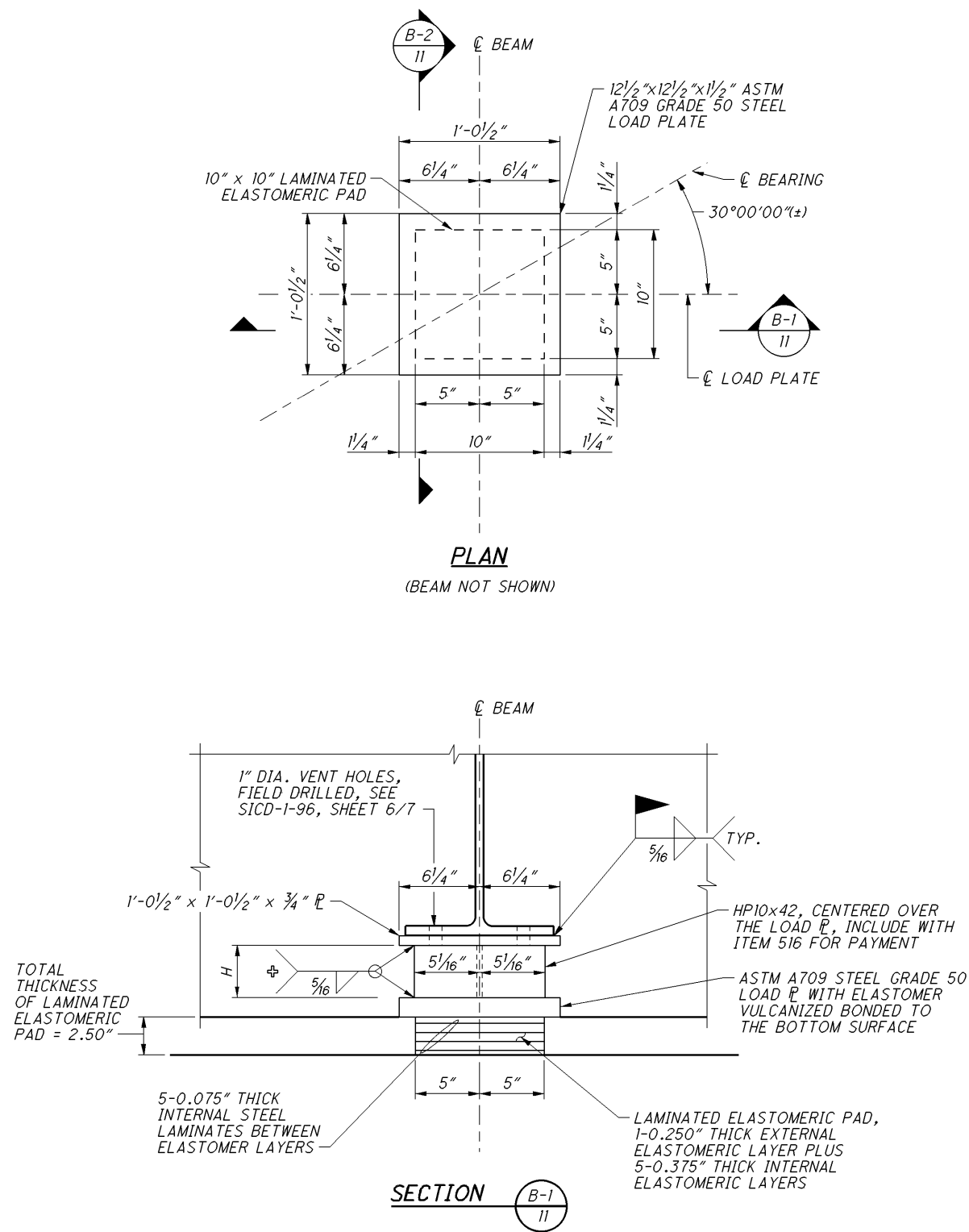


DIAPHRAGM GUIDE DETAIL  
ELEVATION VIEW

- LEGEND**
- (X) BEAM LINE DESIGNATION
  - (1) 6" P.C.P.P. WITH CAP AT END, SLOPED AT 1% MIN.
  - (2) 6" N.P.C.P.P., SLOPED AT 1% MIN.
  - (3) SEMI-INTEGRAL ABUTMENT JOINT SEALER, 3'-0" WIDE, CENTERED ON JOINT FILLER.
  - (4) TYPE 2 WATERPROOFING, 3'-0" WIDE, CENTERED ON HORIZONTAL CONSTRUCTION JOINT.
  - ◇ DOWEL BAR TO BE DRILLED AND GROUTED 1'-6" INTO EXISTING CONCRETE.
- NOTES**
- IF EXISTING REINFORCING STEEL IS ENCOUNTERED WHILE DRILLING DOWEL HOLES, THE HOLE LOCATION MAY BE ADJUSTED BY UP TO 3" LEFT OR RIGHT TO ELIMINATE THE CONFLICT. FOR DETAILS OF EXISTING REINFORCING STEEL NOT SHOWN, REFER TO THE RECORD PLANS.
  - FOR REMOVAL DETAILS, SEE SHEETS 5 AND 6 OF 23.
  - FOR END DIAPHRAGM DETAILS, SEE SHEET 17 OF 23.
  - DOWEL BARS TO BE DRILLED AND GROUTED A MIN. 9" AND MAX. 1'-6" INTO EXIST. CONCRETE. DOWEL BARS SHALL BE 6" MIN. FROM FACE OF CONCRETE.
  - DIAPHRAGM GUIDES: PAY FOR ACCEPTED QUANTITIES OF CAULK, P.E.J.F., CONCRETE, REINFORCEMENT AND RUB PLATES UNDER ITEM 511 - SEMI-INTEGRAL DIAPHRAGM GUIDES, AS PER PLAN.
  - FOR ADDITIONAL DIAPHRAGM GUIDE DETAILS, SEE STD. DWG. SICD-2-14.
  - FOR TYPICAL ABUTMENT SECTION, SEE SHEET 8 OF 23.
  - THE MINIMUM LAP LENGTHS FOR DECK SLAB REINFORCING STEEL ARE 2'-5" FOR THE #5 BARS AND 6'-2" FOR THE #9 BARS. REINFORCING STEEL HAS BEEN DETAILED TO PROVIDE THE MINIMUM LAP OR GREATER. VARY THE LAP LENGTH AS NECESSARY TO MAINTAIN 2" CLEAR COVER AT CONCRETE EDGES.



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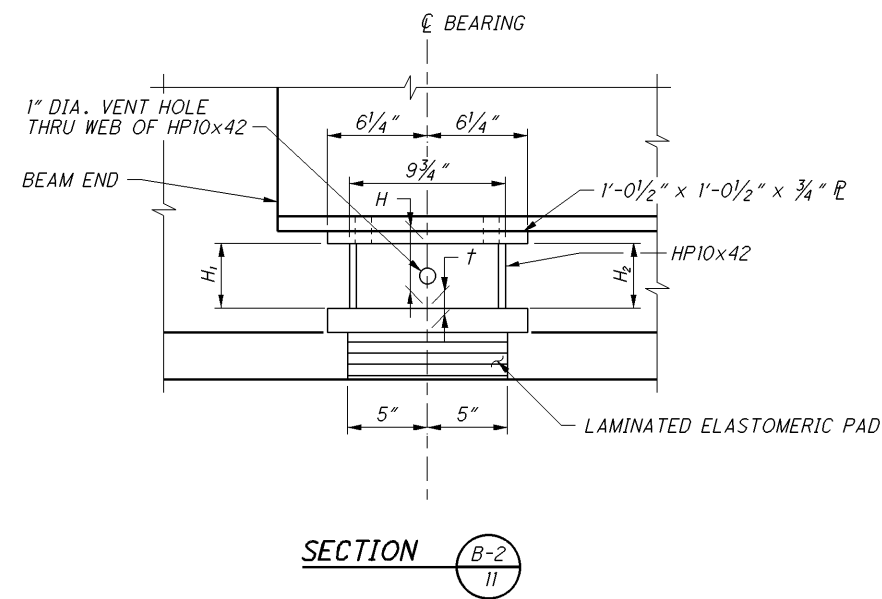


**EXPANSION BEARING**  
(ABUTMENTS, 10 REQUIRED)  
⊕ SEE NOTE 5

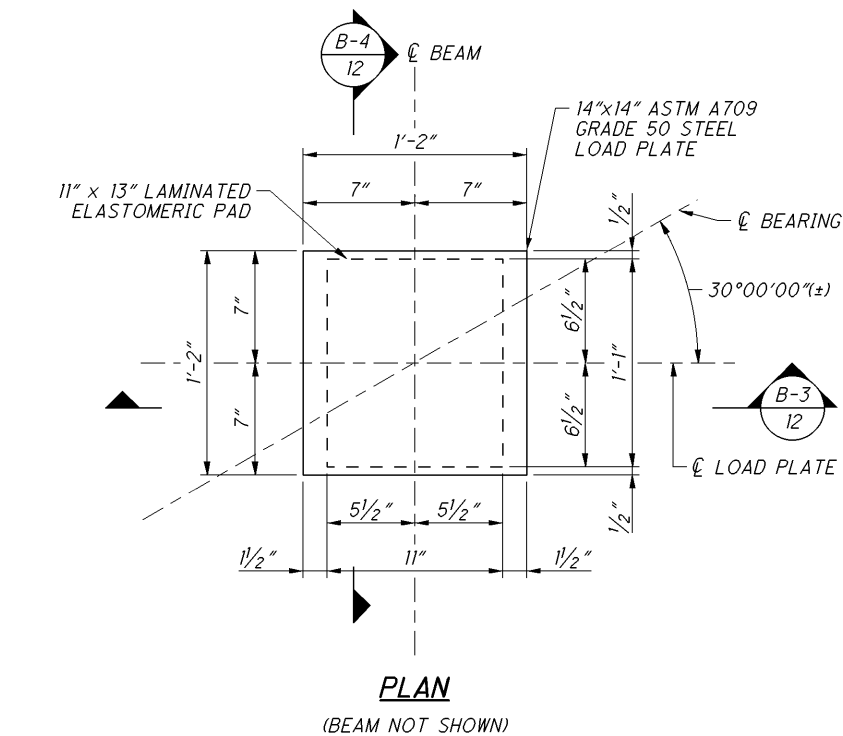
### NOTES

- BEARING DESIGN LOADS: EXPANSION BEARING (ABUTMENTS)  

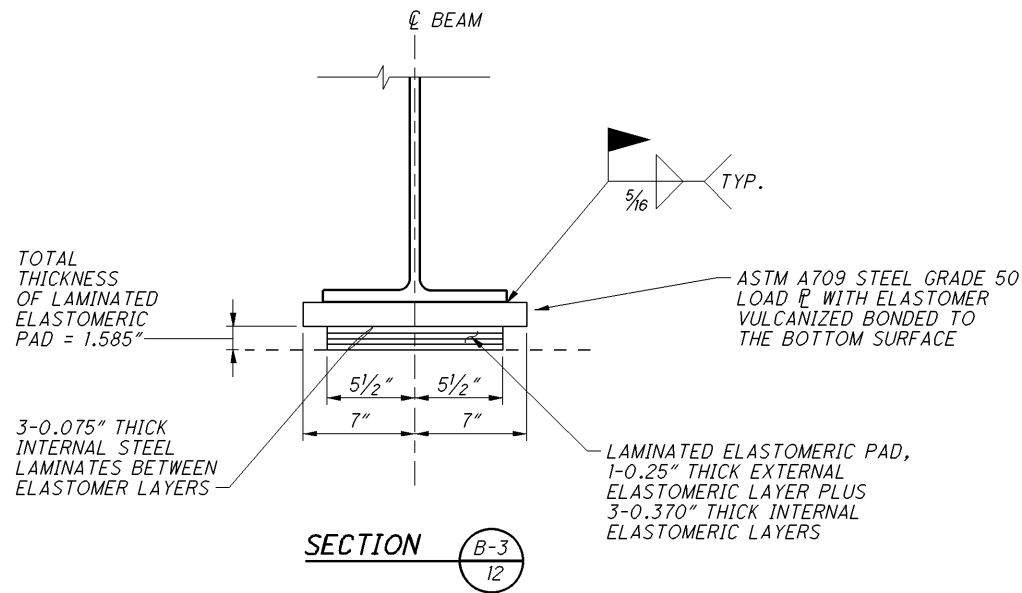
|                   |         |
|-------------------|---------|
| DEAD LOADS        | 74.6 K  |
| LIVE LOADS        | 31.3 K  |
| TOTAL DESIGN LOAD | 105.9 K |
- ASTM A709 GRADE 50 STEEL SHALL BE USED FOR THE PLATES AND HP SHAPES FOR ALL BEARINGS. THE LOAD PLATE SHALL BE VULCANIZED BONDED TO THE LAMINATED ELASTOMERIC PAD DURING THE MOLDING PROCESS.
- THE ELASTOMER SHALL HAVE A HARDNESS OF 60 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
- ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKINGS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UPSTATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.
- BASIS OF PAYMENT: THE UNIT PRICE BID SHALL INCLUDE ALL MATERIALS, LABOR, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL THE LAMINATED ELASTOMERIC BEARINGS, STEEL LOAD PLATES, AND HP SHAPES. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516 - ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.



| TABLE OF BEARING DIMENSIONS |       |                |       |                |
|-----------------------------|-------|----------------|-------|----------------|
| LOCATION                    | t     | H <sub>1</sub> | H     | H <sub>2</sub> |
| REAR ABUTMENT               | 1.50" | 6.875"         | 6.75" | 6.625"         |
| FORWARD ABUTMENT            | 1.50" | 6.625"         | 6.75" | 6.875"         |



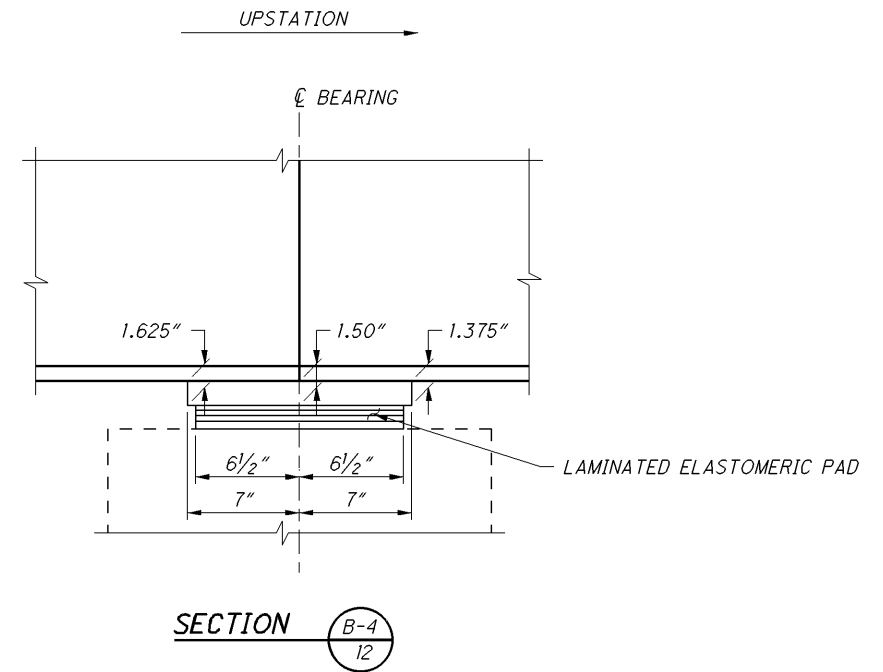
**PLAN**  
(BEAM NOT SHOWN)



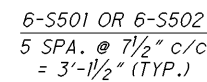
**EXPANSION BEARING**  
(PIERS, 10 REQUIRED)

**NOTES**

- BEARING DESIGN LOADS: EXPANSION BEARING (PIERS)  
  
DEAD LOADS 121.4 K  
LIVE LOADS 43.8 K  
TOTAL DESIGN LOAD 165.2 K
- ASTM A709 GRADE 50 STEEL LOAD PLATES SHALL BE USED FOR ALL BEARINGS. THE LOAD PLATE SHALL BE VULCANIZED BONDED TO THE LAMINATED ELASTOMERIC PAD DURING THE MOLDING PROCESS.
- THE ELASTOMER SHALL HAVE A HARDNESS OF 60 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
- ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKINGS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UPSTATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.
- BASIS OF PAYMENT: THE UNIT PRICE BID SHALL INCLUDE ALL MATERIALS, LABOR, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL THE LAMINATED ELASTOMERIC BEARINGS AND STEEL LOAD PLATES. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516 - ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.



**SECTION** (B-4 12)



TRANSVERSE SECTION  
EXISTING CROSS FRAMES NOT SHOWN

NOTES

1. **DECK SLAB CONCRETE QUANTITY:** 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 WEIGHTED AVERAGE HAUNCH THICKNESS OF  $3\frac{1}{2}$  INCHES 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  $\pm 3$  INCHES.

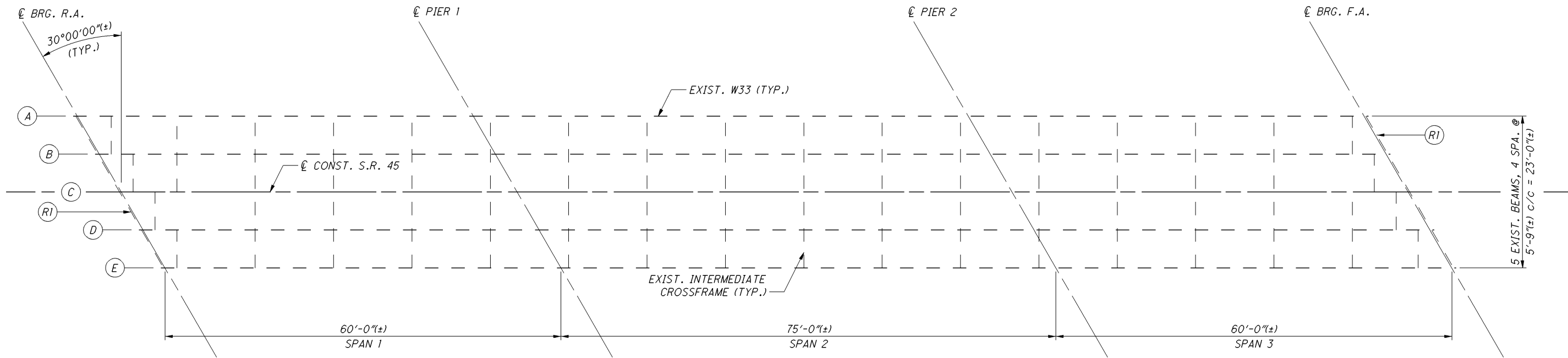
THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM, FROM THE SURFACE OF THE DECK TO THE TOP OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.23.

2. DRIP GROOVES SHALL TERMINATE 2'-0" FROM THE FACE OF THE ABUTMENT.
3. PARAPET DETAILS AND REINFORCING NOT SHOWN FOR CLARITY. FOR PARAPET DETAILS AND REINFORCING, SEE SHEET 20 OF 23 AND STANDARD DRAWING SBR-1-13.
4. STAGGER THE LAP LOCATION BETWEEN THE TWO MIDDLE BAYS FOR THE TOP TRANSVERSE BARS BY ALTERNATING S503 AND S504 BARS.

LEGEND

- (S) LIMITS OF SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) (TYP.)
- (X) BEAM LINE DESIGNATION

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FRAMING PLAN



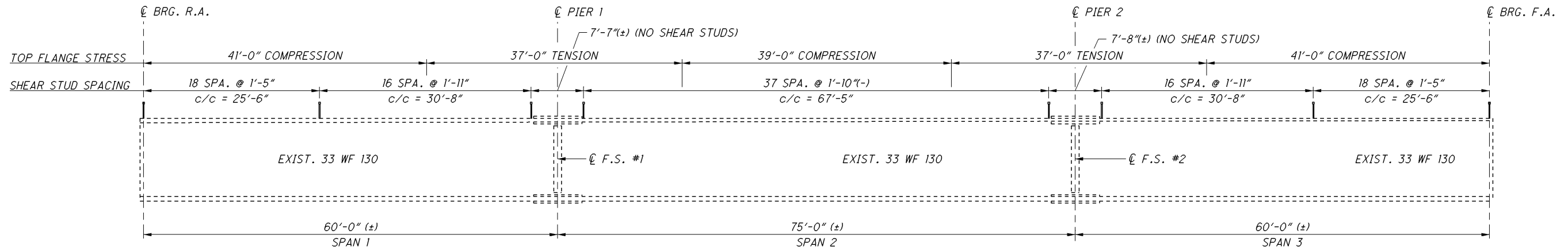
LEGEND

- (X) EXIST. BEAM LINE DESIGNATION
- (R1) EXIST. EXPANSION JOINT ARMOR AND END CROSSFRAME TO BE REMOVED (TYP. AT BOTH ABUTMENTS)

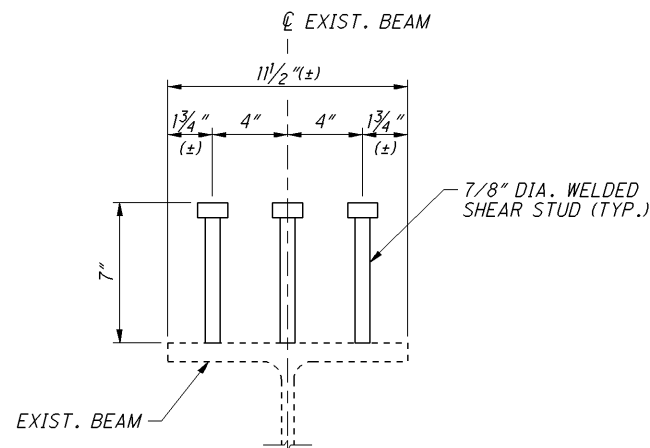
NOTES

- ALL EXISTING FRAMING IS TO REMAIN UNLESS OTHERWISE NOTED.
- THIS SHEET IS INTENDED TO PROVIDE A SCHEMATIC OVERVIEW OF THE EXISTING FRAMING AND TO SHOW THE LOCATION OF VARIOUS WORK ITEMS. SELECTED DIMENSIONS HAVE BEEN PROVIDED FOR THE CONTRACTOR'S INFORMATION. ADDITIONAL DATA, IF REQUIRED, MAY BE OBTAINED FROM THE RECORD PLANS ON FILE WITH ODOT DISTRICT 4.
- EXISTING BEAM FIELD SPLICES LOCATED AT PIER BEARING CENTERLINES.
- FOR TRANSVERSE SECTION, SEE SHEET 13 OF 23.
- FOR DECK SLAB PLAN, SEE SHEET 16 OF 23.
- FOR TYPICAL BEAM ELEVATION, SEE SHEET 15 OF 23.

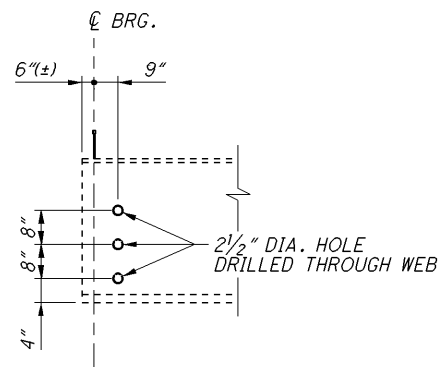
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**ELEVATION - BEAMS A THRU E**  
SHOWING WELDED SHEAR STUD SPACING



**WELDED SHEAR STUD DETAIL**

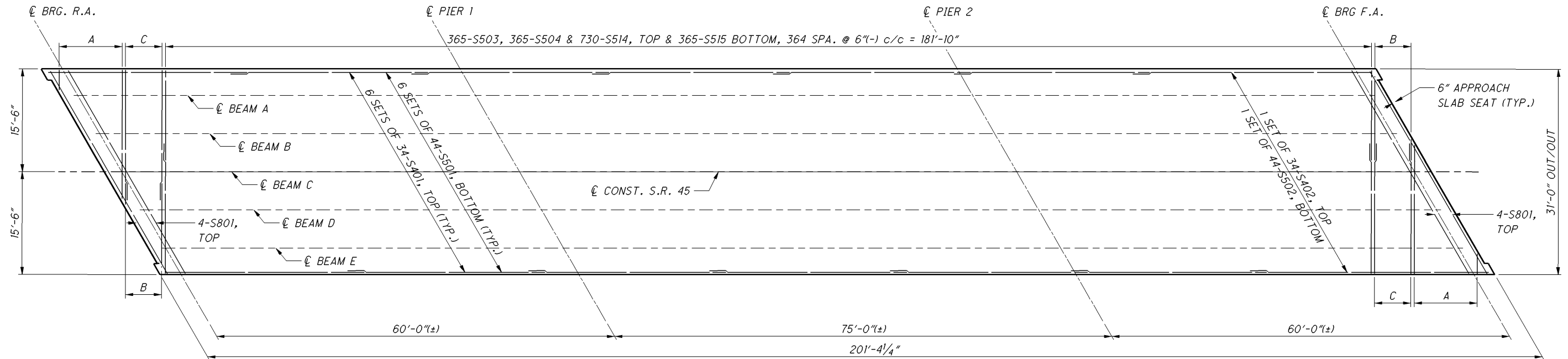


**BEAM END DETAIL**

**NOTES**

1. WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINES 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 NO MORE THAN 2" LONG, AND BE AT LEAST 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER THAN 3/4" THICK.
2. ALL BEARINGS ARE TO BE REMOVED AND REPLACED WITH ELASTOMERIC BEARINGS.
3. CLEAN ALL EXISTING BEAMS IN ACCORDANCE WITH THE NOTES PROVIDED FOR ITEM 530 - STRUCTURE, MISC.: CLEAN EXISTING STRUCTURAL STEEL, SEE SHEET 3/23.
4. PAINT REPAIR STRUCTURAL STEEL AREAS THAT ARE DAMAGED OR RUSTED AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH THE NOTES PROVIDED FOR ITEM 514 - FIELD PAINTING, MISC.: PAINT REPAIR STRUCTURAL STEEL, SEE SHEET 2/23.

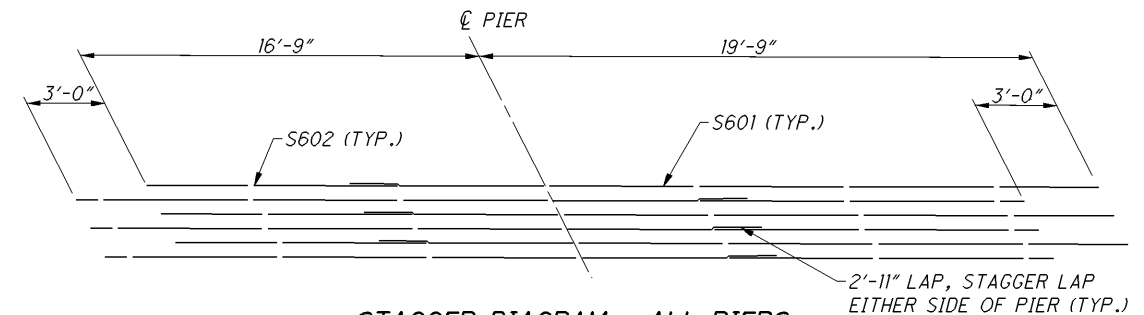
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DECK SLAB PLAN



| TRANSVERSE REINFORCING STEEL LEGEND |                                          |                          |
|-------------------------------------|------------------------------------------|--------------------------|
| KEY                                 | REINFORCING STEEL                        | SPACING                  |
| A                                   | S506 SERIES, TOP AND S524 SERIES, BOTTOM | 19 SPA. @ 6" c/c = 9'-6" |
| B                                   | S507 SERIES, TOP AND S525 SERIES, BOTTOM | 11 SPA. @ 6" c/c = 5'-6" |
| C                                   | 12-S508, TOP AND 12-S505, BOTTOM         | 11 SPA. @ 6" c/c = 5'-6" |

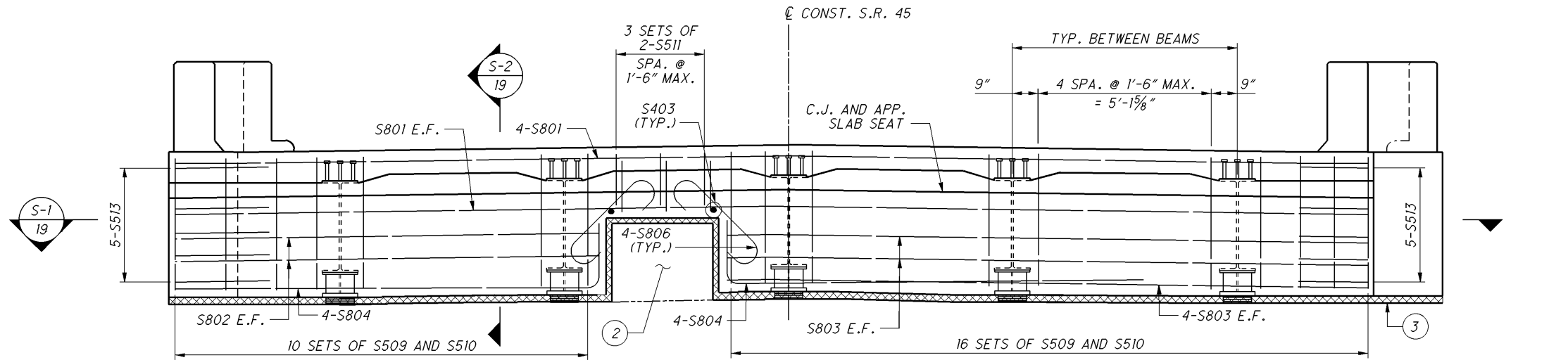


STAGGER DIAGRAM - ALL PIERS

### NOTES

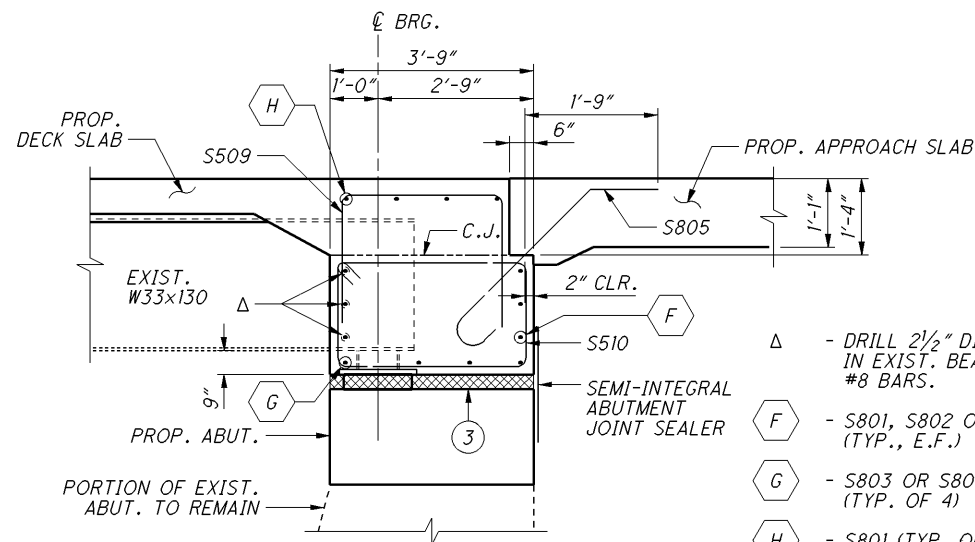
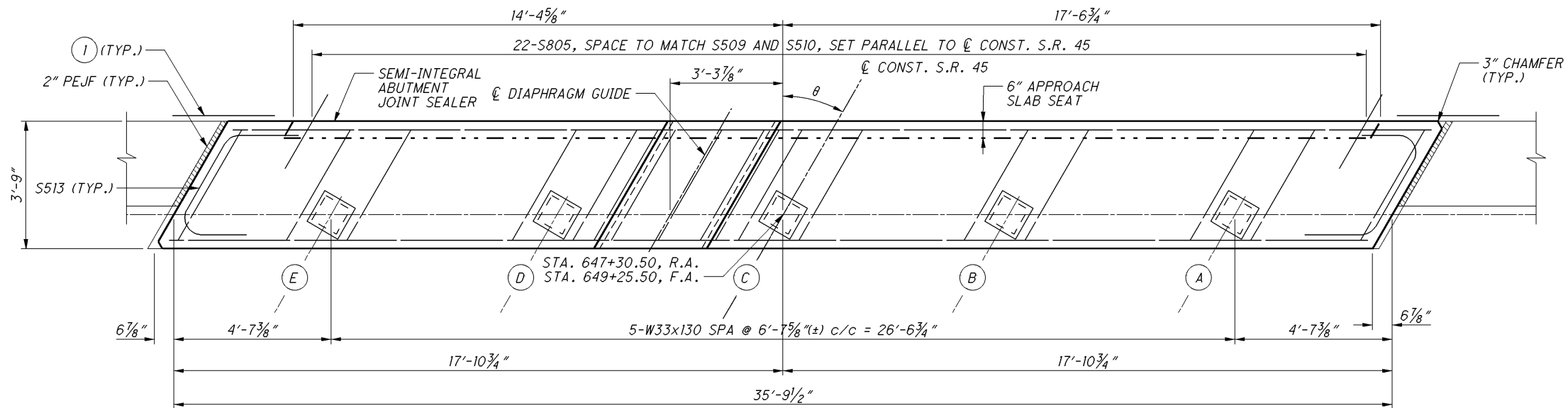
1. THE MINIMUM LAP LENGTHS FOR DECK SLAB REINFORCING STEEL ARE 2'-5" FOR THE #5 BARS AND 1'-11" FOR THE #4 BARS. REINFORCING STEEL HAS BEEN DETAILED TO PROVIDE THE MINIMUM LAP OR GREATER. VARY THE LAP LENGTH AS NECESSARY TO MAINTAIN 2" CLEAR COVER AT SLAB EDGES.
2. FOR SPACING OF LONGITUDINAL BARS, SEE TRANSVERSE SECTION, SHEET 13 OF 23.
3. FOR DECK SCREED ELEVATIONS, SEE SHEET 19 OF 23.

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### ELEVATION

REAR ABUT. SHOWN  
FORWARD ABUT. SIMILAR

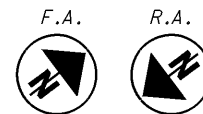


SECTION S-2  
19

$$\theta = 30^{\circ}00'00''(\pm)$$

SECTION S-1  
19

REAR ABUT. SHOWN  
FORWARD ABUT. SIMILAR



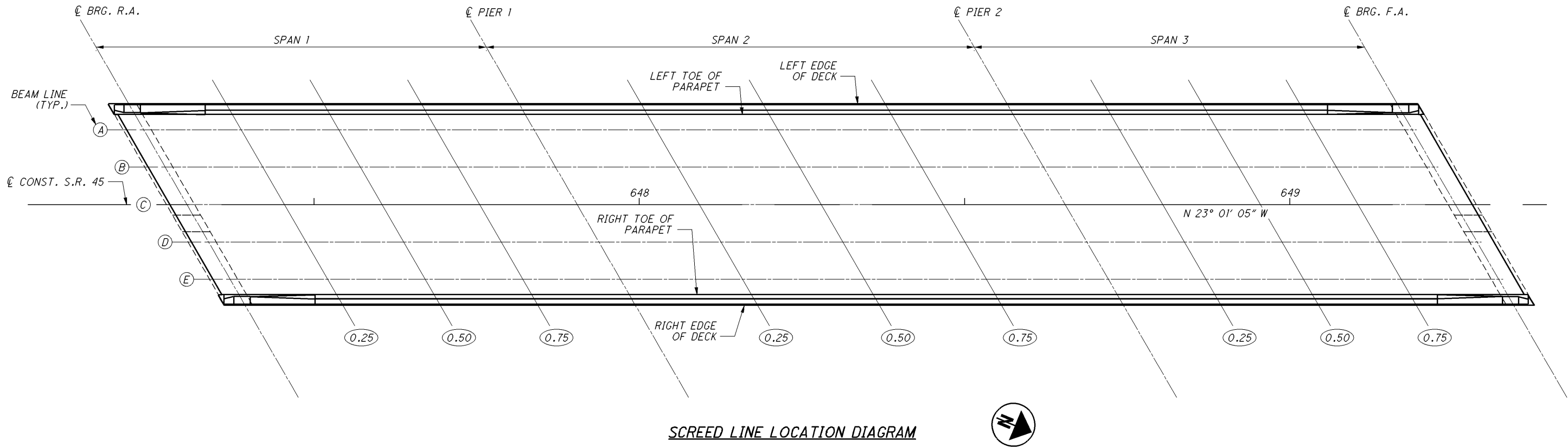
### LEGEND

- (X) BEAM LINE DESIGNATION
- (1) SEMI-INTEGRAL ABUTMENT JOINT SEALER, 3'-0" WIDE, CENTERED ON JOINT AND EXTENDING FROM APPROACH SLAB SEAT TO 1'-6" BELOW THE BEAM SEAT ELEVATION.
- (2) DIAPHRAGM GUIDE, FOR DETAILS, SEE SHEET 9 OF 23 AND STD. DWG. SICD-2-14.
- (3) EXPANDED POLYSTYRENE OR REMOVEABLE FORM, INCLUDED FOR PAYMENT WITH ITEM 511 - CLASS OC2 CONCRETE, BRIDGE DECK.

### NOTES

1. MINIMUM LAP LENGTH FOR #8 TOP BARS IS 6'-10", AND 4'-11" FOR OTHER #8 BARS.
2. PLACE THE DIAPHRAGM CONCRETE ENCASEING THE STRUCTURAL MEMBER ENDS AFTER THE DECK PLACEMENT IN THE ADJACENT SPAN IS COMPLETE. PROCEDURES THAT PLACE THE ABUTMENT DIAPHRAGM WITH THE DECK CONCRETE MAY BE APPROVED BY THE ENGINEER IF THE PLACEMENT SUBMITTAL CAN ASSURE THAT THE DECK CONCRETE IN THE ADJACENT SPAN WILL BE PLACED BEFORE CONCRETE IN THE DIAPHRAGM HAS REACHED ITS INITIAL SET.

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**NOTES**

1. FOR DECK SLAB PLAN, SEE SHEET 16 OF 23.
2. FOR TRANSVERSE SECTION, SEE SHEET 13 OF 23.
3. FOR DECK SCREED ELEVATIONS, SEE SHEET 19 OF 23.



DATE 11/24/14  
REVIEWED DOR  
STRUCTURE FILE NUMBER 0402494

DRAWN EMM  
CHECKED JN  
REVISED

SCREED LINE LOCATION DIAGRAM  
BRIDGE NO. ATB-45-1484  
S.R. 45 OVER MILL CREEK

ATB-45 / 84-14.84 / 7.97  
PID No. 88946

18 / 23

29  
40

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| SCREED, FINAL DECK, AND TOP OF HAUNCH ELEVATIONS |                             |                |           |           |           |             |           |           |           |             |           |           |           |                |
|--------------------------------------------------|-----------------------------|----------------|-----------|-----------|-----------|-------------|-----------|-----------|-----------|-------------|-----------|-----------|-----------|----------------|
| ELEVATION LOCATION                               |                             | SPAN 1         |           |           |           | SPAN 2      |           |           |           | SPAN 3      |           |           |           |                |
|                                                  |                             | ℄ BRG.<br>R.A. | 0.25      | 0.50      | 0.75      | ℄<br>PIER 1 | 0.25      | 0.50      | 0.75      | ℄<br>PIER 2 | 0.25      | 0.50      | 0.75      | ℄ BRG.<br>F.A. |
| LEFT<br>EDGE OF<br>DECK                          | STATION                     | 647+21.55      | 647+36.55 | 647+51.55 | 647+66.55 | 647+81.55   | 648+00.30 | 648+19.05 | 648+37.80 | 648+56.55   | 648+71.55 | 648+86.55 | 649+01.55 | 649+16.55      |
|                                                  | 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         |
|                                                  | FINAL TOP OF DECK ELEVATION | 788.13         | 787.78    | 787.45    | 787.12    | 786.80      | 786.39    | 785.99    | 785.58    | 785.18      | 784.85    | 784.53    | 784.21    | 783.88         |
|                                                  | DECK SCREED ELEVATION       | 788.13         | 787.83    | 787.50    | 787.15    | 786.80      | 786.44    | 786.06    | 785.63    | 785.18      | 784.88    | 784.59    | 784.26    | 783.88         |
| LEFT<br>TOE OF<br>PARAPET                        | STATION                     | 647+22.51      | 647+37.51 | 647+52.51 | 647+67.51 | 647+82.51   | 648+01.26 | 648+20.01 | 648+38.76 | 648+57.51   | 648+72.51 | 648+87.51 | 649+02.51 | 649+17.51      |
|                                                  | OFFSET                      | -13.83         | -13.83    | -13.83    | -13.83    | -13.83      | -13.83    | -13.83    | -13.83    | -13.83      | -13.83    | -13.83    | -13.83    | -13.83         |
|                                                  | FINAL TOP OF DECK ELEVATION | 788.10         | 787.76    | 787.42    | 787.10    | 786.78      | 786.37    | 785.97    | 785.56    | 785.16      | 784.83    | 784.51    | 784.19    | 783.86         |
|                                                  | DECK SCREED ELEVATION       | 788.10         | 787.80    | 787.48    | 787.13    | 786.78      | 786.42    | 786.04    | 785.61    | 785.16      | 784.86    | 784.57    | 784.23    | 783.86         |
| BEAM A                                           | STATION                     | 647+23.86      | 647+38.86 | 647+53.86 | 647+68.86 | 647+83.86   | 648+02.61 | 648+21.36 | 648+40.11 | 648+58.86   | 648+73.86 | 648+88.86 | 649+03.86 | 649+18.86      |
|                                                  | OFFSET                      | -11.50         | -11.50    | -11.50    | -11.50    | -11.50      | -11.50    | -11.50    | -11.50    | -11.50      | -11.50    | -11.50    | -11.50    | -11.50         |
|                                                  | FINAL TOP OF DECK ELEVATION | 788.11         | 787.76    | 787.43    | 787.11    | 786.79      | 786.38    | 785.98    | 785.57    | 785.17      | 784.84    | 784.52    | 784.19    | 783.87         |
|                                                  | TOP OF HAUNCH ELEVATION     | 787.40         | 787.10    | 786.78    | 786.43    | 786.08      | 785.72    | 785.34    | 784.91    | 784.46      | 784.16    | 783.87    | 783.53    | 783.16         |
| BEAM B                                           | STATION                     | 647+27.18      | 647+42.18 | 647+57.18 | 647+72.18 | 647+87.18   | 648+05.93 | 648+24.68 | 648+43.43 | 648+62.18   | 648+77.18 | 648+92.18 | 649+07.18 | 649+22.18      |
|                                                  | OFFSET                      | -5.75          | -5.75     | -5.75     | -5.75     | -5.75       | -5.75     | -5.75     | -5.75     | -5.75       | -5.75     | -5.75     | -5.75     | -5.75          |
|                                                  | FINAL TOP OF DECK ELEVATION | 788.12         | 787.78    | 787.45    | 787.13    | 786.81      | 786.40    | 786.00    | 785.59    | 785.19      | 784.86    | 784.54    | 784.21    | 783.89         |
|                                                  | TOP OF HAUNCH ELEVATION     | 787.41         | 787.11    | 786.79    | 786.44    | 786.10      | 785.73    | 785.35    | 784.92    | 784.48      | 784.17    | 783.88    | 783.55    | 783.18         |
| ℄ CONST.<br>S.R. 45 /<br>BEAM C                  | STATION                     | 647+30.50      | 647+45.50 | 647+60.50 | 647+75.50 | 647+90.50   | 648+09.25 | 648+28.00 | 648+46.75 | 648+65.50   | 648+80.50 | 648+95.50 | 649+10.50 | 649+25.50      |
|                                                  | 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           |
|                                                  | FINAL TOP OF DECK ELEVATION | 788.14         | 787.80    | 787.47    | 787.15    | 786.83      | 786.42    | 786.02    | 785.61    | 785.21      | 784.88    | 784.56    | 784.23    | 783.91         |
|                                                  | TOP OF HAUNCH ELEVATION     | 787.43         | 787.13    | 786.81    | 786.46    | 786.12      | 785.75    | 785.37    | 784.94    | 784.50      | 784.19    | 783.90    | 783.57    | 783.20         |
| BEAM D                                           | DECK SCREED ELEVATION       | 788.14         | 787.84    | 787.52    | 787.17    | 786.83      | 786.46    | 786.08    | 785.65    | 785.21      | 784.90    | 784.60    | 784.27    | 783.91         |
|                                                  | STATION                     | 647+33.82      | 647+48.82 | 647+63.82 | 647+78.82 | 647+93.82   | 648+12.57 | 648+31.32 | 648+50.07 | 648+68.82   | 648+83.82 | 648+98.82 | 649+13.82 | 649+28.82      |
|                                                  | OFFSET                      | 5.75           | 5.75      | 5.75      | 5.75      | 5.75        | 5.75      | 5.75      | 5.75      | 5.75        | 5.75      | 5.75      | 5.75      | 5.75           |
|                                                  | FINAL TOP OF DECK ELEVATION | 787.97         | 787.63    | 787.31    | 786.99    | 786.66      | 786.26    | 785.85    | 785.45    | 785.04      | 784.72    | 784.39    | 784.07    | 783.75         |
| BEAM E                                           | TOP OF HAUNCH ELEVATION     | 787.26         | 786.96    | 786.65    | 786.30    | 785.95      | 785.58    | 785.21    | 784.77    | 784.33      | 784.03    | 783.73    | 783.40    | 783.04         |
|                                                  | STATION                     | 647+37.14      | 647+52.14 | 647+67.14 | 647+82.14 | 647+97.14   | 648+15.89 | 648+34.64 | 648+53.39 | 648+72.14   | 648+87.14 | 649+02.14 | 649+17.14 | 649+32.14      |
|                                                  | OFFSET                      | 11.50          | 11.50     | 11.50     | 11.50     | 11.50       | 11.50     | 11.50     | 11.50     | 11.50       | 11.50     | 11.50     | 11.50     | 11.50          |
|                                                  | FINAL TOP OF DECK ELEVATION | 787.80         | 787.47    | 787.15    | 786.82    | 786.50      | 786.09    | 785.69    | 785.28    | 784.88      | 784.55    | 784.23    | 783.91    | 783.58         |
| RIGHT<br>TOE OF<br>PARAPET                       | TOP OF HAUNCH ELEVATION     | 787.09         | 786.81    | 786.49    | 786.14    | 785.79      | 785.43    | 785.06    | 784.62    | 784.17      | 783.87    | 783.58    | 783.25    | 782.87         |
|                                                  | STATION                     | 647+38.49      | 647+53.49 | 647+68.49 | 647+83.49 | 647+98.49   | 648+17.24 | 648+35.99 | 648+54.74 | 648+73.49   | 648+88.49 | 649+03.49 | 649+18.49 | 649+33.49      |
|                                                  | OFFSET                      | 13.83          | 13.83     | 13.83     | 13.83     | 13.83       | 13.83     | 13.83     | 13.83     | 13.83       | 13.83     | 13.83     | 13.83     | 13.83          |
|                                                  | FINAL TOP OF DECK ELEVATION | 787.73         | 787.40    | 787.08    | 786.76    | 786.43      | 786.03    | 785.62    | 785.22    | 784.81      | 784.49    | 784.16    | 783.84    | 783.52         |
| RIGHT<br>EDGE OF<br>DECK                         | DECK SCREED ELEVATION       | 787.73         | 787.45    | 787.14    | 786.78    | 786.43      | 786.07    | 785.70    | 785.26    | 784.81      | 784.51    | 784.22    | 783.89    | 783.52         |
|                                                  | STATION                     | 647+39.45      | 647+54.45 | 647+69.45 | 647+84.45 | 647+99.45   | 648+18.20 | 648+36.95 | 648+55.70 | 648+74.45   | 648+89.45 | 649+04.45 | 649+19.45 | 649+34.45      |
|                                                  | 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          |
|                                                  | FINAL TOP OF DECK ELEVATION | 787.71         | 787.38    | 787.06    | 786.74    | 786.41      | 786.01    | 785.60    | 785.20    | 784.79      | 784.47    | 784.14    | 783.82    | 783.50         |
|                                                  | DECK SCREED ELEVATION       | 787.71         | 787.43    | 787.12    | 786.76    | 786.41      | 786.05    | 785.68    | 785.24    | 784.79      | 784.49    | 784.20    | 783.87    | 783.50         |

LEGEND

- BRG. - BEARING
- F.A. - FORWARD ABUTMENT
- R.A. - REAR ABUTMENT
- CONST. - CONSTRUCTION

SCREED ELEVATIONS

1. DECK SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

2. TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
3. FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOADS HAVE OCCURED.

NOTES

1. NEGATIVE OFFSETS ARE TO THE LEFT OF THE CENTERLINE; POSITIVE OFFSETS ARE TO THE RIGHT.
2. FOR TRANSVERSE SECTION, SEE SHEET 13 OF 23.
3. FOR SCREED LINE LOCATION DIAGRAM, SEE SHEET 18 OF 23.



|                       |          |
|-----------------------|----------|
| DATE                  | 11/24/14 |
| REVIEWED              | DOR      |
| STRUCTURE FILE NUMBER | 0402494  |
| DRAWN                 | EMW      |
| REVISD                |          |
| DESIGNED              | EMW      |
| CHECKED               | JN       |

SCREED, FINAL DECK, AND TOP OF HAUNCH ELEVATIONS

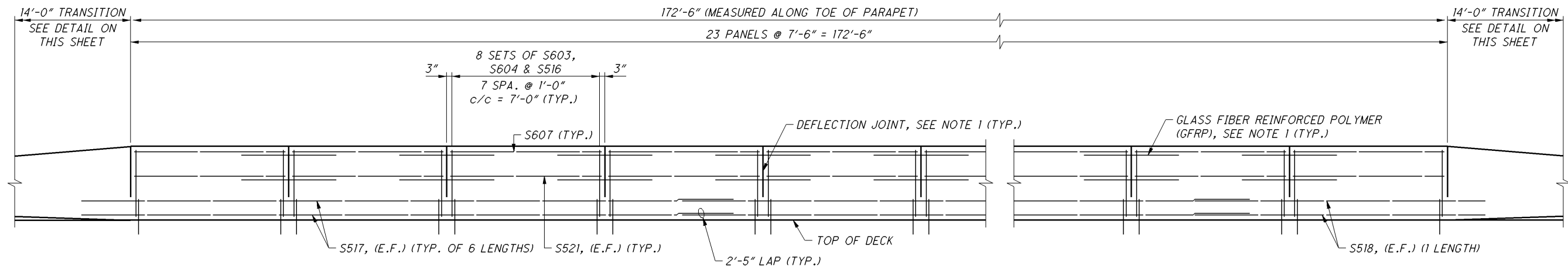
BRIDGE NO. - ATB-45-1484

S.R. 45 OVER MILL CREEK

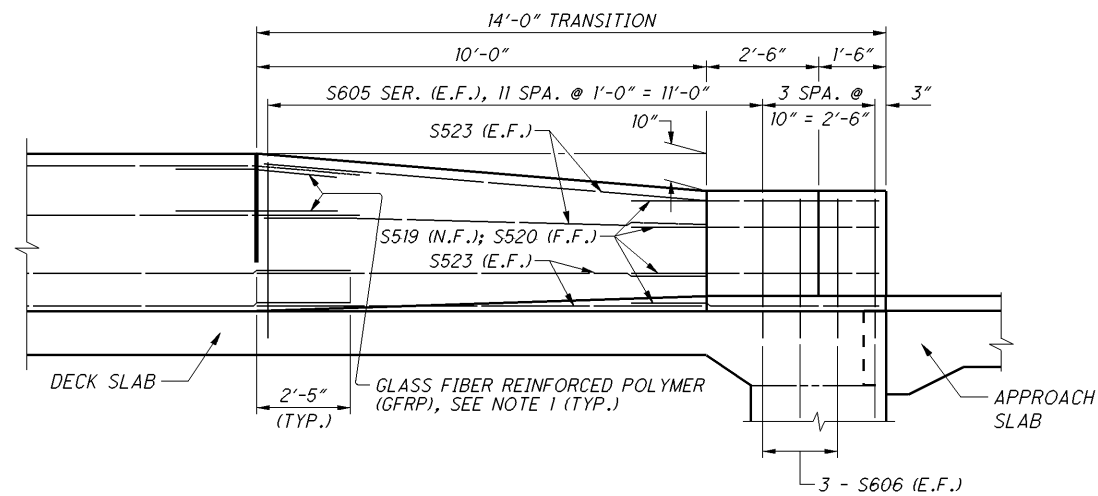
ATB-45 / 84-14.84 / 7.97

PID No. 88946

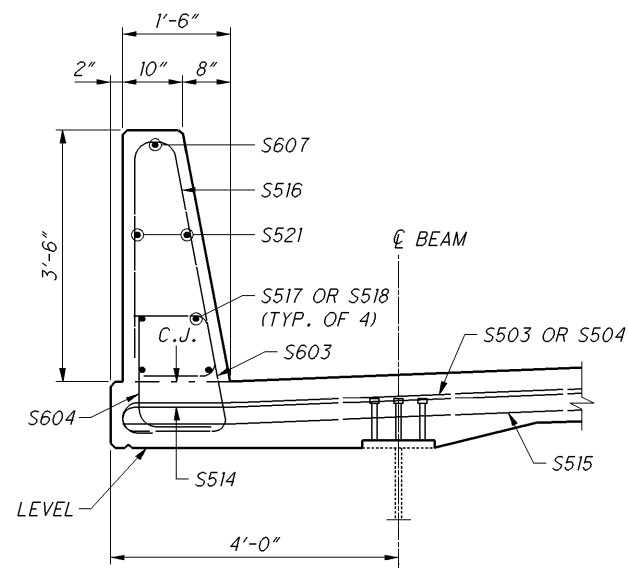
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**ELEVATION - LEFT PARAPET**  
RIGHT PARAPET SIMILAR



**PARAPET TRANSITION DETAIL**



**TYPICAL PARAPET SECTION**

**NOTES**

1. PROVIDE 1/2" DIAMETER GLASS FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENTS, 4'-6" LONG, CENTERED ON DEFLECTION JOINT, LAPPED TO LONGITUDINAL BARS AS PER THE DETAILS SHOWN ON STANDARD DRAWING SBR-1-13. PAYMENT SHALL BE INCLUDED WITH CONTRACT PRICE FOR ITEM 509 - EPOXY COATED REINFORCING STEEL.
2. FOR PARAPET SEALING LIMITS, SEE TRANSVERSE SECTION, SHEET 13 OF 23.
3. FOR ADDITIONAL DETAILS, SEE STANDARD DRAWING SBR-1-13.
4. FOR DETAILS OF BRIDGE TERMINAL ASSEMBLY, SEE STD. DWG. MGS-3.1 AND SITE PLAN, SHEET 1 OF 23.



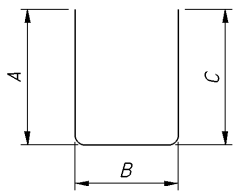
| SLEEPER SLAB SURFACE ELEVATIONS |        |   |        |
|---------------------------------|--------|---|--------|
| ①                               | 787.70 | ⑦ | 782.39 |
| ②                               | 787.72 | ⑧ | 782.44 |
| ③                               | 787.30 | ⑨ | 782.05 |
| ④                               | 787.07 | ⑩ | 782.19 |
| ⑤                               | 787.49 | ⑪ | 782.24 |
| ⑥                               | 787.46 | ⑫ | 781.85 |



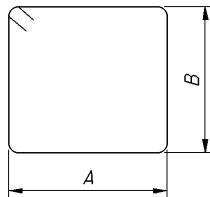
1. THIS DRAWING PROVIDES DETAILS TO SUPPLEMENT THE REINFORCED CONCRETE APPROACH SLAB STANDARD BRIDGE DRAWING. FOR APPROACH SLAB REINFORCING STEEL AND DETAILS NOT SHOWN, REFER TO STANDARD DRAWINGS AS-1-15 AND AS-2-15, TYPE A INSTALLATION.

[illegible][illegible]

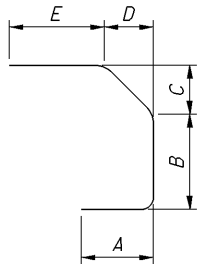
### BENDING DIAGRAMS



TYPE-2



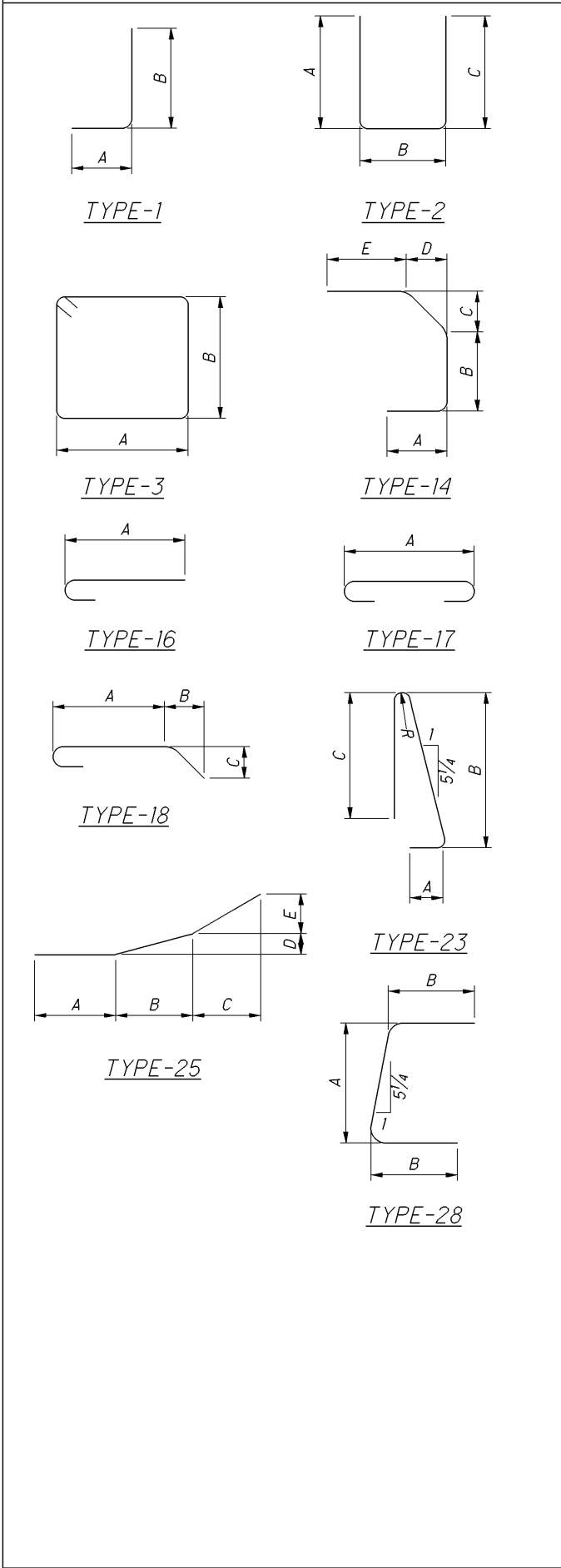
TYPE-3



TYPE-14

## REINFORCING STEEL NOTES

1. SERIES BARS EACH BAR VARIES BY TABULATED AMOUNT.
2. ALL DIMENSIONS ARE OUT TO OUT.
3. TYPE 'STR' INDICATES A STRAIGHT BAR.
4. THE BAR SIZE NUMBER IS INDICATED IN THE 'MARK' COLUMN. THE FIRST ONE OR TWO DIGITS OF EACH MARK INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A501 IS A #5 BAR SIZE AND P1101 IS A #11 BAR SIZE.
5. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
6. \* - DENOTES BARS DOWELED INTO EXISTING CONCRETE.
7. DIAPHRAGM GUIDE BARS LISTED FOR INFORMATION. DIAPHRAGM GUIDE REINFORCING STEEL TO BE INCLUDED WITH ITEM 511 - SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN, FOR PAYMENT.

[illegible]

1. SERIES BARS - EACH BAR VARIES BY TABULATED AMOUNT.
2. ALL DIMENSIONS ARE OUT TO OUT.
3. TYPE 'STR' INDICATES A STRAIGHT BAR.
4. THE BAR SIZE NUMBER IS INDICATED IN THE 'MARK' COLUMN. THE FIRST ONE OR TWO DIGITS OF EACH MARK INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, A501 IS A #5 BAR SIZE AND #1101 IS A #11 BAR SIZE.
5. ALL REINFORCING STEEL SHALL BE EPOXY COATED.